

UTC(MIKE) Atomic Bulletin 2020-02

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2020-02-12 (58891)

Circular-T issues used for analysis: [383](#), [384](#), [385](#),

First day of analysis interval: 2019-11-02 (58789)

Last day of analysis interval: 2020-01-31 (58879)

ClockData for analysis: [CDMI 19.11](#), [CDMI 19.12](#), [CDMI 20.01](#),

Notes

58494 Change master-clock to AHM2

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

58623, 58624 M3 clock data missing

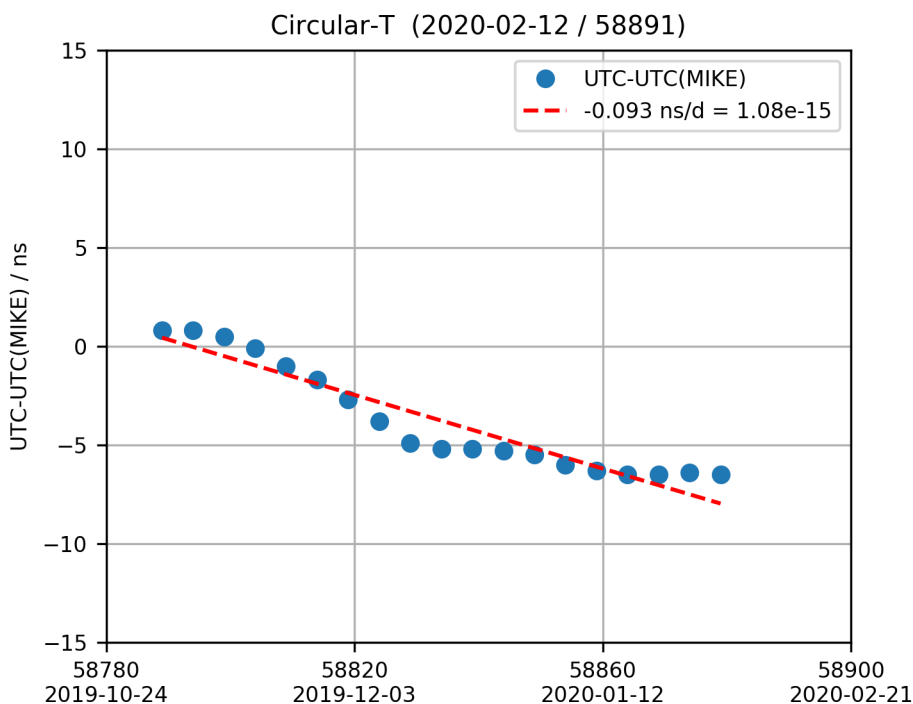
58707 (2019-08-12) AHM2 autotuner failure, change MC to AHM1

58739 OTA-KAJA link asymmetry change (CS2)

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

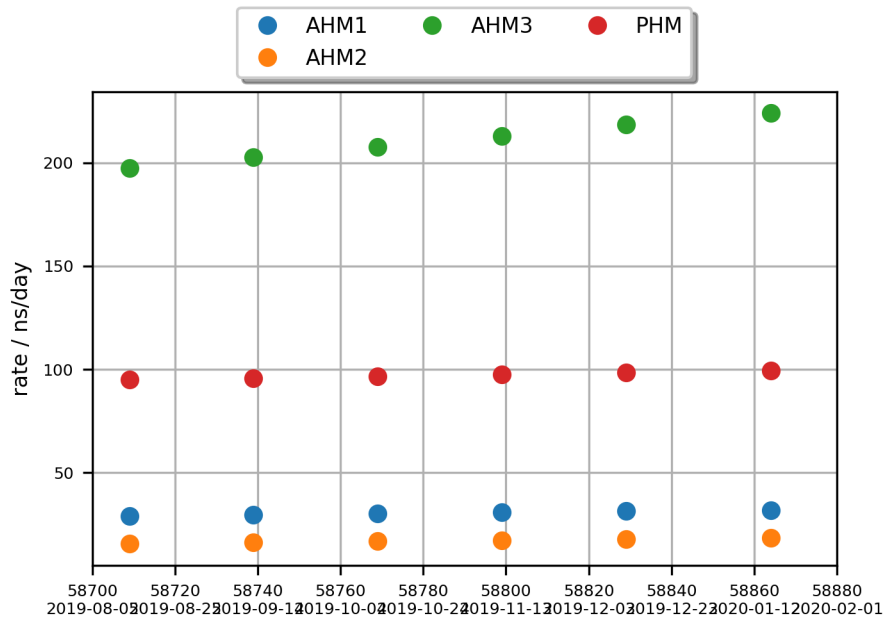
58891 (2020-02-12) Apply steering correction to UTC(MIKE). +5ns over 2 months, $y_steer=-5ns/60d = -9.6e-16$

