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PEM030-P10

Room:Convention Hall

Time:May 26 10:30-13:00

## Analysis on solar cell degradation of Akebono satellite due to space radiation

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Instruments on spacecraft have various problems under severe space radiation environment. In our research, we analyze electric current (SCPI) generated by Akebono solar cell panels over 20 years. SCPI was basically decreased from 13 A to about 7 A, but it was not a monotonic decrease. Various variation components are included. Compared with NASA's radiation models, we have found a component of periodic SCPI decrease caused by radiation of trapped energetic protons. There is also a component of irregular variation supposed to be due to temperature effect. Solar energetic protons, in general, causes degradation, and energetic protons observed by GOES are also being analyzed. Through these analyses, we will identify quantitatively all the contributing factors of the solar cell degradation during the interval.

Keywords: Akebono, solar cell, radiation