T 72: Hauptvorträge V

Zeit: Donnerstag 9:00–10:30 Raum: H01

Hauptvortrag T 72.1 Do 9:00 H01
Next generation high energy e+e- colliders — •Jorg Wenninger — CERN, Geneva, Switzerland

Following the shutdown of the Large Electron Position collider (LEP) at CERN in 2000, design activities for high energy colliders were initially focused on linear colliders with a centre-of-mass energy reach of up to 3 TeV. Two projects, the International Linear Collider (ILC) and CLIC, proceeded with detailed conceptual and technical designs. Since a few years two high energy circular collider projects have emerged, the China Electron Position Collider (CEPC) and the e+e- collider variant of the Future Circular Collider (FCC-ee) at CERN. Both circular colliders have converged on circumferences around 100 km and top centre-of-mass energies ranging between 250 and 360 GeV to reach Higgs boson and top quark pair production thresholds. FCC-ee also focuses on high precision and high statistics measurements of the Z boson resonance. After an introduction to the different projects, this presentation will outline the status and challenges of the circular high energy colliders.

Hauptvortrag T 72.2 Do 9:45 H01
Flavour anomalies — •Johannes Albrecht — Otto-Hahn-Str. 4, 44227 Dortmund

Precision measurements of decays of heavy mesons offer a unique lab to test the Standard Model of particle physics. Heavy, virtual particles in loop processes lead to quantum corrections that are measurable in the precision tests of flavour physics. Using this strategy, hints for postulated new particles can be found. The energy range tested here extends the range reachable in direct searches by about one order of magnitude. Historically, many discoveries in particle physics have first been seen in precision measurements.

The talk will give a status of the current measurements in flavour physics with measurements of the B-factories Babar and Belle and of the LHC experiments ATLAS, CMS and LHCb. A focus of the talk will be on tensions that are currently seen in the LHCb data with respect to the Standard Model and the perspectives to clarify these in the near future.