

KIC 010548508

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})
010548508-01	OBS	No	365.816122	245.659845	1712.9	13.577	10.6	8.2	0.26	3328	1.36	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010548508-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

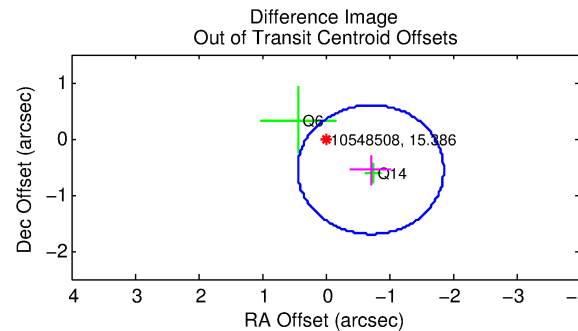
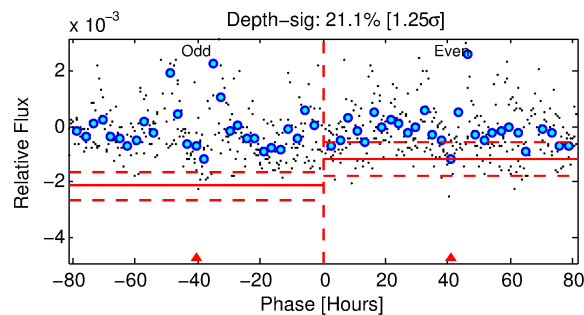
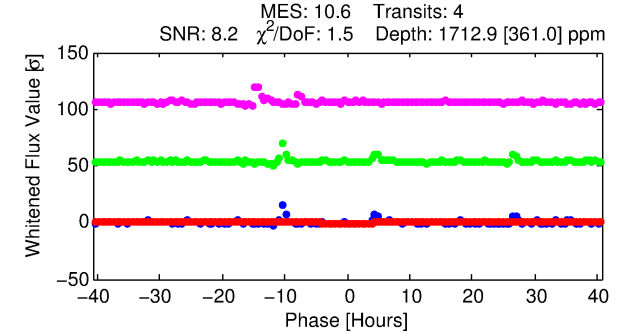
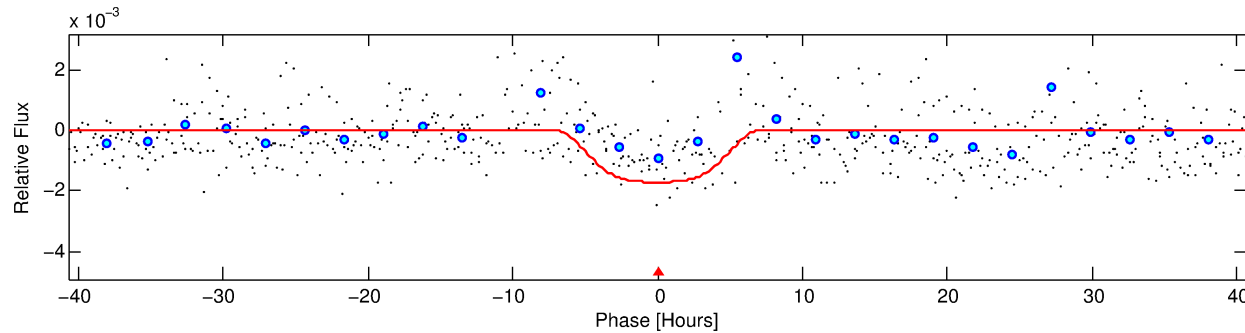
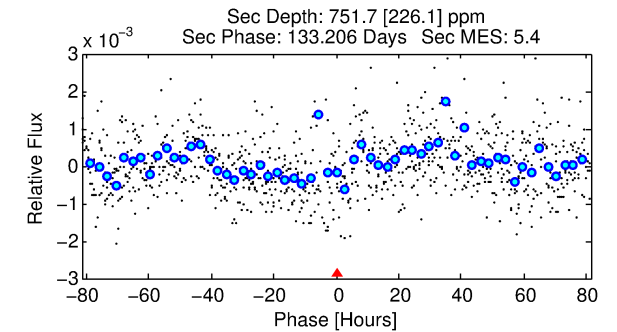
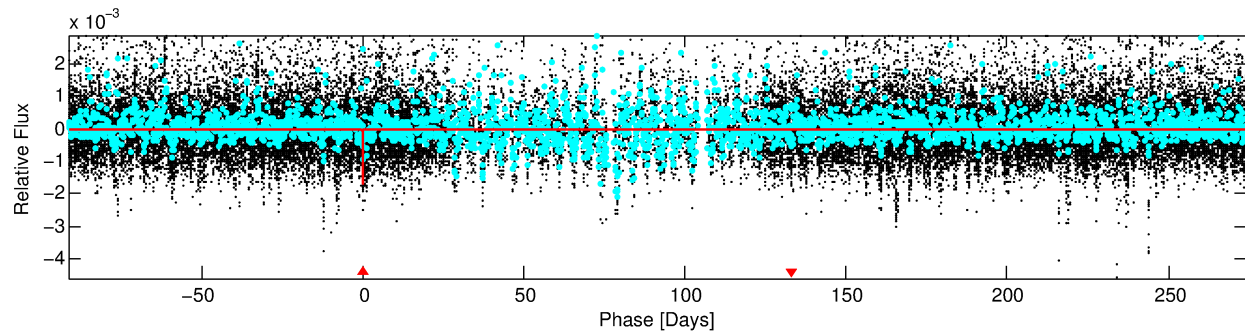
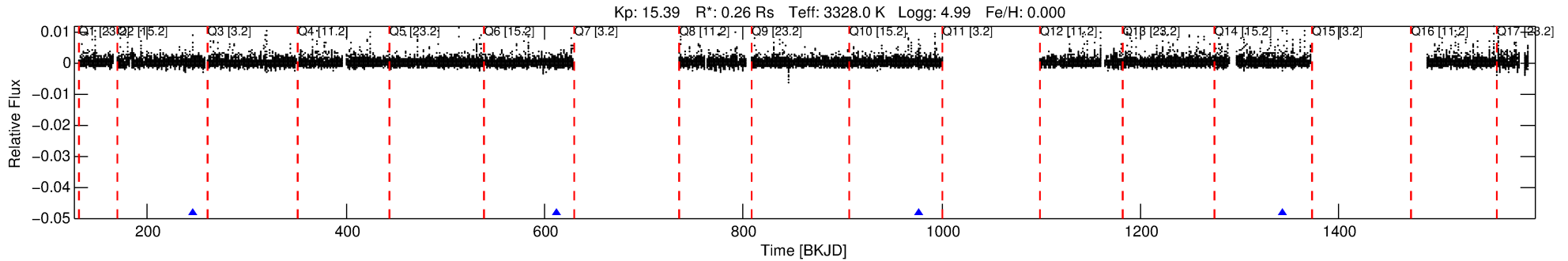
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010548508-01

