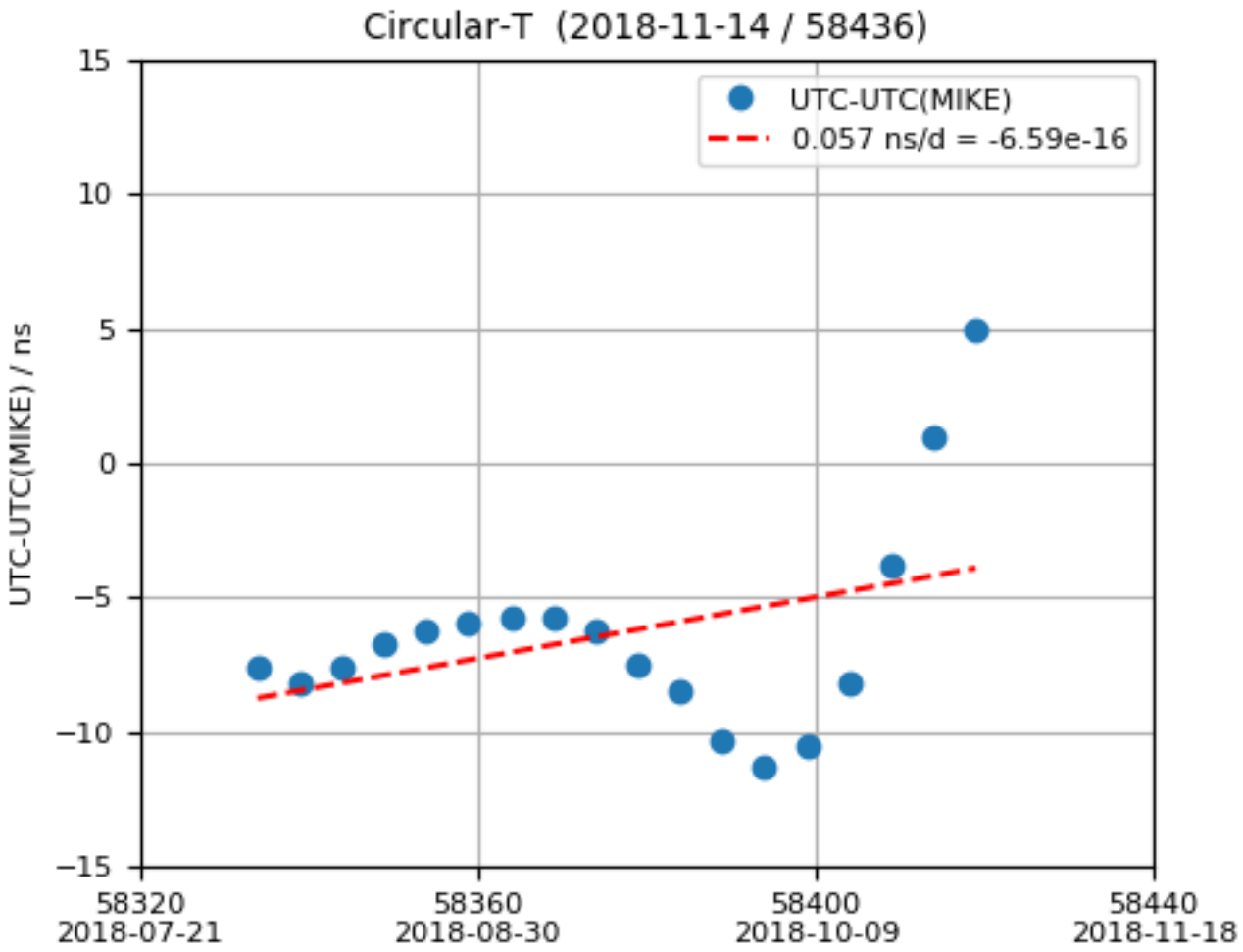
UTC(MIKE) Atomic Bulletin 2018-11

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2018-11-14 (58436)
Circular-T issues used for analysis: 368, 369, 370,
First day of analysis interval: 2018-08-04 (58334)
Last day of analysis interval: 2018-10-28 (58419)
ClockData for analysis: CDMI__18.08_, CDMI__18.09_, CDMI__18.10_,

Notes

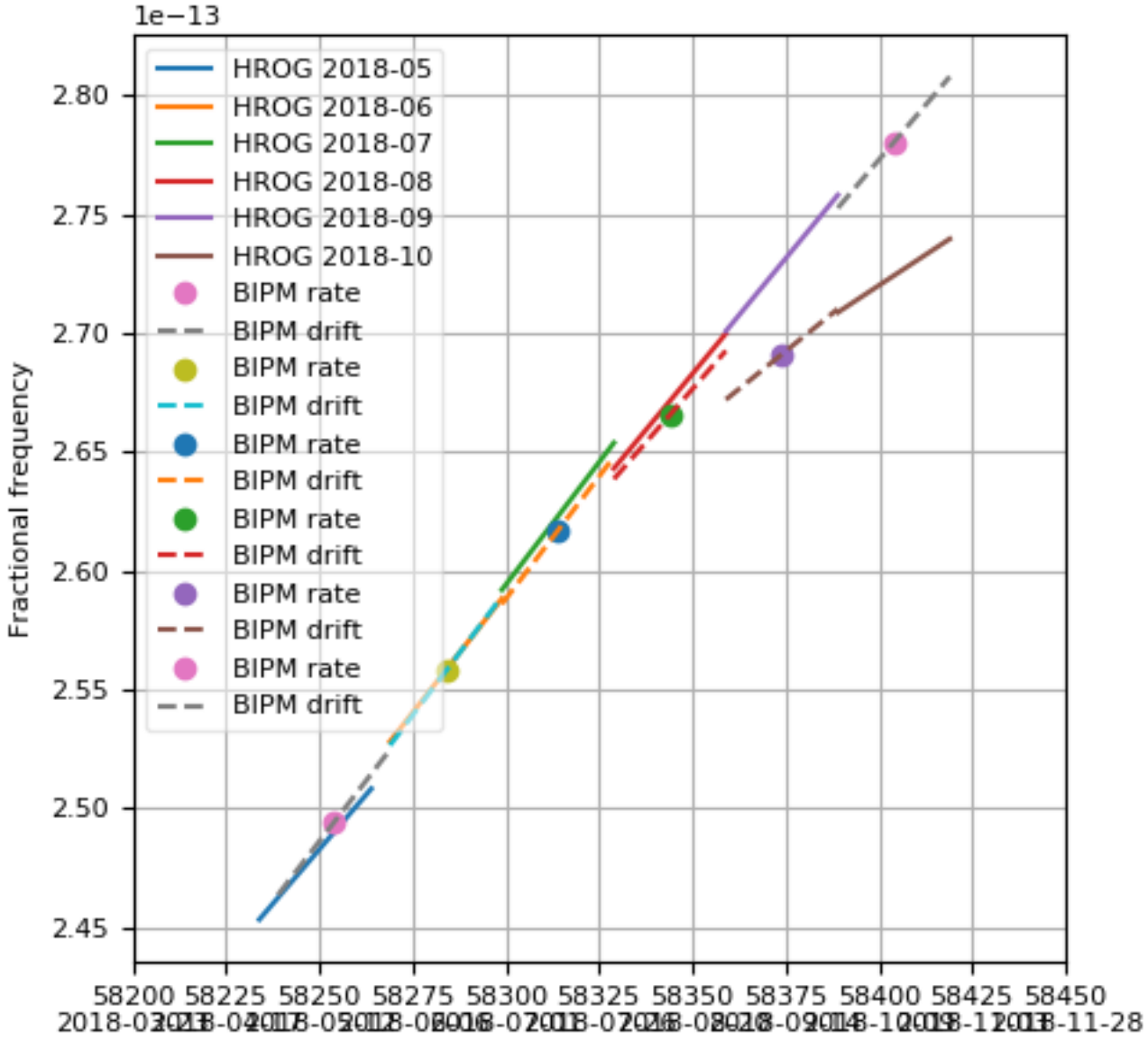
58204 AHM2 TAI-weight non-zero
58299 Apparent time step of UTC(MIKE) of +8.2 ns between MJD 58299 and MJD 58304 due to antenna coordinates correction. ClockData before 58299.5 is corrected by -8.2 ns for analysis.
58305 AHM3 rebooted. Phase step +20.2ns.

