

KIC 010363281

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})
010363281-01	OBS	2726.01	0.934919	132.179273	48.9	2.119	23.1	22.9	2.63	6477	2.15	23502.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010363281-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_ALT—CENT_RESOLVED_OFFSET—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 010363281-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010363281-01	10363281	010363300-pri	10363300	1:1	15.2	2	3	14.68	12.31	2763.30	Direct-PRF	0	0.72	0.12

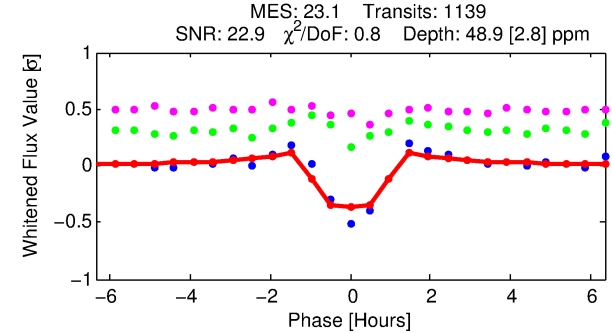
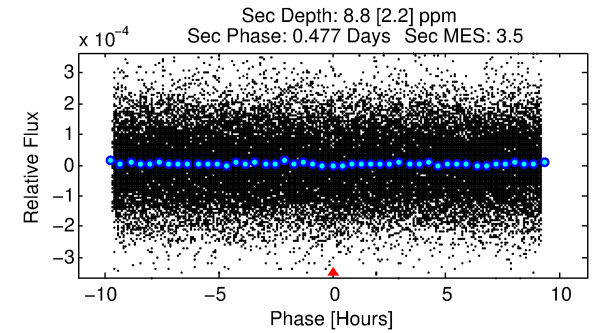
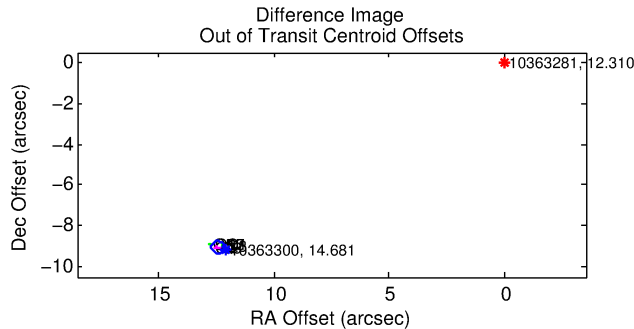
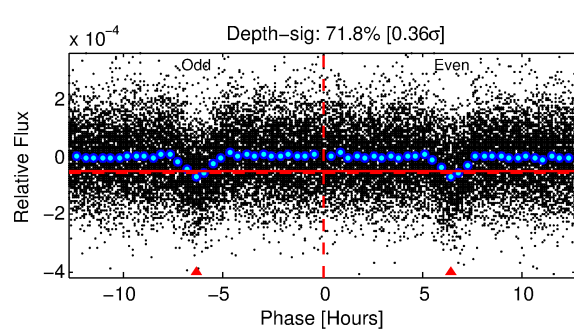
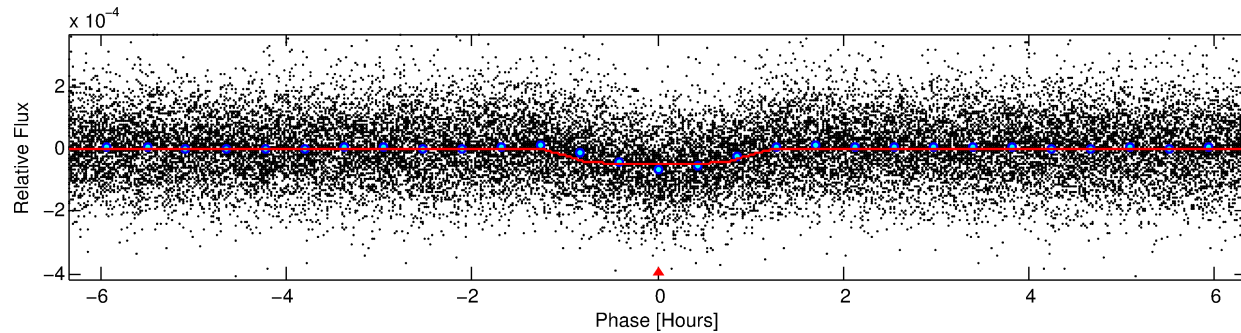
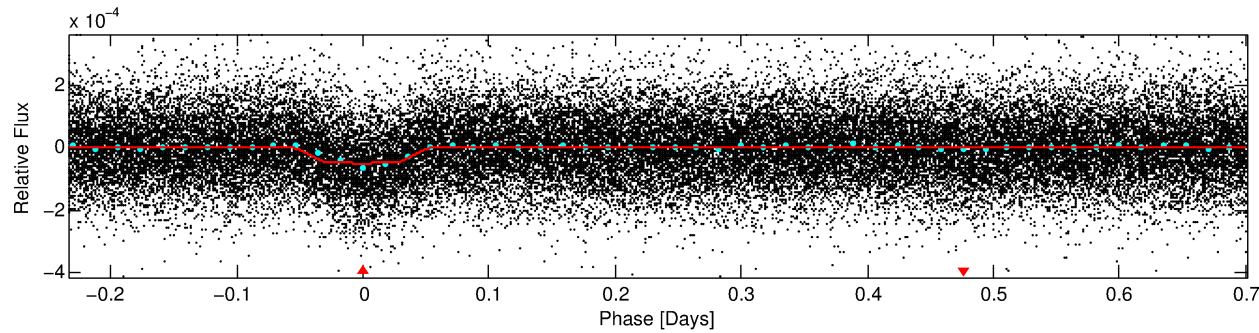
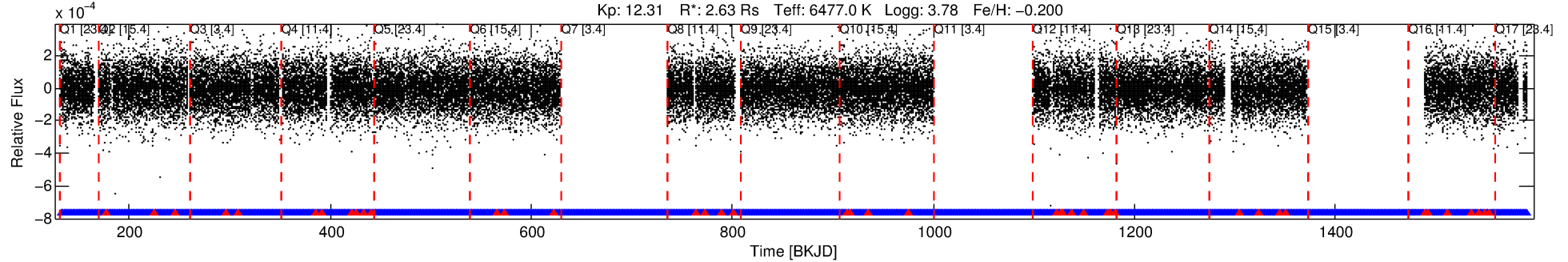
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 10363281 Candidate: 1 of 1 Period: 0.935 d

KOI: K02726.01 Corr: 0.958

Kp: 12.31 R*: 2.63 Rs Teff: 6477.0 K Logg: 3.78 Fe/H: -0.200



DV Fit Results:

Period = 0.93492 [0.00000] d
Epoch = 132.1793 [0.0010] BKJD
Rp/R* = 0.0075 [0.0012]
a/R* = 1.78 [1.11]
b = 0.90 [0.19]
Seff = 23502.18 [12950.36]
Teq = 3157 [435] K
Rp = 2.15 [0.88] Re
a = 0.0215 [0.0075] AU
Ag = 0.49 [0.33] [-1.56σ]
Teffp = 4077 [427] K [1.51σ]

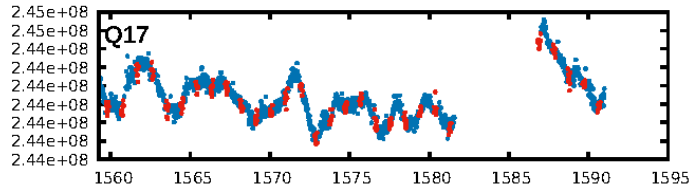
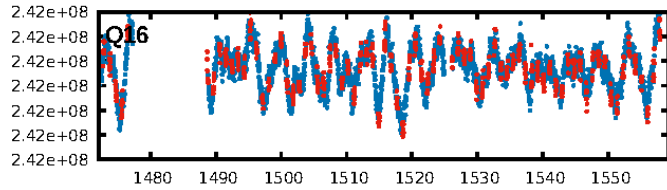
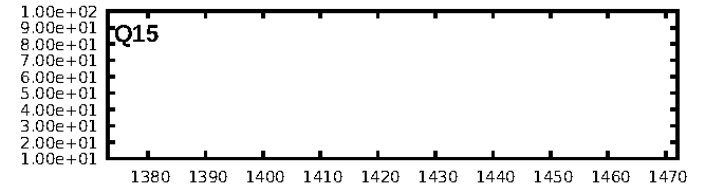
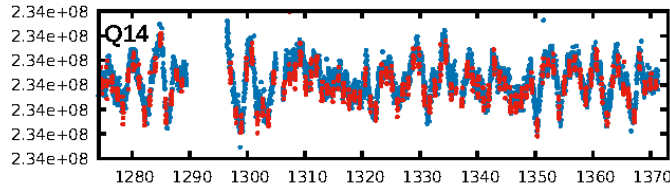
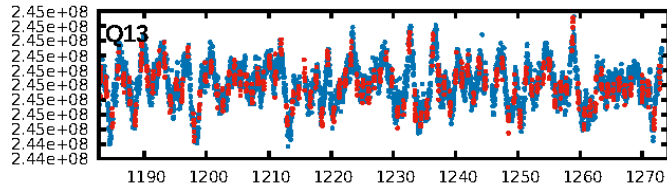
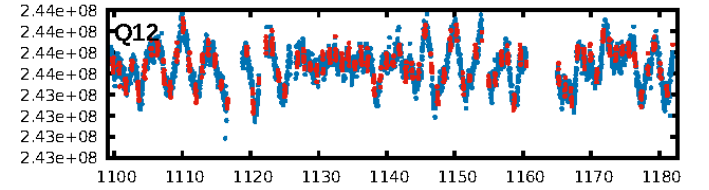
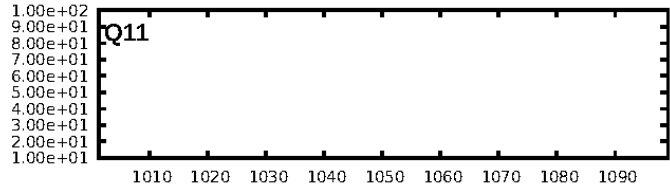
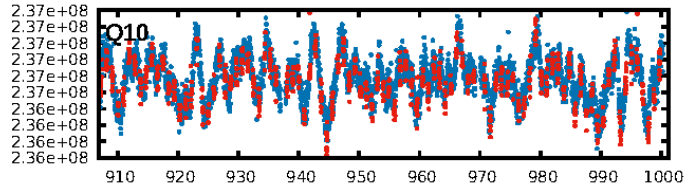
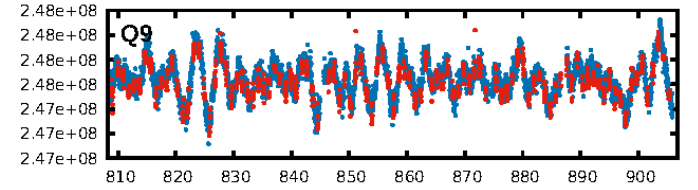
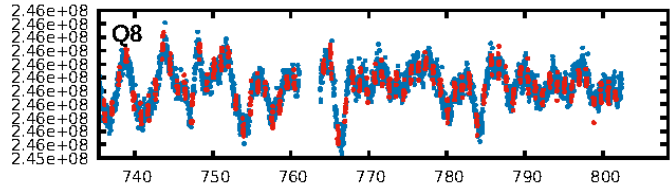
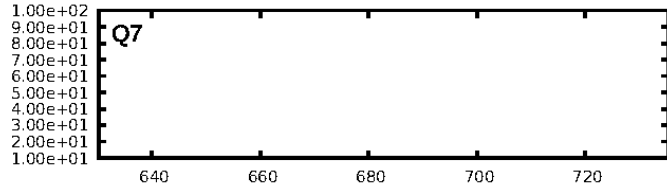
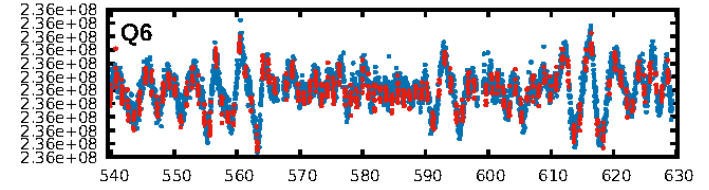
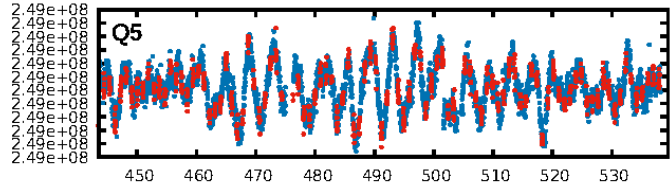
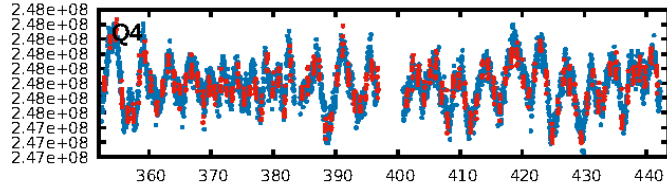
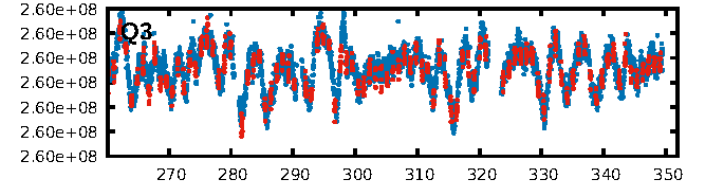
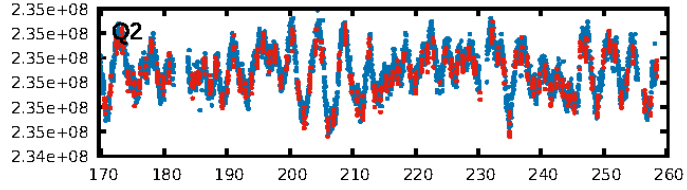
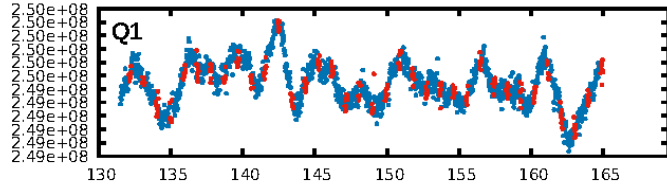
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.14e-110
RollingBand-fgt: 0.96 [1033/1074]
GhostDiagnostic-chr: -0.2512
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 15.381 arcsec [158.54σ]
KicOffset-rm: 15.326 arcsec [167.85σ]
OotOffset-st: 2/1/0/5 [8]
KicOffset-st: 2/1/0/5 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [14/14]

