

UTC(MIKE) Atomic Bulletin 2022-01

VTT MIKES Metrology monthly Time & Frequency bulletin.

Comments and questions to: time "at" vtt.fi

Date of publication: 2022-01-13 (59592)

Circular-T issues used for analysis: [406](#), [407](#), [408](#),

First day of analysis interval: 2021-10-02 (59489)

Last day of analysis interval: 2021-12-31 (59579)

ClockData for analysis: [CDMI 21.10](#), [CDMI 21.11](#), [CDMI 21.12](#),

The Atomic Bulletin is archived at: <ftp://monitor.mikes.fi/time-scale/>

Notes

59082 (2020-08-21) AB2020-09, WR GM upgraded to FW 6.0, -100ns jump in WR timescale

59105 (2020-09-13) AB2020-10, Large temperature-swing down to +19.5C (from +22.25C) in clock room.

59165 (2020-11-12) Change of master clock to AHM2. y_steer set to zero.

59225 (2021-01-11) AB2021-01, Add remote clock AHM5. Add steering correction +7.2ns/60d = +1.4e-15

59257 (2021-02-12) AB2021-02, Keep steering correction +7.2ns/60d = +1.4e-15

59285 (2021-03-12) AB2021-03, Set steering correction to zero.

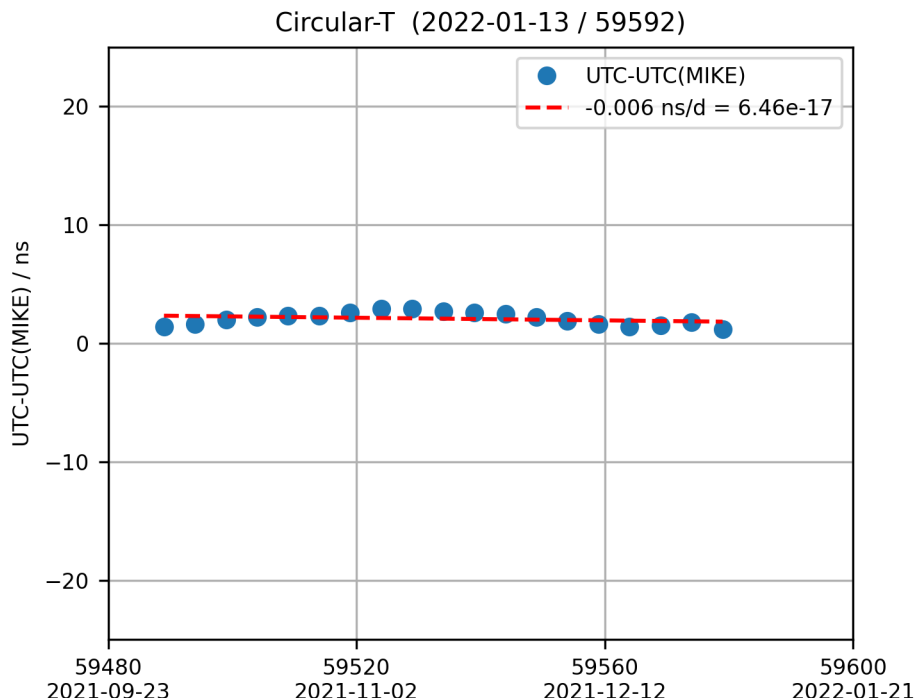
(2021-08-24) AHM3 OCXO-voltage at limit, maser re-started, DDS adjustment

SETFSREL=+4.47E-12 giving DDS_old = 1420405750.291768, DDS_new =

1420405750.298116. set DRIFTCOMP=+3.93E-15;

(2021-11-11) add AHM3 analysis (input data only partial, not full 3 months of ClockData)

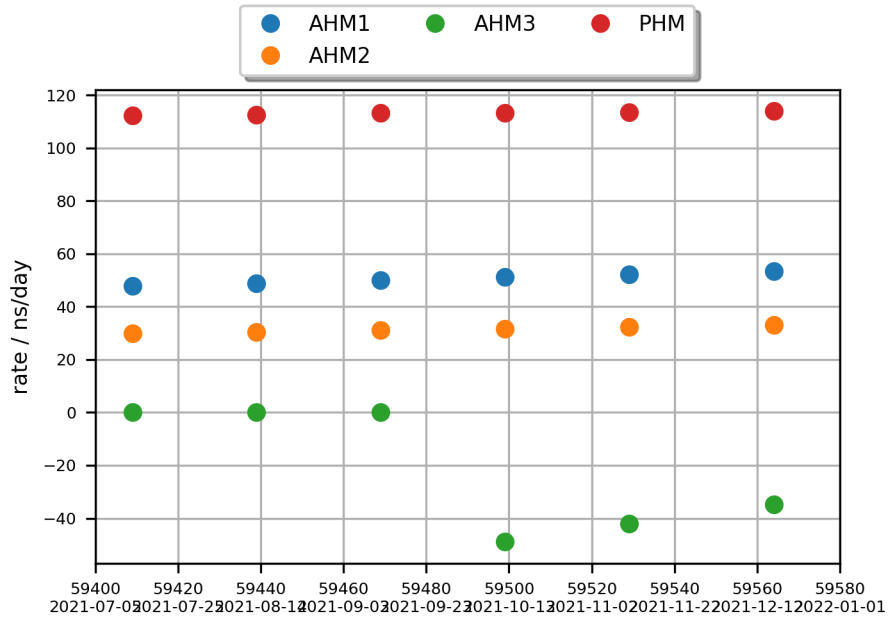
UTC-UTC(MIKE) as reported in Circular-T



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.

