Note that the imposition of the unified gaugino mass condition essentially imposes the requirement that there is a tiny Wino content in the LSP. The hatched region in Fig. 2 is filled in when non-unified gaugino masses are allowed. In this case, a thermal relic DM candidate can be obtained for a Bino tempered with Wino if $M_1 \approx M_2$, which implies that the SD cross section decreases, effectively filling in the region beneath the curve in Fig. 2. Note that when $\sigma_{\rm SD} \sim \mathcal{O}(10^{-6}\,\text{pb})$, there is additional model dependence since the squark contribution becomes important (see Appendix A).

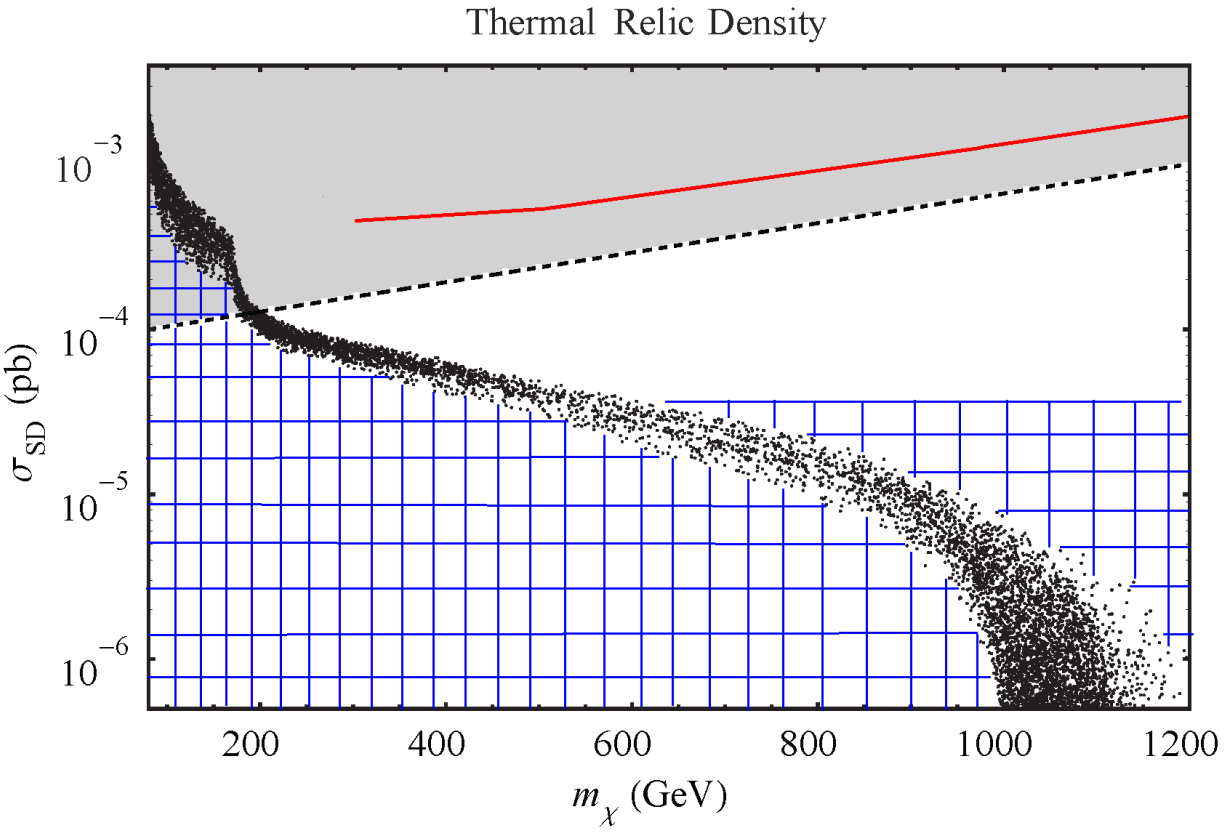

FIG. 2: $\sigma^p_{\rm SD}$, as a function of m_χ for points satisfying the relic density constraint. We have imposed gaugino mass unification and taken the decoupling limit. The shaded region above the dotted line corresponds to "large" SD and will be probed in the near term. The solid red line is the current bound from IceCube, assuming annihilation to W^+W^-. The blue hatched region is filled in if the assumption of gaugino mass unification is relaxed. The sfermion masses are taken to be $\mathcal{O}(2\,\text{TeV})$.

Finally, we note that there is a region of well-mixed Higgsino–Wino near 2 TeV with a thermal abundance (where $M_2 \approx \mu$). In this case, the second line of Eq. (29) applies, and we