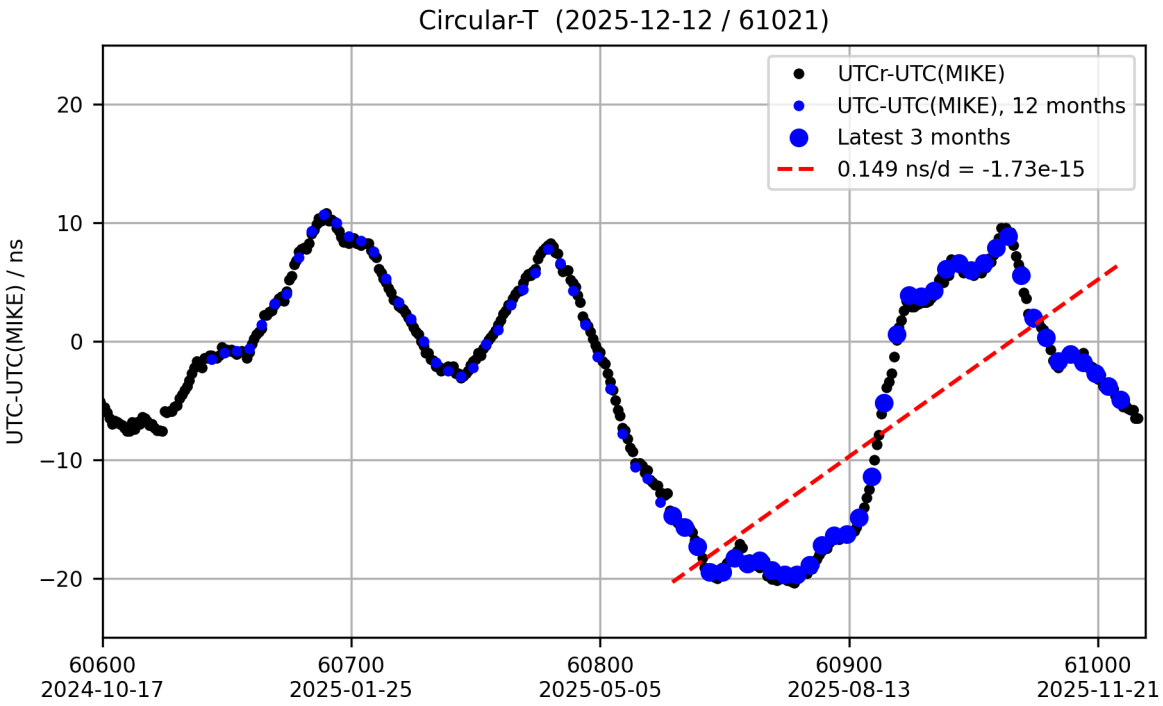
# UTC(MIKE) Atomic Bulletin 2025-12

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2025-12-12 (61021)
Circular-T issues used for analysis: 450, 451, 452, 453, 454, 455,
First day of analysis interval: 2025-06-03 (60829)
Last day of analysis interval: 2025-11-30 (61009)
ClockData for analysis: CDMI__25.06_, CDMI__25.07_, CDMI__25.08_, CDMI__25.09_, CDMI__25.10_, CDMI__25.11_,
The Atomic Bulletin is archived at: https://monitor.mikes.fi/ftp/atomic_bulletin/

## Notes

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.
60845 (2025-06-19) AB2025-06: fit to 6 months. set steering to +20ns/60days = -3.8e-15.
60871 (2025-07-15) AB2025-07: keep steering +20ns/60days = -3.8e-15.
60898 (2025-08-11) AB2025-08: keep steering +20ns/60days = -3.8e-15.
60919 (2025-09-01) set steering to zero.
60923 (2025-09-05) set steering +8e-15.
60979 (2025-10-31) AHM3 frequency adjustment +4e-12 at 13:52 UTC.
60983 (2025-11-04) High temperature in maser room.

