

KIC 008028908

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})
008028908-01	OBS	No	467.596450	184.806384	836.9	13.010	11.2	13.8	4.57	4794	22.44	7.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008028908-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED

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

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

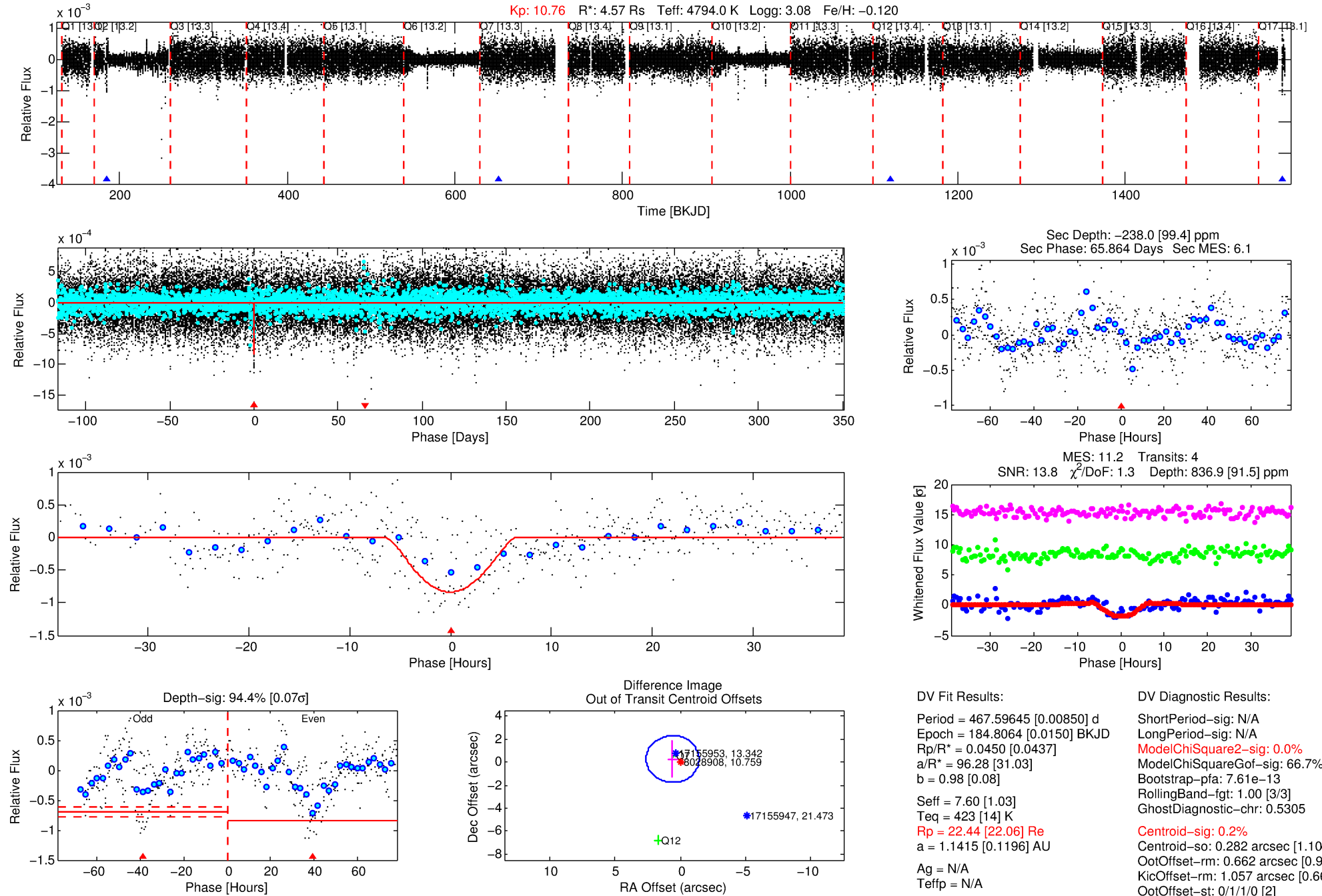
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008028908-01

No Significant Match Found

DV One-Page Summary

KIC: 8028908 Candidate: 1 of 1 Period: 467.596 d



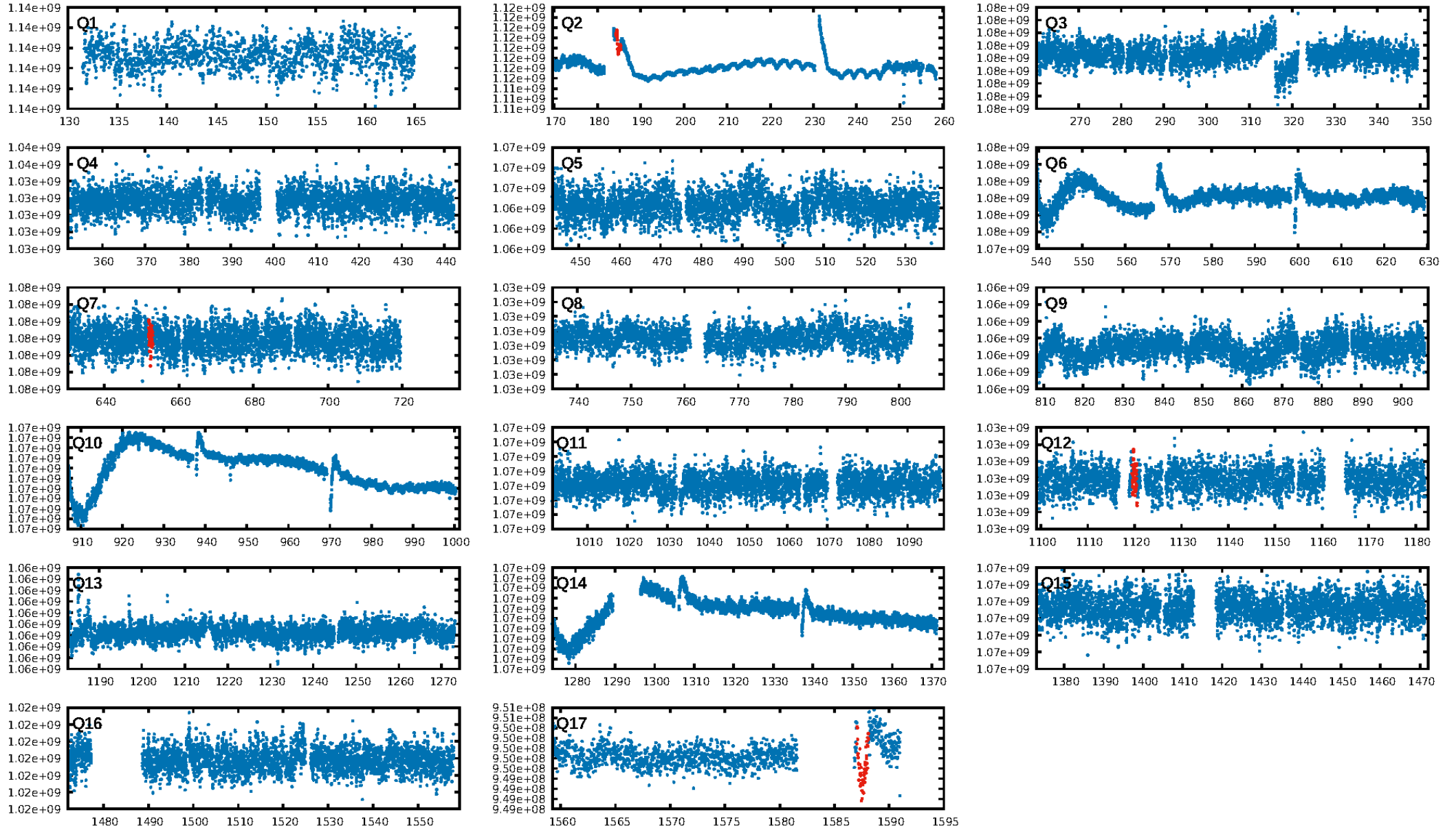
DV Fit Results:

