

Development of a highly granular scintillator-tungsten electromagnetic calorimeter prototype for the CEPC

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A highly granular electromagnetic calorimeter has been designed and optimised within the CALICE collaboration for precision measurements at future lepton collider experiments, including the Circular Electron Positron Collider (CEPC). Scintillator strips and silicon photomultipliers (SiPMs) are instrumented as sensitive layers and tungsten-copper alloy plates as absorber. Scintillator strips are individually wrapped with ESR foil and directly coupled with SiPMs. A prototype with around 30 sampling layers and over 6000 channels in total is being developed and expected to be constructed and commissioned in early 2020. A beam test with electrons at DESY is planned around autumn 2020 for detailed studies of this prototype to quantitatively evaluate the key performance. This talk will cover the latest status of the prototype development and selected results of commissioning, preparations for the DESY beam test, as well as its expected performance in simulation.

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