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SIMULATION ON INTERNAL ELECTROSTATIC CHARGE IN DIELECTRIC WITH BOTH-SIDES
GROUNDING**Abstract**

Internal electrostatic charge and discharge is a serious phenomenon that damages electric properties of dielectrics in satellites. In this work, Monte-Carlo simulation and finite element method was combined to simulate the whole process of internal electrostatic charge, considering radiation induced conductivity(RIC) and both-sides grounding conditions. The results show that for electron beam with energy of 1MeV and flux of 10pA/cm² injected into 3 mm FR4 both with and without electrodes for 2 hours, the maximum value of electric field reaches about 3E6 V/m, and that of potential reaches about 6000V at the depth of about 1.5mm.