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**2021 AIAA AVIATION and AIAA Propulsion &
Energy Forums**
+
2021 Electric Aircraft Technologies Symposium

Session List

*Sessions are ordered by start date and time. Times are listed in Eastern Daylight Time.
Full Session Details and access can be found at <https://virtualforums.aiaa.org/schedule>*

Session Title: Plenary Session: Aviation Recovery, Transition and New Horizons
Plenary Session | PLNRY-01 | AVIATION

Session Date: 2021-08-02
Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/D689A475-0594-45B5-8712-4AED32281088>

Session Contributors:
Session Papers (if applicable):

Session Title: Ablation: Modeling, Experiments, and Applications I
Technical Paper Session | TP-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/59D0C523-600B-4C6C-A0C5-F481A78B8249>

Session Contributors: kishore kammara, Rakesh Mathpal, Abhishek Bhesania, Vaibhav Arghode, Felix Grigat, Fabian Hufgard, Stefan Löhle, Christian Dürnhofer, Stefanos Fasoulas, Fabian Zander, Pavol Matlovic, Juraj Toth, Ludovic Ferriere, Stefan Löhle, Ranjith Ravichandran, David Leiser, Jean-Denis Parisse, Jean-Denis Parisse, Guillaume Coria, Jean-Michel Lamet, Nicolas Dellinger, Rakesh Mathpal, Sai Abhishek Peddakotla, Abhishek Bhesania, Vaibhav Arghode, Parvesh Kamboj

Session Papers (if applicable):

Extracting Thermal Conductivity of Organic Materials using the Green-Kubo Method, Heat Flux Estimation on Carbon Phenolic Ablator Surface using Non-Integer System Identification, High Frame Rate Emission Spectra of Ablating Meteorites, Modeling and simulation of chemical reactions at the surface of an ablative wall interacting with..., On Extraction of Parameters for Pyrolysis Reaction Kinetics of Organic Ablative Materials with Mo...

Session Title: Active and Passive Flow Control Devices and Applications I

Technical Paper Session | FD-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B432F843-242F-44DE-872C-E4E7B0F76131>

Session Contributors: Andreas Gross, Andreas Gross, Pedro Castillo Gomez, Andreas Gross, Andreas Gross, Pedro Castillo Gomez, Fangjun Shu, Leonardo Saenz, Hisham Shehata, Albert Medina, Albert Medina, Reda Mankbadi, Vladimir Golubev, Reda Mankbadi, Vladimir Golubev, Vladimir Golubev, Oksana Stalnov, Miriam Deschine, Vladimir Golubev, William Makunis, Reda Mankbadi, Lap Nguyen, Reda Mankbadi, Eugene Hoffman, Matt Garcia, Elijah LaLonde, Emilio Hernandez, Christopher Combs, Daniel Portillo, Lyle Hood, Christopher Combs, Eugene Hoffman, Lutz Taubert, Israel Wygnanski, Garrett Kay, Lutz Taubert, Israel Wygnanski, Sergey Shkarayev, Parisa Footohi, Kyle Hanquist, Sergey Shkarayev, Kyle Hanquist, Luciano Mozzone

Session Papers (if applicable):

Experimental Investigation of Active Flow Control for Slotted Two-Element High-Lift Airfoil, Flow Control over an Airfoil using Rotating Low-Aspect-Ratio Cylinders, High-Fidelity Analysis of Nonlinear Closed-Loop Control of Airfoil Limit-Cycle Oscillations, Modal Analysis of a Sweeping Jet Emitted by a Fluidic Oscillator, On the Hybrid Tilt-Wing, Tilt Propeller, Active Flow Control Enabled Runway Independent Airplane., Wingtip Jets Effects on Flow Entrainment and Aerodynamic Loads

Session Title: Adaptive Meshing I

Technical Paper Session | CFD-01 | AVIATION

Session Date: 2021-08-02
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/F5226D25-72AF-4F0B-87F7-283925210A82>

Session Contributors: Frederic Alauzet, Francesco Clerici, Frederic Alauzet, Bret Stanford, Michael Park, Bret Stanford, Jan Kiviaho, Michael Park, Michael Park, Bret Stanford, Bret Stanford, Michael Park, Kevin Jacobson, Jan Kiviaho, Thomas Ozoroski, Pawel Chwalowski, Kyle Thompson, Matthew O'Connell, Kyle Thompson, Jeffery White

Session Papers (if applicable):

Convergence improvement for CFD simulations on anisotropic meshes by geometric modifications, Multiscale Mesh Adaptation for Transonic Aeroelastic Flutter Problems, Towards an Automated Unstructured Grid Adaptation Workflow with VULCAN

Session Title: Advanced Propulsion Concepts

Technical Paper Session | ACD-01 | AVIATION

Session Date: 2021-08-02
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6BF3B367-2DC2-4BD8-8BBC-12153D54A251>

Session Contributors: Dimitri Mavris, Mohammed Hassan, Victor Sabioni, Mohammed Hassan, Michelle Kirby, Carlos Rodriguez, Phillip Ansell, Phillip Ansell, Elias Waddington, Phillip Ansell, Jason Merret, Jason Merret, Phillip Ansell, Alejandra Uranga, Arjun Pundarika, Saakar Byahut, Nathalie Bartoli, Arnaud Jordan, Vincenzo Palladino, Valerie Pommier-Budinger, Emmanuel Benard, Nathalie Bartoli, Peter Schmollgruber

Session Papers (if applicable):

Aircraft- and Fleet-Level Benefits of High Performance Fuels in Aviation, Architecture-based fuel system conceptual design tool for hybrid-electric aircraft, Impact of LH₂ Fuel Cell-Electric Propulsion on Aircraft Configuration and Integration, Modeling Well-to-Wake Life-Cycle CO₂ Emissions for Electrified Aircraft, Preliminary studies of a regional aircraft with hydrogen-based hybrid propulsion

Session Title: Aerodynamics of Bobsled and Skelton Olympic Sports

the HUB | HUB-01 | AVIATION

Session Date: 2021-08-02
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/8DF13555-63F7-4F87-9F08-1AC42BFCA60A>

Session Contributors:

Session Papers (if applicable):

Session Title: Aero-Propulsive Interactions I

Technical Paper Session | APA-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/4A6A2A97-1BF4-4E67-9D8D-65A8A6C63121>

Session Contributors: Rainer Schnell, Christian Frey, Biagio Della Corte, Arvind Gangoli Rao, Martijn van Sluis, Leo Veldhuis, Christopher Chiang, David Koo, David Zingg, David Zingg, David Zingg, Vance Dippold, Vance Dippold

Session Papers (if applicable):

Acoustic Impact on Fan Flutter Characteristics in Short Aero Engine Intakes, Aerodynamic Performance of an Aircraft with Aft-Fuselage Boundary Layer Ingestion Propulsion, Aerodynamic Shape Optimization of an S-Duct Intake for a Boundary Layer Ingesting Engine, Initial Results from the Low Boom Flight Demonstrator High Speed Inlet Distortion Test

Session Title: Development of AAM/UAM Operational Concepts I

Technical Paper Session | ATOMS-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/68116E91-252F-4E3E-A68D-1F0FD41C73F6>

Session Contributors: Vishwanath Bulusu, Vishwanath Bulusu, Paul Waddell, Min Xue, Min Xue, Vishwanath Bulusu, Pavan Yedavalli, Emin Onat, Xin Peng, Raja Sengupta, Heidi Glaudel, Joshua Damanik, Han-Lim Choi

Session Papers (if applicable):

A ground-delay-based approach to reduce impedance-based airspace complexity, Assessing the Value of Urban Air Mobility through Metropolitan-Scale Microsimulation: A Case Stud..., Establishing the Framework for e-VTOL Flight Mission Scenario Development for Urban Air Mobility ..., Vehicle Routing Problem with Pickup, Relay, and Delivery: Delivery Task Assignment in Hybrid-Tran...

Session Title: Evaluation of CFD as a Surrogate for Wind-Tunnel Testing for Mach 2.4-4.6 I

Technical Paper Session | GT-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C96FCAAE-BC9D-41B4-A7D2-B102E522E41F>

Session Contributors: Thomas West, Erin Hubbard, Heather Houlden, Matthew Rhode, William Kleb, Matthew Rhode, James Ross, David Witte, Karl Edquist, Mark Schoenenberger, William Kleb, Greg Brauckmann, Thomas West, Stephen Alter, Bryan Falman, Veronica Hawke, Robert Childs, Kambiz Salari, Stephen Alter, Paul Stremel, William Kleb, Joseph Garcia, Matthew Rhode, William Kleb, Craig Hunter, MihirKumar Patel, Paresh Parikh, Matthew Rhode, Heather Houlden, Andrew Leidy, Matthew Rhode, Matthew Rhode, Amanda Chou, Neal Watkins, Amanda Chou, Amanda Chou, James Ross, Ross Burns, Timothy Fahringer, Hannah Spooner, Veronica Hawke, Amanda Chou, Danehy Paul, Erin Hubbard, Neal Watkins, Bryan Falman

Session Papers (if applicable):

Computational Model Uncertainty Quantification and Model Validation, Evaluation of CFD as a Surrogate for Wind-Tunnel Testing - Experimental Uncertainty Quantification, Evaluation of CFD as a Surrogate for Wind-Tunnel Testing for Mach 2.4 to 4.6 - Project Overview, Flow Characterization of the NASA Langley Unitary Plan Wind Tunnel, Test Section 2: Computational..., Flow Characterization of the NASA Langley Unitary Plan Wind Tunnel, Test Section 2: Experimental ...

Session Title: Human Factors, Perception, and Cueing

Technical Paper Session | MST-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1C092B26-CEE8-4487-B3D7-8FF013412E8F>

Session Contributors: Saad Jamal, Michael Feary, Megan Shyr, Peter Zaal, Michael Feary, Thomas Lombaerts, Peter Zaal, Peter Zaal, Thomas Lombaerts, Randy Mumaw, Dorrit Billman, Isabel Torron, Yixuan Liu, Gudrun Klinker, Manfred Hajek, Tim Mehling, Christian Eichhorn

Session Papers (if applicable):

Eye-Tracking Analysis from a Flight-Director-Use and Pilot-Monitoring Study, Ship Detection and Visual Augmentation during Helicopter Ship Deck Operations

Session Title: Low-Reynolds-Number and Bio-Inspired Flows I

Technical Paper Session | FD-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/4F3E934C-3D3F-40E7-A75F-74E88311E51E>

Session Contributors: Niamh Carlin, Shashank K Karanth, Wei Hua Ho, Dominic Chandar, Awie Viljoen, Yu Pan, Pan Han, Geng Liu, Haibo Dong, Yan Yang, Connor Toppings, Serhiy Yarusevych, Menglong Lei, John Crimaldi, Chengyu Li, Chengyu Li

Session Papers (if applicable):

A Numerical Study of the Thrust Generation from a Honeybee Wing Model near the Water Surface, A study of three-dimensional maneuvering hydrodynamics inspired by a larval zebrafish model, Low Reynolds Number Flow Development Near a Wing Tip in the Presence of Laminar Boundary Layer Se..., Navigation in odor plumes: How do the flapping kinematics modulate the odor landscape?

Session Title: MDO Student Paper Competition

Technical Panel | MDO-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2DDACC0C-8B27-4355-9175-B249ABEC871B>

Session Contributors:

Session Papers (if applicable):

Session Title: Model Based Design applied to Complex Cabin System

Technical Paper Session | DE-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6FD8045E-D800-4AB0-A451-F4E14907544F>

Session Contributors: Samantha Astles, Chantal Trudel, Shelley Kelsey, Natalia Cooper, Bruno Emond, Jean-Francois Lapointe, Björn Nagel, Mara Fuchs, Florian Beckert, Jörn Biedermann, Jörn Biedermann, Björn Nagel, Christian Hesse, Jan-Niclas Walther, Jan-Niclas Walther, Pia Allebrodt, Christian Hesse

Session Papers (if applicable):

Evaluating VR practices to support collaborative cabin design process using a human factor approach, Experience of Conceptual Designs and System Interactions for the Aircraft Cabin in Virtual Reality, High Fidelity Digital Cabin Mock-Up based on Preliminary Aircraft Design Data for Virtual Reality..., Integration of multi-physics analysis into the cabin design process using virtual reality

Session Title: Numerical Models for Ice Accretion Simulation Part 1

Technical Paper Session | ASE-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/7166644E-9585-4E0D-9675-18396F375D6E>

Session Contributors: David Rigby, Christopher Porter, Mark Potapczuk, David Rigby, Christopher Porter, William Wright, Eric Galloway, Mark Potapczuk, Eric Laurendeau, Pierre Lavoie, Emmanuel Radenac, Ghislain Blanchard, Philippe Villedieu, Eric Laurendeau, Simon Bourgault-Cote, Helene Papillon Laroche

Session Papers (if applicable):

An Automated Refinement Process for Particle Trajectory Methods in GlennICE, An Immersed Boundary Method for Multi-Step Ice Accretion using a Level-Set, Multi-Layer Stochastic Ice Accretion Model for Aircraft Icing

Session Title: On-demand Mobility Concepts and Market Studies

Technical Paper Session | GA-01/TFS-01/VSTOL-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/FE952827-36AC-4414-85DD-909885B26ABF>

Session Contributors: Laurie Garrow, Laurie Garrow, Caroline Leonard, Jeff Newman, Brandon Sells, Nicholas Gunady, Apoorv Maheshwari, Ethan Wright, Sai Mudumba, Apoorv Maheshwari, Ryan Howard, Sayantan Tarafdar, Mihir Rimjha, Mia Li, Susan Hotle, Jeremy Smith, Antonio Trani, Mia Li, Sayantan Tarafdar, Susan Hotle, Ty Marien, Nicolas Hinze, Samuel Dollyhigh, Fabian Helmchen, Kay Ploetner, Jochen Kaiser, Anna Straubinger, Jeremy Smith, Susan Hotle, Mihir Rimjha, Samuel Dollyhigh, Nicolas Hinze, Susan Hotle, Antonio Trani

Session Papers (if applicable):

A Survey to Model Demand for eVTOL Trips to Airports, Assessing the Suitability of Urban Air Mobility Vehicles for a Specific Aerodrome Network, Comparative Study of Urban Air Mobility (UAM) Landing Sites for Three Study Areas, Proposing a Scenario-based Estimation of Global Urban Air Mobility Demand, Urban Air Mobility: Airport Ground Access Demand Estimation

Session Title: Separation Assurance

Technical Paper Session | ATM-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5D019C13-9F58-47DA-AA7A-715E0CFB822F>

Session Contributors: Min Xue, Abraham Ishihara, Min Xue, Mustafa Demir, Christopher Lieber, Sarah Ligda, Nancy Cooke, Christopher Lieber, John Morgan, Banerjee Ashish, Tom Reynolds, James Jones, Tom Reynolds, James Jones, Kendy Edmonds, Craig Woolsey, John Coggin, Andrew Kriz, Niklas Peinecke, Erik Theunissen, Petra Hagstrom, Damiano Taurino, Federico Corrado, Christopher Shaw, Enric Pastor

Session Papers (if applicable):

Define Minimum Safe Operational Volume for Aerial Vehicles in Upper Class E Airspace, Deviations in Closed Loop Communications between Air Traffic Controllers and Pilots as a Predicto..., Dynamic Contour Generation for Commercial Space Launch Operations, Quantifying an Equivalent Level of Safety for sUAS Shielded Avoidance Logic at Low Flight Altitudes, URClearED – Defining the Remain Well Clear concept for airspace D-G classes in the European airspace

Session Title: Shock-Boundary Layer Interactions I

Technical Paper Session | FD-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/AE5206B9-9079-4A75-B9CF-4191E383E552>

Session Contributors: Lauren Lester, Mark Gragston, Phillip Kreth, Phillip Kreth, John Schmisser, Amruthkiran Hegde, Semih Olcmen, James Hubner, Amruthkiran Hegde, Narendra Chaganti, Pino Martin, Vishal Bhagwandin, Vishal Bhagwandin, Vishal Bhagwandin, Gregory Blaisdell, Jonathan Poggie, Robert Alviani, Gregory Blaisdell, Gregory Blaisdell, Robert Alviani, Gregory Blaisdell

Session Papers (if applicable):

Dynamics of Cylinder-Induced Transitional and Turbulent Shockwave-Boundary Layer Interactions on ..., Experimental study of Wall Pressure Measurements in an Impinging Shock-wave Boundary Layer Intera..., LES of Shock-Turbulent Boundary Layer Interaction over a Mach 10 Hollow Cylinder with Flare., Unsteady Aspects of Shock-Wave / Boundary-Layer Interaction Resulting from Control Surface Deflec...

Session Title: Simulation, Modeling, and Analysis of ATC/ATM Technologies and Procedures I

Technical Paper Session | ATOMS-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D7E7B43C-1E04-4DA0-8E8A-5FFA3E2C3FCA>

Session Contributors: Tom Reynolds, Tom Reynolds, Richard DeLaura, Mark Veillette, Dimitri Mavris, Mohammed Hassan, Thayna Oliveira, Nadir Ougazzaden, Mohammed Hassan, Holger Pfaender, William Crossley, Dan DeLaurentis, Hsun Chao, Muharrem Mane, Samarth Jain, Samarth Jain, Eric Hoffman, Karim Zeghal, Eric Hoffman, Pierrick Pasutto, Pierrick Pasutto, Pierrick Pasutto, Pierrick Pasutto, Karim Zeghal, David Brain

Session Papers (if applicable):

Analysis of Factors Affecting Air Travel Demand During the COVID-19 Pandemic, Commercial Supersonic Air Travel: Sensitivity to Modeling Inputs and Forecast Assumptions, Estimating the

Impact of Novel Coronavirus (COVID-19) on Future Fleet-level CO₂ Emissi..., Flight inefficiency in descent: mapping where it happens, Initial analysis of vertical flight efficiency in cruise for European city pairs

Session Title: Special Session: DIVE I

Technical Paper Session | APA-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6E50FB08-7830-4EAA-909E-84101D8395B7>

Session Contributors: Jeremy Shipman, Jonghoon Bin, Eric Lynch, Eric Hayden, Eric Lynch, Susan Polsky, Ryan Czerwiec, Ryan Czerwiec, Bradford Green, Susan Polsky, James Pritchard, David Findlay, James Pritchard, Mark Silva, James Barber, Mark Silva

Session Papers (if applicable):

Atmospheric Boundary Layer Turbulence Simulation for Ship Airwake CFD Applications, Confidence and Credibility Studies of an Actuator Line Model for Tiltrotor Dynamic Interface Simu..., CREATE Kestrel CFD Predictions of LPD 17 Airwake with Comparisons to Wind Tunnel Data, DIVE Overview, Truth Data for DIVE V&V

Session Title: Special Session: Reduced-Complexity Modeling for Flow Control I

Technical Paper Session | FD-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1968CBE8-3536-4750-AB75-4BC2F1653A08>

Session Contributors: Oliver Schmidt, Oliver Schmidt, Palash Sashittal, Palash Sashittal, Daniel Bodony, Maziar Hemati, Maziar Hemati, Talha Mushtaq, Peter Seiler

Session Papers (if applicable):

Bispectral Mode Decomposition of nonlinear flows—discovery and modeling of triadic interactions f..., Data-Driven Sensor Placement for Fluid Flows, Feedback control of transitional flows: A framework for controller verification using quadratic c...

Session Title: Special Session: State of the Art I

Technical Panel | APA-06 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B4EB785B-6937-4C68-BE61-80EAE592C064>

Session Contributors:

Session Papers (if applicable):

Session Title: Spotlight Session on Electrified Aircraft Technology

Technical Panel | TFS-27 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2630DE82-7C0C-499B-9B55-BD6E0376FE76>

Session Contributors:

Session Papers (if applicable):

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) I

Technical Paper Session | FD-05 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/CB8BA1EB-EB4C-40BF-9A14-CE6302331F42>

Session Contributors: Caleb Saiyasak, Helen Reed, James Coder, Helen Reed, James Coder, Koen Groot, Douglas Stefanski, Koen Groot, Helen Reed, James Coder, Helen Reed, Douglas Stefanski, Jay Patel, James Coder, Chau-Lyan Chang, Chau-Lyan Chang, Chau-Lyan Chang, Chau-Lyan Chang, Anand Varma, Xiaolin Zhong, Anand Varma, Georgios Rigas, Omar Kamal, Tim Colonius, Matthew Lakebrink, Omar Kamal, Tim Colonius, Christoph Brehm, Christoph Brehm, Christoph Brehm, Sayed Mohammad Abdullah Al Hasnine, Christoph Brehm, Sayed Mohammad Abdullah Al Hasnine, Vincenzo Russo

Session Papers (if applicable):

Assessment of the Amplification Factor Transport Transition Model for High-Mach Number Flows, Development of Physics-Based Transition Models for Unstructured-Mesh CFD Codes Using Deep Learnin..., Impact of Real-Gas Effects on Hypersonic Boundary-Layer Receptivity, Input/Output Analysis of Hypersonic Boundary Layers using the One-Way Navier-Stokes (OWNS) Equations, Towards Understanding Particle Cloud Interactions with High-Speed Boundary Layer Flows

Session Title: Supersonic and Hypersonic Flows I

Technical Paper Session | FD-06 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/56FECB03-FF9C-464E-A973-86100CCF7301>

Session Contributors: Nathan Miller, Kyle Lynch, Daniel Guildenbecher, Russell Spillers, Stanislav Gordeyev, Daniel Guildenbecher, Nathan Miller, Kyle Lynch, Tatsunori Hayashi, Kenneth Granlund, Mehedi Hassan, Kenneth Granlund, Hirotaka Sakaue, Aaron Turpin, Aaron Turpin, Hirotaka Sakaue, Kenneth Granlund, Mehedi Hassan, Kenneth Granlund, Tatsunori Hayashi, Jesse Little, Stuart Craig, Jesse Little, Jesse Little, Stuart Craig, Jesse Little, James Threadgill, Wesley Bohult, James Threadgill

Session Papers (if applicable):

Aero-Optical Distortions of Turbulent Boundary Layers: DNS up to Mach 8, Aero-Optical Measurements of a Mach 8 Boundary Layer, Supersonic Cavity Flow with a Longitudinally-Opening Door. Part 1: Quasi-Static Opening., Supersonic Cavity Flow with a Longitudinally-Opening Door.

Part 2: Dynamic Opening., Swept and Unswept Blunt Fin in Mach 4 Quiet Flow

Session Title: System Identification and Parameter Estimation in Flight Test

Technical Paper Session | FT-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/49A8A19E-96FB-49AA-AF6A-FE958BEE0E22>

Session Contributors: Huub Timmermans, Andres Jurisson, Roeland De Breuker, Coen De Visser, Bart Eussen, Ethem Orhan, Hakan Tiftikçi, Mayuresh Patil, Natalia Alexandrov, Casey Denham, Christopher Roy, Natalia Alexandrov, Eugene Morelli, Eugene Morelli, Jean-Michel Fahmi, James Gresham, Craig Woolsey, Benjamin Simmons

Session Papers (if applicable):

Aeroservoelastic flight testing platform development for system identification, An Application of Frequency Domain System Identification on a Fixed Winged UAV, Applicability of a Framework for Modeling Modified Aircraft Configurations Using Uncertainty, Practical Aspects of Multiple-Input Design for Aircraft System Identification Flight Tests, Remote Uncorrelated Pilot Inputs for Nonlinear Aerodynamic Model Identification from Flight Data

Session Title: Forum 360: Collaboration to Mitigate the Risks of COVID-19

Forum 360 | F360-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/D503A627-54C5-48BC-93C4-B588CEC34066>

Session Contributors:

Session Papers (if applicable):

Session Title: Flow Visualization Showcase

Special Programming | FVS | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 12:30:00

<https://virtualforums.aiaa.org/Category/7C6A643B-7288-474C-837E-9A360CBCFB31>

Session Contributors:

Session Papers (if applicable):

Session Title: Aircraft Design I

Technical Paper Session | ACD-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8F704C44-AF9F-4768-B05C-9CDFD1ABD91D>

Session Contributors: Jacobo Díaz, Miguel Rodríguez-Segade Alonso, Santiago Hernández, Daniel Amenedo, Fabrizio Vergine, Derek Lang, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Luke Frost, Vern Chia, Josh Reuland, Shinji Namera, Ethan Moreno, Ben Schroeder, Minos Park, Shiva Vallabhaneni, Skyler Jacob, Johnathan Burgess, Colin Watson, Jake Compton, Gaurav Jalan, Stenila Simon, Bernd Chudoba, Aylric Van Ausdoll, Monica Soltero, Craig Mascarenhas, James Anderson, John Langford, Paul Ziade, Craig Johansen, Benjamin Dalman, Artem Korobenko, Alex Ramirez-Serrano, Craig Johansen

Session Papers (if applicable):

An application of single and multiobjective optimization to the design of the hypersonic STRATOFL..., Feasibility Analysis and Design of a Vertically-Cruising Ramjet, Preliminary Design of a Trans-Atlantic High Speed Civil Transport, Proposed Design of a Trans-Sonic Unmanned Aircraft System as a Platform for Understanding Superso..., Revising NASP as a Competitor to Falcon 9, Solar-Powered Aircraft-Configuration Design Optimization Based on Propulsion System Mass and Effi..., Validation and verification of a conceptual design tool for evaluating small-scale, supersonic, u...

Session Title: On-demand Mobility and Civil Supersonics Concepts and Market Studies

Technical Paper Session | GA-06/TFS-02/VSTOL-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/13FD6F8B-2FFD-4A57-BE21-88B4C71BD589>

Session Contributors: Conor Hill, Laurie Garrow, Laurie Garrow, Laurie Garrow, Laurie Garrow, Satadru Roy, Brian German, Satadru Roy, Edwin Freire Burgos, Jonathan Seidel, Edwin Freire

Burgos, Antonio Trani, Nicolas Hinze, Ty Marien, Karl Geiselhart, Samuel Dollyhigh, Ernesto Benini, Giovanni Venturelli, Gianluigi Misté, Todd Lauderdale, Priyank Pradeep, Gano Broto Chatterji, Todd Lauderdale, Chetan Kulkarni, Gano Broto Chatterji, Bernd Liebhardt, Bernd Liebhardt

Session Papers (if applicable):

A Market Segmentation Analysis for an eVTOL Air Taxi Shuttle, Coupled operations and economic analysis to locate optimal Skyports for Urban Air Mobility missions, Global Demand Model to Estimate Supersonic Commercial Services
, Mobility Impact Assessment of Innovative Aircraft inside the European Multimodal Transport Network, Parametric Study of State-of-Charge for an Electric Aircraft in Urban Air Mobility, Supersonic Overland Without a Sonic Boom – Quantifying the Speed Advantage of Mach-Cutoff Flight

Session Title: Physical Modeling: Essential for Successful Model-Based Engineering in Aerospace

Technical Panel | CFD2030 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/61106E04-BC2B-4174-AAAE-6B93F7D12995>

Session Contributors:

Session Papers (if applicable):

Session Title: Rolling Recap on Electrified Aircraft Technology I

Technical Panel | TFS-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/314F219F-4E98-4750-A07F-B2554A88D588>

Session Contributors:

Session Papers (if applicable):

Session Title: Traffic Flow Management

Technical Paper Session | ATM-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/5113EA9A-A968-46B5-A90A-FBD67DBECDD2>

Session Contributors: Mayara Rocha Murca, Igor Brito, McWilliam Oliveira, Alessandro Oliveira, Chris Brinton, Curt Kaler, Catherine Bolczak, Catherine Bolczak, Constance Morgan, Breanna

Hall, Diane Boone, Yibing Xie, Alessandro Gardi, Roberto Sabatini, Jacqueline Almache, Satvik Kumar, Swetha Rajkumar, Alexandra Kemp, Patrick Maynard, Stephen Clarke, Rajesh Pai

Session Papers (if applicable):

A Machine Learning-based Predictive Model of Airspace Sector Occupancy, Addressing Ground Delay Program Under-Delivery through Simulation-Based Traffic Management Training, Data-Driven Airspace Scheduling and Management to Enhance NAS Efficiency, Hybrid AI-Based Demand-Capacity Balancing for UAS Traffic Management and Urban Air Mobility, Natural Language Processing (NLP) Techniques for Air Traffic Management Planning

Session Title: Special Session: State of the Art II

Technical Panel | APA-07 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 13:30:00

<https://virtualforums.aiaa.org/Category/438DB1AC-266E-47D1-B65F-B7AEF9760A4F>

Session Contributors:

Session Papers (if applicable):

Session Title: Forum 360: Hope on the Horizon: Interdisciplinary Collaboration to Solve Future Challenges

Forum 360 | F360-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/D6AEACF5-40D3-439E-9A9B-2E81B1D7C402>

Session Contributors:

Session Papers (if applicable):

Session Title: Ablation: Modeling, Experiments, and Applications II

Technical Paper Session | TP-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/817F3DC4-0C61-43FC-95B8-D02F79E5C96A>

Session Contributors: Stefan Löhle, Felix Grigat, Ranjith Ravichandran, Arne Meindl, Martin Eberhart, Stefanos Fasoulas, Christian Zuber, Erik Poloni, Raghava Davuluri, Alexandre Martin, Kaveh A. Tagavi, Rui Fu, Rui Fu, Alexandre Martin, Alexandre Martin, Alexandre Martin, Alexandre Martin, Alexandre Martin, Alexandre Martin, Rui Fu, Rui Fu, Alexandre Martin, Alexandre Martin, John Schmidt, Matthew Ruffner, James Nichols, Ryan Nolin, William Smith,

Alexandre Martin, Alexandre Martin, Alexandre Martin, Felix Grigat, Stefan Löhle, Martin Eberhart

Session Papers (if applicable):

Evaluation of Diagnostic Methods for Quantification of Spallation in Arcjet Facility Experiments, Fully coupled internal radiative heat transfer for the 3D material response of heat shield, Hinge Method For CFD and Fluid-Ablation Interaction Modeling, Kentucky Re-Entry Universal Payload System (KRUPS): Design and Testing for Orbital Flight, Three-dimensional Study of Meteorite Ablation using a Plenoptic Camera

Session Title: Aeroelastic Interactions I

Technical Paper Session | APA-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/B7D87DC4-2C6F-497F-A97B-12AED9B469D9>

Session Contributors: Gareth Vio, Nicholas Giannelis, Nicholas Giannelis, Gareth Vio, Gregory Laskowski, Benjamin Duda, Jonathan Arata, Joaquin Gargoloff, Dominique Poirel, Weixing Yuan, Xiaoyang Zhang, Anupam Sharma, Anupam Sharma, Xingeng Wu

Session Papers (if applicable):

A numerical study of shock buffet onset sensitivity to gust perturbations, A sensitivity analysis of transonic aeroelastic structural response to variations in freestream c..., Automated Fluid Structure Interaction of NASA CRM Wing, Flutter Analysis Solution Stabilization for the PK-Method, Numerical Investigation of Vortex-Induced Vibration at $Re = 8M$

Session Title: Aero-Propulsive Interactions II

Technical Paper Session | APA-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/75FAE590-9B5F-419A-8BD3-A638505D442D>

Session Contributors: Matthew Clarke, Juan Alonso, Matthew Clarke, Jordan Smart, Racheal Erhard, Chris Jorgens, Adam Preece, Houda Bdeiw, Houda Bdeiw, Chris Jorgens, Bulent Tutkun, Emre Karaselvi, Melike Nikbay, Rumed Imrak, Jonas Verrière, James Kopriva

Session Papers (if applicable):

Aerodynamic Optimization of Wing-Mounted Propeller Configurations for Distributed Electric Propul..., CFD Simulation of Internal Flow within the Electric Motor Powered Aero-engine Simulator (EMPAS) A..., Exploration of Optimal Propulsion System Airframe Integration Design Concepts for a Low Boom Supe..., Simulations of an Underexpanded Round Jet using the Lattice-Boltzmann Method

Session Title: Aircraft Design II

Technical Paper Session | ACD-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/D706381E-D1E3-494B-BB07-EDF02052758A>

Session Contributors: Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Punya Plaban, Stanislav Karpuk, Ali Elham, Yiyuan Ma, Alejandra Uranga, Andrew Dorsey, Francesco Orefice, Salvatore Corcione, Fabrizio Nicolosi, Salvatore Corcione, Fabrizio Nicolosi, Pierluigi Della Vecchia, Vittorio Trifari, Mario Di Stasio, Sirka Fuhrmann, Reinhold Schaber, Agostino De Marco, Vittorio Trifari, Fabrizio Nicolosi, Fabrizio Nicolosi

Session Papers (if applicable):

Aerodynamic Design Challenges of a Thin Transonic Wing, Conceptual design and comparative study of strut-braced wing and twin-fuselage aircraft configura..., Design Space Exploration of Blended Wing Bodies, Hybridization and Mission Analysis of a regional turboprop, Multidisciplinary Optimization of a Regional Jet Including Advanced Airframe and Engine Technologies

Session Title: Atmospheric Hazards

Technical Paper Session | ASE-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/8E8ECC24-6BB6-449A-A864-42D76515A6EF>

Session Contributors: Hui Hu, Hui Hu, Linchuan Tian, Hui Hu, Ramsankar Veerakumar, Haiyang Hu, Hui Hu, Anton Stephan, Frank Holzäpfel, Niklas Wartha, Anton Stephan, Grigory Rotshteyn, Frank Holzäpfel, Arjun Singh, Deepak Nabapure, Ram Chandra Murthy K, Luca Patricelli, Michela Sabrina Faraoni, Ernesto Benini, Marco Bertolini, Lorenzo Dal Toso, Elisabetta Poli, Guglielmo Macrelli, Mike Kerr, Jamey Jacob, Matthias Steiner, Jamey Jacob, Jamey Jacob, Jamey Jacob, Anders Jensen, Gijs de Boer, James Pinto, Sean Bailey, Matthias Steiner, Adam Houston, Phillip Chilson, Suzanne Smith, Cairen Miranda, John Palmore

Session Papers (if applicable):

An Experimental Study of Atmospheric Icing Process on Bundled Conductors, Characterizing Wake Vortices of Landing Aircraft Using Artificial Neural Networks and LiDAR Measu..., Chemically reacting rarefied hypersonic flow over a backward-facing step, Hydrophobic Windscreen Coating for Next Generation Civil Tilt Rotor: Experimental Testing and Qua..., Impact of UAS Data Assimilation to Improve Mesoscale Forcing Used to Drive Large Eddy Simulations..., Predicting Erosion from Airborne Particles on Surfaces using a Soft-Sphere Collision Model

Session Title: Boundary Layer Transition I

Technical Paper Session | CFD-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/860D48BC-4F0B-4AE9-BEC6-8D6980DEED8B>

Session Contributors: Christoph Hader, Hermann Fasel, Hermann Fasel, Christoph Hader, Hermann Fasel, Hermann Fasel, Vasilis Tsakagiannis, Jatinder Pal Singh Sandhu, Santanu Ghosh, Jatinder Pal Singh Sandhu, Santanu Ghosh, Christoph Brehm, Christoph Brehm, Christoph Brehm, Bijaylakshmi Saikia, Leonard Dueñas, Niclas Dotzauer, Christoph Brehm, Bijaylakshmi Saikia, Pedro Castillo Gomez, Aldo Tena, Bryan Barraza, Andreas Gross, Bryan Barraza, Andreas Gross, Andreas Gross, Pedro Castillo Gomez, Andreas Gross, Christoph Hader, Hermann Fasel, Hermann Fasel, Christoph Hader, Madlen Leinemann, Hermann Fasel, Hermann Fasel, Joseph Habeck, Michael Kroells, Thomas Schwartzentruber, Graham Candler, Graham Candler

Session Papers (if applicable):

Direct Numerical Simulation of Hypersonic Boundary Layer Transition for a straight cone at the Ca..., Dynamical system analysis of a zero-equation transition model for sensitivity to initial conditions, Effect of Parametric Variation of Sinusoidal Surface Roughness on High-Speed Boundary Layer Stabi..., Machine-Learning Based Amplification Factor Transport Equation for Transition Modeling, Numerical Investigation of Boundary-Layer Transition on a Flat Plate at Mach 6 initiated by Rando..., Simulating particulate-shock interactions using the direct simulation Monte Carlo method

Session Title: Development of AAM/UAM Operational Concepts II

Technical Paper Session | ATOMS-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E59A8587-5C7F-4CFD-BD06-14D750BDAB17>

Session Contributors: Min Xue, Min Xue, Min Xue, Min Xue, Matthew Kowalski, Priyank Pradeep, Todd Lauderdale, Christabelle Bosson, Kay-Martin Edholm, Todd Lauderdale, Priyank Pradeep, Christabelle Bosson, Levin Guillermo, Heather Arneson, Hanbong Lee, Kushal Moolchandani, Heather Arneson, Hanbong Lee, Thomas Dubot, Antoine Joulia

Session Papers (if applicable):

Coordination between Federated Scheduling and Conflict Resolution in UAM Operations, Parametric Study of Federated Conflict Resolution for UAM Operations, Separation at Crossing Waypoints Under Wind Uncertainty in Urban Air Mobility, Simulation Study for Interoperability of Urban Air Mobility Scheduling and Separation Services in..., Towards U-space conflict management services based on 4D protection bubbles

Session Title: Evaluation of CFD as a Surrogate for Wind-Tunnel Testing for Mach 2.4-4.6 II

Technical Paper Session | GT-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/ABA19A29-6597-41A6-9A7F-810E2C939ED1>

Session Contributors: Greg Brauckmann, Thomas West, Stephen Alter, Greg Brauckmann, Cetin Kiris, Cetin Kiris, Cetin Kiris, Mihirkumar Patel, Bil Kleb, James Koch, Ercan Dumlupinar, Jeffrey Housman, Cetin Kiris, Paul Stremel, Neal Watkins, Marie Denison, Paul Danehy, Ross Burns, Timothy Fahringer, William Kleb, James Ross, William Kleb, Marie Denison, Robert Childs, Joseph Garcia, Hannah Spooner, Veronica Hawke, Phil Robinson, Matthew Reed, Neal Watkins, Scott Murman, Robert Childs, Phil Robinson, Joseph Garcia, Ben Nikaido, Stephen Alter, Marie Denison, James Ross, Marie Denison, Paul Stremel, Bil Kleb, Thomas West

Session Papers (if applicable):

Booster Separation Environment: Experiment and CFD Uncertainty Estimation Framework, CFD Analysis of Space Launch System Solid Rocket Booster Separation within the Langley Unitary Pl..., Evaluation of CFD for Simulation of High-Supersonic Control-Surface Effectiveness, Evaluation of CFD Predictions of Cobra-MRV Control Surface Effectiveness at the NASA Langley Unit...

Session Title: High-Order Methods I: Shock Fitting

Technical Paper Session | CFD-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/4E097610-E2F8-4D1C-8331-52A347228E6F>

Session Contributors: Hong Luo, Robert Nourgaliev, Gianni Absillis, Pierson Guthrey, Robert Nourgaliev, Andrew Corrigan, Andrew Kercher, Andrew Corrigan, Andrew Corrigan, Andrew Corrigan, Charles Naudet, Matthew Zahr, Matthew Zahr, Matthew Zahr, Matthew Zahr, Tiansi Huang, Andrew Shi, Andrew Shi, Per-Olof Persson, Per-Olof Persson, Matthew Zahr, Per-Olof Persson, Per-Olof Persson, Matthew Zahr

Session Papers (if applicable):

A Moving Discontinuous Galerkin Method for Flow Problems with Interfaces, Application of MDG-ICE to Shock-Material Interface Interactions, High-Order Implicit Shock Tracking using Entropy Variables and Radial Basis Functions, High-Order Implicit Shock Tracking with Targeted Mesh Optimization and PDE-Based Smoothing, Implicit shock tracking and the method of lines for shock-dominated, unsteady flows

Session Title: Jet Noise I

Technical Paper Session | AA-01 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C300836A-A541-460E-800B-F94E15606723>

Session Contributors: Juan Alonso, Tejal Shanbhag, Beckett Zhou, Eduardo Molina, Jinah Jeun, Sanjiva Lele, Gao Jun Wu, Datta Gaitonde, Chittrarth Prasad, Christophe Bogey, Christophe Bogey, Christophe Bogey, Christophe Bogey, Christopher Tam, Christopher Tam

Session Papers (if applicable):

A comparison of jet acoustic analysis methods, Aeroacoustic Coupling in Twin Supersonic Rectangular Jets, Assessment of a Generalized Acoustic Variable for Supersonic Jet Noise, Interactions between upstream-propagating acoustic waves and shear-layer instability waves in ini..., On the generation of entropy noise in a shock containing nozzle of high-performance aircraft at a...

Session Title: Low-Reynolds-Number and Bio-Inspired Flows II

Technical Paper Session | FD-09 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/D0CD1928-16AE-4FCA-B626-17048D7FBC85>

Session Contributors: Emanuel Camacho, Andre Silva, Emanuel Camacho, Andre Silva, Fernando Neves, Flávio Marques, Jorge Barata, Kan Liu, Weidong Zhu, Meilin Yu, Tao Zhang, Yan Yang, Haibo Dong, Guoxiang Hou, Cheng Zhao, Hao Li, Mostafa Nabawy

Session Papers (if applicable):

Effects of a Dynamic Leading Edge on a Plunging Airfoil, Fluid-structure Interaction Simulation using the High-order CFD Method with Application to Renewa..., Numerical study of sound generation by flow past two rotating cylinders at low Reynolds number, Wake Effects on Force Production of a Translating-Pitching Flat Plate

Session Title: Model and Simulation Integration

Technical Paper Session | MST-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6F8AC021-BF4D-422B-BBCC-A0A63E3132AC>

Session Contributors: Nabih Naeem, San Kilkis, Björn Nagel, Prajwal Prakasha, Yang Song, Meina Zhang, Wenbin Song, Cheng Chen, Hampus Gavel, Ingo Staack, Alexandra Oprea, Magnus

EEK, Johan Ölvander, Christopher Jouannet, Carina Marcus, Kristian Amadori, Sofia Schön, Sofia Schön, Murat Millidere, Tolga Yigit, Murat Millidere

Session Papers (if applicable):

A Python Modelling and Simulation Toolkit for Rapid Development of System of Systems Inverse Desi..., An improved turbofan engine maintenance model based on operational data., Aspects of flight simulation development in relation to scientific software: a literature review, Integration of Multi-Fidelity Models with Agent-Based Simulation for System of Systems, Local Search Based Hybrid Genetic Algorithm Method in Aircraft Trim

Session Title: Numerical Models for Ice Accretion Simulation Part 2

Technical Paper Session | ASE-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E8E29830-CE4A-492B-9EFA-9E505CEE81CF>

Session Contributors: Stephen McClain, Mario Vargas, Andy Broeren, Andy Broeren, Stephen McClain, Mario Vargas, Jen-Ching Tsao, Jen-Ching Tsao, Rémi Harry, Emmanuel Radenac, Ghislain Blanchard, Philippe Villedieu, Myles Morelli, Alberto Guardone, Alberto Guardone, Myles Morelli, Suthyvann Mendi, Jose Manuel Olalla, Patricia Morote, Adelaida Garcia-Magariño, Adelaida Garcia-Magariño

Session Papers (if applicable):

A Model for Ice Accretion Roughness Evolution and Spatial Variations, Heat Transfer modeling by integral boundary-layer methods towards icing applications, High-Fidelity Numerical Ice Prediction on Rotors, Influence of the deformation in the collection efficiency on a profile applying DRD model

Session Title: Optimization Under Uncertainty I

Technical Paper Session | MDO-02 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/FA28E4AE-56D0-4475-ADD2-5196BC7E0AE7>

Session Contributors: Recep Görgülüarslan, Görkem Demir, Jason Hicken, Jason Hicken, Jason Hicken, Garo Bedonian, Jason Hicken, Garo Bedonian, Anugrah Jo Joshy, John Hwang, Bingran Wang, Anugrah Jo Joshy, John Hwang, Sameer Mulani, Sameer Mulani, Sameer Mulani, Sameer Mulani, Mishal Thapa, Robert Walters, Achyut Paudel, Subham Gupta, Pat Piperni, Pat Piperni, Almir Tricic

Session Papers (if applicable):

A Multi-Objective Robust Aircraft Wing Shape Optimization Approach, Accounting for Model Error in Optimization Under Uncertainty Using Efficient Propagation Techniques, An Adaptive,

Inexact Gradient-based Algorithm for Multidisciplinary Design Optimization, Efficient Decoupled Approach for Robust Design Optimization, High-Fidelity Non-Stochastic Robust Design of Airfoils

Session Title: Physics-informed Machine Learning I

Technical Paper Session | MDO-03 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1DDE8665-E035-4318-AEC4-14C5F9F3D2A3>

Session Contributors: Leifur Leifsson, Peng Wei, Marc Brittain, Leifur Leifsson, Leifur Leifsson, Leifur Leifsson, Marc Brittain, Peng Wei, Jethro Nagawkar, Jethro Nagawkar, Leifur Leifsson, Marc Brittain, Leifur Leifsson, Marc Brittain, Leifur Leifsson, Leifur Leifsson, Felipe Viana, Yigit Yucesan, Felipe Viana, Yigit Yucesan, Luigi Perotti, Nicolas Gauger, Guillermo Suarez, Emre Oezkaya, Rohit Pochampalli, Beckett Zhou, Renato Giorgiani do Nascimento, Matteo Corbetta, Chetan Kulkarni, Felipe Viana, Felipe Viana

Session Papers (if applicable):

Multifidelity Aerodynamic Flow Field Prediction Using Conditional Adversarial Networks, Multifidelity Aerodynamic Flow Field Prediction Using Random Forests, Quantification of Load Uncertainty in Plates through Hybrid Physics-informed Neural Networks, Towards Turbulence Modeling Enhancement via the Correction of Boussinesq's Hypothesis - A Data-Dr..., Usage-based Lifing of Lithium-Ion Battery with Hybrid Physics-Informed Neural Networks

Session Title: Rolling Recap on Electrified Aircraft Technology II

Technical Panel | TFS-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/5FA31F6E-9BBC-41A0-B00E-370D3DCDD7C6>

Session Contributors:

Session Papers (if applicable):

Session Title: Shock-Boundary Layer Interactions II

Technical Paper Session | FD-10 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/5D5723F8-52A1-4EA9-B56E-5607280733EC>

Session Contributors: Jesse Little, Jesse Little, James Threadgill, Jesse Little, Jesse Little, James Threadgill, Ethan Bolze, James Threadgill, John Flood, Hermann Fasel, Jesse Little, Jesse Little,

Jesse Little, James Threadgill, John Flood, Stuart Craig, Hermann Fasel, Christoph Hader, Hermann Fasel, Christoph Hader, Hermann Fasel, Stuart Craig, Ashish Singh, Jesse Little, Jesse Little, Sathyan Padmanabhan, Jesse Little, Jesse Little, James Threadgill, Sathyan Padmanabhan, Jesse Little, James Threadgill, Pratikkumar Rajee, Krishnendu Sinha, Justin Wagner, Kyle Lynch, Kyle Daniel, Kyle Daniel

Session Papers (if applicable):

Density-Based Spectral Analysis of a Turbulent Compression Ramp Shock Boundary Layer Interaction, Development of Plasma-based Controlled Disturbances for the Study of Boundary Layer Transition an..., Flow Similarity in Swept Impinging Oblique SBLI, Formulation of advanced SST turbulence model for shock-boundary layer interaction, Scaling of Reflected Shock Bifurcation at High Incident Mach Number

Session Title: Simulation, Modeling, and Analysis of ATC/ATM Technologies and Procedures II

Technical Paper Session | ATOMS-04 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/08B56FE7-6483-4890-9242-080355CD2D03>

Session Contributors: Robert Windhorst, Robert Windhorst, Alexander Sadovsky, James Phillips, Yung-Cheng Chu, Hyo-Sang Yoo, Jaewoo Jung, Jeffrey Homola, Jeffrey Homola, Hyo-Sang Yoo, Jinhua Li, David Wing, David Wing, David Karr, Terique Barney, Timothy Etherington, Terique Barney, Vivek Sharma, James Sturdy, Shannon Zelinski, Alexander Sadovsky, Yung-Cheng Chu, James Phillips, Todd Lauderdale, Todd Lauderdale, Robert Windhorst, Yun Zheng, Robert Windhorst, Tung Nguyen, Joseph D'Amore, Robert Windhorst, Robert Windhorst, Todd Lauderdale, Todd Lauderdale, James Phillips, Yung-Cheng Chu, Alexander Sadovsky, Steven Lent

Session Papers (if applicable):

Bin-and-sort: a Policy and Method for Having a Distributed System Schedule and Arbitrate Flights ..., Cooperative Upper Class E Airspace: Concept of Operations and Simulation Development for Operatio..., Initial Design Guidelines for Onboard Automation of Flight Path Management, Initial Validation of a Simulation System for Studying Interoperability in Future Air Traffic Man..., Strategic and Tactical Functions in an Autonomous Air Traffic Management System, The Impact of STA Conformance Error and Variation of Target TRACON Delay on Arrival Throughput du...

Session Title: Special Session: DIVE II

Technical Paper Session | APA-05 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/CA753E21-7116-4BFF-9319-9054AF73FED2>

Session Contributors: Zachary Smith, Zachary Smith, Murray Snyder, James Pritchard, James Pritchard, Kanishke Gamagedara, Murray Snyder, Taeyoung Lee, Taeyoung Lee, Murray Snyder, Kanishke Gamagedara, Kanishke Gamagedara, Murray Snyder, Donald Gaublomme, Tyler Fean, Robert Calvillo, Zachary Smith, Donald Gaublomme

Session Papers (if applicable):

Baseline for Virtual Dynamic Interface, In Situ Detection and Analysis of Ship Air Wakes from a US Navy Research Vessel, Unscented Kalman Filter for INS/GNSS Data Fusion with Time Delay, Using Virtual Simulation to Enhance Rotorcraft Shipboard Flight Testing

Session Title: Special Session: Reduced-Complexity Modeling for Flow Control II
Technical Paper Session | FD-11 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BE732A38-C3BE-438F-A444-C116DDC2640F>

Session Contributors: Kourosh Shoele, Kourosh Shoele, Tso-Kang Wang, Miguel Alfonso Mendez, Francisco Torres Herrador, Simon Demange, Olivier Chazot, Andrea Fagnani, Enrico Anfuso, Simon Demange, Freddie Witherden, Mykel Kochenderfer, Jeremy Morton, Chang Liu, Dennice Gayme, Chang Liu

Session Papers (if applicable):

Geometrically Weighted Modal Decomposition Method for Fluid-Structure Interaction Problems, Multiscale Modal Analysis of a Plasma Jet: Coherent Structures and their Observability, Parameter-Conditioned Sequential Generative Modelling of Fluid Flows, Structured input-output analysis of wall-parallel length scales in transitional plane Couette flow

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) II
Technical Paper Session | FD-12 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/753633BC-9E28-40BB-95C4-899D22AE129A>

Session Contributors: Anthony Haas, Christoph Hader, Hermann Fasel, Hermann Fasel, Hermann Fasel, Christoph Hader, Anthony Haas, Hermann Fasel, Joseph Jewell, Steven Schneider, Elizabeth Benitez, Joseph Jewell, Elizabeth Benitez, Joseph Jewell, Joseph Jewell, Ross Wagnild, Shaun Harris, Neal Bitter, Charles Mullen, Helen Reed, Helen Reed, Helen Reed, Madeline McMillan, Charles Mullen, Helen Reed, Nick Parziale, David Shekhtman, Alex Dworzanczyk, Ahsan Hameed

Session Papers (if applicable):

Linear Stability Investigation of Cross-Flow Instability for a Supersonic Swept Wing with a Bicon..., Propagation of Controlled Disturbances through an Axisymmetric Separation Bubble at Mach 6, Second mode growth in a high-velocity boundary layer using stability theory and DNS, Spatial BiGlobal Stability Analysis of Spanwise Vortex Rollup on a Hypersonic Finned Cone, Stability Analysis of Hypervelocity Ballistic-Range Transition Data

Session Title: Supersonic and Hypersonic Flows II

Technical Paper Session | FD-13 | AVIATION

Session Date: 2021-08-02

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6AA6CF68-B145-41F9-B0A8-A3D726FD9F66>

Session Contributors: Bryan Morreale, Eric Swinny, Rodney Bowersox, Sayaka Miyazaki, Edward DeMauro, Jack Thompson, Catarina Garbacz, James Scoggins, Fábio Morgado, Marco Fossati, Marco Fossati, Michele Capriati, Thierry Magin, Anubhav Dwivedi, G Sidharth, G Sidharth, Harsha Rathi, Krishnendu Sinha

Session Papers (if applicable):

Aerodynamic and Flight Stability Modeling of the BOLT-II Flight Test, Cartesian Grid-based CFD for Shock/Shock Interference of Two Circular Cylinders, Experimental Investigation of Vortex Breakdown in Oblique Shock-Vortex Interactions, Influence of Thermochemical Modelling of CO₂-N₂ Mixtures on the Shock Interaction Patterns at Hyp..., Instabilities in axisymmetric hypersonic shock/boundary layer interactions, Numerical Detection of Shock Location and Shock Strength in Unsteady Flow Computations

Session Title: Slow Flow Yoga

the HUB | HUB-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 09:00:00

<https://virtualforums.aiaa.org/Category/71130A90-FA60-4338-89C0-6BF2F0D9508E>

Session Contributors:

Session Papers (if applicable):

Session Title: Plenary Session: NASA's Vision for Sustainable Aviation

Plenary Session | PLNRY-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/AC05667E-3777-41F5-8631-245A004059D8>

Session Contributors:
Session Papers (if applicable):

Session Title: Ablation: Modeling, Experiments, and Applications III

Technical Paper Session | TP-03 | AVIATION

Session Date: 2021-08-03
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B88CB570-E1D0-4B91-8397-BAA9C972BA74>

Session Contributors: Giovanni Salazar, Adam Amar, Daniel Iyinomen, Bernd Helber, Olivier Chazot, Thierry Magin, Pierre Schrooyen, Bruno Dias, Andrea Fagnani, Siddhant Aphale, Gabriel Surina, Paul DesJardin, Paul DesJardin, Siddhant Aphale, Kenneth Budzinski

Session Papers (if applicable):

Contact Boundary Conditions in the CHarring Ablator Response (CHAR) Code, Experimental Approach to Ablation Measurements in Hypersonic Impulse Facilities Using A New Plasm..., Investigation of Quartz Ablation in the VKI Plasmatron Facility: Comparison Between Experimental ..., Non-intrusive Flame to Fuel Surface Radiative Heat Flux Diagnostic for Hybrid Rockets 2D Slab Bur..., Validation of Ablating Boundary Layer Combustion Model Using NASA BASS Microgravity Data

Session Title: Active and Passive Flow Control Devices and Applications II

Technical Paper Session | FD-14 | AVIATION

Session Date: 2021-08-03
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2968EC7A-B5EF-405D-917A-E0C4D141B442>

Session Contributors: Andrew Wynn, Omar Mahfoze, Sylvain Laizet, Richard Whalley, Ben Steinfurth, Julien Weiss, Julien Weiss, Frank Lu, Sandeep James, Liwei Zhang, Sandeep James, Frank Lu, Johannes Reichert, Israel Wygnanski, Morteza Gharib, Emile Oshima, Alain Gehri, Marianna Braza, Yannick Hoarau, Abderahmane Marouf, Agathe Chouippe, Jan Vos, Dominique Charbonnier

Session Papers (if applicable):

A Bayesian optimisation framework for drag reduction and net-energy saving in a turbulent boundar..., Development of inclined non-parallel planar starting jets in an adverse-pressure-gradient crossflow, Numerical Study of Drag Reduction by Conventional and Micro Vortex Generators, Parameters Defining Active Flow Control, Unsteady CFD simulations for Active Flow Control

Session Title: Aero-Propulsive Interactions III

Technical Paper Session | APA-08 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/483047F9-68E1-4F64-8999-6C5361BE3B85>

Session Contributors: Ulf Tapken, Ulf Tapken, Luciano Caldas, Robert Meyer, Maximilian Behn, Carolin Kissner, Carolin Kissner, Debdoot Ghosh, Humrutha Gunasekaran, Colin Trussa, Matthew Mccrink, Clifford Whitfield, Colin Trussa, Jacob Brandon, Matthew McCrink

Session Papers (if applicable):

Comparison of techniques for the estimation of flow parameters of fan inflow turbulence from noise..., Large Eddy Simulation (LES) of Aerospike Nozzle assisted Supersonic Retro-Propulsion (SRP), Performance Analysis of a Serpentine Inlet Design for an Unmanned Aerial Vehicle

Session Title: Boundary Layer Transition II

Technical Paper Session | CFD-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C84C45A5-2601-40FE-8E65-23EC401DB9DC>

Session Contributors: Ryuta Naganuma, Yan Xue, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Charles Mullen, Helen Reed, Helen Reed, Helen Reed, Helen Reed, Charles Mullen, Eric Laurendeau, Benjamin Barrouillet, Hong Yang

Session Papers (if applicable):

Computational Fluid Analysis of Corrugated Wing in Unsteady Motion Using Cartesian Grid, Development of a New Transitional Flow Model Integrating the one-equation Wray-Agarwal Turbulence..., Nonlinear Parabolized Stability Analysis of the BOLT Flight Geometry at Off-Nominal Conditions, Optimized cross flow transition model for Reynolds Averaged Navier Stokes applications

Session Title: CEAS Aeroacoustics Award Lecture

Technical Lecture | AA-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A787B68B-7840-44EF-B4C1-7B9665BBA948>

Session Contributors:

Session Papers (if applicable):

Session Title: Compressible Multiphase and Rarefied Flows

Technical Paper Session | FD-15 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/471CFDA0-EE94-4003-8AD3-83D7A50E540F>

Session Contributors: Lingquan Li, Rainald Lohner, Hong Luo, Aditya Pandare, Aggelos Klothakis, Saurabh Sawant, Vassilios Theofilis, Deborah Levin, Helio Quintanilha Jr, Hussein Al-Rashdan

Session Papers (if applicable):

A Single Pressure Model for Compressible Three-fluid Flows with High Explosive Material, Development of the Anisotropic Conservation Equations for the Linear Stability Analysis of Normal..., Supersonic Underexpanded Flow Visualization in Sub-Atmospheric Facility

Session Title: Emerging Design Tools and Innovative Approaches I

Technical Paper Session | DE-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/F102E215-458F-40CC-B6D9-8090E2BDE598>

Session Contributors: Jose Medina, Bernd Chudoba, Harinkumar Patel, Frederick Palmieri, Lance Sherry, James Baldo, Brett Berlin, Oleksandra Snisarevska, Mehdi Jadidi, Saeed Garmeh, Ali Dolatabadi

Session Papers (if applicable):

2D Mix-Compression Inlet Sizing of Supersonic Vehicles, A Challenge to the Finite Element Analysis Community: What Is The Next Advance Forthcoming in Eng..., Best of Both Worlds: Using Explainable AI and Model-based System Engineering to Design Flight Gui..., Numerical Study on Particle Behavior and Deposition Accuracy in Cold Spray Additive Manufacturing

Session Title: Flight Testing of Unmanned Systems

Technical Paper Session | FT-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C71DC076-46E6-4422-AC92-1701B28F716C>

Session Contributors: Ruben Perez, Ruben Perez, Robert Colpitts, Ruben Perez, Ruben Perez, William Allan, Robert Colpitts, Stephen Havaland, Vincent Hill, Jason Mukherjee, Derek Lisoski, Brian Danowsky, Ioannis Nompelis, Ioannis Nompelis, Alice Loewenson, Ellen Longmire, Nathaniel Anderson

Session Papers (if applicable):

Flight Test of a UAV with Leading Edge Tubercles, In-Flight Stability Analysis and Envelope Clearance of the Sun glider Solar HALE UAS, Preliminary Design of the Sensor Pod of a Hypersonic Reentry Flight Testbed

Session Title: Fundamental Fluid Flows (Vortex Flows, Shear Flows, Separation, Hydrodynamics, etc.) I

Technical Paper Session | FD-16 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A3D4DD07-3CE8-4968-8EFD-9BE0482E019C>

Session Contributors: Soumarup Bhattacharyya, Shivam Verma, Sanjay Kumar, Kamal Poddar, Soumarup Bhattacharyya, Kamal Poddar, Shreya Sharma, Sanjay Kumar, Praneeta Sachan, Shelby Hayostek, Michael Amitay, Michael Amitay, Michael Amitay, Michael Amitay, Adam Jirasek, Casey Fagley, Jurgen Seidel, Jurgen Seidel, Jurgen Seidel, Jurgen Seidel

Session Papers (if applicable):

An experimental study of flow past a rotationally oscillating linearly tapered cylinder, An experimental study of Vogel-Escudier flow with near axis swirl, Flowfield around Low Aspect Ratio Finite Span Wings at low Reynolds Number: Effect of Sweep, Leading Edge Vortex Dynamics on Finite Aspect Ratio Wings Exhibiting Large Amplitude Oscillations

Session Title: High-Order Methods II: Discontinuous Galerkin Schemes

Technical Paper Session | CFD-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D4165BDC-51BF-4E5F-BD38-ECE85085D60C>

Session Contributors: Hong Luo, Weizhao Li, Jacob Waltz, Aditya Pandare, Jozsef Bakosi, Marco Kupiainen, Tomas Lundquist, Oskar Ålund, Jan Nordstrom, Andrew Winters, Fredrik Laurén, Michael Sleeman, Masayuki Yano, Eugene Du, Hojun You, Juhyun Kim, Juhyun Kim, Chongam Kim, Chongam Kim, Andrew Corrigan, David Williams, Andrew Corrigan, David Williams, Andrew Corrigan, Andrew Kercher, Andrew Corrigan

Session Papers (if applicable):

A Discontinuous Galerkin Method for Multi-Material Hydrodynamics on Unstructured Mesh, A Stable Discontinuous Galerkin to Finite Difference Coupling for the Compressible Navier-Stokes ..., Adaptive Discontinuous-Galerkin Reduced-Basis Reduced-Quadrature Method for Many-Query CFD Problems, High-performance Discontinuous Galerkin Flow Solver using Direct Reconstruction Method, Towards an Efficient, Space-Time, Discontinuous Galerkin Method for Simulating the Fluid Dynamics...