Period = 467.59645 [0.00850] d
Epoch = 184.8064 [0.0150] BKJD
Rp/R* = 0.0450 [0.0437]
a/R* = 96.28 [31.03]
b = 0.98 [0.08]
Seff = 7.60 [1.03]
Teq = 423 [14] K
Rp = 22.44 [22.06] Re
a = 1.1415 [0.1196] AU
Ag = N/A
Teffp = N/A

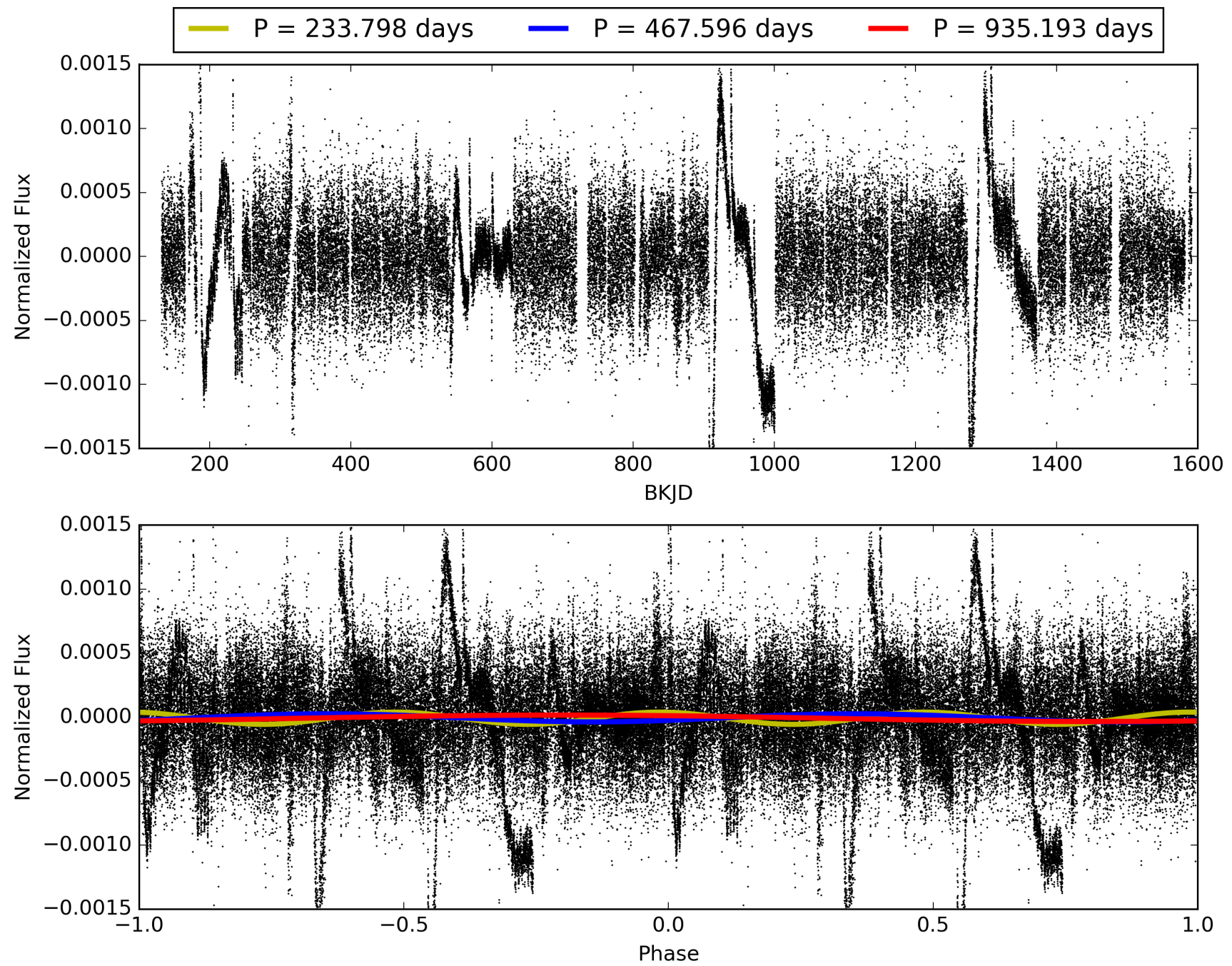
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 66.7%
Bootstrap-pfa: 7.61e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5305
Centroid-sig: 0.2%
Centroid-so: 0.282 arcsec [1.10 σ]
OotOffset-rm: 0.662 arcsec [0.98 σ]
KicOffset-rm: 1.057 arcsec [0.66 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008028908-01, PDC Light Curves

