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Erratum: Update on scalar singlet dark matter [Phys. Rev. D 88, 055025 (2013)]

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Our paper [1] included a calculation of the parameter f_N, the coupling between the Higgs boson and nucleons. Because of an unfortunate bug in the code used for examining the possible values of f_N, the value that we originally quoted, 0.345 ± 0.016, was incorrect.

Figure 1 is an updated version of Fig. 5 from the original paper, showing the corrected distributions of related quantities. In the Gaussian case, we find $f_N = 0.30 \pm 0.01$ at the formal 1-sigma (68.3% C.L.) level. In the top-hat case, we find the same mean value, but the f_N distribution is broader and not Gaussian. We roughly estimate that $f_N = 0.30 \pm 0.03$ in this case. Statistically combining the two approaches yields an uncertainty of about ± 0.015.

This correction does not affect our conclusions in a qualitative sense, but it does very slightly weaken the limits we showed from direct detection. The version of the paper in the arXiv e-print archive has been updated to use the correct value of f_N, including all plots featuring limits or projections from direct detection.

We also take this opportunity to point out that we misquoted the Cherenkov Telescope Array observing time assumed in the original paper; it should have been 200 h, not 500 h. The arXiv e-print version contains the corrected value.

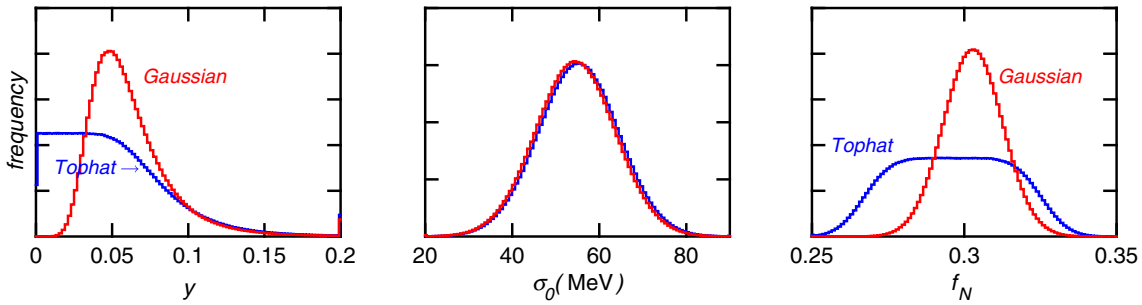

FIG. 1 (color online). Predicted distributions (in arbitrary units) of the strangeness content y of the nucleon (*left*), the nucleon matrix element σ_0 (*center*), and the Higgs-nucleon coupling factor f_N (*right*). These are drawn from a random sample generated using experimental and theoretical constraints, as explained in the original paper.

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[1] J. M. Cline, K. Kainulainen, P. Scott, and C. Weniger, Phys. Rev. D **88**, 055025 (2013).

