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# 750 GeV Diphotons in Supersymmetric GUTs

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I investigate the 750 GeV diphoton excess in terms of supersymmetric models which preserve grand unification in the ultraviolet. I show that minimal extensions of the MSSM by a singlet and a vectorlike 5-plet or 10-plet of SU(5) can explain the observed signal while remaining perturbative up to the GUT scale. Different from previous analyses I include the effects of light sfermions in the loop which enhance the diphoton cross section by up to a factor of four. Explicit upper limits on the diphoton cross section are derived from vacuum stability. I also provide signal predictions in other diboson channels to be tested at LHC-13.

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