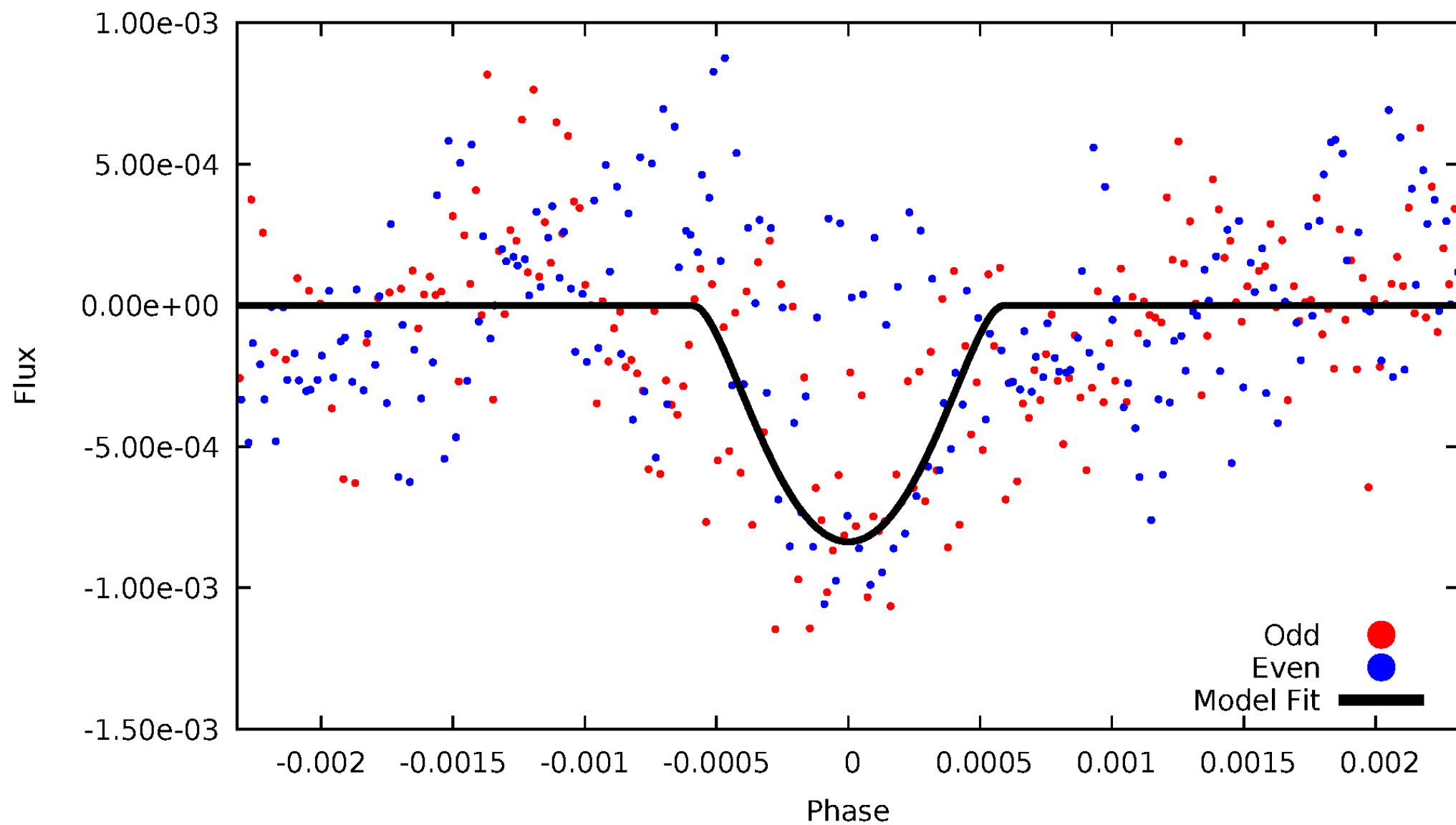


TCE 008028908-01



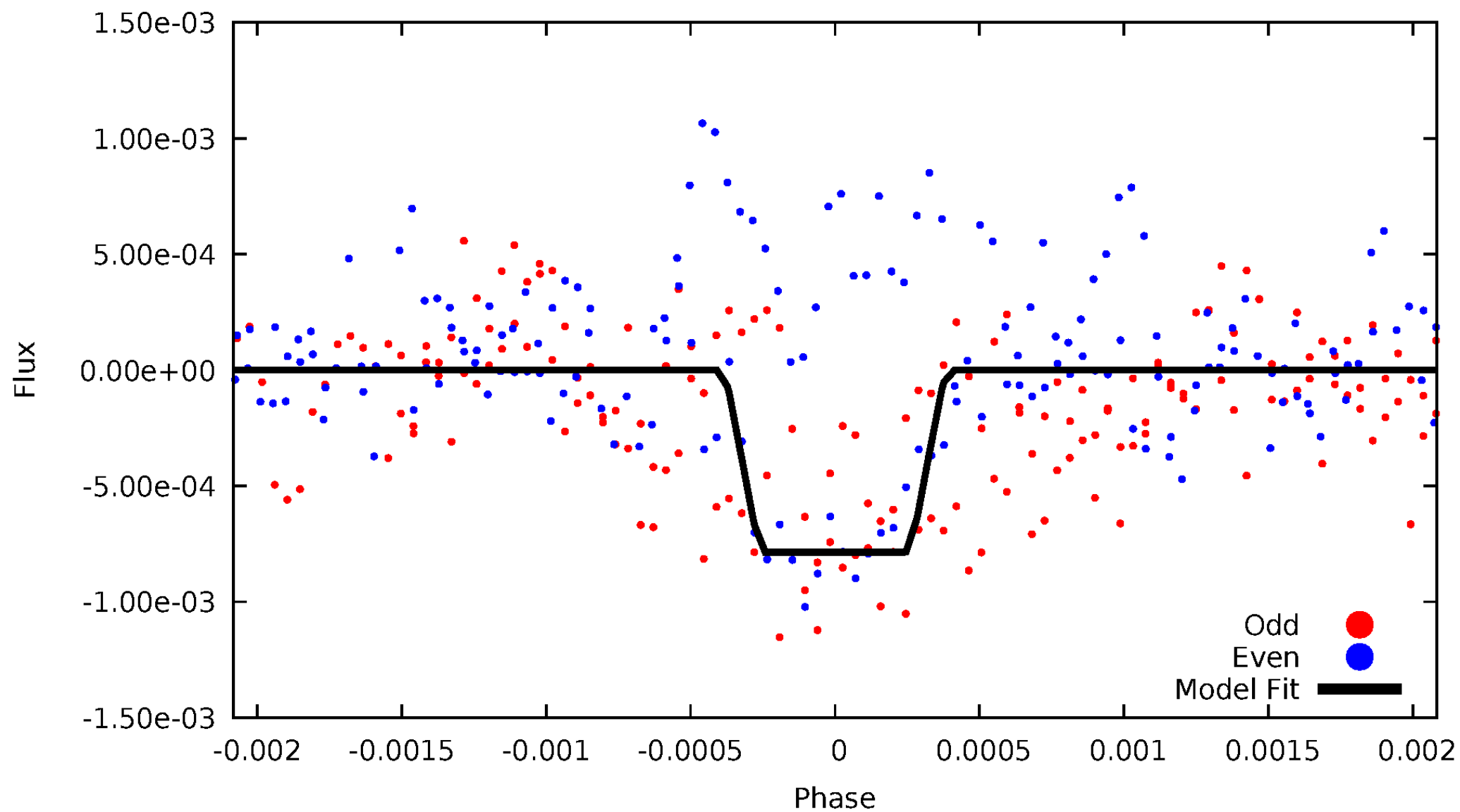
DV Odd/Even

TCE 008028908-01



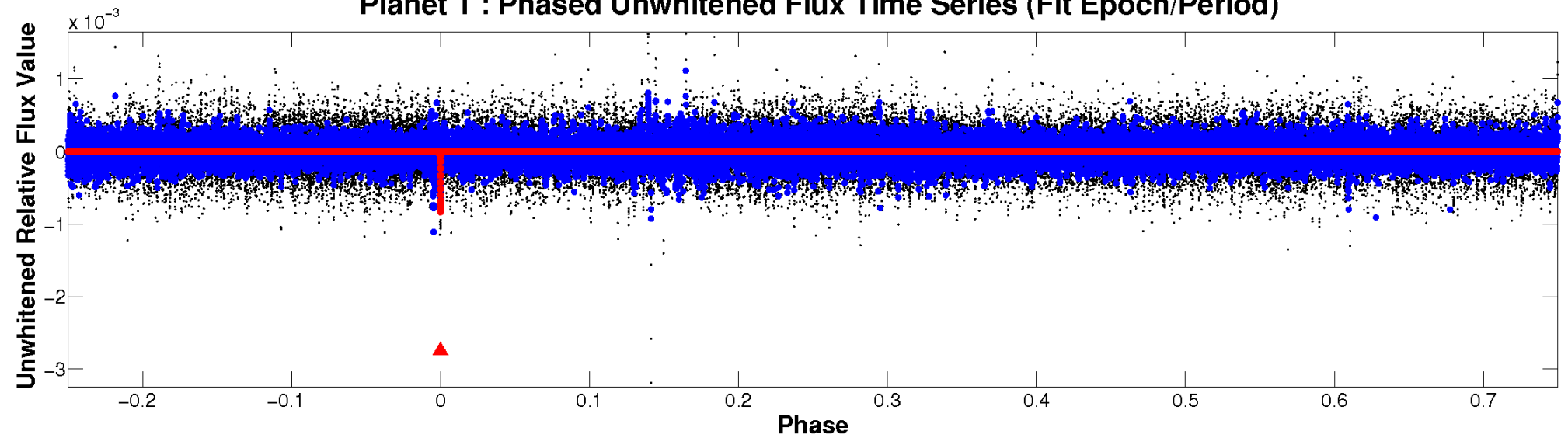
ALT Odd/Even

TCE 008028908-01

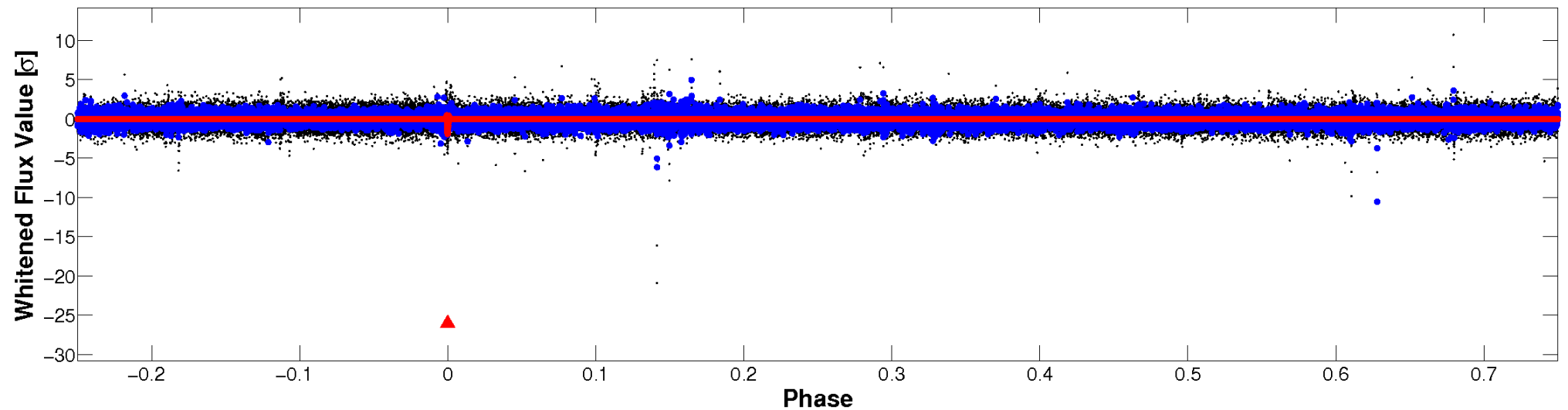


