

Measurement of φ_s in LHCb

Tuesday 12 June 2012 09:50 (25 minutes)

The determination of the CP-violating phase φ_s in $B_s \rightarrow J/\psi \varphi$ decays is one of the key goals of the LHCb experiment. Its value is predicted to be very small in the Standard Model but can be significantly enhanced in many models of new physics. We present the world's best measurement of φ_s and the first observation of a non-zero $\Delta\Gamma_s$ based upon $\sim 1 \text{ fb}^{-1}$ of data collected at LHCb during 2011. φ_s can also be measured using the predominantly CP-odd $B_s \rightarrow J/\psi \pi \pi$ decay mode. We present this measurement and the combination of φ_s from both $J/\psi \varphi$ and $J/\psi \pi \pi$ decay modes. Additionally we present first results on other B_s decay modes, potentially interesting for complementary measurements of φ_s , such as $B_s \rightarrow \varphi \varphi$ and $B_s \rightarrow J/\psi K^*0$ decays.

Author: AMHIS, Yasmine Sara (Ecole Polytechnique Federale de Lausanne (CH))

Presenter: AMHIS, Yasmine Sara (Ecole Polytechnique Federale de Lausanne (CH))

Session Classification: CP Violation

Track Classification: CP Violation