

KIC 008242434

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})
008242434-01	OBS	1726.01	44.964091	144.560497	809.7	5.316	71.7	70.4	0.73	4827	2.43	4.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008242434-01	OBS	PC	0.75	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

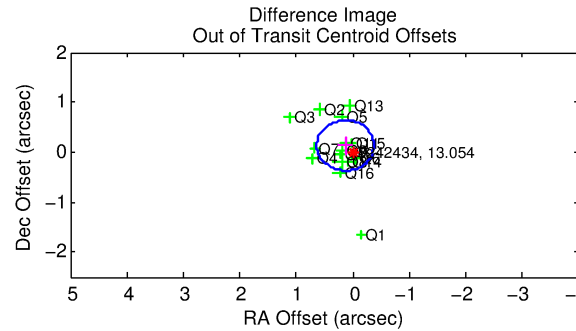
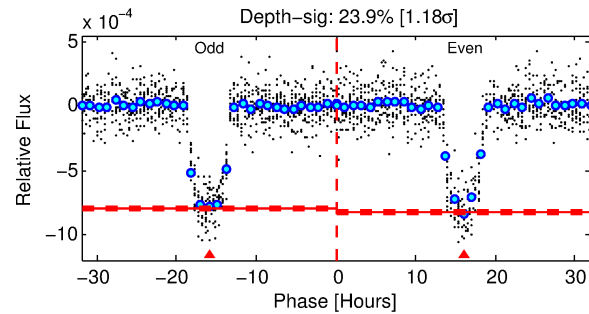
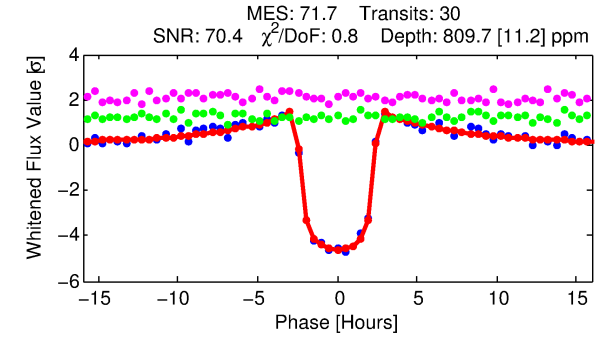
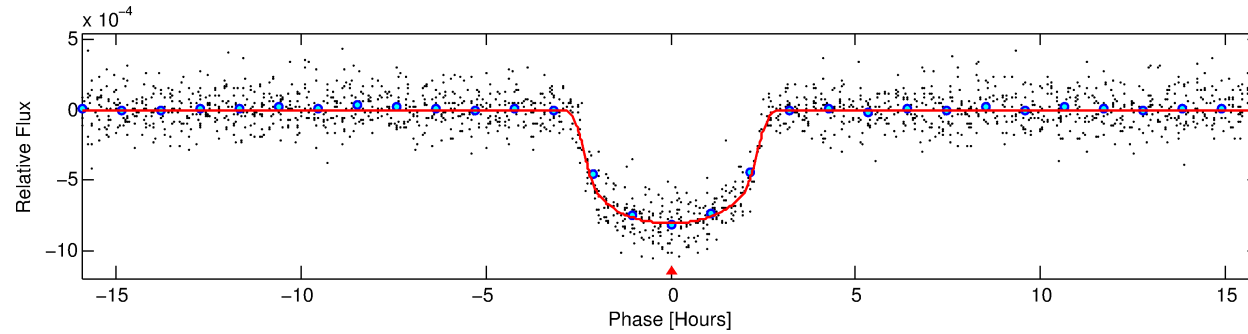
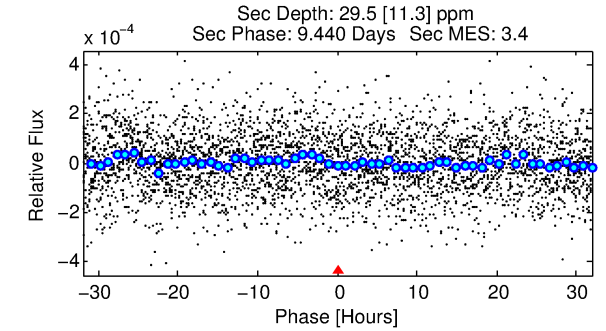
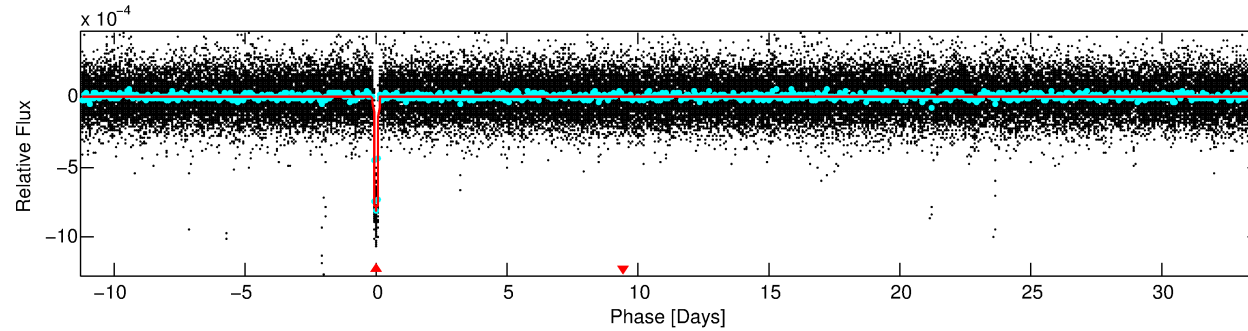
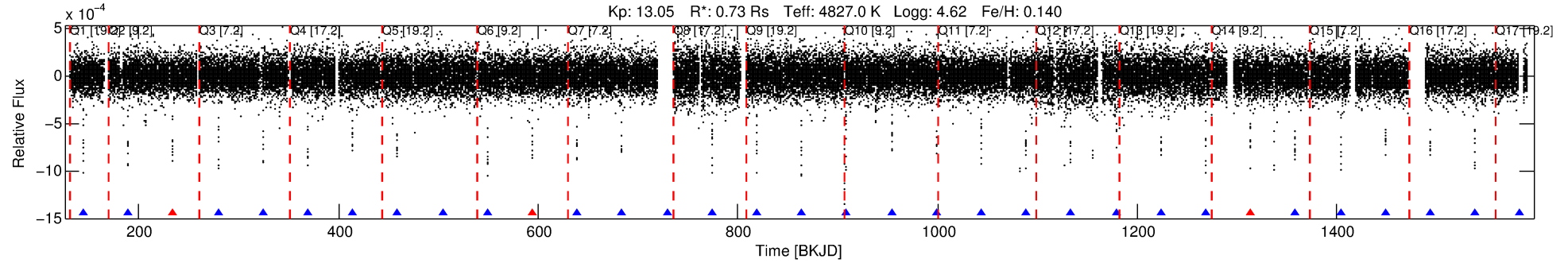
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008242434-01

No Significant Match Found

DV One-Page Summary

KIC: 8242434 Candidate: 1 of 1 Period: 44.964 d
KOI: K01726.01 Corr: 0.975



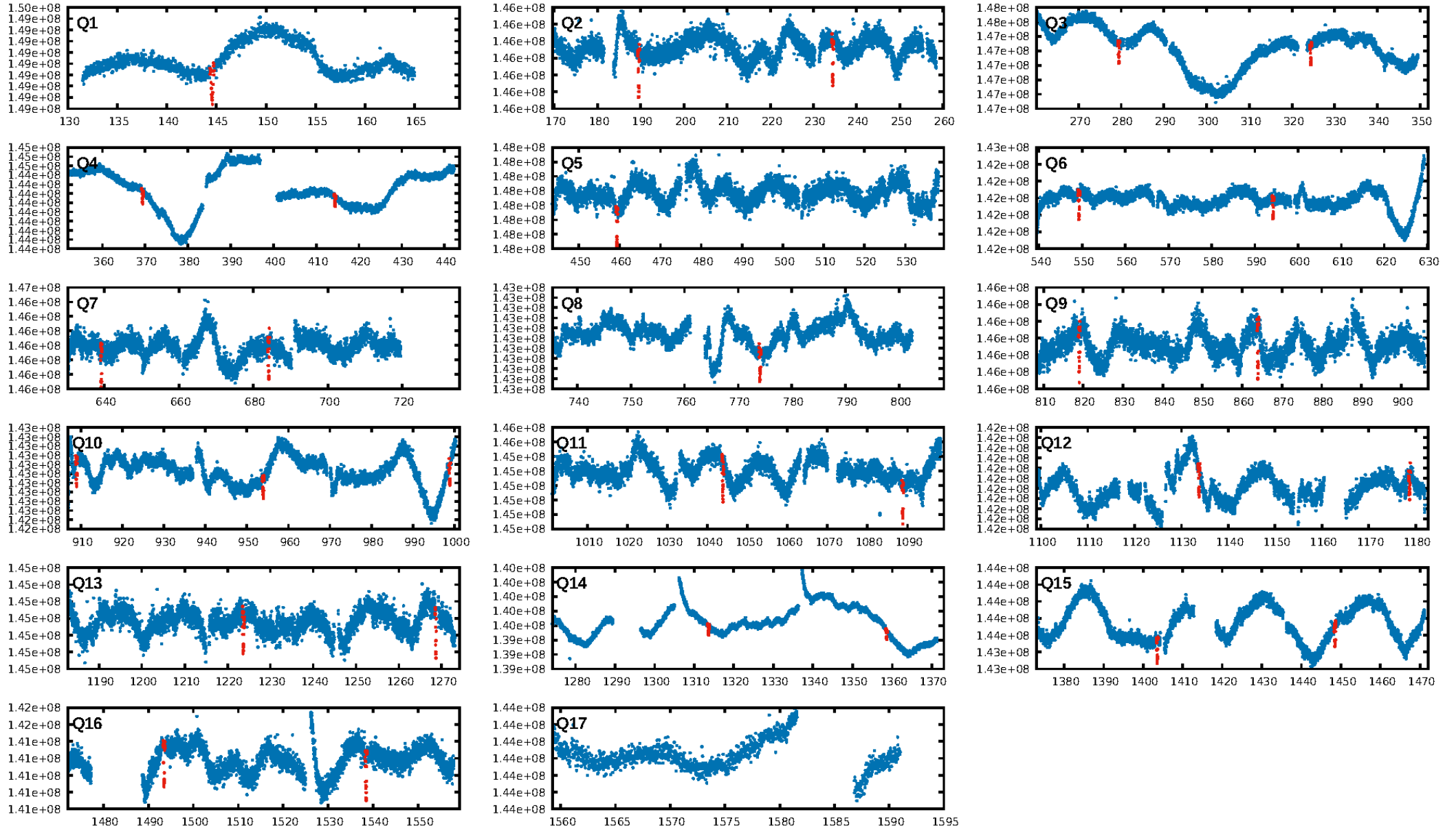
DV Fit Results:

Period = 44.96409 [0.00006] d
Epoch = 144.5605 [0.0012] BKJD
Rp/R* = 0.0305 [0.0010]
a/R* = 37.22 [4.20]
b = 0.85 [0.04]
Seff = 4.90 [0.61]
Teq = 379 [12] K
Rp = 2.43 [0.19] Re
a = 0.2297 [0.0143] AU
Ag = 145.39 [58.16] [2.48σ]
Teffp = 2037 [202] K [8.19σ]

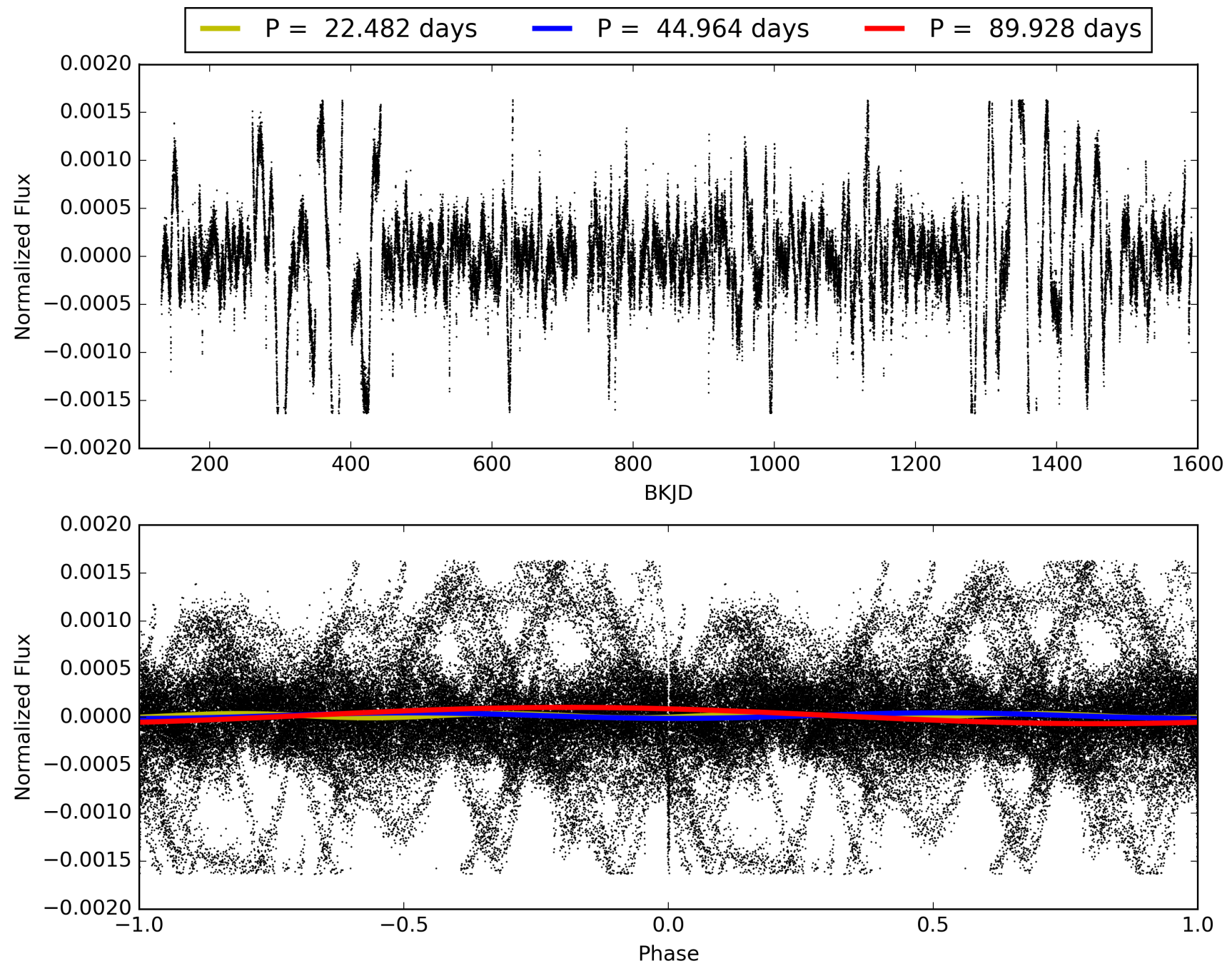
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.90 [26/29]
GhostDiagnostic-chr: 8.665
Centroid-sig: 6.4%
Centroid-so: 0.191 arcsec [1.34σ]
OotOffset-rm: 0.192 arcsec [1.14σ]
KicOffset-rm: 0.495 arcsec [2.81σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 008242434-01, PDC Light Curves

