

A new Triple-GEM Tracking Detector for COMPASS++/AMBER

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The Common Muon Proton Apparatus for Structure and Spectroscopy (COMPASS) operates since 2001 and is one of the longest running experiments at CERN. Its phase II is scheduled to be completed in 2022 with a measurement of transverse-momentum dependent PDFs in deep inelastic scattering of muons on a deuterium target.

A new proposal for a future QCD facility at the M2 beamline has been accepted recently. Running under the name COMPASS++/AMBER, the plans include, i.a., a measurement of the proton radius in elastic muon-proton scattering and studies of the pion PDFs using the Drell-Yan process.

The physics program requires an upgrade of the existing GEM tracking system. Currently an improved version of medium-size GEM detectors is being constructed to replace some of the existing detectors.

Future plans include a central pixel readout and front-end electronics which can operate in a self-triggered way. The presentation will show the design and the current status of these detectors.

TIPP2020 abstract resubmission?

No, this is an entirely new submission.

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