

# UTC(MIKE) Atomic Bulletin 2021-07

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2021-07-10 (59405)

Circular-T issues used for analysis: [400](#), [401](#), [402](#),

First day of analysis interval: 2021-04-05 (59309)

Last day of analysis interval: 2021-06-29 (59394)

ClockData for analysis: [CDMI\\_21.04](#), [CDMI\\_21.05](#), [CDMI\\_21.06](#),

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

## Notes

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.

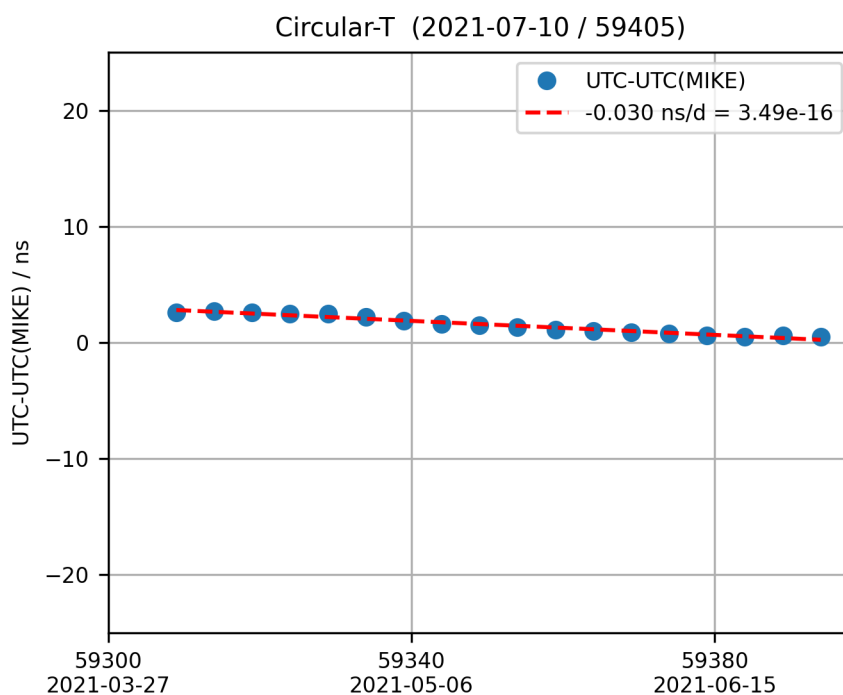
59165 (2020-11-12) Change of master clock to AHM2.  $y\_steer$  set to zero.

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.

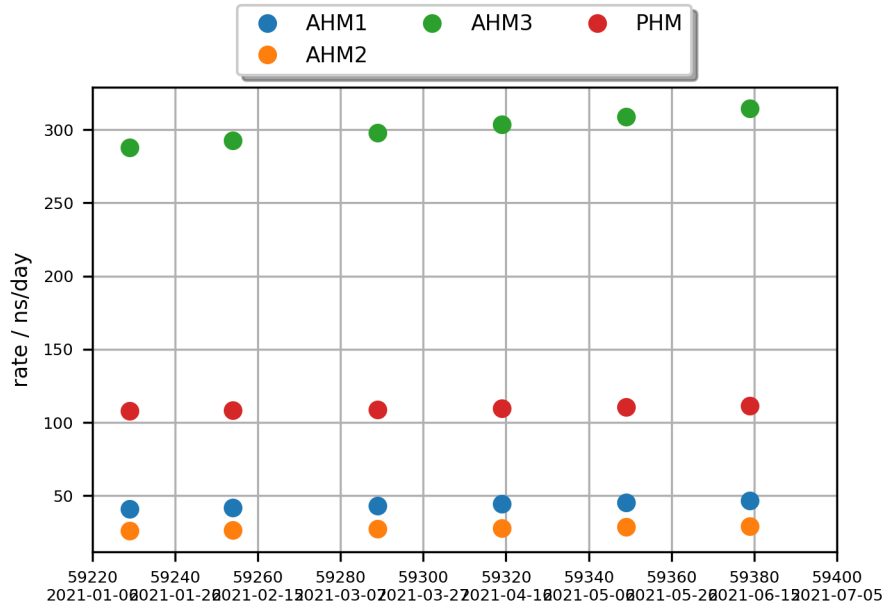
## UTC-UTC(MIKE) as reported in Circular-T



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.

