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Test beam performance measurements of novel Thin Gap Detectors for the ATLAS experiment upgrade.

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The planned luminosity increase of the LHC will allow the precise measurement of Higgs boson properties and extend the search for new physics phenomena beyond the standard model. To maintain excellent detection and background rejection capability in the forward region of the ATLAS detector, part of the muon detection system is scheduled to be upgraded during the LHC long shutdown period of 2018-2020. Thin Gap Chambers (TGC) will make up part of this new ATLAS muon small wheel. Results from the testing of a prototype thin gap chamber at the Fermilab and CERN test beam facilities will be presented.

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