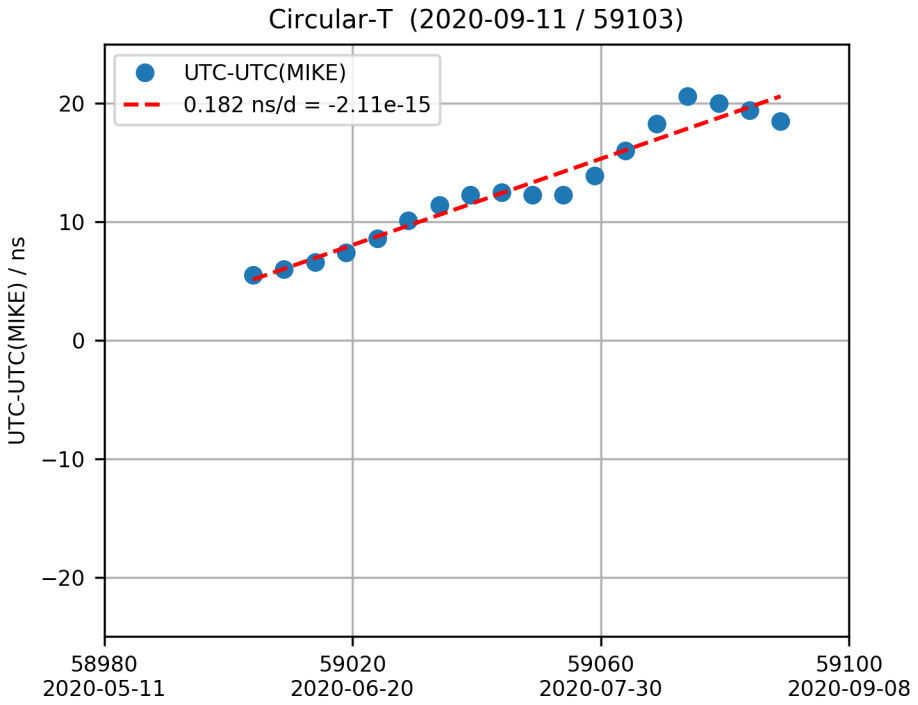
UTC(MIKE) Atomic Bulletin 2020-09

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2020-09-11 (59103)
Circular-T issues used for analysis: 390, 391, 392,
First day of analysis interval: 2020-06-04 (59004)
Last day of analysis interval: 2020-08-28 (59089)
ClockData for analysis: CDMI__20.06_, CDMI__20.07_, CDMI__20.08_,

Notes

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.
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

