

KIC 004730442

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})
004730442-01	OBS	7702.01	1.710511	131.657977	33.8	1.200	8.1	8.7	1.59	5925	0.96	3821.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004730442-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

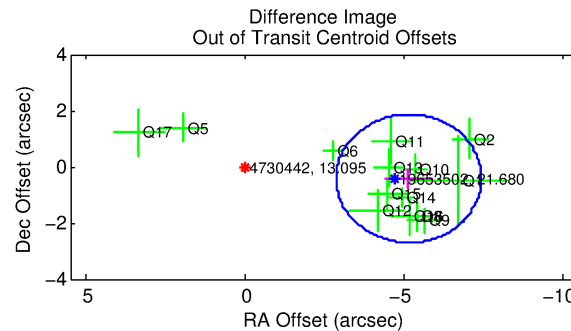
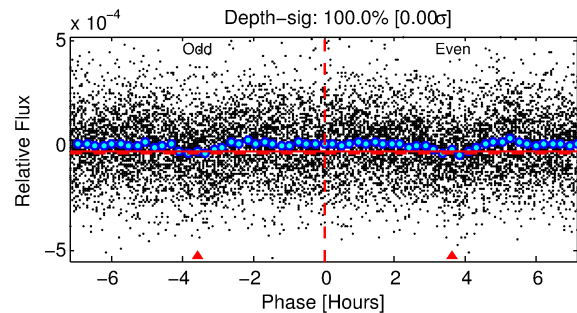
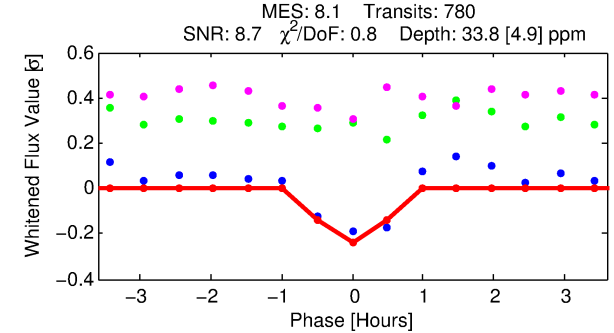
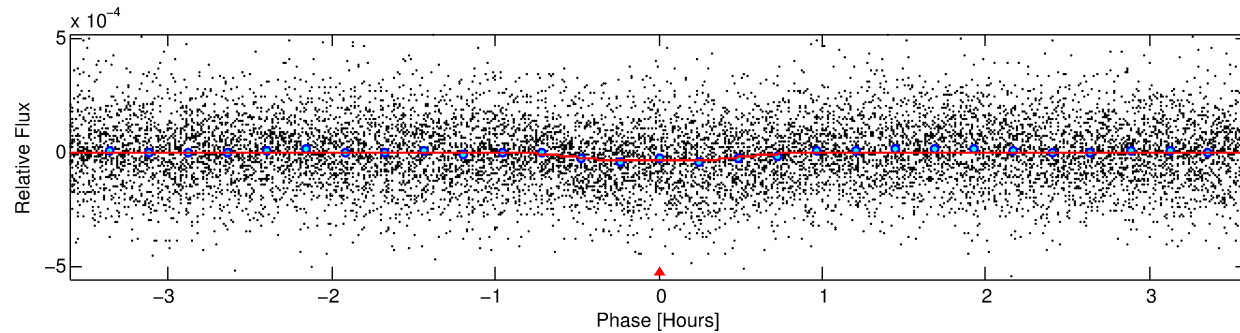
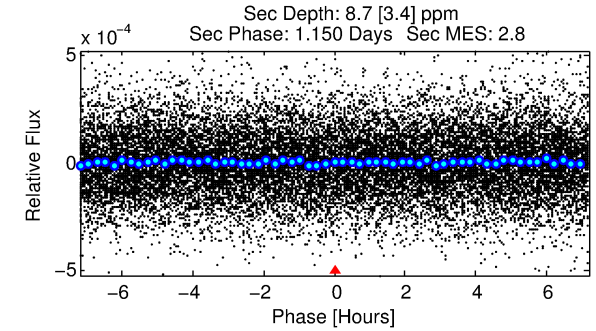
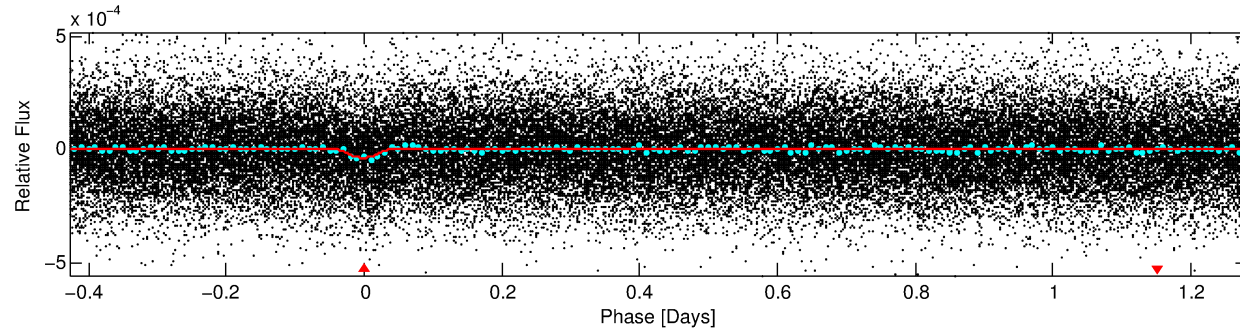
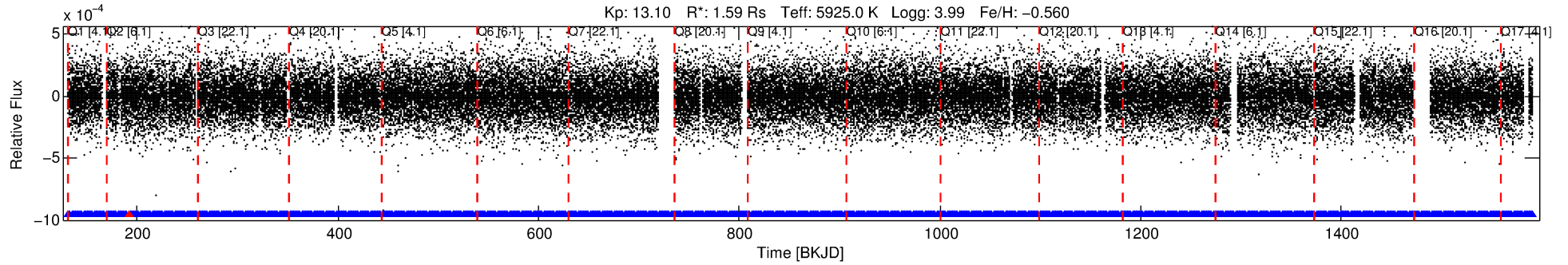
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004730442-01

No Significant Match Found

DV One-Page Summary

KIC: 4730442 Candidate: 1 of 1 Period: 1.711 d



DV Fit Results:

Period = 1.71051 [0.00001] d
Epoch = 131.6580 [0.0024] BKJD
Rp/R* = 0.0055 [0.0022]
a/R* = 9.55 [18.93]
b = 0.50 [3.05]
Seff = 3821.46 [3158.06]
Teq = 2005 [414] K
Rp = 0.96 [0.58] Re
a = 0.0270 [0.0130] AU
Ag = 3.83 [4.66] [0.61σ]
Teffp = 4336 [989] K [2.17σ]

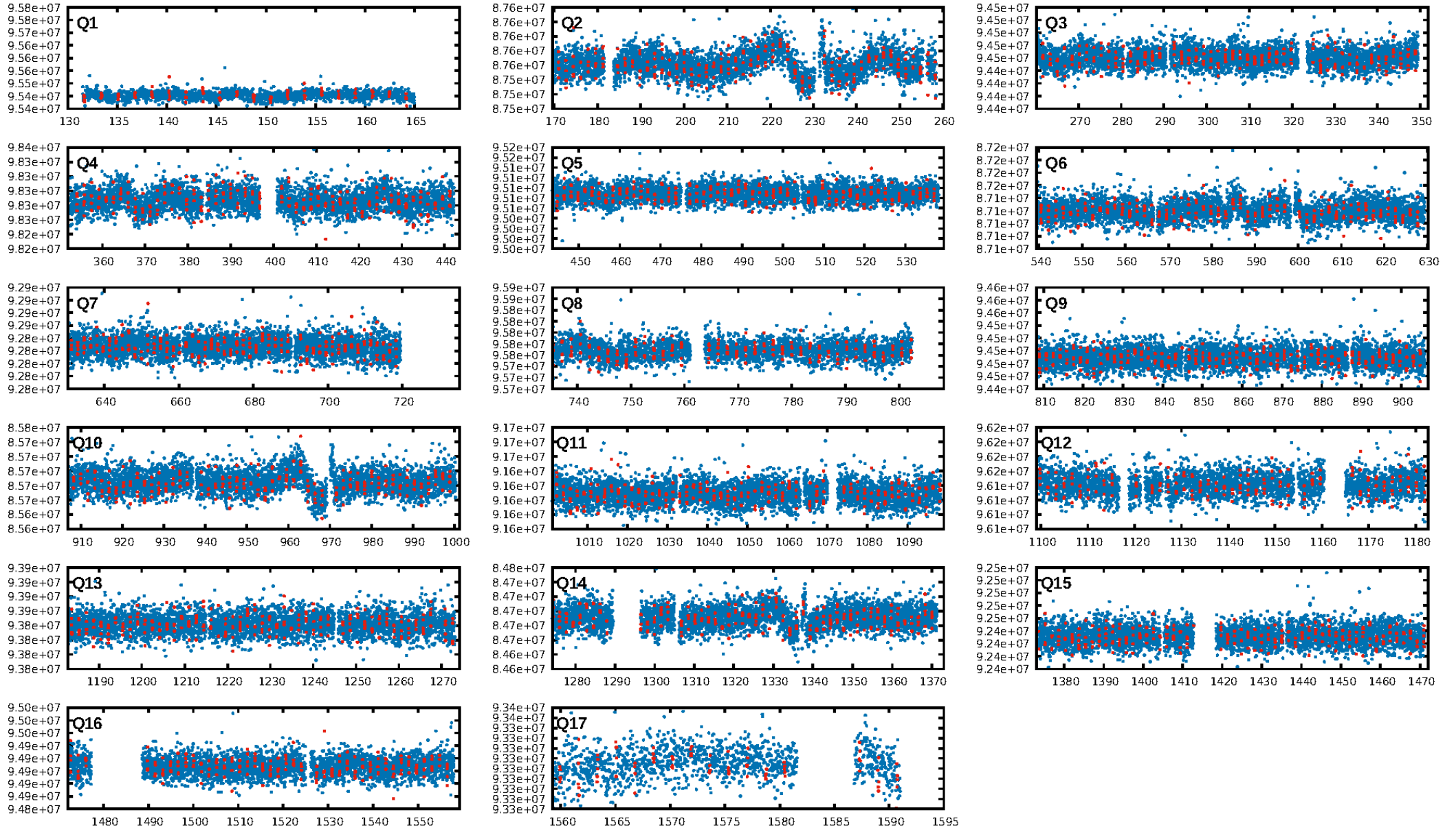
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.29e-15
RollingBand-fgt: 1.00 [743/744]
GhostDiagnostic-chr: 0.4083
Centroid-sig: 0.0%
Centroid-so: 7.814 arcsec [5.52σ]
OotOffset-rm: 5.160 arcsec [6.78σ]
KicOffset-rm: 5.195 arcsec [6.33σ]
OotOffset-st: 4/2/3/5 [14]
KicOffset-st: 4/2/3/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

