KIC 009490342

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
009490342-01	OBS	No	466.184053	139.731866	453.9	4.949	7.2	7.1	1.88	5421	4.62	2.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009490342-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

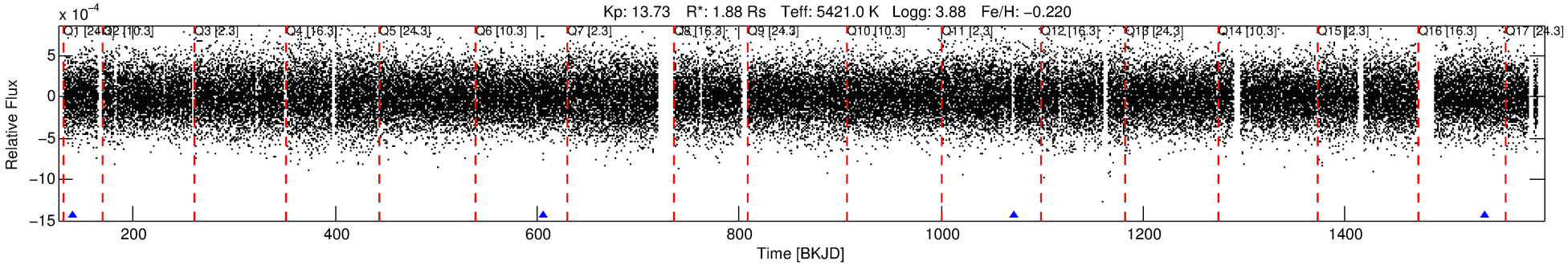
Ephemeris Match Information For 009490342-01

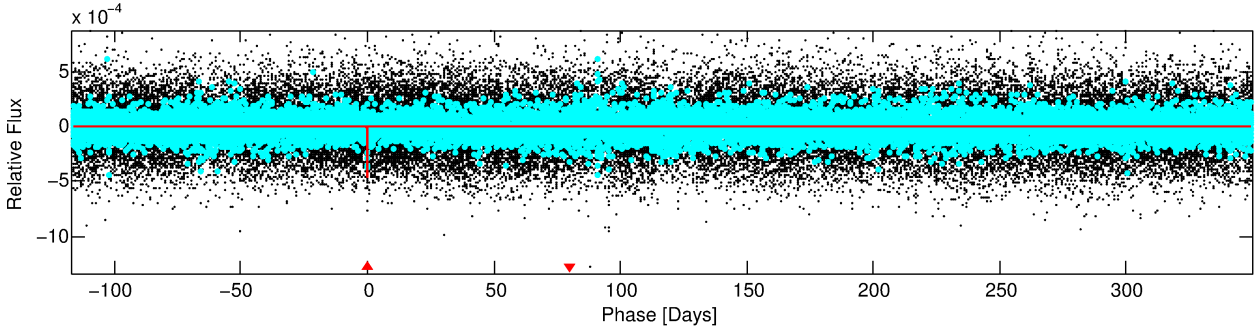
No Significant Match Found

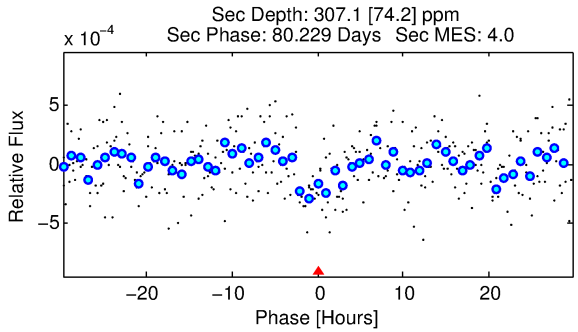
DV One-Page Summary

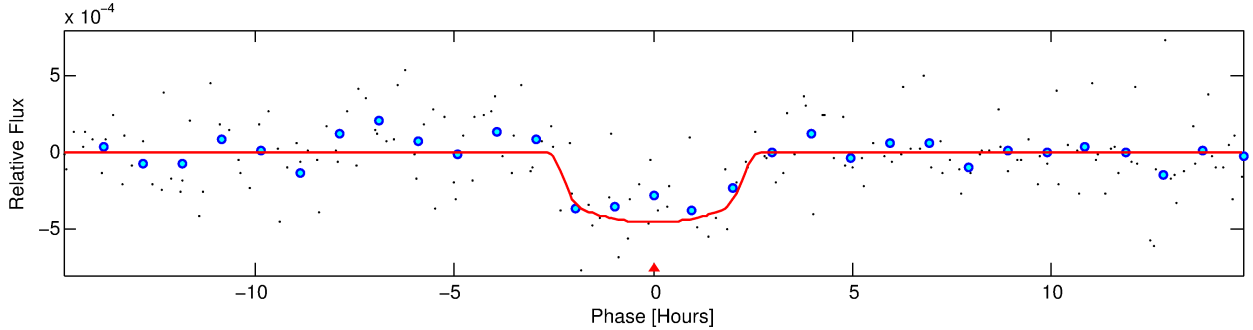
KIC: 9490342 Candidate: 1 of 1 Period: 466.184 d
KOI: K07180 Corr: No Ephemeris Match

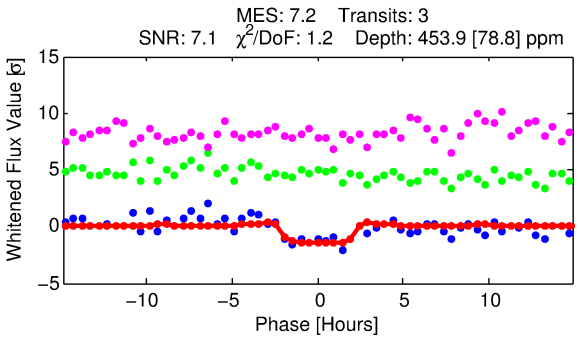
Kp: 13.73 R*: 1.88 Rs Teff: 5421.0 K Logg: 3.88 Fe/H: −0.220

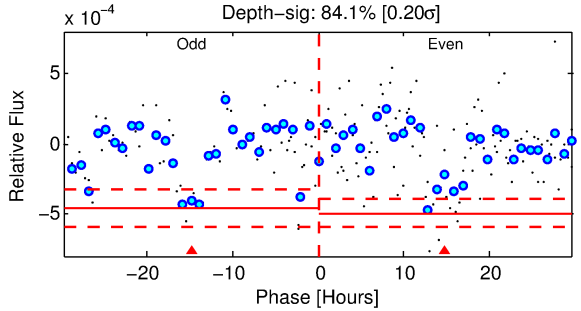


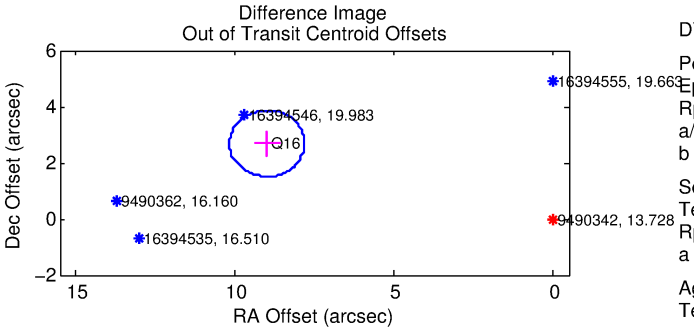












DV Fit Results:

Period = 466.18405 [0.00608] d
Epoch = 139.7319 [0.0096] BKJD
Rp/R* = 0.0225 [0.0108]
a/R* = 399.93 [806.41]
b = 0.86 [0.63]

Seff = 2.00 [2.21]
Teq = 303 [84] K
Rp = 4.61 [3.52] Re
a = 1.1687 [0.7557] AU

Ag = 10835.60 [15997.21] [0.68σ]
Teffp = 4781 [1192] K [3.75σ]

DV Diagnostic Results:

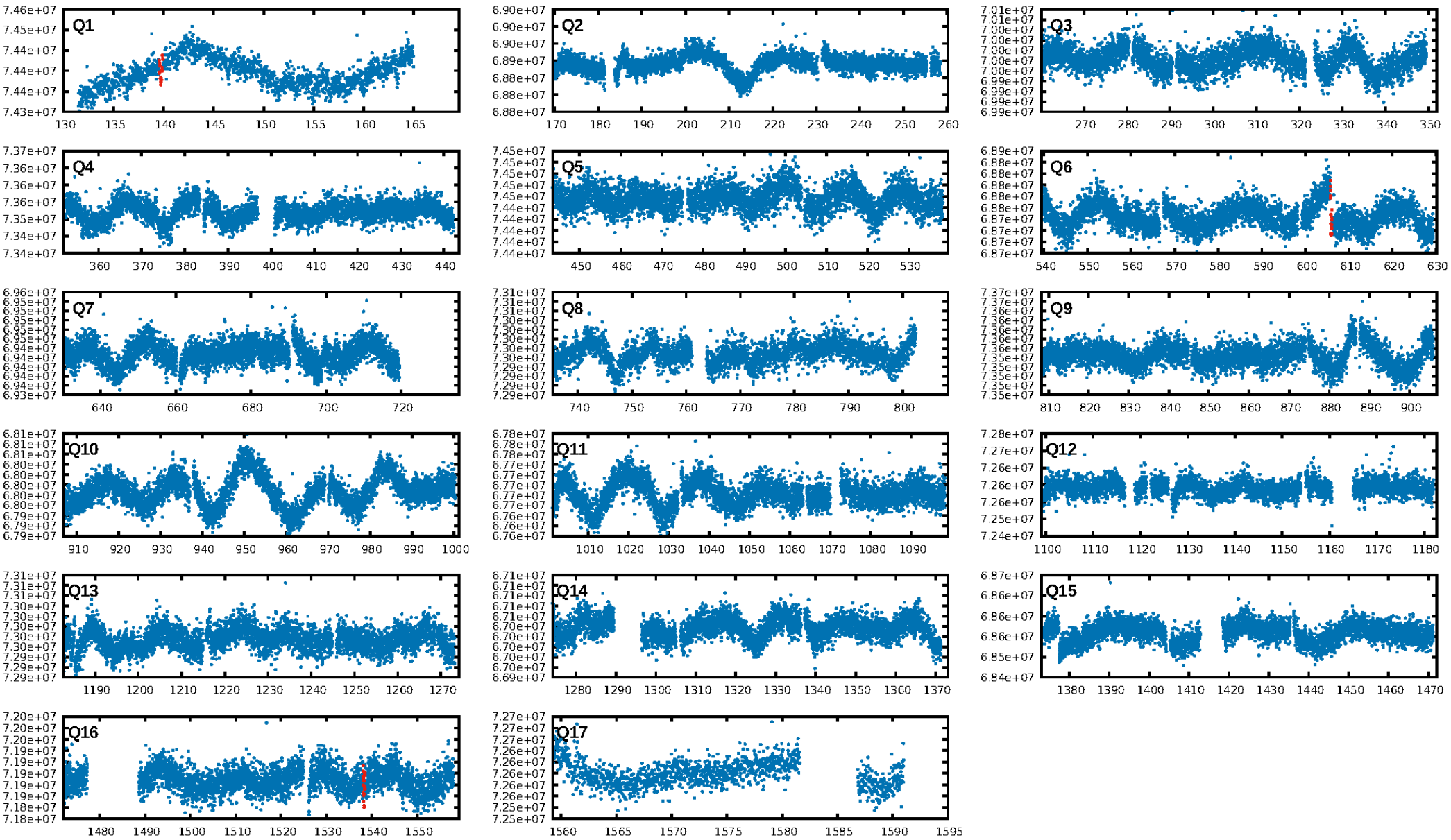
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 49.2%
ModelChiSquareGof−sig: 95.3%
Bootstrap−pfa: 2.27e−09
RollingBand−fgt: 1.00 [2/2]
GhostDiagnostic−chr: 11.76

