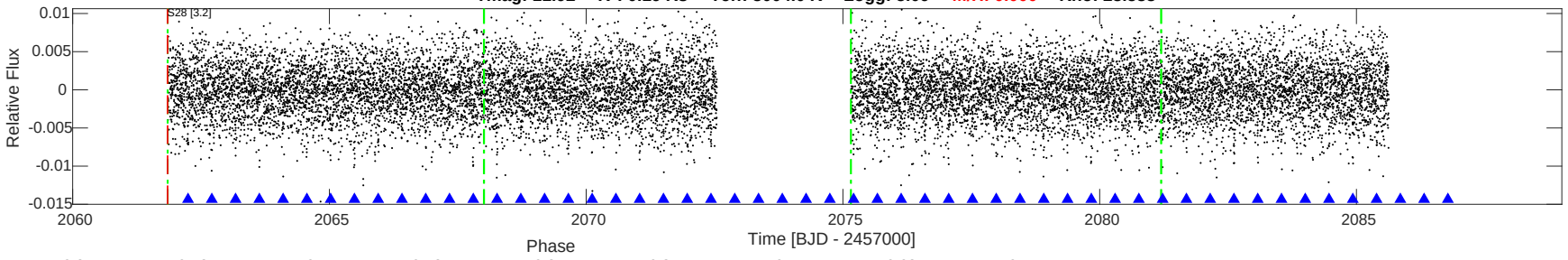
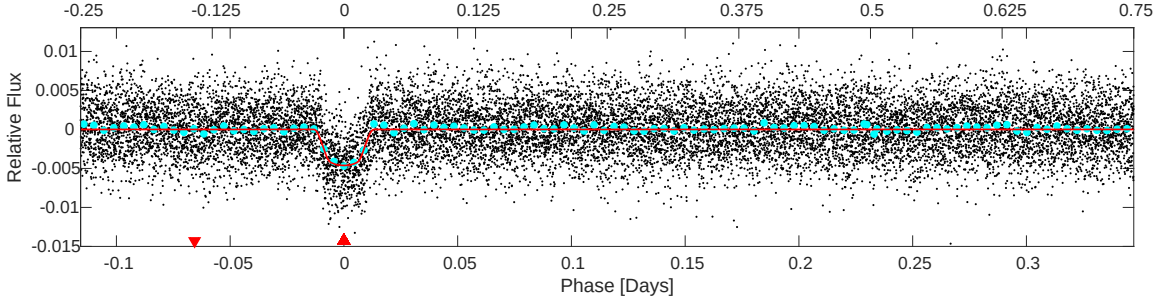
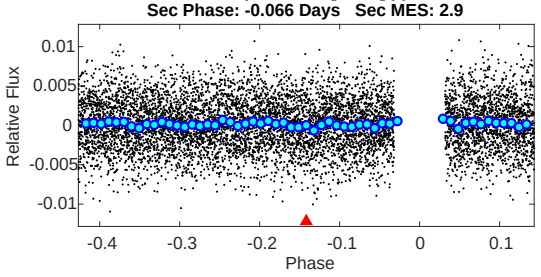
TIC: 410153553 Candidate: 1 of 1 Period: 0.463 d
TOI: 136 Corr: No Ephemeris Match

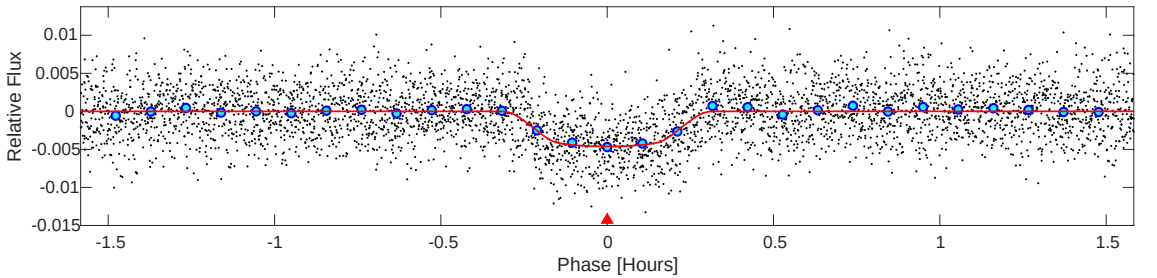
Tmag: 11.92 R*: 0.19 Rs Teff: 3004.0 K Logg: 5.09 M/H: 0.000 Rho: 23.533



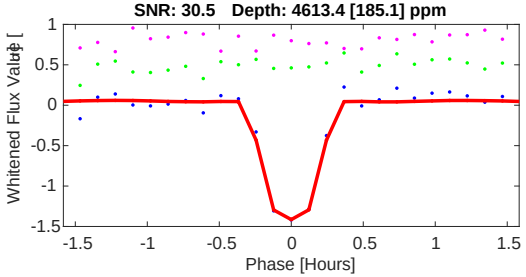


Sec Depth: 333.3 [142.6] ppm
Sec Phase: -0.066 Days Sec MES: 2.9

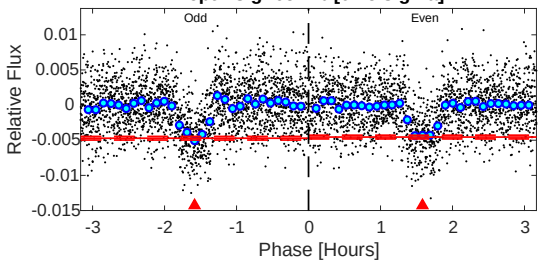




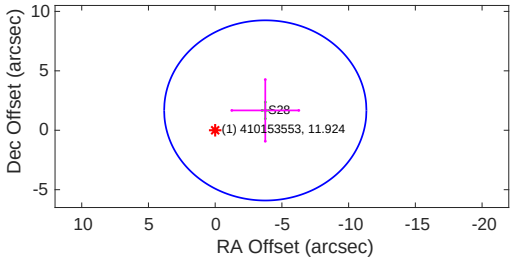
MES: 21.1 Transits: 46
SNR: 30.5 Depth: 4613.4 [185.1] ppm



Depth-sig: 65.2% [0.45 sigma]



Difference Image
TIC Position Centroid Offsets



DV Fit Results:

Period = 0.46291 [0.00001] d
Epoch = 2062.2468 [0.0004] BTJD
Rp/R* = 0.0666 [0.0094]
a/R* = 5.48 [3.90]
b = 0.70 [0.55]

Seff = 64.71 [13.90]
Teq = 723 [39] K
Rp = 1.37 [0.20] Re
a = 0.0063 [0.0002] AU
Rho = 10.346 [22.059]

Ag = 3.91 [2.01] [1.45 sigma]
Tp = 1573 [217] K [3.85 sigma]

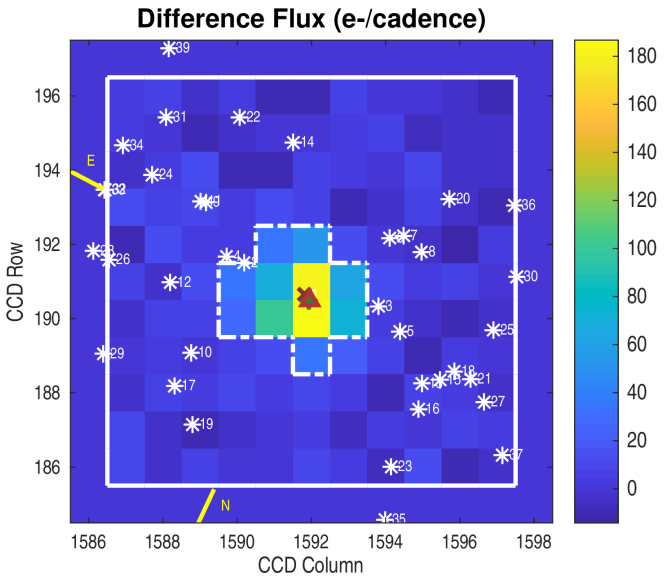
DV Diagnostic Results:

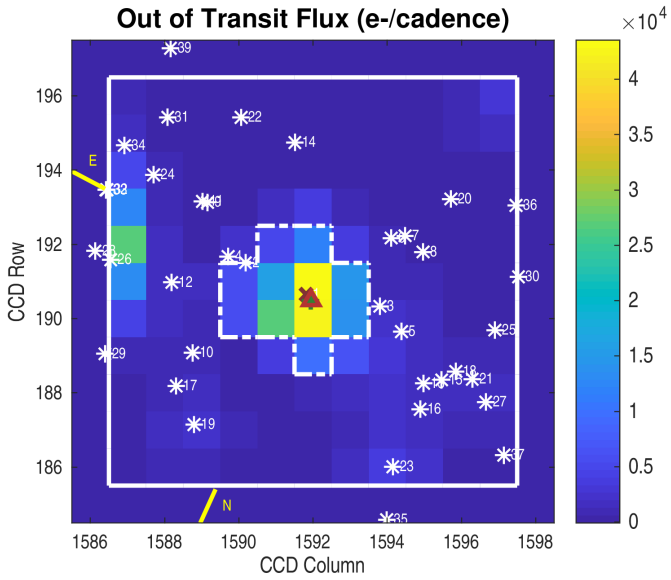
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.49e-97
GhostDiagnostic-chr: 8.329

