

KIC 007116024

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 _⊕)
007116024-01	OBS	7812.01	3.400674	131.874270	18.7	3.362	7.5	6.2	1.50	6134	0.76	1333.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116024-01	OBS	FP	0.00	1	0	0	1	LPP_DV—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.

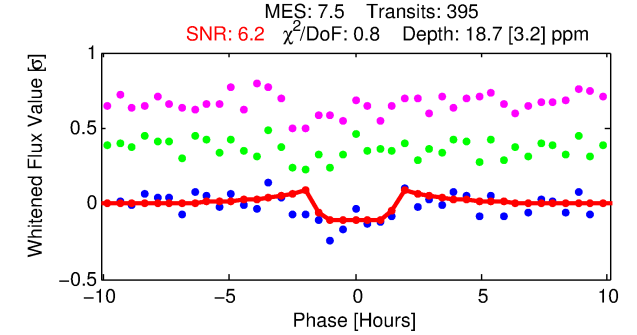
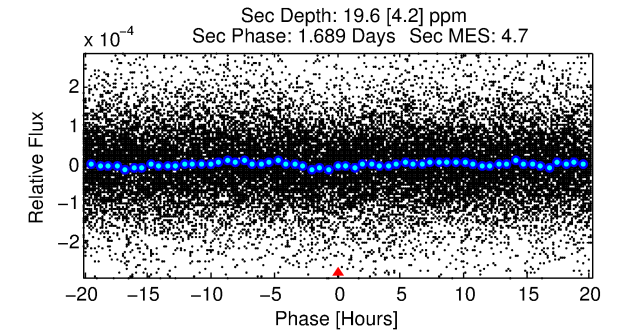
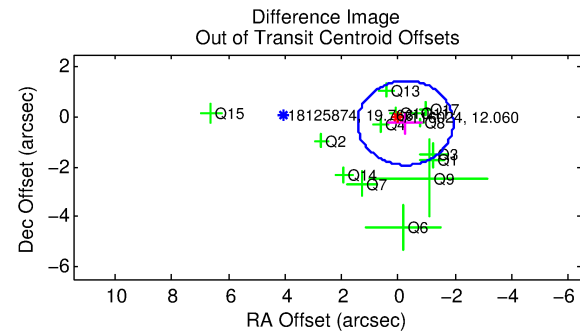
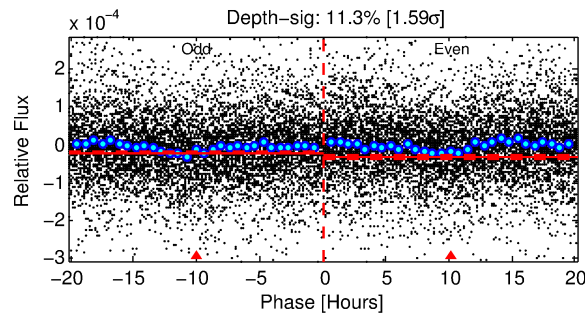
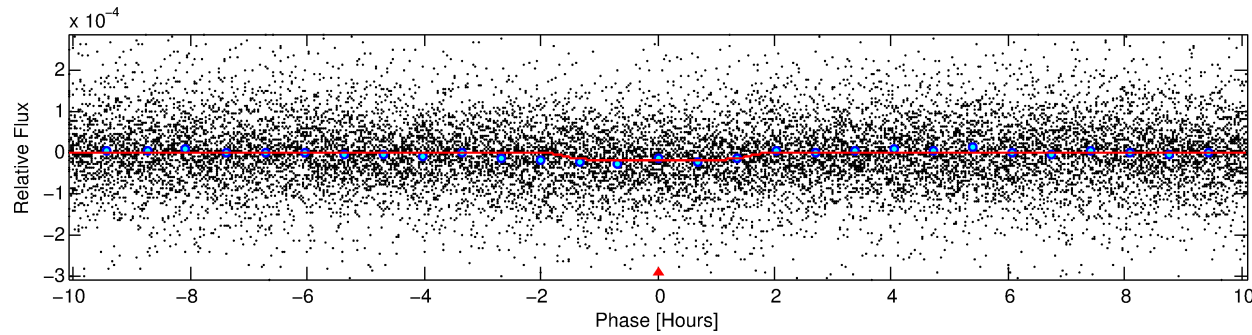
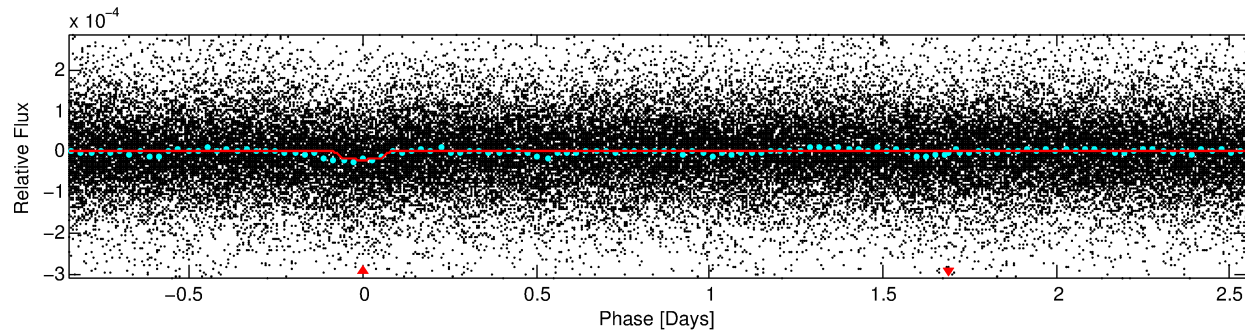
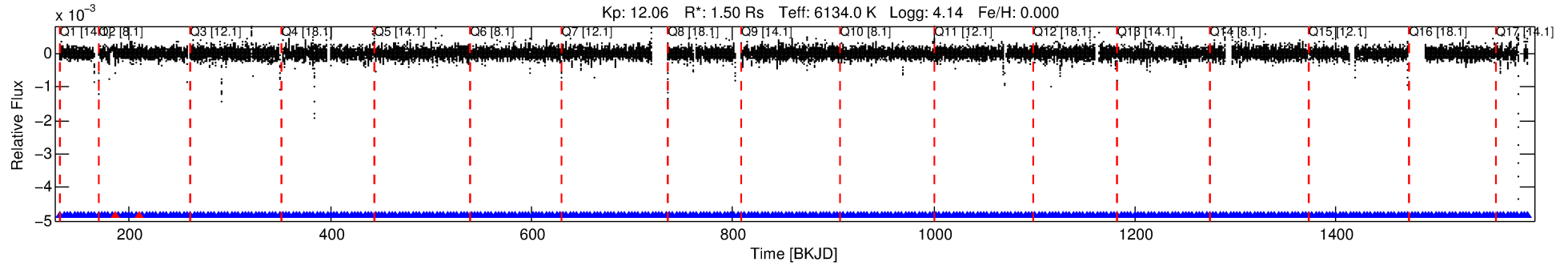
Ephemeris Match Information For 007116024-01

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
007116024-01	7116024	RR-Lyr-pri	7198959	6:1	643.7	73	-145	7.86	12.06	32805.00	Direct-PRF	0	1.48	23.34

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: 7116024 Candidate: 1 of 1 Period: 3.401 d



DV Fit Results:

Period = 3.40067 [0.00003] d
Epoch = 131.8743 [0.0045] BKJD
Rp/R* = 0.0047 [0.0012]
a/R* = 3.58 [4.42]
b = 0.90 [0.29]
Seff = 1333.74 [591.99]
Teq = 1541 [171] K
Rp = 0.76 [0.30] Re
a = 0.0461 [0.0124] AU
Ag = 39.51 [28.19] [1.37 σ]
Teffp = 5973 [879] K [4.95 σ]

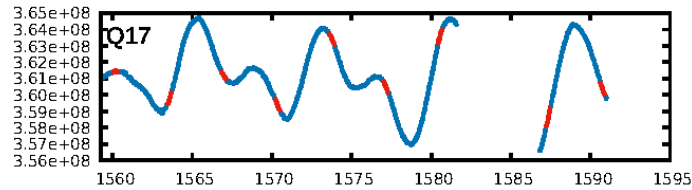
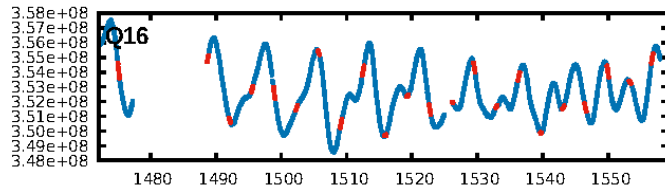
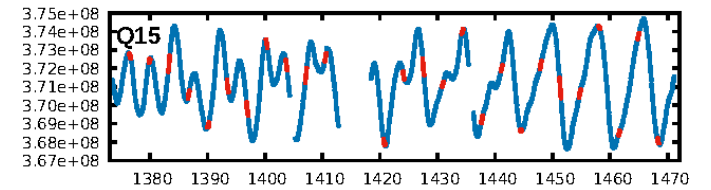
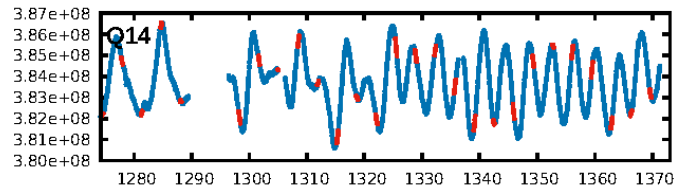
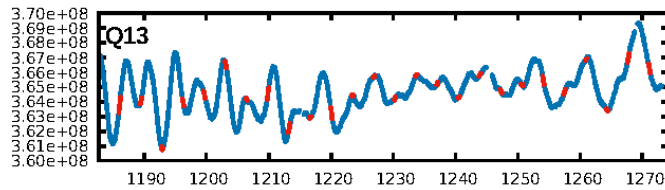
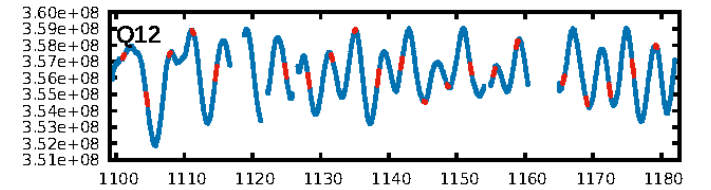
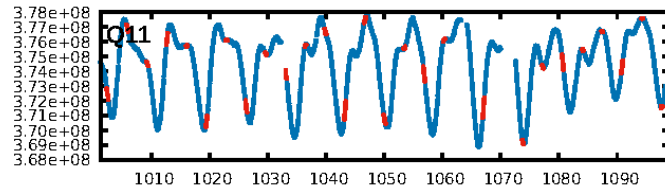
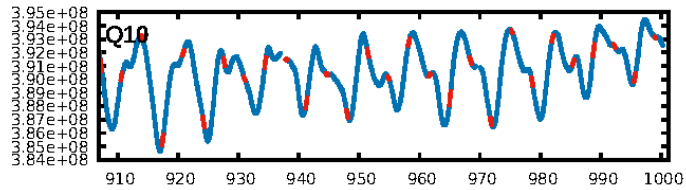
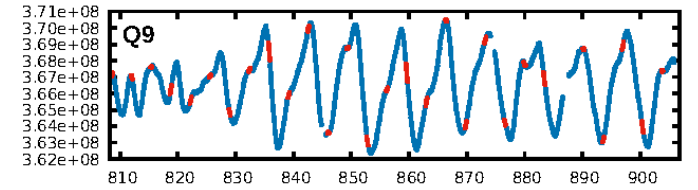
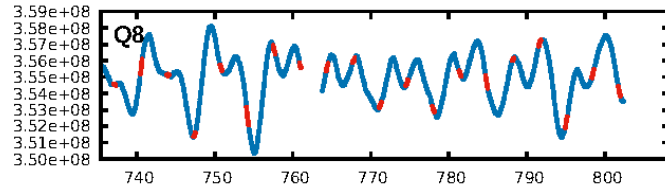
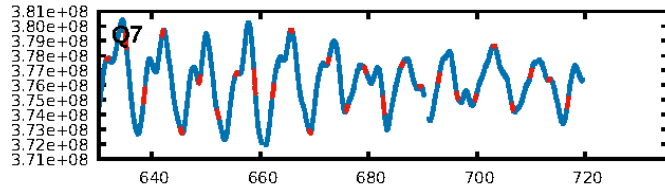
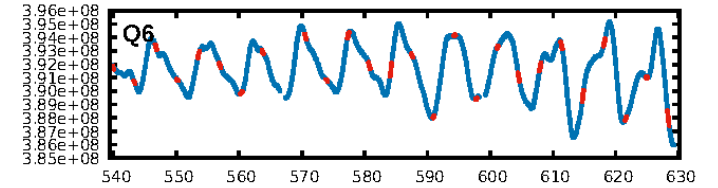
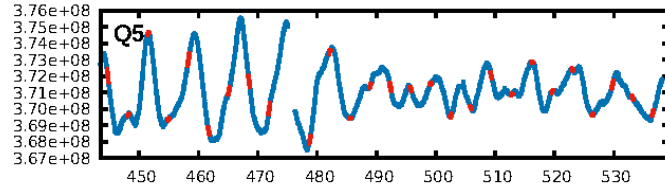
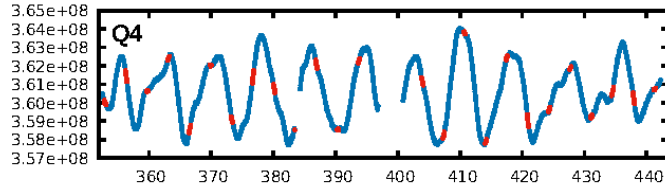
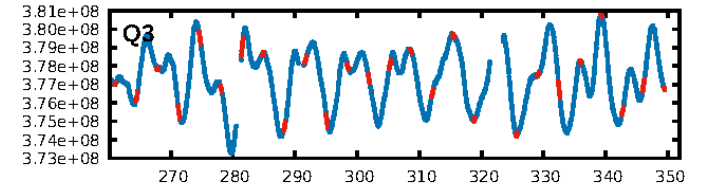
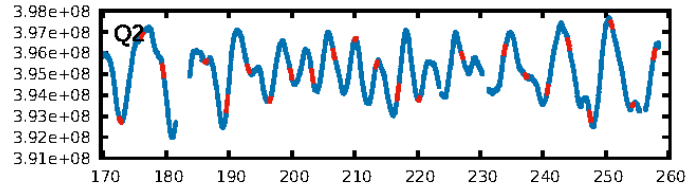
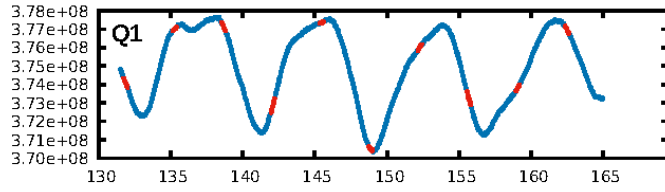
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.32e-12
RollingBand-fgt: 0.99 [374/376]
GhostDiagnostic-chr: 0.605
Centroid-sig: 51.6%
Centroid-so: 0.838 arcsec [0.82 σ]
OotOffset-rm: 0.356 arcsec [0.63 σ]
KicOffset-rm: 0.200 arcsec [0.37 σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

