

KIC 011456405

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})
011456405-01	OBS	4845.01	0.814277	131.646786	53.1	2.262	9.8	9.5	0.89	5537	0.78	2283.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011456405-01	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 011456405-01

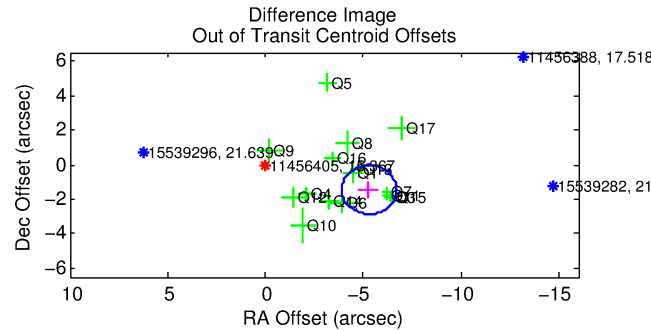
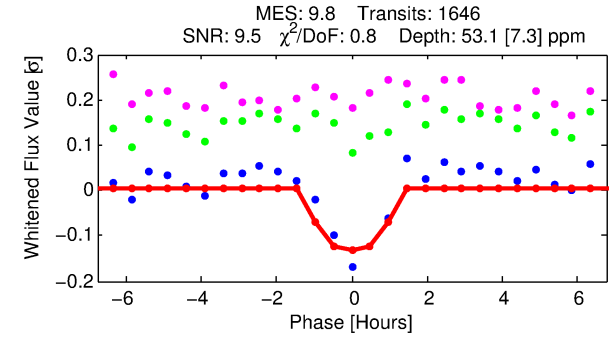
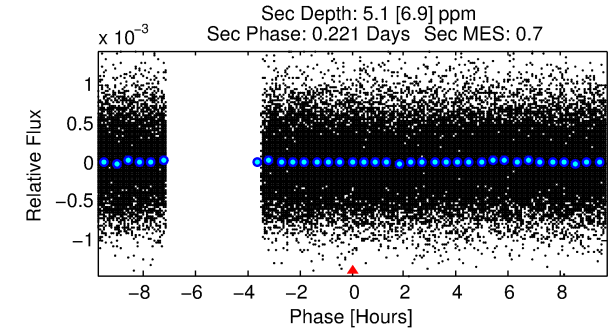
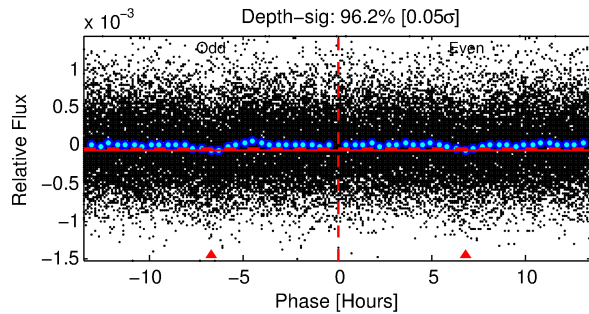
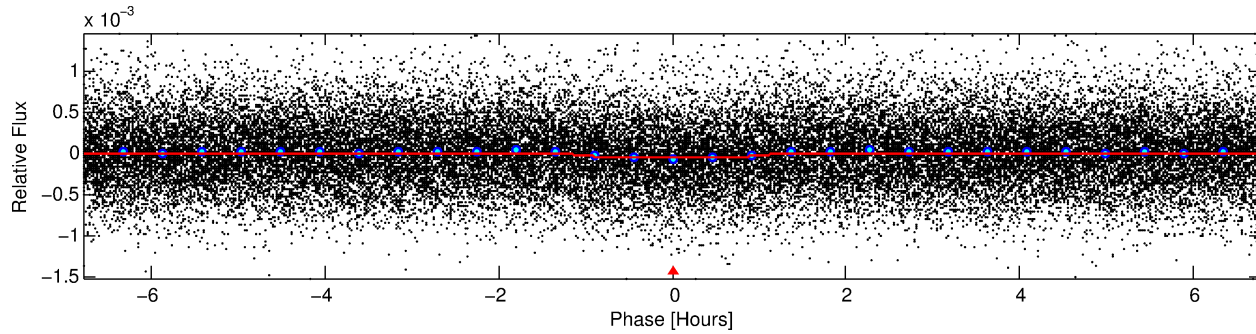
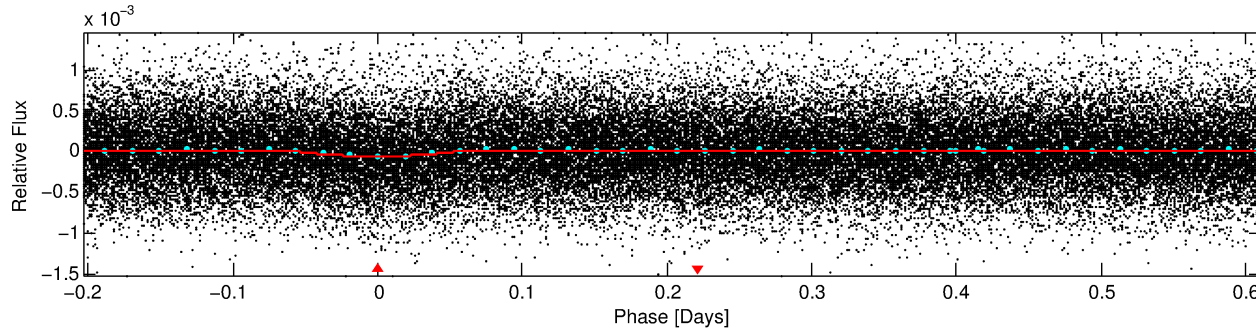
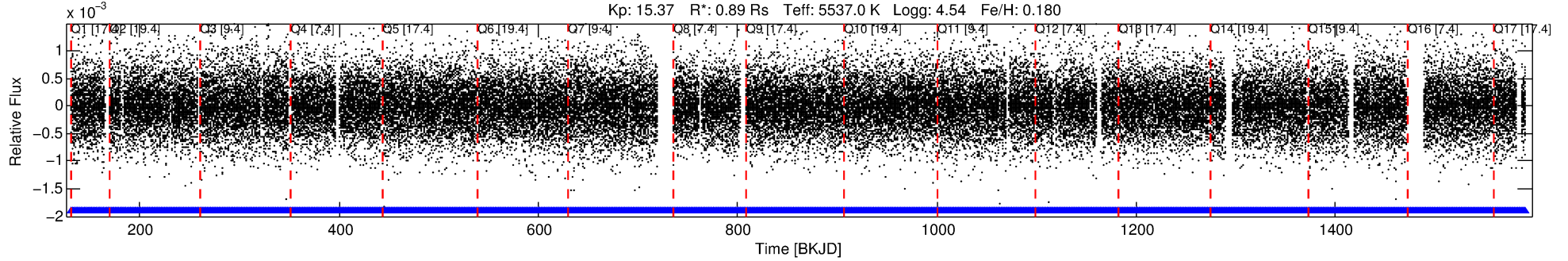
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011456405-01	11456405	2771.01	11456382	1:1	21.0	0	-5	11.75	15.37	4.23	Direct-PRF	0	0.41	0.17

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: 11456405 Candidate: 1 of 1 Period: 0.814 d
KOI: K04845.01 Corr: 0.938

Kp: 15.37 R*: 0.89 Rs Teff: 5537.0 K Logg: 4.54 Fe/H: 0.180



DV Fit Results:

Period = 0.81428 [0.00001] d
Epoch = 131.6468 [0.0032] BKJD
Rp/R* = 0.0080 [0.0064]
a/R* = 1.55 [3.27]
b = 0.90 [0.76]
Seff = 2283.42 [798.23]
Teff = 1763 [154] K
Rp = 0.78 [0.65] Re
a = 0.0170 [0.0037] AU
Ag = 1.35 [2.86] [0.12σ]
Teffp = 2937 [1540] K [0.76σ]

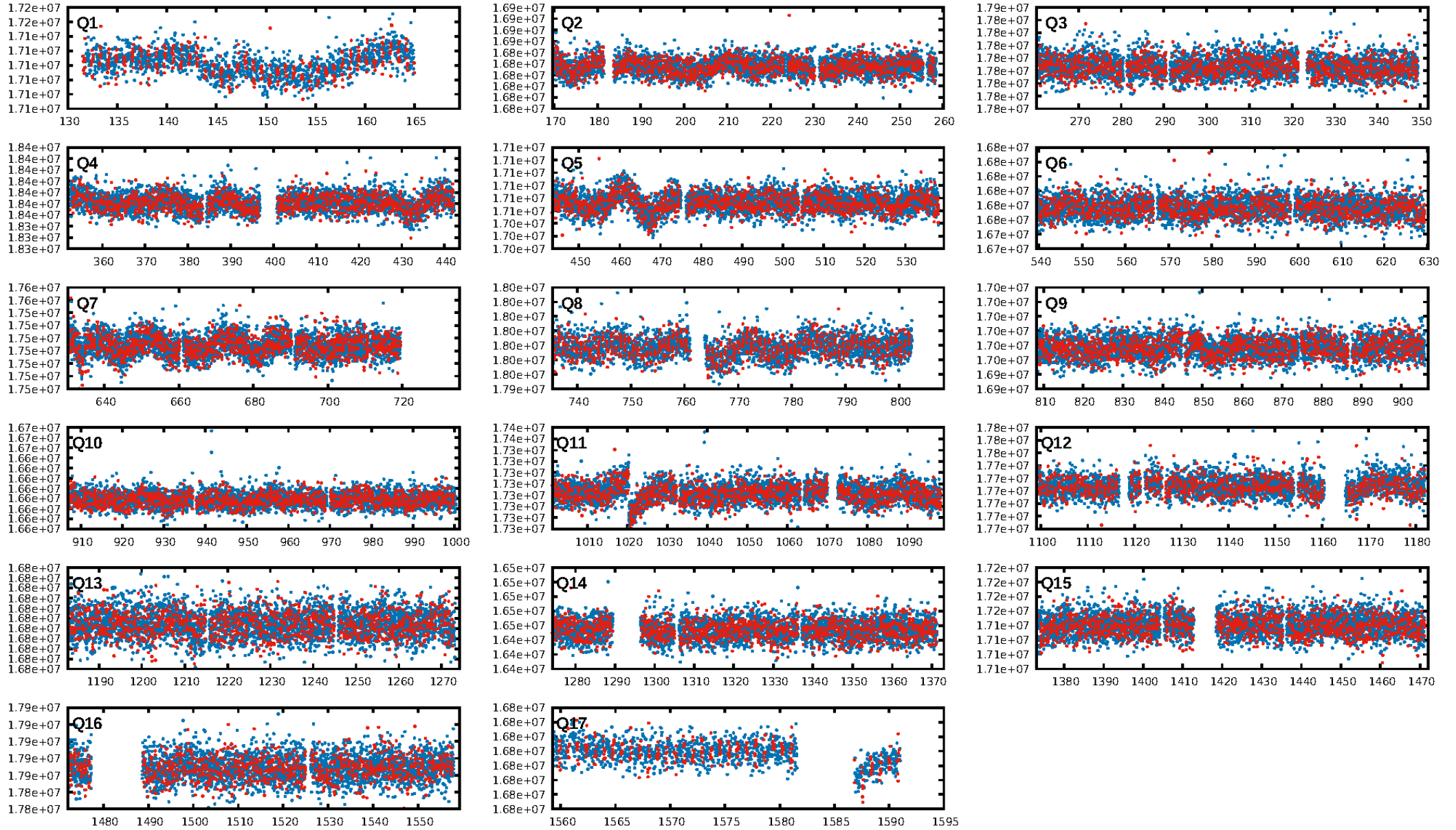
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.89e-22
RollingBand-fgt: 1.00 [1572/1572]
GhostDiagnostic-chr: -0.02934
Centroid-sig: 0.0%
Centroid-so: 9.541 arcsec [6.49σ]
OotOffset-rm: 5.479 arcsec [11.70σ]
KicOffset-rm: 5.618 arcsec [11.49σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

