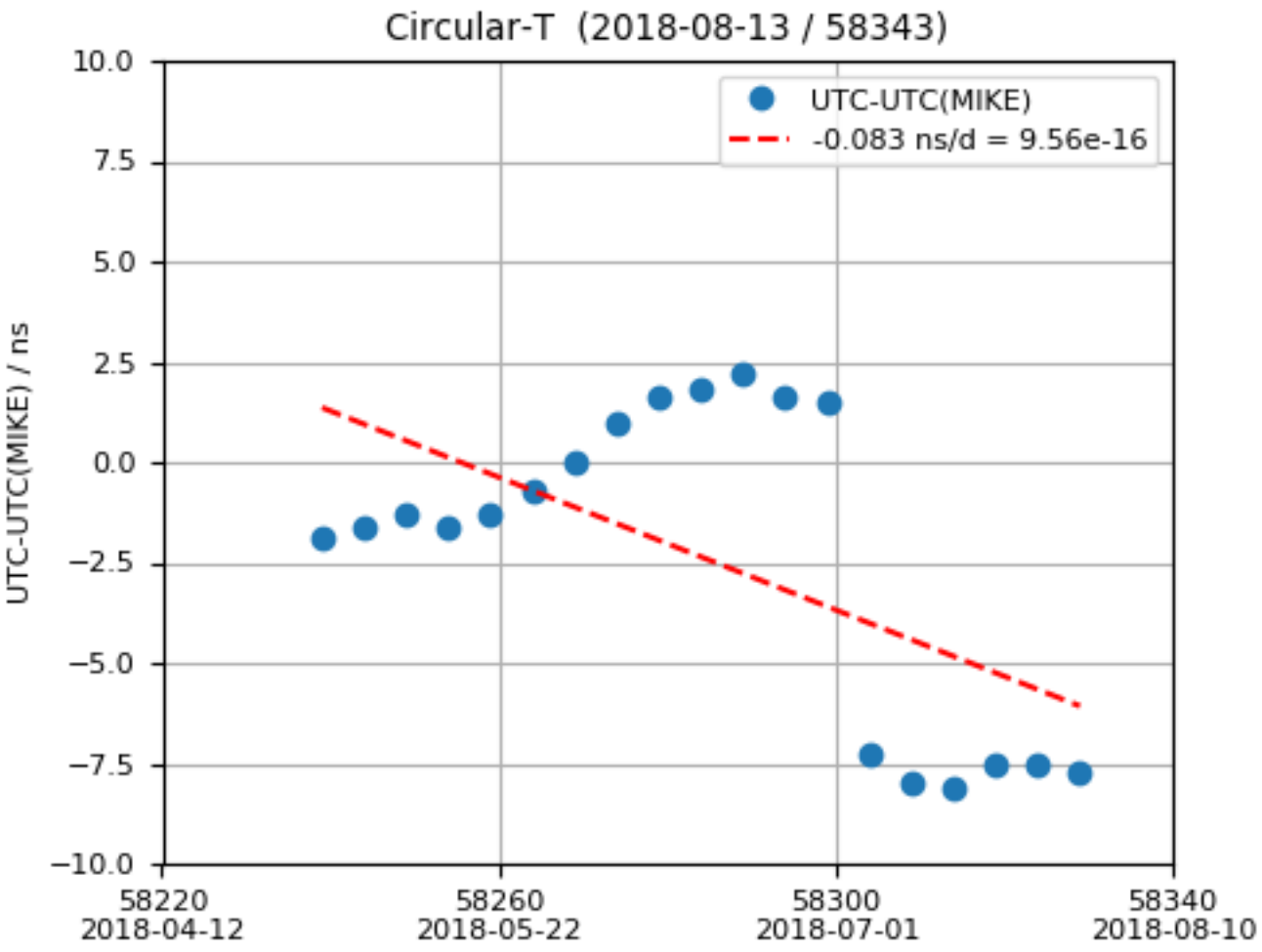
UTC(MIKE) Atomic Bulletin 2018-08

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2018-08-13
Circular-T issues used for analysis: 365, 366, 367,
First day of analysis interval: 2018-05-01 (58239)
Last day of analysis interval: 2018-07-30 (58329)
ClockData for analysis: CDMI__18.05_, CDMI__18.06_, CDMI__18.07_,

Notes

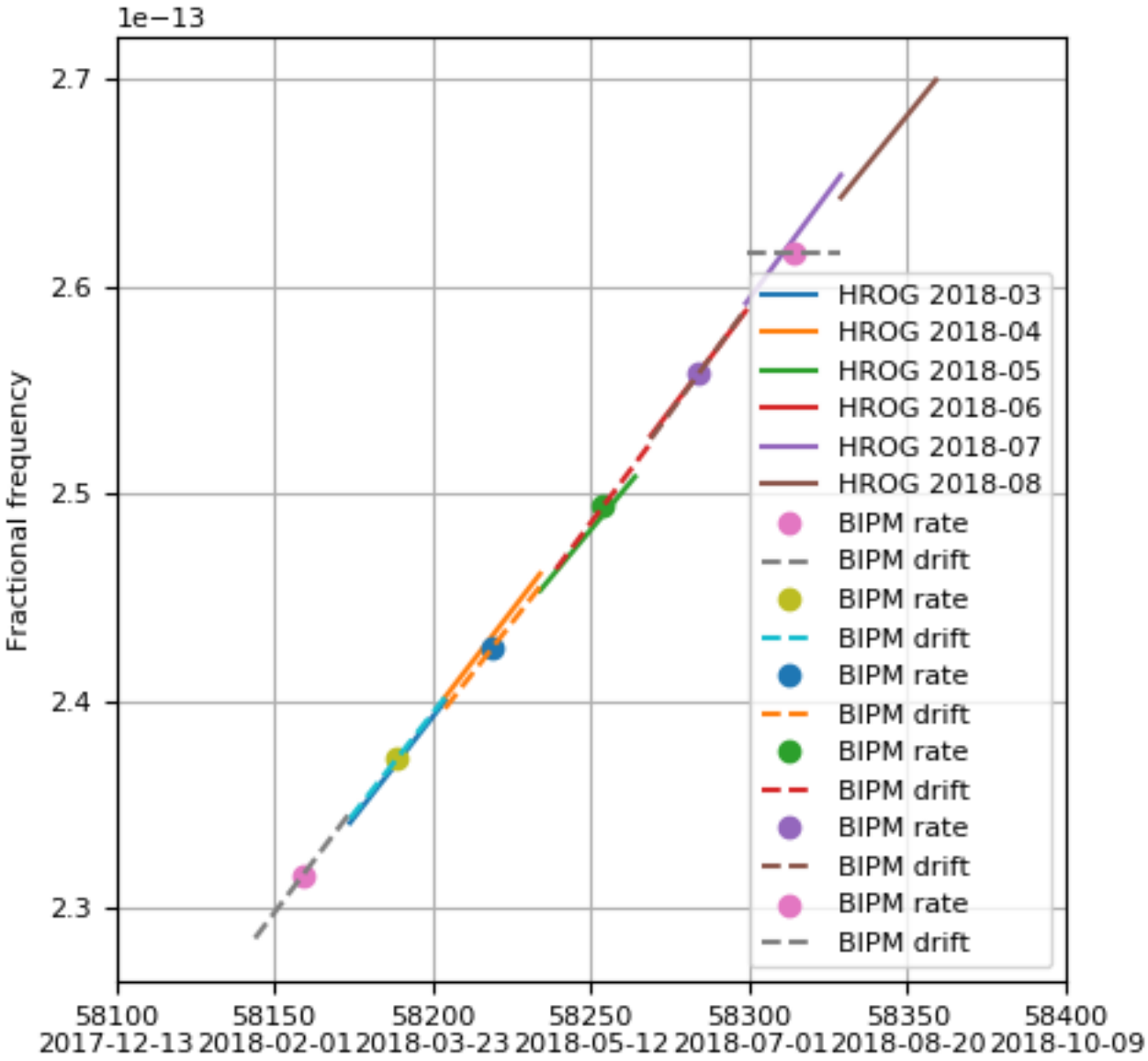
58189 AHM2 H-source heater turned ON
58204 AHM2 TAI-weight non-zero
58299 Apparent time step of UTC(MIKE) of +8.2 ns between MJD 58299 and MJD 58304 due to antenna coordinates correction. ClockData before 58299.5 is corrected by -8.2 ns for analysis.
58305 AHM3 rebooted. Phase step +20.2ns.
58340 Steering correction of -7.5ns/30d = -2.89e-15 applied.