Non-Whitened Vs. Whitened Light Curve

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

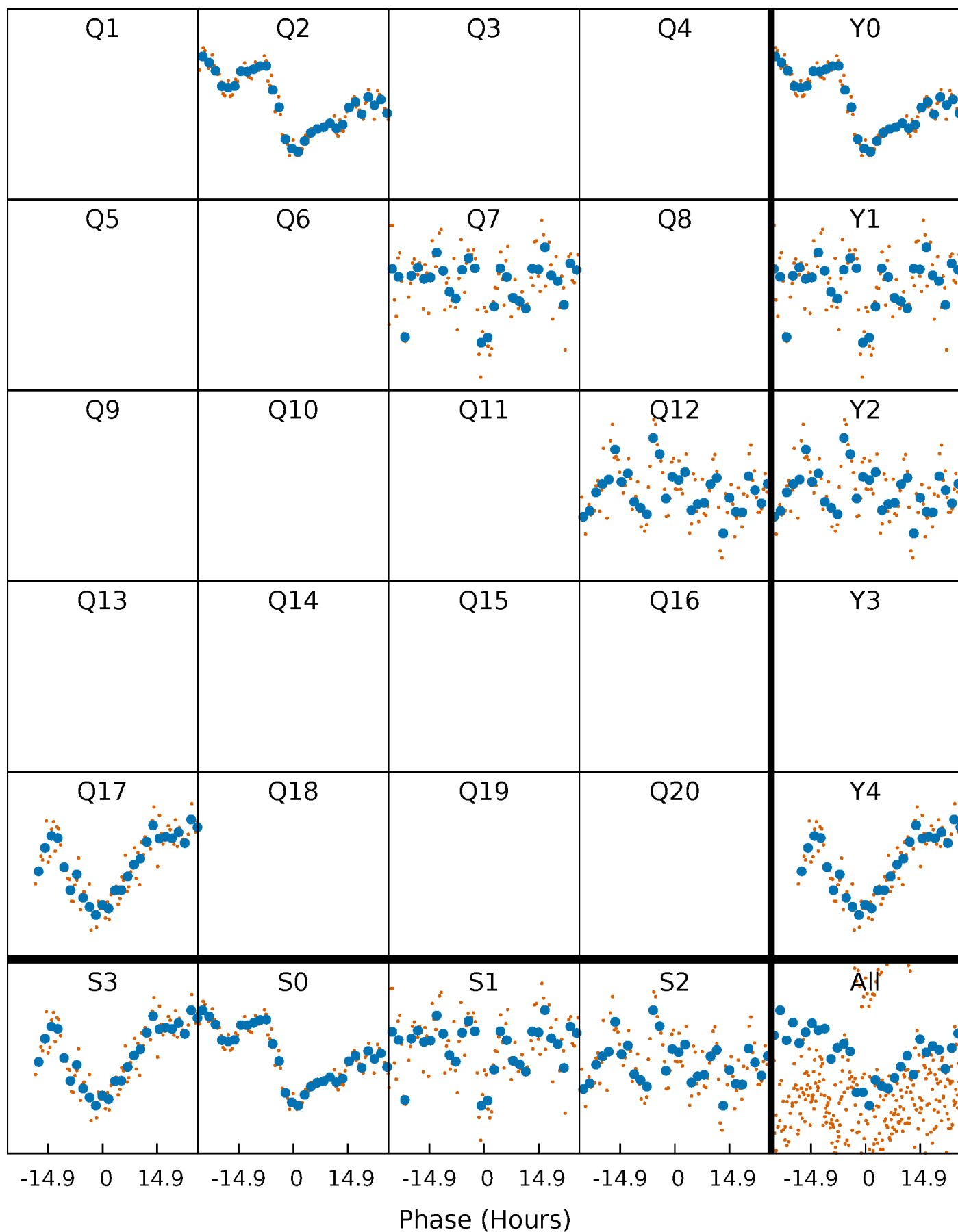


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



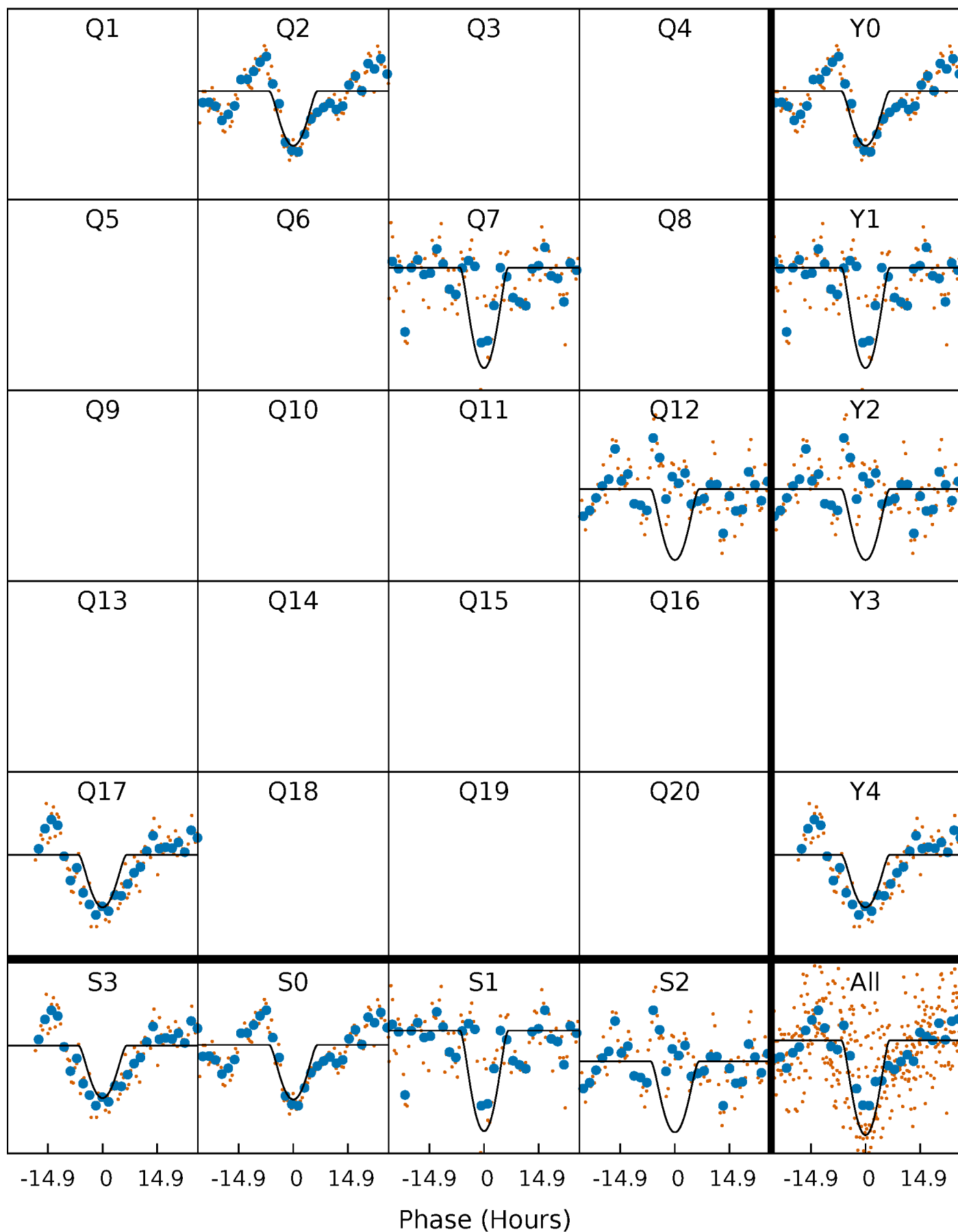
PDC Quarter-Phased Transit Curves

