

KIC 007699298

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 _⊕)
007699298-01	OBS	4534.01	1.157767	132.462542	29.0	3.637	15.5	14.2	1.63	5412	1.05	4899.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007699298-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_ALT—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.

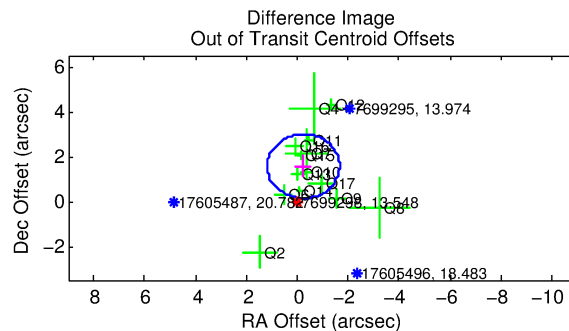
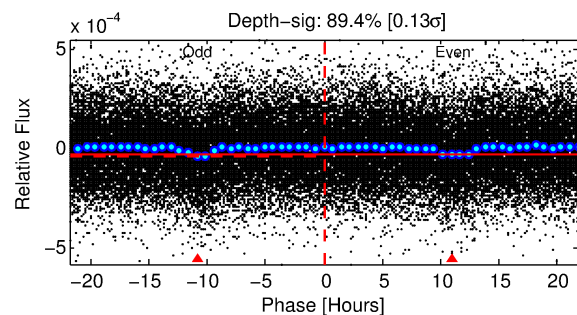
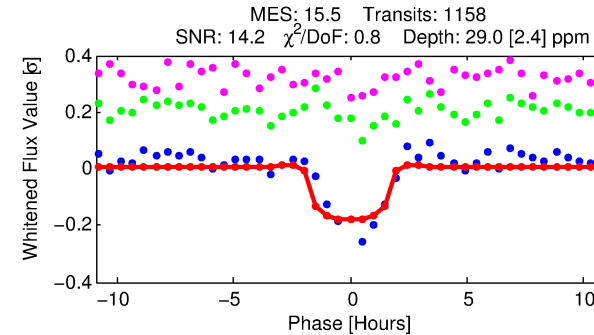
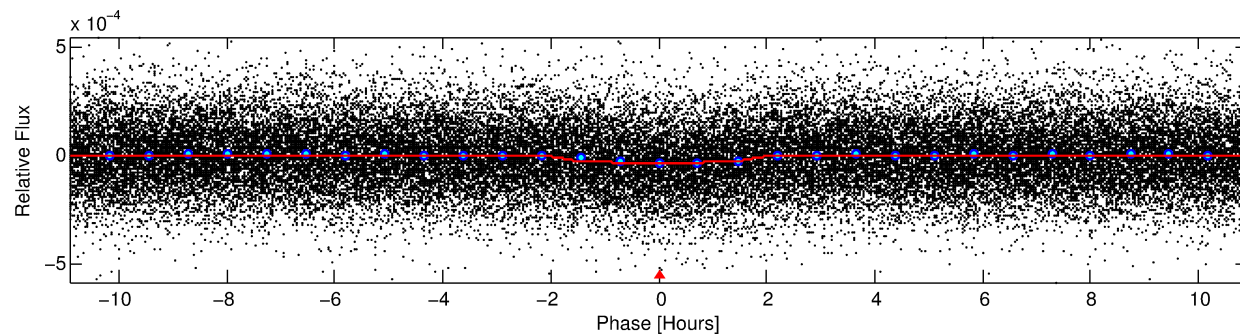
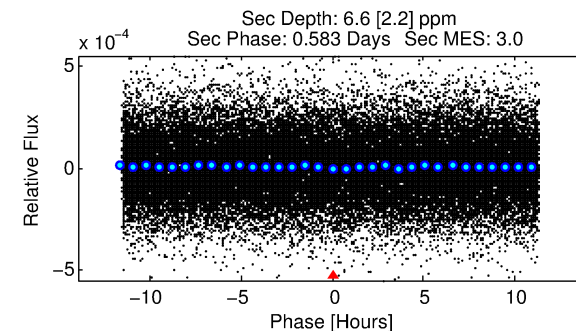
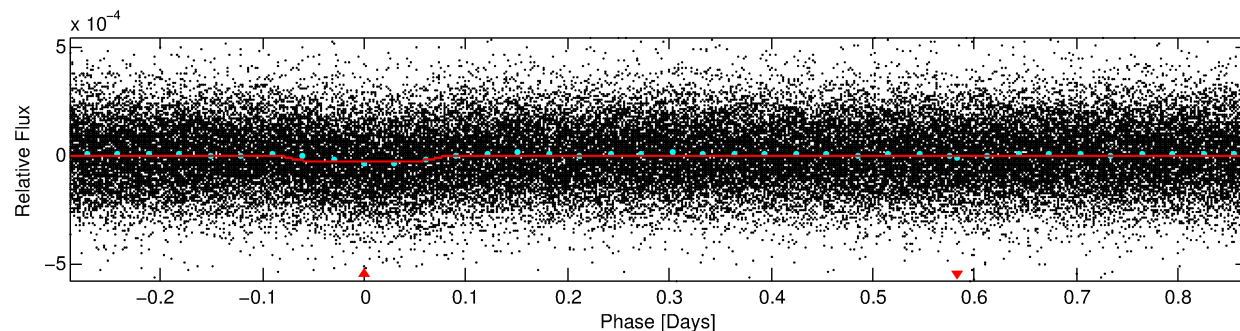
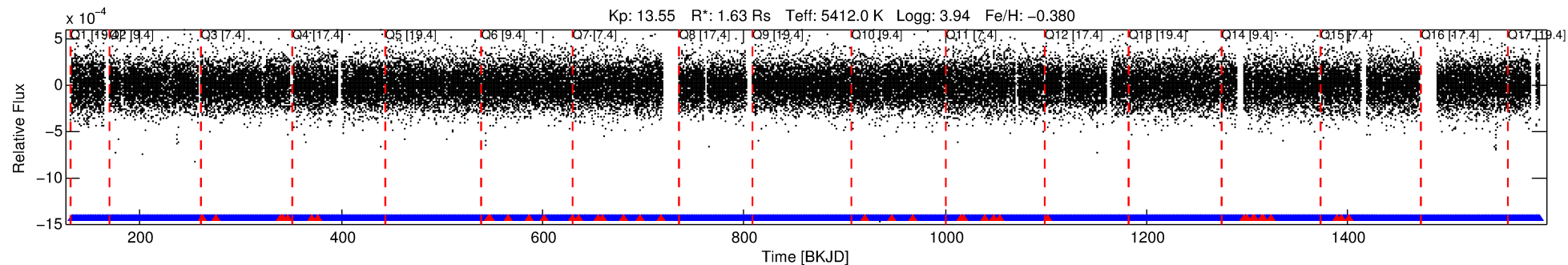
Ephemeris Match Information For 007699298-01

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
007699298-01	7699298	007770471-01	7770471	1:1	617.8	155	-1	14.62	13.55	26802.00	Col-Anomaly	0	2.55	0.76

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: 7699298 Candidate: 1 of 1 Period: 1.158 d
KOI: K04534.01 Corr: 0.892



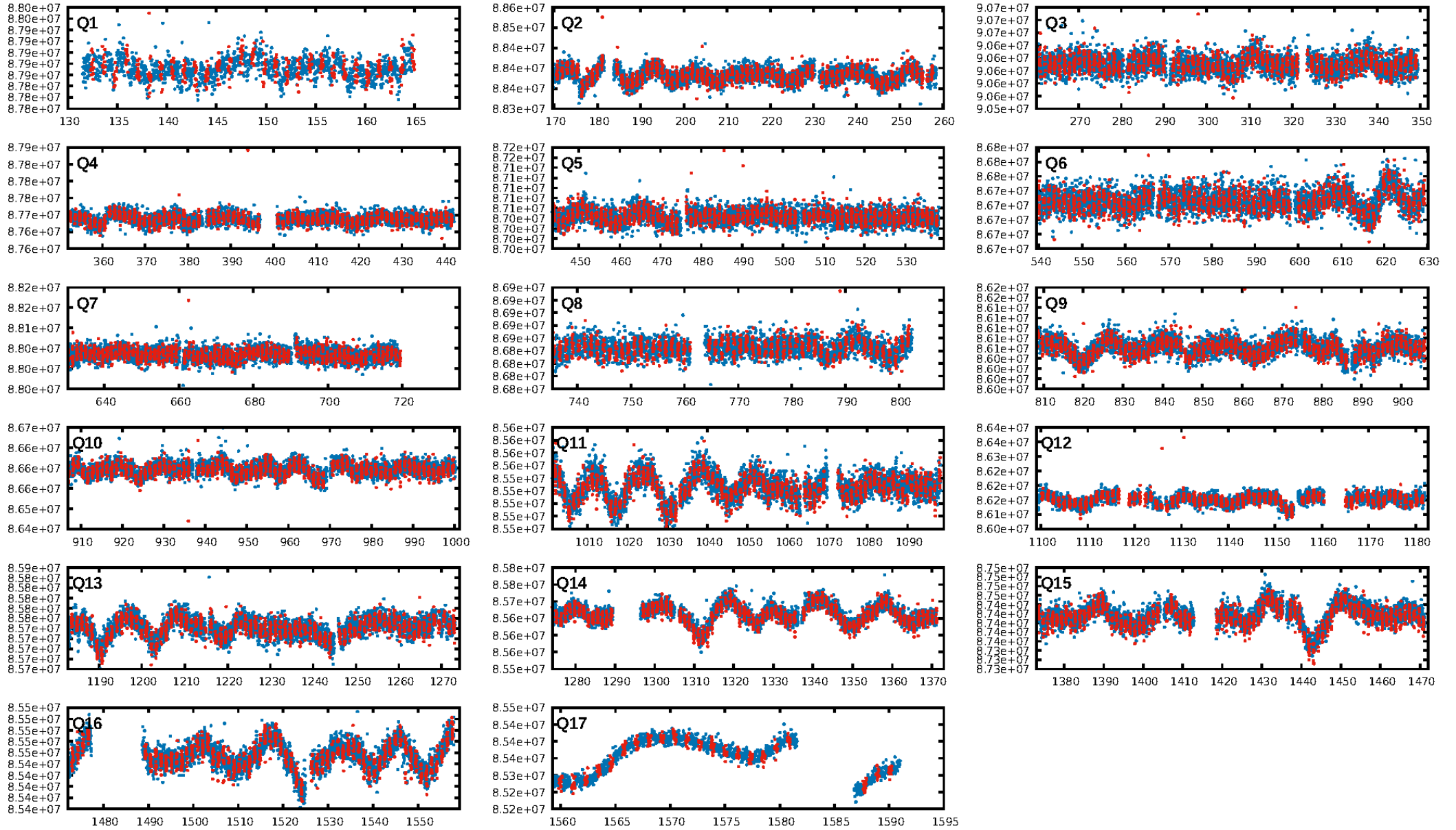
DV Fit Results:

Period = 1.15777 [0.00001] d
Epoch = 132.4625 [0.0031] BKJD
Rp/R* = 0.0059 [0.0024]
a/R* = 1.44 [1.40]
b = 0.90 [0.41]
Seff = 4899.05 [5238.55]
Teq = 2133 [570] K
Rp = 1.05 [0.70] Re
a = 0.0204 [0.0125] AU
Ag = 1.37 [1.87] [0.20σ]
Teffp = 3566 [783] K [1.48σ]

