

The Circular Electron Positron Collider

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Gernot-Gräff Room, Staudingerweg 7

Building 2412, Room 05.431 (5th floor - West)

Scientists have been exploring the high energy frontier with the CERN Large Hadron Collider for some years now. The new boson, discovered in 2012 by the ATLAS and CMS collaborations, has so far been shown to behave very much like the long-sought-after Higgs Boson. Remarkably, no other deviations from the Standard Model have been found, neither in precision measurements nor in direct searches for new particles. Hence, precise measurements of the Higgs boson are becoming increasingly important.

In this talk, the Circular Electron Positron Collider (CEPC) project, that is aiming to start construction in China still in this decade, will be discussed. The CEPC will make precise measurements of the Z, W, Higgs bosons. A possible energy upgrade can also study top quark pair production. A short review of the accelerator and detector design and R&D will be presented. A Super Proton-Proton Collider (SPPC), colliding protons up to 130 TeV, could be a longer term upgrade and explore new physics scenarios at the highest energies.