

# A New Mask for An Old Suspect – Testing the Sensitivity of the Galactic Center Excess to the Point Source Mask

*Wednesday 24 June 2020 15:00 (1 hour)*

The talk will be given remotely:

Join Zoom Meeting

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Abstract:

The Galactic center excess has lingered as a possible, but ambiguous, signal of new physics for several years. It has previously been argued that certain details of the excess emission imply that it likely originates from a population of point sources, but this remains a topic of vigorous debate. In this talk, I will report on recent work, relying on a new point source catalog (obtained by the Fermi-LAT collaboration), that sheds light on this controversial topic. After giving some background on the excess, I will discuss various metrics that have been used to try to understand its true nature. I will show that the large majority of bright sources that were previously suggested to be members of the excess are indeed contained in the new Fermi-LAT point source catalog – and yet, despite masking out these sources (so that they cannot contribute to the excess), the excess remains just as bright in our new fit to the data. I will go on to discuss the implications of our findings for the two most popular interpretations of the excess and I will show some preliminary next steps to further clarify the nature of the excess.

**Presenter:** MCDERMOTT, Samuel