

KIC 010481054

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010481054-01	OBS	7333.01	2.037423	131.560042	28.9	3.885	7.8	8.3	1.36	6356	0.83	2551.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010481054-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

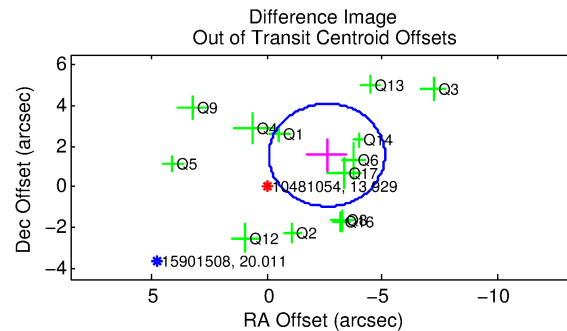
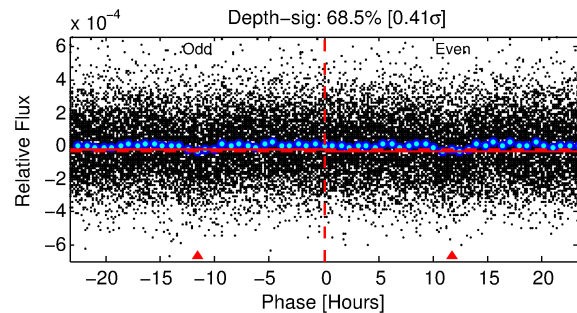
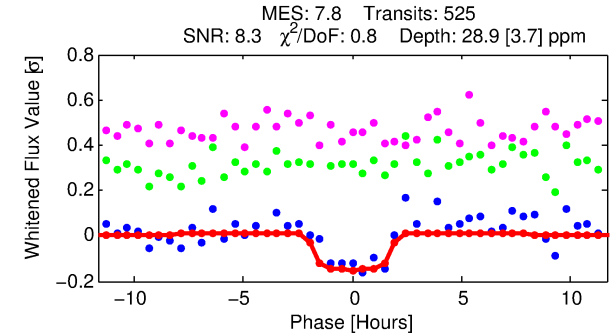
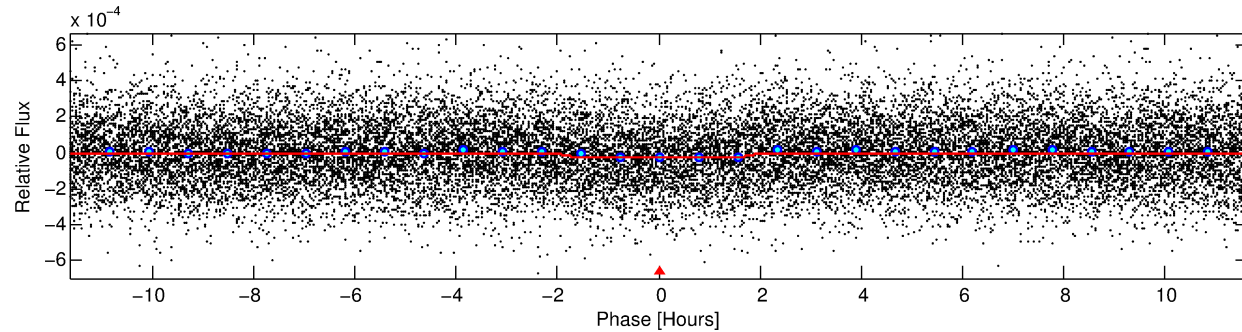
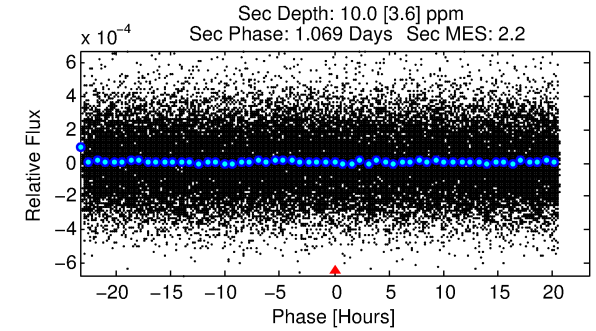
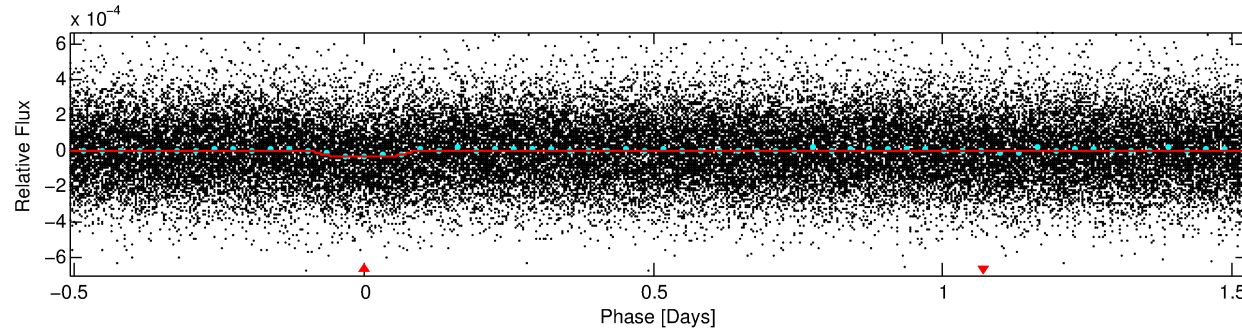
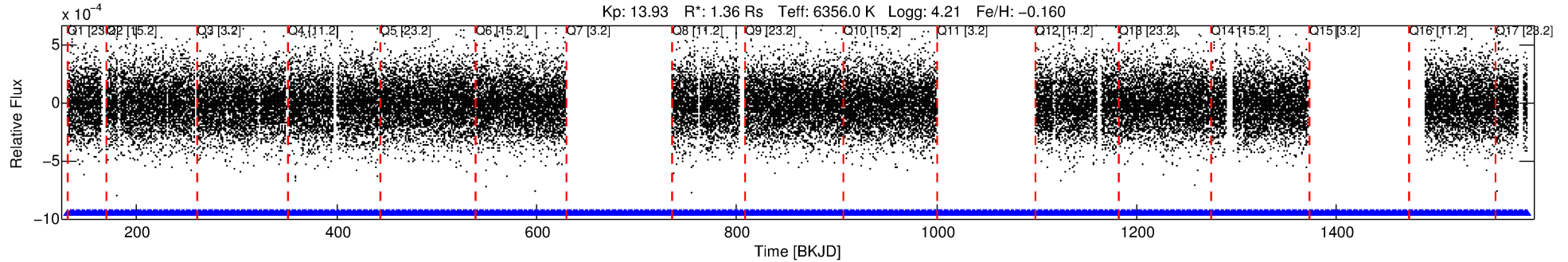
Ephemeris Match Information For 010481054-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010481054-01	10481054	5797.01	10480952	1:1	118.0	13	27	12.22	13.93	11371.00	Direct-PRF	0	1.05	0.45

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10481054 Candidate: 1 of 1 Period: 2.037 d
KOI: K07333.01 Corr: 0.993



DV Fit Results:

Period = 2.03742 [0.00002] d
Epoch = 131.5600 [0.0058] BKJD
Rp/R* = 0.0056 [0.0022]
a/R* = 2.31 [3.95]
b = 0.86 [0.67]
Seff = 2551.46 [645.53]
Teq = 1812 [115] K
Rp = 0.83 [0.35] Re
a = 0.0325 [0.0052] AU
Ag = 8.42 [7.50] [0.99σ]
Teffp = 4773 [1022] K [2.88σ]

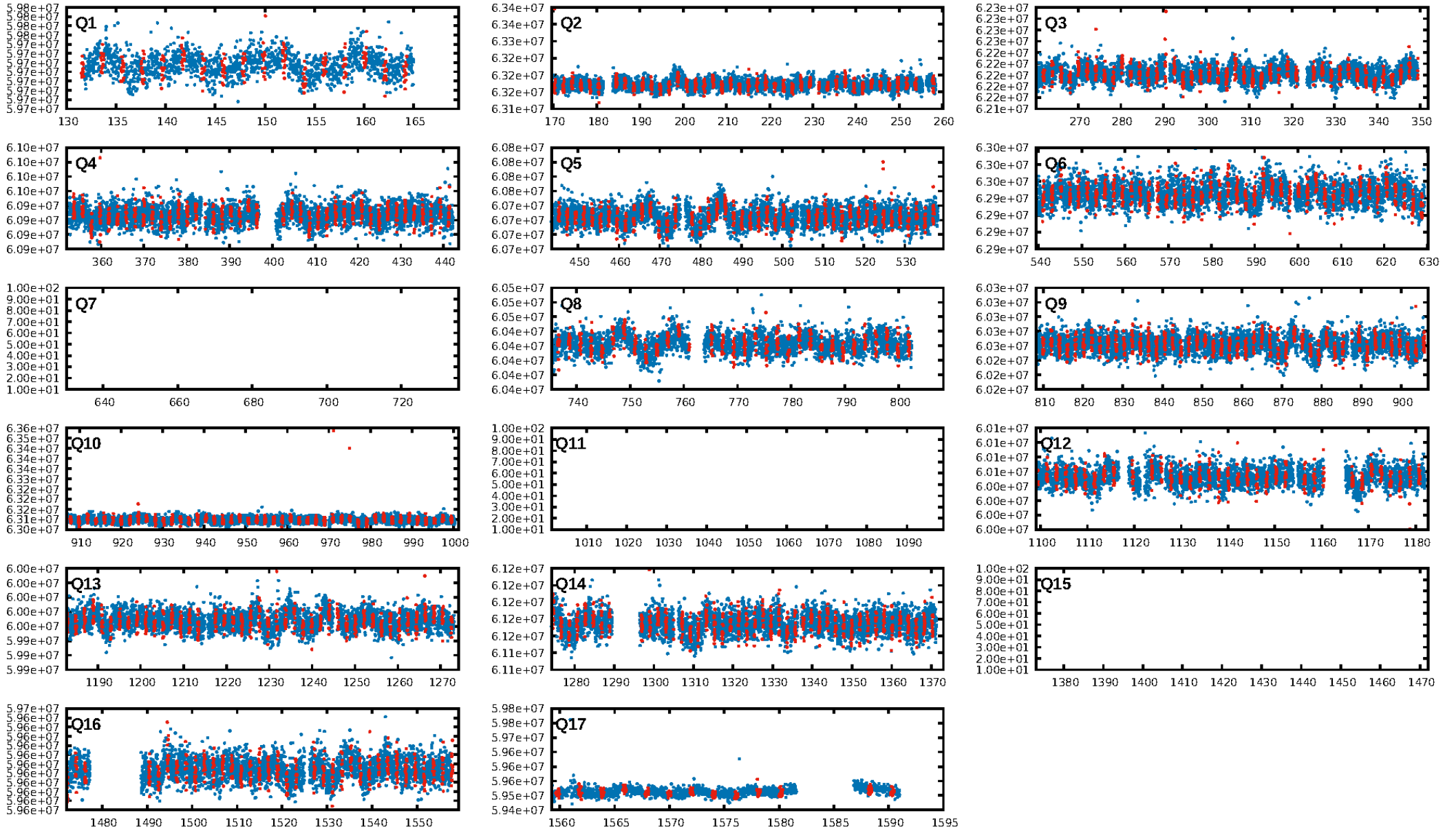
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.81e-15
RollingBand-fgt: 1.00 [495/495]
GhostDiagnostic-chr: 0.3703
Centroid-sig: 1.1%
Centroid-so: 2.152 arcsec [1.22σ]
OotOffset-rm: 3.028 arcsec [3.62σ]
KicOffset-rm: 2.989 arcsec [3.27σ]
OotOffset-st: 3/1/4/5 [13]
KicOffset-st: 3/1/4/5 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 1.00 [14/14]