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



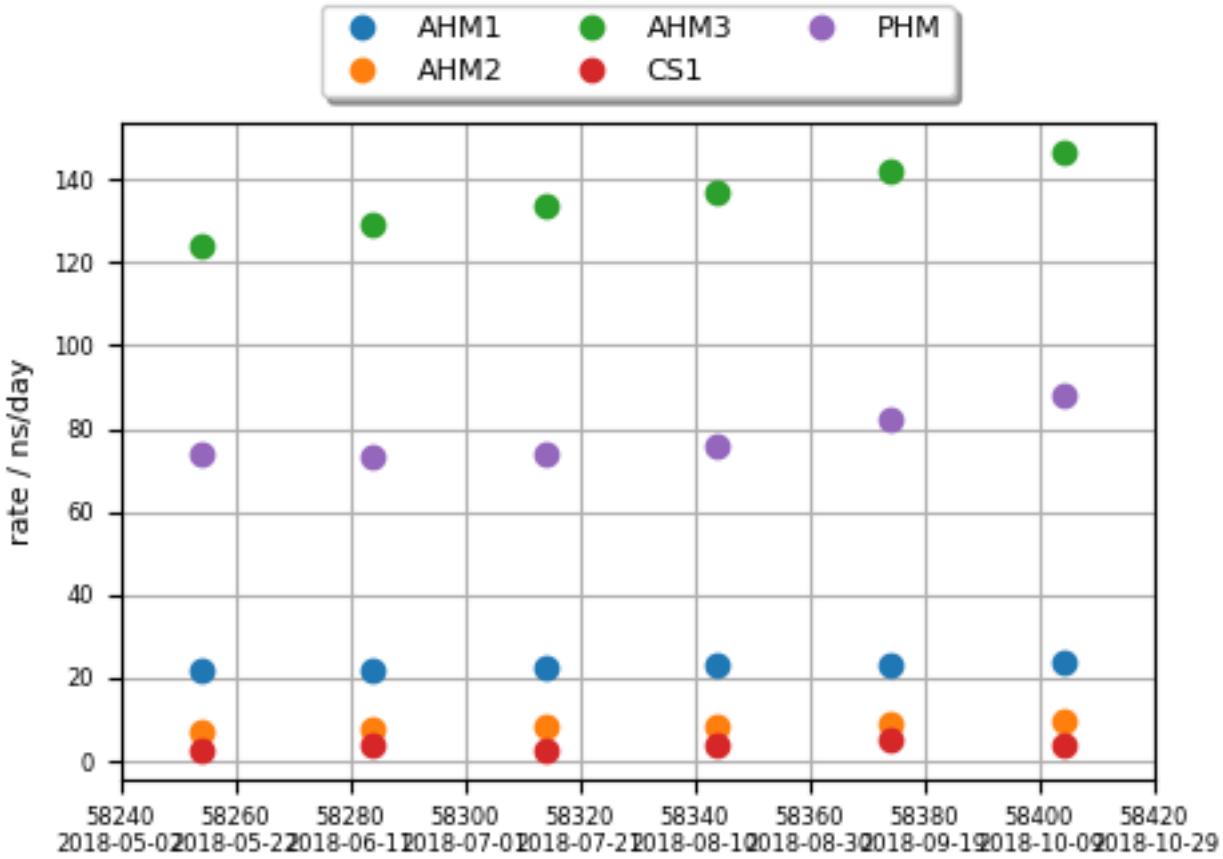
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

UTC(MIKE) frequency steering parameters

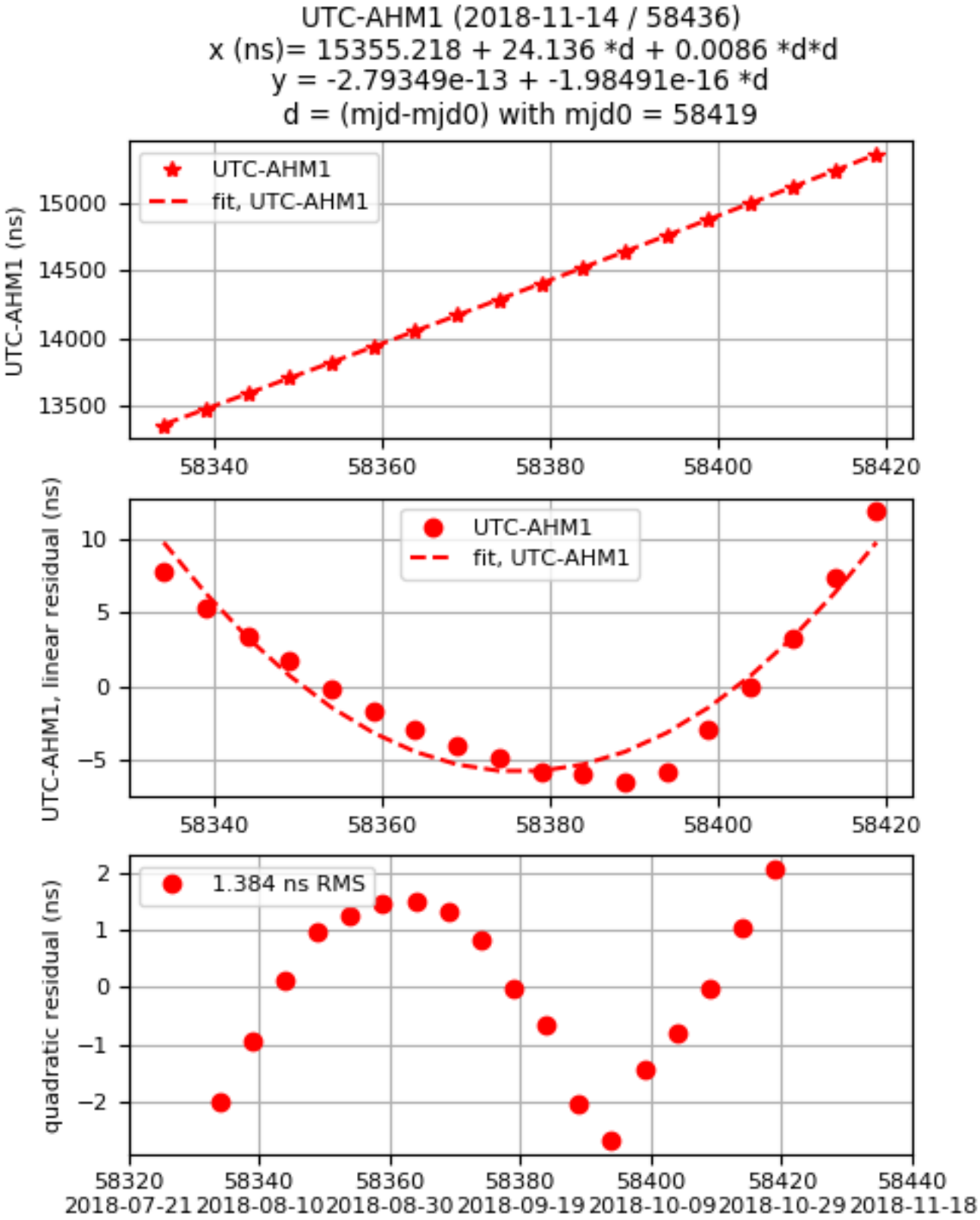


UTC(MIKE) Master Clock is AHM1 since 2017-07-15.
Solid lines indicate UTC(MIKE) steering parameters derived from UTC-ClockData fits.
Symbols and dashed lines indicate MasterClock rates and drifts as published by BIPM.
The latest steering parameters are:
y = 2.70857e-13 + 1.03122e-16 *d + y_steer
with d = (mjd-mjd0) and mjd0 = 58419
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
y_steer = -4ns/30 days = -2e-15 from 58372
y_steer = -10ns/30 days = -4e-15 from 58401
y_steer = 0 from 58416
y_steer = 1e-14 from 58423