No Significant Match Found

DV One-Page Summary

KIC: 10548508 Candidate: 1 of 1 Period: 365.816 d



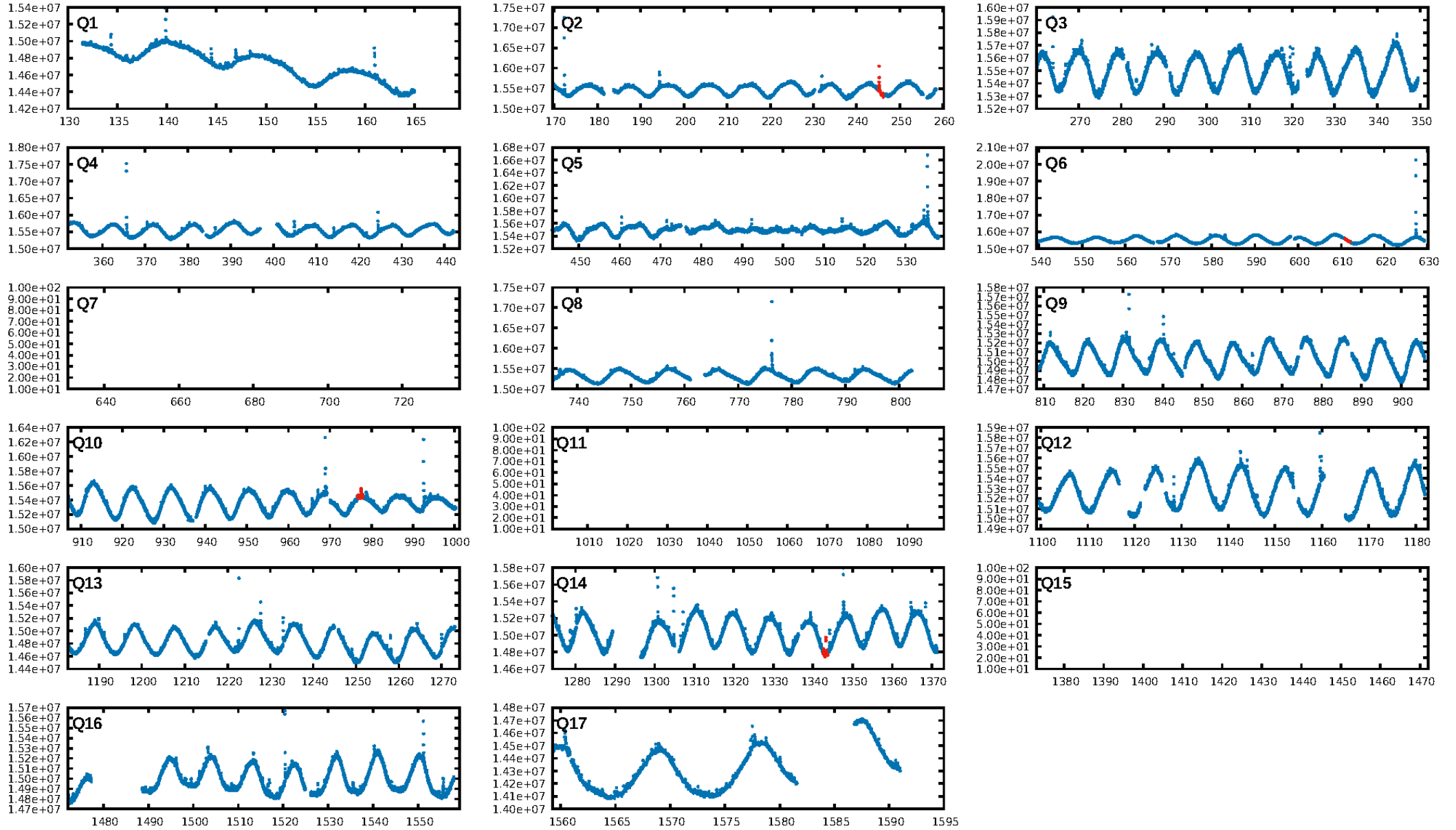
DV Fit Results:

Period = 365.81612 [0.01884] d
Epoch = 245.6598 [0.0340] BKJD
Rp/R* = 0.0477 [0.0066]
a/R* = 96.76 [22.07]
b = 0.94 [0.03]
Seff = 0.02 [0.00]
Teq = 95 [4] K
Rp = 1.36 [0.29] Re
a = 0.6251 [0.0727] AU
Ag = 87514.92 [37708.10] [2.32σ]
Teffp = 2523 [262] K [9.28σ]

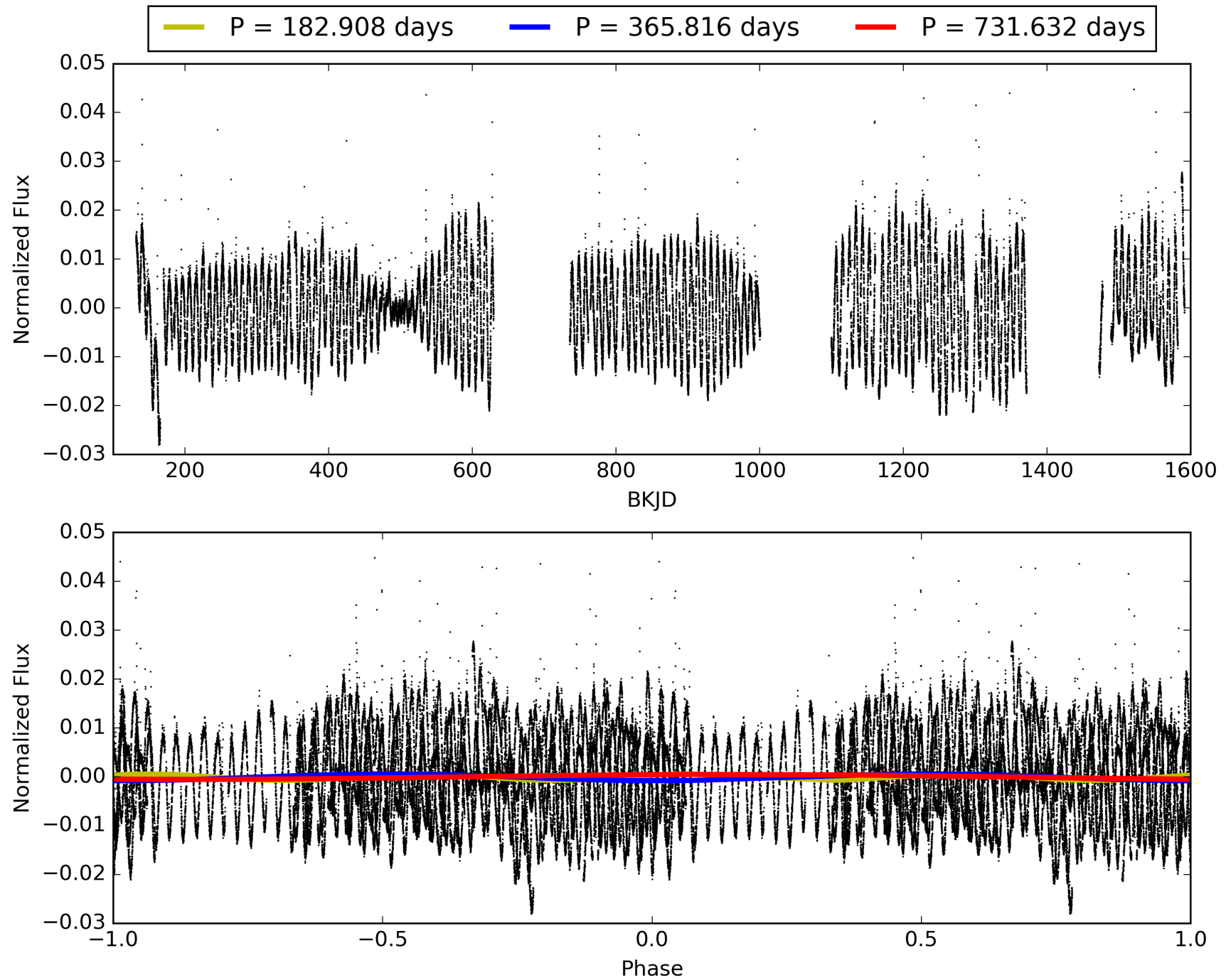
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 90.6%
Bootstrap-pfa: 2.05e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.929
Centroid-sig: 89.2%
Centroid-so: 0.715 arcsec [1.14σ]
OotOffset-rm: 0.900 arcsec [2.35σ]
KicOffset-rm: 0.834 arcsec [2.28σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 010548508-01, PDC Light Curves