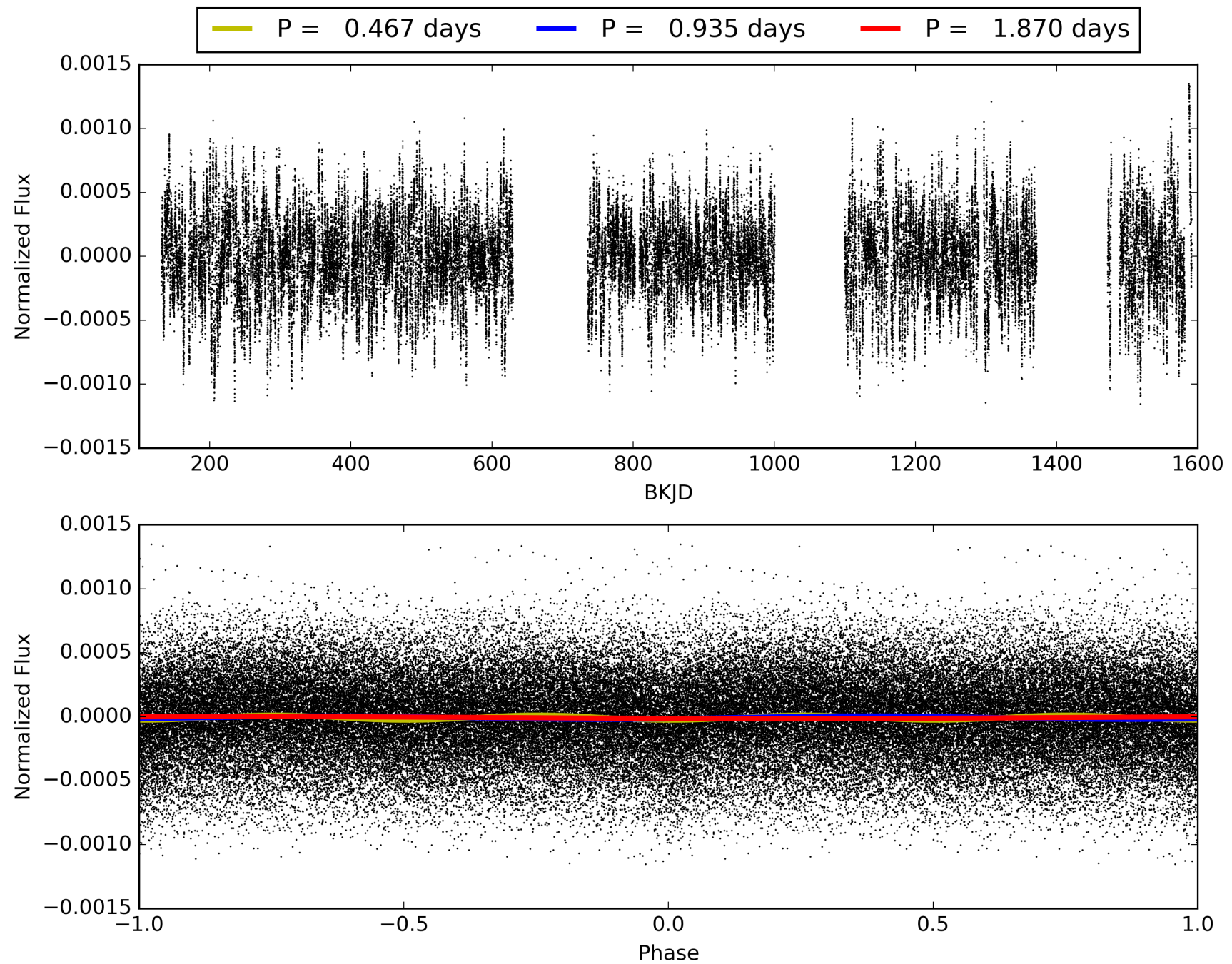
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:48:29 Z

