

22nd AIAA/CEAS Aeroacoustics Conference 2016

Lyon, France
30 May - 1 June 2016

Volume 1 of 7

ISBN: 978-1-5108-2672-4

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

The contents of this work are copyrighted and additional reproduction in whole or in part are expressly prohibited without the prior written permission of the Publisher or copyright holder. The resale of the entire proceeding as received from CURRAN is permitted.

For reprint permission, please contact AIAA's Business Manager, Technical Papers. Contact by phone at 703-264-7500; fax at 703-264-7551 or by mail at 34922 Uwytkug'Xcmg{'Ftkxg.'Uwky'422, Reston, VA 20191, USA.

TABLE OF CONTENTS

VOLUME 1

AA-01: AEROACOUSTIC INTERACTIONS I: SCATTERING

Aeroacoustics of an Elastic Element in Unsteady Flow of Low Reynolds Numbers (AIAA 2016-2700)	1
<i>Lukas Schickhofer, Anders Dahlkild, Mihai Mihaescu</i>	
Numerical Investigation on the Spectral Broadening of Acoustic Waves by a Turbulent Layer (AIAA 2016-2701)	15
<i>Vincent Clair, Gwenael Gabard</i>	
A Weak-scattering Model for Tone Haystacking Caused by Sound Propagation Through an Axisymmetric Turbulent Shear Layer (AIAA 2016-2702)	29
<i>Alan McAlpine, Brian J. Tester</i>	
Vorticity Scattering in Shear Flows at Soft Wall - Hard Wall Transition (AIAA 2016-2703)	56
<i>Deepesh Kumar Singh</i>	
Scattering of Turbulent-jet Wavepackets by a Flexible Composite Plate (AIAA 2016-2704)	81
<i>Selene Piantanida, André V. Cavalieri, William Wolf, Mauricio Danadon, Peter Jordan</i>	
Numerical Studies of Acoustic Diffraction by Rigid Bodies (AIAA 2016-2705)	87
<i>Jin Hao, Rupesh Kotapati, Franck Perot, Adrien Mann</i>	

AA-02: AIRFRAME NOISE I: HIGH-LIFT SYSTEMS

Simulation-Based Airframe Noise Prediction of a Full-Scale, Full Aircraft (AIAA 2016-2706)	97
<i>Mehdi R. Khorrami, Ehab Fares</i>	
Airframe Noise Prediction of a Full Aircraft in Model and Full Scale Using a Lattice Boltzmann Approach (AIAA 2016-2707)	114
<i>Ehab Fares, Benjamin Duda, Mehdi R. Khorrami</i>	
Airframe Noise from a Hybrid Wing Body Aircraft Configuration (AIAA 2016-2708)	135
<i>Florence V. Hutcheson, Taylor B. Spalt, Thomas F. Brooks, Gerald Plassman</i>	
FUROH: A Flight Demonstration Project for Airframe Noise Reduction Technology - Concept and Current Status (AIAA 2016-2709)	152
<i>Kazuomi Yamamoto, Kenji Hayama, Toshiyuki Kumada, Kensuke Hayashi</i>	
Flyover Array Measurements with JAXA Flying Test Bed 'Hisho' (AIAA 2016-2710)	162
<i>Takehisa Takaishi, Hiroki Ura, Kenichiro Nagai, Yuzuru Yokokawa, Mitsuhiro Murayama, Yasushi Ito, Ryotaro Sakai, Hirokazu Shoji, Kazuomi Yamamoto</i>	
Computational Evaluation of Airframe Noise Reduction Concepts at Full Scale (AIAA 2016-2711)	178
<i>Mehdi R. Khorrami, Ehab Fares, Benjamin Duda, Andreas Hazir</i>	

AA-03: CAA I: INTEGRAL METHODS

Fast Methods Applied to BEM Solvers for Acoustic Propagation Problems (AIAA 2016-2712)	196
<i>Nolwenn Balin, Guillaume Sylvand, Jérôme Robert</i>	
Boundary Element Formulation for Wave Propagation in Weakly Non-uniform Potential Flows (AIAA 2016-2713)	209
<i>Simone Mancini, Samuel Sinayoko, R. Jeremy Astley, Gwenael Gabard, Michel Tournour</i>	
A Novel Extrapolation Approach in Aeroacoustics: Development & Validation (AIAA 2016-2714)	228
<i>Dirk Heitmann, Roland Ewert, Jan Delfs</i>	
Boundary-Field Integral Formulations for Sound Scattering of Moving Bodies (AIAA 2016-2715)	242
<i>Claudio Testa, M. Gennaretti, Giovanni Bernardini, Caterina Poggi</i>	
Integral Formulations for the Prediction of Low Mach Number Flow Noise with Non-compact Solid Surfaces (AIAA 2016-2716)	253
<i>Nicolas Papaxanthos, Emmanuel Perrey-Debain</i>	

AA-04: CAA II: METHODS

A Hybrid PSTD/DG Method to Solve the Linearized Euler Equations: Optimization and Accuracy (AIAA 2016-2718)	260
<i>Raúl Pagán Muñoz, Maarten Hornikx</i>	
A Hybrid 3D Discontinuous Galerkin Code for CAA Applications (AIAA 2016-2719)	278
<i>Markus Lummer</i>	
High Order Upwind Compact Scheme and Eta Buffer Zone-type Non-Reflecting Boundary Condition for Lee (AIAA 2016-2720)	N/A
<i>Zhansen Qian</i>	
Optimized Prefactored Compact Schemes for Wave Propagation Phenomena (AIAA 2016-2721)	298
<i>Aldo Rona, Edward Hall, Ivan Spisso</i>	

High-order Variational Multiscale Model with an Explicit Filtering in a Stabilised Finite Element Method for LES/DES Computations (AIAA 2016-2722)	316
<i>Pierre Yser, Sebastien Barre, Frederic Chalot, Franck Dagrau, Christophe Bailly</i>	

High-order Aeroacoustics Propagation Solver with Sliding-mesh Capabilities for Subsonic Turbomachinery (AIAA 2016-2723)	337
<i>Charles Foulquié, Sofiane Khelladi, Michael Deligant, Jacky Mardjono, Manuel Hemmer</i>	

AA-05: DUCT ACOUSTICS I: IMPEDANCE EDUCATION

Three-Dimensional Numerical Theory for Impedance Education in Normal Incidence Tubes (AIAA 2016-2724)	354
<i>Willie R. Watson, Michael G. Jones</i>	

Broadband Education of Liner Impedance Under Multimodal Acoustic Propagation (AIAA 2016-2725)	366
<i>Renata Troian, Didier Dragna, Christophe Bailly, Marie-Annick Galland, Marc Versaevel, Rik Wijntjes</i>	

Impedance Education of Acoustic Liners Based on Four Different Levels of Physical Modeling (AIAA 2016-2726)	376
<i>Anita Schulz, Friedrich Bake, Lars Enghardt, Dirk Ronneberger</i>	

On the Effect of Flow Direction on Impedance Education Results (AIAA 2016-2727)	395
<i>Hans Boden, Lin Zhou, Julio A. Cordioli, Augusto A. Medeiros, Andre Spillere</i>	

Impedance Education with a Theoretical Model for Sound Propagation in a Grazing Impedance Tube (AIAA 2016-2728)	410
<i>Hanbo Jiang, Xun Huang</i>	

Effects of the Turbulent Grazing Flow Over the Impedance Prediction of a Single-Orifice Helmholtz Resonator (AIAA 2016-2729)	419
<i>Qi Zhang, Daniel J. Bodony</i>	

AA-06: JET NOISE I

Land- and Aircraft Carrier-Based F-35C Jet Blast Deflector Noise Testing (AIAA 2016-2730)	444
<i>Anthony R. Pilon</i>	

A Novel Framework for Uncertainty Propagation in Multidisciplinary Design Life Cycle for Shock-Cell Noise Research (AIAA 2016-2731)	456
<i>Francisco J. Granados-Ortiz, Choi-Hong Lai</i>	

Broadband Shock-cell Noise Signature Identification Using a Wavelet-based Method (AIAA 2016-2732)	470
<i>Lior Gefen, Carlos Pérez Arroyo, Roberto Camussi, Guillaume Puigt, Christophe Airiau</i>	

Local Stability Analysis of a Round Jet Parallel to a Flat Plate (AIAA 2016-2733)	482
<i>Jean-Philippe Brazier</i>	

Numerical Study of Free Supersonic Hot Jet on Unstructured Grids with Emphasis on Aerodynamics and Resulting Radiated Noise (AIAA 2016-2734)	498
<i>Julien N. Troyes, Francois Vuillot, Hadrien Lambaré, Amaya Espinosa Ramos</i>	

AA-07: LEADING EDGE NOISE I

Airfoil Unsteady Loading and Sound Radiation due to Incident and Self-Generated Turbulent Flows (AIAA 2016-2735)	515
<i>Jason M. Anderson, Armand Buono, Matthew R. Catlett</i>	

Leading Edge Serration Geometries for Significantly Enhanced Leading Edge Noise Reductions (AIAA 2016-2736)	530
<i>Chaitanya C. Paruchuri, S. Narayanan, Phillip Joseph, Jae Wook Kim</i>	

Numerical Computation of Gust Aerodynamic Response for Realistic Airfoils: Application of Amiet's Theory (AIAA 2016-2737)	549
<i>Renato F. Miorio, William Wolf, Leandro D. De Santana</i>	

Airfoil Geometry Effects on Turbulence Interaction Noise in Cascades (AIAA 2016-2738)	568
<i>Chaitanya C. Paruchuri, John Coupland, Phillip Joseph</i>	

An Investigation of the Tonal Noise Produced by a Wall-mounted Finite Airfoil at Angle of Attack (AIAA 2016-2739)	595
<i>Danielle Moreau, Con J. Doolan</i>	

Noise Prediction for Serrated Leading-edges (AIAA 2016-2740)	616
<i>Benshuai Lyu, Mahdi Azarpeyvand, Samuel Sinayoko</i>	

AA-08: OPEN ROTORS

The Scattering of Open Rotor Tones by a Cylindrical Fuselage and Its Boundary Layer (AIAA 2016-2741)	632
<i>Harry Brouwer</i>	

Broadband Noise Prediction of Open Rotors Using Semi-Empirical Methods Informed by CFD Calculations (AIAA 2016-2742)	648
<i>Jason D. Botha, Henry Rice, John Kennedy</i>	

A Preliminary Semi-empirical Approach for CROR Noise Modeling (AIAA 2016-2743)	661
<i>Michael Quaglia, Stephane Moreau, Michel Roger, Rasika Fernando</i>	

