

KIC 008547525

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})
008547525-01	OBS	No	367.344645	236.685027	1426.4	13.775	9.8	9.6	0.73	5254	3.40	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008547525-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_CHASES_MARSHALL_SKYE—CENT_FEW_DIFFS—EPHEM_MATCH

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 008547525-01

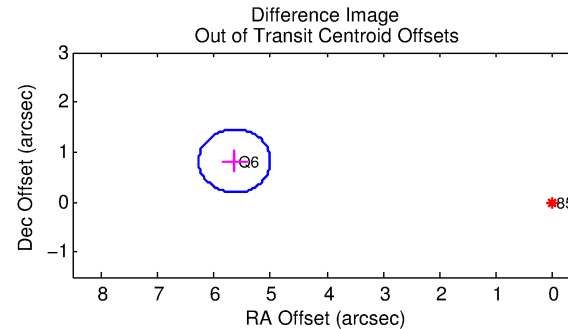
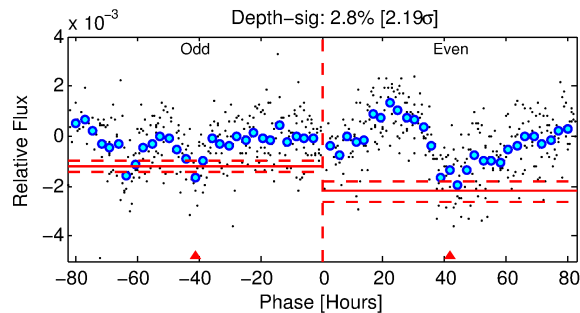
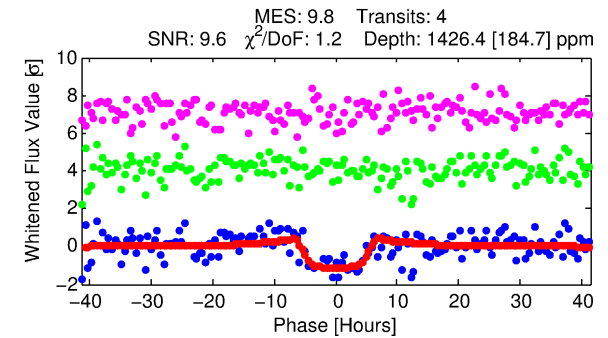
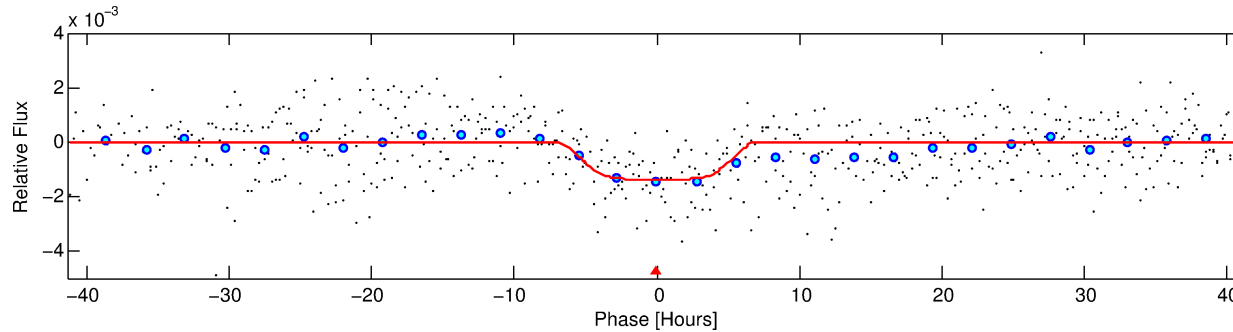
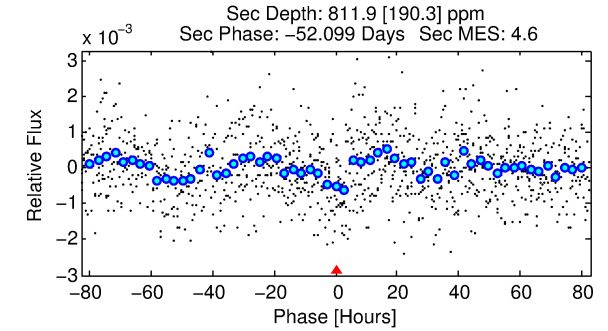
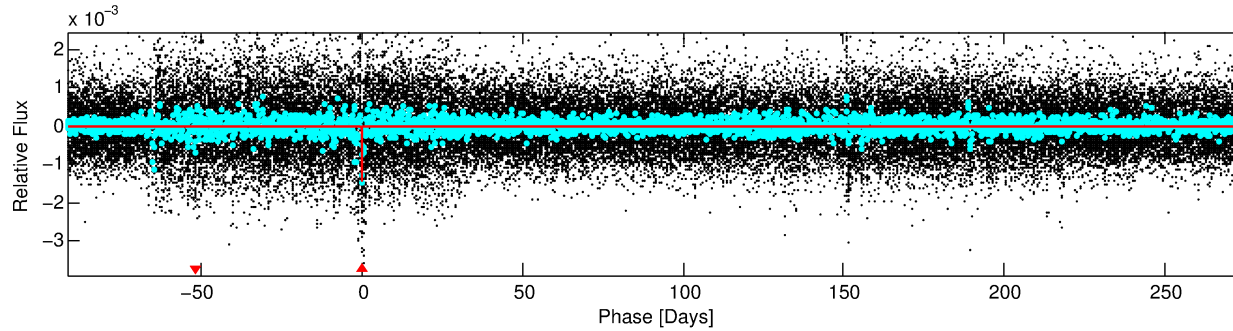
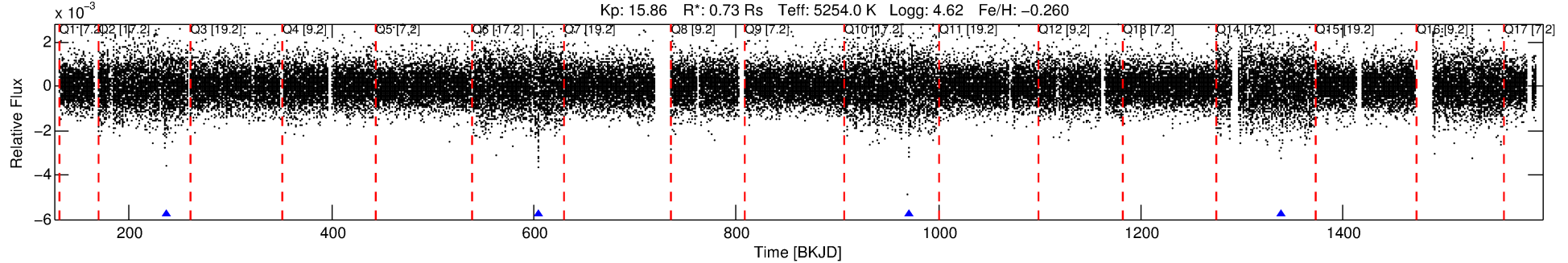
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008547525-01	8547525	008547328-01	8547328	1:1	327.0	-82	-3	15.49	15.85	0.62	Col-Anomaly	1	4.54	4.07

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8547525 Candidate: 1 of 1 Period: 367.345 d
KOI: K05538 Corr: No Ephemeris Match

Kp: 15.86 R*: 0.73 Rs Teff: 5254.0 K Logg: 4.62 Fe/H: -0.260



DV Fit Results:

Period = 367.34464 [0.01295] d
Epoch = 236.6850 [0.0239] BKJD
Rp/R* = 0.0427 [0.0044]
a/R* = 100.09 [27.11]
b = 0.92 [0.05]
Seff = 0.42 [0.09]
Teq = 205 [11] K
Rp = 3.41 [0.60] Re
a = 0.9346 [0.1091] AU
Ag = 33644.69 [11932.64] [2.82σ]
Teff = 4289 [359] K [11.36σ]

