

Erratum: Constraining new physics with Borexino Phase-II spectral data

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In the original paper:

- affiliation “d” *Institució Catalana de Recerca i Estudis Avançats (ICREA), Pg. Lluís Companys 23, E-08010 Barcelona, Spain*, was wrongly associated to author João Paulo Pinheiro. In this erratum the metadata have already been corrected.
- the GEMMA bounds shown in figure 5 have been corrected by a factor of 2. This accounts for the different normalization in the current of our Lagrangian with respect to the one in ref. [68].

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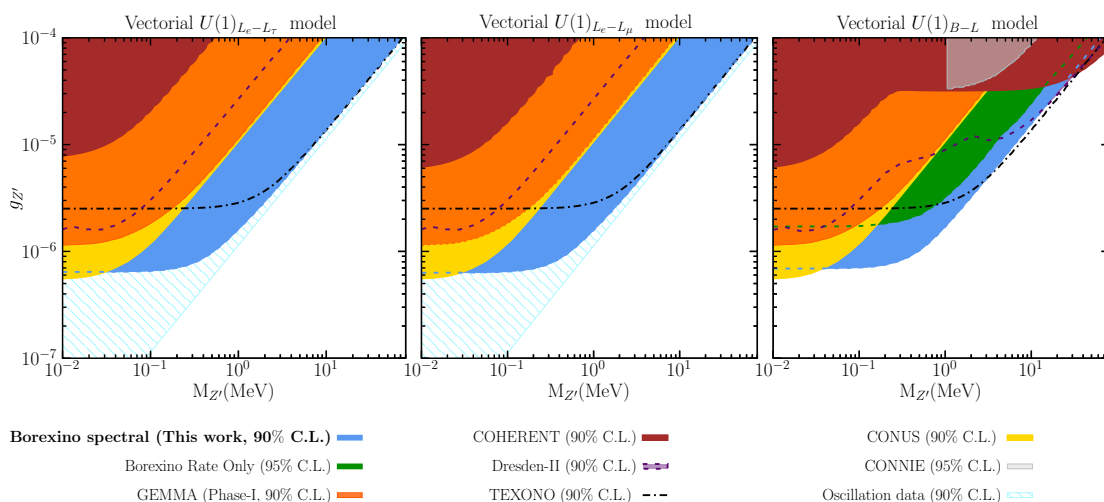


Figure 5. Bounds from our analysis of Borexino Phase II spectral data (at 90% CL for 1 d.o.f., using two-sided intervals, i.e., $\Delta\chi^2 = 2.71$) on the vector mediators associated to a new $U(1)'$ symmetry, as indicated in the top label for each panel. Our results are compared to our derived bounds from GEMMA [45, 50], TEXONO [50, 51], COHERENT [15, 16, 52], and Dresden-II reactor experiment [14, 15], as well as those derived from a global fit to oscillation data [50], all of them obtained with the same statistical criterion. We also show the bounds from CONNIE [13] (95% CL) and CONUS [54] (90% CL) which we have obtained applying an overall rescaling factor to their published bounds on a universally coupled vector (see text for details). For the $B - L$ model, the line labelled “Borexino Rate Only” shows the approximate bound derived (at 95% CL, 1 d.o.f., for one-sided intervals) in ref. [26] (see also ref. [27]).