

CRE Experiment on Kitsat-1

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The Cosmic Ray Experiment(CRE) is one of the modules flown on board the KITSAT-1 satellite and consists of two sub-systems : the Total Dose Experiment(TDE) and the Cosmic Particle Experiment(CPE). The purpose of CRE is to characterize the space radiation environment as encountered by an Earth-orbiting spacecraft. KITSAT-1 orbit is dominated by the inner Van Allen radiation belt. This region has a large population of high energy protons which contributes significantly to both long-term and transient radiation effects. The data shows that the inner Van Allen radiation belt is very stable and the solar activity influences the CPE, TDE data and SEU(Single Event Upset) rates. The result also shows that much larger high energy particle flux is recorded than the predictions of the CREME code.

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