

KIC 008872867

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})
008872867-01	OBS	No	415.766237	207.349625	917.1	18.895	8.1	8.2	1.00	5780	3.09	0.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008872867-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQU_ALT—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.

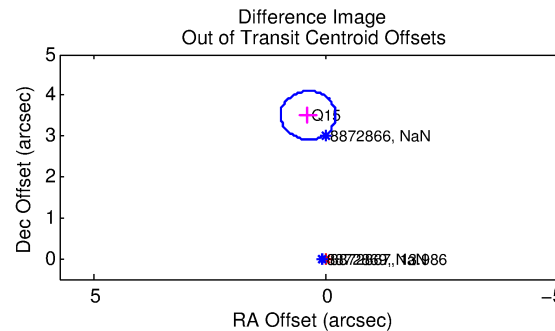
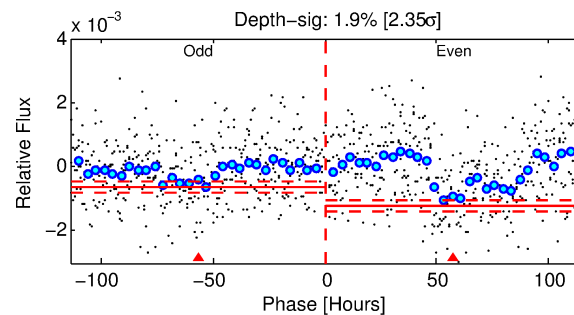
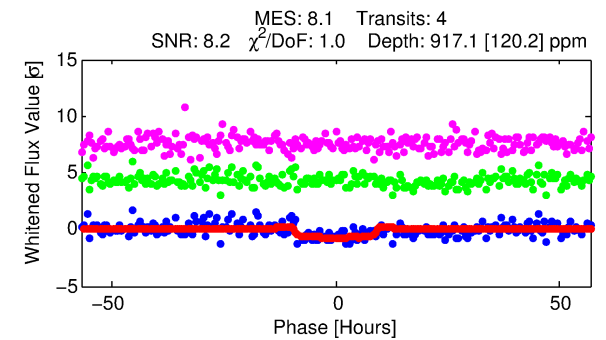
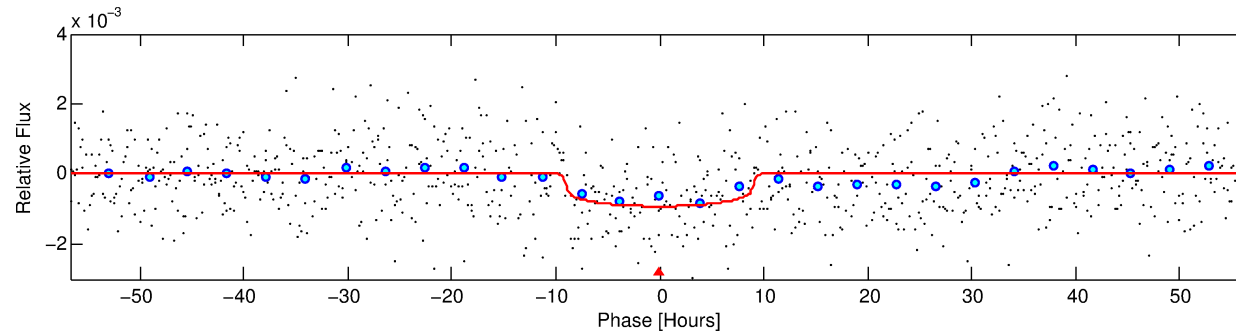
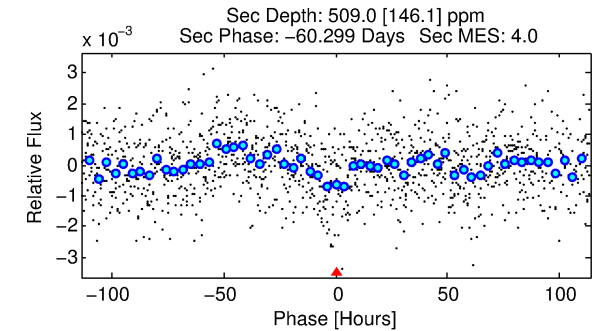
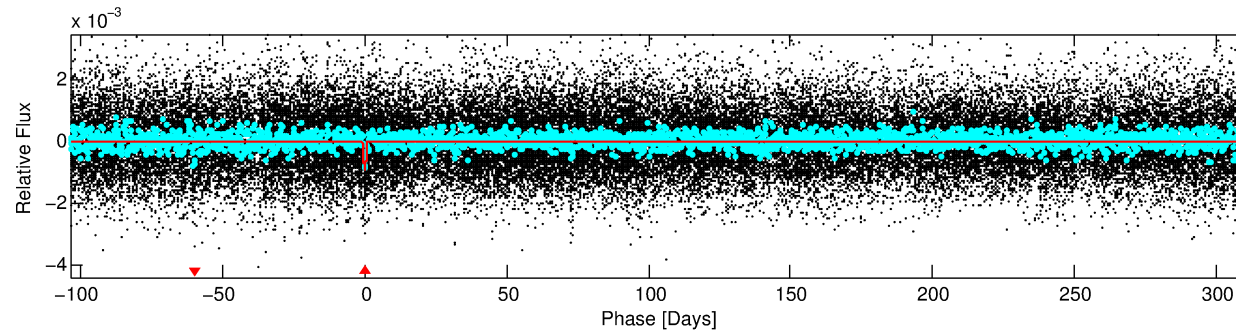
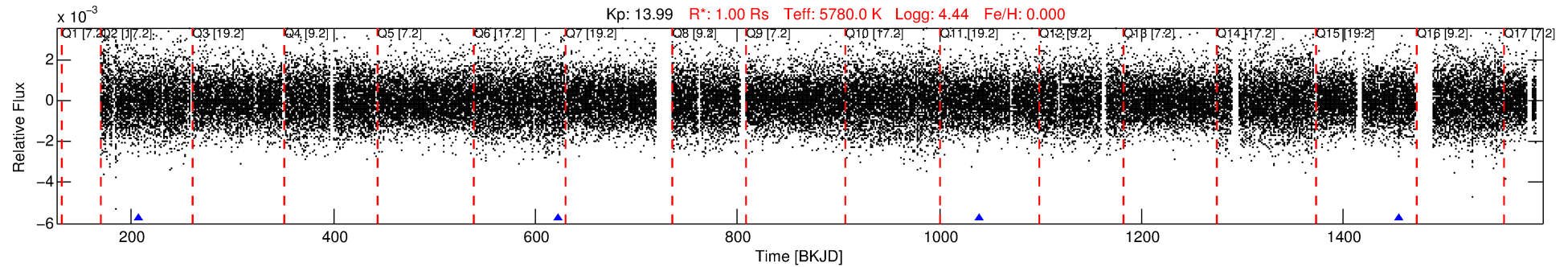
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008872867-01

No Significant Match Found

DV One-Page Summary

KIC: 8872867 Candidate: 1 of 1 Period: 415.766 d



DV Fit Results:

Period = 415.76624 [0.01471] d
Epoch = 207.3496 [0.0292] BKJD
Rp/R* = 0.0283 [0.0132]
a/R* = 151.91 [305.43]
b = 0.49 [3.13]
Seff = 0.84 [0.00]
Teq = 244 [0] K
Rp = 3.09 [1.44] Re
a = 1.0904 [0.0000] AU
Ag = 34879.88 [34070.71] [1.02σ]
Teff = 5160 [1260] K [3.90σ]