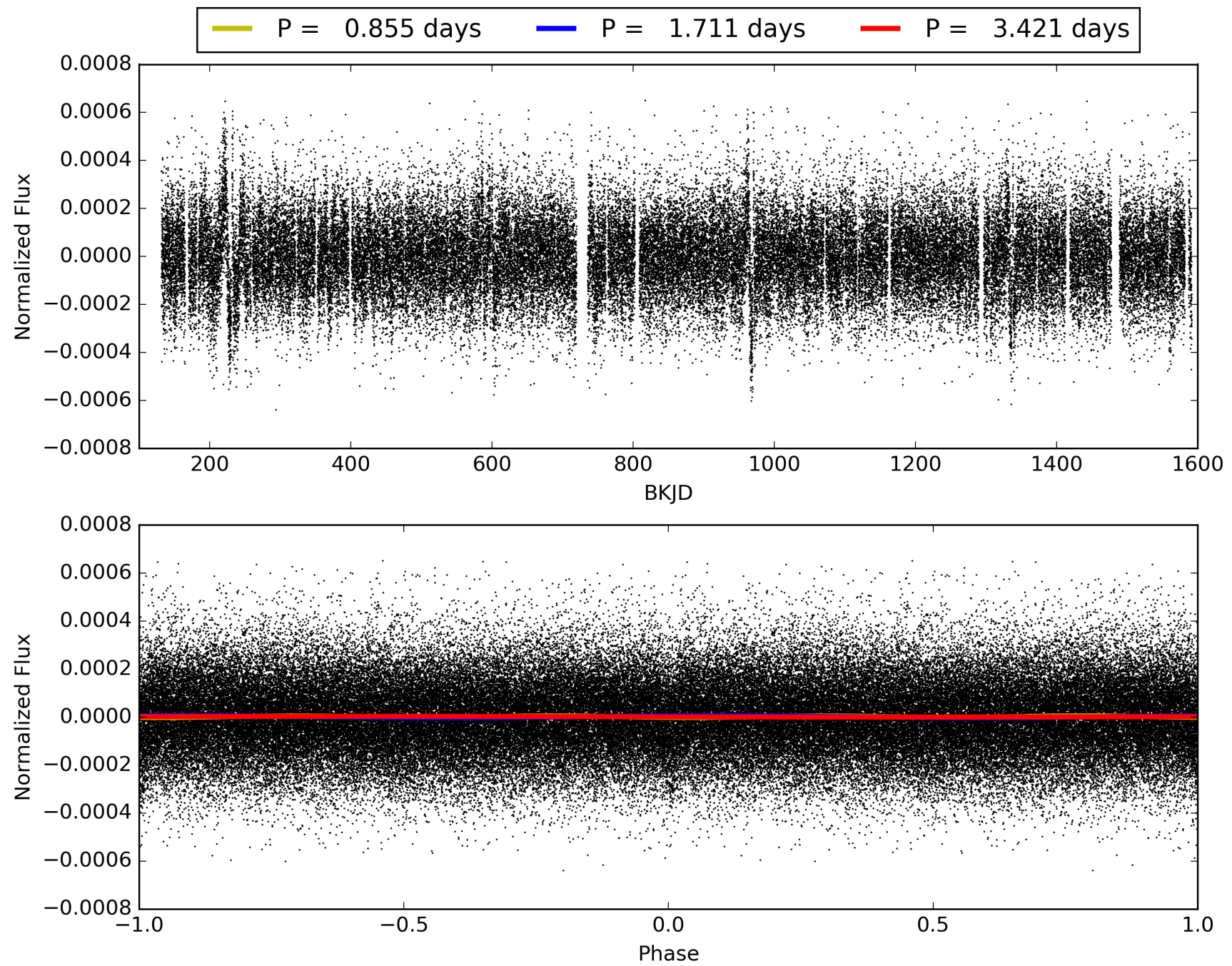
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:25:19 Z

