

KIC 008374580

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})
008374580-01	OBS	0615.01	176.243320	192.503231	4769.5	5.029	97.8	83.8	1.23	5559	15.83	3.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008374580-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—CENT_UNRESOLVED_OFFSET

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.

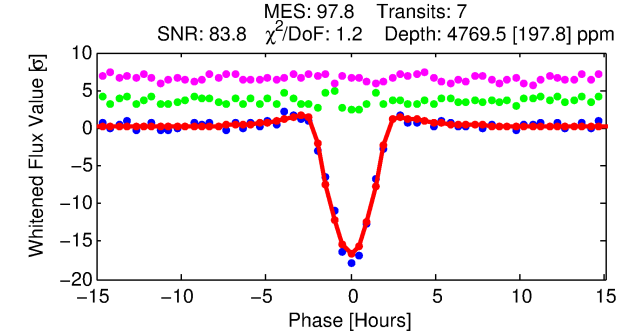
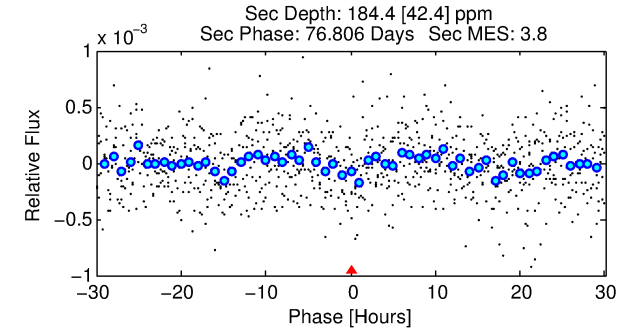
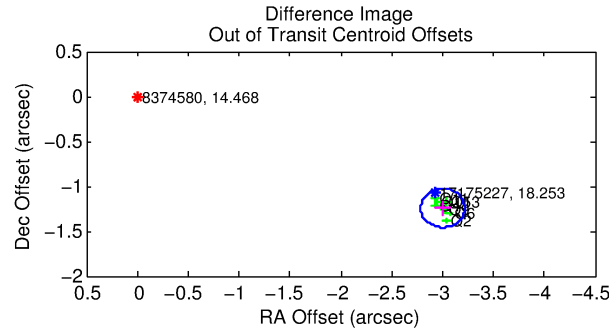
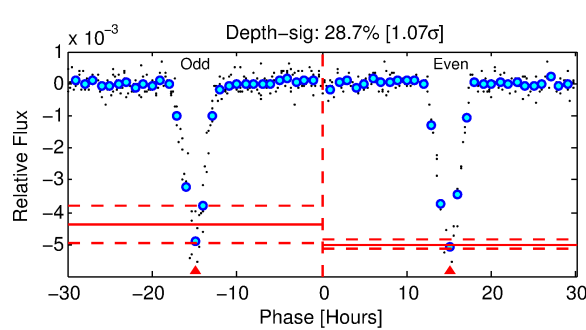
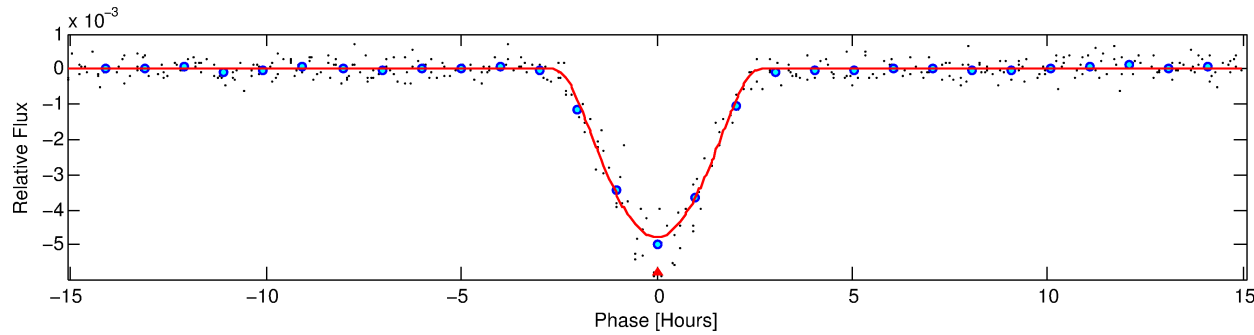
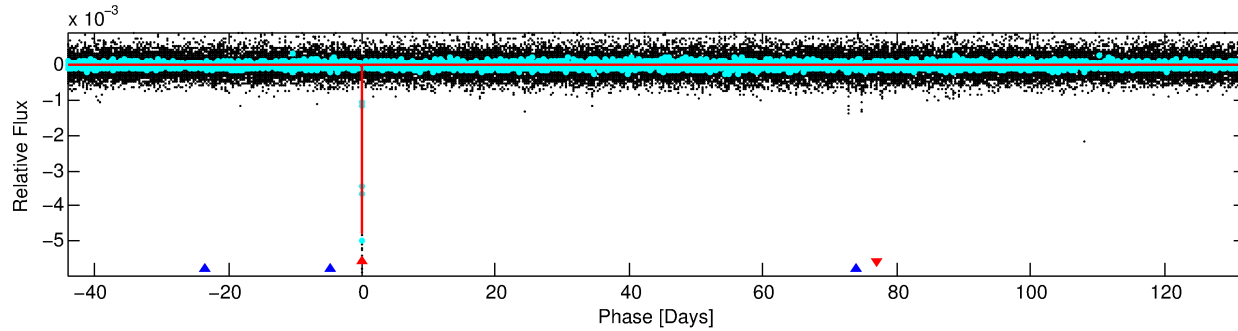
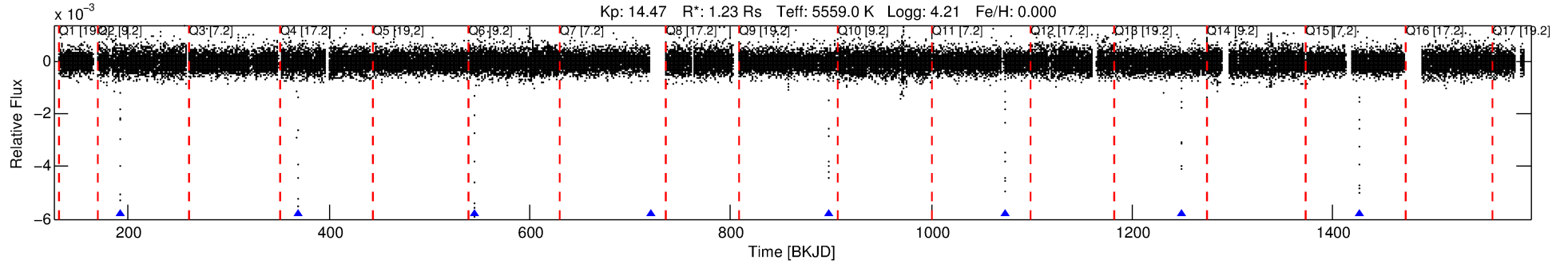
Ephemeris Match Information For 008374580-01

No Significant Match Found

DV One-Page Summary

KIC: 8374580 Candidate: 1 of 2 Period: 176.243 d

KOI: K00615.01 Corr: 1.000



DV Fit Results:

Period = 176.24332 [0.00031] d
Epoch = 192.5032 [0.0014] BKJD
Rp/R* = 0.1178 [0.0698]
a/R* = 134.19 [14.45]
b = 1.00 [0.10]
Seff = 3.69 [1.28]
Teq = 353 [31] K
Rp = 15.83 [9.94] Re
a = 0.5928 [0.1222] AU
Ag = 142.31 [178.24] [0.79 σ]
Teff = 1887 [571] K [2.68 σ]

