

KIC 001573094

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})
001573094-01	OBS	No	500.600675	364.853836	807.1	17.942	8.1	8.7	0.85	5339	2.45	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001573094-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

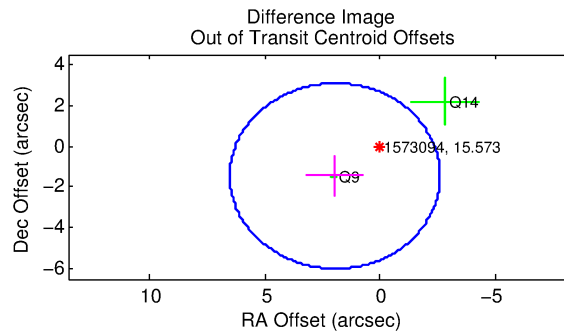
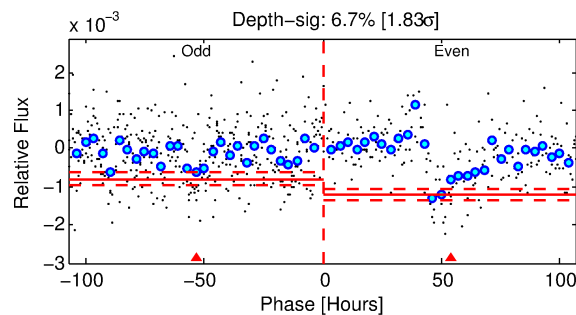
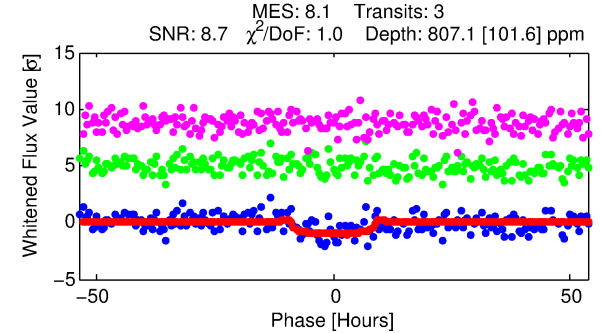
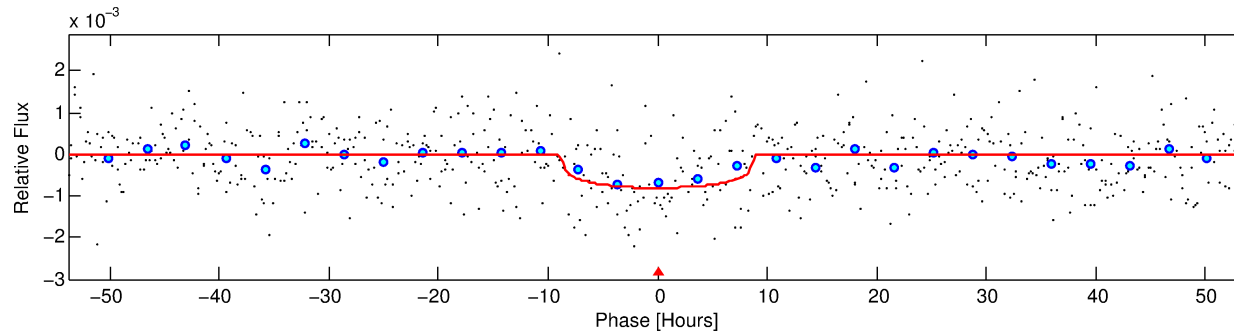
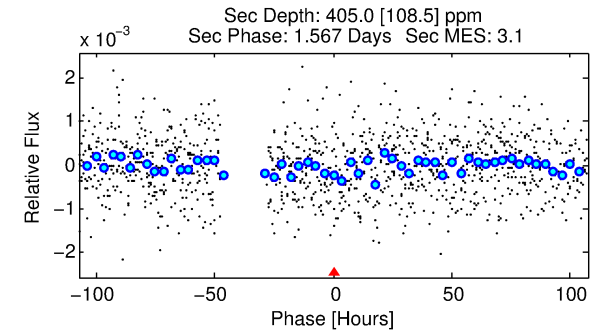
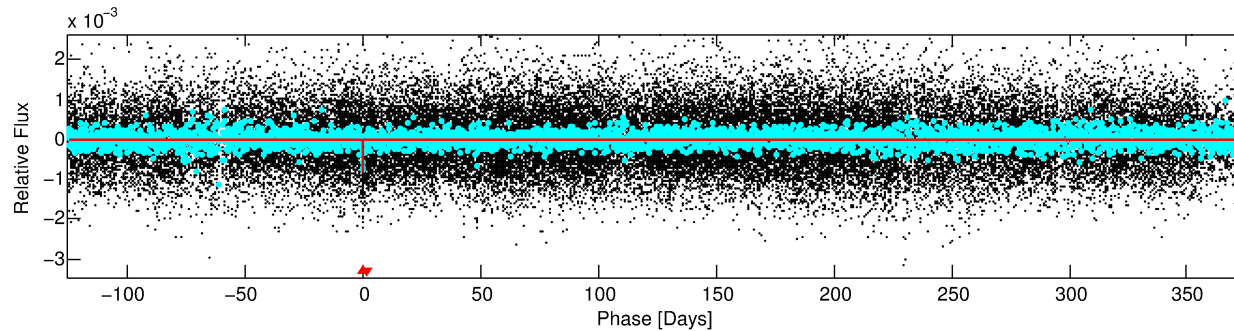
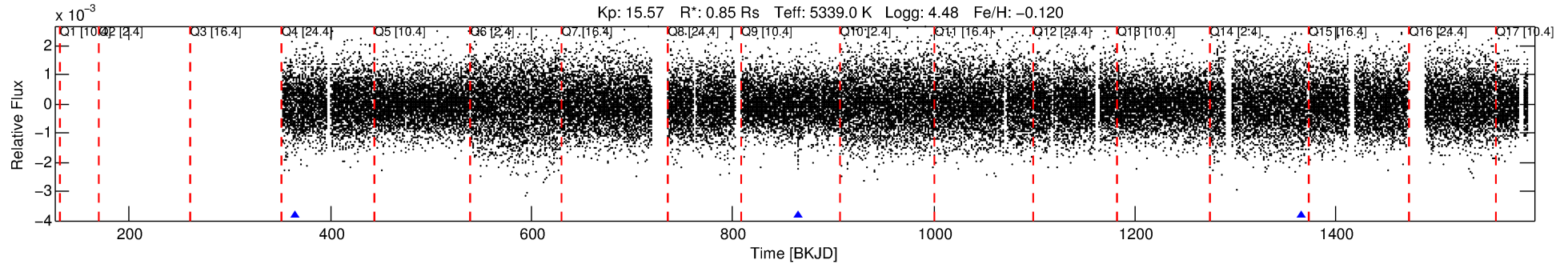
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001573094-01

No Significant Match Found

DV One-Page Summary

KIC: 1573094 Candidate: 1 of 1 Period: 500.601 d



DV Fit Results:

Period = 500.60068 [0.02129] d
Epoch = 364.8538 [0.0249] BKJD
Rp/R* = 0.0263 [0.0202]
a/R* = 193.15 [575.94]
b = 0.48 [4.78]
Seff = 0.40 [0.11]
Teq = 203 [14] K
Rp = 2.45 [1.93] Re
a = 1.1472 [0.1730] AU
Ag = 48878.57 [77021.82] [0.63σ]
Teff = 4666 [1828] K [2.44σ]