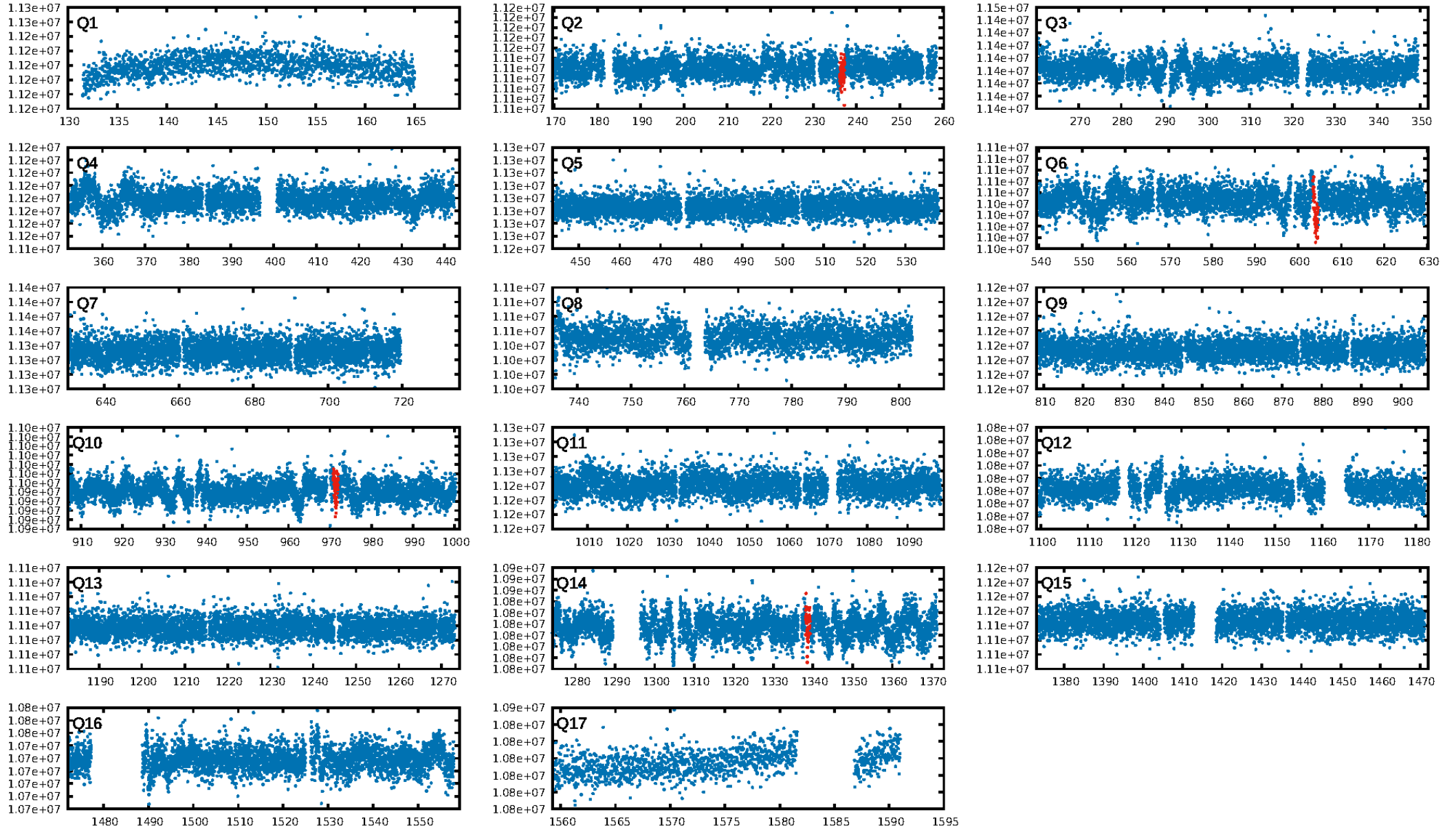
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.4%
ModelChiSquareGoF-sig: 95.8%
Bootstrap-pfa: 9.22e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.8949
Centroid-sig: 23.3%
Centroid-so: 2.762 arcsec [1.49σ]
OotOffset-rm: 5.693 arcsec [26.92σ]
KicOffset-rm: 5.606 arcsec [26.51σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

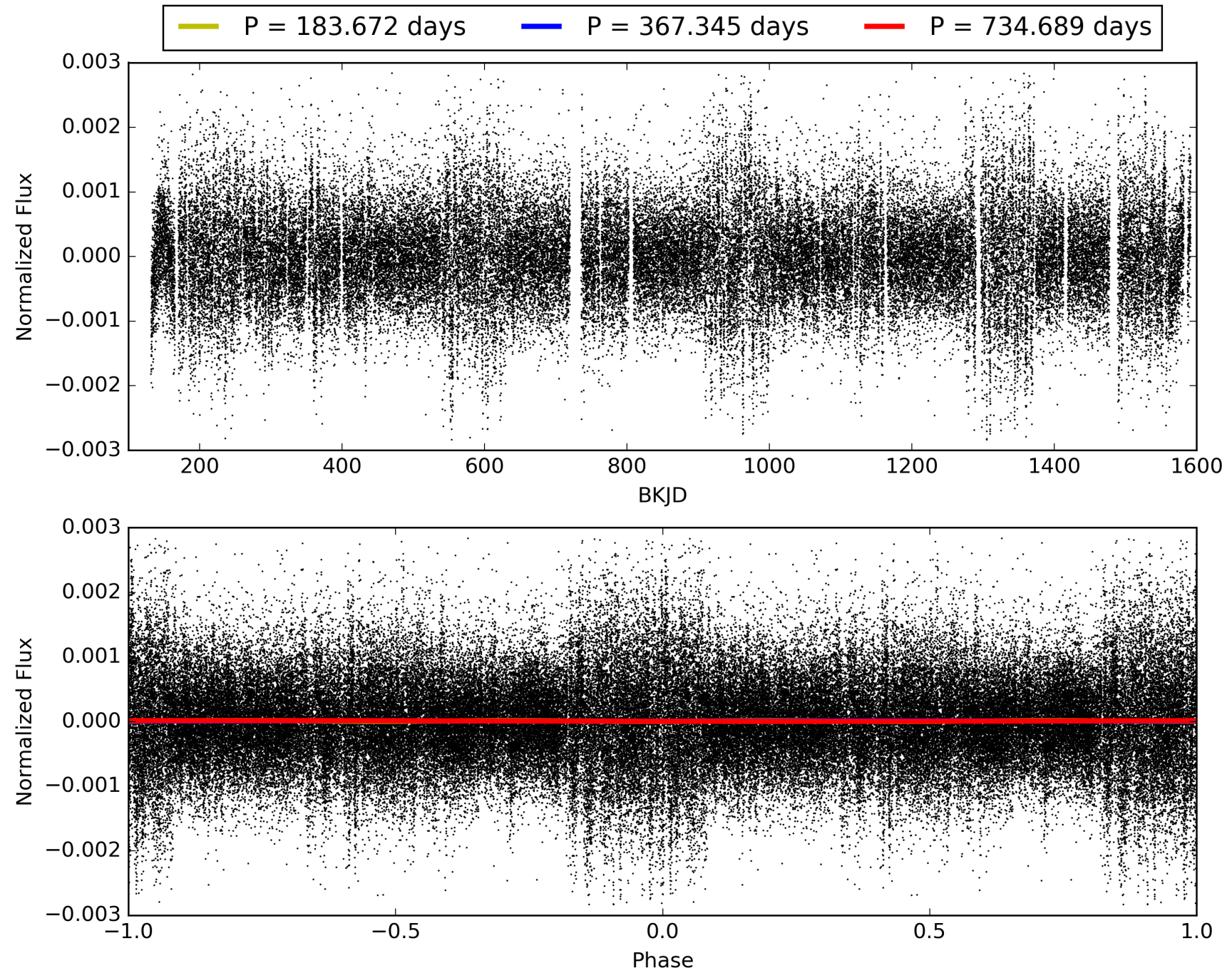
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:24:51 Z

