

KIC 003748458

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})
003748458-01	OBS	No	467.122812	424.359618	1139.7	6.411	8.0	8.8	0.73	4562	3.03	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003748458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

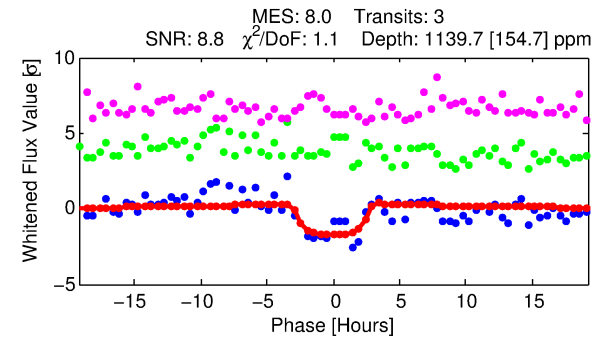
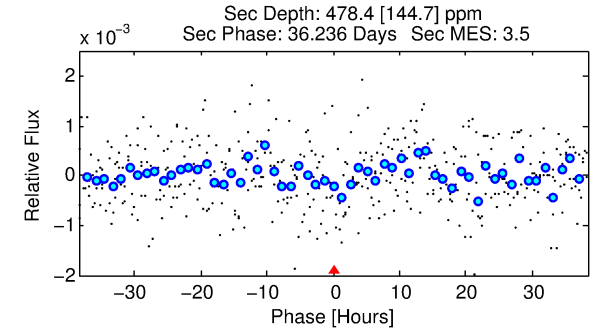
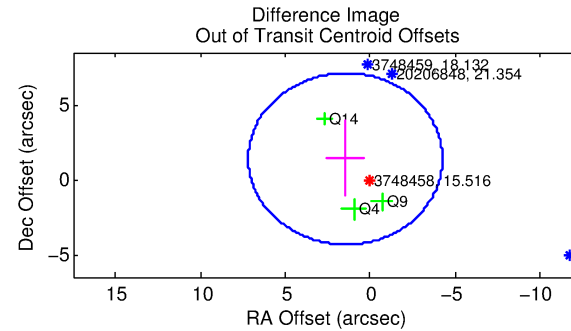
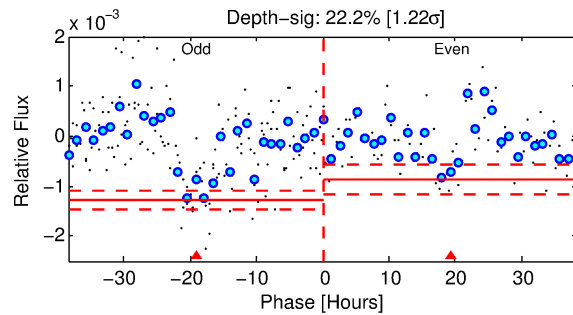
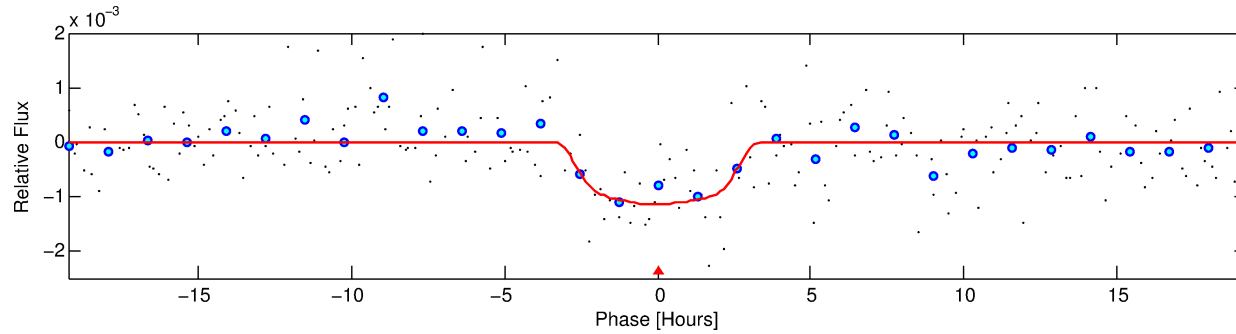
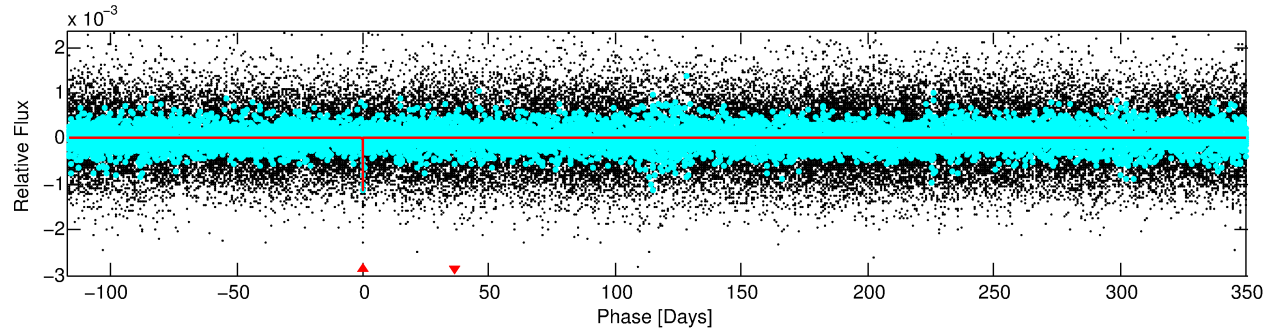
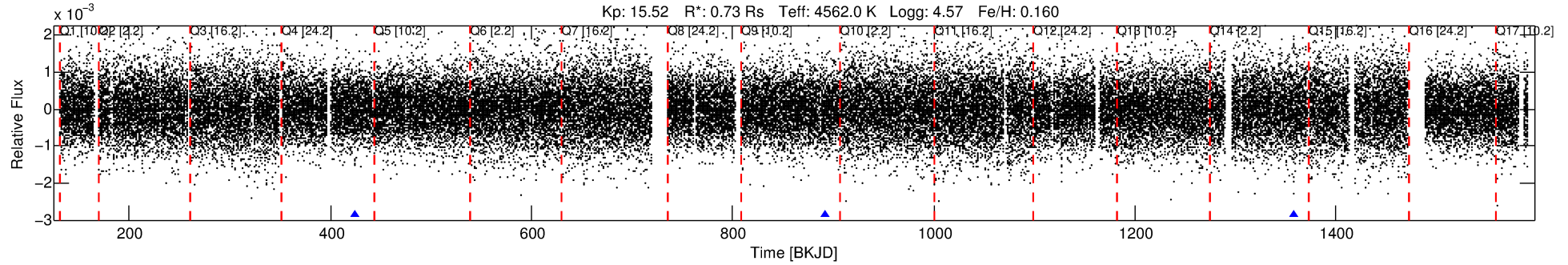
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003748458-01

No Significant Match Found

DV One-Page Summary

KIC: 3748458 Candidate: 1 of 1 Period: 467.123 d



DV Fit Results:

Period = 467.12281 [0.01029] d
Epoch = 424.3596 [0.0122] BKJD
Rp/R* = 0.0381 [0.0074]
a/R* = 291.59 [176.06]
b = 0.90 [0.14]
Seff = 0.18 [0.03]
Teq = 167 [6] K
Rp = 3.03 [0.64] Re
a = 1.0580 [0.0734] AU
Ag = 32096.15 [16152.31] [1.99σ]
Teffp = 3457 [439] K [7.49σ]

