

KIC 004384909

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})
004384909-01	OBS	7693.01	6.410958	132.986197	213.4	2.657	7.3	7.5	0.93	5383	1.59	146.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004384909-01	OBS	PC	0.66	0	0	0	0	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.

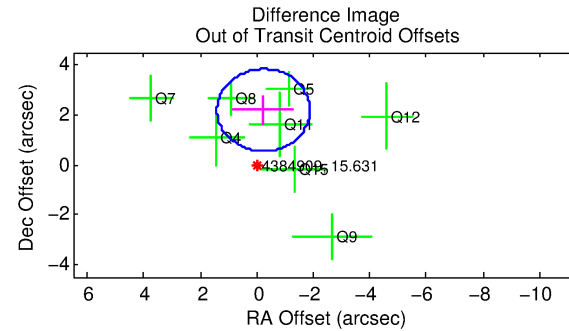
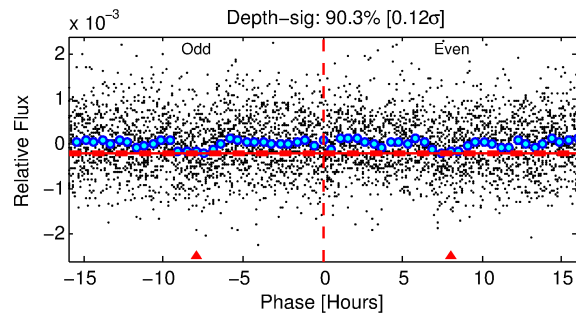
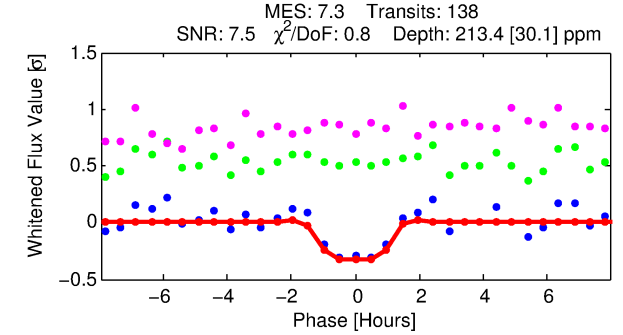
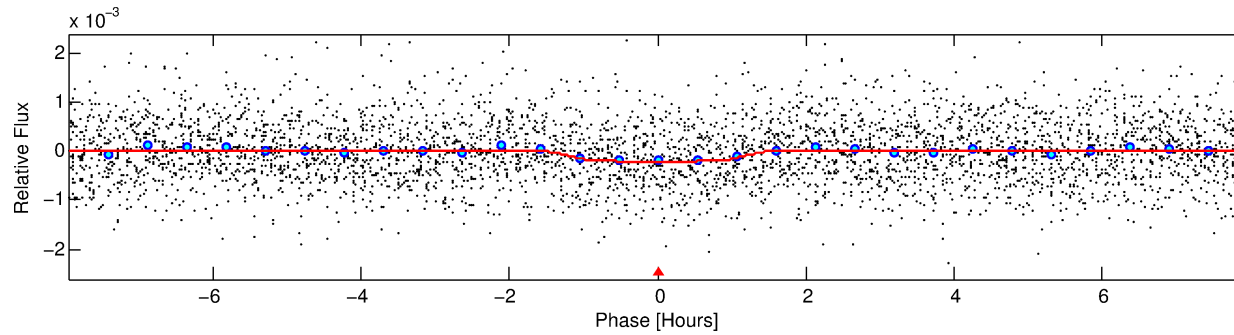
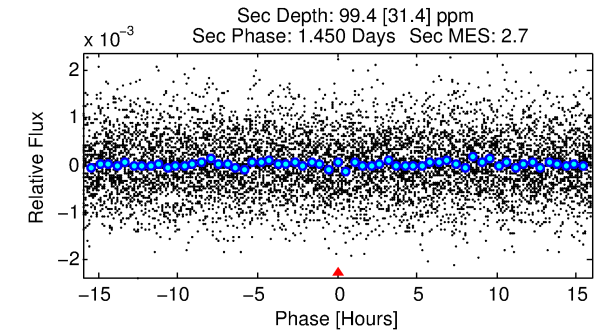
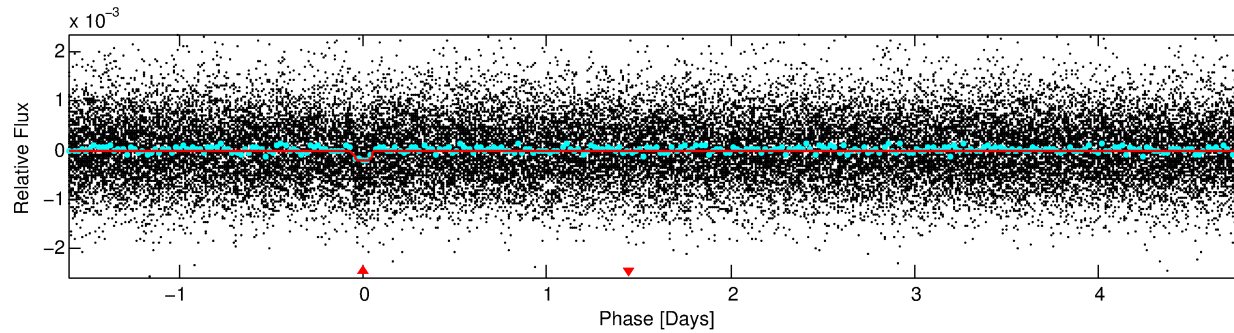
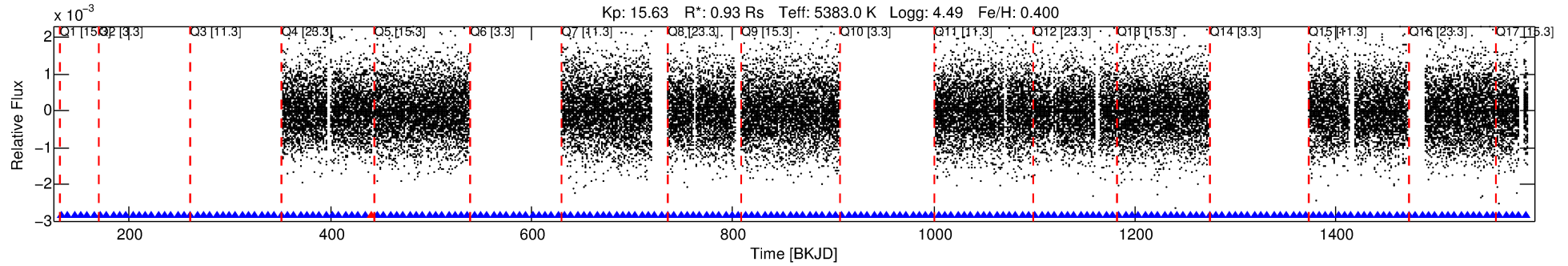
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004384909-01

No Significant Match Found

DV One-Page Summary

KIC: 4384909 Candidate: 1 of 1 Period: 6.411 d



DV Fit Results:

Period = 6.41096 [0.00006] d
Epoch = 132.9862 [0.0077] BKJD
Rp/R* = 0.0156 [0.0214]
a/R* = 9.92 [54.24]
b = 0.86 [1.68]
Seff = 146.22 [47.43]
Teq = 887 [72] K
Rp = 1.59 [2.21] Re
a = 0.0669 [0.0133] AU
Ag = 96.73 [267.74] [0.36σ]
Teffp = 4299 [2962] K [1.15σ]

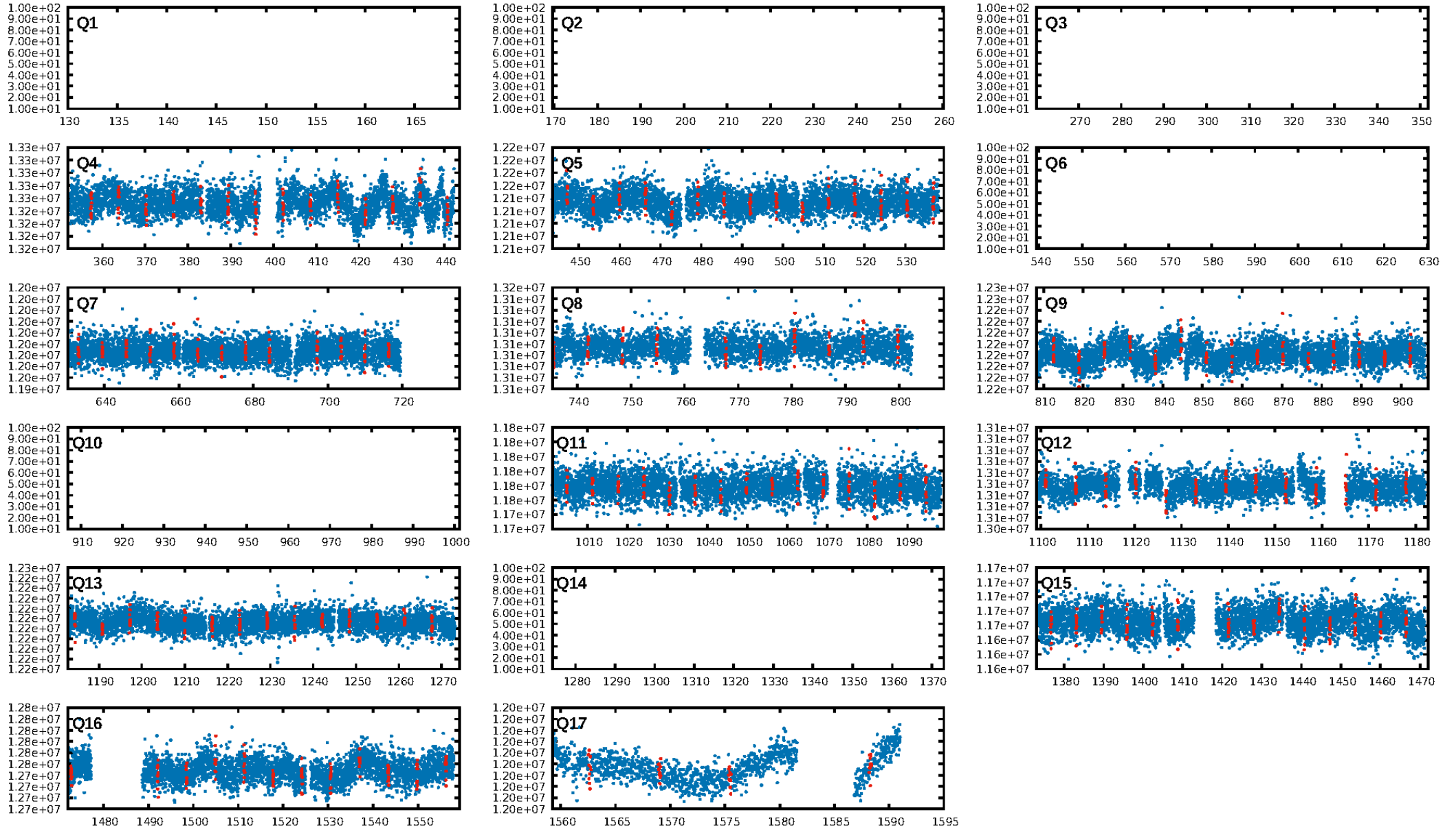
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.67e-13
RollingBand-fgt: 0.99 [133/134]
GhostDiagnostic-chr: -4.678
Centroid-sig: 0.0%
Centroid-so: 1.600 arcsec [1.07σ]
OotOffset-rm: 2.198 arcsec [4.01σ]
KicOffset-rm: 0.889 arcsec [1.38σ]
OotOffset-st: 0/3/3/2 [8]
KicOffset-st: 0/3/3/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 1.00 [11/11]

