

KIC 003836450

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})
003836450-01	OBS	5010.01	1.540381	132.000384	49.2	2.051	12.7	13.8	0.78	5160	0.67	700.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003836450-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—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.

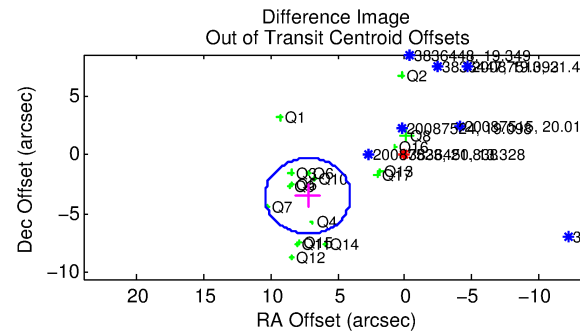
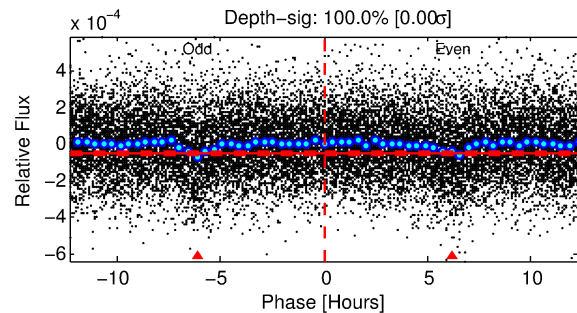
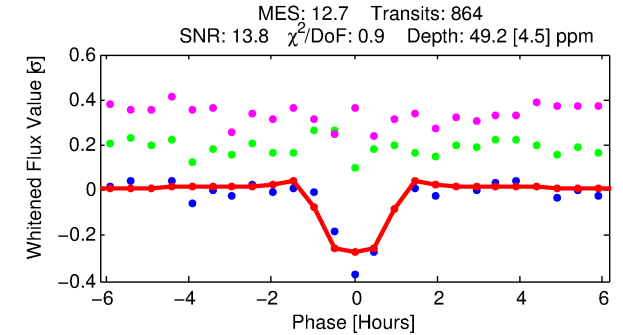
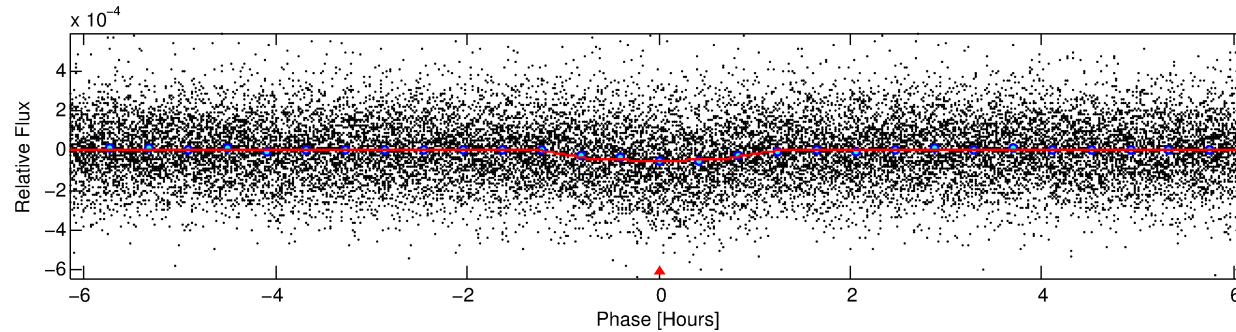
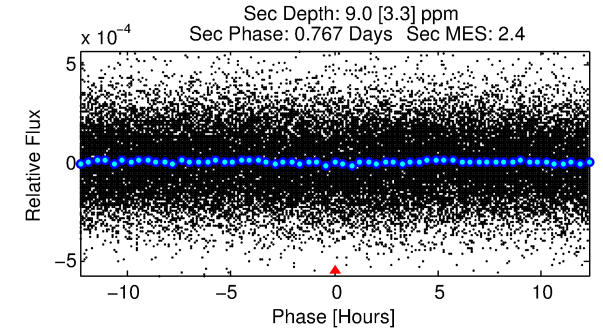
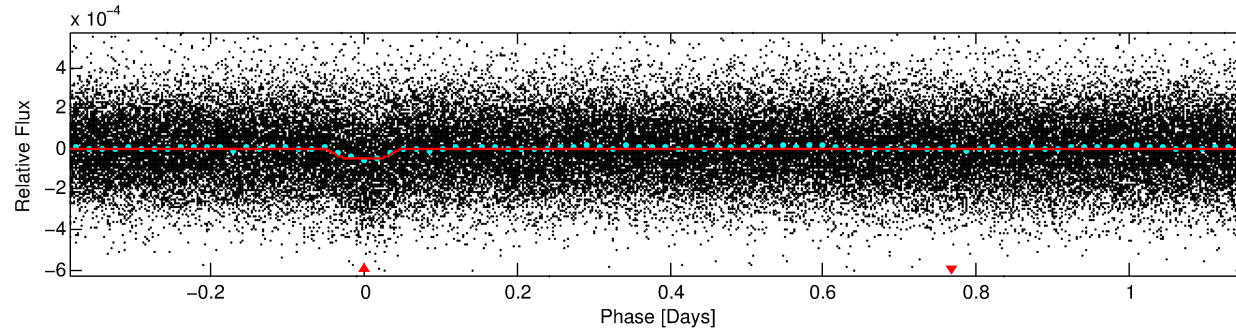
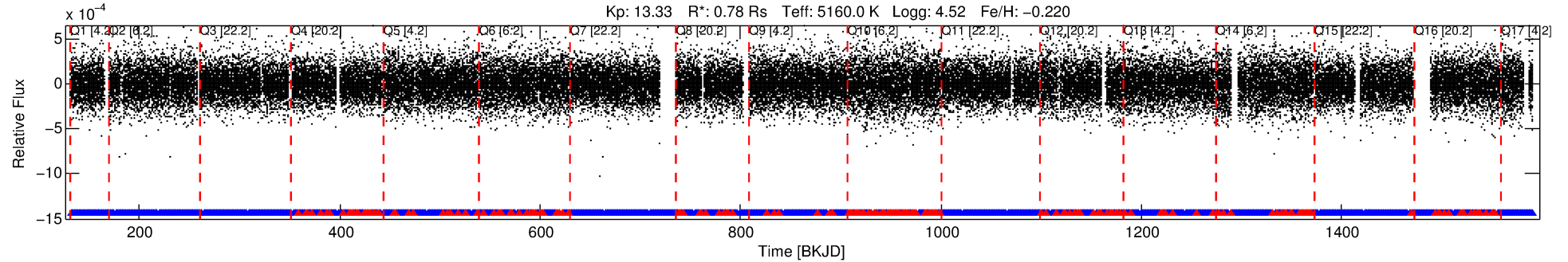
Ephemeris Match Information For 003836450-01

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
003836450-01	3836450	6364.01	3836439	1:1	118.2	-19	23	7.57	13.33	1443.70	Direct-PRF	0	0.73	0.24

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: 3836450 Candidate: 1 of 1 Period: 1.540 d
KOI: K05010.01 Corr: 0.945



DV Fit Results:

Period = 1.54038 [0.00001] d
Epoch = 132.0004 [0.0020] BKJD
Rp/R* = 0.0078 [0.0032]
a/R* = 2.77 [4.16]
b = 0.90 [0.38]
Seff = 700.70 [136.44]
Teq = 1312 [64] K
Rp = 0.67 [0.28] Re
a = 0.0236 [0.0024] AU
Ag = 6.21 [5.66] [0.92σ]
Teffp = 3202 [726] K [2.59σ]