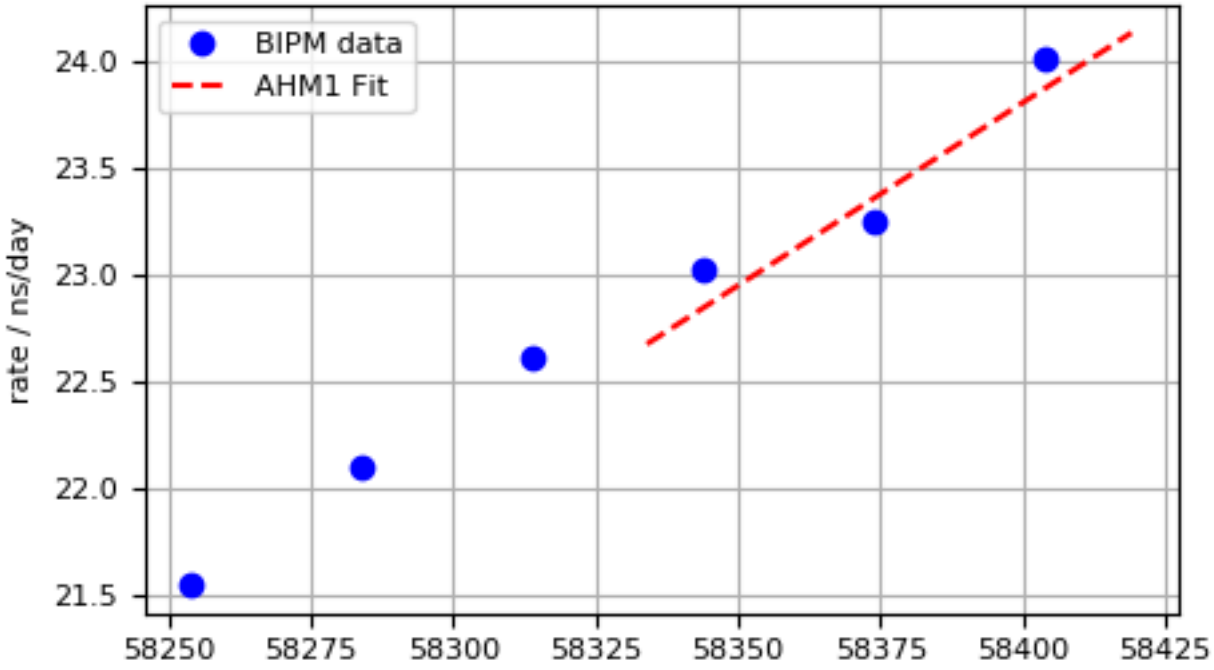
Clock Rates - Summary

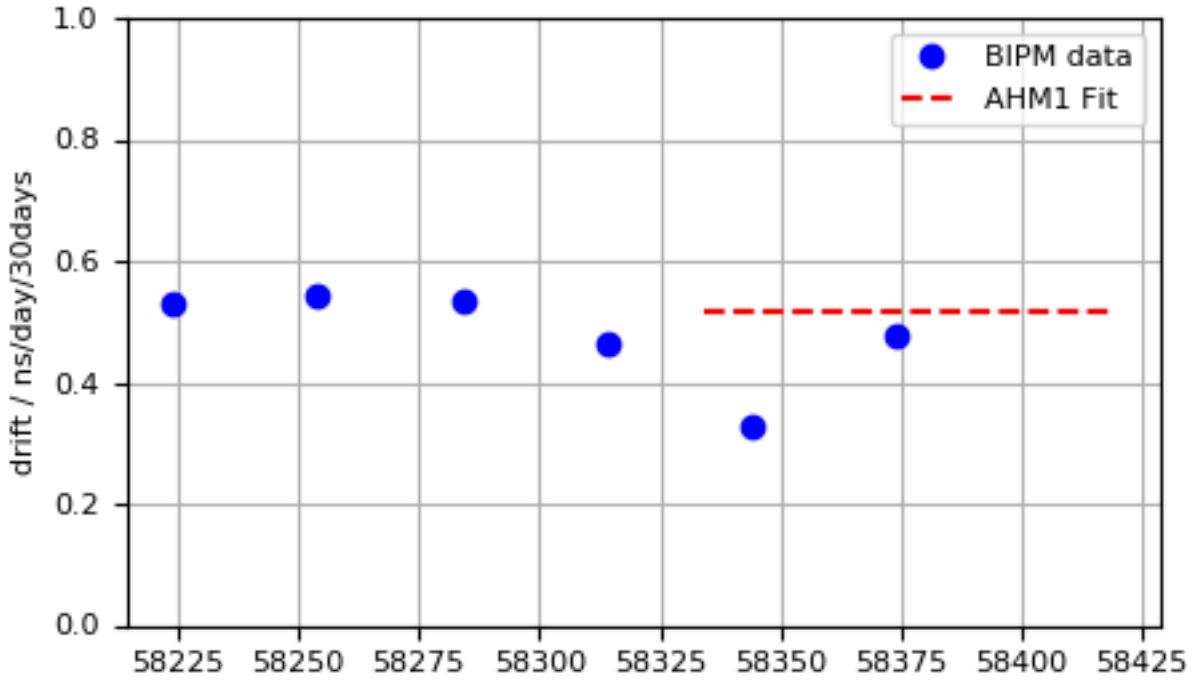


UTC - AHM1 Fit

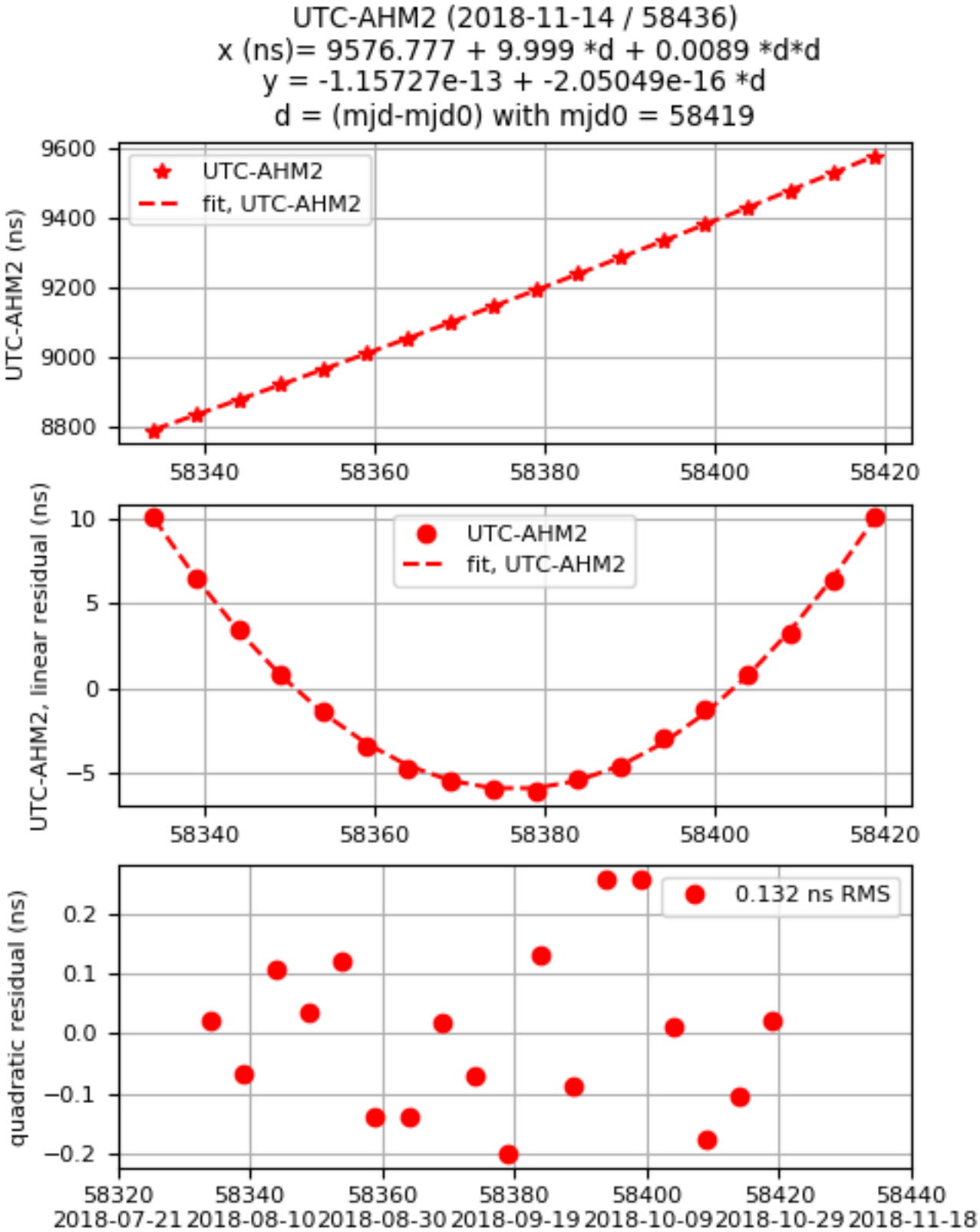

UTC-AHM1 (2018-11-14 / 58436)
x (ns)= 15355.218 + 24.136 *d + 0.0086 *d*d
y = -2.79349e-13 + -1.98491e-16 *d
d = (mjd-mjd0) with mjd0 = 58419
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1 (ns)
15000
14500
14000
13500
58340
58360
58380
58400
58420
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1, linear residual (ns)
10
5
0
−5
58340
58360
58380
58400
58420
1.384 ns RMS
quadratic residual (ns)
2
1
0
−1
−2
58320
58340
58360
58380
58400
58420
58440
2018-07-21
2018-08-10
2018-08-30
2018-09-19
2018-10-09
2018-10-29
2018-11-18