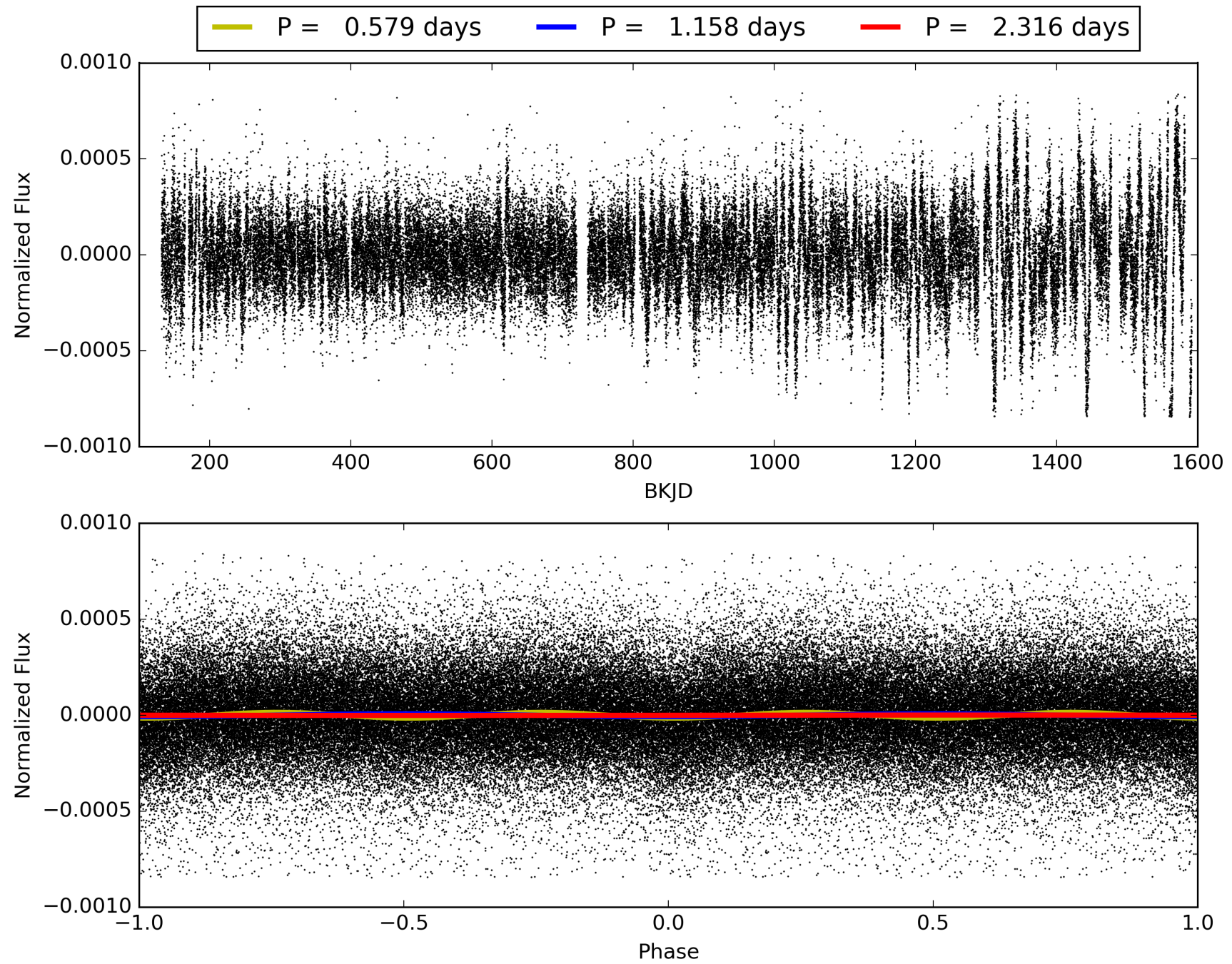
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.53e-49
RollingBand-fgt: 0.97 [1069/1107]
GhostDiagnostic-chr: 1.222
Centroid-sig: 0.0%
Centroid-so: 3.569 arcsec [4.84σ]
OotOffset-rm: 1.581 arcsec [3.33σ]
KicOffset-rm: 1.632 arcsec [3.73σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007699298-01, PDC Light Curves

