

KIC 006048024

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})
006048024-01	OBS	1684.01	62.815806	151.477911	1649.9	2.674	92.9	98.3	1.49	6340	10.83	27.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006048024-01	OBS	FP	0.00	0	1	0	0	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.

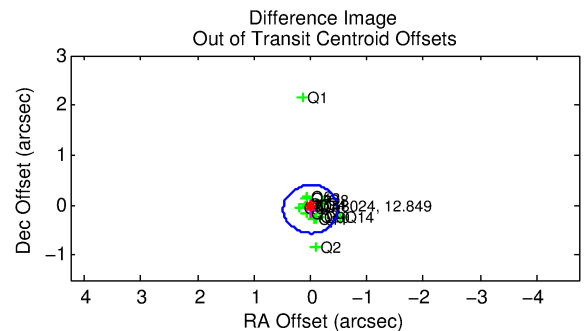
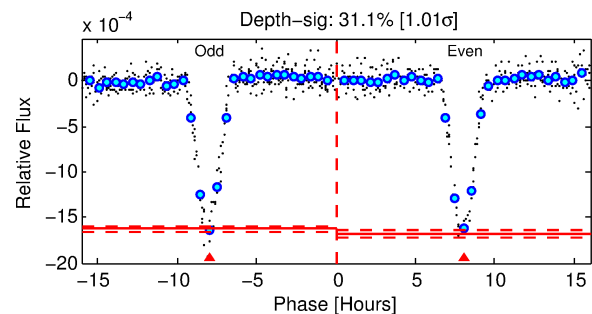
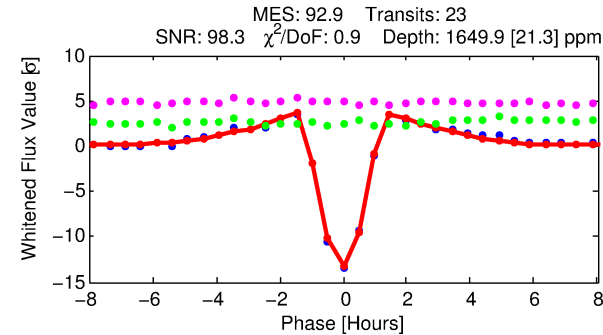
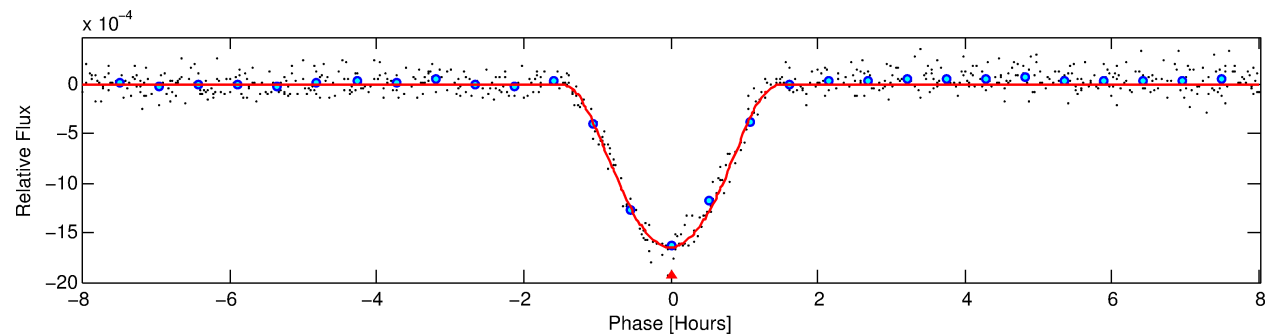
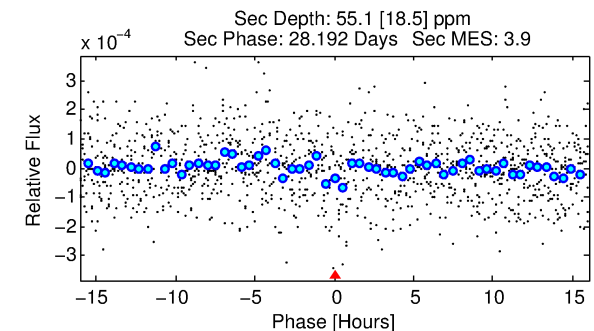
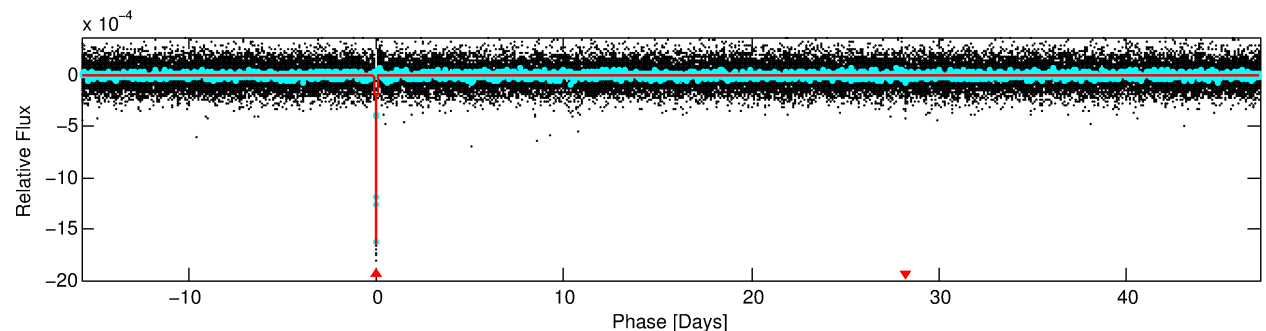
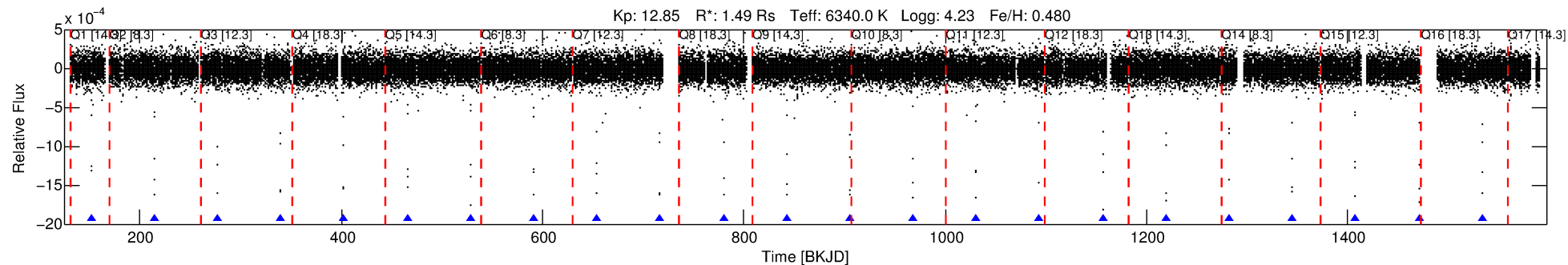
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006048024-01

No Significant Match Found

DV One-Page Summary

KIC: 6048024 Candidate: 1 of 1 Period: 62.816 d
KOI: K01684.01 Corr: 0.995



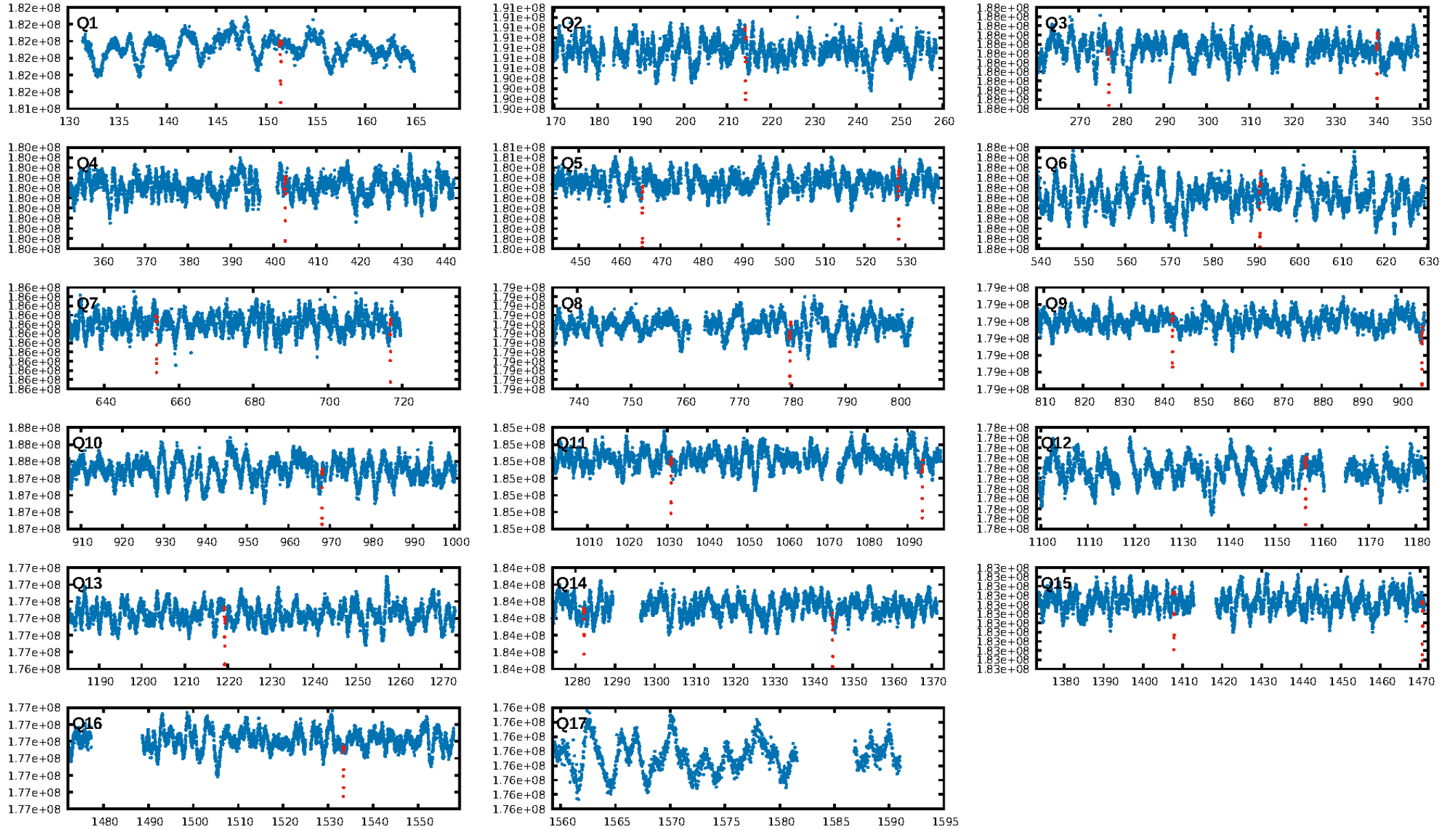
DV Fit Results:

Period = 62.81581 [0.00004] d
Epoch = 151.4779 [0.0005] BKJD
Rp/R* = 0.0665 [0.0225]
a/R* = 69.72 [5.95]
b = 0.99 [0.03]
Seff = 27.19 [6.22]
Teq = 582 [33] K
Rp = 10.83 [4.14] Re
a = 0.3443 [0.0507] AU
Ag = 30.66 [24.05] [1.23 σ]
Teffp = 2118 [403] K [3.80 σ]

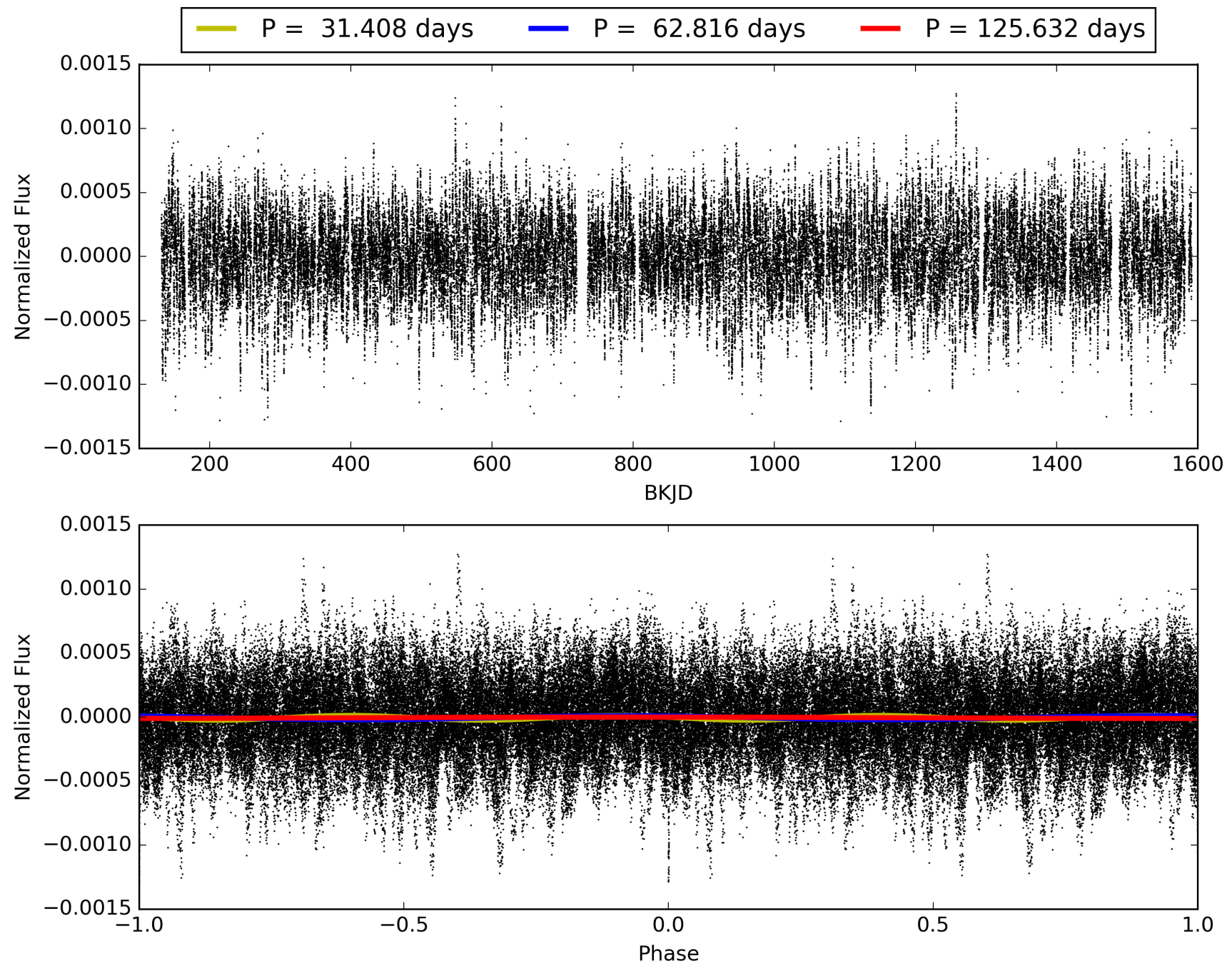
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [22/22]
GhostDiagnostic-chr: 7.664
Centroid-sig: 0.0%
Centroid-so: 0.221 arcsec [2.27 σ]
OotOffset-rm: 0.081 arcsec [0.50 σ]
KicOffset-rm: 0.104 arcsec [0.57 σ]
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 006048024-01, PDC Light Curves

