

Open Seminar Series

Geoscience & Remote Sensing

Real-time multi-constellation precise point positioning (PPP) with integer ambiguity resolution

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CiTG room G

The Precise Point Positioning (PPP) technique has been intensively developed in the GNSS community for the last decade. The technique makes use of precise orbit and clock corrections to perform precise positioning for a single receiver. Fugro launched the G2 service in 2009 which was the first of its kind to use both GPS and GLONASS in real-time PPP. In the beginning of 2015, Fugro launched the G4 service that includes precise orbits and clock corrections of additional BeiDou and Galileo satellites. However, as we know, the traditional PPP technique does not fix carrier-phase ambiguities to their integers because satellite hardware biases are not eliminated when using data from a single receiver. Additional corrections are needed to form and fix integer ambiguities, in order to improve the accuracy of positioning. In March 2015 Fugro introduced the G2+ (or G2 Plus) service that provides hardware-bias-like corrections together with orbit and clock corrections for GPS and GLONASS systems.

All these corrections are computed in real-time and broadcasted globally to our clients in the field via L-band communication satellites. This presentation will talk about the technologies that Fugro has developed, and present some results that were obtained using its services.

