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A Time-differencing Technique for Finding Gamma-Ray Pulsars

Abstract content

Detecting periodicity from a gamma-ray pulsar is exceedingly difficult without prior knowledge of its pulsation frequency and frequency derivative. The low fluxes attainable in the gamma-ray band mandate very long exposures, making the direct application of Fourier analysis methods computationally prohibitive. We demonstrate that a new analysis technique, based on analyzing the differences of photon arrival times rather than the time series itself, can maintain good sensitivity while reducing the effects of frequency derivatives and timing noise. We demonstrate the power of this new technique by analyzing Monte Carlo simulated data and EGRET data.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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