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

TCE 008547525-01, PDC Light Curves

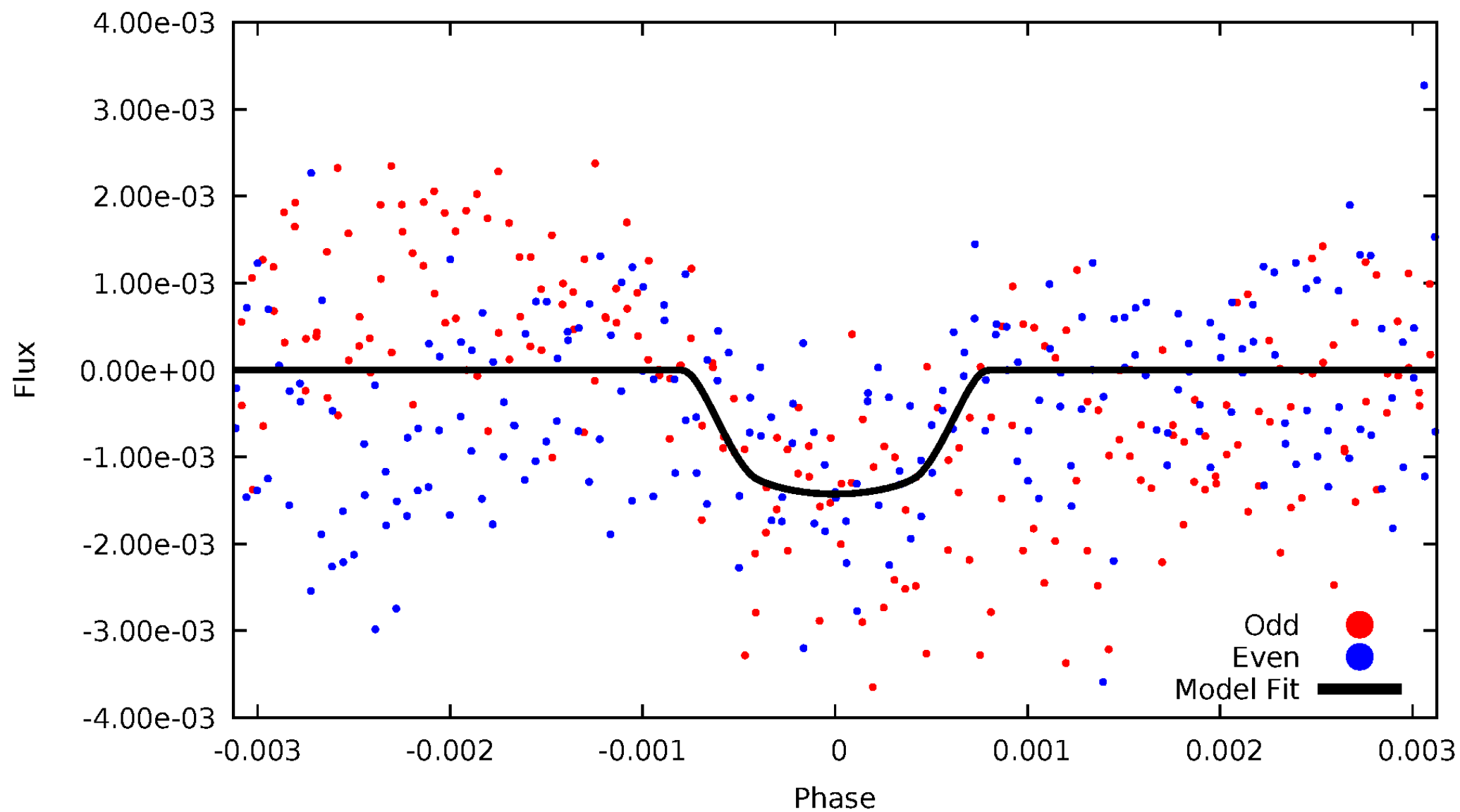


TCE 008547525-01



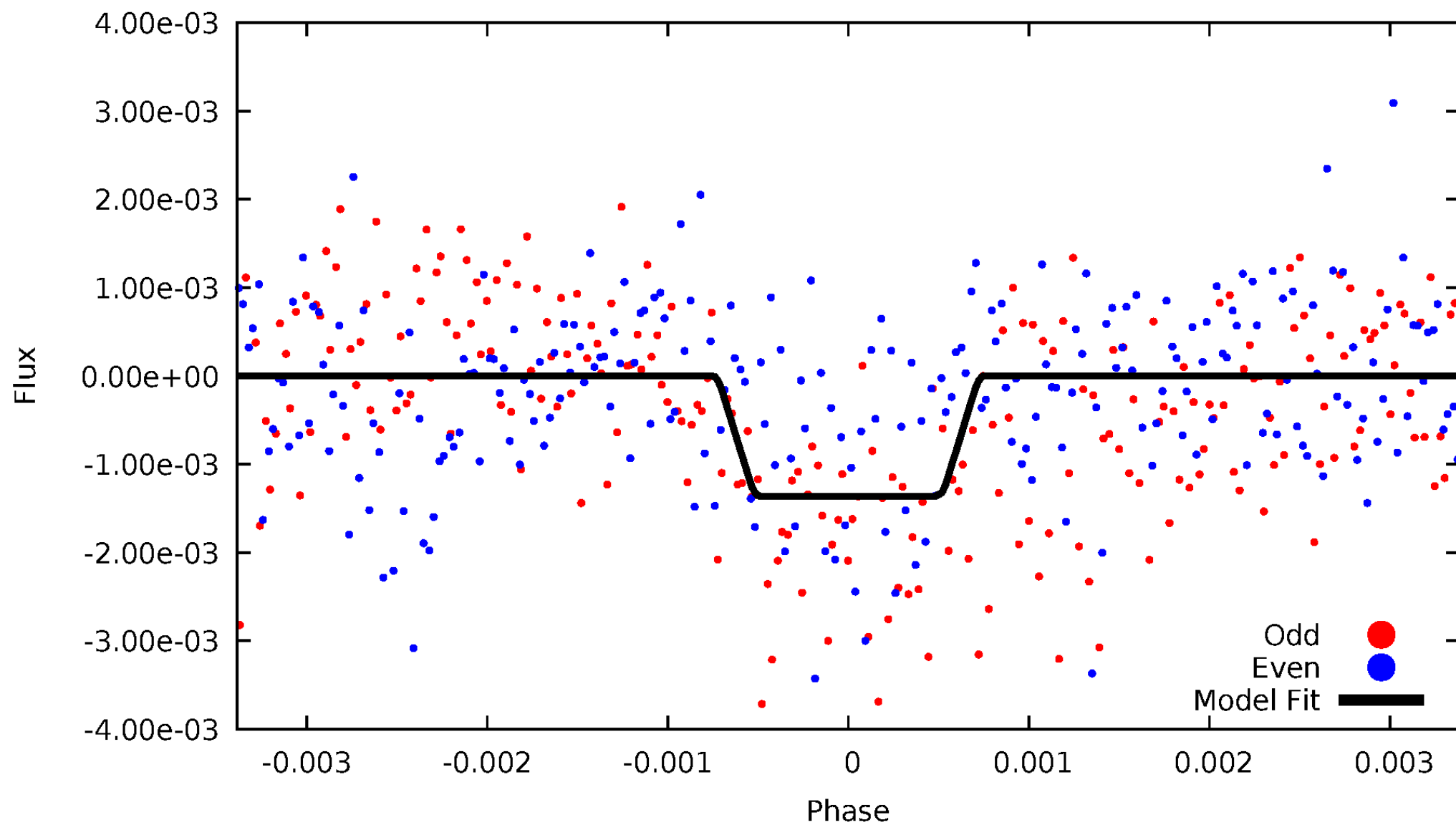
DV Odd/Even

TCE 008547525-01



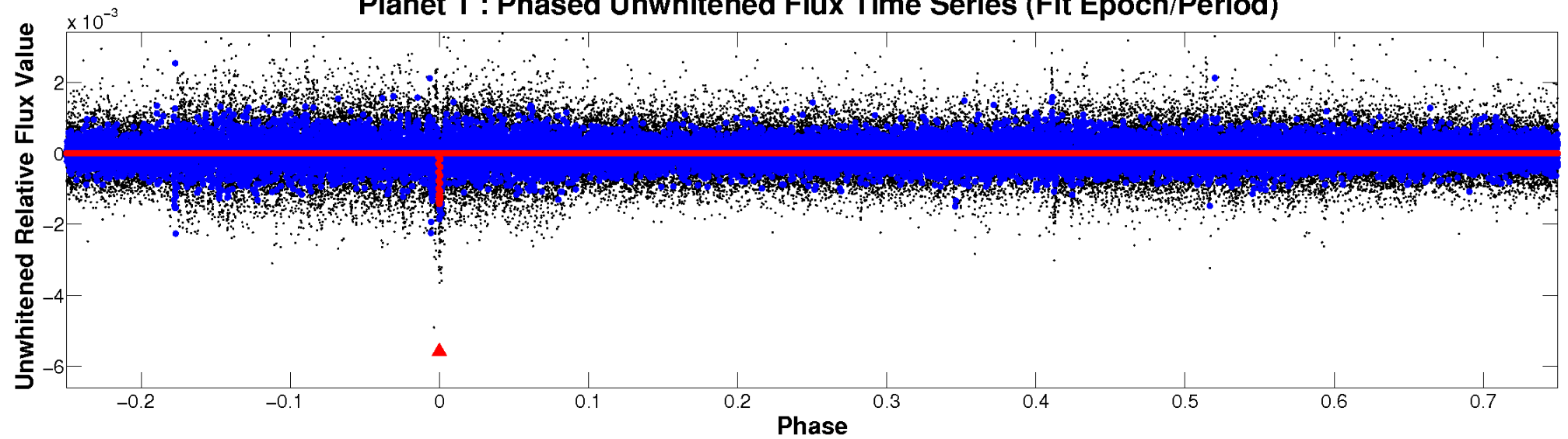
ALT Odd/Even

TCE 008547525-01

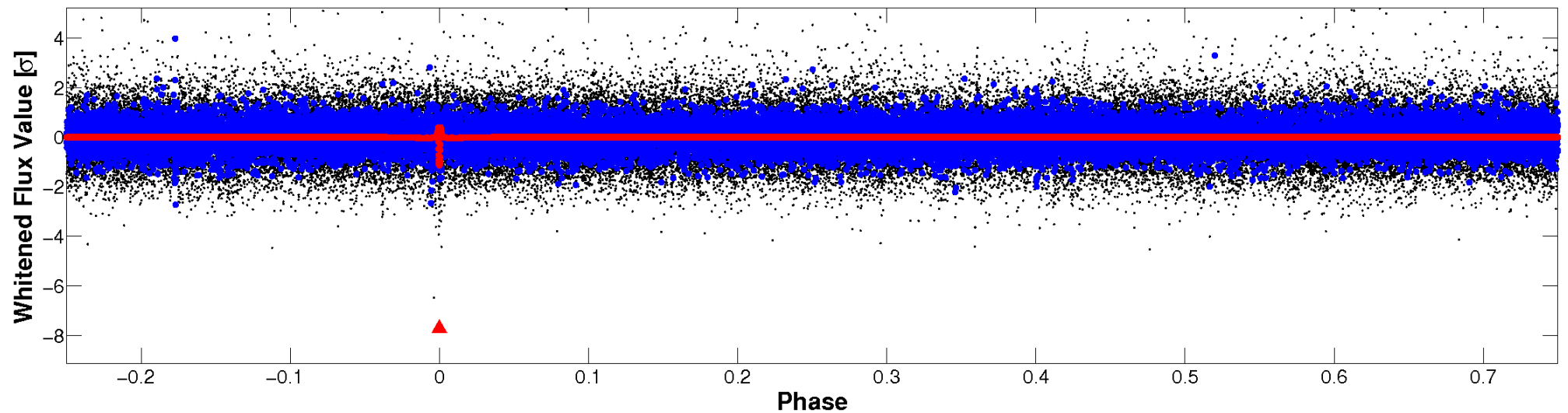