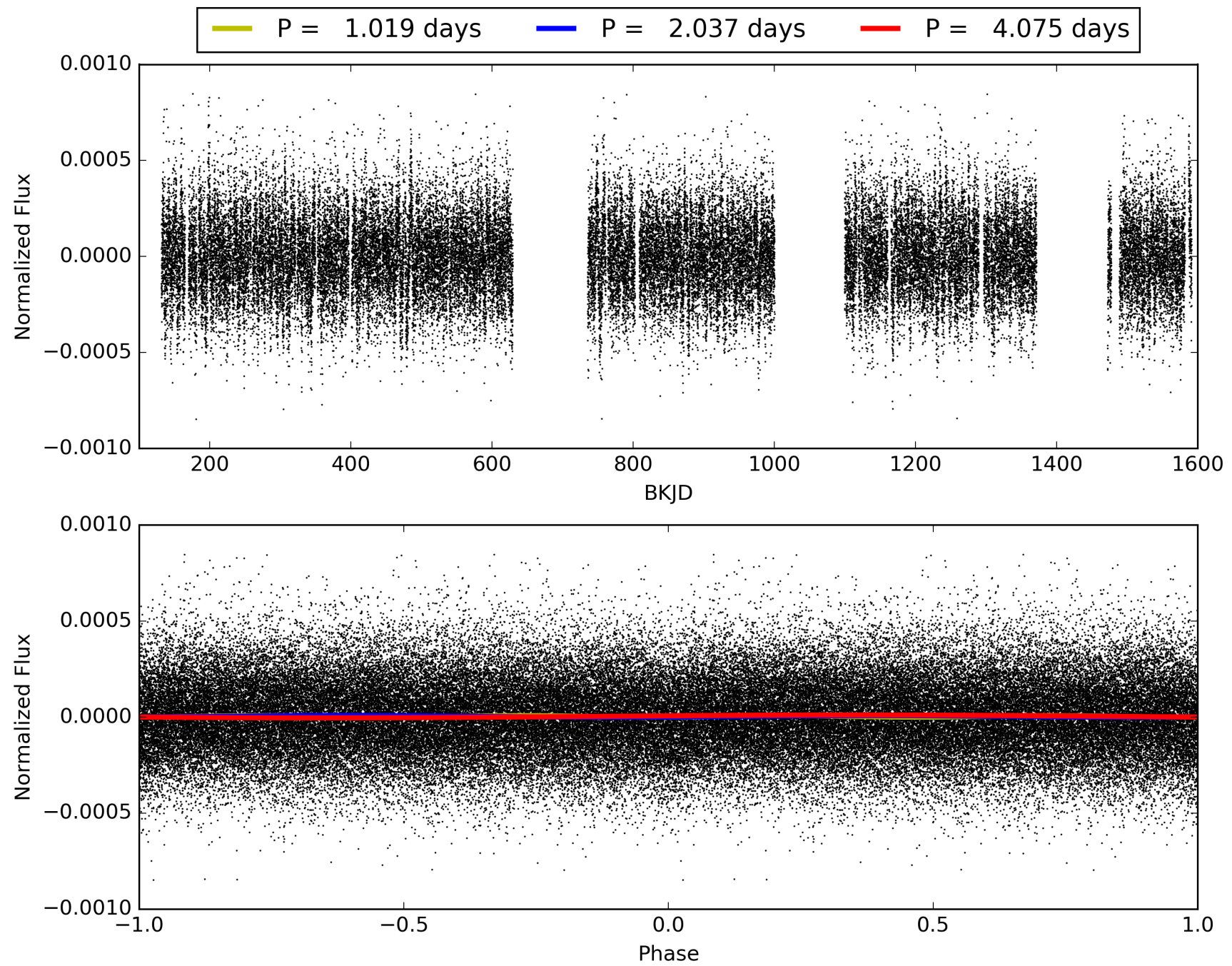
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:31:44 Z

