

UTC(MIKE) Atomic Bulletin 2020-11

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2020-11-10 (59163)

Circular-T issues used for analysis: [392](#), [393](#), [394](#),

First day of analysis interval: 2020-08-03 (59064)

Last day of analysis interval: 2020-10-27 (59149)

ClockData for analysis: [CDMI 20.08](#), [CDMI 20.09](#), [CDMI 20.10](#),

Notes

58891 (2020-02-12) Apply steering correction to UTC(MIKE). +5ns over 2 months, $y_steer = -5ns/60d = -9.6e-16$

58919 (2020-03-11) AB2020-03 comments: New 1PPS measurement system installed 2020-03-09. KAJA(CS2) WR-node had power-cut ca 2020-02-27.

58919 (2020-03-11) AB2020-03 comments: Following MI04/MI05 calibration with PTBM in Dec19-Jan20 Circular-T uncertainty now record low 2.7 ns. MI04 is used as main receiver for now.

58953 (2020-03-14) AB2020-04, set steering correction to zero.

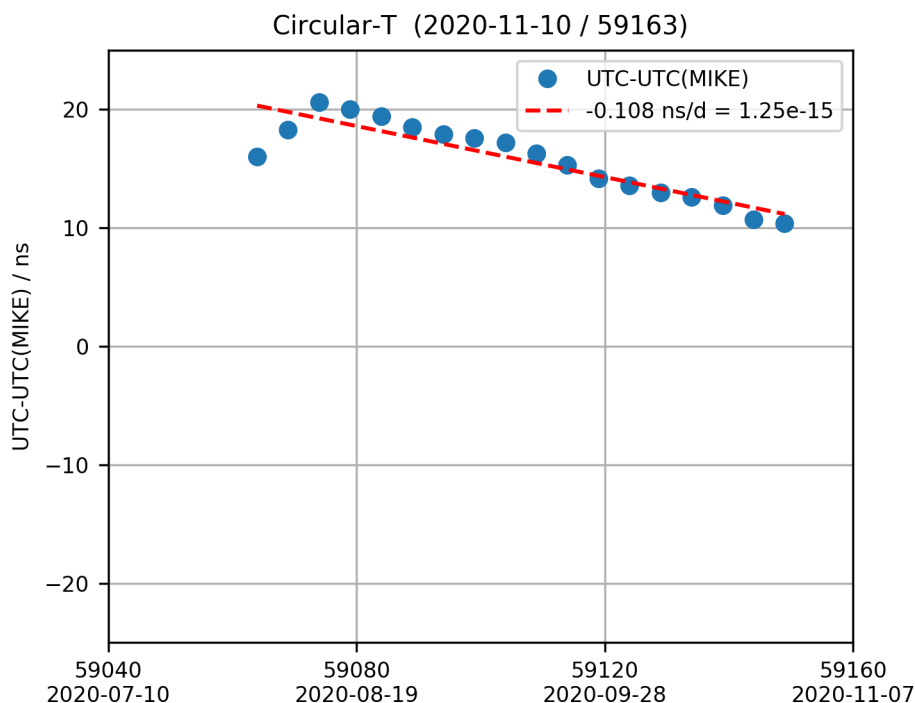
58966 (2020-04-27) AHM1=MC 1PPS moved backwards ~20us.

59071 (2020-08-10) AB2020-08, add steering correction $y_steer = 0.5*(+14ns/30d) = +2.7e-15$

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.

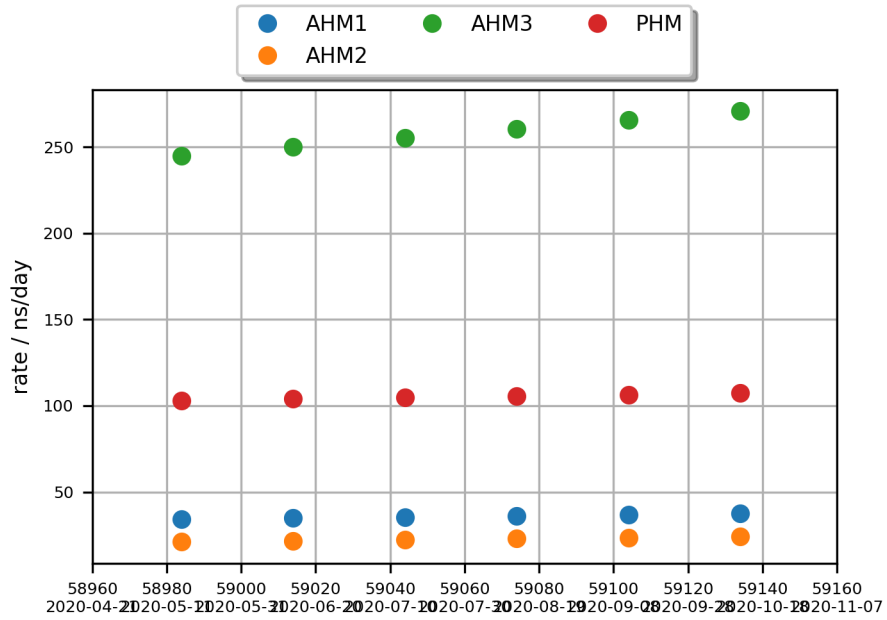
UTC-UTC(MIKE) as reported in Circular-T



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.

