

KIC 007768451

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})
007768451-01	OBS	1527.01	192.667091	162.881235	1127.6	5.058	23.6	23.8	0.88	5401	3.35	1.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007768451-01	OBS	PC	0.99	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 007768451-01

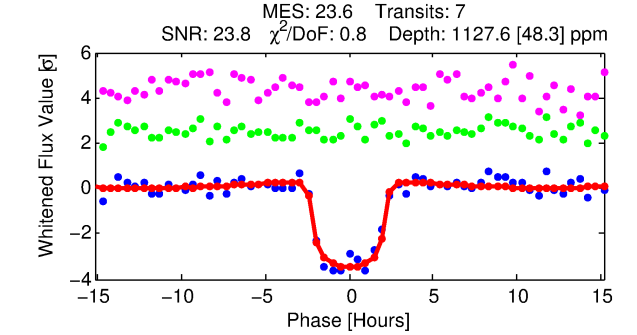
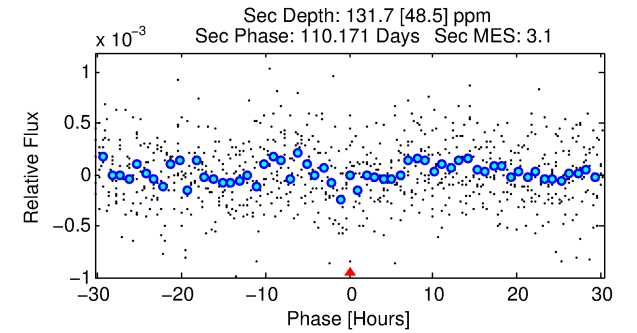
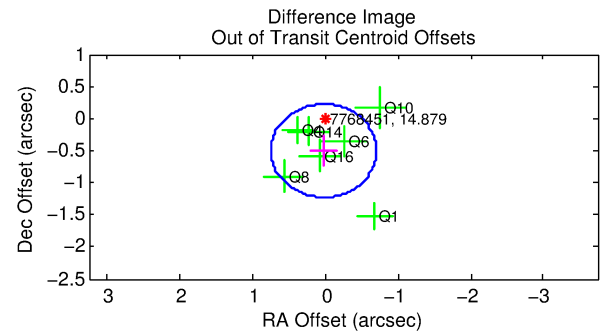
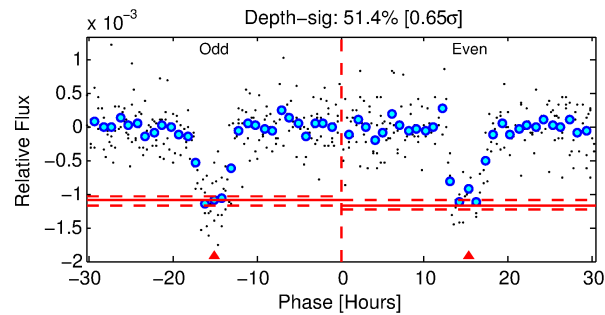
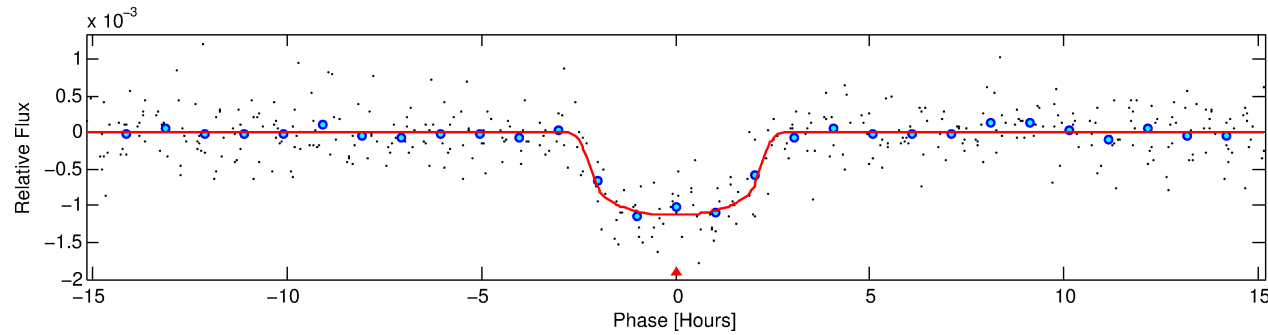
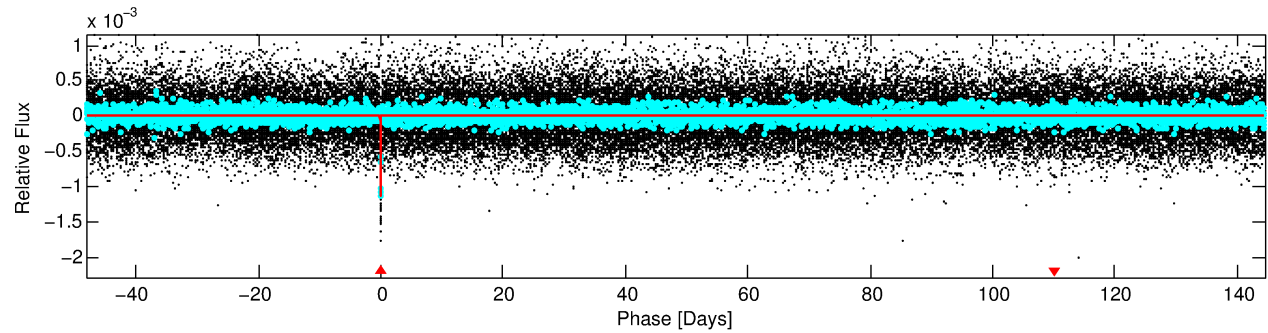
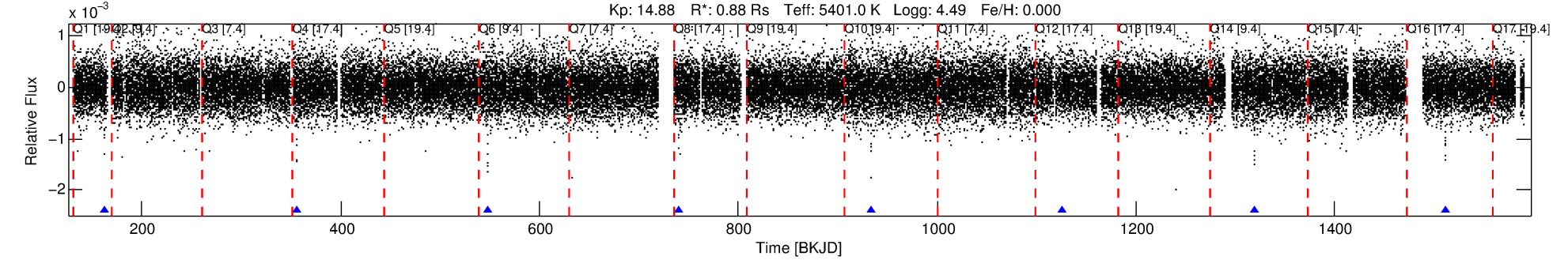
No Significant Match Found