Session Title: Invited Session: Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) I

Technical Paper Session | GA-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/69A5D8FC-0720-4302-9183-21E6BC5E4AE1>

Session Contributors: Alexia Payan, Dimitri Mavris, Andrew Speirs, Alexia Payan, Coline Ramee, Kexin Wang, Philipp Meister, Michael Dorneich, Eliot Winer, Geoff Whitehurst, Lori Brown, Barrett Caldwell, Michael Splitt

Session Papers (if applicable):

Analysis of Weather-Related Helicopter Accidents and Incidents in the United States, Applying Augmented Reality Capabilities to Enhance General Aviation Weather Training, GA Pilot Information and Weather Technology and the Cockpit: Fixed Wing and Rotorcraft Issues

Session Title: Keynote: How to Succeed in MDO by Failing all the Time

Technical Lecture | MDO-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B51592EB-7C2B-40F7-AF68-26C94847DC3A>

Session Contributors:

Session Papers (if applicable):

Session Title: Measurement of Icing Clouds

Technical Paper Session | ASE-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5D9BD7D4-7CF0-427C-B580-EE7FA8DD7885>

Session Contributors: Mengistu Wolde, John Strapp, Melissa Bravin, John Strapp, Melissa Bravin, Terrance Tritz, Jeanne Mason, Christopher Sivo, Dan Bouley, Thomas Ratvasky, Thomas Ratvasky, John Strapp, Lyle Lilie, John Strapp, Lyle Lilie, Laura-Cheri King-Steen, Emily Timko, Emily Timko, Laura-Cheri King-Steen, Alberto Guardone, Tommaso Bellosta, Giulio Gori, Pietro Congedo, Olivier le Maitre, Alberto Guardone

Session Papers (if applicable):

A Supplementary Analysis and Comparison of Flight Campaign Data to 14 CFR Part 33 Appendix D/ CS ..., Simultaneous Ice Water Content Measurements at Multiple Locations on the NASA DC-8 Aircraft Durin..., Statistical Process Control and Capability Study on the Water Content

Measurements in NASA Glenn'..., Uncertainty quantification for in-flight ice accretion under Appendix-C and Appendix-O conditions

Session Title: Modeling and Simulation of Aircraft for Analysis

Technical Paper Session | MST-03 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/BC875046-4D8E-4677-8B88-FFFA2BAE1C10>

Session Contributors: Matthias Schulze, Matthias Schulze, Johan Feldwisch, Argiris Kamoulakos, Argiris Kamoulakos, Kin Huat Low, Mohd Hasrizam Che Man, Matthew Rhudy, Carsten Braun, Philipp Schildt, Pier Marzocca

Session Papers (if applicable):

A quasi-steady aeroelastic maneuver loads computation strategy based on low and high fidelity aer..., Aspects of analysis and simulation of a wing ditching scenario, Damage Severity Prediction of Helicopter Windshields Caused by a Collision with a Small Unmanned ..., Low-Cost Attitude Estimation Algorithms for Quadcopters using Ultrasonic Rangefinders, X-Plane/Simulink Co-Simulation to Assess Damaged Propeller Bearing Vibration Signals in Non-Stationary...

Session Title: New Entrants & Innovative Concepts

Technical Paper Session | ATM-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1681D35F-BF26-4B21-805F-A78A538A1C0C>

Session Contributors: Garrett Sadler, Igor Dolgov, Robert Rorie, Jillian Keeler, Terence Tyson, Garrett Sadler, Summer Brandt, Robert Rorie, Casey Smith, Kevin Monk, Jesus Viramontes, Abraham Ishihara, Husni Idris, Min Xue, Min Xue, Husni Idris, George Szatkowski, Henry Holbrook, Chris Morris, Larry Ticatch, Robert McSwain, Mahyar Malekpour, Mahyar Malekpour, Chester Dolph, Mahyar Malekpour, David Petrizze, Kasra Koorehdavoudi, Sandip Roy, Mengran Xue, Sandip Roy, Paul Roling, Merlijn Groot, Paul Roling

Session Papers (if applicable):

A Cognitive Walkthrough of Multiple Drone Delivery Operations, A Framework for Sense and Follow Convoys for Collective Autonomous Mobility, Aircraft Classification Using RADAR from small Unmanned Aerial Systems for Scalable Traffic Manag..., Distinguishing Aerial Intruders from Ambient Trajectory Data: Model-Based and Data-Driven Approaches, The Potential Impact of Electric Aircraft Taxiing: A Probabilistic Analysis and Fleet Assignment ...

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) III

Technical Paper Session | FD-18 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/8D9EF9FF-21D7-45EF-81BE-7CA5FCA14AF8>

Session Contributors: Stuart Craig, John Flood, Stuart Craig, John Flood, Wesley Bohult, Victor Padilla, Hermann Fasel, Hermann Fasel, Hermann Fasel, Christoph Hader, Hermann Fasel, Christoph Hader, Hermann Fasel, Christoph Hader, Hermann Fasel, Christoph Hader, Hermann Fasel, Hermann Fasel, Shaun Skinner, Stuart Laurence, Laura Paquin, Laura Paquin, Shaun Skinner, Kathryn Gray, Joseph Jewell, Joseph Jewell, Steven Schneider, Joseph Jewell, Joseph Jewell

Session Papers (if applicable):

Boundary-layer stability measurements on a Mach 5 sharp cone, Direct Numerical Simulations of Hypersonic Boundary-Layer Transition for a Straight Cone at Mach ..., Direct Numerical Simulations of Hypersonic Boundary-Layer Transition for a Straight Cone at Mach 7, Effect of Wall Cooling on the Stability of a Hypersonic Boundary Layer over a Slender Cone, Flow-Induced Vibrations Measured on a Slender Cone in Mach-6 Quiet Flow

Session Title: Supersonic and Hypersonic Flows III

Technical Paper Session | FD-19 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/FF8BA2D8-25DE-4DAD-B6B7-5DAF4FDA07BE>

Session Contributors: Christian Lagares, Guillermo Araya, Christoph Brehm, Joel McQuaid, Aleksander Zibitsker, Alexandre Martin, Christoph Brehm, Alexandre Martin, Christoph Brehm, Alexandre Martin, Christoph Brehm, Alexandre Martin, William Wolf, Hugo Lui, William Wolf, Hugo Lui, James Braun, Guillermo Paniagua, Iman Rahbari, Domenic D'Ambrosio, Giacomo Uffreduzzi, Adriano Pansini, Roberto Marsilio

Session Papers (if applicable):

Compressibility Effects on High-Reynolds Coherent Structures via Two-Point Correlations, Heat Flux Predictions for High Speed Flows with an Immersed Boundary Method, Numerical simulations of supersonic stator cascades: Assessment of LES and RANS calculations, Numerical validation and analysis of supersonic retropropulsion test cases.

Session Title: The Cyber Resiliency Level™ Model Exposed: A Tutorial of the Lockheed Martin CRL Model

Technical Workshop | CS-01 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/DF19B37E-FFC5-478F-85D7-C7223F21DA6B>

Session Contributors:

Session Papers (if applicable):

Session Title: Unsteady Aerodynamics I

Technical Paper Session | APA-20 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1808D96C-6095-4BAD-A992-779E3D44BD75>

Session Contributors: Anupam Sharma, Anupam Sharma, Sarasija Sudharsan, Jennifer Franck, Mukul Dave, Jennifer Franck, Miguel Visbal, Miguel Visbal, William Wolf, Datta Gaitonde, Miguel Visbal, Renato Miotto, William Wolf, Miguel Visbal, Ernesto Benini, Andrea Battiston, Rita Ponza, Andrea Dal Monte, Francesco De Vanna, Francesco Picano, Peng Cheng Wang, Tan Kin Jon Benjamin, Henrik Hesse

Session Papers (if applicable):

Characterizing onset of leading-edge dynamic stall, Investigation of dynamic stall within a cross-flow turbine via large-eddy simulation, Large Eddy Simulations of Dynamic Stall Airfoils: Assessment of Constant Ramp Pitching and Plungi..., Strouhal number effects on pulsating synthetic jet's entrainment, Wing-Tail Interaction Under Forced Harmonic Pitch

Session Title: Forum 360: NASA's Aviation Sustainability Strategy

Forum 360 | F360-03 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/BCB3BB56-8A77-4357-BD44-0A62EA40C6E5>

Session Contributors:

Session Papers (if applicable):

Session Title: Rising Leaders in Aerospace: Career Skills Panel

the HUB | HUB-03 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/17D9C25A-E252-42E3-9BF6-5E8554010F0B>

Session Contributors:

Session Papers (if applicable):

Session Title: Special Session: Flow Control Open Forum

Technical Panel | FD-20 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 12:30:00

<https://virtualforums.aiaa.org/Category/49F9EDB1-CF7E-4896-8517-D74F3E67A76F>

Session Contributors:

Session Papers (if applicable):

Session Title: Acceleration and Analysis of Algorithms I

Technical Paper Session | CFD-07 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F9DA401C-A291-44E7-A7F8-DECD1481F9B7>

Session Contributors: Hiroaki Nishikawa, Jeffery White, Hiroaki Nishikawa, Hiroaki Nishikawa, Hiroaki Nishikawa, Krzysztof Fidkowski, Krzysztof Fidkowski, Krzysztof Fidkowski, Krzysztof Fidkowski, Syam Vangara, Siva Nadarajah, Matteo Franciolini, Anirban Garai, Scott Murman, Marzieh Mirhoseini, Matthew Zahr, Matthew Zahr, Luis Gomez, Armando Barriga, Gerardo Olivares, Rafael Bini Leite

Session Papers (if applicable):

A Simplified FANG Cell-Centered Finite-Volume Method and Comparison with Other Methods for Troubl..., Analysis of Iterative Solvers for Hybridized Discontinuous Galerkin Methods, Communication Hiding Implementation of Scaled-Additive Multigrid for Implicit Solvers, Efficient preconditioning of a high-order solver for multiple physics, Optimization-Based Model Reduction of Convection-Dominated Partial Differential Equations, Scalability Study of a Large Ditching Model Using Radioss Multi-Domain Technique to Reduce Comput...

Session Title: Advanced Thermal Management Technology Development and Validation

Technical Paper Session | TP-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C2171DB4-428B-4525-AD57-3C7B76ADD0F0>

Session Contributors: Franklin Duan, Ziyi Xie, Siqing Liu, Binglin Zou, Jibao Li, Franklin Duan, Matteo Gelain, Alexandre Couilleaux, Marc Errera, Olivier Gicquel, Ronan Vicquelin, Galen

Jackson, Timothy Fisher, Hagen Kellermann, Samuel Fuhrmann, Mirko Hornung, Bruno Van Ootegem

Session Papers (if applicable):

Application of Thin Film Thermocouples on Nozzle Guide Vane's Cooling Performance Tests, Conjugate heat transfer analysis of a surface air-cooled oil cooler (SACOC) installed in a turbofan..., Damping of oscillatory temperature profiles with a thermal storage device, Design of a Battery Cooling System for Hybrid Electric Aircraft, Real time surface determination of emissivity and surface temperature using multispectral signal

Session Title: Aeroelastic Interactions II

Technical Paper Session | APA-10 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8882543A-CD45-4196-9421-38A5A55DAAC8>

Session Contributors: Benoit Marinus, Ahmed Malim, Nikolaos Mourousias, Benoit Marinus, Tim De Troyer, João Luiz Azevedo, Ricardo Galdino da Silva, Carlos Breviglieri, João Luiz Azevedo, J Allan Lyrio, Domingos Rade, João Luiz Azevedo, J Allan Lyrio, Ricardo Galdino Da Silva, João Luiz Azevedo, Leon Vanstone, Noel Clemens, Mustafa Musta, Yoo-Jin Ahn, Jayant Sirohi, Marc Eitner, Nathan Shumway

Session Papers (if applicable):

Aeroelastic Response Simulation of a 3D Printed High Altitude Propeller, Assessment of a Framework for Static Aeroelastic Response Calculations in Transonic Flows, Effect of Shock-Wave Boundary Layer Interaction on Vibratory Response of Compliant Panel, Unsteady fabric vibration and the resulting wake velocity oscillations

Session Title: Applied CFD Modeling I

Technical Paper Session | APA-13 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/1A9CBC64-6337-4D05-98C4-F10BE203C387>

Session Contributors: Veer Vatsa, LaTunia Pack Melton, John Lin, David Lockard, Veer Vatsa, Ryan Ferris, Latunia Pack Melton, David Kozomara, Andreas Tramposch, Michael Thomann, Marlon Mathias, Marlon Mathias, Fernando Himeno, Marcello Medeiros, Fernando Himeno, Lucas Souza, Cristiane Martins, Ney Sêcco

Session Papers (if applicable):

CFD Simulations of Landing and Takeoff CRM High-Lift Configurations, Determination of Droplet Impingement on an Octocopter at different Flight and Icing Conditions wi..., DNS of a Tollmien-

Schlichting Wave Interacting with a Roughness Modeled via Body-fitted and Appro..., Use of Artificial Neural Networks To Correct Computer Simulations of Small-Scale Propellers

Session Title: Breached! In Partnership with Booz Allen Hamilton

the HUB | HUB-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/859A3E70-6DC1-4FA8-998C-C23D7F03A367>

Session Contributors:

Session Papers (if applicable):

Session Title: Emerging Design Tools and Innovative Approaches II

Technical Paper Session | DE-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/11D9EC02-FC48-413C-9A8F-74B124D1389B>

Session Contributors: Cole Dunning, Dominik Fill, Emily Strauss, Mostafa Hassanalian, Mostafa Hassanalian, Anastasia Western, Isabel Morris, Arvin Ebrahimkhanlou, Brenden Herkenhoff, Mostafa Hassanalian, Mostafa Hassanalian, Mostafa Hassanalian, Cole Dunning, Rodrigo Cervantes, Mahdi Haghshenas Jaryani, Mostafa Hassanalian, Anastasia Western, Jenna Stolzman, Zachary Tuuk, David Kavalauskas, Sanjivan Manoharan, Grace Tenorio, Mostafa Hassanalian, Mostafa Hassanalian, Brenden Herkenhoff

Session Papers (if applicable):

Amphibious Bioinspired Robots for Ocean Objects Identification, Application and Potential Design of an Amphibious Drone Hub: Water Lily and Bioinspiration Concepts, Bioinspired Robot with Walking, Rolling, and Jumping Capabilities for Planetary Exploration, Initial Sample Collection Device for Microgravity Challenge, Penguin Huddling and Bioinspired Solar Farms

Session Title: How do UAM (Urban Air Mobility), AAM (Advanced Air Mobility), and RAM (Regional Air Mobility) fit together?

Technical Panel | TFS-08 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F9EDFE39-A710-4060-944E-0B13D2ECEABD>

Session Contributors:

Session Papers (if applicable):

Session Title: Hybrid Electric & Thermal Issues in Aircraft Design

Technical Paper Session | ACD-06/MDO-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/73757F58-88C2-4F6B-965A-965E3AD75C67>

Session Contributors: Andrew Zakrajsek, Jonathan Boston, Matthew Clarke, Juan Alonso, Matthew Clarke, Eliot Aretskin-Hariton, Mark Bell, Sydney Schnulo, Justin Gray, Justin Gray, Eliot Aretskin-Hariton, Scott Delbecq, Valentine Habrard, Valerie Pommier-Budinger, Emmanuel Benard, Thomas Planès

Session Papers (if applicable):

Conceptual Thermal-Structural Design: Overview, Design Tool and Demonstration, Estimating Lithium-Ion Battery Performance and Degradation in Electric Aircraft, Power Cable Mass Estimation for Electric Aircraft Propulsion, Thermal management system models for overall aircraft design

Session Title: Introduction to Ground Test Facilities

Technical Panel | GT-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/1DBFDA92-A8BA-4936-AB92-C8B0B118601A>

Session Contributors:

Session Papers (if applicable):

Session Title: Jet Noise II

Technical Paper Session | AA-03 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/4874F948-C044-400F-B63F-6D537096B0B4>

Session Contributors: Tim Colonius, Ethan Pickering, Tim Colonius, Tim Colonius, Peter Jordan, Liam Heidt, Igor Maia, Akhil Nekkanti, Tim Colonius, Oliver Schmdit, Sergey Karabasov, Anton Markesteijn, Vasily Gryazev, Anton Markesteijn, Heiko Schmidt, Sparsh Sharma, Marten Klein, Taku Nonomura, Taku Nonomura, Yuta Ozawa, Takayuki Nagata, Keisuke Asai

Session Papers (if applicable):

A RANS-calibrated resolvent model for turbulent jets, Analysis of forced subsonic jets using spectral proper orthogonal decomposition and resolvent ana..., Low-order modelling of NASA

three-stream jets using Large Eddy Simulations, Modelling turbulent jets at high-Reynolds number using one-dimensional turbulence, POD-based Spatio-temporal Superresolution Measurement on a Supersonic Jet using PIV and Near-fiel...

Session Title: MDAO Applications to Aircraft Aerodynamics & Structures

Technical Paper Session | ACD-07/MDO-07/TFS-09 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/5EAB616E-35E1-4799-BDC7-CB0AC0D90FB6>

Session Contributors: SunWoong Yang, Kwanjung Yee, Sanga Lee, Haifeng Xia, Chris Douglas, Thomas Klimmek, David Quero Martin, Christoph Kaiser, Stefan Goertz, Mohammad Abu-Zurayk, Matthias Schulze, Thomas Klimmek, Jannik Häßy, Stefan Goertz, Mohammad Abu-Zurayk, Caslav Ilic, Richard-Gregor Becker, Matthias Schulze, Jannik Häßy, Benjamin Fröhler, Johannes Hartmann, Andrei Merle, Jason Qian, Jason Qian, Juan Alonso

Session Papers (if applicable):

Inverse Design Optimization Framework via a Two-Step Deep Learning Approach, Mixed Integer Optimization of Aircraft Rolling Stock and Bogie, Multidisciplinary Design Optimization of Aircraft Landing Gear, Sensitivity-based Generation of Pareto Fronts for Design of Powered Aircraft Subject to a Compreh..., Structural Optimization of Blended Wing Body Transport Aircraft With Buckling Constraints

Session Title: MDAO Approaches to Advanced Aircraft Design

Technical Paper Session | ACD-08/MDO-30/TFS-10 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/9C86E8F7-B4BF-40C3-A8CF-DE7732996E26>

Session Contributors: Brian Kish, Markus Wilde, Emils Senkans, Max Skuhersky, Tim Klaproth, Tim Klaproth, Mirko Hornung, Dustin Bielecki, Darshil Patel, Linda Alegria, Rahul Rai, Gary Dargush, William Menasco, Kristian Amadori, Christopher Jouannet, Ingo Staack, Ludvig Knöös Franzén, Petter Krus, Christopher Jouannet, Alex Moodie, Julius Vegh, Ernest Keen, Luke Battey, Austin Morock, Thomas Aldhizer, Mary Lanzerotti, Andrea Arena, Walter Lacarbonara, Jacob Capps

Session Papers (if applicable):

A First-Principle Power and Energy Model for eVTOL Vehicles, Investigation of Mission Performance Sensitivities for Unmanned Aerial Vehicles Based on Parametr..., Multiscale Compliant Topology Optimization for Twistable Wing Design, Ontology-Represented Design Space Processing, Operational and Aircraft System Modeling Utilizing Model-Based

Session Title: Modeling and Simulation of Aircraft Systems

Technical Paper Session | MST-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C090EC3C-2802-44EF-8AA9-7A3595934ACF>

Session Contributors: Stefan Schuet, Stefan Schuet, Carlos Malpica, Jeremy Aires, Jianping Li, Yong Tang, Shaoshan Sun, Mengtang Li, Marine Segui, Ruxandra Botez, Ruxandra Botez, Ruxandra Botez, Wei-Cheng Hsu, Inseok Hwang, Akshita Gupta, Shreyansh Shethia, Murat Millidere, Murat Millidere

Session Papers (if applicable):

A Gaussian Process Enhancement to Linear Parameter Varying Models, An Extended INDI Approach and Application to Pitch Rate Control Laws Design of an Aircraft, Electric Motor Modeling using Artificial Neural Networks: Application for Drones, Empirical Analysis of Battery Performance with Ambient Temperature for Small Electric UASs, Further Investigation for Multi-fidelity Aerodynamic Dataset Generation of a Fighter Aircraft

Session Title: Plasma & Laser Physics

Technical Paper Session | PDL-02 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8C54100B-4167-407D-921D-96DAD8AFBE10>

Session Contributors: Christopher Limbach, Madison Hetlage, Christopher Limbach, Christopher Limbach, Madison Hetlage, Christopher Limbach, Jean-Denis Parisse, Amina Ait Oumeziane, Jean-Denis Parisse, Yue Wu, Christopher Limbach, Christopher Limbach, Christopher Limbach, Yue Wu, Christopher Limbach, Colin Pavan, Carmen Guerra-Garcia, Carmen Guerra-Garcia, Lee Strobel, Benjamin Martell, Mikhail Shneider, Andrey Starikovskiy, Nickolay Aleksandrov, Andrey Starikovskiy, Andrey Starikovskiy, Andrey Starikovskiy

Session Papers (if applicable):

Kinetic Modeling of Optically Pumped Barium Vapor and Impacts of Buffer Gas on 355 nm Absorption ..., Non-equilibrium thermal modeling of laser induced metal ablation - a validation procedure, Observation of High-Speed Laser-Induced Plasma Jet in Single and Dual-Pulse Configurations, Plasma Actuation of Mesoscale Flames, Positive Streamer Corona Discharge Exposed to Wind, Runaway Electron Generation by Decelerating Streamers in Inhomogeneous Atmosphere

Session Title: SLD Instrumentation in Icing Wind Tunnels - Invited Part 1
Technical Paper Session | ASE-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A056681B-825F-4482-8F64-09C2C5EEAD0B>

Session Contributors: Judith Van Zante, John Strapp, David Orchard, Judith Van Zante, John Strapp, Biagio Esposito, Alexei Korolev, Ivan Heckman, Thomas Ratvasky, John Strapp, Lyle Lilie, Thomas Ratvasky, John Strapp, Lyle Lilie, Judith Van Zante, John Strapp, David Orchard, Judith Van Zante, James Riley, John Strapp, Thomas Ratvasky, Biagio Esposito, Thomas Ratvasky, Alexei Korolev

Session Papers (if applicable):

Comparison of droplet size distributions and MVD measured by SPEC 2DS, DMT CDP, and Malvern Spray..., Isokinetic Probe Total Water Content Measurements in the NASA Icing Research Tunnel with Supercoo..., SLD Instrumentation in Icing Wind Tunnels – Investigation Overview

Session Title: Special Session: CFD 2030

Technical Paper Session | CFD-09 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C8A1DDB1-EA4C-455C-8FB5-C8D146A0DA3E>

Session Contributors: Raymond Kolonay, John Chawner, William Gropp, William Kleb, Earl Duque, Brian Smith, Raymond Kolonay, Eric Nielsen, William Kleb, Raymond Kolonay, Andrew Cary, Fei Li, Pedro Paredes, Kaylie Hausknecht, Fei Li, Pedro Paredes, Meelan Choudhari, Pedro Paredes, Fei Li, Meelan Choudhari, Fei Li, Meelan Choudhari, Meelan Choudhari, Pedro Paredes

Session Papers (if applicable):

CFD Vision 2030 Road Map: Progress and Perspectives, Predicting Crossflow Transition via N-Factor Predictions based on Convolutional Neural Networks

Session Title: Special Session: High-fidelity Optimization in OpenMDAO

Technical Panel | MDO-08 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8C64DDE2-D1F2-495D-AD5B-003525DCB7EE>

Session Contributors:

Session Papers (if applicable):

Session Title: Special Session: Integrated Propeller Wing Interaction I

Technical Paper Session | APA-16 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8D505C0E-3403-483A-B6B6-A49135D81D10>

Session Contributors: Tomas Sinnige, Tomas Sinnige, Robert Nederlof, Nando van Arnhem, Siena Whiteside, Dahlia Pham, Carla Sheridan, Siena Whiteside, Tomas Sinnige, Nando van Arnhem, Reynard de Vries, Tomas Sinnige, Leo Veldhuis, Pedro López Pernas, Leandro Rego, Leandro Rego, George Barakos, Ross Higgins, Ross Higgins, David Garcia, Patricia Ventura Diaz, Patricia Ventura Diaz, Seokkwan Yoon

Session Papers (if applicable):

Aerodynamic Performance of Wingtip-Mounted Propellers in Tractor and Pusher Configuration, Evaluation of VSPAERO Analysis Capabilities for Conceptual Design of Aircraft with Propeller-Blow..., Experimental Investigation of Propeller-Wing-Flap Aerodynamic Interactions with Distributed Prope..., Simulations of installed propellers using HMB3 for the Workshop for Integrated Propeller Predicti..., Towards Computational Modeling of Propeller-Wing-Fuselage Interactions for Urban Air Mobility

Session Title: Special Session: NASA Convergent Aeronautics Solutions (CAS)

Technical Panel | TFS-11 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/01D2F80F-F585-4C3F-82F4-1EFE2D6000AA>

Session Contributors:

Session Papers (if applicable):

Session Title: Special Session: Sailplane Aerodynamics and Design

Technical Paper Session | APA-19 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C261FDC4-58F9-4278-A07A-F74E448546CA>

Session Contributors: Konstantinos Kanistras, Arnab Chatterjee, Tulasi Vechalapu, Joshua Beltz, Raymond LeBeau, Mark Maughmer, Leonard Metkowsky, Christopher Axten, Christopher Axten, Paulo Oliveira, Jim Payne, Loek Boermans

Session Papers (if applicable):

Experimental Investigation of the Wingtip Vortex Structure of Planar Elliptical and Crescent Shap..., Flight Simulation of Autonomous Glider in the Titan Atmosphere, Low-Turbulence Wind Tunnel Results for a Low-Reynolds Number Airfoil, The development of Nixus fly-by-wire sailplane.

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) IV
Technical Paper Session | FD-23 | AVIATION

Session Date: 2021-08-03
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/870CA5E7-0986-49BD-8025-91CF7016CF4F>

Session Contributors: Amanda Chou, Amanda Chou, Rudolph King, Amanda Chou, Andrew Leidy, Amanda Chou, Christoph Hader, Hermann Fasel, Hermann Fasel, Andrew Hartman, Hermann Fasel, Christoph Hader, Hermann Fasel, Steven Schneider, Franklin Turbeville, Hermann Fasel, Hermann Fasel, Hermann Fasel, Christoph Hader, Christoph Hader, Hermann Fasel, John Meersman, Datta Gaitonde, Hemanth Goparaju

Session Papers (if applicable):

Bluntness and Supersaturation Effects on the Second Mode Instability in Mach 10 Flow, Direct Numerical Simulations of laminar-turbulent boundary-layer transition for blunt cones at Ma..., Effect of Nose Bluntness on Fin-Cone Transition at Mach 6, Numerical Investigation of Boundary-Layer Transition Due to Entropy Layer Instabilities for a Blu..., Receptivity and instability of entropy-layer disturbances in blunted plate transition

Session Title: Turbulent Flows and Turbulence Modeling (Jets, Wakes, Near-Wall, Rans, Les, Hybrid Methods, etc.) II
Technical Paper Session | FD-24 | AVIATION

Session Date: 2021-08-03
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D2B9B9D3-C09E-47E9-BC26-E4AAA305DAD3>

Session Contributors: Datta Gaitonde, Chitrarth Prasad, Matthew Schwartz, Jagadish Vemula, Krishnendu Sinha, Tanisha Kishor Joshi, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Bryce Thomas, Philippe Spalart, John Benek, Kshitij Sabnis, Holger Babinsky, Daniel Galbraith, Nadia Kianvashrad, Doyle Knight

Session Papers (if applicable):

A Methodical Assessment of two-equation Turbulence Models for High-Speed flows, Application of shock-unsteadiness model to interaction of transverse sonic jet and supersonic cro..., Application of Wray-Agarwal Turbulence Model for Prediction of Wing-Body Juncture Flow, Capabilities and Limitations of the Quadratic Constitutive Relation in Corner Flow Prediction, Large Eddy Simulation of Hypersonic Cold Wall Flat Plate

Session Title: UAS/UAM Traffic Management

Technical Paper Session | ATM-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/90B66CDD-31AB-4455-B356-BD5741C86B7A>

Session Contributors: Antony Evans, Maxim Egorov, Scot Campbell, Tamsyn Edwards, Cynthia Wolter, Mark Evans, Wayne Bridges, Jillian Keeler, Miwa Hayashi, Sandip Roy, Mengran Xue, Sandip Roy, Jamey Jacob, Jamey Jacob, Andrew Ross, Jamey Jacob, Jamey Jacob, Andrew Ross, Rakshit Allamraju, Nicholas Rozell, Nichakorn Pongsakornsathien, Alessandro Gardi, Roberto Sabatini, Trevor Kistan

Session Papers (if applicable):

Accommodating Operational Uncertainty in Urban Air Mobility Operations with Strategic Deconfliction, Bow Tie Analysis of the Effects of Unmanned Aircraft on Air Traffic Control, Cyber-Threat Mitigation in an Unmanned Aircraft System (UAS) Enabled Airspace System: A Multi-Sca..., Evaluation of UAS Swarming in a BVLOS Environment, Evolutionary Human-Machine Interactions for UAS Traffic Management

Session Title: Unsteady Aerodynamics II

Technical Paper Session | APA-21 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A5446193-9A61-4E8A-92CB-209CAFE26F21>

Session Contributors: Shereef Sadek, Ang Li, Anupam Sharma, Anupam Sharma, Marcel Ilie, Augustin Semenescu, matthew Chan, Marcel Ilie, Jan Östlund, Gonzalo Montero Villar, Niklas Andersson, Gonzalo Montero Villar

Session Papers (if applicable):

A Novel Leading Edge Vortex Onset Criterion for An Airfoil Undergoing Constant Pitch Rate Motion, A panel method generated boundary condition for simulating unsteady flow over maneuvering airfoils, Computational studies of turbine-stage, with variable inlet temperature; comparison between LES a..., Nozzle Side Loads Prediction using a Hybrid RANS/LES Method

Session Title: V/STOL Flight Dynamics & Controls

Technical Paper Session | VSTOL-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C7D8B7E5-32EF-4B76-998F-A1DCBBC2828F>

Session Contributors: Bochan Lee, Vishnu Saj, Moble Benedict, Dileep Kalathil, Simon Scherer, Chinmaya Mishra, Florian Holzapfel, Christoph Krammer, Ezra Tal, Sertac Karaman, Benjamin Bachmaier, Richard Anderson, Irene Gregory, Steven Snyder, Irene Gregory, Jacob Cook, Brian German, Daniel Sagan, Pranav Krishnamurthy, Mark Lau, Jude Augustine

Session Papers (if applicable):

A Deep Reinforcement Learning Control Strategy for Vision-based Ship Landing of Vertical Flight A..., Concept for a Vision-Augmented Automatic Landing System for VTOL Aircraft, Global Trajectory-tracking Control for a Tailsitter Flying Wing in Agile Uncoordinated Flight, Lateral-Directional Stability and Control Aspects of Small Tiltrotor Aircraft Hovering in Signifi..., Trajectory Tracking Control for Separation Assurance of Advanced Air Mobility Aircraft, Trim of Over-Actuator VTOL Aircraft in Transition

Session Title: Forum 360: Exploring NASA Aeronautics Innovations for Transforming Aviation

Forum 360 | F360-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/F802F9F9-C011-4F56-90DA-3891AD30CF57>

Session Contributors:

Session Papers (if applicable):

Session Title: Acceleration and Analysis of Algorithms II

Technical Paper Session | CFD-10 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/2AE773F5-AE8D-498C-8EC1-C325DC777231>

Session Contributors: Santanu Ghosh, Santanu Ghosh, MLNV Kasturi Rangan, Daniel Livescu, Nek Sharan, Mahesh Natarajan, Peter Brady, Boris Diskin, Boris Diskin, William Anderson, Boris Diskin, Yi Liu, William Anderson, Eric Nielsen, Li Wang, Donald French, C.J. Suchyta, John Benek, Tomohiro Mamashita, Takashi Minoshima, Keiichi Kitamura

Session Papers (if applicable):

2D Immersed Boundary Solver for Compressible Laminar Flows, A deep learning framework for derivation of time-stable difference schemes, Edge Based Viscous Method for Node-Centered Formulations, LAE Model(s) with Velocity, Density and Entropy, SLAU2-MHD for Low Mach Magnetohydrodynamics (MHD) Simulations

Session Title: Acoustic/Fluid Dynamics Interactions I

Technical Paper Session | AA-04 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/B997B4DF-78D1-489D-8818-65807B3D4580>

Session Contributors: Seongkyu Lee, Seongkyu Lee, Hyunjune Gill, Tze Pei Chong, Tze Pei Chong, Max Scholz, Edward Smith, William Devenport, William Devenport, William Alexander, Lorna Ayton, Chaitanya Paruchuri, Máté Szoke , William Devenport, Chaitanya Paruchuri, William Alexander, Lorna Ayton, Máté Szoke , William Devenport, Bin Zang, Felix Gstrein, Mahdi Azarpeyvand, Felix Gstrein, Bin Zang, Mahdi Azarpeyvand, Yannick Mayer

Session Papers (if applicable):

Effect of 2D Ice Accretion on Trailing-Edge Noise, New strategy on porous trailing edge for self-noise reductions, Trailing-edge serrations: improving theoretical noise reduction models, Turbulence Characteristics of Finlet Treatments Applied for Trailing Edge Noise Reduction of a NA...

Session Title: Adaptive Meshing II

Technical Paper Session | CFD-11 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/AB33EE22-0F1C-4BC6-B148-1D7E375802BE>

Session Contributors: Ney Sêcco, Humberto Lemos, Krzysztof Fidkowski, Karthik Duraisamy, Guodong Chen, Miles Mcgruder, Aniruddhe Pradhan, Krzysztof Fidkowski, Krzysztof Fidkowski, Krzysztof Fidkowski, Aniruddhe Pradhan, Adrien Loseille, Michael Park, Michael Park, Robert Haimes, Nicholas Wyman, Patrick Baker, Adrien Loseille, Michael Park, Adrien Loseille, Michael Park, Nicholas Wyman, Adrien Loseille, Mark Stock, Adrin Gharakhani

Session Papers (if applicable):

Aerodynamic Optimization Coupled with Adjoint-Based Adaptive Unstructured Meshes, An Adaptive Discontinuous Galerkin Method for Neural-Network Augmented Turbulent Flow Simulations, Boundary Representation Tolerance Impacts on Mesh Generation and Adaptation, Solution-Responsive Particle Size Adaptivity in Lagrangian Vortex Particle Methods

Session Title: Advanced Operational Concepts

Technical Paper Session | ATOMS-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/20A8D435-9CFC-4408-AE86-5610E3A648CA>

Session Contributors: Arman Izadi, Antonio Trani, Arman Izadi, Jaelin McCreary, Kelly Schriener, Divya Bhadoria, Yoon Jung, William Coupe, Yoon Jung, Christine Taylor, Paden Coats, Justin Barnes, Lee Smith, Adam Pusateri, Corissa Robinson, Angela Errico, Vittorio Di Vito

Session Papers (if applicable):

A Metaheuristic Optimization Algorithm for Flight Assignment to the North Atlantic Organized Trac..., Analysis of Impacts of Terminal Restrictions on Departures in D10 TRACON, Automated Design of Standard Terminal Arrival Routes, Forecast and Real-time Status of Airspace Closures in the National Airspace System (NAS), Sensitivity analysis of Closest Point of Approach in ATM

Session Title: Aerodynamic Shape Optimization I

Technical Paper Session | APA-09/MDO-09 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/38820F3A-00BA-49ED-B6DC-6D1E6F65A236>

Session Contributors: David Zingg, David Zingg, Kwesi Apponsah, David Zingg, Joaquim Martins, Joaquim Martins, Joaquim Martins, Justin Gray, Anil Yildirim, Anil Yildirim, Justin Gray, Charles Mader, Joaquim Martins, David Zingg, David Zingg, David Zingg, Gregg Streuber, Ernesto Benini, Matteo Pecoraro, Andrea Battiston, Rita Ponza, Gianni Bernini

Session Papers (if applicable):

Aerodynamic Shape Optimization for Unsteady Flows With Application to Laminar Flows, Coupled Aeropropulsive Design Optimization of a Podded Electric Propulsor, Dynamic Geometry Control for Robust Aerodynamic Shape Optimization, Multi-Criteria Multi-Constrained Aerodynamic Optimization of Civil Tiltrotor Empennage Surfaces

Session Title: Aeroelastic Interactions III

Technical Paper Session | APA-11 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6EFC8435-CB68-493D-B5CB-AD34D598DAB2>

Session Contributors: Gareth Vio, Nicholas Giannelis, Dylan Dooner, Can Çitak, Özgür Harputlu, Bülent Acar, Kenan Gürses, M. Tuğrul Akpolat, Doğancan Bahan, Doğancan Bahan, Rajan Kumar, Rajan Kumar, Kourosh Shoele, Al Shahriar, Rajan Kumar, Vahid Tavanashad, Kourosh Shoele, Rajan Kumar, Al Shahriar, Akriti Tripathi, Tso-Kang Wang, Gabriel Peyredieu Du Charlat, Ari Glezer, Ari Glezer, Gabriel Peyredieu du Charlat, Massimo Ruzzene, Luca De Beni

Session Papers (if applicable):

A Coupled ONERA-EDLIN Model for Aeroelastic Analysis, Experimental Evaluation of Aerodynamic Performance and Structural Excitation Characteristics of a..., Flow-Informed

Vibration-Based Health Monitoring Technique, Structural Properties Identification of an Adaptive Wing with Distributed Bleed Flow Control

Session Title: Aerothermodynamics, Thermal Protection Systems and Ablation I
Technical Paper Session | TP-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/65AE18AA-6796-40D6-9F53-DC5734CE119C>

Session Contributors: Simone Venturi, Maitreyee Sharma Priyadarshini, Maitreyee Sharma Priyadarshini, Marcp Panesi, Simone Venturi, Stefanos Fasoulas, Stefan Loehle, Arne Meindl, Giovanni Salazar, Lucas Agricola, Greg McGowan, Emily Davis, Michelle Mason, Scott Berry, Alessandro Munafò, Simone Venturi, Marcp Panesi, Maitreyee Sharma Priyadarshini, Maitreyee Sharma Priyadarshini, Alessandro Munafò, Sung Min Jo, Simone Venturi, Eric Stern, Pratibha Raghunandan, Justin Haskins

Session Papers (if applicable):

Application of DeepOnet to model inelastic scattering probabilities in air mixtures, Assessment of Radiative Heating Measurements in Arc-Heated Flows, Numerical Simulation of Shock-Shock Interaction on a Swept Cylinder, Physics-driven modeling for aerothermodynamics, Validation and Sensitivity Analyses of Arc-Jet Performance of Woven Thermal Protection Entry Systems

Session Title: Air Transportation Safety and Reliability
Technical Paper Session | ATOMS-07 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/84492F2A-4878-4A49-A46C-123ADB6A213D>

Session Contributors: Antonia Rahn, Ahmad Ali Pohya, Jennifer Wehrspohn, Kai Wicke, Padmanabhan Menon, Padmanabhan Menon, Parikshit Dutta, Parikshit Dutta, Hari Iyer, Oliver Chen, Peter Kostiuik, Virginia Stouffer, Virginia Stouffer, Varun Sudarsanan, Michael Mohen, Virginia Stouffer, Virginia Stouffer, Jun Chen, Jun Chen, Pengcheng Wu, John Paul Clarke, Husni Idris, Husni Idris, Fanruiqi Zeng

Session Papers (if applicable):

A Modular Framework for Life Cycle Assessment of Aircraft Maintenance, An In-Time Aviation Safety Prognostics System, Buffer Encroachment Trends in the Terminal Airspace across Major US Airports and Impact of Covid-19, Dynamic Reservation of Probabilistically Bounded Traffic Volume for Urban Air Mobility, Risk Mitigation via Trajectory Flexibility Preservation

Session Title: Airframe/High-Lift Noise I
Technical Paper Session | AA-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9AAD0E41-3A53-40AA-957C-0E9F802A81ED>

Session Contributors: Michael Pott-Pollenske, Michael Pott-Pollenske, Sergey Karabasov, Anton Markesteyn, Mahdi Azarpeyvand, Anton Markesteyn, Hasan Kamliya Jawahar, Mahdi Azarpeyvand, Hasan Kamliya Jawahar, Ross Richardson, Meelan Choudhari, David Lockard, Meelan Choudhari, Yang Zhang, Louis Cattafesta, Mehdi Khorrami, Louis Cattafesta, Meelan Choudhari, Ross Richardson, Travis Turner, Meelan Choudhari, Yang Zhang, Kyle Pascioni, Mehdi Khorrami, David Lockard, Michael Pott-Pollenske, Michael Pott-Pollenske, Christopher Bahr, David Lockard, Christopher Bahr, David Lockard, Travis Turner, Florence Hutcheson

Session Papers (if applicable):

Development of a Slat Cover Liner, GPU CABARET Solutions for 30P30N Three-element High-lift Airfoil with Slat Modifications., Investigation of the 30P30N Slat Flow Field with Passive Control Devices Using Particle Image Vel..., Low Noise ATRA – An Aircraft Noise Reduction Study based on Retro-Fit Technologies, Overview of Aeroacoustic Testing of the High-Lift Common Research Model

Session Title: Applied CFD Modeling II

Technical Paper Session | APA-14 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7C7CFFDB-9D60-4C98-8BFD-EB0205EA2B23>

Session Contributors: Kursat Kara, Rohit K S S Vuppala, Kursat Kara, Rohit K S S Vuppala, Kursat Kara, Mattéo Couplet, Jean-François Remacle, Maxence Reberol, Logan Halstrom, Stephen Robinson, Balaji Shankar Venkatachari, Meelan Choudhari, Fei Li, Pedro Paredes, Meelan Choudhari, Balaji Shankar Venkatachari, Balaji Shankar Venkatachari, Pedro Paredes, Fei Li, Chau-Lyan Chang, Chau-Lyan Chang, Pedro Paredes, Chau-Lyan Chang, Meelan Choudhari, Pedro Paredes, Balaji Shankar Venkatachari, Meelan Choudhari, Chau-Lyan Chang, Fei Li, Fei Li, Normann Krimmelbein, Sebastian Helm, Michael Fehrs, Christoph Kaiser, Normann Krimmelbein, Andreas Krumbein

Session Papers (if applicable):

A Novel Approach in Realistic Wind Data Generation for The Safe Operation of Small Unmanned Aeria..., Generation of High-Order Coarse Quad Meshes on CAD Models via Integer Linear Programming, Investigation of Off-Body Motion Constraints in OVERFLOW Moving Mesh CFD Simulations of an Aerody..., Pretest Computational Assessment of Boundary Layer Transition in the NASA Juncture Flow Model wit..., Towards CFD-based Aeroelastic Analysis of the CRM-NLF wing

Session Title: eSTOL & eVTOL: Competitors or Complements?

Technical Panel | TFS-12 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C243F196-BABF-4D87-97A6-F927D8D91455>

Session Contributors:

Session Papers (if applicable):

Session Title: High-Order Methods III: Flux Reconstruction

Technical Paper Session | CFD-12 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6FBA7D73-D3EF-484C-8D3C-8A9267447D56>

Session Contributors: Adrin Gharakhani, Emmett Padway, Hiroaki Nishikawa, Emmett Padway, Hiroaki Nishikawa, Hiroaki Nishikawa, Hiroaki Nishikawa, Alexander Cicchino, Siva Nadarajah, Thomas McCaughtry, Rob Watson, Marco Geron, Zhi Wang, Zhi Wang, Zhi Wang, Zhi Wang, Zhi Wang, Zhi Wang, Zhi Wang, Takeshi Fujimoto

Session Papers (if applicable):

A Compact Spectral Difference Method for Vorticity Transport: The 2-D Case, Economically High-Order Flux-Solution-Reconstruction Schemes for Unstructured Grids, Entropy Stable Split Forms for the Flux Reconstruction High-Order Method: Three-Dimensional Numer..., High-Order Methods for Parabolic Equations using a Space-Time Flux Reconstruction Approach, Relative performance of high-order to 2nd order schemes for benchmark LES problems, Shock Sensor Based on the CEDRIC Detector for the FR/CPR Method

Session Title: Hypersonic Aerodynamics I

Technical Paper Session | APA-15 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/F0D06CE1-7BD9-43AA-A642-CDB406070009>

Session Contributors: Patrick Rodi, Patrick Rodi, Valerio Viti, Krishna Zore, Anup Jain, Song Gao, Jean-Sebastien Cagnone, Valerio Viti, John Stokes, Laith Zori, Ingo Jahn, Rowan Gollan, Kieran Mackle

Session Papers (if applicable):

Effects of Finite Radius Leading Edges on the Performance of Capsule/Waveriders for Boost-Glide M..., Evaluation of the Capsule/Waverider Concept for Mars Entry, Descent, and Landing, Thermal Non-equilibrium and Conjugate Heat Transfer Effects for Four Canonical Hypersonic

Test Ca..., Understanding the Impacts of Aerodynamic Uncertainty on Optimal Trajectories for Hypersonic Vehicles

Session Title: Ice Protection System Design and Analysis

Technical Paper Session | ASE-07 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/4499A590-F3F3-4200-A830-68897E9CC51E>

Session Contributors: Nic Heersema, Eric Stewart, Valerie Pommier-Budinger, Lokman Bennani, Marc Budinger, David Delsart, Valerian Palanque, Richard Moser, Barbara Arizmendi, Mariachiara Gallia, Giulio Gori, Alberto Guardone, Alberto Guardone, Pietro Congedo

Session Papers (if applicable):

Computational Heat Flux Analysis for HEATher Electric Aircraft Wing Ice Protection Systems, Electro-mechanical Resonant Ice Protection Systems: Power requirements for fractures initiation a..., Electrothermal Wing Ice Protection System Design considering Appendix O Icing Conditions, Robust Bi-Objective Optimization of the Heat Flux Distribution for an Airfoil Thermal Anti-Ice Pr...

Session Title: Innovative & Creative Designs in Aerospace and Other Areas

Technical Paper Session | DE-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/06A24C37-C9C5-41DC-ADC6-AC291B14C397>

Session Contributors: Malaya Kumar Biswal M, Ramesh Naidu Annavarapu, Trent Bjorkman, Eric Nunez, Mostafa Hassanalian, Mostafa Hassanalian, Liliana Figueroa, Sara Lanctot, Jessica Cooke, David Gomez-Fernandez, Ramesh Naidu Annavarapu, Malaya Kumar Biswal M, Samuel Smith, Nathan Pehrson, Benjamin Urioste, Steven Lockyer

Session Papers (if applicable):

Conceptual Design of Mars Octastrut Lander for Large Scale Mass Landing, Design and Prototyping System for a Sole Morphing Astronaut Boots, Design of Mars Underground Habitat for Human Settlement on Mars, Planar Strain-Relief Mechanisms for Space-Based Phased Array Antenna Interfaces

Session Title: Integration and Operation of UAS/UAM in the NAS I

Technical Paper Session | ATOMS-08 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9AAEB2DC-364E-4917-B688-290B3086F781>

Session Contributors: Dengfeng Sun, Apoorv Maheshwari, Dengfeng Sun, Ethan Wright, Apoorv Maheshwari, Brandon Sells, Dengfeng Sun, Hsun Chao, William Crossley, Ian Levitt, David Wing, David Wing, Lukas Preis, Sebastian Gutierreznolasco, Jonathan Laplain, Marc Shaw-Lecerf, Kapil Sheth, Kapil Sheth, Marc Shaw-Lecerf, David Shapiro, Srba Jovic, Lakshmi Vempati, Uma Ferrell, Stacie Wilcox, Maria Geffard, Alfred Anderegg

Session Papers (if applicable):

Evaluating the Impact of Urban Air Mobility Aerodrome Siting on Mode Choice, Operational Analysis of Flight Rules for Emerging Concepts, Quick Sizing, Throughput Estimating and Layout Planning for VTOL Aerodromes – A Methodology for V..., Regional Modeling and Simulation for Vertiport Location Assessment., Unmanned Aircraft System (UAS) Repeatable and Scalable Approval (RaSA) for Integrated Airspace Op...

