

KIC 003650049

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})
003650049-01	OBS	4249.01	397.741570	222.023314	1286.9	12.657	13.7	13.9	0.77	5313	3.48	0.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003650049-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—CENT_FEW_DIFFS

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 003650049-01

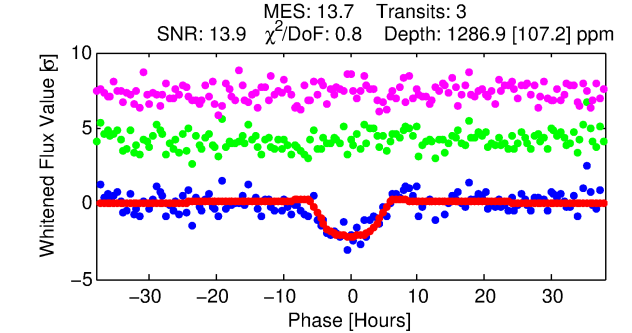
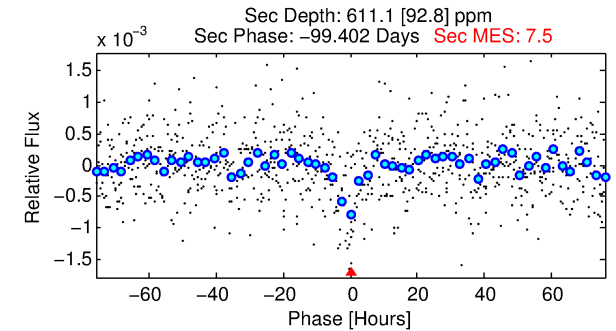
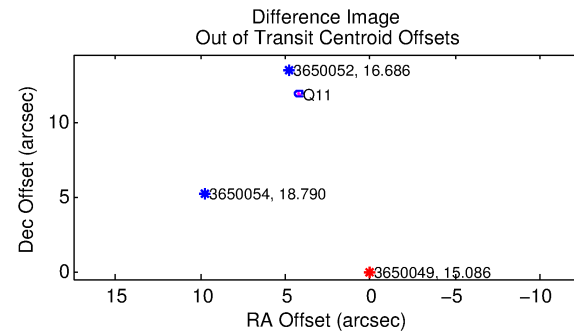
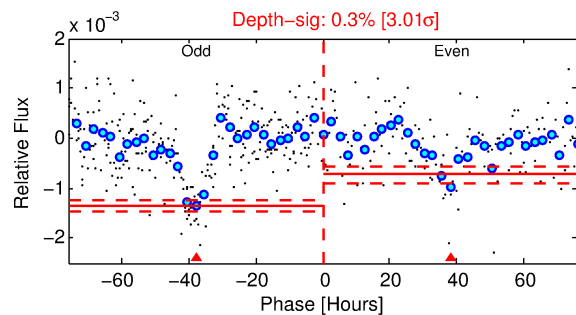
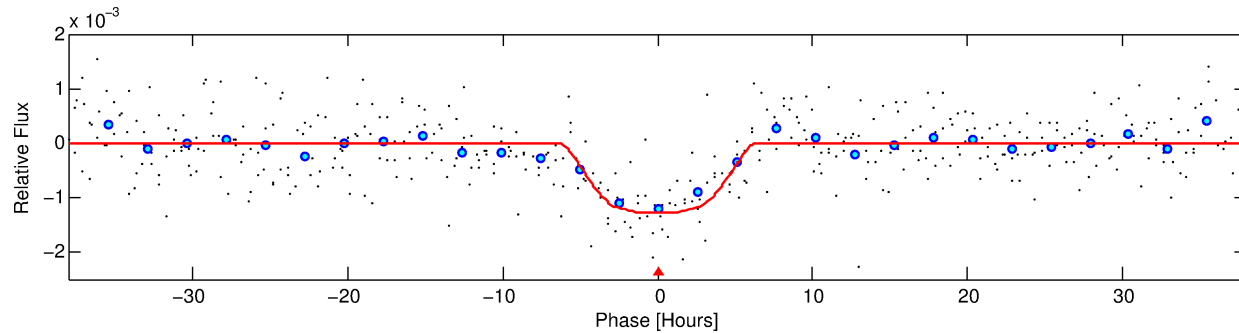
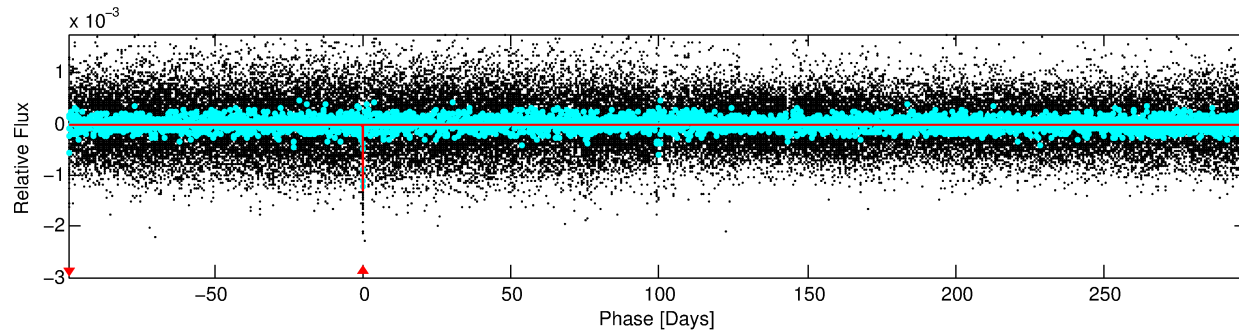
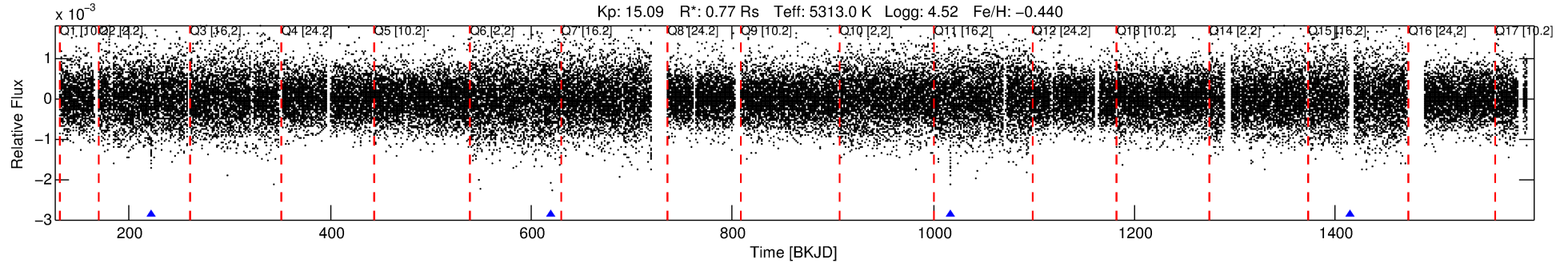
No Significant Match Found

DV One-Page Summary

KIC: 3650049 Candidate: 1 of 1 Period: 397.742 d

KOI: K04249.01 Corr: 0.901

Kp: 15.09 R*: 0.77 Rs Teff: 5313.0 K Logg: 4.52 Fe/H: -0.440



DV Fit Results:

Period = 397.74157 [0.01171] d
Epoch = 222.0233 [0.0147] BKJD
Rp/R* = 0.0416 [0.0029]
a/R* = 108.23 [18.82]
b = 0.94 [0.02]
Seff = 0.47 [0.10]
Teq = 211 [12] K
Rp = 3.48 [0.51] Re
a = 0.9462 [0.1092] AU
Ag = 24797.79 [6706.96] [3.70σ]
Teffp = 4097 [251] K [15.49σ]

