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Production of Secondary Cosmic Rays in Supernova Remnants

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We study production of secondary cosmic rays (CR) in supernova remnants (SNR). The model includes reacceleration of already existing in interstellar medium secondary CR particles as well as creation of secondary CRs in nuclear collisions of accelerated protons with gas nuclei and their subsequent acceleration by SNR shock. It is shown that production secondary CRs in SNRs produces considerable effect in their resultant energy spectrum making it essentially flatter above 10 GeV. It is shown that calculated energy spectra of antiprotons, positrons and secondary nuclei Li, Be, B are well consistent experimental data obtained in recent experiments PAMELA, Fermi and AMS-02.

Collaboration

- not specified -

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