ID de Contribution: **84** Type: **Ordinary**

Latest results on rare decays from LHCb

vendredi 20 mars 2015 08:55 (20 minutes)

Rare flavour changing neutral current (FCNC) decays are sensitive indirect probes for new effects beyond the Standard Model (SM).
In the SM, these decays are forbidden at tree level and are therefore loop-suppressed.
In SM extensions, new, heavy particles can significantly contribute and
affect both their branching fractions as well as their angular distributions.

The rare decay $B^0 \to K^{*0}(\to K^+\pi^-)\mu^+\mu^-$
is of particular interest, since it gives access to many angular observables,
allowing to model-independently test the operator structure of the decay.
A previous analysis of the angular distributions of the final state particles showed interesting tensions with SM predictions
using the data sample taken by the LHCb detector during 2011.
This talk will summarize latest results on rare decays from the LHCb experiment
with emphasis on analyses of $b \to s\ell^+\ell^-$ processes,
using the full Run I data sample of the LHCb experiment.

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Classification de Session: Heavy Flavours

Classification de thématique: Experiment