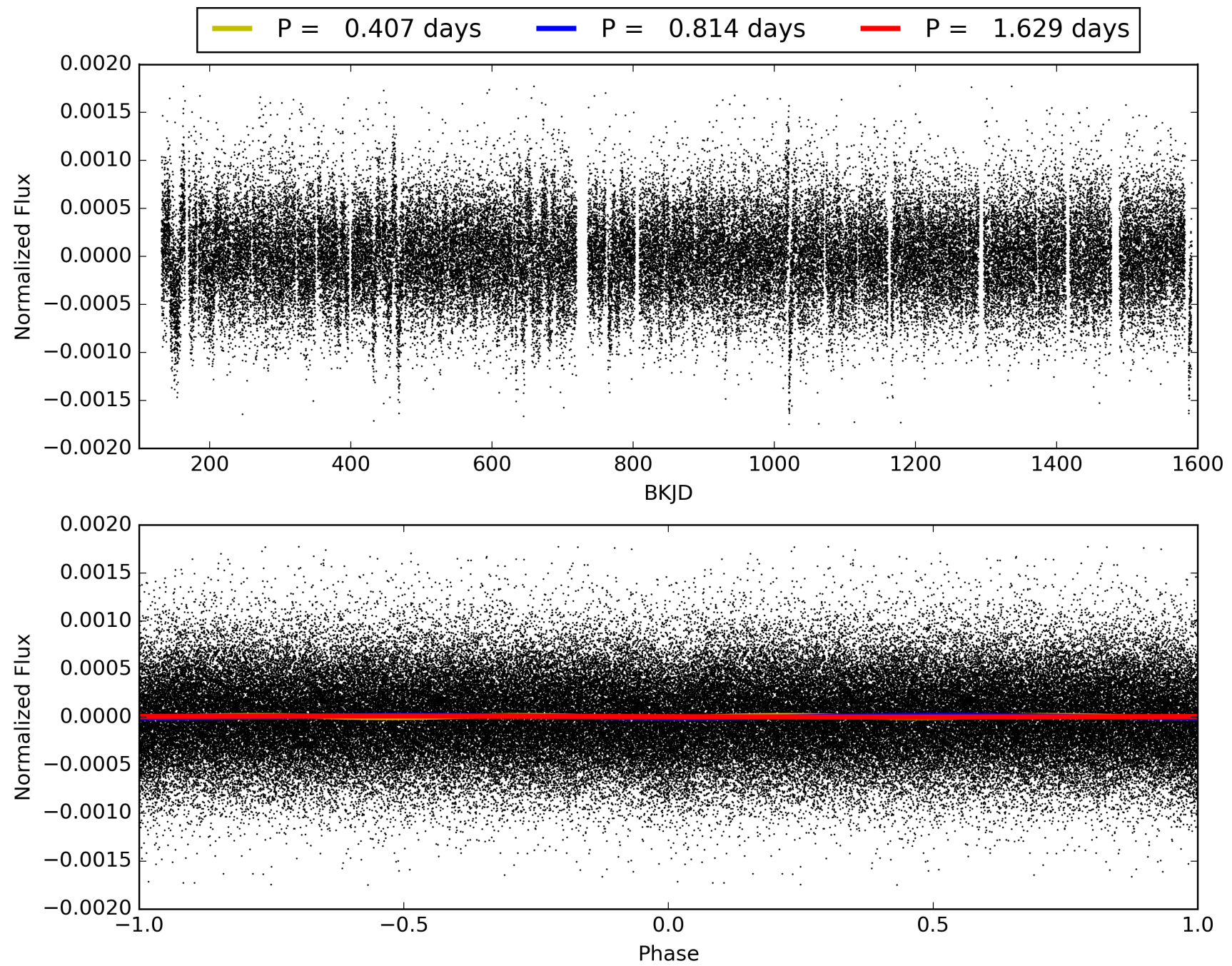
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:04:08 Z

