衛星太陽電池劣化から探る放射線帯プロトンの空間分布

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Spatial distribution of trapped protons deduced from solar cell degradation on satellites

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Output of solar cells on any satellite decreases due to damage of the space radiations. We made analysis on the degradation of solar cells on the Akebono satellite orbiting in the inner magnetosphere over 20 years, and we successfully deduced spatial distribution of trapped protons. The Arase satellite has recently been launched and we are trying the similar analysis on the degradation of solar cells. The energy range of protons affecting the solar cells are higher than that of particle instruments on board the Arase satellite, so that we expect our unique method to deduce any additional information of the proton radiation belt. We will summarize the analysis results from the Akebono satellite and report recent progress for the Arase satellite.