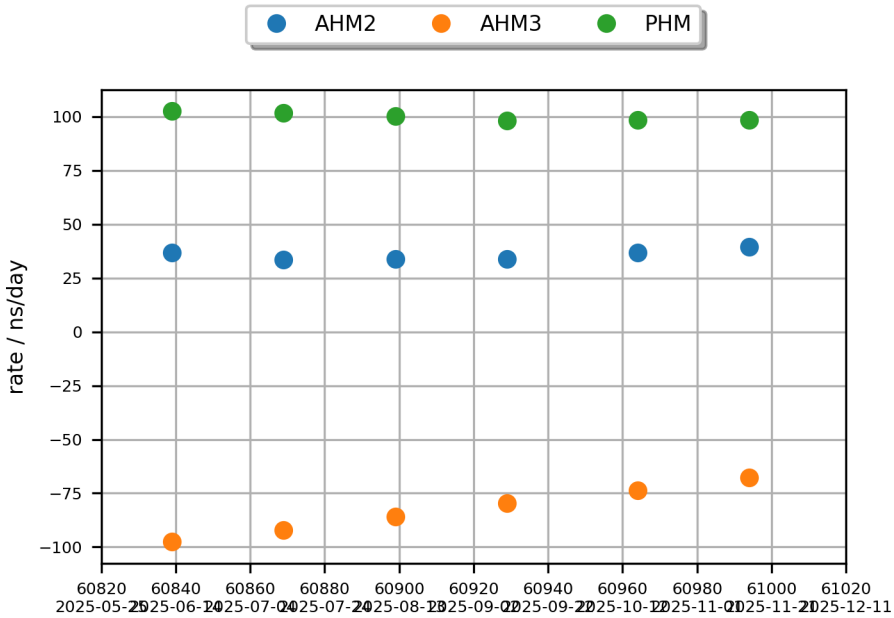
## UTC-UTC(MIKE) as reported in Circular-T



