

Phenomenology 2022 Symposium: From Virtual to Real



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Search for rare and exotic decays of the Higgs boson in ATLAS

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The study of the Higgs boson properties provides a unique window for the discovery of new physics at the LHC. New phenomena can in particular be revealed in the search for rare, lepton-flavor-violating or exotic decays of the Higgs boson, as well as in its possible couplings to hidden-sector states that do not interact under Standard Model gauge transformations. This talk presents recent searches by the ATLAS experiment for rare decays of the Higgs boson where enhanced rates would be a sign of new physics, and searches for decays of the Higgs boson to new particles, using collision data at $\sqrt{s} = 13$ TeV collected during the LHC Run 2.

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