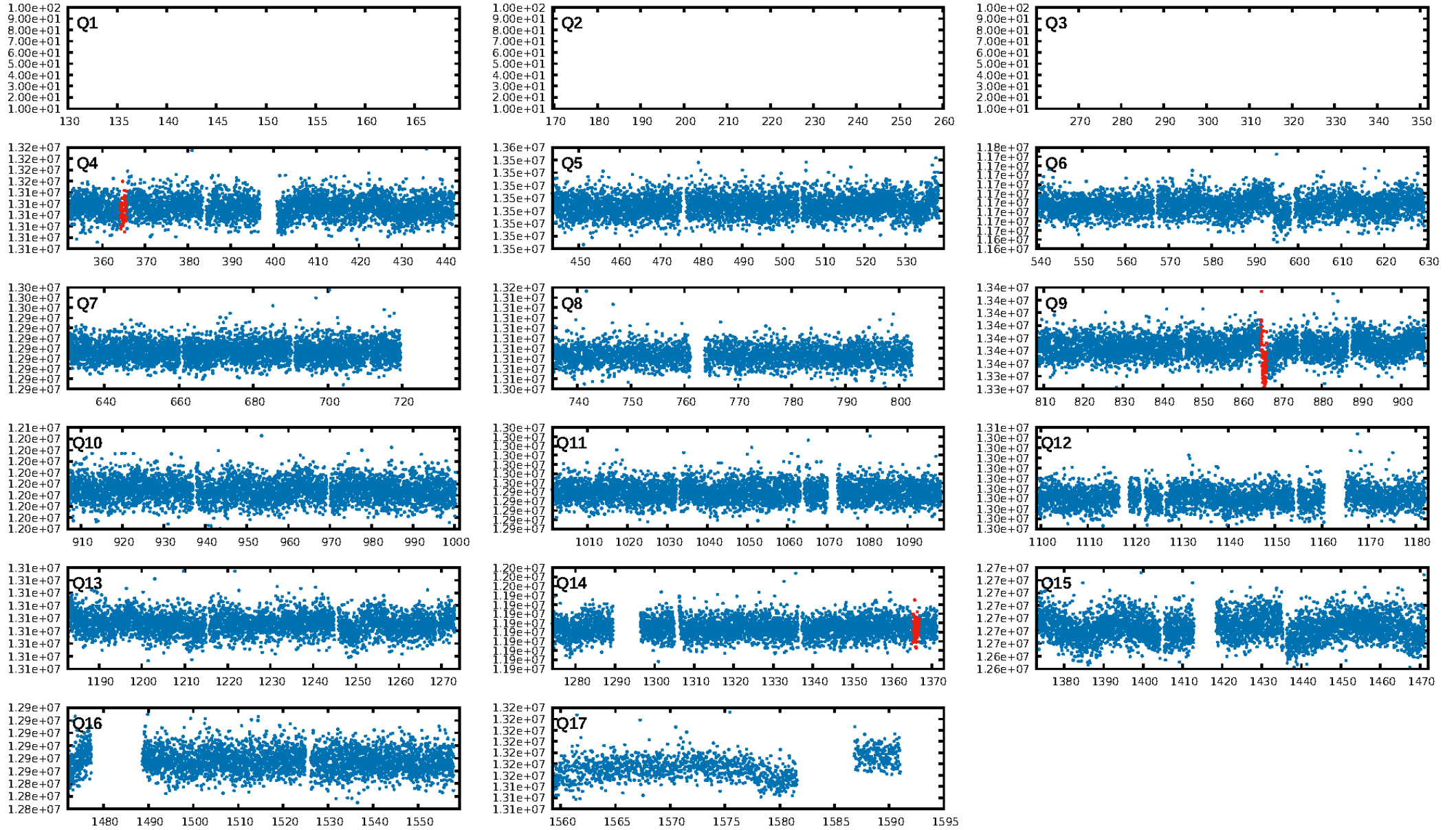
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 2.57e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.623
Centroid-sig: 9.1%
Centroid-so: 2.163 arcsec [1.65σ]
OotOffset-rm: 2.443 arcsec [1.61σ]
KicOffset-rm: 2.448 arcsec [1.58σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

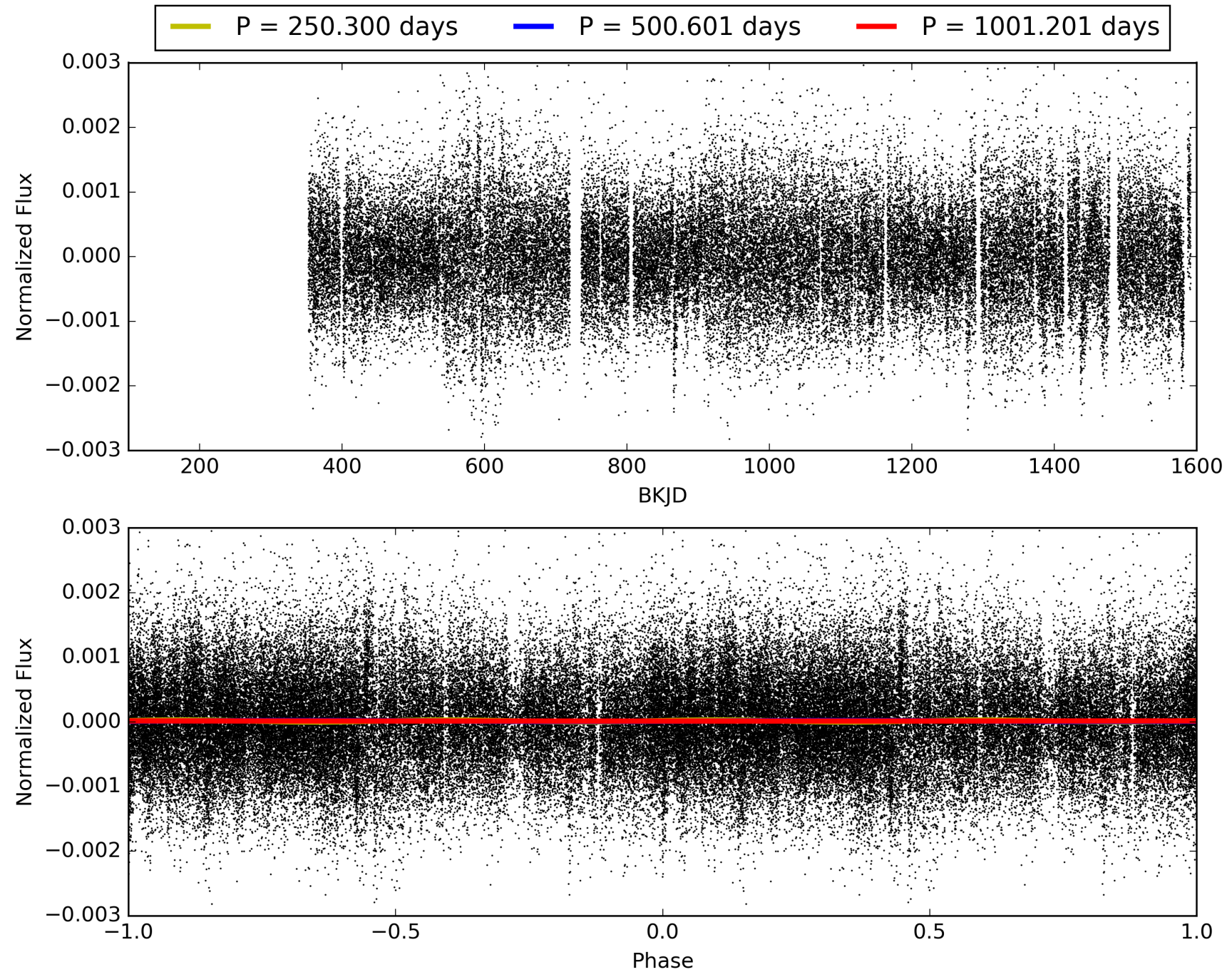
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:02:20 Z

