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Erratum: Energetic γ-rays from TeV scale dark matter annihilation resummed

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In the course of working on the extension [1] of Refs. [2,3] to Higgsino dark matter annihilation, we became aware of a missing factor of two in Eq. (5) of Ref. [2]. The correct equation reads

$$\frac{d(\sigma v_{\rm rel})}{dE_\gamma} = 2\sum_{I,J} S_{IJ}\,\Gamma_{IJ}(E_\gamma) \tag{5}$$

The factor of 2 is necessary in the method-2 computation of the Sommerfeld effect [4] for the annihilation of two identical particles to compensate for the method-2 factor $1/(\sqrt{2})^{n_{id}}$, which appears in $\Gamma_{IJ}(E_\gamma,\mu)$ defined in Eq. (6) of Ref. [2]. In consequence the absolute cross section shown in the upper panel of Fig. 4 should also be multiplied by two. The correct Figure is shown below. We also correct a few misprints:

- In Eq. (27) and the three lines below, the subscript $\bar{c}$ (denoting the anti-collinear direction) was missed on the gauge field $\mathcal{A}$ and covariant derivative. Similarly, in Eq. (30) and the line below, the subscript c (denoting the collinear direction) was missed on the gauge field.
- In Eq. (32), in the first factor after the equality sign $g_2^2(\mu)$ should be replaced by $\hat{g}_2^2(\mu)$.

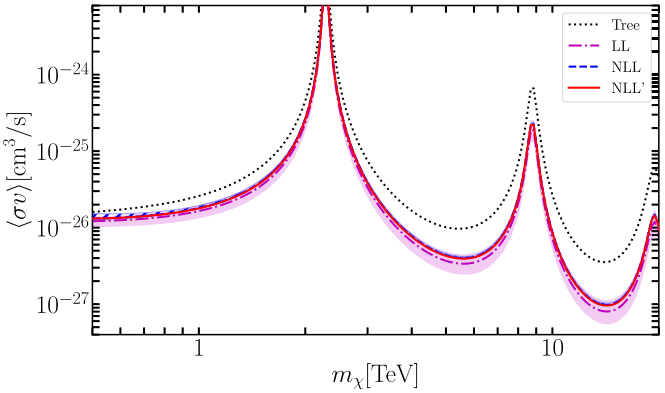

Fig. 4. Integrated photon energy spectrum within $E^\gamma_{\rm res}$ from the endpoint m_χ in the tree (Sommerfeld only) and LL, NLL, NLL' resummed approximation. The shaded/hatched bands show the scale variation of the respective approximation as described in the text. For the NLL' result the theoretical uncertainty is given by the thickness of the red line.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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