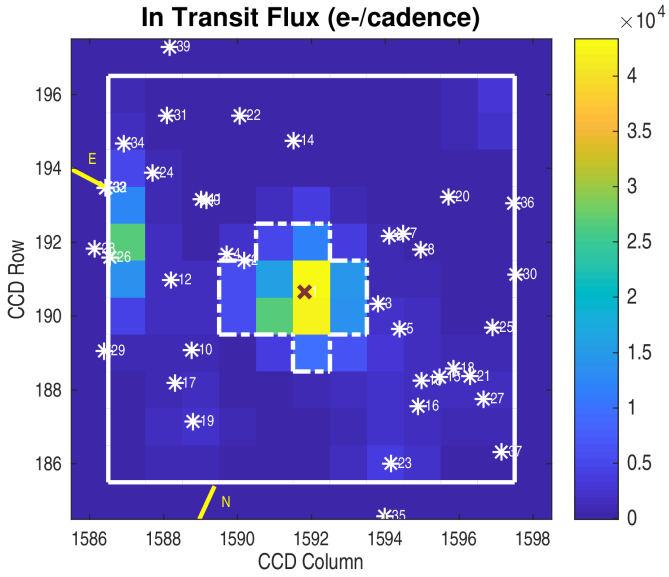
OotOffset-rm: 0.382 arcsec [0.15 sigma]
TicOffset-rm: 4.110 arcsec [1.63 sigma]
OotOffset-tot: 1
TicOffset-tot: 1
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

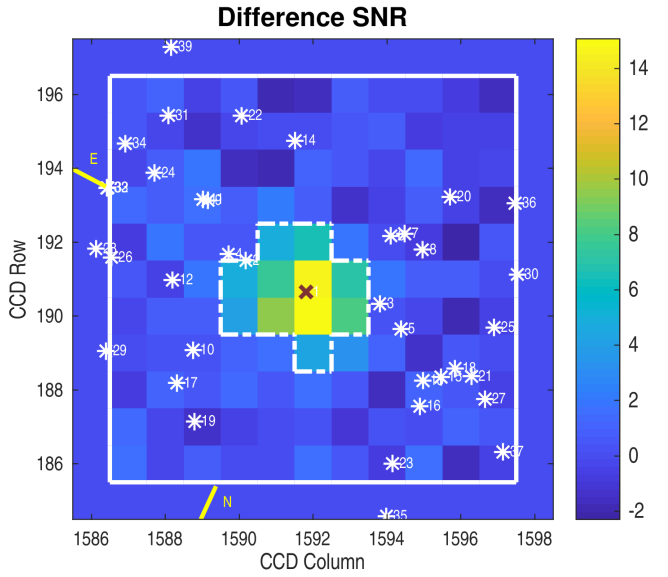
Software Revision: spoc-5.0.9-20200827 -- Date Generated: 06-Sep-2020 06:15:07 Z
This Data Validation Report Summary was produced in the TESS Science Processing Operations Center Pipeline at NASA Ames Research Center

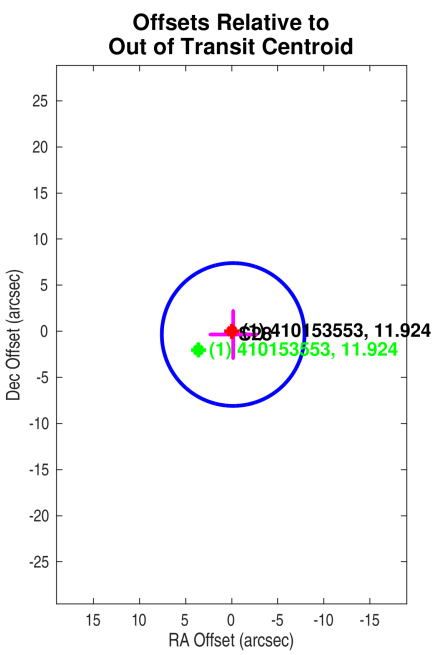
Planet Candidate 1 / Sector 28 / Target Pixel Table 264