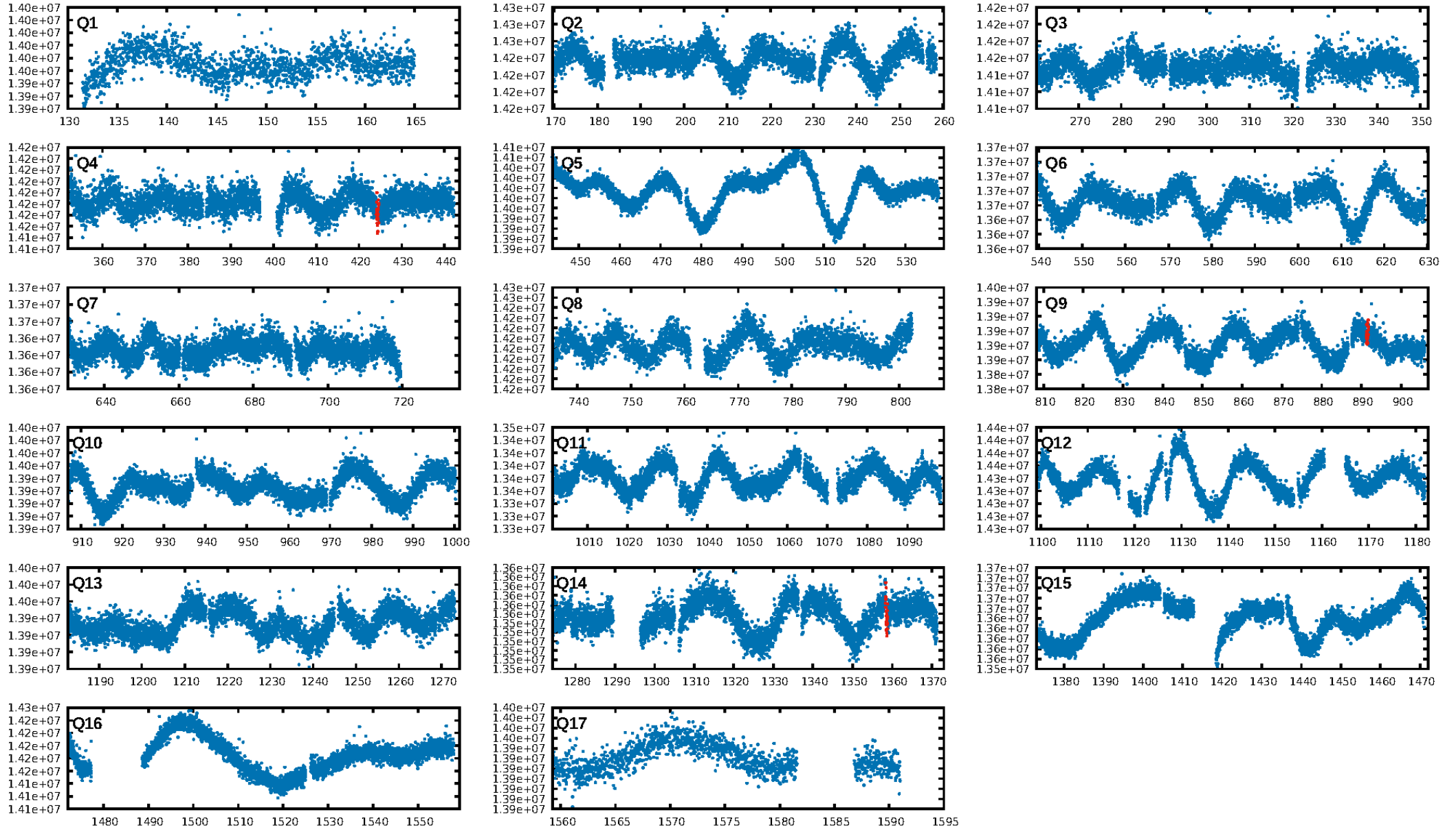
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.9%
ModelChiSquareGof-sig: 90.5%
Bootstrap-pfa: 1.01e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.994
Centroid-sig: 41.0%
Centroid-so: 0.931 arcsec [0.67σ]
OotOffset-rm: 2.001 arcsec [1.05σ]
KicOffset-rm: 2.103 arcsec [0.99σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

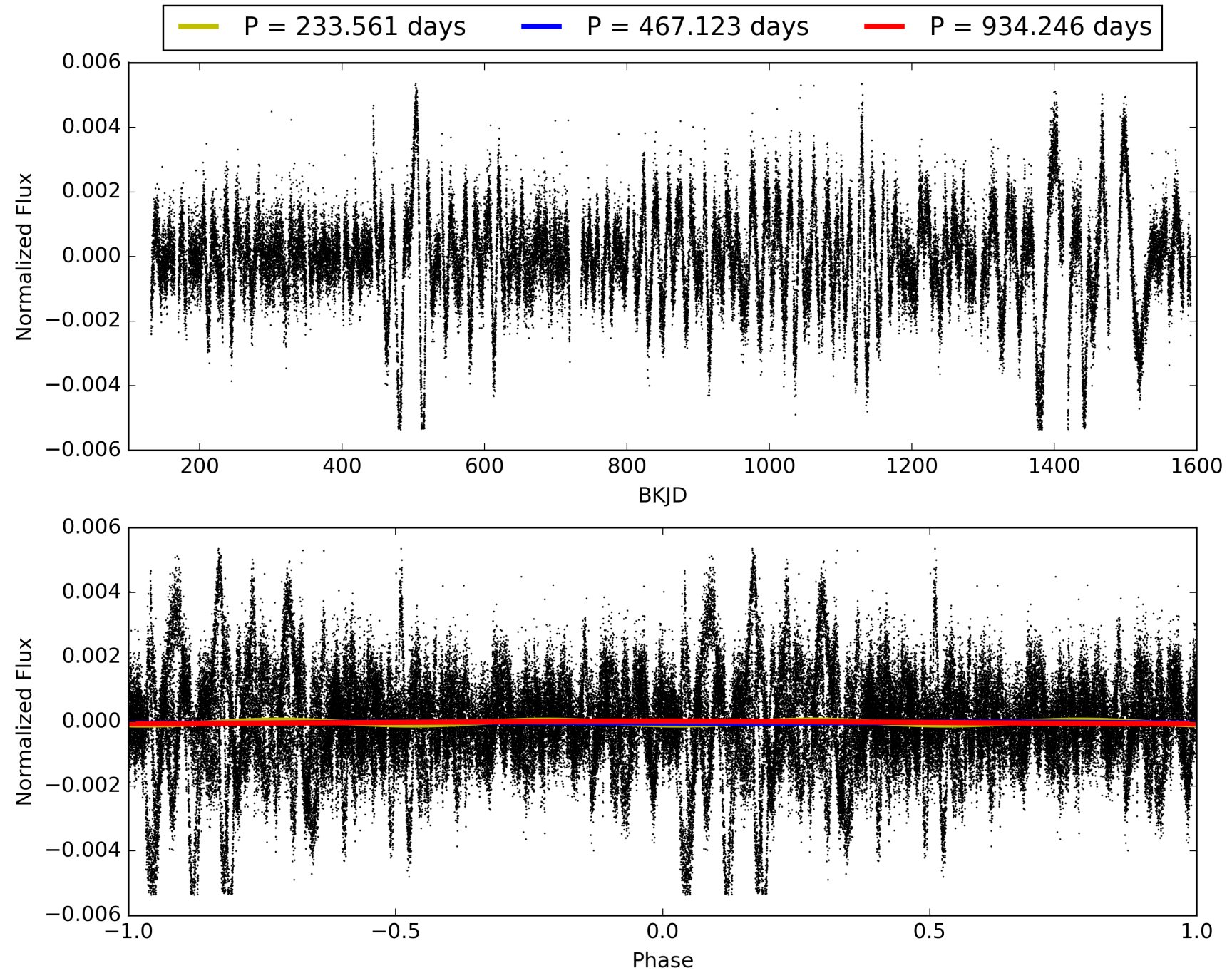
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:24:16 Z