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

TCE 004730442-01, PDC Light Curves

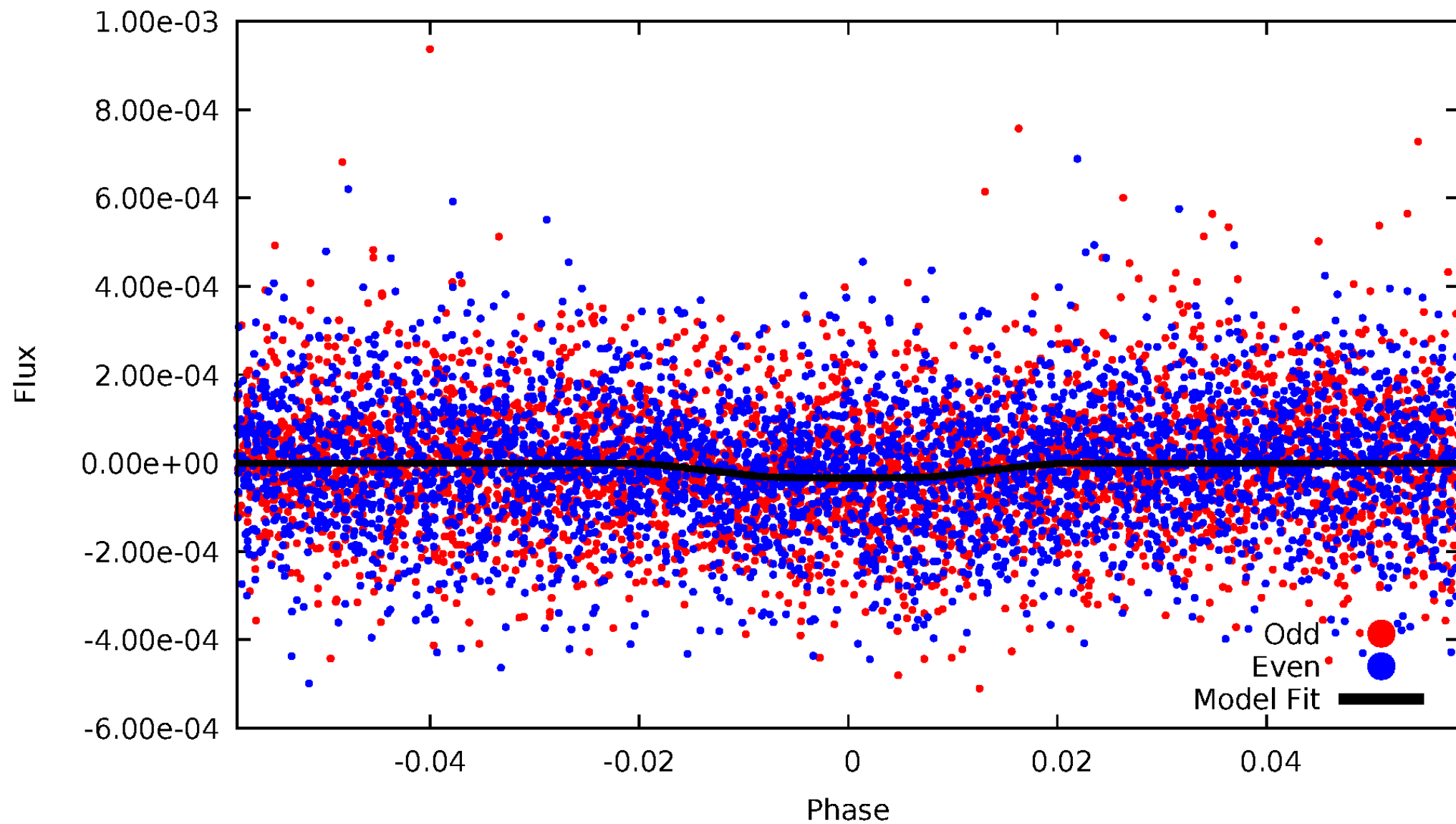


TCE 004730442-01



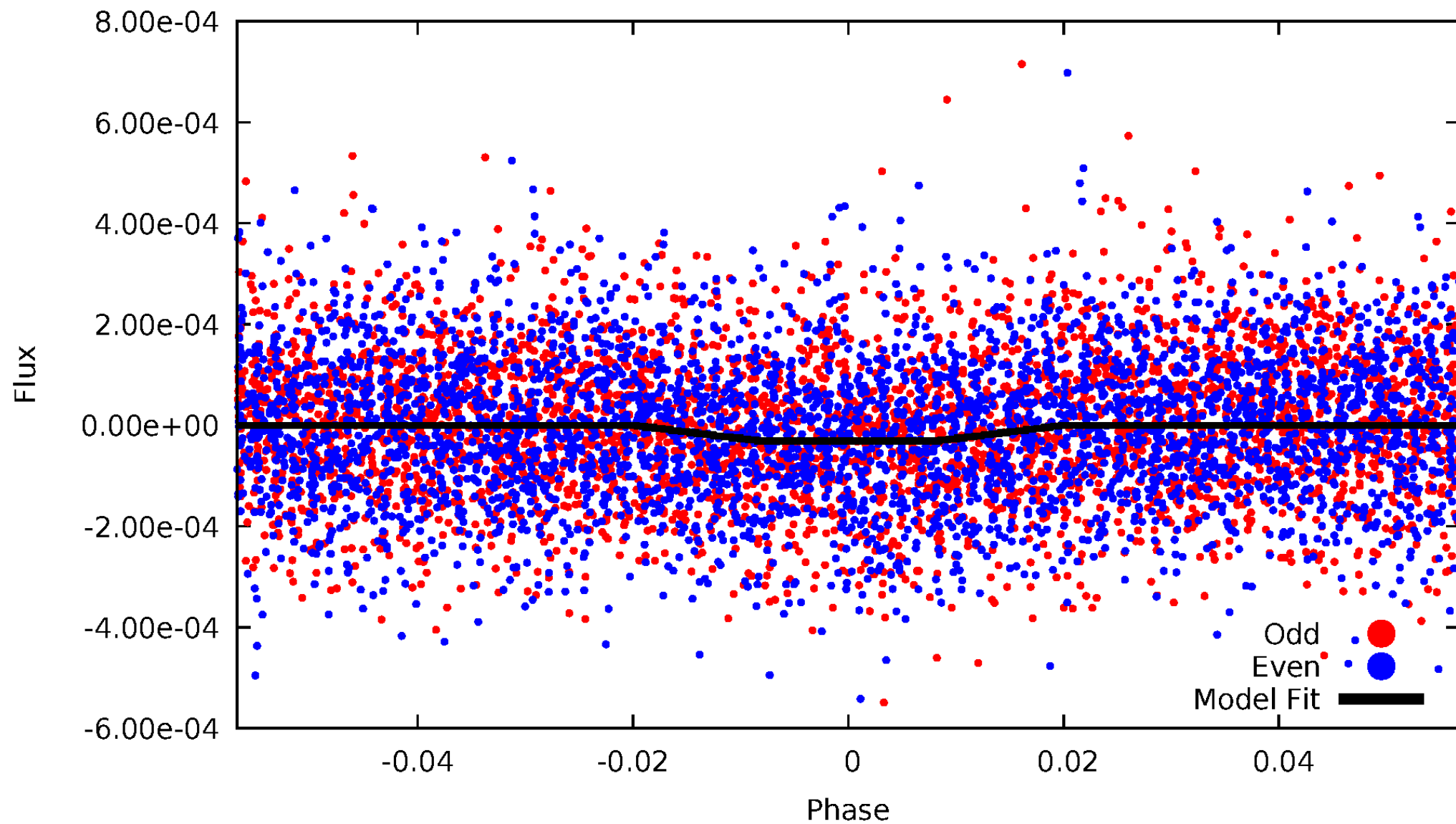
DV Odd/Even

TCE 004730442-01



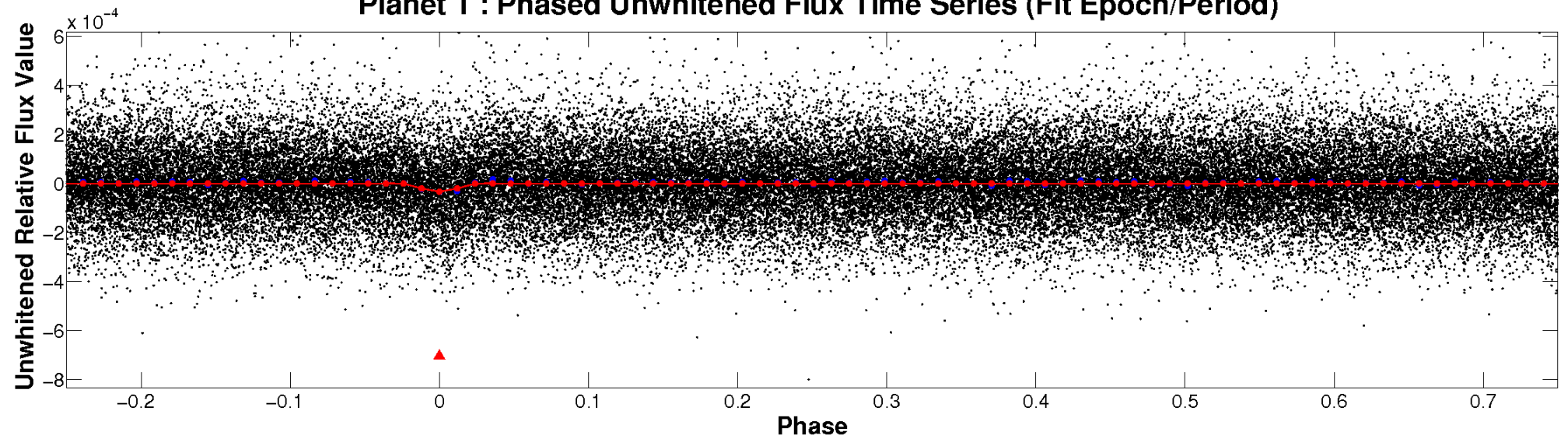
ALT Odd/Even

TCE 004730442-01

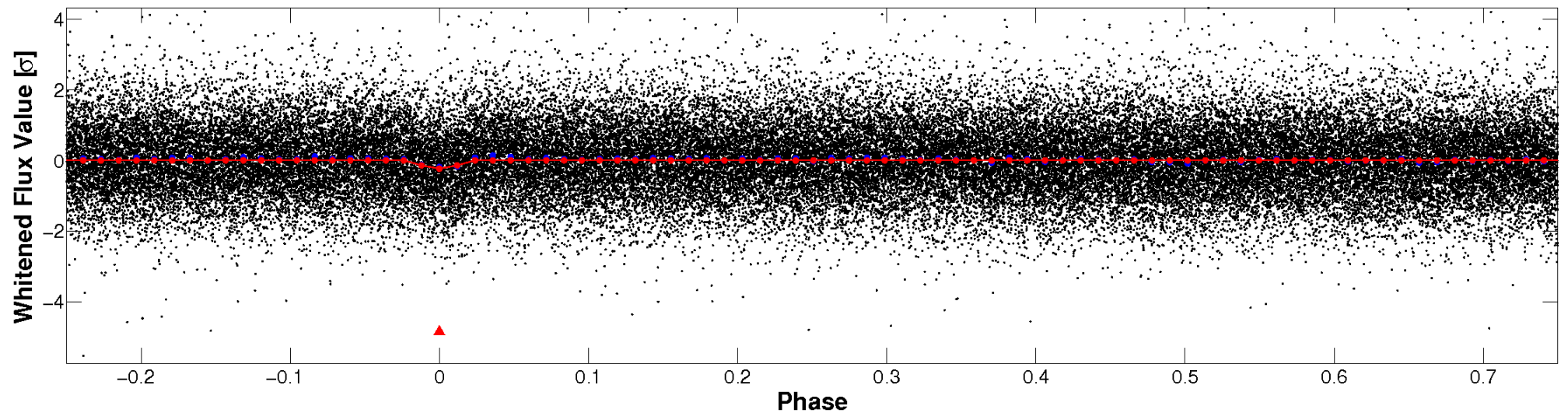


Non-Whitened Vs. Whitened Light Curve

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

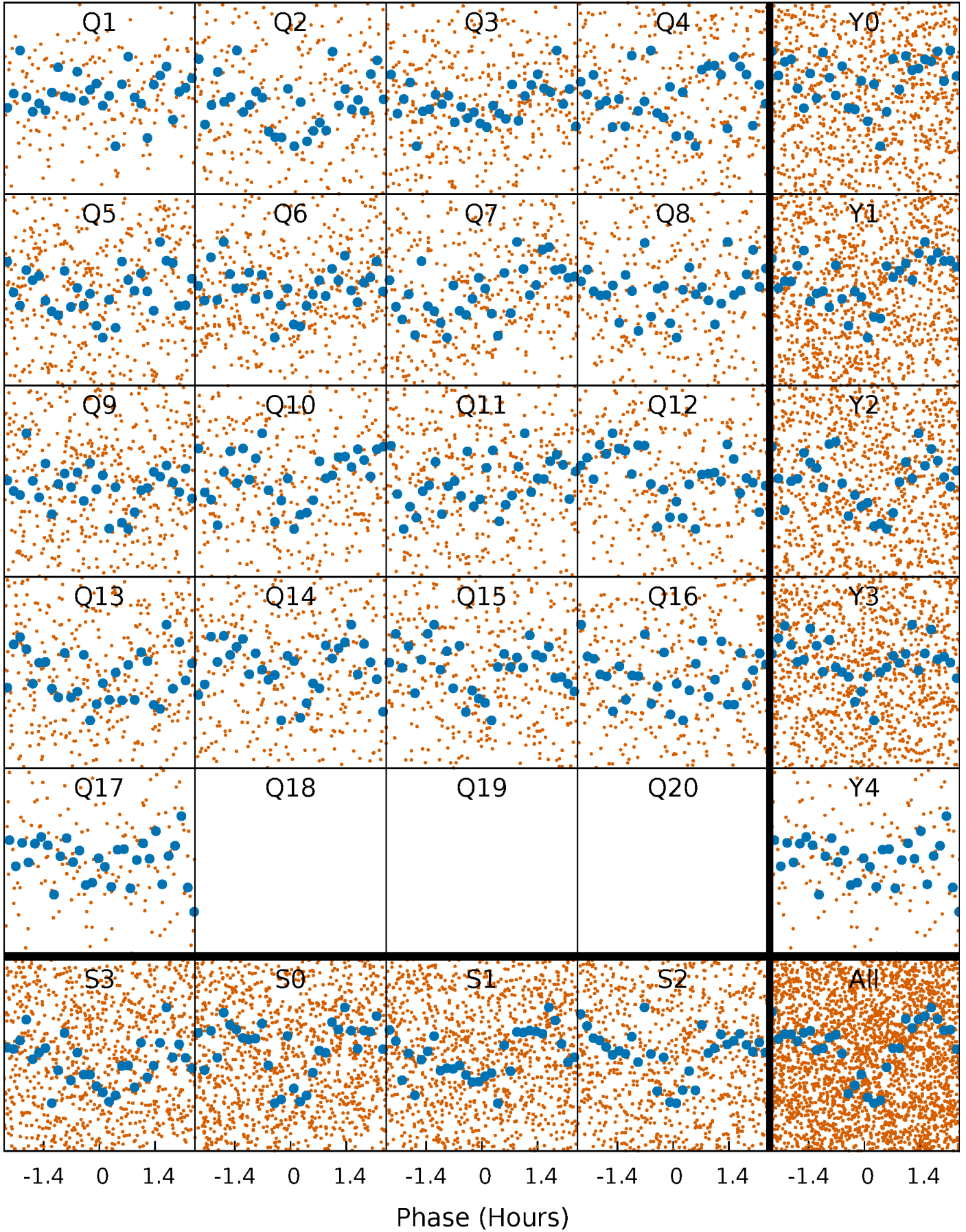


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



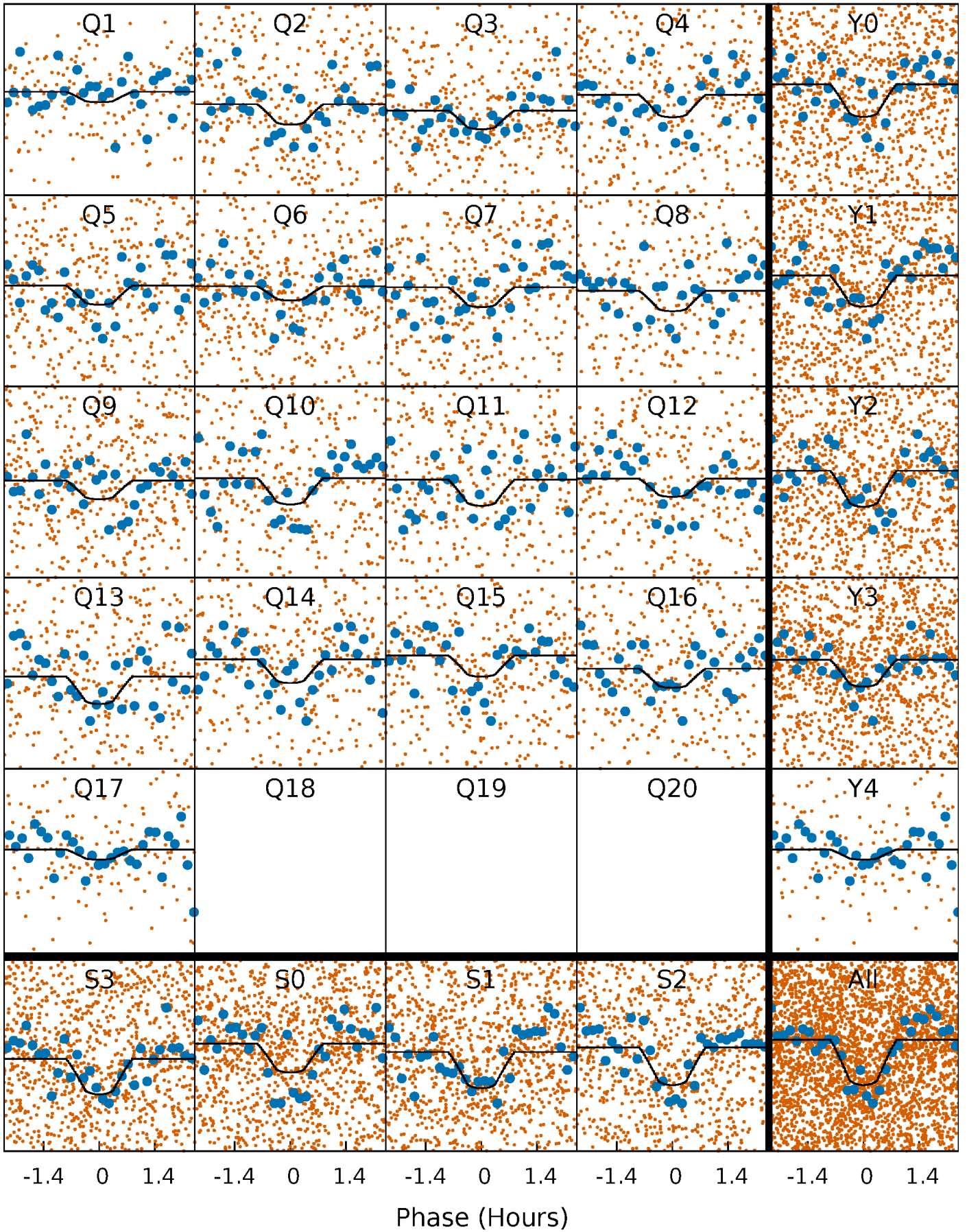
PDC Quarter-Phased Transit Curves

TCE 004730442-01 P= 1.710511 Days $T_0=131.657977$ (BKJD)