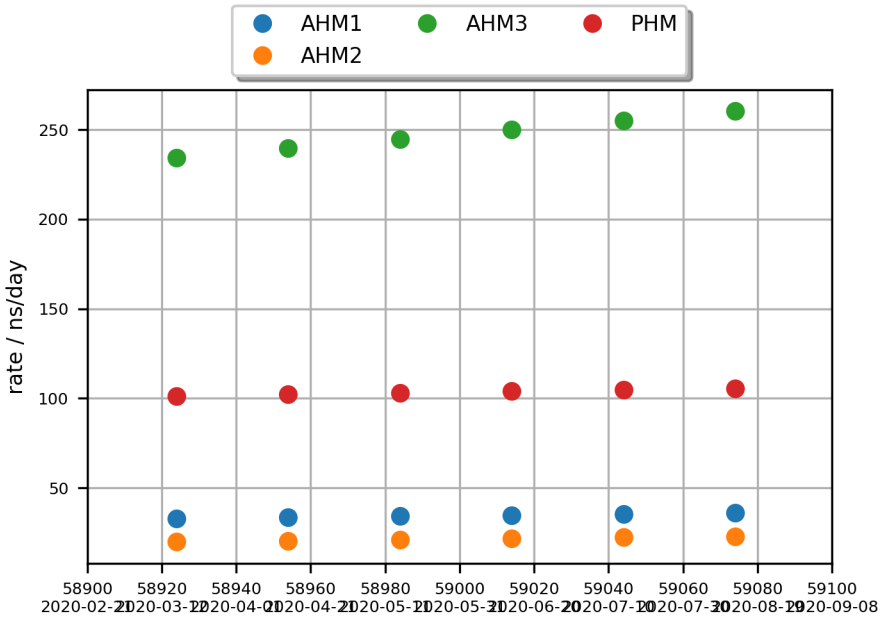
UTC-UTC(MIKE) as reported in Circular-T



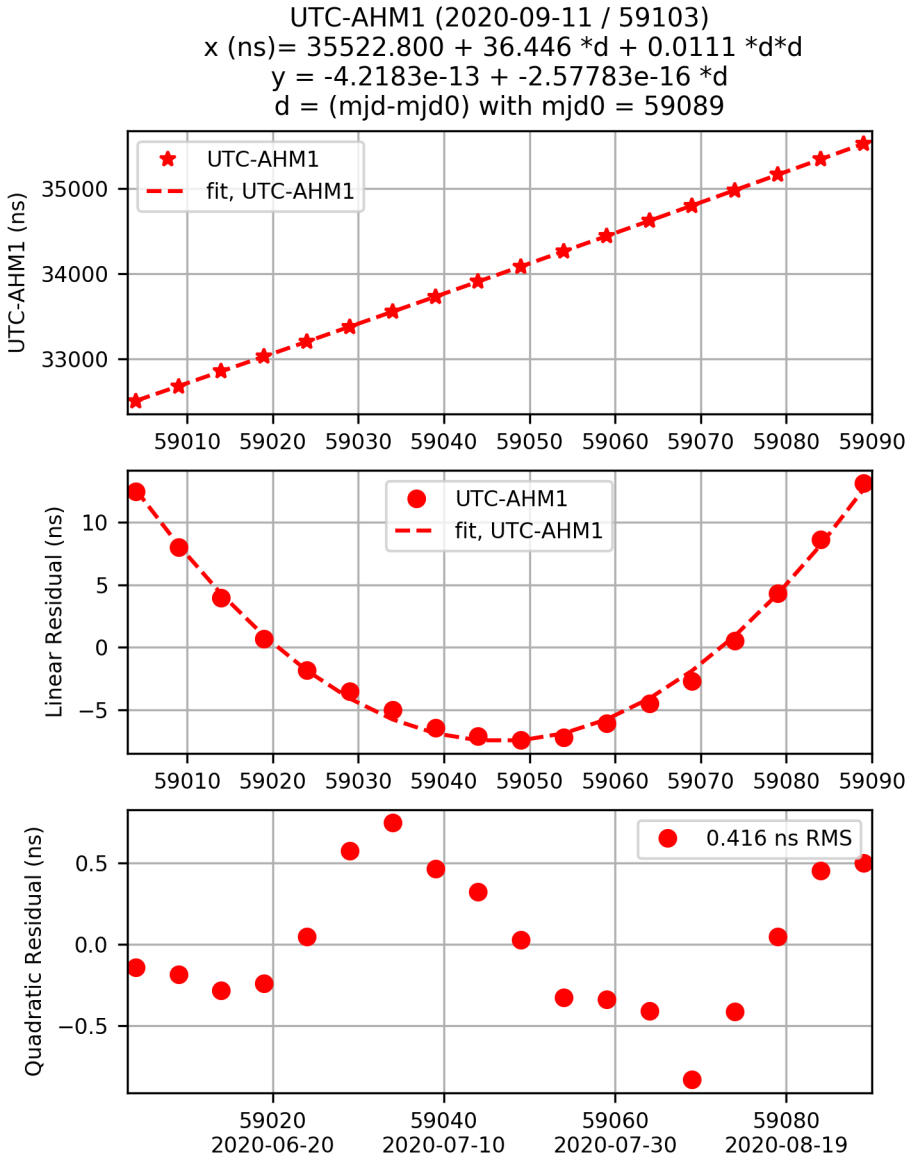
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

Clock Rates - Summary

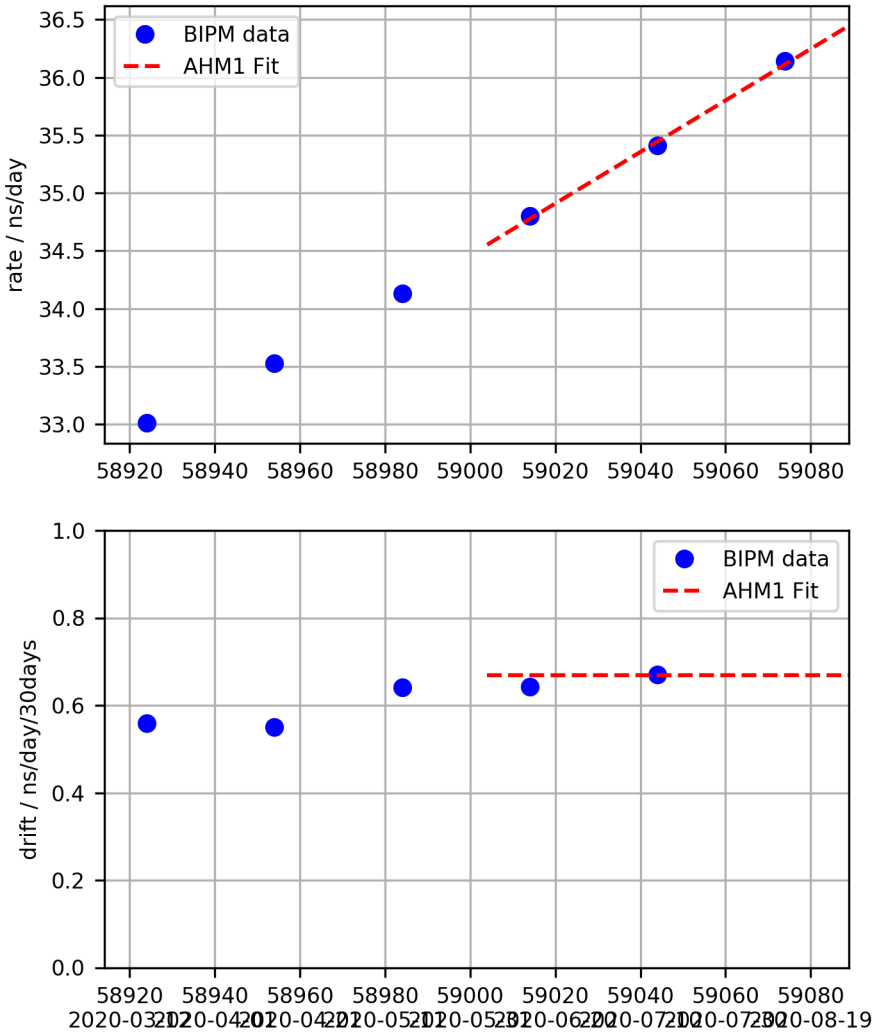
Clock rates as reported by the BIPM in the monthly r-report.