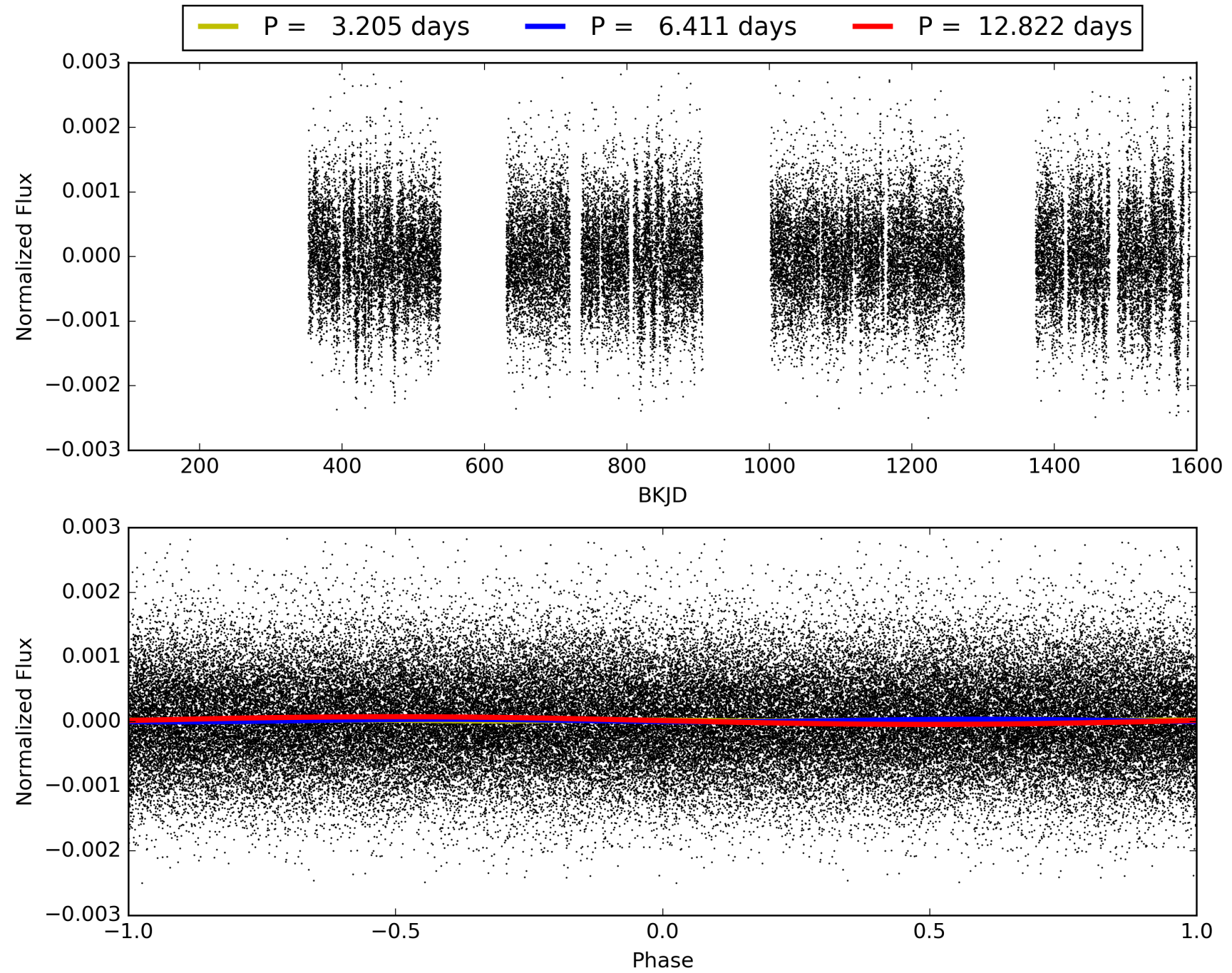
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:20:43 Z

