Charmless B decays at BaBar

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We report on selected charmless B decays results from BaBar. Time-dependent CP asymmetries for the decay $B^0 \to \eta' K^0_S$ are discussed; the parameter $\sin(2\beta_{eff})$ is measured to be non-zero with a significance in excess of 5 standard deviations. Also reported are results on time-dependent amplitude analyses of charmless hadronic three-body decays, which are sensitive to interference phases. In particular, Dalitz analyses of the $B^0 \to K^+K^-K^0_S$ and $B^0 \to K^0_S\pi^+\pi^-$ decays, through the $f_0(980)K^0_S$, ϕK^0_S and $\rho^0(770)K^0_S$ intermediate resonant states, permit direct access to the $2\beta_{eff}$ phase. Dalitz analysis of the $B^+ \to K^+\pi^-\pi^+$ channel, provides evidence of CP violation in the charged $B^+ \to \rho^0(770)K^+$ mode. Also, the combined information from the $B^0 \to K^+\pi^-\pi^0$ and $B^0 \to K^0_S\pi^+\pi^+$ channels can be used to constrain the CKM angle γ via the CPS [1] and GPSZ [2] techniques.

[1] Ciuchini, M., Pierini, M., and Silvestrini, L., *Phys. Rev.*, **D74**:051301, 2006.
[2] Gronau, M., Pirjol, D., Soni, A., and Zupan, J., *Phys. Rev.*, **D75**:014002, 2007.

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