Session Title: Jet Noise III

Technical Paper Session | AA-06 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/EC617541-77CE-4E79-86AB-B859671418FE>

Session Contributors: Elisa de Paola, Francesco Biondo, Stefano Meloni, Roberto Camussi, Mirko Prestianni, Christian Jente, Nathan Webb, Ata Ghassemi Isfahani, Mo Samimy, Mo Samimy, Nathan Webb, Ata Ghassemi Isfahani, Mo Samimy, Mo Samimy, Chittrarth Prasad, Spencer Stahl, Datta Gaitonde, Daniel Rodriguez

Session Papers (if applicable):

An experimental investigation on the unsteady pressure field induced by an installed jet in super..., Characterization of jet-flap interaction physics, Control of Coupling in Twin Rectangular Supersonic Jets, Exchange Mechanisms between Hydrodynamic and Acoustic Components of an Under-expanded Supersonic ..., Wavepacket models for supersonic twin-jets

Session Title: MDAO Applications for Urban Air Mobility Concepts

Technical Paper Session | ACD-09/MDO-10/TFS-13 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C5464CF0-52FE-4F04-9647-2318791FE810>

Session Contributors: Andrew Ning, Andrew Ning, Andrew Ning, Andrew Ning, Tyler Critchfield, Geoff Chen, J. Michael Vegh, Benjamin Simmons, Pieter Buning, Patrick Murphy, Pieter Buning, Pengcheng Cao, James Strawson, Danny Tran, Thomas Bewley, Falko Kuester, Behdad Davoudi, Bernardo Pacini, Karthikeyan Duraisamy, Anil Yildirim, Joaquim Martins, Anil Yildirim, Joaquim

Martins, Karthikeyan Duraisamy, Joaquim Martins, Karthikeyan Duraisamy, Joaquim Martins, Karthikeyan Duraisamy

Session Papers (if applicable):

Aerodynamic and Aeroacoustic Optimization of Distributed Electric Propulsion System, An Investigation into the Electrification of an Advanced Tiltrotor Concept, Full-Envelope Aero-Propulsive Model Identification for Lift+Cruise Aircraft Using Computational E..., Monocoque Multirotor Airframe Design with Rotor Orientations Optimized for Direct 6-DoF UAV Fligh..., Towards Efficient Aerodynamic and Aeroacoustic Optimization for Urban Air Mobility Vehicle Design

Session Title: Modeling and Simulation of Air Traffic Management (ATM)

Technical Paper Session | MST-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/81888910-42C8-4CFD-8271-721D5A260BBD>

Session Contributors: Dan Howell, Robert Dean, Gano Broto Chatterji, Gano Broto Chatterji, Banavar Sridhar, Banavar Sridhar, Kenneth Freeman, Sequoia Andrade, Eleni Spirakis, Daniel Hulse, Misty Davies, Hannah Walsh, Matthew Underwood, Matthew Underwood, Bill Buck

Session Papers (if applicable):

Fast-Time Modeling of Increased Sector Capacity Considering Decreased Controller Task Times, Simulation and Modeling Concepts for Secure Airspace Operations, The System Modeling and Analysis of Resiliency in STEReO (SMART-STEReO), Using Recorded Airspace Traffic Data to Create Simulation Scenarios for Trajectory-Based Operations

Session Title: Recent Advances in Development and Use of Strain-Gage Balances

Technical Paper Session | GT-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/FAD18844-3A45-4287-AD94-2FA45F9749D8>

Session Contributors: Ryan Kew, Norbert Ulbrich, Norbert Ulbrich, Norbert Ulbrich, Norbert Ulbrich, Mario Rüd, Claus Zimmermann

Session Papers (if applicable):

<i>History, Design, and Uses of CALSPAN's Manual Balance Calibration Rig</i>, A Universal Algorithm for the Detection of Bi-directional Gage Output Characteristics, Use of Virtual Gauging in Balance Design

Session Title: Reduced-order Modelling

Technical Paper Session | MDO-11 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/2179C0E2-51FE-415B-8BFB-BA799B01C318>

Session Contributors: Jeffrey Thomas, Jeffrey Thomas, Earl Dowell, Kenneth Decker, Christian Perron, Dushhyanth Rajaram, Dimitri Mavris, Kenneth Decker, Christian Perron, Dushhyanth Rajaram, Nikhil Iyengar, Joaquim Martins, Joaquim Martins, Joaquim Martins, Joaquim Martins, Xiaosong Du, Jiachen Wang, Markus Mrosek, Carsten Othmer, Rolf Radespiel, Markus Mrosek, Carsten Othmer

Session Papers (if applicable):

Nonlinear Aeroelastic Reduced-Order Modeling Approach with Geometric Gradient Computation Capability, Nonlinear Multi-Fidelity Reduced Order Modeling Method using Manifold Alignment, Novel Adaptive sampling algorithm for POD-based non-intrusive reduced order model, Variational Autoencoders for Model Order Reduction in Vehicle Aerodynamics

Session Title: SLD Instrumentation in Icing Wind Tunnels - Invited Part 2

Technical Paper Session | ASE-08 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/ADF683CF-5CD2-40FB-AA82-9A9B2084E694>

Session Contributors: Laura-Cheri King-Steen, Judith Van Zante, John Strapp, David Orchard, Judith Van Zante, Biagio Esposito, Alexei Korolev, Ivan Heckman, John Strapp, Laura-Cheri King-Steen, Laura-Cheri King-Steen, Lyle Lilie, Laura-Cheri King-Steen, Lyle Lilie, Dan Bouley, Dan Bouley, Lyle Lilie, Thomas Ratvasky, Lyle Lilie, Christopher Sivo, Thomas Ratvasky

Session Papers (if applicable):

A Preliminary Study of Inter-Facility LWC Differences in Appendix C and Supercooled Large Droplet..., An Examination of Causes of Multi-Wire Bias During SLD Instrumentation Testing in the IRT, Test Results for the SEA Ice Crystal Detector (ICD) under SLD Conditions at the NASA IRT

Session Title: Special Session: CFD and COVID-19

Technical Paper Session | CFD-13 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/4BFC2E84-4F0E-443D-AE9E-82A05BE17CE0>

Session Contributors: Marco-Felipe King, Martin Lopez-Garcia, Ian Clifton, Jessica Proctor, Kelly Reynolds, Amanda Wilson, Catherine Noakes, Mokbel Karam, Josh McConnell, James Sutherland, Hayden Hedworth, Mokbel Karam, Tony Saad, Tony Saad

Session Papers (if applicable):

Integrating CFD and exposure modeling for estimating viral exposures at the air-surface interface, Mitigating the Spread of Emissions from Wind Instruments Using Computational Fluid Dynamics

Session Title: Special Session: Integrated Propeller Wing Interaction II

Technical Paper Session | APA-17 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A5E6FB17-C6B0-4196-8F44-2577A3A28F6B>

Session Contributors: Dilhara Jayasundara, James Baeder, Yong Su Jung, Adam Jirasek, Jurgen Seidel, Mehdi Ghoreyshi, Jurgen Seidel, Jurgen Seidel, Jurgen Seidel, Mehdi Ghoreyshi, Mehdi Ghoreyshi, Pooneh Aref, Mehdi Ghoreyshi, Nikolai Herzog, Christian Breitsamter, Nikolai Herzog, Ullhas Hebbar, Onkar Sahni, Farhan Gandhi, Onkar Sahni, Onkar Sahni

Session Papers (if applicable):

Aerodynamic and Aeroacoustic Analysis of a Full and Semi Span Wingtip-Mounted Propeller, Comparison of Multi-Fidelity Prediction Methods for an Integrated Propeller, Computational Results on Aerodynamic Propeller-Wing Interaction, Large Eddy Simulation of Flow over a Wing with an Upstream Rotor

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) V

Technical Paper Session | FD-26 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C4CBE164-2892-40AF-9CCD-B744F2B8F2CF>

Session Contributors: Joseph Kuehl, Joseph Kuehl, Tony Liang, Arham Amin Khan, Joseph Kuehl, Pedro Paredes, Anton Scholten, Pedro Paredes, Fei Li, Fei Li, Fei Li, Meelan Choudhari, Meelan Choudhari, Pedro Paredes, Meelan Choudhari, Fei Li, Pedro Paredes, Meelan Choudhari, Helen Reed, Helen Reed, Andrew Riha, Helen Reed, Madeline McMillan, Andrew Riha, Helen Reed, Simon He, Xiaolin Zhong, Simon He, Katya Casper, Katya Casper, Anshuman Pandey, Katya Casper, Katya Casper, Anshuman Pandey

Session Papers (if applicable):

Entropy layer modification of crossflow instability on yawed blunt cones, Hypersonic Boundary-Layer Transition on Blunted Cones at Angle of Attack, Linear Stability of a Boundary-Layer Vortex on a Hypersonic Finned Cone, Numerical Study of the Receptivity of a Blunt Cone to
 Freestream Pulse Disturbances in Hyper..., Turbulent Spots on a Hypersonic Cone at Angle of Attack

Session Title: Turbulent Flows and Turbulence Modeling (Jets, Wakes, Near-Wall, Rans, Les, Hybrid Methods, etc.) III

Technical Paper Session | FD-27 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/B2C17036-3565-4E19-B402-89F63F651732>

Session Contributors: William Devenport, Vidya Vishwanathan, Danny Fritsch, William Devenport, William Devenport, William Devenport, Danny Fritsch, Vidya Vishwanathan, Todd Lowe, Reetesh Ranjan, Nicholas Georgiadis, Mark Wernet, Randy Locke, Dennis Eck, Kenneth Christensen, Rongnan Yao, Lian Duan, Gary Nicholson, Junji Huang, Meelan Choudhari, Meelan Choudhari, Meelan Choudhari, Meelan Choudhari, Vidya Vishwanathan, Danny Fritsch, Aldo Gargiulo, Julie Duetsch-Patel, William Devenport, William Devenport, Aurelien Borgoltz, William Devenport, Kevin Lowe, William Devenport, Kevin Lowe, Kevin Lowe, Christopher Roy, Thomas Ozoroski, Todd Lowe, Aurelien Borgoltz, Vidya Vishwanathan, Danny Fritsch

Session Papers (if applicable):

Analysis of Coherent Structures over a Smooth Wall Turbulent Boundary Layer in Pressure Gradient ..., Large-Eddy Simulation of Transition to Turbulence using the Two-Level Simulation Approach, Mach Number and Heating Effects on Turbulent Supersonic Jets, PIV Measurements of Turbulent Flow Overlying Heterogeneous Roughness at Oblique Angles, Simulation and Modeling of Hypersonic Turbulent Boundary Layers Subject to Adverse Pressure Gradi..., The Physics of Flow Asymmetry for a Turbulent Boundary Layer Flow Over a Symmetric 3D Bump

Session Title: Corporate Member Connect: Drop In Social Hour

the HUB | HUB-05 | AVIATION

Session Date: 2021-08-03

Session Time (EDT): 16:00:00

<https://virtualforums.aiaa.org/Category/D822E964-032F-49A2-A00B-90775F80A99B>

Session Contributors:

Session Papers (if applicable):

Session Title: Plenary Session: Digital is the New Battlefield

Plenary Session | PLNRY-03 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/C7CB5761-9EC0-44BB-A6D8-9D53E294B881>

Session Contributors:

Session Papers (if applicable):

Session Title: Transformational Flight Certification Symposium

Special Programming | TFCS | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:00:00

<https://virtualforums.aiaa.org/Category/8A2C610A-75A7-43F0-AA6F-73AC6C0686EA>

Session Contributors:

Session Papers (if applicable):

Session Title: A Case Study on PKI and Signed Parts – ICS has yet to follow

Technical Lecture | CS-04 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/EBEA6B03-4EC9-4817-9439-45697A959B7A>

Session Contributors:

Session Papers (if applicable):

Session Title: Acoustic/Fluid Dynamics Interactions II

Technical Paper Session | AA-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A9ADDA59-0EDB-4F5C-A173-D688A1220274>

Session Contributors: Stephane Moreau, Stephane Moreau, Anna Caiazzo, Hao Wu, Marlene Sanjose, Manuj Awasthi, Con Doolan, Danielle Moreau, Con Doolan, Chung-Hao Ma, Lei Han, Junwei Li, Yuze Sun, Weixuan Li, Dan Zhao, Christophe Schram, Julien Christophe, Joachim Dominique, Fabrice Ailloud, Olivier Cheriaux, Manuel Henner, Christophe Schram, Joachim Dominique, Julien Christophe, Siliang Ni, Dan Zhao, Cody Shelton, Joseph Majdalani, Florian Mayer, Alexander Kolb, Simone Mancini, Simone Mancini

Session Papers (if applicable):

A Generalized Corcos model for the prediction of the coherence function in turbulent boundary lay..., Aeroacoustics of Turbulent Flow Over Forward-backward Facing Steps with Different Aspect Ratios, Analysis of Self-excited Combustion Oscillation Characteristics of Solid Fuel Ramjet Engine, Multi-ports eduction of installation effects in a tangential fan, Numerical Investigation on Thermoacoustic instability sustained by Ammonia-Hydrogen-Fueled Multip...

On Predicting the Thermoacoustic Energy Conversion Response of a Rijke Tube, Reducing aeroacoustic feedback mechanisms in rectangular cavity flows using passive modifications

Session Title: Advanced Testing Techniques I

Technical Paper Session | AA-08 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A128D6D5-4281-4328-8DE0-2E80D8386A1B>

Session Contributors: David Mills, William Patterson, James Underbrink, Mark Sheplak, Marthijn Tuinstra, Leandro de Santana, Cornelius Venner, Leandro De Santana, Julian Biesheuvel, Julian Biesheuvel, Henri Siller, Stefan Funke, Timo Schumacher, Sebastian Oertwig, Henri Siller, Leandro de Santana, Cornelius Venner, Julian Biesheuvel, Marthijn Tuinstra, Julian Biesheuvel, Leandro De Santana, Christopher Bahr, Christopher Bahr

Session Papers (if applicable):

A Flush-Mount, IEPE MEMS Piezoelectric Microphone for Aeroacoustic Applications, Acoustic Lucky Imaging, Extension of the source localization method SODIX for coherent sound sources, Finite thickness effects and corrections for acoustic waves propagating through shear layers, Toward Relating Open- and Closed-Test Section Microphone Phased Array Aeroacoustic Measurements

Session Title: Aerospace America Q&A with Bob Pearce

the HUB | HUB-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/ACD37EE0-7977-490C-9AD7-F67F06D14583>

Session Contributors:

Session Papers (if applicable):

Session Title: Aerothermodynamics, Thermal Protection Systems and Ablation II

Technical Paper Session | TP-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/27761C77-7979-416A-9D74-2745A1887A22>

Session Contributors: Justin Cooper, Alexandre Martin, Alexandre Martin, Alexandre Martin, Alexandre Martin, Justin Cooper, Tyler Stoffel, Ares Barrios-Lobelle, Alexandre Martin, Savio Poovathingal, John Schmidt, Alexandre Martin, Alexandre Martin, Alexandre Martin, Savio

Poovathingal, Savio Poovathingal, Hailong Chen, Savio Poovathingal, Michael Moran, Matt Thompson, Thirukumaran Nadesan, Christopher James, Christopher James, Ranjini Ramesh, Richard Morgan, Tim Cullen, Ranjith Ravichandran, Sam Chen, Iain Boyd, Nicholas Campbell

Session Papers (if applicable):

A Novel Engineering Methodology for Decoupled Aerothermal Analysis of Hypersonic Atmospheric Entry, Computational Fluid Dynamics Analysis of the Orbital Flight of the Kentucky Re-Entry Universal Pa..., Modeling the damage process of dust particle impacts at microscale during high-speed entry, Optical heat flux measurement on a biconic model in a hypersonic expansion tube, Unified Material-Environment Interaction Model for Binary UHTC Composites

Session Title: Airframe/High-Lift Noise II

Technical Paper Session | AA-09 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A600EC46-1A34-40A5-8EC0-867DA2F2FD67>

Session Contributors: Mehdi Khorrami, Benedikt Konig, Ehab Fares, Mehdi Khorrami, Benedikt Konig, Benedikt Konig, Mehdi Khorrami, Ehab Fares, Mehdi Khorrami, Benedikt Konig, Mehdi Khorrami, Mehdi Khorrami, Mehdi Khorrami, Benedikt Konig, Mehdi Khorrami, Ehab Fares, Benedikt Konig

Session Papers (if applicable):

Aeroacoustic Study of a Subscale Large Civil Transport (STAR) Model – Part 1: Simulations, Aeroacoustic Study of a Subscale Large Civil Transport (STAR) Model – Part 2: Validation of Simul..., Airframe Noise Prediction for Large Civil Transports: Overview of NASA–Boeing Collaboration, Effect of Geometric Granularity on the Noise Signature of a Full-Scale Large Civil Transport Nose

Session Title: Analytical Studies, Modeling, and Simulation of Lighter-Than-Air Systems

Technical Paper Session | LTAS-01 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6AD1C6FB-B130-42DE-A9AF-583B4133193B>

Session Contributors: Ron Hochstetler, Loginn Kapitan, John Salmon, Daniel Richards, William Neff, Daniel Rovey, Amogh Joshi, Rajkumar S Pant, Saurabh Bagare, Rajkumar S Pant, Manish Tripathi, Preyaan Gupta, Arbaz Ahamed, Manikandan Murugaiah, Rajkumar Pant, K. M. Kiran Babu, Rajkumar Pant, Shantanu Gulawani

Session Papers (if applicable):

A High-Level Decision Support System for Lighter-Than-Air Cargo System Analysis, A Methodology for Sizing of a Mini-Aerostat System, Aerodynamic Analysis of Axi-Symmetric Lighter-Than-Air Vehicles, Multi Node Thermal Modelling of Stratospheric Airship Using Elemental Approach, Trajectory Modeling of Phase Change Lighter-Than-Air System for Venus Exploration : A Multi Disci...

Session Title: Community Noise, Sonic Boom and Metrics I

Technical Paper Session | AA-10 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/DD6DA170-A974-4053-AFA8-AE9B54B0769E>

Session Contributors: Andrea Cammarano, Param Kaushik, Vaishnavi Shankar, Hossein Zare-Behtash, Jacqueline Thomas, Ara Mahseredjian, John Hansman, Sandro Salgueiro, Jacqueline Thomas, Tejas Puranik, Mayank Bendarkar, Dimitri Mavris, Ana Gabrielian, Michelle Kirby, Tejas Puranik, Mayank Bendarkar, Dylan Monteiro, Sebastien Guerin, Martin Staggat, Antoine Moreau, Robert Meier Zu Ummeln, Robert Meier zu Ummeln

Session Papers (if applicable):

Active Noise Control to Mitigate Sonic Boom Using KZK Equation, Delayed Deceleration Approach Procedure Noise Modeling Validation using Noise Measurements and Ra..., Noise Model Validation using Real World Operations Data, Parametric Study of the Noise Emitted by Uncorrelated, Distributed, Electric Fans

Session Title: Computational Aeroacoustics I

Technical Paper Session | AA-11 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B0471B8D-DE48-4575-8AC0-5841C58C9A66>

Session Contributors: Thierry Jardin, Romain Gojon, David Gomez Ariza, Jean-Marc Moschetta, Pietro Li Volsi, Sébastien Pernet, Clément Rudel, Jean-Philippe Brazier, Gilles Serre, Benjamin Cotté, Jean-François Mercier, Nicolas Trafny, Yi Liu, Kan Wang, Meng Wang, Xiaodong Zhou, Toufic Abboud, Ahmed Bennani, Nadezda Petrova, Benoît Chaigne, Vincent Blandeau

Session Papers (if applicable):

Aerodynamic and Aeroacoustic Study of Low Reynolds Number Rotors: Influence of Pitch Angle, Airfo..., Backscattering in complex flows: application of the One-Way Euler equations to Poiseuille flow in..., Boundary integral formulation based on tailored Green's functions for flow noise and wall pressur..., Direct Computation of Wall Pressure Fluctuations in a Compressible Turbulent Channel Flow, Modelling of an infinite impedance ground plane for aircraft noise flight simulation

Session Title: Duct Acoustics I

Technical Paper Session | AA-12 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C167D054-4196-42E9-825A-D10274AC35DC>

Session Contributors: Lucas Bonomo, Julio Cordioli, Lucas Bonomo, Paul Murray, André Spillere, Brian Howerton, Michael Jones, Michael Jones, Brian Howerton, Remco Habing, Mark-Jan Van der Meulen, Joachim Golliard, Eric Portier, Jean-Christophe Le Roux, Thomas Humbert, Thomas Humbert, Joachim Golliard, Francesco Avallone, Julio Cordioli, Francesco Avallone, Lucas Bonomo, André Spillere, Lucas Schroeder, Andrey da Silva, Lucas Bonomo

Session Papers (if applicable):

A Comparison of In-Situ and Impedance Eduction Experimental Techniques for Acoustic Liners with G..., Benchmark Data for Evaluation of NASA Impedance Eduction Methods, Design Considerations of Acoustic Liners for Scaled Test Models, MAINE Flow facility for measurement of liner properties in multimodal acoustic field with grazing..., Numerical Investigation of Acoustic Liners Experimental Techniques using a Lattice-Boltzmann Solver

Session Title: Electric Propulsion Integration and Contributory Technologies

Technical Paper Session | TFS-15/VSTOL-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/BC78AFED-BA54-4AD3-A6A2-F3057C33E189>

Session Contributors: Jason Kirk, Jason Kirk, Chris Hall, Christian Llanes, Jason Hartwig, Gerald Brown, Fred Vankeuls, Ben Choi, Jason Hartwig, Stefan Notter, Michael Frangenberg, Jan Denzel, Dominique Bergmann, Johannes Schneider, Werner Scholz, Ole Pfeifle, Ole Pfeifle, Stefan Notter, Walter Fichter, Andreas Strohmayer, Ana Lidia Castro, Pedro Lacava, Carlos Henrique Mourão, Nathaniel Blaesser, Nathaniel Blaesser, Jason Kirk, Jason Kirk, Mark Guynn, Kenneth Fisher, Steven Schneider, Robert Thacker, Ty Marien, Peter Frederic, Zachary Frederick, Nicholas Borer, Nicholas Borer, Nicholas Borer, Brandon Litherland, Nikolas Zawodny, Nicholas Borer, Nikolas Zawodny

Session Papers (if applicable):

A Comparison of Thermal Management System Architectures
on the PEGASUS Concept, DC Performance Testing of MgB₂ Superconducting Straight Wire Samples
, Distributed Electric Propulsion for Yaw Control: Testbeds, Control Approach, and Flight Testing, Feasibility of Using Fuel Cell in a Small Aircraft, Methodology Used for an Electrified Aircraft Propulsion Design Exploration, X-57 Maxwell High-Lift Propeller Testing and Model Development

Session Title: Flight Testing: Open MCT Workshop

Technical Workshop | FT-03 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/9838CF52-4C91-42B1-8352-072582CA4312>

Session Contributors:

Session Papers (if applicable):

Session Title: General Acoustics I

Technical Paper Session | AA-13 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/8771630E-2301-464F-A242-B6F970A321C0>

Session Contributors: Mahdi Azarpeyvand, Bin Zang, Jichao Li, Bin Zang, Mahdi Azarpeyvand, Mengqi Zhang, Sergi Palleja-Cabre, Lorna Ayton, Phillip Joseph, Chaitanya Paruchuri, Matthew Priddin, Lorna Ayton, Phillip Joseph, Matthew Priddin, Chaitanya Paruchuri, Sergi Palleja-Cabre, Phillip Joseph, Paruchuri Chaitanya, Matthew Priddin, Sergi Palleja-Cabre, Lorna Ayton, Sergi Palleja-Cabre, Matthew Priddin, Phillip Joseph, Lorna Ayton, Hervé Denayer, Wim Desmet, Hervé Denayer, Jurgen Kersschot, Wim De Roeck, Wim De Roeck, Francesco Avallone, Daniele Ragni, Daniele Ragni, Francesco Avallone, Lourenco Tercio Lima Pereira, Lourenco Tercio Lima Pereira

Session Papers (if applicable):

A preliminary study of cylinder aerodynamic noise prediction using convolutional autoencoder, Downstream Perforations for the Reduction of Turbulence-Aerofoil Interaction Noise: Part I - Expe..., Downstream Perforations for the Reduction of Turbulence-Aerofoil Interaction Noise: Part II - The..., Simulation of the Vibro-acoustic Interaction in a Flexible Flow Duct Using a Partitioned Approach..., Wall pressure fluctuations over a serrated trailing edge at different angles of attack

Session Title: High-Order Methods IV: Novel Discretizations

Technical Paper Session | CFD-14 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D72170D7-66C3-442D-A43A-7096700DB9DC>

Session Contributors: Thierry Magin, David Henneaux, Larbi Arbaoui, Pierre Schrooyen, Philippe Chatelain, Tianyi Chu, Oliver Schmdit, Shirzad Hosseinverdi, Hermann Fasel, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Hermann Fasel, Hermann Fasel, Hermann Fasel, Shirzad Hosseinverdi, Loc Khieu, Eric Johnsen, Maryknoll Dsouza, Eric Johnsen, Philip Roe, Philip Roe, Yifan Bai

Session Papers (if applicable):

A High-Order Level-Set Method Coupled with an Extended Discontinuous Galerkin Method for Simulati..., An RBF-based finite difference discretization of the Navier-Stokes equations: error analysis and ..., High-Order Accurate Incompressible Navier-Stokes Solver Based on Vorticity-Velocity Formulation f..., Recovery with Tensor-product Basis on Triangular Grid, Toward Physically-based limiting for the Active Flux scheme

Session Title: Ice Crystal Icing - Probes and Measurement

Technical Paper Session | ASE-09 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5D5A4B79-F8AA-4490-AB7D-0C8FA49D2533>

Session Contributors: Craig Davison, Jennifer Chalmers, Jennifer Chalmers, Craig Davison, Tom Currie, Tom Currie, Faezeh Rasimarzabadi, Dan Fuleki, Faezeh Rasimarzabadi, Jennifer Chalmers, Dan Fuleki, Jennifer Chalmers, Craig Davison, Craig Davison, Andrew Work, Andrew Work, Dan Fuleki, Dan Fuleki, Craig Davison, Jennifer Chalmers, James MacLeod, Jennifer Chalmers, Craig Davison

Session Papers (if applicable):

Comparison of a Compact Isokinetic Total Water Content Probe to Standard & T-Shaped Multi-Element..., Development of Compact Sub-to-Isokinetic Ice Particle Capture Probe for Measuring Particle Concen..., Droplet Freeze-out Model for Ice Crystal Icing Testing in Engine Icing Facility, Icing Formation Strains on Airfoil Skin, Implementation of a Non-Intrusive Ice Accretion Sensor to an ALF502R-5 Vane Segment Ice Crystal R..., Uncertainty Analysis of Cloud Conditions in an Engine Icing Tunnel

Session Title: Jet Noise IV

Technical Paper Session | AA-14 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/E3EBE3C5-7D41-4B19-8F55-873C70EEA133>

Session Contributors: Philip Morris, Philip Morris, Philip Morris, Darryl Douglas, Kerwin Low, Nick Behlman, Philip Morris, Sanjiva Lele, Gao Jun Wu, Jinah Jeun, Mathieu Varé, Christophe Bogey, Christophe Bogey, Christophe Bogey, Christophe Bogey, Mathieu Varé, Luca Massa,

Monika Chauhan, Luca Massa, Oliver Schmidt, Mo Samimy, Mo Samimy, Mo Samimy, Nathan Webb, Ata Ghassemi Isfahani, Tim Colonius, Mo Samimy, Guillaume Brès, Brandon Yeung, Nathan Webb, Tim Colonius, Ata Ghassemi Isfahani, Oliver Schmidt

Session Papers (if applicable):

An Experimental and Numerical Investigation of Rectangular Embedded Jet Exhausts, Internal and External Feedback in Rectangular Jet Screech, Large-eddy simulations of the flow and acoustic fields of a rocket jet impinging on a perforated ..., Parametric study of thermally non-uniform supersonic jets using LES for noise predictions, Towards large-eddy simulations of supersonic jets from twin rectangular nozzle with plasma actuation

Session Title: Modeling and Simulation of New Entrant Integration into the Airspace System

Technical Paper Session | MST-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/11186DD8-3FDD-4323-ADAE-65D84FA97CCB>

Session Contributors: Sricharan Ayyalasomayajula, Yaroslav Ryabov, Nikhil Nigam, Dengfeng Sun, Dengfeng Sun, Aaron Guo, Hanyao Hu, Linzhe Wang, Jerry Gu, Dengfeng Sun, Muharrem Mane, Samarth Jain, Samarth Jain, William Crossley, Dan DeLaurentis, Adriana Andreeva-Mori, Adriana Andreeva-Mori, Gianpietro Battocletti, Riccardo Urban, Simone Godio, Giorgio Guglieri

Session Papers (if applicable):

A Trajectory Generator for Urban Air Mobility Flights, Gazebo-Based Simulation Environment Integration for UAS, Investigating How Commercial Supersonic Aircraft Operations Might Impact Subsonic Operations and ..., Preliminary Parameter Investigation for Cellular Automata Air Traffic Flow Modelling, RL-based Path Planning for Autonomous Aerial Vehicles in Unknown Environments

Session Title: Overset Methods

Technical Paper Session | CFD-15 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/861E555B-6A47-45AA-A3A4-B443EF2FFDAC>

Session Contributors: Joseph Derlaga, Pieter Buning, Pieter Buning, Joseph Derlaga, Charles Jackson, Cameron Druyor, Cameron Druyor

Session Papers (if applicable):

A Parallel Symmetric Successive Overrelaxation Method for OVERFLOW, Enhancing Scalability for FUN3D Rotorcraft Simulations with Yoga: an Overset Grid Assembler

Session Title: Plasma & Laser Propulsion

Technical Paper Session | PDL-03 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6B4B6837-16E8-4E7F-9505-375E874AD854>

Session Contributors: Sergey Leonov, Sergey Leonov, Sergey Leonov, Sergey Leonov, Skye Elliott, Philip Lax, Yiyun Zhang, Carmen Guerra-Garcia, Andrey Starikovskiy, Andrey Starikovskiy, Andrey Starikovskiy, Andrey Starikovskiy, Nickolay Aleksandrov, Kaitao Tang, Kentaro Hara, Roman Stromeyer, Laxminarayaj Raja, Hayden Morgan, Christopher Limbach, Christopher Limbach, Christopher Limbach, Christopher Limbach

Session Papers (if applicable):

Alignment of Shock-Induced Separation by Plasma Array, Discharge Regimes and Transitions in Pulsed Nanosecond Dielectric Barrier Discharges at Atmospher..., Numerical Modeling of ns-SDBD Plasma Formation for Flow Control by Superfast Local Heating, Numerical Study of Ionized Nozzle Flows with Electromagnetic Propulsion Enhancement, Study of Magnetically-Stabilized Radio Frequency Ionizer for Air-Breathing Electric Propulsion Th..., Toward Laboratory Scale Simulation of a Combined Particle and Laser Beam Propulsion Concept

Session Title: Reduced-Order and Data-Driven Modeling, including Flowfield Estimation Theory and Machine Learning I

Technical Paper Session | FD-28 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A36C4981-F1BD-4DBF-9FB3-63EA0D43A198>

Session Contributors: Aaron Towne, Aaron Towne, Eduardo Martini, Andrè Cavalieri, Ali Farghadan, Steffen Schotthöfer, Martin Frank, Tianbai Xiao, Cory Hauck, Steffen Schotthöfer, Krzysztof Fidkowski, Krzysztof Fidkowski, Krzysztof Fidkowski, Krzysztof Fidkowski, Bolun Xu, Mingjun Wei, John Hrynuik, Mingjun Wei, Joel Ho, Alastair West

Session Papers (if applicable):

A randomized time-domain algorithm for efficiently computing resolvent modes, A structure-preserving surrogate model for the closure of the moment system of the Boltzmann equa..., Adjoint-Based Adaptive Training of Deep Neural Networks, Adjoint-ROM Based Optimal Control of the Flow with Moving Boundaries, Field Inversion and Machine Learning for turbulence modelling applied to three-dimensional separa...

Session Title: Special Session: MADELEINE Project I

Technical Paper Session | MDO-12 | AVIATION

Session Date: 2021-08-04
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/178E8F62-6CC8-40C2-B0C5-CBFF967A8EA0>

Session Contributors: Mohammad Abu-Zurayk, Mohammad Abu-Zurayk, Gilbert Roge, Gabriel Fougeron, Caslav Ilic, Matthias De Lozzo, Francois Gallard, Anne Gazaix, Long Wu, Jae Wook Kim, David Radford, Shahrokh Shahpar, Shahrokh Shahpar, Alexander Wilson, Alexander Wilson, Michael Meheut, Konstantinos Tsiakas, Kyriakos Giannakoglou, Xenofon Trompoukis, Varvara Asouti, Gabriel Fougeron, Gilbert Rogé, Steven Kleinveld, Ludovic Martin, Sarah Julisson, Stevie Janssen, Bambang Soemarwoto, Harmen van der Ven, Johan Kok

Session Papers (if applicable):

A Data-driven Scalable MDO Problem To Compare MDO Formulations, Low-Noise Blade Design Optimization for a Transonic Fan Using Adjoint-Based MDO Approach, Multidisciplinary Adjoint-based Optimizations in the MADELEINE Project: Overview and Main Results, Pave the way to robust aerostructure wing shape optimization, Unsteady Adjoint Method for Aeroacoustic Propeller Optimization

Session Title: Special Session: MBSE Integration with MDO I
Technical Paper Session | MDO-13 | AVIATION

Session Date: 2021-08-04
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/74D53122-B372-46AE-8464-0B311CA96608>

Session Contributors: Ana Paula Cuco, Ton Van Der Laan, Pier Davide Ciampa, Ana Paula Cuco, Pier Davide Ciampa, Giuseppa Donelli, Gléverson Lemos, João Mello, Björn Nagel, Ton van der Laan, Pier Davide Ciampa, Björn Nagel, Pier Davide Ciampa, Tobie Van Den Berg, Ton Van Der Laan, Ton van der Laan, Tobie van den Berg, Burak Bagdatli, Dimitri Mavris, Jason Corman, Jason Corman, Christopher Jouannet, Christopher Jouannet

Session Papers (if applicable):

A Model-Based Approach to Trade-Space Evaluation Coupling Design-Manufacturing-Supply Chain in th..., Accelerating the Development of Complex Systems in Aeronautics via MBSE and MDAO: a Roadmap to Ag..., An open source part cost estimation tool for MDO purposes, Enabling the Creation of MDO Specifications for Commercial Aviation Applications Through Model-Ba..., MDO challenges and opportunities in the context of System-of-systems, an industry perspective

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) VI
Technical Paper Session | FD-29 | AVIATION

Session Date: 2021-08-04
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/DD69BC60-B6F7-4D7E-9316-FDCD980D673C>

Session Contributors: Luis Bernardos, Pascal Molton, Jesse Little, Shirzad Hosseinverdi, Jesse Little, Shirzad Hosseinverdi, Hermann Fasel, David Borgmann, Jesse Little, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Jesse Little, Hermann Fasel, Hermann Fasel, Hermann Fasel, Jesse Little, Hermann Fasel, Hermann Fasel, Jesse Little, Shirzad Hosseinverdi, David Borgmann, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Hermann Fasel, Jesse Little, Hermann Fasel, Shirzad Hosseinverdi, Jesse Little, Balaji Shankar Venkatachari, Balaji Shankar Venkatachari, Pedro Paredes, Nathaniel Hildebrand, Pedro Paredes, Preethi Mysore, Nathaniel Hildebrand, Meelan Choudhari, Pedro Paredes, Balaji Shankar Venkatachari, Meelan Choudhari, Balaji Shankar Venkatachari, Meelan Choudhari, Pedro Paredes, Meelan Choudhari, Hermann Fasel, Christoph Hader, Hermann Fasel, Christoph Hader, Hermann Fasel, Hermann Fasel, Hermann Fasel, Shirzad Hosseinverdi, Ladan Bahrainirad, Hermann Fasel, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Hermann Fasel, Shirzad Hosseinverdi, Hermann Fasel

Session Papers (if applicable):

Evaluation of Laminar Separation Bubble simulations around NACA0012 airfoil using wind-tunnel data, Investigation of Laminar Separation Bubbles Using Experiments, Theory and DNS, Investigation of Transition in a Laminar Separation Bubble using Active Flow Control, Modeling the Effects of a Backward-Facing Step on Boundary-Layer Transition, Three-dimensional wave packets in a Mach 10 Boundary Layer on a Sharp Cone, Wave Packet Development in Three-Dimensional Low-Speed Laminar Boundary Layers

Session Title: Trajectory-Based Operations I

Technical Paper Session | ATOMS-09 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/02215282-3EAA-430B-83F6-913CE95ACF4D>

Session Contributors: Paul Lee, Nathan Buckley, Scott Kalush, Connie Brasil, Conrad Gabriel, Kevin Garzon, Yohann Gillet, Ryota Mori, Rhea Shah, Volker Gollnick, Daniel Bodmer, Florian Linke, Daniel Bodmer, Florian Linke, Volker Gollnick, Richard Coppenbarger, Arwa Aweiss, Heinz Erzberger, Gabriele Enea, Michael Mcpartland, Michael McPartland, Timothy Bonin, Gabriele Enea, Yoshinori Matsuno, Roland Sgorcea, Lesley Weitz, Roland Sgorcea, Lesley Weitz

Session Papers (if applicable):

Demonstration of Airline-Based Airborne Reroute Operations using Trajectory Option Sets and 3rd P..., ETA and Wind Prediction Accuracy Improvement Using Numerical Weather Forecast and Aircraft Survei..., Extension of a Trajectory Calculator to Simulate Fuel-Optimized 4D-Trajectories for Hypersonic Ai..., Flight Demonstration of the Tailored Arrival Manager, Improving Supporting Data for Trajectory Based Operations Automation, Optimal Speed Control Using Probabilistic Wind Prediction from ADS-B Observation Data, Role of Aircraft Descent Speed Schedule Prediction in Achieving Trajectory Based Operations

Session Title: Wind Tunnel Facility Upgrades and Improvements

Technical Paper Session | GT-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/250AE7A5-C697-4BD3-9194-24F3087F36FA>

Session Contributors: David Stephens, Pulkit Agarwal, Chih Chieh Yen, Martin Karanikolov, Scott Best, Tony Nagle, Edward Duell, David Rinehart, Aaron Johnson, David Stark, Dale Van Zante, David Stephens, Sylvain Mouton, Paul Viguier, Renaud Davy, Frédéric David

Session Papers (if applicable):

Acoustic Improvements to the 9- by 15-Foot Low Speed Wind Tunnel, Computational Verification Analysis of 9- by 15- Foot Low Speed Wind Tunnel Acoustic Upgrade Design, Full Aero-Thermal Characterization of Acoustic Improvements to the 9- by- 15 Foot Low Speed Wind ..., Overview of the Acoustic Improvement Program for the 9- by 15-Foot Low Speed Wind Tunnel, Recent Improvements of CEPRA 19 Wind-Tunnel for Jet Noise Experiments

Session Title: Forum 360: Modern Development in a Digital Environment

Forum 360 | F360-05 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/CB62421F-E611-4A0C-8B50-EFD292C887AC>

Session Contributors:

Session Papers (if applicable):

Session Title: How to Publish with AIAA

the HUB | HUB-08 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/85F5C56D-D3A0-4A89-ABB5-286644BEDD88>

Session Contributors:

Session Papers (if applicable):

Session Title: Mindfulness in the Workplace

the HUB | HUB-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/E4448928-6173-43A3-9259-F1223EB11025>

Session Contributors:

Session Papers (if applicable):

Session Title: Knowledge-Based Engineering

Technical Paper Session | DE-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/EDC611EA-0D70-44A1-B225-C065B1104A34>

Session Contributors: Jacopo Zamboni, Andrea Mancini, Erwin Moerland, Bernd Chudoba, Samuel Atchison, Stenila Simon, Bernd Chudoba, Jose Medina, Harinkumar Patel

Session Papers (if applicable):

A Knowledge-based Methodology for the Initiation of Military Aircraft Configurations, Development of a Hypersonic Vehicle Configuration Compendium, Turbine-Based Combined Cycle Survey

Session Title: Aeroacoustics Invited Lecture

Technical Lecture | AA-15 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6F07E346-82B1-464F-B5B9-7492AC974689>

Session Contributors:

Session Papers (if applicable):

Session Title: Aerodynamic Design I

Technical Paper Session | APA-22 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/3A7D8F0F-32CE-4782-9EE0-74695050F136>

Session Contributors: Timothy Chau, David Zingg, Juntao Xiong, Robert Bartels, Nhan Nguyen, Juntao Xiong, Bret Stanford, Nhan Nguyen, Juntao Xiong, Bret Stanford, Juntao Xiong, Bret Stanford, Nhan Nguyen, Robert Bartels, Bret Stanford, Nhan Nguyen, Juntao Xiong, Nhan Nguyen, Juntao Xiong, Juntao Xiong, Robert Bartels, Nhan Nguyen, Juntao Xiong, Nhan Nguyen, Robert Bartels, Nhan Nguyen, Taylor Kate Boyett, Richard Campbell, Brett Hiller, Michelle Lynde, Michelle Lynde, Brett Hiller, Alejandro González Pérez, Christian Allen, Daniel Poole

Session Papers (if applicable):

Aerodynamic Optimization of a Transonic Strut-Braced-Wing Regional Aircraft Based on the Reynolds..., Aeroelastic Modeling and CFD Simulation of Wind-Tunnel Scale Aspect Ratio 13.5 Common Research Model, Aeroelastic Trim Drag Optimization of Mach 0.745 Transonic Truss-BracedWing Aircraft with Variabl..., Design Exploration of a Transonic Cruise Slotted Airfoil, GSA-SOM: A metaheuristic optimisation algorithm guided by machine learning and application to aer...

Session Title: Aerodynamic Prediction Methods I

Technical Paper Session | APA-23 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/36182193-26E6-45B5-B86A-24F032897796>

Session Contributors: Pedro Ciloni, Rodrigo de Souza, Ilya Kolmanovsky, Thiago Guimarães, Thiago Guimarães, Carlos E. S. Cesnik, Mostafa Nabawy, Thomas Shearwood, William Crowther, Clyde Warsop, Thomas Shearwood, Prasad Gudem, Justin Tahmassebpur, Manuel Schultz, Martin Laslett, Prasad Gudem

Session Papers (if applicable):

Aerodynamical Influence of Propeller Lateral and Vertical Position on Wing Induced Drag, Low Speed Aerodynamic Modeling for Control-related Considerations in Supersonic Aircraft Design, Three-axis control of tailless aircraft using fluidic actuators: MAGMA case study, Wind Tunnel Measurements of Non-Dimensional Lift Coefficient of a Boomerang and Comparison to Theory

Session Title: Aerodynamic Shape Optimization II

Technical Paper Session | APA-24/MDO-14 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/72DD9003-7BAF-4A28-9CEC-8ADD7152E294>

Session Contributors: James Coder, Kivanc Ekici, James Coder, Kivanc Ekici, Reza Djeddi, James Coder, Kivanc Ekici, Reza Djeddi, James Coder, Kivanc Ekici, Coleman Floyd, Kivanc Ekici, Luca Abergo, Alberto Guardone, Myles Morelli, Myles Morelli, Alberto Guardone, Reza Djeddi, Reza Djeddi, Kivanc Ekici, Kivanc Ekici, Kivanc Ekici, Kivanc Ekici, Kivanc Ekici, Jethro Nagawkar, Leifur Leifsson, Leifur Leifsson, Leifur Leifsson, Leifur Leifsson, Kiet Tuong Tran, Ping He

Session Papers (if applicable):

Adjoint-Based Uncertainty Quantification and Calibration of RANS-Based Transition Modeling, Aerodynamic Optimization based on a Discrete Adjoint Framework and Radial Basis Function Mesh Def..., Discrete Adjoint Recursive Technique for Aerodynamic Design Optimization, Multifidelity Aerodynamic Shape Optimization Using Manifold Mapping and Bezier-GAN

Parameterization, Unsteady Aerodynamic Optimization of Airfoils Considering Shape and Propeller Parameters

Session Title: Aerodynamic Testing I

Technical Paper Session | APA-25 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8D2E39E3-4827-4CCC-A417-835B8B4E6976>

Session Contributors: Neale Watson, Ieuan Owen, Mark White, Or Dantsker, Mirco Theile, Marco Caccamo, Clifford Whitfield, Colin Trussa, Jacob Brandon, Matthew McCrink, Colin Trussa, Matthew Mccrink, Renan Pivati, André da Silva, Tiago de Araújo, Lawrence Hand, Lucy Tang, Nettie Roozeboom, David Murakami, Marc Shaw-Lecerf, Marc Shaw-Lecerf, Xufei He, Guowei Tang, Xiangyu Wang, Xufei He

Session Papers (if applicable):

Experimental Validation of the CFD-generated Airwake of an Aircraft Carrier with Simulated Atmosp..., Flight & Ground Testing Data Set for an Unmanned Aircraft: Great Planes Avistar 30cc, Low-Speed Aerodynamic Characteristics of a Delta Wing with Articulated Wing Tips, Modern Design of Experiments (MDOE) Applied to Wind Tunnel Testing, Unsteady Pressure-Sensitive-Paint Shot Noise Reduction, Wind Tunnel Testing of Flexible Wing Model with Aileron Freeplay Nonlinearity

Session Title: Applied CFD Modeling III

Technical Paper Session | APA-26 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/CF397A5C-A813-40D6-A35C-46776173157D>

Session Contributors: Sarah Conley, Dorsa Shirazi, Mehdi Ghoreyshi, Greg Noetscher, Adam Jirasek, Keith Bergeron, Keith Bergeron, Terence Rose, Keith Bergeron, Keith Bergeron, Andrea Vilardi, Manuel Carreno Ruiz, Domenic D'Ambrosio, Giorgio Guglieri, Matteo Scanavino, Guanjiang Chen, Bin Zang, Mahdi Azarpeyvand, Mahdi Azarpeyvand, Bin Zang

Session Papers (if applicable):

Comparing Simulation Results from CHARM and RotCFD to the Multicopter Test Bed Experimental Data, Computational Study and Modeling of Single and Clustered Parachutes in the Wake of an Aircraft, Experimental and numerical analysis of multicopter rotor aerodynamics, The effect of spanwise length on the near-field dynamics of flow past a cylinder using Large-Eddy...

Session Title: ASCEND Rewind @ AVIATION: FAA Commercial Space Transportation

the HUB | HUB-20 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/11F6FEBA-9647-4354-AA92-BC307D7395ED>

Session Contributors:

Session Papers (if applicable):

Session Title: Electric Motor Powered Aero-Engine Simulator (EMPAS) Project

Technical Paper Session | GT-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/7EF5BEE0-D51F-4E6B-BAB0-4C7F276303AE>

Session Contributors: Richard Mower, Keith Mylon, Richard Mower, Chris Jorgens, Chris Jorgens, Chris Jorgens, Chris Jorgens, Malcolm Pembery, Malcolm Pembery, John Doherty, John Doherty, John Doherty, John Doherty

Session Papers (if applicable):

Controlling and Collecting Data from an Electric Motor Powered Aircraft Simulator. (EMPAS), Electric Motor Powered Aero-Engine Simulator (EMPAS): Technology Validation Test Summary and Results, Electric Motor Powered Aero-Engine Simulator (EMPAS): Test Model Hardware Design and Fabrication, Electric Powered Aero-Engine Simulator (EMPAS) - Project overview and QinetiQ Involvement, Flow Measurement Technologies and Supporting Research in the EMPAS Project

Session Title: Fluid Dynamics Technical Committee Awards Lecture

Technical Lecture | FD-30 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D8537FB9-5992-49F5-8F9B-80388FB777A8>

Session Contributors:

Session Papers (if applicable):

Session Title: Frameworks, Tools & Processes I

Technical Paper Session | ACD-10 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/CD7DBFD4-7F36-4E10-B7F6-4DEFFC2B8D5B>

Session Contributors: Jiacheng Xie, Dimitri Mavris, Jiacheng Xie, Yu Cai, Mengzhen Chen, Ruben Perez, Timothy Takahashi, Timothy Takahashi, Ruben Perez, Timothy Takahashi, Ruben Perez, Noah Kurus, Timothy Takahashi, Ruben Perez, Bryce Horvath, Gregory Wrenn, Andrea Da Ronch, Andrea Da Ronch, Thomas Engelbrecht, Benjamin Moss, Benjamin Moss, Andrea Da Ronch, Andrea Da Ronch, David Kumar, Christopher C K Chan

Session Papers (if applicable):

A Multi-Fidelity Aerodynamic Analysis Method for Transonic Transport Aircraft Conceptual Design a..., Critical Mach Number Predictive Methods for Realistic Supersonic Wing / Body Configurations, Development of an Inertia Relief Method for Aircraft with Dissimilar Engines in LEAPS, High-lift Actuation Weight Estimation of the Airbus XRF-1 Research Model, TD3 Reinforcement Learning on Fluid-Structure Interaction Data for Efficient Flapping Wing MAVs

Session Title: Hybrid Lighter-Than-Air Systems

Technical Paper Session | LTAS-02 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D2F6DA4A-DF19-4FD4-BFD8-1D8B98C5FFCF>

Session Contributors: Rajkumar Pant, Nouman Uddin, Kathleen McNamara, Yuyang Song, Jamey Jacob, Jamey Jacob, Kathleen Mcnamara, Jamey Jacob, Jamey Jacob, Manikandan Murugaiah, Rajkumar S Pant

Session Papers (if applicable):

Conceptual Design and Sizing of Relocatable High Altitude Long Endurance Solar Powered Hybrid Air..., Impact of Elasticity on Inflatable Structures for High-Altitude Kites, Surrogate Based Aerodynamic Shape Optimization of Tri-lobed Hybrid Airship Envelope

Session Title: Hypersonic Aerodynamics II

Technical Paper Session | APA-27 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F8B80E9F-C498-47E2-97A0-7E066F637277>

Session Contributors: Patrick Rodi, Ashish Vashishtha, Shashank Khurana, Xiaowen Wang, Xiaowen Wang, Xiaowen Wang, Xiaowen Wang, Pratikash Panda, Nikhil Verma

Session Papers (if applicable):

Effects of Viscosity on Capsule/Waverider Shape Optimization for Boost-Glide Missions, Novel Mechanism of Instability Control using a Tapered Spike in Hypersonic Flow, Numerical Investigation on the Plasma-Caused Blackout of Orion Exploration Flight Test-1, Reduced order model based on Gradient Optimization for Two Dimensional Scramjet Inlets

Session Title: Ice Crystal Icing - NRC Compressor Rig Test & Simulation

Technical Paper Session | ASE-10 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D72D9371-F88E-453E-B58D-33355891BFDC>

Session Contributors: Craig Davison, Martin Neuteboom, Craig Davison, Martin Neuteboom, Martin Neuteboom, Martin Neuteboom, Martin Neuteboom, Jennifer Chalmers, Jennifer Chalmers, Martin Neuteboom, Nicholas Cunnington-Bourbonniere, Brian Galeote, Martin Neuteboom, Jennifer Chalmers, Craig Davison, Jennifer Chalmers, Craig Davison, Martin Neuteboom, Dan Fuleki, Jennifer Chalmers, Martin Neuteboom, Craig Davison, Dan Fuleki, Jennifer Chalmers, Martin Neuteboom, Cristhian Aliaga, John Stokes, Craig Davison, Shezad Nilamdeen, Shoaib Shah, John Stokes, Cristhian Aliaga

Session Papers (if applicable):

Ice Crystal Environment - Modular Axial Compressor Rig - Validation, Ice Crystal Environment - Modular Axial Compressor Rig: Transient Analysis of Ice-Accretion Severity, Ice Crystal Environment Modular Axial Compressor Rig: Measurement of ice accretion from video, Ice Crystal Environment Modular Axial Compressor Rig: Particle detection probe measurement of ice..., Icing Simulation Studies on the NRC Rotating Rig

Session Title: Innovative Aerospace Concepts

Technical Paper Session | APA-28 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/48939ED9-3309-4B14-BEE0-DB0A44ED4BB2>

Session Contributors: Andreas Gross, Andreas Gross, Andreas Gross, Andreas Gross, Jesus Rosales, Joseph Millette, Gabriel Guijarro Reyes, Lorenzo Russo, Luciano Demasi, Renato Tognaccini, Cristina Riso, Divya Sanghi, Carlos E. S. Cesnik, Cristina Riso, Divya Sanghi, Fabio Vetrano

Session Papers (if applicable):

Aerodynamic Characterization of Model Motor Glider for Implementation in Simulation Environment, Best Winglet of Minimum Induced Drag: Viscous and Compressible Flow Predictions, Load Alleviation in Very Flexible Aircraft with Movable Wingtips

Session Title: NASA Aeronautics Research Institute Intern Projects
the HUB | HUB-09 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/509C4184-7012-4166-AD23-A6ED848BF2E9>

Session Contributors:

Session Papers (if applicable):

Session Title: Plasma Diagnostics & Experimental Techniques
Technical Paper Session | PDL-04 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6E68F05A-AE41-4CB1-8D41-6CE114CD91AF>

Session Contributors: Douglas Fletcher, Jason Meyers, Brandon Voll, Roland Herrmann-Stanzell, Jeff Schindler, Anuj Rekhy, Boris Leonov, Amirhossein Abbasszadehrad, Anuj Rekhy, Richard Miles, Amirhossein Abbasszadehrad, Richard Miles, Boris Leonov, Sergey Leonov, Sergey Leonov, Sergey Leonov, Skye Elliott, Boris Leonov, Yue Wu, Christopher Limbach, Christopher Limbach, Boris Leonov, Christopher Limbach, Christopher Limbach, Yue Wu, Anuj Rekhy, Amirhossein Abbasszadehrad, Richard Miles, Richard Miles, Anuj Rekhy, Amirhossein Abbasszadehrad

Session Papers (if applicable):

Carbon Monoxide Measurements in a CO₂ Plasma Using Two-Photon Laser Induced Fluorescence, Dispersion of Rayleigh Scattering with a Multi-Prism Atomic Vapor Cell, Laser Visualization of Phase Interfaces at Supercritical Fluid Transition via Pulsed Electric Dis..., Rayleigh Imaging from CO₂ Clusters in an Underexpanded Jet, Thomson and Rayleigh-Brillouin Scattering Lineshape Collected from a Large Solid Angle: A Numeric...

Session Title: Reduced Order Modeling I
Technical Paper Session | APA-29 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/888E399F-7ECA-440F-A1BC-EB3EC5538CD1>

Session Contributors: Nicholas Peters, John Ekaterinaris, Andrew Wissink, Marco Fossati, Gaetano Pascarella, Giuseppe Fortunato, Edmondo Minisci, Marco Fossati, Marco Fossati, David Zingg, Brandon Lowe, David Zingg, David Zingg, Philipp Bekemeyer, Christian Sabater, Philipp Stürmer, Philipp Bekemeyer

Session Papers (if applicable):

A Mode Based Reduced Order Model for Supersonic Store Separation, Assessment of Model Uncertainty of Nonlinear Reduced Order Methods for Aerodynamic Design, Dynamic Aeroelastic Analysis Using Reduced-Order Modeling with Error Estimation, Fast Predictions of Aircraft Aerodynamics using Deep Learning Techniques

Session Title: Special Session: Aircraft Drag Decomposition - Theory and Application

Technical Paper Session | APA-30 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/1BB64B21-C853-4A93-9E55-BBA080EF0B35>

Session Contributors: David Hall, David Hall, Benedetto Mele, Renato Tognaccini, Ettore Saetta, Renato Tognaccini, Renato Tognaccini, Renato Tognaccini, Camille Fournis, Didier Bailly, Camille Fournis, Didier Bailly, Ilias Petropoulos, Christelle Wervaecke, Michaël Méheut, Olivier Atinault, Didier Bailly, Camille Fournis, Camille Fournis, Ilias Petropoulos, Didier Bailly, Sven Schmitz, Pierce Hart, Sven Schmitz, Pierce Hart, Mark Drela

Session Papers (if applicable):

A Practical Performance Accounting System for Civil Transport Airplanes with Boundary Layer Inges..., Aerodynamic force breakdown: Thermodynamic vs Vortex-force methods, An invariant vortex-force theory related to classical far-field analyses in transonic flows, An Overview of ONERA Research Activities Related to Drag Analysis and Breakdown, Application of Partial-Pressure Field Drag Decomposition to the ONERA M6 Wing, Considerations in Aerodynamic Force Decomposition

Session Title: Structural Design and Dynamics

Technical Paper Session | ACD-11 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6B0BA948-B145-4BE0-A1B1-799B3CBC3107>

Session Contributors: Tyler Winter, Joe Robinson, Joe Robinson, Armando Gamez, Thomas Nascenzi, Tyler Winter, Santiago Hernández, Clara Cid Bengoa, Aitor Baldomir, Miguel Rodríguez-Segade, Jamey Jacob, Jamey Jacob, Ryan Paul, Jamey Jacob, Scott Weekley, Jamey Jacob, Patrick Downs, Richard Prazenica, Glenn Greiner

Session Papers (if applicable):

Crashworthiness Loads for Conceptual Design Structural Sizing of an UAM Quad Rotor Aircraft, DamageCreator: A global tool for generating finite element models of damaged aircraft due to

blad..., Design and Testing of Bellwether: A Flying Wing Featuring the Bell Span-Load, State-Space Aeroelastic Model Development for Preliminary Design and Flutter Estimation

Session Title: Surrogate and Metamodeling I

Technical Paper Session | MDO-15 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/519537D0-46C6-4A17-88A6-88E9EAF9499B>

Session Contributors: Joaquim Martins, Joaquim Martins, Joaquim Martins, Joaquim Martins, Yifu An, Xiaosong Du, Nathalie Bartoli, Björn Nagel, Pier Davide Ciampa, Jasper Bussemaker, Nathalie Bartoli, Pier Davide Ciampa, Jasper Bussemaker, Thierry Lefebvre, Ali Elham, Nils Bock, Daigo Maruyama, Addison Dunn, Christian Sonnenburg, Darcy Allison, Steven Berguin, Atticus Beachy, Harok Bae

Session Papers (if applicable):

A Convolutional Neural Network Model Based on Multiscale Structural Similarity for the Prediction..., Effectiveness of Surrogate-Based Optimization Algorithms for System Architecture Optimization, Predictions of Derivatives via Machine Learning for Rapid Gradient-Based Aerodynamic Shape Optimi..., Surrogate-Based Trajectory Optimization Using Gradient-Enhanced Neural Networks, Unsupervised Neural Network based Kriging to Predict Non-Stationary and High-Dimensional System R...

Session Title: Thermophysics Award Lecture

Technical Lecture | TP-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/15F767A8-1B4D-48AE-922C-E0E9723E3FF3>

Session Contributors:

Session Papers (if applicable):

Session Title: Trajectory-Based Operations II

Technical Paper Session | ATOMS-10 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/34AD97D5-F81D-42CA-971C-C7D710AD9CD5>

Session Contributors: Kin Huat Low, Mingcheng Zhang, Junfei Xie, Junfei Xie, Baoqian Wang, Cameron Douma, Olatunde Sanni, Brian German, Mark Kotwicz Herniczek, Emre Yilmaz, Mark

Kotwicz Herniczek, Emre Yilmaz, Mark Kotwicz Herniczek, Emre Yilmaz, Mark Kotwicz Herniczek, Brian German, Olatunde Sanni, Emre Yilmaz, Portia Banerjee, Matteo Corbetta

Session Papers (if applicable):

A Preliminary Path Planning Algorithm for the Last-mile Delivery by an Unmanned Aerial Vehicle
..., Coded Distributed Path Planning for Unmanned Aerial Vehicles, Deep Reinforcement Learning Approach to Air Traffic Optimization Using the MuZero Algorithm, Drawing the Highways in the Sky for Urban Air Mobility Operations, Uncertainty Quantification of Expected Time-of-Arrival in UAV Flight Trajectory

Session Title: Transonic and Supersonic Aerodynamics I

Technical Paper Session | APA-32 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6F5764FC-A45D-4184-8F96-6B4228A1F7E1>

Session Contributors: Justin Shafner, Ashley Korzun, Ashley Korzun, Gareth Vio, Nicholas Giannelis, Alessandro D'Aguzzo, Ferdinand Schrijer, Bas van Oudheusden, Gecheng Zha, Gecheng Zha, Gecheng Zha, Gecheng Zha, Zhijin Lei

Session Papers (if applicable):

Computational Analysis of a Multiple-Nozzle Supersonic Retropropulsion Configuration, Influence of turbulence modelling approach on shock buffet computations at deep buffet conditions, Investigation of 3D Shock Control Bumps for Transonic Buffet Alleviation, Lift Enhancement for Highly Swept 3D Delta Wing at Low Speed Using CoFlow Jet Flow Control

Session Title: Vortical/Vortex Flow Aerodynamics

Technical Paper Session | APA-33 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/AA4FF625-7F8E-4891-8C52-F81ABD33698E>

Session Contributors: Bojan Vukasinovic, Edward Lee, Ari Glezer, Bojan Vukasinovic, Bojan Vukasinovic, You Huang, Edward Lee, Ari Glezer, Bojan Vukasinovic, Rolando Cruz Marquez, Jean Claude Monnier, Geoffrey Tanguy, Marie Couliou, Vincent Brion, Patrick Dupont, Louis Cattafesta, Rajesh Ranjan, Daniel Garmann, Daniel Garmann, Daniel Garmann, Datta Gaitonde, Daniel Garmann, Sven Schmidt, Patrick Loechert, Thomas Jann, Michael Jones, Steffen Feldhus, Ben Steinfurth, Julien Weiss, Julien Weiss, Vivek Kumar, Kamal Poddar, Vivek Kumar, Alakesh Mandal

Session Papers (if applicable):

Aerodynamic Flow Control of an Unstable Slender Cylindrical Body at High Incidence, An experimental study of a trailing vortex alleviation using an undulated trailing edge,

Compressibility Effects on Flow Behind a Simulated Transport Aircraft Fuselage, Consideration of Tanker's Wake Flow for Helicopter Air-to-Air Refueling, Effect of outlet aspect ratio on flow structures of rectangular starting jets in crossflow, Experimental study of vortex breakdown over nonslender flying wing at high angle of attack

Session Title: Aerospace Cybersecurity Capture the Flag Hack-a-Thon

the HUB | HUB-10 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/60C254B3-419C-41A5-9CD2-F52F17567E60>

Session Contributors:

Session Papers (if applicable):

Session Title: Forum 360: Advantages of Digital Thread for the Entire Product Lifecycle

Forum 360 | F360-06 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/57C317AF-5409-43FF-AD4E-EE8FE174BC2A>

Session Contributors:

Session Papers (if applicable):

Session Title: Advanced Testing Techniques II

Technical Paper Session | AA-17 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/8C0EC7F1-CE17-41CA-B793-56DDECF42DBD>

Session Contributors: Philippe Bousquet, Vincent Blandeau, Philippe Bousquet, Vincent Blandeau, Timo Schumacher, Henri Siller, Henri Siller, Wolfram Hage

Session Papers (if applicable):

A New Plate Design to Improve the Accuracy of Aircraft Exterior Noise Measurements on the Ground, Feasibility of Determining Aircraft Certification Noise Levels Using Ground Plane Microphone Meas..., Low Noise ATRA - Phased Array Measurements of Jet Noise in Flight

Session Title: Aerothermodynamics, Thermal Protection Systems and Ablation III

Technical Paper Session | TP-08 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E0623135-B723-4C31-987C-9388A9834A4D>

Session Contributors: Tahir Gokcen, Tahir Gokcen, Tahir Gokcen, Tahir Gokcen, Maninder Grover, Paolo Valentini, Eswar Josyula, Andrew Morin, Brian Stunkel, Jason Meyers

Session Papers (if applicable):

Analysis of Probe Surveys Conducted in the 10-MW TP3 Arc-Jet Facility 15-Inch Nozzle Flow, CFD Simulations of the Truncated IHF Semi-Elliptical Nozzle Flow: Convective Calibration Plate, Direct Molecular Simulations of two-dimensional hypersonic nitrogen flow over a cylinder using an..., Electron Transpiration Cooling Platform for an Inductively Coupled Plasma Facility

Session Title: Airframe/High-Lift Noise III

Technical Paper Session | AA-18 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9A9D95D7-F221-49F3-9312-2DC14DC6B557>

Session Contributors: Patricio Ravetta, Michael Czech, Mehdi Khorrami, Benedikt Konig, Michael Czech, Ehab Fares, Mehdi Khorrami, Patricio Ravetta, Andre Ribeiro, Benedikt Konig, Benedikt Konig, Mehdi Khorrami, Ehab Fares, Michael Czech, Benedikt Konig, Mehdi Khorrami, Leon Brusniak, Michael Czech, Mehdi Khorrami, Patricio Ravetta, Benedikt Konig, Ehab Fares, Mehdi Khorrami, Patricio Ravetta, Benedikt Konig

Session Papers (if applicable):

Airframe Noise Simulations of a Full-Scale Large Civil Transport in Landing Configuration, Comparison of Boeing 777 Airframe Noise Flight Test Data with Numerical Simulations, Multiplanar Synthetic Arrays and Their Application to Full-Scale Landing Gear Noise Source Identi...

