

KIC 007815744

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})
007815744-01	OBS	1710.01	14.204450	142.731173	783.1	4.000	23.6	24.7	0.68	5350	2.12	31.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007815744-01	OBS	PC	1.00	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.

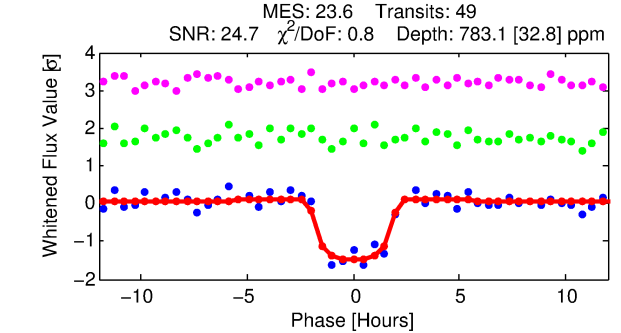
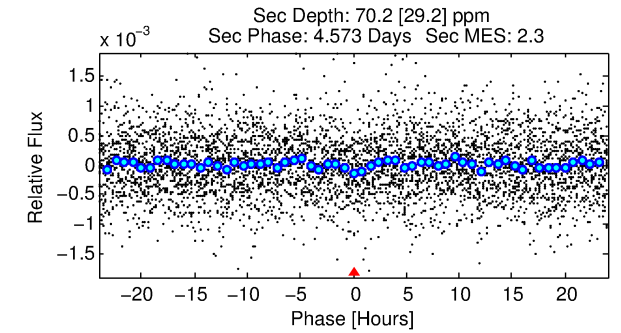
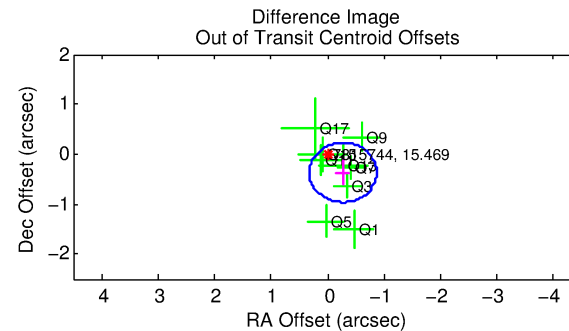
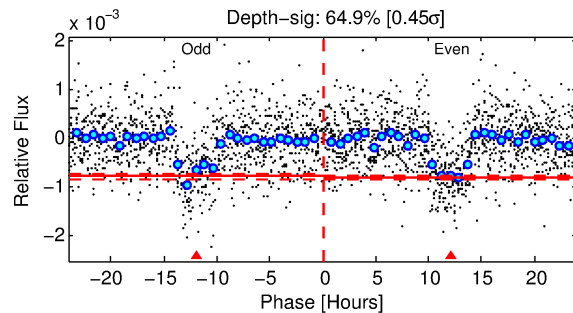
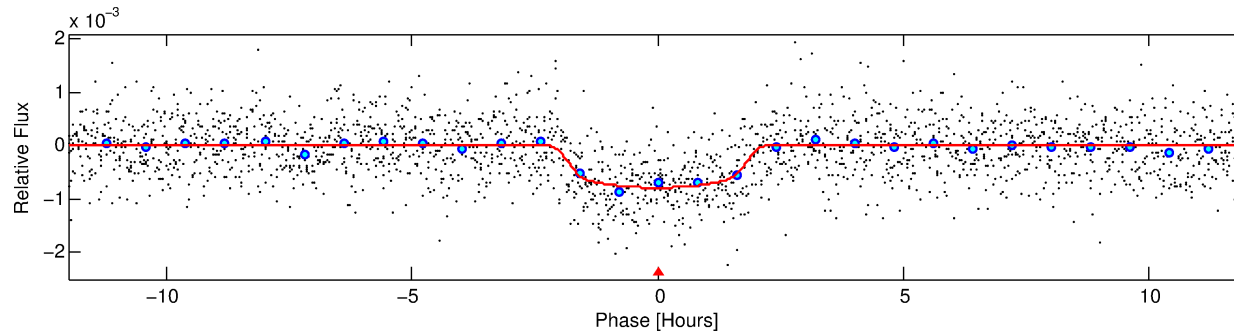
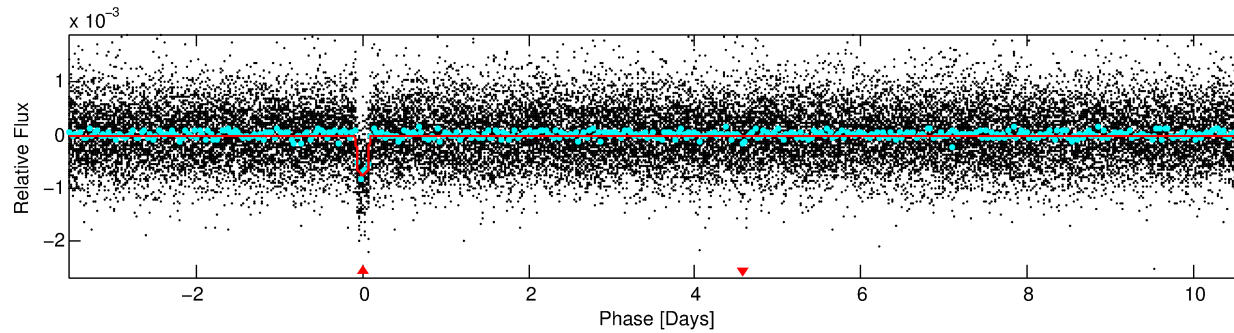
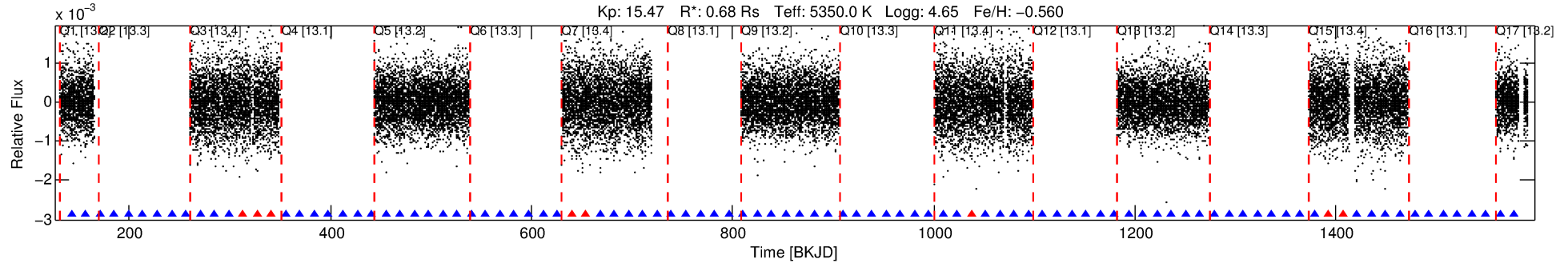
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007815744-01

No Significant Match Found

DV One-Page Summary

KIC: 7815744 Candidate: 1 of 1 Period: 14.204 d
KOI: K01710.01 Corr: 0.993



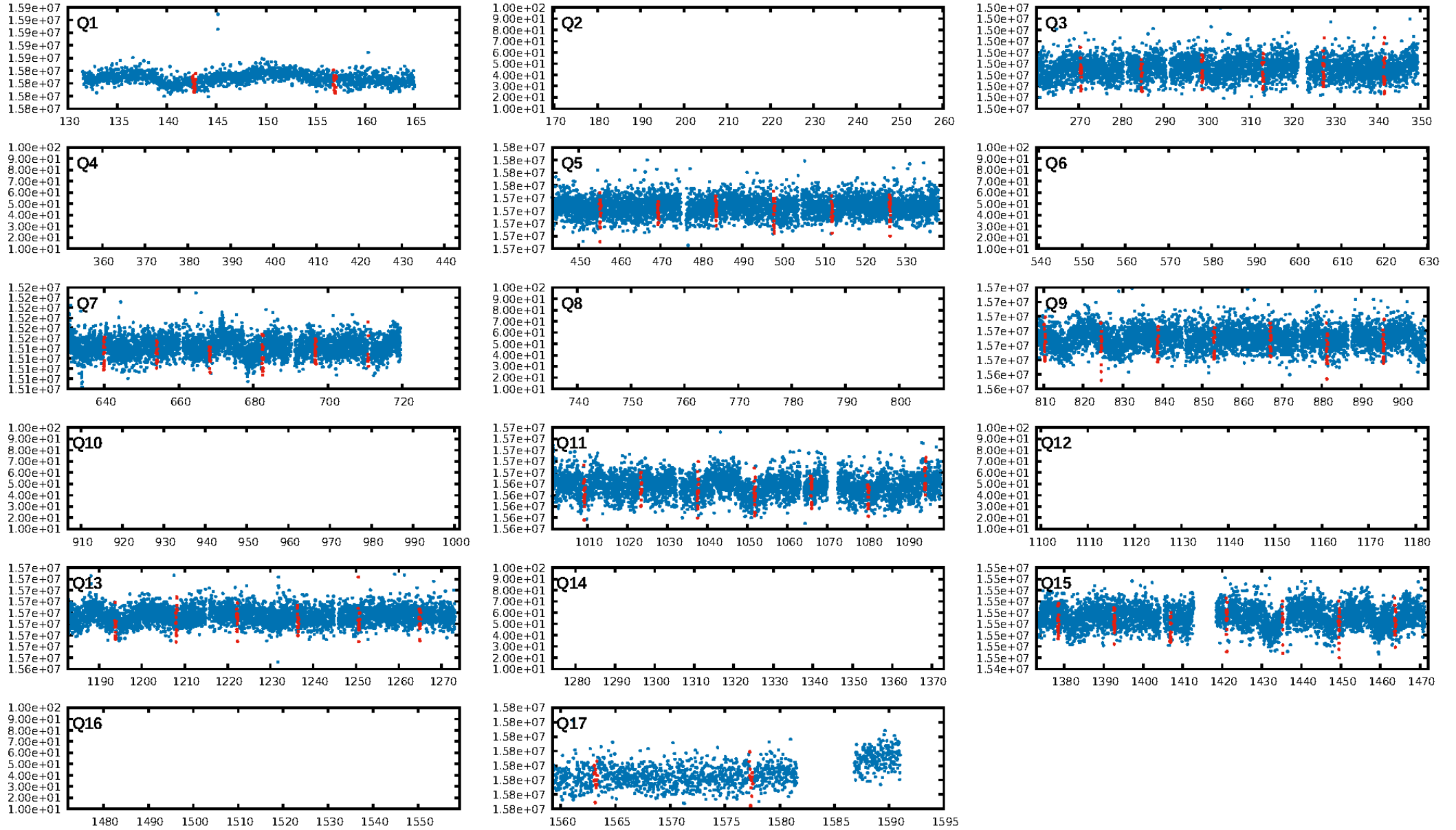
DV Fit Results:

Period = 14.20445 [0.00006] d
Epoch = 142.7312 [0.0037] BKJD
Rp/R* = 0.0287 [0.0063]
a/R* = 17.24 [16.04]
b = 0.81 [0.40]
Seff = 31.18 [7.19]
Teq = 603 [35] K
Rp = 2.12 [0.57] Re
a = 0.1040 [0.0132] AU
Ag = 93.01 [58.75] [1.57 σ]
Teff = 2893 [450] K [5.07 σ]

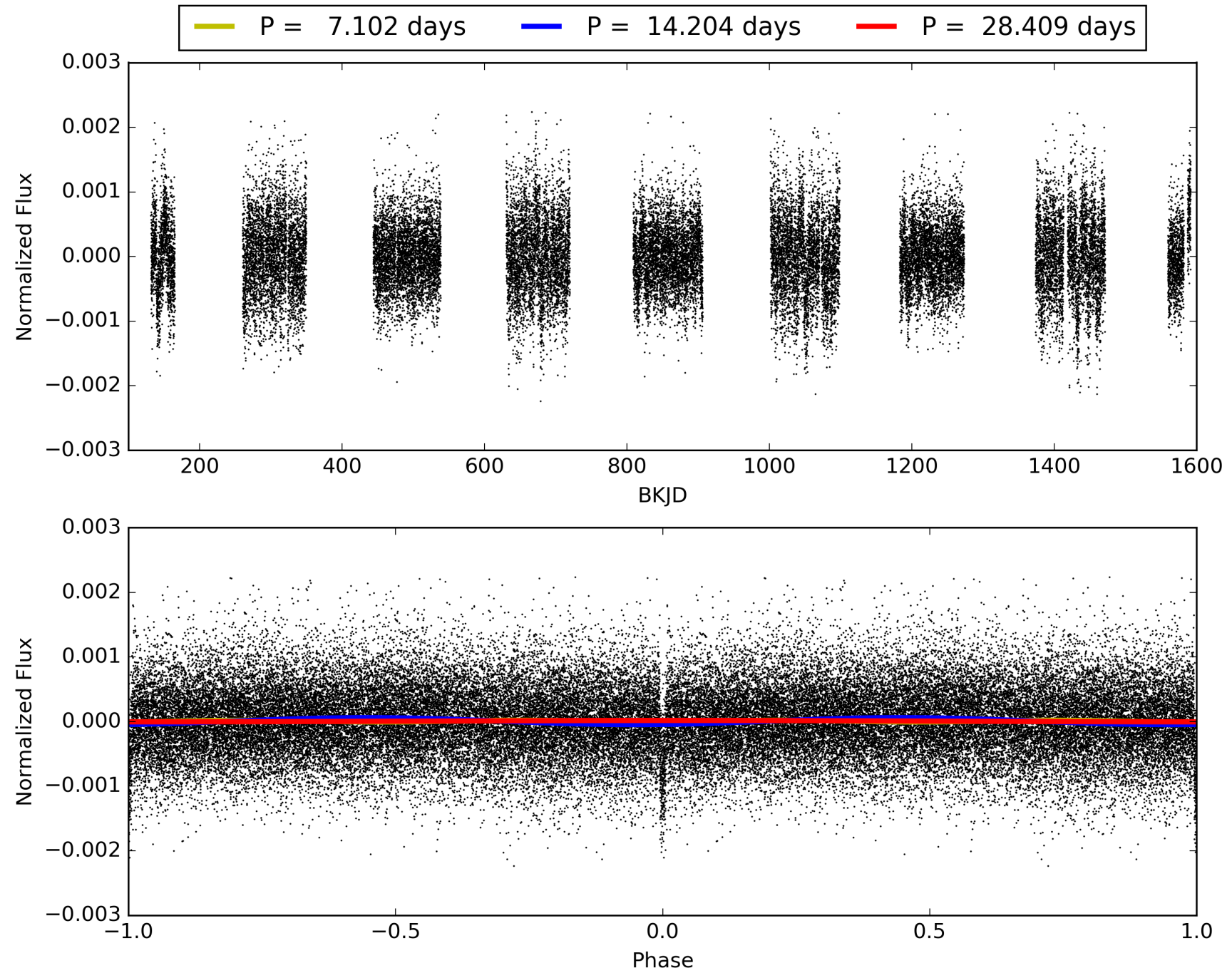
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.21e-121
RollingBand-fgt: 0.82 [37/45]
GhostDiagnostic-chr: 2.234
Centroid-sig: 0.2%
Centroid-so: 1.486 arcsec [2.47 σ]
OotOffset-rm: 0.456 arcsec [2.29 σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-rm: 0.753 arcsec [4.25 σ]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 007815744-01, PDC Light Curves