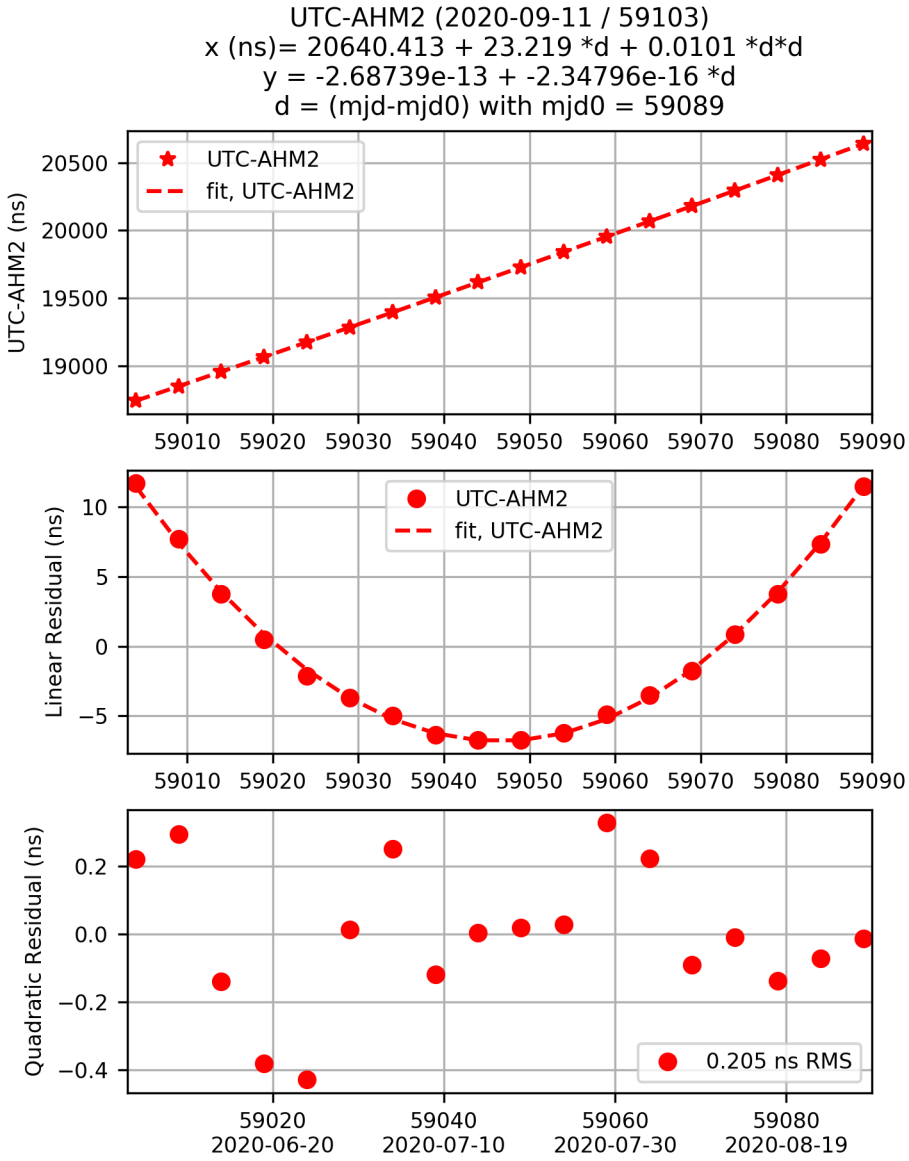
UTC - AHM1 Fit


UTC-AHM1 (2020-09-11 / 59103)
x (ns)= 35522.800 + 36.446 *d + 0.0111 *d*d
y = -4.2183e-13 + -2.57783e-16 *d
d = (mjd-mjd0) with mjd0 = 59089
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1 (ns)
35000
34000
33000
59010
59020
59030
59040
59050
59060
59070
59080
59090
Linear Residual (ns)
10
5
0
−5
0.416 ns RMS
Quadratic Residual (ns)
0.5
0.0
−0.5
59020
2020-06-20
59040
2020-07-10
59060
2020-07-30
59080
2020-08-19

