DAPNIA

La Cellule Radiations Spatiales
présente

Béatrice FABRONI (CNR, Bologna)

Mardi 3 février 2004 à 11 heures
salle André Berthelot bâtiment 141

Damage induced by ionizing radiation on CdTe and CdZnTe detectors

Radiation damage can strongly affect the performance of detectors and we have carried out a systematic study on the effects induced by different ionizing radiation on CdTe and CdZnTe detectors. The effects of gamma rays, electrons, neutrons and protons have been investigated by correlating the “macroscopic” performance of the detectors, characterized by gamma spectroscopy measurements, to the “microscopic” effects of impinging radiation, i.e. to the defective states induced within the crystal lattice, by carrying out PICTS (Photo-Induced Current Transient Spectroscopy) analyses. The comparison of the results obtained from CdTe and CdZnTe allows for the identification of the defects that play a major role in degrading the detectors’ spectroscopic capabilities.

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