

KIC 010354039

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})
010354039-01	OBS	1159.01	64.617540	166.143558	2469.2	5.833	58.2	55.4	0.88	5043	5.39	5.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010354039-01	OBS	PC	0.89	0	0	0	0	NO_COMMENT

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 010354039-01

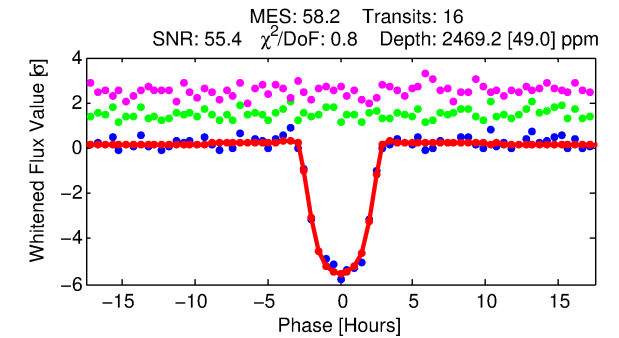
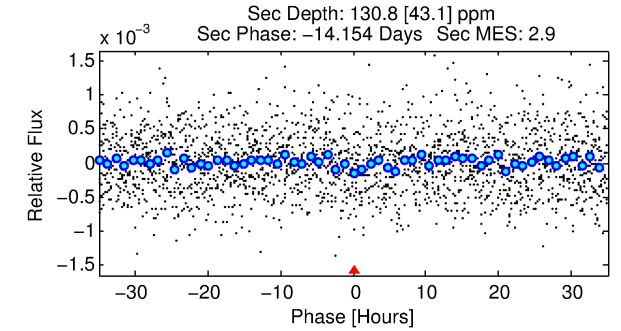
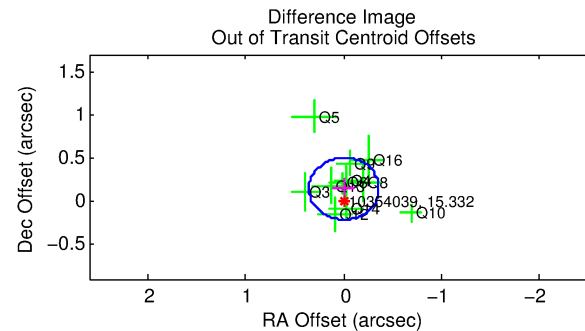
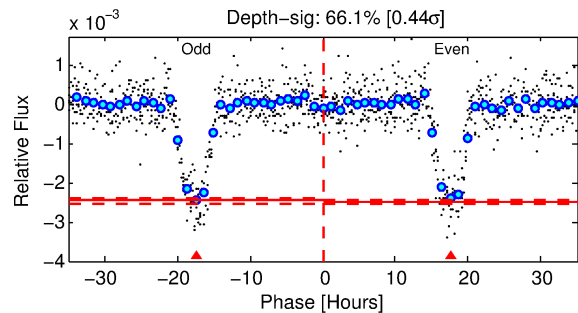
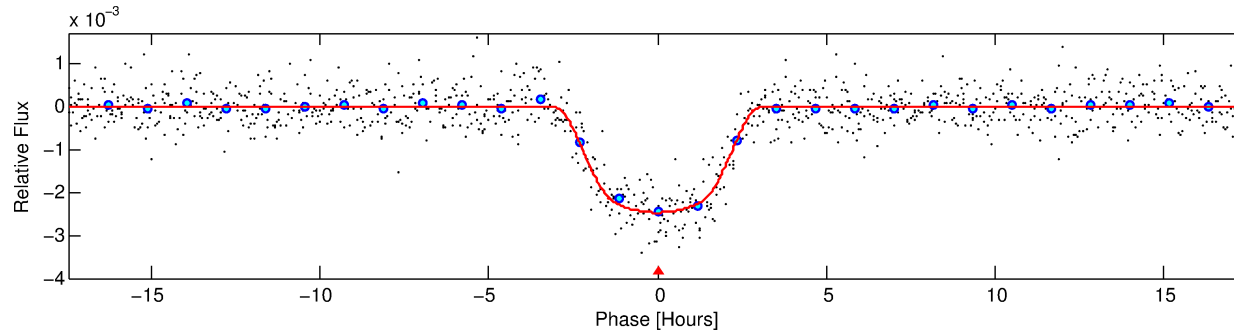
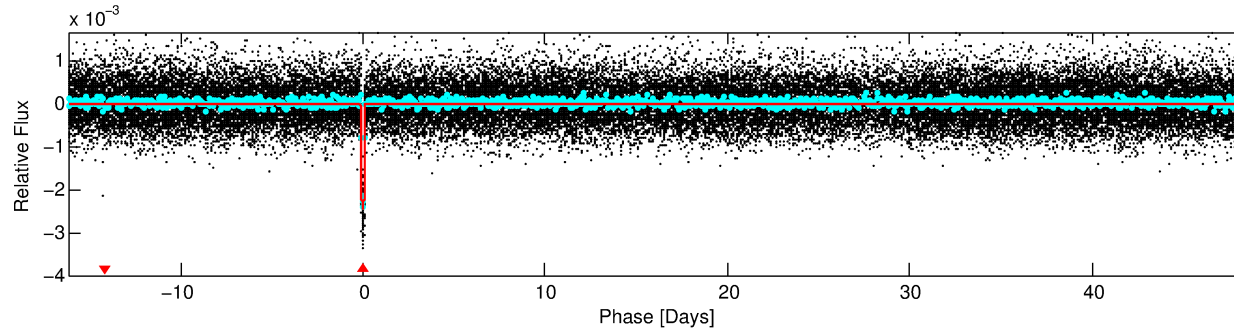
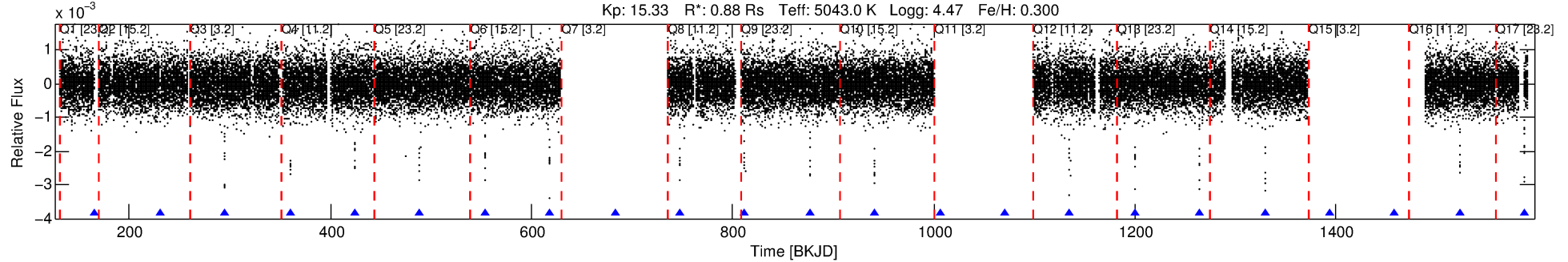
No Significant Match Found

DV One-Page Summary

KIC: 10354039 Candidate: 1 of 1 Period: 64.618 d

KOI: K01159.01 Corr: 0.991

Kp: 15.33 R*: 0.88 Rs Teff: 5043.0 K Logg: 4.47 Fe/H: 0.300



DV Fit Results:

Period = 64.61754 [0.00019] d
Epoch = 166.1436 [0.0024] BKJD
Rp/R* = 0.0561 [0.0012]
a/R* = 46.03 [2.60]
b = 0.91 [0.01]
Seff = 5.10 [1.12]
Teq = 383 [21] K
Rp = 5.40 [0.62] Re
a = 0.2969 [0.0325] AU
Ag = 217.92 [81.93] [2.65σ]
Teffp = 2277 [203] K [9.28σ]

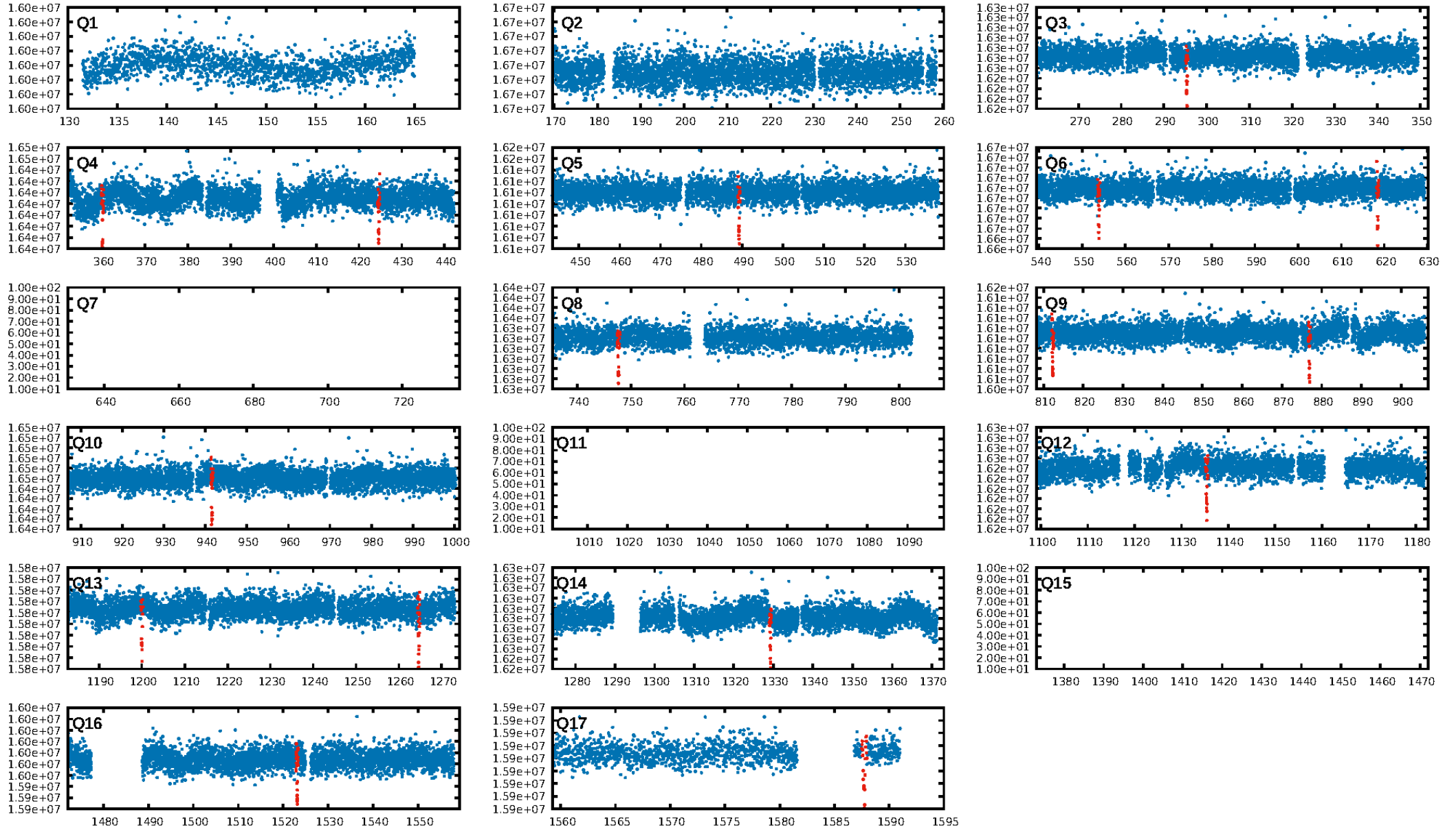
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 5.075
Centroid-sig: 25.5%
Centroid-so: 0.364 arcsec [1.34σ]
OotOffset-rm: 0.144 arcsec [1.21σ]
KicOffset-rm: 0.290 arcsec [2.45σ]
OotOffset-st: 3/1/4/3 [11]
KicOffset-st: 3/1/4/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

