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## ABSTRACTS

### *Reflectometry analysis of GNSS signals from near-field environment*

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#### Abstract

Upon analyzing the reflected signals from near-field environment of the GNSS (Global Navigation Satellite System) satellites in order to estimate the environmental parameters such as soil moisture, permafrost melt, snow depth, tides and vegetation water content surrounding a high quality geodetic GNSS antenna can be achieved. This type of analysis is done mainly on SNR (signal to noise ratio) patterns that are generated by the interference of direct and reflected (or multipath) GNSS signals. Taking into account the multitude of new GNSS satellites from different constellation, GNSS reflectometry is gaining more interest in the scientific word. The article is presenting a case study in which were analyzed the reflected GNSS signals resulting in an elliptical sensing zone that was determined with the help of the Fresnel equation. For detecting the periodic signal to extract the SNR spectral content from a normalized periodogram a Lomb Scargle Periodogram was used. Using a GNSS station mounted on a pillar situated in Oradea metropolitan area, we were able to map the refecton zones.