

Search for the suppression of the photon yield from the decay of dark matter particle

Monday, 22 October 2018 15:40 (150)

In the late 2000s, Pamela experiment discovered an excess of the cosmic positron flux over the expected background at high energies, which was verified by several subsequent experiments (AMS-2, Fermi-LAT). This excess was called the “positron anomaly”. There are many attempts to explain it with annihilation or decays of particles of Dark Matter (DM). However, these attempts become practically incompatible with the latest data on the cosmic gamma background, obtained by the Fermi-LAT satellite, because photons unavoidably appear during the decay or annihilation with the formation of positrons. In this paper, we investigate the possibility of suppressing photon radiation in the processes of decay of dark matter particles due to the parameters of the physics of the interaction of Dark Matter, leading to this decay. It was found that the considered variants of the interaction model ((pseudo) scalar and (axially) vector cases) don't allow to obtain such suppression.

Primary author(s) : Mr. KAMALETDINOV, Ayrat; BELOTSKY, Konstantin

Presenter(s) : Mr. KAMALETDINOV, Ayrat

Session Classification : Poster session and coffee-buffet

Track Classification : Particle physics: astroparticle physics