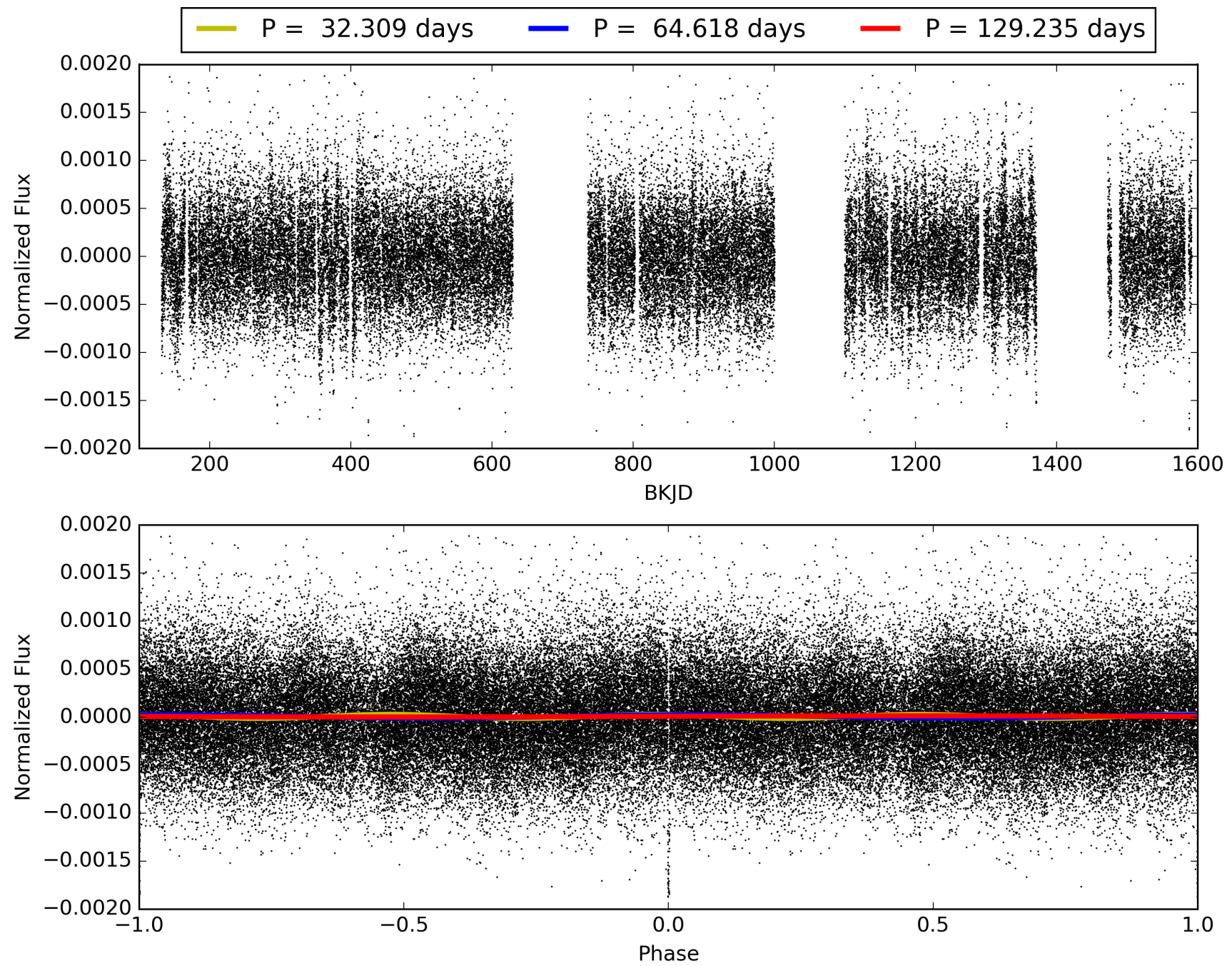
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:08:29 Z

