

Hunting electrons from heavy-flavour hadron decays with the ALICE Transition Radiation Detector in proton-proton collisions at $\sqrt{s} = 7$ TeV

The measurement of the production of heavy-flavour hadrons in proton-proton collisions is a crucial test for perturbative QCD. Additionally it provides the reference for heavy-flavour studies in heavy-ion collisions. Thanks to its excellent electron identification capabilities the ALICE detector is well suited for the measurement of the open heavy-flavour cross section via single electrons. A first measurement of the cross section was performed with electrons identified by the ALICE Time Projection Chamber and the Time-of-Flight detector. The Transition Radiation Detector provides a major contribution to the identification of electrons and allows to extend the inclusive electron spectrum up to transverse momenta around 10 GeV/c. During the data taking in 2010, 7 out of 18 supermodules were installed, covering $340^\circ < \varphi < 40^\circ$ and $140^\circ < \varphi < 220^\circ$ and $|\eta| < 0.9$. We show the performance of the electron identification with the Transition Radiation Detector in the analysis of electrons from heavy-flavour hadron decays.

Primary author: FASEL, Markus (Gesellschaft fuer Schwerionen forschung mbH (GSI))

Presenter: FASEL, Markus (Gesellschaft fuer Schwerionen forschung mbH (GSI))

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