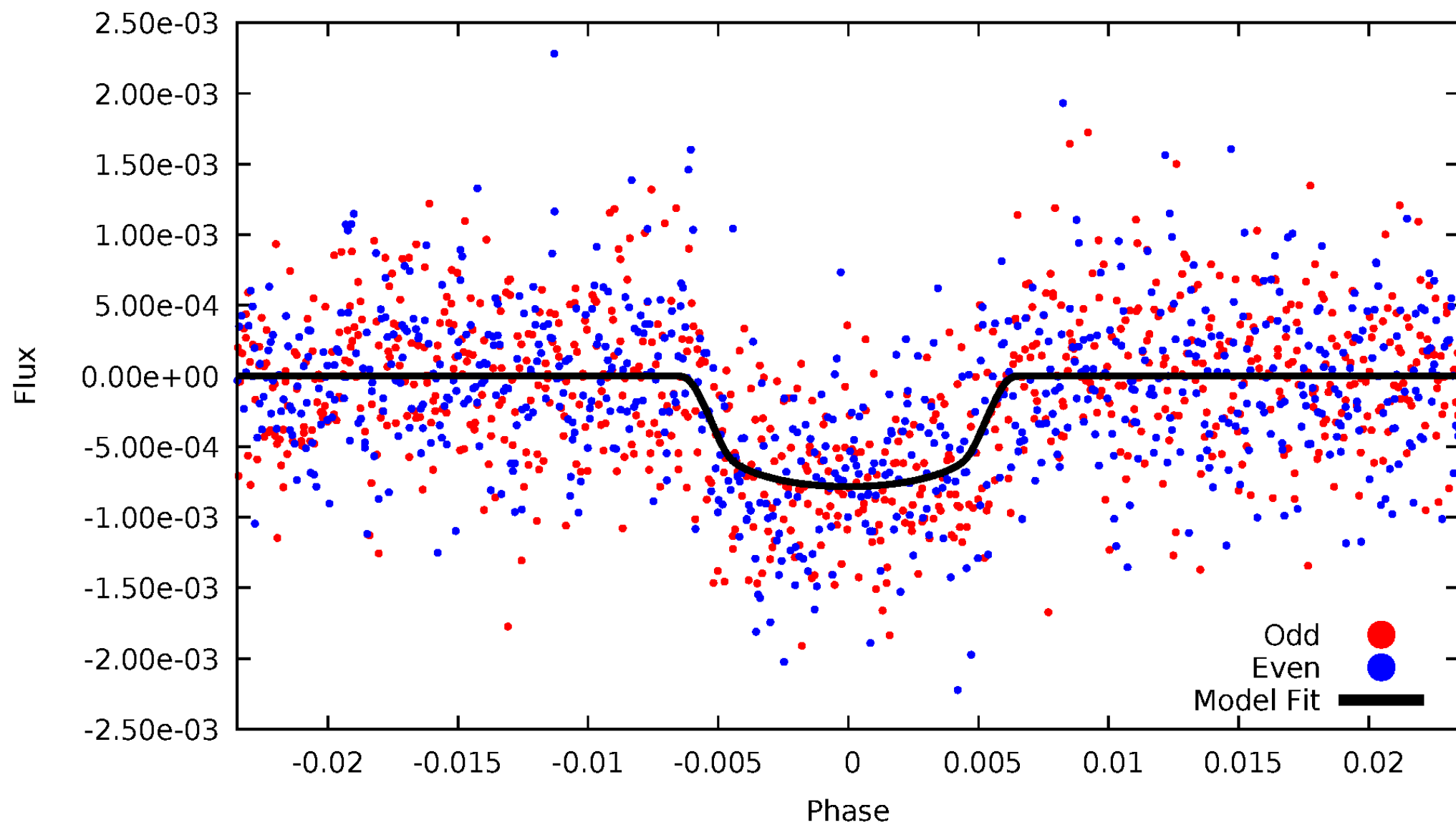


TCE 007815744-01



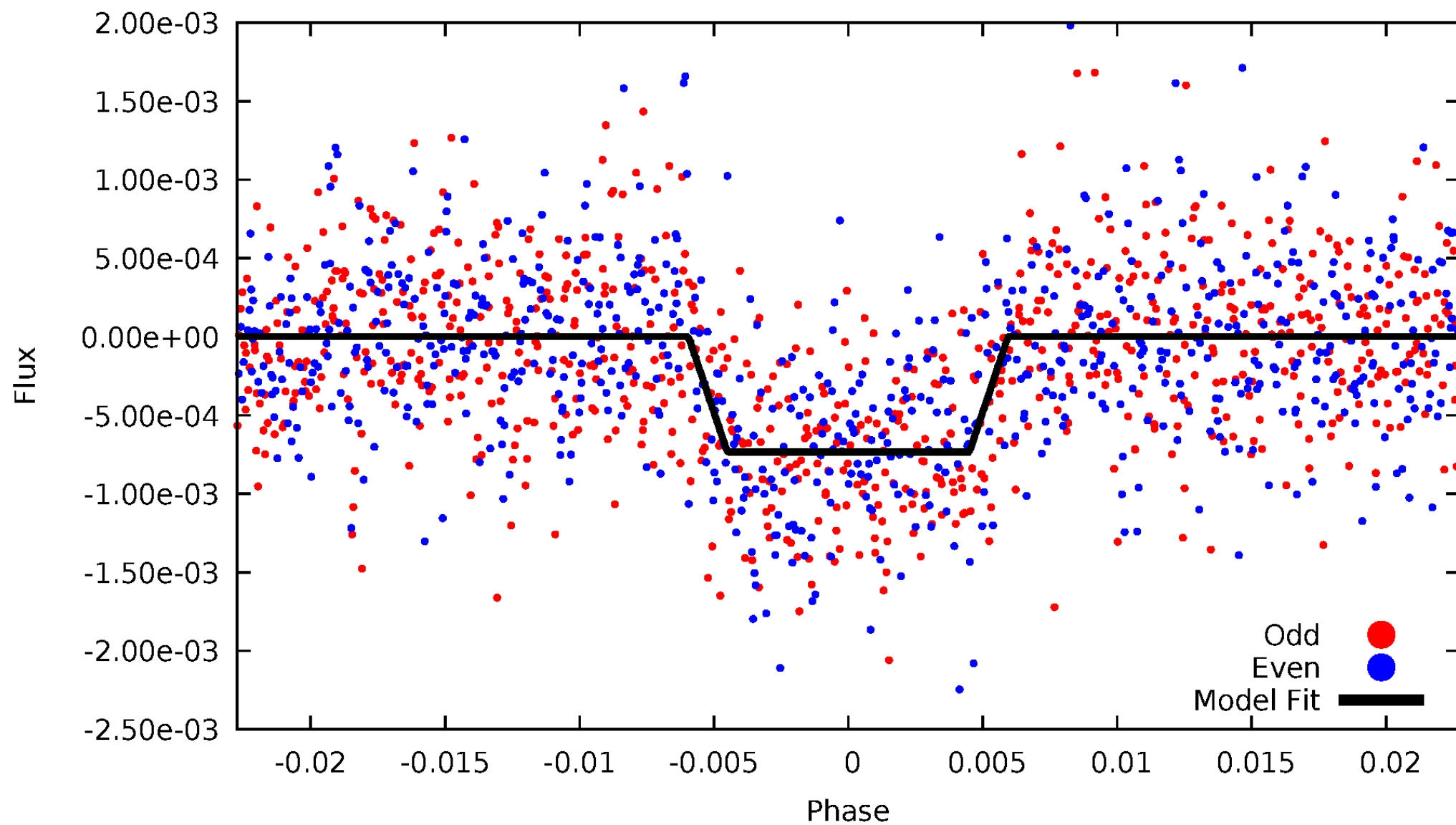
DV Odd/Even

TCE 007815744-01



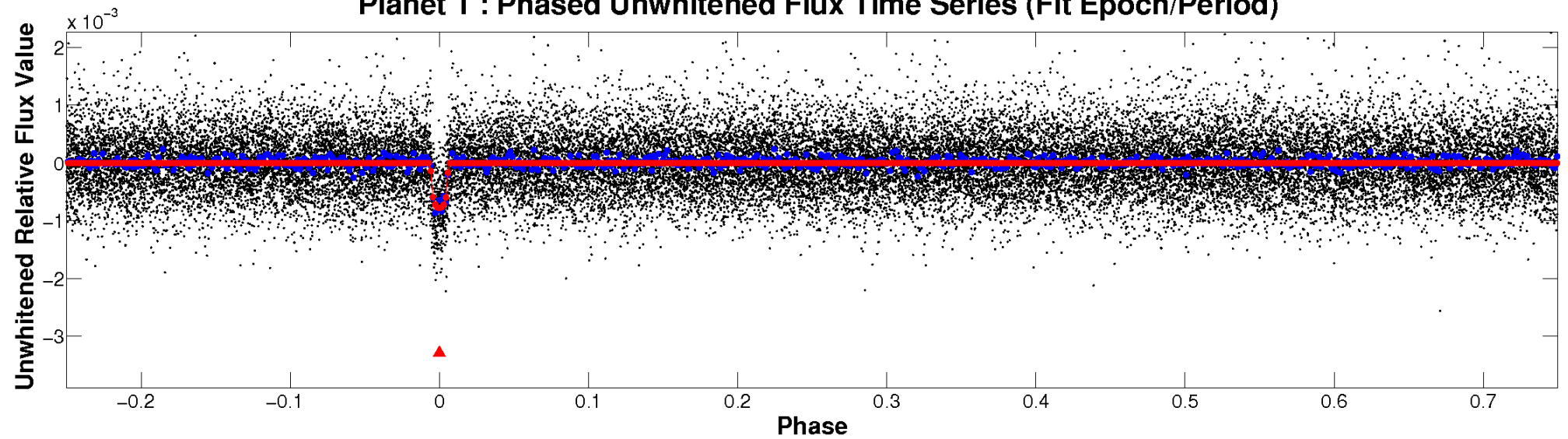
ALT Odd/Even

TCE 007815744-01

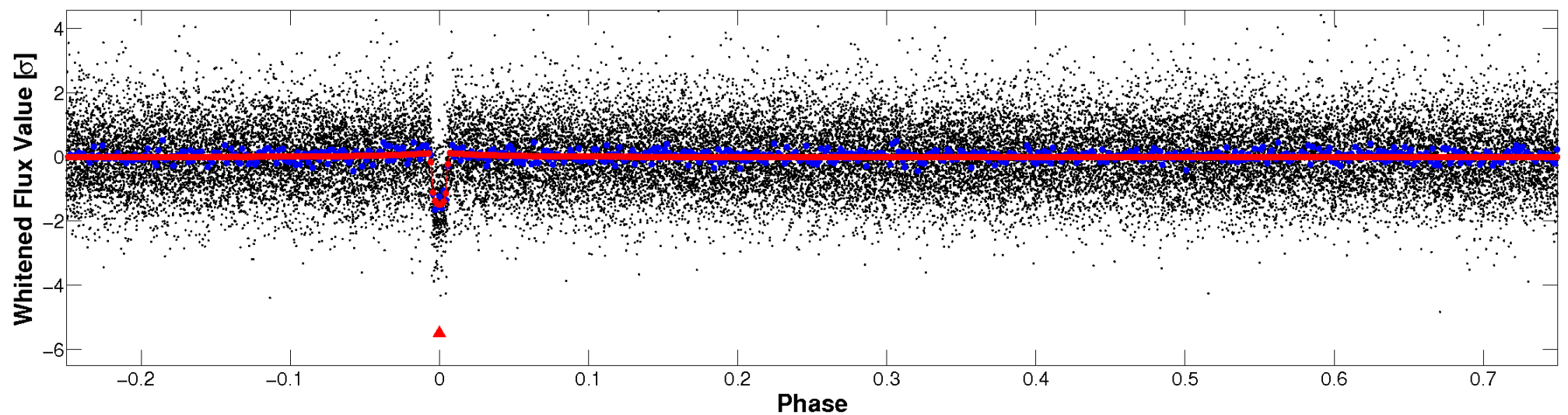


Non-Whitened Vs. Whitened Light Curve

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

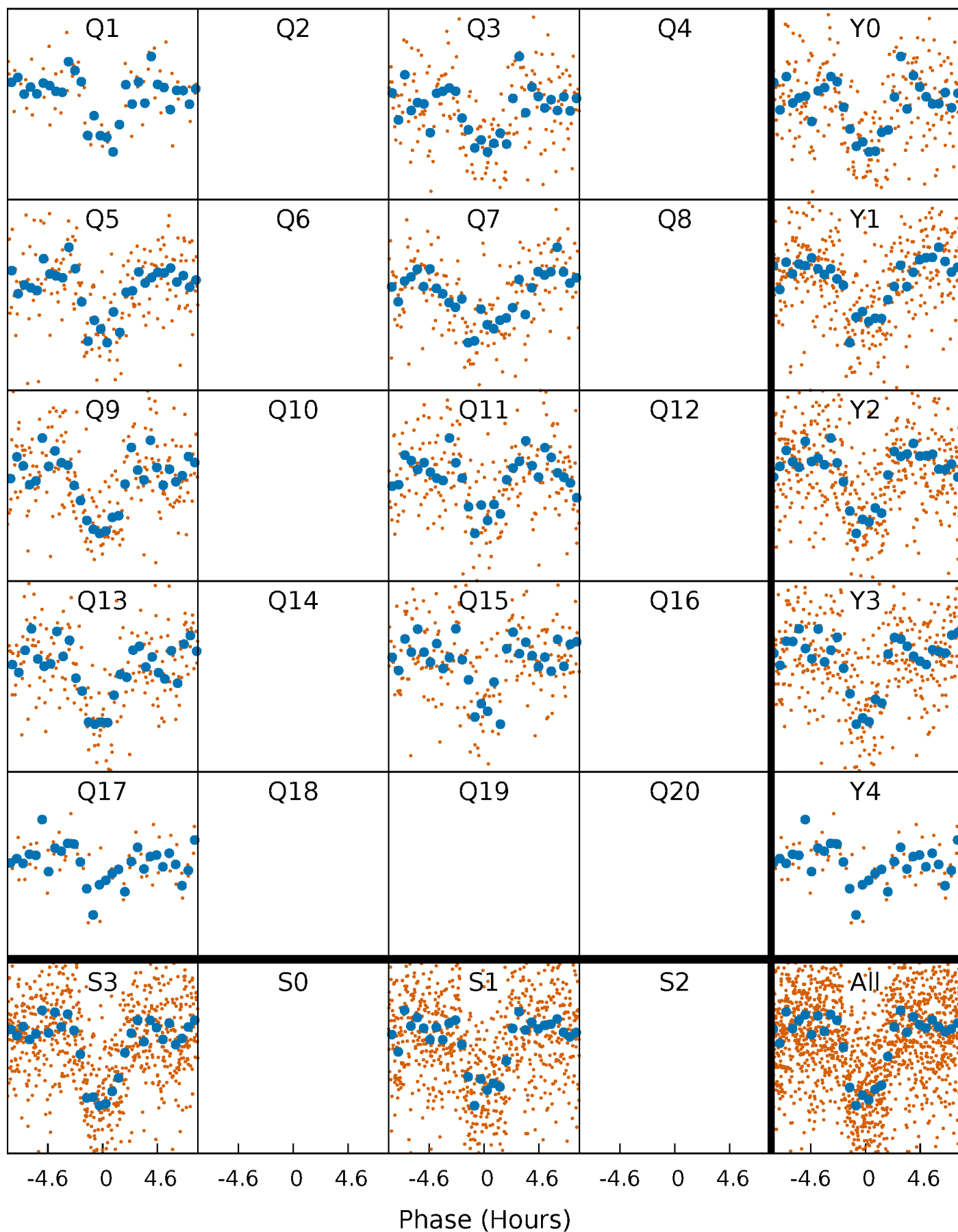


