

Probing Dark Matter with Galactic Center White Dwarfs

White dwarfs are exceptional astrophysical laboratories for probing dark matter (DM). Their high density and large size enable efficient DM capture, potentially leading to observable signals. This talk explores the white dwarf population in the Milky Way's nuclear star cluster as a novel probe of DM interactions. I will first discuss how these white dwarfs can significantly amplify DM annihilation in this region. Then, using Fermi and H.E.S.S. data alongside various DM Galactic profiles, I will show how the resulting sensitivity lies multiple orders of magnitude beyond what current experiments can achieve in the sub-GeV mass regime for DM annihilation into gamma-rays.

Author: ACEVEDO, Javier (SLAC)

Presenter: ACEVEDO, Javier (SLAC)