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

TCE 010354039-01, PDC Light Curves

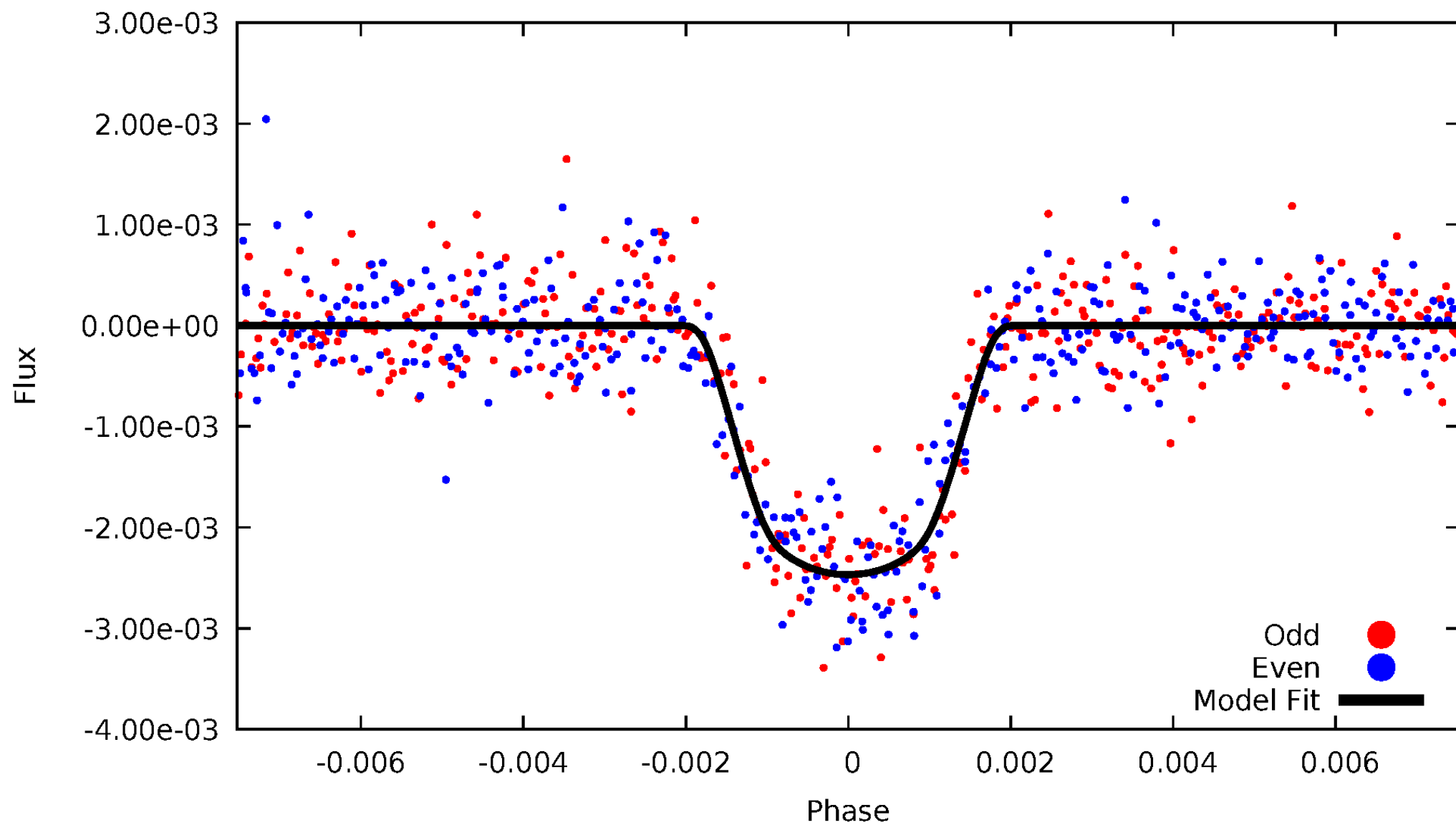


TCE 010354039-01



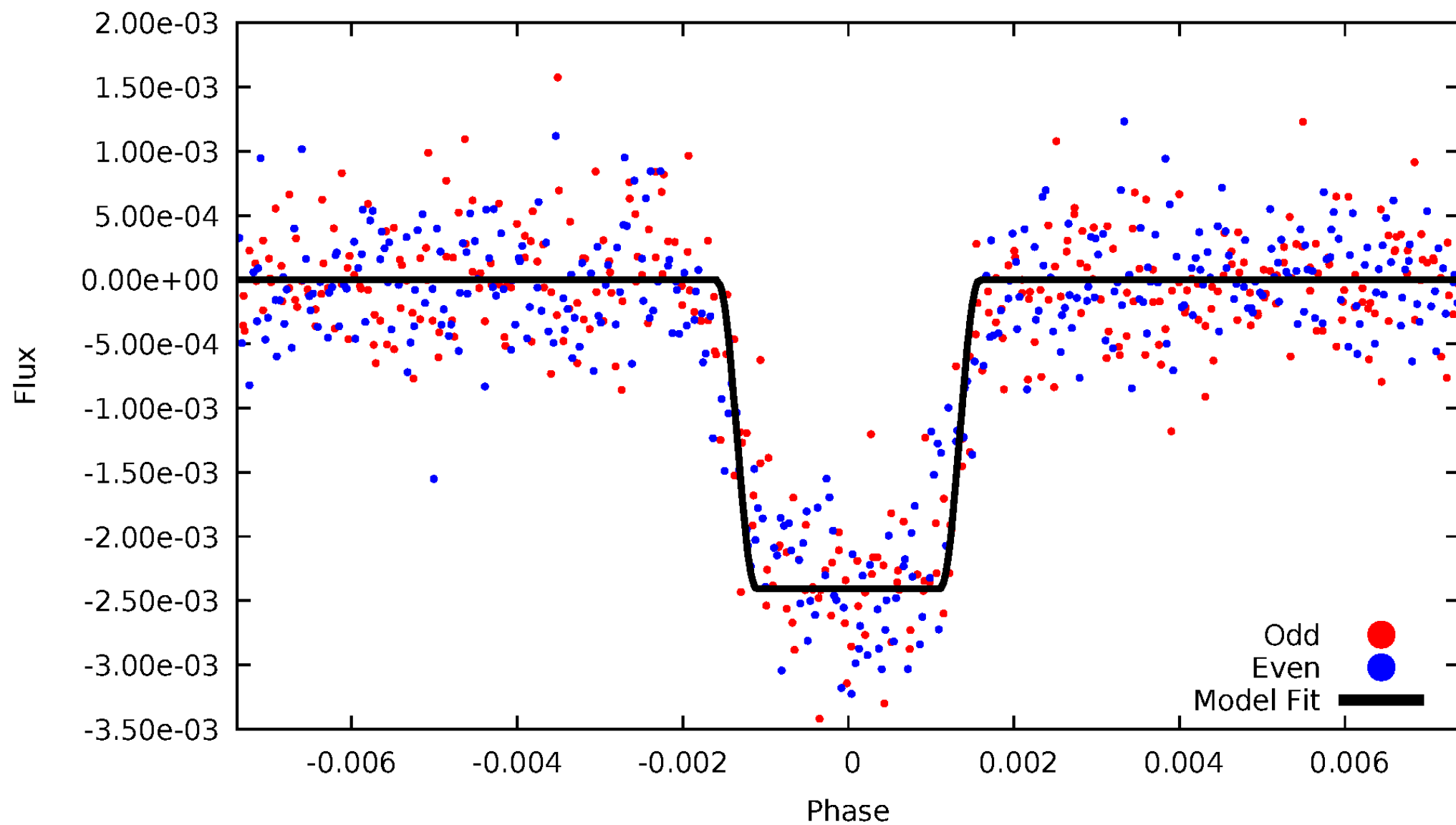
DV Odd/Even

TCE 010354039-01



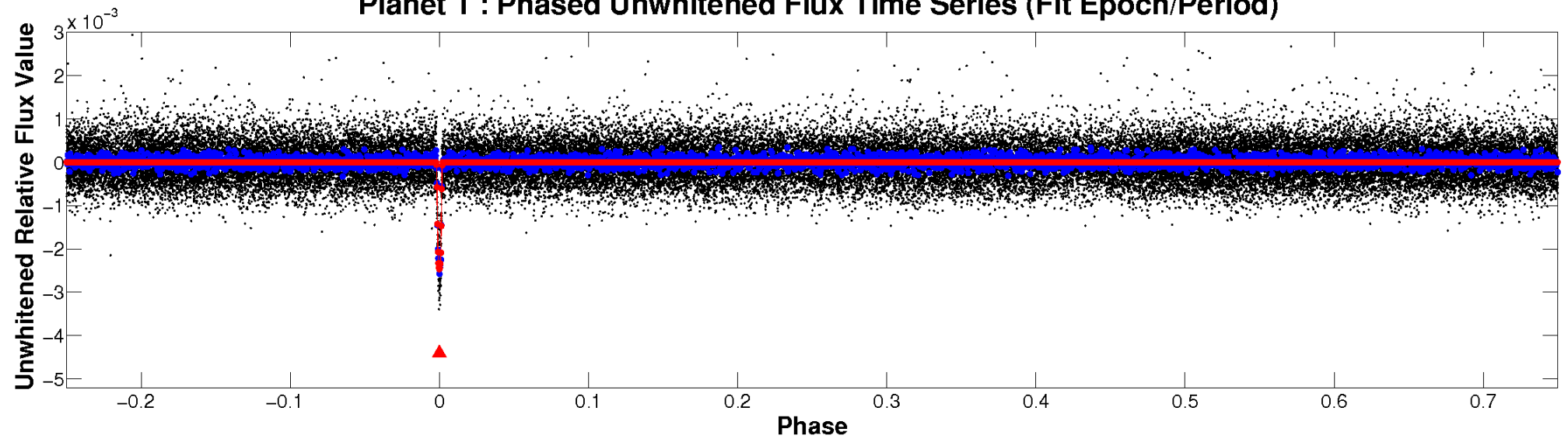
ALT Odd/Even

TCE 010354039-01

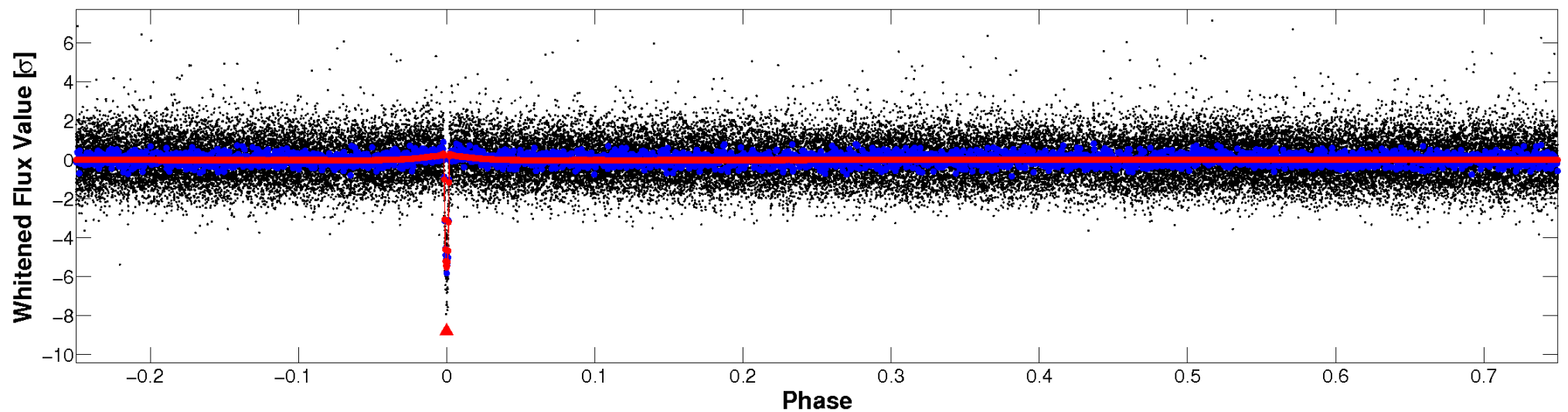


Non-Whitened Vs. Whitened Light Curve

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