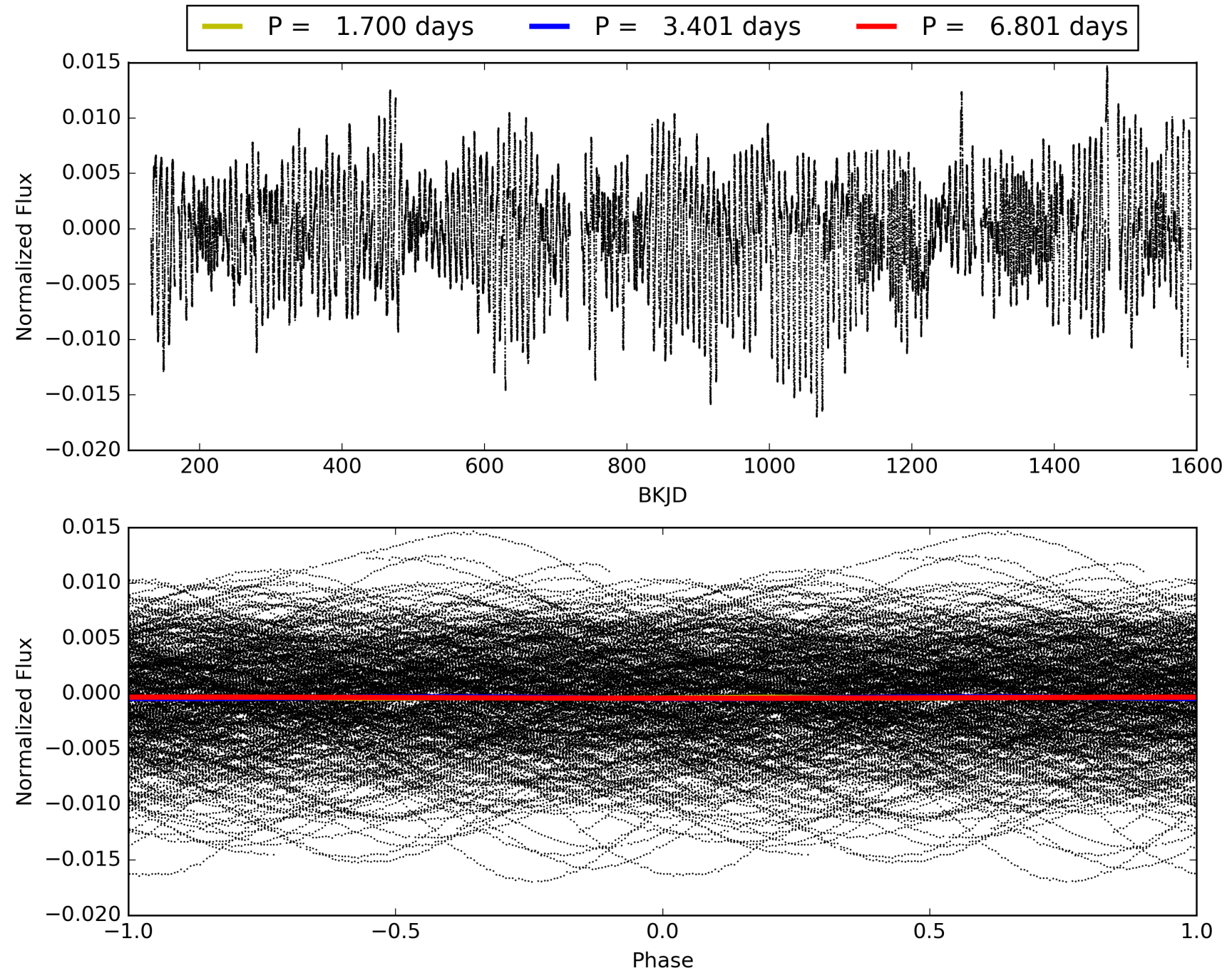
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:22:29 Z