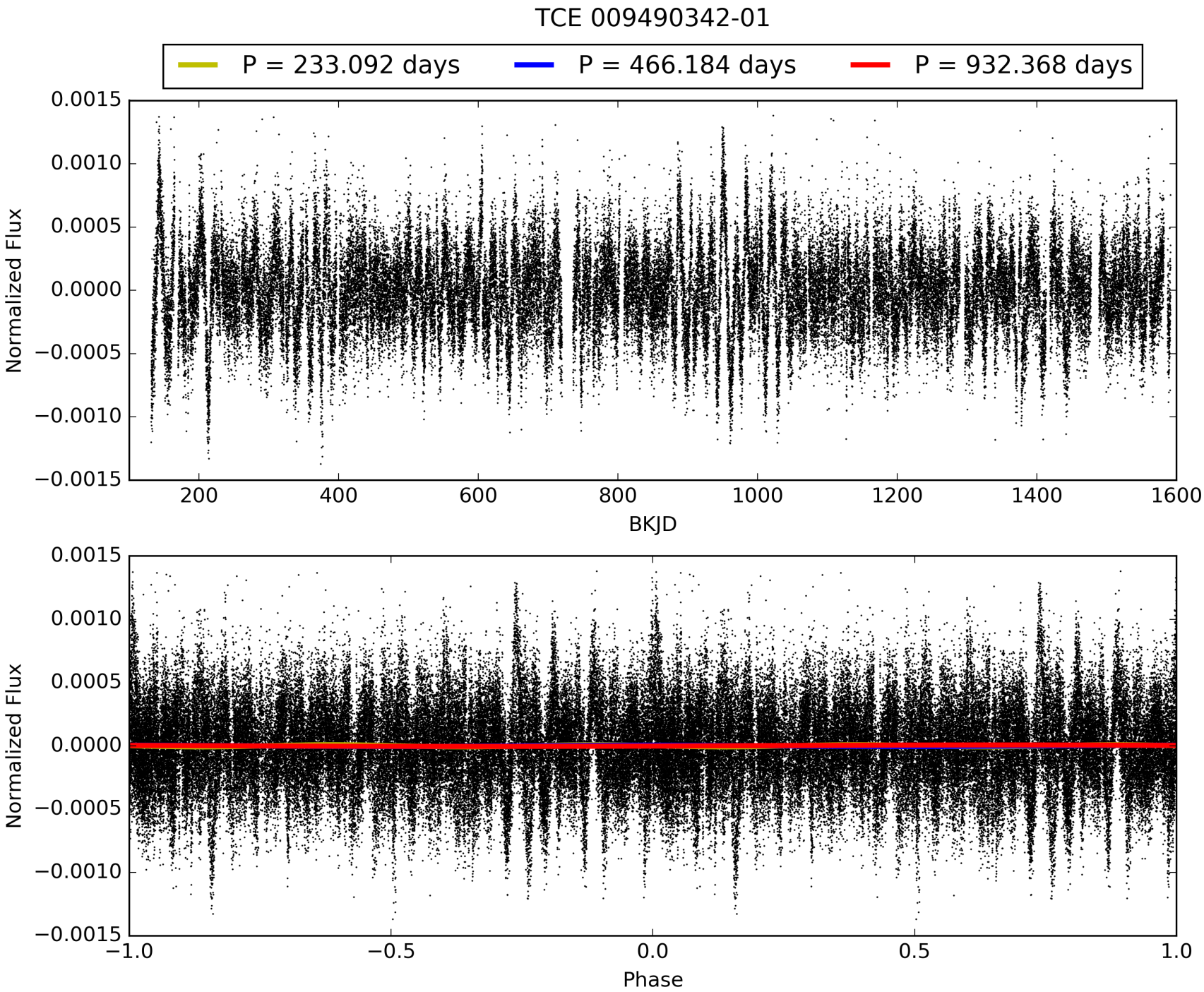
Centroid−sig: 22.1%
Centroid−so: 1.377 arcsec [1.22σ]
OotOffset−rm: 9.383 arcsec [23.85σ]
KicOffset−rm: 9.475 arcsec [24.22σ]
OotOffset−st: 0/0/1/0 [1]
KicOffset−st: 0/0/1/0 [1]
DiffImageQuality−fgm: 1.00 [1/1]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 03:57:58 Z

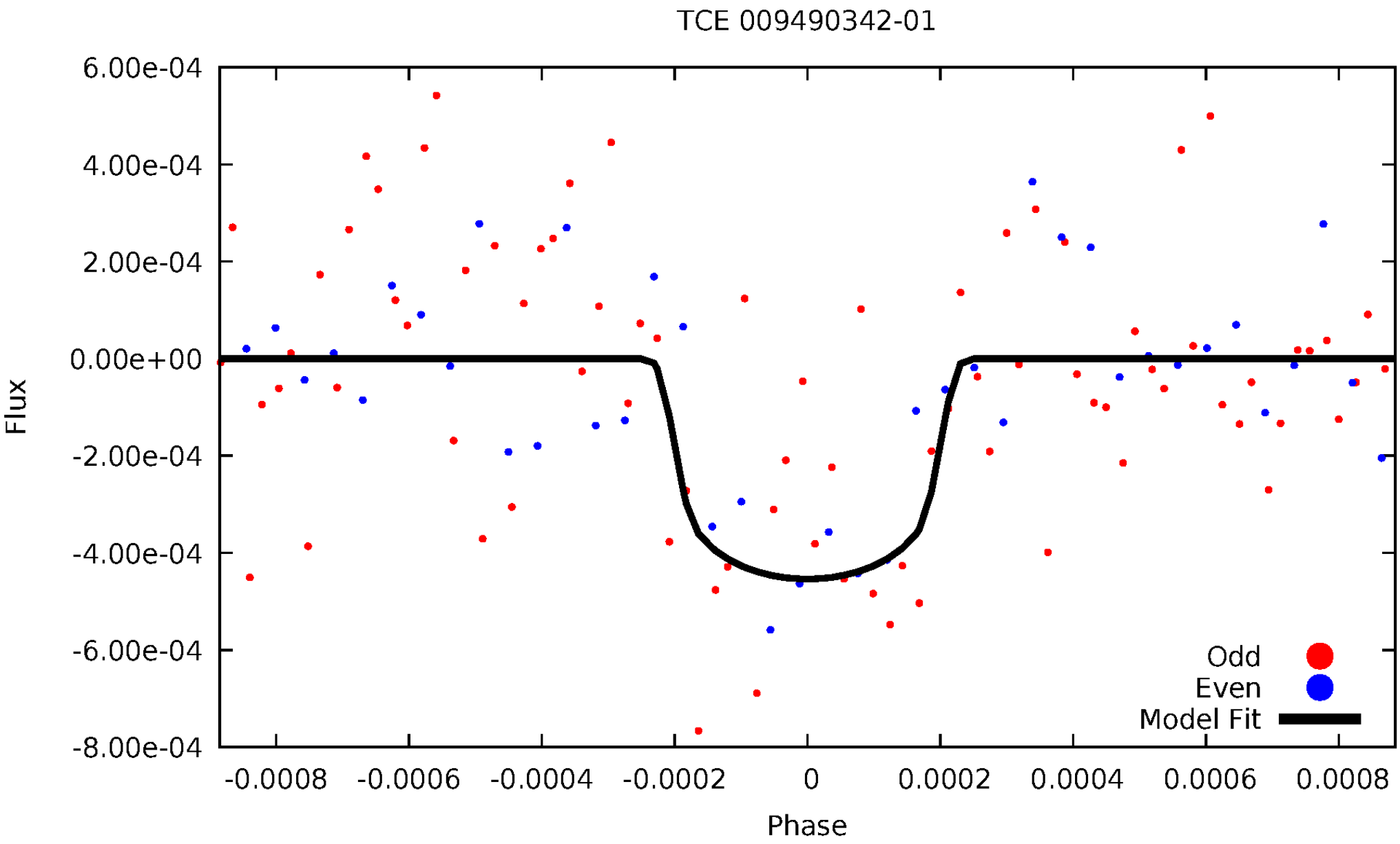
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009490342-01, PDC Light Curves