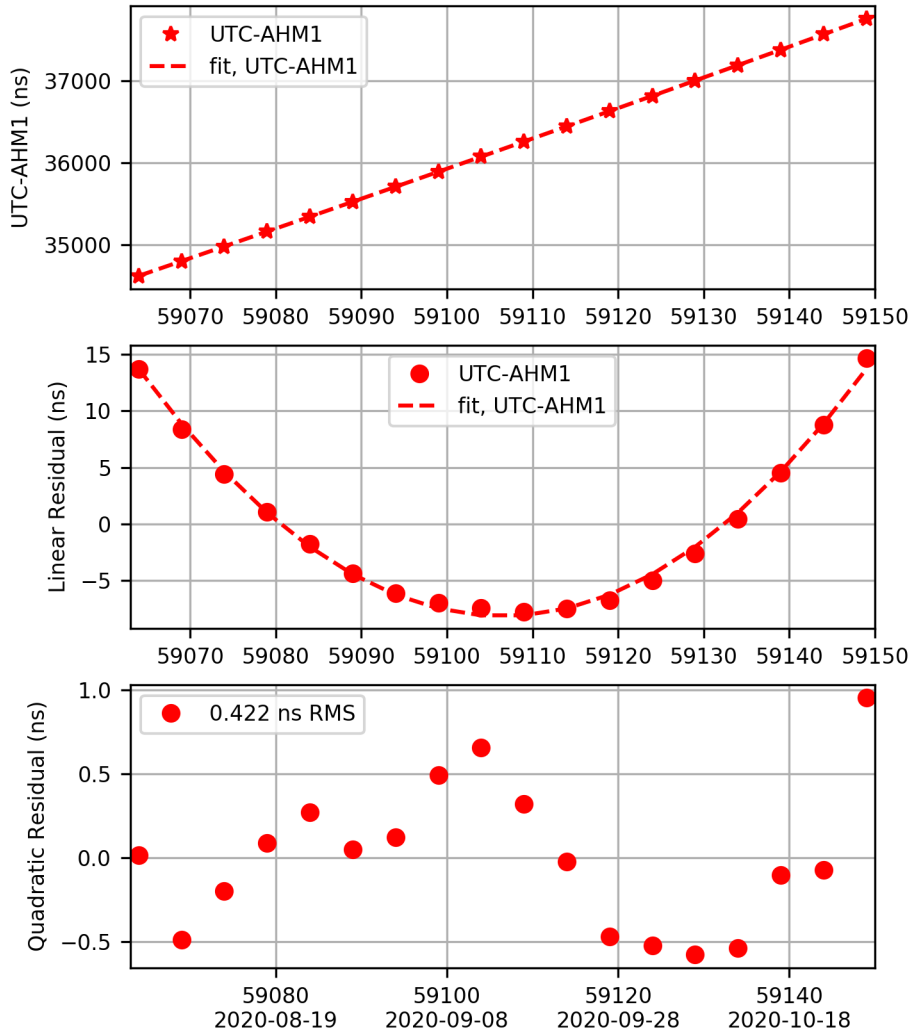
Clock Rates - Summary

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

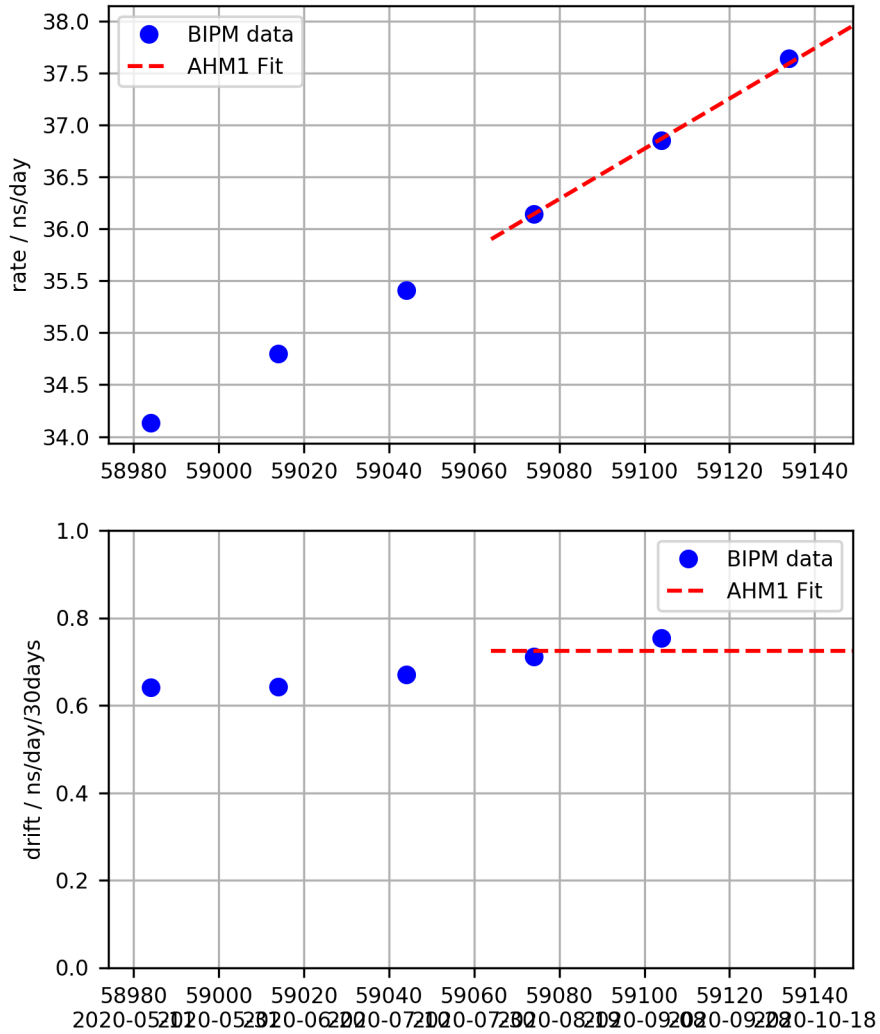


UTC - AHM1 Fit

UTC-AHM1 (2020-11-10 / 59163)
 $x \text{ (ns)} = 37757.044 + 37.955 *d + 0.0121 *d*d$
 $y = -4.39294e-13 + -2.79749e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59149$

