

# UTC(MIKE) Atomic Bulletin 2020-05

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2020-05-11 (58980)

Circular-T issues used for analysis: [386](#), [387](#), [388](#),

First day of analysis interval: 2020-02-05 (58884)

Last day of analysis interval: 2020-04-30 (58969)

ClockData for analysis: [CDMI 20.02](#), [CDMI 20.03](#), [CDMI 20.04](#),

## Notes

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,  $y\_steer = -5ns/60d = -9.6e-16$

58919 (2020-03-11) AB2020-03 comments: New 1PPS measurement system installed

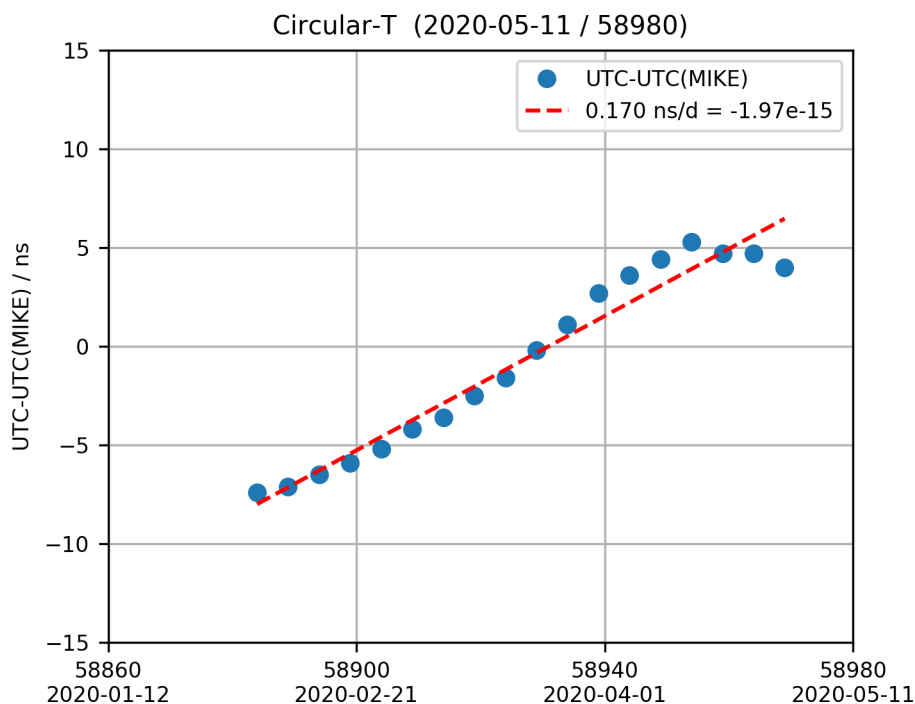
2020-03-09. KAJA(CS2) WR-node had power-cut ca 2020-02-27.

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.

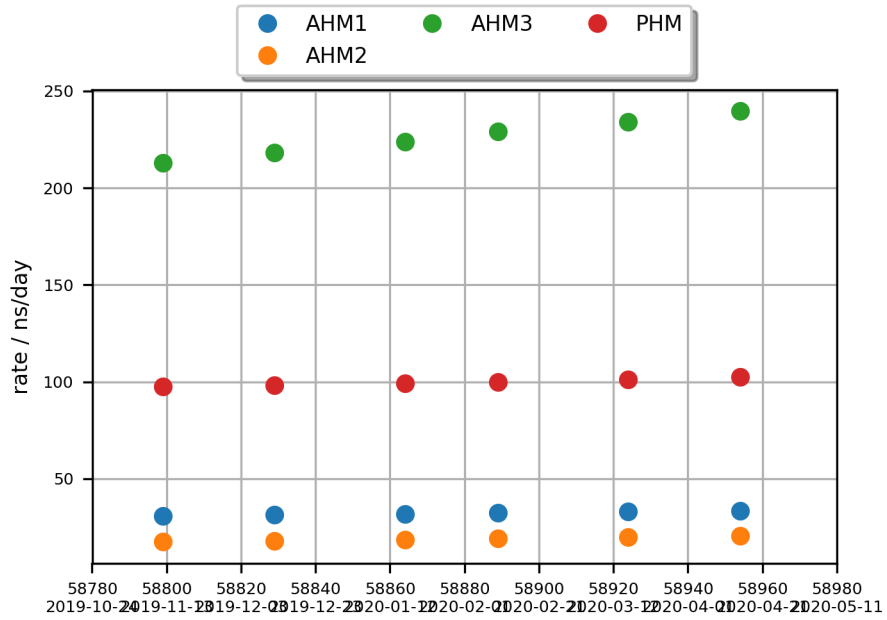
## UTC-UTC(MIKE) as reported in Circular-T



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.