TCE 009490342-01
P = 233.092 days
P = 466.184 days
P = 932.368 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even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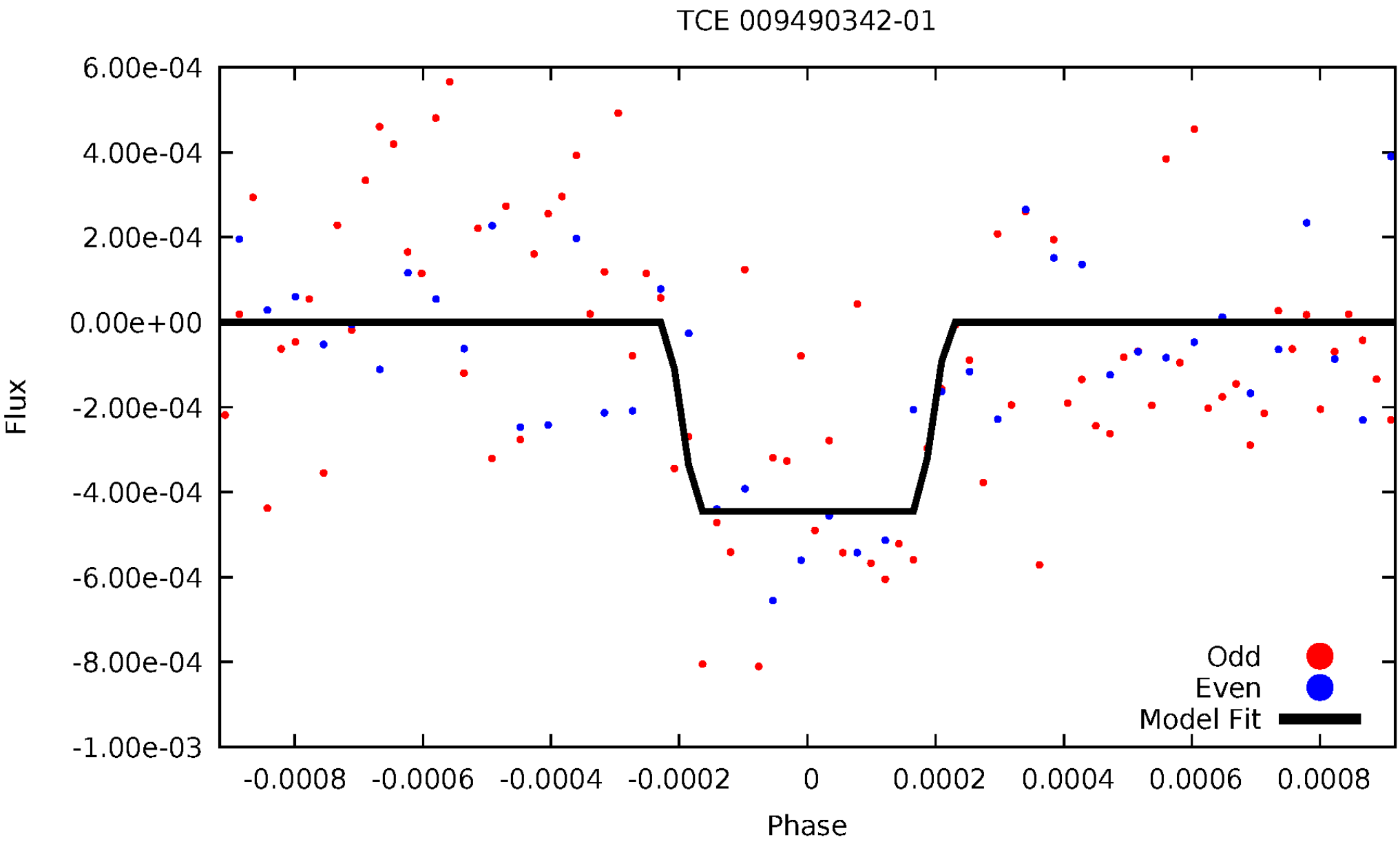
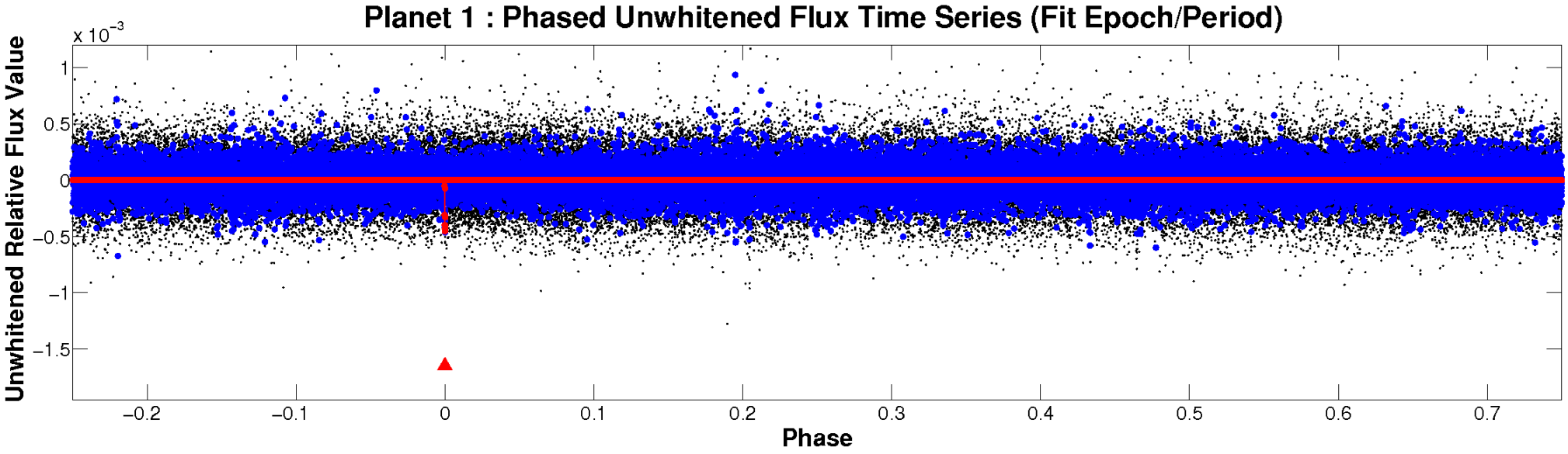
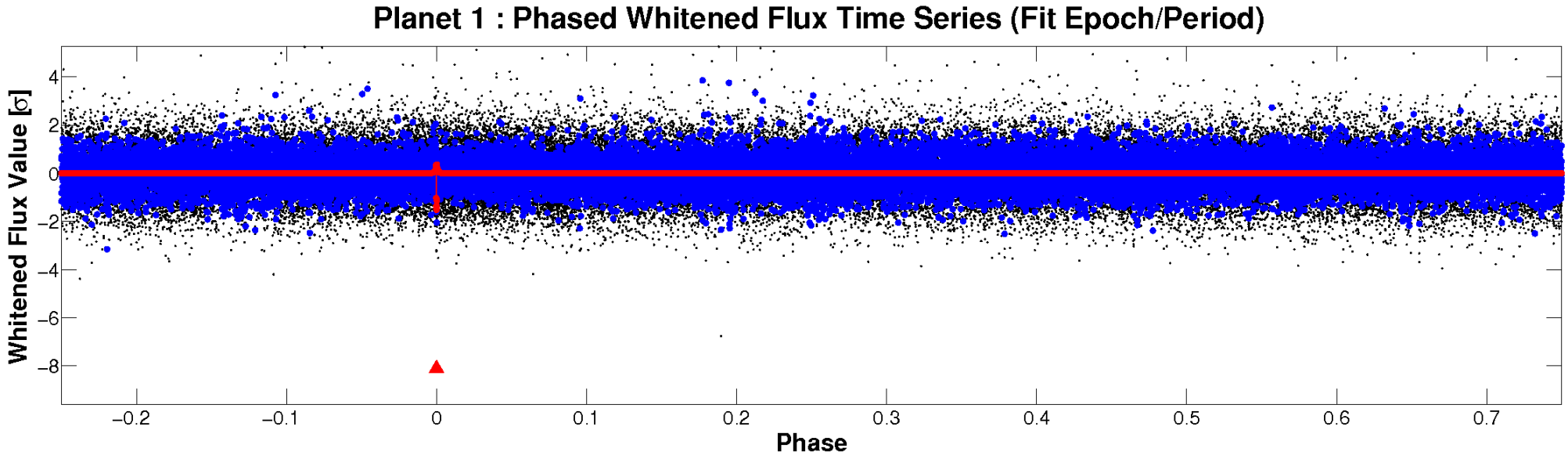
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009490342-01
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

