

KIC 012417486

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
012417486-01	OBS	0622.01	155.042332	213.499520	4883.8	9.788	107.2	103.0	3.32	4994	26.44	16.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012417486-01	OBS	PC	1.00	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.

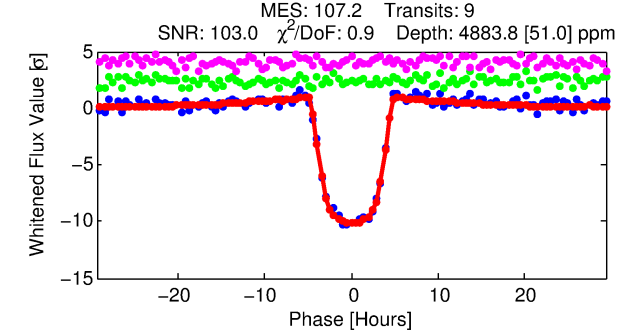
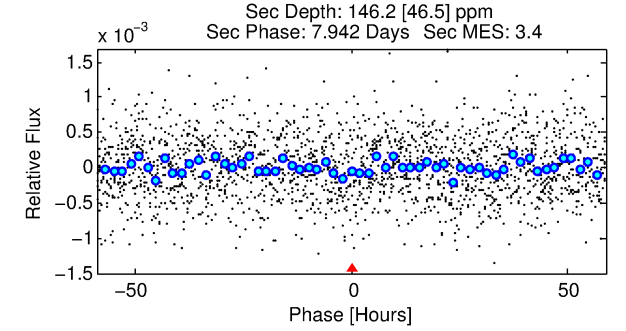
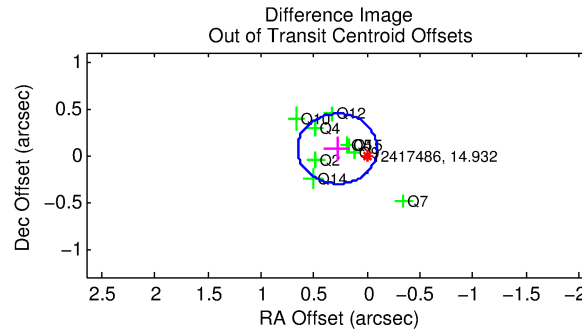
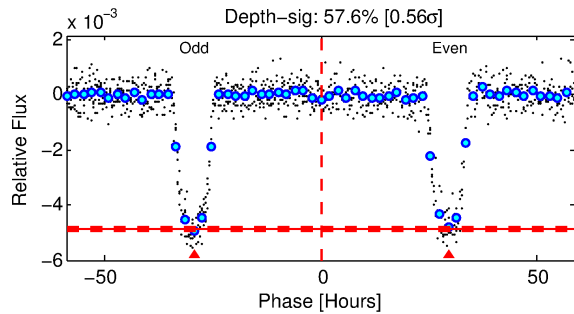
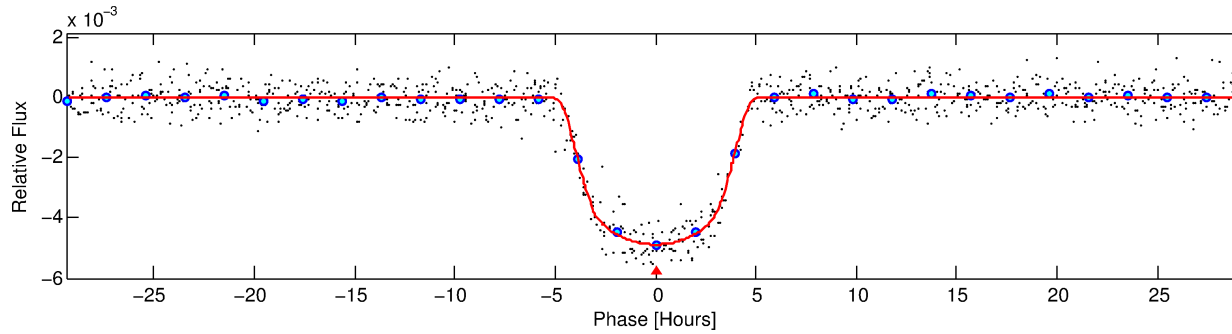
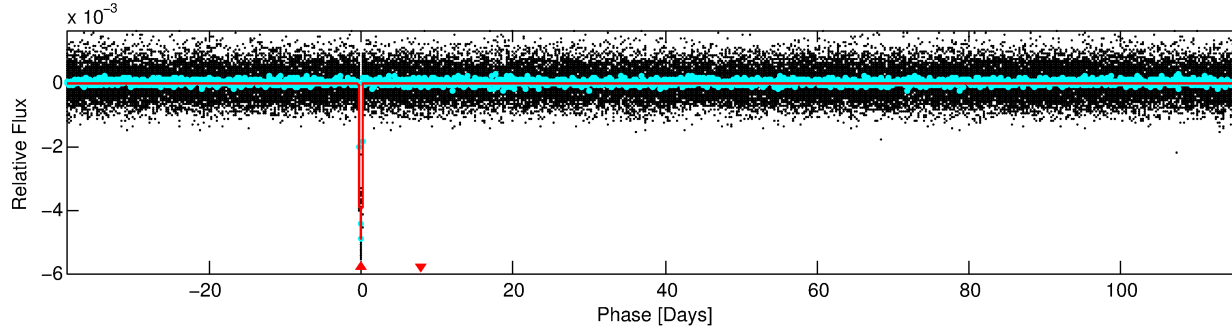
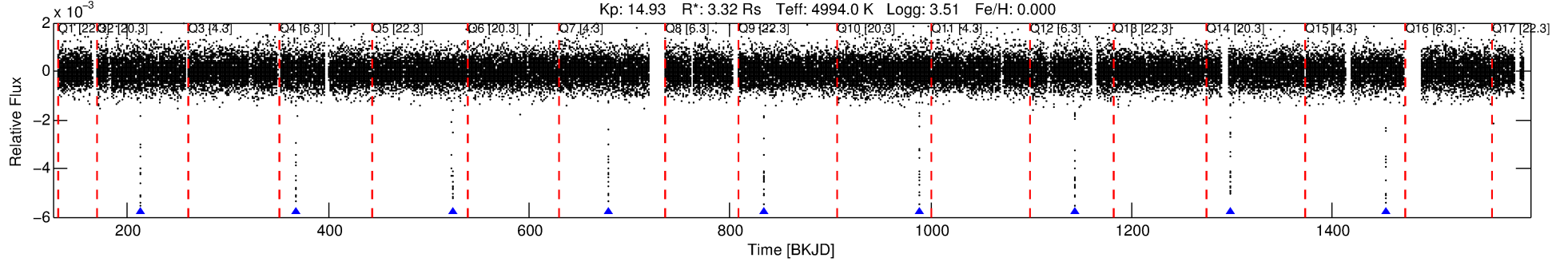
Ephemeris Match Information For 012417486-01

No Significant Match Found

DV One-Page Summary

KIC: 12417486 Candidate: 1 of 1 Period: 155.042 d
KOI: K00622.01 Corr: 0.996

Kp: 14.93 R*: 3.32 Rs Teff: 4994.0 K Logg: 3.51 Fe/H: 0.000



DV Fit Results:

Period = 155.04233 [0.00041] d
Epoch = 213.4995 [0.0019] BKJD
Rp/R* = 0.0729 [0.0010]
a/R* = 83.23 [3.19]
b = 0.82 [0.02]
Seff = 16.18 [4.27]
Teq = 511 [34] K
Rp = 26.44 [5.19] Re
a = 0.6165 [0.1051] AU
Ag = 43.73 [17.88] [2.39σ]
Teffp = 2033 [166] K [9.00σ]

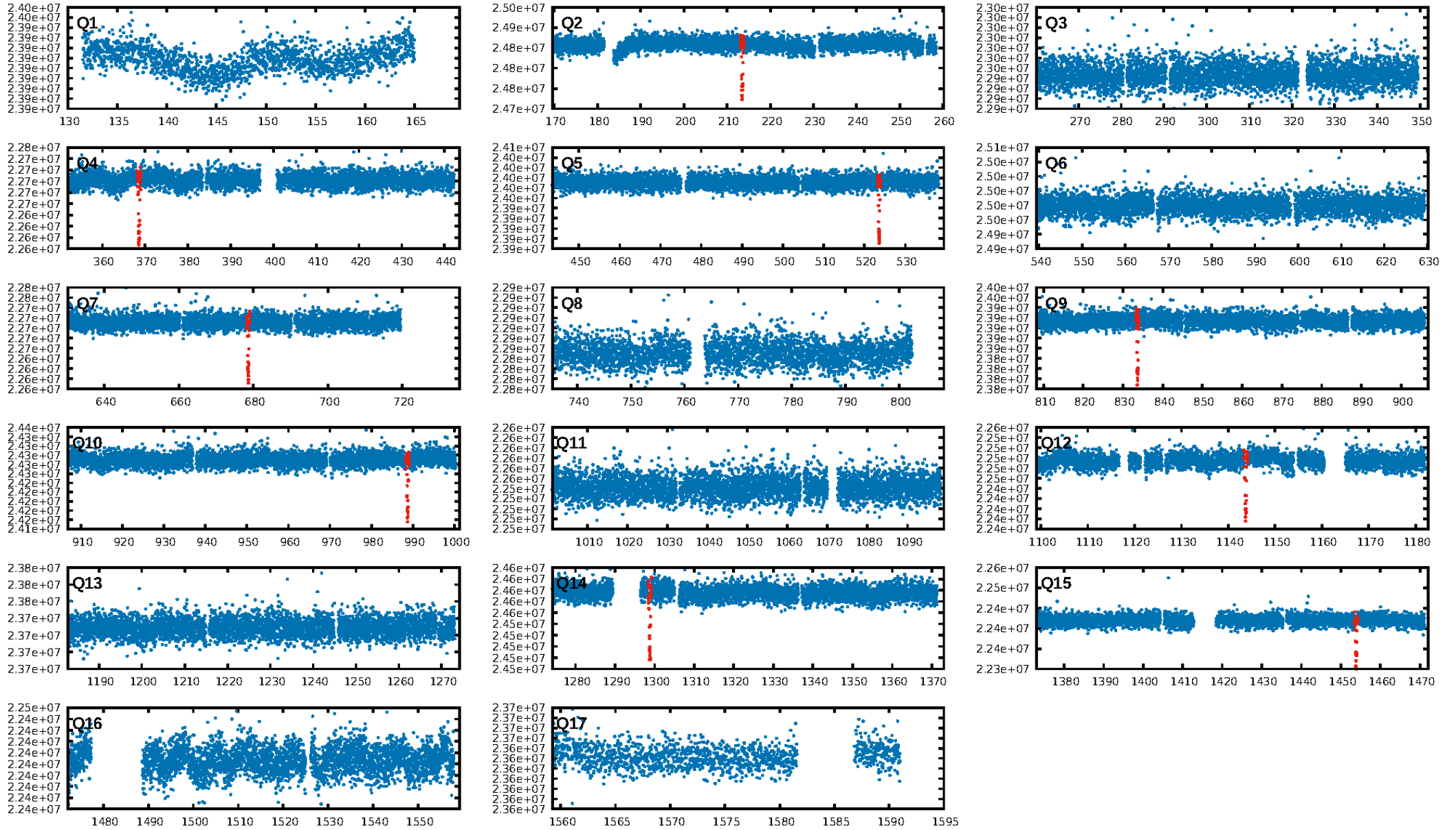
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 5.609
Centroid-sig: 0.0%
Centroid-so: 0.781 arcsec [6.96σ]
OotOffset-rm: 0.289 arcsec [2.32σ]
KicOffset-rm: 0.073 arcsec [0.71σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

