

Measurement of $\cos 2\beta = \cos 2\phi_1$ in B^0 to $D^{(*)0} h^0$ with D to $K^0_S \pi^+ \pi^-$ decays by a time-dependent Dalitz analysis using BaBar and Belle combined data

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We report measurements of $\sin 2\beta = \sin 2\phi_1$ and $\cos 2\beta = \cos 2\phi_1$ from a time-dependent Dalitz analysis in B^0 to $D^{(*)0} h^0$ with D to $K^0_S \pi^+ \pi^-$ decays using BaBar and Belle combined data sample containing 471 + 772 million B meson pairs collected at the Upsilon(4S) resonance. The measurement gives a confirmation of the CP violation in this B decay mode and solves the two-fold ambiguity of the angle $\beta = \phi_1$ that can not solely be fixed by the $\sin 2\beta = \sin 2\phi_1$ measurements in B^0 to charmonium K^0 decays.

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