

KIC 010744554

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})
010744554-01	OBS	No	390.618767	451.020366	608.3	2.642	7.3	7.5	4.68	5031	11.91	8.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010744554-01	OBS	FP	0.08	1	0	0	0	MOD_NONUNIQ_ALT

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

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

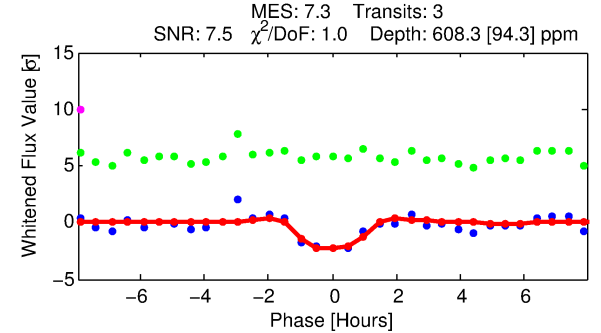
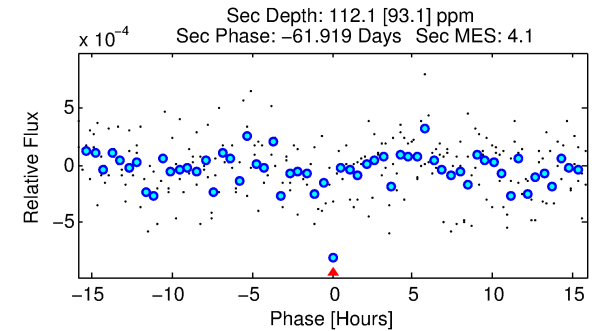
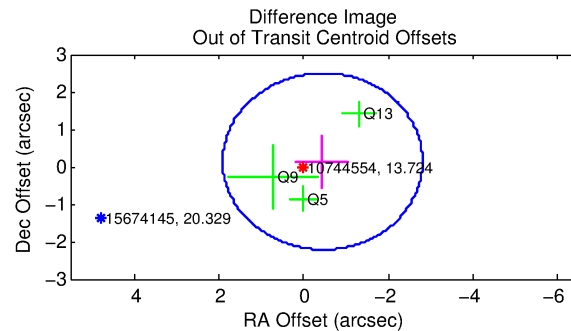
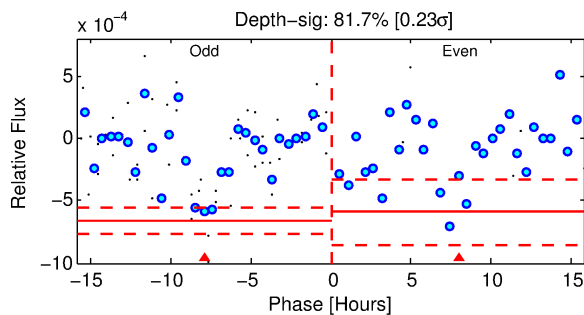
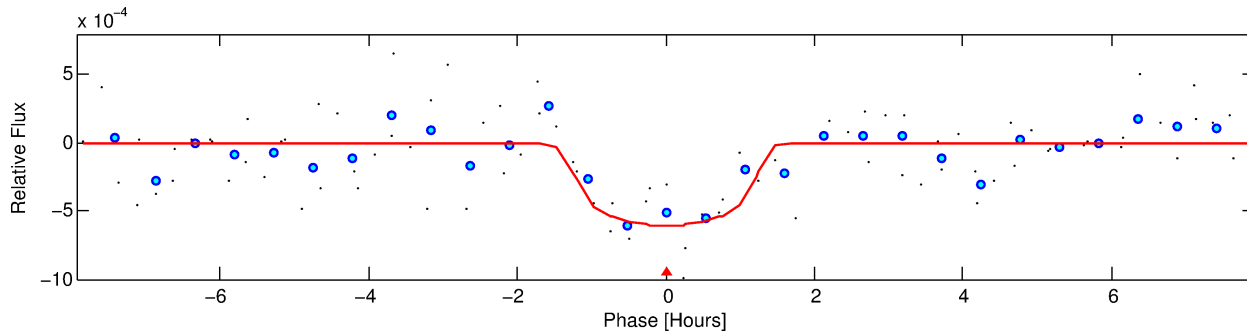
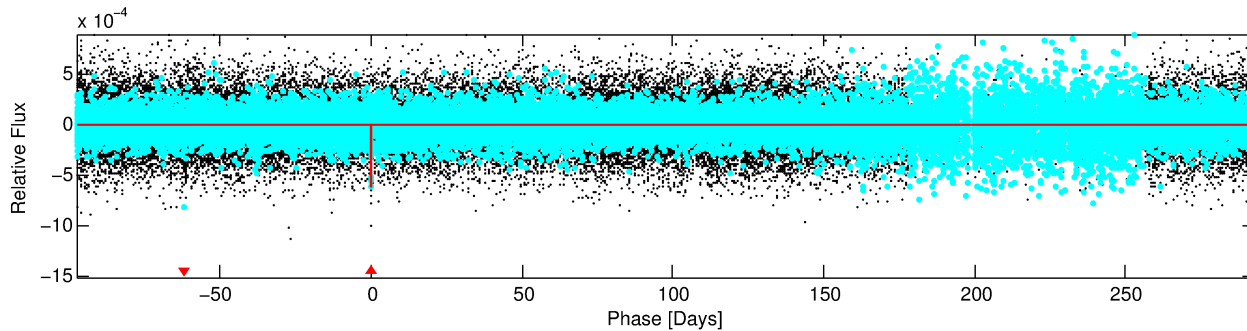
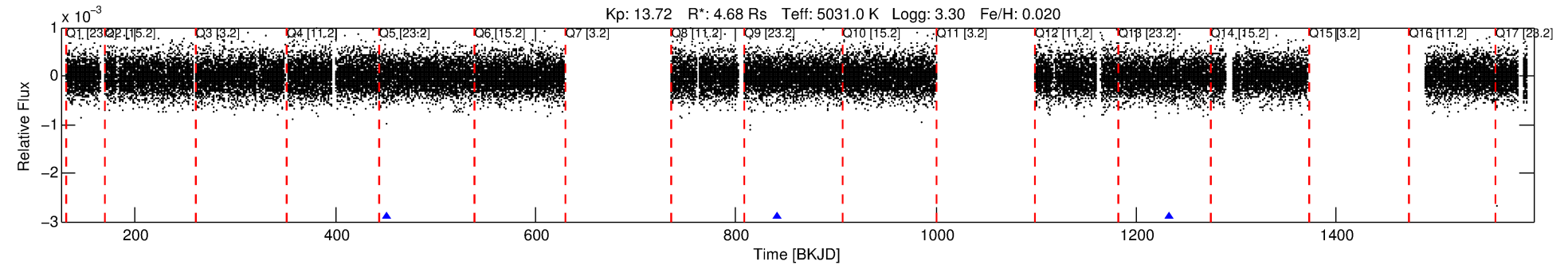
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010744554-01

No Significant Match Found

DV One-Page Summary

KIC: 10744554 Candidate: 1 of 1 Period: 390.619 d



DV Fit Results:

Period = 390.61877 [0.00494] d
Epoch = 451.0204 [0.0072] BKJD
Rp/R* = 0.0233 [0.0641]
a/R* = 941.87 [9018.36]
b = 0.59 [10.68]
Seff = 8.42 [2.84]
Teq = 434 [37] K
Rp = 11.91 [32.91] Re
a = 1.2219 [0.2852] AU
Ag = 648.60 [3610.77] [0.18σ]
Teffp = 3389 [4709] K [0.63σ]

