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Search for rare and lepton flavor violating decays of the Higgs boson with the ATLAS detector

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The Standard Model predicts several rare Higgs boson decay channels, among which are decays to a Z boson and a photon, $H \rightarrow Z\gamma$, and to a low-mass lepton pair and a photon $H \rightarrow l\bar{l}\gamma$. The observation of these decays could open the possibility of studying the CP and coupling properties of the Higgs boson in a complementary way to other analyses. In addition, lepton-flavor-violating decays of the observed Higgs boson are searched for, where an observation would be a clear sign of physics effects beyond the Standard Model. Several results for decays based on pp collision data collected at 13 TeV will be presented.

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