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Searches for BSM Higgs at ATLAS

The discovery of the Higgs boson with the mass of about 125 GeV completed the particle content predicted by the Standard Model. Even though this model is well established and consistent with many measurements, it is not capable to solely explain some observations. Many extensions addressing this fact introduce additional Higgs-like bosons which can be either neutral, singly-charged or even doubly-charged. Other theories suggest that the Higgs may couple to hidden-sector states that do not interact under the Standard Model gauge transformations. Models predicting exotic Higgs decays to pseudoscalars can explain the galactic center gamma-ray excess, if the additional pseudoscalar acts as the dark matter mediator. This talk presents recent ATLAS searches for decays of the 125 GeV Higgs boson to a pair of new light bosons, and searches for additional Higgs bosons. The current status of searches based on full Run2 data of the ATLAS experiment at the LHC are presented.

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