Study of a new kinematic weighting algorithm for the measurement of CP asymmetries in charm decays

LHCb Collaboration

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Abstract

We investigate the asymmetries that occur in charm decays at the LHCb, specifically we study $D^{\star+} \to D^0\pi^+$ and $\bar{D}^{\star-} \to D^0\pi^-$ where $D^0 \to K^-K^+$ or $D^0 \to \pi^-\pi^+$. We study the effect of CP and detection asymmetries on MC samples generated via RapidSim and implement a new kinematic weighting function which allows us to keep events that are otherwise discarded from LHCb data, since they are associated with large detection asymetries.

1 Introduction

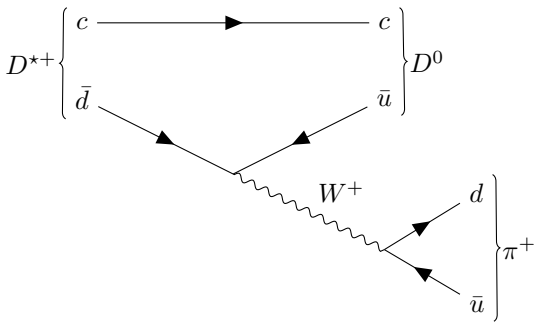

Figure 1: Feynman diagram showing $D^{\star\pm} \to D^0\pi^\pm$ decays.

2 Analysis

2.1 RapidSim

References

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