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

TCE 010363281-01, PDC Light Curves

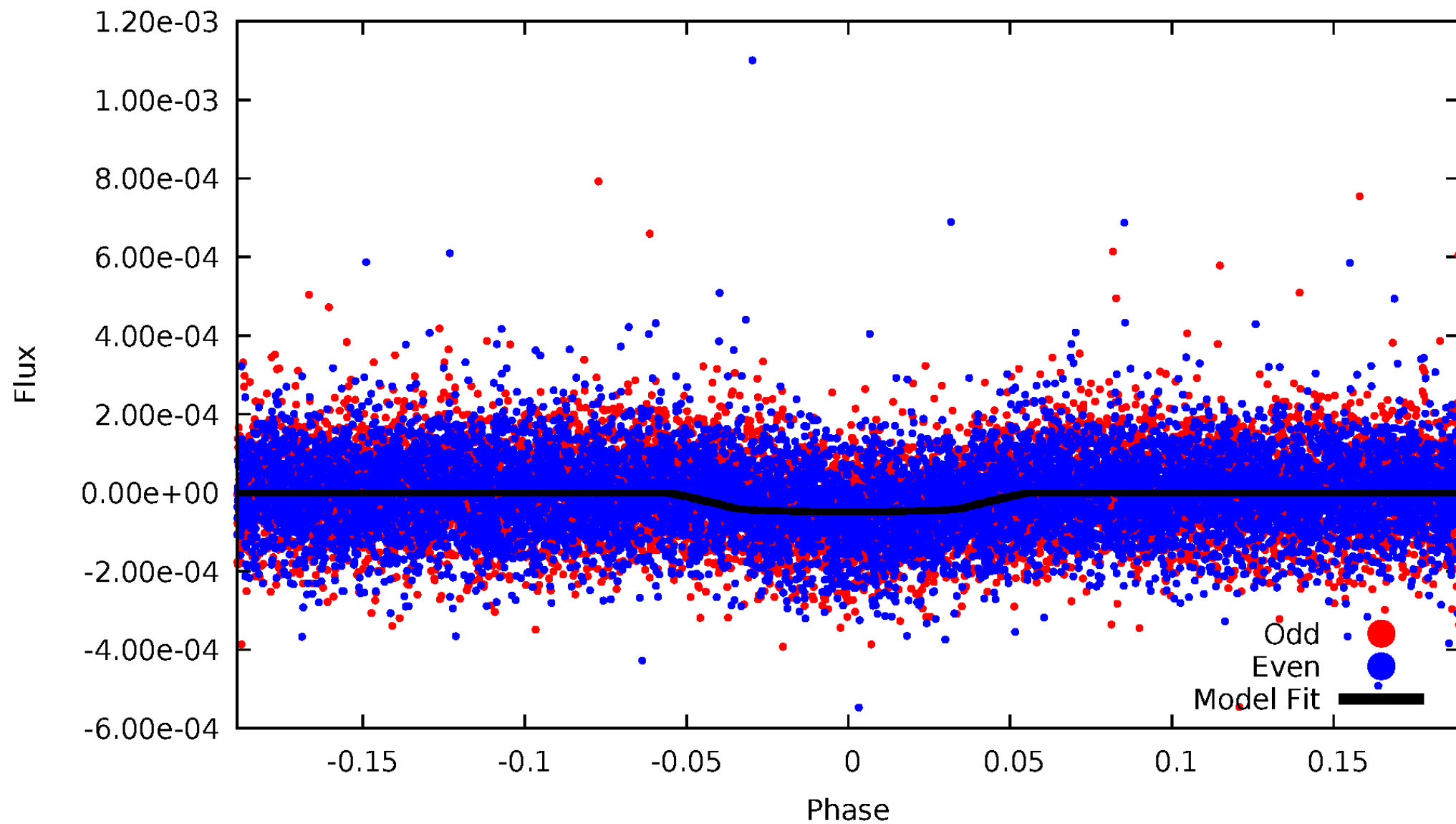


TCE 010363281-01



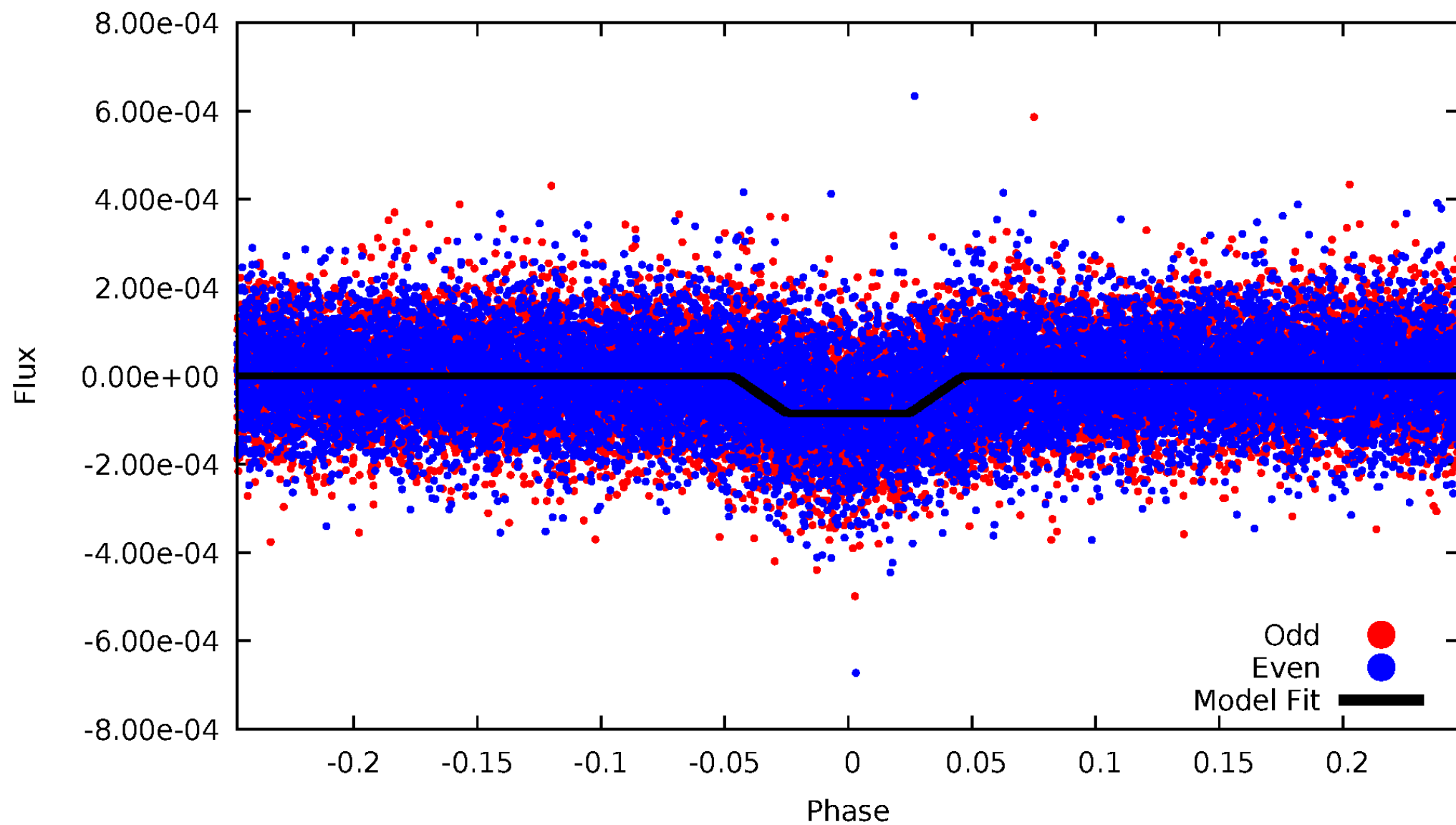
DV Odd/Even

TCE 010363281-01



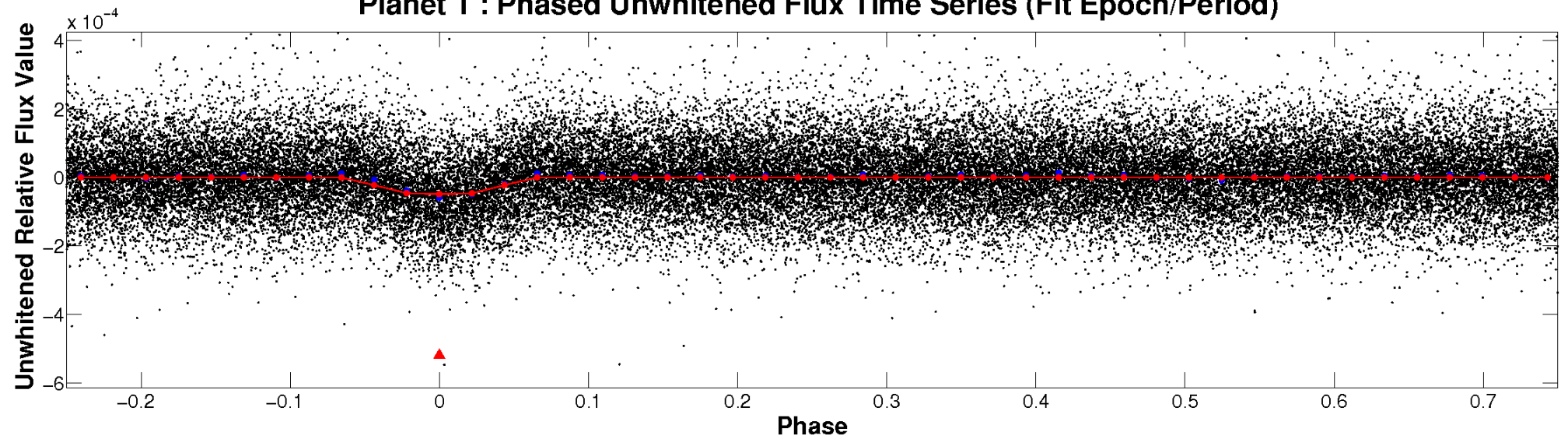
ALT Odd/Even

TCE 010363281-01

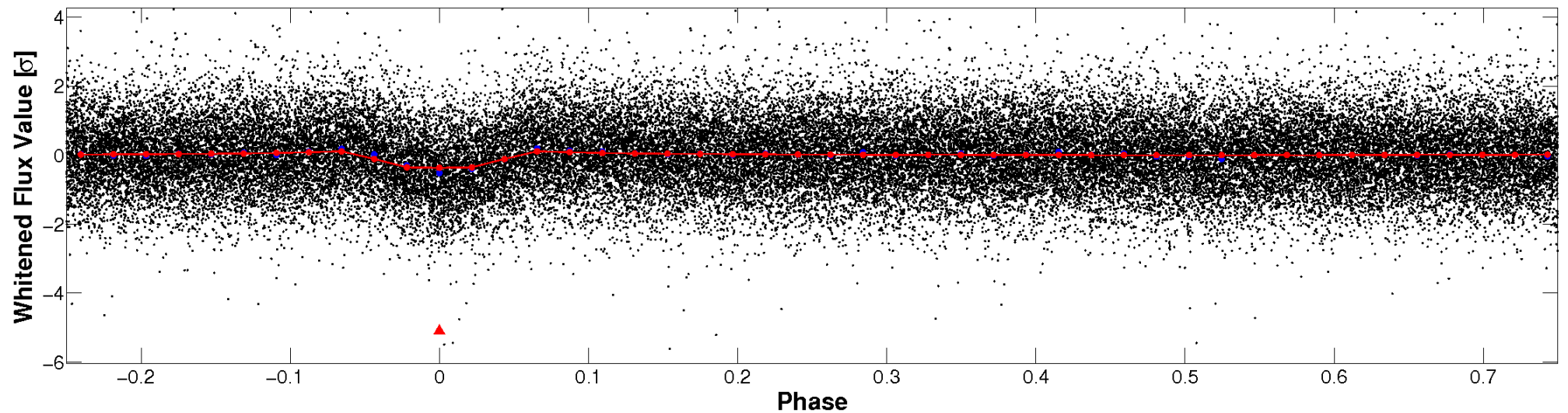


Non-Whitened Vs. Whitened Light Curve

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

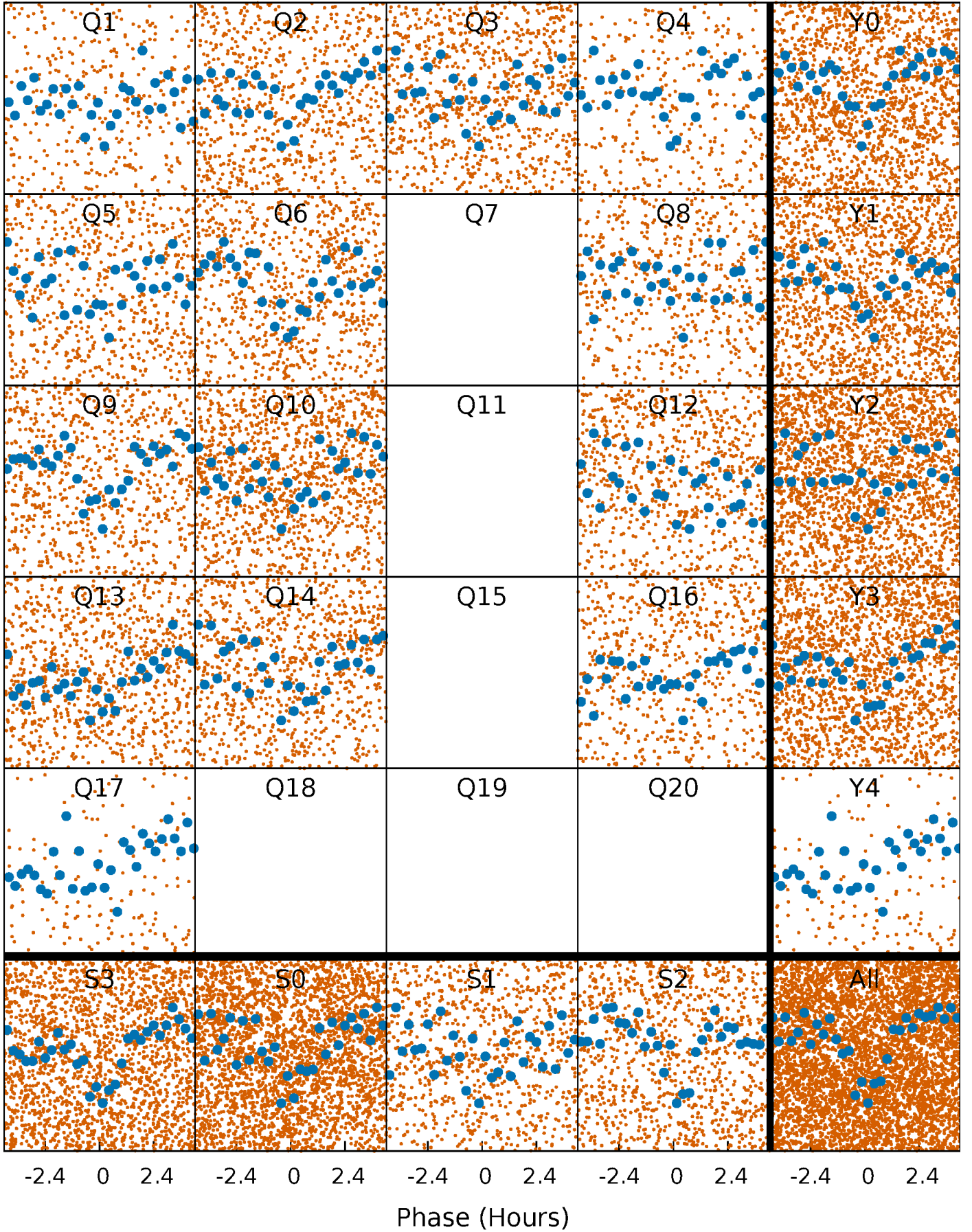