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



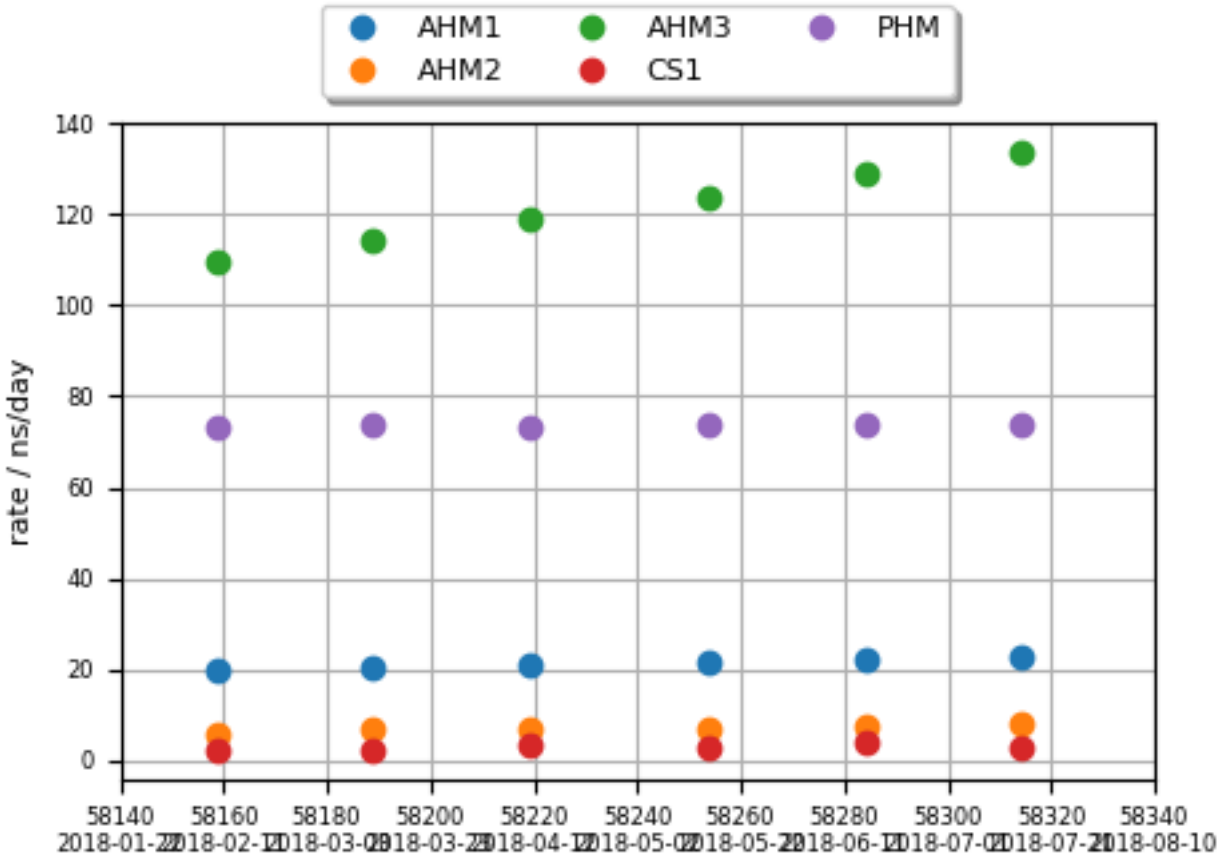
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

UTC(MIKE) frequency steering parameters

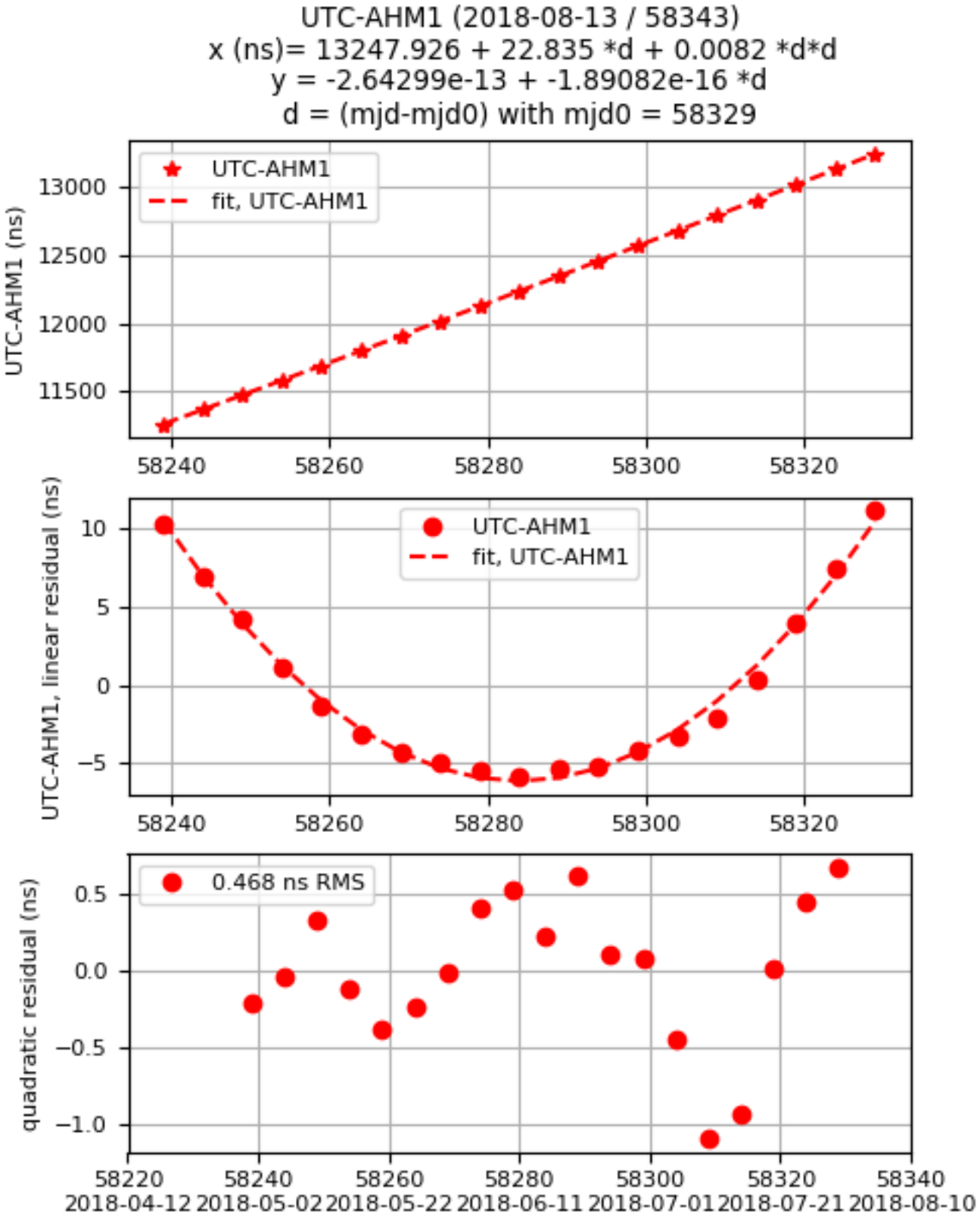


UTC(MIKE) Master Clock is AHM1 since 2017-07-15.
Solid lines indicate UTC(MIKE) steering parameters derived from UTC-ClockData fits.
Symbols and dashed lines indicate MasterClock rates and drifts as published by BIPM.
The latest steering parameters are:
y = 2.64299e-13 + 1.89082e-16 *d + y_steer
with d = (mjd-mjd0) and mjd0 = 58329
y_steer = -1.5ns/30 days = -5.79e-16 from 58071
y_steer = 0 from 58150
y_steer = -7.5ns/30 days = -2.89e-15 from 58340

