

KIC 010424977

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})
010424977-01	OBS	No	1.042144	132.264260	37.4	3.841	7.9	4.5	11.95	6980	8.03	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010424977-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

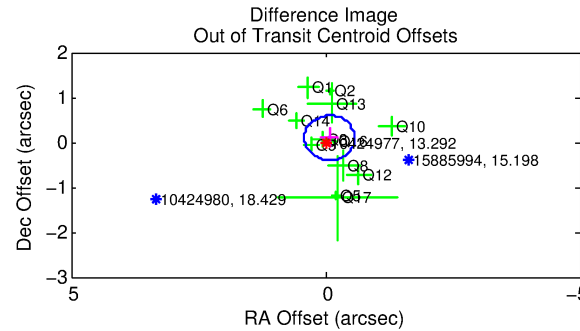
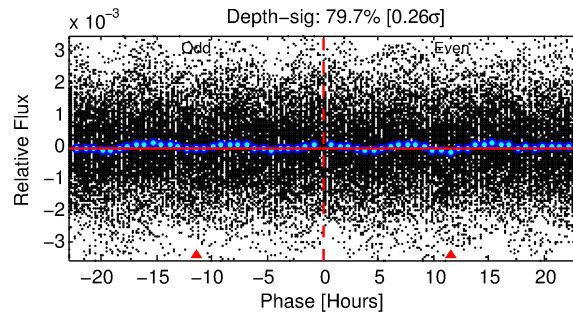
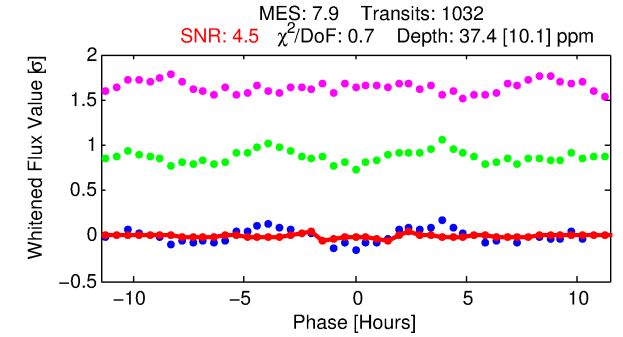
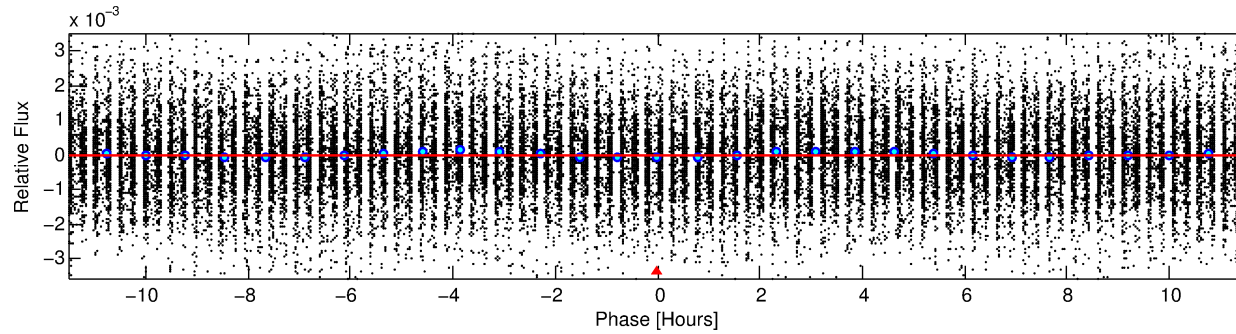
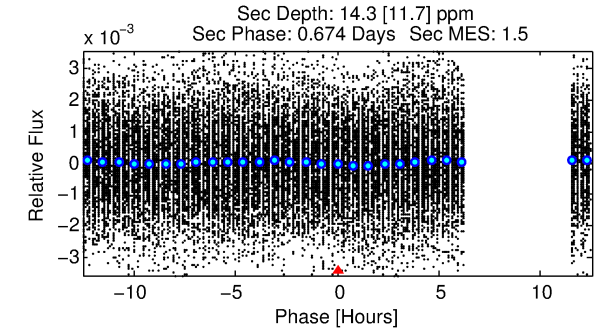
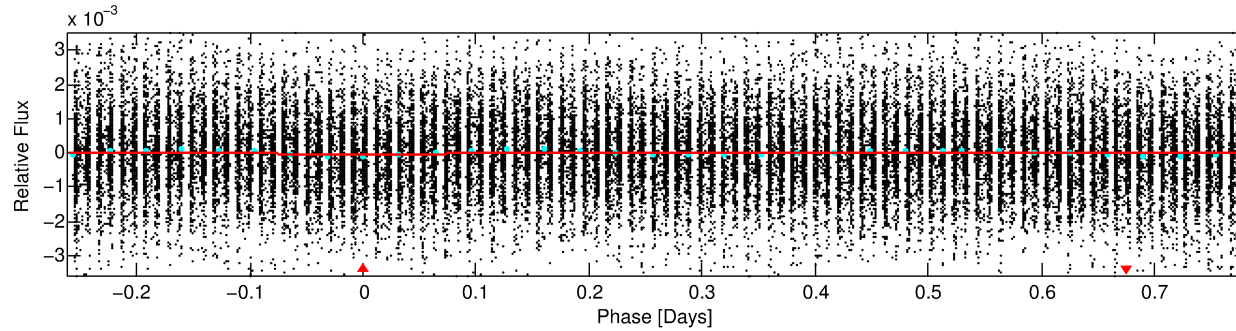
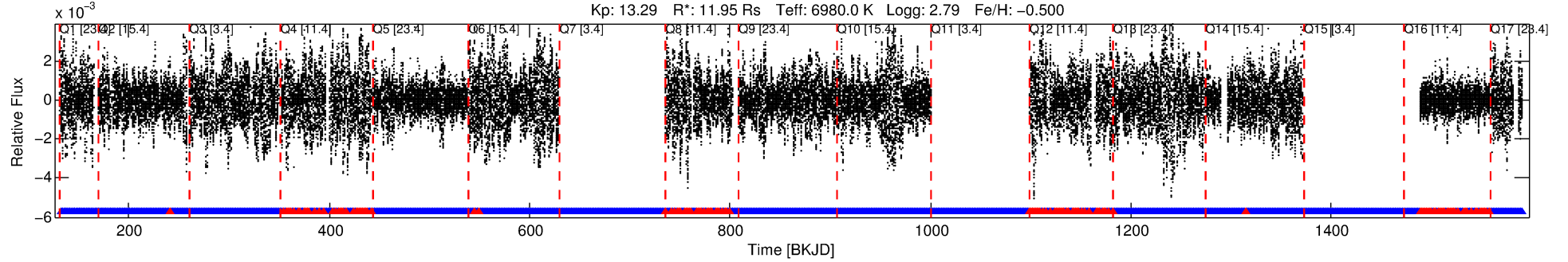
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010424977-01