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

TCE 001573094-01, PDC Light Curves

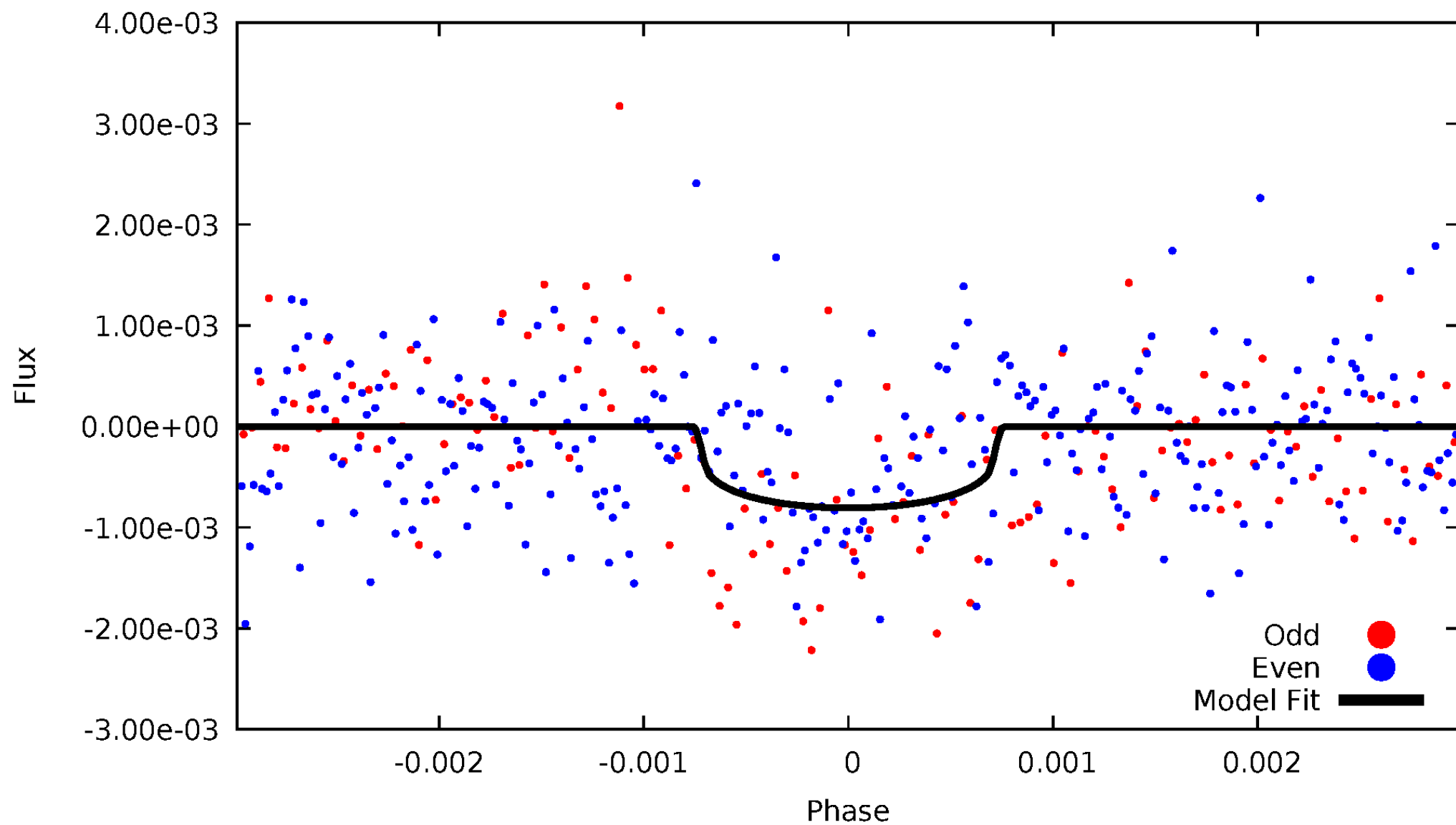


TCE 001573094-01



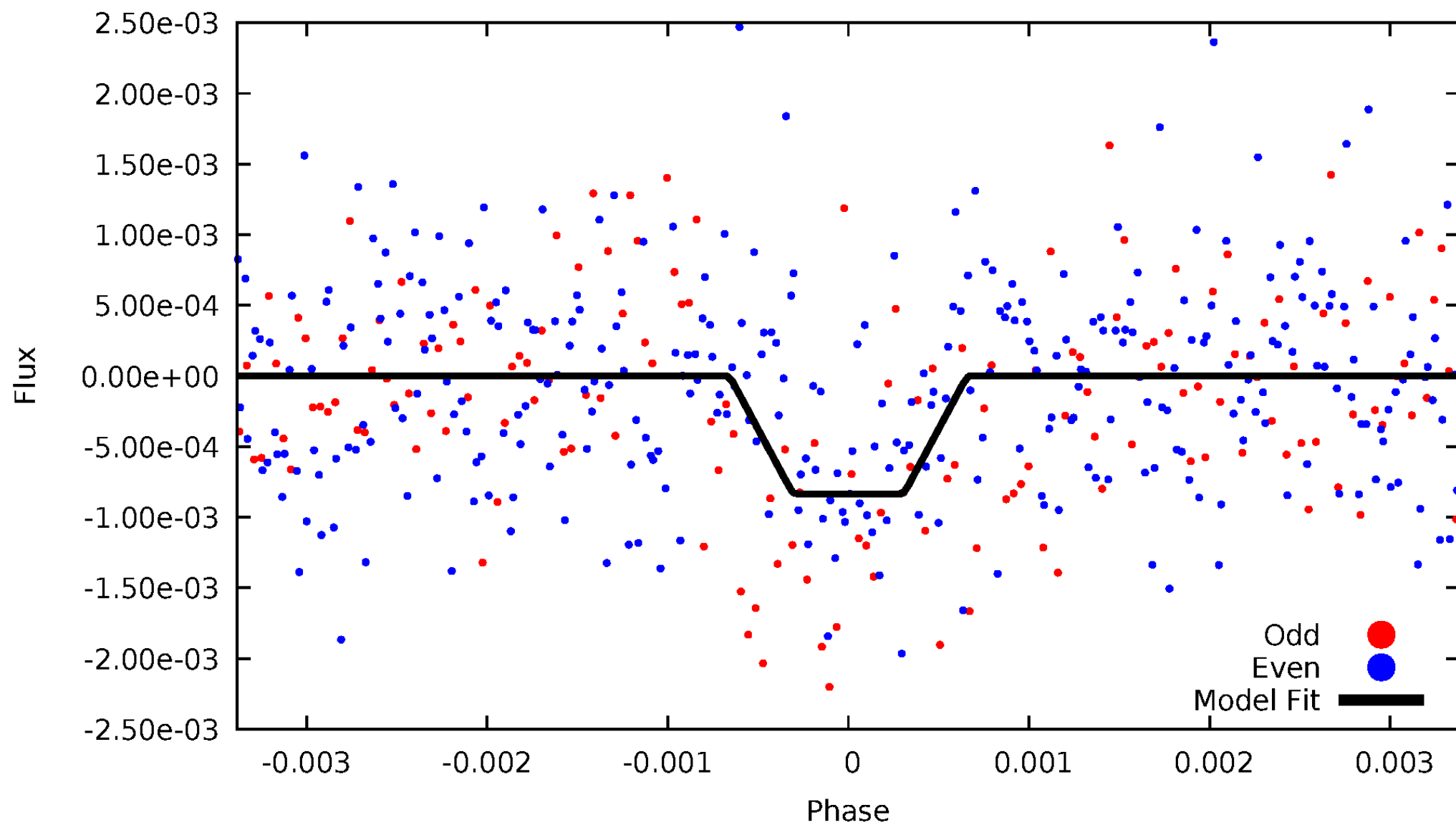
DV Odd/Even

TCE 001573094-01



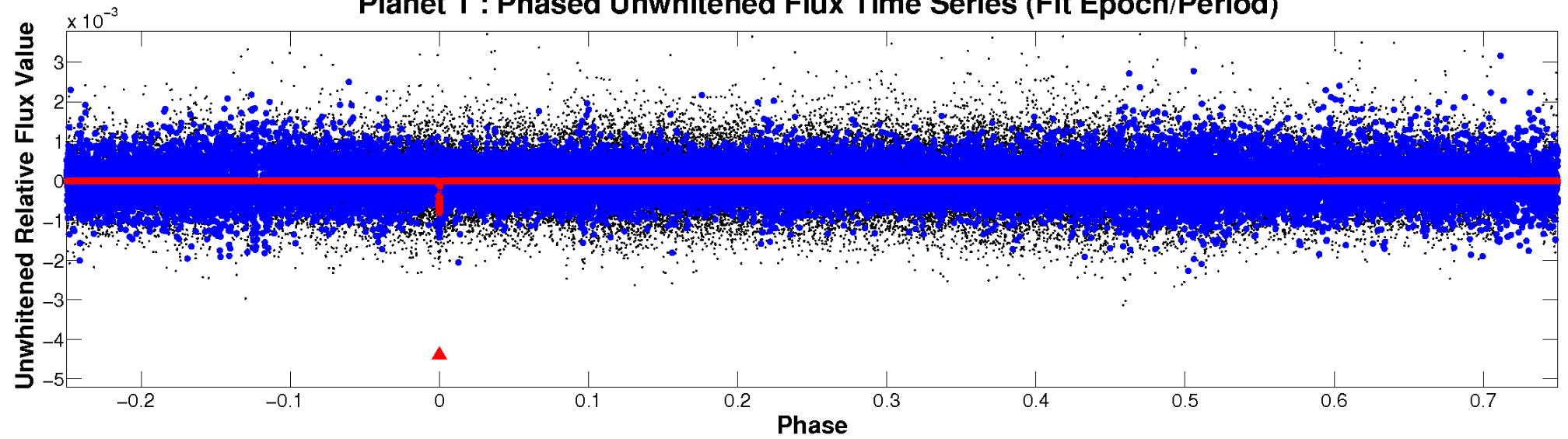
ALT Odd/Even

TCE 001573094-01

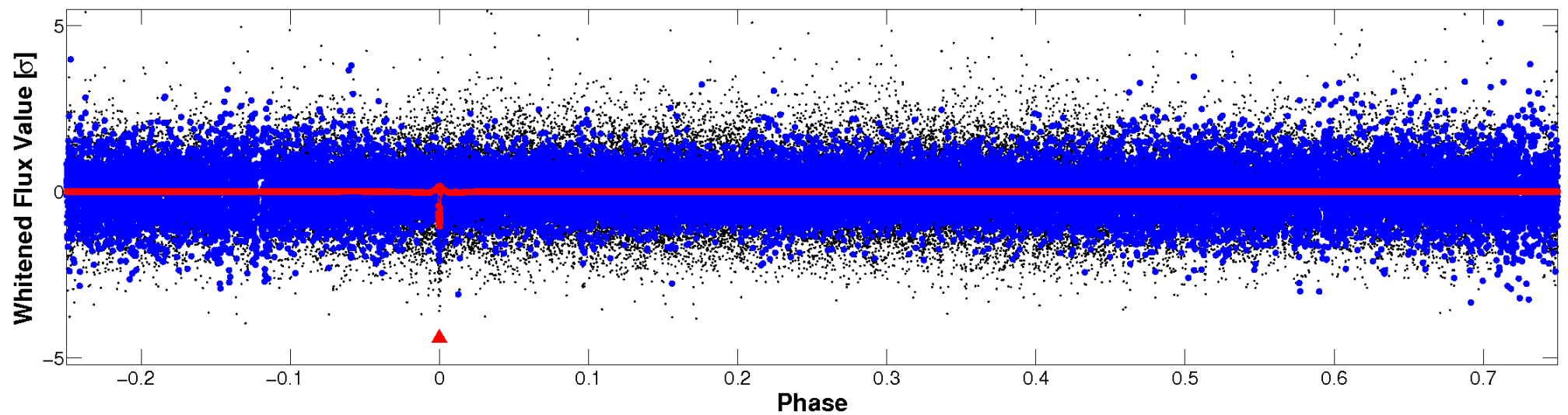


