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BOOK OF ABSTRACTS

Analysis of signal scintillations for the Scandinavian and equatorial regions

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Scintillations have a strong impact on the communications and navigation at polar and equatorial regions. Presented here will be the analysis made on the GPS signal scintillations recorded at high latitudes in Tromsø (Norway).

Intensity scintillations can be obtained without particular difficulties. Phase scintillations are more difficult to retrieve from measurements. The retrieval procedure requires the use of a high-order filter in order to mitigate the influence of satellite motion, known to add some fluctuations to the signal. Moreover, the measurements will automatically include the receiver's noise which also must be removed.

The signal characteristics (phase and intensity) will be presented for the following parameters: intensity level, occurrence probability and coherence properties. Also, the values of these characteristics will be compared with modelling results.

Finally, the main features of a new scintillations forecasting technique, currently being developed, will be presented.