

UTC(MIKE) Atomic Bulletin 2019-12

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2019-12-10 (58827)

Circular-T issues used for analysis: [381](#), [382](#), [383](#),

First day of analysis interval: 2019-09-03 (58729)

Last day of analysis interval: 2019-11-27 (58814)

ClockData for analysis: [CDMI 19.09](#), [CDMI 19.10](#), [CDMI 19.11](#),

Notes

58305 AHM3 rebooted. Phase step +20.2ns.

58450 CS1 Hotwire supply regulation failure

58494 Change master-clock to AHM2

58617 (2019-05-14) Power-outage and temperature fluctuations in MIKES building.

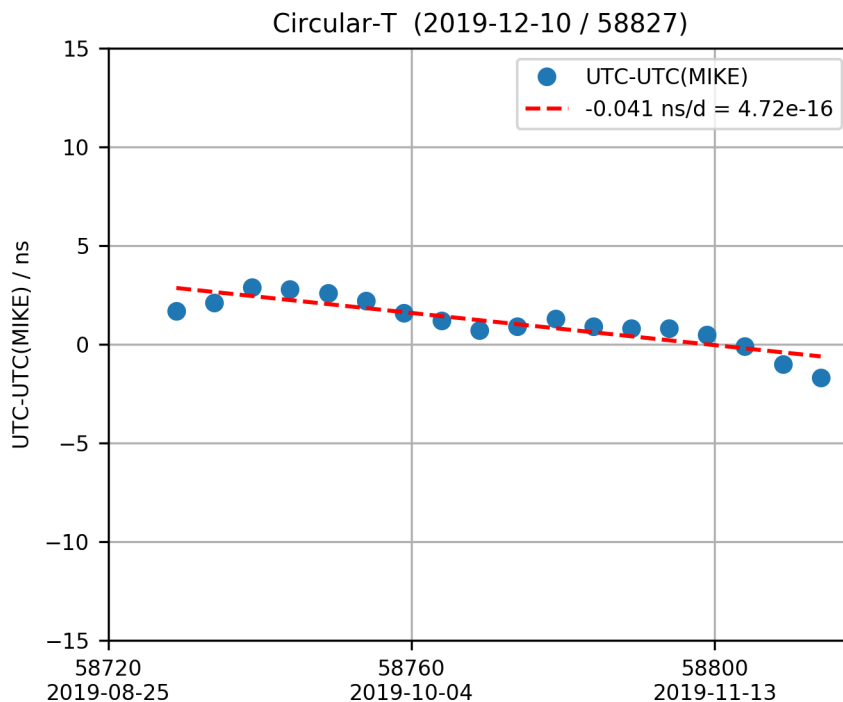
58623, 58624 M3 clock data missing

58707 (2019-08-12) AHM2 autotuner failure, change MC to AHM1

58739 OTA-KAJA link asymmetry change (CS2)

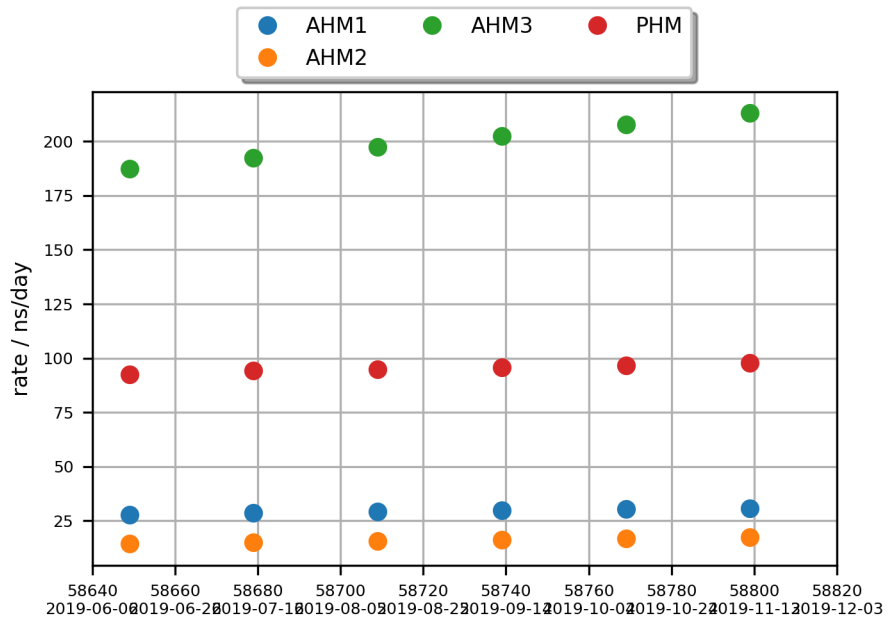
58760 (2019-10-04) AHM4 frequency adjustment. Approximate model is $y = -4.0497e-14 - 1.18953e-15*(mjd-58766)$