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

TCE 004384909-01, PDC Light Curves

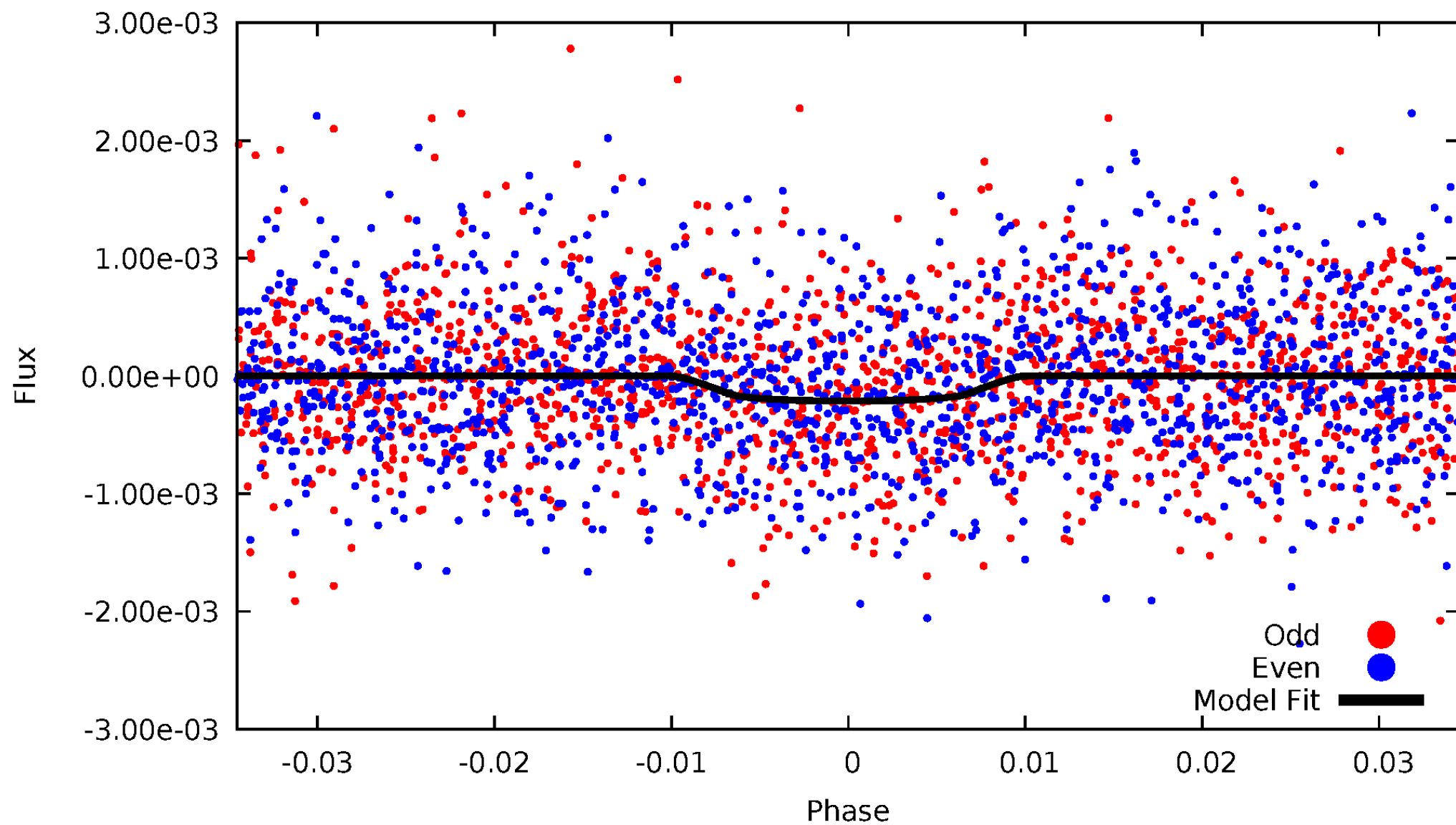


TCE 004384909-01



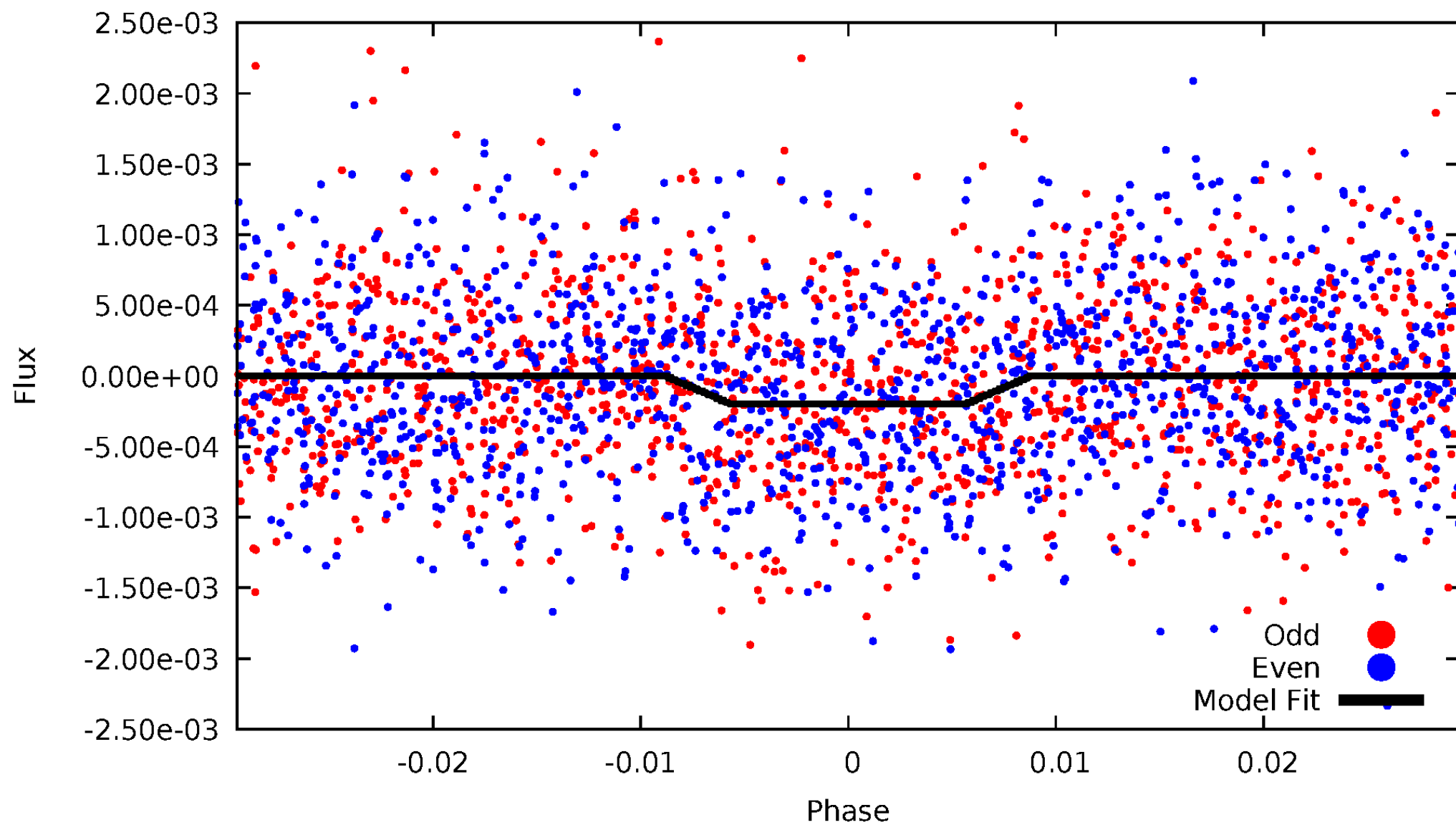
DV Odd/Even

TCE 004384909-01

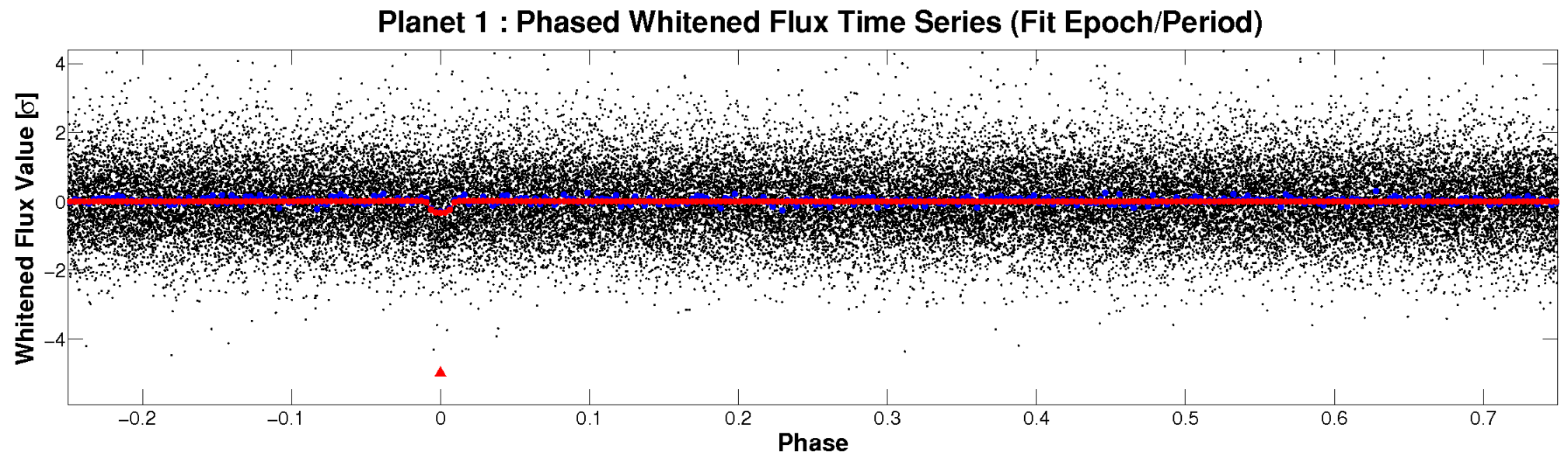
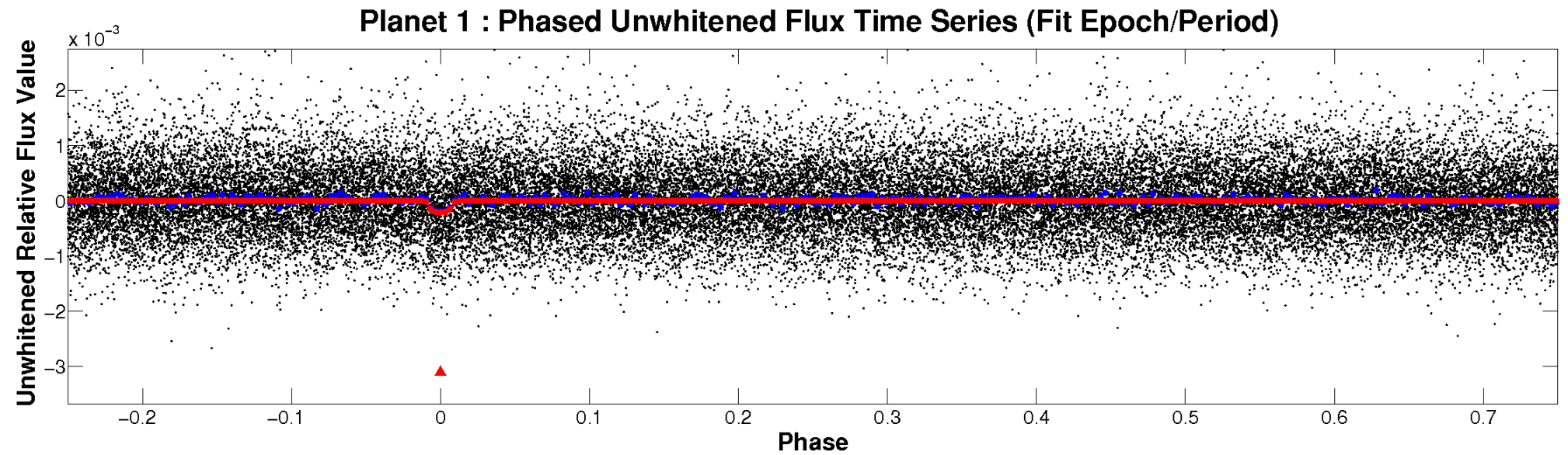


