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

Author: Mr. Patrick M. McKenzie
beyondgravity, United States, patrick.mckenzie@ruag.com

# ORION NAVIGATION SENSORS RISK REDUCTION FLIGHT TEST STRATEGY

**Abstract**

The Orion crew exploration vehicle is being developed in the United States to serve as a key transportation element of NASA's Constellation Program. The focus of the Constellation program is to improve safety for crew transport to and from the International Space Station and by late in the coming decade, to return humans to the Moon. A new generation of navigation sensors is being designed for use by Orion to enable such key functions as rendezvous, proximity operations, and docking. These functions are critical to keeping the crew safe during flight and to the overall success of future Constellation Program missions. As such, this new generation of navigation sensors will require a rigorous test and validation program that includes on orbit flight tests. These sensors represent innovative solutions that meet functional needs but do so with much lighter weight, lower volume configurations than have ever flown before. This paper and presentation will provide an overview of the Orion navigation sensor suite flight test program which is currently planned to begin as early as mid-year 2010.