



Improvement of multi-GNSS orbit and clock prediction at GFZ

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Since November 2015 we started ultra rapid multi-GNSS orbit-, clock- and EOP-product series, named GBU. The GBU Orbit/Clock product covers the GNSS systems GPS, GLO, GAL, BDS and QZSS. Over almost two year operation our GBU product is accepted widely and used in international organizations, companies and institutes for real-time application routinely.

In our recently study we reviewed the orbit & clock prediction strategy. The clock prediction strategy is recommended in [jgsmail-2962, 2000] by Jim Ray for GPS Ultra-rapid clock product. The predicted clock corrections are extrapolated from estimated satellite clock corrections. In our POD processing the satellite orbit and clock are estimated simultaneously, and the radial component of the orbit is correlated with clock parameters, especially for high attitude orbit like GEO satellite. During the last dedicate development the clock stability is increased dramatically. Such kind of clock is equipped in the new GNSS satellites. In this work we will show how the orbit and clock determination and prediction can benefit from the more stable clock.