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Solar Cell Degradation by Electron Irradiation Effect of Irradiation Fluence

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Abstract : Solar cells used in orbit are exposed to radiation environment mainly protons and high energy electrons. These particles degrade the output parameters of the solar cell. The aim of this work is to characterize the effects of electron irradiation fluence on the J (V) characteristic and output parameters of gaAs solar cell by numerical simulation. The results obtained demonstrate that the electron irradiation-induced degradation of performances of the cells concerns mainly the short circuit current.

Keywords : gaAs solar cell, MeV electron irradiation, irradiation fluence, short circuit
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