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Development of fast timing detectors at Fermilab

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Results of development of fast timing detectors at Fermilab presented. The detectors are based on different type of radiators (scintillators, quartz, crystals) and photodetectors (PMT, MCP-PMT, SiPMs) detecting the light converted in charge. Part of detectors based on silicon registration the charge produced by particle. Detectors are tested at FTBF. The obtained time resolution (TR) for some of detectors is less of 10 picoseconds. The results show the detectors could be used for CMS upgrade, HEP experiments and medical research.

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