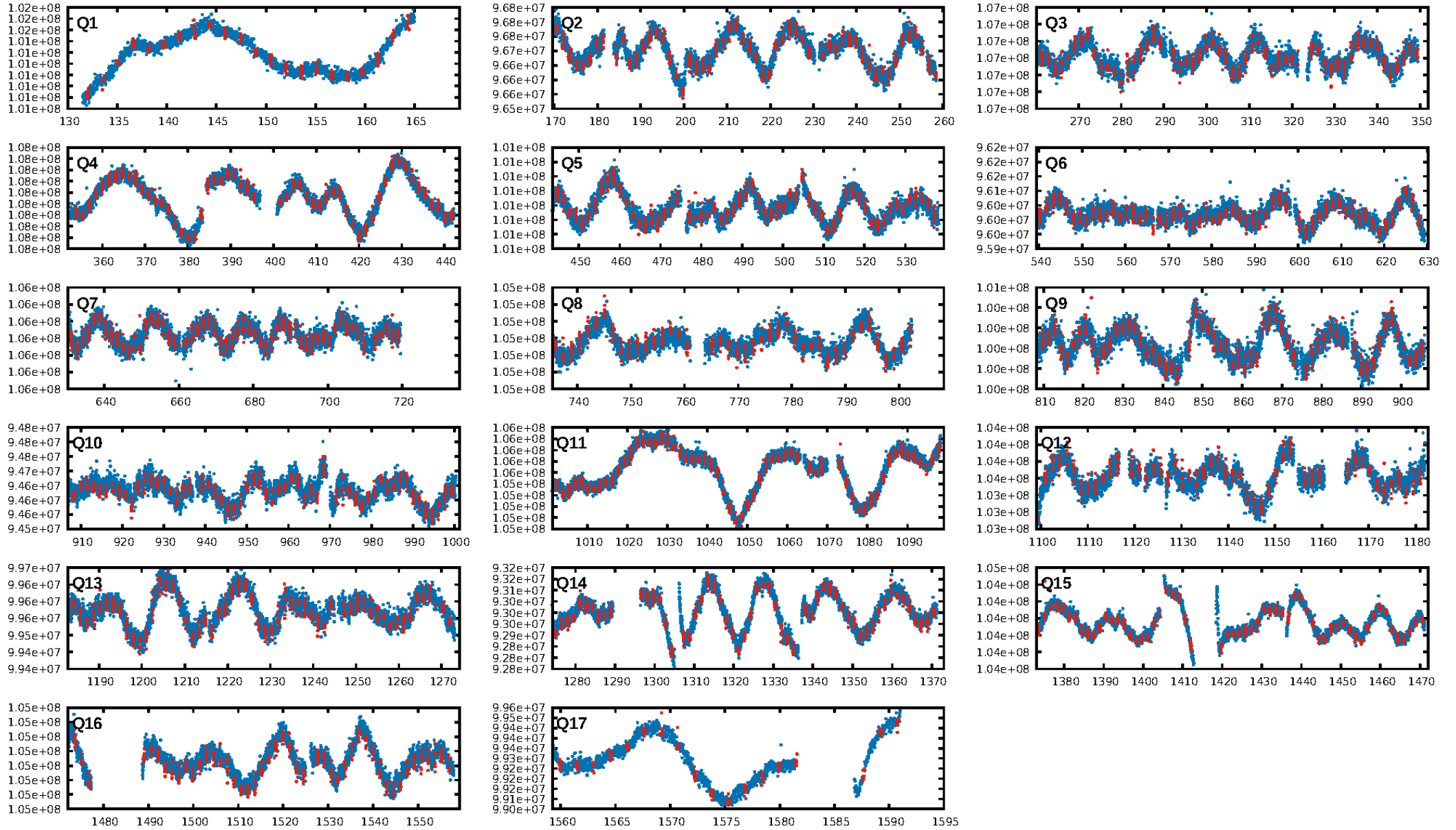
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.34e-35
RollingBand-fgt: 0.78 [645/824]
GhostDiagnostic-chr: 0.0771
Centroid-sig: 0.0%
Centroid-so: 6.588 arcsec [7.90σ]
OotOffset-rm: 8.029 arcsec [7.52σ]
KicOffset-rm: 8.163 arcsec [7.33σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

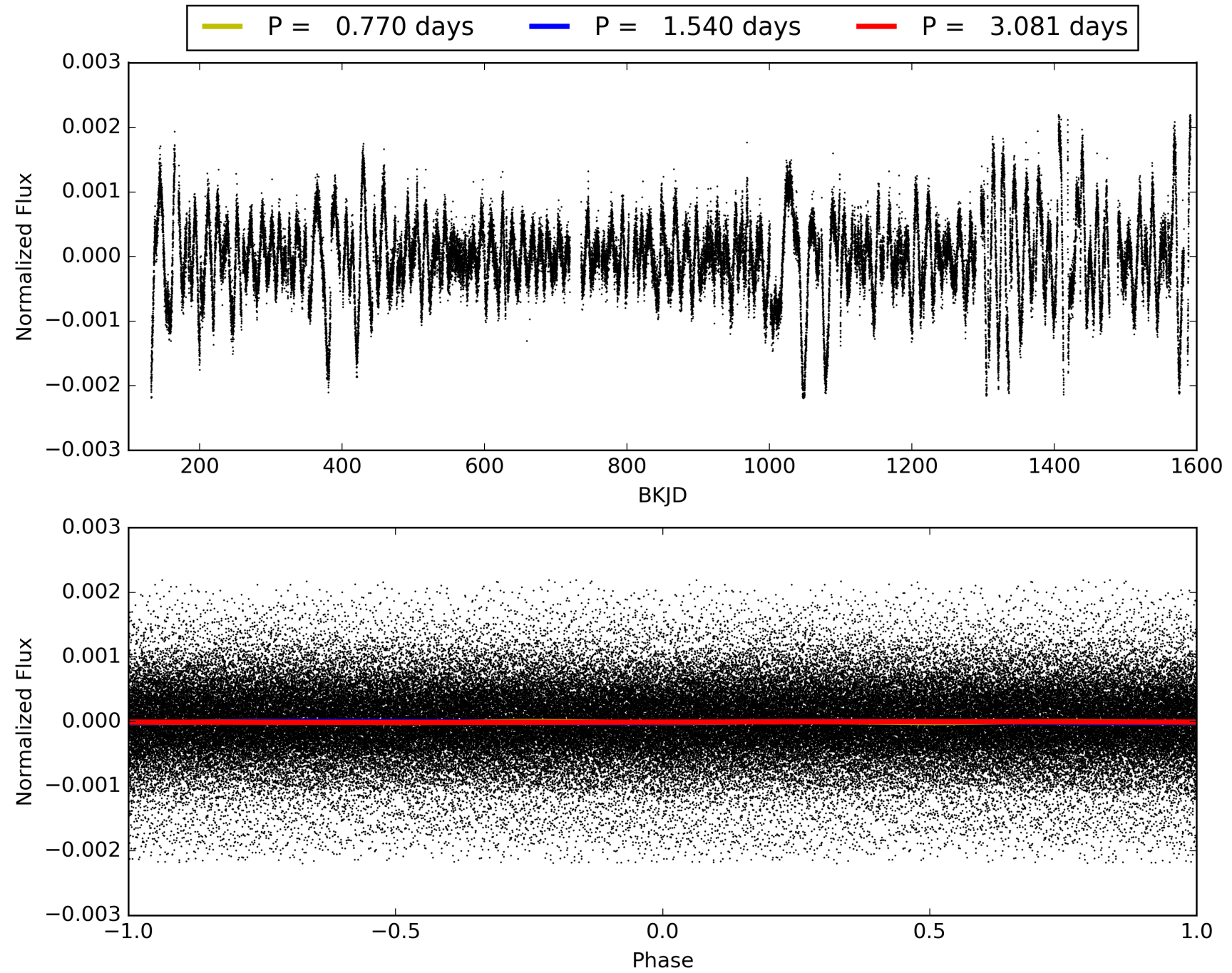
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:26:23 Z