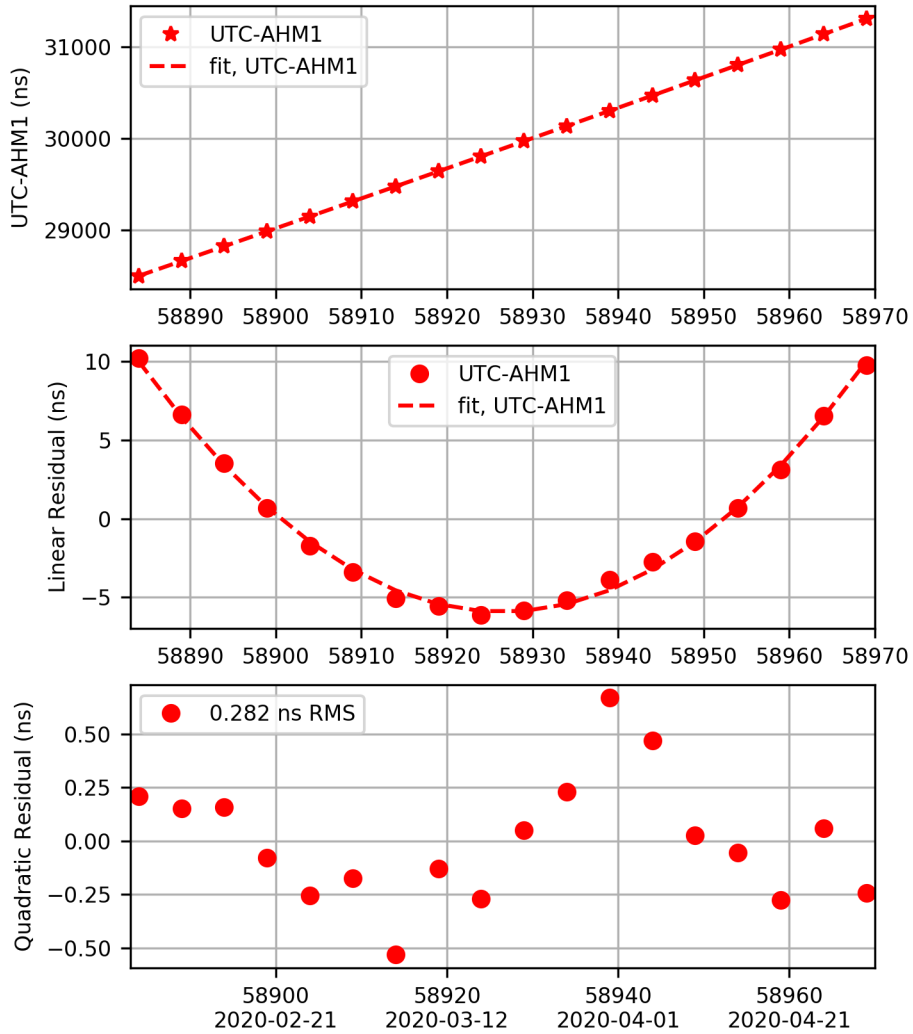
## Clock Rates - Summary

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

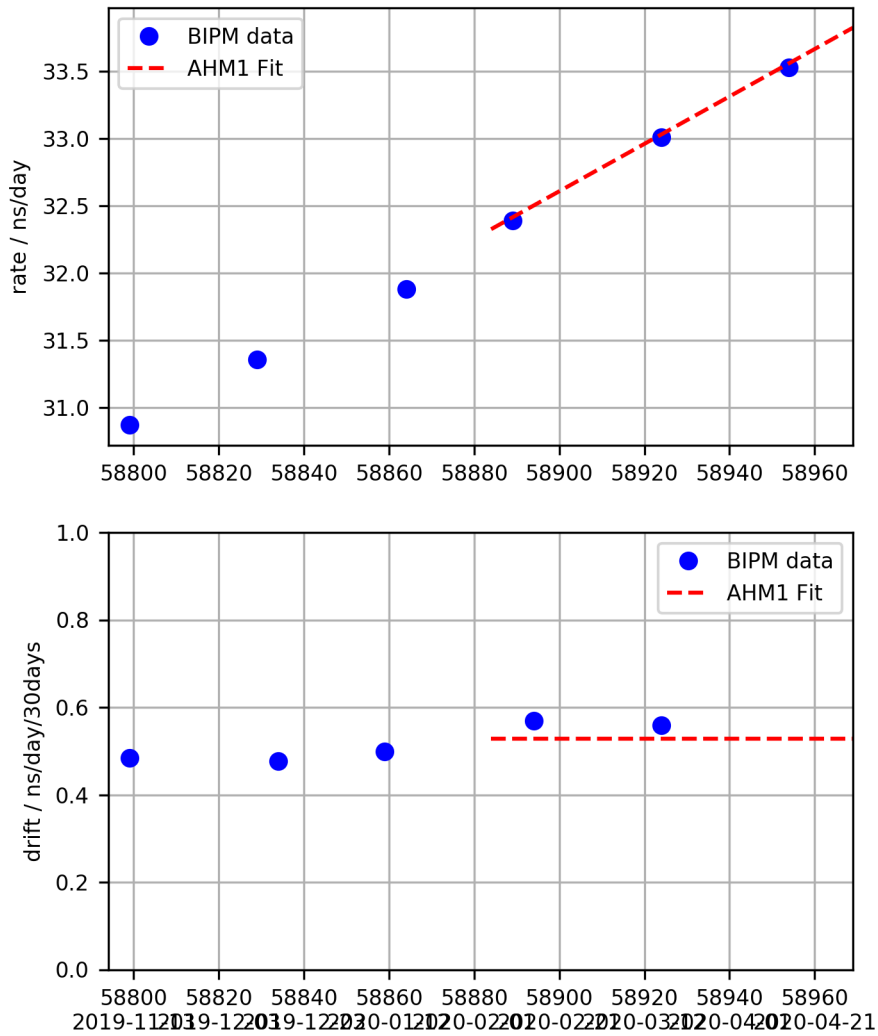


## UTC - AHM1 Fit

UTC-AHM1 (2020-05-11 / 58980)  
 $x \text{ (ns)} = 31308.845 + 33.825 *d + 0.0088 *d*d$   
 $y = -3.91491e-13 + -2.03944e-16 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58969$