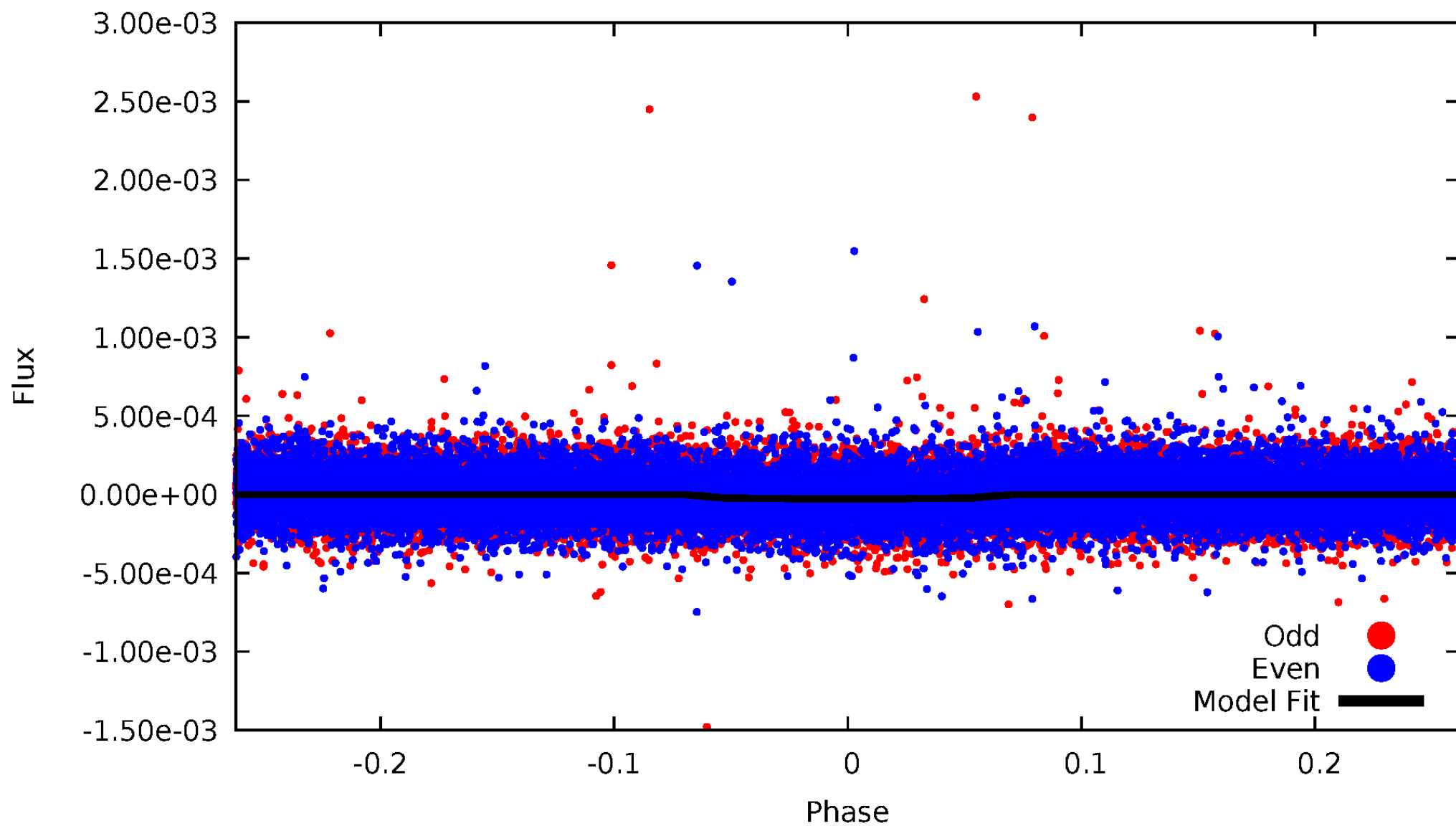


TCE 007699298-01



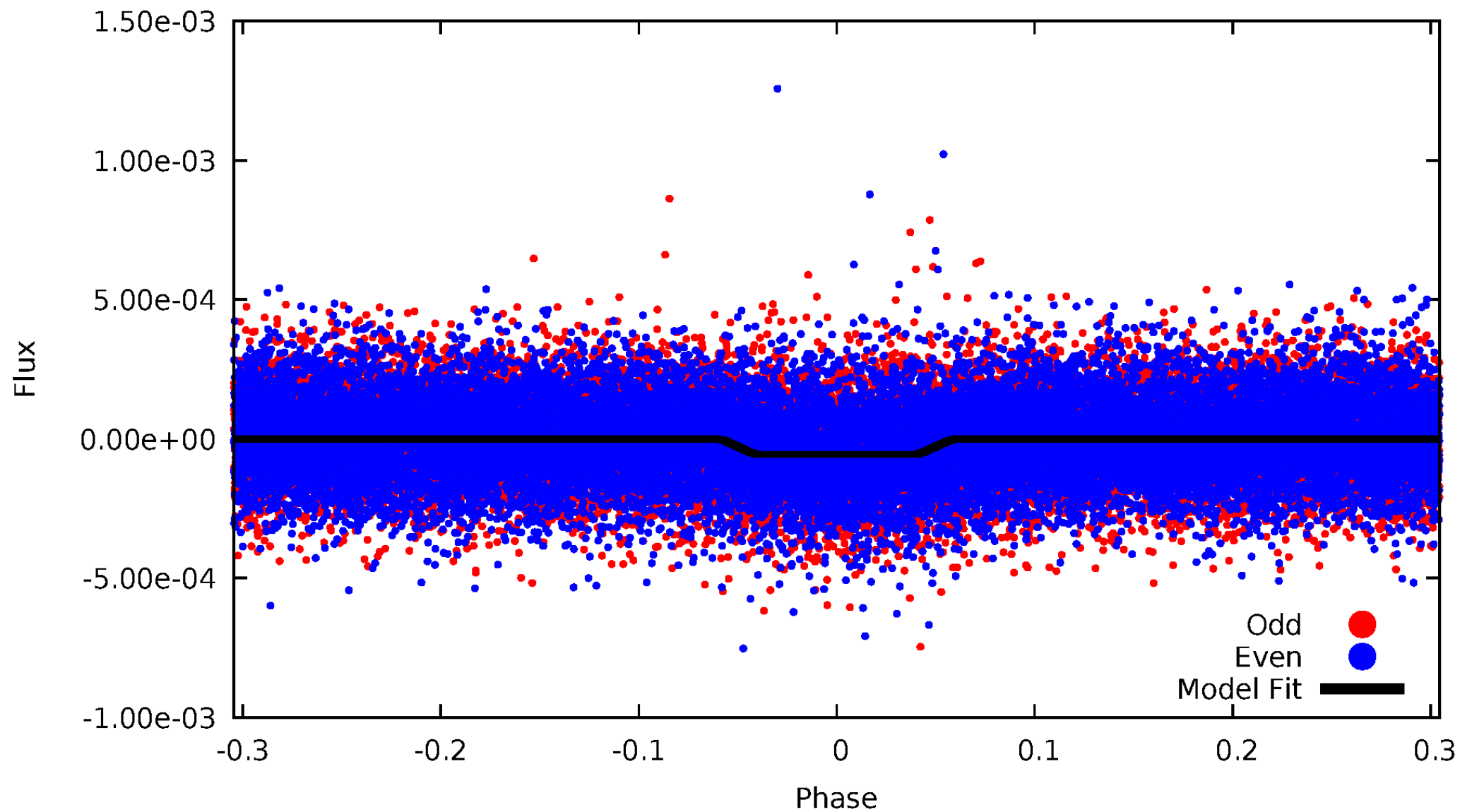
DV Odd/Even

TCE 007699298-01



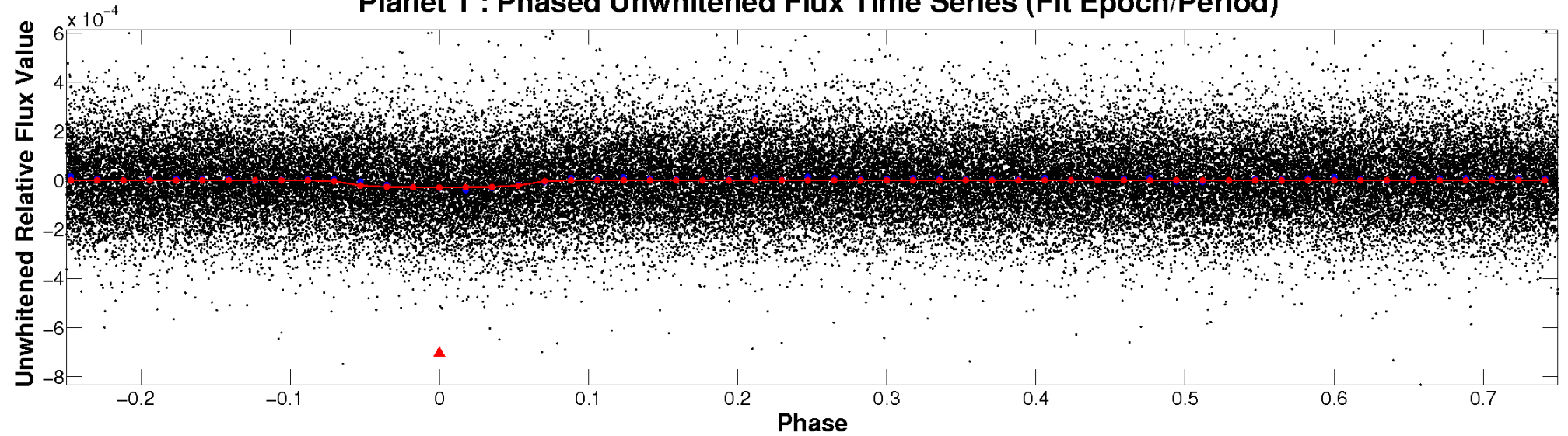
ALT Odd/Even

TCE 007699298-01

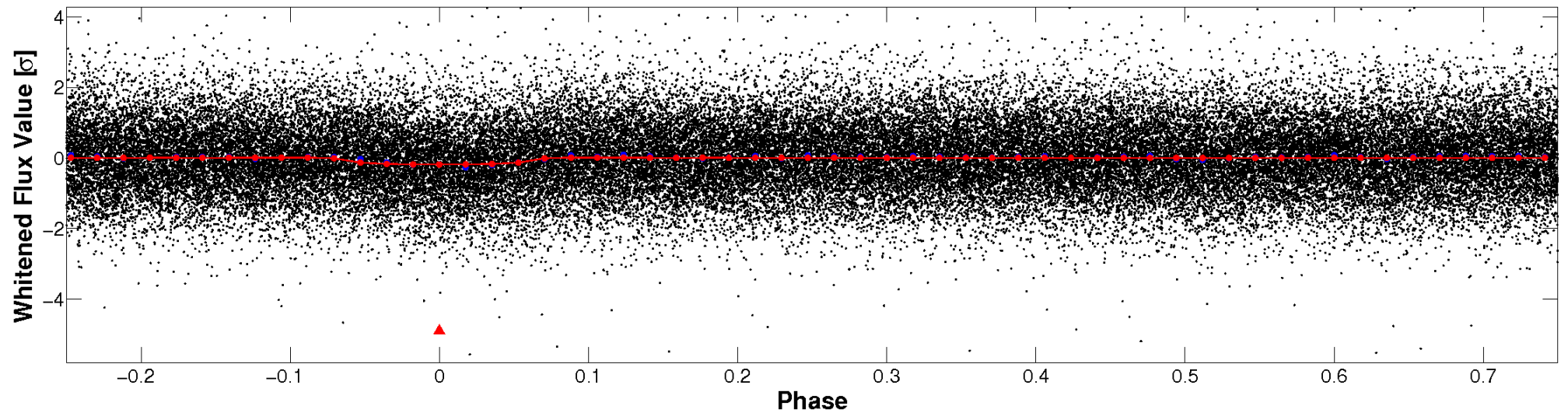


Non-Whitened Vs. Whitened Light Curve

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

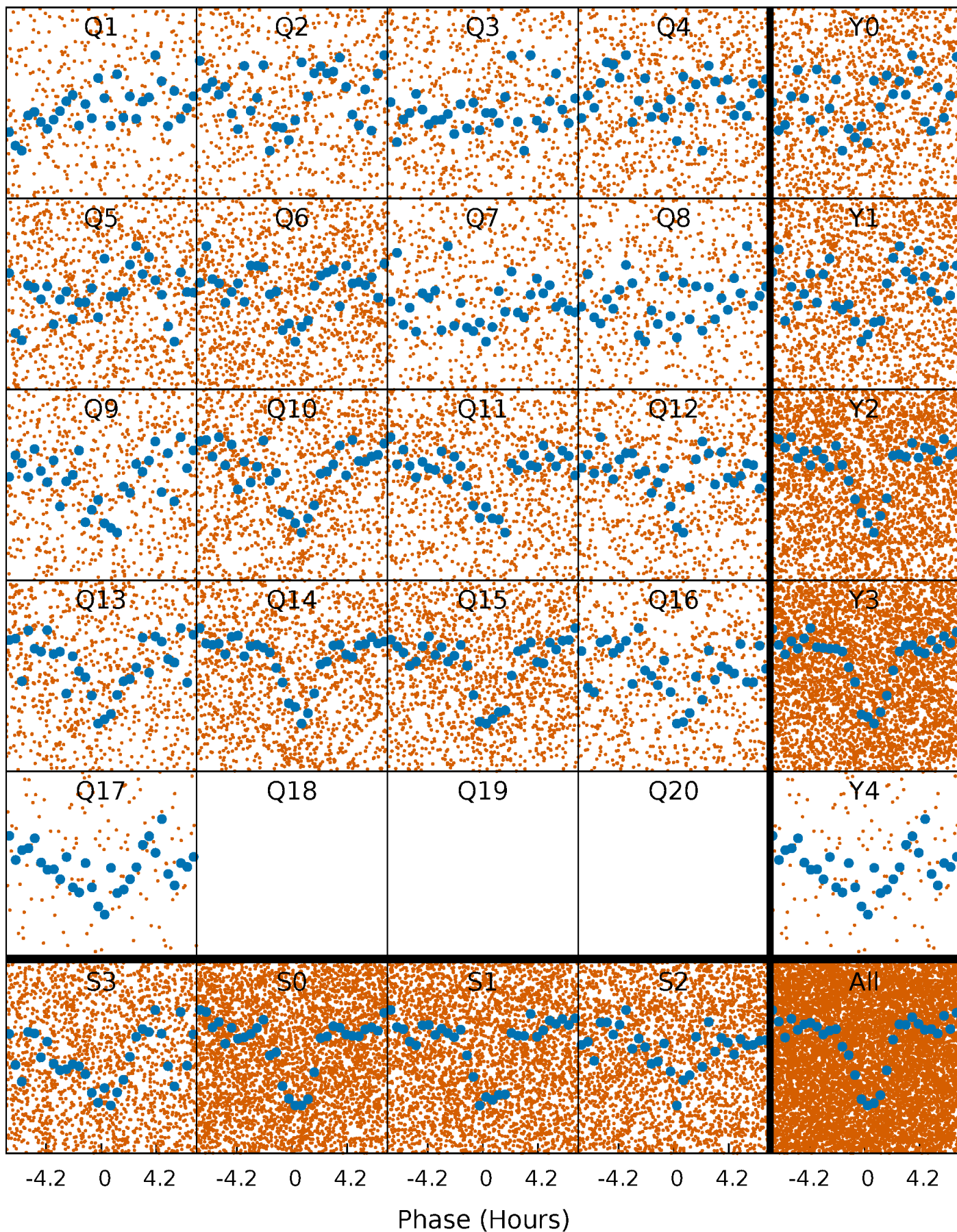


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



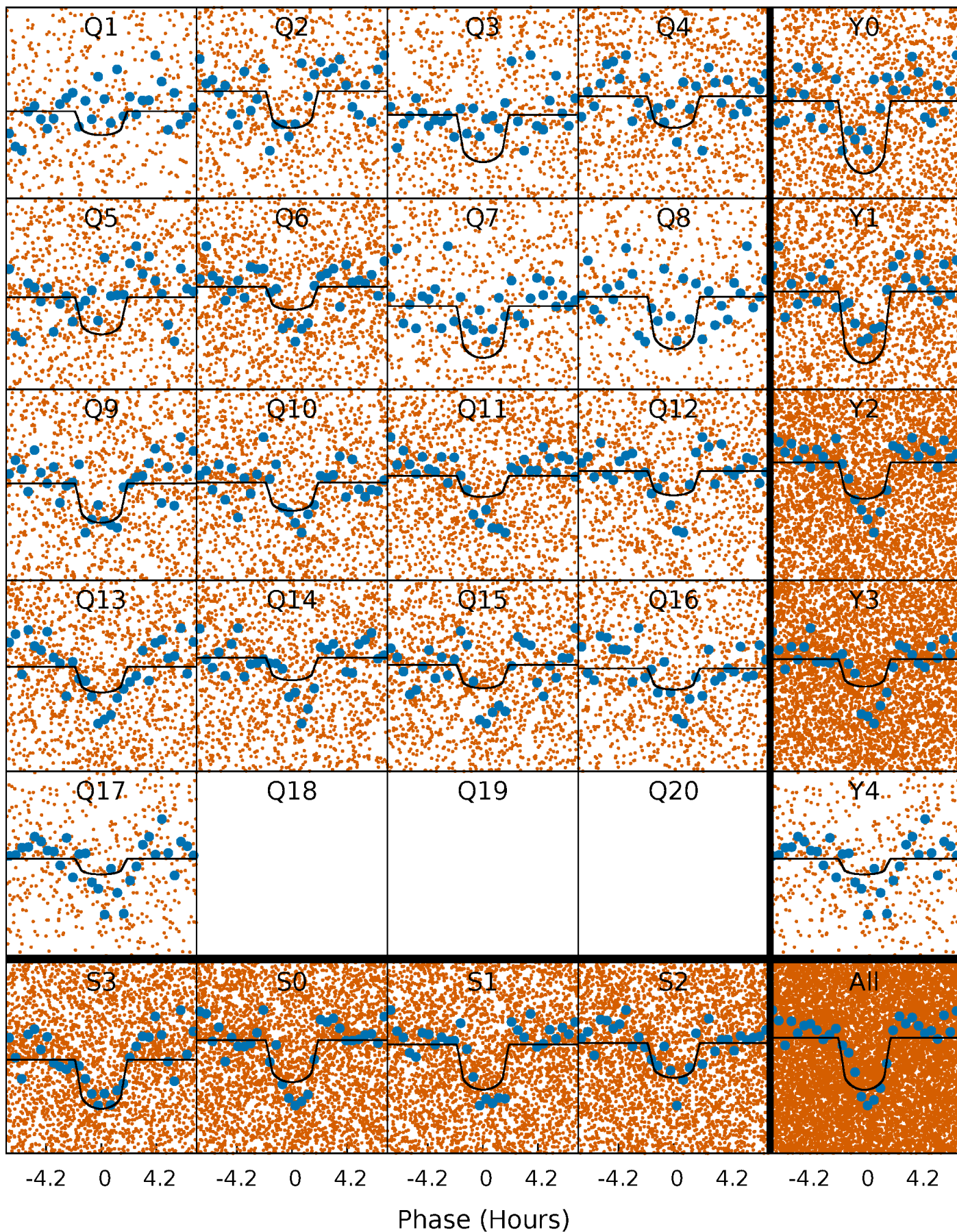
PDC Quarter-Phased Transit Curves

TCE 007699298-01 P= 1.157767 Days $T_0=132.462542$ (BKJD)



