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# Testing the scalar triplet solution to CDF's heavy W problem at the LHC

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The type II seesaw model remains a popular and viable explanation of neutrino masses and mixing angles. By hypothesizing the existence of a scalar that is a triplet under the weak gauge interaction, the model predicts strong correlations among neutrino oscillation parameters, signals at lepton flavour experiments, and collider observables at high energies. We investigate reports that the type II seesaw can naturally accommodate recent measurements by the CDF collaboration, which finds the mass of the W boson to be significantly larger than allowed by electroweak precision data, while simultaneously evading constraints from direct searches. Experimental scrutiny of this parameter space in the type II seesaw has long been evaded since it is not characterized by "golden channels"at colliders but instead by cascade decays, moderate mass splittings, and many soft final states. In this work, we test this parameter space against publicly released measurements made at the Large Hadron Collider. By employing a newly developed tool chain combining madgraph5_amc@nlo and contur, we find that most of the favoured space for this discrepancy is already excluded by measurements of Standard Model final states. We give suggestions for further exploration at run III of the LHC, which is now under way.

**Primary authors:** HEECK, Julian; MATTELAER, Olivier (IPPP); RUIZ, Richard (IPPP / University of Durham); JEON, Sihyun

**Co-author:** BUTTERWORTH, Jonathan (UCL)

**Presenter:** BUTTERWORTH, Jonathan (UCL)

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