

Panels (P)

Space Geodesy and Remote Sensing: New Observations and Applications (PSD.2)

Either poster or oral presentation (no preference).

ESTIMATION OF TRANSMITTER AND RECEIVER CODE BIASES USING CONCURRENT GNSS AND IONOSONDE MEASUREMENTS

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The total electron content (TEC) is an important ionospheric characteristic used extensively in ionosphere / space research and in various positioning / navigation applications based on Global Navigation Satellite System (GNSS) signals. TEC calculations using dual-frequency GNSS receivers is the norm nowadays but, for calculation of the absolute TEC, the correct estimation of the Differential Code Biases (DCB) is crucial. Various methods for estimation of these biases are currently in use and most of them make several (rather strong) assumptions concerning the ionosphere structure and state which do not necessarily represent the real situation. In this presentation we explore the opportunities offered by the modern high-resolution digital ionosonde measurements to deduce key ionospheric properties / parameters in order to develop a new algorithm for real-time DCB estimation and evaluate its performance.