

KIC 008740744

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})
008740744-01	OBS	8164.01	417.825328	138.881642	367.6	15.204	9.5	5.0	0.97	6018	1.96	0.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008740744-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

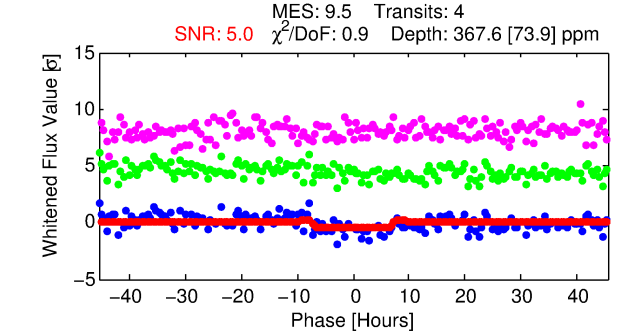
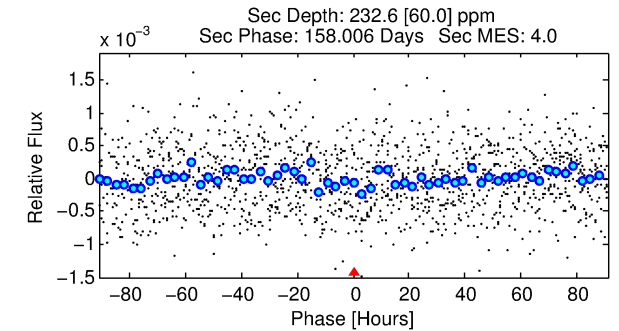
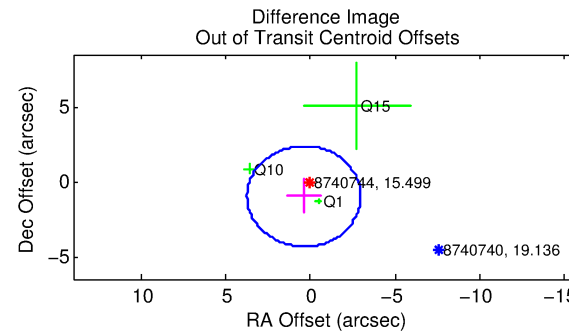
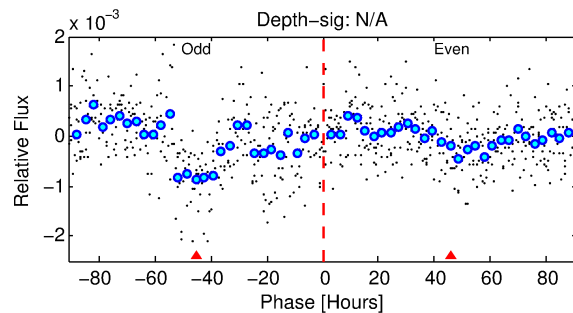
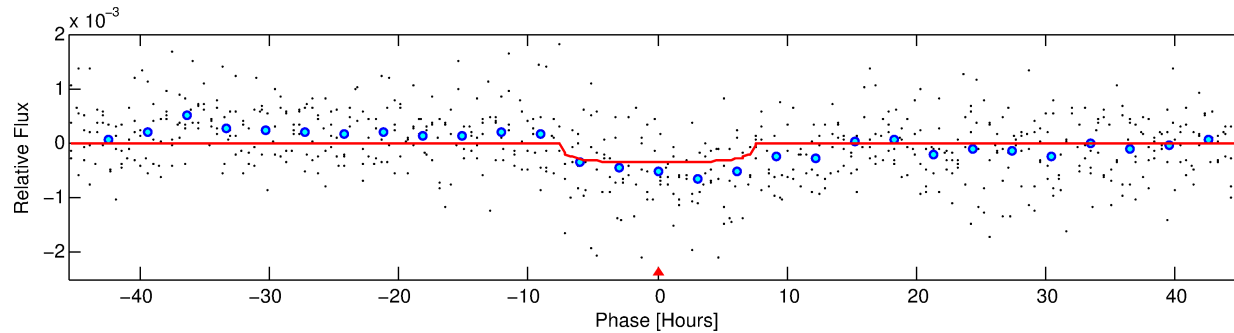
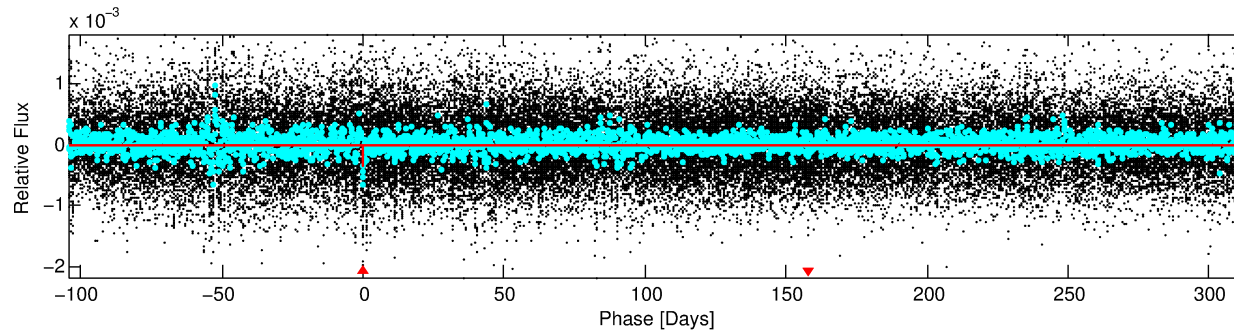
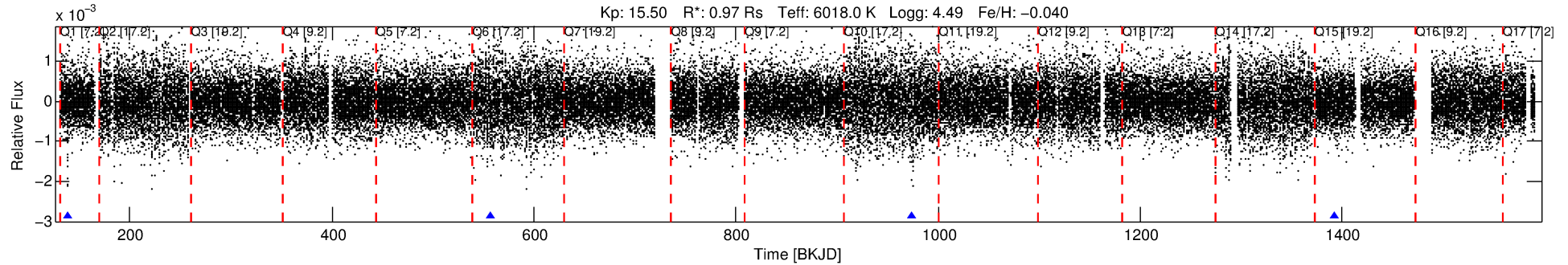
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008740744-01

No Significant Match Found

DV One-Page Summary

KIC: 8740744 Candidate: 1 of 1 Period: 417.825 d



DV Fit Results:

Period = 417.82533 [0.01735] d
Epoch = 138.8816 [0.0322] BKJD
Rp/R* = 0.0184 [0.0109]
a/R* = 168.01 [459.95]
b = 0.63 [2.64]
Seff = 0.90 [0.39]
Teq = 248 [27] K
Rp = 1.96 [1.32] Re
a = 1.1152 [0.3091] AU
Ag = 41339.17 [52690.68] [0.78σ]
Teffp = 5473 [1664] K [3.14σ]