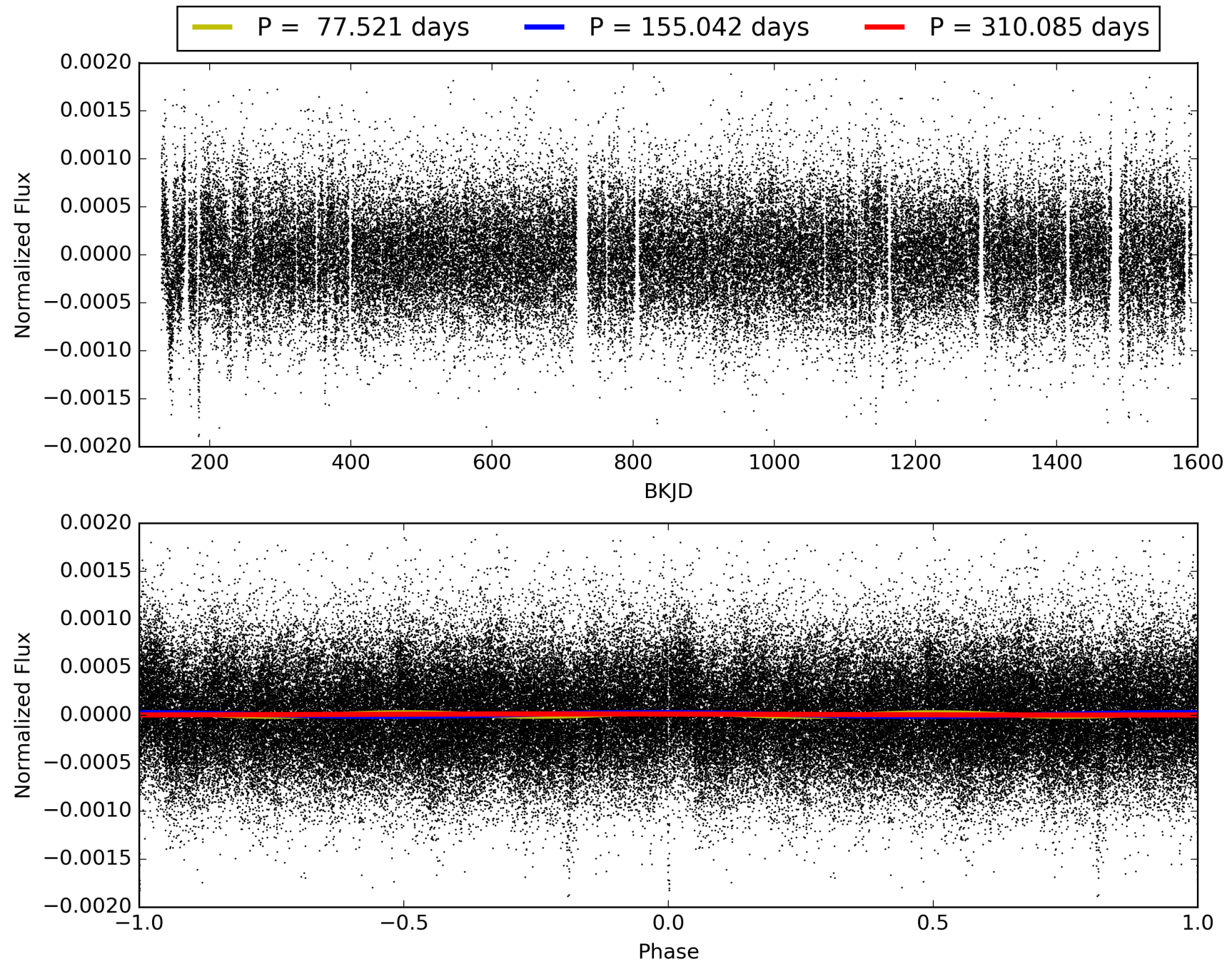
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:38:25 Z