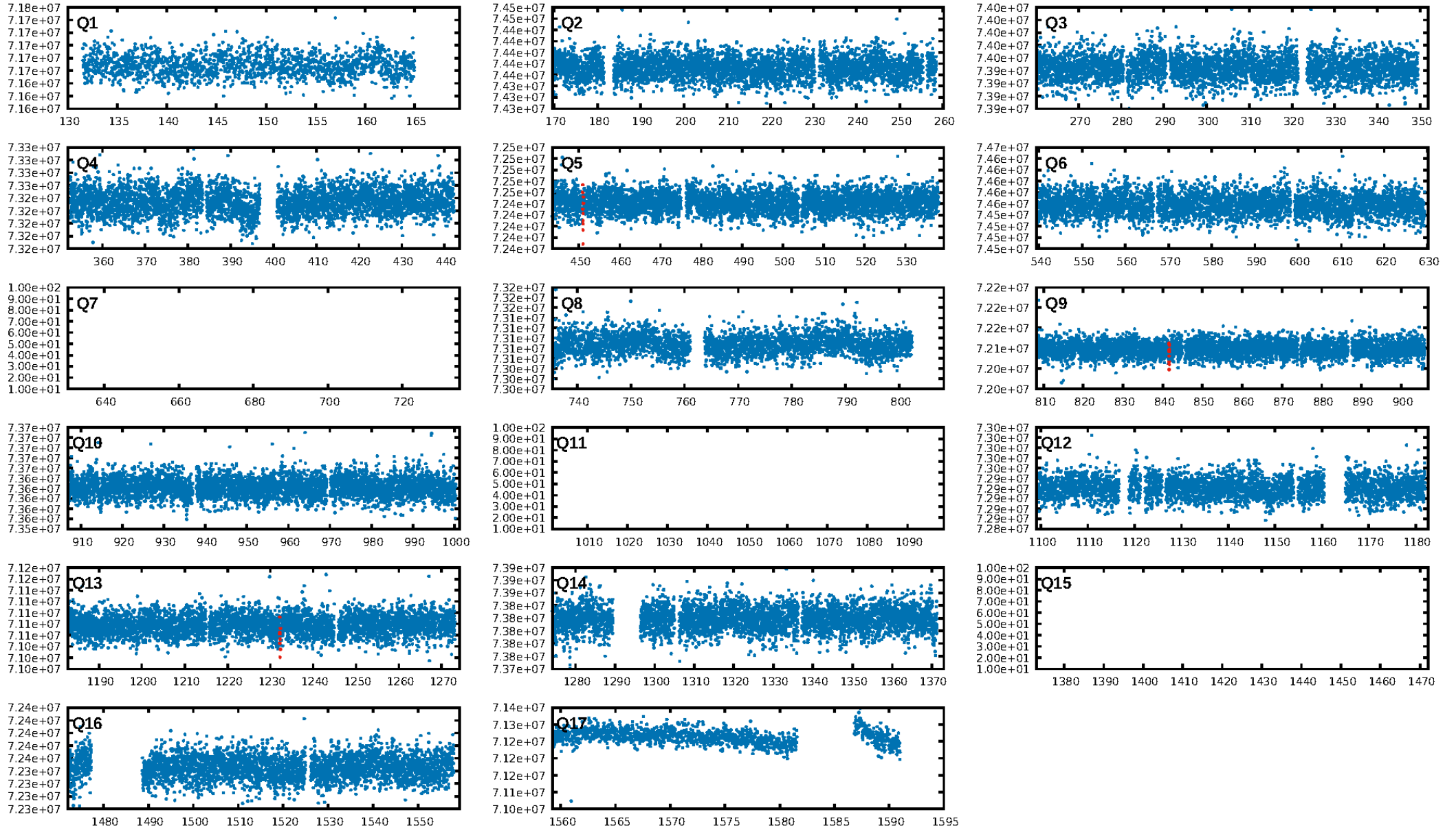
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.6%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 3.10e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -8.495
Centroid-sig: 35.6%
Centroid-so: 1.174 arcsec [1.13σ]
OotOffset-rm: 0.475 arcsec [0.60σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 0.462 arcsec [0.74σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

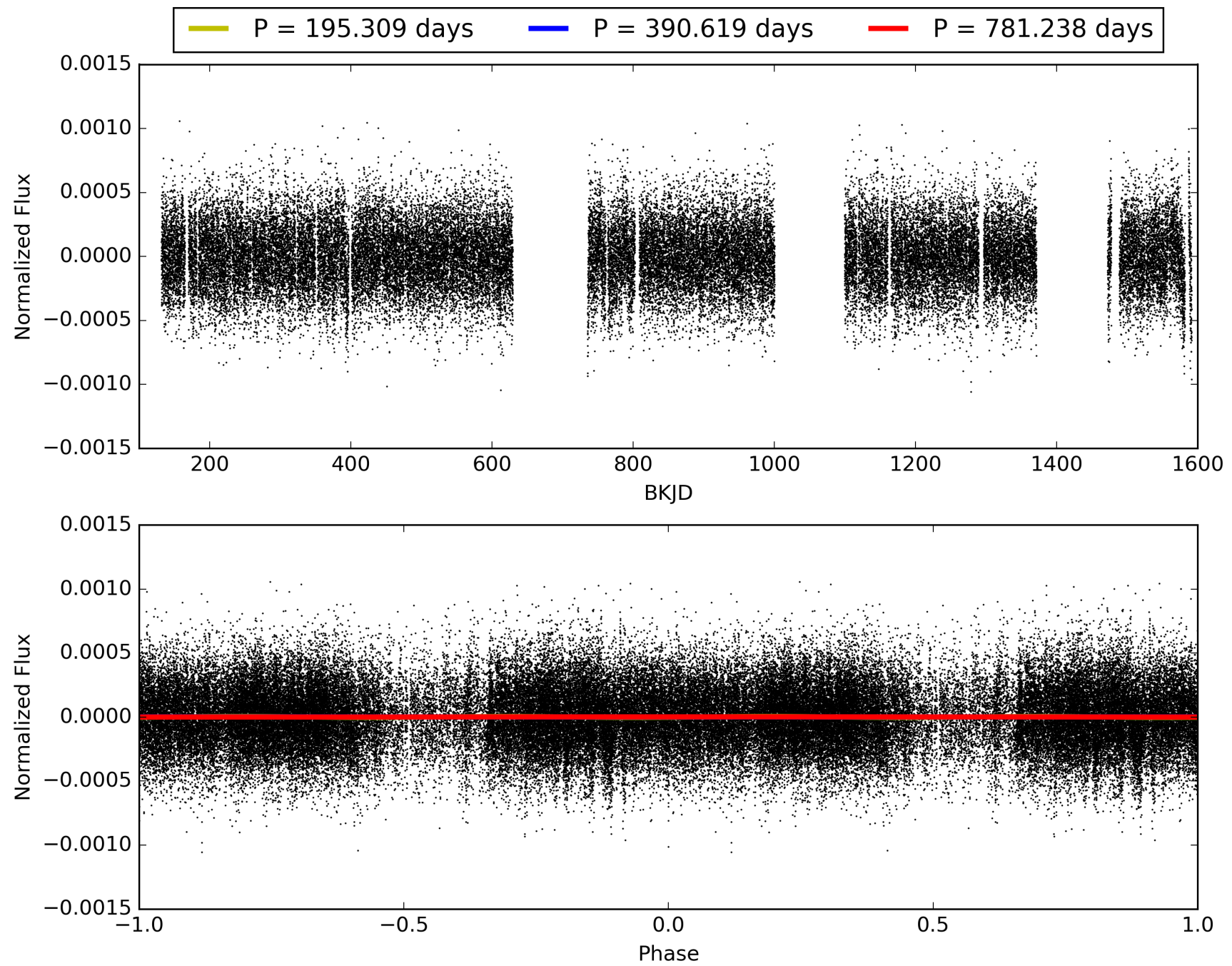
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:56:34 Z