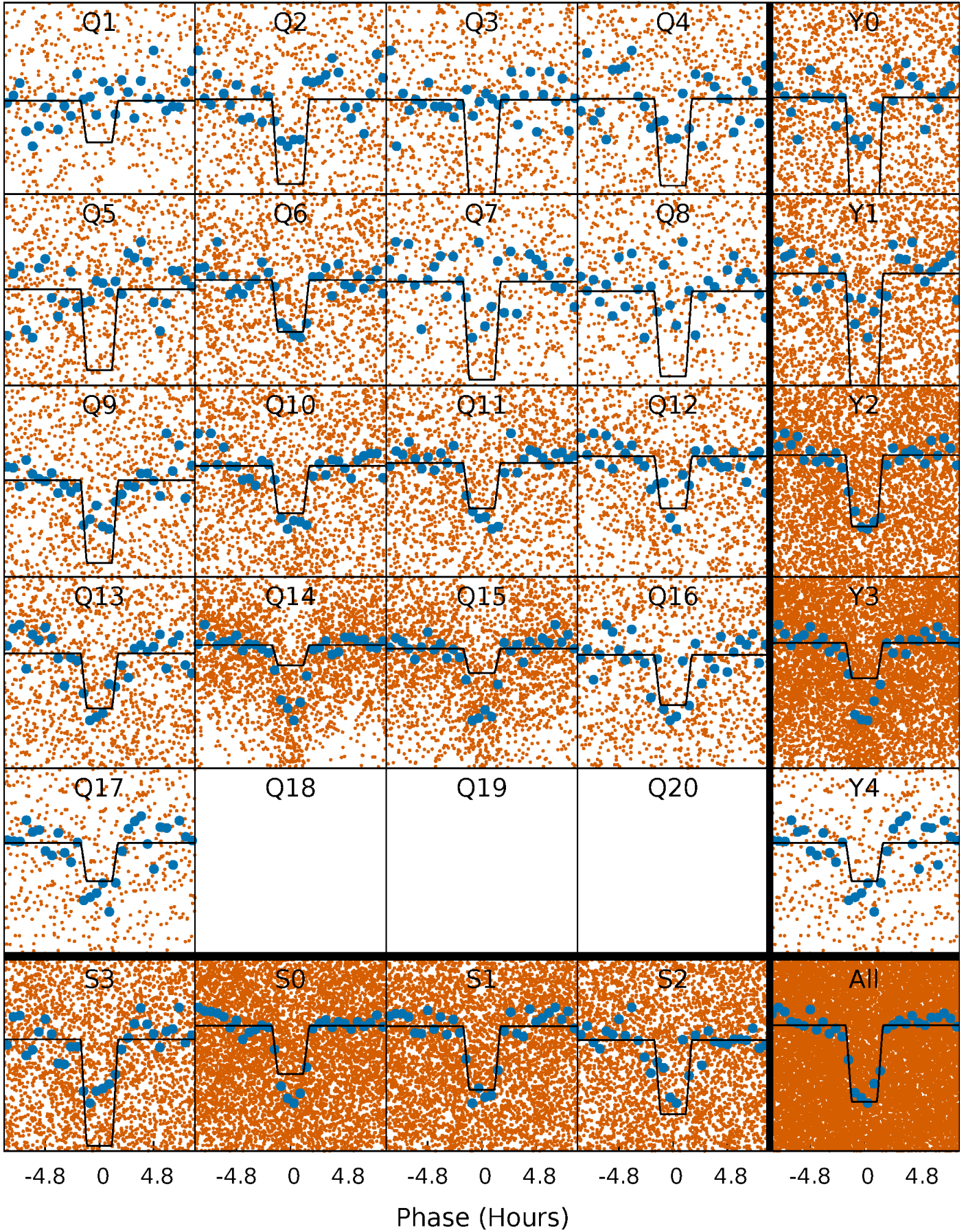
DV Quarter-Phased Transit Curves

TCE 007699298-01 P= 1.157767 Days $T_0=132.462542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

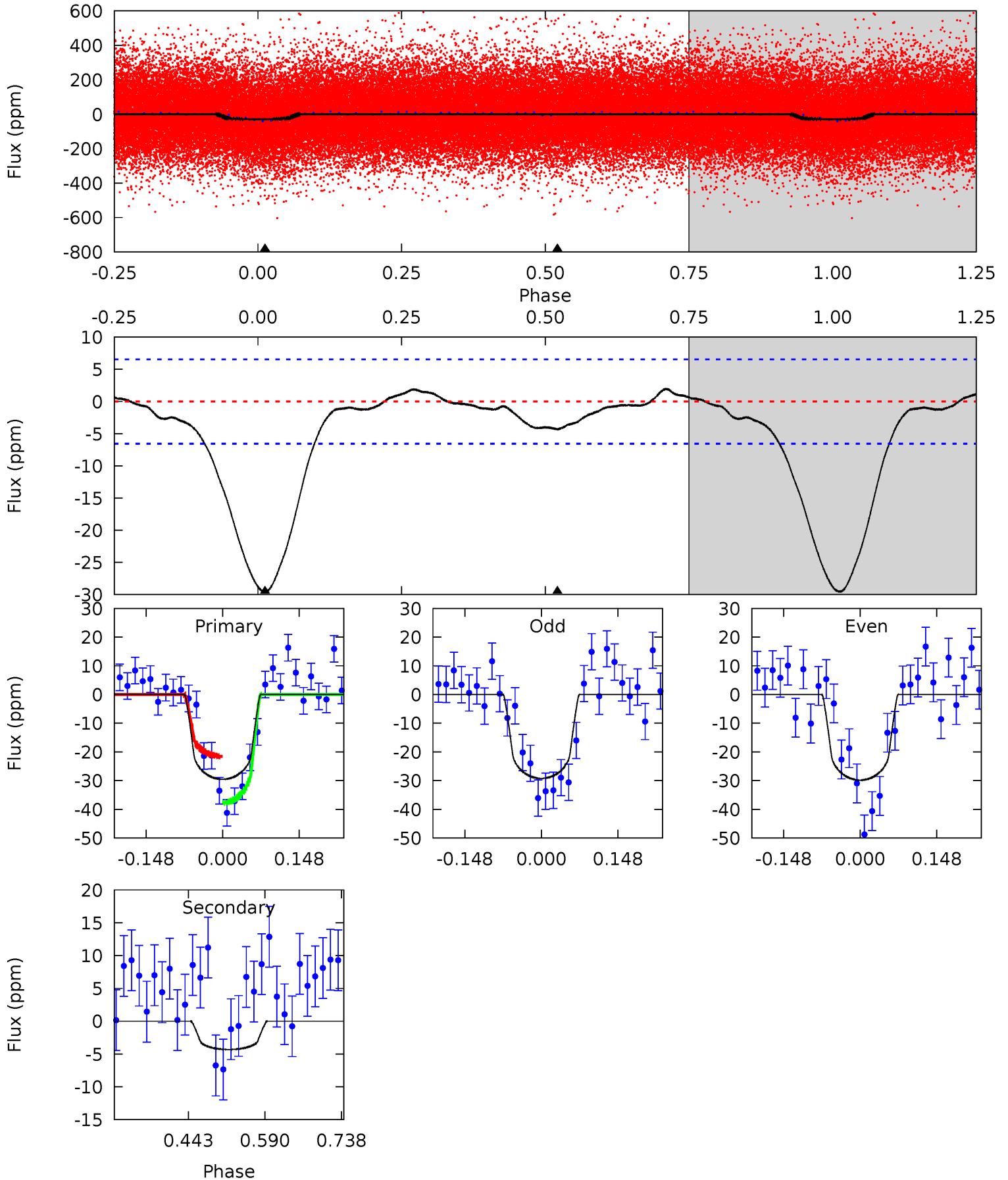
TCE 007699298-01 P= 1.157810 Days $T_0=132.439630$ (BKJD)



DV Model-Shift Uniqueness Test

007699298-01, P = 1.157767 Days, E = 131.304775 Days

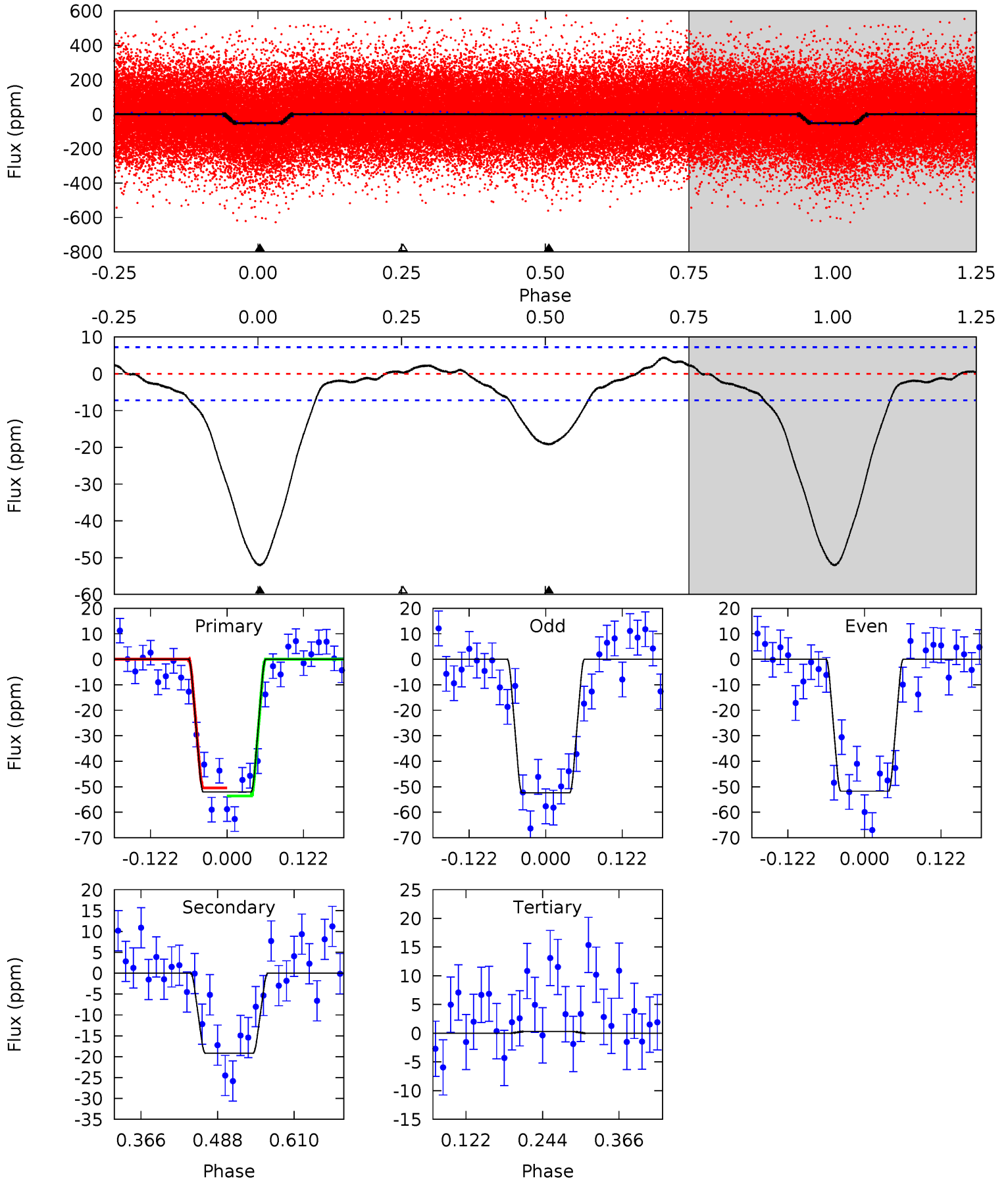
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	2.95	0	0	4.48	1.45	0.87	20.2	20.2	2.95	2.95	0.20	1.01	0.06	5.54