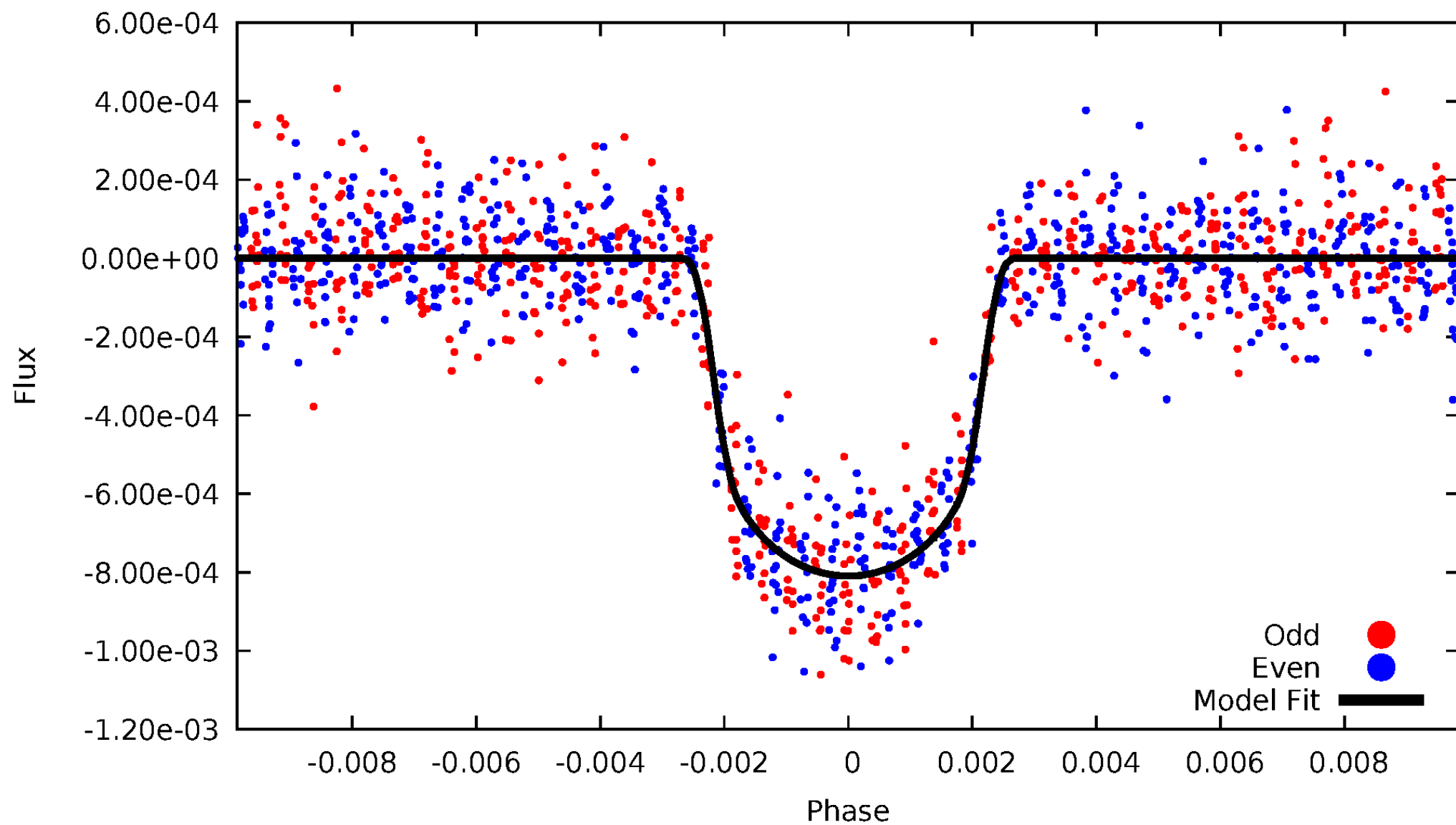


TCE 008242434-01



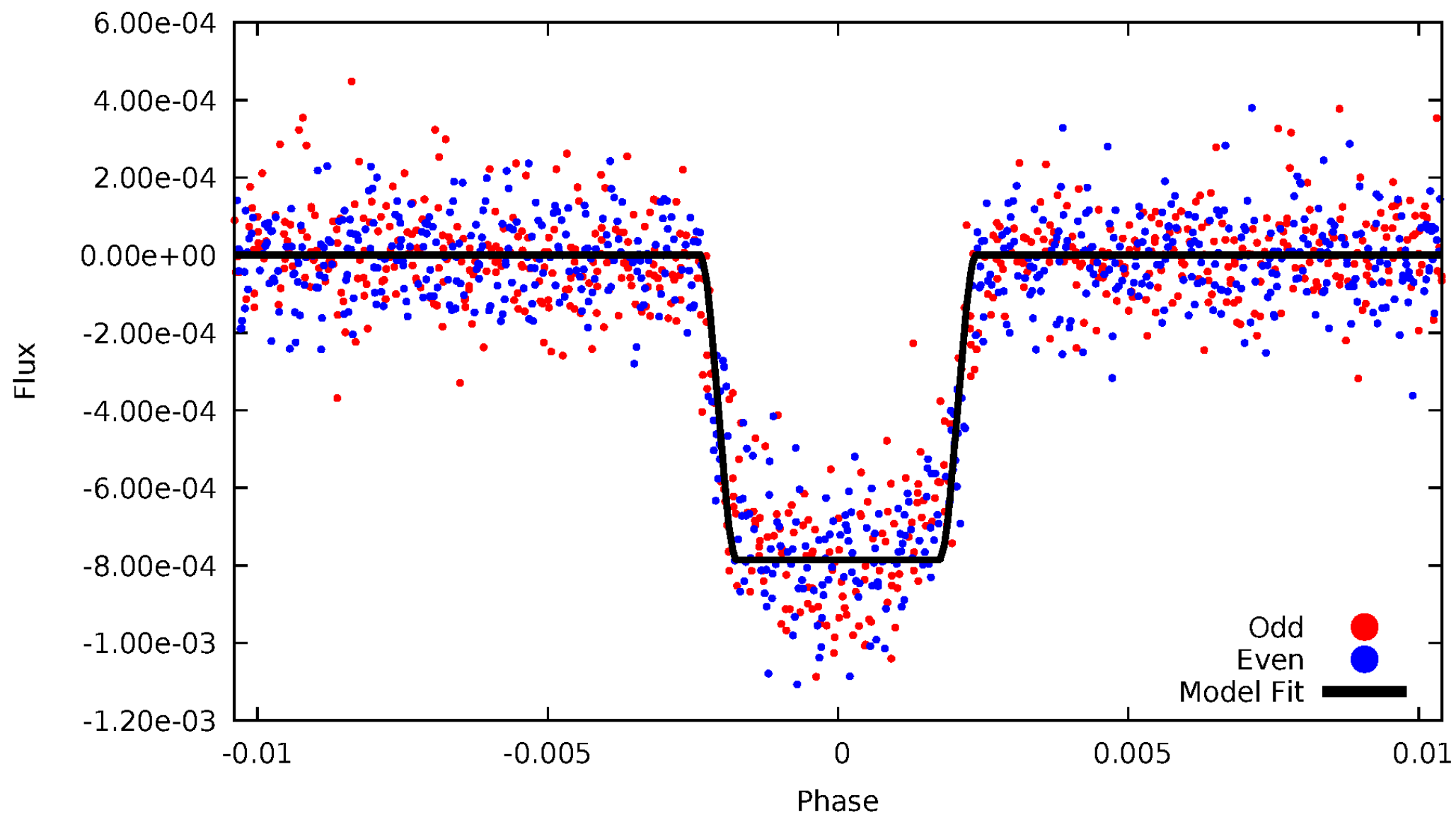
DV Odd/Even

TCE 008242434-01



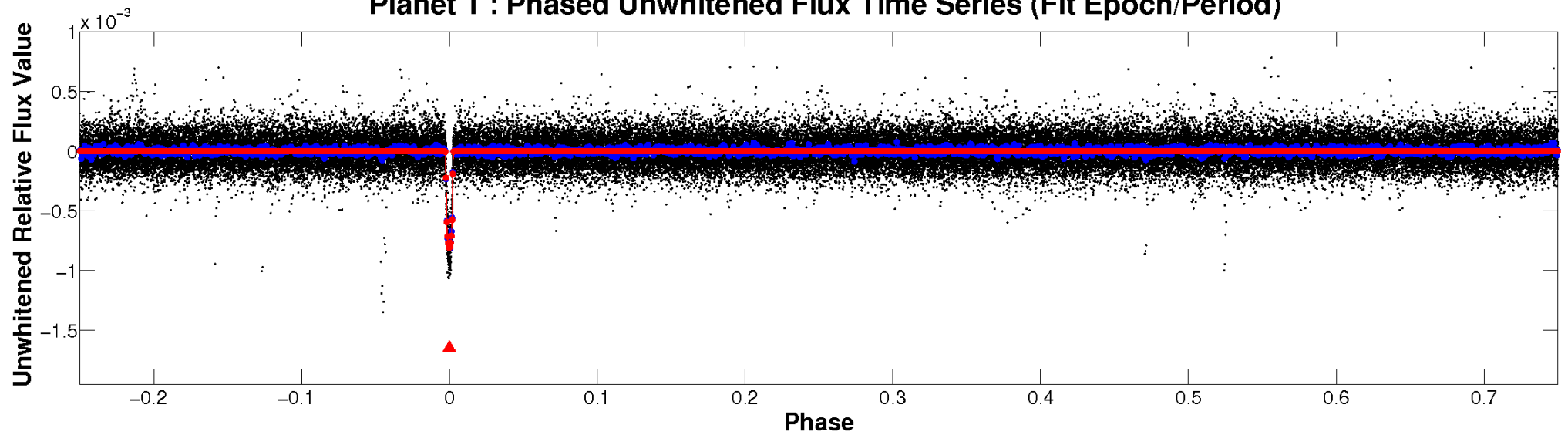
ALT Odd/Even

TCE 008242434-01

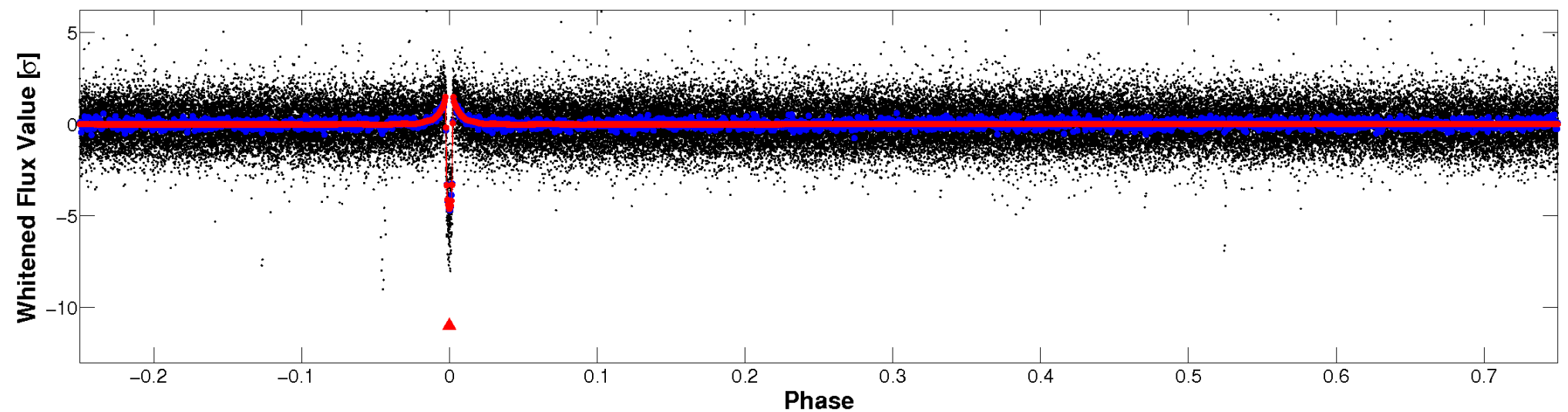


Non-Whitened Vs. Whitened Light Curve

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

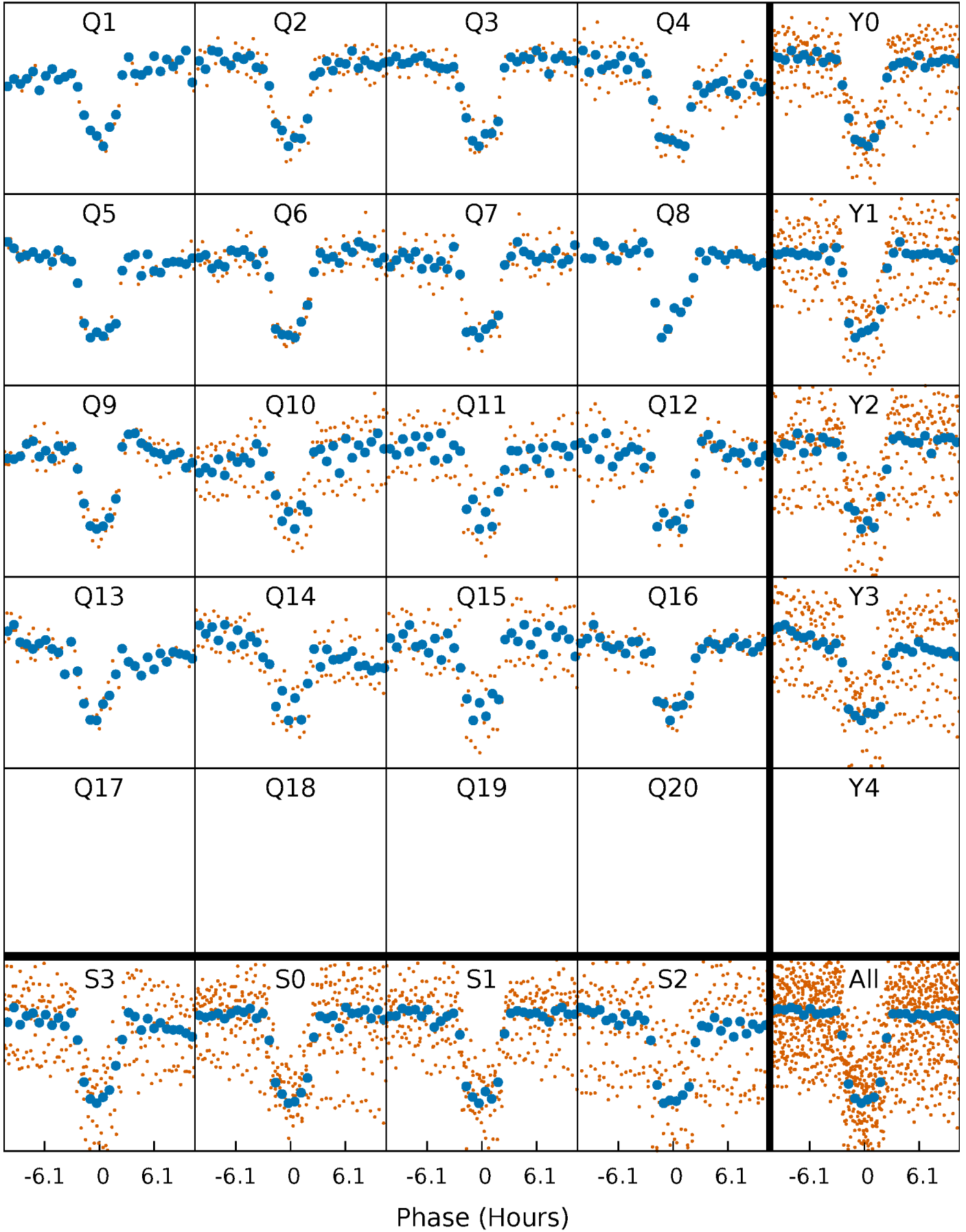


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