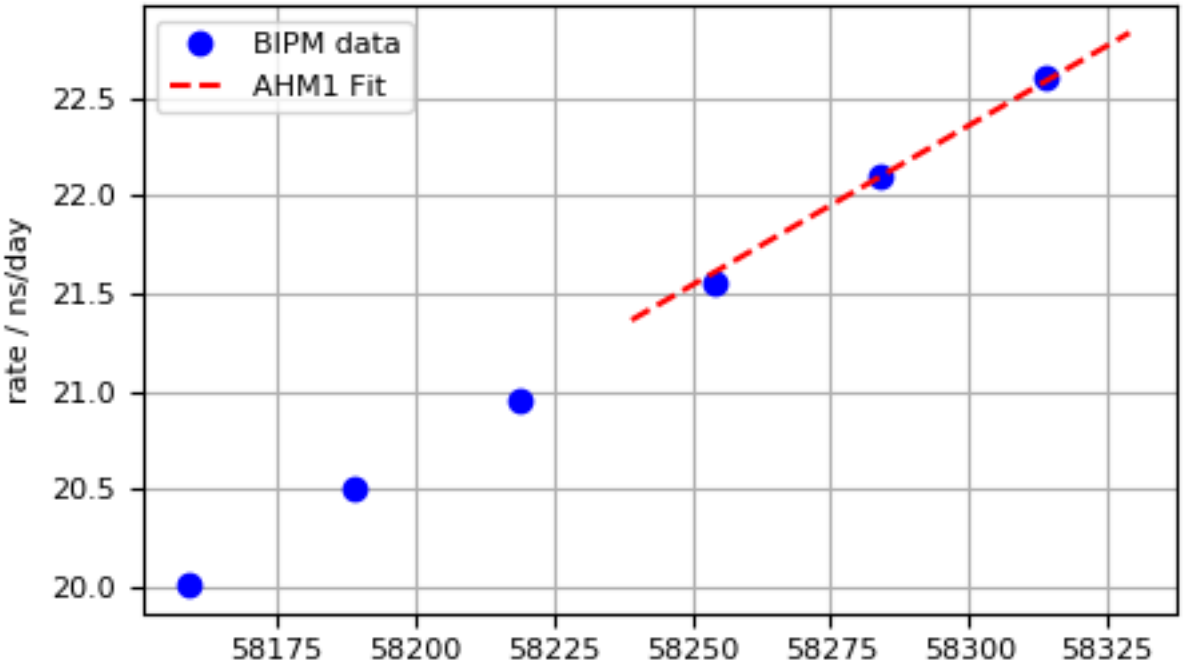
Clock Rates - Summary

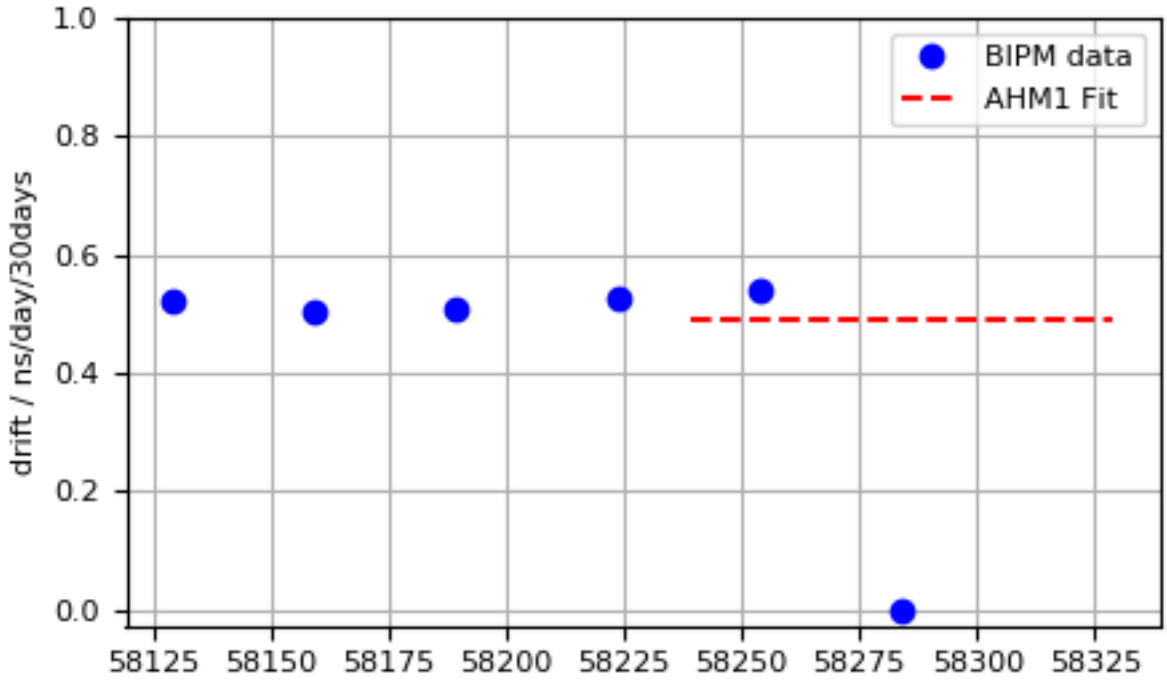


UTC - AHM1 Fit

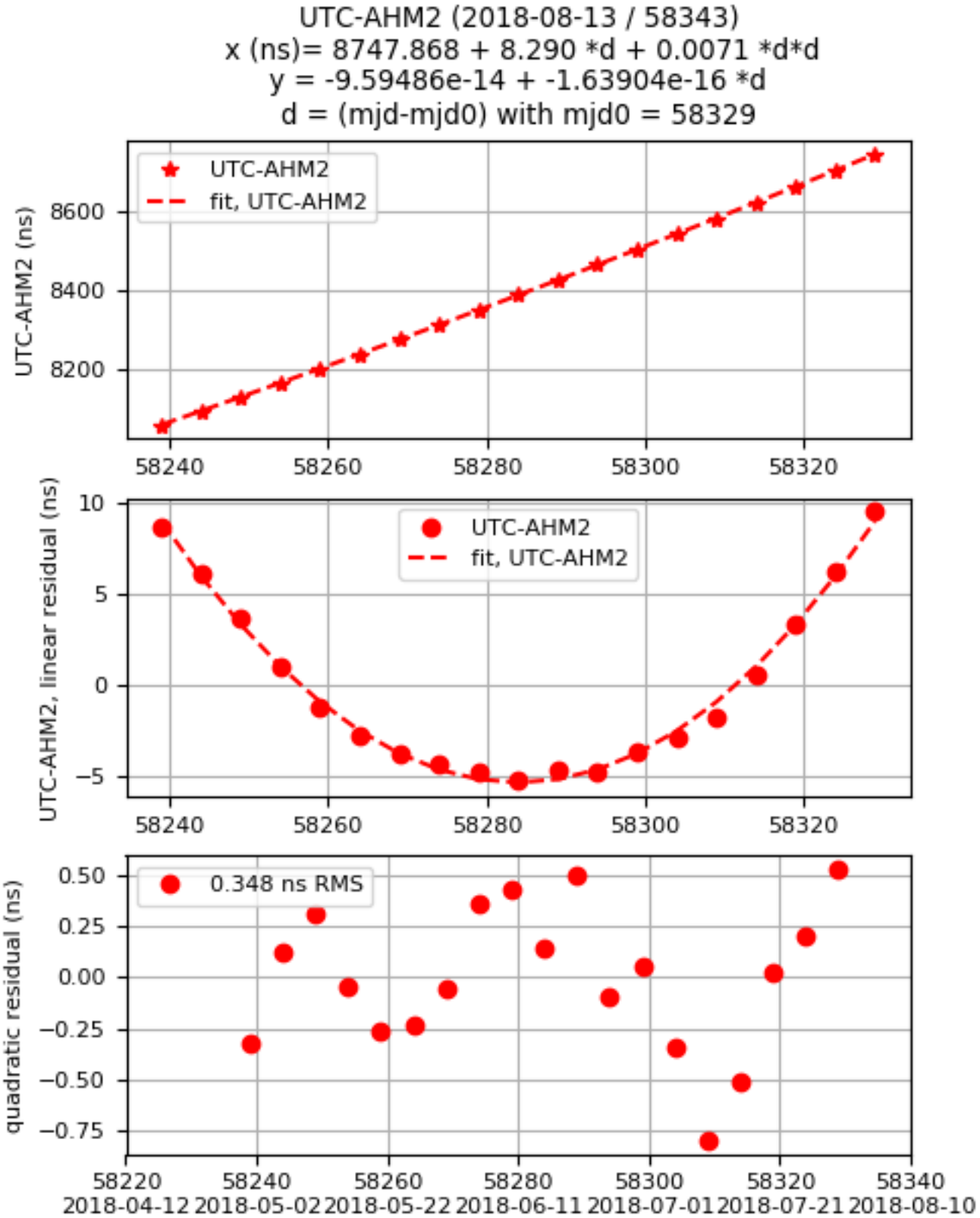

UTC-AHM1 (2018-08-13 / 58343)
x (ns)= 13247.926 + 22.835 *d + 0.0082 *d*d
y = -2.64299e-13 + -1.89082e-16 *d
d = (mjd-mjd0) with mjd0 = 58329
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1 (ns)
13000
12500
12000
11500
58240
58260
58280
58300
58320
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1, linear residual (ns)
10
5
0
−5
0.468 ns RMS
quadratic residual (ns)
0.5
0.0
−0.5
−1.0
58220
58340
2018-04-12
2018-05-02
2018-05-22
2018-06-11
2018-07-01
2018-07-21
2018-08-10