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



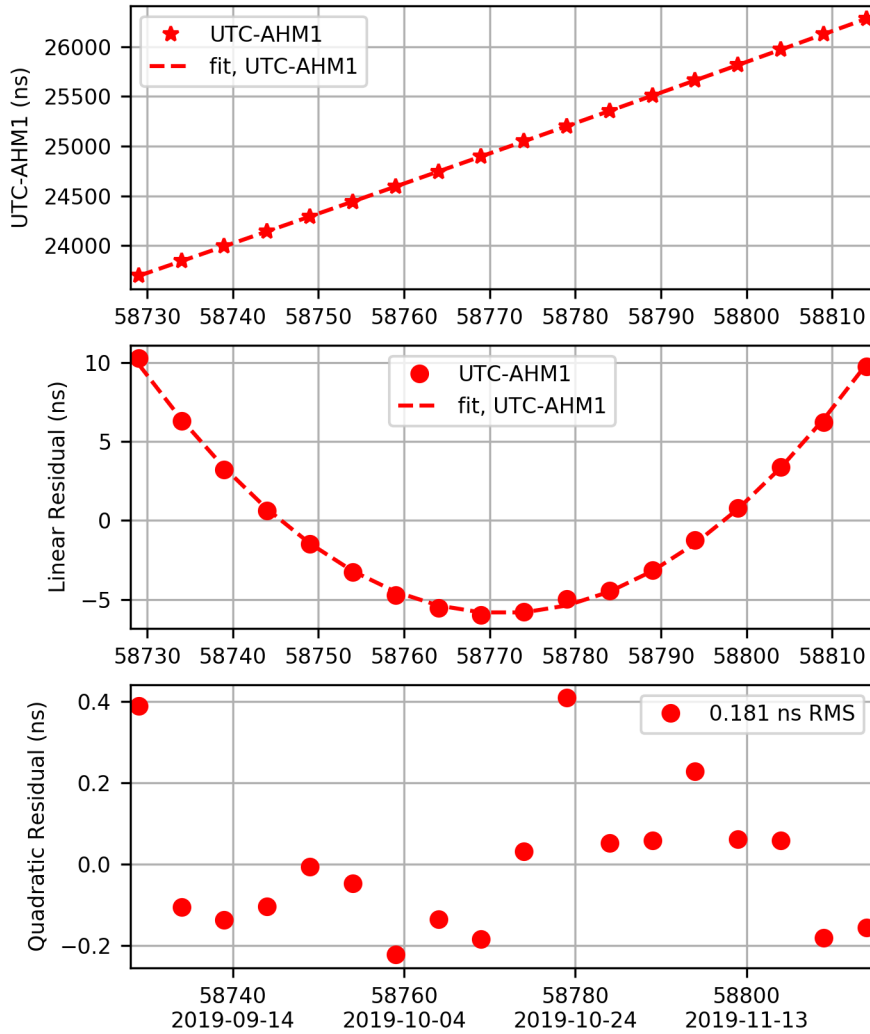
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

Clock Rates - Summary

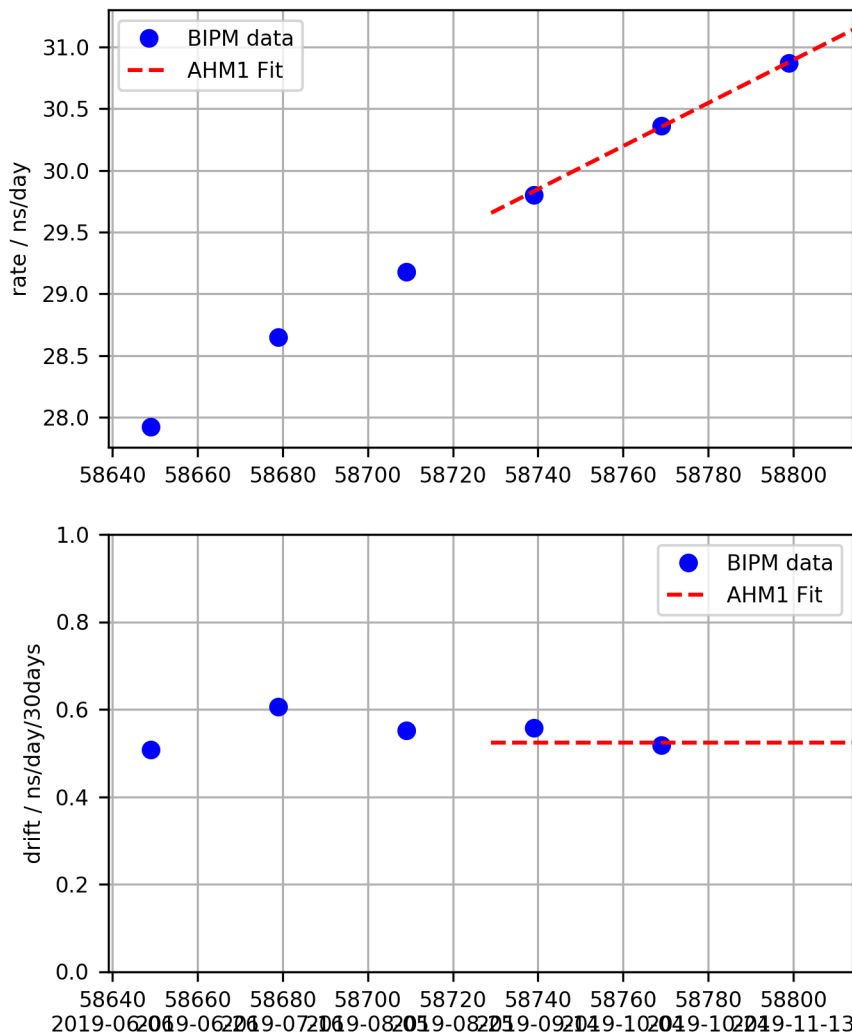


UTC - AHM1 Fit

UTC-AHM1 (2019-12-10 / 58827)
 $x \text{ (ns)} = 26280.857 + 31.139 *d + 0.0087 *d*d$
 $y = -3.60402e-13 + -2.01997e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58814$

