

# UTC(MIKE) Atomic Bulletin 2018-12

VTT MIKES Metrology monthly Time & Frequency bulletin.

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

Date of publication: 2018-12-11 (58463)

Circular-T issues used for analysis: [369](#), [370](#), [371](#),

First day of analysis interval: 2018-09-03 (58364)

Last day of analysis interval: 2018-11-27 (58449)

ClockData for analysis: [CDMI 18.09](#), [CDMI 18.10](#), [CDMI 18.11](#),

## Notes

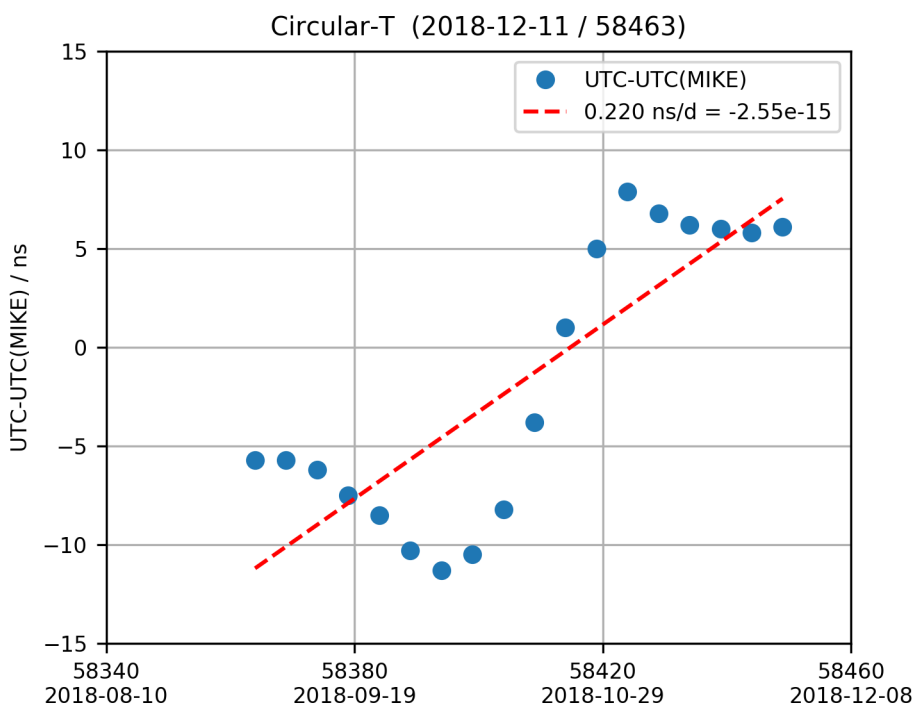
58204 AHM2 TAI-weight non-zero

58299 Apparent time step of UTC(MIKE) of +8.2 ns between MJD 58299 and MJD 58304 due to antenna coordinates correction. ClockData before 58299.5 is corrected by -8.2 ns for analysis.

58305 AHM3 rebooted. Phase step +20.2ns.

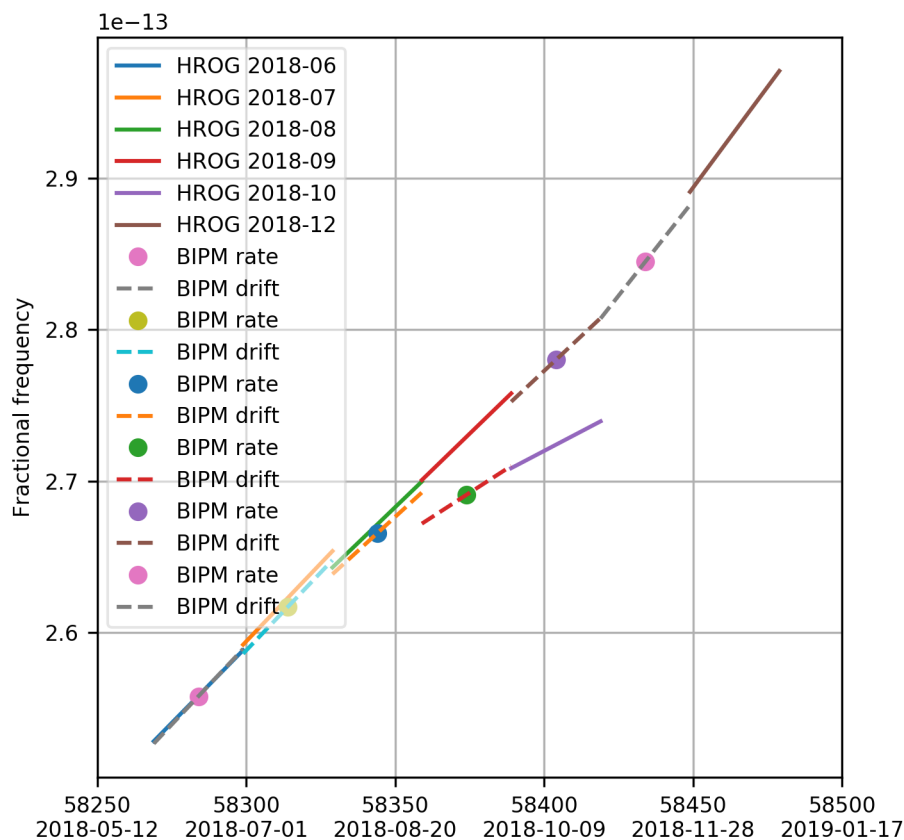
58450 CS1 Hotwire supply regulation failure

