

KIC 010549924

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})
010549924-01	OBS	4214.01	0.715808	132.073915	39.6	0.949	12.1	11.4	0.91	5640	0.69	3221.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010549924-01	OBS	FP	0.01	0	0	1	0	CENT_RESOLVED_OFFSET

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.

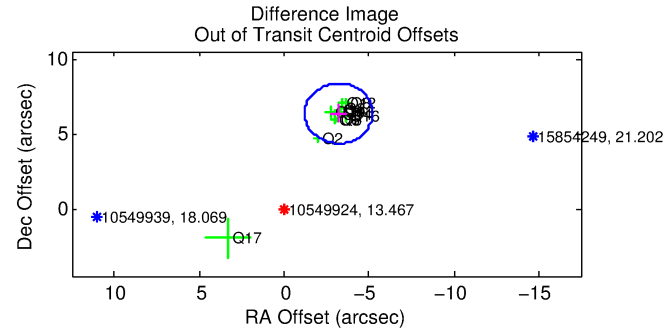
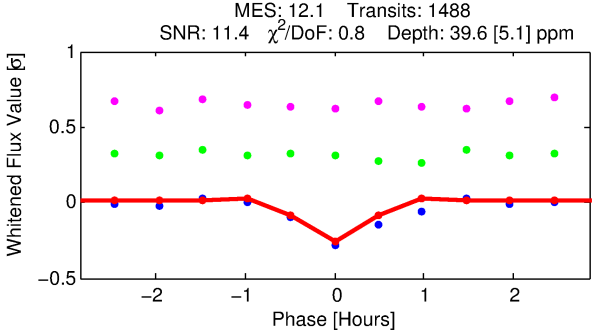
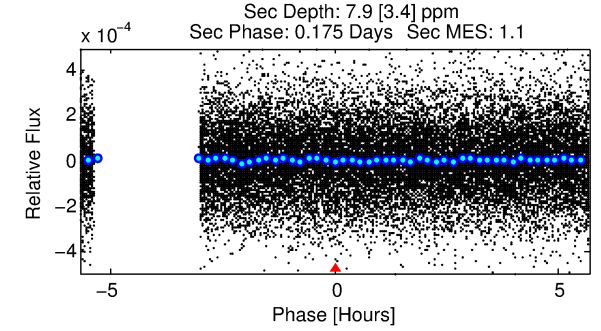
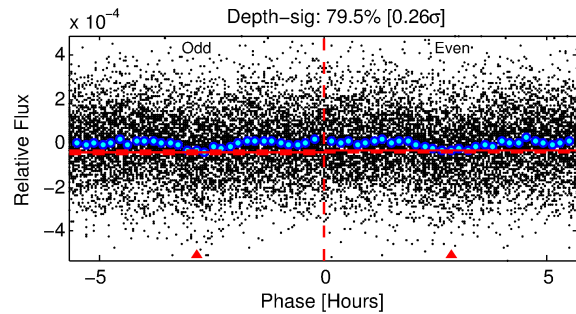
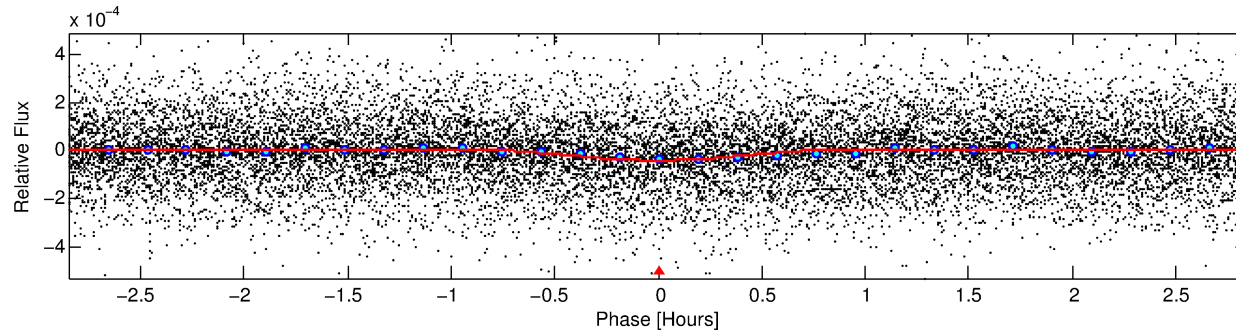
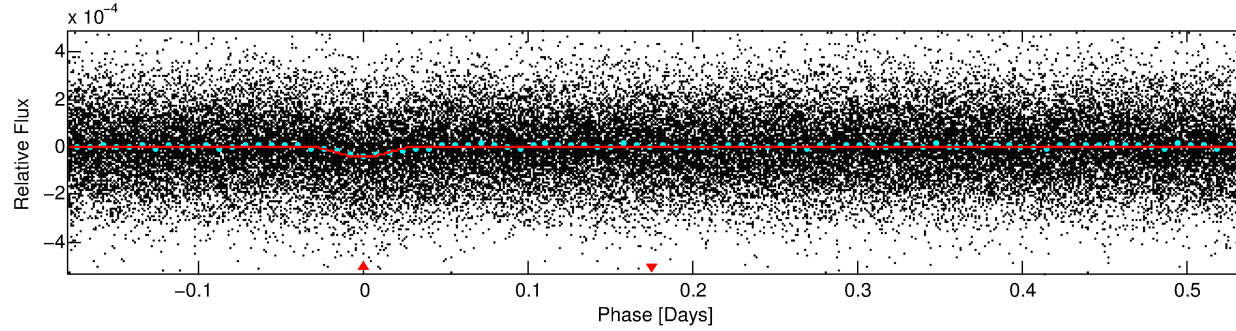
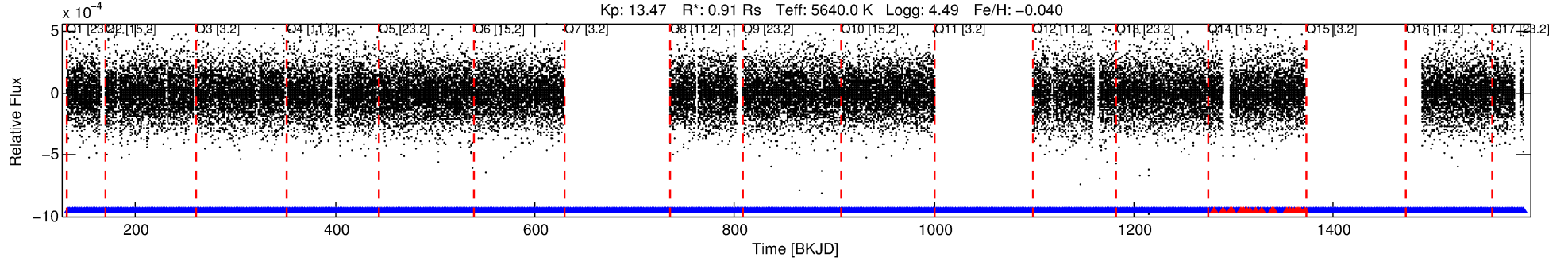
Ephemeris Match Information For 010549924-01

No Significant Match Found

DV One-Page Summary

KIC: 10549924 Candidate: 1 of 1 Period: 0.716 d
KOI: K04214.01 Corr: 0.754

Kp: 13.47 R*: 0.91 Rs Teff: 5640.0 K Logg: 4.49 Fe/H: -0.040



DV Fit Results:

Period = 0.71581 [0.00001] d
Epoch = 132.0739 [0.0014] BKJD
Rp/R* = 0.0070 [0.0021]
a/R* = 2.70 [3.20]
b = 0.91 [0.28]
Seff = 3221.00 [1093.66]
Teq = 1921 [163] K
Rp = 0.69 [0.28] Re
a = 0.0153 [0.0034] AU
Ag = 2.10 [1.68] [0.66σ]
Teffp = 3577 [662] K [2.43σ]

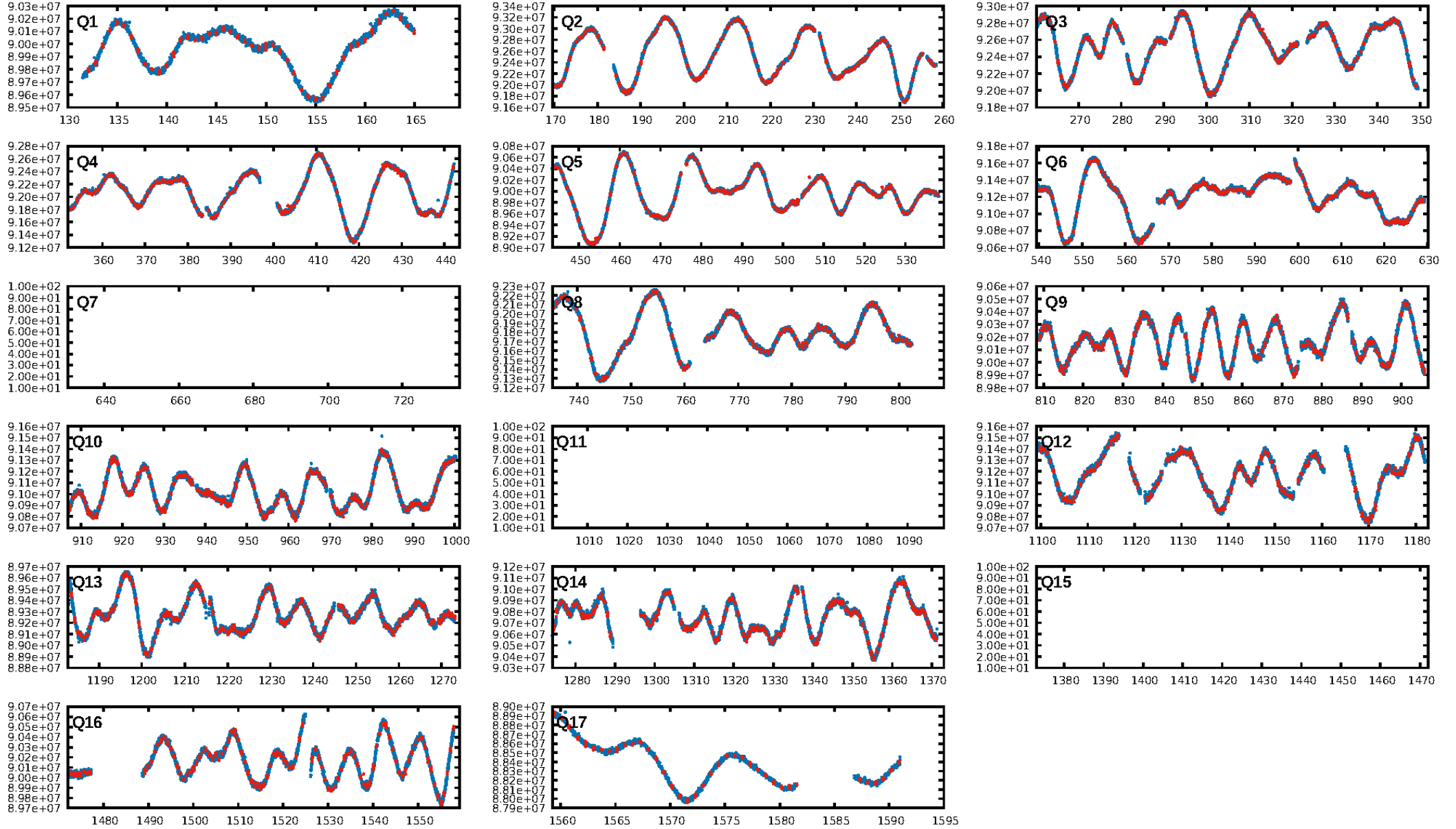
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.19e-33
RollingBand-fgt: 0.98 [1379/1403]
GhostDiagnostic-chr: 0.4539
Centroid-sig: 0.0%
Centroid-so: 14.383 arcsec [12.61σ]
OotOffset-rm: 7.116 arcsec [10.63σ]
KicOffset-rm: 7.120 arcsec [8.58σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