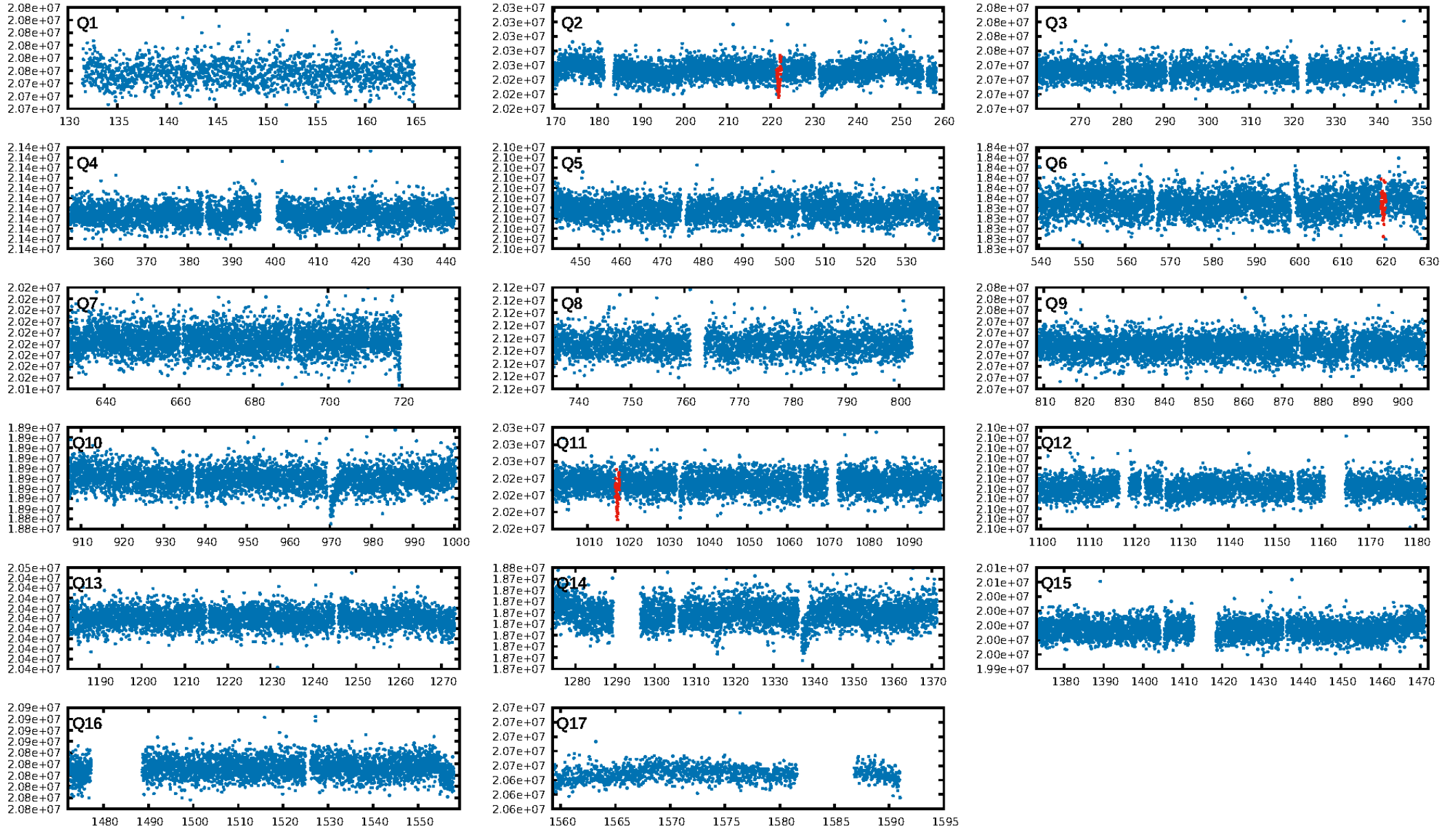
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.08e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.3444
Centroid-sig: 0.0%
Centroid-so: 20.980 arcsec [19.98σ]
OotOffset-rm: 12.585 arcsec [153.60σ]
KicOffset-rm: 12.717 arcsec [155.20σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

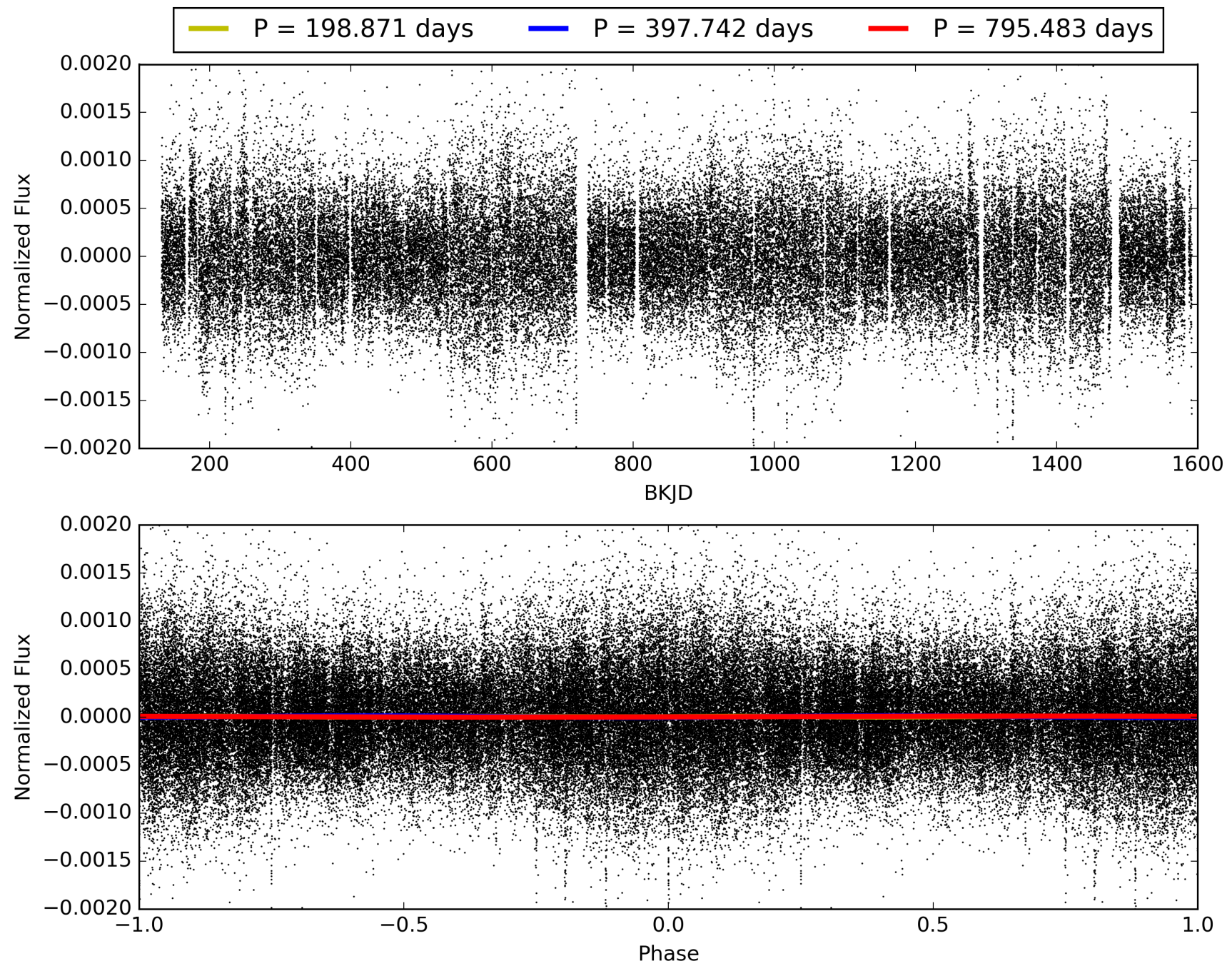
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:48:37 Z