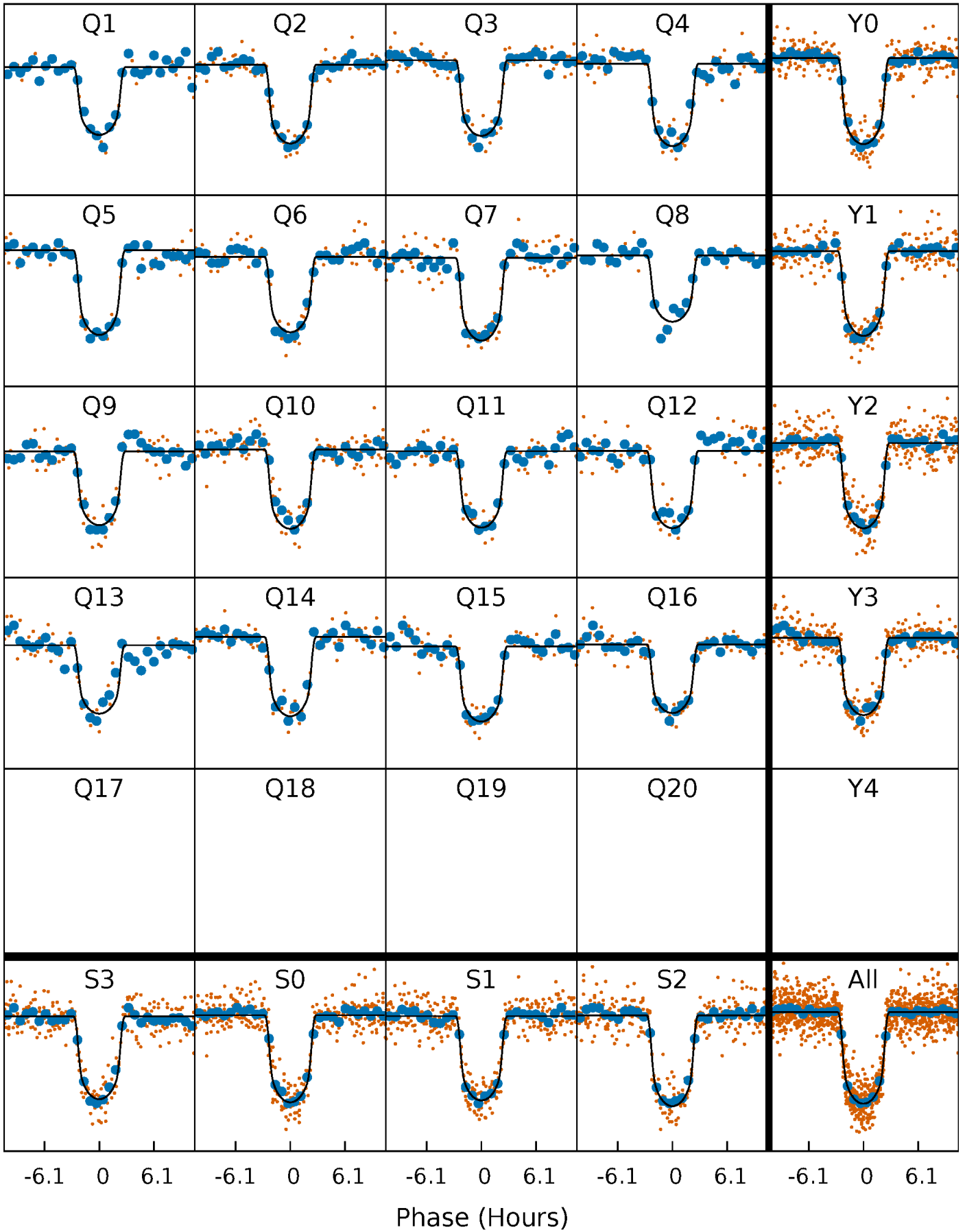
PDC Quarter-Phased Transit Curves

TCE 008242434-01 P= 44.964091 Days $T_0=144.560497$ (BKJD)



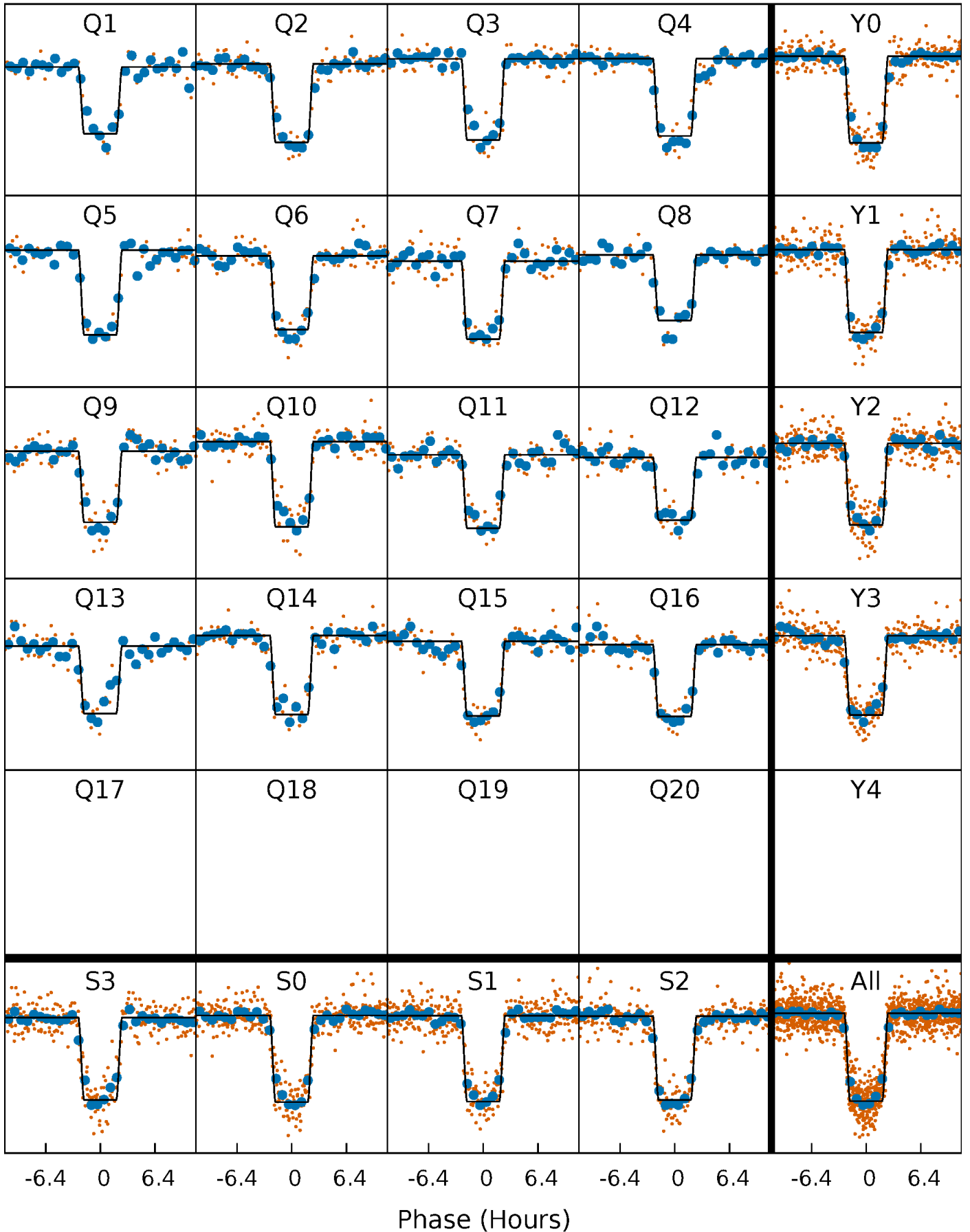
DV Quarter-Phased Transit Curves

TCE 008242434-01 P= 44.964091 Days $T_0=144.560497$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

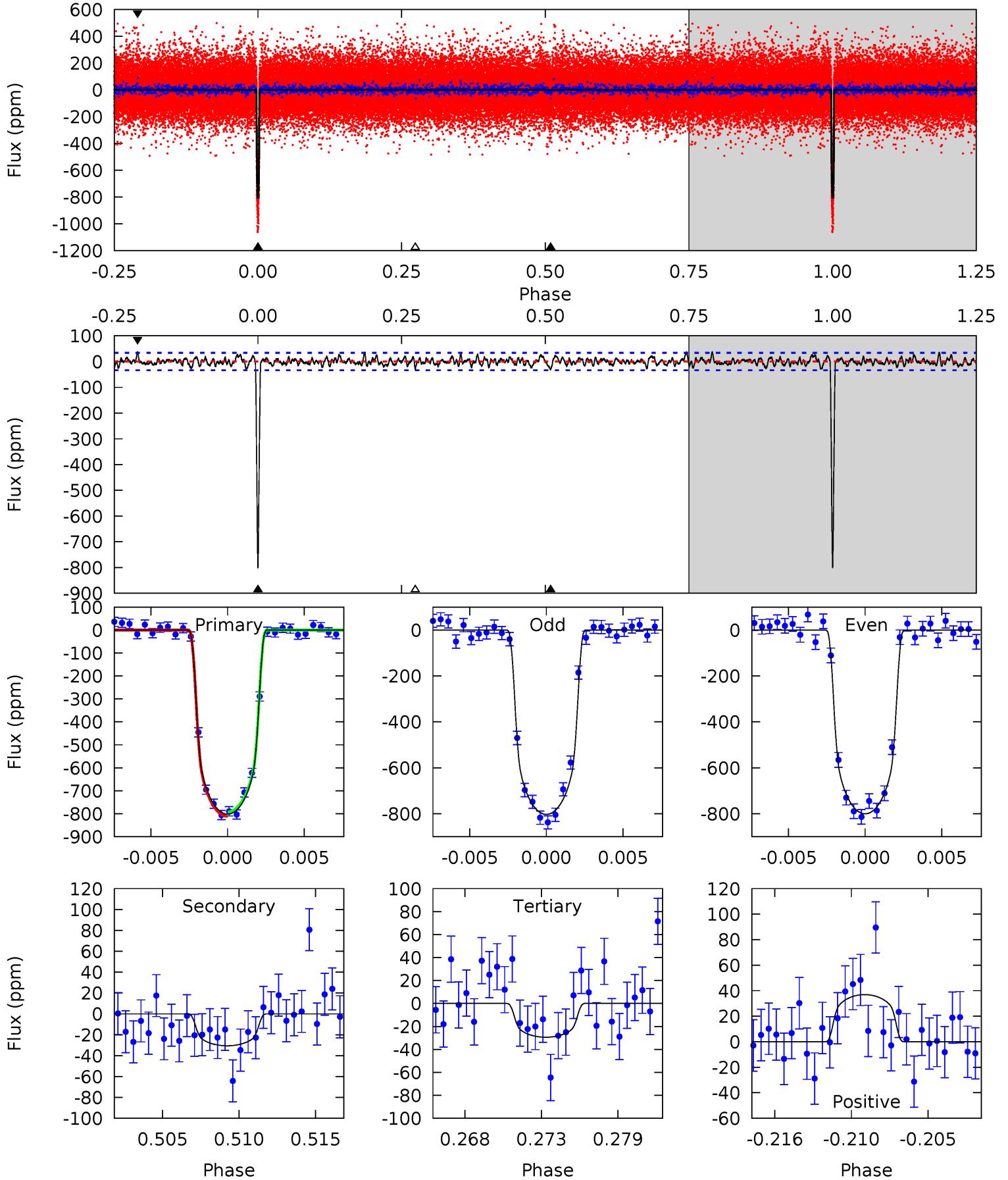
TCE 008242434-01 P= 44.964492 Days $T_0=144.553887$ (BKJD)