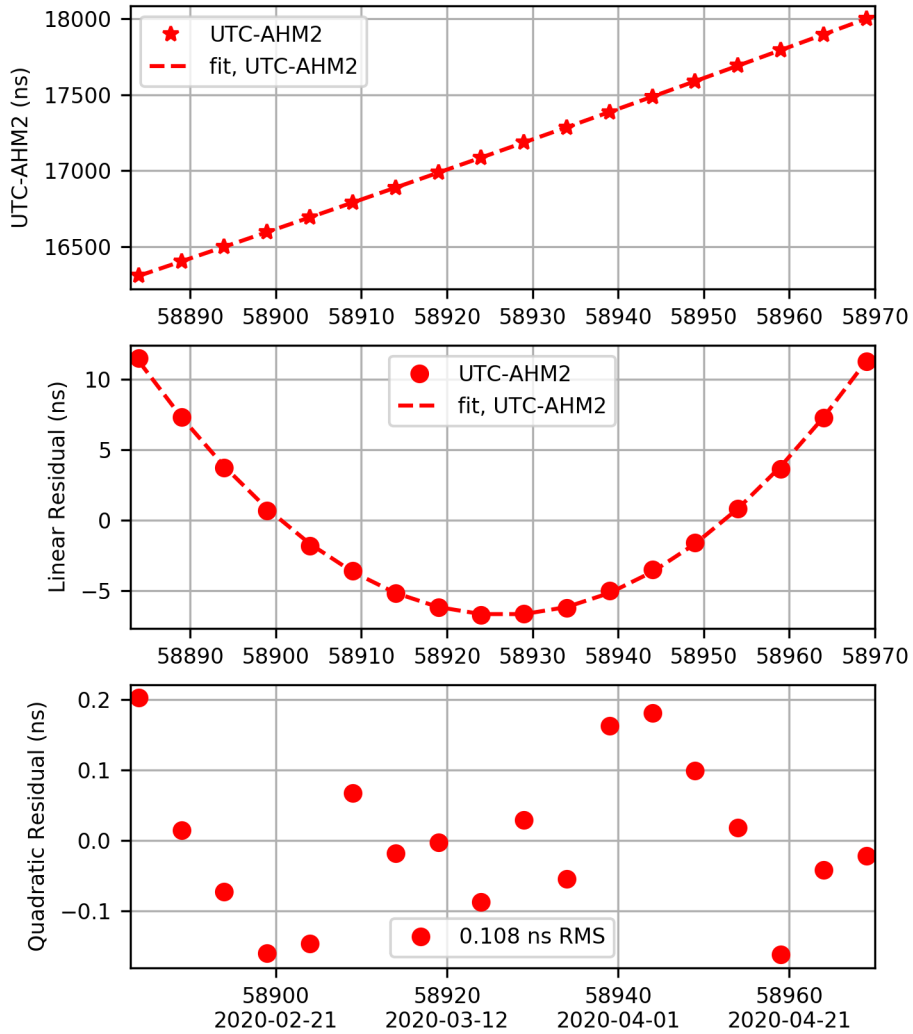


## AHM1 Rate and Drift

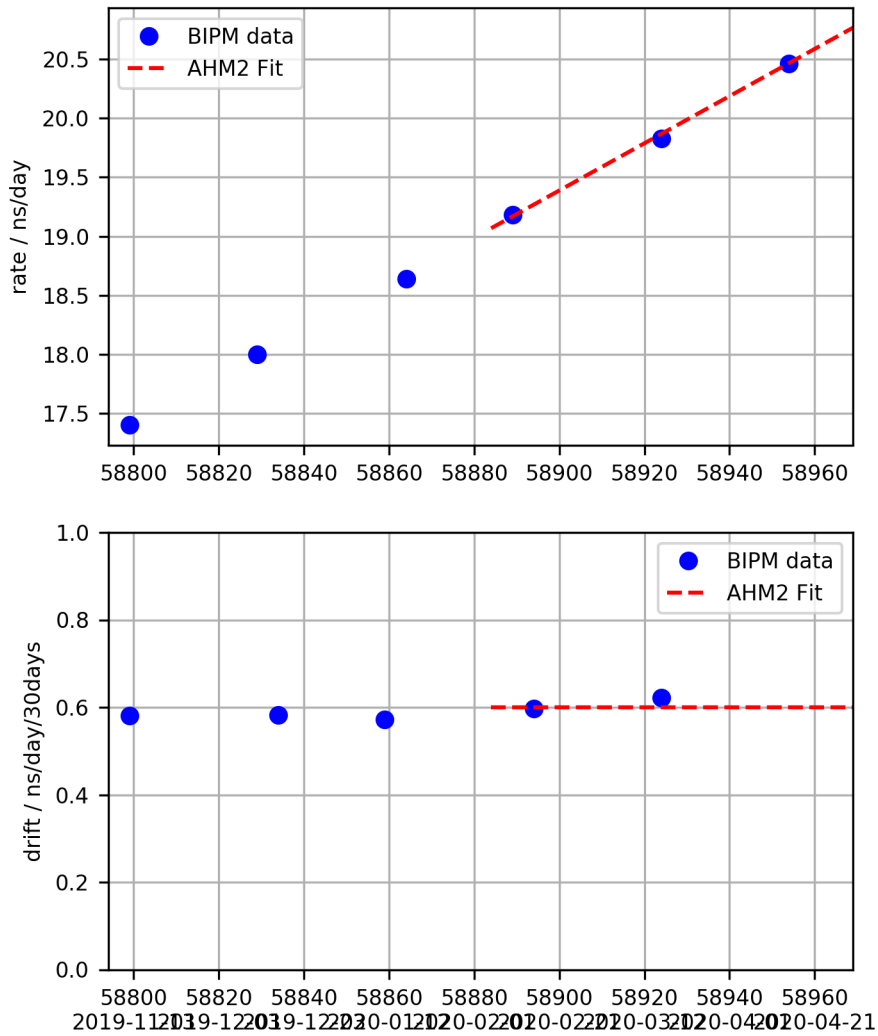


## UTC - AHM2 Fit

UTC-AHM2 (2020-05-11 / 58980)  
 $x \text{ (ns)} = 18001.022 + 20.766 *d + 0.0100 *d*d$   
 $y = -2.40345e-13 + -2.31225e-16 *d$   
 $d = (\text{mjd}-\text{mjd0})$  with  $\text{mjd0} = 58969$