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

TCE 003748458-01, PDC Light Curves

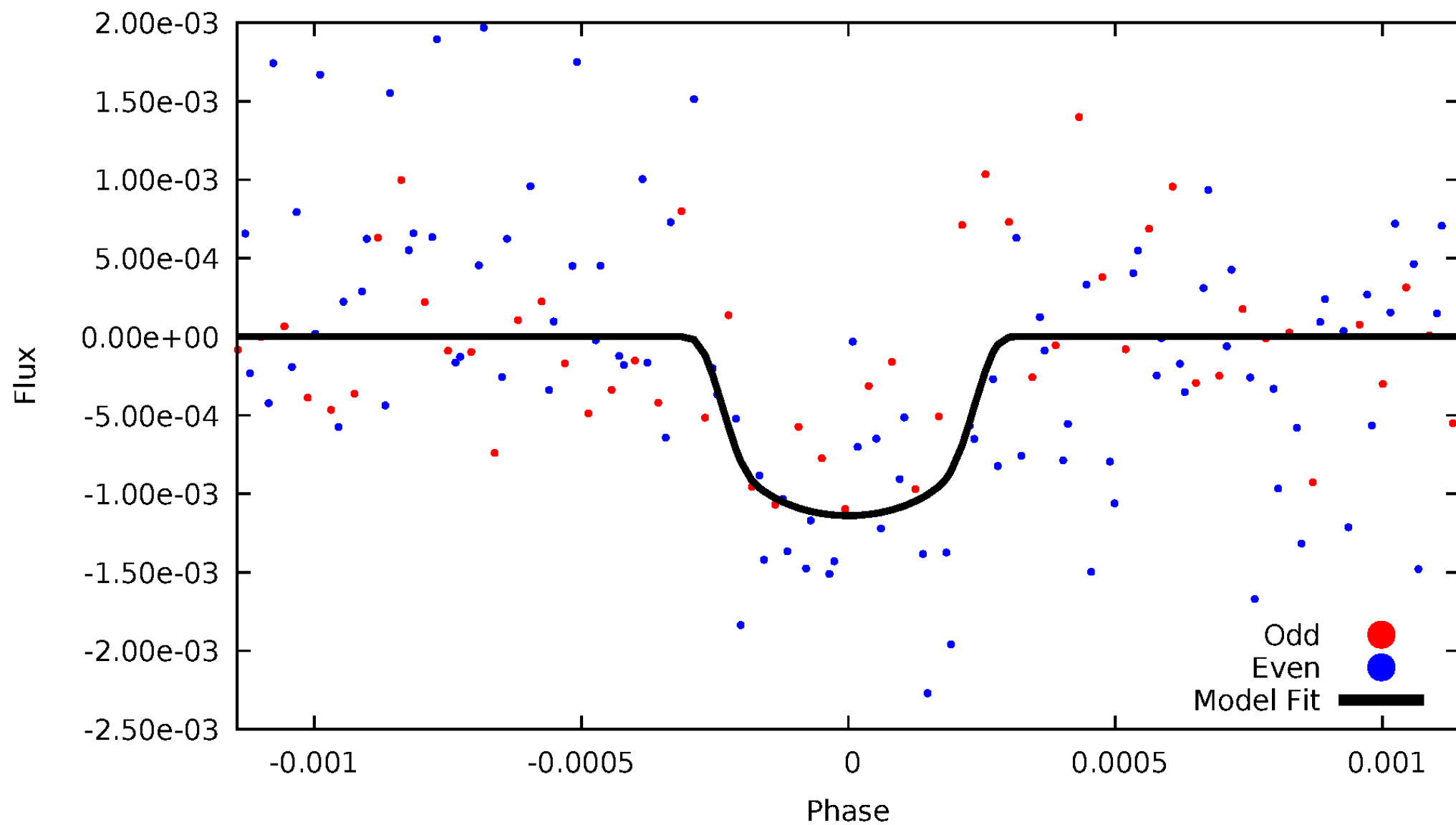


TCE 003748458-01



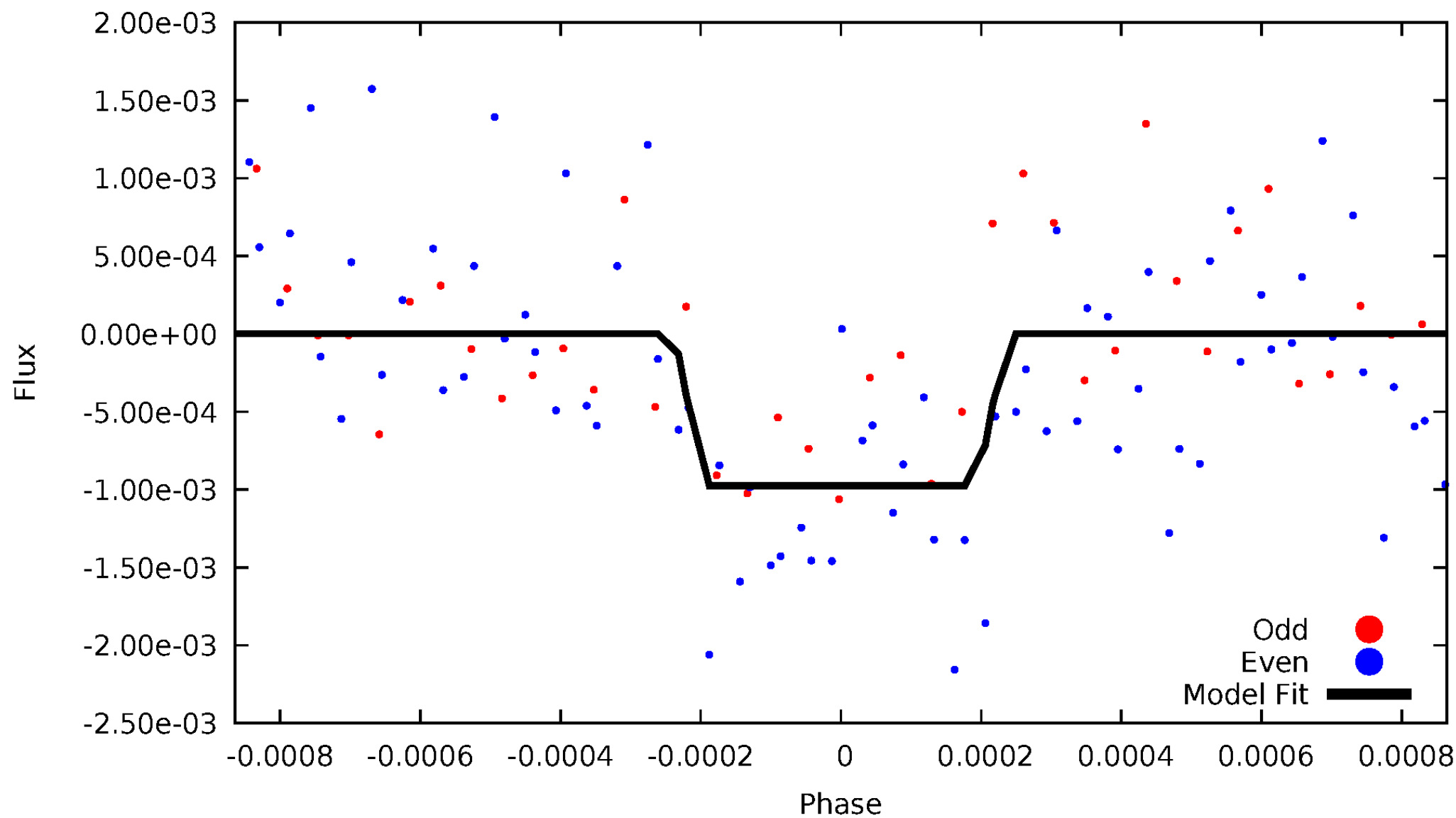
DV Odd/Even

TCE 003748458-01

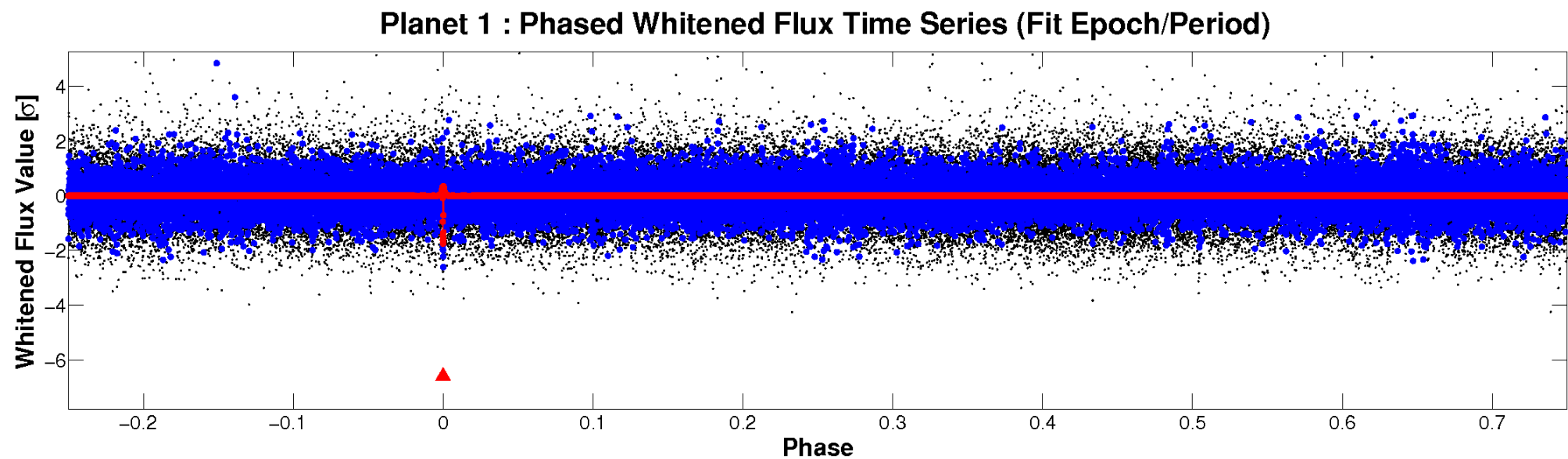
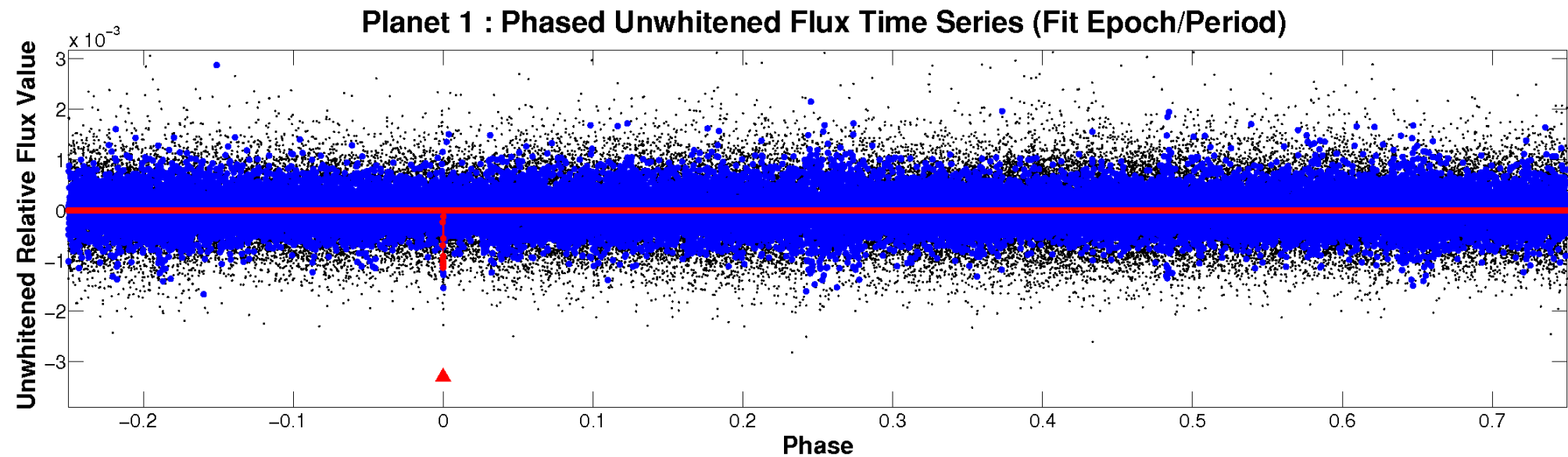