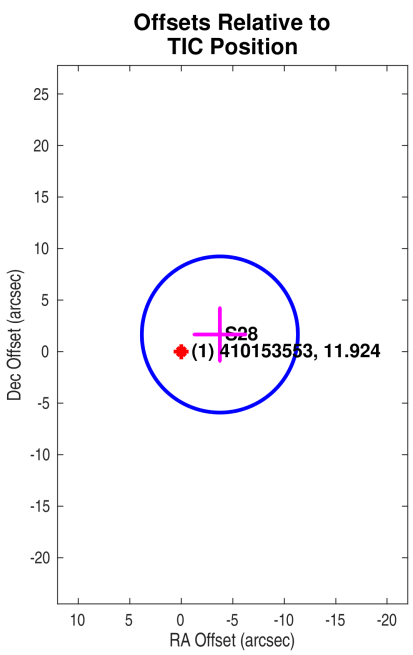


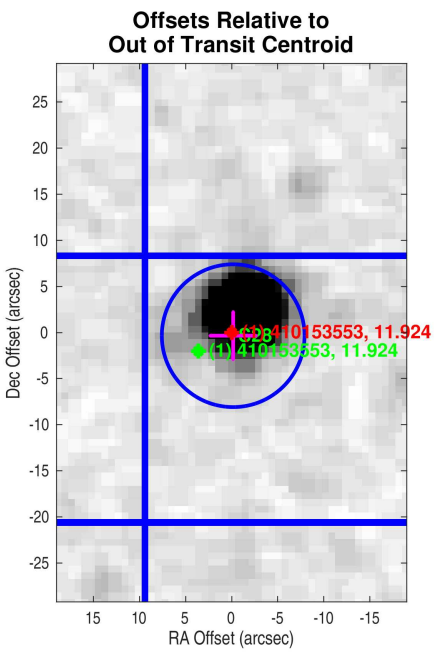




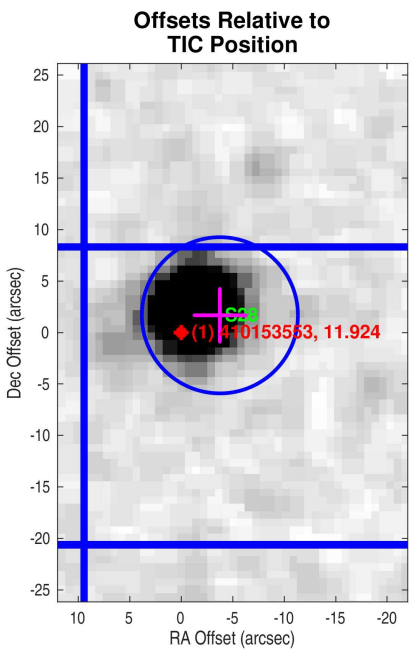


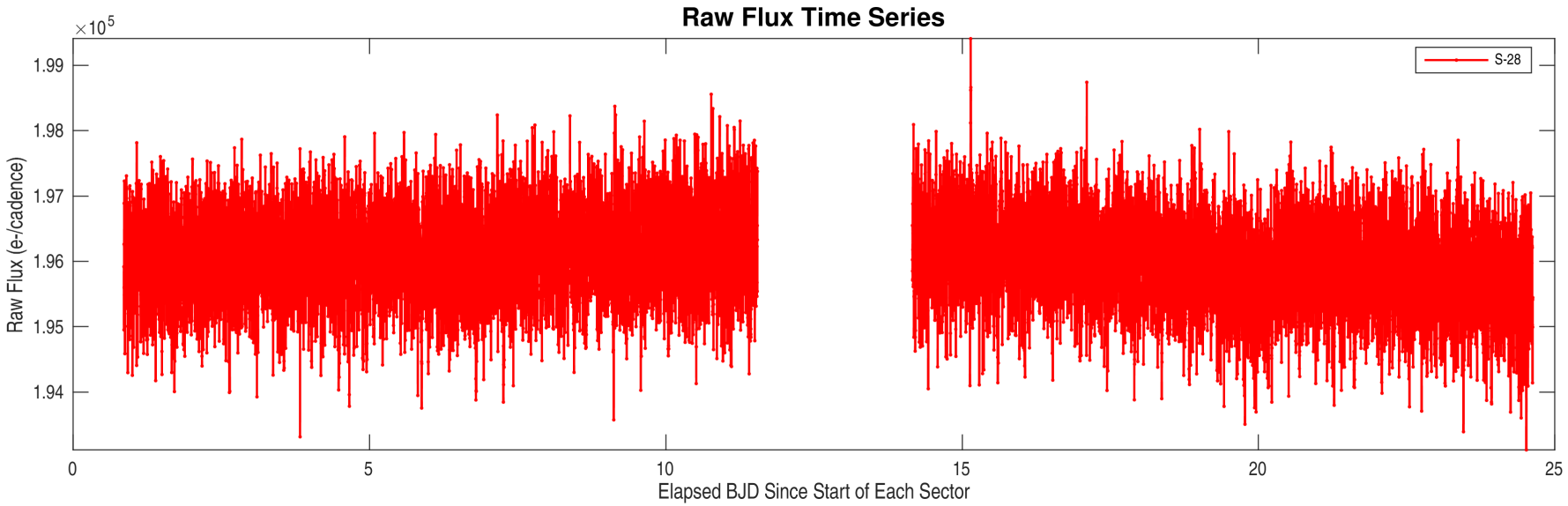
Planet Candidate 1

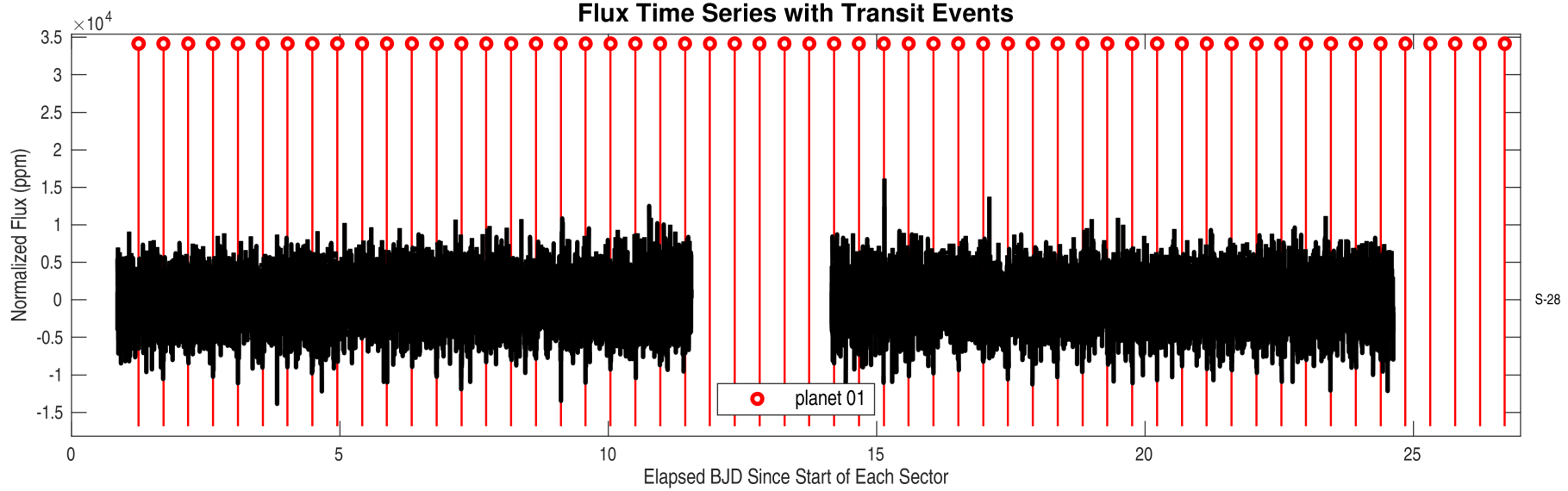


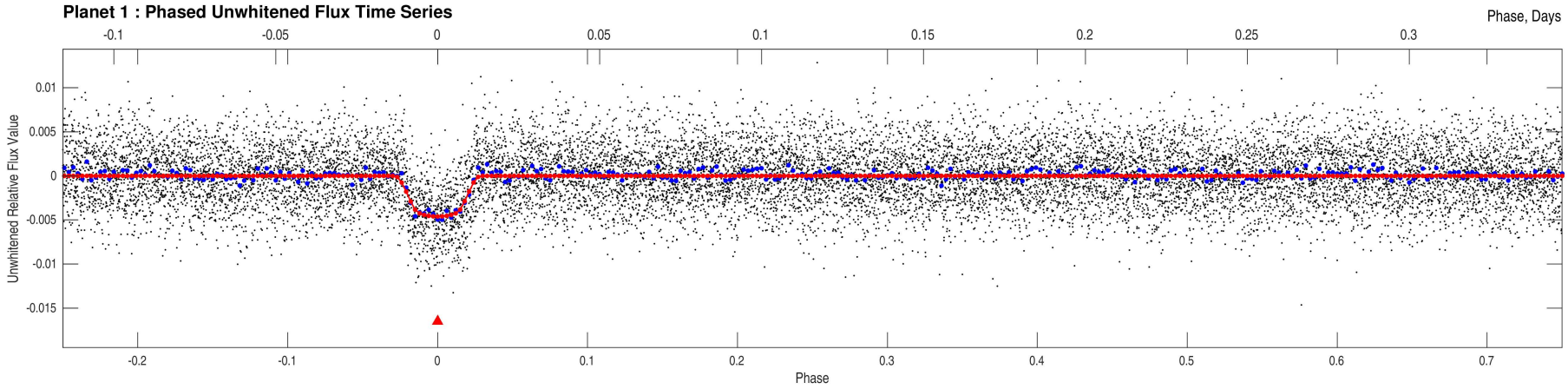


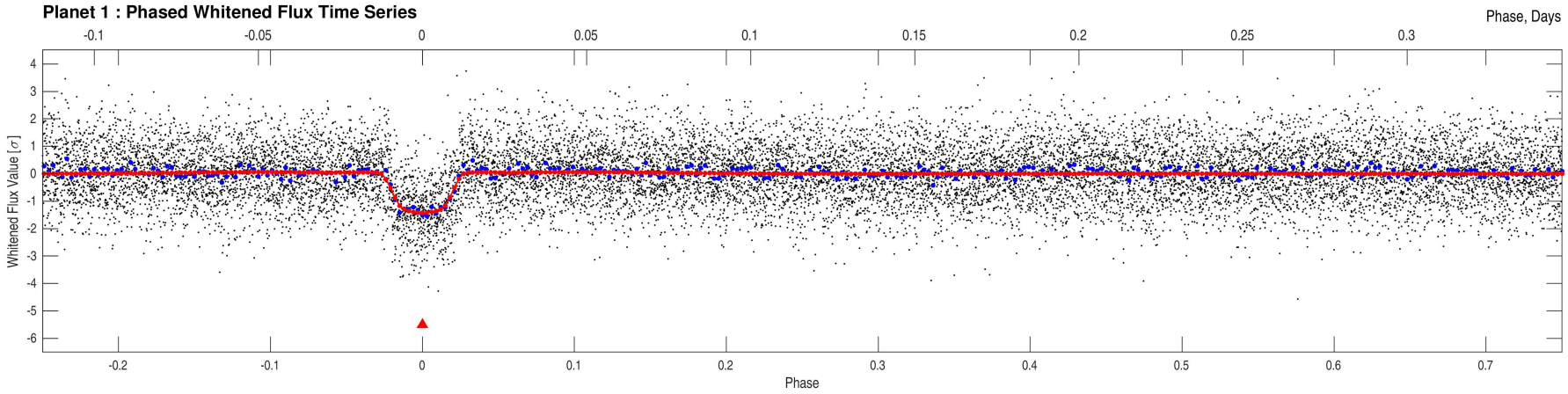
Planet Candidate 1

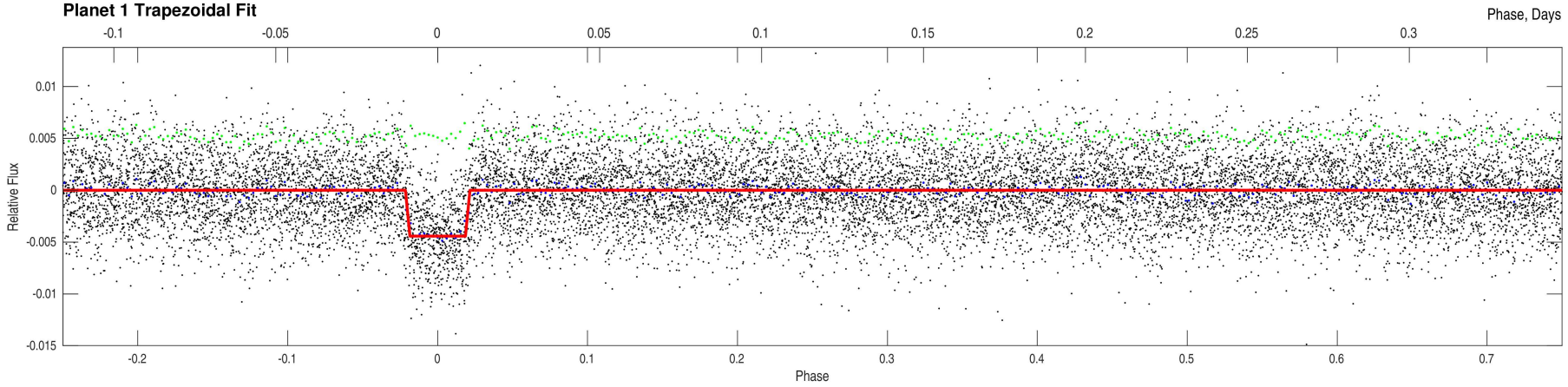



Raw Flux Time Series
×10^5
1.99
1.98
1.97
1.96
1.95
1.94
Raw Flux (e-/cadence)
S-28
0
5
10
15
20
25
Elapsed BJD Since Start of Each Sector


