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Development of the Cylindrical Detector System for an experimental search for kaonic nuclei at J-PARC FUMINORI SAKUMA, RIKEN, J-PARC E15 COLLABORATION — The experiment J-PARC E15 searches for the simplest kaonic nuclear bound state, K^-pp, by in-flight ^{3}He(K^-, n) reaction. To reconstruct invariant mass spectroscopy via the expected decay $K^-pp \to \Lambda p \to p\pi^- p$, the Cylindrical Detector System (CDS) has been constructed at the K1.8BR beamline in the J-PARC 50GeV PS. The CDS consists of a solenoid magnet, Cylindrical Drift Chamber (CDC) and Cylindrical Detector Hodoscope (CDH) with the invariant-mass resolution via the K^-pp decay of 19 MeV/c^2 (σ). In addition, we are developing a thick-GEM (TGEM) TPC as an inner tracker for the upgrade of the experiment. In this talk, an overview of the detectors and the preparation status will be presented.

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