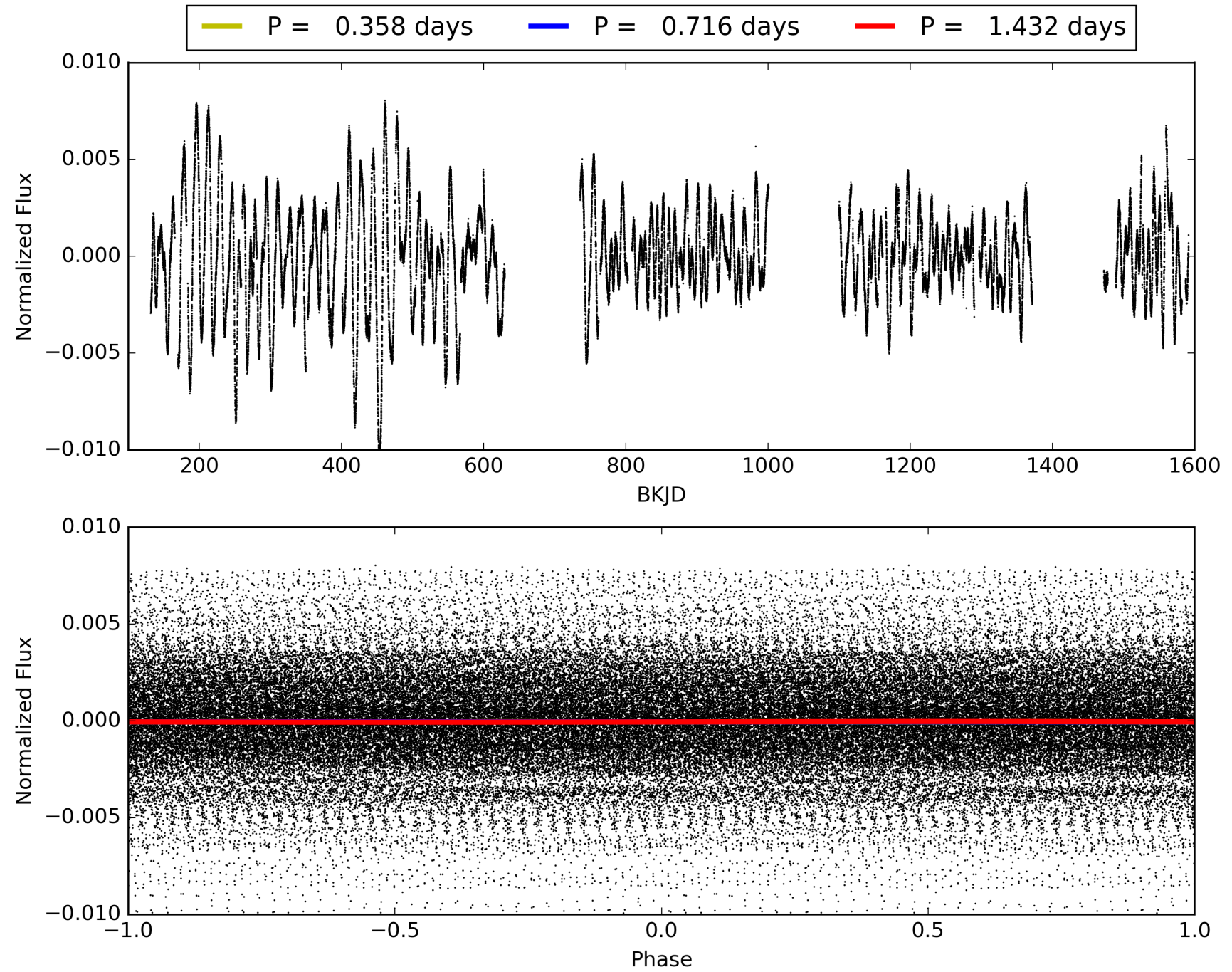
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:32:40 Z