## 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.

## UTC(MIKE) frequency steering parameters



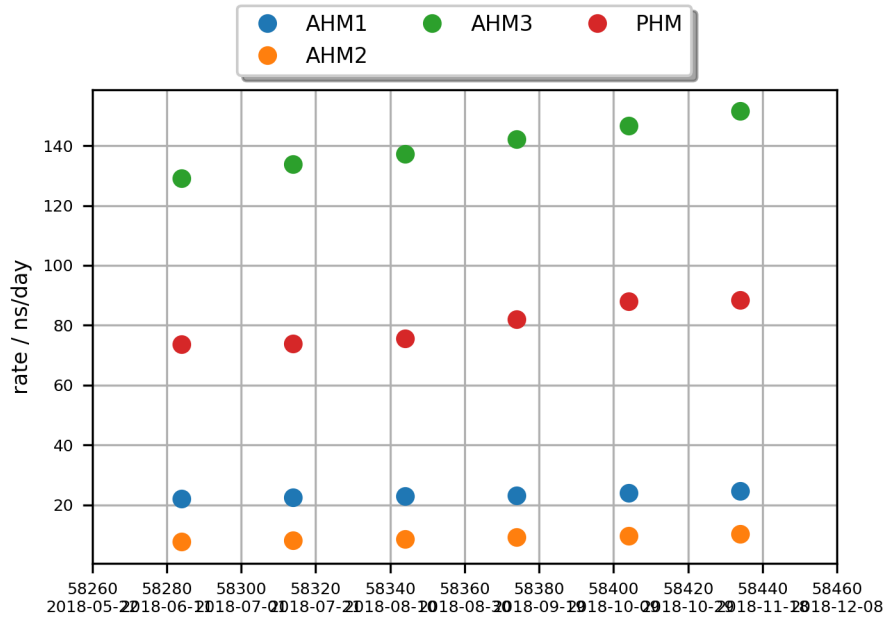
UTC(MIKE) Master Clock is AHM1 since 2017-07-15.

Solid lines indicate UTC(MIKE) steering parameters derived from UTC-ClockData fits. Symbols and dashed lines indicate MasterClock rates and drifts as published by BIPM.

The latest steering parameters are:

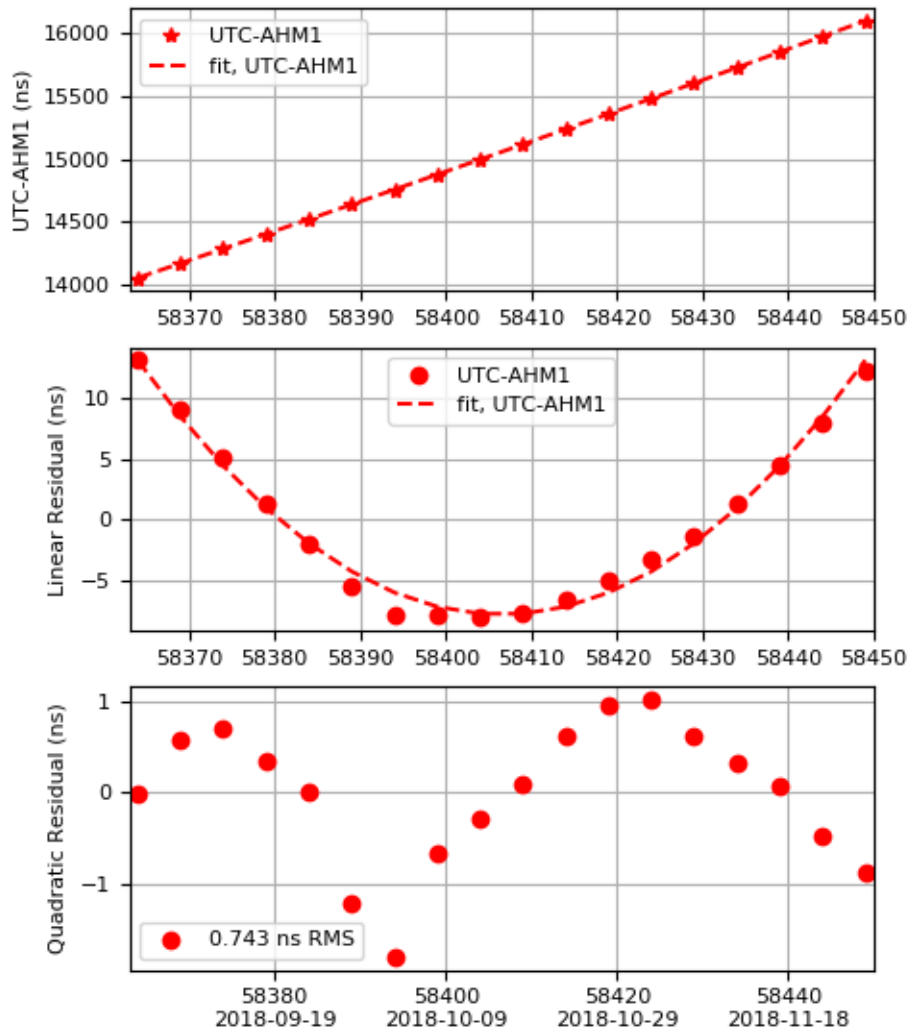
$y = 2.89111e-13 + 2.66102e-16 * d + y\_steer$   
 with  $d = (mjd - mjd0)$  and  $mjd0 = 58449$   
 $y\_steer = -4ns/30 \text{ days} = -2e-15$  from 58372  
 $y\_steer = -10ns/30 \text{ days} = -4e-15$  from 58401  
 $y\_steer = 0$  from 58416  
 $y\_steer = 1e-14$  from 58423  
 $y\_steer = 2e-15$  from 58463

