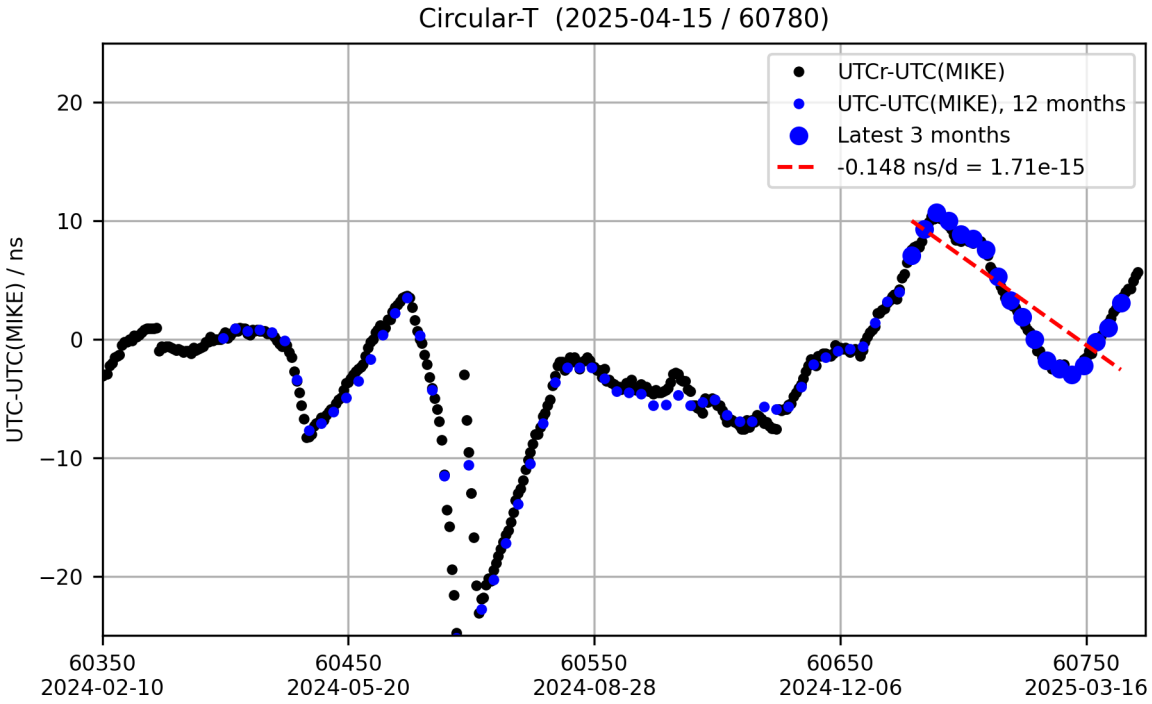
UTC(MIKE) Atomic Bulletin 2025-04

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2025-04-15 (60780)
Circular-T issues used for analysis: 445, 446, 447,
First day of analysis interval: 2025-01-04 (60679)
Last day of analysis interval: 2025-03-30 (60764)
ClockData for analysis: CDMI__25.01_, CDMI__25.02_, CDMI__25.03_,
The Atomic Bulletin is archived at: https://monitor.mikes.fi/ftp/atomic_bulletin/

Notes

60100 (2023-06-05) AHM1 maser stopped working (out of Hydrogen?).
60139 (2023-07-14) remove AHM1, add AHM2 to analysis.
60321 (2024-01-12) missing ClockData 60304-60309 due to database-issue.
60424 (2024-04-24) AHM3 ion pump failure, phase step -1428.2ns
60433 (2024-05-02) AHM2 to master clock, AHM2 phase step +48759.63 ns
60496 (2024-07-05) AHM3 to master clock.
60502 (2024-07-11) AB2024-07: AHM3 fit to to 60434->. Steering -7e-15 = +18 ns/30days.
60536 (2024-08-14) AB2024-08: set steering to zero.