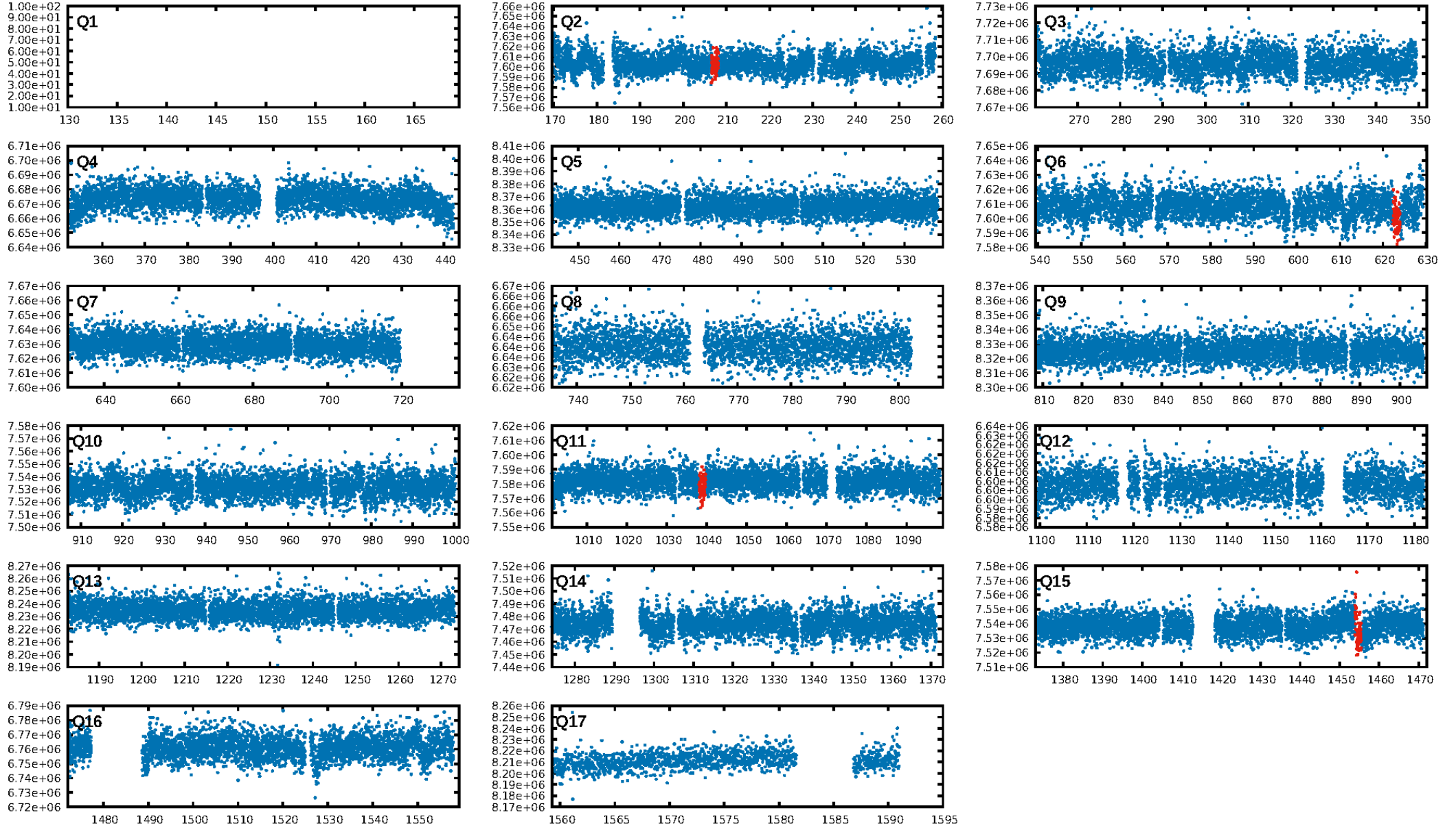
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.4%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 2.98e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.556
Centroid-sig: 3.8%
Centroid-so: 2.067 arcsec [1.55σ]
OotOffset-rm: 3.527 arcsec [17.79σ]
KicOffset-rm: 3.170 arcsec [15.98σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

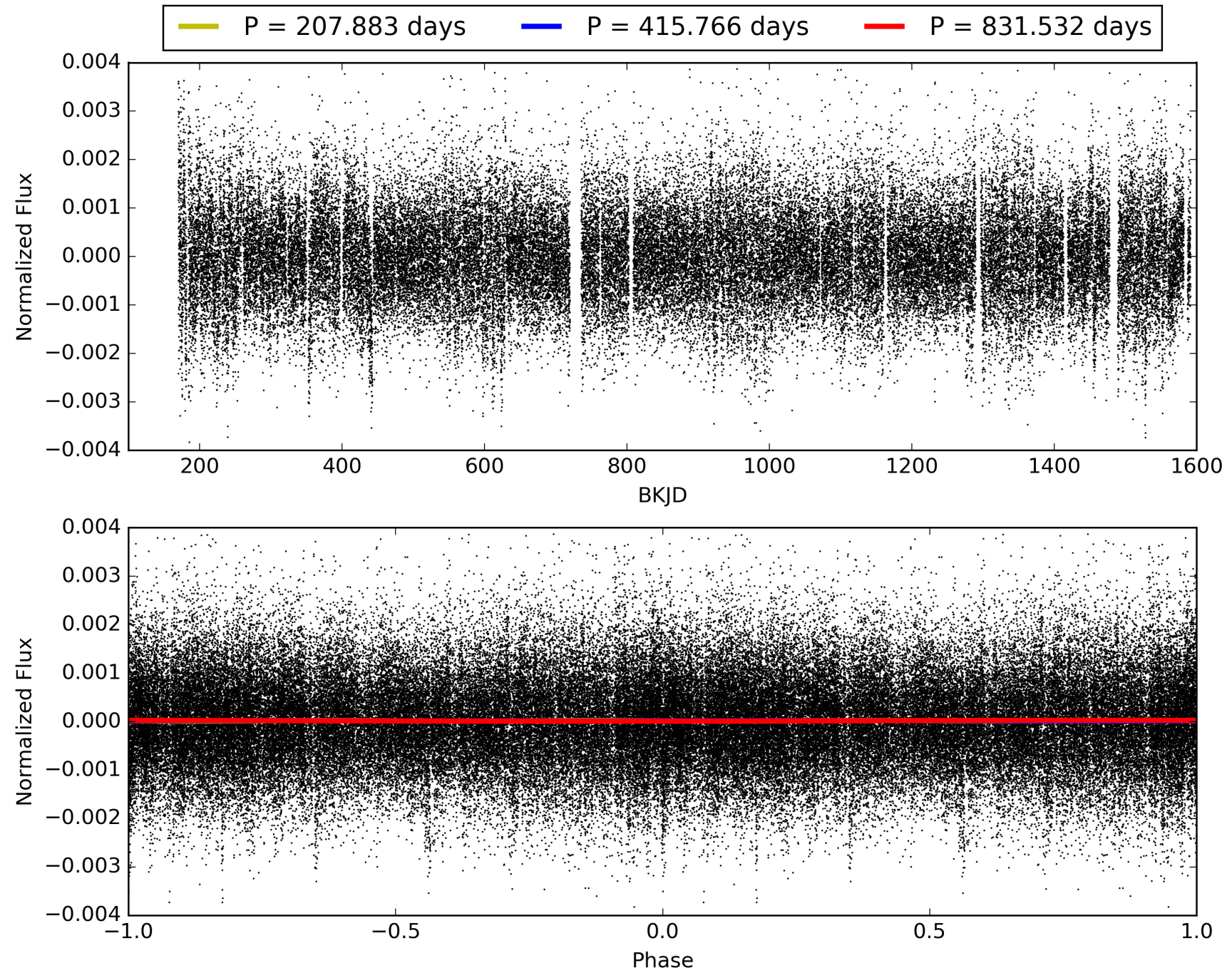
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:21:15 Z

