



Contribution ID : 736

Type : Oral talk

Investigation of neutron generation upon irradiation of deuterated crystal structures with an electron beam

Thursday, 8 October 2020 18:05 (15)

The possibility of generating neutrons by irradiating deuterated crystal structures with an electron beam with an energy of 20-40 keV was investigated. Deuterated crystal structures of palladium and textured CVD diamond with different thickness were used as targets. Measurements of neutron emission are presented, which were carried out by three independent methods - scintillation detectors, counters based on He-3, and track detectors CR-39.

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Session Classification : Nuclear physics

Track Classification : Nuclear physics