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

TCE 012417486-01, PDC Light Curves

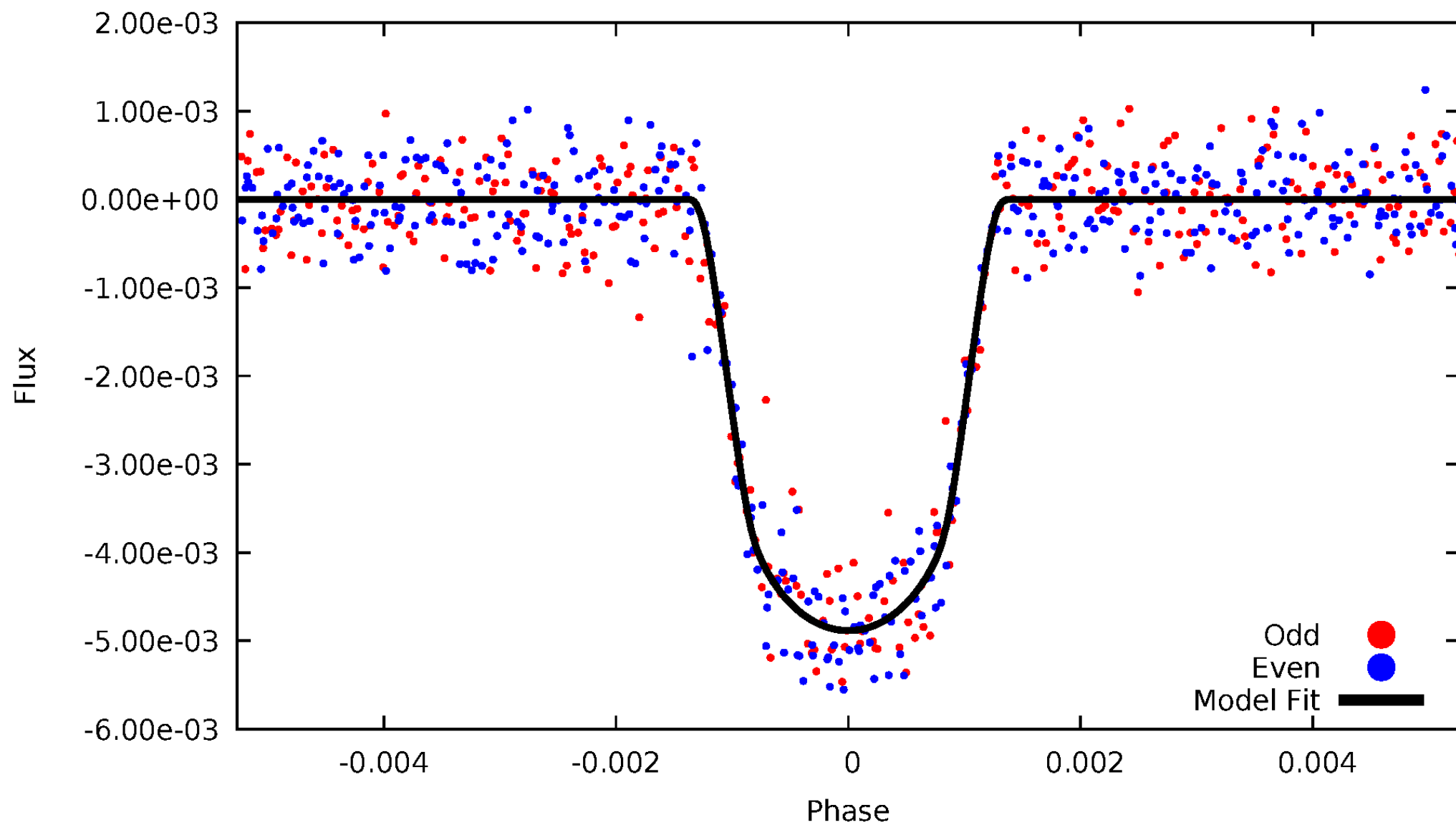


TCE 012417486-01



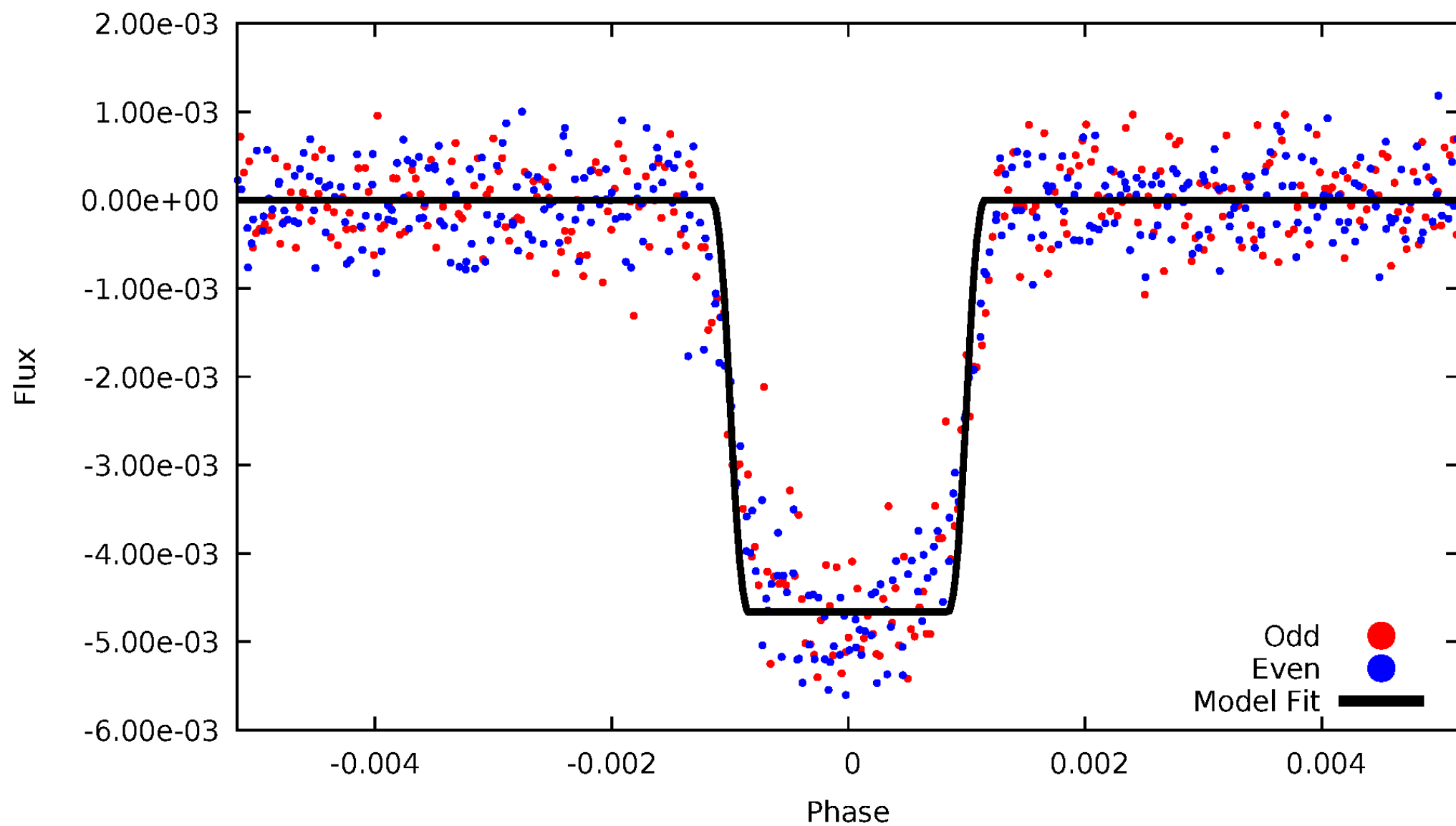
DV Odd/Even

TCE 012417486-01



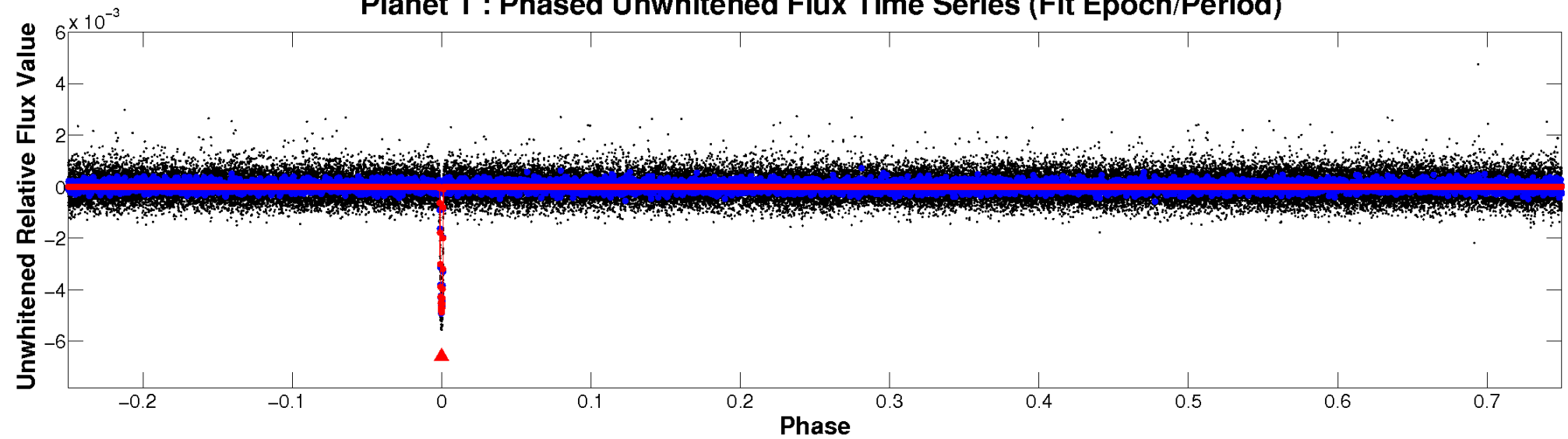
ALT Odd/Even

TCE 012417486-01

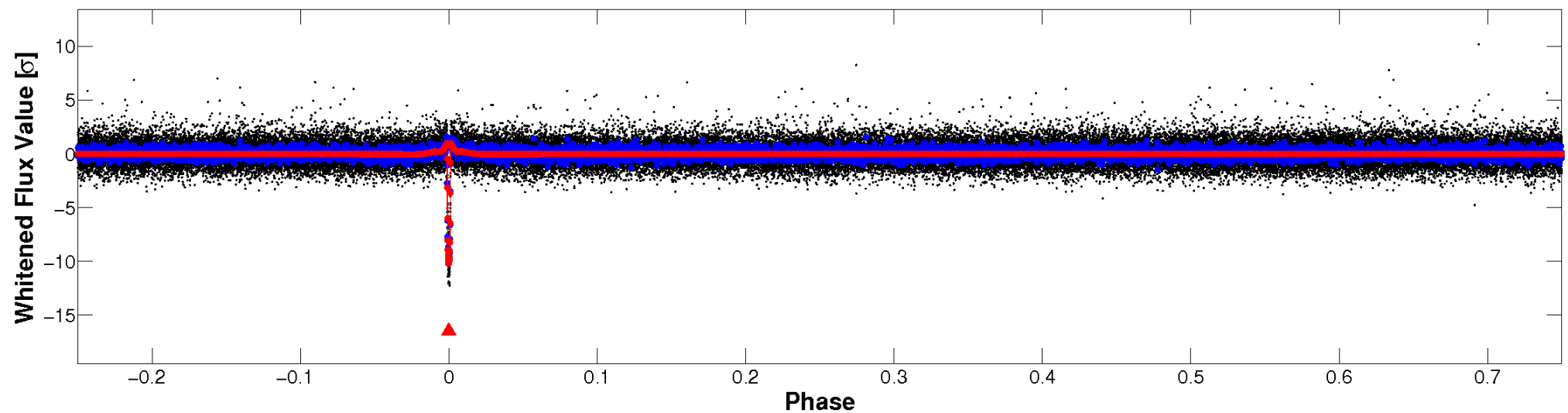


Non-Whitened Vs. Whitened Light Curve

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

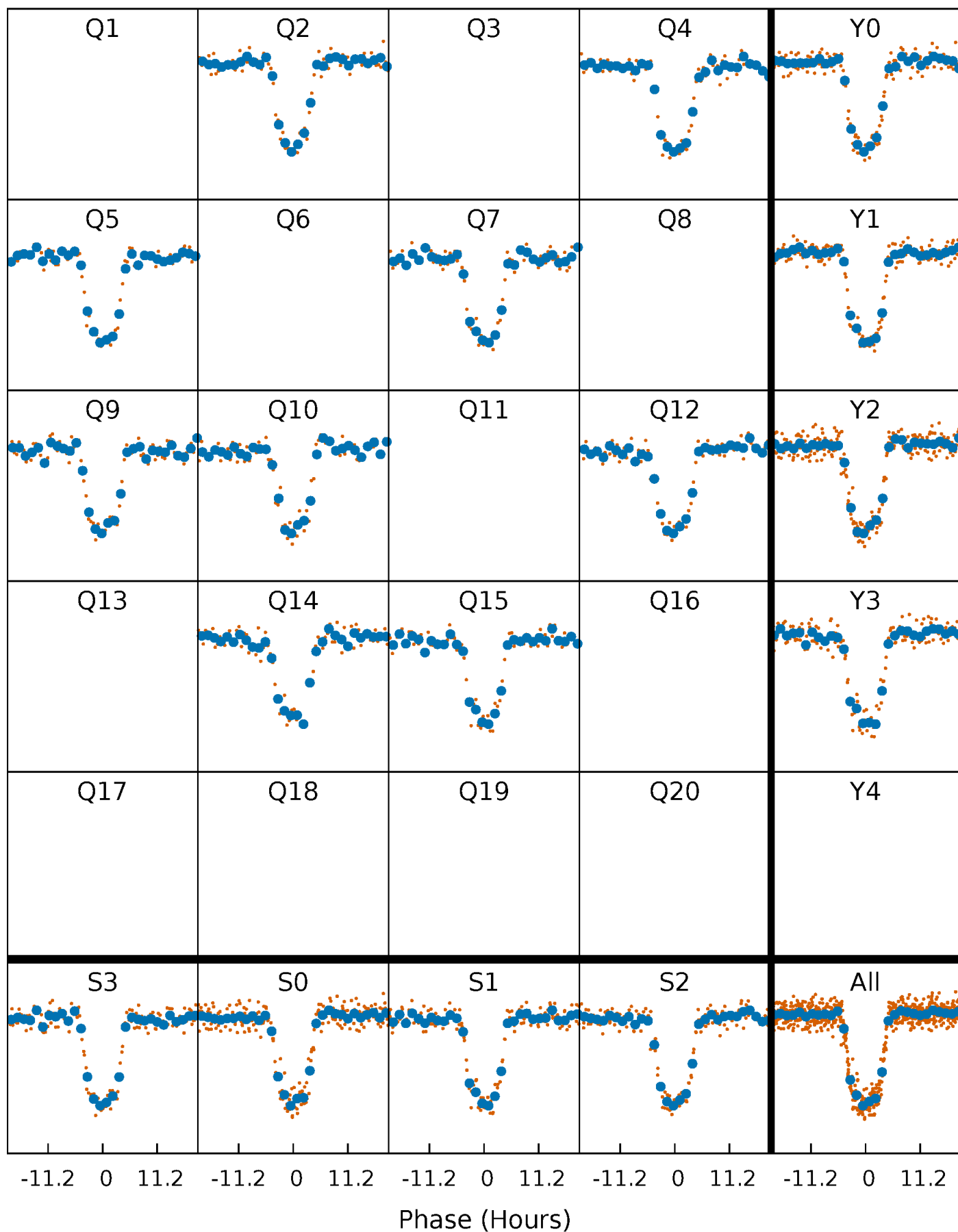