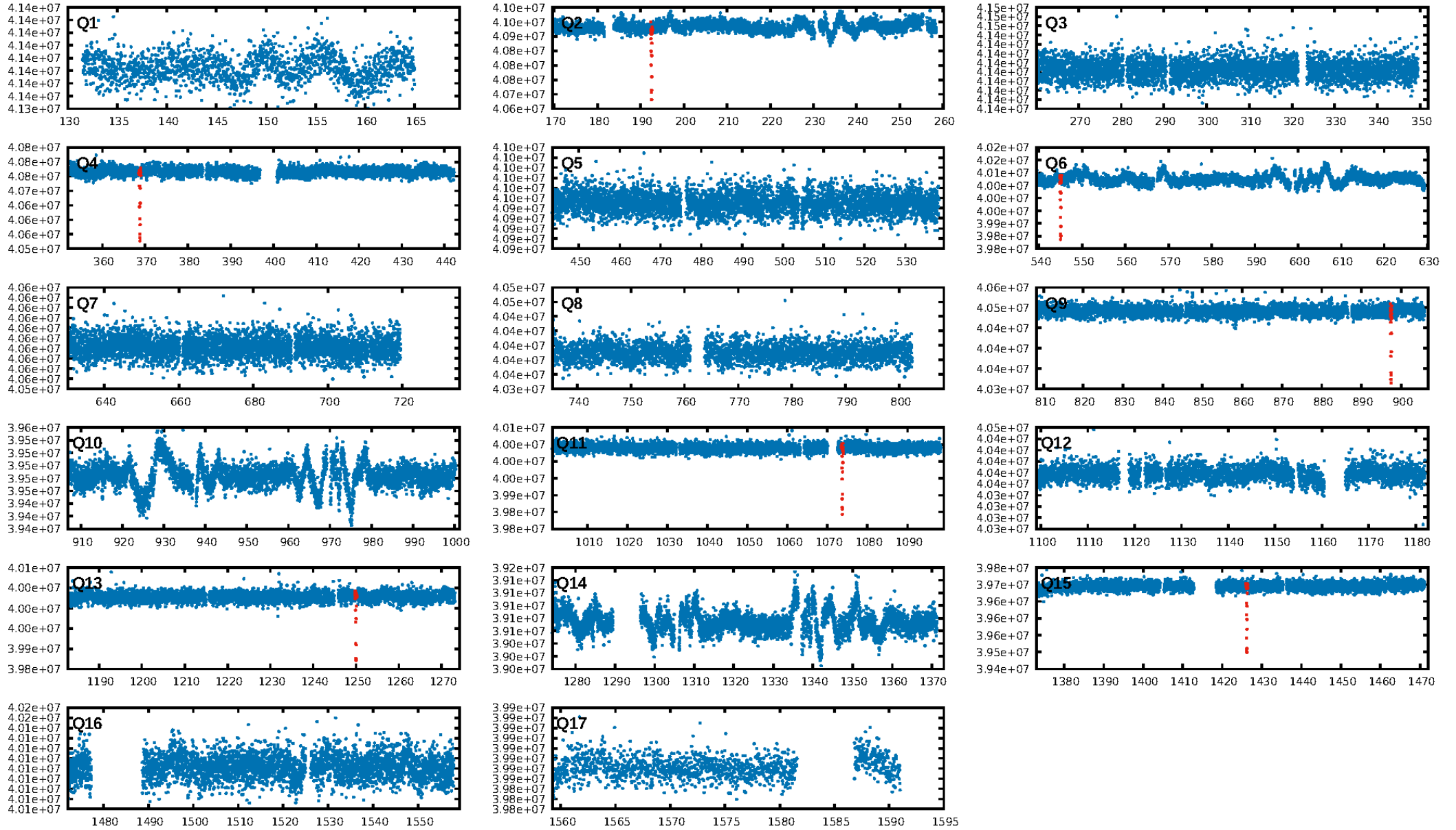
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [683.41 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 6.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.5647
Centroid-sig: 0.0%
Centroid-so: 4.935 arcsec [37.56 σ]
OotOffset-rm: 3.247 arcsec [45.01 σ]
KicOffset-rm: 3.230 arcsec [44.14 σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

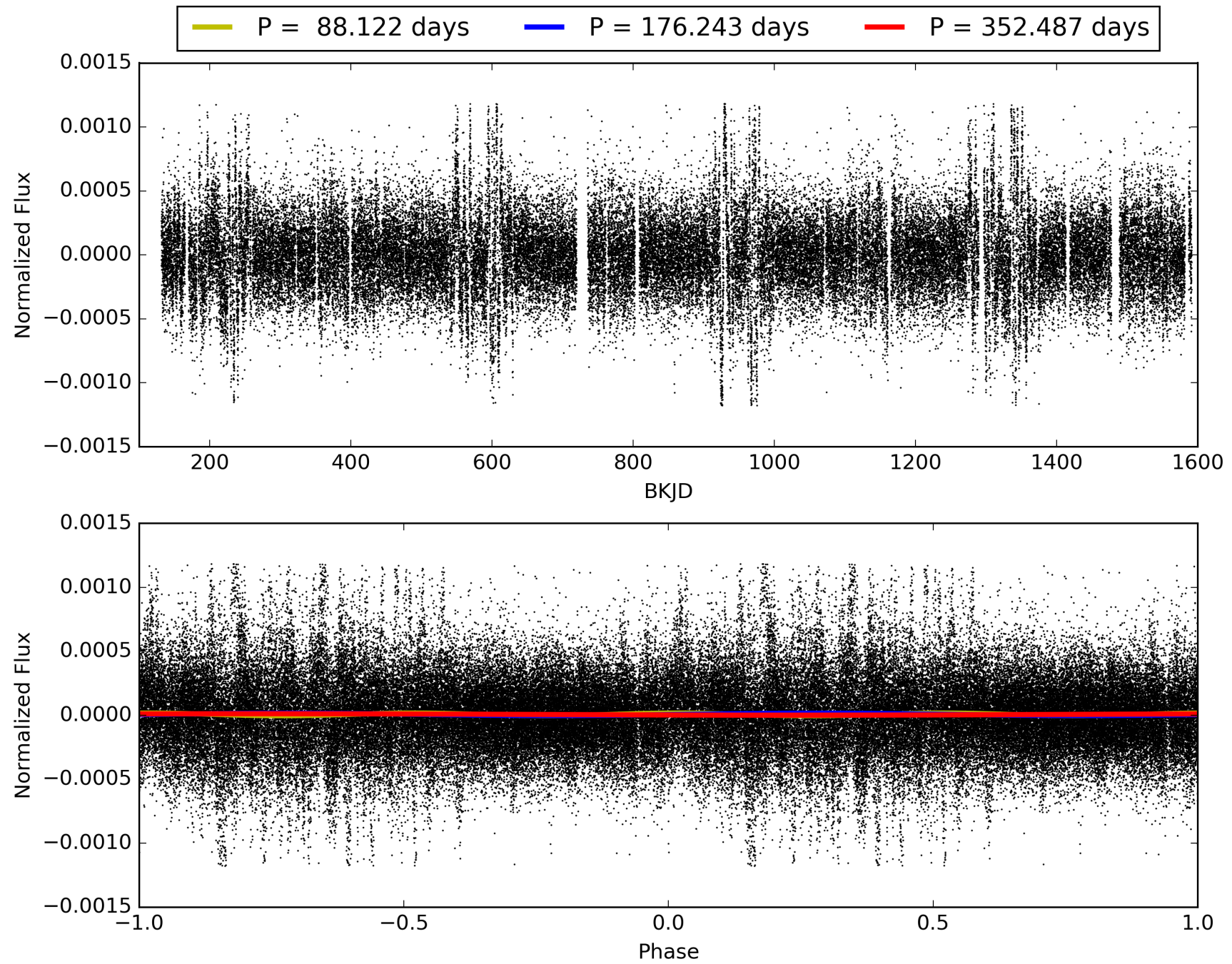
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:18:16 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008374580-01, PDC Light Curves