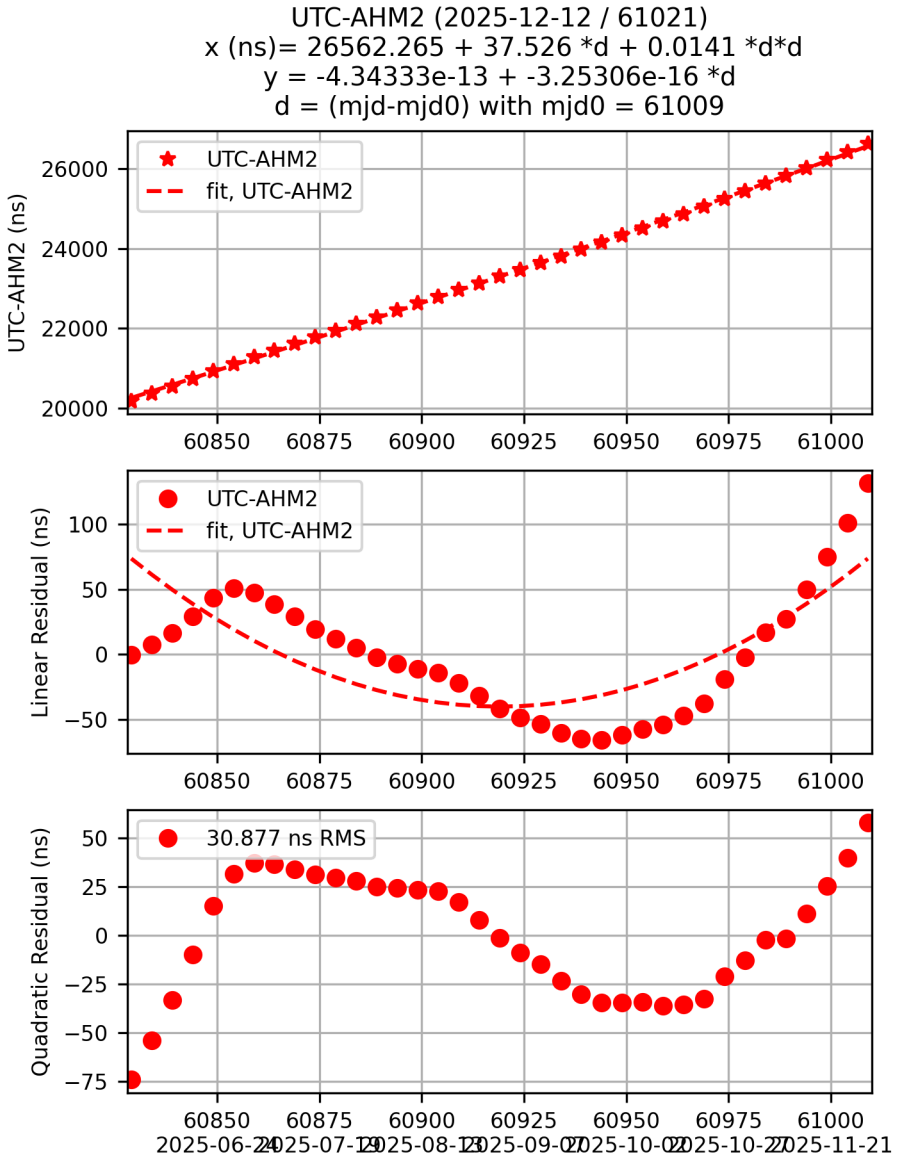

UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

## Clock Rates - Summary

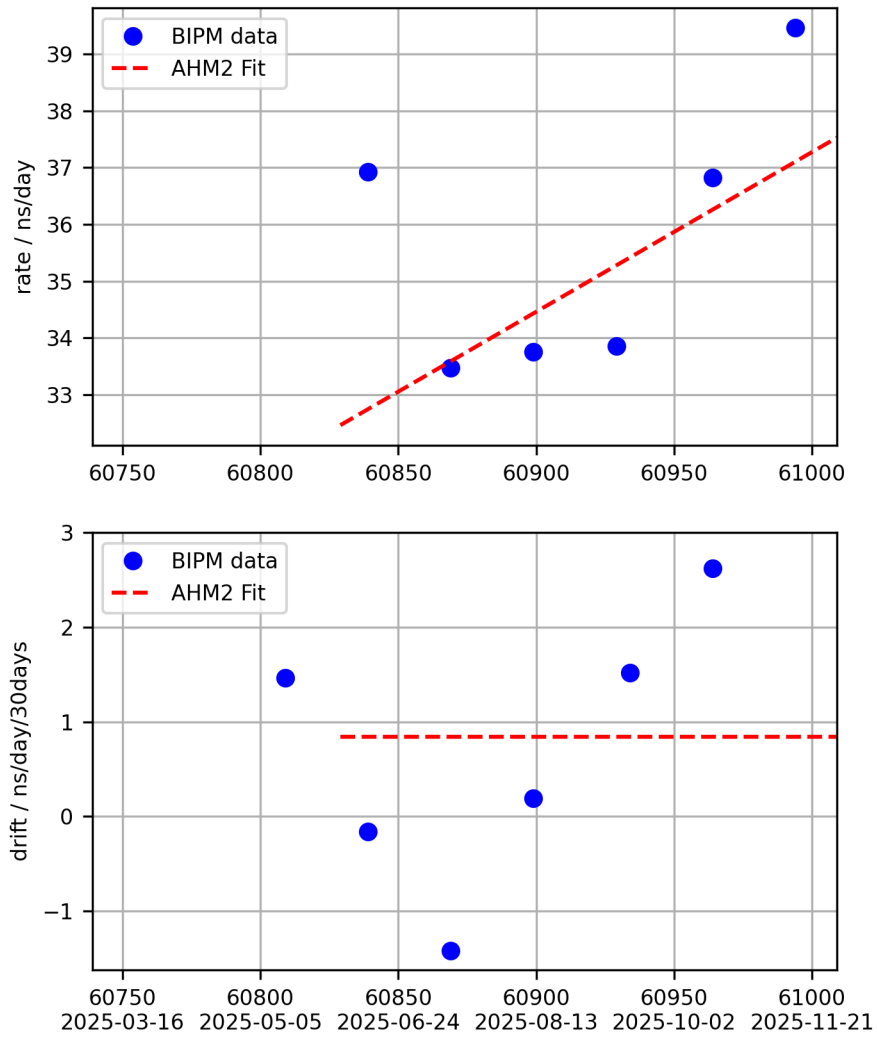
Clock rates as reported by the BIPM in the monthly r-report.



