

KIC 008108437

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})
008108437-01	OBS	5478.01	351.287941	207.294195	136639.9	11.231	1005.9	806.3	0.91	5911	49.70	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108437-01	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 008108437-01

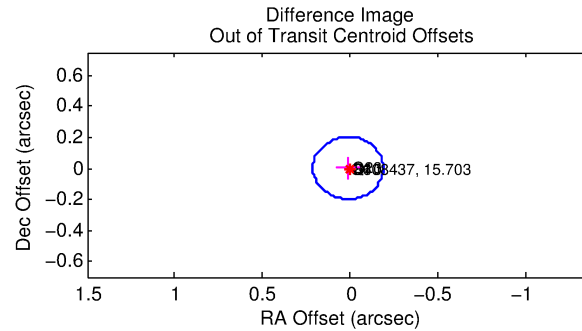
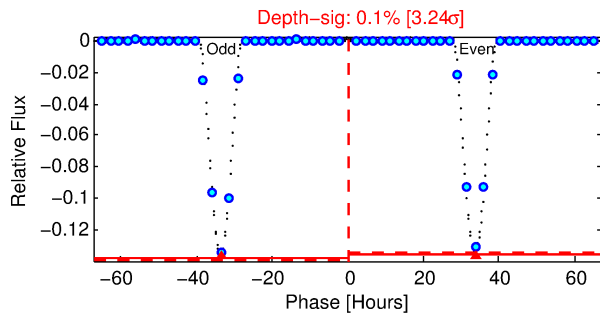
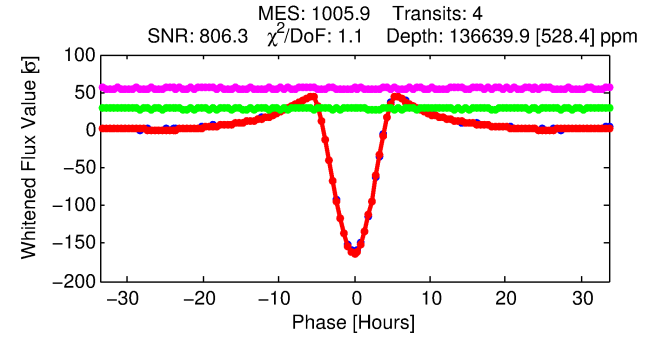
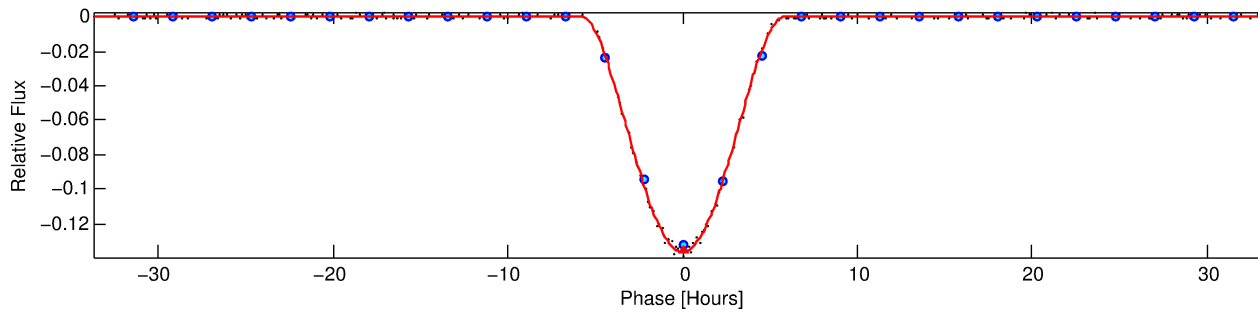
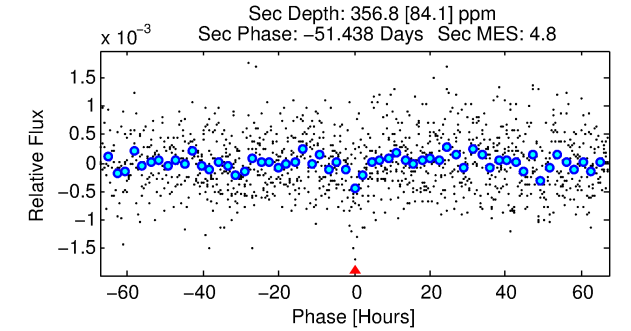
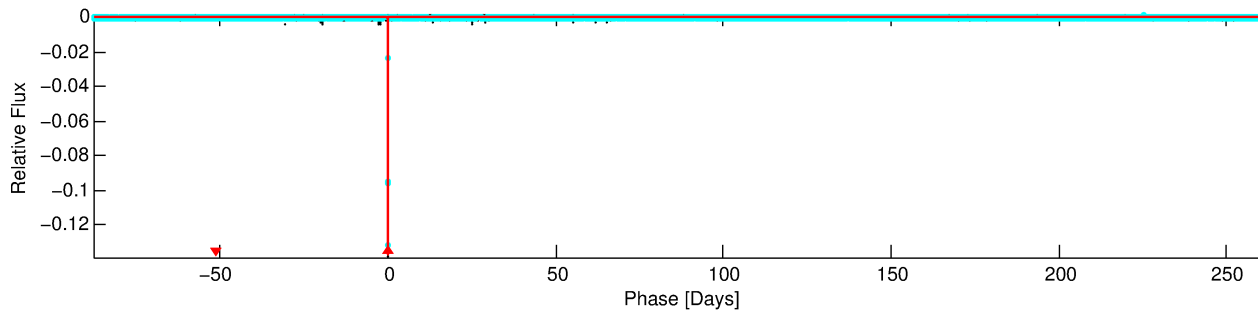
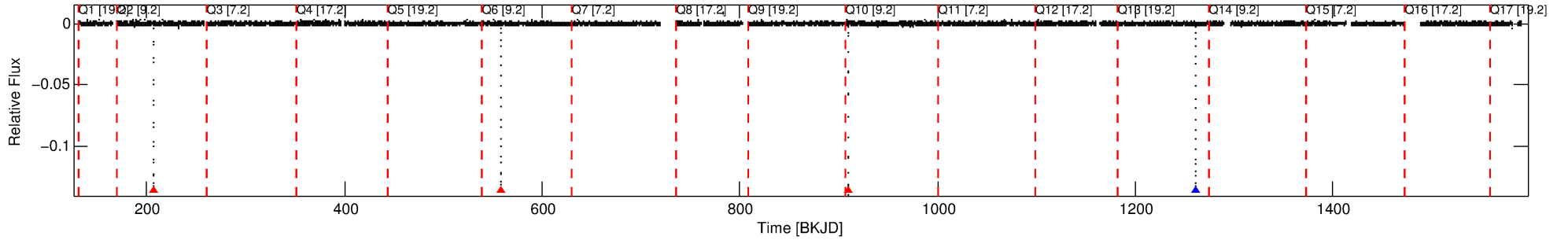
No Significant Match Found

DV One-Page Summary

KIC: 8108437 Candidate: 1 of 1 Period: 351.288 d

KOI: K05478.01 Corr: 0.999

Kp: 15.70 R*: 0.91 Rs Teff: 5911.0 K Logg: 4.52 Fe/H: -0.100



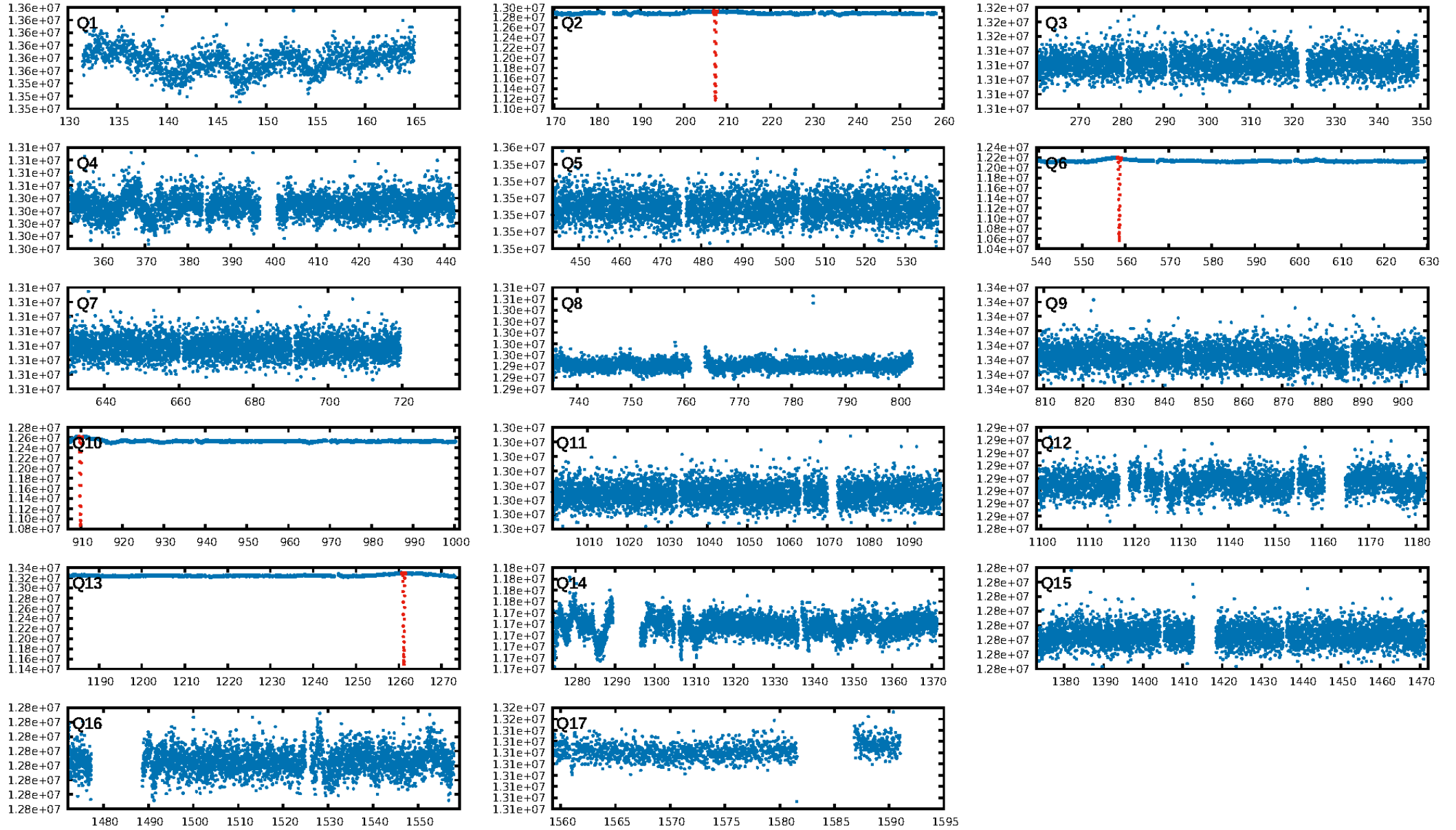
DV Fit Results:

Period = 351.28794 [0.00010] d
Epoch = 207.2942 [0.0002] BKJD
Rp/R* = 0.4983 [0.1807]
a/R* = 286.66 [8.14]
b = 0.90 [0.26]
Seff = 0.96 [0.35]
Teq = 252 [23] K
Rp = 49.70 [22.67] Re
a = 0.9767 [0.2270] AU
Ag = 75.80 [63.20] [1.18σ]
Teffp = 1151 [223] K [4.02σ]

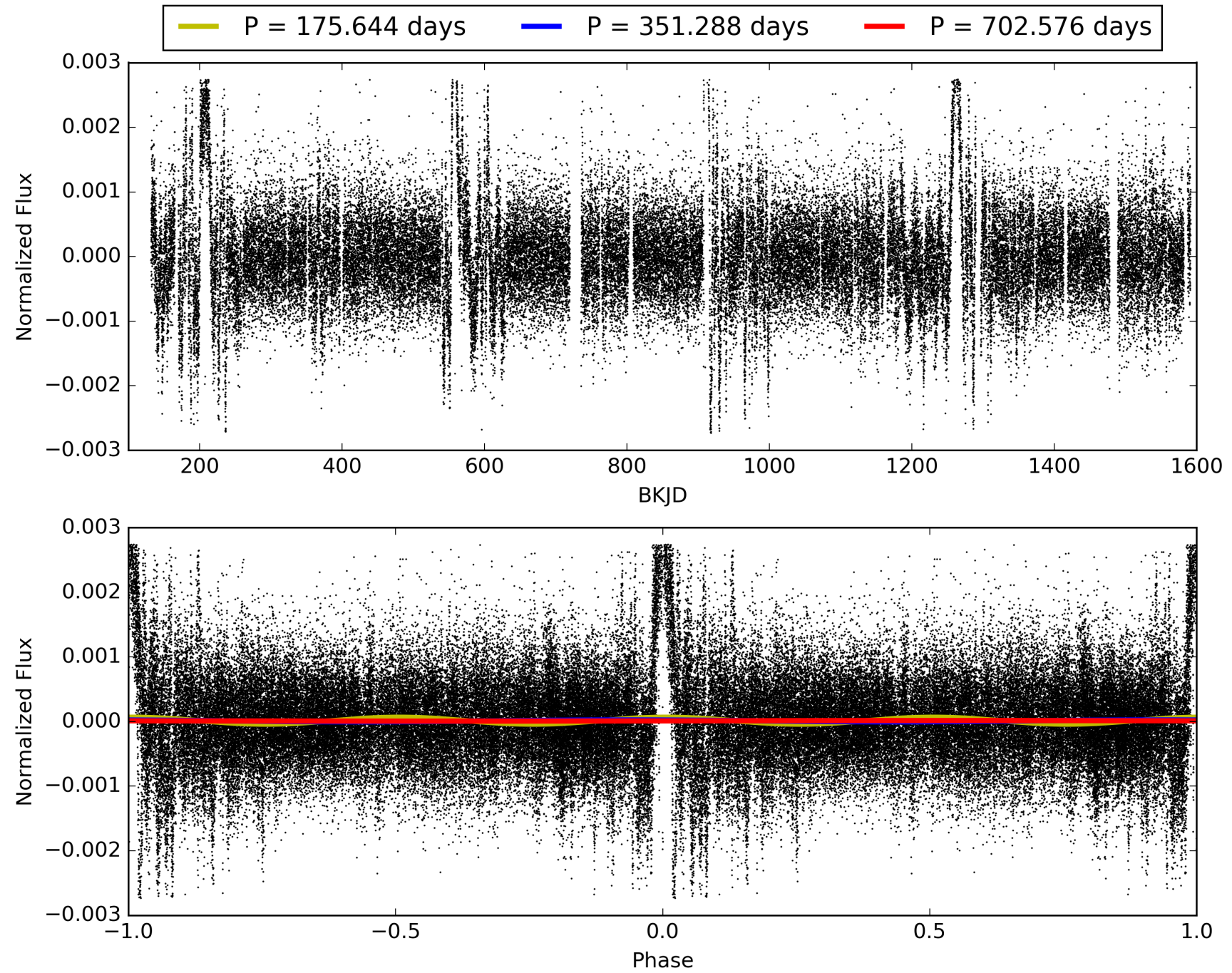
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 58.6%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 6.629
Centroid-sig: 0.1%
Centroid-so: 0.157 arcsec [11.33σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.104 arcsec [1.53σ]
OotOffset-st: 3/0/0/1 [4]
KicOffset-st: 3/0/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 008108437-01, PDC Light Curves

