

Abstract Submitted
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Testing the Galactic Center Gamma-Ray Excess with the Known Catalogue of Gamma-Ray Point Sources ILIAS CHOLIS¹, Oakland University — The Fermi-LAT collaboration has recently released a new point source catalog, referred to as 4FGL. For the first time, we perform a template fit using information from this new catalog and find that the Galactic center excess is still present. On the other hand, we find that a wavelet-based search for point sources is highly sensitive to the use of the 4FGL catalog: no excess of small-angular-scale pixels is apparent when we mask out 4FGL point sources. We postulate that the 4FGL catalog contains the large majority of bright point sources that have previously been suggested to account for the excess in gamma rays detected at the Galactic center in Fermi-LAT data. Furthermore, after identifying which bright sources have no known counterpart, we place constraints on the luminosity function necessary for point sources to explain the smooth emission seen in the template fit.

¹In collaboration with Yi-Ming Zhong (KICP, University of Chicago), Samuel D. McDermott (Fermilab) and Patrick J. Fox (Fermilab)

Ilias Cholis
Oakland University

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