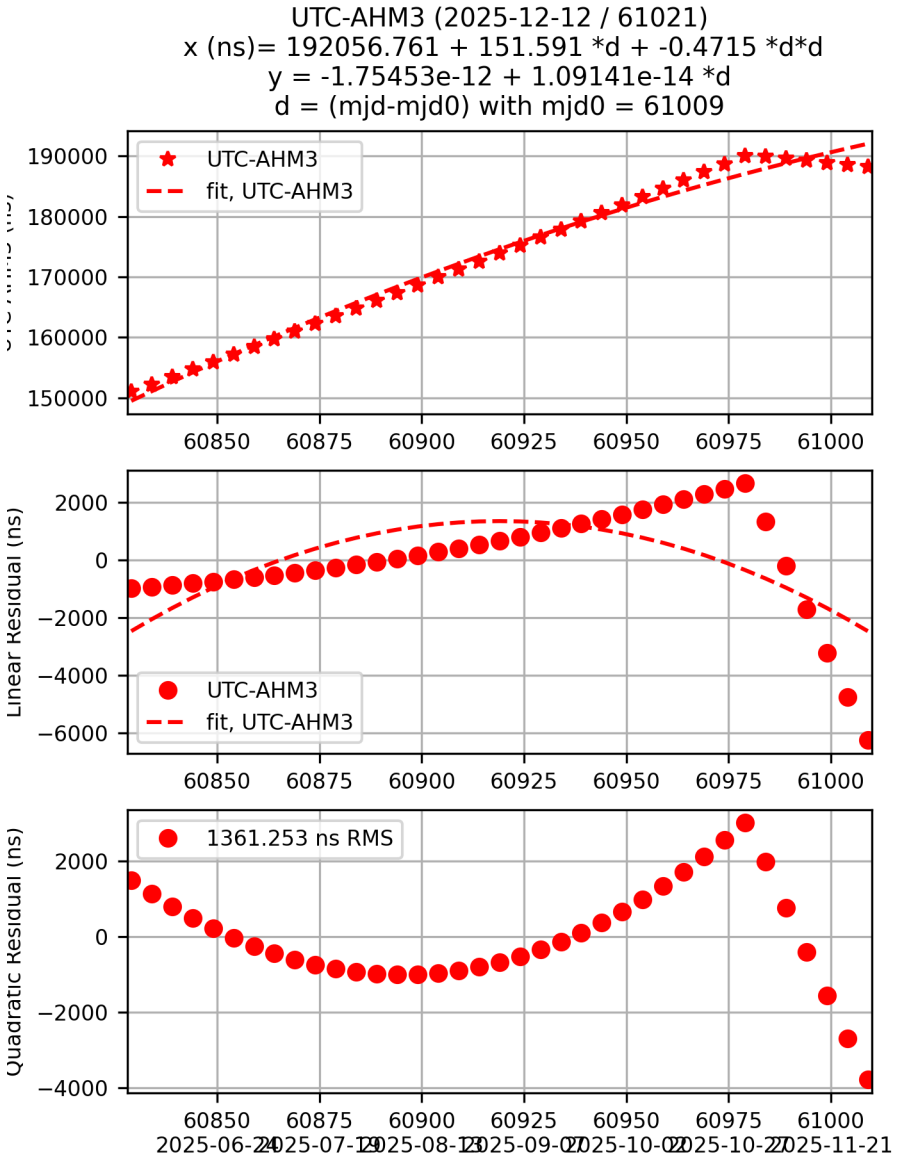
## UTC - AHM2 Fit


UTC-AHM2 (2025-12-12 / 61021)
x (ns)= 26562.265 + 37.526 *d + 0.0141 *d*d
y = -4.34333e-13 + -3.25306e-16 *d
d = (mjd-mjd0) with mjd0 = 61009
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
Linear Residual (ns)
30.877 ns RMS
Quadratic Residual (ns)
60850
60875
60900
60925
60950
60975
61000
2025-06-24
2025-07-19
2025-08-13
2025-09-07
2025-10-02
2025-10-27
2025-11-21