Non-Whitened Vs. Whitened Light Curve

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

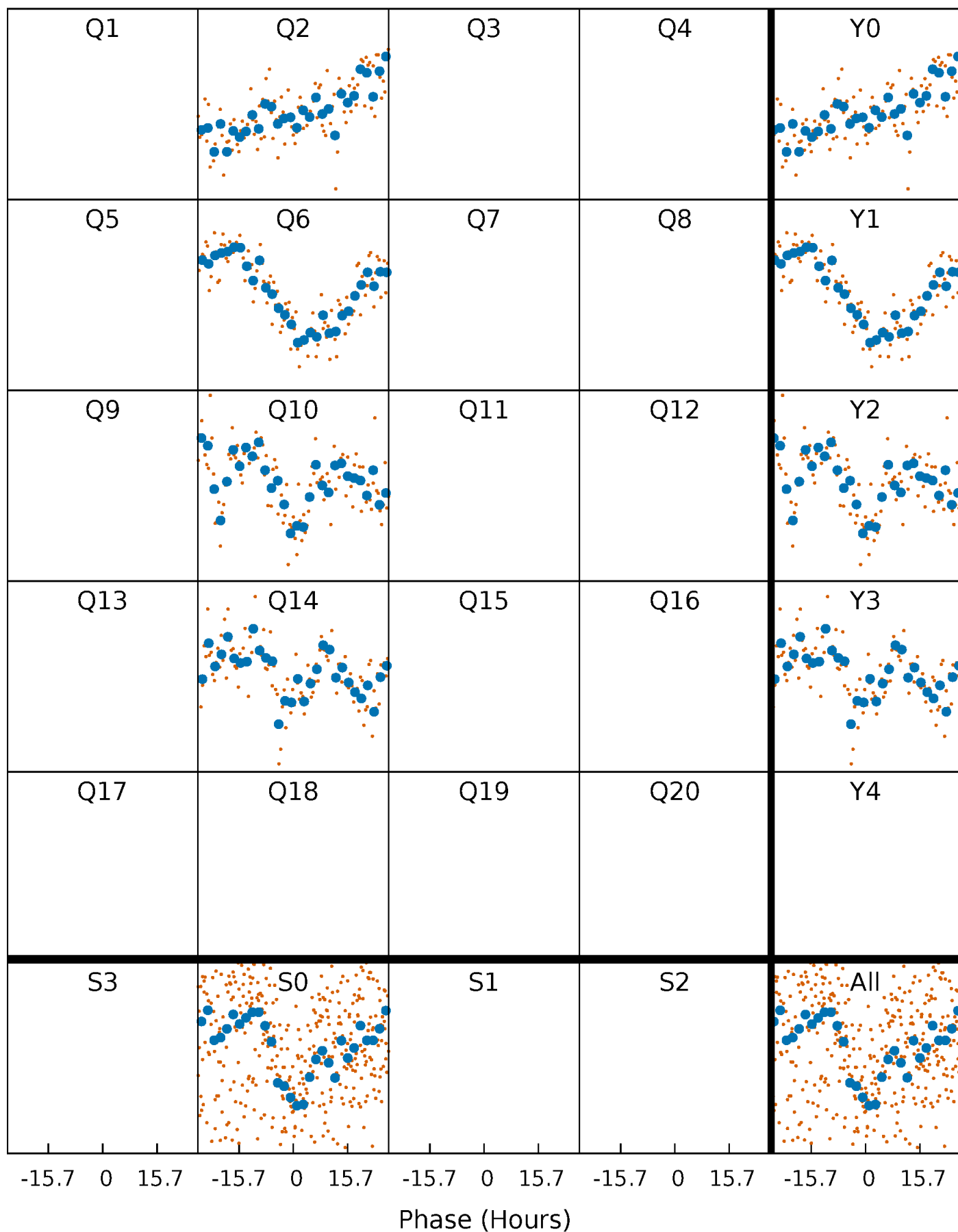


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



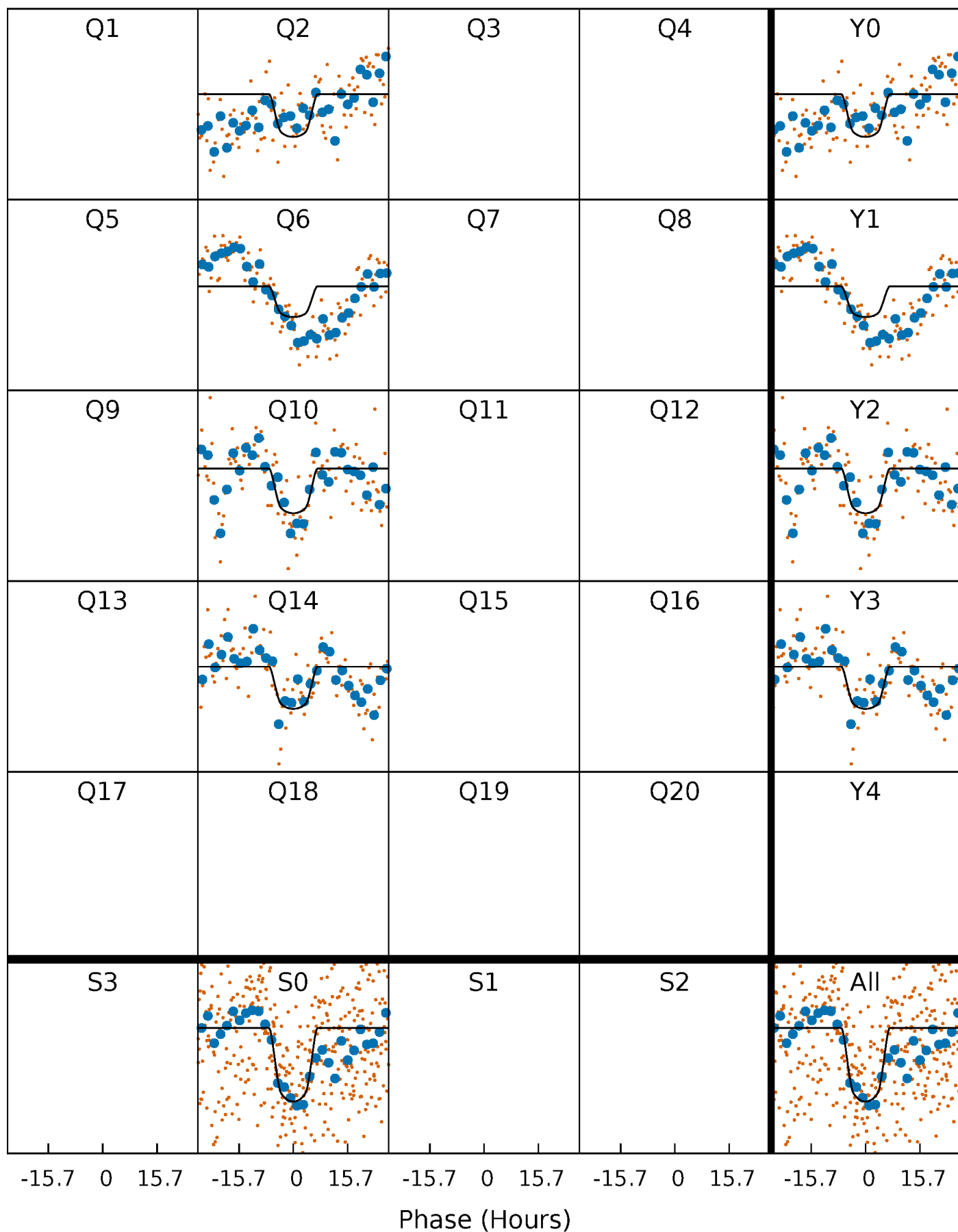
PDC Quarter-Phased Transit Curves

TCE 008547525-01 P=367.344645 Days $T_0=236.685027$ (BKJD)