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

TCE 003650049-01, PDC Light Curves

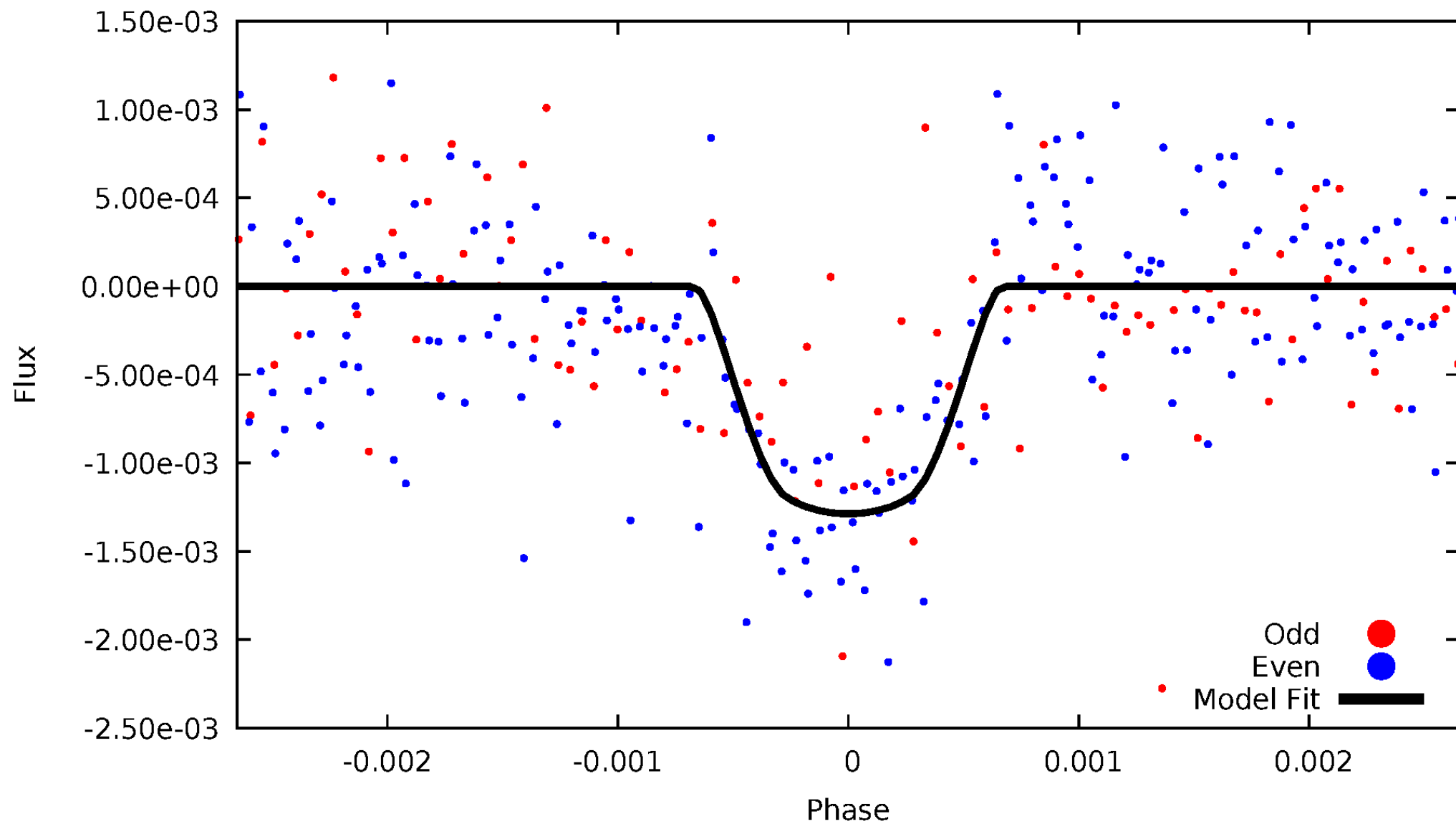


TCE 003650049-01



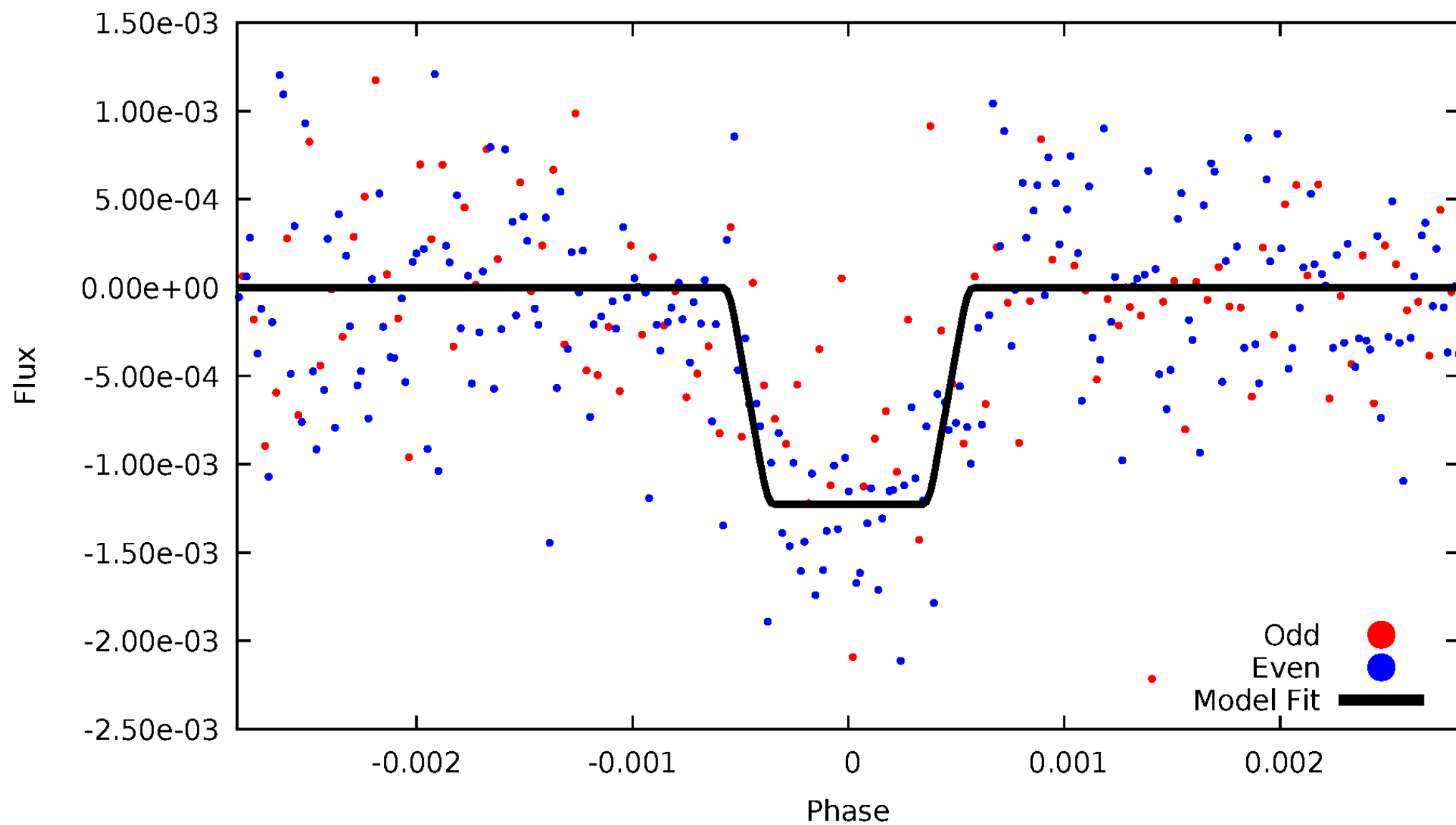
DV Odd/Even

TCE 003650049-01



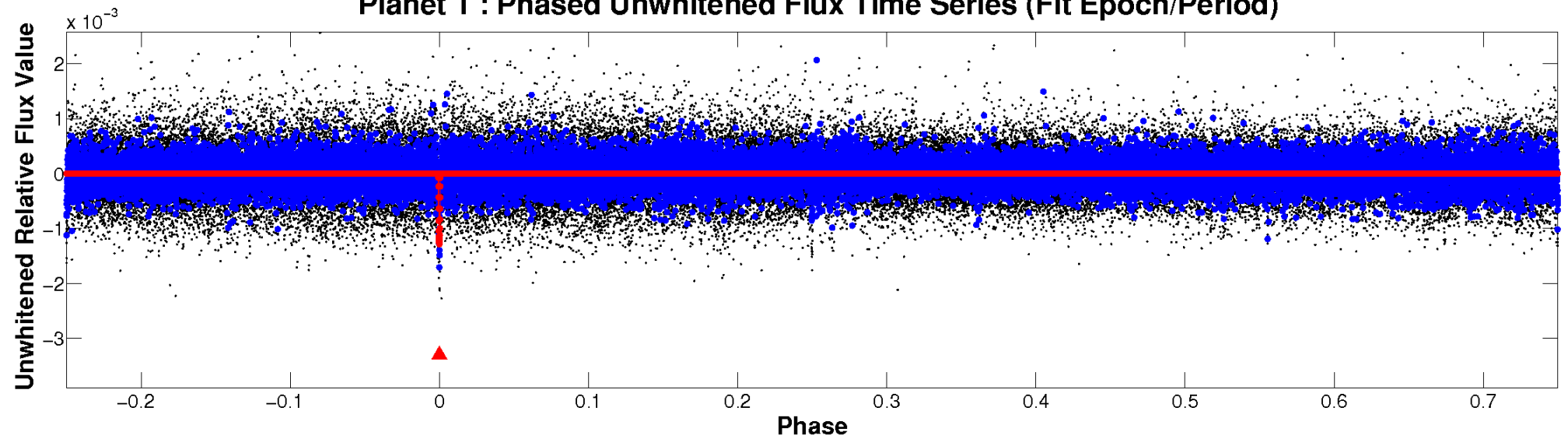
ALT Odd/Even

TCE 003650049-01

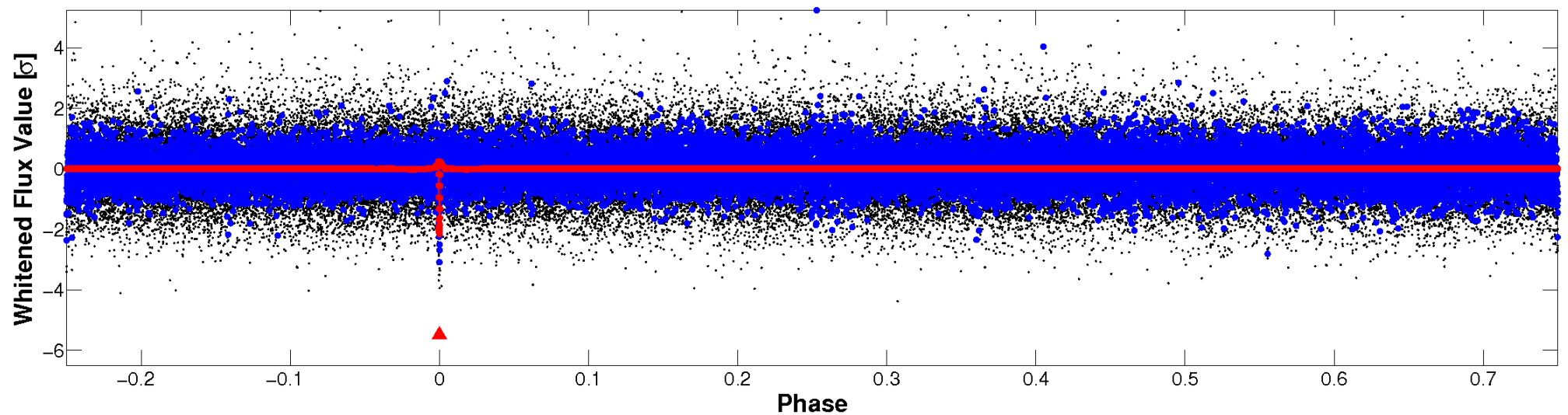