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

TCE 008872867-01, PDC Light Curves

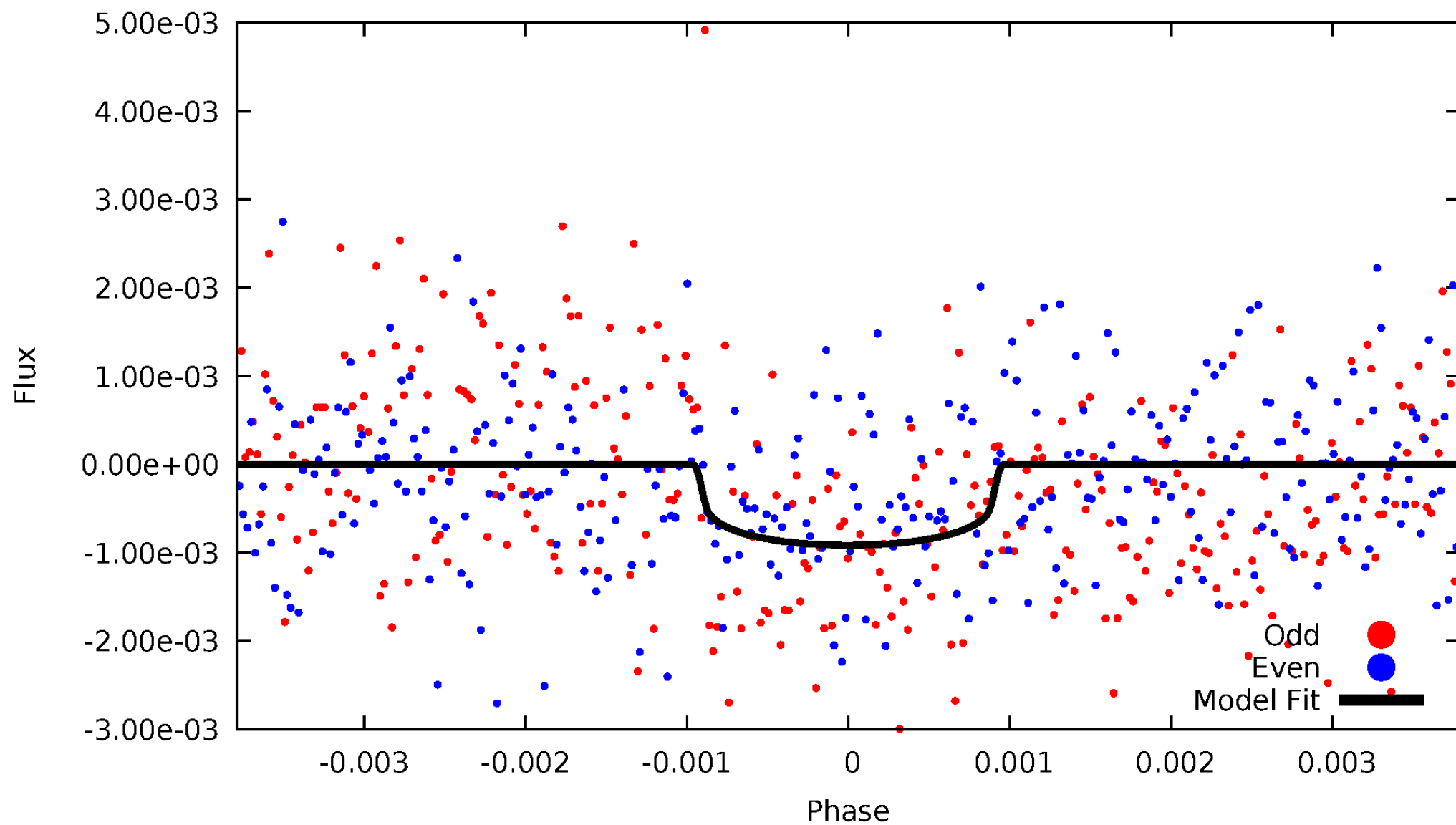


TCE 008872867-01



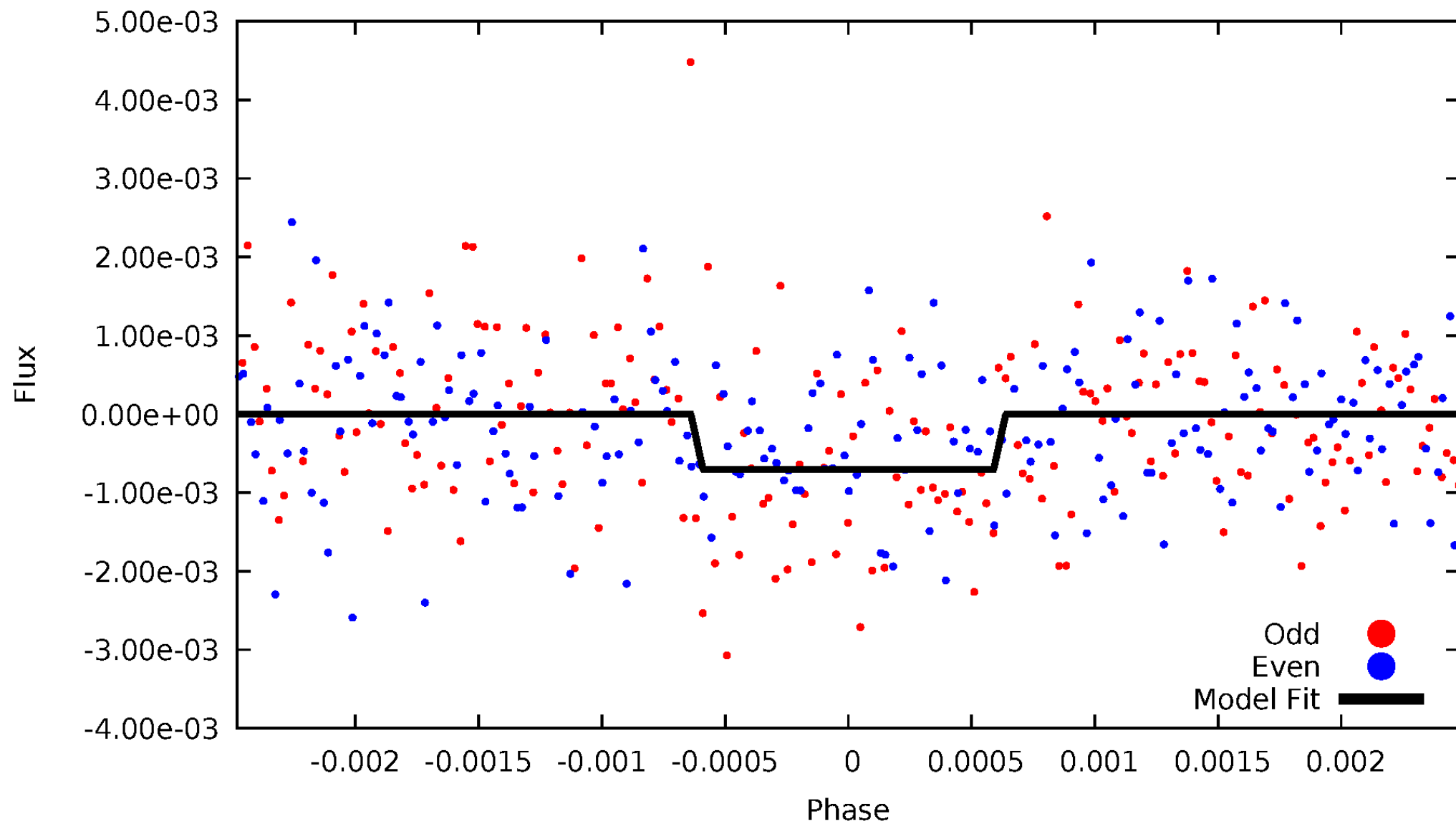
DV Odd/Even

TCE 008872867-01



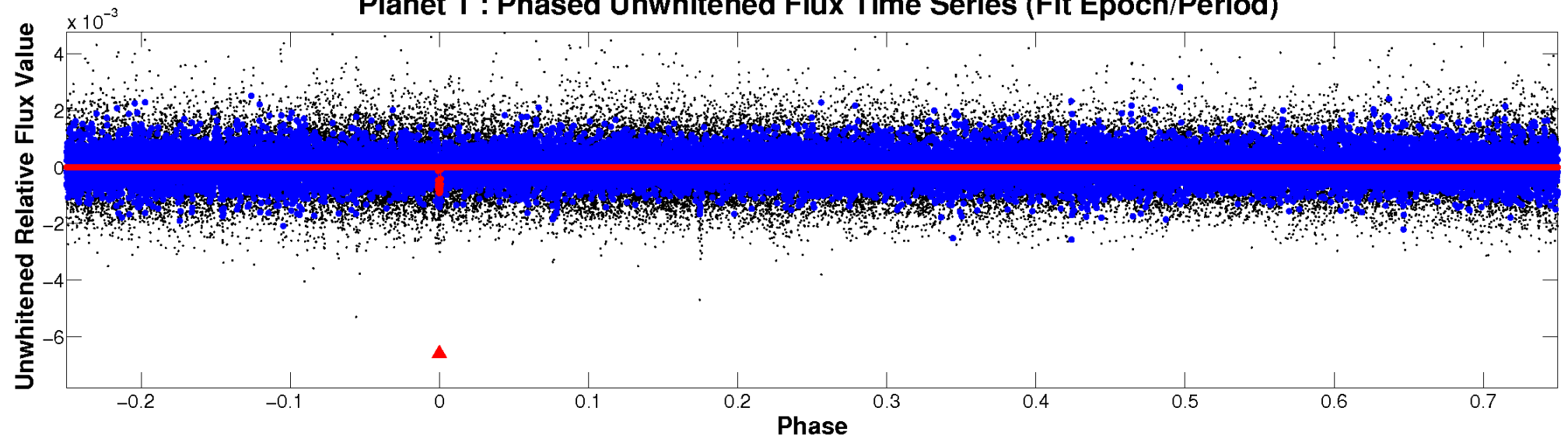
ALT Odd/Even

TCE 008872867-01

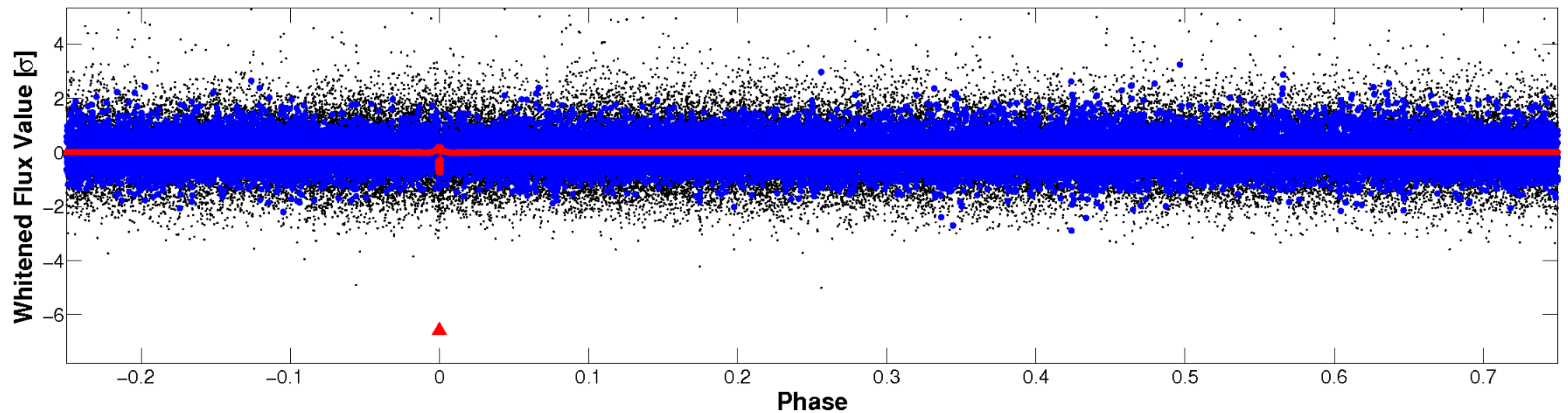


Non-Whitened Vs. Whitened Light Curve

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

