

2nd Sonic Boom Prediction Workshop

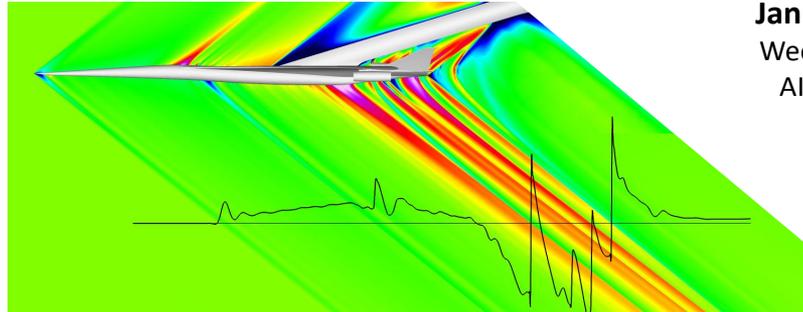
Kenrick Waithe
January 7-8, 2017



2nd AIAA Sonic Boom Prediction Workshop

Sponsored by the Applied Aerodynamics Technical Committee

The World's Forum for Aerospace Leadership



January 7-8, 2017

Weekend Preceding

AIAA SciTech 2017

Grapevine, Texas

Second Sonic Boom Prediction Workshop:

The two part workshop will cover both the state-of-the-art for predicting near field sonic boom signatures with CFD as well as propagation of the near field pressures to the ground. Participants are encouraged to apply their best practices for computing solutions for the provided cases. There is particular interest in exploring refinement techniques including grid adaptation and alignment with flow characteristics.

- CFD and propagation test cases will include signatures quieter than those from the 1st workshop in order to better challenge the predictive methods for relevant low boom designs.
- An open unbiased forum intended to discuss results and promote cross-pollination of best practices.
- Open to participants worldwide.
- Test Cases based on:
 - Low Boom Body-of-Revolution (required).
 - Wing-Body (required).
 - Full Airplane with Flow Through Nacelles (req.)
 - Full Airplane with Powered Nacelles (optional).

Important Dates:

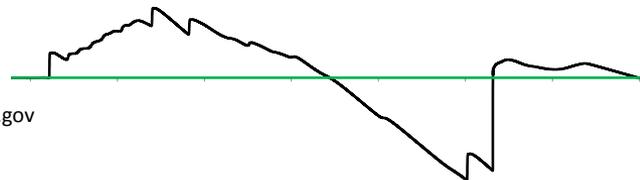
- April 30, 2016:** Notice of Intent Due from Participants.
- May 31, 2016:** Acceptance Notification from Committee.
- Sept. 30, 2016:** Participant Data Submittal Deadline.
- January 7-8, 2017:** 2nd Sonic Boom Prediction Workshop

Sonic Boom Prediction Workshop Organizing Committee:

| | |
|--------------------------------|-----------------------------|
| Kenrick Waithe & Don Howe | |
| | <i>Gulfstream Aerospace</i> |
| Mike Park, Alexandra Loubeau, | |
| Lori Ozoroski, Linda Bangert & | |
| Alaa Elmilgui | |
| | <i>NASA Langley</i> |
| Susan Cliff | <i>NASA Ames</i> |
| John Morgenstern | <i>Lockheed Martin</i> |
| Todd Magee & Eric Adamson | <i>Boeing</i> |
| Yoshi Makino | <i>JAXA</i> |
| Jean-Luc Hantrais-Gervois | <i>ONERA</i> |
| Gecheng Zha | <i>Univ. of Miami</i> |
| Claudio Pita & Erick Gantt | <i>Pointwise</i> |

For more information:

<http://lbpw.larc.nasa.gov/>
aiaa-boompw-committee@lists.nasa.gov



Organizing Committee

- Boeing (*Eric Adamson and Todd Magee*)
- Boom Technology (*Kenrick Waithe*)
- Gulfstream (*Don Howe*)
- JAXA (*Yoshi Makino*)
- Lockheed Martin (*John Morgenstern*)
- ONERA (*Jean-Luc Hantrais-Gervois*)
- NASA (*Linda Bangert, Susan Cliff, Alaa Elmiligui, Alexandra Loubeau, Lori Ozoroski, Mike Park, Sriram Rallabhandi*)
- Pointwise (*Claudio Pita & Erick Gant*)
- University of Miami (*Gecheng Zha*)

Grid Generation

- *Gulfstream (Andrew Clemens)*
- *ANSA (Pravin Peddiraju)*
- *NASA (Mike Park and Susan Cliff)*
- *Pointwise (Claudio Pita)*