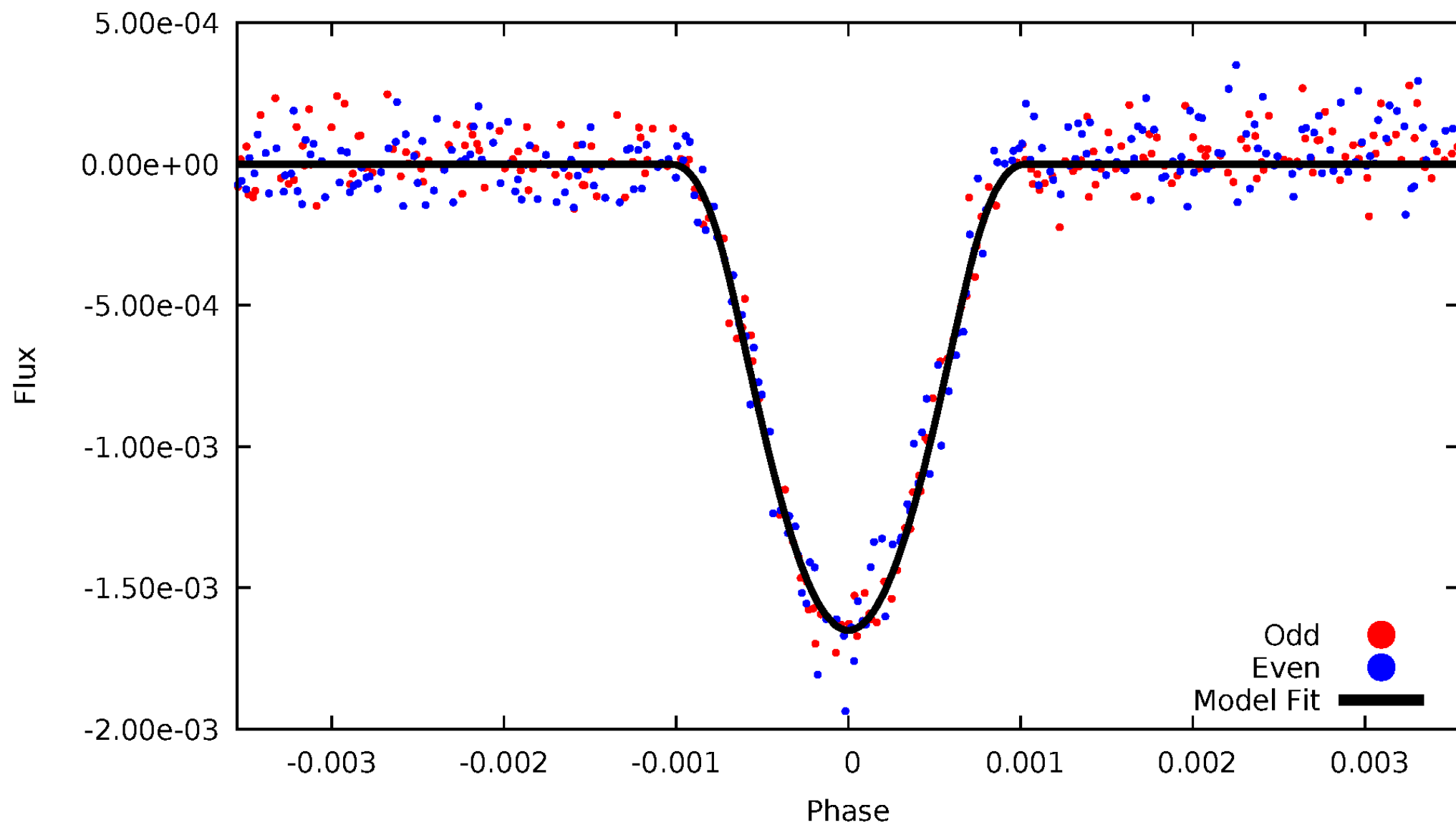


TCE 006048024-01



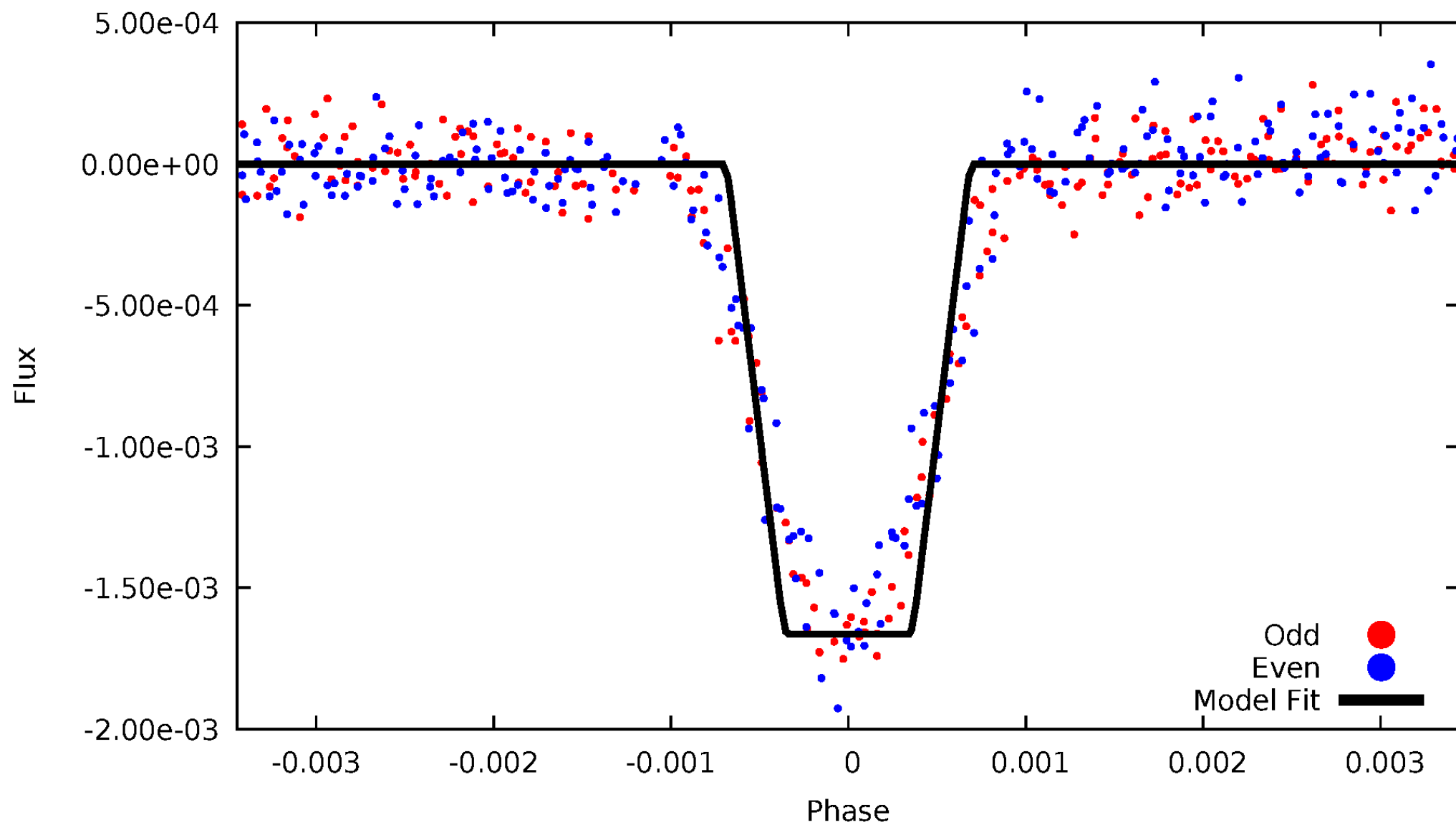
DV Odd/Even

TCE 006048024-01



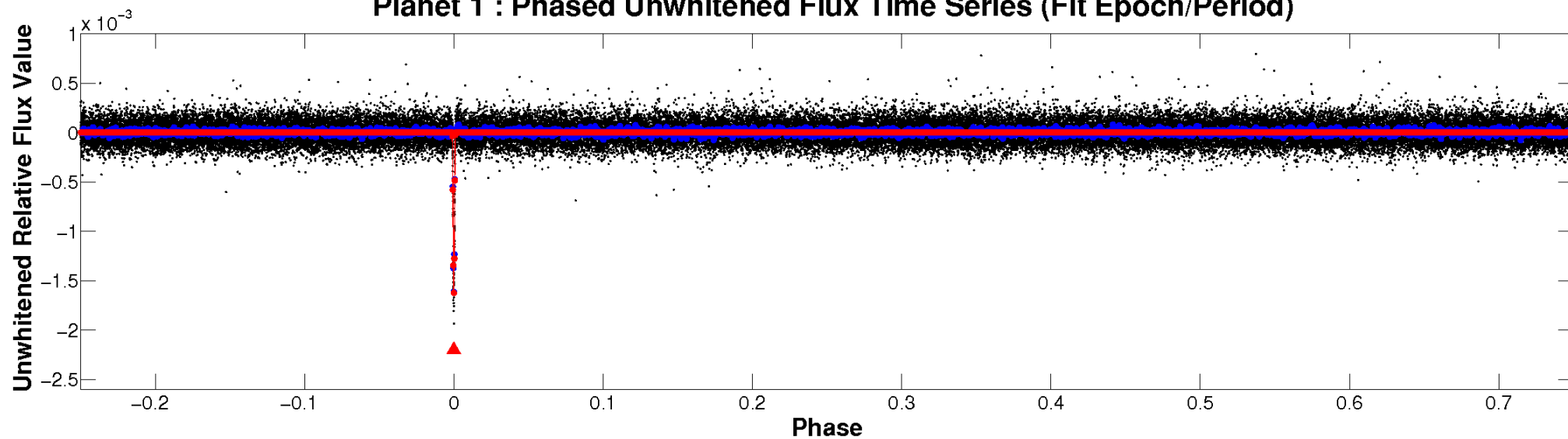
ALT Odd/Even

TCE 006048024-01

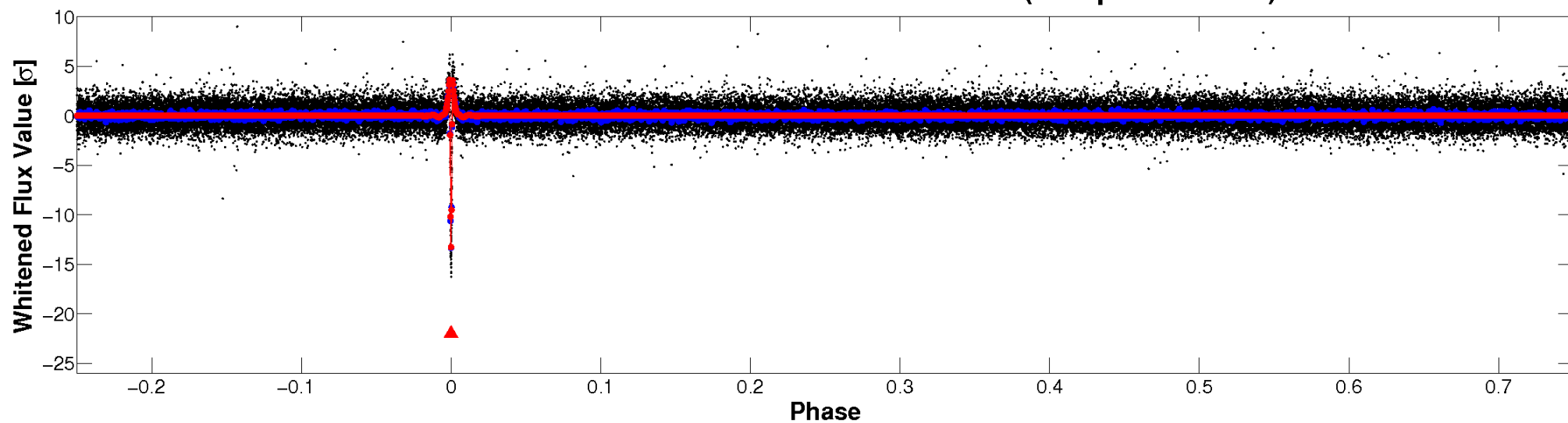


Non-Whitened Vs. Whitened Light Curve

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

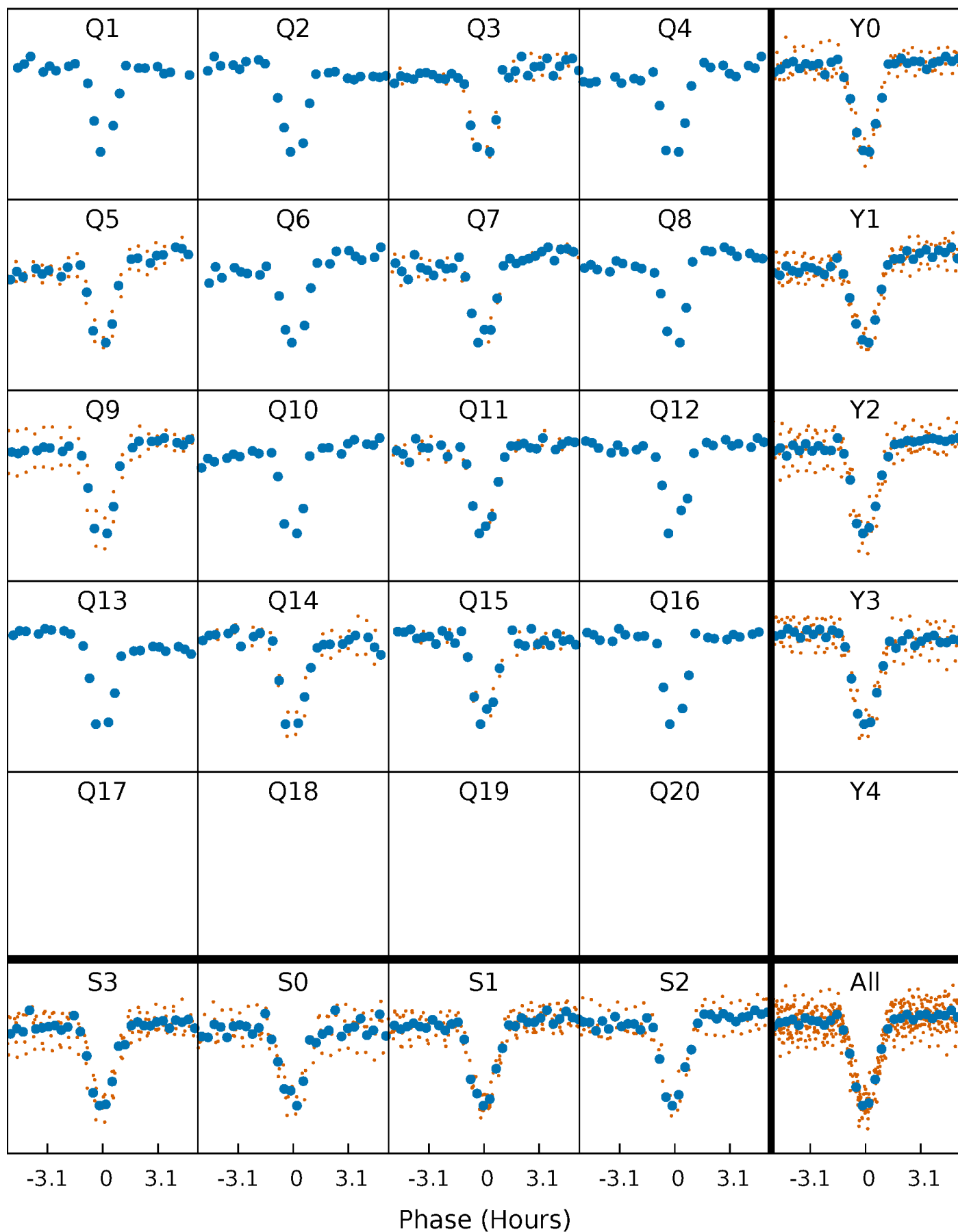