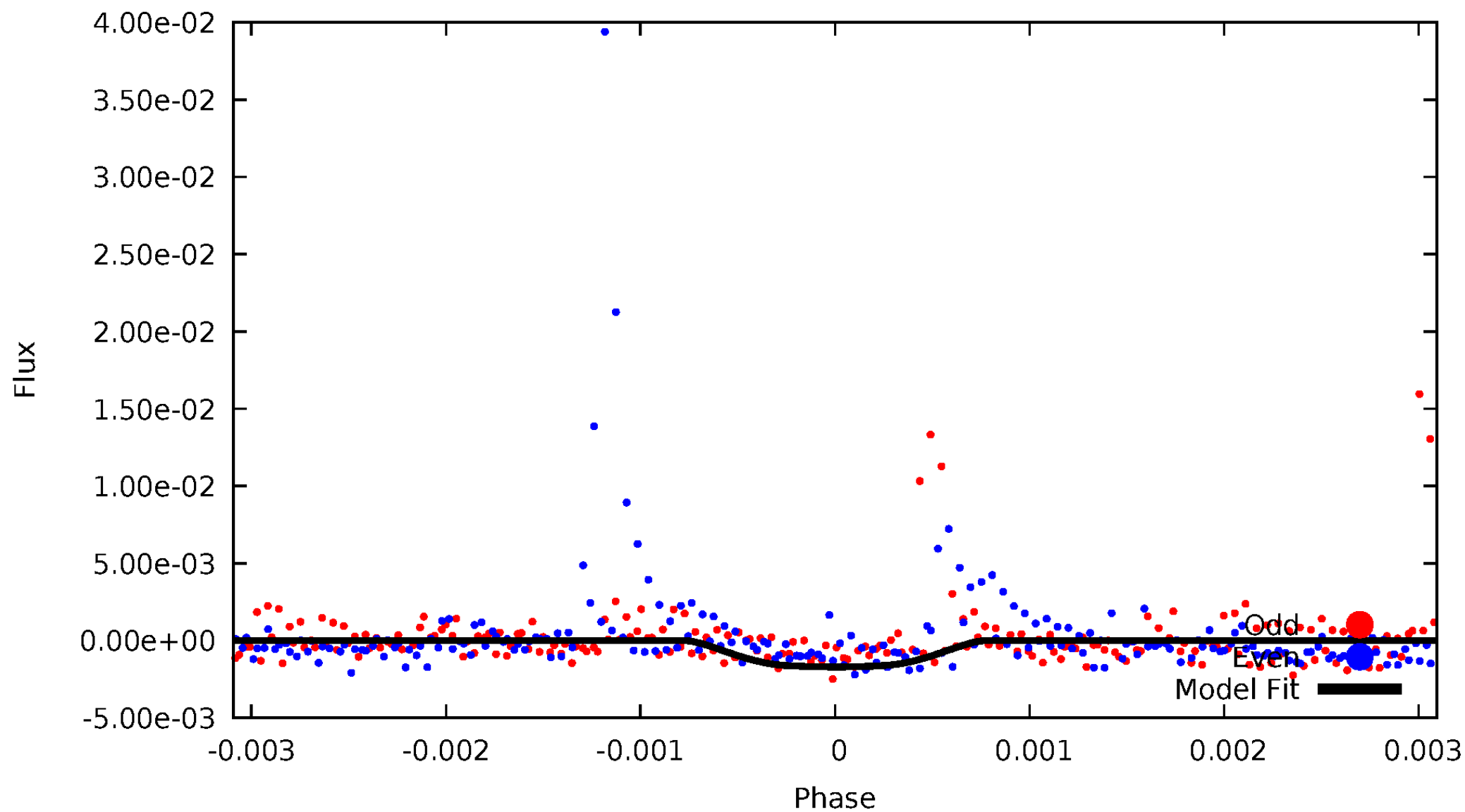


TCE 010548508-01



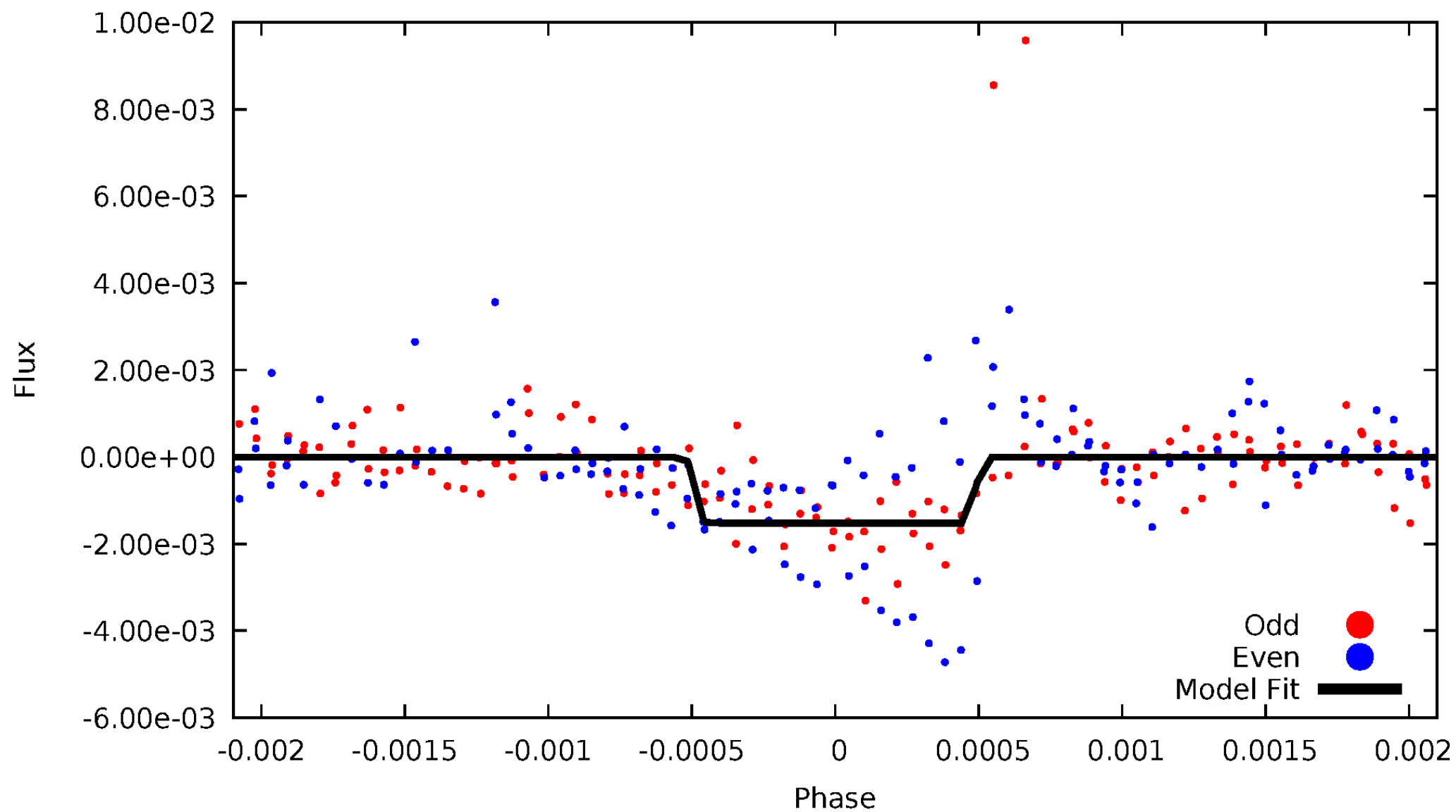
DV Odd/Even

TCE 010548508-01



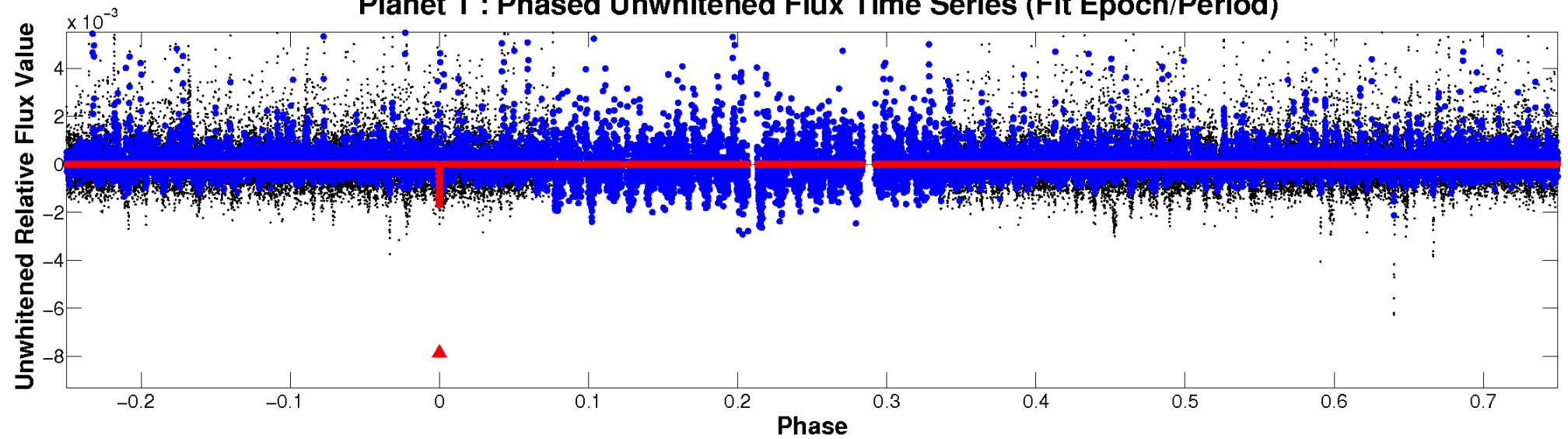
ALT Odd/Even

TCE 010548508-01

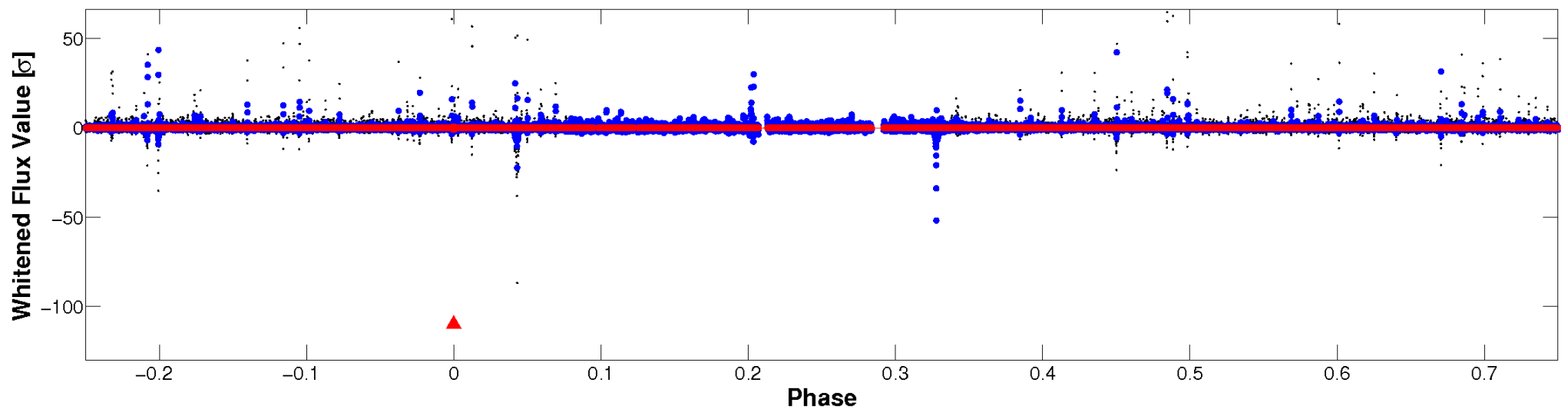


Non-Whitened Vs. Whitened Light Curve

