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PHYSICS AND ASTRONOMY COLLOQUIUM (Online)

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"Detecting and Characterizing Nearby Habitable Worlds"

Abstract

"It is now well established that small planets, Earths and super-Earths, are abundant in the solar neighbourhood. At least one quarter of nearby low-mass stars have an Earth-size planet in their habitable zone. Currently in operation, the Transiting Exoplanet Survey Satellite (TESS) is finding the closest transiting habitable worlds, several of which amenable to atmospheric characterization with the James Webb Space Telescope (JWST). On the ground, several transit surveys are unveiling nearby Earth-size planets like the famous Trappist-1 system. In parallel, several infrared precision radial velocity spectrographs are searching for the closest habitable worlds and provide key mass measurements of TESS targets. This talk will present a brief overview of several exoplanet science programs that my team is involved, more specifically precision radial velocimetry at infrared wavelengths (SPIRou & NIRPS) and atmospheric characterization with JWST. I will discuss the various challenges associated with studying small temperate exoplanets and the future prospect for detecting a biosignature with the European Extremely Large Telescope."

Wednesday, February 16, 2022

3:30 p.m. PDT

via Zoom: https://uvic.zoom.us/j/87290615845