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

TCE 003836450-01, PDC Light Curves

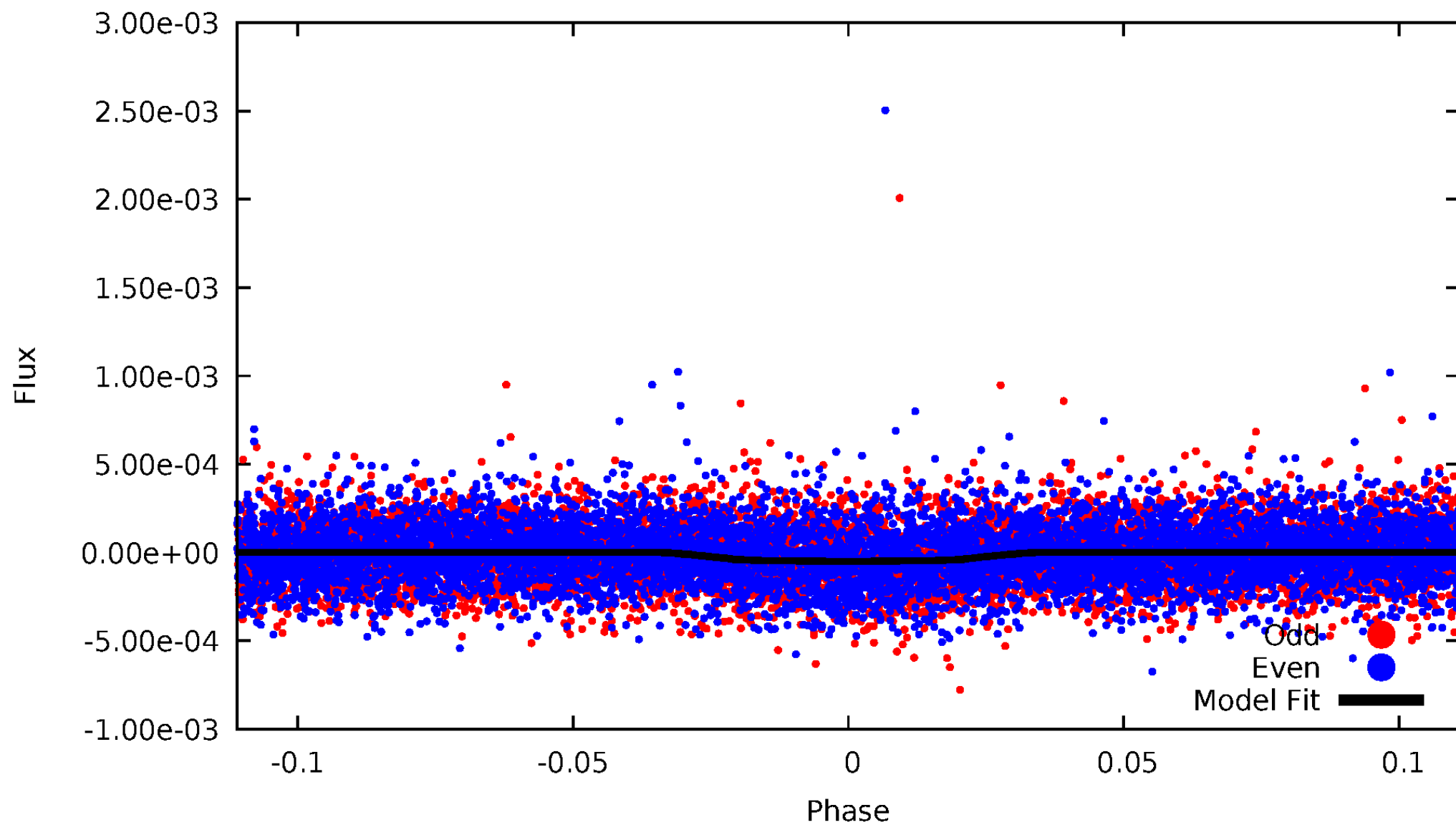


TCE 003836450-01



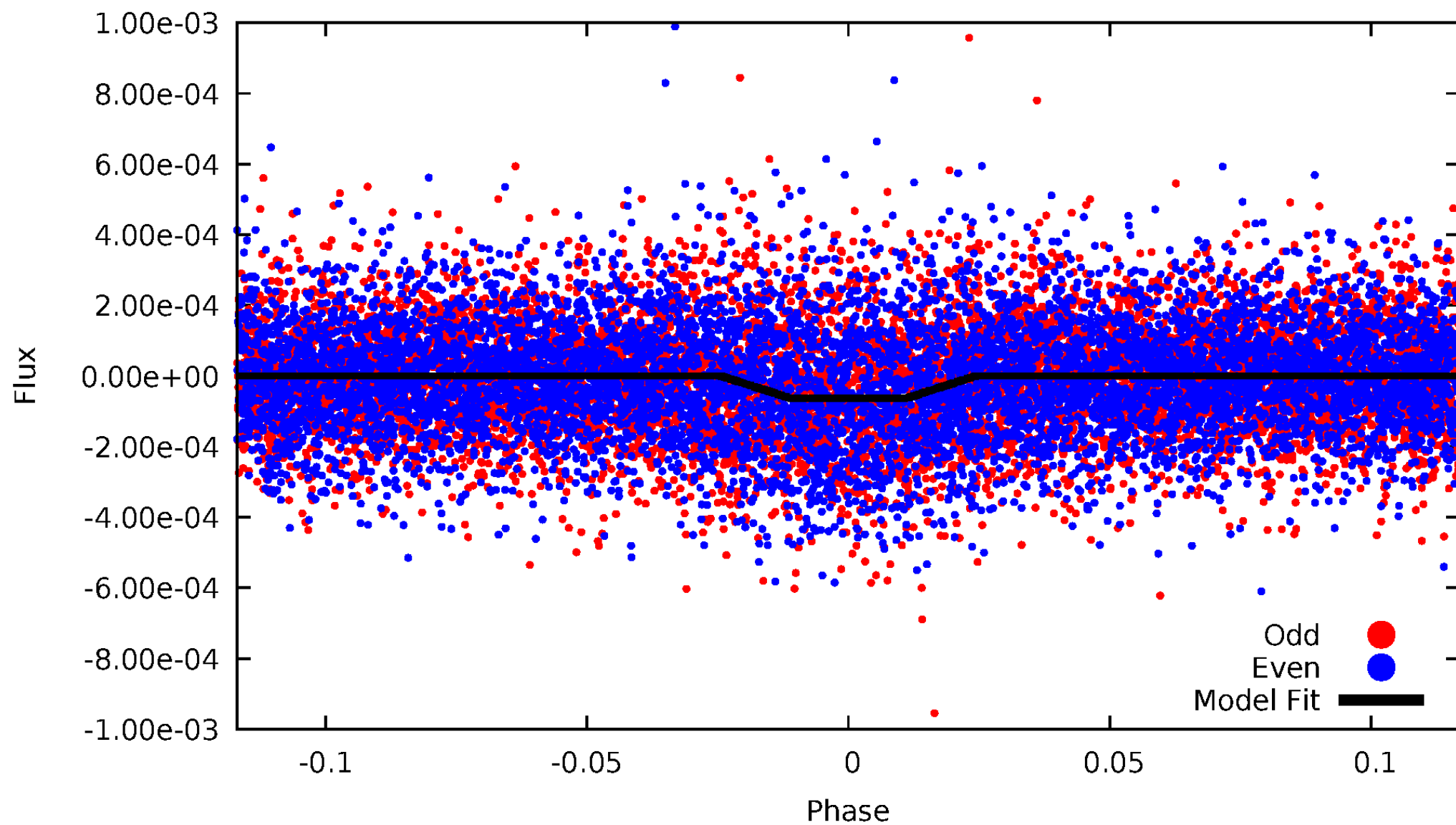
DV Odd/Even

TCE 003836450-01



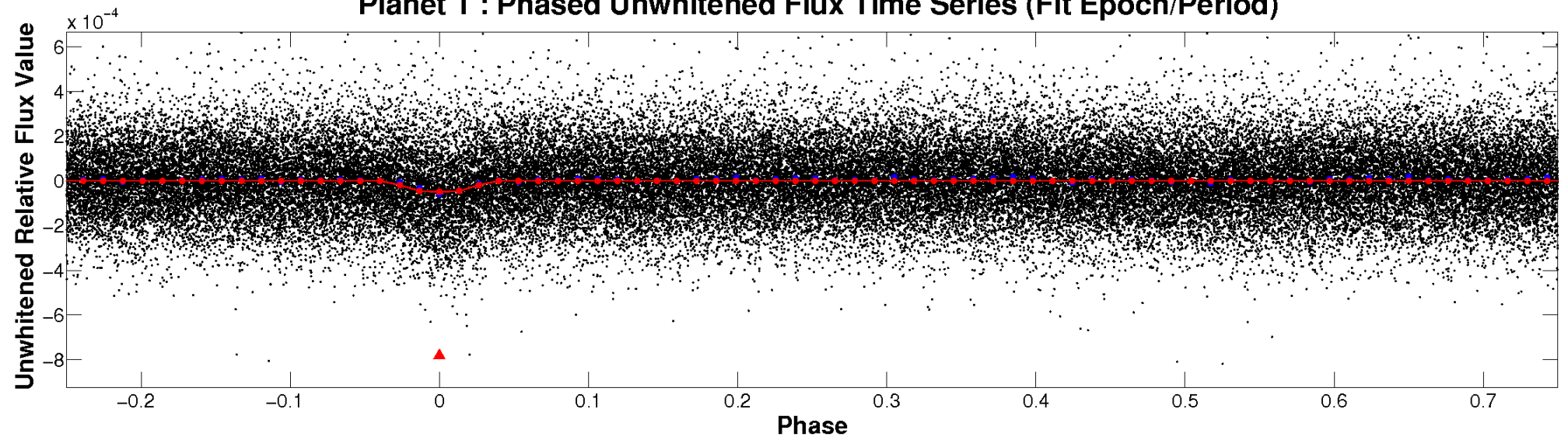
ALT Odd/Even

TCE 003836450-01

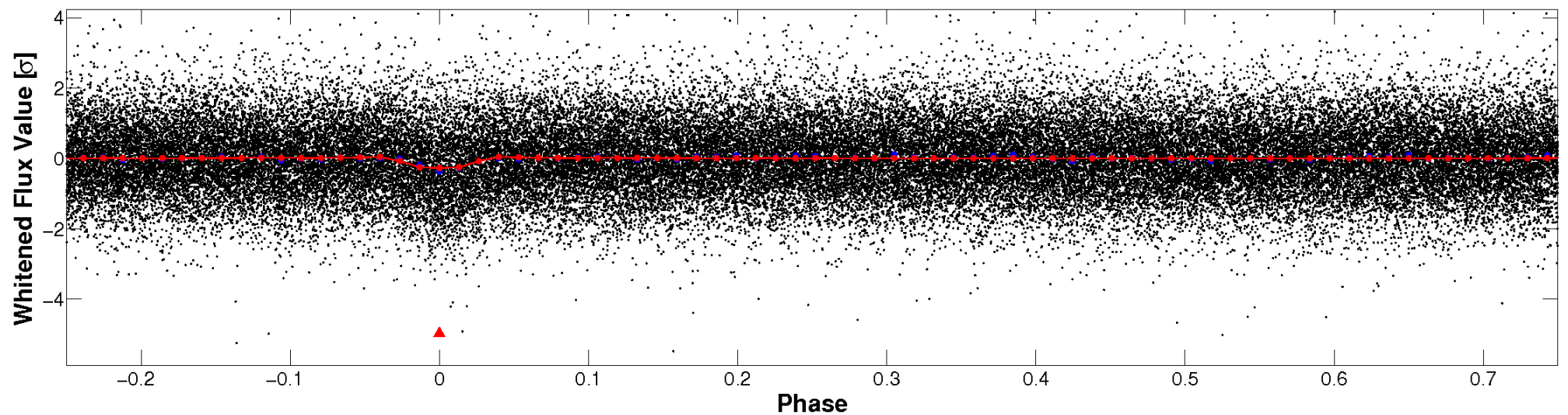


Non-Whitened Vs. Whitened Light Curve

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