DV One-Page Summary

KIC: 7768451 Candidate: 1 of 1 Period: 192.667 d

KOI: K01527.01 Corr: 0.936

Kp: 14.88 R*: 0.88 Rs Teff: 5401.0 K Logg: 4.49 Fe/H: 0.000



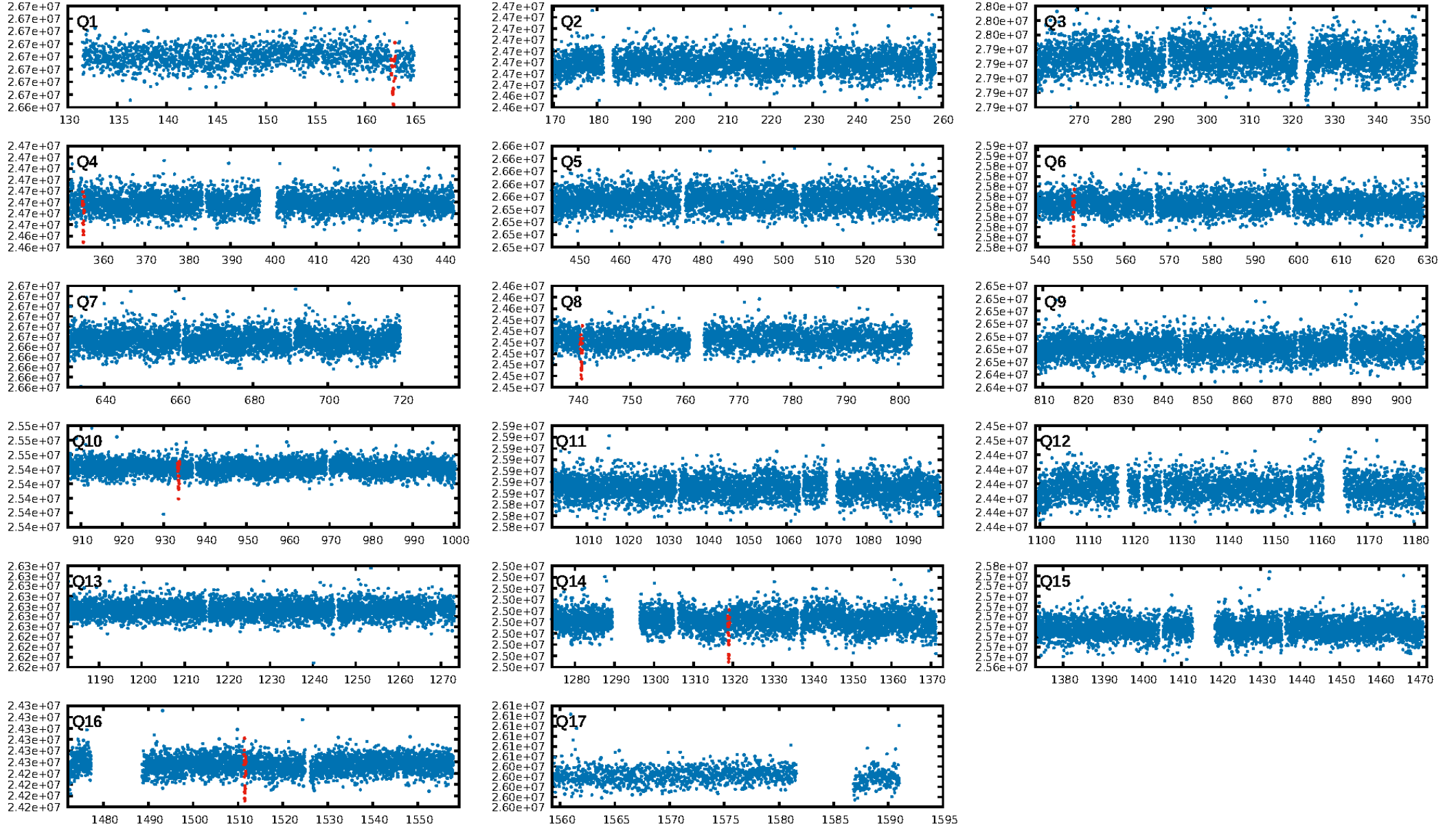
DV Fit Results:

Period = 192.66709 [0.00096] d
Epoch = 162.8812 [0.0041] BKJD
Rp/R* = 0.0349 [0.0043]
a/R* = 179.57 [84.85]
b = 0.83 [0.18]
Seff = 1.52 [0.23]
Teq = 283 [11] K
Rp = 3.35 [0.53] Re
a = 0.6217 [0.0536] AU
Ag = 2497.39 [1150.19] [2.17σ]
Teffp = 3095 [348] K [8.08σ]

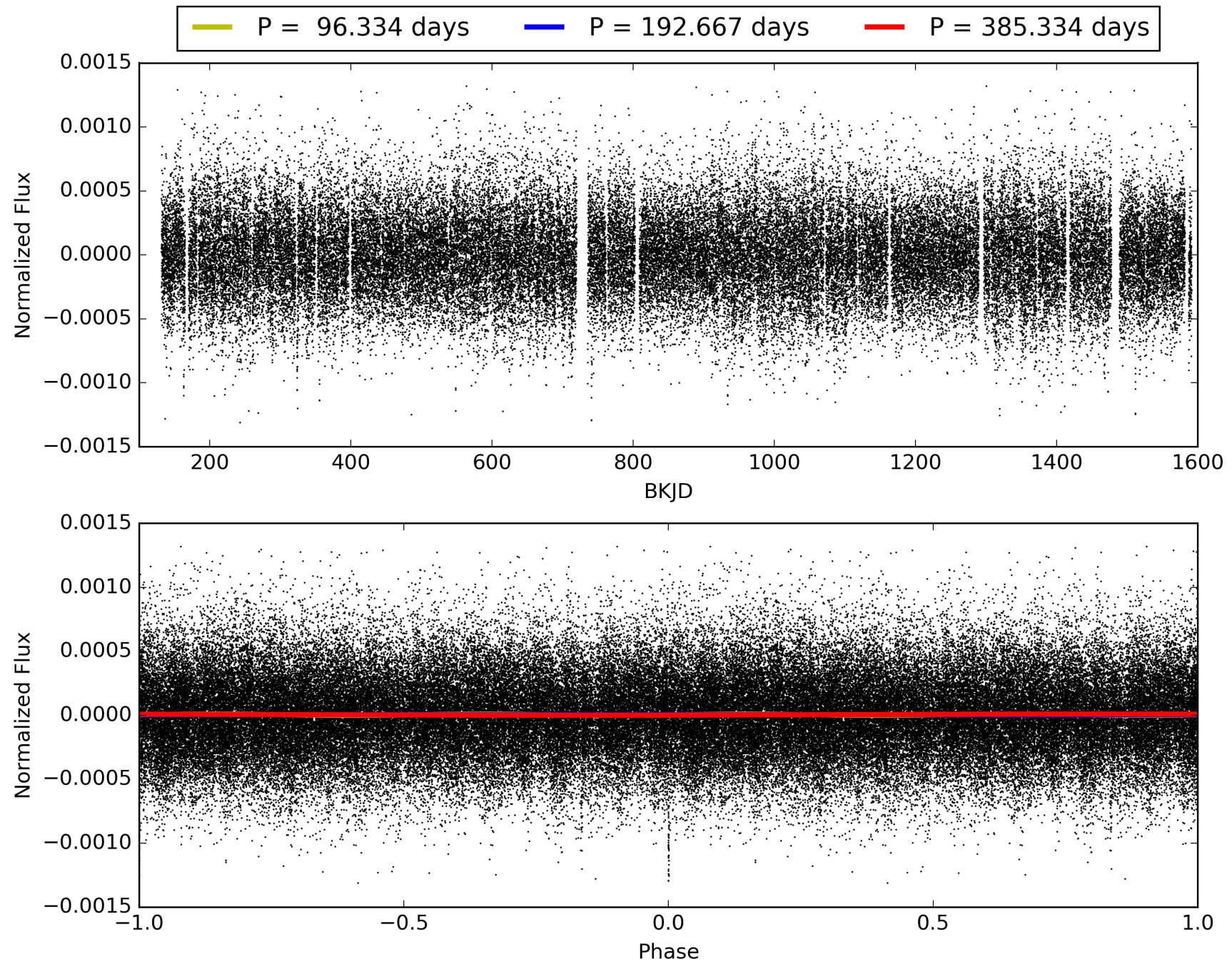
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.26e-134
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 8.266
Centroid-sig: 3.5%
Centroid-so: 0.425 arcsec [0.89σ]
OotOffset-rm: 0.503 arcsec [2.07σ]
KicOffset-rm: 0.237 arcsec [1.06σ]
OotOffset-st: 3/0/3/1 [7]
KicOffset-st: 3/0/3/1 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

