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Opportunities in open charm physics with PANDA

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Open-charm physics is of high interest for the study of weak and strong interactions. Recent observations in charm spectroscopy and the discovery of a number of unpredicted states continue to keep this field of physics exciting. The PANDA experiment at FAIR (Darmstadt) is an antiproton-proton experiment, built to study questions of hadron and nuclear physics with interactions of antiprotons with nucleons and nuclei. The study of the charm sector is one of the key research topics of the experiment. With the high rate of 2×10^7 interactions per second and the 20 times higher mass resolution than attained at B-factories, PANDA is in a privileged position to perform width measurements of narrow Ds states (Ds(2317) and Ds(2460)) and study form factors of semileptonic Ds decays. Original contributions are also planned for the determination of cross sections of pbarp to open-charm mesons, e.g. D+D-, as several models predict different magnitudes. In the talk, the status of current simulations of PANDA and an overview of several benchmark channels in the D sector will be presented.

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