Non-Whitened Vs. Whitened Light Curve

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

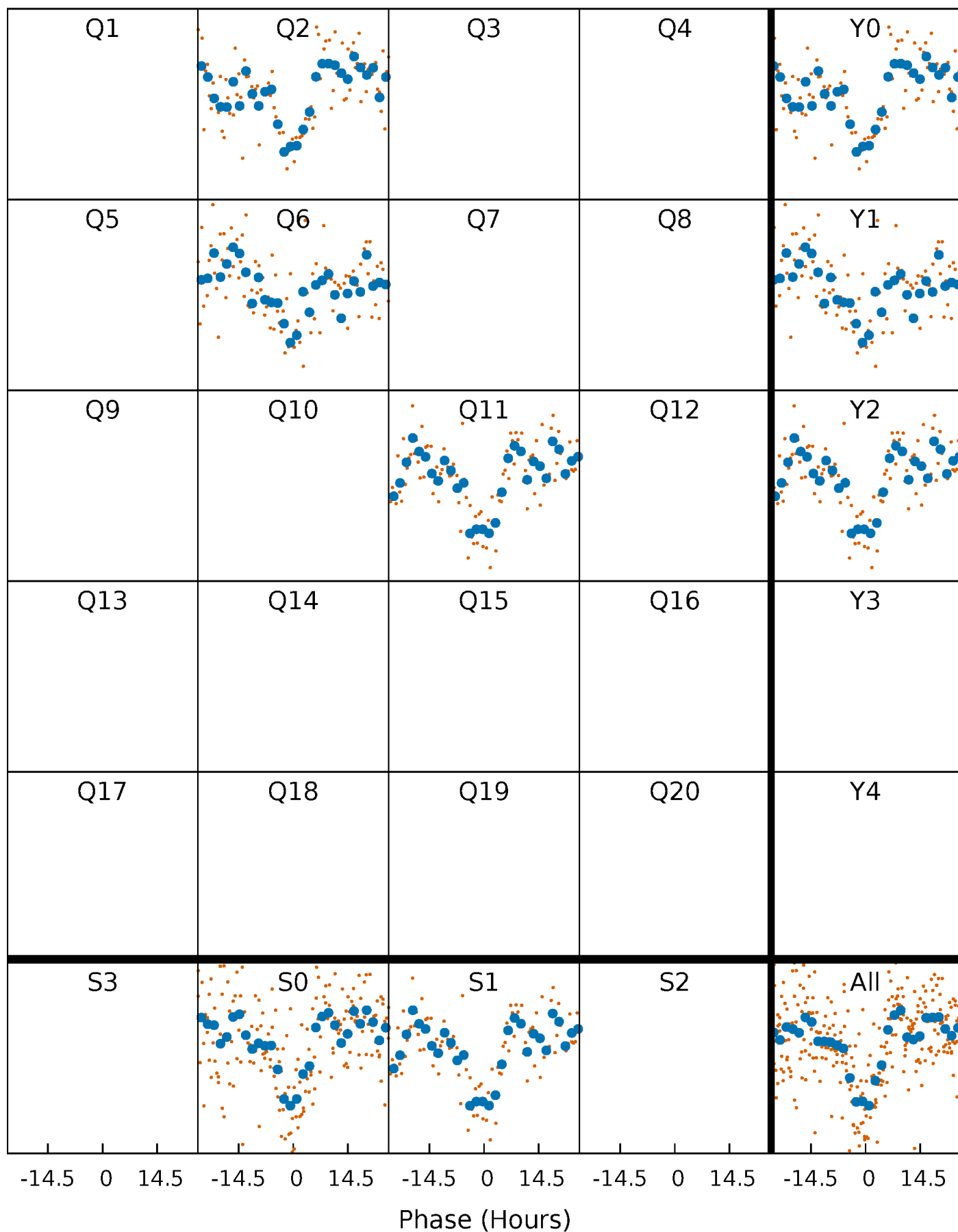


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



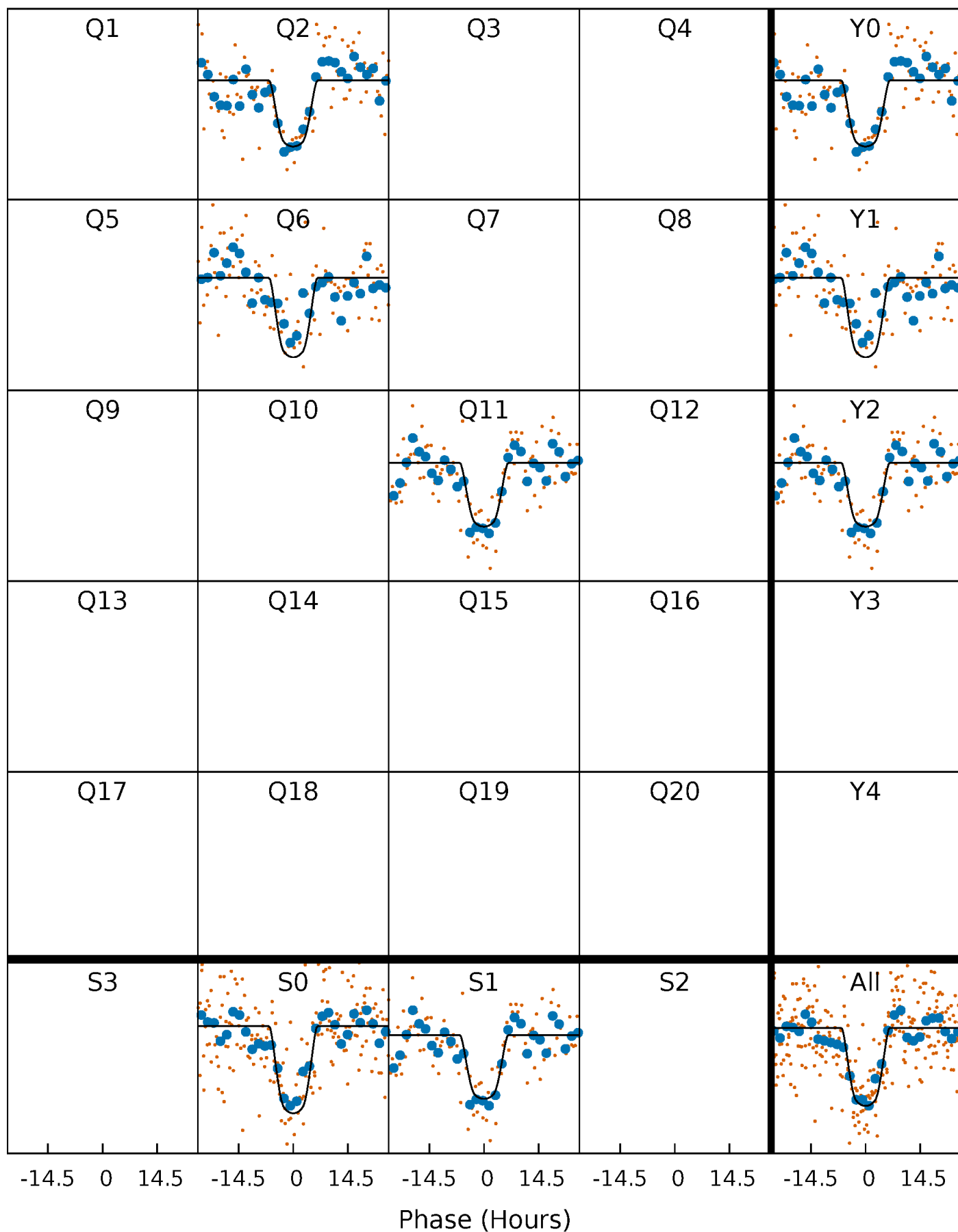
PDC Quarter-Phased Transit Curves

TCE 003650049-01 P=397.741570 Days $T_0=222.023314$ (BKJD)



