

The Performance of BeiDou-2 Relative Positioning Using the Short Baseline and Zero Baseline Measurements

Xu Tang and Gethin Roberts (China, PR)

SUMMARY

The University of Nottingham operates a campus in Ningbo, China known as the University of Nottingham Ningbo China (UNNC). To this effect, the University of Nottingham has full access to the Beidou system, as well as QZSS. Currently UNNC has a number of GNSS receivers that can access the multi-GNSS constellation, these being a ComNav triple frequency system, Unicore UR240-CORS-II and UR240-RTK GNSS receivers, Javad SIGMA and TIUMPH-VS receivers, as Leica GR25, GR10, GS10 GNSS receivers as well as U-Blox NEO-7P receivers. In addition to this, UNNC owns a Spirent GSS8000 GPS, GLONASS, Galileo and BeiDou hardware simulator.

Currently, it is typical to observe 30 or more GNSS satellites at any time at UNNC, allowing the campus to be an excellent test bed for such work.

This paper brings together some initial results from a variety of these GNSS receivers, processed with in-house software, to illustrate the performance of the Beidou signals in particular. These tests include the results of zero baseline static tests, as well as short baseline static tests.