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

TCE 007116024-01, PDC Light Curves

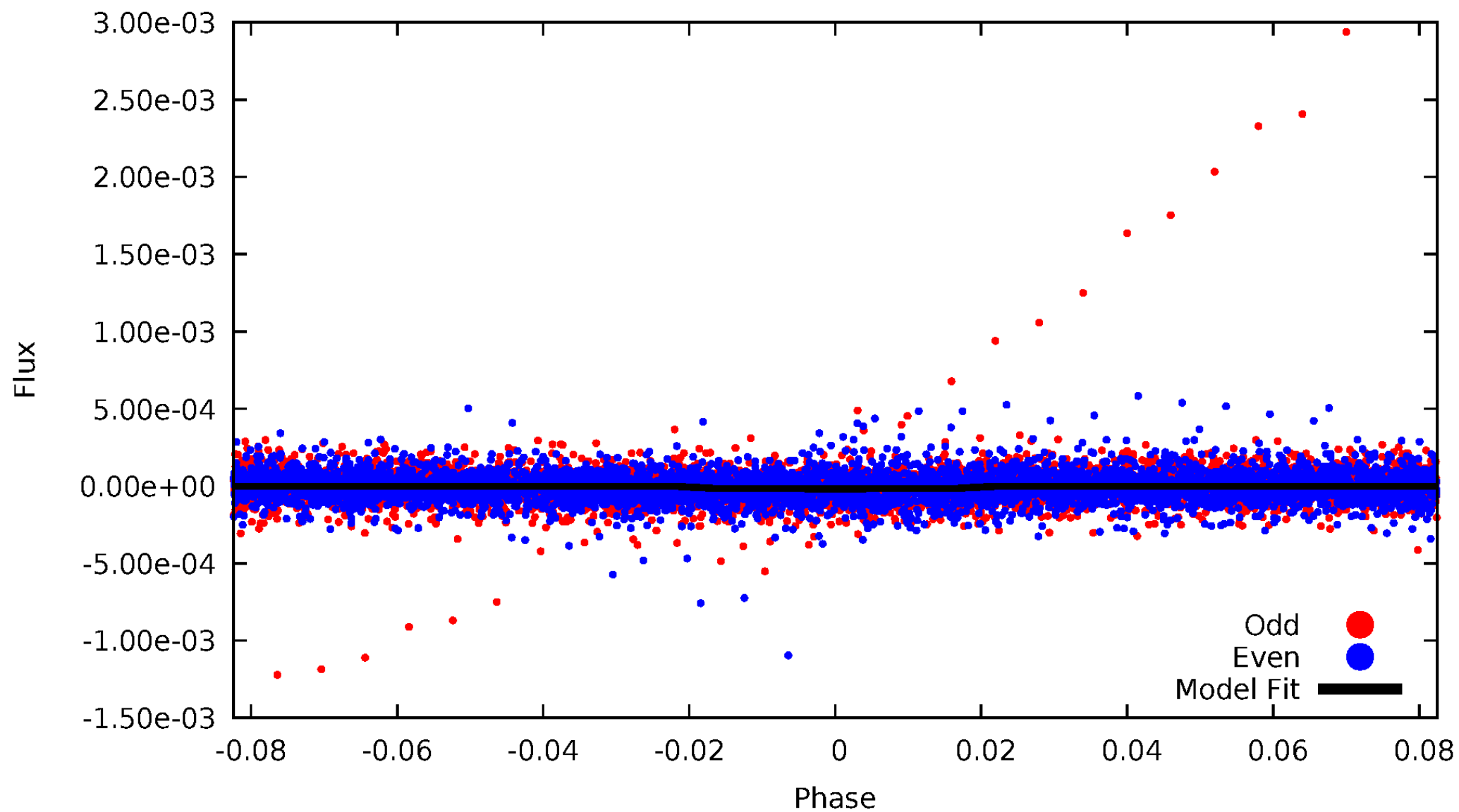


TCE 007116024-01



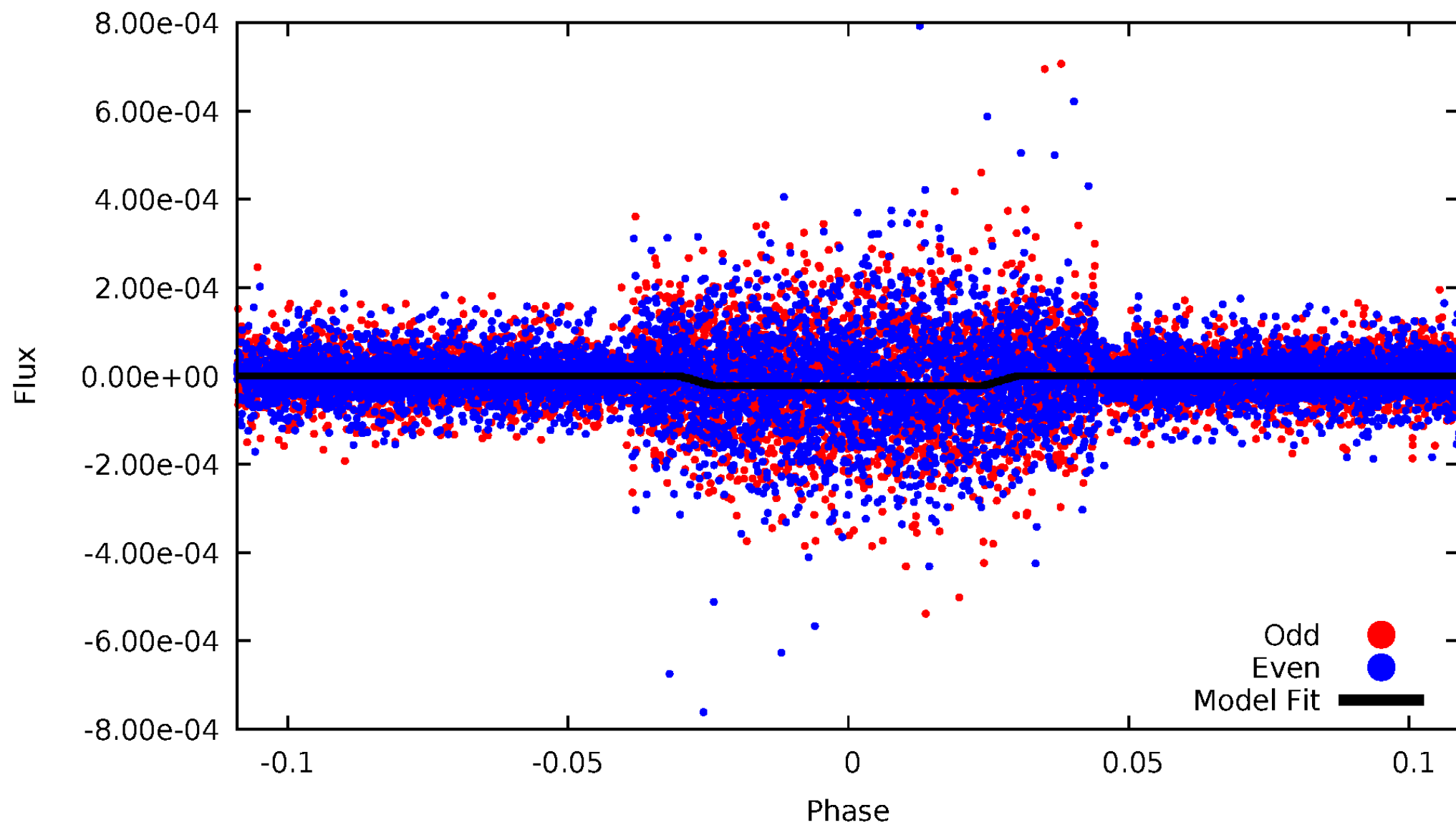
DV Odd/Even

TCE 007116024-01



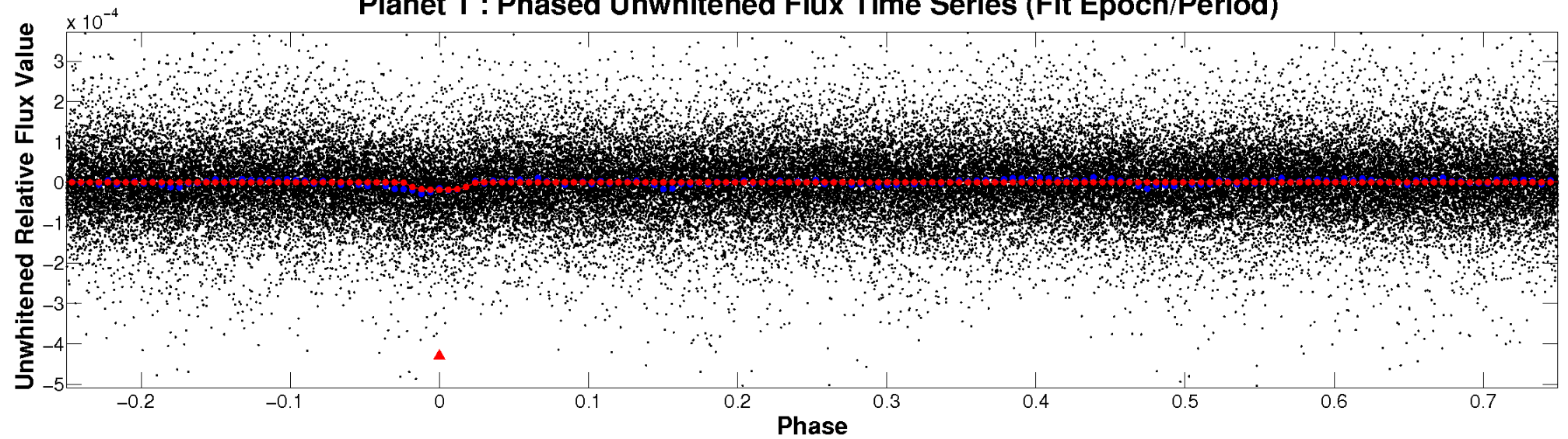
ALT Odd/Even

TCE 007116024-01

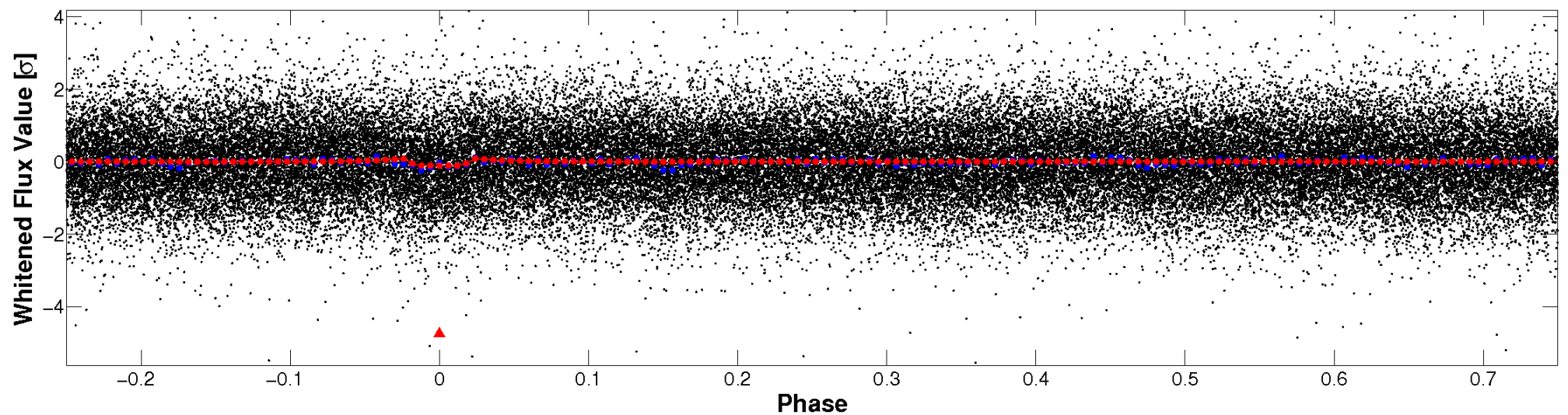


Non-Whitened Vs. Whitened Light Curve

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

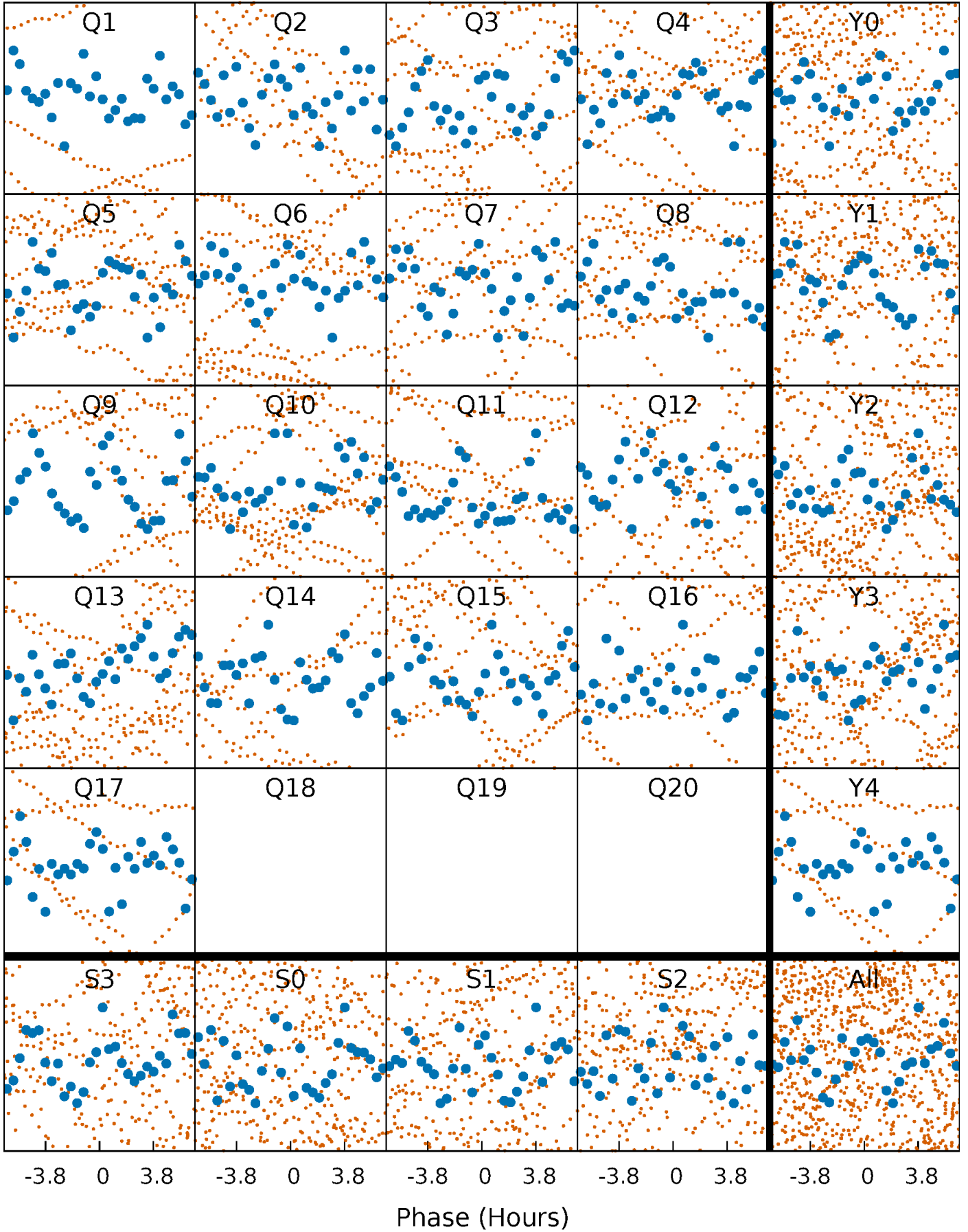