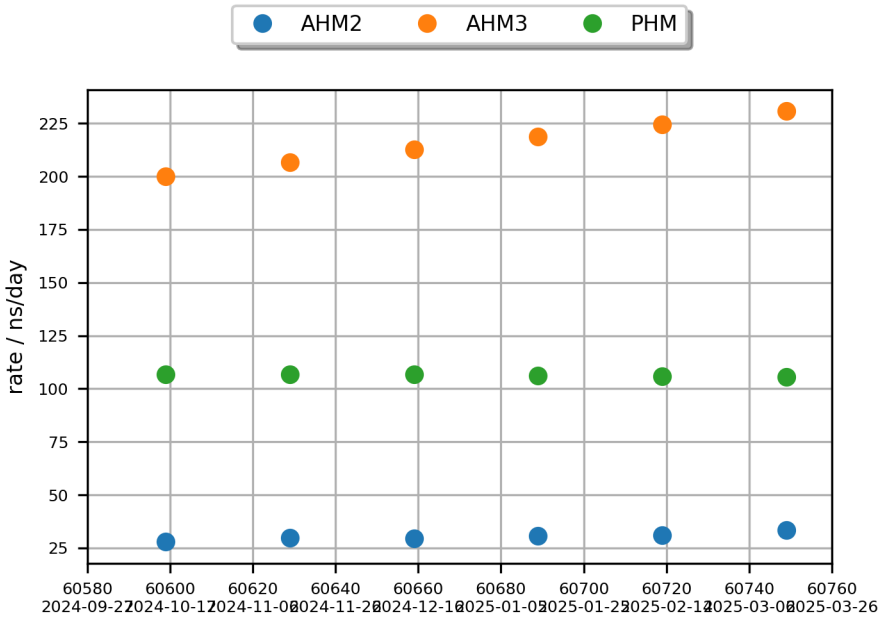
UTC-UTC(MIKE) as reported in Circular-T



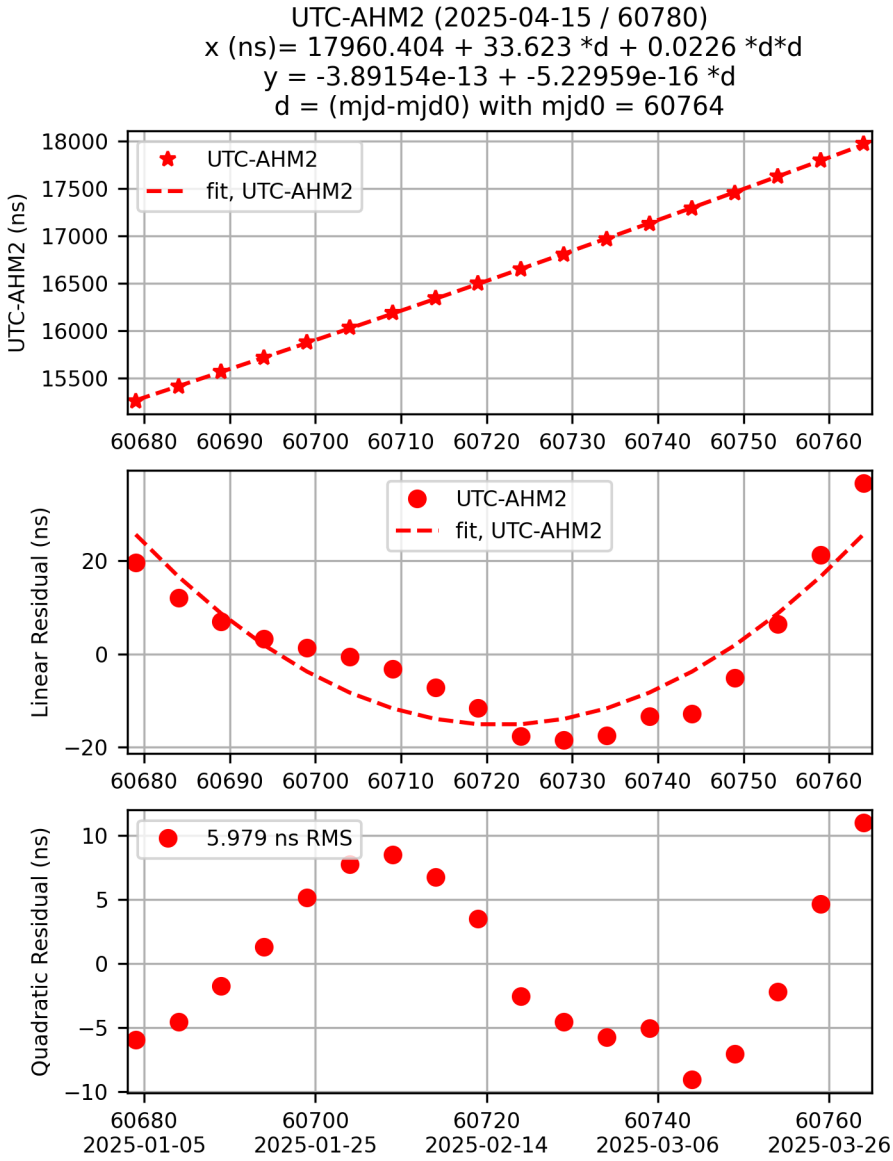
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

