SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
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COMMON DOCKING NAVIGATION SYSTEMS

Abstract

The next generation of space transportation systems is being designed to enable humans to safely execute rendezvous, proximity operations and docking (RPOD) with various space systems, including the International Space Station, NASA space transportation systems, other international space systems, and commercial systems. As the number of countries and commercial entities executing these critical but potentially risky mission functions grows, one approach to ensuring safe, sustainable programs is to establish common RPOD standards and capabilities for implementation in all systems. By doing so, the risk of failure resulting in loss of mission or loss of crew can be substantially mitigated. Ball Aerospace is developing RPOD capabilities for cross-compatible, robust and used across transportation elements (crew exploration vehicle, heavy lift earth departure stage, lunar lander, and lunar rover) with applications for relative navigation and landing hazard avoidance. This paper will provide a conceptual description of how this might be accomplished.