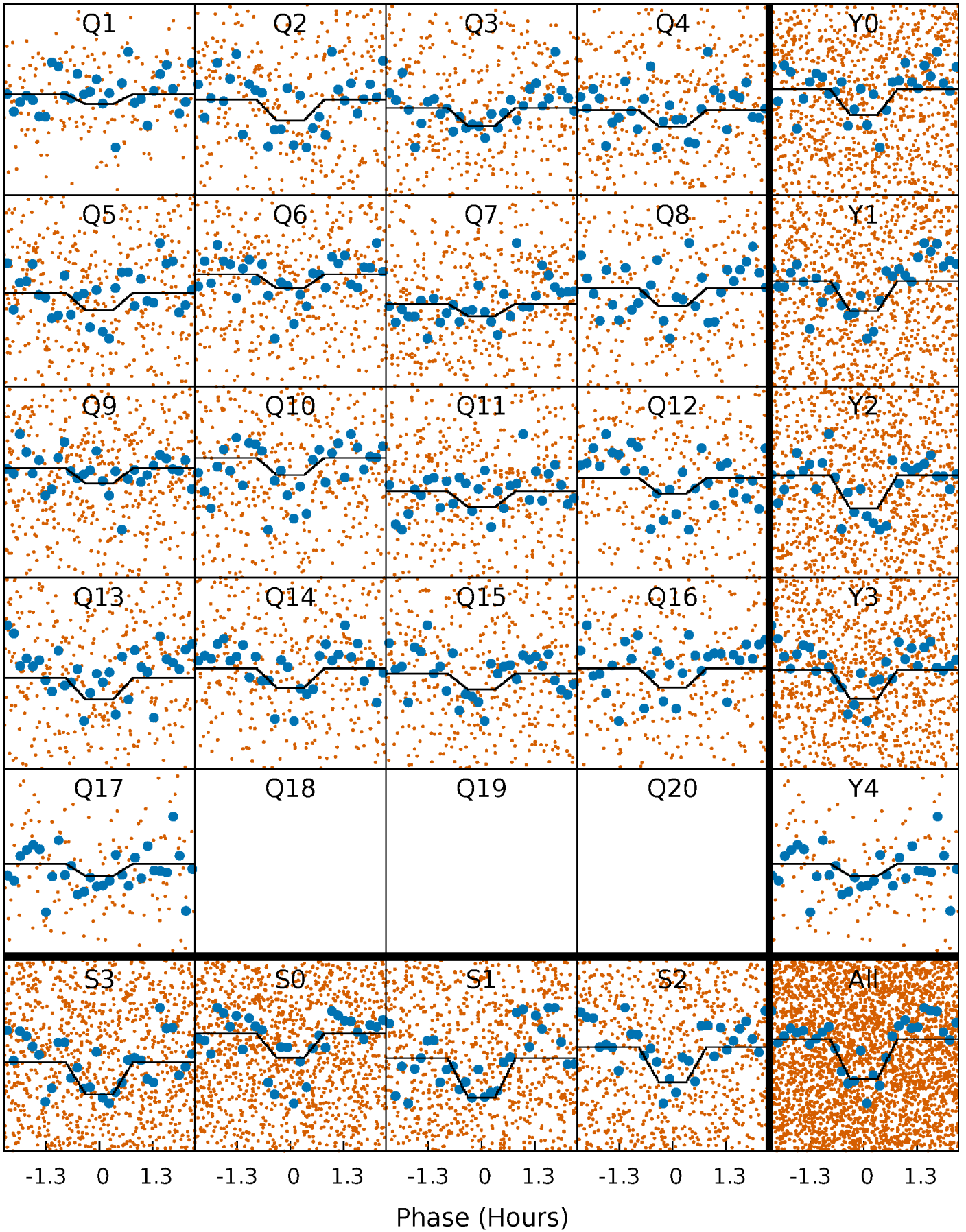
DV Quarter-Phased Transit Curves

TCE 004730442-01 P= 1.710511 Days $T_0=131.657977$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

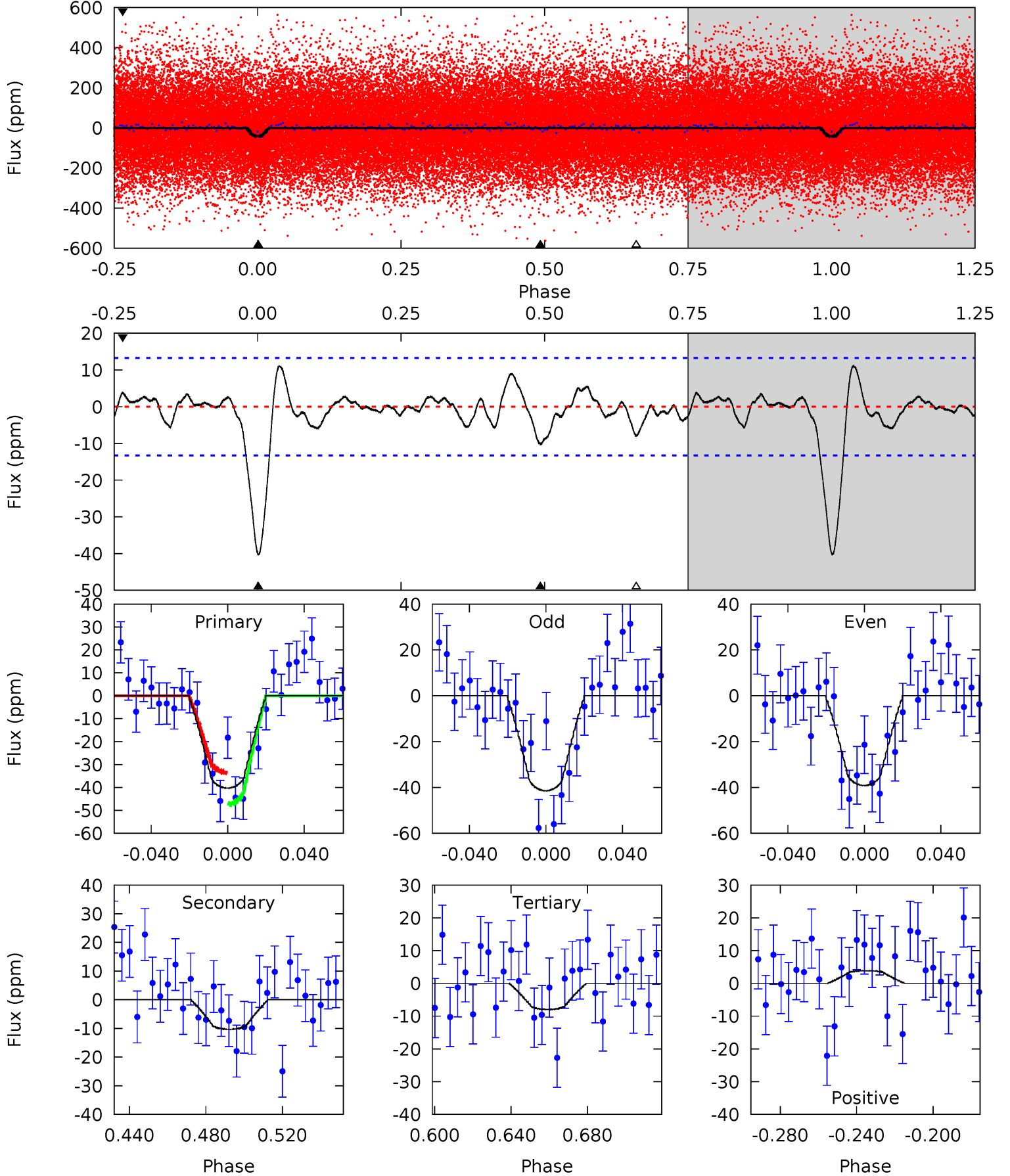
TCE 004730442-01 P= 1.710518 Days $T_0=131.658258$ (BKJD)



DV Model-Shift Uniqueness Test

004730442-01, P = 1.710511 Days, E = 129.947466 Days

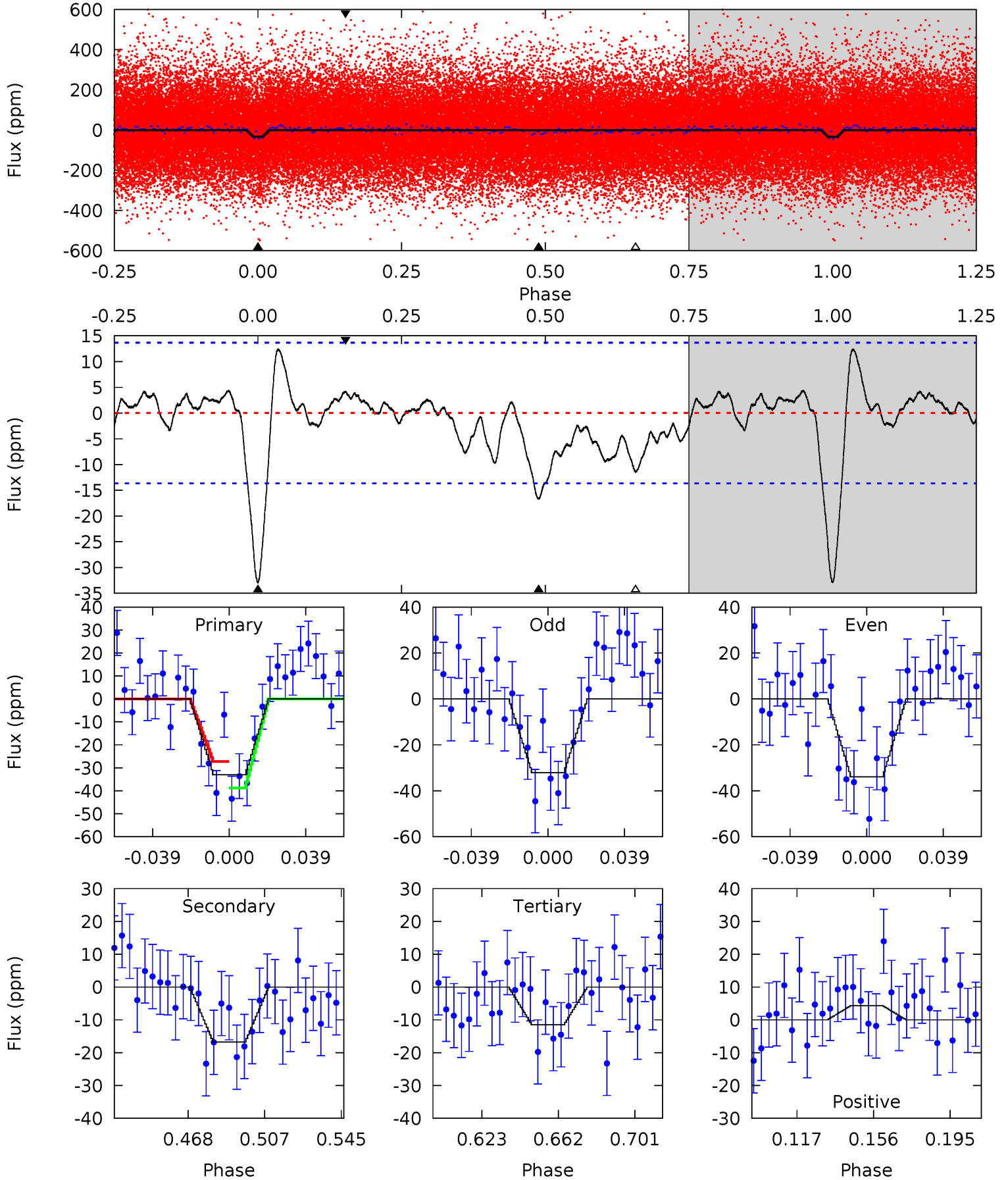
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	3.69	2.86	1.39	4.75	2.05	1.07	11.6	13.1	0.83	2.30	0.41	1.07	0.22	2.49