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



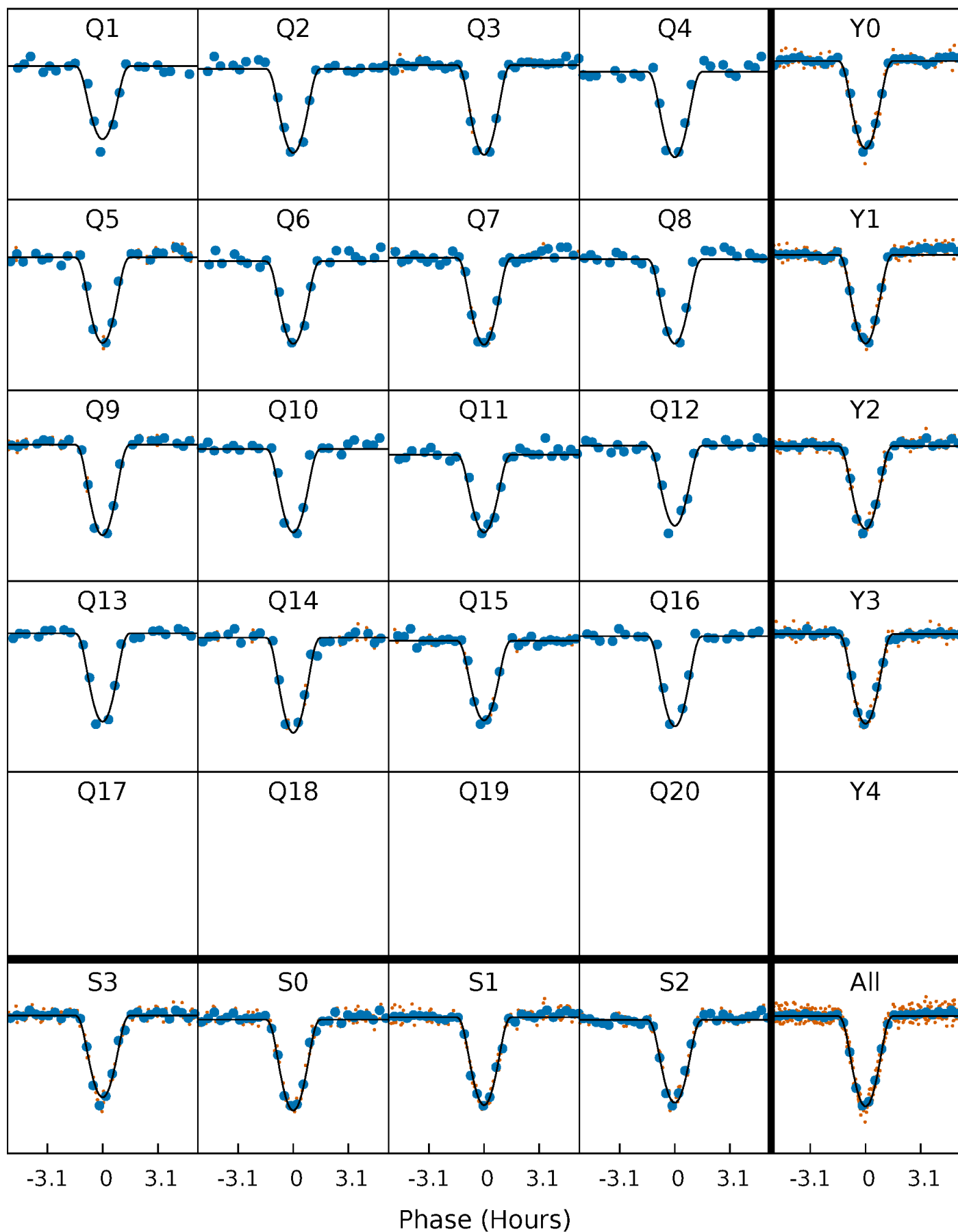
PDC Quarter-Phased Transit Curves

TCE 006048024-01 P= 62.815806 Days $T_0=151.477911$ (BKJD)



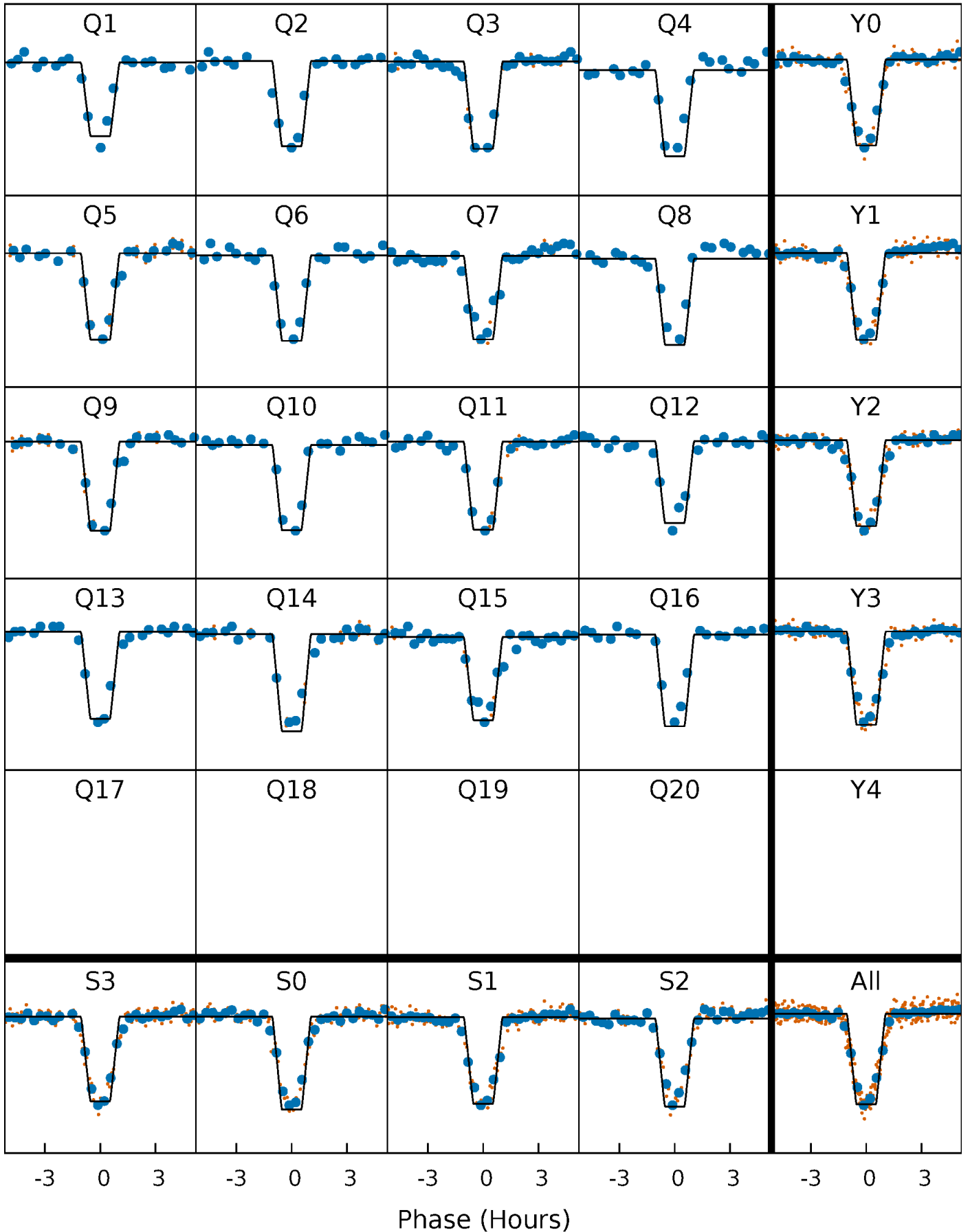
DV Quarter-Phased Transit Curves

TCE 006048024-01 P= 62.815806 Days $T_0=151.477911$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