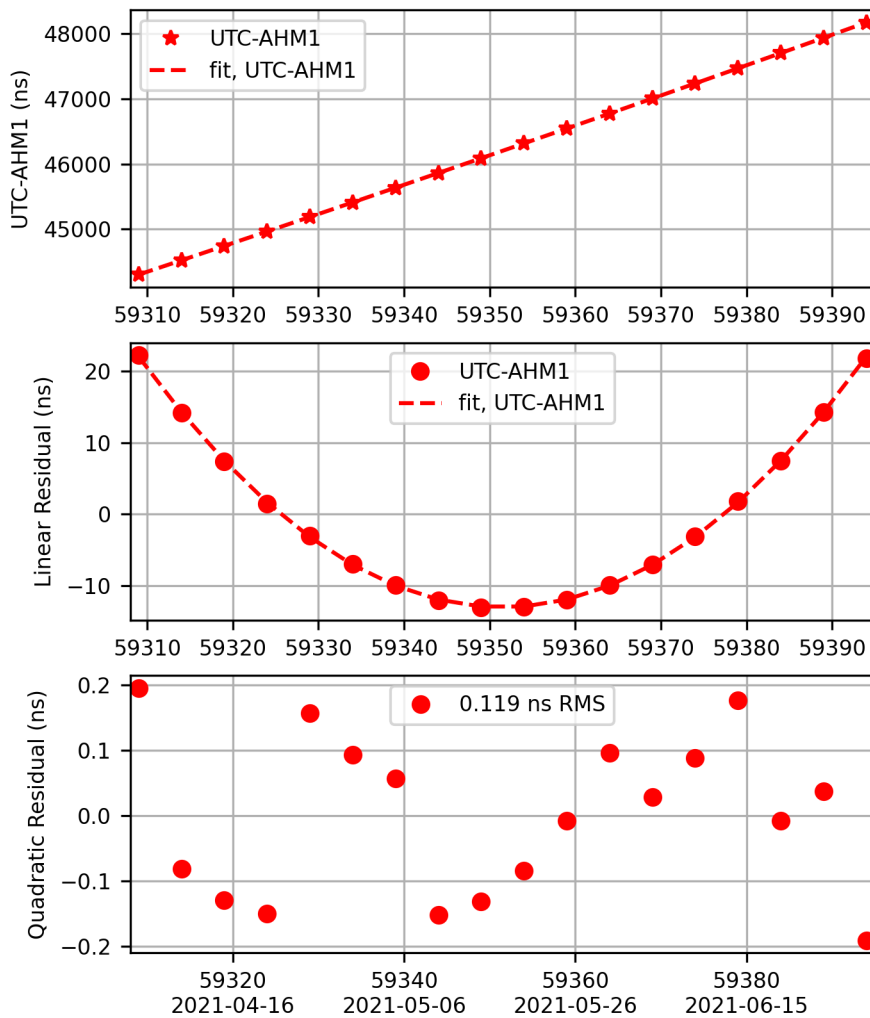
## Clock Rates - Summary

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

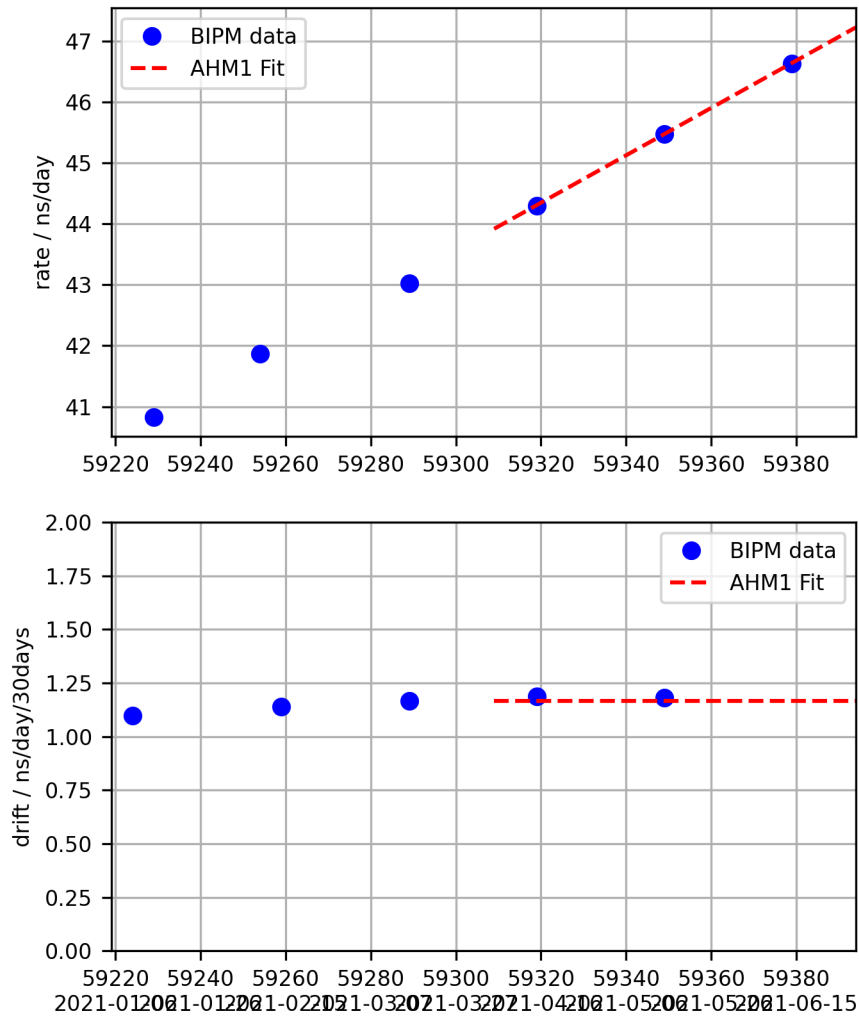


### UTC - AHM1 Fit

UTC-AHM1 (2021-07-10 / 59405)  
 $x \text{ (ns)} = 48173.290 + 47.223 *d + 0.0194 *d*d$   
 $y = -5.46559e-13 + -4.49973e-16 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59394$