ALT Odd/Even

TCE 004384909-01

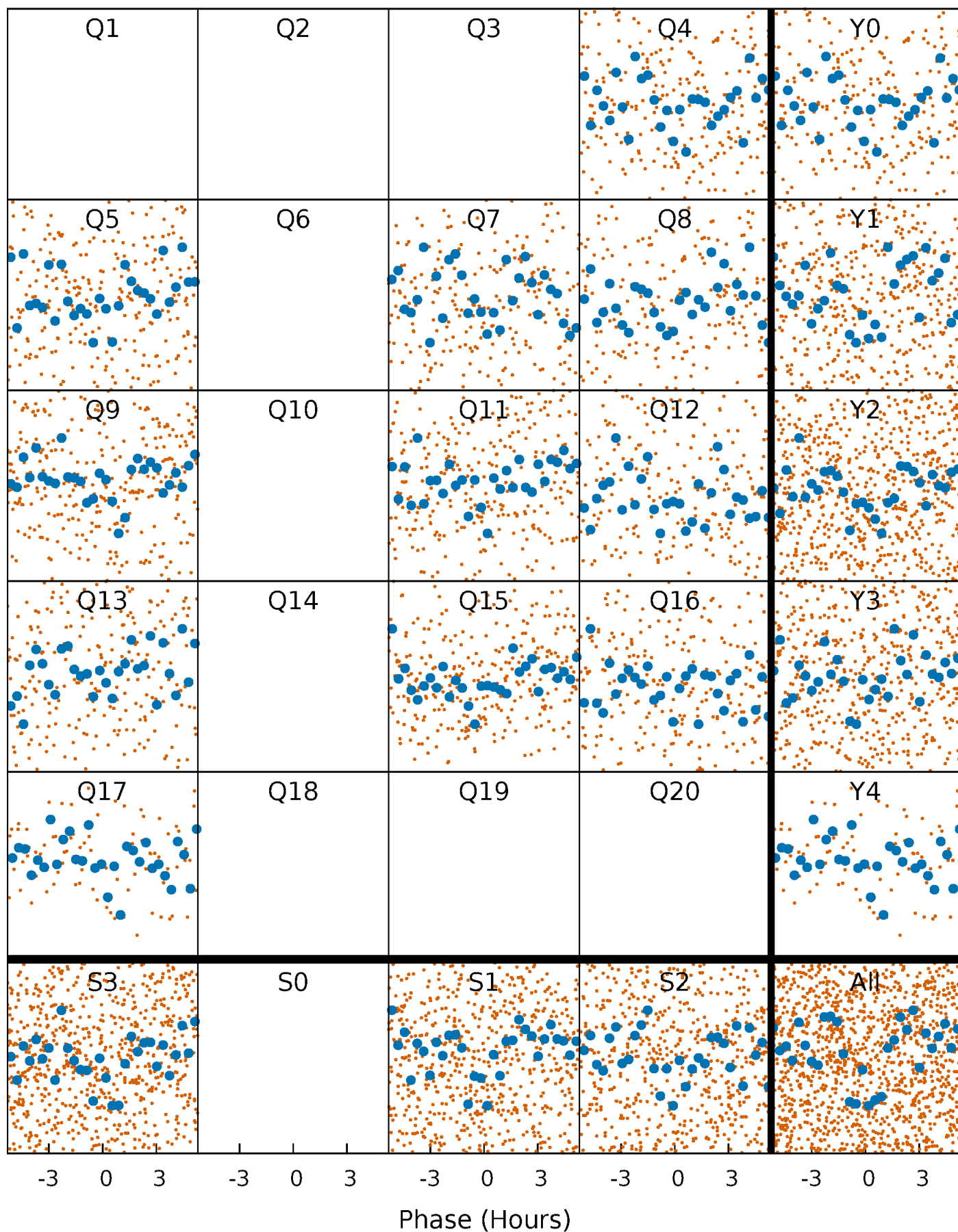


Non-Whitened Vs. Whitened Light Curve



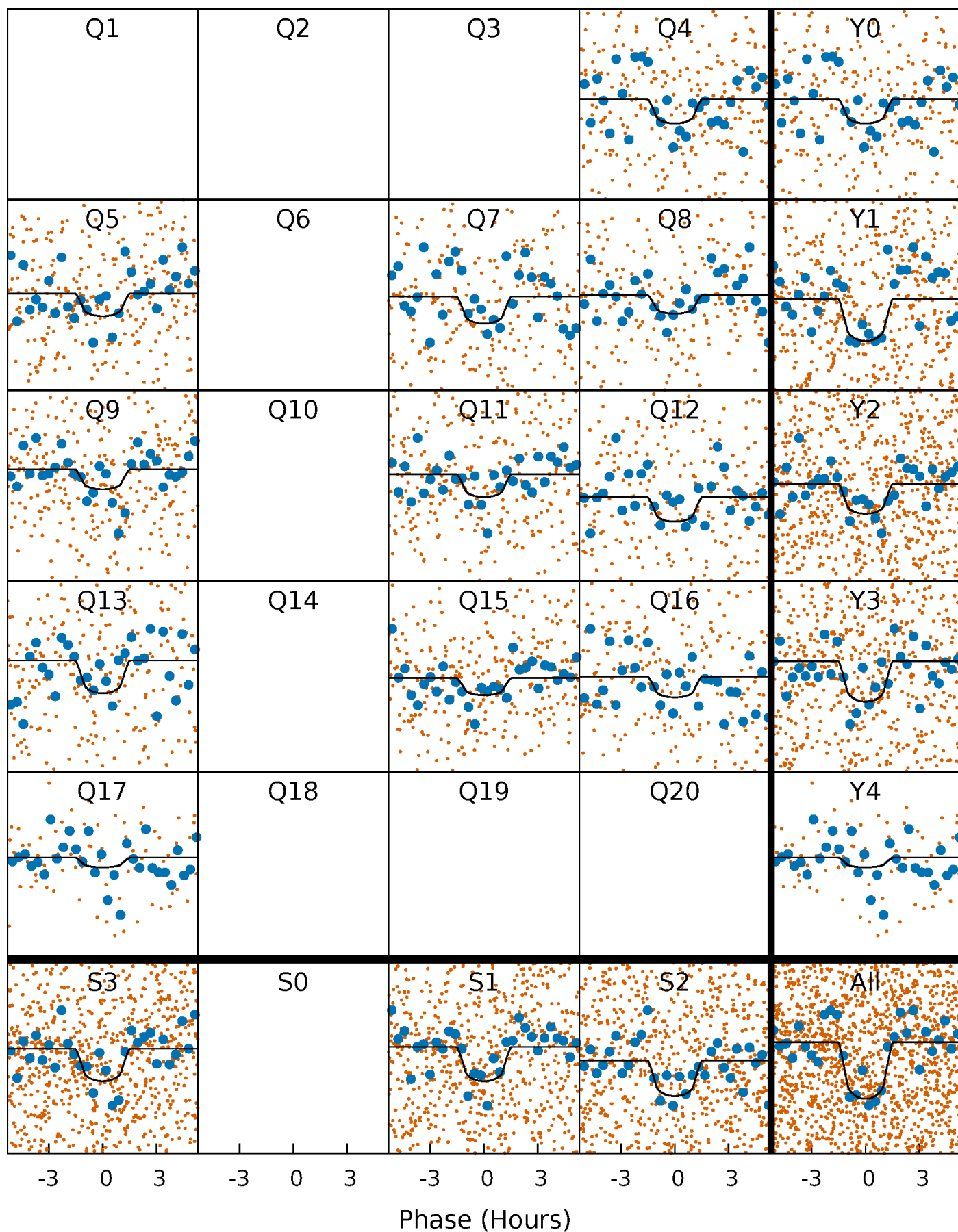
PDC Quarter-Phased Transit Curves

TCE 004384909-01 P= 6.410958 Days $T_0=132.986197$ (BKJD)



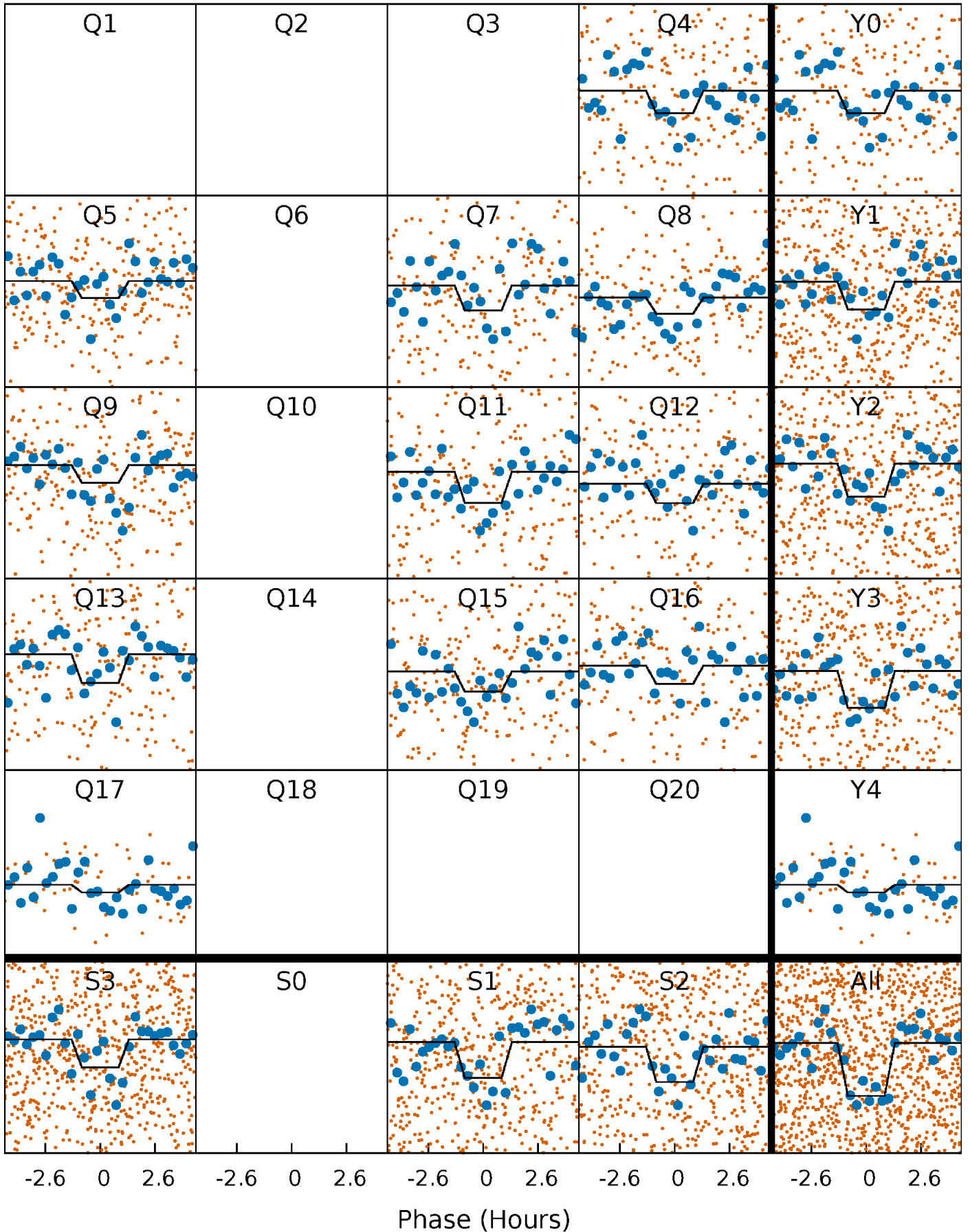
DV Quarter-Phased Transit Curves

TCE 004384909-01 P= 6.410958 Days $T_0=132.986197$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

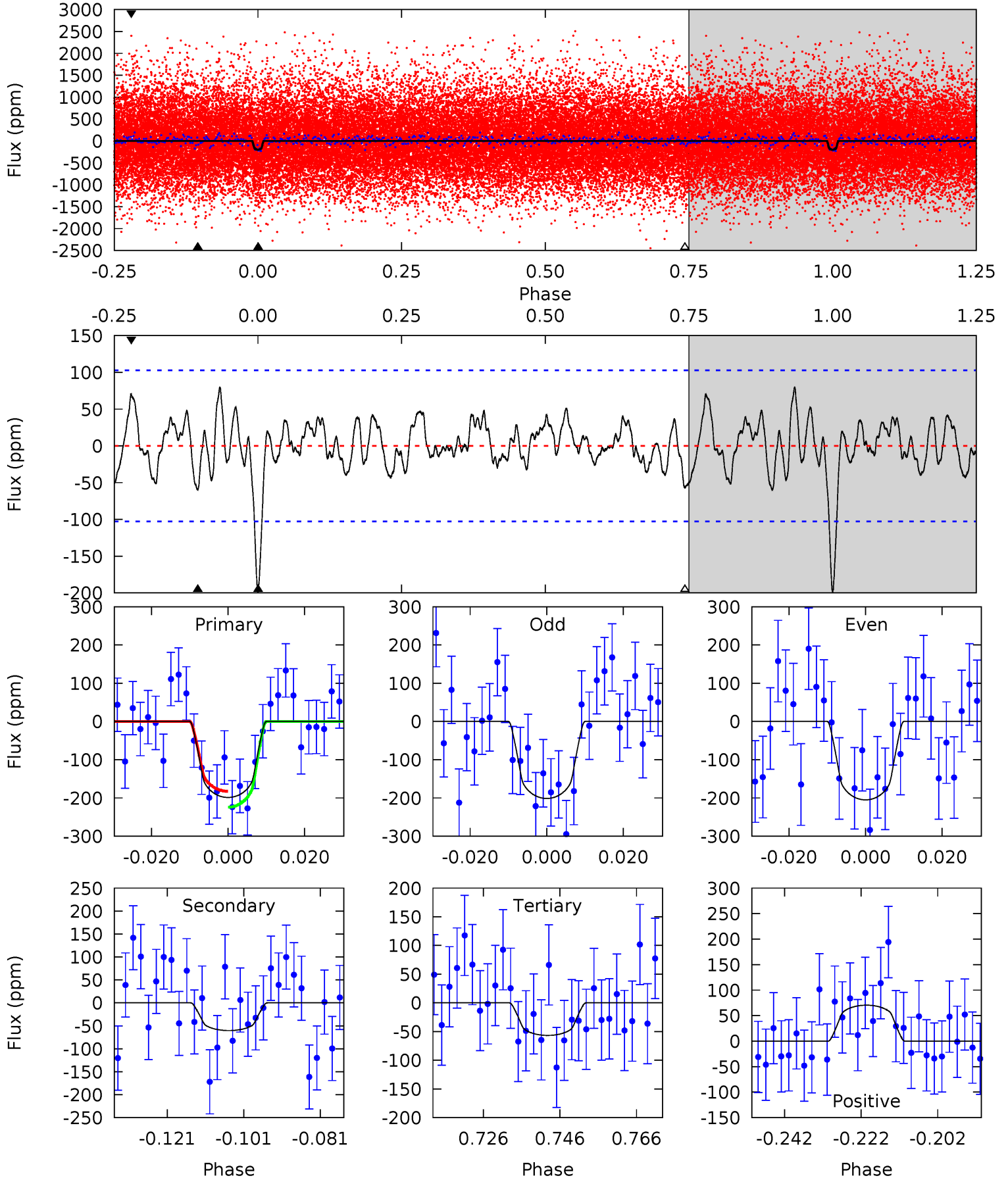
TCE 004384909-01 P= 6.410961 Days $T_0=132.982790$ (BKJD)