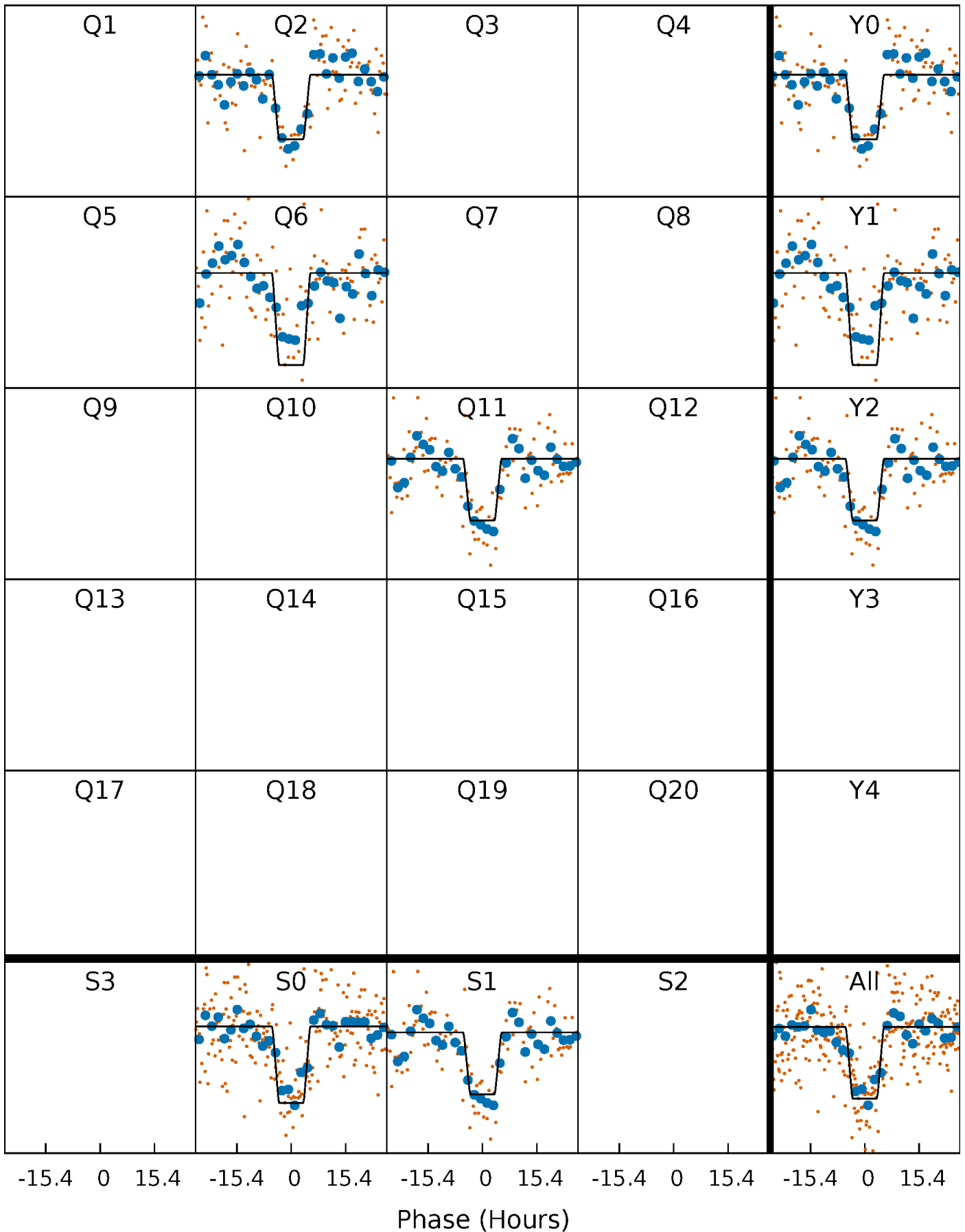
DV Quarter-Phased Transit Curves

TCE 003650049-01 P=397.741570 Days $T_0=222.023314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

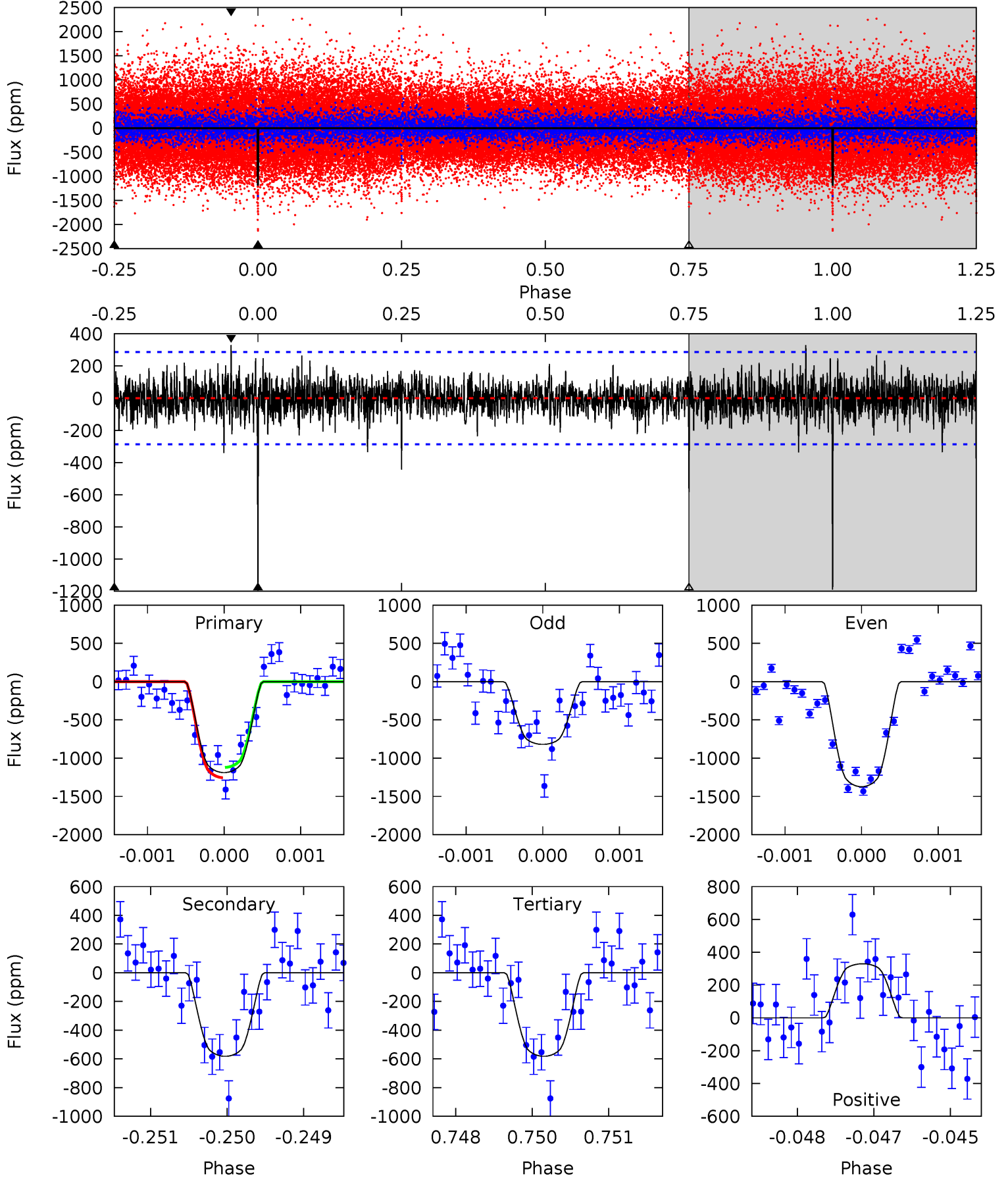
TCE 003650049-01 P=397.732434 Days $T_0=222.014260$ (BKJD)



DV Model-Shift Uniqueness Test

003650049-01, P = 397.741570 Days, E = 222.023314 Days

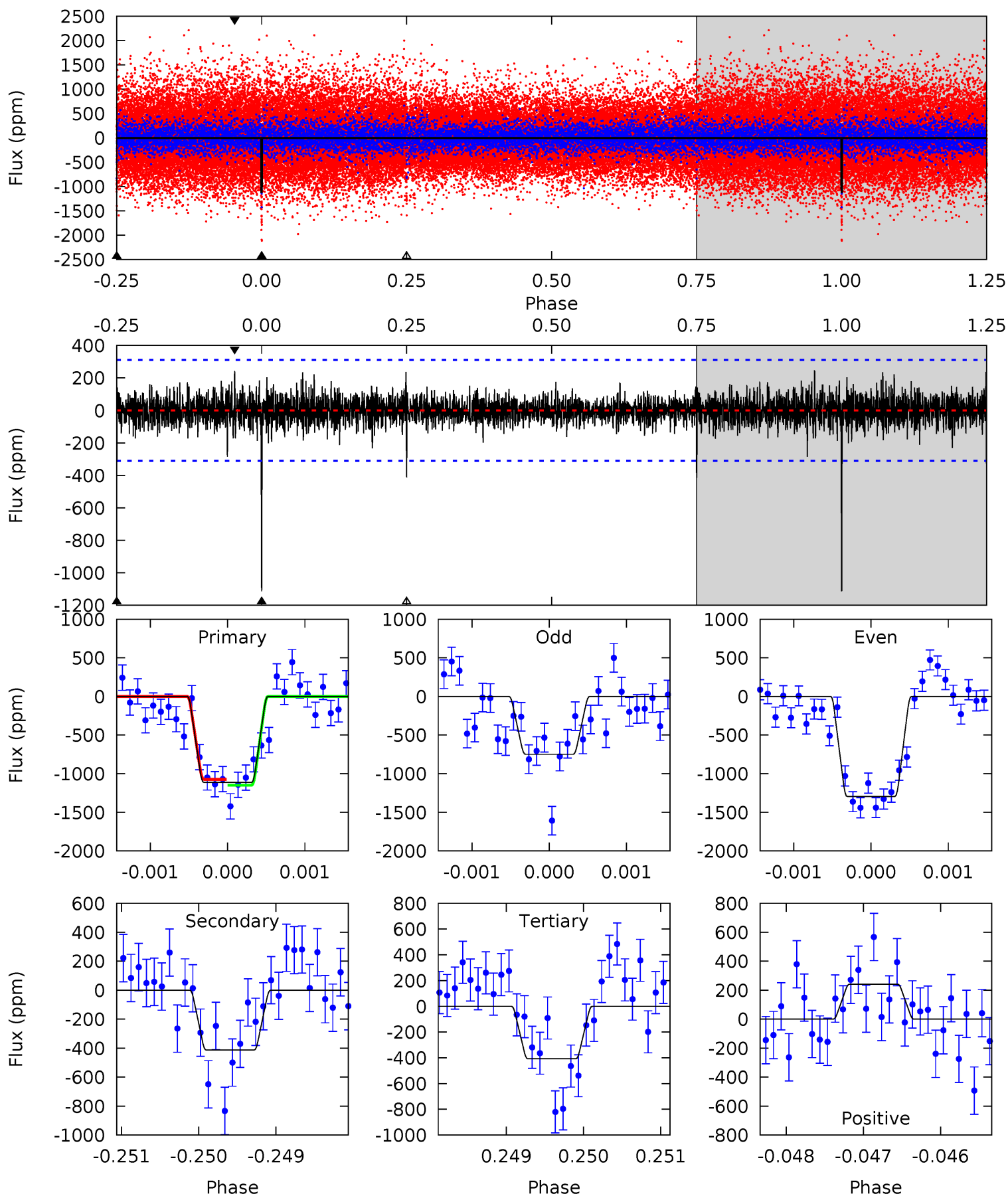
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	11.0	11.0	6.21	5.40	3.21	1.41	11.4	16.2	0.00	4.75	4.89	0.91	0.22	1.27