DV Model-Shift Uniqueness Test

008242434-01, P = 44.964091 Days, E = 99.596406 Days

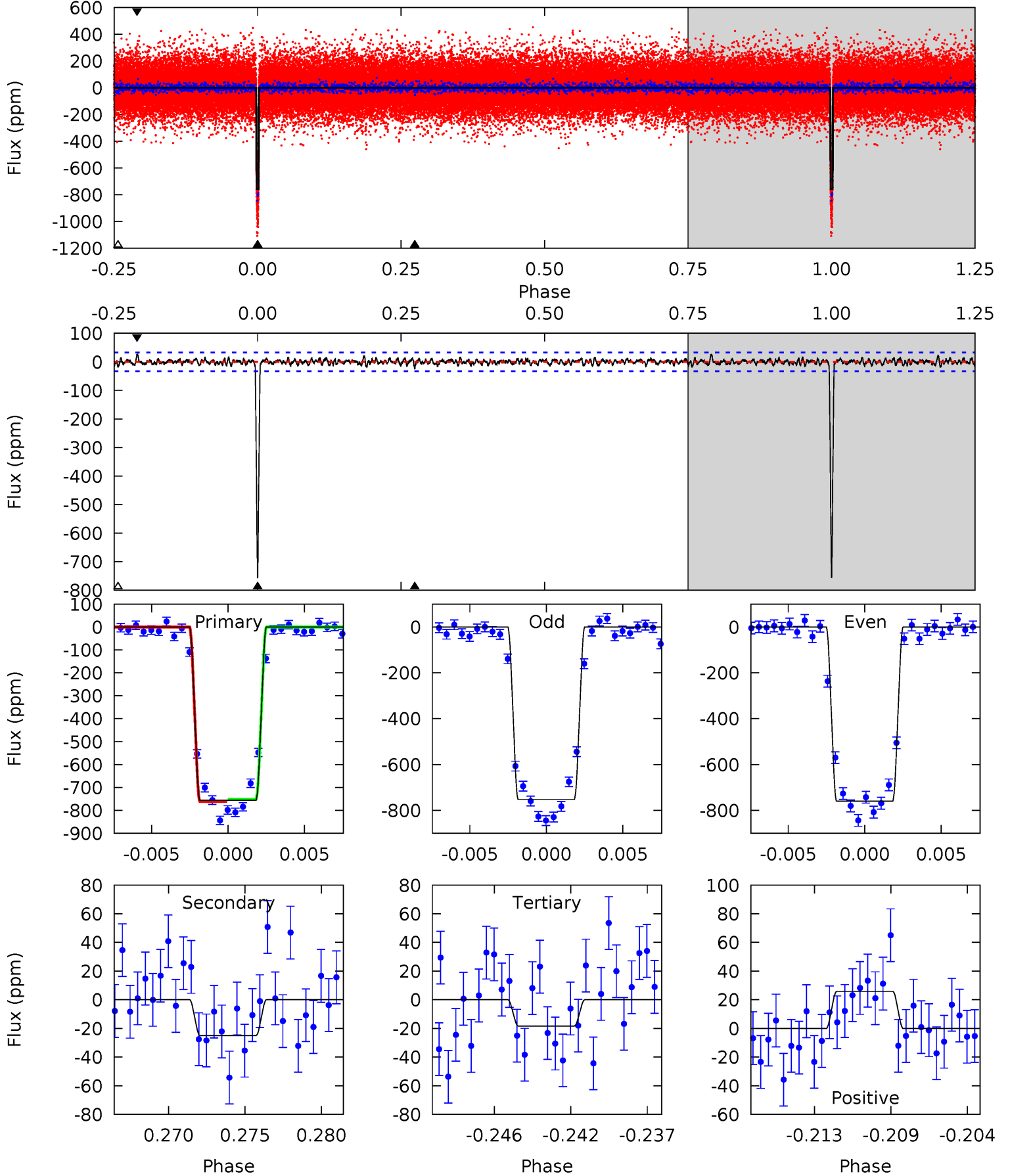
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
121.9	4.64	4.47	5.61	5.15	2.79	1.59	117.4	116.3	0.17	-0.97	0.19	0.98	0.04	1.45



Alt Model-Shift Uniqueness Test

008242434-01, P = 44.964492 Days, E = 99.589395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.1	3.96	2.91	4.09	5.17	2.82	1.00	117.1	116.0	1.05	-0.13	0.60	1.00	0.03	0.78



Stellar Parameters For KIC 008242434

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4827^{+96}_{-96}	$4.615^{+0.012}_{-0.054}$	$0.140^{+0.150}_{-0.150}$	$0.729^{+0.051}_{-0.026}$	$0.817^{+0.024}_{-0.054}$	$2.974^{+0.212}_{-0.555}$
	+2%/-2%	+0%/-1%	+107%/-107%	+7%/-4%	+3%/-7%	+7%/-19%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008242434-01 / KOI 1726.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-31 ± 7	$2.47^{+0.12}_{-0.11}$	535^{+13}_{-13}	2757^{+88}_{-89}	143^{+36}_{-31}
Alt.	-25 ± 6	$2.28^{+0.12}_{-0.12}$	536^{+12}_{-12}	2750^{+96}_{-103}	139^{+39}_{-37}

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

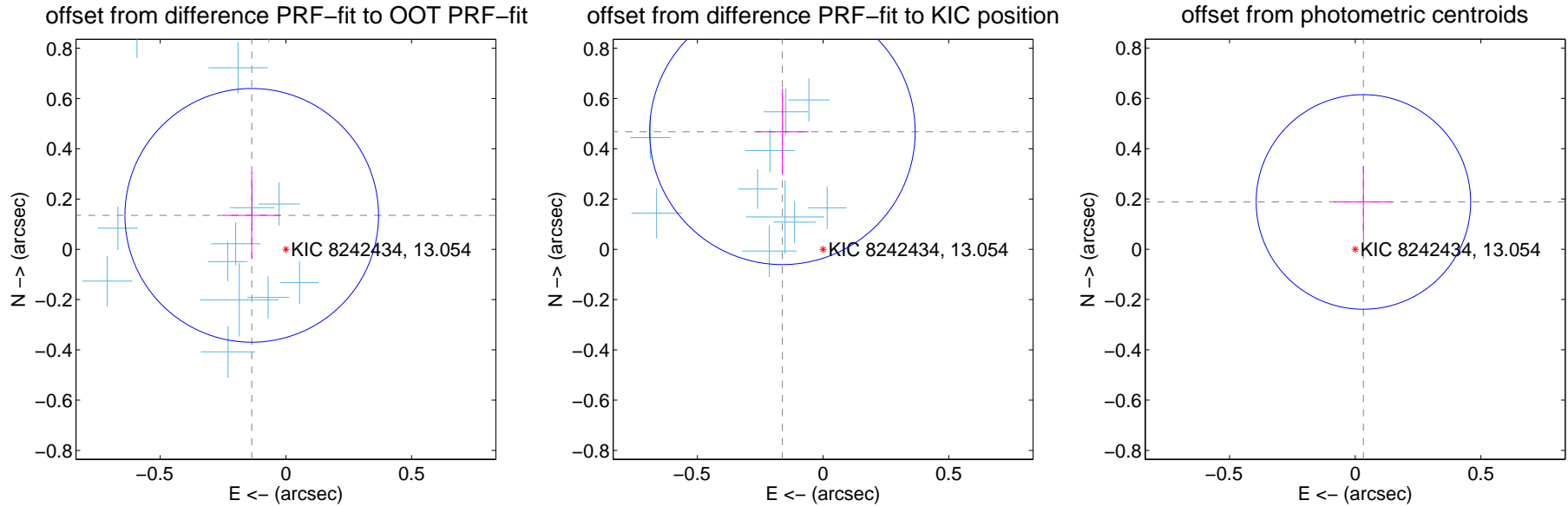
DV Centroid Data

Supplemental centroid analysis for 008242434-01. Kepler magnitude: 13.05. Transit SNR 70.36

There are 15 quarters with good PRF difference image offsets

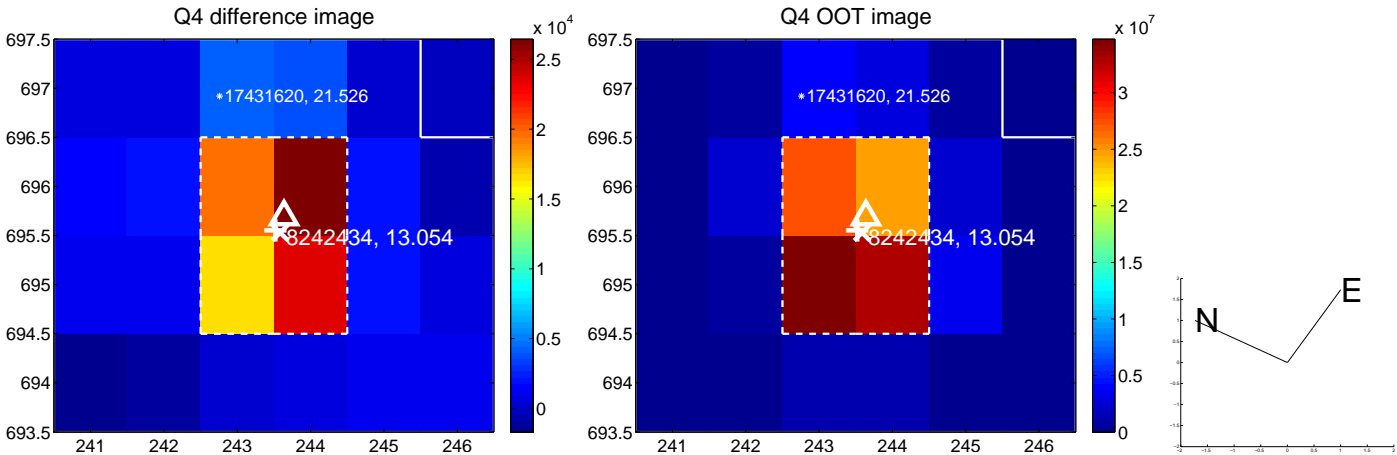
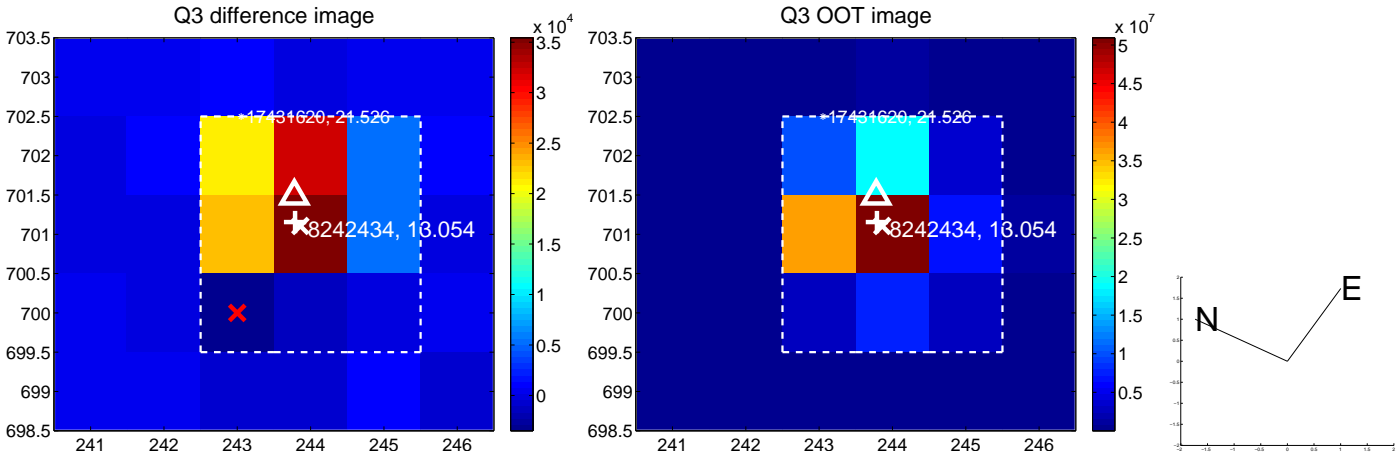
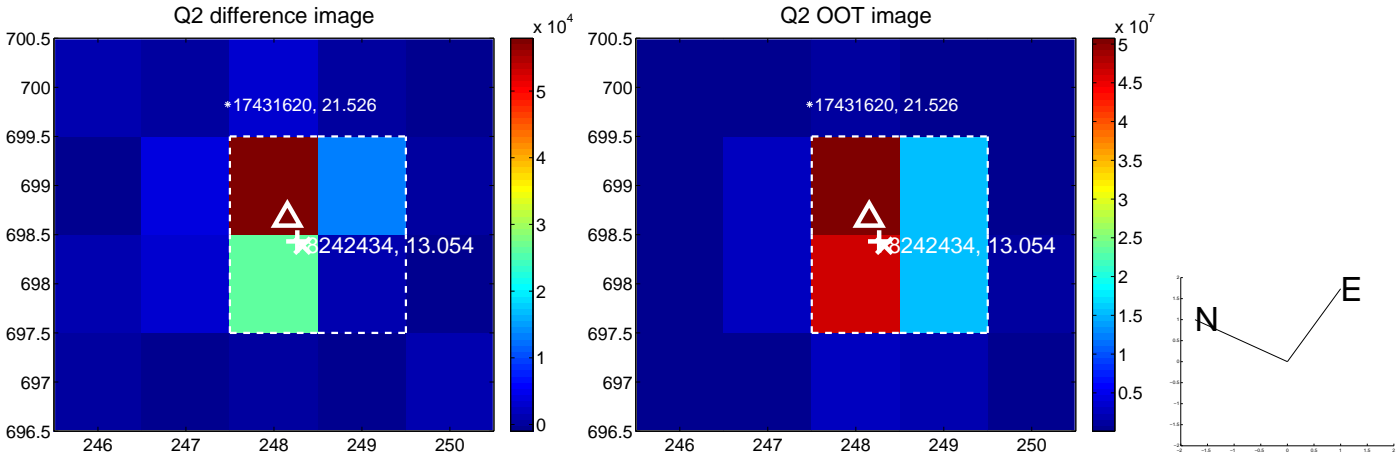
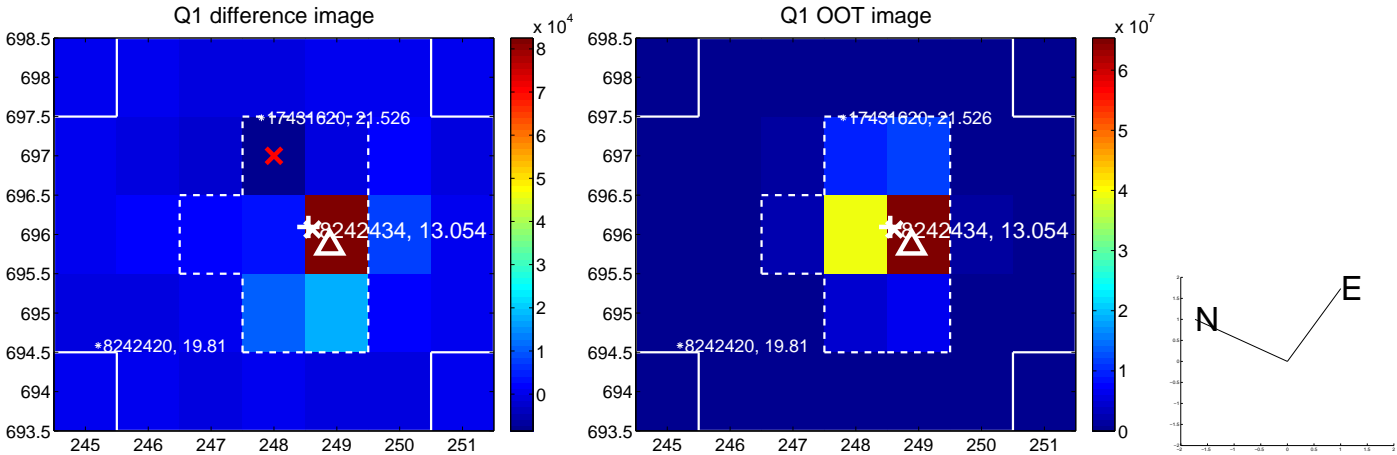
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.192 ± 0.168	1.14	0.136 ± 0.114	0.135 ± 0.172
PRF-fit source offset from KIC position	0.495 ± 0.176	2.81	0.162 ± 0.104	0.468 ± 0.171
photometric centroid source offset	0.19 ± 0.14	1.34	-0.03 ± 0.12	0.19 ± 0.14