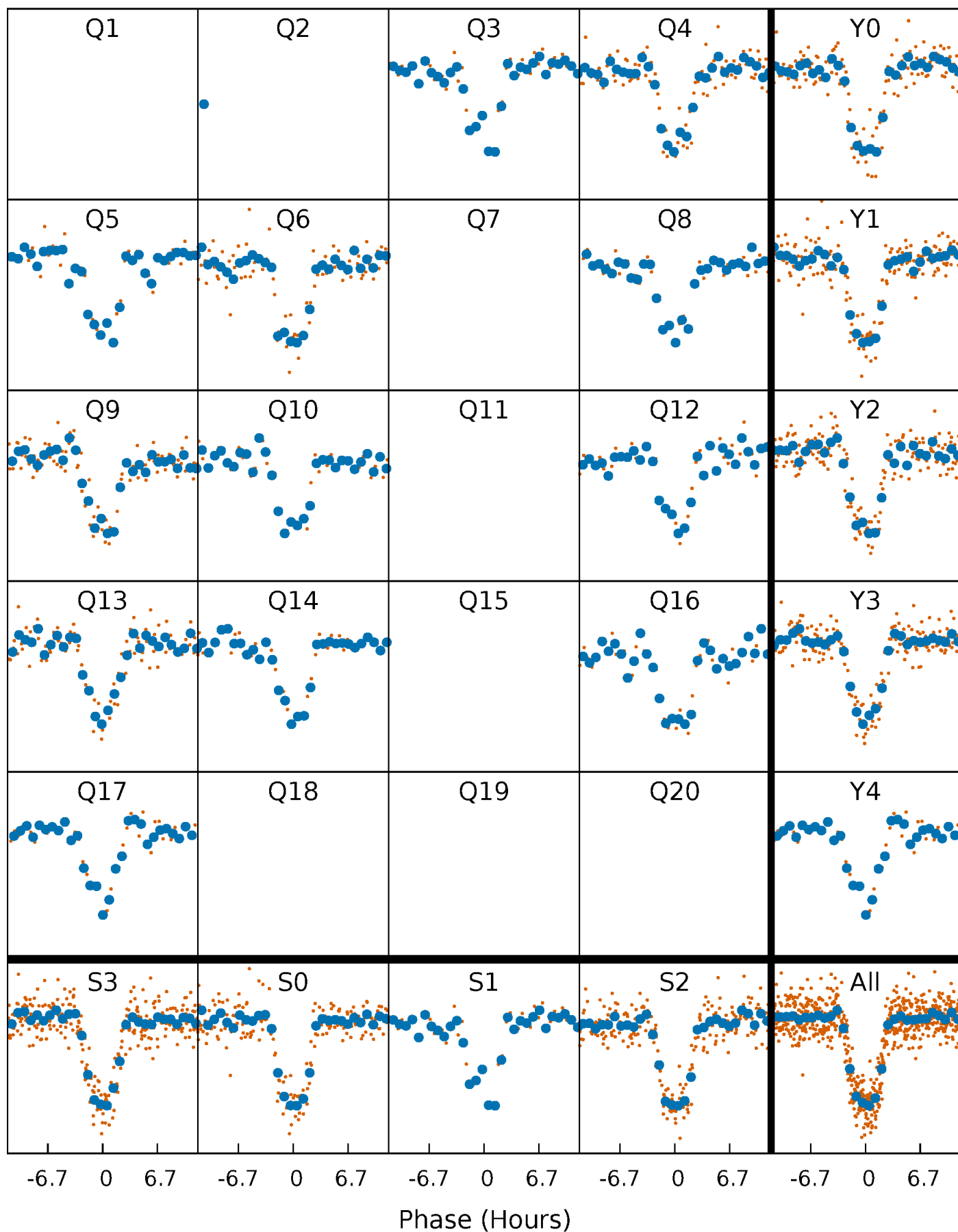


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



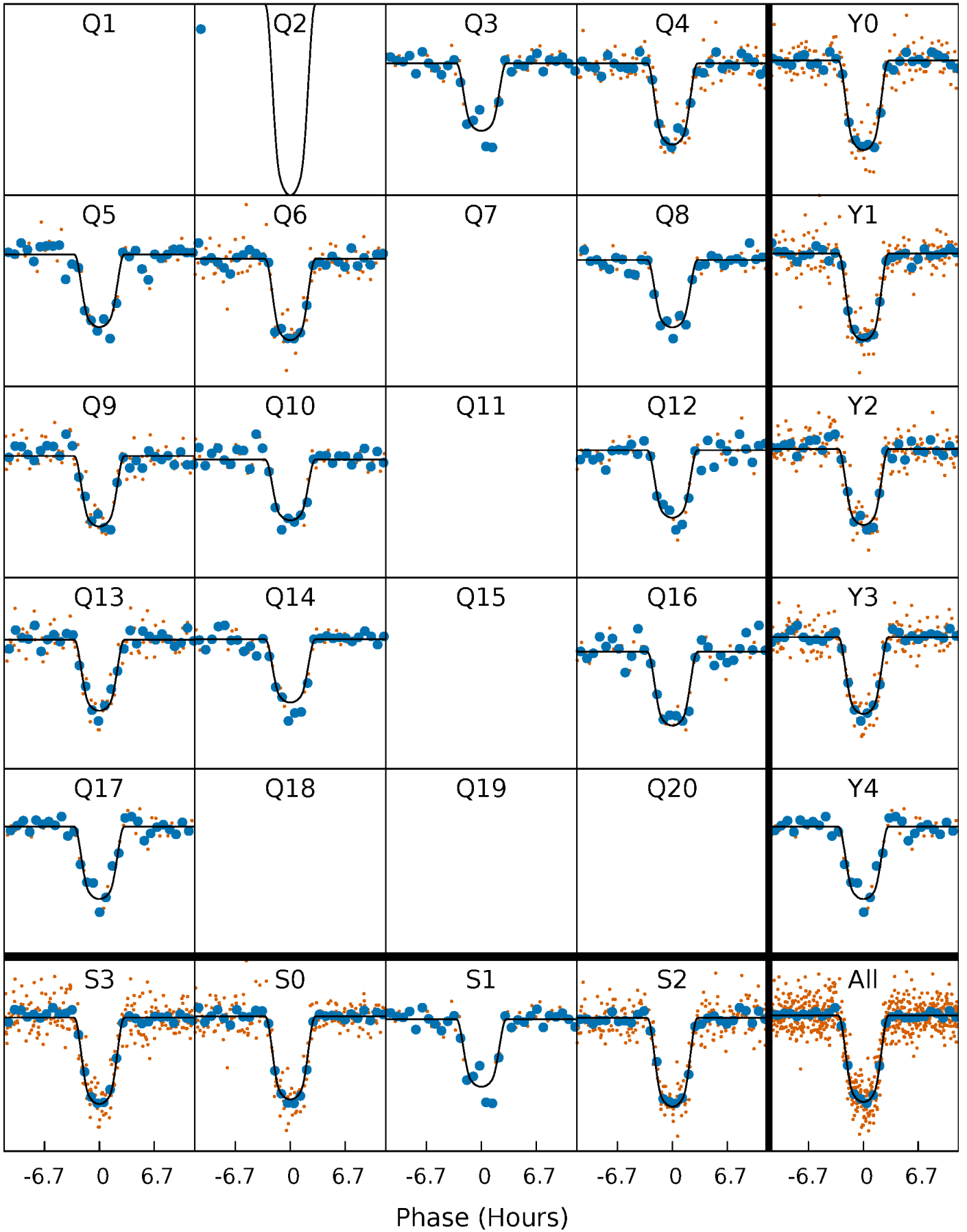
PDC Quarter-Phased Transit Curves

TCE 010354039-01 P= 64.617540 Days $T_0=166.143558$ (BKJD)



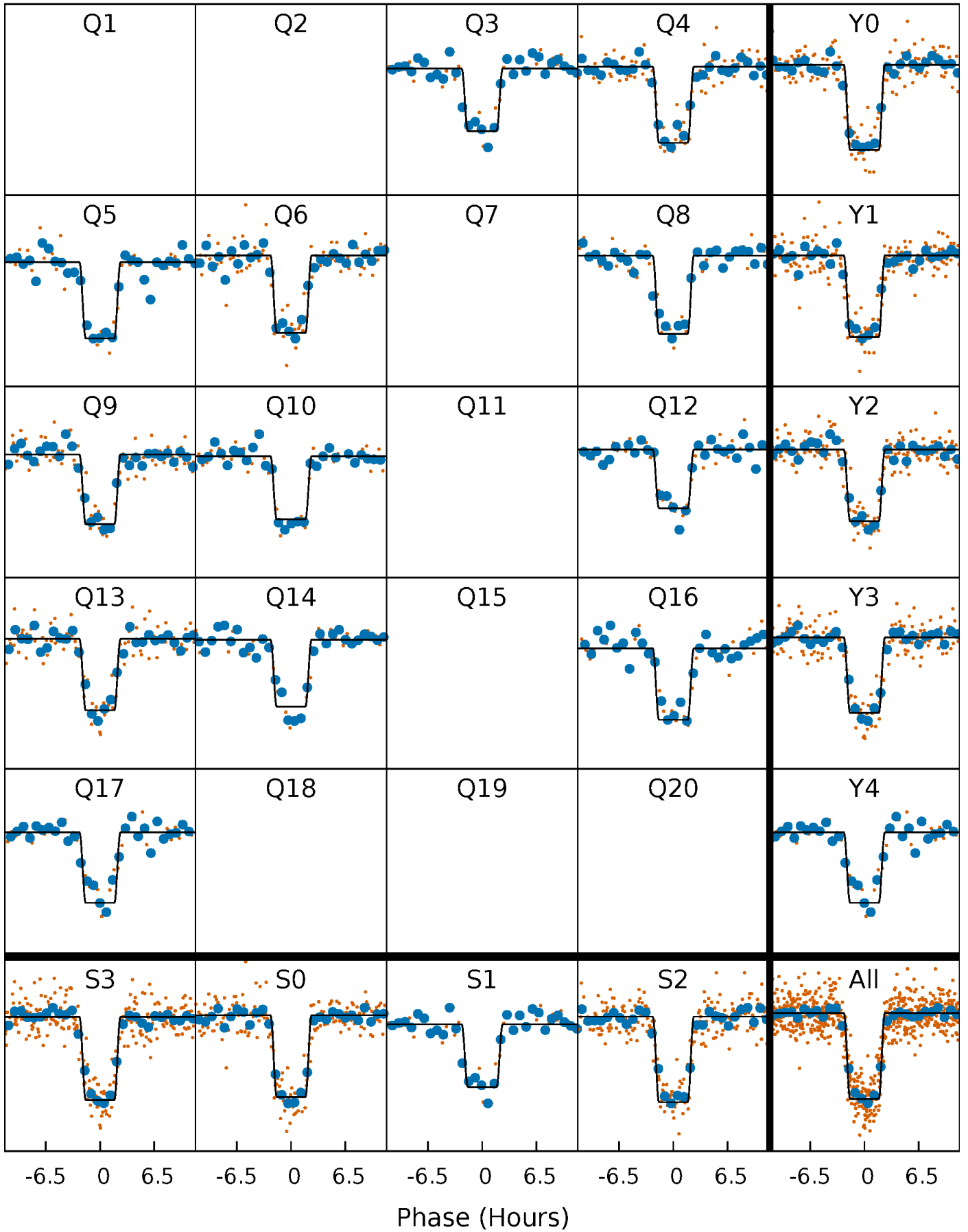
DV Quarter-Phased Transit Curves

TCE 010354039-01 P= 64.617540 Days $T_0=166.143558$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