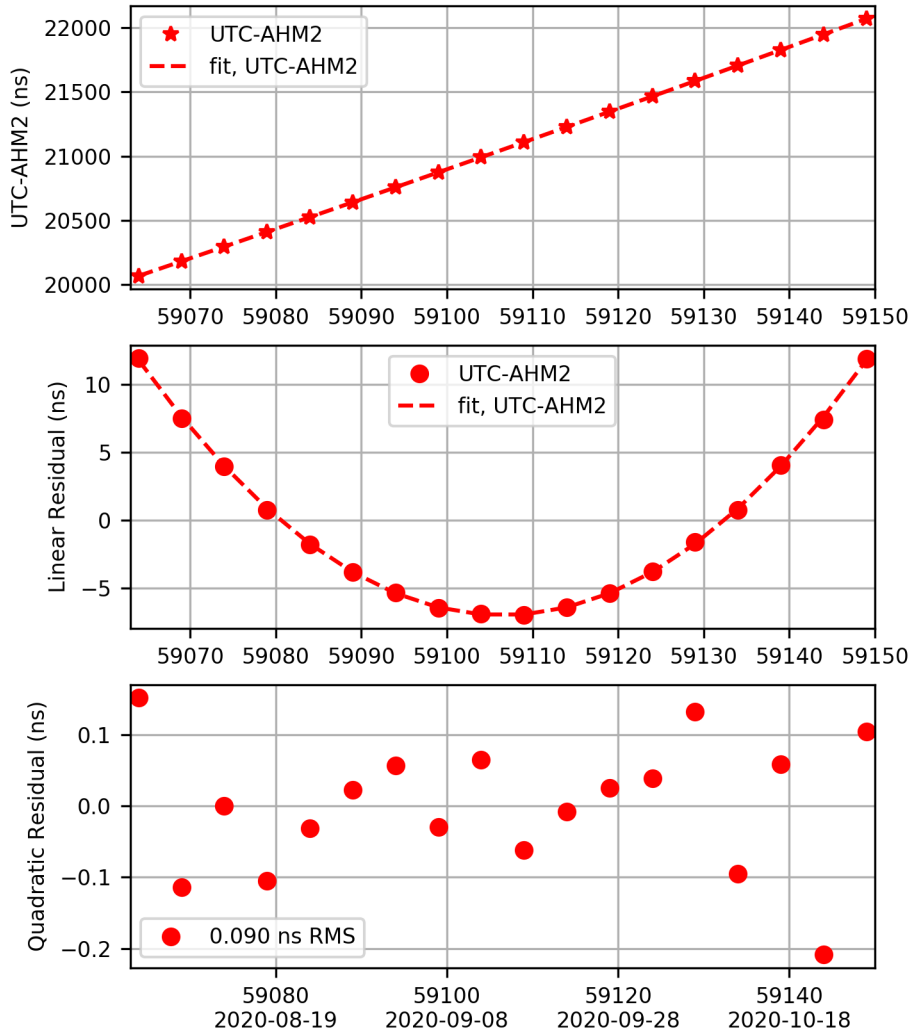


AHM1 Rate and Drift

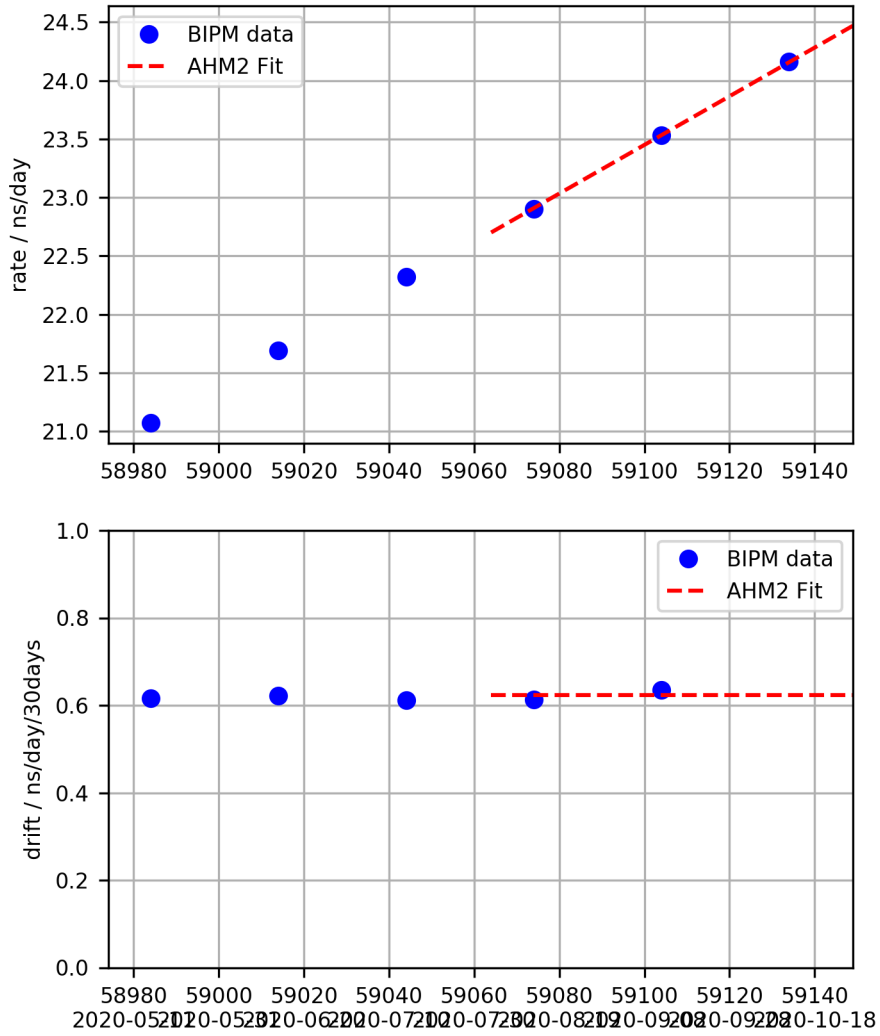


UTC - AHM2 Fit

UTC-AHM2 (2020-11-10 / 59163)
 $x \text{ (ns)} = 22071.096 + 24.469 *d + 0.0104 *d*d$
 $y = -2.83211e-13 + -2.4078e-16 *d$
 $d = (\text{mjd}-\text{mjd0})$ with $\text{mjd0} = 59149$