Session Title: Combined Experimental/Numerical/Theoretical Approaches

Technical Paper Session | FD-31 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/23AF1ECB-45D2-452F-ACA3-E851D27A59DA>

Session Contributors: Ankit Rukhaiyar, Morgan Yopp, Jonathon Nadeau, Kyle Fox, John Benek, Kshitij Sabnis, Holger Babinsky, Daniel Galbraith, Alberto Broatch, Eusebio Valero, Jorge García-

Tíscar, Andrés Felgueroso, Leo Miguel González, Miguel Chavez Modena, Albert Medina, Kourosh Shoele, Albert Medina, Kevin Rosenberg, Tso-Kang Wang, Kourosh Shoele

Session Papers (if applicable):

Comparative Methodology and Validation of Steam as a Monopropellant Through a Converging-Diverging..., Lessons Learned from a Model Validation Study in High-speed Aerodynamics, Numerical and experimental analysis of thermo-aerodynamic performance in an aero engine surface h..., Resolvent Analysis of Morphing Bodies

Session Title: Computational Aeroacoustics II

Technical Paper Session | AA-19 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/82DD8D97-8EC6-4EC0-8E2A-D680ADF3F276>

Session Contributors: Ozgur Yalcin, Yusuf Ozyoruk, Stanislav Proskurov, Michael Moessner, Markus Lummer, Roland Ewert, Stanislav Proskurov, Roland Ewert, Jan Delfs, Loris Casadei, Mehdi Nair, Benjamin de Brye, Cesar Legendre, Guilherme Cunha, André Spillere, Leonardo Seki, Leonardo Seki, Julio Cordioli, Chaitanya Paruchuri, Chaitanya Paruchuri, Xiaowan Liu, Phillip Joseph

Session Papers (if applicable):

Delayed Detached-Eddy Simulations of Transonic Cavity Noise, Fan noise shielding predictions with a coupled DG / FM-BEM for installed aircraft engines, Industrial-scale time domain modelling of acoustic surface treatments for aero-engines using disc..., Numerical implementation of an impedance boundary condition considering a finite boundary layer, Prediction of fan-OGV interaction broadband noise using POD synthetic turbulence model

Session Title: Duct Acoustics II

Technical Paper Session | AA-20 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BBAE5C0A-30D7-47DD-947A-2B25BE294786>

Session Contributors: Lucas Bonomo, Julio Cordioli, Andre Spillere, Lucas Bonomo, Casalino Damiano, Francesco Avallone, Francesco Avallone, Friedrich Bake, Friedrich Bake, Dirk Ronneberger, Anita Schulz, Michael Shur, Michael Strelets, Andrey Travin, Michael Shur, Takao Suzuki, Takao Suzuki, Alan McAlpine, Alan McAlpine, Paul Murray, Suresh Palani, Christoph Richter

Session Papers (if applicable):

A Three Dimensional Mode-Matching Model with Sheared Flow for Impedance Eduction of Acoustic Liners, Acoustic-induced velocity in a multi-orifice acoustic liner grazed by a turbulent

boundary layer, Effect of Momentum Transfer on the Acoustic Boundary Condition of Perforated Liners with Grazing ..., Further Evaluation of Prediction Capability of the Broadband Time-Domain Impedance Model for Soun..., Optimisation of slanted septum core and multiple folded cavity acoustic liners for aero-engines

Session Title: Emerging Urban and Advanced Air Mobility Noise I

Technical Paper Session | AA-21/TFS-17 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/CC11C895-414D-4797-9631-91152FB19E28>

Session Contributors: Rodney Self, Daniel Amargianitakis, Antonio Torija, Athanasios Synodinos, Daniel Amargianitakis, Anderson Proenca, Yunusi Fuerkaiti, Zhongjie Huang, Lars Davidson, Yunusi Fuerkaiti, Damiano Casalino, Zhongjie Huang, Damiano Casalino, Manfred Kaltenbacher, Stefan Schoder, Stefan Schoder, Jakob Schmidt, Andreas Furlinger, Naira Hovakimyan, Kyle Pascioni, Irene Gregory, Andrew Patterson, Irene Gregory, Michael Bauer

Session Papers (if applicable):

Closed-form analytical approach for calculating noise contours of directive aircraft noise sources, Community Noise Predictions of Distributive Propellers for Future Electric Aircraft under Meteorology..., Experimental Characterization of an Electric Ducted Fan Unit's Acoustic Emissions, Machine Learning Methods for Estimating Propeller Source Noise Spheres, Statistical Assessment of the Influence from Uncertainties in Acoustical Data for UAM Vehicles on...

Session Title: Integration and Operation of UAS/UAM in the NAS II

Technical Paper Session | ATOMS-11 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/242125A1-8F68-463F-87E0-D5D4E8958B9C>

Session Contributors: Hsun Chao, Dan DeLaurentis, James Jones, James Jones, Austin Bryan, Andrew Weinert, Luis Alvarez, Mia Stevens, Ella Atkins, Chao Deng, Chung Hung Wang, Chung Hung Wang, Kin Huat Low, Akshay Mathur, Nicholas Liberko, Joseph Kim, Ella Atkins

Session Papers (if applicable):

Characteristic Assessment for Entropy-based Low Altitude Traffic Management Framework, Demand and Capacity Modeling for Advanced Air Mobility, Mission Implementation of a Geofence System for UAS, Preliminary UAS Navigation Performance Analysis in Urban-like Environments, Volumization and Inverse Volumization for Low-Altitude Airspace Geofencing

Session Title: Invited Session: Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) II

Technical Paper Session | GA-03 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/F7F44CCA-BF72-46AF-9458-A3784A317FF3>

Session Contributors: Danae Mitkas, David Lovell, Sandeep Venkatesh, Seth Young, Charles Johnson, Alexia Payan, Dimitri Mavris, Alexia Payan, Brandon Pitts, Mary Johnson, Michael Harwin, Deborah Carstens, Mel Futrell, Mayur Deo, Tianhua Li, Shantanu Gupta

Session Papers (if applicable):

Activity Identification using ADS-B data at General Aviation Airports, Helicopter Safety: When Good Data Drives Good Decisions, Speech-based PIREP submittal tools: Assessing GA pilot trust and developing speech recognition Pl...

Session Title: Jet Noise V

Technical Paper Session | AA-23 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/32993E7A-0A03-43BD-BAB5-51D348913817>

Session Contributors: Hasan Kamliya Jawahar, Mahdi Azarpeyvand, Hasan Kamliya Jawahar, Sergey Karabasov, Mahdi Azarpeyvand, Annabel Markesteijn, Mahdi Azarpeyvand, Stefano Meloni, Roberto Camussi, Hasan Kamliya Jawahar, Mahdi Azarpeyvand, Hasan Kamliya Jawahar, Junhui Liu, Mohammad Saleem, Omar Lopez Rodriguez, Junhui Liu, Mohammad Saleem, Omar Lopez Rodriguez, Ephraim Gutmark, Ephraim Gutmark, Yu Yu Khine, Omar Lopez Rodriguez, Mohammad Saleem, Junhui Liu, Omar Lopez Rodriguez, Mohammad Saleem, Junhui Liu, Hasan Kamliya Jawahar, Mahdi Azarpeyvand, Mahdi Azarpeyvand, Hasan Kamliya Jawahar

Session Papers (if applicable):

Effects of Chevrons on Jet-installation Noise, Experimental Investigation on the Jet Noise Sources for Chevron Nozzles in Under-expanded Condition, Implementation of vortex generators as a noise reduction system for a faceted supersonic nozzle, Supersonic Jet Noise Reduction Using Micro Vortex Generators, Trailing-edge Treatments for Jet-installation Noise Reduction

Session Title: Meet The Employers

the HUB | HUB-11 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/62FC8315-C7ED-4D9E-AE2C-1B8DDAEFD45E>

Session Contributors:
Session Papers (if applicable):

Session Title: Propeller, Rotorcraft and V/STOL Noise I

Technical Paper Session | AA-24 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/146D9F1F-F396-4B8C-87BB-F7CB8DA30CF2>

Session Contributors: William Devenport, Stewart Glegg, William Alexander, N. Agastya Balantrapu, William Devenport, Stewart Glegg, William Devenport, Stewart Glegg, William Alexander, William Devenport, Stewart Glegg, N. Agastya Balantrapu, Christopher Hickling, Humza Butt, Jarrod Banks, Alper Celik, Mahdi Azarpeyvand, Nur Syafiqah Jamaluddin, Djamel Rezgui, Mahdi Azarpeyvand, Alper Celik, Francesco Avallone, Tomas Sinnige, Francesco Avallone, Jatinder Goyal, Carlos Ferreira, Tomas Sinnige, Christopher Hickling, Jarrod Banks, Humza Butt, William Devenport, Stewart Glegg, N. Agastya Balantrapu, Stewart Glegg, William Devenport, William Alexander, William Devenport, William Alexander, Stewart Glegg, N. Agastya Balantrapu, Stewart Glegg, William Devenport, Di Zhou, Meng Wang, Kan Wang, Di Zhou, Heiko Schmidt, Sparsh Sharma, Ennes Sarradj, Thomas Geyer, Thomas Geyer

Session Papers (if applicable):

A Comparison of Turbulence Ingestion of Axisymmetric and Non-Axisymmetric Wakes Into a Rotor, Aeroacoustic Performance of Propellers in Turbulent Flow, Aerodynamic and Aeroacoustic Characteristics of an Isolated Propeller at Positive and Negative Th..., Beamforming of Broadband Rotor Noise, Computation of Rotor Noise Generation in a Thick Axisymmetric Turbulent Boundary Layer, Experimental validation of a lower-order model for leading-edge noise based on vortex method

Session Title: Stability and Transition (Subsonic, Supersonic, and Hypersonic) VII

Technical Paper Session | FD-33 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BA950F3E-331C-44C5-8C47-0CD61FE3F81D>

Session Contributors: Nick Parziale, Ahsan Hameed, Christoph Brehm, Vincenzo Russo, Sayed Mohammad Abdullah Al Hasnine, Christoph Brehm, Sayed Mohammad Abdullah Al Hasnine, Christoph Brehm, Christoph Brehm, Koen Groot, Koen Groot, Jenna Eppink, Jenna Eppink, Fei Li, Fei Li, Fei Li, Meelan Choudhari, Pedro Paredes, Fei Li, Pedro Paredes, Meelan Choudhari, Pedro Paredes, Fei Li, Pedro Paredes, Meelan Choudhari, Fei Li, Fei Li, Fei Li, Meelan Choudhari, Meelan Choudhari, Pedro Paredes

Session Papers (if applicable):

Focused Laser Differential Interferometry Transfer Functions for Complex Density Disturbance Fields, Particle Impingement Simulations for First and Second Mode Dominated High-Speed Boundary Layers, Stability Analysis of the Flow over a Swept Forward-Facing Step using PIV Base Flows in a Nonorth..., Transition Analysis for Isolated Trips on BOLT-II Wind-Tunnel and Flight Configurations, Wake Instability behind a Discrete Roughness Element over the BOLT-II Flight Configuration

Session Title: Surrogate and Metamodeling II

Technical Paper Session | MDO-16 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/D0552868-BF63-4D6C-ACF9-BEEE2116F1E4>

Session Contributors: Jean de Becdelievre, Jean De Becdelievre, Ilan Kroo, Manaswin Odiraju, Amir Behjat, Mostafa Nouh, Amir Behjat, Souma Chowdhury, Souma Chowdhury, Galen Jackson, Stephen Hodson, Kevin McCarthy, Eric Walters, Kehinde Sikirulai Oyetunde, Kehinde Sikirulai Oyetunde, Rhea Patricia Liem

Session Papers (if applicable):

A Bayesian Approach to Collaborative Optimization with Application to Tailless Aircraft Range Max..., Efficient Inverse Design of 2D Elastic Metamaterial Systems using Invertible Neural Networks, Forward Prediction of Aircraft Thermal Profiles Utilizing Surrogate Integrated Systems, Knowledge-based Model Characterization in Kriging for Complex Problems

Session Title: Topology Optimization

Technical Paper Session | MDO-17 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/FEB757A4-F3DD-4BBB-94E3-99328AD8D78C>

Session Contributors: Jiayao Yan, David Kamensky, John Hwang, John Hwang, Raymond Kolonay, Raymond Kolonay, Marcelo Kobayashi, Robert Canfield, Raymond Kolonay, Jaewoo Lee, Joon Hyuk Song, Ilyong Kim, Andrew Hardman, Luke Crispo, Tim Sirola, Jaehyun Ann, Manav Bhatia, Manav Bhatia, Seshendra Palakurthy, Manav Bhatia, Manav Bhatia

Session Papers (if applicable):

Multi-fidelity design optimization of battery packs for eVTOL aircraft, On a cellular developmental method for layout optimization via multi-fidelity analyses and the tw..., Structural Design Optimization for CFRP in a Personal Aerial Vehicle, Topology Optimization of Thermally Loaded Stiffened Panels

Session Title: Unmanned Systems

Technical Paper Session | TFS-18/VSTOL-07 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/96C90B0E-5D6E-4D83-9035-8DA12FA68FF1>

Session Contributors: Akilu Yunusa-Kaltungo, Mostafa Nabawy, Farshad Arvin, Mark Quinn, Ahmad Alsayed, Or Dantsker, Mirco Theile, Marco Caccamo, Matthew Romano, Ella Atkins, Matthew Romano, Yuxin Chen, Prince Kuevor, Owen Marshall, Yao Ma, Donald Docimo, Victor Maldonado, Arthur Huber, Jason Wierzbanski, Jason Porter

Session Papers (if applicable):

Enhancing 1D LiDAR Scanning for Accurate Stockpile Volume Estimation Within Drone-Based Mapping S..., Long Endurance Flight Testing Results for the UIUC-TUM Solar Flyer, Nailed It: Autonomous Roofing with a Nailgun-Equipped Octocopter, Preliminary Design and Dynamics of a Semi-Expendable Unmanned Ground-Aerial Vehicle, SkyVision: Enabling Beyond Visual Line Of Sight (BVLOS) Flight Operations by Unmanned Aerial Syst...

Session Title: V/STOL Aircraft Conceptual Design & Analysis

Technical Paper Session | VSTOL-08 | AVIATION

Session Date: 2021-08-04

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/30EE401A-AAF6-4C34-B8EA-89759112AD15>

Session Contributors: Ara Mahseredjian, John Hansman, Annick Dewald, Christopher Courtin, Ananth Sridharan, Bharath Govindarajan, Laura Babetto, Eike Stumpf

Session Papers (if applicable):

A Performance Comparison of eSTOL and eVTOL Aircraft, Hybrid Powertrain Systems for Hybrid VTOL Aircraft, Recent Development of a Conceptual Design Methodology for Unmanned Aerial Vehicles

Session Title: Plenary Session

Plenary Session | PLNRY-04 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/317179FB-EDBC-4A98-97D1-A4781A2F94DE>

Session Contributors:

Session Papers (if applicable):

Session Title: PEGASAS Annual Meeting

Special Programming | PEG-01 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:00:00

<https://virtualforums.aiaa.org/Category/E92EFB6B-7F5A-4075-93C6-3EC565019303>

Session Contributors:

Session Papers (if applicable):

Session Title: Acoustic/Fluid Dynamics Interactions III

Technical Paper Session | AA-25 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/F0200BA7-0B24-4772-ACE4-6E441CFC3EDB>

Session Contributors: Paruchuri Chaitanya, Thomas Geyer, Lorna Ayton, Lorna Ayton, Ennes Sarradj, Matthew Colbrook, Thomas Geyer, Thomas Geyer, Stefan Becker, Felix Czwielong, Christof Ocker, Markus Merkel, Thomas Geyer, Paruchuri Chaitanya, Christof Ocker, Alper Celik, Luke Bowen, Mahdi Azarpeyvand, Alper Celik, Luke Bowen, Carlos da Silva, Mahdi Azarpeyvand, Lorna Ayton, Con Doolan, Orestis Karapiperis, Manuj Awasthi, Con Doolan, Danielle Moreau, Lorna Ayton

Session Papers (if applicable):

Modelling chordwise-varying porosity to reduce aerofoil-turbulence interaction noise, Permeable Structures for Leading Edge Noise Reduction, Porous geometry effects on the generation of turbulence interaction noise, Spanwise varying porosity for the enhancement of leading-edge noise reduction

Session Title: Airfoil/Wing/Configuration Aerodynamics I

Technical Paper Session | APA-40 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D875CFA1-BE44-4B0E-A642-802CAF1C1516>

Session Contributors: Gecheng Zha, Kewei Xu, Yan Ren, Gecheng Zha, Gecheng Zha, Gecheng Zha, Yan Ren, Paula Barrios, Kewei Xu, Jeremy Boling, Gecheng Zha, Gecheng Zha, Jeremy Boling, Gecheng Zha, Gecheng Zha, Ramesh Agarwal, Ramesh Agarwal, Boyu Wang, Ramesh Agarwal, Ramesh Agarwal, Sanjivan Manoharan, Jenna Stolzman, Ha Bao Ngoc Tran, Peter Richards, Rajnish Sharma

Session Papers (if applicable):

Design of 3D Co-Flow Jet Airfoil with Integrated Micro-Compressor for High Operating Efficiency a..., Numerical Investigation of Co-Flow Jet 3D Transonic Wings, Numerical Simulation of Flow past an Airfoil with Ice Accretion on Leading Edge, Testing the Efficacy of Dimples on a NACA Airfoil at Low Reynolds Numbers: A Numerical Study, Unsteady Aerodynamic Response of the Kahu UAV Wing under Turbulent Conditions

Session Title: Airframe/High-Lift Noise IV

Technical Paper Session | AA-26 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C63021BC-9332-4B36-AF88-7DEEB3A240B8>

Session Contributors: Michael Sacks, Mehdi Khorrami, Mehdi Khorrami, Andre Ribeiro, Ryan Ferris, Davide Cerizza, Davide Cerizza, Mehdi Khorrami, Andre Ribeiro, Mehdi Khorrami, Ryan Ferris, Mehdi Khorrami, Ryan Ferris, Courtney Winski, Patrick Shea, Patricio Ravetta, Andre Ribeiro, Patricio Ravetta, Michael Sacks, Mehdi Khorrami, Yao Jin, Yao Jin, Fei Liao, Jinsheng Cai

Session Papers (if applicable):

Aeroacoustic Computations of a Generic Low Boom Concept in Landing Configuration: Part 1 - Aerody..., Aeroacoustic Computations of a Generic Low Boom Concept in Landing Configuration: Part 2 - Airfra..., Aeroacoustic Computations of a Generic Low Boom Concept in Landing Configuration: Part 3 - Aerody..., Aerodynamics and Aeroacoustics of a Commercial Aircraft High-Lift Configuration

Session Title: Balloon Programs and Flight Operations

Technical Paper Session | BAL-01 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/FEAF334B-7D98-4EA6-A8E5-7A457F65077D>

Session Contributors: Debora Fairbrother, Christopher Roseman, Brian Argrow, Dale Lawrence, Joseph Pointer, Steve Borenstein, Kushal L, Raj Kedia, Deepika Varshini R, Christopher Yoder, Leyland Young, Andre Vargas, Vincent Dubourg, Stéphanie Venel, Philippe Cocquerez, Philippe Raizonville

Session Papers (if applicable):

2021 NASA Balloon Program Update, A Low-Cost Balloon System for High-Cadence, In-Situ Stratospheric Turbulence Measurements, Airframe Stabilization and Control System for Near Space Balloon Payloads, NASA Super Pressure Balloon Laboratory Test Program, The CNES 2019 - 2021 Balloon Program

Session Title: CADWG - Conceptual Aircraft Design Working Group - Tools for Supersonic Transport Design

Technical Panel | ACD-12 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6B9E194F-8E39-4D8B-AC2A-A2D983274474>

Session Contributors:

Session Papers (if applicable):

Session Title: Compressible Flow

Technical Paper Session | FD-35 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2286BED5-2615-4629-B150-5394AEC47234>

Session Contributors: Adrian Sescu, Omar Es-Sahli, Adrian Sescu, Rozie Zangeneh, Rozie Zangeneh, Aimad Er-raiy, Radouan Boukharfane, Matteo Parsani, Bilel Hadri, Sanjiva Lele, Kristen Matsuno

Session Papers (if applicable):

A parametric study of the centrifugal instabilities in high-speed compressible curved free-shear ..., Assessment of RANS Models for Numerical Prediction of Laminar-turbulent Transition in Hypersonic ..., Skewness effects on the turbulence structure in a high-speed compressible and multi-component ine..., Variable Density Mixing in Compressible Turbulent Shear Layers

Session Title: Computational Aeroacoustics III

Technical Paper Session | AA-27 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C32AA9EE-958B-487A-8E5E-0BD8C6C37355>

Session Contributors: Yancheng You, Ruofan Qiu, Lican Wang, Rongqian Chen, Sergey Karabasov, Mihail Zaitsev, Vasily Goloviznin, Anton Markesteijn, Mahdi Azarpeyvand, Sergey Karabasov, Anton Markesteijn, Hasan Kamliya Jawahar, Hasan Kamliya Jawahar, Mahdi Azarpeyvand, Simone Mancini, Juan José Guerra Crespo, Ignacio García Merino, Simone Mancini, Alexander Kolb, Fernando De La Puente, Javier Rodríguez Ahlquist, Fang Hu, Douglas Nark, Douglas Nark, Douglas Nark, Douglas Nark

Session Papers (if applicable):

Application and validation of a high-order flux reconstruction method for the computational aeroa..., CABARET on unstructured prismatic meshes for computational aeroacoustics problems, Large Eddy Simulation for Airfoil with Serrated Trailing-edges at High Angle of Attack, On C295 FWSAR military transport aircraft acoustic certification by CAA, Time Domain Boundary Element Method Prediction of Noise Shielding by a NACA 0012 Airfoil

Session Title: Cryogenics and Applied Heat Transfer

Technical Paper Session | TP-09 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/9DD78D97-A070-4398-B203-8685059BC406>

Session Contributors: Mehdi Vahab, Kourosh Shoele, Kourosh Shoele, Mehdi Vahab, Alireza Moradikazerouni, Adelaida Garcia-Magariño, Suthyvann Mendi, Adelaida Garcia-Magariño, Juan Palacios, Yuze Sun, Dan Zhao, Tao Cai, Dmitry Khrustalev, Tim Holman, Evan Hyde, Robert Baldauff, Jian Wang, Guangjun Yang, Jingping Xiao, Qiao Wang, Hao Tian, Zainab Saleh, Cliff Dansoh

Session Papers (if applicable):

A multinode-CFD simulation of a cylindrical pressurized cryogenic storage tank, Comparison of deformation models for droplets in the vicinity of an airfoil, Effects of ammonia addition on the thermal and emission performance of a methane/ammonia oxygen e..., Operational Verification of a Pump-Augmented Loop Heat Pipe with Auxiliary Evaporators, Preliminary Study of the Heat Transfer on the Non-isothermal Flat Plate and NACA 0012 Airfoil

Session Title: Duct Acoustics III

Technical Paper Session | AA-28 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D96DC89B-88C4-4C6E-8768-7129C209D1F0>

Session Contributors: Douglas Nark, Douglas Nark, Michael Jones, Noah Schiller, Douglas Nark, Douglas Nark, Michael Jones, Noah Schiller, Mahdi Azarpeyvand, Alper Celik, Abhishek Gautam, Mahdi Azarpeyvand, Abhishek Gautam, Alper Celik, Mahdi Azarpeyvand, Alper Celik, Abhishek Gautam, Alper Celik, Harry Meek, Abhishek Gautam, Mahdi Azarpeyvand, Victor Lafont, Fabien Mery, Frank Simon, Fabien Mery, Weiwei Wu, Dan Zhao

Session Papers (if applicable):

A Fundamental Study of Bifurcation Acoustic Treatment Effects on Aft-Fan Engine Noise, An Investigation On Neck Extensions For Single and Multi-Degree Of Freedom Acoustic Helmholtz Res..., Double Degree of Freedom Helmholtz Resonator Based Acoustic Liners, LEONAR liner concept : multiphysics coupling in presence of grazing flow, thermal gradients and h...

Numerical Investigation on Noise Damping Performances of Helmholtz resonators with an Extended Ne...

Session Title: Emerging Urban and Advanced Air Mobility Noise II

Technical Paper Session | AA-29/TFS-19 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/70CDDF06-ACE7-4F59-9CCD-33D591088BBE>

Session Contributors: Stephen Rizzi, Siddhartha Krishnamurthy, Siddhartha Krishnamurthy, Stephen Rizzi, Stephen Rizzi, Aric Aumann, Stephen Rizzi, Brenda Henderson, Dennis Huff, Jordan Cluts, Devin Boyle, Justin Janzen, Jeffrey Bennett, Brenda Henderson, Kevin Nelson, Bryan Franklin, William Alexander, William Alexander, Jeremiah Whelchel, Jordan Cluts, Charles Ruggeri, Brenda Henderson, Dennis Huff, Brenda Henderson

Session Papers (if applicable):

A Synthesis Plugin for Auralization of Rotor Self Noise, Noise Measurements from Ground Tests of the Moog SureFly Vehicle, Simulation of Emerging Urban Air Mobility Noise Propagation Using Acoustic Raytracing Techniques ..., sUAS Rotor-Airframe Interaction, Surface Vibration Measurement and Analysis for UAM/UAS Electric Motor Noise

Session Title: Flight Test in the Educational Environment

Technical Paper Session | FT-04 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A3011E10-9699-47F3-BABC-2D452973BBEE>

Session Contributors: Sebastian Koeberle, Mirko Hornung, Christopher Muehlbach, Paula Zimmermann, Balázs Nagy, Batuhan Yumurtaci, Nidal Jodeh, Jacob Dewey, Nidal Jodeh, Steven Brandt, Mitchell Lipe, Noah Schwab

Session Papers (if applicable):

Building the Flight Testing Crew of the HORYZN Student Competition Team - Approach and Lessons Le..., Educating to Flight Test and Flight Testing to Educate, Performance Characterization of a Modern Gyroplane, Range and Endurance Flight Test of the Isolated Personnel Supply System UAS

Session Title: General Acoustics III

Technical Paper Session | AA-30 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/94CD077A-EE9C-435C-8C13-8F52F7ADD481>

Session Contributors: Chaitanya Paruchuri, Phillip Joseph, Phillip Joseph, Chaitanya Paruchuri, Angelis Karlos, Victor Bahrs, Wolfram Hage, Lars Enghardt, Robert Meyer, Zhangming Zeng, Anupam Sharma, Anupam Sharma, Stephane Moreau, Stephane Moreau, Kartik Venkatraman, Christophe Schram, Christophe Schram, Julien Christophe, Julien Christophe, Jeffrey Berton

Session Papers (if applicable):

Effects of probe vibration on hot wire turbulence measurement: A technique for its removal, Experimental and numerical aeroacoustic analysis of an ultrasound whistle, Numerical investigation of the effect of inflow non-uniformity on the noise radiated by a vertica..., Simultaneous use of Ground Reflection and Lateral Attenuation Noise Models

Session Title: Icing Characteristics on Large Scale Swept Wing

Technical Paper Session | ASE-15 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/50AEB696-D483-457E-8246-6A3638F4E043>

Session Contributors: Mark Potapczuk, Mark Potapczuk, JenChing Tsao, Jen-Ching Tsao, Jen-Ching Tsao, Christopher Porter, Christopher Porter, Mark Potapczuk, Andy Broeren, Sam Lee, Andy Broeren, Sam Lee, Mark Potapczuk, Brian Woodard, William Yoshida, Michael Bragg, Michael Bragg, Brian Woodard, Sam Lee, Andy Broeren, Sam Lee, Andy Broeren, Jen-Ching Tsao, Jen-Ching Tsao

Session Papers (if applicable):

Bimodal SLD Ice Accretion on CRM Midspan Wing Section Model, Characterization of Collection Efficiency of the Common Research Model Midspan Wing Section in th..., Comparison of Ice Shapes on Full-Chord and Truncated Swept Wing Models, Investigating Iced Swept-Wing Flowfields Using a Swept Flat Plate and a Discontinuous Backward-Fa..., Large-Drop Ice Accretion Test Results for a Large Scale Swept Wing Section

Session Title: Instrumentation and Diagnostic Techniques

Technical Paper Session | FD-36 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/F7B45F7A-AEAB-477E-8D03-943F330F9C3A>

Session Contributors: Jayanta Panda, Nick Parziale, Alex Dworzanczyk, Stuart Laurence, Graeme Gillespie, Andrew Ceruzzi, James Hubner, Amruthkiran Hegde, Colleen Ryan, Amruthkiran Hegde, Semih Olcmen, Mingtai Chen, Jim Crafton, Steve Claucherty, Yasumasa Watanabe, Hirotaka Sakaue

Session Papers (if applicable):

Effect of Electronic Shot Noise on Dynamic Measurements Using Optical Techniques: Examples from R..., High-Speed, Short-Pulse-Duration Light Source for Digital Inline Holographic Imaging of Multiphas..., Multi-point Focused Laser Differential Interferometry for Noise Measurements in High-Speed Tunnels, Pressure and Strain Measurement on a Thin Clamped Plate in Supersonic Flow using a Dual-Layer Lum..., Pressure measurements upstream of a forward-facing step in Mach 2 flow using pyrene-based PC-PSP

Session Title: Jet Noise VI

Technical Paper Session | AA-31 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1A2CC57C-6196-40AC-857C-6766227D6C5D>

Session Contributors: Tatsuya Ishii, Junichi Akatsuka, Taku Nonomura, Taku Nonomura, Yuta Ozawa, Takayuki Nagata, Kasumi Omizu, Keisuke Asai, Yogesh Mehta, Karthikeyan Natarajan, Rajan Kumar, Jonas Gustavsson, Rajan Kumar, Rajan Kumar, Karthikeyan Natarajan, Rajan Kumar, James Bridges, James Bridges, James Bridges, Mark Wernet, James Bridges

Session Papers (if applicable):

Comparative Study of Semi-empirical Jet Noise Prediction Models for Future Commercial Supersonic ..., Demonstration and Verification of Exact DMD Analysis Applying to Double-pulsed Schlieren Image of..., Effect of Nozzle Spacing on Flow and Acoustics Characteristics of Supersonic Twin Jets Impinging ..., Noise of Internally Mixed Exhaust Systems With External Plug For Supersonic Transport Applications

Session Title: Machine Learning and Big Data Applications to Air Transportation I

Technical Paper Session | ATOMS-12 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/764228EA-0717-48D0-BD41-8B9E848106D9>

Session Contributors: Liya Wang, Panta Lucic, Keith Campbell, Craig Wanke, John Hansman, Sandro Salgueiro, Marek Travnik, Parker Vascik, Parker Vascik, Guilherme Venturelli Cavalheiro, Kalmanje Krishnakumar, Peter Shannon, Aditya Das, Aaron Swank, Luka Tomljenovic, Joseph O'Brien, Aditya Das, Kenneth Freeman, William Van Dalsem, Sandeep Shetye, Sandy Lozito, Helen Euler, Channon Wong, Supreet Kaur, Eric Hoffman, Bruno Favennec, Christien Raphael, Eric Hoffman, Karim Zeghal, Christien Raphael, Bruno Favennec, Peter Shannon, Kalmanje Krishnakumar, Moustafa Abdelbaky, Alexander Fedin, Jiasi Chen, Mohana Gurram, Carlee Joe-Wong, Luka Tomljenovic, Sandeep Shetye, William Van Dalsem, Kenneth Freeman, Abraham Ishihara, Isaias Reyes, Christopher Knight, Calvin Robinson

Session Papers (if applicable):

Autoencoding Features for Aviation Machine Learning Problems, Characterizing Effective Navigation Performance of Legacy Aircraft to Enable Reduced Procedural S..., Data and Reasoning Fabric Minimum Viable Product, Detecting Point Merge patterns using computer vision, DRF: A Software Architecture for a Data Marketplace to Support Advanced Air Mobility

Session Title: Pathways to AIAA Leadership - The Importance of Diverse Communities

the HUB | HUB-12 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/560A184A-CD82-426C-96E2-0038FD4FE7C7>

Session Contributors:

Session Papers (if applicable):

Session Title: Plasma Numerical Simulation

Technical Paper Session | PDL-06 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/E0BC54B3-2613-46E3-A04D-F223EE70CD84>

Session Contributors: Alessandro Munafò, Nagi Mansour, Marcp Panesi, Sanjeev Kumar, Alessandro Munafò, Eswar Josyula, Ariel Blanco, Ariel Blanco, Andrey Starikovskiy, Andrey Starikovskiy, Nickolay Aleksandrov, Andrey Starikovskiy, Andrey Starikovskiy, Mikhail Shneider, Rupali Sahu, Albina Tropina, Richard Miles, Richard Miles, Albina Tropina, Bernard Parent, Bernard Parent, Trevor Moeller, Trevor Moeller, Kenneth Croft, Kenneth Croft

Session Papers (if applicable):

Modelling and simulation of turbulent thermal plasmas, Numerical Modeling of Conjugate Heat Transfer of an Optical Window for Sustained High Speed Flows, Numerical modeling of NS discharge development in strong magnetic field, Sheath layer effects on electron transpiration cooling, Simulation of Non-Equilibrium Electron Temperature in Hypersonic Non-Neutral Plasma Flows, Two fluid plasma dynamics simulation using the SUPG FEM with simultaneously switched scalar artif...

Session Title: Propeller, Rotorcraft and V/STOL Noise II

Technical Paper Session | AA-32 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/FAF33ACC-3BA8-4F32-81D5-B5229FA35489>

Session Contributors: Payam Dehpanah, Alberto Guardone, Myles Morelli, Beckett Yx Zhou, Alberto Guardone, Beckett Yx Zhou, Nicolas Gauger, Myles Morelli, Ricardo Sanchez, Kenneth Van Treuren, Charles Wisniewski, Brett Bennett, Ohad Gur, Jonathan Silver, Raam Sundhar, Radovan Dítě, Nicholas Maier, Robert Deters, Shreyas Narsipur, Charles Wisniewski, Kenneth Van Treuren, Ricardo Sanchez, Brett Bennett

Session Papers (if applicable):

Aeroacoustic Analysis of a Wing-Tip Mounted Propeller Configuration, Design of Propellers for Minimum Induced Drag, Optimized Performance and Acoustic Design for Hover-Propeller, Parametric Performance Study of the Aerodynamics and Aeroacoustics of Small Propellers in Static ..., Testing UAS Propellers Designed for Minimum Induced Drag

Session Title: Special Session: HorizonUAM Session 1 – UAM in Germany

Technical Paper Session | TFS-20 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D114A3D9-CA20-44B4-A9A3-F4B7D13D2639>

Session Contributors: Isabel Metz, Dennis Becker, Christoph Torens, Chen Zhu, Andreas Volkert, Daniel Gerbeth, Lukas Schalk, Omar Garcia Crespillo, Tim Stelkens-Kobsch, Tanja Gehrke, Johann Dauer, Jean Sülberg, Majed Swaid, Christoph Torens, Thomas Gerz, Karolin Schweiger, Bianca Schuchardt, Richard-Gregor Becker, Dennis Becker, Sebastian Schier-Morgenthal, Prajwal Shiva Prakasha, Albert End, Frank Meller, Isabel Metz, Malte Niklaß, Henry Pak, Chen Zhu, Henry Pak, Roman Jaksche, Frank Meller, Bianca Schuchardt, Karolin Schweiger, Dennis Becker, Christoph Torens, Andreas Volkert, Chen Zhu, Peter Weiland, Lukas Asmer, Prajwal Prakasha

Session Papers (if applicable):

HorizonUAM: Safety and Security Considerations for Urban Air Mobility, Urban Air Mobility Research at the DLR German Aerospace Center – Getting the HorizonUAM Project S..., Urban Air Mobility Use Cases, Missions and Technology Scenarios for the HorizonUAM Project

Session Title: Special Session: Hybrid Wind Tunnel Workshop I

Technical Workshop | AA-33 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/6324CAB0-EB6E-4F38-BAAD-EAC8E147B915>

Session Contributors:

Session Papers (if applicable):

Session Title: Special Session: MADELEINE Project II

Technical Paper Session | MDO-18 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/975D3D59-EE9B-4EEE-AAC5-169BF23C7DF5>

Session Contributors: Andrei Merle, Mohammad Abu-Zurayk, Matthias Schulze, Jannik Häßy, Mohammad Abu-Zurayk, Caslav Ilic, Matthias Schulze, Jannik Häßy, Matthias De Lozzo, Francois Gallard, Anne Gazaix, Johan Feldwisch, Shahrokh Shahpar, Tiziano Ghisu, Diego Lopez, Pranay Seshadri, Shahrokh Shahpar, Shahrokh Shahpar, Luka Vincekovic, Ning Qin, Shahrokh Shahpar, Romain Olivanti, Joël Brézillon, Joël Brézillon, Romain Olivanti, Nicolo Fabbiane, Christophe Blondeau, Johan Feldwisch, Marco Carini, Caslav Ilic, Andrei Merle, Michael Meheut, Mohammad Abu-Zurayk, Mohammad Abu-Zurayk

Session Papers (if applicable):

Comparing Two Multidisciplinary Optimization Formulations of Trimmed Aircraft Subject to Industry..., Gradient-enhanced Least-square Polynomial Chaos Expansions for Uncertainty Quantification and Rob..., Multidisciplinary Optimisation of High Pressure Turbine Blade Tip With Turbine Inlet Capacity and..., On the Benefits of Engaging Coupled-Adjoint to Perform High-Fidelity Multipoint Aircraft Shape Op..., Towards industrial aero-structural aircraft optimization via coupled-adjoint derivatives

Session Title: Special Session: MBSE Integration with MDO II

Technical Paper Session | MDO-19 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/60074B35-907A-4B15-94AA-FA05ADED488E>

Session Contributors: Ton Van Der Laan, Tobie Van Den Berg, Ton van der Laan, Tobie van den Berg, Luca Boggero, Pier Davide Ciampa, Pier Davide Ciampa, Björn Nagel, Björn Nagel, Pier Davide Ciampa, Pier Davide Ciampa, Francesco Torigiani, Marco Fioriti, Florian Sanchez, Susan Liscouet-Hanke, Marco Fioriti, Sebastian Deinert, Aidan Jungo, Luigi Pisu, Florian Sanchez, Susan Liscouet-Hanke, Francesco Torigiani, Flavio Di Fede, Andrew Jeyaraj, Susan Liscouet-Hanke, Susan Liscouet-Hanke, Nikta Tabesh, Thibault De Smedt, Pier Davide Ciampa, Jasper Bussemaker, Pier Davide Ciampa, Björn Nagel, Jasper Bussemaker, Gianfranco La Rocca

Session Papers (if applicable):

A multidisciplinary modeling system for structural design applied to aircraft moveables, An MBSE Architectural Framework for the Agile Definition of System Stakeholders, Needs and Requir..., An MBSE Certification-Driven Design of a UAV MALE Configuration in the AGILE 4.0 Design Environment, Connecting Model-based Systems Engineering and Multidisciplinary

Design Analysis and Optimization..., System Architecture Optimization: An Open Source Multidisciplinary Aircraft Jet Engine Architecti...

Session Title: Topics in Wind Tunnel Testing

Technical Paper Session | GT-08 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C73FD1B6-5932-49C7-8F4E-0B0734788840>

Session Contributors: Stefan Goertz, Roy Gebbink, Stevie Janssen, Anna Bertram, Nils Hoffmann, Stefan Goertz, Andrew Bustard, Thomas Juliano, Hannah Gillespie, Luke Doherty, Thomas Juliano, Thomas Juliano, Matthew Mcgilvray, Matthew Mcgilvray, Victor Padilla, Kyle Bearden, Kyle Bearden, Lutz Taubert, Stuart Craig, Stuart Craig, Lutz Taubert, Sergey Leonov, Sergey Leonov, Sergey Leonov, Philip Lax, Sergey Leonov, Andrew Gibbs, Liam Mcquellin, Valery Ugrinovskii, Andrew Neely, Eugene Hoffman, Matt Garcia, Elijah LaLonde, Christopher Combs, Valeria Delgado Elizondo, Jose Rodriguez, Christopher Combs, Eugene Hoffman

Session Papers (if applicable):

An alternative wind tunnel data correction based on CFD and experimental data in the transonic fl..., Calibration of a Hypersonic Five-Hole Probe with Background-Oriented Schlieren, Calibration of a Mach 5 Ludwieg tube at the University of Arizona, Comparison of Reduced-Order Models for Homogeneous CO₂ Nucleation in Hypersonic Test F..., Pitching moment control design for a hypersonic wind tunnel model, Preliminary Testing of the UTSA Mach 7 Ludwieg Tube

Session Title: Unsteady Aerodynamics and Massively Separated Flows I

Technical Paper Session | FD-38 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/549AE203-1F5F-4115-AA66-3C97928554C0>

Session Contributors: Bernardo Luiz Rocha Ribeiro, Jennifer Franck, Jennifer Franck, Bernardo Luiz Rocha Ribeiro, Spencer Stahl, Datta Gaitonde, Miguel Visbal, Daniel Garmann, Patrick Hammer, Daniel Garmann, Miguel Visbal, Daniel Garmann, Miguel Visbal, Daniel Garmann, Patrick Hammer, Miguel Visbal, Nicholas Kay, Peter Richards, Rajnish Sharma, Miguel Visbal, Caleb Barnes, Caleb Barnes, Miguel Visbal, Caleb Barnes, Miguel Visbal, Caleb Barnes, Miguel Visbal, Jesse Little, Hermann Fasel, Shirzad Hosseinverdi, Jesse Little, Shirzad Hosseinverdi, Ashish Singh, Adrian Grille Guerra, Jesse Little, Shirzad Hosseinverdi, Hermann Fasel, Hermann Fasel, Jesse Little, Hermann Fasel, Shirzad Hosseinverdi

Session Papers (if applicable):

A Machine Learning Approach to Classify Kinematics and Vortex Wake Modes of Oscillating Foils, Analysis of Fountain-Flow Coupling between Twin Sonic Impinging Jets, Effect of Aspect Ratio on Swept Wing Dynamic Stall, Low Reynolds Number Behavior of the Leading-Edge Suction Parameter at Low Pitch Rates, Transonic Gust--Airfoil Interactions on a Laminar Flow Airfoil, Unsteady Evolution of a Laminar Separation Bubble Subjected to Structural Motion

Session Title: Forum 360: Technologies and Processes for Air Vehicles

Forum 360 | F360-07 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/6C8DB0FE-BECB-4D4A-8A6E-7CB300BFFF0B>

Session Contributors:

Session Papers (if applicable):

Session Title: Rising Leaders in Aerospace: Speed Mentoring

the HUB | HUB-13 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/E30FF389-FAA9-4AEB-A7B0-F80ADC2A0A34>

Session Contributors:

Session Papers (if applicable):

Session Title: Meet the Author: Kevin Michaels

the HUB | HUB-19 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 12:15:00

<https://virtualforums.aiaa.org/Category/39822257-D73A-4A5E-8284-A9CE149DD0A4>

Session Contributors:

Session Papers (if applicable):

Session Title: Active and Passive Flow Control Devices and Applications III

Technical Paper Session | FD-21 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A216D866-6708-4C80-9A8C-8338BCFAF105>

Session Contributors: Yuehan Tan, Ari Glezer, Ari Glezer, Yuehan Tan, Matthew Schwartz, Datta Gaitonde, John Slater, Michael Amitay, Michael Amitay, Tufan Guha, Tomas Rojas Carvajal, Tufan Guha, Michael Amitay, Michael Amitay, John Hansman, Christopher Courtin, Mark Drela, Trevor Long, Dennice Gayme, Chang Liu, Igal Gluzman, Mitchell Lozier, Samaresh Midya, Stanislav Gordeyev, Chang Liu, Flint Thomas

Session Papers (if applicable):

Control of the Aerodynamic Loads on a Pitching Wing using Trailing Edge Pulsed Fluidic Actuation, Effects of Bleed on Supersonic Turbulent Boundary Layers, Interaction of Low Aspect Ratio, Cantilevered, Chamfered Cylindrical Pins with a Laminar Boundary..., Parametric Design Study for a Blown Flapped Wing, Spatial input-output analysis of large-scale structures in actuated turbulent boundary layers

Session Title: Aerodynamic Prediction Methods II

Technical Paper Session | APA-36 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/22EB6562-2168-4984-BBCC-27B5890DD27C>

Session Contributors: Eric Stephen, Eric Stephen, Eric Stephen, Thomas Zammataro, Eric Stephen, Olga Budke, John Moore, Feilin Jia, Maitham Alhubail, Qiqi Wang, John Moore, Feilin Jia, Qiqi Wang, Goetz Bramesfeld, Michael Melville, Julia Cole, Michael Melville, Julia Cole, Juntao Xiong, Nhan Nguyen, Nhan Nguyen, Juntao Xiong, Juntao Xiong, Juntao Xiong, Nhan Nguyen, Jonathan Sager, Nhan Nguyen, Goetz Bramesfeld, Devin Barcelos, Ben Isaac, Steven Waslander, Nhan Nguyen, Juntao Xiong, Nhan Nguyen, Nhan Nguyen, Juntao Xiong, Juntao Xiong, Nhan Nguyen, Juntao Xiong

Session Papers (if applicable):

Effects of Nose Deflection On The Cruise Of The MERLIN
Missile, Efficient computation and sensitivity analysis of flight vehicle stability derivatives, Flight Performance Improvements of a Flexible Aircraft Encountering Atmospheric Gusts, Fuel-Optimal Trajectory Optimization of Mach 0.745 Transonic Truss-Braced Wing with Variable Camb..., Physics-Based Approach to Multicopter Vehicle Flight-Dynamics Prediction, Transonic Correction Method for Flight Dynamic Stability Analysis of Mach 0.745 Transonic Truss-B...

Session Title: Aerodynamic Shape Optimization III

Technical Paper Session | APA-37/MDO-20 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/40DAD4CC-7C89-4AA4-A282-E763ECCD63DF>

Session Contributors: Michael Aftosmis, Marian Nemec, Michael Aftosmis, David Rodriguez, Wade Spurlock, Jasmin Jelovica, Wrik Mallik, Neil Farvolden, Rajeev Jaiman, Koji Shimoyama, Muhammad Hilmi Al Fatih, Kazumasa Kamisori, Brandon Perkins, Pat Piperni, Pat Piperni, Boris Diskin, Ramiz İçke, Boris Diskin, Ramiz İçke, Oktay Baysal, Leonard Lopes, Boris Diskin

Session Papers (if applicable):

Adjoint-Based Minimization of X-59 Sonic Boom Noise Via Control Surfaces, Aerodynamic Shape Optimization via Deep Convolutional Neural Networks, An Optimization Study of Strake Implementation on a Spaceplane, Multilevel Optimization of Airfoils, Optimizing Proprotor Blades Using Coupled Aeroacoustic and Aerodynamic Sensitivities

Session Title: Aerodynamic Testing II

Technical Paper Session | APA-38 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/DF3231AC-0736-4A25-838A-1AE4FB762B44>

Session Contributors: Alexander Booker, Omar Abouzahr, Nicco Wang, Daniel Tikalsy, Meghana Fathepure, Mostafa Hassanalian, Mostafa Hassanalian, Pedram Roghanchi, Ahmed Aboelezz, Thierry Bujard, Nicolas Bosson, Guillaume Catry, Flavio Noca, Geshanth Visvaratnam, Drew Landman, Colin Britcher, Engin Baris

Session Papers (if applicable):

Design and Construction of an Inflatable-Winged VTOL Mars Electric Flyer, Design and Manufacturing of Dust Tunnel for Respirable Dust Characterization Investigations, Flow Profiling in a WindShaper for Testing Free-Flying Drones in Adverse Winds, High Blade-Count Tilt-Rotor Performance Models for EVTOL Applications, Rotor Aerodynamic Interaction Effects on a Quadrotor

Session Title: Aeroelastic and Aerostructural Optimization I

Technical Paper Session | MDO-21 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C8FD67E2-19E1-44A2-B3DB-7CE813646EE8>

Session Contributors: Cristina Riso, Bogdan I. Epureanu, Carlos E. S. Cesnik, Cristina Riso, Patrick Teufel, Varakini Sanmugasadas, Rikin Gupta, Wei Zhao, Rakesh Kapania, David Schmidt, Andrew Ning, Andrew Ning, Andrew Ning, Taylor McDonnell, Andrew Ning, Bret Stanford, Bret Stanford, Bret Stanford, Bret Stanford, Saullo Castro, Higor Luis Silva, Thiago Guimarães, Higor Luis Silva

Session Papers (if applicable):

A Post-Flutter Response Constraint for Gradient-Based Aircraft Design Optimization, Effect of Aeroelastic Tailoring of Composite Skin Laminates on Modal Controllability/Observability..., Reliable Mode Tracking in Gradient-Based Optimization Frameworks with Flutter Constraints, Scaled Aeroelastic Wind Tunnel Model Design with Topology Optimization, Structural Optimization with Aeroelastic and Buckling Constraints Using Modular Structures

Session Title: AIAA Aeroacoustics Award Lecture

Technical Lecture | AA-34 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/09DEEC57-C2A2-4CC0-B2F7-D19631C18CBD>

Session Contributors:

Session Papers (if applicable):

Session Title: ATC Zero: Operational and Technological Strategies to Enhance NAS Resilience

Technical Panel | ATM-06 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/EC1066E1-1678-4B42-B4D4-C1E584D3D072>

Session Contributors:

Session Papers (if applicable):

Session Title: Balloon Materials and System Design

Technical Paper Session | BAL-02 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6DBD4A48-C98A-4A8C-96F1-DD4DFEC7B9DE>

Session Contributors: Malaya Kumar Biswal M, Ramesh Naidu Annavarapu, Brian Argrow, Kenneth Jansen, Dale Lawrence, Joseph Pointer, Jeffery Hall, Michael Pauken, Aaron Schutte, Caleb Turner, Siddharth Krishnamoorthy, Carolina Aiazzi, Jacob Izraelevitz, Tim Lachenmeier, Christopher Yoder, Sarah Roth, Karen Yang, Robyn Natherson

Session Papers (if applicable):

Design of Mars Sample Return Mission Using Solar Montgolfier and In-Situ Propellant Plant, Obstruction Influence on Low-Speed, In-Situ Stratospheric Turbulence Measurements,

Prototype Development of a Variable Altitude Venus Aerobot, Two Non-Contact Strain Measurement Techniques for Scientific Ballooning

Session Title: High Speed Advanced Concepts

Technical Paper Session | ACD-13 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/8769230A-2238-4AAF-8918-873177DF6039>

Session Contributors: Ian Potts, Jeffrey Bons, Jose Camberos, Ramana Grandhi, Michael Ramunno, Ian Boyd, William Crossley, Samarth Jain, Samarth Jain, Muharrem Mane, Timothy Takahashi, Francisco Armenta, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi

Session Papers (if applicable):

Ingested Particle Redistribution in an Aggressive Serpentine Engine Inlet, Integrated Hypersonic Aero-Propulsion Model for Multidisciplinary Vehicle Analysis and Optimization, Market Size and Design Requirements for Supersonic Passenger Transport Aircraft, Revisiting the Transonic Area Rule for Conceptual Aerodynamic Design

Session Title: Ice Crystal Icing - Experimental and Computational Simulation

Technical Paper Session | ASE-12 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/02AAF4CF-9EA1-4186-815F-4F2162768807>

Session Contributors: Hui Hu, Hui Hu, Hui Hu, Haiyang Hu, Linchuan Tian, Hui Hu, Dominik Kuentler, Elmar Bonaccorso, Ilia Roisman, Cameron Tropea, Ilia Roisman, Norbert Karpen, Alexandre Cuco, Louis Reitter, Ru-Ching Chen, Tadas Bartkus, Thomas Ratvasky, Tadas Bartkus, Paul Von Hardenberg, Jen-Ching Tsao, Jen-Ching Tsao, Thomas Ratvasky, Ru-Ching Chen, Cameron Tropea, Louis Reitter, Markus Schremb, Hannes Lohmann, David Rigby, David Rigby, Eric Stewart, Tadas Bartkus, Sam Lee, Ru-Ching Chen, Tadas Bartkus, Sam Lee, Mark Potapczuk, Ru-Ching Chen, Mark Potapczuk

Session Papers (if applicable):

An Experimental Investigation on the Dynamic Ice Accretion Process Upon Impacting of Ice Cryst..., Characterizing Microscopic Ice Particle Impacts onto a Rigid Surface: Wind Tunnel Setup and Analysis, Evaluation of a Thermodynamic Ice Crystal Accretion Model using Experimental Data from NASA's 2<s..., Experimental Investigation of Ice Particle Impacts onto a Rigid Substrate, Numerical Investigation of Heat Transfer on the NASA SIDRM Model, Plans for Ice Crystal Icing Tests Using a 3D Heated Test Article at the NASA Icing Research Tunnel

Session Title: Integration and Operation of UAS/UAM in the NAS III

Technical Paper Session | ATOMS-13 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/7FF7EF37-48C9-4578-8093-9A4A32EDE7F7>

Session Contributors: Tony Adami, Jun Chen, Jun Chen, Victor Amaya, Nathan Dolan, Jun Chen, Victor Amaya, Jun Chen, Craig Woolsey, Changkoo Kang, Marc Compere, Kevin Adkins, Ilhan Akbas, Scott Kalush, Maria Chierichetti

Session Papers (if applicable):

A Detect-and-Avoid (DAA) Supplemental Data Service Provider (SDSP) for Small Unmanned Aircraft Sy..., Dynamic Unmanned Aircraft System Traffic Volume Reservation Based on Multi-Agent Multi-Scale A* A..., Learning-based Risk-aware Path Planning for Urban Flights of Autonomous Unmanned Aircraft, Optimal Placement Algorithm for Multiple Heterogeneous Stereo Vision Systems, Real-Time Urban Observations for Aviation, Resolving Multi-Aircraft Conflicts in an Urban Air Mobility Environment

Session Title: Large Eddy Simulation I: Wall and SGS Modeling

Technical Paper Session | CFD-16 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/631D2A28-9D03-4C8C-A2FE-81AC14343517>

Session Contributors: Yuma Fukushima, Takanori Haga, Carlo Scalo, Jean-Baptiste Chapelier, Bono Wasistho, Nicola Lucarelli, Sparsh Ganju, William van Noordt, Christoph Brehm, Christoph Brehm, Christoph Brehm, Christoph Brehm, Sparsh Ganju, Hidemasa Yasuda, Soshi Kawai, Sunyoung Lee, Andreas Gross, Pedro Castillo Gomez, Andreas Gross, Andreas Gross, Pedro Castillo Gomez, Sunyoung Lee, Andreas Gross

Session Papers (if applicable):

Assessment of wall-modeled LES with a flux-reconstruction method for high Reynolds number turbule..., Development of an Explicitly Filtered Large-Eddy Simulation Framework for the Coherent-vorticity ..., Immersed-Boundary Wall-Modeled Large-Eddy Simulation of High Mach Number Boundary Layer Flows, Wall-Modeled Large-Eddy Simulation with Second-Order Accurate Upwind Scheme, Wall-Modeled Large-Eddy Simulations of Turbulent Shockwave Boundary Layer Interaction and Boundar...

Session Title: Multiphysics and Cross-Disciplinary Flows (Fluid-Structure Interaction, Multiphase, Combustion, etc.)