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

TCE 011456405-01, PDC Light Curves

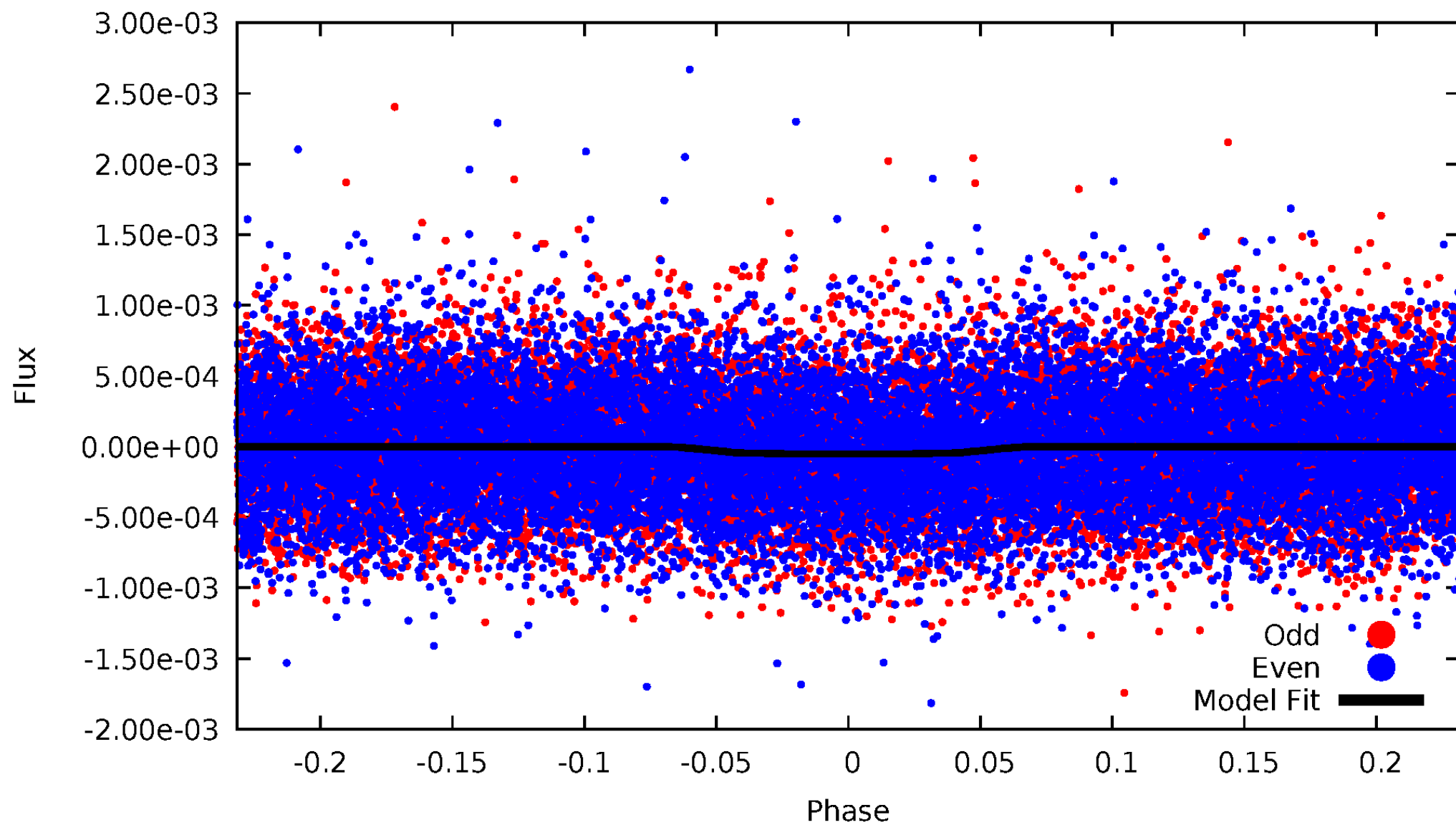


TCE 011456405-01



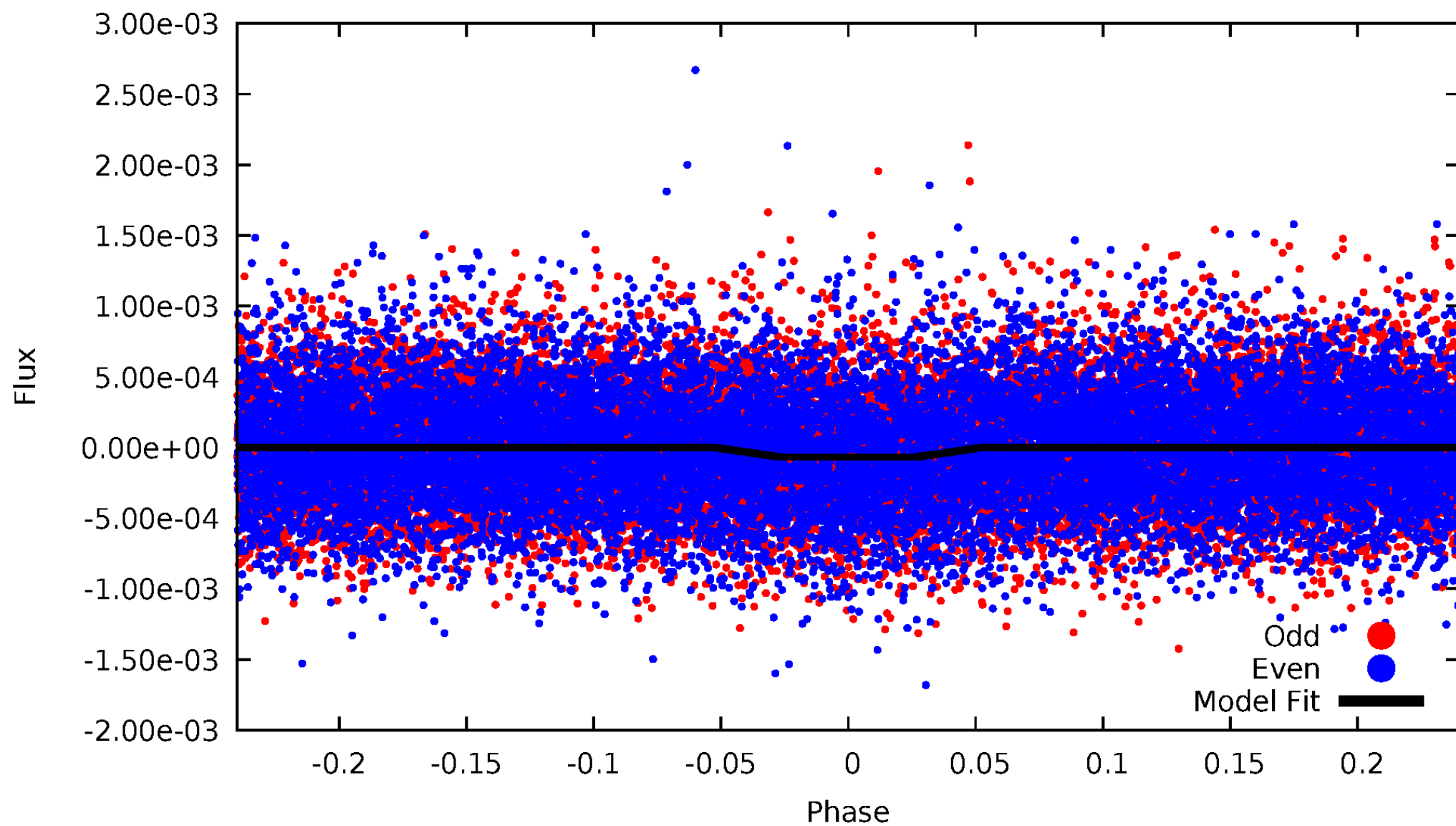
DV Odd/Even

TCE 011456405-01



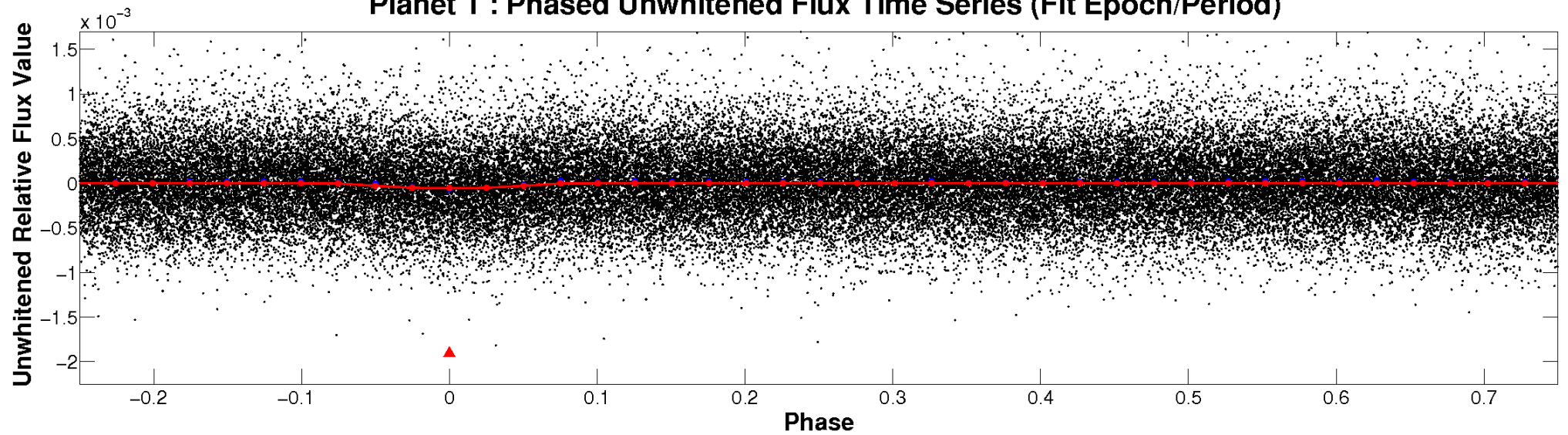
ALT Odd/Even

TCE 011456405-01

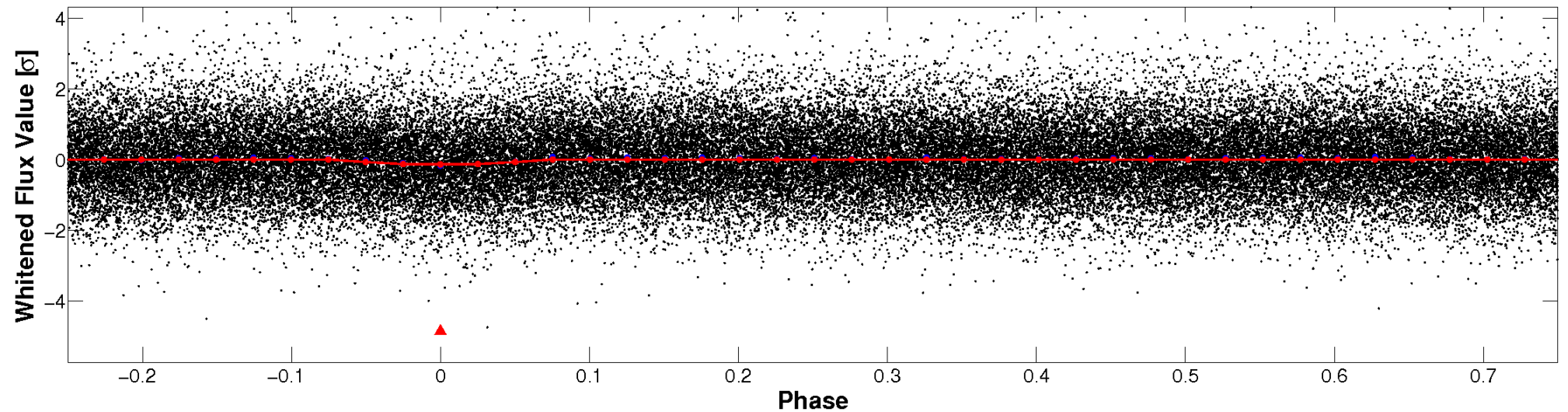


Non-Whitened Vs. Whitened Light Curve

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