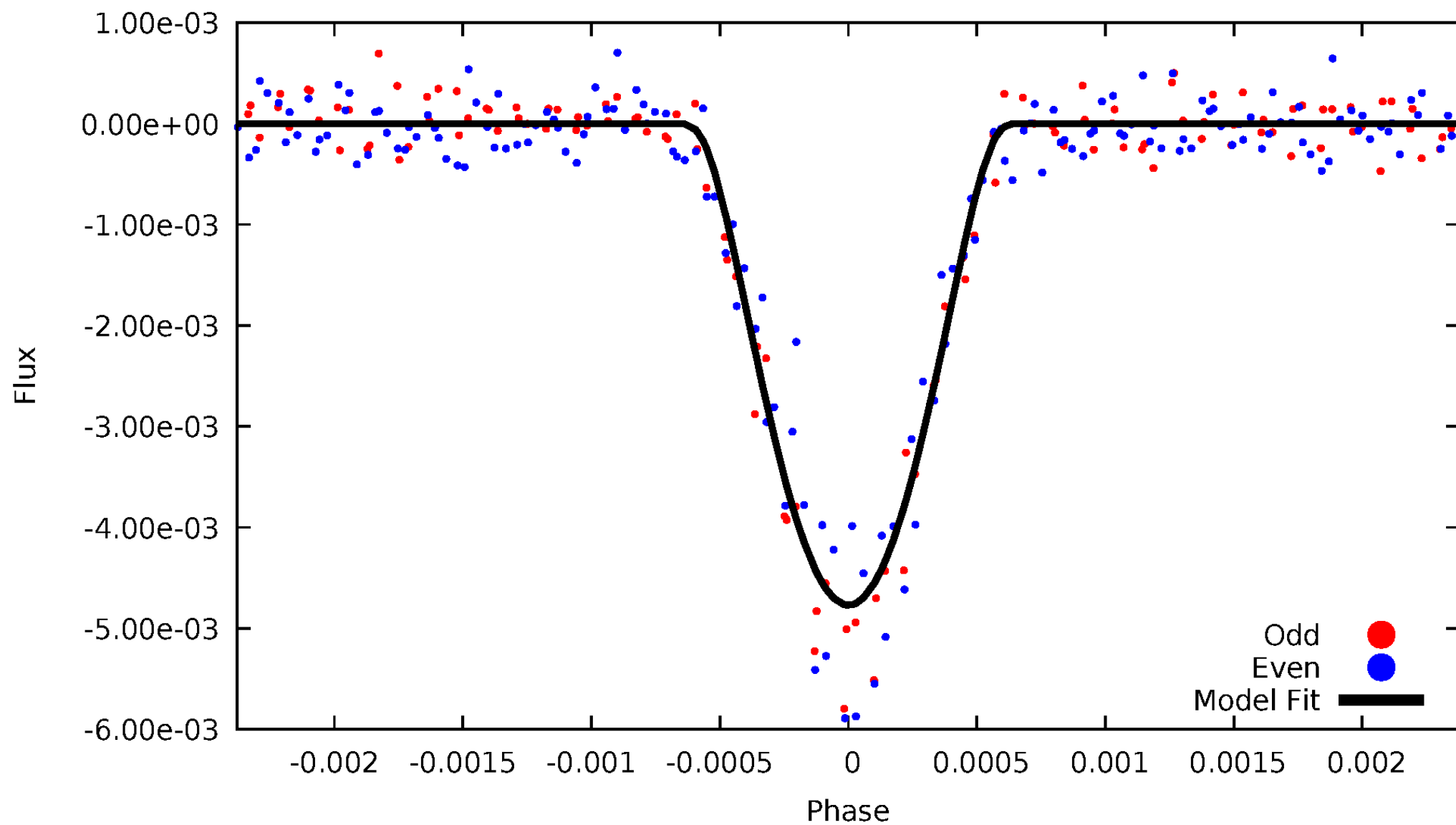


TCE 008374580-01



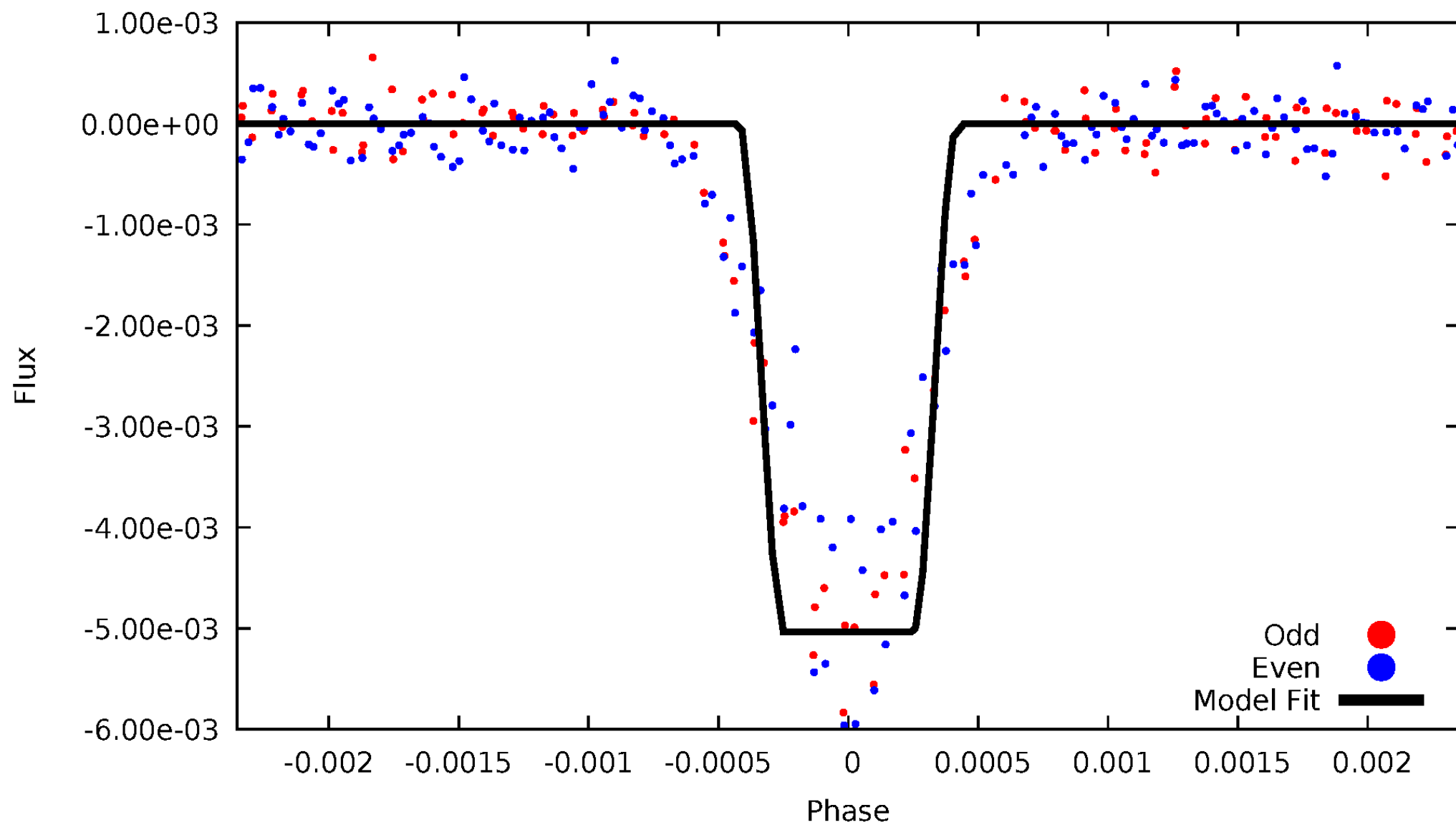
DV Odd/Even

TCE 008374580-01



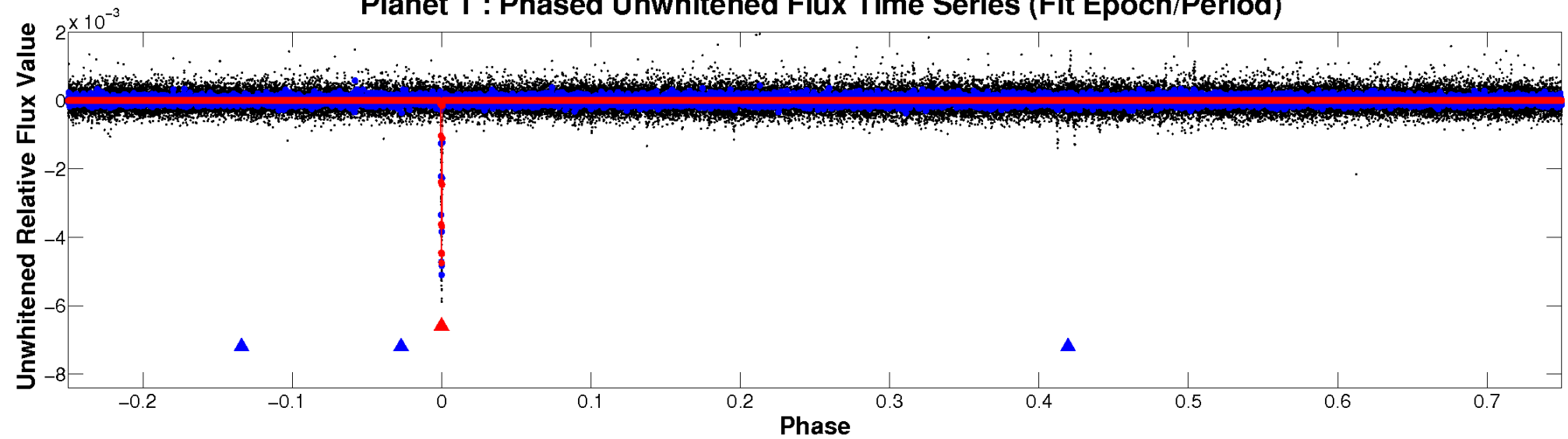
ALT Odd/Even

TCE 008374580-01

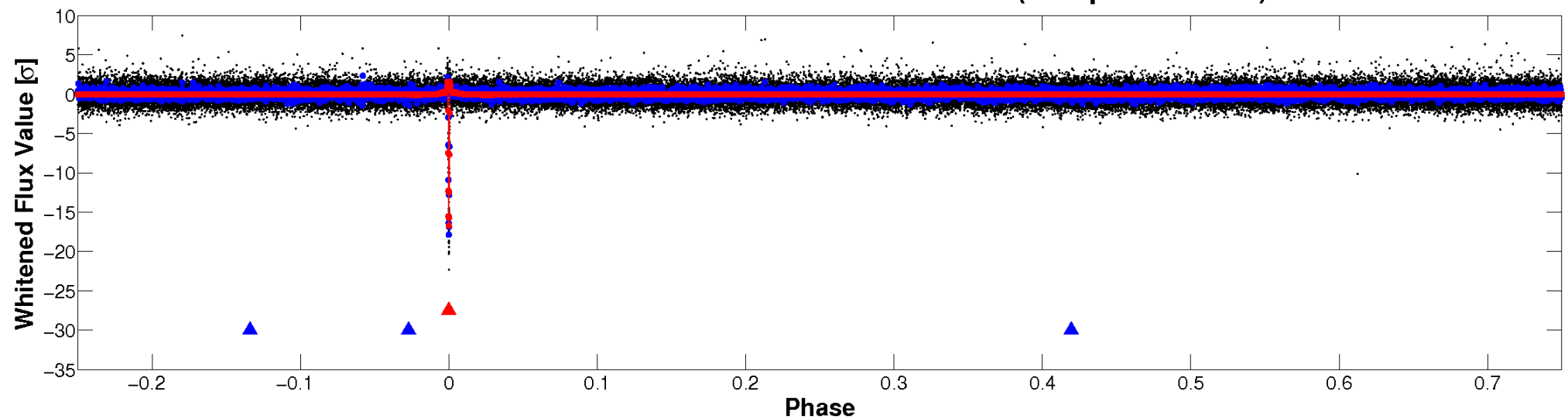


Non-Whitened Vs. Whitened Light Curve