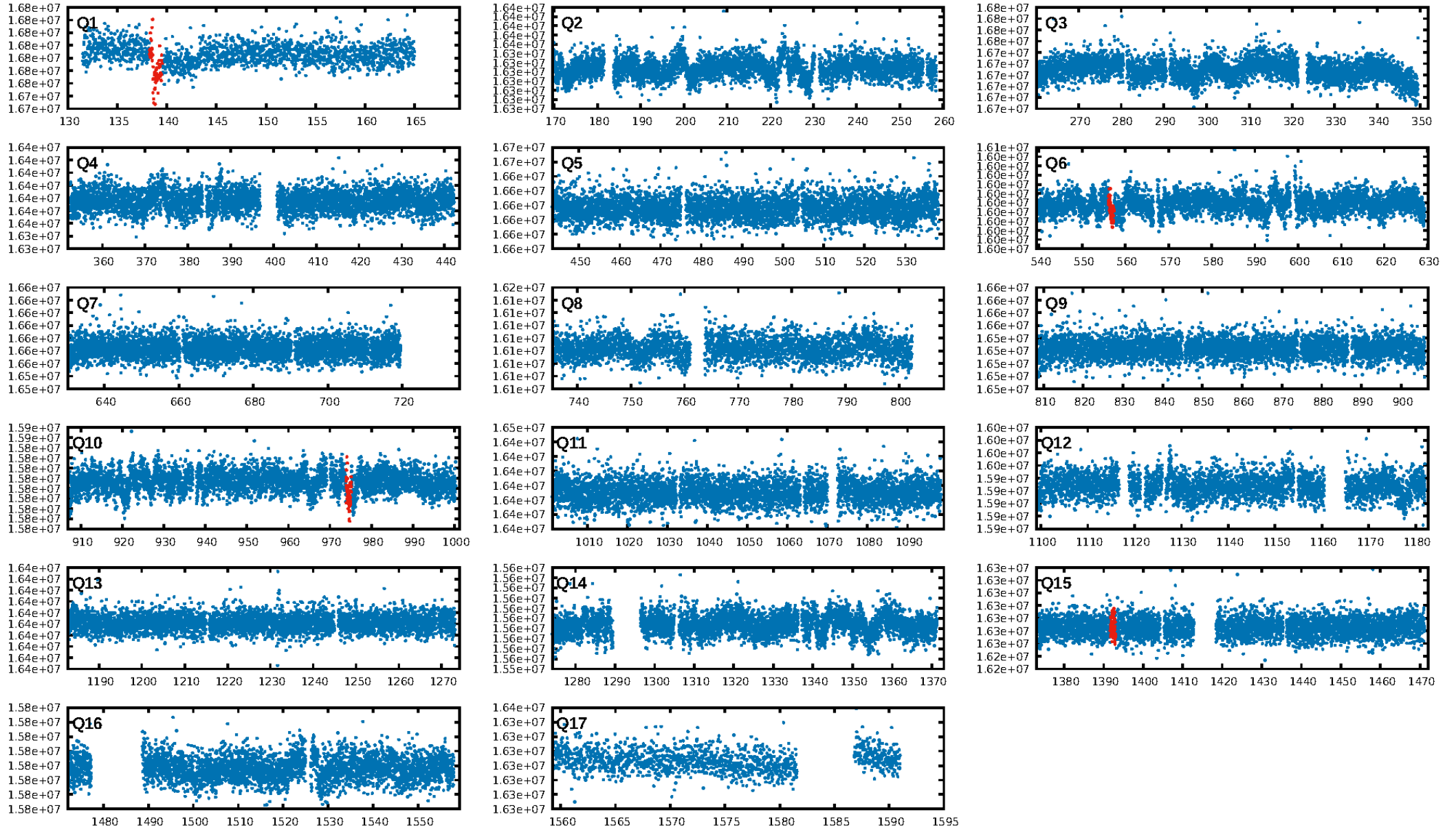
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.91e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8045
Centroid-sig: 93.7%
Centroid-so: 0.664 arcsec [0.26σ]
OotOffset-rm: 1.062 arcsec [0.95σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 1.008 arcsec [0.52σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

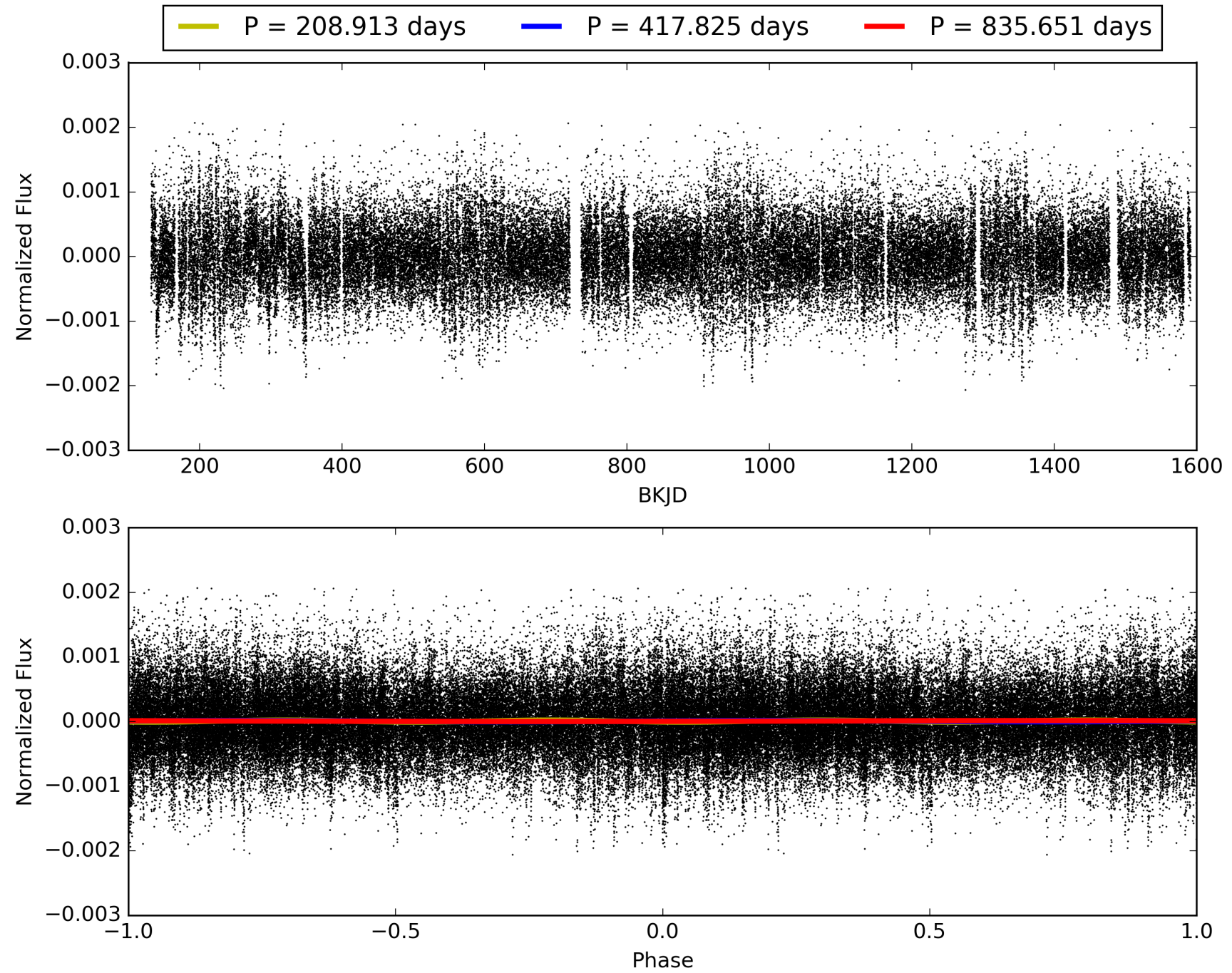
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:27:28 Z