Alt Model-Shift Uniqueness Test

007699298-01, P = 1.157810 Days, E = 131.281820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.6	12.0	-0.18	0	4.52	1.55	1.45	32.8	32.6	12.2	12.0	0.20	1.10	0.08	1.00



Stellar Parameters For KIC 007699298

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5412^{+177}_{-160}	$3.941^{+0.651}_{-0.279}$	$-0.380^{+0.350}_{-0.250}$	$1.629^{+0.873}_{-0.873}$	$0.845^{+0.107}_{-0.107}$	$0.275^{+2.233}_{-0.198}$
	+3%/-3%	+17%/-7%	+92%/-66%	+54%/-54%	+13%/-13%	+811%/-72%
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 007699298-01 / KOI 4534.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$0.97^{+0.54}_{-0.44}$	2902^{+395}_{-451}	3393^{+872}_{-788}	$1.022^{+2.676}_{-0.636}$
Alt.	-19 ± 2	$1.24^{+0.62}_{-0.52}$	2906^{+440}_{-436}	4203^{+891}_{-455}	$2.936^{+5.421}_{-1.647}$

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

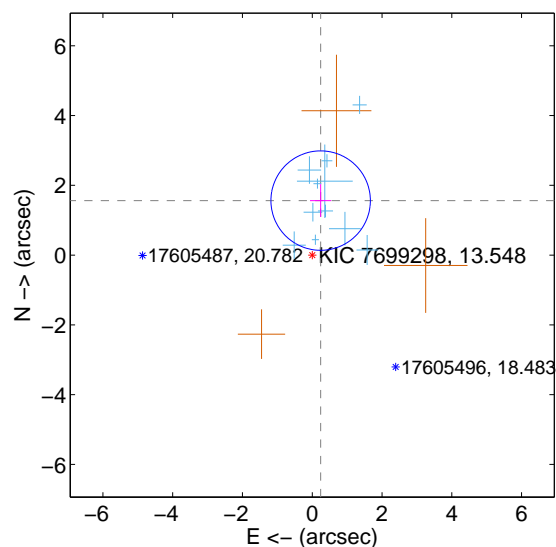
Supplemental centroid analysis for 007699298-01. Kepler magnitude: 13.55. Transit SNR 14.23

There are 11 quarters with good PRF difference image offsets

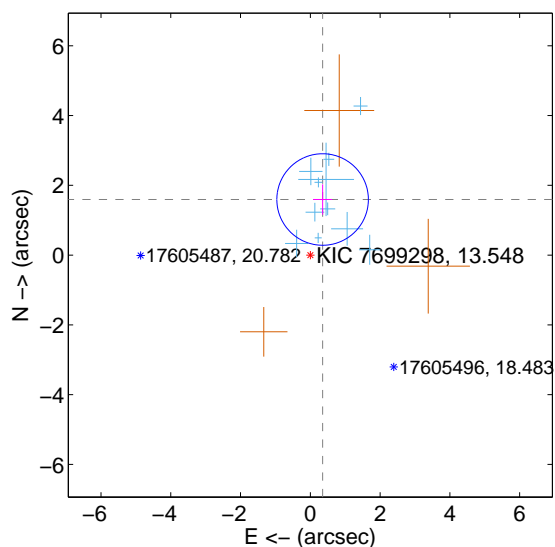
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.581 ± 0.475	3.33	-0.241 ± 0.304	1.563 ± 0.470
PRF-fit source offset from KIC position	1.632 ± 0.437	3.73	-0.352 ± 0.272	1.594 ± 0.433
photometric centroid source offset	3.57 ± 0.74	4.84	2.13 ± 0.78	2.86 ± 0.71

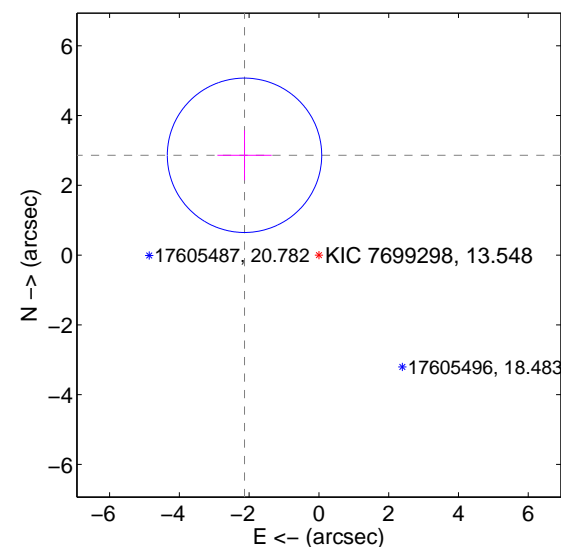
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

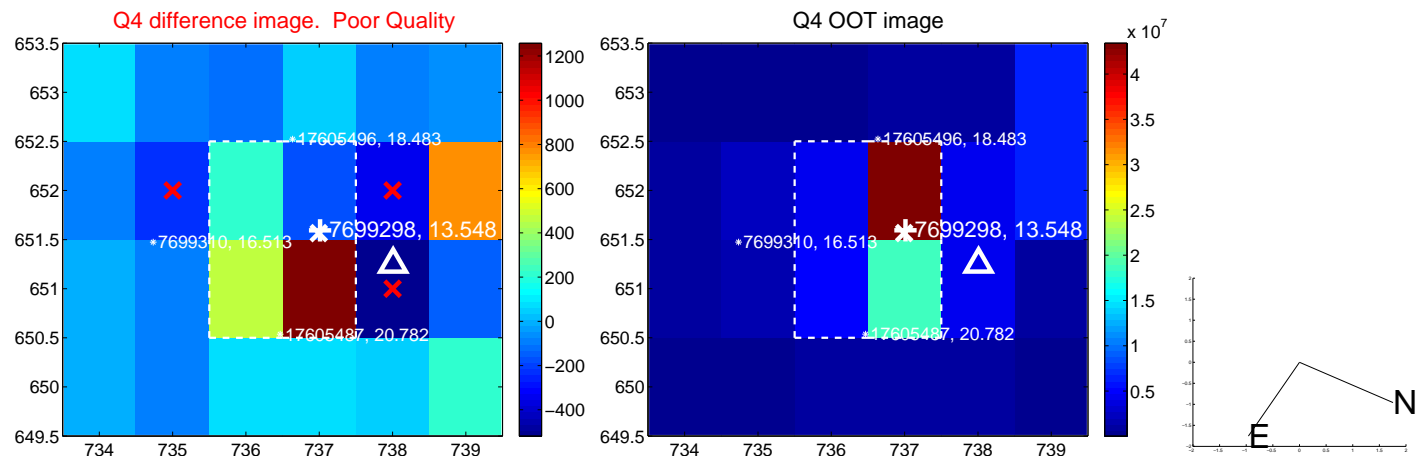
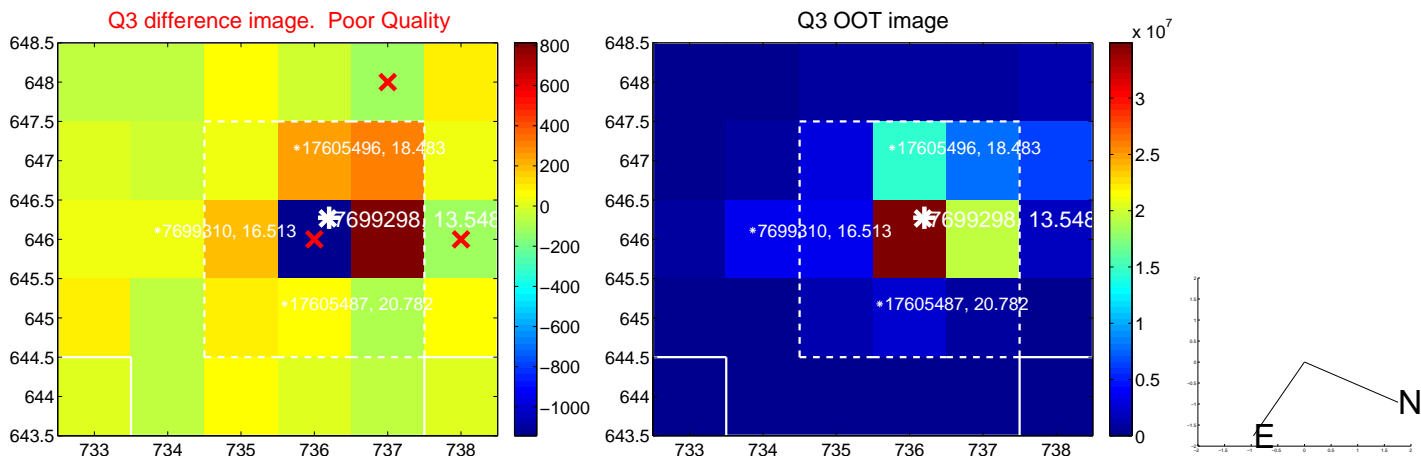
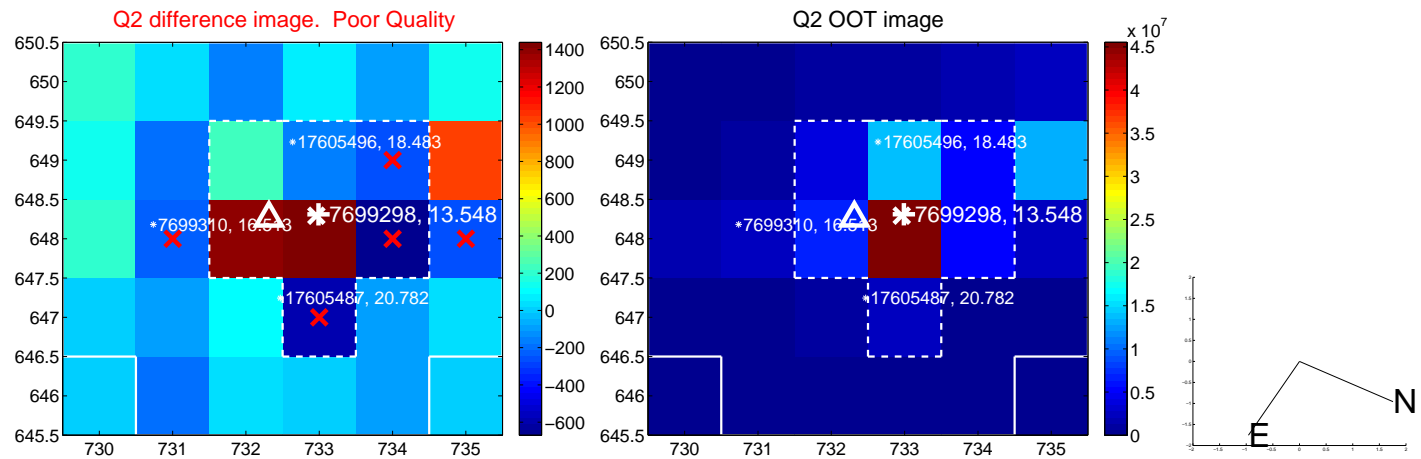
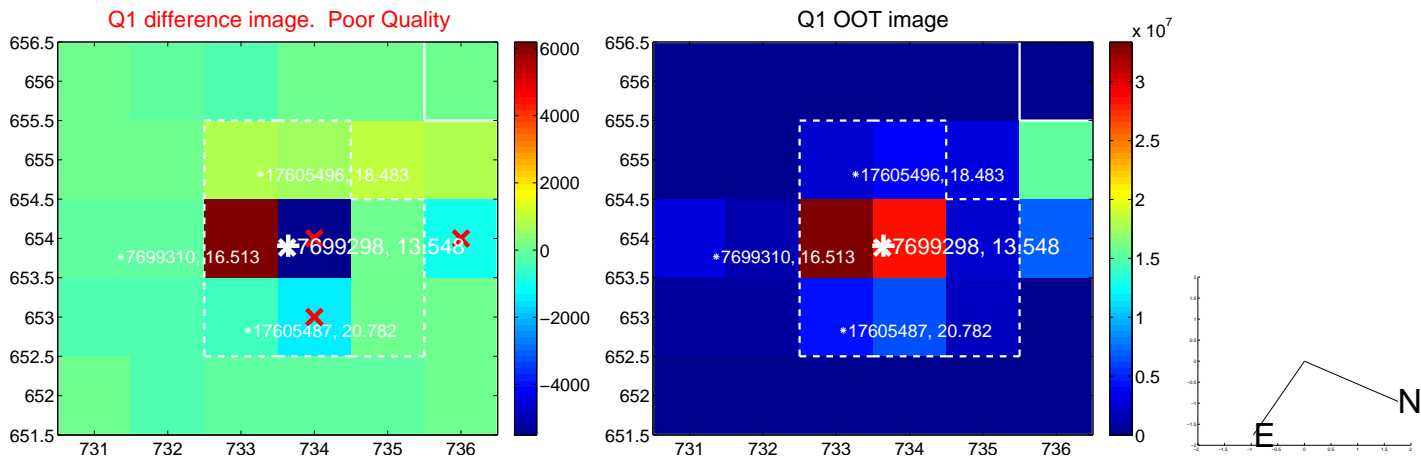