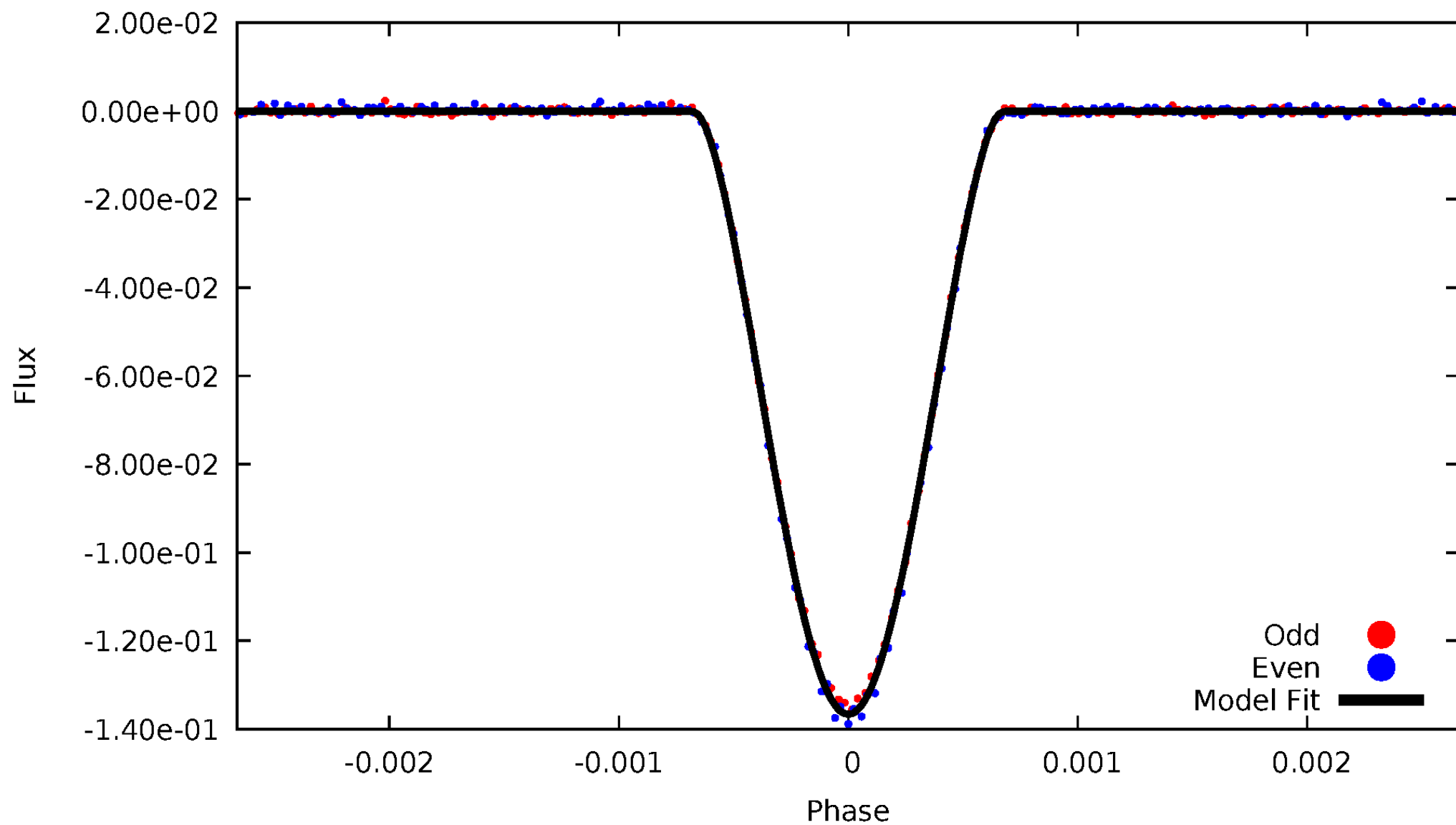


TCE 008108437-01



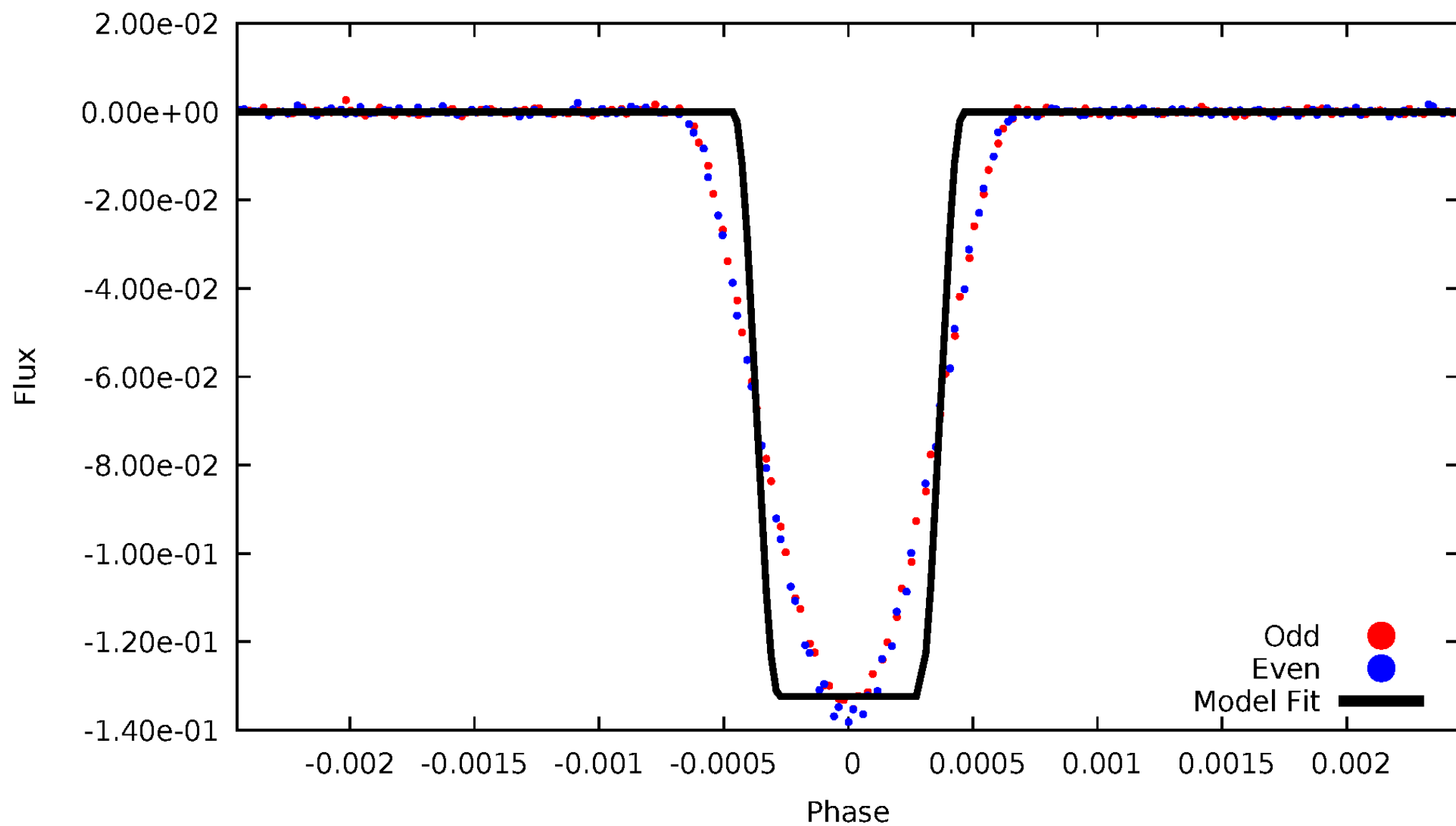
DV Odd/Even

TCE 008108437-01



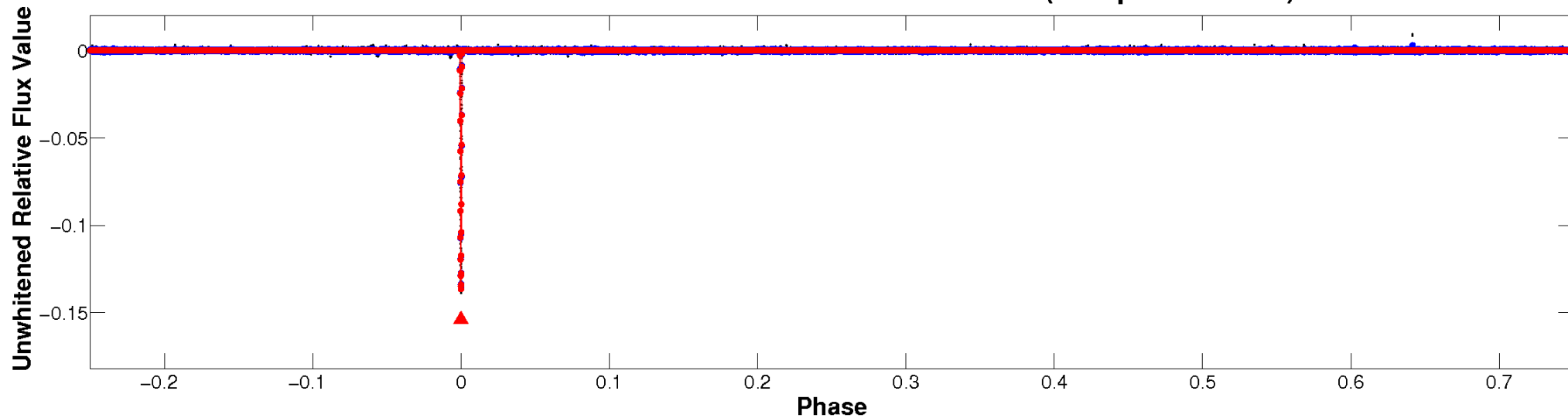
ALT Odd/Even

TCE 008108437-01

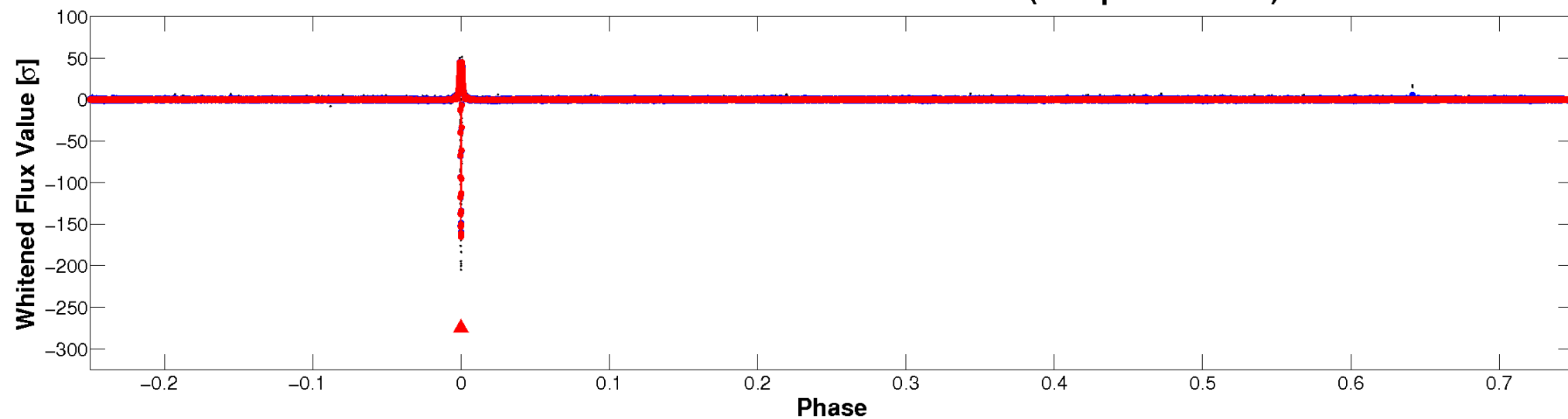


Non-Whitened Vs. Whitened Light Curve

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

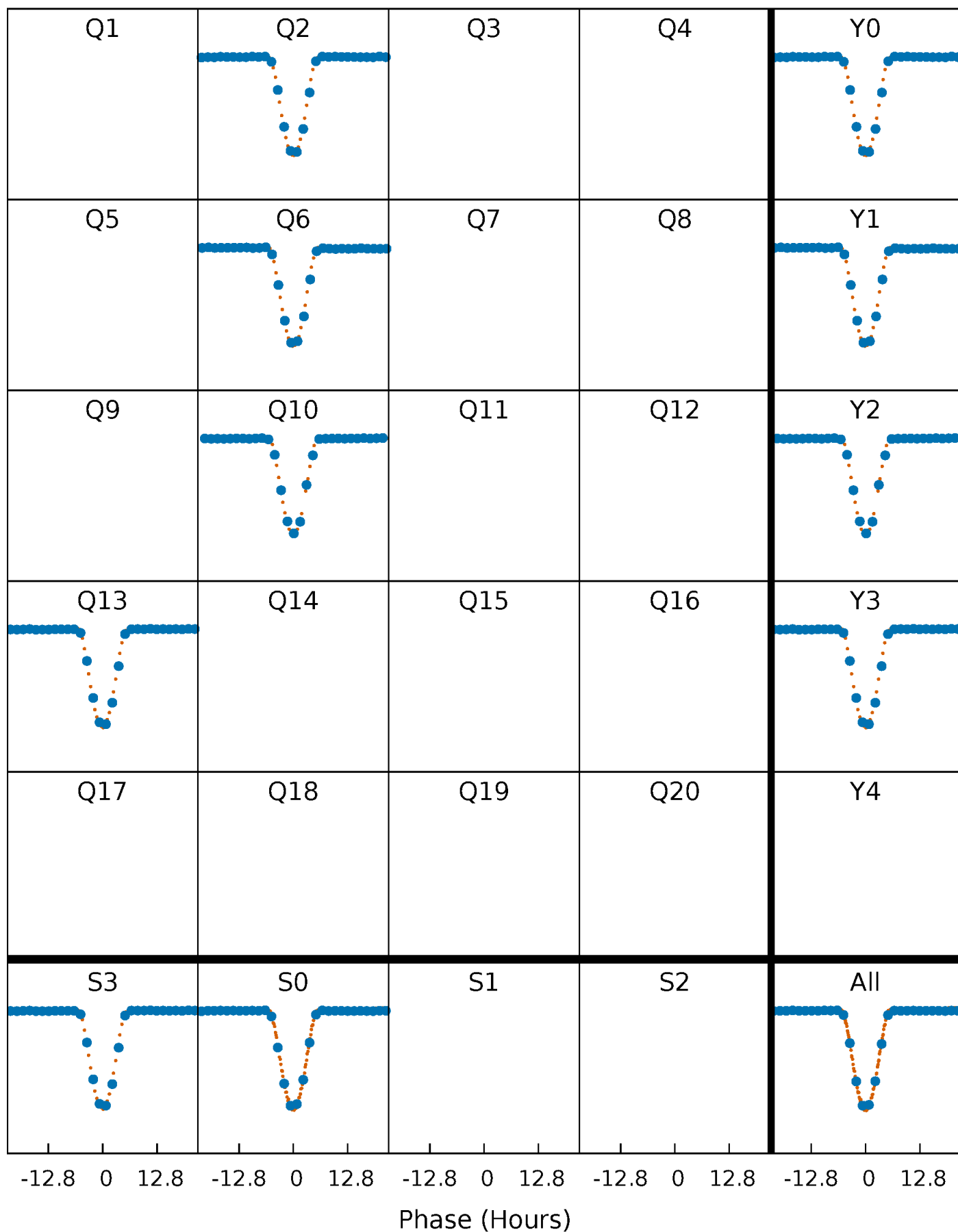