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



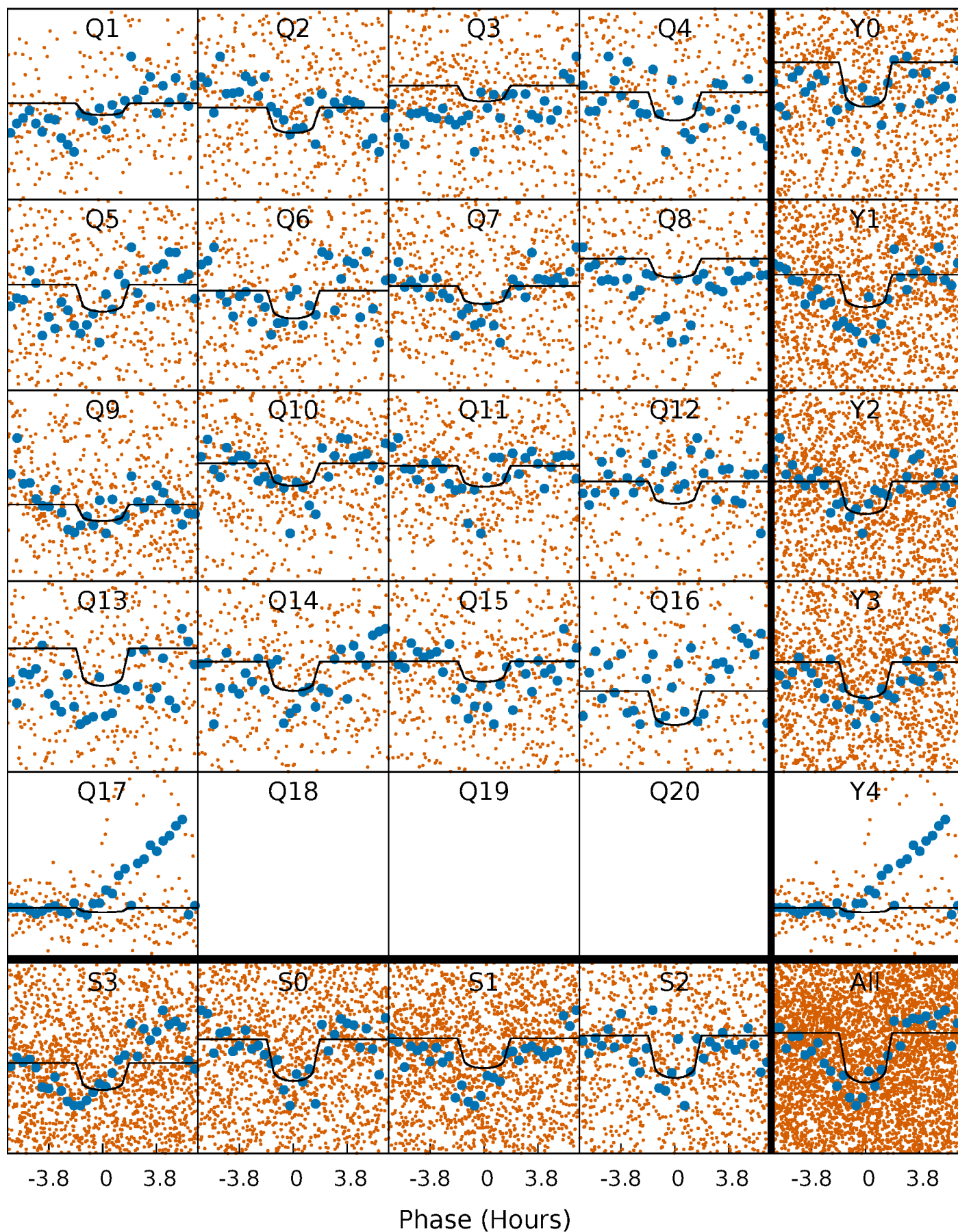
PDC Quarter-Phased Transit Curves

TCE 007116024-01 P= 3.400674 Days $T_0=131.874270$ (BKJD)



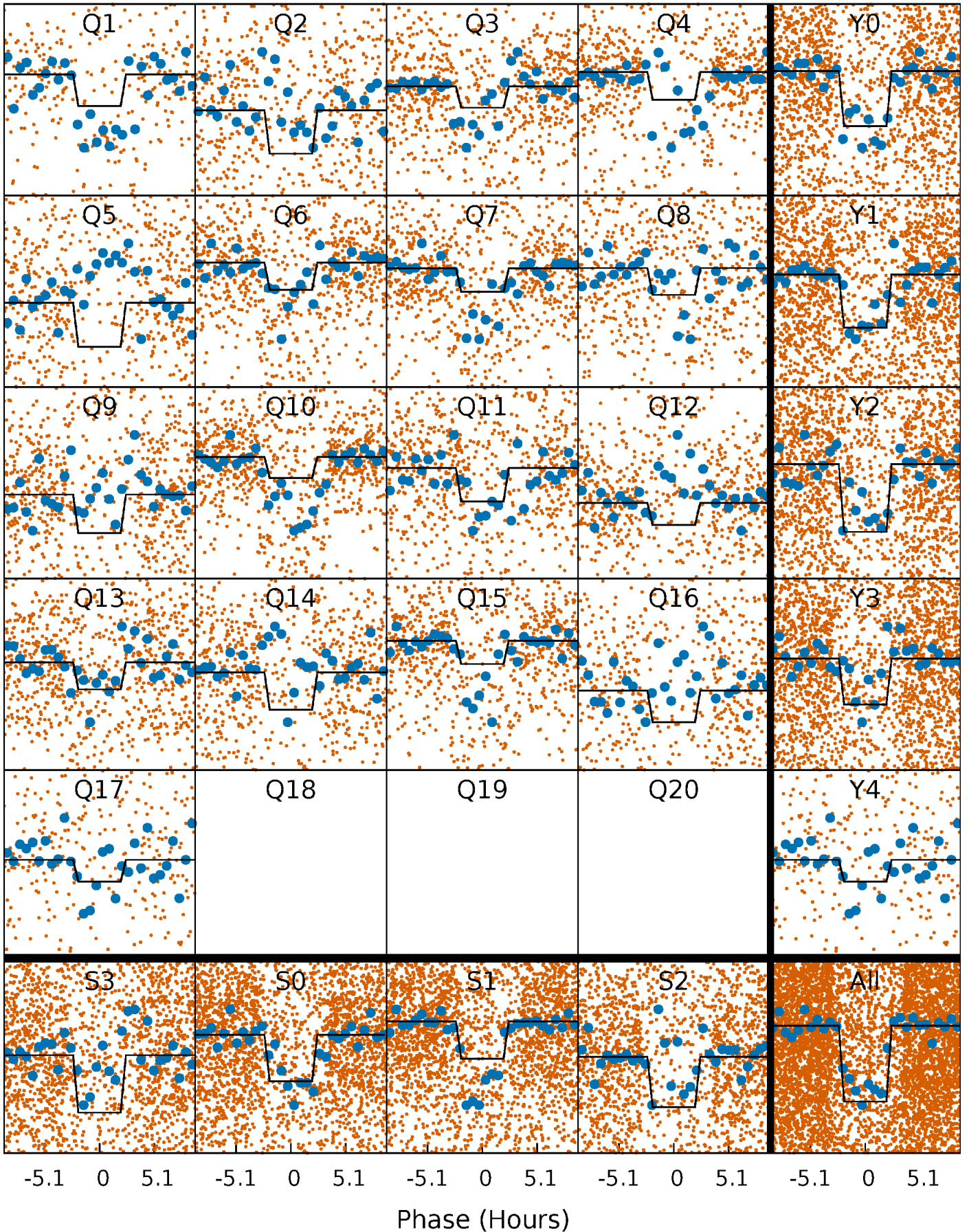
DV Quarter-Phased Transit Curves

TCE 007116024-01 P= 3.400674 Days $T_0=131.874270$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

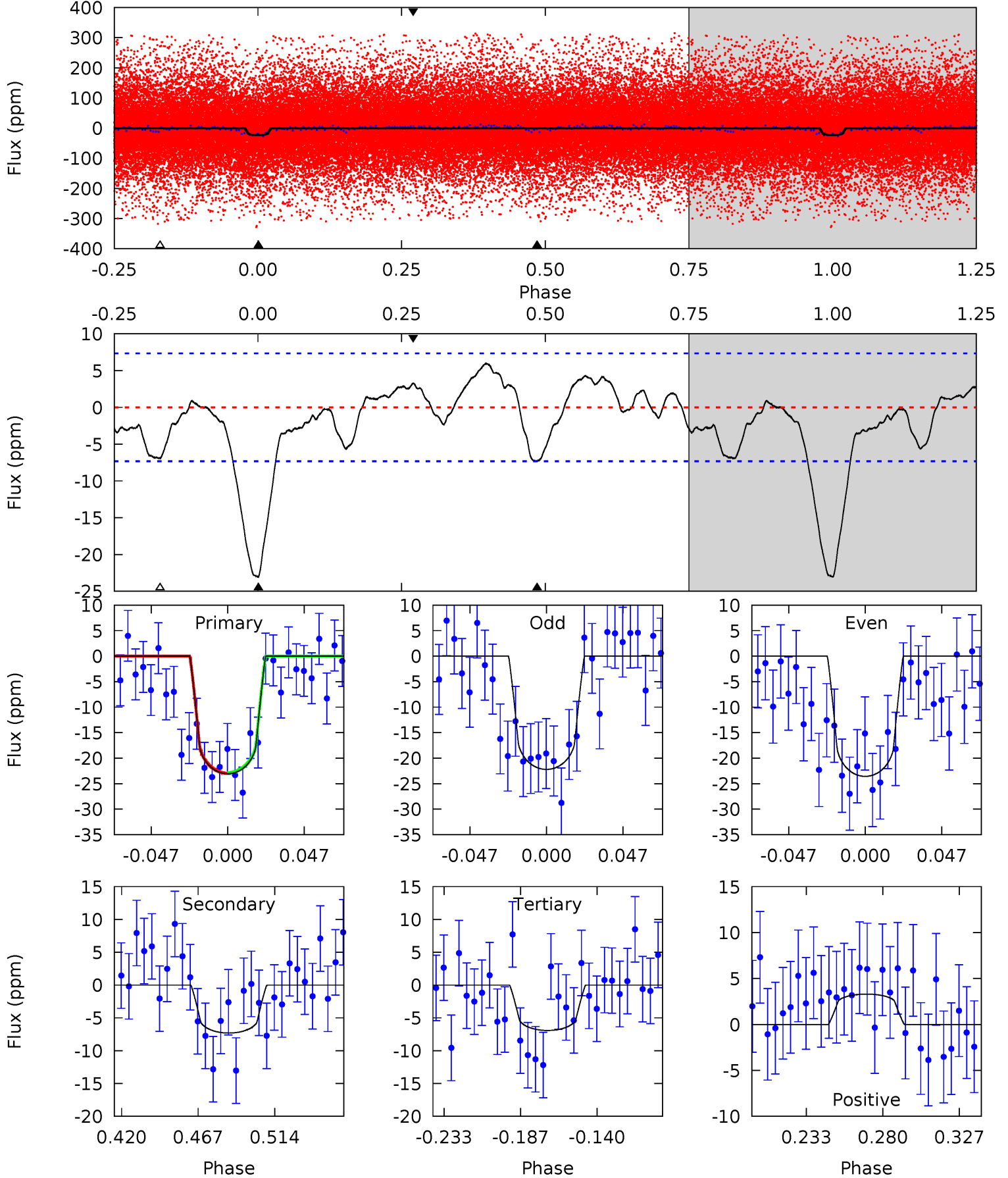
TCE 007116024-01 P= 3.400709 Days $T_0=131.850043$ (BKJD)



