

Workshop on Aeroelastic Certification: Tools, Test, Decision Making

SCHEDULE

| SCHEDULE | | | |
|-------------------|--|--|--|
| TIME | | Monday, October 27, 2008 | |
| 5:00-7:00 pm | Early Registration | | |
| TIME | | Tuesday, October 28, 2008 | |
| 7:00-8:30 | Registration | | |
| 7:30-8:30 | Continental Breakfast on outdoor patio under terrace | | |
| 8:30-8:50 | Opening Comments | Beran & Denegri | |
| 8:50-9:30 | Keynote Speaker | Rudy Yurkovich | A Method for Aeroelastic Certification based on Robust Flutter Speeds |
| 9:30-9:45 | Break | | |
| Session I | Decision Making and Testing | | Chair: Bill Anderson |
| 09:45-10:00 | Invited Talk | Faustino Zapata | Aeroelastic Certification Approach of USAF aircraft |
| 10:00-10:15 | Invited Talk | Charles Denegri | Aeroelastic Certification of Aircraft with Stores – Bridging the Gap Between Analysis & Flight Test |
| 10:15-10:25 | Tech. Presentation 1 | David Boyce | Flight Flutter Certification Approach of the F-35 Joint Strike Fighter Based on Correlation of Finite Element Model Analysis |
| 10:25-10:35 | Tech. Presentation 2 | Brent Whiting | Boeing Phantom Works Structures perspective on Tools and Tests to certify future ISR aircraft |
| 10:35-10:45 | Tech. Presentation 3 | Vin Sharma | Laser Doppler Vibrometry for Aircraft Structure Dynamic Testing |
| 10:45-10:55 | Tech. Presentation 4 | Wolfgang Luber | EF2000 Aeroelastic Clearance Program |
| 10:55-11:05 | Tech. Presentation 5 | P. Karkle, S. Kuzmina, and F. Ishmuratov | Some features of the modern aircraft certification in the aeroelasticity |
| 11:05-11:20 | Break | | |
| 11:20-12:00 | Panel I | | |
| 12:00-1:30 | Lunch on outdoor patio under terrace | | |
| Session II | Uncertainty Quantification and LCO | | Chair: LtCol Phil Morgan |
| 1:30-1:50 | Invited Talk | Ned Lindsley | A NICE Online Tool: Progress of the Nonlinear Interactive Clearance Environment (NICE) Program |
| 1:50-2:00 | Tech. Presentation 1 | Fariba Fahroo | Multi-Scale Fusion of Information for Uncertainty Quantification and Management in Large-Scale Simulations, an Air Force |
| 2:00-2:10 | Tech. Presentation 2 | Roger Ghanem and Maarten Arnst | Rational Model Validation under Uncertainty with Application to Aeroelasticity |
| 2:10-2:20 | Tech. Presentation 3 | Muhammad Hajj and Ali Nayfeh | Analysis and Uncertainty Quantification of Flutter Aspects of a Goland+ Wing with Store |
| 2:20-2:30 | Tech. Presentation 4 | Philip Beran | Uncertainty Quantification and Aeroelastic Certification |
| 2:30-2:40 | Tech. Presentation 5 | Andrev V. Styuart, Kuen Y. Lin, and Eli Livne | Probabilistic Modeling of Structural/Aeroelastic Life Cycle for Reliability Evaluation of Damage Tolerant Composite |
| 2:40-2:50 | Tech. Presentation 6 | Dale M. Pitt, Darin P. Haudrich, and Michael J. Thomas | Probabilistic Aeroelastic Analysis and Its Implications on Flutter Margin Requirements |
| 2:50-3:00 | Tech. Presentation 7 | Ken Badcock | CFD Based Aeroelastic Stability Predictions Under the Influence of Structural Uncertainty |
| 3:00-3:20 | Break | | |
| 3:20-3:30 | Tech. Presentation 8 | Earl Dowell | Aeroelastic Induced Limit Cycle Oscillations in High Performance Aircraft |
| 3:30-3:40 | Tech. Presentation 9 | Oddvar Bendiksen | Aeroelastic Certification Challenges of Transonic Aircraft |
| 3:40-3:50 | Tech. Presentation 10 | Baoyuan Wang and Ge-Cheng Zha | Numerical Simulation of Transonic Limit Cycle Oscillations Using High Order Schemes |
| 3:50-4:30 | Panel II | | |
| 5:00 | Meet in Lobby of Hotel for Departure to Evening Events | | |
| 5:30 - 10pm | Dinner at the L'Auberge de Sedona | | |

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| TIME | Wednesday, October 29, 2008 | | |
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| 7:00-8:30 | Continental Breakfast on outdoor patio under terrace | | |
| Session III | Modeling and Reduced Order Modeling | | Chair: Chuck Denegri |
| 8:30-8:50 | Invited Talk | Scott Morton | Aeroelastic Analysis and Certification Support Using CREATE/Kestrel |
| 8:50-9:00 | Tech. Presentation 1 | Lawrence A. Bergman, Alexander F. Vakakis, D. Michael McFarland | Recent Advances in Passive Aeroelastic Flutter Suppression and in System Identification of Nonlinear Modal Interactions in |
| 9:00-9:10 | Tech. Presentation 2 | Moti Karpel and Daniella Raveh | Dynamic Gust Loads, Current Practices and Future Trends |
| 9:10-9:20 | Tech. Presentation 3 | Marc P. Mignolet, X.Q. Wang, Kwangkeun Kim, and Vishal | Reduced Order Modeling for Geometrically Nonlinear Structural Dynamic Problems |
| 9:20-9:30 | Tech. Presentation 4 | D. D. Liu, P. C. Chen, Z. Wang, S. Yang, and Z. Zhang | Aeroelastic ROM-ROM Methodology |
| 9:30-9:40 | Tech. Presentation 5 | Paul Cizmas | Variable-Fidelity Unsteady Aerodynamics for Aeroelastic Applications |
| 9:40-9:50 | Tech. Presentation 6 | Max F. Platzer | On the Computability of Dynamic Airfoil Stall |
| 9:50-10:10 | Break | | |
| 10:10-10:20 | Tech. Presentation 7 | Raymond A. de Callafon, Jie Zeng, and Martin J. Brenner | Step-Based Identification Methods for AeroElastic Dynamic Modeling |
| 10:20-10:30 | Tech. Presentation 8 | Dong-Hwan Lee and P. C. Chen | Studies of Aerodynamic Influence of Under-Wing Stores on Flutter Characteristics of F-16 |
| 10:30-10:40 | Tech. Presentation 9 | Robert A. Canfield and Iain Ferguson | Aerodynamic and Structural Modeling Effects on Subsonic and Transonic Flutter Prediction for F-16 Store Configuration |
| 10:40-10:50 | Tech. Presentation 10 | Ronald Stearman and Bettie Margaret Smith | Higher Order Statistical Signal Analysis |
| 10:50-11:00 | Tech. Presentation 11 | Harijono Djodihardjo | Aerodynamic-Acoustic-Structure Coupling Scheme for Acoustic Effects on Aeroelastic Structures |
| 11:00-11:40 | Panel III | | |
| 11:40-1:15 | Lunch on outdoor patio under terrace | | |
| 1:15-3:00 | Panel IV | | |
| 3:00-3:30 | Closing Comments | | |
| 5:00 | Meet in Lobby of Hotel for Departure to Evening Events | | |
| 5:30 - 9pm | Dinner at Los Abridados | | |