AHM1 Rate and Drift

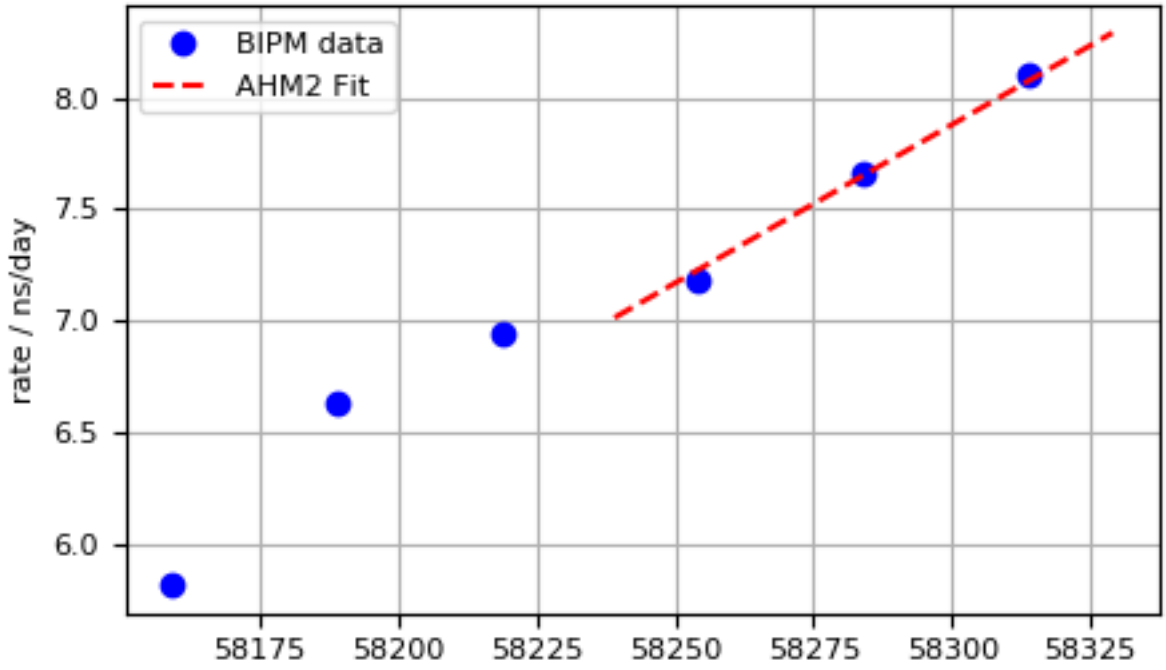


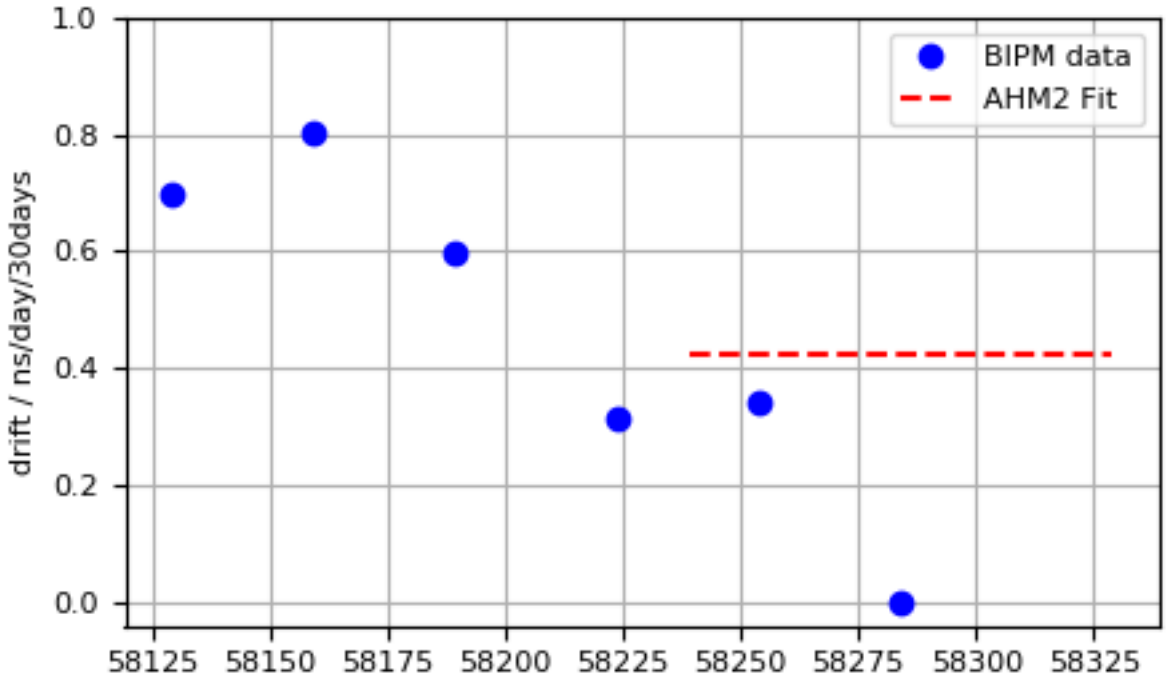


UTC - AHM2 Fit

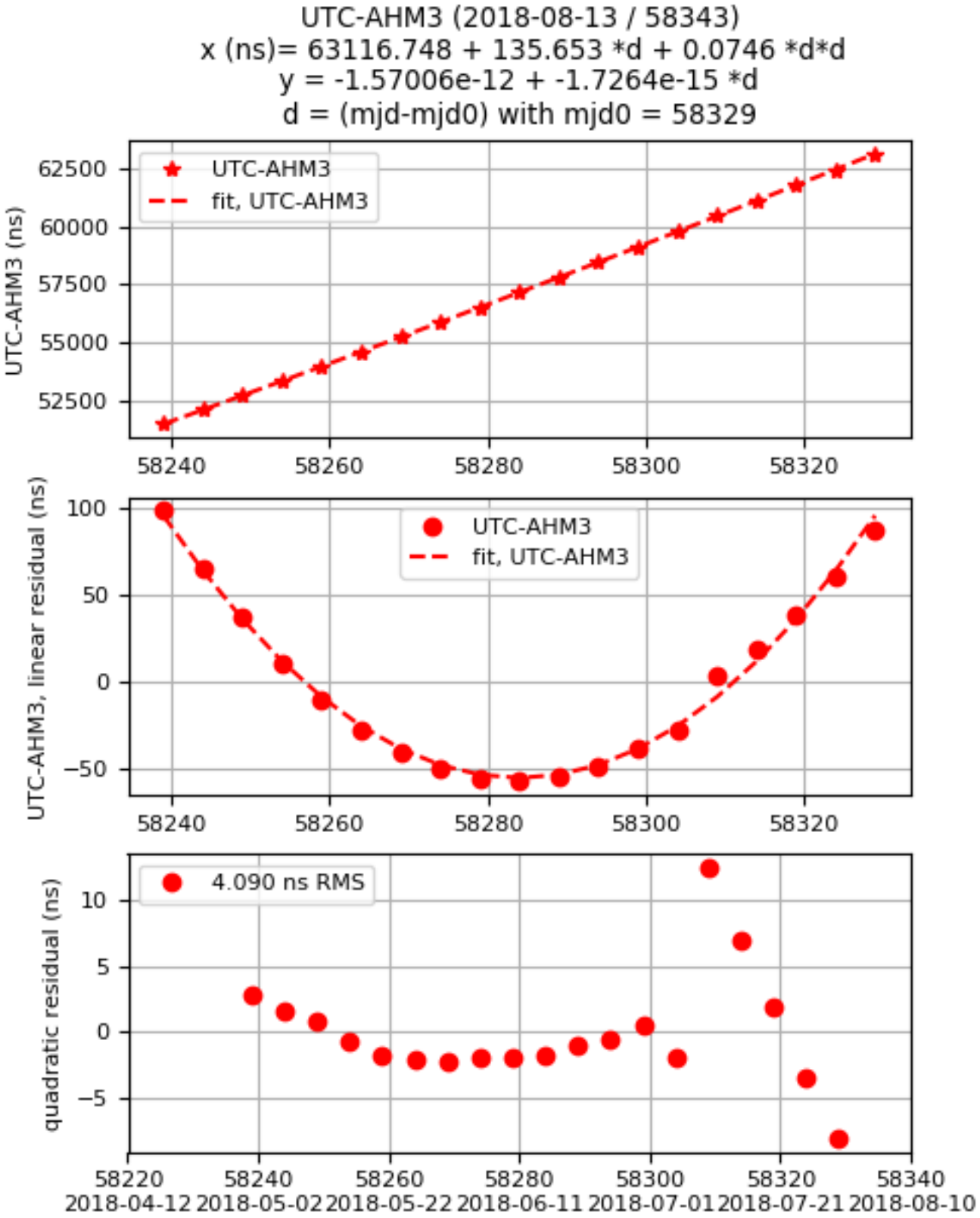

UTC-AHM2 (2018-08-13 / 58343)
x (ns)= 8747.868 + 8.290 *d + 0.0071 *d*d
y = -9.59486e-14 + -1.63904e-16 *d
d = (mjd-mjd0) with mjd0 = 58329
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
8600
8400
8200
58240
58260
58280
58300
58320
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2, linear residual (ns)
10
5
0
−5
58240
58260
58280
58300
58320
0.348 ns RMS
quadratic residual (ns)
0.50
0.25
0.00
−0.25
−0.50
−0.75
58220
58240
58260
58280
58300
58320
58340
2018-04-12
2018-05-02
2018-05-22
2018-06-11
2018-07-01
2018-07-21
2018-08-10