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



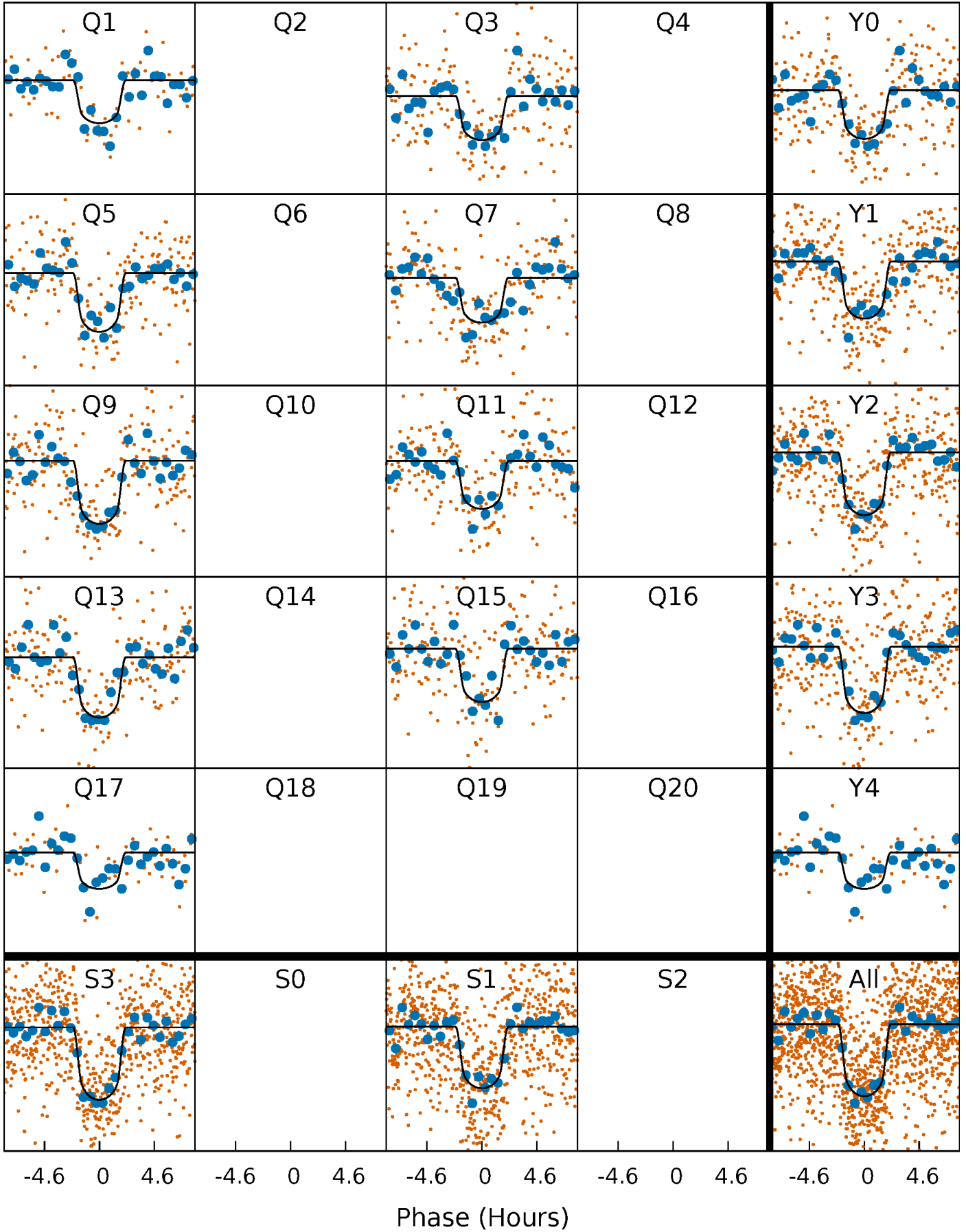
PDC Quarter-Phased Transit Curves

TCE 007815744-01 P= 14.204450 Days $T_0=142.731173$ (BKJD)



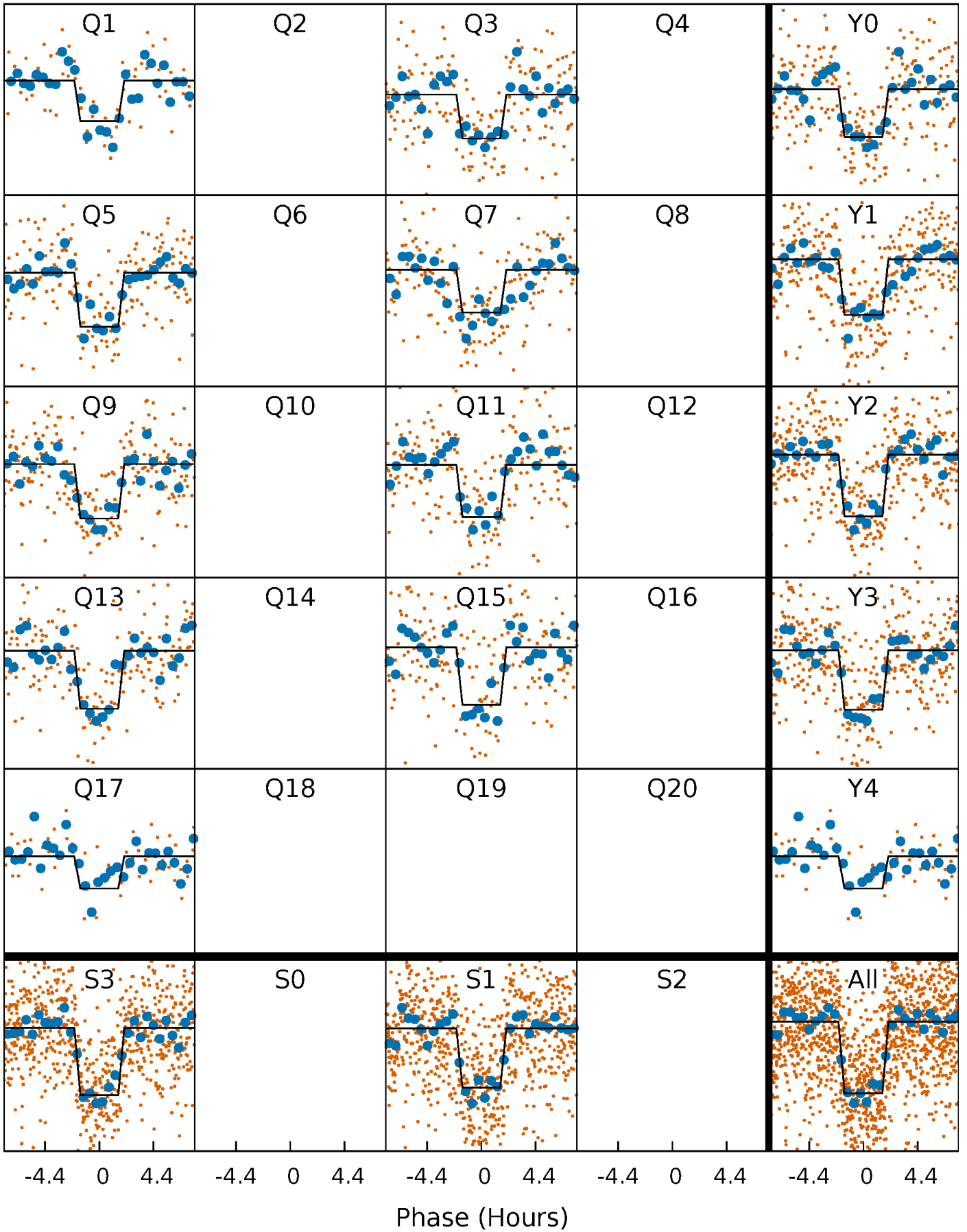
DV Quarter-Phased Transit Curves

TCE 007815744-01 P= 14.204450 Days $T_0=142.731173$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