ALT Odd/Even

TCE 003748458-01

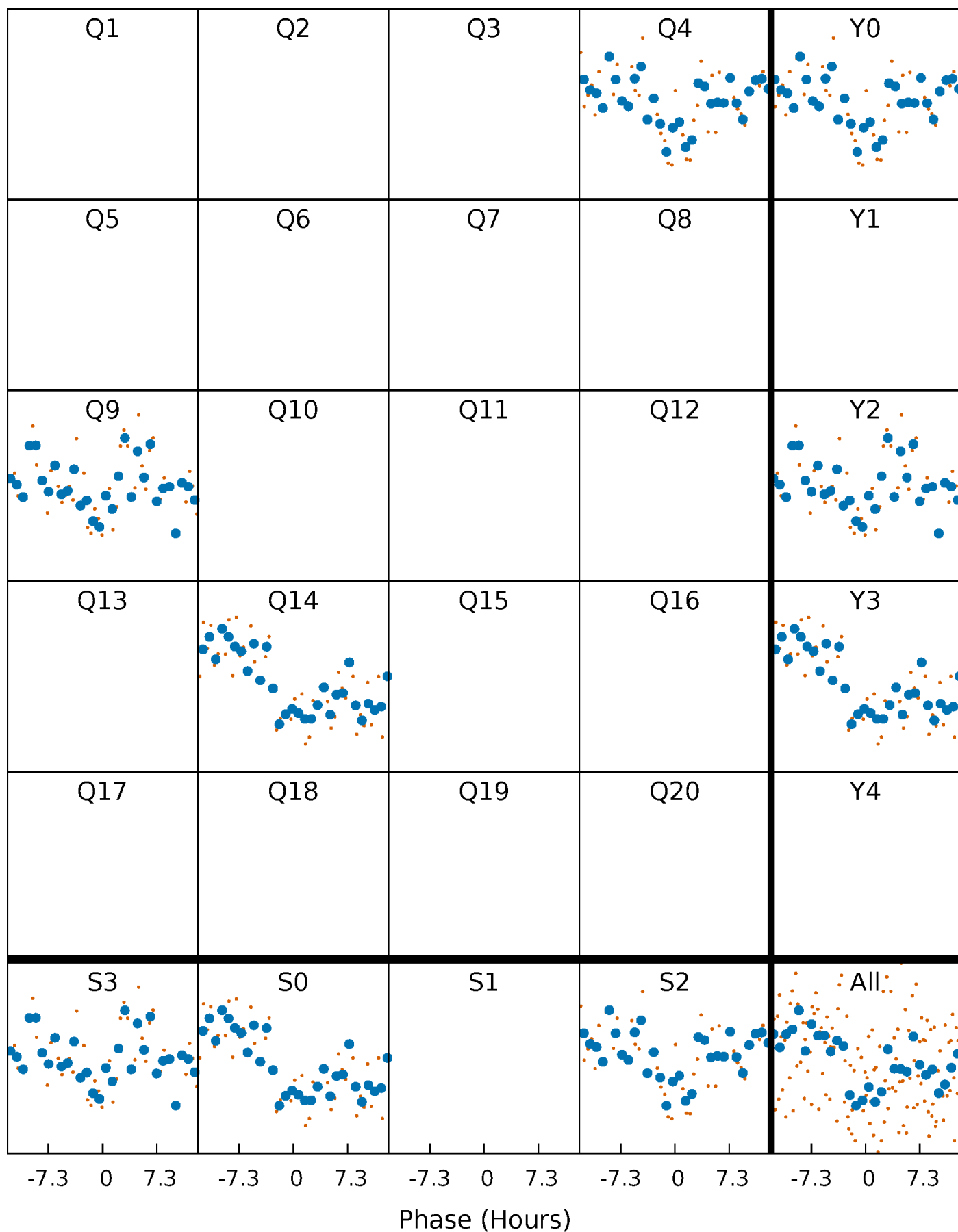


Non-Whitened Vs. Whitened Light Curve



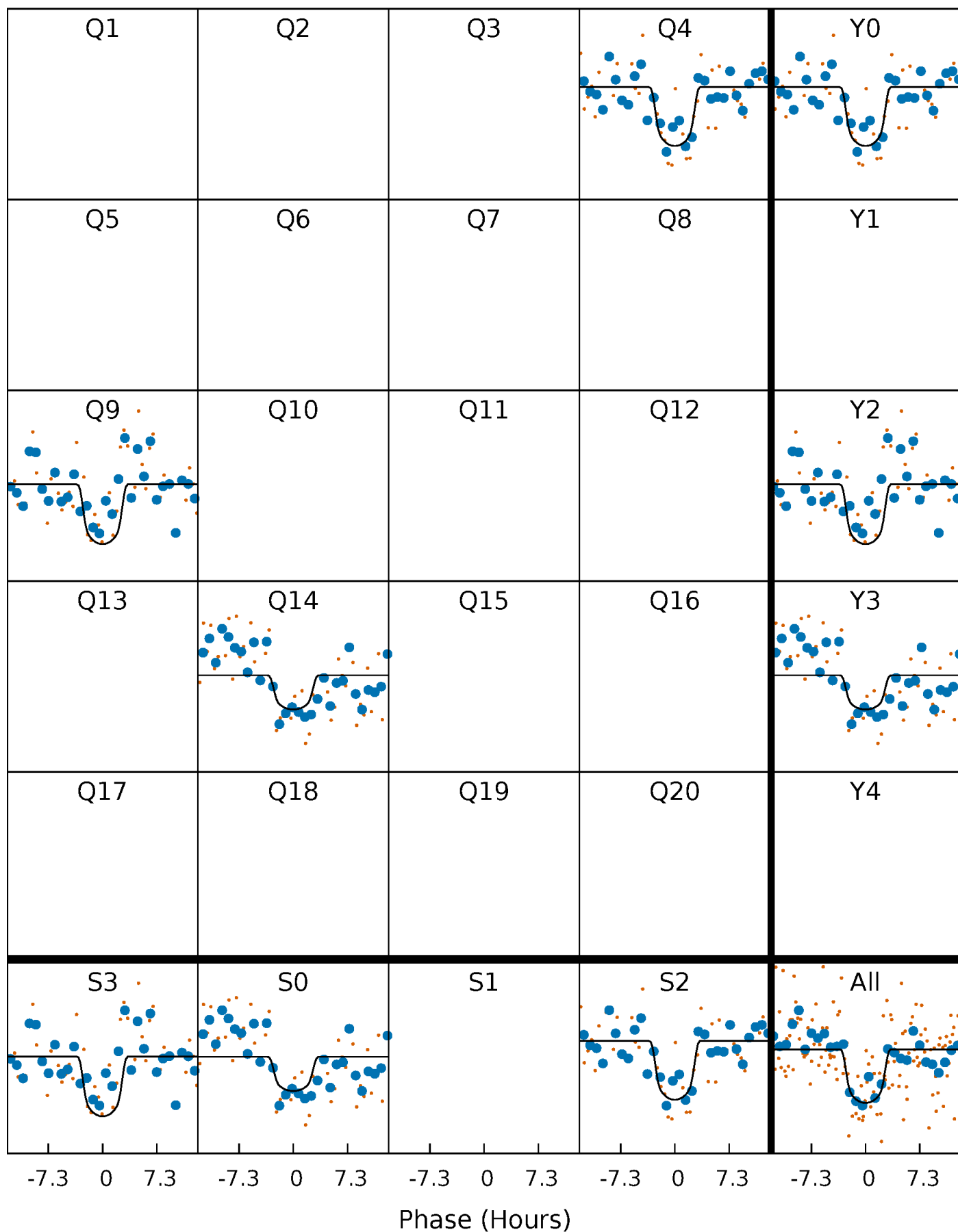
PDC Quarter-Phased Transit Curves

TCE 003748458-01 P=467.122812 Days $T_0=424.359618$ (BKJD)