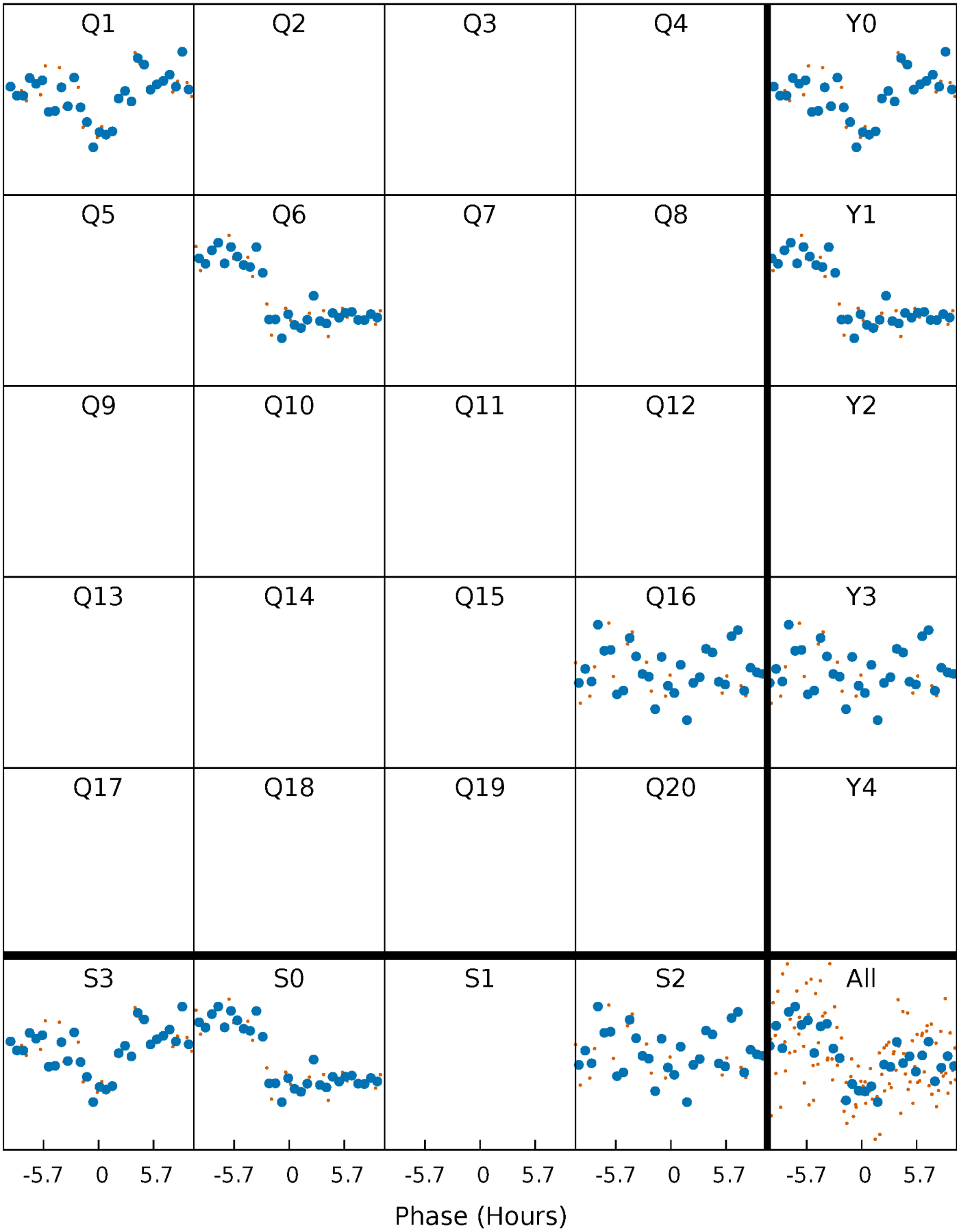
Non-Whitened Vs. Whitened Light Curve





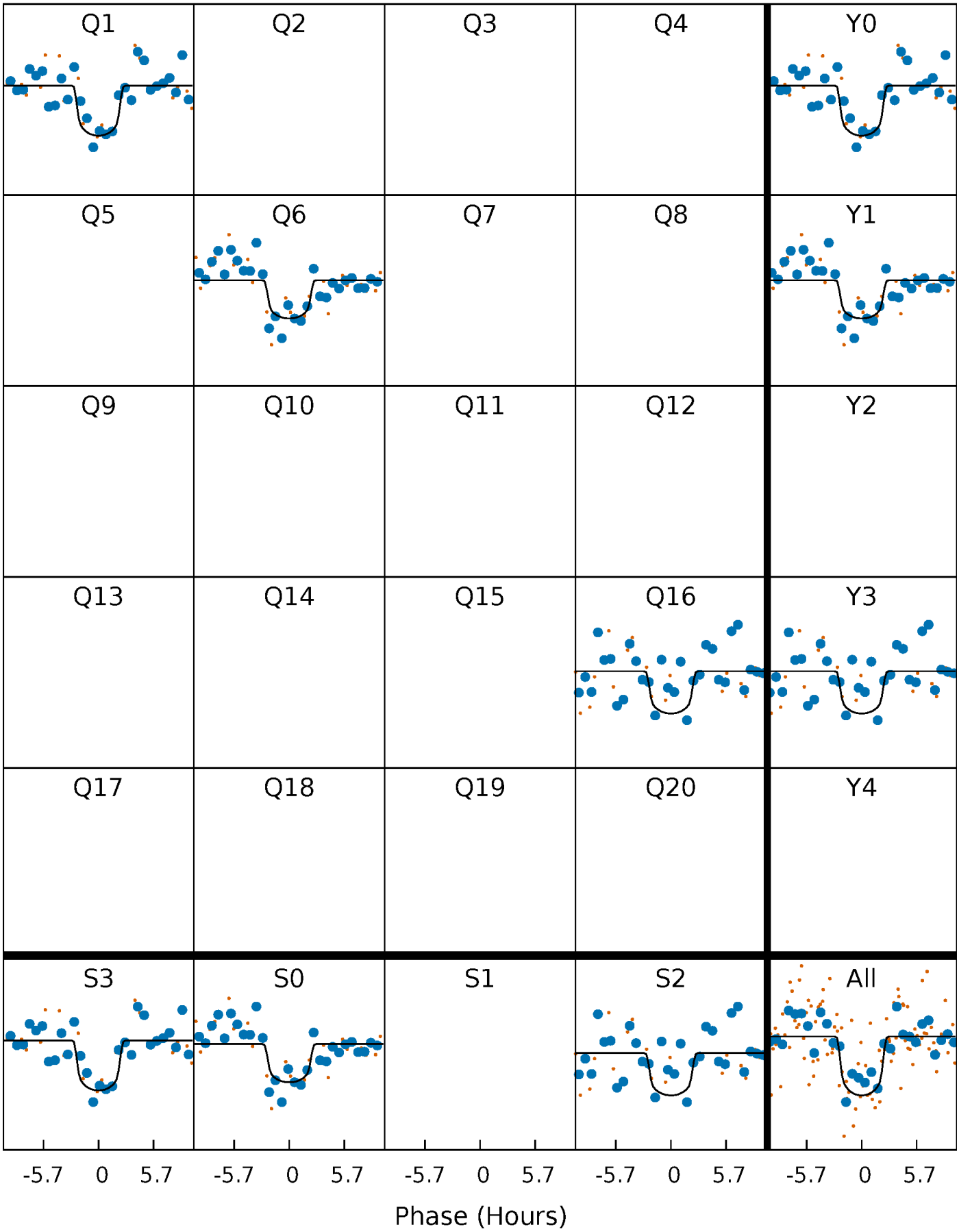
PDC Quarter-Phased Transit Curves

TCE 009490342-01 P=466.184053 Days T_0=139.731866 (BKJD)



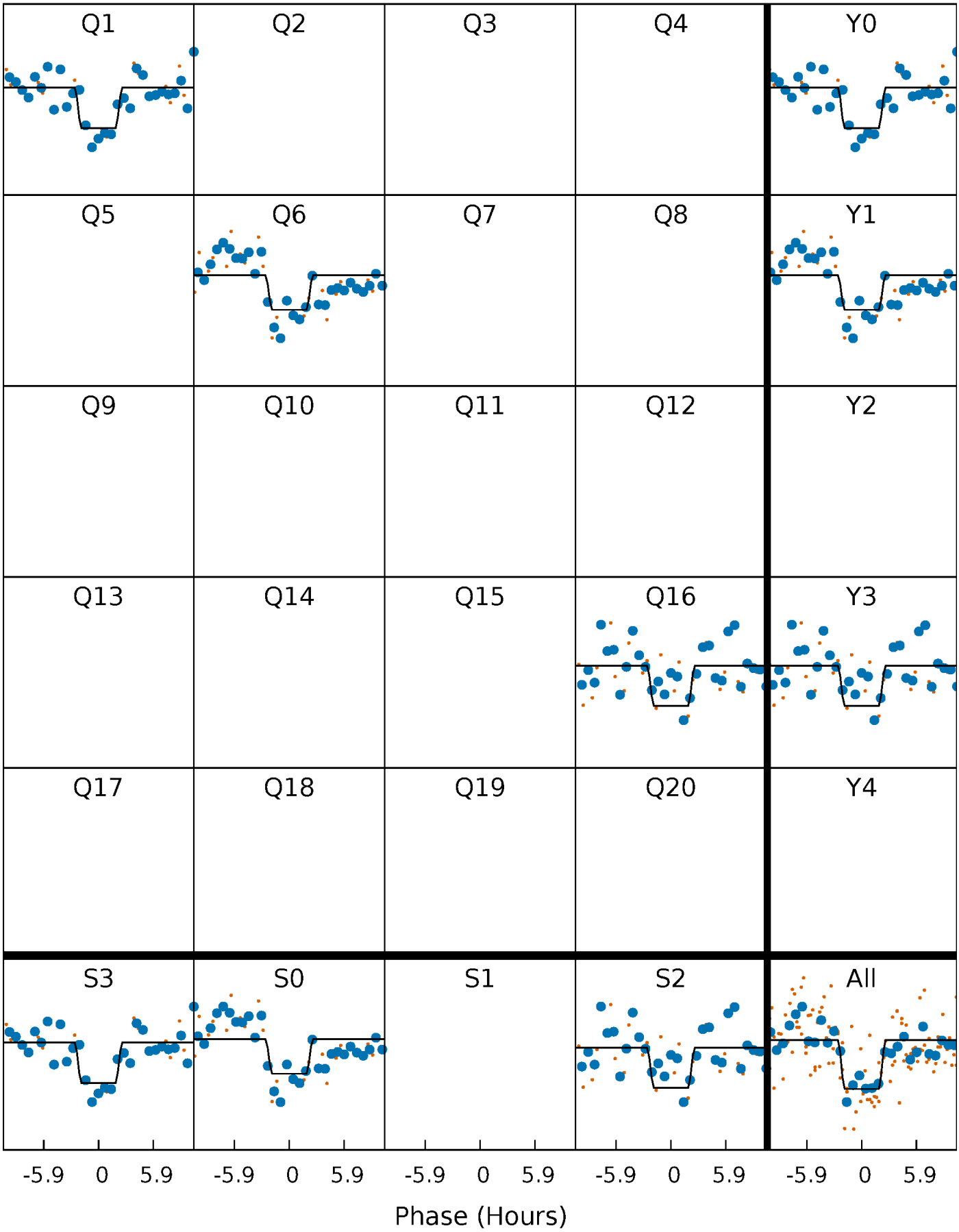
DV Quarter-Phased Transit Curves

TCE 009490342-01 P=466.184053 Days T_0=139.731866 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

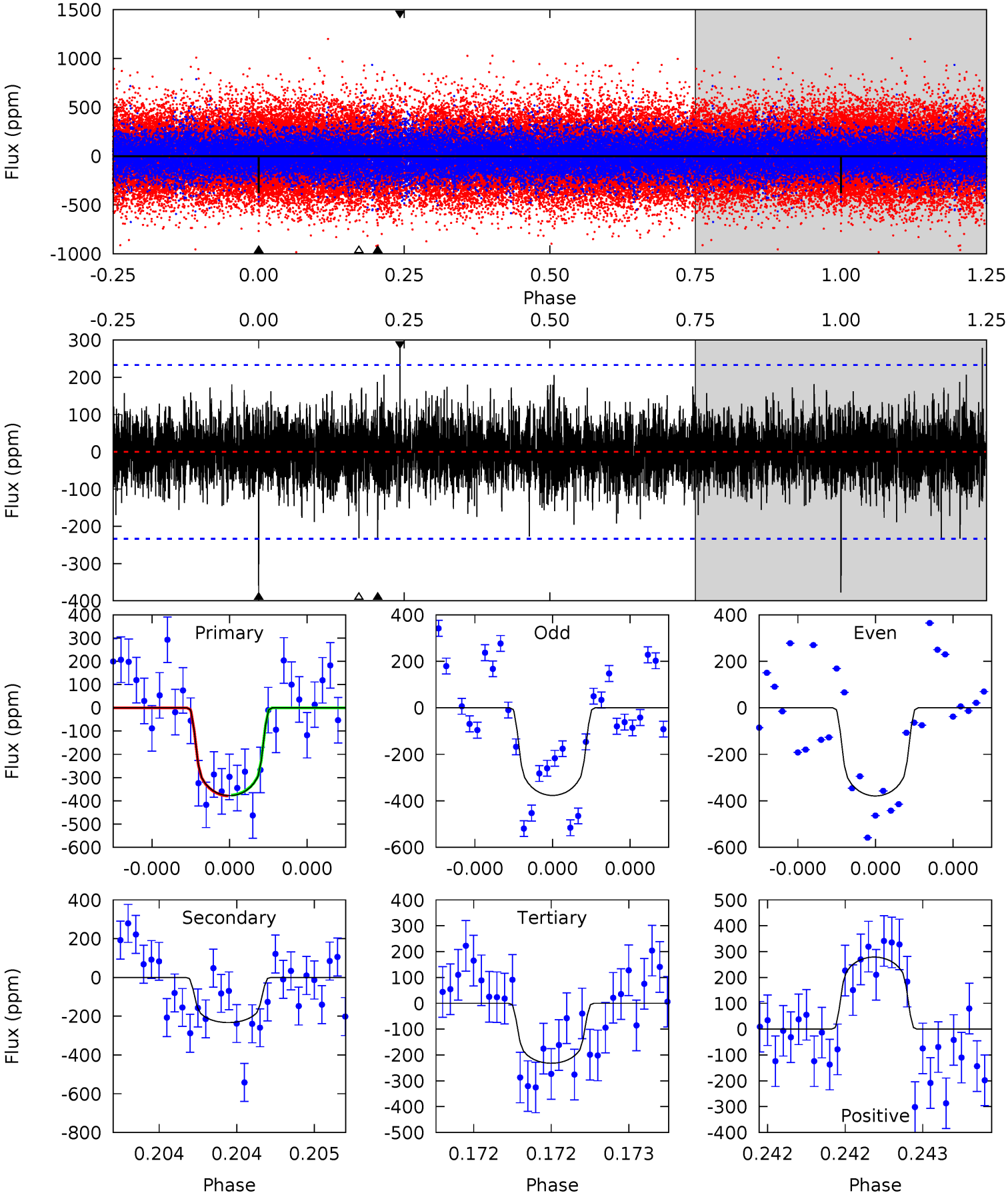
TCE 009490342-01 P=466.184860 Days T_0=139.730917 (BKJD)