Effect of a Model Leading-Edge Vortex on the Blade Aerodynamic Response for Application to CROR Tonal Noise Predictions (AIAA 2016-2744)	681
<i>Nassim Jaouani, Michel Roger, Thomas Node-Langlois, Gilles Serre</i>	

AA-09: TURBOMACHINERY NOISE I: COMBUSTION

The Effect of Flame Thickening on the Acoustic Emission in Turbulent Combustion (AIAA 2016-2745)	704
<i>Konrad Pausch, Stephan Schlimpert, Seong Ryong Koh, Jerry H. Grimmen, Wolfgang Schroeder</i>	
An Investigation of the Generation of Indirect Combustion Noise in a Turbo-engine (AIAA 2016-2746)	716
<i>Christopher K. Tam, Zhiqiu Li, William Schuster</i>	
Numerical Investigation of Combustion Noise from Aeronautical Combustor to Far-field (AIAA 2016-2747)	737
<i>Mélinna Férand, Thomas Livebardon, Stephane Moreau, Thierry Poinot, Claude Sensiau, Eric Bouty, Marlene Sanjose</i>	

AA-10: TURBULENT BOUNDARY LAYERS

Reduction of Boundary Layer Noise with Micro-Perforated Partitions (AIAA 2016-2748)	757
<i>Teresa Bravo, Cedric Maury, Cedric Pinhede</i>	
Characteristics of Wall Pressure Fluctuations for a Flat Plate Turbulent Boundary Layer with Pressure Gradients (AIAA 2016-2749)	775
<i>Nan Hu, Michaela Herr</i>	
Analysis of Hydrodynamic and Acoustic Events in a Turbulent Boundary Layer Using a Direct Noise Simulation Database (AIAA 2016-2750)	793
<i>Florent Margnat, Xavier Gloerfelt</i>	

VOLUME 2

Pressure Fluctuations in a High-Reynolds-Number Turbulent Boundary Layer Over Rough Surfaces of Different Element Spacing (AIAA 2016-2751)	806
<i>Liselle A. Joseph, Timothy W. Meyers, Nicholas J. Molinaro, William J. Devenport, Stewart Glegg</i>	
Vortex Sound Generation from Flexible Fibers (AIAA 2016-2752)	837
<i>Justin Jaworski</i>	

AA-11: AEROACOUSTIC INTERACTIONS II: CONTROL

Experimental Investigation of the Tonal Self-Noise Emission of a Vehicle Side Mirror (AIAA 2016-2753)	846
<i>Maïke J. Werner, Werner Würz, Ewald Kraemer</i>	
Bluff Body Flow and Noise Control Using Porous Media (AIAA 2016-2754)	857
<i>Syamir A. Showkat Ali, Xiao Liu, Mahdi Azarpeyvand</i>	
Synchronized Velocity and Pressure Measurements of Supersonic Flow over a Finite Span Cavity with Leading Edge Slot Blowing (AIAA 2016-2755)	880
<i>Benjamin George, Lawrence S. Ukeiley, Louis N. Cattafesta, Kunihiko Taira</i>	
Cavity Noise Suppression Using Fluidic Spoilers (AIAA 2016-2756)	896
<i>Gareth J. Bennett, Scott C. Morris, Kun Zhao, John Philo, Yaoyi Guan</i>	
Statistical-empirical Modelling of Aerofoil Noise Subjected to Leading Edge Serrations and Aerodynamic Identification of Noise Reduction Mechanisms (AIAA 2016-2757)	913
<i>Till Biedermann, Tze Pei Chong, Frank Kameier</i>	
Closed-Loop Control of Wavepackets in a Free Shear-Flow (AIAA 2016-2758)	936
<i>Kenzo Sasaki, Gilles Tissot, André V. Cavalieri, Flavio J. Silvestre, Peter Jordan, Damien Biau</i>	
Vortex Shedding Noise Reduction by Single Dielectric Barrier Discharge Plasma Actuators (AIAA 2016-2759)	949
<i>Laïth A. Al-Sadawi, Tze Pei Chong</i>	

AA-12: ADVANCED TESTING TECHNIQUES I

An Empirical De-reverberation Technique for Closed-section Wind Tunnel Beamforming (AIAA 2016-2760)	970
<i>Jeffrey R. Fischer, Con J. Doolan</i>	
A Fast Ray Casting Method for Sound Refraction at Shear Layers (AIAA 2016-2762)	981
<i>Ennes Sarraadj</i>	
Focussed Synthesis of a Turbulent Boundary Layer Excitation (AIAA 2016-2763)	992
<i>Cedric Maury, Teresa Bravo</i>	
Design and Experimental Validation of an Array of Accelerometers for In-flow Acoustic Beamforming Applications (AIAA 2016-2764)	1004
<i>Quentin Leclere, Elie Chéron, Antonio Pereira, Christophe Picard, Pascal Souchotte</i>	
Compressive Sensing Based Spinning Mode Detection with In-duct Microphone Array (AIAA 2016-2765)	1010
<i>Wenjun Yu, Xun Huang</i>	
Directivity Measurement of an ECS Outlet on a Business Jet Aircraft on Ground (AIAA 2016-2766)	1024
<i>Arthur Finez, Barré Sébastien</i>	

AA-13: AIRFRAME NOISE II: LANDING GEAR

Lattice-Boltzmann Flow Simulation of a Two-Wheel Landing Gear (AIAA 2016-2767)	1034
<i>Laurent Sanders, Eric Manoha, Mitsuhiro Murayama, Yuzuru Yokokawa, Kazuomi Yamamoto, Tohru Hirai</i>	
Noise Prediction of the LAGOON Landing Gear Using Acoustic Analogy and Proper Orthogonal Decomposition (AIAA 2016-2768)	1043
<i>Paulo Azevedo, William Wolf</i>	
Analysis of Landing Gear Noise During Approach (AIAA 2016-2769)	1053
<i>Roberto Merino-Martinez, Lothar Bertsch, Dick G. Simons, Mirjam Snellen</i>	
Review of Landing Gear Acoustic Research at Messier-Bugatti-Dowty (AIAA 2016-2770)	1065
<i>Quentin Bouvy, Bertrand Petot, Thierry Rougier, Amine Ghouali, Antoine Boillot</i>	
A Comparison of Wall Functions for Bluff Body Aeroacoustic Simulations (AIAA 2016-2771)	1076
<i>Yu Hou, David Angland, Xin Zhang</i>	
A Study of Planar Jet Flow Control and Perforated Fairings for the Reduction of the Flow-induced Noise of Tandem Rods in a Cross-flow (AIAA 2016-2772)	1094
<i>Kun Zhao, Patrick N. Okolo, John Kennedy, Gareth J. Bennett</i>	
Numerical Investigation of Flow Control Using Vertex Generator for Landing Gear Noise Reduction (AIAA 2016-2773)	1110
<i>Hao Aipeng, Jia Yuhong</i>	
Investigation on Landing Gear Shallow Round Cavity Flow Field and Noise Signature (AIAA 2016-2774)	1120
<i>Fernando De La Puente, Laurent Sanders, Philippe Druault, Francois Vuillot</i>	

AA-14: CAA III: ADJOINT METHODS AND SCATTERING

A Discrete Adjoint-based Shape Optimization for Shear-layer-noise Reduction (AIAA 2016-2776)	1135
<i>David Buchta, Ramanathan Vishnampet, Daniel J. Bodony, Jonathan B. Freund</i>	
A Discrete Adjoint Framework for Trailing-Edge Turbulence Control and Noise Minimization via Porous Material (AIAA 2016-2777)	1143
<i>Beckett Yx Zhou, Nicolas R. Gauger, Seong R. Koh, Matthias H. Meinke, Wolfgang Schroeder</i>	
Development of an Adjoint CAA Solver for Design Optimization of Acoustic Liners (AIAA 2016-2778)	1160
<i>Emre Özkaya, Junis Abdel Hay, Nicolas R. Gauger, Frank Thiele</i>	
On the Assessment of Acoustic Scattering and Shielding by Time Domain Boundary Integral Equation Solutions (AIAA 2016-2779)	1173
<i>Fang Q. Hu, Michelle E. Pizzo, Douglas M. Nark</i>	
Physical Analysis of Acoustic Scattering by a Turbulent Shear Layer using Numerical Simulation (AIAA 2016-2780)	1191
<i>Iannis Bennaceur, Daniel C. Mincu, Ivan Mary, Marc Terracol, Lionel Larchevêque, Dupont Pierre</i>	
Compressible Flow Simulations of Wave Scattering Problems Using the Immersed Boundary Method (AIAA 2016-2781)	1217
<i>Walter A. Ramirez, Britton Olson, William Wolf</i>	

AA-15: DUCT ACOUSTICS II: LINERS

Effects of Liner Length and Attenuation on NASA Langley Impedance Eduction (AIAA 2016-2782)	1230
<i>Michael G. Jones, Willie R. Watson</i>	
Optimization of Variable-Depth Liner Configurations for Increased Broadband Noise Reduction (AIAA 2016-2783)	1244
<i>Michael G. Jones, Willie R. Watson, Douglas M. Nark, Noah H. Schiller, Janelle C. Born</i>	
Further Development and Assessment of a Broadband Liner Optimization Process (AIAA 2016-2784)	1257
<i>Douglas M. Nark, Michael G. Jones, Daniel L. Sutliff</i>	
Experimental Investigation of Acoustic Damping Performance of Double- and Single-layer Perforated Liners: Effect of Porosity and Joint Bias-grazing Flow (AIAA 2016-2785)	N/A
<i>Dan Zhao, Chenzhen Ji, Nuomin Han, Xinyan Li, Y. L. Ang, Jing Li</i>	
Modeling Liners for Engine Exhaust Applications (AIAA 2016-2786)	1269
<i>Mehdi Nair, Yves Detandt, Baptiste Yannic, Dimitri Binet, Thomas Cordaro, Benjamin De Brye, Aurelien Mosson</i>	
Evaluation of Novel Liner Concepts for Fan and Airframe Noise Reduction (AIAA 2016-2787)	1282
<i>Michael G. Jones, Brian M. Howerton</i>	
Design, Manufacturing and Demonstration of Acoustic Liners for Air Conditioning Systems (AIAA 2016-2788)	1300
<i>Estelle Piot, Jean-Philippe Brazier, Frank Simon, Valia Fascio, Christophe Peyret, Johanna Ingenito</i>	
A Requirements-Driven Optimization Method for Acoustic Treatment Design (AIAA 2016-2789)	1314
<i>Jeffrey J. Berton</i>	

AA-16: GENERAL ACOUSTICS

Non-linear Interaction of Multiple Tones on Perforated Liners (AIAA 2016-2790)	1326
<i>Pablo G. Serrano, Gwenaél Gabard, Paul B. Murray, R. Jeremy Astley</i>	