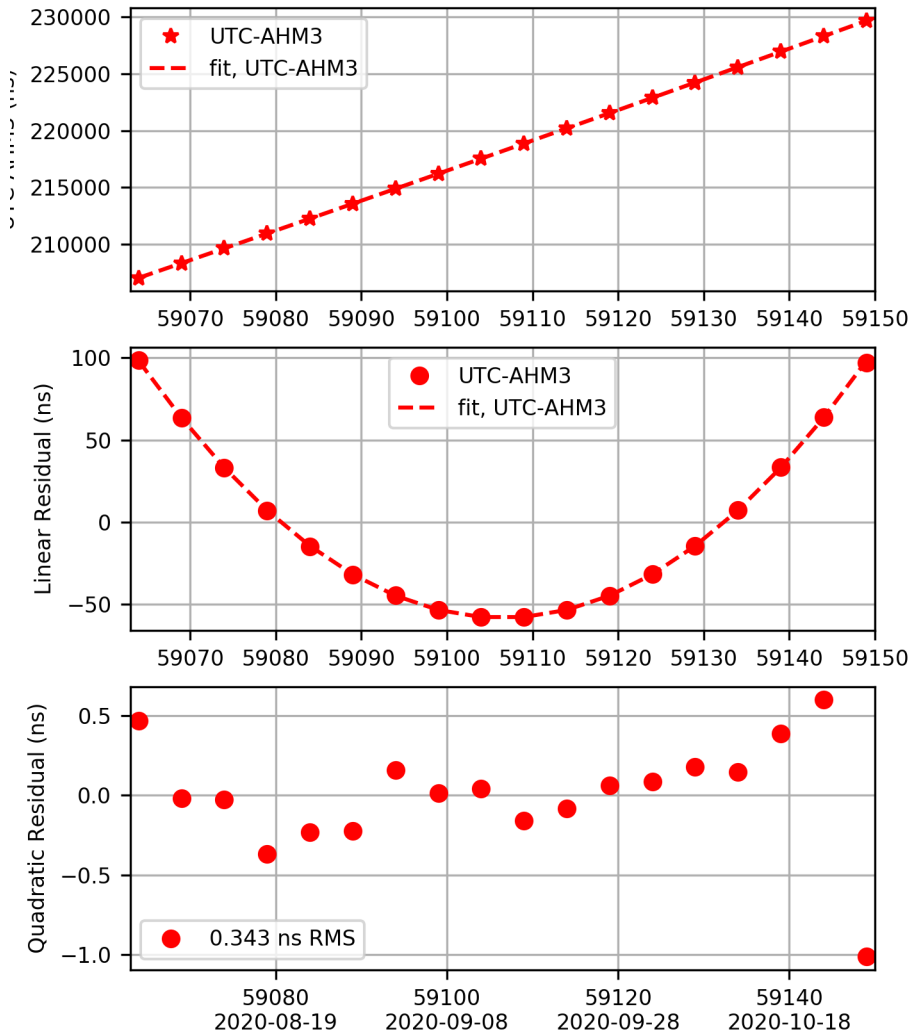


AHM2 Rate and Drift

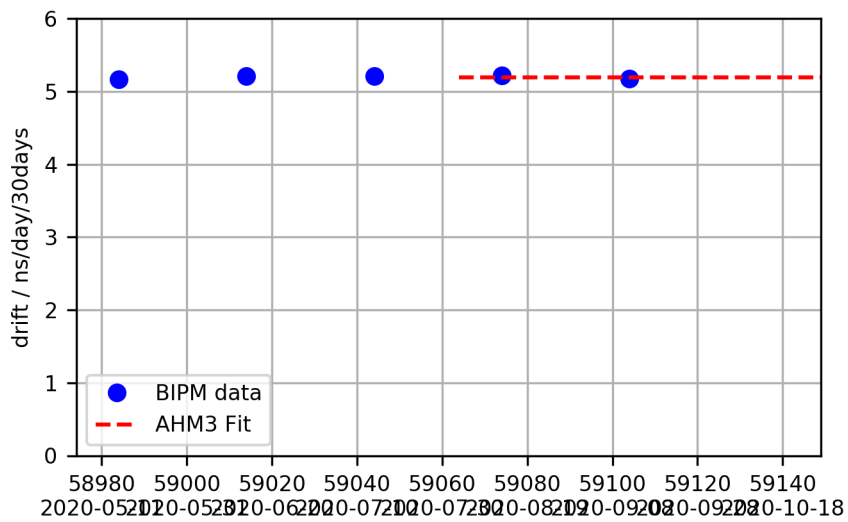
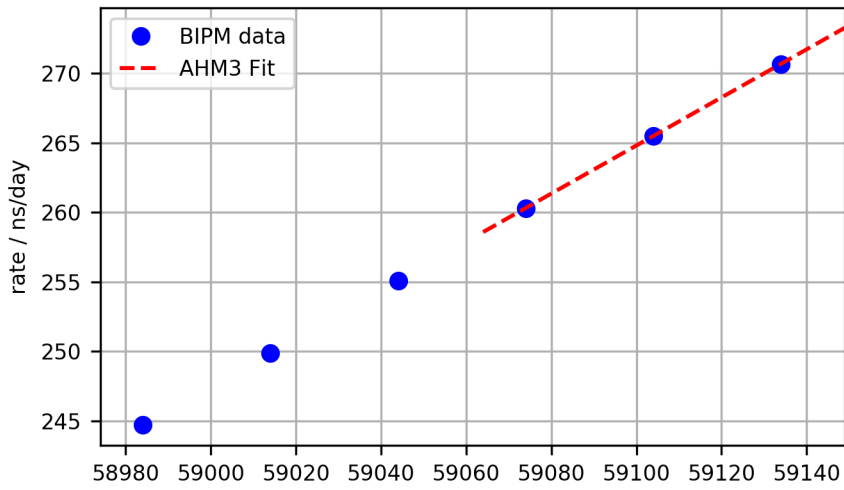