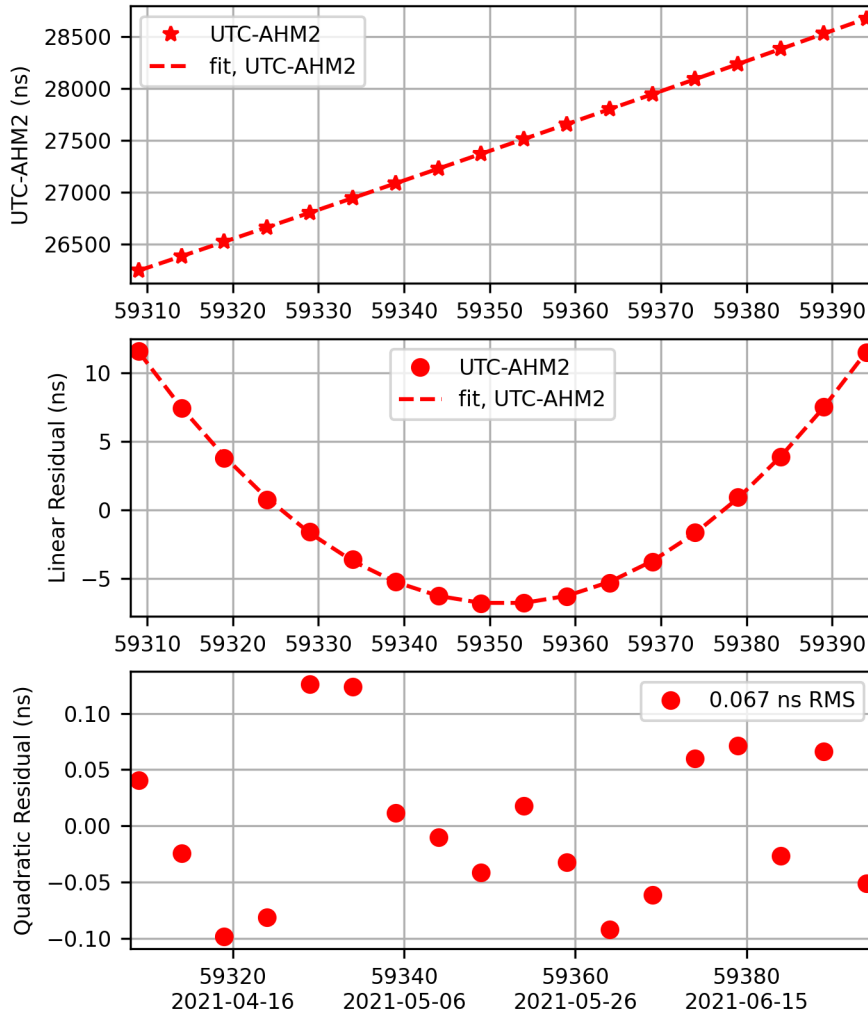


### AHM1 Rate and Drift

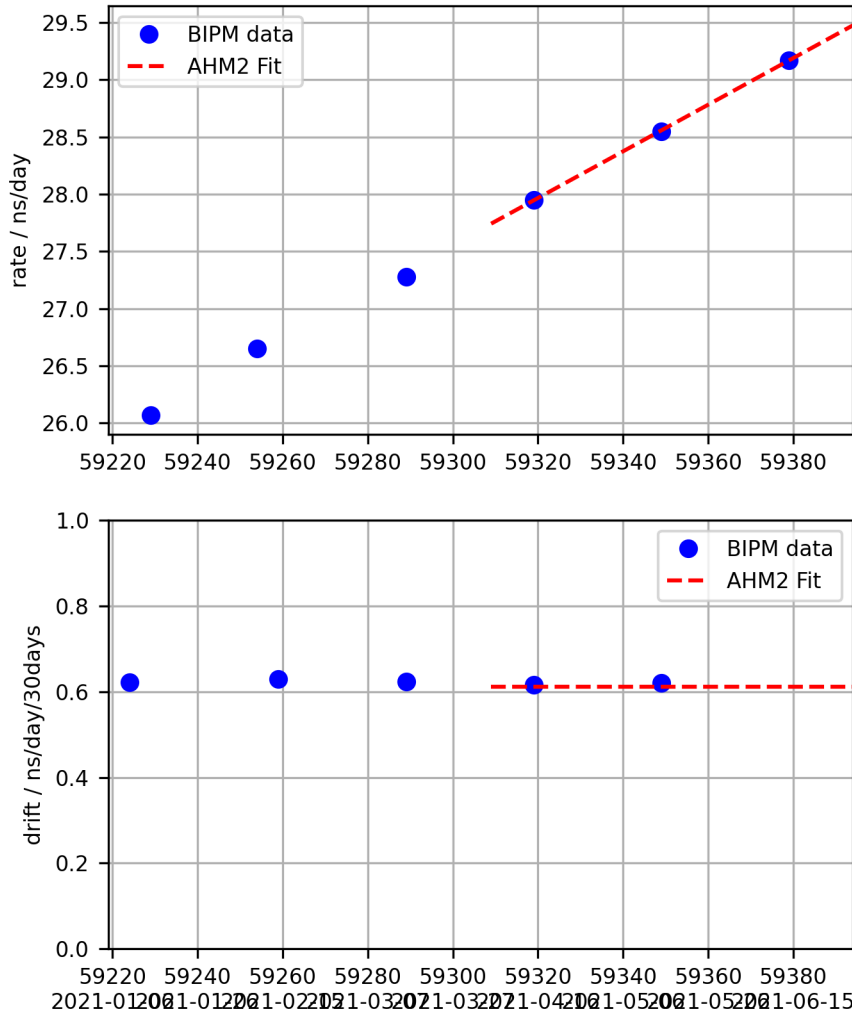


## UTC - AHM2 Fit

UTC-AHM2 (2021-07-10 / 59405)  
 $x \text{ (ns)} = 28676.151 + 29.474 *d + 0.0102 *d*d$   
 $y = -3.41138e-13 + -2.35901e-16 *d$   
 $d = (\text{mjd}-\text{mjd0})$  with  $\text{mjd0} = 59394$