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

TCE 010549924-01, PDC Light Curves

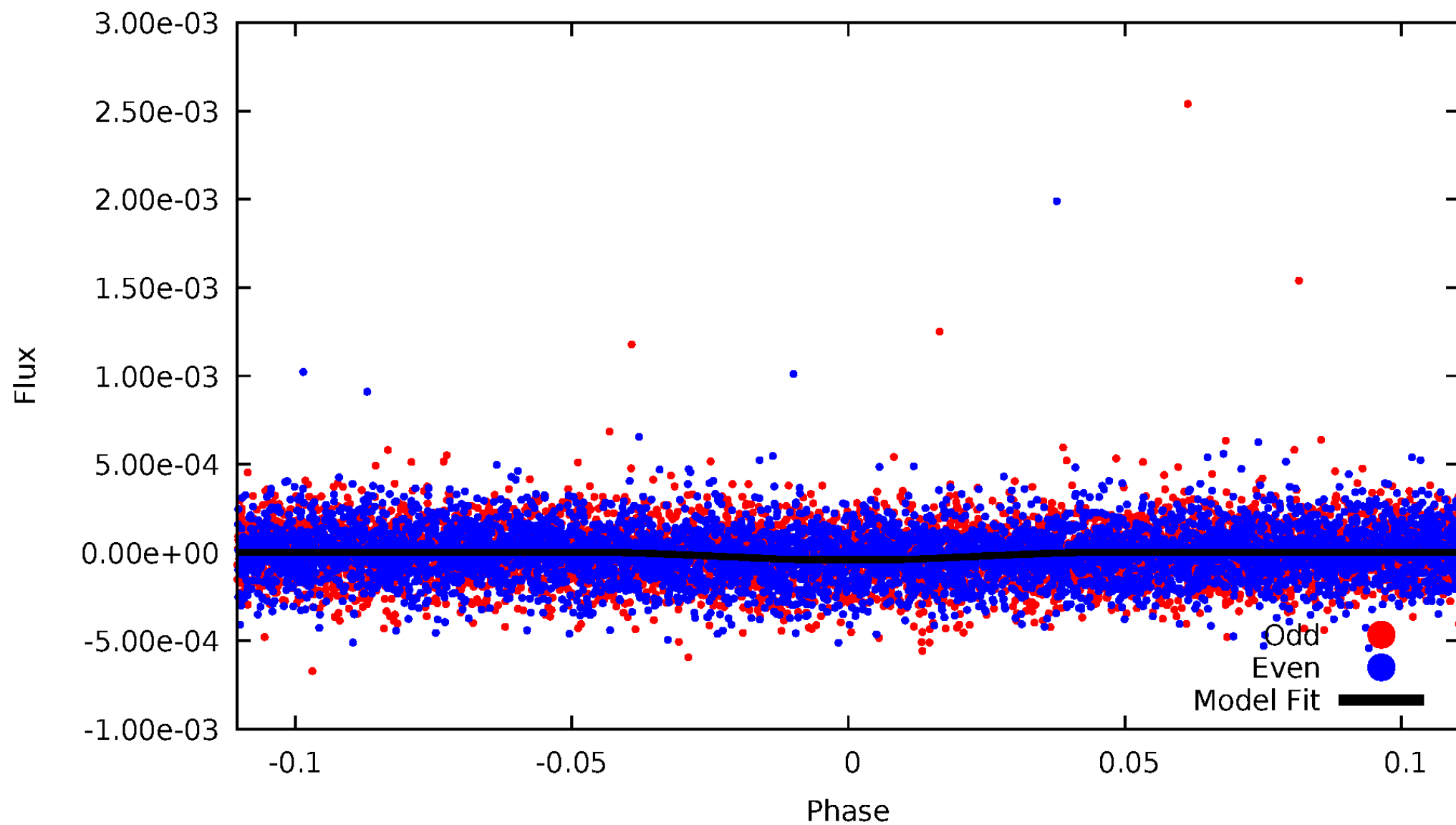


TCE 010549924-01



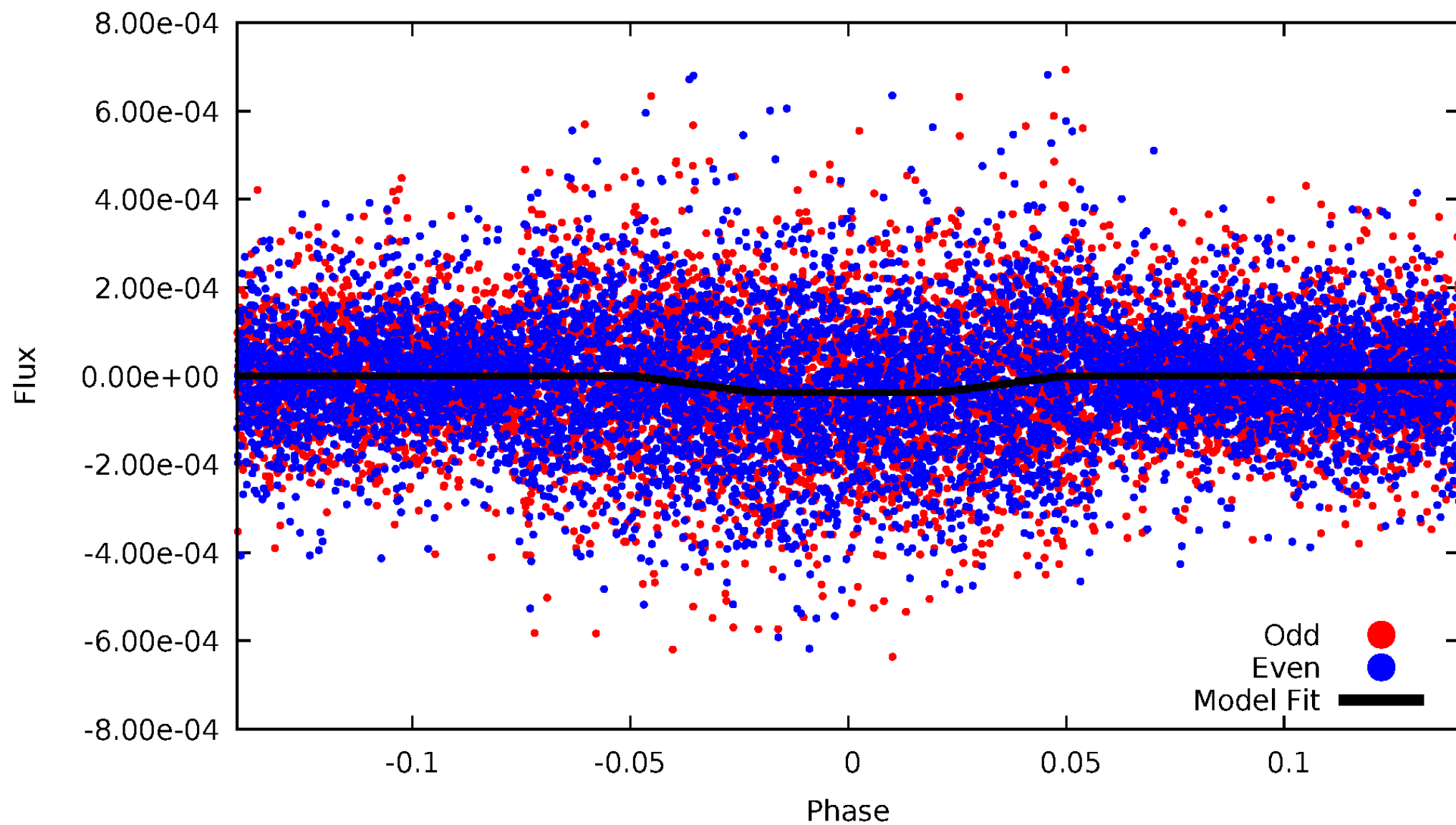
DV Odd/Even

TCE 010549924-01



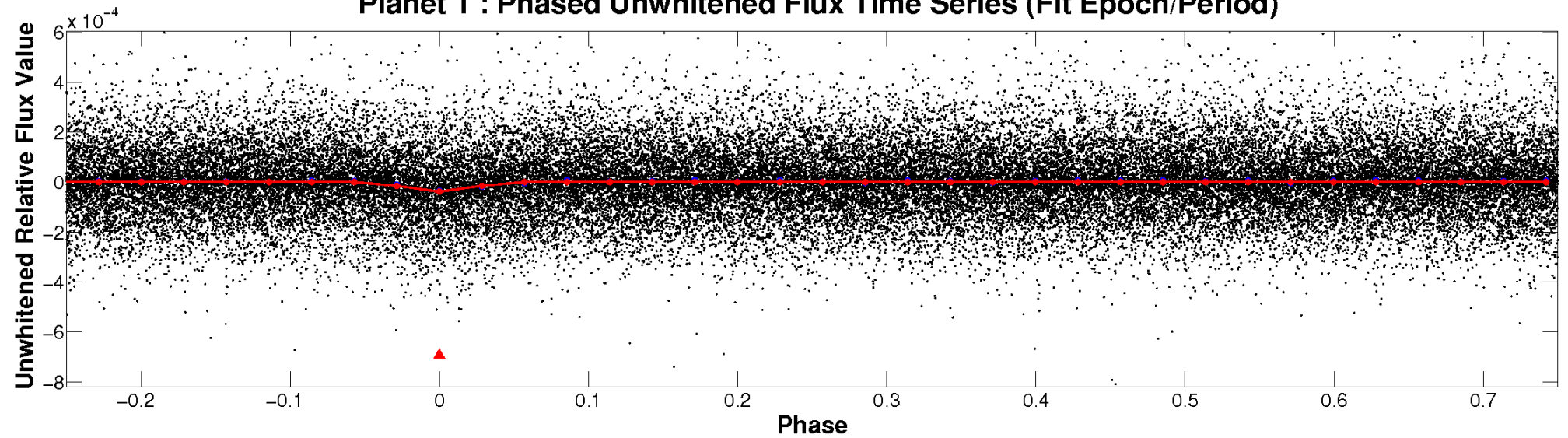
ALT Odd/Even

TCE 010549924-01

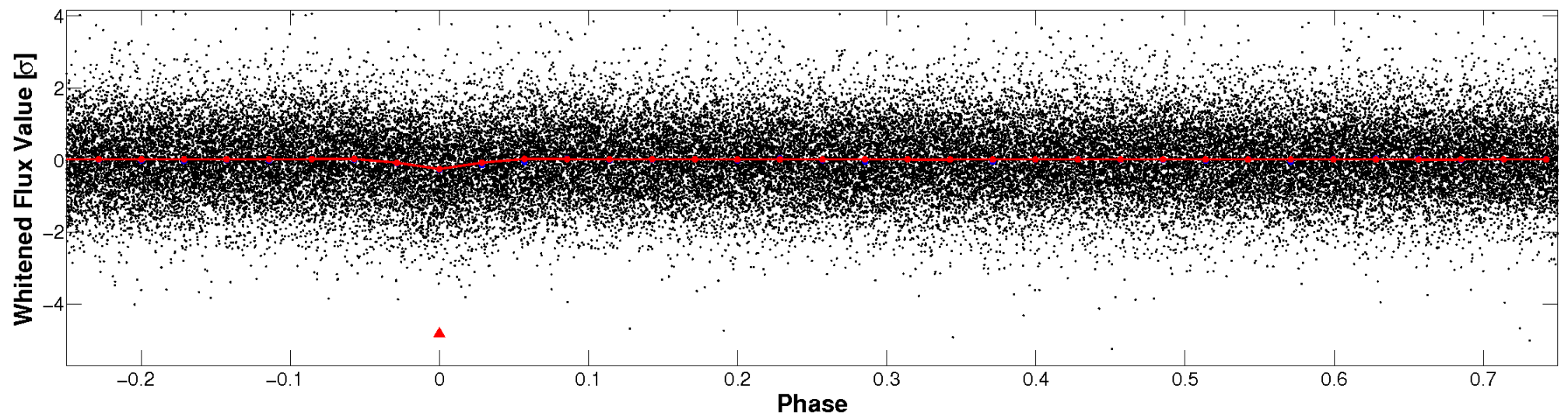


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