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



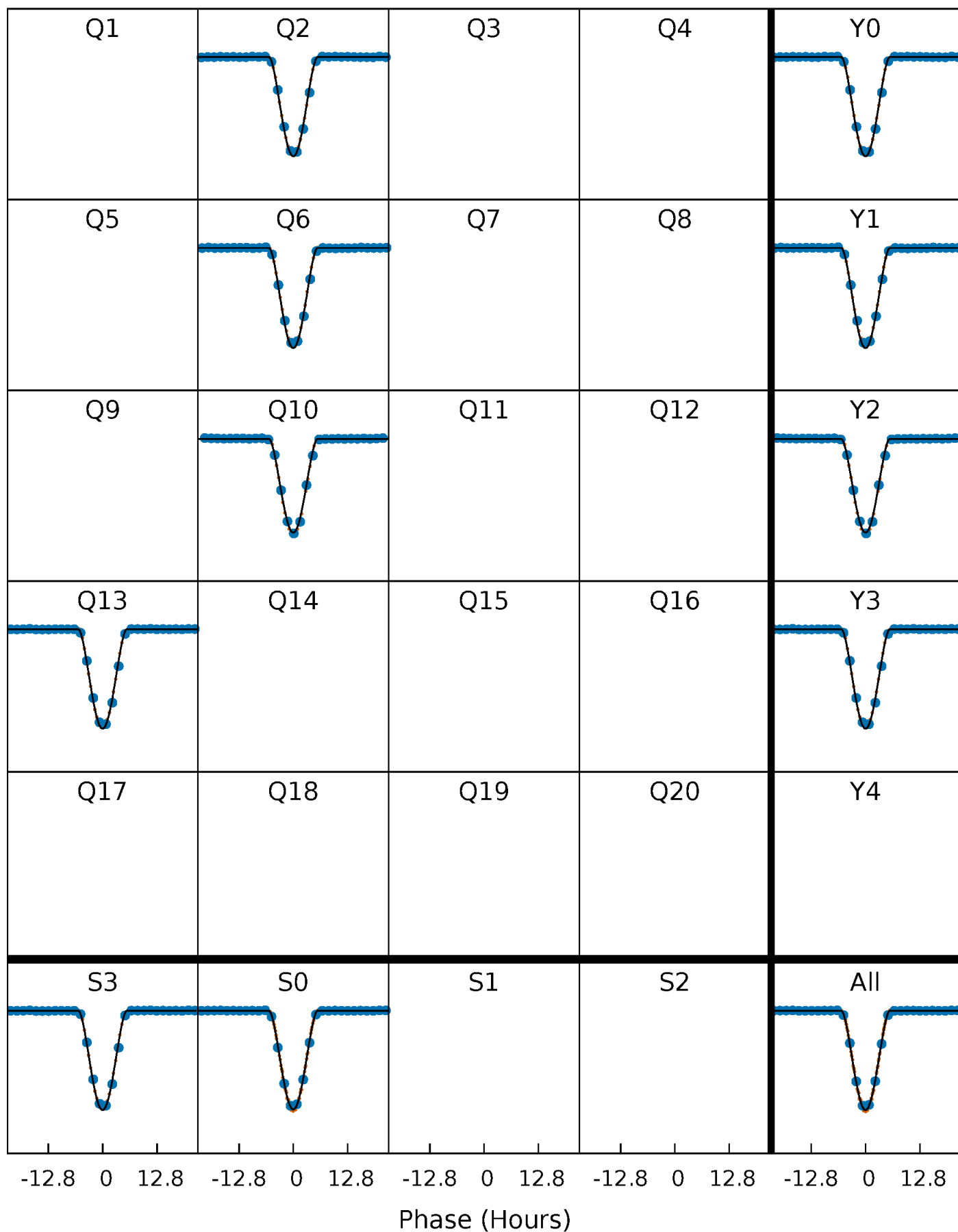
PDC Quarter-Phased Transit Curves

TCE 008108437-01 P=351.287941 Days $T_0=207.294195$ (BKJD)



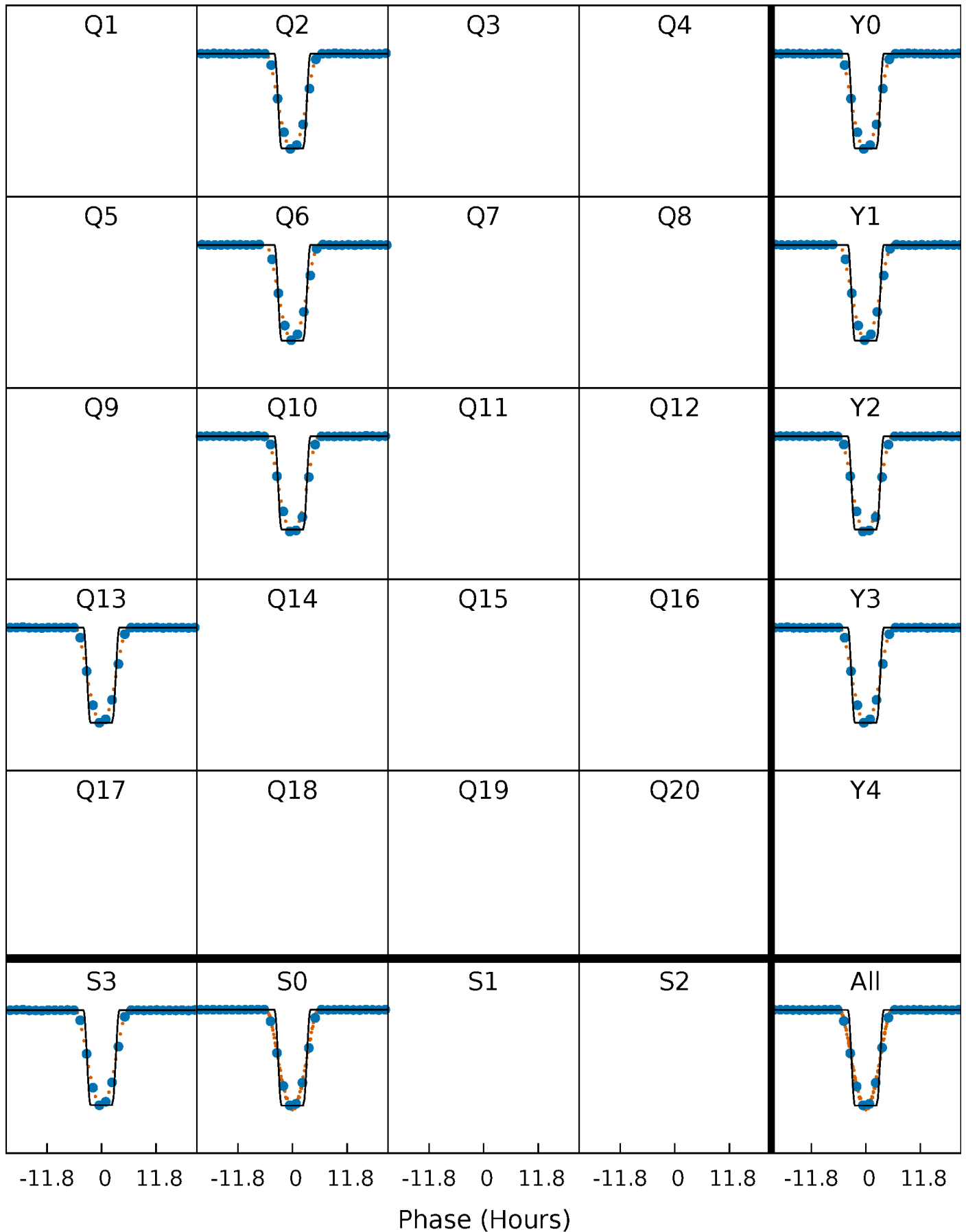
DV Quarter-Phased Transit Curves

TCE 008108437-01 P=351.287941 Days $T_0=207.294195$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