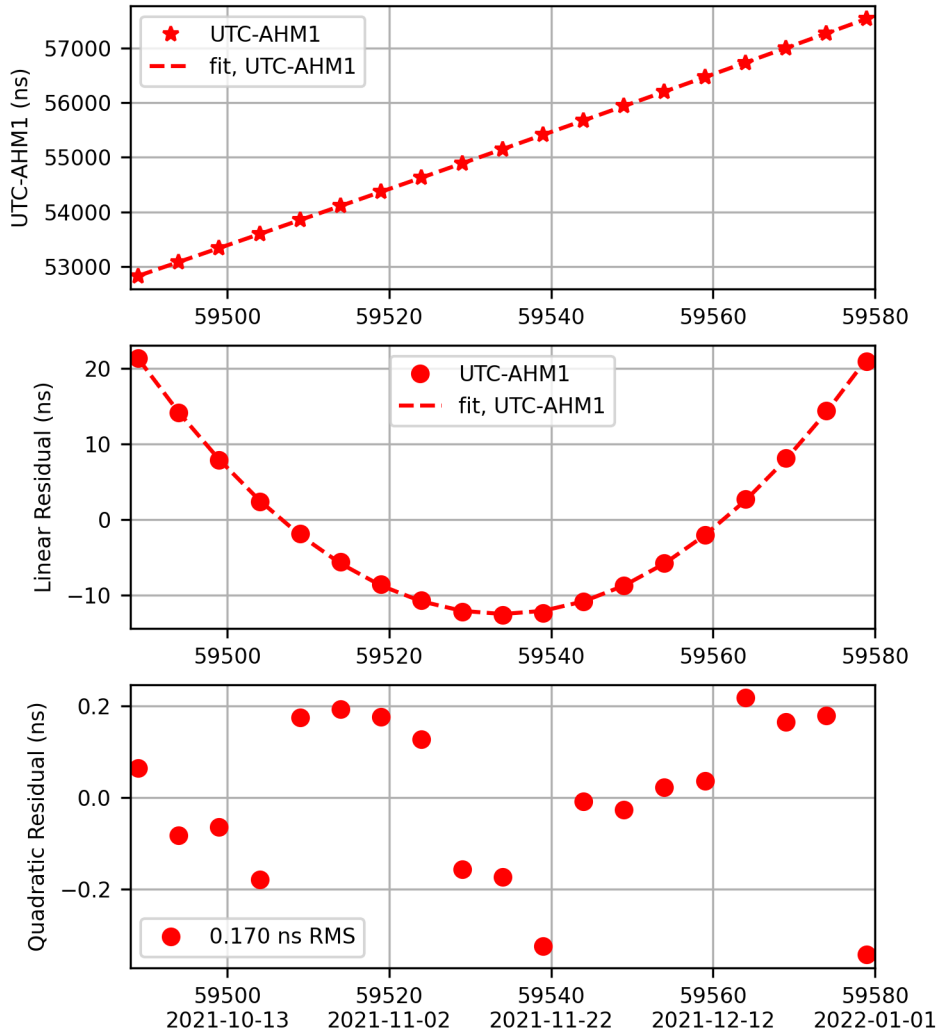
Clock Rates - Summary

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

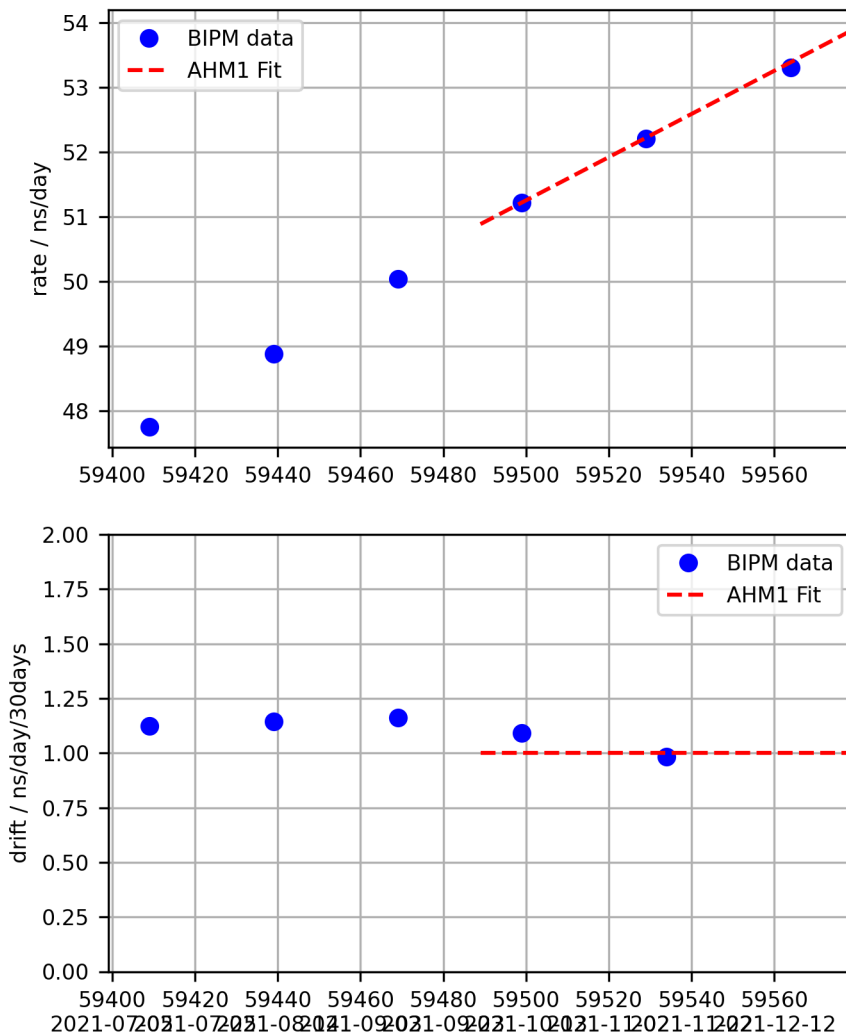


UTC - AHM1 Fit

UTC-AHM1 (2022-01-13 / 59592)
 $x \text{ (ns)} = 57541.542 + 53.887 *d + 0.0167 *d*d$
 $y = -6.23697e-13 + -3.85987e-16 *d$
 $d = (\text{mjd}-\text{mjd0})$ with $\text{mjd0} = 59579$