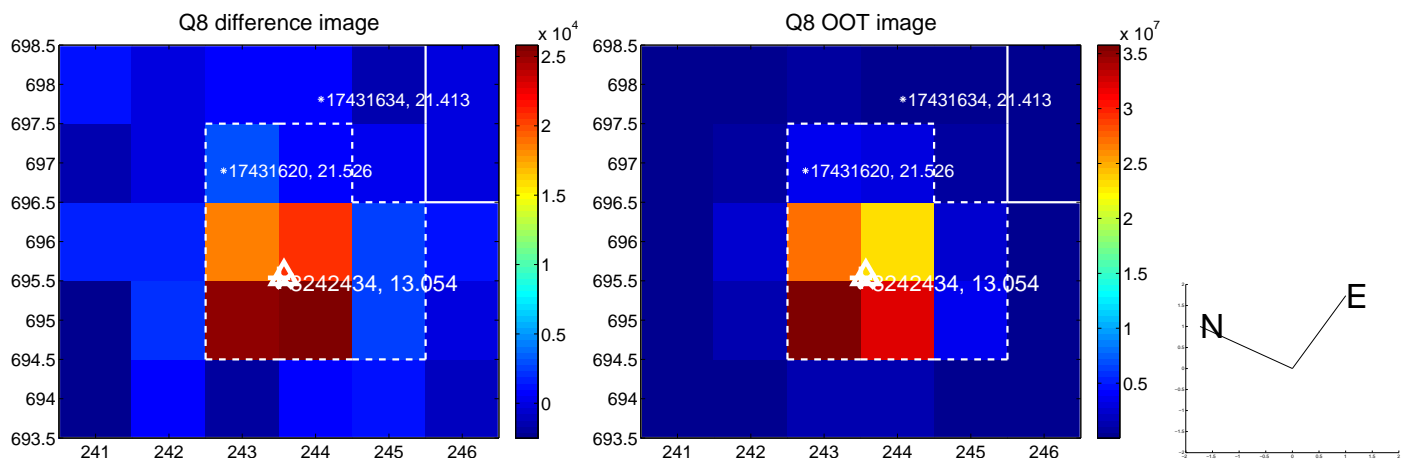
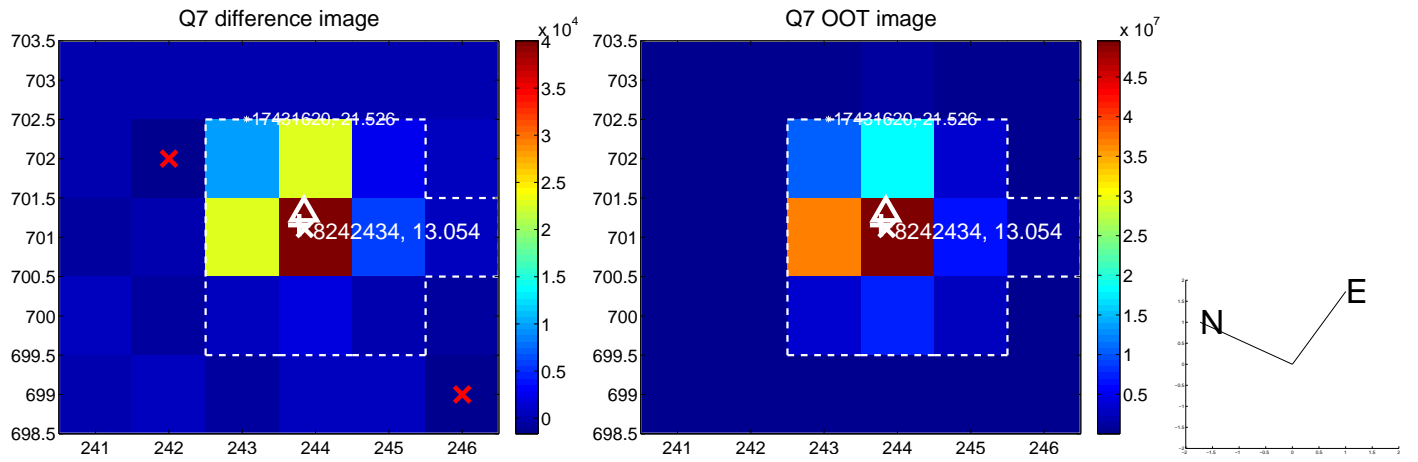
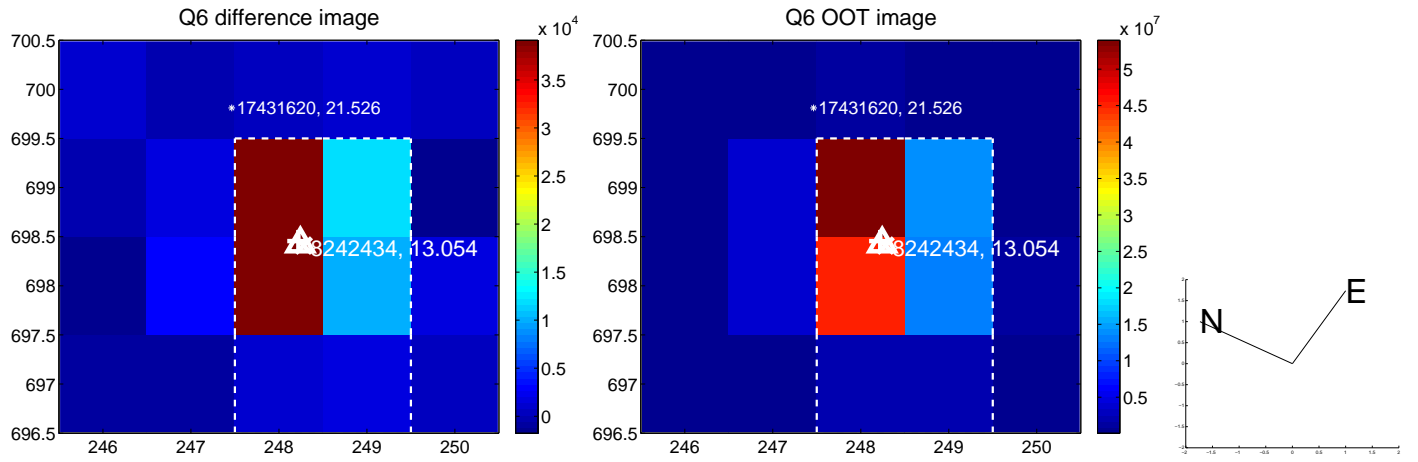
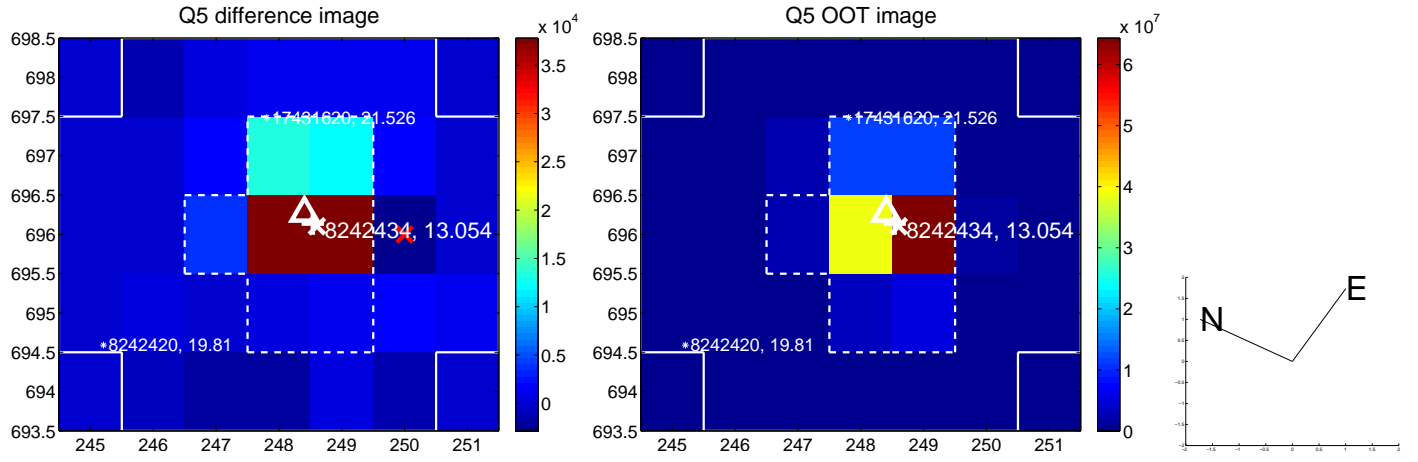