Alt Model-Shift Uniqueness Test

004730442-01, P = 1.710518 Days, E = 129.947740 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	5.85	4.02	1.50	4.76	2.06	1.43	7.49	10.0	1.83	4.35	0.32	1.15	0.27	2.02



Stellar Parameters For KIC 004730442

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5925^{+195}_{-177}	$3.989^{+0.495}_{-0.165}$	$-0.560^{+0.300}_{-0.250}$	$1.589^{+0.472}_{-0.708}$	$0.898^{+0.116}_{-0.105}$	$0.315^{+1.483}_{-0.135}$
	+3%/-3%	+12%/-4%	+54%/-45%	+30%/-45%	+13%/-12%	+470%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004730442-01 / KOI 7702.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 3	$0.89^{+0.45}_{-0.39}$	2754^{+255}_{-362}	4531^{+1213}_{-626}	$5.039^{+11.095}_{-2.922}$
Alt.	-17 ± 3	$0.87^{+0.47}_{-0.39}$	2732^{+248}_{-360}	5060^{+1529}_{-680}	$8.529^{+20.386}_{-4.814}$

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

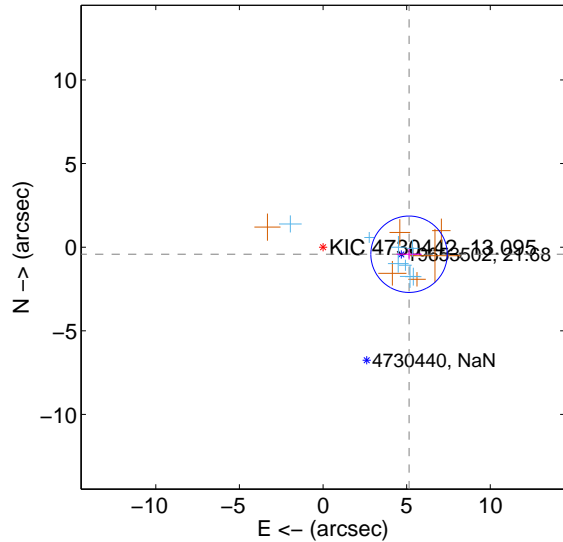
Supplemental centroid analysis for 004730442-01. Kepler magnitude: 13.10. Transit SNR 8.67

There are 8 quarters with good PRF difference image offsets

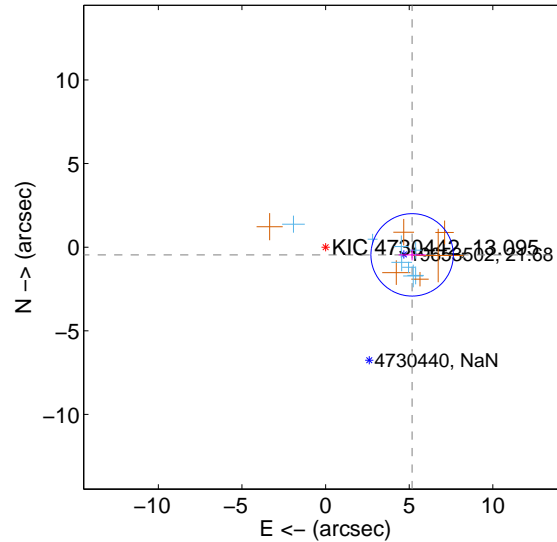
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.160 ± 0.761	6.78	-5.143 ± 0.751	-0.422 ± 0.321
PRF-fit source offset from KIC position	5.195 ± 0.821	6.33	-5.175 ± 0.809	-0.460 ± 0.330
photometric centroid source offset	7.81 ± 1.41	5.52	-7.70 ± 1.41	-1.35 ± 1.58

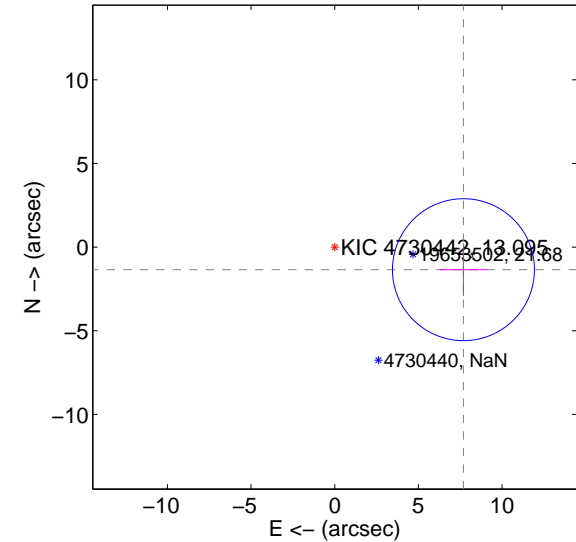
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

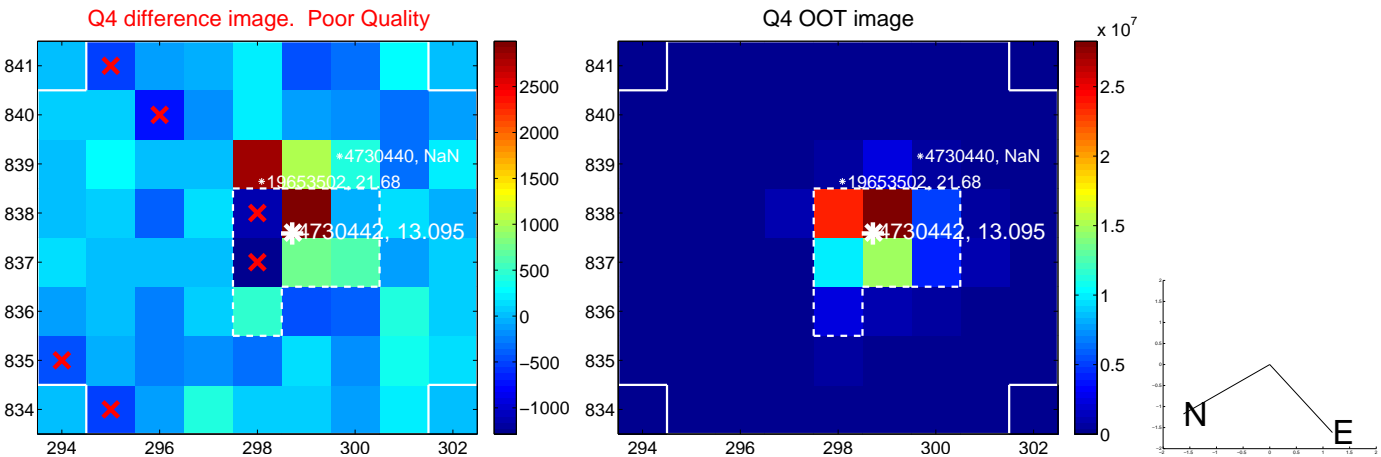
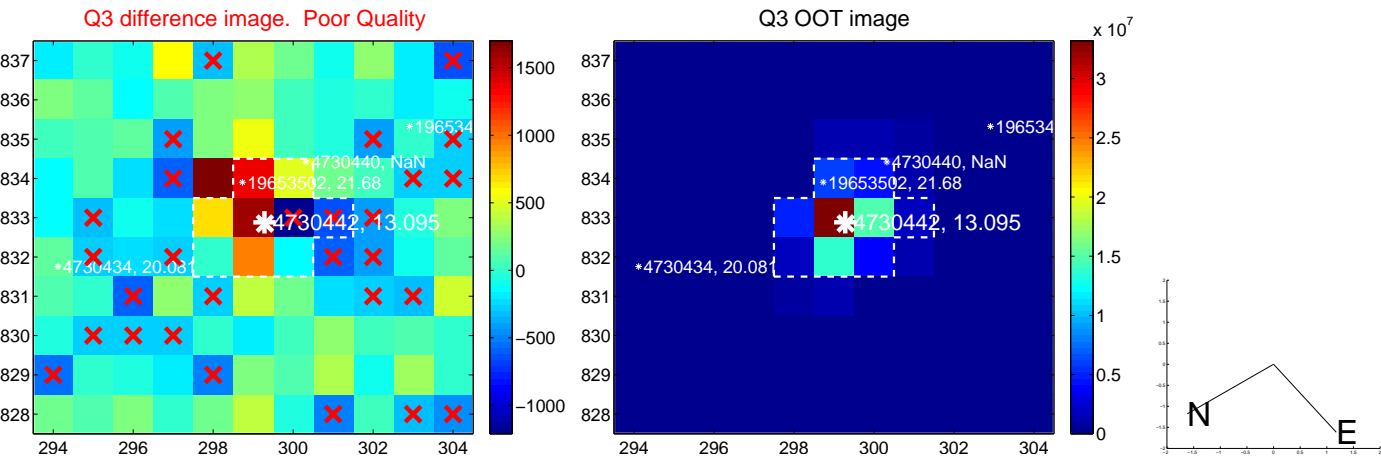
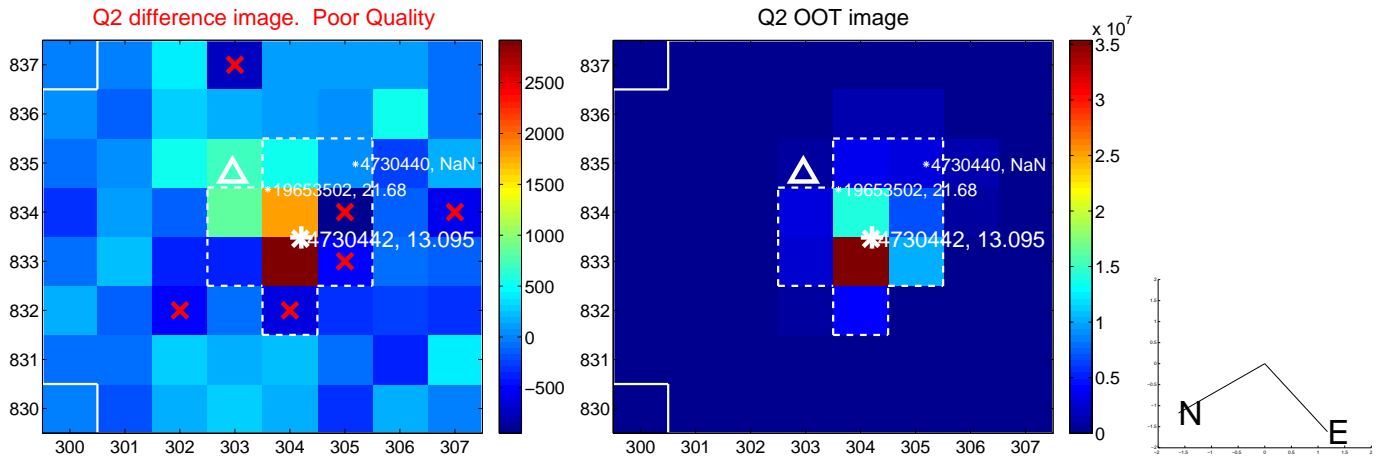
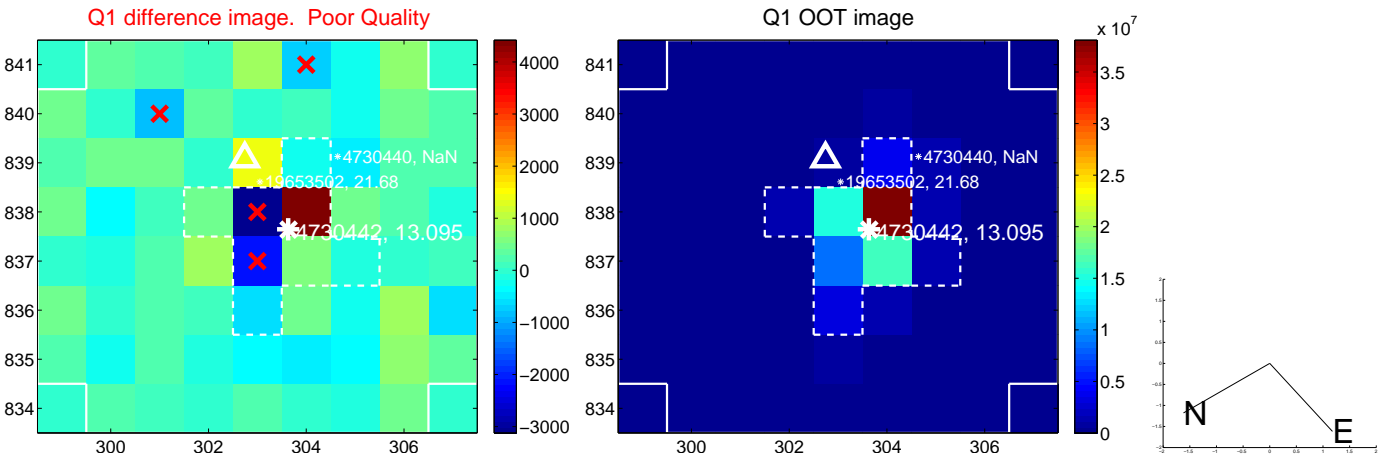


