

KIC 007212722

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})
007212722-01	OBS	6848.01	2.316172	132.311632	248952.7	3.999	15679.8	10661.7	0.80	5932	51.14	652.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007212722-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED

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.

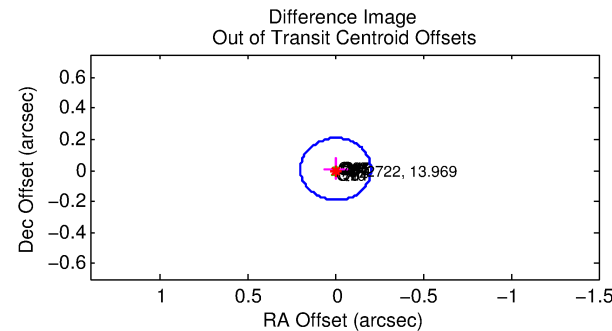
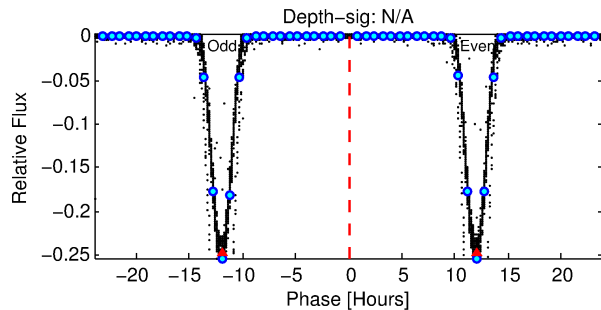
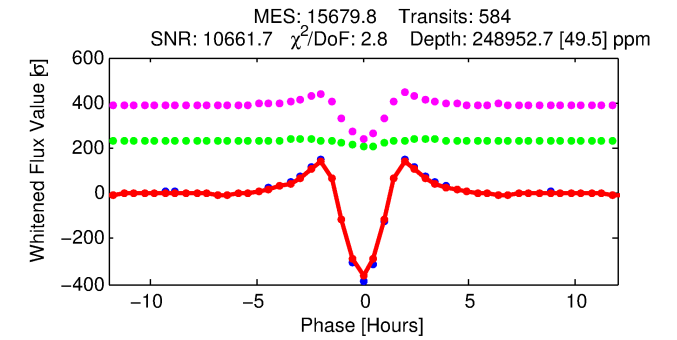
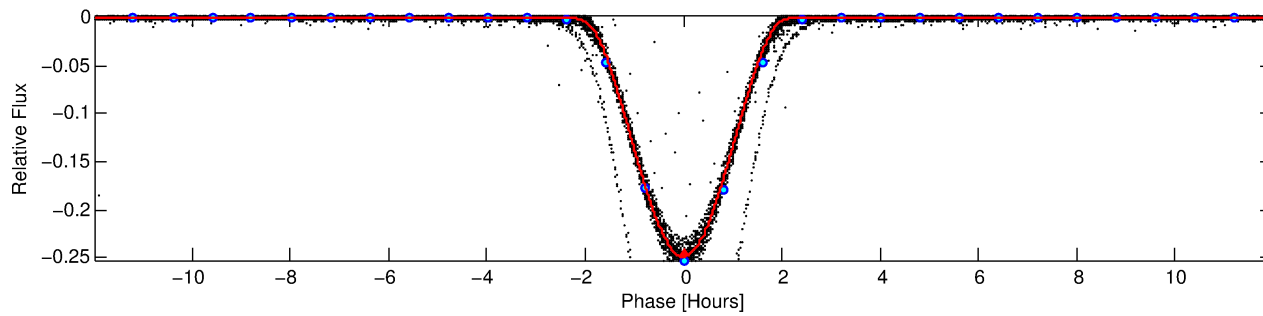
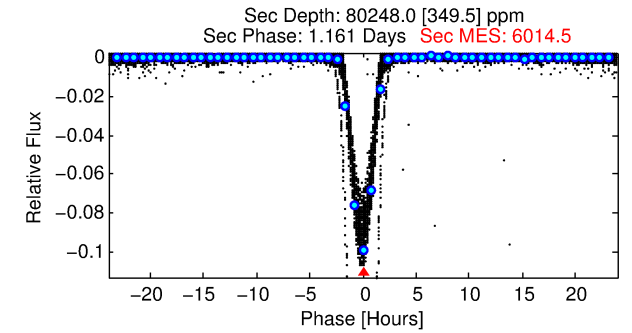
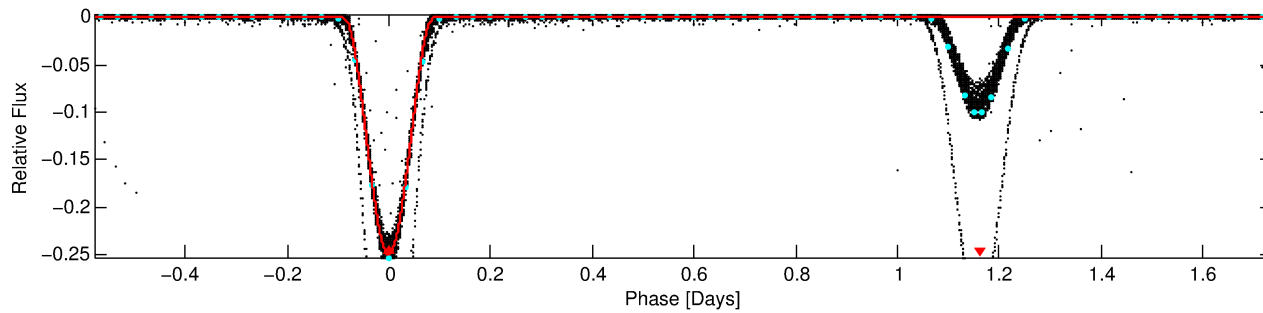
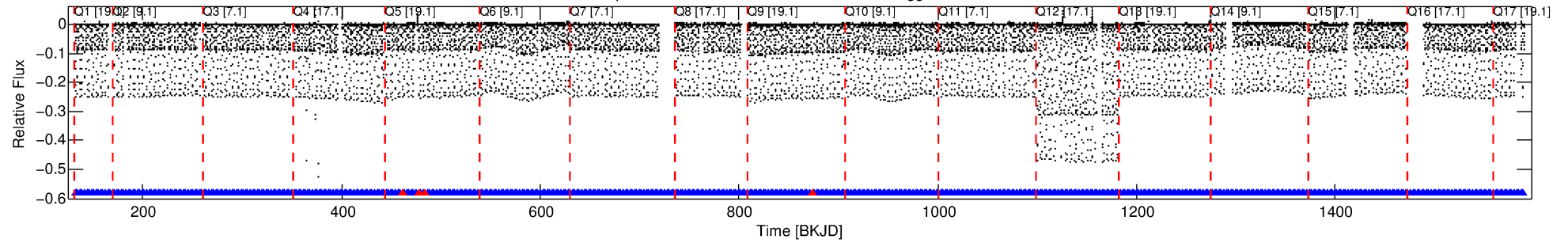
Ephemeris Match Information For 007212722-01

No Significant Match Found

DV One-Page Summary

KIC: 7212722 Candidate: 1 of 1 Period: 2.316 d
KOI: K06848.01 Corr: 0.996

Kp: 13.97 R*: 0.80 Rs Teff: 5932.0 K Logg: 4.58 Fe/H: -0.540



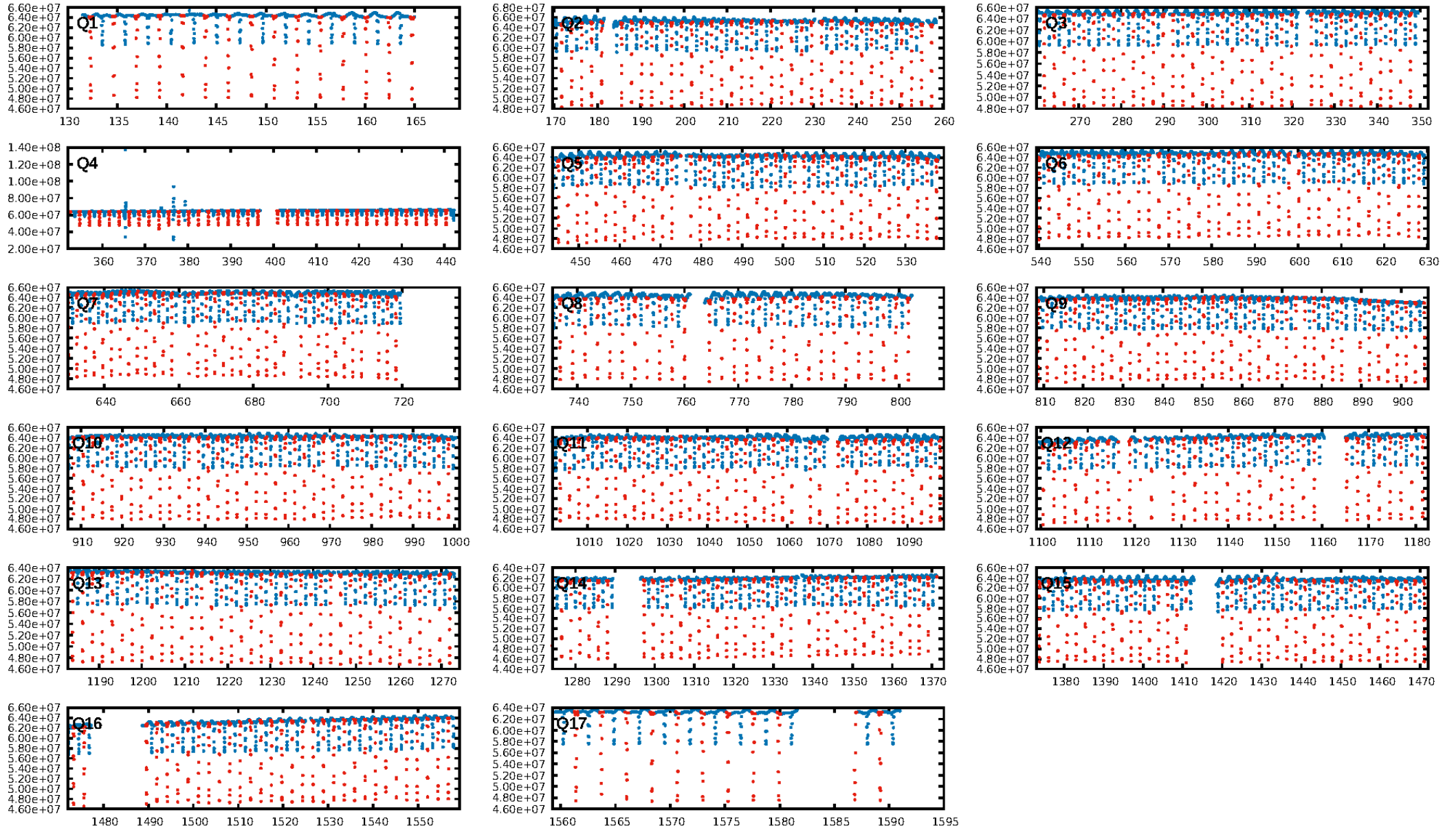
DV Fit Results:

Period = 2.31617 [0.00000] d
Epoch = 132.3116 [0.0000] BKJD
Rp/R* = 0.5895 [0.0084]
a/R* = 6.33 [0.01]
b = 0.74 [0.01]
Seff = 652.00 [223.09]
Teff = 1289 [110] K
Rp = 51.14 [13.27] Re
a = 0.0328 [0.0072] AU
Ag = 18.15 [5.84] [2.93σ]
Teffp = 4112 [126] K [16.85σ]

