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The PANDA Experiment

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The PANDA (Antiproton Annihilation at Darmstadt) experiment is currently being constructed at the High Energy Storage Ring (HESR) and going to be one of the four key experiments at the Facility for Antiproton and Ion Research (FAIR) near Darmstadt/Germany. The PANDA experiment is planned to address a wide range of open questions in hadron physics by studying the interactions between protons and antiprotons with an antiproton beam momentum range from 1.5 GeV/c to 15 GeV/c and a fixed proton target. The PANDA detector contains two different structures to cover almost the full solid angle: the target spectrometer (TS) as an onion shell-like detector that is enclosed in a solenoid magnet with a B-field of 2 T and the forward spectrometer (FS) with a 2 Tm dipole magnet to track and identify particles with small polar angles. The aim is to use modern detector technologies in both spectrometers in order to provide precise tracking in strong magnetic fields, excellent particle identification, calorimetry, and muon identification. This talk will focus on the construction and technical aspects of PANDA detector systems in both spectrometers together with the implemented magnets and two types of foreseen proton targets.

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