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

TCE 010744554-01, PDC Light Curves

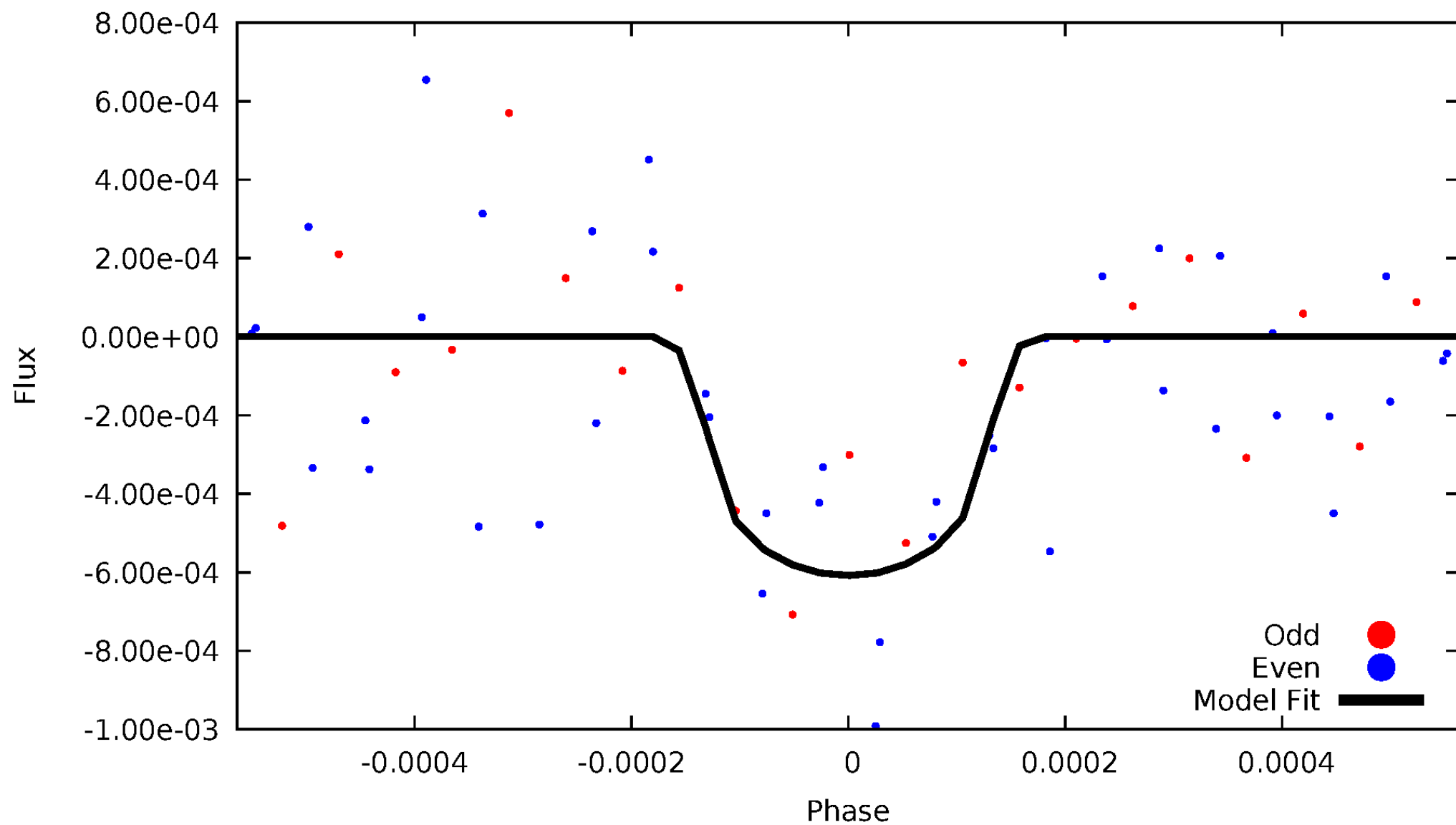


TCE 010744554-01



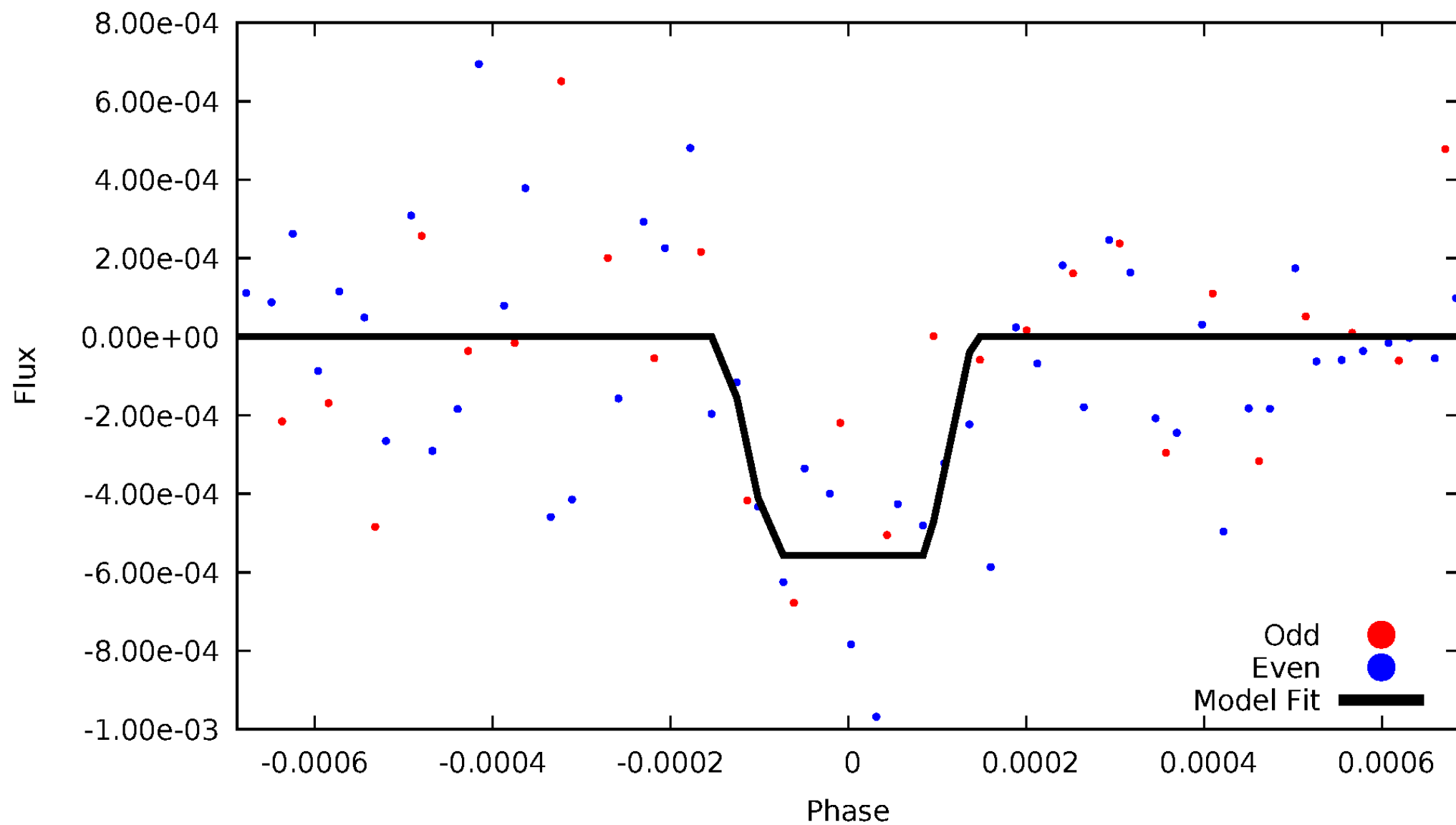
DV Odd/Even

TCE 010744554-01

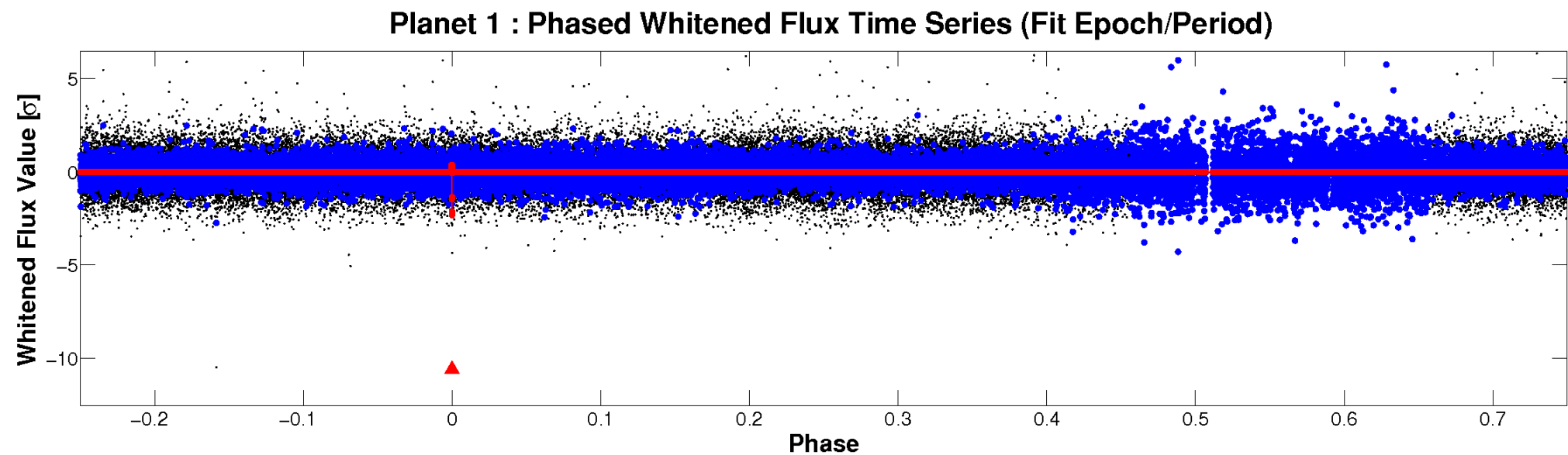
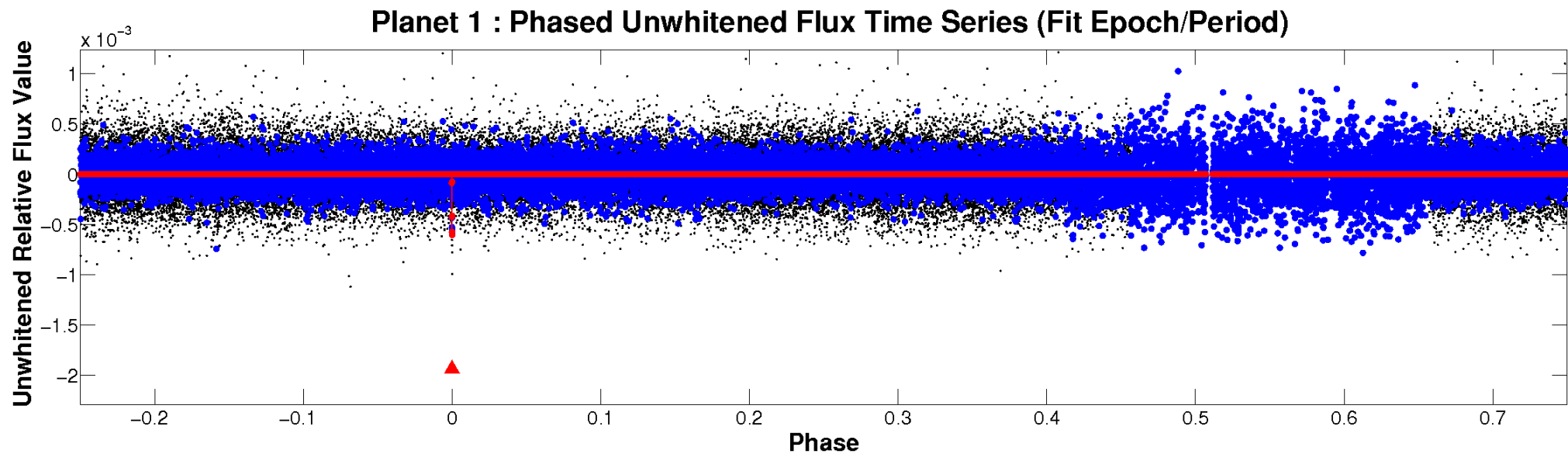