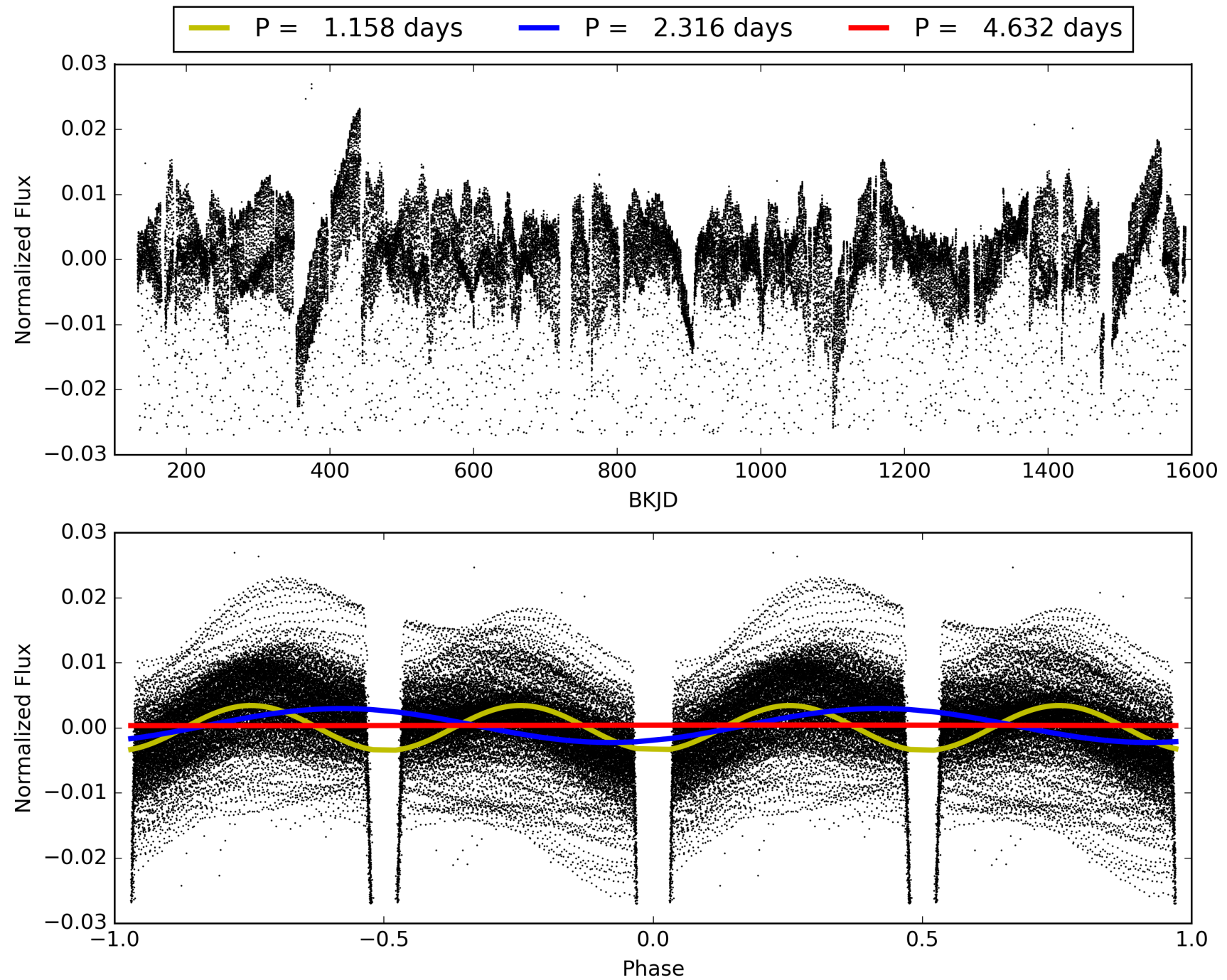
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [554/558]
GhostDiagnostic-chr: 3.384
Centroid-sig: 0.0%
Centroid-so: 0.153 arcsec [462.19σ]
OotOffset-rm: 0.009 arcsec [0.14σ]
KicOffset-rm: 0.100 arcsec [1.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007212722-01, PDC Light Curves