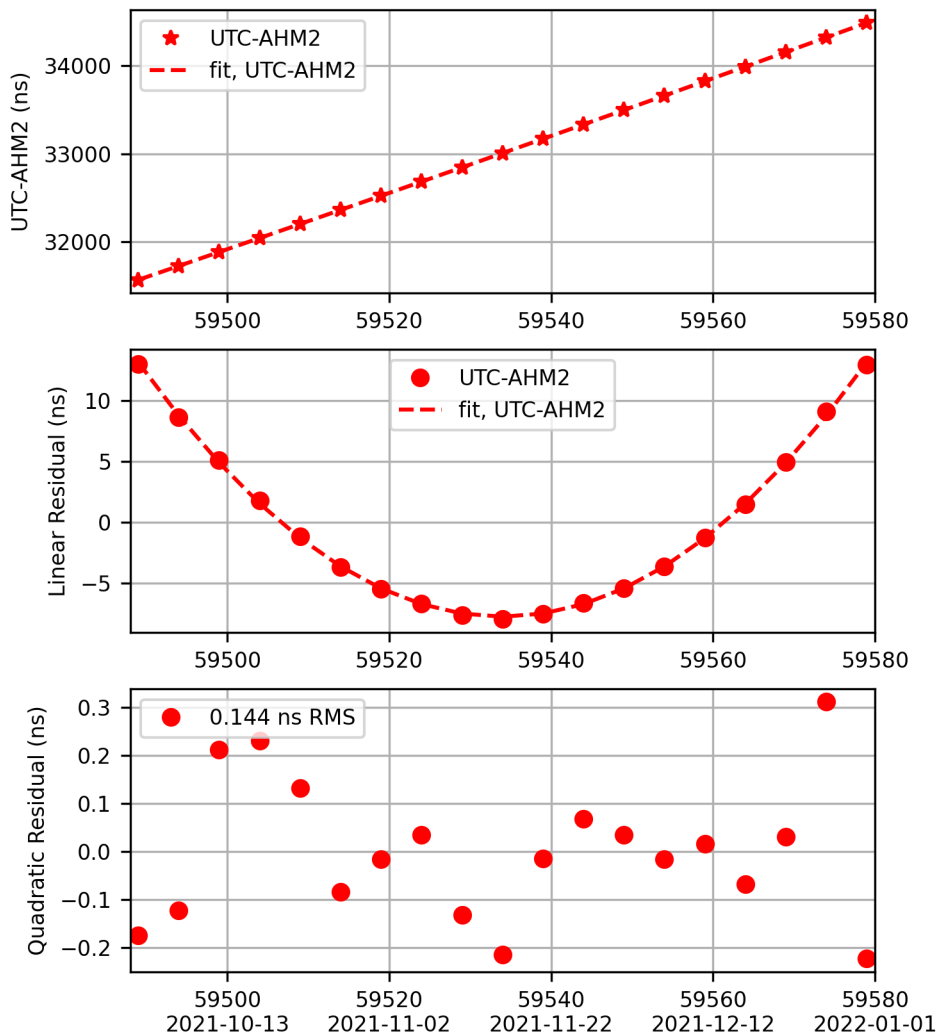


AHM1 Rate and Drift

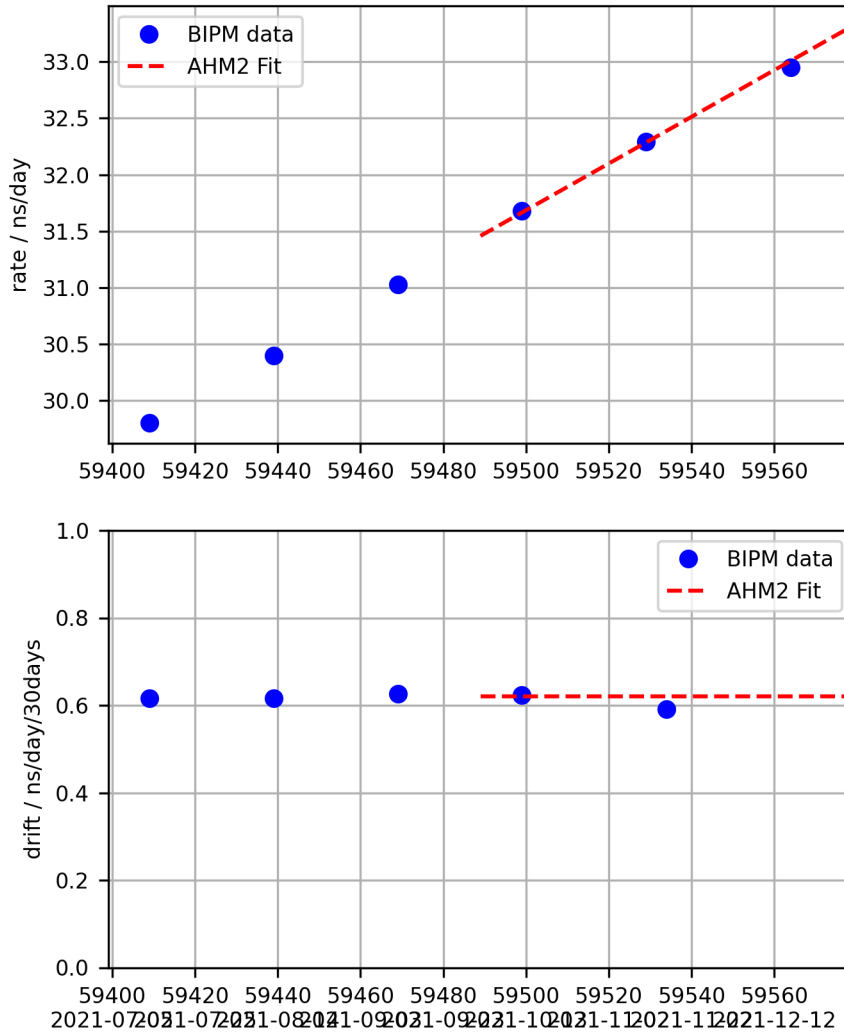


UTC - AHM2 Fit

UTC-AHM2 (2022-01-13 / 59592)
 $x \text{ (ns)} = 34485.423 + 33.319 *d + 0.0103 *d*d$
 $y = -3.85633e-13 + -2.39303e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59579$