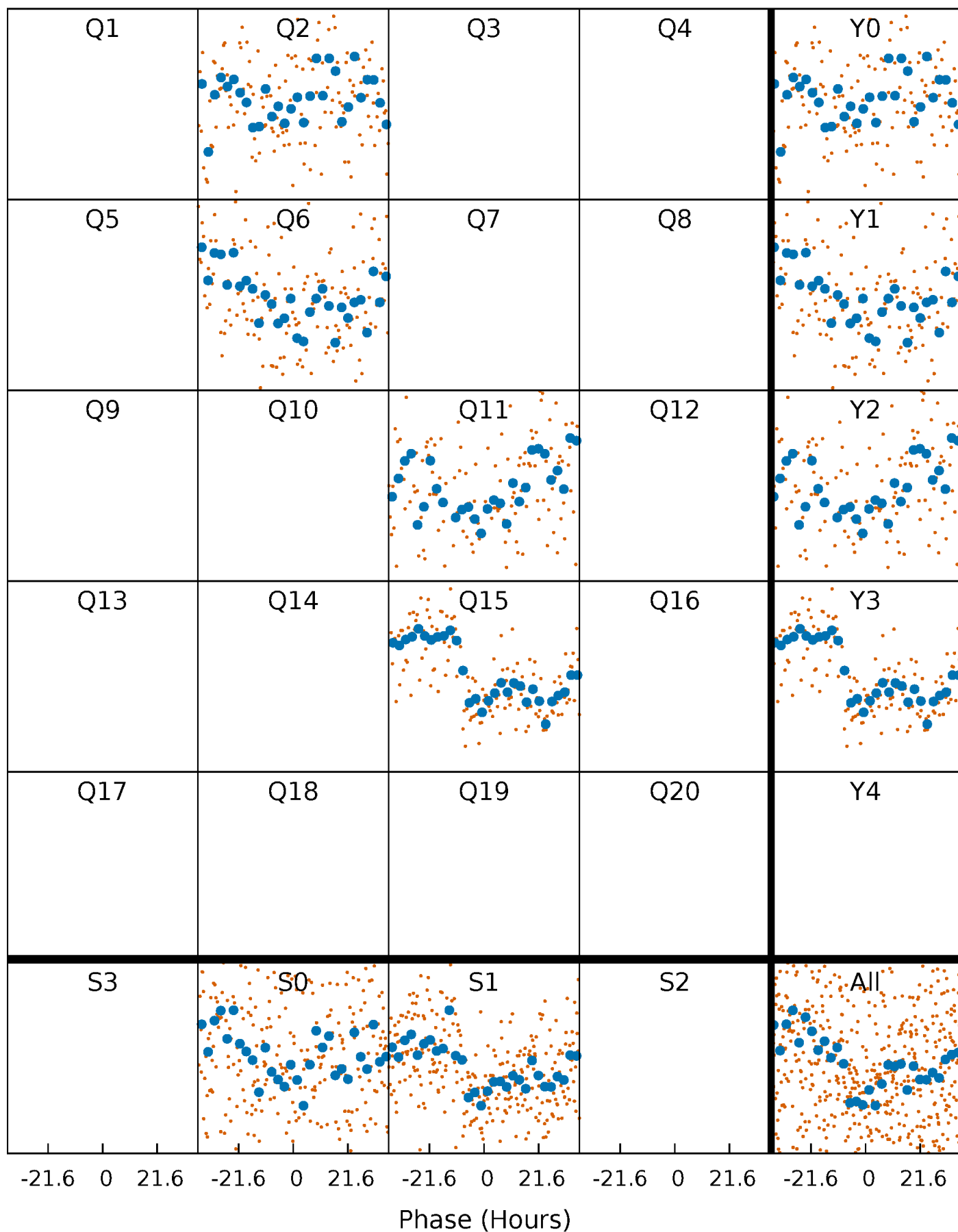


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



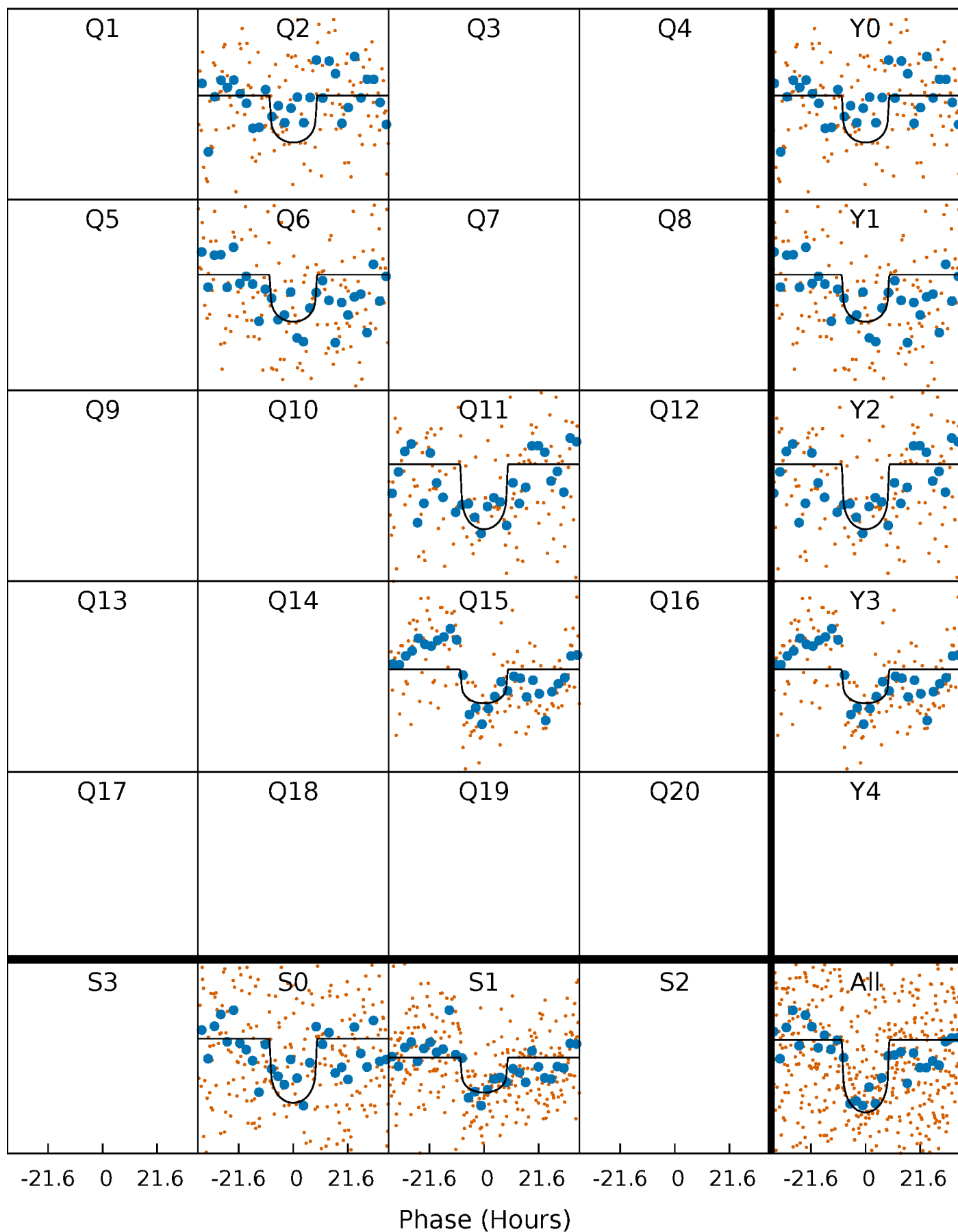
PDC Quarter-Phased Transit Curves

TCE 008872867-01 P=415.766237 Days $T_0=207.349625$ (BKJD)



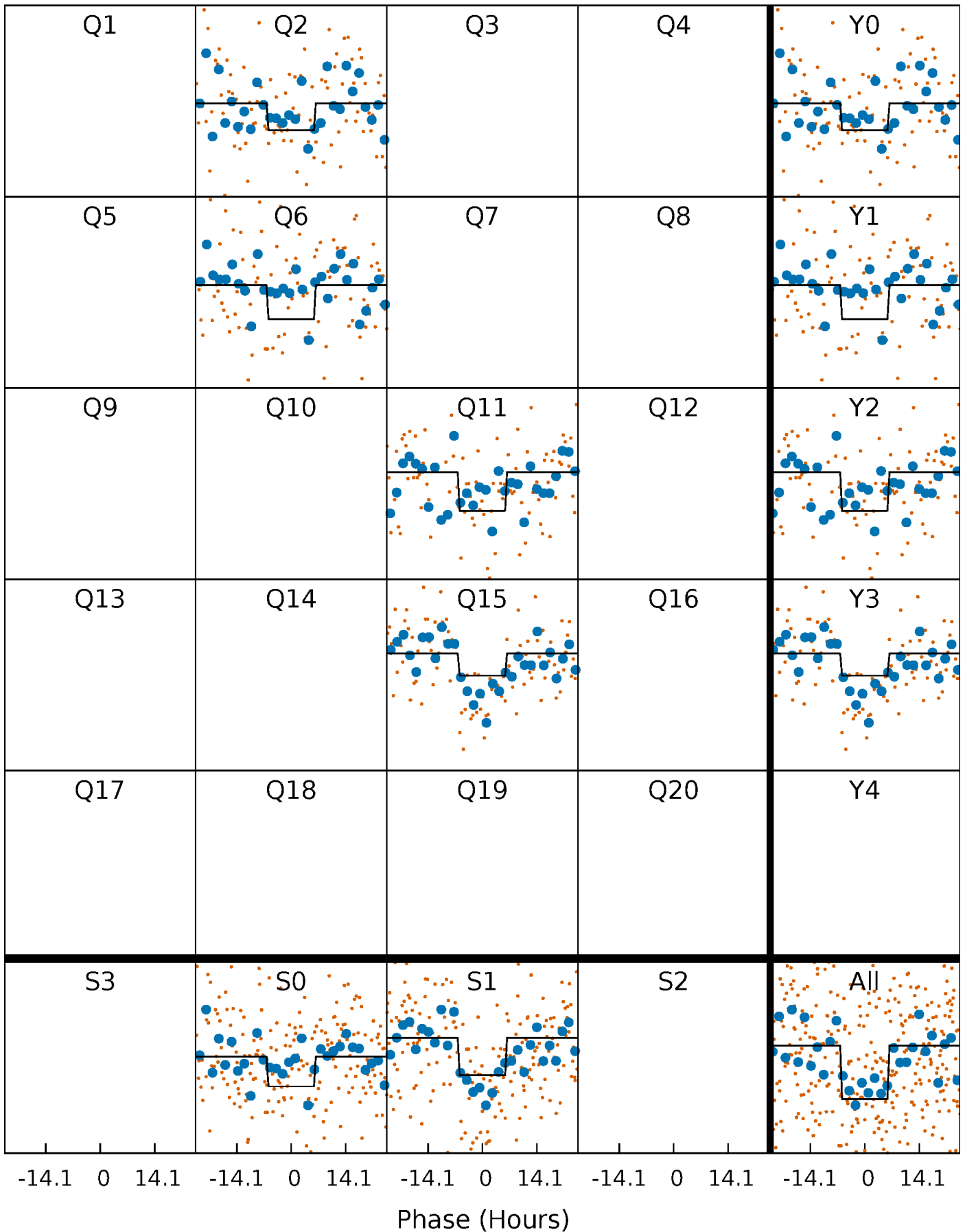
DV Quarter-Phased Transit Curves

TCE 008872867-01 P=415.766237 Days $T_0=207.349625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