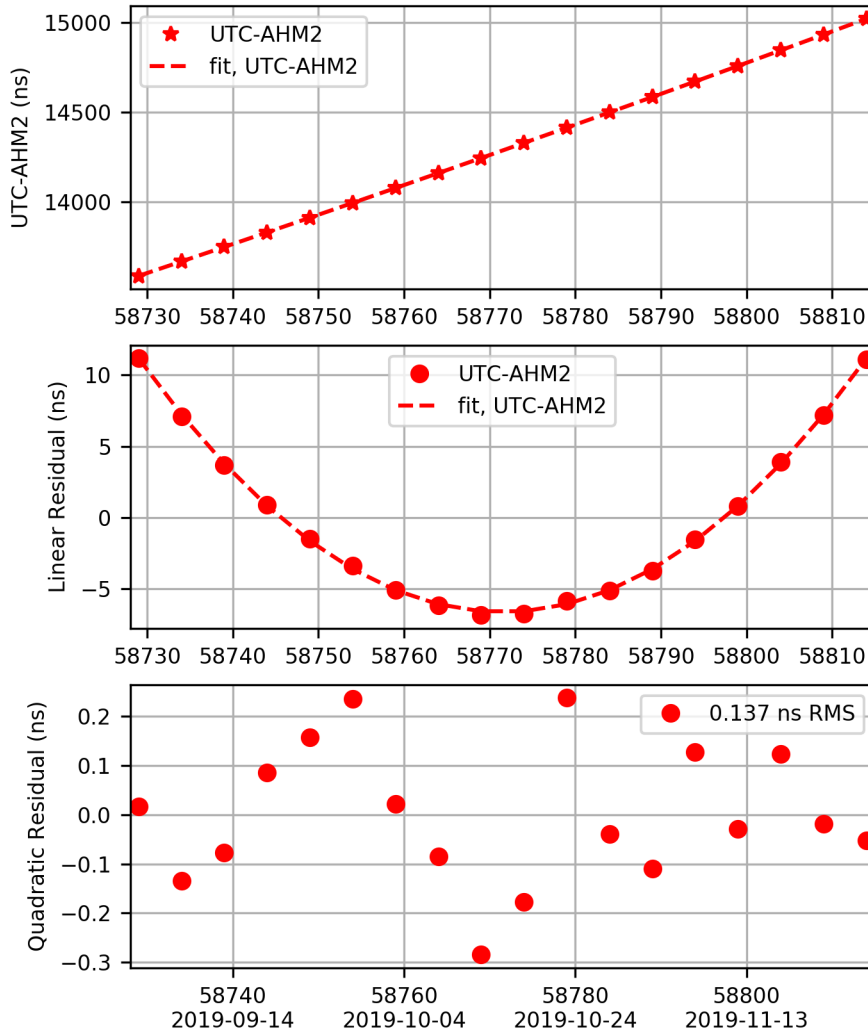


AHM1 Rate and Drift

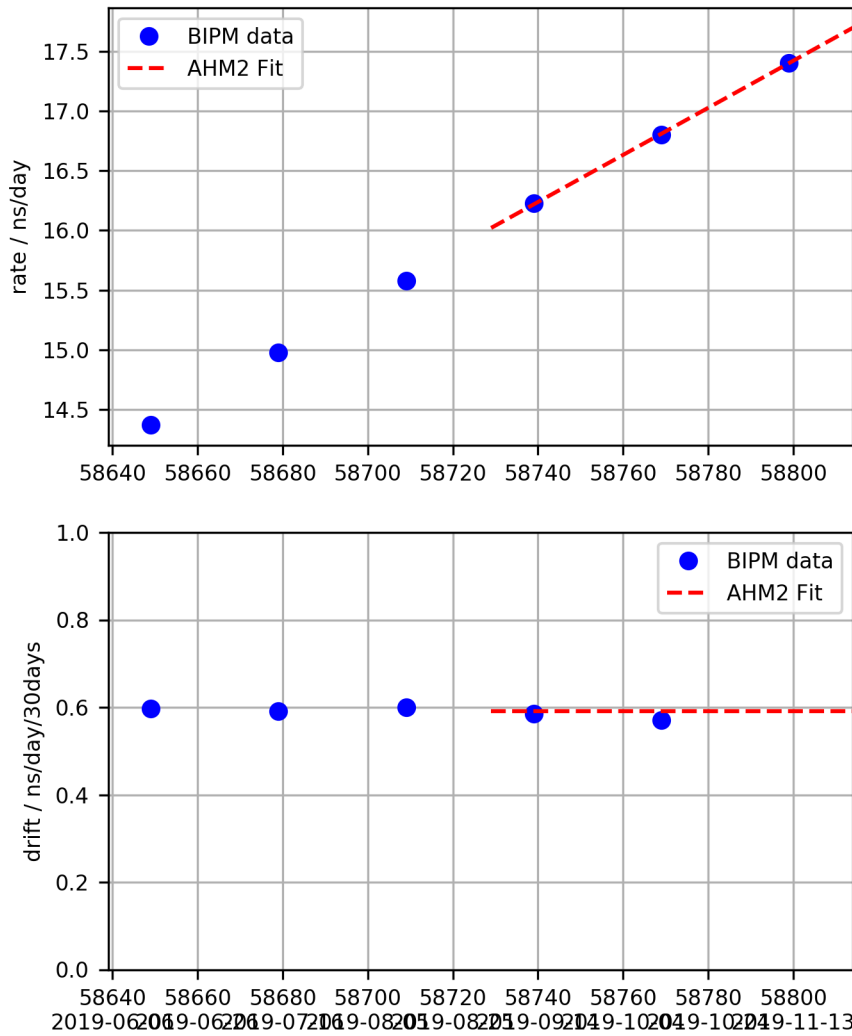


UTC - AHM2 Fit

UTC-AHM2 (2019-12-10 / 58827)
 $x \text{ (ns)} = 15021.452 + 17.696 *d + 0.0099 *d*d$
 $y = -2.04815e-13 + -2.28095e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58814$