DV Model-Shift Uniqueness Test

004384909-01, P = 6.410958 Days, E = 132.986197 Days

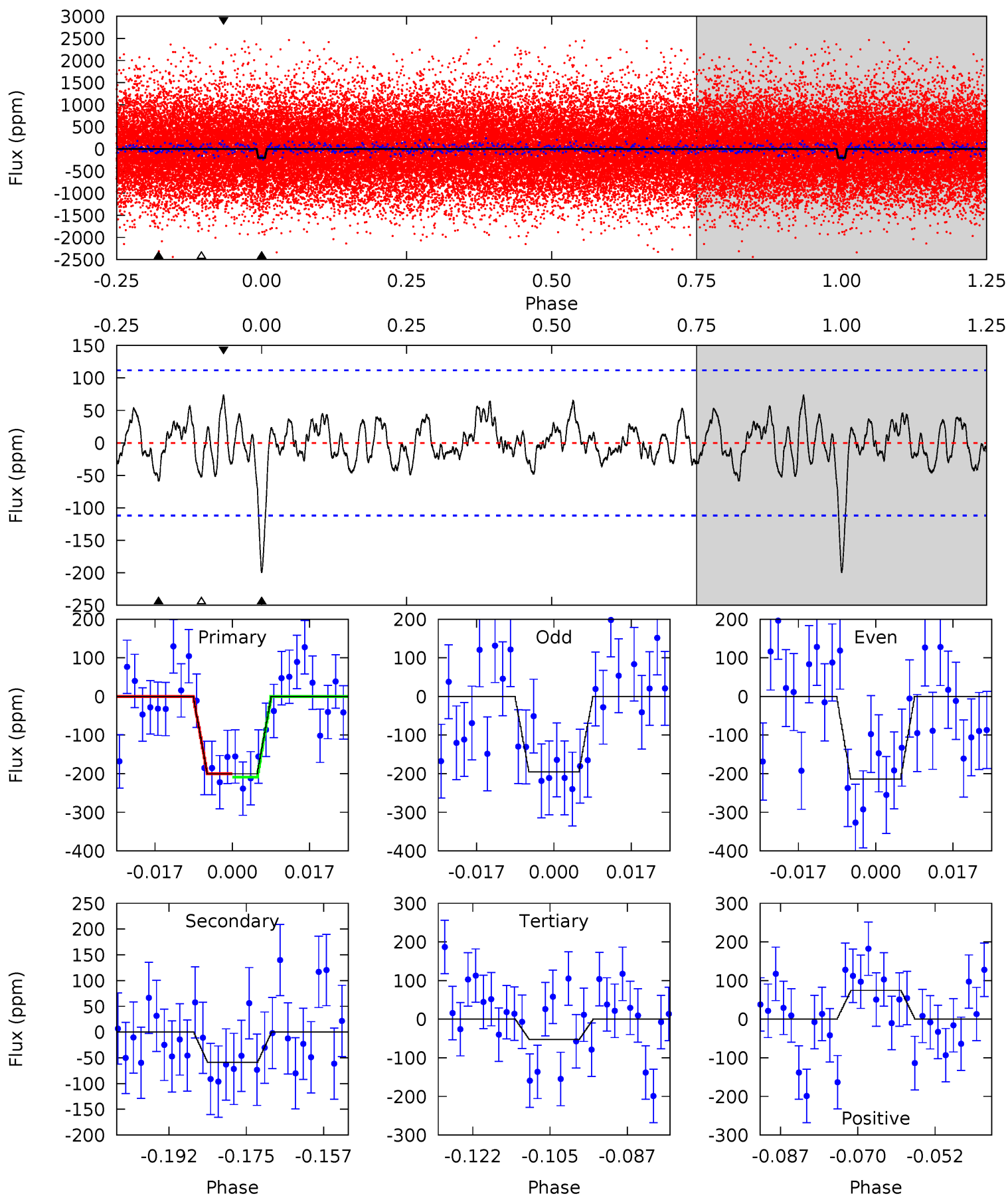
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.46	2.87	2.70	3.35	4.89	2.32	1.22	6.76	6.10	0.17	-0.48	0.09	1.02	0.29	0.99



Alt Model-Shift Uniqueness Test

004384909-01, P = 6.410961 Days, E = 132.982790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	2.59	2.32	3.28	4.92	2.38	1.11	6.49	5.53	0.27	-0.69	0.41	1.01	0.27	0.20



Stellar Parameters For KIC 004384909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5383^{+180}_{-180}	$4.486^{+0.055}_{-0.165}$	$0.400^{+0.050}_{-0.300}$	$0.933^{+0.213}_{-0.091}$	$0.972^{+0.074}_{-0.090}$	$1.684^{+0.460}_{-0.725}$
	+3%/-3%	+1%/-4%	+12%/-75%	+23%/-10%	+8%/-9%	+27%/-43%
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 004384909-01 / KOI 7693.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-60 ± 21	$2.19^{+2.00}_{-1.35}$	1257^{+79}_{-60}	3612^{+1708}_{-629}	27^{+202}_{-20}
Alt.	-59 ± 23	$2.21^{+1.87}_{-1.39}$	1252^{+81}_{-55}	3587^{+1740}_{-636}	27^{+190}_{-20}

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

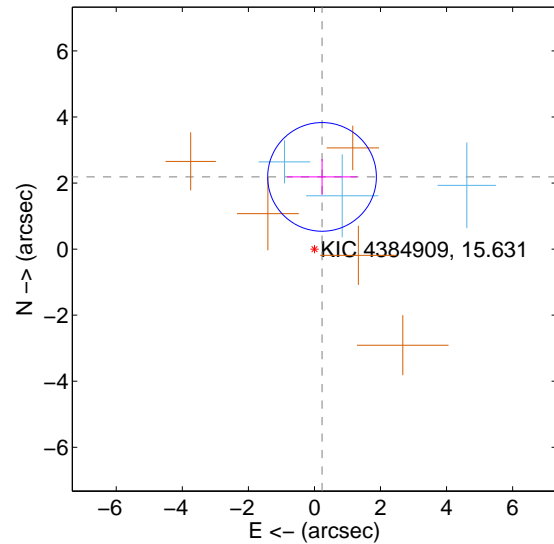
Supplemental centroid analysis for 004384909-01. Kepler magnitude: 15.63. Transit SNR 7.53

There are 3 quarters with good PRF difference image offsets

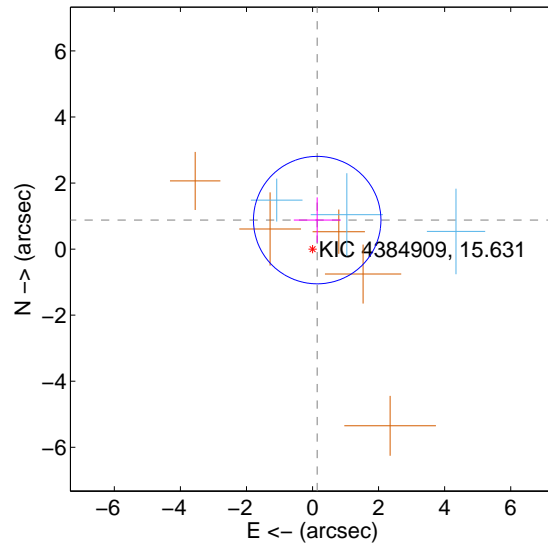
The direct PRF centroid is offset from the target star catalog position by about 0.60 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.198 ± 0.548	4.01	-0.230 ± 1.061	2.186 ± 0.540
PRF-fit source offset from KIC position	0.889 ± 0.643	1.38	-0.141 ± 0.708	0.878 ± 0.686
photometric centroid source offset	1.60 ± 1.50	1.07	-0.29 ± 1.30	1.57 ± 1.51

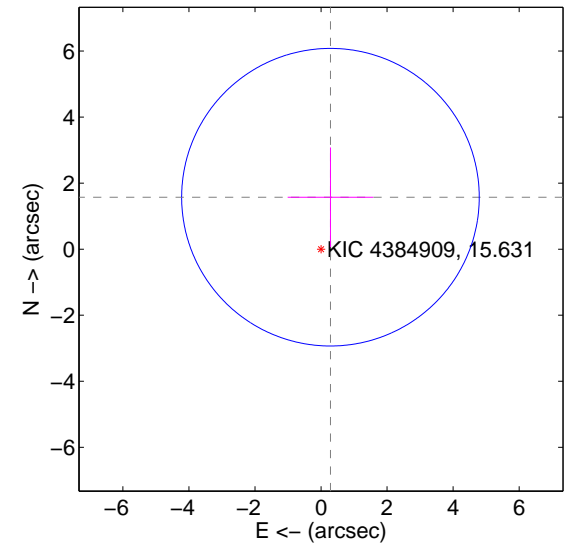
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