AHM2 Rate and Drift

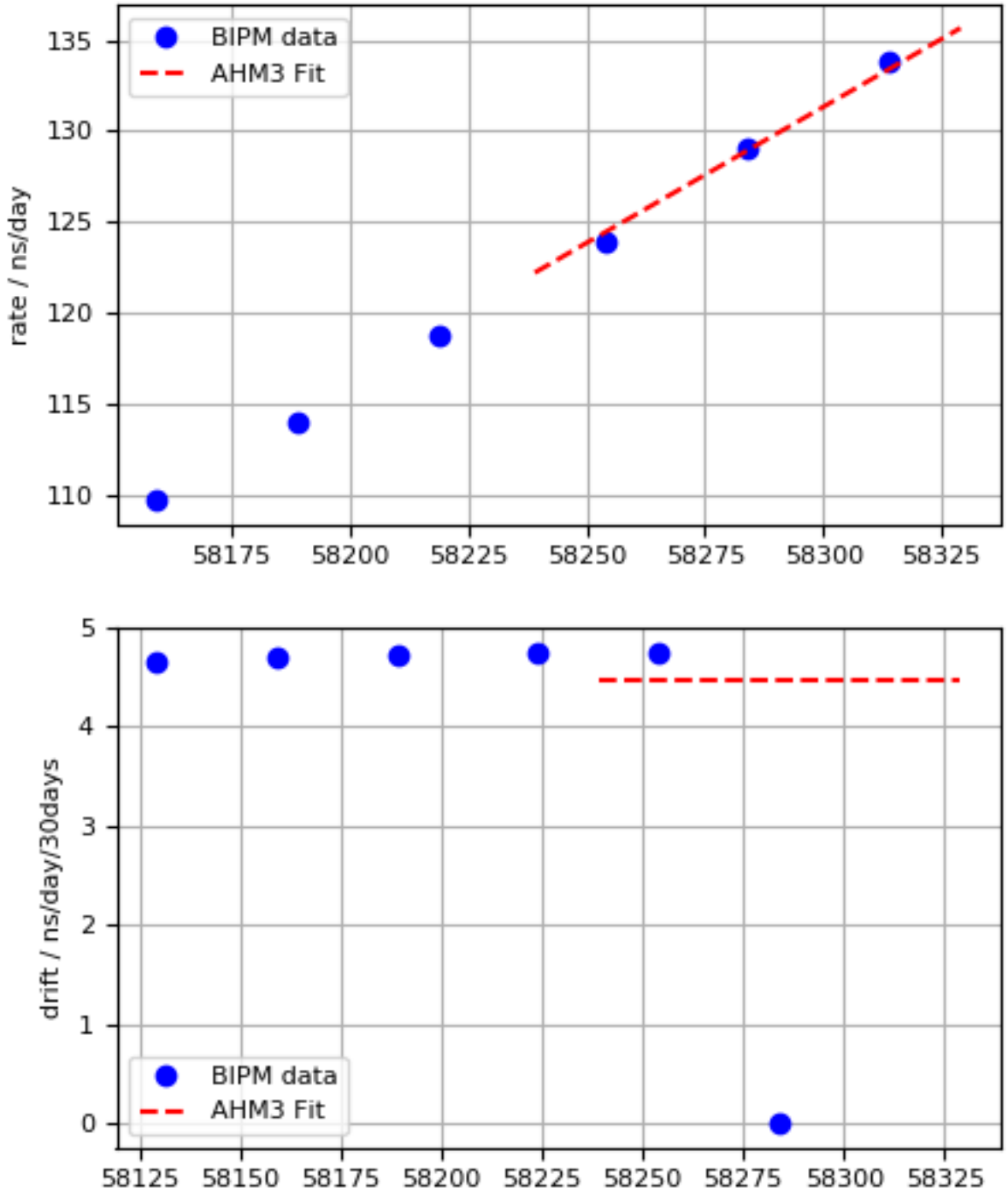




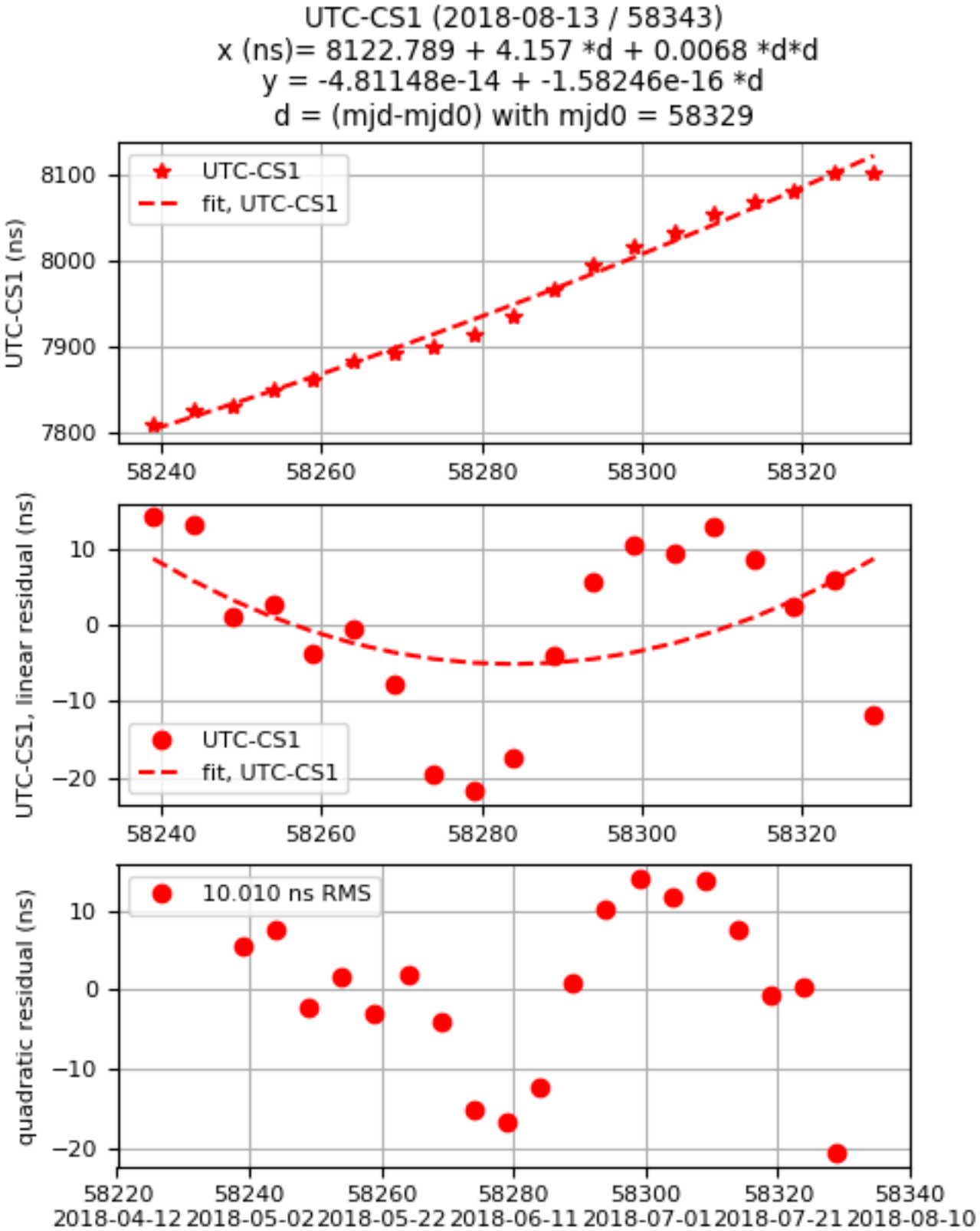
UTC - AHM3 Fit


UTC-AHM3 (2018-08-13 / 58343)
x (ns)= 63116.748 + 135.653 *d + 0.0746 *d*d
y = -1.57006e-12 + -1.7264e-15 *d
d = (mjd-mjd0) with mjd0 = 58329
UTC-AHM3
fit, UTC-AHM3
UTC-AHM3 (ns)
62500
60000
57500
55000
52500
UTC-AHM3
fit, UTC-AHM3
UTC-AHM3, linear residual (ns)
100
50
0
−50
4.090 ns RMS
quadratic residual (ns)
10
5
0
−5
58220
58240
58260
58280
58300
58320
58340
2018-04-12
2018-05-02
2018-05-22
2018-06-11
2018-07-01
2018-07-21
2018-08-10