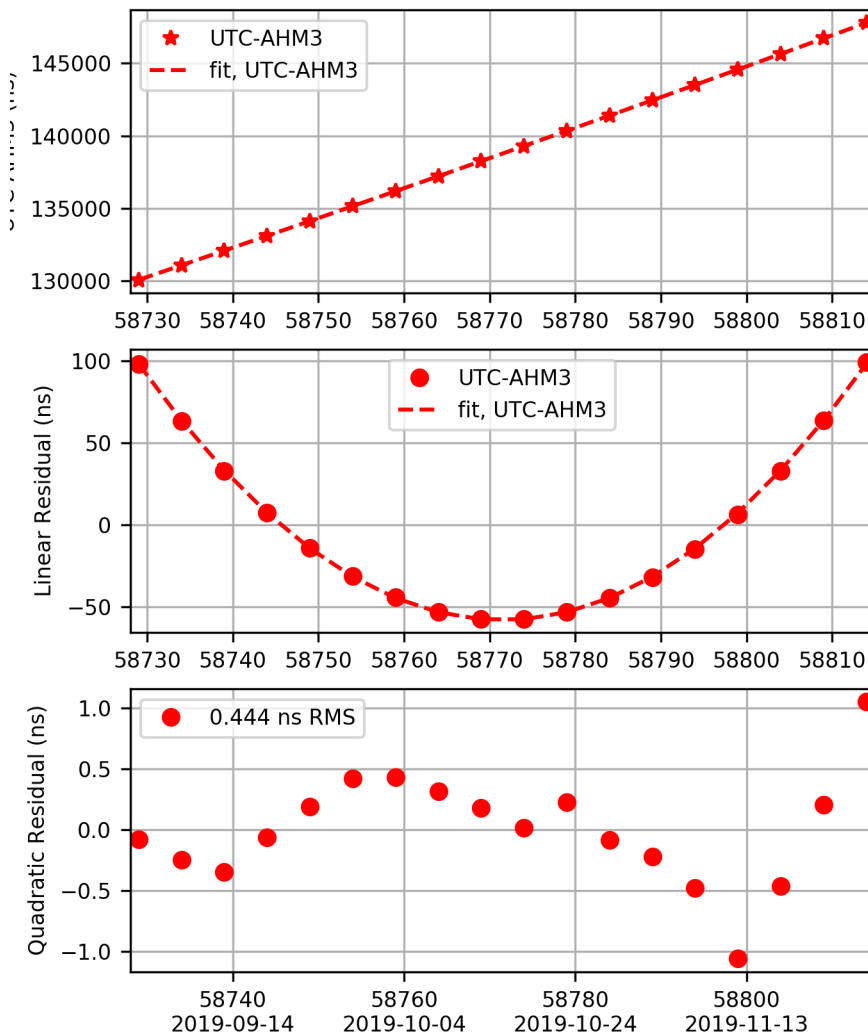


AHM2 Rate and Drift

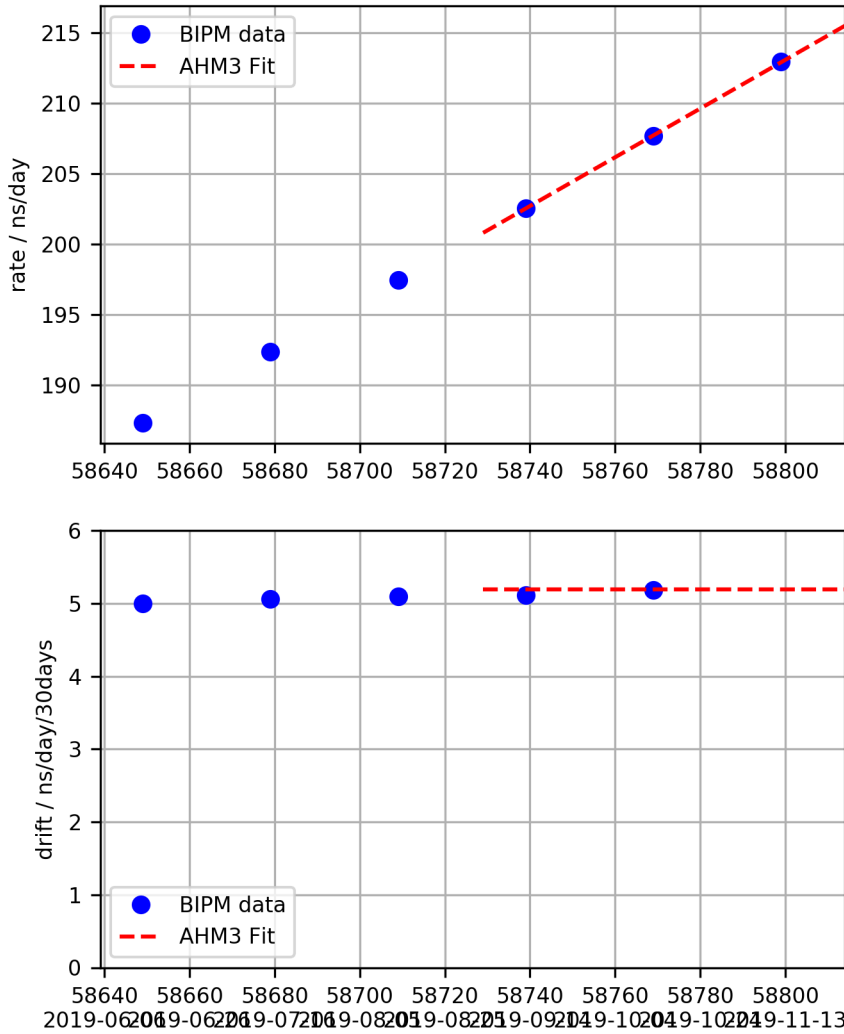


UTC - AHM3 Fit

UTC-AHM3 (2019-12-10 / 58827)
 $x \text{ (ns)} = 147774.748 + 215.503 *d + 0.0865 *d*d$
 $y = -2.49425e-12 + -2.00177e-15 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58814$

