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Performance of the first Canadian-made muon chamber prototype 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. This new ATLAS muon small wheel will partly consist of Thin Gap Chambers (TGC), one third of which will be built and tested in Canada. A description of the chamber production and testing infrastructure in Canada will be presented as well as preliminary results of the performance of the first Canadian-made muon chamber prototype.

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