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Measurement of Time Dependent B(D)0 Anti-B(D)0 Mixing at SLD*

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ABSTRACT

Measurement of time-dependent
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The time dependence of $B_d^\circ - \overline{B}_d^\circ$ mixing has been observed in events containing high-P_t leptons using a highly inclusive vertexing method to determine the B decay length and boost. The initial state B hadron flavour is determined using the large froward-backward asymmetry provided by the highly polarized electron beams of SLC in combination with a jet charge technique. From a sample of 150,000 hadronic Z° decays observed in the SLD detector at the SLC between 1993 and 1995, the mass difference between the two B_d° mass eigenstates has been measured to be $\Delta m_d = 0.486 \pm 0.065(\text{stat}) \pm 0.035(\text{syst})\ \text{ps}^{-1}$

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