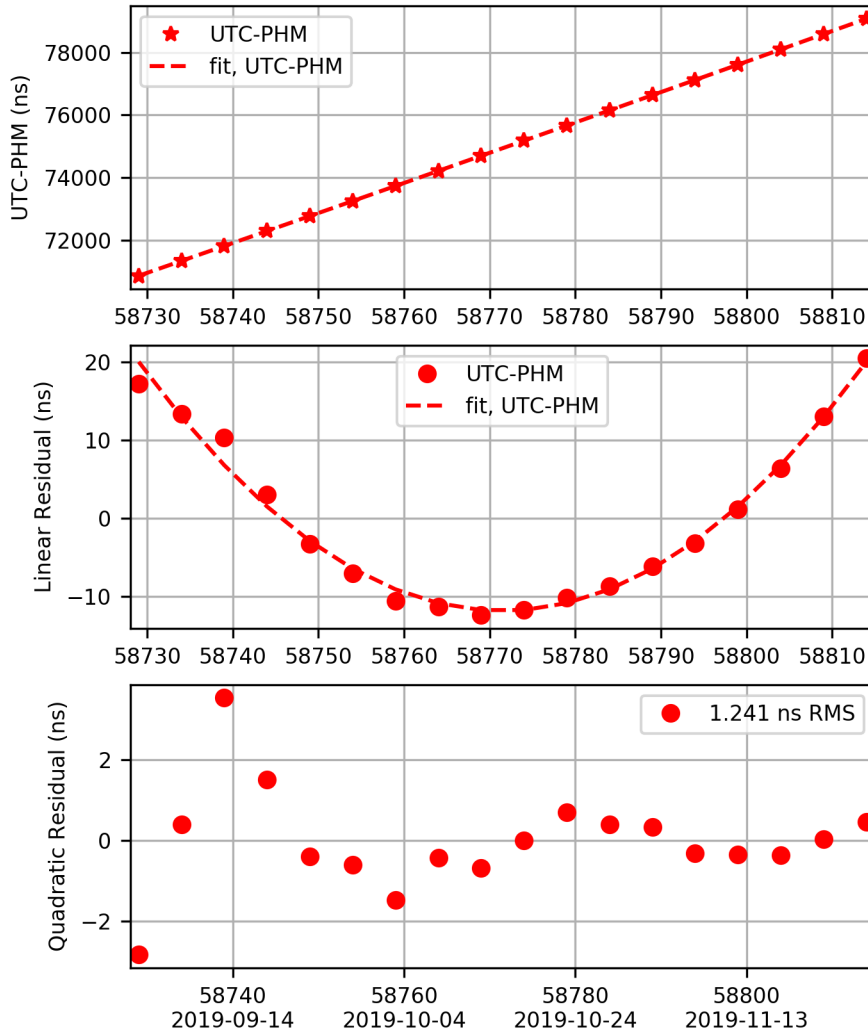


AHM3 Rate and Drift

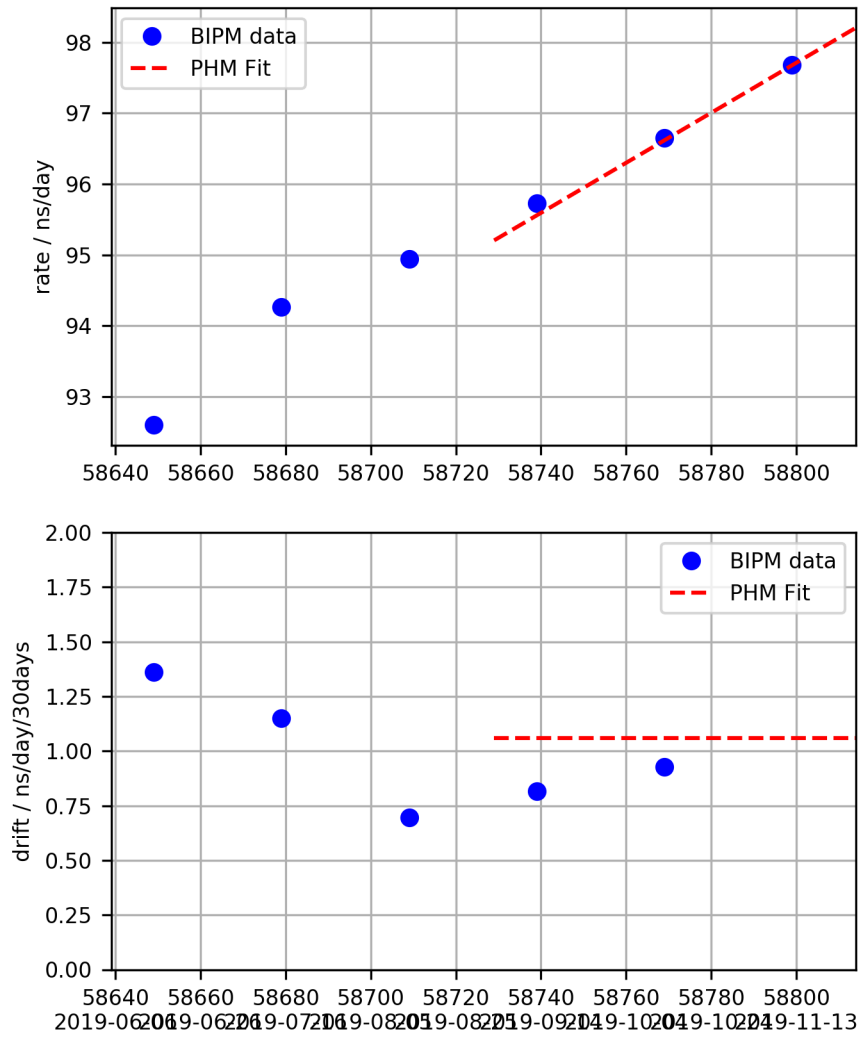


UTC - PHM Fit

UTC-PHM (2019-12-10 / 58827)
 $x \text{ (ns)} = 79078.839 + 98.204 *d + 0.0176 *d*d$
 $y = -1.13662e-12 + -4.08306e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58814$