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

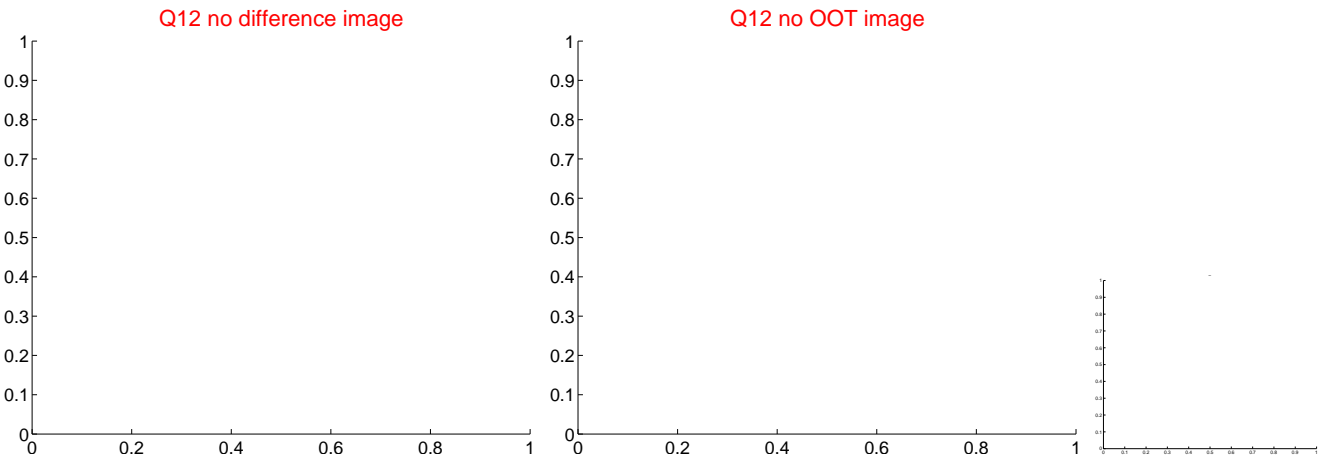
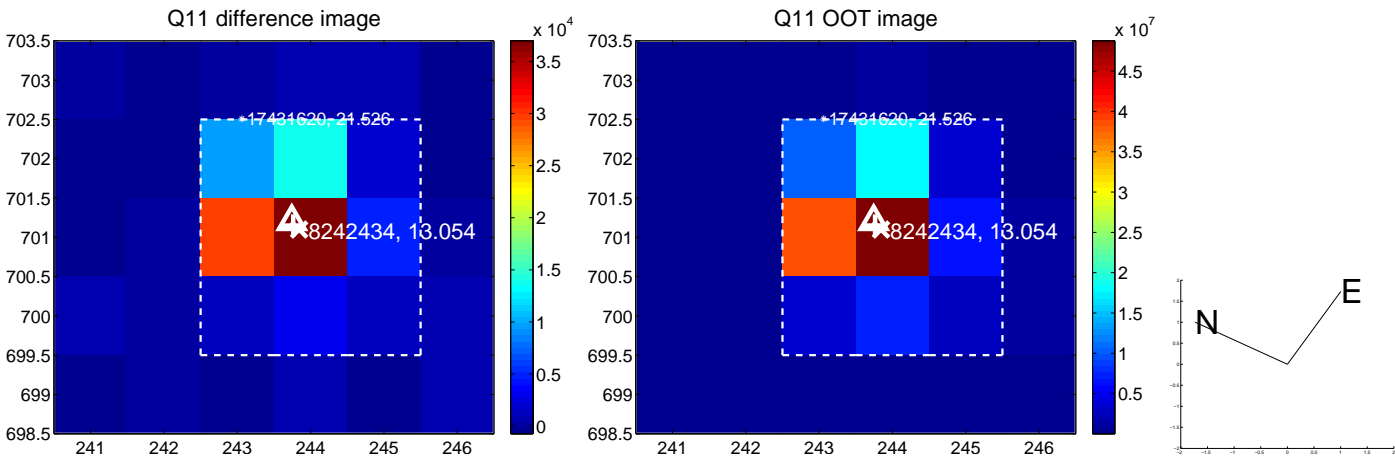
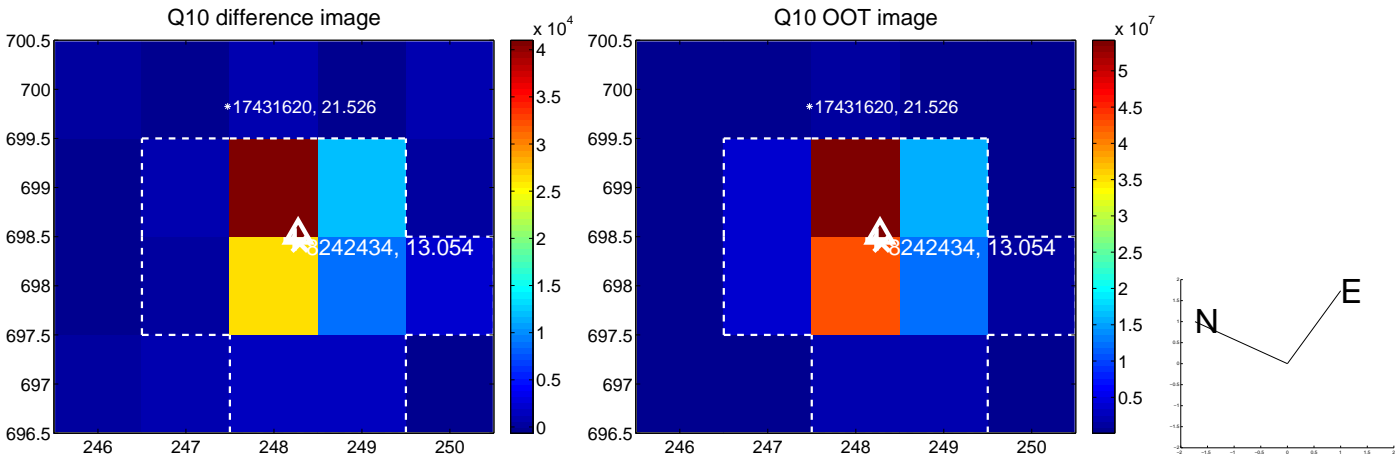
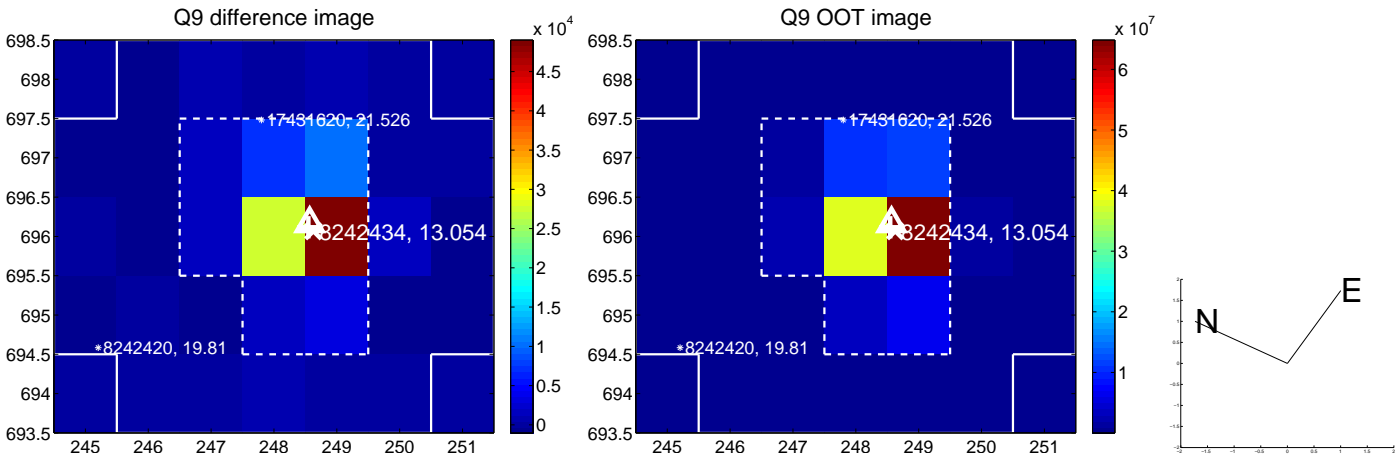
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



