

Sommerfeld Theory Colloquium

Dr. Guido Bell

Universität Karlsruhe

ASC-PhD-Colloquium: Towards a precision analysis of hadronic B decays

Weak decays of B mesons provide an abundant source of information on the phenomena of quark flavour mixing and CP violation. The wealth of experimental data that is currently being collected at the B factories BaBar at SLAC and Belle at KEK can be exploited to test the flavour sector of the Standard Model and to put constraints on its extensions.

The main obstacle for precise theoretical predictions are the underlying strong-interactions. In recent years factorization theorems for B decays into light hadrons have been established, allowing for a clear separation of perturbative and non-perturbative effects. Whereas the latter can be accessed with lattice gauge theory or QCD Sum Rules, the former can be improved by computing higher order radiative corrections.

In this talk, I will outline the basic concepts behind QCD Factorization and its field theoretical formulation named Soft-Collinear Effective Theory. I will mainly concentrate on charmless two-body decays and report on recent progress concerning perturbative as well as non-factorizable corrections and their impact on the phenomenology of B decays.

Wednesday, 25th April 07, 11.15 h, Room 348 / 349, Theresienstr. 37 / III