Flux Time Series with Transit Events
×10^4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
Normalized Flux (ppm)
planet 01
S-28
0
5
10
15
20
25
Elapsed BJD Since Start of Each Sector

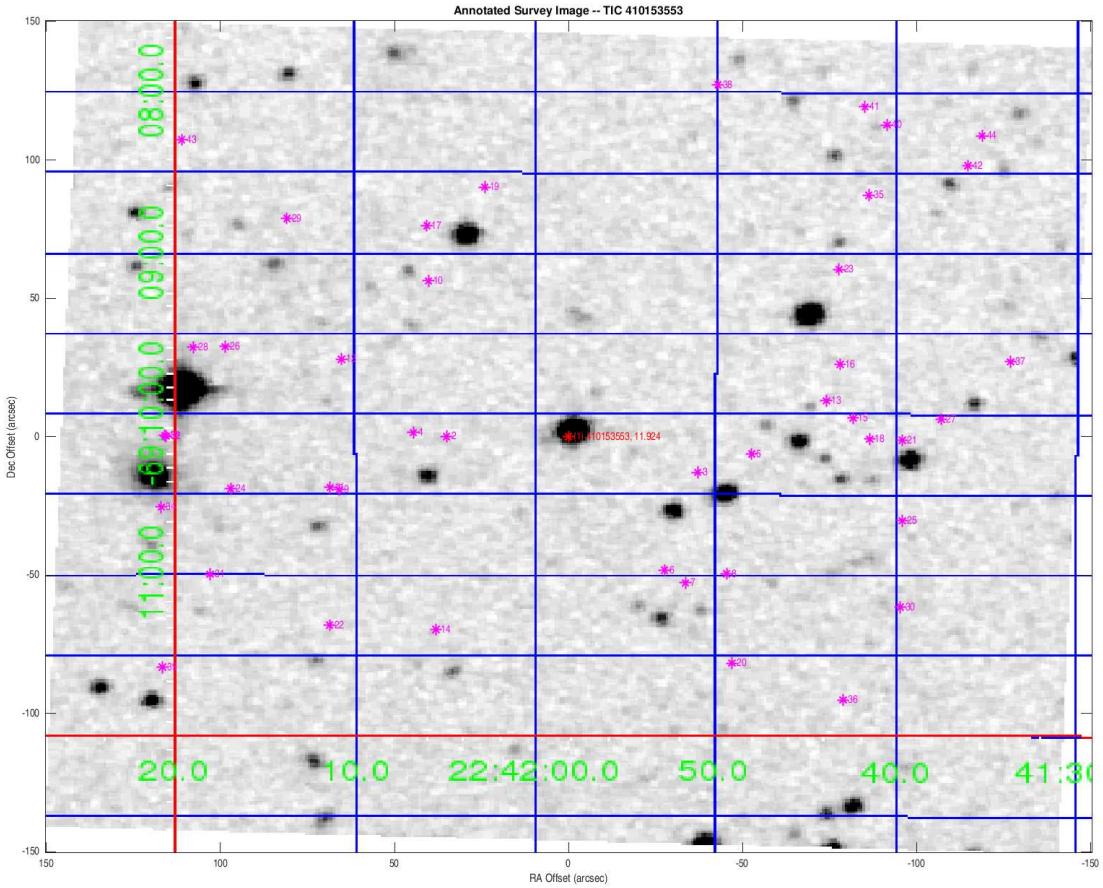

Planet 1 : Phased Unwhitened Flux Time Series
Phase, Days
Unwhitened Relative Flux Value
Phase


Planet 1 : Phased Whitened Flux Time Series
Phase, Days
Whitened Flux Value [σ]
Phase

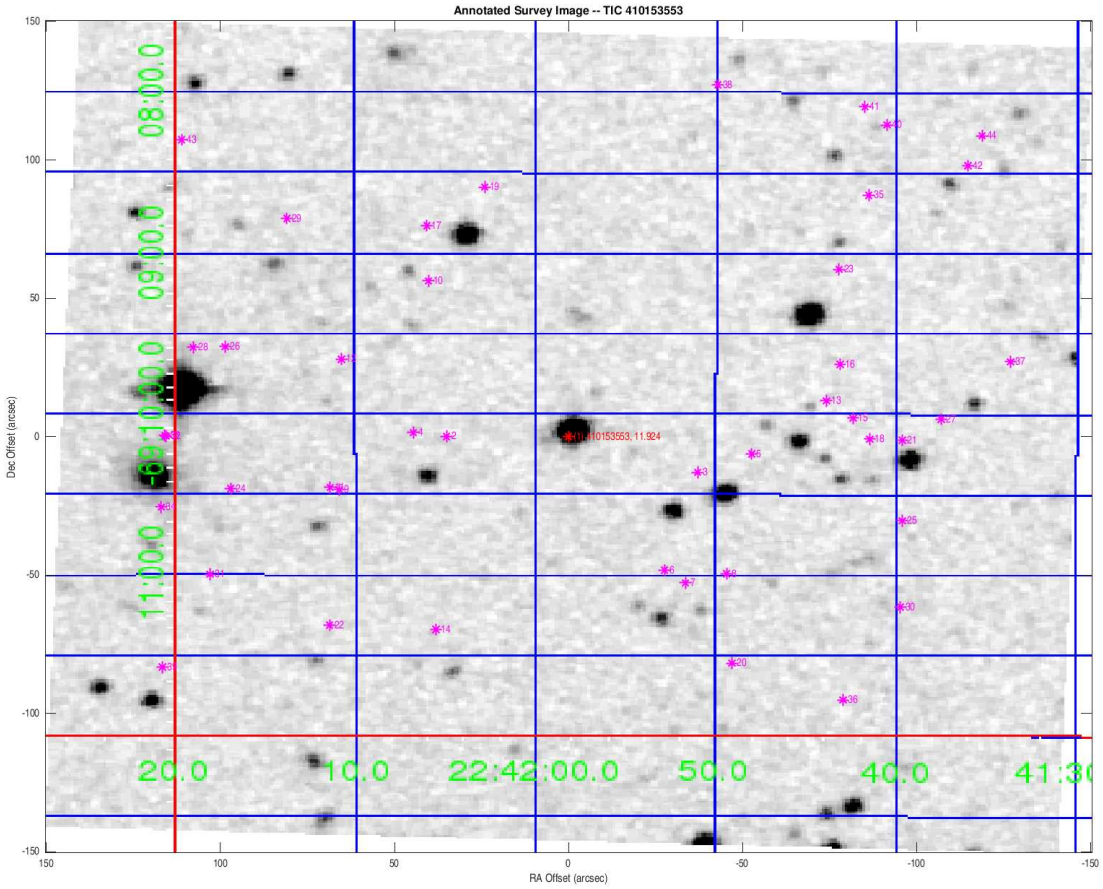

Planet 1 Trapezoidal Fit
Phase, Days
Relative Flux
Phase

Stellar Distance Table

Index	TIC ID	TESS Mag	Distance (arcsec)
1	0000000410153553	11.92	0.00
2	0000000410153556	16.72	35.08
3	0000000410153559	16.67	39.29
4	0000002054808756	20.14	44.63
5	0000000410153558	15.70	52.97
6	0000000410153561	18.17	55.60
7	0000002054808746	19.45	62.57
8	0000002054808744	19.13	67.24
9	0000002054808672	18.92	68.62
10	0000002054808757	19.94	69.23
11	0000000325177708	18.19	70.92
12	0000002054808759	20.78	70.98
13	0000000410153554	16.48	75.20
14	0000002054808743	19.72	79.40
15	0000002054808752	18.76	82.04
16	0000002054808753	18.90	82.32
17	0000002054808758	19.61	86.45
18	0000000410153557	18.05	86.53
19	0000000410153546	15.14	93.34
20	0000002054808745	20.45	94.38
21	0000002054808751	18.59	95.87
22	0000002054808670	18.82	96.72
23	0000000410153547	14.80	98.45
24	0000002054808673	20.63	98.83
25	0000002054808750	18.73	100.59
26	0000002054808675	19.58	103.91
27	0000000410153555	16.10	107.29
28	0000000325177700	12.02	112.58
29	0000000325177690	17.89	112.99
30	0000002054808748	19.86	113.53
31	0000002054808671	20.08	114.37
32	0000010002635589	15.78	115.65
33	0000000325177706	17.69	115.98
34	0000002054808668	19.01	119.77
35	0000002054808760	19.15	122.73
36	0000002054808742	19.90	123.59
37	0000000410153551	17.72	129.84
38	0000002054808765	19.65	134.18
39	0000000325177717	16.87	143.33
40	0000002054808762	19.61	145.08



Distances are corrected for proper motion. This table may not contain all of the objects shown.