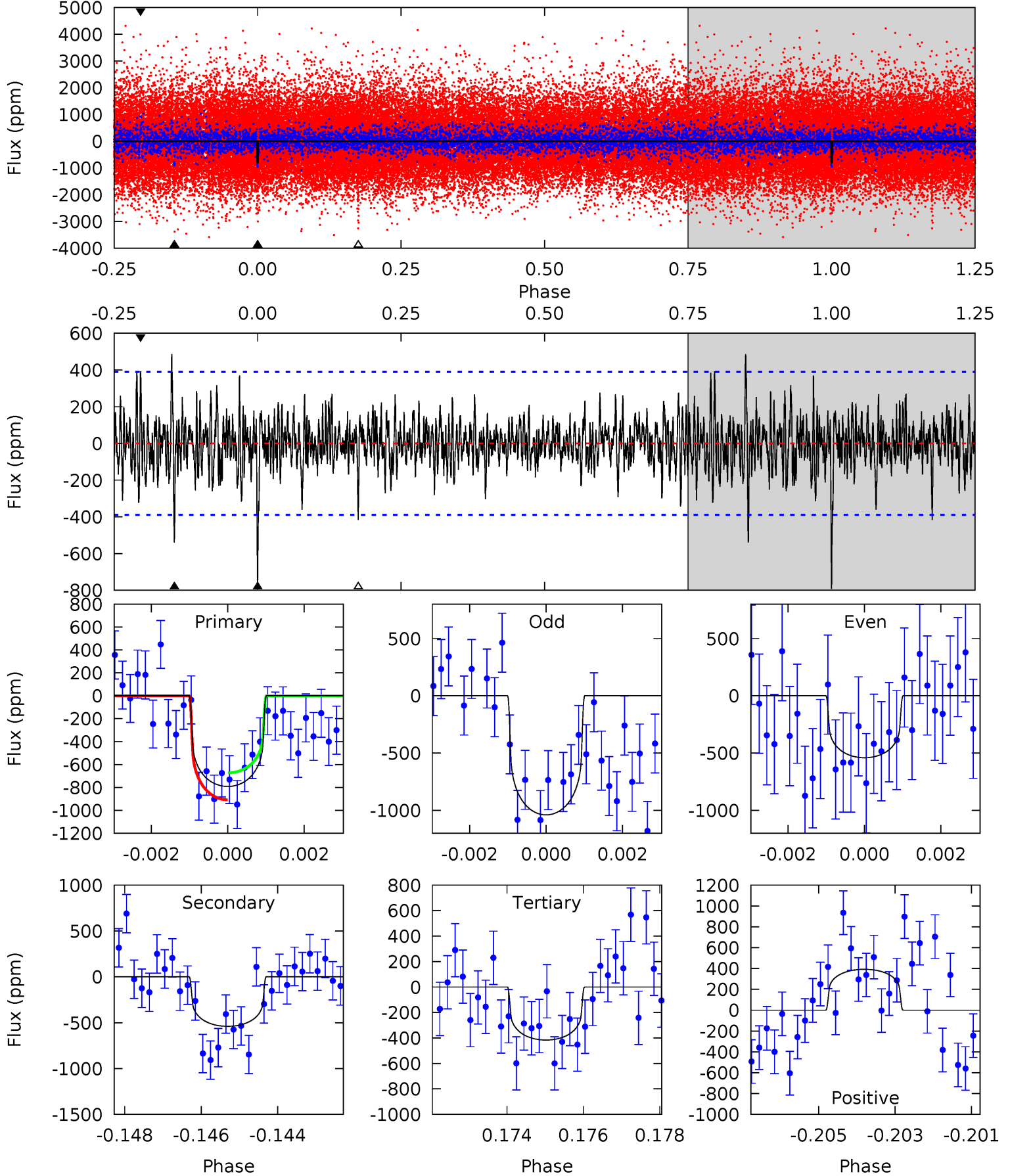
TCE 008872867-01 P=415.754834 Days $T_0=207.280712$ (BKJD)



DV Model-Shift Uniqueness Test

008872867-01, P = 415.766237 Days, E = 207.349625 Days

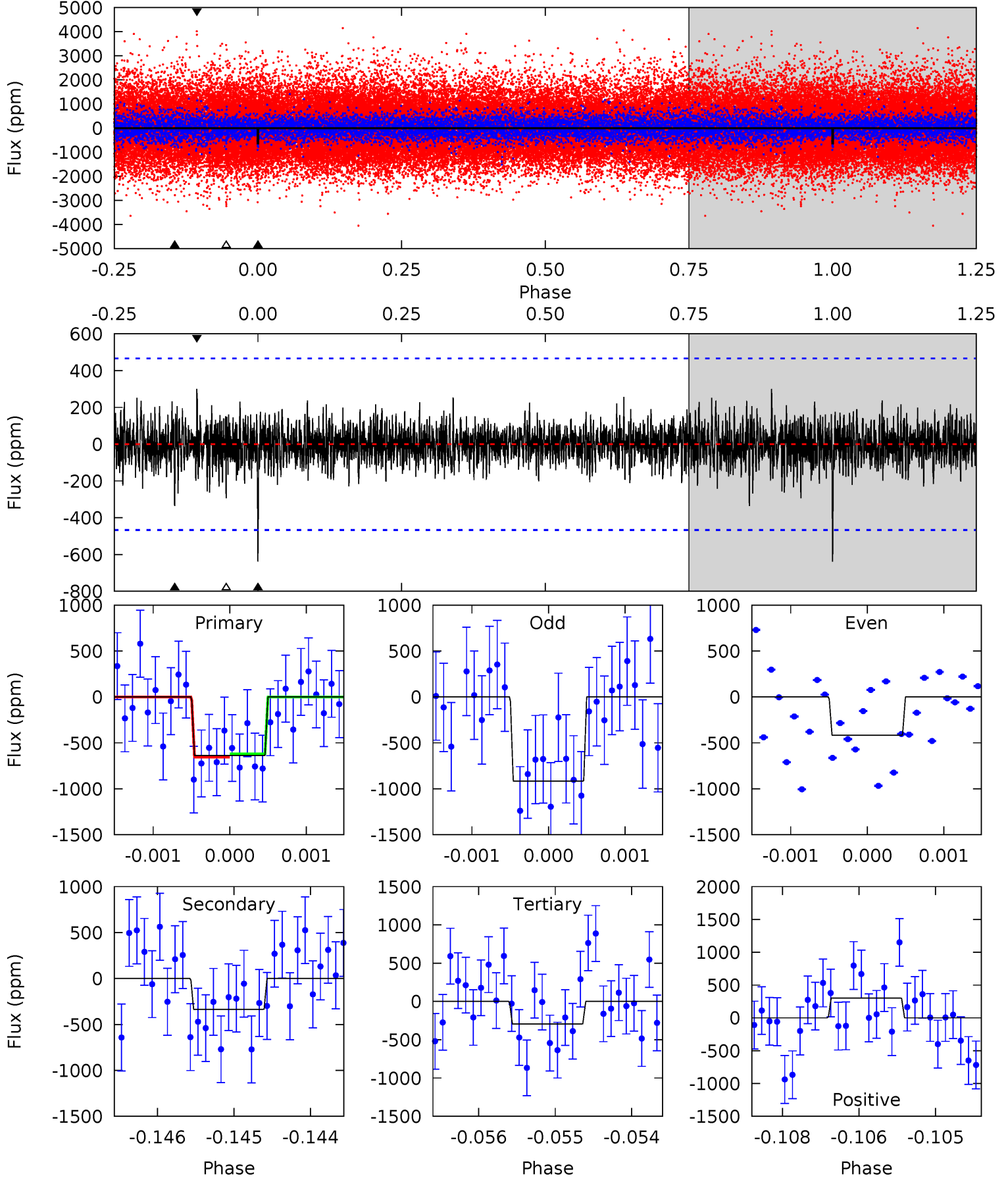
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	7.39	5.70	5.37	5.33	3.10	1.48	5.14	5.46	1.69	2.02	3.41	0.91	0.38	1.61