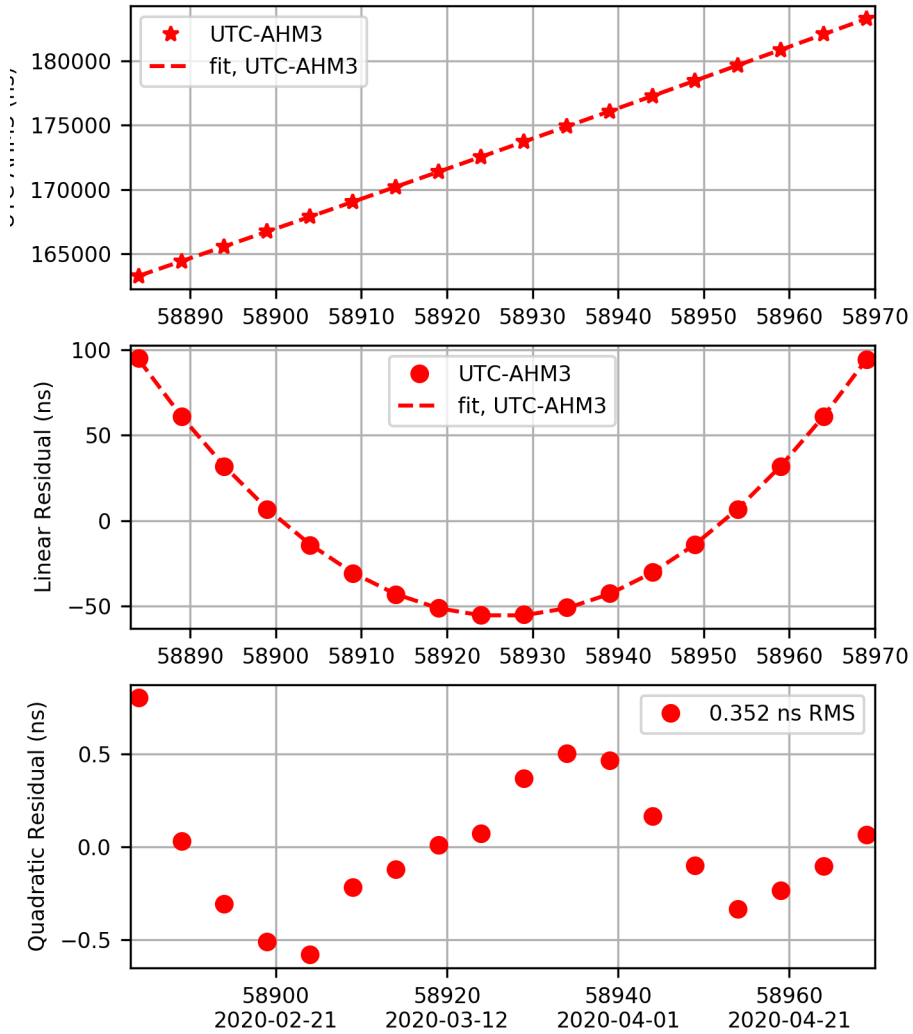


### AHM2 Rate and Drift

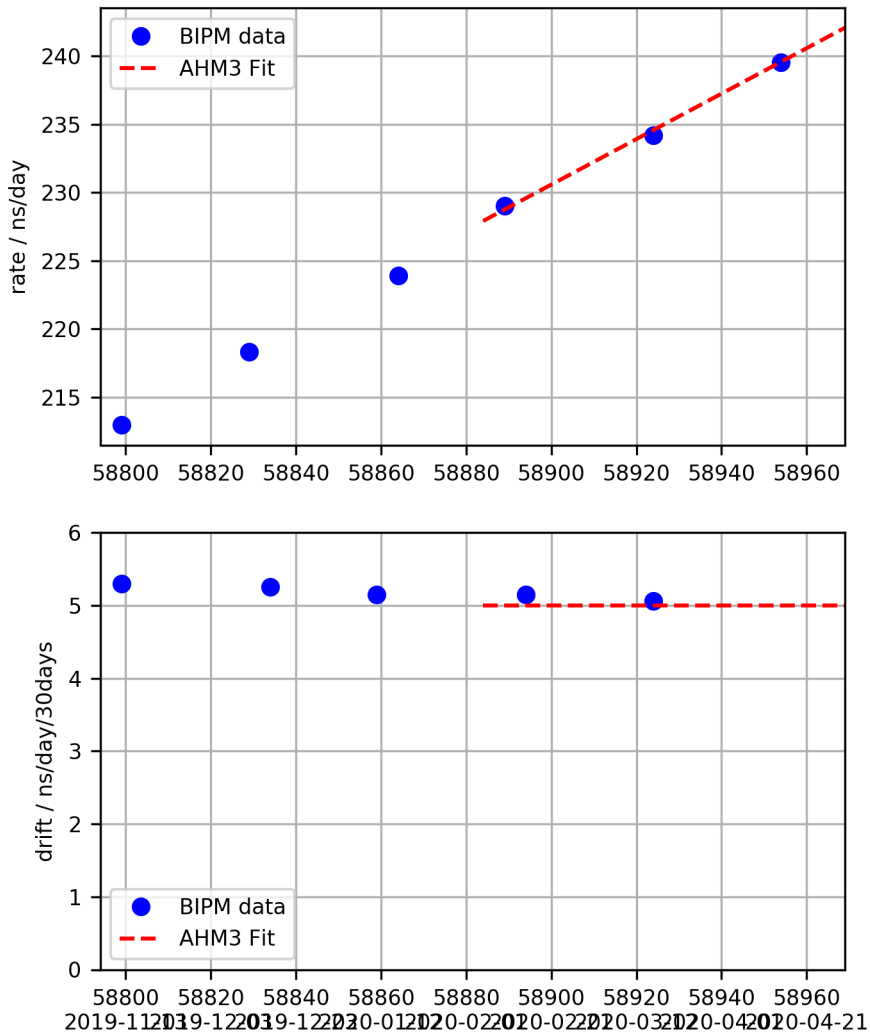


### UTC - AHM3 Fit

UTC-AHM3 (2020-05-11 / 58980)  
 $x \text{ (ns)} = 183273.233 + 242.083 * d + 0.0833 * d * d$   
 $y = -2.80189e-12 + -1.92885e-15 * d$   
 $d = (\text{mjd} - \text{mjd0}) \text{ with mjd0} = 58969$



