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The latest Fermi catalogs and SKA prospects for high energy studies - 15'

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The Fermi-LAT Fourth Source Catalog (4FGL), based on 8 years of $E > 50$ MeV photon data, will comprise about 5500 sources. This number corresponds to a 60% increase relative to 3FGL. The talk will describe the analysis improvements over 3FGL and the new catalog features. About 66% of the sources will have high-confidence counterparts detected at other wavelengths, both extragalactic (mainly blazars) and galactic (mainly pulsars). The nature and properties of the newly detected sources will be discussed, in particular with a description of the accompanying Fourth LAT AGN catalog (4LAC), which will comprise about 3000 sources, essentially doubling the number of sources published in 3LAC, and of the first Fermi-LAT low energy catalog (1FLE) of sources detected in the 30 MeV - 100 MeV range. Multiwavelength observations are key for the characterisation of the physical properties of the identified objects, as well as for the classification of the so-far unassociated gamma-ray sources. The SKA and its precursor can have a prominent role in this area, as I will point out in this presentation with some case studies.

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