GPS calibration of ZA receiver at the BIPM (1102-2016)

Summary

In August 2016, GNSS equipment owned by the National Metrology Institute of South Africa (UTC acronym ZA) was installed at the BIPM and calibrated against three BIPM permanently installed reference receivers, including BP0R which is included in the Group1 ensemble of reference systems. The method of calibration is the "golden system calibration" which comprises just one period of data taking at the BIPM.

The operation and report of measurements at the BIPM are described in the report by the BIPM.

- **Final results for the calibrated systems**

The INTDLY values of the ZA02 receiver given in Table 1 have been computed by the BIPM based on the results of the 1001-2014 Group 1 trip for BP0R and should not be updated to reflect later changes in the conventional INTDLY values of BP0R.

The uncertainty for a P3/PPP link involving ZA02 is U_{CAL0} = 4.0 ns at the time of calibration, as given conventionally to "golden system calibrations".

Changes in the set-up of the receivers after the calibration must be accounted for as described in section A.3.6 of the Calibration guidelines v3.2 in ftp://ftp2.bipm.org/pub/tai/publication/gnss-calibration/guidelines/.

Table 1. Final P1/P2 INTDLY values from the 1102-2016 trip. Values of REFDLY and CABDLY during the calibration and the resulting P3 Total delay TOTDLY are also indicated for reference (all values in ns).

System	BIPM	Date	INTDLY P1	INTDLY P2	REFDLY	CABDLY	Note	TOTDLY P3
ZA02	ZA02	2016.7	**47.0**	**51.0**	175.7	152.6	(1)	17.7

Notes:
(1) The REFDLY and CABDLY values represent the set-up during the measurements at the BIPM.

Version history
V1.1 2016/10/07: Publication of results from V1.1 of the Calibration report.