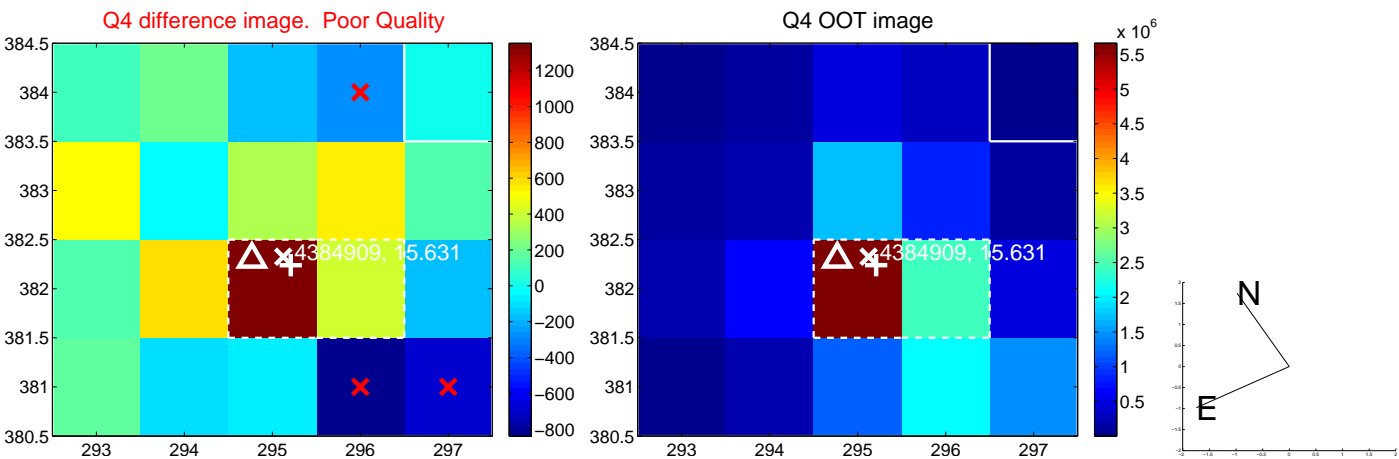
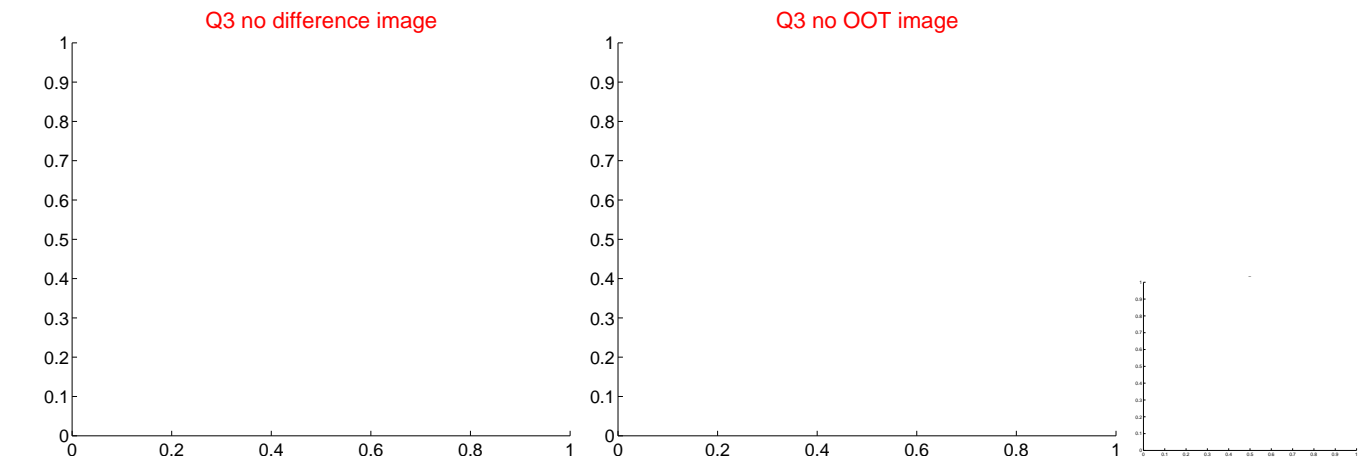
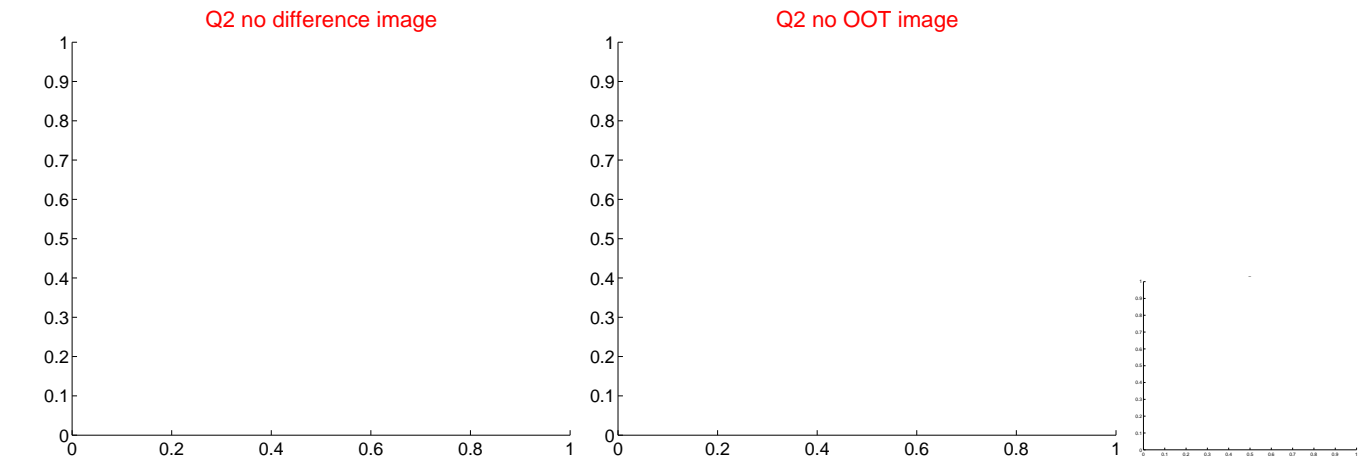
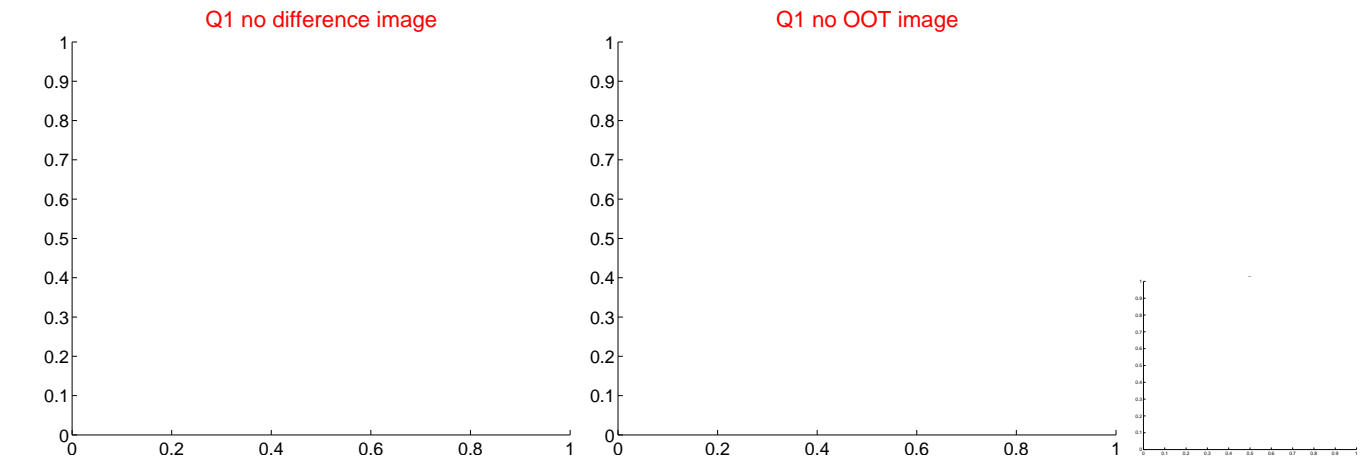


offset from photometric centroids

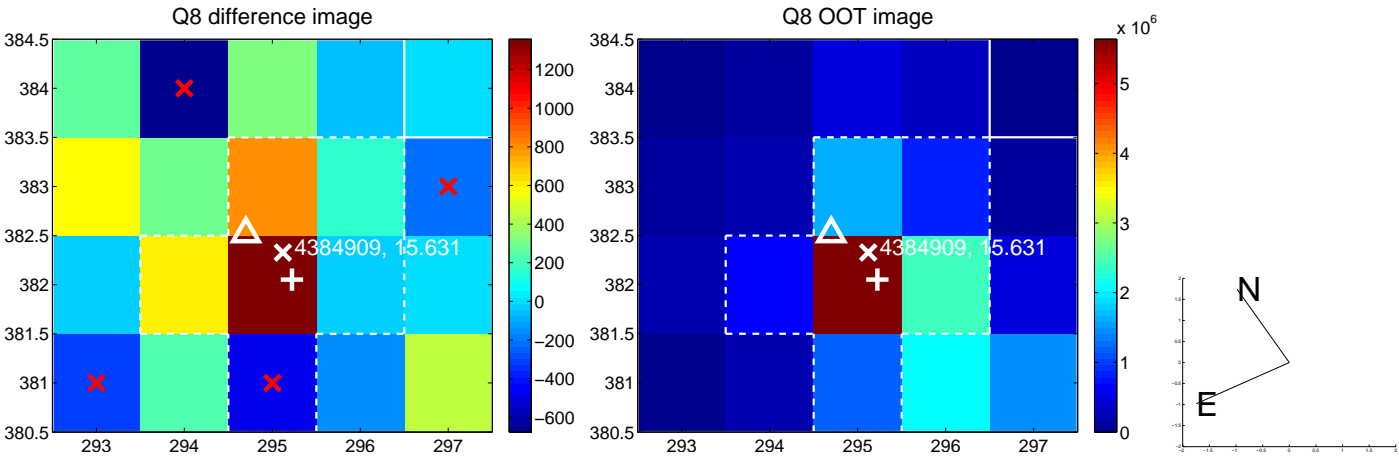
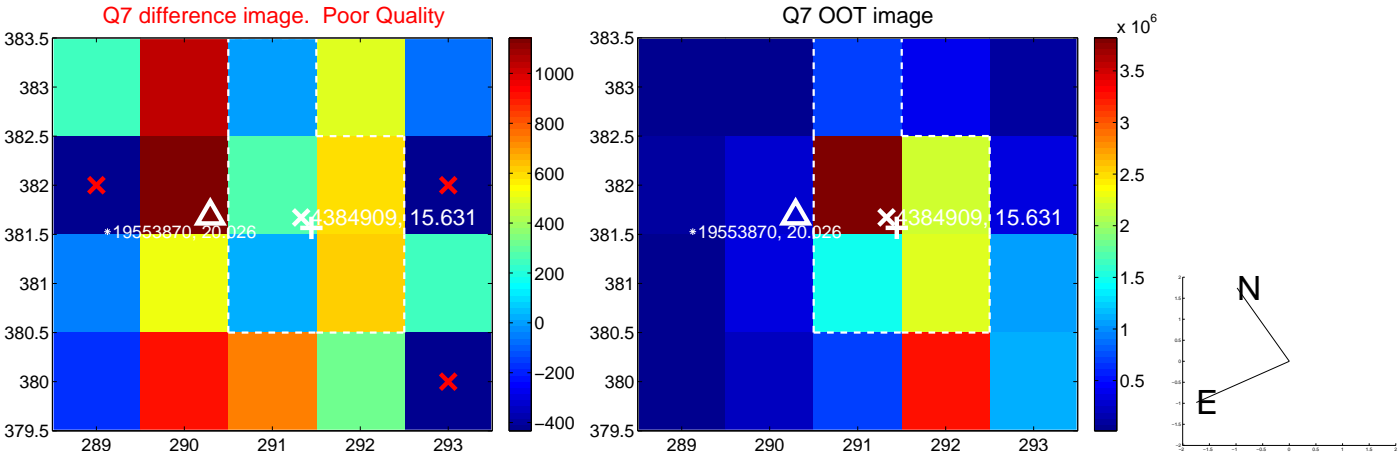
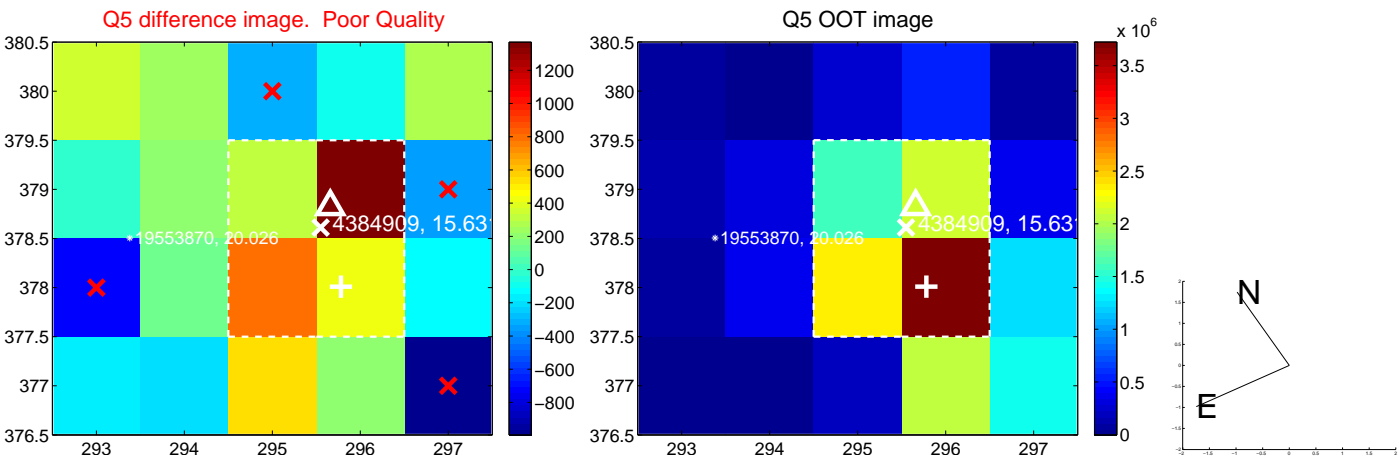