No Significant Match Found

DV One-Page Summary

KIC: 10424977 Candidate: 1 of 1 Period: 1.042 d



DV Fit Results:

Period = 1.04214 [0.00002] d
Epoch = 132.2643 [0.0028] BKJD
Rp/R* = 0.0062 [0.0017]
a/R* = 1.57 [1.36]
b = 0.78 [0.73]
Seff = N/A
Teq = N/A
Rp = 8.03 [5.57] Re
a = N/A
Ag = N/A
Teffp = N/A

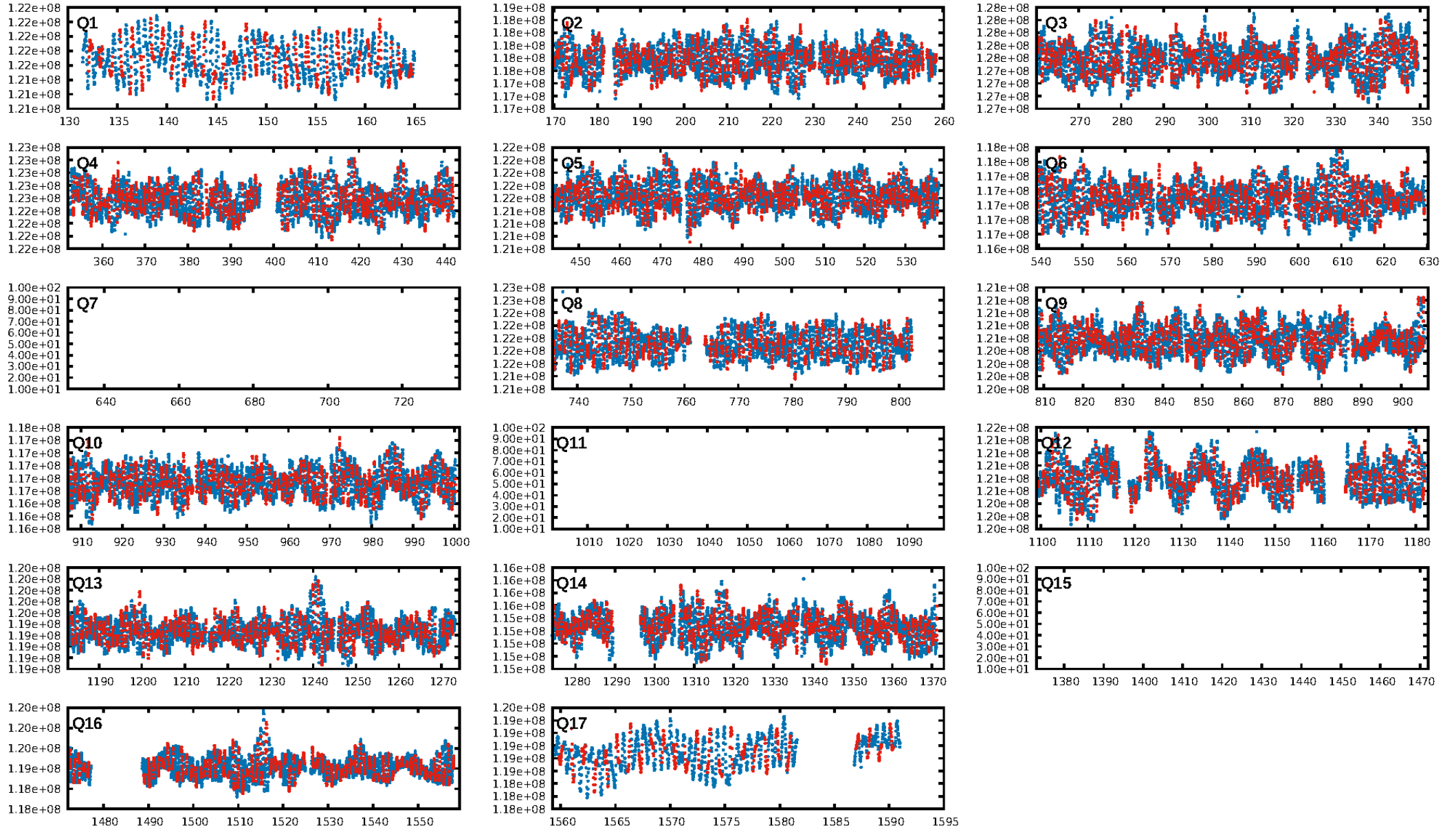
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.68e-12
RollingBand-fgt: 0.85 [824/975]
GhostDiagnostic-chr: 0.7395
Centroid-sig: 0.0%
Centroid-so: 2.026 arcsec [2.66σ]
OotOffset-rm: 0.123 arcsec [0.74σ]
KicOffset-rm: 0.125 arcsec [0.56σ]
OotOffset-st: 4/1/3/5 [13]
KicOffset-st: 4/1/3/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