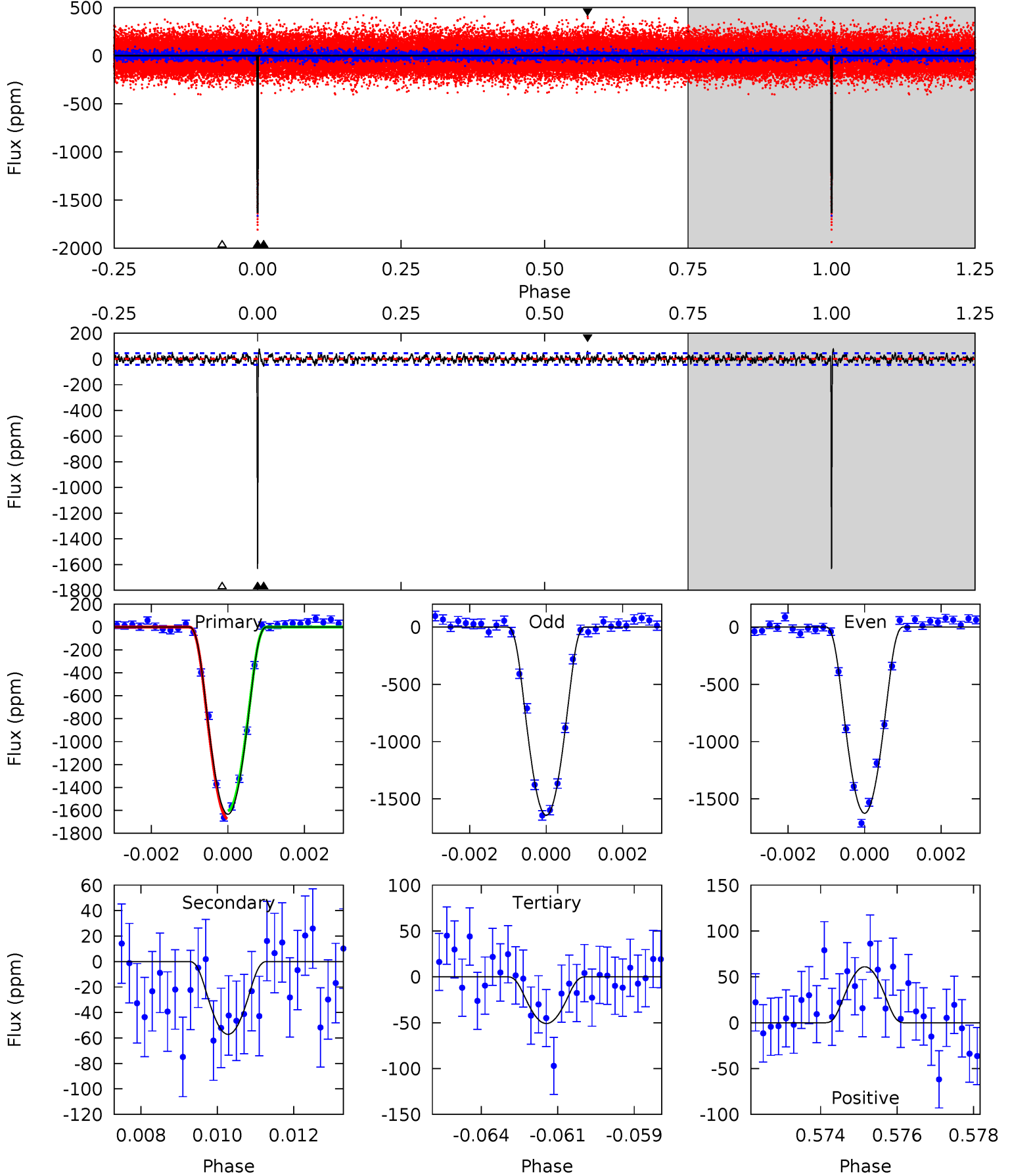
TCE 006048024-01 P= 62.815547 Days $T_0=151.480505$ (BKJD)



DV Model-Shift Uniqueness Test

006048024-01, P = 62.815806 Days, E = 88.662105 Days

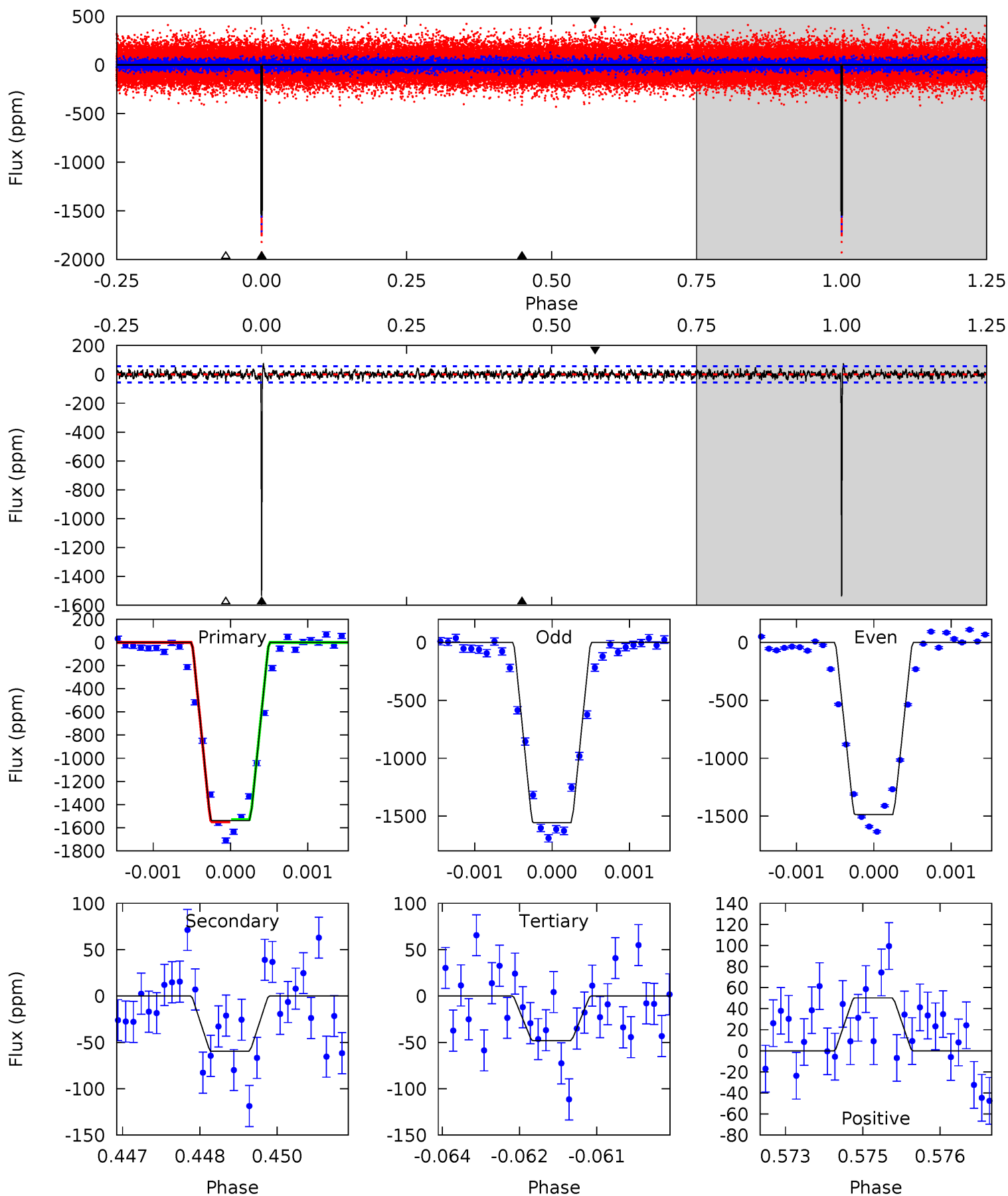
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
192.3	6.73	5.99	7.17	5.32	3.08	1.98	186.3	185.2	0.73	-0.45	1.07	1.00	0.04	4.18



Alt Model-Shift Uniqueness Test

006048024-01, P = 62.815547 Days, E = 88.664958 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.7	5.65	4.56	4.75	5.39	3.20	1.44	141.1	140.9	1.10	0.90	3.30	1.01	0.05	0.90



Stellar Parameters For KIC 006048024

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6340^{+113}_{-139}	$4.230^{+0.076}_{-0.114}$	$0.480^{+0.050}_{-0.150}$	$1.492^{+0.265}_{-0.143}$	$1.379^{+0.092}_{-0.084}$	$0.585^{+0.168}_{-0.206}$
	+2%/-2%	+2%/-3%	+10%/-31%	+18%/-10%	+7%/-6%	+29%/-35%
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 006048024-01 / KOI 1684.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-57 ± 8	$10.99^{+3.75}_{-3.53}$	814^{+37}_{-29}	2853^{+334}_{-237}	31^{+37}_{-15}
Alt.	-60 ± 11	$7.11^{+3.61}_{-3.69}$	815^{+36}_{-29}	3268^{+886}_{-386}	76^{+257}_{-43}