DV Model-Shift Uniqueness Test

009490342-01, P = 466.184053 Days, E = 139.731866 Days

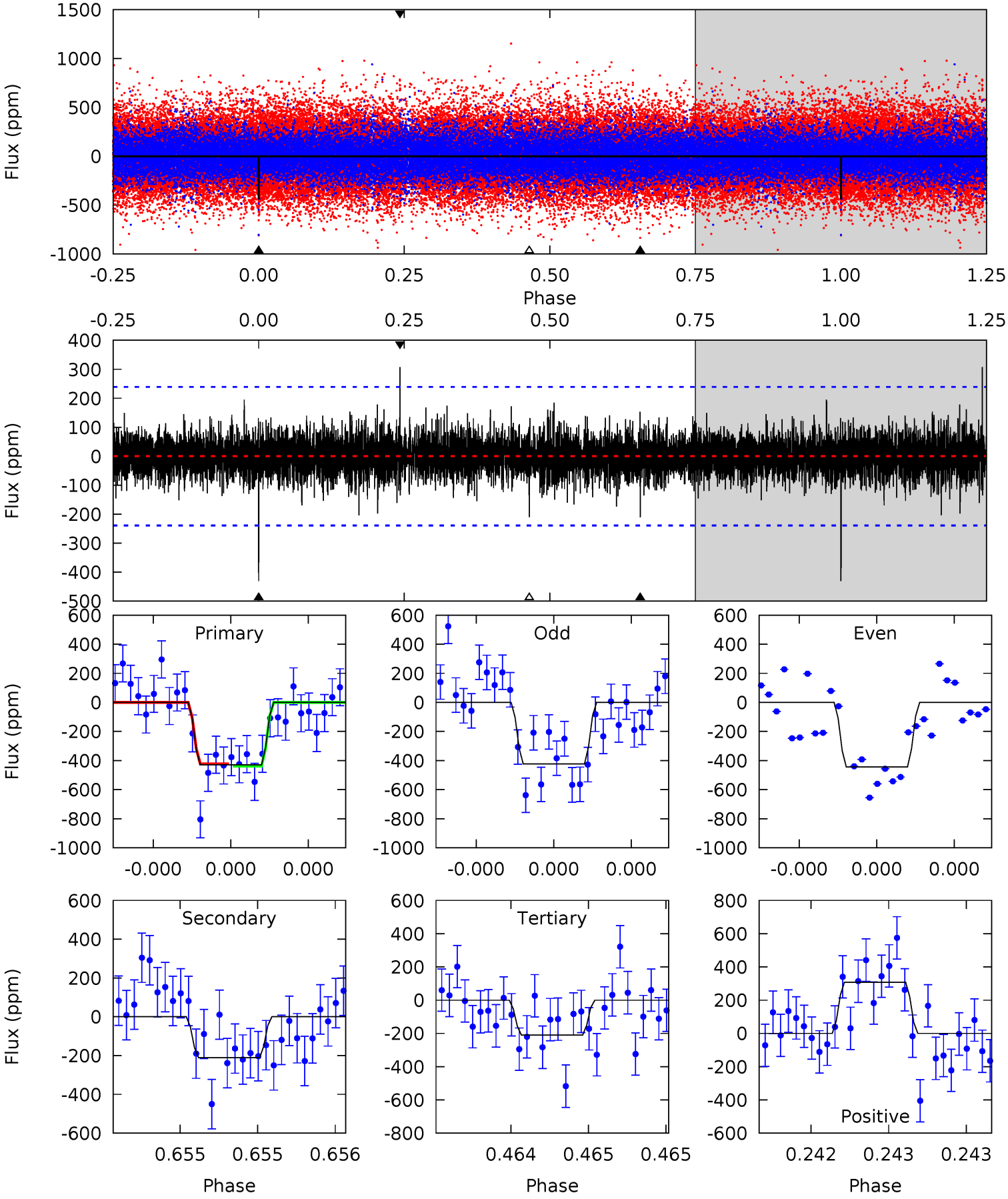
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.05	5.58	5.56	6.68	5.59	3.51	1.32	3.49	2.37	0.02	-1.10	0.03	1.00	0.42	0.04



Alt Model-Shift Uniqueness Test

009490342-01, P = 466.184860 Days, E = 139.730917 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.93	4.92	7.21	5.60	3.53	1.13	5.16	2.87	0.01	-2.28	0.21	0.97	0.42	0.17



Stellar Parameters For KIC 009490342

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	5421^{+189}_{-151}	$3.882^{+0.667}_{-0.222}$	$-0.220^{+0.350}_{-0.250}$	$1.877^{+0.834}_{-1.112}$	$0.978^{+0.153}_{-0.170}$	$0.208^{+1.996}_{-0.121}$
	+3%/-3%	+17%/-6%	+159%/-114%	+44%/-59%	+16%/-17%	+958%/-58%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009490342-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-233±42	$4.29^{+2.63}_{-2.15}$	412^{+49}_{-63}	4543^{+1295}_{-640}	9471^{+29103}_{-5804}
Alt.	-210±43	$3.82^{+2.76}_{-2.07}$	418^{+48}_{-67}	4698^{+1551}_{-767}	10660^{+39309}_{-7155}

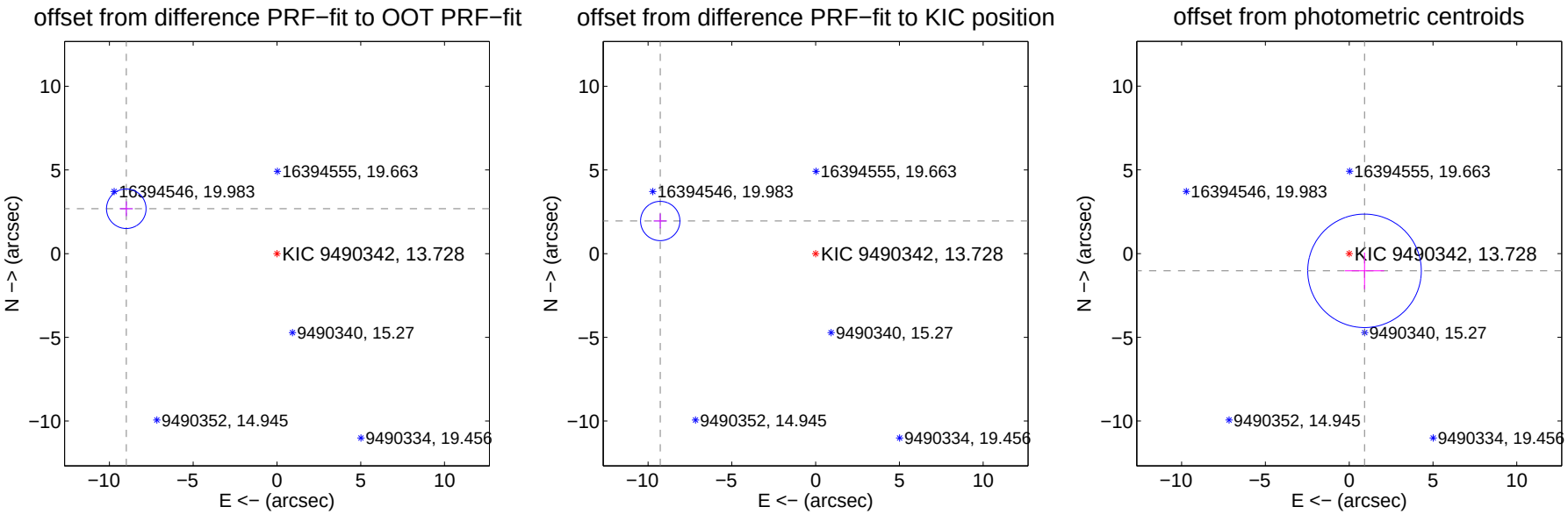
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

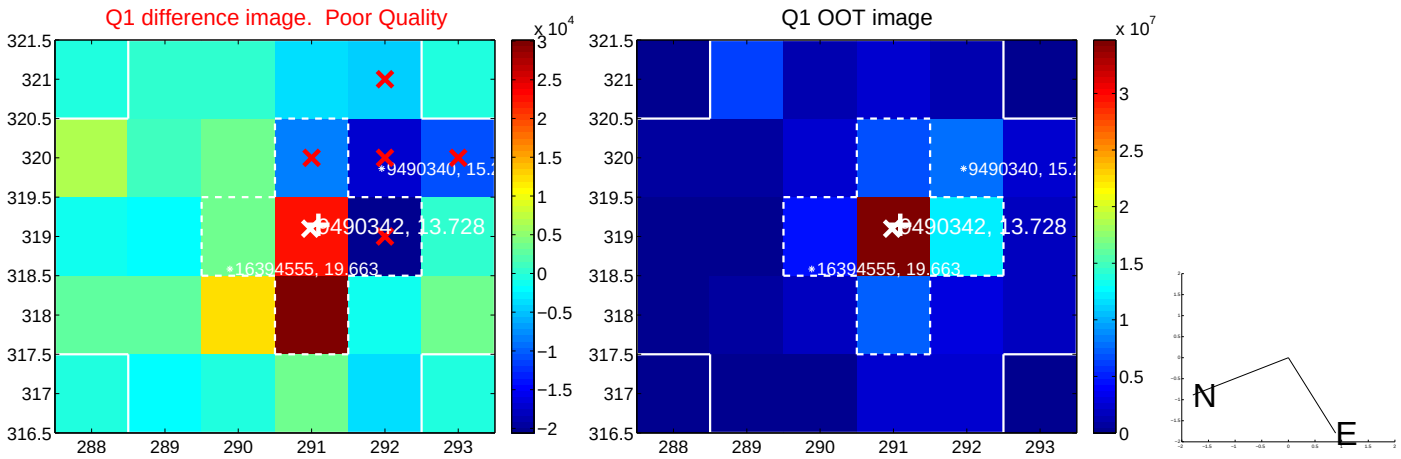
Supplemental centroid analysis for 009490342-01. Kepler magnitude: 13.73. Transit SNR 7.13
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

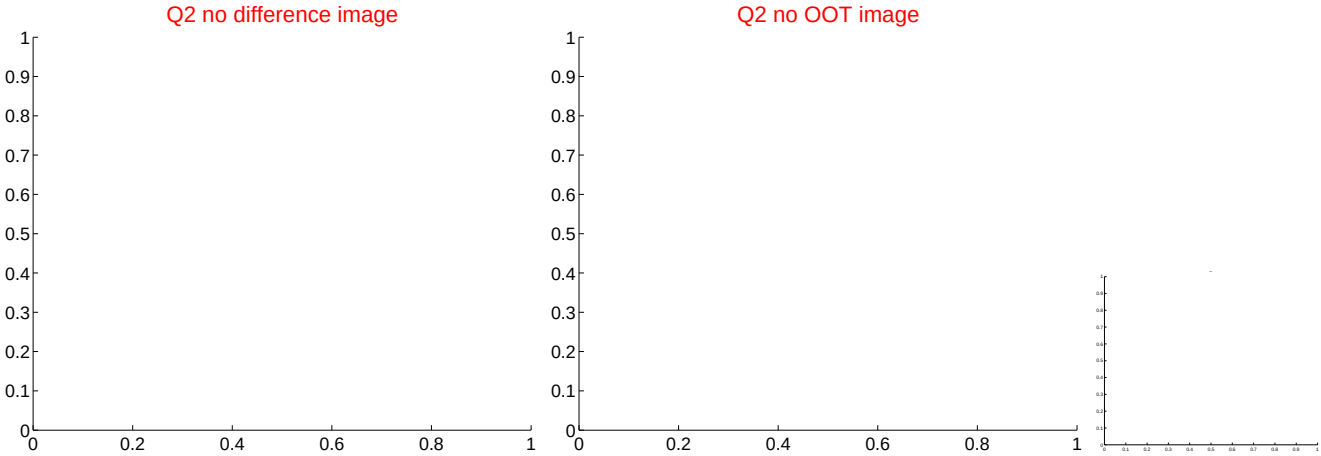
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.383 ± 0.393	23.85	8.992 ± 0.389	2.682 ± 0.441
PRF-fit source offset from KIC position	9.475 ± 0.391	24.22	9.272 ± 0.389	1.950 ± 0.441
photometric centroid source offset	1.38 ± 1.13	1.22	-0.91 ± 1.17	-1.03 ± 1.10

