

## Space Radiation Requirements of EEE Parts for LEO Satellite Program

Young-Jun Cho, Ik-Min Jin, Chang-Ho Lee, and Chun-Woo Lee

Dept. of Satellite Bus, Korea Aerospace Research Institute

EEE(Electrical, Electronic, and Electromechanical) parts in the satellites are exposed to a space radiation particles which is unique environment in the space, and these radiation environment degrades and limits the performance and life of the active devices. Two major effects are analyzed for the mission radiation requirements of the EEE parts in the LEO satellite program.. The one is Single Event Effects by heavy ions and the other is Total Ionizing Dose by protons and electrons. For the analysis, space radiation environments for the mission orbit, time, and duration are simulated. Using these informations, error rate and mission dose depth curve are calculated which can be used to inducing the requirements of the active parts.