DESY Seminar 14 September 2004, 17:00, DESY Hörsaal

O. Buchmüller (CERN)

New results on V_{ub} and V_{cb} from Babar

Significant improvements concerning the extraction of the CKM matrix elements V_{cb} and V_{ub} have been made in the past two years. This progress was achieved not only through new theoretical calculations in the framework of Heavy Quark Expansions (HQE) but also by the experimental extraction of inclusive kinematic distributions in semileptonic B decays, like moments of the hadron mass and lepton energy distribution, with higher accuracy. The BABAR Collaboration has recently published a determination of Vcb with a relative error of 2%. This level of accuracy has not been reached before and involves extracting the b- and c-quark masses as well as other Heavy Quark parameters with very high precision. Based on HQE calculations in the kinetic mass scheme, BABAR extracts the b-and c-quark masses with relative errors of 1.5% of and 8% respectively. The difference of the two quark masses is even measured with an accuracy of 33 MeV (1% relative error). This talk reviews the experimental improvements in this area and compares the extracted values of V_{cb} , m_b and m_c with independent determinations of the same quantities. The impact of the improved measurements on the constraints to the unitarity triangle are also discussed.

- Tea and cookies will be served at 16:45 in the lobby.
- After the seminar there is a chance for private discussions with the speaker over wine and pretzels also in the lobby.