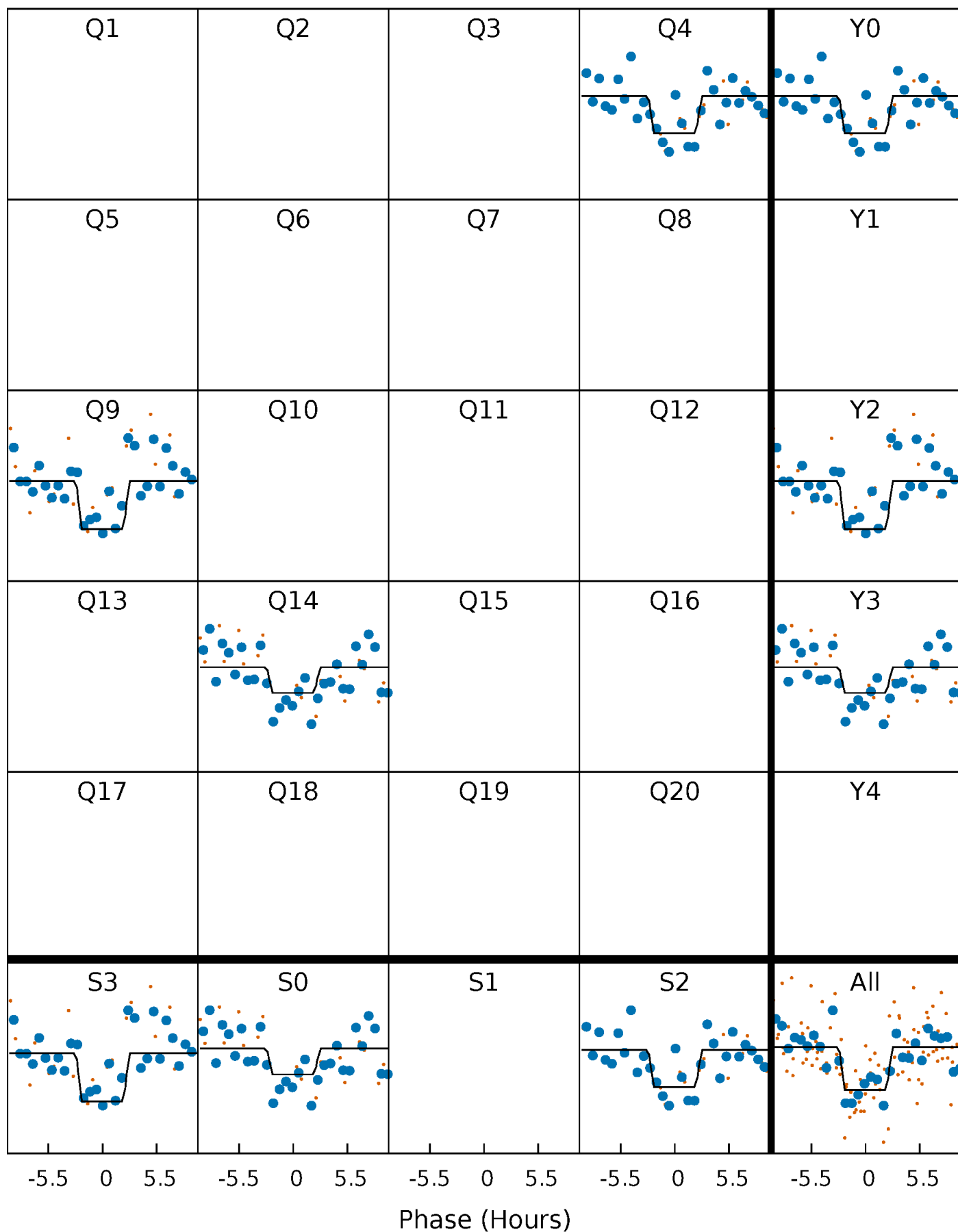
DV Quarter-Phased Transit Curves

TCE 003748458-01 P=467.122812 Days $T_0=424.359618$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

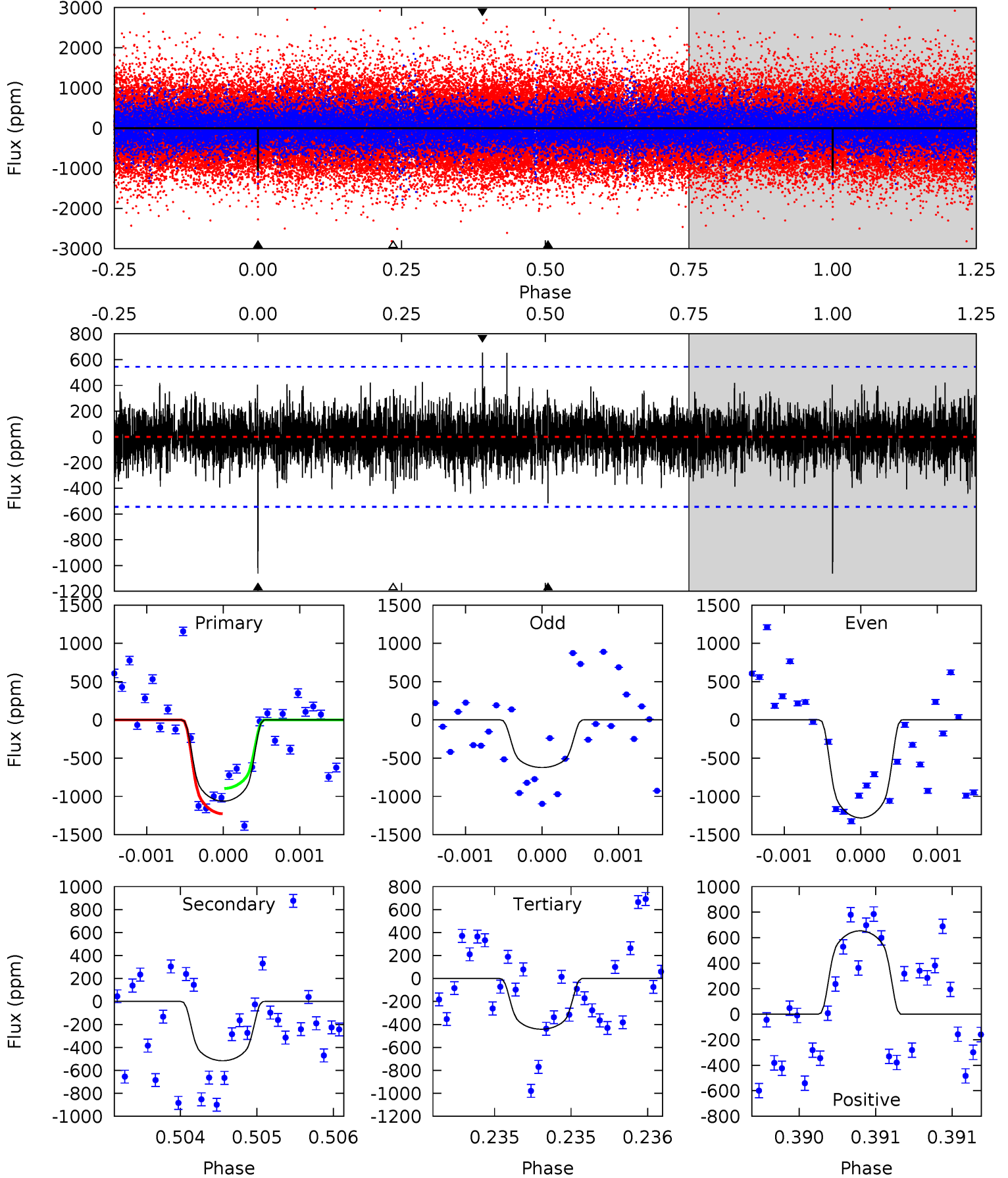
TCE 003748458-01 P=467.117993 Days $T_0=424.362843$ (BKJD)