TCE 008028908-01 P=467.596450 Days $T_0=184.806384$ (BKJD)



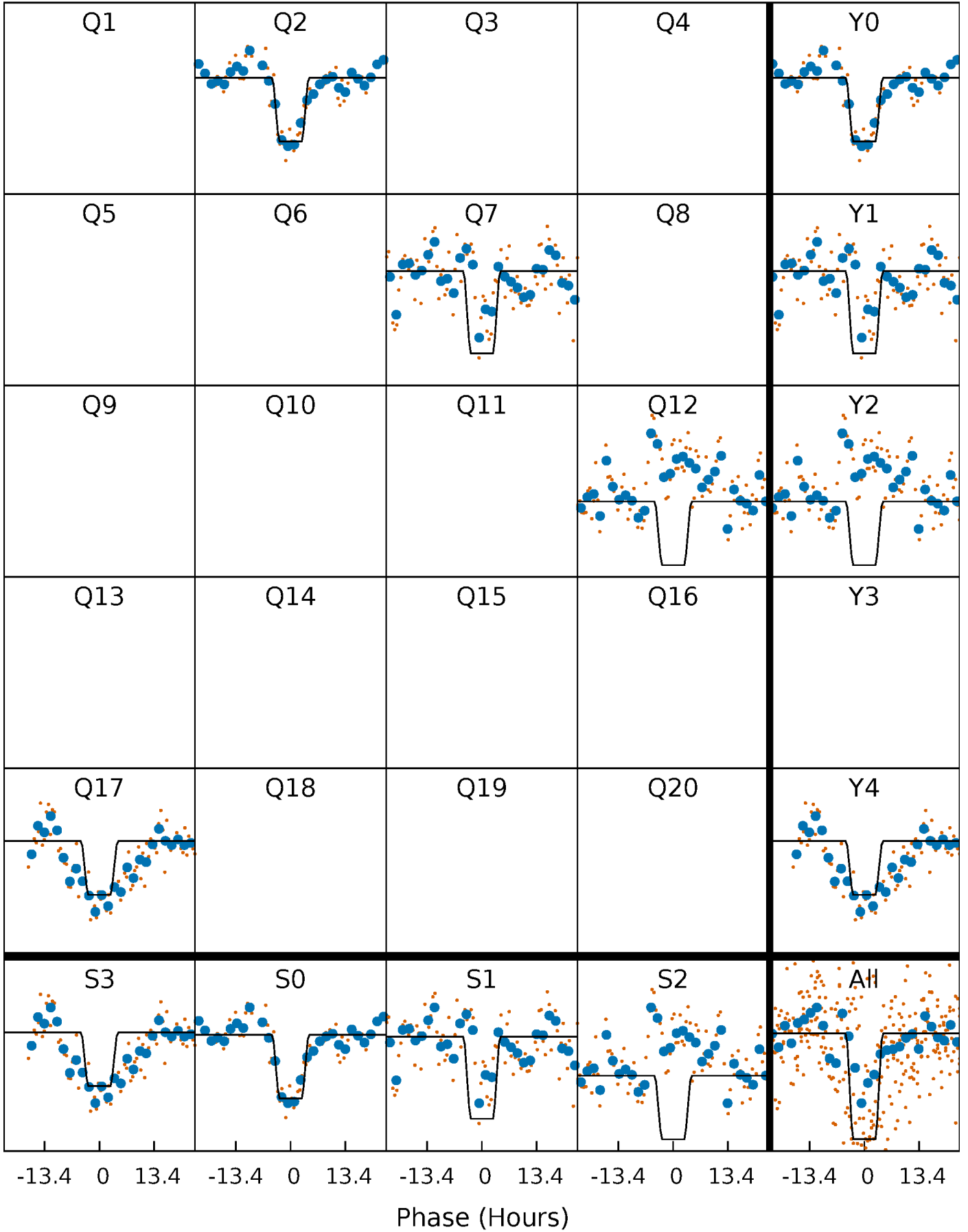
DV Quarter-Phased Transit Curves

TCE 008028908-01 P=467.596450 Days $T_0=184.806384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