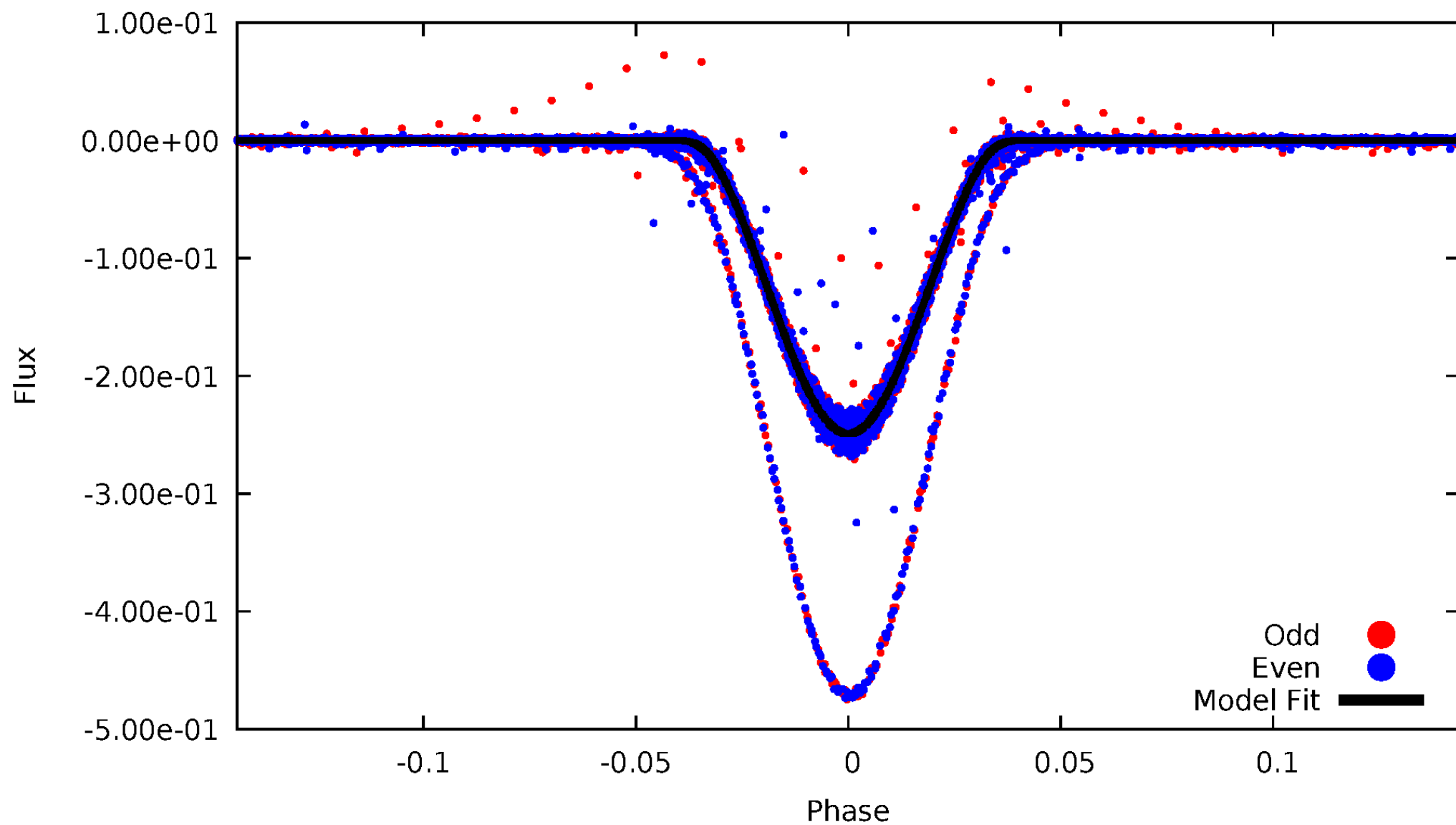


TCE 007212722-01



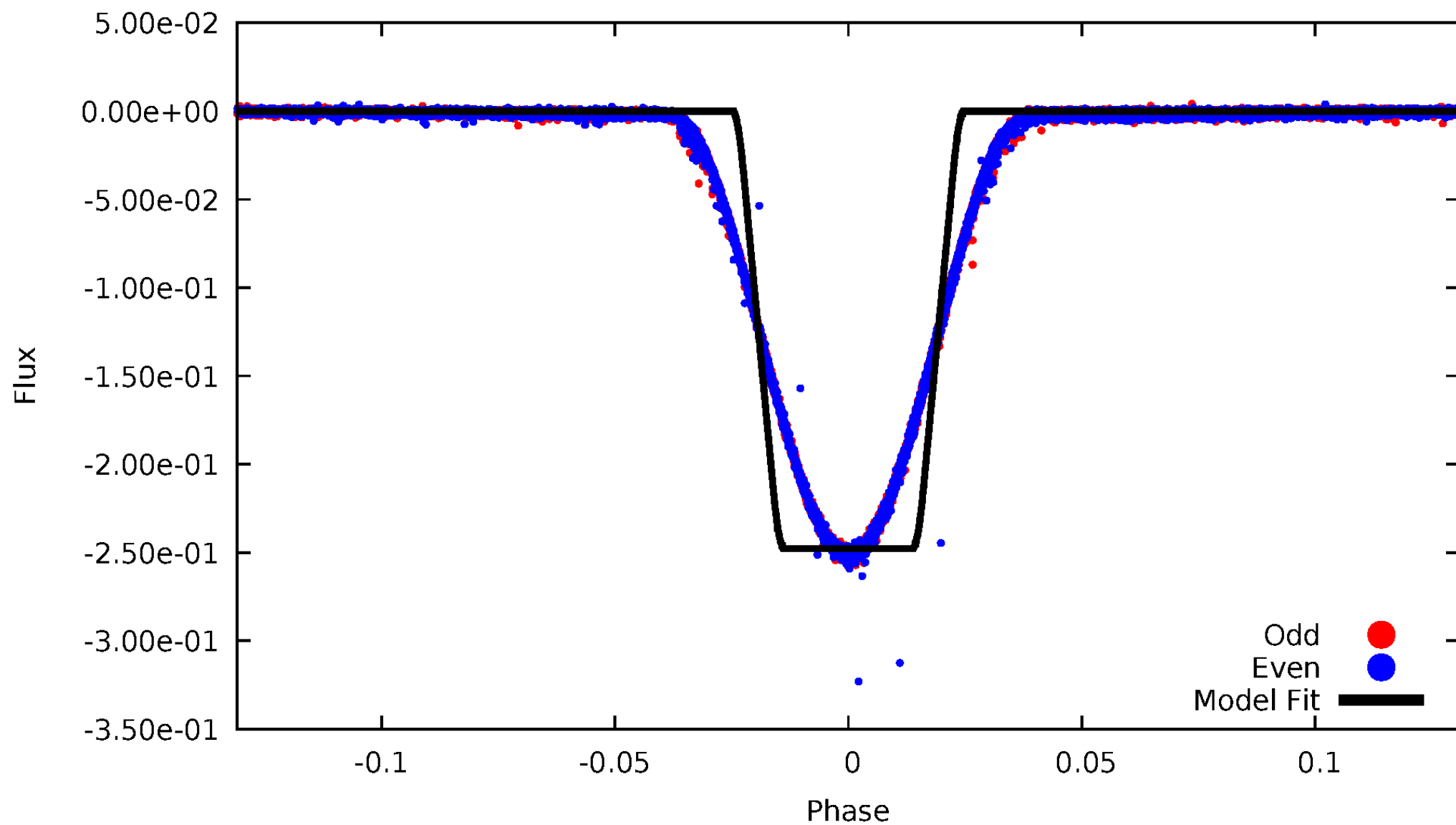
DV Odd/Even

TCE 007212722-01



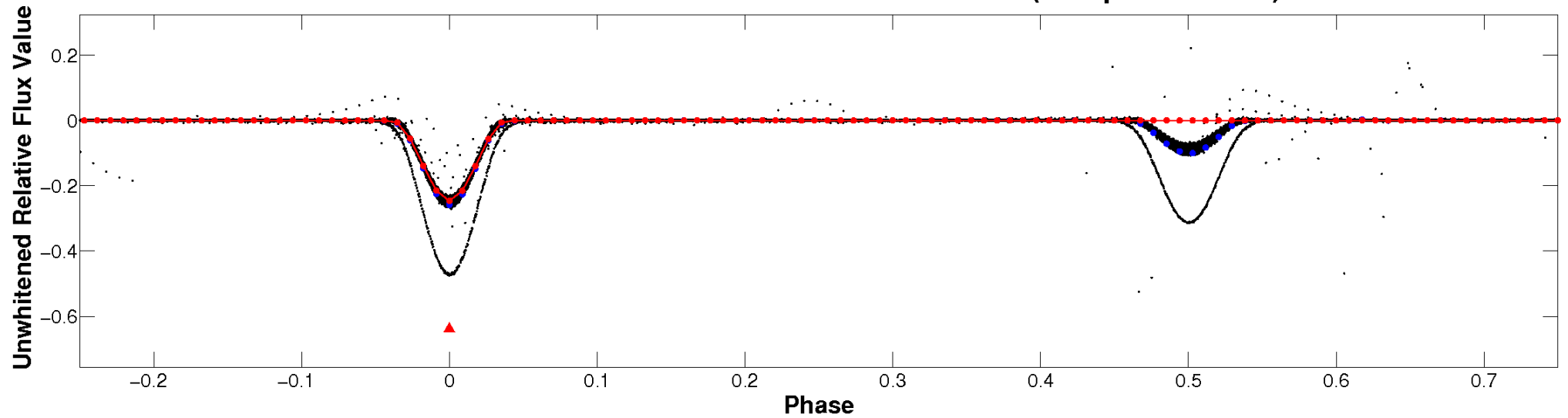
ALT Odd/Even

TCE 007212722-01

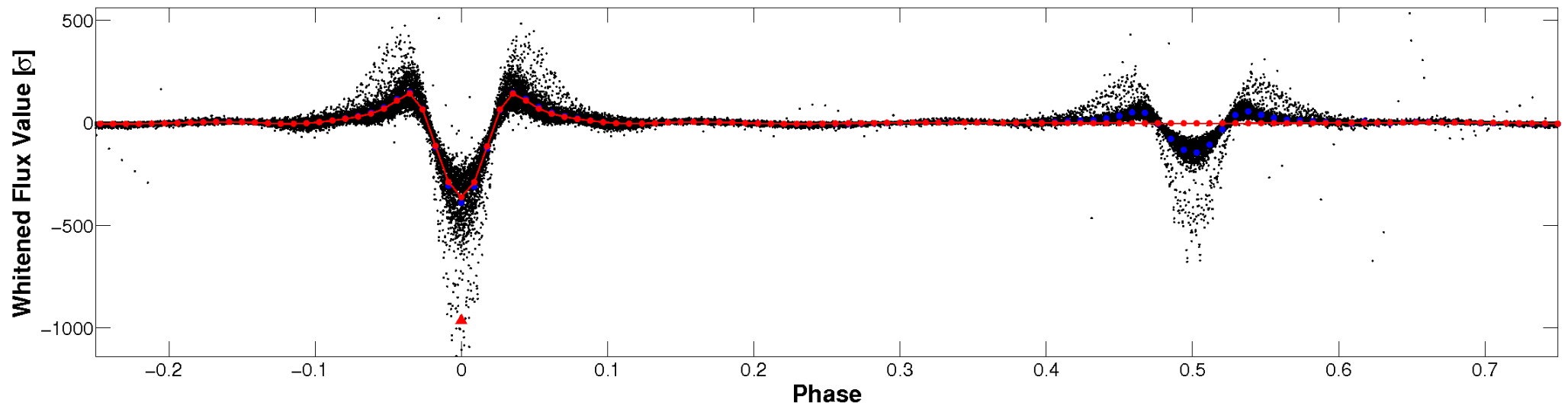


Non-Whitened Vs. Whitened Light Curve

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

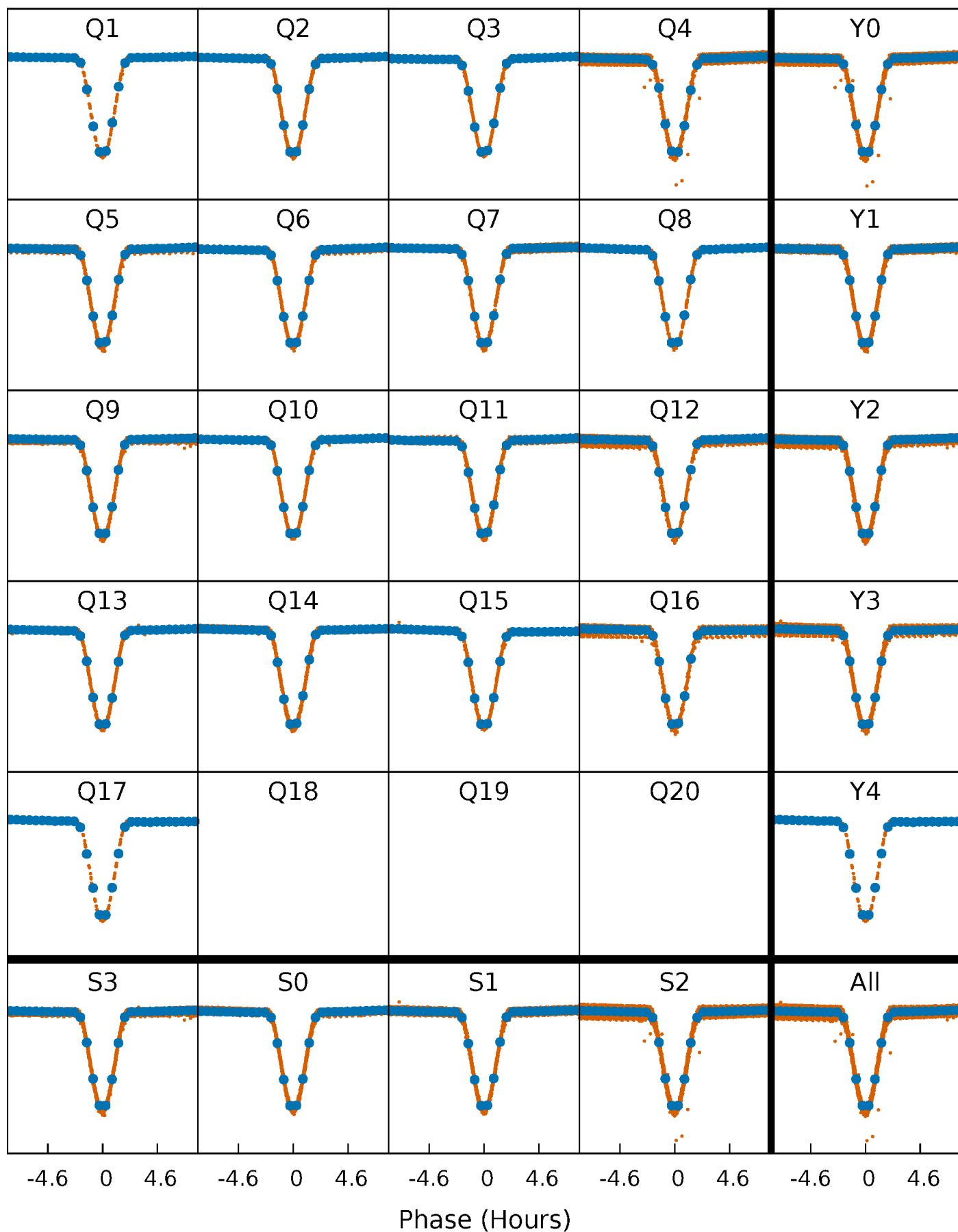


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



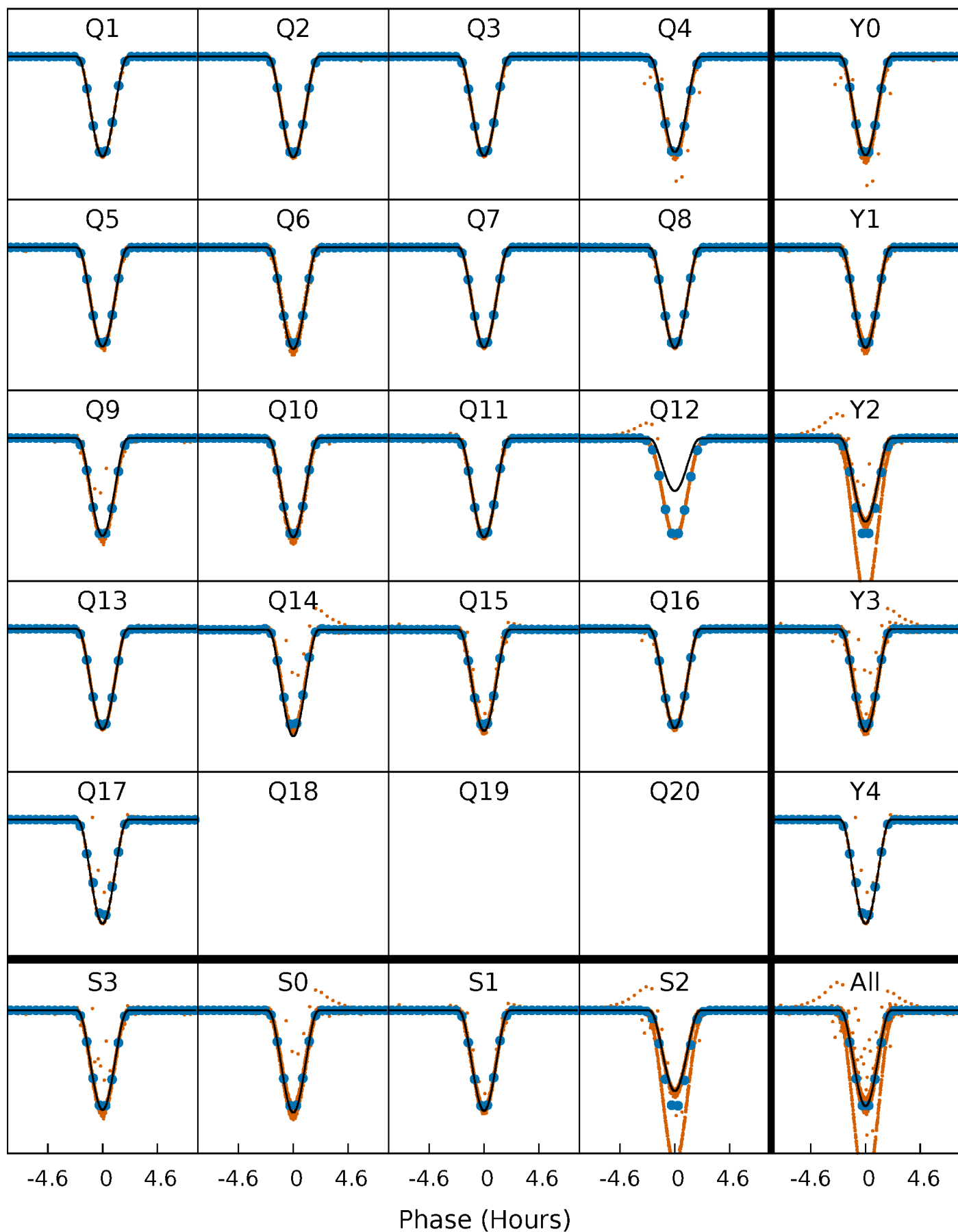
PDC Quarter-Phased Transit Curves

TCE 007212722-01 P= 2.316172 Days $T_0=132.311632$ (BKJD)