DV Model-Shift Uniqueness Test

007116024-01, P = 3.400674 Days, E = 128.473596 Days

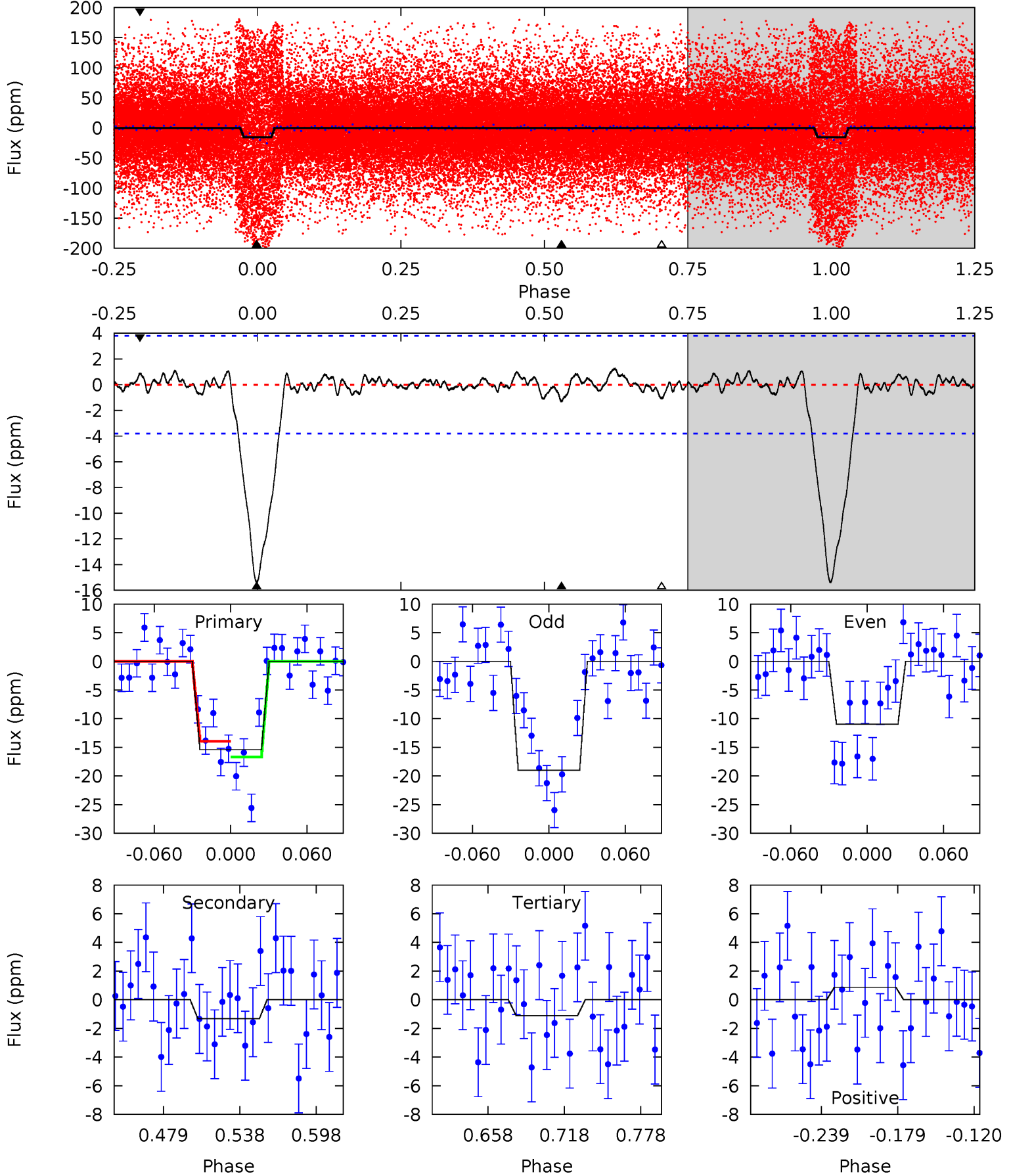
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	4.71	4.46	2.13	4.72	1.99	1.90	10.4	12.7	0.25	2.58	0.44	1.05	0.21	0.04



Alt Model-Shift Uniqueness Test

007116024-01, P = 3.400709 Days, E = 128.449334 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	1.62	1.36	1.07	4.67	1.88	0.51	17.6	17.9	0.26	0.55	4.93	1.46	0.08	1.68



Stellar Parameters For KIC 007116024

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6134^{+165}_{-202}	$4.142^{+0.246}_{-0.164}$	$0.000^{+0.250}_{-0.300}$	$1.496^{+0.432}_{-0.432}$	$1.131^{+0.178}_{-0.162}$	$0.476^{+0.640}_{-0.243}$
	+3%/-3%	+6%/-4%	+inf%/-inf%	+29%/-29%	+16%/-14%	+135%/-51%
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 007116024-01 / KOI 7812.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 2	$0.74^{+0.24}_{-0.23}$	2132^{+171}_{-179}	4749^{+698}_{-502}	15^{+16}_{-7}
Alt.	-1 ± 1	$0.74^{+0.25}_{-0.24}$	2138^{+154}_{-190}	3420^{+551}_{-627}	$2.710^{+3.628}_{-1.853}$

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 $A_{\text{obs}} \gg 1.0$

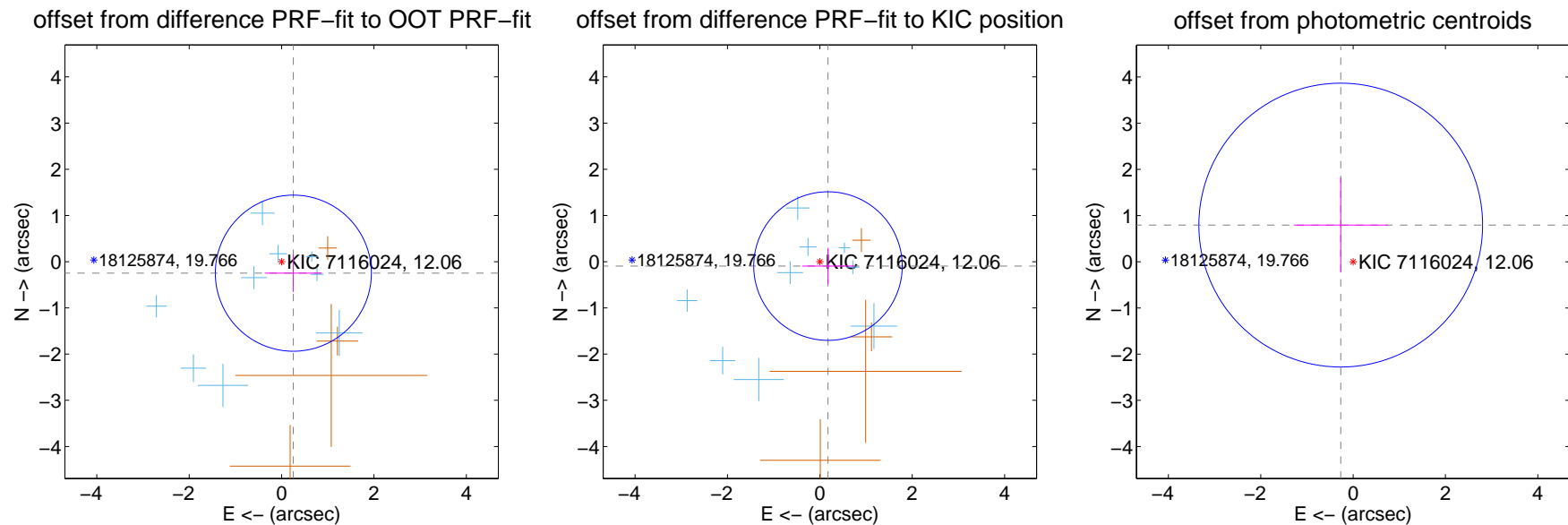
DV Centroid Data

Supplemental centroid analysis for 007116024-01. Kepler magnitude: 12.06. Transit SNR 6.20

There are 9 quarters with good PRF difference image offsets

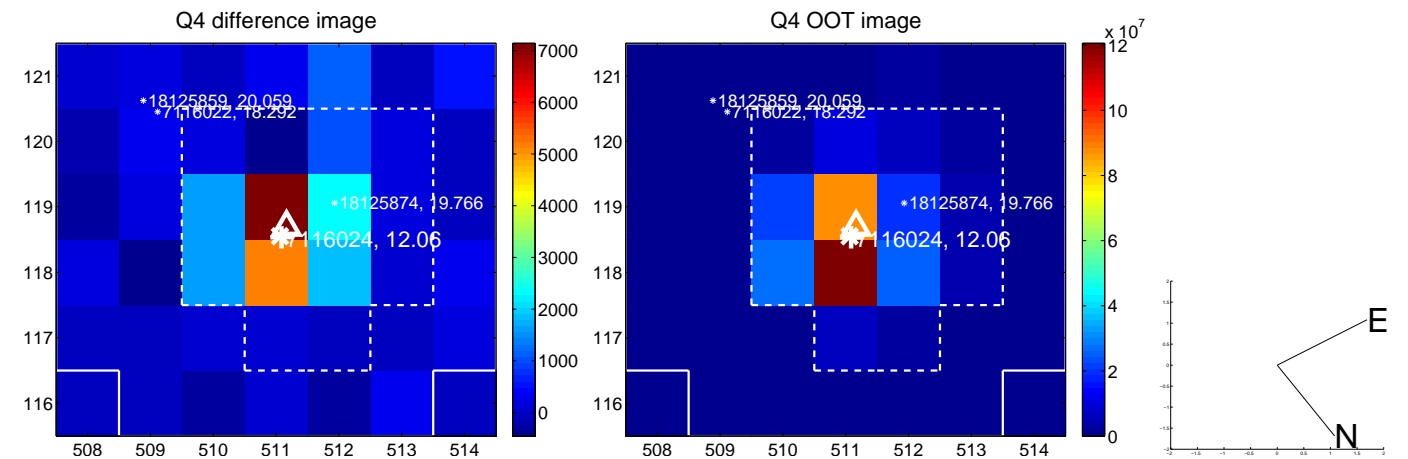
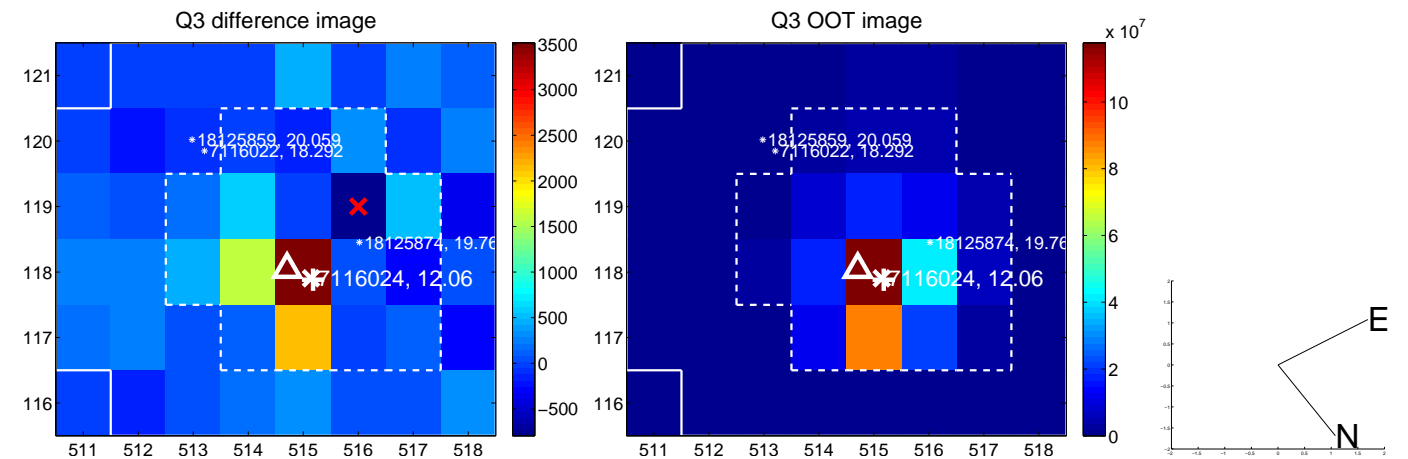
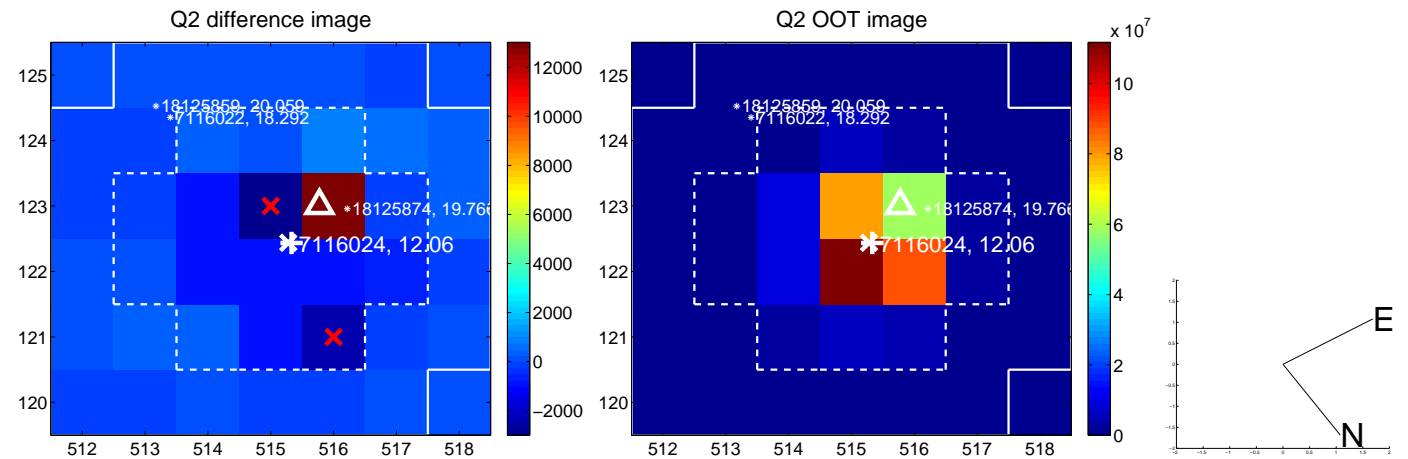
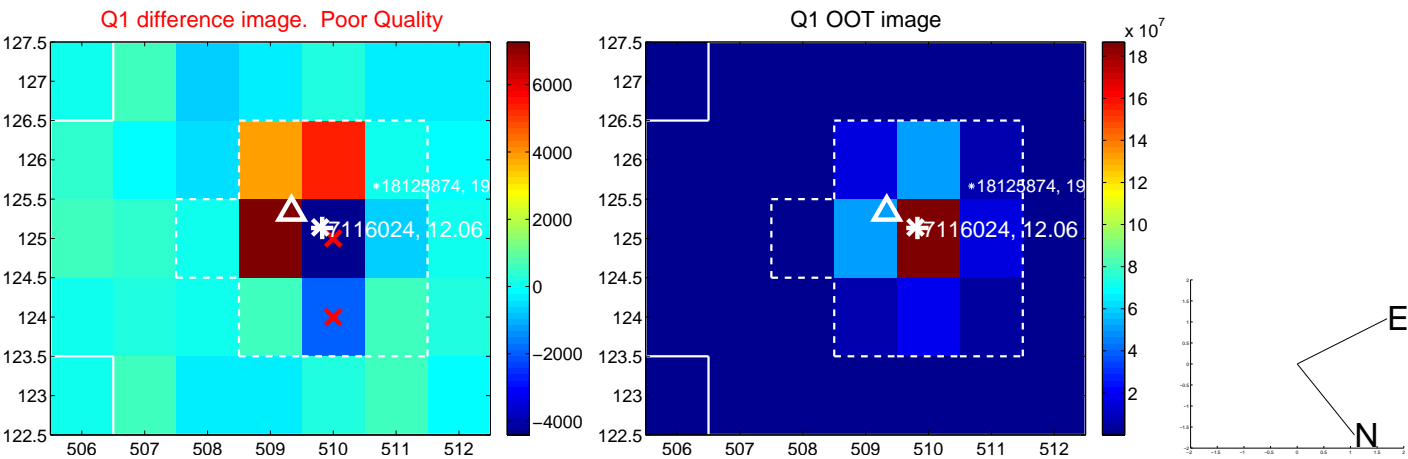
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.356 ± 0.563	0.63	-0.255 ± 0.620	-0.249 ± 0.406
PRF-fit source offset from KIC position	0.200 ± 0.536	0.37	-0.176 ± 0.560	-0.095 ± 0.394
photometric centroid source offset	0.84 ± 1.02	0.82	0.27 ± 1.02	0.79 ± 1.02