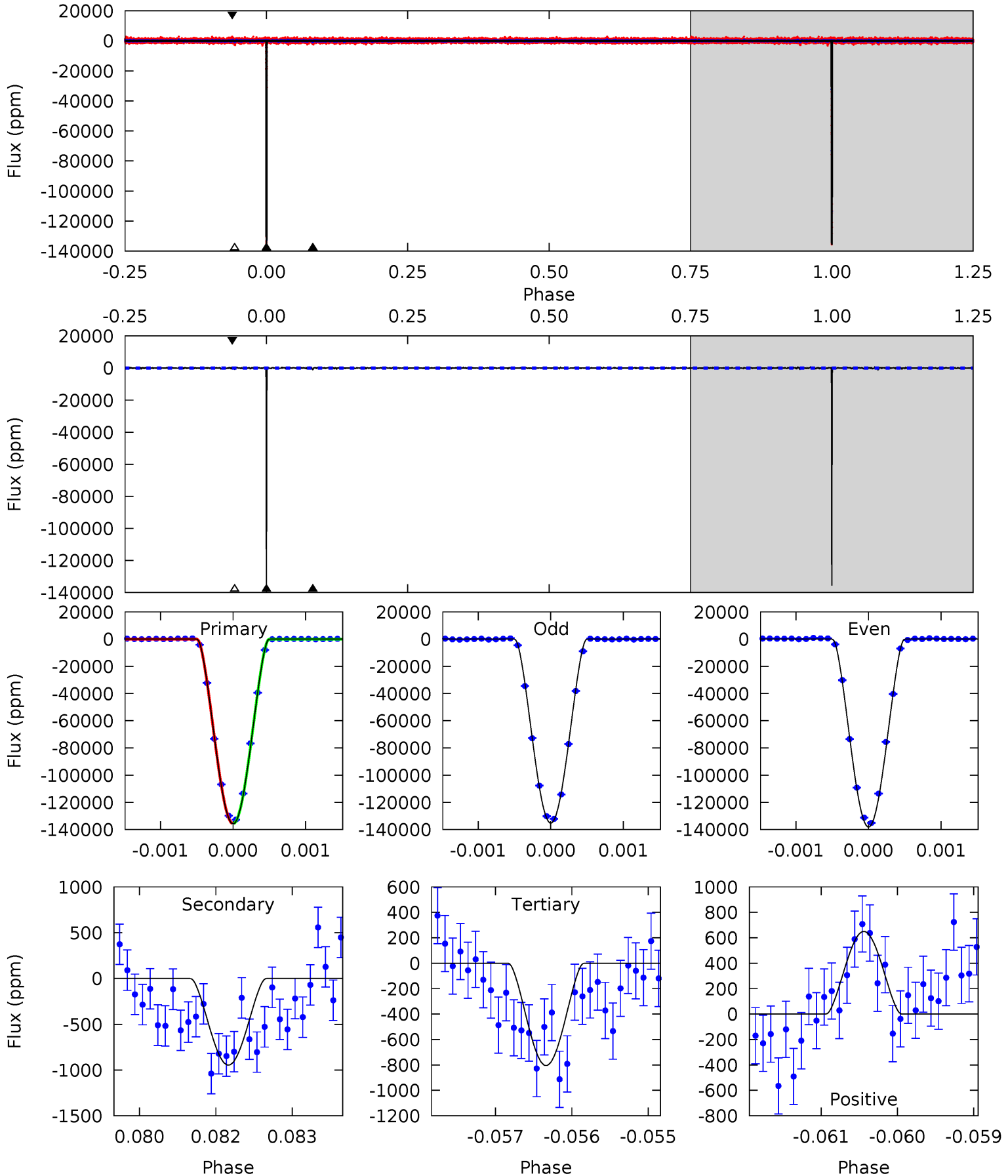
TCE 008108437-01 P=351.286952 Days $T_0=207.295792$ (BKJD)