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

TCE 010481054-01, PDC Light Curves

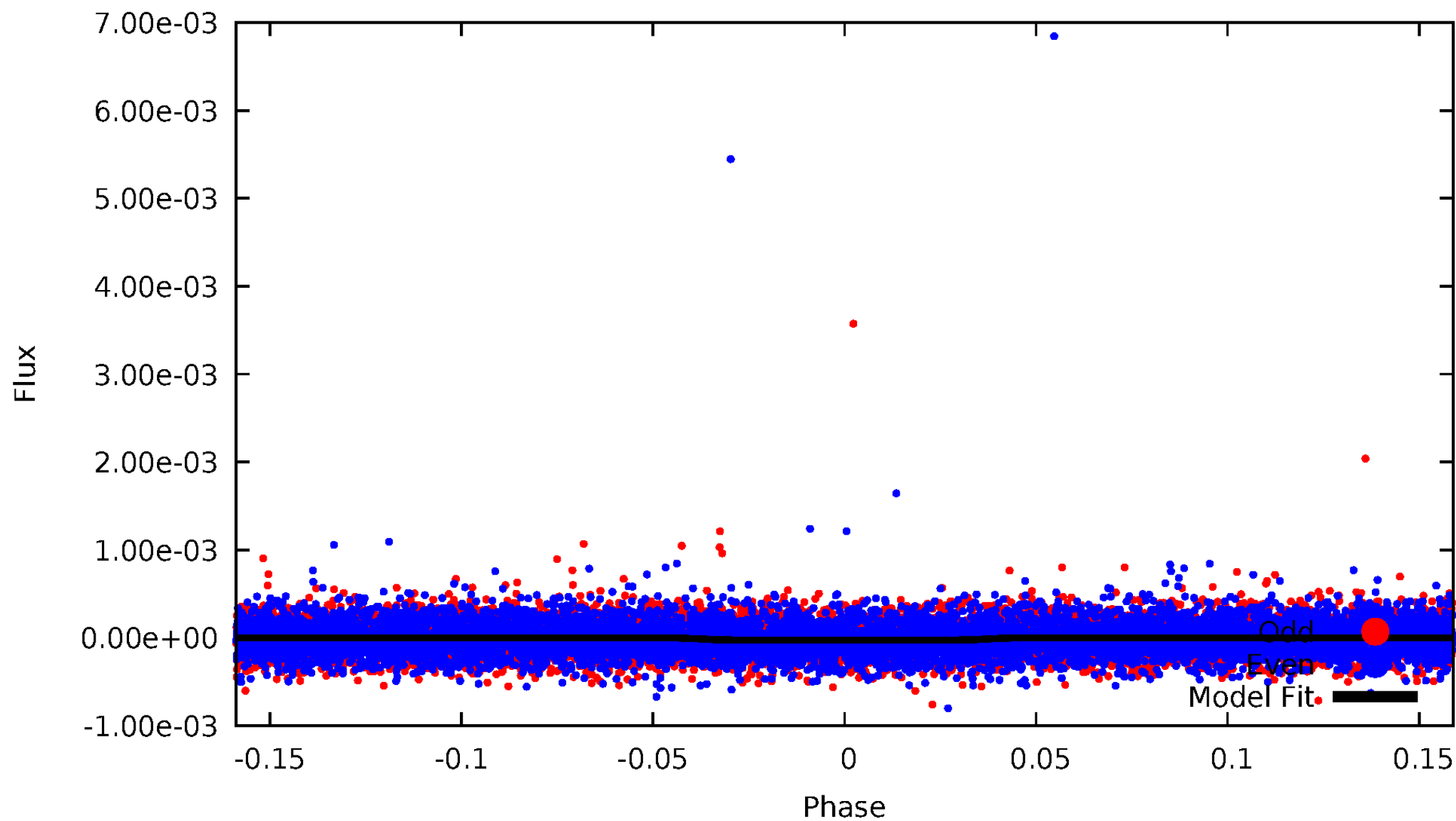


TCE 010481054-01



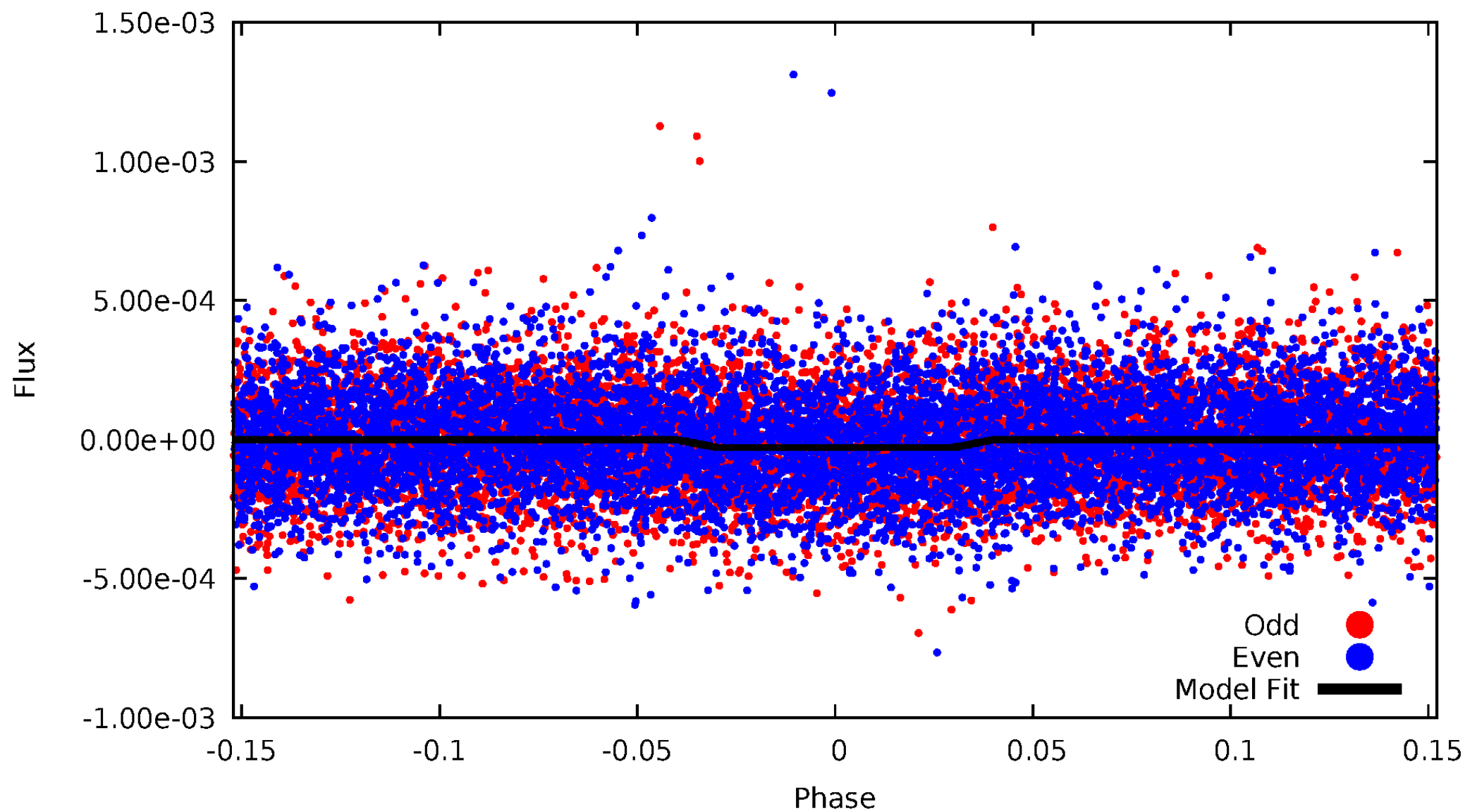
DV Odd/Even

TCE 010481054-01

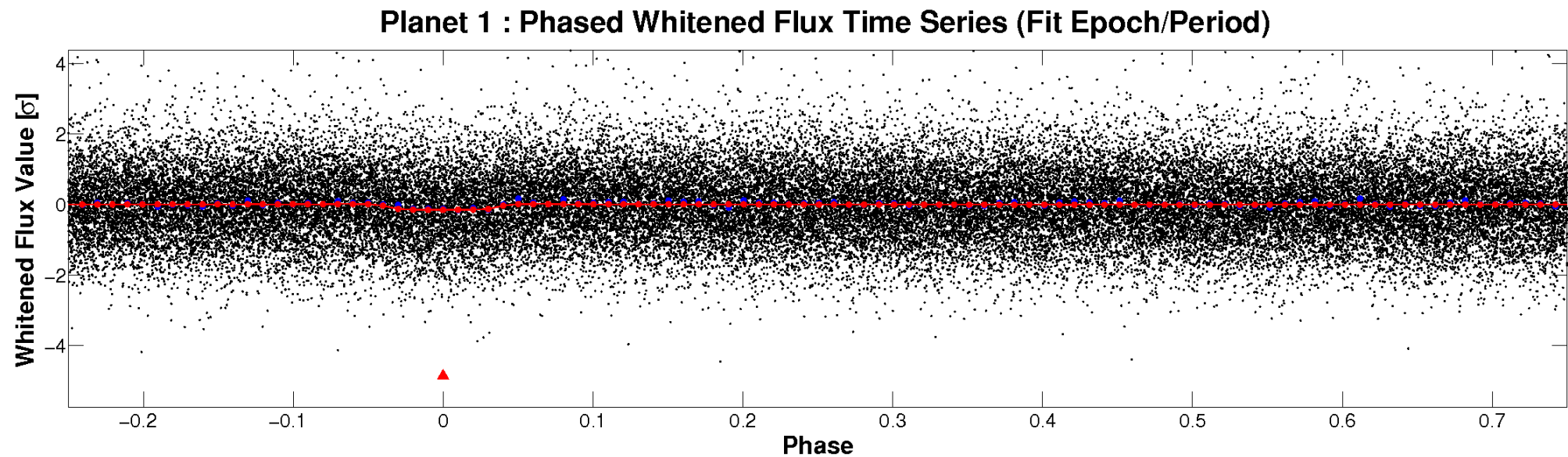
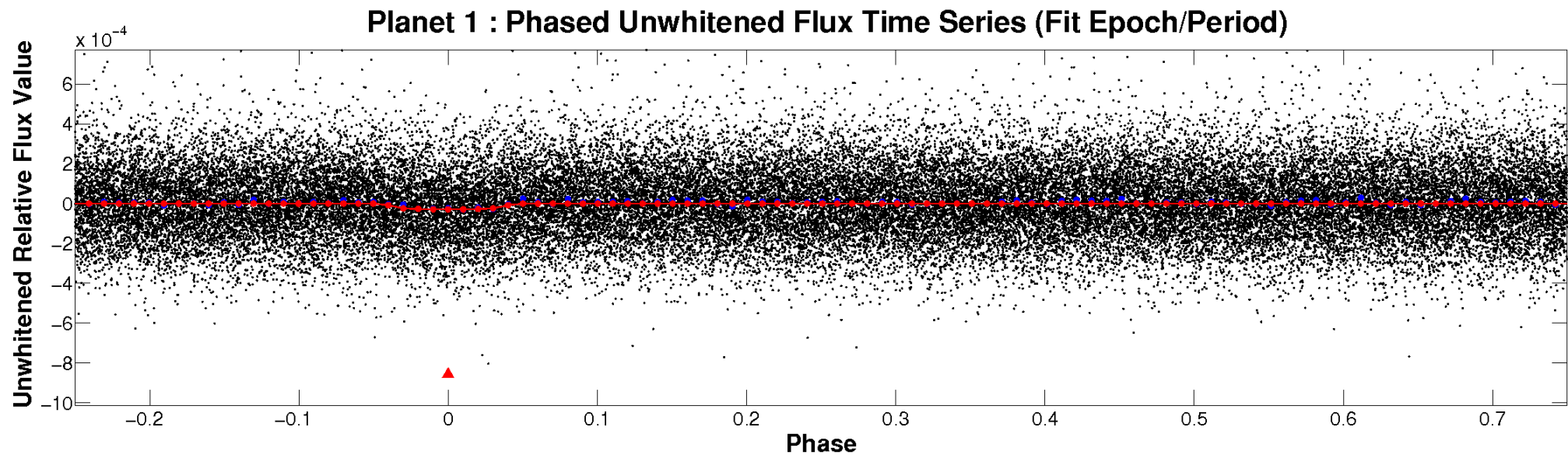


ALT Odd/Even

TCE 010481054-01

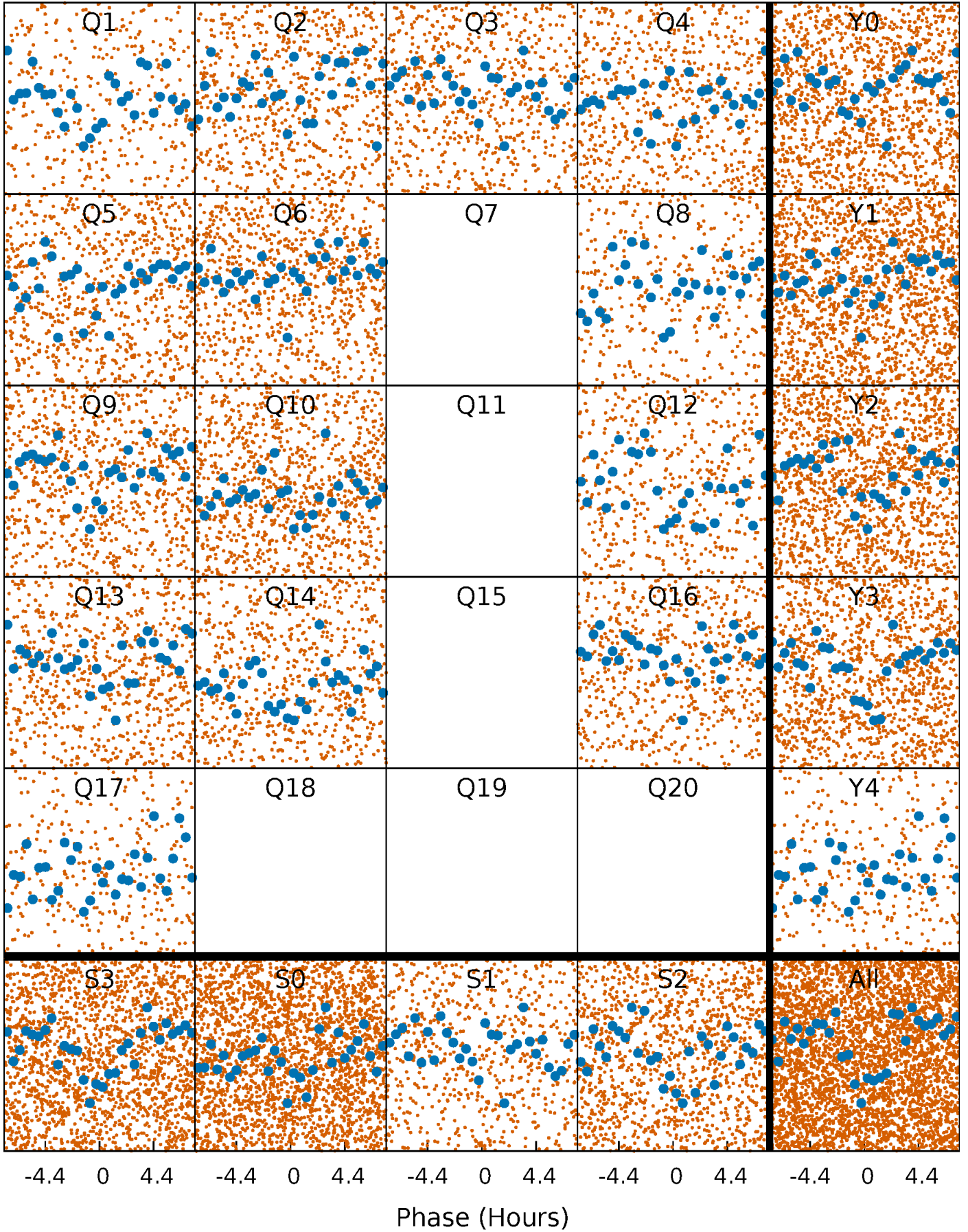


Non-Whitened Vs. Whitened Light Curve



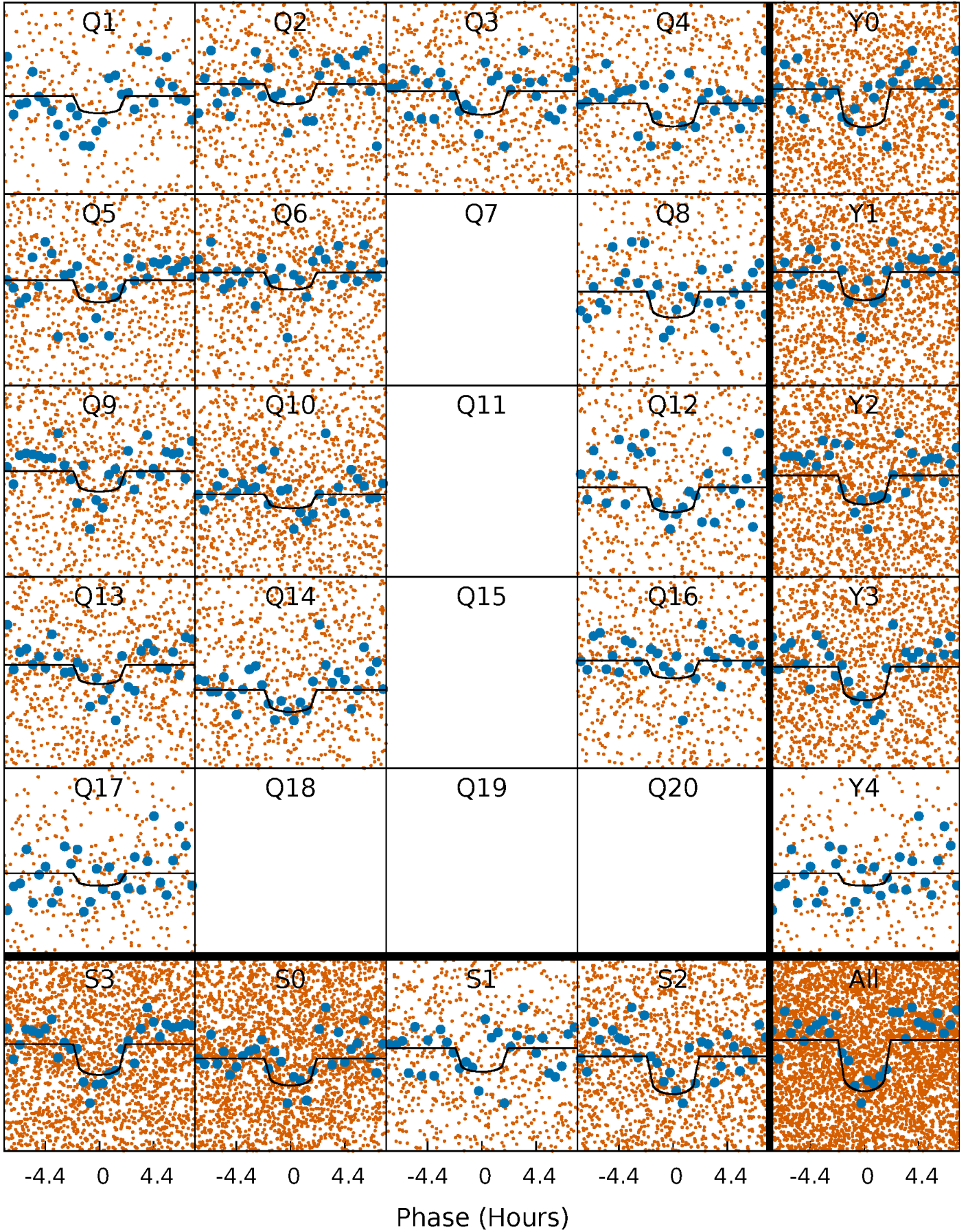
PDC Quarter-Phased Transit Curves

TCE 010481054-01 P= 2.037423 Days $T_0=131.560042$ (BKJD)