offset from photometric centroids

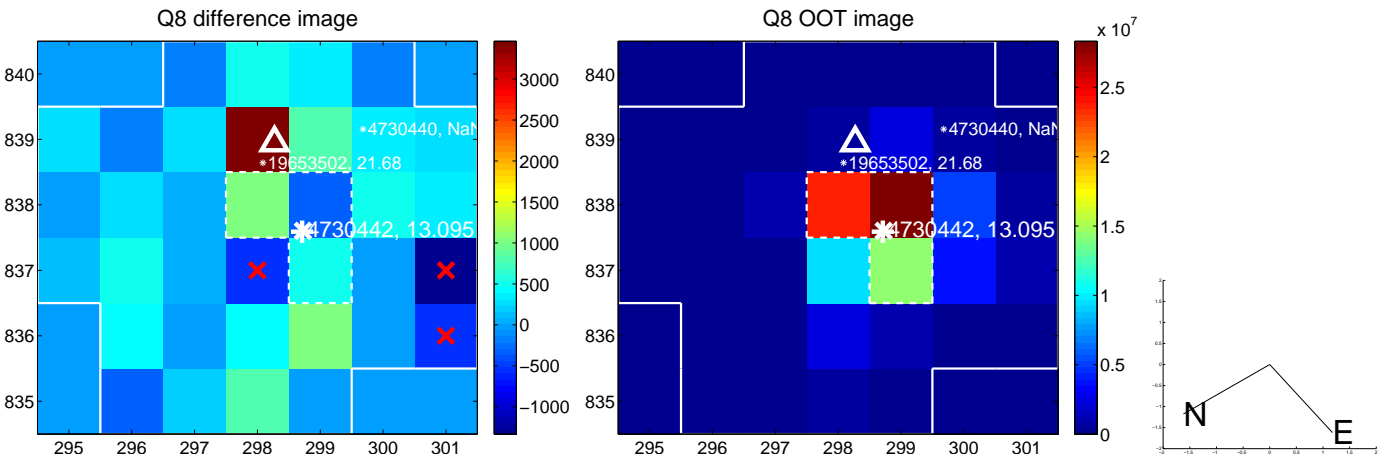
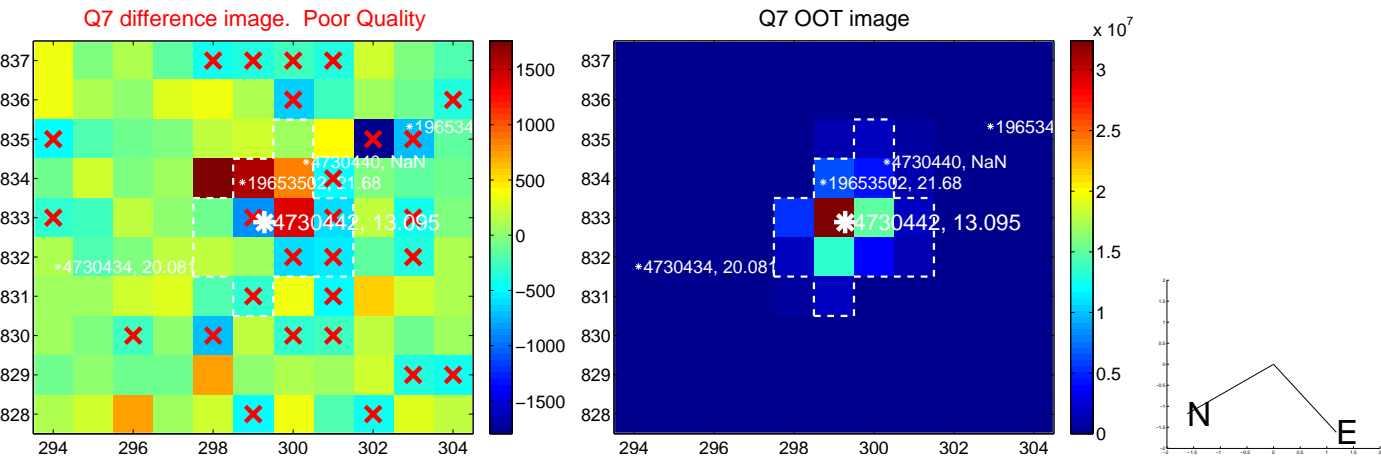
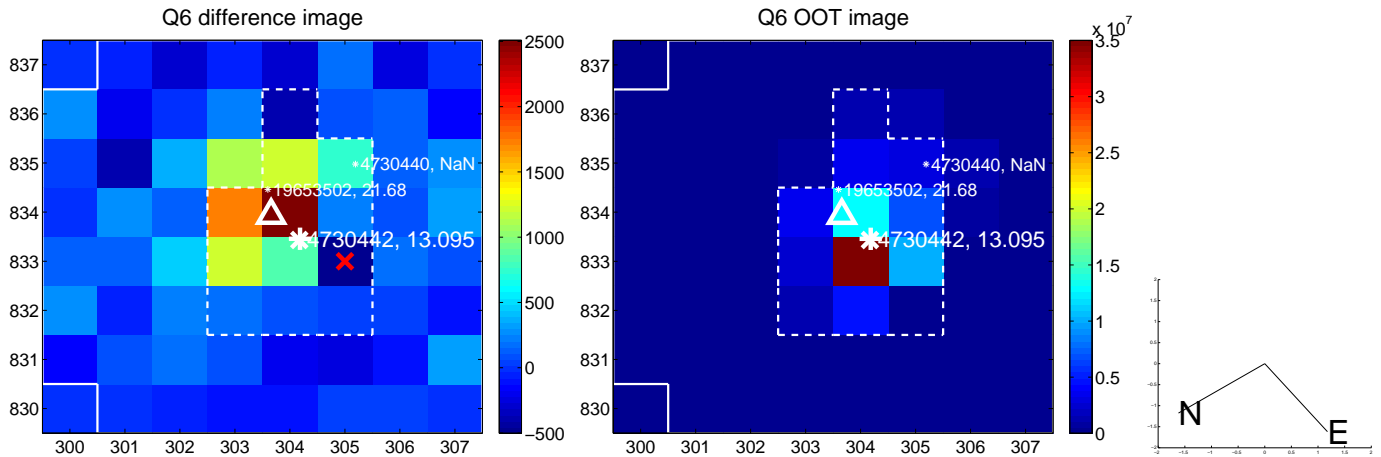
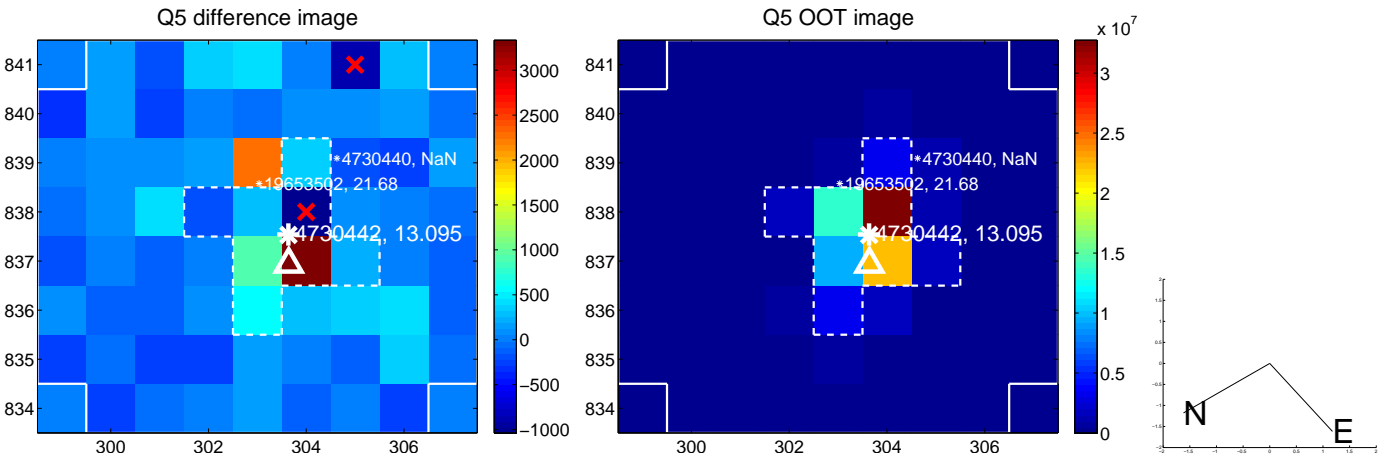


