

Ionospheric residual analysis for network-RTK in low-latitude area: towards solar cycle 24

Abstract

Network-RTK positioning technique has been proven efficient to ameliorate a significant portion of spatially correlated errors over its coverage. Amongst them, the dispersive effect of ionosphere, which exhibits dynamic spatial and temporal variations, remains the largest error contributor in GPS positioning. Dispersive network residuals are expected to increase towards Solar Cycle 24. Investigation in ISKANDARnet found that the behaviour of equatorial ionospheric residuals reveals noticeable correlation with geomagnetic storm outburst.