DV Model-Shift Uniqueness Test

008108437-01, P = 351.287941 Days, E = 207.294195 Days

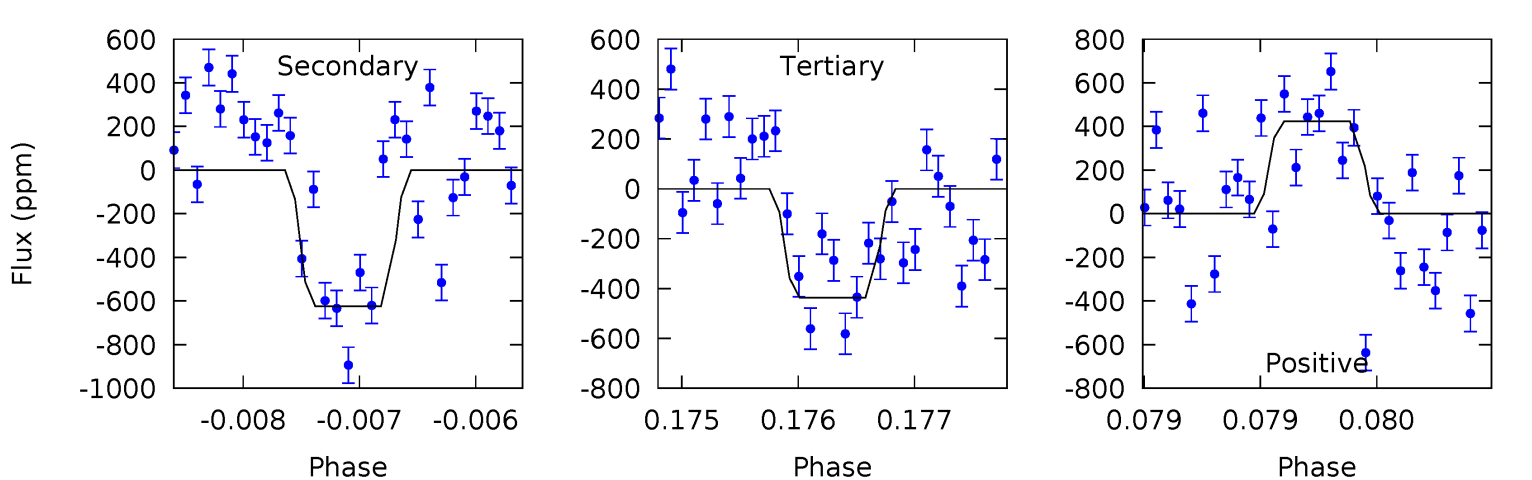
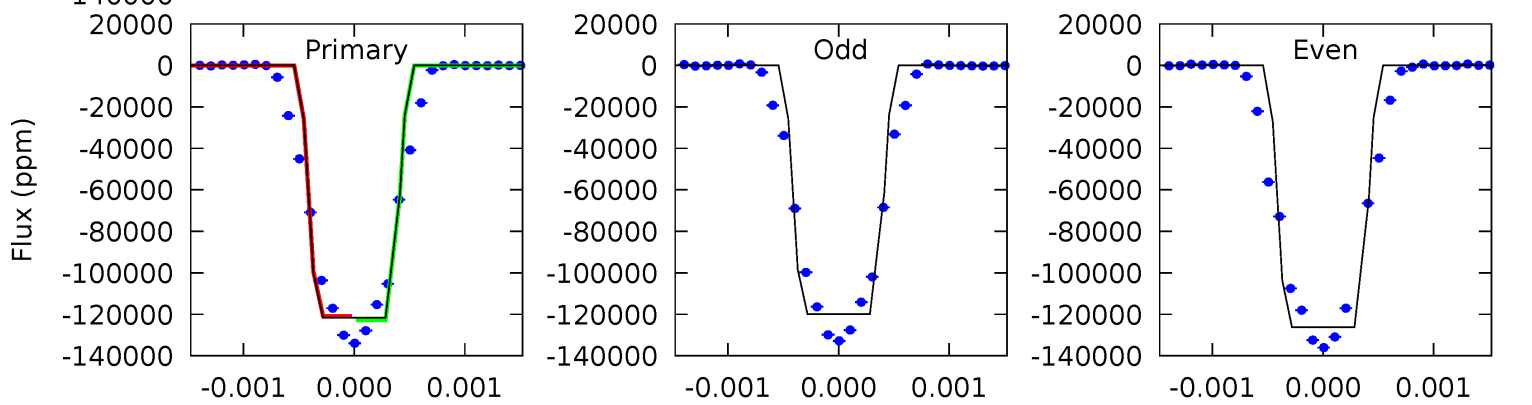
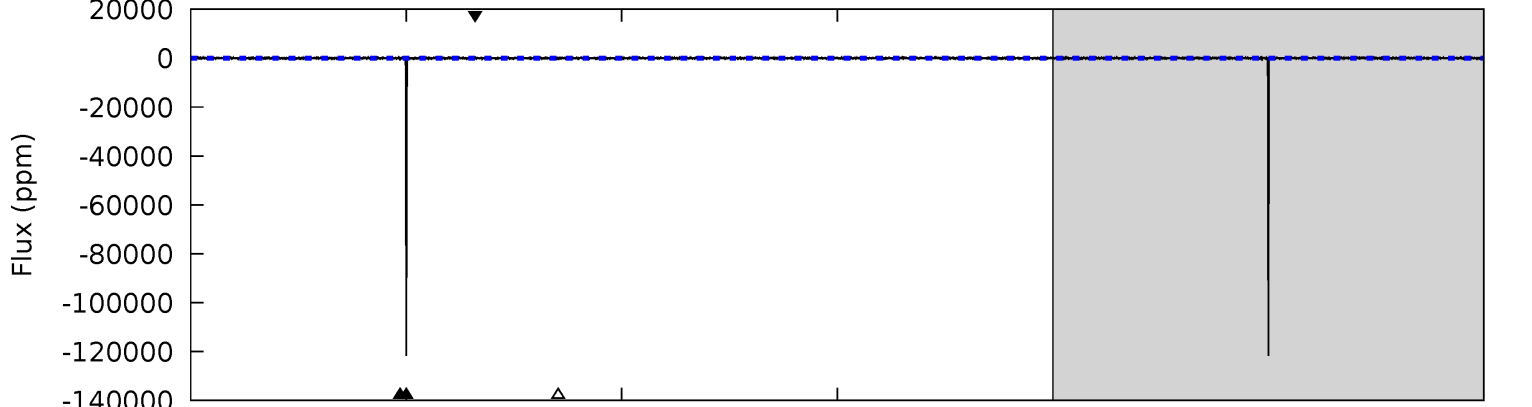
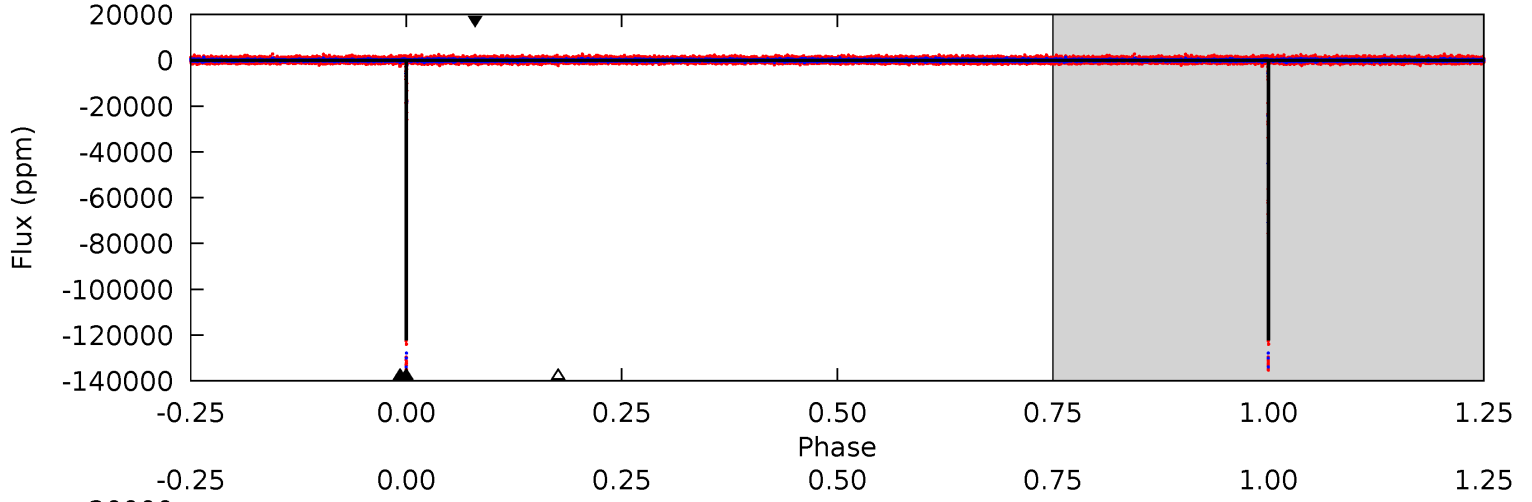
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2206	15.4	13.1	10.6	5.40	3.20	2.28	2193	2195	2.29	4.80	24.7	1.00	0.00	0.60



Alt Model-Shift Uniqueness Test

008108437-01, P = 351.286952 Days, E = 207.295792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1454	7.45	5.22	5.06	5.47	3.32	1.12	1449	1449	2.23	2.39	40.2	1.01	0.00	11.2



Stellar Parameters For KIC 008108437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5911^{+158}_{-193}	$4.519^{+0.046}_{-0.184}$	$-0.100^{+0.300}_{-0.300}$	$0.914^{+0.253}_{-0.084}$	$1.006^{+0.115}_{-0.127}$	$1.854^{+0.349}_{-0.929}$
	+3%/-3%	+1%/-4%	+300%/-300%	+28%/-9%	+11%/-13%	+19%/-50%
Source	PHO1	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 008108437-01 / KOI 5478.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-945 ± 62	$50.65^{+20.67}_{-17.50}$	359^{+24}_{-16}	2371^{+275}_{-168}	186^{+258}_{-91}
Alt.	-624 ± 84	$39.44^{+19.56}_{-19.03}$	360^{+24}_{-16}	2410^{+438}_{-211}	211^{+596}_{-121}

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 $A_{obs} \gg 1.0$

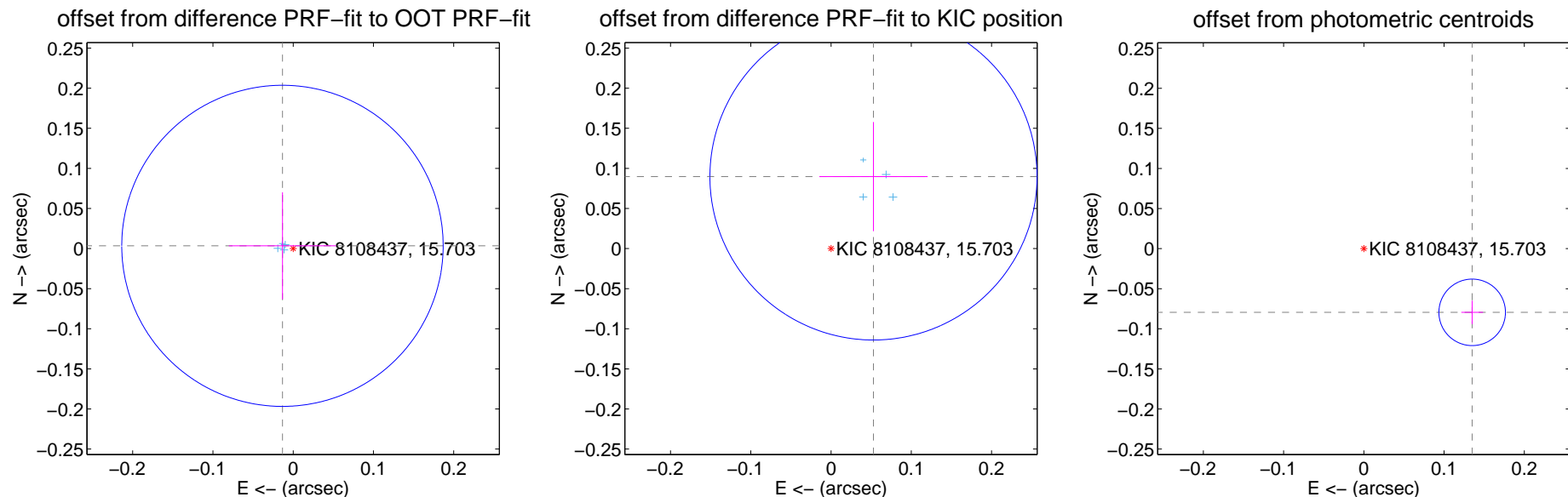
DV Centroid Data

Supplemental centroid analysis for 008108437-01. Kepler magnitude: 15.70. Transit SNR 806.32