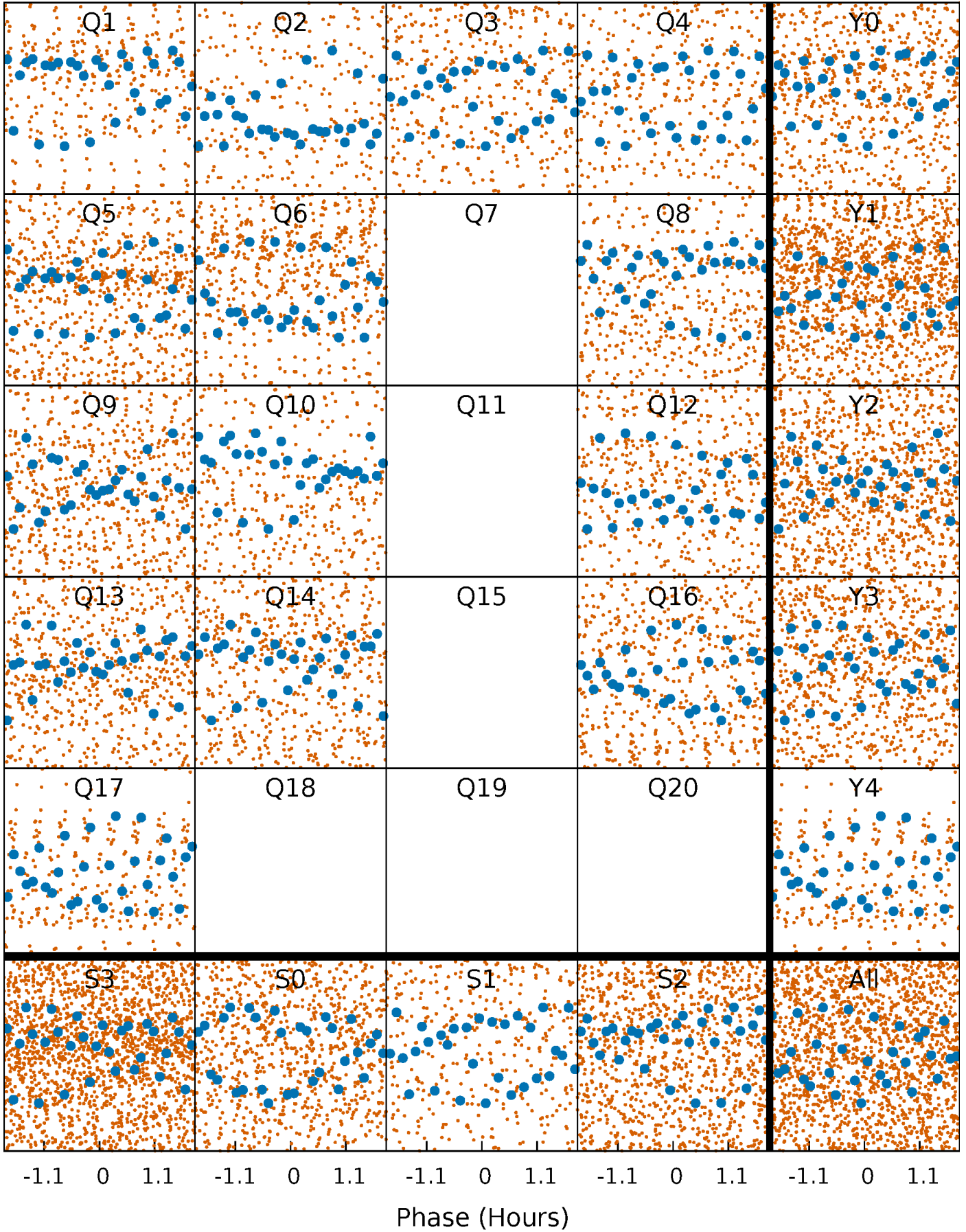


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



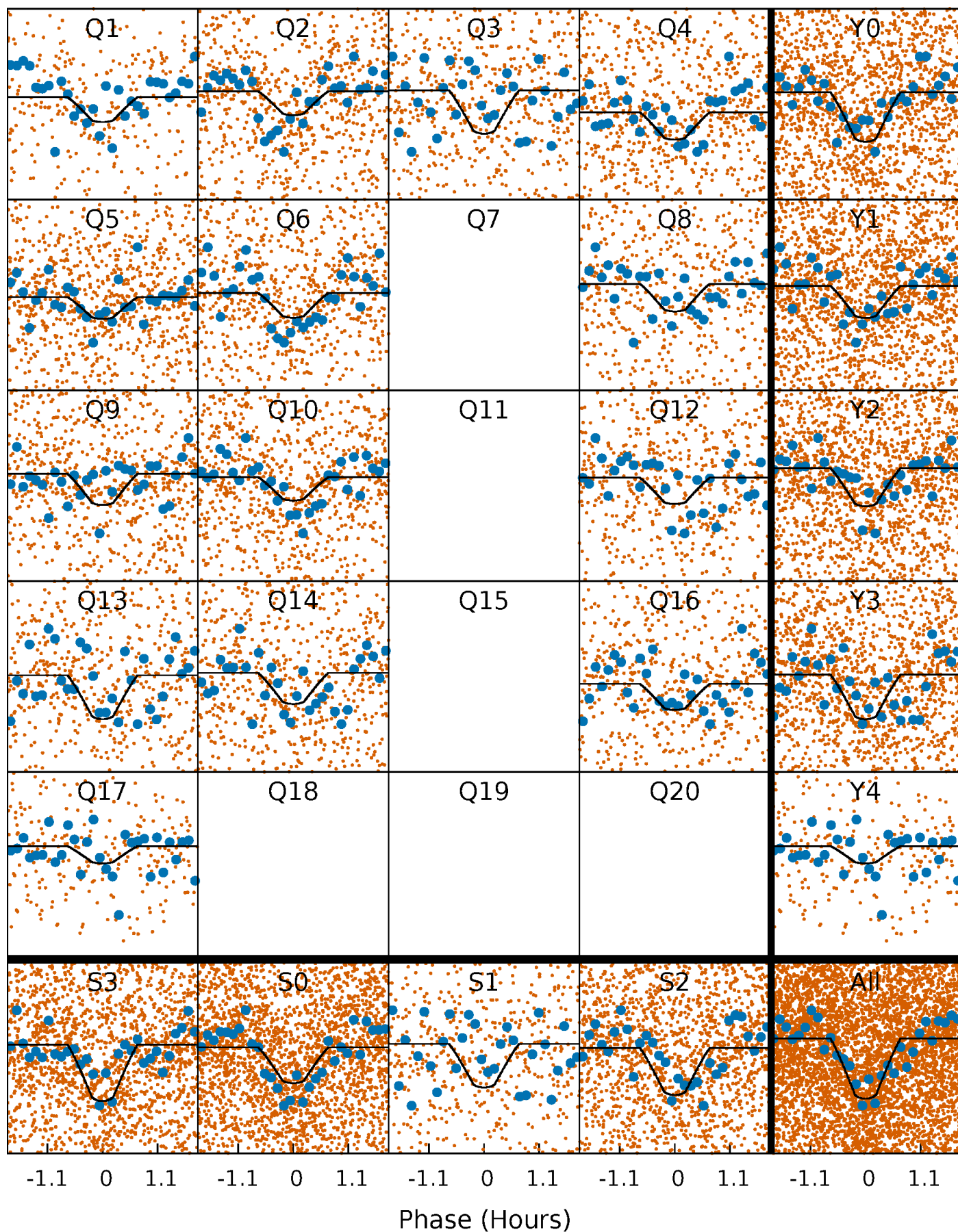
PDC Quarter-Phased Transit Curves

TCE 010549924-01 P= 0.715808 Days $T_0=132.073915$ (BKJD)



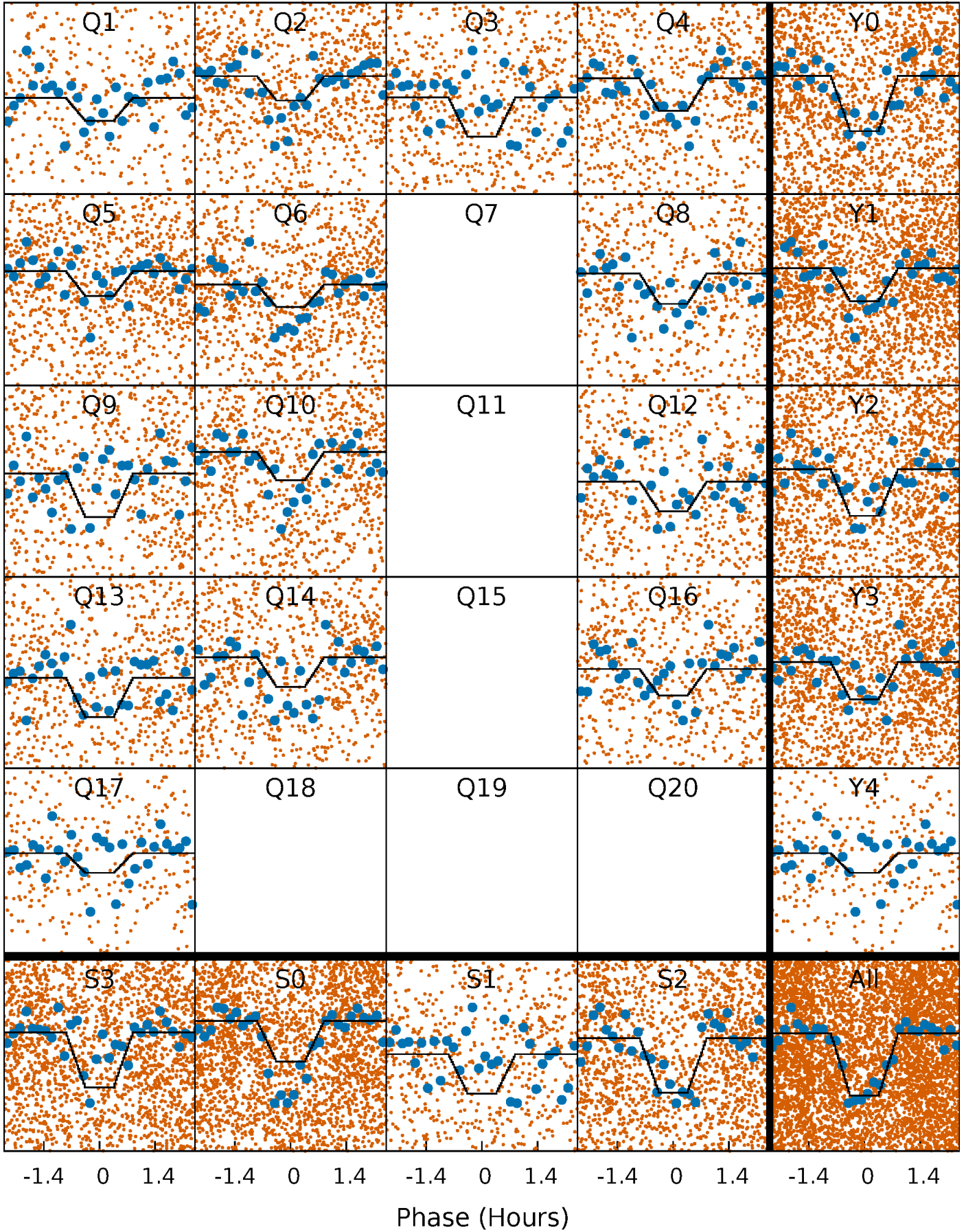
DV Quarter-Phased Transit Curves

TCE 010549924-01 P= 0.715808 Days $T_0=132.073915$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

