

Scintillation Neutron Detector for GAMMA-400 Space Observatory

Wednesday, 7 October 2015 14:30 (30)

A new neutron detector for GAMMA-400 space observatory for e/h showers separation was suggested. The detector is composed of plastic scintillation blocks wrapped by cadmium foil, and moderator layers. Its characteristics obtained by simulation on GEANT4 with the characteristics of the boron-containing scintillation detector which was installed on the International Space Station (ISS-CREAM mission) were compared. Time allocation of neutrons absorption was obtained as a function of registration time for both neutron detectors. The detector is remarkable for high neutron detection efficiency and high time resolution.

Presentation type

Poster

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Session Classification : Poster session II

Track Classification : Methods of experimental physics