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SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems Verification and In-Flight Experimentation (6)

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# NASA ORION PAD ABORT 1 FLIGHT TEST PROJECT OVERVIEW, RESULTS AND LESSONS LEARNED.

**Abstract**

At 0700 on the morning of May 6, 2010 in the New Mexico desert, the NASA Orion Pad Abort 1 (PA-1) flight test was successfully conducted. This paper provides an overview of the PA-1 project, the first abort flight test for the Orion Project. PA-1 was a flight test designed to be performed in the development stages of the Orion Project with the intent to inform the vehicle design and mature key models and tools. The detailed objectives, success criteria, and the essential connection to the flight instrumentation are discussed. This paper also presents the configuration of the PA-1 flight test article which consisted of a combination of baseline Orion and unique flight test systems. Key aspects of the flight test preparation efforts and the challenges faced by the project team will be discussed. Finally, a summary of the PA-1 flight test results and lessons learned throughout the project are provided.