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Fri-Mo-Po.05-11: Detector magnet design and R&D for CEPC

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The Circle Electron Positron Collider(CEPC) is a large international scientific project initiated by and to be hosted in China. It will produce large samples of Higgs, W and Z bosons to allow precision measurements of their properties as well as searches for BSM physics. The magnet system uses a solenoid that is supported by an aluminum alloy cylinder and cooled indirectly by liquid helium to an operating temperature of 4.5K. A room temperature bore is required with 7.07m in diameter and 9.05 m in length. The magnet locates outside the hadronic calorimeter detector. The low temperature superconducting (LTS) solenoid is the baseline, which will use aluminum stabilized NbTi/Cu Rutherford cable. High temperature superconducting(HTS) plan is the backup option, which will use the Aluminum stabilized Stacked REBCO Tape Cable(ASTC).

Author: Dr NING, Feipeng (Institute of High Energy Physics, China)

Presenter: Dr NING, Feipeng (Institute of High Energy Physics, China)

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