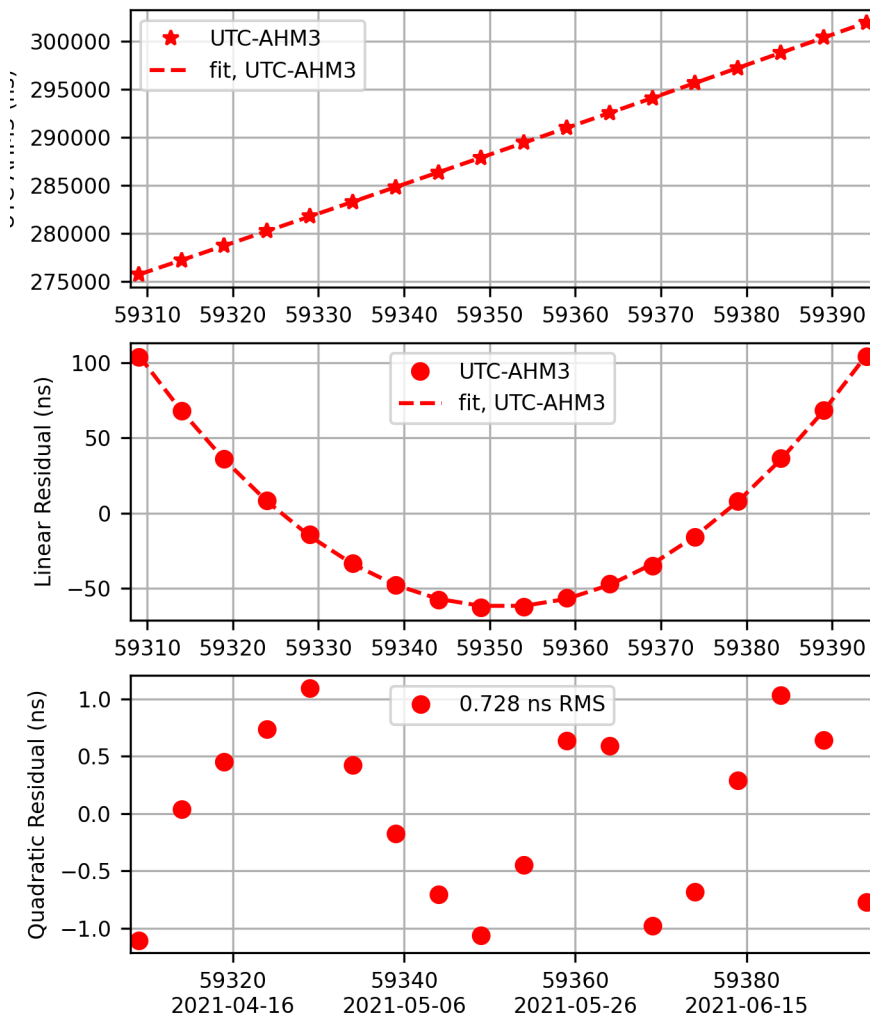


### AHM2 Rate and Drift

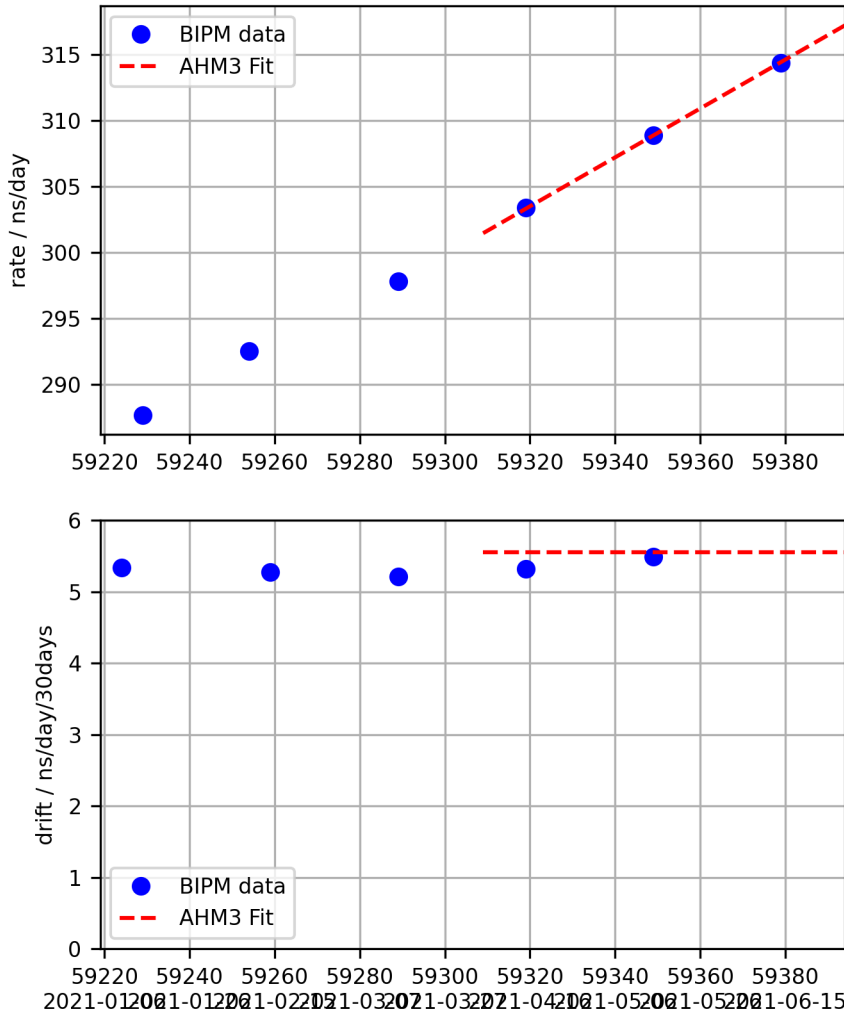


### UTC - AHM3 Fit

UTC-AHM3 (2021-07-10 / 59405)  
 $x \text{ (ns)} = 301975.872 + 317.206 *d + 0.0926 *d*d$   
 $y = -3.67137e-12 + -2.1429e-15 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59394$



