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The Central Straw Tube Tracker In The PANDA Experiment

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for the PANDA collaboration.

The PANDA experiment at the future FAIR facility investigates antiproton induced collisions on a proton or nuclear target with unprecedented precision and luminosity to study fundamental questions in QCD in the non-perturbative regime with antiproton-beam momenta between 1.5 GeV/c and 15 GeV/c. The central Straw Tube Tracker (STT) in the 2 Tesla solenoid target spectrometer features a high spatial reconstruction of charged particles in a broad momentum range together with a measurement of their specific energy-loss for a particle identification in the low momentum region below about 1 GeV/c. The high antiproton-proton annihilation rate of about 2×10^7 /s and the very rich spectrum of quite different reaction channels and topologies require a continuous data-acquisition with fast and efficient online track and event reconstructions. In this talk the design of the STT, main properties and current status of the construction are discussed.

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