ALT Odd/Even

TCE 010744554-01

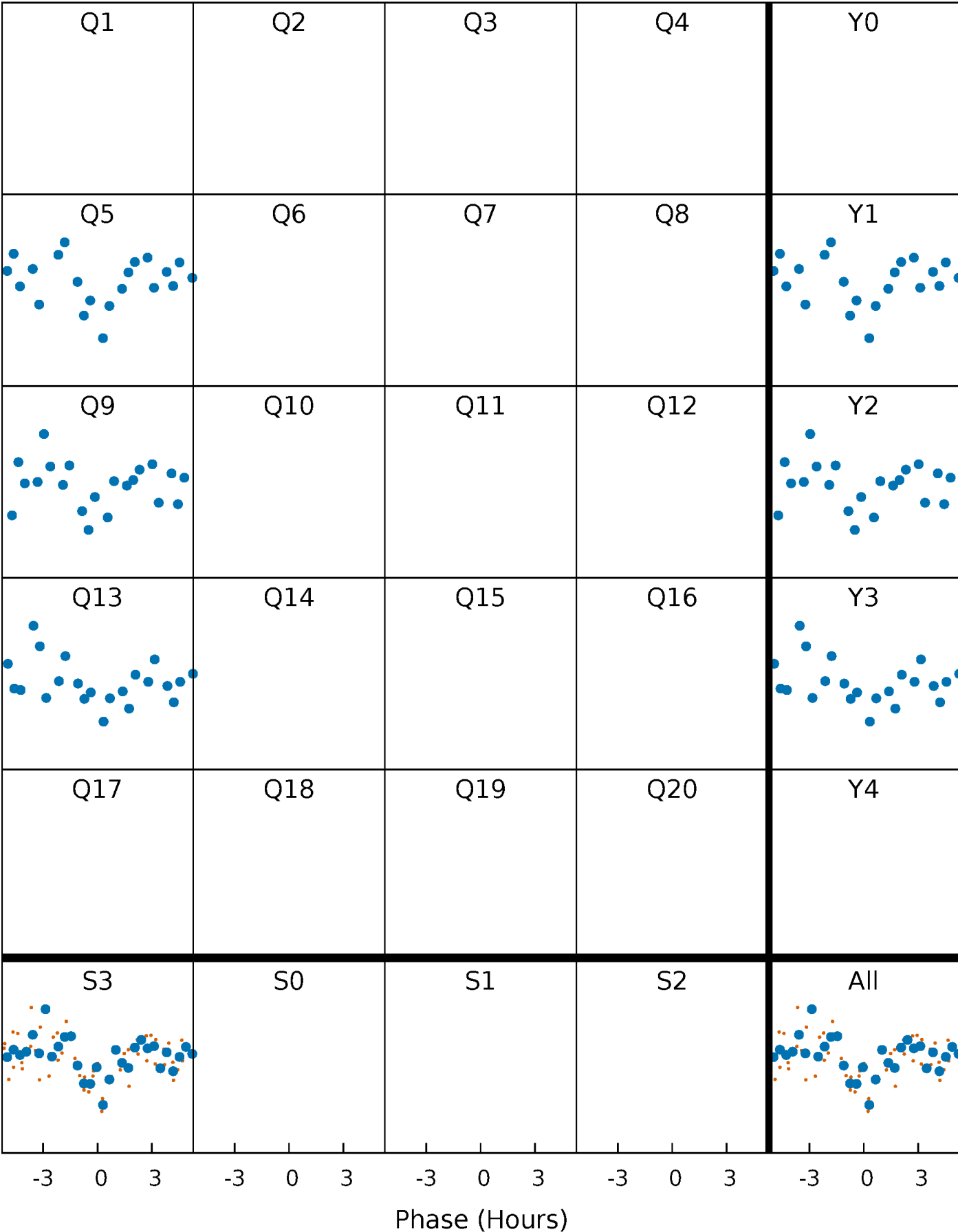


Non-Whitened Vs. Whitened Light Curve



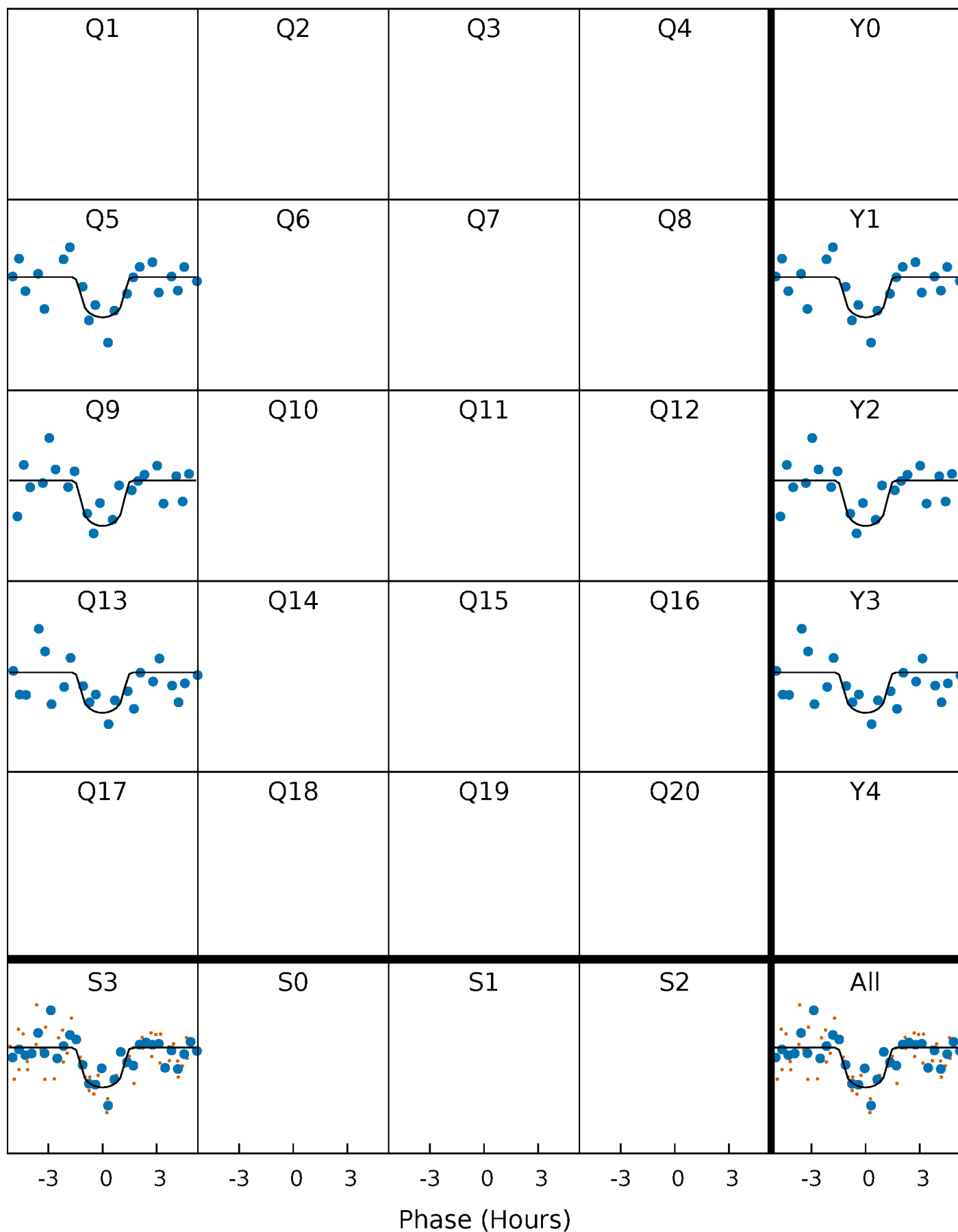
PDC Quarter-Phased Transit Curves

TCE 010744554-01 P=390.618766 Days $T_0=451.020366$ (BKJD)