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

TCE 008740744-01, PDC Light Curves

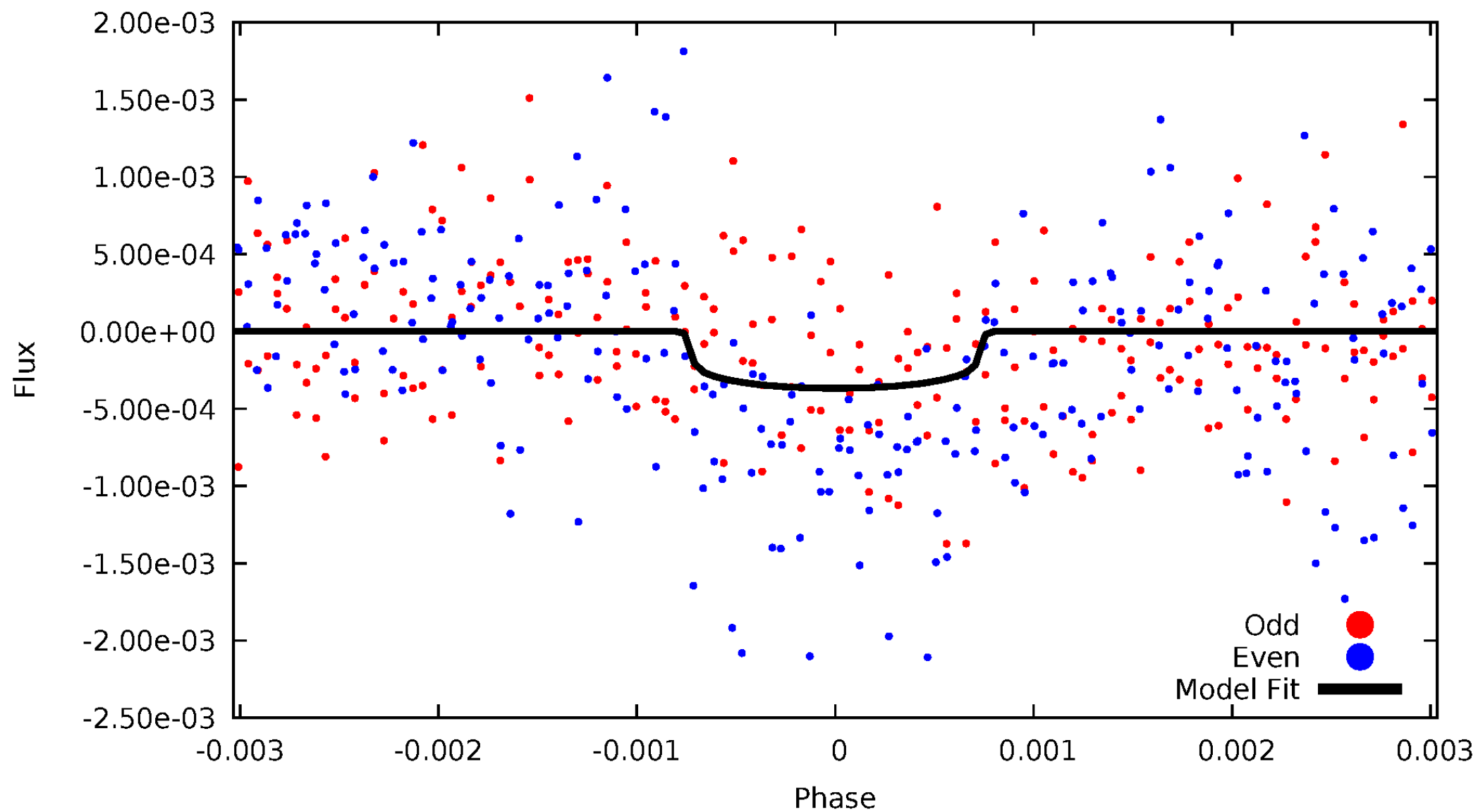


TCE 008740744-01



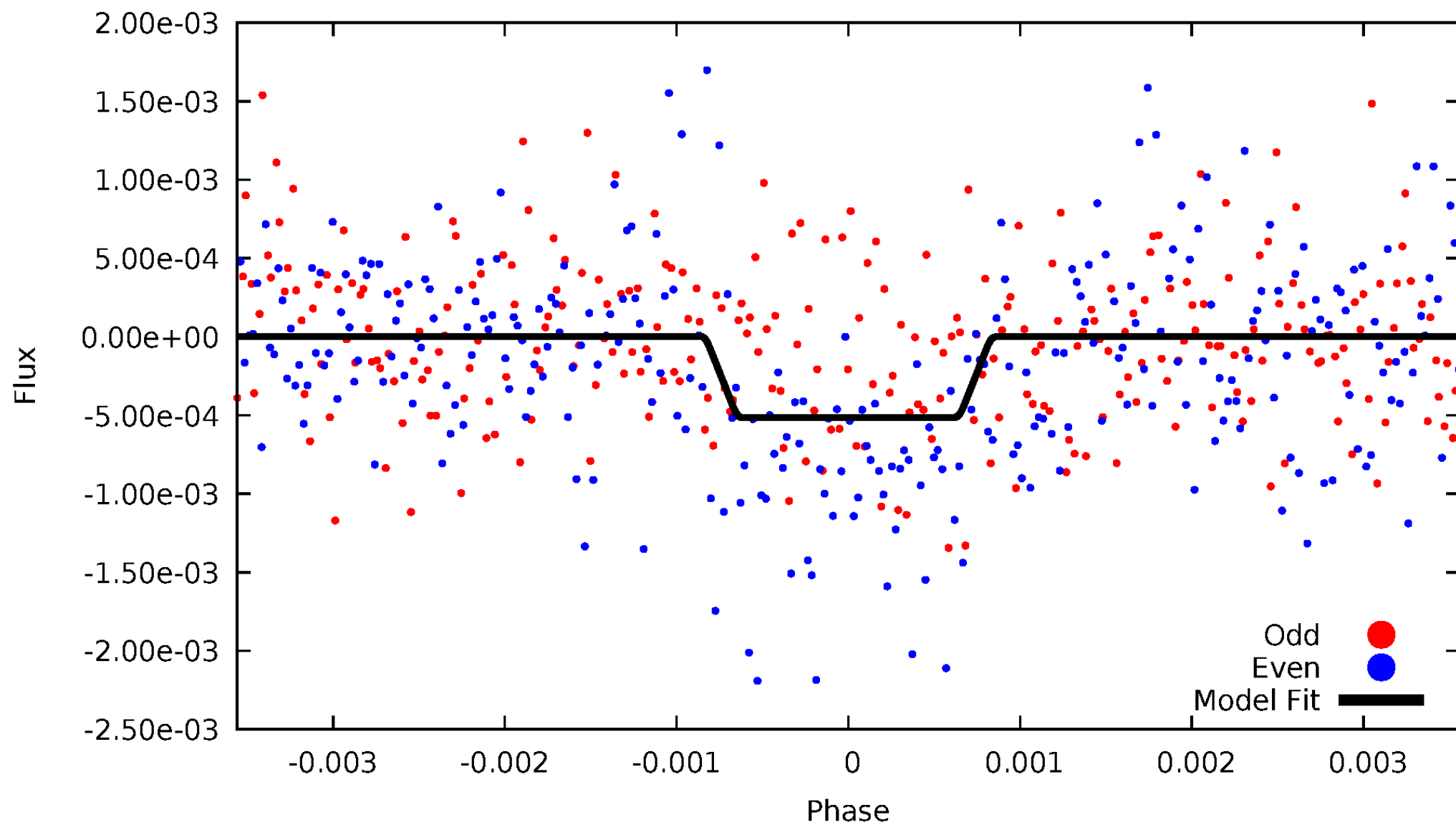
DV Odd/Even

TCE 008740744-01

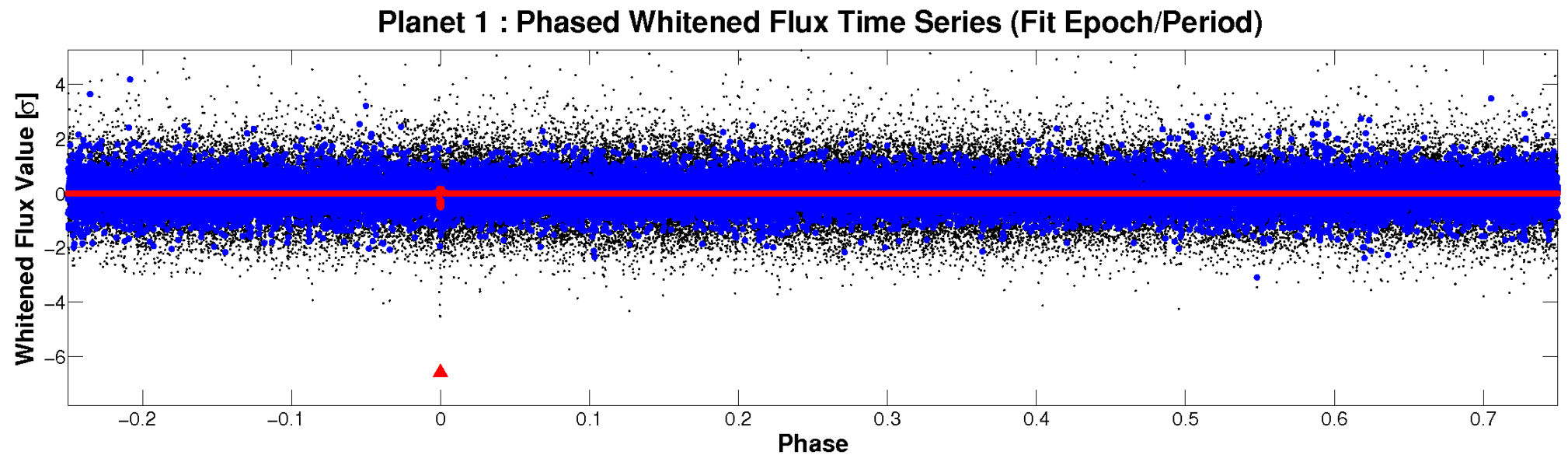
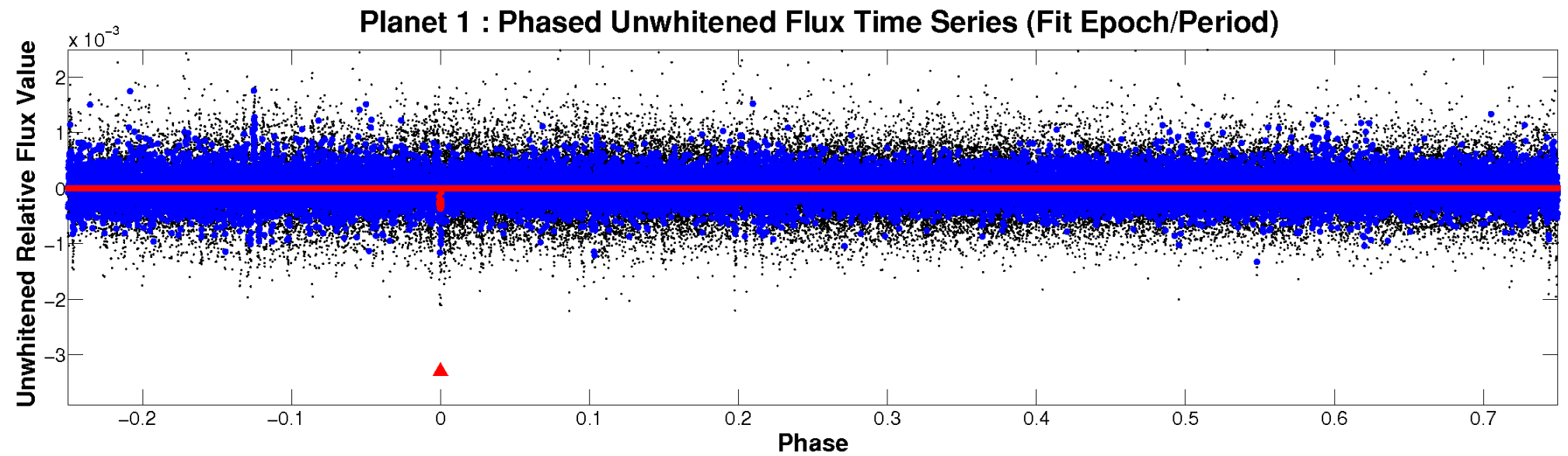