Technical Paper Session | FD-39 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/716C7296-21B1-4947-8C96-509ACC15D268>

Session Contributors: Venkateswaran Narayanaswamy, Venkateswaran Narayanaswamy, Venkateswaran Narayanaswamy, Santosh Vaibhav Varigonda, Santosh Vaibhav Varigonda, Chase Jenquin, Venkateswaran Narayanaswamy, Adam Goss, Jayson Small, Liwei Zhang

Session Papers (if applicable):

Impact of Panel Vibrations on the Dynamic Field Properties in Supersonic flow, Modeling the Fluid Dynamic Component of Hydrodynamic Ram Events, Numerical Study of a Recessed-Cavity Fluidic-Valve Injector for Detonation Engine Applications

Session Title: Propeller/Rotorcraft/Wind Turbine Aerodynamics I

Technical Paper Session | APA-43 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/ADF39607-63F8-43A7-8BE6-A177576CF07E>

Session Contributors: Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Cory Schovanec, Jennifer Abras, Nathan Hariharan, Nathan Hariharan, Nathan Hariharan, Nathan Hariharan, Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Cory Schovanec, Ramesh Agarwal, James Hubner, Mingtai Chen, Mingtai Chen, George Barakos, Thomas Fitzgibbon, Mark Woodgate

Session Papers (if applicable):

Airborne Wind Energy Application using Multiple Vertical Axis Wind Turbines, Application of Machine Learning to Automate Vortex Core Extraction Computations in Hovering Rotor..., CFD Modeling of a Vertical Axis Wind Turbine Near Highway Traffic using Actuator Cylinder Theory, Numerical Simulations of Single-Rotor/Wing Interaction in Hover at Low Reynolds Number, The Use of Computational Fluid Dynamics in the Investigation of Stall Onset on Tilt-Rotor Blades

Session Title: Reduced Order Modeling II

Technical Paper Session | APA-45 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/AD444FB9-4260-4E28-9757-2DCE7431DDC1>

Session Contributors: Philipp Bekemeyer, Matthias Held, Philipp Bekemeyer, Anna Bertram, Vilas Shinde, Datta Gaitonde, Sophie Hillcoat, Jean-Pierre Hickey, Andrea Garbo, Philipp Bekemeyer, Philipp Bekemeyer

Session Papers (if applicable):

Fusing Distributed Aerodynamic Data Using Bayesian Gappy Proper Orthogonal Decomposition, Galerkin-POD Reduced-Order Modeling for Perturbation Analysis and Sparse State Estimation of Comp..., Pressure fluctuations under a turbulent boundary layer with transpiration cooling, Two-stage Self-Updating Unsteady POD-ROM Based on Least Squares Residual Minimization

Session Title: Special Session: HorizonUAM Session 2 – Simulation driven approaches for Urban Air Mobility

Technical Paper Session | TFS-21 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/FF31B980-AD59-4656-AEEE-05E628F04C1D>

Session Contributors: Fares Naser, Niklas Peinecke, Bianca Schuchardt, Prajwal Prakasha, Oliver Bertram, Patrick Ratei, Nabih Naeem, Björn Nagel, Franz Knabe, Karolin Schweiger, Bernd Korn

Session Papers (if applicable):

Air Taxis vs. Taxicabs: A Simulation Study on the Efficiency of UAM, System of Systems

Simulation driven Urban Air Mobility Vehicle Design, Urban Air Mobility: Vertidrome Airside

Level of Service Concept

Session Title: Theoretical Heat Transfer

Technical Paper Session | TP-10 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C136A250-6B58-47DA-AD6E-61AC20B61B10>

Session Contributors: Franklin Duan, Ziyi Xie, Lingyi Qian, Zebin Bao, Franklin Duan, Deborah Levin, Akhil Marayikkottu Vijayan, Brenden Herkenhoff, Grace Tenorio, Mostafa Hassanalian, Mostafa Hassanalian, James Beck, Filippo De Monte, Robert McMasters, Sara Swenson, Brian Argrow

Session Papers (if applicable):

Fabrications of the Smart Thin Film Sensors on the Very Thin Oxidized Alumina of PtAl

Substrate, Numerical study of non-dilute particle-shock interactions using four-way coupled

Eulerian-Lagrang..., Penguin Huddling and Bioinspired Martian Habitats: Analytical and

Experimental Studies, The Effect of Biot Number on a Three-Dimensional General Conduction

Solution, Voxelized Photon Monte Carlo Radiation Modeling of Nonequilibrium Hypersonic Flow Around a Waverider

Session Title: Transonic and Supersonic Aerodynamics II

Technical Paper Session | APA-46 | AVIATION

Session Date: 2021-08-05
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/FD2C74BF-5AC2-4F1D-9016-61CD23701509>

Session Contributors: Rolf Radespiel, Camli Badrya, Anand Sudhi, Royce Pokela, Rajan Kumar, Rajan Kumar, Rajan Kumar, Joseph Vasile, Rajan Kumar, Gaku Fukushima, Shingo Ogawa, Jun Hagiwara, Jiayi Wei, Akihiro Sasoh, Yusuke Nakamura, Gaku Fukushima

Session Papers (if applicable):

Design of Transonic Swept Wing for HLFC Application, Experimental and Computational Aerodynamic Characterization of a Generic High-Speed Projectile Co..., Moderation of Shock Wave Profile in Grid Turbulence

Session Title: Vortex Dynamics and Rotating Flows

Technical Paper Session | FD-40 | AVIATION

Session Date: 2021-08-05
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/79CFDB7D-DEA7-4C07-BCC5-2EA3BD03A07F>

Session Contributors: Shuai Shuai, Elmer Gennaro, Pedro Rodrigues, Daniel Sampaio Souza, Nobutaka Taniguchi, Kojiro Suzuki, Mark Rennie, Mark Rennie, Eric Jumper, Barry Pawlowski

Session Papers (if applicable):

Accelerating the Decay of the Lamb-Oseen Vortex with Disperse Droplets, Effect of Coriolis acceleration on the span-wise vorticity field over a wind-turbine airfoil, Numerical Study on Compressibility Effect on Dynamics of Two-dimensional Vortex Pair, Secondary Flow within High Curvature Virtual Duct Fences on a Flat Plate

Session Title: Wind Tunnel Measurement Technology and Techniques

Technical Paper Session | GT-09 | AVIATION

Session Date: 2021-08-05
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F8EF80A9-16E8-4455-9BCA-38FBFCD7A96E>

Session Contributors: Ranjini Ramesh, David Mee, Richard Morgan, Harald Quix, Theodore Garbeff

Session Papers (if applicable):

A Calibration Procedure for Performing Infrared Thermography in Expansion Tubes, Principles of Model Deformation Measurements at ETW, The Development of a High-Speed Model Tracking Capability at the NASA Ames Unitary Plan Wind Tunnel

Session Title: Forum 360: Industry response on delivering performance at the speed of relevance

Forum 360 | F360-08 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/904D1462-0A0D-49AC-ABE5-DBD25E1AF16F>

Session Contributors:

Session Papers (if applicable):

Session Title: Mixology: Mixing the Classics

the HUB | HUB-14 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/6690309D-F9E9-45AE-A130-430FD54DFC46>

Session Contributors:

Session Papers (if applicable):

Session Title: Acoustic/Fluid Dynamics Interactions IV

Technical Paper Session | AA-35 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/638D3298-1E35-4499-931D-7A8F8EB4C691>

Session Contributors: Peng Zhou, Yannian Yang, Yannian Yang, Liu Yu, Hanbo Jiang, Qian Liu, Paruchuri Chaitanya, Jan Wissink, Philip Woodhead, Tze Pei Chong, Tze Pei Chong, Phillip Joseph, Phillip Joseph, Elias Arcondoulis, Liu Yu, Francesco Avallone, Daniele Ragni, Daniele Ragni, Francesco Avallone, Yannian Yang, Elias Arcondoulis, Alejandro Rubio Carpio, Yannian Yang, Alejandro Rubio Carpio, Sergey Karabasov, Yannick Mayer, Anton Markesteijn, Bin Zang, Mahdi Azarpeyvand, Yannick Mayer, Anton Markesteijn, Mahdi Azarpeyvand, Bin Zang, Mohammed Afsar, Danila Kholdoenko, Sarah Stirrat, Mohammed Afsar

Session Papers (if applicable):

Effect of a poroelastic extension on acoustic scattering of a finite plate, Frequency-Targetable Aerofoil Self-Noise Reduction, Internal and Near-Wall Flow Fields of a Structured Porous Coated Cylinder and Their Role in Passi..., Numerical investigation of the near-eld and wake characteristics of NACA 0012 airfoil at stall co..., Prediction of trailing edge noise in arbitrary aspect ratio rectangular jets: a Rapid-distortion ...

Session Title: Aerodynamic Design II

Technical Paper Session | APA-35 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/D9CC4EC9-FC38-4F68-8743-52116709A3D1>

Session Contributors: Maxime Huet, Gerald Carrier, Sébastien Defoort, Olivier Atinault, Jérémy Cadillon, Franck Morel, Pierre Grenson, Maxime Huet, Gerald Carrier, Marcello Righi, Marcello Righi, David Anderegg, Maurus Sondergger, Simone Mandrà, Ruxandra Botez, Ruxandra Botez, Ruxandra Botez, Musavir Bashir, Simon Longtin Martel, Mingjun Wei, Mingjun Wei, Kun Jia, Berkay Yasin Yildirim, Ismail Hakki Tuncer

Session Papers (if applicable):

Combined conceptual and preliminary aerodynamic design of a low-boom Supersonic Civil Transport a..., Multi-Disciplinary Optimization of HAPS in Formation Flight, Numerical Study of the Boundary Layer Behavior on Morphing Trailing Edge Wing using intermittency..., Optimization of Flexible Flapping Wings for Thrust and Efficiency, Wing Planform Optimization Using Flow Solutions and Response Surface Methodology

Session Title: Aeroelastic and Aerostructural Optimization II

Technical Paper Session | MDO-22 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/2FA53CE8-BA50-417E-984F-6F654AEC45C8>

Session Contributors: Joshua Deaton, Harsh Patel, Joshua Deaton, David Neiferd, Juan Alonso, James Akkala, John Gallman, Theresa Saxton-Fox, Kai James, Kai James, Anurag Bhattacharyya, Mark Bashkawi, Se Yeon Kim, Wanzheng Zheng, Joshua Deaton, Harsh Patel, Jason Qian, David Neiferd, Joshua Deaton, Juan Alonso, John Gallman, James Akkala, Nguyen Pham, Edwin Peraza Hernandez, Shyam Patel, Darshan Sarojini, Darshan Sarojini, Jason Corman, Jason Corman, Heriberto Solano

Session Papers (if applicable):

Aeroelastic Wing Design Sensitivity Analysis with SU2-Nastran Coupling in OpenMDAO, Computational design and experimental testing of a flexible bi-stable airfoil for passive flow co..., Fully-Coupled Aero-Structural-Trim Sensitivity Analysis Using OpenMDAO, NASTRAN and SU2, Multi-objective Optimization of a Smooth Twisting Wing Enabled by a Tensegrity Torsional Mechanism, Parametric Structural Weight Estimation for the PEGASUS Concept Considering Dynamic Aeroelastic E...

Session Title: Airfoil/Wing/Configuration Aerodynamics II

Technical Paper Session | APA-42 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A26FDC4D-01E7-4A10-B270-49E29B066E44>

Session Contributors: Christopher Axten, Mark Maughmer, Christopher Axten, Collin Strassburger, Wei Liao, Koen Groot, Ethan Beyak, Koen Groot, Helen Reed, James Coder, Helen Reed, James Coder, Helen Reed, James Coder, Helen Reed, Jay Patel, James Coder, Ethan Beyak, Zhijin Lei, Gecheng Zha, Gecheng Zha, Gecheng Zha, Gecheng Zha, Vigneshwaran Sankar, Vignesh Saravanan, Deviparameswari K, Akshay Kumar N, Vigneshwaran R, Rohini Janaki B, Maria Vinsiya A, Kiran Paramasivam, Sivaguru Marimuthu, Rajaramperumal M, Feonsa Antonitta B, VR Sanal Kumar, Meenakshi S, Keerthana N, Surya B, Vetrivel M, Aravind A, Karthikeyan M, Merrish Aloy A, Sumanth Esvar K S, Thianesh U K, Rajarajan S, Manikandan P, Lokeshkumar K, Syed Masood T S, Surya PL

Session Papers (if applicable):

An Investigation of Goertler Vortices on Slotted, Natural-Laminar-Flow Airfoils, Comparative Evaluation of Numerical Factors for their Effect

on Prediction of Aerodynamic Fo..., Görtler Instability on a Variably Swept, Slotted, Natural-Laminar-Flow Airfoil, Lift Enhancement of Supersonic Thin Airfoil at Low Speed by Co-Flow Jet Active Flow Control, The Effects of Ground Clearance and Boundary Layer Blockage Factor on the Aerodynamics Performanc...

Session Title: Airframe/High-Lift Noise V

Technical Paper Session | AA-36 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E2E32092-C455-4194-8115-5A1ADB09F1B9>

Session Contributors: Balakrishnan P, Elias Arcondoulis, Liu Yu, Yannian Yang, Xiaomin Liu, Balakrishnan P, Yannian Yang, Elias Arcondoulis, Hussain Ali Abid, Sergey Karabasov, Oksana Stalnov, Anton Markesteijn, Sergey Karabasov, Hussain Ali Abid, Anton Markesteijn, Leandro de Santana, Cornelius Venner, Leandro De Santana, Fernanda Leticia dos Santos, Laura Botero, Anton Markesteijn, Hussain Ali Abid, Anton Markesteijn, Sergey Karabasov

Session Papers (if applicable):

Characteristics of airfoil tonal noise and its suppression using trailing-edge serrations at high...,

Comparative Analysis of Low Order Wall Pressure Spectrum Models for Trailing Edge Noise Based in ..., Investigation of Trailing Edge Noise Models for Flow over a Glauert-Goldschmied Body, The Increase of the Airfoil Trailing Edge Noise and Unsteady Surface Pressure due to High Inflow ..., Trailing Edge Noise Modelling of Flow over NACA Airfoils Informed by LES

Session Title: Computational Aeroacoustics IV

Technical Paper Session | AA-37 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A4A4ECE9-1971-4300-9E78-DB77CD671789>

Session Contributors: Michaël Bauerheim, Antonio Alguacil, Stephane Moreau, Stephane Moreau, Michaël Bauerheim, Antonio Alguacil, Marc Jacob, Caterina Poggi, Giovanni Bernardini, Massimo Gennaretti, Andrea Ferrero, Renzo Arina, Christophe Bailly, Christophe Bailly, César Legendre, Étienne Spieser, Michael Moessner, Roland Ewert, Roland Ewert, Jan Delfs, Andrea Franco

Session Papers (if applicable):

A generic deep learning framework for propagation and scattering of acoustic waves in quiescent f..., Aeroacoustic analysis of wing-mounted propeller arrays, Data-Driven Aeroacoustic Modelling: Trailing-Edge Noise, Solution of Pierce's equation for Tam & Auriault's mixing noise model, Towards a Fast Non-Empiric Source Model for Installed Rotor Noise

Session Title: Duct Acoustics IV

Technical Paper Session | AA-38 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BAE6C7D7-2E55-432D-BBC3-FD09CB39C840>

Session Contributors: Yang Zhang, Louis Cattafesta, Chelsea Dodge, Brian Howerton, Louis Cattafesta, Brian Howerton, Yang Zhang, Jordan Kreitzman, Chelsea Dodge, Jordan Kreitzman, Michael Jones, Martha Brown, Michael Jones, Martha Brown, Dan Zhao, Xiran Liu, Molly Evans, Di Guan, Thien Sen Low, Sergi Palleja-Cabre, R. Jeremy Astley, Brian Tester, Sergi Palleja-Cabre, Brian Tester

Session Papers (if applicable):

A Dielectric Elastomer Acoustic Liner, Evaluation of Variable Porosity Liner Configurations in Grazing Incidence for Broadband Noise Red..., Experimental Evaluation on Acoustic Impedance and Sound Absorption Performances with Helmholtz Nu..., Modelling the suppression of rotor-alone fan noise with Over-Tip-Rotor liners and comparison with...

Session Title: Electric/Hybrid-Electric Aircraft Design and Operational Considerations

Technical Paper Session | ACD-14/GA-04/TFS-22 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/43410D69-452C-4B2D-B200-A794E6B9386F>

Session Contributors: Anestis Kalfas, Vasilis Gkoutzamanis, Orestis Valsamis, Spyros Tsentis, Panagiotis Tsirikoglou, Konstantinos Kyprianidis, Seumas Beedie, Caleb Harris, Johannes Verberne, Cedric Justin, Cedric Justin, Dimitri Mavris, Dominik Quillet, David Rancourt, Vincent Boulanger, Richard Freer, Pierre Bertrand, Pierre Bertrand, Alexandre Pelletier, Richard Freer, Vincent Boulanger, David Rancourt, Dominik Quillet, Jérôme Cros, Imon Chakraborty, Aashutosh Mishra, Imon Chakraborty, Imon Chakraborty, Imon Chakraborty, Aashutosh Mishra, Cameron Leonard

Session Papers (if applicable):

A Preliminary Study for the Thermal Management System Design of a Hybrid-Electric Commuter Aircraft, Modeling Framework for Identification and Analysis of Key Metrics for Trajectory Energy Management..., Parallel Hybrid-Electric Powertrain Sizing on Regional Turboprop Aircraft with Consideration for ..., Parallel-Hybrid Powertrain Architectures and their Challenges for a Regional Aircraft, Sizing Studies for a Ducted Fan General Aviation Aircraft

Session Title: Emerging Urban and Advanced Air Mobility Noise III

Technical Paper Session | AA-39/TFS-23/VSTOL-09 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/F59267BC-F163-4DA5-9AA7-973F0ACE2375>

Session Contributors: Matthew Clarke, Juan Alonso, Matthew Clarke, Andrew Ning, Eduardo Alvarez, Andrew Ning, Andrew Ning, Eduardo Alvarez, Andrew Ning, Hok Kwan Ng, Jinhua Li, Hok Kwan Ng, Yun Zheng, Sebastian Gutierreznolasco, Susan Hotle, Mihir Rimjha, Antonio Trani, Susan Hotle

Session Papers (if applicable):

Evaluating the Performance and Acoustic Footprint of Aircraft for Regional and Urban Air Mobility, FLOWUnsteady: An Aerodynamics and Aeroacoustics Solver for Maneuvering Multirotor Aircraft, Noise Exposure Maps for Urban Air Mobility, Urban Air Mobility: Preliminary Noise Analysis of Commuter Operations

Session Title: Integration and Operation of UAS/UAM in the NAS IV

Technical Paper Session | ATOMS-14 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1381A198-6567-41C8-9ECC-23944B7C40FB>

Session Contributors: Dimitrios Panagiotakopoulos, Graham Braithwaite, Antonios Tsourdos, Michail Karyotakis, Kyle Ellis, John Koelling, Lawrence Prinzel, Robert Mah, Misty Davies, Kyle

Ellis, John Koelling, Paul Krois, Thu Ra, Kin Huat Low, Wei Dai, Ee Meng Ng, Daisuke Kubo, Jorg Entzinger, Daisuke Kubo

Session Papers (if applicable):

Aspects and Challenges of Unmanned Aircraft Systems Safety Assurance and Certification for Advanc..., Defining Services, Functions, and Capabilities for an Advanced Air Mobility (AAM) In-time Aviatio..., Initial Architecture Design and Development for Real-time Risk-based Unmanned Aerial System Traff..., sUAS Remote Pilot Modeling and Airspace Simulation for a Quantitative Safety Evaluation of BVLOS ...

Session Title: Jet Noise VII

Technical Paper Session | AA-40 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/709EF375-C0C3-42A5-A3EC-262FBFA4961E>

Session Contributors: Santosh Hemchandra, Nishanth Muthichur, Arnab Samanta, Roberto Camussi, Stefano Meloni, Christophe Bogey, Gaetano Micci, Christophe Bogey, Christophe Bogey, Christophe Bogey, Anton Markesteijn, Vassili Toropov, Vassili Toropov, Umberto Armani, Elnaz Naghibi, Vasily Gryazev, Anton Markesteijn, Vassili Toropov, Sergey Karabasov, Vassili Toropov, Vladimir Riabov, Umberto Armani, Vassili Toropov, Elnaz Naghibi, Anton Markesteijn, Vasily Gryazev, Vassili Toropov, Sergey Karabasov, Vassili Toropov, Anton Markesteijn, Vassili Toropov, Daniel Edgington-Mitchell, Daniel Edgington-Mitchell, Peter Jordan, Michael Stavropoulos, Vincent Jaunet, Matteo Mancinelli, Petrônio Nogueira

Session Papers (if applicable):

Acoustic Radiation of Coherent Structures in a Turbulent Round Jet, Intermittent statistics and stochastic modelling of low and high Re compressible jets, On the use of the data- and physics-driven approaches for jet noise modelling, On the use of the data- and physics-driven approaches for
jet noise modelling: application o..., Understanding twin-jet screech using a vortex-sheet model

Session Title: Operational Aspects of On-demand Mobility and Transformational Flight I

Technical Paper Session | ATM-07/TFS-24/VSTOL-10 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/538D5330-B34A-43F8-BC61-77B67553399D>

Session Contributors: Virginia Stouffer, Virginia Stouffer, Virginia Stouffer, William Cotton, Thomas Irvine, Richard Jennings, Virginia Stouffer, Ronald Lehmer, Randall DeAngelis, Michelle Shaver, Thanh Nguyen, Daniel Devasirvatham, Brandon Sells, Apoorv Maheshwari, Apoorv

Maheshwari, William Crossley, Stephanie Harrington, Dan DeLaurentis, Dan DeLaurentis, Apoorv Maheshwari, Apoorv Maheshwari, Caleb Harris, Dimitri Mavris, HyunKi Lee, Alexia Payan, George Hagen, Nelson Guerreiro, Jeffrey Maddalon, Ricky Butler, Nelson Guerreiro

Session Papers (if applicable):

Enabling Urban Air Mobility through Communications and Cooperative Surveillance, Evaluating Impact of Operational Limits by Estimating Potential UAM Trips in an Urban Area, Novel Hierarchical Markov Decision Process Framework to Enable Ridesharing in On-Demand Air Servi..., Risk-Aware Trajectory Planning Using Energy-based Analysis for Aerial Vehicles, Trade Study and Analysis of Centralized and Federated Implementations of UAM Mission Planning

Session Title: Panel on MBSE Integration with MDO

Technical Panel | MDO-23 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/065EC181-7523-49F2-970A-D2437D01C36B>

Session Contributors:

Session Papers (if applicable):

Session Title: Propeller/Rotorcraft/Wind Turbine Aerodynamics II

Technical Paper Session | APA-44 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/0F2480B5-9CAB-4E1E-86CE-0DED0F357CD7>

Session Contributors: John Hwang, John Hwang, Marius Ruh, Arin Hayrapetyan, Adrin Gharakhani, Mark Stock, Hui Hu, Hui Hu, Nianhong Han, Hui Hu, Hui Hu, John Moore, Feilin Jia, Qiqi Wang, Qiqi Wang, John Moore, Feilin Jia, Ahmed Malim, Benoit Marinus, Nikolaos Mourousias, Mark Runacres, Benoit Marinus

Session Papers (if applicable):

A Generalized Theory for Low-Fidelity Rotor Aerodynamic Modeling, A GPU-Accelerated, Solution-Adaptive Vortex Particle, Lifting Line, and Boundary Element Method f..., An Experimental Study on the Aerodynamic and Aero-acoustic Performances of Dual-Rotor Propellers ..., Assessment of Detached Eddy Simulation and Sliding Mesh Interface in predicting Tiltrotor Perform..., Surrogate-Based Optimization of a High-Altitude Propeller

Session Title: Special Session: Aero Optics

Technical Paper Session | PDL-08 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/28F9850E-F26D-4415-9236-8B991AE325D6>

Session Contributors: Sijun Zhang, Sijun Zhang, Mike Zhang, Babak Shotorban, Luke Butler, Kyle Lynch, Stanislav Gordeyev, Luke Butler, Daniel Guildenbecher, Stanislav Gordeyev, Matthew Kalensky, Matthew Kalensky, Matthew Kemnetz, Eric Jumper, Eric Jumper, Mark Rennie, Mark Rennie, Brian Catron

Session Papers (if applicable):

Aero Optical Effects over a Cylindrical Turret, Development of a Spatially Filtered Wavefront Sensor as an Aero-Optical Measurement Technique, Effect of Exposure Time on Wavefront Measurements, Estimation of the Acoustic Environment of a Wind-Tunnel Test-Section for Filtering Acoustic Distu...

Session Title: Special Session: Hybrid Wind Tunnel Workshop II

Technical Workshop | AA-42 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C2A61CB1-2B7C-4ED3-87E3-964C16C3F810>

Session Contributors: Cornelius Venner, Leandro de Santana, Martinus Sanders, Leandro De Santana, Laura Botero, Martinus Sanders, William Devenport, Máté Szoke , Máté Szoke , William Devenport, William Devenport, William Devenport, Cornelius Venner, Leandro de Santana, Leandro De Santana, Martinus Sanders, Martinus Sanders, Keisuke Asai, Sayumi Kaneko, Kumi Nakai, Yuji Saito, Hiroki Ura, Yuta Ozawa, Taku Nonomura, Taku Nonomura, William Devenport, Stewart Glegg, Máté Szoke , William Devenport, William Devenport, Stewart Glegg, Stewart Glegg, William Devenport, Stewart Glegg, Máté Szoke

Session Papers (if applicable):

Airfoil Trailing Edge Noise Measurements in an Open-jet, Hard-wall and Kevlar-wall Test Section: ..., Characterization of Shear Layer Refraction in Hybrid Wind Tunnel Environments Using Laser-Induced..., Comparability of High-Lift Noise Measurements in a Kevlar-Wall, a Hard-Wall and an Open-Jet Test ..., Data-driven Sparse Sampling for Reconstruction of Acoustic-wave Characteristics used in Aeroacous..., Investigating the Aeroacoustic Properties of Kevlar Fabrics

Session Title: Special Session: Smooth Body Separation

Technical Paper Session | CFD-18/FD-41 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/47E9B7F9-97BC-46DD-8D61-62232E71018E>

Session Contributors: Flint Thomas, Thomas Corke, Matthew Lakebrink, Kevin Mejia, Patrick Gray, Igal Gluzman, Jaime Vaquero, Nicolas Renard, Sébastien Deck, Anindya Datta, Santosh Hemchandra, Monica Gupta, Joseph Mathew, Christopher Rumsey, Samantha Gildersleeve, Christopher Rumsey, Christopher Rumsey, Christopher Rumsey

Session Papers (if applicable):

A New Validation Experiment for Smooth-Body
Separation, Assessment of ZDES for WMLES of turbulent boundary layers with pressure gradient and mild flow se..., Shock induced separation in a transonic flow past an axi-symmetric hump, Validation Experiments of Incipient Turbulent Separation over an Axisymmetric Afterbody

Session Title: Stability & Control - Low Speed / Takeoff / Landing

Technical Paper Session | ACD-15 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/75944477-2360-475A-9D13-FAB6F61FBCC4>

Session Contributors: Jiacheng Xie, Dimitri Mavris, Evan Harrison, Jiacheng Xie, Yu Cai, Steve Brandt, Steve Brandt, David Williams, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Nathaniel Blaesser, Curt Hanson, Zachary Frederick, Felipe Valdez, Nathaniel Blaesser

Session Papers (if applicable):

Assessment of Longitudinal Stability-and-Control Characteristics of Hybrid Wing Body Aircraft in ..., Effect of Geometric Twist on the Stability of High Sweep Angle Next Generation Tailless Aircraft, Revisiting Roskam's Empirical Predictions for Critical Field Length, Revisiting Roskam's Empirical Predictions for Landing Distance, Weight and Balance Considerations for Electrified Aircraft Propulsion Applied to the Parallel Ele...

Session Title: Stability Theory (Local, Global, Transient Growth)

Technical Paper Session | FD-42 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/34A438ED-95E5-4377-87AD-F70D7512B346>

Session Contributors: Nick Parziale, David Shekhtman, Carlo Scalo, Nicola Lucarelli, Robert Morton, Xinran Zhao, William Irvine, Eduardo Martini, André Cavalieri, Daniel Rodriguez, Peter Jordan, Marlon Mathias, Marcello Medeiros, Marlon Mathias, Nicholas Bisek, Timothy Leger, Matthew Tufts, Nicholas Bisek, Nicholas Bisek, Nicholas Bisek, Matthew Tufts

Session Papers (if applicable):

Input-Output Stability Analysis of a Flat-Plate, High-Speed Flow, Numerical Investigation of the Stability of Straight Twisted Vortices, On the relation between the self-excited three-dimensionality of laminar separation bubbles and t..., Spatial instability of boundary layers over small cavities and comparison to global modes, Towards Reduced-Order Models of Hypersonic Transition

Session Title: Thermophysics of High Temperature Flows

Technical Paper Session | TP-11 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/747A5B17-2008-4DE0-BE0A-4F40999E98ED>

Session Contributors: Francisco Torres Herrador, Joan Rico-Orero, Bernd Helber, Alessandro Turchi, Annick Hubin, Julien Blondeau, Olivier Chazot, Thierry Magin, Sergey Gimelshein, Ingrid Wysong, Matthew Jouffray, Irmak Taylan Karpuzcu, Deborah Levin, Michael von Spakovsky, Zachary Stockwell, Michael Von Spakovsky, Franklin Duan, Ziyi Xie, Siqing Liu, Franklin Duan, Zhonglin Ji

Session Papers (if applicable):

Graphitization of carbon fibers submitted to high temperatures and its effects on thermal conduct..., Kinetic and Continuum Modeling of High Temperature Relaxation of O₂ and N₂ binary mixtures, Modeling of NO Emissions from a Hypersonic Flow, Theoretical Frameworks for Predicting the Chemical Kinetics of High-Temperature Flows: A Brief Re..., Thermal Stress Relief Effect of Surface Roughness for Robust Thin Film Sensors Embedded on Turbin...

Session Title: Turbomachinery and Core Noise I

Technical Paper Session | AA-43 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/96812BD9-1B53-43D6-B9E4-DA78E72D964A>

Session Contributors: Christophe Bailly, Christophe Bailly, Martin Buszyk, Cyril Polacsek, Raphaël Barrier, Thomas Le Garrec, Hang Tong, Kangshen Xiang, Liangji Zhang, Weijie Chen, Lin Li, Weiyang Qiao, Julian Winkler, Jeffrey Mendoza, Michael Shur, Michael Strelets, Andrey Travin, Takao Suzuki, Michael Shur, Takao Suzuki, Stephane Moreau, Stephane Moreau, Regis Koch, Pavel Kholodov, Regis Koch, Marlène Sanjosé, Pavel Kholodov

Session Papers (if applicable):

3D CAA methodology using synthetic turbulence to assess turbulence-cascade interaction noise emis..., A Study on the Fan Tone Noise Reduction with Wavy Leading Edge OGV, Lattice Boltzmann Simulations of Wave Propagation through a High-Pressure Turbine Stage, Spiral Flow

Instability in Interstage Flow of High-speed Fan Rigs, Wall-Resolved Large Eddy Simulation of a Realistic Turbofan Rotor for Noise Prediction

Session Title: UAV & UAM Icing

Technical Paper Session | ASE-14 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/4ACCBECB-18A5-4BA6-ACC7-255812AA1373>

Session Contributors: Ali Benmeddour, Reinhard Puffing, Wolfgang Breiffuss, David Kozomara, Thomas Neubauer, Ingeborg Bednar, Flavio Noca, Guillaume Catry, Luca Bardazzi, Nicolas Bosson, Ozlem Ceyhan, Pieter Jan Jordaens, Sergio Marquez, Daniele Brandolisio, Petri Suurnäkki, Mikko Tiihonen, Tuomas Jokela, Nicolas Müller, Richard Hann, Richard Hann, Thorsten Lutz

Session Papers (if applicable):

Experimental Investigation of Tolerance for Icing of Small RPAS Propellers at High RPM, Experimental Investigation on the Effects of Icing on Multicopter UAS Operation, Performance Analysis of Rotorcraft Propulsion Units in a Combination of Wind and Icing Conditions, UAV Icing: Low Reynolds Number Drone Propeller Performance During Dynamic Icing Process, UAV Icing: Numerical Simulation of Propeller Ice Accretion

Session Title: Validation and Verification

Technical Paper Session | CFD-19 | AVIATION

Session Date: 2021-08-05

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/FAF6E1FF-2639-4E66-92F2-922E61E4C8E9>

Session Contributors: Aldo Gargiulo, Julie Duetsch-Patel, Colton Beardsley, William Devenport, Kevin Lowe, William Devenport, Colton Beardsley, Aurelien Borgoltz, William Devenport, William Devenport, Kevin Lowe, Christopher Roy, Thomas Ozoroski, Todd Lowe, Aurelien Borgoltz, Kevin Lowe, Yifang Xiong, Michail Diakostefanis, Suresh Sampath, Chloe Greenstein, Parimal Kopardekar, Chloe Greenstein, Ava Thrasher, Alena Zeni, John Melton, Parimal Kopardekar, Julia Clark, Aaron Ocken, Liam Sullivan, Ananya Saxena, Nitin Rao, Logan Riley, Michael Adler, Michael Aftosmis, Marian Nemec, Michael Aftosmis, Liam Smith

Session Papers (if applicable):

CFD Analysis for the BeVERLI Hill Turbulence Modeling Validation Experiments, Numerical simulations of containerized-load fire scenario for aircraft cargo fire safety, Open Source Reconfigurable Aircraft Cabin Airflow Model, RANS and Wall-Modeled LES Predictions for the SANDIA Challenge on Transonic, Separated Flow, Uncertainty Estimates for Sonic-Boom Pressure Signatures and Loudness Carpets

Session Title: Plenary Session

Plenary Session | PLNRY-05 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/134C48DC-1F96-4B6A-A318-CA0CE226F5CC>

Session Contributors:

Session Papers (if applicable):

Session Title: PEGASAS Annual Meeting

Special Programming | PEG-02 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:00:00

<https://virtualforums.aiaa.org/Category/58F29676-9919-4D47-BA05-5F9DA68BF983>

Session Contributors:

Session Papers (if applicable):

Session Title: Acoustic/Fluid Dynamics Interactions V

Technical Paper Session | AA-44 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/07BA67EC-7298-4661-8F48-BB0AC8D8EE60>

Session Contributors: William Devenport, Matthew Priddin, Nandita Nurani Hari, Lorna Ayton, Máté Szoke , William Devenport, William Devenport, Lorna Ayton, William Devenport, Máté Szoke , Matthew Priddin, Nandita Nurani Hari, Nandita Nurani Hari, Matthew Priddin, Stewart Glegg, William Devenport, Máté Szoke , William Devenport, Stewart Glegg, Lorna Ayton, Stewart Glegg, William Devenport, Máté Szoke , Nandita Nurani Hari, Lorna Ayton, Stewart Glegg, Matthew Priddin, William Devenport, Mahdi Azarpeyvand, Felix Gstrein, Bin Zang, Felix Gstrein, Bin Zang, Mahdi Azarpeyvand, Tze Pei Chong, Auris Juknevicus, Tze Pei Chong

Session Papers (if applicable):

A Model for the Acoustic Response of a Canopy above a Wall, Experimental investigation of Bio-inspired Unidirectional Canopies, Investigations on the Application of Various Surface Treatments for Trailing Edge Noise Reduction..., The Formation of the Aeroacoustics Feedback Loop for a Laminar Aerofoil

Session Title: Advocating for Scientific Study of Unidentified Aerial Phenomenon – Technical Perspective with focus on Aviation Safety

Technical Panel | ATM-09/DE-08 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/7498F6DC-0244-436A-AFE1-B69175877C06>

Session Contributors:

Session Papers (if applicable):

Session Title: Airframe/High-Lift Noise VI

Technical Paper Session | AA-45 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/9A298801-1EF5-4D39-B321-8D9B8D1CFE60>

Session Contributors: Beckett Yx Zhou, Sutharsan Satcunanathan, Matthias Meinke, Wolfgang Schroeder, Max Aehle, Beckett Yx Zhou, Nicolas Gauger, Elias Arcondoulis, Liu Yu, Thomas Geyer, Thomas Geyer, Elias Arcondoulis, Daniele Ragni, Francesco Avallone, Damiano Casalino, Christopher Teruna, Alejandro Rubio Carpio, Christopher Teruna, Alejandro Rubio Carpio, Francesco Avallone, Damiano Casalino, Daniele Ragni, Yuejun Shi, Wolfgang Kollmann, Yuejun Shi

Session Papers (if applicable):

Adjoint-based Trailing-Edge Noise Minimization using Porous Material, Experimental Investigation of Noise Generation by Porous Coated Tandem Cylinder Configurations, Numerical Study on Trailing-Edge Noise Attenuation using 3D-Printed Porous Insert, Parameter Study of a Porous Trailing Edge Using Improved Delayed Detached Eddy Simulation

Session Title: Cyber Security and Information Assurance

Technical Panel | CS-02 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2F3C5ADF-EDD8-4B38-A50E-DB1557FE1FED>

Session Contributors:

Session Papers (if applicable):

Session Title: Design Optimization of Complex Engineered Systems

Technical Paper Session | MDO-25 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A2FDA76A-9F3A-42C8-8513-963C17B88496>

Session Contributors: Marco Fioriti, Marco Fioriti, Pierluigi Della Vecchia, Philipp Hansmann, Giuseppa Donelli, Douglas Allaire, Arjun Singh, John Hwang, John Hwang, Victor Gandarillas, Aobo Yang, Hyeongjun Park, Vivek Bhavsar, Haidar Alsalih, Christopher Harley, Nathan Hauk, Amir Behjat, Souma Chowdhury, Krushang Khimjibhai Gabani, Souma Chowdhury, Amir Behjat, Krushang Khimjibhai Gabani, Raja Pandi Perumal, Holger Voos, Hubert Moser, Florio Dalla Vedova, Walid Arsalane, Manav Bhatia, Manav Bhatia, Manav Bhatia, Manav Bhatia, Walid Arsalane

Session Papers (if applicable):

Assessing the Integration of Electrified On-Board Systems in an MDAO framework for a small transp..., Dynamic data-driven sensor placement for enabling capability estimation of self-aware aerospace..., Large-Scale Multidisciplinary Design Optimization of CubeSat Swarms with Application to a Virtual..., Modeling and Optimization of an Avian-inspired Flapping Mechanism for Trajectory-Following Flight, Reliability-Based Multidisciplinary Design Optimization of Small Satellites, Structural Sizing of Thermally Stressed Hat-Stiffened Panels

Session Title: Duct Acoustics VI

Technical Paper Session | AA-46 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C10A1E77-A913-4840-89C8-111DE860ECDF>

Session Contributors: Simon Vandemaele, Simon Vandemaele, Wim De Roeck, Hervé Denayer, Wim Desmet, Hervé Denayer, Wim De Roeck, Niloofar Sayyad Khodashenas, Susann Boij, Hans Boden, Hans Boden, Takeru Nomura, Massimo D'elia, Hans Boden, Hans Boden, Shail Shah, Susann Boij, Massimo D'elia, Shail Shah, Susann Boij, Hans Boden, Hans Boden

Session Papers (if applicable):

Experimental characterization of the acoustic behavior of micro-perforations under grazing flow, Experimental investigation for determination of non-linear properties of perforated plates for to..., Influence of Sound Pressure Level to 2D Acoustic Liner Model with 3 Resonators under Grazing Flow, Nonlinear Three-port Measurements for Determination of High-level Excitation Effects on the Acous..., Three-port Measurements for Determination of the Effect of Flow on the Acoustic Properties of Per...

Session Title: Flight Test Techniques

Technical Paper Session | FT-05 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/395467EE-9CEF-485A-986C-A38EC3795700>

Session Contributors: Craig Woolsey, Zachary Swartzwelder, Samuel Woolsey, Jean-Marc Moschetta, Murat Bronz, Nikola Gavrilovic, Nikola Gavrilovic, Murat Bronz, Gautier Hattenberger, Antoine Drouin, Michael Meersman, Shirzad Hosseinverdi, Hermann Fasel, Hermann Fasel, Hermann Fasel, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Shirzad Hosseinverdi, Hermann Fasel, Alden Latkin, Wendy Hashii, Victor Luquin, Alyssa Lai

Session Papers (if applicable):

A heavy sphere in a vertical jet: A simple pedagogical demonstration of aerodynamics and stability, Flight Testing of Dynamic Soaring Part-2 : Open-Field Inclined Circle Trajectory, Free-flight experiments on Swept Laminar Separation Bubbles, Safe and Efficient Flight Test Execution through Digital Engineering: High-Fidelity Loads Regress...

Session Title: Hybrid RANS/LES: Fundamentals

Technical Paper Session | CFD-20 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/CBAF776A-FA82-48F7-AFF9-6FB7AF683A0A>

Session Contributors: Zhiqian Sang, Md Mizanur Rahman, Huachen Pan, Md Mizanur Rahman, K. Hasan, Shia-Hui Peng, Shia-Hui Peng, Zhong-Nan Wang, Zhong-Nan Wang, Nick Thomas, Al Habib Ullah, Jordi Estevadeordal, Yildirim Suzen, Jordi Estevadeordal, Michael Mays, Sylvain Lardeau, Sylvain Laizet

Session Papers (if applicable):

Assessment of elliptic-length scales in unified k- ω model, Grey-Area Mitigation for Improving Hybrid RANS-LES Computations of Turbulent Flows, Hierarchical Modelling of Turbulence and Geometry for Fan Flows, Numerical Simulations of Flow Past a Three-Cylinder Rotating System Using Hybrid RANS/LES Turbulence..., Performance of Various Turbulence Models for Simulating Sub-critical High-Reynolds Number Flows o...

Session Title: Icing Physics

Technical Paper Session | ASE-16 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/15A2D1B9-6975-4A76-B41F-4D79D8D14C73>

Session Contributors: Hui Hu, Zichen Zhang, Hui Hu, Hui Hu, Hui Hu, Zichen Zhang, Emilio Borges, Andy Broeren, Andy Broeren, Mario Vargas, Stephen McClain, Mario Vargas, Stephen McClain, Kilian Köbschall, Pierre Trontin, Kilian Köbschall, Boris Aguilar, Louis Reitter, Pierre Trontin, Fabien Dezitter, Olivier Rouzaud, Jan Breitenbach, Ilia Roisman, Philippe Villedieu, Jan Breitenbach, Ilia Roisman, Andy Broeren, Andy Broeren, Stephen McClain, Mario Vargas, Jen-Ching Tsao, Jen-Ching Tsao, Mario Vargas, Stephen McClain, Jan Breitenbach, Kilian Köbschall, Jan Oberreuter, Kilian Köbschall, Jan Breitenbach, Ilia Roisman, Cameron Tropea, Jeanette Hussong, Ilia Roisman, Giulio Gori, Alessio Raimondi, Alberto Guardone, Alberto Guardone

Session Papers (if applicable):

An Experimental Study on the Transient Wind-Dirven Flowoff Process of Aircraft Deicing Fluids, Effect of Water Droplets crossing the Boundary Layer in a Stagnation Point Configuration, Experimental and numerical investigations of snow accretion., Ice Accretion Roughness Variations on a Hybrid CRM65-Midspan Wing Model, Melting of and Imbibition in a Granular Ice Layer on a Heated Substrate, Snowflakes shape characterization via bayesian inference: exploring the challenges

Session Title: Interior Noise/Structural Acoustics and Active Noise Control

Technical Paper Session | AA-47 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/8DD86877-2BAA-4ECE-B33E-12E7A622F7B0>

Session Contributors: Reda Mankbadi, Sam Salehian, Vladimir Golubev, Reda Mankbadi, Reda Mankbadi, Vladimir Golubev, Vladimir Golubev, Sam Salehian, Vladimir Golubev, William Makunis, Reda Mankbadi, Michael Marques Goncalves, Steven Buck, Stefan Oerlemans, Octavio Hernandez Mascarell, Stefan Letica, Phillip Joseph, William Alexander, William Alexander, Phillip Joseph, Petr Moshkov, Petr Moshkov, Liu Yu, Chao Shen, Lixi Huang, Hervé Denayer, Felipe Alves Pires, Felipe Alves Pires, Hervé Denayer, Claus Claeys, Elke Deckers, Wim Desmet

Session Papers (if applicable):

Active Control of Coherent Structures on an Axisymmetric Jet, Active Control of Trailing Edge Noise, Contributions of Different Sources to Cabin Noise of a Superjet 100 in Cruise Flight Condition, Plane Wave Scattering and Absorption Analysis of Periodic Metasurface with Mode Matching Method, Reducing flow-induced noise and vibrations by resonant metamaterials with multiple stop band beha...

Session Title: Jet Noise VIII

Technical Paper Session | AA-48 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/9D10F78D-7050-481F-9D34-6F72586A5422>

Session Contributors: Mohammed Afsar, Anton Markesteijn, Sergey Karabasov, Mohammed Afsar, Vasily Gryazev, Anton Markesteijn, Vikas Nataraj Bhargav, Farrukh Alvi, Rajan Kumar, Rajan Kumar, Rajan Kumar, Yogesh Mehta, Rajan Kumar, Datta Gaitonde, Daniel Rodriguez, Chitrarth Prasad, Peter Jordan, Tim Colonius, Oliver Schmidt, Oliver Schmidt, Igor Maia, Liam Heidt, Akhil Nekkanti, Tim Colonius, Hasan Kamliya Jawahar, Hasan Kamliya Jawahar

Session Papers (if applicable):

Effect of Approximate Tensor Representations for High-order Turbulence Correlations in Complex Ax..., Effect of Relative Momentum and Temperature on the Aeroacoustic Characteristics of Dual Impinging..., Near-field turbulent structures in supersonic rectangular jets using 3D parabolized stability equ..., Nonlinear dynamics of forced wavepackets in turbulent jets, Unsteady Characteristics of Mode Oscillation for Screeching Jets

Session Title: Large Eddy Simulation II: Numerical Investigations

Technical Paper Session | CFD-21 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/3B909EA0-FD80-48B1-8184-05C73A9CD901>

Session Contributors: David Davis, John-Paul Mosele, Andreas Gross, Andreas Gross, Manan Vyas, Andreas Gross, Andreas Gross, John Slater, John-Paul Mosele, Donald Rizzetta, Scott Sherer, Donald Rizzetta, Donald Rizzetta, Daniel Garmann, Donald Rizzetta, Miguel Visbal, Scott Sherer, Andreas Gross, Zachary Robison, Andreas Gross, Andreas Gross, Zachary Robison, Stephen Simko, Andreas Gross, Andreas Gross, Andreas Gross, Sunyoung Lee, Andreas Gross, Andreas Gross, Sunyoung Lee

Session Papers (if applicable):

Axisymmetric and Asymmetric Turbulent Shockwave Boundary Layer Interaction at Mach 2.5, Comparative Numerical Study of Supersonic Cavity Flow, Numerical Investigation of 50% Reaction Low-Pressure Turbine Stage, Numerical Investigation of Effect of Corrugated Wall on Supersonic Turbulent Shock-Wave Boundary ...

Session Title: Machine Learning and Big Data Applications to Air Transportation II

Technical Paper Session | ATOMS-15 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/2F069C61-5414-4509-B5AB-A85B118952F5>

Session Contributors: Andrew Churchill, Andrew Churchill, William Coupe, Daniel Wesely, John Slough, Craig Johnson, Amy Mykityshyn, Benjamin Marple, Liya Wang, Cedric Justin, Simon

Briceno, Jung-Hyun Kim, Simon Briceno, Cedric Justin, Dimitri Mavris, Jung-Hyun Kim, Yoon Jung, William Coupe, Yoon Jung, Andrew Churchill, Andrew Churchill, Alexandre Amblard, Sarah Youlton, William Coupe

Session Papers (if applicable):

A Machine Learning Approach to Predict Aircraft Landing Times using Mediated Predictions from Exi..., Deep Learning for Flight Demand and Delays Forecasting, Designated Points-based Free-Flight Approach to Enable Real-Time Flight Path Planning, Predicting Arrival and Departure Runway Assignments with Machine Learning, Real-Time Unimpeded Taxi Out Machine Learning Service

Session Title: Operational Aspects of On-demand Mobility and Transformational Flight II

Technical Paper Session | ATM-08/TFS-25/VSTOL-11 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/935E994D-E5F4-4C61-B64A-B96CA130319C>

Session Contributors: Apoorv Maheshwari, William Crossley, Dan DeLaurentis, Apoorv Maheshwari, Dimitri Mavris, Alexia Payan, Cedric Justin, Alexia Payan, Cedric Justin, Cedric Justin, Dimitri Mavris, Cedric Justin, Alexia Payan, Jeremy Decroix, Laura Morejón Ramírez, David Zahn, Shivanjli Sharma, Marcus Johnson, James Herrera, Peter Shannon, Dan DeLaurentis, Hsun Chao, Apoorv Maheshwari, Apoorv Maheshwari, William Crossley

Session Papers (if applicable):

Analyzing Impact of Unusual Changes in Travel Pattern on UAM Attractiveness, Demand Modeling and Operations Optimization for Advanced Regional Air Mobility, Design and Operation Considerations for the Integration of Fleets of Regional Air Mobility Aircra..., Microplex: Integrated UAM Operations in a Multimodal Transportation System, Weather Impact Assessment for Urban Aerial Trips in Metropolitan Areas

Session Title: Operations Analysis

Technical Paper Session | ACD-16 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/71F34DAD-5085-48C1-89B0-7495AF822E2F>

Session Contributors: Peter Sharpe, Annick Dewald, John Hansman, Kristian Amadori, Athanasios Papageorgiou, Christopher Jouannet, Raghu Chaitanya Munjulury, Roland Gårdhagen, Alejandro Rios Cruz, Bento Mattos, Mayara Rocha Murca, Bento Mattos, Jose Fregnani, Martin Schofield, Naomi Allen

Session Papers (if applicable):

An Optimization Approach to Mapping the Feasible Mission Space of a High-Altitude Long-Endurance ..., Development of Analysis Capabilities for the Preliminary Sizing and Evaluation of Unmanned Airbor..., Identification of the Actual Mission Profiles and Their Impact on the Integrated Aircraft and Air..., Impact of Nascent Technologies on the Sustainability Attributes of an Evolutionary Single-Aisle A...

Session Title: Propeller, Rotorcraft and V/STOL Noise IV

Technical Paper Session | AA-49 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/FB85F126-9868-4581-957B-6B8584D6EAB1>

Session Contributors: Alper Celik, Mahdi Azarpeyvand, Alper Celik, Mahdi Azarpeyvand, Nur Syafiqah Jamaluddin, Djamel Rezgui, Nhan Nguyen, Raja Zahirudin, Nhan Nguyen, Sihong Yan, Juntao Xiong, Nhan Nguyen, Juntao Xiong, Jose Palacios, Sihong Yan, Juntao Xiong, Nhan Nguyen, Juntao Xiong, Chaitanya Paruchuri, Phillip Joseph, Phillip Joseph, Chaitanya Paruchuri, Stephen Prior, Anthony Parry, Deepak Akiwate, Michel Roger, Gilles Serre, Elina Cros, Ramiz İçke, Oktay Baysal, Ramiz İçke

Session Papers (if applicable):

Aeroacoustic Performance of Counter-Rotating Propellers in Tandem Configuration for UAV Applications, Anti-Phase Vortex Reduction Control for Rotor Noise Suppression, On the noise generation mechanisms of overlapping propellers, On the very low frequency scattering of propeller noise by a neighboring cylinder, Wing-Tip Mounted Propeller: Analysis and Adjoint Sensitivities of Noise Generation and Propagation

Session Title: Propeller/Rotorcraft/Wind Turbine Aerodynamics III

Technical Paper Session | APA-52 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/OCD02169-3BF8-4A74-9A14-D3A2E4118061>

Session Contributors: Federico Rovere, George Barakos, Rene Steijl, Bill Fredericks, Drew Landman, Colin Britcher, Engin Baris, Moshe Hollander, Michael Aftosmis, Michael Aftosmis, Jonathan Chiew, Malhar Prajapati, Dhwanil Shukla

Session Papers (if applicable):

Brownout Simulations of Model-Rotors, Experimental Performance Measurements of an Isolated Drone Propeller Over a Range of Orientations, Integral Velocity Sampling for Unsteady Rotor Models on Cartesian Meshes, Study of Synchronized Multirotor Micro Air Vehicle Aerodynamics

Session Title: Special Session: Hybrid Wind Tunnel Workshop III
Technical Workshop | AA-50 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/87718B88-2714-4B62-90BF-F2AED6CBF0B8>

Session Contributors:
Session Papers (if applicable):

Session Title: Special Session: Sandia Presentation of Data for the Validation Challenge for Transonic Unsteady Shock Motion
Technical Panel | FD-43 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/57B5AFF2-11CA-427F-AB71-7E9AF5A46DF4>

Session Contributors:
Session Papers (if applicable):

Session Title: Systems Engineering / Systems of Systems
Technical Paper Session | ACD-17 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/EB1D763F-99FD-47D5-BCF7-32CEDCF93364>

Session Contributors: Brandon Smith, Ali Raz, Eli Sitchin, William Stahlschmidt, Dan DeLaurentis, Björn Nagel, Patrick Ratei, Nabih Naeem, San Kilkis, Prajwal Prakasha, Doug Christensen, Michael Drake, Jeanne Yu, Richard Wahls, Barbara Esker, Laurette Lahey, David Akiyama, Patrick Ratei, Urte Brand, Thomas Vogt, Björn Nagel, Stefany Villacis, Nabih Naeem, Veatriki Papantoni, Prajwal Prakasha

Session Papers (if applicable):
Modeling Hypersonic Vehicle Interdependencies at the Subsystem Level, System of Systems Simulation Driven Wildfire Fighting Aircraft Design, Total Technology Readiness Level: Accelerating Technology Readiness for Aircraft Design, Urban Air Mobility Vehicle and Fleet-level Life-Cycle Assessment Using a System-of-Systems Approach

Session Title: Theoretical Aerodynamics
Technical Paper Session | FD-44 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/7D2F2B6C-83C9-485D-91D1-0C1792A5BD2F>

Session Contributors: Mohammed Afsar, Adrian Sescu, Omar Es-Sahli, Adrian Sescu, Mohammed Afsar, Yuji Hattori, Makoto Hirota, David Williams, Francis Lagor, Xianzhang Xu, Francis Lagor, Seyed Tabatabaei, Xianzhang Xu, Mostafa Nabawy, Hao Li, Gonzalo Villamor, Francis Lagor, Xianzhang Xu, Francis Lagor, Xianzhang Xu, Kewei Xu, Yan Ren, Gecheng Zha, Gecheng Zha, Gecheng Zha, Gecheng Zha, Yan Ren, Kewei Xu

Session Papers (if applicable):

A compressible boundary layer optimal control approach using nonlinear boundary region equations, Added-mass force contributions from thin-airfoil theory without small-angle and small-camber assu..., Aerodynamic Modelling of Insect Wings Using Joukowski Transformation, Optimal Pitching in a Transverse Gust Encounter Using a Modified Goman-Khrabrov Model, Separation Control by Co-Flow Wall Jet

Session Title: Turbomachinery and Core Noise II

Technical Paper Session | AA-51 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/64B09F59-61EC-4FA1-997B-AB19CEAF61AE>

Session Contributors: Dan Zhao, Weixuan Li, Xiong Chen, Gonzalo Montero Villar, Niklas Andersson, Gonzalo Montero Villar, Ignacio Zurbano-Fernández, Friedrich Bake, Friedrich Bake, Lionel Hirschberg, Karsten Knobloch, Steven Hulshoff, Adolfo Serrano, Adolfo Serrano, Jose Ramon Fernandez Aparicio

Session Papers (if applicable):

Effects of Inlet Thermodynamic Properties on Generating Combustion Instability in Ramjet Combustor, Fan/OGV Broadband Noise Prediction using Phase Lagged Boundary Conditions, Noise reduction of a centrifugal plug fan with leading edge or trailing edge serrations, Swirl-Nozzle Interaction Experiments: Influence of Injection-Reservoir Pressure and Injection Pul..., Turbine Tone Noise Prediction in High Speed Turbines Using a Linearized CFD Solver: Comparison wi...

