Resistance to Gamma Radiation Evaluation of a Picosecond Event Timer for Solid State Photon Counting in Space

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Abstract. The gamma radiation test of an event timer device for solid state time-correlated single photon counting is presented. The device was irradiated by a total dose of 74 Gy provided by a cobalt source. The purpose of these radiation test was to verify that the existing version of the NPET device may be used in space missions. The completed device tests and results indicate the weakest sub-system of device and the fact that the time resolution remain practically unaffected under 4 ps correctly operational up to the radiation dose of 60 Gy.