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



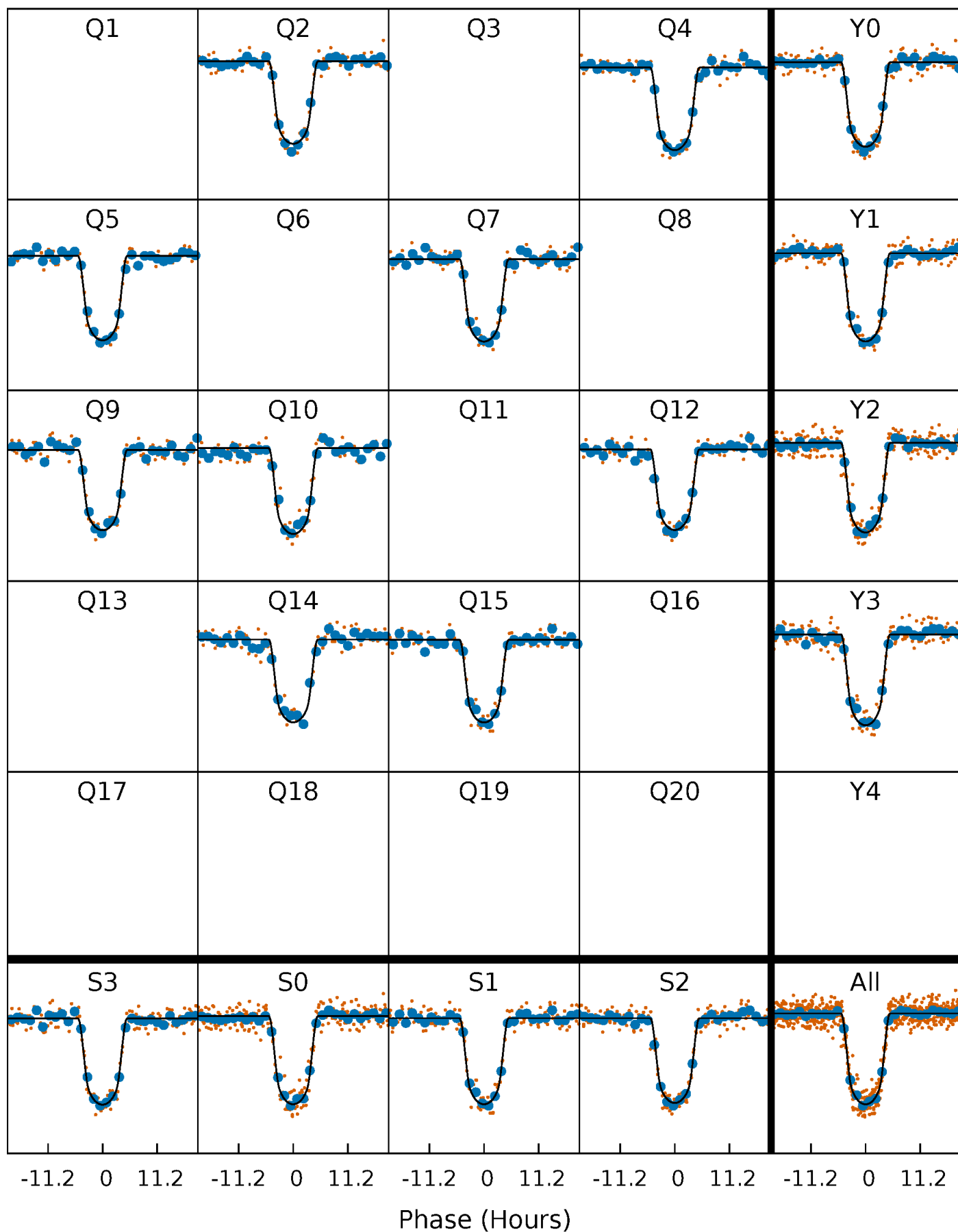
PDC Quarter-Phased Transit Curves

TCE 012417486-01 P=155.042332 Days $T_0=213.499520$ (BKJD)



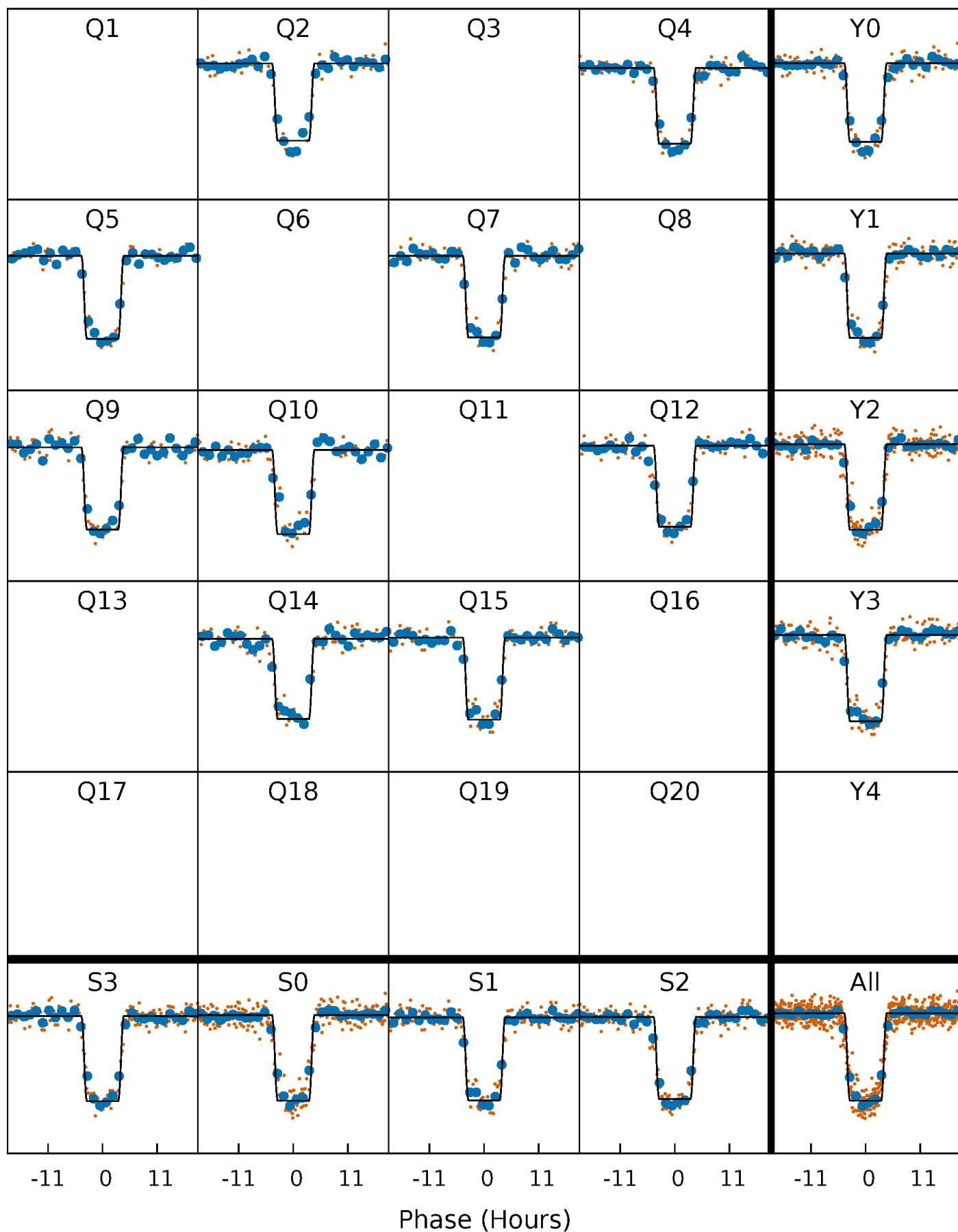
DV Quarter-Phased Transit Curves

TCE 012417486-01 P=155.042332 Days $T_0=213.499520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

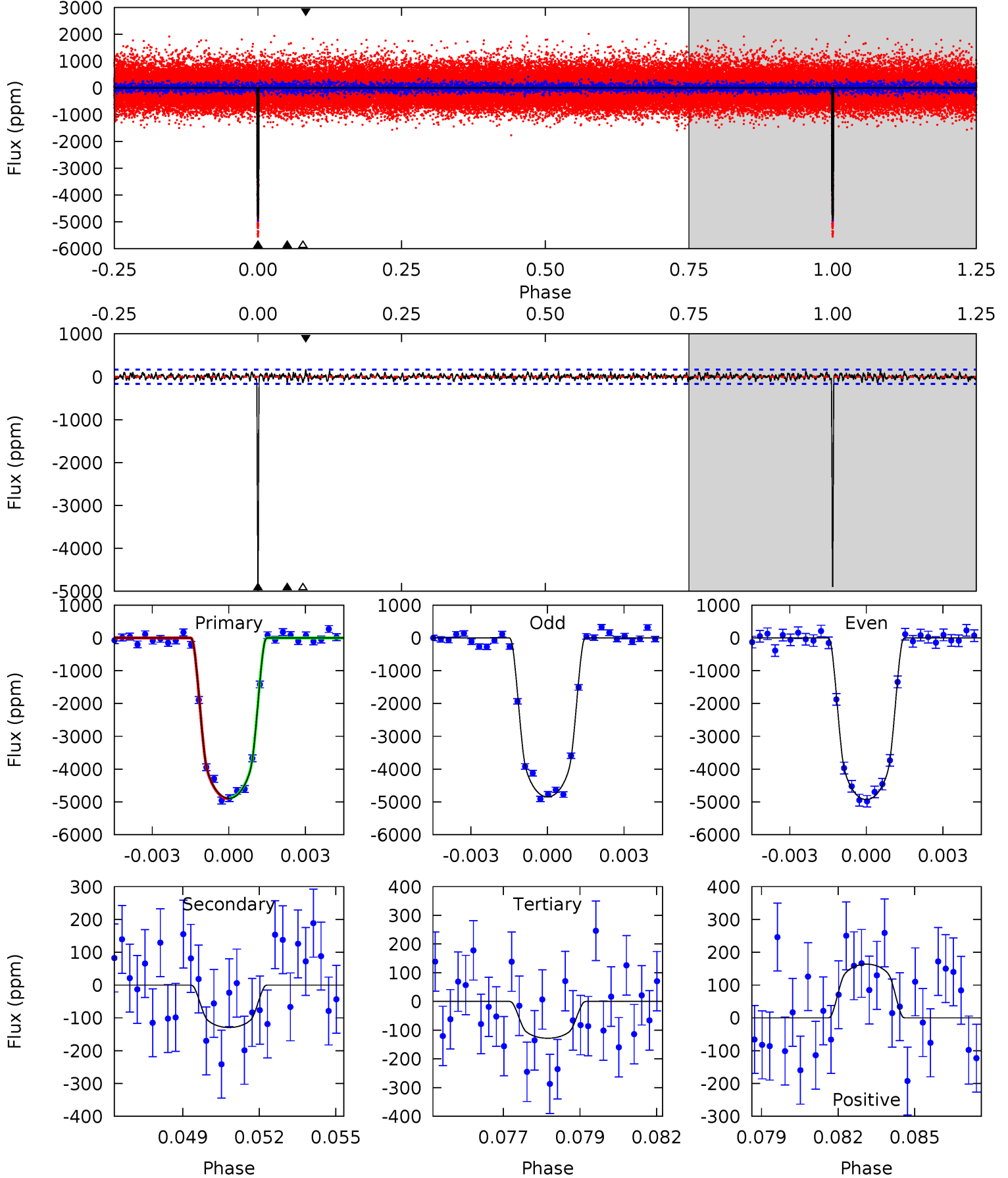
TCE 012417486-01 P=155.043042 Days $T_0=213.496679$ (BKJD)