Alt Model-Shift Uniqueness Test

003650049-01, P = 397.732434 Days, E = 222.014260 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	7.23	7.13	4.23	5.43	3.26	1.05	12.3	15.2	0.09	3.00	4.49	0.90	0.18	0.67



Stellar Parameters For KIC 003650049

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5313^{+175}_{-143}	$4.521^{+0.099}_{-0.081}$	$-0.440^{+0.350}_{-0.300}$	$0.768^{+0.100}_{-0.090}$	$0.714^{+0.104}_{-0.045}$	$2.223^{+0.943}_{-0.558}$
	+3%/-3%	+2%/-2%	+80%/-68%	+13%/-12%	+15%/-6%	+42%/-25%
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 003650049-01 / KOI 4249.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-582 ± 53	$3.48^{+0.37}_{-0.35}$	295^{+13}_{-13}	4262^{+188}_{-154}	24175^{+5482}_{-4817}
Alt.	-413 ± 57	$2.94^{+0.32}_{-0.32}$	295^{+13}_{-12}	4273^{+216}_{-206}	23934^{+6900}_{-5229}

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 $A_{obs} \gg 1.0$

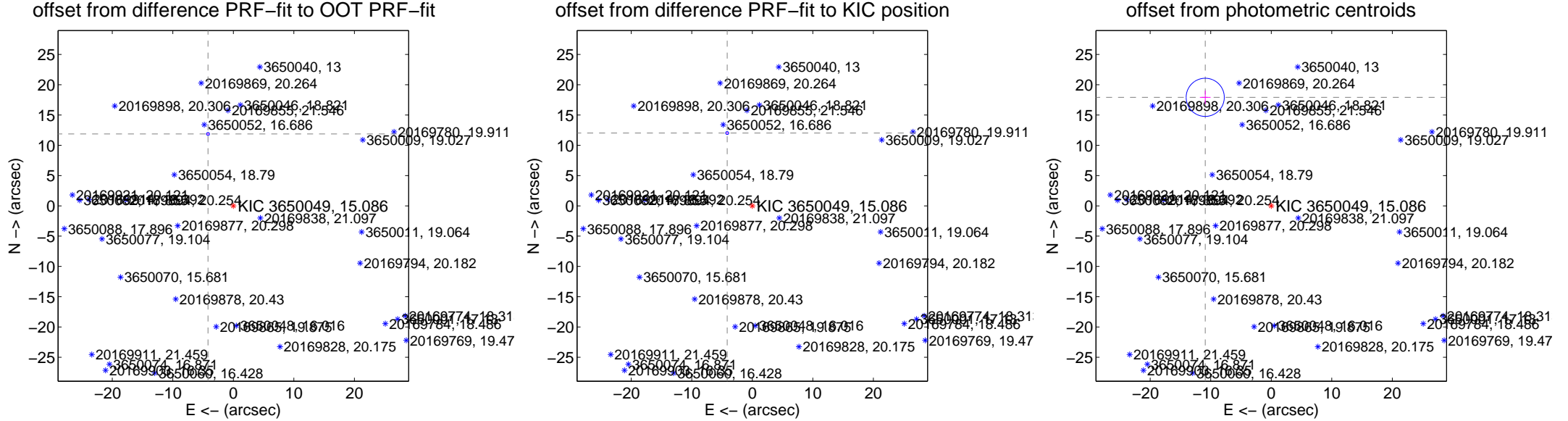
DV Centroid Data

Supplemental centroid analysis for 003650049-01. Kepler magnitude: 15.09. Transit SNR 13.89

There are 1 quarters with good PRF difference image offsets

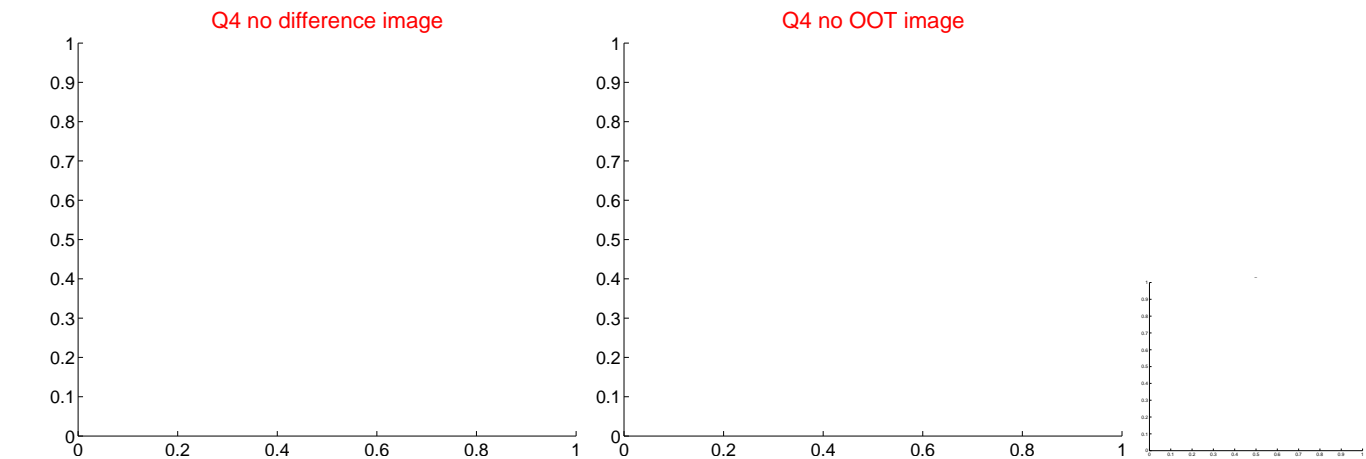
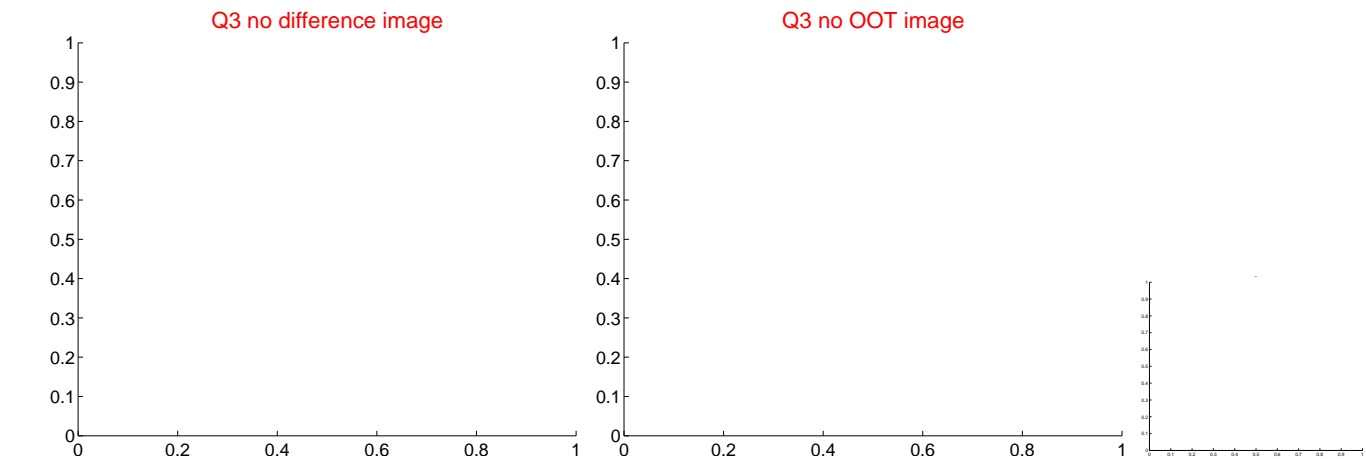
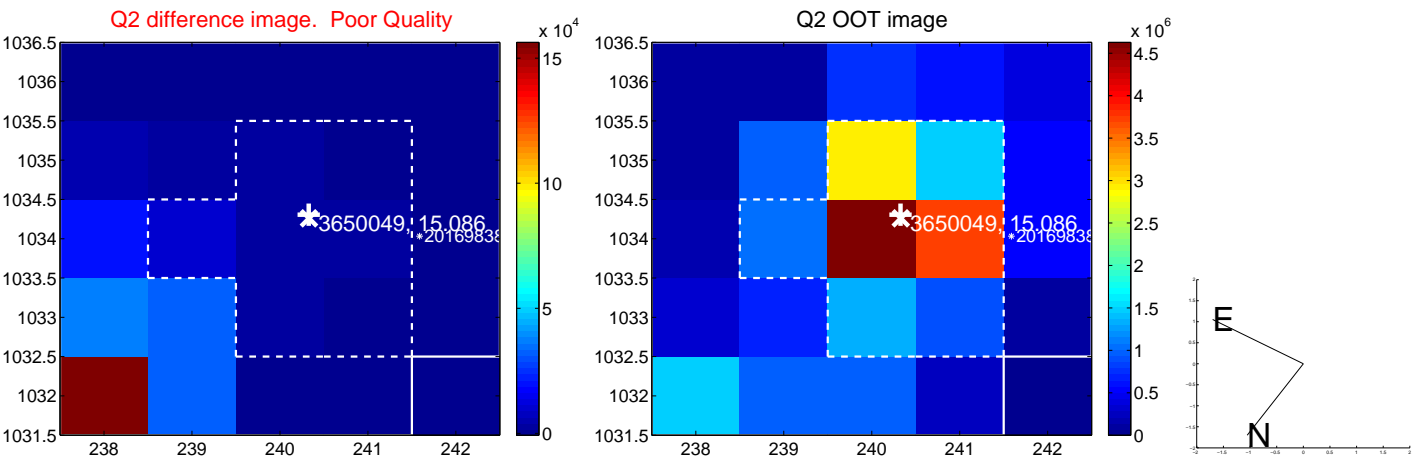
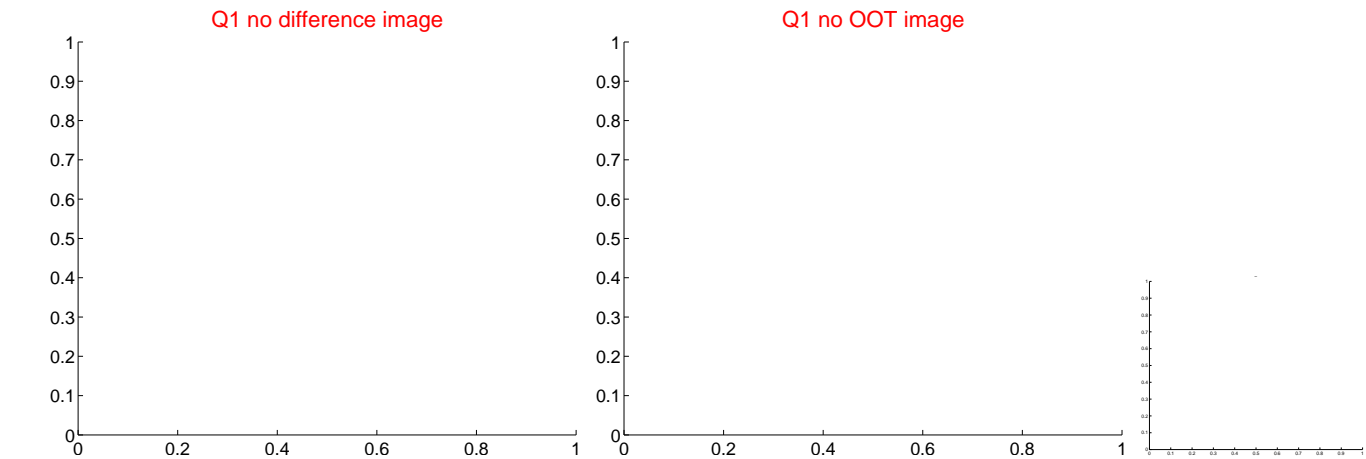
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.585 ± 0.082	153.60	4.183 ± 0.081	11.869 ± 0.082
PRF-fit source offset from KIC position	12.717 ± 0.082	155.20	4.149 ± 0.081	12.021 ± 0.082
photometric centroid source offset	20.98 ± 1.05	19.98	10.91 ± 0.88	17.92 ± 1.11

