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Performance of Canadian-made muon chambers for the ATLAS experiment Phase-1 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 2019-2020. This upgrade consists in the complete replacement of the two ATLAS muon

small wheels. The new muon small wheels will be partly made of Thin Gap Chambers (TGC), approximately one third of which are been built and tested in Canada. A description of the chamber testing infrastructure at McGill University will be presented as well as preliminary results of the performance of Canadian-made muon chambers.

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