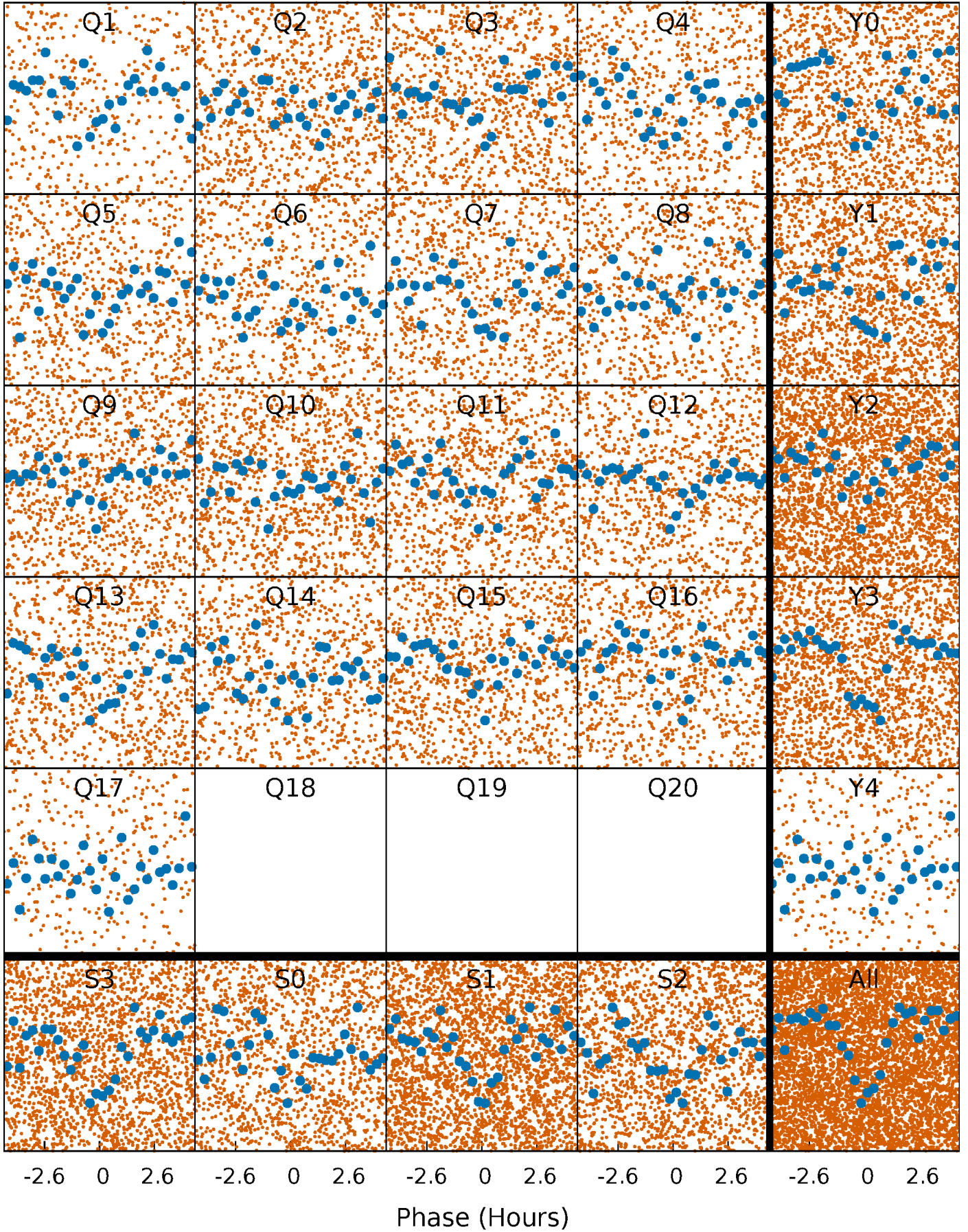


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



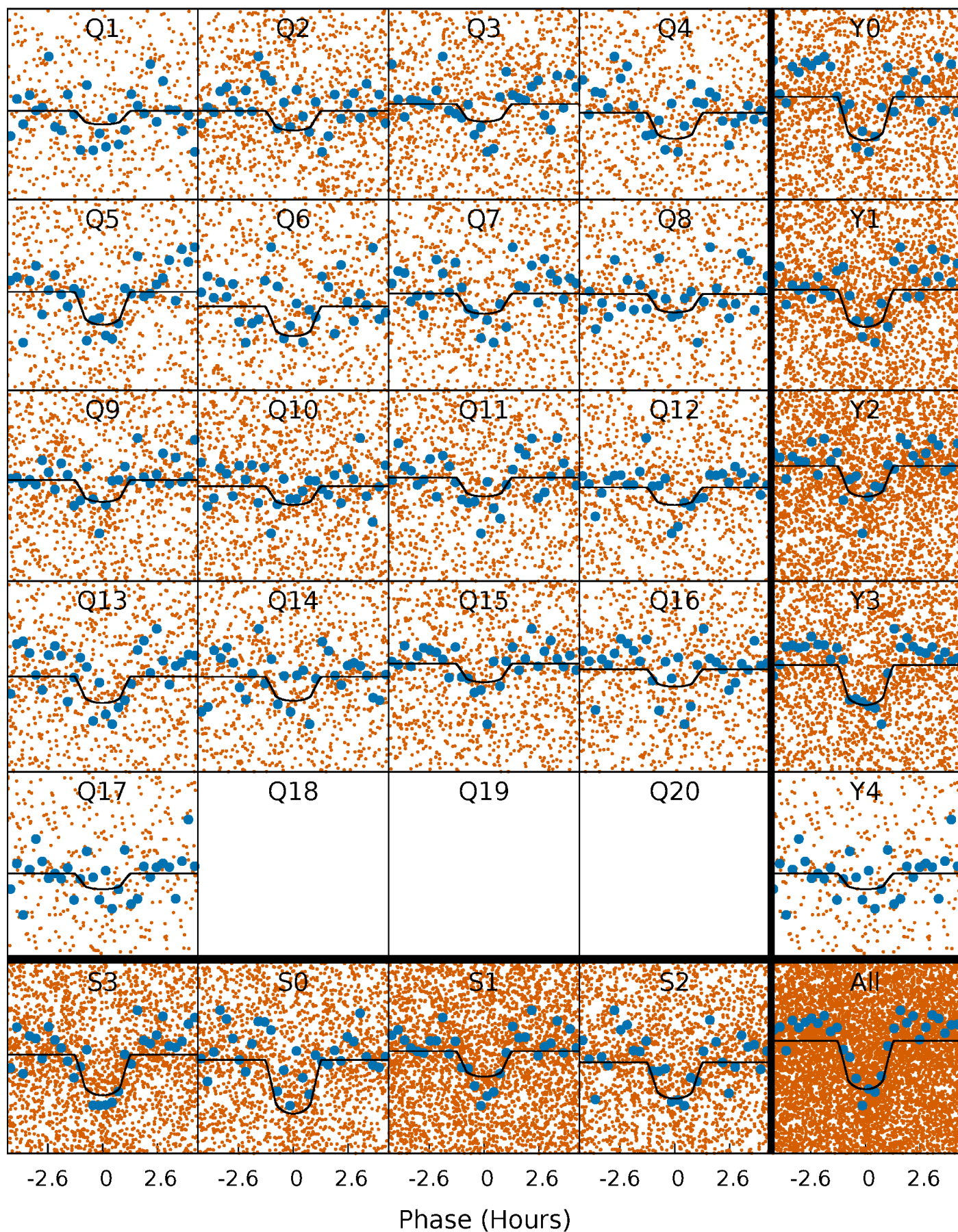
PDC Quarter-Phased Transit Curves

TCE 011456405-01 P= 0.814277 Days $T_0=131.646786$ (BKJD)



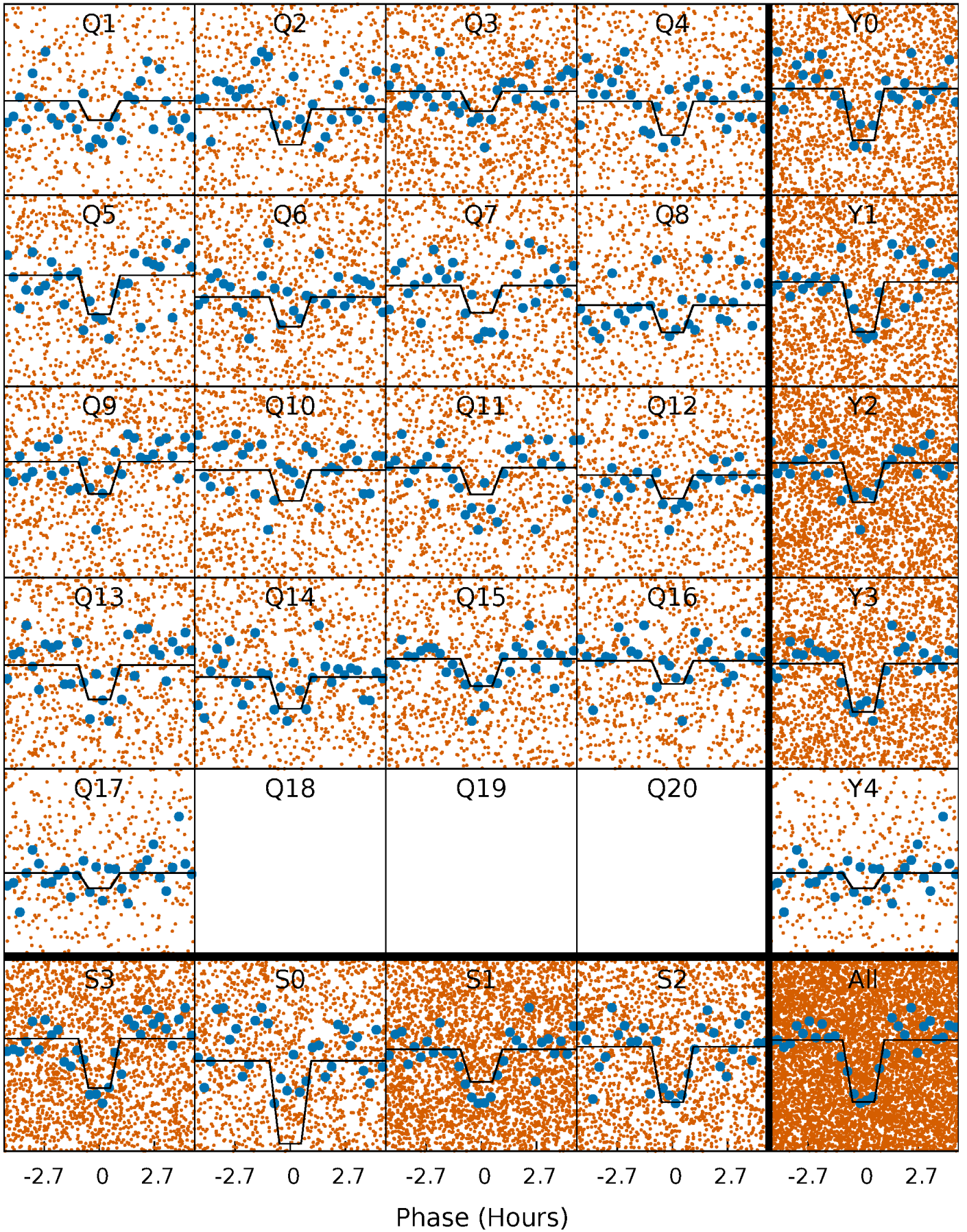
DV Quarter-Phased Transit Curves

TCE 011456405-01 P= 0.814277 Days $T_0=131.646786$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