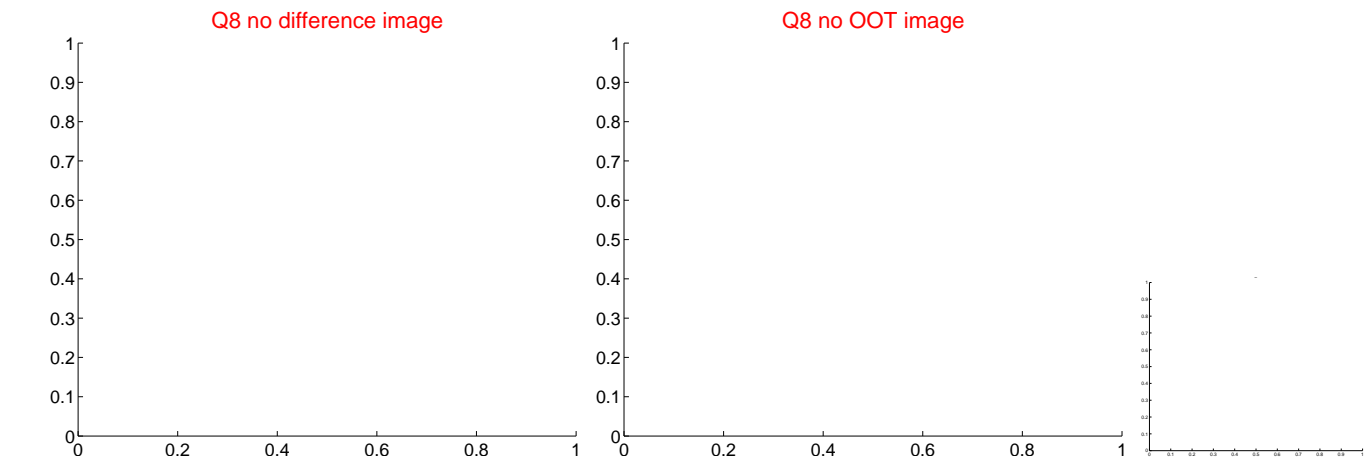
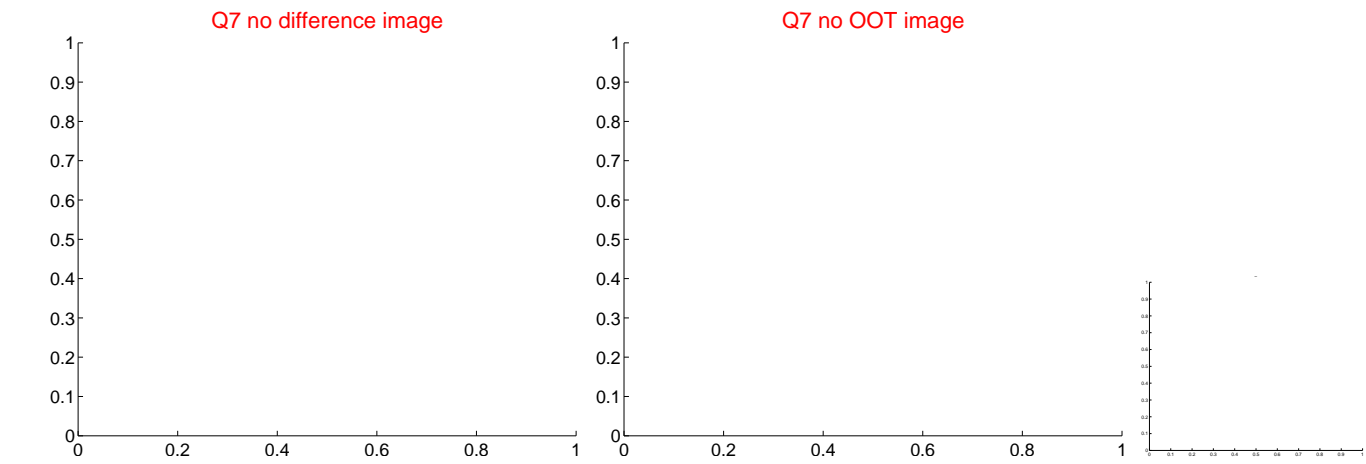
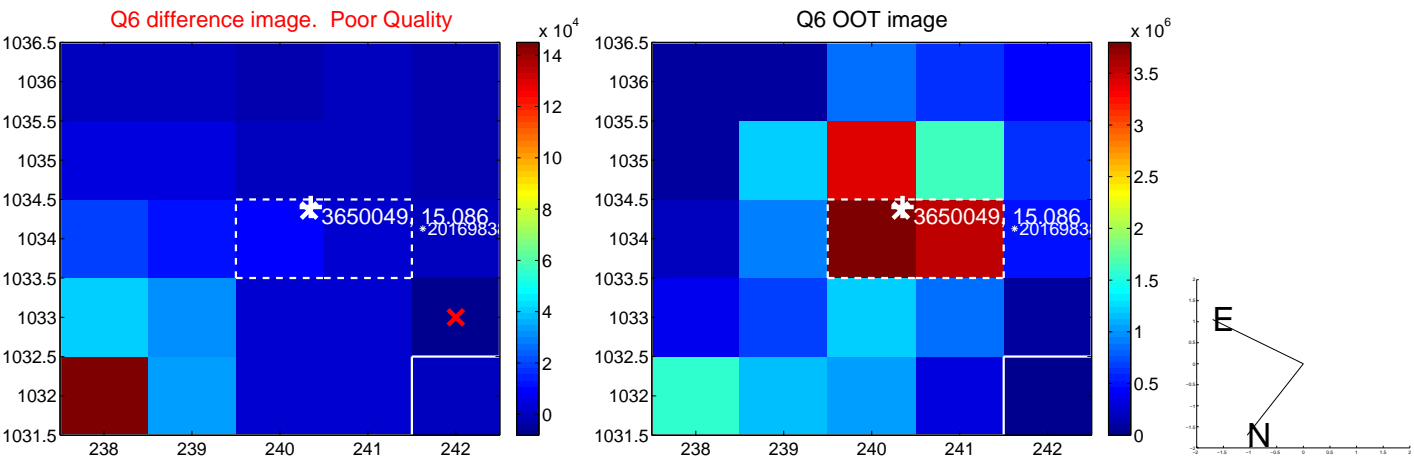
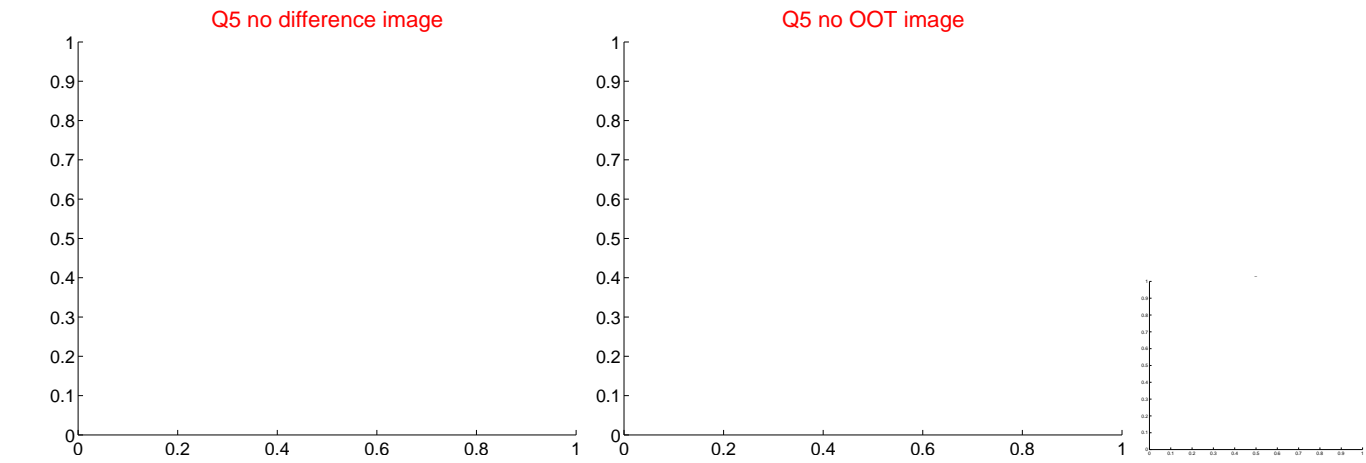