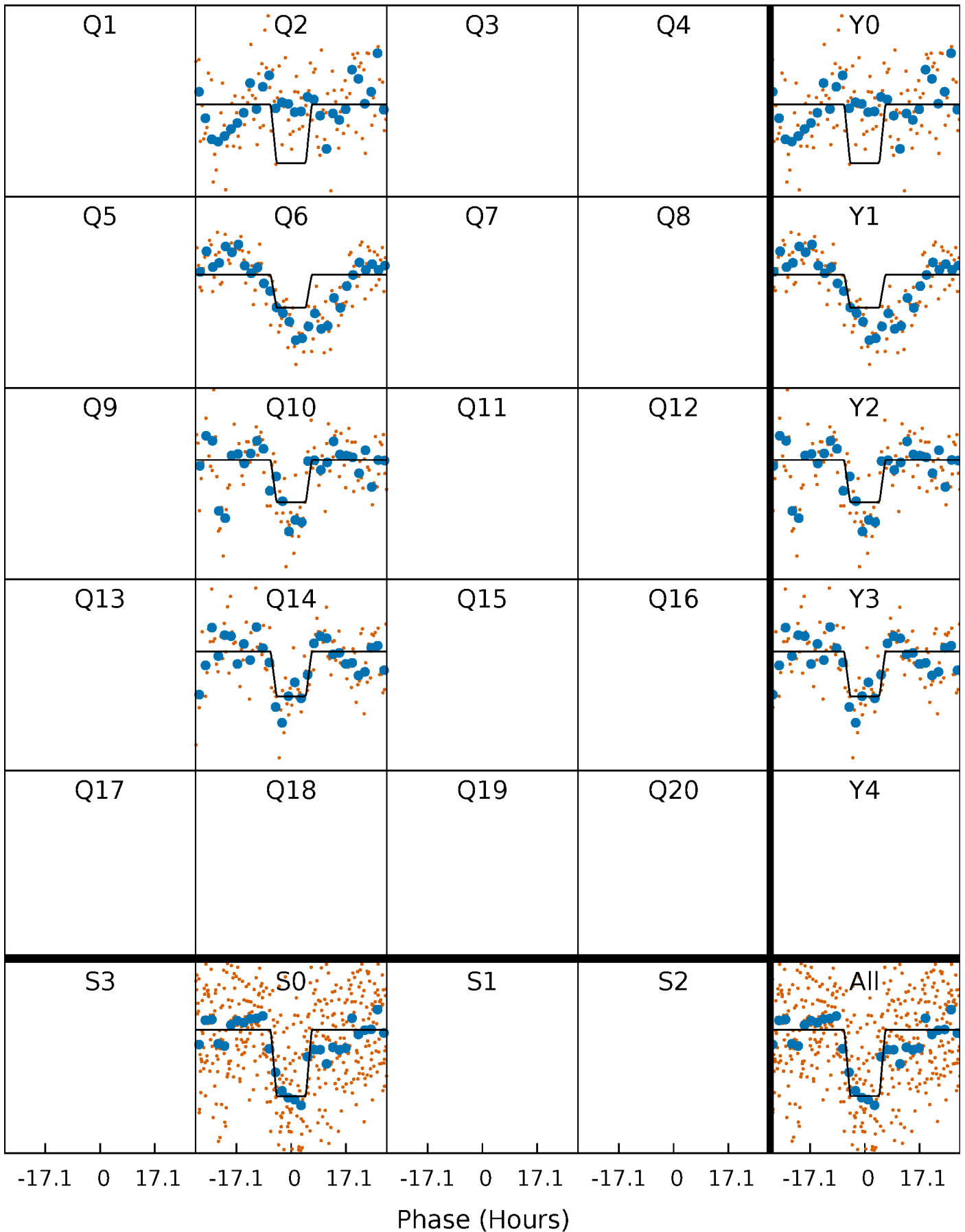
DV Quarter-Phased Transit Curves

TCE 008547525-01 P=367.344645 Days $T_0=236.685027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

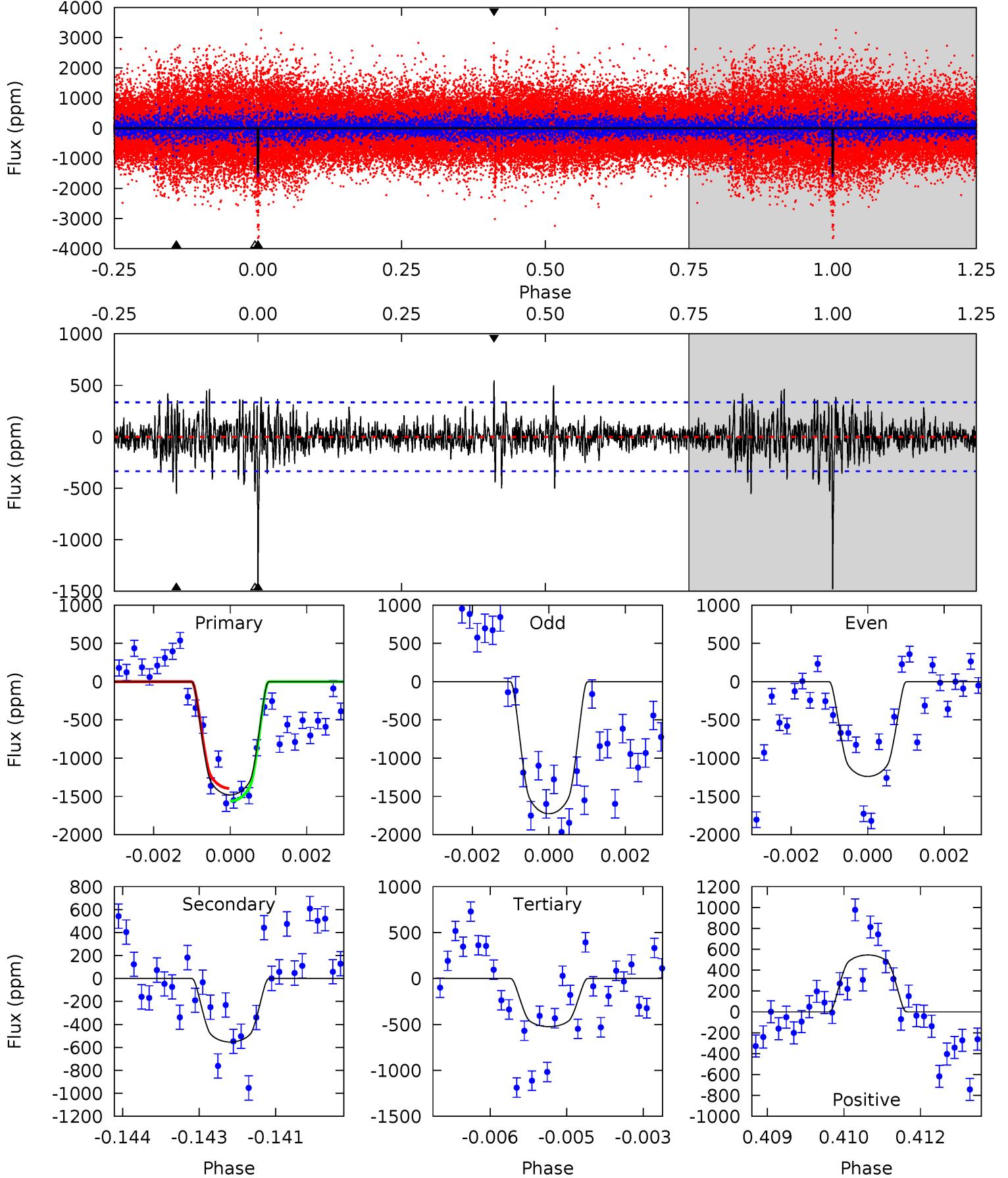
TCE 008547525-01 P=367.340919 Days $T_0=236.700210$ (BKJD)