## Clock Rates - Summary

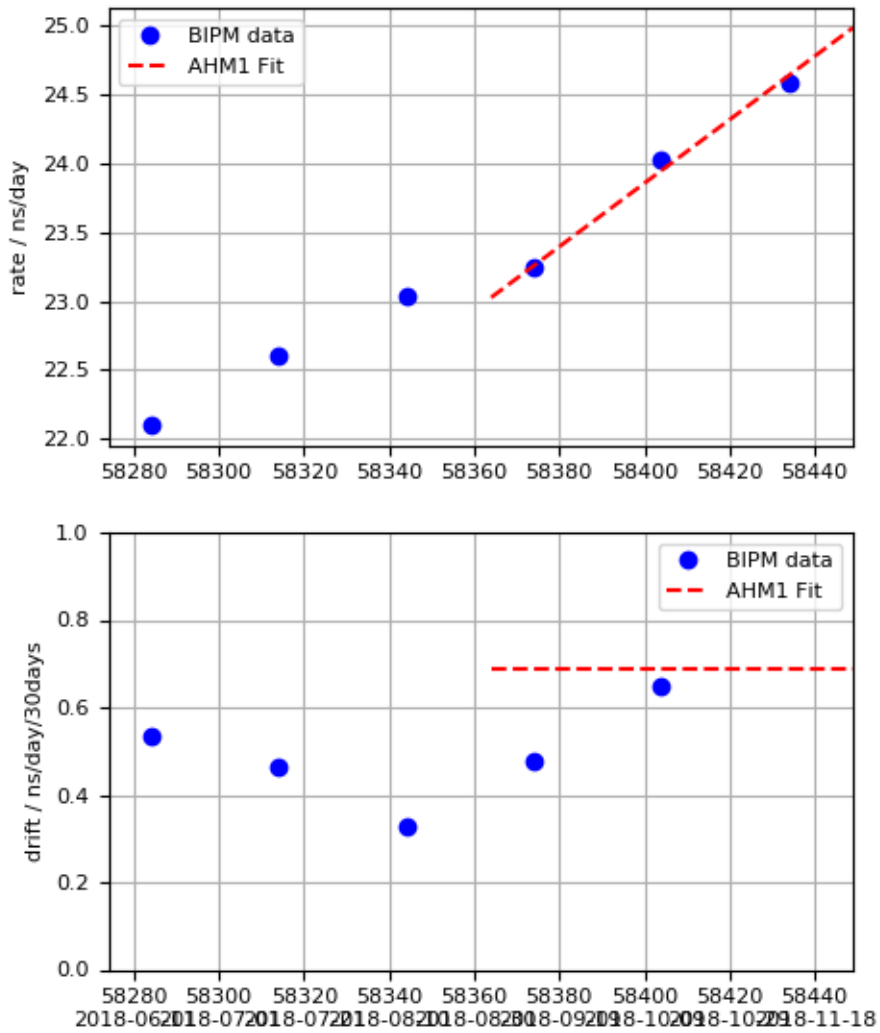


## UTC - AHM1 Fit

UTC-AHM1 (2018-12-11 / 58463)  
 $x \text{ (ns)} = 16095.376 + 24.979 *d + 0.0115 *d*d$   
 $y = -2.89111e-13 + -2.66102e-16 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58449$