offset from photometric centroids

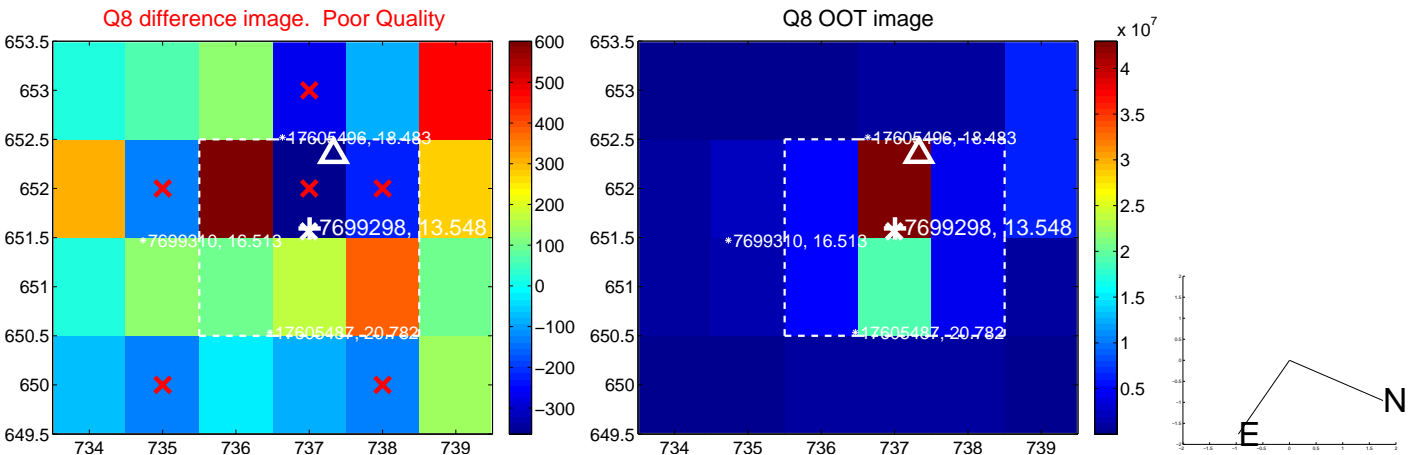
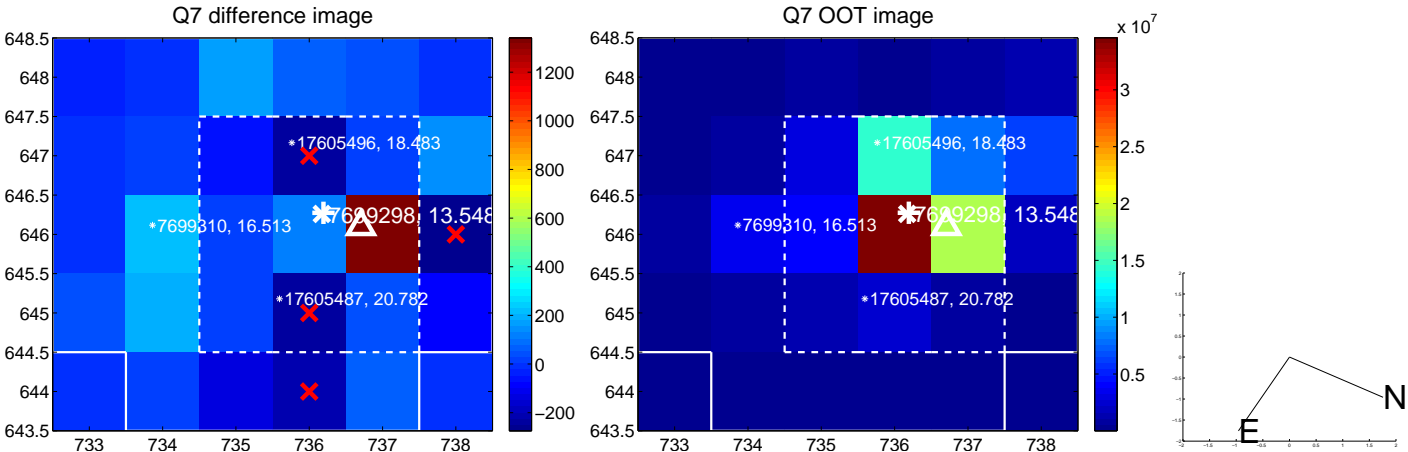
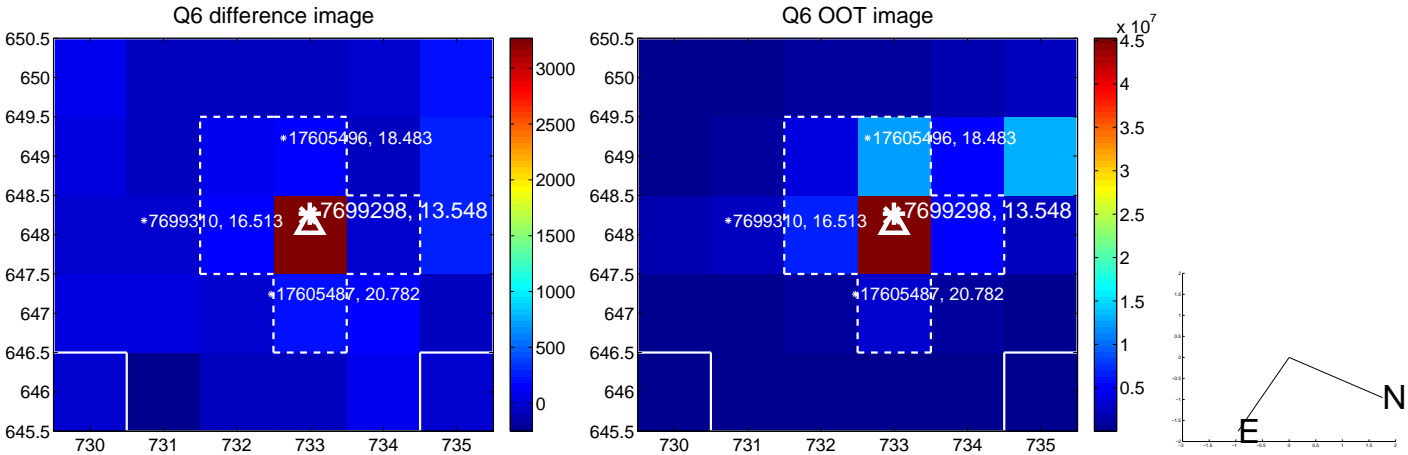
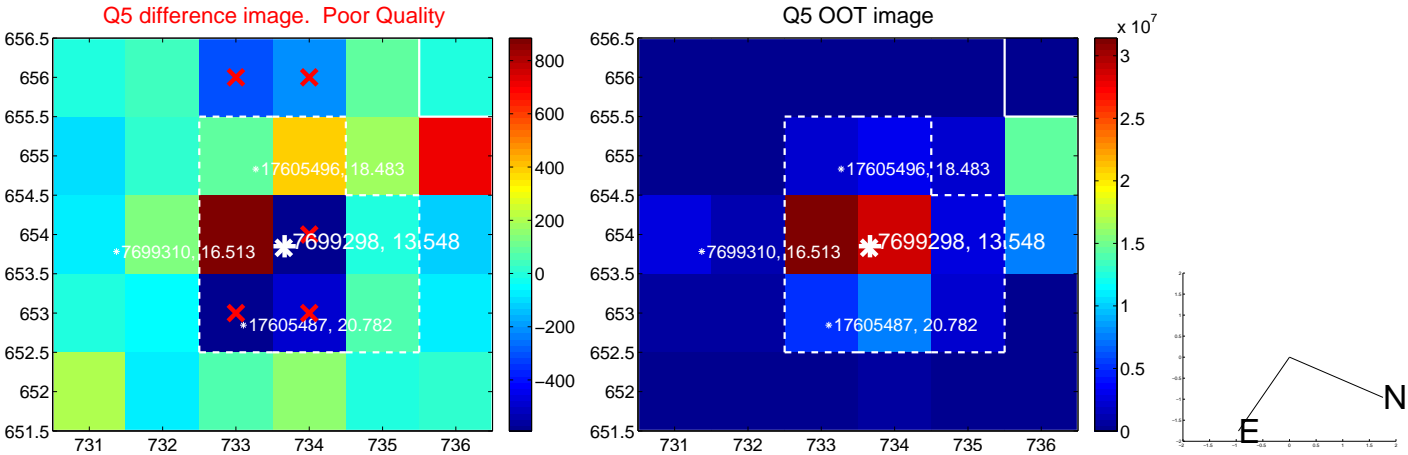


