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The PANDA Experiment at FAIR

PANDA (Antiproton Annihilation at Darmstadt) is a fixed target experiment that is going to address a wide range open questions in the hadron physics sector by studying the interactions between antiprotons with high momenta and a stationary proton target. The PANDA detector is currently under construction and will be situated in the HESR (High Energy Storage Ring) that is part of the future FAIR (Facility for Antiproton and Ion Research) accelerator complex on the area of the GSI Helmholtzzentrum für Schwerionenforschung in Darmstadt. The HESR is going to provide a beam of cooled antiprotons up to momenta of 15 GeV/c and can be operated in a high luminosity and a high resolution mode. Due to the forward boost of the secondary particles, the PANDA detector contains a target and a forward spectrometer in order to cover nearly the full solid angle around the interaction point. The key components of the detector are: precise tracking in strong magnetic fields, excellent particle identification, and high resolution calorimeters. In addition to that, its design is flexible enough to change or add individual detector components for specific experiments. This talk will cover technical aspects and specifications of all PANDA subdetectors in both spectrometers as well as the two forseen proton targets and the implemented magnets.

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