Alt Model-Shift Uniqueness Test

008872867-01, P = 415.754834 Days, E = 207.280712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.40	3.89	3.40	3.47	5.41	3.22	0.87	4.00	3.93	0.48	0.41	2.90	1.52	0.32	0.20



Stellar Parameters For KIC 008872867

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 008872867-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-540 ± 73	$3.05^{+1.52}_{-1.35}$	341^{+16}_{-16}	5307^{+1737}_{-809}	37981^{+83432}_{-20959}
Alt.	-335 ± 86	$2.91^{+1.44}_{-1.42}$	341^{+17}_{-15}	4913^{+1616}_{-746}	25347^{+66935}_{-14292}

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

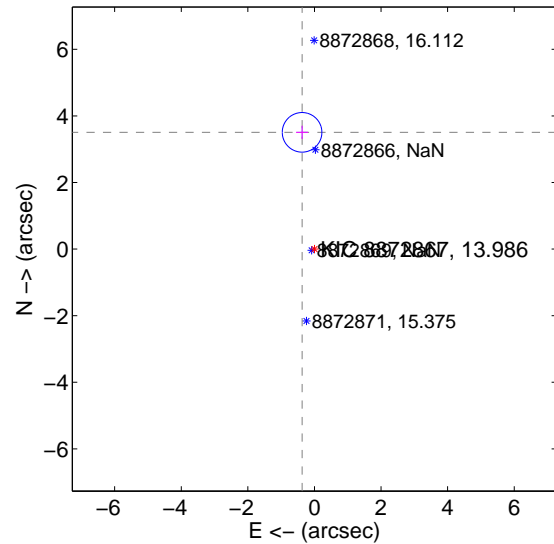
Supplemental centroid analysis for 008872867-01. Kepler magnitude: 13.99. Transit SNR 8.17

There are 1 quarters with good PRF difference image offsets

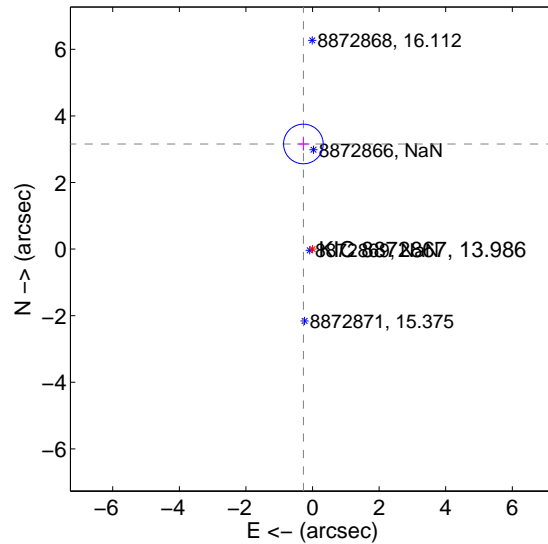
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.527 ± 0.198	17.79	0.372 ± 0.181	3.507 ± 0.198
PRF-fit source offset from KIC position	3.170 ± 0.198	15.98	0.275 ± 0.181	3.158 ± 0.198
photometric centroid source offset	2.07 ± 1.33	1.55	0.67 ± 1.17	1.96 ± 1.35

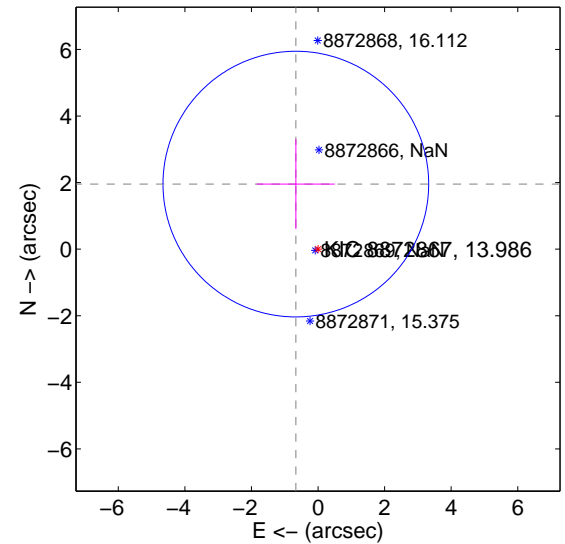
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

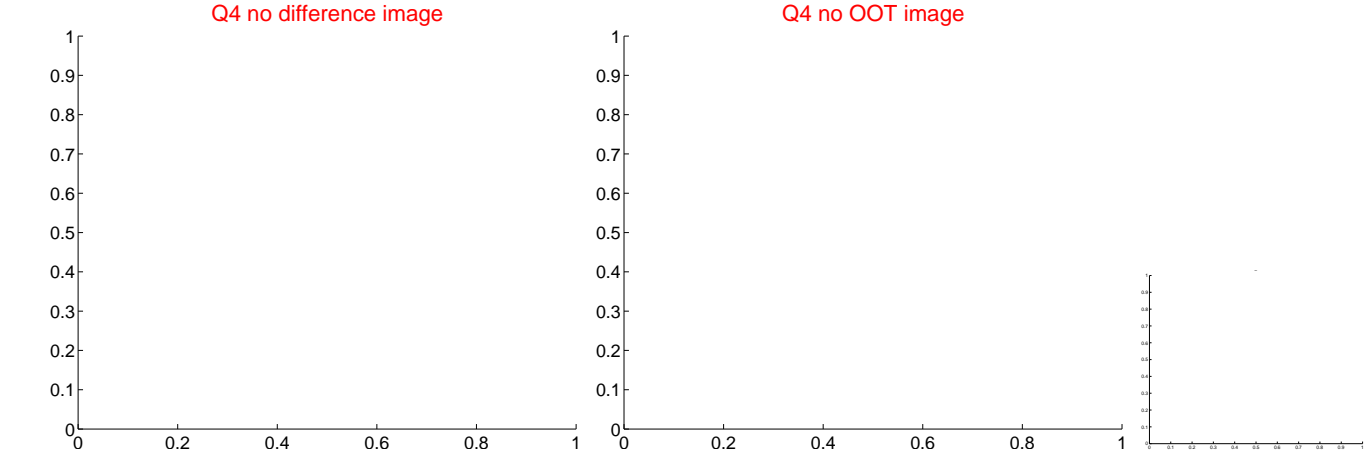
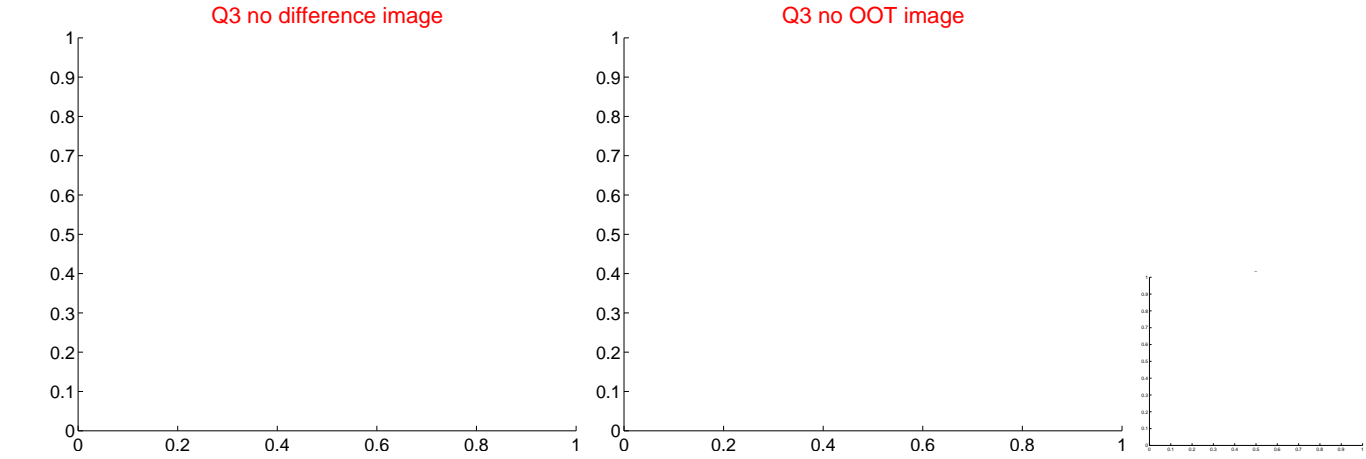
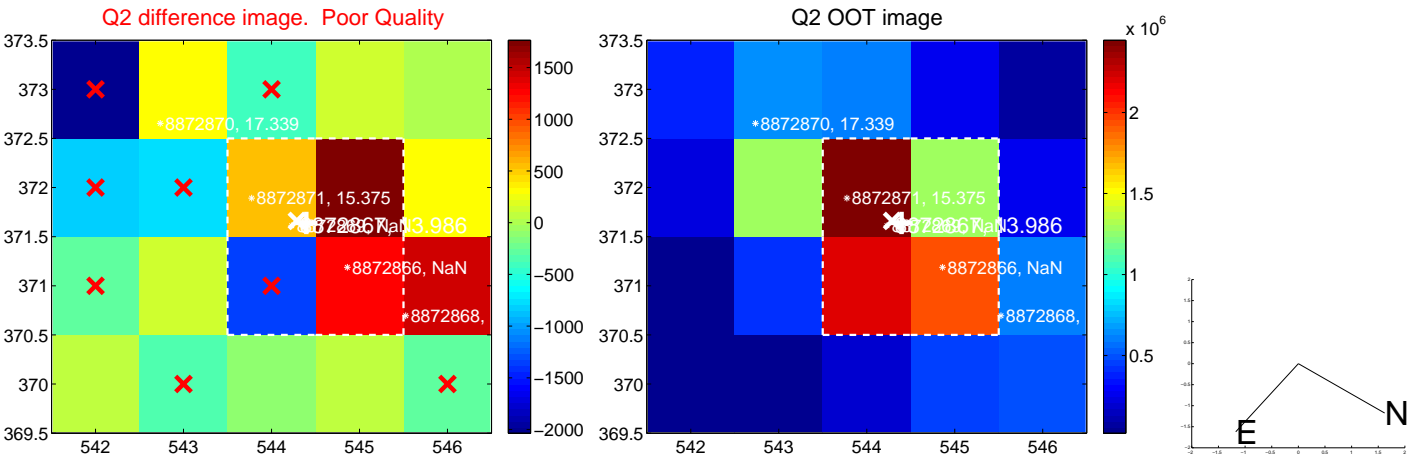
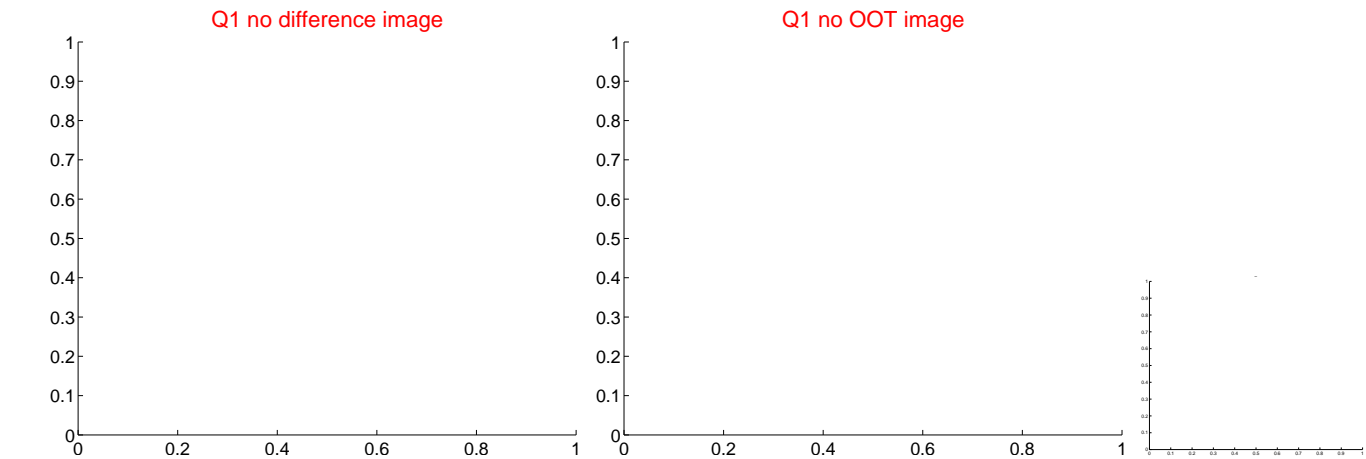