There are 4 quarters with good PRF difference image offsets

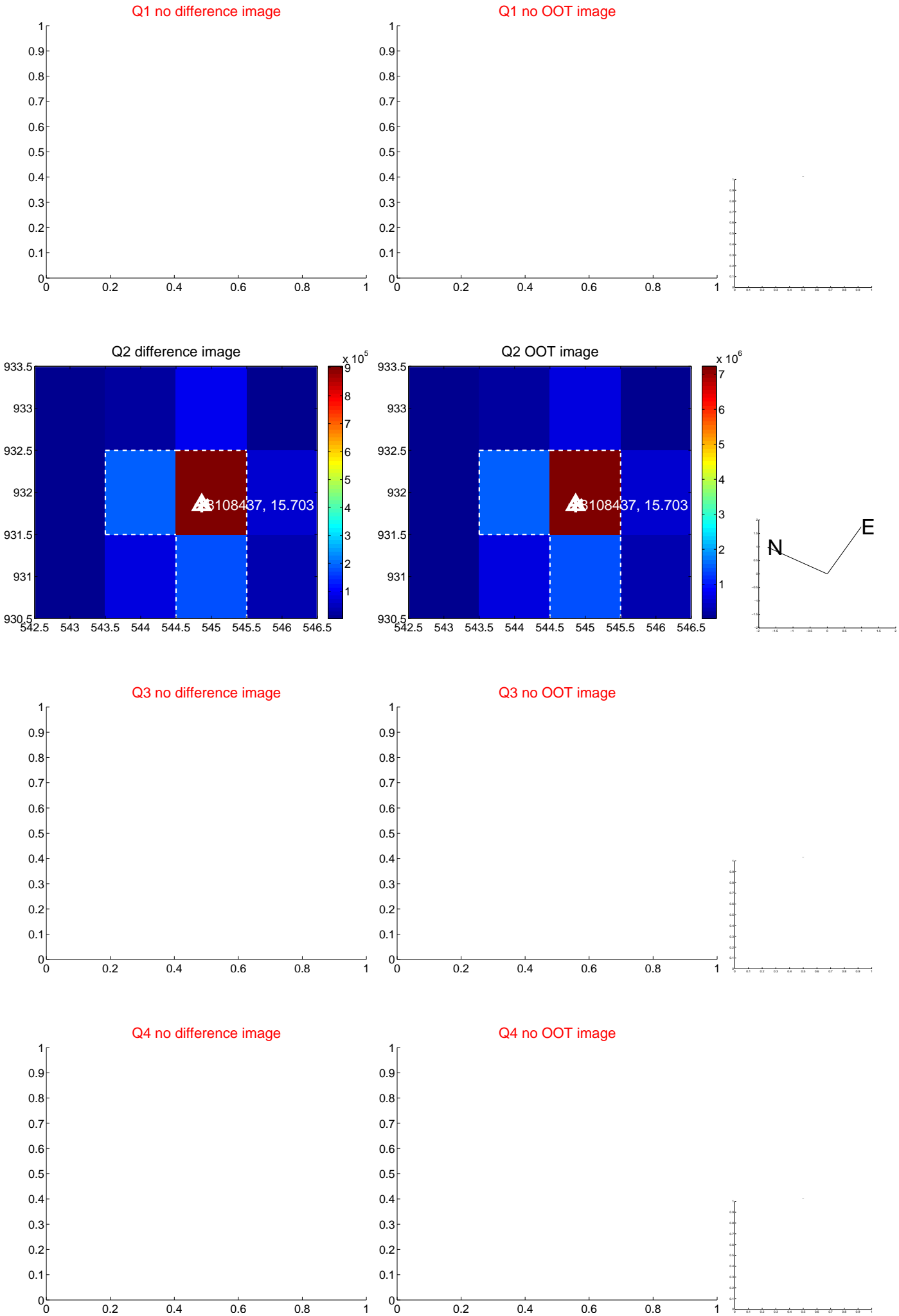
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.21	0.013 ± 0.067	0.003 ± 0.067
PRF-fit source offset from KIC position	0.104 ± 0.068	1.53	-0.053 ± 0.068	0.090 ± 0.068
photometric centroid source offset	0.16 ± 0.01	11.33	-0.14 ± 0.01	-0.08 ± 0.01



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.



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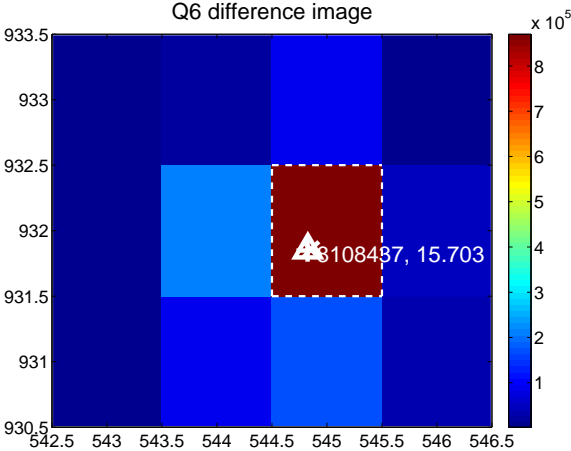
Q5 no difference image



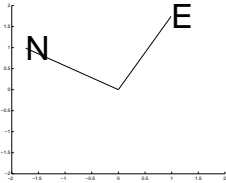
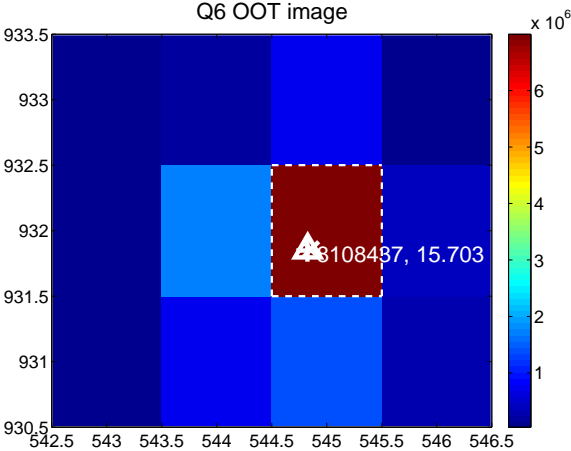
Q5 no OOT image



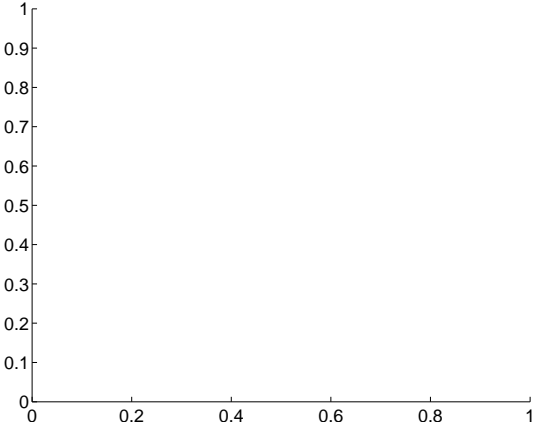
Q6 difference image



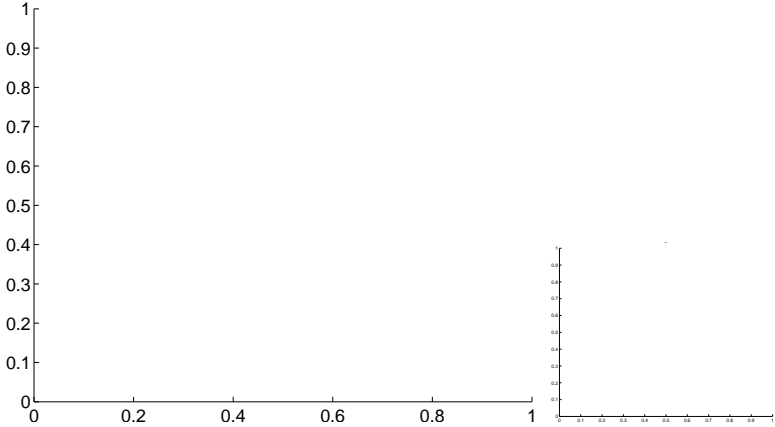
Q6 OOT image



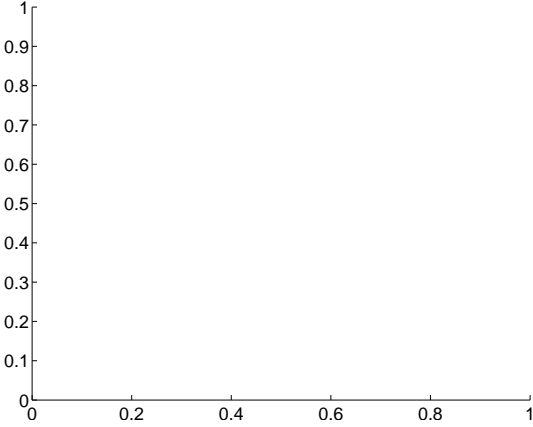
Q7 no difference image



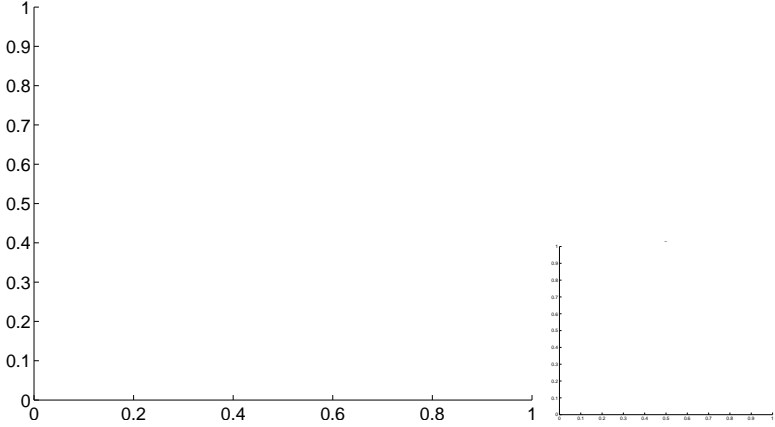
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