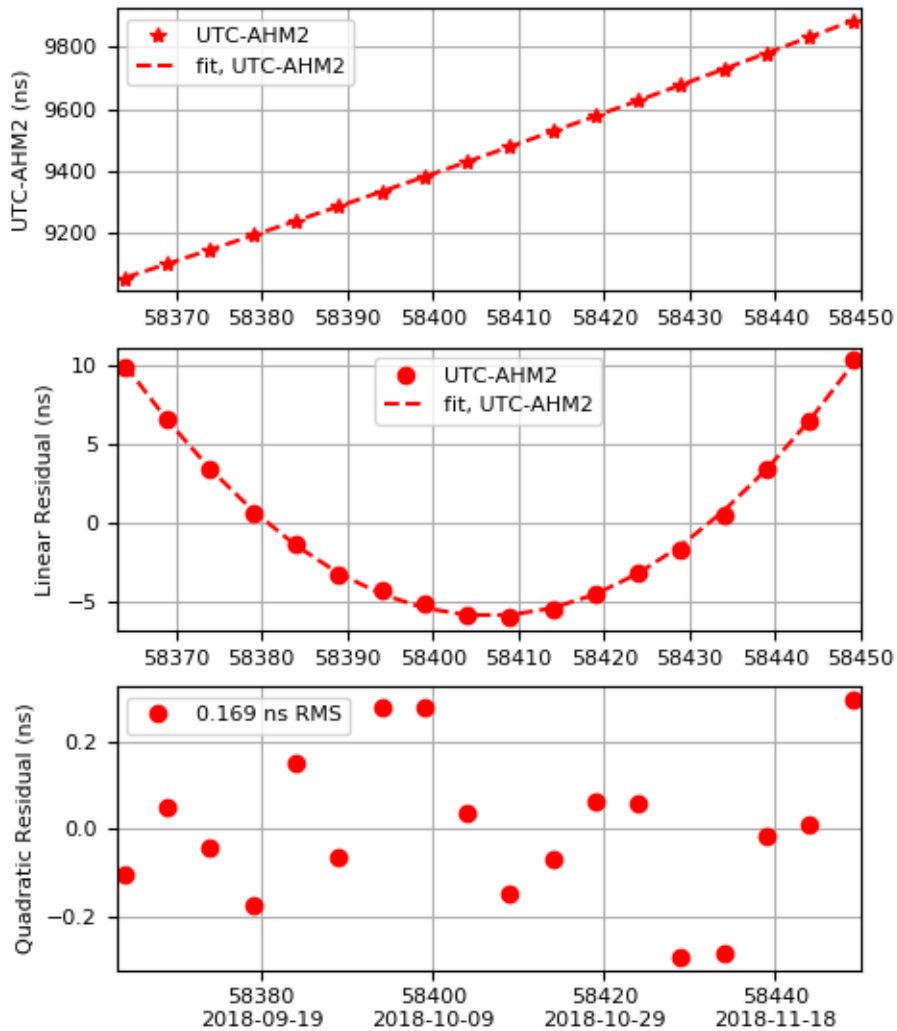


### AHM1 Rate and Drift

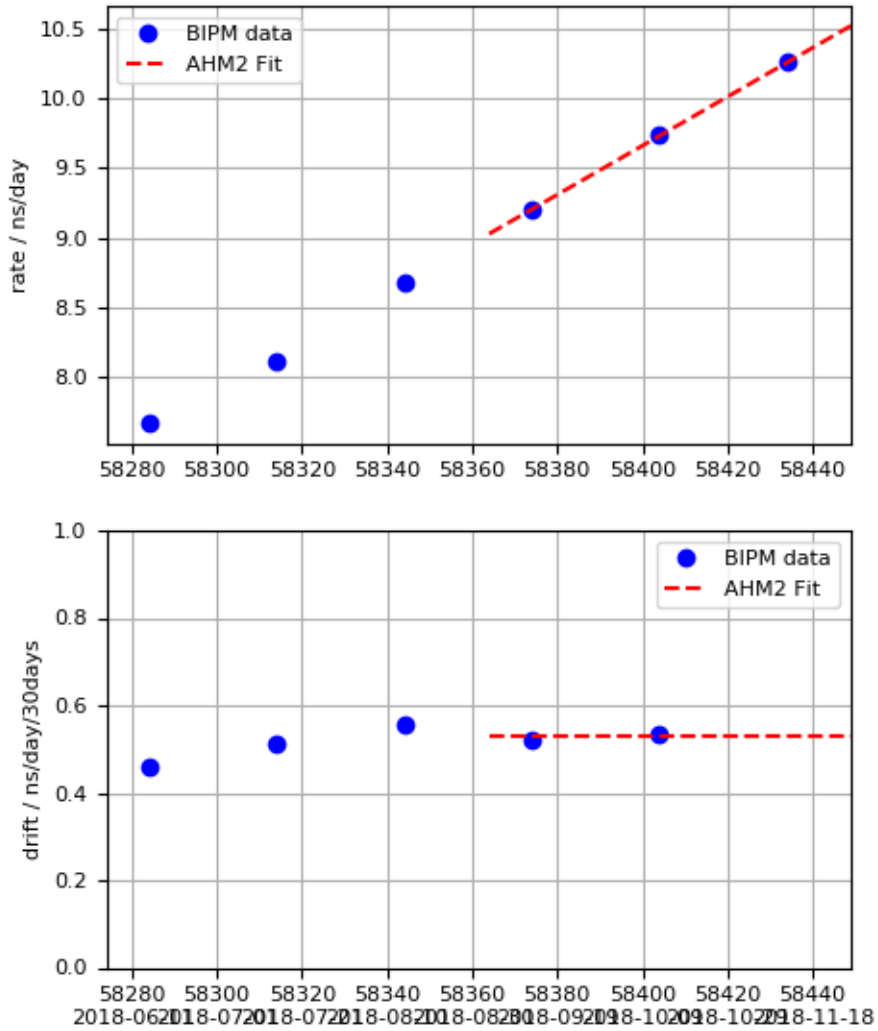


## UTC - AHM2 Fit

UTC-AHM2 (2018-12-11 / 58463)  
 $x \text{ (ns)} = 9884.605 + 10.527 * d + 0.0088 * d*d$   
 $y = -1.21843e-13 + -2.04451e-16 * d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58449$