UTC - AHM3 Fit

UTC-AHM3 (2020-11-10 / 59163)
 $x \text{ (ns)} = 229658.313 + 273.295 *d + 0.0865 *d*d$
 $y = -3.16314e-12 + -2.00312e-15 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59149$

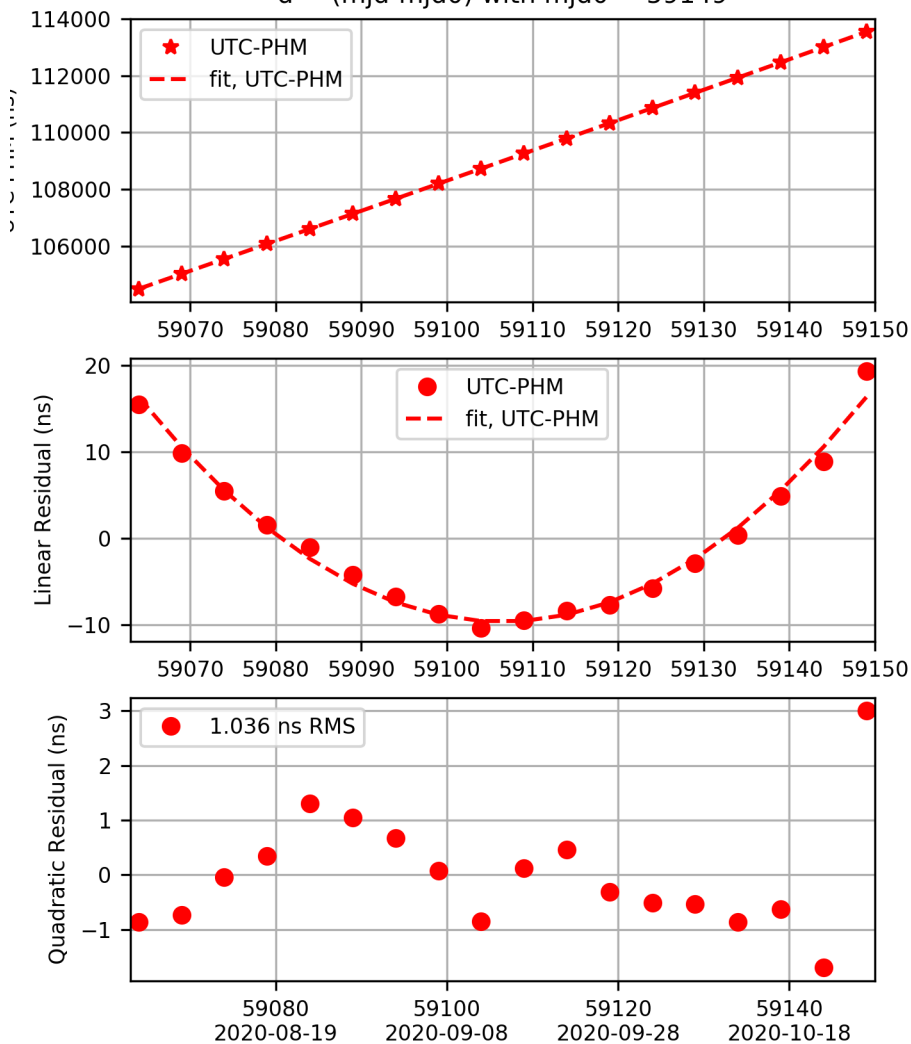


AHM3 Rate and Drift

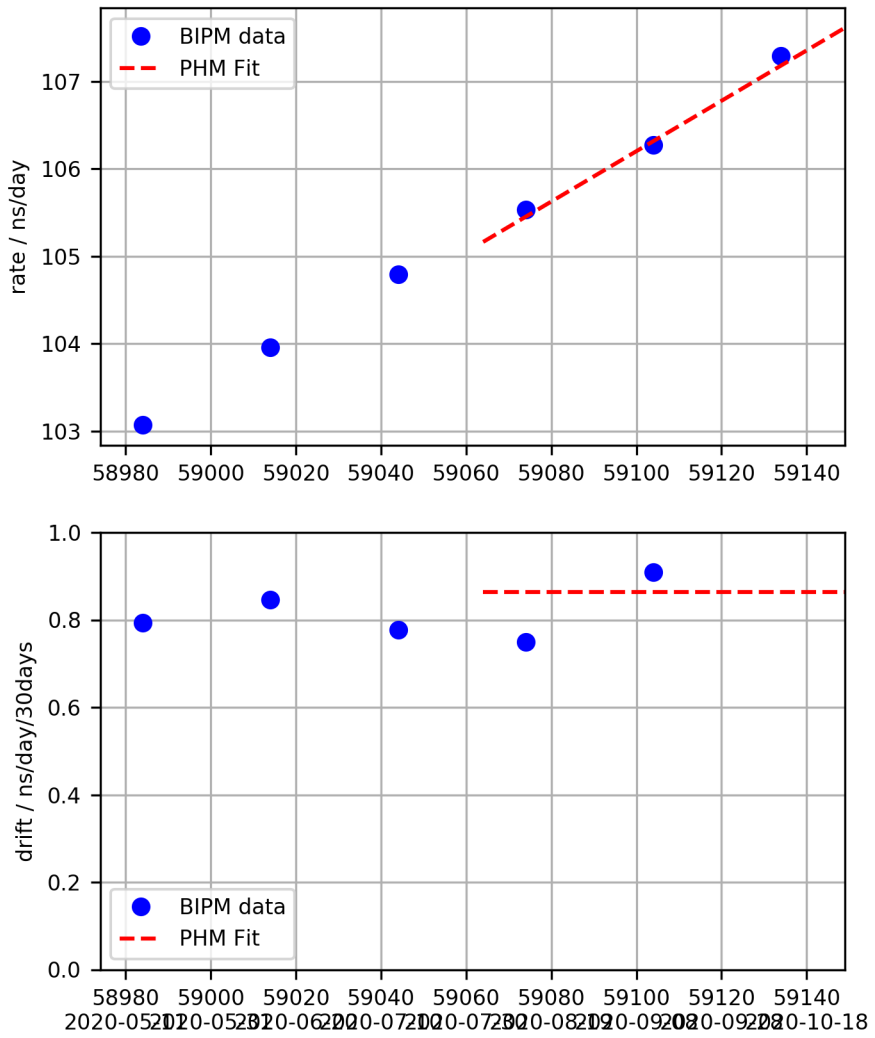


UTC - PHM Fit

UTC-PHM (2020-11-10 / 59163)
 $x \text{ (ns)} = 113539.395 + 107.611 *d + 0.0144 *d*d$
 $y = -1.2455e-12 + -3.33235e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59149$