DV Model-Shift Uniqueness Test

012417486-01, $P = 155.042332$ Days, $E = 58.457188$ Days

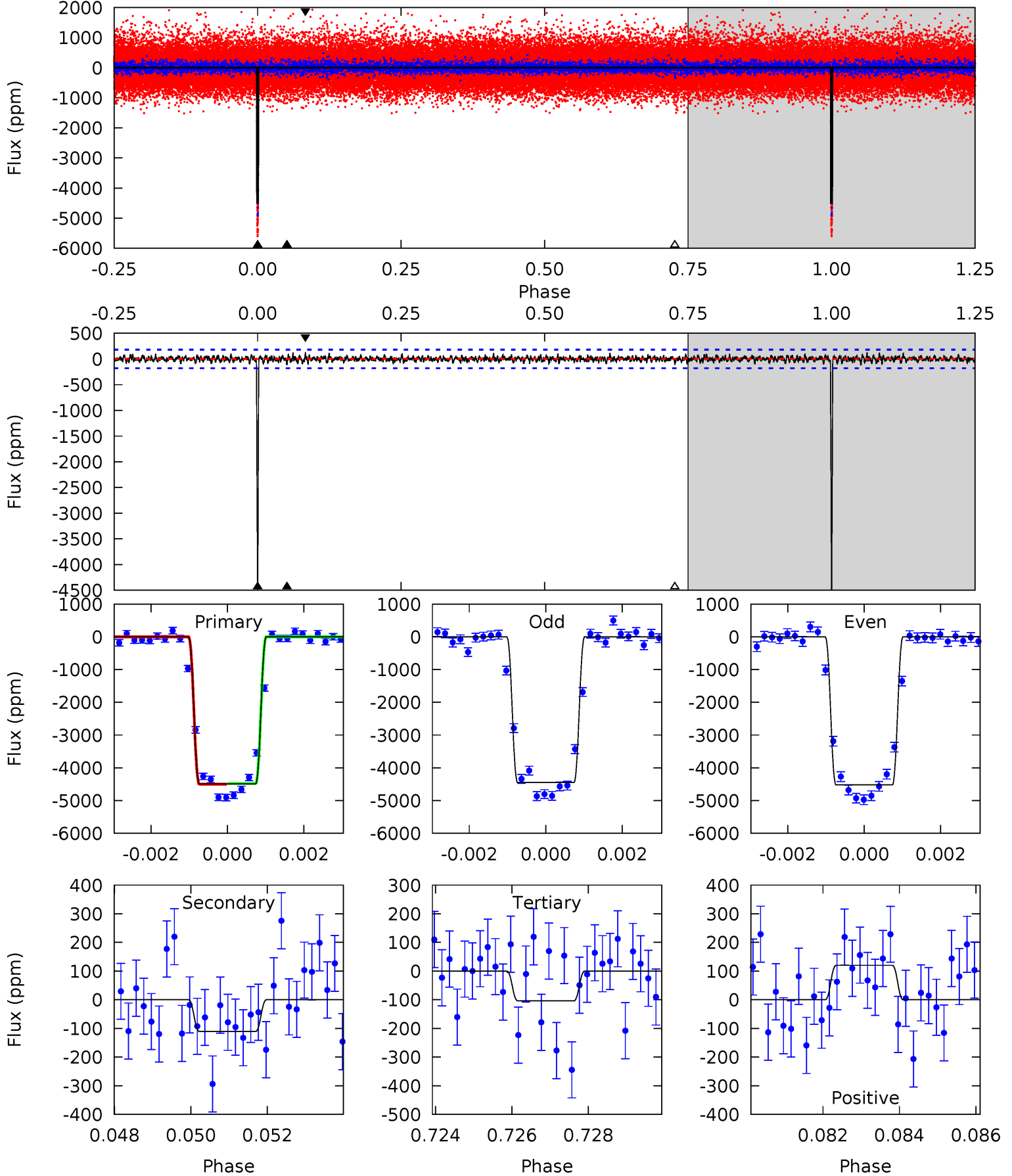
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
156.2	4.13	4.09	5.23	5.27	3.00	1.30	152.1	150.9	0.04	-1.10	1.29	1.00	0.03	0.38



Alt Model-Shift Uniqueness Test

012417486-01, $P = 155.043042$ Days, $E = 58.453637$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
131.5	3.24	3.03	3.51	5.30	3.05	0.97	128.5	128.0	0.20	-0.28	1.08	1.00	0.03	0.28



Stellar Parameters For KIC 012417486

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4994^{+74}_{-82}	$3.509^{+0.143}_{-0.117}$	$0.000^{+0.100}_{-0.150}$	$3.322^{+0.532}_{-0.650}$	$1.300^{+0.117}_{-0.273}$	$0.050^{+0.035}_{-0.018}$
	+1%/-2%	+4%/-3%	+inf%/-inf%	+16%/-20%	+9%/-21%	+71%/-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 012417486-01 / KOI 0622.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-129 ± 31	$26.41^{+2.47}_{-3.02}$	714^{+30}_{-35}	2709^{+89}_{-95}	39^{+13}_{-12}
Alt.	-110 ± 34	$24.67^{+2.43}_{-3.07}$	714^{+34}_{-37}	2696^{+115}_{-119}	37^{+16}_{-12}

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

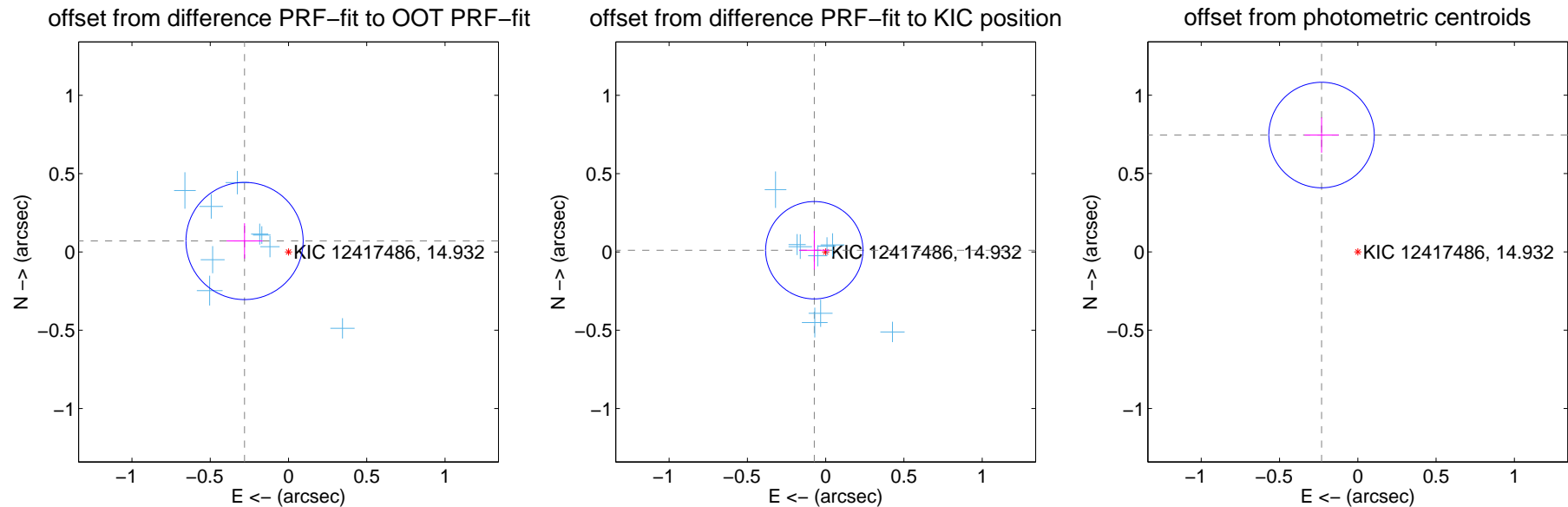
DV Centroid Data

Supplemental centroid analysis for 012417486-01. Kepler magnitude: 14.93. Transit SNR 103.02

There are 9 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

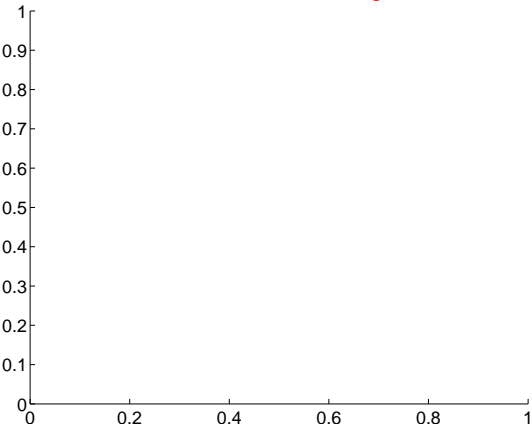
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.125	2.32	0.281 ± 0.115	0.070 ± 0.113
PRF-fit source offset from KIC position	0.073 ± 0.104	0.71	0.073 ± 0.096	0.011 ± 0.123
photometric centroid source offset	0.78 ± 0.11	6.96	0.23 ± 0.11	0.75 ± 0.11



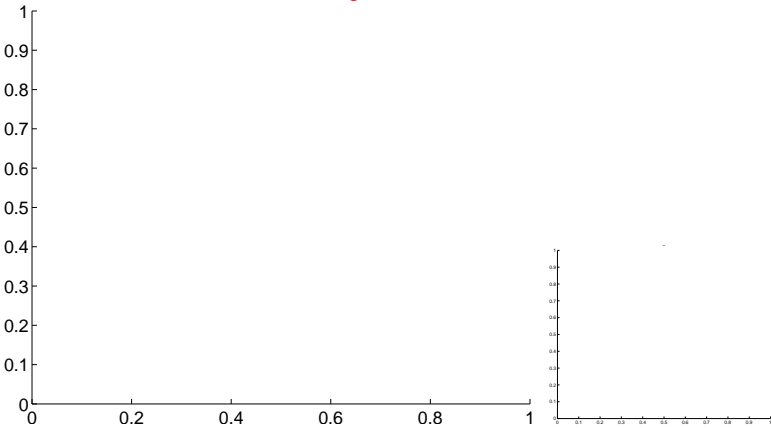
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