Stellar Distance Table – Continued

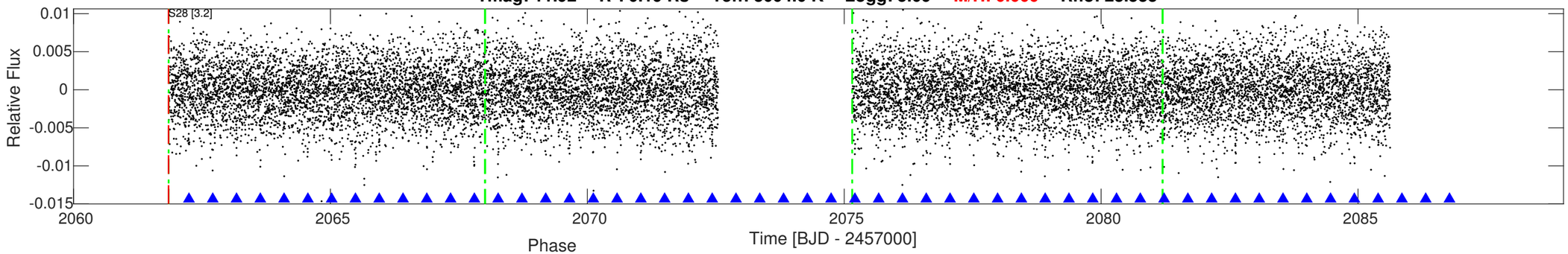
Index	TIC ID	TESS Mag	Distance (arcsec)
41	0000002054808761	18.78	146.49
42	0000002054808763	19.81	150.86
43	0000000325177689	18.68	154.52
44	0000002054808764	18.74	161.06

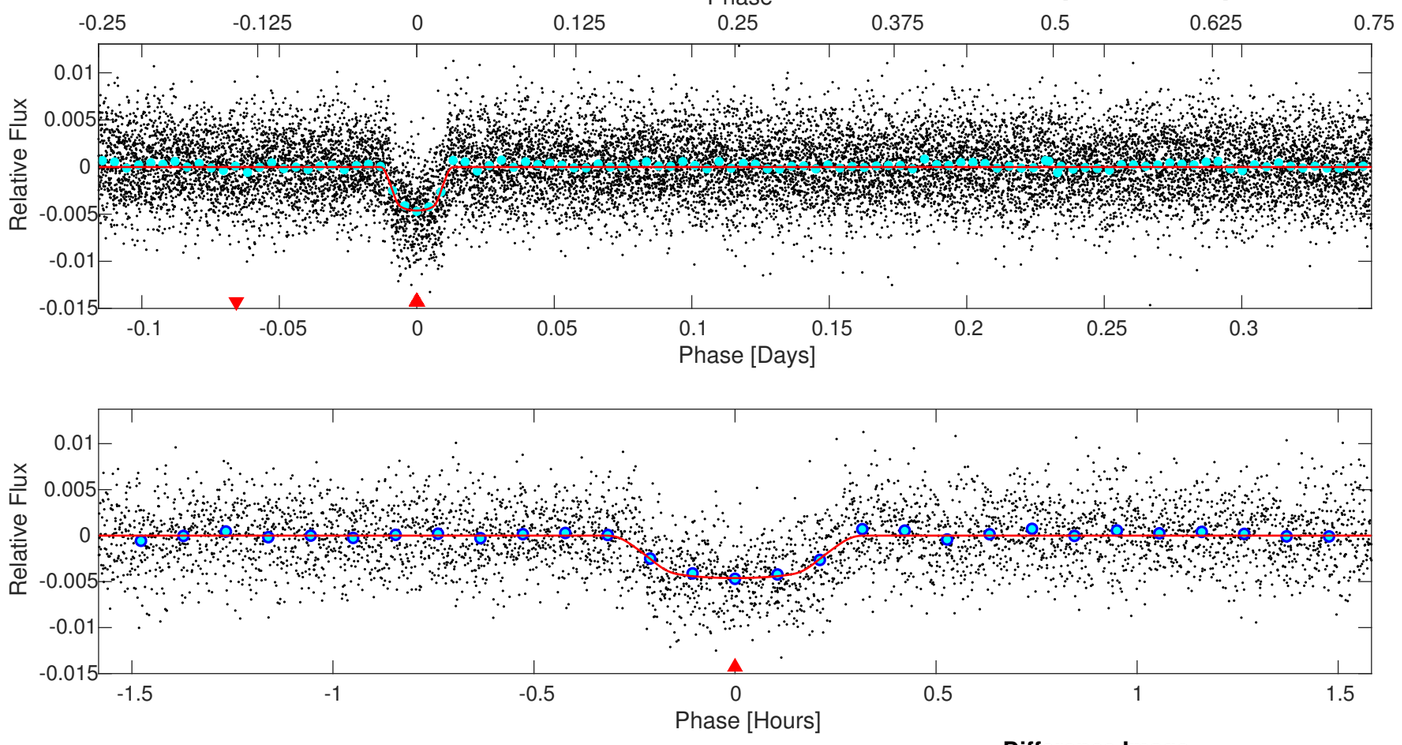
Distances are corrected for proper motion. This table may not contain all of the objects shown.

Tier 1

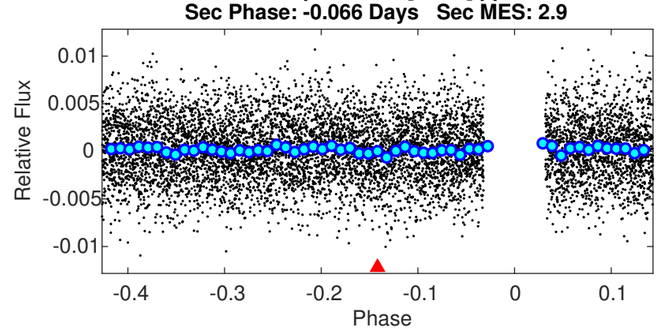
TIC: 410153553 Candidate: 1 of 1 Period: 0.463 d
TOI: 136 Corr: No Ephemeris Match

Tmag: 11.92 R*: 0.19 Rs Teff: 3004.0 K Logg: 5.09 M/H: 0.000 Rho: 23.533

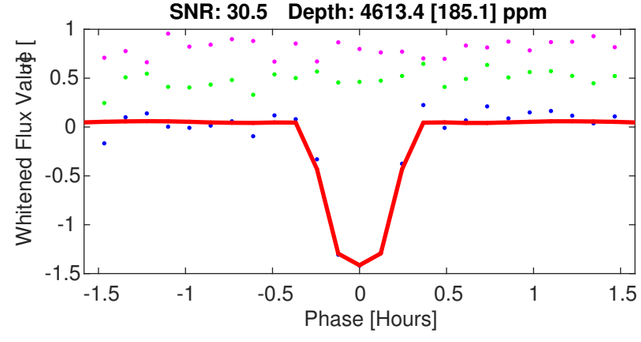




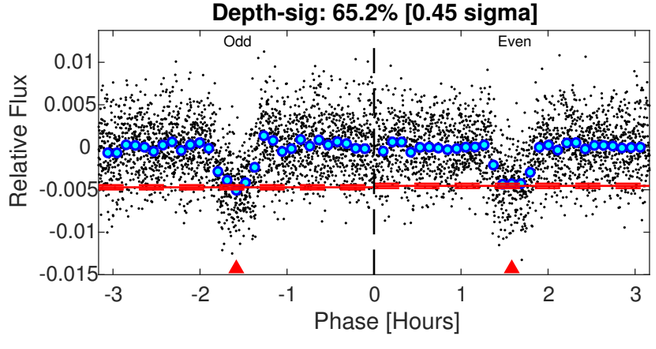
Sec Depth: 333.3 [142.6] ppm
Sec Phase: -0.066 Days Sec MES: 2.9



