

Space radiation environment in low-earth orbit during solar-activity minimum period

Hideki Koshiishi[1]

[1] JAXA

The Technical Data Acquisition Equipment (TEDA) on board the Daichi satellite (Advanced Land Observing Satellite: ALOS) that consists of Light Particle Telescope (LPT) for measurements of electrons, protons, and alpha particles as well as Heavy Ion Telescope (HIT) for He - Fe Ions, was launched on 24 Jan. 2006, and has been operated in low-earth orbit at 700 km altitude with 98 degree inclination. The operation period of the TEDA on board the Daichi satellite, these four years from Sep. 2006 through Aug. 2010, corresponds to the solar-activity minimum period. Thus, the space radiation environment around the Daichi satellite has been almost stable. However, large solar flares followed by CMEs occurred in Dec. 2006, and disturbed the space radiation environment strongly in the orbit of the Daichi satellite. Also, gradual changes of the space radiation environment along with solar-activity cycle variation can be measured, which are composed of variations of galactic cosmic rays, solar protons, and trapped electrons and protons. In this presentation, space radiation environment in low-earth orbit during solar-activity minimum period measured by the TEDA on board the Daichi satellite is reported.