Wall Pressure Fluctuations in Hypersonic Boundary Layer: a Strategy to Design the Passive Noise Control Systems (AIAA 2016-2791)	1348
<i>Tiziano Pagliaroli, Umberto Iemma, Andrea Bornaccioni, Roberto Camussi, Peng Lv, Fazila Mohd Zawawi</i>	
Experimental Validation of Ducted Low-Speed Cooling Fan Noise Prediction Methods Including Broadband Scattering (AIAA 2016-2792)	1361
<i>Julien Christophe, Korcan Kucukcoskun, Dominic Lallier-Daniels, Marlène Sanjosé, Stéphane Moreau, D. Lallier-Daniels</i>	
On Wave Generation in Axisymmetric Sheared and Swirling Isentropic Mean Flows (AIAA 2016-2793)	1373
<i>Luis Manuel Braga Da Costa Campos</i>	
The Frequency-Domain Formulations of the Quadrupole Correction for the Ffowes Williams-Hawkings Integration (AIAA 2016-2794)	1418
<i>Tomoaki Ikeda, Kazuomi Yamamoto, Kazuhisa Amemiya</i>	
Analysis of the Noise Shielding Characteristics of a NACA0012 2D Wing (AIAA 2016-2795)	1431
<i>Karl-Stephane Rossignol, Jan Delfs</i>	
Hybrid Aeroacoustic Computations for Flows in Ducts with Single and Tandem Diaphragms (AIAA 2016-2796)	1451
<i>Paula Martinez-Lera, Korcan Kucukcoskun, Michael Shur, Andrey Travin, Michel Tournour</i>	

AA-17: JET NOISE II: SCREECH

Screech Noise Characterization using Dynamic Mode Decomposition and Shadowgraph Imagery (AIAA 2016-2797)	1463
<i>Markus O. Burak, Bernhard Gustafsson, Bhupatindra Malla, Ephraim J. Gutmark</i>	
Large Eddy Simulation of Shock-Cell Noise From a Dual Stream Jet (AIAA 2016-2798)	1474
<i>Carlos Pérez Arroyo, Guillaume Puigt, Christophe Airiau, Jean-François Bousuge</i>	
A Schlieren and Nearfield Acoustic Based Experimental Investigation of Screech Noise Sources (AIAA 2016-2799)	1494
<i>Bertrand Mercier, Thomas Castelain, Christophe Bailly</i>	
Supersonic Jet Impingement on a Cylindrical Surface (AIAA 2016-2800)	1511
<i>Joel L. Weightman, Omid Amili, Damon Honnery, Daniel M. Edgington-Mitchell, Julio Soria</i>	
Shock-Turbulence Interactions in a Screeching Axisymmetric Underexpanded Jet (AIAA 2016-2801)	1524
<i>Dominic J. Tan, Julio Soria, Damon Honnery, Daniel M. Edgington-Mitchell</i>	
Towards a Suitable Turbulence Length and Temporal Scale Model for Broadband Shock Associated Noise (AIAA 2016-2802)	1538
<i>Anuroopa Kalyan, Sergey A. Karabasov</i>	

AA-18: JET NOISE III: MODELING

Azimuthal Source Non-Compactness and Mode Coupling in Sound Radiation from High-Speed Axisymmetric Jets (AIAA 2016-2803)	1563
<i>Marvin E. Goldstein, Stewart J. Leib</i>	
Predictive Capability of the Low Frequency Jet Noise Using an Asymptotic Theory for the Adjoint Vector Green's Function in Non-parallel Flow (AIAA 2016-2804)	1587
<i>Mohammed Z. Afsar, Adrian Sescu, Stewart J. Leib</i>	

VOLUME 3

Similarity Scaling of Jet Noise Sources: Towards a Robust Low-order Jet Noise Scheme Based on the Goldstein Generalized Acoustic Analogy (AIAA 2016-2805)	1619
<i>Vasily Semiletov, Sergey A. Karabasov</i>	
On Defining the Jet Noise Source Quadrupole Structure on the Basis of Multi-array Acoustic Data and Correlation Theory (AIAA 2016-2806)	1630
<i>Victor Kopiev, Sergey A. Chernyshev, Georgy Faranosov</i>	
Super- and Multi-directive Acoustic Radiation by Linear Global Modes of a Turbulent Jet (AIAA 2016-2808)	1646
<i>Oliver Schmidt, Aaron Towne, Tim Colonius, Peter Jordan, Vincent Jaunet, André V. Cavalieri, Guillaume A. Brès</i>	
Trapped Acoustic Waves in the Potential Core of Subsonic Jets (AIAA 2016-2809)	1654
<i>Aaron Towne, André V. Cavalieri, Peter Jordan, Tim Colonius, Vincent Jaunet, Oliver Schmidt, Guillaume A. Brès</i>	
Modelling Velocity Correlations with LES and RANS for Prediction of Noise from Isothermal or Hot Jets (AIAA 2016-2810)	1672
<i>Victor H. Rosa, Rod Self, Carlos Ilário, Iftekhar Naqavi, Paul Tucker</i>	

AA-19: TRAILING EDGE NOISE I

Investigation of Wall-Pressure Fluctuations Characteristics on a NACA0012 Airfoil with Blunt Trailing Edge (AIAA 2016-2811)	1688
<i>Arnaud Grebert, Julien Bodart, Laurent Joly</i>	
Source Characterization of Turbulent Boundary Layer Trailing Edge Noise Using an Improved TNO Model (AIAA 2016-2812)	1703
<i>Seongkyu Lee</i>	

Study of the Impact of Turbulent Anisotropy on the Airfoil Turbulent Boundary Layer Trailing Edge Noise (AIAA 2016-2813)	1731
<i>Baohong Bai, Xiaodong Li</i>	
Effect of Aerofoil Thickness on Trailing Edge Noise (AIAA 2016-2814)	1744
<i>Ronnie Leung, Chaitanya C. Paruchuri, Phillip Joseph</i>	
Study of the Impact of Angle of Attack on Tone Frequency by Thin Airfoil at Moderate Reynolds Number (AIAA 2016-2815)	1759
<i>Xiaodong Li, Baohong Bai, Min Jiang</i>	
Several Noise Control of the Trailing-edge Noise of a Controlled-diffusion Airfoil (AIAA 2016-2816)	1770
<i>Stéphane Moreau, Paul Laffay, Alexandre Idier, Noureddine Atalla</i>	
Wake Development of Airfoils with Serrated Trailing Edges (AIAA 2016-2817)	1783
<i>Xiao Liu, Hasan Kamliya Jawahar, Mahdi Azarpeyvand</i>	

AA-20: TURBOMACHINERY NOISE II: FLOW DISTORTION

Influence of Distortion on Fan Tonal Noise (AIAA 2016-2818)	1804
<i>Majid Daroukh, Stephane Moreau, Nicolas Gourdain, Jean-François Boussuge, Claude Sensiau</i>	
Effect of Inlet Distortions on Ducted Fan Noise (AIAA 2016-2819)	1823
<i>Michael Shur, Michael Strelets, Andrey Travin, Julien Christophe, Korcan Kucukcoskun, Christophe F. Schram, Stefan Sack, Mats Åbom</i>	
Noise and Vibration Interference Effects of Bodies in the Flow: an Analogy with Rotating Instability in Axial Flow Machines (AIAA 2016-2820)	1847
<i>Frank Kameier, Robert Heinze, Christian O. Paschereit, Till Biedermann</i>	
A Novel Numerical Approach for Generation and Propagation of Rotor-Stator Interaction Noise (AIAA 2016-2821)	1862
<i>Krishna Patel, Colin Novak, Jeff Defoe</i>	
Rotating Coherent Flow Structures as a Source for Narrowband Tip Clearance Noise from Axial Fan (AIAA 2016-2822)	1876
<i>Tao Zhu, Dominic Lallier-Daniels, Marlene Sanjose, Stephane Moreau, Thomas H. Carolus</i>	
Tip Leakage Flow: Advanced Measurements and Analysis (AIAA 2016-2823)	1896
<i>Marc C. Jacob, Emmanuel Jondeau, Bo Li, Jerome C. Boudet</i>	
Tip-Leakage Flow: A Detailed Simulation with a Zonal Approach (AIAA 2016-2824)	1914
<i>Jerome C. Boudet, Bo Li, Joëlle Caro, Emmanuel Jondeau, Marc C. Jacob</i>	
Airfoil Tip Leakage Aeroacoustics Predictions using a Lattice Boltzmann Based Method (AIAA 2016-2825)	1925
<i>Adrien Mann, Min-Suk Kim, Jingshu Wu, Franck Perot, Julien Grilliat, Marc C. Jacob, Miles Colman</i>	

AA-21: AEROACOUSTIC INTERACTIONS III: COMBUSTION NOISE

Prediction of Pulsations in a Cold-gas Scale-model of a SRM (AIAA 2016-2826)	1942
<i>Lionel Hirschberg, Christophe F. Schram, Avraham Hirschberg</i>	
Combustion Noise Analysis of Open Flames Using Incompressible LES (AIAA 2016-2827)	1964
<i>Ivan Langella, Yasser Mahmoudi-Larimi, Nedunchezian Swaminathan, Ann Dowling</i>	
The Acoustic Equivalence of a Mass and Heat Point Source (AIAA 2016-2828)	1972
<i>Luck Peerlings, Hans Boden, Susann Boij</i>	
Aeroacoustic Study of a Slotted Burner (AIAA 2016-2829)	1980
<i>Tiziano Pagliaroli, Matteo Mancinelli, Roberto Camussi, Guido Troiani</i>	
Numerical Investigation of Combustion Noise: The Entropy Wave Generator (AIAA 2016-2830)	1995
<i>César Becerril, Stéphane Moreau, Michael Bauerheim, Laurent Gicquel, Thierry Poinot</i>	