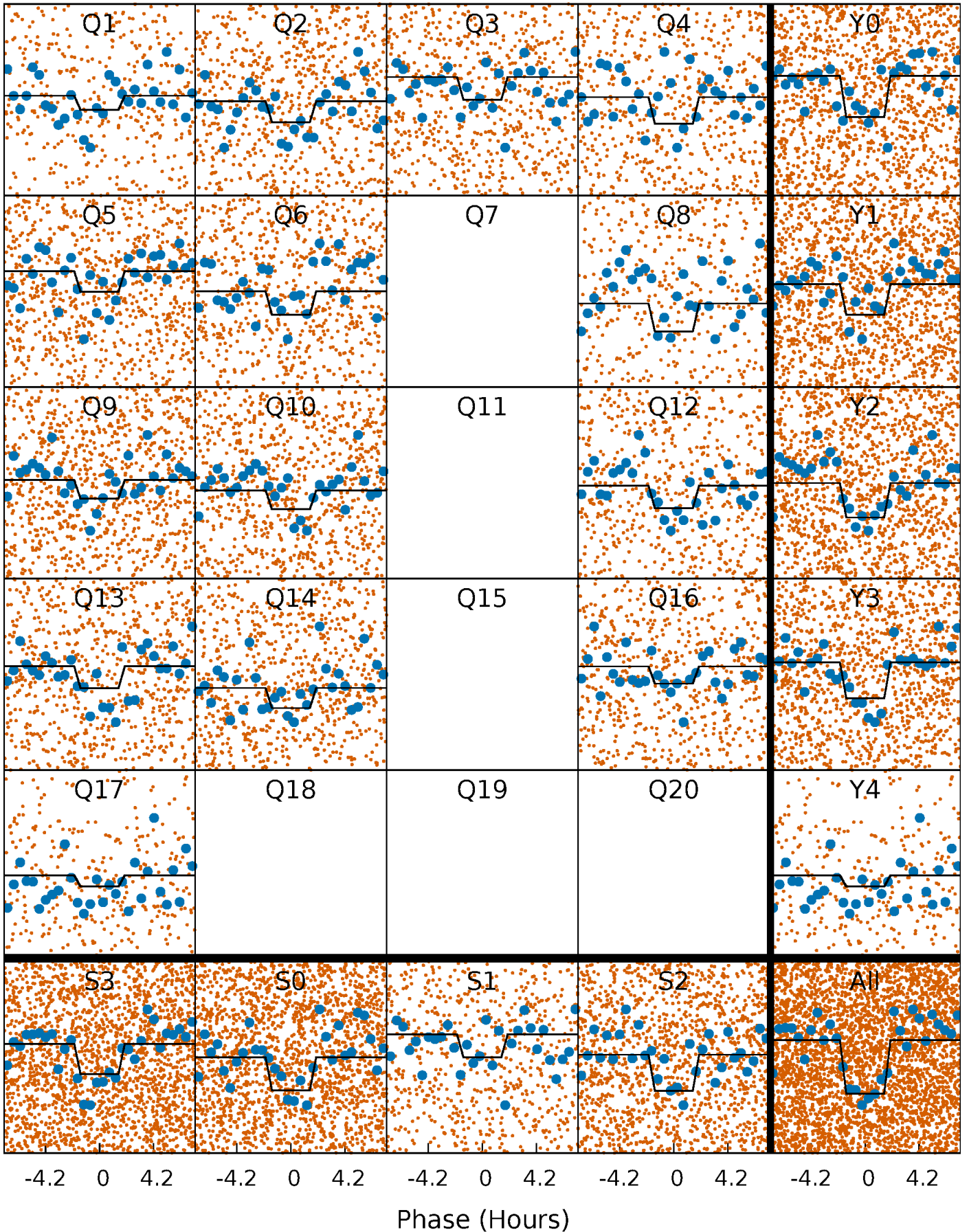
DV Quarter-Phased Transit Curves

TCE 010481054-01 P= 2.037423 Days $T_0=131.560042$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

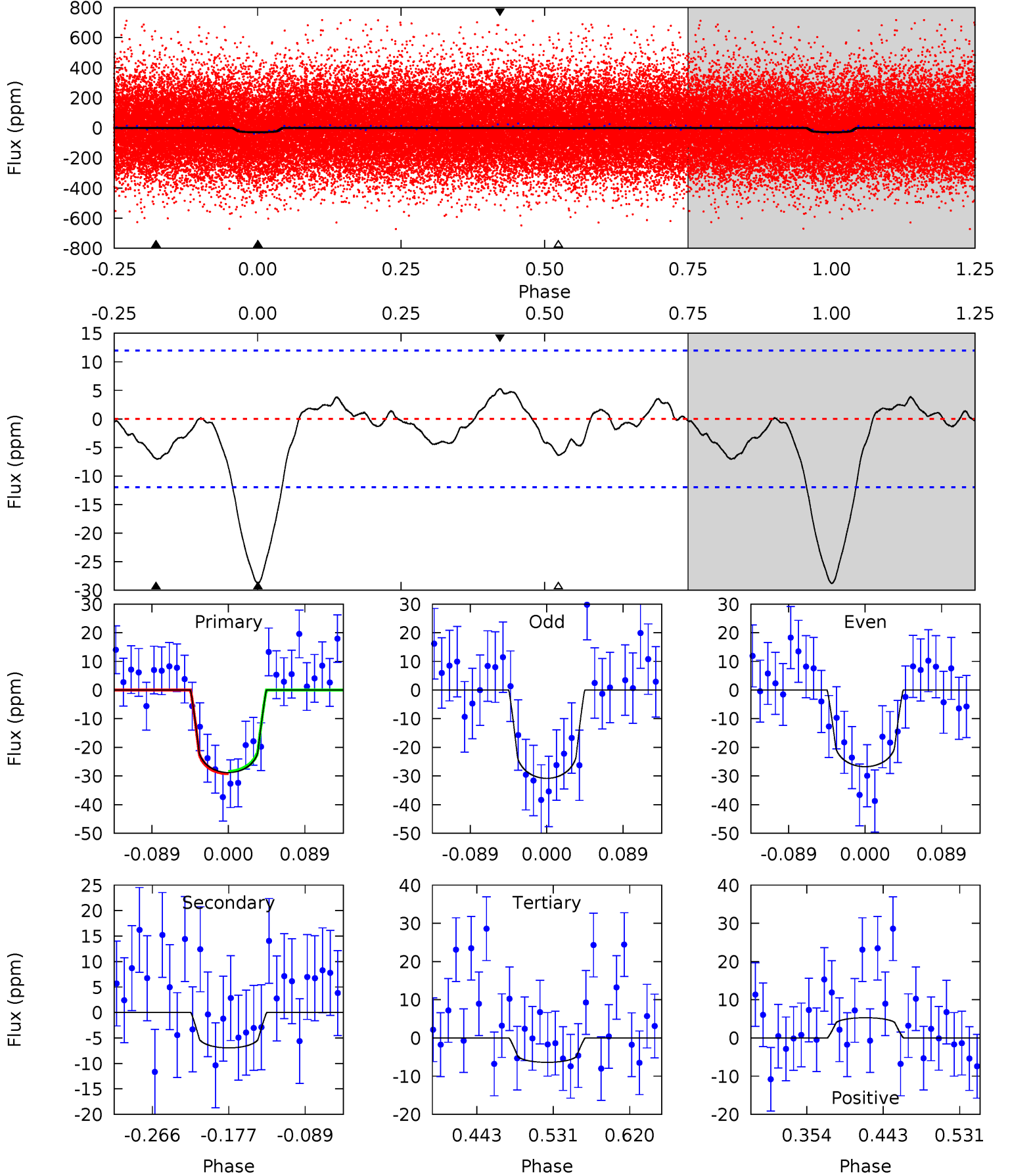
TCE 010481054-01 P= 2.037429 Days $T_0=131.562423$ (BKJD)



DV Model-Shift Uniqueness Test

010481054-01, P = 2.037423 Days, E = 129.522619 Days

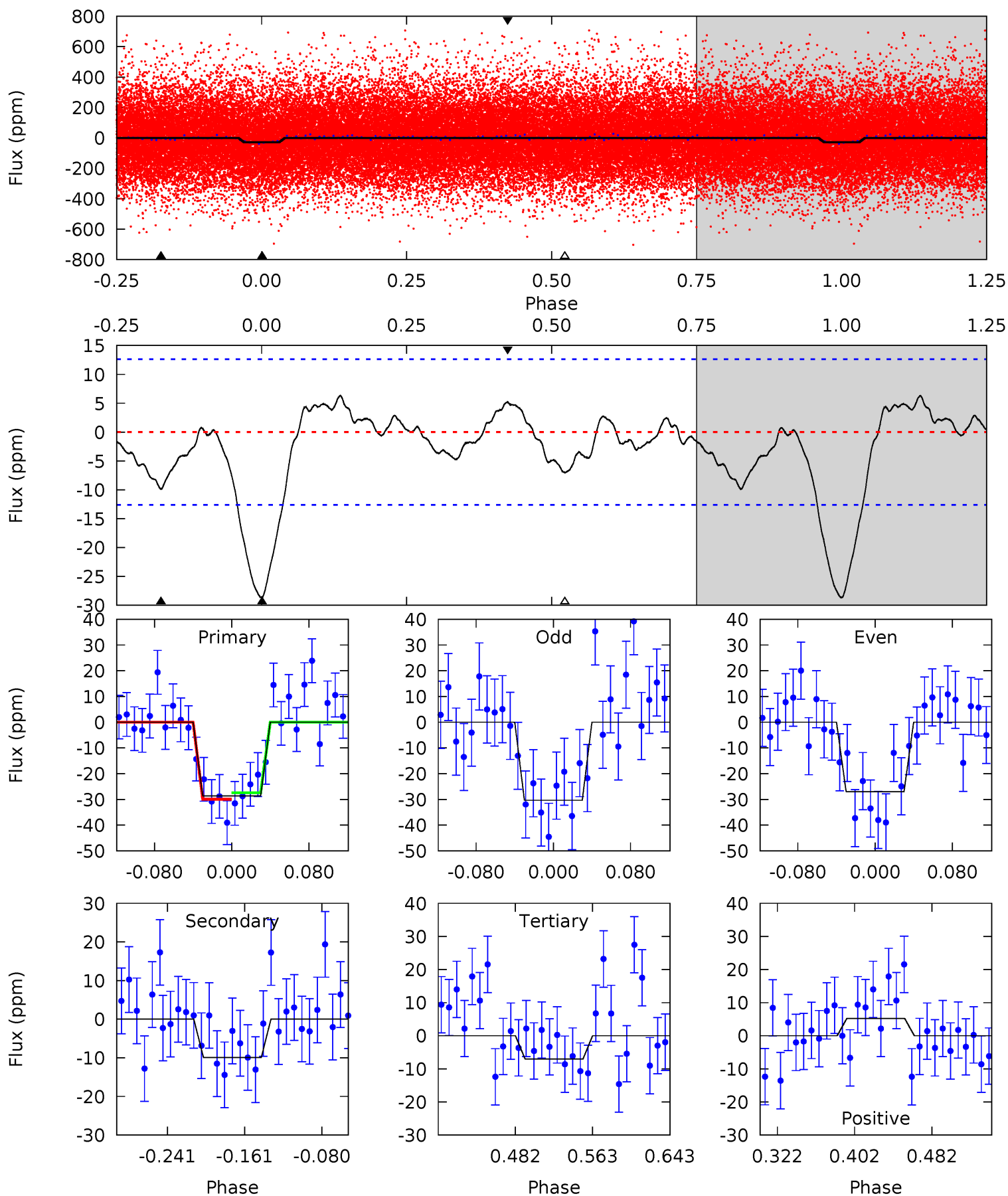
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.67	2.45	2.03	4.59	1.70	1.06	8.60	9.02	0.22	0.64	0.78	0.88	0.16	0.15