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



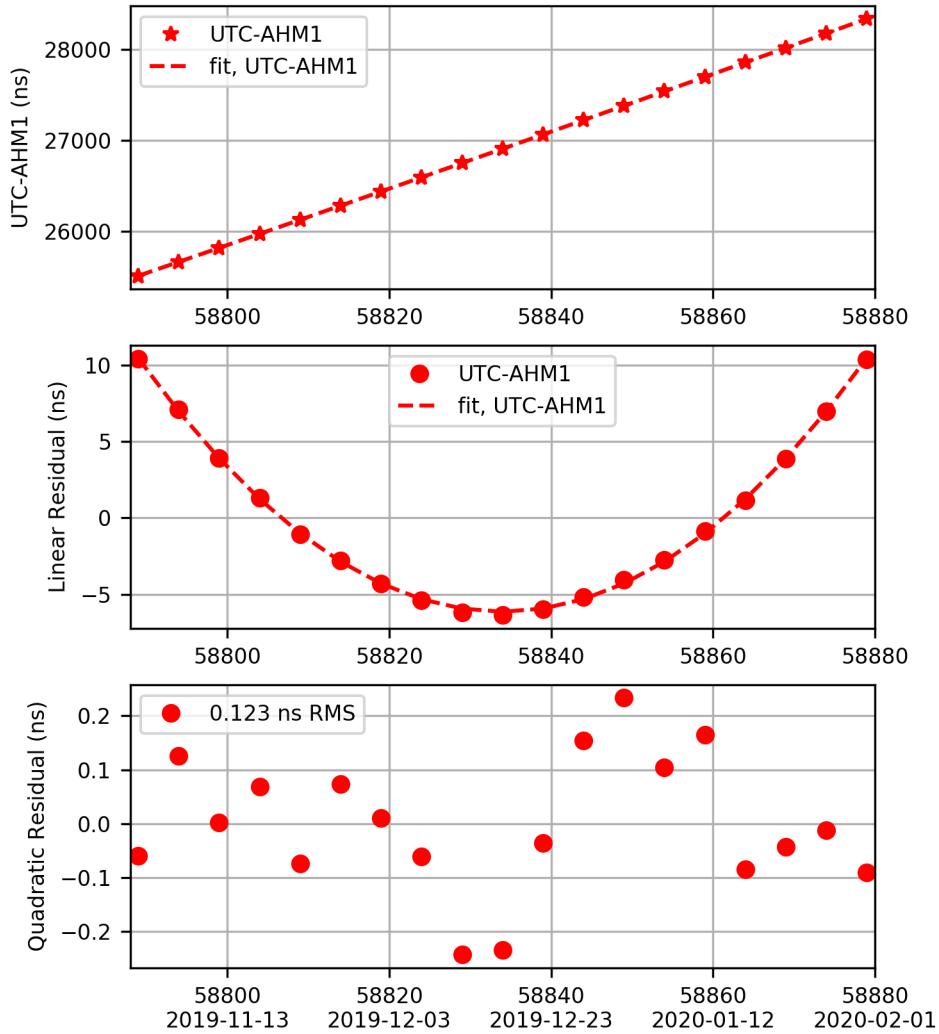
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

Clock Rates - Summary

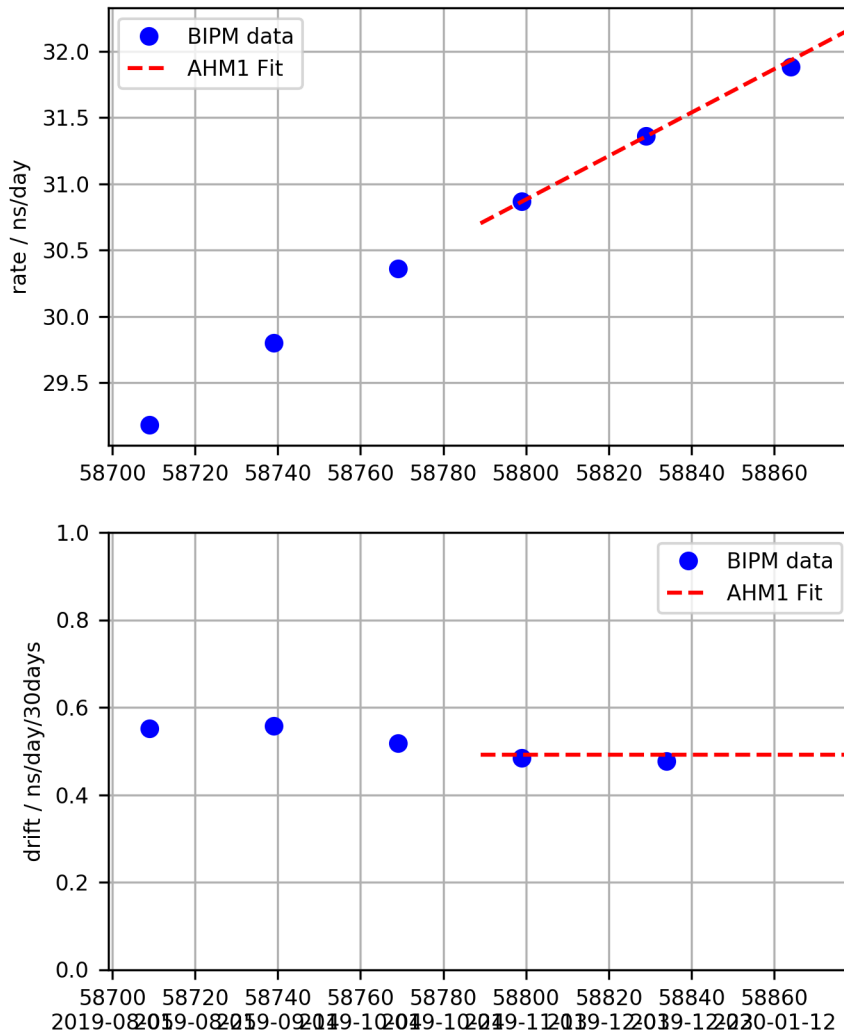


UTC - AHM1 Fit

UTC-AHM1 (2020-02-12 / 58891)
 $x \text{ (ns)} = 28337.490 + 32.177 *d + 0.0082 *d*d$
 $y = -3.72414e-13 + -1.89649e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58879$