TCE 007768451-01, PDC Light Curves

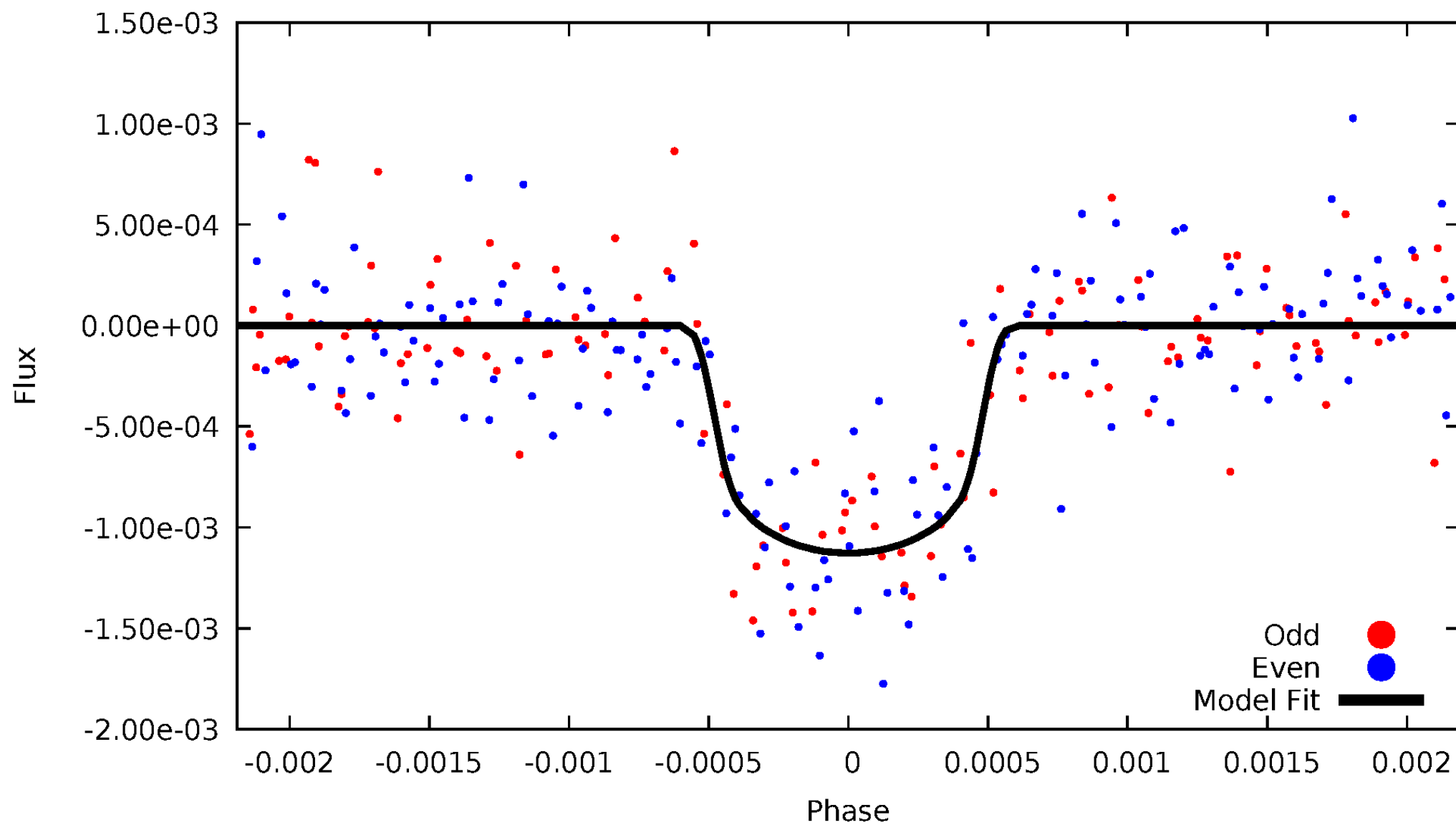


TCE 007768451-01



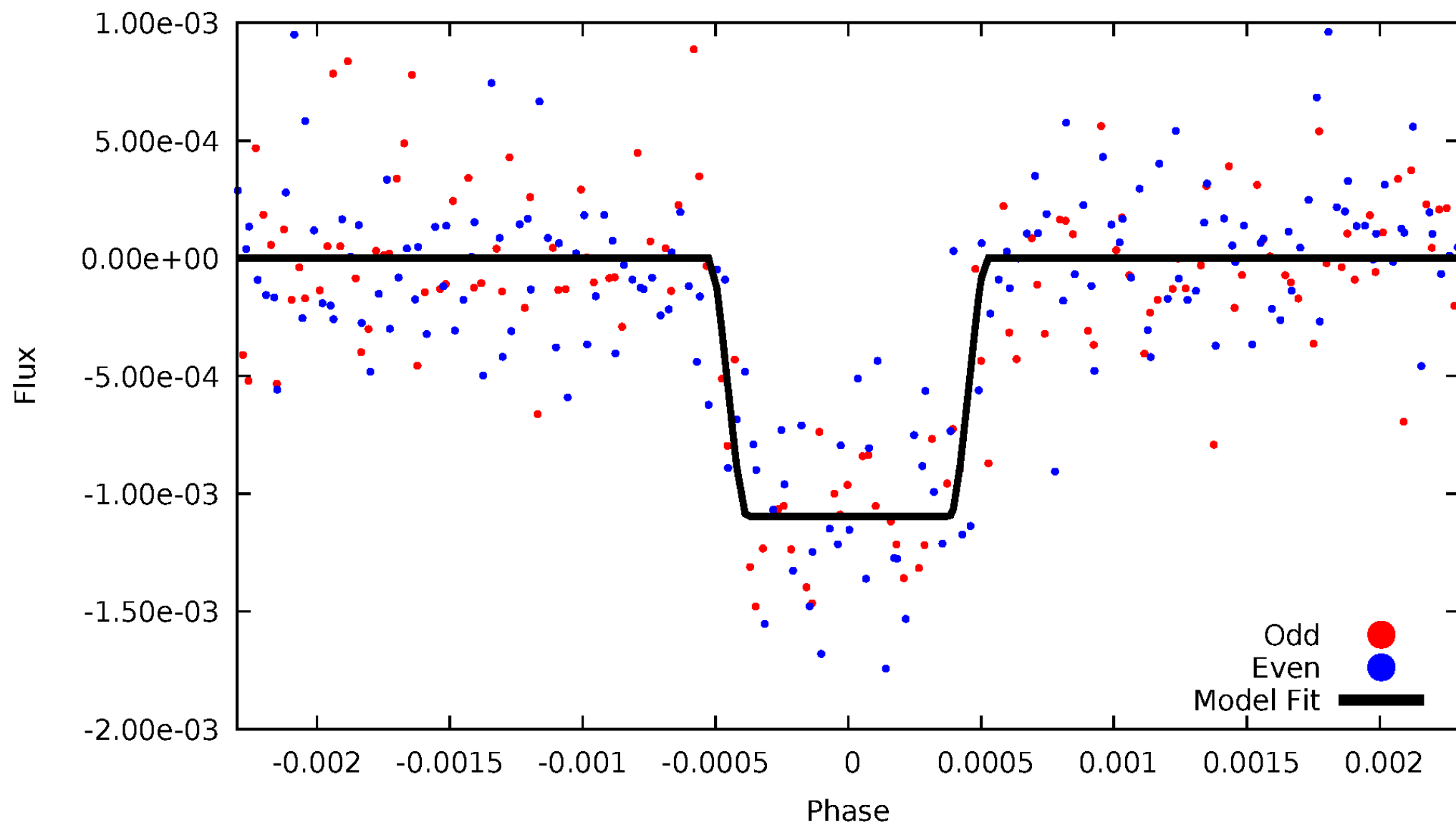
DV Odd/Even

TCE 007768451-01



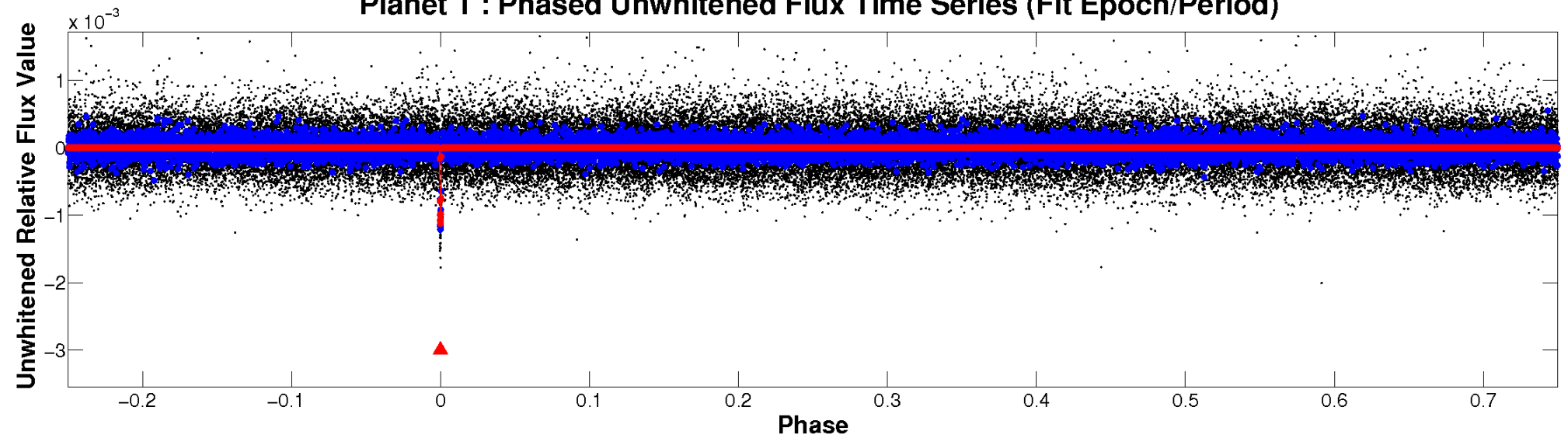
ALT Odd/Even

TCE 007768451-01

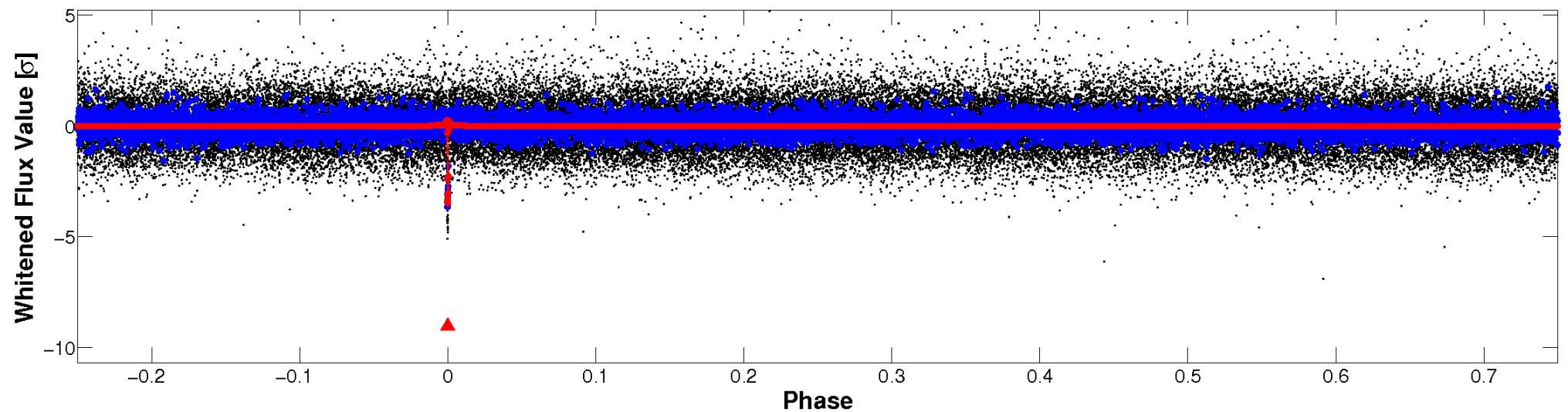


Non-Whitened Vs. Whitened Light Curve