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

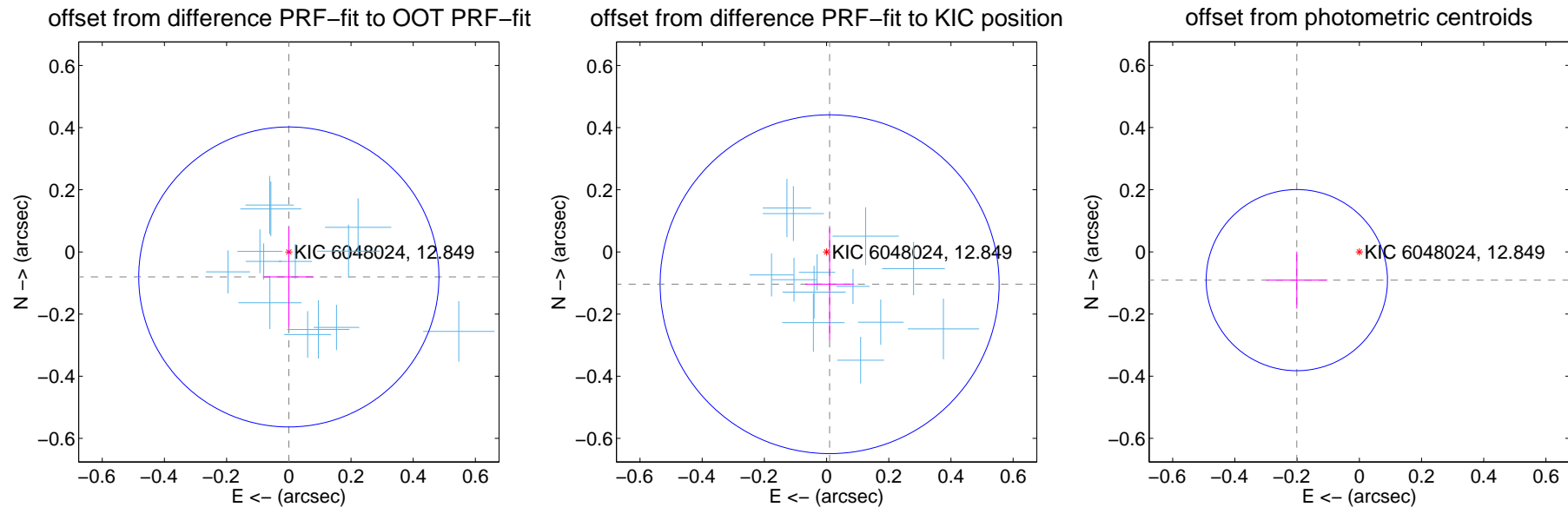
DV Centroid Data

Supplemental centroid analysis for 006048024-01. Kepler magnitude: 12.85. Transit SNR 98.33

There are 15 quarters with good PRF difference image offsets

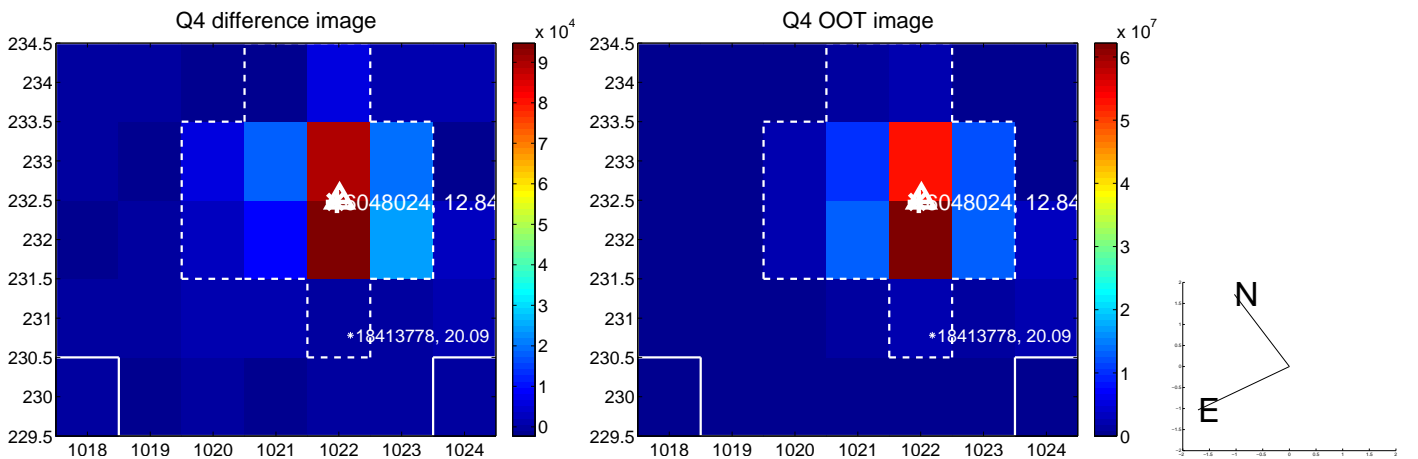
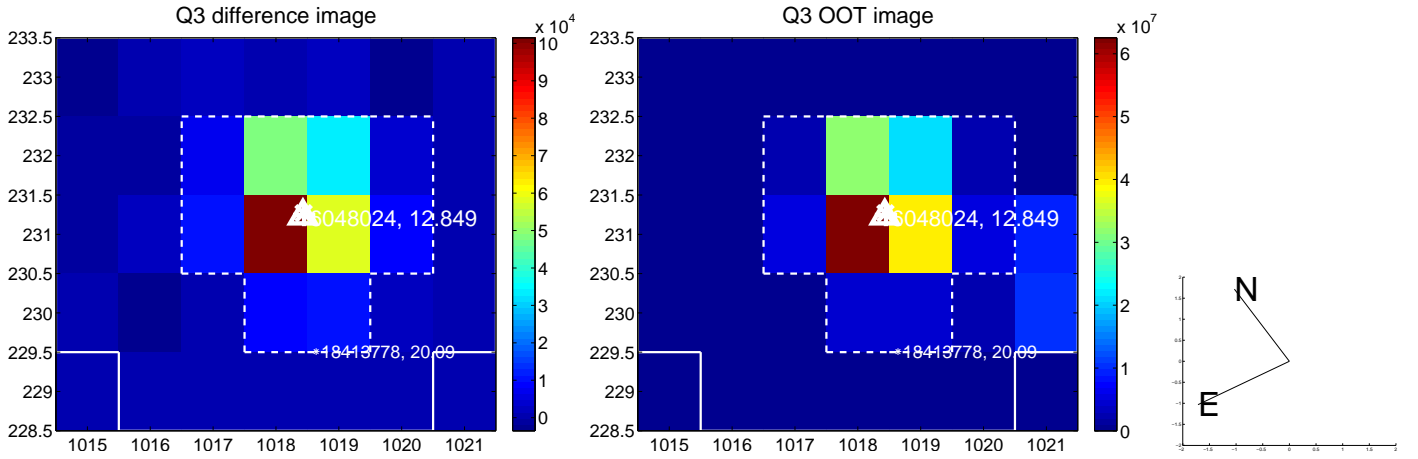
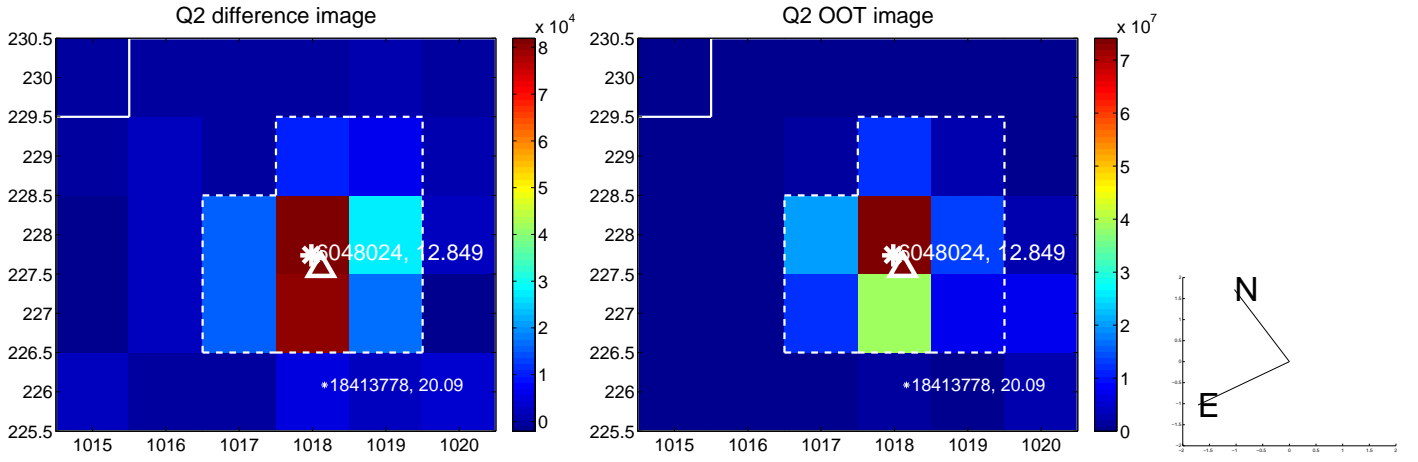
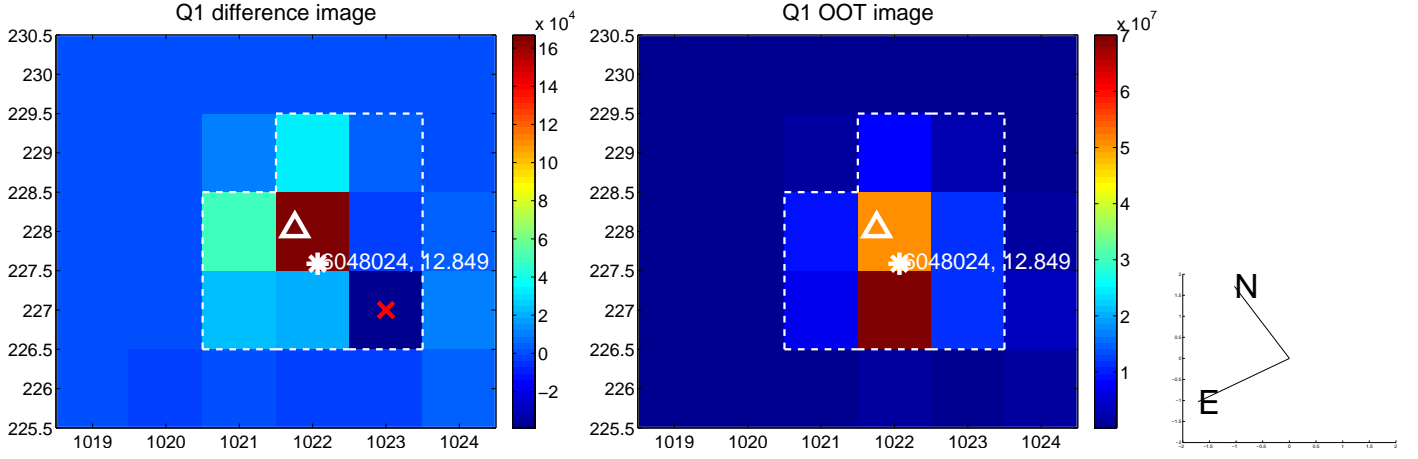
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.081 ± 0.161	0.50	-0.000 ± 0.080	-0.081 ± 0.161
PRF-fit source offset from KIC position	0.104 ± 0.182	0.57	-0.010 ± 0.079	-0.104 ± 0.181
photometric centroid source offset	0.22 ± 0.10	2.27	0.20 ± 0.10	-0.09 ± 0.09