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

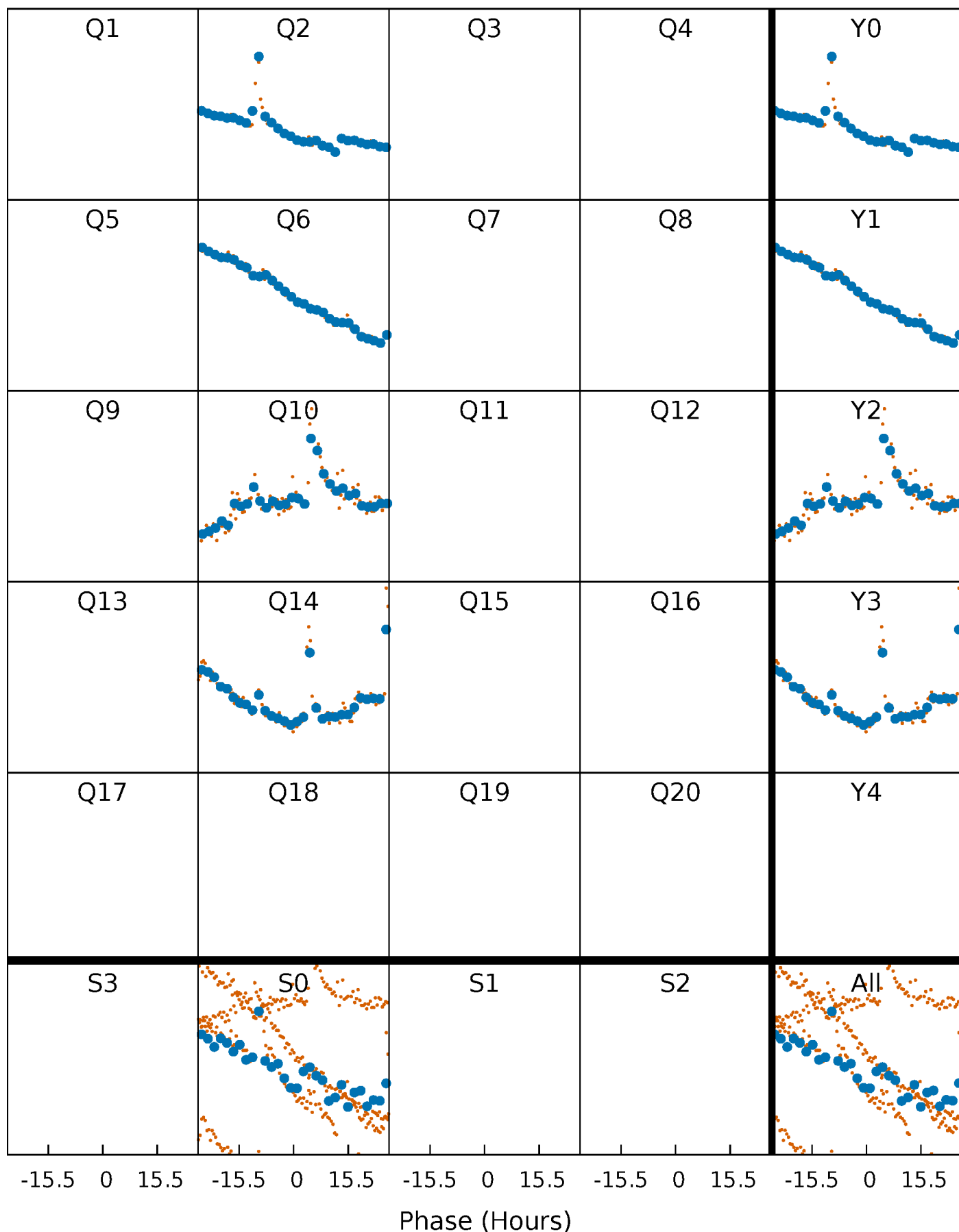


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



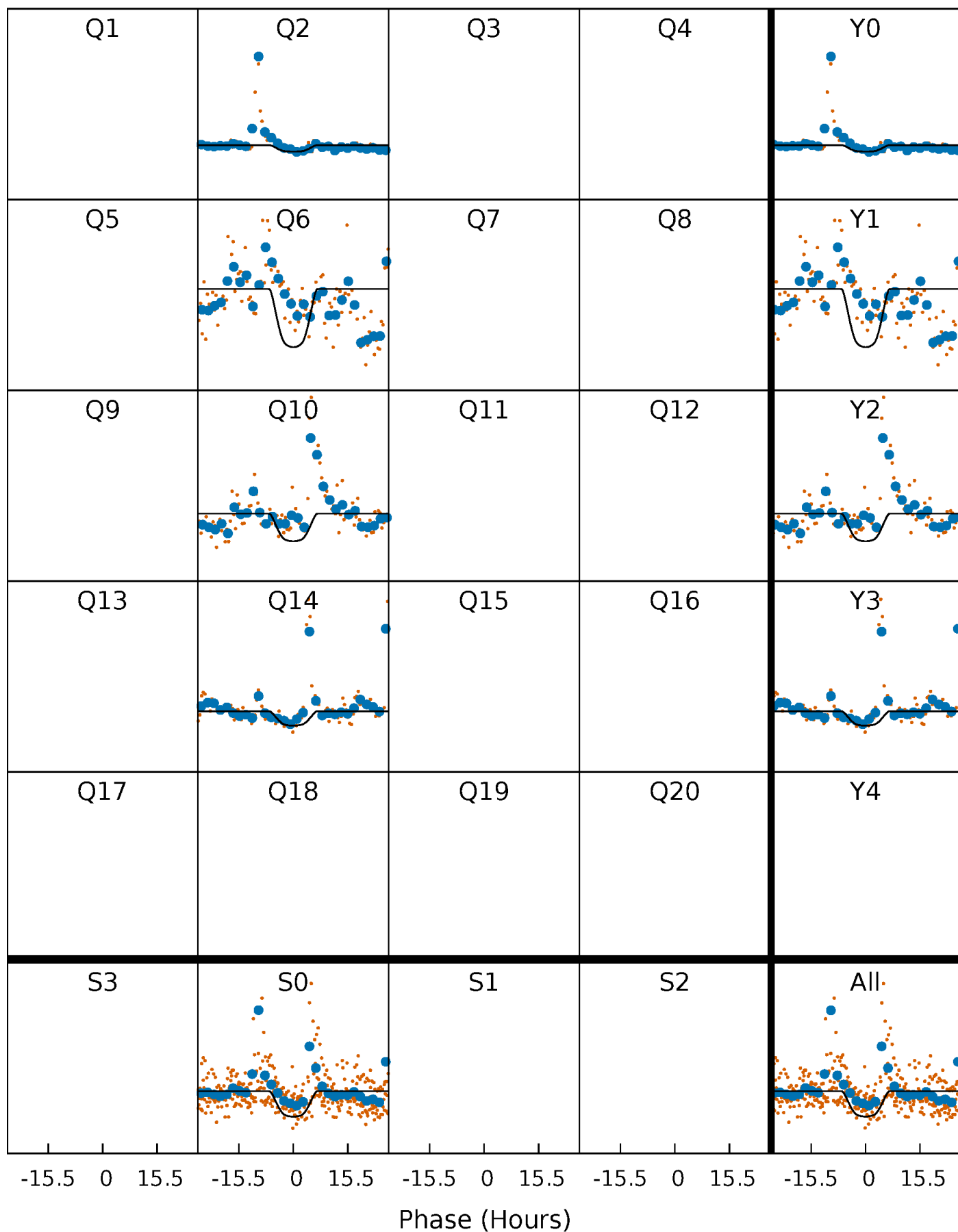
PDC Quarter-Phased Transit Curves

TCE 010548508-01 P=365.816122 Days $T_0=245.659845$ (BKJD)