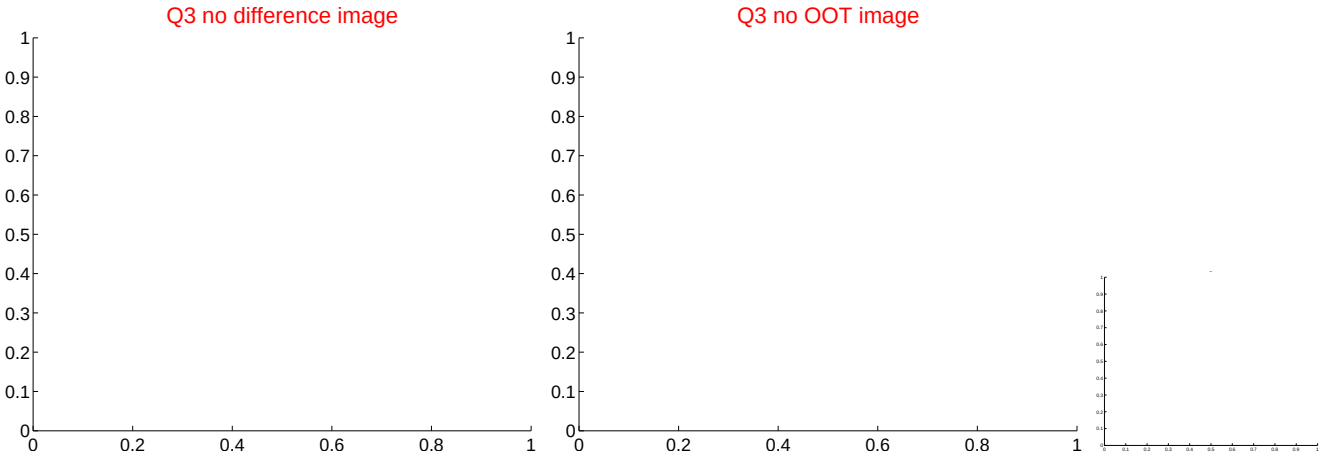


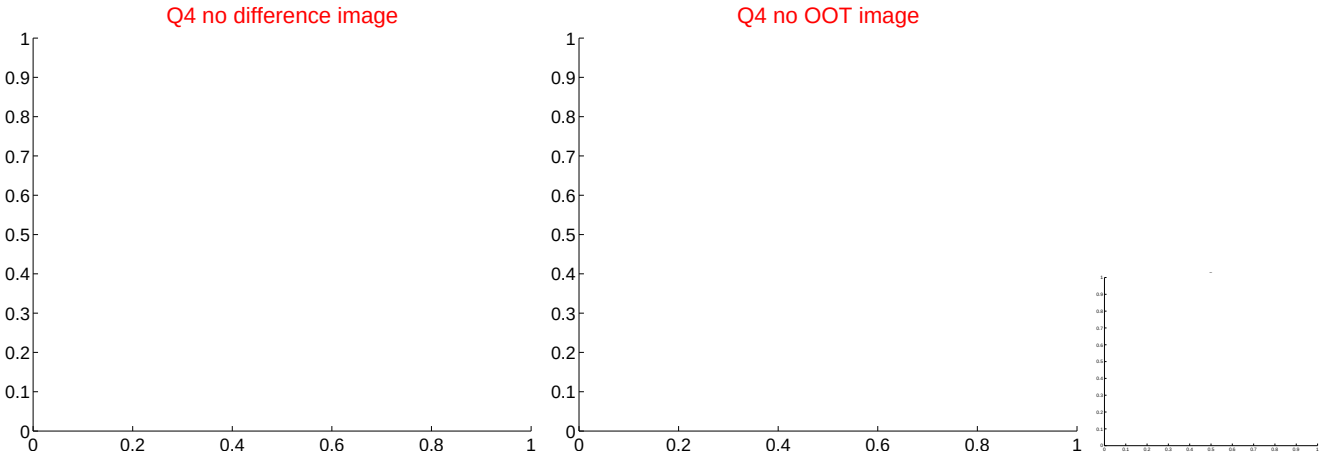
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