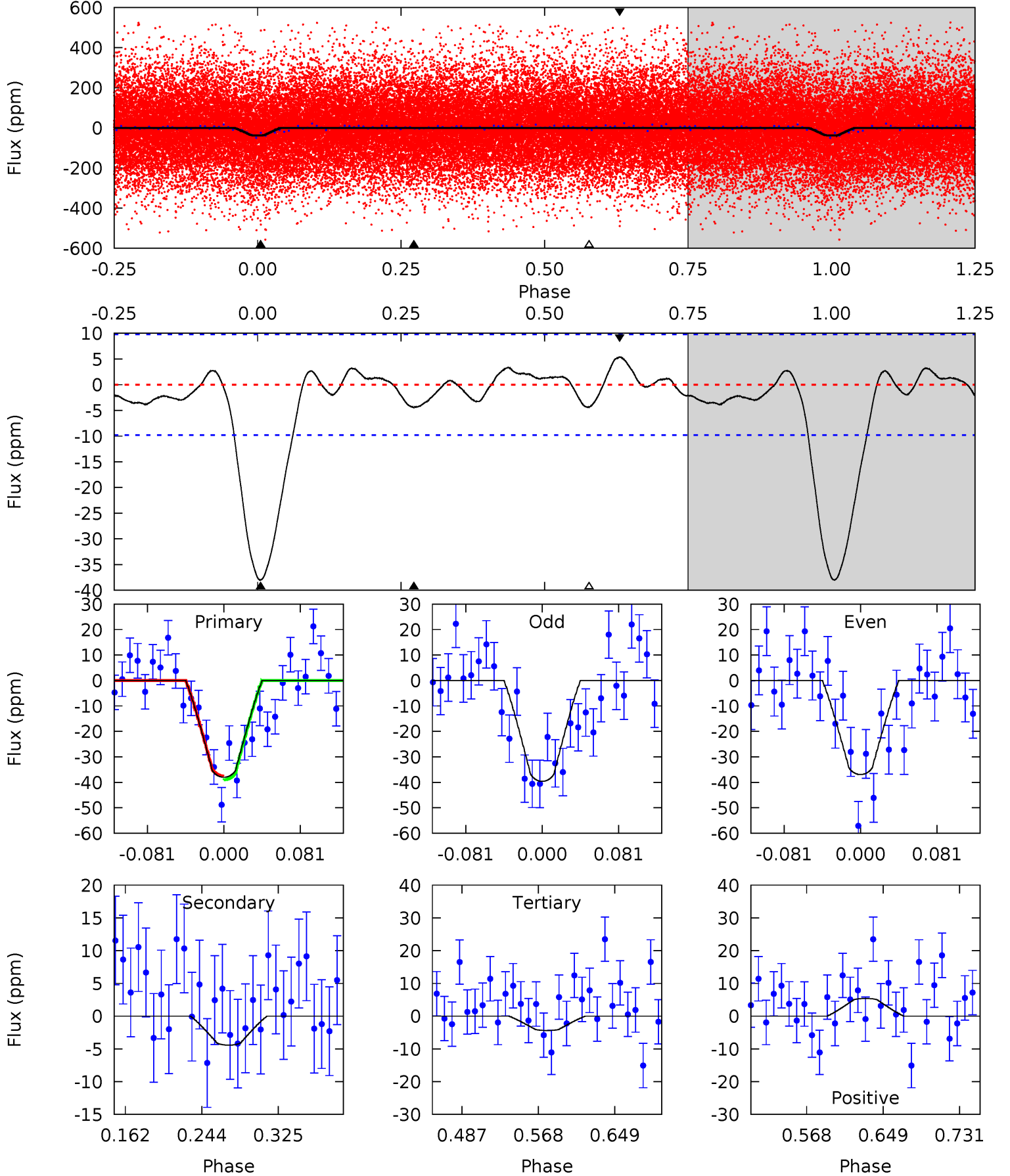
TCE 010549924-01 P= 0.715820 Days $T_0=132.069764$ (BKJD)



DV Model-Shift Uniqueness Test

010549924-01, P = 0.715808 Days, E = 131.358107 Days

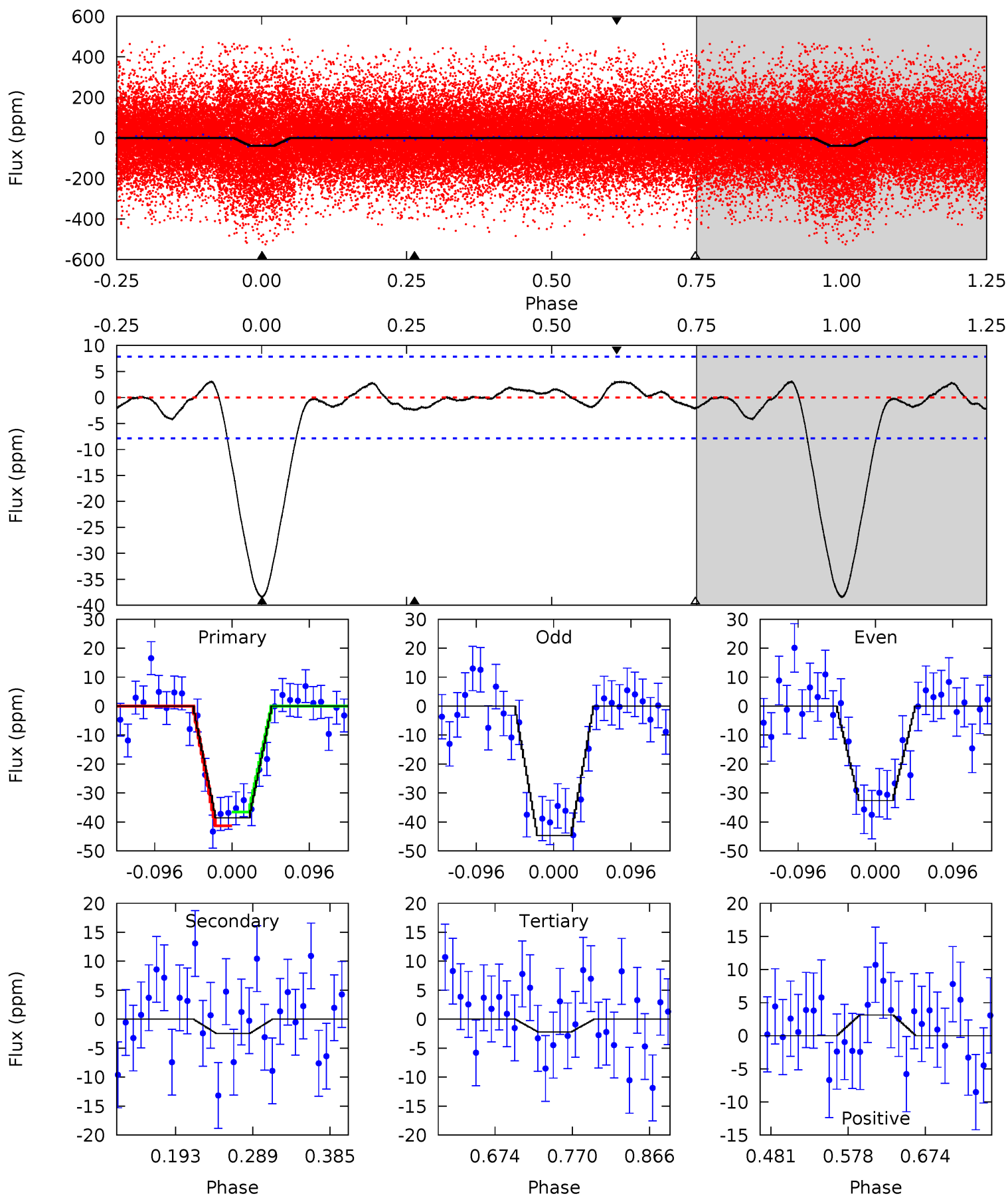
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	2.08	2.06	2.53	4.61	1.74	1.13	15.8	15.3	0.02	-0.45	0.64	0.91	0.12	0.34



Alt Model-Shift Uniqueness Test

010549924-01, P = 0.715820 Days, E = 131.353944 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	1.43	1.27	1.82	4.57	1.66	0.89	21.1	20.6	0.16	-0.39	3.52	0.97	0.08	1.38



Stellar Parameters For KIC 010549924

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5640^{+152}_{-152}	$4.486^{+0.075}_{-0.175}$	$-0.040^{+0.300}_{-0.300}$	$0.909^{+0.242}_{-0.104}$	$0.924^{+0.104}_{-0.094}$	$1.730^{+0.558}_{-0.833}$
	+3%/-3%	+2%/-4%	+750%/-750%	+27%/-11%	+11%/-10%	+32%/-48%
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 010549924-01 / KOI 4214.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 2	$0.72^{+0.23}_{-0.23}$	2716^{+183}_{-124}	3373^{+614}_{-690}	$1.092^{+1.393}_{-0.631}$
Alt.	-2 ± 2	$0.63^{+0.23}_{-0.22}$	2730^{+159}_{-133}	3126^{+677}_{-5766}	$0.769^{+1.200}_{-0.592}$