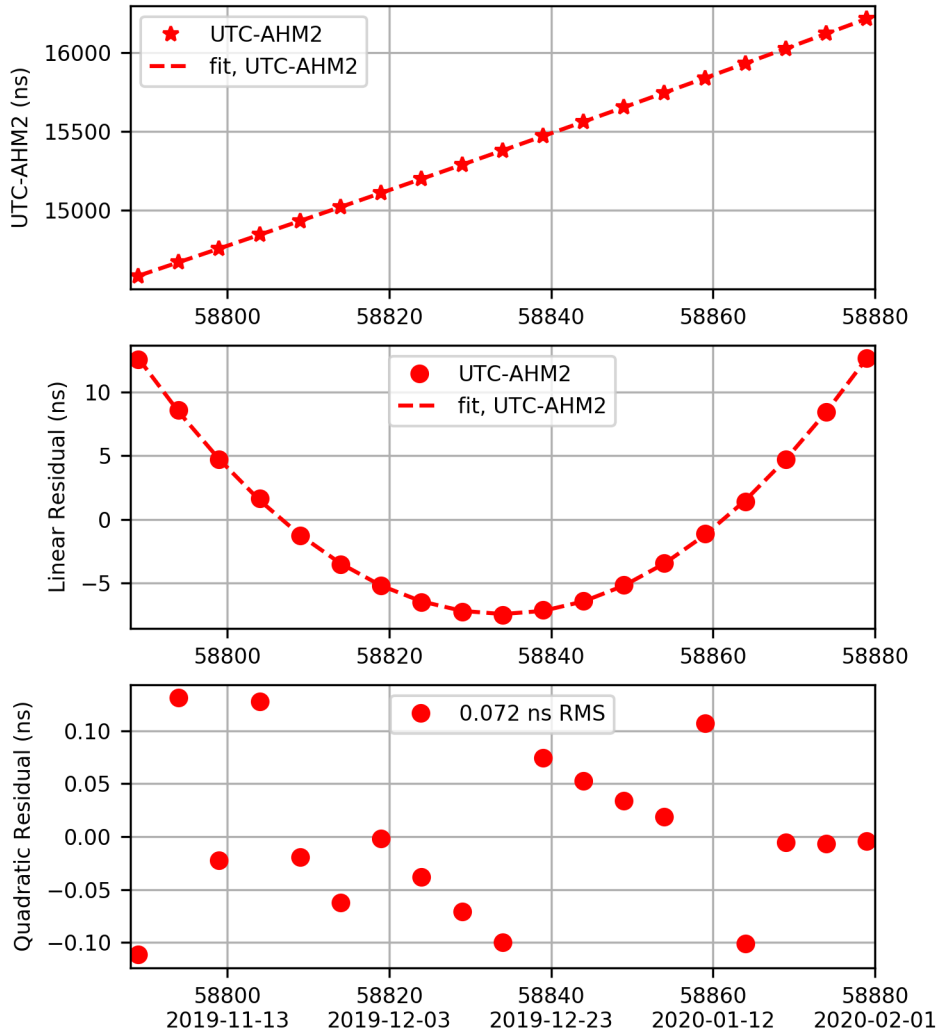


AHM1 Rate and Drift

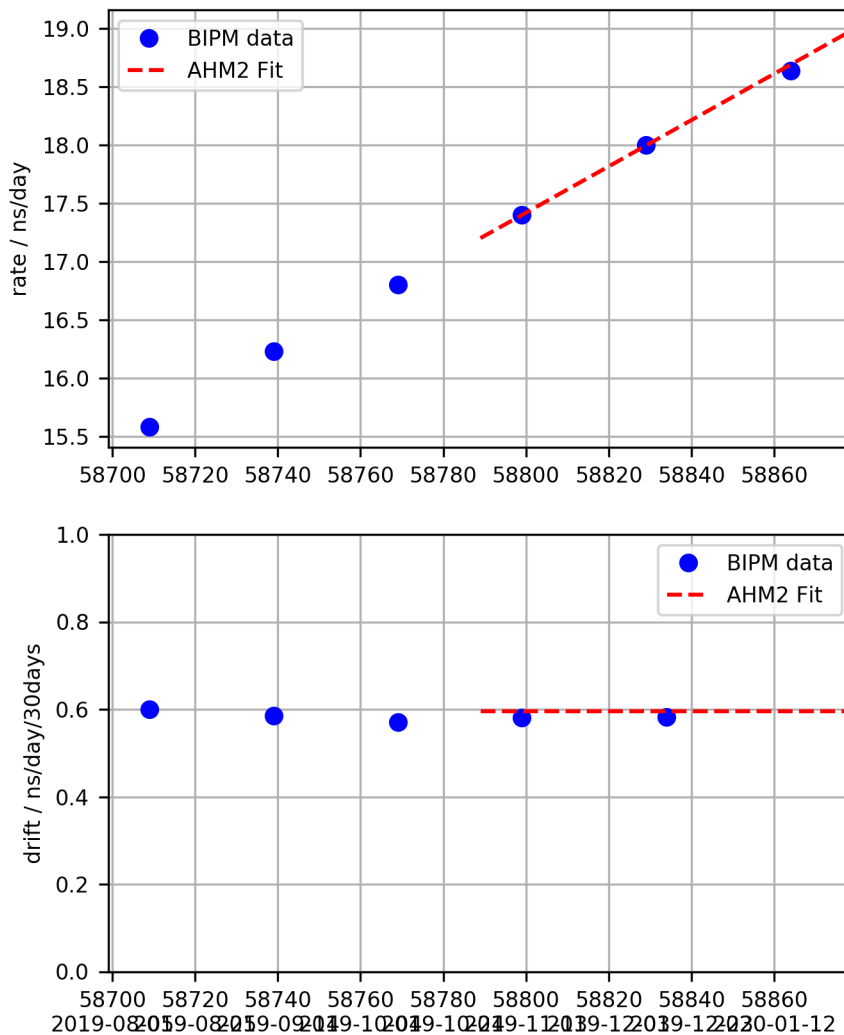


UTC - AHM2 Fit

UTC-AHM2 (2020-02-12 / 58891)
 $x \text{ (ns)} = 16213.804 + 18.989 *d + 0.0099 *d*d$
 $y = -2.19782e-13 + -2.29857e-16 *d$
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58879$