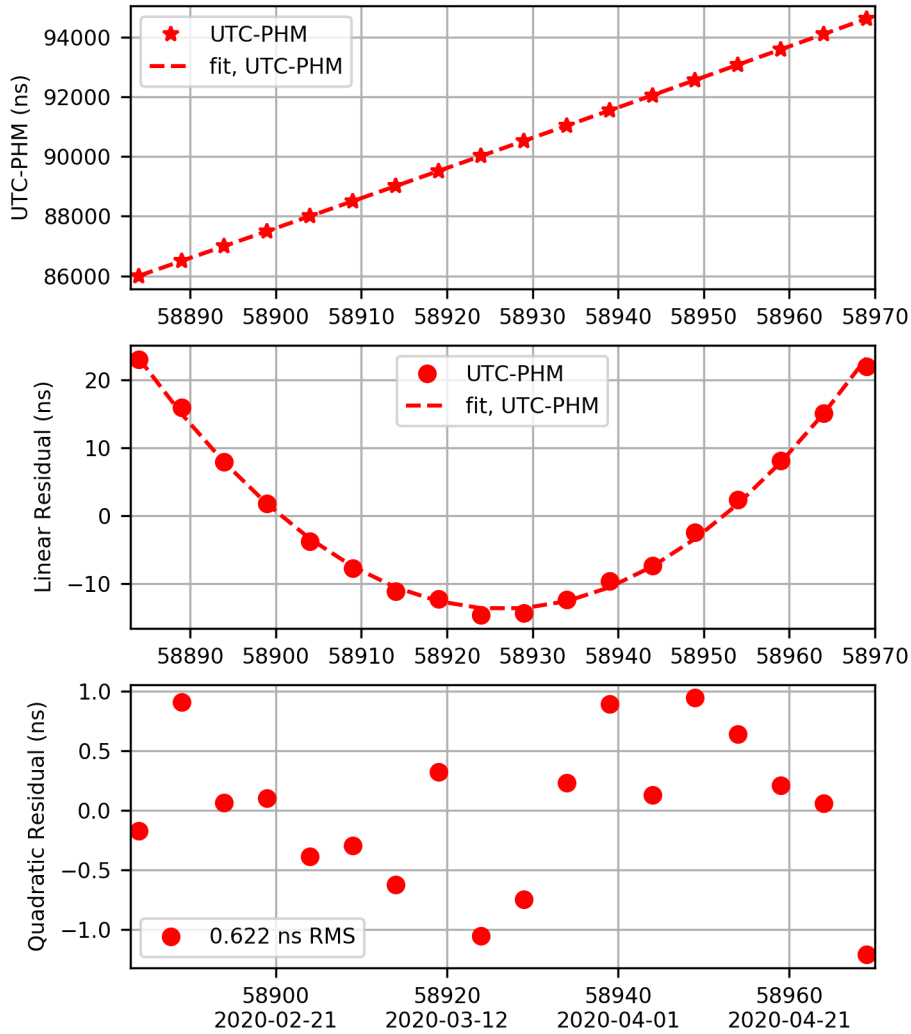
### AHM3 Rate and Drift



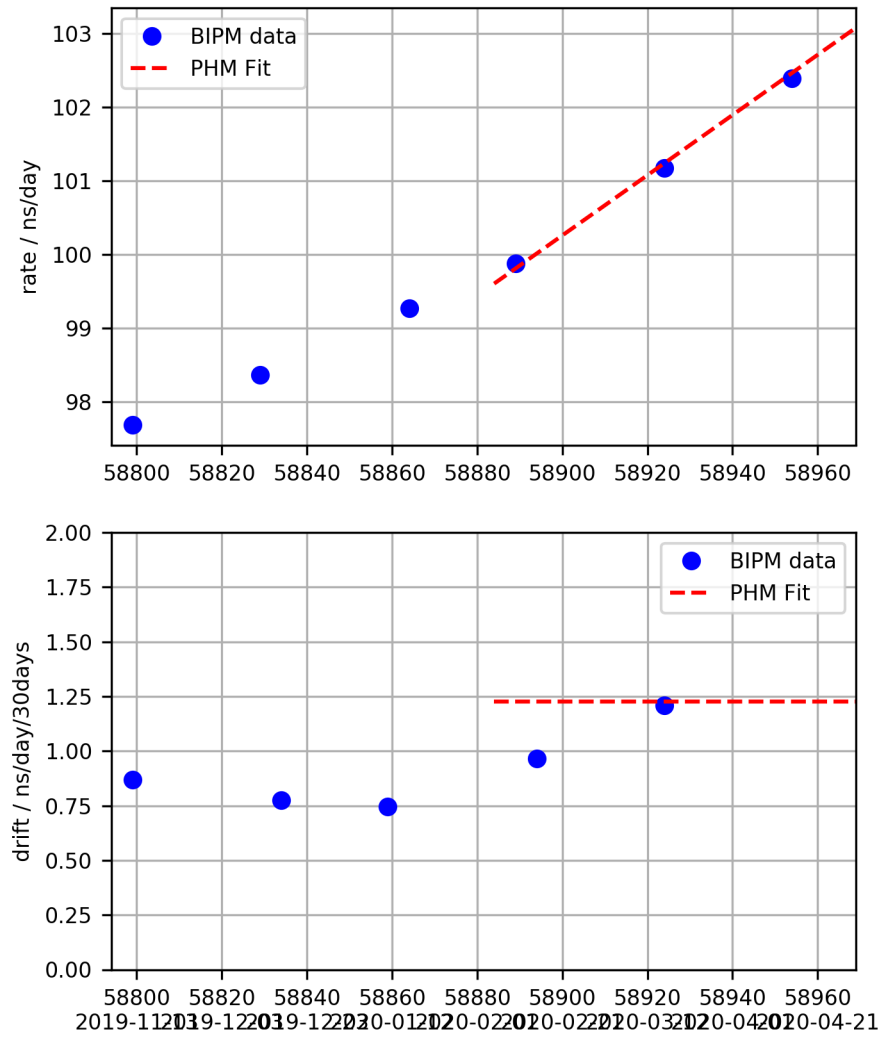


## UTC - PHM Fit

UTC-PHM (2020-05-11 / 58980)  
 $x \text{ (ns)} = 94615.912 + 103.077 * d + 0.0204 * d * d$   
 $y = -1.19302e-12 + -4.73128e-16 * d$   
 $d = (\text{mjd} - \text{mjd0}) \text{ with mjd0} = 58969$