AHM1 Rate and Drift

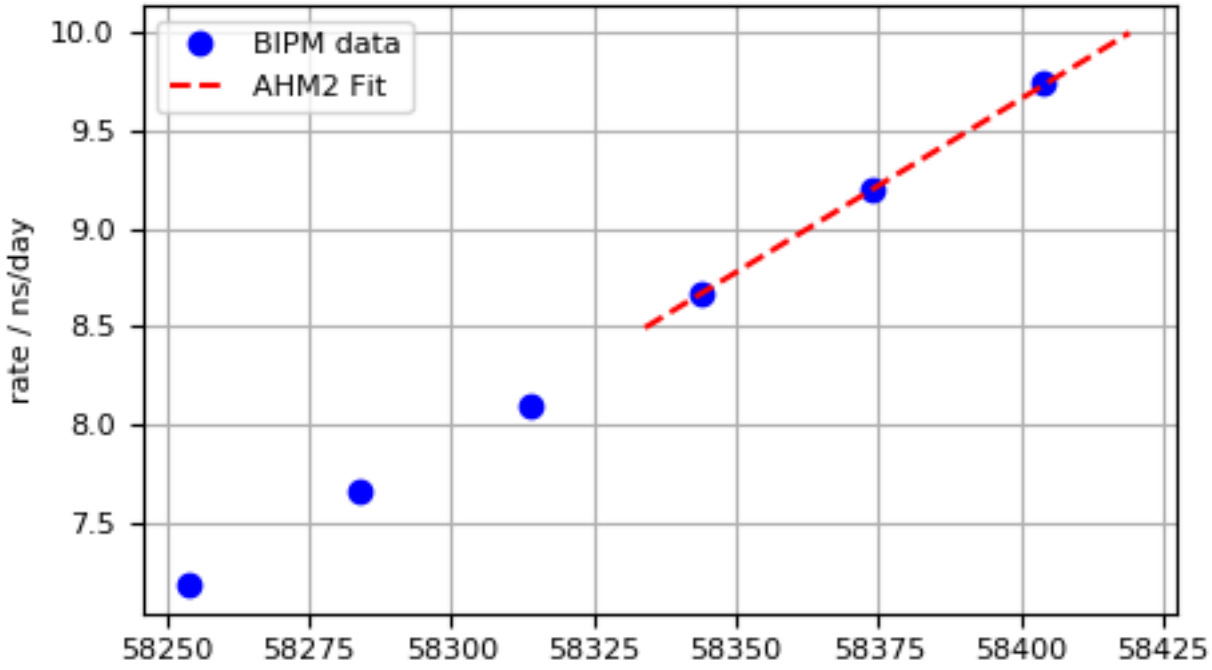


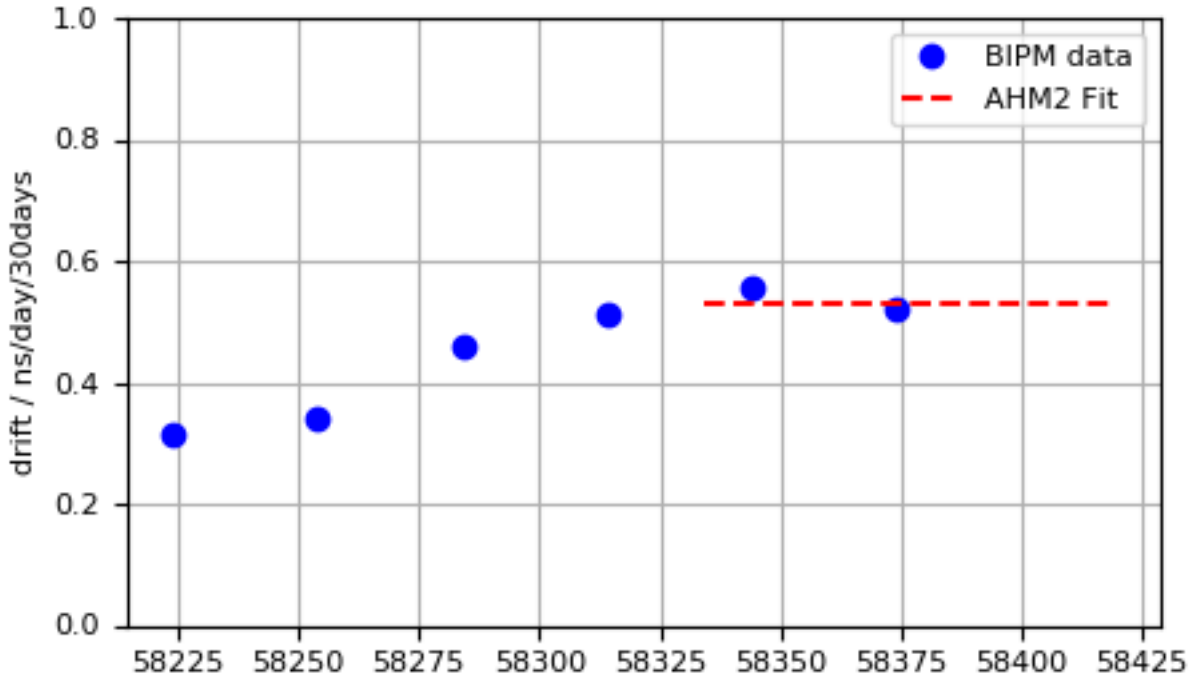


UTC - AHM2 Fit

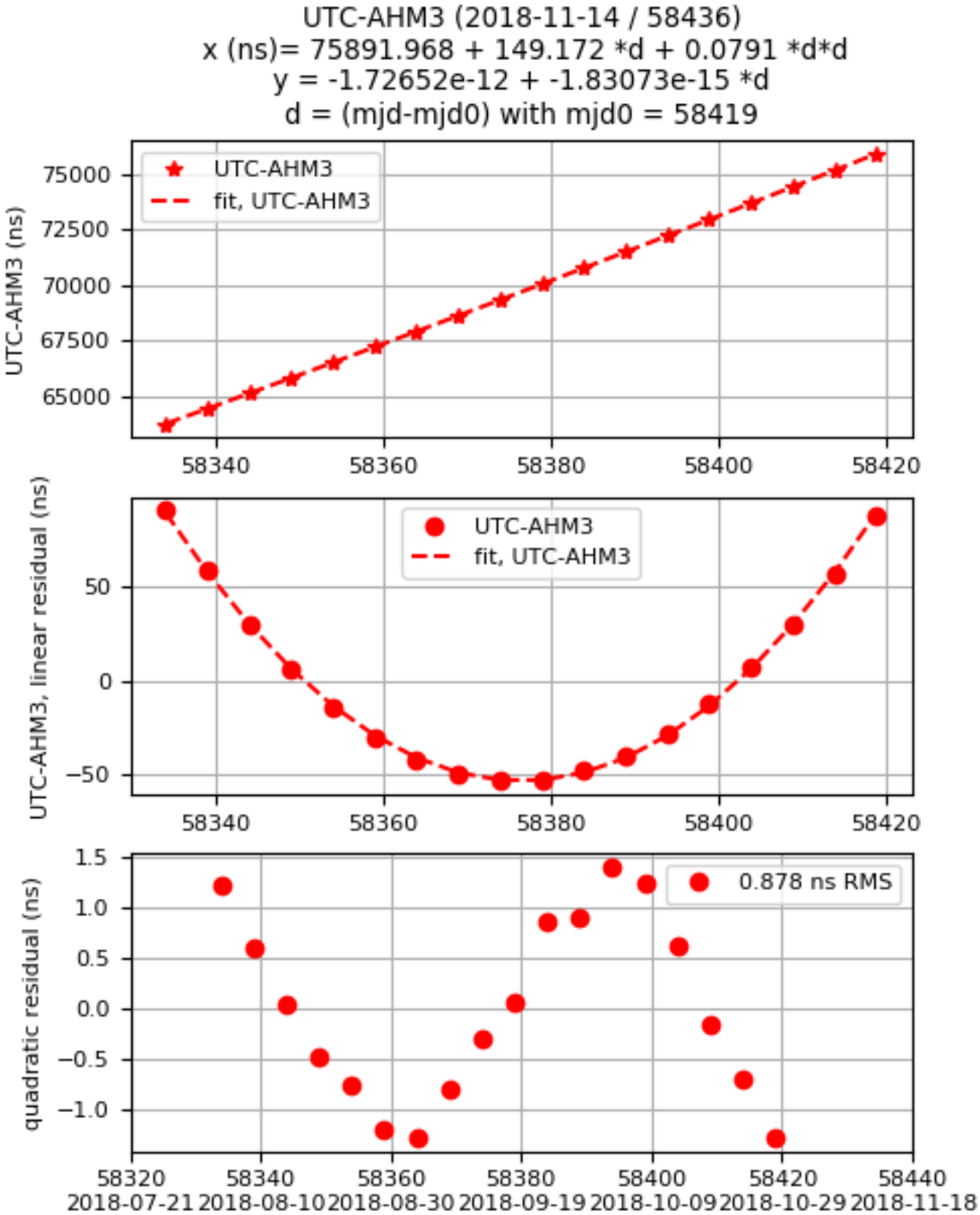

UTC-AHM2 (2018-11-14 / 58436)
x (ns)= 9576.777 + 9.999 *d + 0.0089 *d*d
y = -1.15727e-13 + -2.05049e-16 *d
d = (mjd-mjd0) with mjd0 = 58419
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
UTC-AHM2, linear residual (ns)
quadratic residual (ns)
0.132 ns RMS
2018-07-21
2018-08-10
2018-08-30
2018-09-19
2018-10-09
2018-10-29
2018-11-18