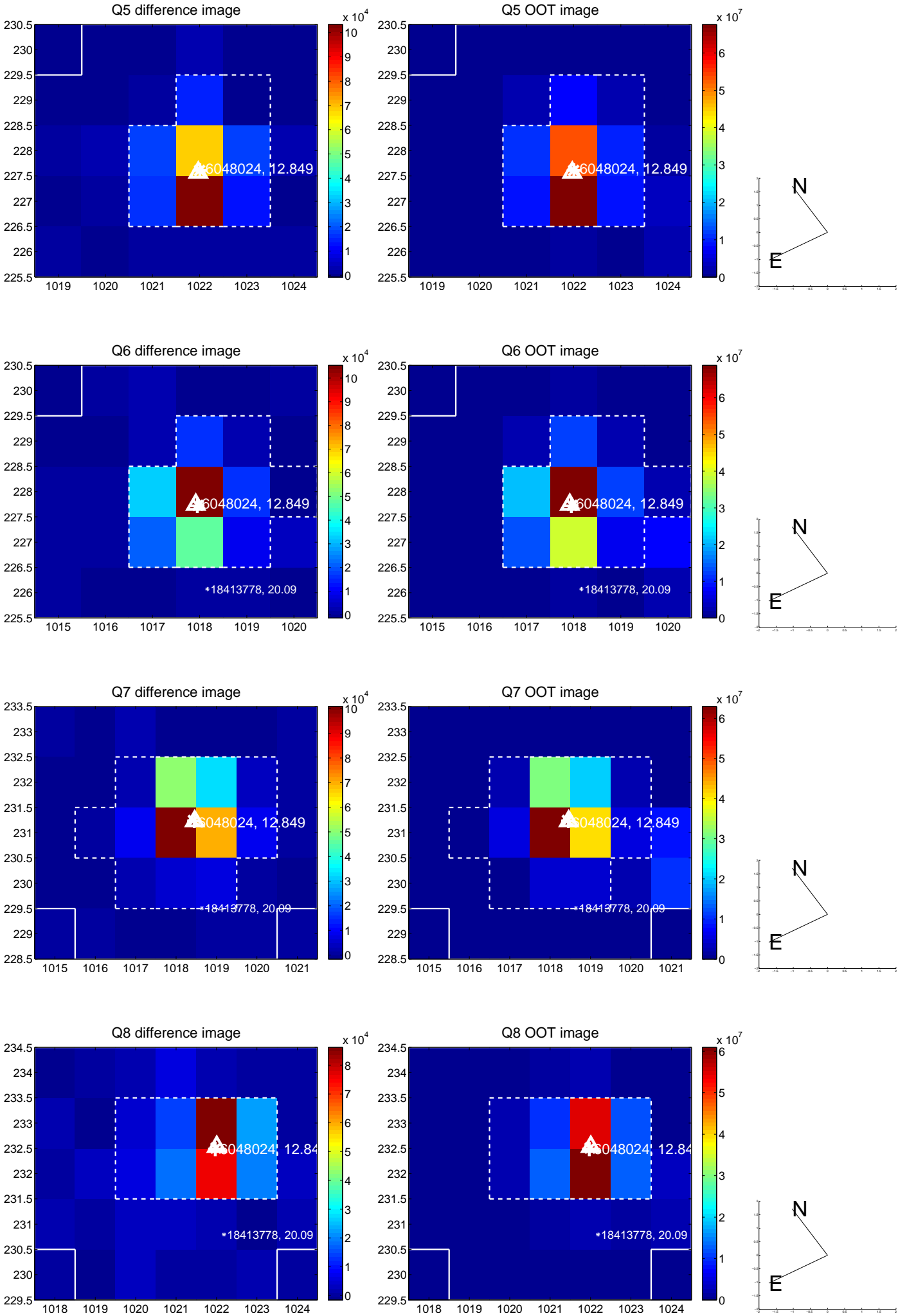


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

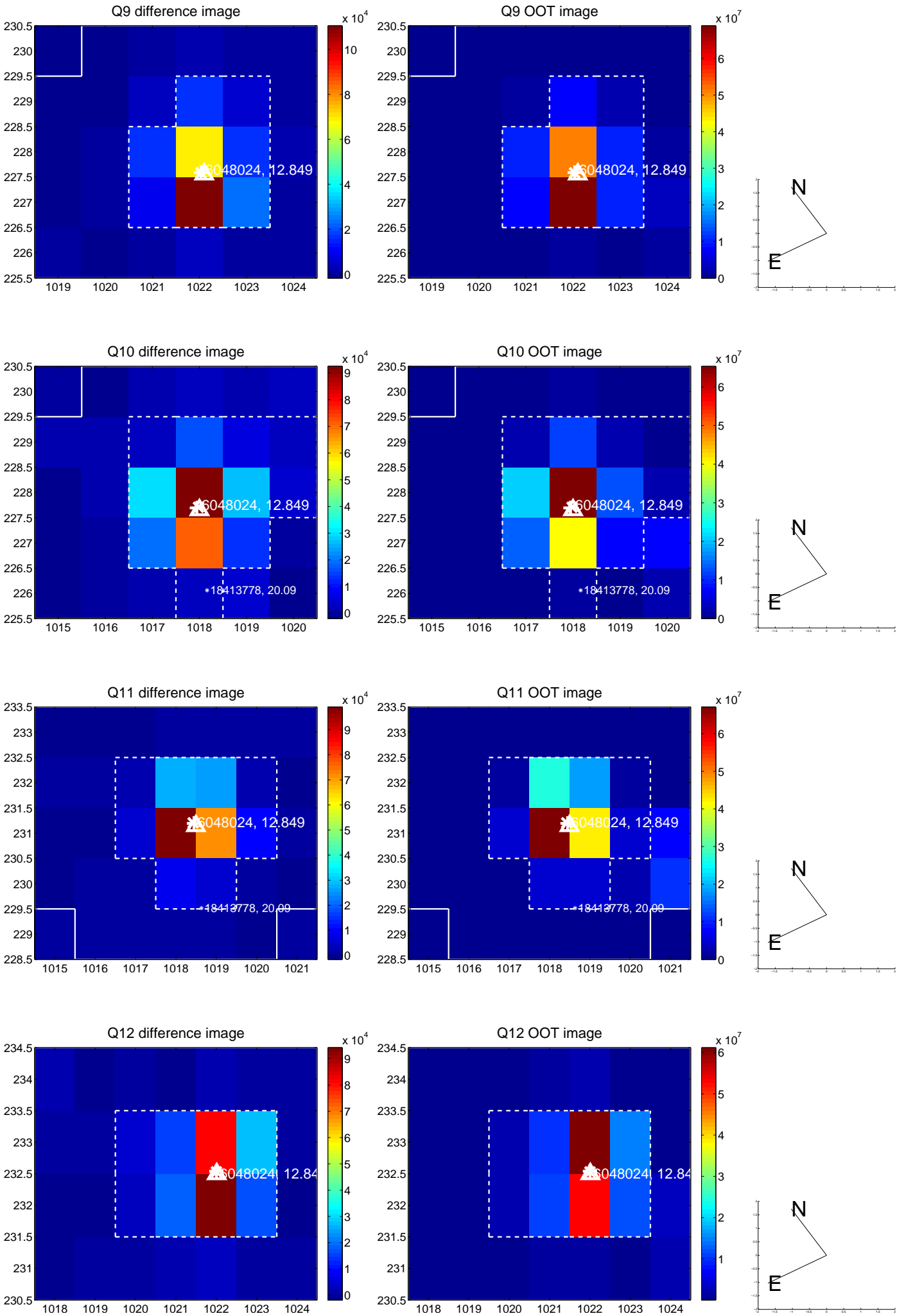
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



