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BRAZILIAN SUBORBITAL MICROGRAVITY PLATFORM DEVELOPMENT

Abstract

This work presents the Brazilian development of Suborbital Microgravity Platform (SMP), which is a recoverable Service Module for realization of both scientific and technological experiments under suborbital microgravity environment. Besides to serve as a national platform to attend the demands of the Microgravity Program of the Brazilian Space Agency – AEB, this platform shall be used to attend the international suborbital microgravity experiments market. This platform consists of a set of functional and payload modules controlled in 3-axis angular speed, equipped with a real time telemetry system for both the house keeping data and experiments data. The Service Module provides environmental protection for its payloads (experiments) during all phases of the flight, in hermetic and non-hermetic modules. The Systems Engineering Management processes for the design, development, manufacturing, assembly, integration and testing phases are presented, as well as the SMP Product Assurance processes. The results of technological innovations development of the embedded Service Module electronic equipment's that are being qualified in Brazil are presented.