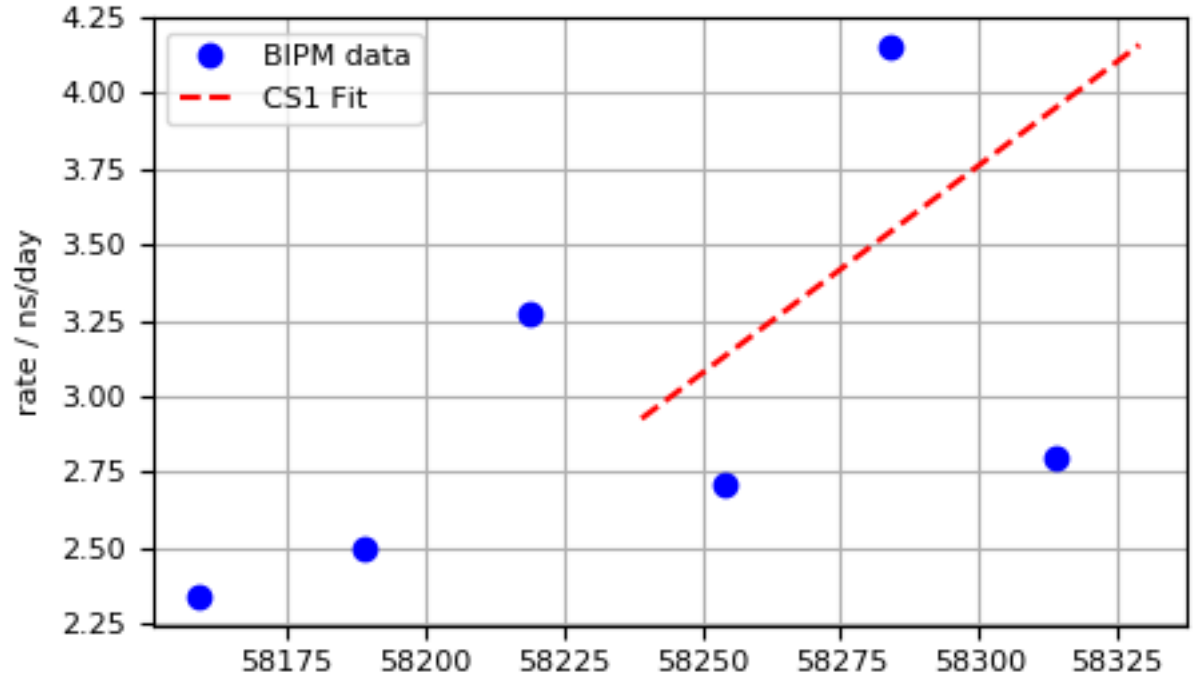
AHM3 Rate and Drift

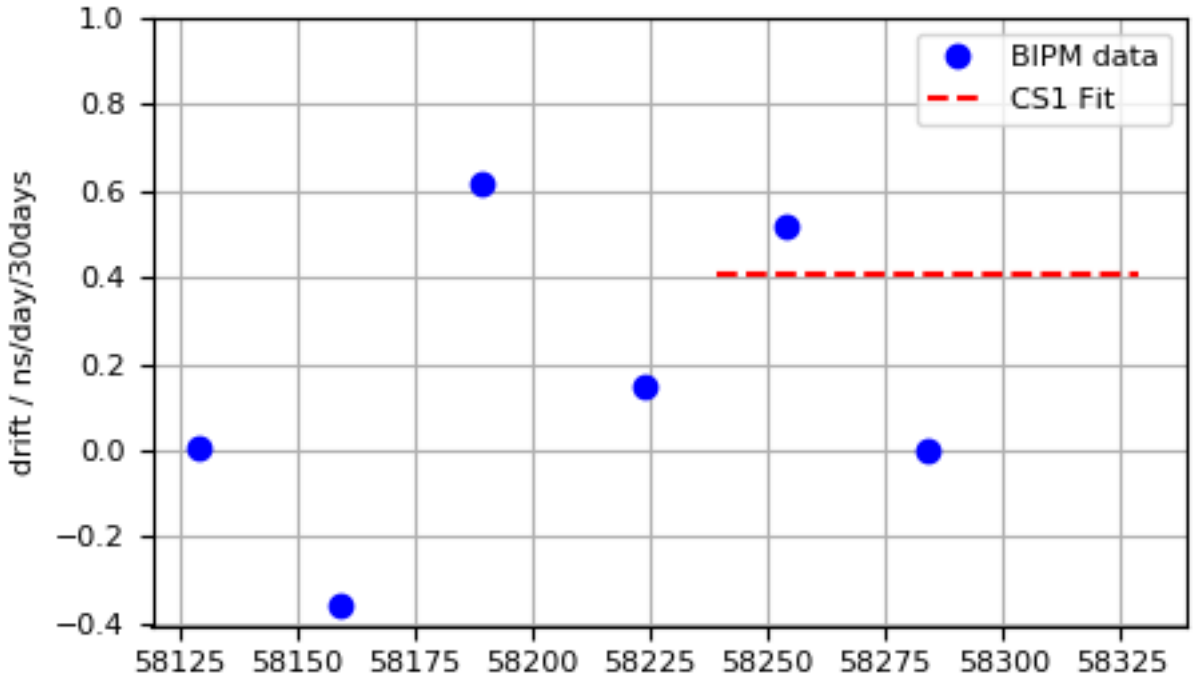


UTC - CS1 Fit

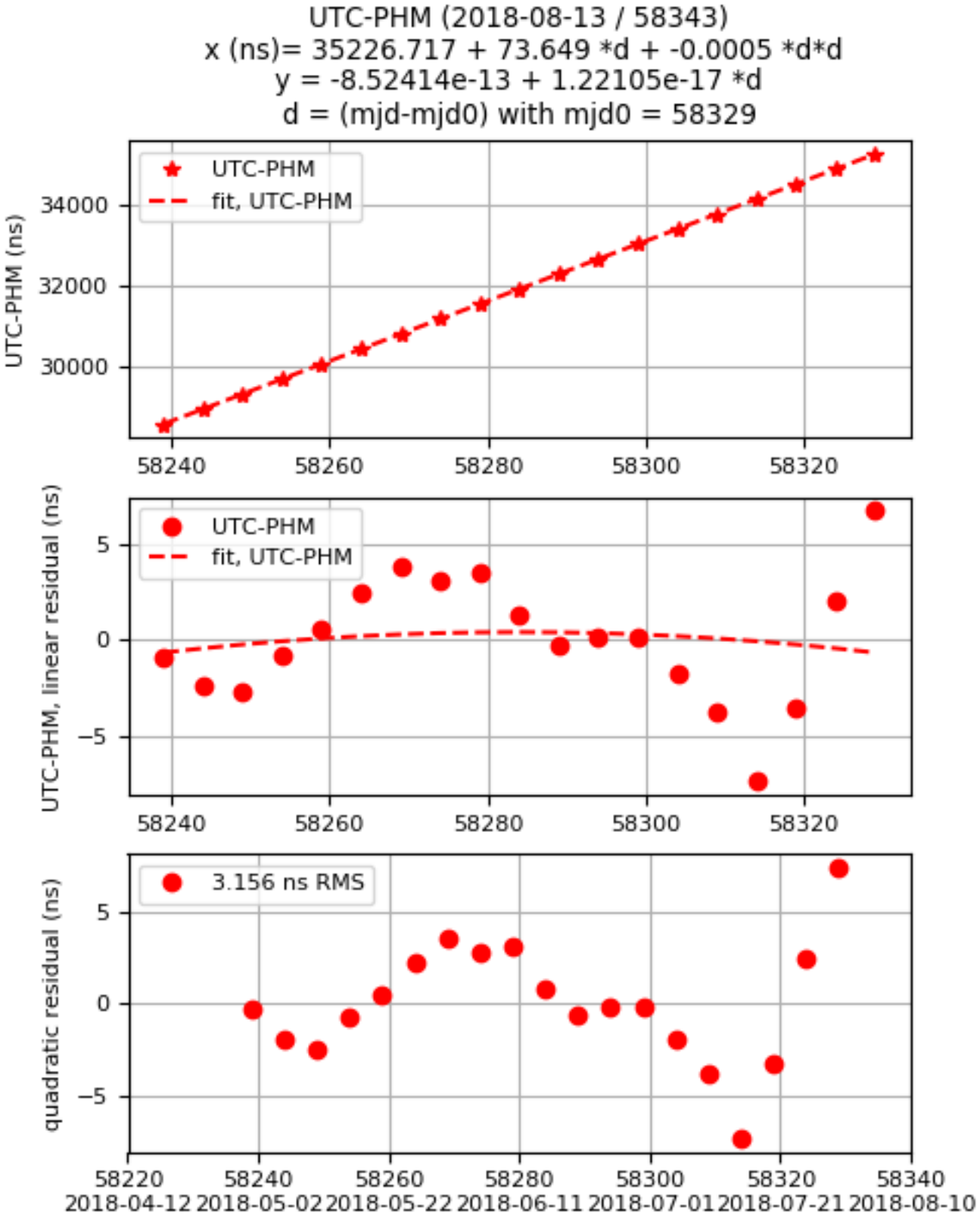

UTC-CS1 (2018-08-13 / 58343)
x (ns)= 8122.789 + 4.157 *d + 0.0068 *d*d
y = -4.81148e-14 + -1.58246e-16 *d
d = (mjd-mjd0) with mjd0 = 58329
UTC-CS1
fit, UTC-CS1
UTC-CS1 (ns)
8100
8000
7900
7800
58240
58260
58280
58300
58320
UTC-CS1, linear residual (ns)
10
0
−10
−20
quadratic residual (ns)
10.010 ns RMS
58220
58340
2018-04-12
2018-05-02
2018-05-22
2018-06-11
2018-07-01
2018-07-21
2018-08-10

