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Lepton Number Violating Electron Recoils at XENON1T and PandaX by the U(1)B-L Model with Non-Standard Interactions

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I will introduce an SU(3)C × SU(2)L × U(1)Y × U(1)B-L model, in which the neutrino masses and mixing can be generated via Type-I seesaw mechanism after U(1)B-L breaking. A light mediator emerges and enables non-standard interaction that violates the lepton number. It shows that the non-standard interaction leads to low energy recoil events that is consistent with the observed KeV range electron recoil excess at the XENON1T and PandaX experiment . Observational bounds on the nonstandard couplings will be discussed.

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