AA-22: TRAILING EDGE NOISE II: CONTROL

Noise Reduction via Jet Injection Near the Trailing Edge (AIAA 2016-2831)	2013
<i>Jiangang Yu, Seong Ryong Koh, Matthias H. Meinke, Wolfgang Schroeder</i>	
Trailing Edge Bluntness Flow and Noise Control Using Porous Treatments (AIAA 2016-2832)	2029
<i>Syamid A. Showkat Ali, Mate Szoke, Mahdi Azarpeyvand, Carlos Silva</i>	
Aeroacoustic and Flow Assessments of the Poro-serrated Trailing Edges (AIAA 2016-2833)	2051
<i>Tze Pei Chong, Elisa Dubois, Alexandros Vathylakis</i>	
Trailing Edge Noise Reduction Using Novel Surface Treatments (AIAA 2016-2834)	2071
<i>Abbas Afshari, Mahdi Azarpeyvand, Ali A. Dehghan, Mate Szoke</i>	
Bioinspired Passive Control of Airfoil Radiated Noise (AIAA 2016-2835)	2086
<i>Man Zhang, Kader Frendi</i>	
DNS of Noise Radiation from a Turbulent Flow Convecting over an Elastic Trailing-Edge (AIAA 2016-2836)	2097
<i>Stefan C. Schlanderer, Richard D. Sandberg</i>	
Sensitivity of Aerofoil Self-noise Reductions to Serration Flap Angles (AIAA 2016-2837)	2110
<i>Alexandros Vathylakis, Chaitanya C. Paruchuri, Tze Pei Chong, Phillip Joseph</i>	

AA-23: CAA IV

Aeroacoustic Study of a Submerged Air Inlet Using an IDDES/FW-H Approach and Sound Source Modelling Through Direct Numerical Beamforming (AIAA 2016-2838)	2127
<i>Nicolas J. Pignier, Ciarán O'Reilly, Susann Boij</i>	
A CAA Study of Turbulence Distortion in Broadband Fan Interaction Noise (AIAA 2016-2839)	2147
<i>Thomas Hainaut, Gwenael Gabard, Vincent Clair</i>	
Leading Edge Noise Predictions using Anisotropic Synthetic Turbulence (AIAA 2016-2840)	2167
<i>Fernando Gea Aguilera, James R. Gill, Xin Zhang, Xiaoxian Chen, Thomas Node-Langlois</i>	
Impact of Turbofan Intake Distortion on Fan Noise Propagation and Generation (AIAA 2016-2841)	2185
<i>Martin Doherty, Howoong Namgoong</i>	
Aeroacoustic Analysis of a Cylinder in Low Mach Number Flow Using a Periodic CFD-BEM Technique (AIAA 2016-2842)	2203
<i>Mahmoud Karimi, Paul J. Croaker, Nicole Kessissoglou, Nigel Peake</i>	
In-Duct Assessment of a Linearized Unsteady Navier-Stokes Scheme for Compressor Tone Noise (AIAA 2016-2843)	2211
<i>Christopher E. Porter, Paul D. Orkwis, John Wojno, Trevor Goerig, Trevor H. Wood</i>	

AA-24: CAA V: APPLICATIONS

Landing Gear Noise Sources Identification through an Application of Array Methods to Experimental and Computational Data (AIAA 2016-2844)	2229
<i>Stéphane Redonnet, Jean Bulte</i>	
Mesh Screen Application for Noise Reduction of Landing Gear Strut (AIAA 2016-2845)	2242
<i>Patrick N. Okolo, Kun Zhao, John Kennedy, Gareth J. Bennett</i>	
Aerodynamic Noise Prediction for a Wind Turbine Using Numerical Flow Simulations and Semi-empirical Modelling Approaches (AIAA 2016-2846)	2254
<i>Amin Rasam, Jason D. Botha, Karl Bolin, Ciarán O'Reilly, Gunilla Efraimsson, Henry Rice</i>	
Large Eddy Simulation of Tonal Noise at a Side-view Mirror Using a High Order Discontinuous Galerkin Method (AIAA 2016-2847)	2267
<i>Hannes M. Frank, Claus-Dieter Munz</i>	
Unsteady Aerodynamics of High Speed Train Pantograph Cavity Flow Control for Noise Reduction (AIAA 2016-2848)	2281
<i>Hogun Kim, Zhiwei Hu, David Thompson</i>	
Comparison of Far-Field Acoustic Prediction Techniques in Application to Tonal Noise Radiation of Transitional Airfoils (AIAA 2016-2849)	2291
<i>Saman Salehian, Lap D. Nguyen, Vladimir V. Golubev, Reda R. Mankbadi</i>	

AA-25: DUCT ACOUSTICS III

Multi-port Characterization of a Modal Filter Containing Micro-perforated Panels (AIAA 2016-2850)	2305
<i>Hervé Denayer, Vyacheslav Korchagin, Wim De Roeck, Wim Desmet</i>	
Full Multi-Port Characterization of a Circular Orifice-Plate (AIAA 2016-2851)	2321
<i>Stefan Sack, Mats Åbom</i>	
Measurement of Perforate Impedance with Grazing Flow on Both Sides (AIAA 2016-2853)	2331
<i>Maaz Farooqui, Tamer Elnady, Mats Åbom</i>	
PIV Measurement of a Porous Liner in a Duct with Flow (AIAA 2016-2854)	2348
<i>Antoni Alomar, Yves Auregan</i>	
HVAC Noise Simulations Using Direct and Hybrid Methods (AIAA 2016-2855)	2360
<i>Axel Kierkegaard, Alastair West, Stephane Caro</i>	
Sound Propagation and Radiation from an Unflanged Circular Duct: A Benchmark Problem Revisited (AIAA 2016-2856)	2369
<i>Milo D. Dahl, Duane R. Hixon</i>	

AA-27: JET NOISE IV: SURFACE INTERACTIONS

A Model Problem for Sound Radiation by an Installed Jet (AIAA 2016-2857)	2396
<i>Petrônio A. Nogueira, André V. Cavalieri, Peter Jordan</i>	
PSE-based Prediction of Sound Radiation by Installed Jets (AIAA 2016-2858)	2413
<i>Petrônio A. Nogueira, Selene Piantanida, André V. Cavalieri, Peter Jordan</i>	

VOLUME 4

Hydrodynamic Pressure Field Propagation Model for the Prediction of the Far-field Sound Produced by Jet-wing Interaction (AIAA 2016-2859)	2423
<i>Juan V. Vera, Jack Lawrence, Michael Kingan, Rod Self, Samuel Sinayoko</i>	

Effects of Coherence on Jet-surface Interaction Noise (AIAA 2016-2860)	2435
<i>Filipe D. Da Silva, Andrey R. Da Silva, Cesar J. Deschamps, Peter Jordan, Selene Piantanida, André V. Cavalieri, Guillaume A. Brès</i>	
Cross-statistical and Wavelet Analysis of Velocity and Wall-pressure Fields in Jet-surface Interaction (AIAA 2016-2861)	2443
<i>Matteo Mancinelli, Alessandro Di Marco, Roberto Camussi</i>	
Modeling Jet-Surface Interaction Noise for Separate Flow Nozzles (AIAA 2016-2862)	2460
<i>Clifford A. Brown, Gary G. Podboy, James E. Bridges</i>	
Jet Surface Interaction Noise in a Planar Exhaust (AIAA 2016-2863)	2480
<i>Abbas Khavaran, Richard Bozak, Clifford A. Brown</i>	

AA-28: JET NOISE V

Hydrodynamic and Acoustic Wavelet-Based Separation of the Near-Field Pressure of a Compressible Jet (AIAA 2016-2864)	2500
<i>Matteo Mancinelli, Tiziano Pagliaroli, Alessandro Di Marco, Roberto Camussi, Thomas Castelain, Olivier Leon</i>	
On Removing the Near-field Coherent Structures in a Jet and Its Impact on the Radiated Sound (AIAA 2016-2865)	2518
<i>Zhidong Fu, Anurag Agarwal, André V. Cavalieri, Peter Jordan, Guillaume A. Brès</i>	
Jet Noise Reduction Through Filtering Small-scale Structures (AIAA 2016-2866)	2538
<i>Zhidong Fu, Anurag Agarwal, André V. Cavalieri, Peter Jordan, Guillaume Lehnasch, Guillaume Daviller</i>	
On the Properties of Fluctuating Turbulent Stress Sources for High-speed Jet Noise (AIAA 2016-2867)	2552
<i>Vasily Semiletov, Sergey A. Karabasov</i>	
Jet-noise Reduction: the Effect of Azimuthal Actuation Modes (AIAA 2016-2868)	2566
<i>Maxime Le Rallic, Peter Jordan, Yves Gervais</i>	
The Aeroacoustics of a Subsonic Rectangular Jet (AIAA 2016-2869)	2575
<i>Ross Henrywood, Anurag Agarwal, Kondwani Kanjere</i>	

AA-29: PROPELLER AND ROTOR NOISE I

On Trailing Edge Noise with Application in Hydroacoustics (AIAA 2016-2870)	2593
<i>David Nigro, Ian D. Abrahams</i>	
Fast Prediction Model for Tonal Noise from Propellers or Rotors (AIAA 2016-2871)	2602
<i>Benoit G. Marinus, Akila Halimi, Maxime Jeanpierre</i>	
Airfoil-Gust Interactions in Transonic Flow (AIAA 2016-2872)	2612
<i>James R. Gill, Xin Zhang, Siyang Zhong, Ryu J. Fattah, David Angland</i>	
Experimental Study of Quadcopter Acoustics and Performance at Static Thrust Conditions (AIAA 2016-2873)	2629
<i>Nanyaporn Intaratet, William N. Alexander, William J. Devenport, Sheryl M. Grace, Amanda Dropkin</i>	
A Time-Domain Convected High-Speed Impulsive Noise Simulation for Propeller at Incidence (AIAA 2016-2874)	2643
<i>Zhongjie Huang, Ghader Ghorbaniasl, Leonidas Siozos-Rousoulis, Chris Lacor</i>	
Pusher-Propeller Installation Effects in Angular Inflow (AIAA 2016-2875)	2656
<i>Tomas Simige, Daniele Ragni, Georg Eitelberg, Leo L. Veldhuis</i>	

AA-30: TURBOMACHINERY NOISE III

Numerical and Experimental Results of a Turning Mid Turbine Frame with Embedded Design in terms of Acoustic Mode Analysis (AIAA 2016-2876)	2668
<i>Stefan Zerobin, Pascal Bader, Christian Faustmann, Andeas Marn, Emil Göttlich, F. Heitmeir</i>	
Measurement Techniques for Mode Detection in Aeroengine Inter-stage Sections (AIAA 2016-2877)	2683
<i>Jian Chen, Phillip Joseph</i>	
Sound Radiation of Fan Tones from an Installed Turbofan Aero-engine: Fuselage Boundary-layer Refraction Effects (AIAA 2016-2878)	2704
<i>James Gaffney, Alan McAlpine, Kingan Michael</i>	
Numerical Simulations of Shock-Wave Propagation in Turbofan Intakes (AIAA 2016-2879)	2727
<i>Johan Thisse, Cyril Polacsek, Julien Mayeur, Sofiane Khelladi, Xavier Gloerfelt, Anthony Lafitte</i>	
On a Mode-matching Technique for Sound Generation and Transmission in a Three-dimensional Annular Cascade of Outlet Guide Vanes (AIAA 2016-2880)	2740
<i>Simon Bouley, Benjamin François, Michel Roger</i>	
Influence and Modeling of OGV Heterogeneity (AIAA 2016-2881)	2760
<i>Marlene Sanjose, Miguel Pestana, Stephane Moreau, Michel Roger</i>	
Motor Noise for Electric Powered Aircraft (AIAA 2016-2882)	2779
<i>Dennis L. Huff, Brenda S. Henderson, Edmane Envia</i>	

