IAF SPACE OPERATIONS SYMPOSIUM (B6)
Mission Operations, Validation, Simulation and Training (3)

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DEVELOPMENT OF SPACE MISSION INTEGRATED OPERATIONS SCENARIOS

Abstract

Integrated Operations Scenarios (IOS) describe nominal operations planned for a space mission. Operational scenarios are key to an operations concept, as they help to identify key issues and drivers on the operations system. This paper will cover nominal operations for an initial Artemis mission that includes cross-program sequence of tasks required to accomplish end to end functions from launch through transit, on-orbit operations, to safely return to Earth. The IOS serves as a reference for discussions during requirements development, task and risk analyses, concept of operations development, and as foundation to prepare space mission flight plans. An IOS product can cover nominal and contingency operations for how systems work together to complete a mission. This paper will focus on nominal operations for a crewed mission, where the system is composed of hardware, software, and human in a given environment.