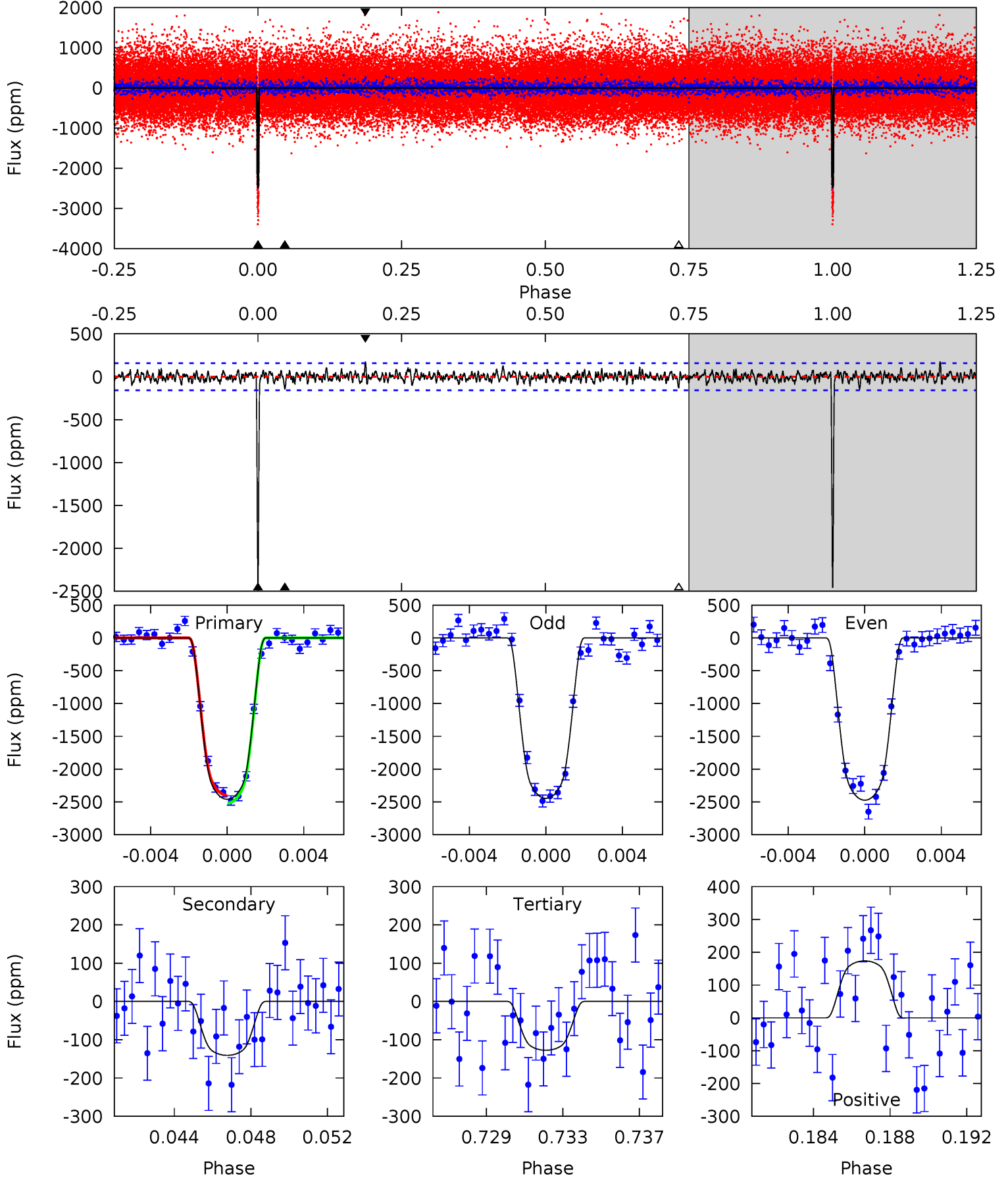
TCE 010354039-01 P= 64.616926 Days $T_0=166.150685$ (BKJD)



DV Model-Shift Uniqueness Test

010354039-01, P = 64.617540 Days, E = 101.526018 Days

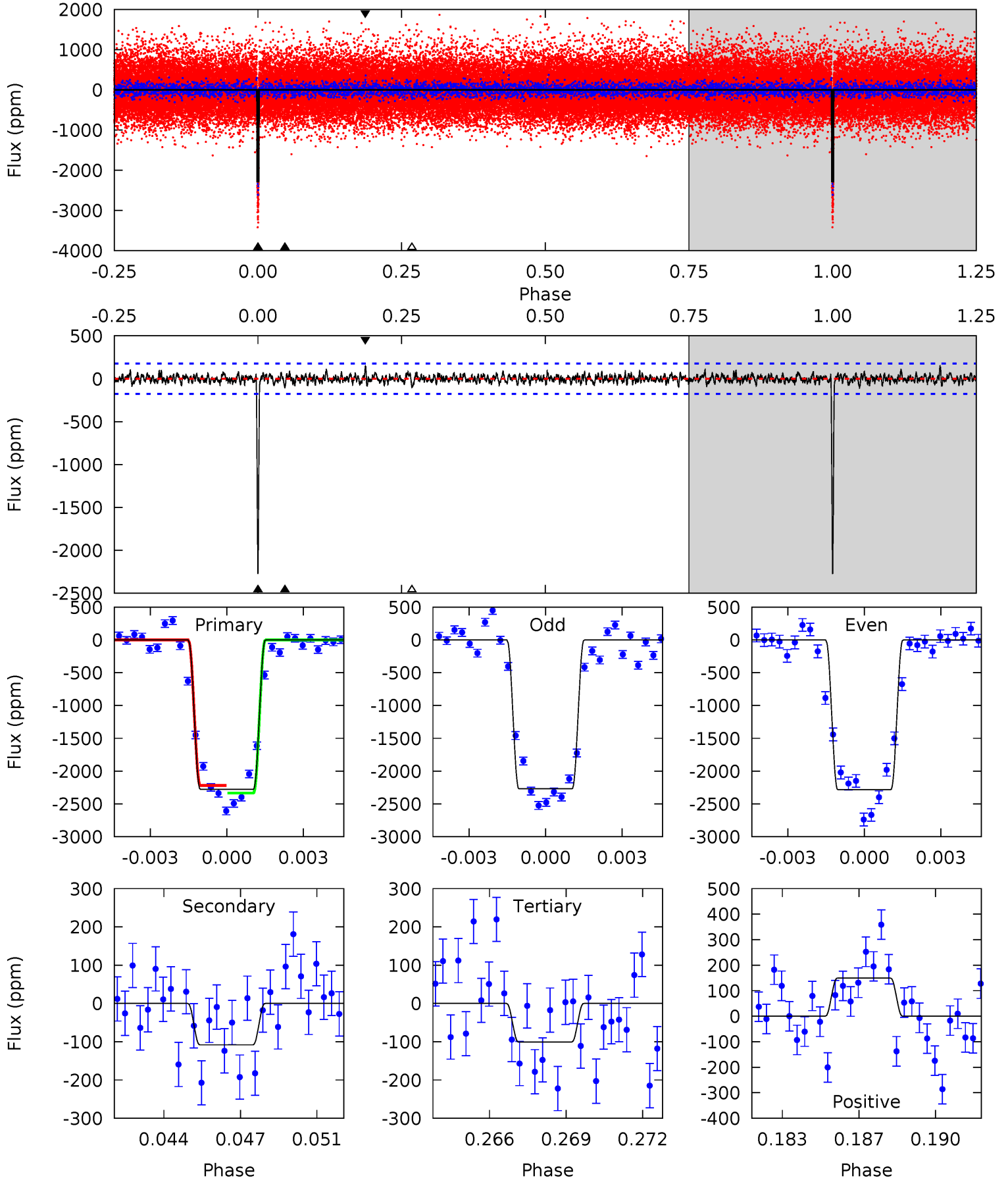
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.6	4.67	4.23	5.76	5.20	2.88	1.25	77.4	75.8	0.44	-1.09	0.47	1.00	0.07	2.00



Alt Model-Shift Uniqueness Test

010354039-01, $P = 64.616926$ Days, $E = 101.533759$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.5	3.21	2.99	4.42	5.24	2.95	0.99	64.5	63.0	0.22	-1.22	0.16	1.00	0.06	1.73



Stellar Parameters For KIC 010354039

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5043^{+164}_{-149}	$4.470^{+0.104}_{-0.095}$	$0.300^{+0.150}_{-0.300}$	$0.881^{+0.090}_{-0.099}$	$0.834^{+0.068}_{-0.055}$	$1.720^{+0.723}_{-0.468}$
	+3%/-3%	+2%/-2%	+50%/-100%	+10%/-11%	+8%/-7%	+42%/-27%
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 010354039-01 / KOI 1159.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-141 ± 30	$5.38^{+0.42}_{-0.37}$	535^{+25}_{-25}	2969^{+101}_{-122}	233^{+70}_{-55}
Alt.	-108 ± 34	$4.70^{+0.33}_{-0.33}$	534^{+26}_{-21}	2964^{+134}_{-150}	233^{+91}_{-70}

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 $A_{obs} \gg 1.0$

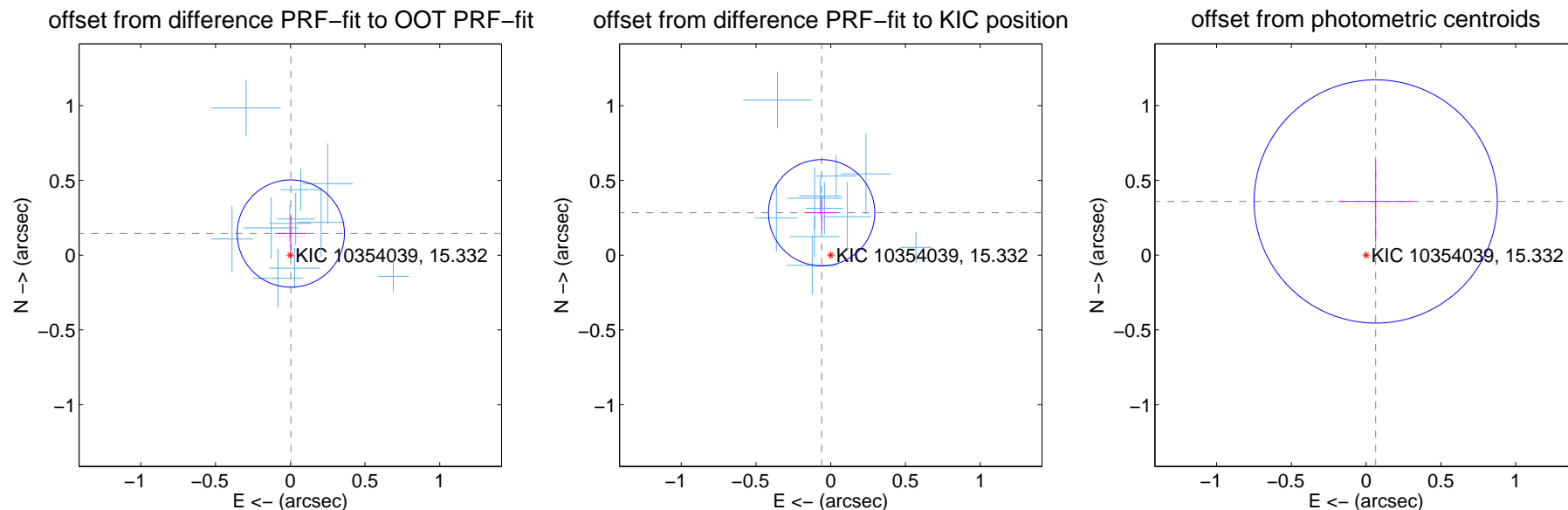
DV Centroid Data

Supplemental centroid analysis for 010354039-01. Kepler magnitude: 15.33. Transit SNR 55.37