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

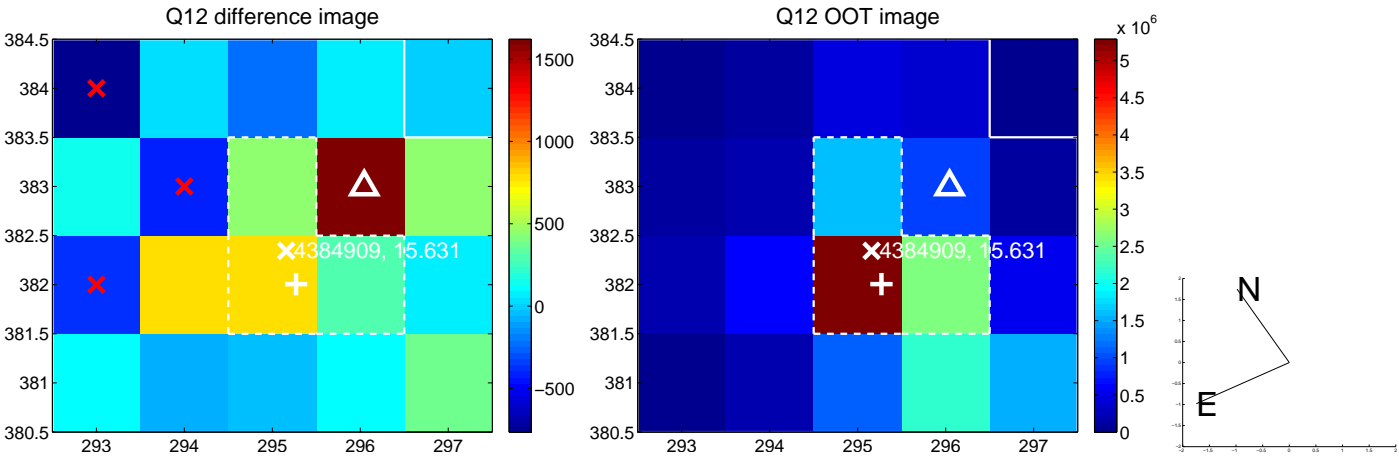
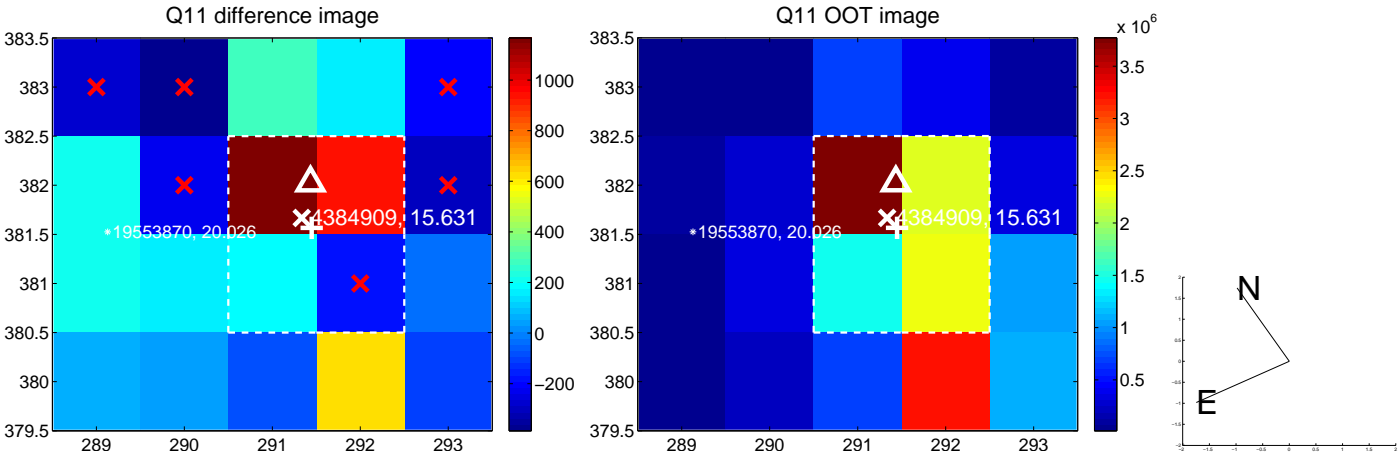
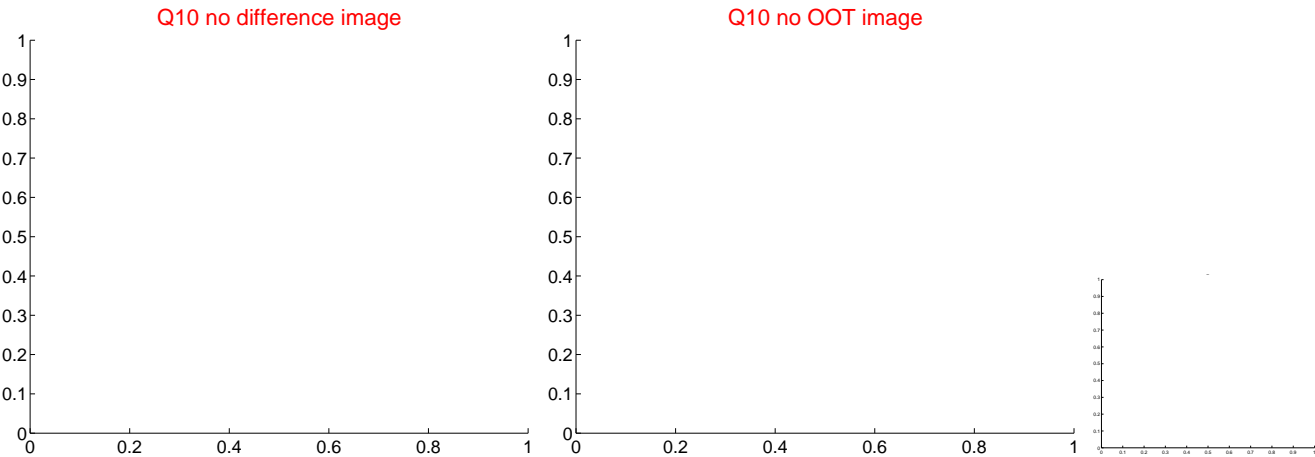
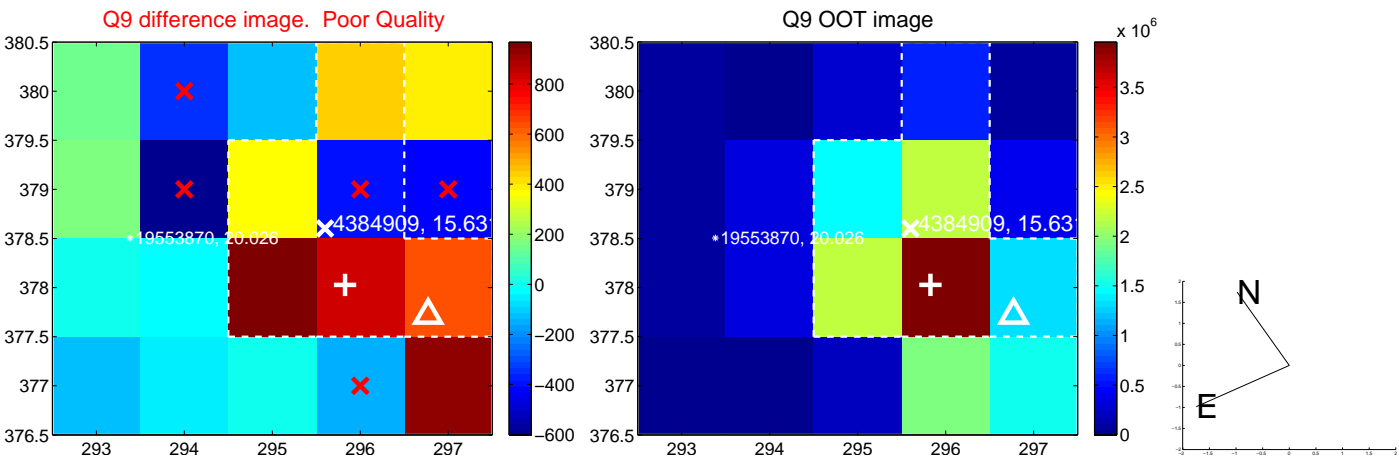
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