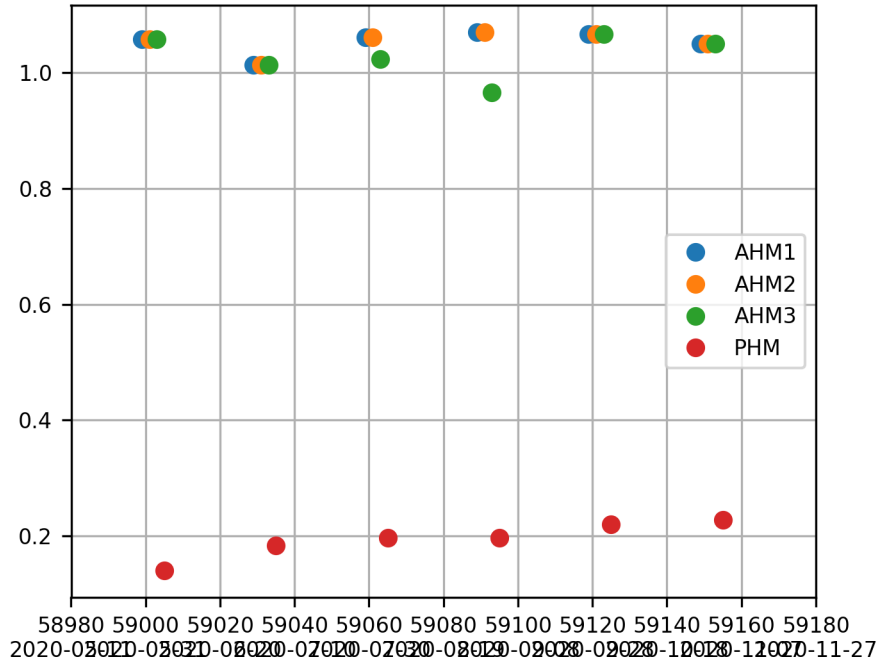


PHM Rate and Drift



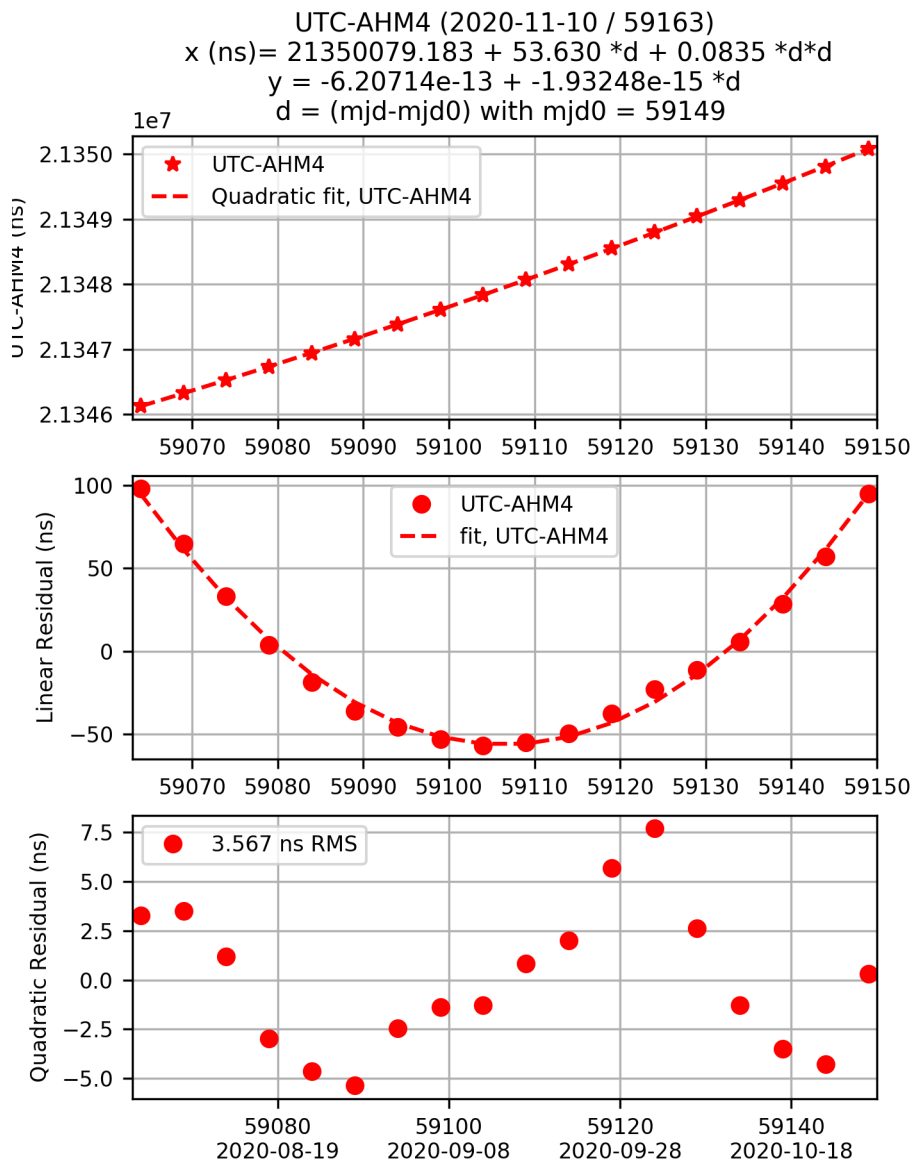
Clock Weights

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