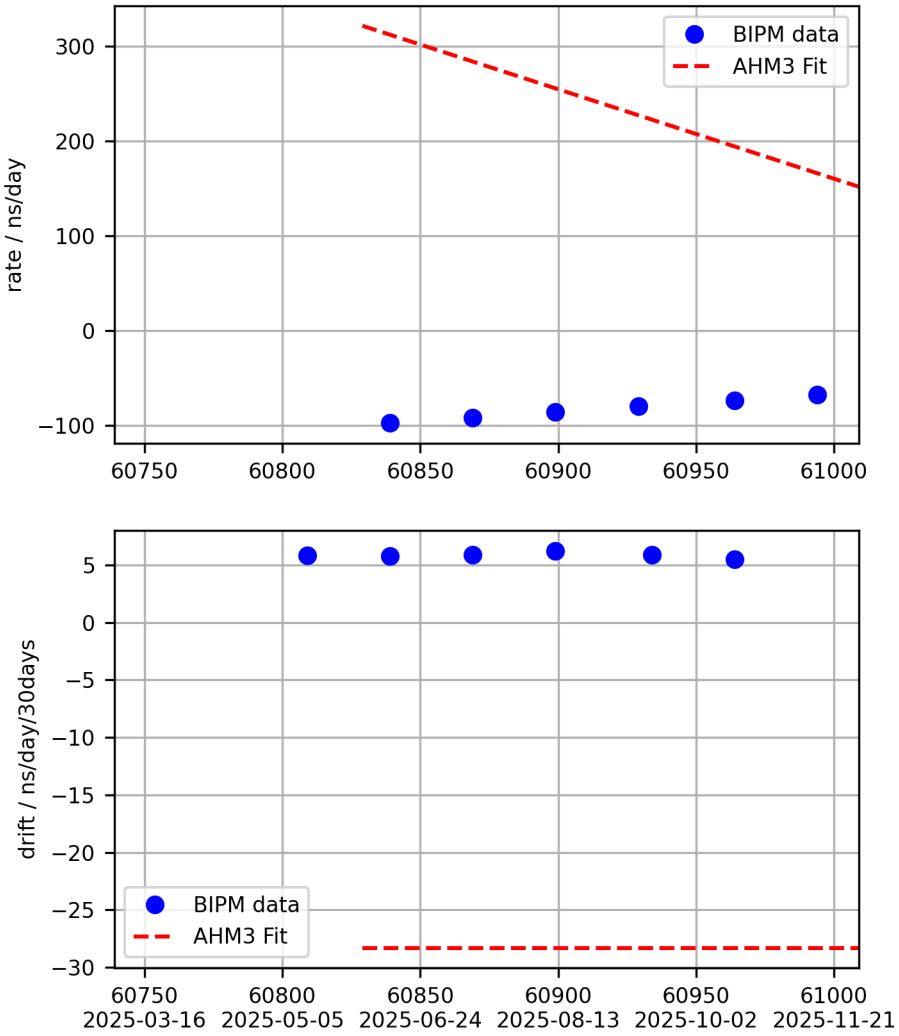
## AHM2 Rate and Drift



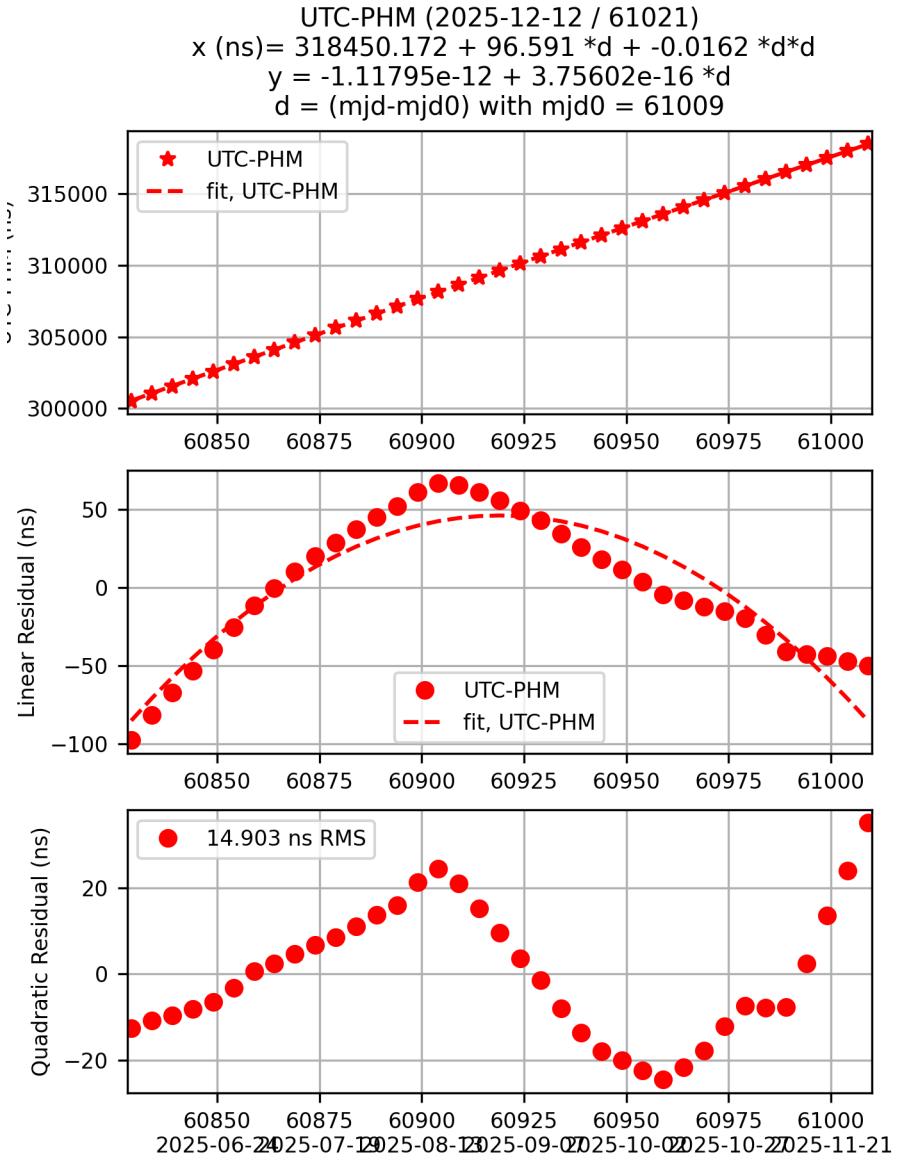
## UTC - AHM3 Fit


UTC-AHM3 (2025-12-12 / 61021)
x (ns)= 192056.761 + 151.591 *d + -0.4715 *d*d
y = -1.75453e-12 + 1.09141e-14 *d
d = (mjd-mjd0) with mjd0 = 61009
UTC-AHM3
fit, UTC-AHM3
Linear Residual (ns)
1361.253 ns RMS
Quadratic Residual (ns)
60850
60875
60900
60925
60950
60975
61000
2025-06-24
2025-07-19
2025-08-13
2025-09-07
2025-10-02
2025-10-27
2025-11-21

