

Hover Prediction Workshop (HPW) Meeting Minutes

SciTech Discussion Group Meeting 1/24/2023 6:00-7:00 PM EDT

Attendees

- Nathan Hariharan, HPCMP
- Robert Narducci, Boeing
- Jennifer Abras, HPCMP
- Rohit Jain, Army
- Brian Wake, Sikorsky
- Tom Norman, NASA
- Pat Goulding II, NFAC
- Chris Nykamp, NFAC
- Daniel Escobar, TDD
- Zhongqi Jia, TDD
- Vera Klimchenko, Sikorsky
- Thomas Fitzgibbon, Flexcompute
- Phuriwat Anusonti-Inthra, ARL
- Jay Sitaraman, Army
- Pieter Buning, NASA LARC
- Manas Khurana, Army
- Will Roe, Bell
- Dave O'Brien, Army

Minutes

- Bob opened the meeting and introduced the committee and the two HPW sessions being held the next day.
- Bob went over the meeting agenda.
 - HPW to date has been encouraging blind HVAB comparisons, but data are coming.
 - Presentation by Tom Norman and discussion today.
 - HPW Roadmap will be discussed tomorrow at the first HPW session.
- Tom's Presentation
 - **Slides are posted on the HPW website, only discussion is recorded in the minutes. The questions and answers below are with reference to the slide content.**
 - Tom went over the current status of the hover test
 - Bob: Asked about the design of the failed blade mentioned in the slides, is the OML the same?
 - Tom: OML the same, designed to be the same as the other blades.
 - Brian: How many trip dots were applied?
 - Tom: trip dots were spaced 0.1 in center to center and were applied to the outer 40 in of the blade. Results in 400 trip dots on each blade surface.
 - Attendee: How many repeat points were performed for confidence?

- Tom: Data were acquired for 10 consecutive points over a 5 minute period at each condition.
- Attendee: Is there an error bar of 0.5 count?
 - Tom: Yes, the 95% confidence interval is estimated at 0.5 counts.
- Jay: Elastic twist doesn't look like a torsion mode shape.
 - Tom: That is what was measured.
 - Jay: Looks oscillatory.
 - Tom: Expect that to damp out, will average all 4 blades.
- Attendee: Since the flap hinge is at 3.5 inches, the inboard blade bending isn't plotted?
 - Tom: Correct.
- Pieter: Don't want to average everything away, we need to understand the variations in the data for CFD. Sensitivities are important.
 - Tom: Yes, how do these data need to be provided to the community? Some want averages, others don't. Ultimately all data will be available, but not all at once. It will be released in phases.
- Nathan: What data to provide and where to provide is important. Can we post this on the HPW website?
 - Tom: Haven't figured that out yet. Intent is to provide data in format that doesn't require rescanning.
- Nathan: Is there a deadline for completion of all desired testing?
 - Tom: Schedule has not been a problem. The limitation is money. Expect not past May at the latest. Probably March.
- Bob opened the floor to discussion.
 - Bob mentioned that problem 1 of the download group problem was released and asked for feedback.
- Bob closed the meeting.