There are 11 quarters with good PRF difference image offsets

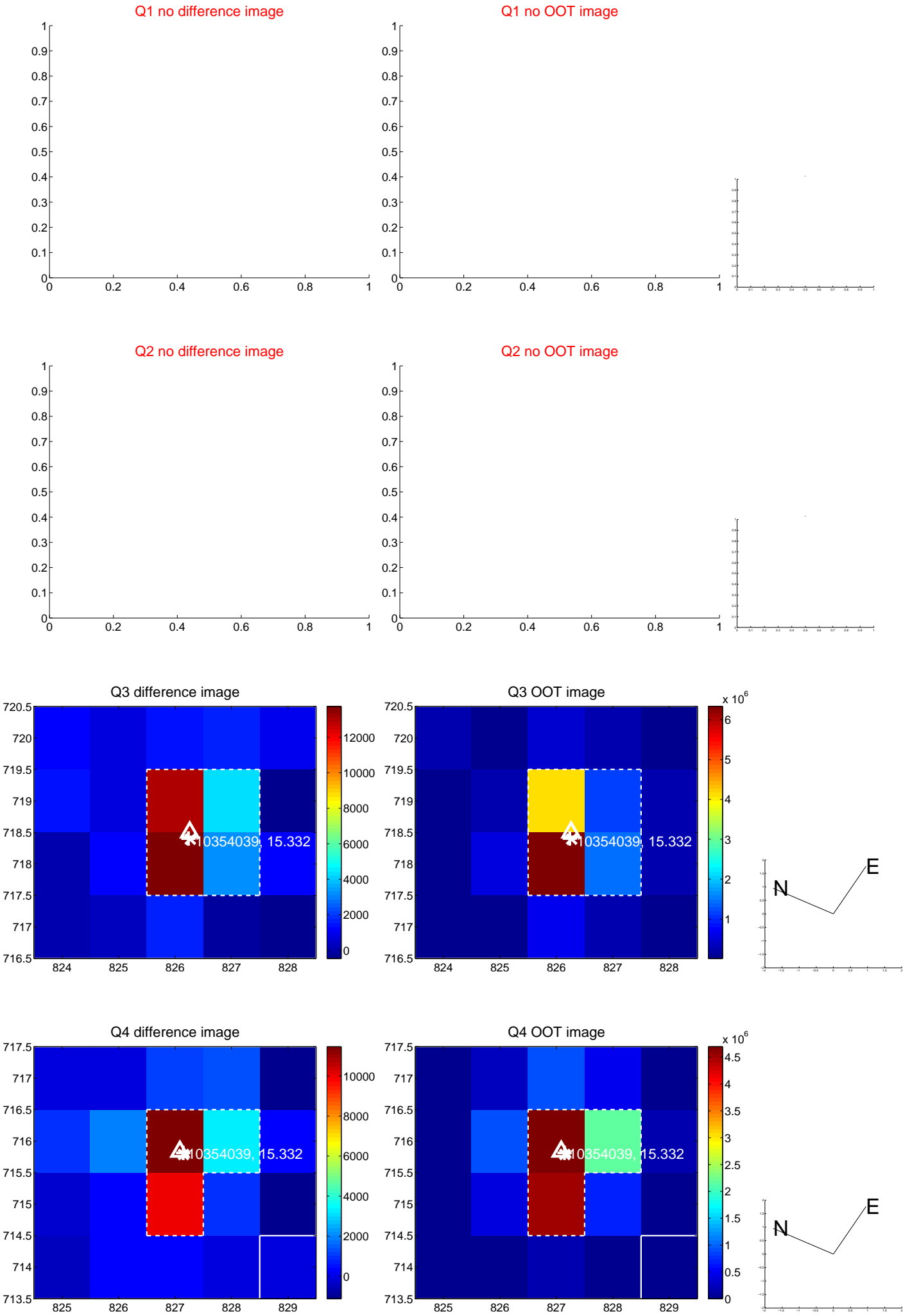
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.144 ± 0.120	1.21	-0.004 ± 0.105	0.144 ± 0.120
PRF-fit source offset from KIC position	0.290 ± 0.118	2.45	0.061 ± 0.107	0.284 ± 0.112
photometric centroid source offset	0.36 ± 0.27	1.34	-0.06 ± 0.25	0.36 ± 0.27

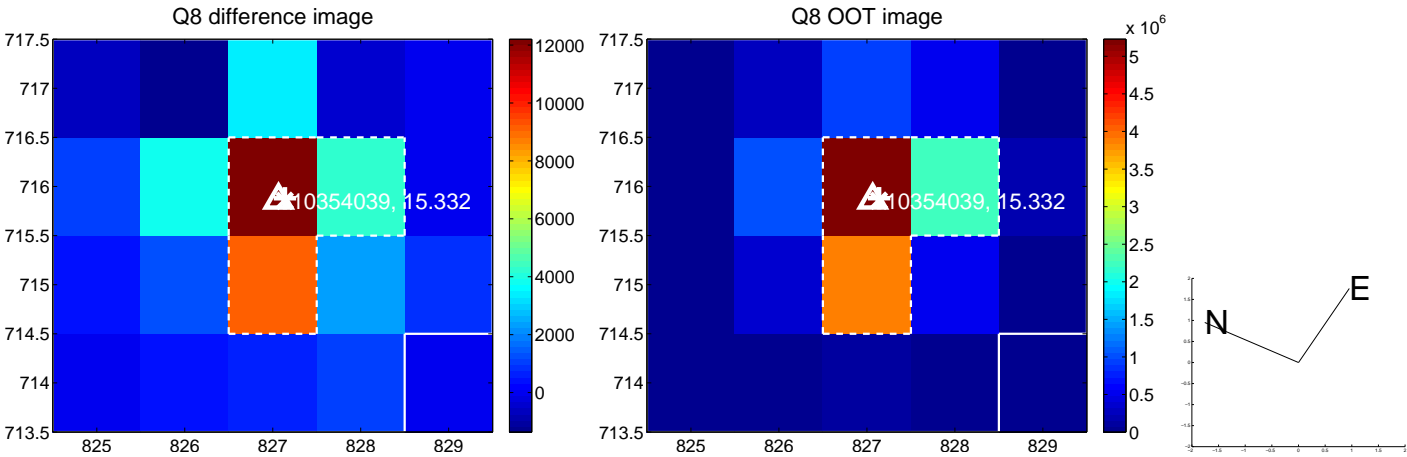
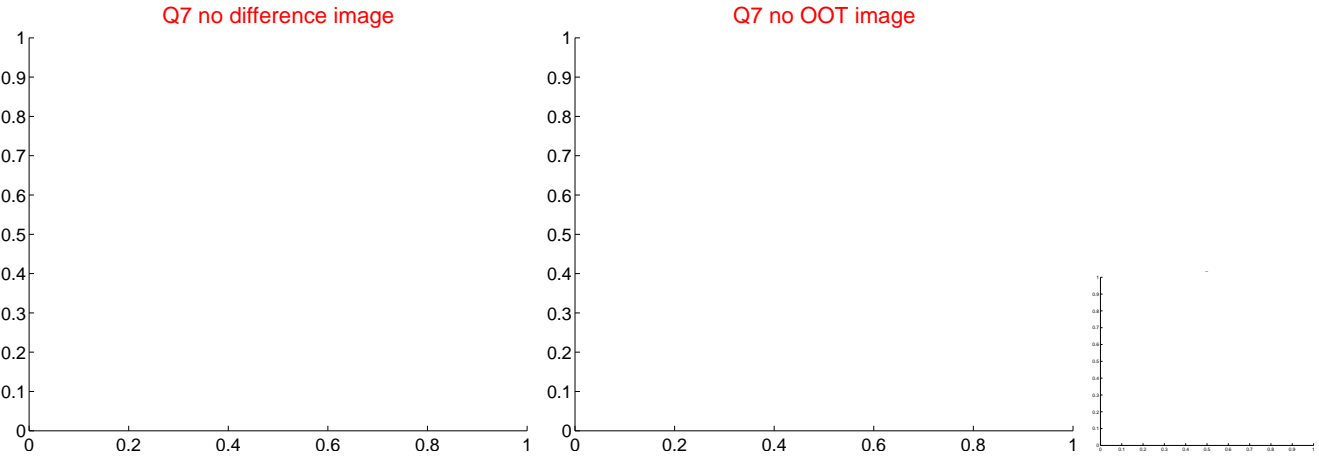
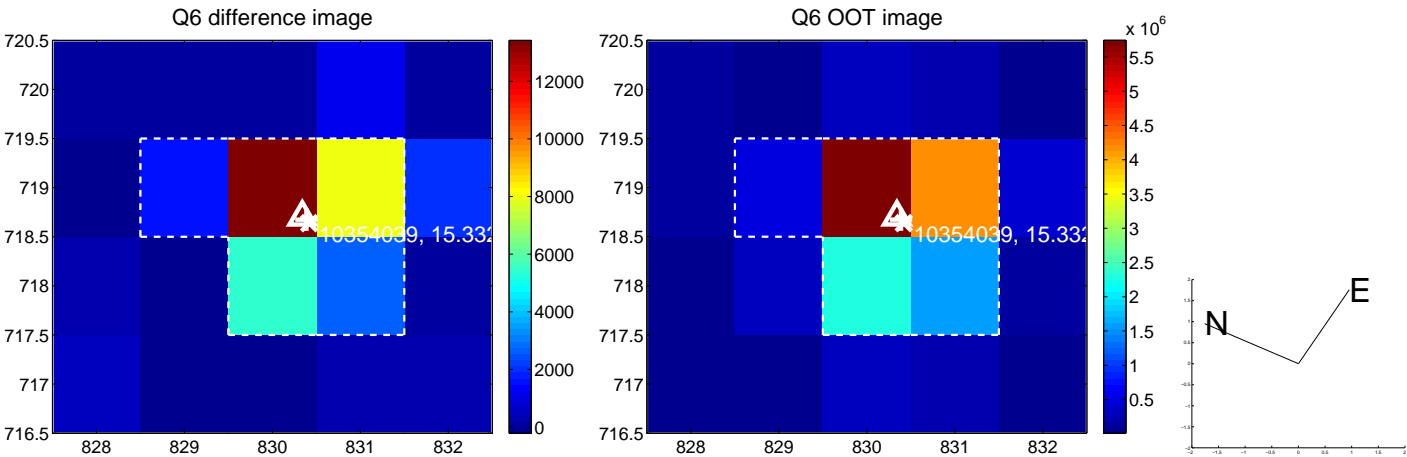
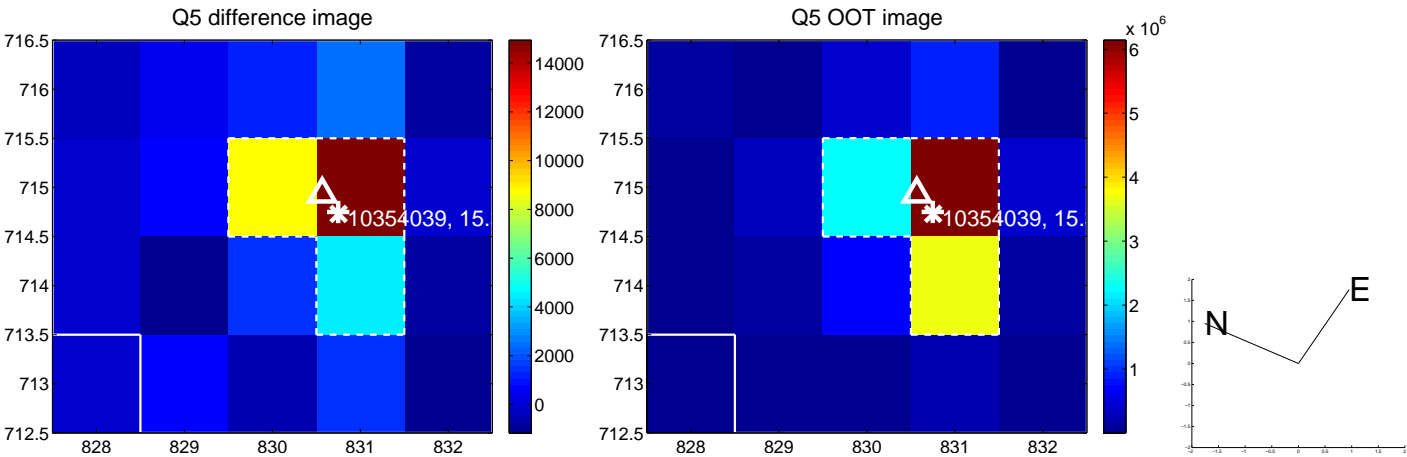