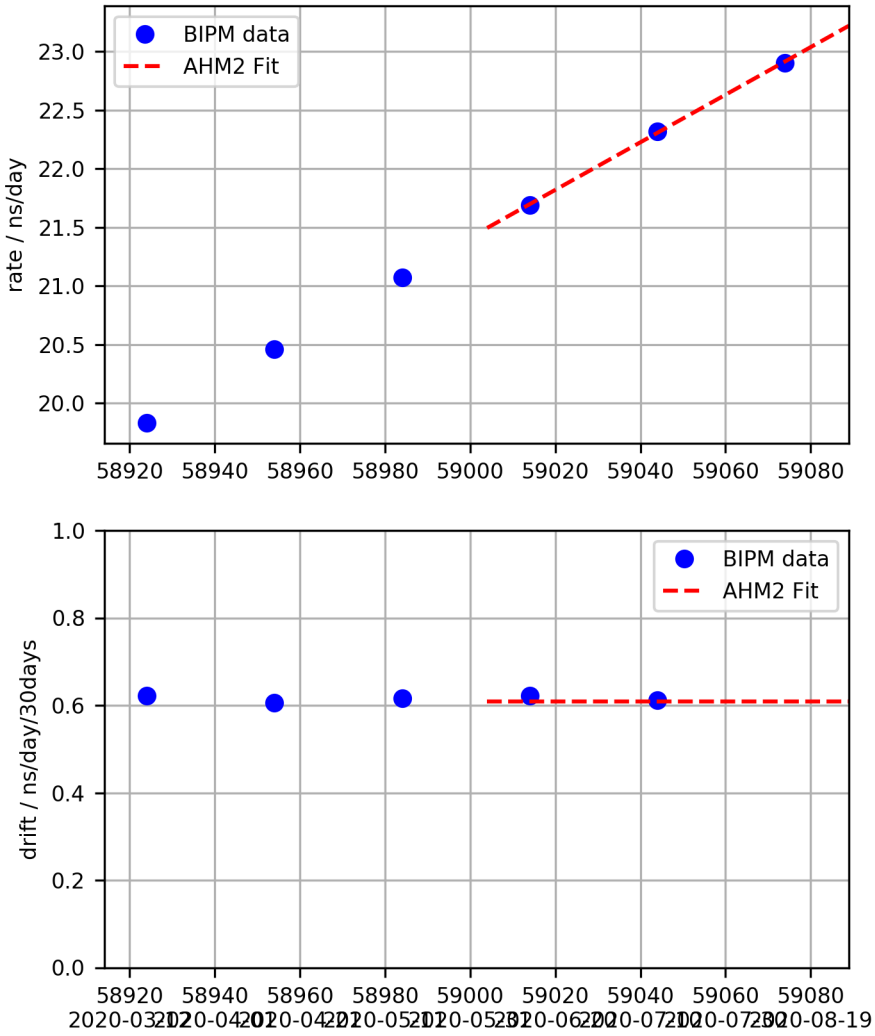
AHM1 Rate and Drift



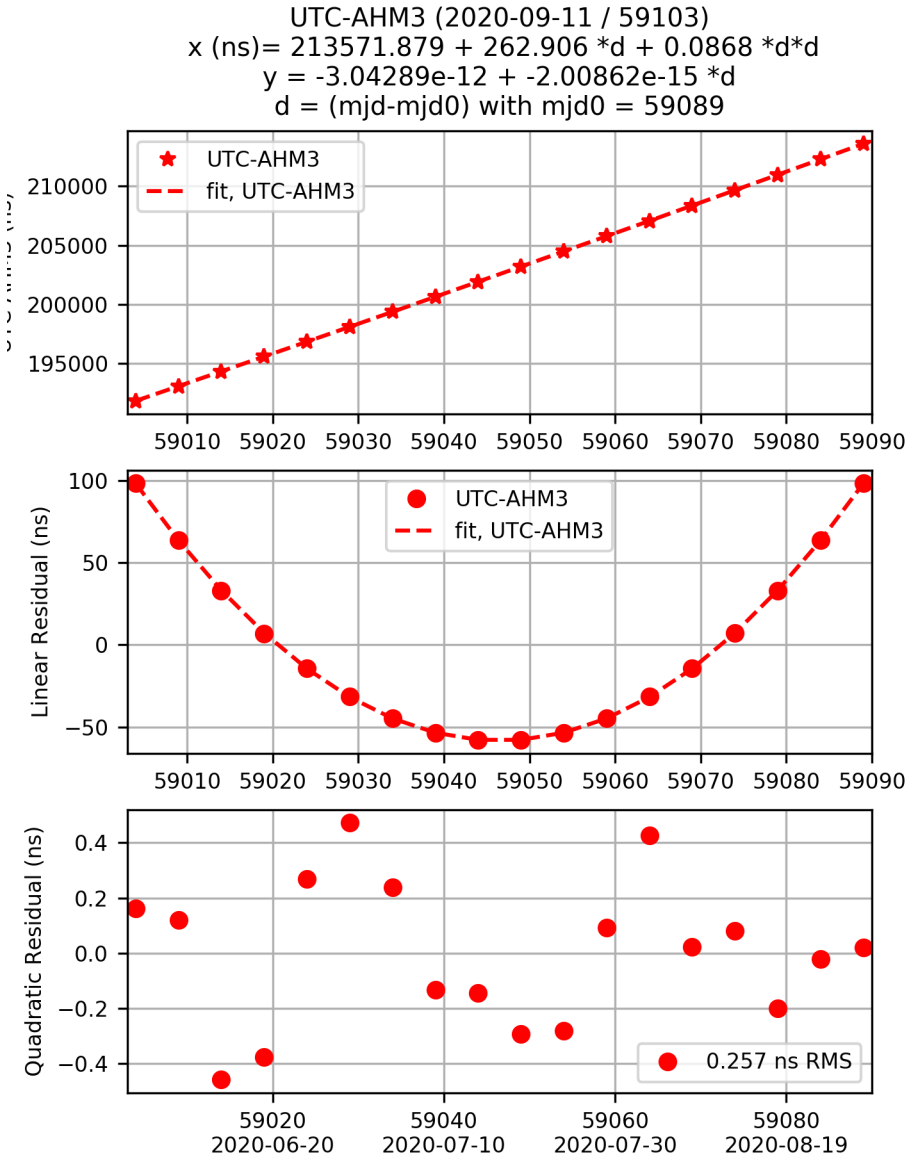
UTC - AHM2 Fit


UTC-AHM2 (2020-09-11 / 59103)
x (ns)= 20640.413 + 23.219 *d + 0.0101 *d*d
y = -2.68739e-13 + -2.34796e-16 *d
d = (mjd-mjd0) with mjd0 = 59089
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
20500
20000
19500
19000
59010
59020
59030
59040
59050
59060
59070
59080
59090
Linear Residual (ns)
10
5
0
−5
Quadratic Residual (ns)
0.2
0.0
−0.2
−0.4
0.205 ns RMS
59020
2020-06-20
59040
2020-07-10
59060
2020-07-30
59080
2020-08-19