DV Model-Shift Uniqueness Test

003748458-01, P = 467.122812 Days, E = 424.359618 Days

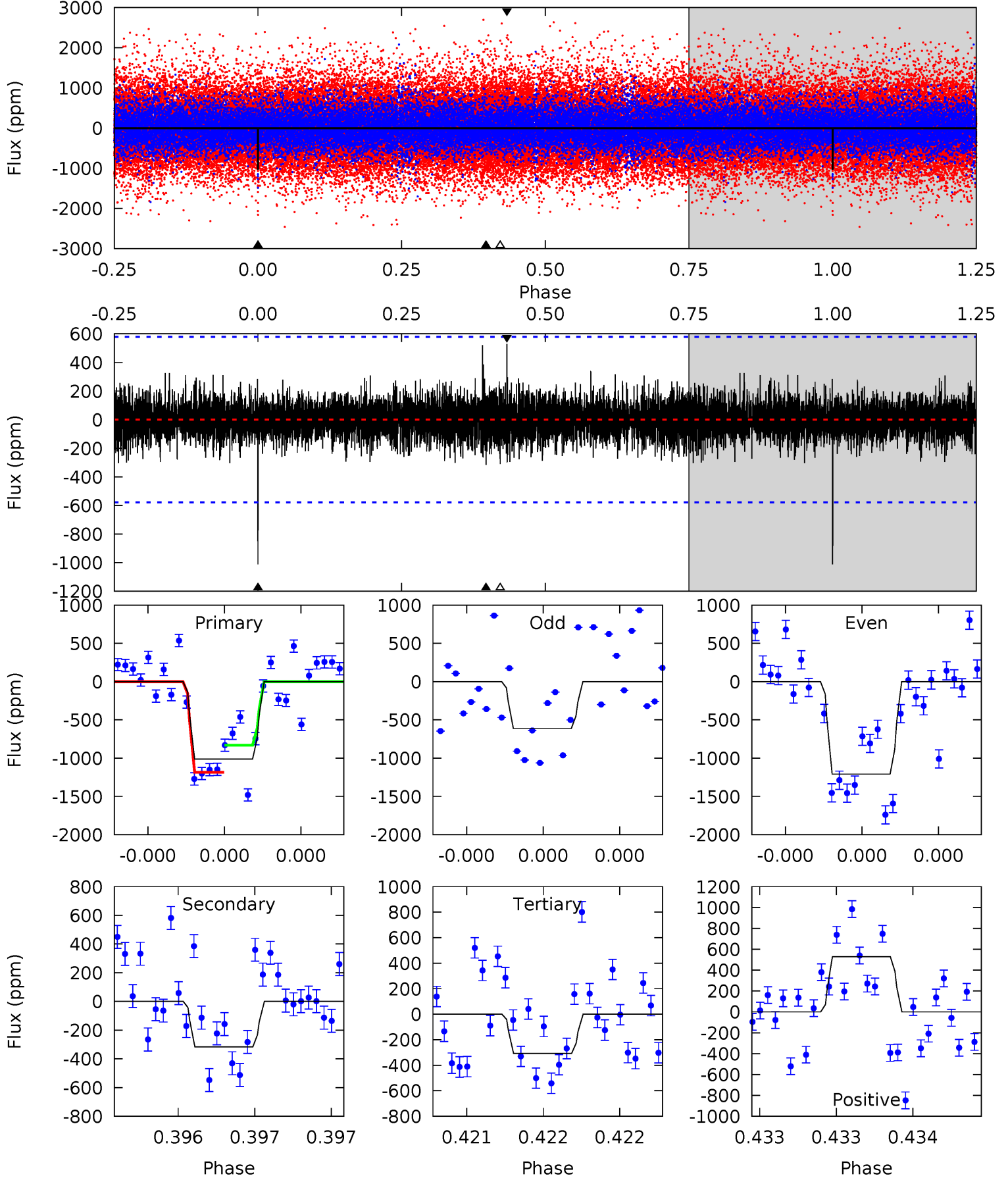
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	5.26	4.50	6.66	5.55	3.45	1.29	6.32	4.16	0.76	-1.40	3.10	0.98	0.38	1.68



Alt Model-Shift Uniqueness Test

003748458-01, P = 467.117993 Days, E = 424.362843 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.75	3.05	2.97	5.09	5.58	3.49	0.90	6.78	4.66	0.08	-2.04	2.71	1.03	0.34	1.71



Stellar Parameters For KIC 003748458

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4562^{+123}_{-137}	$4.572^{+0.052}_{-0.020}$	$0.160^{+0.250}_{-0.300}$	$0.729^{+0.031}_{-0.062}$	$0.723^{+0.050}_{-0.056}$	$2.632^{+0.617}_{-0.228}$
	+3%/-3%	+1%/-0%	+156%/-188%	+4%/-9%	+7%/-8%	+23%/-9%
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 003748458-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-516 ± 98	$3.00^{+0.57}_{-0.66}$	232^{+7}_{-8}	3783^{+349}_{-265}	35883^{+23722}_{-12406}
Alt.	-316 ± 104	$2.47^{+0.60}_{-0.54}$	231^{+8}_{-7}	3694^{+402}_{-334}	31313^{+27325}_{-13796}

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

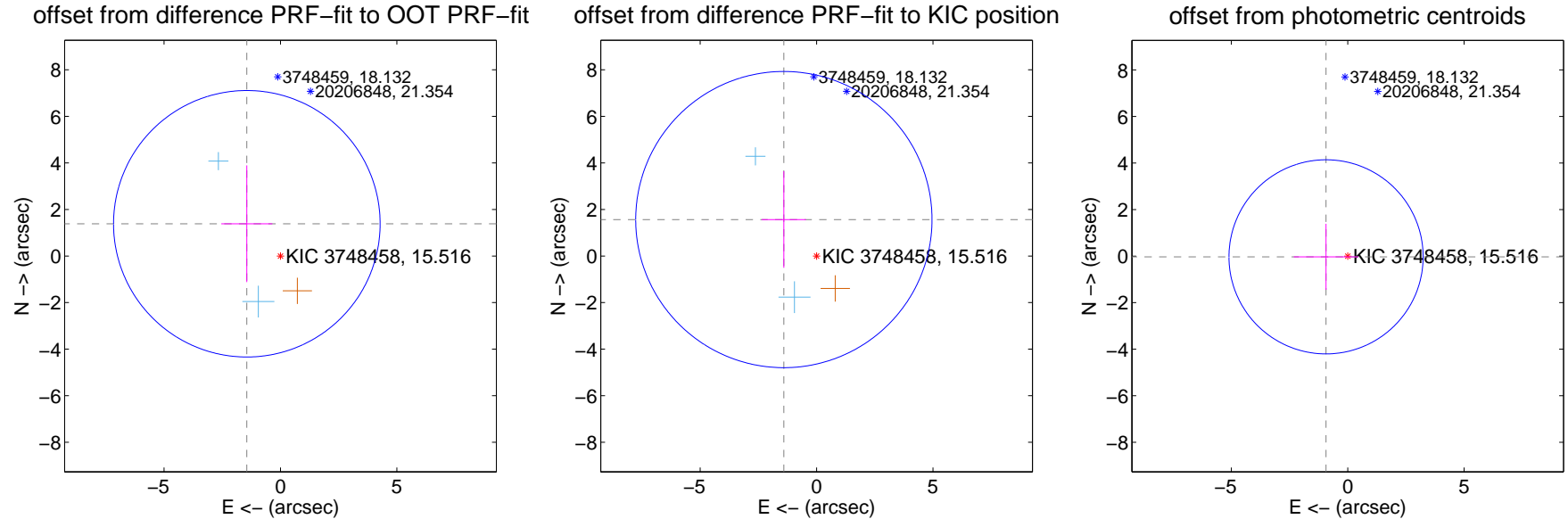
DV Centroid Data

Supplemental centroid analysis for 003748458-01. Kepler magnitude: 15.52. Transit SNR 8.75

