

Performance of large scintillator detectors with WLS/SiPM readout

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Design and performance of large scintillator detectors developed for fixed-target experiments NA62 and SHIP at CERN will be presented. The main components of the detectors are extruded polystyrene based scintillators, wavelength shifting (WLS) fibers and micropixel avalanche photodiodes, SiPM's produced by Hamamatsu and SensL. The tests with charged particle beams at CERN showed very good performance of these detectors: high light yield for minimum ionizing particles (MIPs), good timing resolution, and high detection efficiency for MIPs.

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