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EMC studies using the simulation framework of PANDA

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The Anti-Proton ANnihilation at DArmstadt (PANDA) experiment proposed at the Facility for Antiproton and Ion Research (FAIR) in Darmstadt (Germany) will perform a high precision spectroscopy of charmonium and exotic hadrons, such as hybrids, glueballs and hypernuclei. A highly intense beam of anti-protons provided by High Energy Storage Ring (HESR) with an unprecedented resolution will scan a mass range of 2 to 5.5 GeV/c².

In preparation for experiments with PANDA, careful and large-scale simulation studies need to be performed in the coming years to determine analysis strategies, to provide feedback for the design, construction and performance optimization of individual detector components and to design methods for the calibration and interpretation of the experimental results. Results of a simulation for the ElectroMagnetic Calorimeter (EMC), built from lead tungstate (PWO) crystals and placed inside the Target Spectrometer (TS), are presented. The simulations were carried out using the PandaRoot framework, which is based on ROOT and being developed by the PANDA collaboration.

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