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The CUPID sensitivity for beyond the Standard Model processes

The development of cryogenic calorimeters to search for neutrinoless double-beta decay (0νDBD) has given in the last years increasingly promising results. To achieve a nearly background-free condition, scintillating crystals have been developed. Thanks to the light-assisted particle discrimination, this technology demonstrated the complete rejection of the dominant alpha background. Besides, the possibility of achieving ton-scale exposures, maintaining an excellent energy resolution, lays the foundations for the CUPID project.
CUPID is a next-generation experiment aiming to exploit ^{100}Mo enriched scintillating Li_2MoO_4 crystals, operating as cryogenic calorimeters, to investigate the entire inverted hierarchy region for neutrino messes. Thanks to the high $Q_{\beta\beta}$ of ^{100}Mo and the α-discrimination, the CUPID goal is to achieve a background level in the region of interest of 10^{-4} counts/(keV·kg·yr).
Although the 0νDBD is the main objective of CUPID, other processes are open to experimental investigation, in particular, those inducing a distortion of the two-neutrinos double-beta decay (2νDBD) spectral shape. Given the relatively fast half-life of ^{100}Mo 2νDBD, we expect to reach unprecedented sensitivities in the search for 2νDBD bSM induced distortions.
In this contribution, a general overview of the CUPID experiment will be given, as well as the first sensitivity estimation on others bSM processes.

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