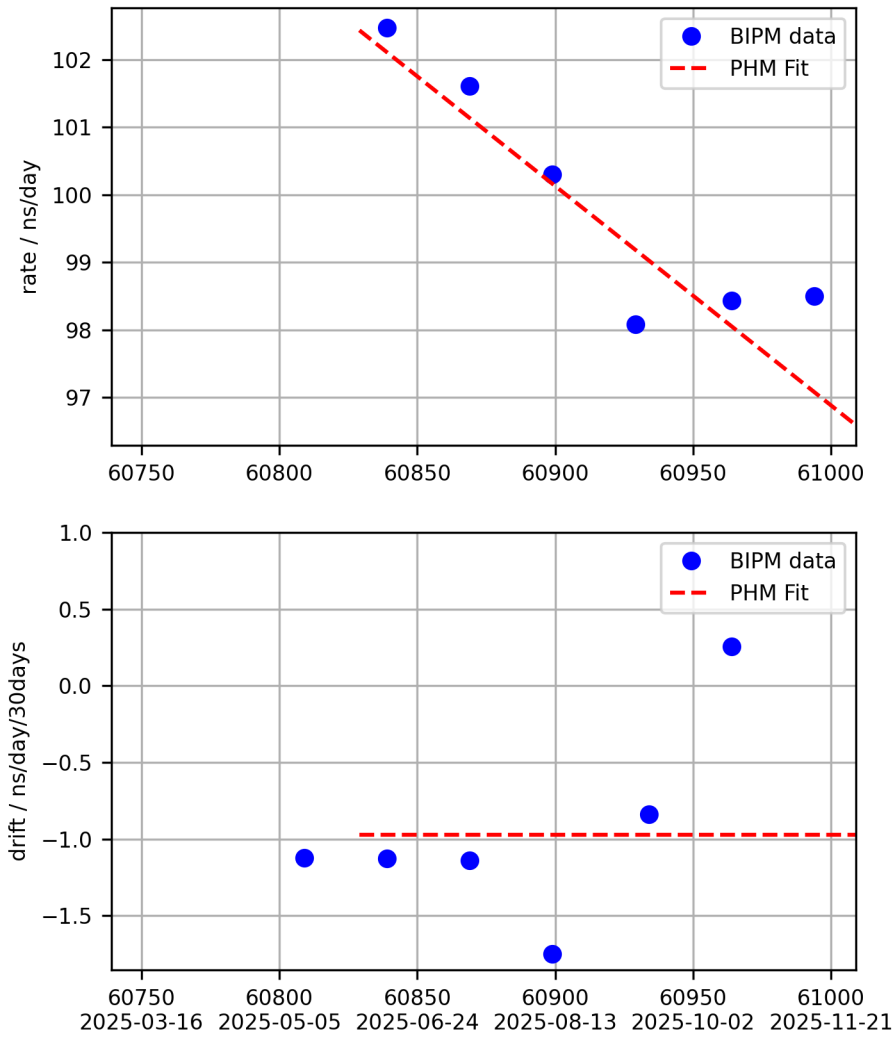
## AHM3 Rate and Drift



## UTC - PHM Fit

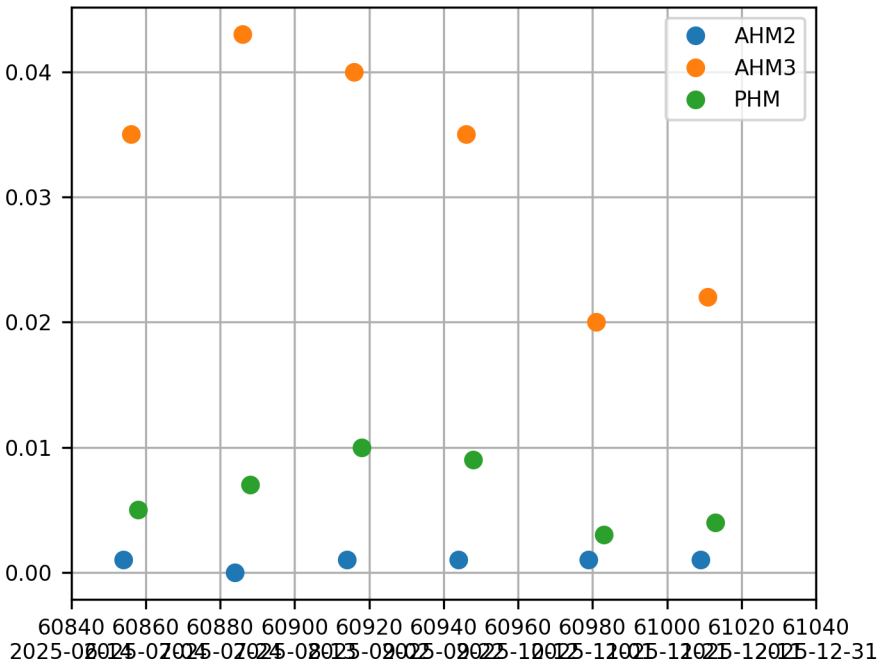

UTC-PHM (2025-12-12 / 61021)
x (ns)= 318450.172 + 96.591 *d + -0.0162 *d*d
y = -1.11795e-12 + 3.75602e-16 *d
d = (mjd-mjd0) with mjd0 = 61009
UTC-PHM
fit, UTC-PHM
315000
310000
305000
300000
60850
60875
60900
60925
60950
60975
61000
Linear Residual (ns)
50
0
−50
−100
UTC-PHM
fit, UTC-PHM
Quadratic Residual (ns)
14.903 ns RMS
20
0
−20
2025-06-24
2025-07-19
2025-08-13
2025-09-07
2025-10-02
2025-10-27
2025-11-21