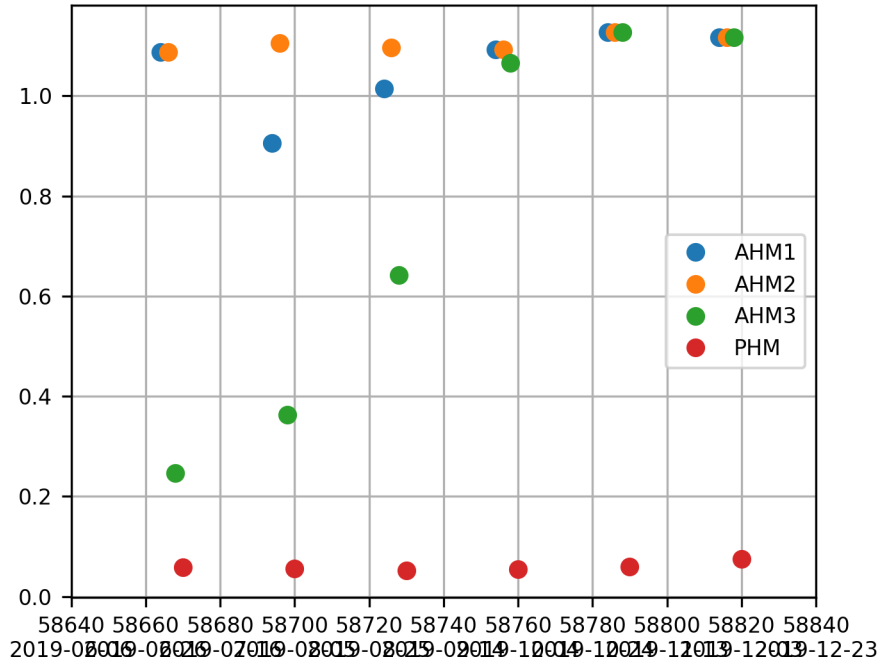


PHM Rate and Drift



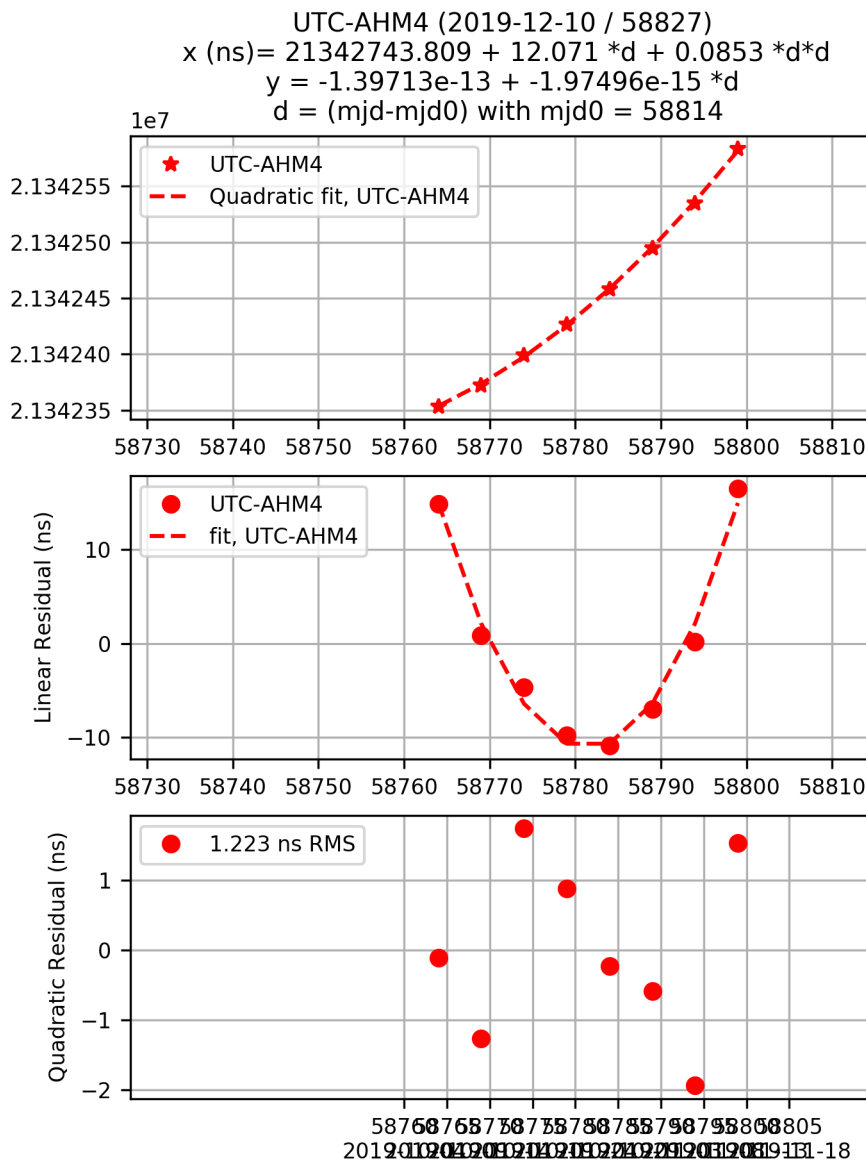
Clock Weights

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