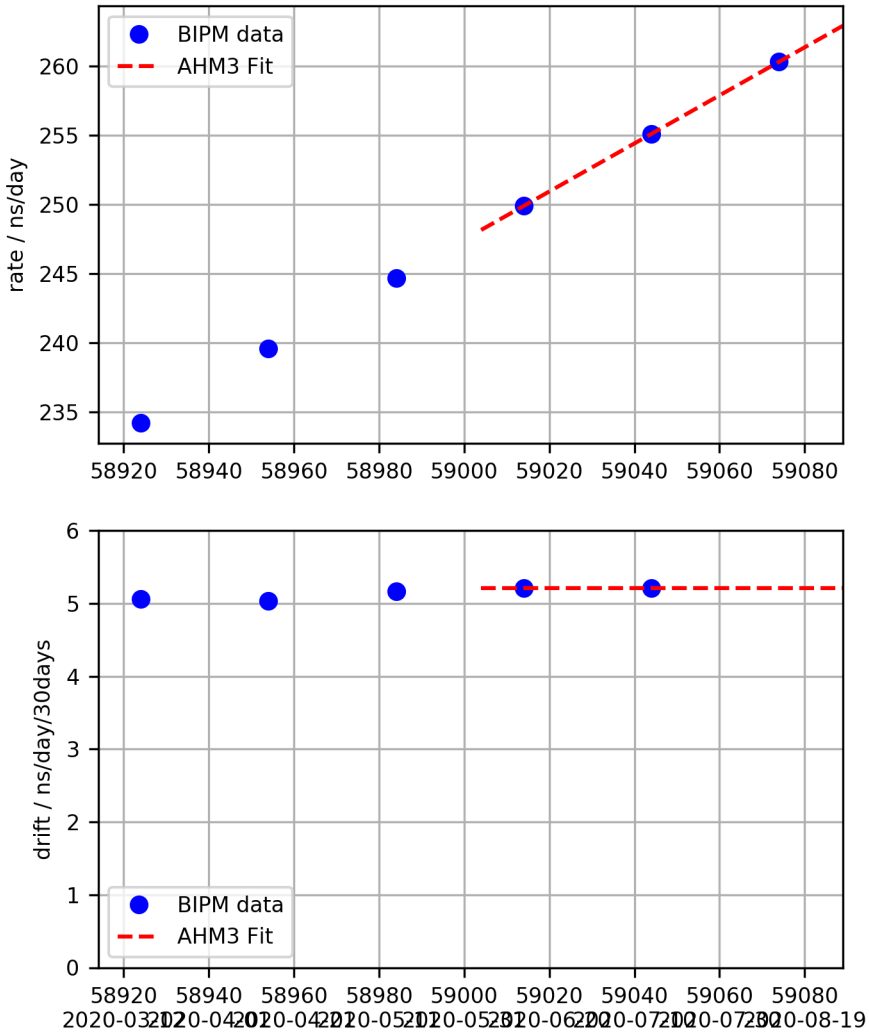
AHM2 Rate and Drift



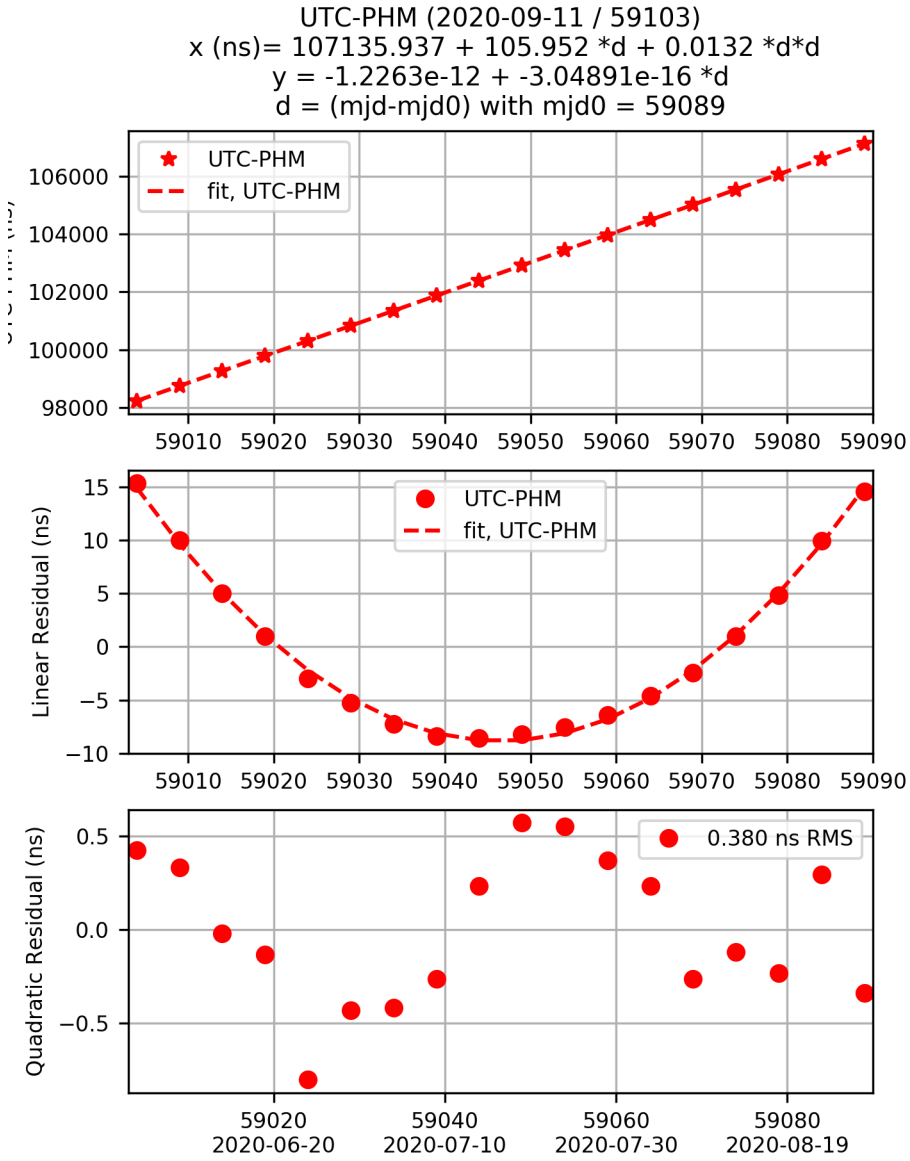
UTC - AHM3 Fit


UTC-AHM3 (2020-09-11 / 59103)
x (ns)= 213571.879 + 262.906 *d + 0.0868 *d*d
y = -3.04289e-12 + -2.00862e-15 *d
d = (mjd-mjd0) with mjd0 = 59089
UTC-AHM3
fit, UTC-AHM3
210000
205000
200000
195000
59010
59020
59030
59040
59050
59060
59070
59080
59090
Linear Residual (ns)
100
50
0
−50
Quadratic Residual (ns)
0.4
0.2
0.0
−0.2
−0.4
0.257 ns RMS
59020
2020-06-20
59040
2020-07-10
59060
2020-07-30
59080
2020-08-19