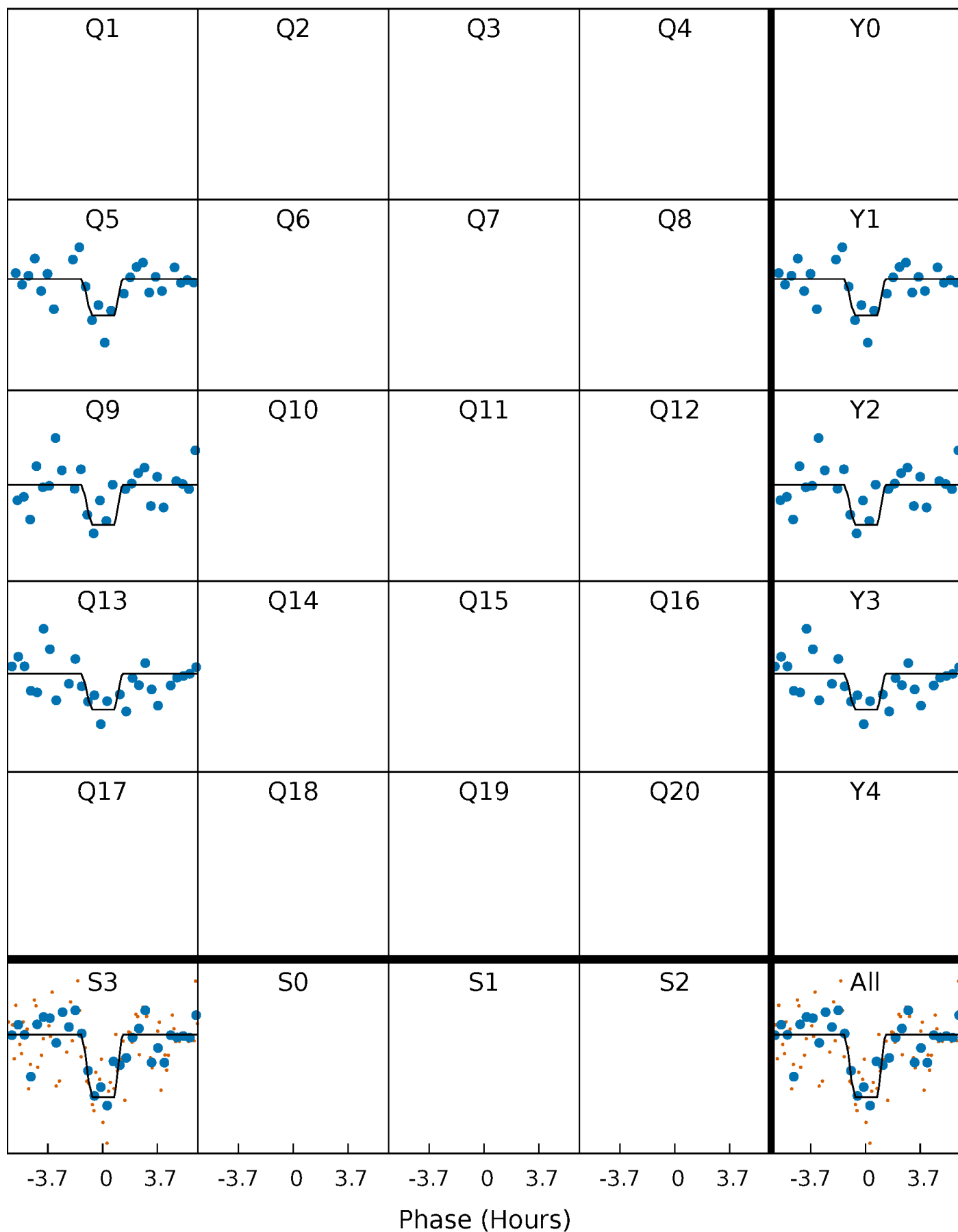
DV Quarter-Phased Transit Curves

TCE 010744554-01 P=390.618766 Days $T_0=451.020366$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

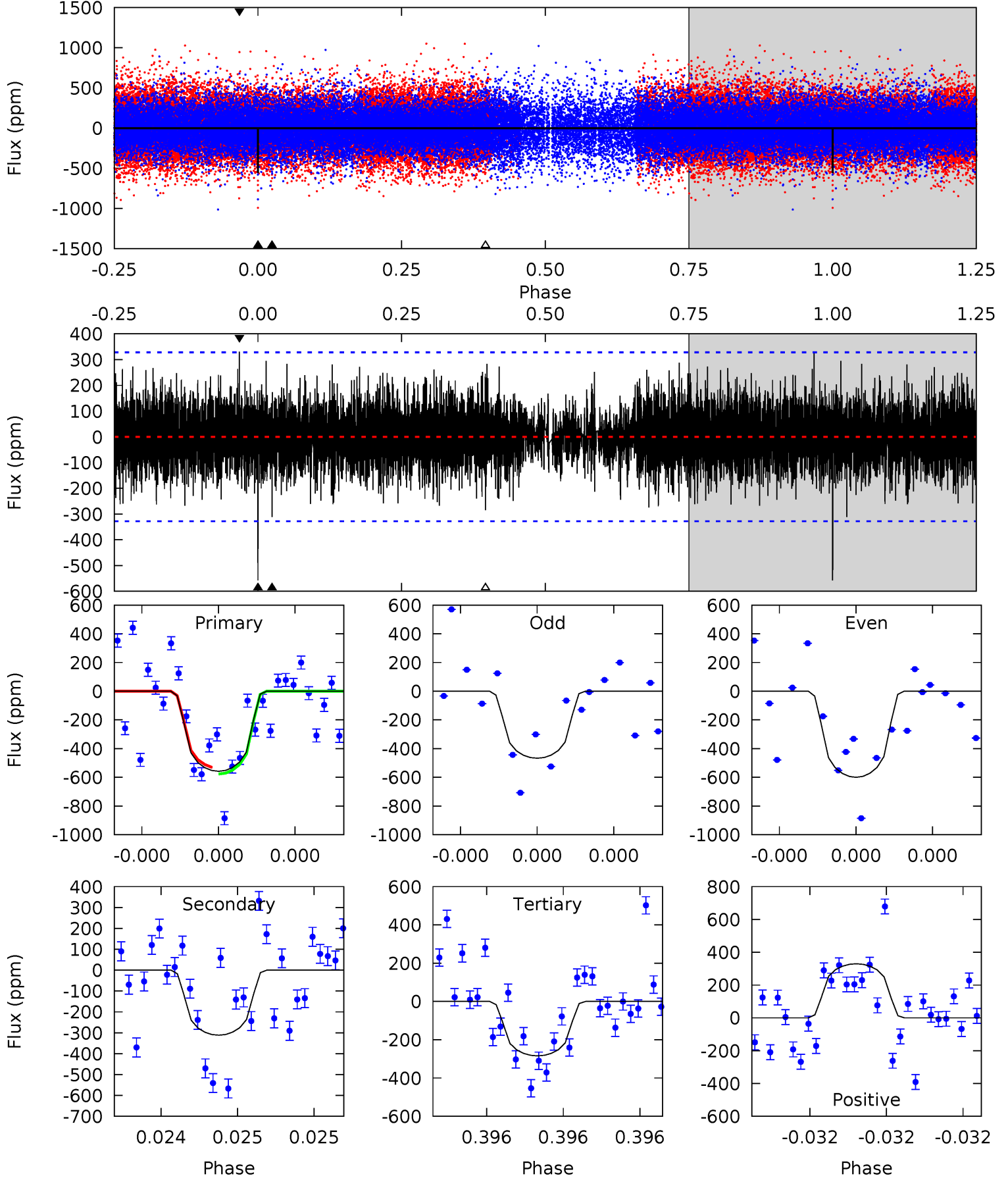
TCE 010744554-01 P=390.625043 Days $T_0=451.017912$ (BKJD)



