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## Multisector scintillation detector with fiber-optical light collection

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### Content

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Abstrat

A new type of scintillation detector for the use in high energy physics is described. The detector consists of eight octagonal scintillator sectors with total area 1 sq.m. Each sector represents two plates of plastic scintillator with 2 cm thickness. Between the plates, eleven 1 mm thick WLS fibers are laid evenly over the surface. The space between the fibers is filled with silicone compound to provide better light collection. Fiber ends from all eight sectors are gathered in the central part of the detector into a bunch and dock to the cathode of a FEU-115m photomultiplier. The read-out of the counter signals is carried out from 9th and 12th dynodes for providing a wide dynamic range of about 10,000 particles. The front-end electronics of the detector is based on the flash-ADC with a sampling frequency of 200 MHz. The features of detecting and recording systems of the scintillation detector and the results of its testing are discussed.

### Summary

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