Contribution ID : **131** Type : **parallel talk**

Semileptonic B meson decays: recent results and their implications

Friday, 8 June 2018 15:25 (0:20)

Collaboration

BaBar

Abstract content

The semileptonic decays of the B meson play a crucial role in the determination of the magnitude of the V_{ub} and V_{cb} Cabibbo-Kobayashi-Maskawa matrix elements. These parameters are measured with high precision using inclusive or exclusive techniques. These two complementary approaches rely on very different theoretical frameworks and experimental techniques, allowing important cross-checks. Despite the huge improvements in the understanding of semileptonic B decays gained in the last ten years, for both V_{ub} and V_{cb} there are discrepancies at 3-sigma level, between inclusive and exclusive determinations, that have not been understood yet. Very recent experimental results and theoretical developments, start to shed light on this important long-standing puzzle. I will review the recent measurements from BaBar and their implications concerning this puzzle, and in relation with the recently observed anomalies in semi-tauonic B decays resulting from the combination of measurements performed by BaBar, Belle and LHCb.

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Session Classification : Parallel Session A3