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Particle Identification using GEM based TRD/T

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The phenomena of transition radiation has been used successfully in several High Energy experiments to discriminate particles with different values of $\gamma = E/mc^2$. Traditionally multiwire proportional chambers (MWPC), longitudinal drift chamber (DC) or straw tubes are being used for Transition Radiation Detector (TRD) which themselves suffer from low rate. Replacing these older charge amplification devices in TRD with Micro Pattern Gaseous detectors (MPGD) like Gas Electron Multiplier (GEM) will not only allow the operation of TRD in both high multiplicity and high luminosity environment but will also aid in high precision tracking. In this talk development and initial results of GEM based TRD will be presented along with future plans associated with this technology.

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