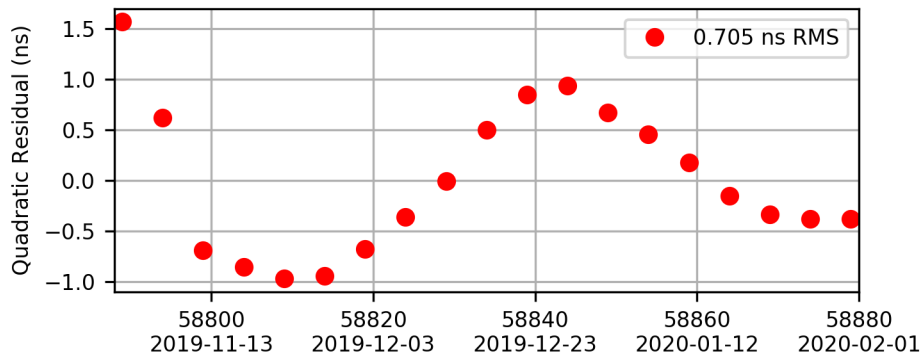
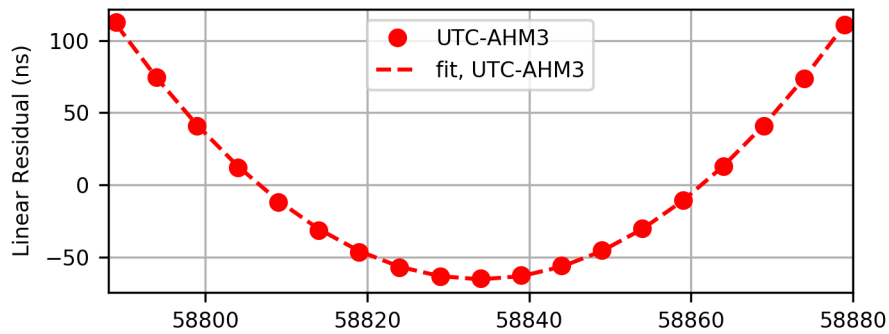
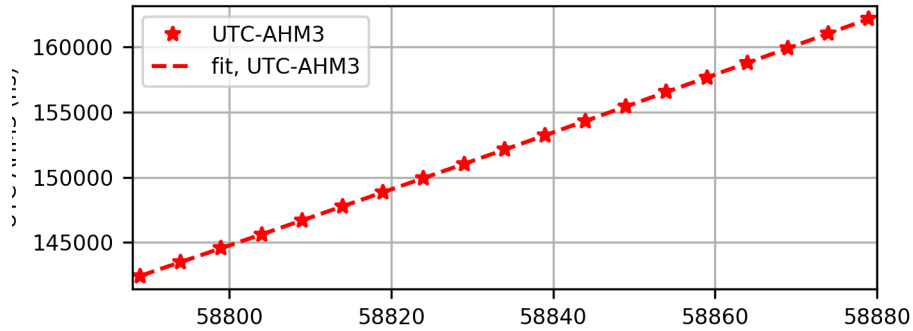


AHM2 Rate and Drift

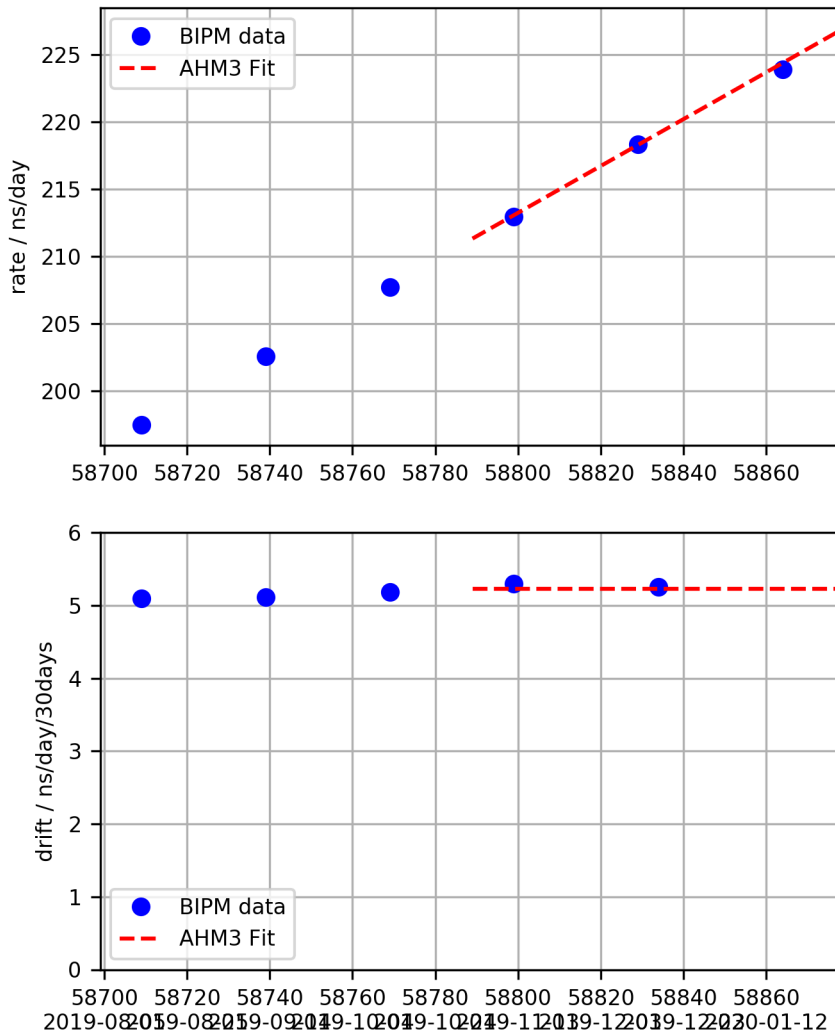


UTC - AHM3 Fit

UTC-AHM3 (2020-02-12 / 58891)
 $x \text{ (ns)} = 162163.379 + 226.995 * d + 0.0871 * d*d$
 $y = -2.62726e-12 + -2.01649e-15 * d$
 $d = (\text{mjd} - \text{mjd0})$ with $\text{mjd0} = 58879$

