

Electron identification with help of silicon transition radiation detector based on DEPFET pixel matrices.

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Transition Radiation Detectors (TRD) have the attractive features of being able to separate particles by their gamma factor. Replacing the Xenon based gaseous detectors by modern silicon detectors is complicated by the large energy losses of charged particles in 300-700 um of silicon. A silicon pixel detector - DEPFET - has features which allows to overcome the existing limitation on detecting transition radiation photons with an energy losses from a charged particle in the same pixel. The tests of DEPFET with fiber radiator have been carried out at CERN SPS and DESY beams. The results of test beam measurements and Monte Carlo simulation are presented.

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