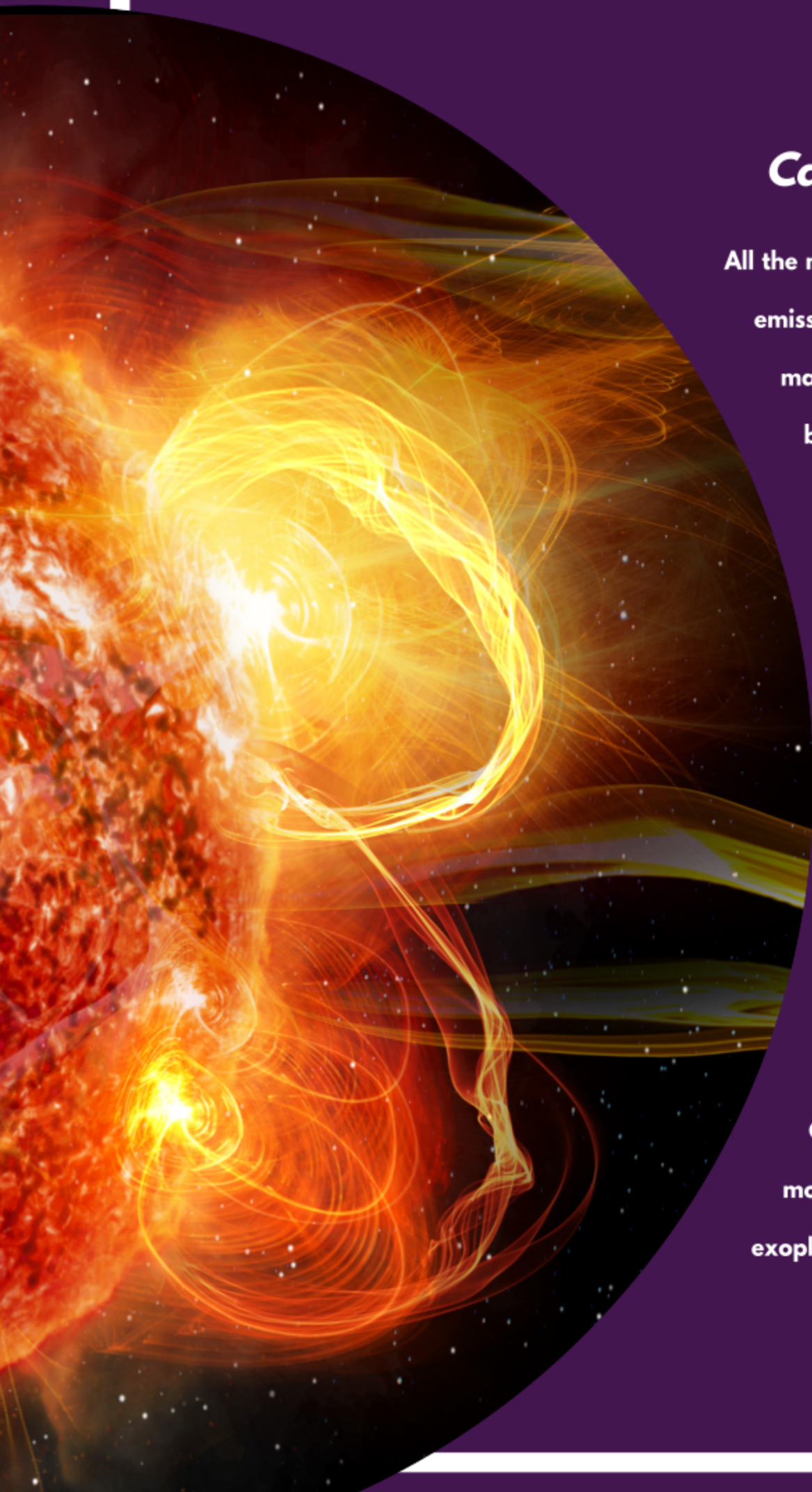


ASTROPHYSICS SEMINAR SERIES

Imaging All the Sky All the Time in Search of Radio Exoplanets

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All the magnetized planets in our solar system, including Earth, produce bright emission at low radio frequencies, predominantly originating in high magnetic latitudes and powered by magnetospheric currents. It has long been speculated that similar radio emission may be detectable from exoplanets orbiting nearby stars, potentially providing the first direct confirmation of the presence, strength and topology of exoplanet magnetospheres, and informing on their role in shielding the atmospheres of potentially habitable exoplanets. Despite 4 decades of searching, no exoplanet radio emission has been detected. Surprisingly, however, brown dwarfs have been found to produce both radio and optical emissions that are strikingly similar to the auroral emissions from solar system planets, albeit 100,000 times more luminous. I will discuss the radio emission from exoplanets and brown dwarfs with particular focus on the OVRO-LWA, a low frequency radio astronomy array located in the Owens Valley, California, that images the entire sky every 10 seconds to simultaneously monitor 4000 nearby stellar systems in the search for radio emission from exoplanets.

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