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



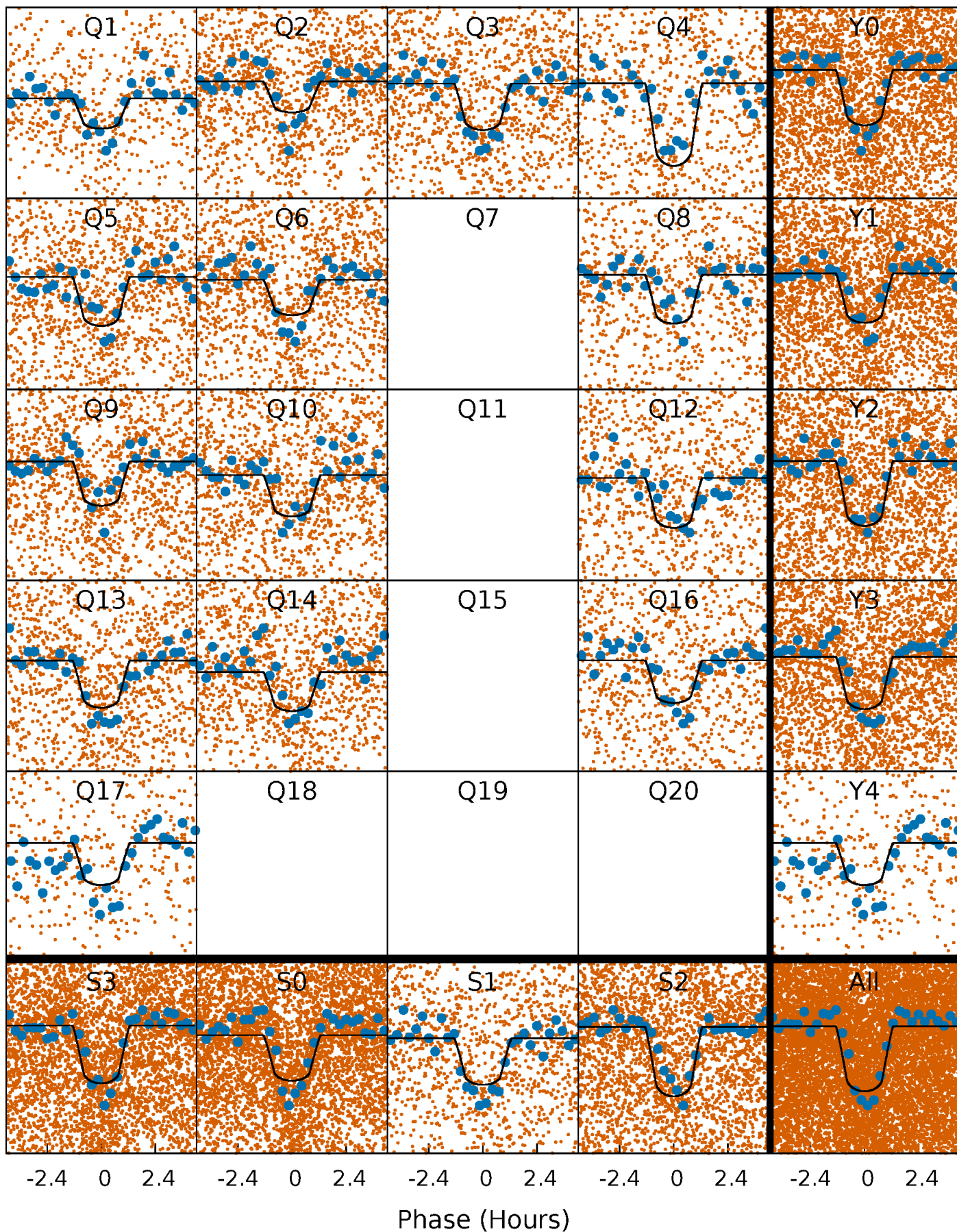
PDC Quarter-Phased Transit Curves

TCE 010363281-01 P= 0.934919 Days $T_0=132.179273$ (BKJD)



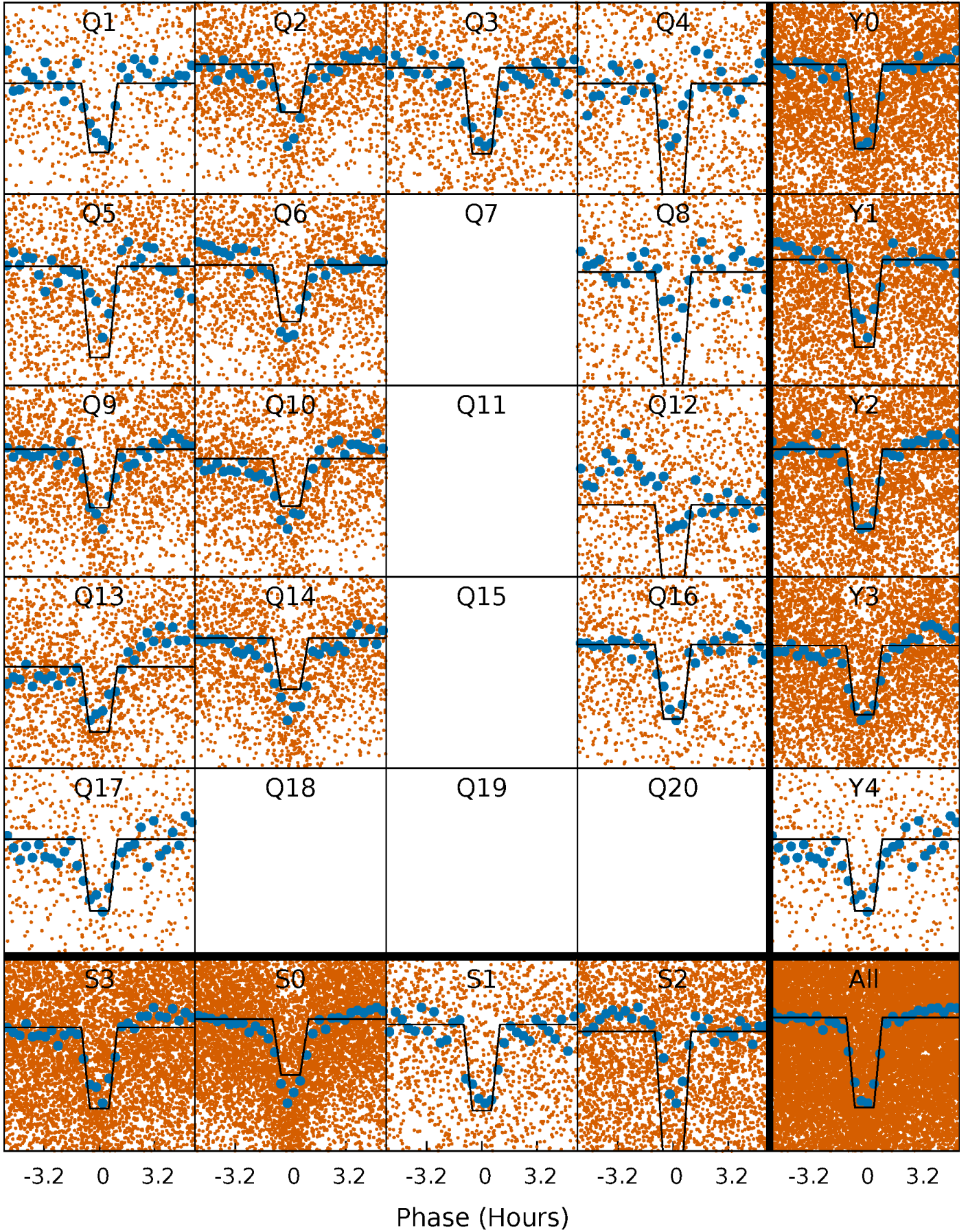
DV Quarter-Phased Transit Curves

TCE 010363281-01 P= 0.934919 Days $T_0=132.179273$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

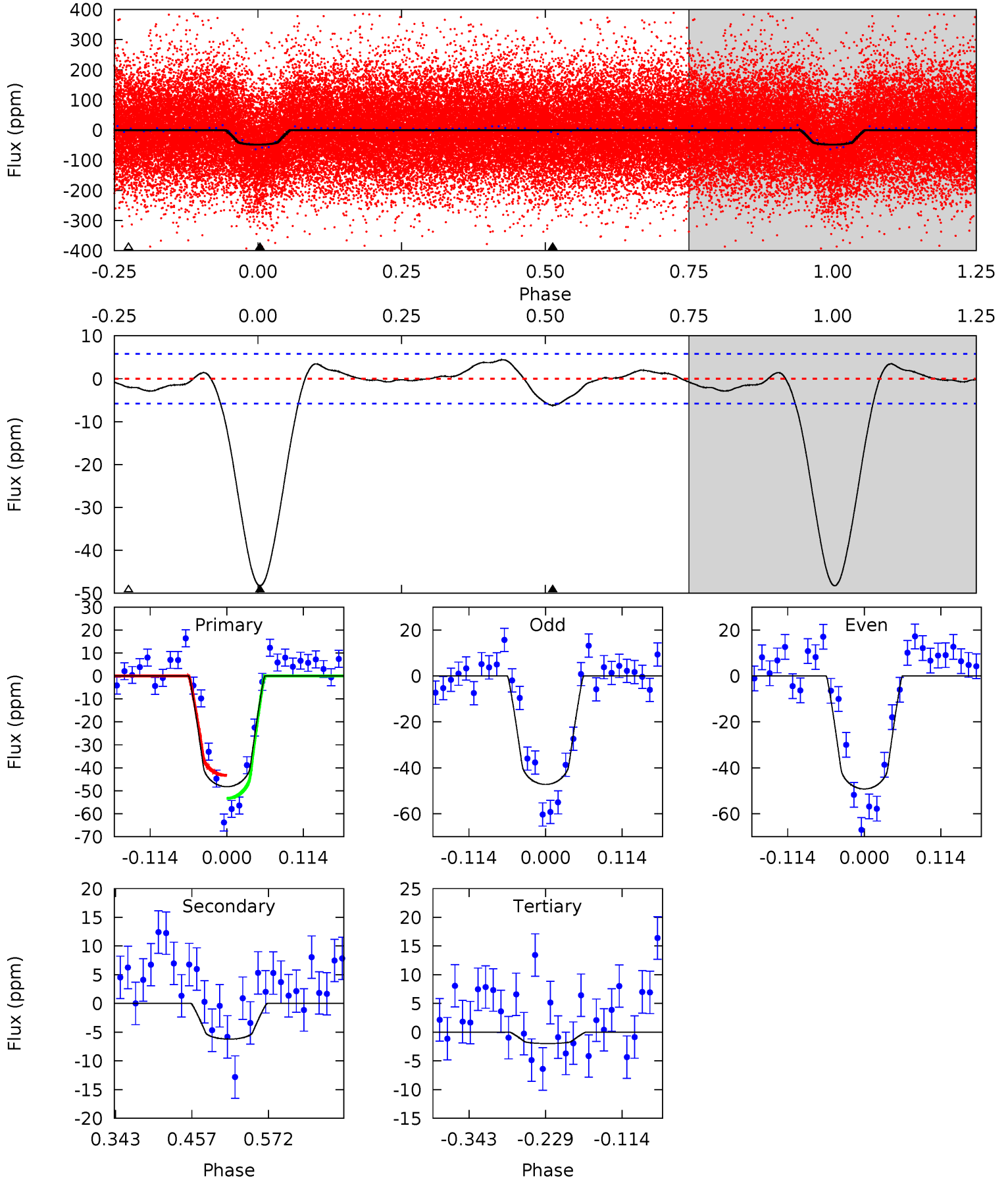
TCE 010363281-01 P= 0.934929 Days $T_0=132.176005$ (BKJD)



