



Contribution ID: 464

Type: **Parallel talk**

A Radio Telescope Search For Dark Matter in the L- and S- Bands

Wednesday 30 August 2023 14:15 (15 minutes)

Despite recent developments of sensitive dark matter detectors, the mass and nature of dark matter remain poorly constrained, and thus a broad observational strategy may prove helpful toward its ultimate identification. We have developed and tested a novel model-independent approach which utilizes the recent Breakthrough Listen public data release of three years of observation by the Green Bank Telescope. The method assumes only a quasi-monochromatic radio line from decay or annihilation of the dark matter, and additionally that the line exhibits a Doppler shift with position according to the solar motion through a static galactic halo. This approach has been tested and refined on a subset of L-band data; in this talk we will report results from the full L- and S-band data sets

Submitted on behalf of a Collaboration?

No

Authors: LEDER, Alexander Friedrich; Ms DAWES, Anna; KELLER, Aya (UC Berkeley); Prof. VAN BIBBER, Karl (University of California Berkeley)

Presenter: KELLER, Aya (UC Berkeley)

Session Classification: Dark matter and its detection

Track Classification: Dark matter and its detection