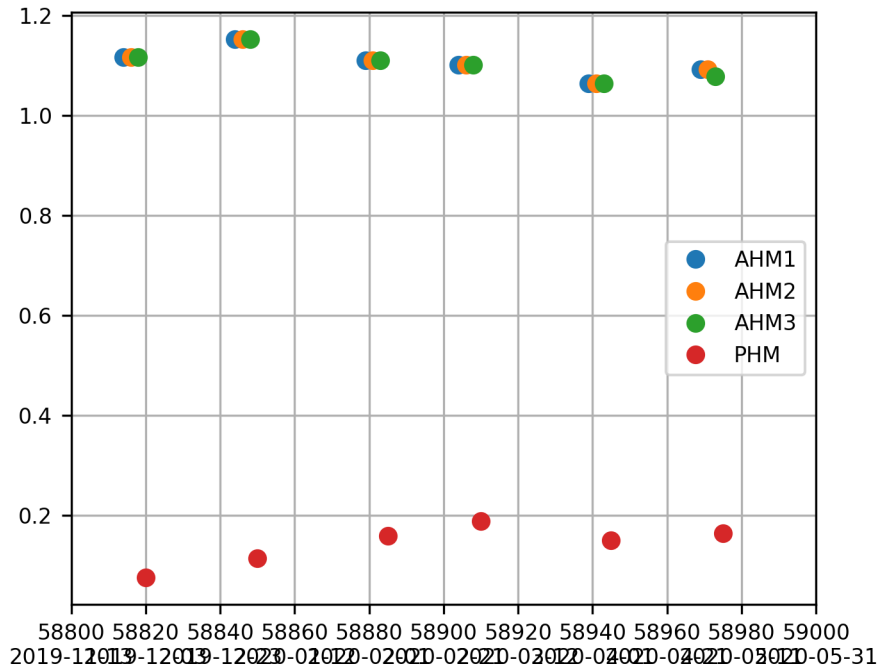


## PHM Rate and Drift



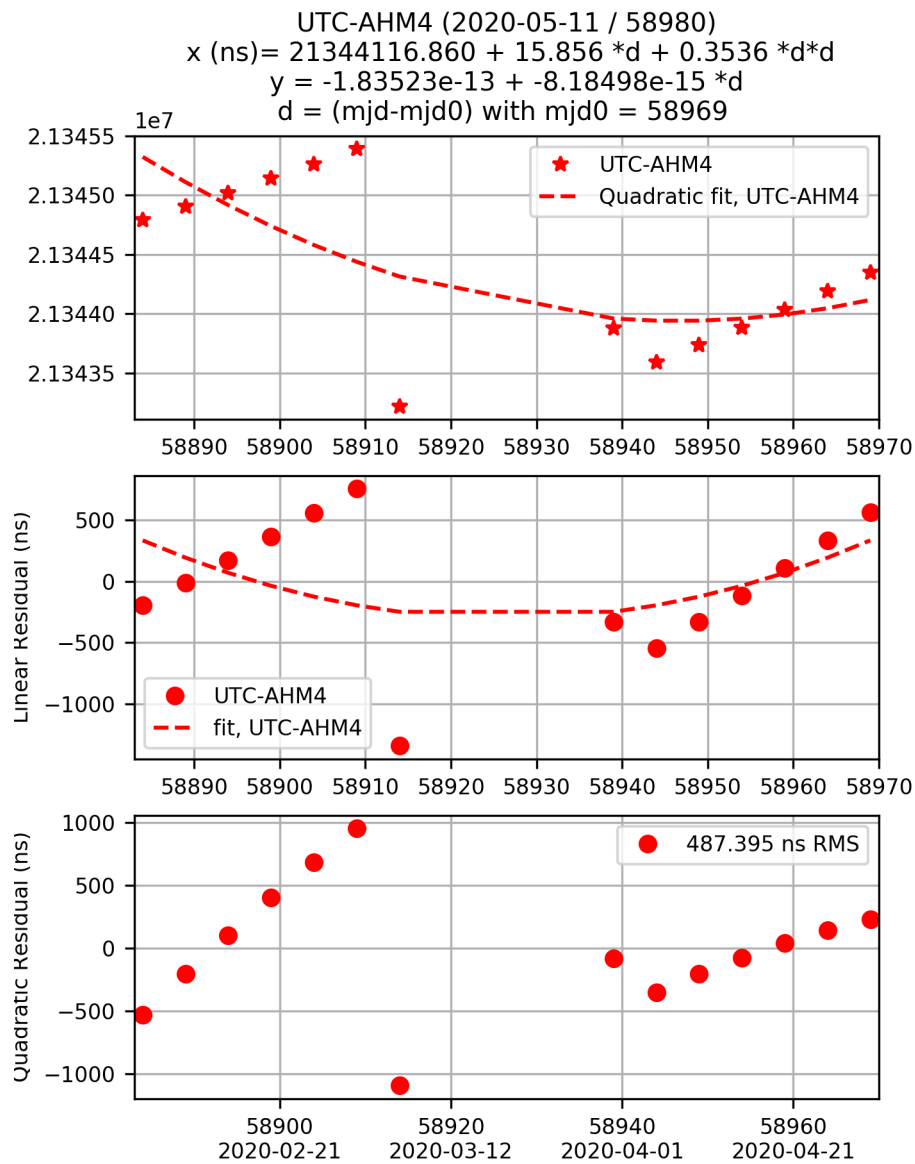
## Clock Weights

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