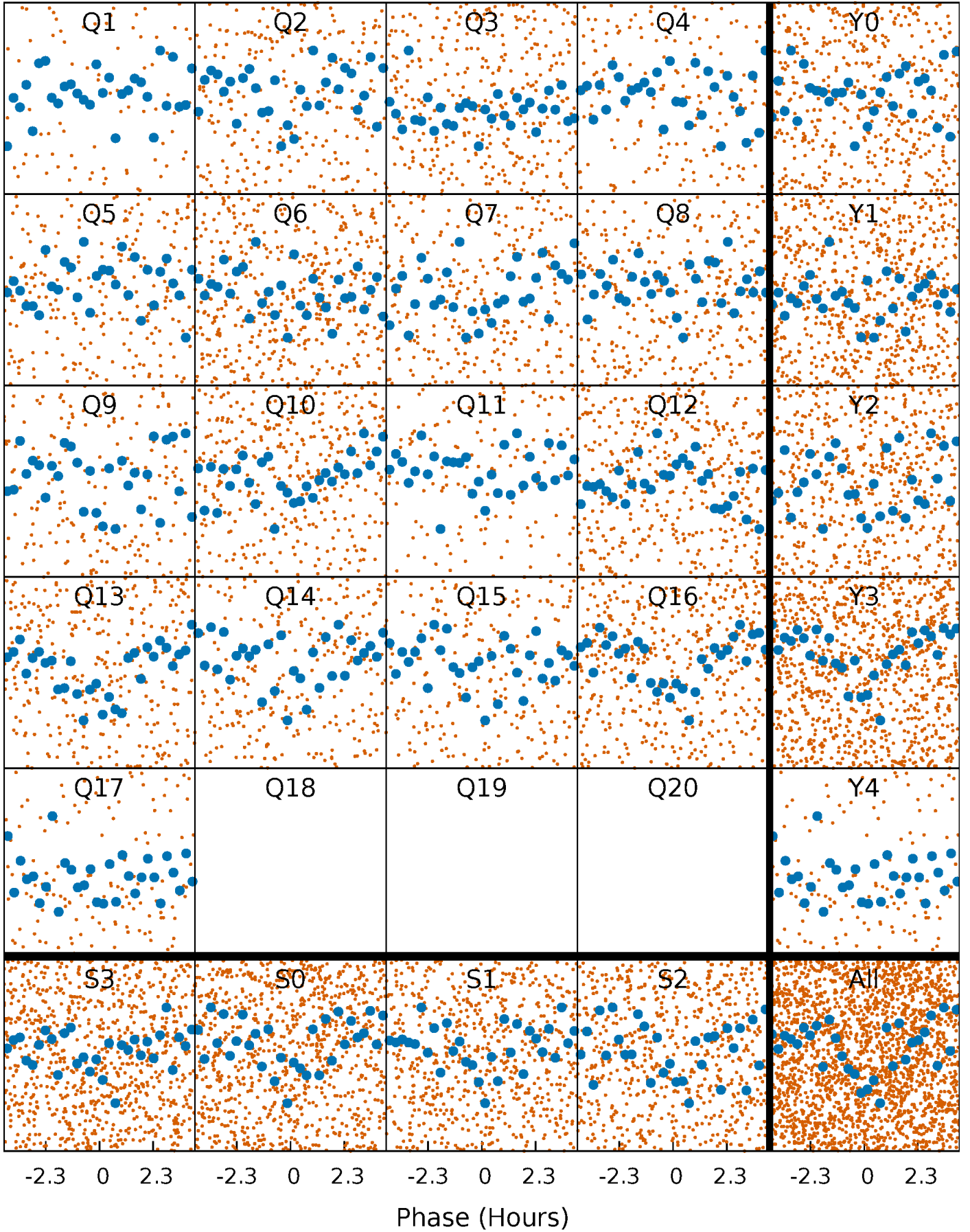


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



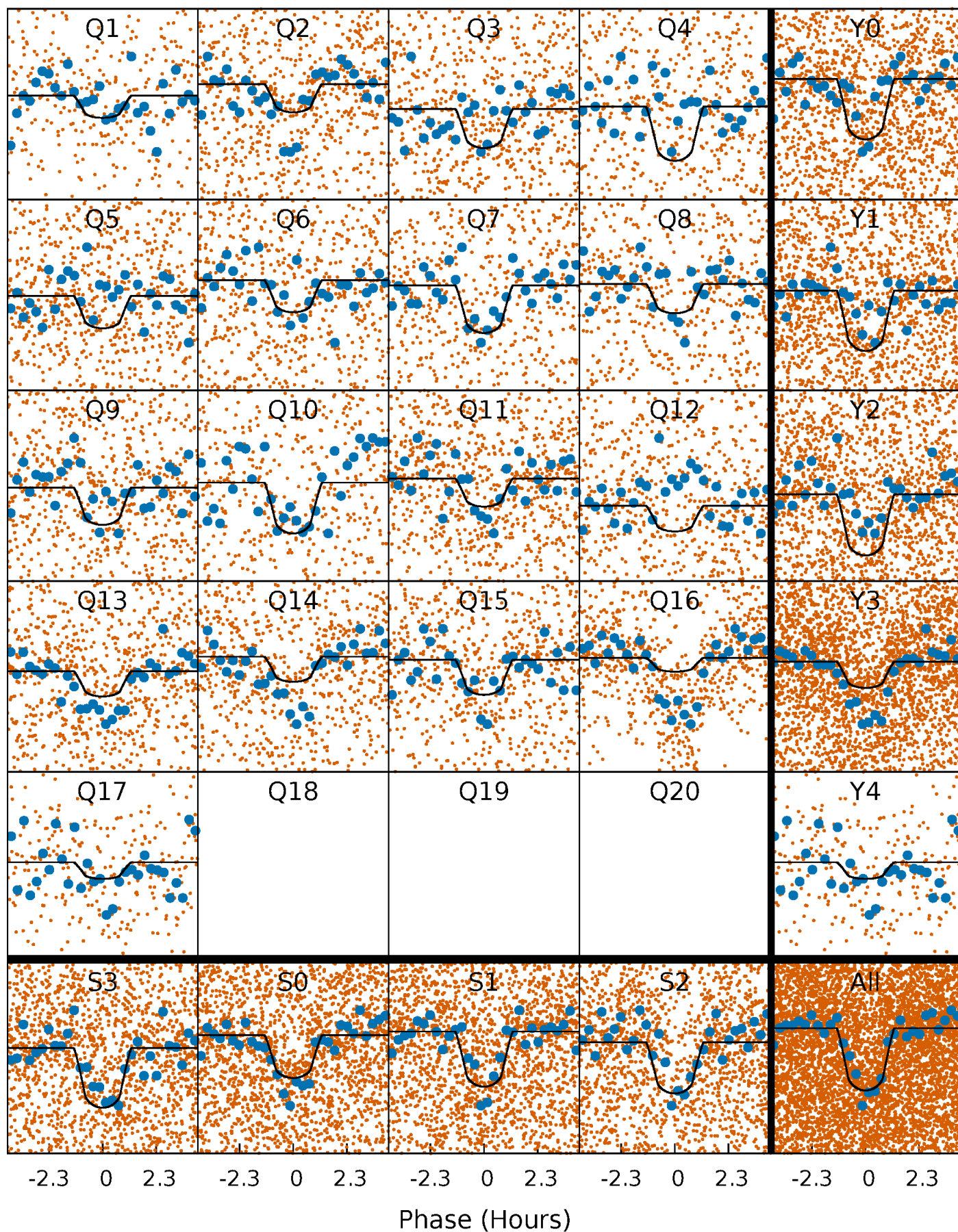
PDC Quarter-Phased Transit Curves

TCE 003836450-01 P= 1.540381 Days $T_0=132.000384$ (BKJD)



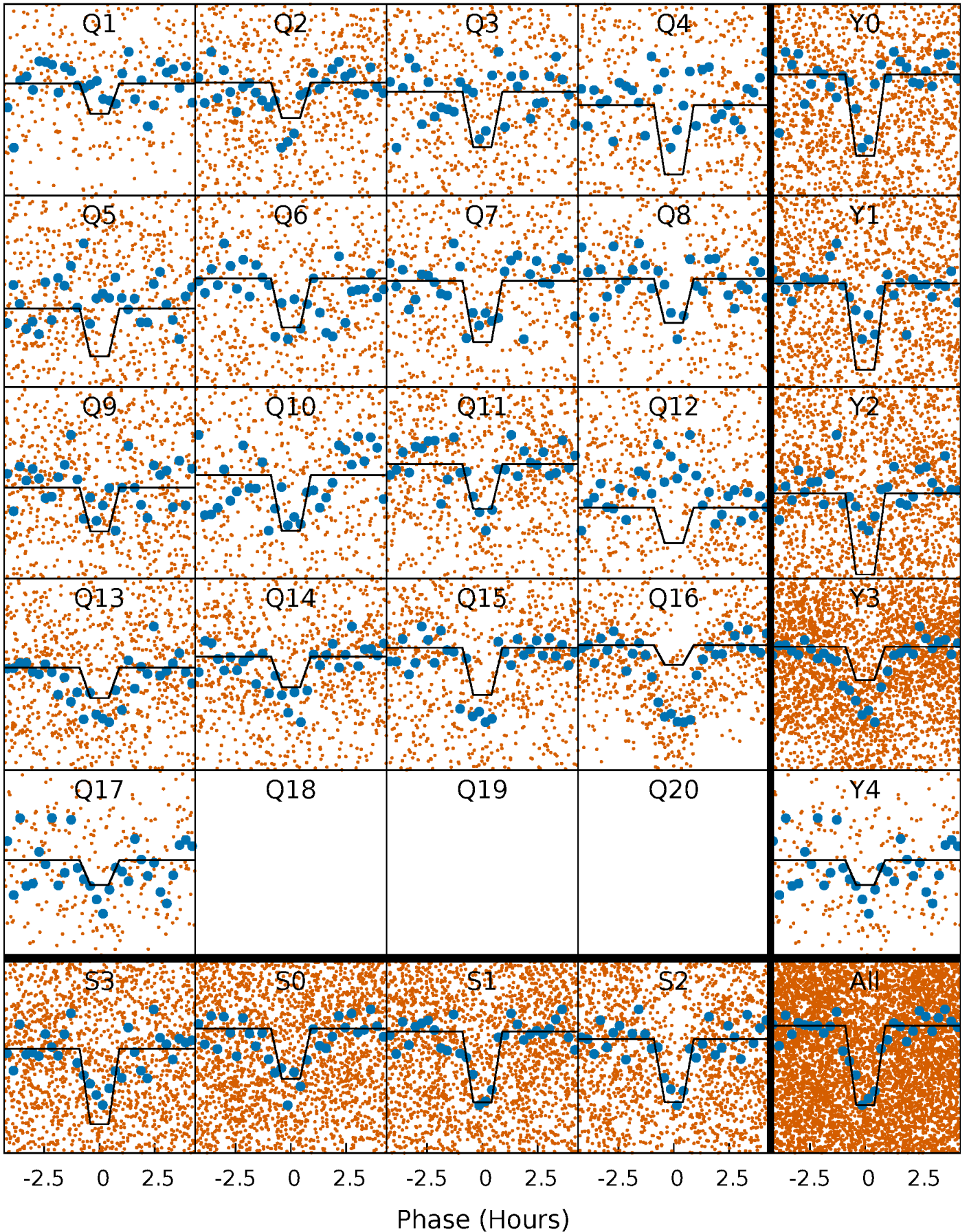
DV Quarter-Phased Transit Curves

TCE 003836450-01 P= 1.540381 Days $T_0=132.000384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