AA-31: AEROACOUSTIC INTERACTIONS IV: CAVITIES AND LINERS

On The Modal Behaviour of Trapped Acoustic Modes in a Square Ducted Cavity (AIAA 2016-2883)	2791
<i>Michael Bolduc, Samir Ziada, Philippe Lafon</i>	

Effect of Viscosity, Eddy Viscosity and Velocity Profile on the Unstable Mode in a Lined Duct with Flow (AIAA 2016-2884)	2806
<i>Bo Xin, Xiaodong Jing, Xiaofeng Sun</i>	
Geometry Effect Investigation on Parallel-Coupled Helmholtz Resonators for Duct Noise Damping (AIAA 2016-2885)	N/A
<i>Chenzhen Ji, Dan Zhao, Xinyan Li, Mya Win Yin, Jing Li</i>	
Measured Source Term in Corrugated Pipes with Flow. Effect of Diameter on Pulsation Source (AIAA 2016-2886)	2817
<i>Joachim Golliard, Francesco Sanna, Yves Auregan, Daniele Violato</i>	
An Asymptotic Model for Non-linear Helmholtz Resonator of Finite Depth (AIAA 2016-2887)	2823
<i>Sjoerd W. Rienstra, Deepesh Kumar Singh</i>	
Unsteady Wall Pressure Measurements In An Outflow Butterfly Valve Using Remote Microphone Probes (AIAA 2016-2888)	2841
<i>Aurelien Marsan, Marlene Sanjose, Yann Pasco, Stephane Moreau, Martin Brouillette</i>	

AA-32: ACTIVE CONTROL

Direct Numerical Simulations for Adjoint-based Optimal Flow and Noise Control of a Backward-Facing Step (AIAA 2016-2889)	2860
<i>Javier Perez, Richard D. Sandberg, Aii Sharma</i>	
Plasma Actuator for Cylinder Noise Mitigation (AIAA 2016-2890)	2872
<i>Victor Kopiev, Ivan V. Belyaev, Vladimir A. Kopiev, Mikhail Zaitsev, P. Kazansky, I. Moralev</i>	
Reduction of UHBR Fan Blade Tones by Flow Induced Secondary Sound Sources (AIAA 2016-2891)	2880
<i>Lars Neuhaus, Ulf Tapken, Lars Enghardt, Gerd Enders, Jürgen Zillmann</i>	
Acoustic Study of a Sweeping Jet Actuator for Active Flow Control (AFC) Applications (AIAA 2016-2892)	2891
<i>William C. Horne, Nathan Burnside</i>	

AA-33: ADVANCED TESTING TECHNIQUES II

Validation of an In-duct to Far-field Beamformer Method for Predicting Far-field Fan Broadband Noise (AIAA 2016-2894)	2905
<i>Brian J. Tester, Yusuf Özyörük, Daniel L. Sulliff, Richard Bozak</i>	
Low Speed Anechoic Closed Test Section at ONERA SIMA Wind Tunnel (AIAA 2016-2895)	2916
<i>Fabien Mery</i>	
Acoustic Source Localisation on a Model Engine Jet with Different Nozzle Configurations and Wing Installation (AIAA 2016-2897)	2925
<i>Henri A. Siller, Stefan Funke, Jonas König</i>	
Development and Calibration of a Field-Deployable Microphone Phased Array for Propulsion and Airframe Noise Flyover Measurements (AIAA 2016-2898)	2934
<i>William M. Humphreys, David P. Lockard, Mehdi R. Khorrami, William Culliton, Robert McSwain, Patricio A. Ravetta, Zachary Johns</i>	
Imaging of Broadband Noise from Rotating Sources in Uniform Axial Flow (AIAA 2016-2899)	2954
<i>Christof Ocker, Wolfram Pannert</i>	

AA-34: AIRFRAME NOISE III: LANDING GEAR

The Reduction of Main Landing Gear Noise (AIAA 2016-2900)	2967
<i>John Kennedy, Eleonora Neri, Gareth J. Bennett</i>	
Acoustic Measurements of a Large Civil Transport Main Landing Gear Model (AIAA 2016-2901)	2988
<i>Patricio A. Ravetta, Mehdi R. Khorrami, Ricardo Burdisso, David M. Wisda</i>	
High-Order Numerical Simulations of An Isolated Landing Gear Wheel with A Hub Cavity (AIAA 2016-2902)	3014
<i>Meng Wang, David Angland, Xin Zhang, Ryu J. Fattah</i>	
Development of an Empirical Model for Landing Gear Noise Prediction (AIAA 2016-2903)	3031
<i>Yi Jiang, Antonio Filippone</i>	
The Influence of Yaw on the Unsteady Aerodynamics over a Two-wheeled Landing Gear Model (AIAA 2016-2904)	3041
<i>Alvin Gatto, Will Graham</i>	
Passive Control of Tandem Cylinders Flow and Noise Using Porous Coating (AIAA 2016-2905)	3056
<i>Hanru Liu, Mahdi Azarpeyvand</i>	

AA-35: COMMUNITY AND INTERIOR NOISE

Auralization of NASA N+2 Aircraft Concepts from System Noise Predictions (AIAA 2016-2906)	3072
<i>Stephen A. Rizzi, Casey L. Burley, Russell H. Thomas</i>	
A Psychoacoustic Evaluation of Noise Signatures from Advanced Civil Transport Aircraft (AIAA 2016-2907)	3088
<i>Stephen A. Rizzi, Andrew Christian</i>	
Sound Synthesis and 3D Sound Rendering of Aircraft Flyovers with Controllable Parameters (AIAA 2016-2908)	3104
<i>Antoine Minard, Sylvain Hourcade, Christophe Lambourg, Patrick Boussard</i>	
Quantifying the Audible Differences in Measured and Auralized Aircraft Sounds (AIAA 2016-2909)	3113
<i>Abhishek K. Sahai, Dick G. Simons</i>	

Influence of Pressure Gradients and Reynolds Number on Wall-pressure Wavenumber-Frequency Spectra (AIAA 2016-2910)	3125
<i>Xavier Gloerfelt, Elie Cohen</i>	
Numerical Study of Wall Pressure Fluctuations for Zero and Non-Zero Pressure Gradient Turbulent Boundary Layers (AIAA 2016-2911)	3153
<i>Nan Hu, Christina Appel, Michaela Herr, Roland Ewert, Nils Reiche</i>	
Estimation of Automotive Wind Noise by Coupling a Lattice Boltzmann Based Flow Simulation to Statistical Energy Analysis (AIAA 2016-2912)	3168
<i>Francois Van Herpe, Roda Haidar, Chao Qi</i>	
Contribution of Coherent Structures to Wall-pressure Beneath Turbulent Boundary Layer Flows Subjected to Pressure Gradients (AIAA 2016-2913)	3196
<i>Miloud Alaoui, Xavier Gloerfelt, Alois Sengissen, Ousmane Balde</i>	

AA-36: CAA VI: BOUNDARY CONDITIONS AND AIRFOILS

Towards a Generic Non-Reflective Characteristic Boundary Condition for Aeroacoustic Simulations (AIAA 2016-2914)	3212
<i>Ryu J. Fattah, James R. Gill, Xin Zhang</i>	

VOLUME 5

Development and Evaluation of Non-Reflective Boundary Conditions for Lattice Boltzmann Method (AIAA 2016-2915)	3230
<i>Fabien Chevillotte, Denis Ricot</i>	
Determination of Acoustic Impedance for Helmholtz Resonators Through Incompressible Unsteady Flow Simulations (AIAA 2016-2917)	3241
<i>Jonathan Tournadre, Kilian Förner, Paula Martínez-Lera, Wolfgang Polifke, Wim Desmet</i>	
A Numerical Study of Synthetic-Jet Actuation Effect on Airfoil Trailing Edge Noise (AIAA 2016-2918)	3255
<i>Marco Sansone, Lap D. Nguyen, Vladimir V. Golubev, Reda R. Mankbadi</i>	
Large Eddy Simulation of Airfoil Self-Noise at High Reynolds Number (AIAA 2016-2919)	3271
<i>K. Joseph George, Sanjiva K. Lele</i>	
Prediction of Porous Trailing Edge Noise Reduction Using Acoustic Jump-Conditions at Porous Interfaces (AIAA 2016-2920)	3319
<i>Lennart Rossian, Benjamin W. Fassmann, Roland Ewert, Jan Delfs</i>	

AA-37: DUCT ACOUSTICS IV: MODELING

A Statistical Approach to Broadband Noise Suppression (AIAA 2016-2921)	3332
<i>Walter Eversman</i>	
Asymptotic and Numerical Green's Functions in a Lined Duct with Realistic Shear and Swirl (AIAA 2016-2922)	3359
<i>James R. Mathews, Nigel Peake, Stefano Bianchi</i>	
New Insights into Mode Nonorthogonality in Ducts with Impedance Boundary Conditions (AIAA 2016-2923)	3389
<i>Wenping Bi, Vincent Pagneux</i>	
Influence of Shear Flow on Liner Impedance Computed by Multimodal Method (AIAA 2016-2924)	3405
<i>Xiwen Dai, Yves Auregan</i>	
Sound Propagation in Slowly Varying 2D Duct with Shear Flow (AIAA 2016-2925)	3419
<i>Sjoerd W. Rienstra</i>	
On the Interaction of NA Acoustic Liner with a Boundary Layer and a Cross-Flow (AIAA 2016-2928)	N/A
<i>Luis Manuel Braga Da Costa Campos</i>	
A Spectral Boundary Integral Method for Computing the Effect of Locally and Non-locally Reacting Liners in Flow Duct Applications (AIAA 2016-2926)	3436
<i>Emmanuel Perrey-Debain, Romain Maréchal, Jean-Michel Ville</i>	
Comparative Study of Different Analytical Approaches for Modelling the Transmission of Sound Waves Through Turbomachinery Stators (AIAA 2016-2927)	3444
<i>Maximilian Behn, Ulf Tapken, Peter Puttkammer, Rob Hagmeijer, Nicolas Thouault</i>	