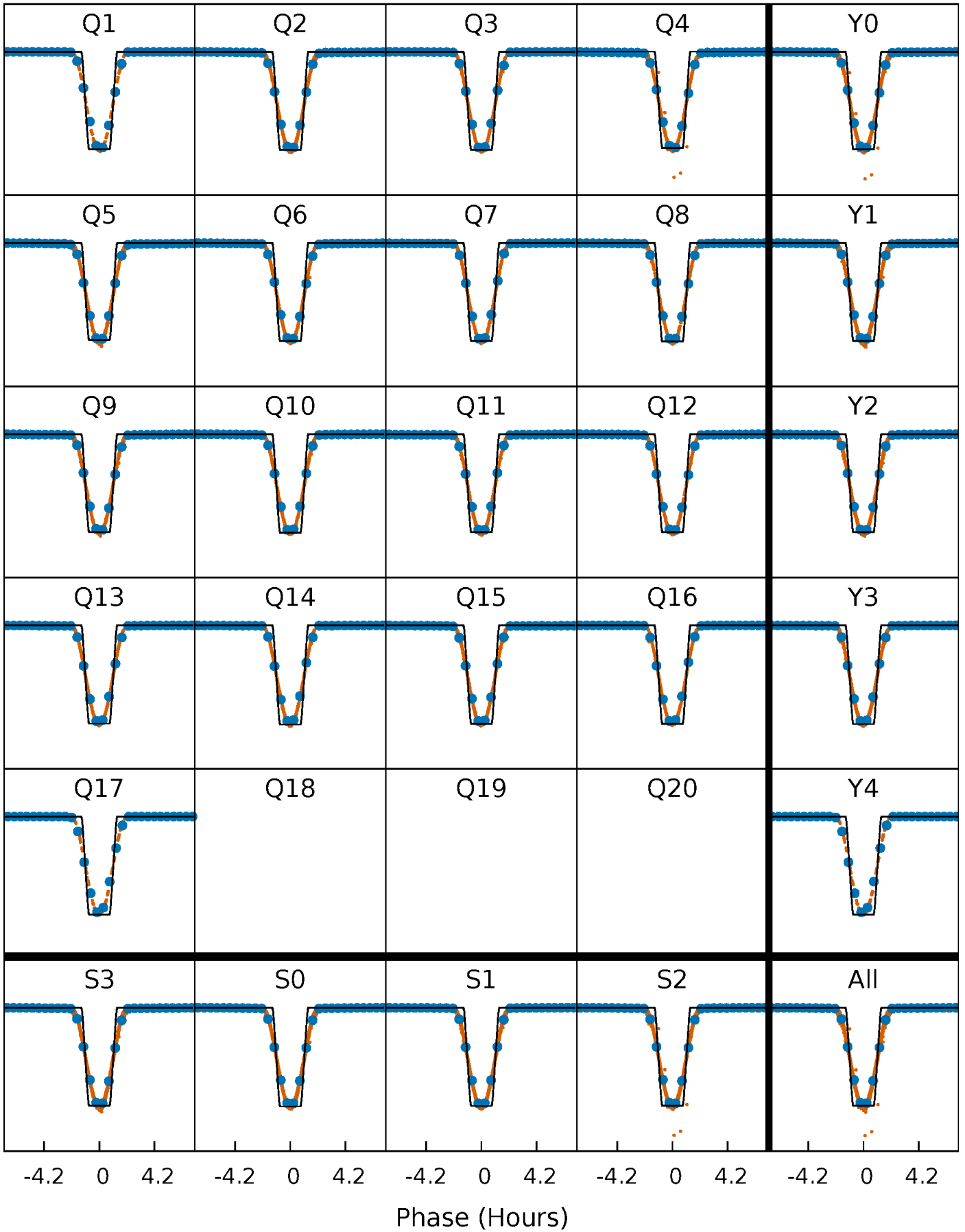
DV Quarter-Phased Transit Curves

TCE 007212722-01 P= 2.316172 Days $T_0=132.311632$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

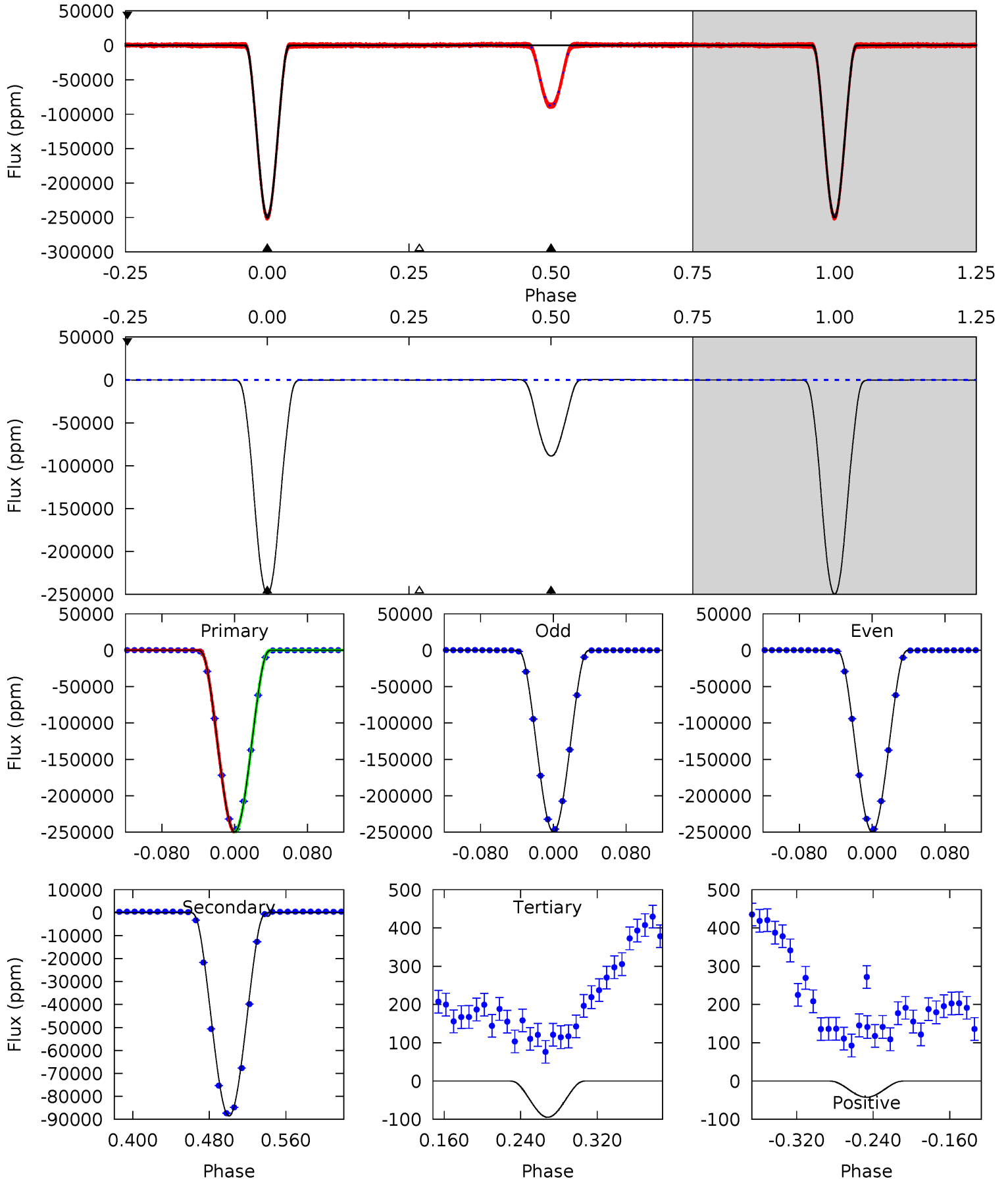
TCE 007212722-01 P= 2.316174 Days $T_0=132.310847$ (BKJD)



DV Model-Shift Uniqueness Test

007212722-01, P = 2.316172 Days, E = 129.995460 Days

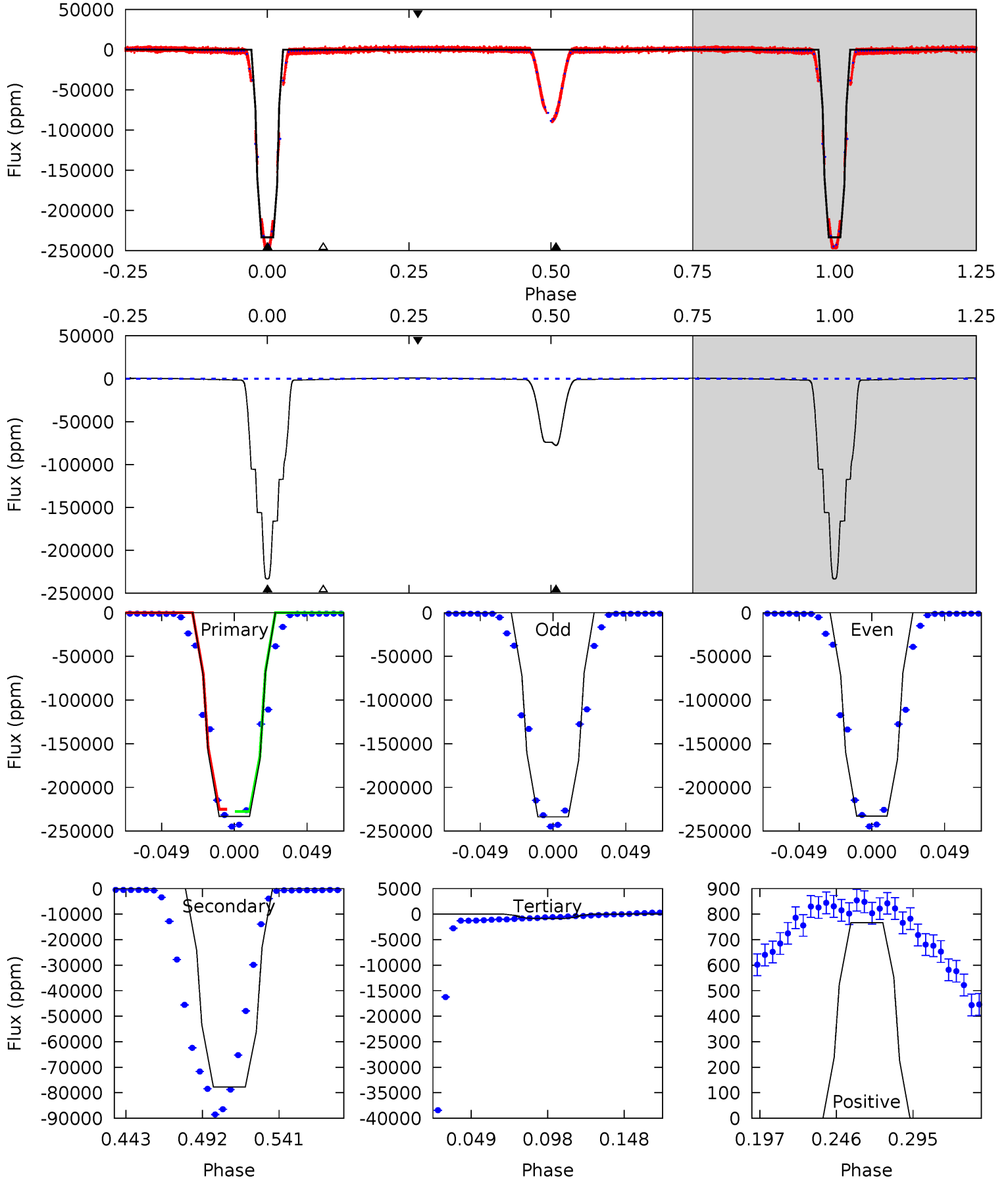
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17973	6380	6.81	-3.06	4.61	1.75	11.9	17967	17976	6373	6383	1.97	1.05	0.00	0



