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TEC, Trigger and Check: preparing LOFAR for Lunar observations

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One of the main ways to use radio to detect Ultra High Energy Neutrinos and Cosmic Rays is the Lunar Askaryan technique, that uses the Moon as a target and searches for nanosecond pulses with large radio telescopes. To use low frequency aperture arrays, such as LOFAR and the SKA, pose new challenges and possibilities in detection techniques of short radio pulses and an accurate measurement of the Total Electron Content (TEC). As a prepatory work, we have used other measurements that use similar techniques, or that can answer a specific question, with the LOFAR radio telescope. In this contribution I will report on our work on triggering on short radio signals, post-event imaging of radio signals from buffered data and methods to determine the TEC-value.

Summary

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