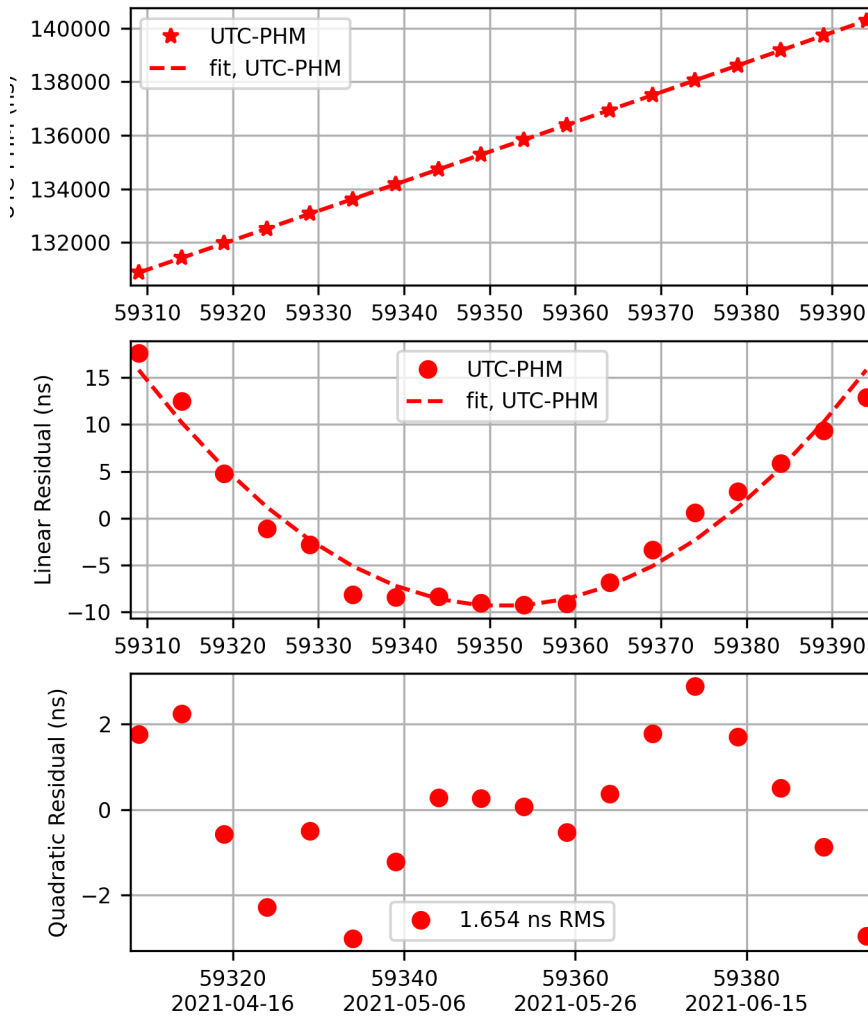
### AHM3 Rate and Drift



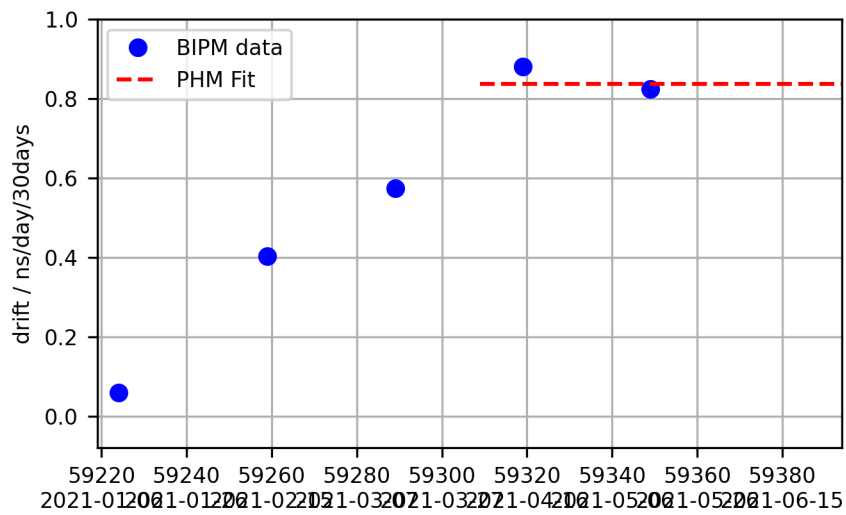
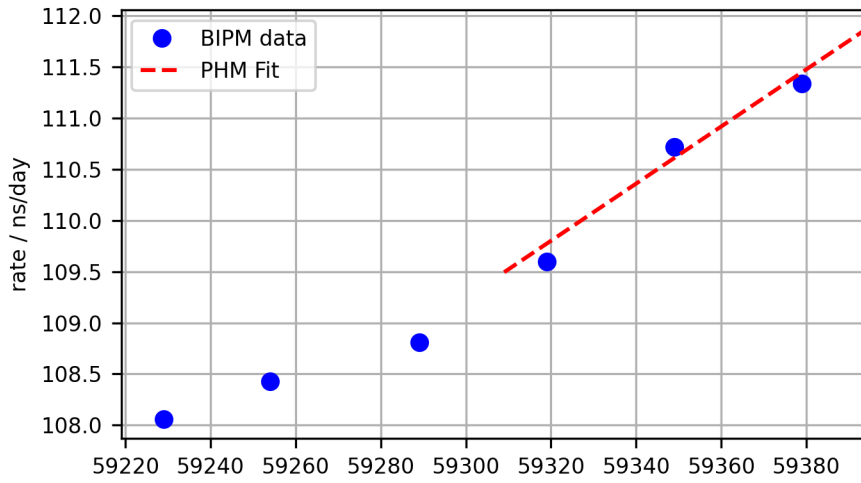


## UTC - PHM Fit

UTC-PHM (2021-07-10 / 59405)  
 $x \text{ (ns)} = 140284.755 + 111.866 *d + 0.0140 *d*d$   
 $y = -1.29475e-12 + -3.23005e-16 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 59394$

