



Real-Time IGS products verification in the context of their use in Precise Point Positioning

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Precise Point Positioning (PPP) is a positioning technique of single GNSS receiver which applies high quality products from permanent GNSS observations to utilize the computational potential of global network analysis. Estimated satellite orbits and clocks corrections are introduced into equation system as known parameters. PPP requires the application of precise products, since their quality directly reflects the positioning accuracy.

In June 2007 IGS Real-time Pilot Project has started in order to satisfy real-time users, which is especially important for Precise Point Positioning. Currently available streams including precise orbits, clocks and code biases are standardized on RTCM-SC 104 formats and may be used as a substitute for ultra-rapid products.

The target combination product performances are 0.3ns for satellite clock accuracy and orbit accuracy at the level of the IGS Ultra predictions with maximum latency of 10s. This study presents the quality assessment of currently available Real-Time IGS products. Long-term test include comparisons of disseminated information with final and high-rate products, stability assessment over time, as well as latency validation of available RTCM streams.