



3-D Ice Accretion Code Workshop

AIAA Atmospheric and Space Environments Conference
Toronto, Ontario, Canada
Wednesday, August 4, 2010

Aircraft Icing Research Alliance



AIRA Mission:

To coordinate, among the parties, the conduct of collaborative aircraft icing research activities that improve the safety of aircraft operations in icing conditions.

AIRA Participation:

- Transport Canada, Environment Canada, National Research Council of Canada
- Federal Aviation Administration
- National Aeronautics and Space Administration
- Office National d'Etudes et de Recherches Aérospatiales (ONERA)
- National Oceanic and Atmospheric Administration
- National Defence, Canada
- DSTL-United Kingdom

Workshop Objectives



- Review current issues for acceptance of 3-D ice accretion simulation tools by regulatory authorities for aircraft icing certification.
- Discuss current status and needs for standards, guidance, and acceptable practices for 3-D ice accretion simulation tools for aircraft icing design and certification
- Discuss validation strategies for a publicly available swept wing ice shape and aero-performance database for code verification and performance studies
- Examine approaches for 3-D code inter-comparison studies to help identify paths to improve tools
- Provide a forum for establishing a working group to continue developing the principles of this workshop

Agenda



- 9:00-9:15 Introductions and Workshop Goals and Objectives , **Ron Colantonio, NASA Glenn, AIRA Chair**
- 9:15-9:35 Overview of 2000 NATO/RTO Icing Workshop for 2-D Ice Accretion Simulation Software Codes, **Mark Potapczuk, NASA Glenn**
- 9:35-10:15 Panel Member Presentations (Regulatory Authorities)
- Tom Bond, Federal Aviation Administration (FAA)**
David Johns, Transport Canada (TC)
- 10:15-10:25 Break

Agenda



10:25-12:00 Panel Member Presentations (Industry Code Users)

- Current use of 3-D ice accretion codes
- Issues for acceptance by the regulatory authorities
- Validation experiences from icing or dry-air tunnel testing required to support code acceptance
- Interest in supporting and approaches for validation data and inter-code comparisons studies
- Interest in supporting future AIRA working groups to continue developing the principles of this workshop

Panel Members:

Jim Hoppins, Cessna

Ben Paul, Boeing

Paul Olsen, Gulfstream

Alberto Puyeo, Bombardier Aerospace

Nicholas Dart, Airbus Industries

Agenda



1:00-3:30 Panel Member Presentations (Code Developers)

- Current means of 3-D validations
- 3-D databases that are publicly available
- Issues and concerns for supporting validation data and inter-code comparisons studies
- Interest in supporting future AIRA working groups to continue developing the principles of this workshop

Panel Members:

Colin Bidwell, NASA Glenn

Ion Paraschivoiu, Ecole Polytechnique

Krzysztof Szilder, National Research Council of Canada

Didier Guffond or Arnault Chazaottes, ONERA

Richard Moser, Aerotex

Wagdi Habashi, McGill University

Giuseppi Mingione, CIRA

Agenda



3:30 -3:45 Break

3:45-4:15 AIRA Facilitated Discussions

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- Issues that have been identified and next steps for resolution
 - Merits/interest in establishing a working group and/or other forums to continue 3-D ice accretion code development for certification use
 - Actions/Wrap-up from discussions

4:15-4:30 Full Workshop Logistics

- Workshop Leadership and Team Makeup
- Timeline
- Next Report Out