

Detector challenges for high-energy e+e- colliders

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Future high-energy e+e- colliders have the potential to perform high precision measurements, for example on the Higgs boson and the top quark. They will provide very accurate information that will complement LHC data, thereby offering significantly more insight into the open questions in particle physics. These scientific objectives put strong demands on the performance of the detectors under study for future e+e- colliders, comprising linear colliders (ILC, CLIC) as well as circular colliders (CEPC, FCC-ee). There is a long tradition of detector development for future linear colliders, which has focused on highly granular calorimetry, silicon-based vertex and tracking detectors or TPC. The presentation will comprise an overview and current status of these detector technology developments. The presentation will also assess the differences in experimental conditions between linear and circular colliders in the few-hundred GeV energy range, targeting Higgs and top physics, and the potential impact on the corresponding detector designs.

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