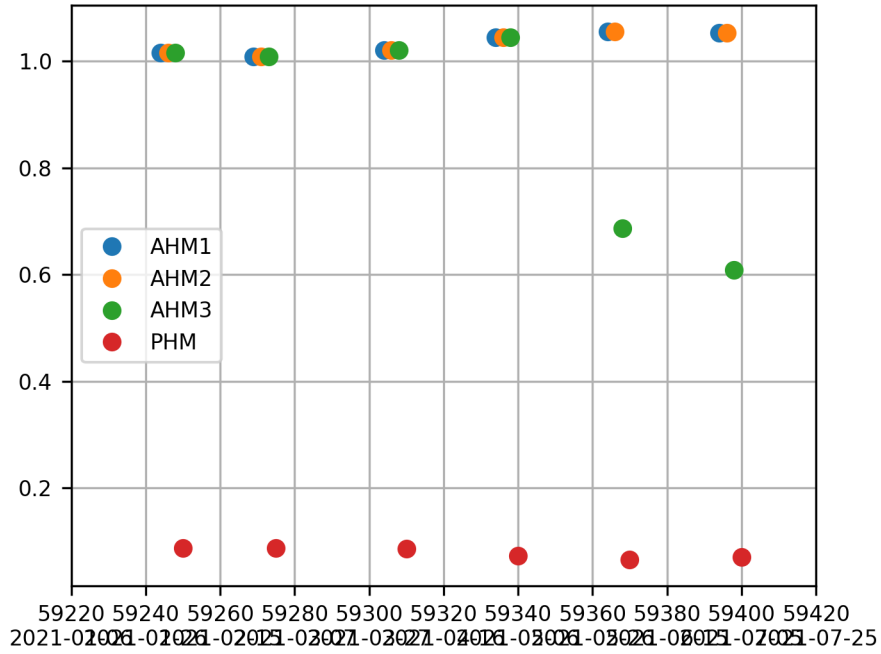


## PHM Rate and Drift



### VTT MIKES Clock Weights

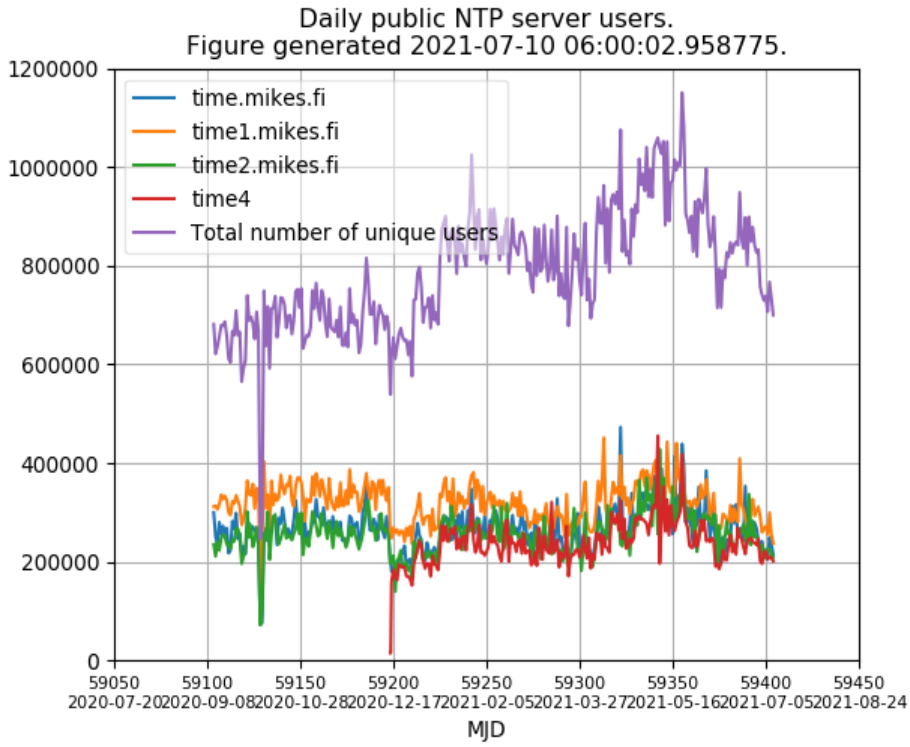
RELATIVE WEIGHTS (IN PERCENT) OF THE CLOCKS FOR INTERVALS OF ONE MONTH ENDING AT THE GIVEN DATES





