

The 1st IReNA-Ukakuren Joint Workshop “Advancing Professional Development in Nuclear Astrophysics and Beyond”

Contribution ID: 58

Type: **Talk**

Dark matter effect on the neutron star equation of state

Wednesday, 30 August 2023 11:10 (30 minutes)

This talk explores the effect of dark matter, captured by the strong gravity and high density of neutron stars, on the equation of state (EoS) of neutron stars.

We establish a theoretical framework incorporating dark matter interactions and demonstrate potential modifications in the neutron star EoS.

These theoretical modifications allow us to explore potential constraints on the properties of dark matter by comparing them to observational data.

In particular, we would like to discuss whether they can provide unique insights into the characteristics of the dark sector.

The presentation concludes with a discussion on future prospects.

Primary author: PARK, Jubin (Soongsil University and OMEG institute)

Presenter: PARK, Jubin (Soongsil University and OMEG institute)

Session Classification: Nuclear Matter