Alt Model-Shift Uniqueness Test

007212722-01, P = 2.316174 Days, E = 129.994673 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7797	2597	28.9	25.6	4.71	1.97	21.4	7769	7772	2568	2571	14.7	1.00	0.00	0



Stellar Parameters For KIC 007212722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5932^{+141}_{-177}	$4.580^{+0.033}_{-0.176}$	$-0.540^{+0.300}_{-0.300}$	$0.795^{+0.206}_{-0.055}$	$0.882^{+0.087}_{-0.096}$	$2.471^{+0.441}_{-1.197}$
	+2%/-3%	+1%/-4%	+56%/-56%	+26%/-7%	+10%/-11%	+18%/-48%
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 007212722-01 / KOI 6848.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88591 ± 14	$52.29^{+7.61}_{-3.11}$	1832^{+114}_{-74}	4481^{+93}_{-110}	21^{+2}_{-4}
Alt.	-77721 ± 30	$44.21^{+6.16}_{-2.71}$	1837^{+104}_{-78}	4665^{+94}_{-110}	25^{+3}_{-5}

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

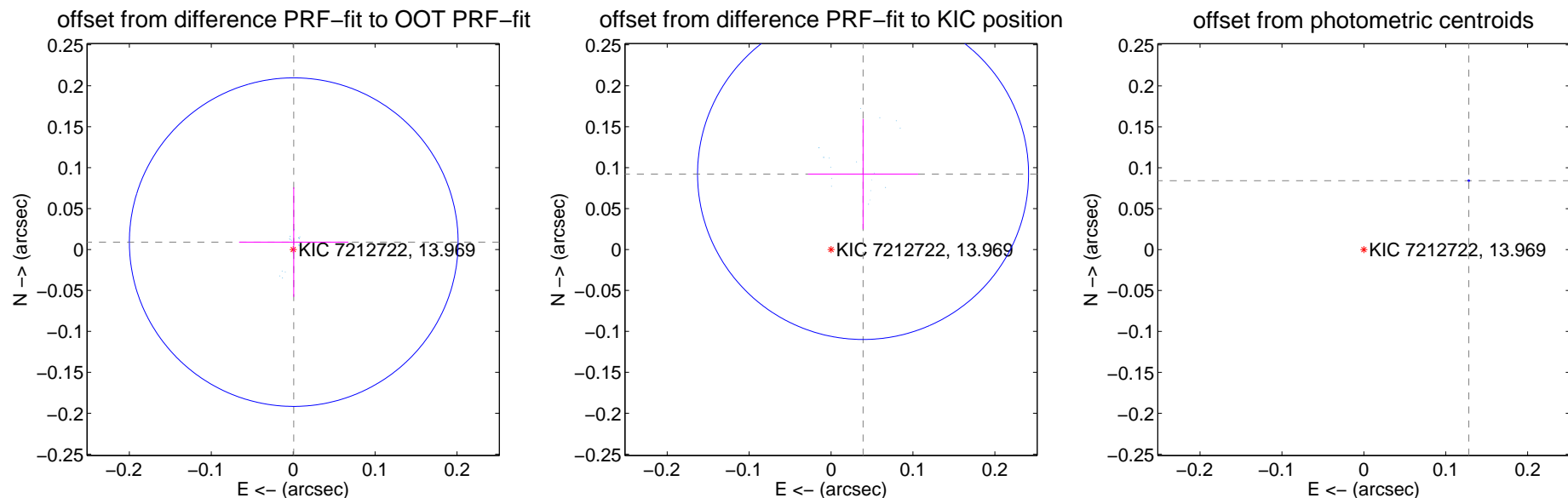
DV Centroid Data

Supplemental centroid analysis for 007212722-01. Kepler magnitude: 13.97. Transit SNR 10661.67

There are 17 quarters with good PRF difference image offsets

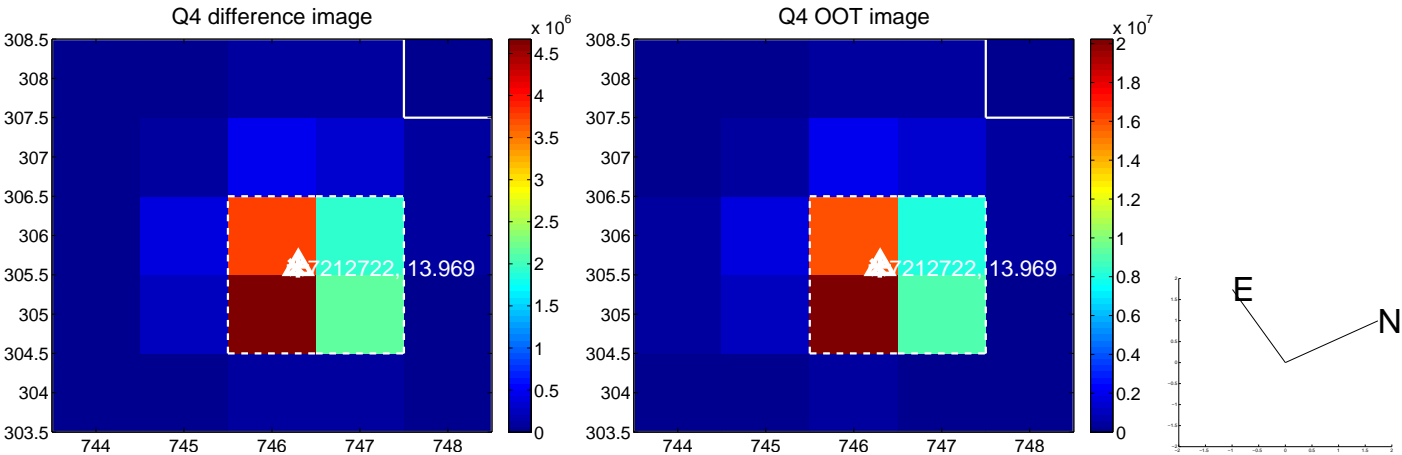
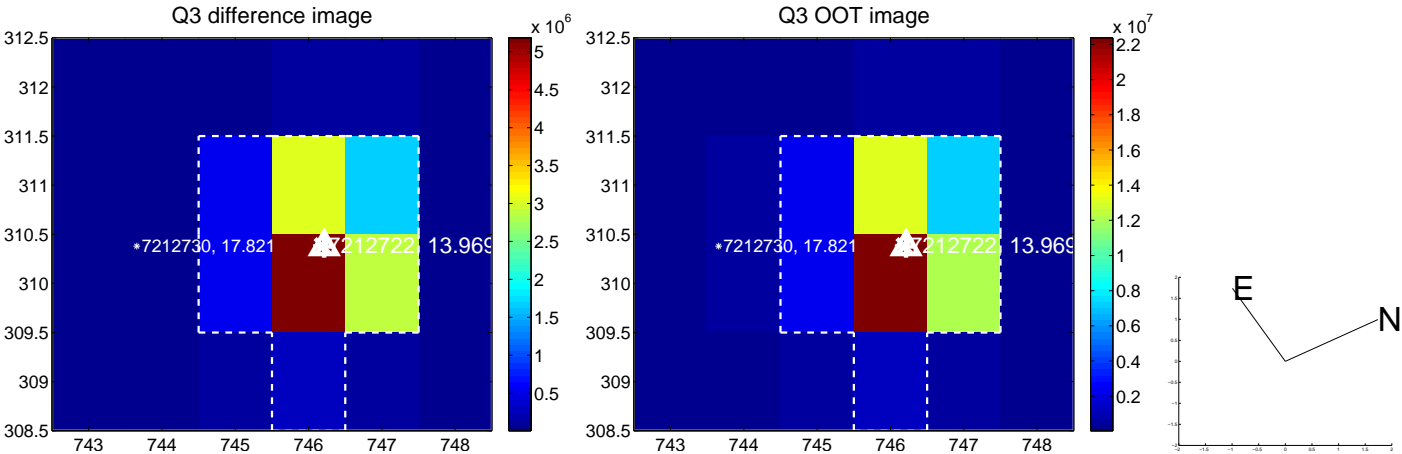
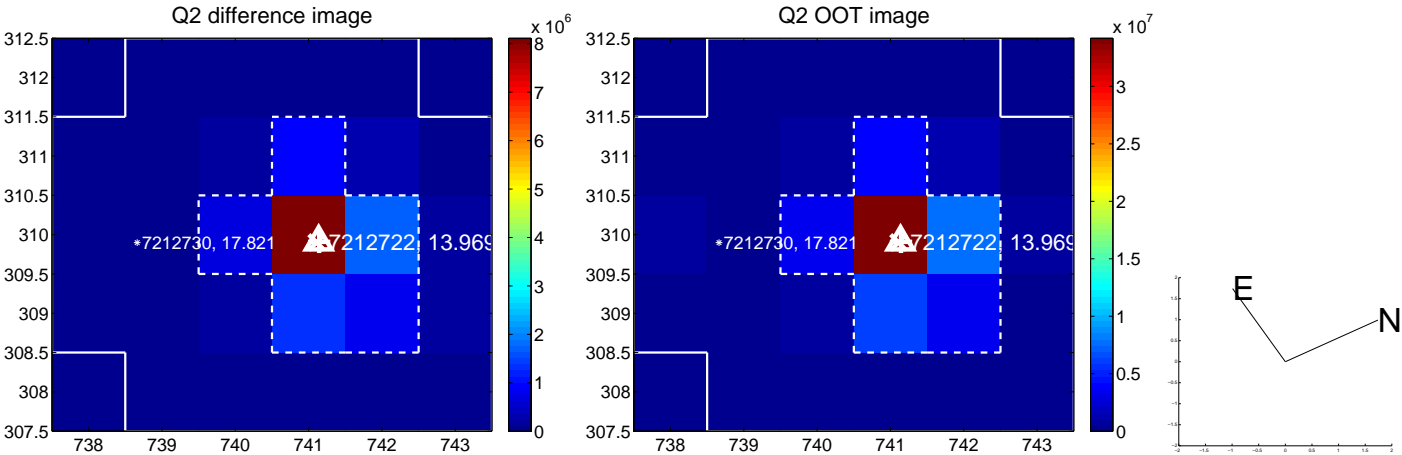
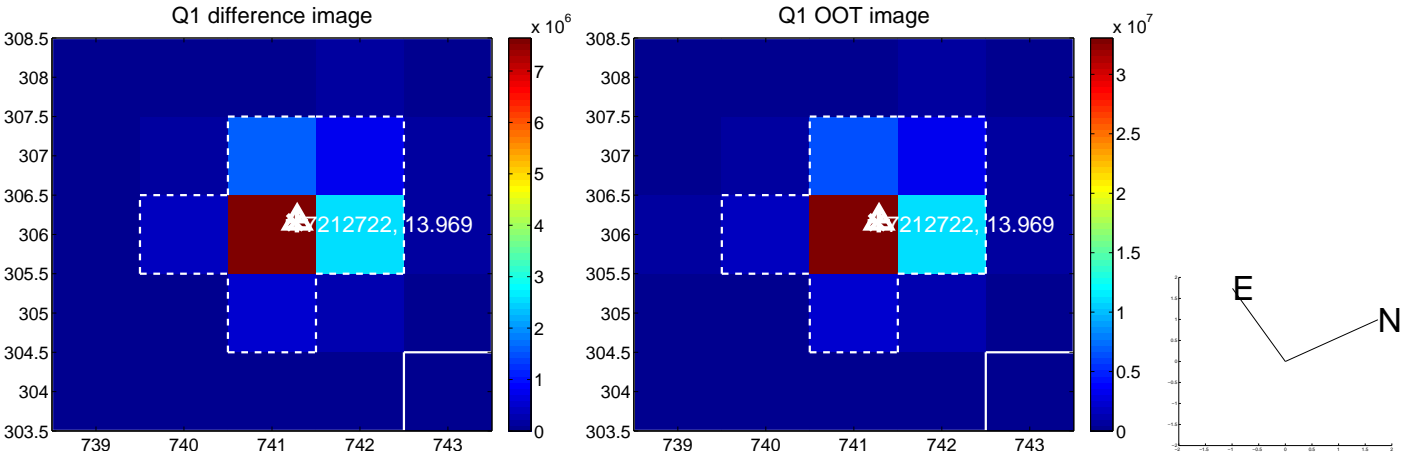
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.14	-0.001 ± 0.067	0.009 ± 0.067
PRF-fit source offset from KIC position	0.100 ± 0.067	1.49	-0.039 ± 0.067	0.092 ± 0.067
photometric centroid source offset	0.15 ± 0.00	462.19	-0.13 ± 0.00	0.08 ± 0.00

