

# 31st International Symposium on Lepton Photon Interactions at High Energies



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## Capture of Dark Matter in Neutron Stars and White Dwarfs

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Dark Matter candidates with cross sections as tiny as  $10^{-45} \text{ cm}^2$  can be captured efficiently in compact stars, like Neutron Stars and White Dwarfs.

The collisions to capture Dark Matter would heat the star, raising its equilibrium temperature, around 2000K for a NS. Thus, observation of old and cold NS that should have reached equilibrium can be used to set constraints on the capture cross section.

In this talk, we present the formalism to calculate capture rates in NS and WD in the optically thin and optically thick regimes, and the limits on the DM-nucleo cross section that one could infer from non-observation.

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