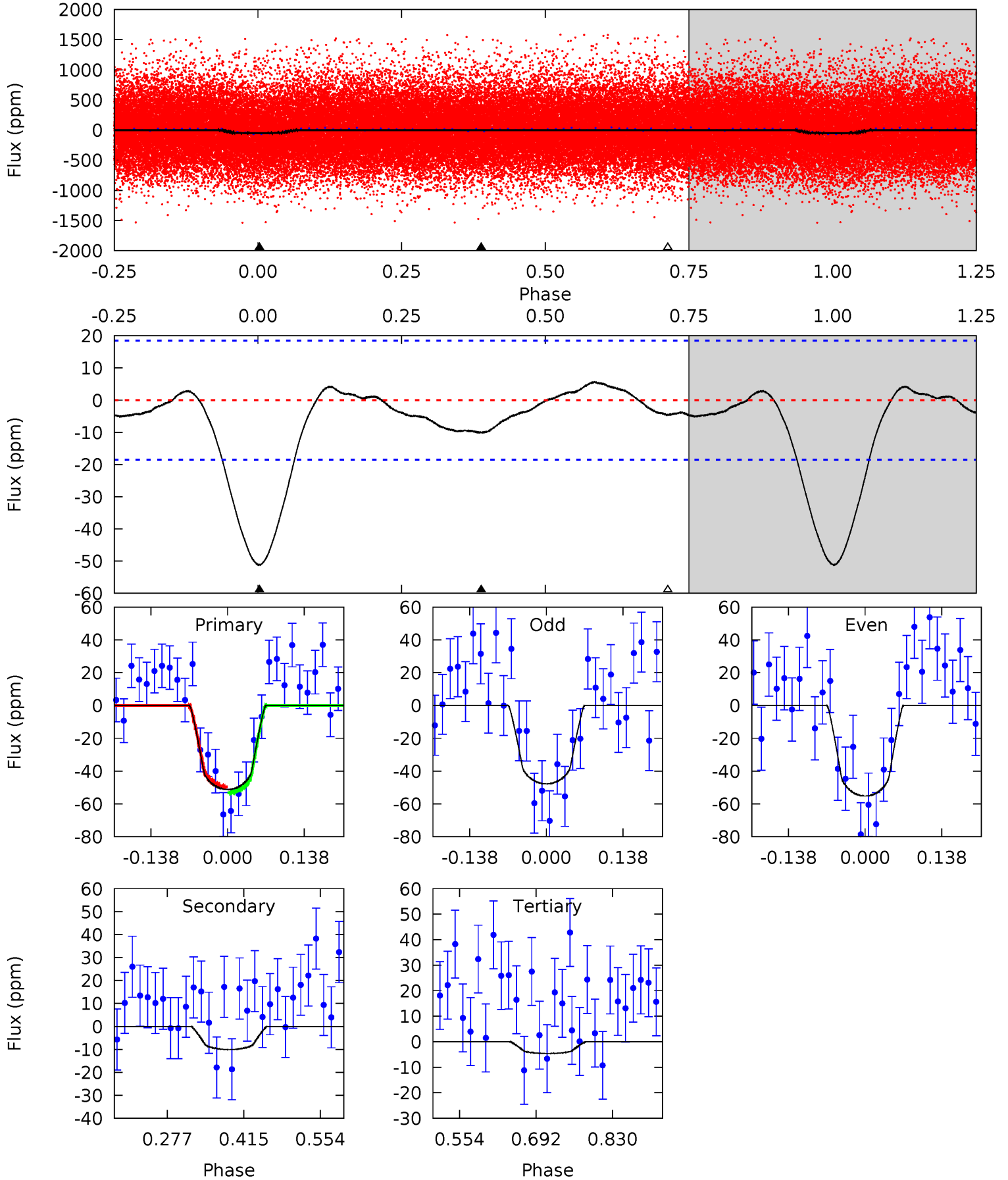
TCE 011456405-01 P= 0.814280 Days $T_0=131.646368$ (BKJD)



DV Model-Shift Uniqueness Test

011456405-01, P = 0.814277 Days, E = 130.832509 Days

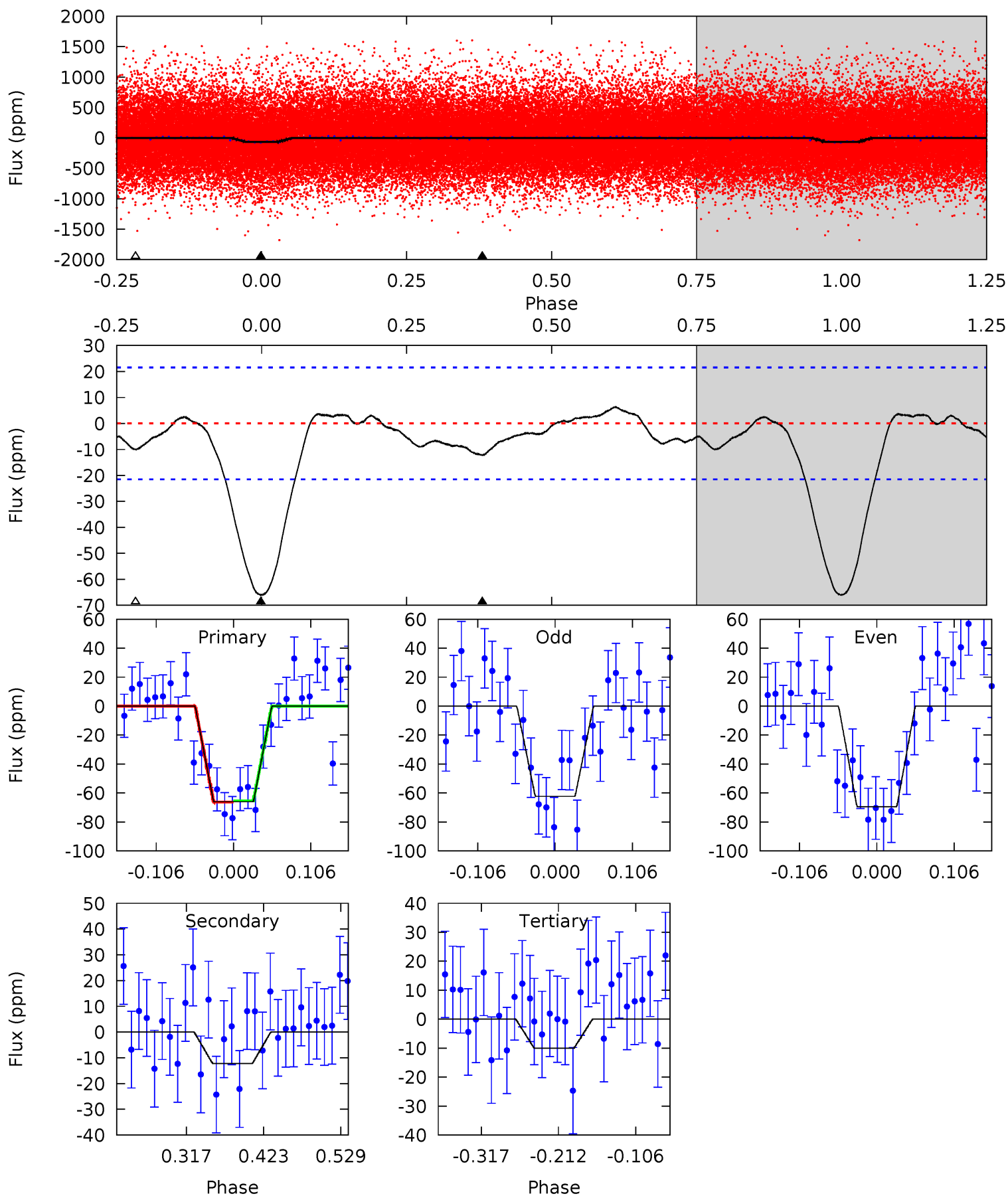
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	2.45	1.12	0	4.50	1.48	0.79	11.3	12.4	1.33	2.45	0.90	1.00	0.10	0.43



Alt Model-Shift Uniqueness Test

011456405-01, P = 0.814280 Days, E = 130.832088 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.58	2.12	0	4.55	1.62	0.93	11.8	14.0	0.46	2.58	0.75	1.16	0.09	0.09



Stellar Parameters For KIC 011456405

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5537^{+175}_{-194}	$4.539^{+0.042}_{-0.178}$	$0.180^{+0.200}_{-0.300}$	$0.886^{+0.222}_{-0.074}$	$0.989^{+0.085}_{-0.113}$	$2.006^{+0.350}_{-0.952}$
	+3%/-4%	+1%/-4%	+111%/-167%	+25%/-8%	+9%/-11%	+17%/-47%
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 011456405-01 / KOI 4845.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 4	$0.88^{+0.68}_{-0.53}$	2504^{+161}_{-118}	3577^{+1672}_{-857}	$1.869^{+10.866}_{-1.311}$
Alt.	-12 ± 5	$0.91^{+0.65}_{-0.51}$	2508^{+151}_{-112}	3664^{+1530}_{-770}	$2.144^{+9.468}_{-1.489}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

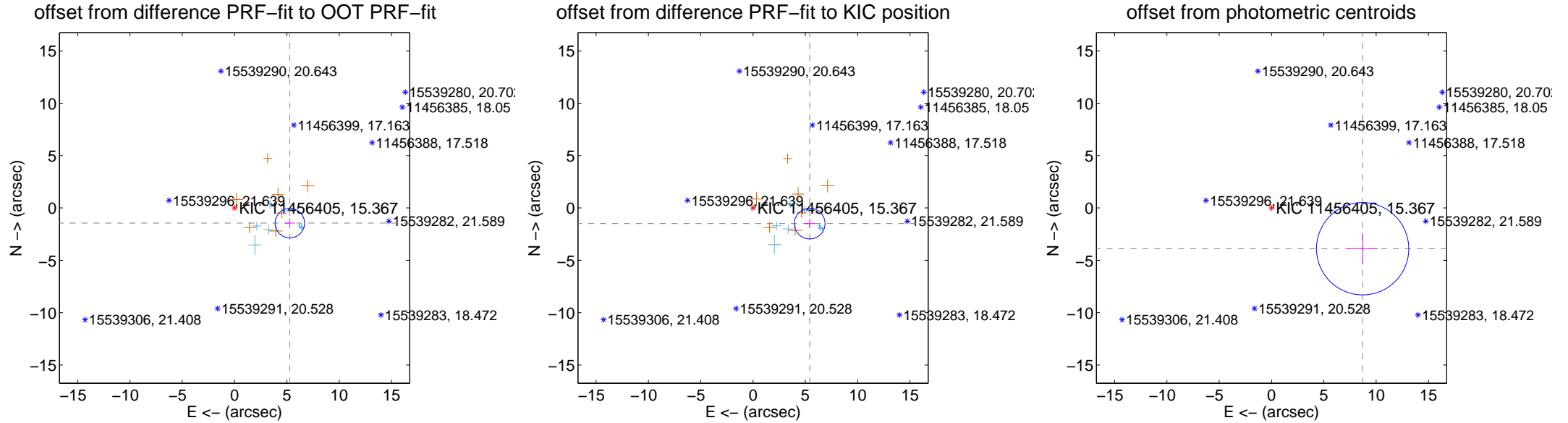
DV Centroid Data

Supplemental centroid analysis for 011456405-01. Kepler magnitude: 15.37. Transit SNR 9.53

