

γ -RAY PULSARS AND EGRET SOURCES IN THE GOULD BELT

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The time evolution of the Gould Belt has been modelled in 3D and confronted to the spatial and velocity distributions of all HI and CO clouds within a few hundred parsecs from the Sun and to the Hipparcos distances of the nearby OB associations. Given the enhanced Belt supernova rate, pulsars born in the Belt in the last few Myr may account for the persistent unidentified EGRET sources associated with the Belt. Simulations of the time evolution and visibility (for EGRET) of this pulsar population have been carried out. The spatial, spectral and flux distributions of the predicted population yield useful constraints on the pulsar emission parameters, such as the beaming fraction and beam intensity with opening angle, required to match the EGRET source population.