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Detection of neutron induced nuclear reactions in a silicon photodiode at the HISPANoS facility

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We will present a main experiment and an auxiliary one. The main experiment got signals of neutron induced nuclear reactions in the silicon bulk of a commercial thin photodiode. We used the HISPANoS neutron beam facility at CNA, Sevilla, Spain. The signal dataset is useful to reproduce the signals using femtosecond pulsed lasers, a more easily tool in the industrial environment. The auxiliary experiment tested the new MAX10 FPGA from Intel/Altera under a neutron beam to look for Single Event Effects. In both experiments we used the $^9\text{Be}(d,n)^{10}\text{B}$ production reaction, giving a neutron spectra up to 10 MeV.

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