Abstract #120
Parallel sessions: 7
Plenary sessions: 6,15

Measurement of R_c with the SLD detector

The SLD Collaboration

We present a measurement of $R_c = \Gamma_{Z^o \to c\bar{c}}/\Gamma_{Z^0 \to hadrons}$ using a double tag method. The c selection is based on topological reconstruction of the mass of the D-decay vertex. The measurement was performed using a sample of 150k hadronic Z^0 events collected with the SLD at the SLAC Linear Collider during 1993-1995 and a sample of 50k events in 1996, with a new improved vertex detector. The method utilizes the 3-D vertexing abilities of the SLD CCD pixel vertex detector and the small stable SLC beamspot to obtain a relatively high c tagging efficiency of **11%** (**15%** in 1996) for a purity of **68%**. We obtain errors of $\delta R_c = \pm 0.012_{stat.} \pm 0.008_{syst.}$. The systematic errors are of a different origin than those of other measurements.