



Contribution ID: 119

Type: Oral presentation

Direct CP Violation in charmless three-body decays of B mesons

Tuesday 24 March 2015 17:30 (30 minutes)

Charmless three-body decays of B^+ mesons are an excellent laboratory for direct CP violation (CPV) studies. While in two-body decays one measures a single number - the CP asymmetry in the partial decay rates - , in three-body decays the distribution of CP asymmetries across the two-dimensional phase space brings additional information on the underlying mechanisms.

Recently the LHCb collaboration performed a study of CP

asymmetries in the Dalitz plot of the decays $B^+ \rightarrow \pi^+\pi^-\pi^+$, $B^+ \rightarrow K^+\pi^-\pi^+$, $B^+ \rightarrow K^+\pi^-K^+$, and $B^+ \rightarrow K^+K^-K^+$. CP asymmetries as large as 80% were found in regions of the Dalitz plots. The distribution of the CP asymmetry across the phase space exhibit a complex pattern, which may be a consequence of the interplay between the weak and strong phases. In this talk these results will be presented and a possible interpretation will be discussed.

Author: Prof. CORREA DOS REIS, Alberto (CBPF - Brazilian Center for Physics Research (BR))

Presenter: Prof. CORREA DOS REIS, Alberto (CBPF - Brazilian Center for Physics Research (BR))

Session Classification: Strong and electroweak interactions in the standard model

Track Classification: Strong and electroweak interactions in the standard model