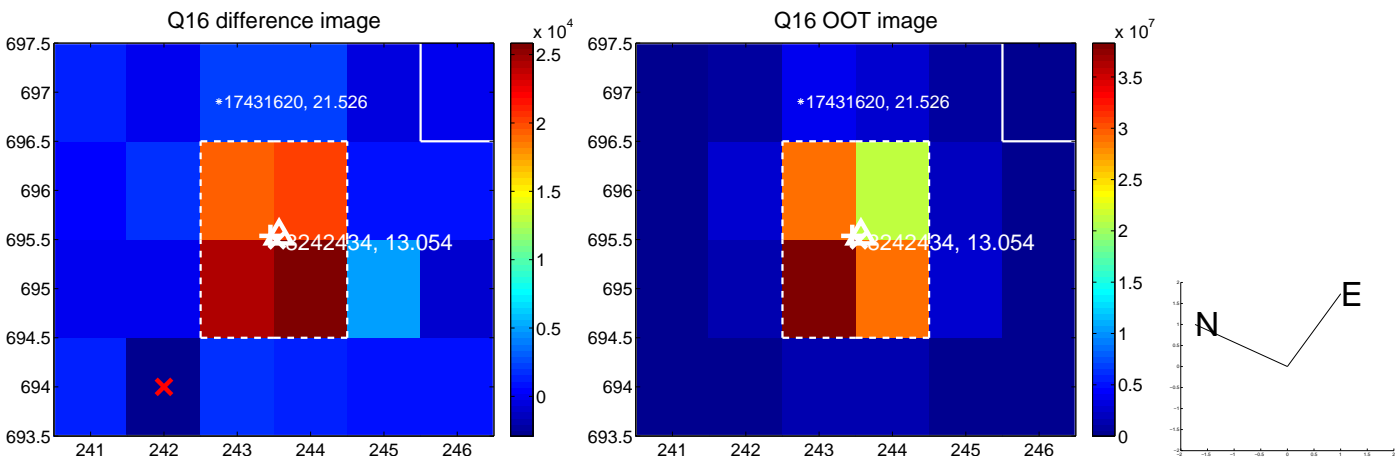
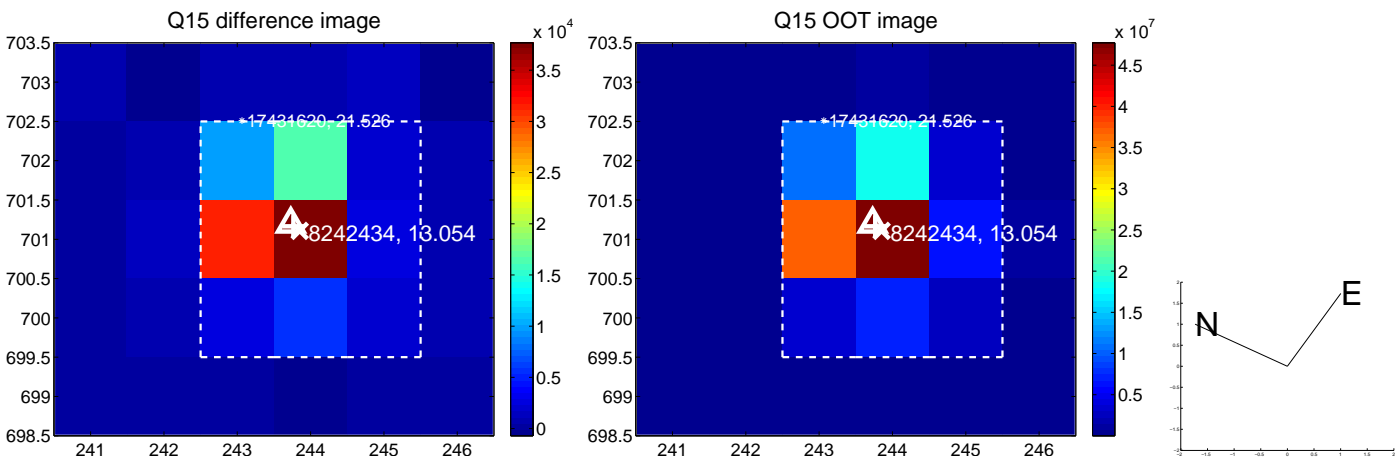
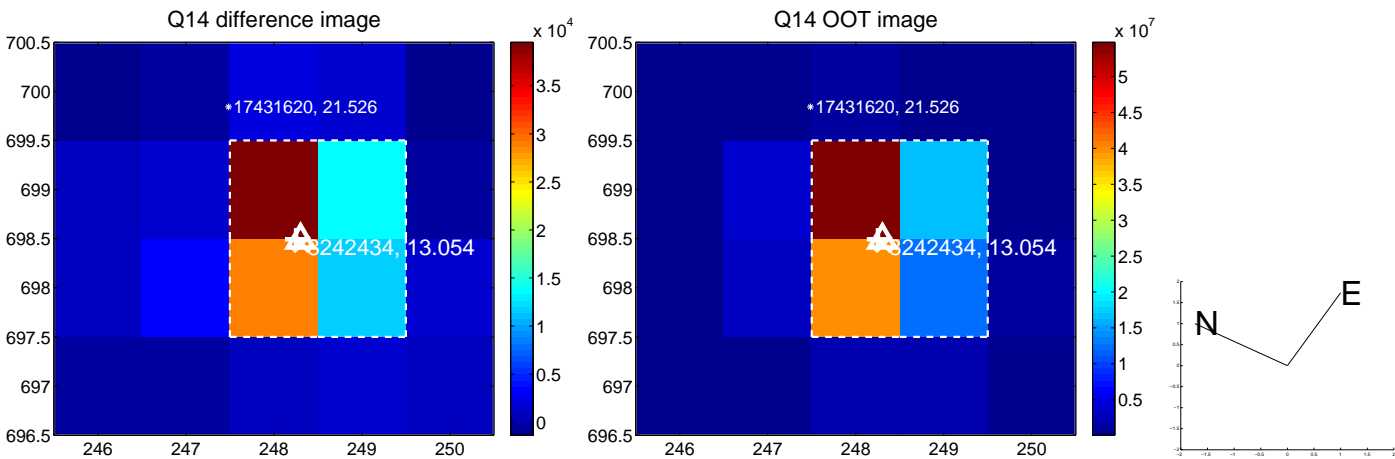
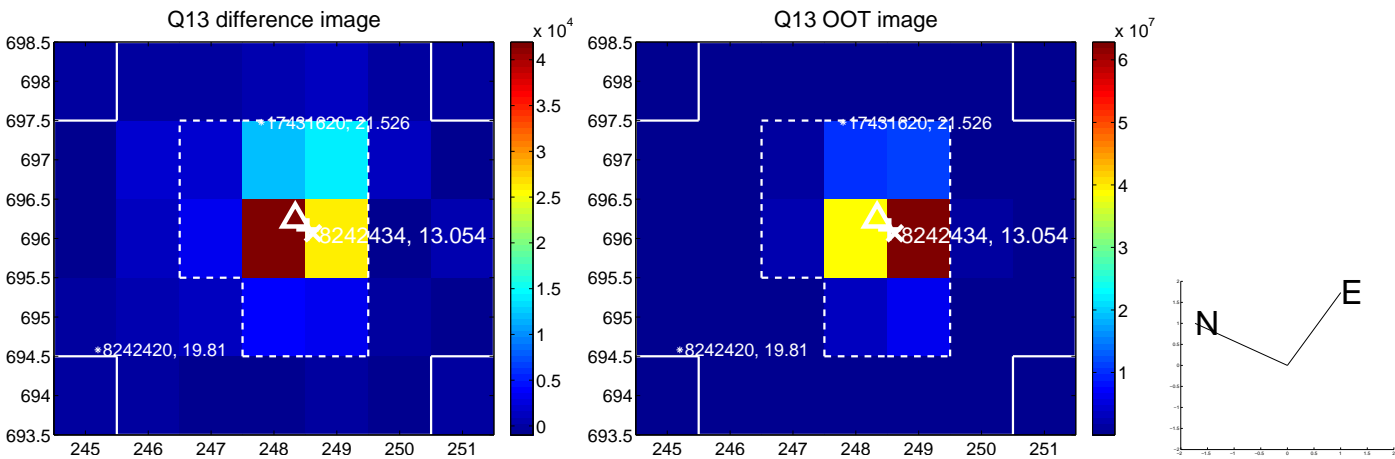
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



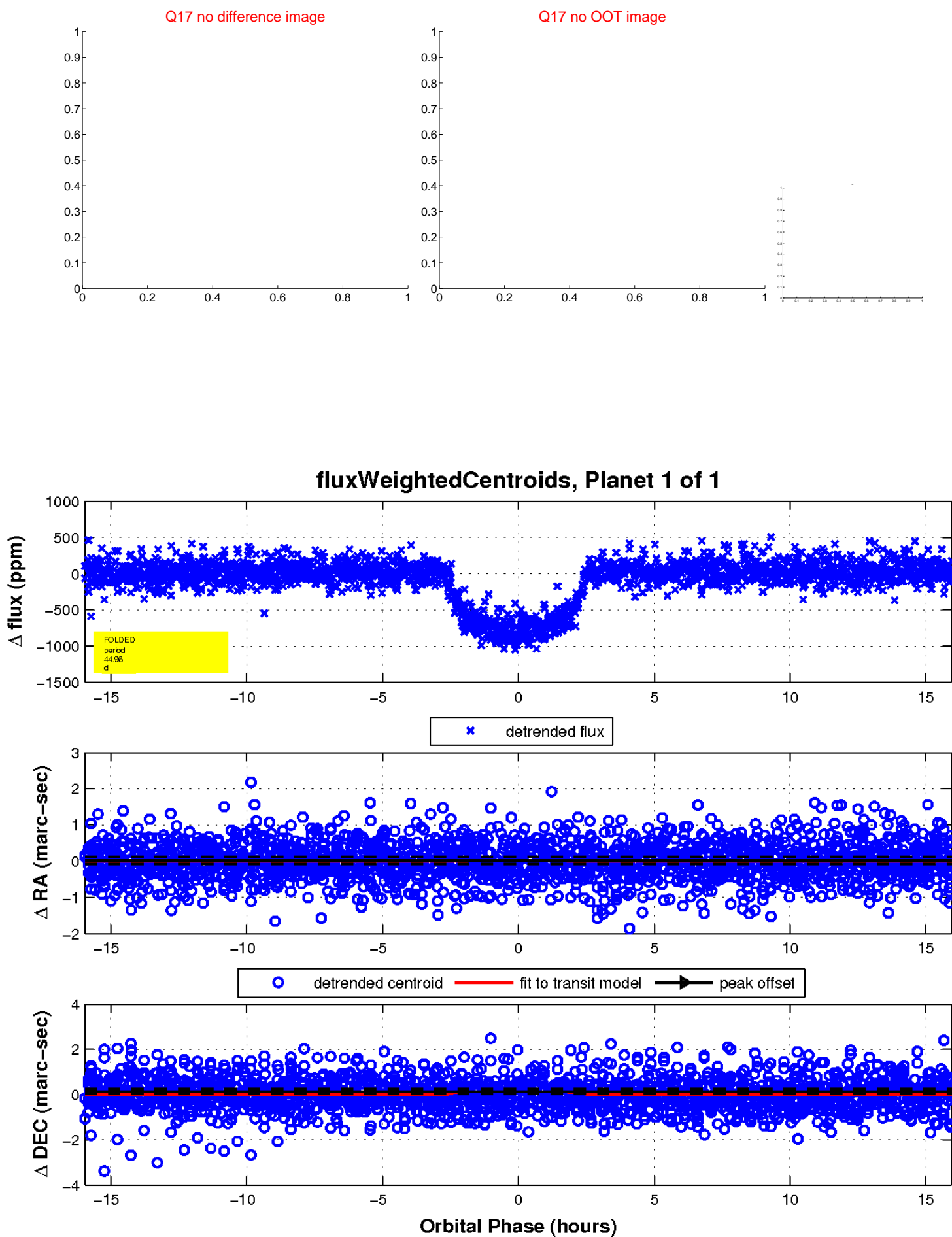
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