## PHM Rate and Drift



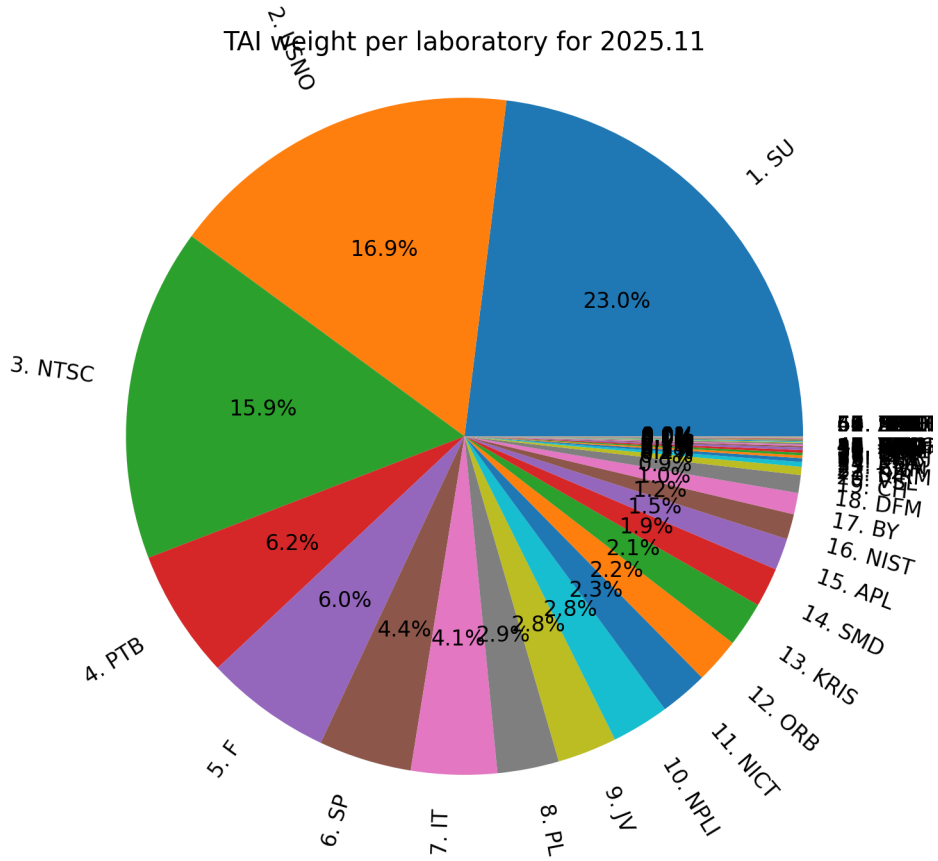
## VTT MIKES Clock Weights

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

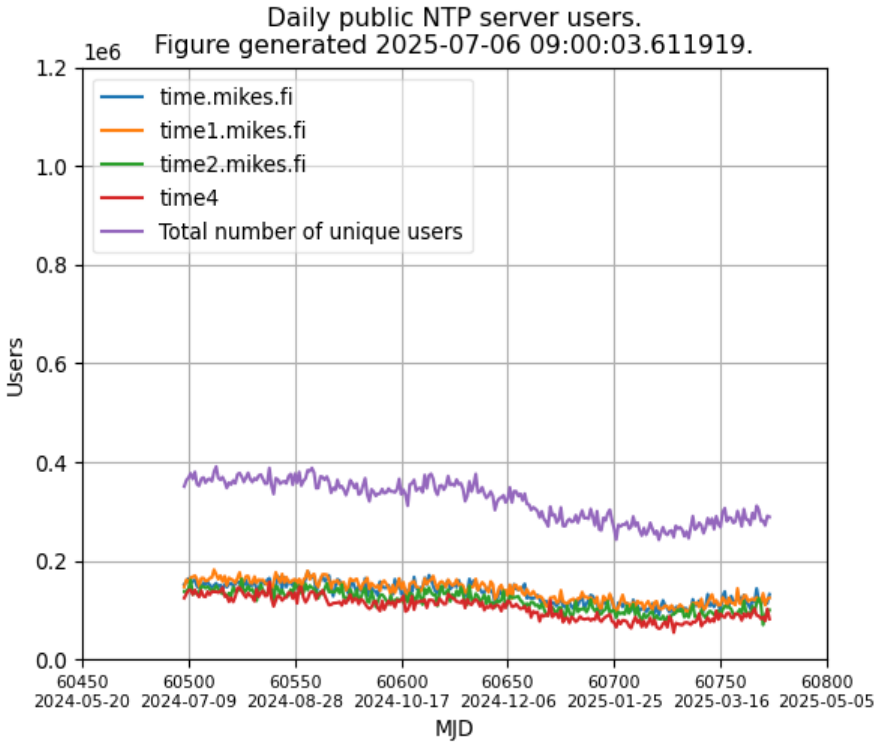



Weight-file for 2025.11
Number of clocks 405
Number of labs 67
Number of clock types 12
Sum of weights per lab 99.997, Sum of weights per clock type 99.997
Weight Clock Type
0.888 35 MICROSEMI 5071A HIGH PERFORMANCE TUBE.
60.637 40 UNSPECIFIED HYDROGEN MASER
31.166 41 HYDROGEN MASER
0.053 36 MICROSEMI 5071A LOW/STANDARD PERFORMANCE TUBE
0.018 18 MICROSEMI Cs 4000
0.001 22 OSCILLOQUARTZ OSA 3230B/3235B
0.056 32 OSCILLOQUARTZ OSA 3300-SHP
0.020 42 Commercial Rubidium clock
0.012 38 Chengdu Spaceon Electronics Company TA1000
0.000 44 Other clocks
7.117 93 GROUND-STATE HYPERFINETRANSITION OF 87 Rb
0.029 92 GROUND-STATE HYPERFINE TRANSITION OF 133 Cs

| Rank | Weight | Lab |
|---|---|---|
| 1 | 23.018 | SU |
| 2 | 16.912 | USNO |