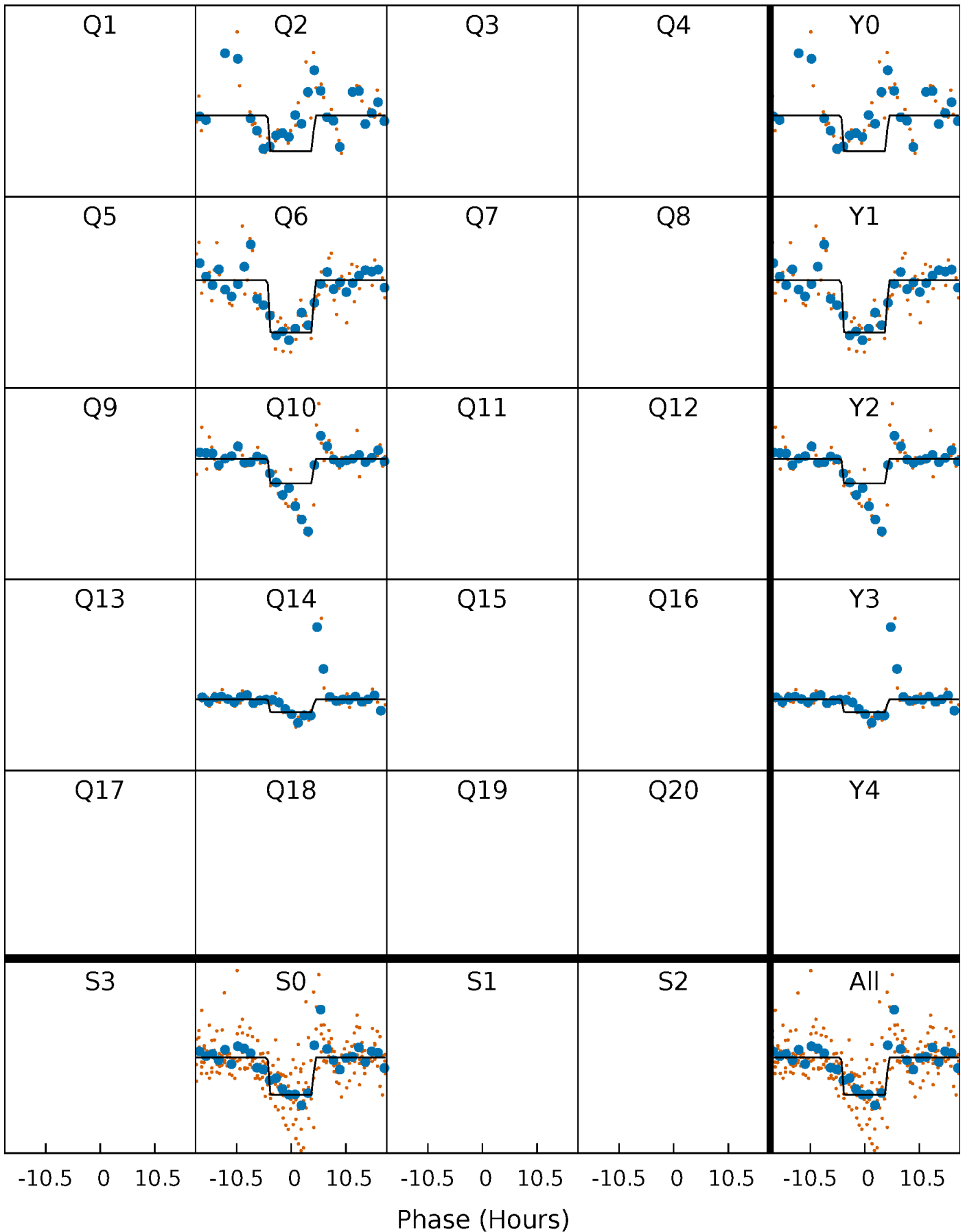
DV Quarter-Phased Transit Curves

TCE 010548508-01 P=365.816122 Days $T_0=245.659845$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

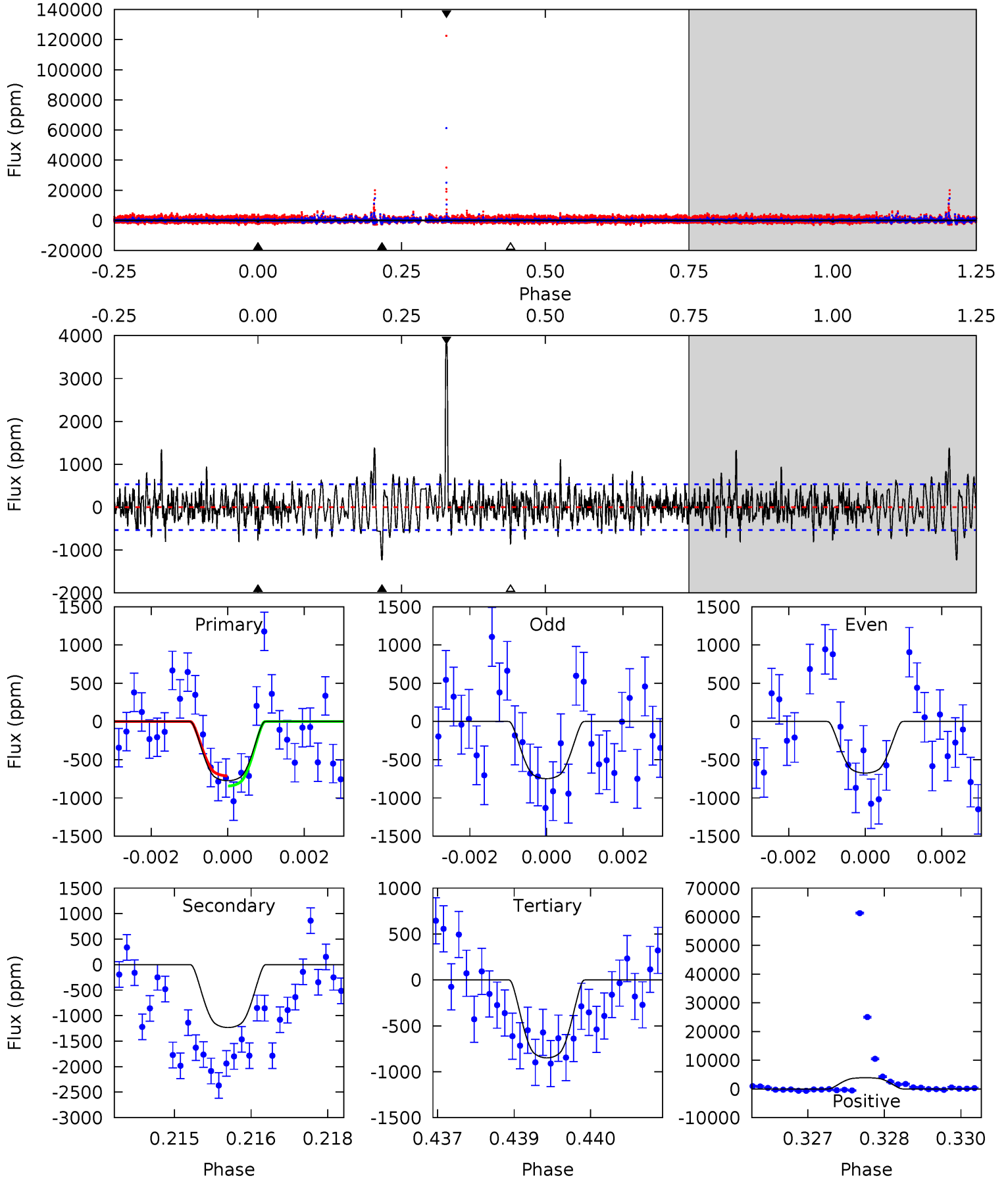
TCE 010548508-01 P=365.781158 Days $T_0=245.721925$ (BKJD)