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q9 no difference image



Q9 no OOT image



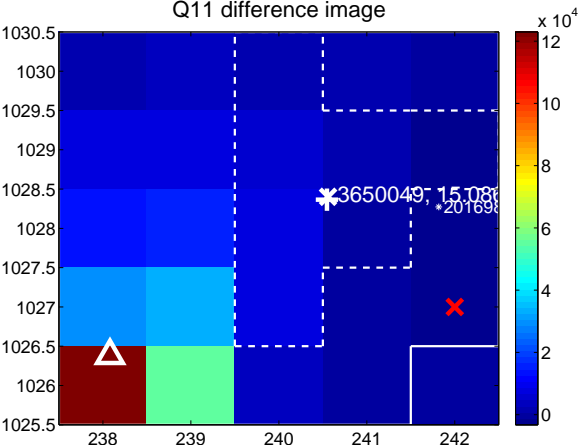
Q10 no difference image



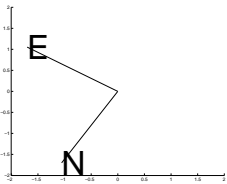
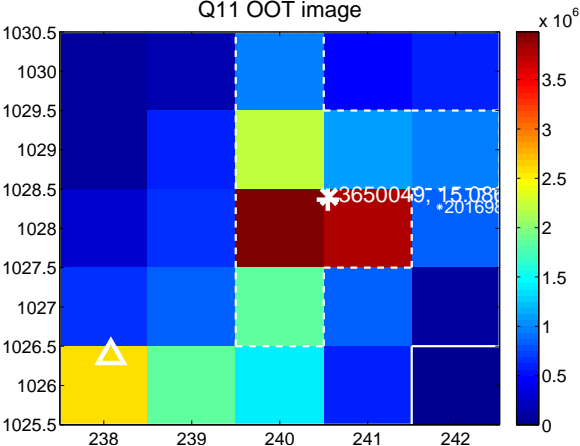
Q10 no OOT image



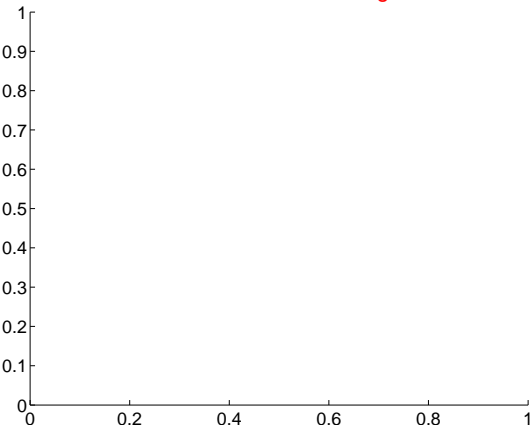
Q11 difference image



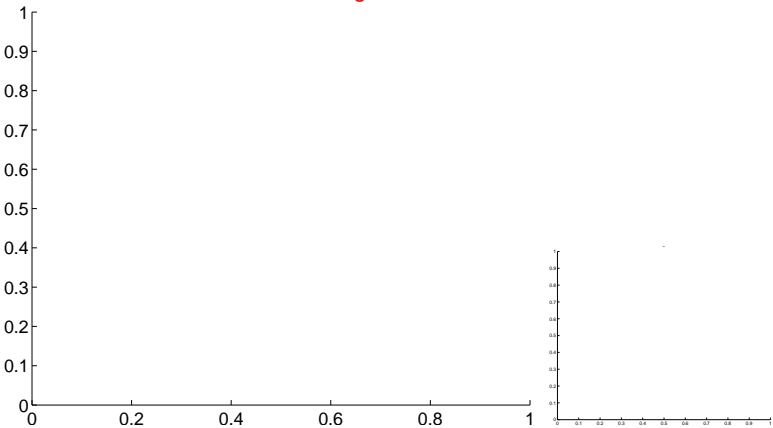
Q11 OOT image



Q12 no difference image



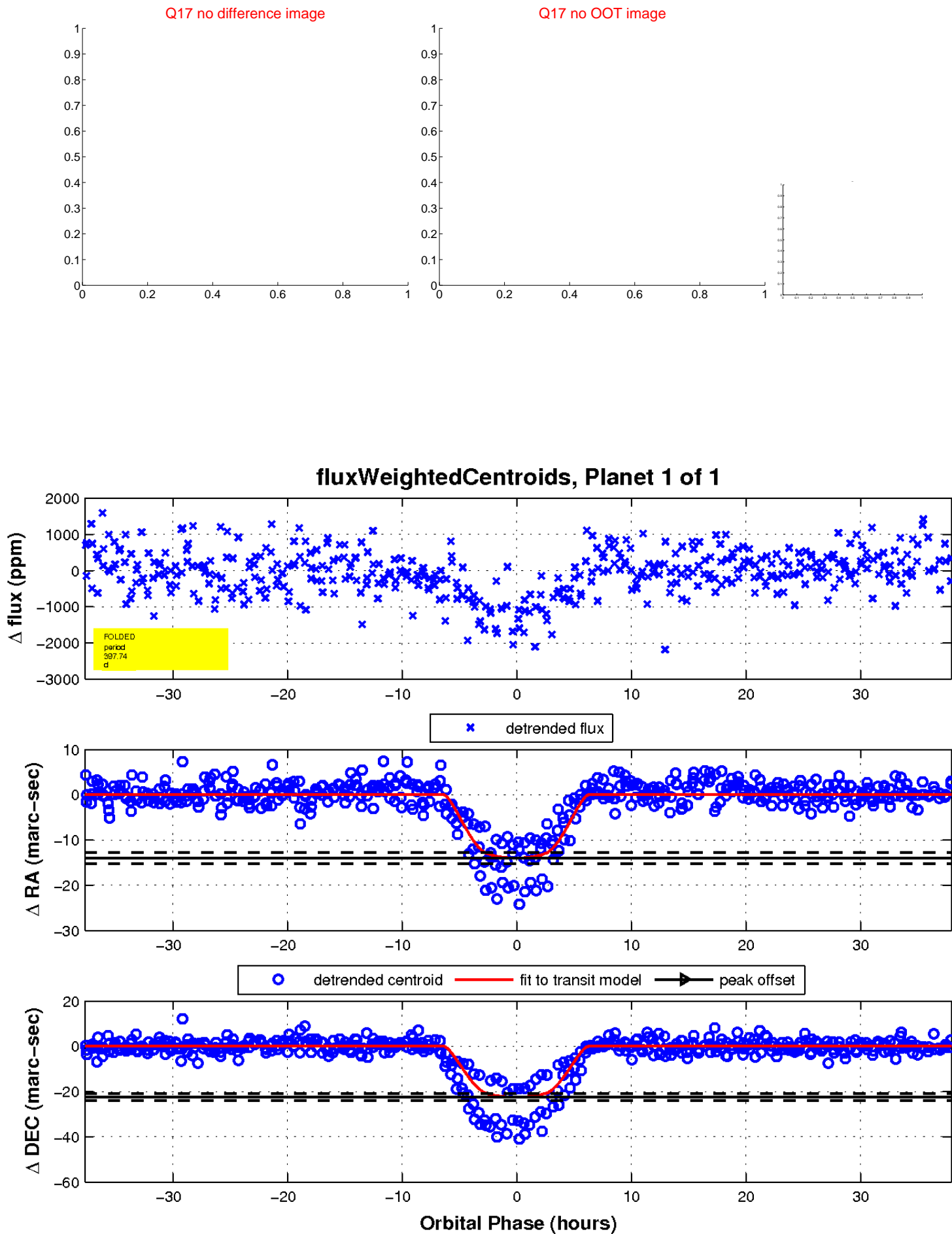
Q12 no OOT image



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

