



Estimation of Galileo-IOV and GPS inter system bias: first results at UWM

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It is expected that the introduction of tightly combined GPS and Galileo observational model will result in increasing of the accuracy and reliability of the solution. This will also allow for shortening the required length of the observing session and extending the allowable distance between the user receiver and reference network stations. Two overlapping frequencies - L1/E1 and L5/E5a - in both systems support creating double-differences using mixed observations from GPS and Galileo systems. However, when combining observations from different system, one must take into account not only time and coordinate system differences, but also Inter System Bias (ISB). ISB is the difference in the receiver hardware delays for the both systems that is present in carrier-phase and pseudorange data.

This paper investigates the estimation of GPS and Galileo-IOV ISB. The presented numerical tests are based on real observational data collected on zero or short baselines using different sets of GNSS receivers. All calculations were performed with developed research software – GINPOS – developed at UWM.