Results of the BIPM 2017 TWSTFT SATRE calibrations for UTC and Non-UTC links

-- Summary of the TM268V2a

Zhiheng Jiang[1], Victor Zhang[2] and Dirk Piester[3]

1. BIPM: Time Department, Bureau International des Poids et Mesures
2. NIST: National Institute of Standards and Technology, 325 Broadway, Boulder, CO 80305, USA
3. PTB: Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany

- This is the summary of the TM268V2 [2]. V2 is the updated version of V1 with **PTB01** replaced by **PTB05** [1]. Only the SATRE calibration corrections are re-computed and given here
- The CALR values are given in **Tables 4.1.2 and 4.2.1a**. The date of the implementation of this new calibration result is proposed on the **MJD 57997 or the 1 September 2017** at 0h UTC
- The latest 1707 (July 2017) data were used. Details can be found in [2]

References

[1] Dirk Piester (2017) Update on TWSTFT Activities at PTB, Laboratory report to the 25th meeting of the CCTF Working Group on TWSTFT, 17-18 May 2017, NTSC, Xian, China

[2] Jiang Z., Huan Y., Zhang, V. and Dirk P. (2017) BIPM 2017 TWSTFT SATRE/SDR calibrations for UTC and Non-UTC links, BIPM Technical Memorandum, TM268 V2a

Table 4.1.2 The BIPM SATRE CALR/ESDVAR for AOS and NPL (cf. Table 1b [2])

CI	Type	uB	Labi	Labj	S	CARL	ESDVAR	StDev
449	LC(GPS)	2.7	AOS01	PTB05	1	33.1	0.0	0.020
			PTB05	AOS01	1	-33.1	0.0	
450	LC(GPS)	7.1	NPL02	PTB05	1	728.1	0.0	0.020
			PTB05	NPL02	1	-728.1	0.0	

Table 4.2.1a The new CALR Values for non UTC SATRE links to be implemented in the TW ITU data files

