

Abstract Submitted
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Dark Matter and Neutron Stars PEDRO ESPINO, University of Arizona — Compact Stars near the center of the Galaxy are thought to be in the presence of a significant density of dark matter (DM). Based on the particle model of DM, a wide variety of global and local effects can be seen in the stars. After a significant number of DM particles are bound to the star via gravitational, nucleon-DM, and DM self interactions, effects can be seen in the temperature, lifetime, and equation of state (EoS) of the star. Results are presented for constraints on the DM parameter space that allows for gravitational collapse of the star. Different models for particle DM are tested and the effect on the bulk properties and EoS of compact nuclear matter are presented.

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