AA-38: JET NOISE VI

Azimuthal Organisation of Turbulent Structures in Underexpanded Impinging Round Jets (AIAA 2016-2929)	3459
<i>Romain Gojon, Christophe Bogey</i>	
Effect of Nozzle-Plate Distance on Acoustic Phenomena from Supersonic Impinging Jet (AIAA 2016-2930)	3472
<i>Masahito Akamine, Koji Okamoto, Kent L. Gee, Tracianne B. Neilsen, Susumu Teramoto, Takeo Okunuki, Seiji Tsutsumi</i>	
Investigation of the Feedback Mechanism in Ideally Expanded Round Impinging Jets Using Large-Eddy Simulation (AIAA 2016-2931)	3484
<i>Romain Gojon, Christophe Bogey</i>	
Theoretical Modeling of the Excess Noise Due to Jet-wing Interaction (AIAA 2016-2932)	3502
<i>Stanislav Denisov, Georgy Faranosov, Nikolay Ostrikov, Oleg Bychkov</i>	

Turbulence Modelling and Meshing Developments for the Prediction of Jet Noise Installation Effects (AIAA 2016-2933)	3523
<i>Charles R. Mockett, Marian Fuchs, Felix Kramer, Ulf Michel, Mathias Steger, Frank Thiele</i>	
Input-output Analysis of Heated Axisymmetric Turbulent Jets (AIAA 2016-2934)	3535
<i>Jinah Jeun, Joseph W. Nichols, Mihailo R. Jovanovic</i>	
Stochastic and Harmonic Optimal Forcing in Subsonic Jets (AIAA 2016-2935)	3548
<i>Onofrio Semeraro, Vincent Jaunet, Peter Jordan, André V. Cavalieri, Lutz Lesshaft</i>	

AA-39: JET NOISE VII: SUPERSONIC JETS

Effects of Disturbed Nozzle-exit Boundary Layers on Acoustic Waves from Ideally-expanded Supersonic Jet (AIAA 2016-2936)	3561
<i>Taku Nonomura, Akira Oyama, Kozo Fujii, Koichi Morihira, Gabriel Pichon, Daiki Terakado</i>	
Effects of Temperature on Noise Generation in Supersonic Jets (AIAA 2016-2937)	3575
<i>Junhui Liu, Andrew T. Corrigan, Kailas Kailasanath, Ephraim J. Gutmark</i>	
Numerical Simulation of Supersonic Twin-Jet Noise with High Order Finite Difference Scheme (AIAA 2016-2938)	3600
<i>Junhui Gao, Xin Xu, Xiaodong Li</i>	
Effects of Extended Expansion Ramps on Flow and Acoustic Field of Low Supersonic Single Expansion Ramp Nozzles (AIAA 2016-2939)	3614
<i>Bhupatindra Malla, Ephraim J. Gutmark</i>	
Coupling Dynamics of Twin Supersonic Round Jets (AIAA 2016-2940)	3634
<i>Jordan D. Cluts, Ching-Wen Kuo, Mo Samimy</i>	
Mode Decomposition of a Supersonic Jet (AIAA 2016-2941)	3656
<i>Unnikrishnan Sasidharan Nair, Datta V. Gaitonde</i>	
Acoustic Fields of a Supersonic Jet Deflected by Wedges Mounted on a Flat Plate (AIAA 2016-2942)	3671
<i>Sumit K. Patel, Joseph Mathew</i>	

AA-40: TURBOMACHINERY NOISE IV: BROADBAND

Acoustic Characterization of Forward- and Backward-Skewed Axial Fans under Increased Inflow Turbulence (AIAA 2016-2943)	3682
<i>Florian Zenger, Gert Herold, Stefan Becker</i>	
Fan-OGV Interaction Broadband Noise Prediction in a Rigid Annular Duct with Swirling and Sheared Mean Flow (AIAA 2016-2944)	3695
<i>Vianney Masson, H��l��ne Posson, Marlene Sanjose, Stephane Moreau, Michel Roger</i>	
Turbofan Broadband Noise Prediction using the Lattice Boltzmann Method (AIAA 2016-2945)	3713
<i>Damiano Casalino, Andreas Hazir, Adrien Mann</i>	
Investigation of Methods for Including Vane Geometry in Predictions of Fan Broadband Noise (AIAA 2016-2946)	3733
<i>Sheryl M. Grace, Dorien O. Villafranco, Andrew S. Wixom</i>	
Analytical Models Based on a Mode-matching Technique for Turbulence Impingement Noise on Axial-flow Outlet Guide Vanes (AIAA 2016-2947)	3747
<i>Benjamin Fran��ois, Simon Bouley, Michel Roger, Stephane Moreau</i>	
Effects of Vane Sweep on Fan-Wake/Outlet-Guide-Vane Interaction Broadband Noise (AIAA 2016-2948)	3768
<i>Hongbin Ju</i>	
Three-Dimensional Modeling of Annular Cascade Trailing-Edge Noise (AIAA 2016-2949)	3776
<i>Michel Roger, Benjamin Fran��ois, Michael Bauerheim</i>	
Turbofan Broadband Noise Predictions Using a 3-D ZDES Rotor Blade Approach (AIAA 2016-2950)	3794
<i>Virginie Bonneau, Cyril Polacsek, Lionel Castillon, Julien Marty, Yves Gervais, Stephane Moreau</i>	

AA-41: LEADING EDGE NOISE II: CONTROL

Towards Understanding Aerofoils with Dual-Frequency Wavy Leading Edges Interacting with Vortical Disturbances (AIAA 2016-2951)	3809
<i>Jacob Turner, Jae Wook Kim, P. Chaitanya, Phillip Joseph</i>	
Towards Understanding Aerofoils with Wavy Leading Edges Interacting with Vortical Disturbances (AIAA 2016-2952)	3821
<i>Jacob Turner, Jae Wook Kim</i>	
Experimental Validation of a Wind Turbine Turbulent Inflow Noise Prediction Code (AIAA 2016-2953)	3837
<i>Steven Buck, Stefan Oerlemans, Scott Palo</i>	
Experimental Investigation of Leading Edge Hook Structures for Wind Turbine Noise Reduction (AIAA 2016-2954)	3853
<i>Thomas F. Geyer, Sahan H. Wasala, John E. Cater, Stuart E. Norris, Ennes Sarradi</i>	
Experimental Study of Wake / Flap Interaction Noise and the Reduction of Flap Side Edge Noise (AIAA 2016-2955)	3866
<i>Florence V. Hutcheson, Daniel Stead, Gerald Plassman</i>	

An Experimental and Numerical Investigation of Airfoil Instability Noise with Leading Edge Serrations (AIAA 2016-2956)	3881
<i>Weijie Chen, Weiyang Qiao, Xunnian Wang, Liangfeng Wang, Fan Tong, W. H. Duan, T. J. Liu, X. Q. Liu</i>	

AA-42: AIRFRAME NOISE IV: HIGH-LIFT SYSTEMS

Modeling and Prediction of Krueger Device Noise (AIAA 2016-2957)	3904
<i>Yueping Guo, Casey L. Burley, Russell H. Thomas</i>	
Computational Design of a Krueger Flap Targeting Conventional Slat Aerodynamics (AIAA 2016-2958)	3922
<i>H. Dogus Akaydin, Jeffrey A. Housman, Cetin C. Kiris, Christopher J. Bahr, Florence V. Hutcheson</i>	
Study on Change of Noise Generation from Slat Track Shape (AIAA 2016-2959)	3934
<i>Mitsuhiro Murayama, Yuzuru Yokokawa, Yasushi Ito, Kazuomi Yamamoto, Takehisa Takaishi, Hiroki Ura, Tohru Hirai</i>	
Aeroacoustic Measurements of Leading-Edge Slat Noise (AIAA 2016-2960)	3952
<i>Kyle A. Pascioni, Louis N. Cattafesta</i>	
A Comparison of the Noise Characteristics of a Conventional Slat and Krueger Flap (AIAA 2016-2961)	3972
<i>Christopher J. Bahr, Florence V. Hutcheson, Russell H. Thomas, Jeffrey A. Housman</i>	
Noise Prediction of a Simplified High-Lift Device (AIAA 2016-2962)	3991
<i>Pablo Salas, Stephane Moreau</i>	
Slat Noise Predictions using Higher-Order Finite-Difference Methods on Overset Grids (AIAA 2016-2963)	4011
<i>Jeffrey A. Housman, Cetin C. Kiris</i>	

VOLUME 6

AA-43: CAA VII

Realization of Arbitrary Vorticity Spectra using Generic Stochastic Turbulence (AIAA 2016-2964)	4029
<i>Nils Reiche, Roland Ewert, Jan Delfs</i>	
Canonical Stochastic Realization of Turbulent Sound Sources via Forced Linear Advection-Diffusion-Dissipation Equation (AIAA 2016-2965)	4048
<i>Roland Ewert</i>	
On Efficient Vertex-Centered Schemes on Hybrid Unstructured Meshes (AIAA 2016-2966)	4077
<i>Tatiana Kozubskaya, Pavel Bakhvalov</i>	
GPU CABARET Solutions for the SILOET Jet Noise Experiment: Flow and Noise Modelling (AIAA 2016-2967)	4096
<i>Anton P. Markesteijn, Vasily Semiletov, Sergey A. Karabasov</i>	
Scattering to Higher Harmonics for Quarter Wave and Helmholtz Resonators (AIAA 2016-2968)	4115
<i>Kilian Förner, Jonathan Tournadre, Paula Martinez-Lera, Wolfgang Polifke</i>	

AA-44: CAA VIII

Direct Noise Computation with a Lattice-Boltzmann Method and Application to Industrial Test Cases (AIAA 2016-2969)	4129
<i>Ruddy Brionnaud, Miguel Chávez Modena, Giuseppe Trapani, David M. Holman</i>	
An Adaptive, High-Order Finite Element Method for Aeroengine Acoustics (AIAA 2016-2970)	4149
<i>Gwenael Gabard, Hadrien Beriot, Albert Prinn, Korcan Kucukcoskun</i>	
Artificial Damping Methods for Stable Computations with Linearized Euler Equations (AIAA 2016-2971)	4167
<i>Yuhao Sun, Siyang Zhong, Xin Zhang, James R. Gill, Xiaoxian Chen</i>	
A Flux Reconstruction Technique for Non-conforming Grid Interfaces in Aeroacoustic Simulations (AIAA 2016-2972)	4181
<i>Sophie Le Bras, Hugues Deniau, Christophe Bogey</i>	
Linearized Navier-Stokes Equations and their Numerical Solution (AIAA 2016-2973)	4200
<i>Andrea Lario, Renzo Arina</i>	
Impact of the Mean Flow Representation on DGM Simulations of Flow Acoustics (AIAA 2016-2974)	4212
<i>Michael Williamschen, Gwenael Gabard, Hadrien Beriot</i>	
On Fully-Implicit Solutions of the Time-linearized Euler Equations in a Dg/chimera Solver (AIAA 2016-2975)	4229
<i>Nathan A. Wukie, Paul D. Orkwis</i>	