Non-Whitened Vs. Whitened Light Curve

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

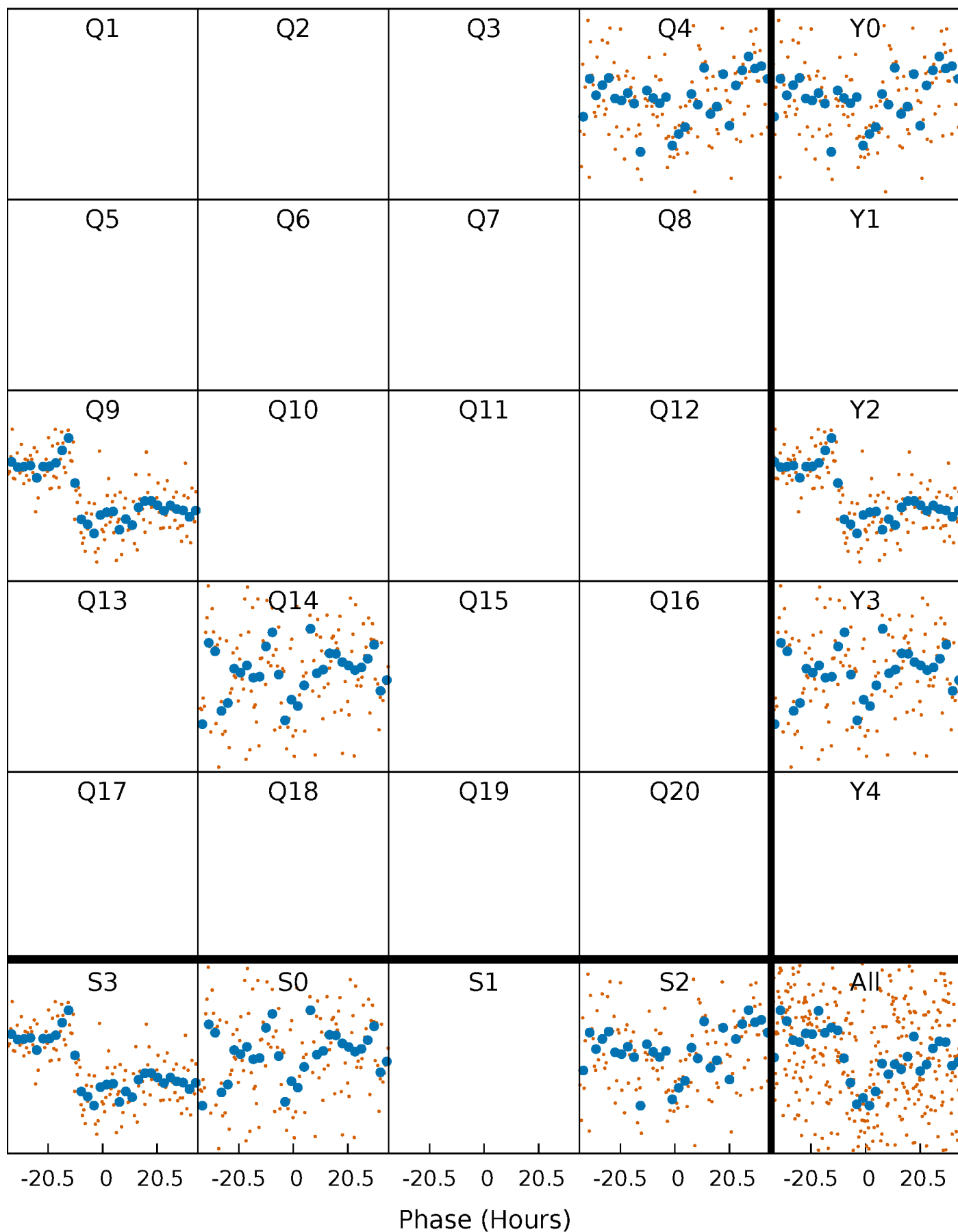


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



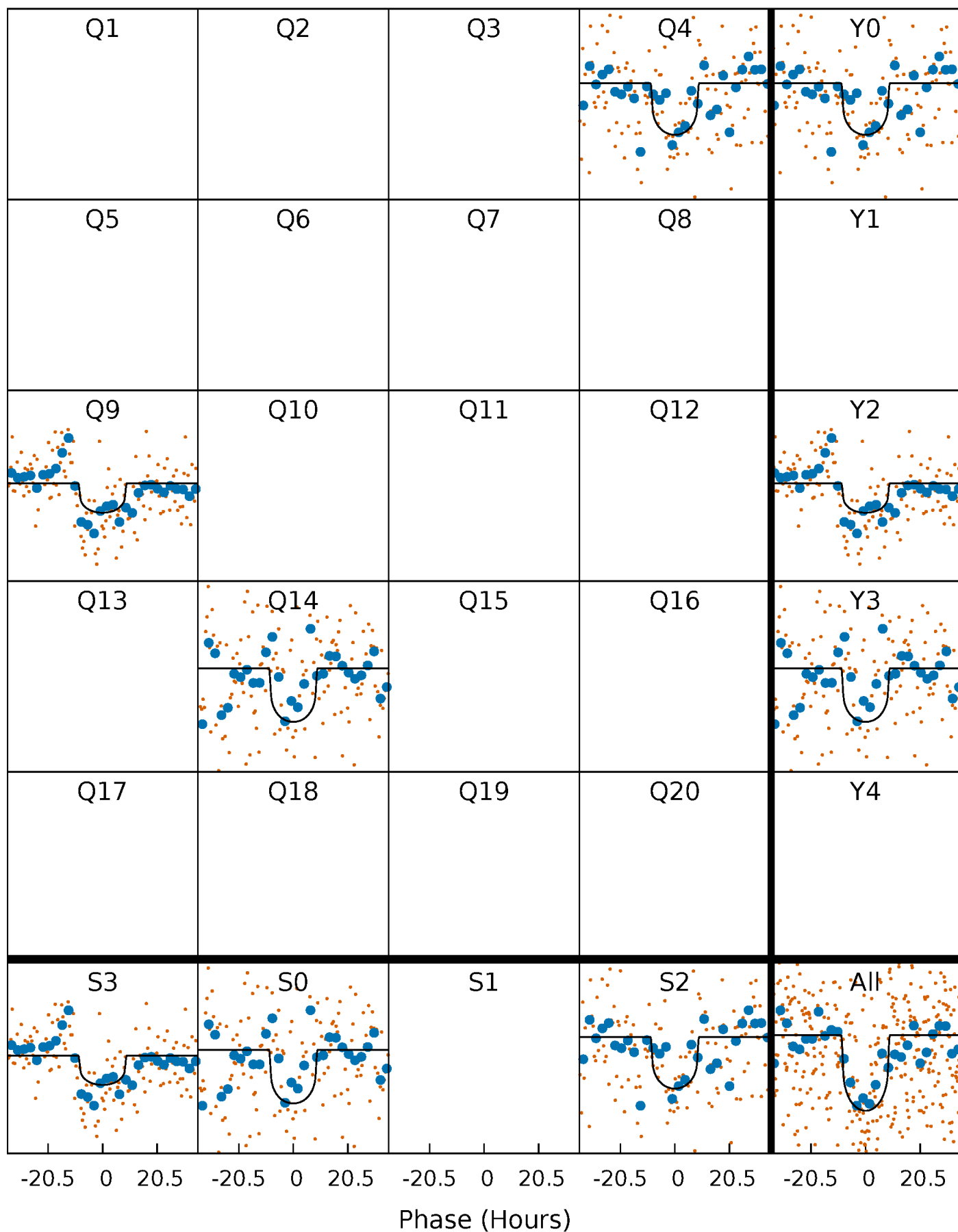
PDC Quarter-Phased Transit Curves

TCE 001573094-01 $P=500.600675$ Days $T_0=364.853836$ (BKJD)