DV Model-Shift Uniqueness Test

010363281-01, P = 0.934919 Days, E = 131.244354 Days

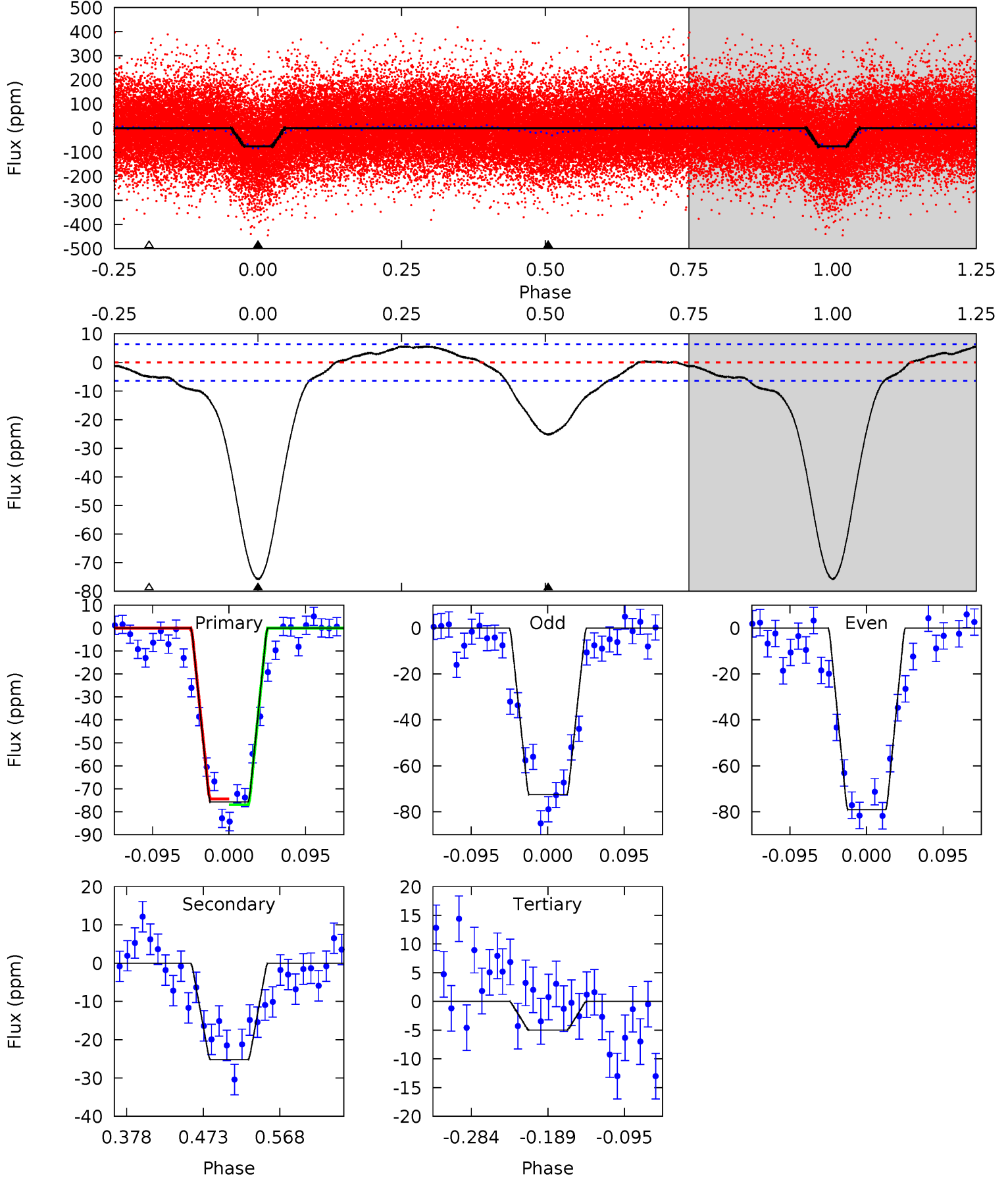
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	4.87	1.55	0	4.54	1.58	1.19	36.3	37.8	3.32	4.87	0.78	0.97	0.08	3.93



Alt Model-Shift Uniqueness Test

010363281-01, P = 0.934929 Days, E = 131.241076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.3	18.1	3.58	0	4.58	1.67	3.06	50.8	54.3	14.5	18.1	2.35	1.06	0.07	0.89



Stellar Parameters For KIC 010363281

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6477^{+176}_{-176}	$3.781^{+0.312}_{-0.098}$	$-0.200^{+0.300}_{-0.250}$	$2.628^{+0.422}_{-0.985}$	$1.519^{+0.192}_{-0.357}$	$0.118^{+0.250}_{-0.038}$
	+3%/-3%	+8%/-3%	+150%/-125%	+16%/-37%	+13%/-24%	+212%/-32%
Source	PHO1	FLK73	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 010363281-01 / KOI 2726.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 1	$2.02^{+0.49}_{-0.49}$	4329^{+254}_{-427}	3182^{+667}_{-6171}	$0.389^{+0.272}_{-0.142}$
Alt.	-25 ± 1	$2.52^{+0.50}_{-0.50}$	4343^{+260}_{-349}	4553^{+358}_{-358}	$1.006^{+0.512}_{-0.293}$

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

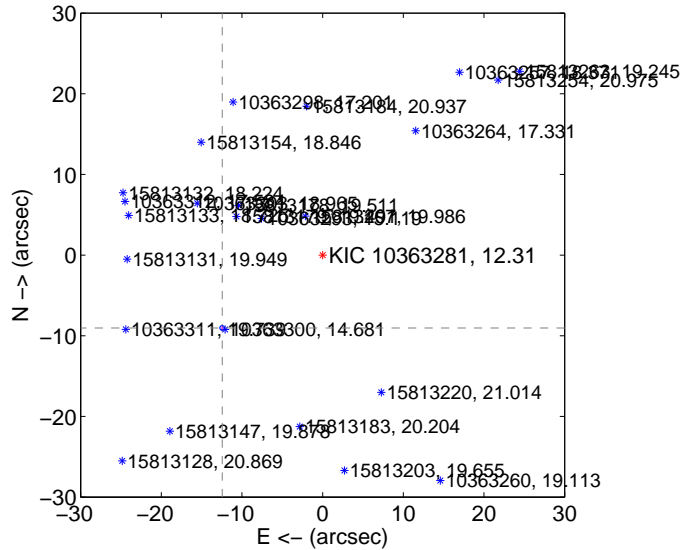
Supplemental centroid analysis for 010363281-01. Kepler magnitude: 12.31. Transit SNR 22.89

There are 8 quarters with good PRF difference image offsets

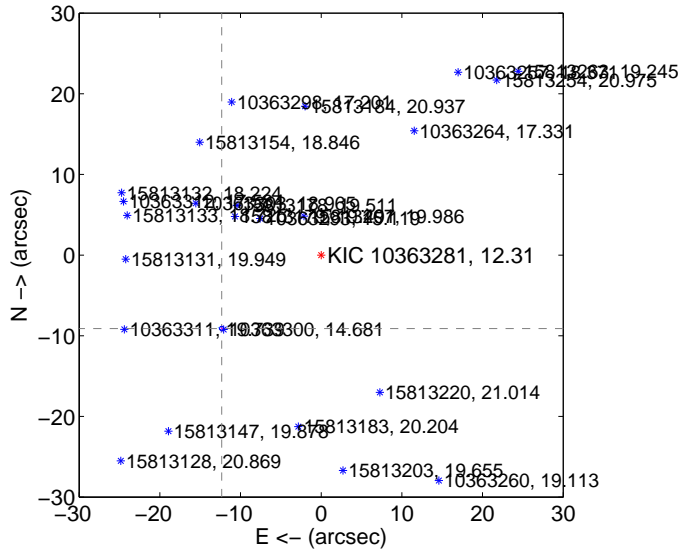
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.381 \pm 0.097	158.54	12.447 \pm 0.108	-9.037 \pm 0.073
PRF-fit source offset from KIC position	15.326 \pm 0.091	167.85	12.330 \pm 0.102	-9.103 \pm 0.074
photometric centroid source offset	—	—	—	—

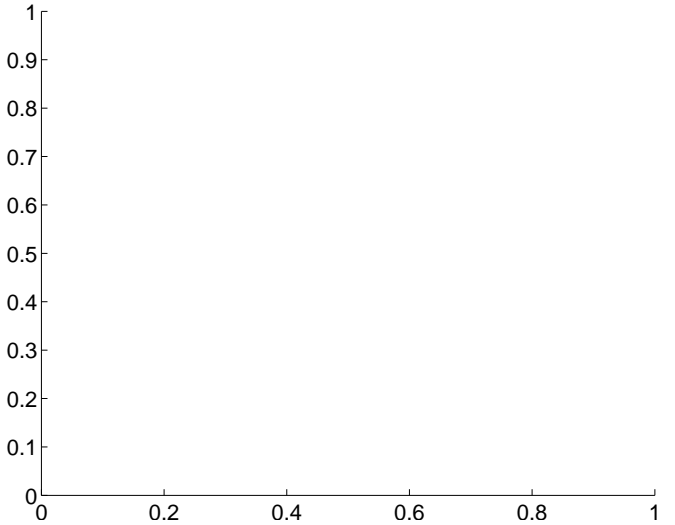
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