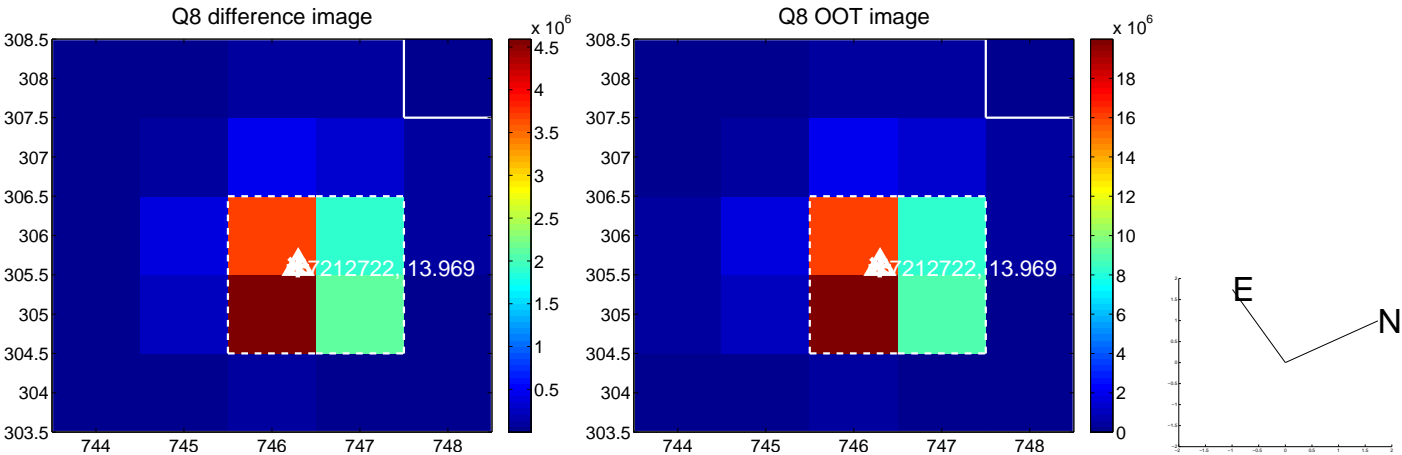
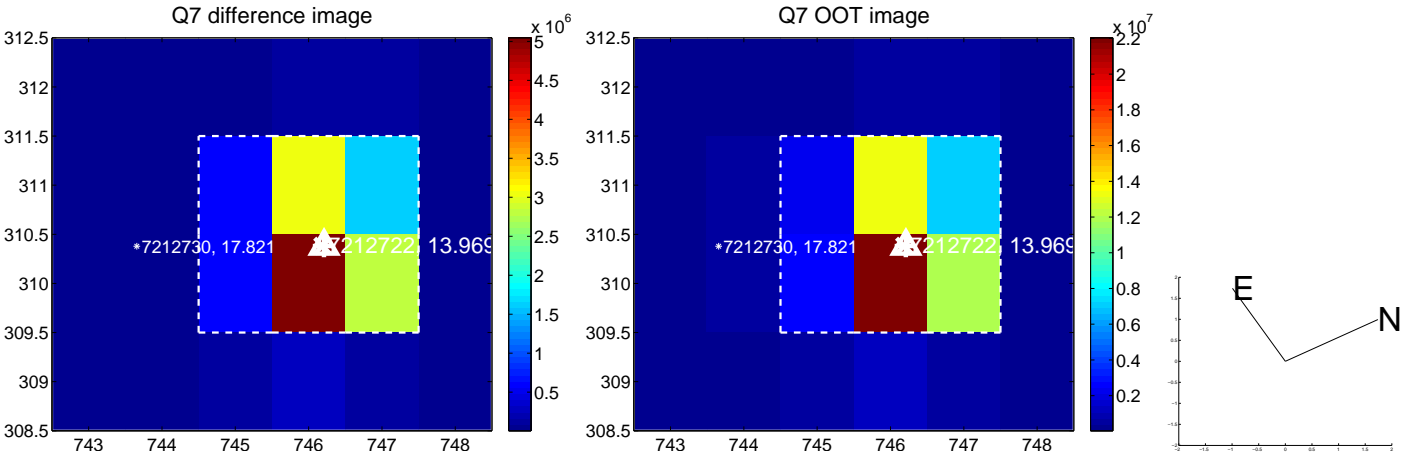
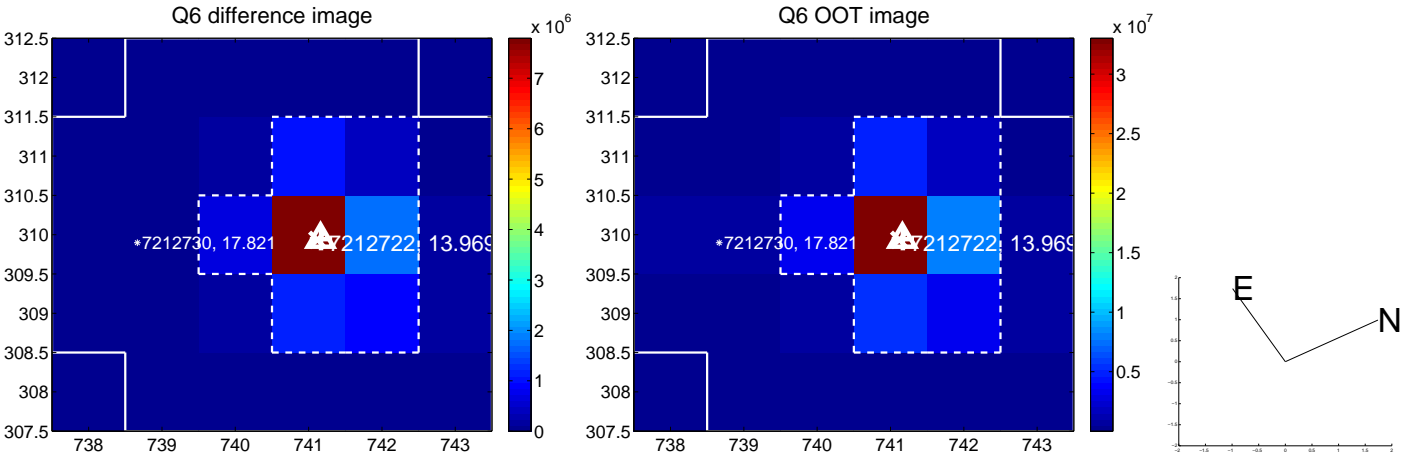
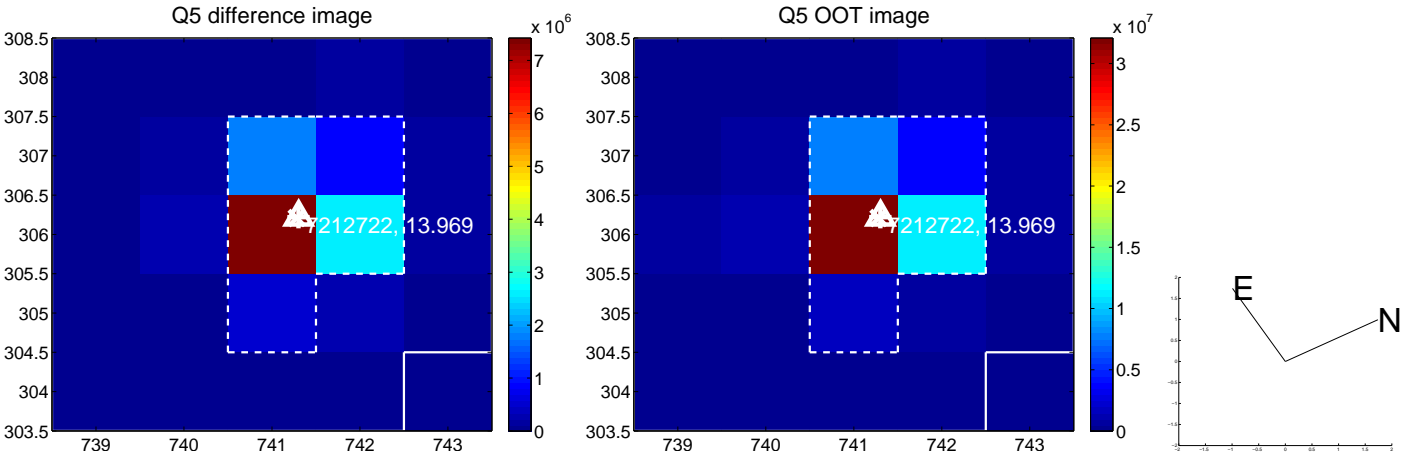


