

Abstract Submitted
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Ray tracing studies of ionospheric effects on the Long Wavelength Array¹ CHRISTOPHER WATTS, University of New Mexico, K.F. DYMOND, Naval Research Lab, MASAYA KUNYOSHI, University of New Mexico, LONG WAVELENGTH ARRAY TEAM — The Long Wavelength Array (LWA) is a new telescope/interferometer facility being established to do astrophysical observations in the frequency range 10 MHz to 90 MHz. As such, measurements will be strongly affected by the ionosphere. In fact, part of the LWA mandate is to make highly precise measurements of the ionosphere. We present modeling results from a ray tracing code on the ionospheric effects on a multi-station interferometer system. The purpose is to test a proposed calibration scheme, whereby the LWA scans ~100 “calibrator” sources every 10 seconds. It is found that, while generally this scheme is sufficient for basic calibration, refractive effects near the edge of the field of view are of concern.

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