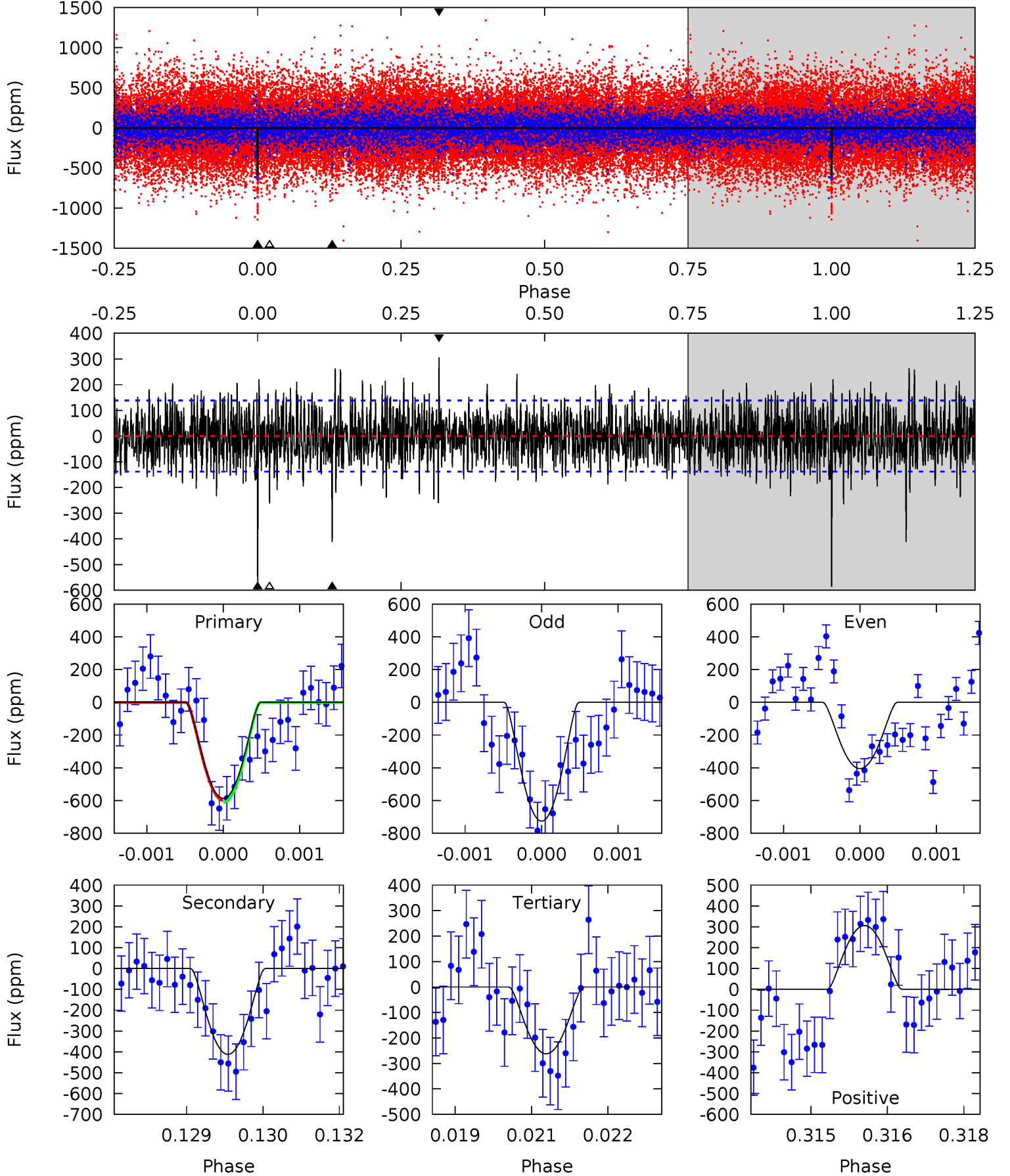
TCE 008028908-01 $P=467.581154$ Days $T_0=184.812617$ (BKJD)



DV Model-Shift Uniqueness Test

008028908-01, P = 467.596450 Days, E = 184.806384 Days

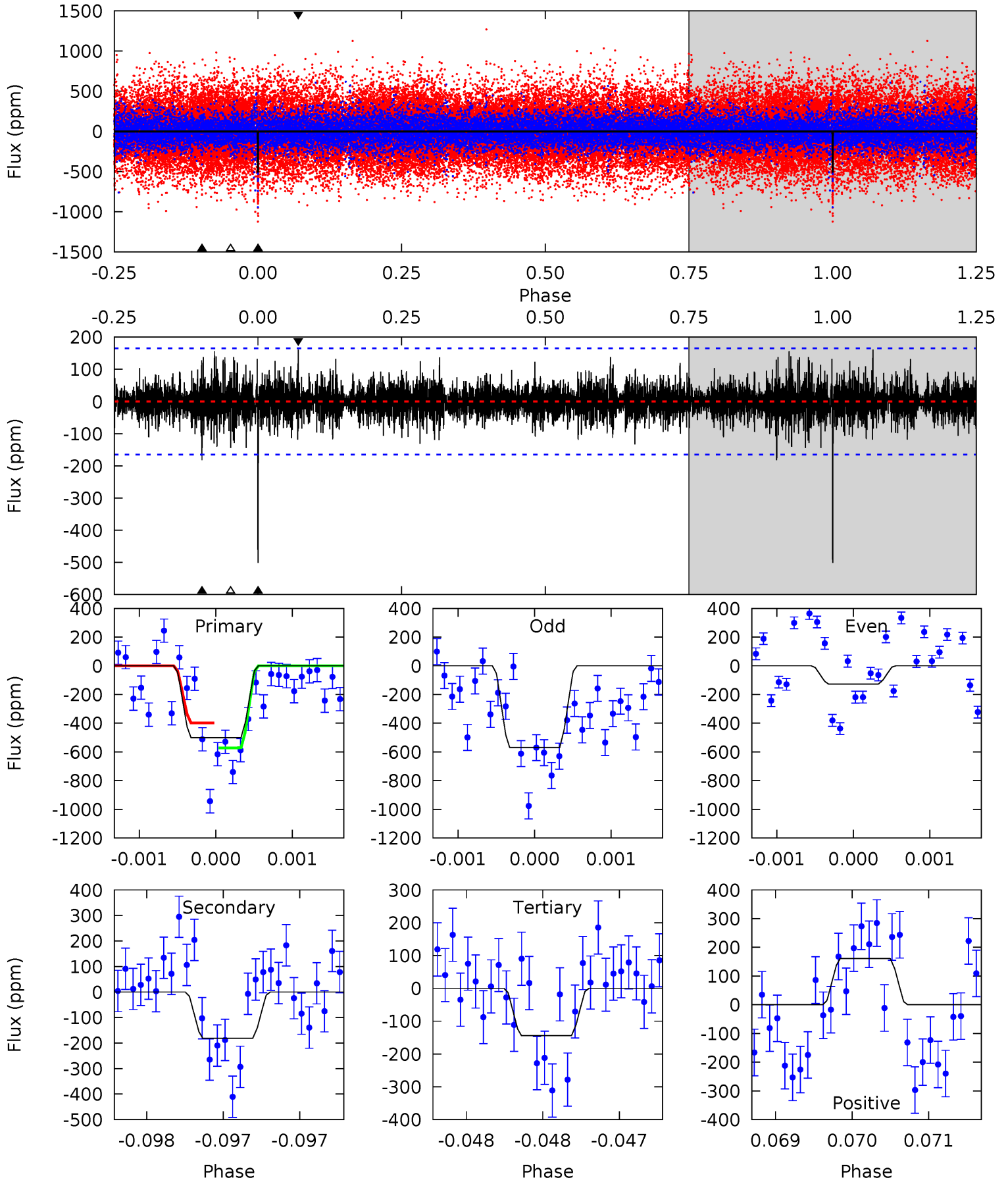
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.0	16.1	10.3	12.0	5.42	3.24	2.98	12.7	11.0	5.87	4.16	6.32	0.85	0.34	0.26