AHM2 Rate and Drift

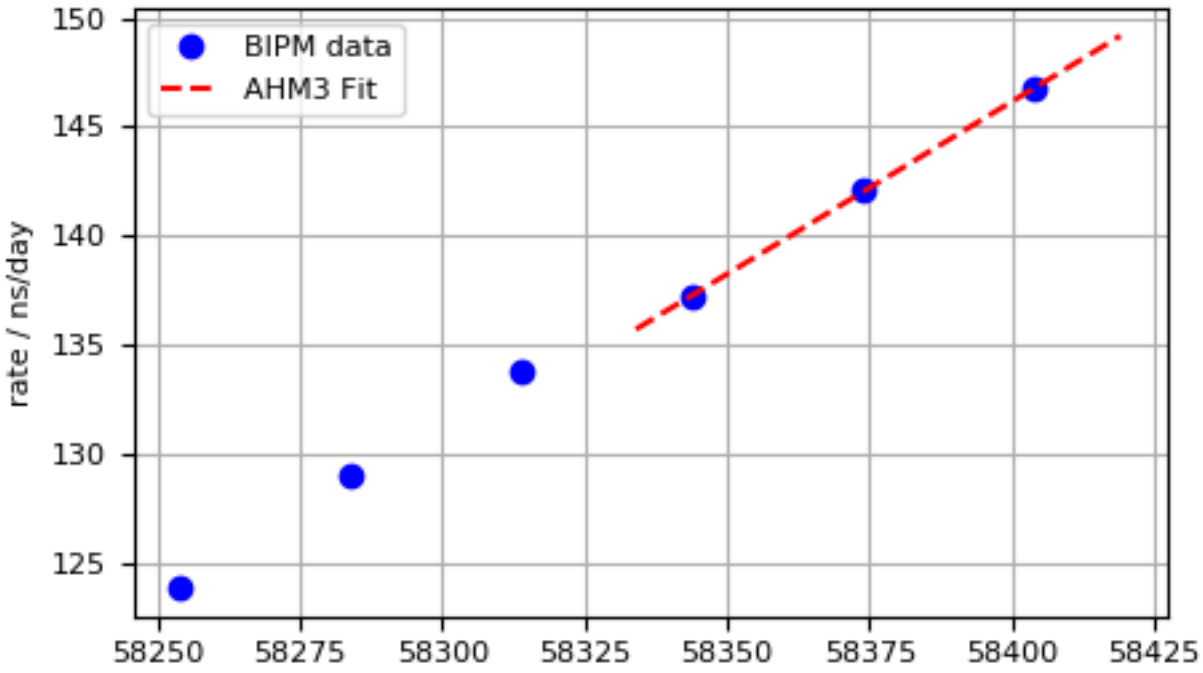


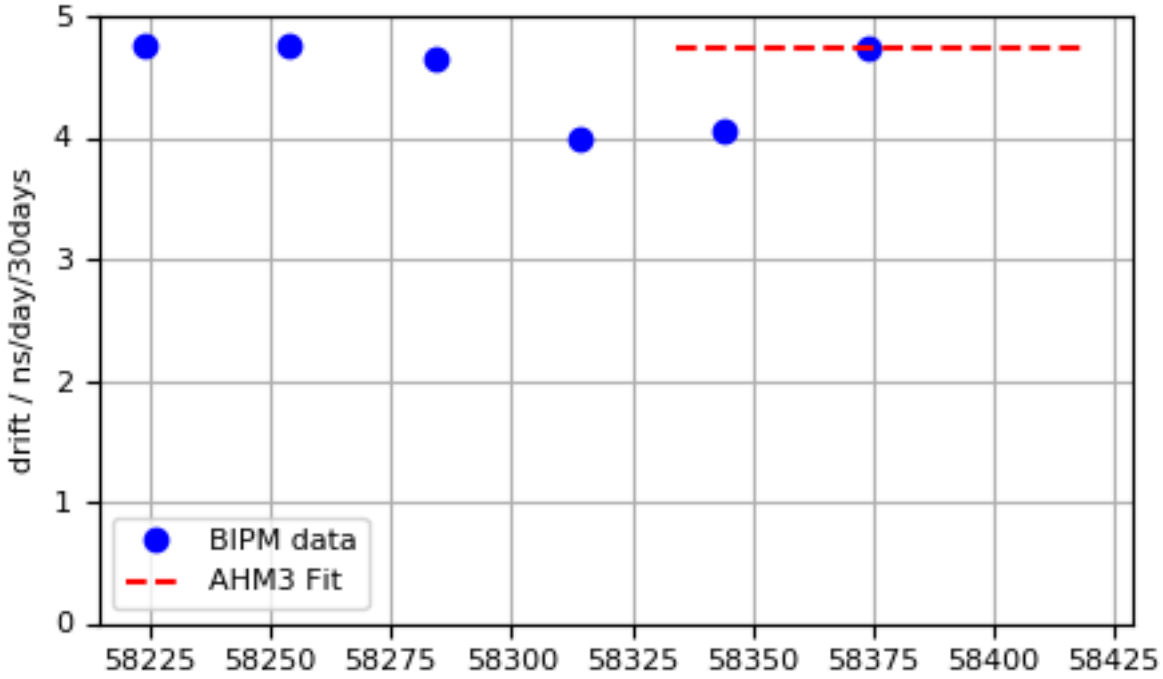


UTC - AHM3 Fit

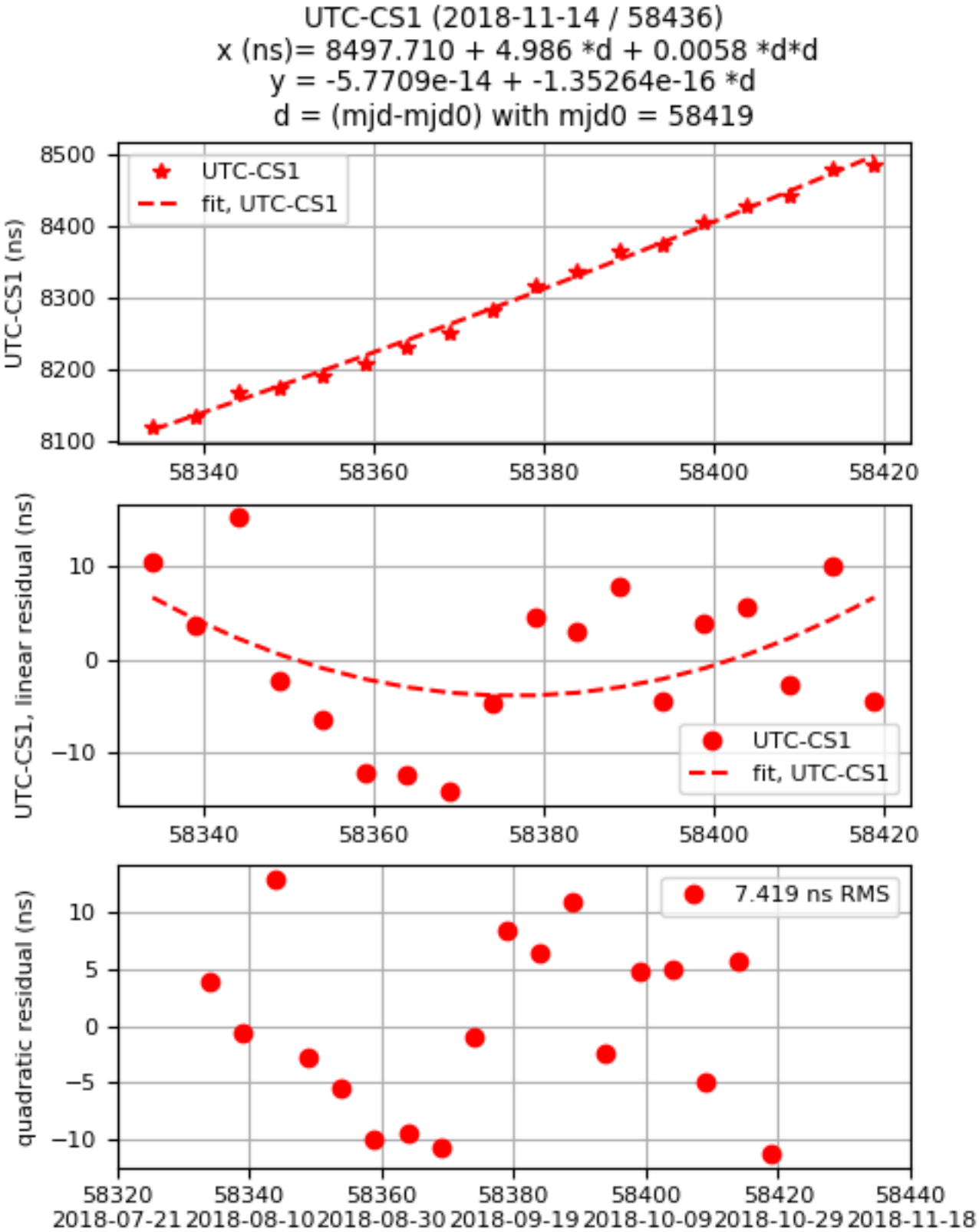

UTC-AHM3 (2018-11-14 / 58436)
x (ns)= 75891.968 + 149.172 *d + 0.0791 *d*d
y = -1.72652e-12 + -1.83073e-15 *d
d = (mjd-mjd0) with mjd0 = 58419
UTC-AHM3
fit, UTC-AHM3
UTC-AHM3 (ns)
75000
72500
70000
67500
65000
58340
58360
58380
58400
58420
UTC-AHM3
fit, UTC-AHM3
UTC-AHM3, linear residual (ns)
50
0
−50
58340
58360
58380
58400
58420
0.878 ns RMS
quadratic residual (ns)
1.5
1.0
0.5
0.0
−0.5
−1.0
58320
58340
58360
58380
58400
58420
58440
2018-07-21
2018-08-10
2018-08-30
2018-09-19
2018-10-09
2018-10-29
2018-11-18

