



On the impact of ionospheric variability and disturbances on GNSS-based positioning applications

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The ionospheric variability and the occurrence of ionospheric spatial/temporal structures and irregularities can seriously affect the accuracy and reliability of GNSS-based high precision positioning, particularly in real time applications. We will present our experience in: monitoring and analysing the ionospheric influence on the performance of GNSS reference networks (incl. Network RTK system integrity), studying the generation and propagation of trans-ionospheric GPS signal delay gradients and their possible effects on aircraft navigation (incl. GBAS-assisted landings), and developing appropriate ionosphere/space weather nowcast and forecast services. The focus of the presentation will be on local-scale ionospheric effects and on services that are predominantly oriented towards GNSS users in Belgium.