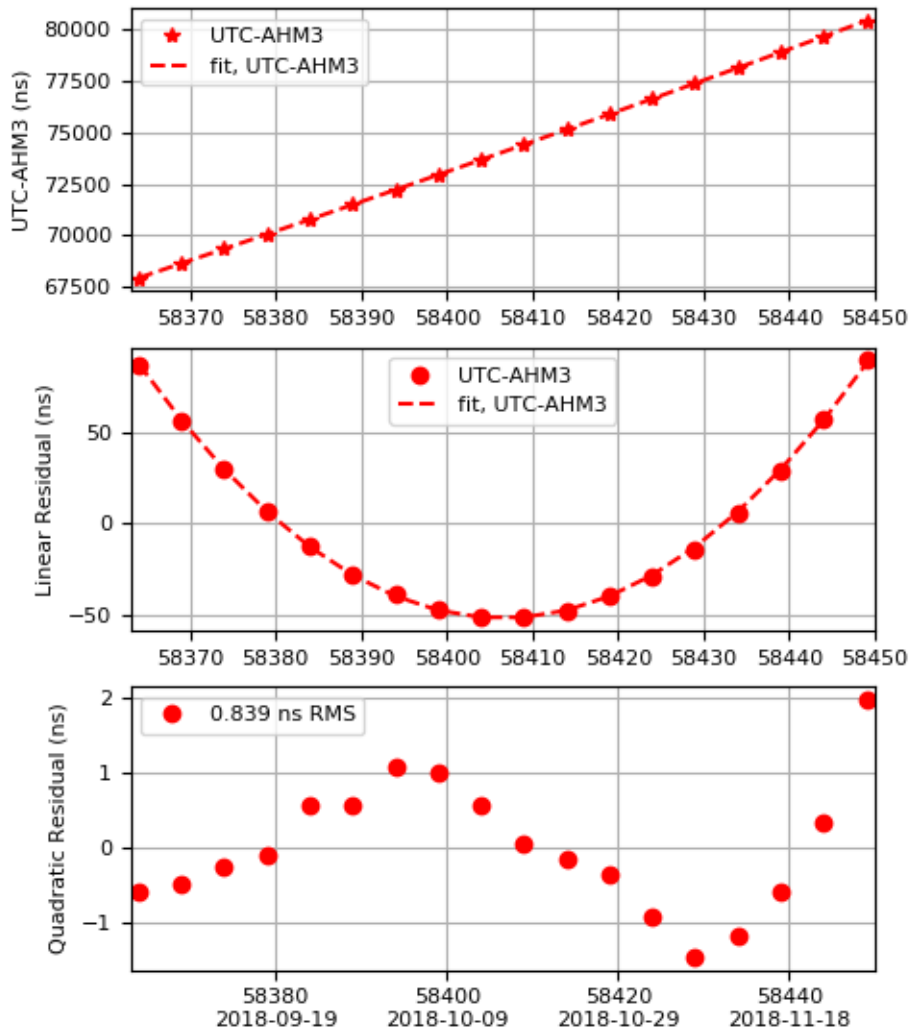


## AHM2 Rate and Drift



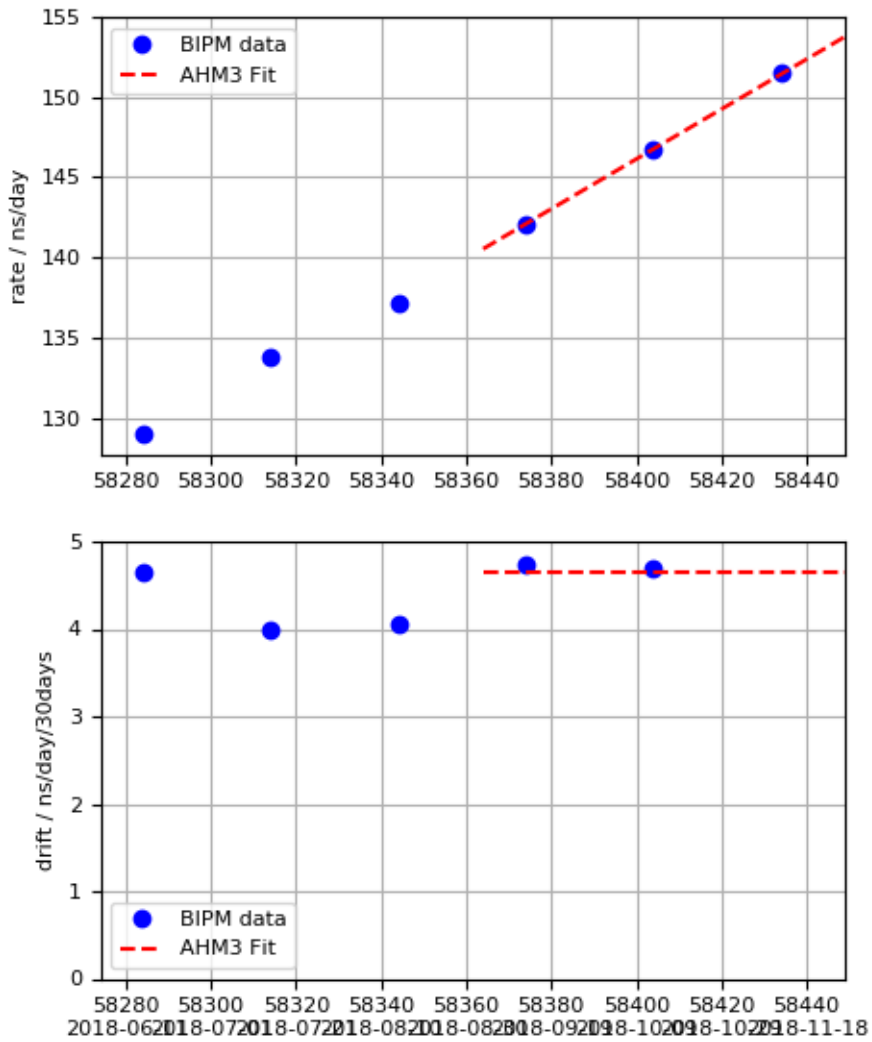
## UTC - AHM3 Fit

UTC-AHM3 (2018-12-11 / 58463)  
 $x \text{ (ns)} = 80433.430 + 153.740 * d + 0.0776 * d * d$   
 $y = -1.7794e-12 + -1.79608e-15 * d$   
 $d = (\text{mjd} - \text{mjd0}) \text{ with mjd0} = 58449$