Clock Rates - Summary

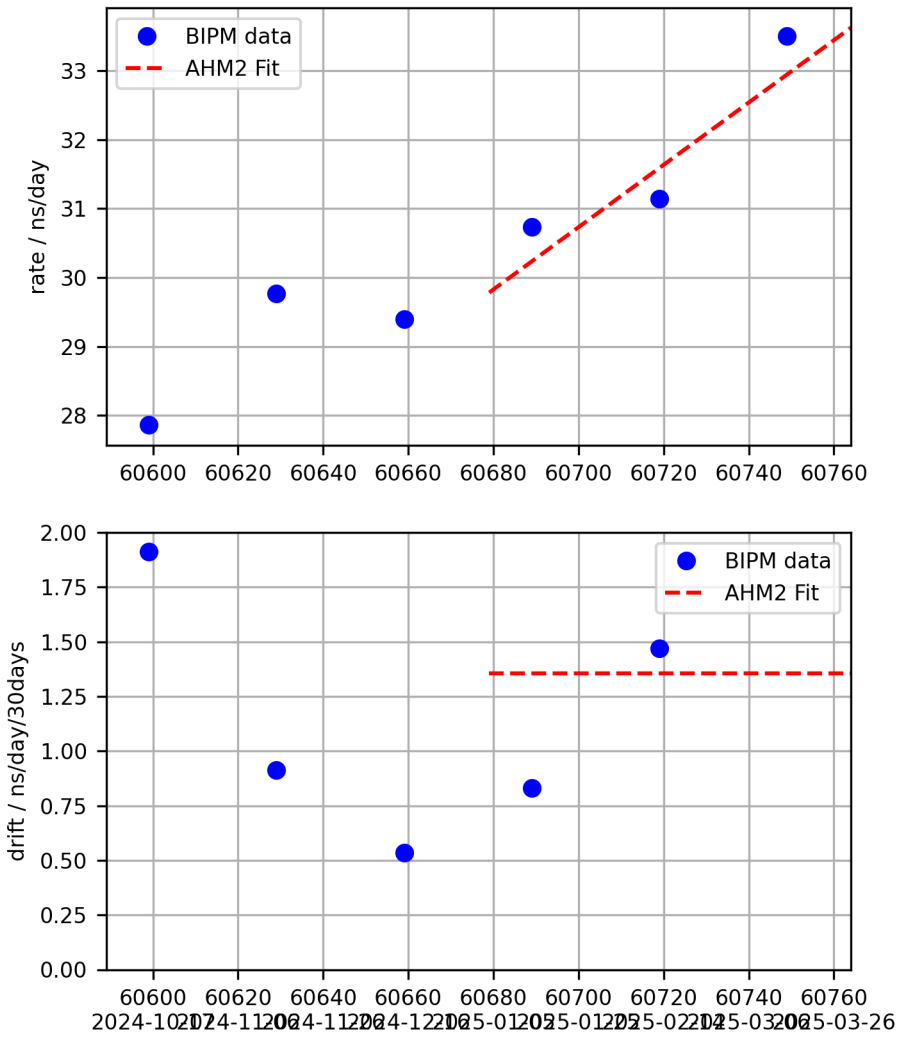
Clock rates as reported by the BIPM in the monthly r-report.