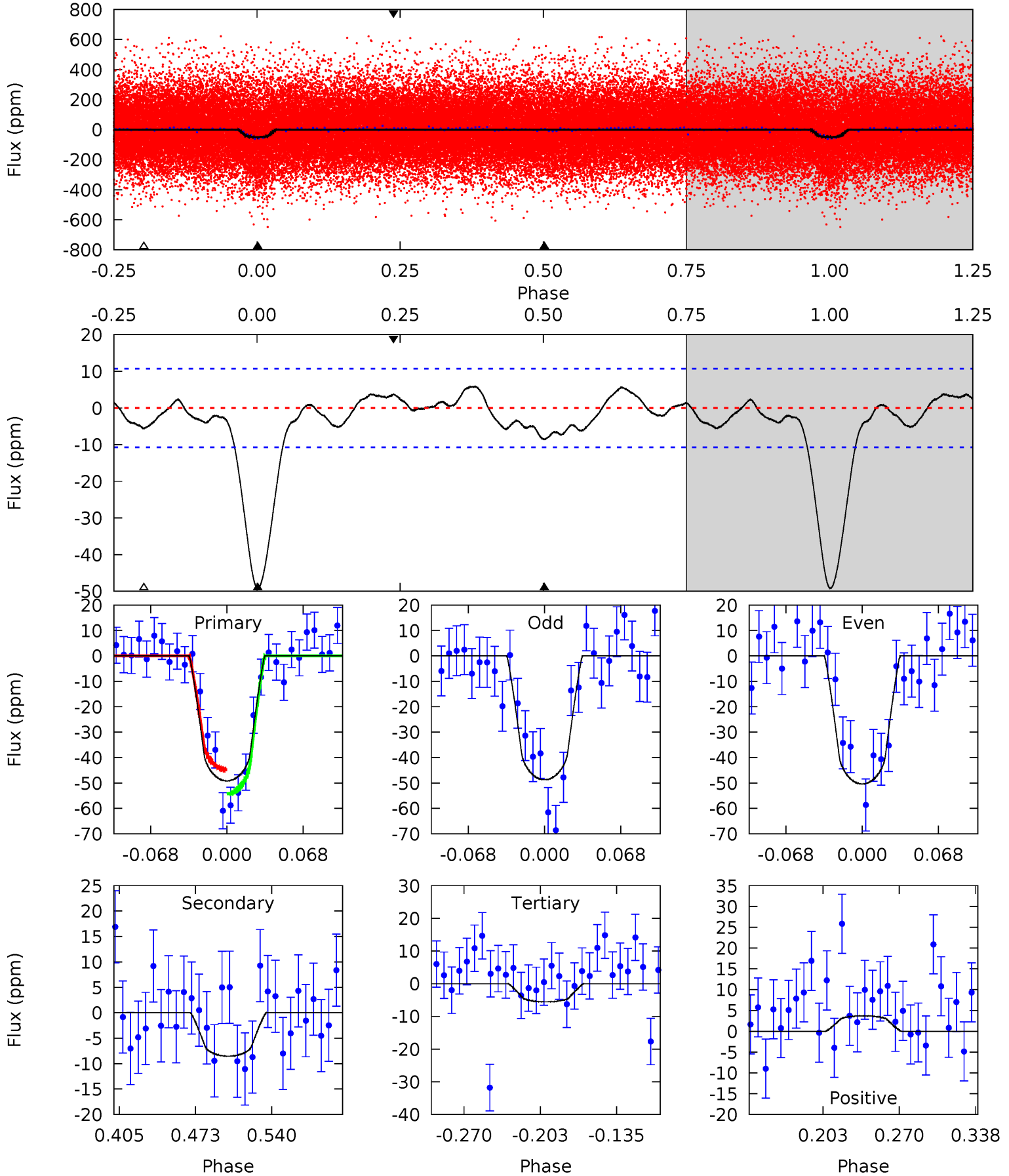
TCE 003836450-01 P= 1.540388 Days $T_0=132.000560$ (BKJD)



DV Model-Shift Uniqueness Test

003836450-01, P = 1.540381 Days, E = 130.460003 Days

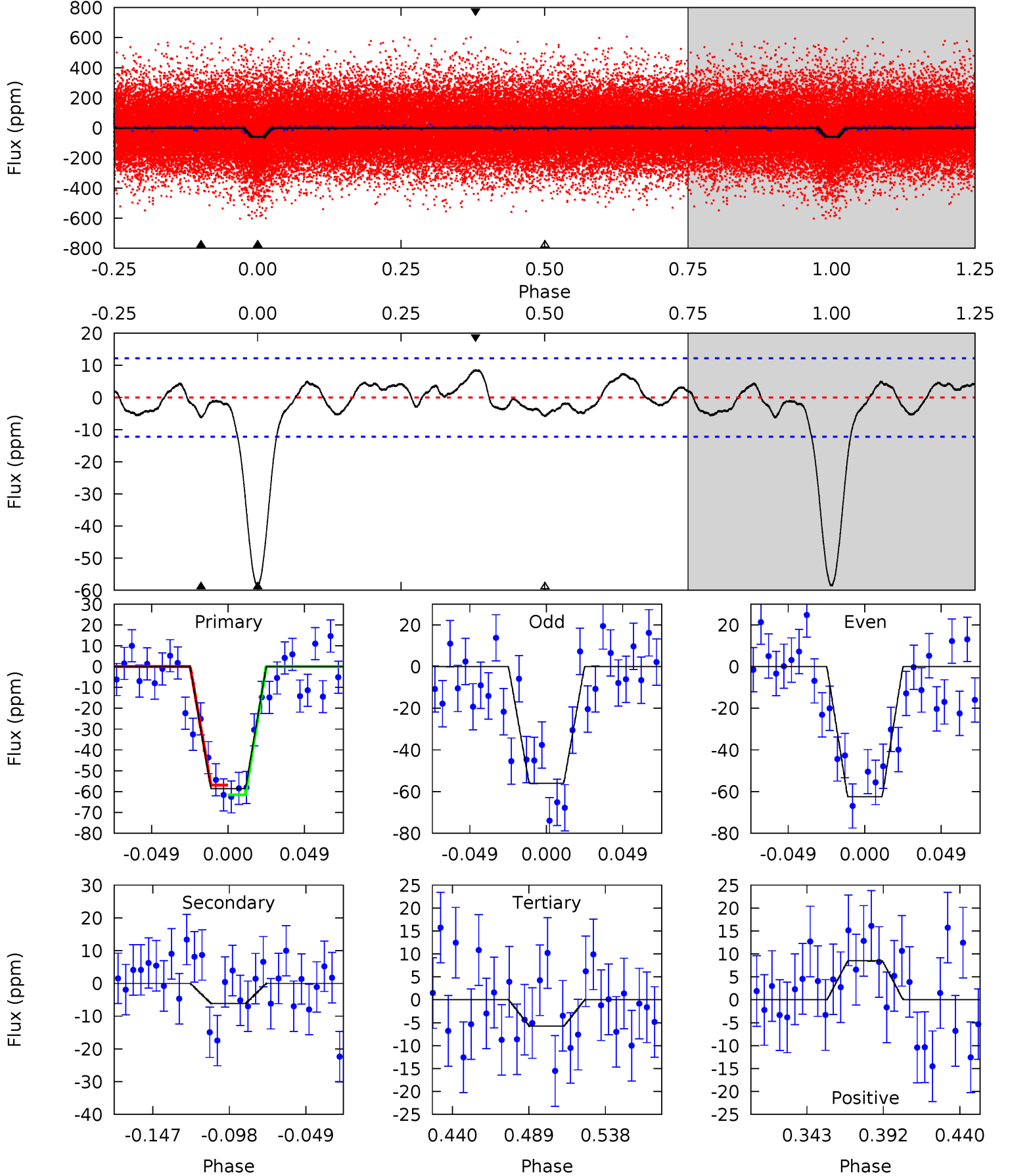
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	3.69	2.40	1.60	4.65	1.83	1.29	18.9	19.7	1.29	2.09	0.36	0.91	0.11	2.05



Alt Model-Shift Uniqueness Test

003836450-01, P = 1.540388 Days, E = 130.460172 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	2.37	2.23	3.28	4.71	1.97	1.41	20.4	19.3	0.15	-0.90	1.24	0.96	0.13	0.90



Stellar Parameters For KIC 003836450

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5160^{+153}_{-138}	$4.518^{+0.088}_{-0.064}$	$-0.220^{+0.300}_{-0.300}$	$0.784^{+0.088}_{-0.088}$	$0.738^{+0.098}_{-0.057}$	$2.162^{+0.797}_{-0.488}$
	+3%/-3%	+2%/-1%	+136%/-136%	+11%/-11%	+13%/-8%	+37%/-23%
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 003836450-01 / KOI 5010.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 2	$0.65^{+0.29}_{-0.26}$	1831^{+75}_{-78}	3554^{+753}_{-429}	$5.993^{+11.576}_{-3.305}$
Alt.	-6 ± 3	$0.67^{+0.29}_{-0.24}$	1831^{+74}_{-72}	3358^{+638}_{-464}	$4.355^{+6.873}_{-2.666}$