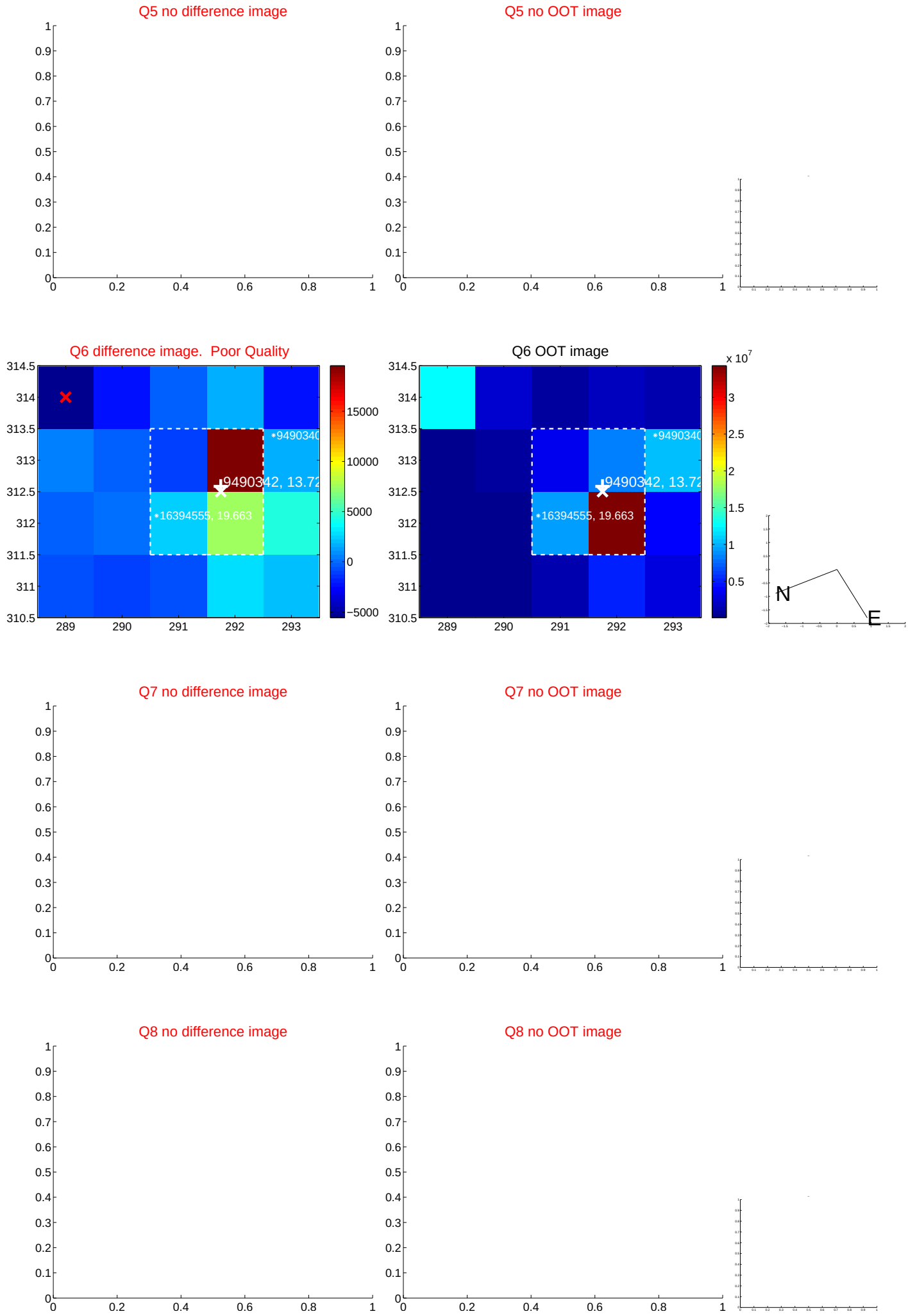




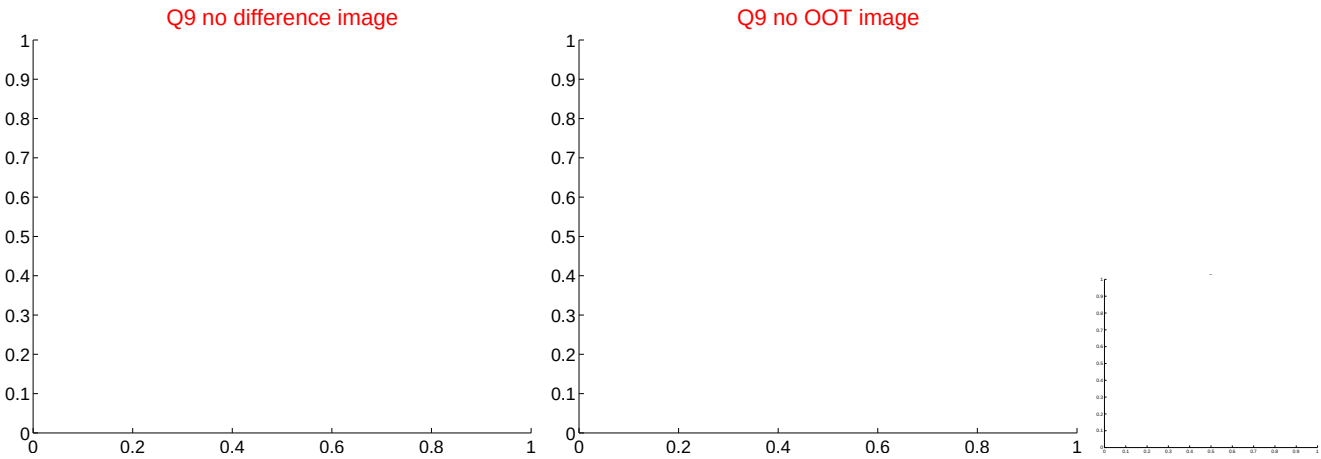


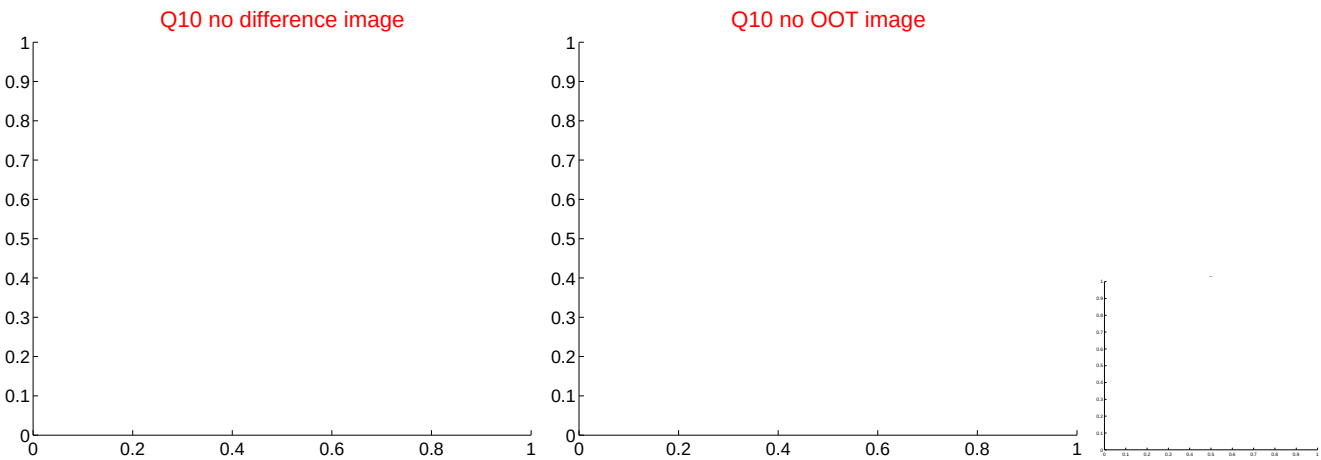


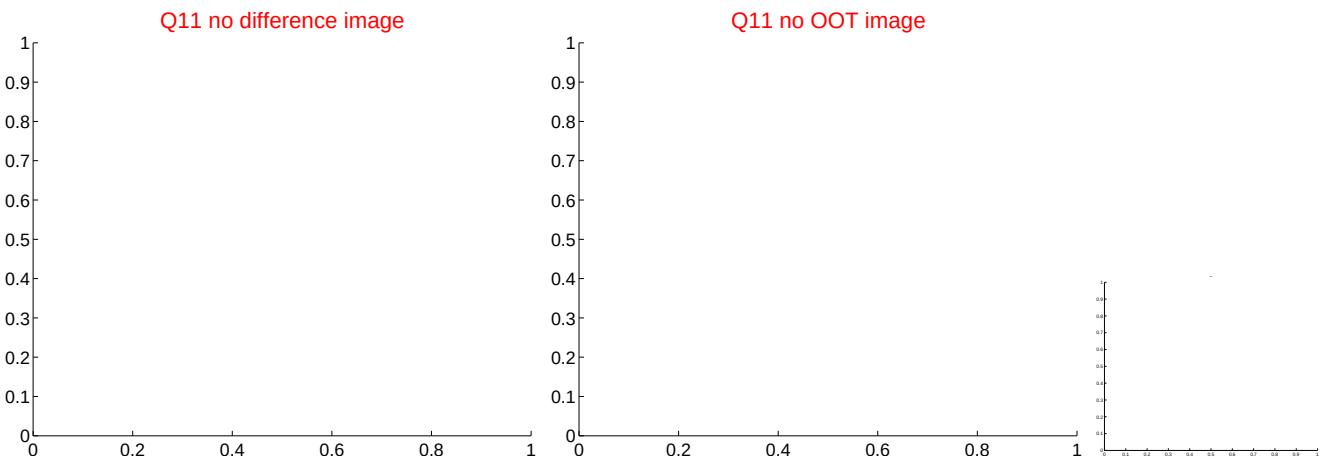
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