## Remote Clocks

### Remote Clock: AHM4

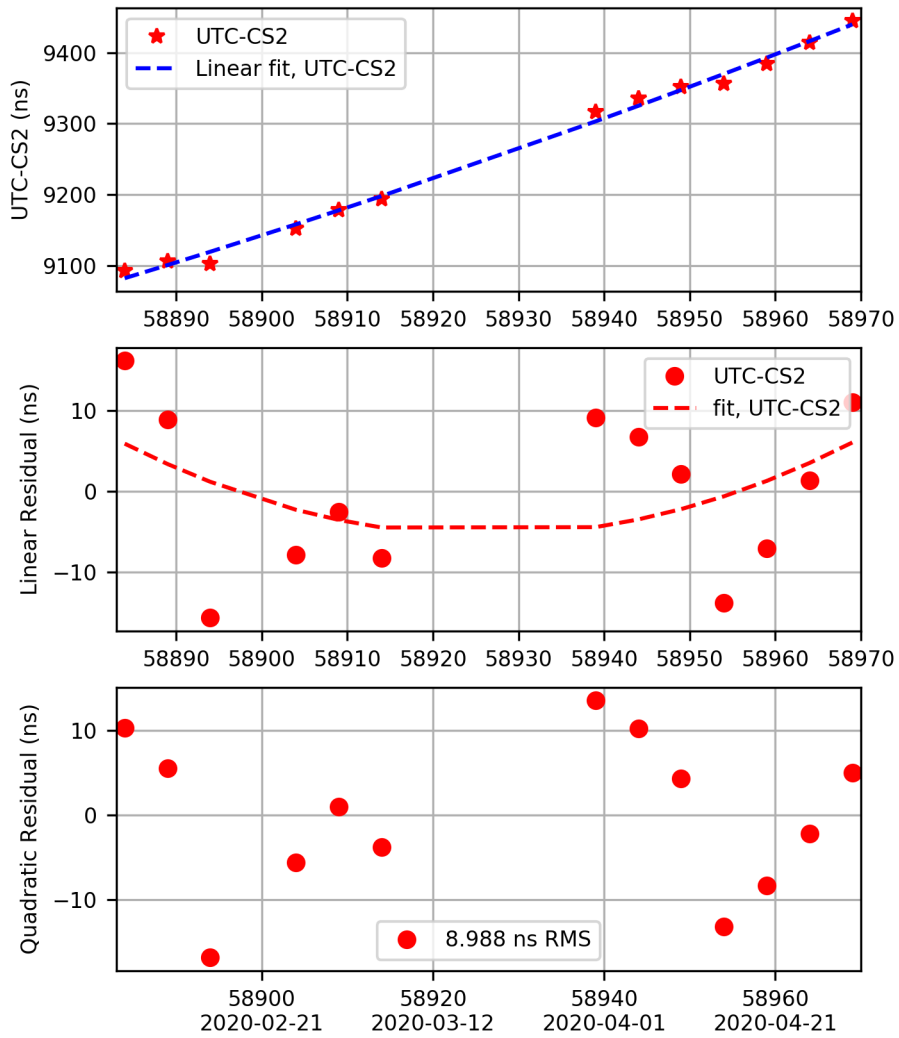


**Remote Clock: CS2**

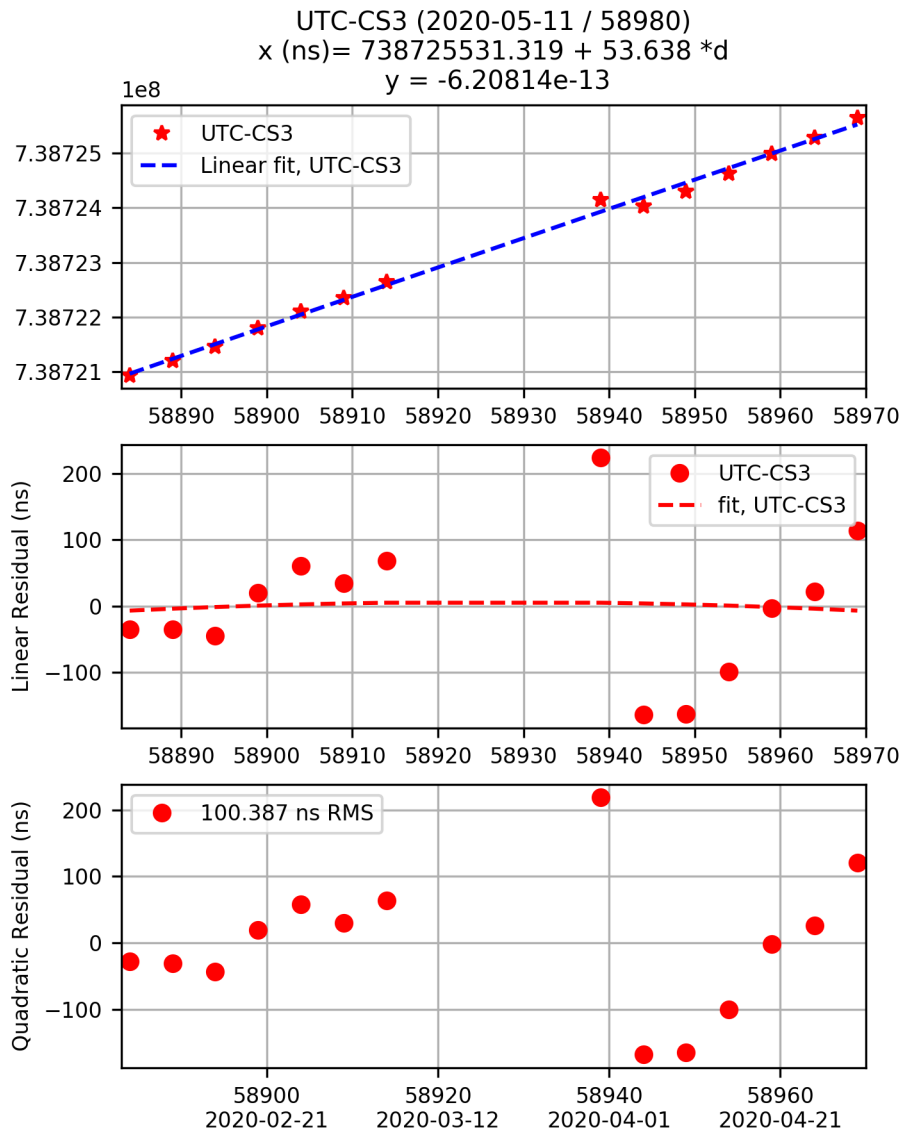
UTC-CS2 (2020-05-11 / 58980)