AA-45: DUCT ACOUSTICS V

Analytic Model and Concise Impedance Boundary Condition for Viscous Acoustics in Ducted Shear Flow (AIAA 2016-2976)	4242
<i>Doran Khamis, Edward J. Brambley</i>	
Determination of the Acoustic Properties of Liners Under High Level Multi-tone Excitation (AIAA 2016-2977)	4257
<i>Hans Boden</i>	
Impedance and Attenuation Measurements of Acoustic Absorbers in a Hot Environment (AIAA 2016-2978)	4270
<i>Christoph Richter, Claus Lahiri, Friedrich Bake, Karsten Knobloch, Reinhard Pongratz, Daniel Redmann</i>	
Acoustic Liner Drag: Measurements on Novel Facesheet Perforate Geometries (AIAA 2016-2979)	4281
<i>Brian M. Howerton, Michael G. Jones</i>	

Acoustic Characterization of a Hybrid Liner Consisting of Porous Material by Using A Unified Linearized Navier-Stokes Approach (AIAA 2016-2980)	4293
<i>Wei Na, Susann Boij, Gunilla Efraimsson</i>	
Enhancement of Sound Absorption in Ducts Using Porous Material with Embedded Inclusions (AIAA 2016-2981)	4305
<i>Lei Xiong, Hélène Posson, Delphine Lizarazu, Yves Auregan</i>	
Development of a Single Degree of Freedom Micro-perforate Impedance Model Under Grazing Flow and High Spl (AIAA 2016-2982)	4326
<i>Paul Murray, Clark Donnan, Christoph Richter, R. Jeremy Astley</i>	

AA-46: JET NOISE VIII: EXPERIMENTS

Design of a Facility for Shock-Cells Noise Experimental Investigation on a Subsonic/Supersonic Coaxial Jet (AIAA 2016-2983)	4336
<i>Daniel Guariglia, Alejandro Rubio Carpio, Christophe F. Schram</i>	
Estimation of Convection Speed in Underexpanded Jets from Schlieren Pictures (AIAA 2016-2984)	4359
<i>Thomas Castelain, Romain Gojon, Bertrand Mercier, Christophe Bogey</i>	
Vortex Dynamics and Sound Emission in an Excited High-Speed Jet (AIAA 2016-2985)	4373
<i>Michael B. Crawley, Ching-Wen Kuo, Mo Samimy</i>	
Noise Prediction for Installed Jet (AIAA 2016-2986)	4397
<i>Benshuai Lyu, Ann Dowling</i>	
Assessment of WALE and Sigma(σ) Sub-Grid Scale Models for Jet Noise Prediction (AIAA 2016-2987)	4412
<i>Mahak Mahak, Miguel Moratilla-Vega, Gary Page, Hao Xia</i>	

AA-47: JET NOISE IX

Simple Jet Noise Reduction Technique for Variable Nozzle of Supersonic Aircraft (AIAA 2016-2988)	4426
<i>Junichi Akatsuka, Yasushi Watanabe, Tatsuya Ishii</i>	
Experimental and Numerical Study of Fluidic Corrugation Design for Supersonic Jet Noise Reduction (AIAA 2016-2989)	4436
<i>Scott Hromisin, Jacob Lampenfield, Dennis K. McLaughlin, Philip J. Morris</i>	
Extending On-Demand Noise Reduction to Industry Scale for Tactical Aircraft (AIAA 2016-2990)	4461
<i>Dennis K. McLaughlin, Philip J. Morris, Steven Martens, Erin Lariviere</i>	
An Experimental Investigation of Jet Noise from Septae Nozzles (AIAA 2016-2991)	4475
<i>Khairul Q. Zaman, James E. Bridges, Amy F. Fagan, Clifford A. Brown</i>	
The Aeroacoustics of Offset Three-Stream Jets for Future Commercial Supersonic Aircraft (AIAA 2016-2992)	4494
<i>Brenda S. Henderson, Dennis L. Huff</i>	

AA-48: PROPELLER AND ROTOR NOISE II: TURBULENCE INGESTION

Phased Array Measurements of a Rotor Ingesting a Turbulent Shear Flow (AIAA 2016-2994)	4513
<i>William N. Alexander, Nicholas J. Molinaro, Christopher Hickling, Henry Murray, William J. Devenport, Stewart A. Glegg</i>	
Sound Radiation from a Rotor Operating at High Thrust Near a Wall (AIAA 2016-2995)	4540
<i>Stewart A. Glegg, Justin Grant, Henry Murray, William J. Devenport, William N. Alexander</i>	
Effect of the Edge-and-Tip Vortex on Airfoil Selfnoise and Turbulence Impingement Noise (AIAA 2016-2996)	4554
<i>Justine Giez, Laurence Vion, Michel Roger, Stephane Moreau</i>	
Boundary Layer induced Rotor Noise using an Analytical Modal Approach (AIAA 2016-2997)	4567
<i>Martin Stagat, Antoine Moreau, Sebastien Guerin</i>	
Computation of the Noise of Rotor Interaction with a Turbulent Wake (AIAA 2016-2998)	4584
<i>Junye Wang, Kan Wang, Meng Wang</i>	
Aeroacoustic Study of the Interaction of a Rotating Blade with a Batchelor Vortex (AIAA 2016-2999)	4596
<i>Paul Zehner, Fabrice Falissard, Xavier Gloerfelt</i>	

AA-49: TURBOMACHINERY NOISE V: ENGINES

Large Eddy Simulation of a Scale-model Turbofan for Fan Noise Source Diagnostic (AIAA 2016-3000)	4617
<i>Thomas Leonard, Marlene Sanjose, Stephane Moreau, Florent Duchaine</i>	
Noise Transmission Characteristics of a High Pressure Turbine Stage (AIAA 2016-3001)	4641
<i>Karsten Knobloch, Sebastien Guerin, Axel Holewa, Yasser Mahmoudi-Larimi, Tom Hynes, Friedrich Bake</i>	
Characterisation and Modelling of Axial Fan Noise (AIAA 2016-3002)	4653
<i>Beatrice Faverjon, Jeffrey R. Fischer, Con J. Doolan, Danielle Moreau, Zebb Prime</i>	
Measurements of Interaction and Scattered Modes in a Mixed Bypass/Core Duct due to Multiple Rotating Source (AIAA 2016-3003)	4666
<i>Daniel L. Sutliff, Taylor R. Marotta</i>	
Indirect Noise Generation in a High Pressure Turbine Stage (AIAA 2016-3004)	4693
<i>Friedrich Bake, Paolo Gaetani, Giacomo Persico, Lars Neuhaus, Karsten Knobloch</i>	

Efficacy of a Multiple Degree of Freedom Acoustic Liner Installed in the Bypass of a Scale Model High Speed Fan (AIAA 2016-3005)	4705
<i>Daniel L. Sutliff, Douglas M. Nark, Michael G. Jones</i>	
Farfield Acoustic Characteristics of the DGEN380 Turbofan Engine as Measured in the NASA Glenn AeroAcoustic Propulsion Laboratory (AIAA 2016-3006)	4716
<i>Daniel L. Sutliff, Clifford A. Brown, Benoit Bayon, Dave Sree</i>	

AA-50: LOADS, SONIC FATIGUE AND BOOM

Wavenumber-Frequency Spectra of Pressure Fluctuations Measured via Fast Response Pressure Sensitive Paint (AIAA 2016-3007)	4736
<i>Jayanta Panda, Nettie H. Roozeboom, James C. Ross</i>	
Unsteady Loading and Dynamic Response of a Structure Excited by a High-Speed Wall-Bounded Jet. Part I: Aerodynamic Excitation (AIAA 2016-3008)	4749
<i>Julian Winkler, Robert Schlinker, John Simonich, Kerwin R. Low</i>	
Unsteady Loading and Dynamic Response of a Structure Excited by a High-Speed Wall-Bounded Jet Part II: Structural Response (AIAA 2016-3009)	4765
<i>Kenji Homma, Paul Braunwart, Brandon Rapp, Robert Schlinker</i>	
Finding the Boom: Phased Array Processing Applied to Sonic Boom Direction of Arrival Estimation (AIAA 2016-3010)	4778
<i>Todd Schultz, James R. Underbrink, Chris Hunting, James Giannakis, Matthew Moore, Edward Hearing, Larry J. Cliatt</i>	
Mach Cutoff Analysis and Results from NASA's Farfield Investigation of No-boom Thresholds (AIAA 2016-3011)	4793
<i>Larry J. Cliatt, Michael A. Hill, Edward Haering</i>	
Steepening and Smearing of Shock Front of Nonlinear N-wave Propagating in a Turbulent Layer (AIAA 2016-3012)	4816
<i>Petr V. Yuldashev, Sébastien Ollivier, Vera A. Khokhlova, Philippe Blanc-Benon</i>	
Reflection of Weak Shockwaves from a Rough Surface (AIAA 2016-3013)	4823
<i>Didier Dagna, Sébastien Ollivier, Cyril Desjoux, Thomas Castelain, Philippe Blanc-Benon</i>	

VOLUME 7

AA-51: AEROACOUSTIC INTERACTIONS V: BOUNDARY LAYERS AND SHEAR LAYERS

Mean Flow Effect on Shielding of Noncompact Aviation Noise Sources (AIAA 2016-3014)	4832
<i>Nikolay Ostrikov, Stanislav Denisov</i>	
Mach Number Dependence on Sound Sources in High Mach Number Turbulent Mixing Layer (AIAA 2016-3015)	4864
<i>Daiki Terakado, Taku Nonomura, Akira Oyama, Kozo Fujii</i>	
Tonal Dynamics and Sound in Subsonic Turbulent Jets (AIAA 2016-3016)	4874
<i>Vincent Jaunet, Peter Jordan, André V. Cavalieri, Aaron Towne, Tim Colonius, Oliver Schmidt, Guillaume A. Brès</i>	
Silent Owl Flight: The Effect of the Leading Edge Comb on the Gliding Flight Noise (AIAA 2016-3017)	4885
<i>Thomas F. Geyer, Vanessa T. Claus, Ennes Sarradj, Philipp M. Markus</i>	

