Contribution ID: **715** Type: **Parallel session talk**

Dark Matter and its Effect on Gravitational Wave Signal

Friday 25 August 2023 09:10 (20 minutes)

In this talk, we present two gauge models for light-dark matter: one with an exotic positive charged lepton and the other one is a variant with right-handed neutrinos. The scalar self-interacting dark matters are stable without imposing new symmetry and should be weak-interacting. We study the impact of the self-interacting light dark matter on the formation of the dark halo, the observation properties of neutron stars, and its effect on the gravitational wave signal. We also present a search by the LIGO-Virgo-KAGRA collaborations for ultralight dark matter using cross-correlation and excess power methods for O3 observing run.

Collaboration / Activity

LIGO-Virgo-KAGRA

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