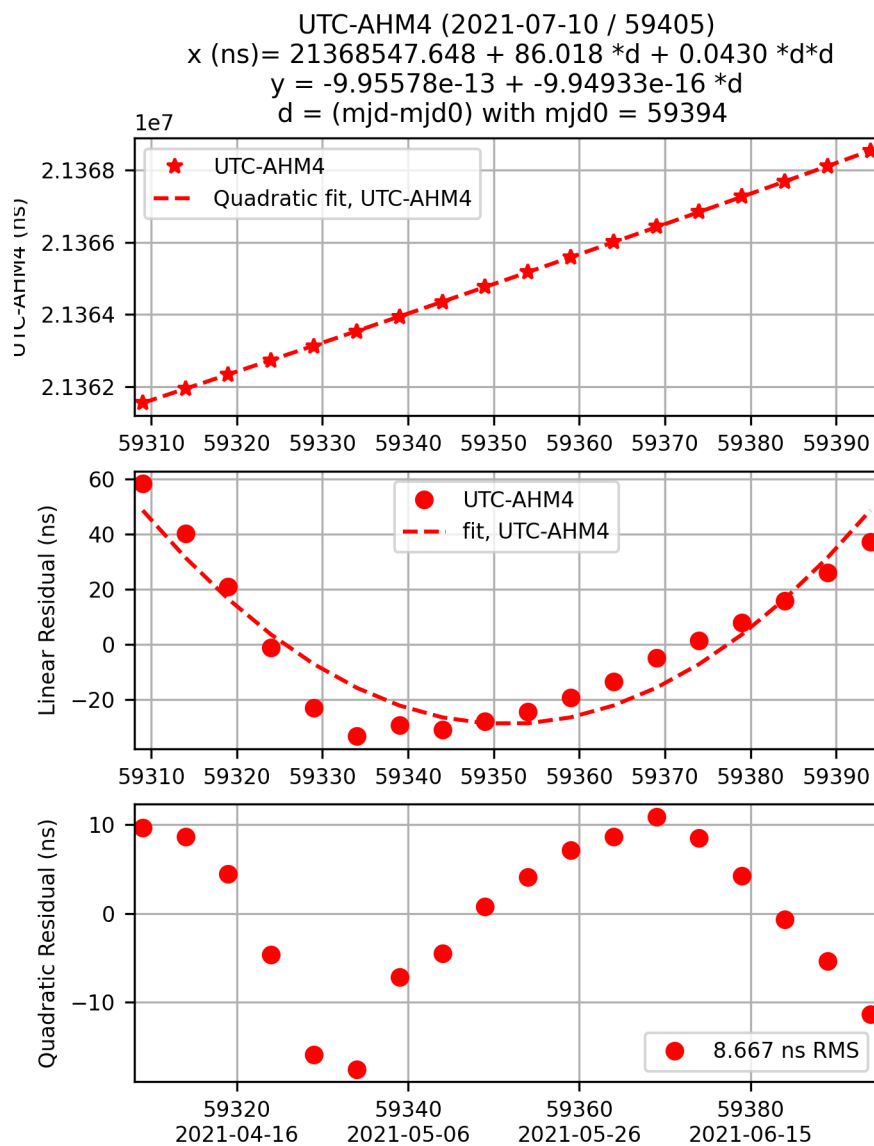
## NTP Usage Statistics

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

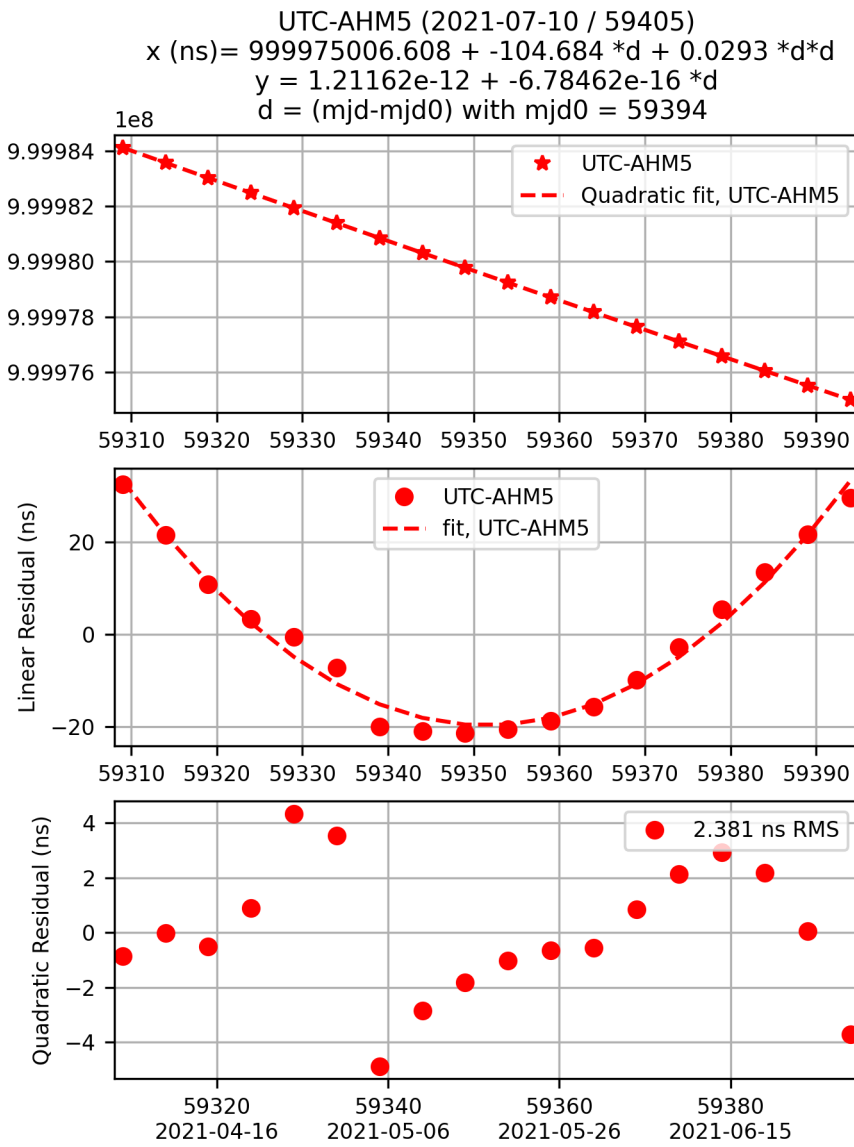


## Remote Clocks

### Remote Clock: AHM4



**Remote Clock: AHM5**

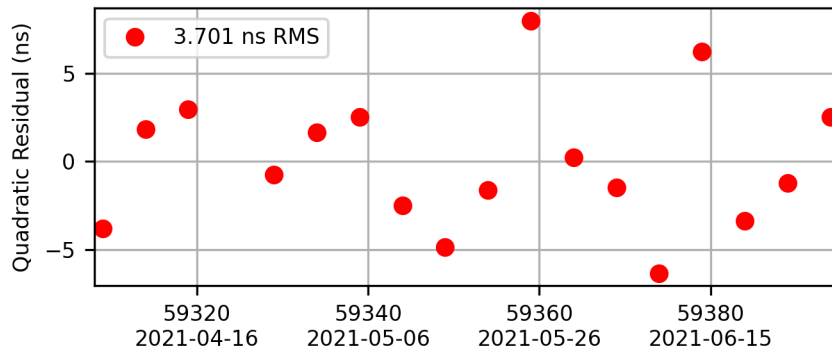
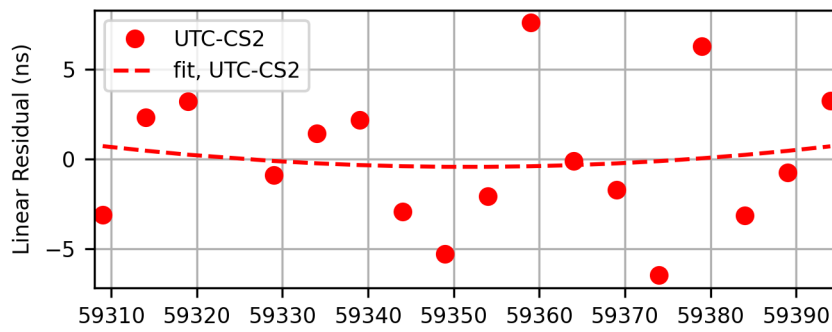
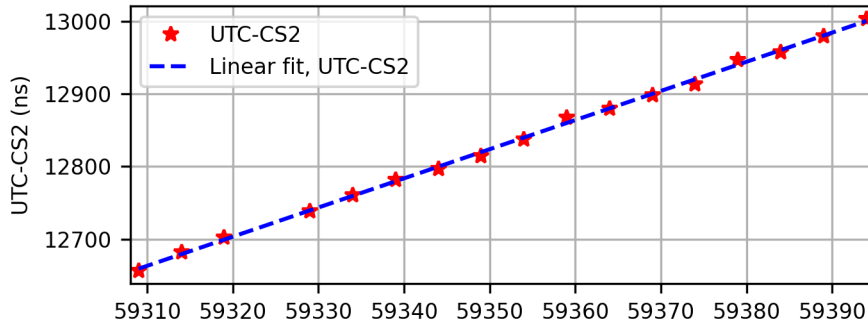


**Remote Clock: CS2**

UTC-CS2 (2021-07-10 / 59405)

