



Erratum to: The distribution of inelastic dark matter in the Sun

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The annihilation rates in Fig. 9 of the original article were incorrectly calculated, which led to erroneous conclusions. The figure is calculated as an upper bound on the annihilation rate. It is therefore possible to state that if the upper bound on the annihilation rate falls below the solar capture rate, there is definitely not equilibrium between solar capture and annihilations. This important assumption is used when constraining the DM-nucleon cross section via the non-observation of high energy neutrinos from DM annihilation in the Sun. The erroneous conclusion based on Fig. 9 of the paper is that there is almost never equilibrium between the solar capture rate and annihilation.

The correct annihilation rates are presented in Fig. 9. As can be seen, throughout most of the parameter space analysed the upper bound on the annihilation rate is greater than the capture rate, the exception being for $m_\chi = 500$ GeV and $\delta \gtrsim 150$. Given these results, it is impossible to state whether equilibrium between capture and annihilations has taken place except for in the aforementioned range in parameters (where equilibrium has not been reached).

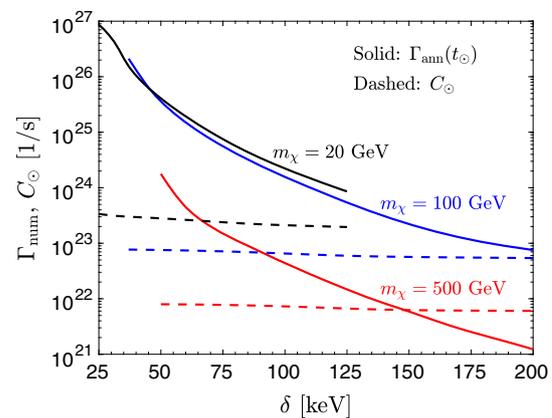


Fig. 9 A comparison between solar capture rates (dashed lines) and the upper bound on the annihilation (solid lines). Results are shown for the dark matter masses: $m_\chi = 20$ GeV (black), $m_\chi = 100$ GeV (blue) and $m_\chi = 500$ GeV (red)

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