DV Model-Shift Uniqueness Test

010744554-01, P = 390.618766 Days, E = 60.401600 Days

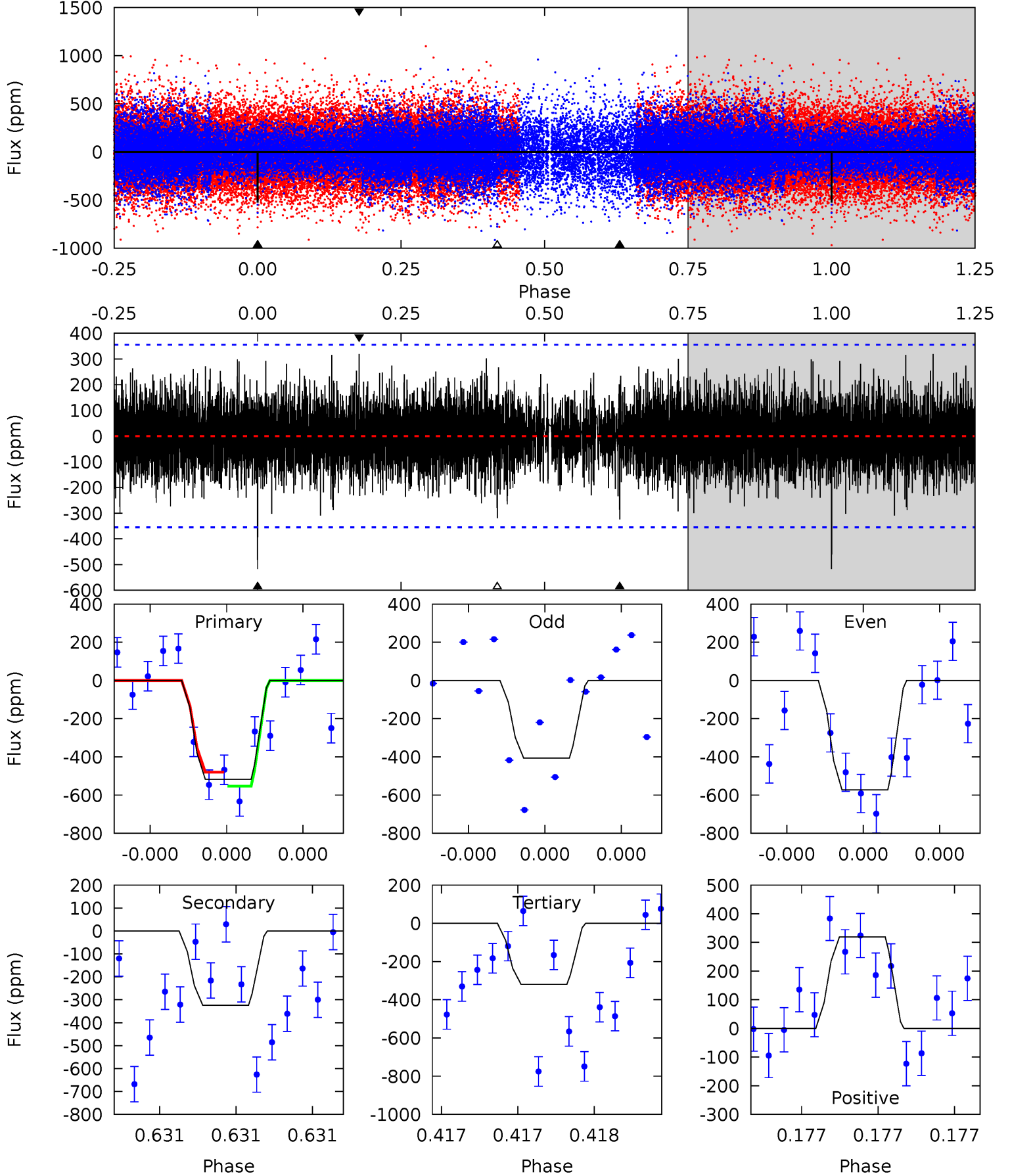
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.64	5.38	4.91	5.70	5.67	3.62	1.42	4.73	3.94	0.47	-0.32	1.08	1.04	0.37	0.40



Alt Model-Shift Uniqueness Test

010744554-01, P = 390.625043 Days, E = 60.392869 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.28	5.18	5.11	5.11	5.69	3.65	1.34	3.17	3.17	0.07	0.08	1.28	0.98	0.38	0.59



Stellar Parameters For KIC 010744554

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5031^{+52}_{-97}	$3.300^{+0.174}_{-0.116}$	$0.020^{+0.100}_{-0.200}$	$4.680^{+0.723}_{-1.344}$	$1.596^{+0.198}_{-0.495}$	$0.022^{+0.022}_{-0.007}$
	+1%/-2%	+5%/-4%	+500%/-1000%	+15%/-29%	+12%/-31%	+101%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010744554-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-311 ± 58	$27.85^{+27.38}_{-19.36}$	605^{+28}_{-40}	3325^{+1706}_{-584}	320^{+3348}_{-237}
Alt.	-324 ± 63	$25.90^{+26.37}_{-18.19}$	603^{+30}_{-34}	3389^{+1883}_{-592}	383^{+3402}_{-289}

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

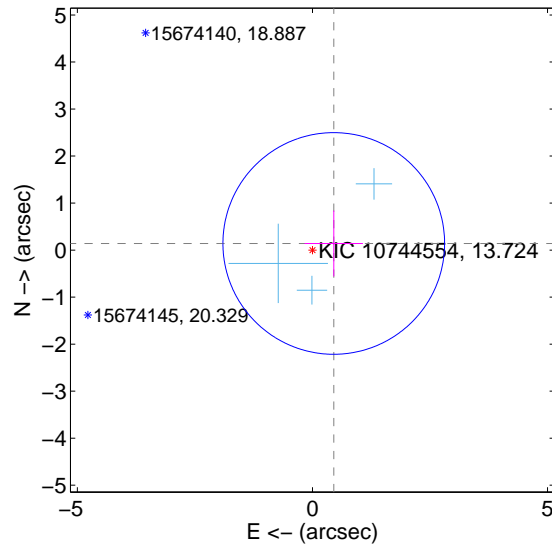
Supplemental centroid analysis for 010744554-01. Kepler magnitude: 13.72. Transit SNR 7.49

There are 3 quarters with good PRF difference image offsets

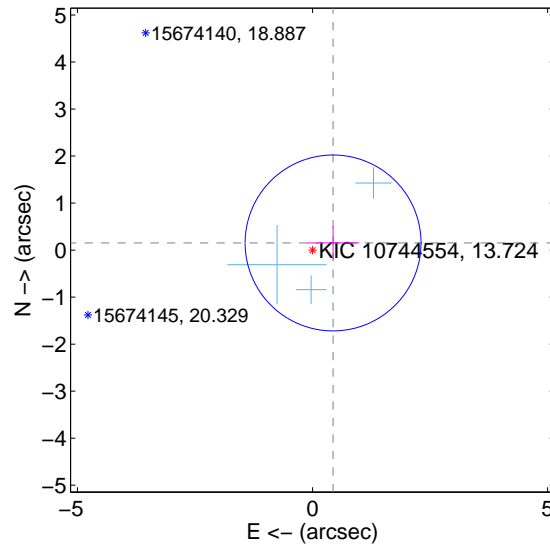
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.475 ± 0.786	0.60	-0.454 ± 0.620	0.141 ± 0.700
PRF-fit source offset from KIC position	0.462 ± 0.623	0.74	-0.437 ± 0.557	0.152 ± 0.356
photometric centroid source offset	1.17 ± 1.04	1.13	-1.17 ± 1.04	0.02 ± 1.17

