Contribution ID: **99** Type: **not specified**

Branching Ratios and Form Factors of B_s^0 \to D_s^{(*)} \mu \nu decays

Monday, 8 April 2019 18:56 (1 minute)

The ratio between the rates of B^0 mesons decaying into semi-tauonic and semi-muonic final states are measured to be significantly larger than what predicted by the Standard Model by several experiments. The observed deviation, if confirmed with larger statistics and with additional b-hadron decays, would indicate violation of lepton-flavour universality and therefore indirectly indicate the presence of new particles, the interactions of which are not described by the standard model. LHCb has the unique possibility to study and test lepton-flavour universality in the semi-leptonic decays of the B_s^0 mesons. However, contrarily to the B^0 case, semi-leptonic B_s^0 decays remain relatively unexplored to date and the breakdown of the inclusive $D_s^- \mu^+ \nu_\mu X$ final state (where X indicates any other signal decay- product not reconstructed) is a required input of any measurement performed with semi-tauonic final states. In this presentation, the first measurement of the exclusive branching ratio of $B_s^0 \to D_s^{(*)-} \mu^+ \nu_\mu$ decays is presented, together with the determination of their form factors.

Primary authors: MANUZZI, Daniele (BO); FERRARI, Fabio (BO)

Presenter: MANUZZI, Daniele (BO)

Session Classification: Poster

Track Classification: Poster