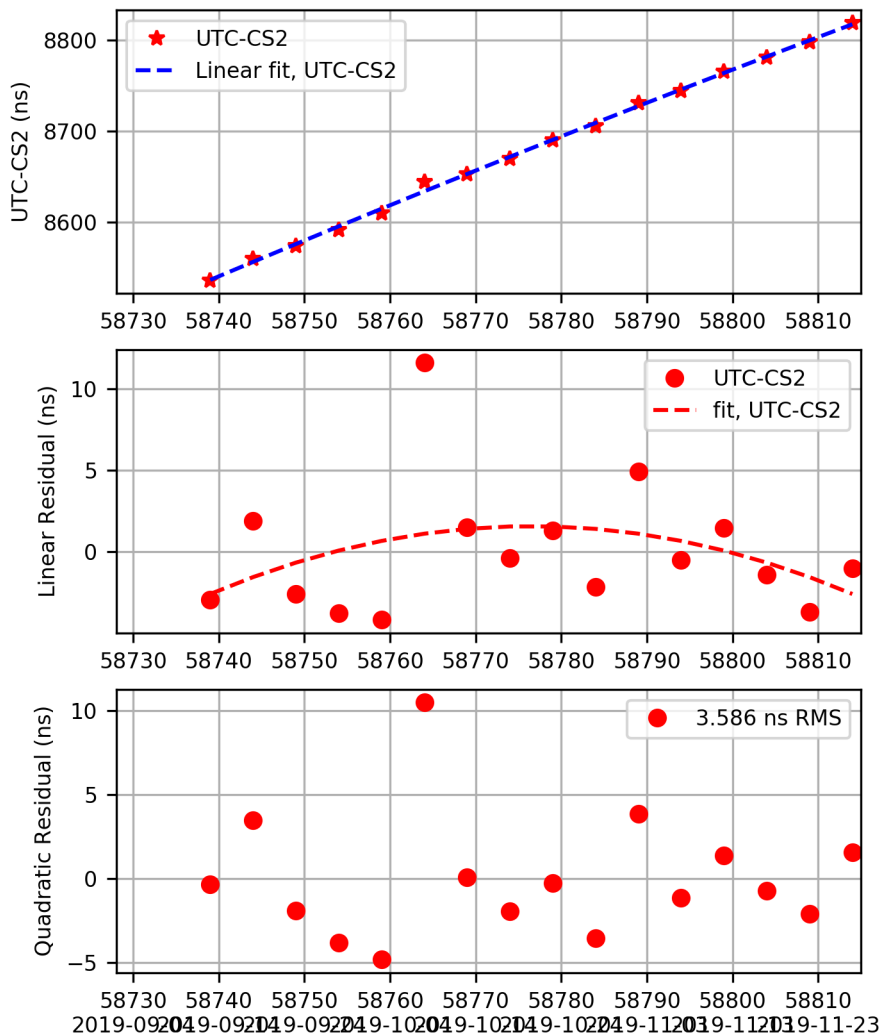
Remote Clocks

Remote Clock: AHM4

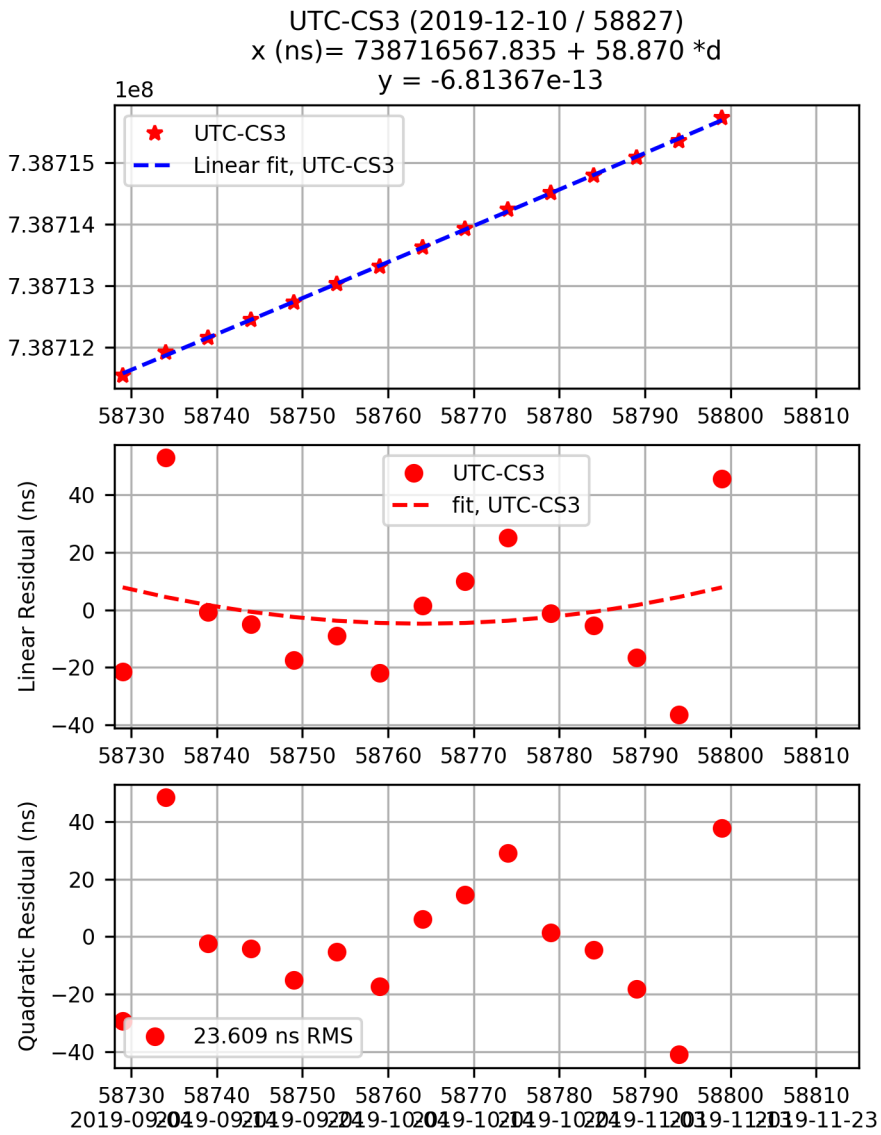


Remote Clock: CS2