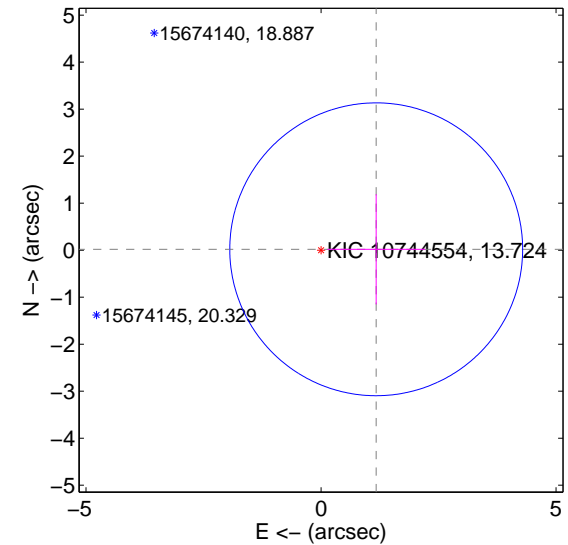
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

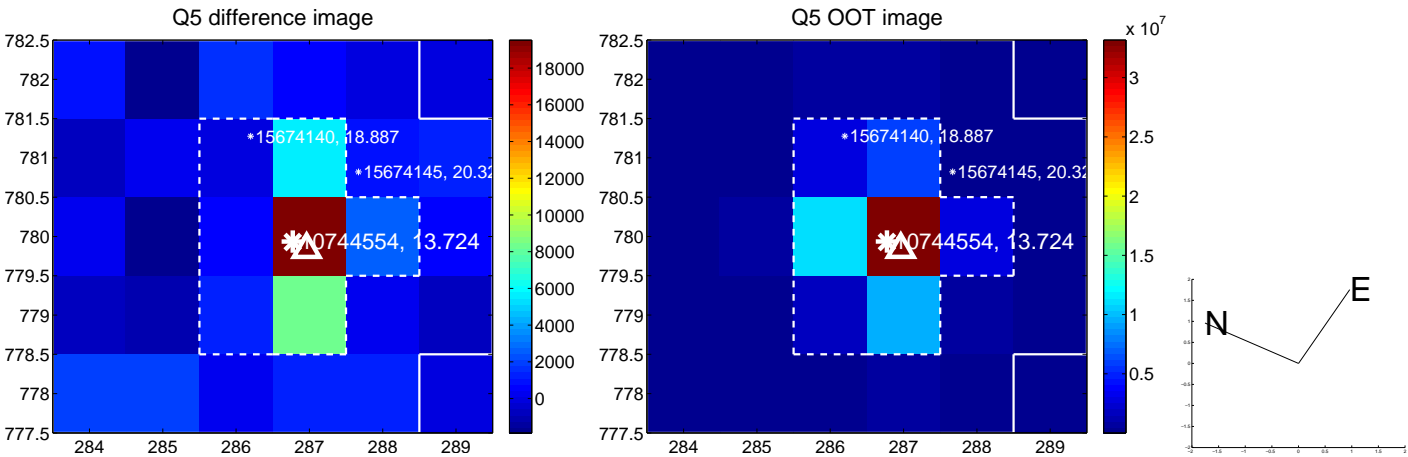


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

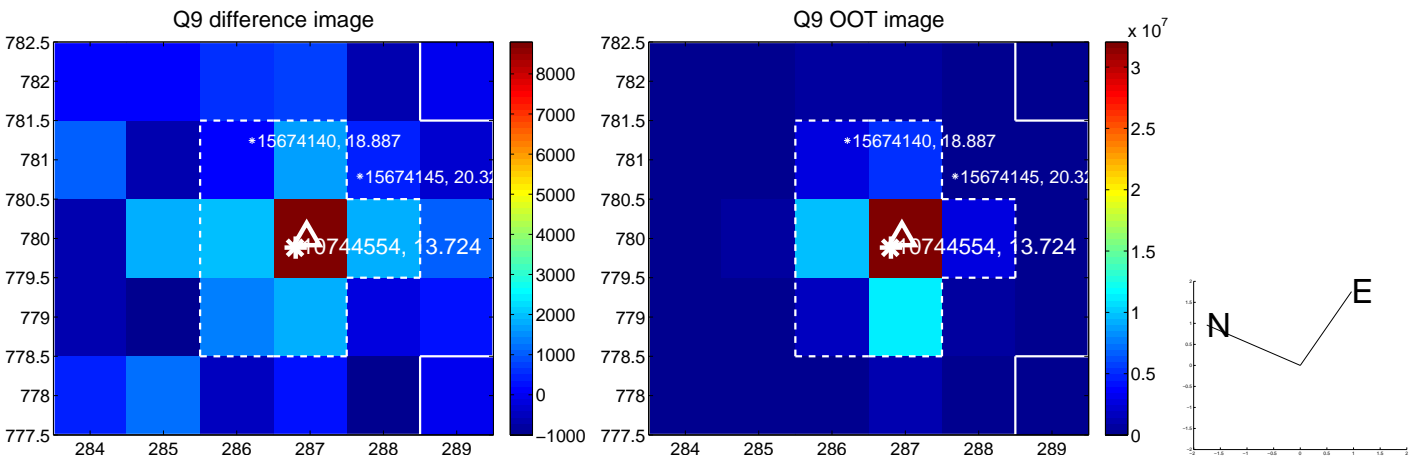
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



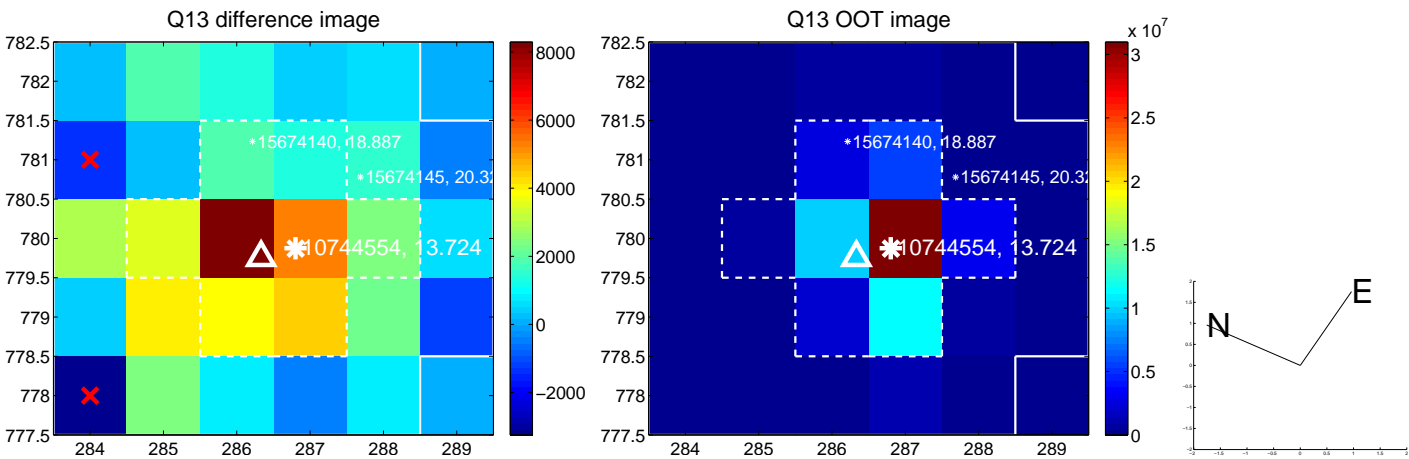
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



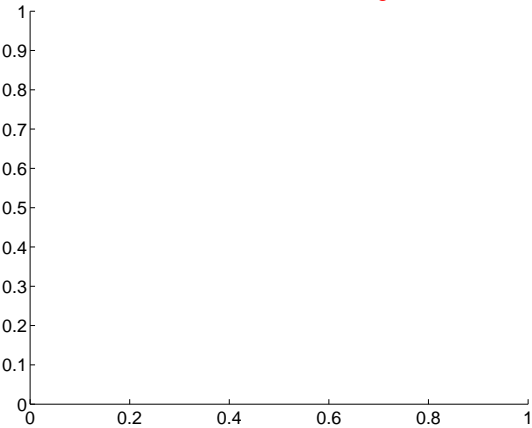
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