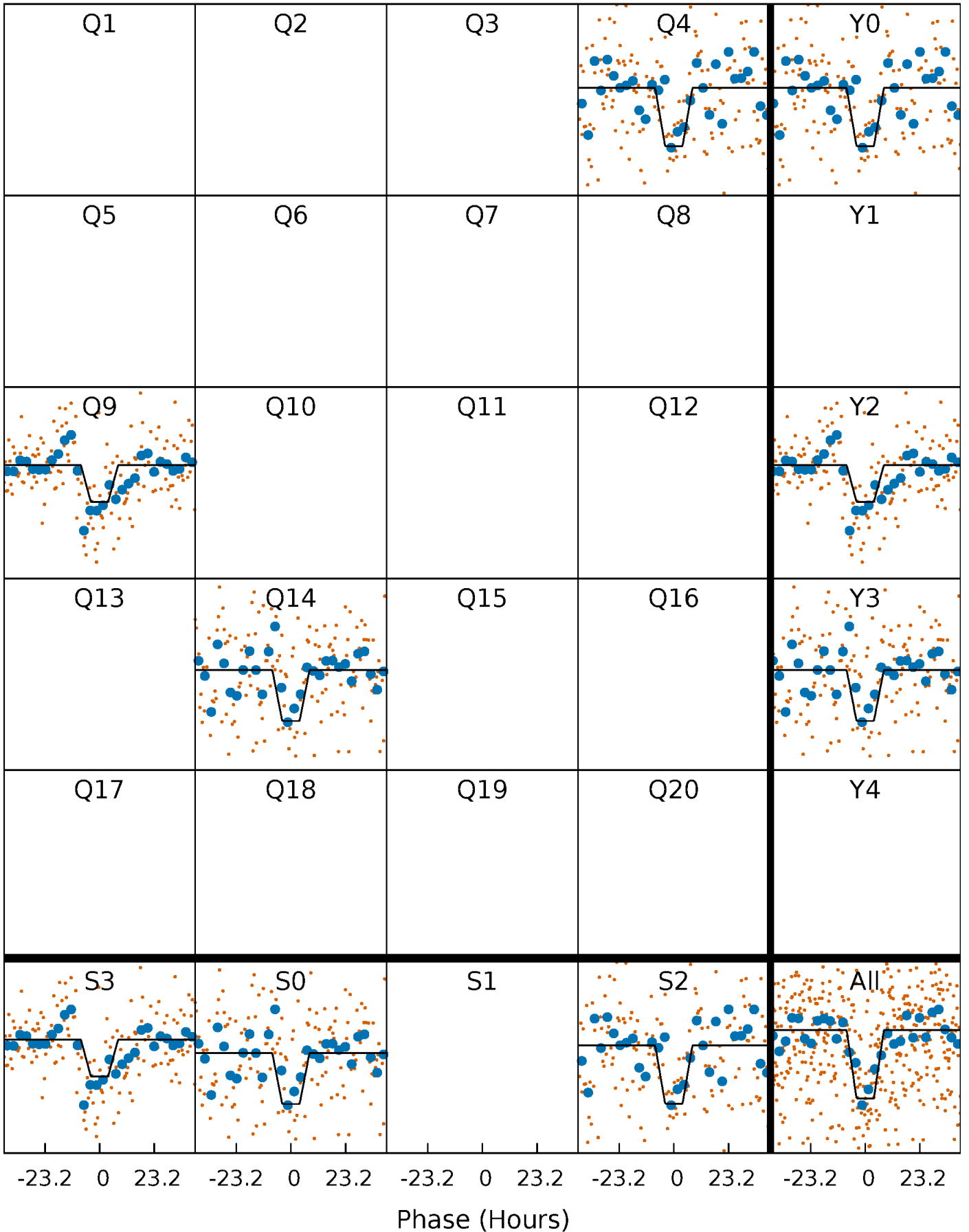
DV Quarter-Phased Transit Curves

TCE 001573094-01 P=500.600675 Days $T_0=364.853836$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

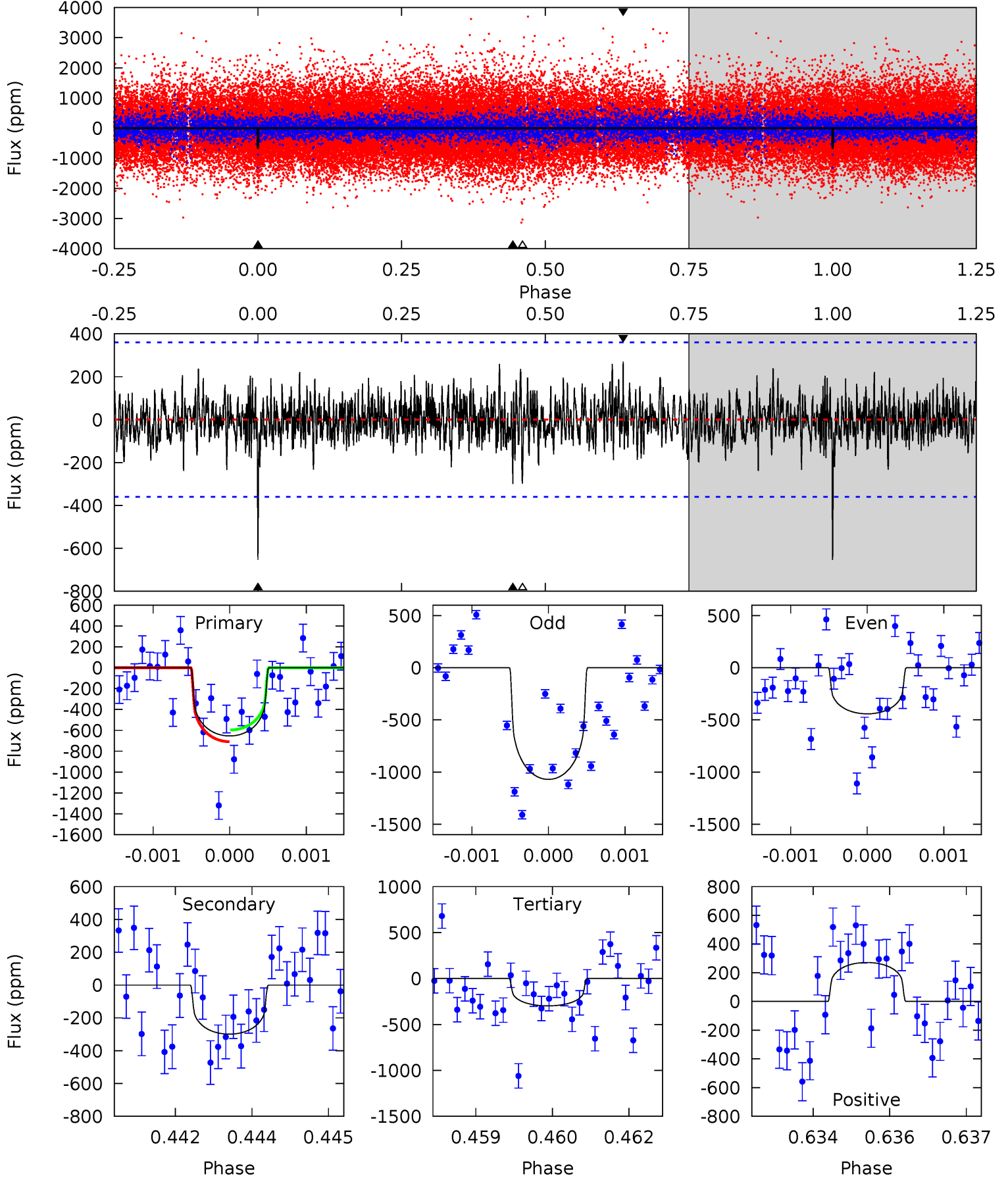
TCE 001573094-01 P=500.567730 Days $T_0=364.849495$ (BKJD)