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 $A_{obs} \gg 1.0$

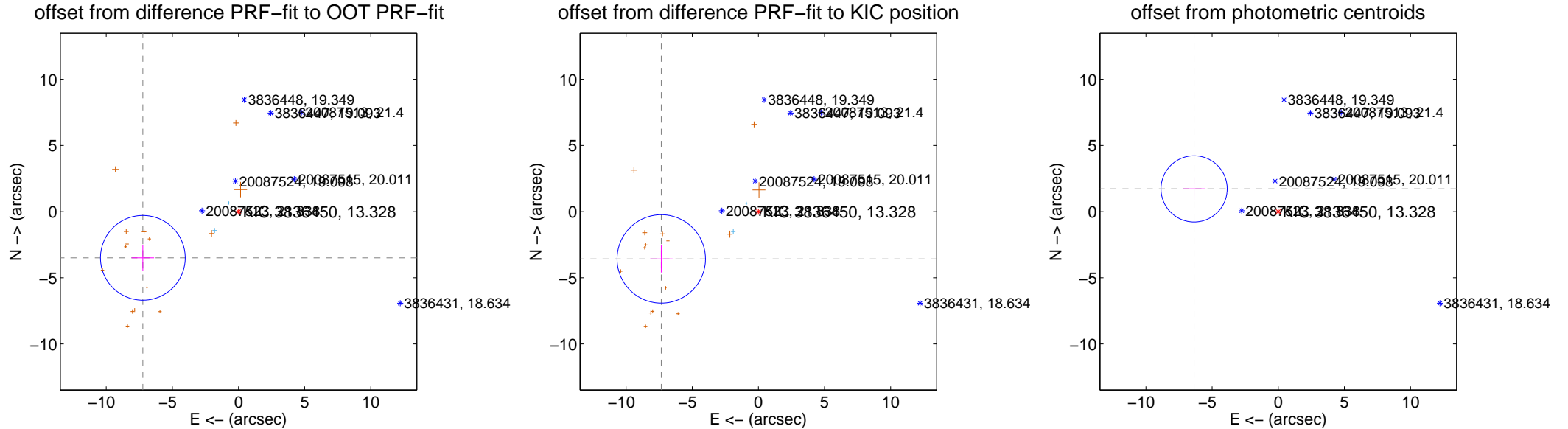
DV Centroid Data

Supplemental centroid analysis for 003836450-01. Kepler magnitude: 13.33. Transit SNR 13.76

There are 2 quarters with good PRF difference image offsets

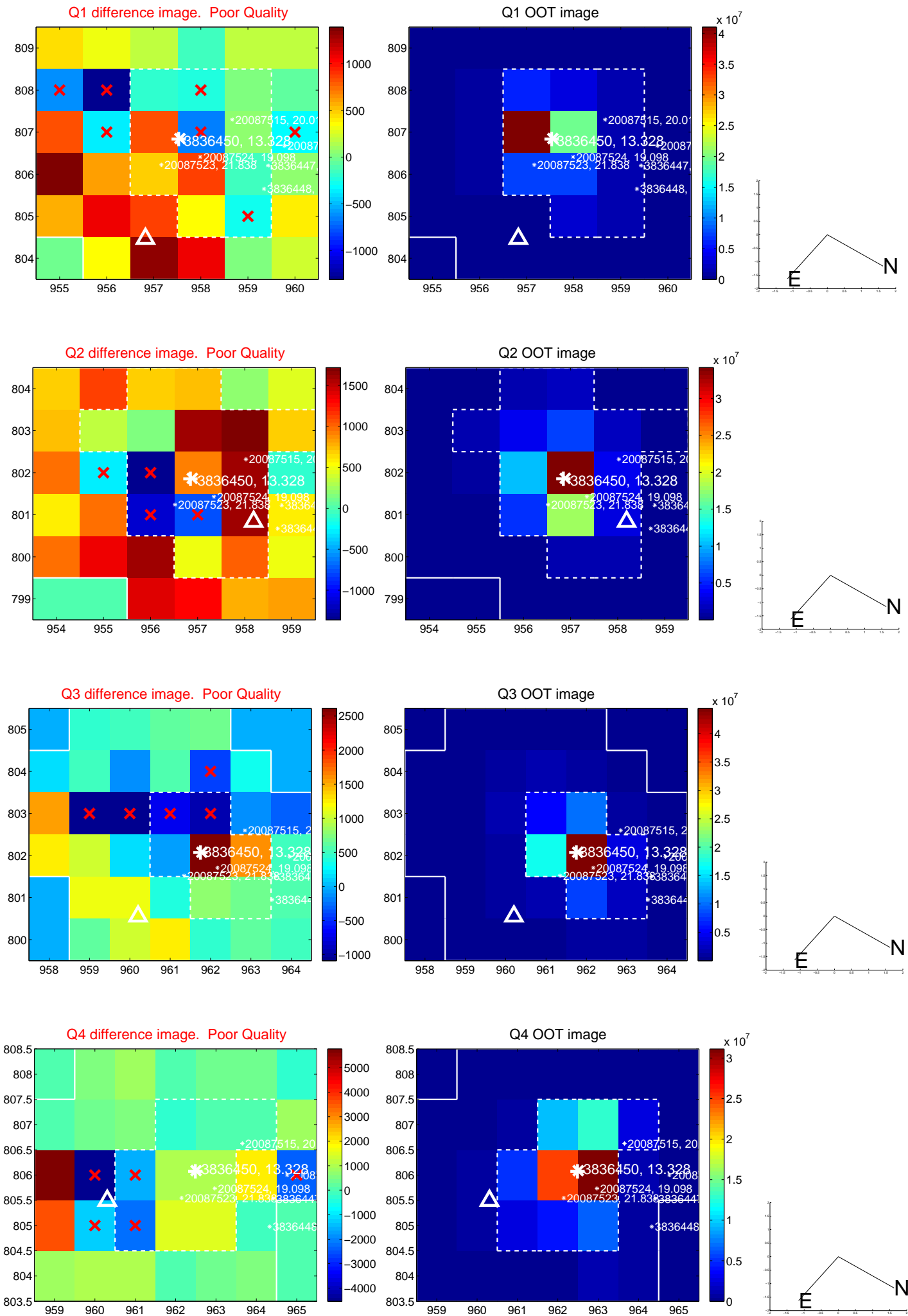
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.029 ± 1.068	7.52	7.230 ± 0.846	-3.491 ± 0.966
PRF-fit source offset from KIC position	8.163 ± 1.113	7.33	7.339 ± 0.857	-3.574 ± 1.031
photometric centroid source offset	6.59 ± 0.83	7.90	6.36 ± 0.83	1.72 ± 0.89

