Title:	Limiting the effective mass and new physics parameters from 0 ν β β
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Abstract:	In the light of the recent result from KamLAND-Zen (KLZ) and GERDA Phase-II, we update the bounds on the effective mass and the new physics parameters, relevant for neutrinoless double beta decay (0 ν β β). In addition to the light Majorana neutrino exchange, we analyze beyond standard model contributions that arise in left-right symmetry and R-parity violating supersymmetry. The improved limit from KLZ constrains the effective mass of light neutrino exchange down to sub-eV mass regime 0.06 eV. Using the correlation between the 136 Xe and 76 Ge half-lives, we show that the KLZ limit individually rules out the positive claim of observation of 0 ν β β for all nuclear matrix element compilation. For the left-right symmetry and R-parity violating supersymmetry, the KLZ bound implies a factor of 2 improvement of the effective mass and the new physics parameters. The future ton scale experiments such as, nEXO will further constrain these models, in particular, will rule out standard as well as Type-II dominating LRSM inverted hierarchy scenario.
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