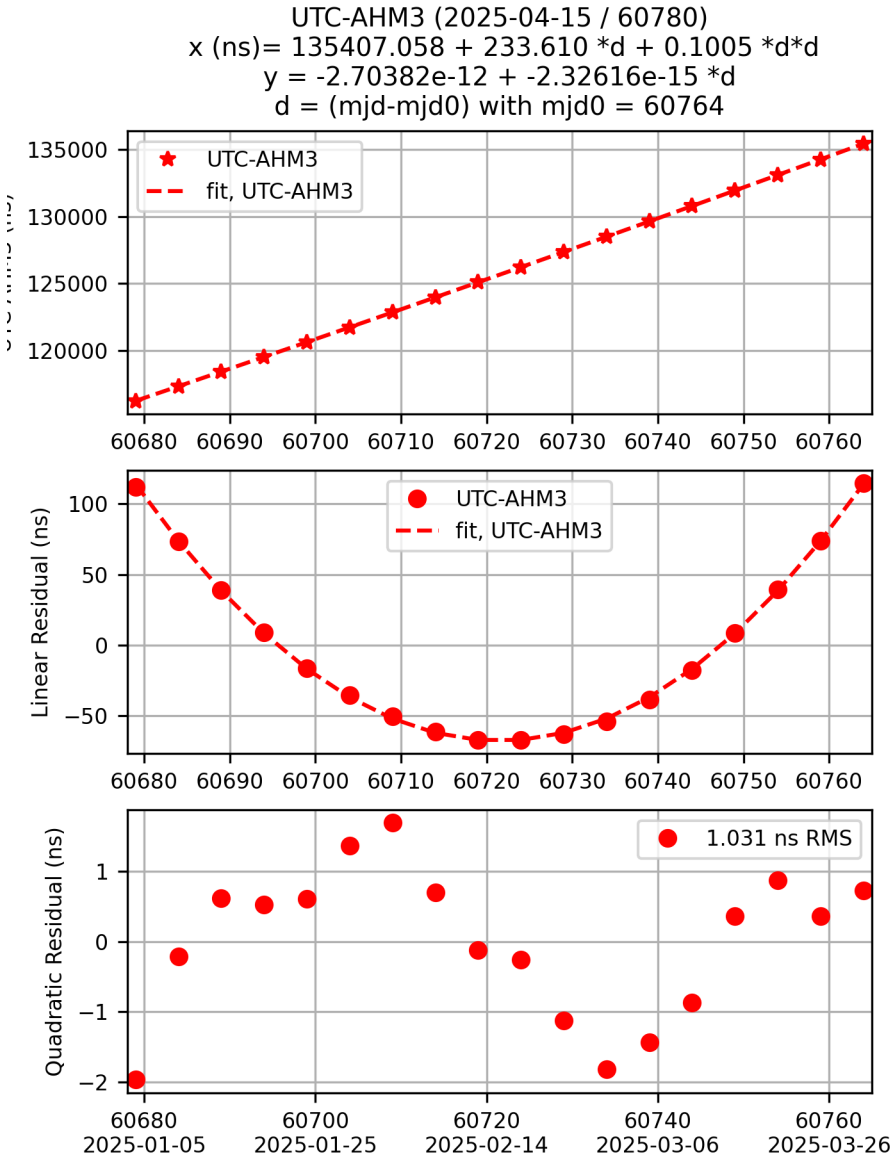
UTC - AHM2 Fit


UTC-AHM2 (2025-04-15 / 60780)
x (ns)= 17960.404 + 33.623 *d + 0.0226 *d*d
y = -3.89154e-13 + -5.22959e-16 *d
d = (mjd-mjd0) with mjd0 = 60764
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
Linear Residual (ns)
5.979 ns RMS
Quadratic Residual (ns)
60680
60690
60700
60710
60720
60730
60740
60750
60760
2025-01-05
2025-01-25
2025-02-14
2025-03-06
2025-03-26

