SUSY07



Contribution ID: 245

Type: Parallel Talk

Uncertainties of the antiproton flux from dark matter annihilation in comparison with the EGRET excess of diffuse gamma rays

Thursday 26 July 2007 17:50 (20 minutes)

The EGRET excess of diffuse Galactic gamma rays shows all the features expected from dark matter annihilation (DMA): a spectral shape given by the fragmentation of mono-energetic quarks, which is the same in all sky directions and an intensity distribution of the excess expected from a standard dark matter halo, predicted by the rotation curve.

From the EGRET excess one can predict the flux of antiprotons from DMA. However, how many antiprotons arrive at the detector depends strongly on the propagation model. The simplest isotropic propagation models trap the anitprotons in the Galaxy, which leads to a local anitproton flux far above the observed flux. According to Bergstrom et al. this excludes the DMA interpretation of the EGRET excess. Here it is shown that more realistic anisotropic propagation models, in which most antiprotons escape by convection, are consistent with the B/C ratio, the antiproton flux and the EGRET excess from DMA.

Author: GEBAUER, Iris (Universitaet Karlsruhe)

Co-authors: Dr SANDER, Christian (Univ. Hamburg); Prof. KAZAKOV, Dmitri (JINR, Dubna); WEBER, Markus (Univ. Karlsruhe); Dr ZHUKOV, Valery (Univ. Karlsruhe); Prof. DE BOER, Wim (Univ. Karlsruhe)

Presenter: GEBAUER, Iris (Universitaet Karlsruhe)

Session Classification: Cosmology 2

Track Classification: Cosmology and Astrophysics