There are 2 quarters with good PRF difference image offsets

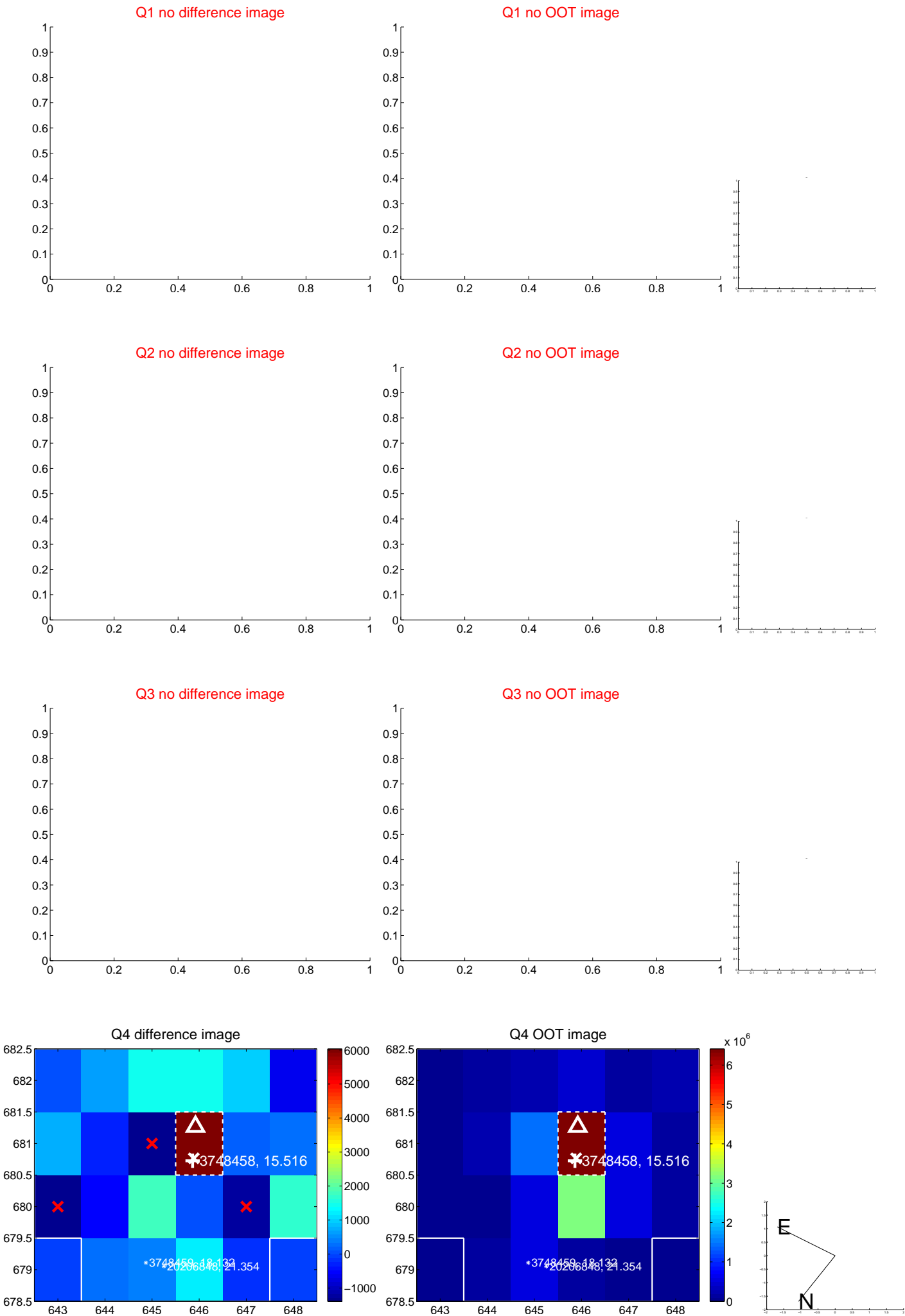
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.001 ± 1.907	1.05	1.444 ± 1.096	1.386 ± 2.507
PRF-fit source offset from KIC position	2.103 ± 2.120	0.99	1.405 ± 0.947	1.565 ± 2.072
photometric centroid source offset	0.93 ± 1.39	0.67	0.93 ± 1.39	-0.03 ± 1.42



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.

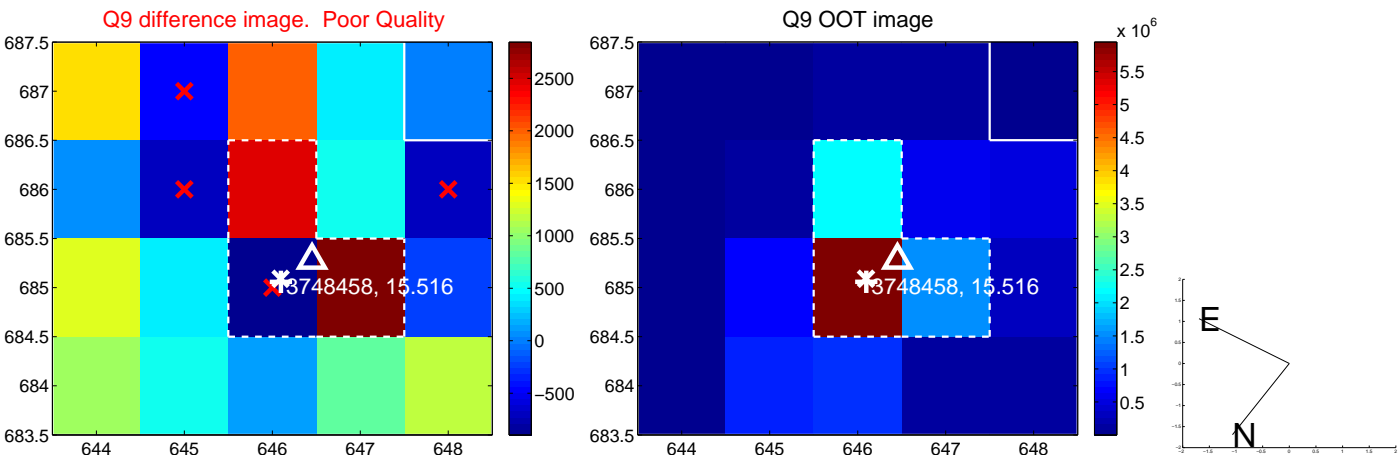
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



