

The fate of the Littlest Higgs with T parity under 13 TeV LHC data

Friday 6 July 2018 15:30 (15 minutes)

Little Higgs models - which can most easily be thought of as a variant of composite Higgs models - explain a light Higgs boson at 125 GeV as an pseudo-Nambu-Goldstone boson of a spontaneously broken global symmetry. The mechanism of collective symmetry breaking shifts the UV scale of these models to the 10 TeV scale and higher. T-parity is introduced as a discrete symmetry to remove tree-level constraints on the electroweak precision data. Still after run 1 of LHC, electroweak precision observables gave stronger constraints than Higgs data and direct searches. We present a full recast of all available 13 TeV searches from LHC run 2 to show that now direct searches supersede electroweak precision observables. The latest exclusion limits on the LHT model will be presented, as well as an outlook on the full high-luminosity phase of LHC.

Authors: REUTER, Jürgen (DESY Hamburg, Germany); DERCKS, NÉ SCHMEIER, Daniel; MOORTGAT-PICK, Gudrid; SHIM, So Young (DESY)

Presenter: REUTER, Jürgen (DESY Hamburg, Germany)

Session Classification: Beyond the Standard Model

Track Classification: Beyond the Standard Model