Session Title: Various Topics in Fluid Dynamics

Technical Paper Session | FD-45 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5B716769-0CF2-425C-BC07-501E0B118A5C>

Session Contributors: Akhileshwar Borra, Theresa Saxton-Fox, Ajay M, Sai Shankaran B, Navin A, Prisha Asher, Surya B, Merrish Aloy A, Vigneshwaran Sankar, Vigneshwaran R, VR Sanal Kumar, Joseph Majdalani, Manas Khurana, Erin Decarlo, Timothy Eymann, Erin Decarlo, Earl Duque, Timothy Eymann, Timothy Eymann, Andrew Cary, John Schaefer, Kiran Bhaganagar, Daniel Brun

Session Papers (if applicable):

Conditional POD and Space-Time POD for a Turbulent Boundary Layer with Passive Scalar Transport a..., Design Optimization of a Variable Thrust Nanoscale Nozzle-less Propulsion System, On the Kármán Momentum-Integral Approach and the Pohlhausen Paradox, Overview of Challenges in Performing Uncertainty Quantification for Fluids Engineering Problems, Use of Quadcopter UAV Multicopter for ABL Wind and Temperature Measurements

Session Title: Forum 360: Safety Certification for Machine Learning

Forum 360 | F360-09 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/0ED5D470-C2F1-4816-B0D9-35134E6BCBEA>

Session Contributors:

Session Papers (if applicable):

Session Title: Assessing and Improving Flight Crew Workload

Technical Paper Session | GA-05/TFS-26 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/0974B696-56A4-4D7C-AEEF-3E8B29C45B6E>

Session Contributors: Fotis Kopsaftopoulos, Alexander Belsten, John Maris, Antonio Cortés, JW Wallace, Nicoletta Fala, Josh Kalin, Gerald Hernandez, Matt Ciolino, Jay Coquat, David Noever

Session Papers (if applicable):

Data-Driven Flight State Identification via Time-Series-Informed Features and Convolutional Neura..., Evaluating Cognitive Bias During Airborne Icing Encounters., Identification of Potential Gaps and Requirements in Weather Sources for General Aviation and UAS..., Using Unstructured Text Narratives to Correct Work Unit Codes in the Wild

Session Title: AVIATION Awards Ceremony

Special Programming | AW | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/90037FC8-AB05-4F22-AEFF-99393CBB4D51>

Session Contributors:

Session Papers (if applicable):

Session Title: Computer Systems

Technical Paper Session | CS-03 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/9DDCABDF-E6AB-4ECE-912C-B96106F135C2>

Session Contributors: Margarete Frost, Robert Walters, Karen Feigh, Eric Laurendeau, Anthony Bouchard, Karen Feigh, Alexia Payan, Dimitri Mavris, Andrew Speirs, Coline Ramée, Alexia Payan, Garrett Jares, John Valasek, Christopher Coley

Session Papers (if applicable):

Development of a Reset Algorithm for a Helicopter Shipboard Landing Guidance System, GPU Computing of a Jacobian-Free Newton Krylov Solver for RANS Equations, Impact of Adverse Weather on Commercial Helicopter Pilot Decision-Making and Standard Operating P..., Investigating Takeover of Aerospace Systems via Falsification of Sensor Data, Mixed-Precision Variational Multiscale Modeling with Discontinuous Subscales for Scalar Transport

Session Title: Low Speed, Low Reynolds Number Aerodynamics

Technical Paper Session | APA-50 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/67A6912D-CFEE-4696-9986-1CFEC201FD5E>

Session Contributors: Per-Olof Persson, Per-Olof Persson, David Willis, Per-Olof Persson, Per-Olof Persson, Antonio Monteiro, David Willis, Clara De Santis, Renato Tognaccini, Pietro Catalano, Pietro Catalano, Nipun Arora, Farhanuddin Ahmed, Nipun Arora, Paul Broadley, Mostafa Nabawy, Paul Broadley, Ashok Gopalarathnam, Yi Tsung Lee, Kiran Ramesh, Ashok Gopalarathnam

Session Papers (if applicable):

A Computational Study of LEV development on Compliant 2D Wings using a Low-Fidelity FSI model, A model for enhancing turbulent production in laminar separation bubbles, Aerodynamic investigation of three-dimensional “clap and fling” motion, Effects of wing planform shape on low Reynolds number revolving wings, Study of edge suction in airfoils with round trailing edges in
unsteady flow

Session Title: Forum 360: Diversity and Inclusion in Next Generation Airspace
Forum 360 | F360-10 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/87A36E5C-8918-4F32-B9A2-1FC169023338>

Session Contributors:
Session Papers (if applicable):

Session Title: Acoustic/Fluid Dynamics Interactions VI
Technical Paper Session | AA-52 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A2C2404E-2C81-4A56-8288-C27F6AB646AE>

Session Contributors: Christophe Schram, Riccardo Zamponi, Daniele Ragni, Stephane Moreau, Stephane Moreau, Daniele Ragni, Christophe Schram, Riccardo Zamponi, Benjamin Cotté, David Raus, Romain Monchaux, Lisa Sicard, Emmanuel Jondeau, Pascal Souchotte, Michel Roger, Matthew Colbrook, Lorna Ayton, Lorna Ayton

Session Papers (if applicable):

Experimental and Analytical Investigation of the Distortion of Turbulence Interacting with a Poro..., Experimental characterization of the noise generated by an airfoil oscillating above stall, Non-linear Forchheimer corrections in acoustic scattering

Session Title: Airframe/High-Lift Noise VII
Technical Paper Session | AA-53 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1505C8EF-F923-4453-B09C-58C93663AA93>

Session Contributors: Yuejun Shi, Yuejun Shi, Wolfgang Kollmann, Máté Szoke , Nandita Nurani Hari, Tom-Robin Teschner, Nandita Nurani Hari, Stewart Glegg, Máté Szoke , William Devenport, Stewart Glegg, William Devenport, Stewart Glegg, William Devenport, William Devenport, Stewart Glegg, Leandro De Santana, Leandro de Santana, Cornelius Venner, Laura Botero, Fernanda Leticia dos Santos, Nikolaj Even, Tulio Rodarte Ricciardi, Kunihiko Taira, William Wolf, Tulio Rodarte Ricciardi, Kunihiko Taira, Kunihiko Taira, Kunihiko Taira, William Wolf, Cornelius Venner, Leandro de Santana, Leandro De Santana, Laura Botero, Fernanda Leticia dos Santos

Session Papers (if applicable):

Aeroacoustic Characteristics of a Wind Turbine Airfoil under Dusty Air Conditions, Flow Field Analysis Around Pressure Shielding Structures, Influence of Surface Roughness Geometry on Trailing Edge Wall Pressure Fluctuations and Noise, Laminar-turbulent transition and intermittency effects on secondary tones from a NACA0012 airfoil, Modelling the Dissipation Range of von Kármán Turbulence Spectrum

Session Title: Duct Acoustics V

Technical Paper Session | AA-54 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/948BA494-63F3-4EEA-B28C-64B0B542A544>

Session Contributors: Chaitanya Paruchuri, Phillip Joseph, Chaitanya Paruchuri, Phillip Joseph, Jian Chen, Alexander Wilson, Alexander Wilson, Rhiannon Hawkins, Ben Baddour, Ronnie Leung, Phillip Joseph, Alan McAlpine, Alan McAlpine, Phillip Joseph, Cyril Polacsek, Loris Casadei, Thomas Node-Langlois, Hugues Deniau, Estelle Piot, Thomas Node-Langlois

Session Papers (if applicable):

An engine interstage beamformer for the separation of rotor and OGV broadband noise, Error Analysis for 1D Propagation Using Eigen Analysis in General Curvilinear Coordinates, Significance of cut-off modes in acoustic radiation from ducts, Towards sound absorption in a cylindrical lined duct using CFD with time-domain impedance boundar...

Session Title: Experimental-Computational Effects in High-Speed Fluid-Structure Interaction

Technical Paper Session | APA-48/FD-46 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6A08A82B-369A-4A20-8EF9-7D0EEF82BAC9>

Session Contributors: Kourosh Shoele, Vahid Tavanashad, Kourosh Shoele, Kourosh Shoele, Rajan Kumar, Jonas Gustavsson, Kourosh Shoele, Rajan Kumar, Rajan Kumar, Rajan Kumar, Akriti Tripathi, Mustafa Musta, Marc Eitner, Yoo-Jin Ahn, Jayant Sirohi, Leon Vanstone, Noel Clemens, Ryan Thompson, William Stevens, Christopher Clifford, Brian Rice, Brian Rice, Scott Peltier, Daniel Reasor, Scott Peltier

Session Papers (if applicable):

Analysis of Shock-wave Boundary Layer Interaction in Compressible Flows over Rigid and Flexible S..., Fluid Structure Interaction on a Compliant Panel subject to Shock Boundary Layer Interaction, Investigation of flow-structure coupling for a compliant panel under a

shock/boundary-layer inter..., Tomographic Particle Image Velocimetry Measurements of Supersonic Boundary Layers over 3D Surface...

Session Title: Frameworks, Tools & Processes II

Technical Paper Session | ACD-18 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/0FE2594A-1427-4A82-BA7B-EF4A355C5878>

Session Contributors: Qiqi Wang, Qiqi Wang, Runda Ji, Kristian Amadori, Christopher Jouannet, Christopher Jouannet, Nathan Beals, Bharath Govindarajan, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Tyler Souders, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Timothy Takahashi, Tyler Souders, Timothy Takahashi

Session Papers (if applicable):

Aerodynamic Risk Assessment using Parametric, Three-Dimensional Unstructured, High-Fidelity CFD a..., Multi-Fidelity Aircraft Conceptual Design Framework., Trim Strategies for Over-Actuated Vehicle Configurations During Conceptual Design, VORLAX 2020: Benchmarking Examples of a Modernized Potential Flow Solver, VORLAX 2020: Making a Potential Flow Solver Great Again

Session Title: GN&C issues in Aircraft Design

Technical Paper Session | ACD-19/MDO-27 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/22CAC10C-9E44-41D2-BAF7-848F1F904EA3>

Session Contributors: Chao An, Yang Meng, Chao Yang, Qingyun Wang, Changchuan Xie, Rikin Gupta, Taewoo Nam, Yufei Zhu, Wenbin Wan, Naira Hovakimyan, Lui Sha, Yikun Cheng, Hunmin Kim, Petros Voulgaris, Wenbin Wan, Sean Nolan, Dan DeLaurentis, Sean Nolan, Ahmed Aboelezz, Mostafa Hassanalian, Mostafa Hassanalian

Session Papers (if applicable):

Flight Dynamics and Control of Multi-body Aircraft, Flight Dynamics, Control Law Design, and Flight Tests of Kite, Safety Constrained Multi-UAV Time Coordination: A Bi-level Control Framework in GPS Denied Enviro..., Solving Optimal Control Problems with Regional Insensitivities to Controls, System Identification and Neural Network Model Predictive Control of a Fixed-Wing Micro Air Vehicle

Session Title: High Angle of Attack/High Lift Aerodynamics

Technical Paper Session | APA-49 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6AFE4D96-6F5D-488F-8475-43A392DFF096>

Session Contributors: Ramesh Agarwal, Ramesh Agarwal, Ramesh Agarwal, Karsten Hendrickson, Ramesh Agarwal, Benjamin Dickinson, Rajan Kumar, Devon Foster, Rajan Kumar, Rajan Kumar, Rajan Kumar, Joaquim Martins, Joaquim Martins, Joaquim Martins, Joaquim Martins, Sabet Seraj, Daniel Garmann, Daniel Garmann, Miguel Visbal, Miguel Visbal, Miguel Visbal, Daniel Garmann, Daniel Garmann, Miguel Visbal

Session Papers (if applicable):

Computations of Flow past a Three-Element 30P30N Airfoil Using Wray-Agarwal One Equation Turbulen..., Experimental Investigation of a Deflected Forebody Projectile at High Angles of Incidence, Predicting the High Angle of Attack Characteristics of a Delta Wing at Low Speed, Structure of the Compressible Laminar Separation Bubble on a Stationary Airfoil

Session Title: Integration Effects and Flight Acoustics

Technical Paper Session | AA-55 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6F23C1D5-67E2-40B5-9CCC-A81E72649B9E>

Session Contributors: Jernej Drofelnik, Matej Andrejasic, Blaz Mocan, Tadej Kosel, Christophe Schram, Joachim Dominique, Joachim Dominique, Julien Christophe, Antoine Hajczak, Corneliu Stoica, Mihaela Manea, Raluca Balasa, Christophe Schram, Julien Christophe, Thomas Le Garrec, Mathieu Lorteau, Mathieu Lorteau, Alan McAlpine, Alan McAlpine, Dionysios-Marios Rouvas, Virginie Bonneau, Stéphane Lemaire, Vincent Fleury, Yann Revalor

Session Papers (if applicable):

Measurement and modelling of aero-acoustic installation effects in tractor and pusher propeller a..., Numerical assessment of fan noise confinement effects in a closed wind-tunnel, Theoretical Methods for the Prediction of Near-Field and
Far-Field Sound Radiation of Fan To..., Validation of an advanced Turbulent Boundary Layer noise model using low speed wind tunnel tests ...

Session Title: Jet Noise IX

Technical Paper Session | AA-56 | AVIATION

Session Date: 2021-08-06
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/33C7A94E-B7E5-4BFD-934D-AFA40BBB2B0D>

Session Contributors: Khairul Zaman, Brian Heberling, Khairul Zaman, Khairul Zaman, Khairul Zaman, Brian Heberling, Jack Lawrence, Anderson Proenca, David Morata, Dimitri Papamoschou, Dimitri Papamoschou, David Morata, Dimitri Papamoschou, Dimitri Papamoschou, Philip Morris, Philip Morris, Evren Yenigelen, Philip Morris, Philip Morris

Session Papers (if applicable):

A study of flow and noise from supersonic plug nozzles, Blockage Effects on the Pressure Field of 3D-Printed Small-Scale Jet Nozzles, Effect of Nozzle Geometry on the Space-Time Emission of Screech Tones, The Use of a Noise Barrier with a Cut-out to Reduce Acoustic Levels During a Rocket Launch

Session Title: Machine Learning and Big Data Applications to Air Transportation III

Technical Paper Session | ATOMS-16 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6A3F445A-90F5-4E35-BB18-3BB1947866EA>

Session Contributors: William Coupe, Juan Rebollo, Shaymaa Khater, Christine Taylor, Emily Bromberg, Everett Carson, Erik Vargo, Carlos Paradis, Rick Kazman, Becky Hooey, Misty Davies, Olivia Pinon-Fischer, Tejas Puranik, Samantha Corrado, Dimitri Mavris, Jesse Williams, Roohollah Heidary, Tejas Puranik, Rodrigo Rose, Hansoo Kim, Hong-Cheol Choi, Inseok Hwang, Kwangyeon Kim

Session Papers (if applicable):

A Recursive Multi-step Machine Learning Approach for Airport Configuration Prediction, A Supervised Learning Approach to Support Artificial Intelligence Enabled Traffic Flow Management, A Survey Protocol to Assess Meaningfulness and Usefulness of Automated Topic Finding in the NASA ..., Deep Autoencoder for Anomaly Detection in Terminal Airspace Operations, Hybrid Data-driven and Physics-based Conformal Anomaly Detection in Air Traffic Surveillance Data

Session Title: Multifidelity Methods for MDO

Technical Paper Session | MDO-28 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/DAA2BA28-A558-4088-9F5D-12E78BB9E211>

Session Contributors: Simone Ficini, Umberto Iemma, Riccardo Pellegrini, Matteo Diez, Andrea Serani, Matteo Diez, Riccardo Pellegrini, Melike Nikbay, Huseyin Tekaslan, Sihmehmet Yildiz, Yusuf Demiroglu, Gilberto Ruiz Jimenez, Joan Mas Colomer, Joseph Morlier

Session Papers (if applicable):

Assessing the Performance of an Adaptive Multi-Fidelity Gaussian Process with Noisy Training Data..., Implementation of Multidisciplinary Multi-Fidelity Uncertainty Quantification Methods in Sonic Bo..., Multifidelity Aeroelastic Optimization with Application to a BWB.

Session Title: Optimization Under Uncertainty II

Technical Paper Session | MDO-29 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9374E69D-737D-4327-8595-D8955F378CEE>

Session Contributors: Edwin Forster, Edwin Forster, Andrea Da Ronch, Andrea Da Ronch, Nathalie Bartoli, Andrea Da Ronch, Nathalie Bartoli, Sébastien Defoort, Andrea Da Ronch, Marco Saporito, Daniel Clark, Philip Abolmoali, Raj Shah, Chen Zeng, Eleonora Botta, Chen Zeng, Souma Chowdhury, Souma Chowdhury

Session Papers (if applicable):

Efficacy of Local and Global Sensitivities on Design of Structures under Uncertainty, Flying qualities reliability constraints in aircraft conceptual design using time-marching simula..., Gradient-Based Optimization of Time-Dependent Aircraft Subsystems under Uncertainty, Launch and Closure Optimization under Uncertainties for a Tether-Net Space Debris Capture System

Session Title: Other Topics in Applied Aerodynamics

Technical Paper Session | APA-51 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/89C3355C-83DC-4EA9-9A51-955B46359B23>

Session Contributors: Chen Liu, Chen Liu, Changhong Sun, Yipeng Cao, Philip Roe, Rei Yamashita, Yoshikazu Makino, Philip Roe, I-Han Liu, Roberto Torelli, Marcel Ilie, matthew Chan, Marcel Ilie, Augustin Semenescu, Vladimir Golubev, Vladimir Golubev, Vladimir Golubev, Gladston Joseph, Vladimir Golubev, Jacob Adamski, Gladston Joseph, Snorri Gudmundsson

Session Papers (if applicable):

Effects of exhaust particles on turbine performance and aerodynamic noise, Fast Full-Field Simulation of Sonic Boom Using Space Marching Method, Numerical Characterization of a Multi-Copter using Moving Boundaries and Cut-Cell Grids, The effect of impinging jets on the turbulent mixing of cavity flows; numerical studies using LES..., Towards Development of a Dynamic-Soaring, Morphing-Wing UAV: Simulation Results

Session Title: Propeller, Rotorcraft and V/STOL Noise V

Technical Paper Session | AA-57 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/CD1953C2-7B4E-455D-8A09-2589827FFB5D>

Session Contributors: Paul Leitch, Ricardo Sanchez, Kenneth Van Treuren, Charles Wisniewski, Mahdi Azarpeyvand, Nur Syafiqah Jamaluddin, Djamel Rezgou, Alper Celik, Alper Celik, Mahdi Azarpeyvand, Nathan Moshman, Chaitanya Paruchuri, Chaitanya Paruchuri, Phillip Joseph, Anthony Parry, Deepak Akiwate

Session Papers (if applicable):

Acoustically Testing Stock and Modified UAS Propellers in Both the Near and Far Field, An Experimental Investigation On Aeroacoustics Performance Of Propeller In Hover And Transition T..., Helicopter Acoustics Model (HAM): A Mid-Fidelity Aeroacoustics Model for Predicting Helicopter No..., On the balance between the tonal and broadband noise of uninstalled propellers

Session Title: Turbomachinery and Core Noise III

Technical Paper Session | AA-58 | AVIATION

Session Date: 2021-08-06

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/AE5C37B9-A050-4E84-838B-E139EFA5B604>

Session Contributors: Yutong Xue, Ted Wiegandt, Lon Stevens, Tim Persoons, Sahan Wasala, William Schuster, William Schuster, Ulf Tapken, Luciano Caldas, Robert Meyer, Maximilian Behn, Lukas Klähn, Robert Jaron, Angelo Rudolphi, Ulf Tapken, Regis Koch, Marlène Sanjosé, Regis Koch, Stephane Moreau, Stephane Moreau

Session Papers (if applicable):

Aeroacoustic noise prediction from a contra-rotating cooling fan used in data center cooling systems, Empirical Stability of Engine Tones Measured in Rig and Engine Testing, Fan test rig for detailed investigation of noise generation mechanisms due to inflow disturbances, Large-Eddy Simulation of a Linear Compressor Cascade with Tip Gap: Aerodynamic and Acoustic Analysis

Session Title: Aerospace – Who’s the Disrupter, Who’s the Disruptee?

Plenary Session | PLNRY-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/60E72236-E5F0-41AE-BA69-09BD291DADD4>

Session Contributors:

Session Papers (if applicable):

Session Title: Challenges and Successes of Harnessing Detonation-Based Combustion for Propulsion Applications

Technical Panel | PGC-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/0A9232D3-6393-455B-8637-27D348C020DA>

Session Contributors:

Session Papers (if applicable):

Session Title: EP for New Space

Technical Panel | EP-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C709FE82-2982-4408-A8AB-65EFD4479402>

Session Contributors:

Session Papers (if applicable):

Session Title: Forum 360: Emerging Markets: Sustainability From Day One

Forum 360 | F360-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/D47B3B97-A87F-48C8-9163-2216A1201DE6>

Session Contributors:

Session Papers (if applicable):

Session Title: Rising Leaders In Aerospace: Panel on Impacts of Advanced Air Mobility

the HUB | HUB-15 | P&E

Session Date: 2021-08-09

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/4EC43BB4-EB0C-4042-BD7B-7DF7E3283A0C>

Session Contributors:

Session Papers (if applicable):

Session Title: Undergraduate Gas Turbine Engine Design Competition

Technical Panel | GTE-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/1F693B52-6F46-4DAC-8964-A429CBF0BFCE>

Session Contributors:

Session Papers (if applicable):

Session Title: Additive Manufacturing for Propulsion - Novel Applications

Technical Paper Session | AMP-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/7EBDBE13-28A4-4E39-8975-B6F8332A6899>

Session Contributors: Pedro Alves, Miguel Silvestre, André Rodrigues, Shamim Mondal, Matt Villarreal, Shamim Mondal, Edward McCabe, Stephen Whitmore, Kurt Olsen, Parker Forster, Cagri Oztan, Victoria Coverstone, Stephen Whitmore, Josef Biberstein, Ezra Tal, Sertac Karaman

Session Papers (if applicable):

Assessment of Low Cost FDM 3D Printing in Low Reynolds Number Propeller Prototyping, Development And Testing Of Additively Manufactured Strain Gauge Sensors And Custom Built Hardware..., Test and Evaluation of Copper-Enhanced, 3-D Printed ABS Hybrid Rocket Fuels, Thrust Vectoring of Small-scale Solid Rocket Motors Using Additively Manufactured Jet Vanes

Session Title: Advanced Concepts

Technical Paper Session | EP-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/9556D2B1-F4CB-4518-B3D6-5C3F9404F531>

Session Contributors: Patrick Crandall, Richard Wirz, Richard Wirz, Kai Yang, Tien-Chun Niu, Kuo-Yi Chen, Bei-Jing Zhong, Anna Sheppard, Anna Sheppard, Justin Little, Manuel La Rosa Betancourt, Marcus Collier-Wright, Morgan Chambard, Jaime Lozano, Georg Herdrich, Alexander Behnke, Richard Wirz, Angelica Ottaviano, Richard Wirz

Session Papers (if applicable):

Air-Breathing Electric Propulsion Mission Characterization and Design Analysis, Compact permanent magnet hexapole electron cyclotron resonance ion source using 2.45 GHz

magnetron, Performance Analysis of an Electron Cyclotron Resonance Thruster with Various Propellants, Progress in Research and Development of Superconductor-Based Applied-Field Magnetoplasma Dynamic T..., Secondary Electron Emission from Complex Surfaces

Session Title: Advanced Integrated Intelligent Propulsion Controls

Technical Paper Session | AIIPC-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C9374330-BF50-4746-8C92-AC55880374EB>

Session Contributors: Xiaocui Li, Franklin Duan, Franklin Duan, Oskar Gurevich, Sergei Smetanin, Sergei Smetanin, Mikhail Trifonov, Günther Waxenegger-Wilfing, Stefan Schlechtriem, Kai Dresia, Günther Waxenegger-Wilfing, Lukas Werling, Till Hörger, Kai Dresia, Lukas Werling

Session Papers (if applicable):

A Novel Design of Embedded Thin Film Smart Sensors for High Temperature Measurement on Complex Ae..., Automatic Control to Reduce the Effect of Deterioration of Gas Turbine Engine Components on Its P..., Preliminary Investigation of Robust Reinforcement Learning for Control of an Existing Green Prope...

Session Title: Combustors I

Technical Paper Session | GTE-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/12D461A8-AC17-42F5-92D0-BCC3AB5533AC>

Session Contributors: Marc Polanka, Brian Bohan, Nathan Clark, Andrew Caswell, Marc Polanka, Jin Dang, Jushan Chin, Sangsig Yun, Bertrand Jodoin, Zekai Hong, Mathieu Hinse, Patrick Richer, Zekai Hong, Mathieu Hinse, Ephraim Gutmark, Rodrigo Villalva Gomez, Yuvi Nanda, Lipika Kabiraj, Aditya Saurabh, Lipika Kabiraj, Eric Mayhew, Jacob Temme, Vincent Coburn, Eric Wood, Austen Motily, Tonghun Lee, Chol-Bum Kwon

Session Papers (if applicable):

Application of a Compact Combustor in Small-Scale JetCat Engines, Design Considerations for Extra High-Pressure Ratio (70) Civil Aero Engine Low-Emission Combustor, Design of Porous Media for Optimal Combustion Liner Transpiration Cooling, Dynamics of Thermoacoustic Oscillations in a Multi-Nozzle Combustor, Ignition and Flame Stabilization in a Single-Sector Combustor at Cold Start and Altitude Conditions

Session Title: Cryogenics

Technical Paper Session | LP-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/E7C73268-0EA2-4200-93BE-0FE602B64DDC>

Session Contributors: Riccardo Simi, Angelo Pasini, Alessandro Apollonio, Angelo Pasini, Gabriele Brotini, Alessandro Apollonio, Luca d'Agostino, Marco De Rosa, Marco Leonardi, Daniel Hauser, Bruce Ciccotosto, Daniel Hauser, Andrew Hunt, Philipp Behruzi, Philipp Behruzi, Richard Foster-Turner, Martin Konopka, Anton Stark, Jens Gerstmann

Session Papers (if applicable):

A Test Facility for the Lifetime Characterization of Cryogenic High-Speed Bearings, Autogenous pressurization of a cryogenic tank using computational fluid dynamics, Detecting bubble rise in liquid nitrogen using Electrical Capacitance Tomography, Liquid Nitrogen Experiments and Simulations using a large-scale Aluminum Test Tank

Session Title: Diagnostics and Device Measurement

Technical Paper Session | PGC-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/DFAD5C56-6C78-403D-AE1E-D6EECB4637A4>

Session Contributors: Vijay Anand, Alexander Geller, Alexander Zahn, Justas Jodele, Nathaniel Chiles, Vijay Anand, Priya Patel, Priya Patel, Ephraim Gutmark, Tyler Pritschau, Grant Birindelli, Joshua Codoni, Christopher Brophy, Joshua Codoni, Christopher Brophy, Robert Miller, Ajay Agrawal, Ajay Agrawal, Robert Miller, Kareem Ahmed, Robert Burke, Kareem Ahmed, Robert Burke, Eric Paulson, Stephen Danczyk, William Hargus, Daniel Micka, Jonathan Sosa, Gregory Daines, John Bennewitz, John Bennewitz, William Hargus, David Morrow, Alexander Lima, Daniel Pineda, Anil Nair, Anil Nair, Alex Keller, R. Mitchell Spearrin, Stephen Danczyk, John Bennewitz, Blaine Bigler, Jason Burr, William Hargus, John Bennewitz, William Hargus, Jason Burr, Blaine Bigler, Ajay Agrawal, Ajay Agrawal, Jonathan Tobias, Donald Ferguson, Donald Ferguson, Kristyn Johnson, Andrew Nix, Zachary Tallman

Session Papers (if applicable):

Data-driven Regression Analysis of Performance Parameters in Rotating Detonation Engines, Experimental approaches for obtaining a temporally- and spatially-averaged representative static ..., Experimental Transfer Function of Recessed Pressure Probes for use in Rotating Detonation Engines, Heat Transfer Measurements in an Elevated Pressure RDRE Combustor, Rotating detonation of hypergolic space-storable rocket propellants with additively-manufactured ..., Rotating Detonation Rocket Engine Scaling using Variable Annular Width Geometries, Time Resolved Flow Field in the Radial Plane of an Aerospike Integrated with a Rotating Detonatio..., Use of Convolutional Neural Network Image Classification and High-Speed Pressure Data towards Rea...

Session Title: Electric Propulsion Diagnostics I

Technical Paper Session | EP-04 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/AD0C8C26-116D-4130-B3B6-6DFF31468A05>

Session Contributors: Yi-Chien Chen, Yueh-Heng Li, Ming-Hsueh Shen, Sheng-Wen Liu, Ta-Yen Huang, Jordan Hsieh, Hou-Yi Lee, Ming-Hsueh Shen, Yueh-Heng Li, Vernon Chaplin, Richard Wirz, Robert Lobbia, Vernon Chaplin, Mary Konopliv, Timothy Simka, Lee Johnson, Richard Wirz, Mary Konopliv, Robert Lobbia, Vernon Chaplin, Alejandro Lopez Ortega, Ioannis Mikellides, Vernon Chaplin, Parker Roberts, James Polk, Alejandro Lopez Ortega, Ioannis Mikellides, James Polk, Jon Mackey, Gabriel Benavides, Jon Mackey, Matthew Baird, Drew Ahern, Corey Rhodes, Drew Ahern, Gabriel Benavides

Session Papers (if applicable):

A Study of a Retarding Potential Analyzer for Electric Propulsion Diagnostics, Development of Wien Filter for a low-power Hall Thruster Plume Characterization, Insights from Collisional-Radiative Models of Neutral and Singly-Ionized Xenon in Hall Thrusters, Ion Velocity and Wave Dispersion Relation Measurements Using Laser-Induced Fluorescence in the HE..., Uncertainty in Thrust Vector Diagnostic Measurements

Session Title: Energy Conversion Technology

Technical Paper Session | ECT-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/E00D012F-42C6-42B0-BF02-5FA20304CB0F>

Session Contributors: Jorge Barata, Andre Silva, Leandro Magalhães, Andre Silva, Malaya Kumar Biswal M, Ramesh Naidu Annavarapu, Terry Reid, Luis Rodriguez, Steven Geng, Scott Wilson, Donguk Yang, Donguk Yang, Geoffrey Landis, Jamie Phillips, Geoffrey Landis, Jianjian Wang

Session Papers (if applicable):

Computational Analysis of High-Pressure Nitrogen Jets from Transcritical to Supercritical Gas-Lik..., Design of In-Situ Flywheel Generator and Energy Storage System for Enhanced Power Production on Mars, Modeling and Analysis of Stirling Power Convertors, Review of Controllers for Low-Power Free-Piston Stirling Convertors, Thermoradiative Conversion: Introduction and Mission Applications

Session Title: Future Propulsion Concepts - Warp and Spacetime

Technical Paper Session | NFFP-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/AFC5923F-7DF0-4813-BBC5-CCB55072085E>

Session Contributors: Harold (Sonny) White, Bryan Palaszewski, Bryan Palaszewski, Raymond Sedwick, Jerry Carson, Amelia Cherian, Ella Vicente, Adil Hassam, Jared Fuchs, Joseph Agnew, Christopher Helmerich, Joseph Agnew, Gregory Meholic, Gregory Meholic

Session Papers (if applicable):

Analysis of custom Casimir cavities using worldline numerics analysis technique leads to unexpect..., Atmospheric Mining in the Outer Solar System: Outer Planet Moon Bases, Propulsion, In-Situ Resour..., Centrifugal Confinement Direct-Drive Fusion Propulsion, Numerical Optimization of Warp Drive Geometries, The Possibility of Superluminal Travel Through A Fluid-Like Spacetime

Session Title: Green and Non-Toxic Propellants I

Technical Paper Session | LP-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6B842A0D-46A5-4FB9-811B-25F08789A9CA>

Session Contributors: Shinji Igarashi, Yoshiki Matsuura, Nicolas Pelletier, Lorenzo Byrde, Jerome Anthoine, Alessandro Ruffin, Mario Pessana, Francesco Barato, matteo fagherazzi, Francesco Barato, Nicolas Bellomo, Daniele Pavarin, Jan Witte, Felix Lauck, Dominic Freudenmann, Michele Negri, Felix Lauck, Stefan Schlechtriem

Session Papers (if applicable):

0.5N Thruster for Small Satellite Using HAN/HN-Based "Safety-Focused" Green Monopropellant, Characterisation of the ONERA / CNES High Performance Green Monopropellants Towards a Thruster Ap..., Development of the Propulsion System for a Moon Drone Vehicle Demonstrator, Investigation of a novel hypergolic ionic liquid fuel with hydrogen peroxide in an impinging inje...

Session Title: HR Modeling I

Technical Paper Session | HR-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A5D23FD0-9032-41EA-B4F0-0C827AFC9576>

Session Contributors: Elena Quero Granado, Jean-Yves Lestrade, Jouke Hijlkema, Jerome Anthoine, Daniele Bianchi, Mario Tindaro Migliorino, Francesco Nasuti, Daniele Bianchi, Mario Tindaro Migliorino, Mario Tindaro Migliorino, Daniele Bianchi, Landon Kamps, Harunori Nagata, Marco Rotondi, Harunori Nagata, Landon Kamps, Mario Tindaro Migliorino, Daniele Bianchi,

Naveen Sri Uddanti, Naveen Sri Uddanti, Benoit Dequick, Patrick Hendrick, Michel Lefebvre, Benoit Dequick

Session Papers (if applicable):

Development and Validation of a 1.5-D Combustion Chamber Model for a Hybrid Rocket Engine Applied..., Gas-Phase Reaction Effects on Nozzle Erosion in Paraffin/Oxygen Hybrid Rockets, Numerical Analysis of Nozzle Transient Heating and Erosion in Hybrid Rockets burning HDPE, Parametric Study of Space-Averaged Transient Hybrid Rocket Model, Two-Phase CFD Simulation of a 1kN Paraffin-Fueled Hybrid Rocket Motor

Session Title: HR Modeling II

Technical Paper Session | HR-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A7EC92AE-782B-42A6-851A-B9570A3DB824>

Session Contributors: Matthew Hitt, Matthew Hitt, Carmine Carmicino, Carmine Carmicino, Maxime Sicut, Toru Shimada, Harunori Nagata, Landon Kamps, Harunori Nagata, Landon Kamps, Ayumu Tsuji, Ai Yamada, Mai Fukada, Masashi Wakita, Ayumu Tsuji, Changjin Lee, Jina Kim, Changjin Lee, Landon Kamps, Harunori Nagata, Ayumu Tsuji, Landon Kamps, Harunori Nagata, Yuji Saito, Ayumu Tsuji, Yuji Saito

Session Papers (if applicable):

Axial-Injection, End-Burning Hybrid Rocket Motor Sensitivity Study, Evolutions in Ballistic Data Reconstruction Techniques for Hybrid Rockets, Experimental and Numerical Investigation of Throttling Response Mechanisms in Axial-Injection End..., Modeling of Phase Transition of Thermoacoustic Instability in Hybrid Rocket Combustion, Reconstruction techniques for determining O/F in hybrid rockets

Session Title: Ignition and Detonations

Technical Paper Session | PC-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/259255A1-8ABF-4ED9-911C-01084B16D9B9>

Session Contributors: Kashyap Acharya, Joseph Kalman, Jay Gore, Seunghyun Jo, Seunghyun Jo, Jay Gore, Foluso Ladeinde, HyeJin Oh, Austen Motily, Tonghun Lee, Je Ir Ryu, Sang-Guk Kang, Prapassorn Numkiatsakul, Waltraud Kriven, Kenneth Kim, Kenneth Kim, Chol-Bum Kwon, Je Ir Ryu

Session Papers (if applicable):

Computational Study of Ammonia-Air Ignition Delay Time with Impurities., Flame Speed of Turbulent Premixed Kernel in Turbulent Flows, Laser Induced Spark Ignition of Laminar

Premixed Methane Air Jets, Probability density distributions in detonation initiated by compressible turbulent thermodynamic..., Thermo-Mechanical Response of a Hot Surface Ignition Device under Aircraft Compression Ignition E...

Session Title: Modeling and Simulation

Technical Paper Session | PGC-03 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/01D2C6D4-B8A9-47B8-81F8-9C55F7DF060A>

Session Contributors: Gaurav Kumar, Gaurav Kumar, Veeraraghava Raju Hasti, Nitesh Attal, Min-Seon Jo, Pradeep Pavalavanni, Jeongyeol Choi, JeongYeol Choi, Pinaki Pal, Christopher Lietz, Pinaki Pal, Prithwish Kundu, Sinan Demir, Sibendu Som, John W. Bennewitz, Venkateswaran Sankaran, Christopher Lietz, William Hargus, William Hargus, HyeJin Oh, Somnic Jacobs, Foluso Ladeinde, Christopher Lietz, William Hargus, William Hargus, Christopher Lietz, Mathias Ross, Mathias Ross

Session Papers (if applicable):

Analysis of Flow and Detonation Wave Structure in a Rotating Detonation Engine, Comparison of Hydrogen Combustion Mechanisms for Unsteady Shock-Induced Combustion with Dynamic M..., Large-Eddy Simulations of Methane-Oxygen Combustion in a Rotating Detonation Rocket Engine, Supersonic Combustion Heat Flux in an RDE Model, Synthetic Laser Diagnostics of Simulated RDRE Exhaust

Session Title: Powering Our Future: Diversity & Inclusion in Propulsion

Engineering

the HUB | HUB-16 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6C767DDD-EC5E-4C21-B52E-53D3073D44D4>

Session Contributors:

Session Papers (if applicable):

Session Title: RF Thrusters I

Technical Paper Session | EP-05 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/28B77E4A-0AE4-418E-8DD0-F165F7999B1F>

Session Contributors: Kazuma Emoto, Kazunori Takahashi, Yoshinori Takao, Shadrach Hepner, Benjamin Jorns, Shadrach Hepner, Benjamin Jorns, Benjamin Jorns, Benjamin Wachs, Benjamin Jorns, Benjamin Wachs, Tate Gill, Joshua Woods, Christopher Sercel, Benjamin Jorns, Joshua Woods, Christopher Sercel, Benjamin Jorns, Kaho Akiyama, Takayasu Fujino

Session Papers (if applicable):

Investigation of Momentum Flux Lost to a Lateral Wall in an Electrodeless RF Plasma Thruster, Observation of a low frequency drift-driven instability in a magnetic nozzle, Optimization of an ECR Thruster using Two Frequency and Pulsed Waveforms, Performance Measurements of a 5 kW-Class Rotating Magnetic Field Thruster, Study on Nozzle Shape of Radio-Frequency Inductively Coupled Plasma Thruster

Session Title: Small Satellites

Technical Paper Session | SATS-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/3D623904-306A-4F18-A5E6-567405B2D0C6>

Session Contributors: Riccardo Simi, Angelo Pasini, Luca Lin, Elia Puccinelli, Alessandro Apollonio, Angelo Pasini, Gabriele Brotini, Alessandro Apollonio, Luca d'Agostino, Luca Sales, Eric Besnard, Daniel Cavender, Russell Barie, Christopher Bostwick, Jose Torres, James Rice, Richard Cobb, Christopher Sheffield, Florio Dalla Vedova, Hubert Moser, Raja Pandi Perumal, Holger Voos, Kevin Valdez, Jack Chessa, Ahsan Choudhuri, Amelia Greig, Ahsan Choudhuri, Ricardo Peña, Alejandro Silva Au, Angel Flores-Abad, Joel Quintana, Christian Lozoya

Session Papers (if applicable):

Design of an Affordable Hydrogen Peroxide Propulsion System for CubeSats, Development and Qualification of Green Propellant Micropump for MicroSat and CubeSat Propulsion S..., Development of a Cold-Gas Thruster Model and Fuel Gauge Methodology for use in CubeSat Applications, Statistical Analysis of Small Satellite Reliability: 1990-2019, TrainerSat: A Training Wheels Approach to Small Satellite Development

Session Title: Solid Propellants

Technical Paper Session | PC-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/9104A51A-D7B0-4836-8DF9-F92F36F6CE7D>

Session Contributors: Pier-Henri Chevalier, Julien Pichillou, Robin Devillers, Nelly Dorval, Robin Devillers, Dmitry Davidenko, Xavier Mercier, Wang JunLong, Ningfei Wang, Baolu Shi, Xiangrui Zou, Wenhao Yu, Alexander Lukin, Alexander Lukin, Yutaka Wada, Ryan Johnson, Brian Bojko, David Kessler, Andrew Hess

Session Papers (if applicable):

Investigation of aluminum droplet combustion in solid propellant flames: AI-PLIF experiments and ..., Numerical study on combustion characteristic of micron aluminum particle, Solid Propellant Performance Enhancement Through Synergistic Effect of the Functionalized Carbon-..., Towards a Simulation Method for Aluminum-Particle-Enhanced Solid Fuel Combustion Devices

Session Title: Space Power System and Component Designs and Operation

Technical Paper Session | APS-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/E091EECE-5A14-49E1-9DBB-9E19C8B21C08>

Session Contributors: Patrick Bailey, Manuel La Rosa Betancourt, Marcus Collier-Wright, Georg Herdrich, Alexander Behnke, Eric Wood, Keith Chin, Jennifer Herman, Jennifer Herman, Mitsuru Okubo, Yu Kamikawa, James Poylio, Greeta Thaikattil, Susan Jansen, Mathew Deminico, Maryam Younessi Sinaki, Jeremiah McNatt, Timothy Peshek

Session Papers (if applicable):

EPS TDS Electric Power Systems Time Dependent Simulation Tools For Verification, Validation, and ..., High-temperature superconductor based power and propulsion system architectures as enablers for h..., Power Operations of the Mars Exploration Rovers, Solar Power Module (SPM) Demonstration Coupon: Flexible Photovoltaic Assembly Development, Thermal Analysis of Photovoltaic Investigation on the Lunar Surface (PILS)

Session Title: Turbomachinery I

Technical Paper Session | GTE-03 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D686774D-80CB-438F-A2E7-A8B849B11AA2>

Session Contributors: Patrick Hendrick, Yu Min Liu, Zhengping Zou, Frank Buyschaert, Yu Min Liu, Tianbo Xie, Alejandra Uranga, Tianbo Xie, Vasilii Zubanov, Grigorii Popov, Maxim Miheev, Grigorii Popov, Vasilii Zubanov, Oleg Baturin, Evgenii Goriachkin, Alexey Vorobyev, Evgenii Fisher, Carlos Martel, Javier Gonzalez, Salvador Rodriguez, Ryan Meraux, Dimitris Nikitopoulos, Shyam Menon, Nicholas Kabatt, Shyam Menon

Session Papers (if applicable):

A Revision of the Ainley & Mathieson Loss Correlations, Capturing Aero-Propulsive Coupling Effects With a Body-Force Propulsor Model, Improvement of the aerodynamic parameters of a 16-stage axial compressor for industrial gas turbi..., Numerical continuation of the interaction of

flutter and forced response, The Effect of Shock Waves, Particle Density, and Particle Size in Solid-Gas Two-Phase Flow

Session Title: University Propulsion Programs

Technical Paper Session | EDU-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6F484DE9-72A5-4B39-AD96-6DE38575DE8F>

Session Contributors: Tess Olten, Janet Reyes, Robert Frederick, Robert Frederick, Jason Solomon, Jason Solomon, Peter Tkacik, Jerry Dahlberg, Spencer Christian, Robert Frederick, Lawrence Thomas, Phillip Ligrani, Robert Frederick, Phillip Ligrani, Lawrence Thomas, Elliott Bryner

Session Papers (if applicable):

Building a 100% Online Rocket Propulsion Course During a Pandemic, Design and Build of a Benchtop Hypersonic Wind Tunnel as a Senior Design Project, Development and Management of a Student-Led Liquid Rocketry Project, Propulsion Research and Academic Programs at the University of Alabama in Huntsville -

30th ..., Undergraduates Rocket Propulsion Curriculum at Embry-Riddle Aeronautical University - Prescott, AZ

Session Title: University Test Stands

Technical Paper Session | EDU-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/BFB7F667-F663-482A-B264-9671CD814436>

Session Contributors: Braeden Marquez, Daniel Pineda, Coral Marquez, Kyle Fetter, Mark Ramirez, Joseph Hernandez-McCloskey, Jahsiah Toby, Harshit Shukla, Himani Varshney, Hitesh Dhawan, Sashant Kapoor, Umang Jain, Sashant Kapoor, Umang Jain, Rene Rezende, Hitesh Dhawan, Rene Rezende, Harshit Shukla, Lucas Alves, Ashish Mishra, Reuben Mendonsa, David Lineberry, Robert Frederick, David Lineberry, Robert Frederick, William Hankins, David Lineberry, Wesley Viall, Robert Frederick, Robert Frederick, David Lineberry, Jack Miller, Aneka Henshaw, Cameron Stocks, Matthew Robertson, Eduardo Trifoni, Charlotte Kwong, Hayden Broomby, Solomon Jones, Ethan Crosby

Session Papers (if applicable):

Design and construction of a modular thrust stand for propulsion research and education at UTSA, Designing a thrust vector test stand for the TurboRocket, Determination of Burn Rate Equation Uncertainty Intervals in Solid Fuel Ramjet, General Uncertainty Assessment of Thrust

Measurement Techniques for a Solid Fueled Ramjet, Portable test platform for student liquid rocket engine development

Session Title: Unmanned Aircraft Systems I

Technical Paper Session | UAS-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/B9D6FABB-024E-4B93-89B9-44C77B47F578>

Session Contributors: Zhenhua Jiang, Zhenhua Jiang, Ashish Parimi, Kyle Collins, Richard Anderson, Patrick Currier, Jianhua Liu, David Spitzer, Mark Ricklick, Or Dantsker, Marco Caccamo, Renato Mancuso, Timothy Runnels, Joshua Johnsen, Johnathan Burgess, Kurt Rouser, Darren Dehesa , Tucker Poret, Shyam Menon, Darren Dehesa , Shyam Menon

Session Papers (if applicable):

A Real-Time Computing Platform for UAS System Dynamics and Control Simulation, Design and Performance of a 100+ kW Hybrid-Electric Power Generation Testbed, Energy System Instrumentation and Data Acquisition for Flight Testing a Long-Endurance, Solar-Pow..., Experimental Study of 5-kW, 7-kW, and 13-kW Unmanned Aircraft Turboelectric Power Systems, Testing of Control Logic Approach for Series Hybrid-Electric Powertrain for Unmanned Aerial Systems

**Session Title: Forum 360: Commercial Flight Shaming – Is the Military Next?
Does it have to be mission capability OR sustainability?**

Forum 360 | F360-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/046D4563-4B21-4284-9A5B-DE531F43CE42>

Session Contributors:

Session Papers (if applicable):

Session Title: Cathodes

Technical Paper Session | EP-06 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7FDE3059-09F1-49A3-B464-8E236ADF0045>

Session Contributors: Shawn Farnell, John Williams, Ryan Ham, Seth Thompson, Seth Thompson, Ryan Ham, Dan Lev, Boaz Auslender, Raul Zimmerman, Moshe Tordjman, Shun Imai,

Hiroki Watanabe, Yoshiki Yamagiwa, Daisuke Imaguchi, Ikkoh Funaki, Ikkoh Funaki, Mario Panelli, Francesco Battista, Antonio Smoraldi, Manrico Fragiaco, Ioannis Mikellides, Alejandro Lopez Ortega, Ioannis Mikellides, Alejandro Lopez Ortega, Pablo Guerrero, James Polk, James Polk, Wayne Ohlinger, Wayne Ohlinger, Scott Hall, Hani Kamhawi, Scott Hall, Hani Kamhawi, Timothy Sarver-Verhey, Timothy Gray, Timothy Gray, Timothy Sarver-Verhey

Session Papers (if applicable):

A Low Erosion Instant Start Ignition Process for Heaterless Hollow Cathodes, Advanced Heaterless Cathode Electron Emission with Xenon and Krypton Propellants, Characterization of a Hollow Cathode Plasma with Magnetic Fields, Development of a cathode for low-power Hall Effect Thruster, Hollow Cathode Operation with Time-Varying Currents, Low-Power Hollow Cathode for Smallsat/Cubesat Electric Propulsion Applications, The Effect of Anode Configuration on the Plasma Plume of a 25-A class Hollow Cathode

Session Title: Electric Propulsion Diagnostics II

Technical Paper Session | EP-07 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E76D99B4-8FA7-42EC-8745-3B82F2E12A6D>

Session Contributors: Robert Lobbia, Vernon Chaplin, Richard Wirz, Mary Konopliv, Timothy Simka, Lee Johnson, Robert Lobbia, Vernon Chaplin, Richard Wirz, Mary Konopliv, Anirudh Thuppul, Samantha Gray, Terry Yu, James Szabo, James Szabo, Frederick Sheehan, John Hinckley, William Costa, Samuel Sawyer, Zachary Taillefer, Nathaniel Demmons, Timothy Fedkiw, Zackary Wood, Timothy Fedkiw, Nathaniel Demmons, Zackary Wood, Seth Thompson, John Williams, Tad Wegner, Seth Thompson, Azer Yalin

Session Papers (if applicable):

Collisional-Radiative Models of Neutral and Singly-Ionized Xenon in Hall Thrusters: Experimental ..., High Speed Plasma Probe and Electronics Suite, Improved Computed Tomography Current Mapping of Electrospray Thrusters, Two-Photon Absorption Laser Induced Fluorescence (TALIF) Of Neutral Xenon In A Hall Effect Thrust...

Session Title: Electrospray Thruster Modeling

Technical Paper Session | EP-08 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/ADEDD935-0E0A-42DE-A3F1-2F58D07271FD>

Session Contributors: Henry Huh, Henry Huh, Richard Wirz, Richard Wirz, Shehan Parmar, Richard Wirz, Adam Collins, Jared Magnusson, Adam Collins, Richard Wirz, Jared Magnusson, Victor Azevedo, Siddharth Budaraju, Matt Klosterman, Deborah Levin, Victor Azevedo, Joshua

Rovey, Matt Klosterman, Joshua Rovey, Nakul Nuwal, Manuel Gamero, Manuel Gamero, Marc Galobardes, Jeff Asher, Joseph Wang

Session Papers (if applicable):

Electrohydrodynamic Simulation of Electrospray Thruster Extraction, Electrospray Plume Modeling for Rapid Life and Performance Analysis, Kinetic modeling of the plume of an electrospray thruster, Modeling of the Beams of Electrospray Thrusters Operating in the Mixed Droplet-Ion Regime, On the Impact of Ion Fragmentation on Bipolar Ionic Electrospray Thruster Pair Operations: 3D Pl...

Session Title: Energetic Materials and Rocket Motor Combustion

Technical Paper Session | PC-03 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/F3984A7F-E357-4319-8967-EAF2B6E5A9B3>

Session Contributors: Simone D'Alessandro, Marco Pizzarelli, Simone D'alessandro, Francesco Nasuti, Bernardo Favini, Paolo Maria Zolla, Rohan Gejji, William Senior, Ryan Strelau, Scott Meyer, Timothy Winter, Rohan Gejji, Carson Slabaugh, Rohan Gejji, Robert Lucht, Rohan Gejji, Carson Slabaugh, Kazim Akyuzlu, Mine Kaya, Kazim Akyuzlu, Joshua Rovey, Steven Berg, Emil Broemmelsiek, Joshua Rovey, Steven Berg

Session Papers (if applicable):

A Hybrid Real/Ideal Gas Mixture Model in the Framework of Low Order Modeling of Combustion Instab..., Characterization of Laser Induced Spark Ignition of a Model Rocket Combustor, Experimental and Numerical Study of Methane-Oxygen Combustion Inside a Low Pressure Rocket Motor, Kinetic Effect of Metal Sequestrants on Thermal Decomposition of Hydroxylammonium Nitrate

Session Title: Energy Efficiency & Renewable Energy I

Technical Paper Session | EERE-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/13324702-C806-4454-AE04-BB54F8972347>

Session Contributors: Scott Duncan, Efe Yamac Yarbasi, Scott Duncan, Joshua Brooks, Jung-Ho Lewe, Efe Yamac Yarbasi, William Robertson, Hyun Woo Kim, Dimitri Mavris, Emmanuel Ogedengbe, Christopher Okoro, Charleson Asibor, Daud Ekungba, Emmanuel Ogedengbe, Mostafa Hassanalian, Grace Tenorio, Mostafa Hassanalian

Session Papers (if applicable):

Cistern Thermal Energy Storage Study for Potential Use within Net Positive Energy and Water Build..., Hybrid Renewable Power Plant Optimization with Electric Vehicle Charging System at the University..., Modeling Drag Reduction through Coloration of Penguins Using COMSOL

Session Title: Green and Non-Toxic Propellants II

Technical Paper Session | LP-03 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1C82E676-332F-47FE-BE50-2E6D8A096245>

Session Contributors: Filippo Maggi, Stefania Carlotti, Valerio Gaioni, Filippo Maggi, Bhushan Thombare, Pranjal Mhatre, Preethi S, Saumya Shekhar, Jeffrey Sampson, Jeffrey Sampson, Henry Mulkey, Tomas Hasanof, John Dankanich, Daniel Cavender, Tim McKechnie, Anatoliy Shchetkovskiy, Michael Zaluki, Christopher Burnside, Ahsan Choudhuri, Raul Cuevas, Amelia Greig, Ahsan Choudhuri, Raquel Zubia, Ashiqur Rahman, Eunize Tobias, Sarah Adams, Nayeli Ontiveros, Joel Quintana, Pilar Gonzalez Rueda Flores, Elaine Petro, Andrew van Paridon

Session Papers (if applicable):

Decomposition studies on a small-scale catalyst bed for hydrogen peroxide, Energetic Hybrid Green propellant for small satellites, Fracture Mechanics Testing of Titanium 6Al-4V in LMP-103S Propellant, Green Monopropellant 100mN Thruster, Implementing Test Methodology Improvements for Testing and Validation of a 1N AF-M315E Thruster, Survey of Water Powered Propulsion Systems

Session Title: Hall Thrusters I

Technical Paper Session | EP-09 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6C7B2BD3-9153-4161-A05D-6C2AAE51A79B>

Session Contributors: Benjamin Jorns, Benjamin Jorns, Parker Roberts, Mario Merino-Martinez, Davide Maddaloni, Adrián Domínguez-Vázquez, Mario Merino-Martinez, Filippo Terragni, Thomas Marks, Benjamin Jorns, Benjamin Jorns, Thomas Marks, Raul Zimmerman, Dan Lev, Boaz Shoor, Leonid Appel, Ken Hara, Sedina Tsikata, Andrew Denig

Session Papers (if applicable):

Azimuthal Ion Drift in the Plume of a 9-kW Magnetically-Shielded Hall Thruster, Data-driven analysis of breathing mode and ion-transit mode in 2D hybrid Hall thruster simulations, Hall Thruster Simulation with a Two Equation Closure Model for Non-classical Transport, Integration Test of the R-800 Low Power Hall Thruster Electric Propulsion System, Three-Dimensional Coupling of Electron Cyclotron Drift Instability and Ion-Ion Two Stream Instabi...

Session Title: Heat Transfer and Transport

Technical Paper Session | TM-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C489C72D-C6D8-494E-ABAD-190723DF350B>

Session Contributors: Chol-Bum Kwon, Rohan Kokate, Constandinos Mitsingas, Chanwoo Park, Foluso Ladeinde, Yu Daimon, Chihiro Inoue, Chihiro Inoue, Ikkan Maeda, Go Fujii, Yu Daimon, Essam Khalil, Essam Khalil, Essam Khalil, Essam Khalil, Khaled Afify, Taher AbouDief, Y. J. Chang, S. C. Lin, Feng Lai, C. Y. Wu

Session Papers (if applicable):

Active control of evaporator exit vapor quality in a pumped two-phase loop, Differential Performance of Seven Compact Heat Exchangers for Aviation Thermal Management, Evaporation of Three-Dimensional Wavy Liquid Film Entrained by Turbulent Gas Flow, Fluid Flow and Thermal Patterns un Metro Train Cabin, Use of Two-Stage EHD Gas Pump for Heat Transfer Enhancement in a Square Channel

Session Title: Hybrid Fuel Manufacturing

Technical Paper Session | HR-03 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A6AA9C75-2469-4A27-8E74-13F33FA0683C>

Session Contributors: Camilla Colombo, Daniele Leuteri Costanzo, Danielle Wood, Keith Javier Stober, Danielle Wood, Keith Javier Stober, Gladys Ngetich, Gladys Ngetich, Keith Stober, Danielle Wood, Keith Stober, Alana Sanchez, M. Regina Apodaca M., Riccardo Bisin, Riccardo Bisin, Alberto Verga, Daniele Bruschi, Christian Paravan, Christian Paravan

Session Papers (if applicable):

Modelling and simulation of in-orbit centrifugal casting of a paraffin wax grain inside a 3U CubeSat, Numerical Simulation of Centrifugal Casting of Paraffin Wax: Influence of Rotational Speed and Fl..., Optical and Thermochemical Analysis for Paraffin and Beeswax Centrifugal Casting, Strategies for Paraffin-based Fuels Reinforcement: 3D Printing and Blending with Polymers

Session Title: Hybrid Rocket Propulsion Systems

Technical Paper Session | HR-04 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/798B5687-8BDA-4C3D-A06A-6147A0034F35>

Session Contributors: Filippo Masseni, Dario Pastrone, Lorenzo Casalino, Filippo Masseni, Dario Pastrone, Mustafa Baysal, Ozan Kara, Ozan Kara, M. Arif Karabeyoglu, Umit Yelken, Ali Yalcintas, Paolo Maria Zolla, Daniele Bianchi, Mario Tindaro Migliorino, Lorenzo Federici, Alessandro Zavoli, Lorenzo Federici, Daniele Bianchi, Mario Tindaro Migliorino, Yechiel Crispin, Srijia Ryakam, Dario Pastrone, Filippo Masseni, Lorenzo Casalino, Dario Pastrone, Filippo Masseni

Session Papers (if applicable):

Approximate Trajectory Optimization Approaches for Hybrid Rocket Engines, Experimental study of lunar-based hybrid rocket engine, Machine Learning Techniques for Flight Performance Prediction of Hybrid Rocket Engines, Optimal Control of Hybrid Rocket for Sub-orbital Ascent Trajectory, Optimal Design Comparison of Hybrid Rocket for Small Satellite Launchers

Session Title: Injector Design I

Technical Paper Session | LP-04 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BE49EC82-507F-4940-AEFC-C9698B12D4D7>

Session Contributors: Mauro Valorani, Jacopo Liberatori, Pietro Paolo Ciottoli, Riccardo Malpica Galassi, Pietro Paolo Ciottoli, Wolfgang Armbruster, Min Son, Justin Hardi, Federica Tonti, Thomas Teasley, Paul Gradl, Christopher Protz, Benjamin Williams, Paul Gradl, Michael Tonarely, Kareem Ahmed, Jonathan Reyes, Charles Clark, Michael Tonarely, Kareem Ahmed, Francesco Creta, Giuseppe Indelicato, Arianna Remiddi, Giuseppe Indelicato, Pasquale Lapenna, Arianna Remiddi

Session Papers (if applicable):

Injection of LOX spray in Methane cross-flow RANS modeling uncertainty quantification, Numerical study of acoustic resonance in a LOX injector post induced by orifice flow, Performance Variability of Additively Manufactured Liquid Rocket Injectors with Advanced Post Pro..., The Use of Solid Obstructions in a Liquid Jet in Crossflow for Flow Independent Injection, Thermal characterization in LRE: a parametric analysis on injector arrangement

Session Title: Injectors and Inlets

Technical Paper Session | PGC-04 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A3F7D2A5-AF75-4937-BABB-59C2BA168144>

Session Contributors: Joseph Meadows, Joseph Meadows, Piyush Raj, Sean Dungan, Ju Zhang, Clinton Bedick, Peter Strakey, Clinton Bedick, Donald Ferguson, Donald Ferguson, Alexander

Feleo, Joshua Shepard, Alexander Feleo, Mirko Gamba, Mirko Gamba, Nathan Fiorino, Frederick Schauer, Marc Polanka, Nathan Snow, Marc Polanka, Jason Burr, Jason Burr, Eric Paulson

Session Papers (if applicable):

A Method for Modeling Dynamic Injector Response in a Rotating Detonation Combustor, Numerical Study of the Effect of Injector Geometry on Rotating Detonation Engine Performance, Parametric Evaluation of RDE Inlet Performance using a Reduced-Order Model, Prediction of Detonation-Induced Disturbances Propagating Upstream into Inlets of Rotating Detona..., Rotating Detonation Engine with Gaseous Ethylene and Liquid Nitrous-Oxide using Simplex Injection..., Thermodynamic Performance Results for Rotating Detonation Rocket Engine with Distributed Heat Add...

