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Measurement of A_b From The Left-Right Forward-Backward Asymmetry in Z^0 decays using Charged Kaon tagging

The SLD Collaboration

The parity-violating parameter A_b is measured from the left-right forward-backward asymmetry of b quarks. The SLD experiment observes the Z^0 decays at the SLAC Linear Collider in e^+e^- collisions with a high longitudinal electron beam polarization. $Z^0 \to b\bar{b}$ events are selected with a topological mass tag by the CCD vertex detector using the 1993-1996 sample of 200,000 hadronic Z^0 decays. The b-quark charge is assigned on the basis of the charge of the kaon from the B decay chain. Charged kaons are identified with the Cherenkov Ring Imaging Detector. We measure A_b with a statistical uncertainty of $\pm$ 0.06.