



Contribution ID: 3

Type: Dark Matter Searches

The ANITA Anomalous Events and Axion Quark Nuggets

Wednesday, 16 February 2022 10:12 (12 minutes)

The Antarctic Impulse Transient Antenna (ANITA) collaboration have reported observation of two anomalous events with noninverted polarity. These events are proven to be hard to explain in terms of conventional cosmic rays (CRs). We propose that these anomalous events represent the direct manifestation of the dark matter (DM) annihilation events within the so-called axion quark nugget (AQN) DM model, which was originally invented for completely different purpose to explain the observed similarity between the dark and the visible components in the Universe, i.e. $\Omega_{\text{DM}} \sim \Omega_{\text{vis}}$ without any fitting parameters. We support this proposal by demonstrating that the observations, including the frequency, intensity and time duration of the radio pulses nicely match the emission features of the upward going AQN events. We list a number of features of the AQN events which are very distinct from conventional CR air showers. The observations (non-observation) of these features may substantiate (refute) our proposal.

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Please select: Experiment or Theory

Theory

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Session Classification: Dark Matter Searches