Workshop Objective

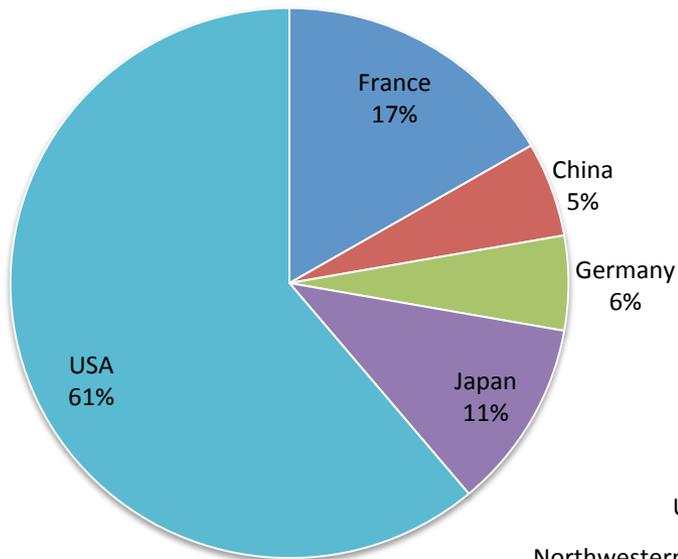
The objective of the Second Sonic Boom Prediction Workshop is to assess the state of the art for predicting near field signatures with computational fluid dynamics (CFD) and propagation codes used to propagate near field signatures to the ground.

Workshop Overview

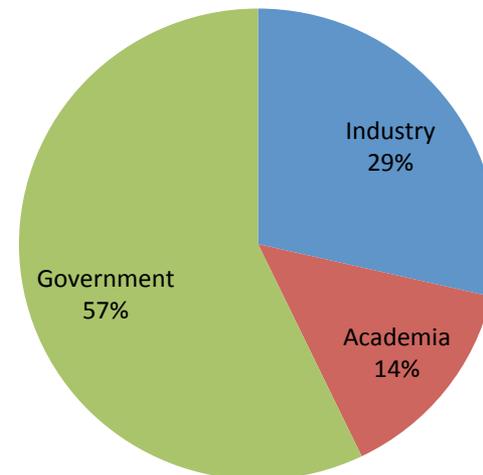
- Saturday, January 7 (Near field CFD)
 - CFD to CFD comparison of near field
 - Configuration signatures close to 75 PLdB
 - 3 required, 1 optional configurations
- Sunday, January 8 (Propagation codes)
 - Code to code comparison of propagated ground signatures
 - 2 required near field signatures

2nd Workshop: 18 Participants

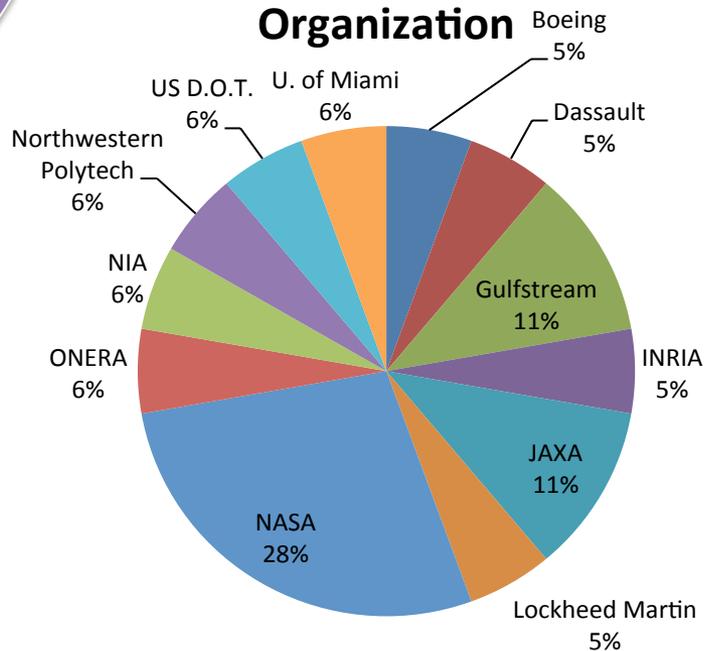
Country



Sector



Organization



Near Field (Saturday 7-JAN-2017)

| | |
|----------------------------|--|
| 07:15 AM – 08:00 AM | Continental breakfast provided |
| 08:00 AM - 08:30 AM | Intro (K. Waithe, M.Park) |
| 08:30 AM - 09:00 AM | DLR (J. Kirz, R. Rudnik) |
| 09:00 AM - 09:30 AM | NW Poly Tech (G. Zha) |
| 09:30 AM - 09:50 AM | Break (20 min) |
| 09:50 AM - 10:20 AM | NASA (M. Park) |
| 10:20 AM - 10:50 AM | JAXA (H. Isikawa) |
| 10:50 AM - 11:20 PM | NASA (J. Housman) |
| 11:20 AM - 12:10 PM | Lunch (50 min) **not provided** |
| 12:10 PM - 12:40 PM | NASA (G. Anderson, M. Aftosmis) |
| 12:40 PM - 01:10 PM | Gulfstream (D. Howe, A. Clemens) |
| 01:10 PM - 01:40 PM | Lockheed Martin (J. Morgenstern) |
| 01:40 PM - 02:10 PM | NASA (M. Carter) |
| 02:10 PM - 02:30 PM | Break (20 min) |
| 02:30 PM - 03:00 PM | Boeing (J. Vassberg) |
| 03:00 PM - 03:30 PM | INRIA (A. Loseille) |
| 03:30 PM - 04:30 PM | Summary (M. Park, D. Simpson) |
| 04:30 PM - 05:00 PM | Discussion |