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

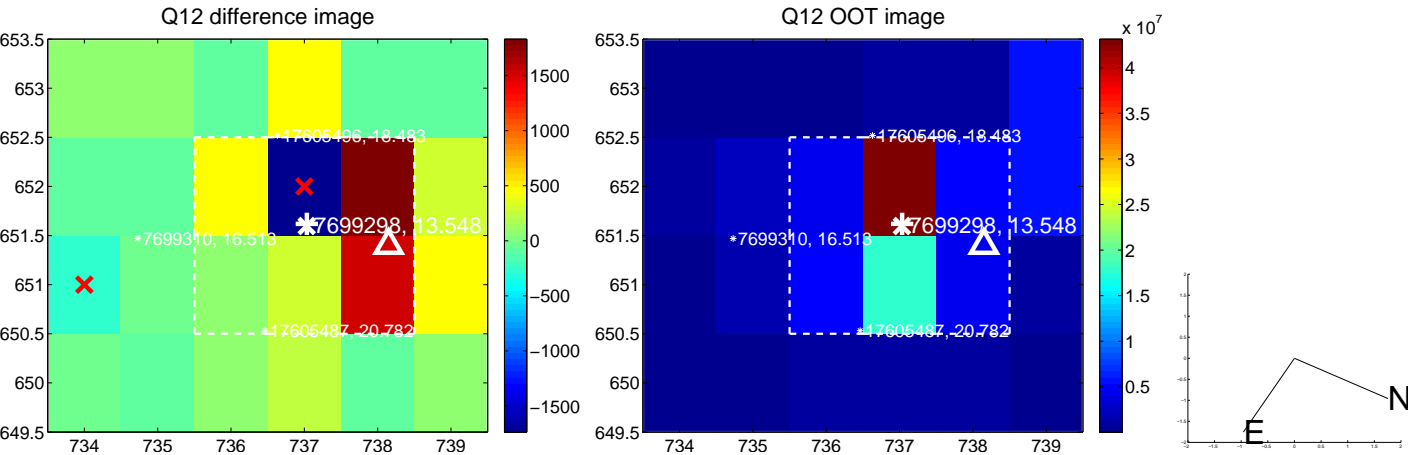
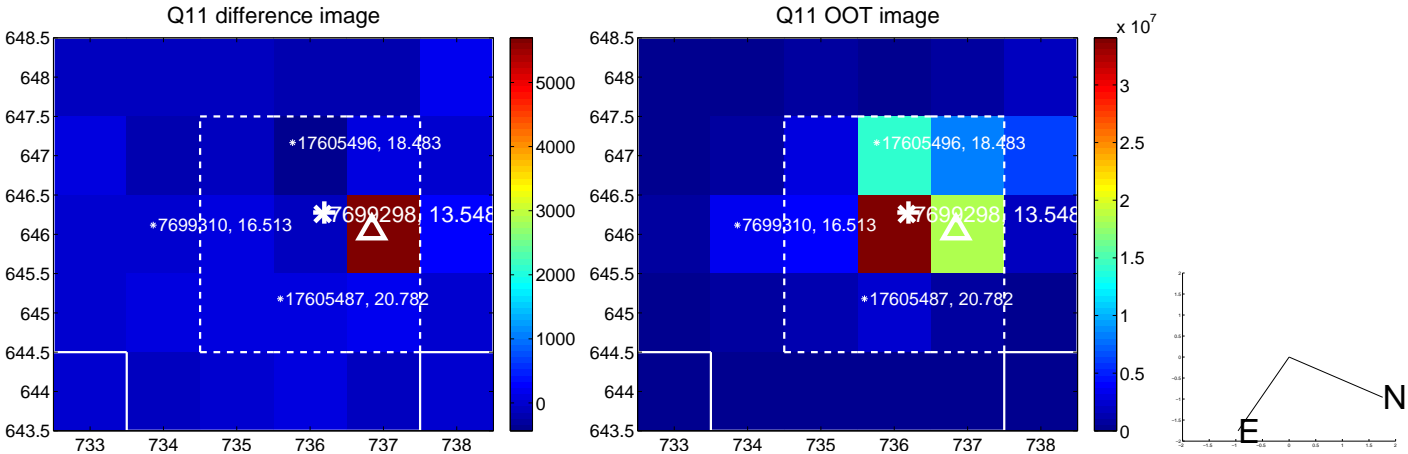
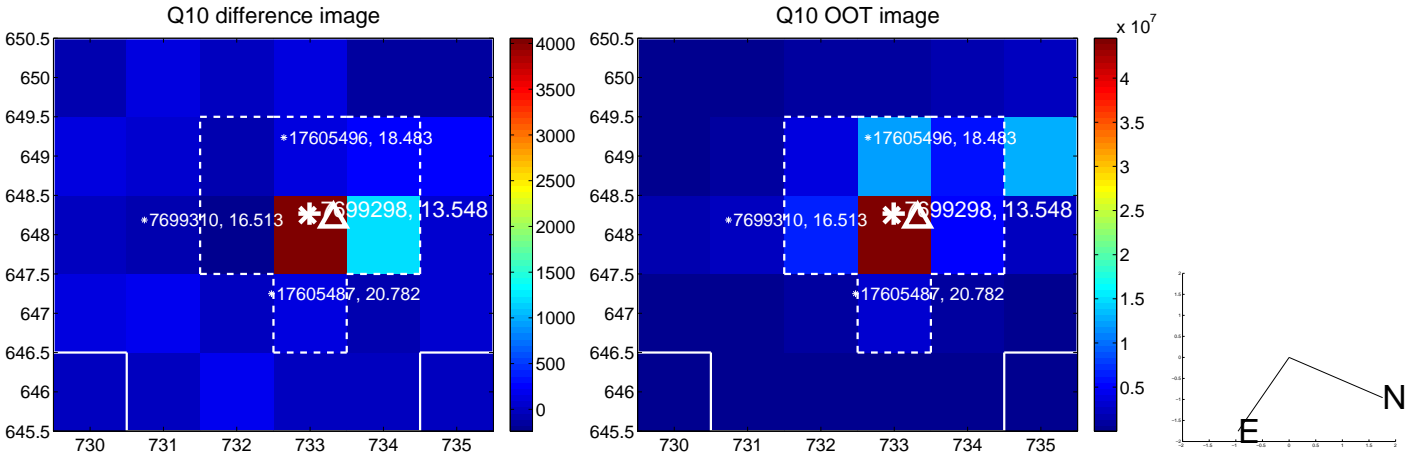
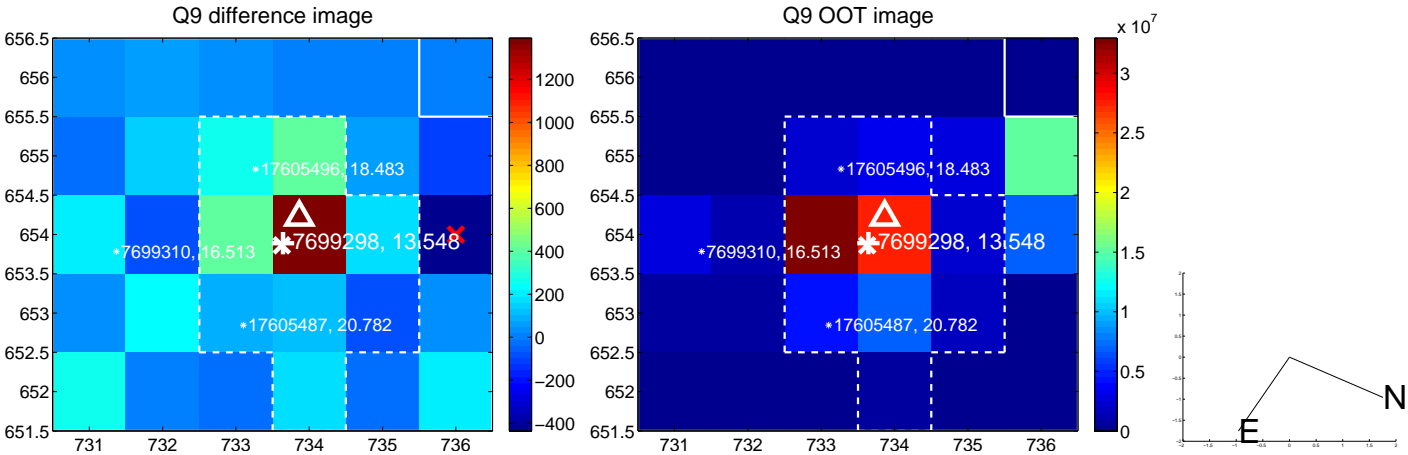
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



