



Contribution ID: 1730

Type: Oral Presentation

CP violation measurements in B^0 to $D^{(*)0}$ CP h^0 decays with BaBar+Belle joint analysis approach ($10' + 5'$)

Thursday, 4 August 2016 12:30 (15 minutes)

Knowledge on the angles of the Unitarity Triangle provides stringent tests on the Standard Model of electroweak interactions and enables one to constrain potential effects of the physics beyond. The parameter $\sin(2\beta) = \sin(2\phi_1)$ has been precisely measured by the B factory experiments BaBar and Belle using $b \rightarrow c\bar{c}s$ transitions such as the golden mode $B^0 \rightarrow J/\psi K_S^0$. In terms of the angle $\beta = \phi_1$, the value smaller than $\pi/2$ is favored between two possible solutions, however the discrimination is not evident yet at current experimental status. By reconstructing the neutral D meson decays in self-conjugated multi-body final states, a time-dependent Dalitz analysis in $B^0 \rightarrow D^{(*)}h^0$ decays provide a theoretically clean probe to constrain $\cos(2\beta) = \cos(2\phi_1)$. We present a time-dependent Dalitz analysis of $B^0 \rightarrow D^{(*)}h^0$ decays followed by the D meson decays to $K_S^0\pi^+\pi^-$ where the h^0 is a π^0 , η or ω meson. The measurement is performed by combining the final data samples of 471×10^6 $B\bar{B}$ pairs and 772×10^6 $B\bar{B}$ pairs recorded by the BaBar and the Belle experiments, respectively.

Primary author: ROEHRKEN, Markus (California Institute of Technology)

Presenter: ROEHRKEN, Markus (California Institute of Technology)

Session Classification: Quark and Lepton Flavor Physics

Track Classification: Quark and Lepton Flavor Physics