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## Energetic $\gamma$ -rays from TeV scale dark matter $\chi\chi \rightarrow \gamma\gamma$ annihilation resummed

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The annihilation cross section of TeV scale dark matter particles  $\chi^0$  with electroweak charges into photons is affected by large quantum corrections due to Sudakov logarithms and the Sommerfeld effect. We calculate the semi-inclusive photon energy spectrum in  $\chi^0\chi^0 \rightarrow \gamma + X$  in the vicinity of the maximal photon energy  $E_\gamma = m_\chi$  with NLL' accuracy in an all-order summation of the electroweak perturbative expansion adopting the pure wino model. This results in the most precise theoretical prediction of the annihilation rate for  $\gamma$ -ray telescopes with photon energy resolution of parametric order  $m_W^2/m_\chi$  for photons with TeV energies.

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