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## **Possibility of a general U(1) extended theory and its implications**

In this talk we will discuss about a general anomaly free U(1) extension of the Standard Model which describes a small neutrino mass after the seesaw mechanism. In this scenario a new force carrier called  $\mathbb{X}'$  can be introduced which plays an interesting role to study a variety of phenomenological aspects including forward backward asymmetry, left right asymmetry, Higgs physics and dark matter phenomenology. We will describe these interesting phenomenological aspects in this talk with great detail. Such phenomena could be observed at the currently running experimental facilities. These scenarios could also be tested at the proposed experiments in the near future. Detailed case study will be presented.

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