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Combined searches for light supersymmetry at the LHC with GAMBIT

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Searches for electroweak production of neutralinos and charginos (electroweakinos) at the LHC have revealed a series of excesses over the predicted Standard Model background. GAMBIT analyses show that although the excesses are inconsistent in terms of simplified models, taken together within the framework of a non-simplified electroweakino effective field theory, searches with 36 fbˆ-1 of data constitute a self-consistent, approximately 3 sigma local excess. A subset of the preferred models are also fully consistent with all dark matter searches. I will describe the GAMBIT joint analysis of 12 different 36 fbˆ-1 ATLAS and CMS searches for electroweakinos, as well as some additional supporting and preliminary results based on both Run I and full Run II datasets, and their implications for preferred models.

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