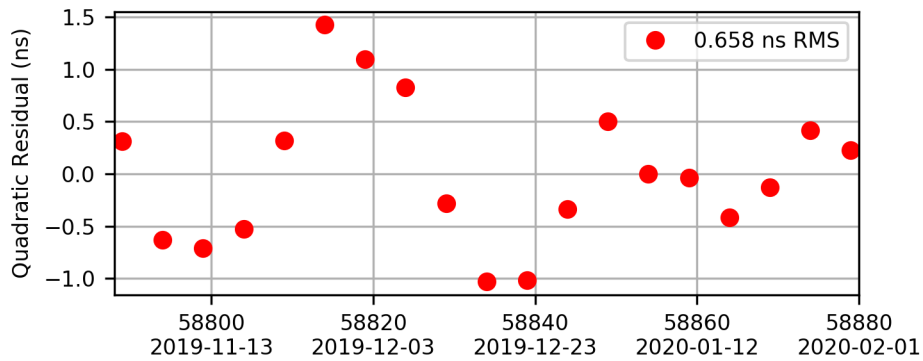
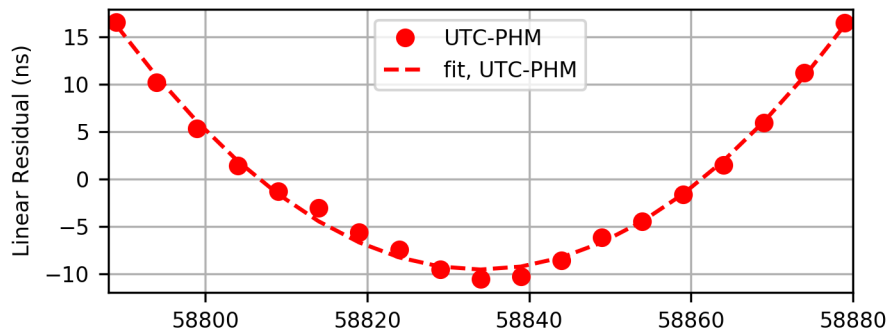
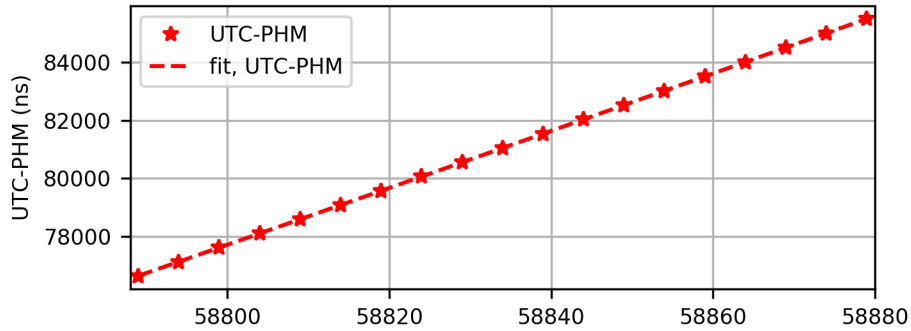