ALT Odd/Even

TCE 008740744-01

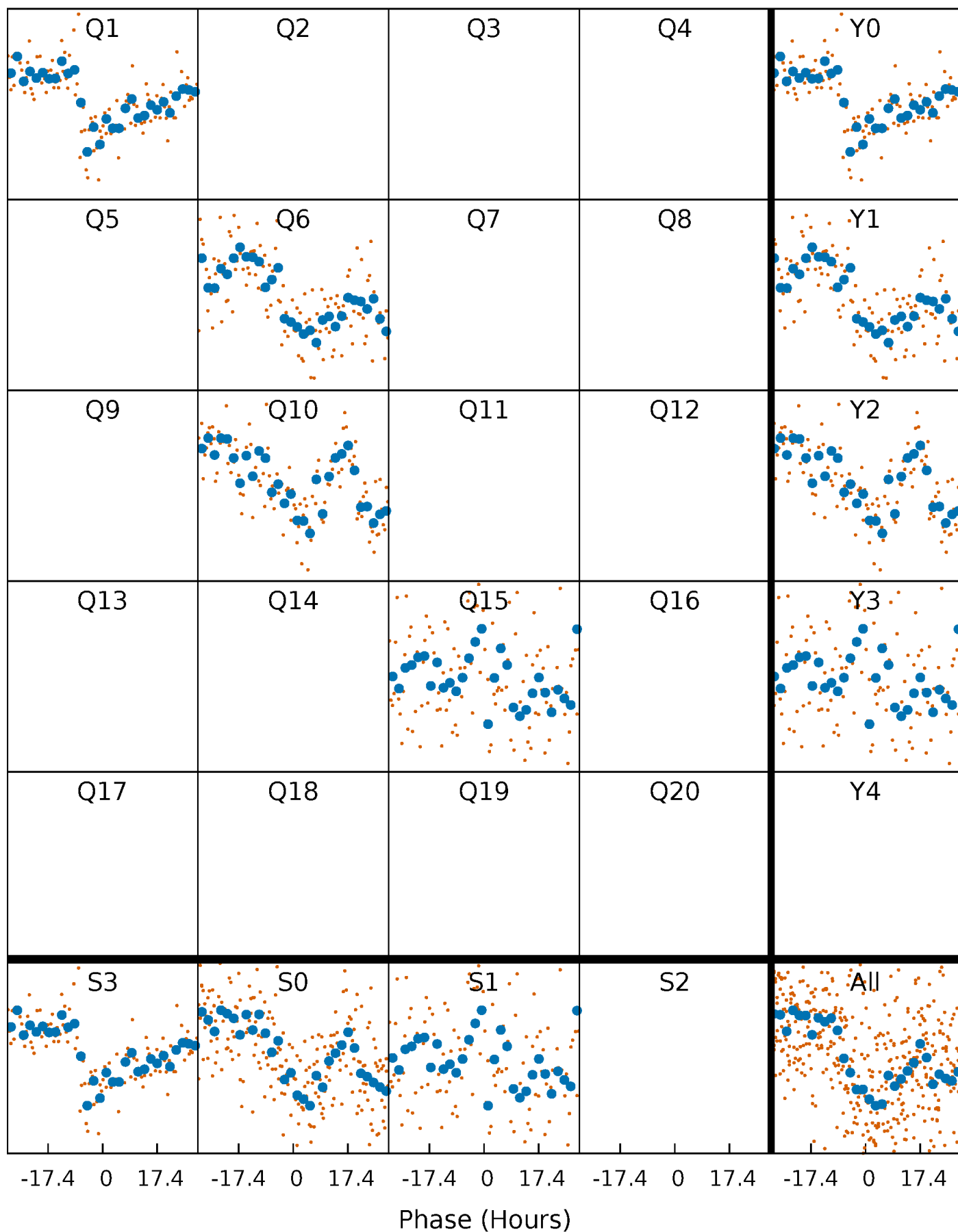


Non-Whitened Vs. Whitened Light Curve



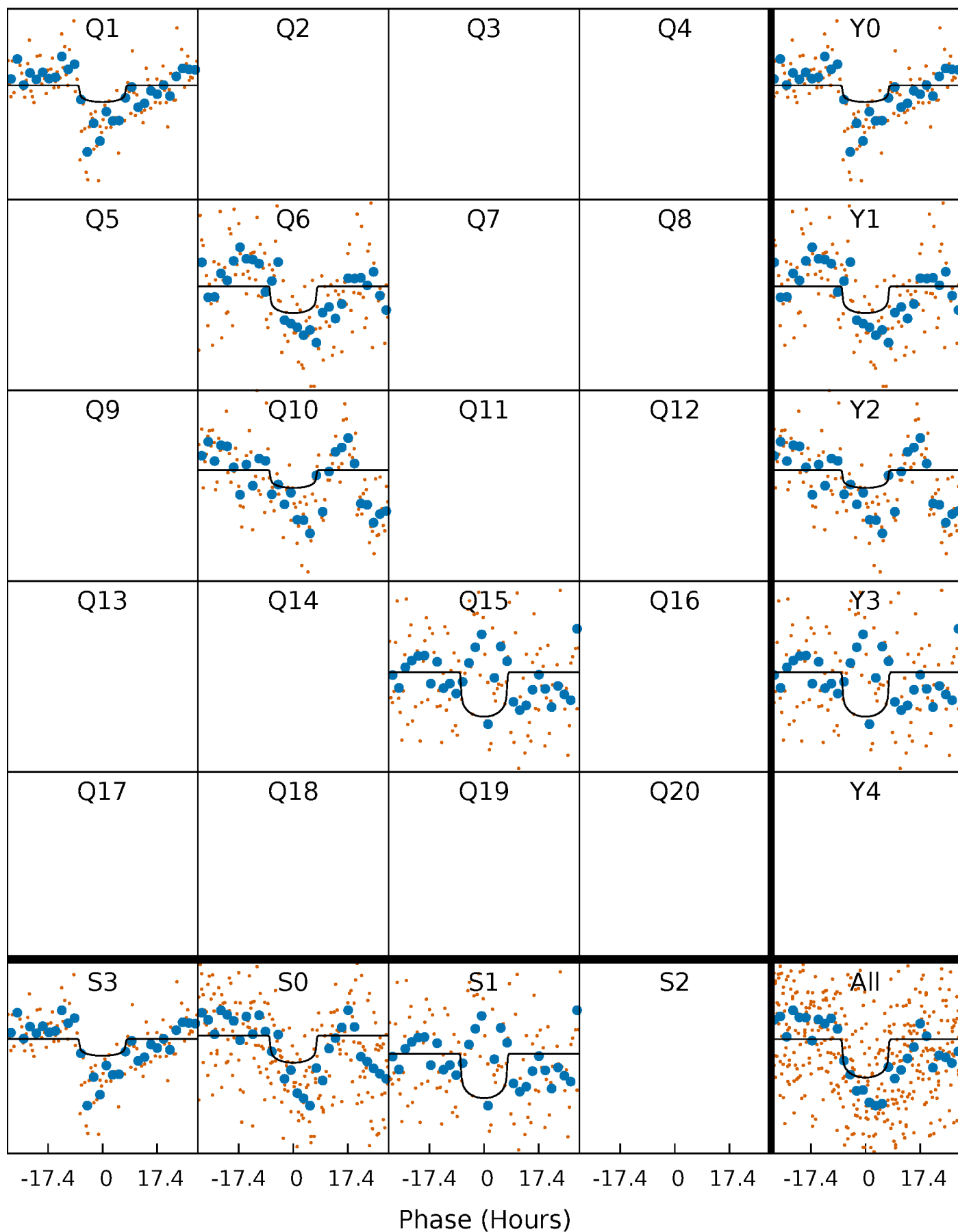
PDC Quarter-Phased Transit Curves

TCE 008740744-01 P=417.825328 Days $T_0=138.881642$ (BKJD)



