



Society of Physics Students presents:



2024 ECLIPSE SEMINAR SERIES



Student-Driven Radio Observations of the Sun and the Ionosphere During the 2024 Total Solar Eclipse

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On 8 April 2024 a total solar eclipse will traverse the continental United States. The totality time will be almost twice that of North American solar eclipse of 2017. This rare event provides a unique opportunity to study the response of the ionosphere and to generate radio images of the Sun during the eclipse. We are constructing a Deployable Low-Band Ionosphere and Transient Experiment (DLITE) station within the path of totality. DLITE is a four-element interferometric radio telescope utilizing Long Wavelength Array antennas. The antennas are separated by 300m allowing us to distinguish bright cosmic radio sources uniquely situated in the line of the eclipse's path of totality. Our station will observe from the grounds of Observatory Park in Montville, OH. We will: (i) study the impact of the reduced solar UV radiation on total electron content gradients (ii) probe turbulent irregularities in the ionosphere and (iii) produce radio images of the Sun. Beyond the eclipse the DLITE station will continue monitoring the ionosphere and will search for astrophysical transient sources. The construction and operation of DLITE is student-driven and we will collaborate to maximize outreach before during and after the eclipse.

Tuesday April 2nd, 2024

11:30 am in SR 151

Pizza and Refreshments Provided