

Spectral Modeling of the EGRET 3EG Gamma Ray Sources Near the Galactic Plane

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The third EGRET catalog lists 84 sources within 10° of the Galactic Plane. Five of these are well-known spin-powered pulsars, 2 and possibly 3 others are blazars, and the remaining 74 are classified as unidentified, although 6 of these are likely to be artifacts of nearby strong sources. Several of the remaining 68 unidentified sources have been noted as having positional agreement with supernovae remnants and OB associations. Others may be radio-quiet pulsars like Geminga, and still others may belong to a totally new class of sources. The question of the energy spectral distributions of these sources is an important clue to their identification. In this paper, the spectra of the sources within 10° of Galactic Plane are fit with three different functional forms; a single power law, two power laws, and a power law times exponential. Where possible, the best fit is selected with statistical tests. About 15 sources are found to have spectra that are fit by a breaking power law or by the power law times exponential function. The results for each source will be presented.