

あけぼの衛星太陽電池出力の長期変動

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Long-term variation of solar array performance of Akebono satellite

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Solar array performance degrades with the increasing level of impinging radiation fluence. The defects caused by impinging particles degrade voltage and current outputs of the solar cell. The output of solar array of Akebono satellite, which is in orbit over 20 years, shows a long-term decrease along with periodic and irregular short-term variations. The short-term variations are attributed to the variable distance between the earth and the sun, and temperature effect due to the earth's albedo. The long-term decrease should be explained in terms of total dose effect of high-energy particles. We study on relationship between the output decrease and the level of high-energy particle radiation.