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 $A_{obs} \gg 1.0$

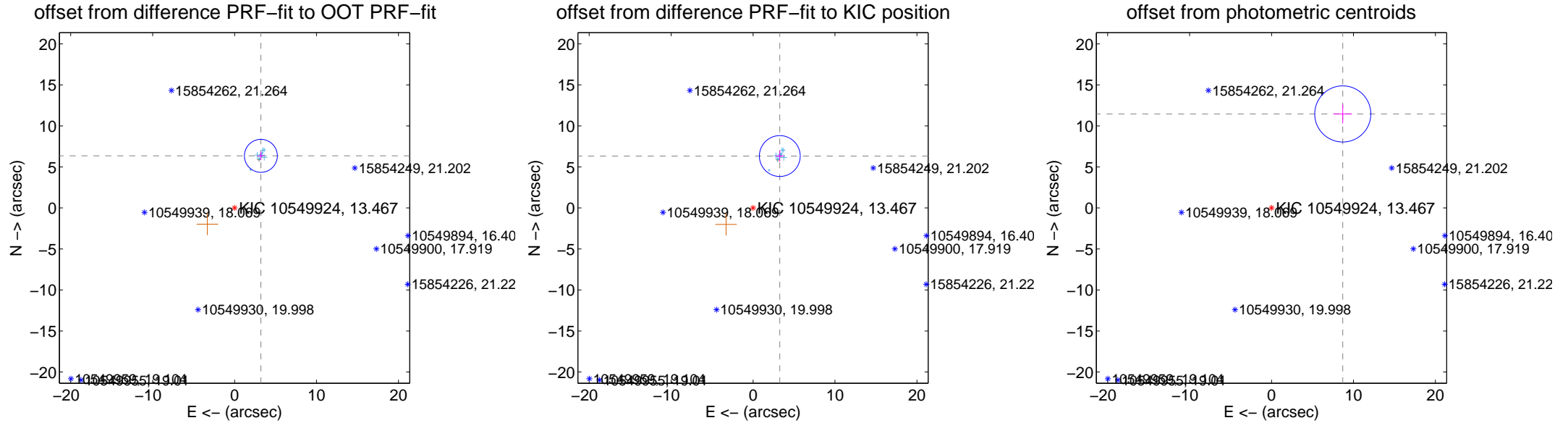
DV Centroid Data

Supplemental centroid analysis for 010549924-01. Kepler magnitude: 13.47. Transit SNR 11.39

There are 12 quarters with good PRF difference image offsets

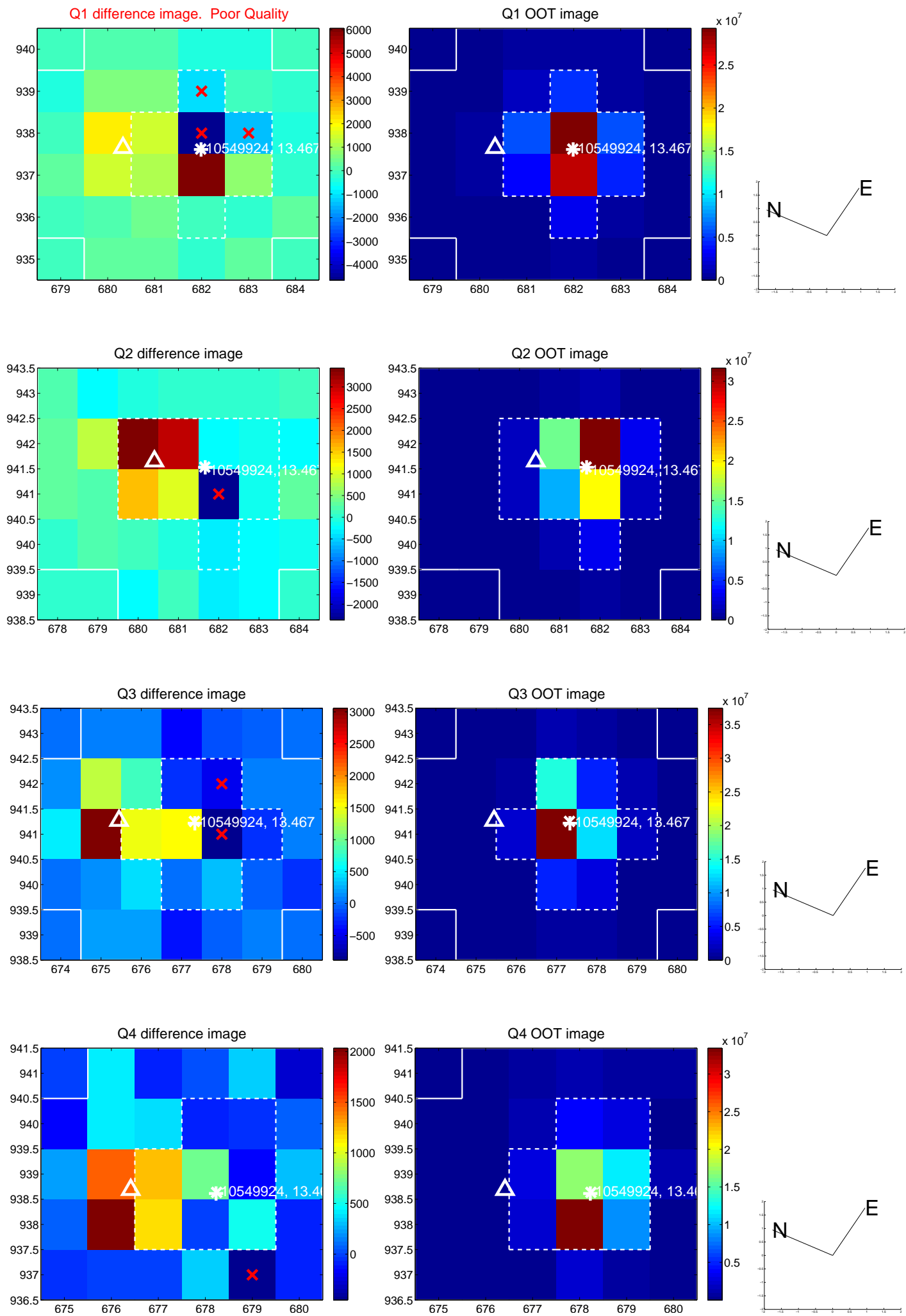
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.116 \pm 0.670	10.63	-3.209 \pm 0.425	6.351 \pm 0.540
PRF-fit source offset from KIC position	7.120 \pm 0.830	8.58	-3.264 \pm 0.527	6.327 \pm 0.666
photometric centroid source offset	14.38 \pm 1.14	12.61	-8.69 \pm 1.13	11.46 \pm 1.15