Session Title: Innovative Concepts I

Technical Paper Session | APC-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/39DC777B-2F44-476F-8AC2-E8F48A3BF25D>

Session Contributors: Michael Keidar, Anmol Taploo, Tomotaka Kobayashi, Aro Migita, Yasuhiro Sogabe, Ken Naitoh, Takashi Kawasaki, Kohei Murata, Cheng Hui Wang, Shigeru Sato, Thomas Kava, John Evans, Iain Boyd, Iain Boyd, Iain Boyd, Iain Boyd, Prisha K Asher, Surya Balusamy, Vigneshwaran Rajendran, Vr Sanal Kumar, VR Sanal Kumar, Thianesh Urumandampalayam Krishnan, Akshay Kumar Nandhan, Alexander Lukin, Merrish Aloy A, Vignesh Saravanan, Ajith Sukumaran, Alexander Lukin, Ajith Sukumaran, Merrish Aloy A, Vigneshwaran Sankar, Pradeep Kumar Radhakrishnan, Shiv Kumar Choudhary, Bharath R.S, Lohit Venkatesh, Charlie Oommen, Deviparameswari K, Sai Shankaran B, Akshay Kumar Nandhan, VR Sanal Kumar, Nichith Chandrasekaran, Vr Sanal Kumar, Vigneshwaran Rajendran, Surya Balusamy, Prisha K Asher

Session Papers (if applicable):

Analysis of Air Breathing Plasma Propulsion, Focusing Compression due to Steady Supermulti-Jets Colliding for Aerospace Engine, Numerical Simulation of Electron-Beam Powered Plasma Fueled Engines, Predictive Control of Flow Choking Phenomena in Multimode Propulsion Systems Through the Plasma-A..., The Physics of Detonation Chemistry: A Radical Theory in Predicting the Deflagration to Detonatio...

Session Title: Introduction to Additive Manufacturing for Propulsion and Energy Applications

Technical Lecture | AMP-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7F297FCF-FC77-4EFE-BD51-9696C4575FE2>

Session Contributors:

Session Papers (if applicable):

Session Title: Lean Direct Injection (LDI) Combustion

Technical Paper Session | GTE-04/PC-04 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/15E60AC3-C18F-4D4E-9F47-4611DD5FAAD5>

Session Contributors: Yolanda Hicks, Tyler Capil, Kathleen Tacina, Yolanda Hicks, Tyler Capil, Bidhan Dam, Angela Kimber, Tyler Capil, Yolanda Hicks, Kathleen Tacina, Tyler Capil, Yolanda Hicks, Shyam Menon, Varun Nanjunda Rao Viswamithra, Shyam Menon, Varun Nanjunda Rao Viswamithra, Francisco Guzman, Jeffrey Moder, Tyler Capil, Yolanda Hicks, Tyler Capil, Kathleen Tacina, Yolanda Hicks, Yolanda Hicks, Kathleen Tacina, Makoto Endo, Tyler Capil, Yolanda Hicks, Jeffrey Moder, Tyler Capil

Session Papers (if applicable):

A Study of Lean blowout in a swirl venturi lean direct injection combustor using alternative fuels, Flow Field Characterization of a Third Generation Swirl-Venturi Lean Direct Injector, Investigation of a multi-point fuel injection technique for liquid-fueled swirl combustors, Lean Blowout Predictions of a 7-point Swirler-Venturi Lean Direct Injector Array from Large-Eddy ..., Numerical Simulation of Lean Blowout of Alternative Fuels in 7-element Lean Direct Injector

Session Title: Measurement Techniques for High-Speed Air-Breathing Propulsion

Technical Paper Session | HSABP-01 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/2152CC7C-F4F3-4805-9C65-FDF4D4B77710>

Session Contributors: David Kessler, Camilo Aguilera Munoz, Gabriel Goodwin, David Miklosovic, Andrew Hess, Gabriel Goodwin, Jonathan Sosa, Evan Hyde, Ronald Hanson, Tal Schwartz, Joanna Austin, Christopher Strand, Hans Hornung, Joel Lawson, Wesley Yu, Peter Finch, Julian Girard, Peter Finch, Peter Finch, Julian Girard, Peter Finch, Wesley Yu, Hans Hornung, Christopher Strand, Joanna Austin, Tal Schwartz, Ronald Hanson, Mason Thornton, Kareem Ahmed, Daniel Rosato, Daniel Rosato, Jonathan Reyes, Kareem Ahmed

Session Papers (if applicable):

Characterization of Supersonic Wind Tunnel Flow Quality Using Planar Laser CO2 Rayleigh Scattering, Characterization of the Caltech Hypervelocity Expansion Tube via Tunable Diode Laser Absorption S..., Characterization of the T5 Reflected Shock Tunnel Freestream

Temperature, Velocity, and Compositi..., Fuel Distribution Measurements in a Hypersonic Combustor Facility

Session Title: Nuclear Thermal Propulsion System Modeling

Technical Paper Session | NFFP-02 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9B09D880-6E81-4C42-BED2-9FDD2F8C9BD6>

Session Contributors: Emily Wood, Dennis Nikitaev, Lawrence Thomas, Emily Wood, Saroj Kumar, Saroj Kumar, Dennis Nikitaev, Lawrence Thomas, Diana Nikitaeva, Jacob Keese, Lawrence Thomas, Lawrence Thomas, Lawrence Thomas, Dennis Nikitaev, Dennis Nikitaev, Lawrence Thomas, Lawrence Thomas, Saroj Kumar, Jason Cassibry, Saroj Kumar, Jason Cassibry, Lawrence Thomas, Lawrence Thomas, Alexander Aueron, Lawrence Thomas, Alexander Aueron

Session Papers (if applicable):

Details of the Spacecraft Integrated System Model For Nuclear Thermal Propulsion Applications, Historical Approaches of Testing Liquid and Nuclear Thermal Rockets Applied to Current Nuclear Th..., In-Situ Alternative Propellants for Nuclear Thermal Propulsion, Model-Based Approach for Conceptual Mission Design for NTP Enabled Robotic Missions, Perspectives on NTP: Mapping Values to Systems

Session Title: RF Thrusters II

Technical Paper Session | EP-10 | P&E

Session Date: 2021-08-09

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7DFBADAB-58E6-4D9E-8012-A0394FA7E3EB>

Session Contributors: Shadrach Hepner, Benjamin Jorns, Shadrach Hepner, Benjamin Jorns, Christopher Sercel, Joshua Woods, Joshua Woods, Christopher Sercel, Tate Gill, Benjamin Jorns, Benjamin Jorns, Joshua Woods, Tate Gill, Christopher Sercel, Benjamin Jorns, Christopher Sercel, Joshua Woods, Benjamin Jorns, George Miley, George Miley, Erik Ziehm, Rohan Puri, Raul Patino, Raad Najam, John Cater, Antonella Caldarelli, Christine Charles, Felicien Filleul, Nicholas Rattenbury

Session Papers (if applicable):

Anomalous electron thermal conductivity in a magnetic nozzle, Equivalent Circuit Model for a Rotating Magnetic Field Thruster, Far-field Measurements of the Plume of a Rotating Magnetic Field Thruster, Performance Analysis of HIIPER MPD Thruster, Preliminary Measurements of a Magnetic Steering System for RF Plasma Thruster Applications

Session Title: Plenary Session

Plenary Session | PLNRY-02 | P&E

Session Date: 2021-08-10

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/19A9F364-B4A1-4A5F-B0D3-D7218C1A8CBA>

Session Contributors:

Session Papers (if applicable):

Session Title: A Synopsis of Space Exploration, Unmanned Aerial Vehicles and Electric Aircrafts

Technical Paper Session | APS-02 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/0E1B8983-0565-4D9A-8938-4DD7EE98A3FC>

Session Contributors: Noor Basanta Das, Malaya Kumar Biswal M, Ramesh Kumar V, Matthew Dempsey, Andrew Ahn, Thomas Stone-Welles, James Pieri, Benjamin Akih-Kumgeh, Thomas Stone-Welles, Alexander Metcalf, Jeongmin Ahn, Malaya Kumar Biswal M, Ramesh Kumar V

Session Papers (if applicable):

An Investigation Study and Analysis on Lunar Probe Failures, ARCHER: A Reimagined Cyclor for Human Excursions, Investigation of a Combined Jet Turbine and Solid Oxide Fuel Cell System for Application in More ..., Investigation of a Hybrid Powertrain Utilizing Solid Oxide Fuel Cells and Internal Combustion Eng..., Power Options for Human Mars Mission

Session Title: Additive Manufacturing for Propulsion - Technology Advancement

Technical Paper Session | AMP-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/7E22FCA7-5EB4-480F-A61C-9D098FEA04C2>

Session Contributors: Ryan Wilkerson, Edel Arrieta, Francisco Medina, Omar Mireles, Thomas Teasley, Paul Gradl, Christopher Protz, Marissa Garcia, David Ellis, Christopher Kantzos, Paul Gradl, Timothee Pourpoint, Timothee Pourpoint, Timothee Pourpoint, Michael Orth, Timothee Pourpoint, Michael Orth, Utkarsh Pandey, Michael Lembeck, Anthony Adducci, Zachary Putnam, Charlie Ryan, Animesh Sharma, Joshua Rovey, Michael Lembeck, Joshua Rovey

Session Papers (if applicable):

Additive Manufacture of Porous ZrC for NTP In-Core Insulators, Advancing GRCop-based Bimetallic Additive Manufacturing to Optimize Component Design and Applicat..., Preparation

for Pressure Drop Measurement in Monolithic 3D-Printed Catalyst Beds, Towards Green Ionic Liquid Multimode Monopropellant Based Chemical Micro-thruster Using Additive...

Session Title: Combustion Diagnostics and Measurements

Technical Paper Session | PC-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/90C0895D-4A23-4AD5-95BD-5CB9A7BFBB95>

Session Contributors: Abinash Sahoo, Ryan DeBoskey, Venkateswaran Narayanaswamy, Kevin Lyons, Ziqiao Chang, Ryan Tancin, Vishnu Radhakrishna, Robert Lucht, Christopher Goldenstein, Seunghyun Jo, Jay Gore, Jupyoung Kim, Adam Steinberg, Ketana Teav, Adam Steinberg, Adam Steinberg, Adam Steinberg, Walker Mccord, Aleksander Clark, Damiano Baccarella, Damiano Baccarella, Zhili Zhang

Session Papers (if applicable):

2D Velocity Field Measurement of Conventional and Distributed Regime Turbulent Jet Flame using Pa..., Broadband, Mid-Infrared Laser-Absorption Measurements of Temperature, CH₄, and C₃..., Laser-Supported Plasma Emission and Radiation Wave, Measurement of Rayleigh-Brillouin Spectral Lineshapes of Combustion-Relevant Gases at High Pressure, Quantitative Measurement of Temperature and Composition in a Plasma Jet

Session Title: Combustor Design

Technical Paper Session | LP-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5C0554CC-DA36-4223-8A2F-239E8C8B3244>

Session Contributors: Omer Khan, Omer Khan, Anwar Ahmed, Joseph Day, Santiago Erazo Papagayo, John Quinlan, John Quinlan, Yun Hyeong Kang, Chang Han Bae, Jae Won Lee, Jeong Soo Kim, Hyun Jong Ahn, Jeong Soo Kim, Matthew Chan, Jackson Asiatico, Marcel Ilie, Simone D'Alessandro, Pierluigi Concio, Mario Tindaro Migliorino, Pierluigi Concio, Simone D'alessandro, Francesco Nasuti, Mario Tindaro Migliorino

Session Papers (if applicable):

An Experimental Study of Internal Flow Field of a Cyclone Vortex Combustion Chamber using Particl..., Baffle Blade Acoustic Damping, Characteristics of the Film-cooling Applied to a 200 N-class GCH₄-LOx Small Rocket Engine, Combustion instabilities of swirl combustors, with radial and axial air injection schemes; comput..., Film cooling modeling in liquid rocket thrust chambers

Session Title: Combustors II

Technical Paper Session | GTE-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/DB4C5621-2272-4D3C-8279-DAE8C9E0446F>

Session Contributors: Scott Phillips, Jonathan Reyes, Kareem Ahmed, Daniel Micka, Kareem Ahmed, Darin Knaus, Brynmor Davis, Kathleen Tacina, Kumud Ajmani, Kumud Ajmani, Bidhan Dam, Angela Kimber, Phil Lee, Scott Drennan, Aleksandra Rezhikova, Cédric Mehl, Scott Drennan, Olivier Colin, Bernhard Stiehl, Kareem Ahmed, Kareem Ahmed, Bernhard Stiehl, Malcolm Newmyer

Session Papers (if applicable):

Description and Application of a Software Tool for Simulation of Tomographic PIV Data, Evaluation of an Integrated CFD Modeling Approach to Liquid-Fueled Gas-Turbine Combustors, Lean Blow-Out Prediction Using Thickened Flame Model and Adaptive Mesh Refinement, Numerical Simulation on the Effects of Hydrogen Doping in Natural Gas Jet-in-Crossflow Combustion

Session Title: Energetic Components and Systems

Technical Paper Session | ECS-01 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/002C40DE-9FAB-4868-8A64-6AACB8E08103>

Session Contributors: Nil Dincer Yilmaz, Marcela Domingues, Rene Gonçalves, Jose Rocco, Edemar Kirchhof, Lien Yang, Lien Yang, Lien Yang, Lien Yang

Session Papers (if applicable):

Characterization of Nano-Composite Thermites Containing Metal and Sol-Gel Synthesized Iron Oxide ..., Determination of Kinetic Parameters in the Characterization of Accelerated Aging of PBX (<i>Plast...), Detonation of Gases Containing A Single Molecular Species: NO & N2H4 (Hydrazine), New Formulation for Studying of Detonation Of Gaseous Energetic Mixtures III: C2H2/O2, C2H4/O2, C...

Session Title: Fuel Injection and Flameholding

Technical Paper Session | HSABP-02 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/CE4C13BC-CA79-4ABC-8100-A7EF15BBF106>

Session Contributors: HyeJin Oh, Foluso Ladeinde, Minwook Chang, Ashwani Gupta, Kenneth Yu, Ashwani Gupta, Ashwani Gupta, Minwook Chang, Kyung-Hoon Shin, Ashwani Gupta, Ashish Vashishtha, Dean Callaghan, Cathal Nolan, Peter Harmon, Ralf Deiterding, Gabriel Goodwin, Gabriel Goodwin, Ryan Johnson, Brian Bojko, David Kessler, Kamal Viswanath

Session Papers (if applicable):

High-Speed Drag Models for Supersonic Spray Combustion Application, Dump Combustor Experiments of MgB₂ and Other Metal Microparticles, Study of Direct Gas Injection into stagnation zone of Blunt Nose at Hypersonic Flow, The Influence of Chemical Reaction Models on Combustion Dynamics in a Solid Fuel Ramjet

Session Title: Hall Thrusters II

Technical Paper Session | EP-12 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/65209277-FF07-41C5-A419-FBAACB5D35CC>

Session Contributors: Daisuke Kuwahara, Naoji Yamamoto, Naoya Kuwabara, Leanne Su, Benjamin Jorns, Leanne Su, Benjamin Jorns, Emi Maruyama, Tetsuya Kobayashi, Yutaro Murayama, Junko Yamasaki, Shigeru Yokota, Kohei Shimamura, Junko Yamasaki, Masahiro Nonaka, Hiroki Ito, Peter Peterson, Jon Mackey, Peter Peterson, Richard Hofer, Jason Frieman, Jason Frieman, Hani Kamhawi, Hani Kamhawi, Jon Mackey, Charlie Ryan, Vlad-George Tirila, Ashley Hallock, Alain Demairé

Session Papers (if applicable):

Observation of Plasma Instabilities Inside a Hall Thruster Using Multi-channel Interferometer, Performance at High Current Densities of a Magnetically-Shielded Hall Thruster, Research about Rotating Spoke and Electron Anomalous Transport in TAL, Risk-based Methodology for the Determination of Hall Thruster Performance Specifications, Zinc Propellant Storage and Delivery System for Hall Thrusters

Session Title: Hollow and Flow-through Rotating Detonation Engines

Technical Paper Session | PGC-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A19C8037-631A-4E65-BBFD-9DDDC1C9E6FA>

Session Contributors: Douglas Schwer, Douglas Schwer, Ryan Johnson, Douglas Schwer, Douglas Schwer, Jorge Betancourt, Tyler Pritschau, Alec Gaetano, Vijay Anand, Rachel Wiggins, Ephraim Gutmark, Vijay Anand, Rachel Wiggins, Vijay Anand, Vijay Anand, Rachel Wiggins, Ephraim Gutmark, Rachel Wiggins, Tyler Pritschau, Alec Gaetano, Jorge Betancourt, Hiroaki

Watanabe, Akira Kawasaki, Jiro Kasahara, Ken Matsuoka, Akira Kawasaki, Ikkoh Funaki, Akiko Matsuo, Keisuke Goto, Kosei Ota, Keisuke Goto, Noboru Itouyama, Akiko Matsuo, Ikkoh Funaki, Vijay Anand, Vijay Anand, Vincent Shaw, Rachel Wiggins, Vincent Shaw, Rachel Wiggins, Ephraim Gutmark, Jorge Betancourt, Tyler Pritschau, Alec Gaetano

Session Papers (if applicable):

Performance of Centerbody-less Rotating Detonation Combustors for an RDE Concept, Rotating Detonation Mode Identification Via Cross-Correlation and SPOD Through Ethylene/Air in ..., Rotating Detonations through Hydrogen-Air Mixtures in a Flow-through Combustor with Varying Core ..., Study of Cylindrical Rotating Detonation Engine with Propellant Injection Cooling System, Tomographic Imaging of Rotating Detonations in a Hollow Combustor

Session Title: Ion Thrusters I

Technical Paper Session | EP-13 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B17EBFE4-F6EB-4BB9-AFCA-1481E0E07B1E>

Session Contributors: Jeff Monheiser, Keith Goodfellow, Chayse Aubuchon, Rohit Shastry, Neil Arthur, Rohit Shastry, Jasper Wang, Brian Ferraiuolo, George Williams, George Soulas, Jeff Monheiser, Dmytro Rafalskyi, Thomas Baret, Antoine Poyet, Stanislav Dudin, Ane Aanesland, Plamen Proynov, Antoine Boré, Trevor Lafleur, Lui Habl, Elena Zorzoli Rossi, Javier Martínez Martínez, Julien Degremont, Julien Degremont, Ernst Bosch, Elena Zorzoli Rossi, Trevor Lafleur, Javier Martínez Martínez, Lui Habl, Dmytro Rafalskyi

Session Papers (if applicable):

A Summary of the NEXT-C Flight Thruster Proto-flight Testing, Development, Testing and First In-Orbit Results of an Iodine Electric Propulsion System, HEMPT electric propulsion status update, Performance Characterization of a Miniaturized Gridded Ion Thruster Working with Iodine

Session Title: PGC Applications I

Technical Paper Session | PGC-06 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/88EB5C8B-F781-4C61-AAC7-1349A62AE725>

Session Contributors: Andrew Larkey, Benjamin Williams, Paul Gradl, Thomas Teasley, Paul Gradl, Christopher Protz, Charlie Ryan, Hamilton Law, Tom Baxter, Ralf Deiterding, Alexander Feleo, Joshua Shepard, Alexander Feleo, Mirko Gamba, Mirko Gamba, Shiro Ito, Kotaro Nakata, Kazuki Ishihara, Akira Kawasaki, Kosei Ota, Keisuke Goto, Noboru Itouyama, Akiko Matsuo, Ikkoh Funaki, Ikkoh Funaki, Akiko Matsuo, Keisuke Goto, Hiroaki Watanabe, Akira Kawasaki, Jiro

Kasahara, Ken Matsuoka, Joel Lisanti, Xuren Zhu, William Roberts, Joel Lisanti, Xuren Zhu, William Roberts, Thibault Guiberti, Stephen Schumaker, Stephen Schumaker, Marc Polanka, Stephen Schumaker, Marc Polanka, Stephen Schumaker, Brian Sell, Nathan Fiorino, Frederick Schauer

Session Papers (if applicable):

A Review Towards the Design Optimization of High Performance Additively Manufactured Rotating Det..., Design and testing of a small-scale laboratory rotating detonation engine running on ethylene-oxygen, Elevated Inlet Temperature Effects on the Operation of a Rotating Detonation Combustor, Experimental Study on Truncated Conical Rotating Detonation Engine with Diverging Flows, Operating an Actively-valved Resonant Pulse Combustor at Elevated Pressure for Pressure Gain Comb..., Use of a Partially Pre-Mixed Injection Scheme and Pre-Detonator in a Small Scale Rotating Detonat...

Session Title: Solid Rockets : Motor Design and System Optimization

Technical Paper Session | SR-01 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/04319544-7ECE-4DDF-897C-DF272BE69B54>

Session Contributors: Matthias Berndl, Ludwig Eineder, Raphael Esterl, Ludwig Stadler, Dominik Stangl, Holger Steinfeld, Alexander Weigand, Guenter Fechler, Andreas Hacker, Markus Kuhn, Tobias Meyer, Ilja Mueller, Sebastian Rest, Martin Vetter, Rainer Kirchhartz, Frank Scheuerpflug, Alexander Weigand, Karl Naumann, Karl Naumann, Gustaaf Jacobs, Jaron Chai, Zachary Pyle, Nils Sedano, Farhad Davoudzadeh, Nathan Humbert, Brandon Cea, Jeremy Paquin, Connor McQueen, Chase Lewis, Chase Lewis, Joseph Dietz, Nicholas Mcdonald, Chalie Galliard, Jonathan Brown, Branko Stojkovic, Branko Stojkovic

Session Papers (if applicable):

A First Stage Solid Propellant Rocket Motor for Sounding Rockets, Aerospike Flow Simulation: from RANS to LES, Development of Solid Rocket Igniter System for Turn-Key Space Access, Solid Emergency Rocket Booster (SERB)

Session Title: Space Exploration using SLS

Technical Paper Session | AVS-01 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/12D36EFC-2F14-4300-B435-AC35167B0146>

Session Contributors: Ben Donahue, Ben Donahue, Ben Donahue, Joseph Cianciola, John Honeycutt, John Blevins, Johnny Heflin, Bruce Tiller

Session Papers (if applicable):

Capabilities for a 2033 Crew Mars Flyby Mission Launched with the NASA Space Launch System, Future Missions for the NASA Space Launch System, Mars Polar Ice Robotic Lander Launched by the SLS Heavy Lift Launcher, NASA Space Launch System Completes Green Run Testing, Begins Assembly

Session Title: Thermal Management for High-Speed Air-Breathing Propulsion

Technical Paper Session | HSABP-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/500D402B-82D3-4C2F-AF39-E8256EC283F5>

Session Contributors: Seung-Min Jeong, Jae-Eun Kim, Jeongyeol Choi, JeongYeol Choi, Michael Stoia, Kevin Bowcutt, Jacob Needels, Michael Stoia, Garrett Ek, Ryan Johnson, Brian Bojko, David Kessler, Stephan General, Konstantin Manassis, Patrick Cragg, Friedolin Strauss, Friedolin Strauss, Stefan Schlechtriem, Logan Riley, Andrew Zakrajsek

Session Papers (if applicable):

Computational Analysis of Internal Flow and Thermal Environment in a Scramjet Engine before Ignition, Integrated Power and Thermal Management System for High Speed Aircraft, Investigating the Effects of Heat Release on the Recirculation Zone of a Backward-Facing Step, Lateral Wall Temperature Effects in a Transpiration Cooled Scramjet Model Combustor with Shock-Bo..., Thermal-Mechanical Deflection Effects on Aero-Propulsive Performance of a Reference High-Speed Ai...

Session Title: Turbomachinery II

Technical Paper Session | GTE-06 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/F2665CA3-D28E-4663-AC4E-C073950D6BA7>

Session Contributors: Donato Palermo, Feng Gao, Dario Amirante, Anna Bru Revert, John Chew, Paul Beard, Jeffrey Thomas, Milind Bakhle, Vasilii Zubanov, Oleg Baturin, Evgenii Goriachkin, Igor Egorov, Grigorii Popov, Grigorii Popov, Vasilii Zubanov, Anastasia Korneeva, Ryan McGowan, Daniel Bodony, David Fellows, Andrew Bedke, Steven Gorrell

Session Papers (if applicable):

Computational and Experimental Assessment of Rim Sealing Flows in Axial Turbine Chute Rim Seals, Implementation of a Harmonic Balance Method within the NASA TURBO Unsteady Flow Solver for Aerome..., Multidisciplinary optimization of a helicopter GTE Turbine, Reduced-Order Modeling of Aeroelasticity in Extreme Speed Turbochargers, The Effects of Various Inlet Distortion Patterns on Distortion Transfer and Generation in a Trans...

Session Title: Unique Propulsion Concepts I

Technical Paper Session | APC-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/BECDC301-33A4-4237-85E5-09D4406DB89D>

Session Contributors: Di Ni, Qing Ji, Thomas Schenkel, Khurram Afridi, Amit Lal, Elaine Petro, Rohan Sanghvi, Ved Gund, Geoffrey Landis, Miles Mckaig, Miles McKaig, Thomas O'Brien, Geoffrey Landis, Amelia Greig, Ahsan Choudhuri, Eduardo Macias Zugasti, Norma Perea, Joel Quintana, Christian Lozoya, Ahsan Choudhuri, Patrick Chai, Patrick Chai, Min Qu, Bianca Saputra, Peter Thoreau, Corwin Hansen, Justin Little, Robert Winglee, Manuel Azuara Rosales, Peter Thoreau

Session Papers (if applicable):

Application of Microelectromechanical-system based RF Linear Accelerators for Ultra-High Specific..., Design of a Radioisotope Heat Exchanger Rocket, Development of a CubeSat with Cold Gas Thrusters, Human Mars Mission In-Space Transportation Sensitivity for Nuclear Electric / Chemical Hybrid Pro..., Thrust Determination of an Air-Breathing Pulsed Plasma Thruster for Atmospheric Satellite Applica...

Session Title: Wind Power Technologies

Technical Paper Session | EERE-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/E9DFD81C-CD88-4269-B705-7FB7B223341C>

Session Contributors: David Marian, Brent Houchens, Carsten Westergaard, Suhas Pol, Elizabeth Krath, Moshe Zilberman, Minghui Kang, Mingwei Ge, Yufan Bi, Hongyan Li, Xu Zhao, Aman Thakran, Hrishita Soni, Ramesh Kumar, Aayushi Bohrey

Session Papers (if applicable):

Multivariate Design and Optimization of AeroMINE Internal Turbine Blade, Optimized Small Vertical Axis Wind Turbine (VAWT), Phase II, Study on Unsteady Flow Field Structure and Tip Vortex Evolution of Contra-rotating Wind Turbines, Vertical Axis Airborne Wind Turbine: Future of Renewable Energy

Session Title: Forum 360: Expanding the Horizons of Sustainability from Earth to Space: Launch and Recovery

Forum 360 | F360-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/7CA3CFA5-DA2A-4C68-82EA-54F2D810A4C8>

Session Contributors:

Session Papers (if applicable):

Session Title: Special Topics in EP

Technical Panel | EP-14 | P&E

Session Date: 2021-08-10

Session Time (EDT): 12:30:00

<https://virtualforums.aiaa.org/Category/BD7A7359-B31F-455D-BDCA-FE74B1BFD2C8>

Session Contributors:

Session Papers (if applicable):

Session Title: History of the JPC and P&E Forum: Gas Turbine Engines TC Perspective

Technical Panel | GTE-07 | P&E

Session Date: 2021-08-10

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/99044843-342C-493C-BDB4-502C58F02131>

Session Contributors:

Session Papers (if applicable):

Session Title: Sustainable Aviation Fuel for Commercial Use and Production of Bio-Based Jet-A Drop In: Opportunities and Challenges

Technical Panel | EERE-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/1AF3DC3C-E8F3-4A40-B0C4-891D7F1C5D08>

Session Contributors:

Session Papers (if applicable):

Session Title: University Research Projects

Technical Paper Session | EDU-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/363774ED-5ACF-416A-A221-F1D5BC171203>

Session Contributors: Kyle Niemeyer, Trevor Rose, Daniel Jones, Daniel Jones, David Lineberry, Paige Berg, Robert Frederick, David Lineberry, Robert Frederick, Charles Flaherty, Elliott Bryner, Vr Sanal Kumar, Merrish Aloy A, Surya Balusamy, Vigneshwaran Rajendran, VR Sanal Kumar, Vigneshwaran Sankar, Grant Risha, Jeffrey Moore, Grant Risha, Makayla Ianuzzi, Joshua Hollingshead, Jeffrey Moore

Session Papers (if applicable):

A Statistical Approach to Design of a Liquid Engine Launch Vehicle, Characterizing Reaction Dynamics and Decomposition Pathways of New Solid Fuels for SCRAMJET and R..., Development of a Water-cooled Ethanol/Liquid Oxygen Rocket Engine for Education, In Silico and In Vitro Experiments on Chevron Nozzles with Enhanced Momentum Thrust using Streamt..., Laboratory Synthesis and Ignition Delay Droplet Testing of White Fuming Nitric Acid

Session Title: University Student Projects

Technical Paper Session | EDU-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/852943C7-C3EE-400B-AF0B-4F5713BA81BC>

Session Contributors: VR Sanal Kumar, Bhagavathiyappan S, Rajamanickam M, Anbalagan R, Rajesh P, Sundararaj Kandasamy, Vr Sanal Kumar, Vigneshwaran Sankar, Alex Cocco, George Nelson, Joseph Buckley, Joseph Buckley, Rene Rezende, Rene Rezende, Matthew Robertson, Eduardo Trifoni, Wojciech Lipinski, Jeffrey Moore, Grant Risha, Jeffrey Moore, Makayla Ianuzzi, Joshua Hollingshead, Grant Risha

Session Papers (if applicable):

In Silico Studies on Truncated Aero Spike Nozzles with Concave-Shaped Backward-Facing Ramp for Th..., Network Theory Modeling of Oxidizer Pressure Drop in a Homogeneous Porous Medium, The literature behind a liquid rocket engine design methodology, Towards the development of a bio-fueled additively manufactured rocket engine, Varying Secondary Flow Area in a Single Coaxial Injector for a Methane/Oxygen Diffusion Flame Burner

Session Title: Additive Manufacturing for Propulsion - Feasibility and Testing

Technical Paper Session | AMP-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/DB513A28-37F2-4BB8-9654-9DBEA4C1DABB>

Session Contributors: Omar Mireles, Francesco Barato, Daniele Pavarin, Francesco Barato, Marco Santi, Matteo Fagherazzi, Marco Santi, Benjamin Williams, Paul Gradl, Thomas Teasley, Marissa Garcia, Christopher Protz, Paul Gradl, Paul Gradl, Christopher Protz, Thomas Teasley, Paul Gradl, Colton Katsarelis, Po Chen

Session Papers (if applicable):

Additive Manufacture of Refractory Metals for Aerospace Applications, Design and Testing of a 3D Printed Regenerative Cooled Nozzle for a Hydrogen Peroxide based Bi-Pr..., Extreme Environment Hot Fire Durability of Post Processed Additively Manufactured GRCop-Alloy Com..., Process Development and Hot-fire Testing of Additively Manufactured NASA HR-1 for Liquid Rocket E...

Session Title: ASCEND Rewind @ Propulsion and Energy: New Opportunities in Fusion for Space Power and Propulsion

the HUB | HUB-21 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/C0713DAF-CC40-4100-8709-64DECE617BBB>

Session Contributors:

Session Papers (if applicable):

Session Title: Combustion Modeling and Simulation

Technical Paper Session | HSABP-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/D01A2221-314C-4E38-88E3-8E71BC295CBF>

Session Contributors: Brian Connolly, Grant Musgrove, Charles Krouse, Wei Yao, Hang Liu, Wei Yao, Wei Yao, Zheng Zhang, Wei Zhao, Wei Yao, Julia Henriques, Antonella Ingenito, Antonella Ingenito, Jeongyeol Choi, Hyung-Seok Han, Seung-Min Jeong, Bu-Kyeng Sung, JeongYeol Choi, Eun Sung Lee, Foluso Ladeinde

Session Papers (if applicable):

Implementing a Dual-Mode Scramjet Combustor Model in NPSS, LES investigation of nonequilibrium flow in a cavity-flameholding axisymmetric scramjet, LES modeling of duo-model scramjet by dynamic zone flamelet model, Numerical simulation and combustion analysis of the Hyshot II Scramjet Performance, Numerical Simulation of Combustion Instability in a Direct-Connect Supersonic Combustor, Pressure Effects in a Scramjet Combustor

Session Title: Cycle, Performance and Design Optimization

Technical Paper Session | GTE-08 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/A310FCD1-83E2-41D0-9024-4A5EF00084E0>

Session Contributors: Konstantinos Kyprianidis, Dimitra Diamantidou, Panagiotis Tsirikoglou, Rita Ponza, Andrea Battiston, Ernesto Benini, Adamya Dhaker, Wai Tuck Chow, Ming Wei Beh, Ye Yi Fan, Zhanxue Wang, Xiaobo Zhang, Aishwarjya Gogoi

Session Papers (if applicable):

A Robust Initialization Approach of Multi-Point Synthesis Schemes for Aero-Engine Conceptual Design, Design Exploration for an Axisymmetric Rear BLI Propulsor, Impact Analysis of Lightweight Drones on Business Jet Engine Fan Blades, Multi-Working Point Performance Optimization of Variable Cycle Engine Based on Ensemble Radial Ba..., Thrust Models for Ski Jump Take-off of Naval Aircraft

Session Title: Detonation Physics I

Technical Paper Session | PGC-07 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/88778E6D-2265-48C1-804B-63A12DF45FEB>

Session Contributors: Mitchell Hageman, Mitchell Hageman, Mathias Ross, Armani Batista, Mathias Ross, William Hargus, Blaine Bigler, Christopher Lietz, Blaine Bigler, Armani Batista, Christopher Lietz, William Hargus, Marc Bellenoue, Julien Sotton, Bastien Boust, Marc Bellenoue, Hugo Quintens, Hugo Quintens, Quentin Michalski, Florent Viro, Bastien Boust, Kareem Ahmed, Rachel Hytovick, Hardeo Chin, Kareem Ahmed, Hardeo Chin, Rachel Hytovick, Hardeo Chin, Kareem Ahmed, Rachel Hytovick, Hardeo Chin, Kareem Ahmed, Hector Perez, Rachel Hytovick, Michaela Hemming, Kunning Xu, David Lineberry, Kunning Xu, David Lineberry

Session Papers (if applicable):

A Method for Determining Hydrodynamic Thickness from a
Pressure Trace, Applied to Mixtures o..., Detonation Wave Collision Study During Rotating Detonation Rocket Engine Counter-Propagating Modes, Experimental investigation of the unsteady wall heat flux during a self-sustained detonation prop..., Investigation of Compressible Turbulent Hydrocarbon Fast Flames to DDT, Investigation of Standing Flame Phenomena in Propane Fast Flames, Study of Pulsed Plasma Effect on Detonability Limits and Detonation Wave Speed for Methane-Oxygen...

Session Title: Flowpath & Component Optimization

Technical Paper Session | HSABP-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/687A1FF9-F6BD-4BD9-8E72-5FC06EAB4B79>

Session Contributors: Jeongyeol Choi, Bu-Kyeng Sung, JeongYeol Choi, Cherukuri Balaji, Thundil Karuppa Raj R, Senthilkumar Paramasivam, Senthilkumar Paramasivam, Hari Venkata Pratap Reddy G, Yuvraj Sarout, Senthilkumar Paramasivam, Senthilkumar Paramasivam, Thundil Karuppa Raj R, MD Didarul Islam, Huseyin Tekaslan, Melike Nikbay, Rumed Imrak, Surya Prakash Baskaran, T M Muruganandam

Session Papers (if applicable):

Design of Shape Transition Nozzle for Direct-connect Supersonic Combustor, Effect of bump location on the performance of supersonic intakes, Effect of ramp leading-edge blunt on the performance of a Mach4 scramjet intakes, Reliability Based Design Optimization of a Supersonic Engine Inlet, Study on Unsteady Shockwave Boundary Layer Interaction in Accelerated Flight Conditions

Session Title: Hall Thrusters III

Technical Paper Session | EP-16 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/344619F7-34BB-4BCE-BAE2-9BC08E902177>

Session Contributors: Raymond Lau, Adnan Mansour, Ken Hara, Adnan Mansour, Benjamin Jorns, Zachariah Brown, Zachariah Brown, Benjamin Jorns, Pablo Guerrero, Anirudh Thuppul, Richard Wirz, Richard Wirz, Alejandro Lopez Ortega, Ioannis Mikellides, Alejandro Lopez Ortega, Ioannis Mikellides, Hani Kamhawi, Jason Frieman, Wensheng Huang, Hani Kamhawi, Jason Frieman

Session Papers (if applicable):

A Comparison of 1D Particle-in-Cell and Fluid Models for Hall Effect Thrusters, Experimental measurements of the contribution of plasma turbulence to anomalous collision frequen..., Plasma Interactions and Sputtering in the presence of Volumetrically-Complex Surfaces, The Dispersion of the Modified Two-Stream and Lower Hybrid Drift Instabilities in the Near-pole P..., Virtual Source Model: A Physical Description of Erosion in both Shielded and Unshielded Hall Thru...

Session Title: Injector Design II

Technical Paper Session | LP-06 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/1D3D3A1F-33A8-4B7A-9725-3100AE8130E6>

Session Contributors: Deeksha K, Raj Kedia, Shreeshya Madhu, Hatem Belal, Mohamed Al-Sanabawy, Mahmoud Hegazy, Jeongyeol Choi, Vishnu Natarajan, Bu-Kyeng Sung, Won-Sub Hwang, JeongYeol Choi

Session Papers (if applicable):

Computational Analysis on Multiple Secondary Injection Ports on Dual Throat Nozzle Configuration, Experimental Cold-Flow Investigations of Swirl Injectors, Two-phase Flow Study of the RD-0110 Engine Injector with different Recess Lengths

Session Title: Innovative Concepts II

Technical Paper Session | APC-05 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/CEAF76D3-4086-4F1D-8923-8C6778293912>

Session Contributors: Rojo Princy Andrianantara, Ruxandra Botez, Georges Ghazi, Andres Castillo, Andres Castillo, Kentaro Hara, Prabhat Kumar, Miray Karpat, Ozan Kara, M. Arif Karabeyoglu, Ozan Kara, Morteza Arbabian

Session Papers (if applicable):

Aircraft Engine Performance Model Identification using Artificial Neural Networks, Optimization of Laser and Particle Coupled Beam Propagation for Deep Space Propulsion, Propulsion System Design for Mars Ascent Vehicles by using the In-Situ CO₂, System to convert rotational momentum into versatile linear propulsion

Session Title: Innovative Designs for Space Utilization

Technical Paper Session | AVS-02 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/B8811D2B-2222-4C33-9BBD-5F2765B93A93>

Session Contributors: Daniel Levack, Daniel Levack, Timothy Kokan, Christopher Reynolds, Daniel Levack, Dennis Morris, Rodney Noble, Timothy Kokan, Christopher Reynolds, Timothy Kokan, Dennis Morris, Daniel Levack, Claude Joyner, Timothy Kokan, Claude Joyner, Peter Kinsman, Claude Joyner, Daniel Levack, Daniel Levack, Declan Quinn, Craig Johansen, Henry Stoldt, Jake Kavanagh, Mostafa Hassanalian, Mostafa Hassanalian, Sara Lanctot, Trent Bjorkman, Brenden Herkenhoff, Nathaniel Serda

Session Papers (if applicable):

Human Landing System Architecture Options Utilizing the XLR-132 Rocket Engine, AR SpaceCrane Family of Lunar Lander Vehicles: A Common Architecture For Enhanced Mission Flexibi..., MAPLEAF: A Compact, Extensible, Open-Source, 6-Degrees-of-Freedom Rocket Flight

Simulation Framework, Preliminary Design Concept of Locust Inspired Jumping Moon Robot Swarm

Session Title: Ion Thrusters II

Technical Paper Session | EP-17 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/E59D17B7-8C5D-471B-88AD-7FEFEA432EFF>

Session Contributors: Yi-Chien Chen, Yueh-Heng Li, Ming-Hsueh Shen, Ta-Yen Huang, Nageshwar Nagarajan, Kunning Xu, Kunning Xu, Bradley Camburn, Shital Dnyandeo Sable

Session Papers (if applicable):

Development of a Miniature Radio-Frequency Ion Engine with Inductively Coupled Plasma (ICP) Sourc..., Effect of the width and number of rings of concentric split ring resonator on plasma generation f..., Topology Generation for Ion-thruster Grids

Session Title: Modeling and Simulation of Liquid Propulsion Systems I

Technical Paper Session | LP-07 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/AA5E45BA-0B06-498B-AA2D-8C19D6E6BAD5>

Session Contributors: Daniel Garcia, Jayanta Kapat, Marcel Otto, Daniel Garcia, Lawrence Thomas, Shreyas Lakshmipuram Raghu, Shreyas Lakshmipuram Raghu, Lawrence Thomas, Mohammad Naraghi, Ehsan Atefi, Mohammad Naraghi

Session Papers (if applicable):

Investigation into Wedge Turbulators and Aspect Ratio in Rocket Engine Cooling Channels, Modeling Behavior Elements for the RS-25 Engine using SysML for Improved Affordability, Optimum Dimensions of Cooling Channels for a Regeneratively Cooled Engine: A Multi-Objective Appr...

Session Title: Non-Annular Rotating detonation Engines

Technical Paper Session | PGC-08 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/6A443EA9-260E-4DC4-B42C-D1860BB45A2A>

Session Contributors: A Koichi Hayashi, Kohei Ozawa, Shinichi Maeda, Tetsuro Obara, Toshiharu Mizukaki, Nobuyuki Tsuboi, Kohei Ozawa, Nicolas Jourdain, Kodai Shimomura, Kazuhiro Ishii,

Edyta Dzieminska, Ajay Agrawal, Kayla Bell, Ajay Agrawal, Jeongyeol Choi, Hyung-Seok Han, Jae Hyuk Lee, JeongYeol Choi, Eun Sung Lee, Jung-Min Kim, Matthew Fotia, Riley Huff, Nathan Snow, Frederick Schauer, Marc Polanka, Marc Polanka, Xin Huang, Po-Hsiung Chang, Jiun-Ming Li, Chiang Juay Teo, Boo Cheong Khoo

Session Papers (if applicable):

3D numerical study on flow field in disc-RDE, Numerical Optimization of Aerospike Design for a Disk Rotating Detonation Combustor, Operating Characteristics of Non-Circular Tri-Arc Rotating Detonation Engine (RDE), Rotating Detonation Engine with a Tapered Combustion Channel, Wave Dynamics, Power Production and Combustion Instabilities of a Disk-Shaped Pressure Gain Combu...

Session Title: Solid Rockets: Modeling and Simulation Advancements

Technical Paper Session | SR-02 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/2D3947E2-76F9-4FD0-A14E-D238DDE0F92E>

Session Contributors: Manuel Gale, M. Farid Alam, Edward Luke, M. Farid Alam, Laurent Francois, Joël Dupays, Marc Massot, Laurent Francois, Agostino Neri, Enrico Cavallini, Emanuele Martelli, Enrico Cavallini, Andrea Di Mascio, Agostino Neri, Matteo Bernardini, Matteo Cimini, Fulvio Stella, Francesco Salvatore, Marco Grossi, Daniele Bianchi, Marco Grossi, Bernardo Favini, Daniele Bianchi, Ferruccio Serraglia, Nicola Ierardo, David Greatrix

Session Papers (if applicable):

A Multiphase Modeling Framework for Solid Rocket Motor Slag Accumulation and Dynamics Prediction, A new simulation strategy for solid rocket motor ignition: coupling a CFD code with a one-dimensi..., Implicit Large-Eddy Simulation of Solid Rocket Motors using the Immersed Boundary Method, Numerical Simulation of Thermoacoustic Phenomena in Aft-Finocyl Solid Rocket Motors, Solid Rocket Burning Rate Modeling Considerations for Multidimensional Motor Geometries

Session Title: Sprays

Technical Paper Session | PC-07 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/0B8F9AA1-6C80-4D34-A111-61B886093BE6>

Session Contributors: Yu Liu, Lei Luo, Lei Luo, Hengyi Zhou, Yu Liu, AbdullahAIMut Sharfuddin, Foluso Ladeinde, John Quinlan, John Quinlan, Santiago Erazo, Jacob Gamertsfelder, Prashant Khare, Joseph Day, Shyam Menon, Shyam Menon, James Leung, James Leung

Session Papers (if applicable):

A Functional-group Based “Artificial” Activity Coefficient Model for Droplet Evaporation (AACM-DE..., Assessment of droplet heating and vaporization models for vaporization and autoignition of drople..., Level Set Modeling of Three-Dimensional Supersonic Liquid Breakup
Using the Method of Charac..., Pintle Injector Spray Atomization: Liquid Sheet Breakup Quantification, Schlieren Imaging of Droplet Aerobreakup

Session Title: Thermal System Applications and Unique Environment

Technical Paper Session | TM-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/92CE0176-4560-469E-8728-FBBD16792982>

Session Contributors: Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Joshua Brooks, Terry Reid, Matthew Stang, Scott Wilson, Essam Khalil, Khaled Fasih, Adel Megahed, Ahmed Ebeid, Essam Khalil, Essam Khalil, Essam Khalil, Essam Khalil, Essam Khalil, Essam Khalil, Paras Adlakha, Ramesh Kumar, Aayushi Bohrey, Hitesh Dhawan, Hitesh Dhawan, Michael Choi, June Tveekrem, Christian D’Aubigny, Bashar Rizk, Dante Lauretta, Michael Choi, Brent Bos

Session Papers (if applicable):

Compact Heat Exchanger Sizing and Weight Estimation, Dynamic Power Convertor Validation and Verification Thermal Analysis, Effect of Different Baffle Parameters on the Thermal Performance of a Shell and Tube Heat Exchanger, Flow, Combustion and Thermal Patterns in Burner Quarls, Space Habitat solar thermal energy system a novel approach, Success of Microporous Black PTFE Flexible Solar Diffuser On TAGSAM During OSIRIS-REx Sample Coll...

Session Title: Artemis: The Power of the Moon

Technical Panel | APS-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 13:30:00

<https://virtualforums.aiaa.org/Category/BE6B4509-947E-4C9F-9EC6-201264ECC145>

Session Contributors:

Session Papers (if applicable):

Session Title: Forum 360: Expanding the Horizons of Sustainability from Earth to Space: Space Operations

Forum 360 | F360-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/75E2BD67-9203-4A53-A75A-B9D12DEDA7A8>

Session Contributors:

Session Papers (if applicable):

Session Title: Advances in High Speed Air-Breathing Propulsion Ignition

Technical Panel | HSABP-06 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/0C3DC6C8-D1A8-43EE-BC3F-32B451D2BAF1>

Session Contributors:

Session Papers (if applicable):

Session Title: Combustion Modeling: Methods

Technical Paper Session | PC-08 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/D2AEA84C-7333-4F77-87FC-337986D81DBA>

Session Contributors: Adam Steinberg, Joseph Oefelein, Adam Steinberg, Joseph Oefelein, Joseph Oefelein, Adam Steinberg, Adam Steinberg, Kyle Schau, Andrew Ilersich, Masayuki Yano, Martin Grader, Timo Seitz, Peter Ess, Peter Gerlinger, Florian Setzwein, Jamie Bowers, Eli Durant, Reetesh Ranjan, Matthias Haeringer, Guillaume Jean Jacques Fournier, Wolfgang Polifke, Mattia Soldan, Michael Mueller, Bernard Ghanem, Lorenzo Angelilli, Pietro Paolo Ciottoli, Lorenzo Angelilli, Mauro Valorani, Hong Im, Pietro Paolo Ciottoli, Riccardo Malpica Galassi, Francisco Hernandez Perez, Parikshit Jain, Boris Kramer, Shane McQuarrie, Petro Junior Milan, Vigor Yang, Petro Junior Milan

Session Papers (if applicable):

A Data Assimilation Framework for Reacting Flow in Multiple-Query Scenarios, Application of Artificial Neural Networks for the Simulation of a Perfectly Premixed Chemical Rea..., Application of Intrusive and Non-Intrusive Reduced Order Modeling Techniques for Simulation of Tu..., High-Accuracy Flame Transfer Function Conversion by Means of a Physics Informed Model, Large eddy simulation with tabulated multi-modal turbulent combustion closure via artificial neur..., Performance comparison of data-driven reduced models for a single-injector combustion process, Reduced-order modeling and uncertainty quantification of complex engineering flows

Session Title: Electrospray Thrusters I

Technical Paper Session | EP-19 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/3A6741F3-24EA-423E-9F07-E7C5F9757561>

Session Contributors: Amelia Greig, Antonio Robali, Alberto Meza, Catherine Carrillo, Alexander Reissner, Bernhard Seifert, David Krejci, Lou Grimaud, Tony Schönherr, Valentin Hugonnaud, Charlie Ryan, Chengyu Ma, Szymon Dworski, Manuel Gamero, Manuel Gamero, Albert Cisquella Serra, Collin Whittaker, Benjamin Jorns, Benjamin Jorns, Collin Whittaker, Alex Gorodetsky, Audelia Szulman

Session Papers (if applicable):

Design and Testing of a CubeSat Rail Integrated Electro Spray Thruster, ENPULSION NANO and MICRO propulsion systems: development and testing, Heated Porous Electro Spray Thruster - 1: A Heated Electro Spray Thruster Concept, Microfabrication Strategies and Performance Evaluation of Silicon-Based Electro Spray Micro Thrust..., Robust Design of an Electro Spray Emitters

Session Title: EP Modeling

Technical Paper Session | EP-20 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/0400CF88-OFF3-4725-93BF-162790DBFC45>

Session Contributors: Mckenna Breddan, Richard Wirz, Lubos Brieda, Richard Wirz, David Curry, Mihir Sharma, Miles Richmond, Adnan Mansour, Ken Hara, Adnan Mansour, Chen Cui, Joseph Wang, Chen Cui, Ken Hara, Christine Greve, Christine Greve, Benjamin Jorns, Thomas Marks, Alejandro Lopez Ortega, Ioannis Mikellides, Benjamin Jorns, Thomas Marks, Alejandro Lopez Ortega, Ioannis Mikellides

Session Papers (if applicable):

A Discrete Lagrangian Model for Electro Spray Plume Interactions, Development of 2D Full-Fluid Moment Model for Hall Effect Thruster Plasma, Development of a Parallel Multi-dimensional Grid-based Vlasov Solver for Plasma Plume Simulation, Real-time Estimation of Plasma Dynamics using an Extended Kalman Filter, Self-consistent implementation of a zero-equation transport model into a predictive model for a H...

Session Title: Flight Programs and Full S/C Integration, and PPU

Technical Paper Session | EP-21 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/53464D5A-9F72-4BBA-850D-949C034A28AF>

Session Contributors: Julie Li, Virginia Sereno, Taylor Kerl, Taylor Kerl , John Snyder, John Snyder, Matteo Laterza, Jian Wei Mark Lim, Kai Sheng Khoo, Luis Pinero, Marcelo Gonzalez, Robert Scheidegger, Scott Panko, Henry Fain, David Pike, Arthur Birchenough, George Thomas, Luis Pinero, George Thomas, Joshua Rovey, Steven Berg, Jacob Eisen, Joshua Rovey, Steven Berg, Bryan Cline, John Snyder, Ian Johnson, John Snyder, Taylor Kerl , Taylor Kerl, Jeff Baldwin, Emmanuelle Rosati Azevedo, Alberto Garbayo, Charlie Ryan, Thomas Baxter, Sam Reeve, Daniel Staab, Kyaw Swar, Emily Longhi

Session Papers (if applicable):

Electric Propulsion for the Psyche Mission: One Year to Launch, Integration of a Hall Thruster in a 3U Platform, Investigation of Rectifier Diode Failures in the NEXT-C Power Processing Unit, Power Processing Unit and Feed System Development for a Multimode Spacecraft Propulsion System, Pre-Flight Assessment of Xenon Propellant Usage and Usage Uncertainty for the Psyche Mission, Update on the Development of an All-Electric Spacecraft Propulsion Architecture for Geostationary...

Session Title: Fuel and Power Generation

Technical Paper Session | FPG-01 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1BB65E6D-7508-4BC4-8A46-5A8818D05616>

Session Contributors: Hitoshi Fujiwara, Mitsumasa Makida, Kazuo Shimodaira, Katsuhiko Shinoda, Atsushi Fujii, Yasuhiko Kojima, Kiyohiko Sakai, Yuta Shibahara, Takuya Mizuno, Keiichi Okai, Keiichi Okai, Hideshi Oinuma, Oamu Nozaki, Shunji Enomoto, Keiichi Okai, Keiichi Okai, Takuya Mizuno, Keiichi Okai, Keiichi Okai, Keiichi Okai, Hitoshi Fujiwara, Keiichi Okai, Akash Rodhiya, Konduri Aditya, Andrea Gruber, Jacqueline Chen

Session Papers (if applicable):

Emission and Model-Engine Operation with SAF (Sustainable Aviation Fuel) Produced through Integra..., Modeling and Estimation of Emission Characteristics Based on High-Temperature and Pressure Condit..., Simulations of flame structure in a reheat burner: pressure scaling

Session Title: Gas Turbine Diagnostics, Prognostics and Controls

Technical Paper Session | GTE-09 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/B34598F5-8FCB-4B55-89F7-B699112678E0>

Session Contributors: Nikhil Nigam, Alireza Behbahani, Alireza Behbahani, Matthew Nicholson, Alexis Rysewyk, Christopher Goldsmith, Amir Shahi, Rama Yedavalli, Scott Fishbone, Karen

Thole, Jeffrey Brogan, Timothy Lieuwen, Joseph Mantese, Thomas Martin, Dustin Caldwell, Anand Kulkarni, Ramesh Subramanian, Benjamin Emerson, Reid Berdanier, John Gillespie, Kevin Lowe, Loren Crook, Wing Ng, Victor Oechsle, Bahareh Zaghari, Lawrence Yule, Nicholas Harris, Martyn Hill

Session Papers (if applicable):

A Study of Viability of Plug and Play Technology for Future Aircraft Engine Components, Sensor Integration on Additively Manufactured Hot Section Components for Wireless Gas Turbine Pro..., Thrust Measurements using Acoustic Sensing on a Turbofan Engine Exhaust Plume, Towards in-flight temperature monitoring for nozzle guide vanes using ultrasonic guided waves

Session Title: Gas Turbine Electrification

Technical Paper Session | GTE-10 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/03FE0CE5-B347-435E-9EA8-316E3D8267E6>

Session Contributors: Jonathan Kratz, Jonathan Kratz, Nawal Jaljal, Cédrik Djelassi, Benjamin Gomer, Guillaume Bidan, Guillaume Bidan, Gaetan Chesneau, Antoine Ferrand, Khaled Zarati, Jeffryes Chapman, Jeffryes Chapman

Session Papers (if applicable):

Exploration of the Versatile Electrically Augmented Turbine Engine Gearbox Concept, Prospects and Demonstration for Closed-Loop Controlled Hybrid Turbofans, Utilizing Electrical Power Extraction for Stability Bleed Reduction within Gas Turbine Engines

Session Title: Liquid Propulsion System Design I

Technical Paper Session | LP-08 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/62C53835-1445-4B94-8F23-0516D984BC99>

Session Contributors: Prashanth Bangalore Venkatesh, Daudi Barnes, Lars Osborne, Tristan Cembrinski, James Morehart, Catriona White, Jason Gabl, Timothee Pourpoint, Alicia Benhidjeb-Carayon, Victoria Boulos, Robert Orth, Timothee Pourpoint, Timothee Pourpoint, Timothee Pourpoint, Catriona White, Alicia Benhidjeb-Carayon, Alicia Benhidjeb-Carayon, Timothee Pourpoint, Timothee Pourpoint, Timothee Pourpoint, Alicia Benhidjeb-Carayon, Timothee Pourpoint, Jason Gabl, Christopher Mikhailovsky, Wanyi Ng, Henry Mulkey, Christopher Mikhailovsky, Daniel Cavender, Samantha Harris, Kenichi Kushiki, Shujiro Sawai, Shinichiro Sakai, Go Fujii, Yu Daimon, Yu Daimon, Kaname Kawatsu, Keisuke Michigami

Session Papers (if applicable):

A Study of Thruster Scaling from 10 lbf to 25 lbf of Thrust, A Survey of LNG-fueled Rocket Engine Development Activity - Non U.S., Chemical Composition of Mixed Oxides of Nitrogen using Raman Spectroscopy, Helium Solubility in Mixed Oxides of Nitrogen, Roman Propulsion Subsystem Surge Analysis, The Lunar Flashlight Propulsion System, Verification of the Transient Behavior of the SLIM Propulsion System (Smart Lander for Investigat...

Session Title: Nuclear Thermal Propulsion Engine Modeling

Technical Paper Session | NFFP-04 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/241E9937-E9C7-47AA-BA5C-B76104FD73EB>

Session Contributors: Je Ir Ryu, Seung Min Woo, Je Ir Ryu, Robert Frederick, Lawrence Thomas, Jason Cassibry, Jason Cassibry, Michael Houts, Lawrence Thomas, Keith Hollingsworth, Robert Frederick, Emily Wood, L Thomas, Emily Wood, Kayden Elmer-Schurr, Colin Coane, Breece Phipps, Aram Shahinyan, Micah Pratt, Aarya Kulkarni

Session Papers (if applicable):

Enhancing the Reactor Capability of a Nuclear Thermal Propulsion System using Deuteron as Coolant, Establishing the Feasibility of the Centrifugal Nuclear Thermal Rocket, Nuclear Thermal Propulsion Engine Minimally-Intrusive Power Generation Alternatives, Simulation of an Inductively Heated Multi-Channel Solid Core Nuclear Thermal Rocket Model, The Nuclear Thermal Propulsion Fuel and Core Designing Using the Beryllium as Working Fluid along...

Session Title: PGC Applications II

Technical Paper Session | PGC-09 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/5E1691EE-7187-498B-99A7-8C6AB9E432BC>

Session Contributors: Venkat Tangirala, Venkat Tangirala, Anthony Dean, Jason Burr, John Bennewitz, Jason Burr, John Bennewitz, Christopher Lietz, Kareem Ahmed, Taha Rezzag, Robert Burke, Robert Burke, Kareem Ahmed, Justin Weber, Todd Sidwell, Donald Ferguson, Donald Ferguson, Robert Burke, Kareem Ahmed, Robert Burke, Kareem Ahmed, Taha Rezzag

Session Papers (if applicable):

A Computational Study of H₂-Air Annular Rotating Detonation Combustor Operability, Characteristic Timescales for Rotating Detonation Rocket Engines, Comparison Study of Instantaneous Oscillatory Behavior Between RDREs and Air-Breathing RDEs, Design and Testing of a Water-Cooled Rotating Detonation Combustor at Elevated Operating Pressures, Validation of Experimental Evidence for H₂/O₂ Powered Rotating Detonation R...