Alt Model-Shift Uniqueness Test

008028908-01, P = 467.581154 Days, E = 184.812617 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	6.06	4.81	5.38	5.50	3.37	1.24	11.9	11.3	1.25	0.68	7.72	0.69	0.24	2.93



Stellar Parameters For KIC 008028908

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4794^{+86}_{-43}	$3.075^{+0.024}_{-0.035}$	$-0.120^{+0.100}_{-0.100}$	$4.574^{+0.695}_{-0.116}$	$0.907^{+0.264}_{-0.014}$	$0.013^{+0.001}_{-0.003}$
	+2%/-1%	+1%/-1%	+83%/-83%	+15%/-3%	+29%/-2%	+7%/-19%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 008028908-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-412 ± 26	$27.28^{+20.30}_{-17.63}$	595^{+13}_{-10}	3393^{+1488}_{-500}	405^{+2863}_{-274}
Alt.	-182 ± 30	$21.66^{+19.13}_{-14.21}$	592^{+13}_{-9}	3208^{+1415}_{-520}	278^{+1994}_{-201}

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

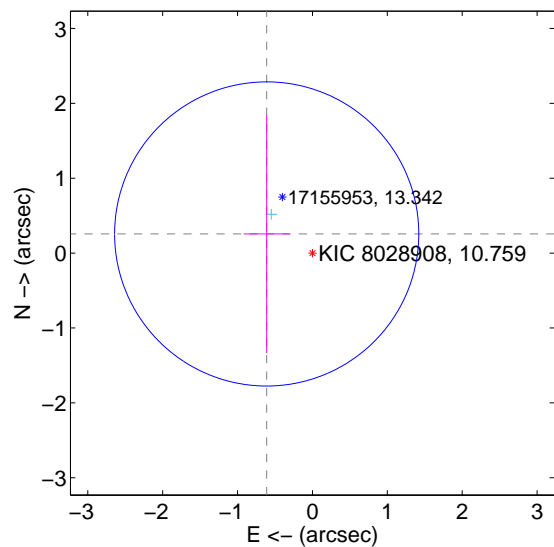
Supplemental centroid analysis for 008028908-01. **Kepler magnitude: 10.76.** Transit SNR 13.82

There are 1 quarters with good PRF difference image offsets

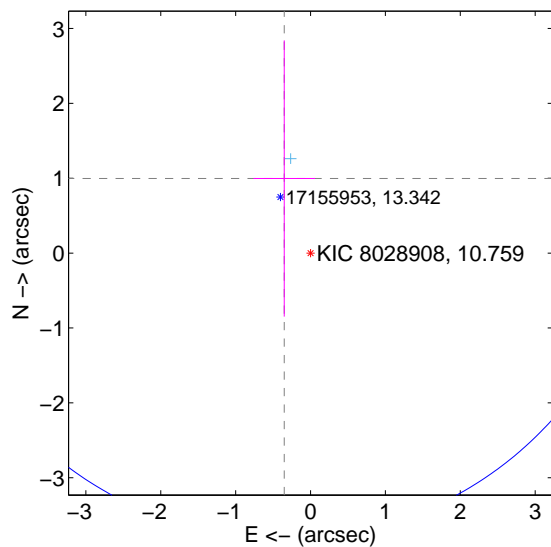
The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.662 ± 0.677	0.98	0.611 ± 0.308	0.256 ± 1.591
PRF-fit source offset from KIC position	1.057 ± 1.605	0.66	0.351 ± 0.412	0.997 ± 1.844
photometric centroid source offset	0.28 ± 0.26	1.10	0.27 ± 0.26	0.10 ± 0.27

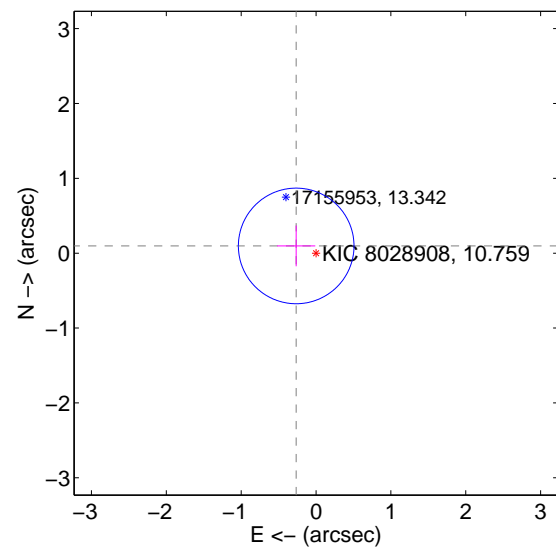
offset from difference PRF-fit to OOT PRF-fit



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.

Q5 no difference image



Q5 no OOT image



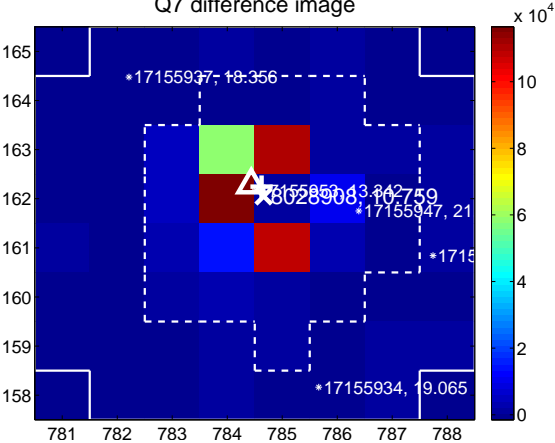
Q6 no difference image



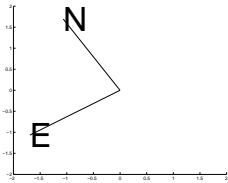
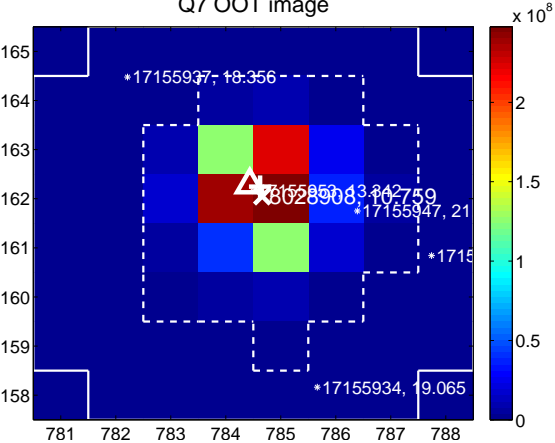
Q6 no OOT image