CS1 Rate and Drift

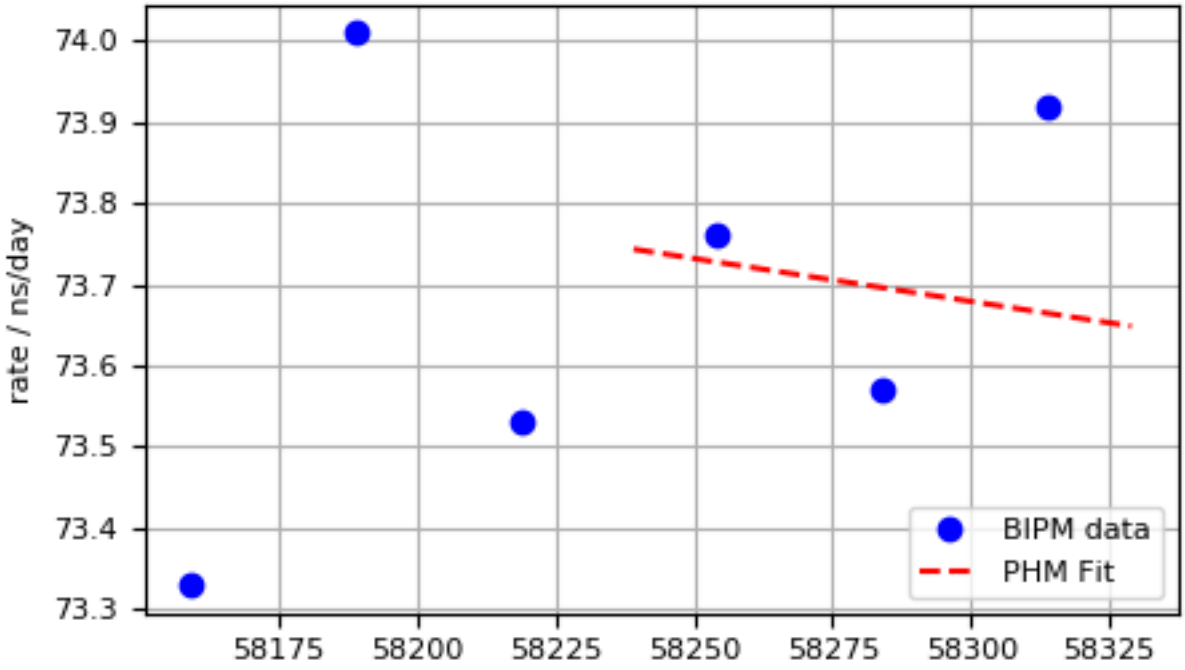


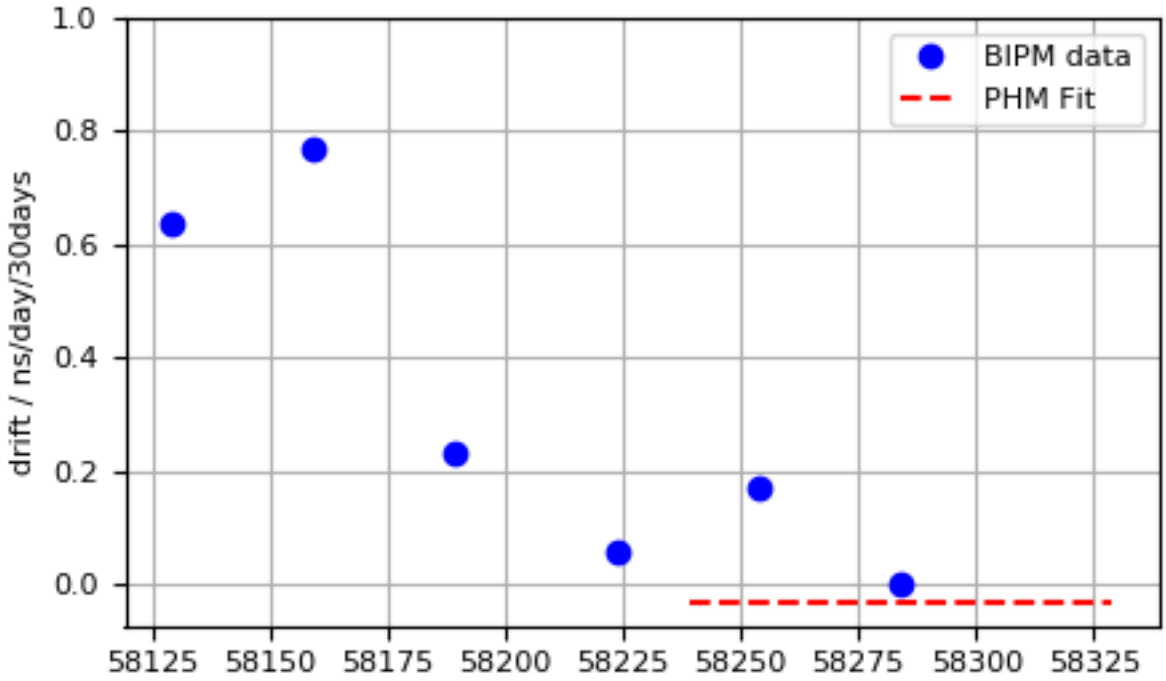


UTC - PHM Fit


UTC-PHM (2018-08-13 / 58343)
x (ns)= 35226.717 + 73.649 *d + -0.0005 *d*d
y = -8.52414e-13 + 1.22105e-17 *d
d = (mjd-mjd0) with mjd0 = 58329
UTC-PHM
fit, UTC-PHM
UTC-PHM (ns)
34000
32000
30000
58240
58260
58280
58300
58320
UTC-PHM
fit, UTC-PHM
UTC-PHM, linear residual (ns)
5
0
−5
3.156 ns RMS
quadratic residual (ns)
58220
58340
2018-04-12
2018-05-02
2018-05-22
2018-06-11
2018-07-01
2018-07-21
2018-08-10

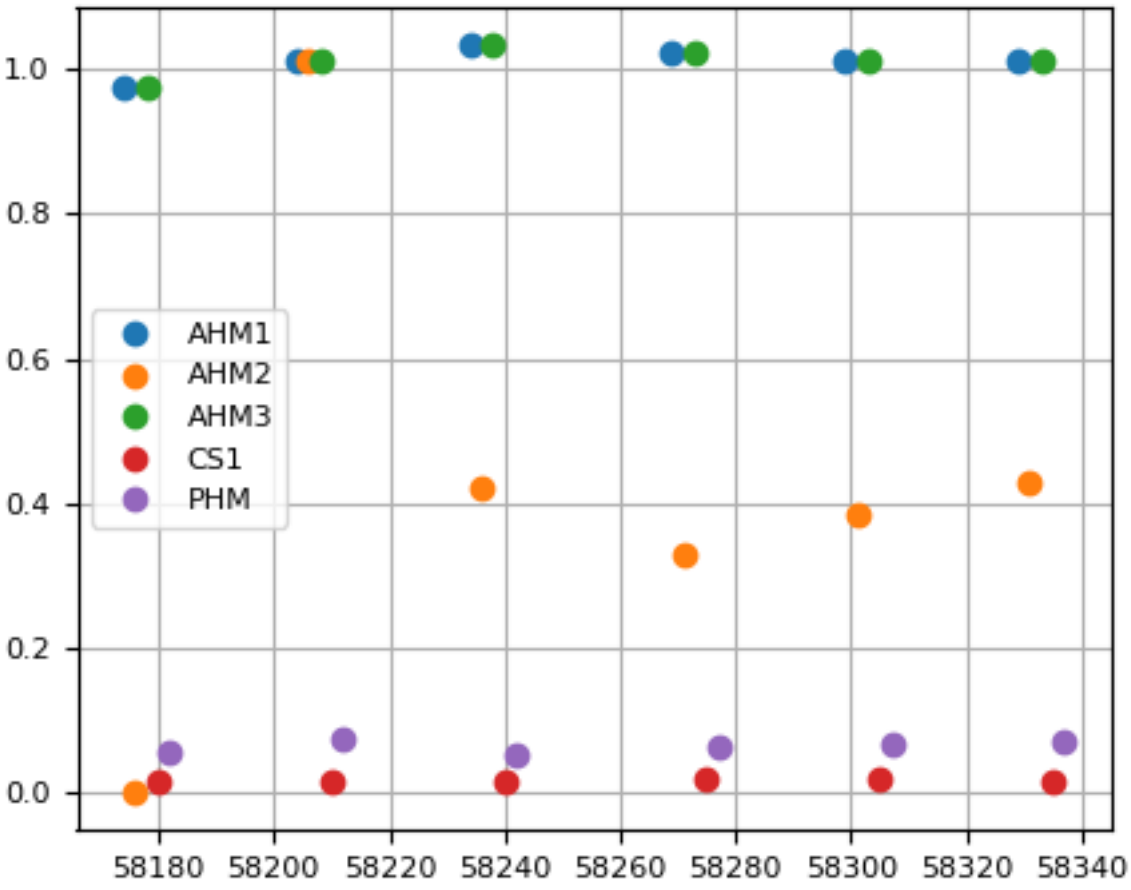
PHM Rate and Drift





Clock Weights

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



End of Bulletin.