

Abstract Submitted
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Stellar and dark matter caustics: are both visible? ROBYN SANDERSON, MIT — Dark matter caustics formed by galaxy mergers can substantially enhance the local density of dark matter, and even more substantially enhance the gamma-ray flux from WIMP annihilations in those caustics, in some cases by several orders of magnitude. This effect raises the possibility that a high-energy gamma ray detector, such as GLAST, may be able to detect annihilation signals from extragalactic caustics. I calculate the annihilation flux for two cases where caustics are already known to exist from stellar morphology and kinematics: the classic shell galaxy NGC3293 and the shell in the Andromeda galaxy (M31) recently discovered by Fardal et al.

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