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

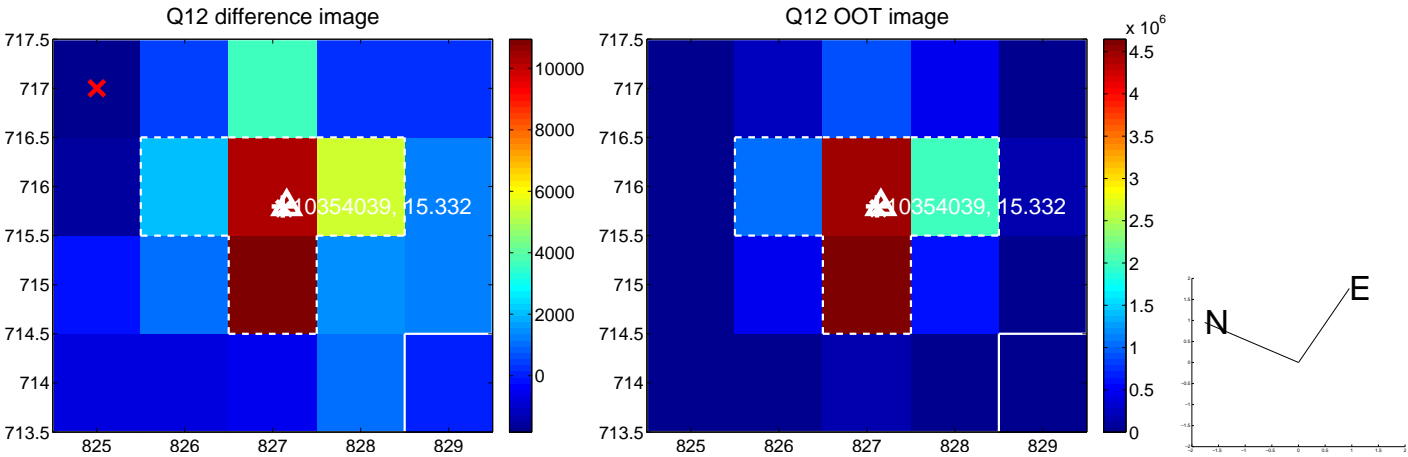
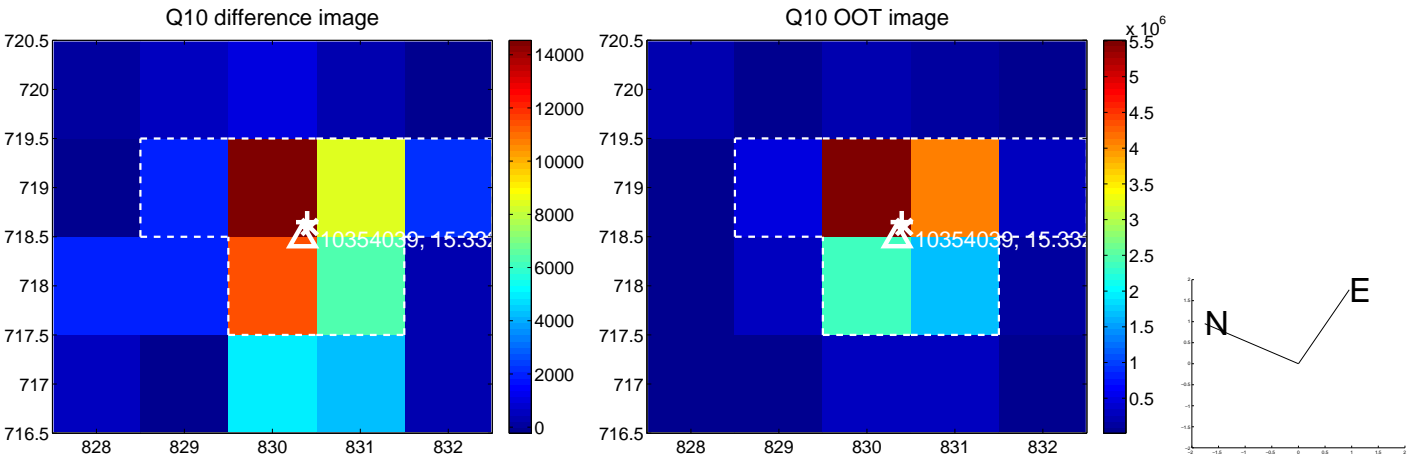
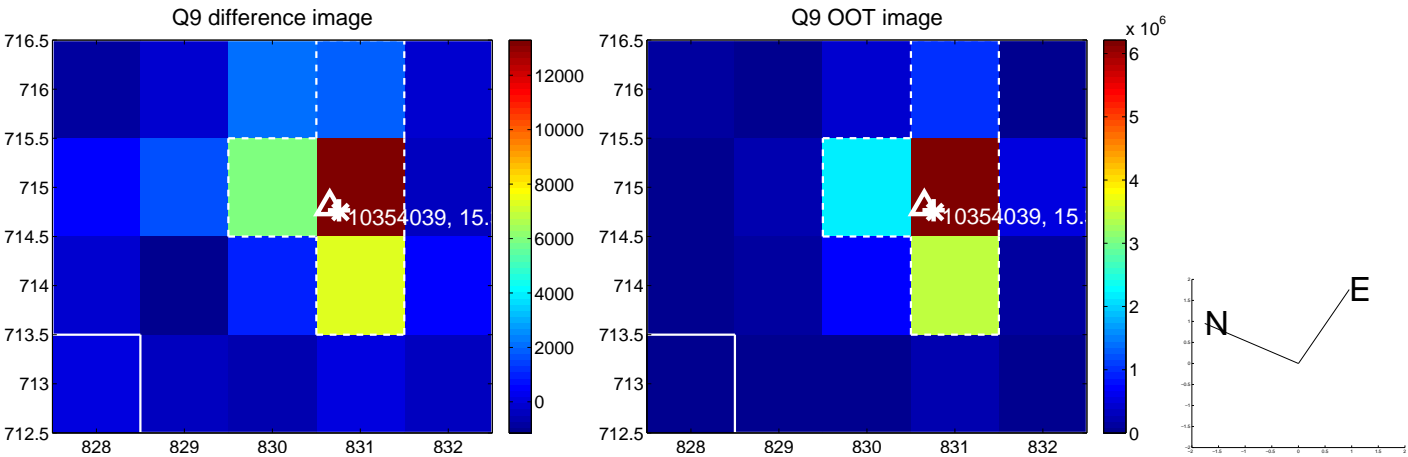
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



