

Abstract (paper not available)

Effect of Xenon Etching on Electron Emission Properties of Dielectric and Metallic Samples

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With the increasing importance of the all-electric platform for spacecraft, the effect of electric thruster on the electrostatic behavior of the spacecraft becomes more and more important for the spacecraft integrators. The electron emission properties under electron, photon or proton radiations play a leading role in the spacecraft charging processes. The aim of this contribution is to report and to analyze experimental results concerning the effect of Xe interaction with material surfaces on the electron emission properties. Aluminum and silicon oxide film were exposed step by step to Xe⁺ flux of 300 eV, the electron emission yield and the energy distribution were monitored in-situ during the etching procedure. The variation of the electron emission properties were correlated to the change on the surface composition monitored with Auger electron spectroscopy (AES) and X-ray electron spectroscopy (XPS).