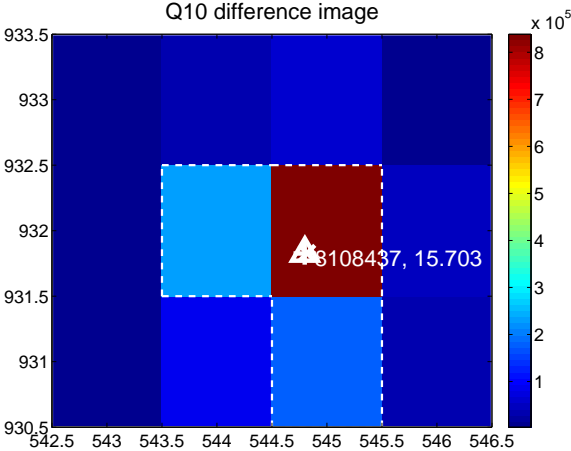
Q9 no difference image



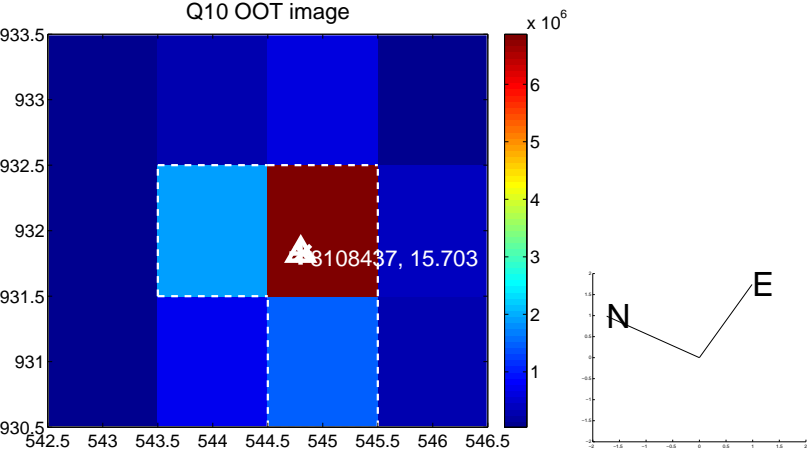
Q9 no OOT image



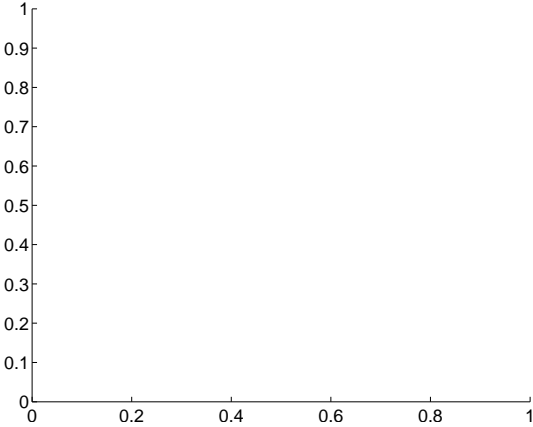
Q10 difference image



Q10 OOT image



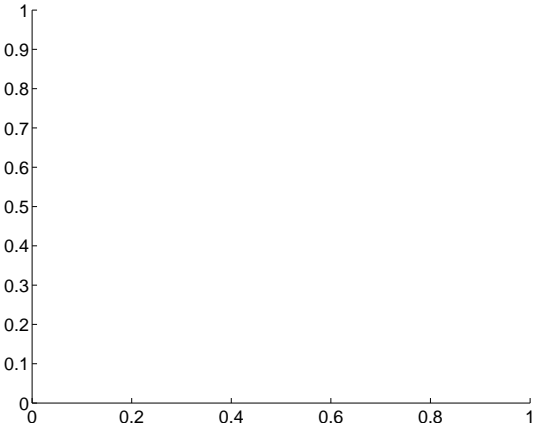
Q11 no difference image



Q11 no OOT image



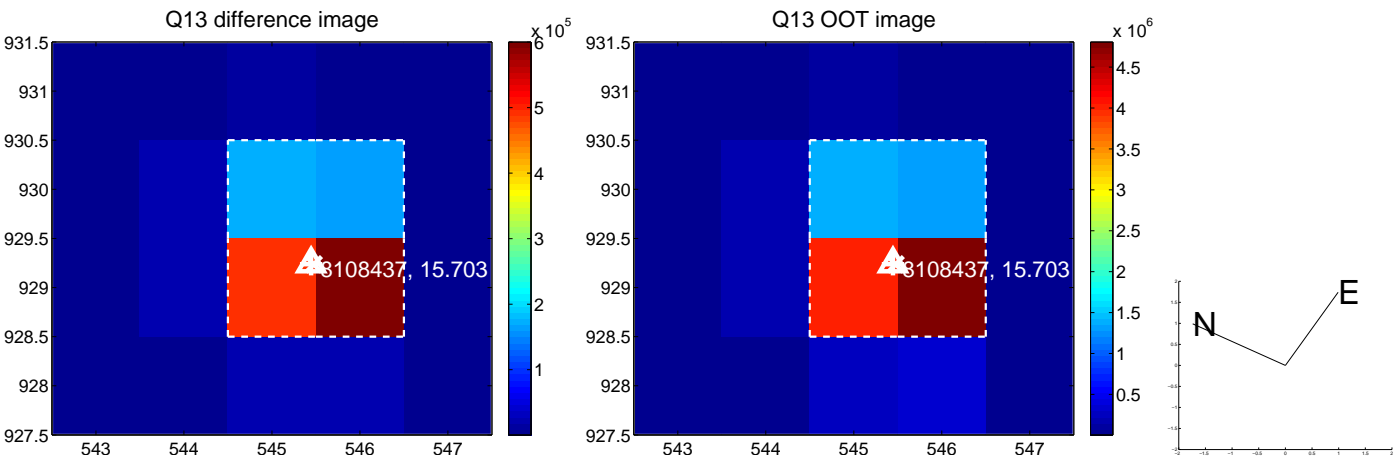
Q12 no difference image



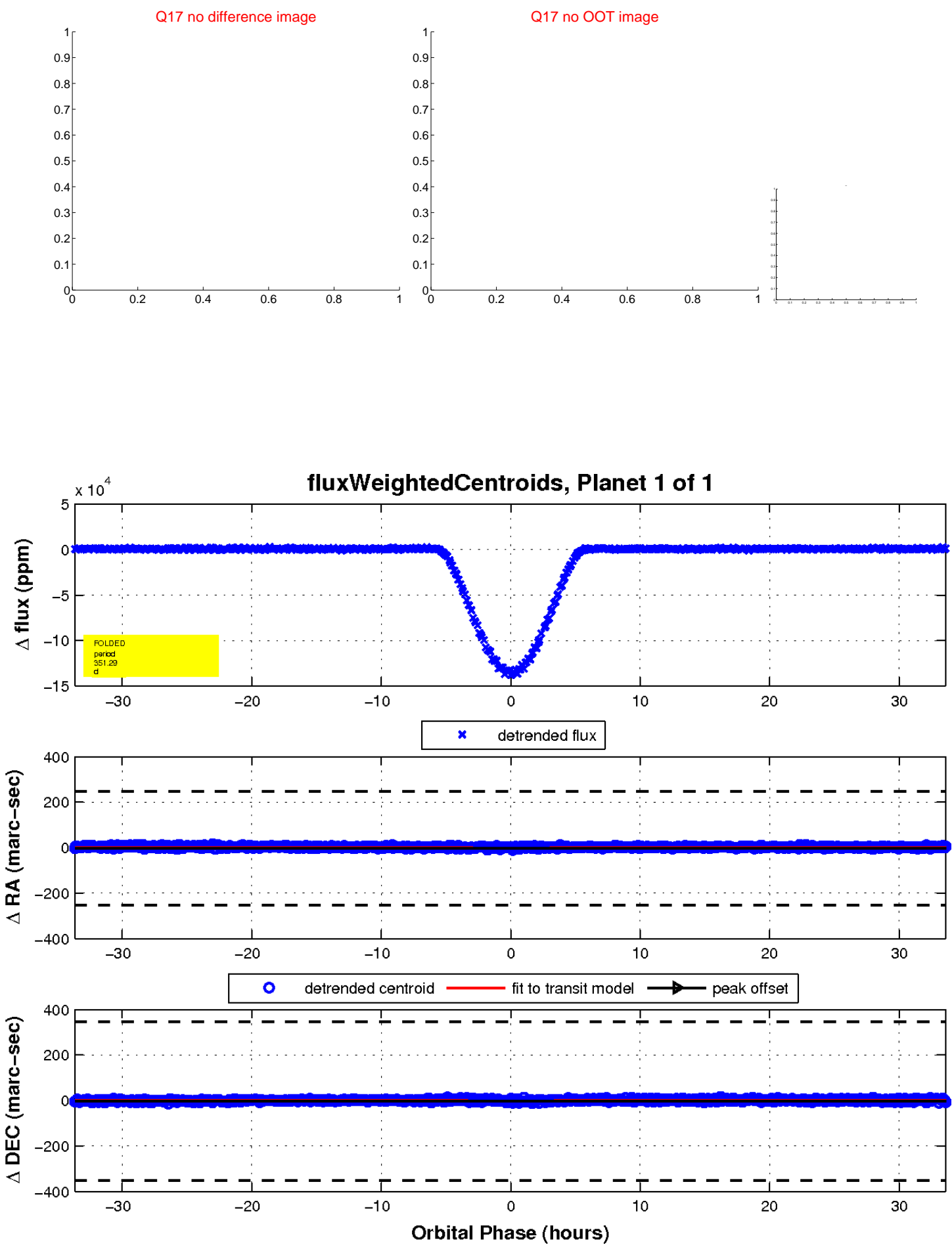
Q12 no OOT image



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



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



UKIRT Image

Declination

