Electron identification capability of real size Transion Radiation Detector for ALICE using neural network method YUHEI MORINO, CNS, University of Tokyo, SHOTA SAITO, TAKU GUNJI, HIDEKI HAMAGAKI, KYOCHIRO OZAWA, THE ALICE TRD COLLABORATION — It is predicted from QCD theory that the phase transition would be occured from ordinary hadronic matter to a plasma of de-confined quarks and gluons, called quark-gluon-plasma (QGP) at high energy density and high temperature. ALICE experiment is one of the experiments which will be held at Large Hadron Collider at CERN in near future (2007). The physics goal of the ALICE experiment is to study such QCD phase transition at CMS energy of $\sqrt{s_{NN}}=$ 5.5 TeV. ALICE Transition Radiation Detector (TRD) will be installed to provide electron identification and particle tracking. For measurements of quarkonia, it is requared for the ALICE TRD to satisfy pion rejection factor of larger than 100 at 90% electron efficiency. The TRD for ALICE is now in the production stage. A first beam test of full size six-chamber detector stack of TRD was performed at CERN PS beam line in October 2004. In this talk, electron identification capability using neural network method will be reported.

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