



MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

Contribution ID: 236

Type: **Presentation**

Exclusion of multifold solutions of the CKM Unitarity Triangle by a time-dependent Dalitz plot analysis of $B^0 \rightarrow D^{(*)} h^0$ with $D \rightarrow K_S^0 \pi^+ \pi^-$ decays combining BaBar and Belle data

Thursday, 3 August 2017 11:39 (18 minutes)

We present results of a new analysis campaign, which combines the final data samples collected by the B factory experiments BaBar and Belle in single physics analyses to achieve a unique sensitivity in time-dependent CP violation measurements. The data samples contain $(471 \pm 3) \times 10^6$ BB pairs recorded by the BaBar detector and $(772 \pm 11) \times 10^6$ BB pairs recorded by the Belle detector in e^+e^- collisions at the center-of-mass energies corresponding to the mass of the $Y(4S)$ resonance at the asymmetric-energy B factories PEP-II at SLAC and KEKB at KEK, respectively. We present a measurement of $\sin(2\beta)$ and $\cos(2\beta)$ by a time-dependent Dalitz plot analysis of $B^0 \rightarrow D^{(*)} h^0$ with $D \rightarrow K_S^0 \pi^+ \pi^-$ decays. A first evidence for $\cos(2\beta) > 0$, the exclusion of trigonometric multifold solutions of the Unitarity Triangle and an observation of CP violation are reported.

Primary author: Prof. PORTER, Frank (Caltech)

Presenter: Prof. EIGEN, Gerald (Caltech)

Session Classification: Quark and Lepton Flavor

Track Classification: Quark and Lepton Flavor