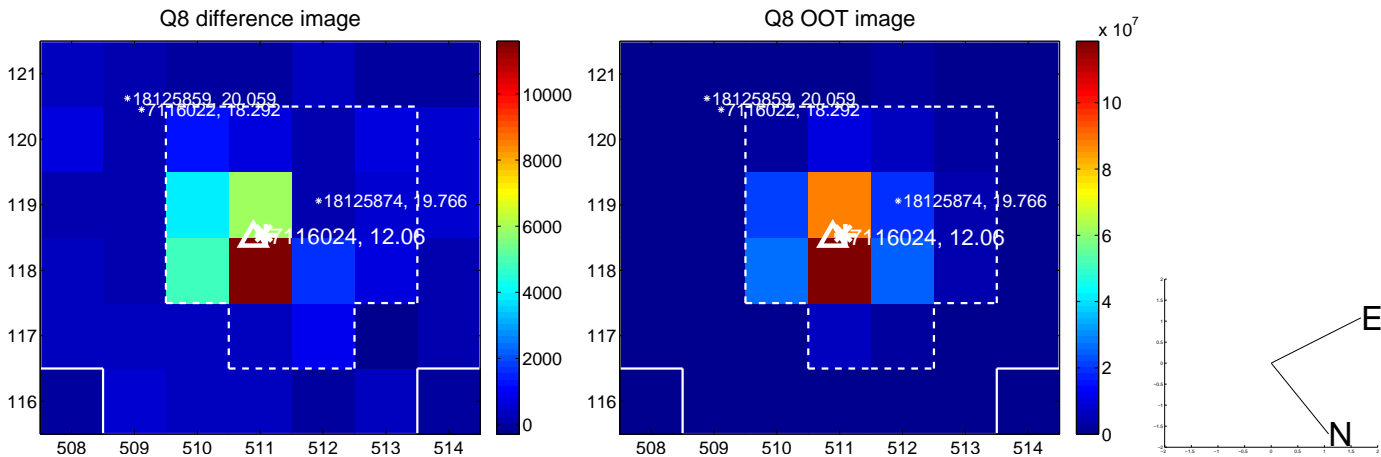
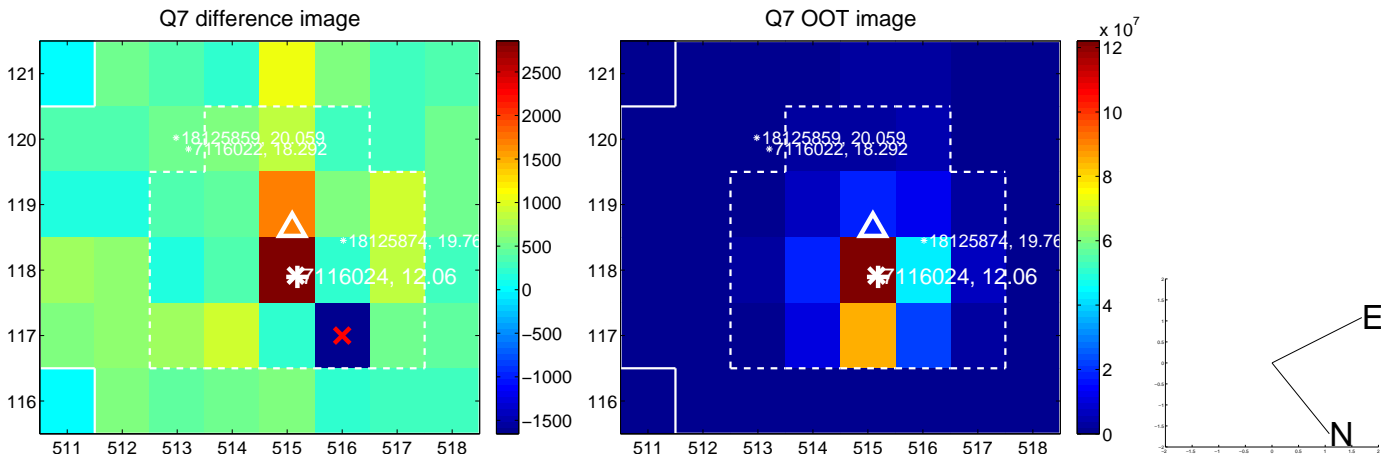
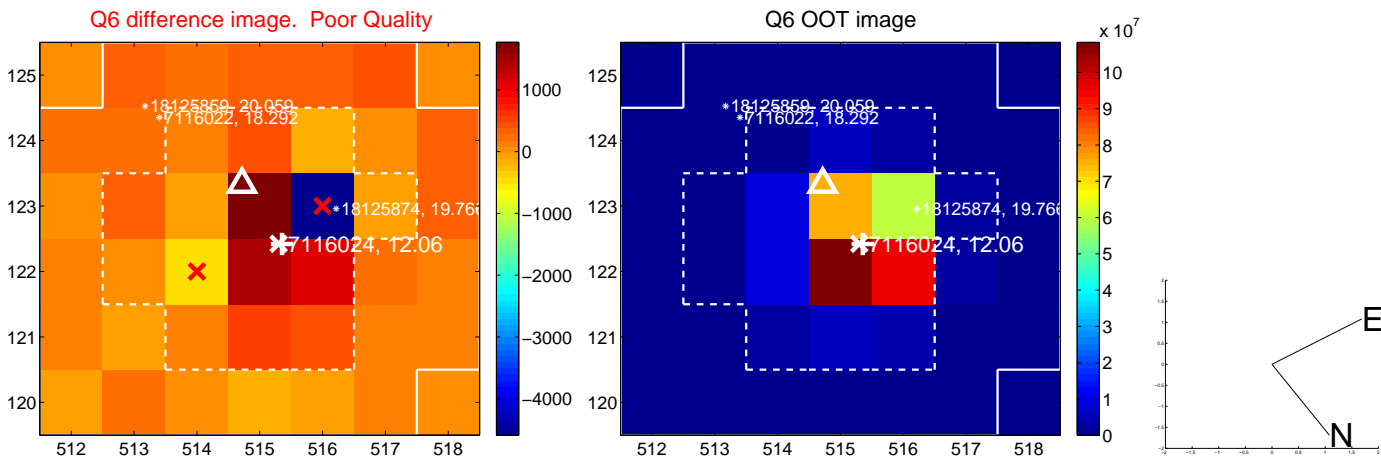
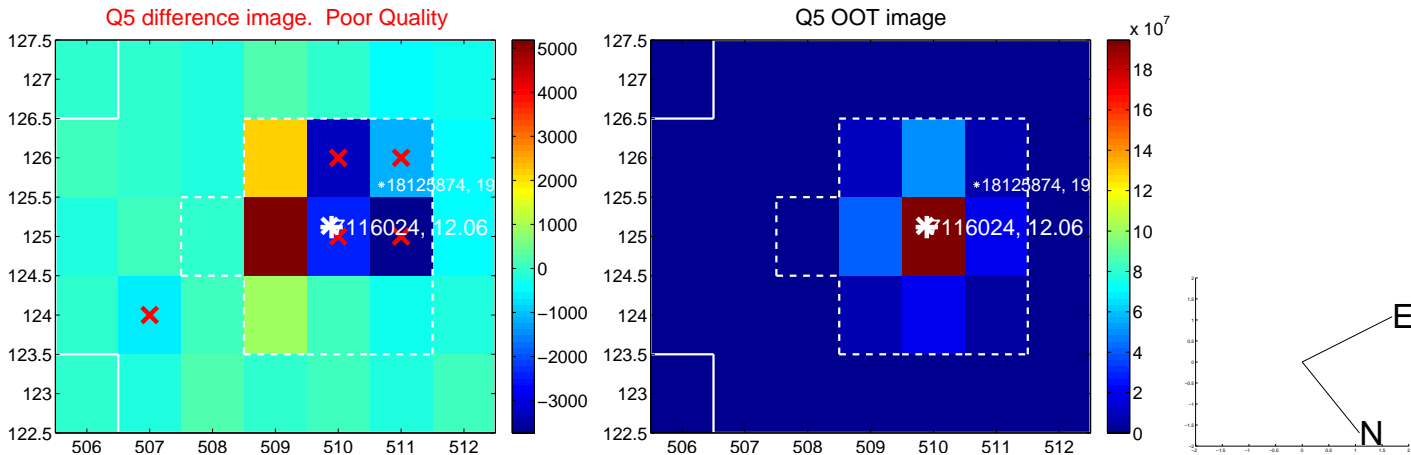