There are 9 quarters with good PRF difference image offsets

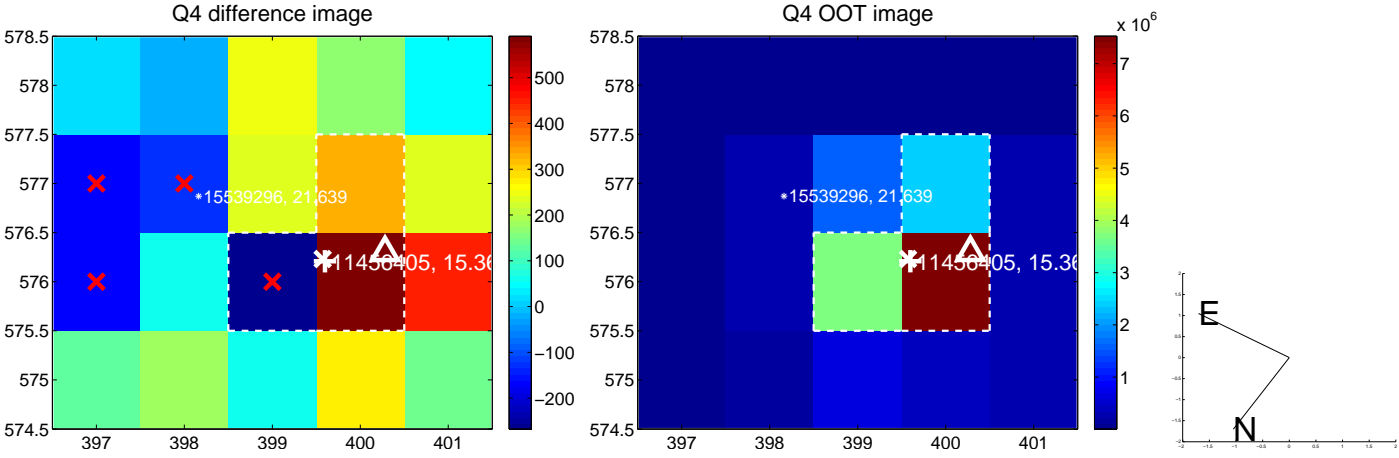
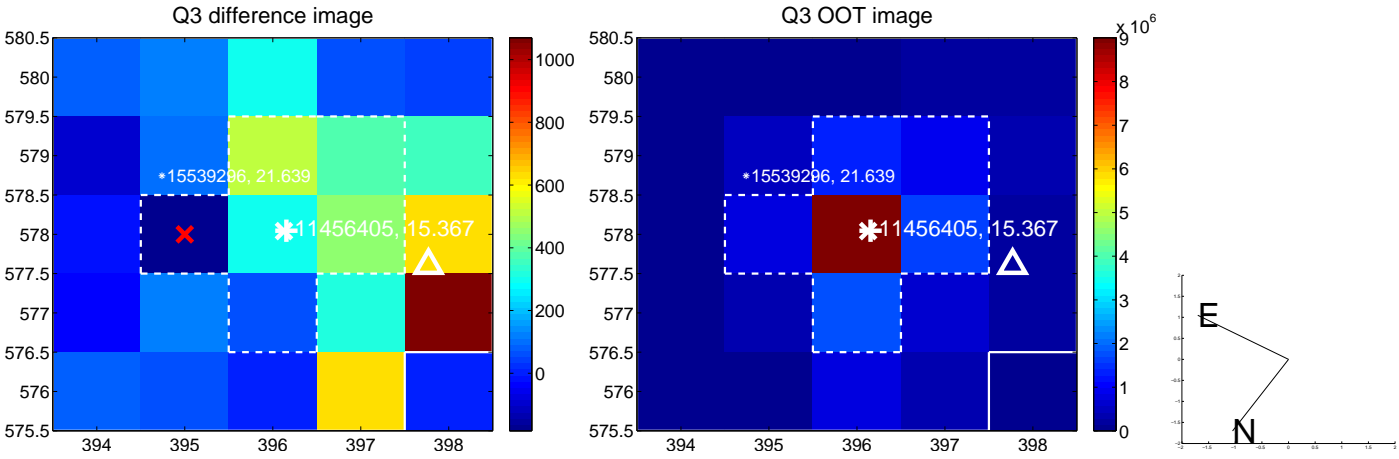
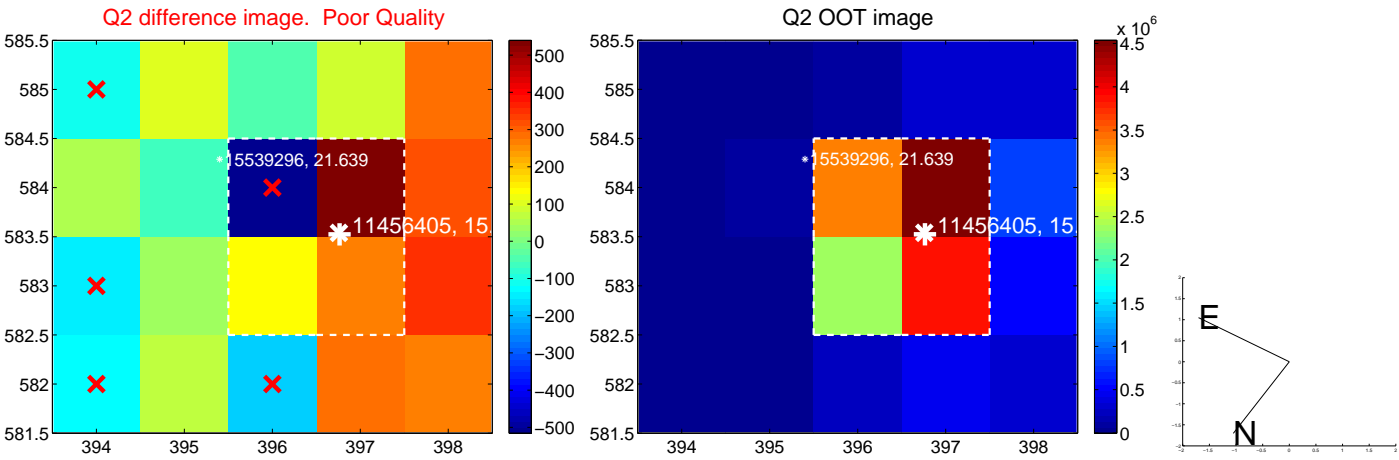
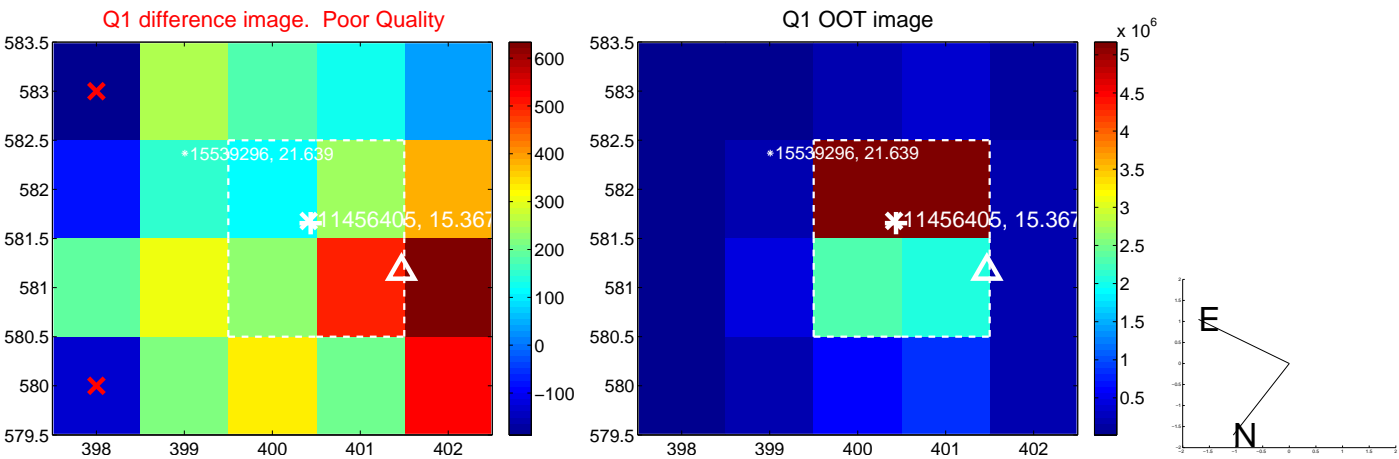
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.479 ± 0.468	11.70	-5.284 ± 0.476	-1.449 ± 0.466
PRF-fit source offset from KIC position	5.618 ± 0.489	11.49	-5.416 ± 0.497	-1.492 ± 0.454
photometric centroid source offset	9.54 ± 1.47	6.49	-8.71 ± 1.47	-3.89 ± 1.49