DV Model-Shift Uniqueness Test

008547525-01, P = 367.344645 Days, E = 236.685027 Days

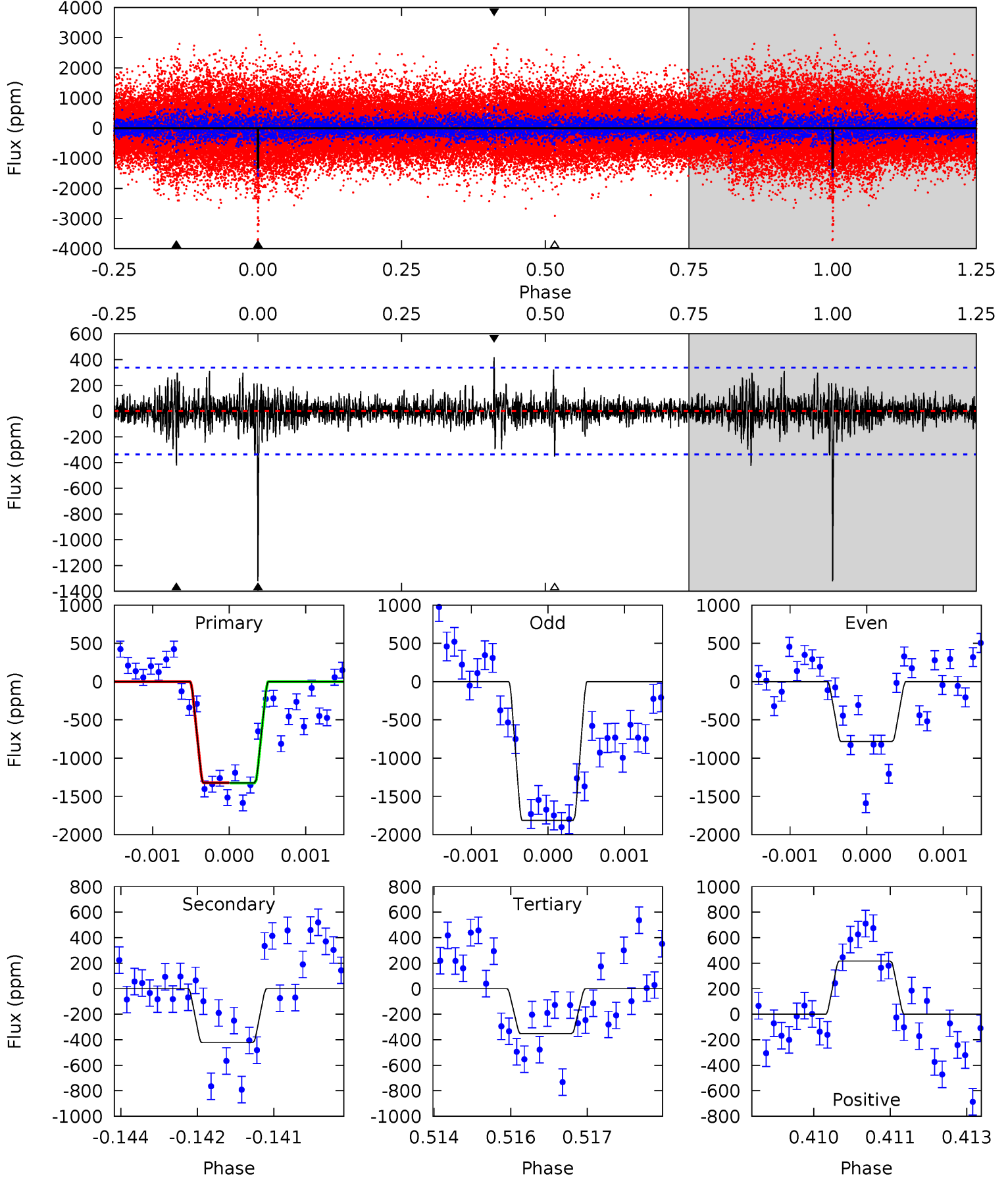
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.8	8.88	8.42	8.76	5.37	3.16	1.80	15.3	15.0	0.46	0.13	3.92	1.05	0.27	1.33



Alt Model-Shift Uniqueness Test

008547525-01, P = 367.340919 Days, E = 236.700210 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	6.75	5.63	6.66	5.38	3.18	1.13	15.5	14.5	1.12	0.08	8.24	0.86	0.24	0.04



Stellar Parameters For KIC 008547525

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5254^{+142}_{-158}	$4.618^{+0.030}_{-0.090}$	$-0.260^{+0.300}_{-0.300}$	$0.730^{+0.103}_{-0.060}$	$0.816^{+0.069}_{-0.095}$	$2.958^{+0.489}_{-0.889}$
	+3%/-3%	+1%/-2%	+115%/-115%	+14%/-8%	+8%/-12%	+17%/-30%
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 008547525-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-553 ± 62	$3.47^{+0.44}_{-0.42}$	290^{+11}_{-11}	4149^{+218}_{-192}	22291^{+6611}_{-5271}
Alt.	-422 ± 63	$3.01^{+0.42}_{-0.40}$	289^{+12}_{-11}	4145^{+247}_{-221}	22297^{+7809}_{-5956}

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

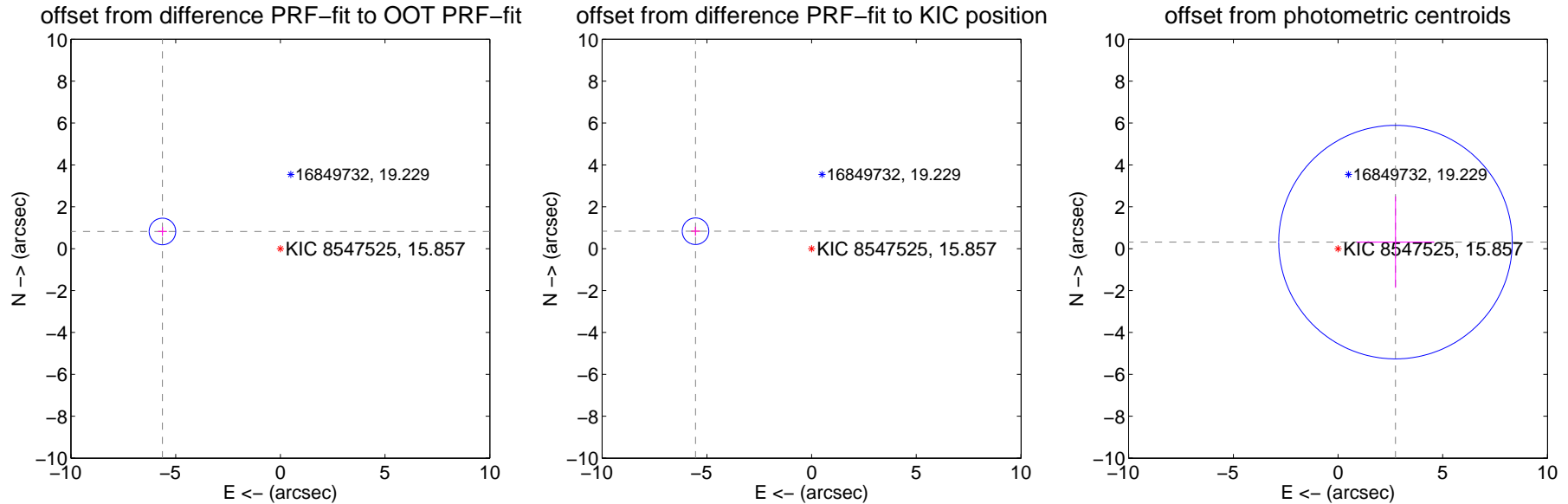
DV Centroid Data

Supplemental centroid analysis for 008547525-01. Kepler magnitude: 15.86. Transit SNR 9.58