AHM3 Rate and Drift

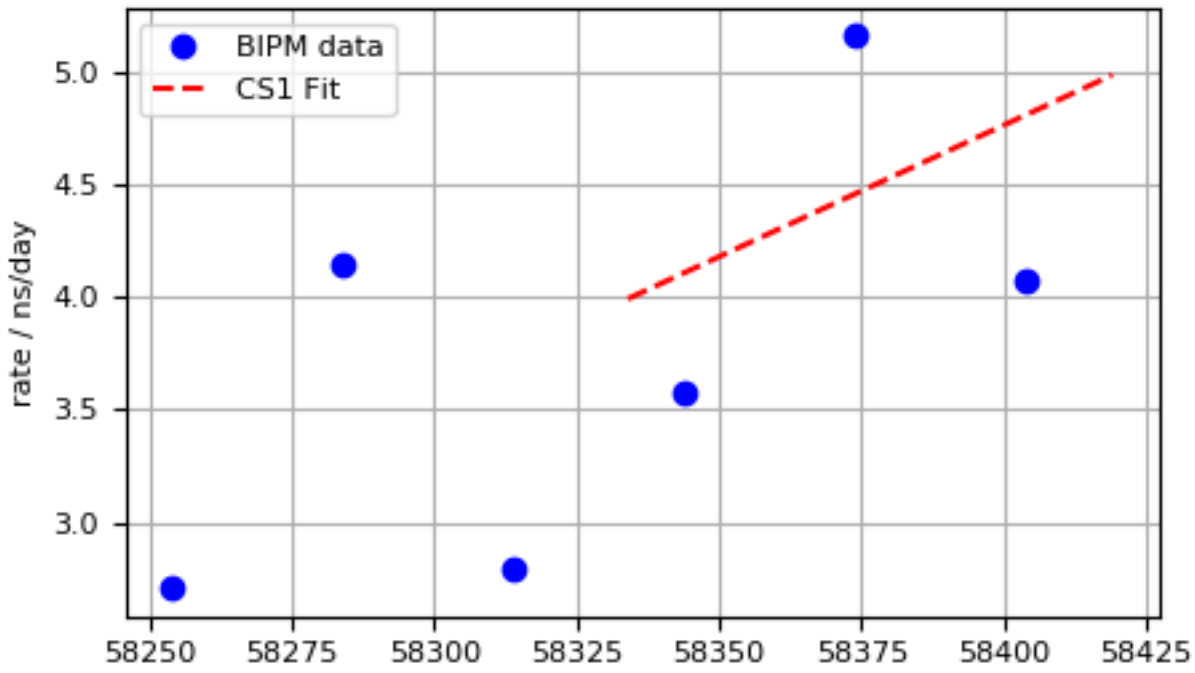


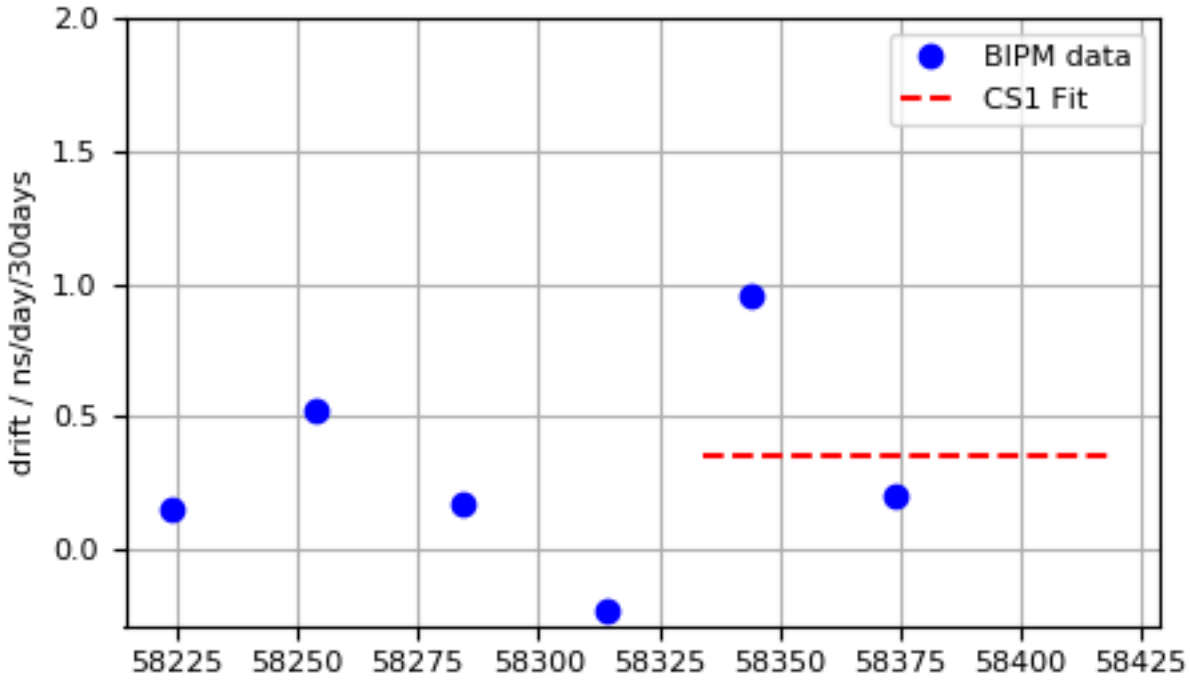


UTC - CS1 Fit

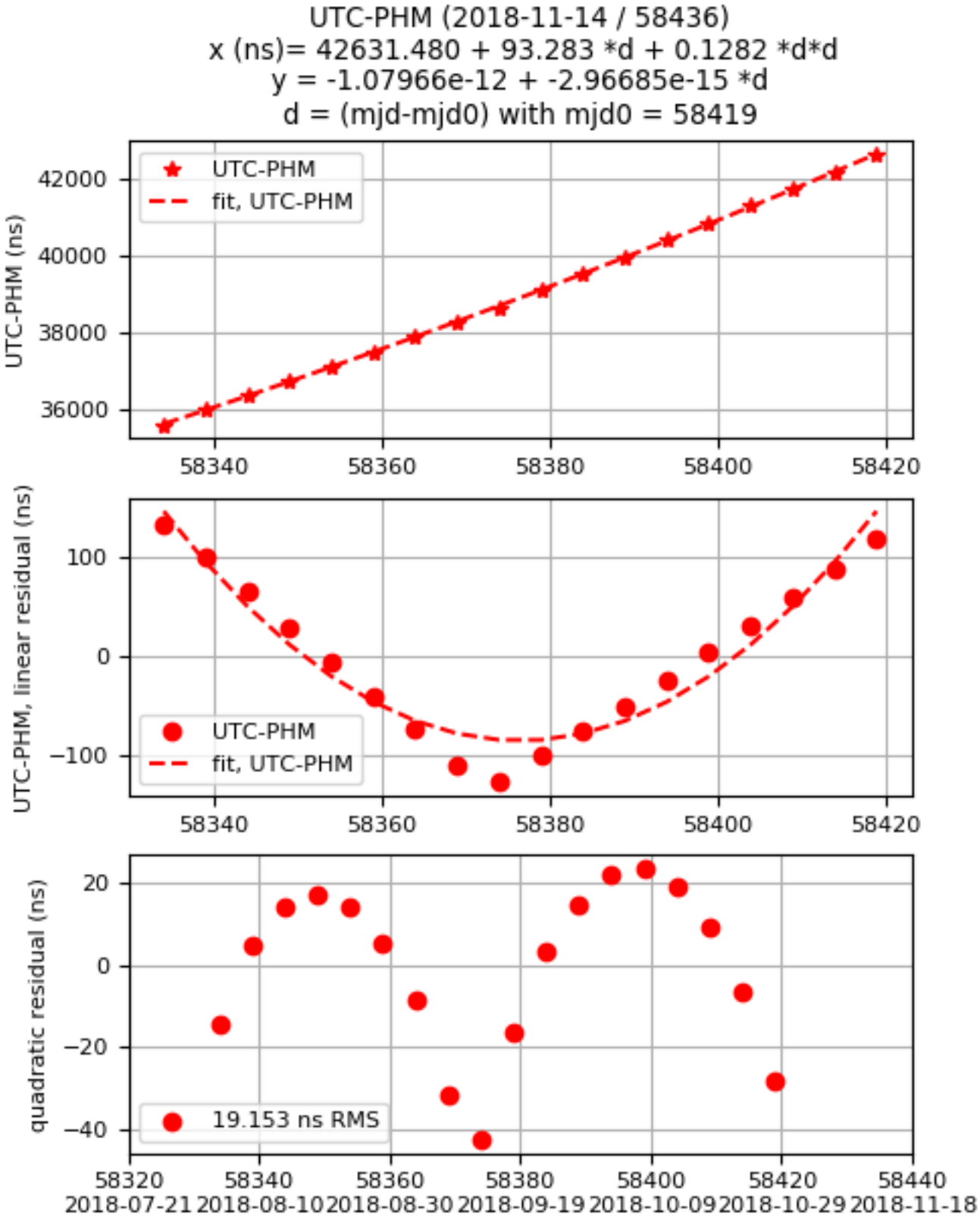

UTC-CS1 (2018-11-14 / 58436)
x (ns)= 8497.710 + 4.986 *d + 0.0058 *d*d
y = -5.7709e-14 + -1.35264e-16 *d
d = (mjd-mjd0) with mjd0 = 58419
UTC-CS1
fit, UTC-CS1
UTC-CS1 (ns)
8500
8400
8300
8200
8100
58340
58360
58380
58400
58420
UTC-CS1, linear residual (ns)
10
0
−10
UTC-CS1
fit, UTC-CS1
quadratic residual (ns)
7.419 ns RMS
10
5
0
−5
−10
58320
58340
58360
58380
58400
58420
58440
2018-07-21
2018-08-10
2018-08-30
2018-09-19
2018-10-09
2018-10-29
2018-11-18