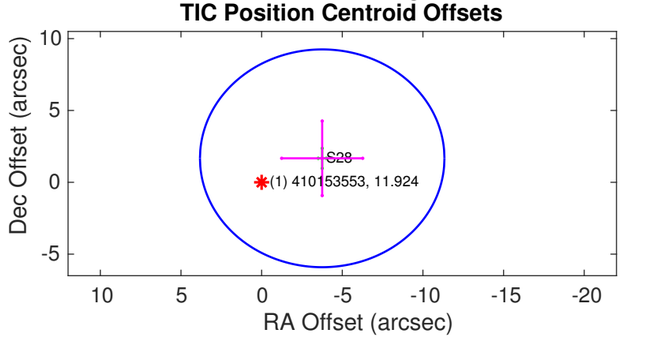
MES: 21.1 Transits: 46
SNR: 30.5 Depth: 4613.4 [185.1] ppm



Depth-sig: 65.2% [0.45 sigma]



Difference Image
TIC Position Centroid Offsets



DV Fit Results:

Period = 0.46291 [0.00001] d
Epoch = 2062.2468 [0.0004] BTJD
Rp/R* = 0.0666 [0.0094]
a/R* = 5.48 [3.90]
b = 0.70 [0.55]

Seff = 64.71 [13.90]
Teq = 723 [39] K
Rp = 1.37 [0.20] Re
a = 0.0063 [0.0002] AU
Rho = 10.346 [22.059]

Ag = 3.91 [2.01] [1.45 sigma]
Tp = 1573 [217] K [3.85 sigma]

DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.49e-97
GhostDiagnostic-chr: 8.329

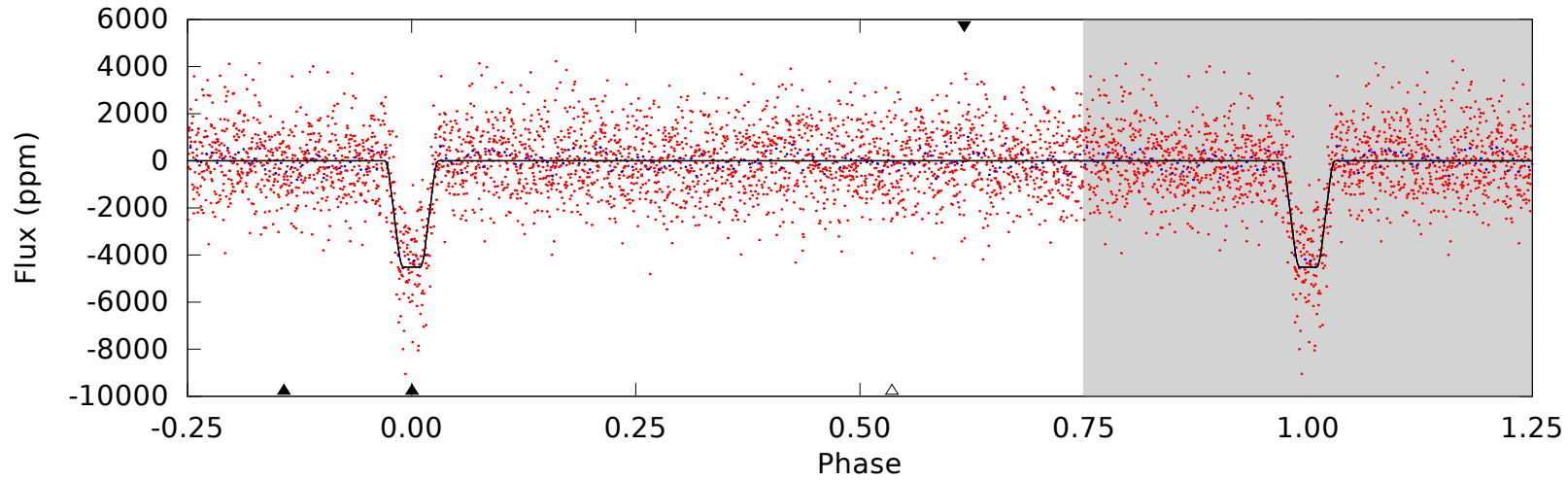
OotOffset-rm: 0.382 arcsec [0.15 sigma]
TicOffset-rm: 4.110 arcsec [1.63 sigma]
OotOffset-tot: 1
TicOffset-tot: 1
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

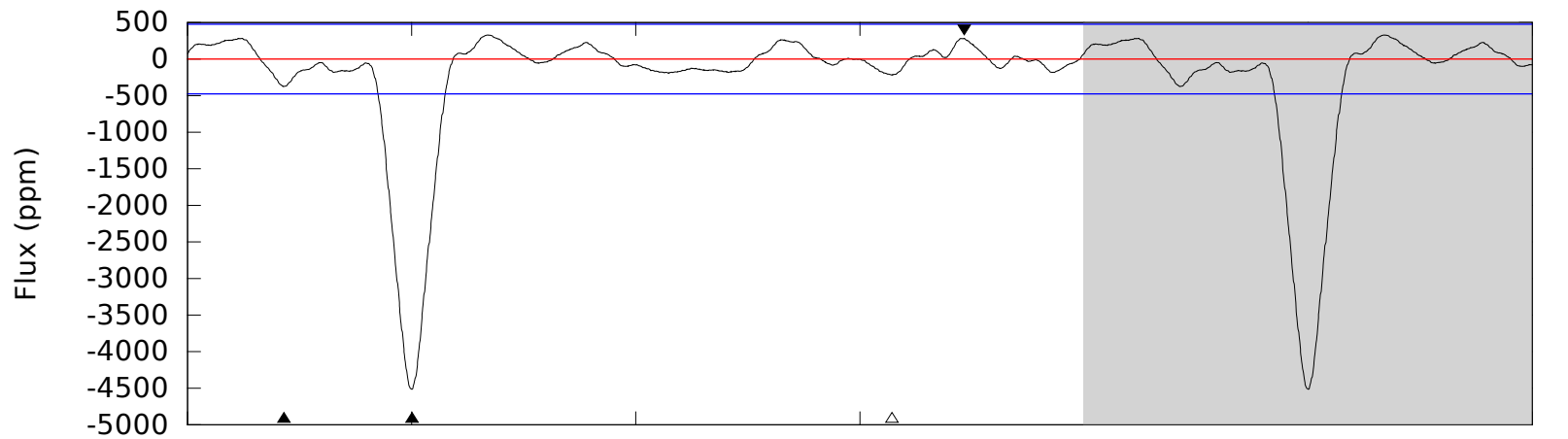
Software Revision: spoc-5.0.9-20200827 -- Date Generated: 06-Sep-2020 06:15:07 Z

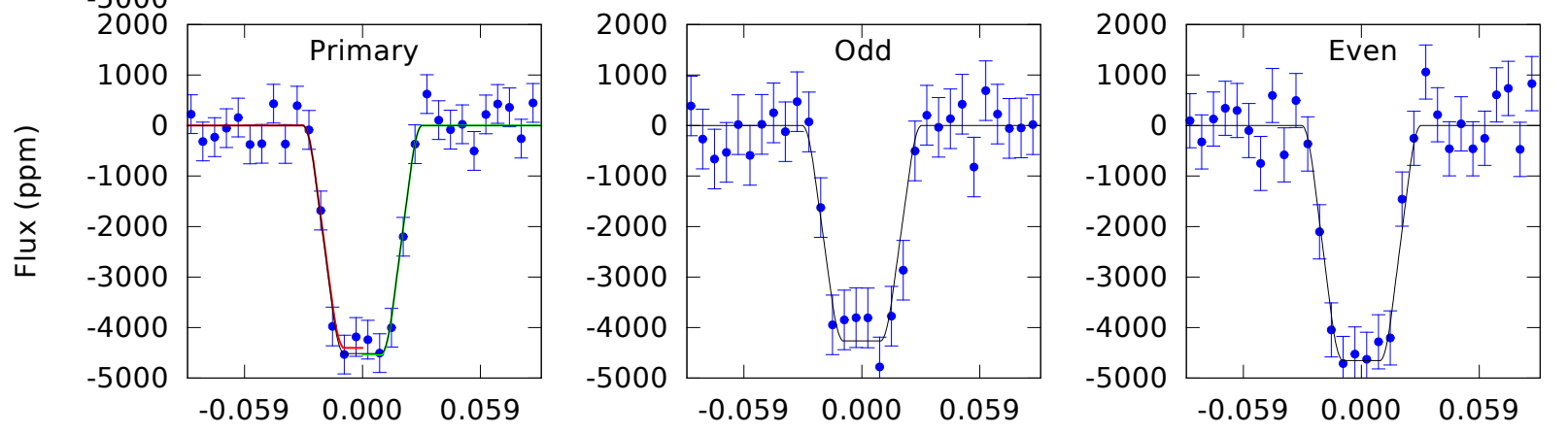
This Data Validation Report Summary was produced in the TESS Science Processing Operations Center Pipeline at NASA Ames Research Center