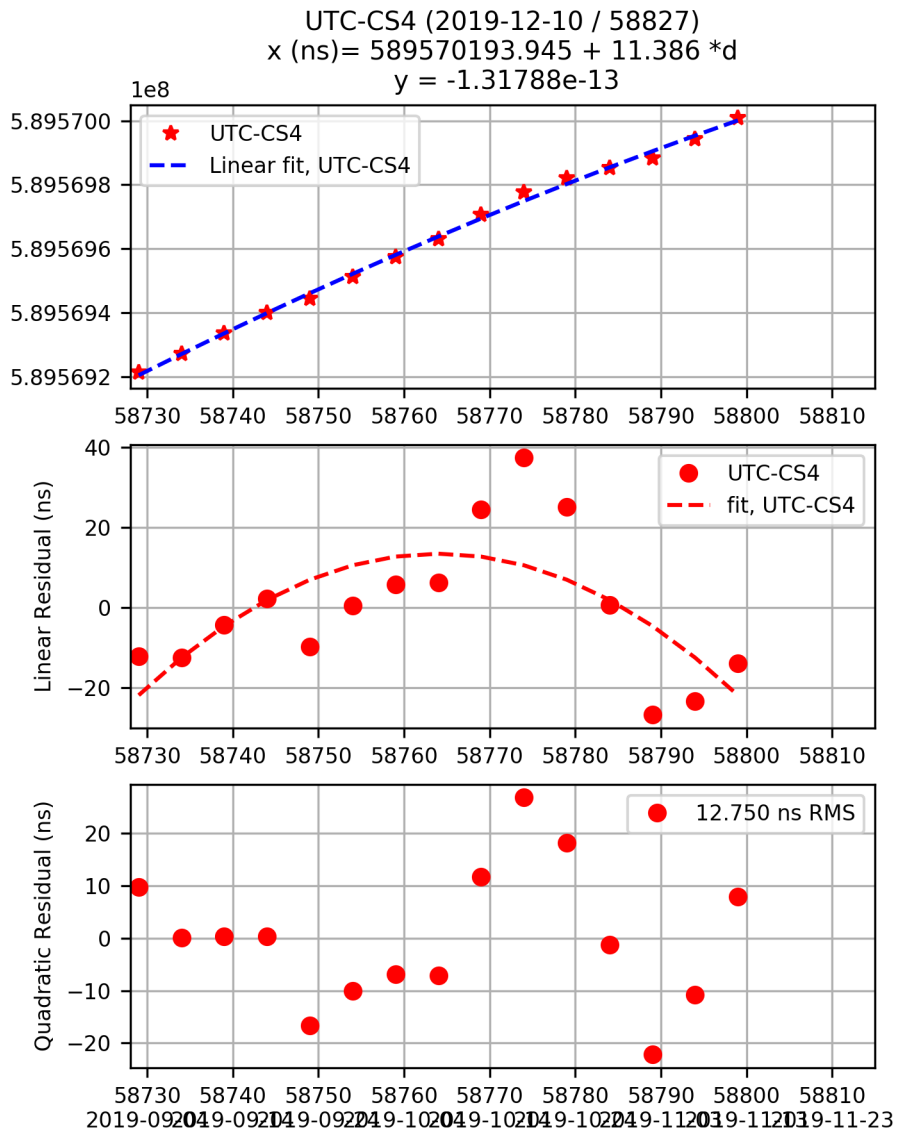
UTC-CS2 (2019-12-10 / 58827)
 $x \text{ (ns)} = 8819.859 + 3.742 * d$
 $y = -4.33082e-14$



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.