There are 0 quarters with good PRF difference image offsets

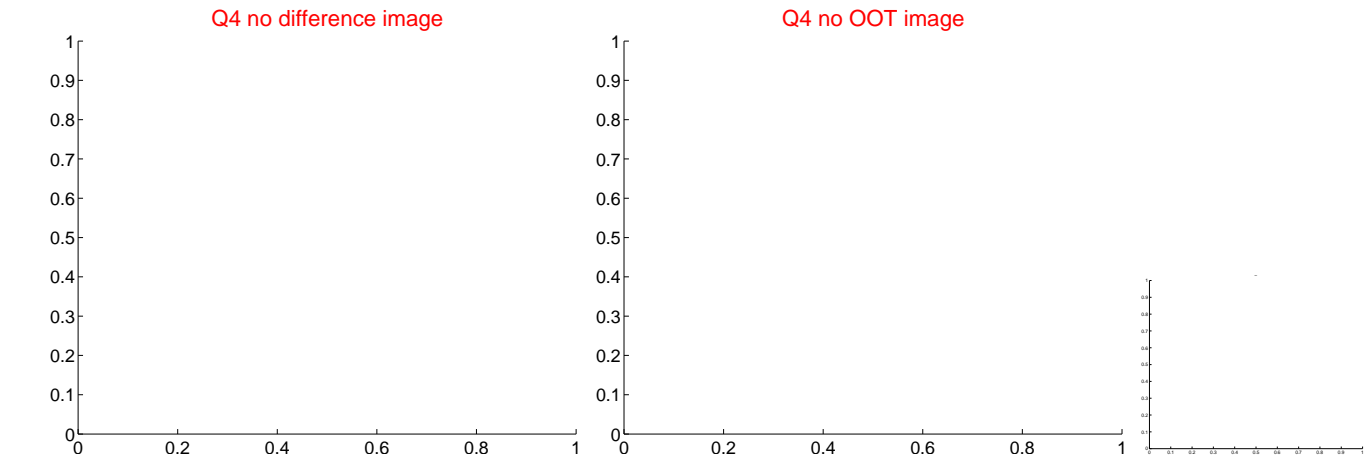
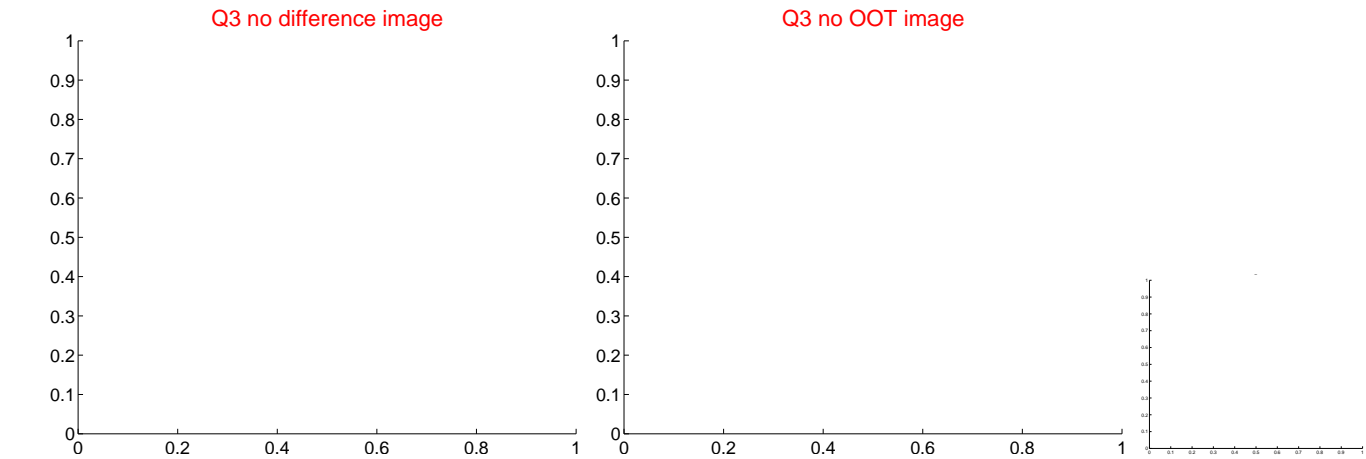
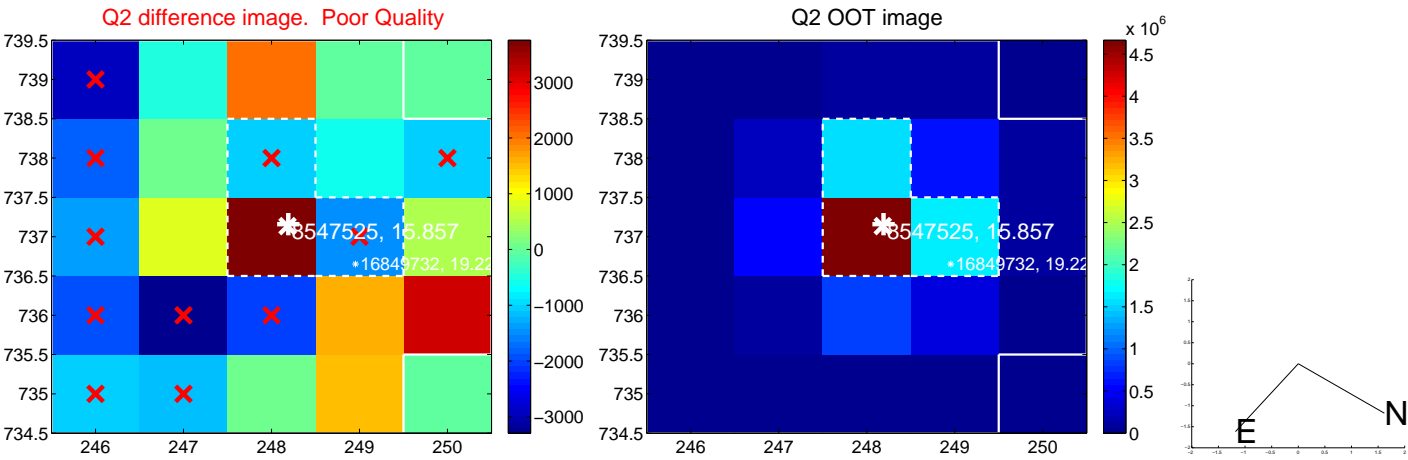
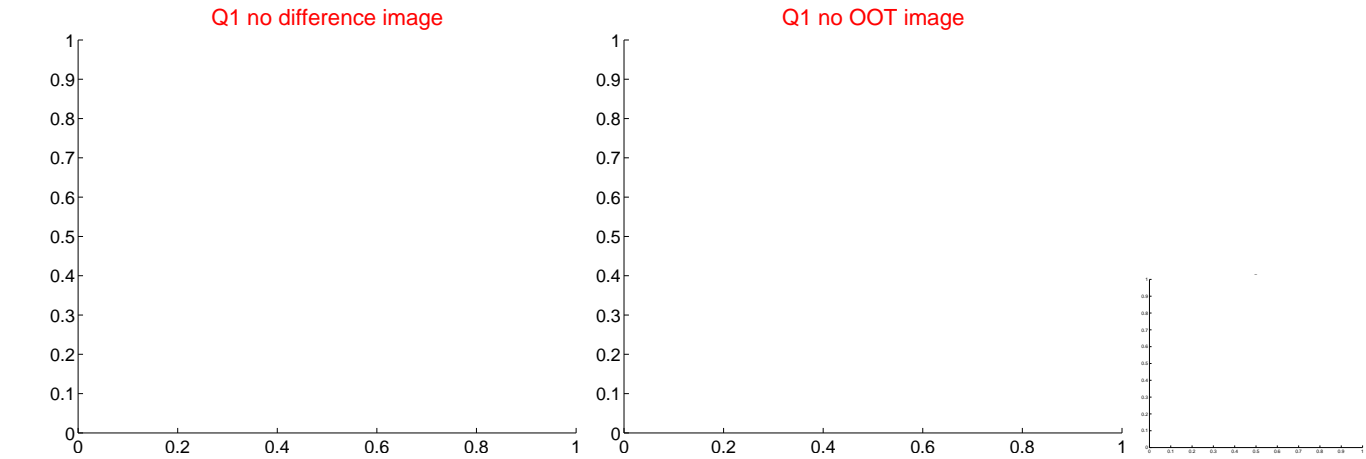
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.693 \pm 0.211	26.92	5.633 \pm 0.211	0.822 \pm 0.214
PRF-fit source offset from KIC position	5.606 \pm 0.211	26.51	5.543 \pm 0.211	0.834 \pm 0.214
photometric centroid source offset	2.76 \pm 1.86	1.49	-2.74 \pm 1.85	0.31 \pm 2.18