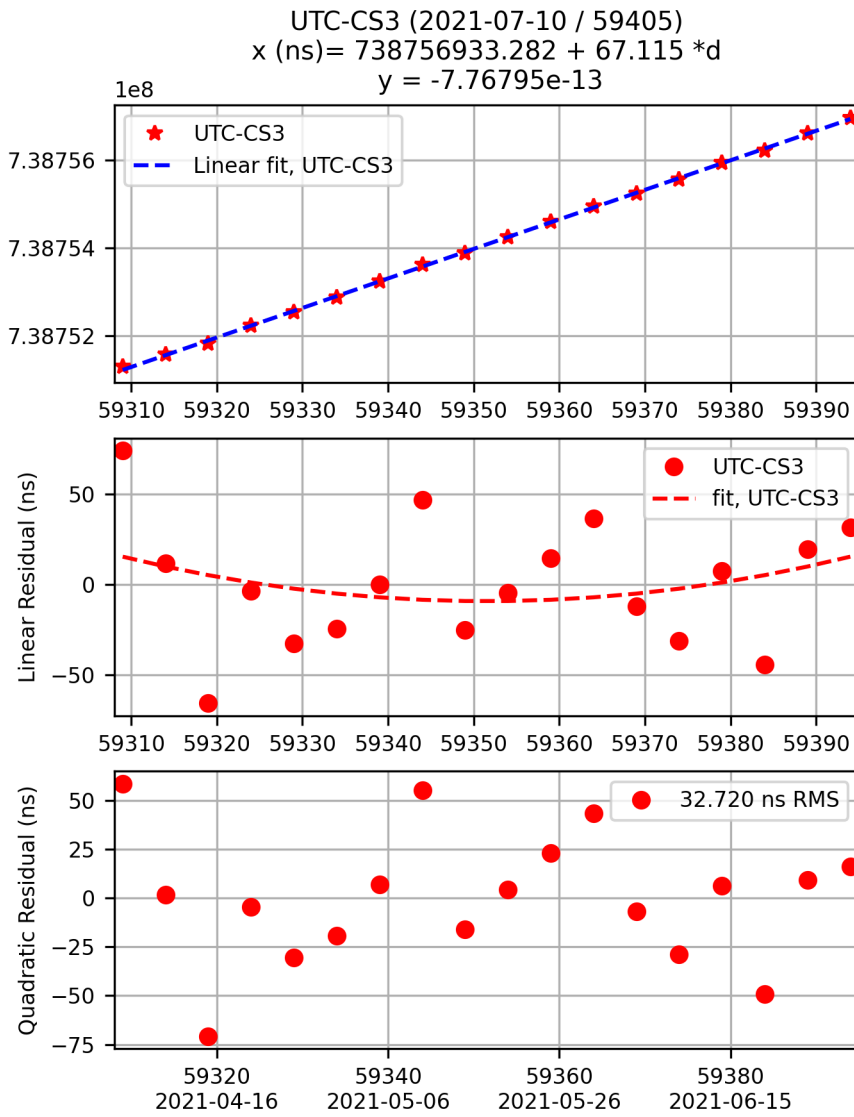
$$x \text{ (ns)} = 13000.264 + 4.010 * d$$

$$y = -4.64161e-14$$

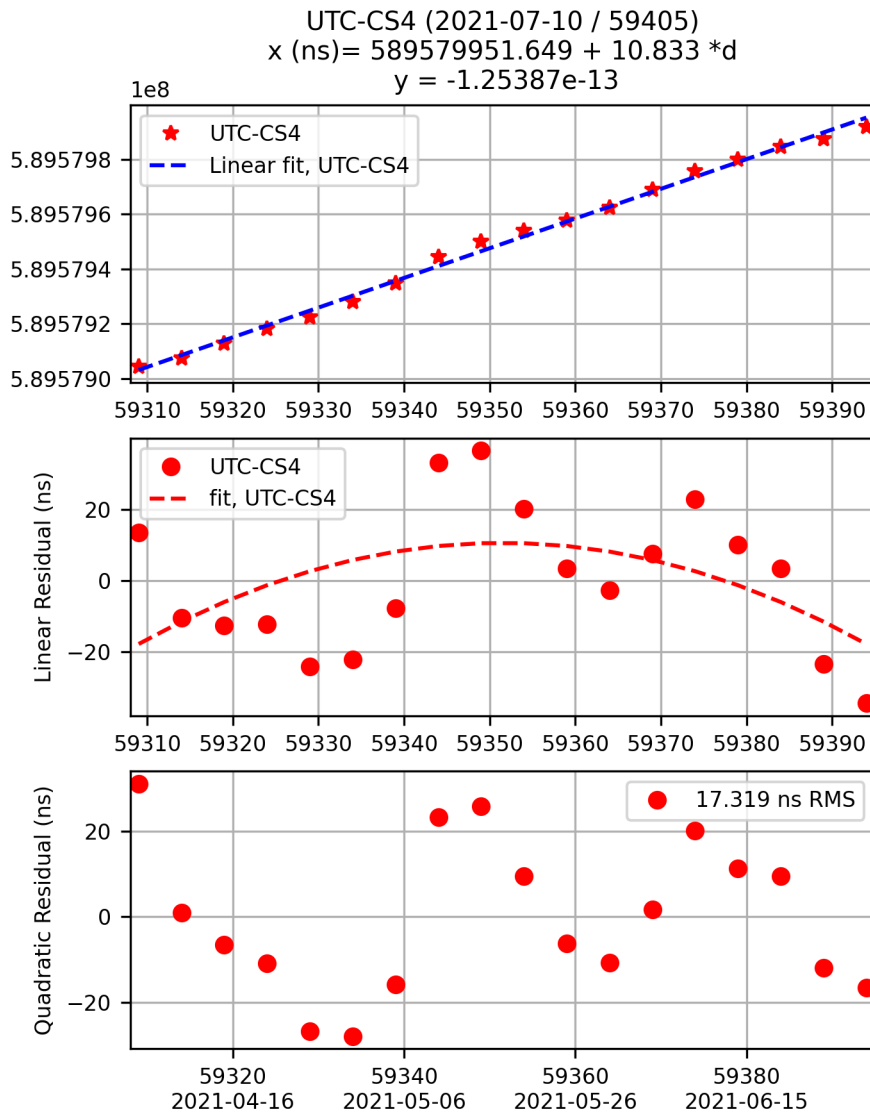




**Remote Clock: CS3**



**Remote Clock: CS4**



**End of Bulletin.**