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

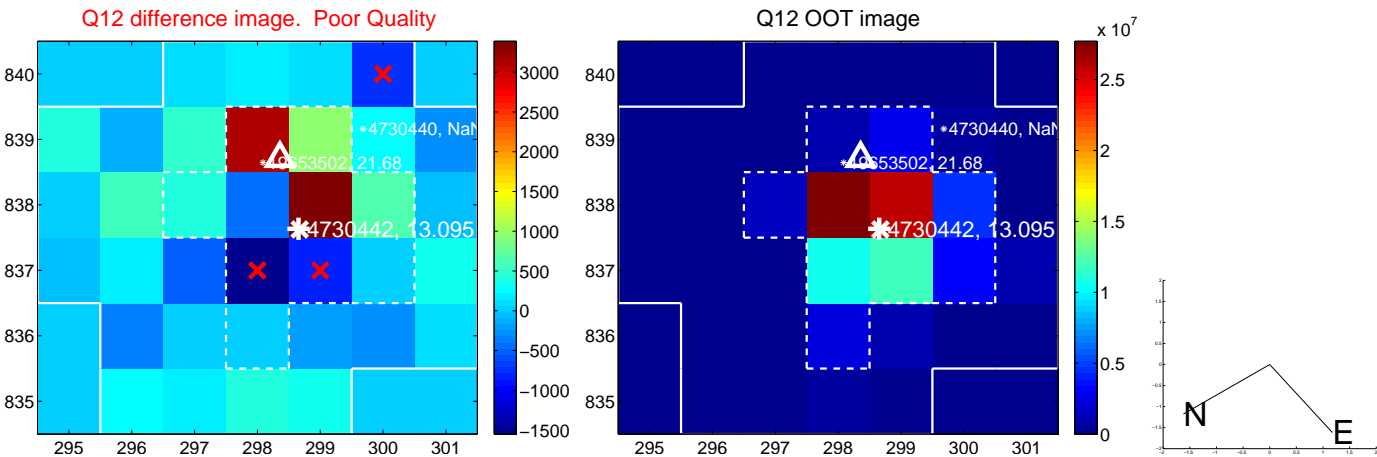
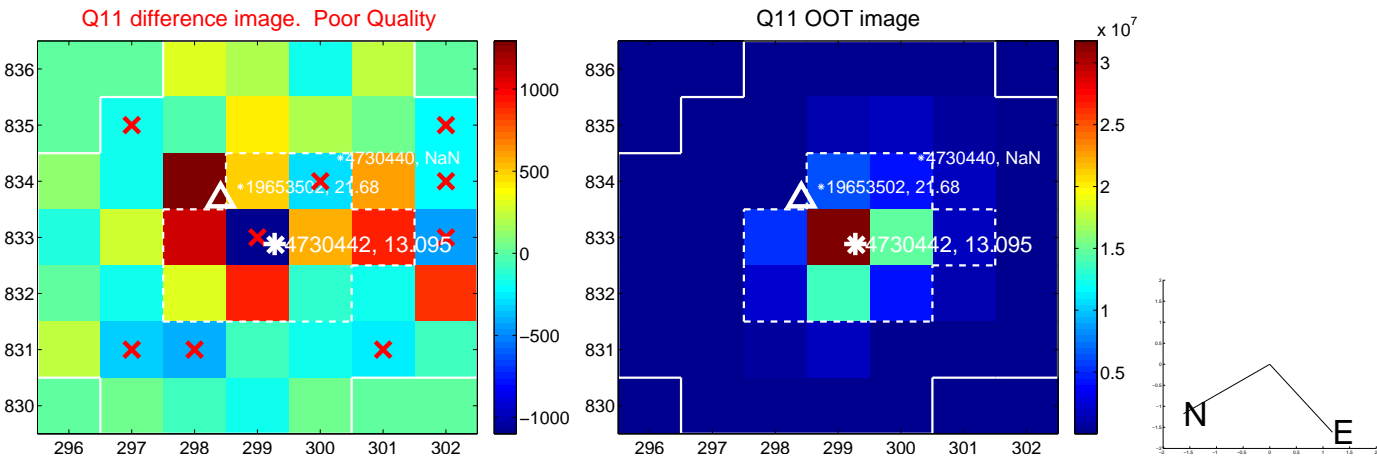
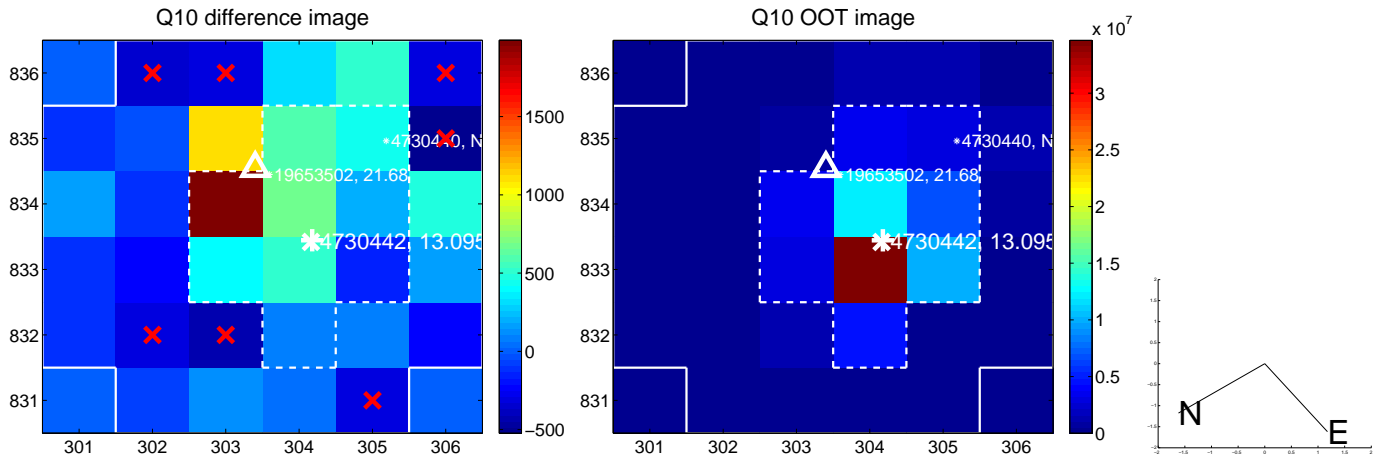
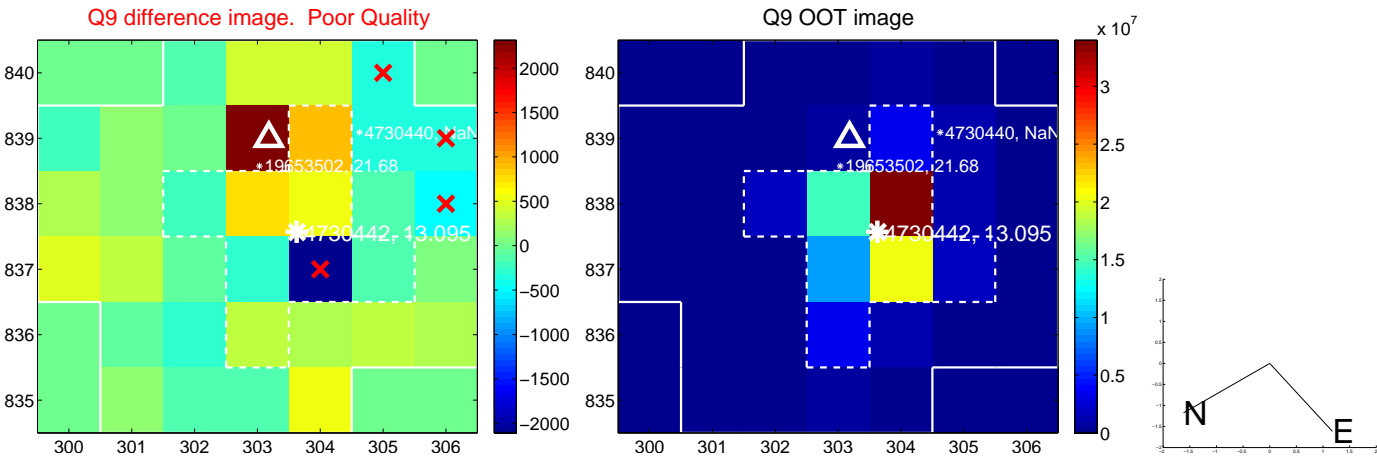
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