CS1 Rate and Drift

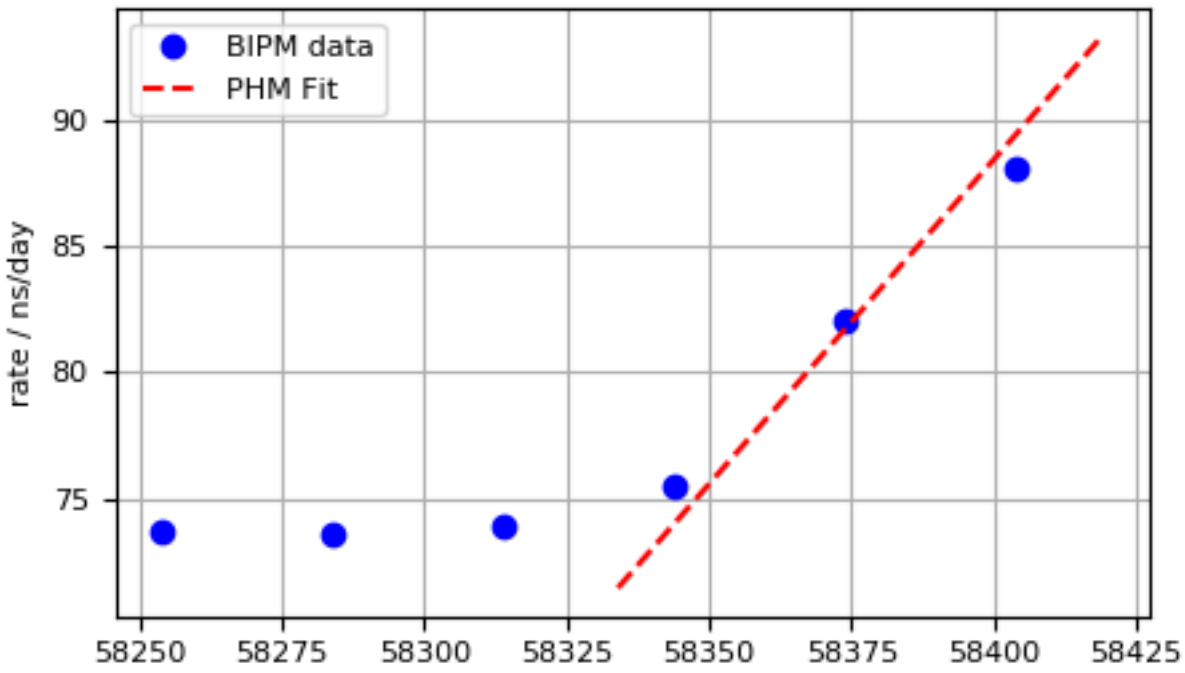


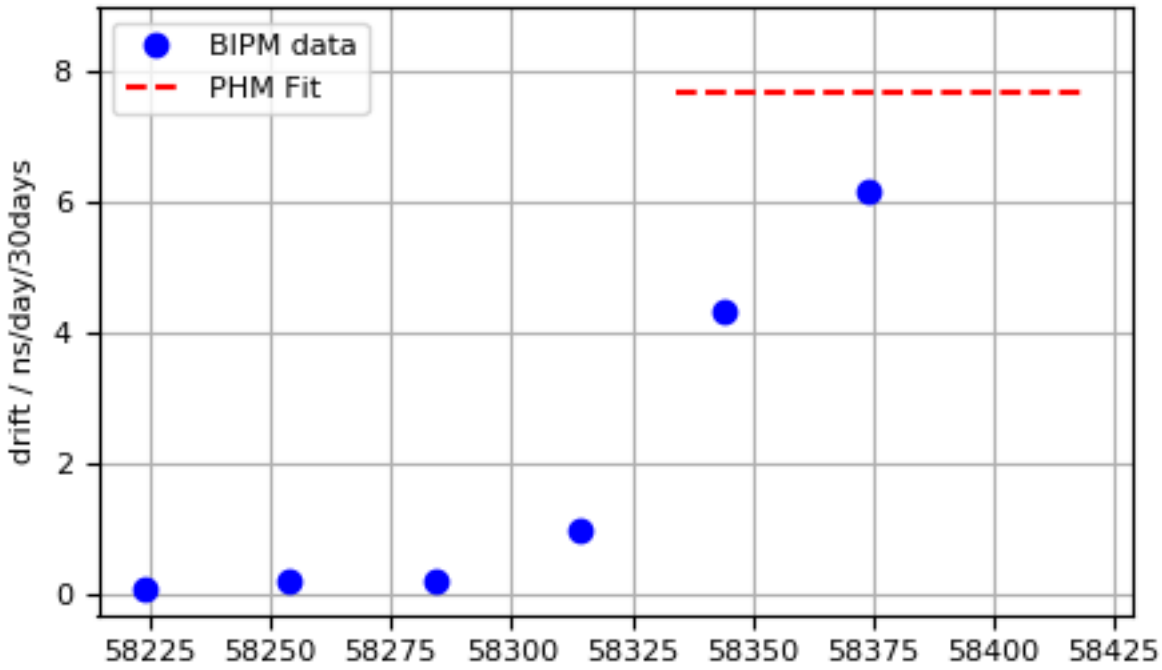


UTC - PHM Fit


UTC-PHM (2018-11-14 / 58436)
x (ns)= 42631.480 + 93.283 *d + 0.1282 *d*d
y = -1.07966e-12 + -2.96685e-15 *d
d = (mjd-mjd0) with mjd0 = 58419
UTC-PHM
fit, UTC-PHM
UTC-PHM (ns)
42000
40000
38000
36000
58340
58360
58380
58400
58420
UTC-PHM, linear residual (ns)
100
0
−100
UTC-PHM
fit, UTC-PHM
quadratic residual (ns)
20
0
−20
−40
19.153 ns RMS
58320
58340
58360
58380
58400
58420
58440
2018-07-21
2018-08-10
2018-08-30
2018-09-19
2018-10-09
2018-10-29
2018-11-18

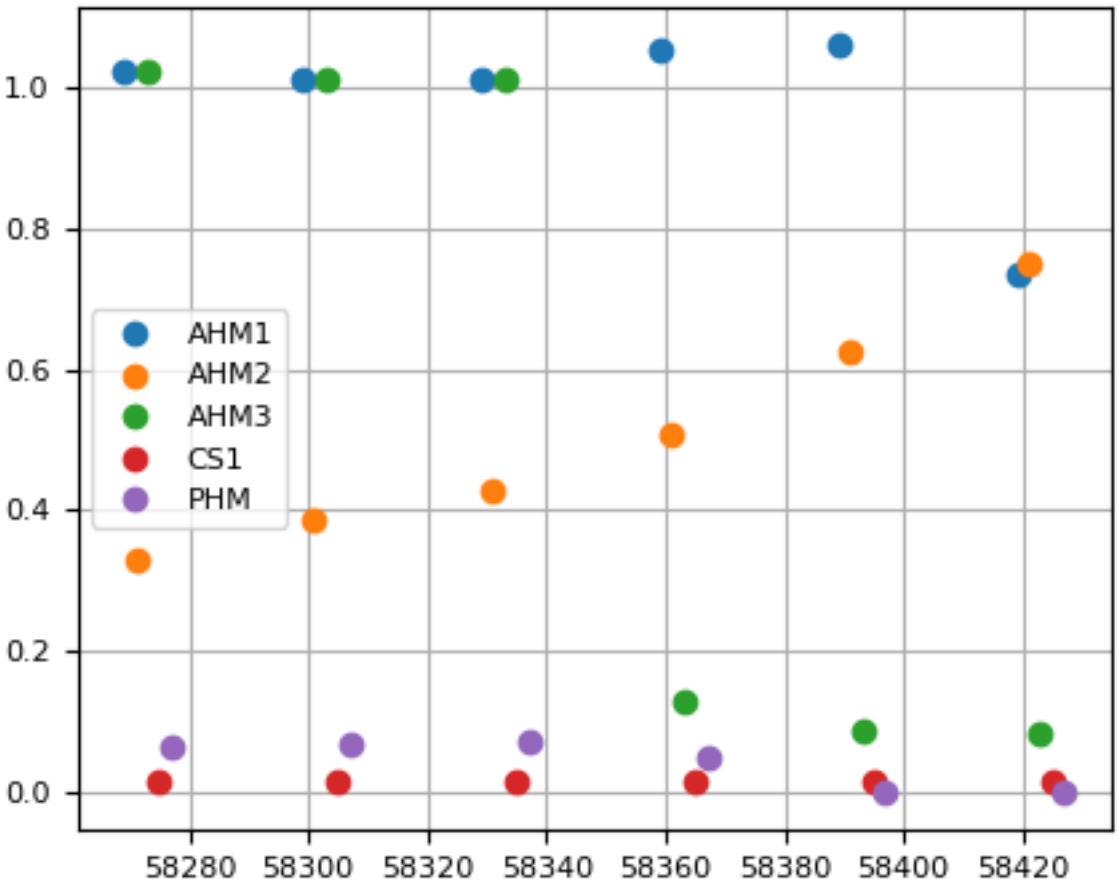
PHM Rate and Drift





Clock Weights

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



End of Bulletin.