

A Morphological Study and of the Light Curves of Gamma-ray Millisecond Pulsars

Tuesday 11 October 2022 10:53 (1 minute)

Millisecond pulsars are old recycled pulsars with a rotation period of less than 30 ms. The pulsed GeV emission mechanism of the MSPs is not fully understood. The Fermi LAT Third Pulsar Catalogue (3PC) will present light curves of unprecedented quality for more than 275 gamma-ray pulsars, with more than 100 of them being MSPs. As a part of our project, we are studying the morphology of the MSPs' light curves to perform the phase-resolved spectral analysis to probe particular prominent features (e.g., peaks, bridges, background emission). This model will be combined with a spectral model to represent the intensity as a 2-dimensional function of the phase and energy. In this poster, we present the first results of the phase-resolved spectral morphological analysis.

Track

Pulsars

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Session Classification: Poster session