DV Model-Shift Uniqueness Test

001573094-01, $P = 500.600675$ Days, $E = 364.853836$ Days

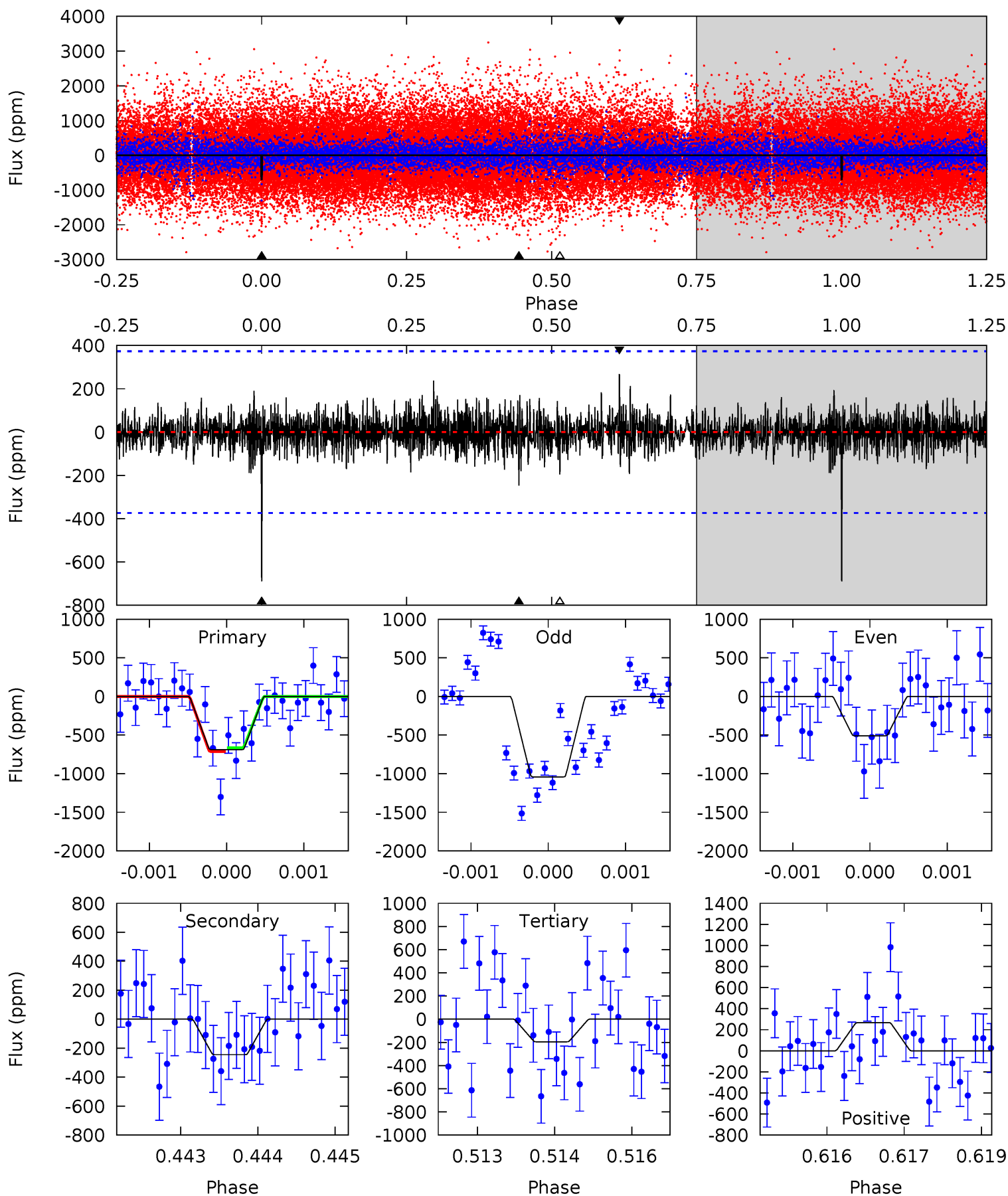
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	4.47	4.45	4.06	5.38	3.17	1.12	5.32	5.72	0.02	0.41	4.42	1.14	0.29	0.84



Alt Model-Shift Uniqueness Test

001573094-01, P = 500.567730 Days, E = 364.849495 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.94	3.54	2.81	3.86	5.39	3.20	0.85	7.13	6.08	0.72	-0.32	3.63	1.29	0.28	0.37



Stellar Parameters For KIC 001573094

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5339^{+204}_{-185}	$4.482^{+0.092}_{-0.127}$	$-0.120^{+0.300}_{-0.300}$	$0.852^{+0.147}_{-0.107}$	$0.803^{+0.113}_{-0.070}$	$1.829^{+0.761}_{-0.675}$
	+4%/-3%	+2%/-3%	+250%/-250%	+17%/-13%	+14%/-9%	+42%/-37%
Source	KIC0	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 001573094-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-299 ± 67	$2.59^{+1.84}_{-1.59}$	286^{+17}_{-15}	4365^{+2366}_{-746}	$30798^{+166922}_{-20033}$
Alt.	-245 ± 69	$2.86^{+1.95}_{-1.67}$	284^{+18}_{-14}	4051^{+2070}_{-665}	$20644^{+121528}_{-13557}$

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

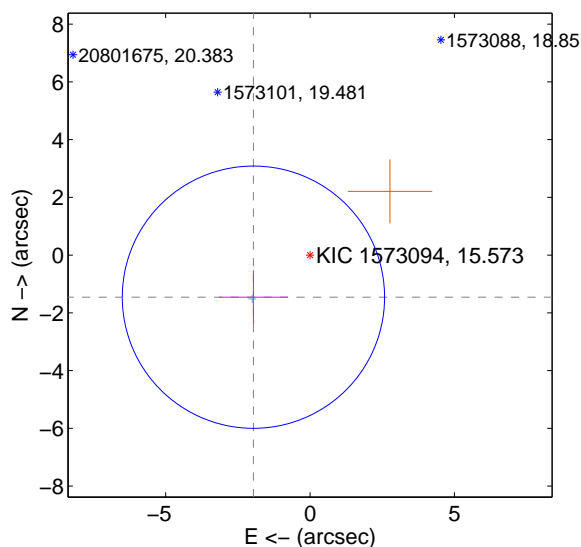
Supplemental centroid analysis for 001573094-01. Kepler magnitude: 15.57. Transit SNR 8.73

There are 1 quarters with good PRF difference image offsets

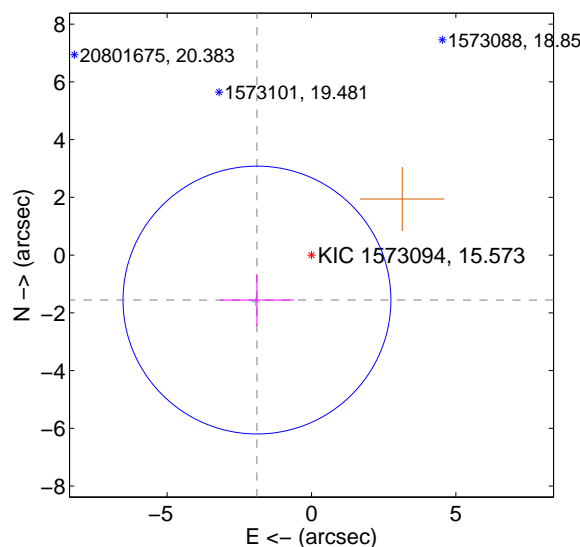
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.443 ± 1.514	1.61	1.961 ± 1.194	-1.458 ± 0.933
PRF-fit source offset from KIC position	2.448 ± 1.546	1.58	1.889 ± 1.271	-1.557 ± 0.892
photometric centroid source offset	2.16 ± 1.31	1.65	0.07 ± 1.67	-2.16 ± 1.31

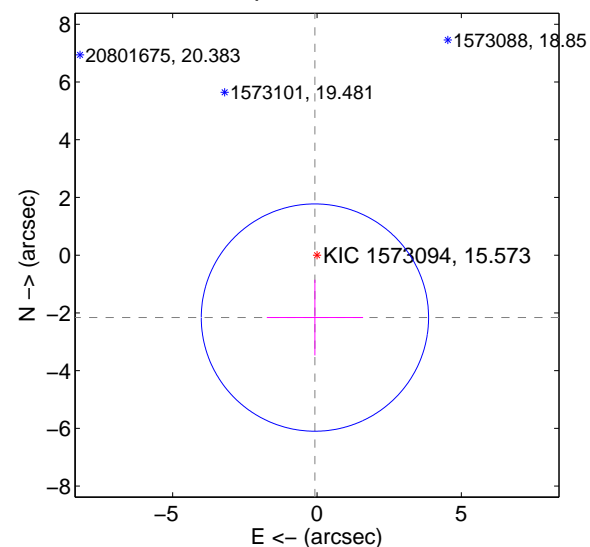
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