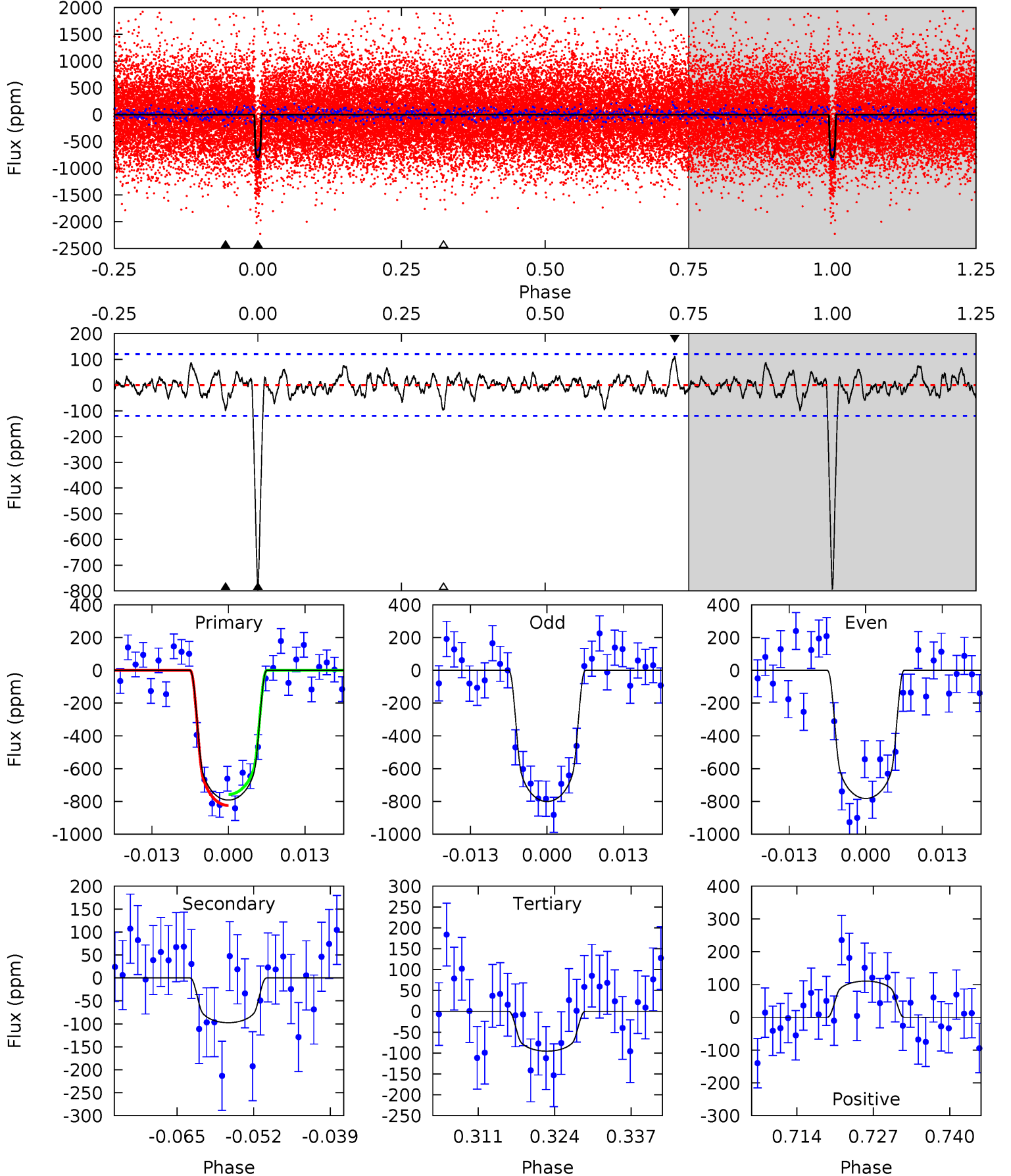
TCE 007815744-01 P= 14.204463 Days $T_0=142.730876$ (BKJD)



DV Model-Shift Uniqueness Test

007815744-01, P = 14.204450 Days, E = 128.526723 Days

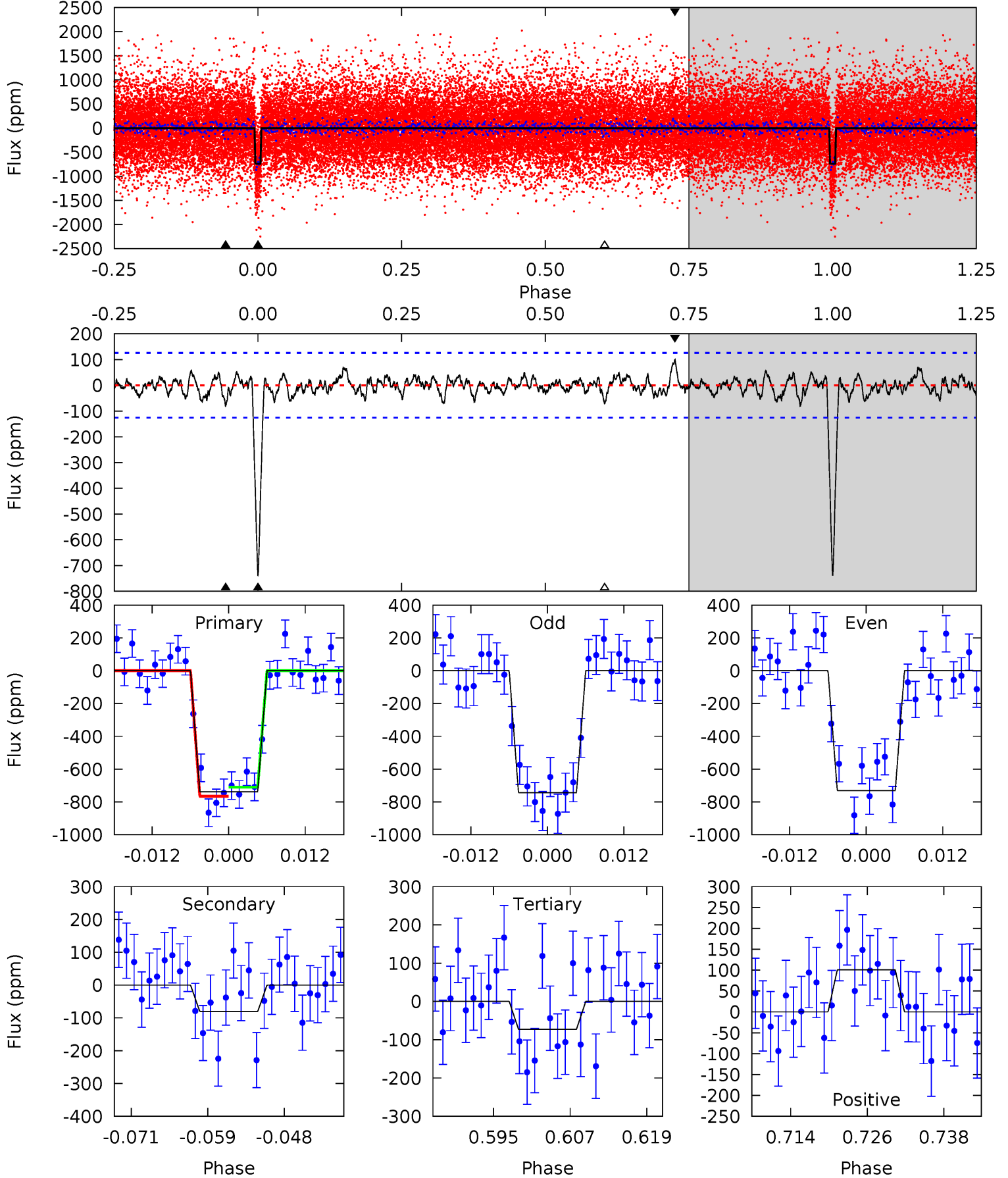
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.9	4.05	3.97	4.58	4.98	2.48	1.22	28.9	28.3	0.08	-0.53	0.38	0.97	0.12	1.41



Alt Model-Shift Uniqueness Test

007815744-01, P = 14.204463 Days, E = 128.526413 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.3	3.20	2.89	3.99	4.99	2.52	1.03	26.4	25.3	0.30	-0.80	0.25	0.96	0.12	1.10



Stellar Parameters For KIC 007815744

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5350^{+193}_{-171}	$4.647^{+0.030}_{-0.096}$	$-0.560^{+0.300}_{-0.300}$	$0.678^{+0.105}_{-0.045}$	$0.758^{+0.072}_{-0.072}$	$3.416^{+0.466}_{-1.091}$
	+4%/-3%	+1%/-2%	+54%/-54%	+15%/-7%	+9%/-9%	+14%/-32%
Source	KIC0	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 007815744-01 / KOI 1710.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98 ± 24	$2.19^{+0.50}_{-0.51}$	855^{+41}_{-33}	3590^{+360}_{-284}	123^{+91}_{-50}
Alt.	-80 ± 25	$2.06^{+0.51}_{-0.50}$	855^{+37}_{-36}	3526^{+401}_{-299}	114^{+92}_{-50}