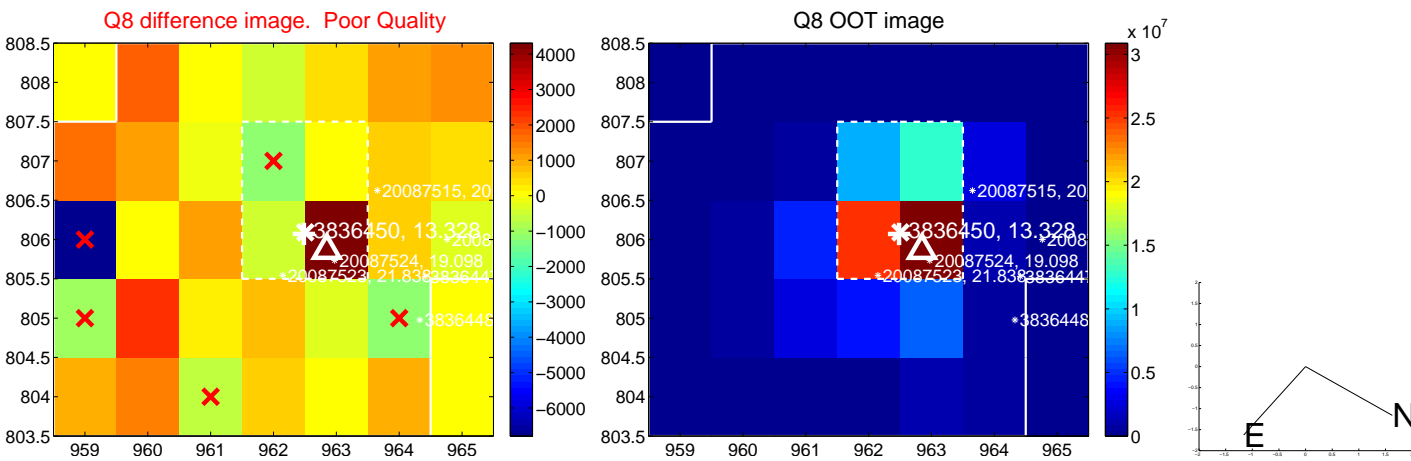
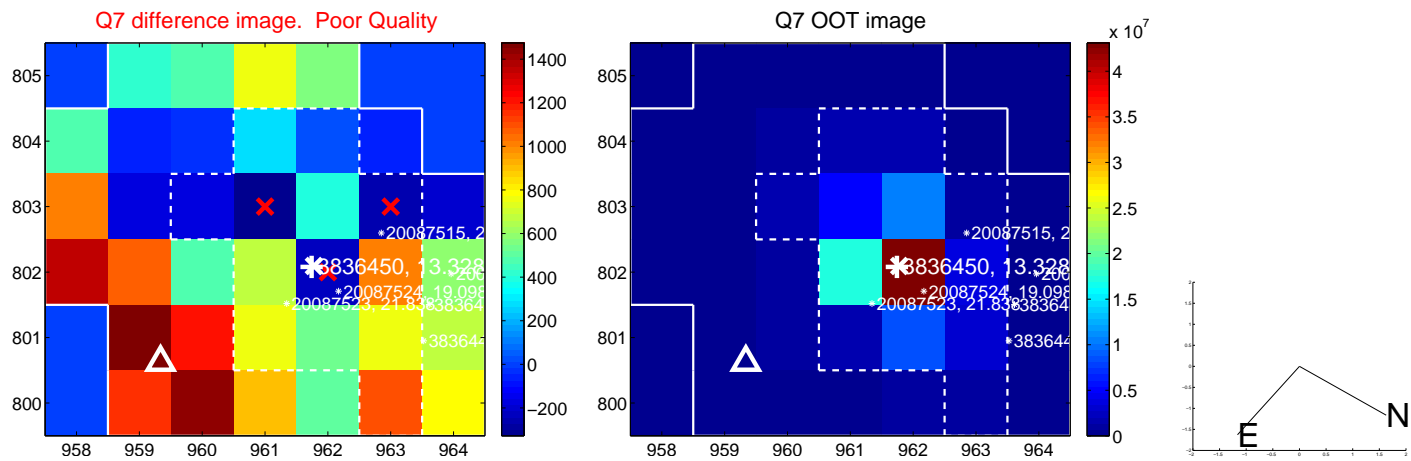
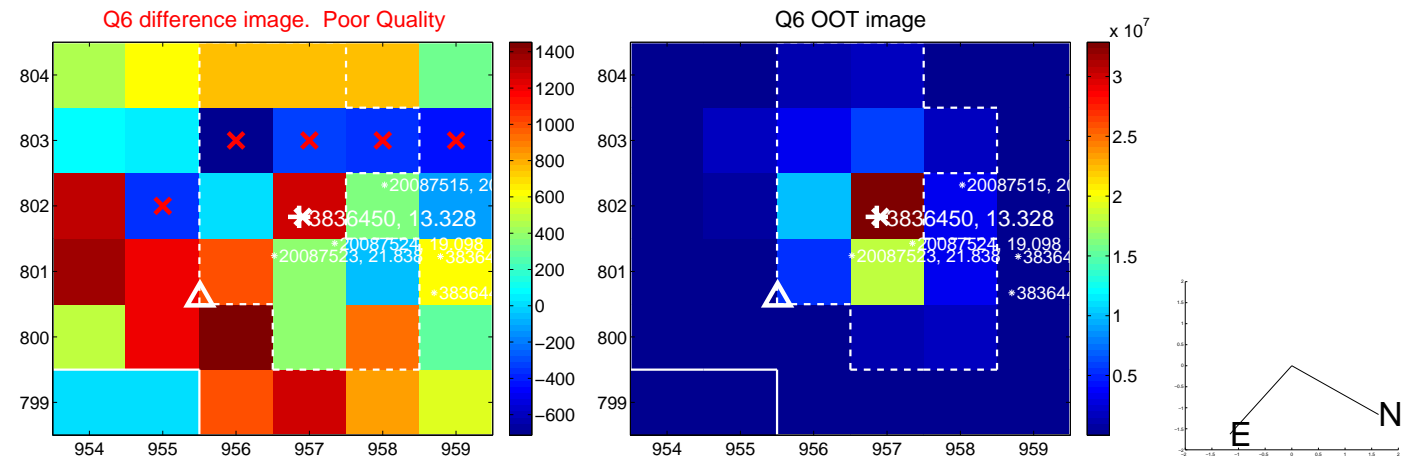
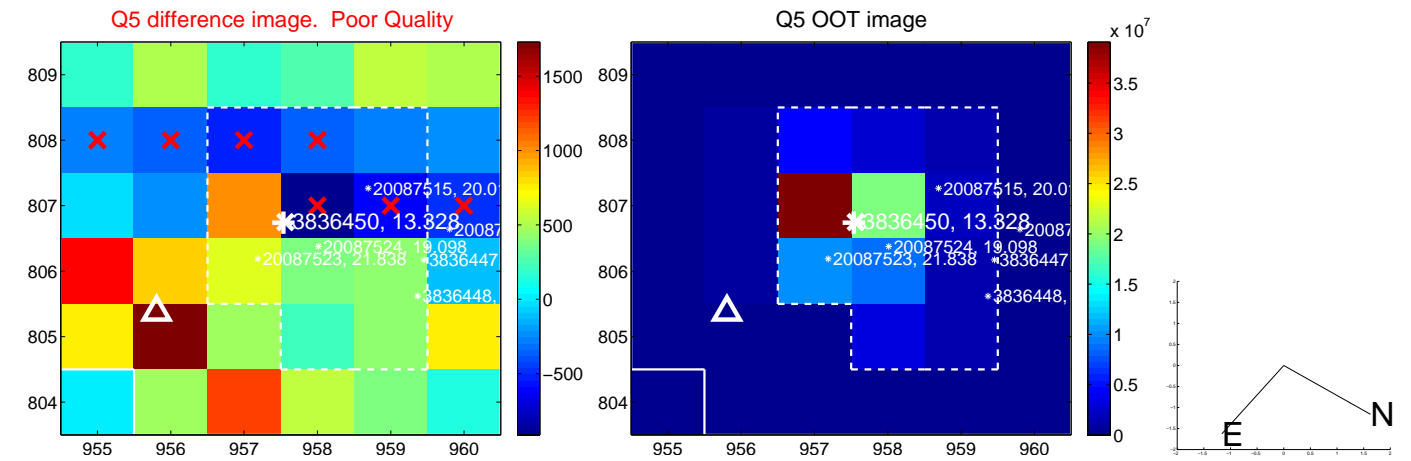


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

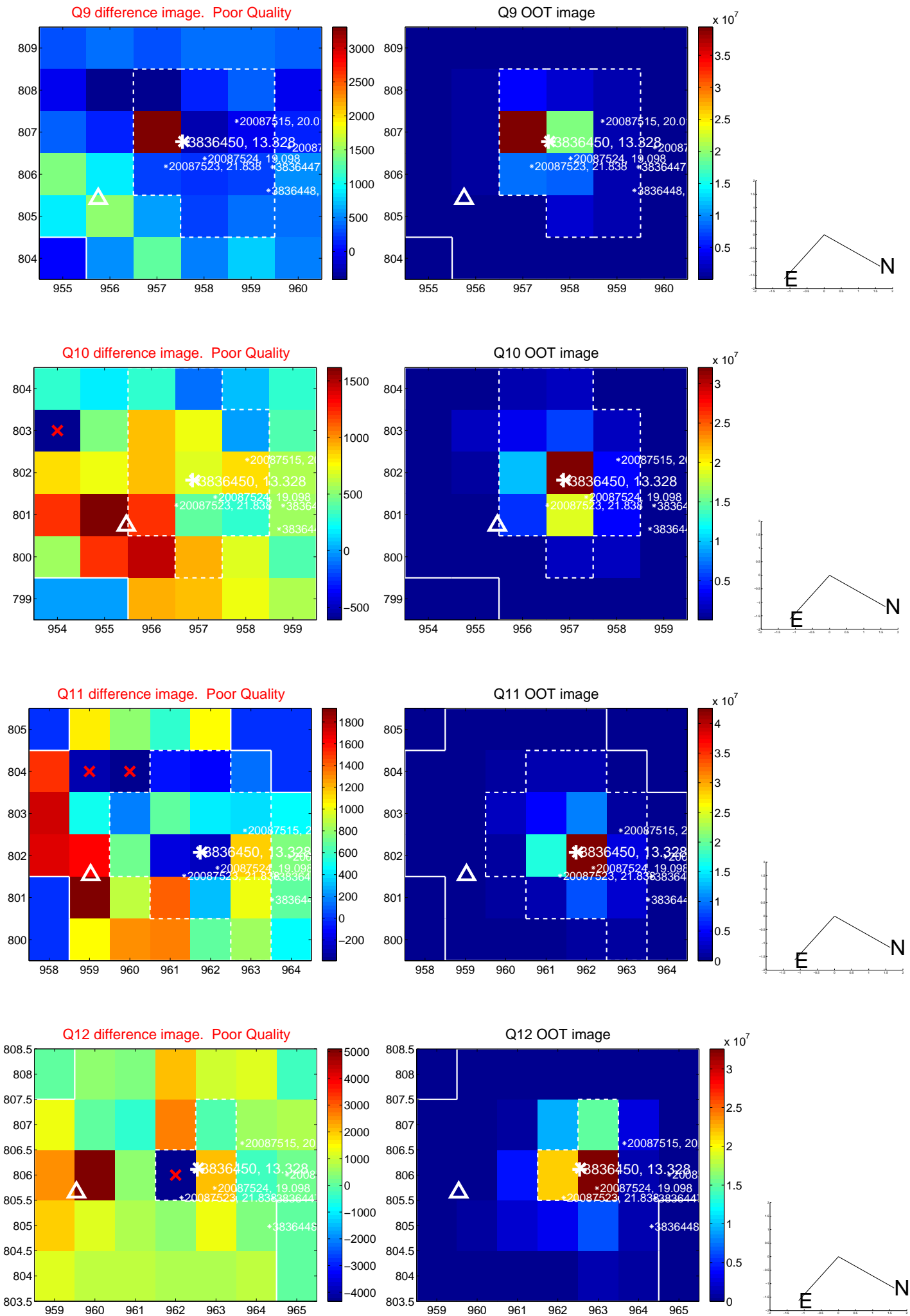
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



