



## **Preliminary analysis of the ionosphere-corrected PPP-RTK user performance**

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The realization of the integer ambiguity resolution (IAR) enabled precise point positioning (PPP) method, the so-called PPP-IAR, is enabled by providing single-receiver PPP users with satellite phase biases to recover the integerness of the user ambiguities. Successful IAR can greatly reduce the PPP solution convergence time. However, the unknown parameters for the ionospheric delays that are estimated by the PPP-IAR user do not allow for fast (or instantaneous) convergence to the centimeter-level positioning accuracy. A great shortening in the convergence time is expected in case precise ionospheric corrections are available to PPP-IAR users, realizing the transition to PPP-RTK mode.

This paper presents a preliminary analysis on the improvement of PPP-IAR user positioning performance using precise ionospheric corrections, which are required for fast convergence. The ionospheric corrections used at the user level were determined by modeling with B-splines the PPP-IAR high-precision ionospheric slant delays computed from receivers of a regional network. The improvement of the PPP-IAR user performance was analyzed in terms of the required time to correctly fix the integer ambiguities and the convergence time of the PPP-RTK positioning solutions.