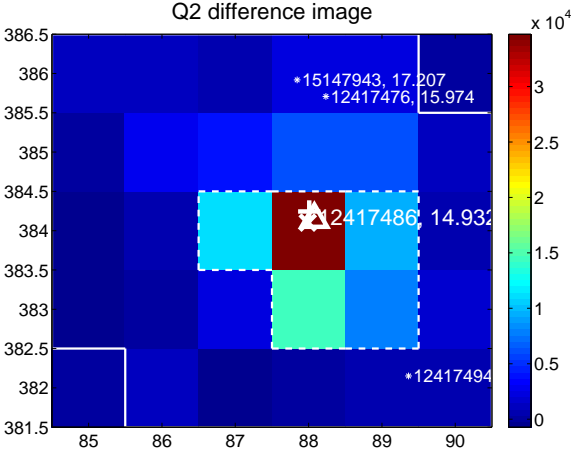
Q1 no difference image



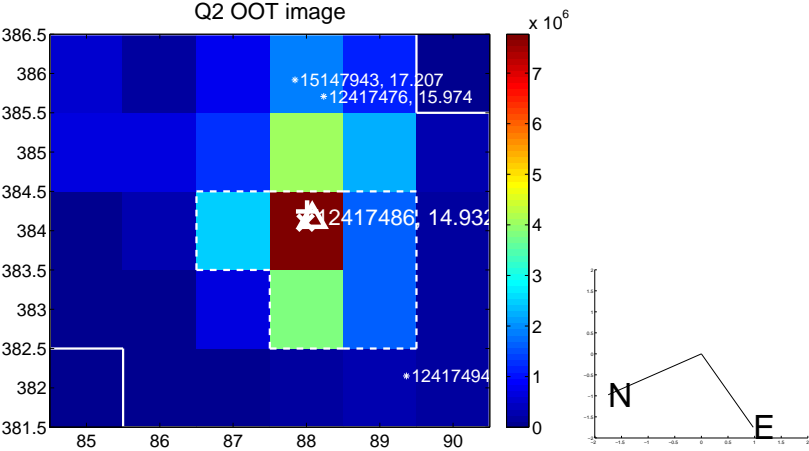
Q1 no OOT image



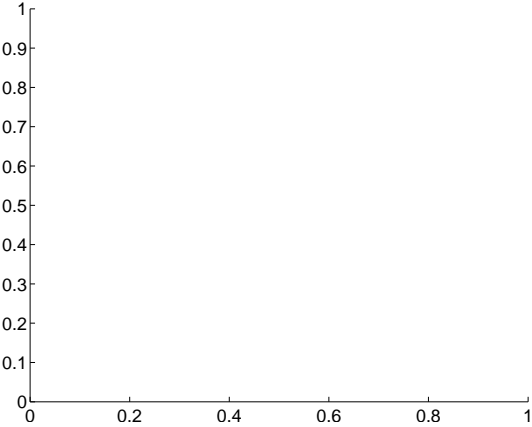
Q2 difference image



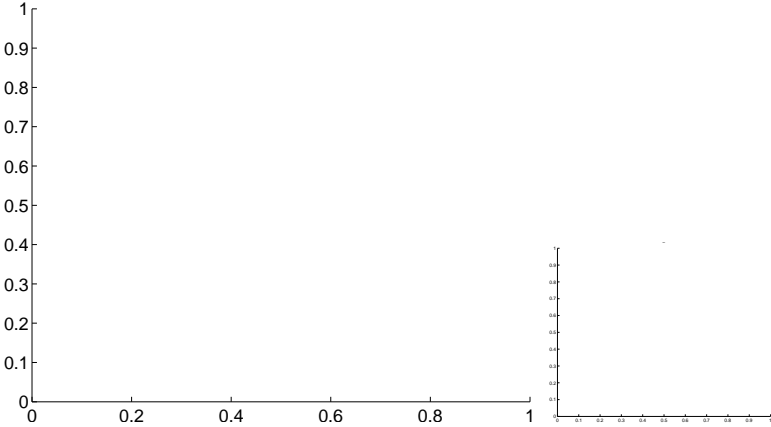
Q2 OOT image



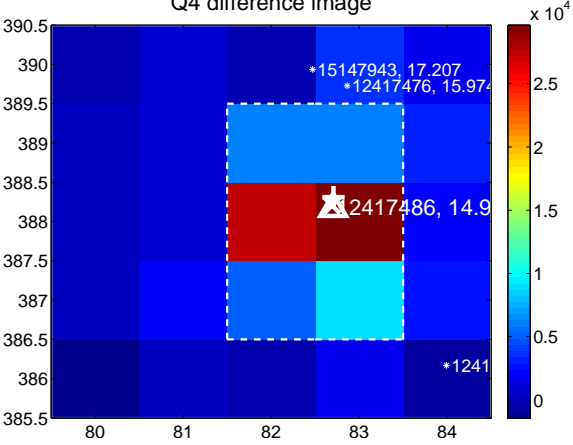
Q3 no difference image



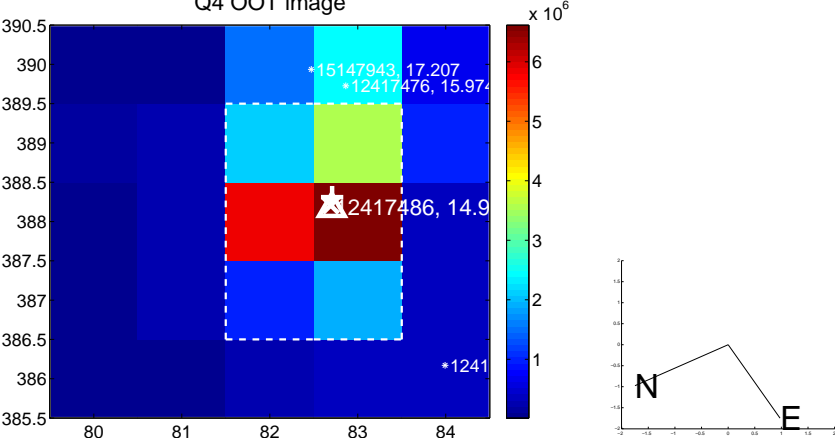
Q3 no OOT image



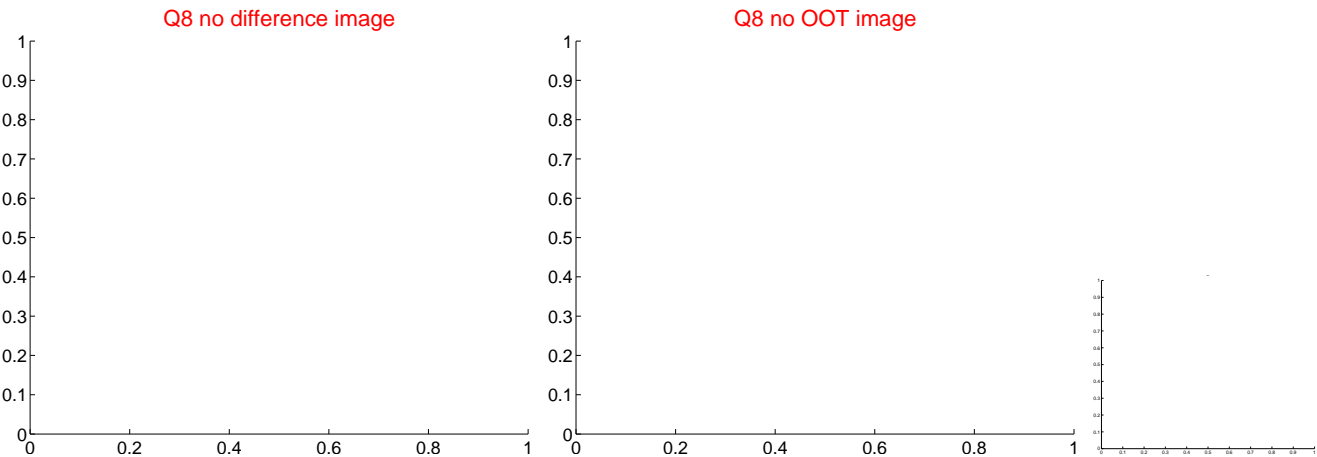
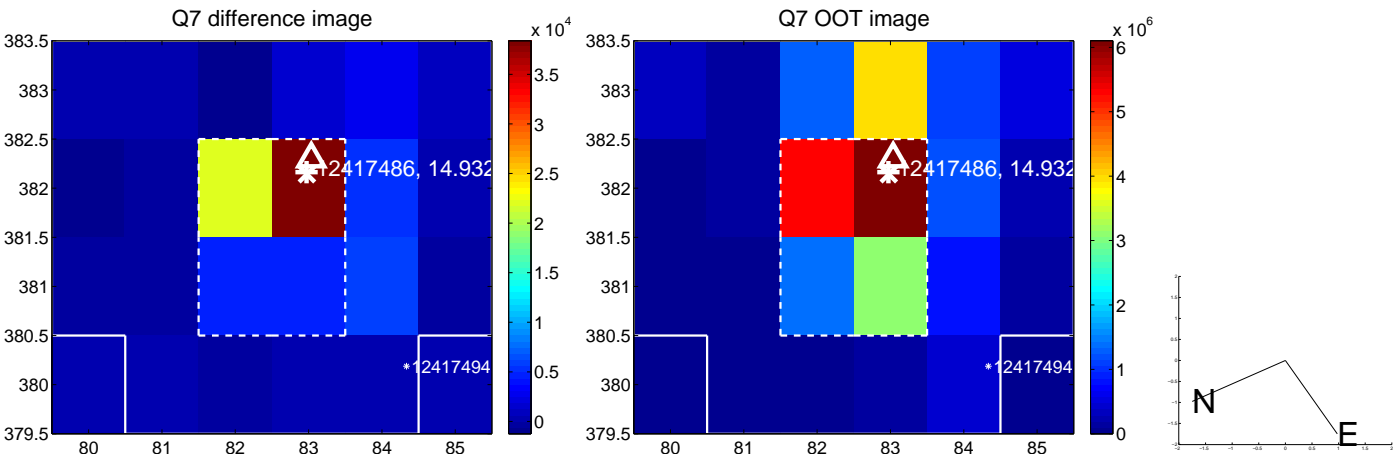
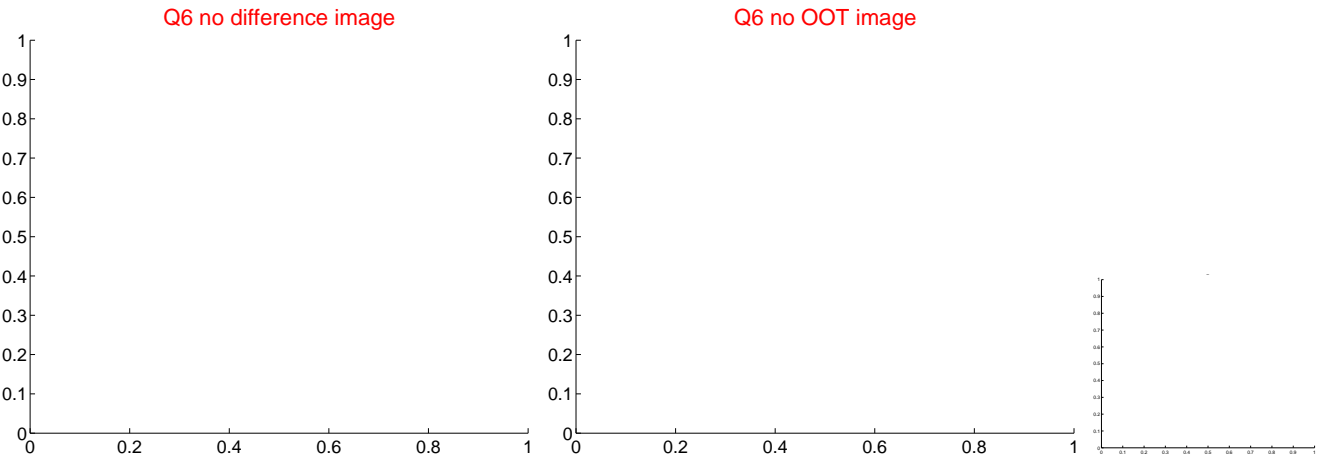
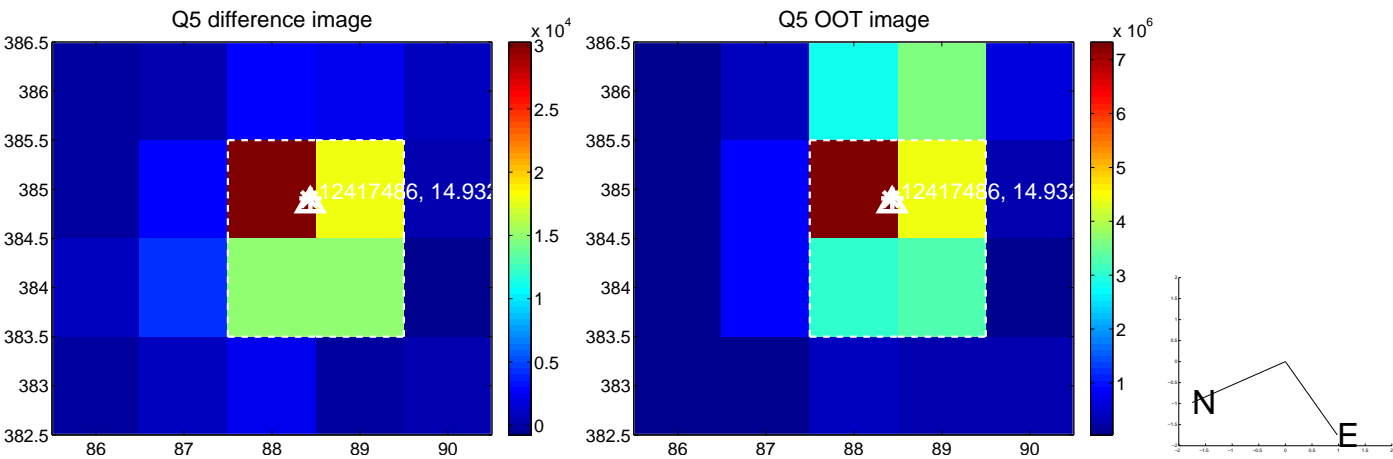
Q4 difference image



