COE CST Third Annual Technical Meeting: Task 298: Integration and Evaluation of ADS-B Payloads

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Overview

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- Research Methodology
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Team Members

- PIs: Patricia Hynes, New Mexico State University
- Co-Investigator: Nick Demidovich, FAA, AST-300, Regulations and Analysis Division
- Co-Investigator: Laura Boucheron, New Mexico State University
- Student: Joshua Michalenko, Electrical & Computer Engineering, New Mexico State University
- Industry Partners: Jason R. Armstrong, TriSept Corporation and Dave Edwards, Mitre

Purpose of Task

- Purpose- NMSU and the FAA will launch an Automatic Dependent Surveillance – Broadcast (ADS-B) on a rocket from Spaceport America
- Objectives- ADS-B has the potential to enable routine, seamless access to the National Airspace (NAS) by reusable launch vehicles (RLV)
- Goal- Long term goal is to mature the ADS-B system by flying it repeatedly in space, using flight data to make future versions lightweight and affordable

Research Methodology

- FAA will request truth data (acceleration) from Up Aerospace payload on SL6 on board avionics (IMU)- still not available
- Dr. Boucheron will do comparative analysis from ADS-B captured data transmitted from SL 6 and captured by ADS-B receiver equipment against flight data WSMR radar already on hand and data from SL6 on board avionics (IMU) if possible, the latter are available flight data WSMR already on hand

Research Methodology (cont)

- Dr. Boucheron will perform comparative data analysis from SL-7 & SL 8 from ADS-B data transmitted from those flight and captured against flight data from WSMR radar. She will assess if it is feasible to create a post-flight trajectory using ADS-B messages containing only time of transmission and time of arrival that have been received at multiple independent sites- still not available

Results or Schedule/Milestones

- Code infrastructure is developed and ready to analyze the additional data as soon as we receive it from Nick Demidovich

Next Steps

- Receive data from SL-7 (C-band radar and WSMR radar data from Nick Demidovich)

Contact Information

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