Q7 difference image



Q7 OOT image



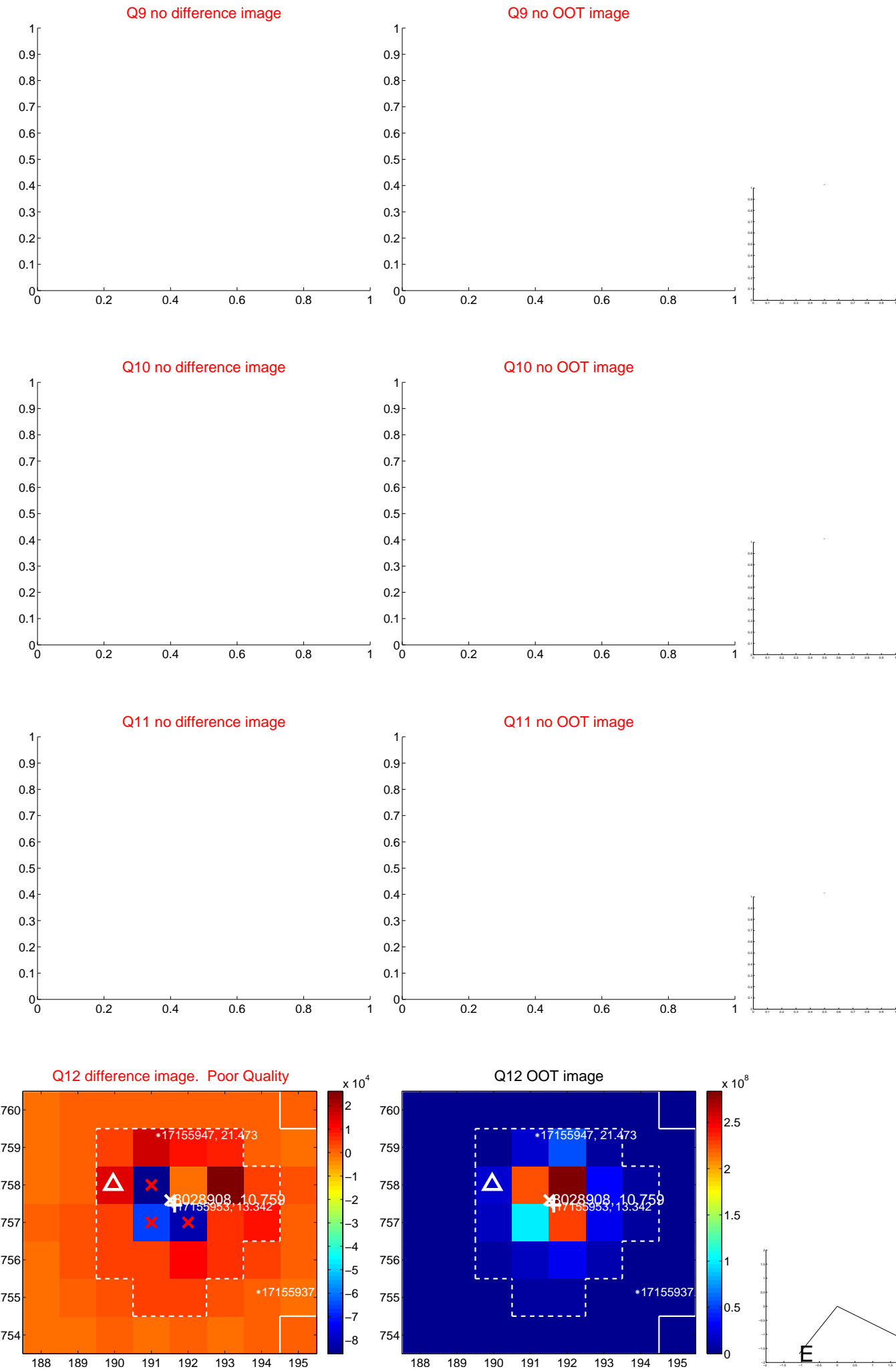
Q8 no difference image



Q8 no OOT image



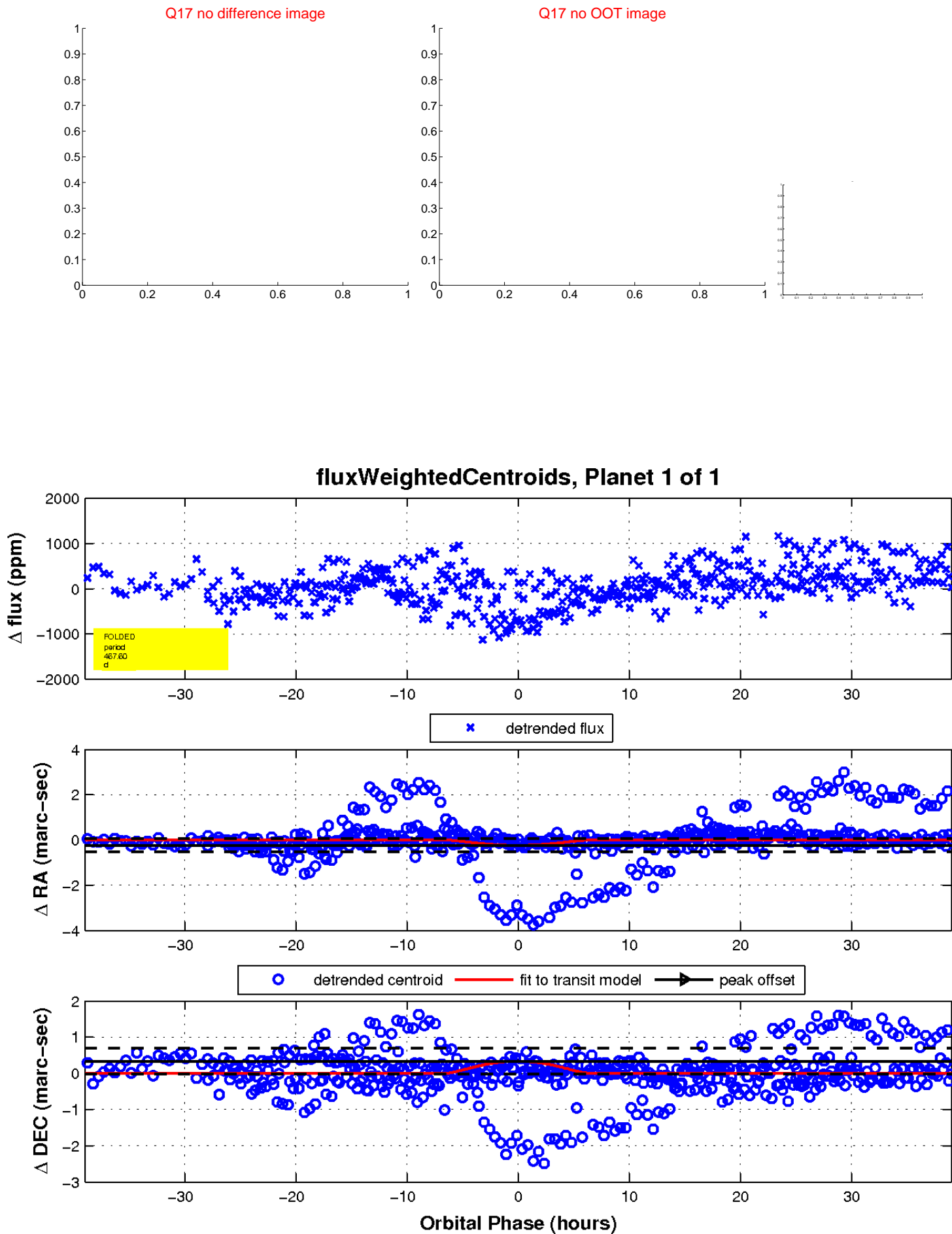
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