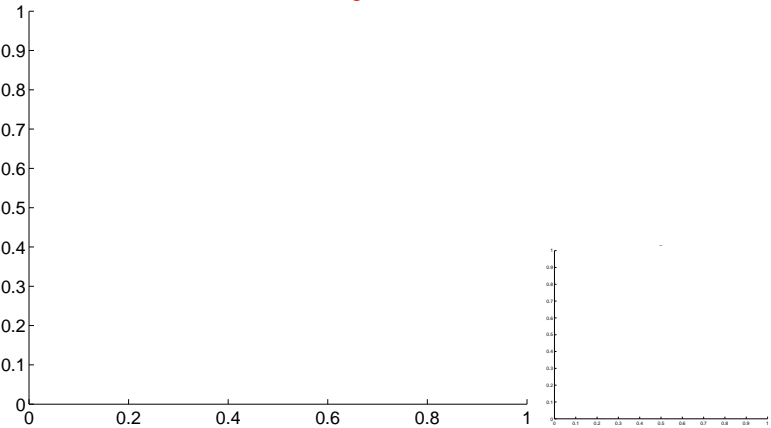
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



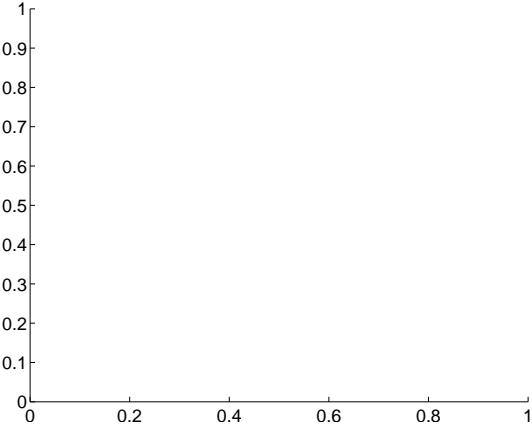
Q14 no difference image



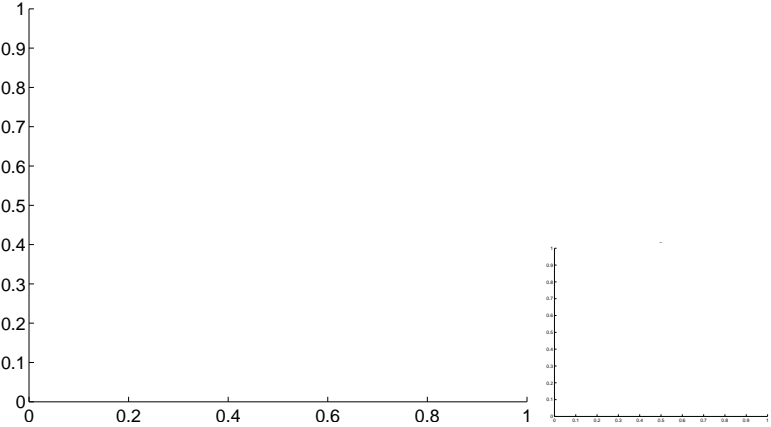
Q14 no OOT image



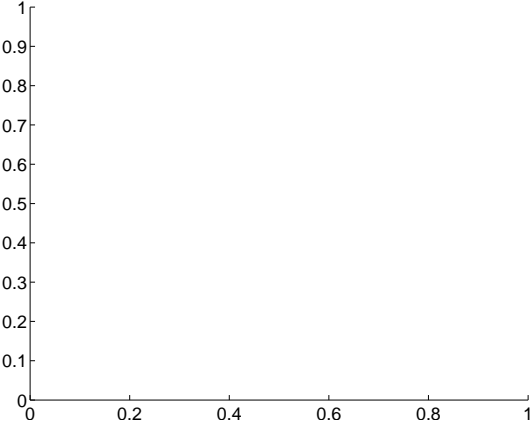
Q15 no difference image



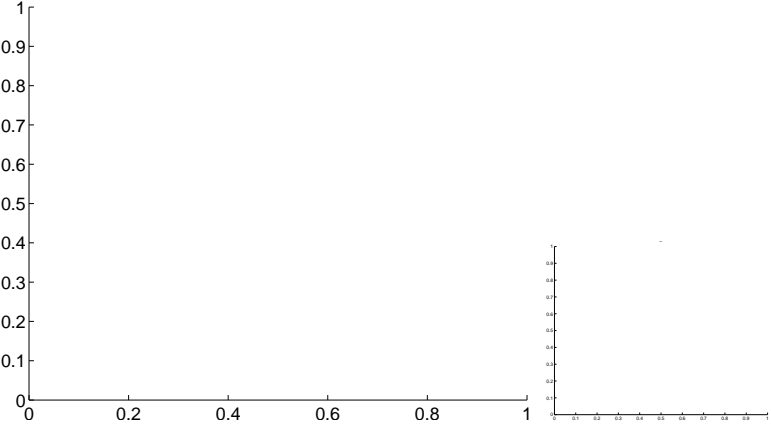
Q15 no OOT image



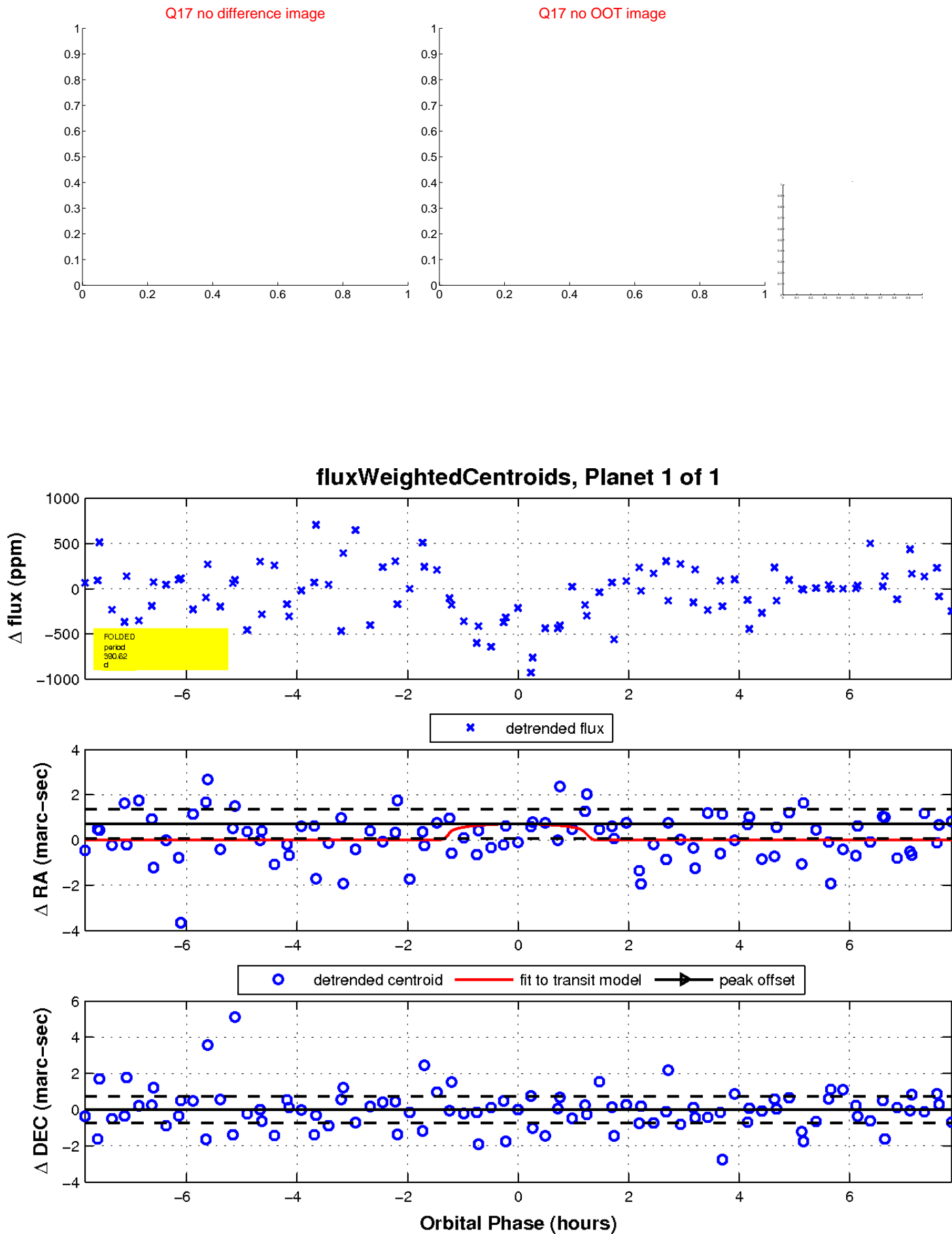
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

