



Contribution ID: 271

Type: Oral Presentation

Measurement of single muon vs charged particle multiplicity at the LHC – an outlook study.

Wednesday, 1 July 2015 11:10 (20 minutes)

**Abstract content
 (Max 300 words)
Formatting &
Special chars**

In this presentation, the yield of muons from heavy flavour decays is studied as a function of charged particle multiplicity with ALICE in proton-proton collisions at 8 TeV with the aim to investigate the role of multiparton interactions in the production of heavy quarks. This study will provide a deeper insight into the production mechanisms of these quarks in proton-proton collisions.

ALICE (A Large Ion Collider Experiment) is designed and optimized to study ultra relativistic heavy-ion collisions in which a hot, dense and strongly interacting medium is created. ALICE is also studying proton-proton collisions both as reference for comparison with heavy-ion collisions and in physics areas where ALICE is competitive with other LHC experiments. In this study the production of heavy quarks is measured via the contribution of their muonic decay to the inclusive pT-differential muon yield reconstructed with the muon spectrometer at forward rapidity ($-4 < \eta < -2.5$). Charged particle multiplicity is measured in the central region $|\eta| < 1$.

An outlook of the measurement as well as results obtained so far will be presented.

**Apply to be
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 PhD, N/A)?**

MSc

**Main supervisor (name and email)
and his / her institution**

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Yes

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Session Classification: NPRP

Track Classification: Track B - Nuclear, Particle and Radiation Physics