Searching for new physics at the Large Hadron Collider: some frustration, but no despair yet

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Abstract

The Large Hadron Collider LHC has probed the structure of matter at the Terascale with unprecedented breadth and precision. The wealth of exciting results include the discovery of a Higgs-like particle at a mass of around 125 GeV, but no sign for physics beyond the standard model of particle physics could be established. I briefly summarise the status of new physics searches at the LHC and then discuss the implications of the LHC data for popular new physics models like supersymmetry.