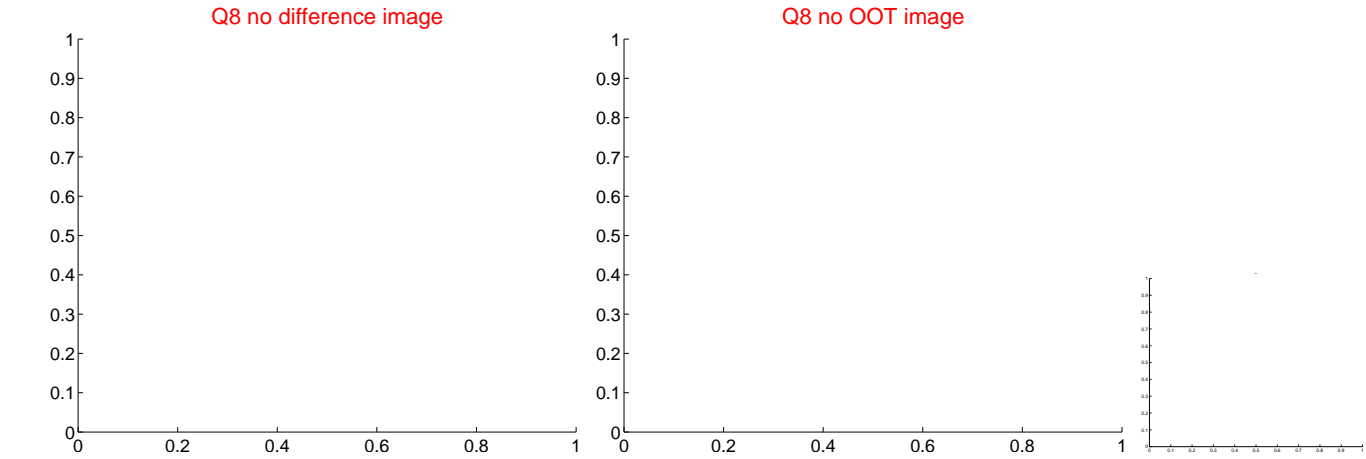
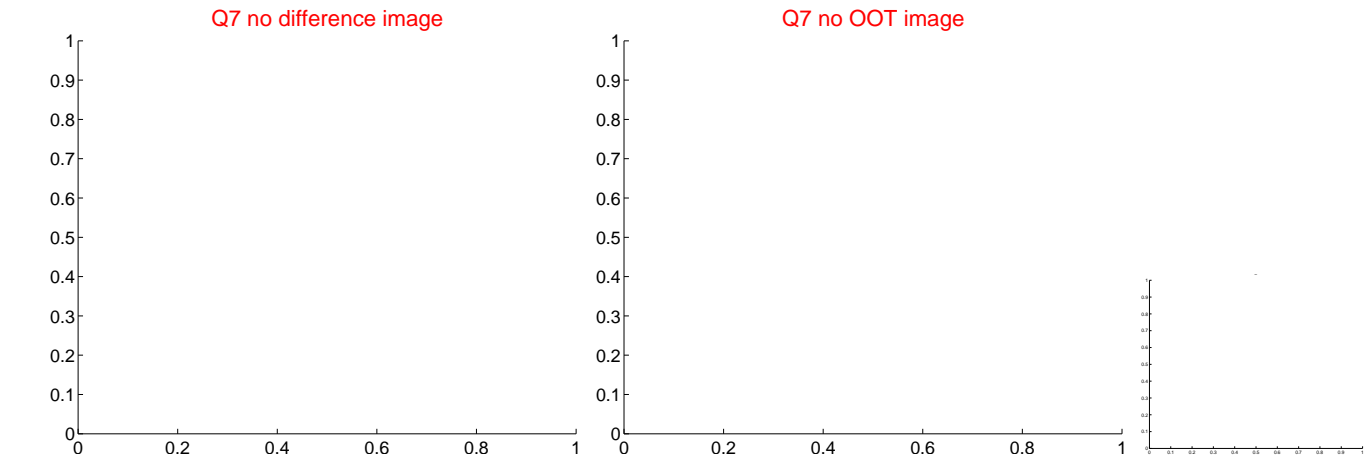
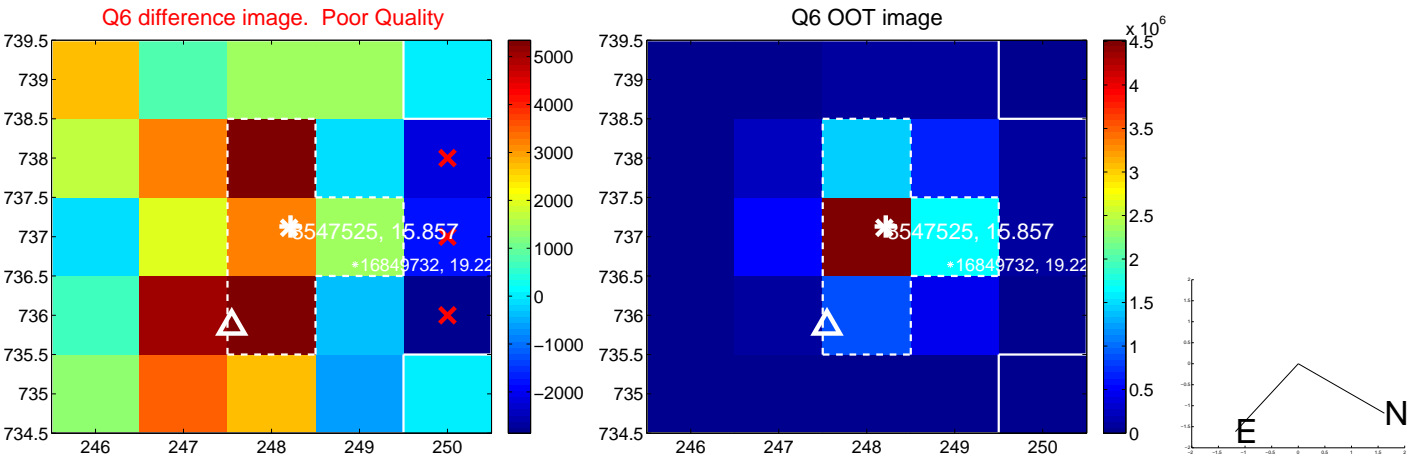
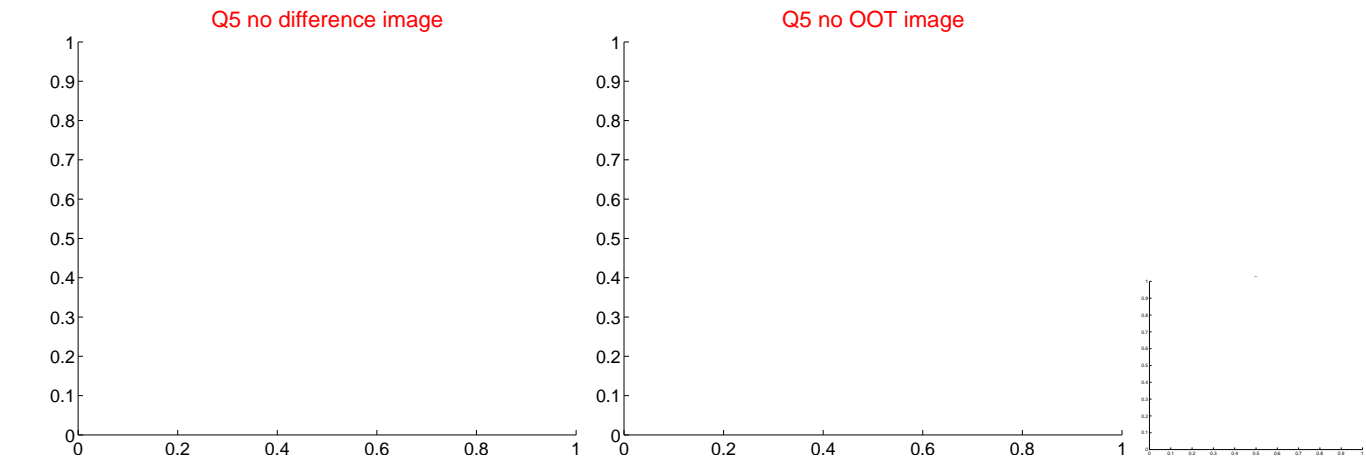


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



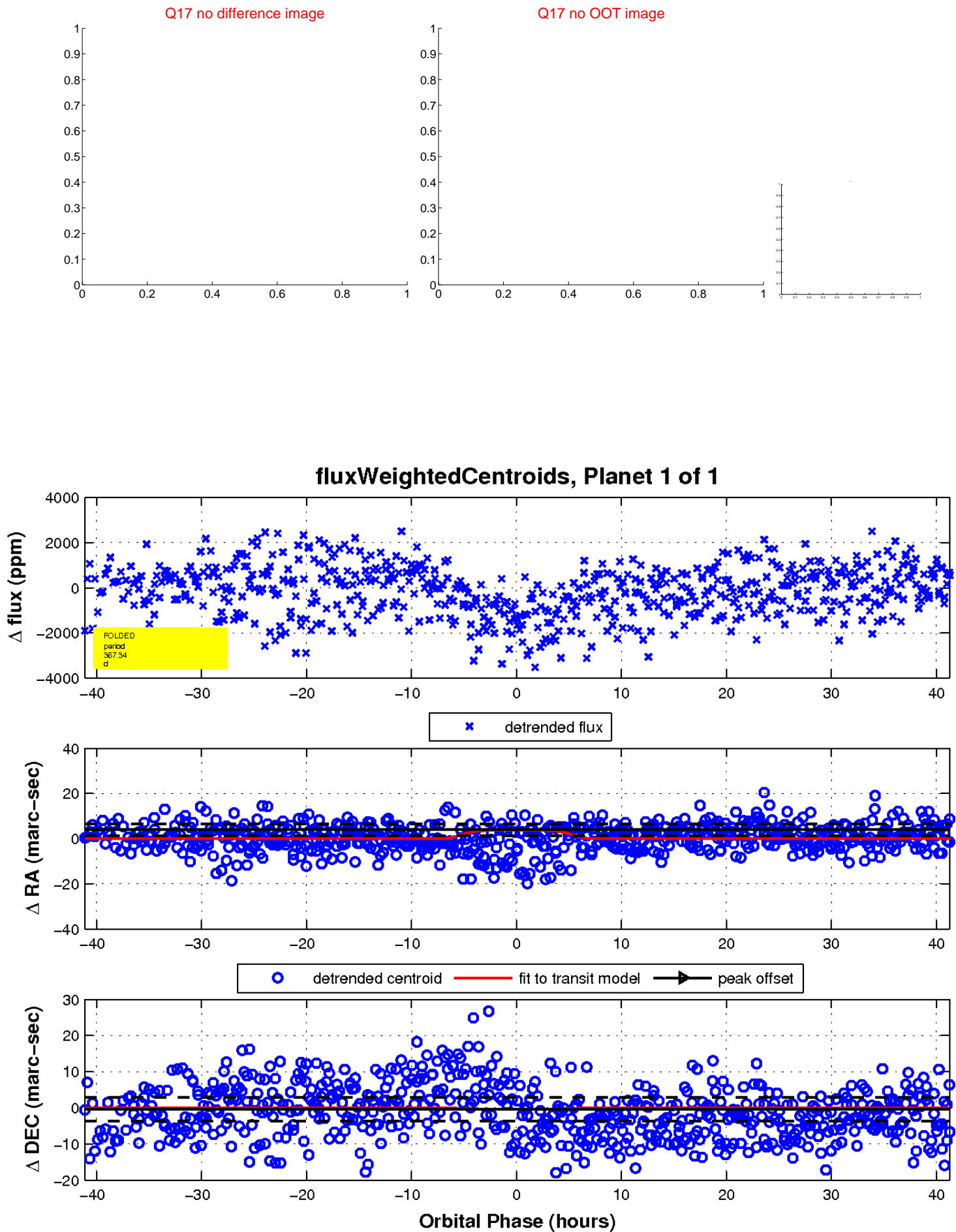
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

