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Disrupted globular clusters explain gamma ray excess in the Galactic center

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The Fermi satellite has recently detected gamma ray emission from the central regions of our Galaxy. This may be evidence for dark matter particles, a major component of the standard cosmological model, annihilating to produce high-energy photons. We show that the observed signal may instead be generated by millisecond pulsars that formed in dense star clusters in the Galactic halo. Most of these clusters were ultimately disrupted by evaporation and gravitational tides, contributing to a spherical bulge of stars and stellar remnants.

Authors: Prof. KOCSIS, Bence (Eötvös University); Dr BRANDT, Timothy (Institute for Advanced Study)

Presenter: Prof. KOCSIS, Bence (Eötvös University)

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