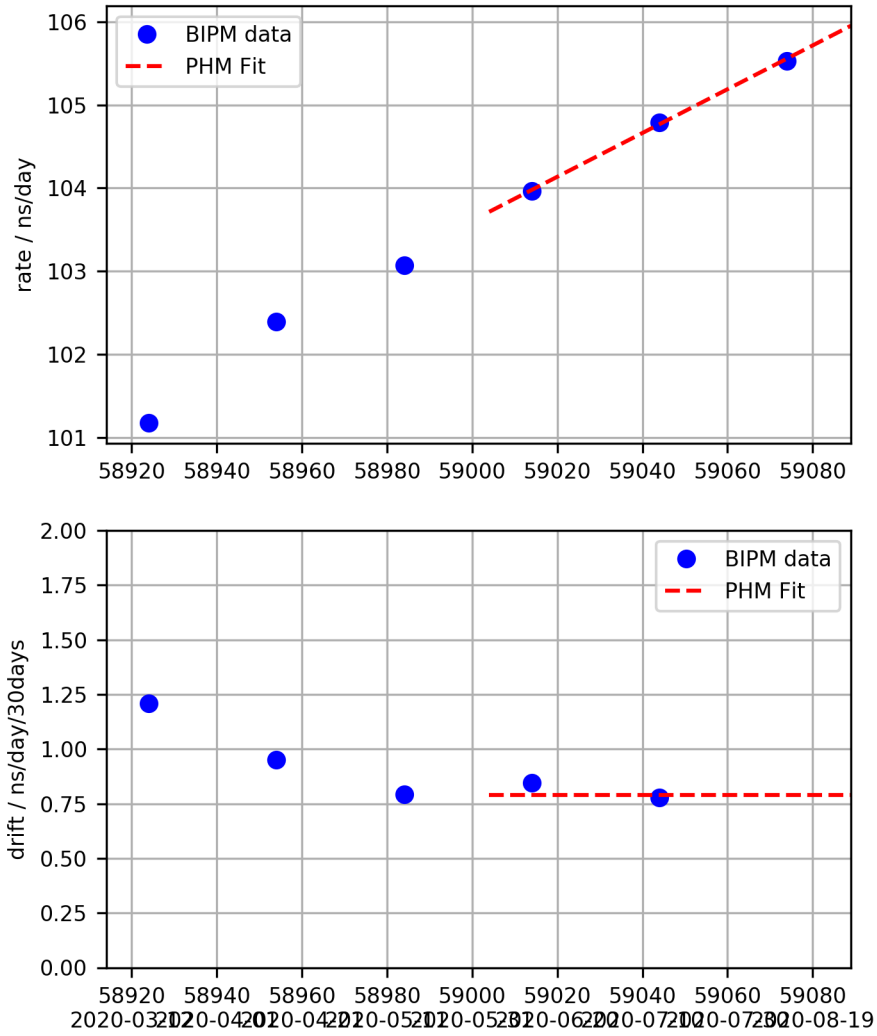
AHM3 Rate and Drift



UTC - PHM Fit

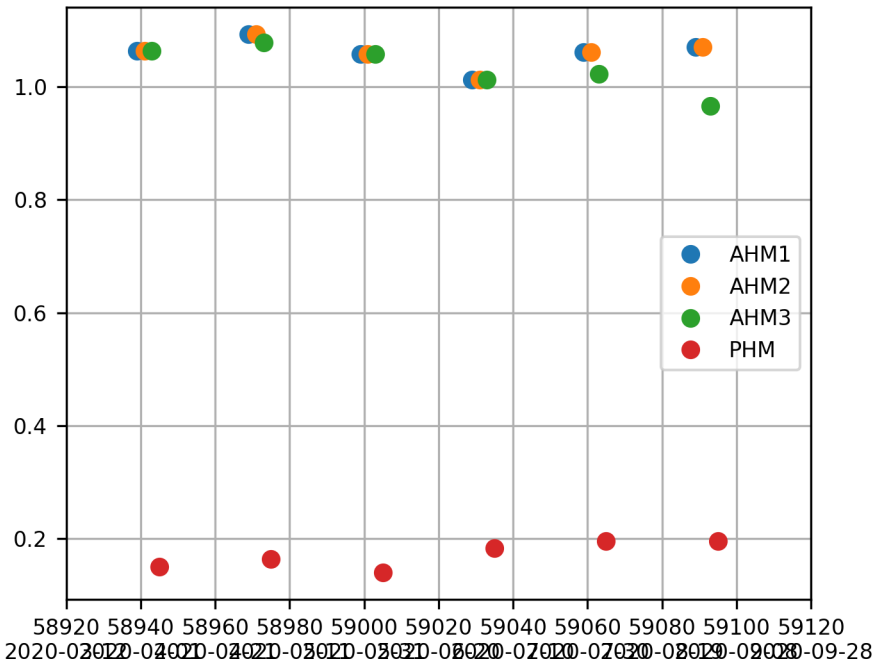

UTC-PHM (2020-09-11 / 59103)
x (ns)= 107135.937 + 105.952 *d + 0.0132 *d*d
y = -1.2263e-12 + -3.04891e-16 *d
d = (mjd-mjd0) with mjd0 = 59089
UTC-PHM
fit, UTC-PHM
106000
104000
102000
100000
98000
59010
59020
59030
59040
59050
59060
59070
59080
59090
Linear Residual (ns)
15
10
5
0
−5
−10
Quadratic Residual (ns)
0.5
0.0
−0.5
0.380 ns RMS
2020-06-20
2020-07-10
2020-07-30
2020-08-19

