

Cosmic ray transport in the proximity of pulsars and the formation of gamma-ray halos

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The detection of an extended multi-TeV gamma ray emission around the Geminga pulsar by the HAWC collaboration provides a unique tool to investigate the transport properties of cosmic rays in the turbulent magnetized interstellar medium. In this work, different regimes of propagation of ultrarelativistic electrons in the proximity of pulsars are analyzed and their implications for the angular and energy distributions of the resulting secondary radiation are discussed. The results are discussed in the context of the interpretation of the gamma-ray halo around Geminga reported by HAWC.

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Collaboration

other Collaboration

Subcategory

Theoretical Results

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