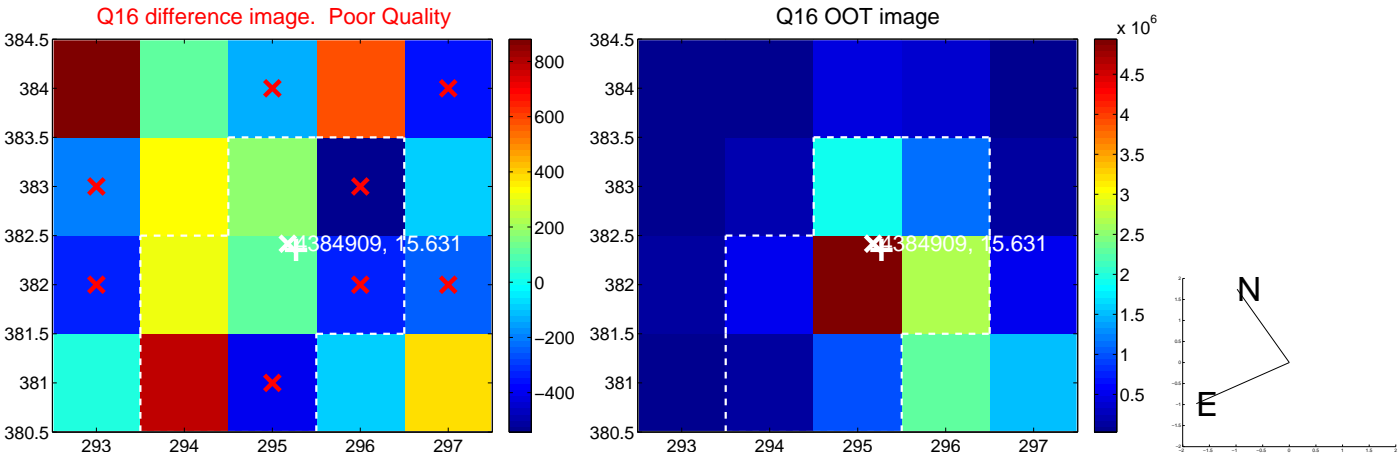
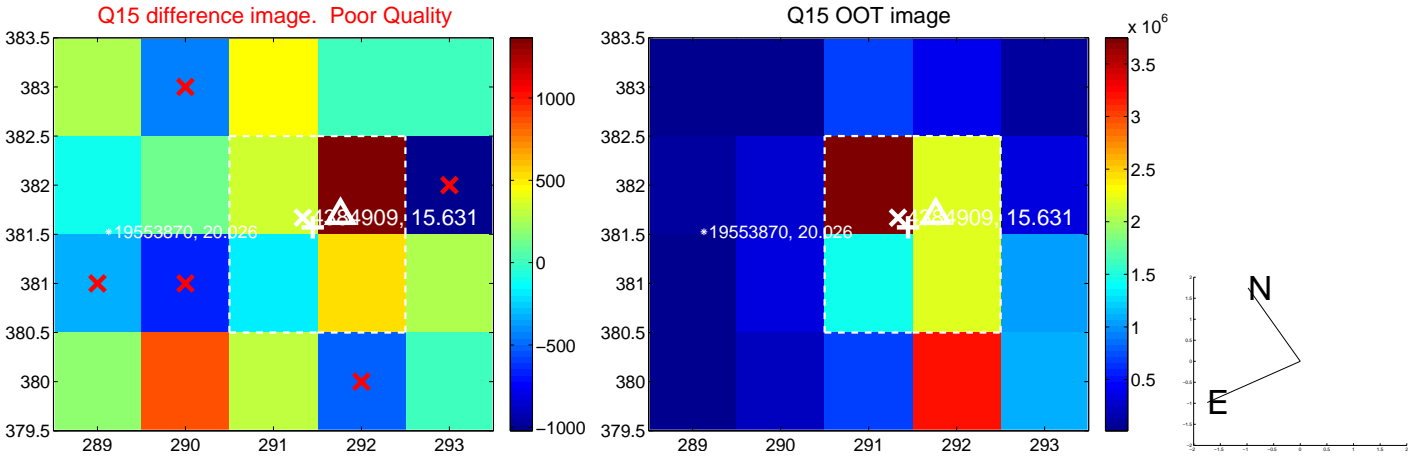
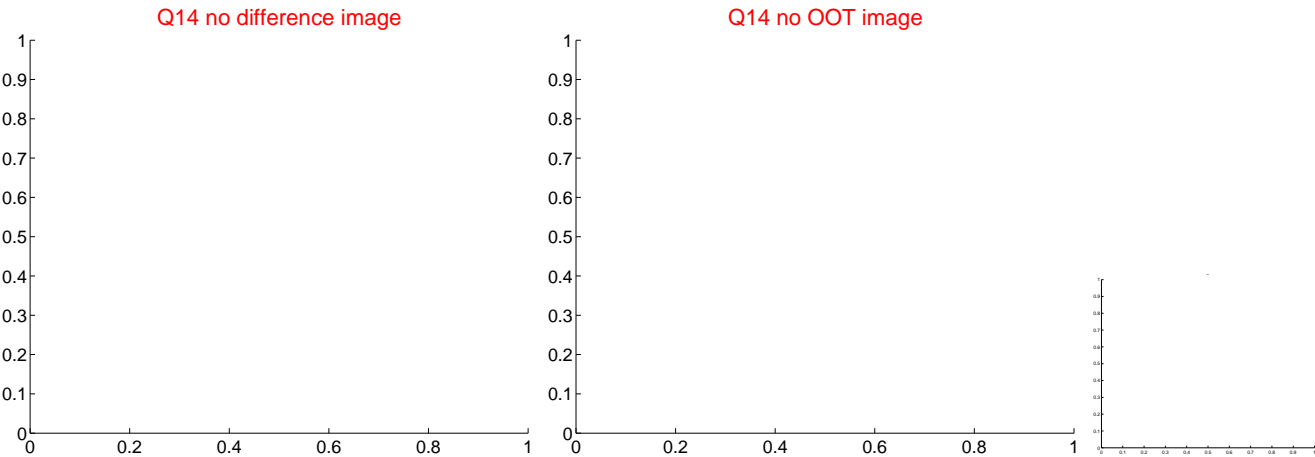
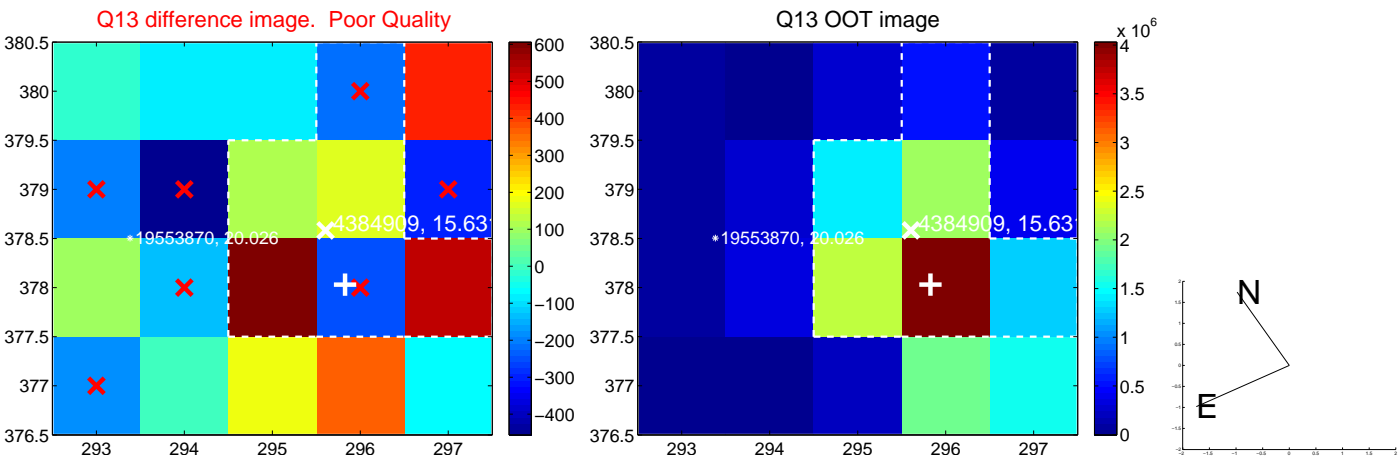
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



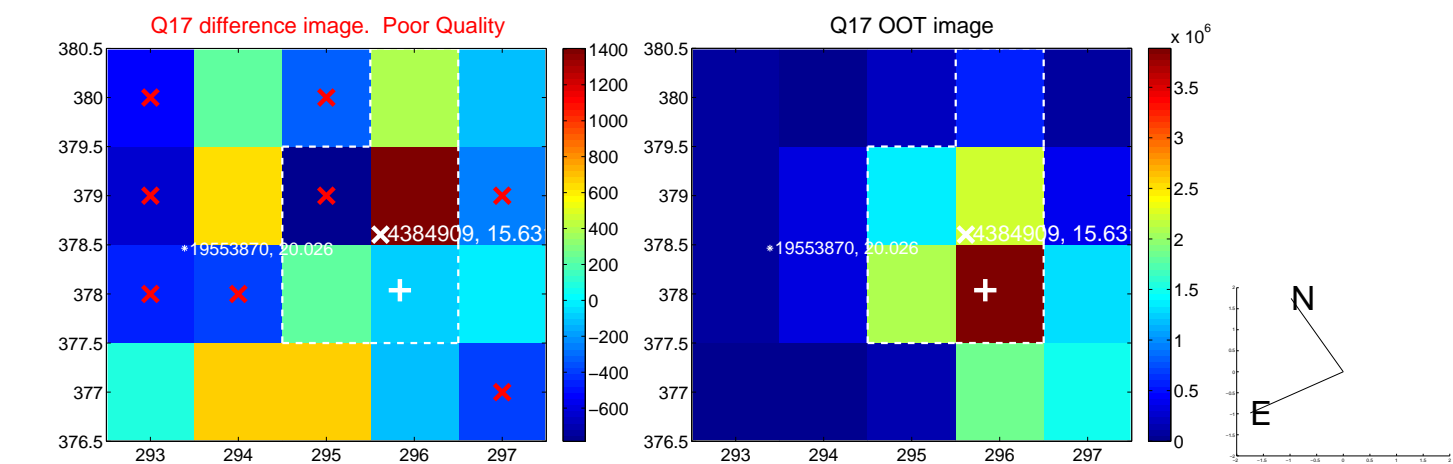
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



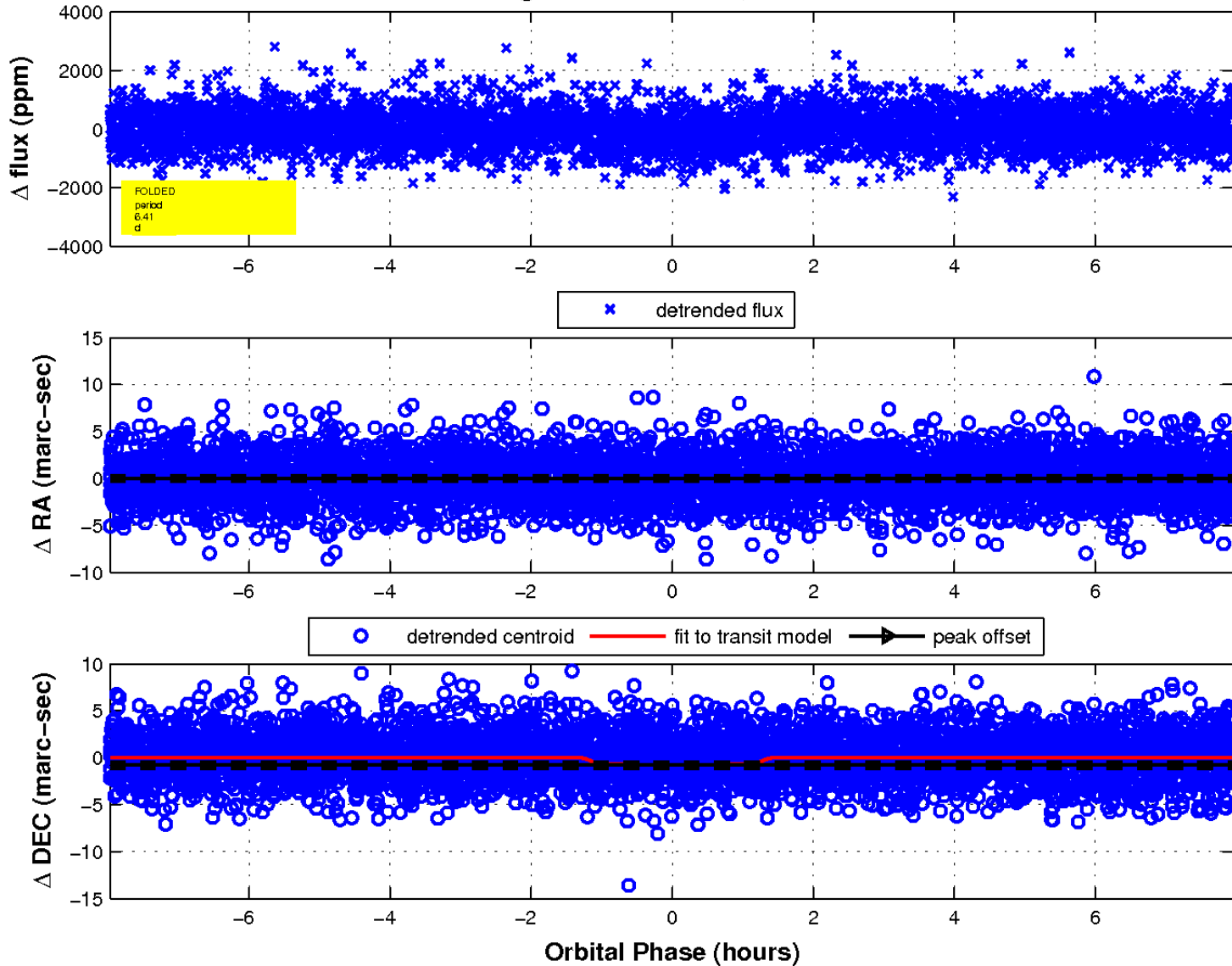
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