$$x \text{ (ns)} = 9433.571 + 4.198 * d$$

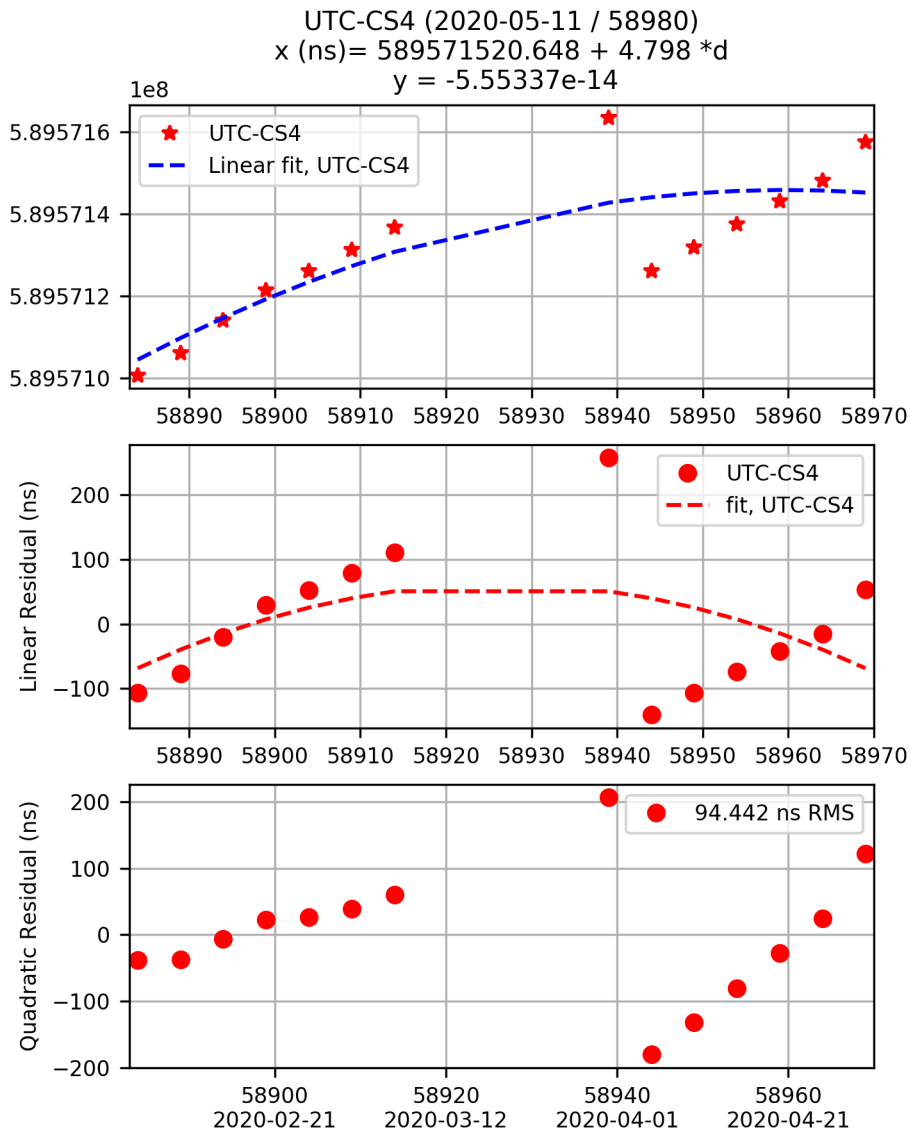
$$y = -4.85877e-14$$



**Remote Clock: CS3**



**Remote Clock: CS4**



**End of Bulletin.**