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

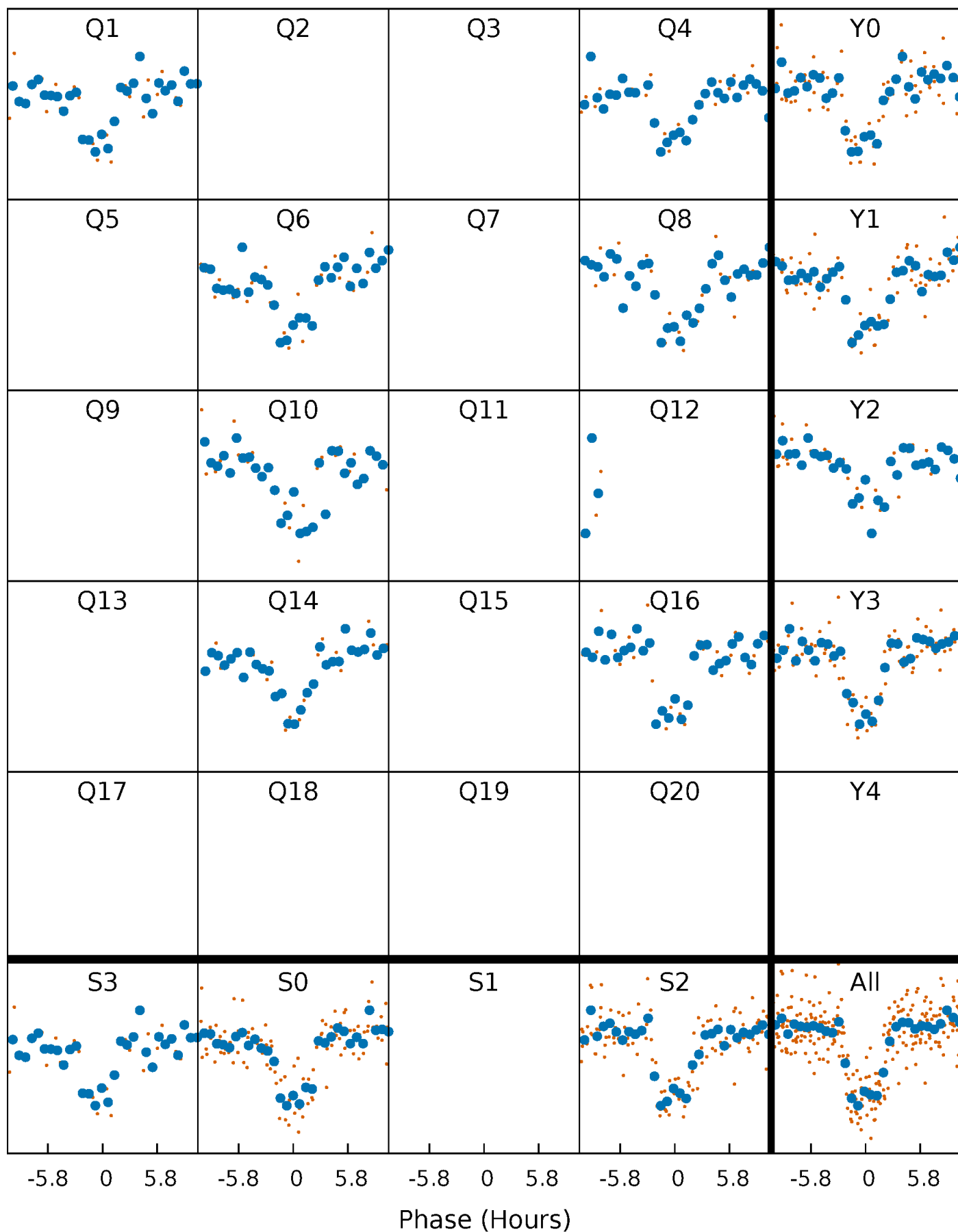


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



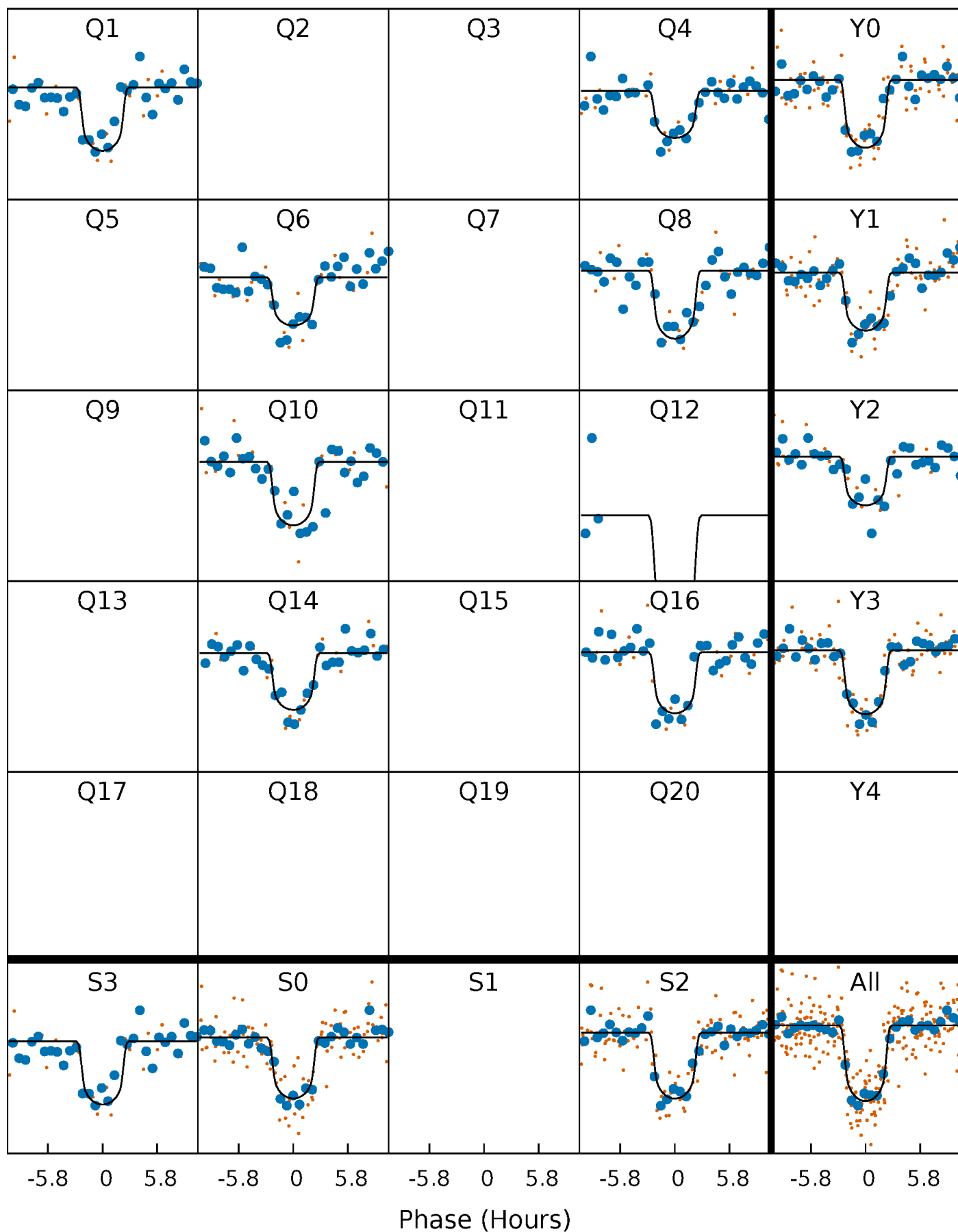
PDC Quarter-Phased Transit Curves

TCE 007768451-01 P=192.667091 Days $T_0=162.881235$ (BKJD)