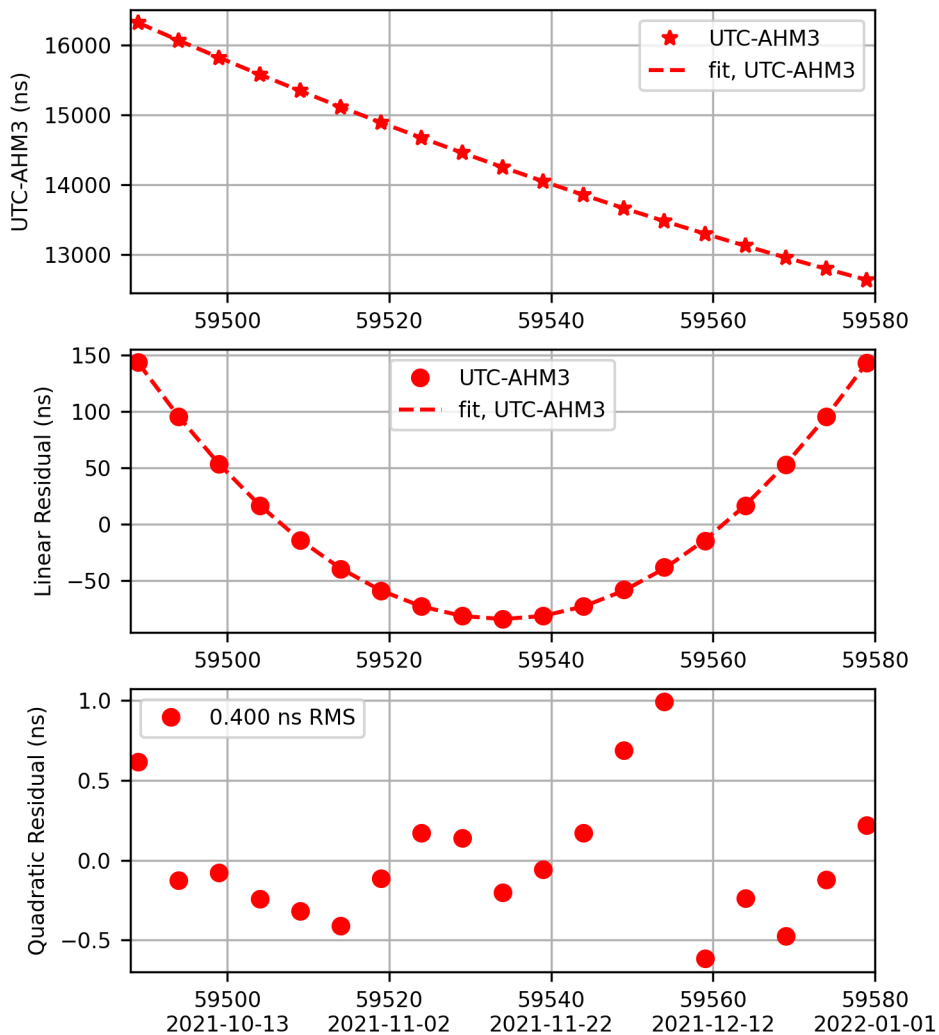


AHM2 Rate and Drift

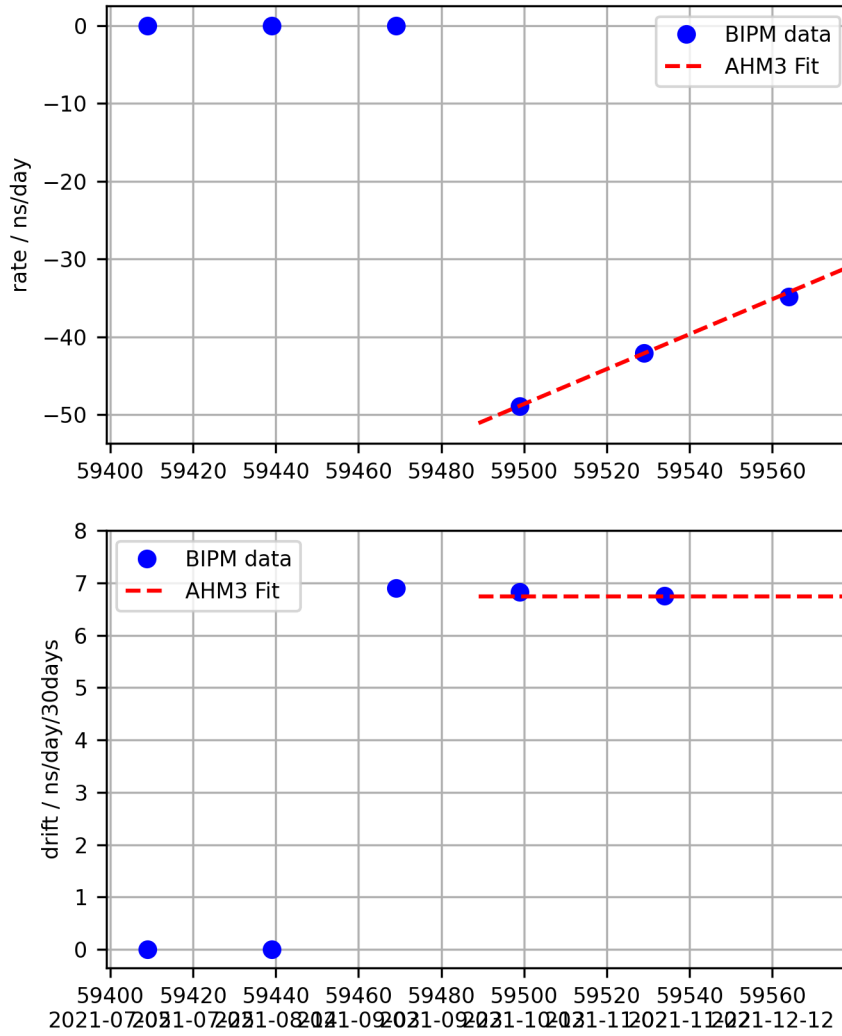


UTC - AHM3 Fit

UTC-AHM3 (2022-01-13 / 59592)
 $x \text{ (ns)} = 12632.683 + -30.906 *d + 0.1123 *d*d$
 $y = 3.57713e-13 + -2.59867e-15 *d$
 $d = (\text{mjd}-\text{mjd0})$ with $\text{mjd0} = 59579$

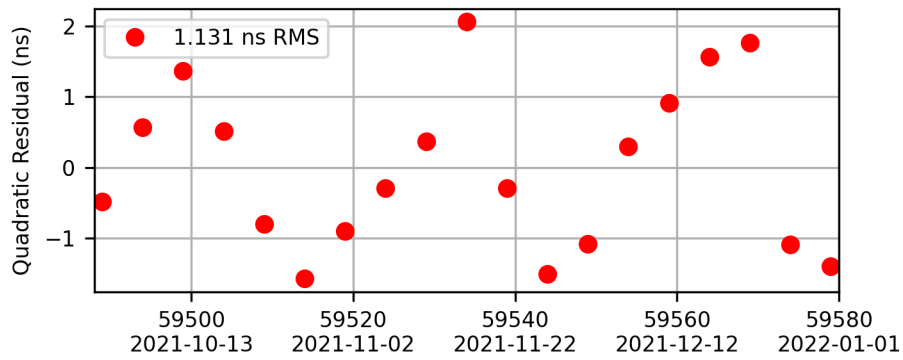
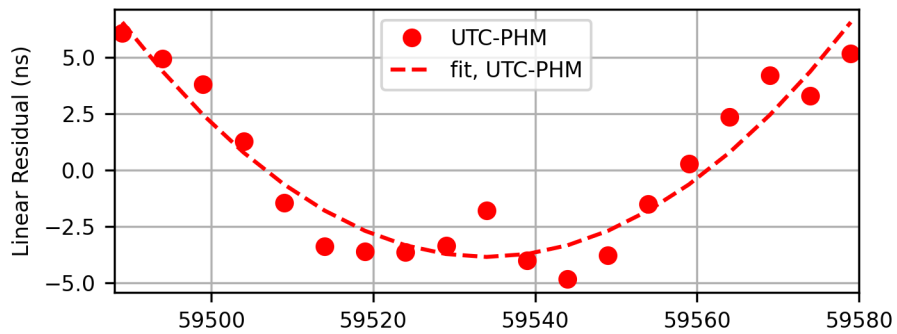
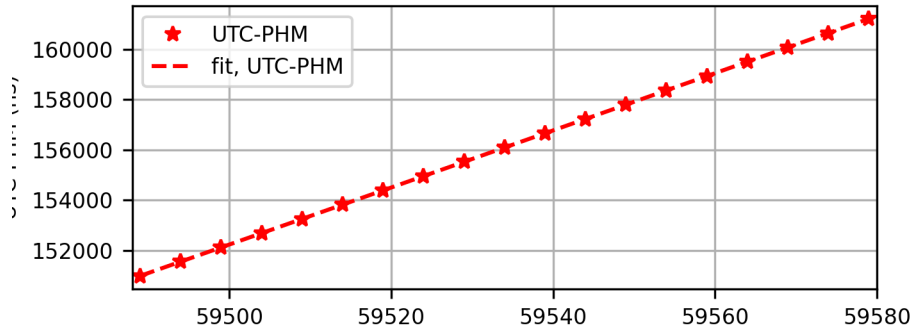


