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Improving Fermi-LAT Angular Resolution with CTBCORE

The Large Area Telescope on the *Fermi* Gamma-ray Space Telescope has a point spread function with large tails, consisting of events affected by tracker inefficiencies, inactive volumes, and hard scattering; these tails can make source confusion a limiting factor. The parameter CTBCORE, available in the publicly available Extended *Fermi* LAT data, estimates the quality of each event's direction reconstruction; by implementing a cut in this parameter, the tails of the point spread function can be suppressed at the cost of losing effective area. We implement cuts on CTBCORE and present updated instrument response functions derived from the *Fermi* LAT data itself, along with all-sky maps generated with these cuts. Having shown the effectiveness of these cuts, especially at low energies, we encourage their use in analyses where angular resolution is more important than Poisson noise.

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