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Proposal of Prompt Gamma-ray detection system for Boron Neutron Capture Therapy based on fast inorganic scintillators

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Prompt gamma-ray (PG) detection is a powerful method of the irradiation monitoring in Boron Neutron Capture Therapy (BNCT). Combination of intensity and position information gives a radiologist complementary information about tissues injury that allows to clarify the treatment plan. Existing PG imaging systems are based on expensive materials with relatively weak radiation hardness. Here we propose an alternative system based on the inorganic scintillators and present the first results with LYSO(Ce) crystals coupled to SiPM photodetectors.

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