Alt Model-Shift Uniqueness Test

010481054-01, P = 2.037429 Days, E = 129.524994 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	3.62	2.57	1.90	4.61	1.75	1.14	7.90	8.57	1.04	1.71	0.61	0.96	0.18	0.46



Stellar Parameters For KIC 010481054

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6356^{+76}_{-76}	$4.215^{+0.143}_{-0.117}$	$-0.160^{+0.150}_{-0.150}$	$1.358^{+0.237}_{-0.237}$	$1.101^{+0.100}_{-0.066}$	$0.620^{+0.415}_{-0.213}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-17%	+9%/-6%	+67%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010481054-01 / KOI 7333.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 3	$0.81^{+0.35}_{-0.28}$	2535^{+119}_{-132}	4431^{+1109}_{-602}	$5.644^{+9.733}_{-3.134}$
Alt.	-10 ± 3	$0.77^{+0.34}_{-0.31}$	2523^{+112}_{-117}	4950^{+1208}_{-696}	$9.606^{+14.948}_{-5.190}$

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

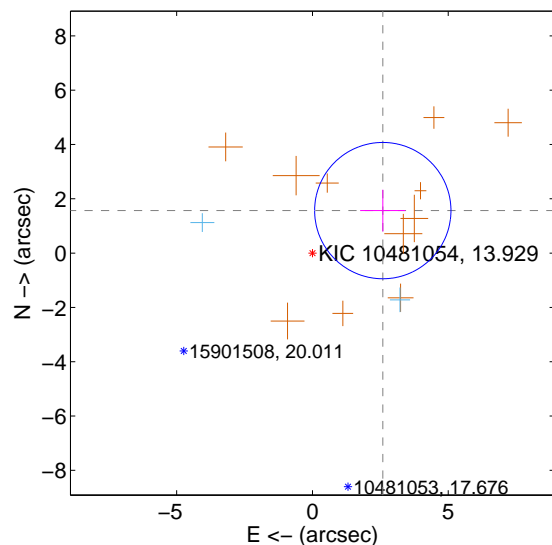
Supplemental centroid analysis for 010481054-01. Kepler magnitude: 13.93. Transit SNR 8.32

There are 2 quarters with good PRF difference image offsets

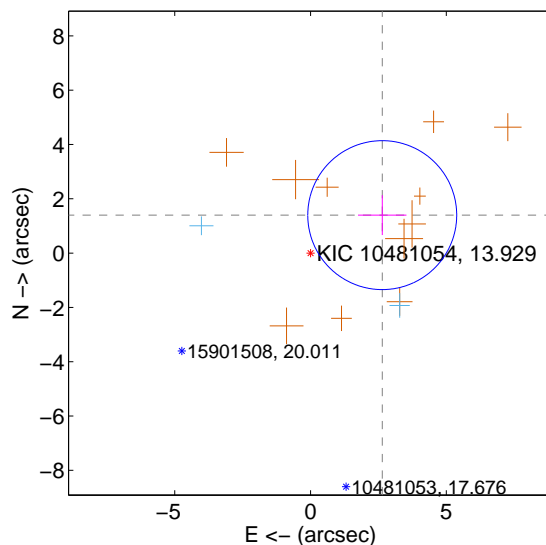
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.028 ± 0.837	3.62	-2.592 ± 0.833	1.565 ± 0.771
PRF-fit source offset from KIC position	2.989 ± 0.914	3.27	-2.642 ± 0.892	1.399 ± 0.735
photometric centroid source offset	2.15 ± 1.76	1.22	0.09 ± 1.61	2.15 ± 1.76

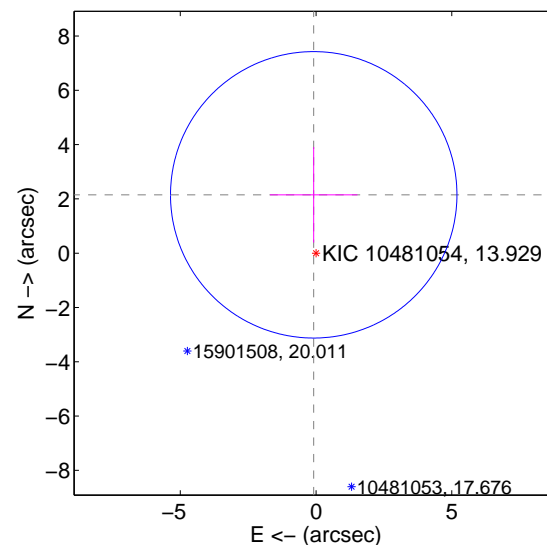
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

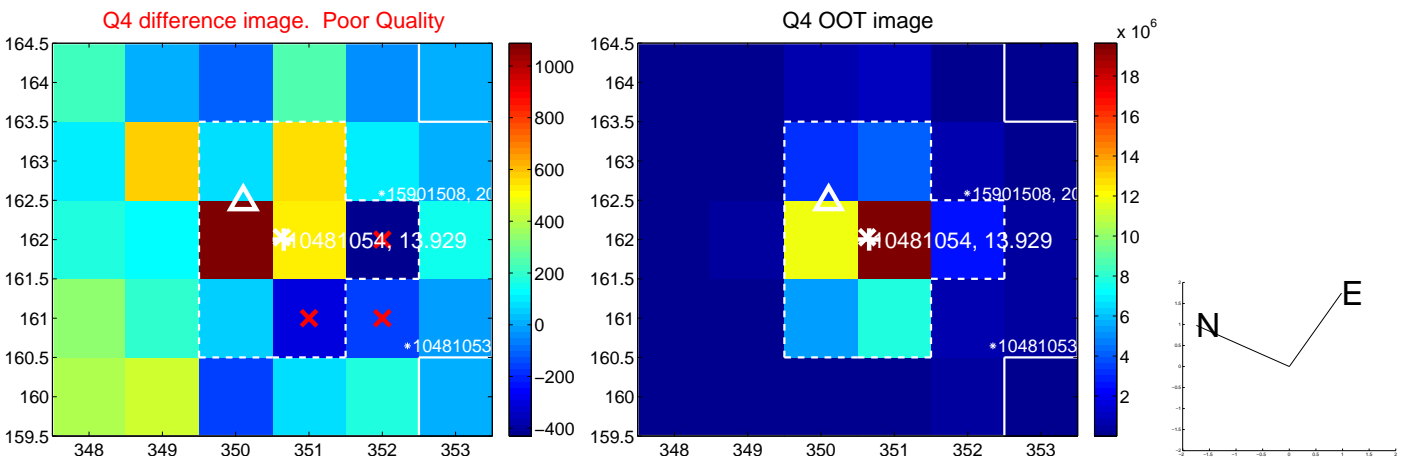
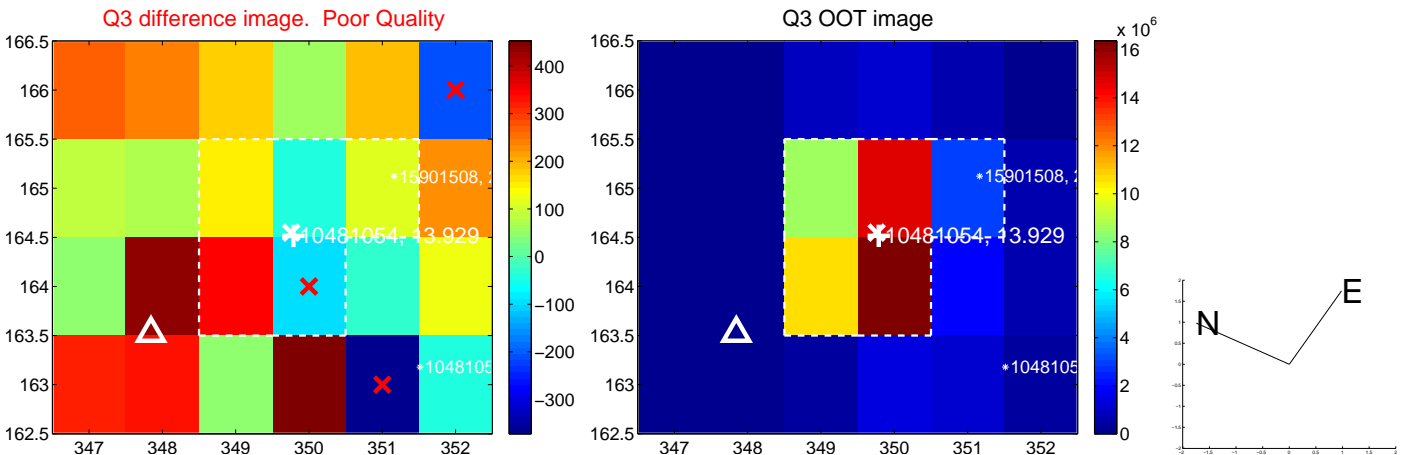
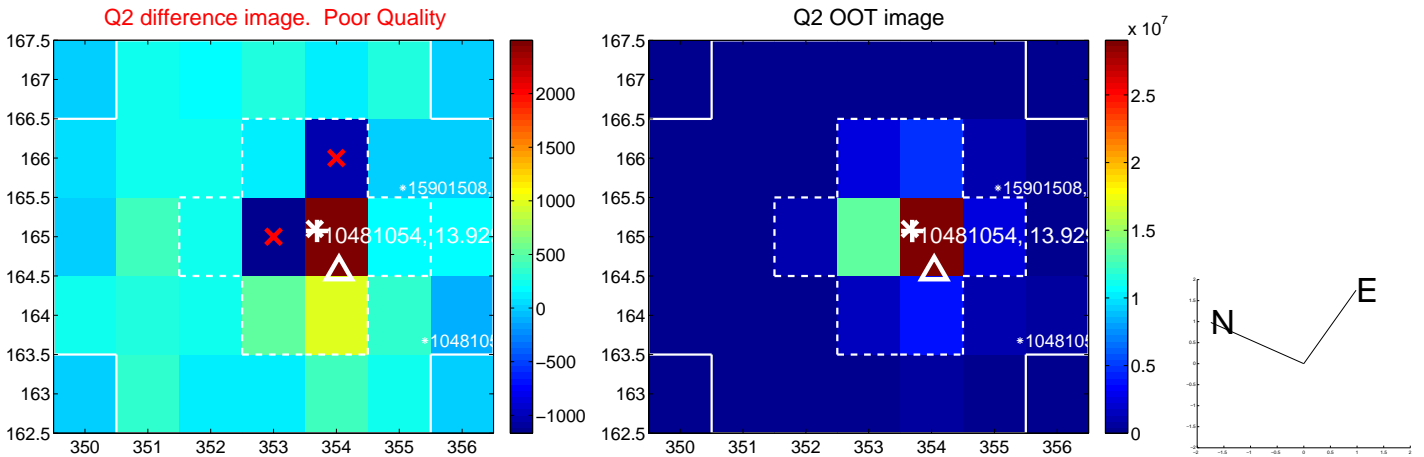
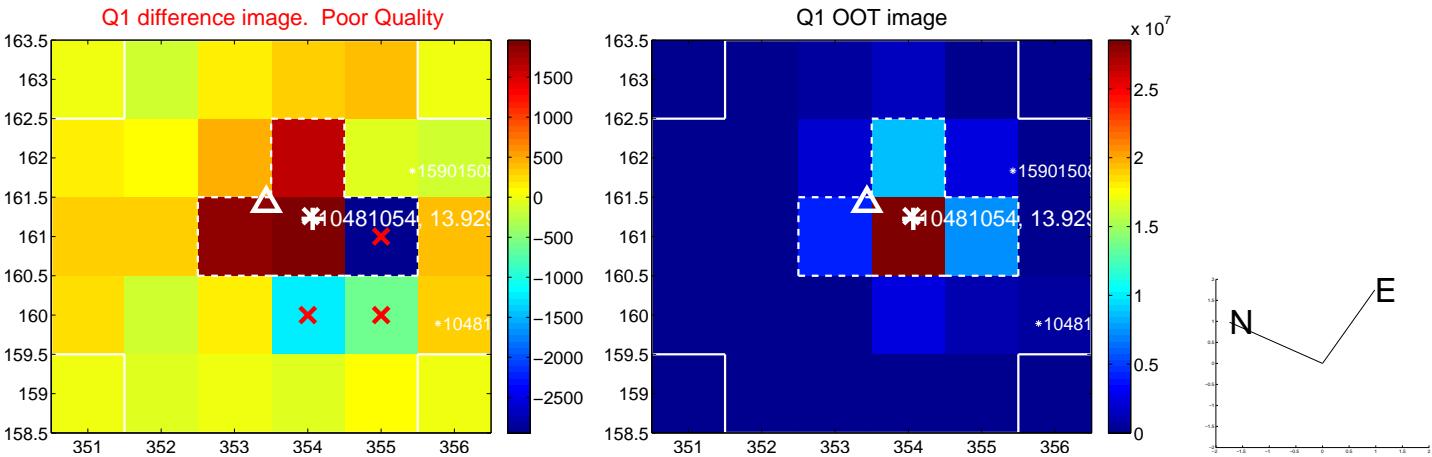


