



Contribution ID: 47

Type: **Talk**

A model independent study of CP violation in decays of charmed mesons to three-body final states

Wednesday 4 December 2019 11:50 (20 minutes)

CP violation arises on the Standard Model from the complex phase of the CKM matrix. Here the asymmetries for B meson decays are expected to be of the order of 10^{-1} . For the charm system its expected to be much smaller, of the order of $10^{-4} - 10^{-3}$. Measurements for B decays seem to be in accordance with SM expected values and recent measurements from the LHCb collaboration indicate that so does the D system. These asymmetries can be enhanced in New Physics models, providing a valuable test of the SM. Dalitz Plot analysis for the determination of CP violation on three-body decays has been used most commonly within the Isobar method to model intermediate states. As an alternative, other methods have been studied recently that address the model dependence. In this work we propose an implementation of the Miranda Procedure on for the decays $D_{(s)}^+ \rightarrow K^- K^+ \pi^+$.

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