

Search for direct CP violation in $D_{(s)}^+$ decays at LHCb

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A search for charge-parity (CP) violation in Cabibbo-suppressed $D_s^+ \rightarrow K_S^0 \pi^+$, $D^+ \rightarrow K_S^0 K^+$ and $D^+ \rightarrow \phi \pi^+$ decays is reported using proton-proton collision data, corresponding to an integrated luminosity of 3.8 fb^{-1} , collected at a center-of-mass energy of 13 TeV with the LHCb detector. High-yield samples of kinematically and topologically similar Cabibbo-favoured $D_{(s)}^+$ decays are analysed to subtract nuisance asymmetries due to production and detection effects, including those induced by CP violation in the neutral kaon system. The results are the most precise measurements of these quantities to date, and are consistent with CP symmetry.

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