Remote Clocks

Remote Clock: AHM4

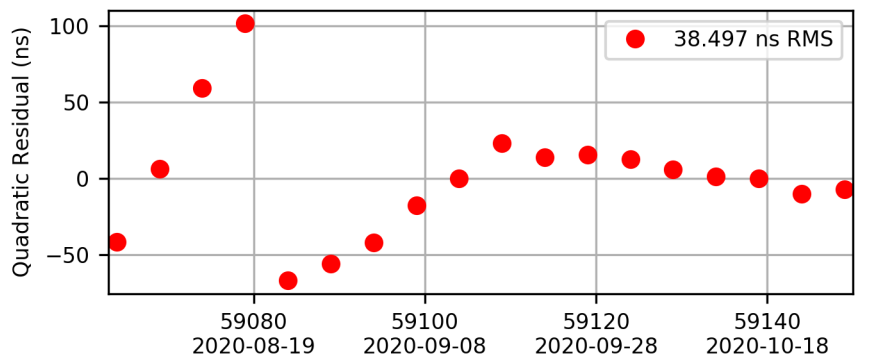
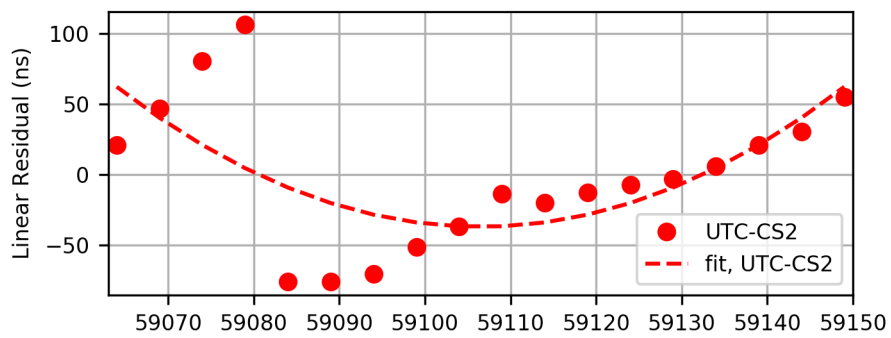
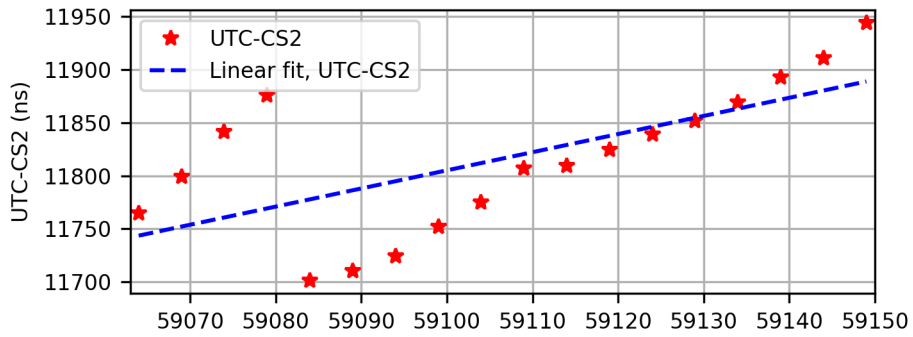