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

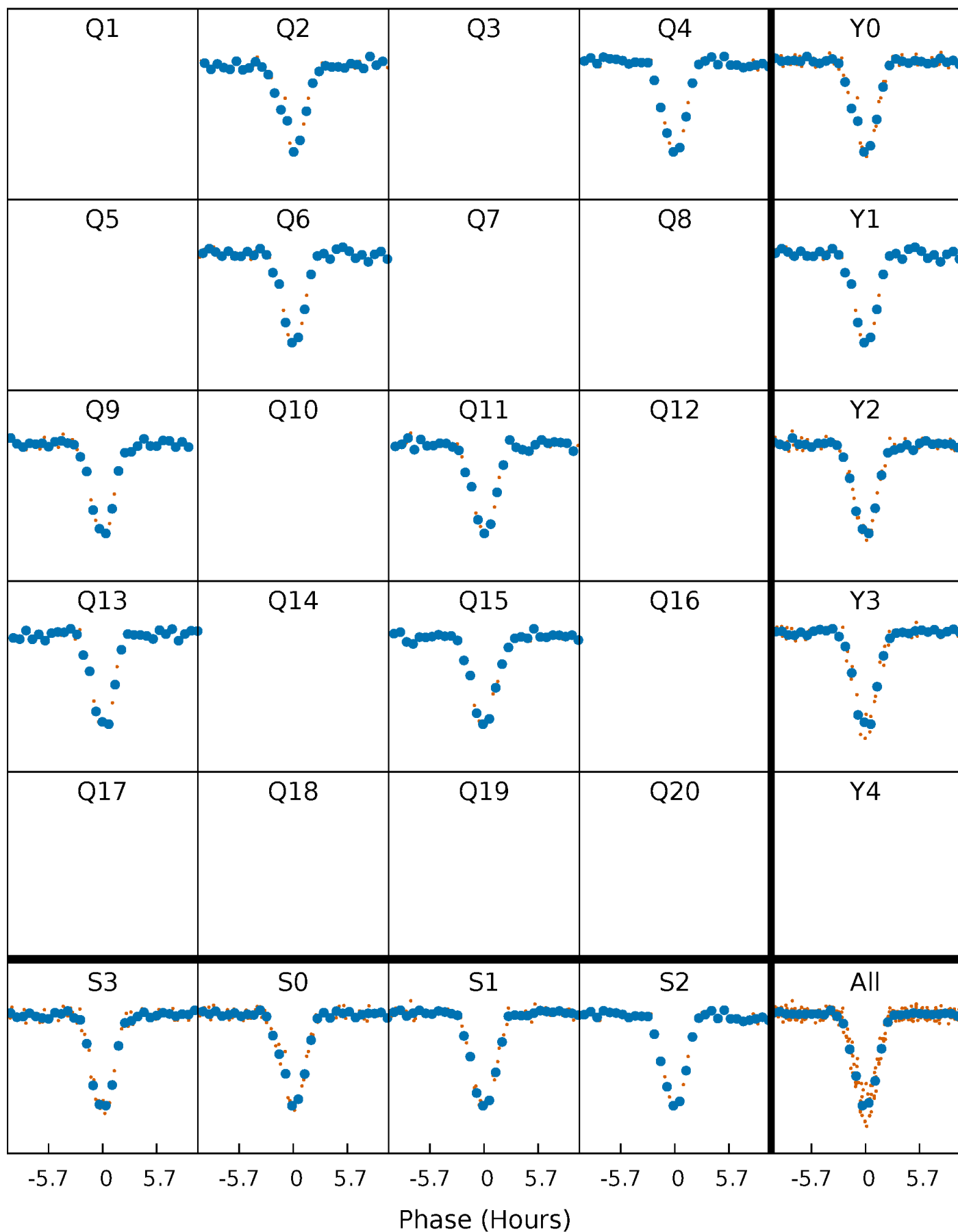


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



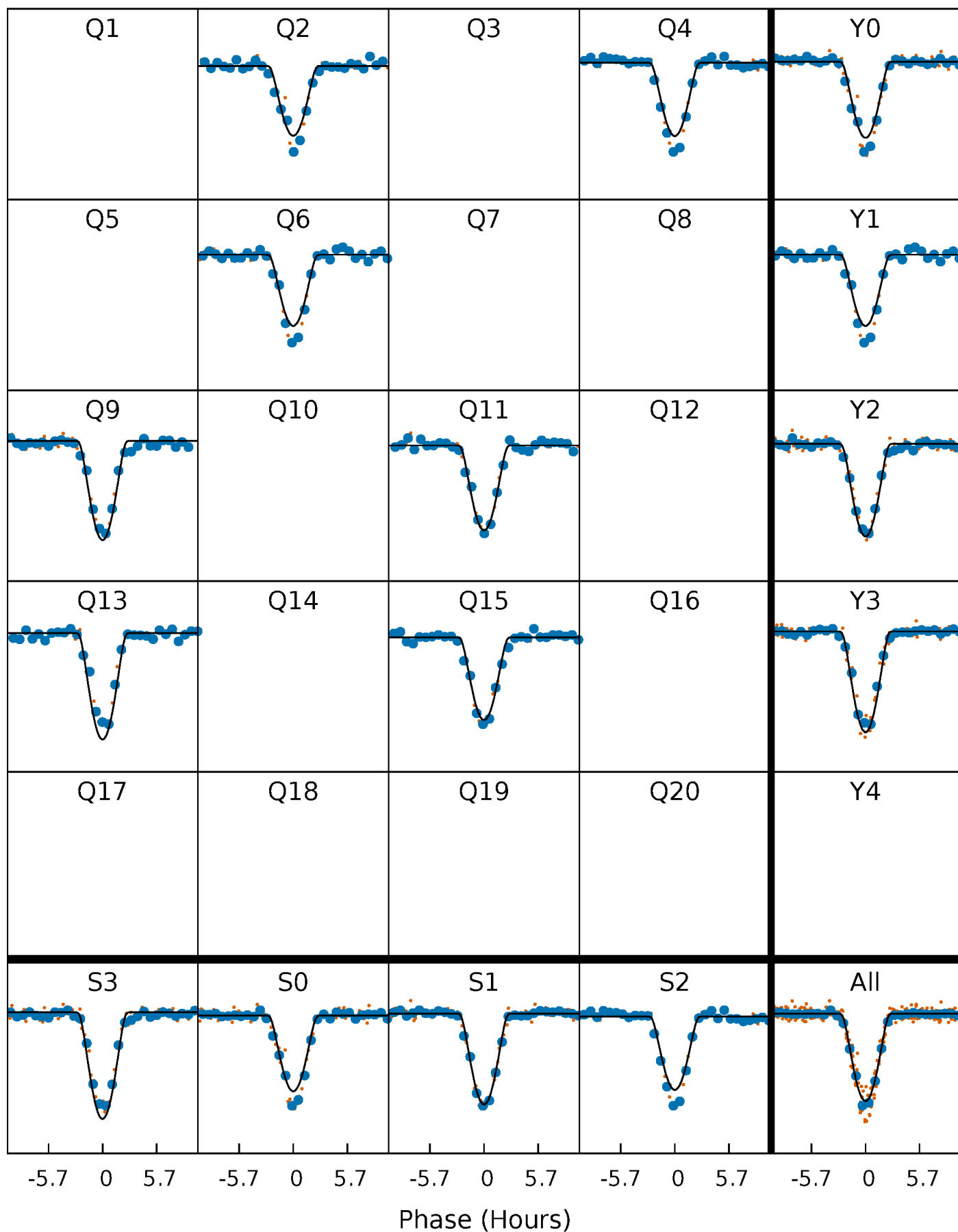
PDC Quarter-Phased Transit Curves

TCE 008374580-01 P=176.243320 Days $T_0=192.503231$ (BKJD)