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

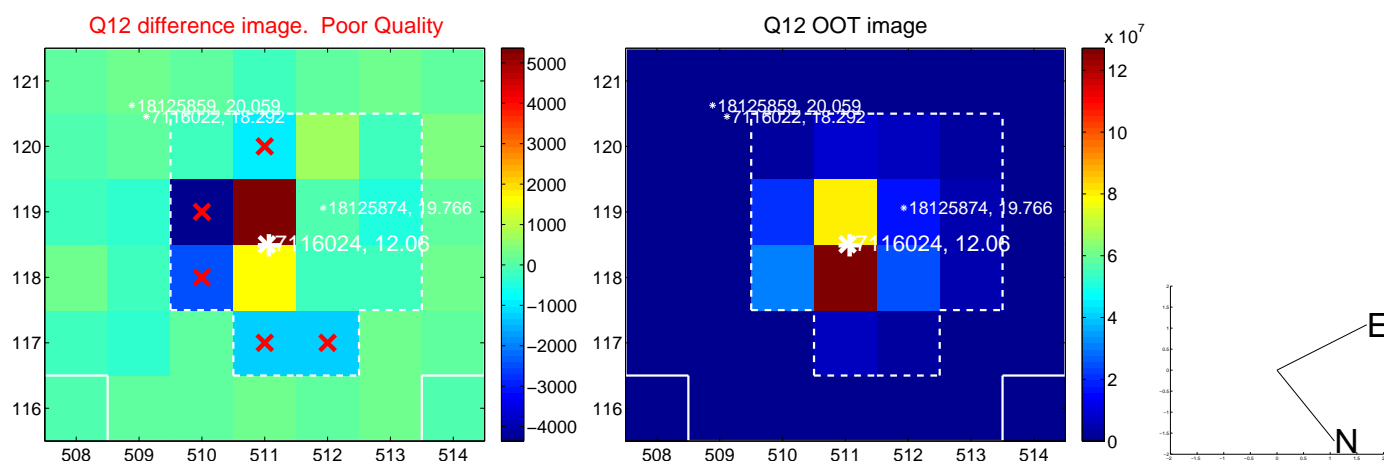
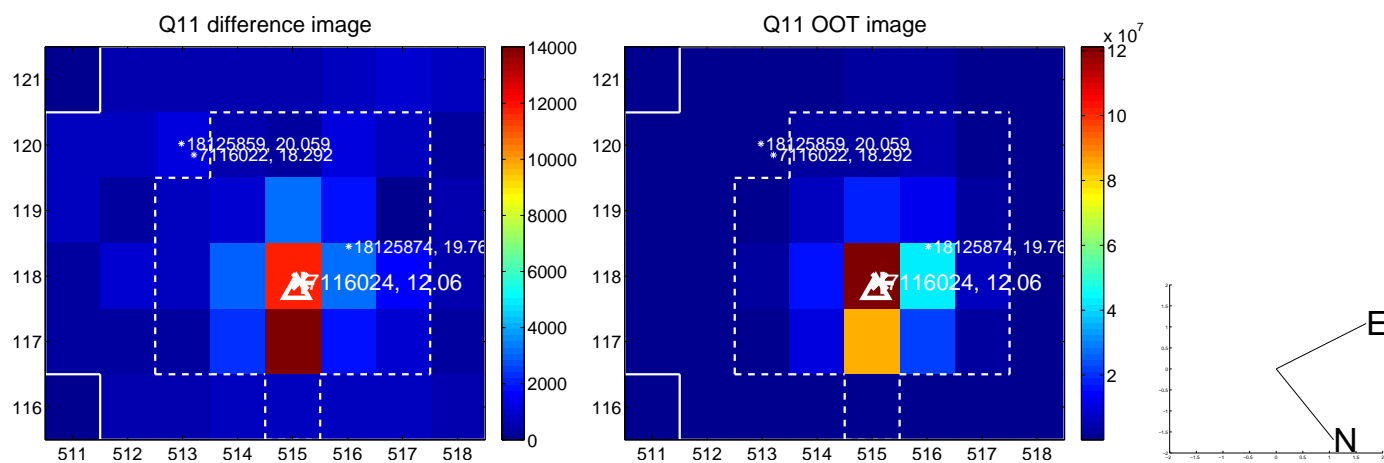
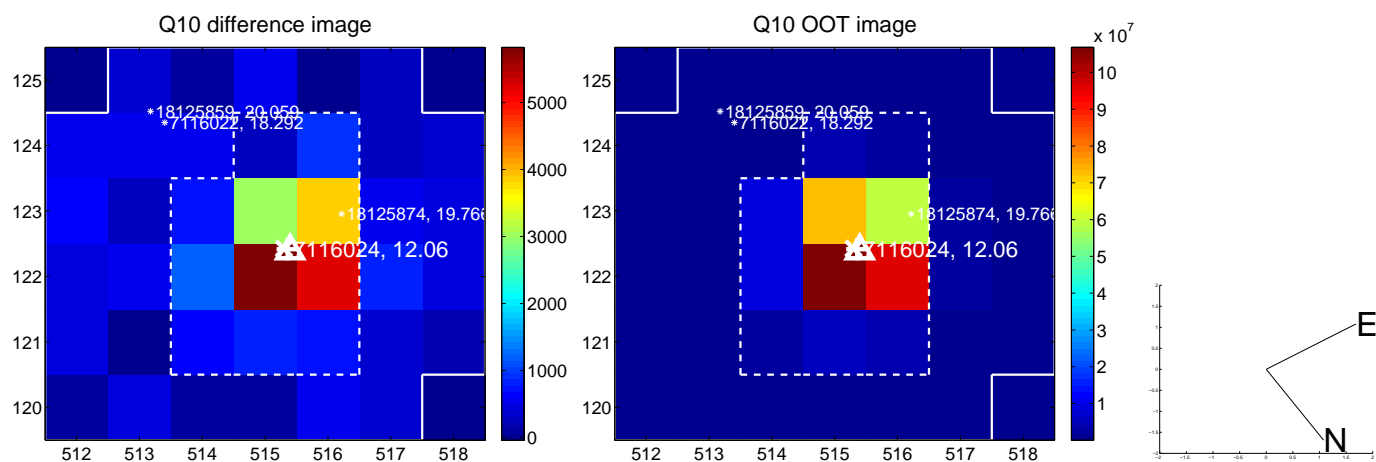
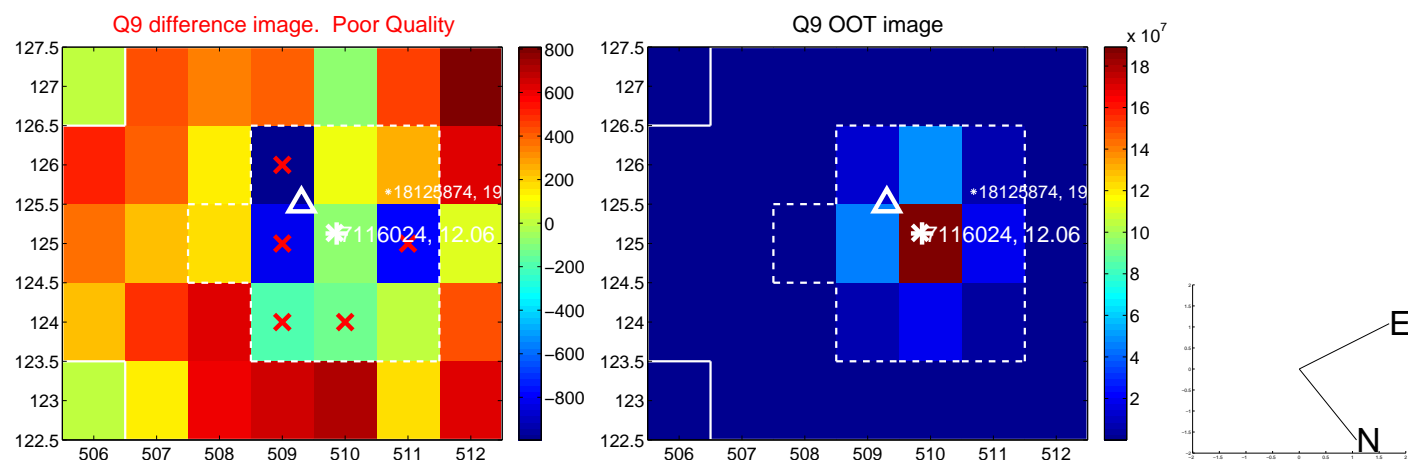
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