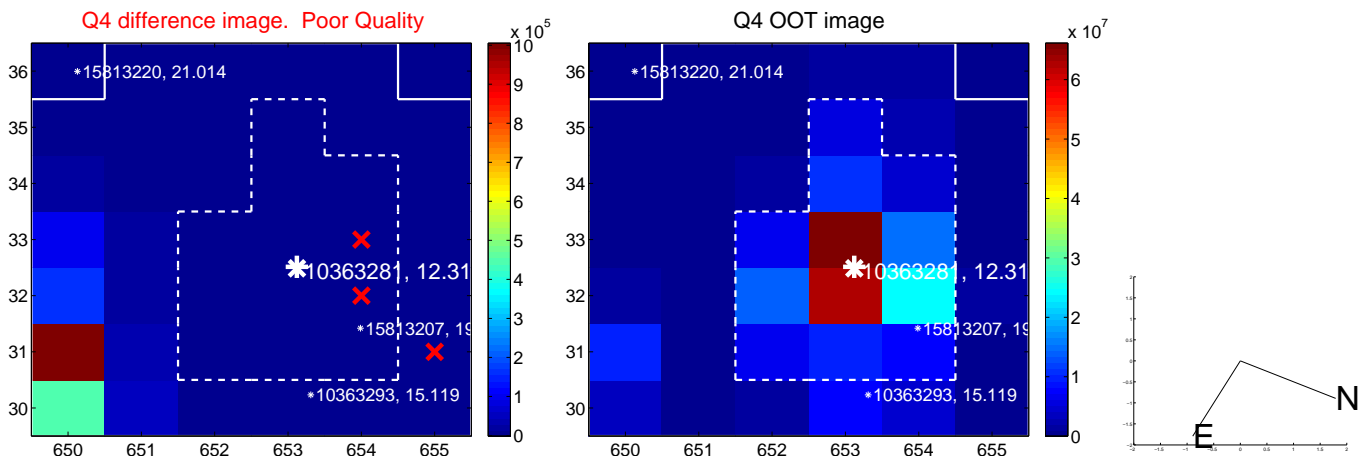
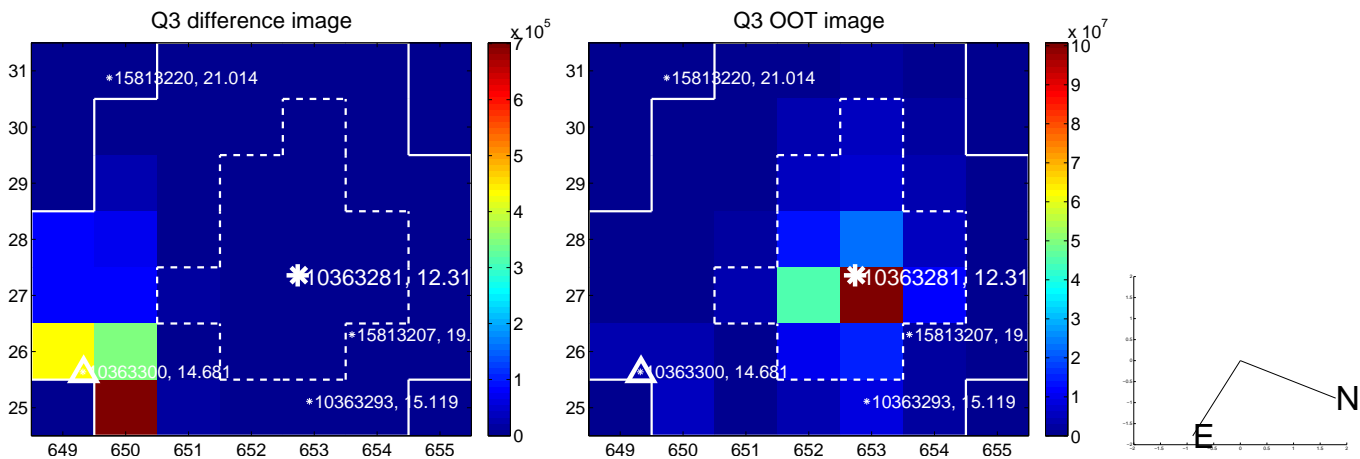
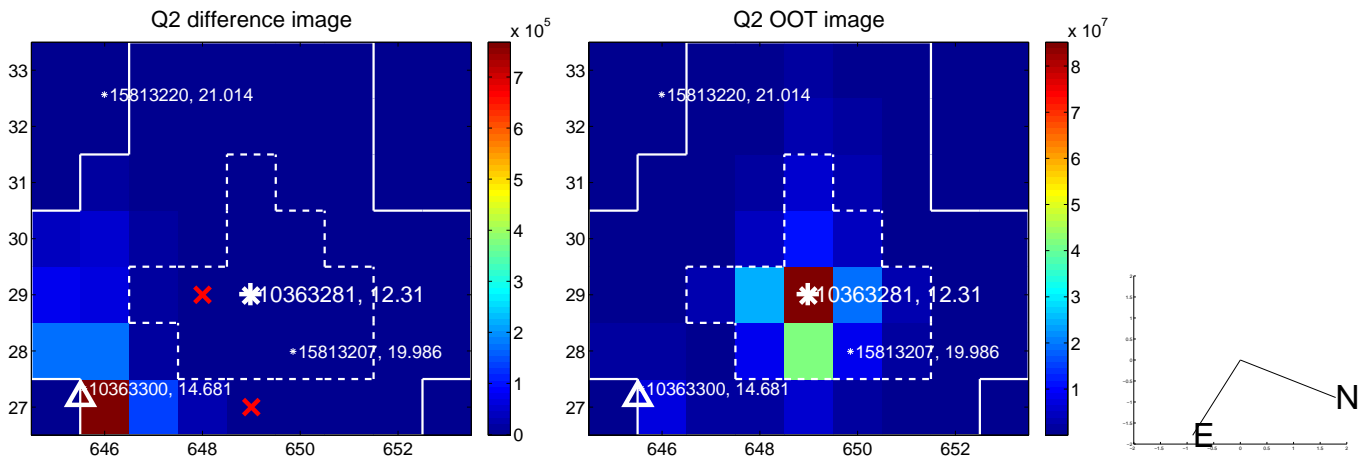
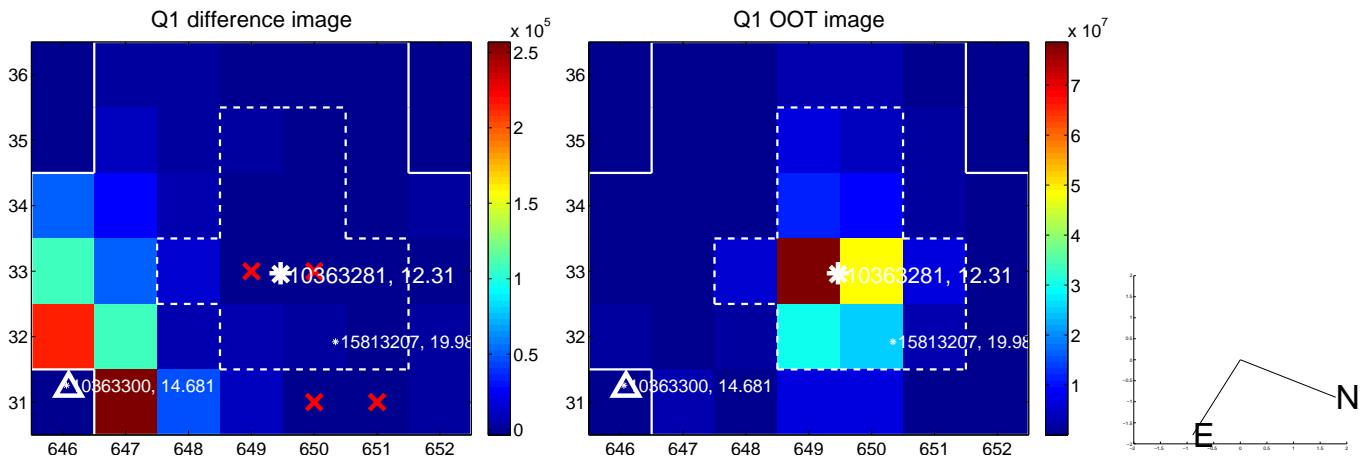


There are no photometric centroids

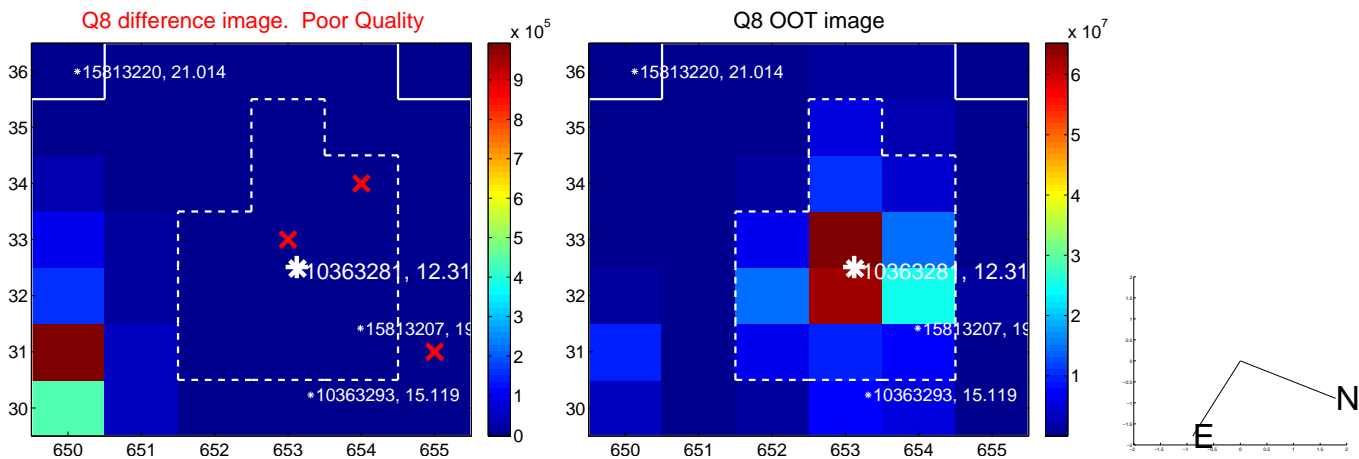
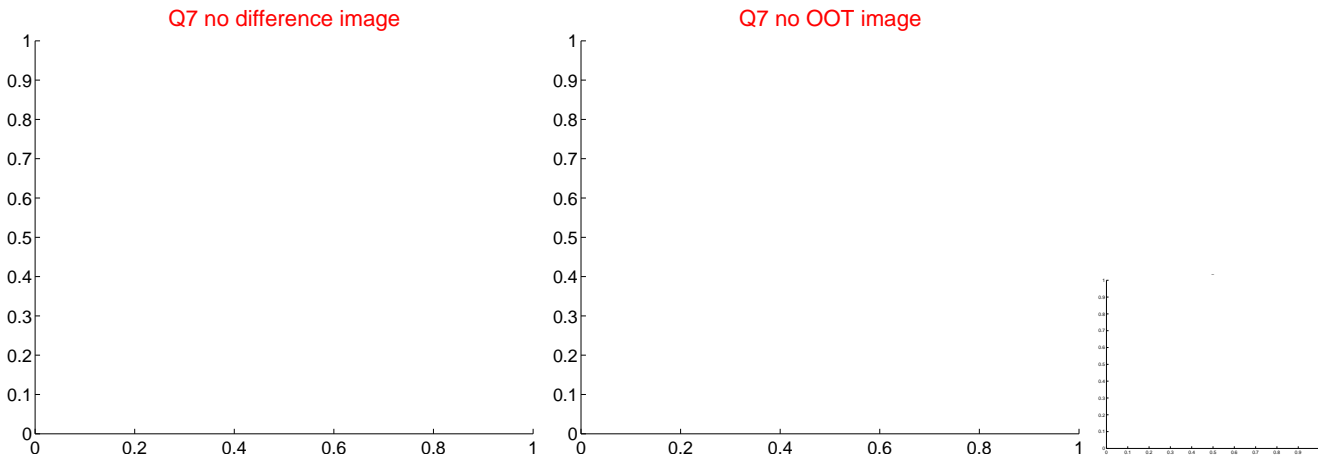
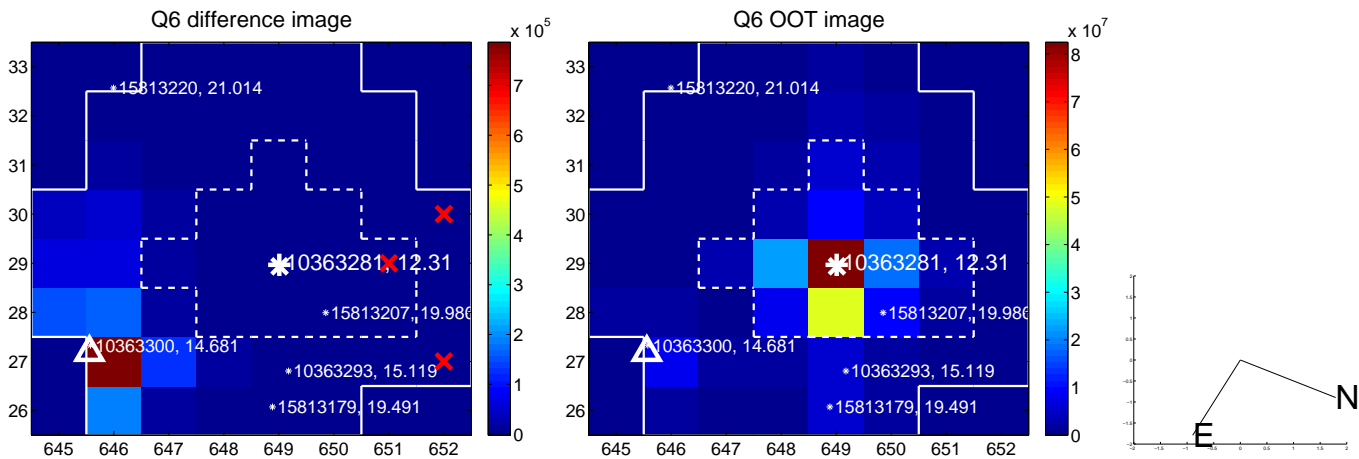
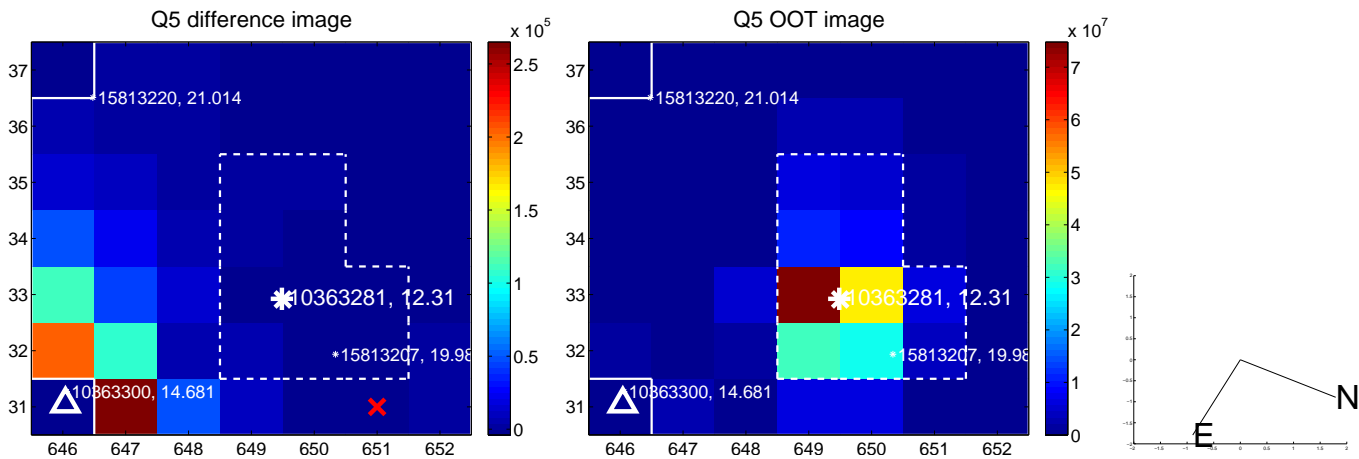