DV Model-Shift Uniqueness Test

010548508-01, P = 365.816122 Days, E = 245.659845 Days

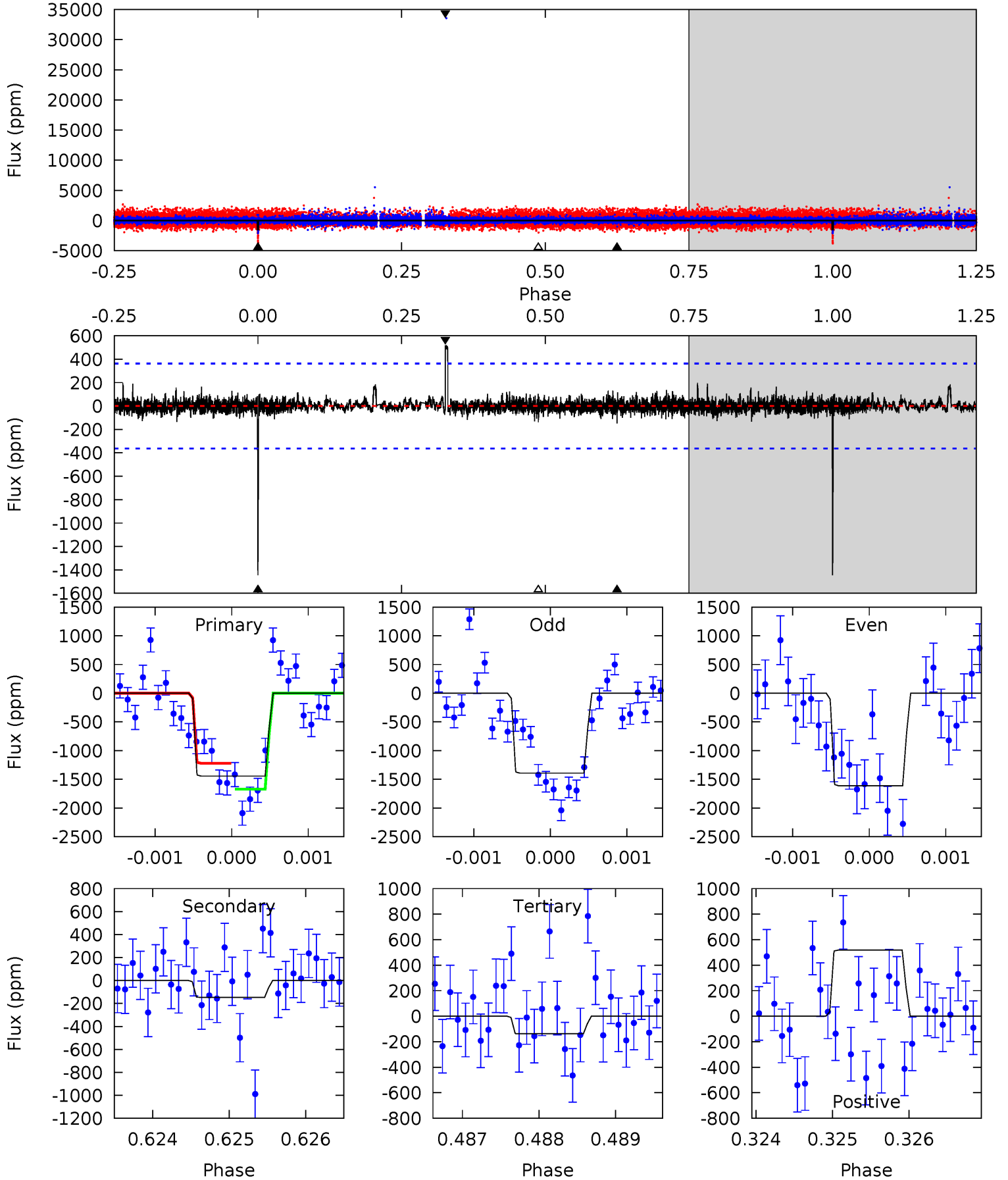
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	12.4	8.51	39.2	5.37	3.16	3.06	-0.75	-31.5	3.85	-26.9	0.34	1.31	0.76	0.61



Alt Model-Shift Uniqueness Test

010548508-01, P = 365.781158 Days, E = 245.721925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	2.21	2.07	7.77	5.45	3.29	0.58	19.6	13.9	0.13	-5.56	1.69	1.04	0.26	3.24



Stellar Parameters For KIC 010548508

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3328^{+55}_{-45}	$4.991^{+0.050}_{-0.050}$	$0.000^{+0.100}_{-0.100}$	$0.261^{+0.043}_{-0.032}$	$0.244^{+0.055}_{-0.037}$	$19.240^{+5.483}_{-4.256}$
	+2%/-1%	+1%/-1%	+inf%/-inf%	+16%/-12%	+23%/-15%	+28%/-22%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010548508-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1234 ± 100	$1.36^{+0.23}_{-0.22}$	133^{+4}_{-4}	3042^{+157}_{-113}	143916^{+58575}_{-35900}
Alt.	-147 ± 67	$1.11^{+0.23}_{-0.21}$	133^{+4}_{-4}	2436^{+158}_{-200}	25576^{+18157}_{-13105}

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

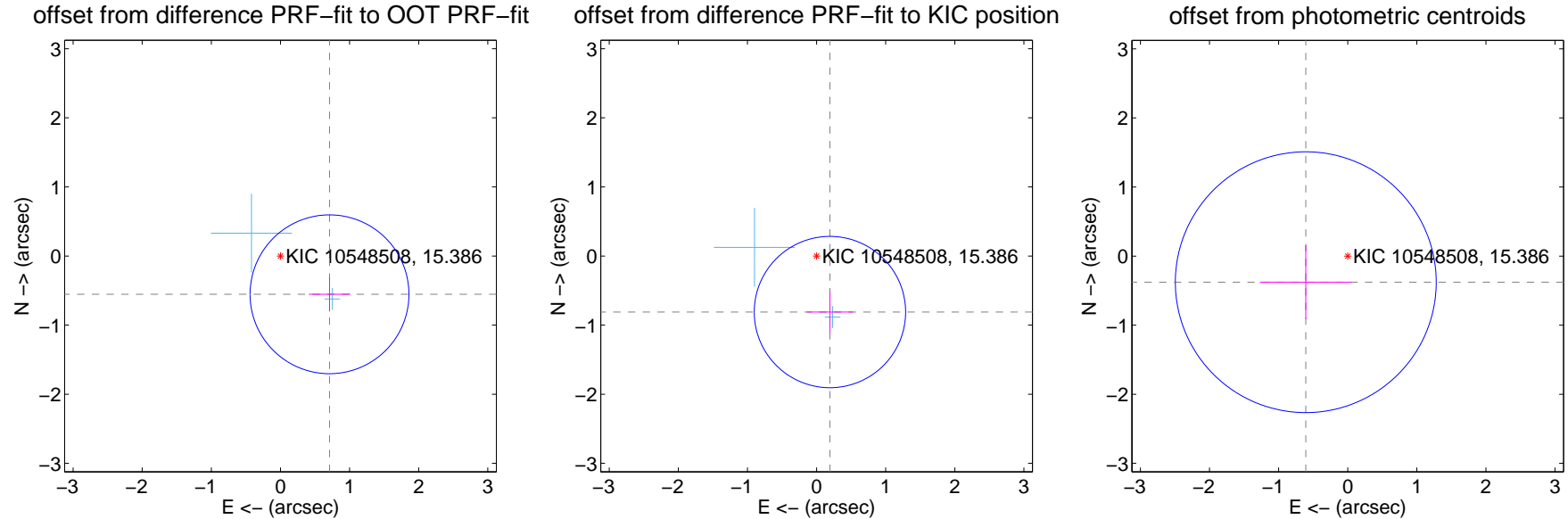
DV Centroid Data

Supplemental centroid analysis for 010548508-01. Kepler magnitude: 15.39. Transit SNR 8.20

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.900 ± 0.383	2.35	-0.710 ± 0.300	-0.554 ± 0.247
PRF-fit source offset from KIC position	0.834 ± 0.365	2.28	-0.193 ± 0.333	-0.811 ± 0.299
photometric centroid source offset	0.71 ± 0.63	1.14	0.61 ± 0.66	-0.38 ± 0.53



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.