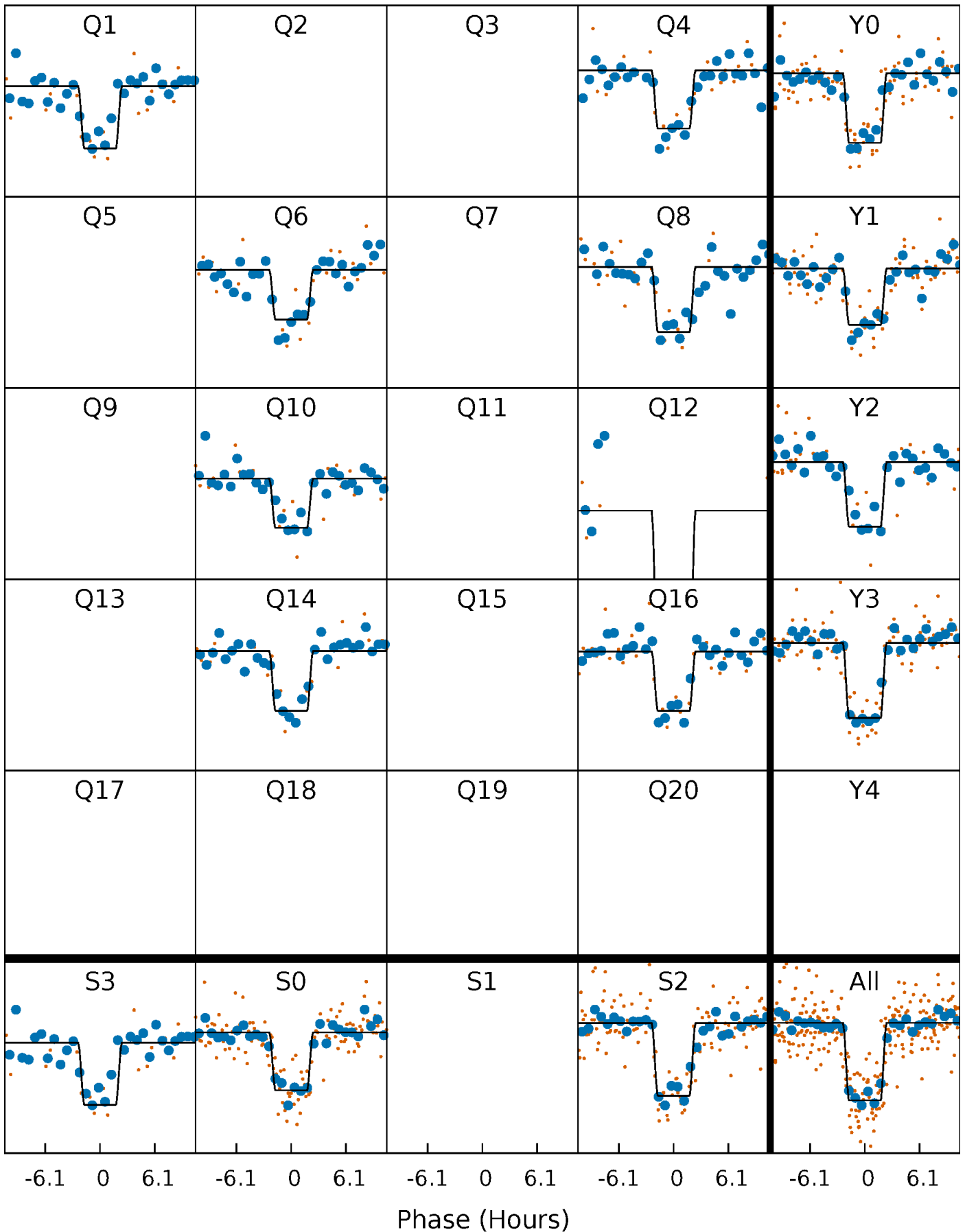
DV Quarter-Phased Transit Curves

TCE 007768451-01 P=192.667091 Days $T_0=162.881235$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

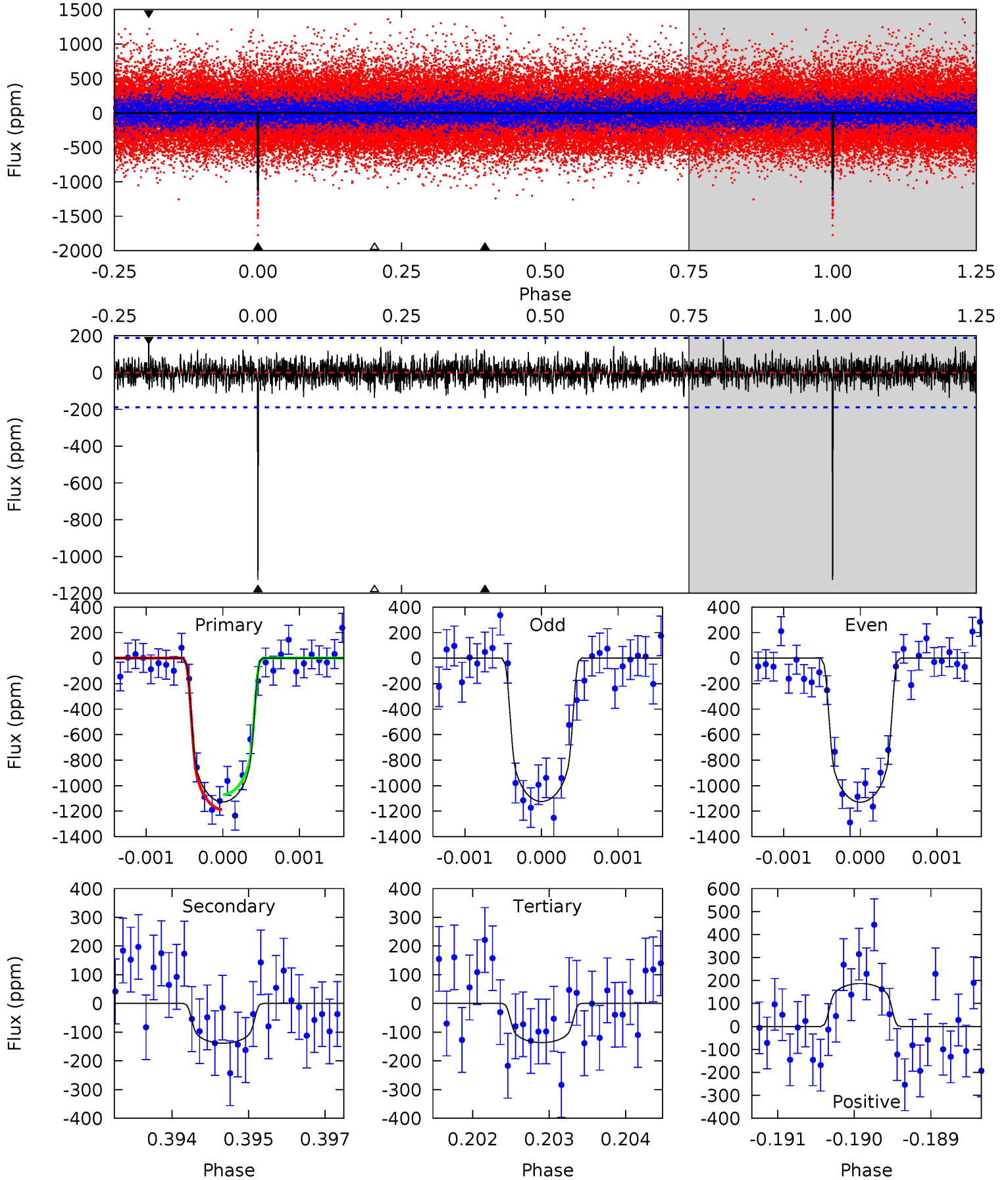
TCE 007768451-01 P=192.665526 Days $T_0=162.884371$ (BKJD)



DV Model-Shift Uniqueness Test

007768451-01, P = 192.667091 Days, E = 162.881235 Days

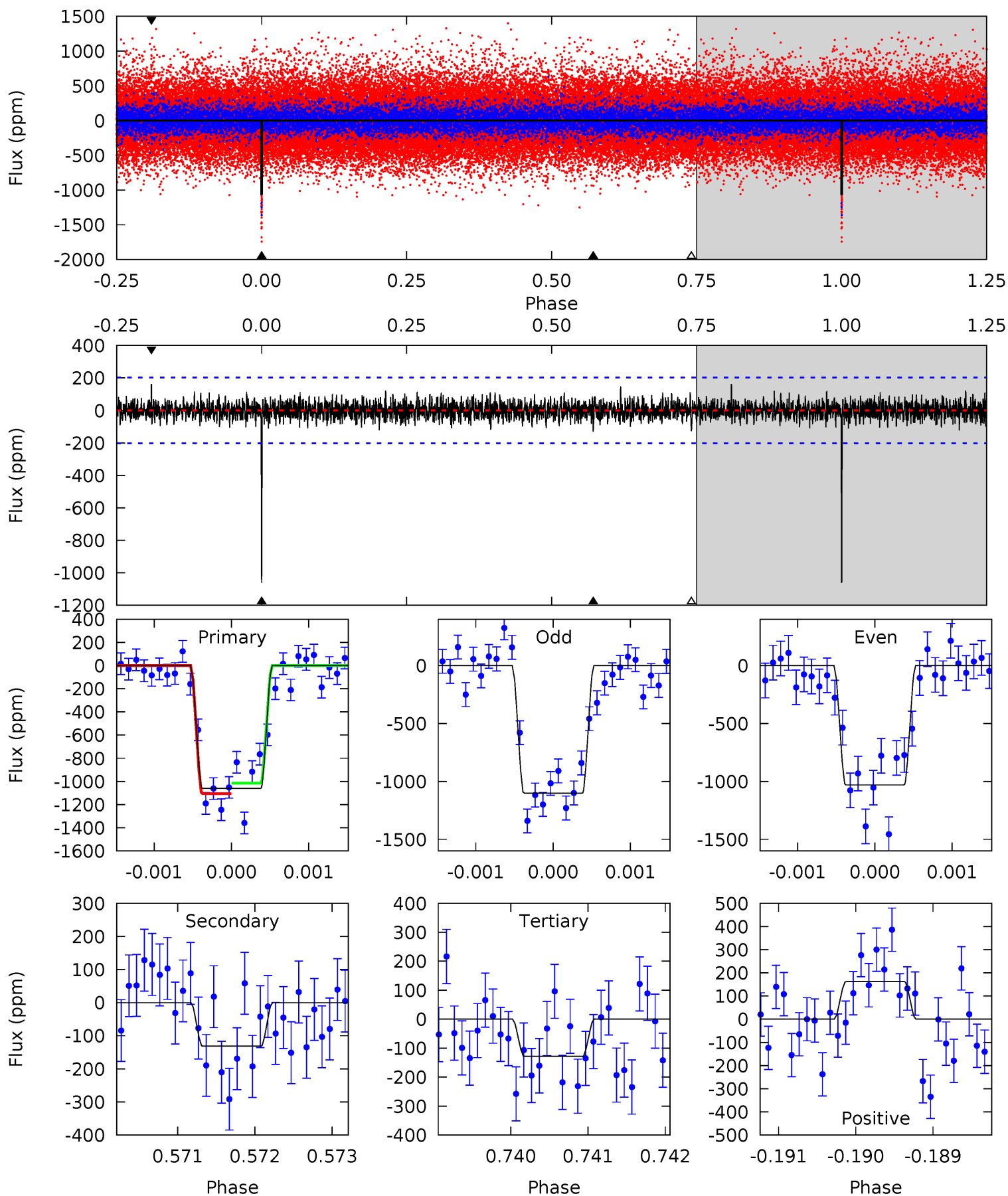
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.4	3.98	3.92	5.37	5.42	3.25	1.17	28.5	27.0	0.06	-1.39	0.08	0.98	0.14	1.70



