The pulsar contribution to the EGRET γ-ray sources

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ABSTRACT: Comparing the observed population of unidentified γ-ray sources in the Milky Way with Monte Carlo simulations of pulsar populations, based on various models for the radio and γ-ray beam properties, provides useful diagnostics on the pulsar contribution to the γ-ray sources and on important aspects of pulsar emission, such as the accelerator site (polar cap, slot gap, outer gap), the luminosity and spectral evolution with spin-down power and age, and the aperture and relative orientation of the radio and high-energy beams. The addition of large amounts of dark gas in the interstellar emission background has recently led to a substantial revision of the EGRET catalogue of γ-ray sources. We will compare their spatial and flux distributions with simulated populations of radio and γ-ray pulsars for various models.