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## Light stau phenomenology and the 125 GeV Higgs $\gamma\gamma$ rate

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Recently, an excess of events consistent with a Higgs boson with mass of about 125 GeV was reported by the CMS and ATLAS LHC experiments. The mass is consistent with the values that may be obtained in minimal supersymmetric extensions of the Standard Model (SM), with third generation squarks masses at the TeV scale with large mixing. The apparently enhanced photon production rate and suppressed ZZ production rate associated with this potential Higgs may be the result of light third generation sleptons in the presence of large mixing. Such large mixing and large coupling of the staus to the SM-Higgs boson may be obtained for large values of  $\tan\beta$  and moderate values of the Higgsino mass parameter,  $\mu$ . We study the phenomenological properties of this scenario, including precision electroweak data, Dark Matter, the muon anomalous magnetic moment and the evolution of the soft supersymmetry breaking parameters to high energies. We also analyze the possible collider signatures of third generation sleptons and the prospects of finding evidence of their production at the 8 TeV and the 14 TeV LHC.

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