offset from photometric centroids

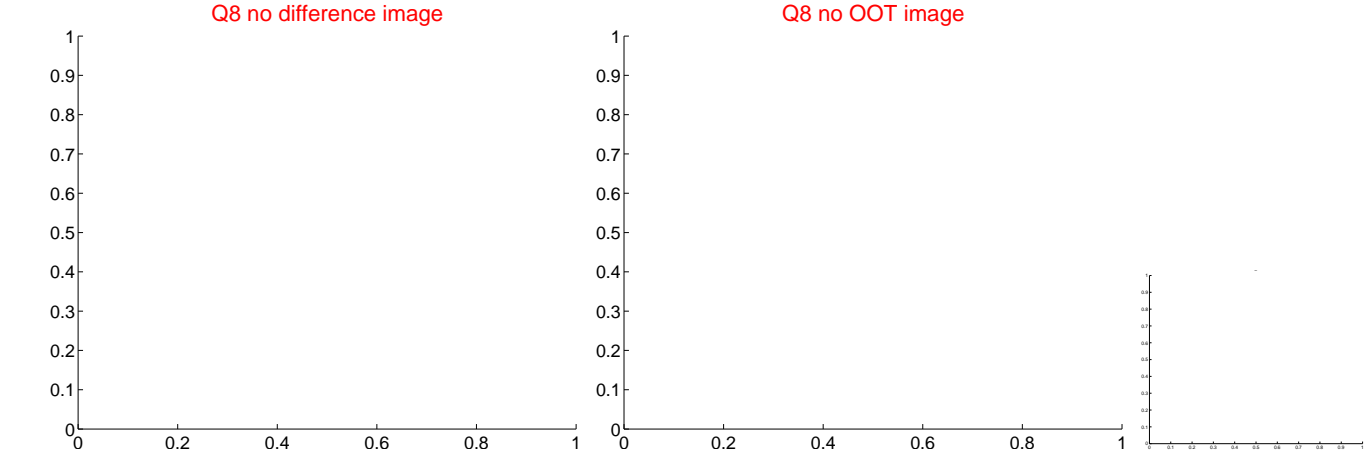
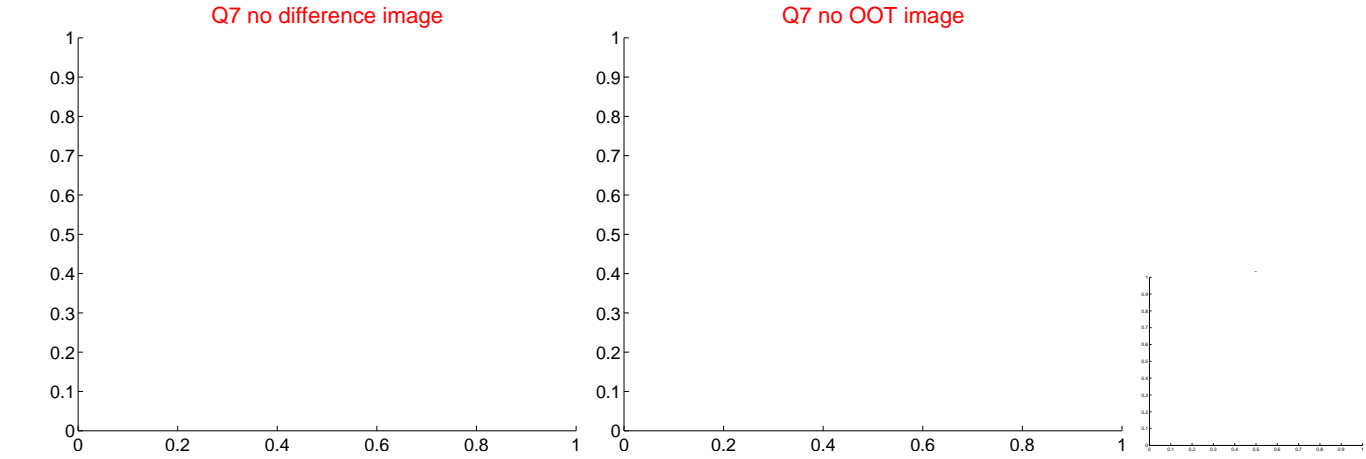
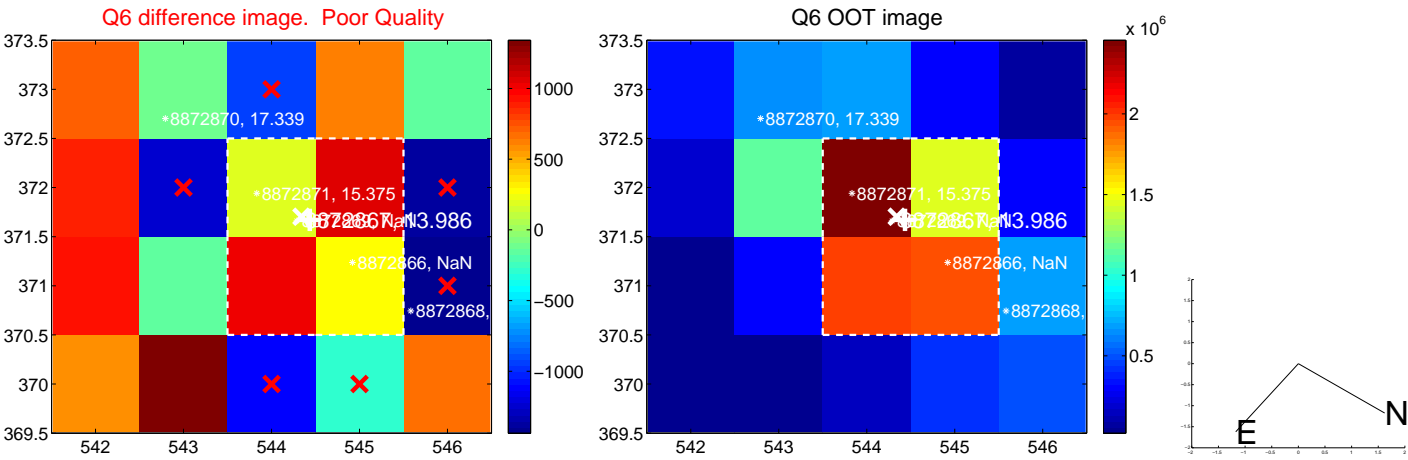
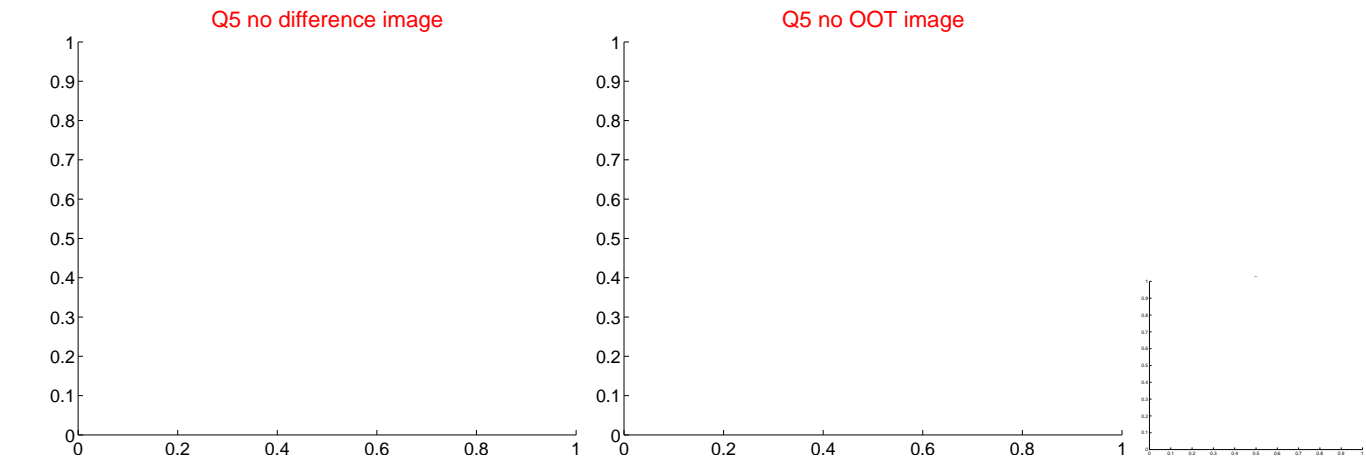