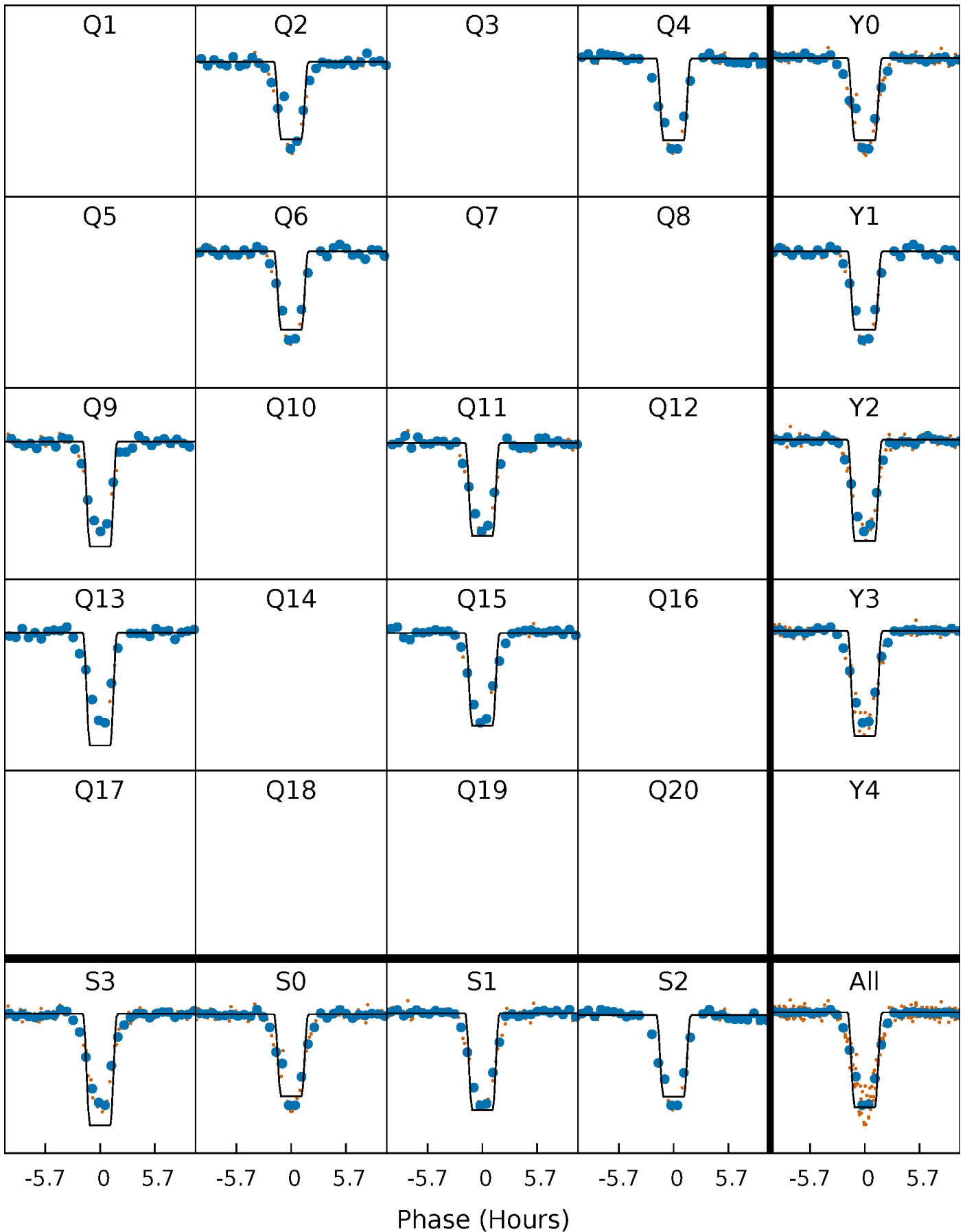
DV Quarter-Phased Transit Curves

TCE 008374580-01 P=176.243320 Days $T_0=192.503231$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

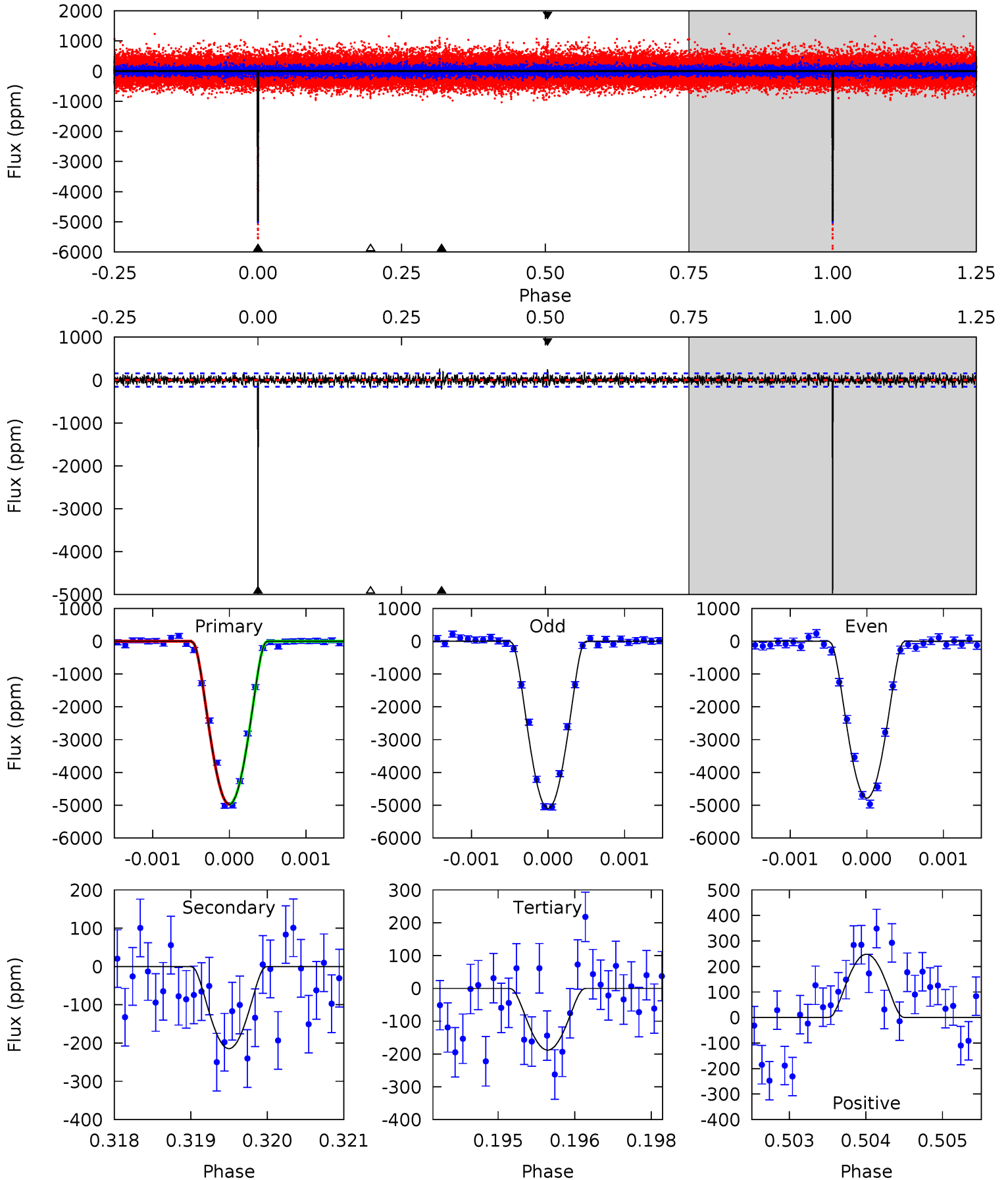
TCE 008374580-01 P=176.243420 Days $T_0=192.503500$ (BKJD)



