

## Searches for Next-to-Minimal Supersymmetry with Run I Data from CMS

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RM 415 NSH

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The next-to-minimal supersymmetric model (NMSSM) extends minimal supersymmetry by adding an extra singlet, leading to desirable theoretical properties as well as a more complicated Higgs sector. One of the striking predictions of the NMSSM is the existence of multiple Higgs particles, some of which can be much lighter than the particle identified as the 125 GeV standard model-like Higgs scalar discovered at the LHC in 2012. In this seminar, I review searches for light Higgs particles in the framework of the NMSSM and other two-Higgs-doublet models using the Run I dataset collected with the Compact Muon Solenoid experiment at the LHC. These CMS searches span a range of final states and exploit the detector's excellent charged lepton reconstruction, including hadronic tau decays.