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

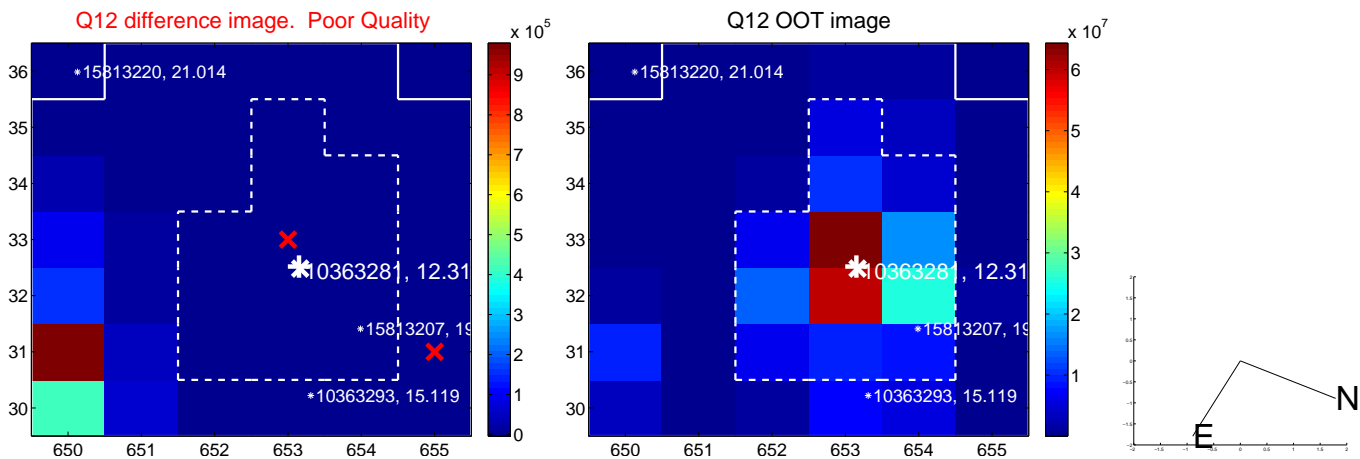
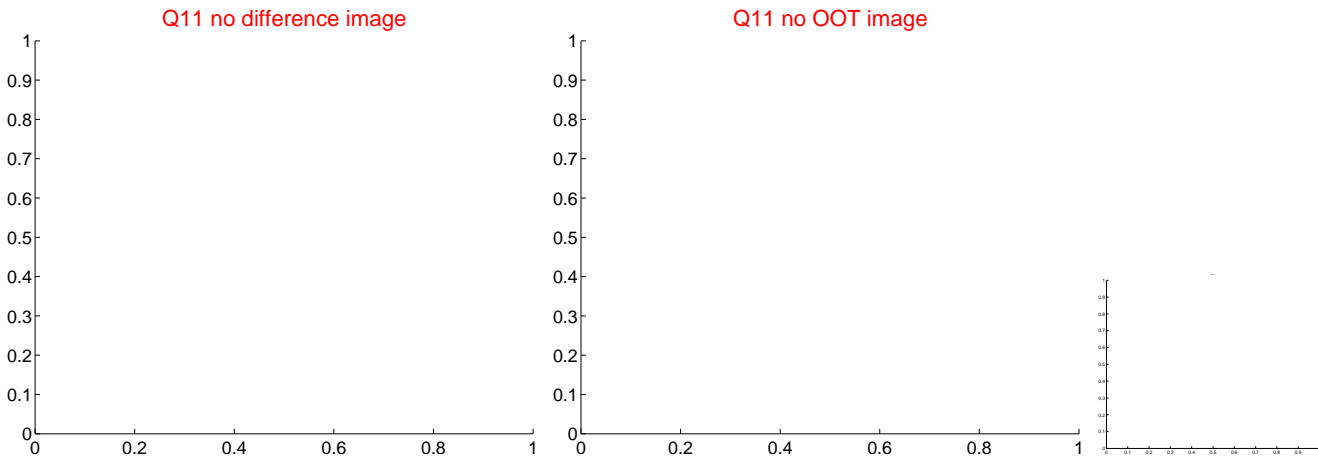
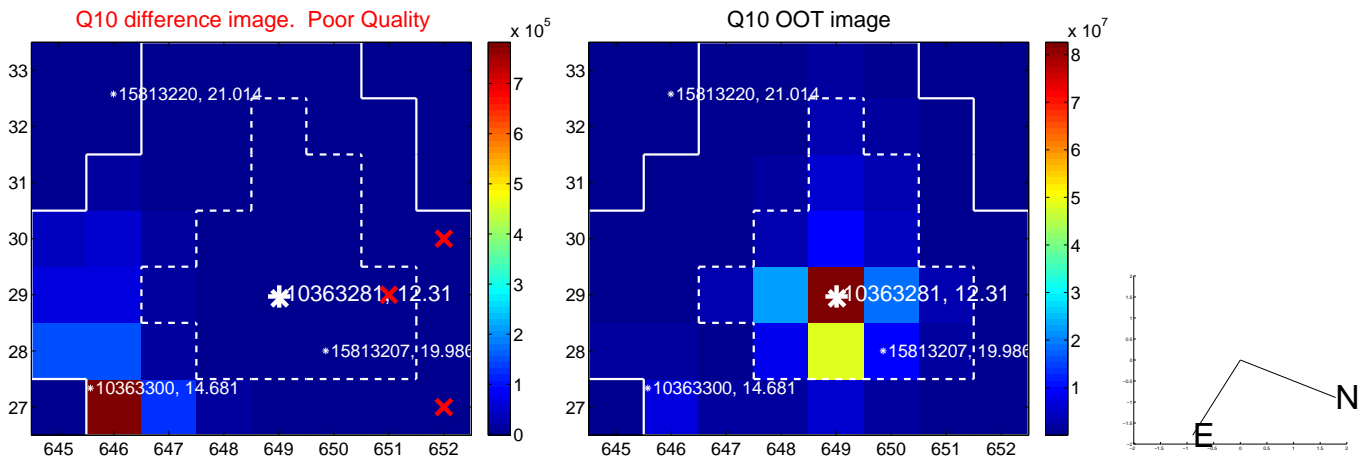
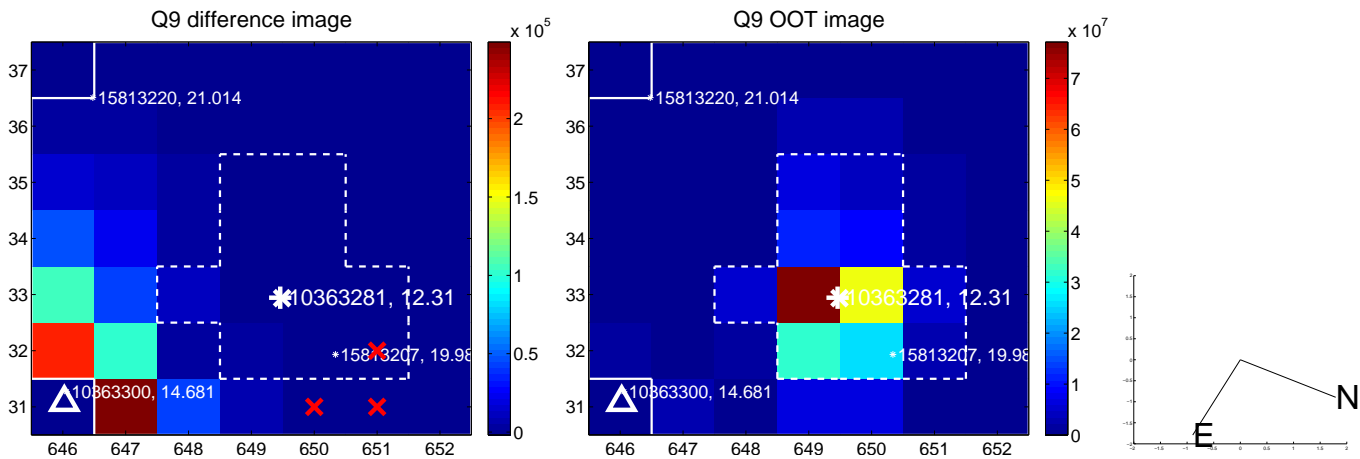
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



