

SPACE POWER SYMPOSIUM (C3)
Interactive Presentations (IP)

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MTG PVA QUALIFICATION. EXTENSIVE ESD CHARACTERIZATION ON GEO PVA
ARCHITECTURE.

Abstract

The electrostatic discharge type has been investigated by Finmeccanica at AEROSPAZIO Tecnologie in the frame of Meteosat 3rd Generation (MTG) programme. The test campaign has been focused on the characterisation of the secondary arc between the cell strings in a representative test coupon produced after a primary arc obtained through an electron gun. The Electrostatic Discharge can create a conductive path between adjacent cells thanks to the creation of a plasma due to the vaporization of metal during the discharge at the emission site. A temporary current path, sustained by the Solar Array power, is thus created between adjacent strings. If the photovoltaic available power is sufficient, the arc can self-sustain and could create a loss of insulation. Following two major test phases have been performed: Qualification : to test the PVA technology at the MTG mission boundary conditions Characterisation : to test the PVA technology ESD limits. This abstract will report the obtained results.