

SPACE POWER SYMPOSIUM (C3)
Space Power Technologies and Techniques (2)

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DEVELOPMENT AND TEST OF ELECTRIC DRIVING UNIT FOR KSLV-I FAIRING SEPARATION

Abstract

KARI (Korea Aerospace Research Institute) developed KSLV-I (Korea Space Launch Vehicle-I), which made its maiden flight on 25 August 2009. The Launch vehicle is designed to send the satellite of the 100kg-class into a low earth orbit. The first flight failed to place STSAT-2A (Science and Technology Satellite-2A) into orbit due to abnormal payload fairing separation. The second flight attempt has been scheduled in May 2010. FSDU (Fairing Separation Driving Unit) generates above 2.2kV high-voltage power required to initiate exploding bridgewire (EBW) charge properly by jettison fairing command from upper stage navigation unit. As two modules are equipped within the upper stage and each module has two output channels, in which fully redundant scheme with EBW charge can be achieved. In this paper, the design and the specification of FSDU are provided. An analysis was also performed with results acquired throughout two flight tests.