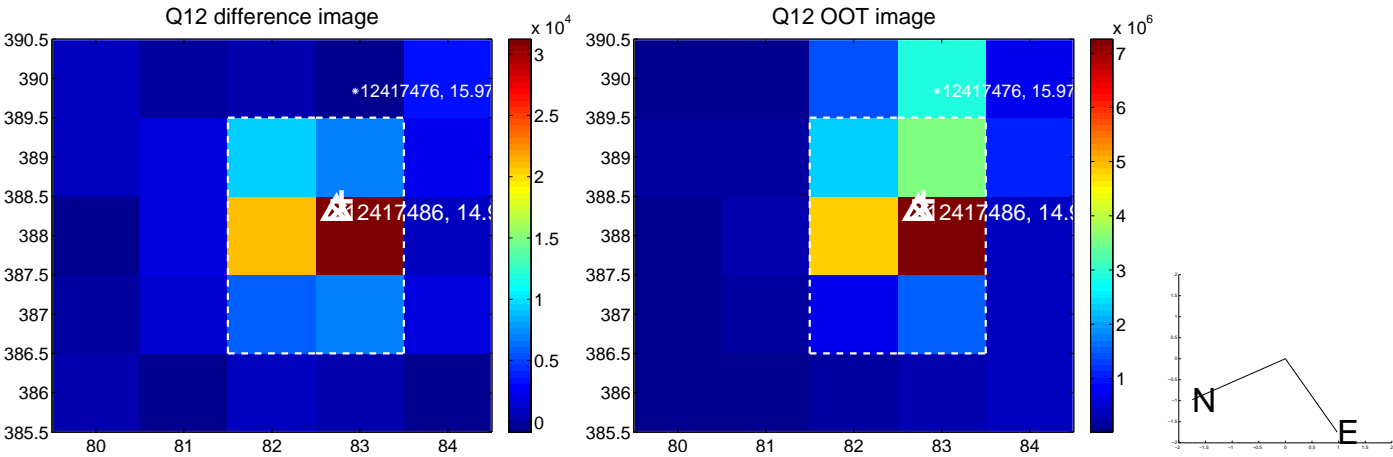
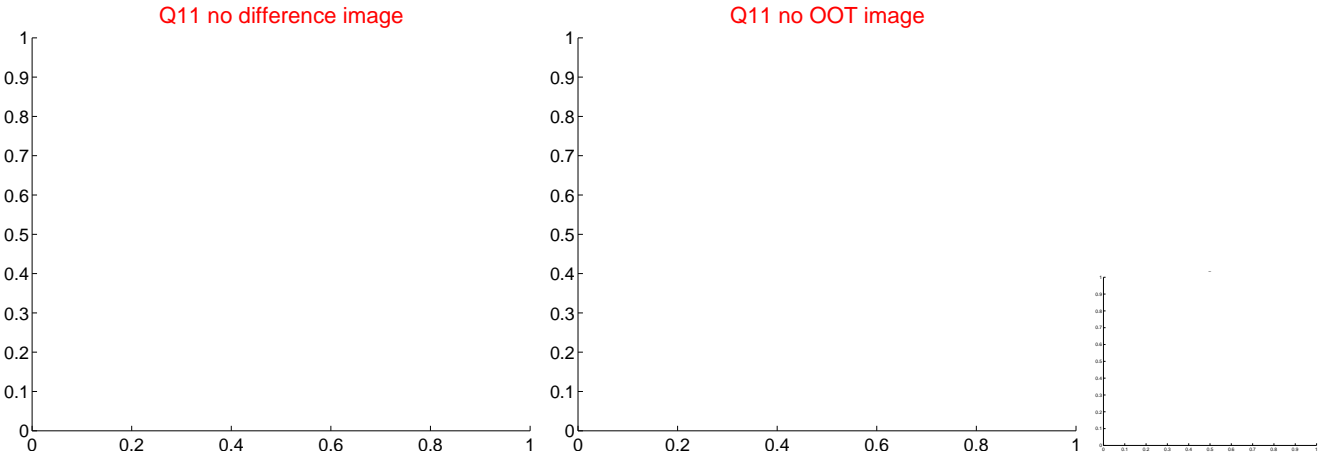
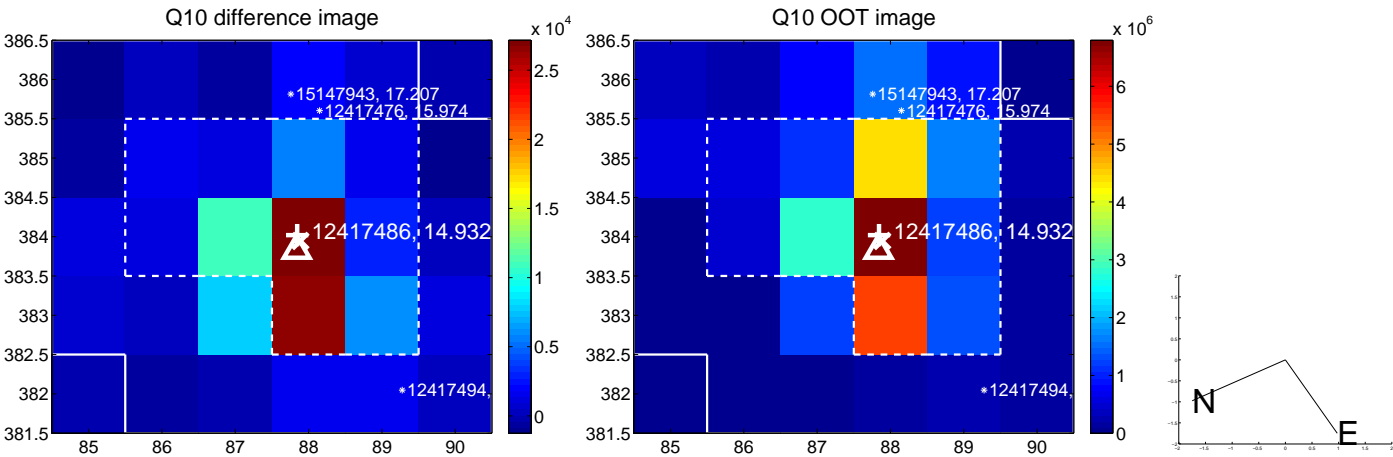
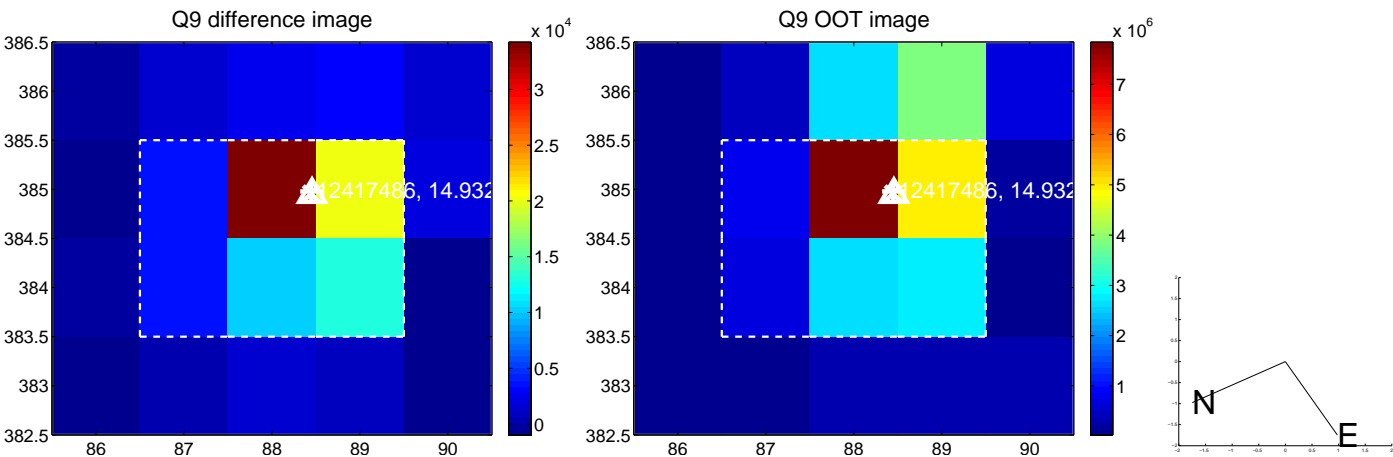
Q4 OOT image