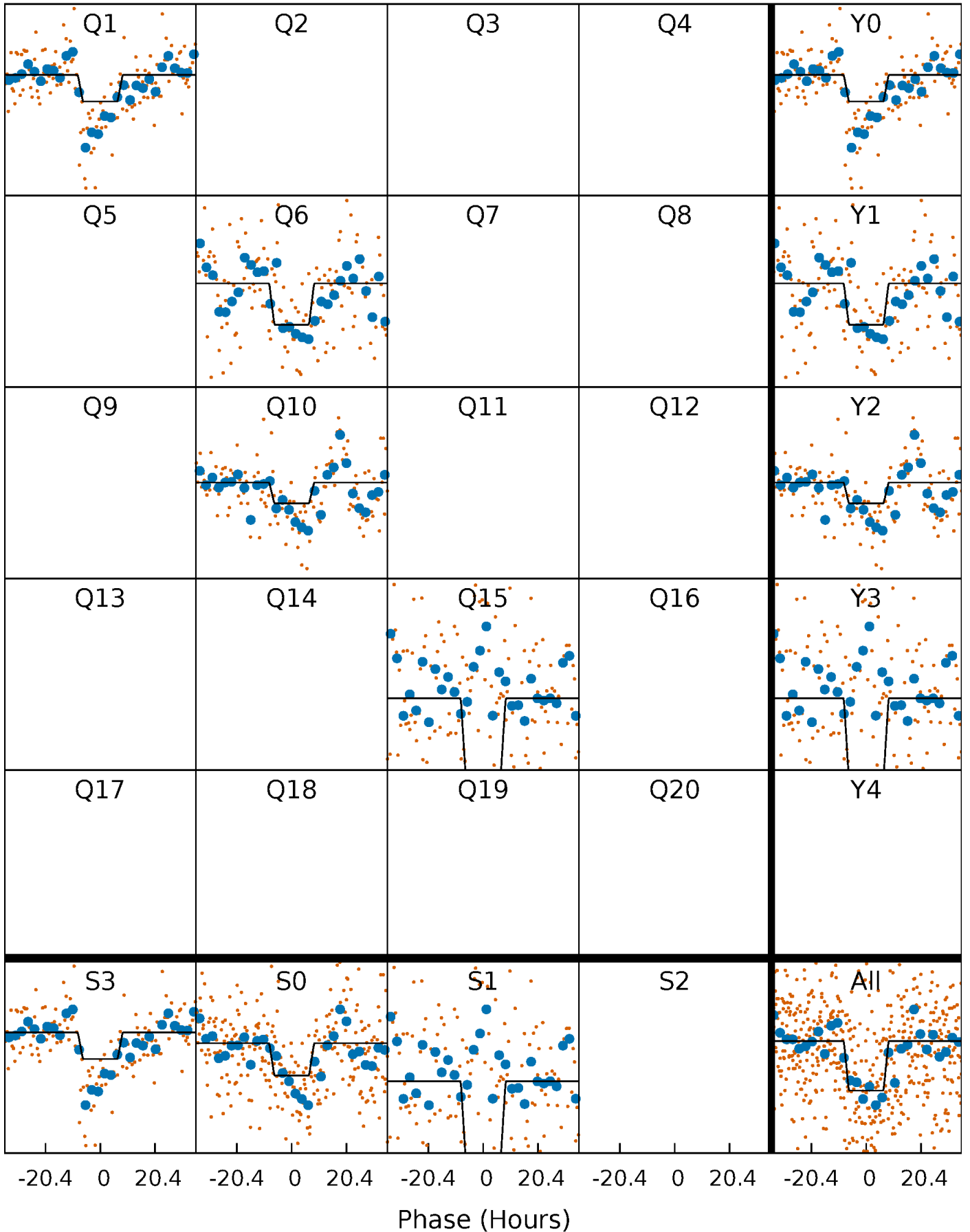
DV Quarter-Phased Transit Curves

TCE 008740744-01 P=417.825328 Days $T_0=138.881642$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

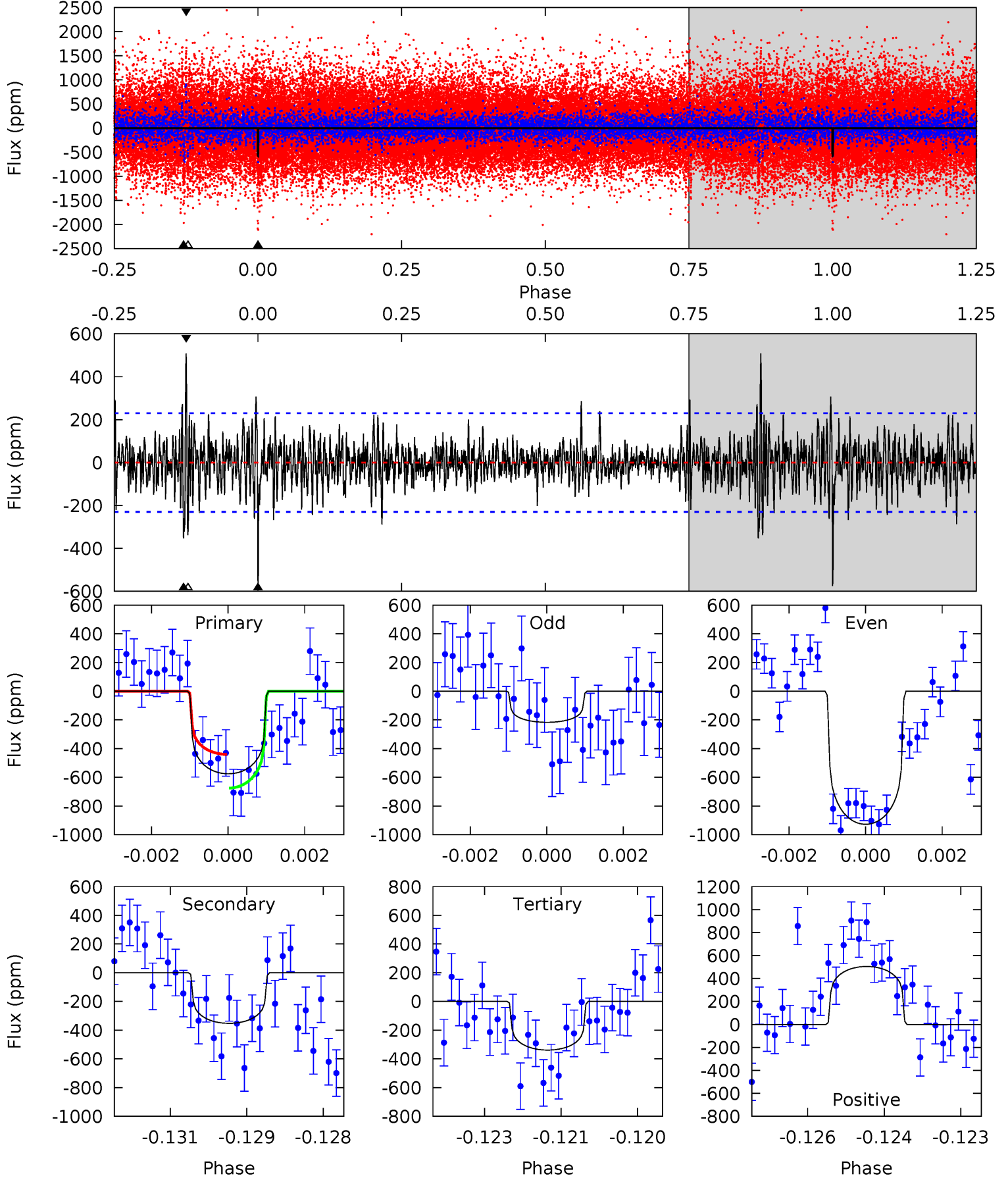
TCE 008740744-01 P=417.791379 Days $T_0=138.906148$ (BKJD)



DV Model-Shift Uniqueness Test

008740744-01, P = 417.825328 Days, E = 138.881642 Days

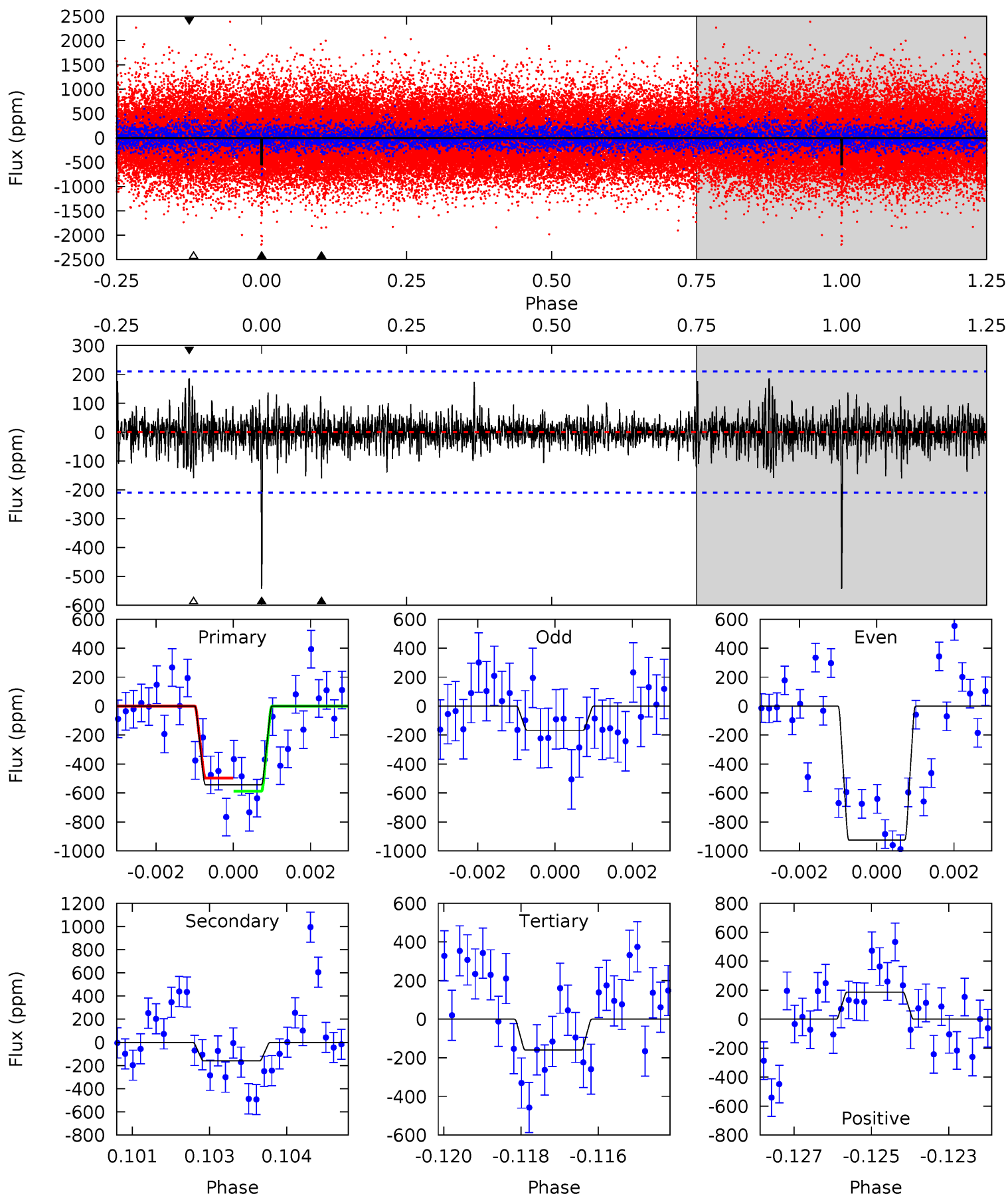
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	8.24	7.91	11.8	5.38	3.17	1.80	5.54	1.66	0.32	-3.56	8.29	0.88	0.47	2.73