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



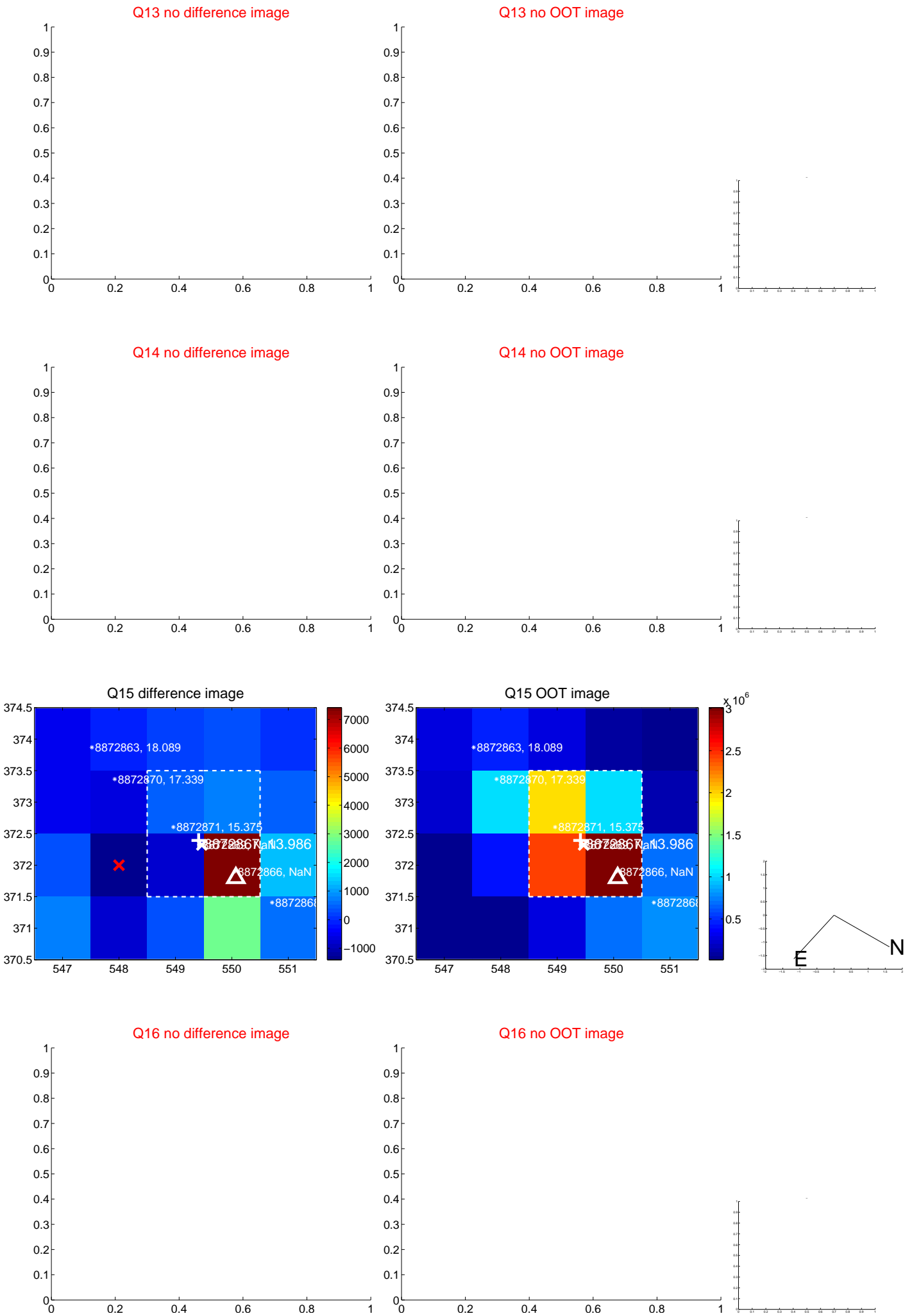
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



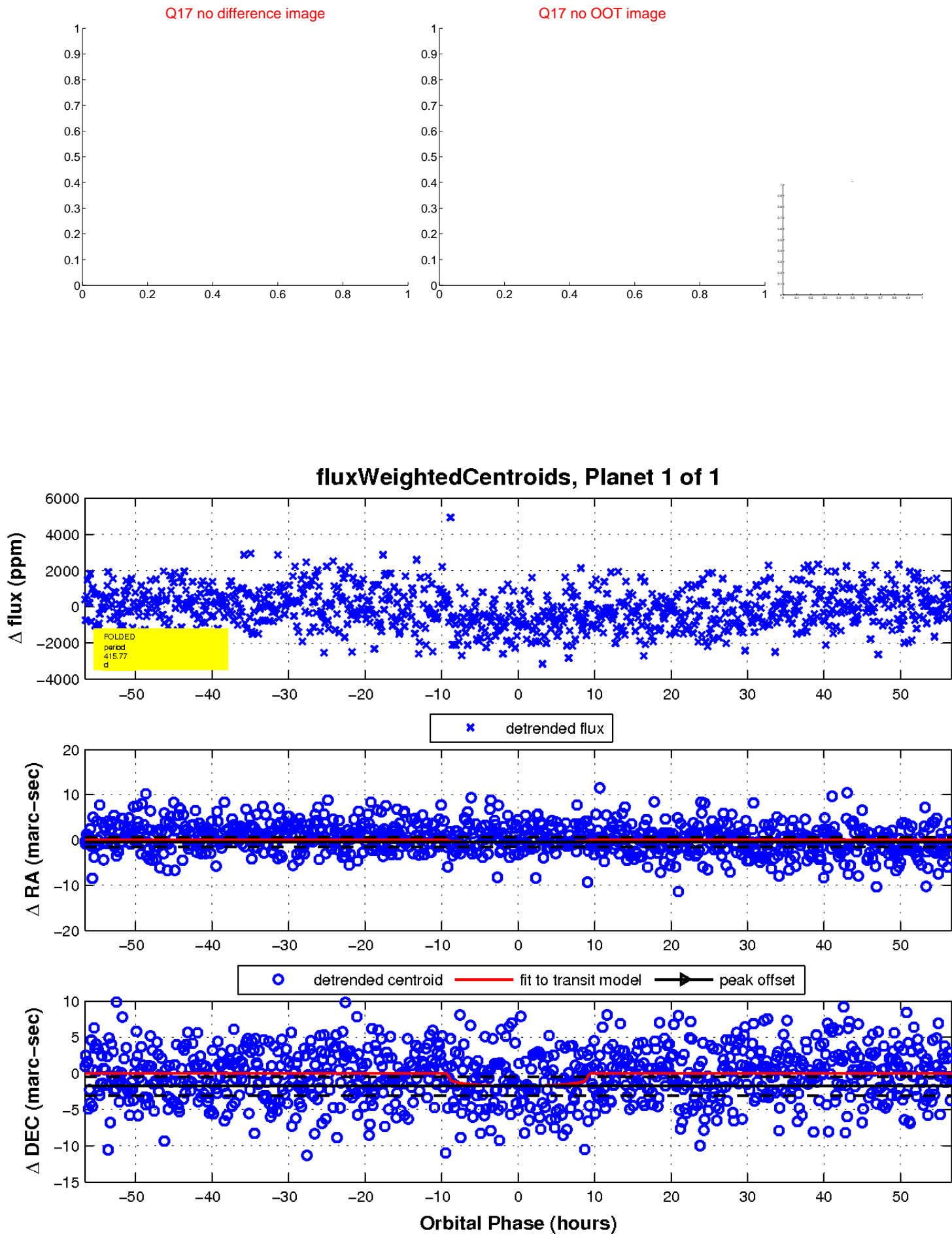
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