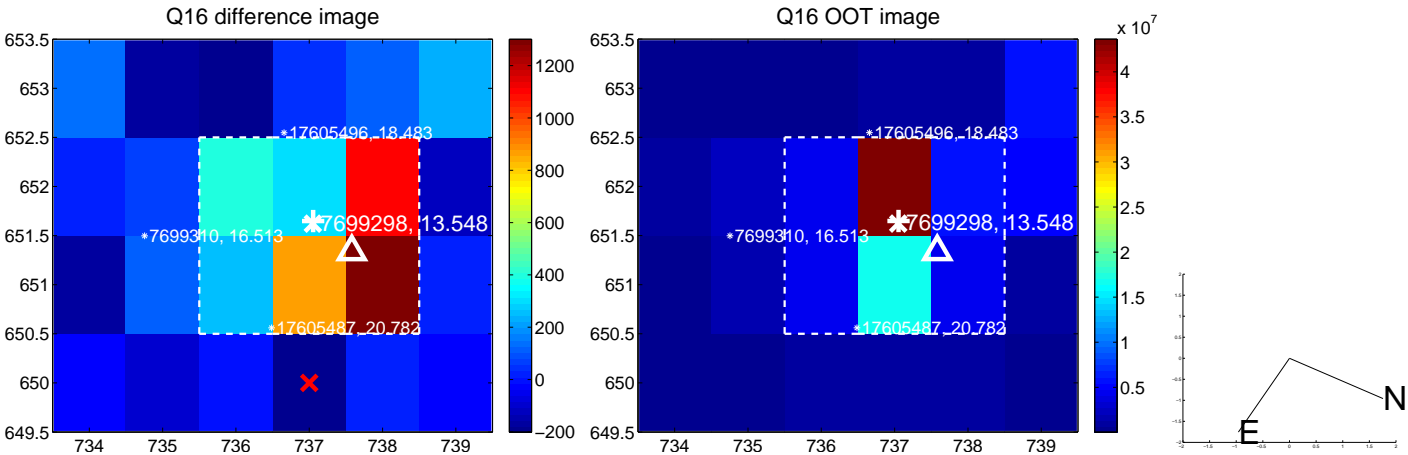
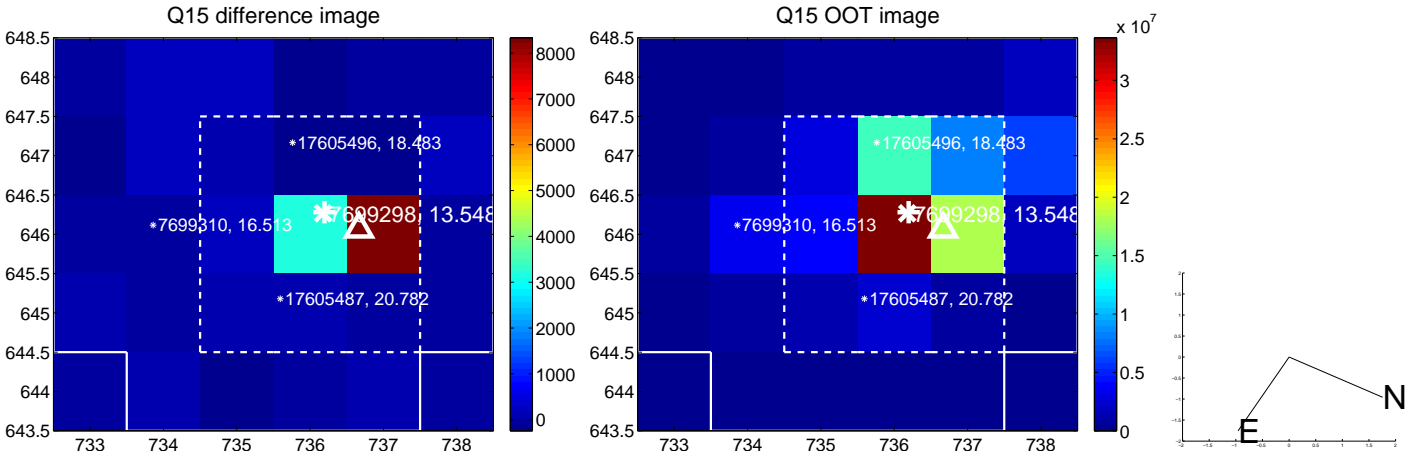
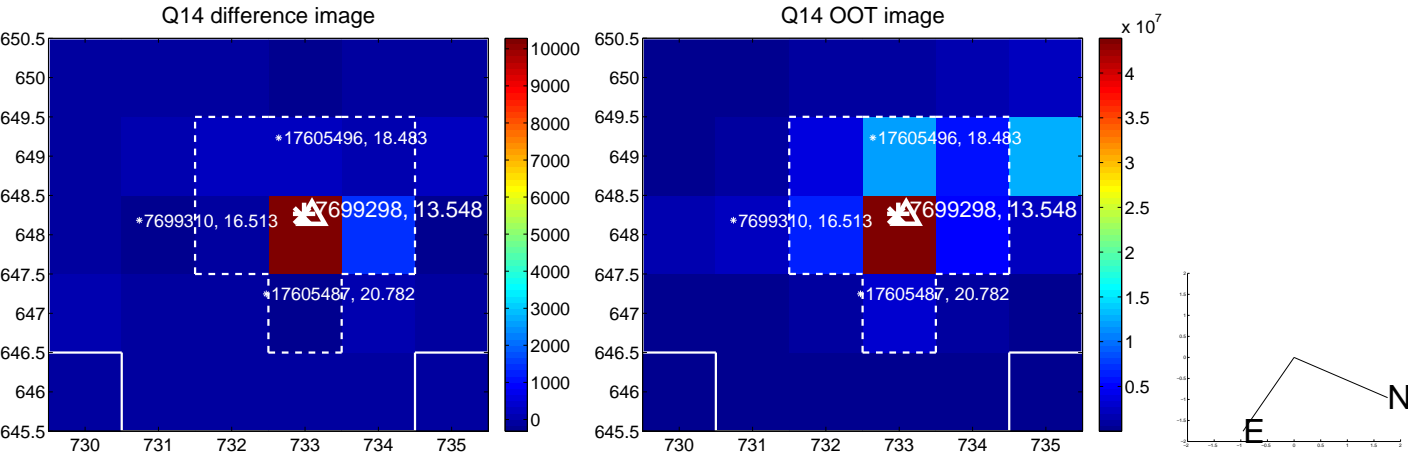
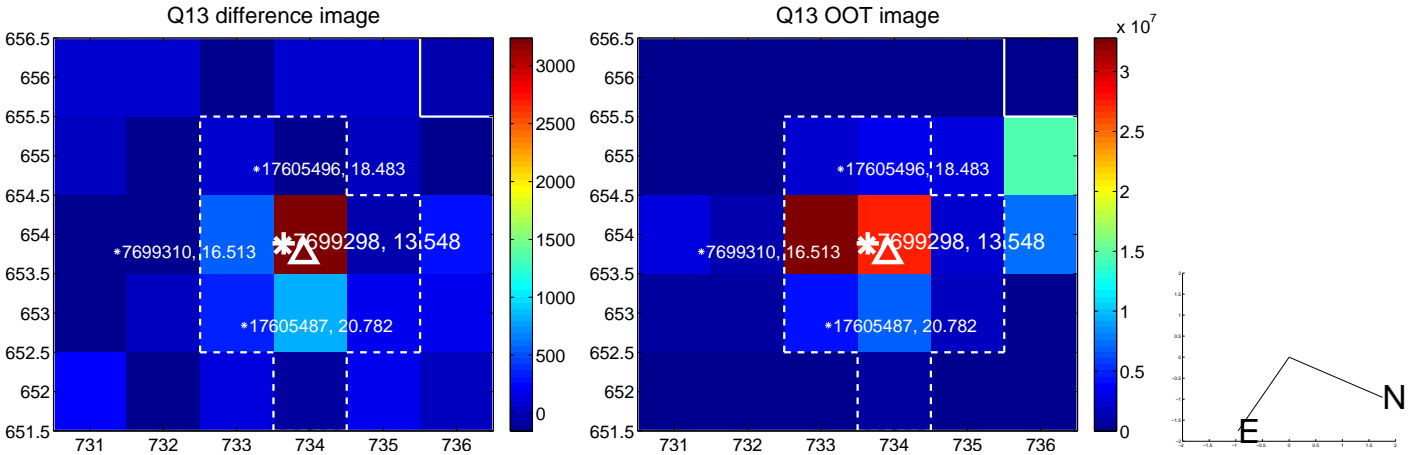
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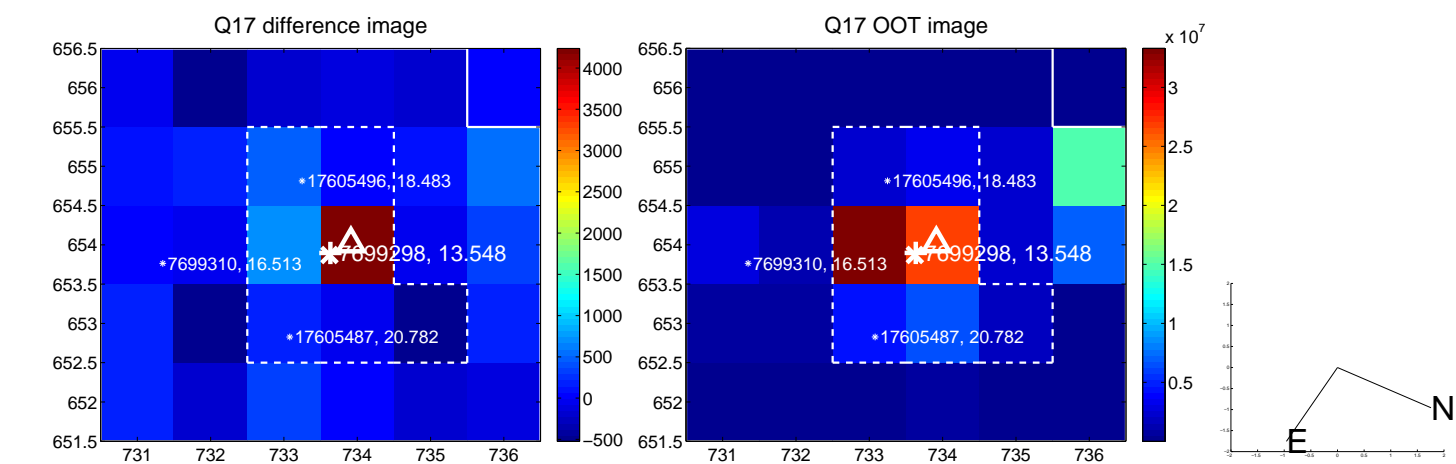
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



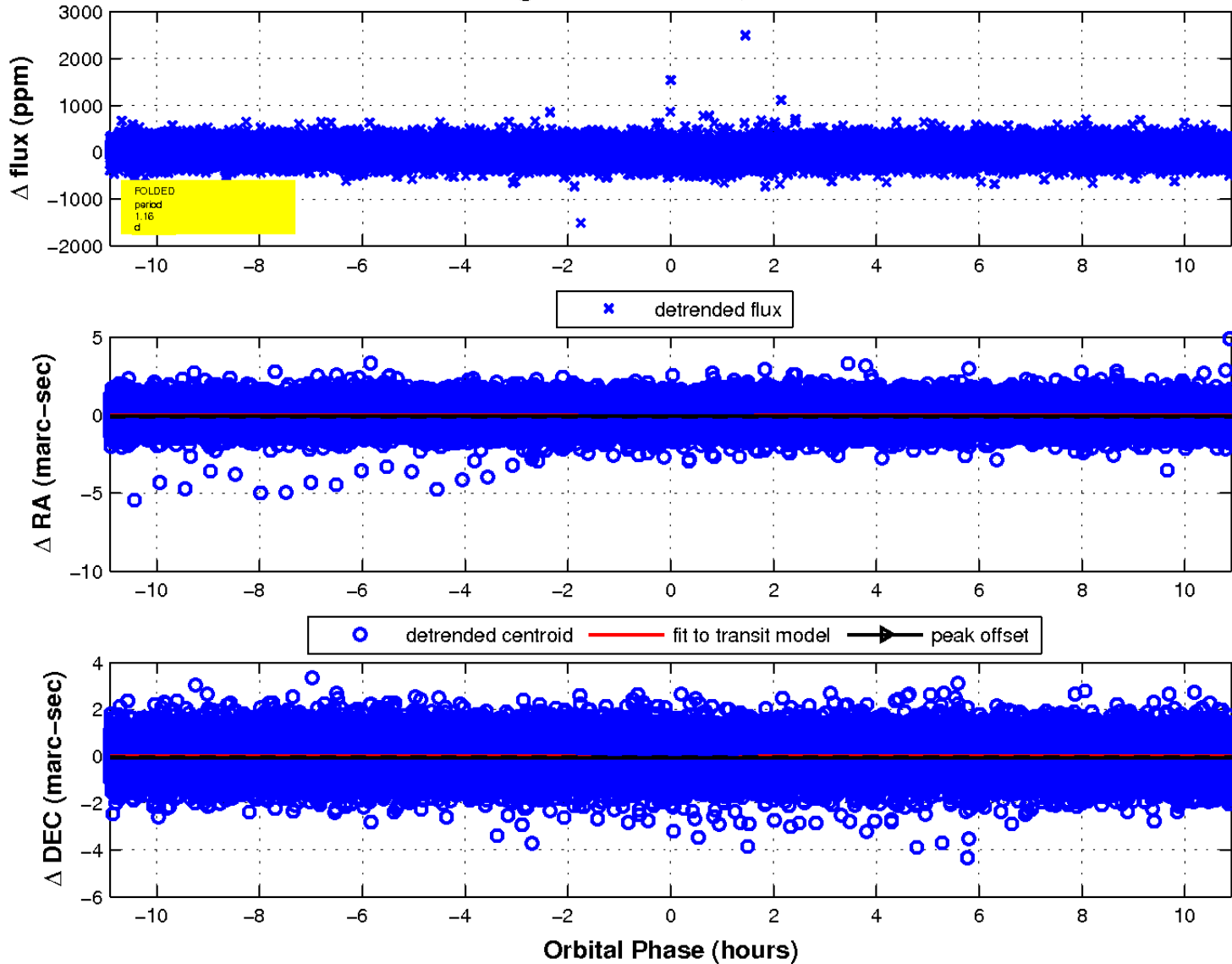
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