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

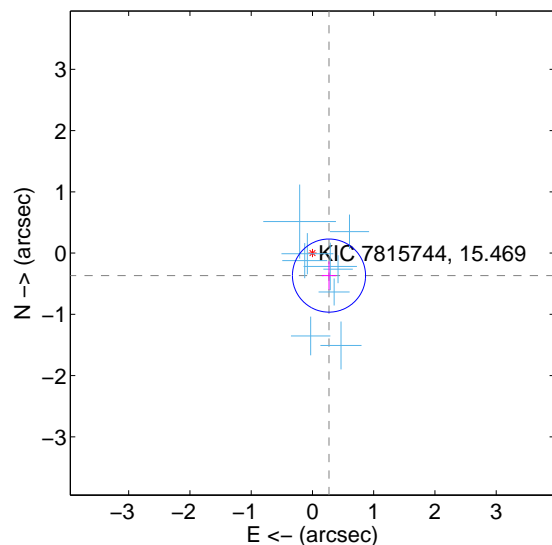
Supplemental centroid analysis for 007815744-01. Kepler magnitude: 15.47. Transit SNR 24.71

There are 9 quarters with good PRF difference image offsets

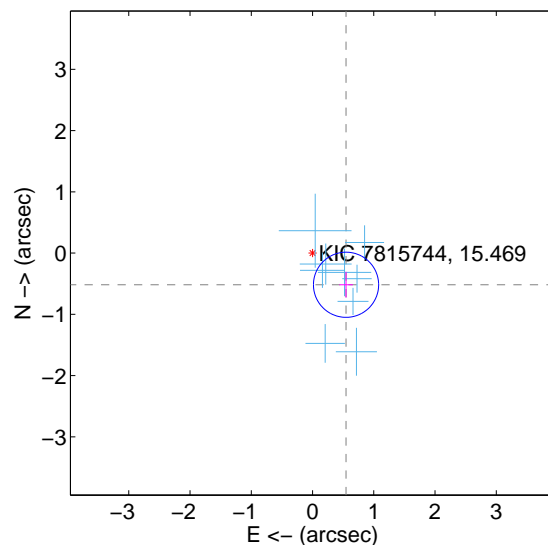
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.456 ± 0.199	2.29	-0.270 ± 0.118	-0.367 ± 0.231
PRF-fit source offset from KIC position	0.753 ± 0.177	4.25	-0.547 ± 0.111	-0.517 ± 0.210
photometric centroid source offset	1.49 ± 0.60	2.47	-1.07 ± 0.61	-1.03 ± 0.59

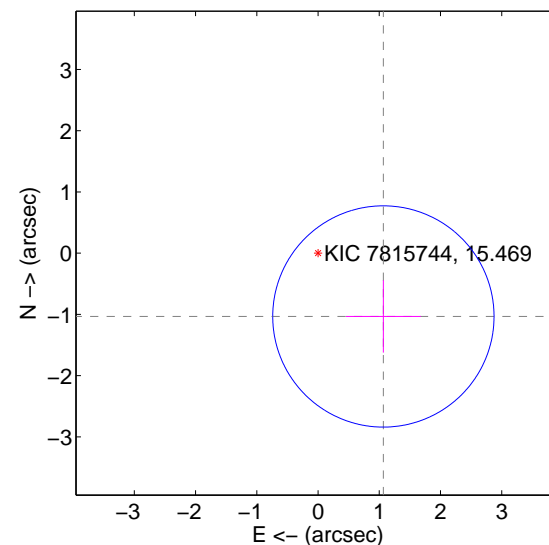
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

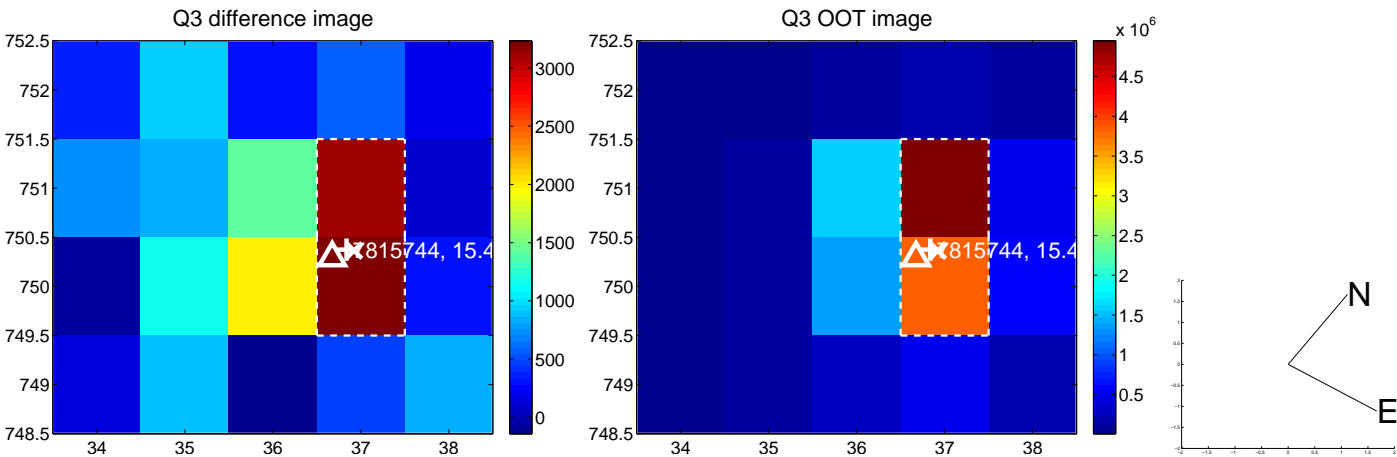
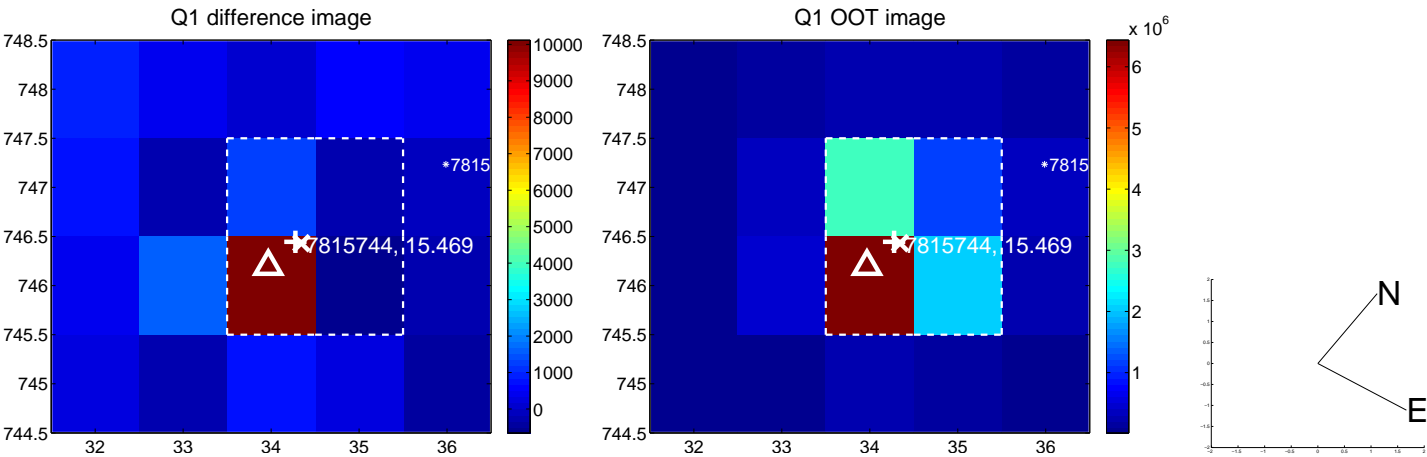