Alt Model-Shift Uniqueness Test

008740744-01, P = 417.791379 Days, E = 138.906148 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	4.08	4.06	4.75	5.35	3.14	0.98	9.76	9.07	0.02	-0.67	9.59	0.83	0.26	1.16



Stellar Parameters For KIC 008740744

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6018^{+190}_{-211}	$4.485^{+0.056}_{-0.224}$	$-0.040^{+0.250}_{-0.300}$	$0.975^{+0.318}_{-0.106}$	$1.058^{+0.134}_{-0.147}$	$1.608^{+0.367}_{-0.861}$
	+3%/-4%	+1%/-5%	+625%/-750%	+33%/-11%	+13%/-14%	+23%/-54%
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 008740744-01 / KOI 8164.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-352 ± 43	$2.10^{+1.29}_{-1.09}$	355^{+28}_{-19}	6024^{+3013}_{-1139}	$52723^{+179235}_{-32165}$
Alt.	-160 ± 39	$2.65^{+1.13}_{-1.20}$	355^{+27}_{-19}	4577^{+1285}_{-611}	14983^{+37609}_{-7970}

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

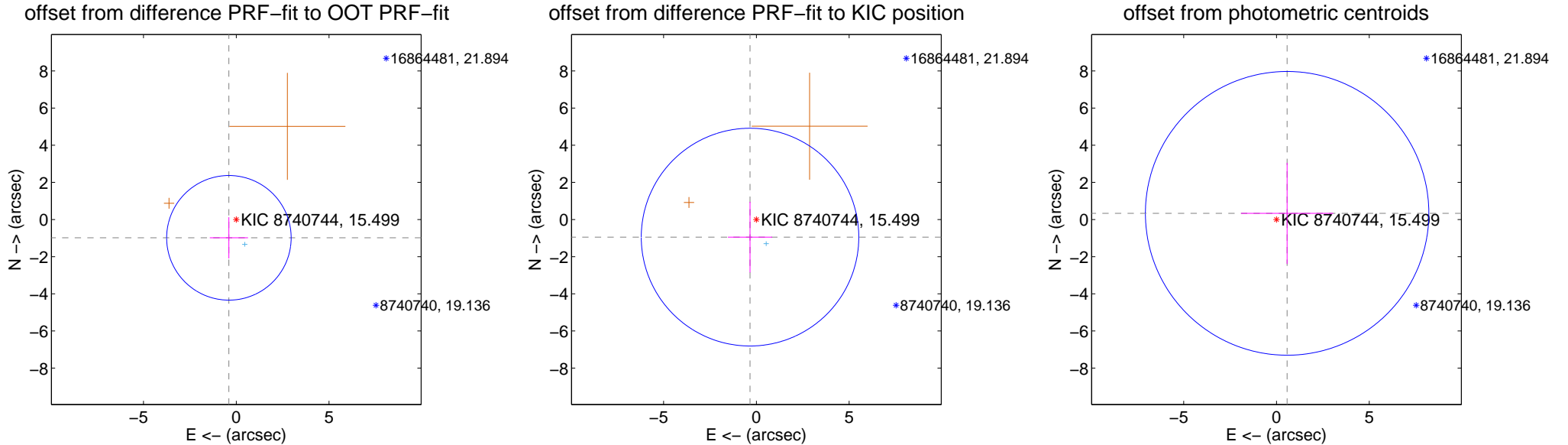
DV Centroid Data

Supplemental centroid analysis for 008740744-01. Kepler magnitude: 15.50. Transit SNR 5.04

There are 1 quarters with good PRF difference image offsets

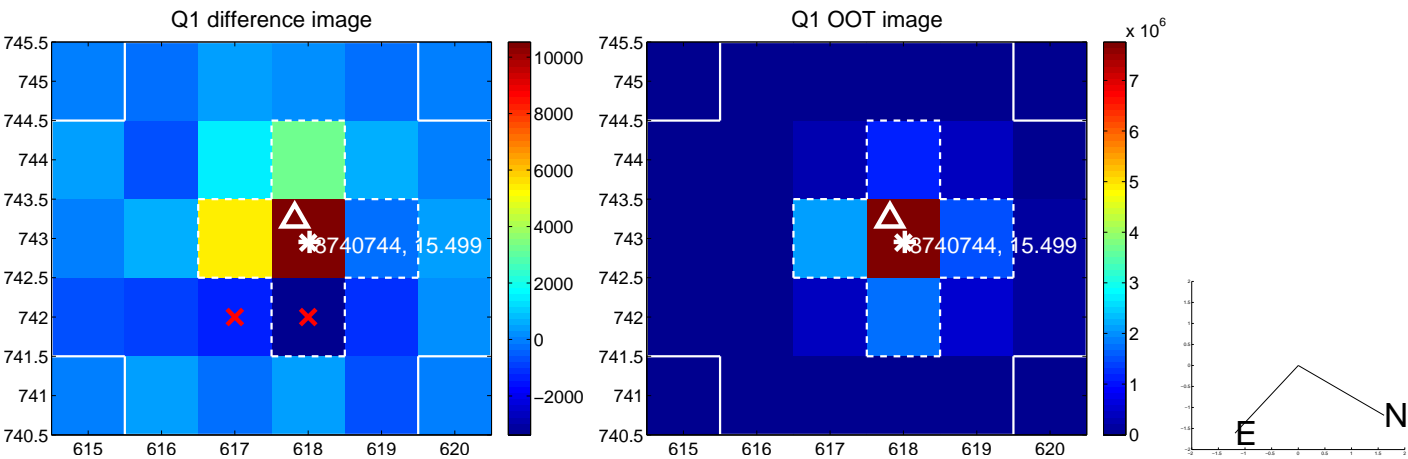
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.062 ± 1.119	0.95	0.396 ± 1.030	-0.986 ± 1.112
PRF-fit source offset from KIC position	1.008 ± 1.954	0.52	0.342 ± 1.193	-0.948 ± 1.900
photometric centroid source offset	0.66 ± 2.55	0.26	-0.57 ± 2.49	0.33 ± 2.72