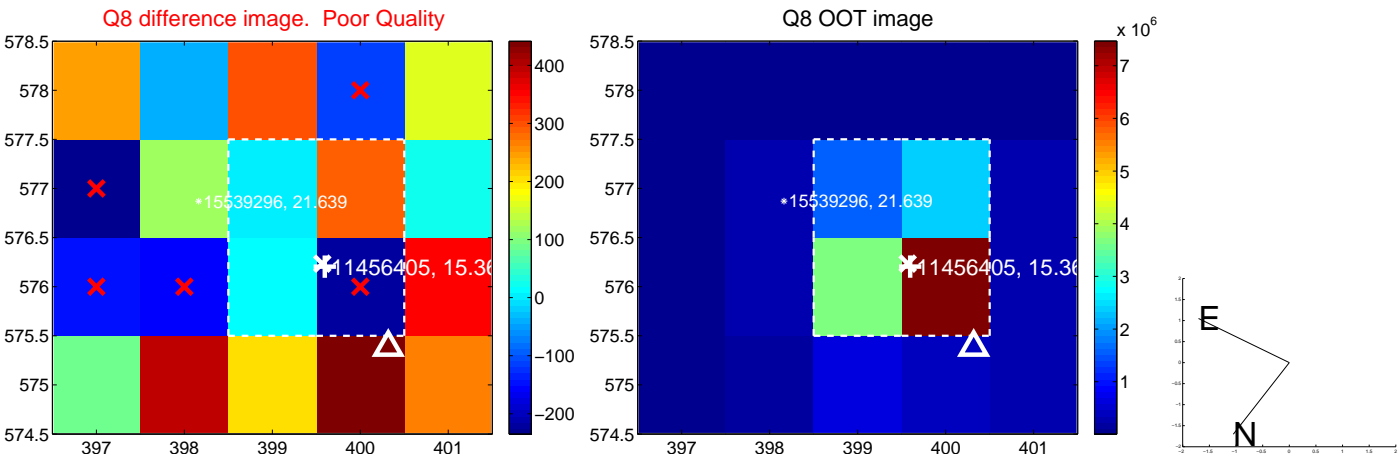
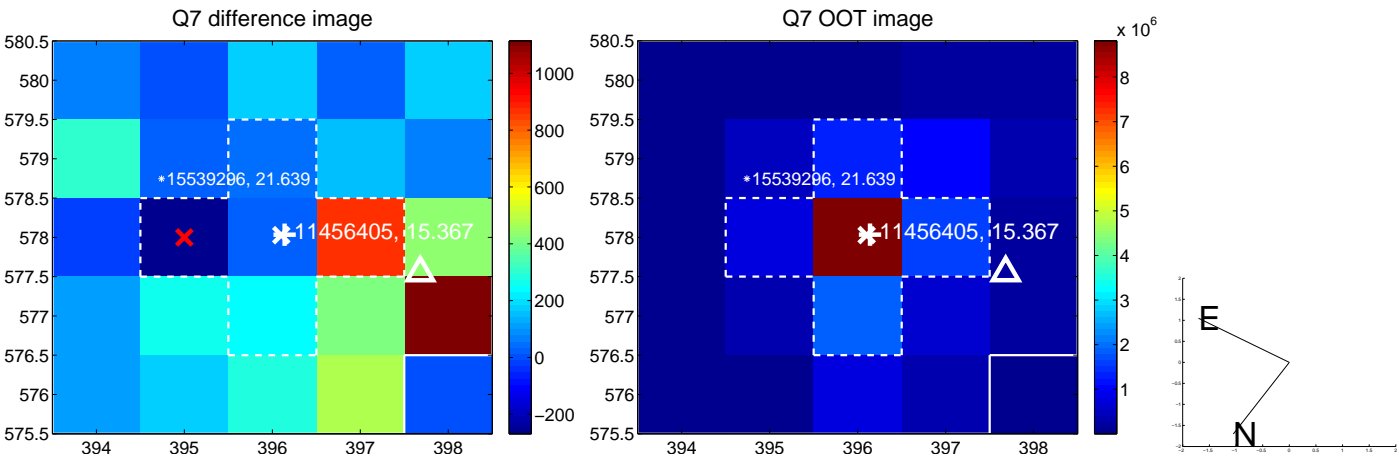
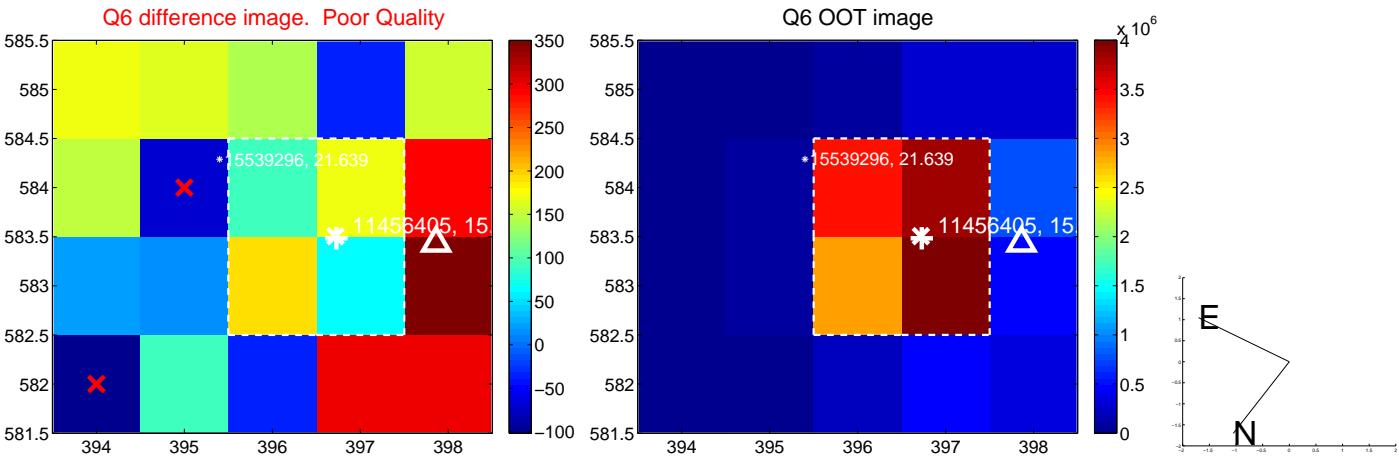
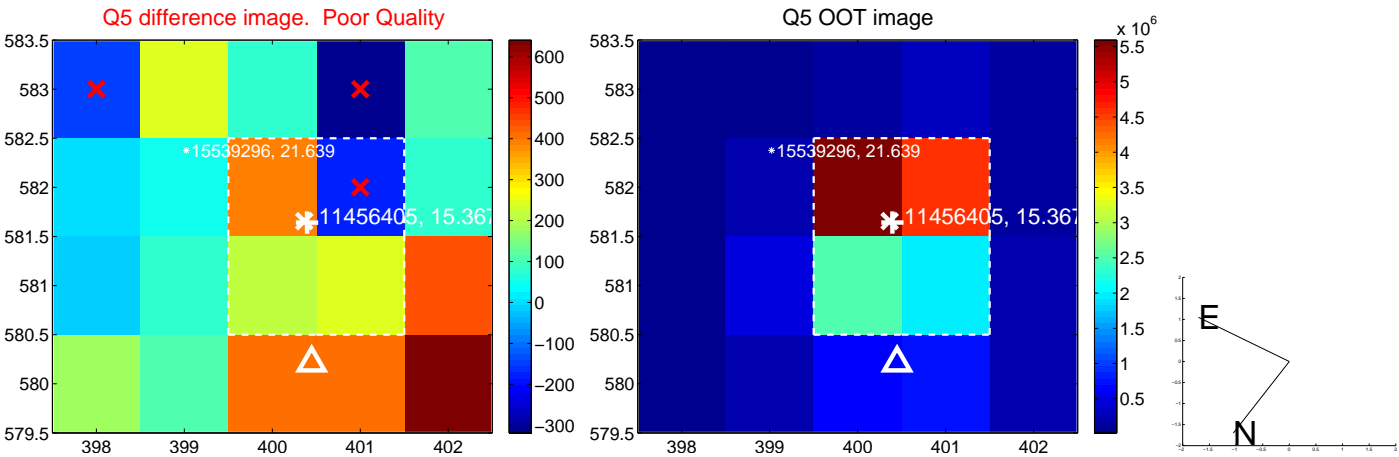


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

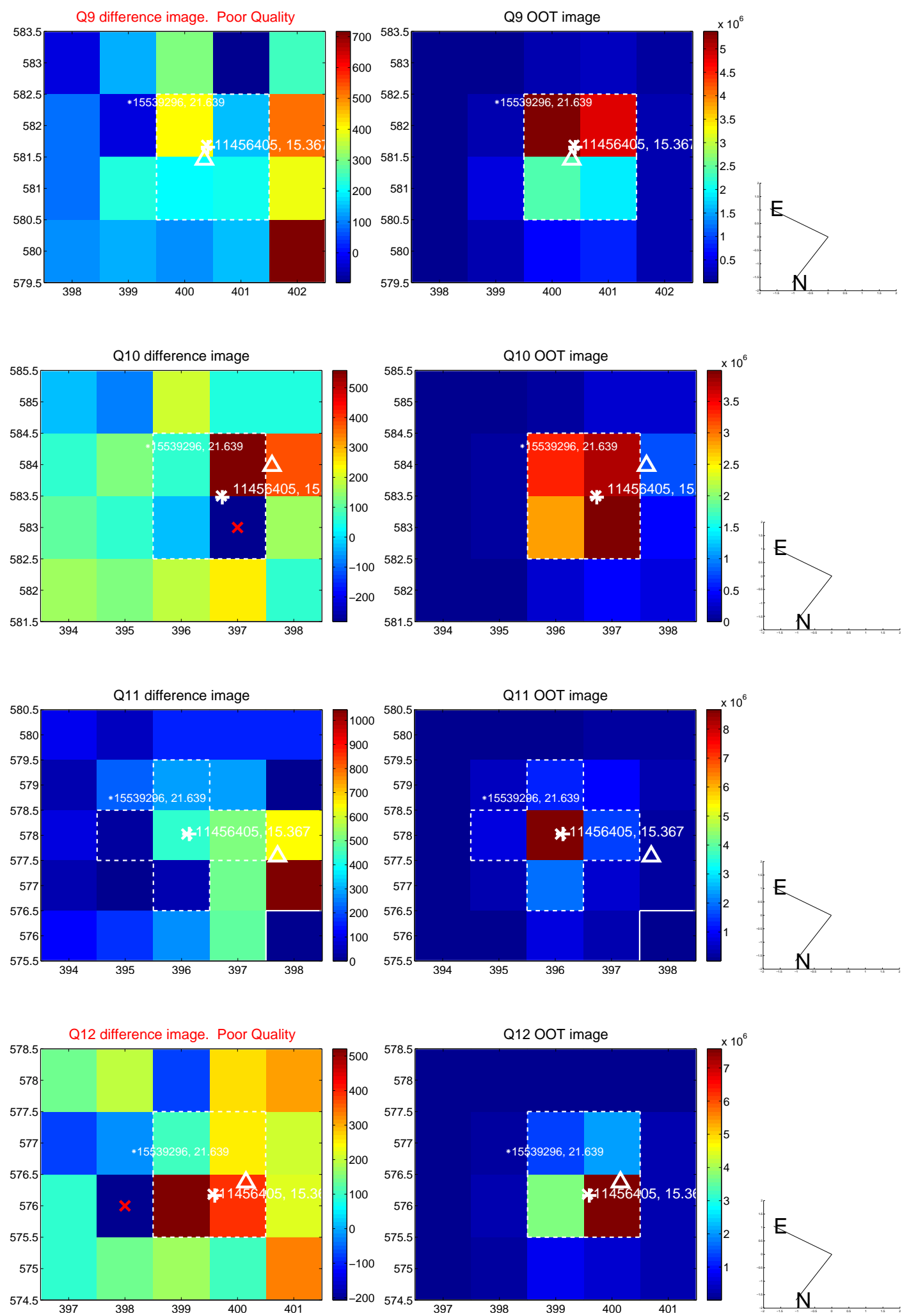
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