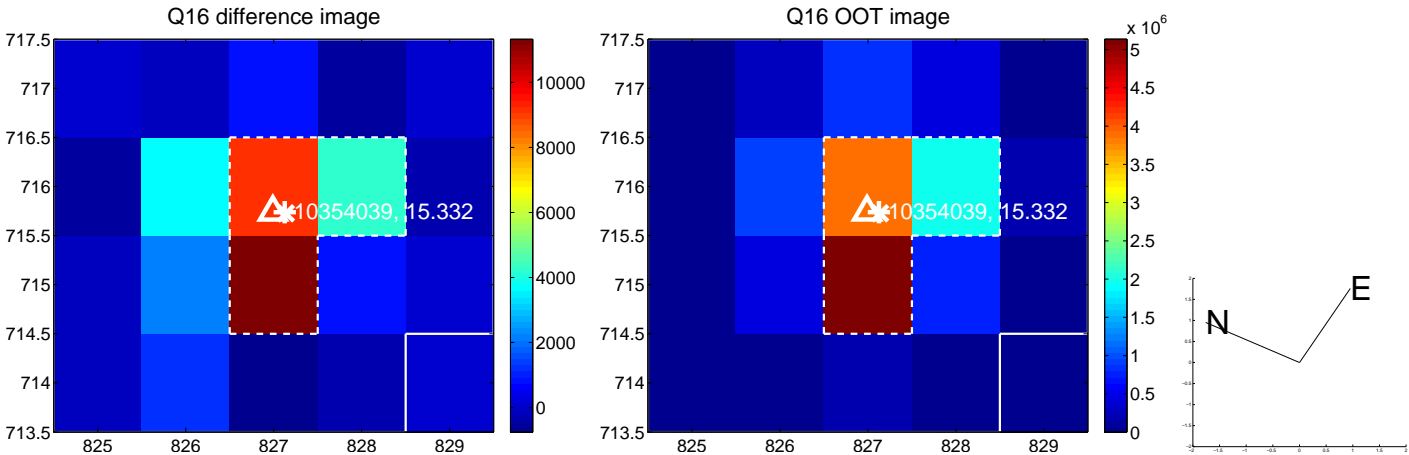
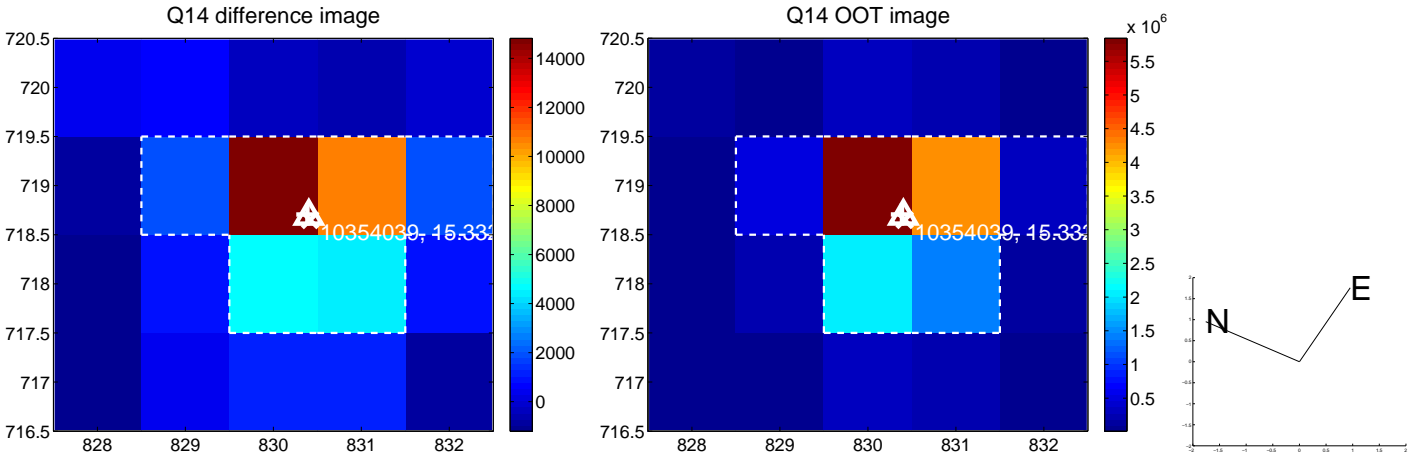
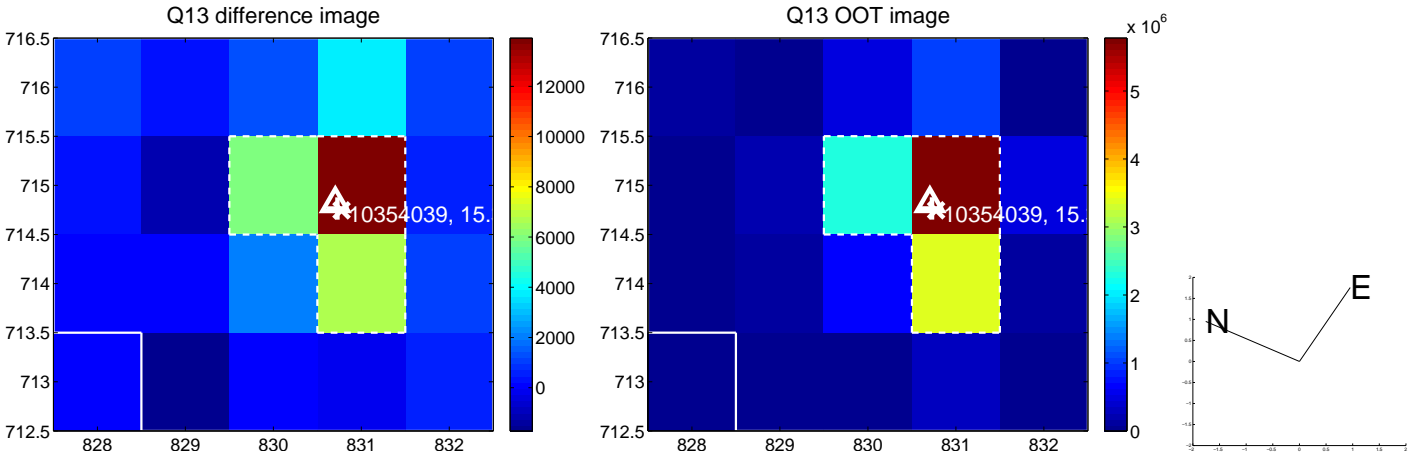
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



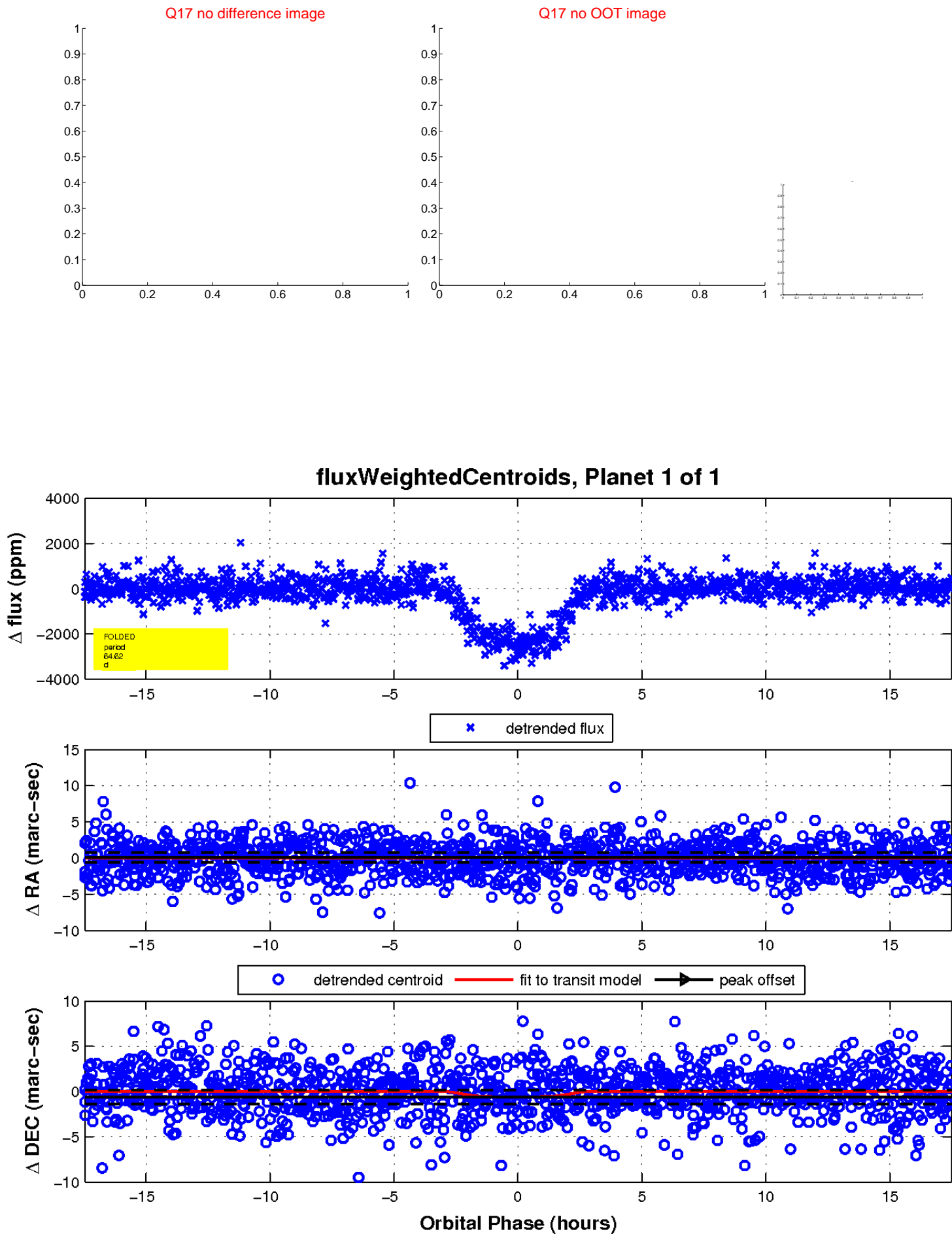
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