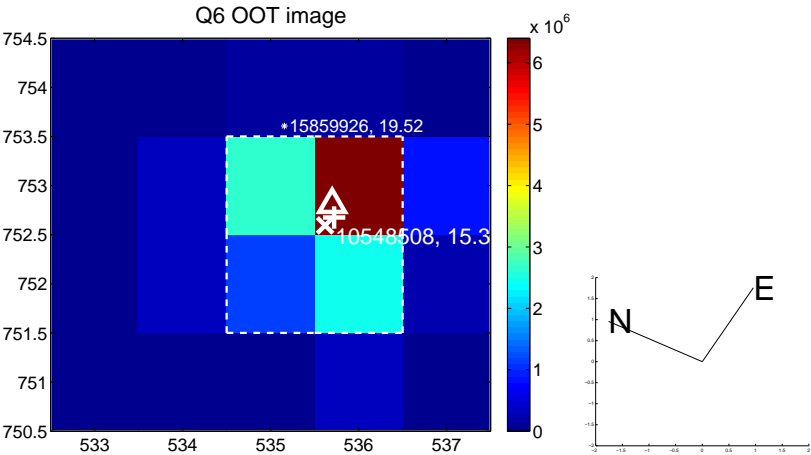
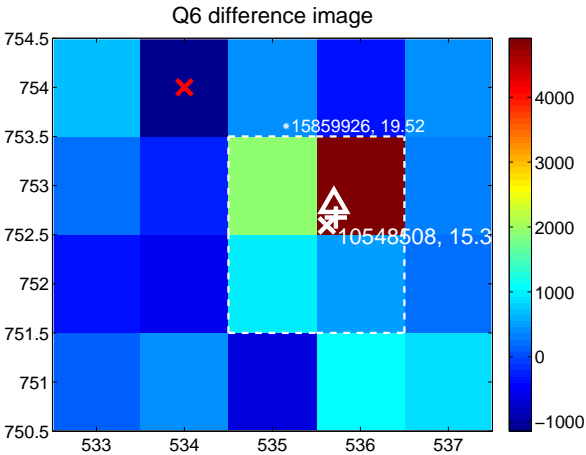


