

Name of research institute or organization:

Electronic Instrumentation Lab, Delft University of Technology

Title of project:

Ageing effects on solid state image sensors due to terrestrial cosmic radiation

Project leader and team:

Prof. Dr. Albert Theuwissen, project leader
Gayathri G. Nampoothiri, PhD student

Project description:

This project concentrates on radiation effects introduced by terrestrial cosmic rays on solid state image sensors. It is hypothesized that the neutrons present in the cosmic rays can cause permanent damage in solid-state image sensors. Since these research can take extremely long time, to accelerate the experiments we had one test setup located in Switzerland at the “HFSJG”, to “benefit” from the high flux of cosmic radiation. We are developing a model describing the generation of permanent defects due to cosmic rays and also investigating new annealing techniques at low temperatures (less than 220degree Celsius).

Key words:

Ageing effects, hot pixels, image sensors, neutrons, terrestrial cosmic radiation

Scientific publications and public outreach 2009:

Data books and reports

Nampoothiri, Gayathri G. and Prof Albert Theuwissen, Ageing Effects on Image Sensors due to Terrestrial Cosmic Radiation, Internal project report, Electronic Instrumentation Lab, Delft University of Technology, October 2009.

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