AHM3 Rate and Drift

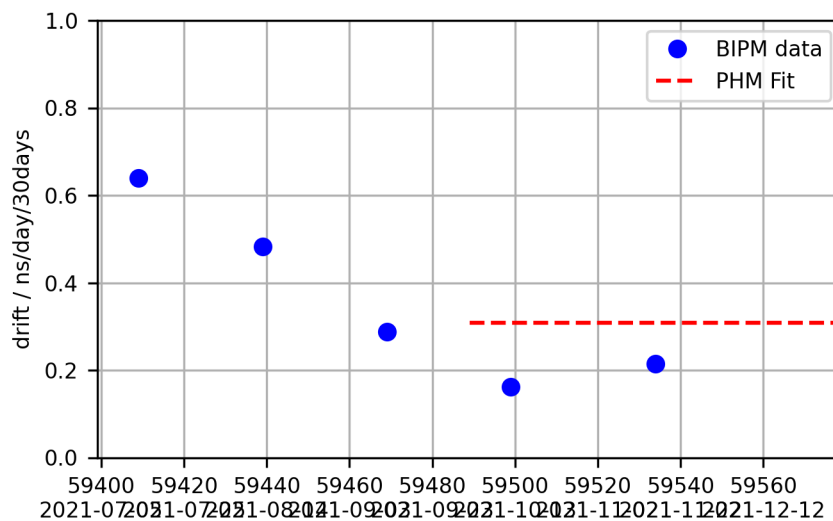
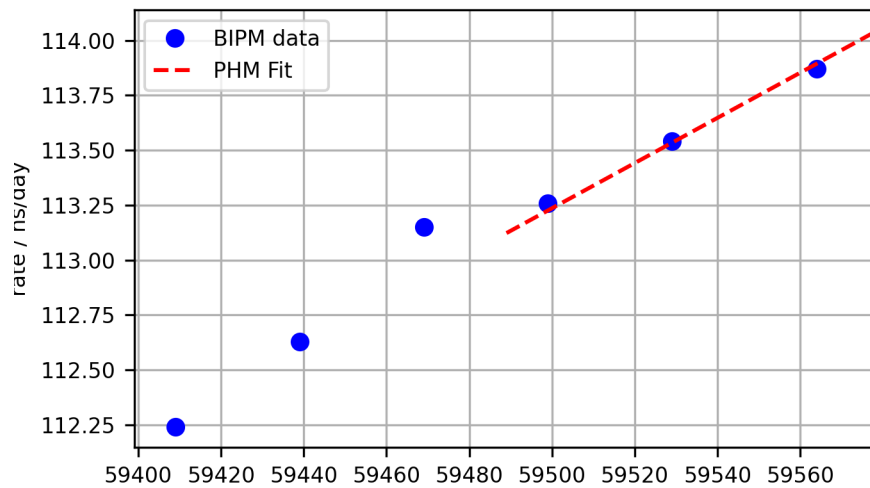


UTC - PHM Fit

UTC-PHM (2022-01-13 / 59592)
 x (ns) = $161212.802 + 114.048 * d + 0.0051 * d * d$
 $y = -1.32e-12 + -1.18979e-16 * d$
 $d = (\text{mjd} - \text{mjd0})$ with $\text{mjd0} = 59579$