DV Model-Shift Uniqueness Test

008374580-01, $P = 176.243320$ Days, $E = 16.259911$ Days

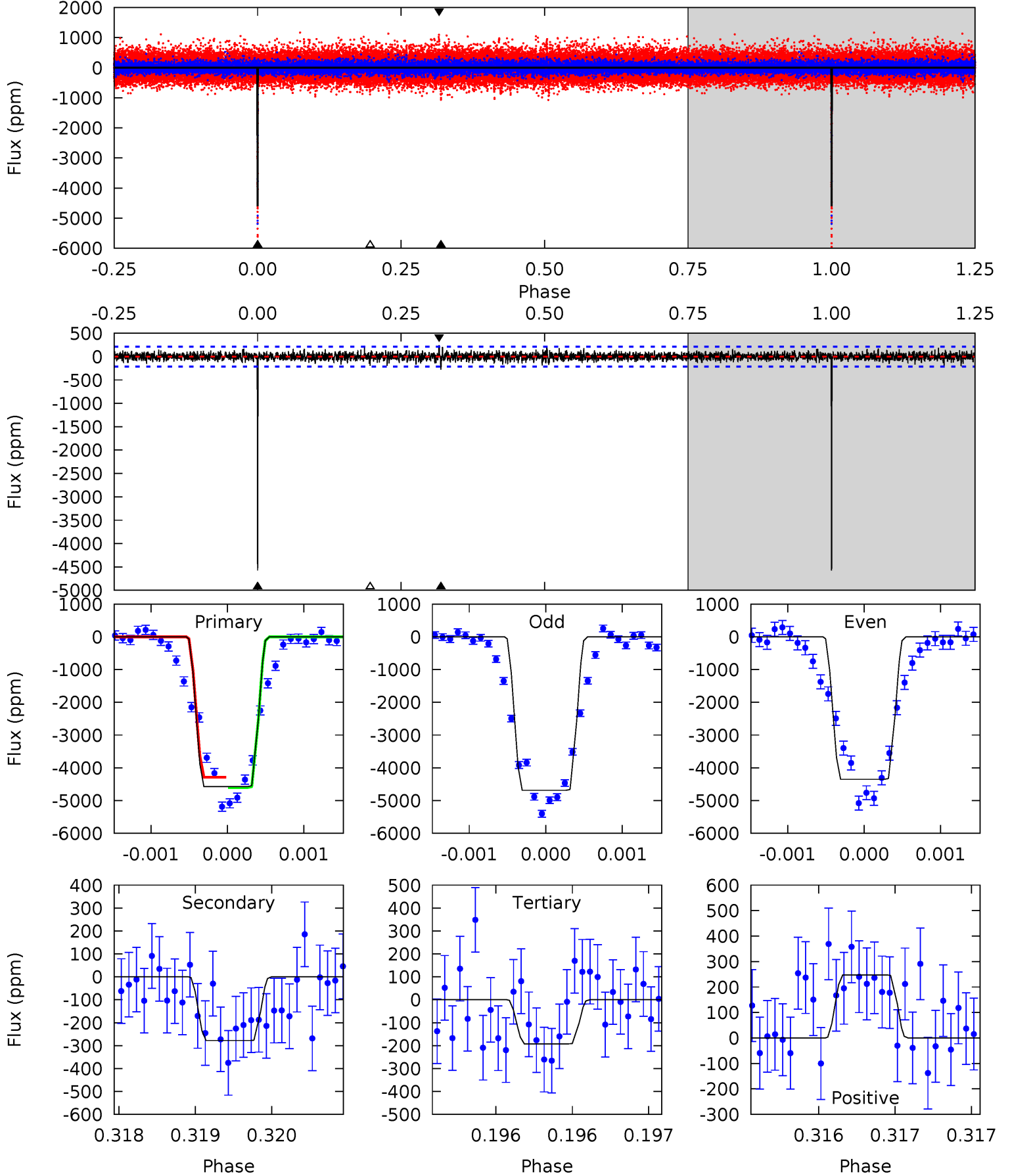
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
172.6	7.45	6.53	8.61	5.41	3.22	1.77	166.1	164.0	0.92	-1.17	5.41	1.00	0.05	0.31



Alt Model-Shift Uniqueness Test

008374580-01, $P = 176.243420$ Days, $E = 16.260080$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
117.9	7.17	4.96	6.38	5.49	3.35	1.27	113.0	111.5	2.21	0.79	4.46	1.01	0.05	3.94



Stellar Parameters For KIC 008374580

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5559^{+122}_{-78}	$4.209^{+0.198}_{-0.115}$	$0.000^{+0.150}_{-0.150}$	$1.231^{+0.210}_{-0.257}$	$0.895^{+0.080}_{-0.037}$	$0.676^{+0.720}_{-0.242}$
	+2%/-1%	+5%/-3%	+inf%/-inf%	+17%/-21%	+9%/-4%	+106%/-36%
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 008374580-01 / KOI 0615.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-215 ± 29	$15.84^{+9.41}_{-7.68}$	492^{+26}_{-32}	2717^{+562}_{-306}	165^{+446}_{-102}
Alt.	-278 ± 39	$10.98^{+8.67}_{-6.69}$	492^{+26}_{-29}	3102^{+1136}_{-436}	428^{+2481}_{-291}

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

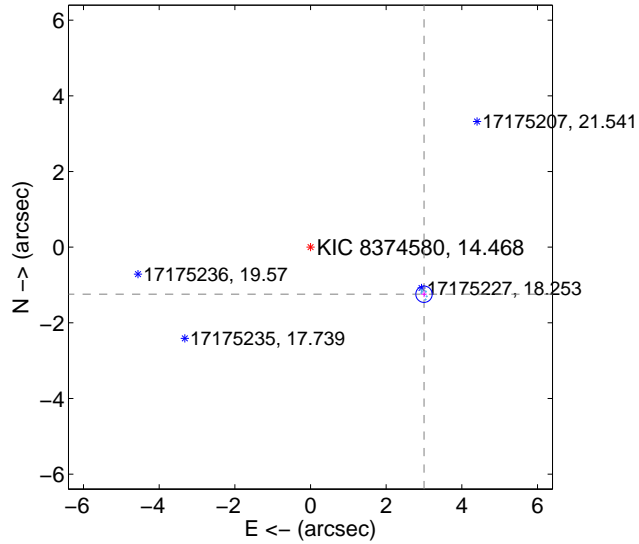
Supplemental centroid analysis for 008374580-01. Kepler magnitude: 14.47. Transit SNR 83.80

There are 7 quarters with good PRF difference image offsets

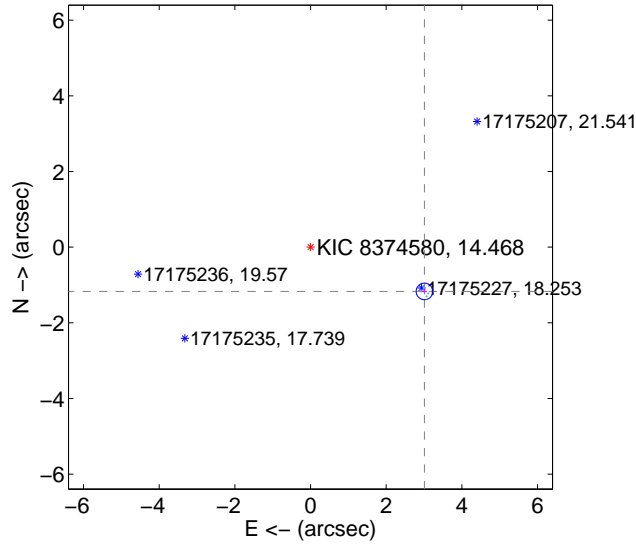
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.247 ± 0.072	45.01	-3.000 ± 0.071	-1.244 ± 0.077
PRF-fit source offset from KIC position	3.230 ± 0.073	44.14	-3.011 ± 0.073	-1.170 ± 0.076
photometric centroid source offset	4.94 ± 0.13	37.56	-4.65 ± 0.13	-1.64 ± 0.14

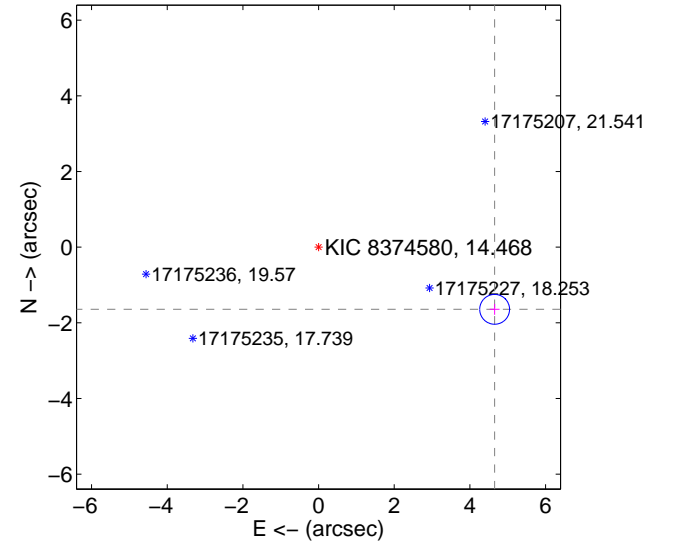
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