offset from photometric centroids

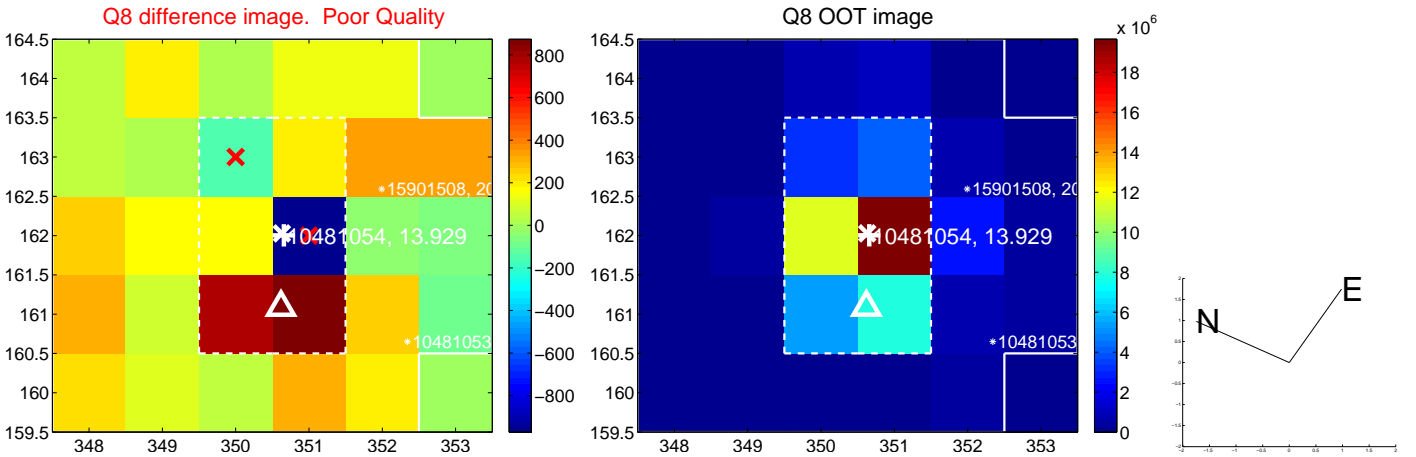
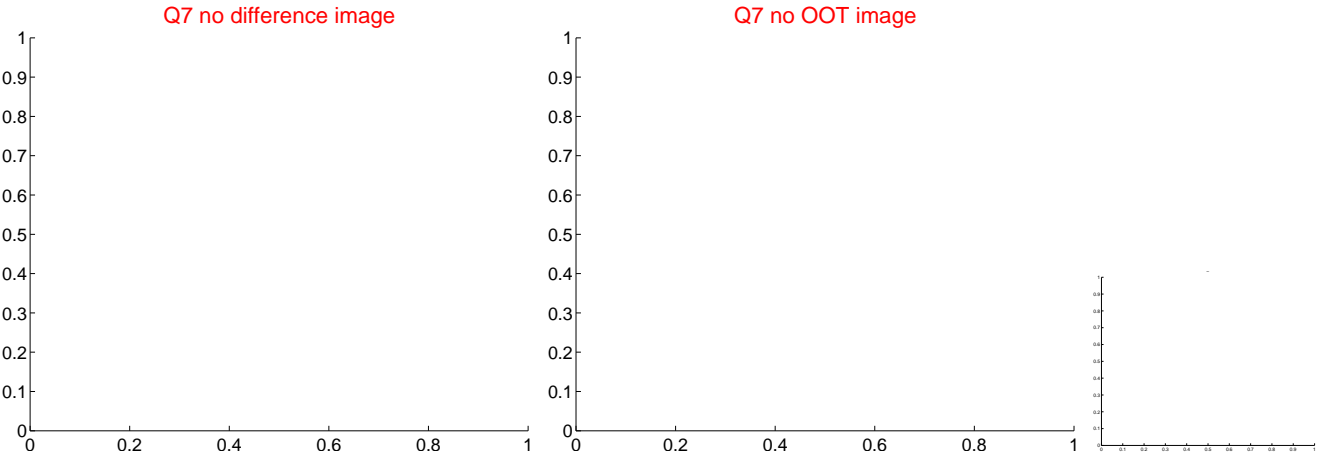
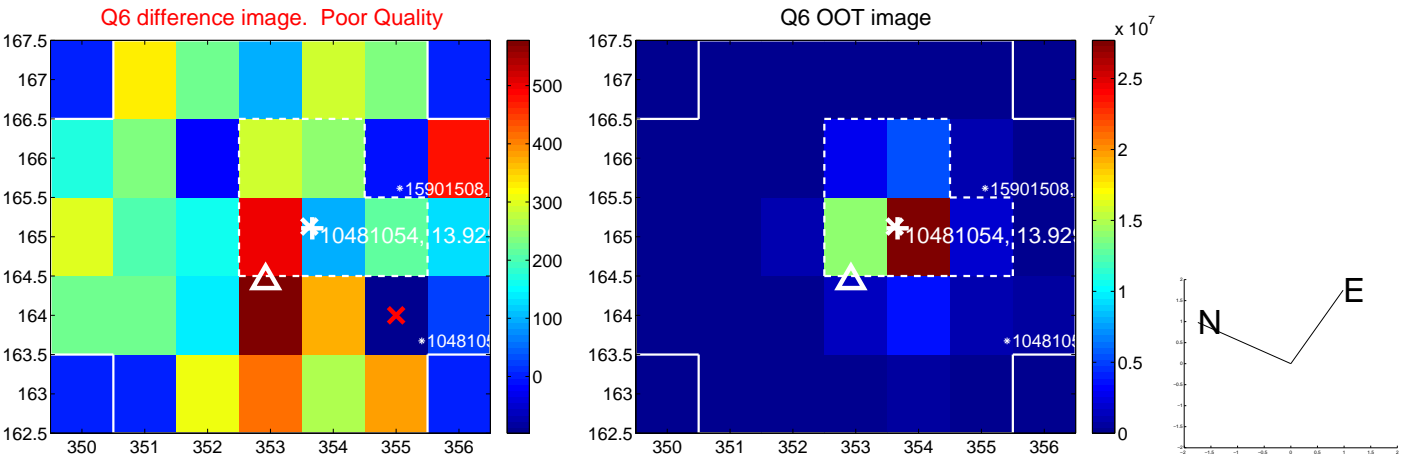
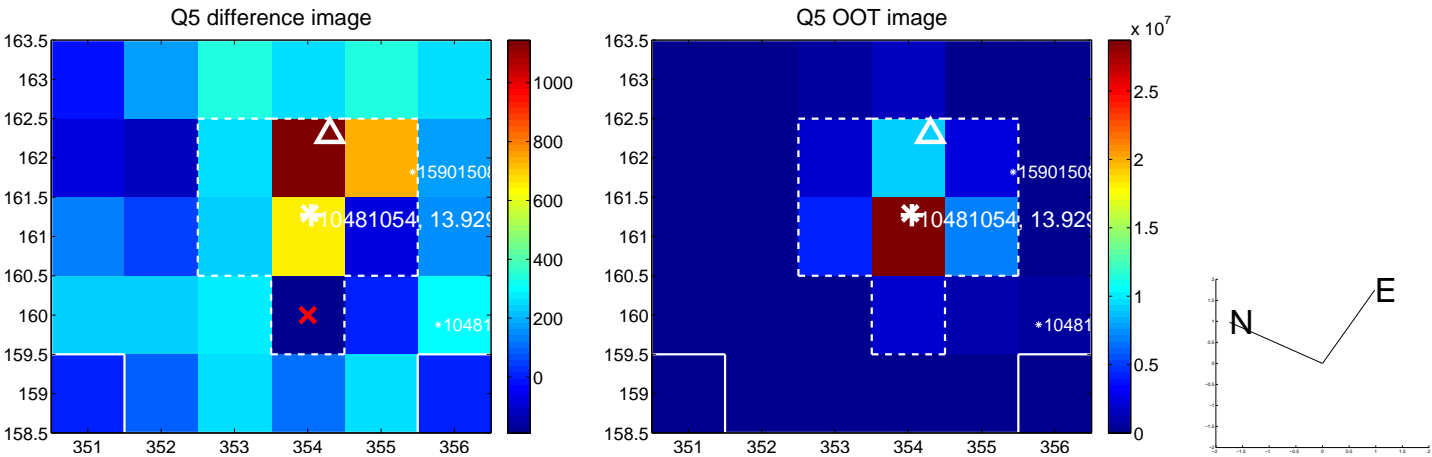


