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Dark matter annihilation into right-handed neutrinos and the galactic center gamma-ray excess

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We have studied a specific case that the dark matter particles annihilate into right-handed neutrinos. We calculate the predicted gamma-ray excess from the galactic center and compare our results with the data from the Fermi-LAT. An approximately 10-60 GeV right-handed neutrino with heavier dark matter particle can perfectly explain the observed spectrum. The annihilation cross section $\langle\sigma v\rangle$ falls within the range $0.5-4\times 10^{-26}$ cm³/s, which is roughly compatible with the WIMP annihilation cross section. This presentation is based on our work 1512.02899.

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