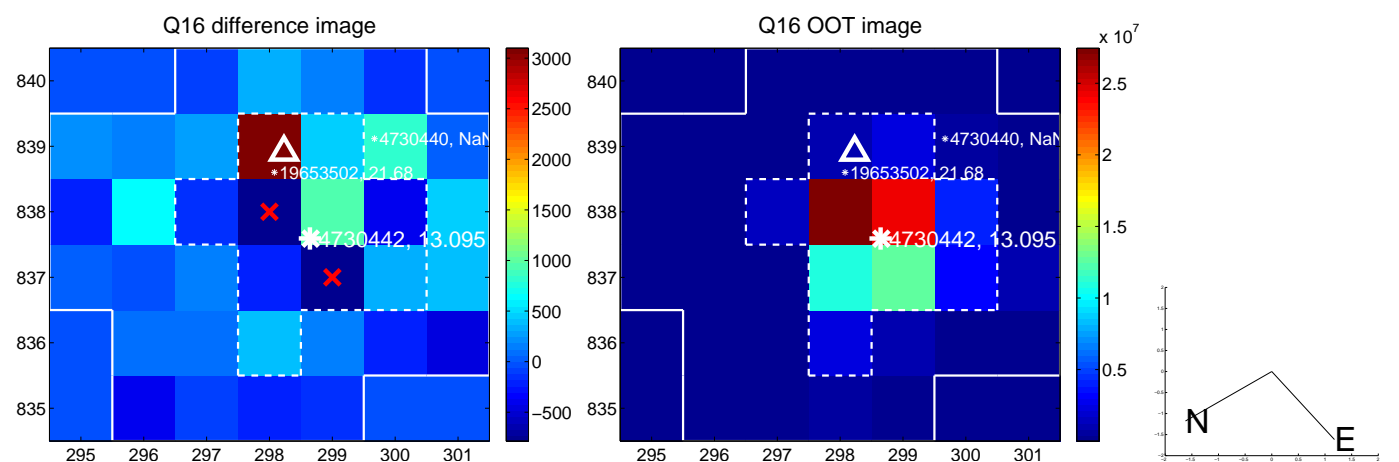
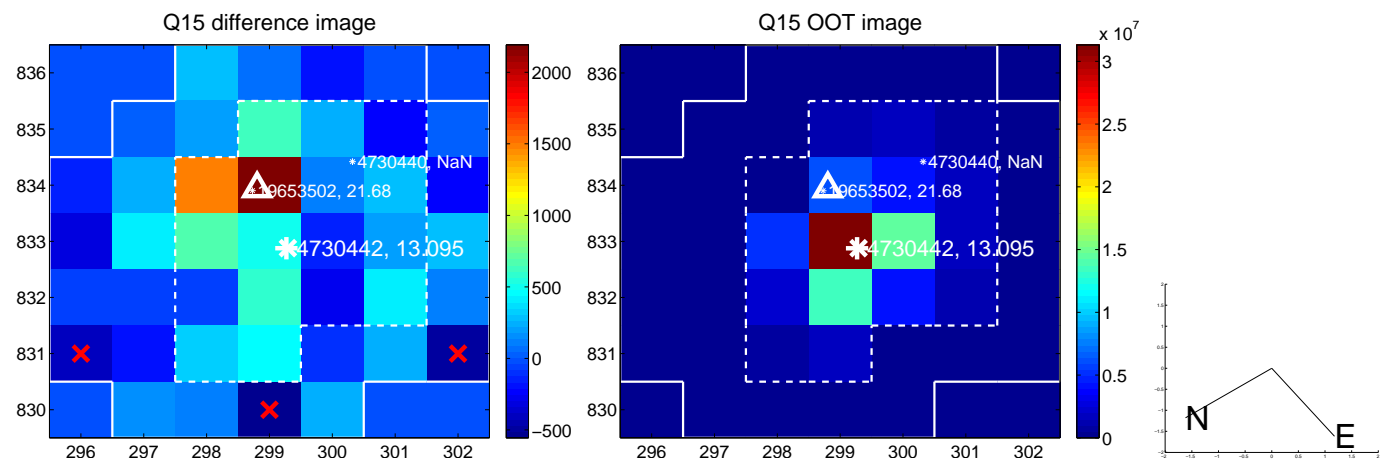
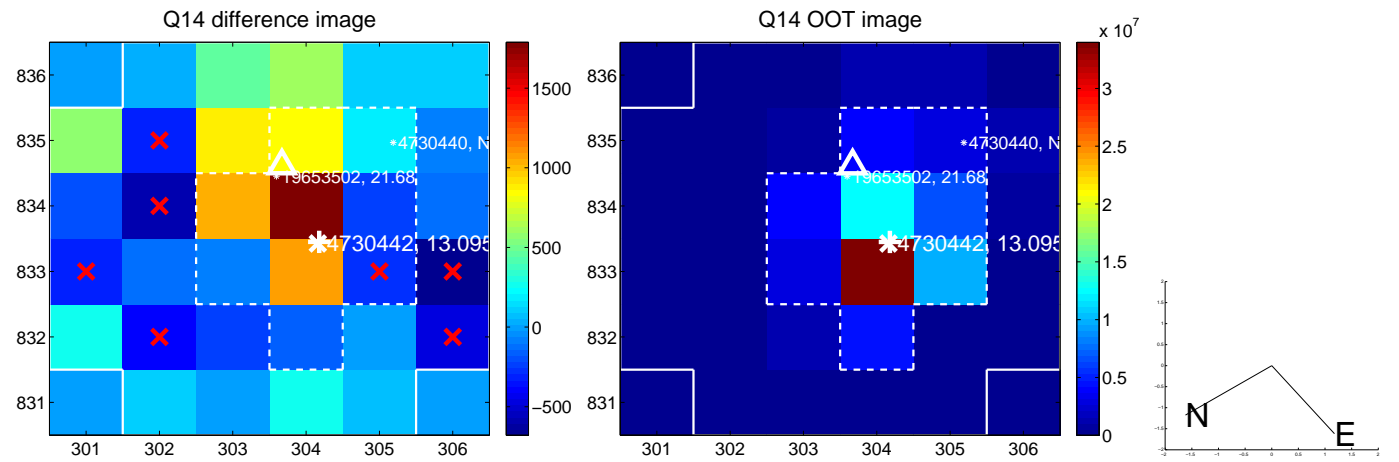
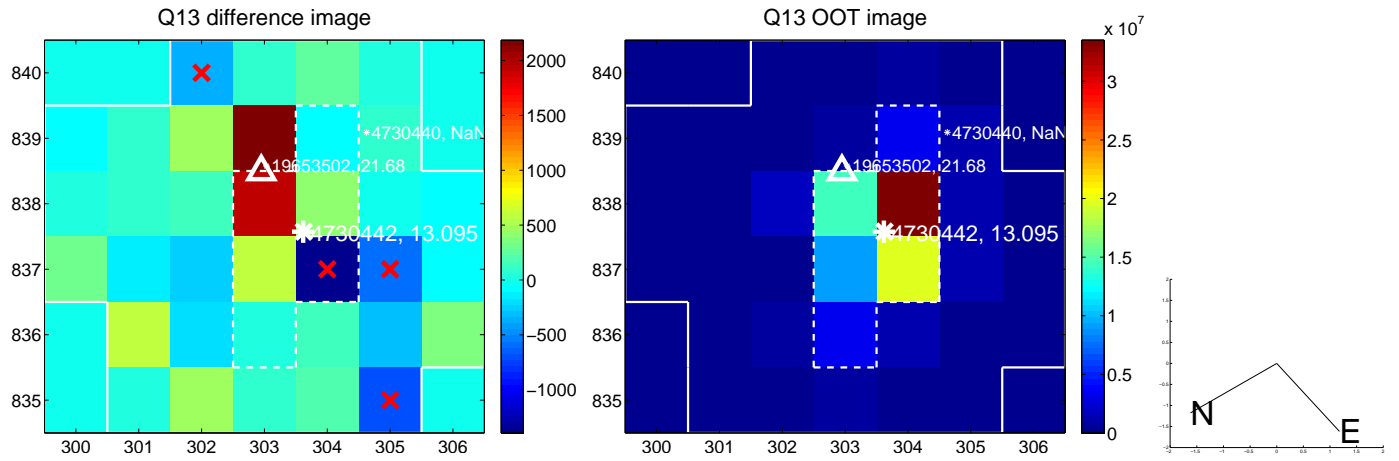
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



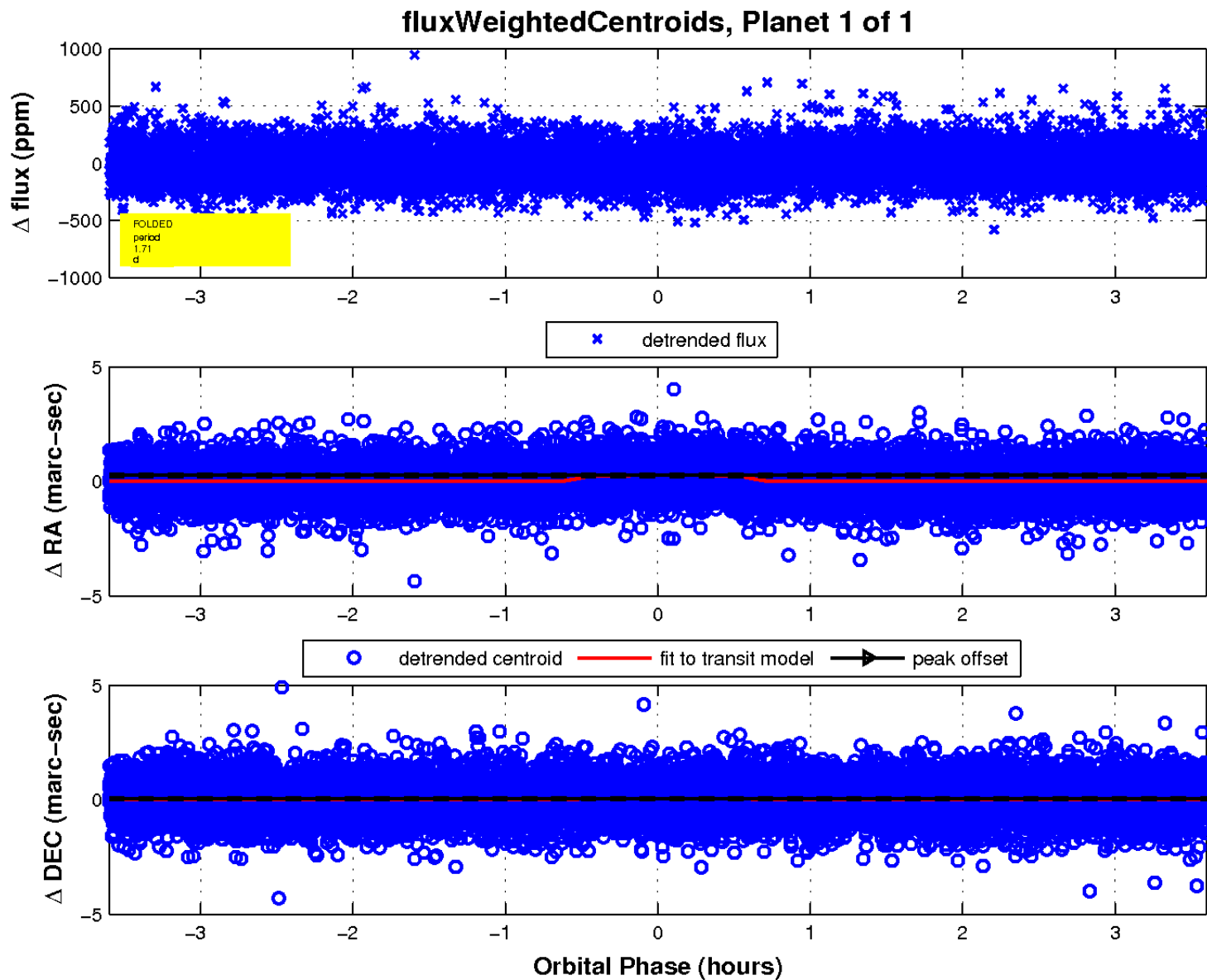
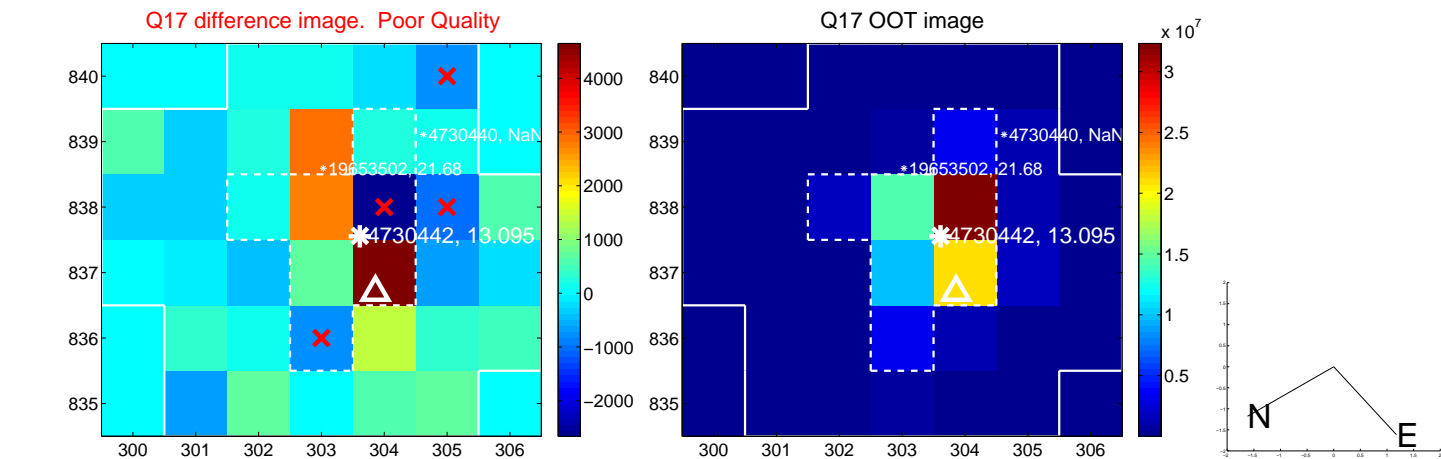
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

