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A measurement of the CP-violation parameter γ from $B^\pm \rightarrow [hh]_D K^\pm$ decays

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Determination of the CKM angle $\gamma = \arg[-V_{ud}V_{ub}^*/(V_{cd}V_{cb}^*)]$ is one of the key goals of the LHCb experiment. The cleanest method to access this weak phase is through measurements of γ -sensitive observables in $B^\pm \rightarrow DK^\pm$ and $B^\pm \rightarrow D\pi^\pm$ decays. The largest interference and asymmetries, and thus the greatest sensitivities to γ , are expected in $B^\pm \rightarrow DK^\pm$ decays. The D meson must be reconstructed in a final state accessible to both D^0 and \bar{D}^0 mesons, such that interference between the two amplitudes can provide access to phase information. Two-body D meson decays into $K\pi$, πK , KK and $\pi\pi$ provide such a platform. In this talk, current LHCb results and imminent prospects on the subject will be presented.

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