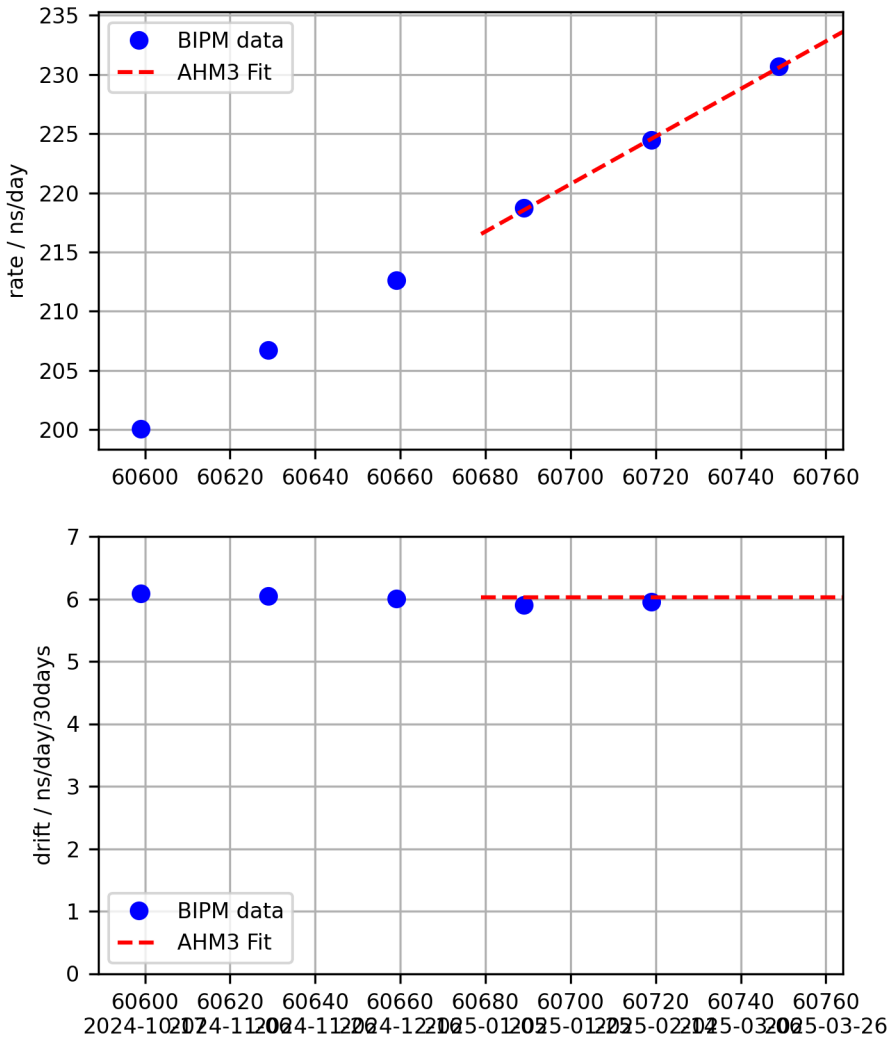
AHM2 Rate and Drift



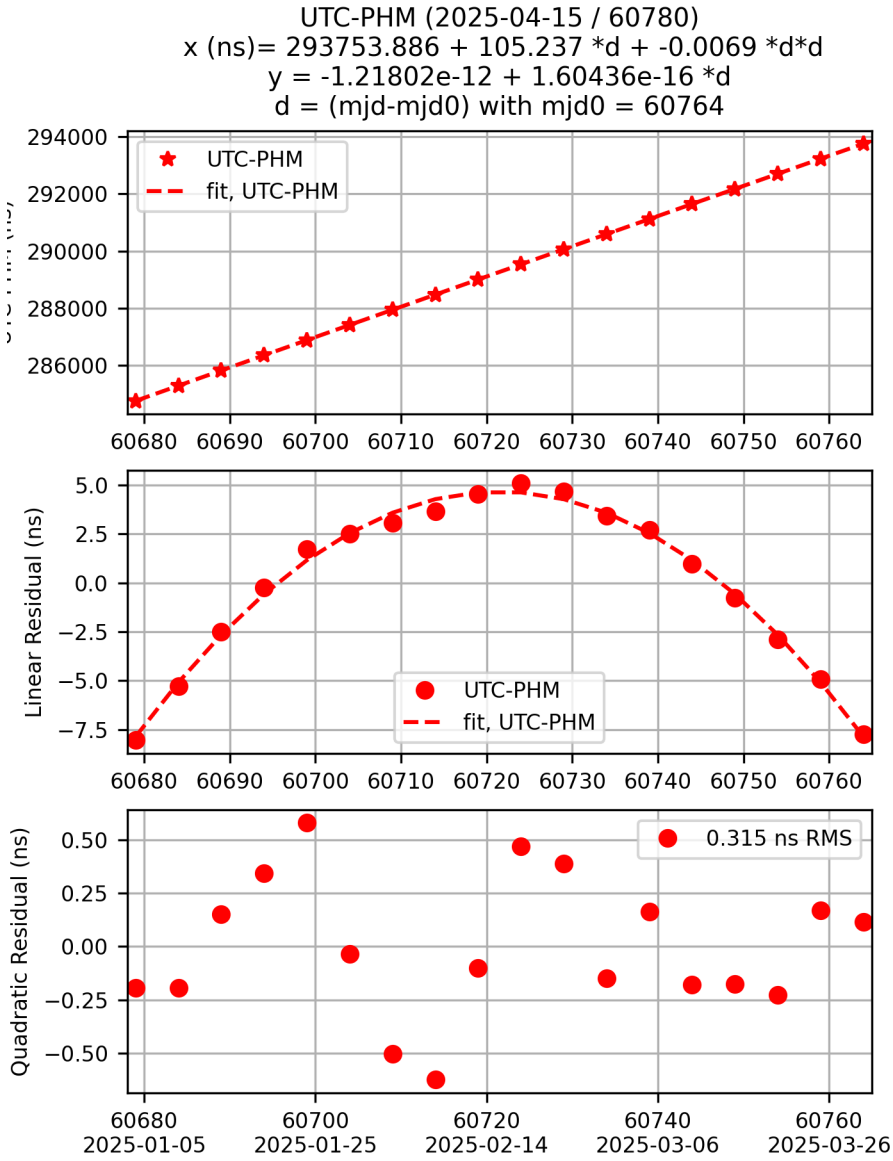
UTC - AHM3 Fit


UTC-AHM3 (2025-04-15 / 60780)
x (ns)= 135407.058 + 233.610 *d + 0.1005 *d*d
y = -2.70382e-12 + -2.32616e-15 *d
d = (mjd-mjd0) with mjd0 = 60764
UTC-AHM3
fit, UTC-AHM3
Linear Residual (ns)
1.031 ns RMS
Quadratic Residual (ns)
60680
60690
60700
60710
60720
60730
60740
60750
60760
2025-01-05
2025-01-25
2025-02-14
2025-03-06
2025-03-26