PHM Rate and Drift



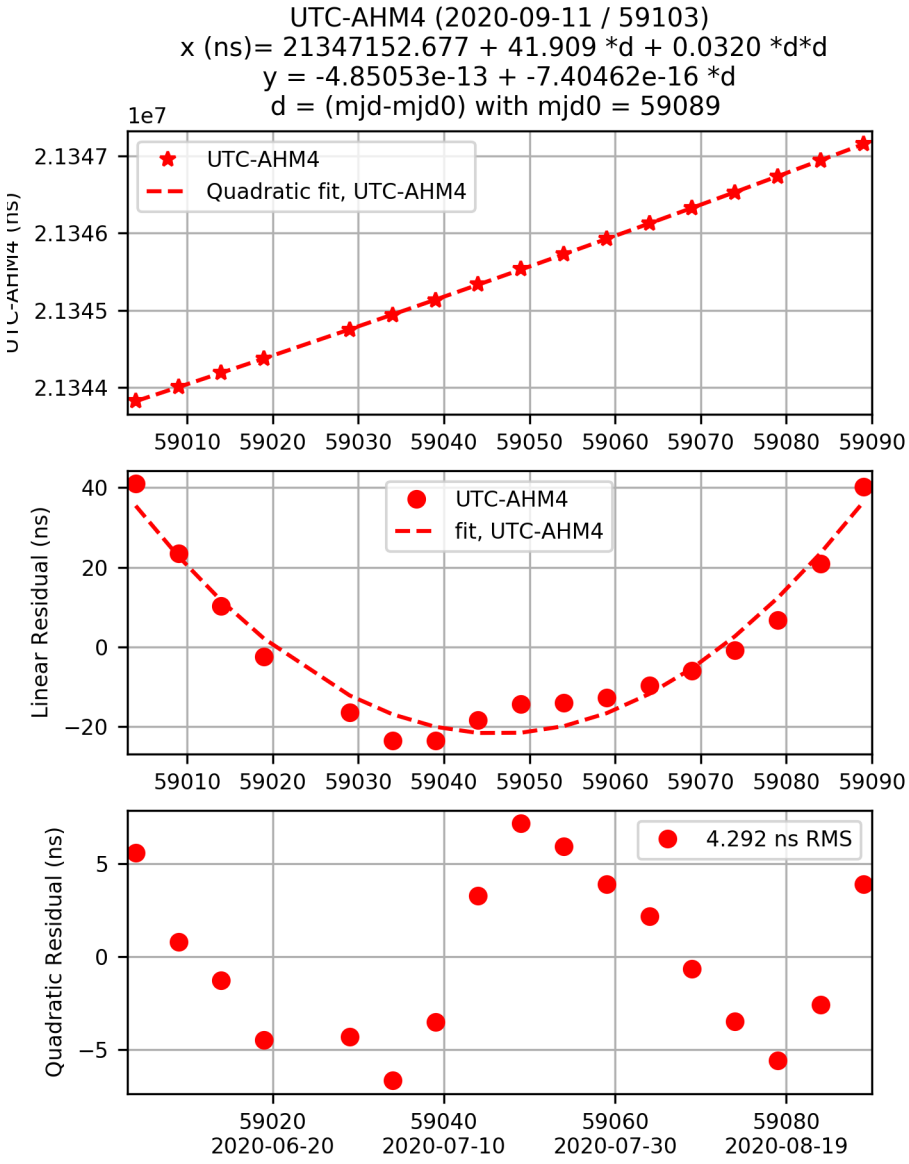
Clock Weights

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

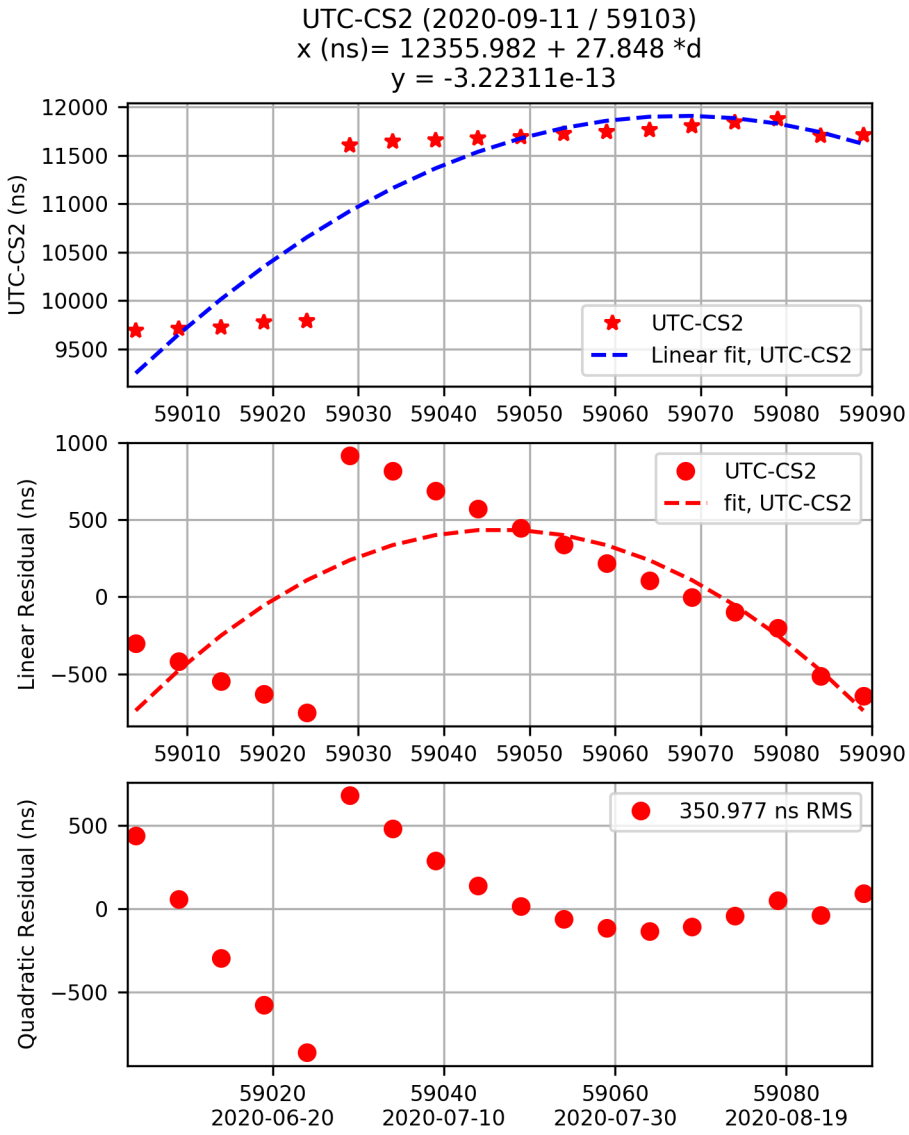


Remote Clocks