AHM3 Rate and Drift

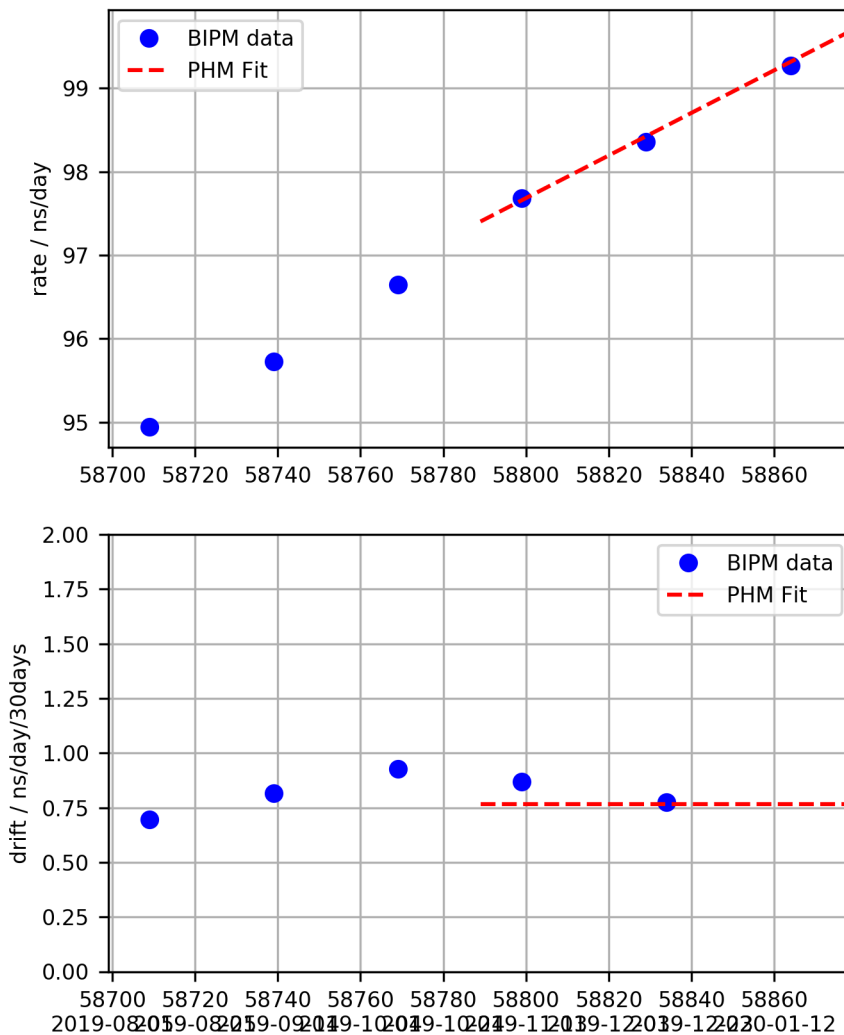


UTC - PHM Fit

UTC-PHM (2020-02-12 / 58891)
 $x \text{ (ns)} = 85504.573 + 99.702 *d + 0.0128 *d*d$
 $y = -1.15396e-12 + -2.9549e-16 *d$
 $d = (\text{mjd}-\text{mjd0})$ with $\text{mjd0} = 58879$