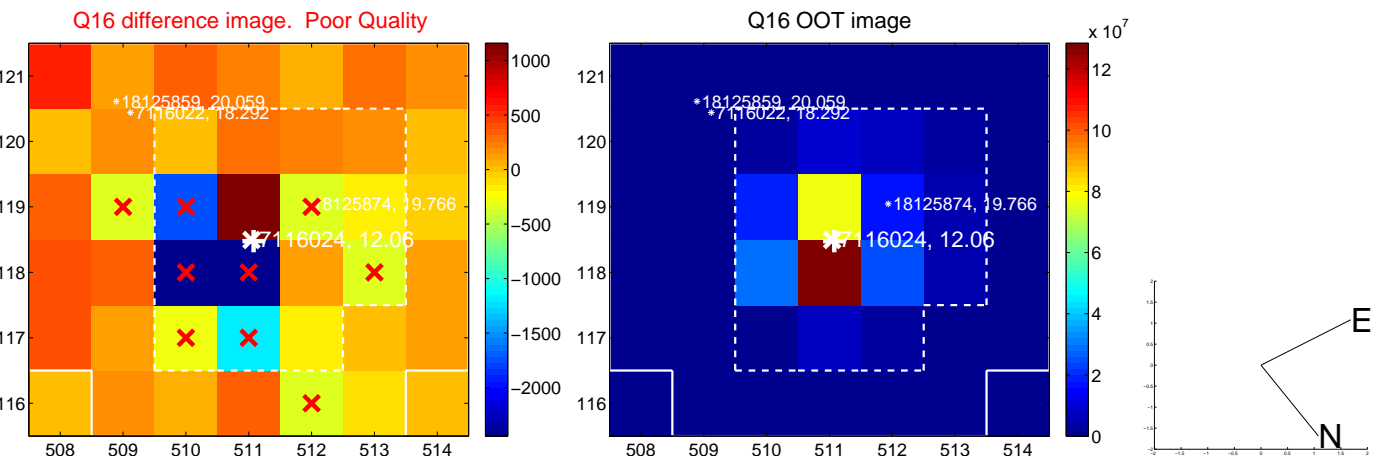
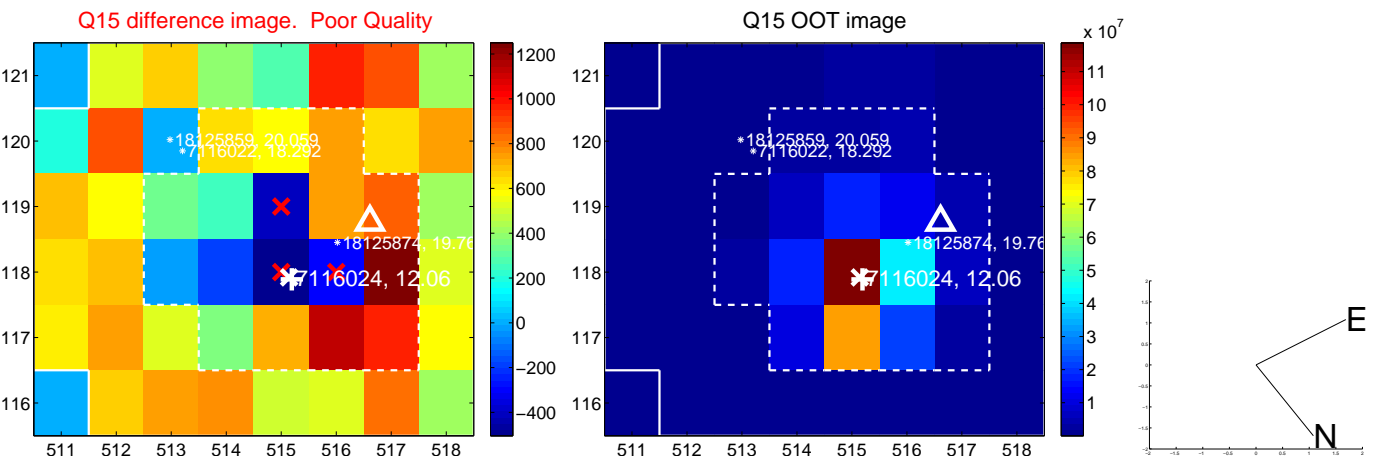
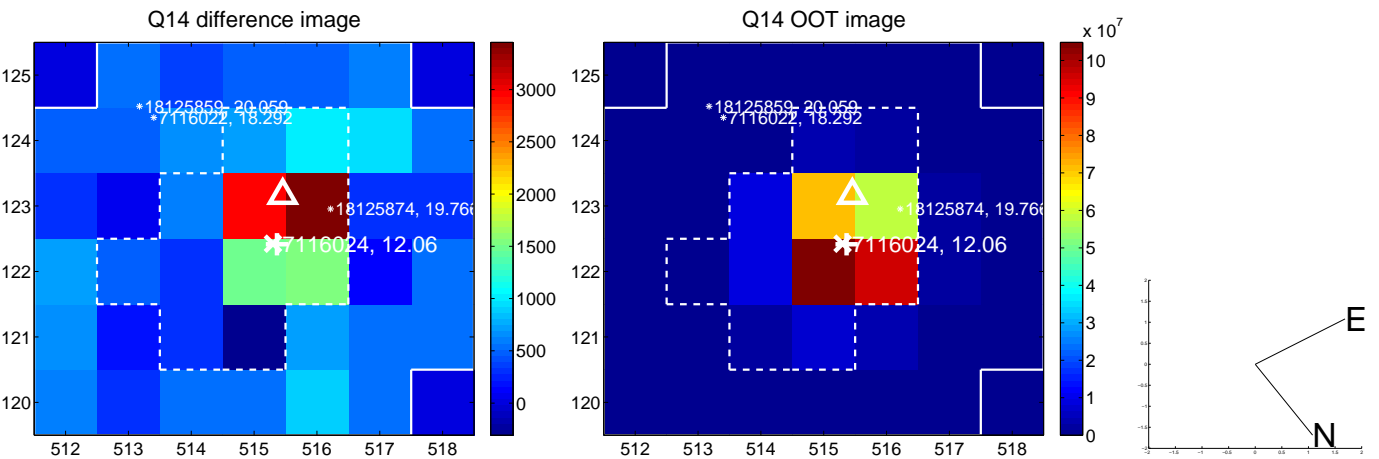
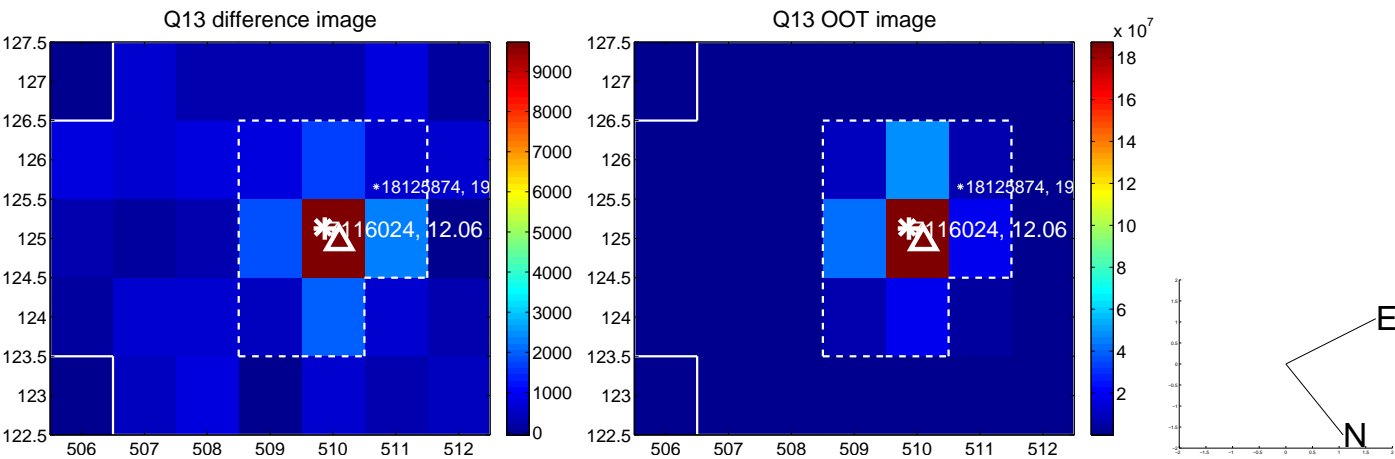
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



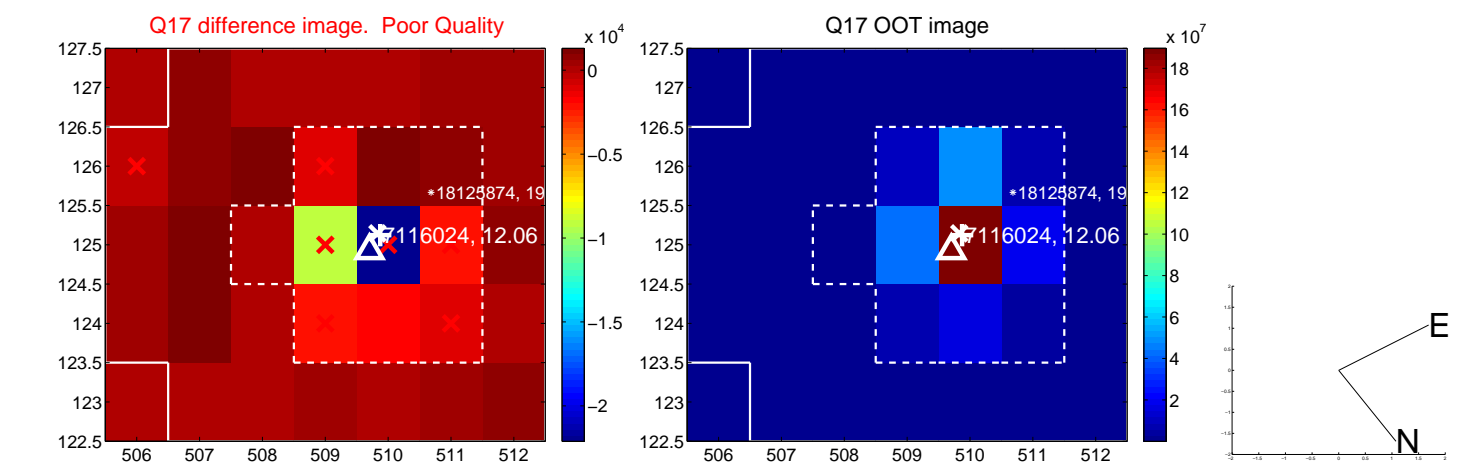
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



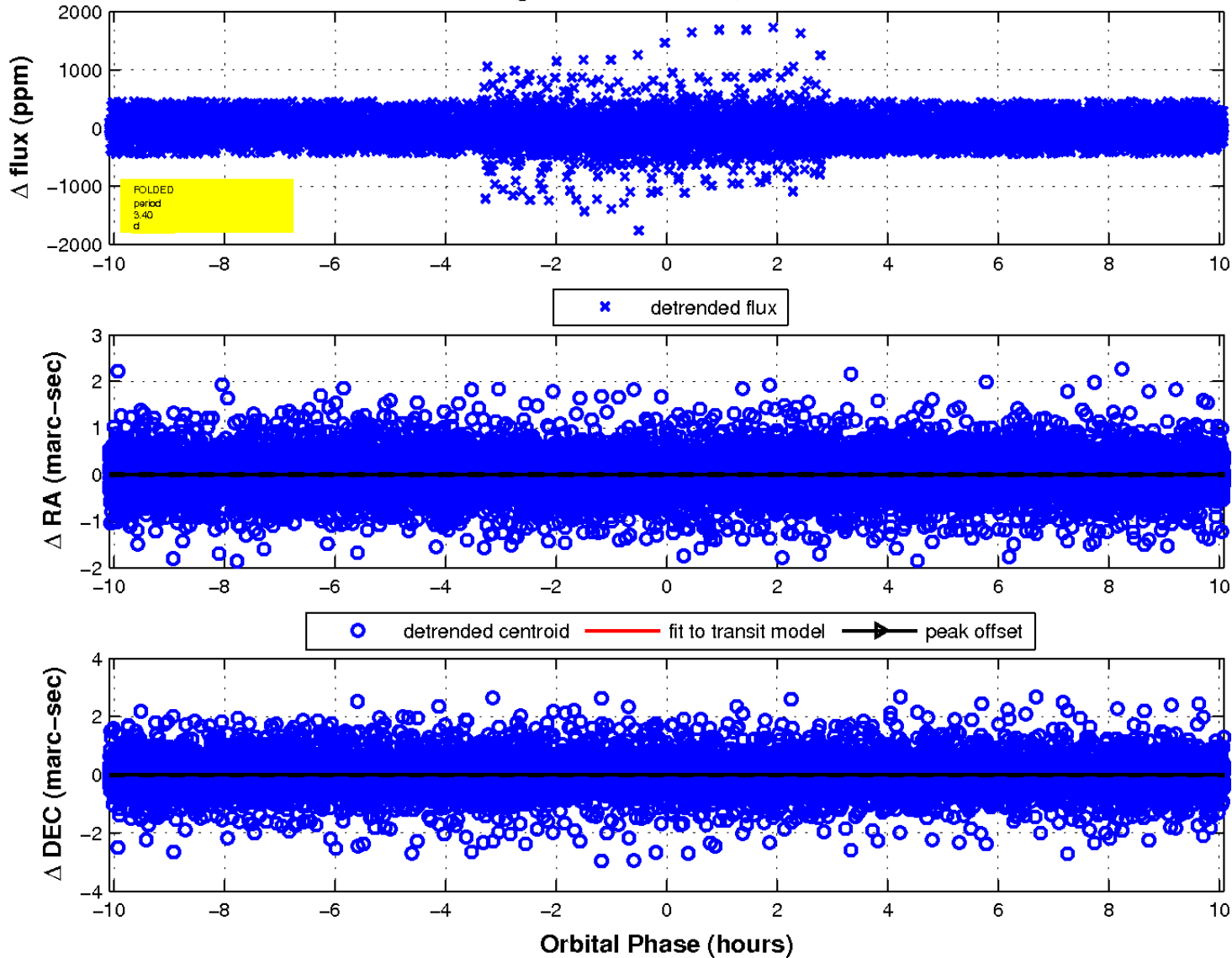
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