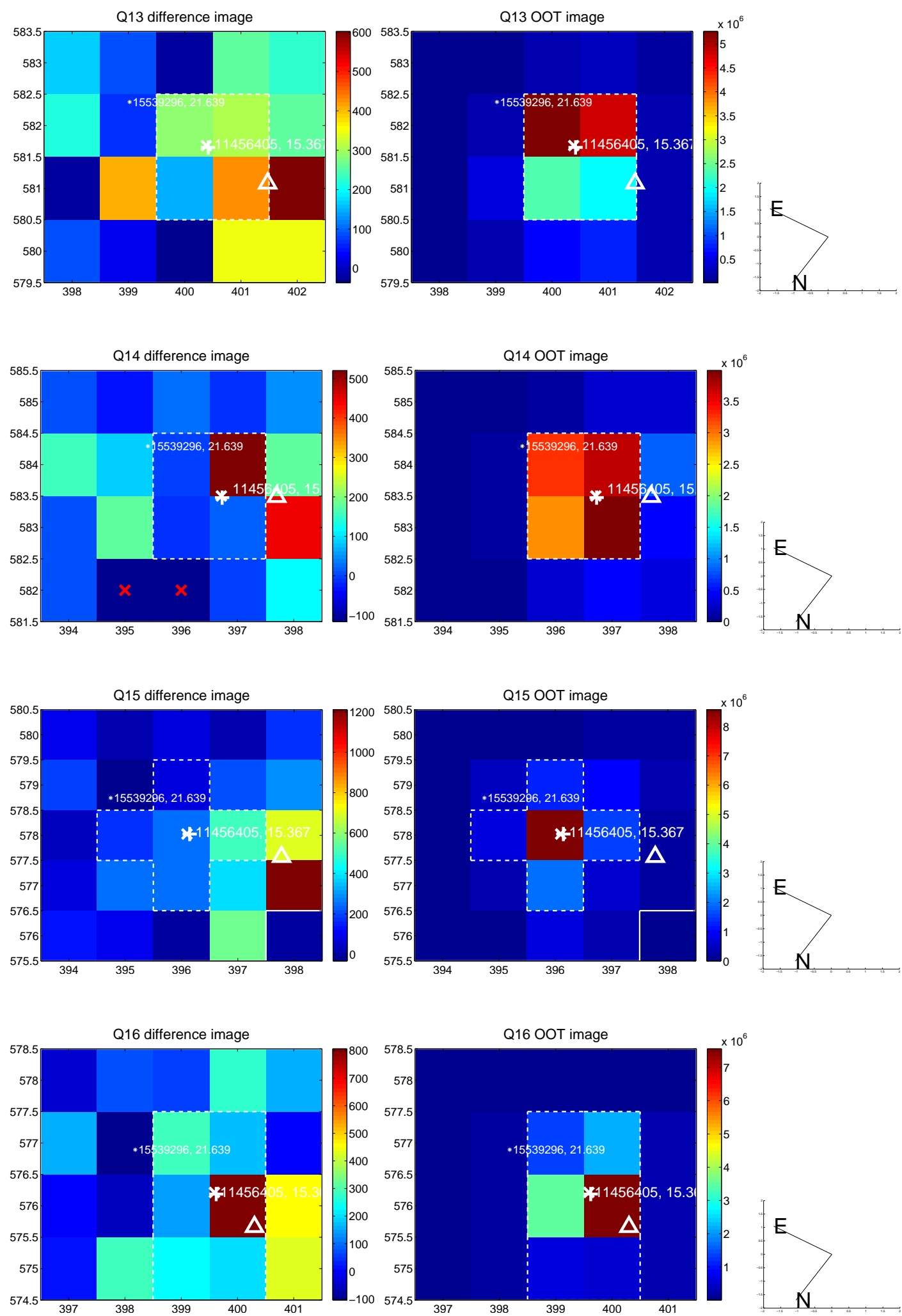
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



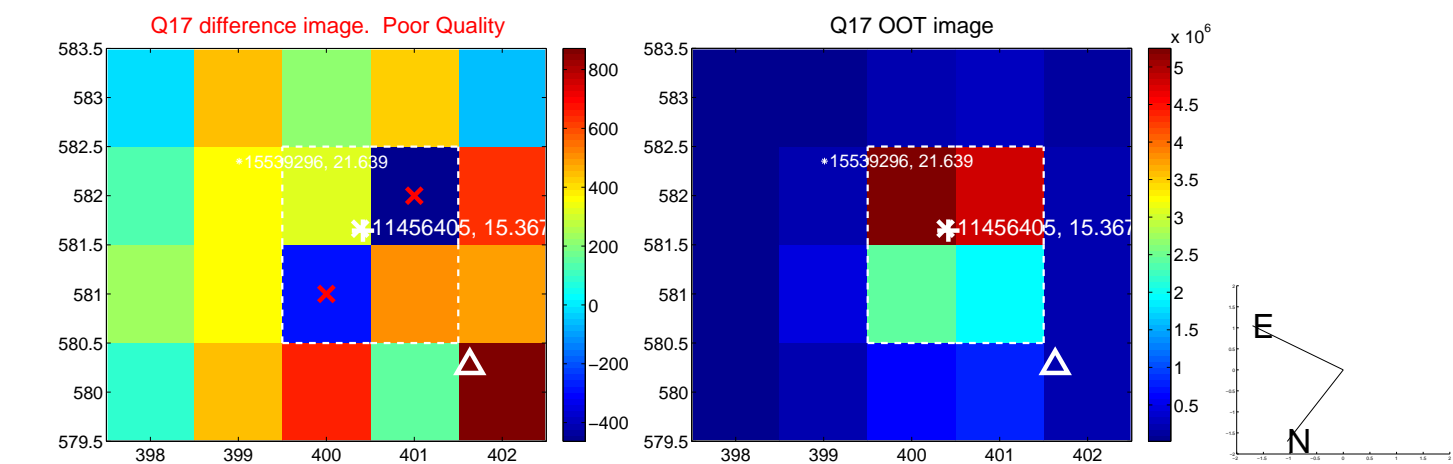
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



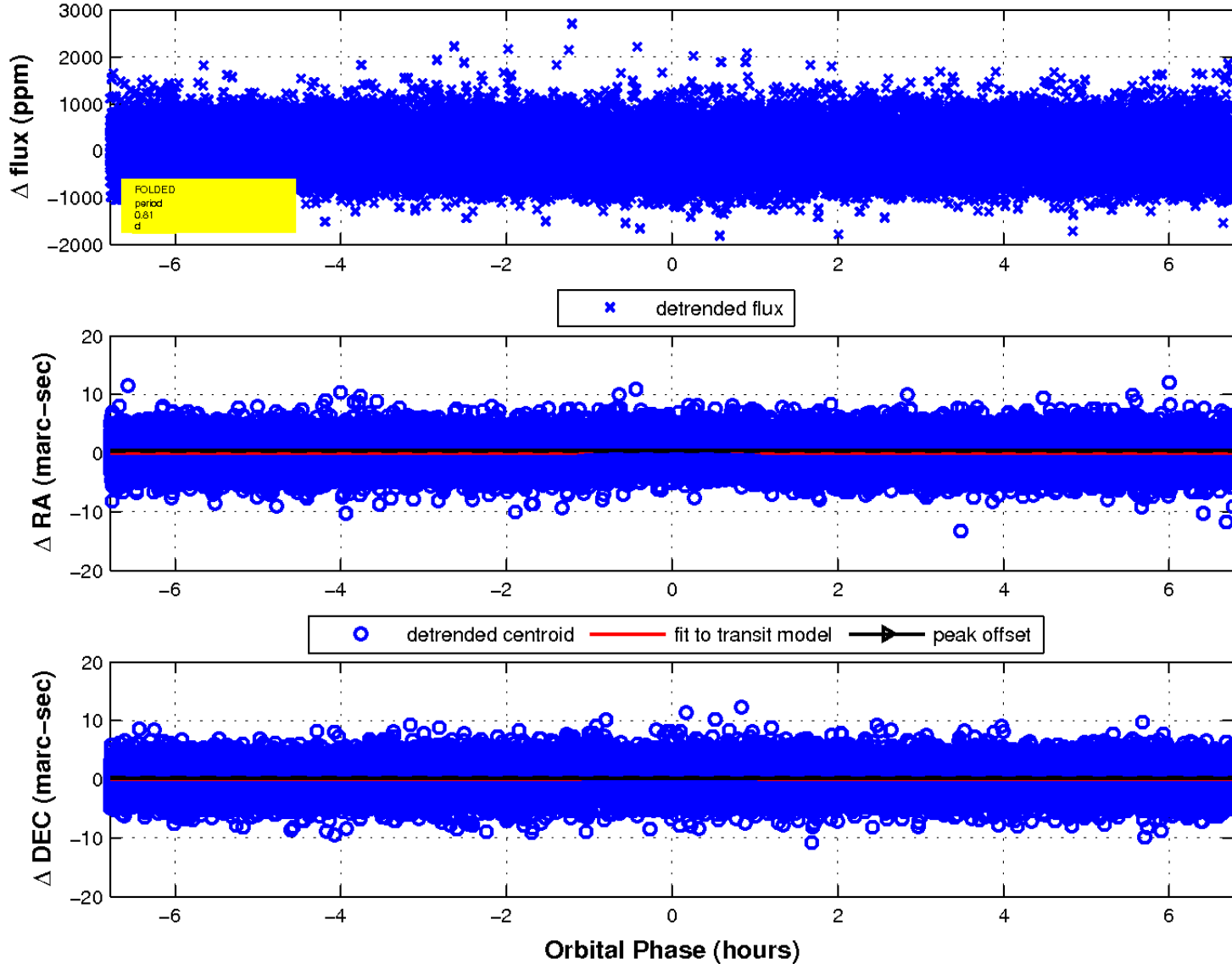
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