Session Title: Propulsion System Optimization

Technical Paper Session | INSPI-01 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/63F211F0-FFF6-44BC-A107-038BF26FA66C>

Session Contributors: VR Sanal Kumar, Feonsa Antonitta B, Prisha K Asher, Syed Masood T S, Vr Sanal Kumar, Sai Shankaran B, Deviparameswari K, Denis Buosi, Gokul Subbian, Rolf Radespiel, Rita Ponza, Ernesto Benini, Andrea Magrini, Aishwarjya Gogoi, Abhijit Dhamalekar

Session Papers (if applicable):

In Silico Studies on Contour Optimization of Environmental Friendly Annular Aerospoke Nozzle with..., Investigation of HL-CRM Aerodynamics With a UHBPR Nacelle in Powered-on Condition, Shape Optimization of Nozzle for Modern Combat Aircraft

Session Title: Solid Rockets: Propellant and Ballistics

Technical Paper Session | SR-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/92DBE0B7-77FC-4954-A982-EBAB1A856ED6>

Session Contributors: Kathryn Clements, Steven Son, Kathryn Clements, Timothy Manship, Metin Ornek, Davin Piercey, Jeffrey Rhoads, Hayden Bilbo, Mateo Gomez, Diane Collard, Diane Collard, Jacob Curtiss, Steven Son, Rao Mannepilli, Marco Grossi, Marco Grossi, Bernardo Favini, Daniele Bianchi, Daniele Bianchi

Session Papers (if applicable):

A Core-Shell Approach to Greener Solid Propellant Oxidizers, Extrusion of AP Composite Propellant with Self-aligned Reactive Fibers, Rao's Method and Chord-Midpoint Method for Burning Time Computation of Solid Rocket Motors, Thermoacoustics Q1D Modeling in Solid Rocket Motors

Session Title: Space System Enhancements

Technical Paper Session | AVS-03 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/209D5891-3803-4DBA-B6A2-D33CCA2E7BCD>

Session Contributors: Noor Basanta Das, Malaya Kumar Biswal M, Ramesh Kumar V, Frank Chandler, Frank Chandler, Om Prakash, Ritesh Singh, Manuel La Rosa Betancourt

Session Papers (if applicable):

A Comparative Study on Orbital Launch Systems for Human Mission to Moon and Mars, Development of Safety Processes for Design and Manufacture of Small Liquid Propellant Engines and..., Flight Dynamics Analysis using High Altitude & Mach Number for Generic Air-Breathing Hypersonic V..., Magnetohydrodynamic Enhanced Entry System for Space Transportation (MEESST) as a Key Building Blo...

Session Title: Swirl-Stabilized Combustion

Technical Paper Session | GTE-11/PC-09 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7AF45505-6A43-4500-A588-7675C9192E45>

Session Contributors: Marcel Ilie, Matthew Chan, Jackson Asiatico, Nicholas Arnold-Medabalimi, Cheng Huang, Karthik Duaraisamy, Nicholas Arnold-Medabalimi, Cheng Huang, Mirko Gamba, Sanjar Obidov, Dennis S. Bernstein, Mirko Gamba, Juan Paredes, Rahul Ramesh, Colin McDonald, John Philo, Tristan Shahin, Rohan Gejji, Robert Lucht, Rohan Gejji, Rohan Gejji, Rohan Gejji, Carson Slabaugh, Colin Mcdonald, Carson Slabaugh, Je Ir Ryu, Je Ir Ryu

Session Papers (if applicable):

Combustion instabilities of swirl combustor with and without center-body air injection; computati..., Computational Investigations on Flow-field Sensitivity of Dual Independent Swirl Combustor (DISCo), Design and Characterization of the Dual Independent Swirl Combustor Facility (DISCo), Effect of Fuel Temperature on Emissions and Structure of a Swirl-Stabilized Flame, Numerical Investigation on Lean Blow-Out of F-24 Jet Fuel in the ARC-M1 Single Cup Swirl Combustor

Session Title: Thermal Modeling, Simulation and Analysis

Technical Paper Session | TM-04 | P&E / EATS

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/27F3946C-DD5D-4753-A67A-908E8E0BA961>

Session Contributors: Foluso Ladeinde, Kun Wu, Yang Lu, Yichao Jin, Xuejun Fan, Philip Abolmoali, Philip Abolmoali, Soumya Patnaik, Robert Buettner, Daniel Herber, Soumya Patnaik, Mark Ricklick, Neil Sullivan, Sandra Boetcher, Mark Ricklick, Yang Chao, Neil Sullivan, Sandra Boetcher, Essam Khalil, Essam Khalil, Essam Khalil, Essam Khalil

Session Papers (if applicable):

Comprehensive Analysis of the Cold Plate Aviation Thermal Management Device, A one-dimensional transient calculation method for flow instability of supercritical hydrocarbon ..., An

Automated Design Tool for Generation and Selection of Optimal Aircraft Thermal Management Syst..., Heat Transfer Enhancement Optimization in Supercritical CO₂ with Reduced-Order Model, Mathematical Modeling of Flow Regimes and Thermal Patterns Interactions in Complex Applications

Session Title: Unique Propulsion Concepts II

Technical Paper Session | APC-06 | P&E

Session Date: 2021-08-10

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/70849D58-FD79-45BF-957D-BD5A51F5D04C>

Session Contributors: Paul Murad, Todd Desiato, Mark Pickrell, Christopher Limbach, Rohan Jillapalli, Hayden Morgan, Hayden Morgan, Christopher Limbach, John Robinson, John Robinson

Session Papers (if applicable):

Electrophysical Means in Space Research and Applications, Experimental Validation of The Engineering Model of Quantum Gravity, Experimental Validation Testing of a Paired-Particle Matter/Anti-Matter Propulsion System, with P..., Facility Design for Studies of Spatially-Overlapped Laser and Atomic Beams for Directed Energy Sp..., Requirements To Achieve Affordable/Sustainable Space Infrastructure

Session Title: Making Interplanetary Propulsion Practical: Happy Hour with Astronaut Ronnie Nader and the PiP subcommittee of the Nuclear and Future Flight Propulsion Committee

the HUB | HUB-17 | P&E / EATS

Session Date: 2021-08-10

Session Time (EDT): 16:30:00

<https://virtualforums.aiaa.org/Category/3A1AF086-1197-4307-A3AA-E90CD32F28C1>

Session Contributors:

Session Papers (if applicable):

Session Title: Slow Flow Yoga

the HUB | HUB-18 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 09:00:00

<https://virtualforums.aiaa.org/Category/975BF709-ED76-42F2-98B8-124288F5FEA8>

Session Contributors:

Session Papers (if applicable):

Session Title: Plenary Session: Sustainability and the Future Development of Energy Resources

Plenary Session | PLNRY-03 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/152C8A49-48B1-46DF-8DE9-0513FB44F225>

Session Contributors:

Session Papers (if applicable):

Session Title: Cubesats and Small Satellites

Technical Paper Session | EP-24 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/E34B89D6-099D-470A-B32B-00EA7583B250>

Session Contributors: Yueh-Heng Li, Jordan Hsieh, Hou-Yi Lee, Bing-Han Huang, Michael Keidar, Denis Zolotukhin, Manuel Gamero, Marco Magnani, Marco Magnani, Manuel Gamero, Lubos Brieda, Denis Zolotukhin, Michael Keidar

Session Papers (if applicable):

Development of a New Vacuum Arc Thruster with Multilayer Electrodes, Effect of Plasma Ignition Delay on Ion Velocities in a Two-Stage MPD Thruster With Pulsing Magnet..., Modeling of ion emission from a liquid meniscus, PIC-DEM Modeling of Vacuum Arc Thruster Electrodes

Session Title: Detonation Physics II

Technical Paper Session | PGC-11 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/CE9733F3-D2F9-477C-8B10-F42718D94EDF>

Session Contributors: Pradeep Pavalavanni, Jaehoon Ryu, Jeongyeol Choi, JeongYeol Choi, Karthikeyan Iyer, Ajay Singh, Chiang Juay Teo, Boo Cheong Khoo, Heng Kee Ngiam, Ruiqin Shan, Jiun-Ming Li, Ashlesh Dahake, Ajay Singh

Session Papers (if applicable):

Dynamic Mode Decomposition (DMD) Analysis of the Detonation Cell-Bifurcation Process, NO_x Emissions from Jet A-air Detonations, Numerical Investigation of Combustion Wave Modes in Hydrogen-Air Shuttling Transverse Combustion, Numerical Study on NO_x Emissions from a Synthetic Biofuel for Applications in D...

Session Title: Ignition and Flame

Technical Paper Session | HR-06 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/294CA51F-073E-4CE9-8AC4-BC1E5FBD896B>

Session Contributors: Ozan Kara, Miray Karpat, Ozan Kara, M. Arif Karabeyoglu, Harunori Nagata, Landon Kamps, Harunori Nagata, Shota Hirai, Landon Kamps, Brian Cantwell, Veronika Korneyeva, David Dyrda, Veronika Korneyeva, David Dyrda, Kohei Ozawa, Nobuyuki Tsuboi, Kohei Ozawa, Russell Babb, Judson Stephens, Joseph Horlacher, Stephen Whitmore, Stephen Whitmore, Harunori Nagata, Hironori Sahara, Toshiaki Iizuka, Landon Kamps, Yusuke Takada, Kodai Iwanaga, Shota Inoue, Masashi Wakita, Hajime Inoue, Landon Kamps, Harunori Nagata

Session Papers (if applicable):

An Experimental Study on Predicting the Mass Flow Rate of Self-Pressurizing Oxidizers Through Inj..., Development of safe, low-cost, re-ignitable rocket ignition system, Experimental Studies of Flame Propagation in a Small-Scale Hybrid Rocket Motor Configuration, Feasibility Study on Ignition Function Integrated in a Solid Fuel using Multi-Material Additive M..., Further Development of Low-Erosion Nozzle Materials for Long-Duration Hybrid Rocket Burns, Ignition and flame-holding characteristics of 60wt% hydrogen peroxide in a CAMUI-type hybrid rock...

Session Title: Inlets & Nozzles

Technical Paper Session | INSPI-02 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D5D52422-2D52-41C1-ABC1-24A37B176484>

Session Contributors: John Slater, Layton Howerton, John Slater, Carlos Marquez Gutierrez, Marco Geron, Christopher Sheaf, Juliana Early, Alister Simpson, Ferhat Cetin, Hasan Tabanlı, Bayram Celik, Robert Ehrmayr, Marcus-Benedict Buntz, Robert Ehrmayr, Aishwarjya Gogoi, Rohit Vashistha, Nagendra Gopal, Min Qi

Session Papers (if applicable):

Auxiliary Inlet Design Study for Mach 1.4, Drag Bookkeeping Strategies for Conventional and Unconventional Nozzles, Effect of Boundary Layer Profile and Shape on Flows of an Internal Compression Inlet, Parameter Study of Duct Concepts for Advanced Air Induction Systems, Study of Variation in Vectored Thrust with nozzle deformation due to exhaust gas pressure and tem..., Study on the Flow Characteristics of Nacelle Intake with Fan Compression under Ground Conditions

Session Title: Kinetics and Fuels

Technical Paper Session | PC-10 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D3B46DCB-E14F-4CEB-A0E3-BD7365004B82>

Session Contributors: Kyle Niemeyer, Brittany Blanksma-Stark, Andrea Zambon, Balaji Muralidharan, Ashvin Hosangadi, Balaji Muralidharan, Andrea Zambon, Yize Liu, Theoklis Nikolaidis, Abdelaziz Gamil, Seyed Hossein Madani, Mohammad Sarkandi, Kyle Niemeyer, Cailin Moore, Yuzhe Wen, Yu Liu, Tao Chen, Tao Chen, Brian Maxwell, Mohnish Peswani

Session Papers (if applicable):

A Python-based Platform for Modeling Soot Nucleation and Coagulation in Continuum and Free-molecu..., Application of progress variable based tabulated chemistry approach to investigate spray combusti..., Combustor Development and Performance Analysis for Recuperated Microturbine Application, Improved Chemical Kinetic Model Reduction in pyMARS for Liquid Propellants, Numerical study on the poly-brachial H₂ – NO₂/N₂O₄ par..., Reduced Combustion Mechanism for Modeling Jet-Fuel Surrogates

Session Title: Liquid Propulsion System Design II

Technical Paper Session | LP-10 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/B55E7B93-6DB6-4A4F-803C-E83FC6B8B672>

Session Contributors: Christopher Radke, Christopher Radke, Lawrence Thomas, Mason Tudor, Gang Wang, Lawrence Thomas, Jeongyeol Choi, Min-Seon Jo, Jae-Eun Kim, JeongYeol Choi, Dario Pastrone, Francesco Nasuti, Dario Pastrone, Emanuele Martelli, Antonietta Conte, Andrea Ferrero, Andrea Ferrero

Session Papers (if applicable):

A historical overview of NASA's experience in on-orbit refueling of hypergolic propellants: from ..., Analysis and Utility of a Structural Margin Based Design for Failure Prone Components in Liquid R..., Comparison of Upper-Stage Engine Options for Small Launch Vehicle based on KSLV-II, Dual-bell nozzle for space launchers with fluidic control of transition

Session Title: Model-based Systems Engineering

Technical Paper Session | HSABP-07 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/D1A20964-D90C-4369-A118-2BBB1A455182>

Session Contributors: Christopher Marley, Robin Hunt, Robin Hunt, Yichao Jin, Wei Yao, Wei Yao, Wei Yao, Hang Liu, Long Li, Lianjie Yue, Wei Yao, Xiu Yi Pee, Stuart Laurence

Session Papers (if applicable):

Computational Study of Spanwise Cavities for Passive Isolator Shock Train Control, LES investigation of real-fluid effect on underexpanded jets, Nonequilibrium effect modeling in high-Ma scramjet based on dynamic zone model, Numerical Study of Unsteady Shock Propagation in a Thermally Choked Flow with the Method of Chara...

Session Title: Nuclear Electric and Nuclear Inspired

Technical Paper Session | NFFP-05 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/0743607D-F558-490E-BCAC-9BB67182AA16>

Session Contributors: Fatima Ebrahimi, Robert Adams, Nathan Schilling, Robert Adams, Jason Cassibry, Jason Cassibry, Nathan Schilling, Jason Cassibry, Brent Freeze, Nao Murata, Zachary White, Kunning Xu, Kunning Xu

Session Papers (if applicable):

An Alfvénic reconnecting plasmoid thruster, Continued development of the pulsed magnetic nozzle for the Pulsed Fission Fusion (PuFF) vehicle, Linear Ion Accelerator Propulsion Powered by Fission Source and Direct Energy Conversion for Mars..., Magnetic Deflection of a Low-Temperature Plasma Jet for a Magnetic Nozzle for Pulsed Fission-Fusi...

Session Title: Propulsion System Integration

Technical Paper Session | INSPI-03 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/67578404-6921-499B-BEFA-E8FBF2FB442C>

Session Contributors: Keiichi Okai, Keiichi Okai, Junichi Kazawa, Daisaku Masaki, Keiichi Okai, Keiichi Okai, Akiyoshi Masaki, Seiya Mizutori, Tetsuya Sato, Masahiro Kono, Melike Nikbay, Emre Karaselvi, Jacob Compton, Johnathan Burgess

Session Papers (if applicable):

Experimental and Numerical Evaluation of Power Saving Benefit by the Boundary Layer Ingestion Eff..., Implementation of Propulsion System Integration Losses to a Supersonic Military Aircraft Conceptu..., Propulsion Systems Integration for Transonic Unmanned Aircraft System

Session Title: Solid Rockets: Performance Reconstruction and Uncertainty Quantification

Technical Paper Session | SR-04 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/0E2D6902-9AE8-418B-9A3C-D7AAFD594F7B>

Session Contributors: Marco Grossi, Daniele Bianchi, Daniele Bianchi, Ferruccio Serraglia, Nicola Ierardo, Marco Grossi, Bernardo Favini, Mark Carpenter, Roy Hartfield, Roy Hartfield, Roy Hartfield, Roy Hartfield, Enrico Cavallini, Agostino Neri, Agostino Neri, Enrico Cavallini, Lucandrea Mancini

Session Papers (if applicable):

Analysis and Reconstruction of Zefiro 40 Solid Rocket Motor Static Firing Tests and Extrapolation..., Statistical Learning for Solid Propellant Performance, Uncertainty-Dispersion Analysis of SRM Performance Prediction & Reconstruction

Session Title: Technologies for Sustainable Aviation

Technical Panel | GTE-12/PC-11 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/342CBBA6-96F5-48A3-9CEE-2F180D601947>

Session Contributors:

Session Papers (if applicable):

Session Title: Turbomachinery III

Technical Paper Session | GTE-13 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/A987D849-3A27-47AD-A68E-C9331E39D2DA>

Session Contributors: J V R Prasad, Yedidia Neumeier, Chunhua Sheng, Seyed Mostafa Fazeli, Christopher Long, Vasudevan Kanjirakkad, Viswanathan Kumaran, Santosh Ansumali, Chakradhar Thantanapally, Maruthi Hanumantharayappa, Manjusha Namburi, Ahmad Fikri Mustaffa, Vasudevan Kanjirakkad

Session Papers (if applicable):

Deviation Modeling using an Asymptotic Approach, Hybrid RANS/LES Simulations of Turbine Guide Vanes, Investigation of Buoyancy-Driven Heat Transfer in H.P Compressor Disc Cavities,

LES/DNS of flow past T106 LPT cascade using a higher-order LB model, The Aerodynamics of Circumferential Casing-Groove in a Transonic Compressor

Session Title: Unmanned Aircraft Systems II

Technical Paper Session | UAS-03 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/255A83C8-F8CF-45F4-ADB4-DCCDE5346164>

Session Contributors: Esteban Valencia, Esteban Valencia, Denisse Leines, Mathiu Berrazueta, Henry Lema, Marcelo Pozo, Joshua Drake, Johnathan Burgess, Timothy Runnels, Joshua Johnsen, Kurt Rouser, Malaya Kumar Biswal M, Noor Basanta Das, David Gomez-Fernandez, Ramesh Kumar V, Timothy Runnels, Johnathan Burgess, Kurt Rouser, Joshua Johnsen, Prisha K Asher, Vijayakumar Mathaiyan, Jagadeeshwaran Ponmariappan, Raj Gnanasekaran, Feonsa Antonitta Bernard, Vaidegi R, Meenakshi S, Ramesh Murugesan, Senthil Kumar Madasamy, Naveen Kumar Kulandaiyaappan, Vijayanandh Raja, Arul Prakash Raji

Session Papers (if applicable):

Aero-electric evaluation of piezoelectric materials on small monitoring UAVs, Comparison of Direct and Active Throttle Control for a 7-kW Unmanned Aircraft Turboelectric Power..., Design Study and Validation of Mars Underground Habitat for Human Settlement on Mars, Integration of a 7-kW Turboelectric Power System in a Vertical Take-Off and Landing Unmanned Aircraft..., Optimization of High Payload Unmanned Aerial Vehicle's Propellers based on Energy Formation by us...

Session Title: AIAA/IEEE EATS Student Design Competition

Technical Panel | EATS-01 | EATS

Session Date: 2021-08-11

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/9C98137E-2E03-406C-93D7-7B5549C8EBCC>

Session Contributors:

Session Papers (if applicable):

Session Title: Electrified Aircraft Rolling Recap - Summary of AVIATION 2021

Technical Panel | EATS-02 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/27CCFF8B-6FFF-4327-AD0D-3694DF4712C3>

Session Contributors:
Session Papers (if applicable):

Session Title: Forum 360: 60 Years Back, 60 Years Forward

Forum 360 | F360-05 | P&E

Session Date: 2021-08-11
Session Time (EDT): 11:30:00

<https://virtualforums.aiaa.org/Category/CEB55A19-5070-4222-B939-CD2C85B5D547>

Session Contributors:
Session Papers (if applicable):

Session Title: Pressure Gain Combustion is not just Rotating Detonation Engines!

Technical Panel | PGC-12 | P&E

Session Date: 2021-08-11
Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/34AF4CC1-D0B5-42E1-B391-3F2A97E1D23C>

Session Contributors:
Session Papers (if applicable):

Session Title: Lifetime Assessment of EP Devices

Technical Panel | EP-26 | P&E

Session Date: 2021-08-11
Session Time (EDT): 12:30:00

<https://virtualforums.aiaa.org/Category/936B52B4-0B78-4749-809F-83B54B8EB100>

Session Contributors:
Session Papers (if applicable):

Session Title: Electric Aircraft Technology Symposium Keynote I

EATS Keynote | EATS-03 | EATS

Session Date: 2021-08-11
Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/57B4B3BB-38D5-4E3A-8A42-4CBE09F8B504>

Session Contributors:

Session Papers (if applicable):

Session Title: Propulsion and Energy Awards Ceremony

Special Programming | AW | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F8A2E3F5-E44C-40D3-80C0-0EBB7236F1A6>

Session Contributors:

Session Papers (if applicable):

Session Title: Forum 360: Hydrogen: Hope or Hype?

Forum 360 | F360-06 | P&E / EATS

Session Date: 2021-08-11

Session Time (EDT): 14:00:00

<https://virtualforums.aiaa.org/Category/610A4E13-85D3-41FC-8188-0B6C1DA580B2>

Session Contributors:

Session Papers (if applicable):

Session Title: Combustion Dynamics and Instabilities

Technical Paper Session | PC-12 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/664F6801-2970-4FF0-A23B-B3410BD7D8BD>

Session Contributors: Guguloth Nayak, Paul Dumbacher, Troy McCay, James Hulka, Robin Osborne, Matthew Casiano, Nicholas Strahan, Rohan Gejji, Carson Slabaugh, Rohan Gejji, Carson Slabaugh, Rohan Gejji, Rohan Gejji, Ephraim Gutmark, Vincent Shaw, Rodrigo Villalva Gomez, Alec Gaetano, Vincent Shaw, Miguel Plascencia, Mario Roa, Miguel Plascencia, Ann Karagozian, Mario Roa, Ramakanth Munipalli, Doug Talley

Session Papers (if applicable):

Buoyancy induced instability in Methane and Propane jet Diffusion flame, Development and Testing of Pulse Guns for Combustion Instability Testing, Effect of Pressure, Swirl, and Oxygen Enrichment on Combustion Instabilities of a Hydrogen Flame ..., Fuel Spray Effects on Self-Excited Combustion Instability in a Bluff-Body Stabilized Flame, Response of Gaseous Coaxial Turbulent Jet Combustion to Transverse Acoustic Forcing

Session Title: Combustors III

Technical Paper Session | GTE-14 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/8D0FF9AC-558A-4676-8E56-707EF924C0E8>

Session Contributors: Kenji Miki, Ali Ameri, Changju Wey, Kenji Miki, Changju Wey, Mark Celestina, Jeffrey Moder, Richard Smith, Austin Brant, Drake Grall, Cesar Carapia, Marcel Ilie, Valentin Soloiu, Scott Martin, Gabriel Jacobsohn, Scott Martin, Bernhard Stiehl, Kareem Ahmed, Scott Martin, Kareem Ahmed, Bernhard Stiehl, Malcolm Newmyer, Michelle Otero, Tommy Genova, Michelle Otero, Tommy Genova, Scott Martin

Session Papers (if applicable):

Combustor-Turbine Interactions by Using the Open National Combustion Code (OpenNCC) and the Glenn..., Numerical and Experimental Analysis of a Single Stage Drone Jet Engine, Simulation of Reacting Jet in Vitiated Crossflow at 5 Atmospheres using Adaptive Mesh Refinement, Turbulent Combustion Modeling of a Staged Gas Turbine using Commercial CFD Code

Session Title: Computational Analysis

Technical Paper Session | INSPI-05 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/AB9A9445-8E80-4811-A30C-21E42E823EE1>

Session Contributors: Ernesto Benini, Jos Postma, Sinus Hegen, Frenk Wubben, Andrea Magrini, Denis Buosi, Aatresh Karnam, Myeonghwan Ahn, Mihai Mihaescu, Ephraim Gutmark, Arun Duraisamy, Dong Won Jung, Senthil Kumar Madasamy, Raj Gnanasekaran, Vijayakumar Mathaiyan, Vijayanandh Raja, Abdul Saleem H, Tharikaa Ramesh, Srinivasamoorthy S

Session Papers (if applicable):

Computational Evaluation of Turbo and Electric Powered Simulators for Wind Tunnel Tests of Ultra-..., Flow and Near-field Pressure Fluctuations of Twin Square Jets, Parametric Study of Interaction Behavior of Laminar Jets

Session Title: Electric Machines I

Technical Paper Session | EATS-04 | EATS

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/46DF0DAE-757B-433D-A4F4-0D8B367E794F>

Session Contributors: Matthew Granger, John Maroli, Thomas Tallerico, Aaron Anderson, Justin Scheidler, Thomas Tallerico, Justin Scheidler, Thomas Tallerico, Justin Scheidler, Justin Scheidler, Aaron Anderson, Thomas Tallerico, Justin Scheidler, Thomas Tallerico, Thomas Tallerico, Justin Scheidler, Andrew Smith, Thomas Tallerico, Thomas Tallerico, E. Eugene Shin, Andrew Woodworth, Paria Naghipour, Baochau. Nguyen, Andrew Woodworth, Tiffany Williams, Marisabel Kelly, William Sixel

Session Papers (if applicable):

Combined Analysis of NASA's High Efficiency Megawatt Motor and Its Converter, Design Optimization Studies of Partially Superconducting Machines based on NASA's High Efficiency..., Design Study of Double Sided Axial-Flux Magnetically Geared Motors for Electric Aircraft Applicat..., NASA Reference Motor Designs for Electric Vertical Takeoff and Landing Vehicles, Potential of Materials to Impact Megawatt-Scale Electric Machines

Session Title: Electrified Aircraft Design I

Technical Paper Session | EATS-05 | EATS

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/74753326-C632-427D-BD9B-76738EC22CC9>

Session Contributors: Prateek Ranjan, Ghanendra Das, Kai James, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Anusha Harish, Dimitri Mavris, Dimitri Mavris, Jonathan Gladin, Jonathan Gladin, Ivan Popovic, Mathias Noe, Stefan Biser, Martin Boll, Benjamin Cheong, Nikolai Herzog, Danai Chatzinikolaou, Konstantinos Emmanouil, Christian Breitsamter, Steven Schneider, Kenneth Fisher, Steven Schneider, Robert Thacker, Ty Marien, Nathaniel Blaesser, Zachary Frederick, Mark Guynn, Jason Kirk, Peter Frederic

Session Papers (if applicable):

A Large-Scale Aero-Structural Optimization Framework for Electric Aircraft Design, Multi-objective Optimization of Electrified Propulsion Architectures, Optimization of a Distributed Hybrid-Electric Propulsion System of a Commuter Aircraft on System ..., Results for an Electrified Aircraft Propulsion Design Exploration

Session Title: Electro spray Thrusters II

Technical Paper Session | EP-28 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/90DDAD45-D6B8-4395-8973-4BBD4A0D7286>

Session Contributors: Arega Margousian, Zackary Wood, Nathaniel Demmons, John Ziemer, Zackary Wood, Jacob Knott, John Ziemer, Dan D'Amato, Nathaniel Demmons, Nereo Alvarez, Carl Geiger, Johan Sweldens, Elaine Petro, Ximo Gallud Cidoncha, Summer Hoss, Paulo Lozano,

Nathaniel Demmons, Nereo Alvarez, Jacob Knott, Zackary Wood, Nathaniel Demmons, Zackary Wood, Manish Jugroot, Peter Mallalieu, Manish Jugroot, Christopher Lyne, Joshua Rovey, Steven Berg, Joshua Rovey, Christopher Lyne, Steven Berg, Peter Wright, Peter Wright, Richard Wirz, Richard Wirz

Session Papers (if applicable):

Characterization of Life-Limiting Factors for a Colloid Micro-Newton Thruster (CMNT) for the LISA..., Characterizing neutral flux from pure ion electrospray beams, Developing Scaling Model and Prototype Unit for Millinewton-Thrust, Pressure-Fed Electrospray Emi..., Investigation of Droplet Mode Electrospray Emitters for use in Multimodal Systems for Spacecraft, Monopropellant-Electrospray Multimode Thruster Testing Results: Electrospray Mode, Transient Flow in Porous Electrospray Emitters

Session Title: Energy Efficiency & Renewable Energy II

Technical Paper Session | EERE-06 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/AE377B20-BCCD-455F-9C30-DE9AEB1D5DFB>

Session Contributors: Nathan Taylor, John Bodett, Jessica Brooks, Joshua Brooks, Graham Harden, Samuel Swanson, Morgan Cook, Scott Duncan, Michael Balchanos, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Olivia Pinon-Fischer, Dimitri Mavris, Dimitri Mavris, Scott Duncan, Adeyemi Oshilalu

Session Papers (if applicable):

Coil Pump Performance Modeling and Selection Approach, Parametric Exploration of Microgrid Components and Implications to the Creation of a Digital Twin, Performance Evaluation of Major Oil and Gas Companies Diversifying into Renewable Energy Resources

Session Title: Gas Turbine Thermal Management

Technical Paper Session | GTE-15 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/5D39DB3A-1938-47C9-8360-5734CC7BC880>

Session Contributors: Jimmy Tai, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Jimmy Tai, Edan Baltman, Jimmy Tai, Dimitri Mavris, Dimitri Mavris, Edan Baltman, Jimmy Tai, Reid Berdanier, Scott Fishbone, Karen Thole, Atul Kohli, Dominic Mongillo, Thomas Praisner, Jose Rodriguez, Michael Fox, Richard Dennis, James Black, Patcharin Burke, Frank O'Neill, Doug Straub, Michael Barringer, Joel Wagner, Ardeshir Riahi, Curtis Stimpson, Andrew Aggarwala, Sean Bradshaw, Yong Kim, Adama Dhaker, Yueyang Say, Symus, Wai Tuck Chow, Sanjeeb Bose, Michael

Barringer, Michael Emory, Karen Thole, Ryan Edelson, Lee Shunn, Melike Nikbay, Emre Egemen, Erinc Erdem

Session Papers (if applicable):

An Investigation of Cooled Cooling Air for a Mach 2.2 Commercial Supersonic Transport, Defining a Testbed for the U.S. Turbine Industry: The National Experimental Turbine (NExT), Interaction of Heat Transfer and Structural Creep Performance in Rib-Turbulated Design for Intern..., LES of conjugate heat transfer in gas turbine film-cooling applications, Numerical Investigation of Flow Through Labyrinth Seals in Gas Turbine Engines

Session Title: Hall Thrusters IV

Technical Paper Session | EP-29 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/98E187CE-355B-4369-B2C5-85049AB5969C>

Session Contributors: James Szabo, James Szabo, Samuel Sawyer, Kurt Hohman, Carl Mullins, Michael Strain, Giovanni Lenguito, Dustin Warner, Terry Yu, Michael Robin, Ryan Fagan, Surjeet Paintal, Vlad Hruby, Hoang Dao, Nicholas Branch, Jason Frieman, Jon Mackey, Peter Peterson, Bemjamin Welander, Peter Peterson, Hani Kamhawi, Hani Kamhawi, Jon Mackey, Jason Frieman, Richard Hofer, Derek Inaba, Hoang Dao, Hani Kamhawi, Richard Hofer, Wensheng Huang, Jason Frieman, Hani Kamhawi, Nicholas Branch, Peter Peterson, Peter Peterson, Jason Frieman, Robert Lobbia, Vernon Chaplin, Dan Goebel, Ryan Conversano, Ryan Conversano, Alejandro Lopez Ortega, Robert Lobbia, Vernon Chaplin, Alejandro Lopez Ortega, Steven Arestie, Dan Goebel, Steven Arestie, Robert Lobbia, Richard Hofer, Robert Lobbia, Manish Jugroot, Manish Jugroot, Felix Chan-Ying, Curtis Graham, Manish Jugroot, Manish Jugroot

Session Papers (if applicable):

6kW Hall Thruster Development Update, Extended Performance Characterization of the 12.5-kW Advanced Electric Propulsion System Engineer..., Ion Velocity Characterization of the 12.5-kW Advanced Electric Propulsion System Engineering Hall..., Long-Duration Wear Testing of the ASTRAEUS Thruster, Phase II: 20 kg Xe Throughput at 500 V - 1000 W, Performance of a Conducting-Wall, Magnetically-Shielded Hall Thruster at 3000-s Specific Impulse, Simulation and Design of a Micro-Hall Thruster for Spacecraft, Simulation of a cylindrical dual-stage Hall thruster

Session Title: Hybrid Rocket Fuels

Technical Paper Session | HR-08 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/2ACAC6E4-10DE-4199-8243-099A6DBA1057>

Session Contributors: David Lineberry, Matthew Hitt, Joseph Agnew, James Venters, David Lineberry, Matthew Hitt, James Venters, Joseph Agnew, Tony Hall, Craig Johansen, Colin Hill, Kentaro Soeda, Sho Suzuki, Landon Kamps, Harunori Nagata, Harunori Nagata, Landon Kamps, Ayumu Tsuji, Ayumu Tsuji, Anwer Hashish, Alberto Verga, Christian Paravan, Christian Paravan

Session Papers (if applicable):

Axial-Injection, End-Burning Hybrid Fuel Grain Study, Evaluation of Lattice-Augmented Hybrid Rocket Fuels on a Slab Burner, Influence of Port Manufacturing Accuracy on Backfiring in Axial-Injection End-Burning Hybrid Rocket, Liquefying Fuel Combustion in a Lab-scale Vortex Flow Pancake Hybrid Rocket Engine

Session Title: Hybrid Rocket Oxidizers

Technical Paper Session | HR-09 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1F0371C1-C19C-4B20-BBA7-F9BD8953541E>

Session Contributors: Antonella Ingenito, Caio Henrique Franco Levi Domingos, Domenico Simone, Antonella Ingenito, Renato Filho, Anthony Marchese, Matthew Kronwall, Bret Windom, Hajime Inoue, Christopher Cadou, Landon Kamps, Harunori Nagata, Harunori Nagata, Landon Kamps, Landon Kamps, Harunori Nagata, Harunori Nagata, Landon Kamps, Yuki Nobuhara, Matthew Hitt, Matthew Hitt, Ozan Kara, Ozan Kara, M. Arif Karabeyoglu, Kevin Schwarm, R. Mitchell Spearrin, Isabelle Sanders, Fabio Bendana, Fabio Bendana, Isabelle Sanders, Nora Stacy

Session Papers (if applicable):

CFD simulations of a N₂O/paraffin fueled hybrid rocket to perform capture maneuvers in a Mars orbit, Erosion Rates of Graphite Nozzles in Hybrid Rocket Motors, Experimental Investigation of N₂O/GOX Compounds as Hybrid Rocket Oxidizers, Fuel Regression Characteristics of CAMUI type Hybrid Rocket Using Nitrous Oxide, Nitrous Oxide Axial-Injection, End-Burning Hybrid Motor Regression Rate Study, Pressure Dependent Regression Rate Evaluation in CO₂ Based Hybrid Rockets, Swirl injection in hybrid polymethylmethacrylate combustion assessed by thermochemical imaging

Session Title: Modeling and Simulation of Liquid Propulsion Systems II

Technical Paper Session | LP-13 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/9D8D4BA1-D2F8-49EA-91B4-B408343C3A3C>

Session Contributors: Brian Brady, Joshua Winner, Teresa Moore, Brian Brady, Joshua Winner, Robert Driscoll, James Morehart, Hatem Belal, Ahmed Elnaggar, Mohamed Al-Sanabawy, Ahmed Farid Ayad Hassan, Nelson Longmire, Daniel Banuti, Caglar Yilmaz, Caglar Yilmaz,

Benjamin Whitehead, Timothee Pourpoint, Timothee Pourpoint, Timothee Pourpoint, Timothee Pourpoint, Benjamin Whitehead

Session Papers (if applicable):

Carbon Deposition from Methane/Propane/Ethane Mixtures in Surrogate Rocket Engine Cooling Channels, Experimental Investigation of start-up sequence of a small LPRE, Extension of SU2 using neural networks for thermo-fluids modeling, Numerical & Experimental Investigation of a Diffuser –Ejector System Performance using Cold Gas T...

Session Title: Nuclear Thermal and Electric Propulsion for Mars

Technical Paper Session | NFFP-06 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/49D82956-3131-43CF-A018-8C7BC0ED8743>

Session Contributors: Claude Joyner, Daniel Levack, Daniel Levack, James Horton, Timothy Kokan, Claude Joyner, Brian Muzek, Christopher Reynolds, Claude Joyner, Daniel Levack, James Horton, Brian Muzek, Dennis Morris, Rodney Noble, Timothy Kokan, Christopher Reynolds, Christopher Reynolds, Timothy Kokan, Rodney Noble, Dennis Morris, Brian Muzek, James Horton, Daniel Levack, Claude Joyner, Christopher Reynolds, Brian Muzek, Claude Joyner, Timothy Kokan, James Horton, Daniel Levack, Daniel Levack, Claude Joyner, Claude Joyner, Daniel Levack, Daniel Levack, James Horton, Claude Joyner, Brian Muzek, Timothy Kokan, Christopher Reynolds, Claude Joyner, Daniel Levack, James Horton, Brian Muzek, Timothy Kokan, Christopher Reynolds, Matthew Duchek, William Machemer, Min Qu, Matteo Clark, Alejandro Pensado, Christopher Harnack, Emanuel Grella, Timothy Kokan, Christopher Reynolds, Dennis Morris, Rodney Noble, Chris Hoang, Timothy Kokan, Christopher Reynolds

Session Papers (if applicable):

NTP Human Mars Exploration Campaign: First Surface Mission, Nuclear Electric Propulsion / Chemical Propulsion Hybrid Human Mars Exploration Campaign: First M..., Requirements, Desires, and Constraints for a Human Mars Campaign, Sensitivity of Hybrid NEP-Chemical Vehicle Mass to Assumptions for Crewed Opposition-Class Mars M..., Structural Assessment of NTP Vehicles For Human Mars Missions

Session Title: PGC Applications III

Technical Paper Session | PGC-13 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/C6013FE8-AF92-4DE8-96CD-F1F6EFE5278B>

Session Contributors: Mohamad Ghulam, Mohamad Ghulam, Shyam Muralidharan, Vijay Anand, Erik Prisell, Owe Lyrsell, Ephraim Gutmark, Alexander Feleo, Joshua Shepard, Alexander

Feleo, Mirko Gamba, Mirko Gamba, Robert Frederick, David Lineberry, Michaela Hemming, James Venters, David Lineberry, Evan Unruh, Kunning Xu, Evan Unruh, James Venters, Kunning Xu, Robert Frederick, Jorge Betancourt, Tyler Pritschau, Alec Gaetano, Ephraim Gutmark, Vincent Shaw, Rachel Wiggins, Vijay Anand, Vincent Shaw, Rachel Wiggins, Vijay Anand, Mohamed Nalim, Richard Rowe, Richard Rowe

Session Papers (if applicable):

Comparison of Valved-Pulsejet Combustion Operation Using Ethanol and Gasoline Fuels, Effects of Inlet Area Ratio on Operability of an Axial Air Inlet Rotating Detonation Combustor, Experimental Study of a Racetrack-Type Rotating Detonation Rocket Engine with Shear-Coaxial Injec..., OH*, CH*, and broadband chemiluminescence in ethylene-air hollow rotating detonation combustor, Traversing Hot-Jet Ignition of Hydrogen-Methane Blends in a Constant-Volume Combustor

Session Title: Return of The Hypersonic Gap: Connecting Industry Need with Academic Rigor

Technical Panel | HSABP-08 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/F1A78893-5183-4F09-8687-CF15048A886F>

Session Contributors:

Session Papers (if applicable):

Session Title: System Dynamics, Modeling, and Control

Technical Paper Session | EATS-06 | EATS

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/A2E73716-2901-4508-A657-ECF37009F32D>

Session Contributors: Matilde D'Arpino, Anna Misley, Prashanth Ramesh, Marcello Canova, Kelly Beigh, Zhenhua Jiang, Zhenhua Jiang, Johannes Verberne, Jonathan Gladin, Etienne Demers Bouchard, Cedric Justin, Jonathan Gladin, Matilde D'Arpino, Metin Ozcan, Francesco Porpora, Srujal Patel, Abhijit Khare, Meaghan Podlaski, Luigi Vanfretti, Eric Segerstrom, Meaghan Podlaski

Session Papers (if applicable):

A real-time energy management strategy for hybrid electric aircraft propulsion systems, Data-Driven Modeling of Dynamic Systems Based on Online Learning, Modeling and simulation of Novel Electric/Hybrid Electric Multicopter Architectures for Urban Air..., Parameter Estimation and Model Validation of Quanser AERO using Modelica and RaPId

Session Title: Unmanned Aircraft Systems III

Technical Paper Session | UAS-04 | P&E

Session Date: 2021-08-11

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/1D1C69C1-CBA6-403B-9FF5-8F27FA5E33E7>

Session Contributors: Brenden Herkenhoff, Mostafa Hassanalain, Jessica Cooke, Sara Lanctot, Mostafa Hassanalain, Akram Mostafanejad, James Montoya, Raj Gnanasekaran, Vijayanandh Raja, Darshan Kumar Jayaram, Ramesh Murugesan, Kesavan Kandasamy, Indira Prasanth Subramaniam, Senthil Kumar Madasamy, Vijayakumar Mathaiyan, Rajkumar Rajapandi, Arul Prakash Raji, Naveen Kumar Kulandaiyaappan, Sundararaj Kandasamy, Mohammad Sakib Hasan, Jelena Svorcan, Aleksandar Kovačević, Toni Ivanov, Mostafa Hassanalain, Salomon Maestas, Joseph Martinez-Ponce, Megan Richardson, Mostafa Hassanalain, Rui Yao, Yutong Zheng, Hongyan Li, Xu Zhao, Qian Wang

Session Papers (if applicable):

A Hybrid Vehicle System for Depositing Payloads in Extreme Environments Like Antarctica and Arctic, Comparative Estimations of Hydrodynamic Analysis on Unmanned Aquatic Vehicle's Propeller by using..., Design of HALE Propeller through Multi-objective Optimization, Experimental Study of Aerodynamic Efficiency of Insects Wing Shapes Applied to Nano Aerial Vehicles, Research on Aerodynamic and Hydrodynamic Performance and Exiting Water Process of a Morphing AquaUAV

Session Title: Electric Aircraft Technology Symposium Keynote II

EATS Keynote | EATS-07 | EATS

Session Date: 2021-08-12

Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/90B0C3BD-793D-47A4-92B7-2C796E3B2016>

Session Contributors:

Session Papers (if applicable):

Session Title: Electrified Propulsion System Architectures I

Technical Paper Session | EATS-08 | EATS

Session Date: 2021-08-12

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/77B1E37C-7943-477D-A57E-602EDDF1AF8E>

Session Contributors: Thanatheepan Balachandran, Kiruba Haran, David Hall, John Reband, Durgesh Chandel, Edward Greitzer, Thanatheepan Balachandran, Kiruba Haran, Jianqiao Xiao,

Keiichi Okai, Keiichi Okai, Yutaka Terao, Hiroyuki Ohsaki, Yusuke Ishida, Hideyuki Taguchi, Keiichi Okai, Yutaka Terao, Keiichi Okai, Alex Markov, Elena Garcia, Russell Denney, Gokcin Cinar, Dimitri Mavris, Dimitri Mavris, Gokcin Cinar, Dimitri Mavris, Dimitri Mavris, Dimitri Mavris, Soumya Patnaik, Jonathan Gladin, Jonathan Gladin, Soumya Patnaik, Kiruba Haran, Tim Green, Nina Ayar, Mujahid Ahmed, Kamil Nocon, Roshan Patel, John Reband, Mavroudis Kavvalos, Smutirekha Sahoo, Dimitra Diamantidou, Konstantinos Kyprianidis

Session Papers (if applicable):

Conceptual Design of Distributed Electrified Boundary Layer Ingesting Propulsors for the CHEETA A..., Partial Load Analysis of Turbo Electric Propelling Fans Using Superconducting Motors, Performance Assessment of a Distributed Electric Propulsion System for a Medium Altitude Long End..., Propulsion Configuration Design and Analysis for an eVTOL Passenger Air Shuttle, System-level Assessment of a Partially Distributed Hybrid Electric Propulsion System

Session Title: High Voltage Considerations

Technical Paper Session | EATS-09 | EATS

Session Date: 2021-08-12

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/7C013AAA-8094-4AF7-B59B-109E5D5299B4>

Session Contributors: Moein Borghei, Andrea Cavallini, Alberto Rumi, Stefano Nuzzo, Jacopo Marinelli, Davide Barater, Chanyeop Park, Farhina Haque, Omar Faruqe, E. Eugene Shin, Moein Borghei

Session Papers (if applicable):

Classification of Partial Discharge in Electric Aircraft based on Short-Term Behavior of Insulati..., Coordination of electrical machine insulation with electrical drives features to ensure the relia..., Electret: A Remedy for Partial Discharge in Low-Pressure and High-Altitude Conditions, Improved potting of Litz Wires for High Power Density Electric Motor, Partial Discharge Investigation in an Air-Filled Cavity inside Solid Dielectric Under Low-Pressur...

Session Title: Superconducting and Cryogenic Systems and Components

Technical Paper Session | EATS-10 | EATS

Session Date: 2021-08-12

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/BE50CCD3-F65E-414A-A2AE-0C89DBB38BC7>

Session Contributors: Sastry Pamidi, Chul Kim, Peter Cheetham, Chul Kim, Peter Cheetham, Bhanu Darbha, A. Jackson Bush, Afsara Khan, Lara Gunesen, Alfonso Cruz, Lukas Graber, Stephanie Thomas, Charles Swanson, Michael Paluszek, Shahin Pourrahimi, Sangkwon Jeong, H. Weijers, Bokeum Kim, Rodney Badcock, Michael Gschwendtner, Alan Caughley, Neil Glasson, Sarat Singamneni, Zhenan Jiang, Grant Lumsden, Arvid Hunze, Lars Wiesehofer, James Storey,

Rodney Badcock, Mohammad Siamaki, Abhijit Khare, Meaghan Podlaski, Luigi Vanfretti, Phillip Ansell, Meaghan Podlaski, Mike Sumption, Phillip Ansell, Chul Kim, Paul Mensah, Peter Cheetham, Sastry Pamidi, Peter Cheetham, Chul Kim

Session Papers (if applicable):

Cryogenic Thermal Models for Superconducting Electric Aircraft, Design and Optimization of a Cryogenic Coreless Inductor with Copper Clad Aluminum Conductor, Design of a 1 MW LTS motor for electric aircraft, Holistic approach for cryogenic cooling system design of 3 MW electrical aircraft motors, Measurement of AC Loss in kHz Rated Superconducting Maglev Bearings, Multi-Domain Modeling for High Temperature Superconducting Components for the CHEETA Hybrid Propu..., Novel dielectric fluids for superconducting electric aircraft applications

Session Title: Electrified Flight Development Programs

Technical Panel | EATS-11 | EATS

Session Date: 2021-08-12

Session Time (EDT): 12:45:00

<https://virtualforums.aiaa.org/Category/2AD28087-7F27-4601-93DC-0A6BD3389B67>

Session Contributors:

Session Papers (if applicable):

Session Title: Electric Machines II

Technical Paper Session | EATS-13 | EATS

Session Date: 2021-08-12

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/6B42E2D2-186D-4BB4-8EEE-9F49FF77E89D>

Session Contributors: Michael Ohadi, Farid Saemi, Matthew Johnson, Moble Benedict, Luke Chen, Zachary Adamson, Tommy Baudendistel, William Perdikakis, Chase Kitzmiller, Julia Zhang, Kevin Yost, Kevin Yost, Dheeraj Bobba, Zhaoxi Yao, Raphael Mandel, Bulent Sarlioglu, James Swanke, Patrick McCluskey, Thomas Jahns, Thomas Jahns, James Swanke

Session Papers (if applicable):

Aviation-class Synergistically Cooled Electric-motors with iNtegrated Drives (ASCEND)—An ARPAE Pr..., Electric Motor Thermal Modeling for Vehicle Conceptual Design, Low-cost Analysis Methods of Automotive Electric Machines for Aviation Applications, Multi-Physics Based Analysis and Design of Stator Coil in High Power Density PMSM for Aircraft Pr..., Reliability Analysis of a Fault-Tolerant Integrated Modular Motor Drive (IMMD) for an Urban Air M...

Session Title: Electric Power Management and Distribution

Technical Paper Session | EATS-14 | EATS

Session Date: 2021-08-12
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/7FD3978F-8AAF-49DE-8E91-CDFA8C91D950>

Session Contributors: Serhiy Bozhko, Jason Atkin, Sharmila Sumsurooah, Angel Recalde, Mike Sumption, Mary Ann Sebastian, Chris Kovacs, Bang-Hung Tsao, Timothy Haugan, Timothy Haugan, Timothy Haugan, Kiruba Haran, Timothy Haugan, Christopher Kovacs, Michael Tomsic, Mike Sumption, Kiruba Haran, Ralph Jansen, Peter Kascak, Timothy Dever, Ralph Jansen, David Sadey, Ross Howard, Nuha Nawash

Session Papers (if applicable):

A DC Power System Testbed for a More Electric Aircraft Application, Design and Scaling Laws of a 40-MW-class Electric Power Distribution System for Liquid-H₂..., Design of a Pressurized, Flexible, and Variable Temperature Aerospace Cable Demonstration Rated f..., Electric Aircraft Propulsion Power System Impedance Modelling Methodology, Power Quality Analysis for a High Voltage Power System for Urban Air Mobility Application

Session Title: Electrified Propulsion System Architectures II

Technical Paper Session | EATS-15 | EATS

Session Date: 2021-08-12
Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/E24960EA-7203-4691-B7AD-07250EDDF6EA>

Session Contributors: Luchien Anderson, Andrea Spinelli, Bahareh Zaghari, Panagiotis Laskaridis, Timoleon Kipouros, Catherine Jones, Patrick Norman, Graeme Burt, David Hall, Dalton Decerio, Dimitra Diamantidou, Konstantinos Kyprianidis, Mavroudis Kavvalos, Michael Sielemann, Michael Sielemann, Max Arzberger, Max Arzberger

Session Papers (if applicable):

A Model-Based System Engineering Approach to Parametric Mapping of Hybrid-Electric Propulsion Sys..., A Modelling Framework for Efficient Design of Electrical Power Systems for Electrical Propulsion ..., Analysis of the Benefits of Parallel Hybrid-Electric Propulsion for Transport Aircraft, Exploring Design Trade-Offs For Installed Parallel Hybrid Powertrain Systems, Overall power train performance estimation from pseudo transient models

Session Title: Electric Aircraft Technology Symposium Keynote III

EATS Keynote | EATS-16 | EATS

Session Date: 2021-08-13
Session Time (EDT): 10:00:00

<https://virtualforums.aiaa.org/Category/D90922CC-D6E9-4E92-A56A-2E75296D6FB1>

Session Contributors:

Session Papers (if applicable):

Session Title: Electrical Energy Generation and Storage

Technical Paper Session | EATS-17 | EATS

Session Date: 2021-08-13

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/5DDFD551-1632-465A-AF4C-D8DA8D831C6F>

Session Contributors: Grigorii Soloveichik, David Tew, Gregory Thiel, Justin Gray, Jeff Chin, Ezra McNichols, Karsten Look, Sydney Schnulo, Sydney Schnulo, Dustin Hall, Ezra Mcnichols, Jeff Chin, Dustin Hall, Or Dantsker, Mirco Theile, Marco Caccamo, Seongyong Hong, Jeffrey Belt, Michael Armstrong, Michael Walz, Eric Darcy

Session Papers (if applicable):

A REEACH for Carbon Neutral Commercial Aviation, Battery Cell-to-Pack Scaling Trends for Electric Aircraft, Integrated Power Simulation for a Solar-Powered, Computationally-Intensive Unmanned Aircraft, Methods for Thermal Runaway Validation of Aviation Batteries

Session Title: Electrified Aircraft Design II

Technical Paper Session | EATS-18 | EATS

Session Date: 2021-08-13

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/1820D158-A945-4604-895B-EEC1A5D6841F>

Session Contributors: Cesar Freire, Leonardo Silveira, Charles Lents, Charles Lents, Jean Rivenc, Jean Rivenc, Antoine Loehrmann, Guillaume Dufour, Gilles Peres, François Rogier, Konstantinos Kourtzanidis, Yaolong Liu, Jiechao Zhang, Yao Zheng, Tianhong Jiang, Haolin Wang

Session Papers (if applicable):

Conceptual Design and Economic Feasibility of an All Electric Thin-Haul Aircraft, Impact of Weight, Drag and Power Demand on Aircraft Energy Consumption, Numerical and Experimental correlation on Electro-Hydro Dynamic system for Small Aircraft propulsion, Retrofit and New Design of Regional Aircraft with Hybrid Electric Propulsion

Session Title: Power Electronics I

Technical Paper Session | EATS-19 | EATS

Session Date: 2021-08-13

Session Time (EDT): 11:15:00

<https://virtualforums.aiaa.org/Category/C469EFB1-19E2-407B-803D-739F61DDDFCA>

Session Contributors: Md Maksudul Hossain, Yuqi Wei, Md Maksudul Hossain, Rosten Sweeting, Alan Mantooth, Parikshith Channegowda, Jung-Muk Choe, Xin Wu, John Meadors, Fred Wang, Fred Wang, Arman Ur Rashid, Md Maksudul Hossain, Alan Mantooth, Rosten Sweeting, Md Maksudul Hossain, Yuqi Wei

Session Papers (if applicable):

Cryogenic Temperature Characterizations of State-of-the-art Cascode 900 V GaN FET, Development of High Bandwidth Power Hardware-in-Loop Test Platform for Aircraft Hybrid Electric P..., Partial Discharge Testing Platform for PWM Voltage Source Converters in Electric Aircraft, Static Characterization and Modeling of GaN HEMT at Cryogenic Temperature in Saber

Session Title: Electric Drive Train Technology

Technical Panel | EATS-20 | EATS

Session Date: 2021-08-13

Session Time (EDT): 12:00:00

<https://virtualforums.aiaa.org/Category/D7938C0B-59F2-4B7E-82F6-983997057135>

Session Contributors:

Session Papers (if applicable):

Session Title: Mission Operations

Technical Paper Session | EATS-21 | EATS

Session Date: 2021-08-13

Session Time (EDT): 13:00:00

<https://virtualforums.aiaa.org/Category/F7CC034F-C195-4946-97CF-8A296943BC82>

Session Contributors: Michael Armstrong, Carsten Christensen, Steven Hall, Raphael Ribeiro, Pedro Lacava, Raphael Ribeiro, Luis Trapp, Mingxuan Shi, Dimitri Mavris, Gokcin Cinar, Gokcin Cinar, Mingxuan Shi, Rene Rezende, Rene Rezende

Session Papers (if applicable):

An Agent-Based Approach for Optimizing the Deployment of All-Electric, Fixed-Wing Trainer Aircraft..., Economical Aspects of Aircraft Propulsion Electrification, Fleet Analysis of a Hybrid Turboelectric Commercial Regional Jet under NASA ULI Program, General Aviation Electrification: Challenges on the transition to new technologies

Session Title: Advanced Air Mobility

Technical Panel | EATS-22 | EATS

Session Date: 2021-08-13

Session Time (EDT): 13:45:00

<https://virtualforums.aiaa.org/Category/1EA5566B-B145-4E7E-8C8C-F957D678FCBA>

Session Contributors:

Session Papers (if applicable):

Session Title: Electrified Aircraft Rolling Recap - Summary of P&E / EATS 2021

Technical Panel | EATS-23 | EATS

Session Date: 2021-08-13

Session Time (EDT): 13:45:00

<https://virtualforums.aiaa.org/Category/66E63A4C-3320-4AA0-ACDB-A152633D45B9>

Session Contributors:

Session Papers (if applicable):

Session Title: Power Electronics II

Technical Paper Session | EATS-24 | EATS

Session Date: 2021-08-13

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/89D454DF-92DD-415C-A09A-3D56EA8BD626>

Session Contributors: Chanyeop Park, Farhina Haque, J. Patrick Donohoe, Omar Faruqe, Ralph Jansen, David Avanesian, Ralph Jansen, Alex Leary, David Avanesian, Susanah Kowalewski, Randy Bowman, Ariel Dimston, Erik Stalcup, Wesley Miller, Matthew Granger, Majid Fard, Trevor Arvin, Jiangbiao He, Jiangbiao He

Session Papers (if applicable):

Design and Analysis of EMI Absorbing Composites for Electric Aircraft., Design of a High Power Density, High Efficiency, Low THD 250kW Converter for Electric Aircraft, Improved Short-Circuit Capability with "Si+SiC" Hybrid 5-Level Active NPC Converter for Electric ...

Session Title: Thermal Management

Technical Paper Session | EATS-25 | EATS

Session Date: 2021-08-13

Session Time (EDT): 14:30:00

<https://virtualforums.aiaa.org/Category/BCB2F052-717A-4D3A-92CD-76685FF29455>

Session Contributors: William Sixel, Massoud Kaviani, Alex Leary, George Thomas, Jeffryes Chapman, George Thomas, Jeffryes Chapman, Jeff Diebold, Calin Tarau, Kuan-Lin Lee, William Anderson, Rodger Dyson, Rodger Dyson

Session Papers (if applicable):

Ceramic Heat Pipe for Thermal Management of a High-Frequency Inductor, Development and Integration of a Thermal Management Simulation for a Quadrotor Parallel Hybrid Pr..., Electric Aircraft Thermal Management Using a Two-Phase Heat Transport System with Solid-State The...

Session Title: Electric Aircraft Technology Symposium Closing Session

EATS Keynote | EATS-26 | EATS

Session Date: 2021-08-13

Session Time (EDT): 15:30:00

<https://virtualforums.aiaa.org/Category/79F6CED1-AE02-49A8-B379-0844B945C60A>

Session Contributors:

Session Papers (if applicable):
