



Contribution ID: 14

Type: **not specified**

Polarized Signatures of Axions at Magnetic White Dwarfs

Thursday 7 December 2023 10:45 (45 minutes)

I will discuss a novel search for axions using spectropolarimetric observations of magnetic white dwarfs (MWDs). Photons produced as thermal radiation at the MWD surface may convert into an axion as they traverse the magnetosphere, but only the component polarized parallel to the MWD magnetic field. Therefore the MWD radiation at Earth is linearly polarized perpendicular to the magnetic field direction. I overview the analysis of archival linear polarization spectra of a nearby MWD, and then discuss the prospects for discovery in ongoing searches using dedicated data at the Lick and Keck Observatories.

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Session Classification: Morning Session 2