Abstract #128
Parallel sessions: 9
Plenary sessions: 5,7

Measurements of the Time Dependence of $B_d^0 - \overline{B_d^0}$ Mixing Using Inclusive and Semileptonic B decays at SLD

The SLD Collaboration

We report preliminary measurements of the oscillation frequency of $B_d^0 - \overline{B_d^0}$ mixing using a sample of 200,000 hadronic Z^0 decays collected by the SLD experiment at the SLC. Four measurements are presented. All determine the B hadron flavor at production by exploiting the large forward-backward asymmetry of polarized $Z^0 \to b\bar{b}$ decays in combination with a jet charge technique. The first two analyses reconstruct the B decay vertex inclusively with a topological technique. The B flavor at decay is then tagged by either the charge of kaons produced by the cascade D decay or the "charge dipole" of the vertex to exploit the $B_d^0 \to D^-$ cascade charge structure. The next two analyses select semileptonic decays to tag the B flavor at decay and reconstruct the B decay vertex by intersecting the lepton with either all tracks in the jet or the trajectory of a topologically reconstructed D vertex. The four measurements of the oscillation frequency allow the determination of Δm_d with a combined statistical accuracy of $\simeq 0.03$ ps^{-1}.