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Erratum: Gaseous time projection chambers for rare event detection: results from the T-REX project. II. Dark matter

To cite this article: I.G. Irastorza *et al* JCAP05(2016)E01

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Erratum: Gaseous time projection chambers for rare event detection: results from the T-REX project.

II. Dark matter

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Received May 4, 2016

Accepted May 4, 2016

Published May 11, 2016

Erratum to: [JCAP01\(2016\)034](#)

ArXiv ePrint: [1512.06294](#)

After the publication of the article, subsequent work by the authors has unveiled a software bug in the routines developed to perform the numerical integration and normalization of the expected signal and background in the energy window of interest, in order to evaluate the sensitivity lines for TREX-DM. The bug affects only to background-subtracted results, which happen to be the set of six lines shown in figure 14 as sensitivity projections for TREX-DM. As a result, the lines appearing in the original paper are a factor of about 5 to 10 (depending

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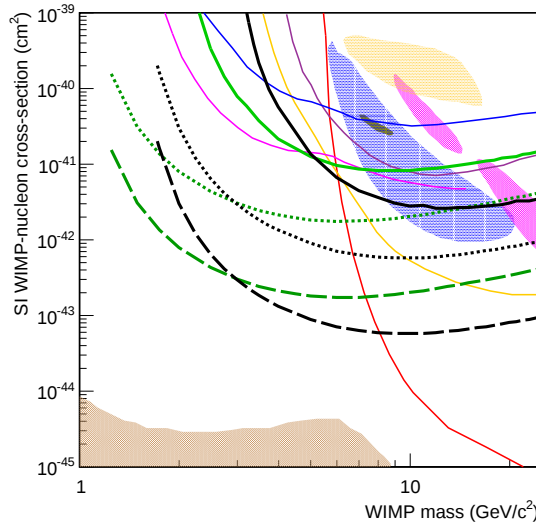


Figure 1. The projected sensitivity of TREX-DM (at 90% confidence level) assuming an exposure of 1 kg·y in argon (*black thick lines*) and neon (*green thick lines*) with a conservative (*solid*) and realistic (*dotted*) assumptions on the background levels of 10 and 1 $\text{keV}^{-1}\text{Kg}^{-1}\text{d}^{-1}$, respectively, and an energy threshold of 0.4 keVee and 0.1 keVee, respectively. The potential sensitivity of a scaled-up detector with a threshold of 0.1 keVee, background of 0.1 $\text{keV}^{-1}\text{kg}^{-1}\text{d}^{-1}$ and an exposure of 10 kg·y is also shown (*dashed lines*). Closed contours correspond to the positive interpretations of the excess counts of CDMS II Si [1] (*blue*, 90% C.L.), CoGeNT [2] (*dark gray*, 90% C.L.), CRESST-II [3] (*magenta*, 95% C.L.), and DAMA/LIBRA [4, 5] (*tan*, 90% C.L.). For comparison we also show 90% C.L. exclusion limits from SuperCDMS [6] (*orange*), CDMSlite [7] (*magenta*), LUX [8] (*red*), and CDEX1 [9] (*purple*) and CRESST-II 2015 [10] (*blue*). The brown shaded region corresponds to the sensitivity limit imposed by the solar neutrino coherent scattering background [11].

on M_w) lower than the correct values. The bug has been corrected and new sensitivity lines computed. Given that the plot in figure 14 had the purpose to show different scenarios of background, threshold and exposure needed for some representative steps in sensitivity, we decided to change the input parameters of the curves (slightly more optimistic) to keep similar sensitivities as the one shown in the original figure. The resulting figure 1 that is shown here, together with the new caption should substitute the incorrect version of the original paper. No other part of the paper needs be modified.

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