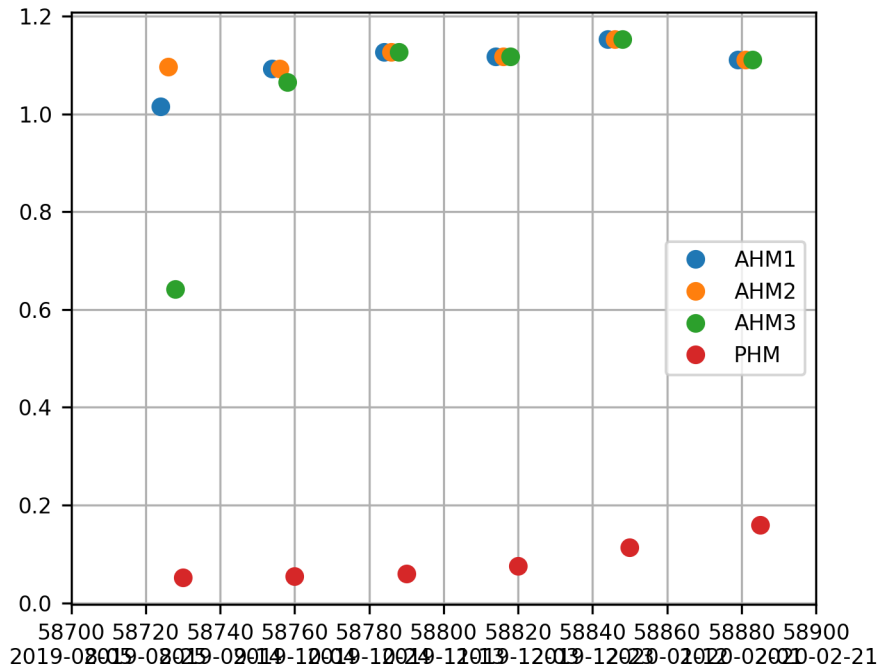


PHM Rate and Drift



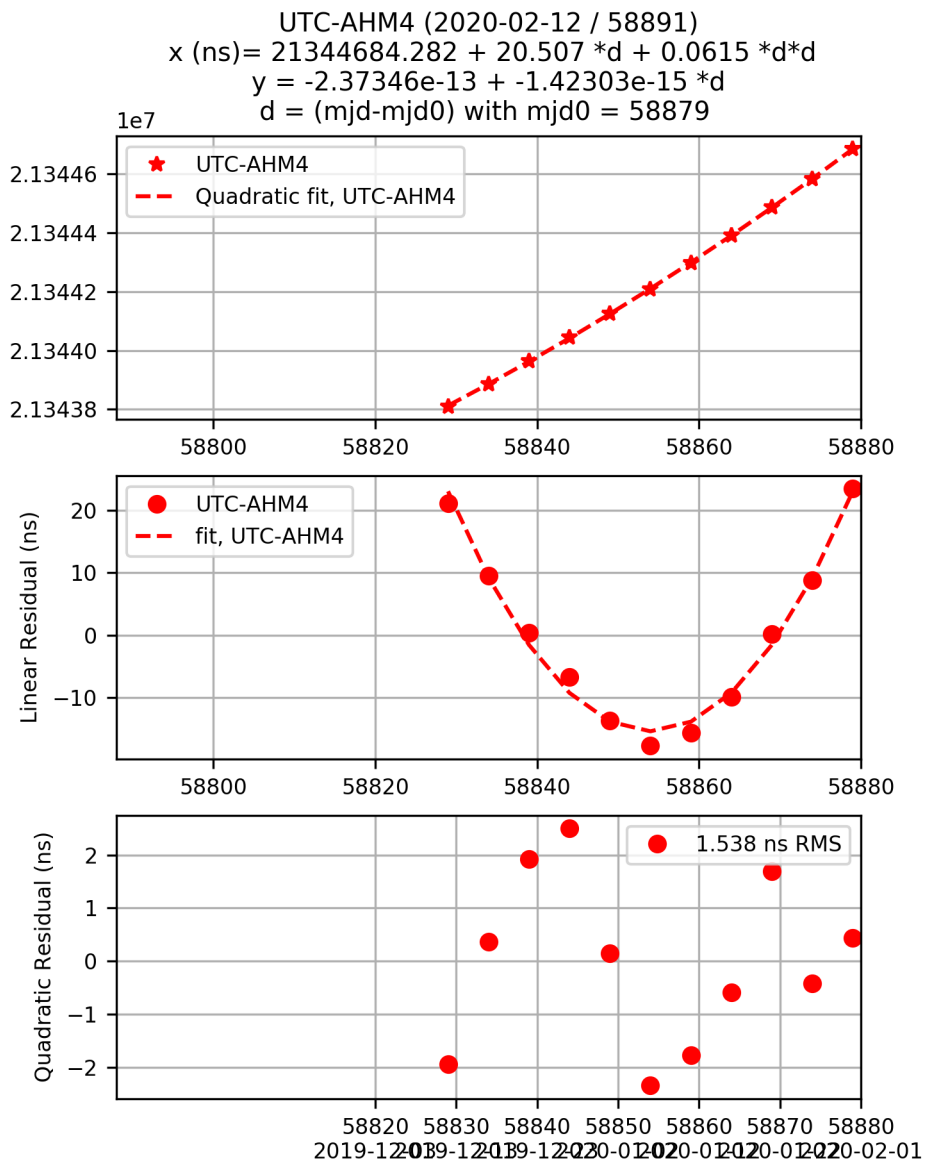
Clock Weights

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



Remote Clocks

Remote Clock: AHM4

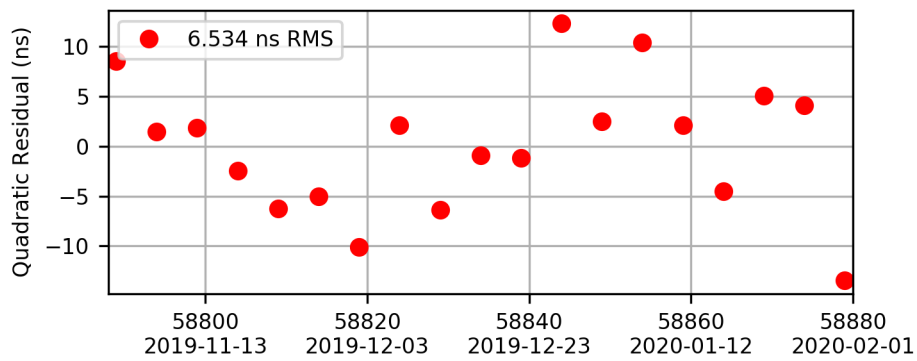
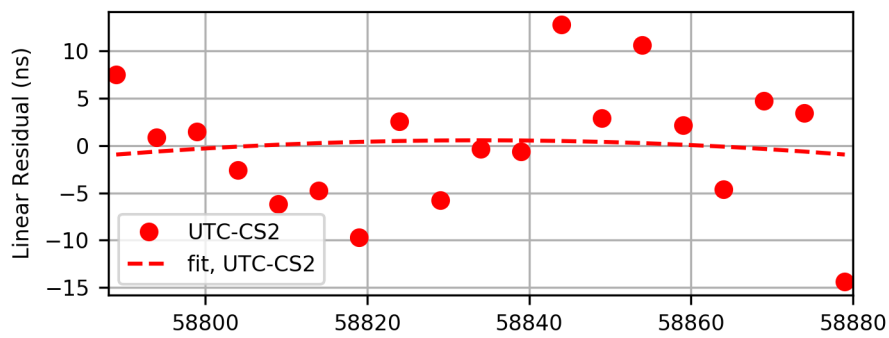
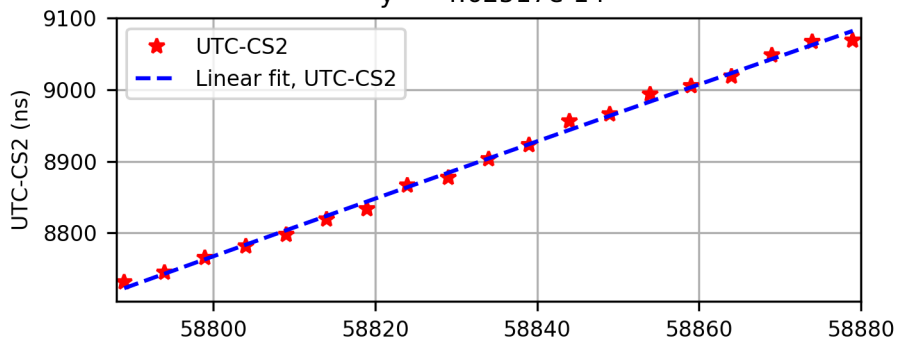