Alt Model-Shift Uniqueness Test

007768451-01, P = 192.665526 Days, E = 162.884371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	3.54	3.45	4.35	5.45	3.29	0.99	25.1	24.2	0.09	-0.81	0.95	1.01	0.13	1.23



Stellar Parameters For KIC 007768451

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5401^{+107}_{-107}	$4.487^{+0.065}_{-0.071}$	$0.000^{+0.150}_{-0.150}$	$0.878^{+0.088}_{-0.066}$	$0.863^{+0.058}_{-0.045}$	$1.796^{+0.433}_{-0.416}$
	+2%/-2%	+1%/-2%	+inf%/-inf%	+10%/-8%	+7%/-5%	+24%/-23%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 007768451-01 / KOI 1527.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-139±35	$3.36^{+0.47}_{-0.45}$	396^{+14}_{-12}	3561^{+209}_{-198}	2541^{+1088}_{-769}
Alt.	-132±37	$3.17^{+0.46}_{-0.43}$	396^{+13}_{-13}	3616^{+235}_{-242}	2768^{+1425}_{-963}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

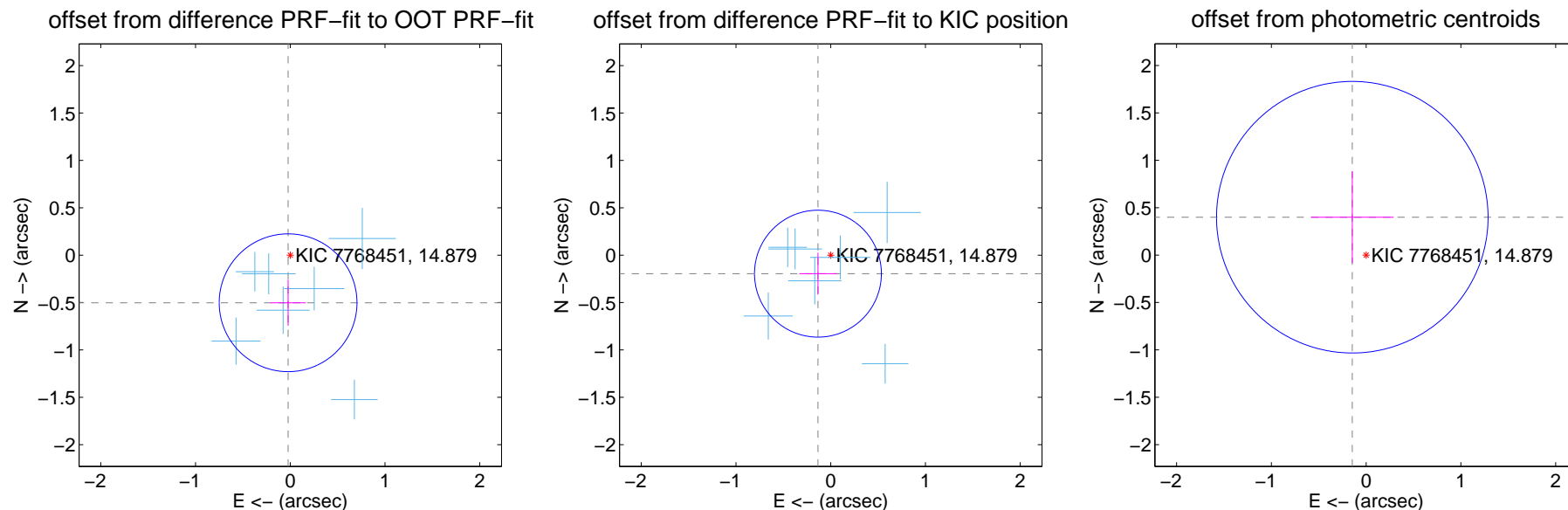
DV Centroid Data

Supplemental centroid analysis for 007768451-01. Kepler magnitude: 14.88. Transit SNR 23.81

There are 7 quarters with good PRF difference image offsets

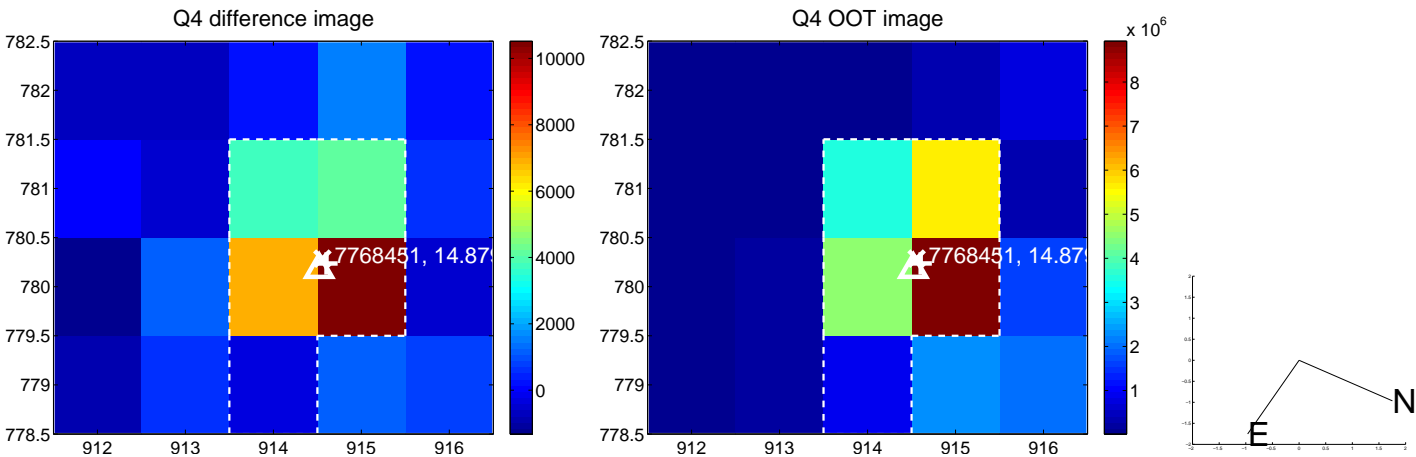
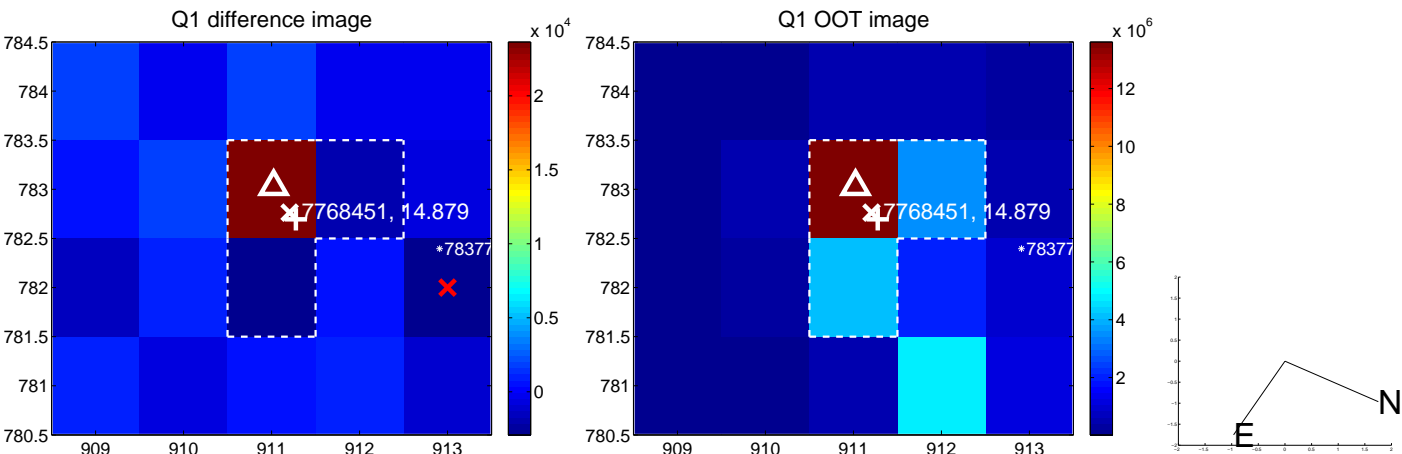
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.503 ± 0.242	2.07	0.023 ± 0.187	-0.502 ± 0.243
PRF-fit source offset from KIC position	0.237 ± 0.223	1.06	0.135 ± 0.197	-0.195 ± 0.221
photometric centroid source offset	0.43 ± 0.48	0.89	0.15 ± 0.44	0.40 ± 0.48



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.