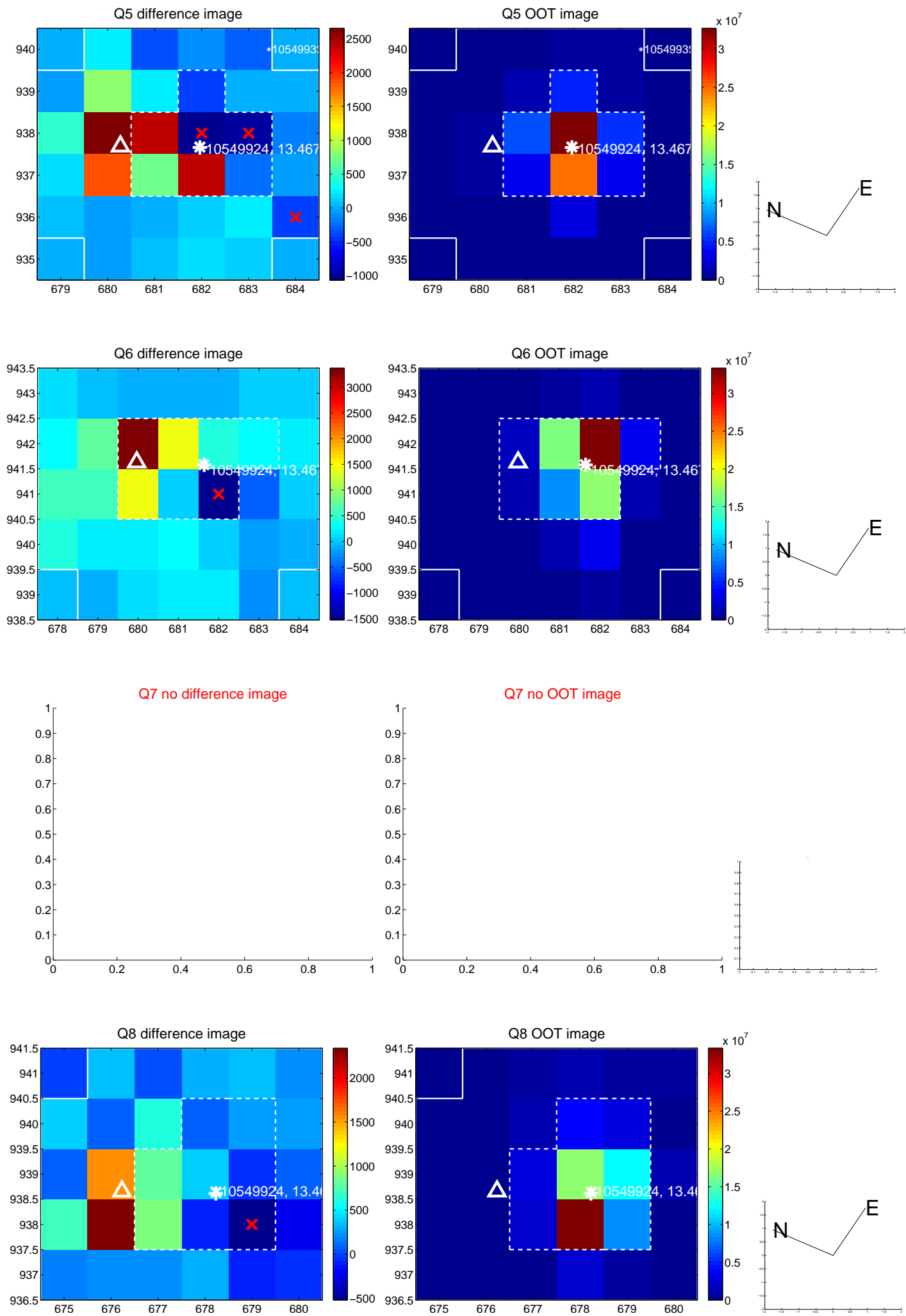


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

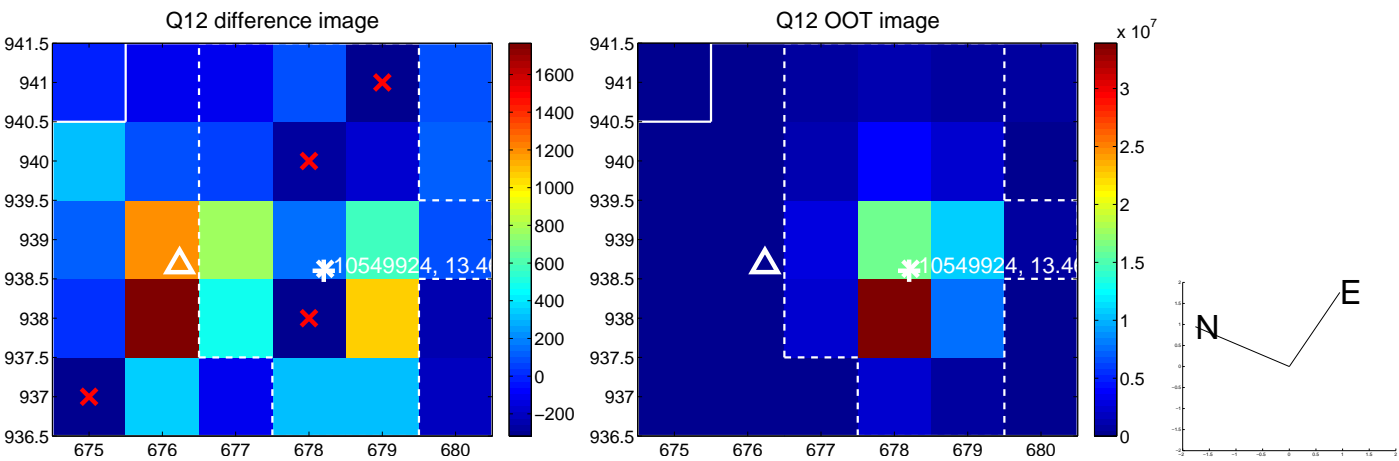
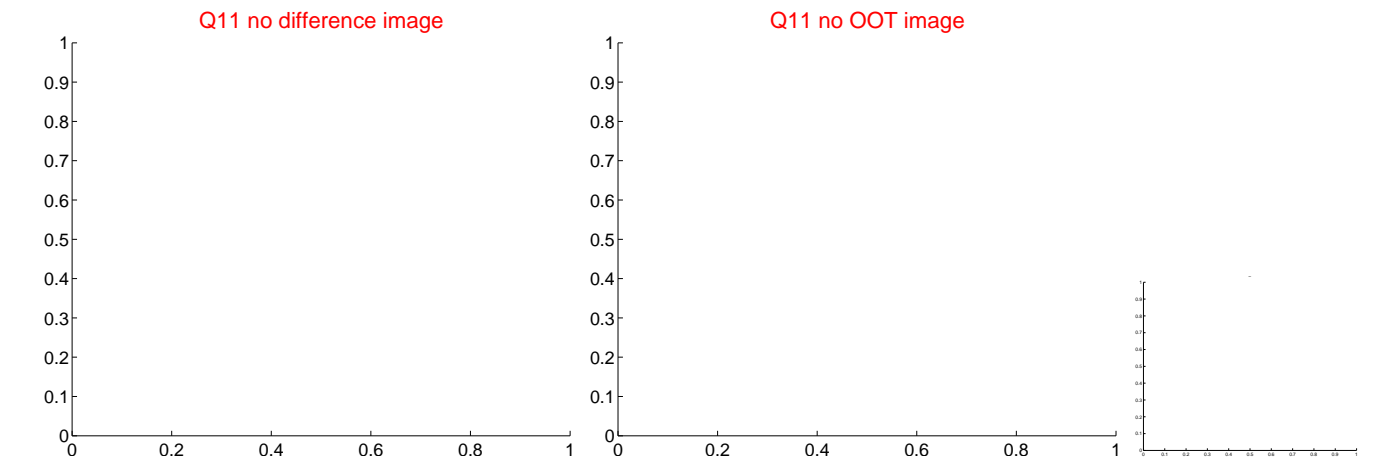
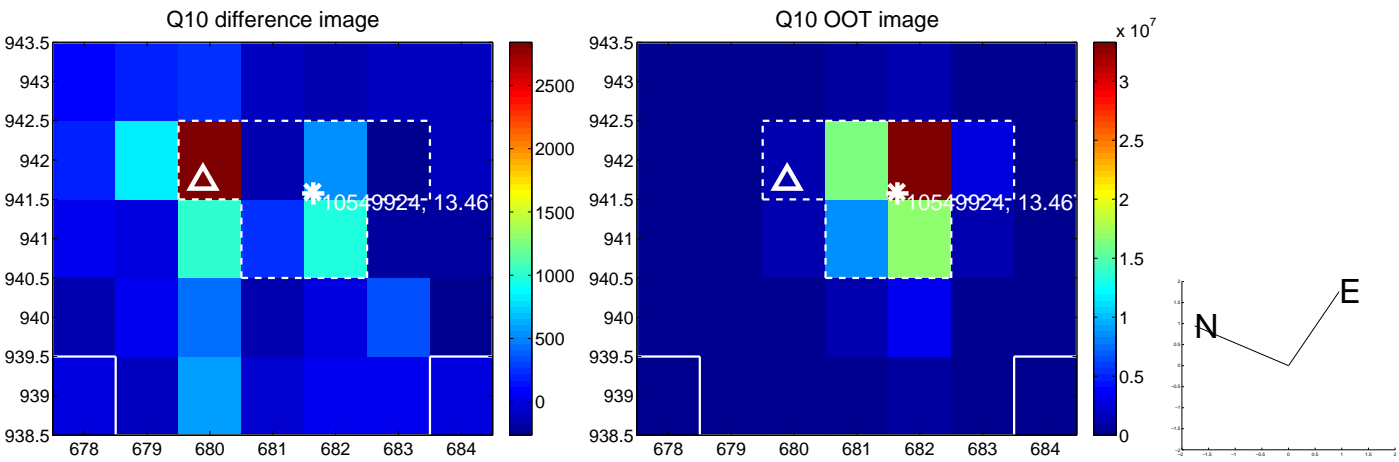
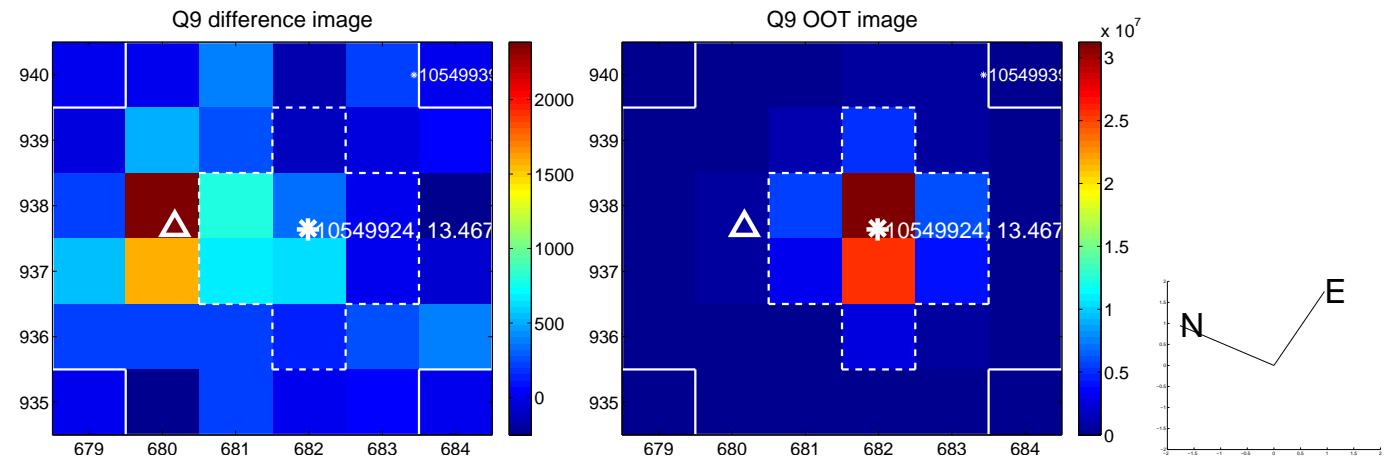
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