offset from photometric centroids

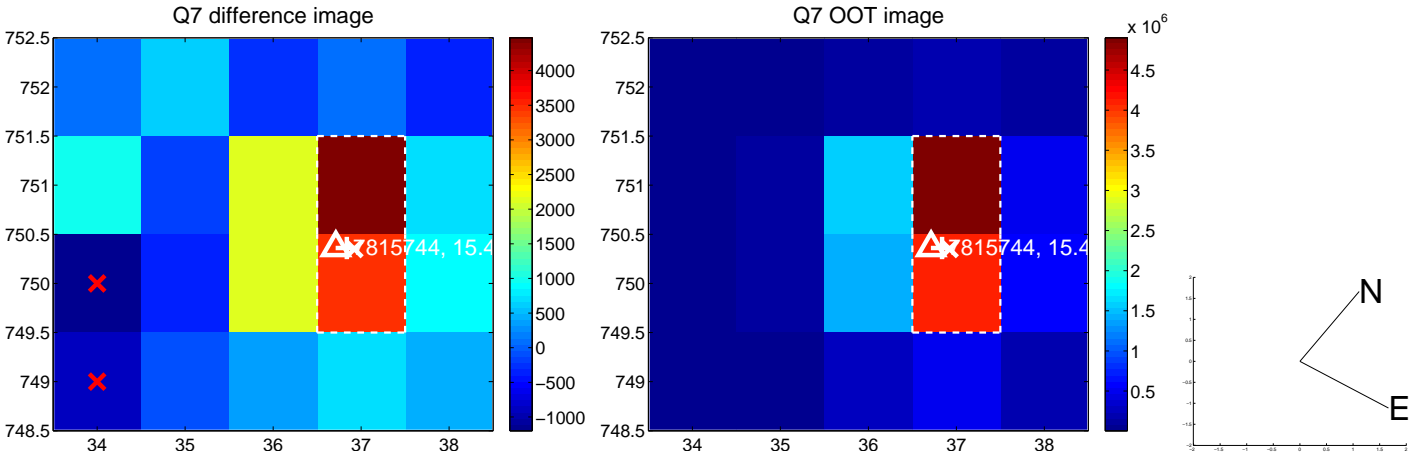
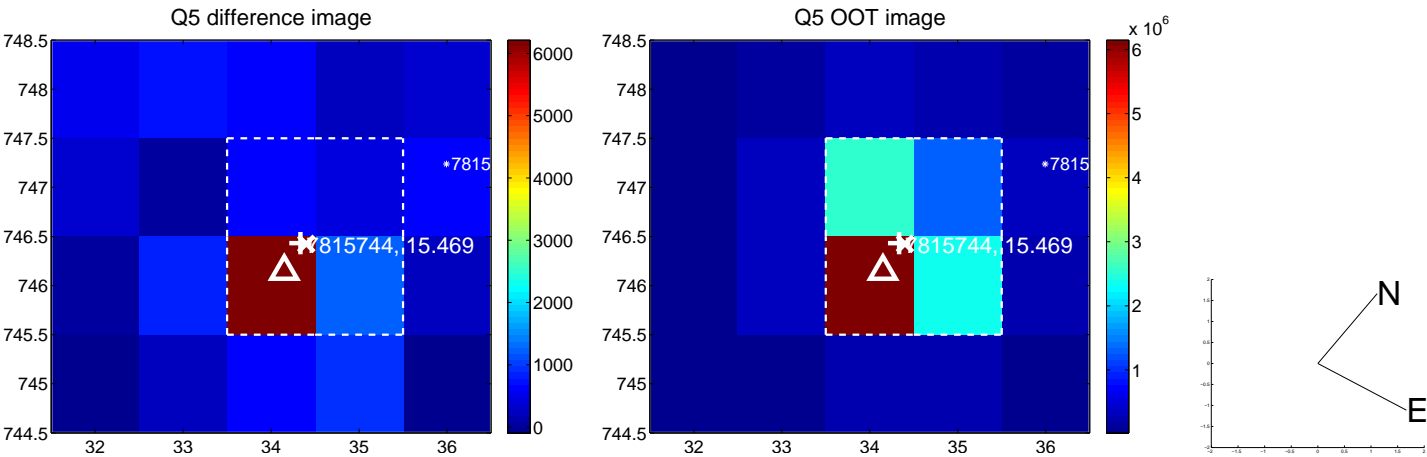


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

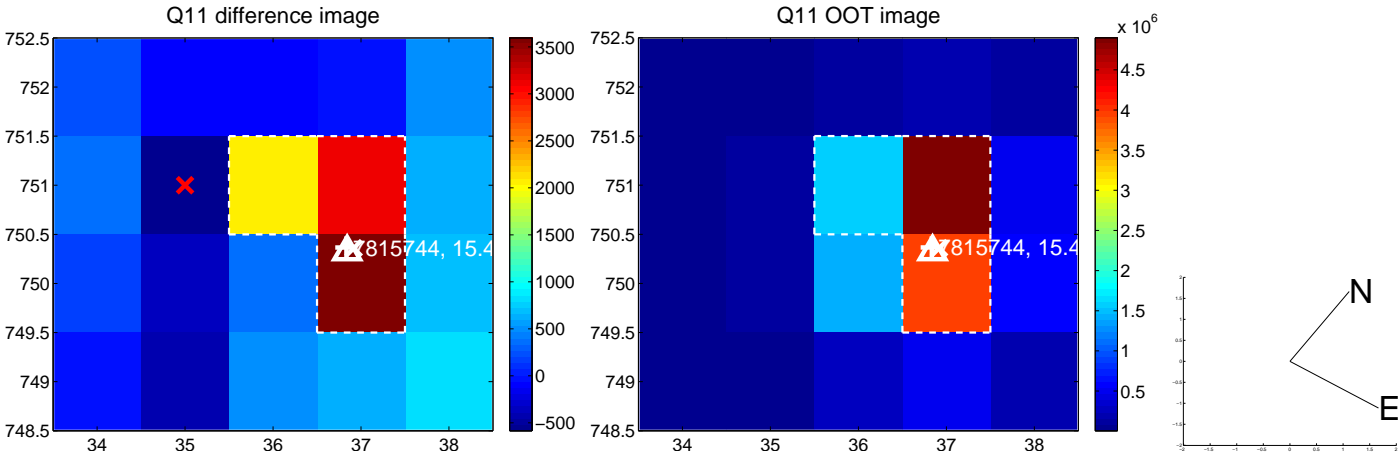
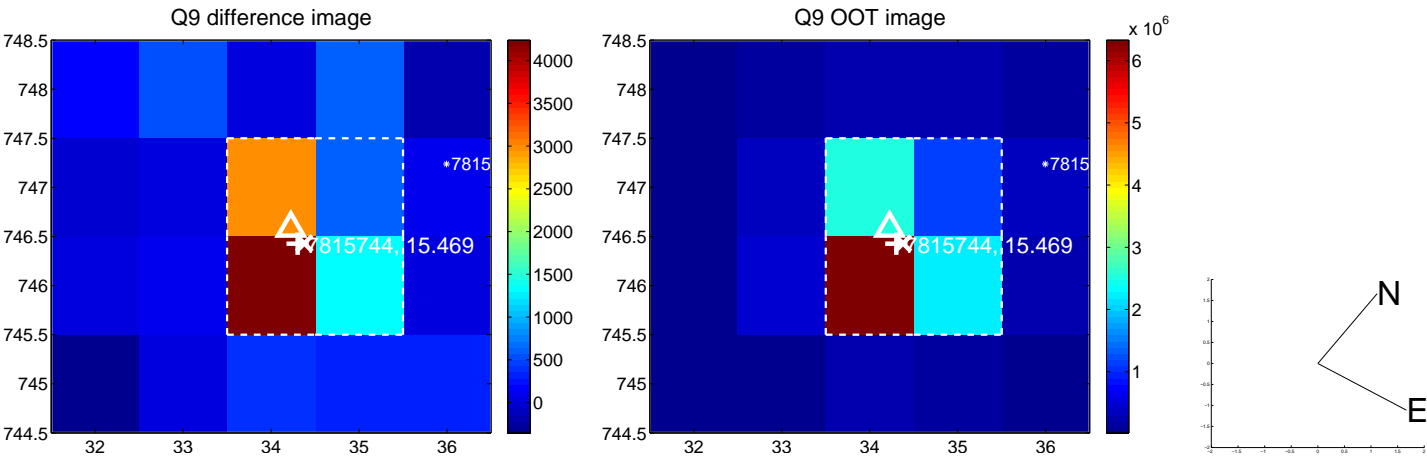
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