Remote Clock: CS2

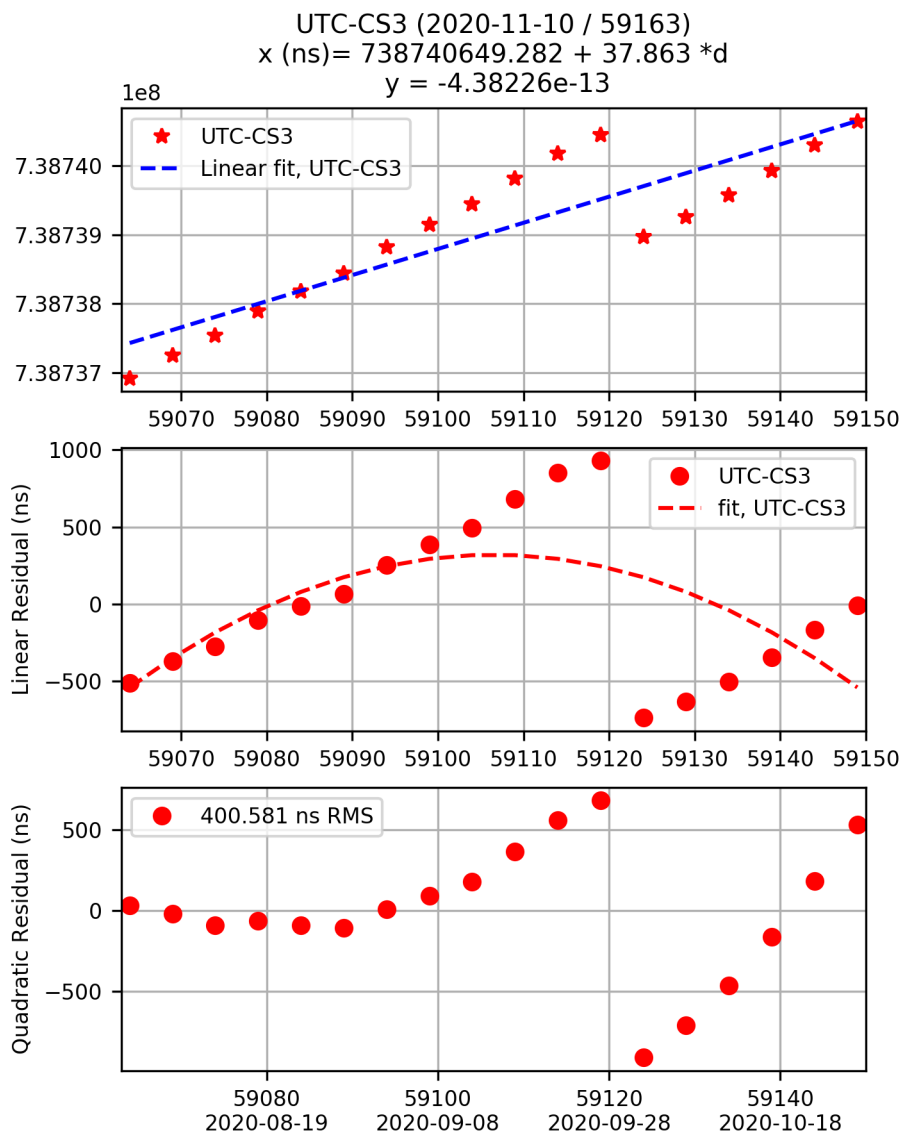
UTC-CS2 (2020-11-10 / 59163)

$$x \text{ (ns)} = 11888.737 + 1.708 * d$$

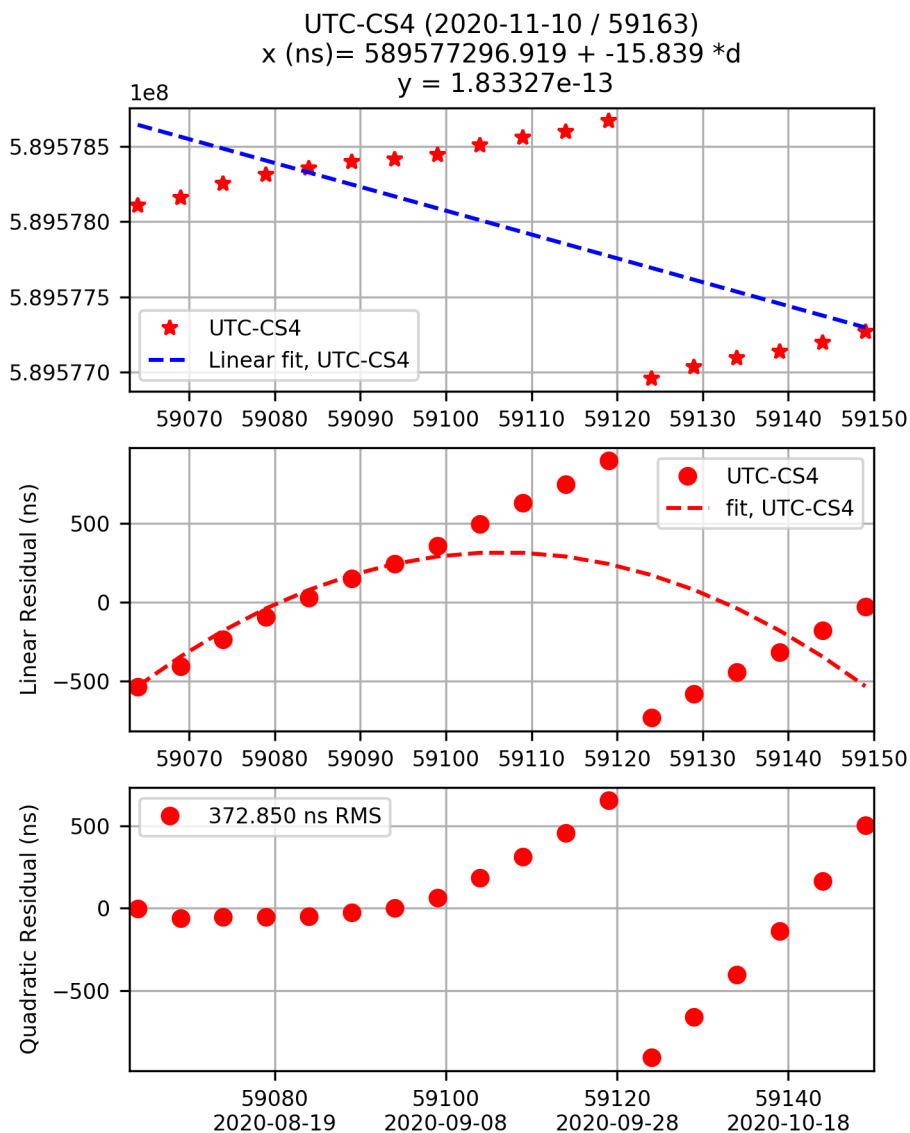
$$y = -1.97656e-14$$



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.