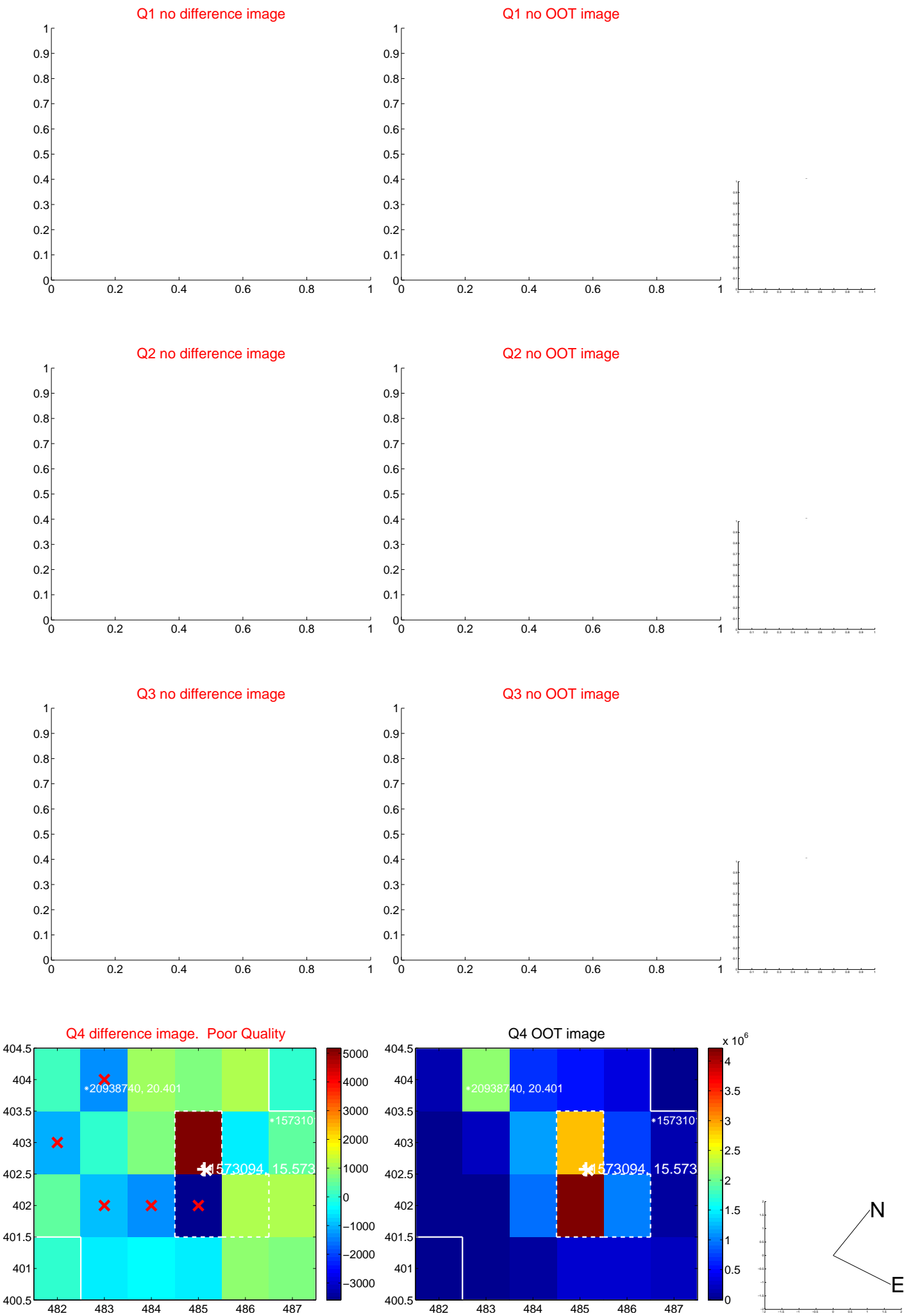


offset from photometric centroids



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.

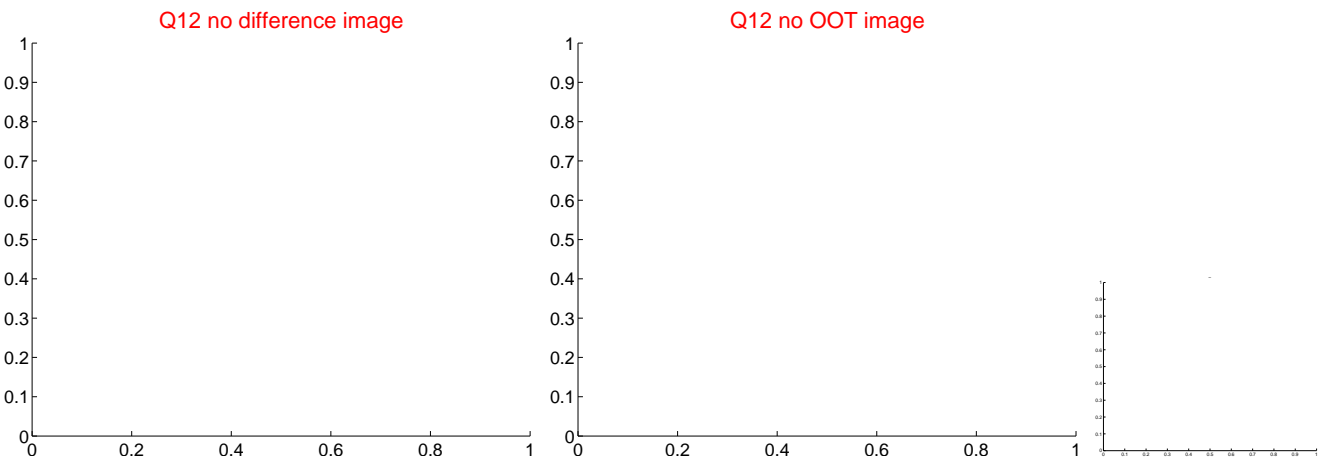
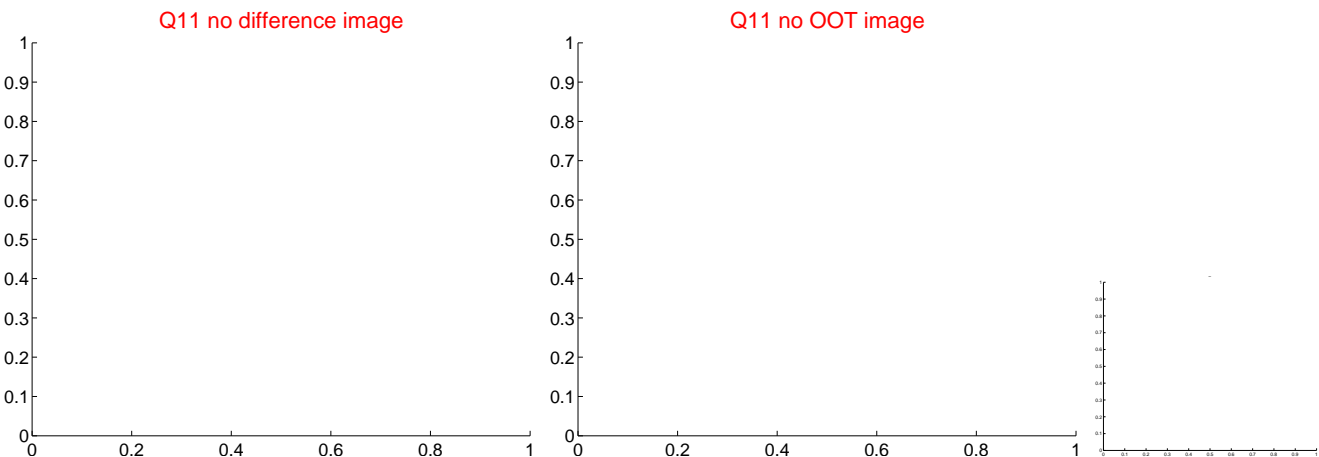
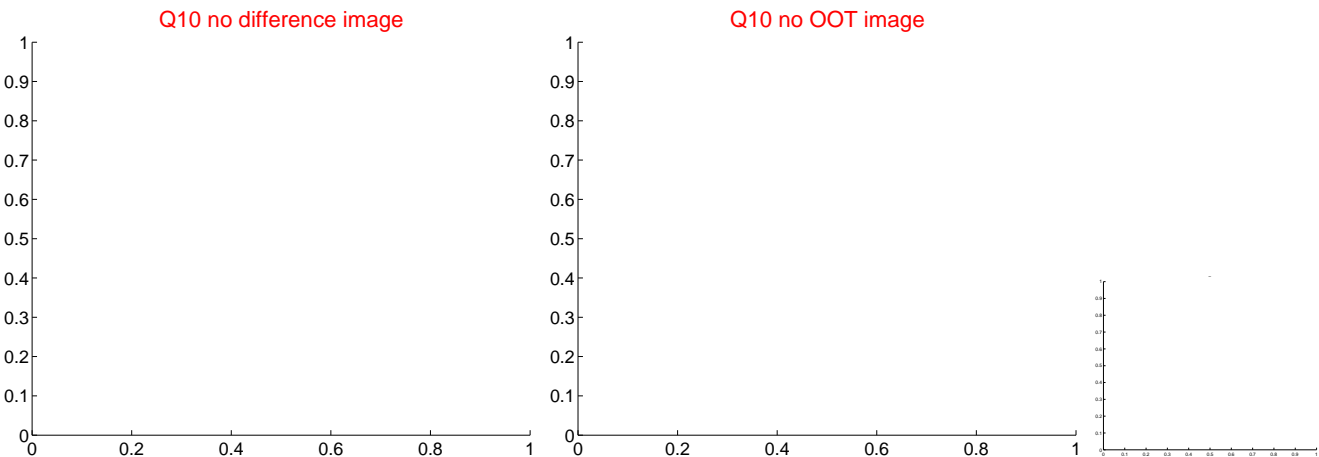
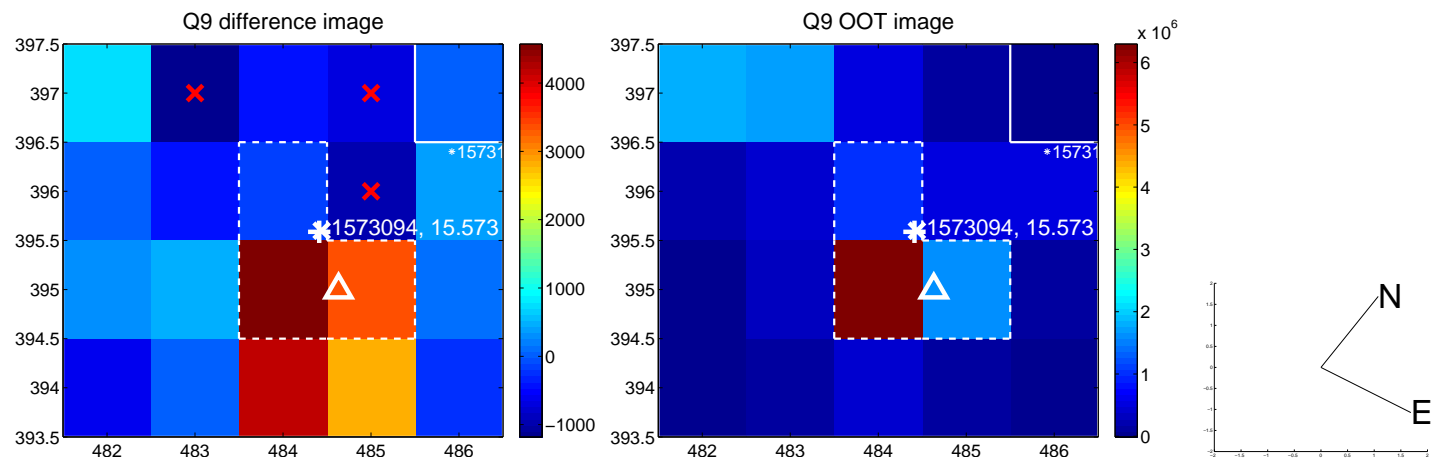
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