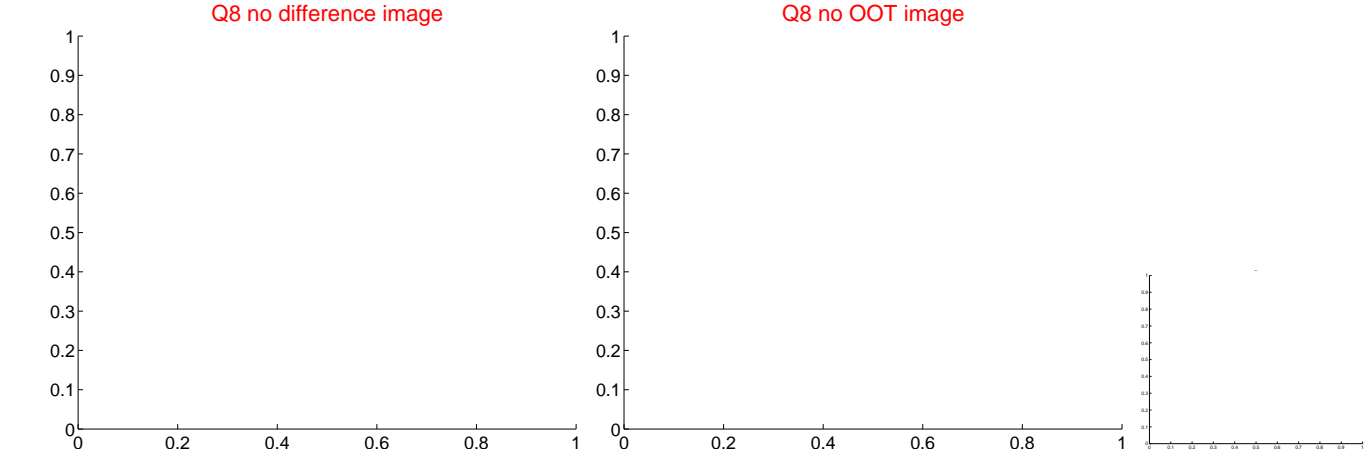
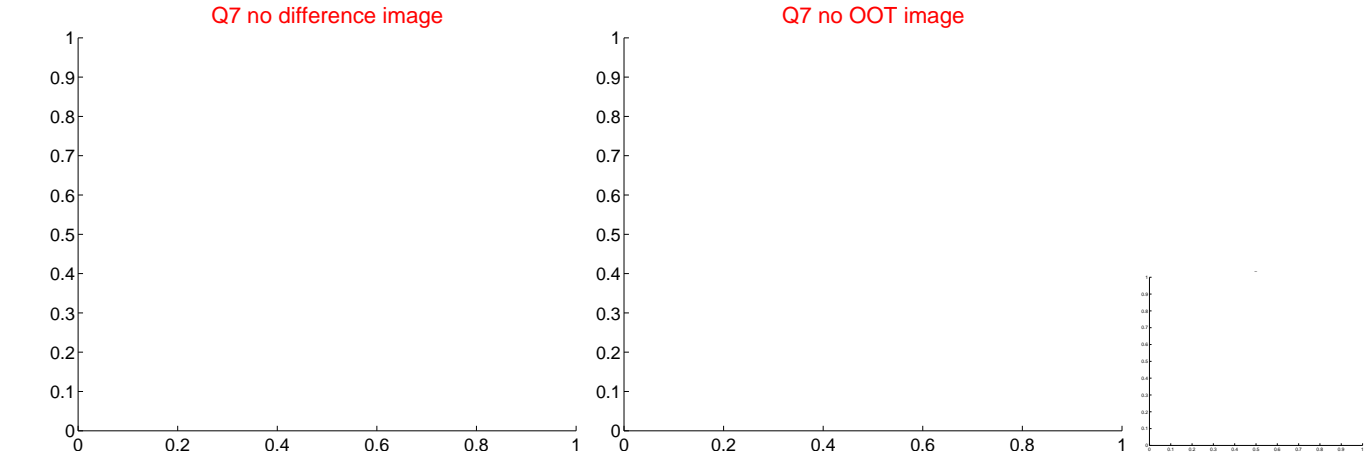
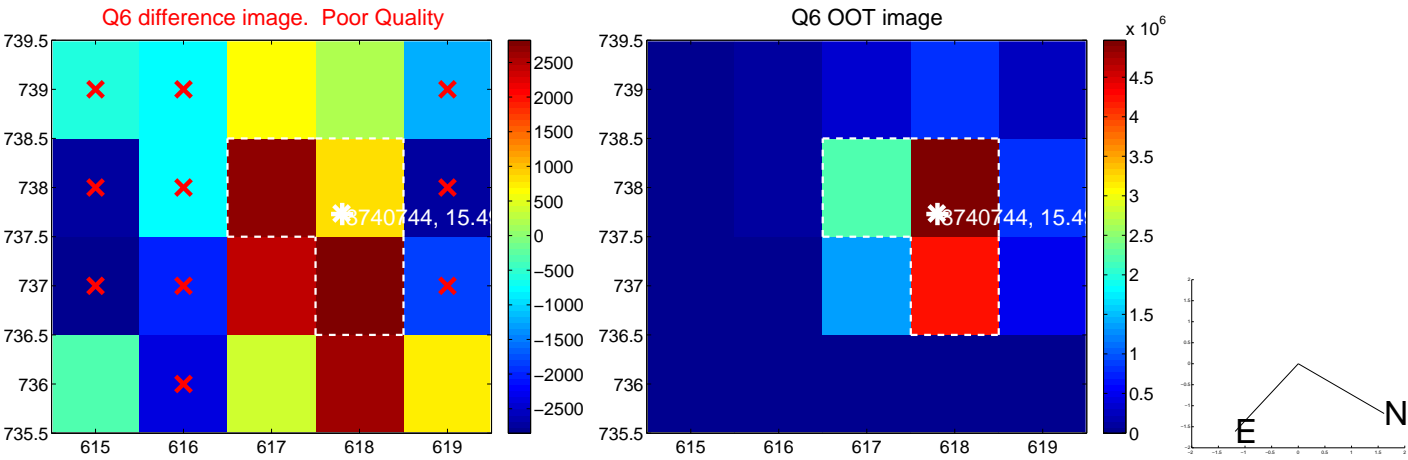
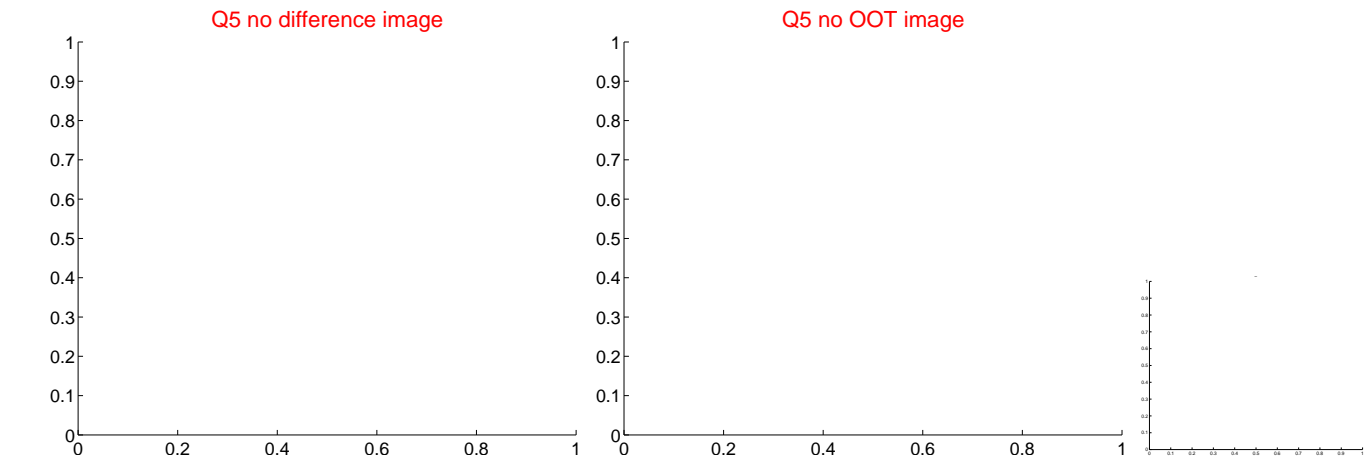


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

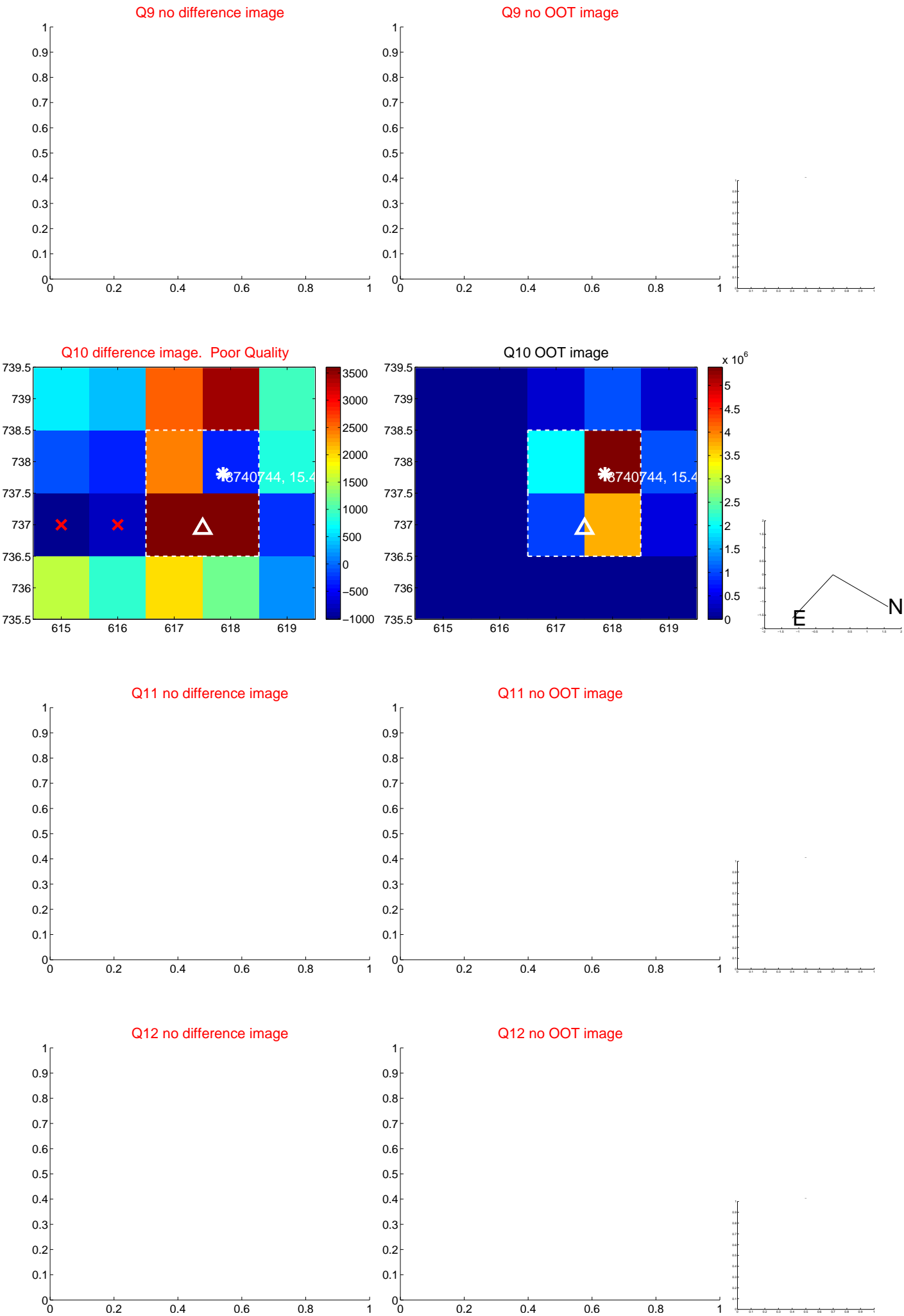
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