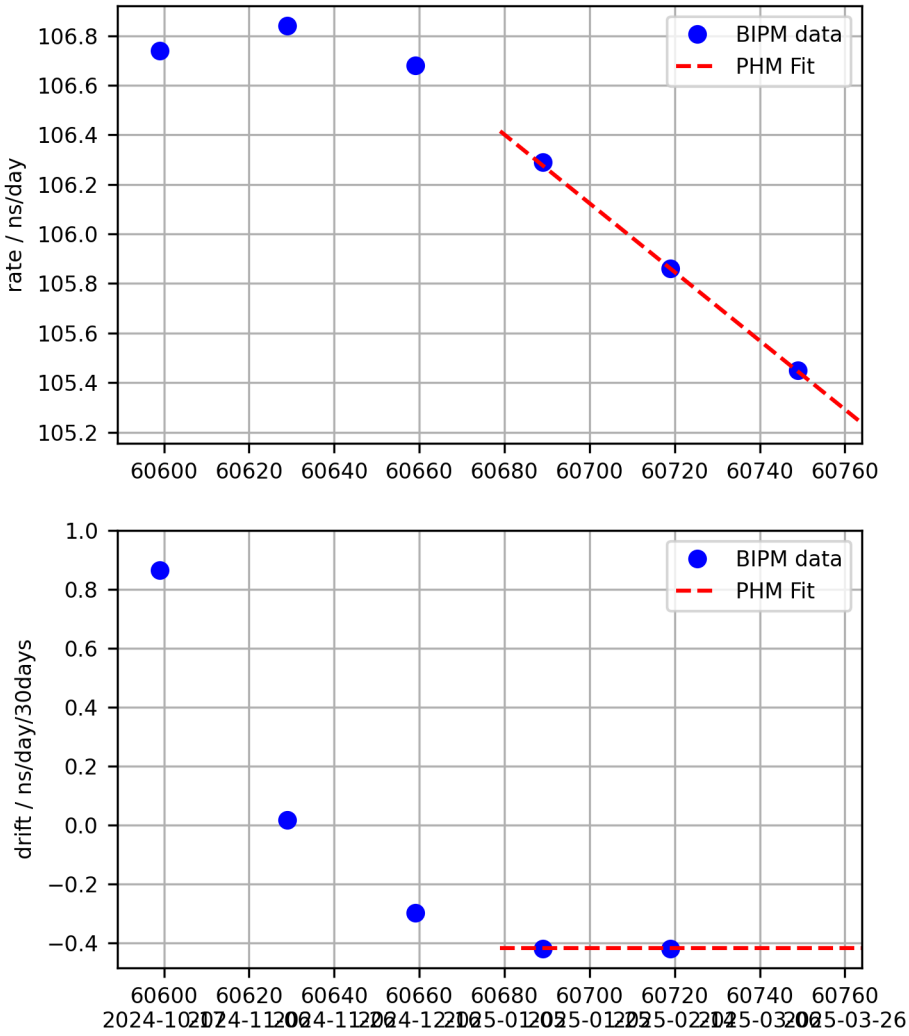
AHM3 Rate and Drift



UTC - PHM Fit

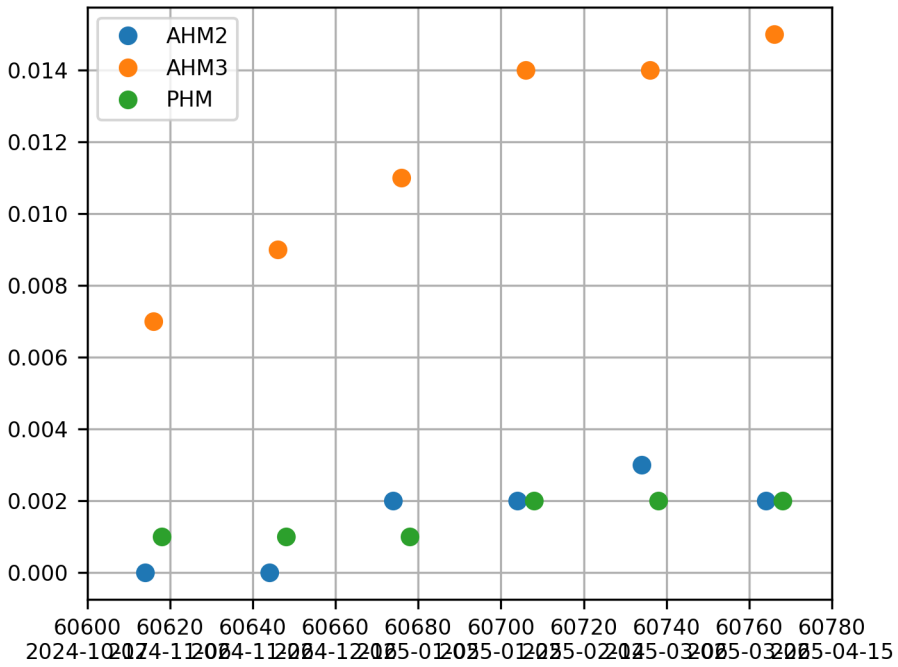

UTC-PHM (2025-04-15 / 60780)
x (ns)= 293753.886 + 105.237 *d + -0.0069 *d*d
y = -1.21802e-12 + 1.60436e-16 *d
d = (mjd-mjd0) with mjd0 = 60764
UTC-PHM
fit, UTC-PHM
294000
292000
290000
288000
286000
60680
60690
60700
60710
60720
60730
60740
60750
60760
Linear Residual (ns)
5.0
2.5
0.0
−2.5
−5.0
−7.5
UTC-PHM
fit, UTC-PHM
Quadratic Residual (ns)
0.50
0.25
0.00
−0.25
−0.50
0.315 ns RMS
2025-01-05
2025-01-25
2025-02-14
2025-03-06
2025-03-26