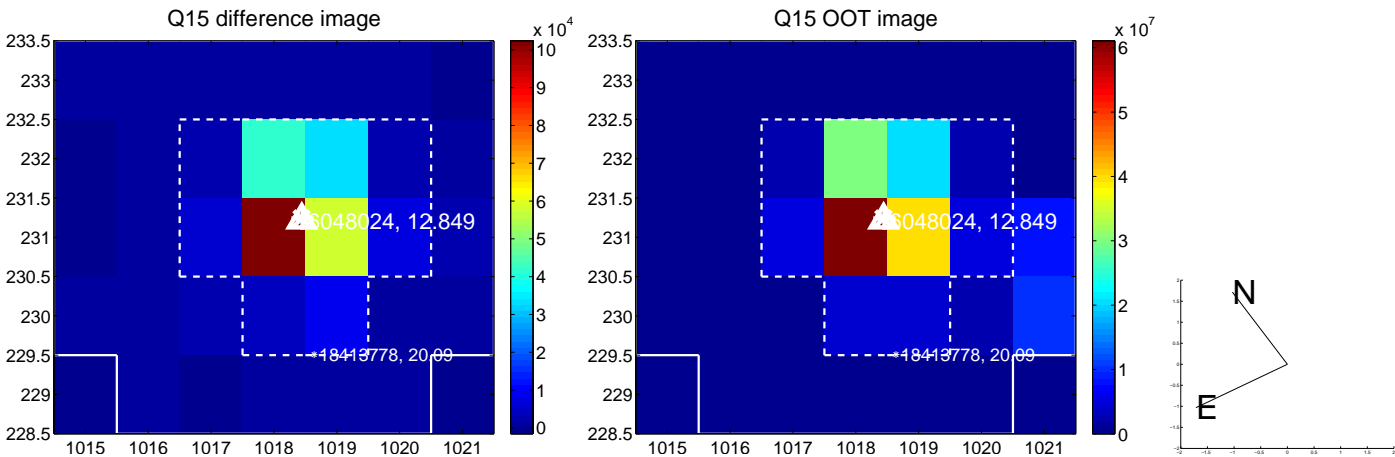
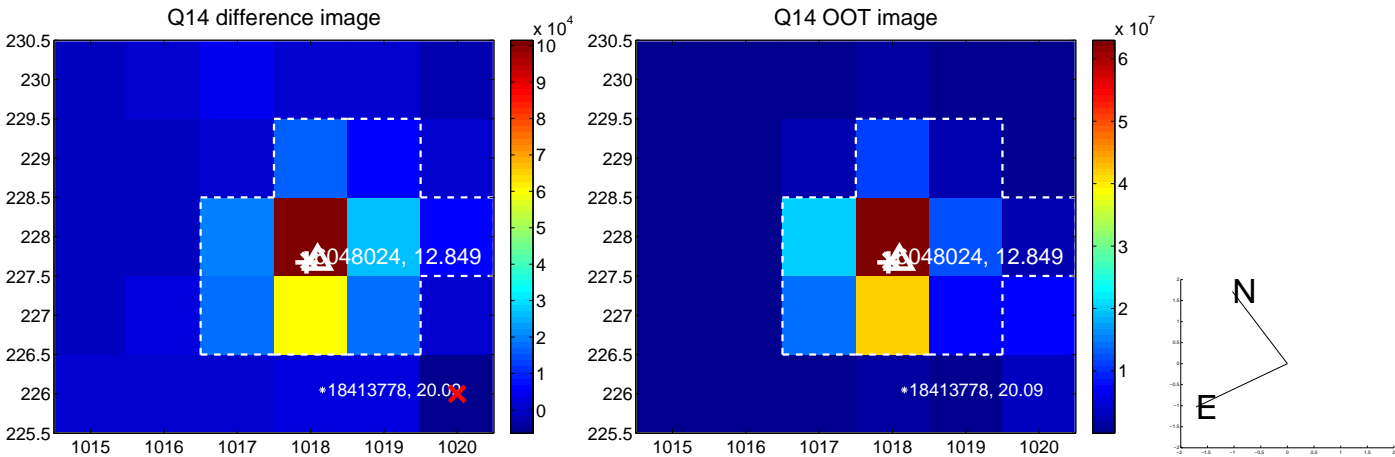
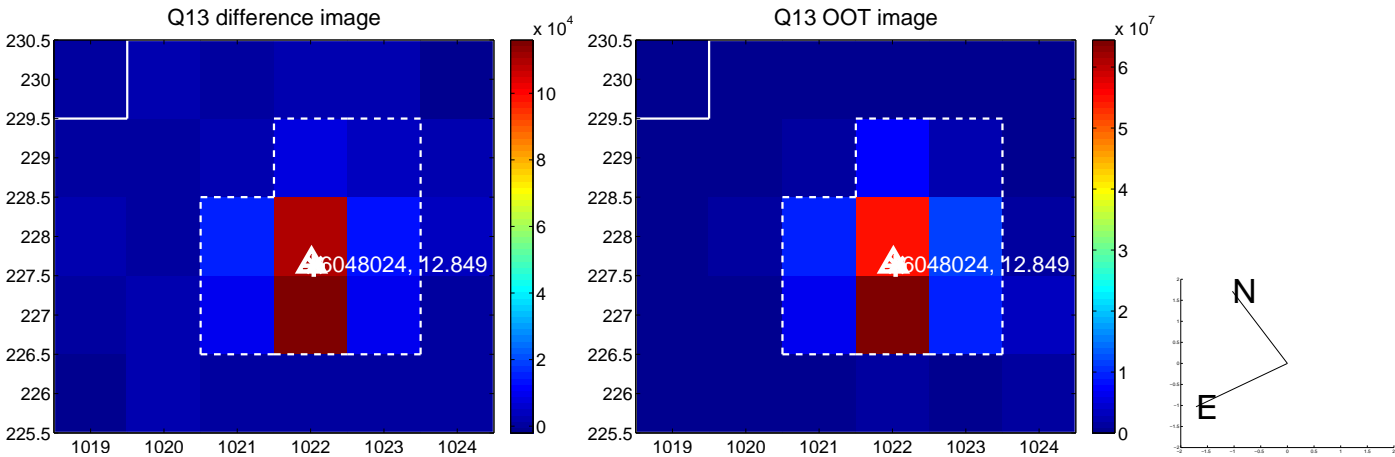
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



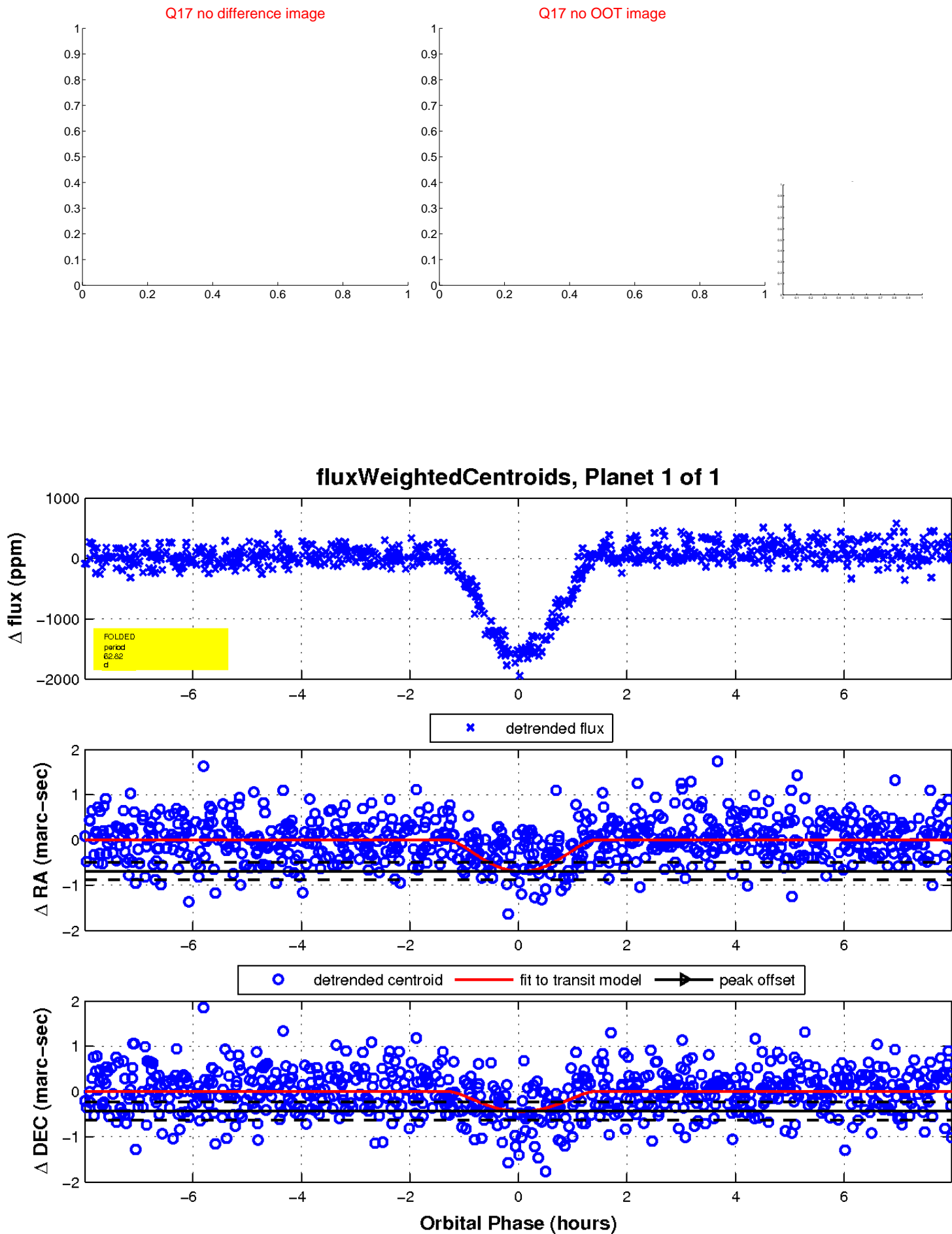
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