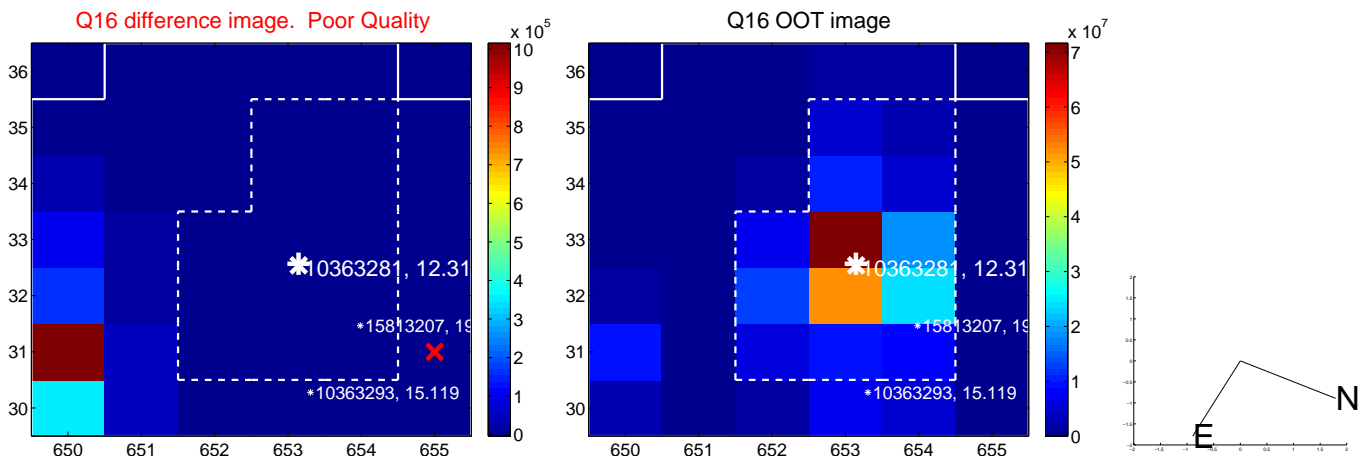
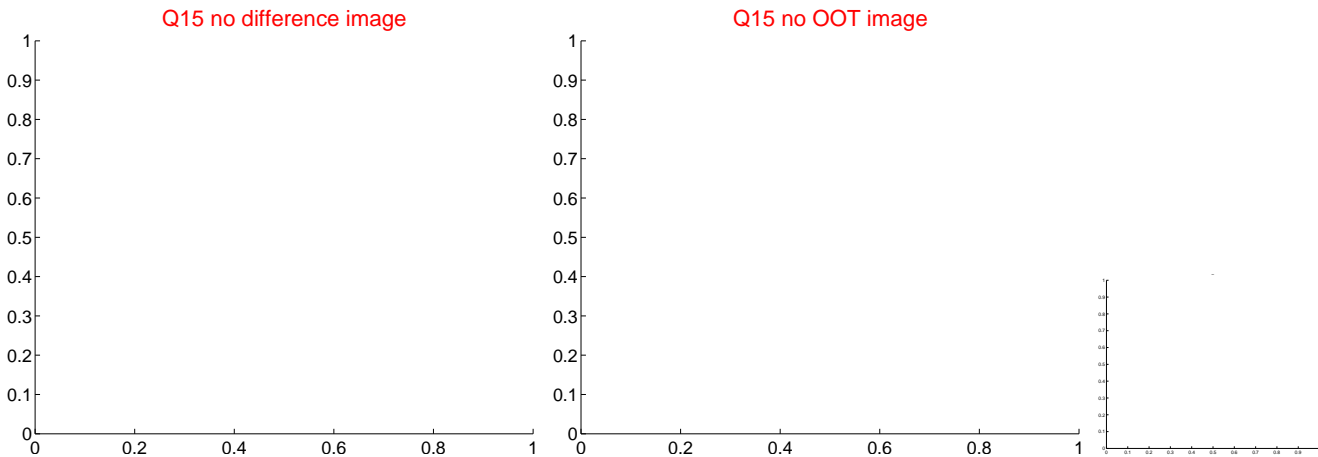
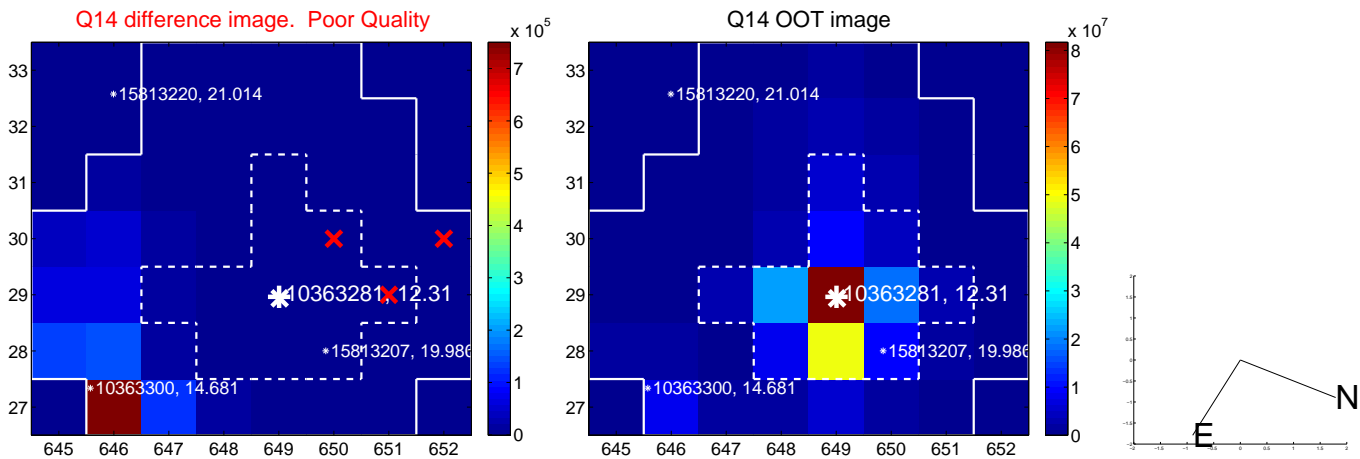
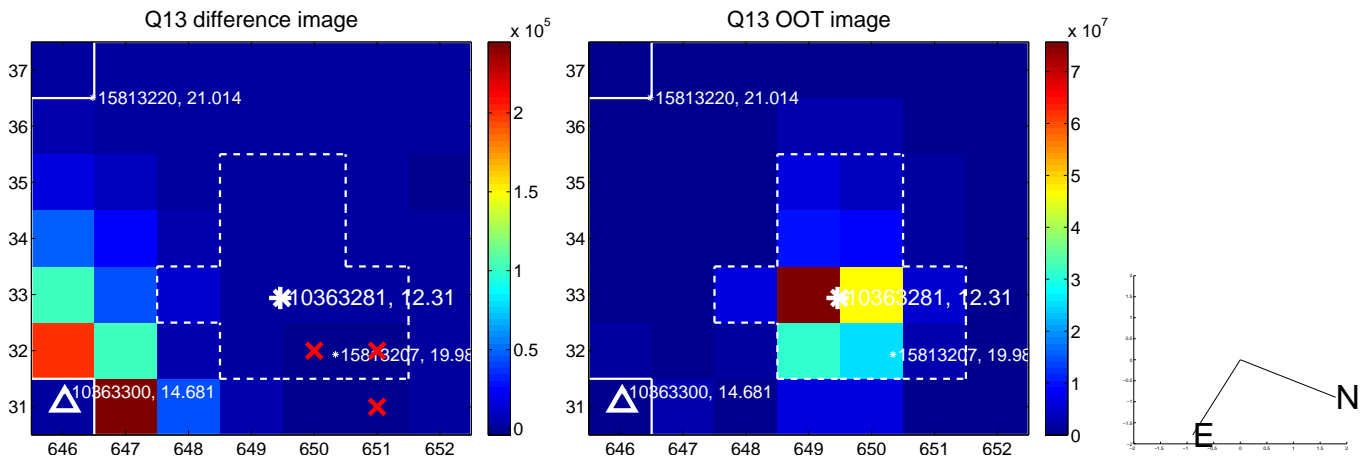
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



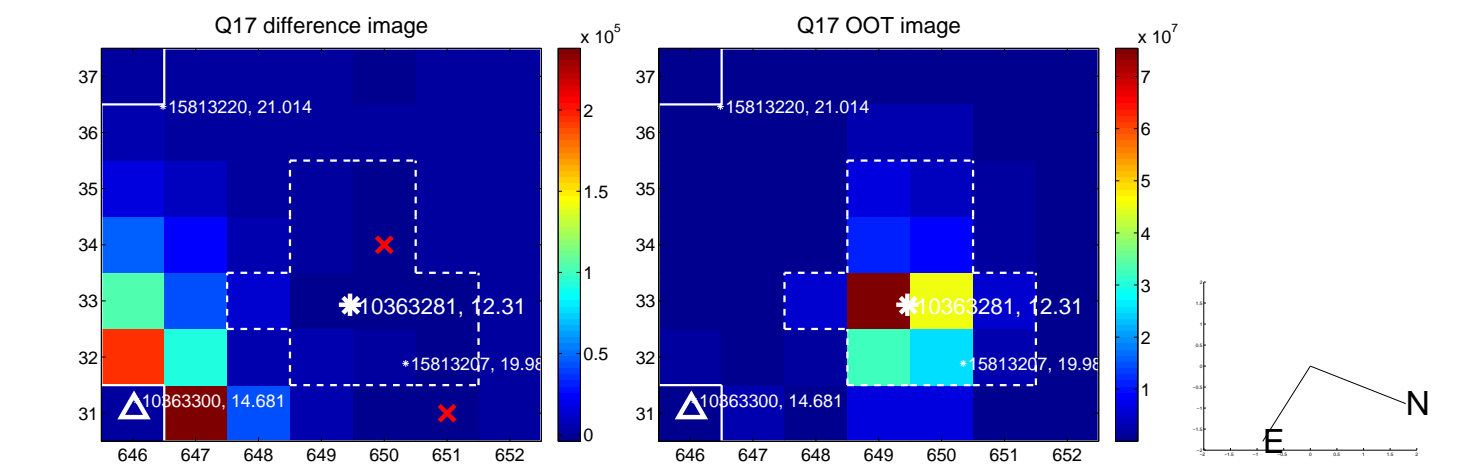
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



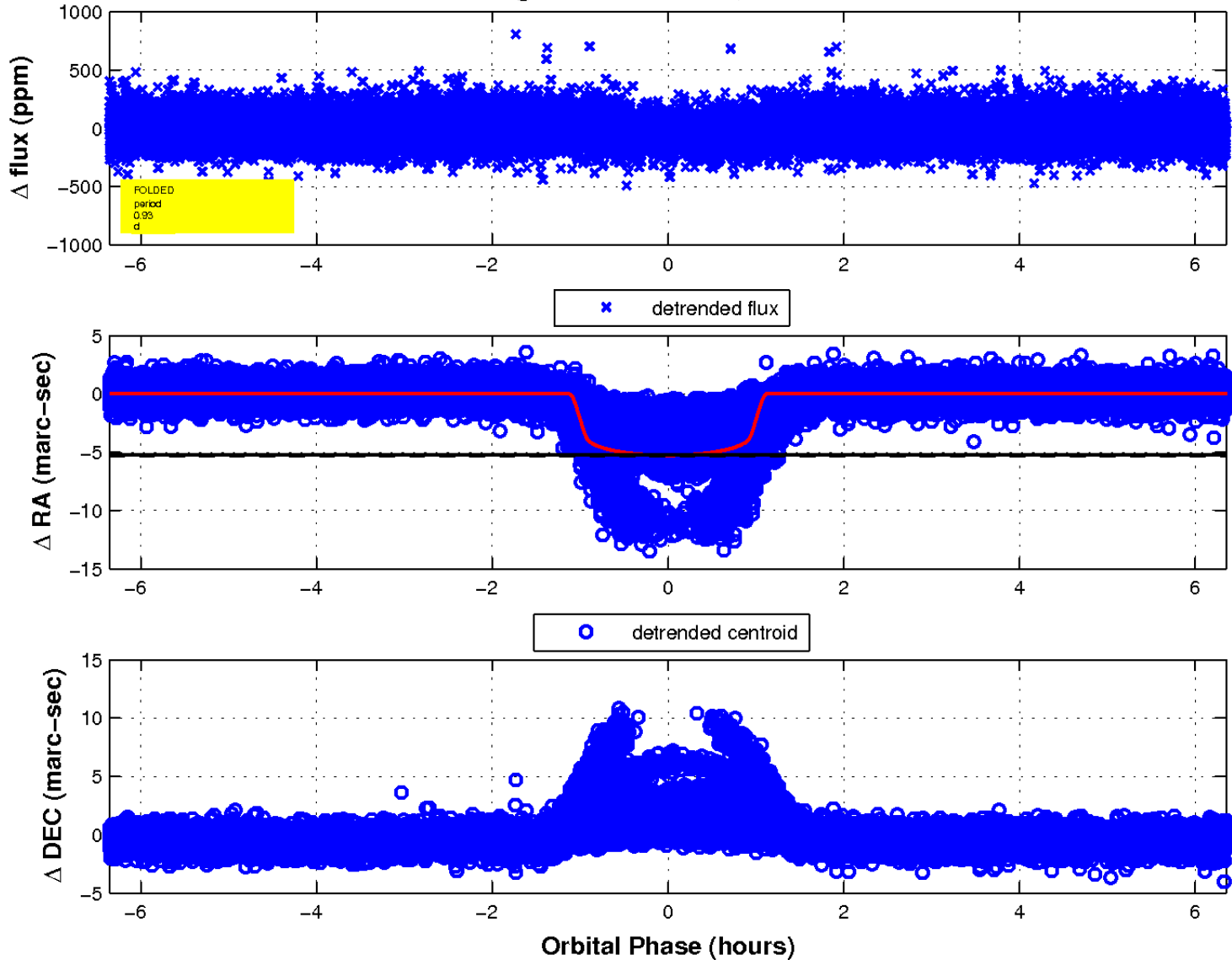
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