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

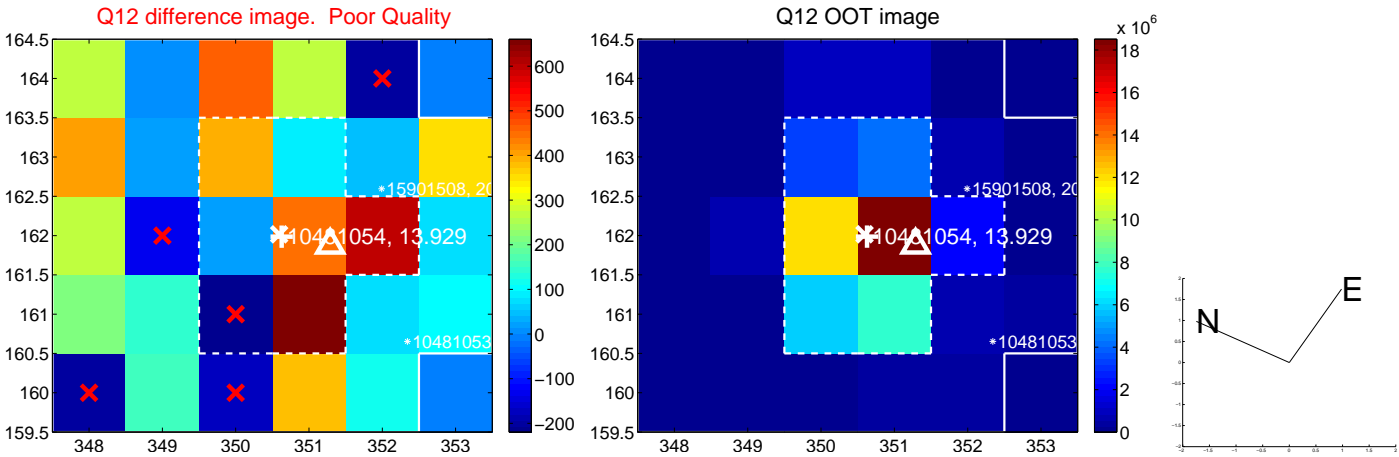
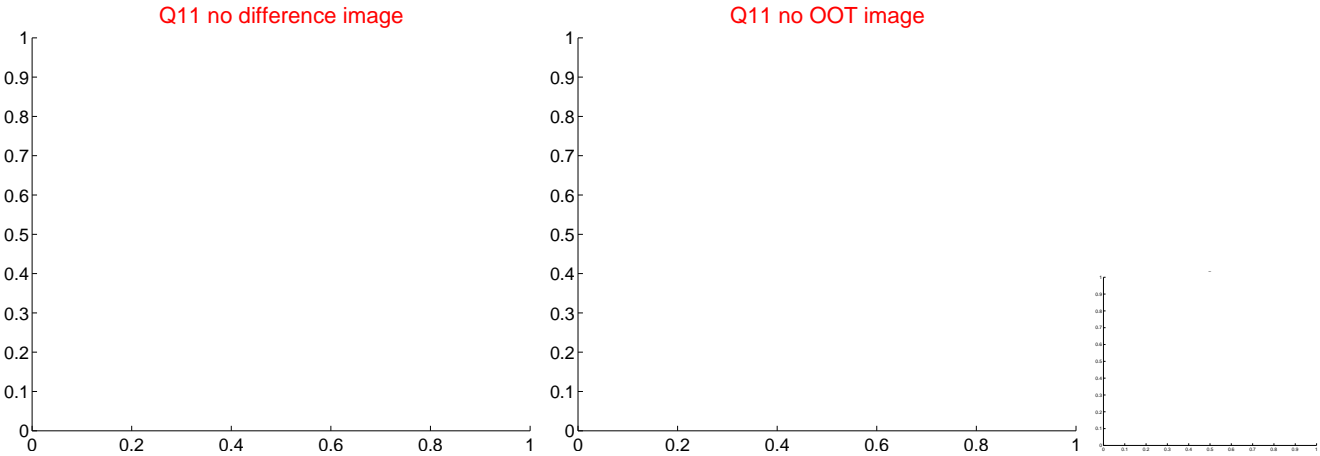
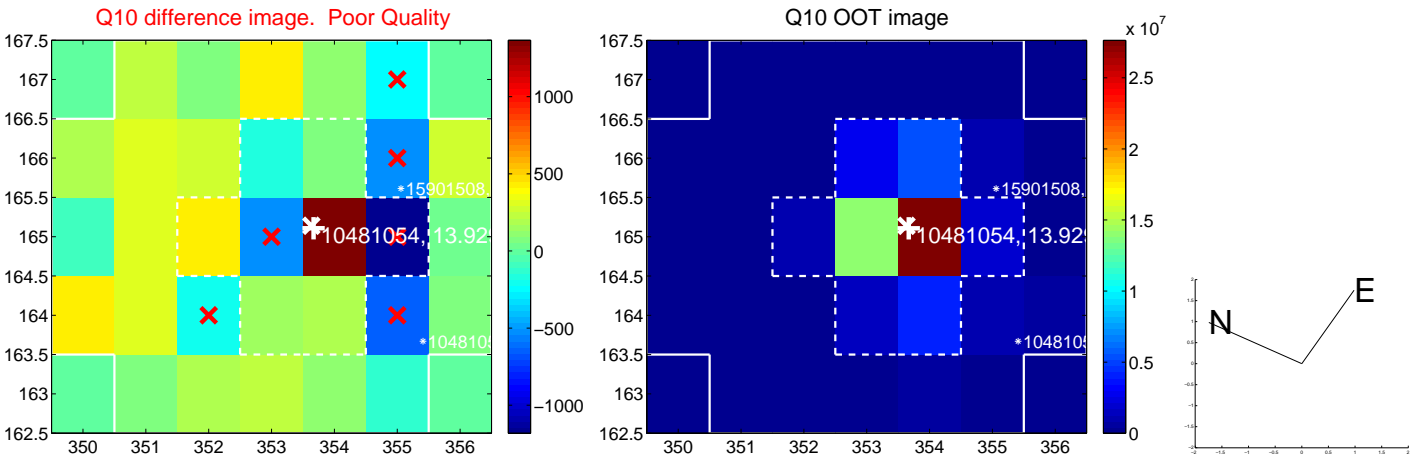
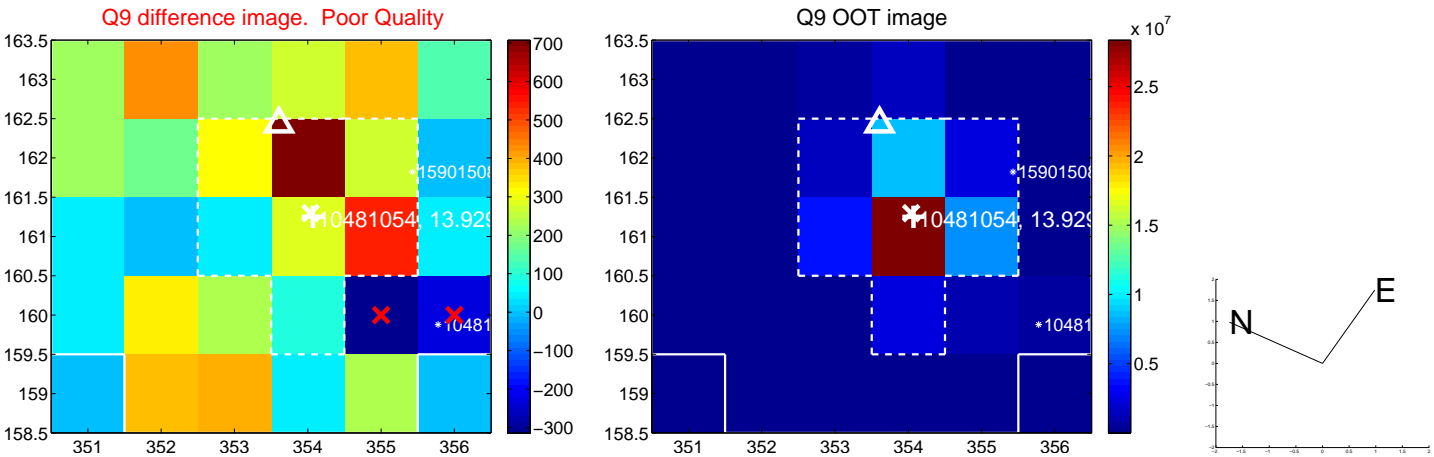
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



