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# Lunar Imaging and Ionospheric Calibration for the Lunar Cherenkov Technique

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The Lunar Cherenkov technique is a promising method for UHE neutrino and cosmic ray detection which aims to detect nanosecond radio pulses produced during particle interactions in the Lunar regolith. For low frequency experiments, such as NuMoon, the frequency dependent dispersive effect of the ionosphere is an important experimental concern as it reduces the pulse amplitude and subsequent chances of detection. We present continuing results from a new method to calibrate the dispersive effect of the ionosphere on Lunar Cherenkov pulses via Faraday rotation measurements of the Moon's polarised emission combined with geomagnetic field models. We also extend this work to include radio imaging of the Lunar surface, which provides information on the physical and chemical properties of the Lunar surface that may affect experimental strategies for the Lunar Cherenkov technique.

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