PHM Rate and Drift



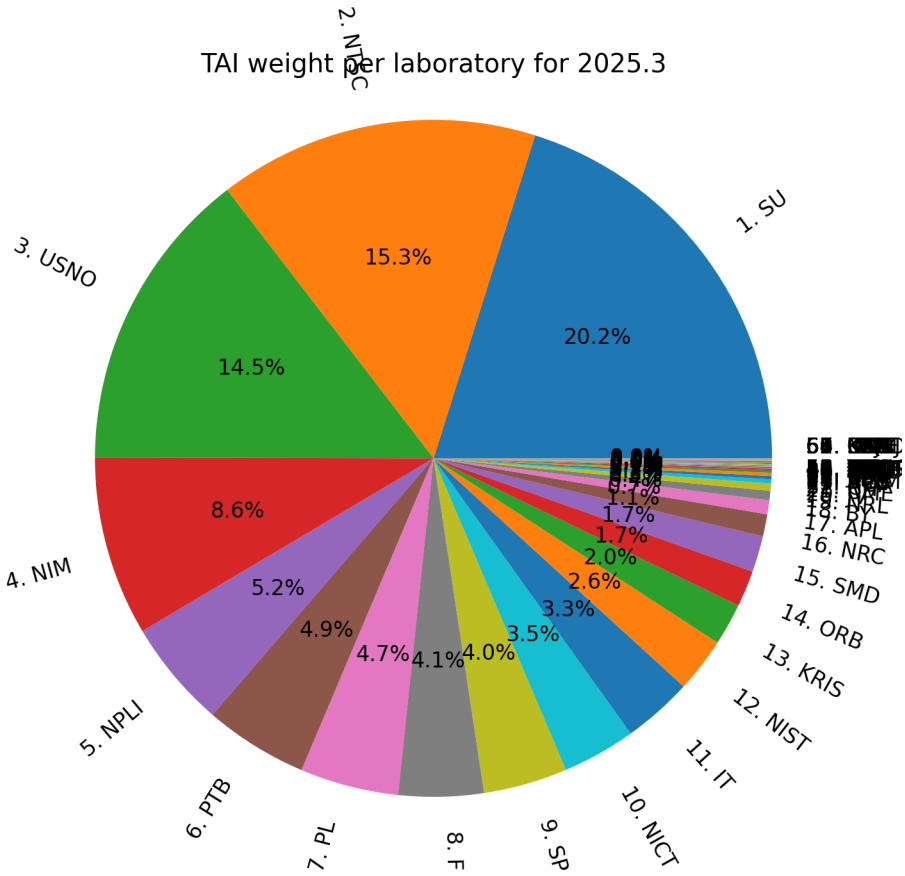
VTT MIKES Clock Weights

RELATIVE WEIGHTS (IN PERCENT) OF THE CLOCKS FOR INTERVALS OF ONE MONTH ENDING AT THE GIVEN DATES



Clock Weights per Laboratory

Relative TAI Weight per laboratory

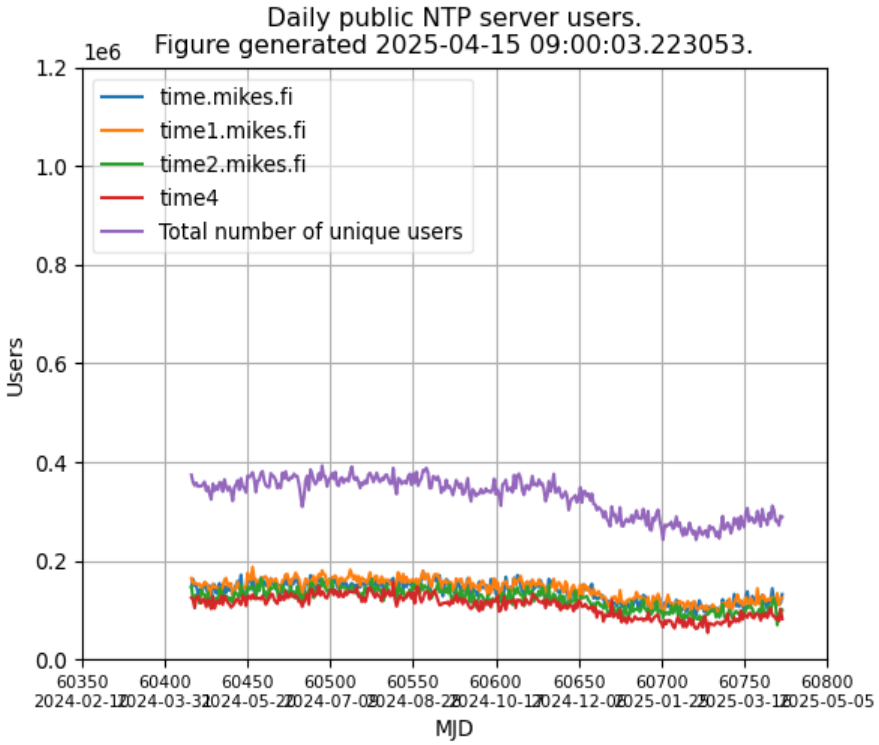


Weight-file for 2025.03
Number of clocks 413
Number of labs 68
Number of clock types 13
Sum of weights per lab 99.989, Sum of weights per clock type 99.989
Weight Clock Type
0.754 35 MICROSEMI 5071A HIGH PERFORMANCE TUBE.
61.772 40 UNSPECIFIED HYDROGEN MASER
31.549 41 HYDROGEN MASER
0.057 36 MICROSEMI 5071A LOW/STANDARD PERFORMANCE TUBE
0.000 18 MICROSEMI Cs 4000
0.007 37 OSCILLOQUARTZ OSA 3300
0.000 22 OSCILLOQUARTZ OSA 3230B/3235B
0.005 32 OSCILLOQUARTZ OSA 3300-SHP
0.000 44 Other clocks
0.169 42 Commercial Rubidium clock
