Semileptonic decays of heavy hadrons in the Standard Model

Changhao Jin

University of Dortmund

May 15, 1998

Abstract

Recent theoretical progress in inclusive semileptonic decays of heavy hadrons will be reported. Results for the B meson and the Λ_b baryon will be presented as well as a new proposal for high precision $|V_{ub}$ and $|V_{cb}|$ determinations. This talk will be based on:

[1] C.H. Jin, Nonperturbative QCD contributions to the semileptonic decay width of of the B meson, Phys. Rev. D 56, 2928 (1997).

[2] C.H. Jin and E.A. Paschos, Radiatively corrected semileptonic spectra in B meson decays, Eur. Phys. J. C 1, 523 (1998).

[3] C.H. Jin, Calculation of the semileptonic decay width of the Λ_b baryon, Phys. Rev. D 56, 7267 (1997).

[4] C.H. Jin, Analysis of the hadronic invariant mass spectrum in inclusive charmless semileptonic B decays, Phys. Rev. D 57 (1998), hep-ph/9801230.

[5] C.H. Jin, New methods for determining $|V_{ub}|$ and $|V_{cb}|$ from $B \to X_{u,c}\ell\nu$, hep-ph/9804249.