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The new Forward Tracker System for the HADES FAIR Phase-0 experiment

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As part of the FAIR phase-0, the HADES experiment underwent a hardware upgrade that included updating existing components, data-acquisition systems, and the integration of new detectors. In particular, the new Straw Tracking Stations (STS) enlarge the HADES acceptance to low polar angles, crucial for the FAIR phase-0 physics program, including hyperon reconstruction. The STS stations have four double layers of staws arranged in four azimuthal orientations for a full 3D track reconstruction and resolving ambiguities in multi-track events. Pre-commissioning tests showed a spatial resolution of 0.13 mm for MIPs. The STS system was installed at HADES in 2020 and tested during a dedicated commissioning beamtime in February 2021. The collected data was used to develop the calibration and track reconstruction methods. The STS is one of the PANDA systems in early operation during the FAIR Phase-0, and will become part of the PANDA FT at the start of FAIR Phase-1. A description of the STS system and a summary of the results from the beamtime will be presented.

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