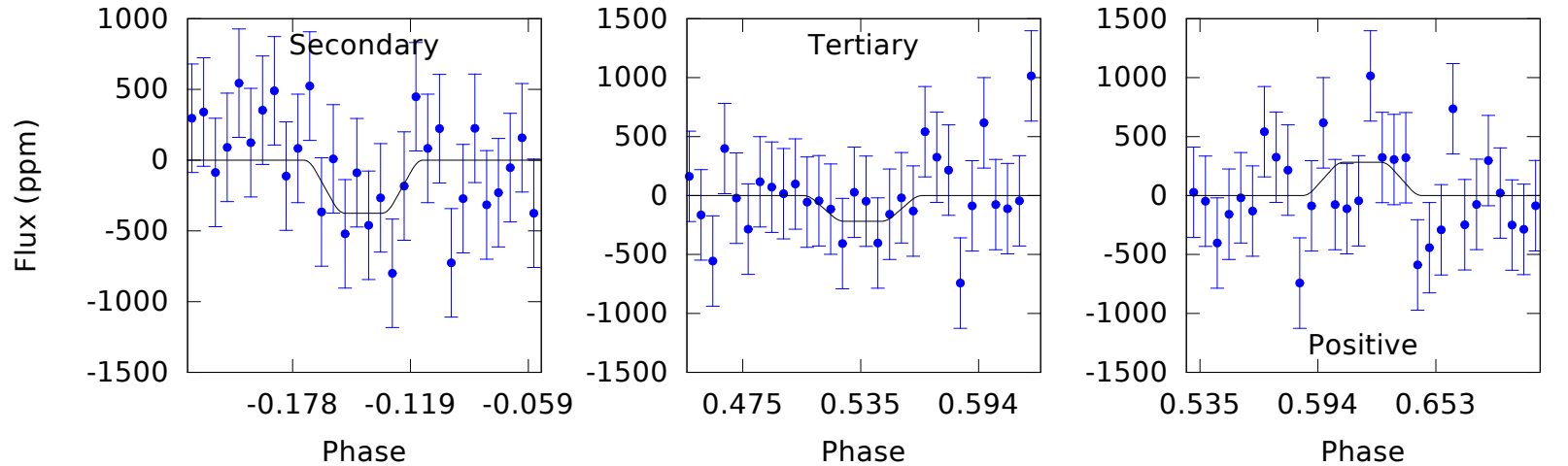
0000000410153553$_0$1, P = 0.462907 Days, E = 2061.783875 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.3	3.68	2.15	2.77	4.67	1.89	1.43	42.1	41.5	1.53	0.91	1.92	1.00	0.07	0.65



