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## Constraining new physics with Borexino Phase-II spectral data

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We present a detailed analysis of the spectral data of Borexino Phase II, with the aim of exploiting its full potential to constrain scenarios beyond the Standard Model. In particular, we quantify the constraints imposed on neutrino magnetic moments, neutrino non-standard interactions, and several simplified models with light scalar, pseudoscalar or vector mediators. Our analysis shows perfect agreement with those performed by the collaboration on neutrino magnetic moments and neutrino non-standard interactions in the same restricted cases and expands beyond those, stressing the interplay between flavour oscillations and flavour non-diagonal interaction effects for the correct evaluation of the event rates. For simplified models with light mediators we show the power of the spectral data to obtain robust limits beyond those previously estimated in the literature.

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