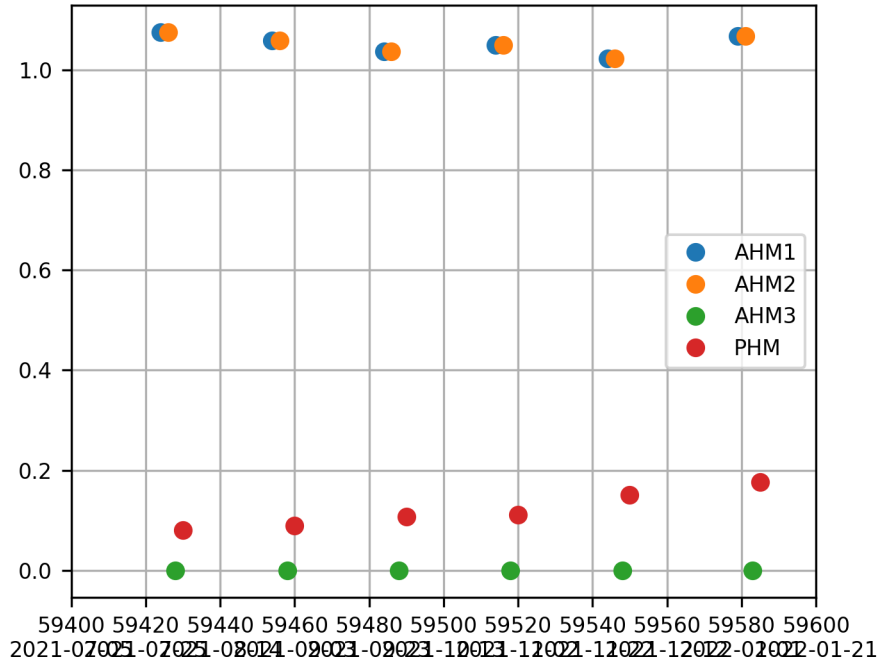


PHM Rate and Drift



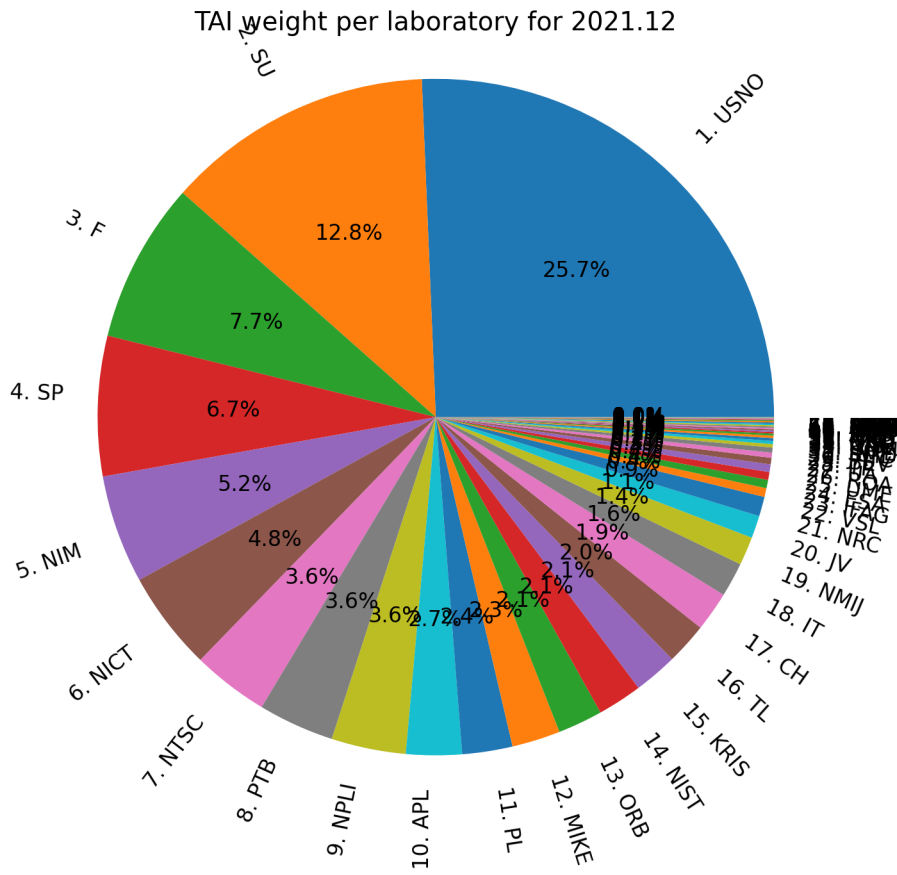
VTT MIKES Clock Weights

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



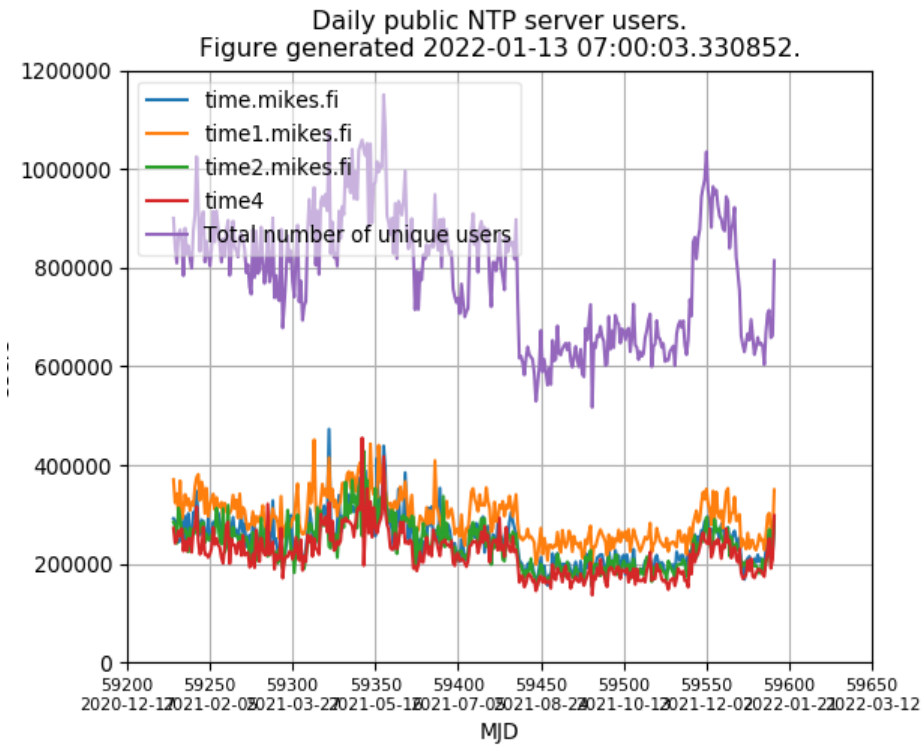
Clock Weights per Laboratory

Relative TAI Weight per laboratory



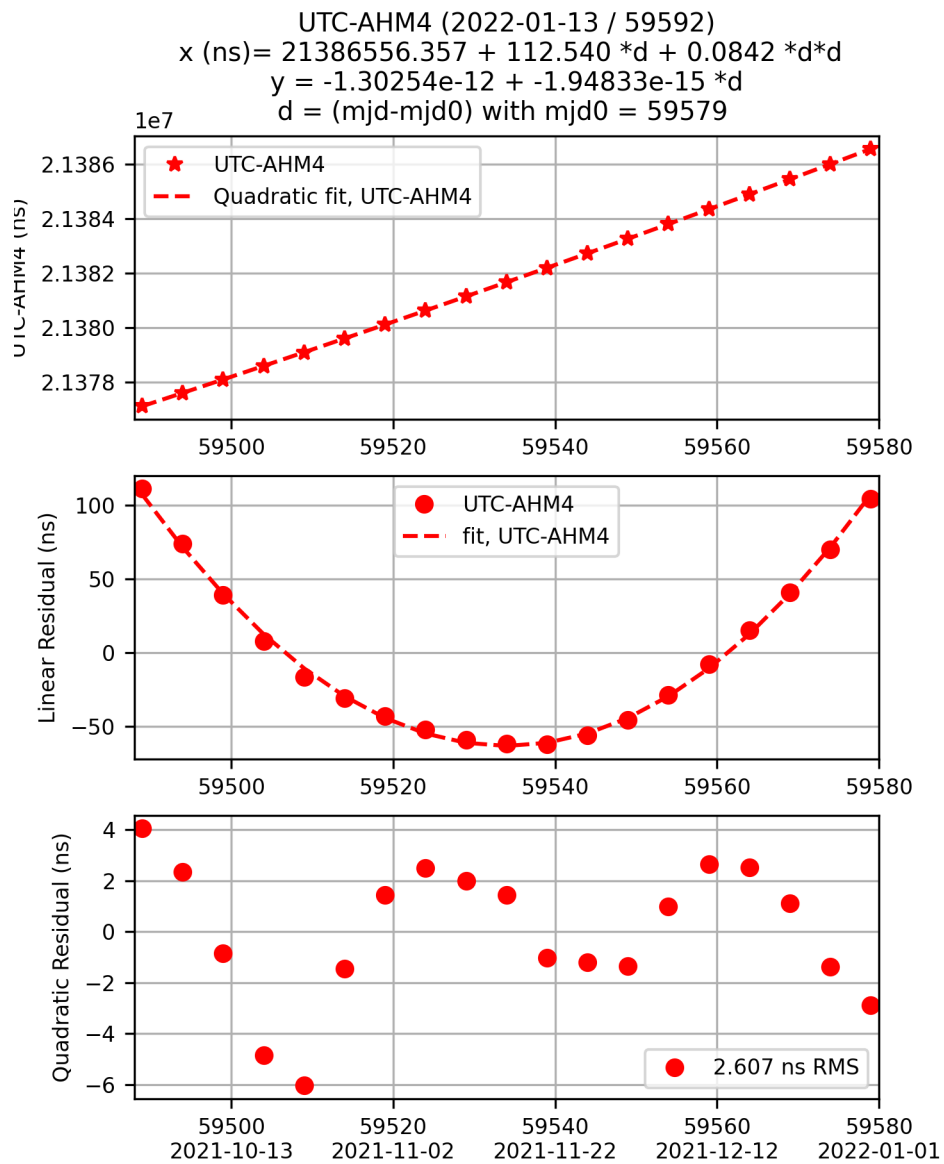
NTP Usage Statistics

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



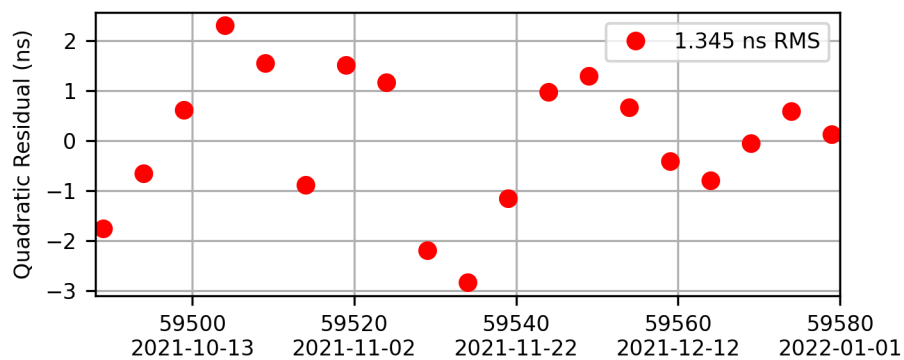