0.005 38 Chengdu Spaceon Electronics Company TA1000
5.658 93 GROUND-STATE HYPERFINETRANSITION OF 87 Rb
0.013 92 GROUND-STATE HYPERFINE TRANSITION OF 133 Cs

Rank	Weight	Lab
1	20.150	SU
2	15.282	NTSC
3	14.521	USNO
4	8.563	NIM
5	5.159	NPLI
6	4.945	PTB
7	4.700	PL
8	4.061	F
9	4.008	SP
10	3.499	NICT
11	3.332	IT
12	2.608	NIST
13	2.005	KRIS
14	1.731	ORB
15	1.722	SMD
16	1.057	NRC
17	0.670	APL
18	0.442	BY
19	0.346	NRL
20	0.195	JV
21	0.157	UME
22	0.153	CH
23	0.119	ROA
24	0.072	SCL
25	0.046	BIRM
26	0.043	TP
27	0.038	ESA
28	0.037	BEV
29	0.036	JATC
30	0.035	TL
31	0.029	CAO
32	0.028	NPL
33	0.027	NAO
34	0.027	VSL
35	0.019	MIKE
36	0.012	IFAG
37	0.012	ZA
38	0.010	AUS
39	0.010	INPL
40	0.010	UZ
41	0.009	CNMP

NTP Usage Statistics

Number of unique IPv4 addresses using our public NTP-servers.



End of Bulletin.