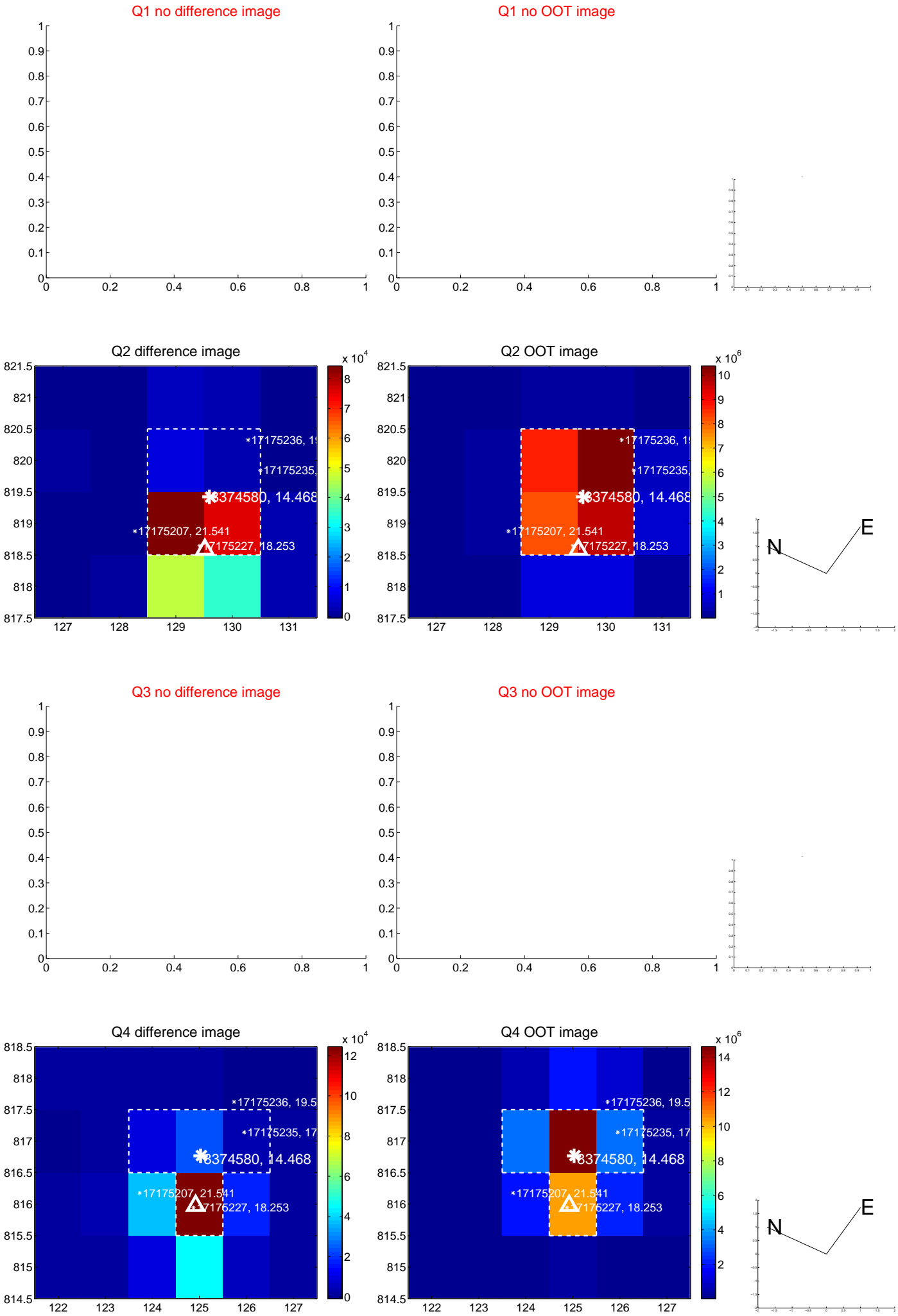


offset from photometric centroids

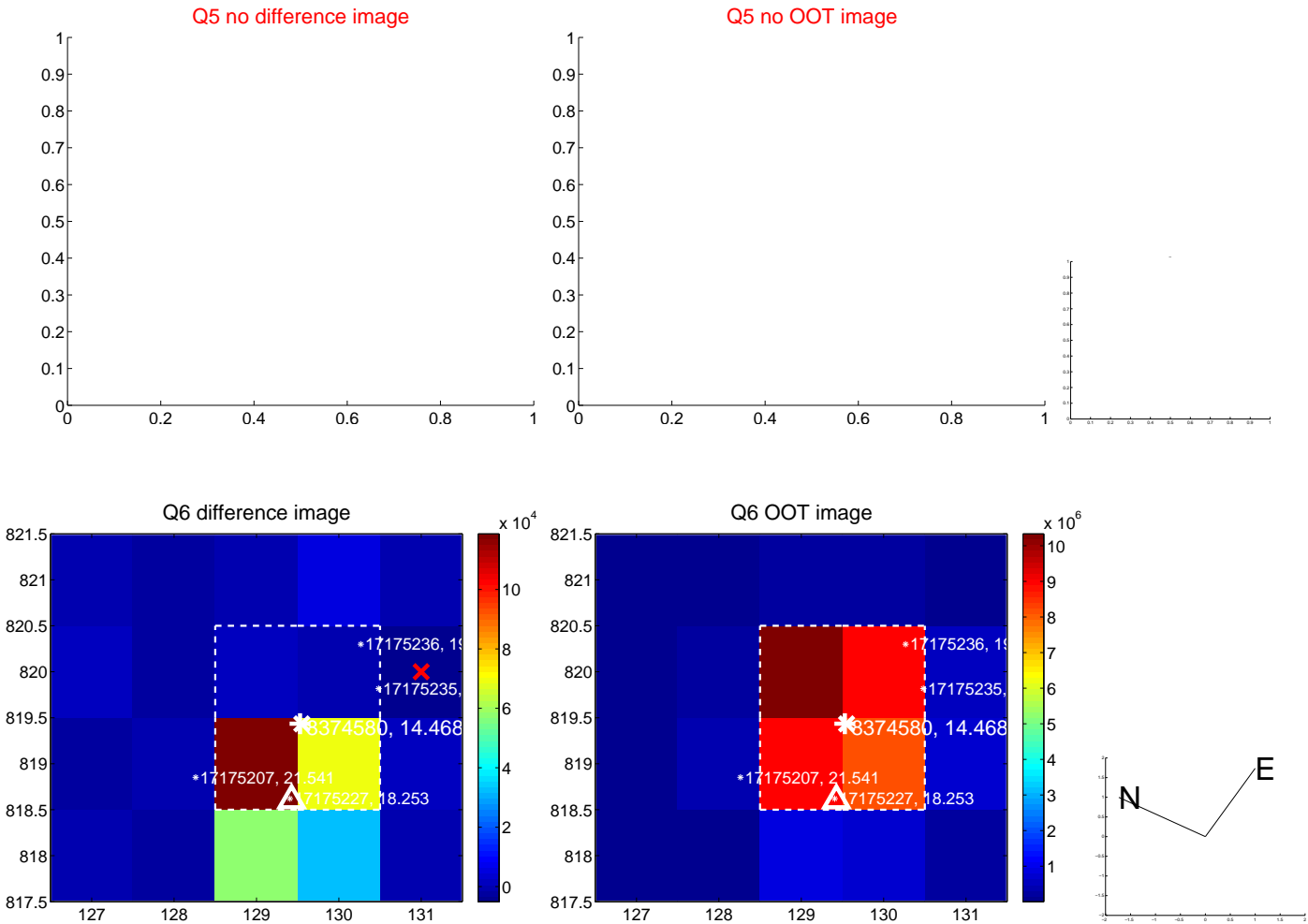


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

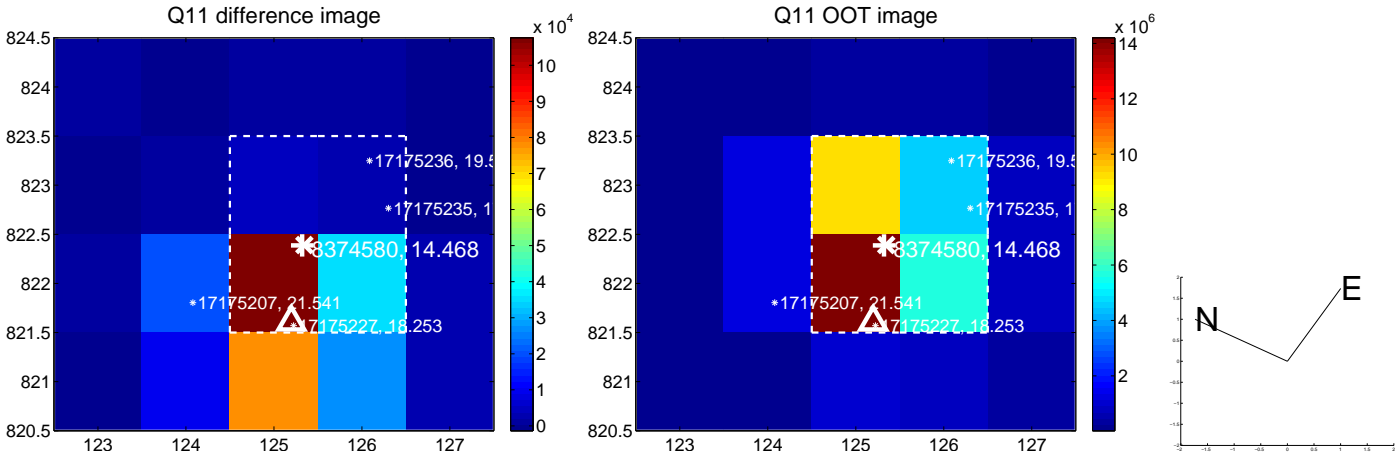
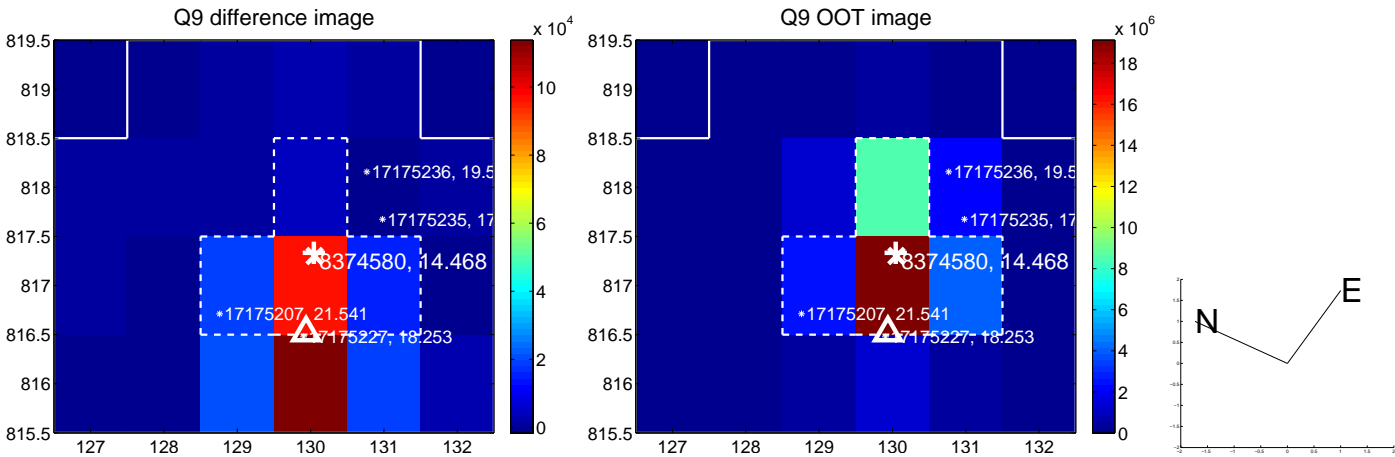
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



