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## Constraints on doublet left-right symmetric model from Higgs data

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We study the constraints on the doublet left-right symmetric model coming from the Higgs data. The  $SU(2)_L$  symmetry of this model is broken by three vacuum expectation values,  $k_1$ ,  $k_2$  and  $v_L$ . Most model builders assume that  $v_L$  and  $k_2$  are negligibly small compared to  $k_1$ . We test whether this assumption is valid in light of the measurement of Higgs boson coupling to gauge bosons and third generation quarks and the lower limits on heavy neutral scalar masses. We find that the data, especially the coupling of light higgs to b-quarks and the lower limit on heavy neutral scalar, strongly disfavour very small values of  $v_L$  and  $k_2$  relative to  $k_1$ . In fact, the data prefers  $v_L$  to be of the order of  $k_1$ .

### Institution

### Designation

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