

## **Test beam studies of possibilities to separate particles with gamma factors more than $10^3$ with of straw based Transition Radiation Detector.**

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Measurements of hadron production in TeV energy range is one of the tasks of future studies at Large Hadron Collider (LHC). This addresses a study of the fundamental QCD processes at this energy range which are very important not only for a probing of the Standard Model but also extremely important for the physics of ultrahigh-energy cosmic particles. Such measurements would remove uncertainties in physics models explaining a production of particles with energies up to  $10^{17}$  eV in the Universe (problem of a change of cosmic ray spectrum behaviour at this energies). For such kind of measurements a hadron identification is a key element of a future experiment. The only detector technology which has a potential ability to separate hadrons in this energy range is Transition Radiation Detector (TRD) technology. A prototype of the TRD based on straw proportional chambers with specially assembled radiator has been tested at the CERN SPS accelerator beam. Test beam results and their comparison with the detailed Monte Carlo simulations are presented.

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