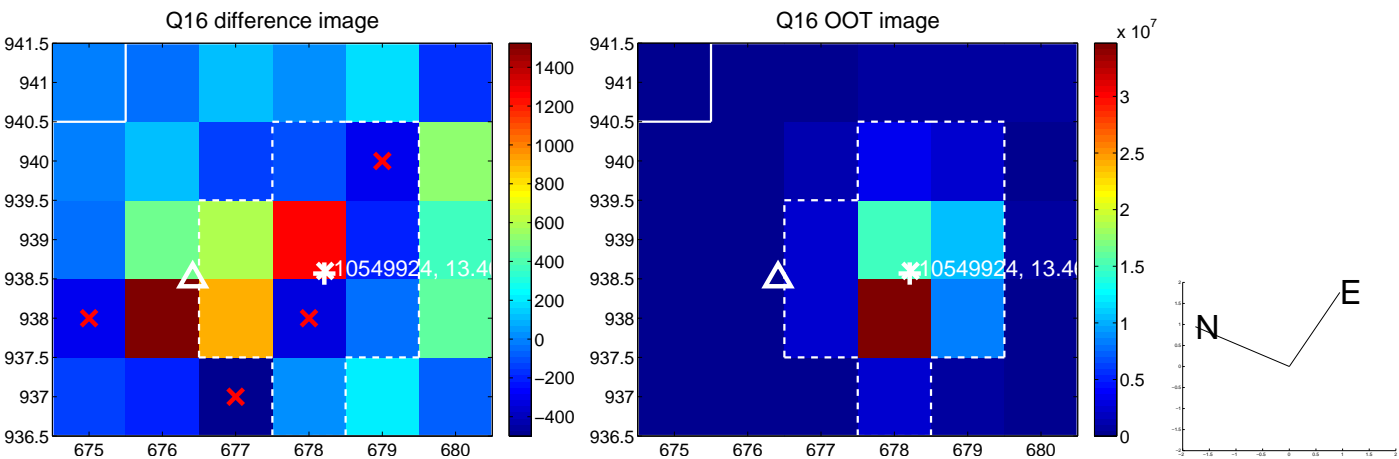
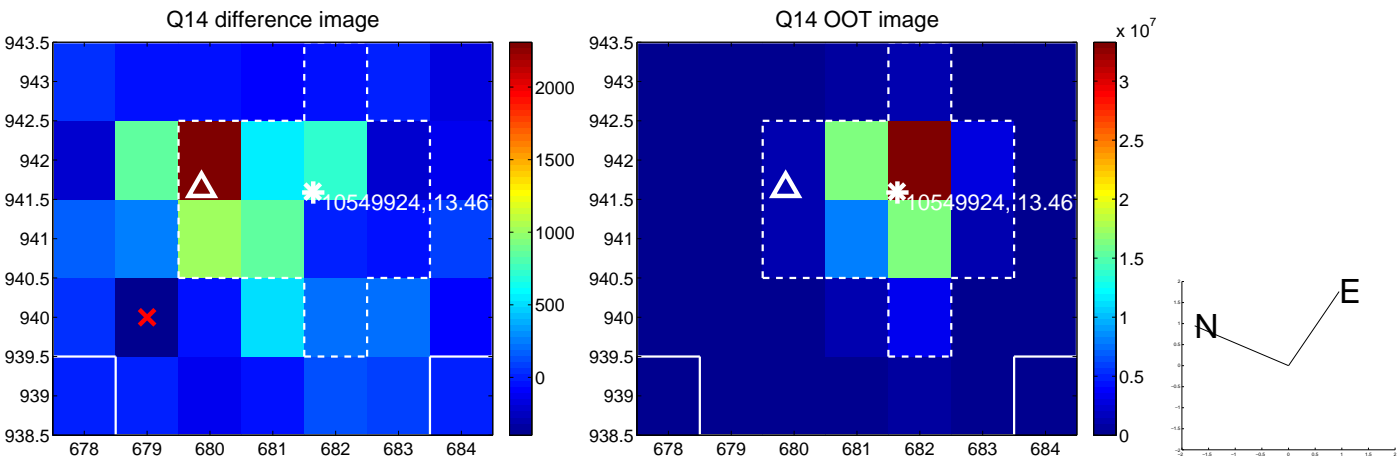
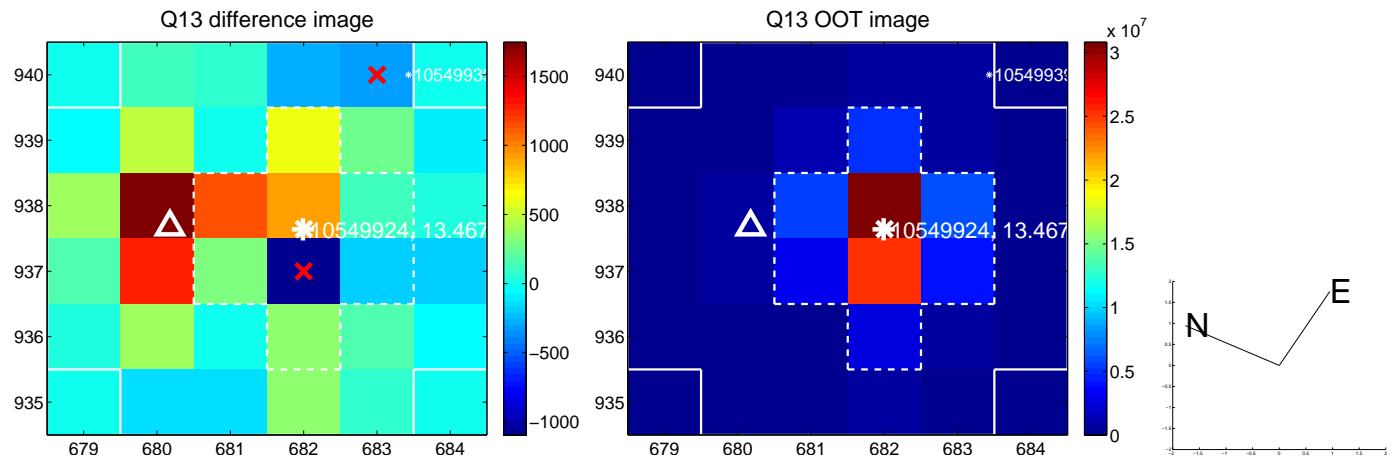
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



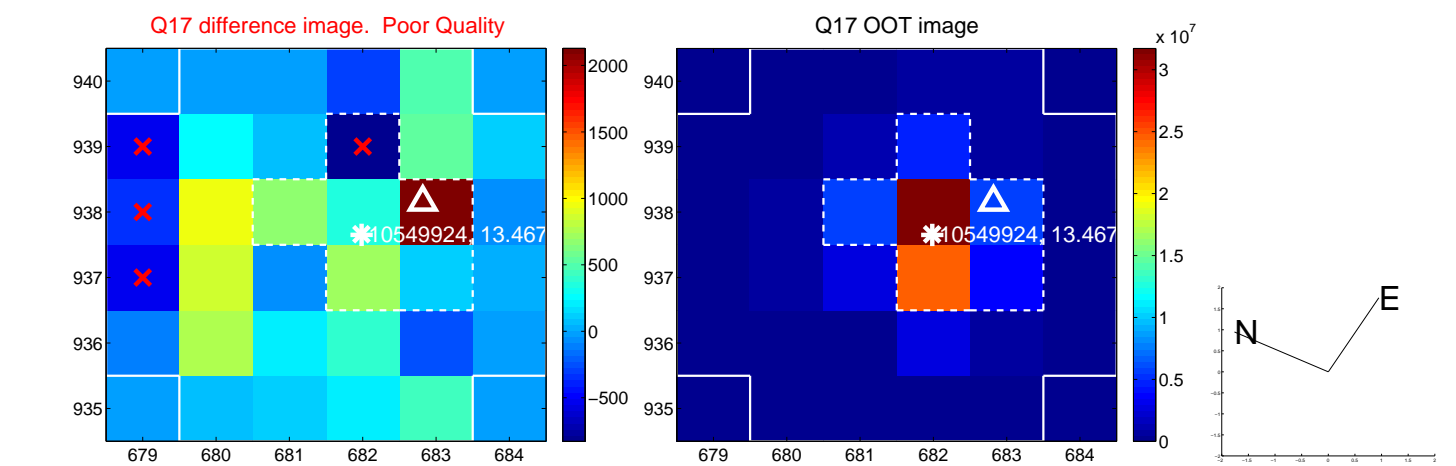
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



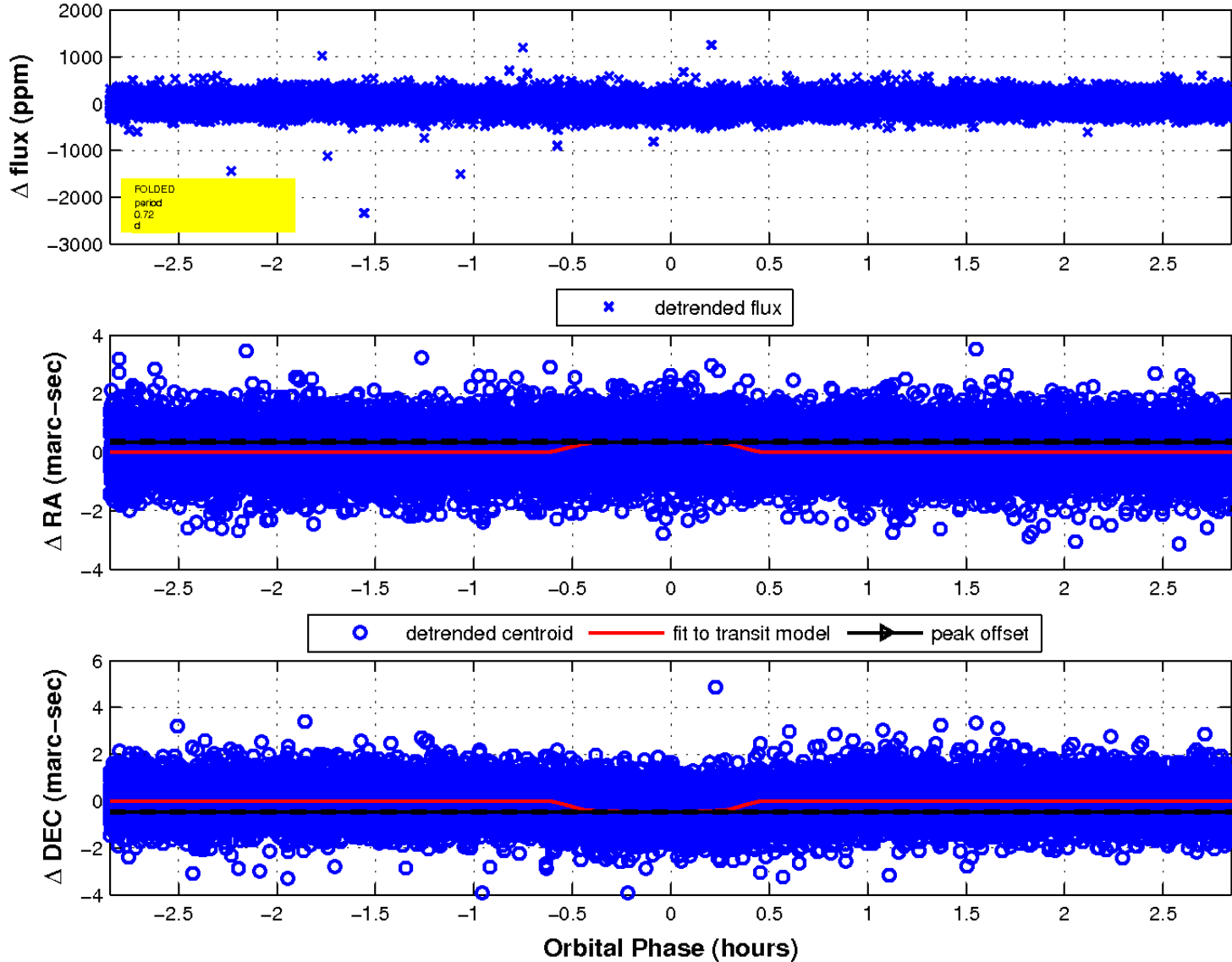
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