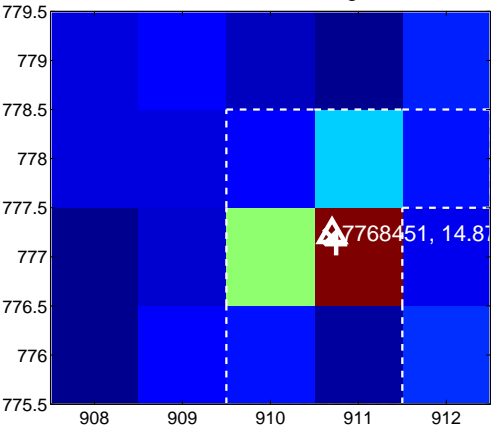
Q5 no difference image



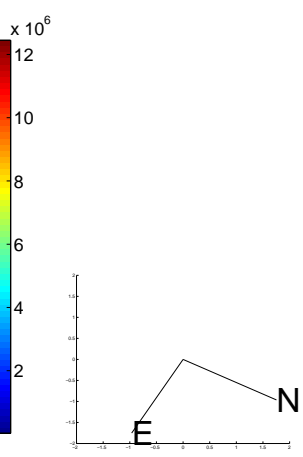
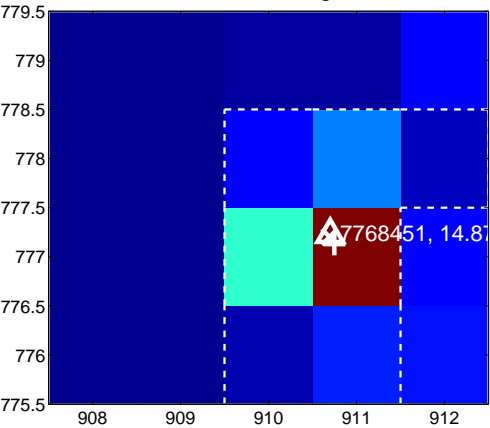
Q5 no OOT image



Q6 difference image



Q6 OOT image



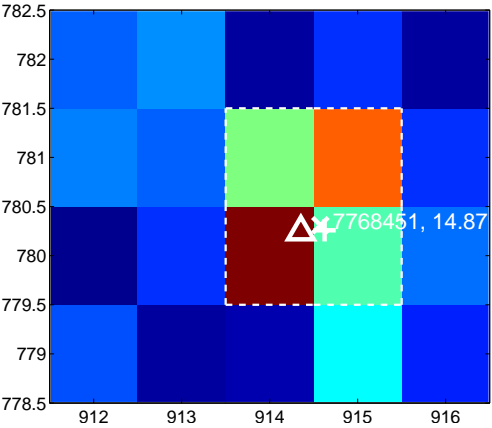
Q7 no difference image



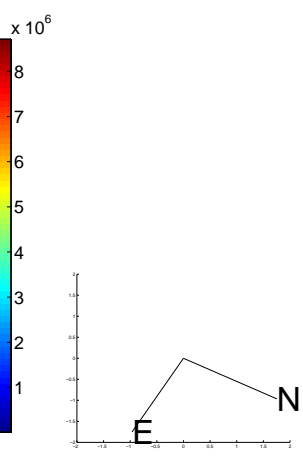
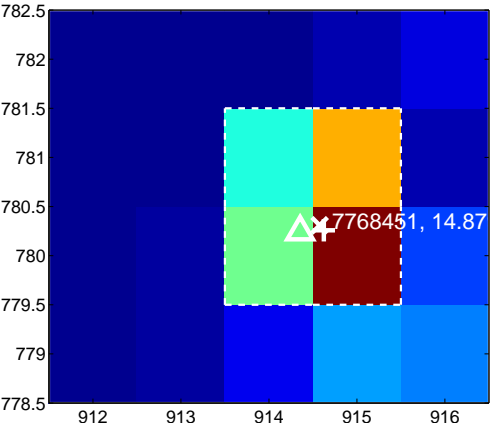
Q7 no OOT image



Q8 difference image



Q8 OOT image

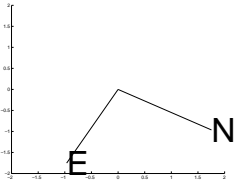
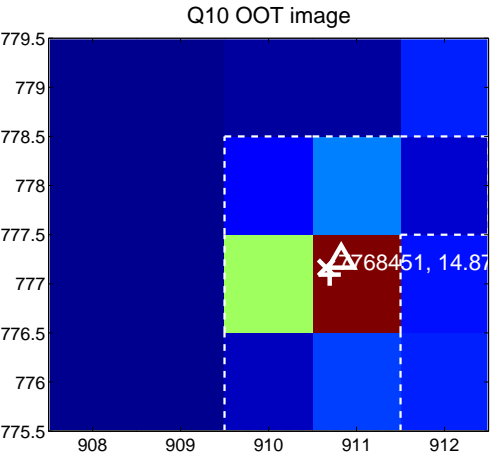
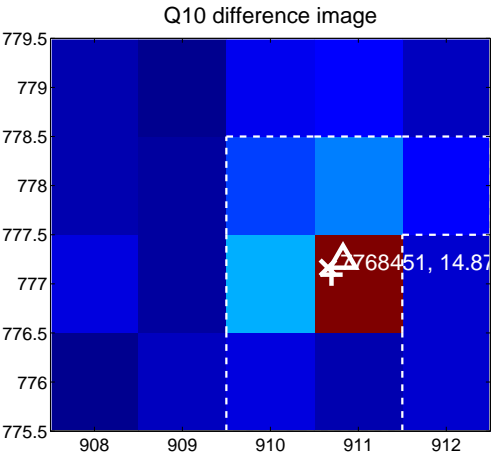


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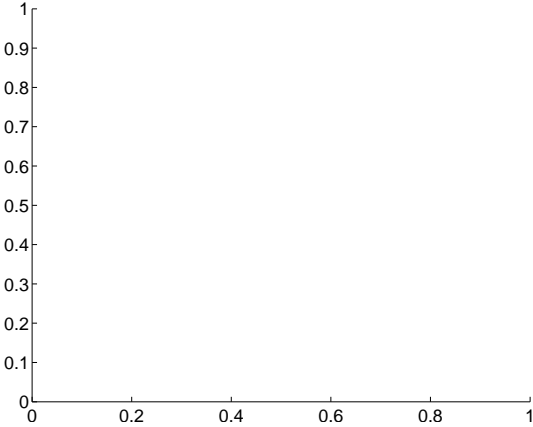
Q9 no difference image