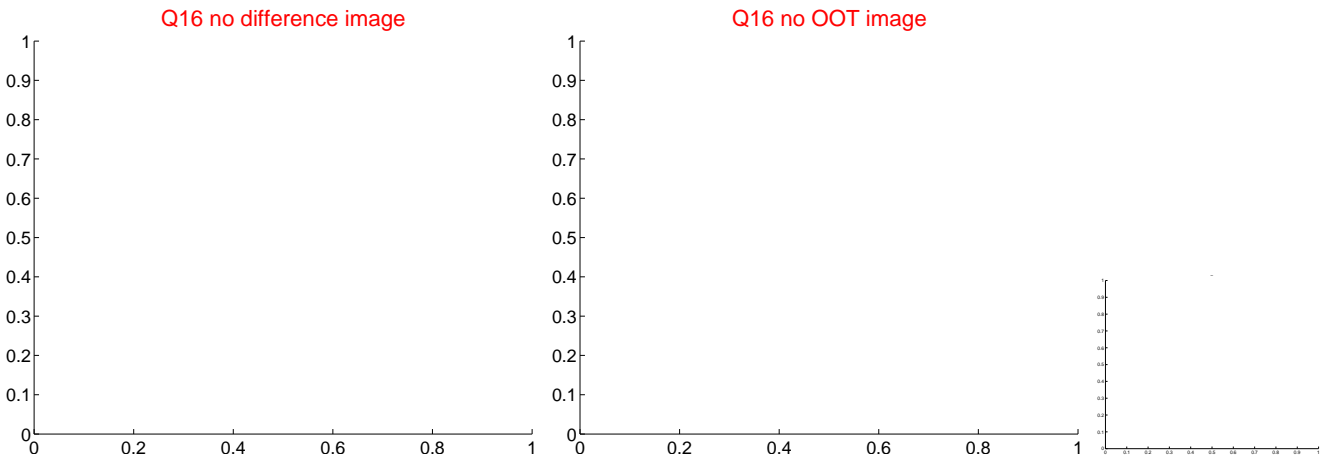
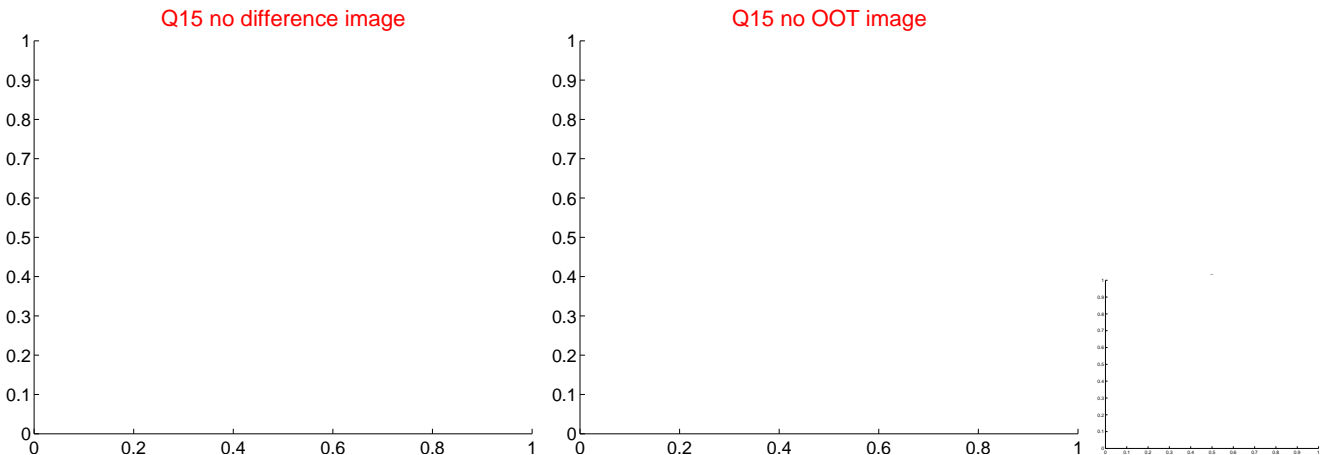
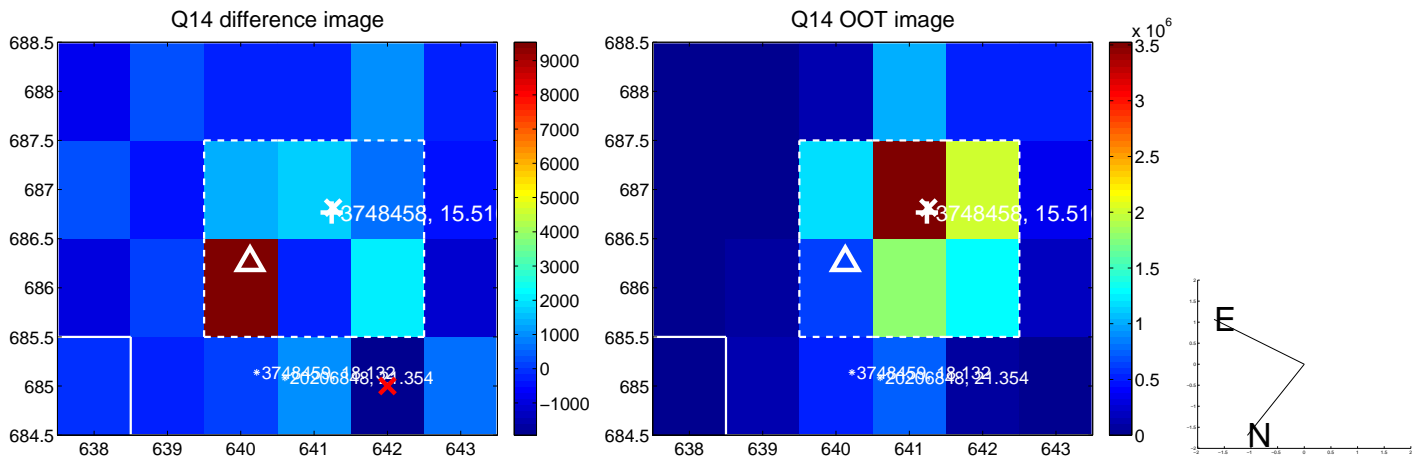
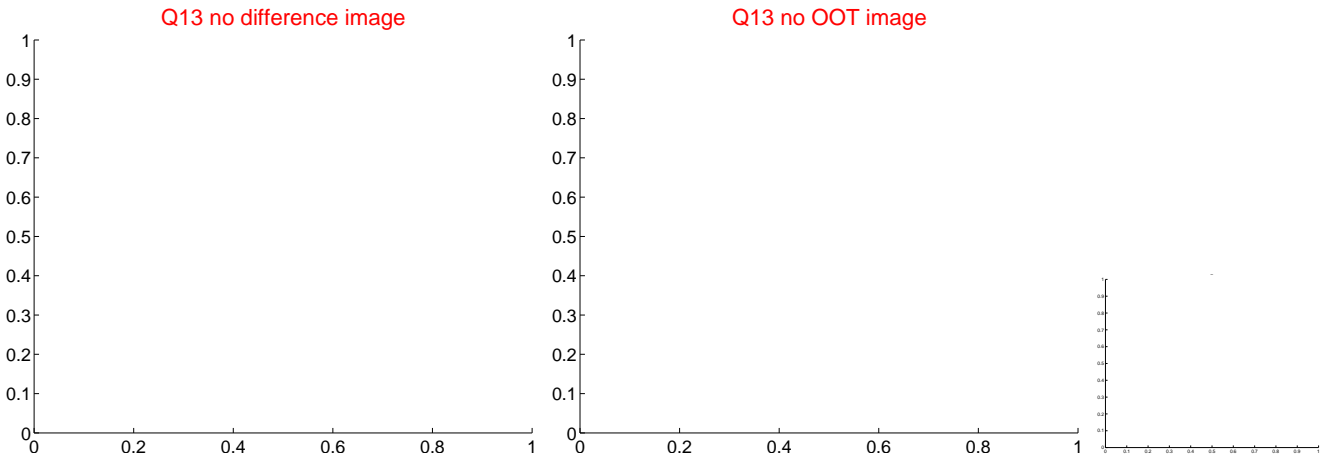
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



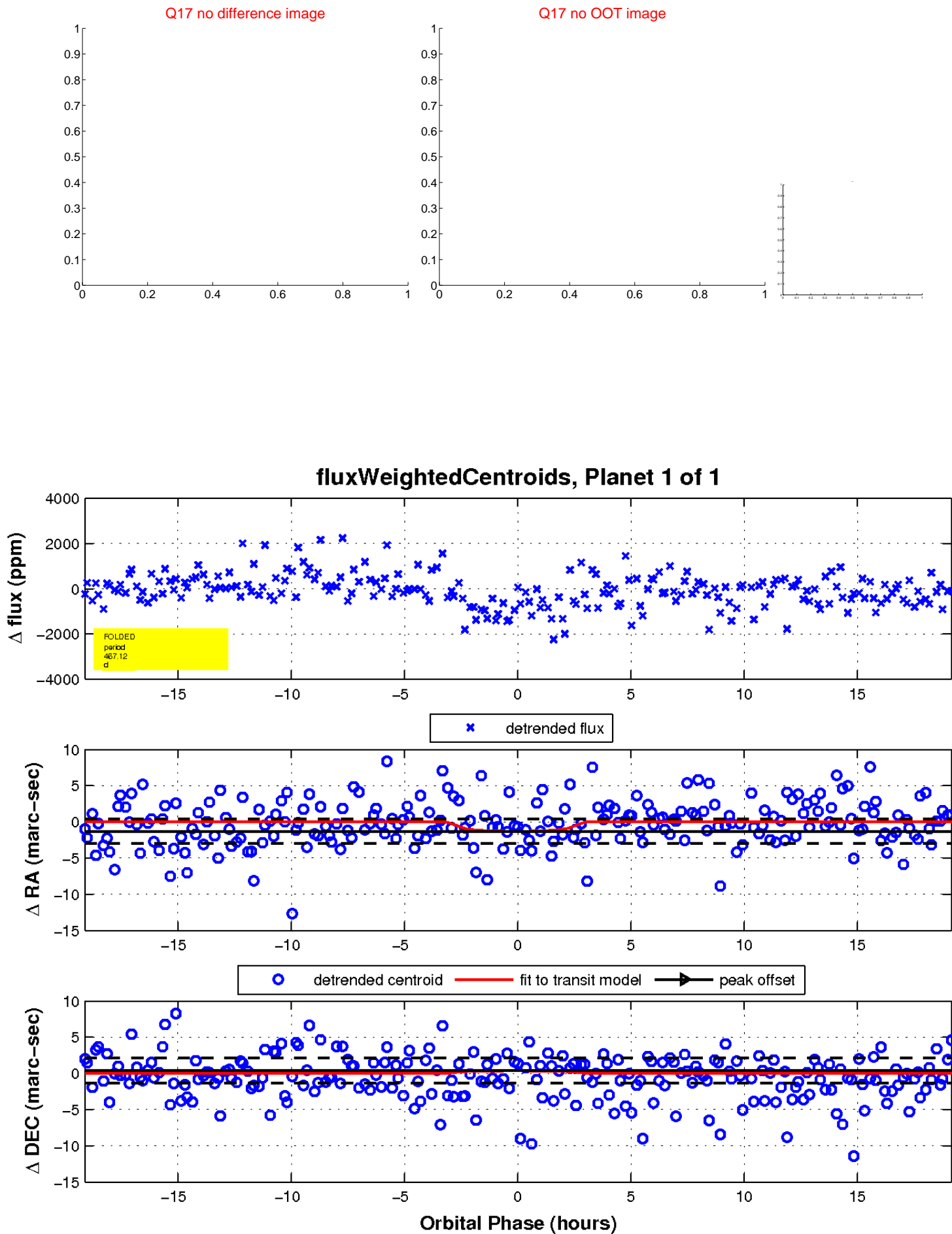
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

