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Analysis of a heavy boson of mass around 270 GeV in Left-Right Symmetric Models

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After the discovery of the Higgs boson by the experiments at the LHC, the search for new bosons has become of great interest. Based on a number of features of the data, the existence of a heavy boson with a mass around 270 GeV has been postulated with a number of interactions. One interesting extension of the Standard Model is the Left-Right Symmetric Models (LRSM). Among the interesting features of the LRSM is their complex Higgs sector. Unlike the SM with only one neutral Higgs Boson, LRSM offers a variety of Higgs Bosons which include neutral, singly charged and doubly charged Higgs Bosons. Due to the Flavour Changing Neutral Currents (FCNCs) constraints, the neutral Bosons of the bi-doublet sector are constrained to be at least 10 TeV. One way to suppress the FCNCs effect is by imposing a global symmetry on LRSM Lagrangian. We analyse the possibility of suppressing the FCNCs effects in the LRSM and determine the possibility of having a heavy neutral Higgs Boson of mass around 270 GeV in the Higgs sector of the LRSM.

Apply to be
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Yes

Level for award
 (Hons, MSc,
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MSc

Main supervisor (name and email)
and his / her institution

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Would you like to
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Yes

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