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

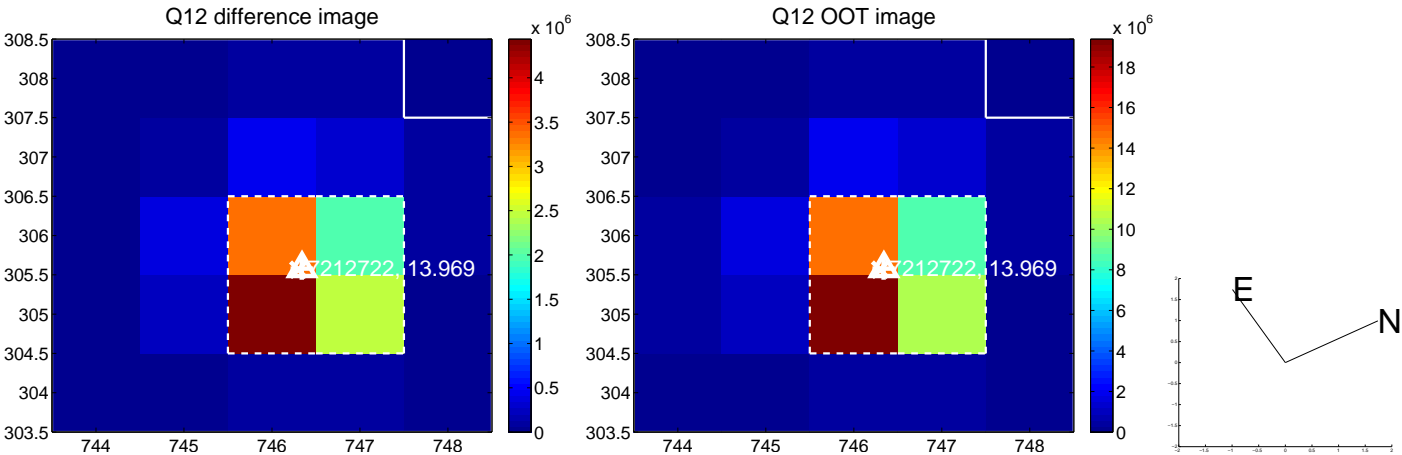
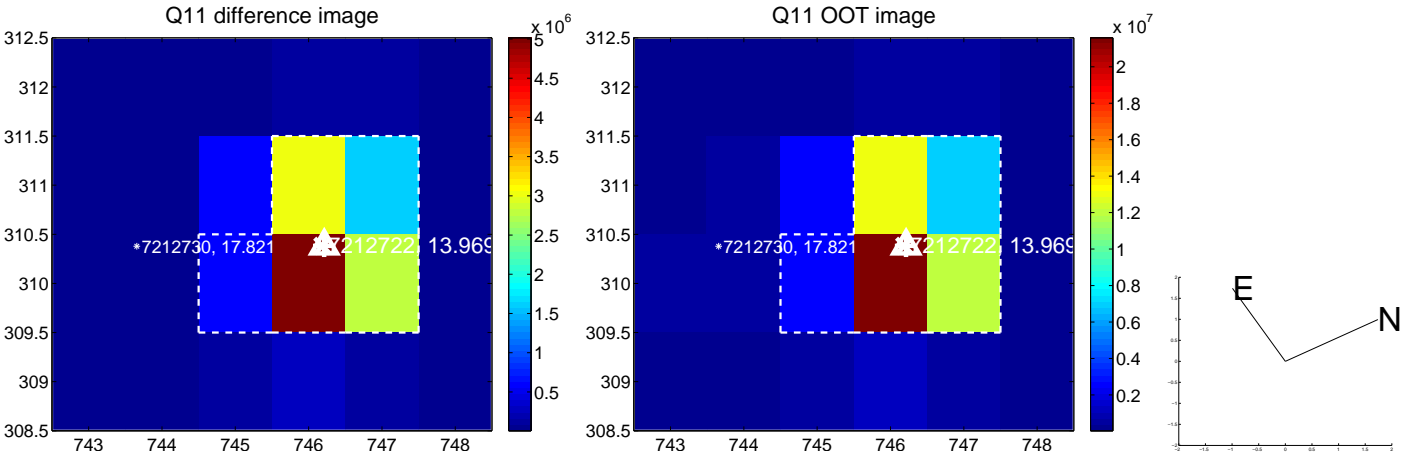
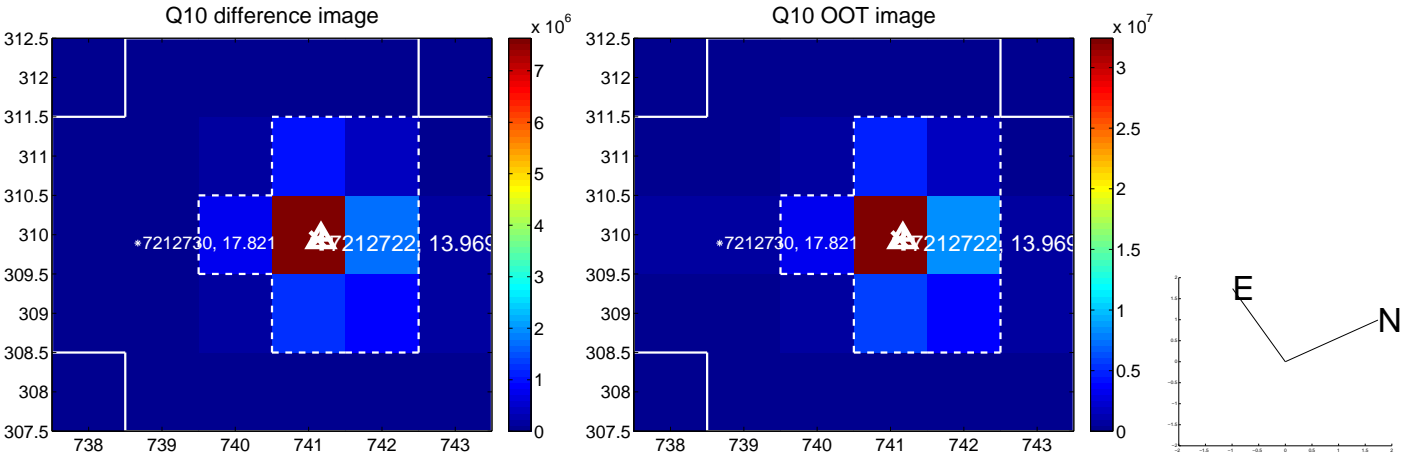
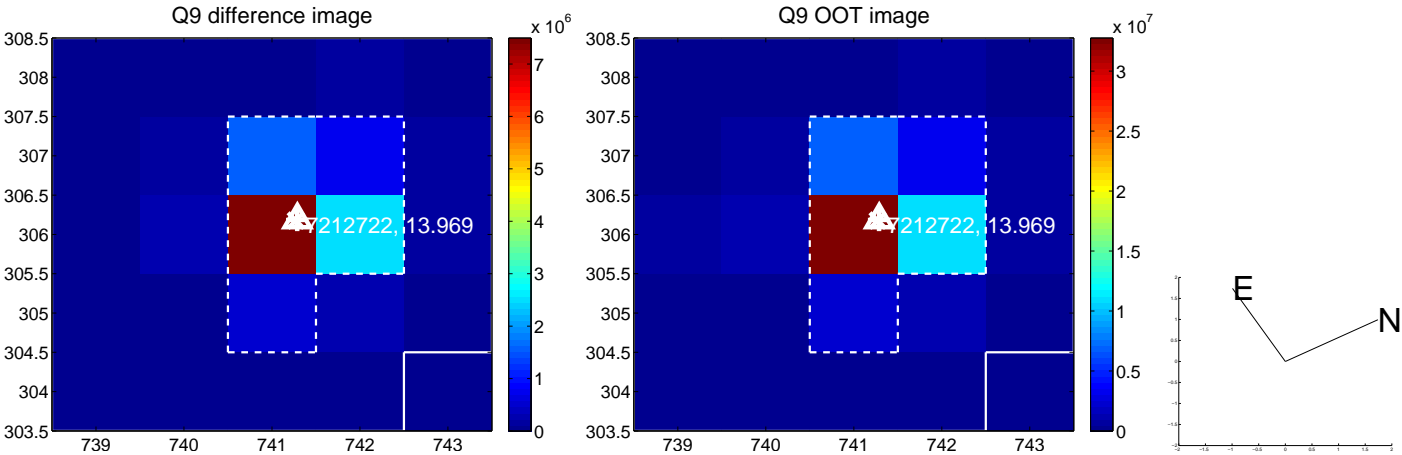
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