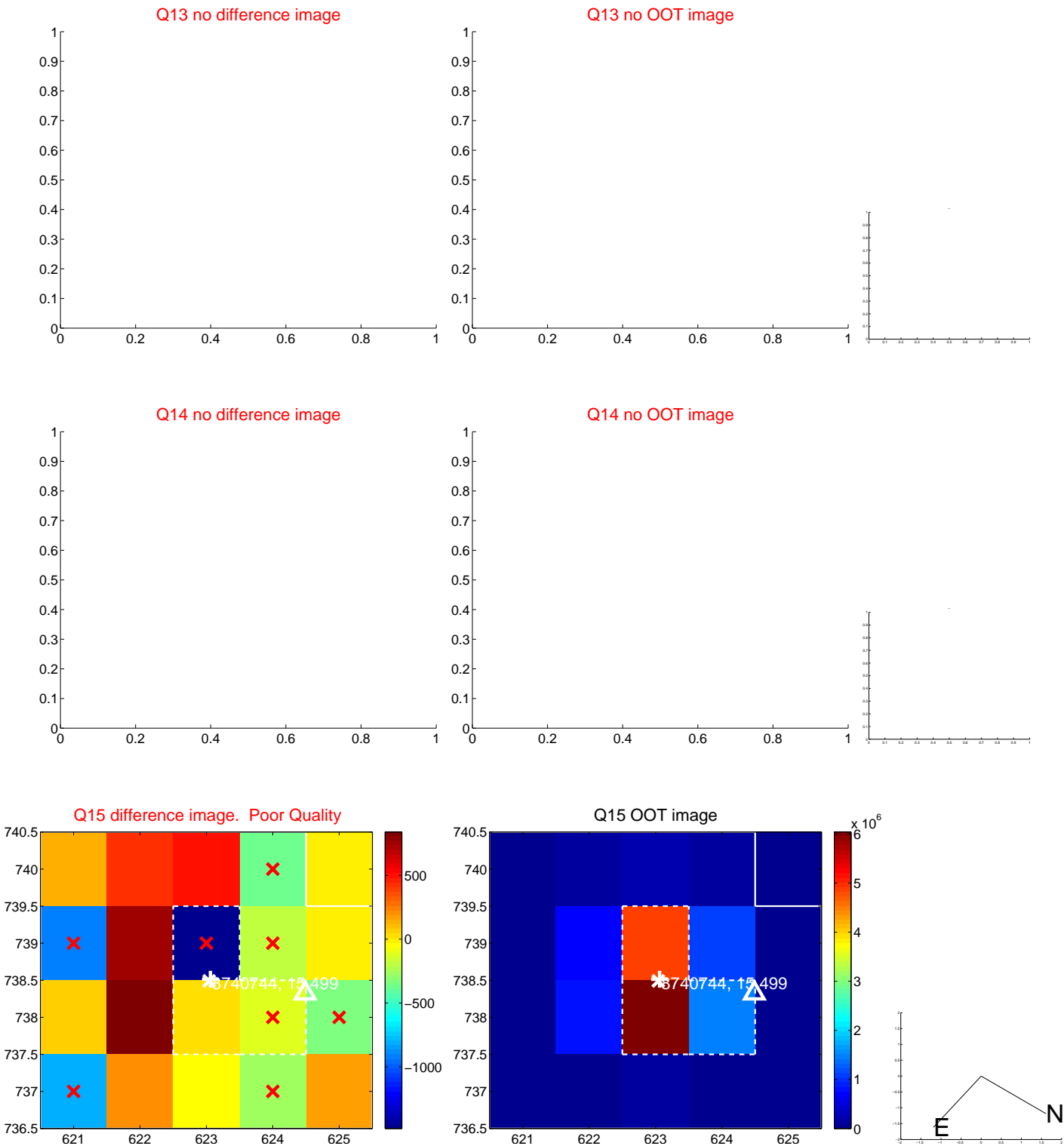
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



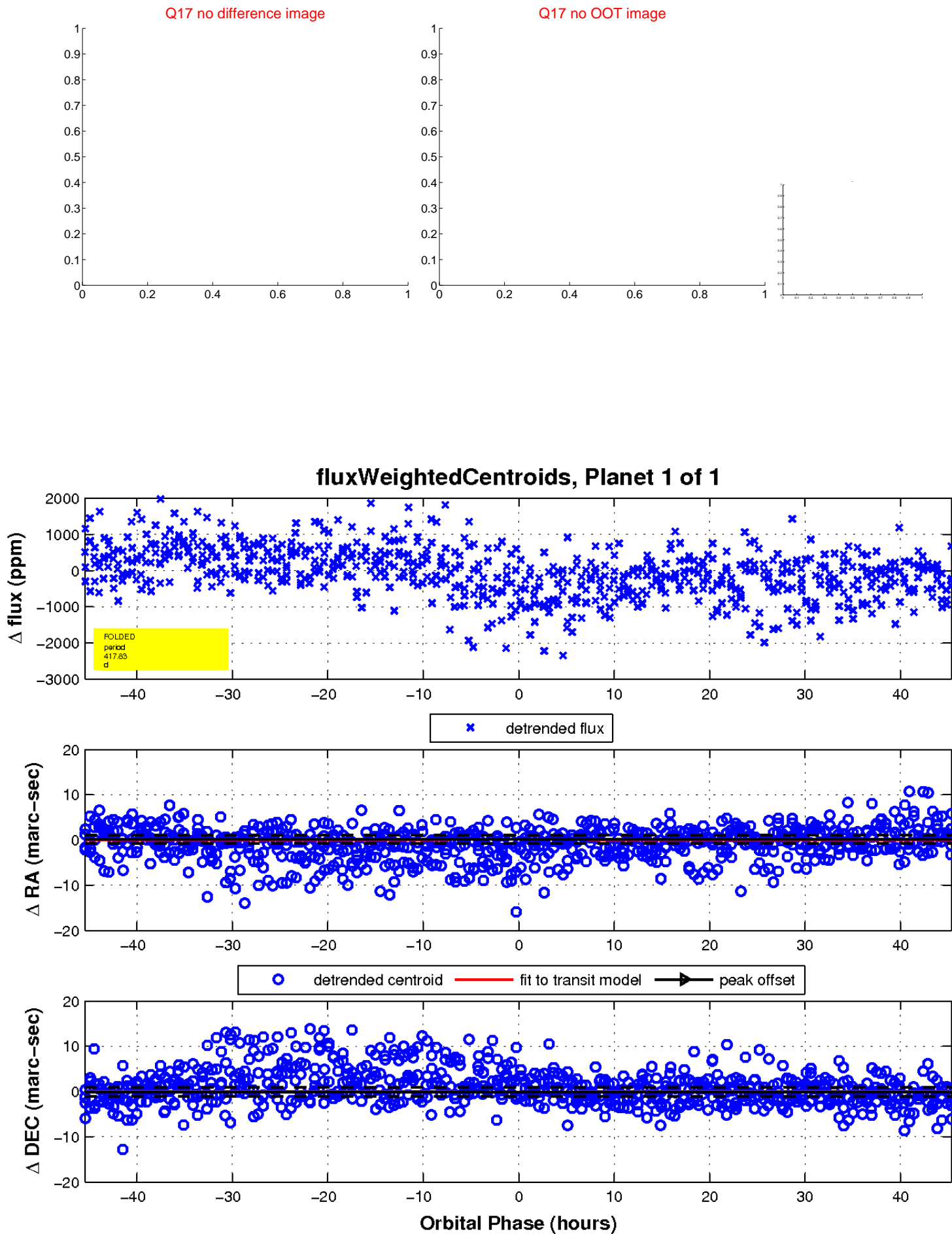
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