CI	Type	uB	Labi	Labj	S	CALR	ESDVAR	StDev	No
451	TCC	3.0	AOS01	CH01	1	37.590	00000.000	0.121/0.024	1
			CH01	AOS01	1	-37.590	00000.000	0.121/0.024	1
452	TCC	3.0	AOS01	IT02	1	304.563	00000.000	0.115/0.023	2
			IT02	AOS01	1	-304.563	00000.000	0.115/0.023	2
453	TCC	3.0	AOS01	NIST01	1	-232.515	00000.000	0.154/0.030	3
			NIST01	AOS01	1	232.515	00000.000	0.154/0.030	3
454	TCC	7.1	AOS01	NPL02	1	-695.477	00000.000	0.265/0.052	4
			NPL02	AOS01	1	695.477	00000.000	0.265/0.052	4
455	TCC	3.0	AOS01	OP01	1	7143.848	00000.000	0.143/0.028	5
			OP01	AOS01	1	-7143.848	00000.000	0.143/0.028	5
456	TCC	3.0	AOS01	ROA01	1	-1.751	00000.000	0.189/0.037	6
			ROA01	AOS01	1	1.751	00000.000	0.189/0.037	6
457	TCC	3.0	AOS01	SP01	1	31.684	00000.000	0.162/0.032	7
			SP01	AOS01	1	-31.684	00000.000	0.162/0.032	7
458	TCC	3.0	AOS01	USNO01	1	-178.008	00000.000	0.171/0.034	8
			USNO01	AOS01	1	178.008	00000.000	0.171/0.034	8
459	TCC	3.0	AOS01	VSL01	1	309.468	00000.000	0.284/0.056	9
			VSL01	AOS01	1	-309.468	00000.000	0.284/0.056	9
460	TCC	2.0	CH01	IT02	1	266.645	00000.000	0.181/0.036	10
			IT02	CH01	1	-266.645	00000.000	0.181/0.036	10
461	TCC	2.0	CH01	NIST01	1	-267.869	00000.000	0.115/0.022	11
			NIST01	CH01	1	267.869	00000.000	0.115/0.022	11
462	TCC	7.1	CH01	NPL02	1	-733.262	00000.000	0.178/0.035	12
			NPL02	CH01	1	733.262	00000.000	0.178/0.035	12
463	TCC	2.0	CH01	OP01	1	7106.131	00000.000	0.134/0.026	13
			OP01	CH01	1	-7106.131	00000.000	0.134/0.026	13
464	TCC	2.0	CH01	ROA01	1	-39.099	00000.000	0.150/0.029	14
			ROA01	CH01	1	39.099	00000.000	0.150/0.029	14
465	TCC	2.0	CH01	SP01	1	-6.121	00000.000	0.184/0.036	15
			SP01	CH01	1	6.121	00000.000	0.184/0.036	15
466	TCC	2.0	CH01	USNO01	1	-212.577	00000.000	0.123/0.024	16
			USNO01	CH01	1	212.577	00000.000	0.123/0.024	16
467	TCC	2.0	CH01	VSL01	1	271.808	00000.000	0.249/0.049	17
			VSL01	CH01	1	-271.808	00000.000	0.249/0.049	17
468	TCC	2.0	IT02	NIST01	1	-535.935	00000.000	0.134/0.026	18
			NIST01	IT02	1	535.935	00000.000	0.134/0.026	18
469	TCC	7.1	IT02	NPL01	1	-1000.376	00000.000	0.156/0.031	19
			NPL02	IT02	1	1000.376	00000.000	0.156/0.031	19
470	TCC	2.0	IT02	USNO01	1	-480.173	00000.000	0.204/0.040	23
			USNO01	IT02	1	480.173	00000.000	0.204/0.040	23
471	TCC	2.0	IT02	VSL01	1	5.247	00000.000	0.178/0.035	24
			VSL01	IT02	1	-5.247	00000.000	0.178/0.035	24
472	TCC	2.0	NIST01	OP01	1	7374.039	00000.000	0.112/0.022	25
			OP01	NIST01	1	-7374.039	00000.000	0.112/0.022	25
473	TCC	2.0	NIST01	ROA01	1	229.247	00000.000	0.149/0.029	26
			ROA01	NIST01	1	-229.247	00000.000	0.149/0.029	26
474	TCC	2.0	NIST01	SP01	1	261.555	00000.000	0.132/0.026	27
			SP01	NIST01	1	-261.555	00000.000	0.132/0.026	27
475	TCC	2.0	NIST01	VSL01	1	540.132	00000.000	0.226/0.044	28
			VSL01	NIST01	1	-540.132	00000.000	0.226/0.044	28
476	TCC	7.1	NPL02	OP01	1	7838.913	00000.000	0.267/0.052	29
			OP01	NPL02	1	-7838.913	00000.000	0.267/0.052	29
477	TCC	7.1	NPL02	ROA01	1	693.464	00000.000	0.159/0.031	30
			ROA01	NPL02	1	-693.464	00000.000	0.159/0.031	30
478	TCC	7.1	NPL02	SP01	1	726.638	00000.000	0.243/0.048	31
			SP01	NPL02	1	-726.638	00000.000	0.243/0.048	31
479	TCC	7.1	NPL02	VSL01	1	1005.211	00000.000	0.207/0.041	32
			VSL01	NPL02	1	-1005.211	00000.000	0.207/0.041	32
480	TCC	2.0	OP01	USNO01	1	-7319.015	00000.000	0.155/0.030	35
			USNO01	OP01	1	7319.015	00000.000	0.155/0.030	35
481	TCC	2.0	OP01	VSL01	1	-6834.203	00000.000	0.206/0.040	36
			VSL01	OP01	1	6834.203	00000.000	0.206/0.040	36
482	TCC	2.0	ROA01	USNO01	1	-174.229	00000.000	0.187/0.037	38
			USNO01	ROA01	1	174.229	00000.000	0.187/0.037	38
483	TCC	2.0	ROA01	VSL01	1	310.918	00000.000	0.199/0.039	39
			VSL01	ROA01	1	-310.918	00000.000	0.199/0.039	39
484	TCC	2.0	SP01	USNO01	1	-207.206	00000.000	0.172/0.034	40
			USNO01	SP01	1	207.206	00000.000	0.172/0.034	40
485	TCC	2.0	SP01	VSL01	1	277.656	00000.000	0.281/0.055	41
			VSL01	SP01	1	-277.656	00000.000	0.281/0.055	41
486	TCC	2.0	USNO01	VSL01	1	485.013	00000.000	0.230/0.045	42
			VSL01	USNO01	1	-485.013	00000.000	0.230/0.045	42