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Searches for Beyond-Standard Model Higgs boson at ATLAS

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The discovery of a neutral Higgs boson with large decay branching fraction to tau and muon pairs, as well as the discovery of a charged Higgs boson would represent a strong evidence of new physics beyond the Standard Model. The experimental results of the searches for the Higgs bosons beyond the Standard Model with the ATLAS detector are reported. The searches are based on an integrated luminosity of up to 4.9 fb⁻¹ of proton-proton collision data recorded at the Large Hadron Collider (LHC) at a centre-of-mass energy of 7 TeV. Exclusion limits on production cross-sections are given as function of the Higgs boson mass and are analyzed in the framework of the minimal supersymmetric model.

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