High-precision GNSS: Methods, Open Problems and Geoscience Applications

Message from the Guest Editors

In the past two decades, high-precision GPS has been applied to support numerous applications in geosciences. Currently, there are two fully operational Global Navigation Satellite Systems (GNSS), and two more are in the implementation stage. The new Galileo and BDS systems already provide usable signals, and both GPS and GLONASS are currently undergoing significant modernization, which adds more capacity, more signals, better accuracy, and interoperability, etc. Meanwhile, significant technological development is provided by GNSS equipment (in some cases even at low-cost), which is able to collect measurements at much higher rates (up to 100 Hz), thus presenting new possibilities. Algorithmic advancements are needed to address the opportunities and challenges in enhancing the accuracy, availability, interoperability, and integrity of high-precision GNSS applications.

This Special Issue is a platform to discuss new developments in high-precision GNSS algorithms and applications in geosciences; in this respect, contributions from other branches of geosciences (geodynamics, seismology, tsunamis, ionosphere, troposphere, etc.) are very welcome.