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Erratum: Sensitivity of CTA to dark matter signals from the Galactic center

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Abstract. In our paper *Sensitivity of CTA to dark matter signals from the Galactic Center* [1], we gave estimates of the sensitivity of CTA to dark matter annihilation signals from the Galactic Center. We reported that these estimates corresponded to observing times of 100 hr and 500 hr. This was incorrect; the results that we reported were actually for observing times of 40 hr and 200 hr. Here we provide a corrected version of figure 10 from the original paper, recomputed with 100 hr of observation in order to provide a more correct comparison with the work of [2]. We also provide replacement versions of both panels from figure 9, where the annotations have been corrected to properly reflect the observing times assumed for each curve. We thank Martin White for helping uncover this error. A corrected version of the manuscript has been posted to the arXiv.

ArXiv ePrint: [1401.7330](#)

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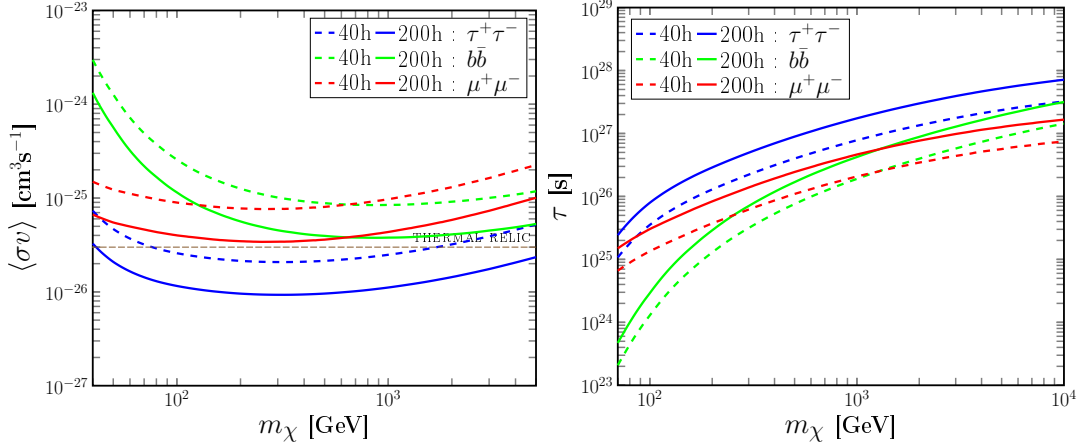


Figure 9. Dependence of sensitivity on observation time. Sensitivity curves at 95% CL are shown for annihilation (*left*) or decay (*right*) to $\tau^+\tau^-$ (blue), $b\bar{b}$ (green), or $\mu^+\mu^-$ (red) for an NFW profile, assuming 40 h (*dashed*) or 200 h (*solid*) of observation time. The gray dashed line is the canonical thermal annihilation cross section, but full thermal production can still be viable with cross-sections a few orders of magnitude higher or lower.

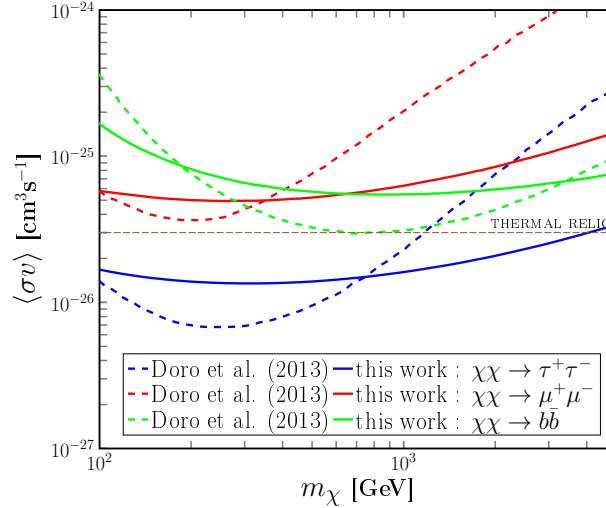


Figure 10. Comparison of projected sensitivity after 100 hr of observation from this work (*solid curves*), which uses Array I and an NFW profile, to the CTA Consortium estimate from [2] for Array E (*dashed curves*), using a density profile obtained from N -body simulations. Projected sensitivities are calculated for 3 different annihilation channels: $\tau^+\tau^-$ (blue), $b\bar{b}$ (green), and $\mu^+\mu^-$ (red). Differences in projected sensitivity arise due to different assumptions regarding the array configuration, density profiles and analysis methods.

References

- [1] M. Pierre, J.M. Siegal-Gaskins and P. Scott, *Sensitivity of CTA to dark matter signals from the Galactic Center*, *JCAP* **06** (2014) 024 [[arXiv:1401.7330](#)] [[INSPIRE](#)].
- [2] CTA collaboration, M. Doro et al., *Dark Matter and Fundamental Physics with the Cherenkov Telescope Array*, *Astropart. Phys.* **43** (2013) 189 [[arXiv:1208.5356](#)] [[INSPIRE](#)].