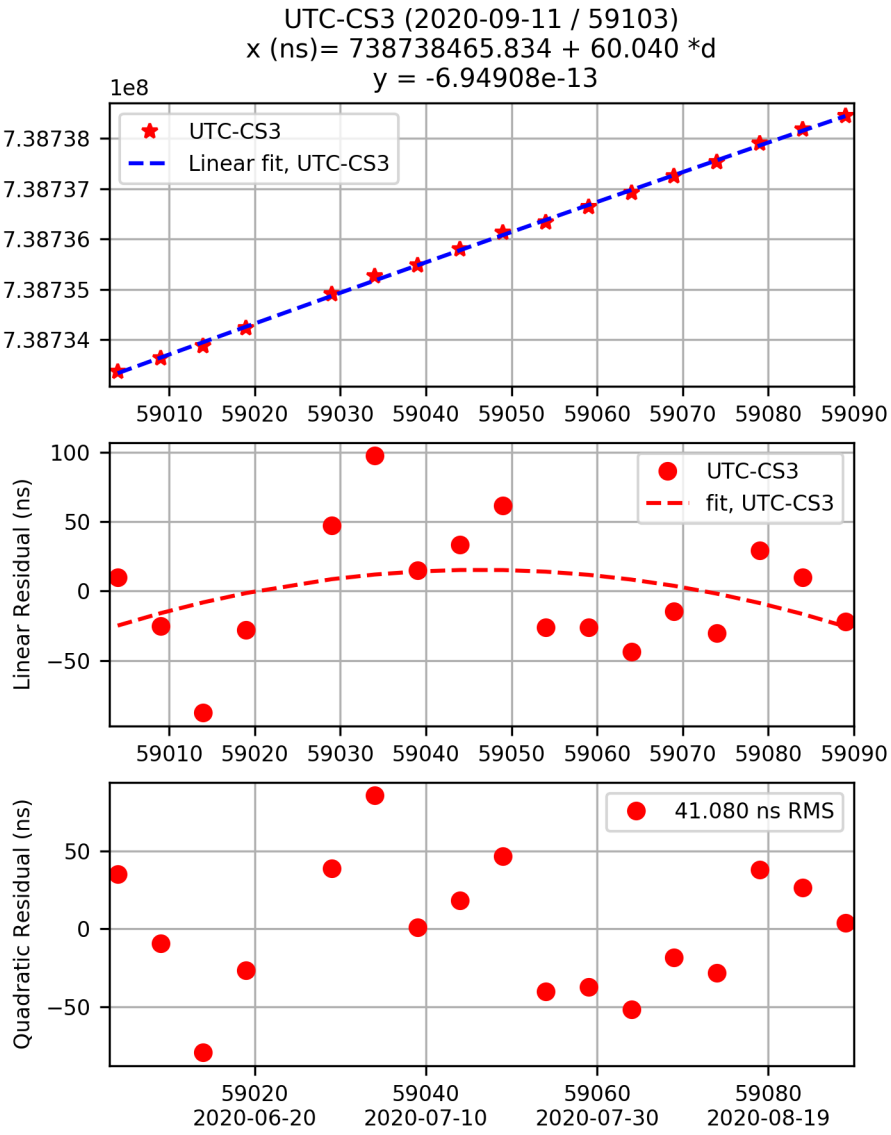
Remote Clock: AHM4



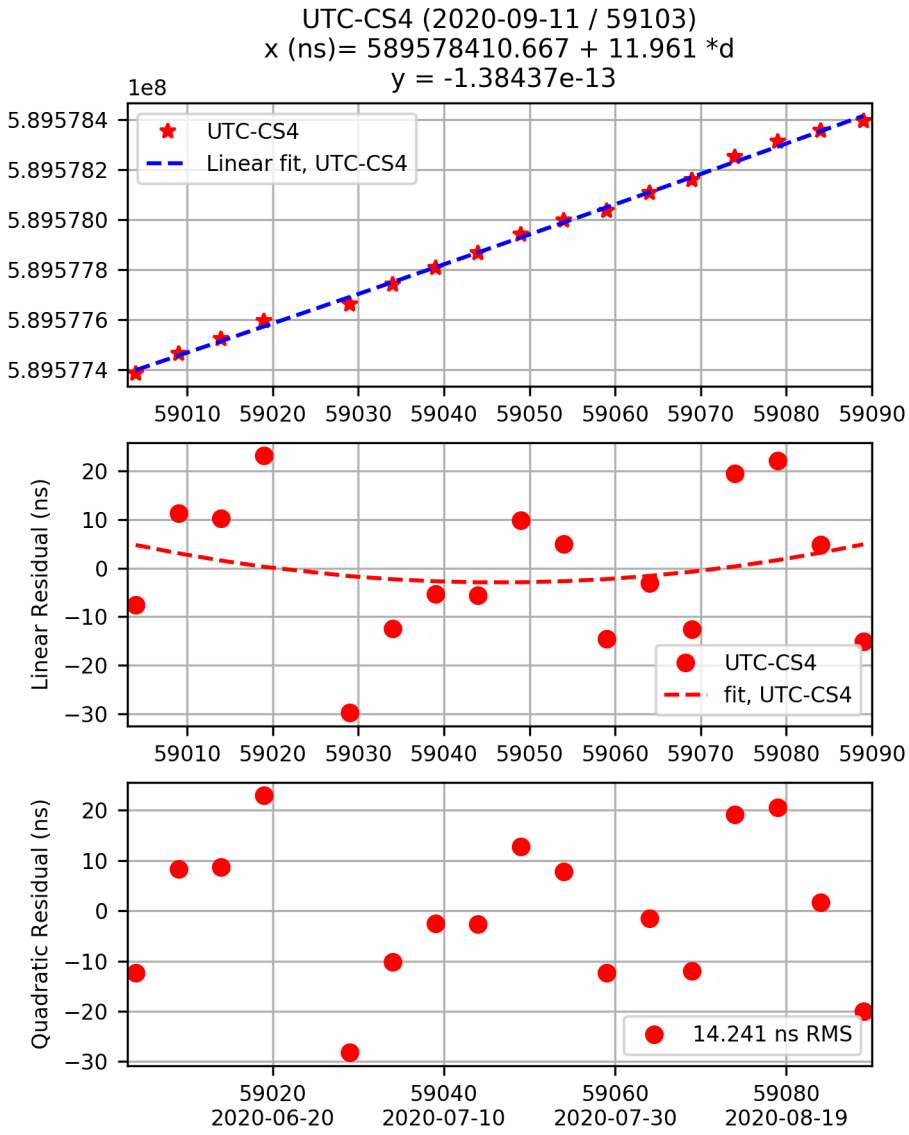
Remote Clock: CS2



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.