| 3 | 15.906 | NTSC |
| 4 | 6.156 | PTB |
| 5 | 6.026 | F |
| 6 | 4.433 | SP |
| 7 | 4.102 | IT |
| 8 | 2.935 | PL |
| 9 | 2.842 | JV |
| 10 | 2.751 | NPLI |
| 11 | 2.289 | NICT |
| 12 | 2.178 | ORB |
| 13 | 2.144 | KRIS |
| 14 | 1.877 | SMD |
| 15 | 1.518 | APL |
| 16 | 1.206 | NIST |
| 17 | 1.022 | BY |
| 18 | 0.854 | DFM |
| 19 | 0.391 | CH |
| 20 | 0.225 | VSL |
| 21 | 0.182 | BIRM |
| 22 | 0.129 | KZ |
| 23 | 0.126 | CNM |
| 24 | 0.124 | ROA |
| 25 | 0.122 | ESA |
| 26 | 0.074 | JATC |
| 27 | 0.073 | TL |
| 28 | 0.069 | ONRJ |
| 29 | 0.041 | TP |
| 30 | 0.038 | SCL |
| 31 | 0.035 | BEV |
| 32 | 0.027 | MIKE |
| 33 | 0.025 | NIMT |
| 34 | 0.024 | NPL |
| 35 | 0.018 | BIM |
| 36 | 0.017 | HKO |
| 37 | 0.017 | MSL |
| 38 | 0.013 | NAO |
| 39 | 0.012 | AUS |
| 40 | 0.011 | CNMP |
| 41 | 0.010 | IMBH |

## NTP Usage Statistics

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



## End of Bulletin.