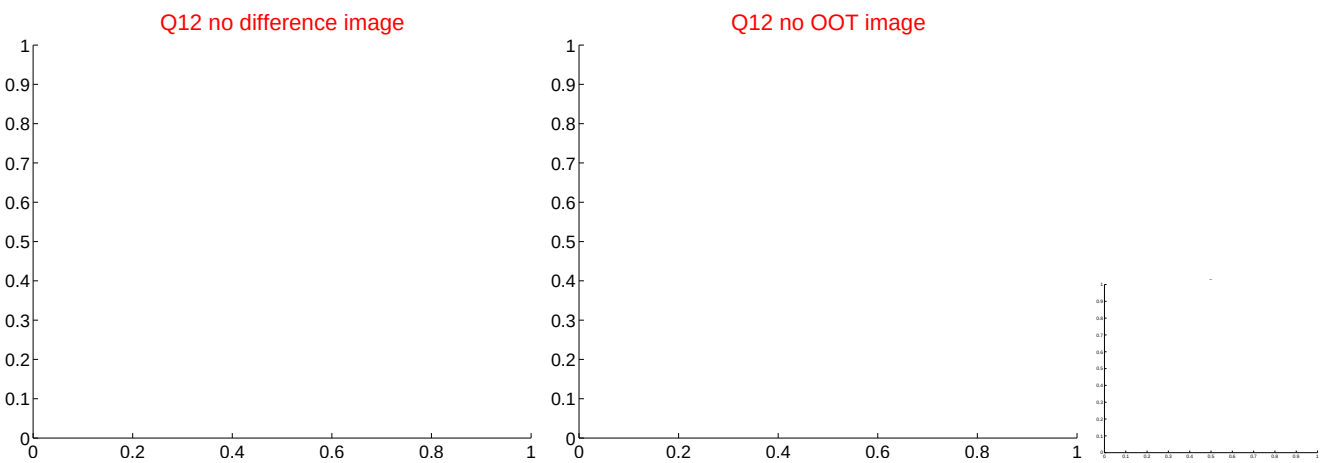


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

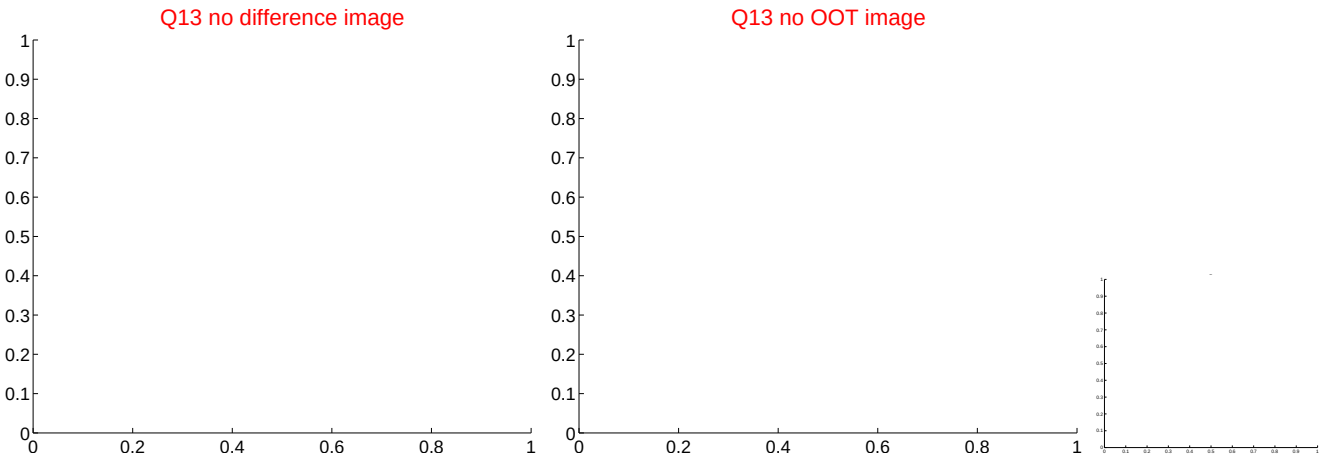


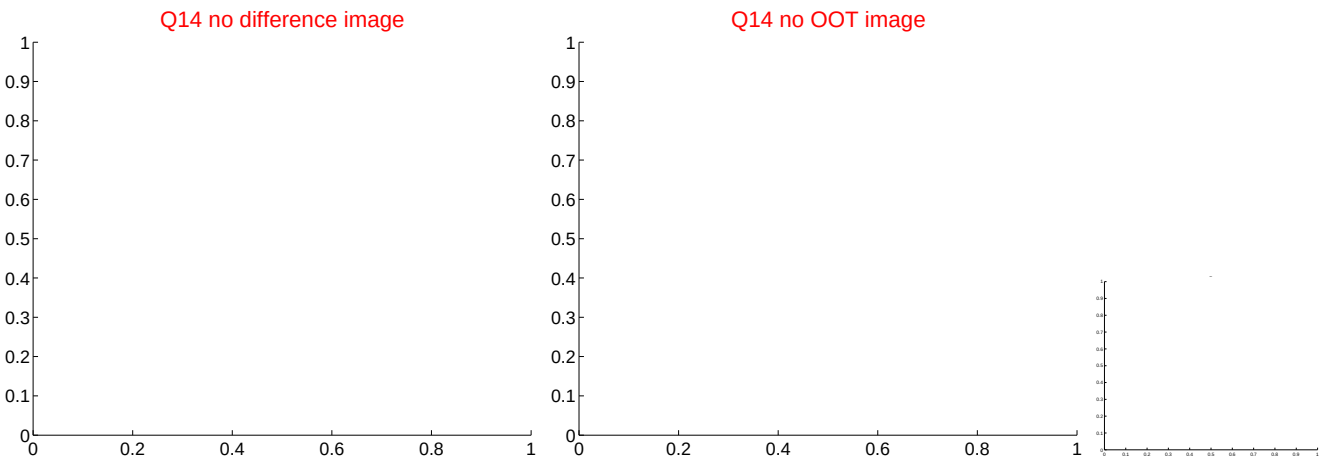


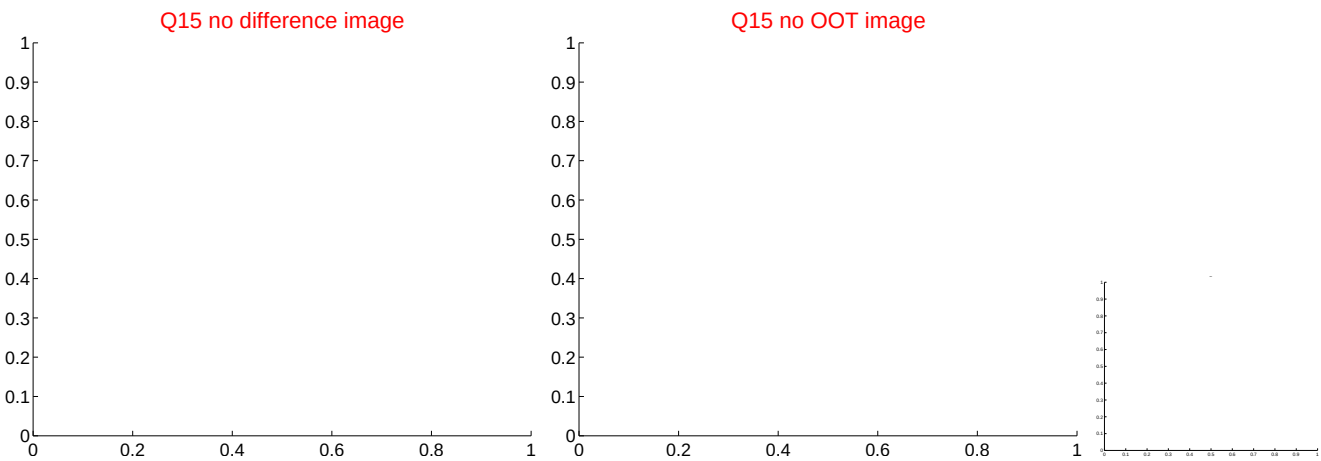


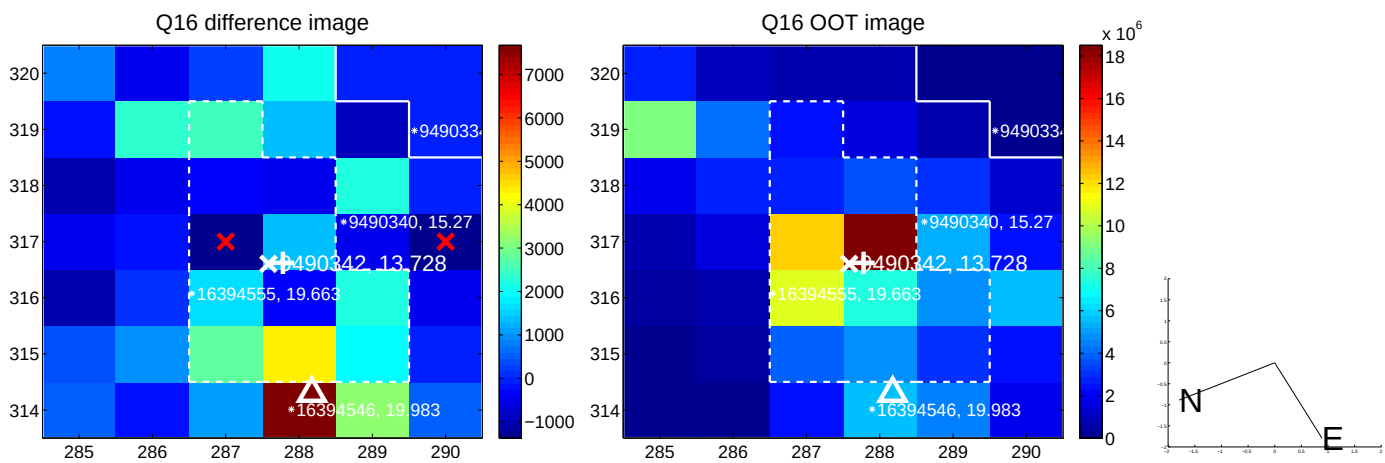


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

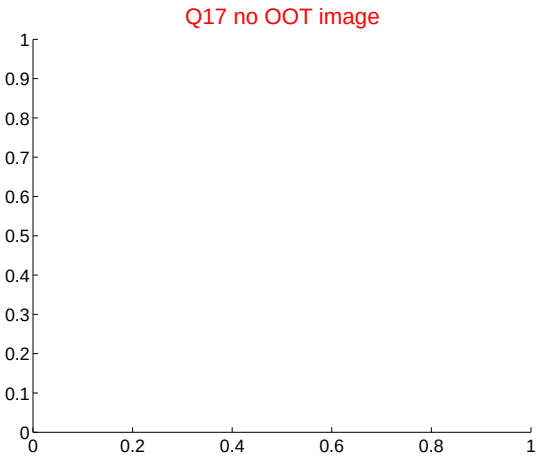


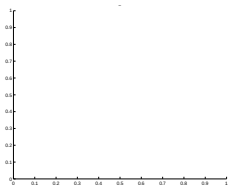


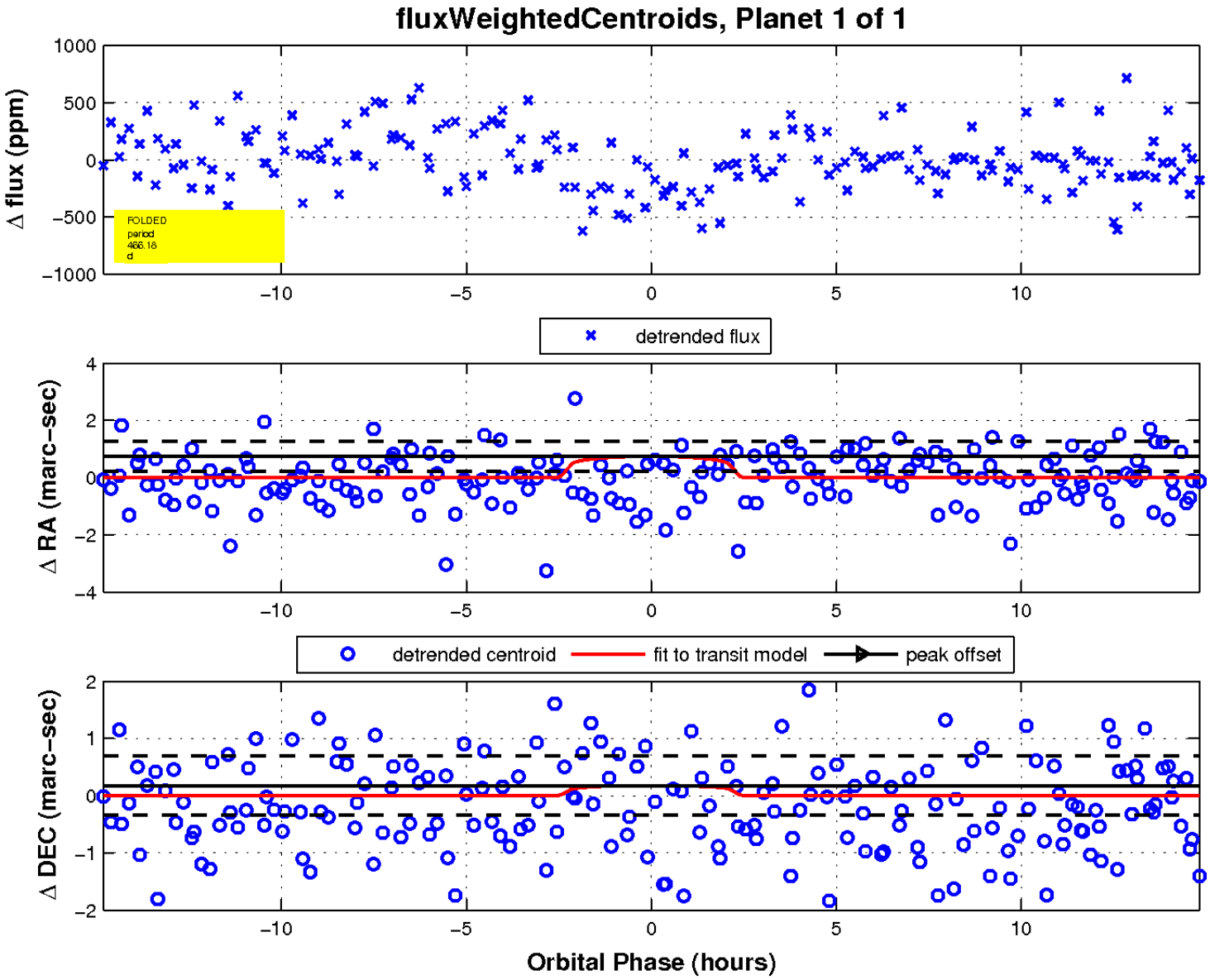




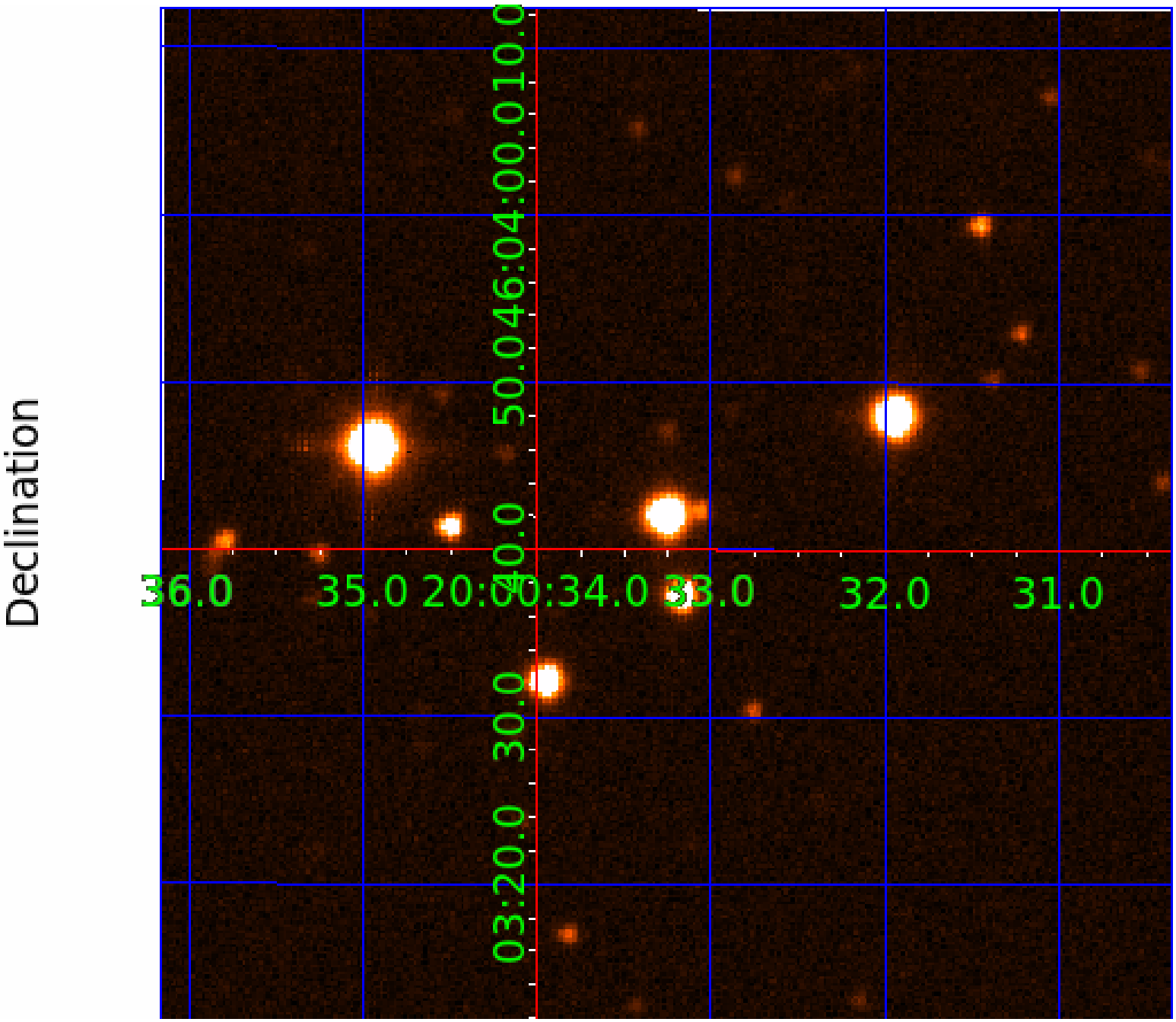
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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50.0
40.0
36.0
35.0
20:00:34.0
33.0
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30.0
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