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

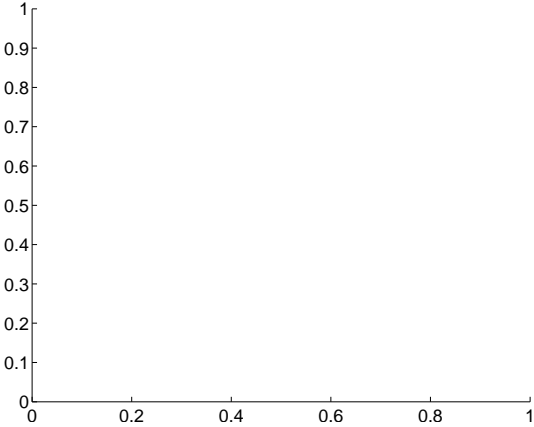
Q5 no difference image



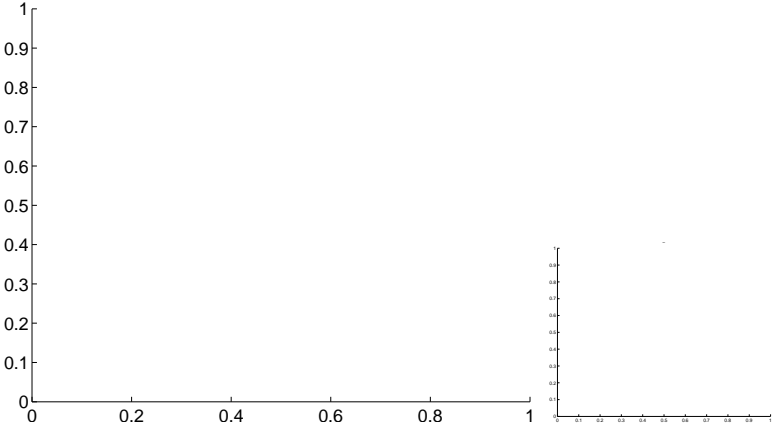
Q5 no OOT image



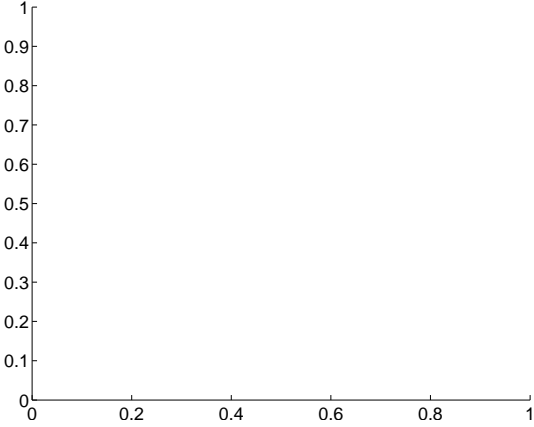
Q7 no difference image



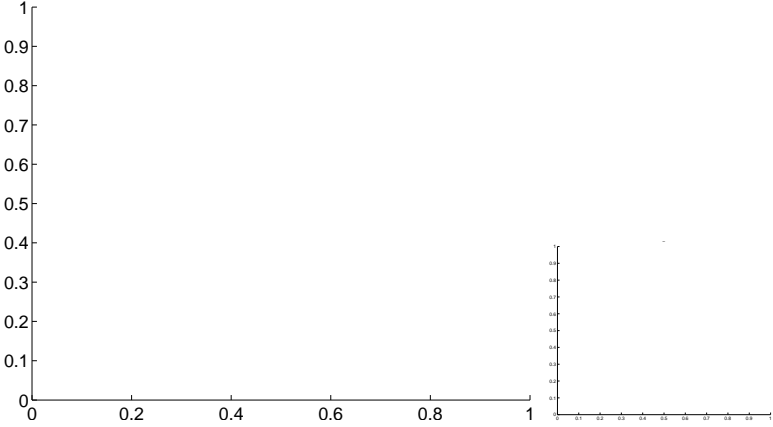
Q7 no OOT image



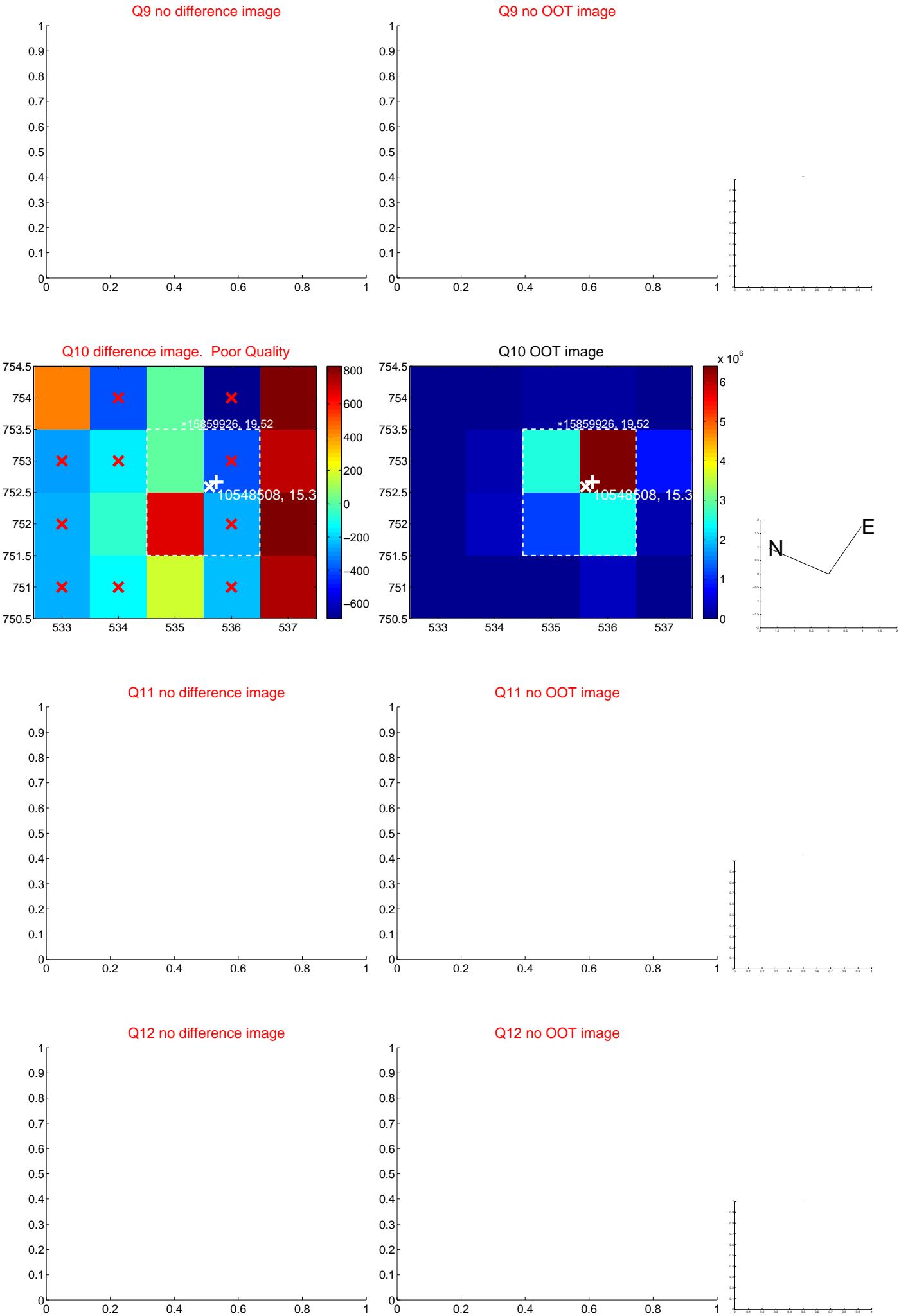
Q8 no difference image



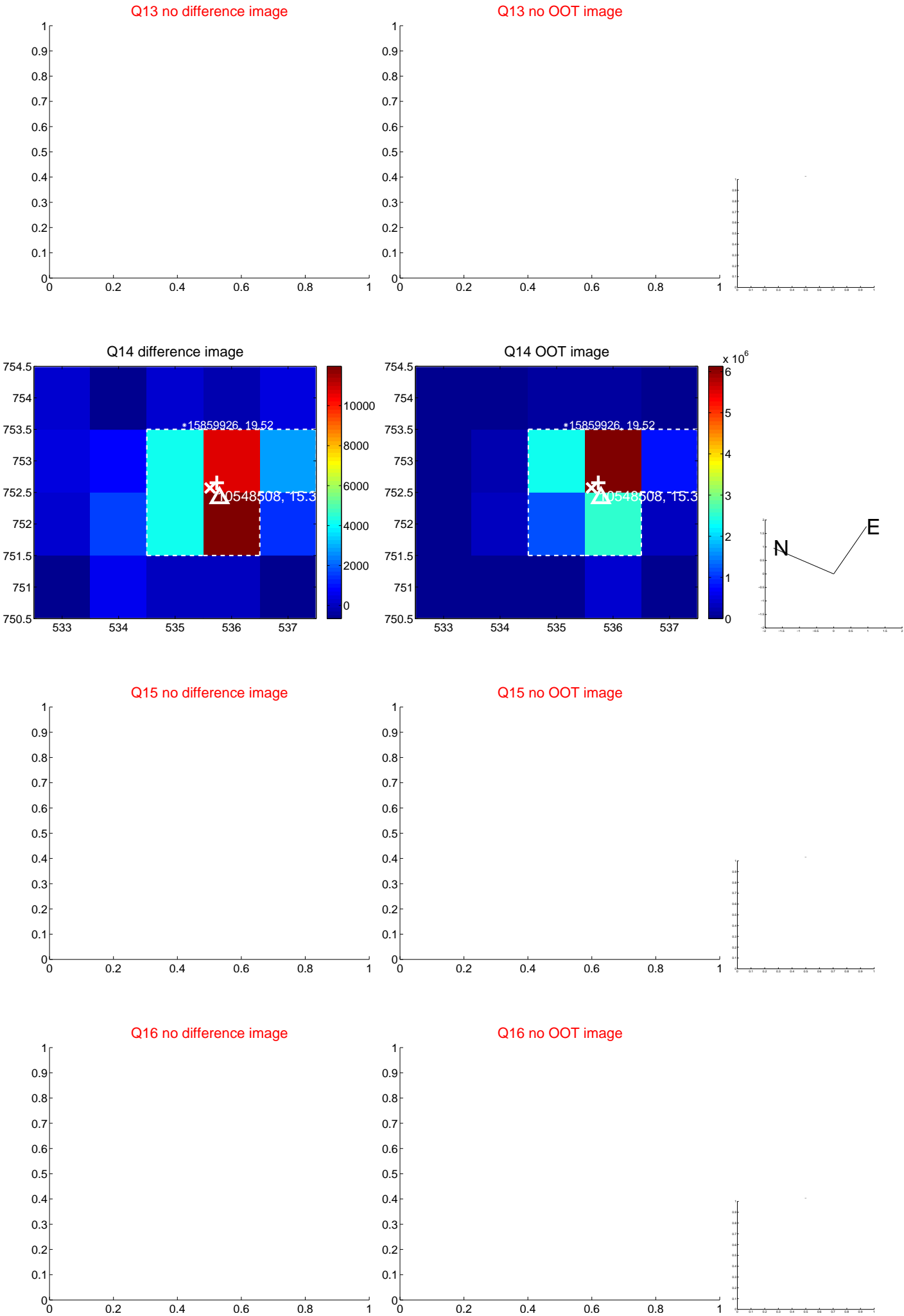
Q8 no OOT image



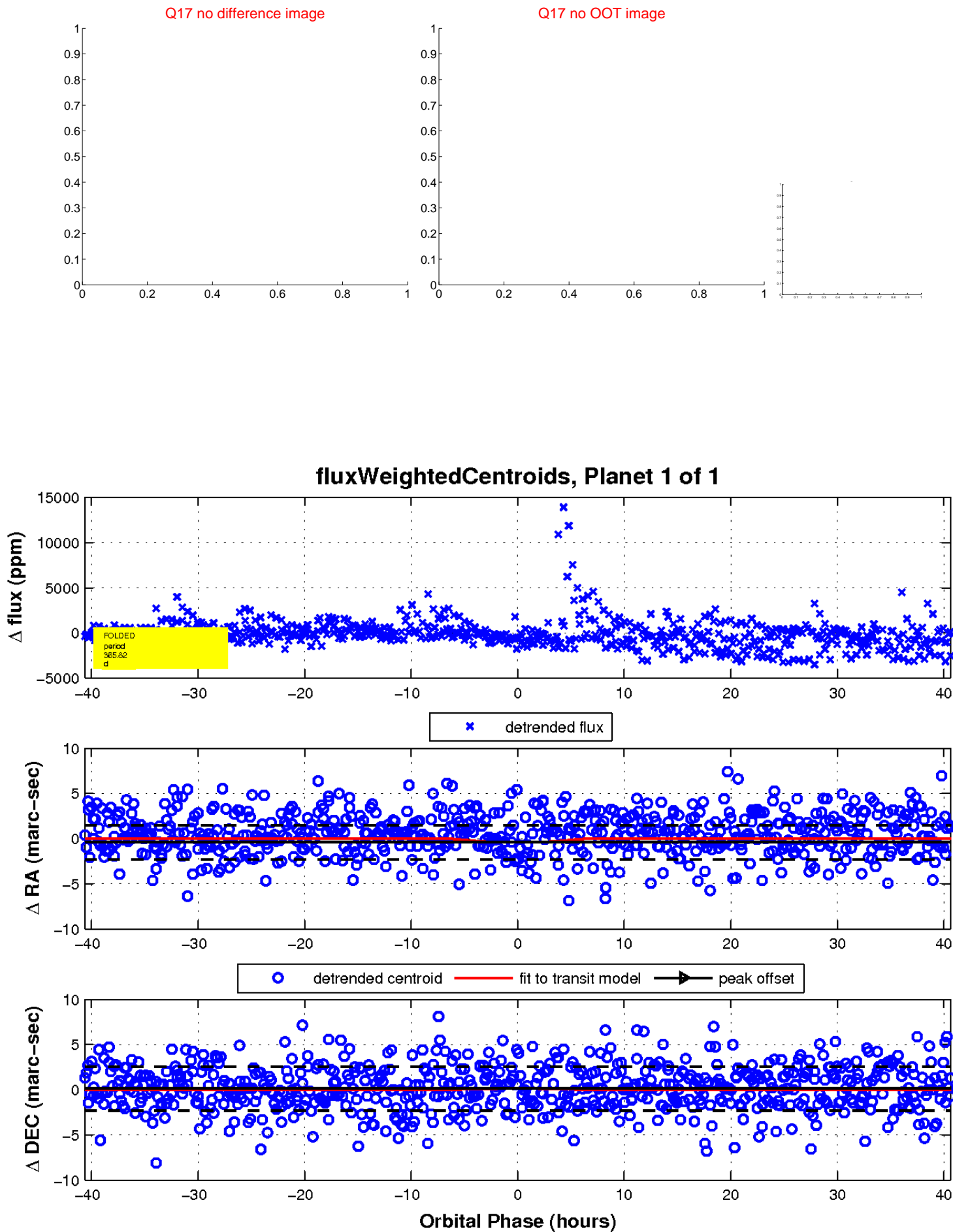
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

