QUARK MATTER 2015
Sep. 27 – Oct. 3, 2015 Kobe, Japan

Contribution ID: **385** Type: **Poster**

Measurements of heavy flavor decay electron production in p+p collisions at √s=200 GeV at STAR

Tuesday 29 September 2015 16:30 (2 hours)

Heavy quarks are believed to be produced at early stages of high-energy heavy-ion collisions. Measurements of heavy quarks can improve our understanding of parton interactions with the Quark-Gluon Plasma (QGP) and its properties. Heavy quark production in p+p collisions is a baseline to investigation of the QGP in heavy-ion collisions and is expected to be well described by perturbative Quantum Chromodynamics (pQCD). However, the pQCD calculations have large uncertainties at low transverse momentum (pT). Thus measurements of heavy quark production at low pT in p+p collisions, which can be studied by measuring electrons from semi-leptonic decays of heavy flavor hadrons, are crucial for constraining the pQCD models.

In this poster, we will present the STAR measurements of low pT heavy flavor decay electron production in p+p collisions at √s=200 GeV in RHIC run 2012 with 6〜7 times more statistics than measurements of run 2009 data.

On behalf of collaboration:

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Session Classification: Poster Session

Track Classification: Open Heavy Flavors and Strangeness