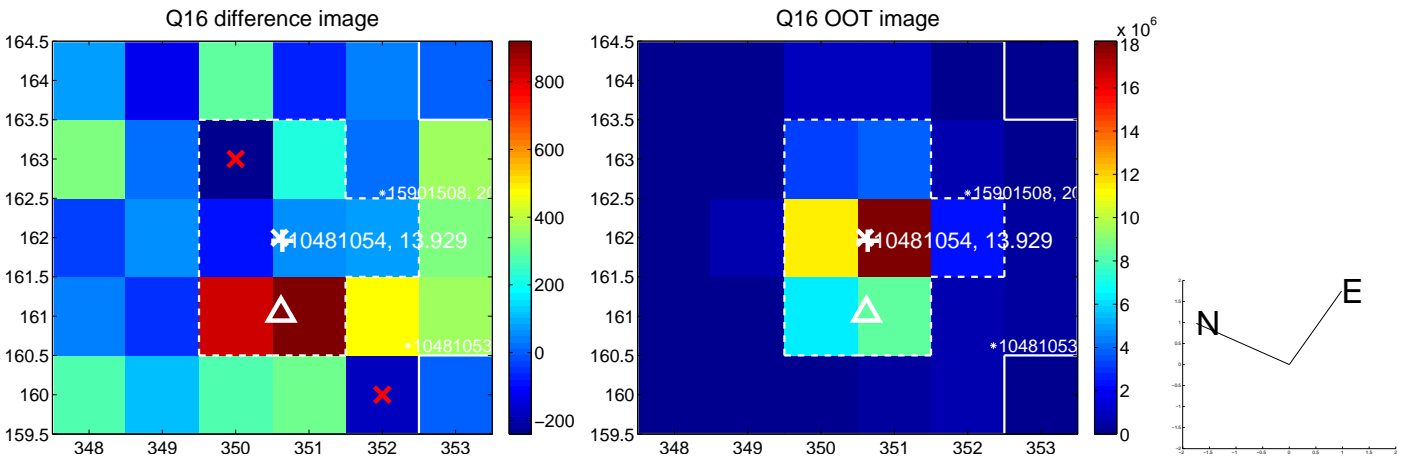
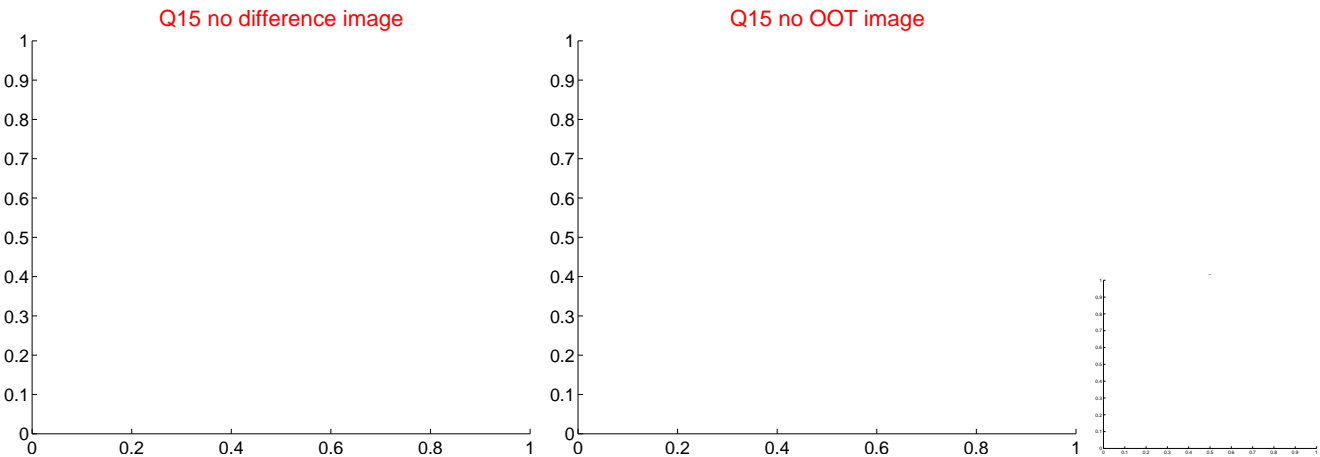
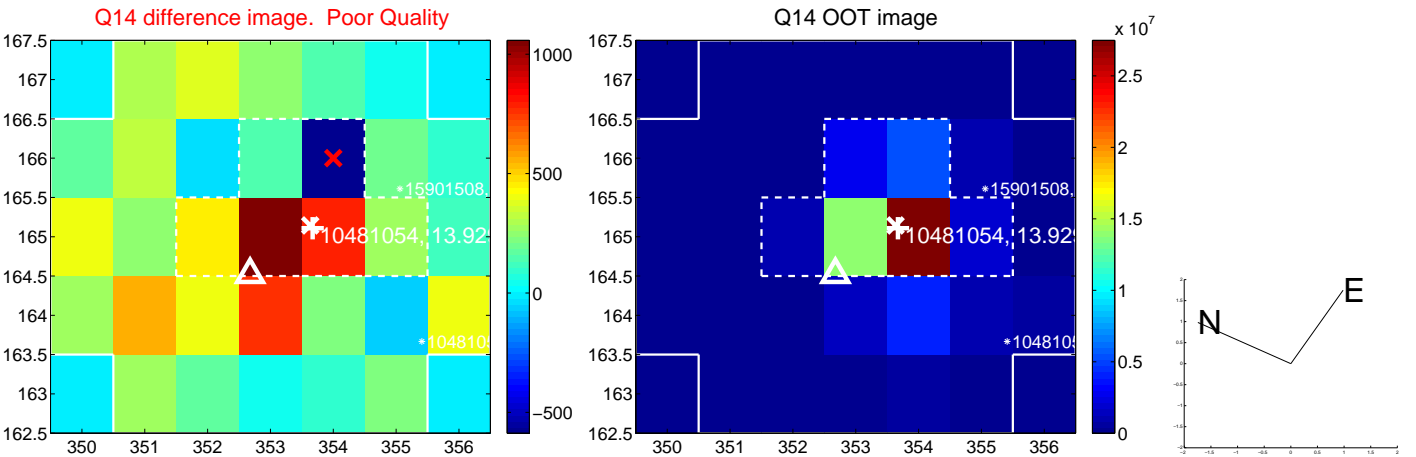
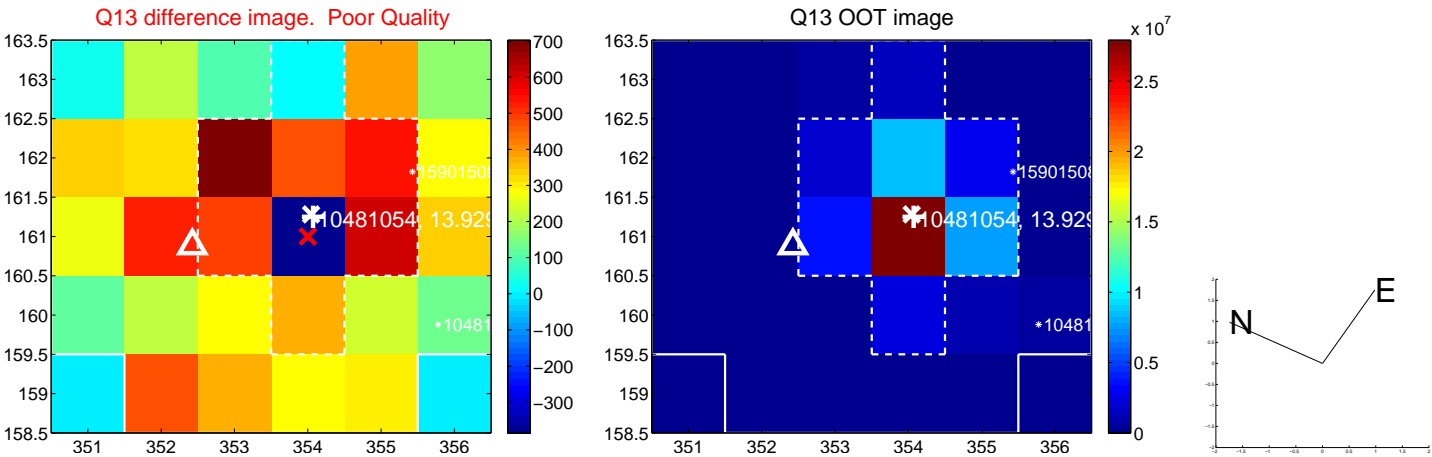
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



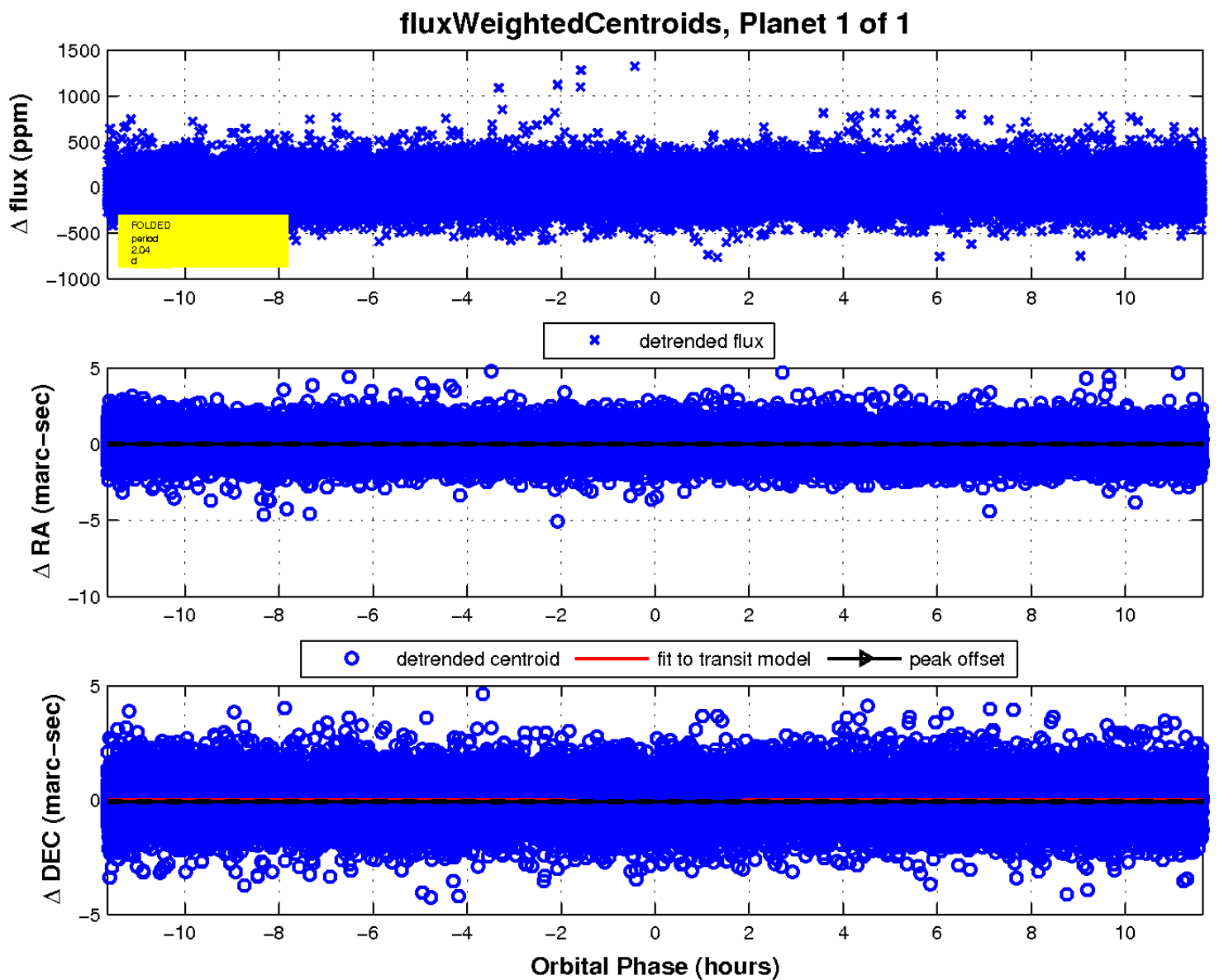
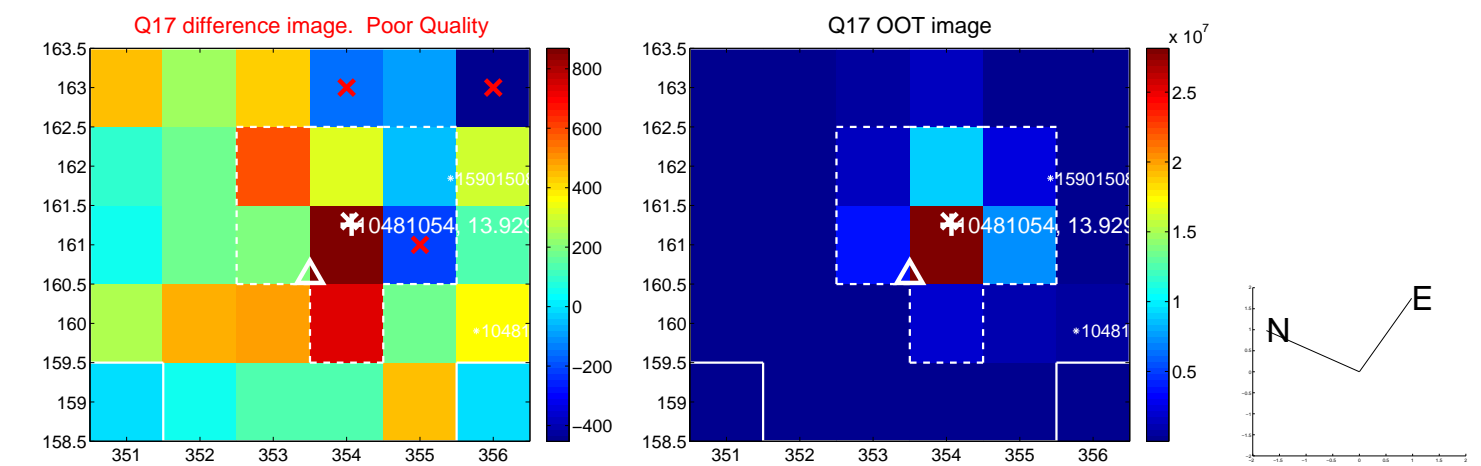
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