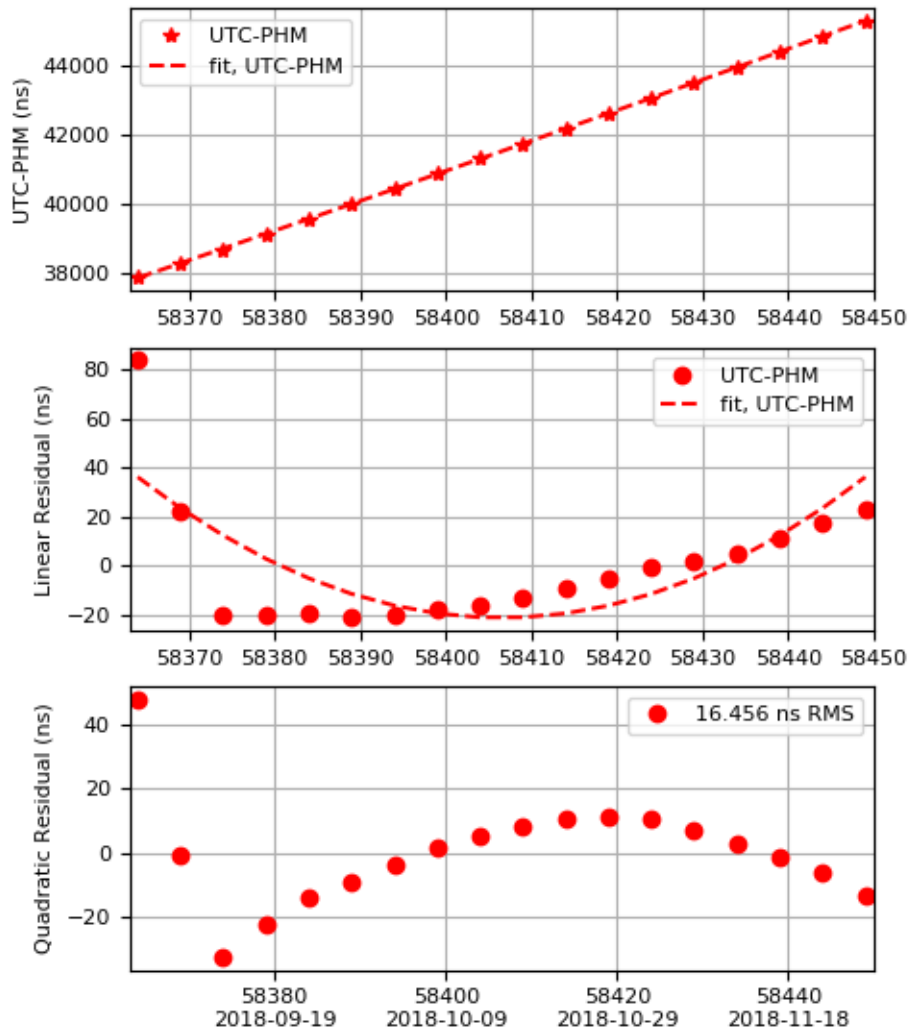


### AHM3 Rate and Drift

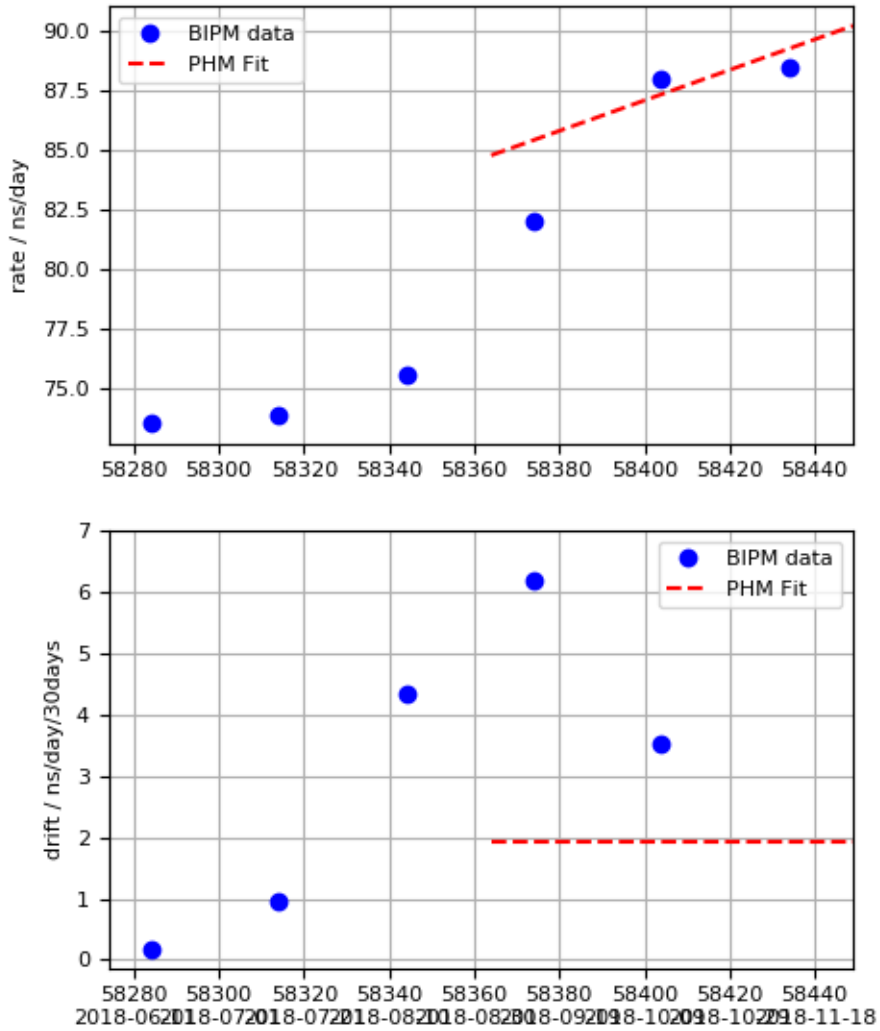


## UTC - PHM Fit

UTC-PHM (2018-12-11 / 58463)  
 $x \text{ (ns)} = 45270.010 + 90.212 *d + 0.0319 *d*d$   
 $y = -1.04412e-12 + -7.38716e-16 *d$   
