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Spatial-sensitive detector based on strong scattering scintillator medium

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The opaque scintillator detector is a novel concept for a new generation of position-sensitive detectors. The main idea is to localize the light near the point of its scintillation via the scattering medium. The first and only published results by the LiquidO collaboration are based on the usage of an opaque liquid scintillator. Our approach suggests the usage of media based on solid granular organic scintillator and an array of WLS fibers with SiPMs as photodetectors. The report describes the new results obtained during the beam test of different configurations of scintillating and scattering media with external proportional chambers as a tracking system. The results of media comparison and estimation of track reconstruction accuracy are presented.

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