T 50: Eingeladene Vorträge IV

Zeit: Mittwoch 14:00–15:30   Raum: H03

Eingeladener Vortrag   T 50.1   Mi 14:00   H03
Electroweak penguins and the search for new physics —
•Eluned Smith — RWTH Aachen

Electroweak penguin (EWP) decays are Flavour Changing Neutral
Currents mediated via loop or box diagrams. As such, they are sup-
pressed in the Standard Model (SM) and sensitive to effects from new
heavy particles (New Physics).

There has been increasing interest in EWP decays of b-hadrons, due
to the emergence of several intriguing tensions between measured ob-
servables and SM predictions. Of particular interest are measurements
of decay rates and angular observables, as well as lepton flavour uni-
versality tests, where clean SM predictions are available. The tensions
in this area, which are at the level of 2-3 standard deviations (σ),
constitute part of the so-called *flavour anomalies*.

This talk will give an overview of the recent most relevant analyses
of EWP b-hadron decays, with focus on results from the LHCb exper-
iment. Possible theoretical interpretations of the anomalies will also
briefly be discussed.

Eingeladener Vortrag   T 50.2   Mi 14:30   H03
B mesons as a Telescope for New Physics — •Keri Vos —
Siegen University, Germany

Flavour physics forms a crucial part in the search for physics beyond
the Standard Model (SM) of particle physics. The B factories and
LHCb are dedicated to the study of rare B meson decays and they
have gathered an incredible amount of data which probes the SM with
an unprecedented precision. The effect of new heavy physics would
show as (tiny) deviations from the SM predictions, therefore flavour
physics can probe energy scales far beyond the reach of the LHC. In
this talk, I will give a theoretical overview addressing the challenges in
this quest focusing on the search for new CP-violating physics.

Eingeladener Vortrag   T 50.3   Mi 15:00   H03
Analysis algorithms for Belle II and first results — •Pablo
Goldenzweig — KIT

High precision measurements of B meson decays offer powerful tests
of the Standard Model paradigm. With the imminent start of the full
physics program of the Belle II experiment, we are poised to enter
a new era of precision flavor physics at the intensity frontier. In this
talk, I will describe the Belle II algorithm for hierarchical tag-side B
meson recombination, and the B meson flavor tagging and continuum
background suppression algorithms with Deep Neural Networks. First
results on Belle II data will also be presented.