Q9 no OOT image



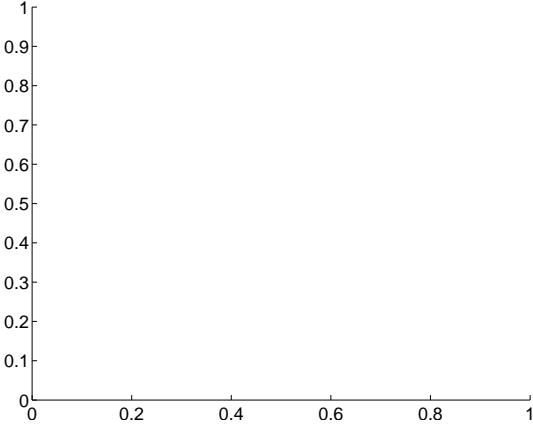
Q11 no difference image



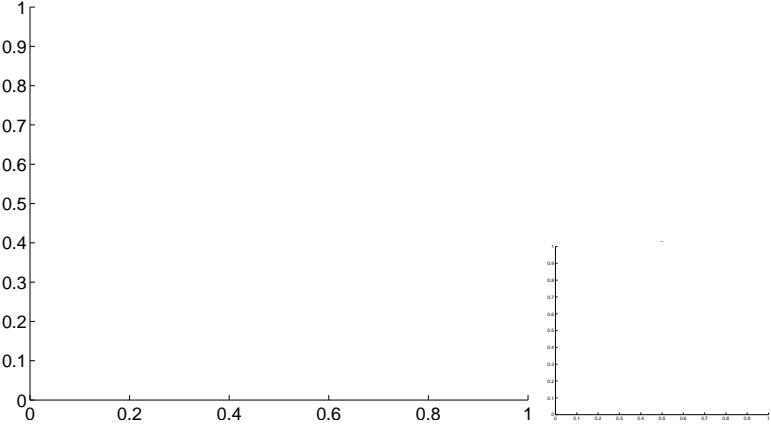
Q11 no OOT image



Q12 no difference image



Q12 no OOT image

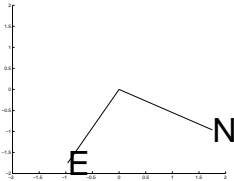
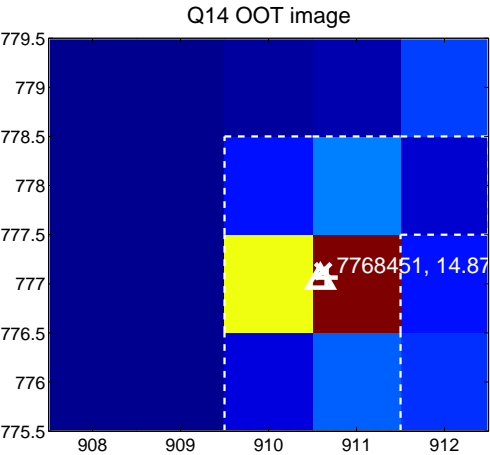
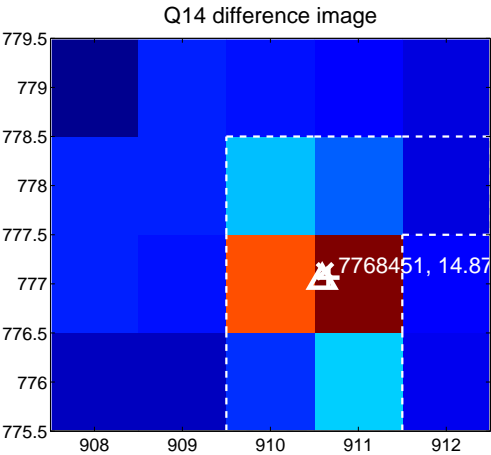


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

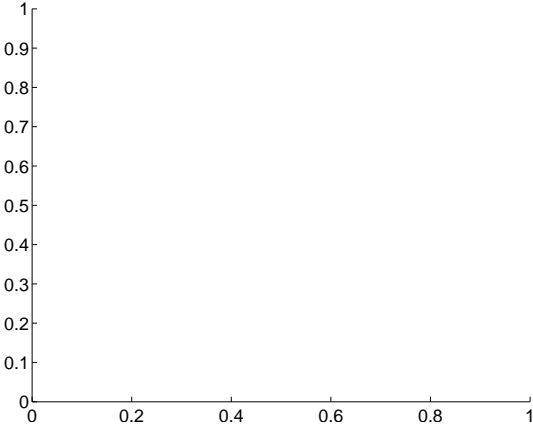
Q13 no difference image



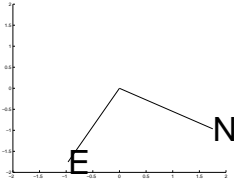
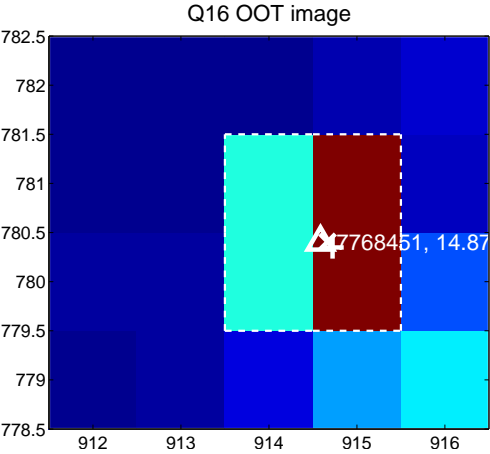
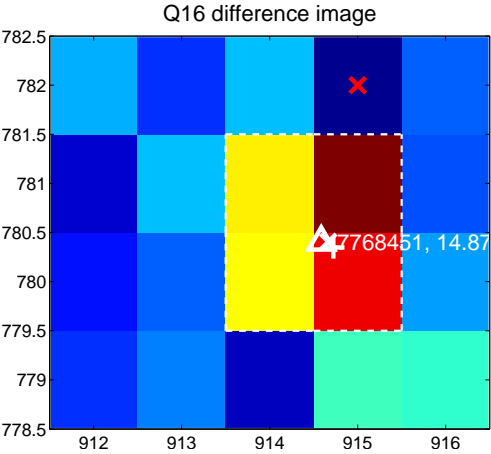
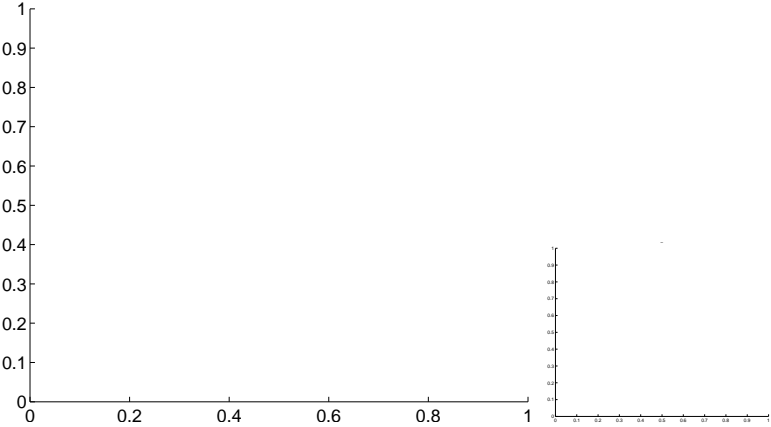
Q13 no OOT image



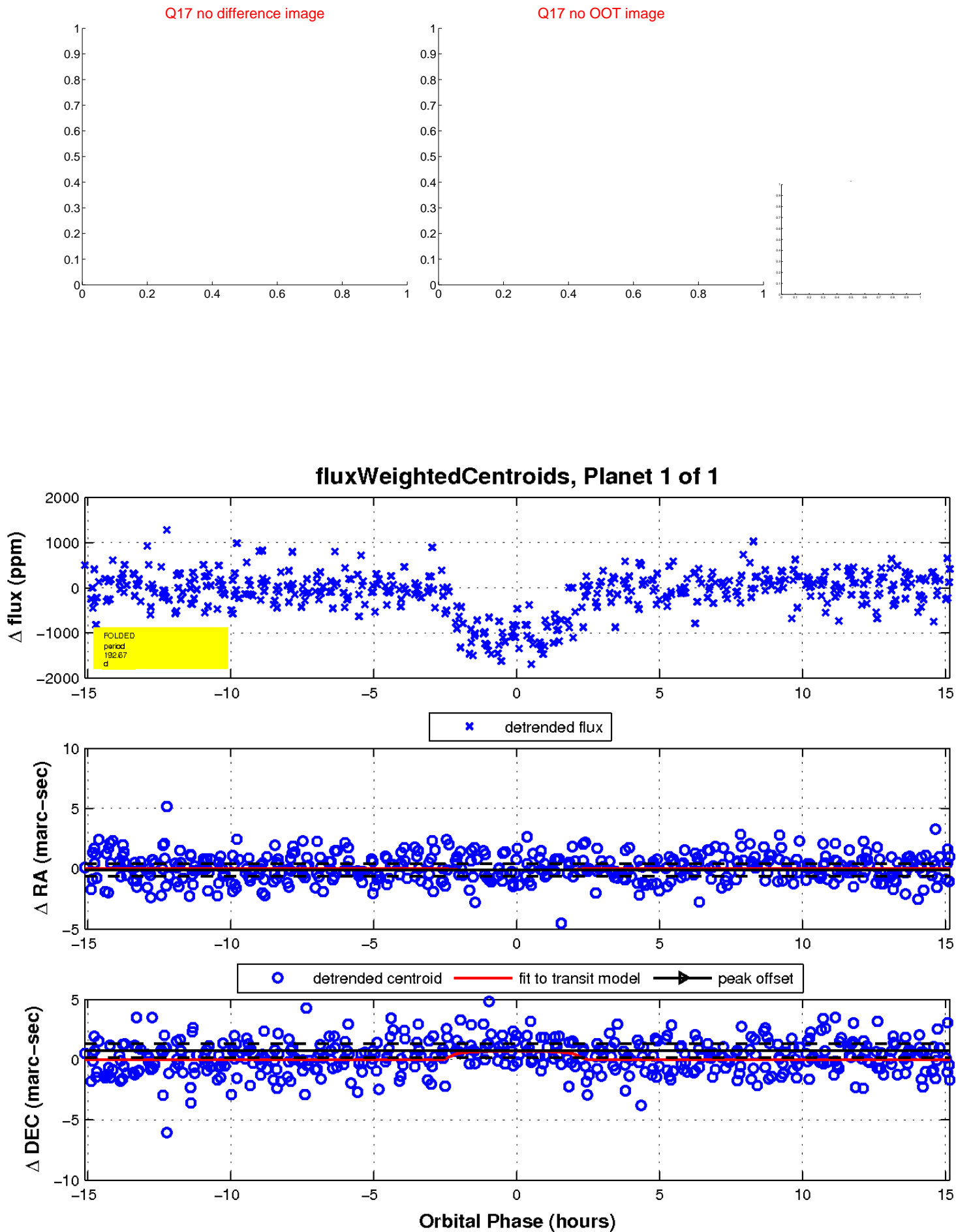
Q15 no difference image



Q15 no OOT image



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



UKIRT Image

Declination