AA-52: TRAILING EDGE NOISE III: CONTROL

Reduction of Wind Turbine Noise Using Blade Trailing Edge Devices (AIAA 2016-3018)	4897
<i>Stefan Oerlemans</i>	
The Effects of Poroelastic Blade Extensions on Scattered Noise (AIAA 2016-3019)	4915
<i>Lorna J. Ayton</i>	
Experimental and Theoretical Analysis of Bio-Inspired Trailing Edge Noise Control Devices (AIAA 2016-3020)	4926
<i>Ian Clark, David Baker, William N. Alexander, William J. Devenport, Stewart A. Glegg, Justin Jaworski, Nigel Peake</i>	
Flow Topology and Noise Emission Around Straight, Serrated and Slitted Trailing Edges Using the Lattice Boltzmann Methodology (AIAA 2016-3021)	4969
<i>Wouter C. Van Der Velden, Alexander Van Zuijlen, Daniele Ragni</i>	
An Integrated Study of Laminar Separation Bubble Effect on Tonal Noise Generation in Transitional Airfoils (AIAA 2016-3022)	4984
<i>Gyuzel R. Yakhina, Michel Roger, Pavel Kholodov, Lap D. Nguyen, Vladimir V. Golubev</i>	
Trailing-Edge Noise Diagnostics with Low-Repetition-Rate PIV (AIAA 2016-3023)	5000
<i>Stefan Pröbsting, Jan F. Schneiders, Francesco Avallone, Daniele Ragni, Fulvio Scarano</i>	

AA-53: CAA IX

Simulation of Aerodynamically Generated Noise Using the Wave Expansion Method (AIAA 2016-3024)	5015
<i>Johan Hammar, Ciarán O'Reilly, Gunilla Efraimsson</i>	
Computational Aeroacoustics for Rotating Systems (AIAA 2016-3025)	5033
<i>Manfred Kaltenbacher, Andreas Hüppe, Aaron Reppenhagen, Florian Zenger, Stefan Becker</i>	

Using Large Eddy Simulations to Predict Fluctuating Wall Pressure Caused by Turbulent Flow over Rough Surfaces (AIAA 2016-3026)	5038
<i>Hua Shan, Joseph F. Slomski</i>	
The Role of Large-scale Structures on Crackle Noise (AIAA 2016-3027)	5054
<i>David Buchta, Jonathan B. Freund</i>	
The Effect of Steady Flow Distortion on Noise Propagation in Turbofan Intakes (AIAA 2016-3028)	5064
<i>Albert Prinn, Rie Sugimoto, R. Jeremy Astley</i>	
Time Harmonic Radiation of a Source in a Vortical Flow (AIAA 2016-3029)	5078
<i>Antoine Bensalah, Patrick Joly, Jean-François Mercier</i>	
A Summary of High-Fidelity Numerical Studies of Flow Acoustic Resonant Interactions in Transitional Airfoils (AIAA 2016-3030)	5085
<i>Lap D. Nguyen, Vladimir V. Golubev, Reda R. Mankbadi, Gyuzel R. Yakhina, Michel Roger, Miguel R. Visbal</i>	
Overset LES with an Acoustic Relaxation Term for Sound Source Simulations (AIAA 2016-3031)	5105
<i>Paul Bernicke, Rinie A. Akkermans, Roland Ewert, Juergen Dierke</i>	

AA-54: DUCT ACOUSTICS VI

Mutual Incoherence of Broadband Duct Acoustic Modes (AIAA 2016-3032)	5119
<i>Robert P. Dougherty</i>	
Experimental Extraction of Turbofan Noise Sources Modal Content Using a Transducer Distribution Designed with CAA (AIAA 2016-3033)	5127
<i>Daniel C. Mincu, Eric Manoha, Jean Bulte, Cyril Polacsek, Vincent Fleury, Floriane Rey</i>	
In-duct Rotating Beamforming and Mode Detection of Fan Noise Sources (AIAA 2016-3034)	5140
<i>Luciano Caldas, Paulo C. Greco, Gert Herold, Luiz A. Baccalá</i>	
Sound Damping by Injector Tubes and Surrounding Ducting used in Liquid Rocket Combustors (AIAA 2016-3036)	5156
<i>Krishan K. Ahuja, Shane Lympany</i>	
Radial Mode Analysis of Ducted Sound Fields with Sensor Rakes and Wall Flush Sensor Arrays under Consideration of a Radial Flow Profile (AIAA 2016-3037)	5179
<i>Mirko Spitalny, Ulf Tapken</i>	
Efficient Azimuthal Mode Analysis using Compressed Sensing (AIAA 2016-3038)	5193
<i>Maximilian Behn, Roman Kisler, Ulf Tapken</i>	

AA-55: INTEGRATION EFFECTS AND FLIGHT ACOUSTICS

Potential for Landing Gear Noise Reduction on Advanced Aircraft Configurations (AIAA 2016-3039)	5208
<i>Russell H. Thomas, Craig Nickol, Casey L. Burley, Yueping Guo</i>	
Progress of Aircraft System Noise Assessment with Uncertainty Quantification for the Environmentally Responsible Aviation Project (AIAA 2016-3040)	5220
<i>Russell H. Thomas, Casey L. Burley, Yueping Guo</i>	
Quantification of Acoustic Scattering Prediction Uncertainty for Aircraft System Noise Assessment (AIAA 2016-3041)	5244
<i>Casey L. Burley, Russell H. Thomas, Yueping Guo</i>	
Testing Installed Propulsion For Shielded Exhaust Configurations (AIAA 2016-3042)	5261
<i>James E. Bridges, Gary G. Podboy, Clifford A. Brown</i>	
The Effect of Pylon on the Excess Jet-flap Interaction Noise (AIAA 2016-3043)	5280
<i>Georgy Faranosov, Victor Kopiev, Nikolay Ostrikov, Vladimir A. Kopiev</i>	
CFD-CAA Validation on a Large-Scale High-Lift Configuration (AIAA 2016-3044)	5302
<i>Alexander Kolb, Roland Ewert, Juergen Dierke, Michael Pott-Pollenske, Alexander Buescher, Dirk Heimann</i>	

AA-56: JET NOISE X

Analysis of Turbulent Jet Flow and Associated Noise with Round and Chevron Nozzles using Large Eddy Simulation (AIAA 2016-3045)	5320
<i>Nitin S. Dhamankar, Gregory A. Blaisdell, Anastasios S. Lyrantzis</i>	
Large Eddy Simulation of Jet Noise from Unstructured Grids with Turbulent Nozzle Boundary Layer (AIAA 2016-3046)	5367
<i>Francois Vuillot, Nicolas Lupoglazoff, Mathieu Lorteau, Franck Clero</i>	
Far-field Noise Prediction of Round and Serrated Jets with Increasingly Refined Grids (AIAA 2016-3047)	5380
<i>Matteo Angelino, Hao Xia, Miguel Moratilla-Vega, Gary Page</i>	
Numerical Study on the Relation Between Hydrodynamic Fluctuations and Noise in Hot Jets at High Reynolds Number (AIAA 2016-3048)	5392
<i>Romain Biotchini, Christophe Bailly, Jean-François Boussuge, Rasika Fernando</i>	
Large Eddy Simulation for Jet Noise: Azimuthal Decomposition and Intermittency of the Radiated Sound (AIAA 2016-3050)	5407
<i>Guillaume A. Brès, Vincent Jaunet, Maxime Le Rallic, Peter Jordan, Aaron Towne, Oliver Schmidt, Tim Colonius, André V. Cavalieri, Sanjiva K. Lele</i>	

AA-57: JET NOISE XI: STABILITY, COHERENT STRUCTURES

PSE-based Sensitivity Analysis of Turbulent and Supersonic Single Stream Jet (AIAA 2016-3052)	5423
<i>Tobias Ansaldi, Christophe Airiau, Carlos Pérez Arroyo, Guillaume Puigt</i>	
Linear Stability Implications of Chevron Geometry Modifications for Turbulent Jets (AIAA 2016-3053)	5436
<i>Aniruddha Sinha, Abhinav Rajagopalan, Shreeni Singla</i>	
Effect of Heating and Compressibility on the Instability of Supersonic Jets (AIAA 2016-3054)	5446
<i>Arnab Samanta</i>	
Control of Supersonic Jet Noise Using Linear Feedback (AIAA 2016-3055)	5455
<i>Mahesh Natarajan, Jonathan B. Freund, Daniel J. Bodony</i>	
High-frequency Wavepackets in Turbulent Jets (AIAA 2016-3056)	5470
<i>André V. Cavalieri, Kenzo Sasaki, Peter Jordan, Oliver Schmidt, Tim Colonius, Guillaume A. Brès</i>	
Parabolized Stability Analysis of Dual-Stream Jets (AIAA 2016-3057)	5479
<i>Aniruddha Sinha, Datta V. Gaitonde, Nikhil Sohoni</i>	
Two-point Coherence of Wavepackets in Turbulent Jets (AIAA 2016-3058)	5490
<i>Vincent Jaunet, Peter Jordan, André V. Cavalieri</i>	
Validating the Ffowcs Williams and Hawkins Acoustic Analogy Implementation in Antares (AIAA 2016-3059)	5506
<i>Daniilo Di Stefano, Aldo Rona, Edward Hall, Christopher L. Morfey, Guillaume Puigt</i>	

AA-58: TURBOMACHINERY NOISE VI: TONES

Tones from an Aero-Engine Fan: Comparison between Harmonic-Balance Simulation and Experiment (AIAA 2016-3060)	5516
<i>Axel Holewa, Sebastien Guerin, Lars Neuhaus, Li Danwang, Tang Huimin</i>	
Rotor-Stator Wake-Interaction Tonal Noise Modeling with an Edge-Dipole Approach (AIAA 2016-3061)	5531
<i>Simon Bouley, Arthur Finez, Michel Roger</i>	
Tonal and Broadband Noise Control of an Axial Flow Fan with Metal Foams: Design and Experimental Validation (AIAA 2016-3062)	5549
<i>Chen Xu, Yijun Mao, Zhiwei Hu</i>	
Modal Identification of a Small-scale Ducted Fan (AIAA 2016-3063)	5571
<i>Antonio Pereira, Arthur Finez, Quentin Leclere, Edouard Salze, Pascal Souchette</i>	
Acoustic Power Transmission Loss Through A Ducted Fan (AIAA 2016-3064)	5583
<i>Edmane Envia</i>	
Comparison of the Fraction of the Sound Power Level due to Rotor-TEC-Interaction with the Overall Sound Power Level for Different Turbine Exit Guide Vane Designs (AIAA 2016-3065)	5614
<i>Andreas Marn, Thorsten Selic, Florian Schönleitner, Sabine Bauinger, Stefan Zerobin, Franz Heitmeir</i>	
Investigation of Acoustic Resonance in a Three-Dimensional Cascade Interacting with Oncoming Unsteady Wakes (AIAA 2016-3066)	5625
<i>Hidekazu Kodama, Masanobu Namba</i>	
Author Index	