 $d = (\text{mjd}-\text{mjd0}) \text{ with mjd0} = 58449$

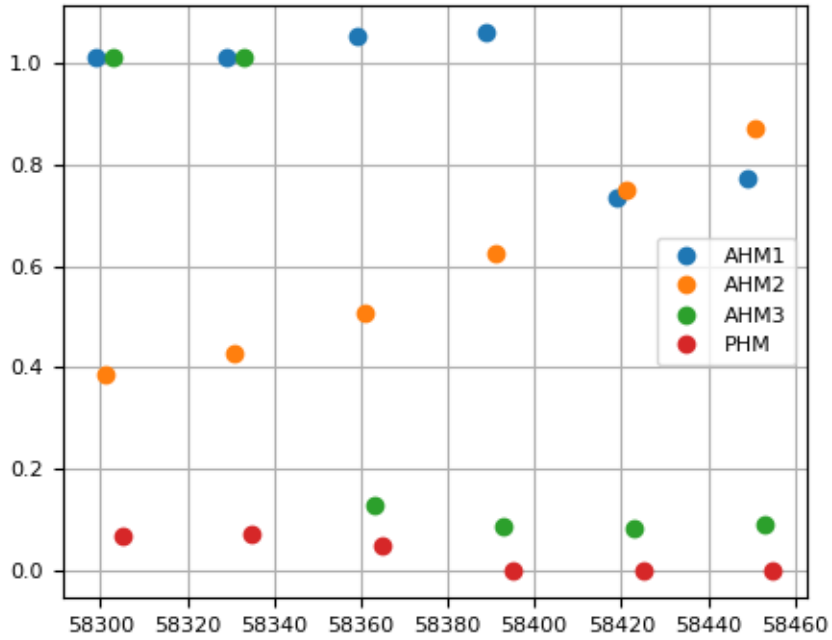


## PHM Rate and Drift



### Clock Weights

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



**End of Bulletin.**