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

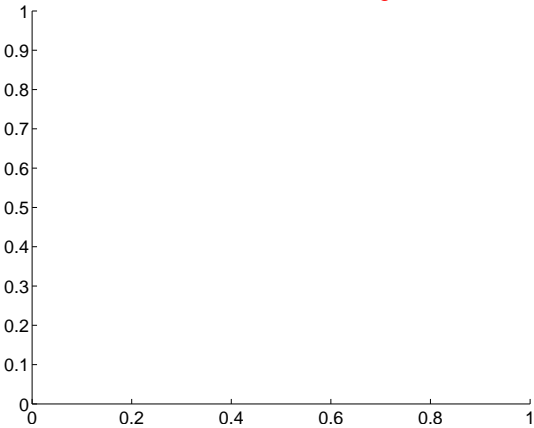


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

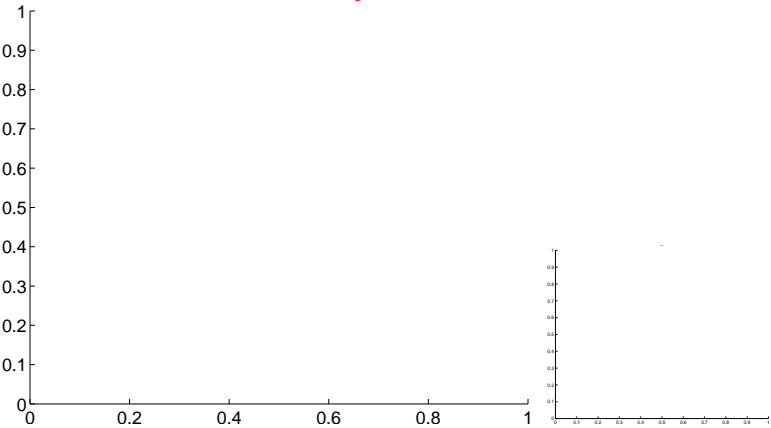


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

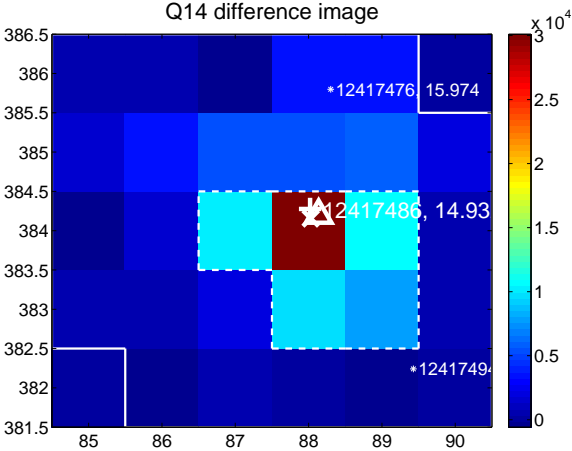
Q13 no difference image



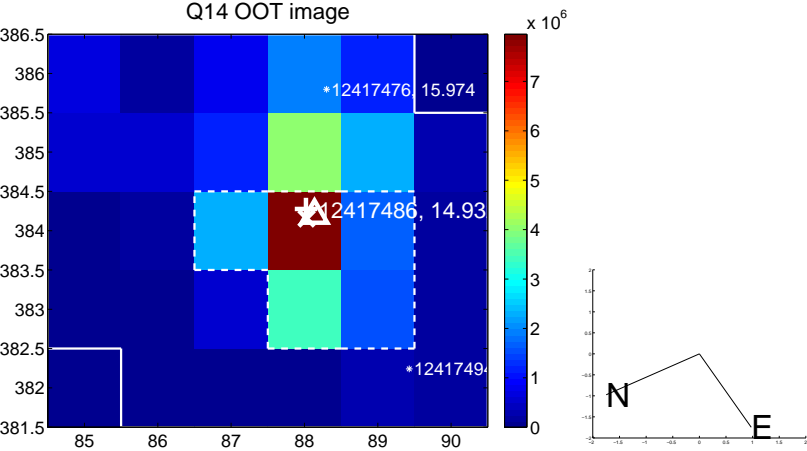
Q13 no OOT image



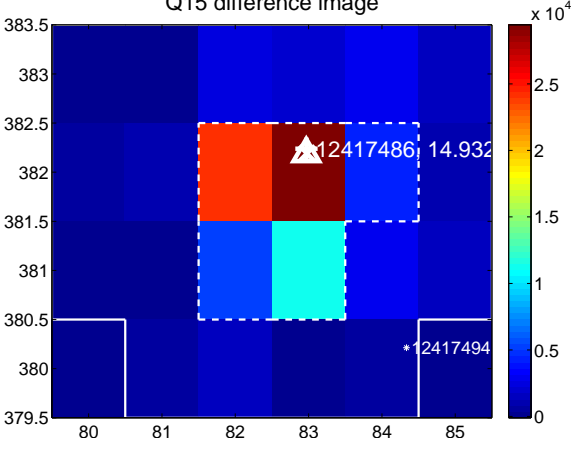
Q14 difference image



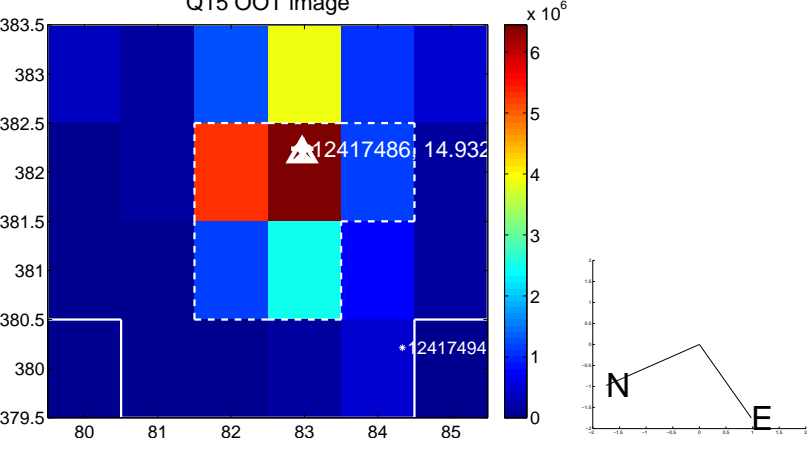
Q14 OOT image



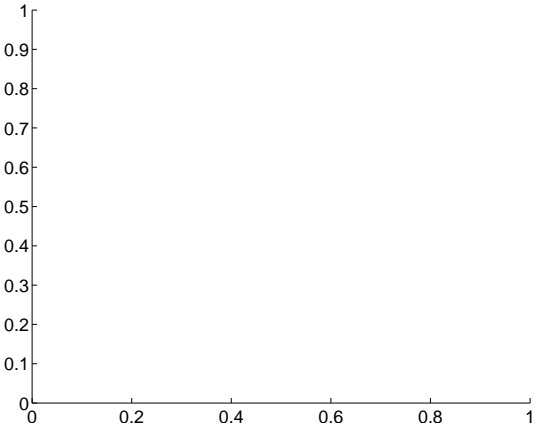
Q15 difference image



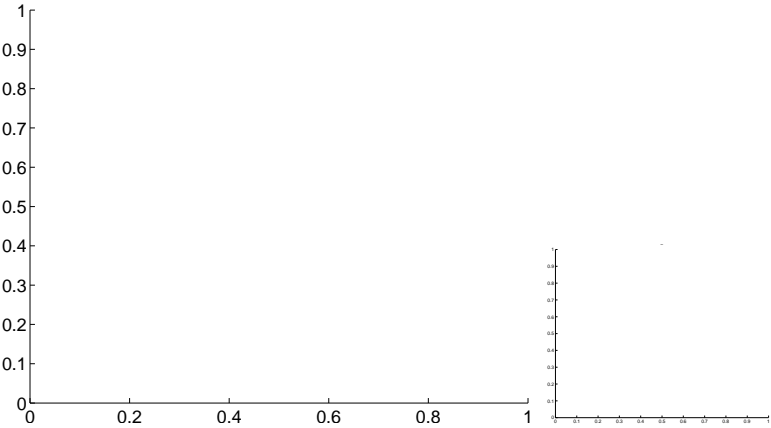
Q15 OOT image



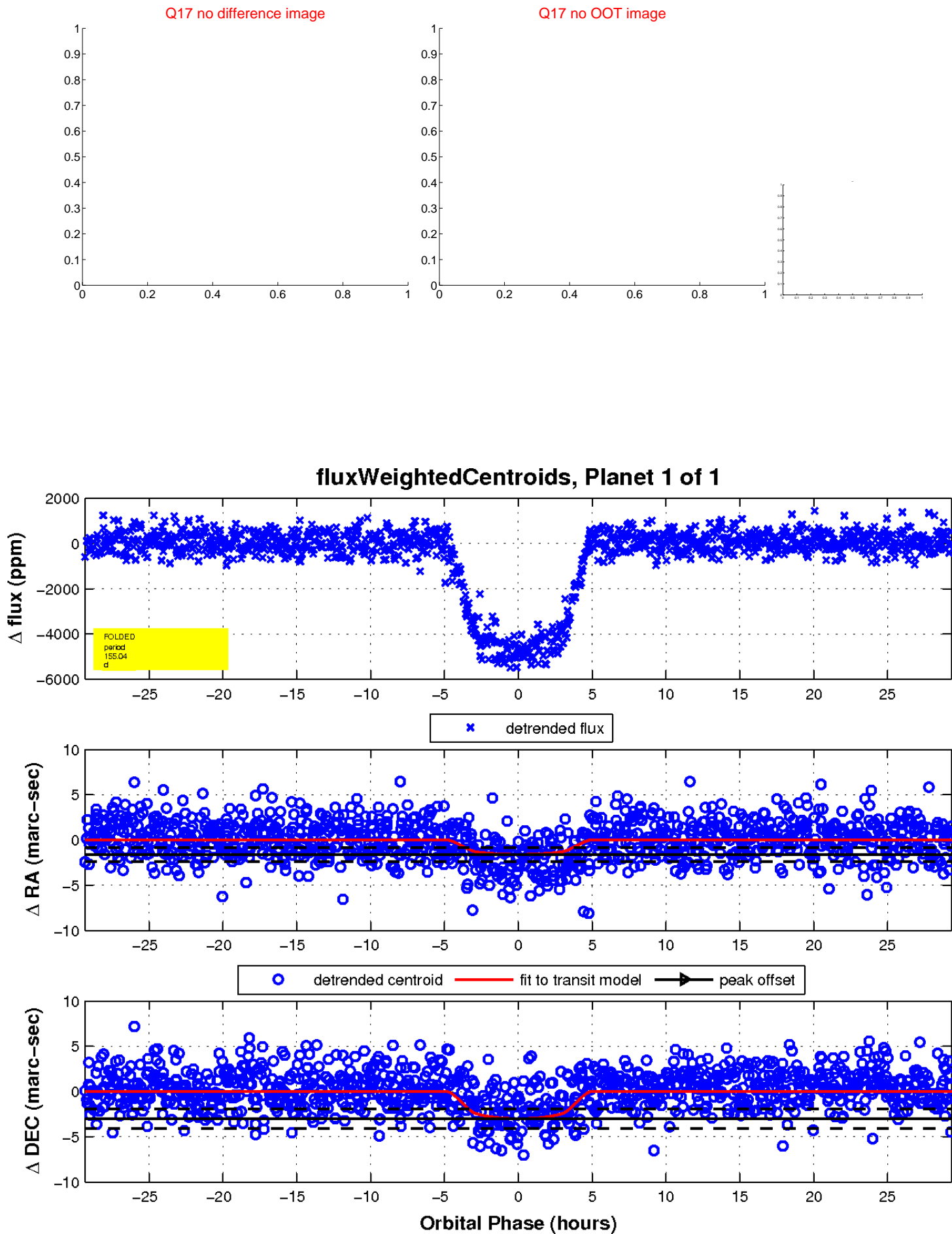
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

