

The Third Catalog of Hard Fermi-LAT Sources (3FHL)

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We present the new Third Catalog of Hard Fermi-LAT Sources, dubbed 3FHL, which describes the sky at energies above 10 GeV. Relying on 7 years of data and the Pass 8 event level analysis, this catalog reports the detection of more than 1700 sources, representing a huge step forward relative to the 1FHL, which characterizes the sky at the same energies. The improved flux sensitivity (factor of 3) allows us to detect a factor of 3.5 more sources than 1FHL (including about 50 extended sources) making it ideal for large statistical population studies. Furthermore, by comparing the 2FHL and 3FHL source counts, we estimate that for the same energy flux level there is a factor of about 2 more sources at 10 GeV than at 50 GeV. This result highlights the importance of lowering the energy threshold of Cherenkov telescopes, as much as possible, for population studies.

Summary

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