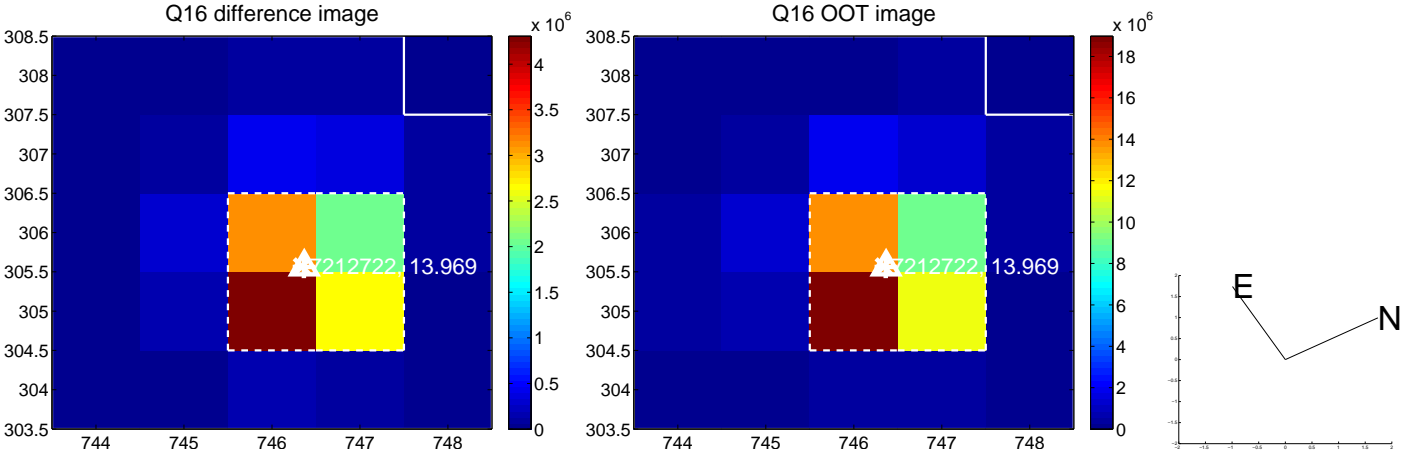
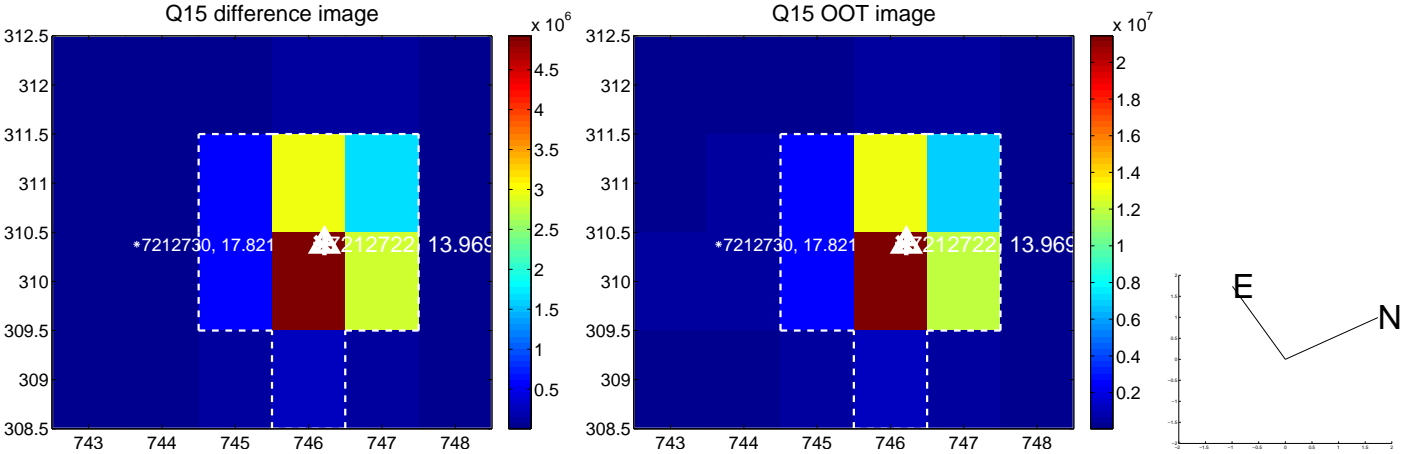
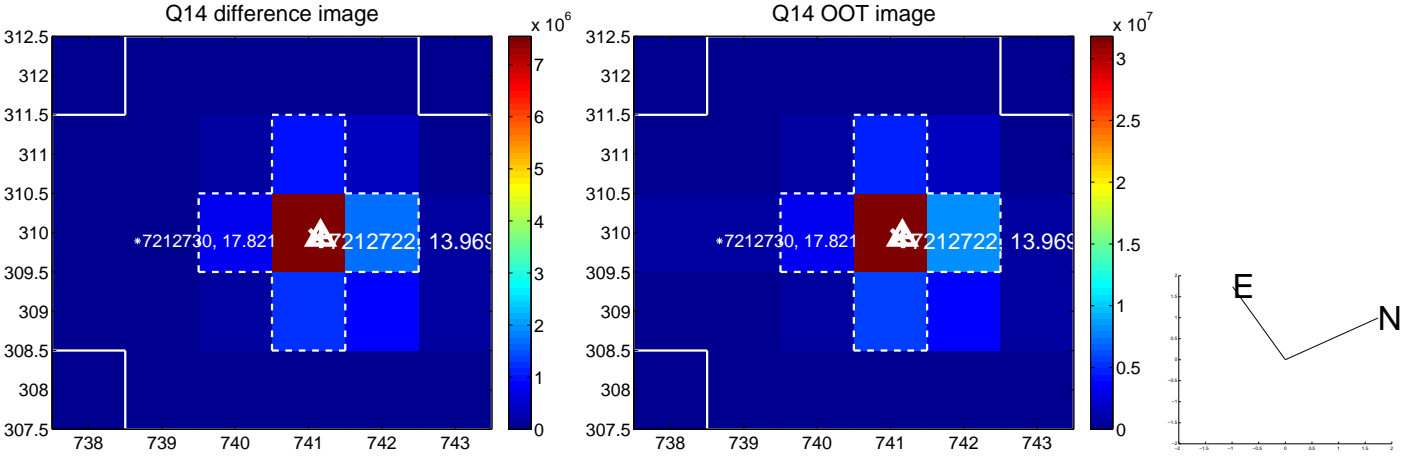
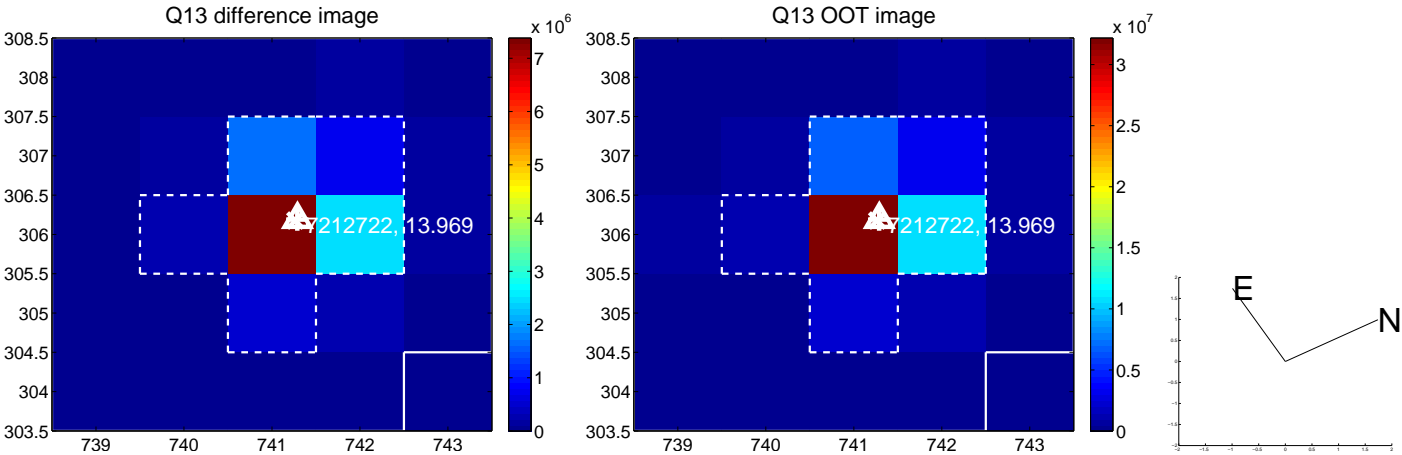
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



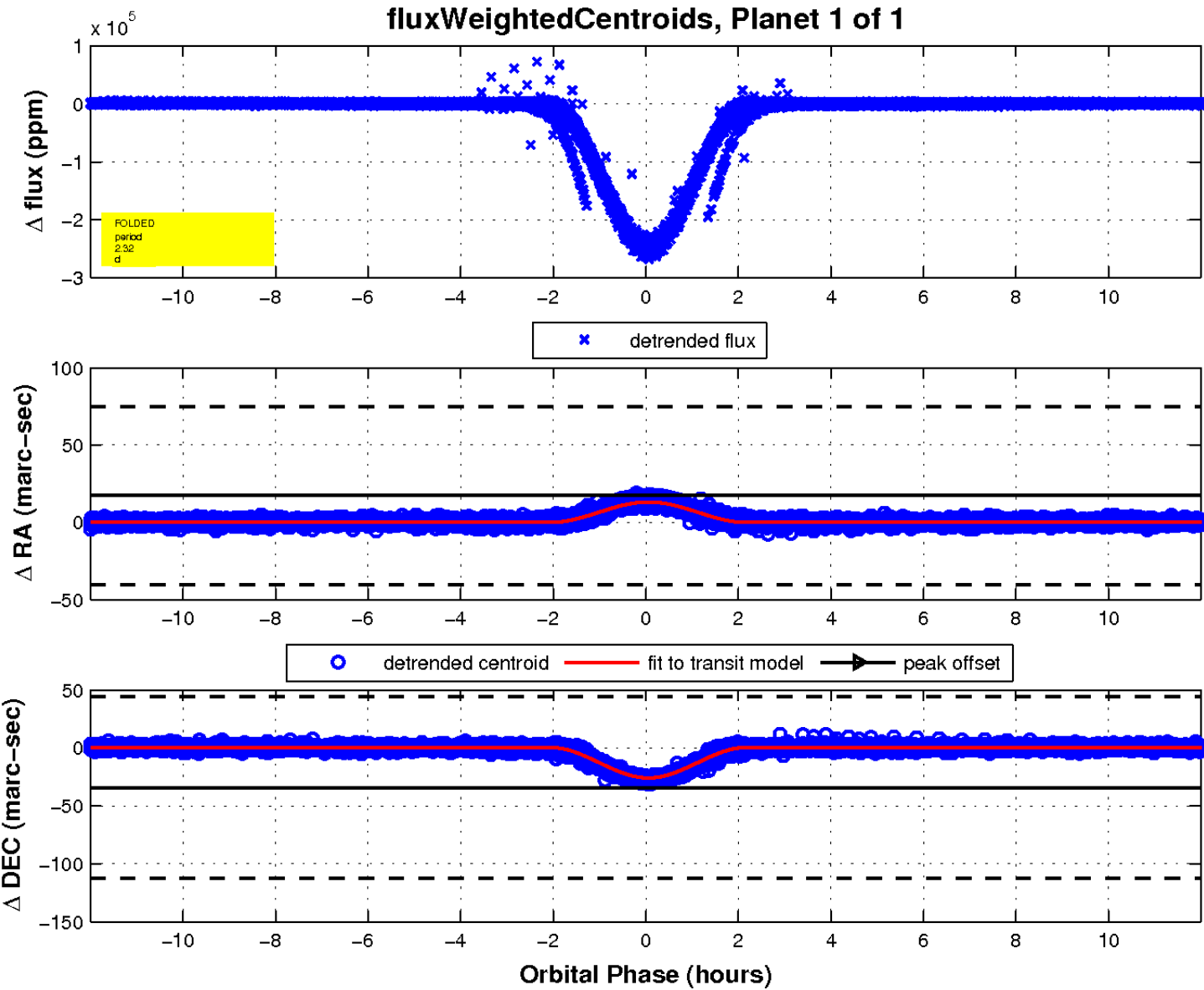
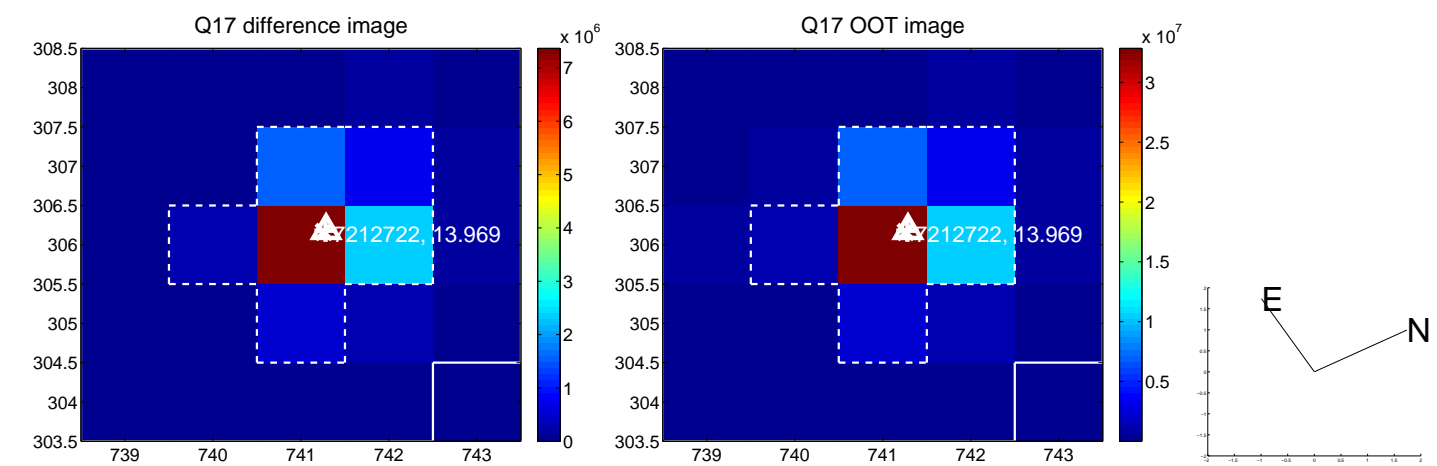
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