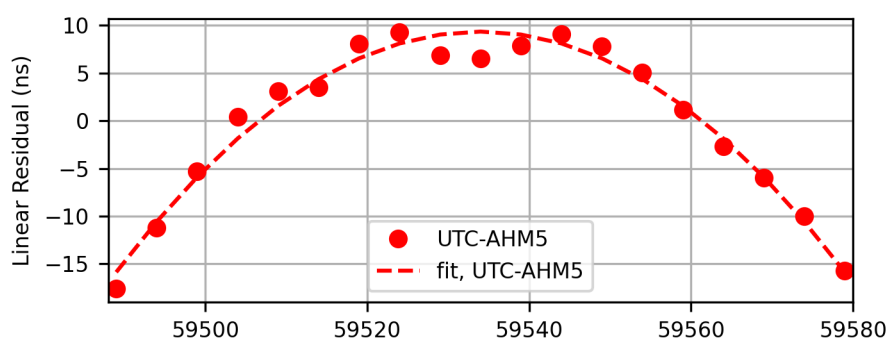
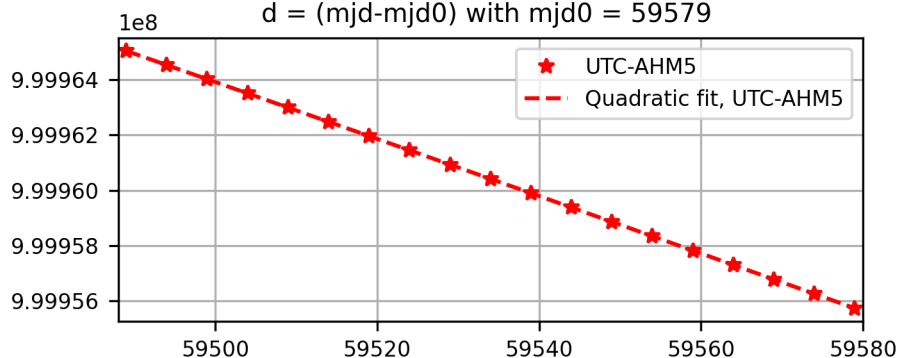
Remote Clocks

Remote Clock: AHM4



Remote Clock: AHM5

UTC-AHM5 (2022-01-13 / 59592)
 $x \text{ (ns)} = 999955737.555 + -104.462 *d + -0.0124 *d*d$
 $y = 1.20905e-12 + 2.88016e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59579$

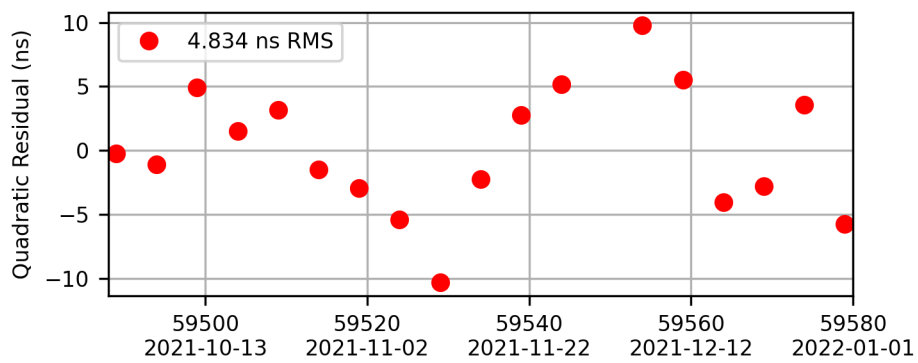
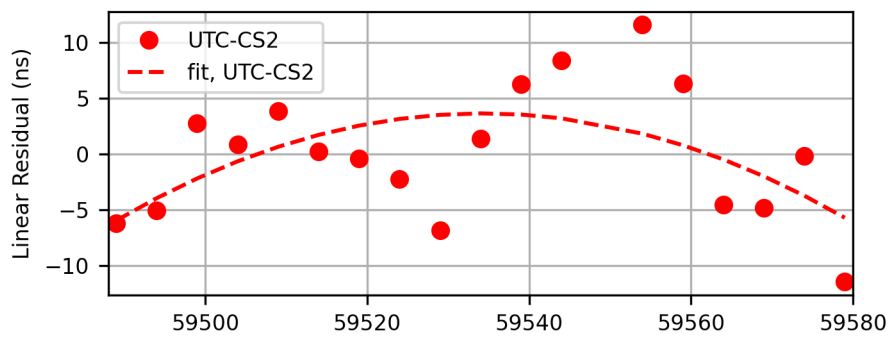
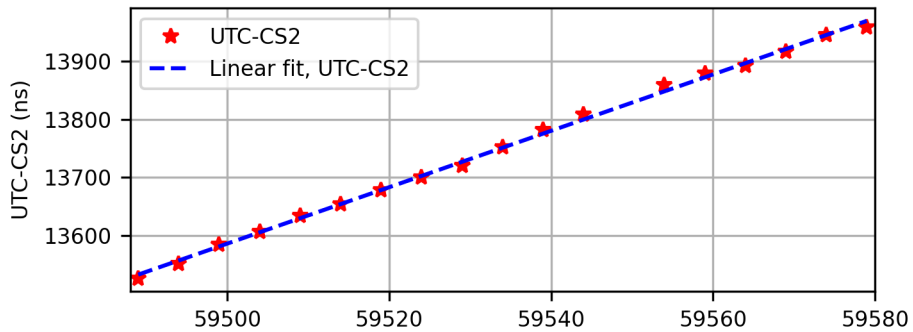