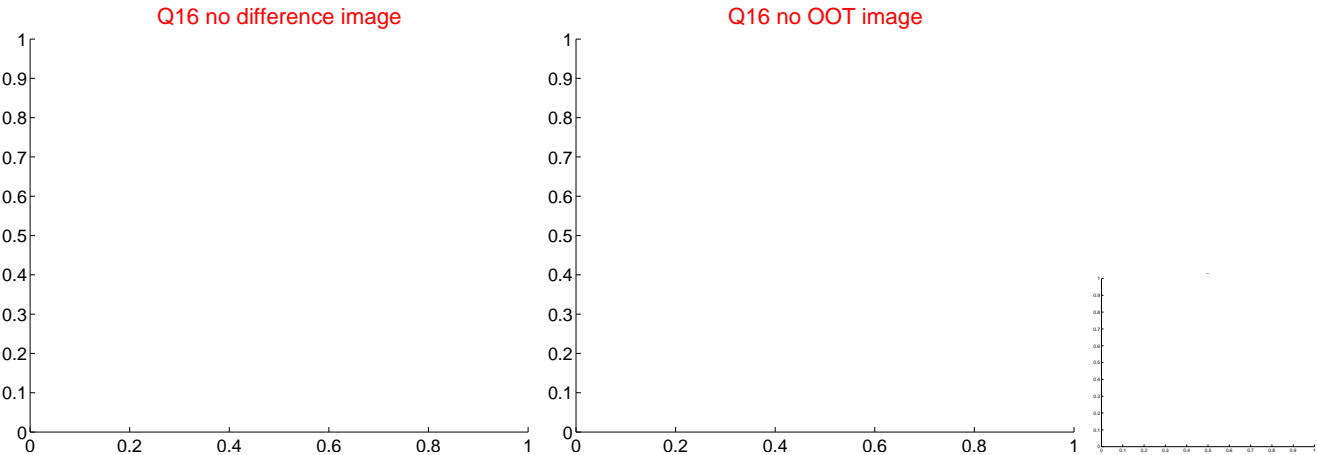
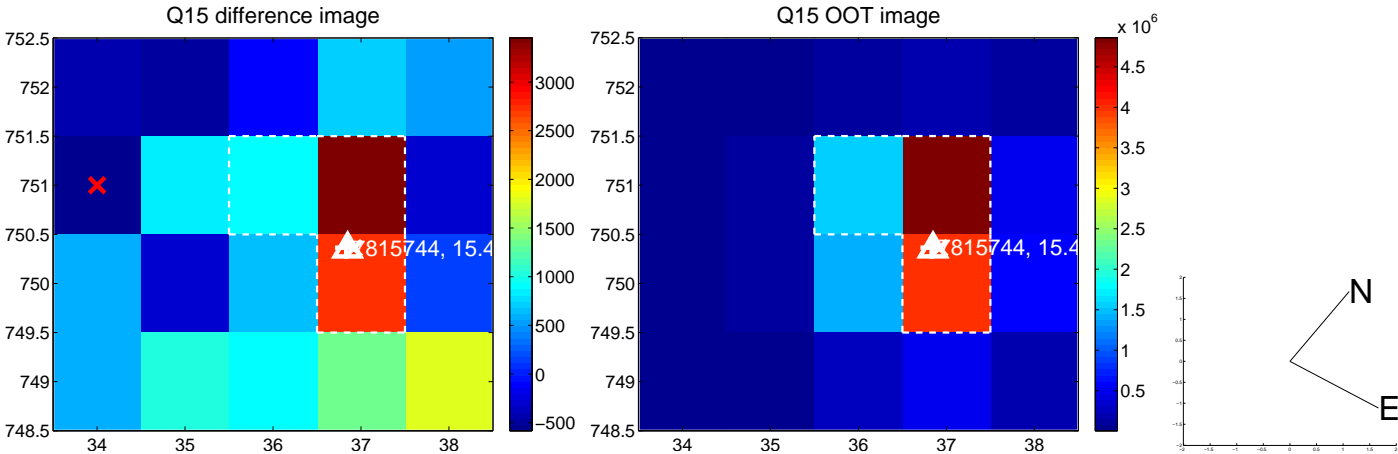
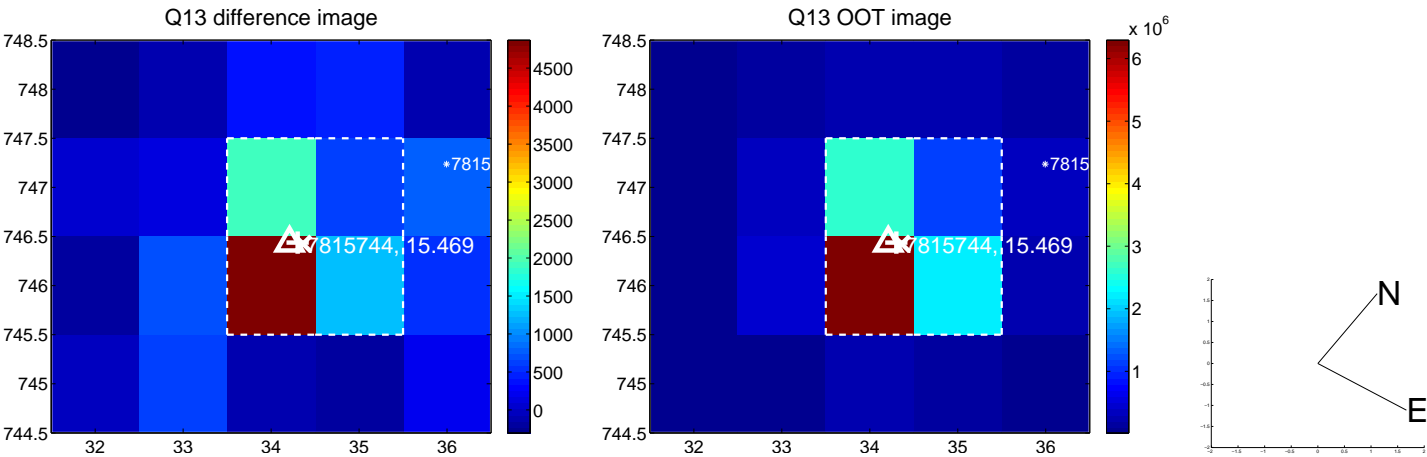
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



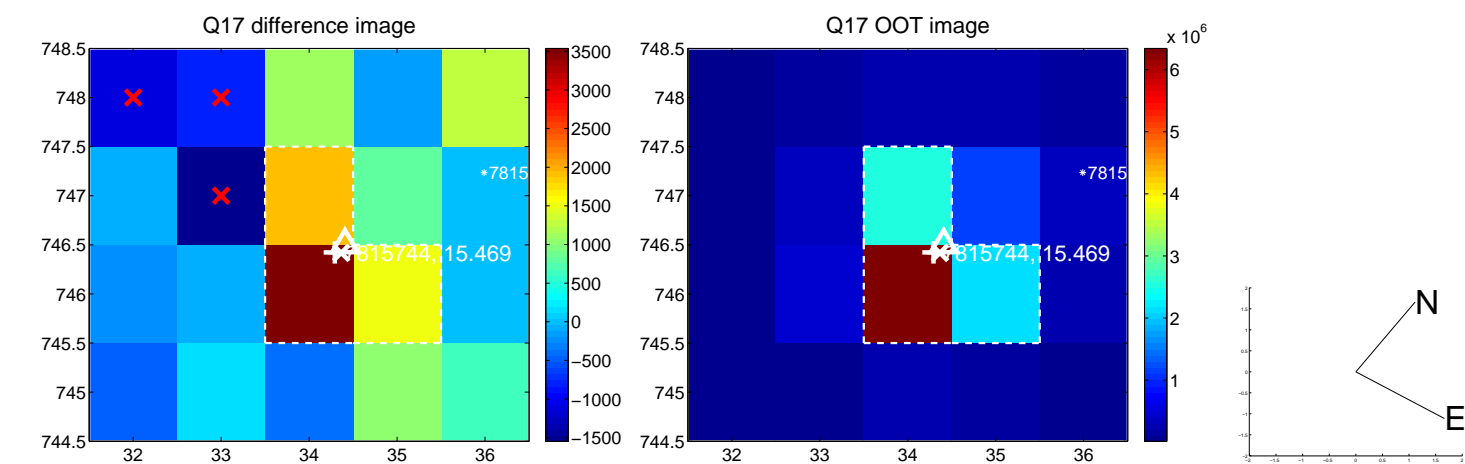
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



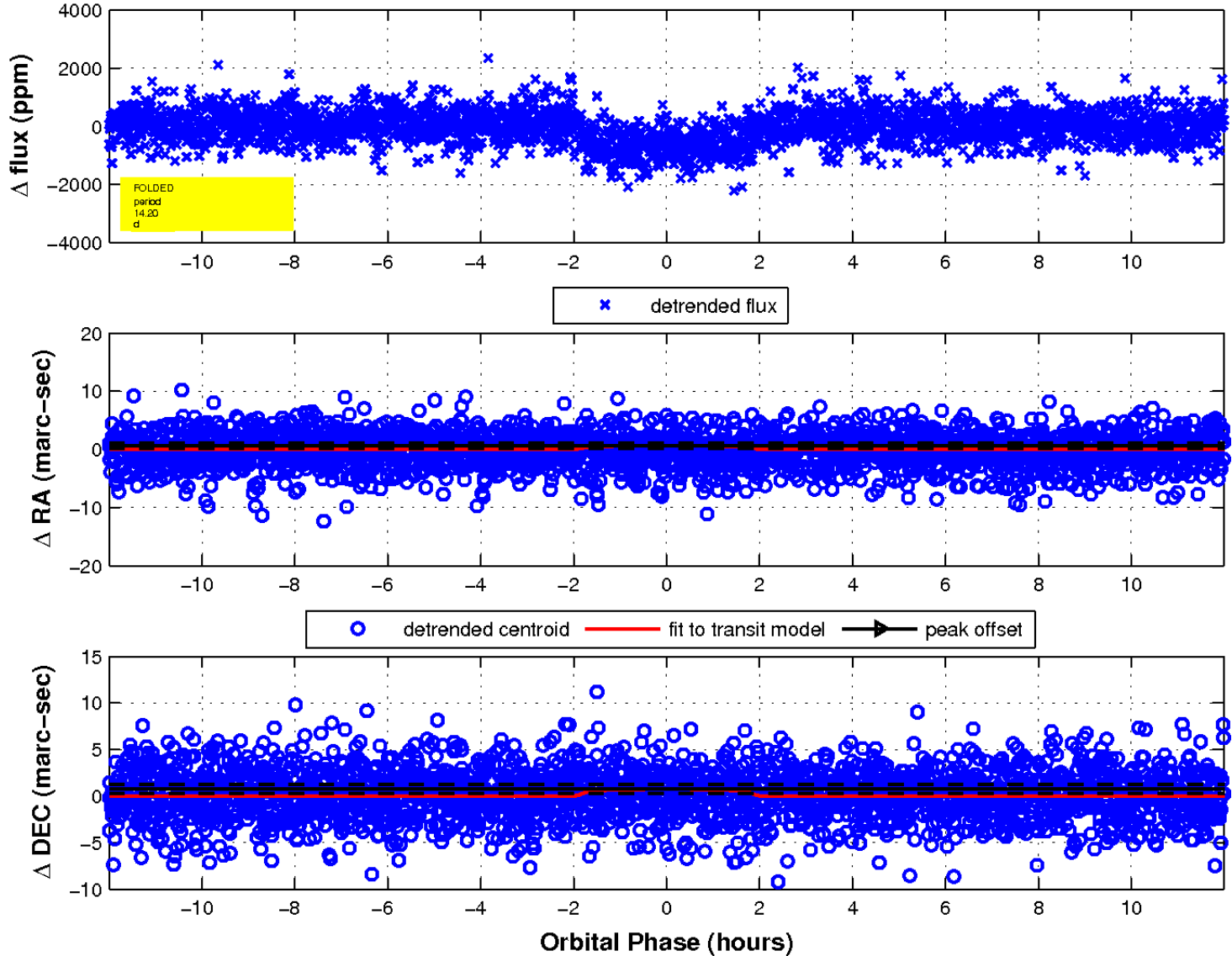
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