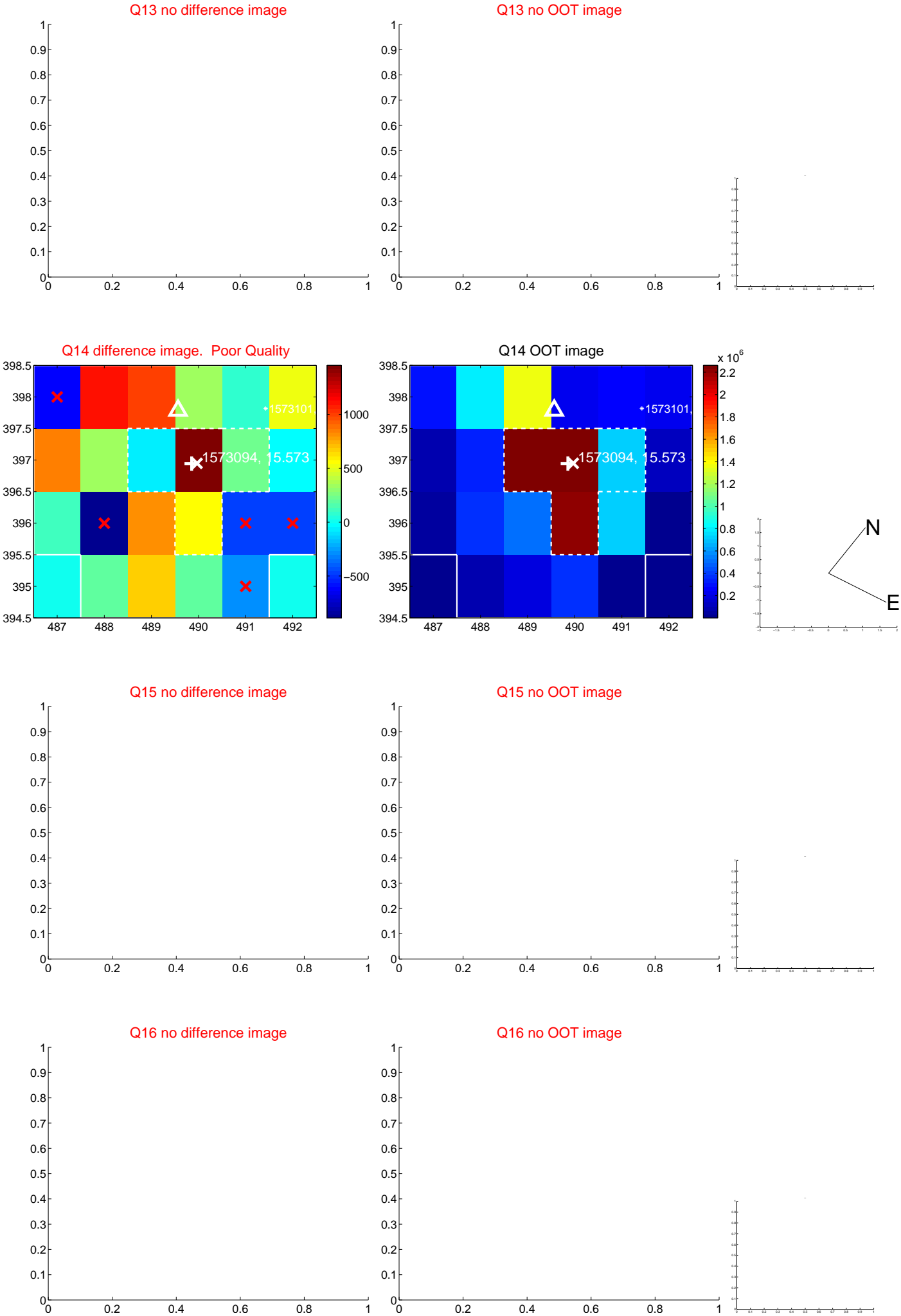
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



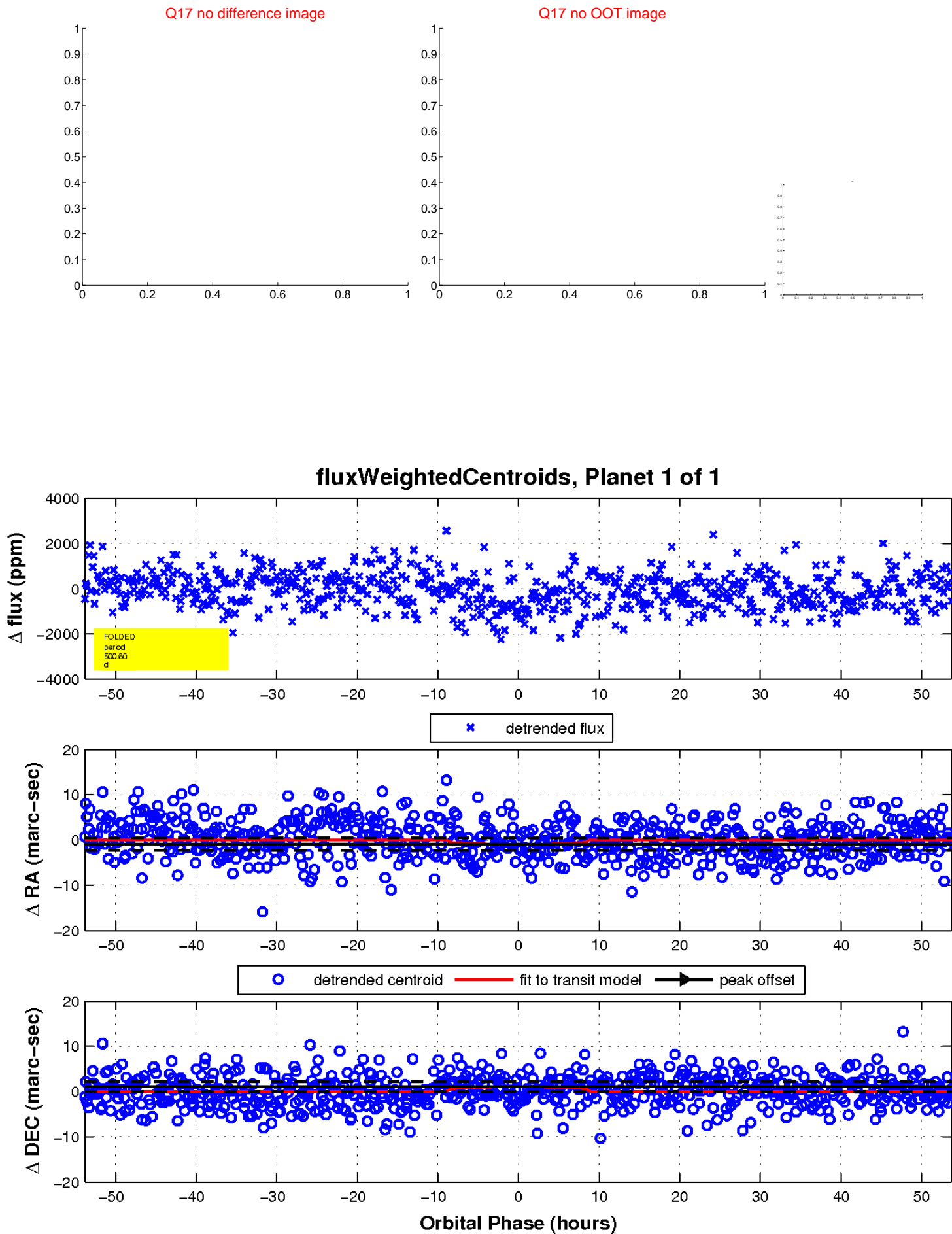
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

