



Contribution ID: 35

Type: **not specified**

Space Quantum Sensors for Jovian-Bound Dark Matter

Sunday 3 November 2024 11:38 (18 minutes)

We propose the use of space-based quantum sensors to study ultralight dark matter bound to planets. Using Jupiter and Earth as examples, we demonstrate that current and future experiments can constrain the mass and coupling of scalar dark matter. Jupiter, being the most massive planet in the solar system, is expected to accumulate the largest amount of dark matter compared to lighter planets. This provides the most stringent possible bounds from planetary probes within our solar system in the future.

Author: HAJKARIM, Fazlollah (University of Oklahoma)

Presenter: HAJKARIM, Fazlollah (University of Oklahoma)

Session Classification: Astrophysical Probes