Searching the COMPTEL Data for Sources of the Fermi-LAT 1FLE Catalog

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The first catalog of Fermi-LAT sources below 100 MeV (1FLE catalog, Principe et 2018) covers the energy range from 30 to 100 MeV. The catalog contains 198 sources of different nature, having a detection significance above 3 sigma. Most of these sources are of extragalactic nature with flat spectrum radio quasars (FSRQs) being the majority. The COMPTEL experiment aboard the Compton Gamma-Ray Observatory (CGRO) surveyed the sky for nine years (1991 to2000) at energies between 0.75 and 30 MeV, i.e. in the adjacent energy band on the lower side of the 1FLE catalog. The COMPTEL source catalog (Schönfelder et al. 2000) lists 32 steady sources, of which 14 have an association in the 1FLE catalog.

We have searched the COMPTEL data systematically for all 198 sources of the 1FLE-catalog for several periods in time windows as well energy bands. We found evidence on the 3-sigma level in the COMPTEL data for several of the 1FLE sources not yet associated to a COMPTEL source. We will report the results of these analyses by providing source lists and properties, present the combined COMPTEL and 1FLE spectra for interesting sources, and discuss the scientific implications.

Track

Future Missions/Instruments

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