A_{FB} for $b\overline{b}$ and $c\overline{c}$

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Abstract

At LEP the forward–backward asymmetry in the distribution of the polar angle of charm (A^c_{FB}) and bottom (A^b_{FB}) quarks produced in the Z boson decay have been measured in about 14 millions events.

The measurement of (A^c_{FB}) is performed reconstructing a D* meson in the final state while (A^b_{FB}) analysis is based either on a high p, $p_\perp$ lepton tag or on the lifetime based b–tagging techniques combined with a jet charge method to determine the decay hemisphere of the quark. From the measurement of heavy flavour quark asymmetry a value of $\sin^2\theta_W^{eff}$ could be determined with a relative accuracy of 1.6×10^{-3}.