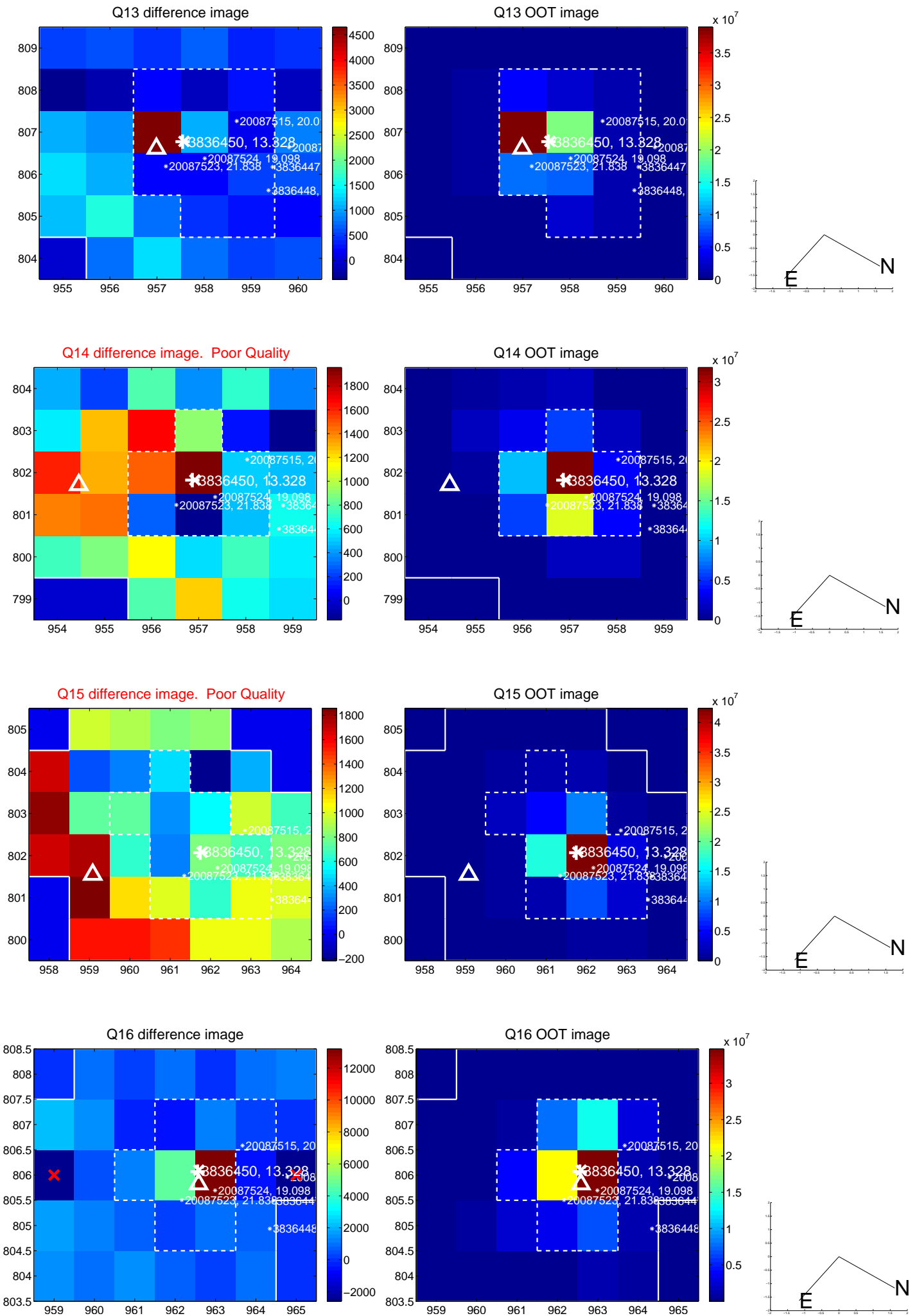
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



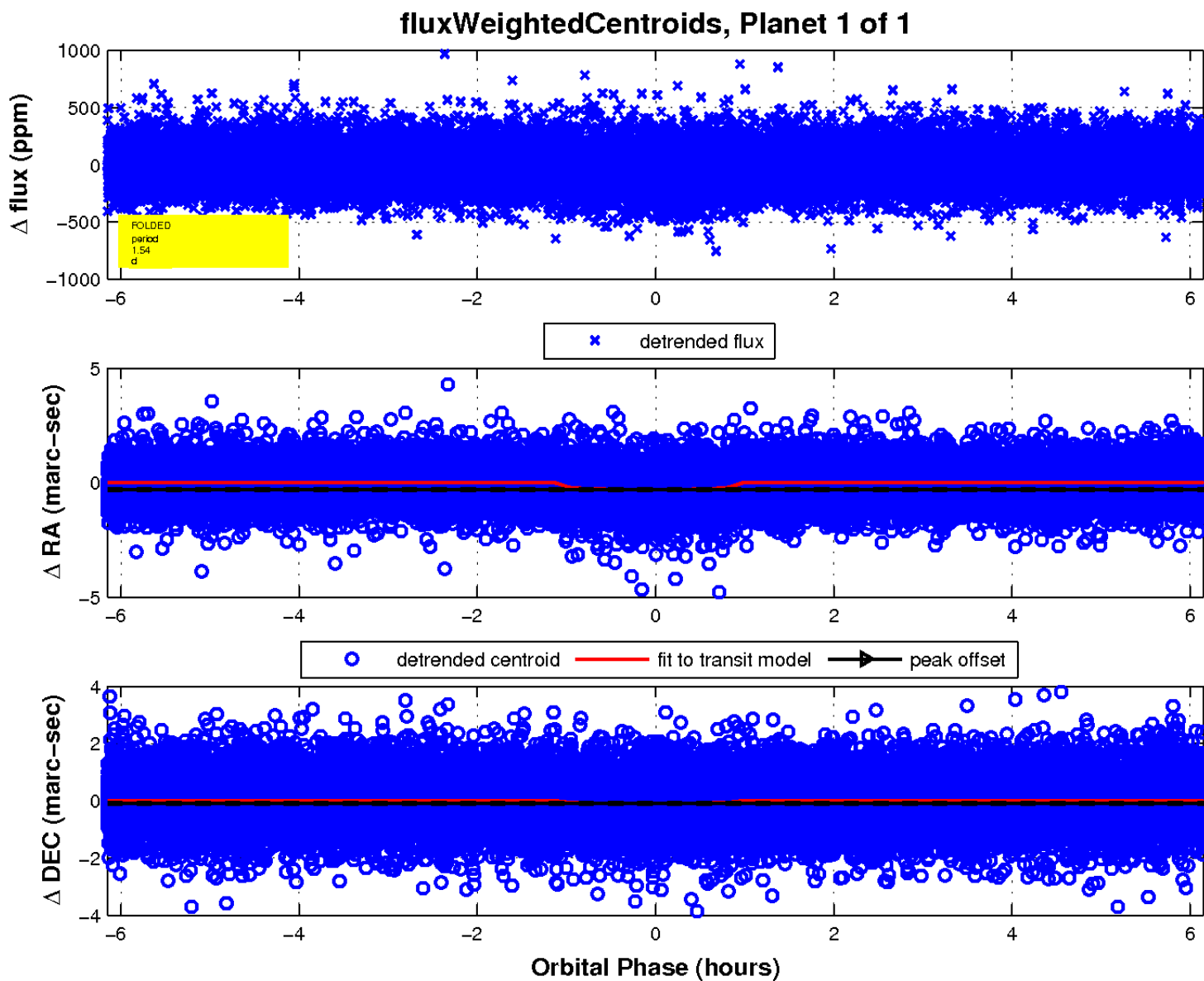
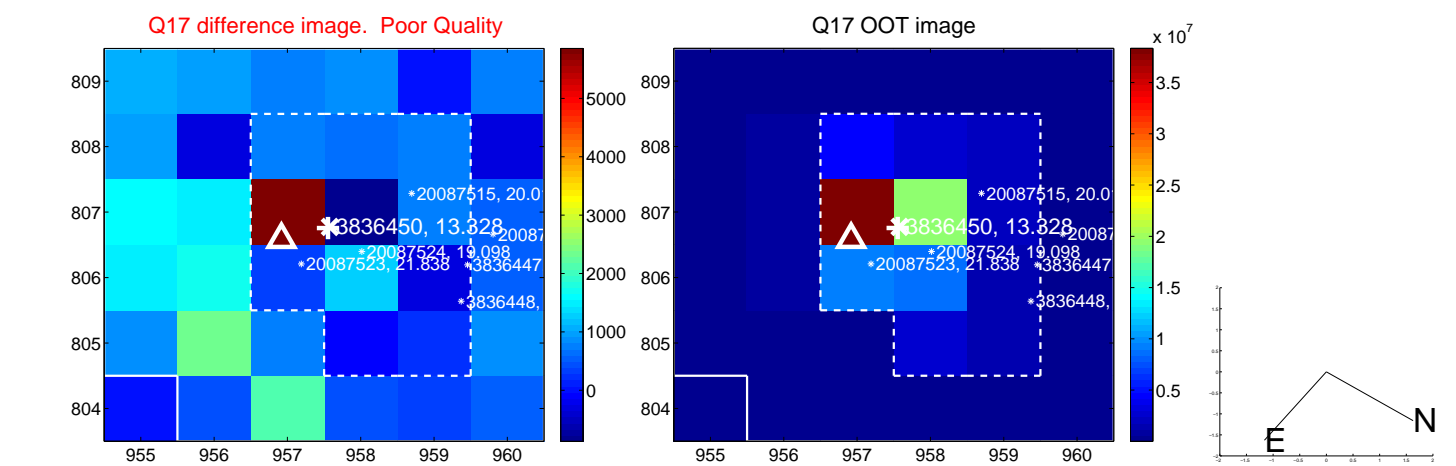
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