Remote Clock: CS2

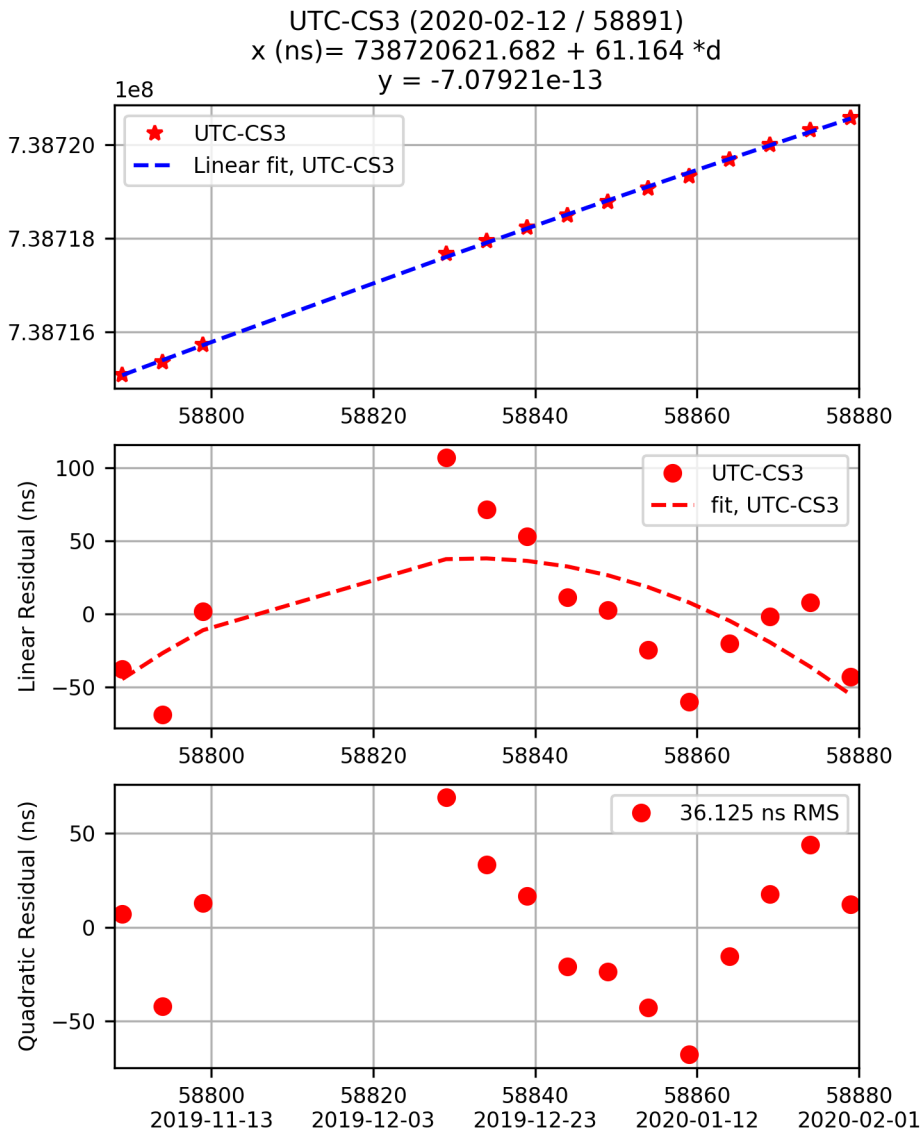
UTC-CS2 (2020-02-12 / 58891)

$$x \text{ (ns)} = 9083.361 + 3.996 * d$$

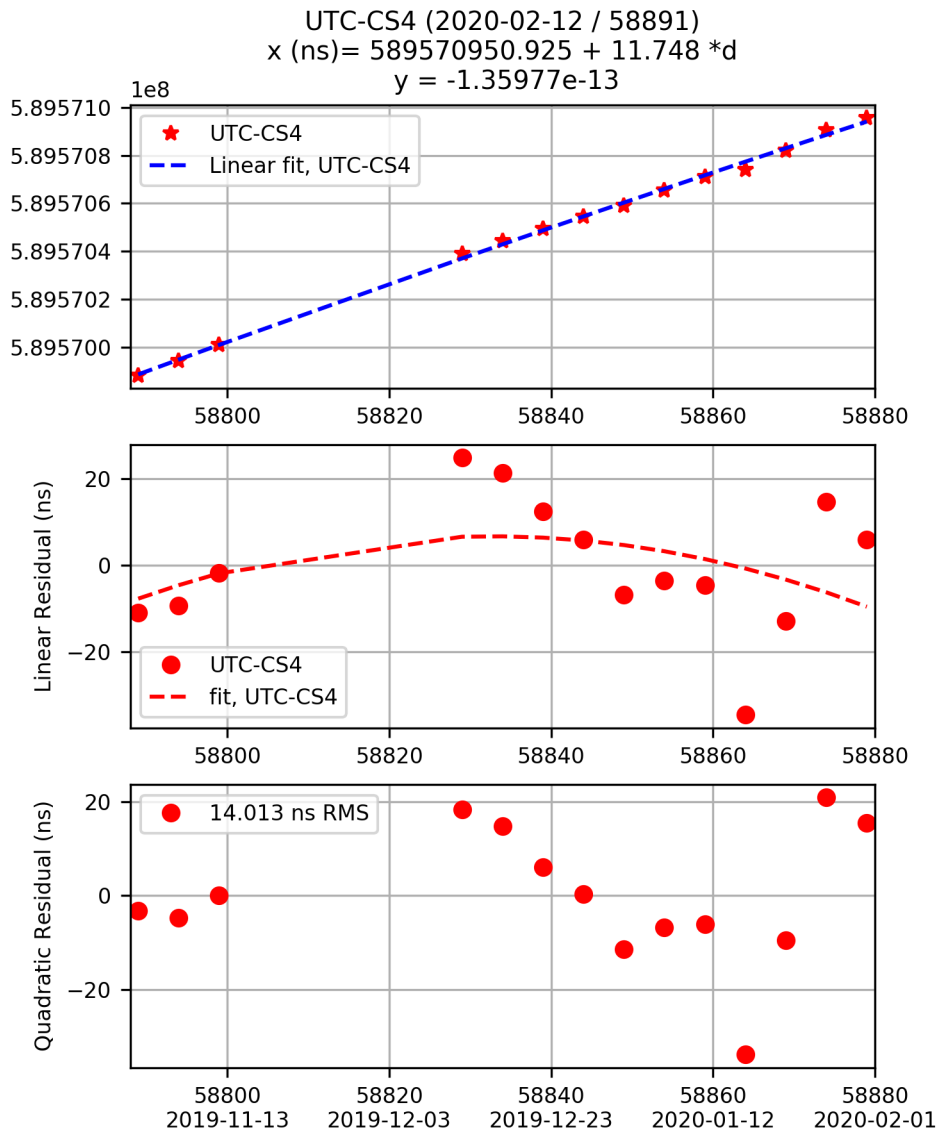
$$y = -4.62517e-14$$



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.