

Contribution ID: 1178 Type: Parallel Session Talk

Studies of Flavour Changing Neutral Currents at BABAR

Saturday, 24 July 2010 11:45 (13 minutes)

We use the full Upsilon(4S) dataset collected with the Babar detector at the PEP-II asymmetric e+e- storage ring to study the flavor-changing neutral current decays. In particular, we present new results on $B \rightarrow Kl+l$ -, where l+l- is either e+e- or mu+mu- the lepton forward-backward asymmetry AFB and K longitudinal polarization fraction FL are measured, along with other angular observables. We also report on a search for B+->K+ tau+ tau- in which one of the B-mesons is fully reconstructed in a hadronic decay in order to reduce the background and constrain the kinematics of the signal decay. Also presented is a search for the double-radiative rare decay B0-> gamma gamma which has a clean experimental signature and proceeds through effective FCNC transitions involving vertical or annihilation penguin diagrams. Since the two-photon system can be in a CP-even or CP-odd state, this decay permits non-standard searches for CP-violating effects, while the non-hadronic final state with its two-body kinematics allows sensitive probes of QCD dynamics in B decay. The expected SM branching fraction is $O(10^{\circ}-8)$. Observation of a significant signal at the existing B Factories would be indicative of physics beyond the SM.

Primary author: BABAR, Collaboration (SLAC)

Presenter: FLOOD, Kevin (University of Wisconsin)

Session Classification: 06 - CP violation, CKM and Rare Decays

Track Classification: 06 - CP violation, CKM and Rare Decays