γ Rays from Neutralino Annihilation into Photons

SUN La-Zhen,[1] LIU Yao-Yang,[1,2] ZHANG Yuan-Zhong[2,3] and JIANG Xiang-Dong[4]

[1] Department of Modern Physics, University of Science and Technology of China, Hefei 230026, China
[2] Institute of Theoretical Physics, The Chinese Academy of Sciences, Beijing 100080, China
[3] CCAST (World Laboratory), P.O. Box 8730, Beijing 100080, China
[4] Institute of High Energy Physics, The Chinese Academy of Sciences, Beijing 100039, China

Abstract: We calculate the cross section for neutralino annihilation into the two-photon and apply the cross section to find the flux in a γ-ray telescope such as ASTROGAM. The processes $\tilde{\chi}_1^0 \tilde{\chi}_1^0 \to \gamma\gamma$ may be astrophysically significant sources of γ-ray lines. The theoretical estimates of diffuse γ-ray background are subject to uncertainties.

[Full text: PDF]

Close