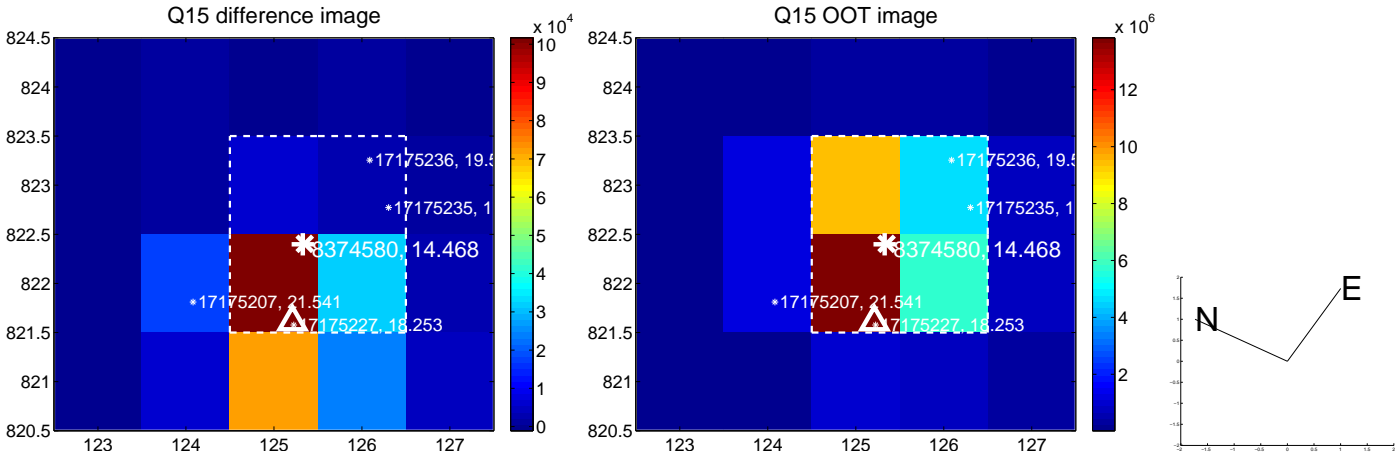
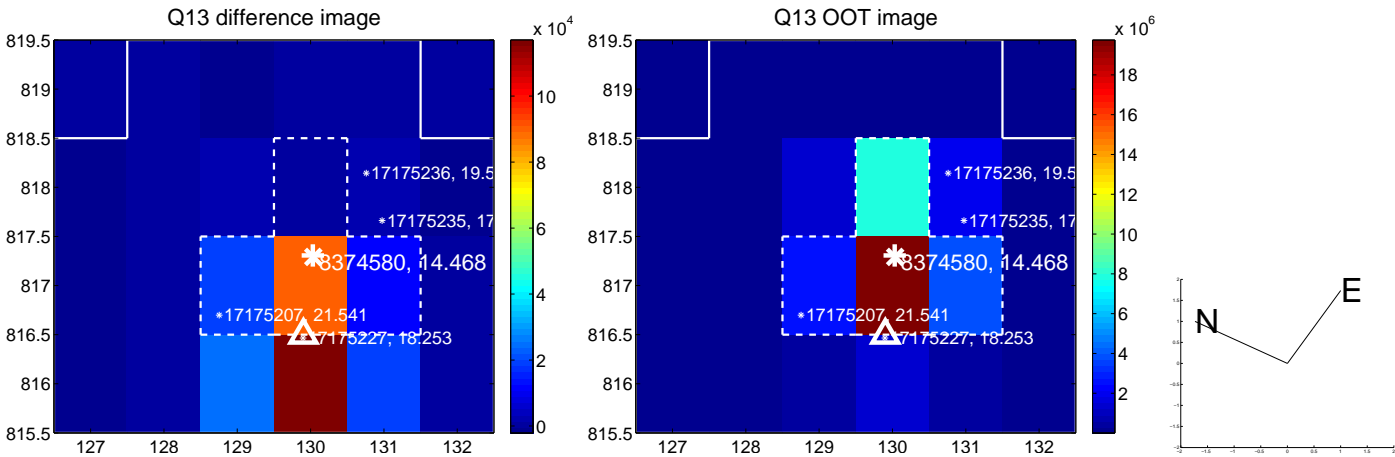
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



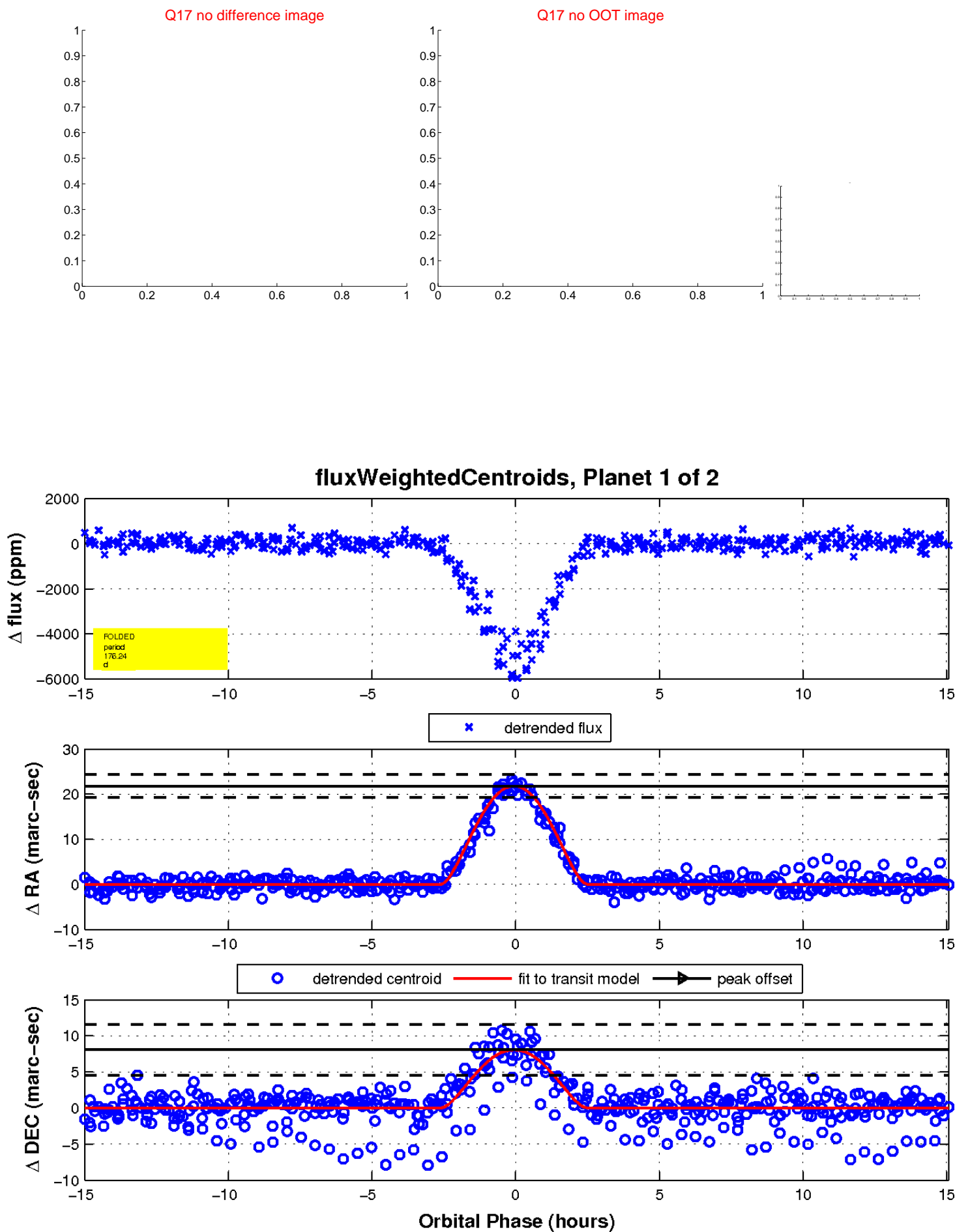
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