Remote Clock: CS2

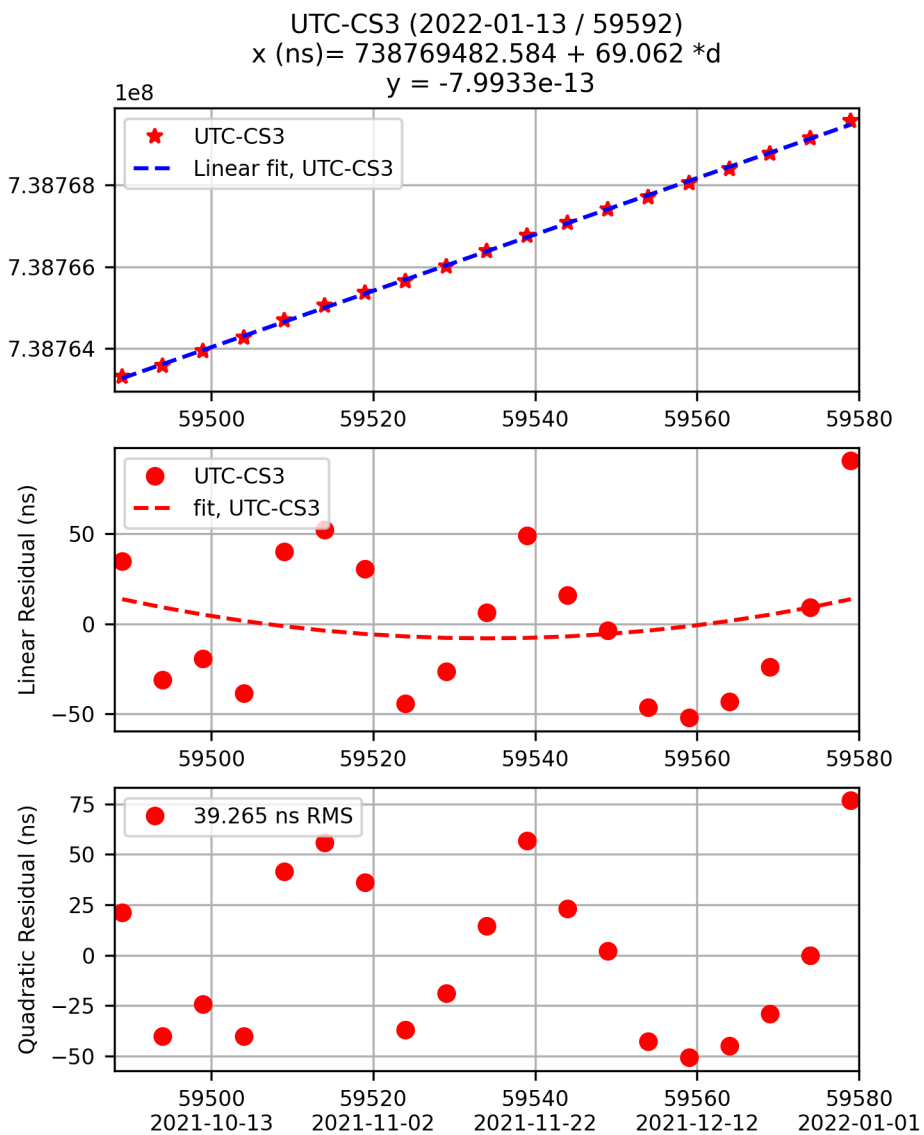
UTC-CS2 (2022-01-13 / 59592)

$$x \text{ (ns)} = 13969.629 + 4.857 * d$$

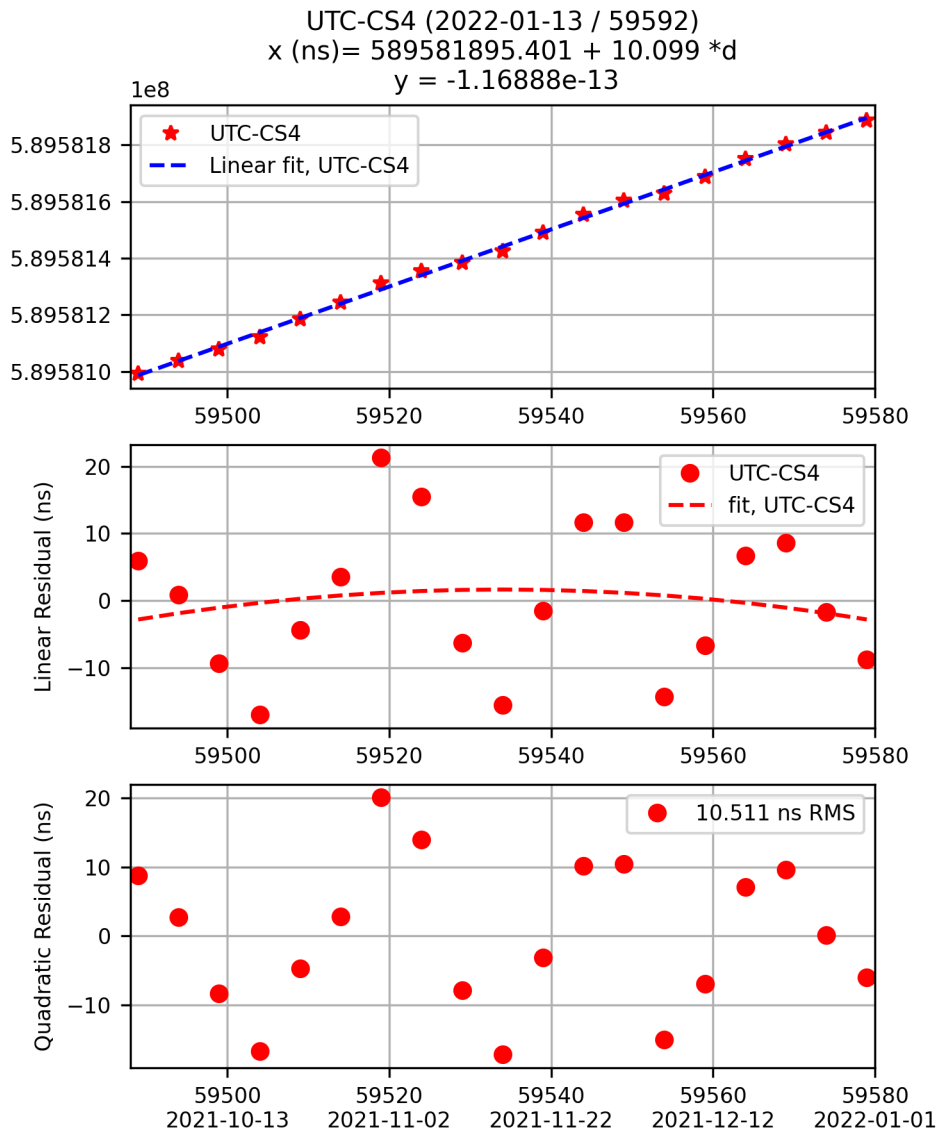
$$y = -5.62098e-14$$



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.