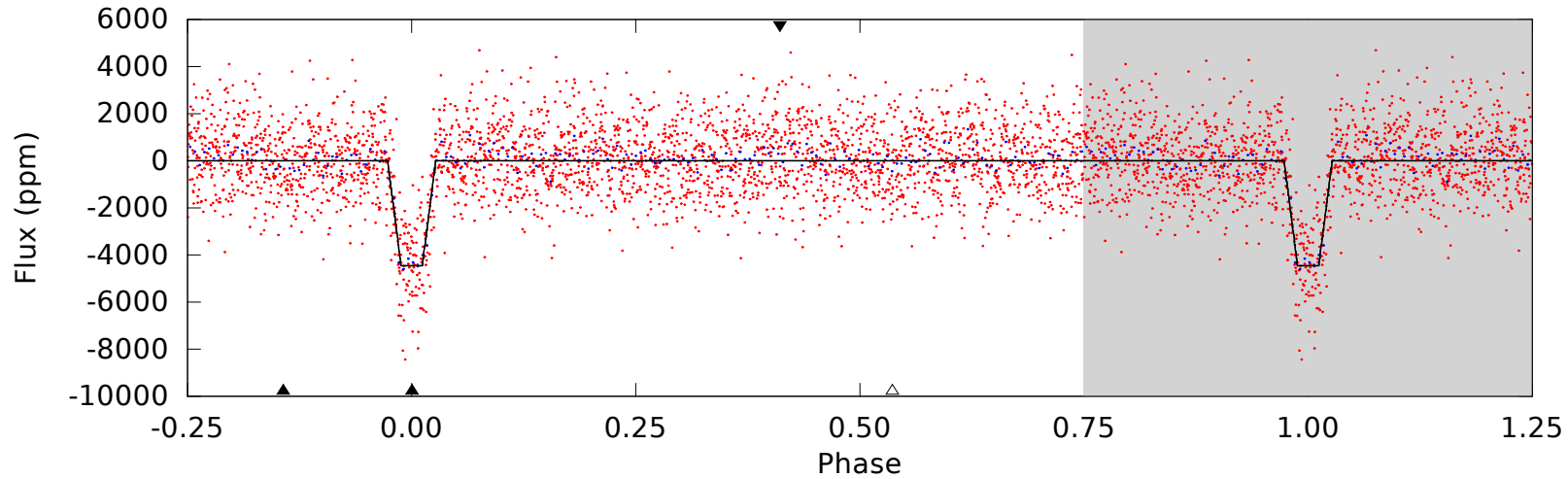


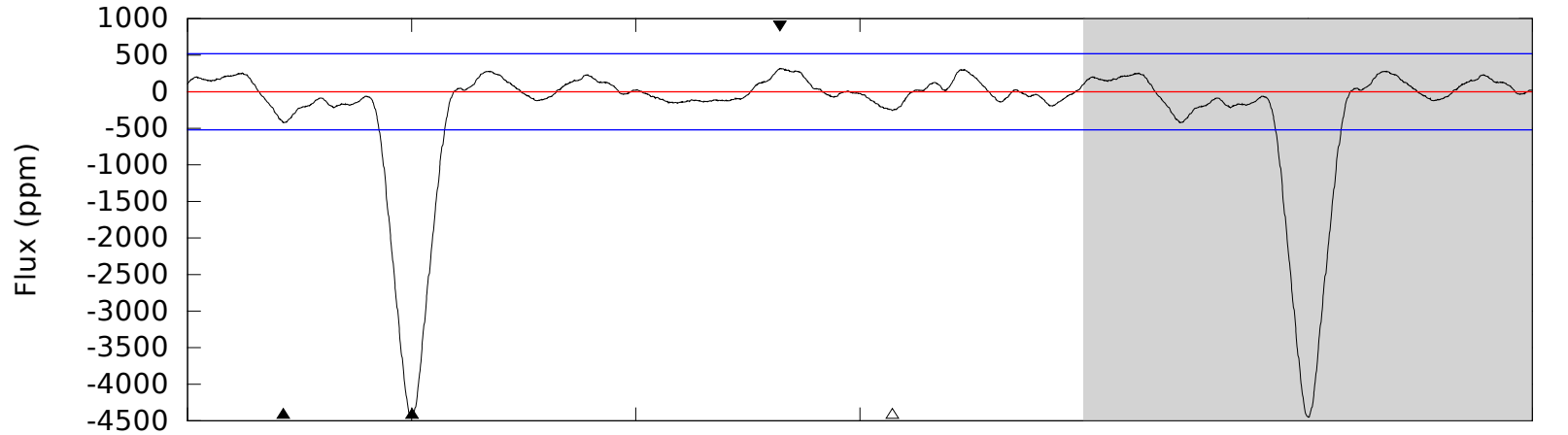


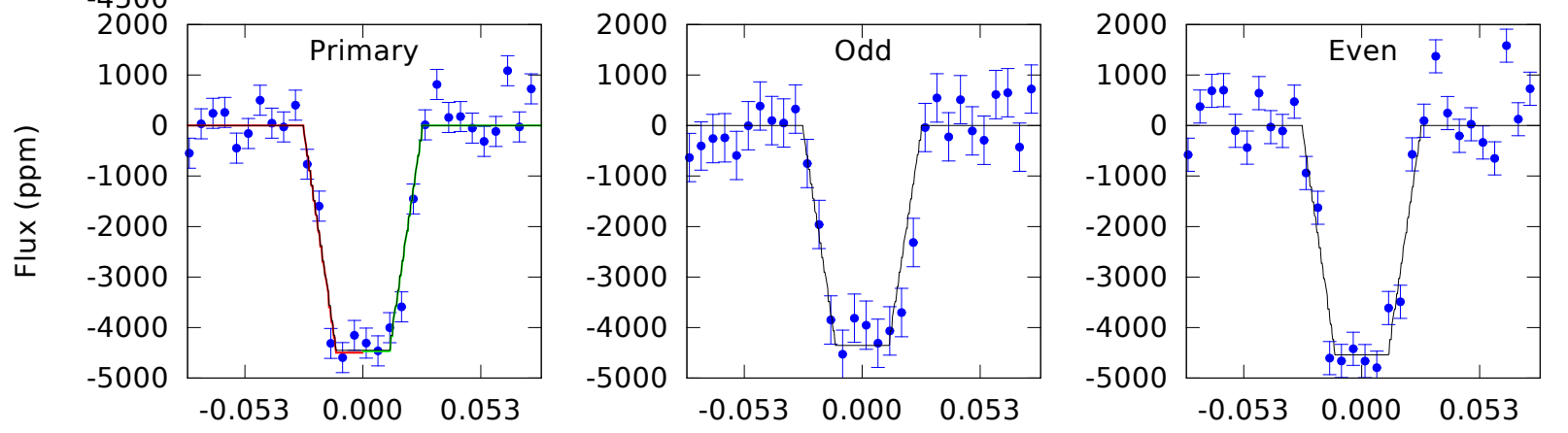


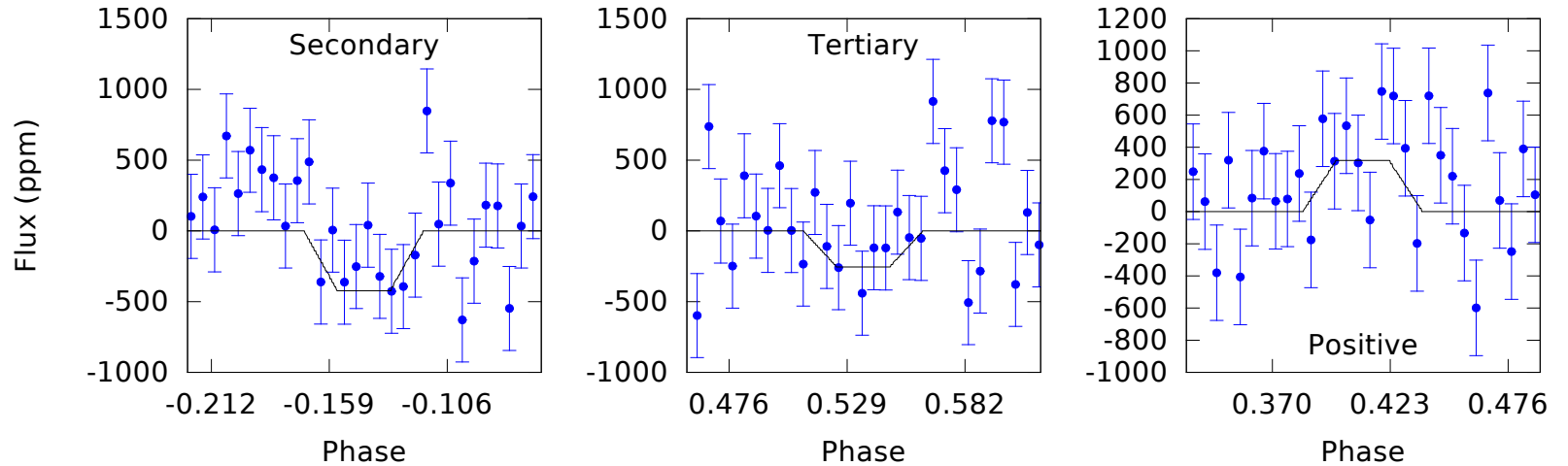
0000000410153553$_0$1, P = 0.462907 Days, E = 2061.783902 Days

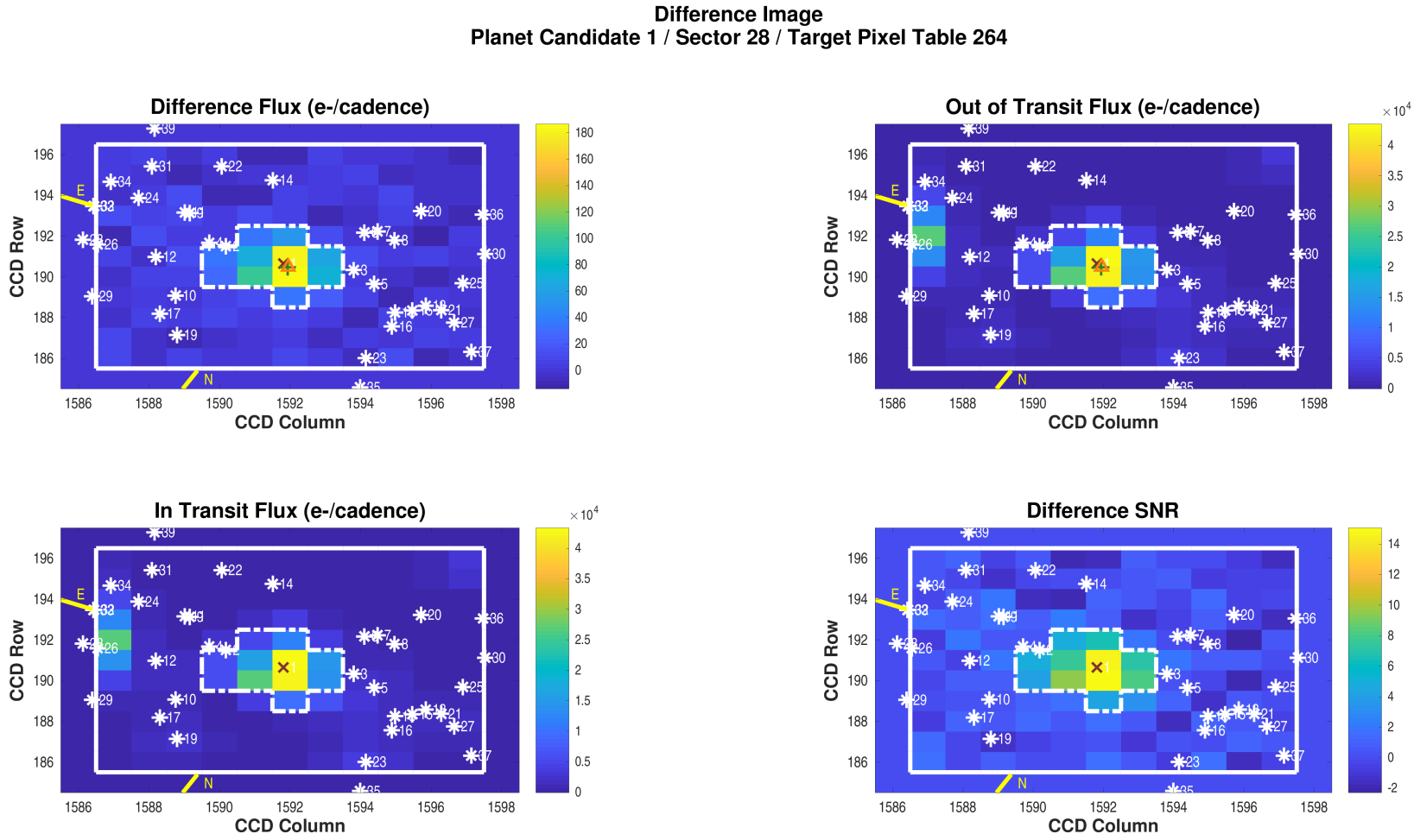
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.2	3.82	2.30	2.87	4.70	1.94	1.28	37.9	37.3	1.52	0.95	0.84	0.97	0.07	0.12



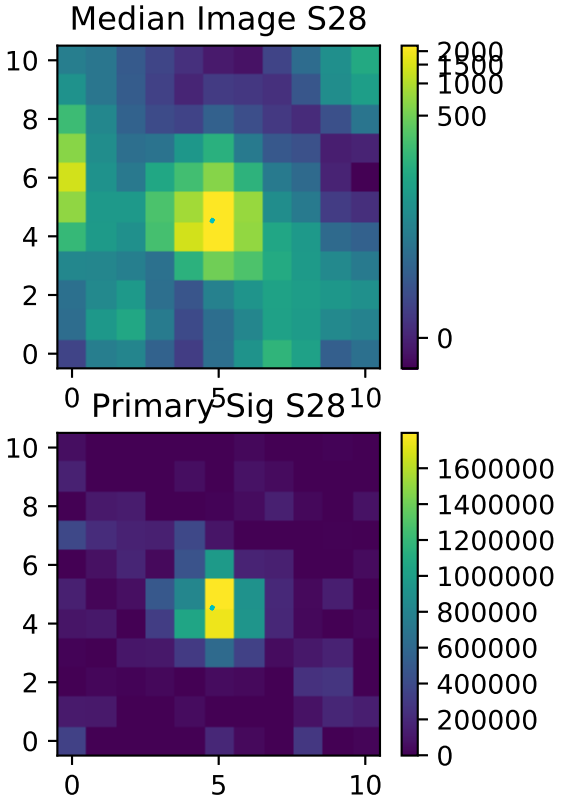








Difference image for target 410153553, planet candidate 1, sector 28, target pixel table 264. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 45; number of valid in-transit cadences = 494; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 1784; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.98 (good).
Open `./planet-01/difference-image/0000000410153553-01-difference-image-28-264.fig`


Median Image S28
2000
1500
1000
500
0
Primary Sig S28
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0