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Search of invisible anomalous Higgs boson decays with the ATLAS detector at the LHC

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Abstract content
 (Max 300 words)

A direct search for evidence of Higgs boson decays to invisible particles performed at the CERN Large Hadron Collider is presented. The interpretation of the analysis results place limits on the branching fraction for the Standard Model (SM) Higgs boson to decay into invisible particles, where a non-zero invisible branching fraction could provide evidence for the production of possible dark matter particles and more generally provide hints of beyond the SM physics. In addition, limits are set on any neutral Higgs-like particle, produced in association with a Z boson and decaying predominantly to invisible particles. No deviation from the SM expectation is observed in the search, which uses 4.7fb^{-1} of 7TeV pp collision data and 20.7fb^{-1} of 8TeV *pp* collision data collected by the ATLAS experiment at the LHC.

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