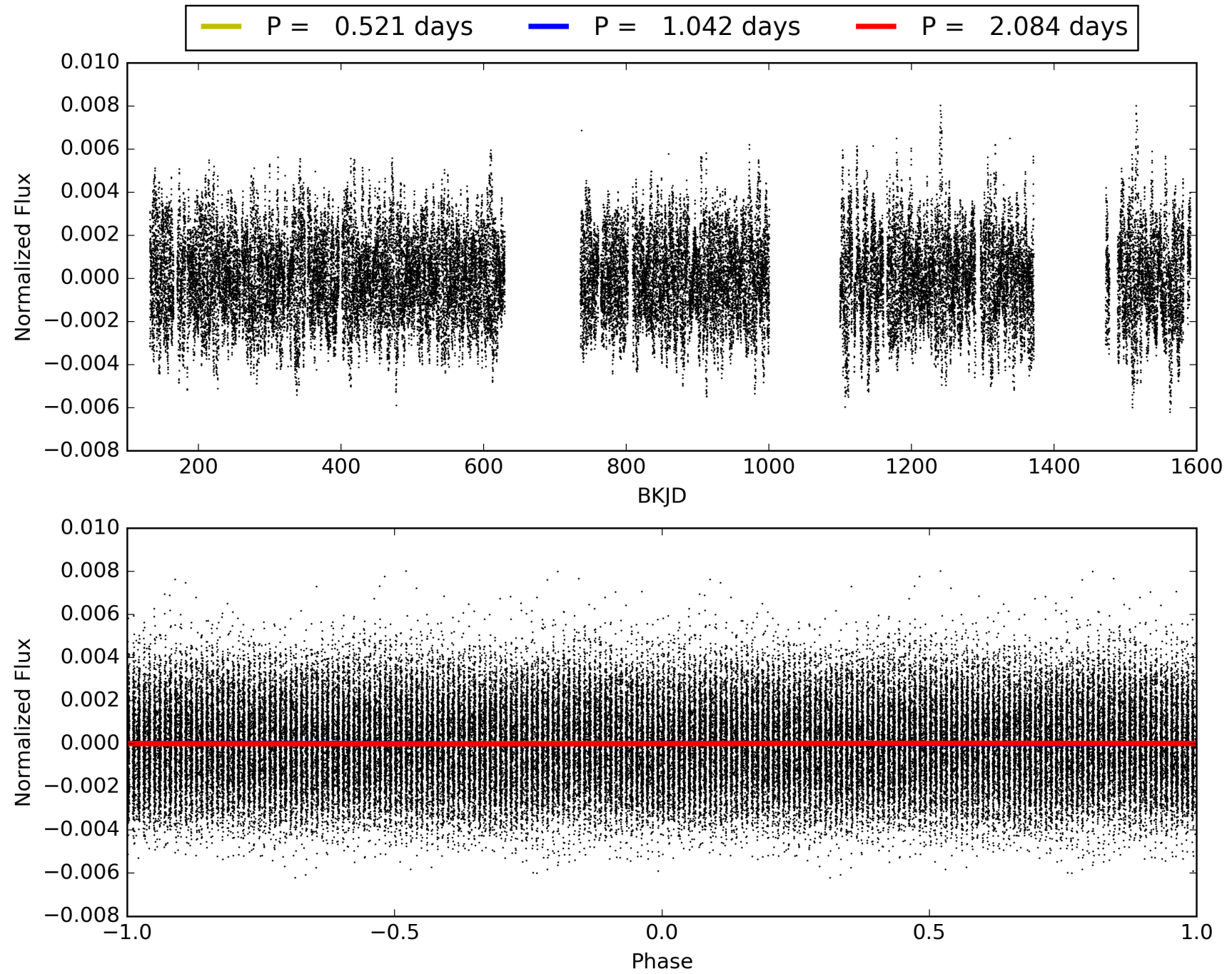
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:57:37 Z

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

TCE 010424977-01, PDC Light Curves

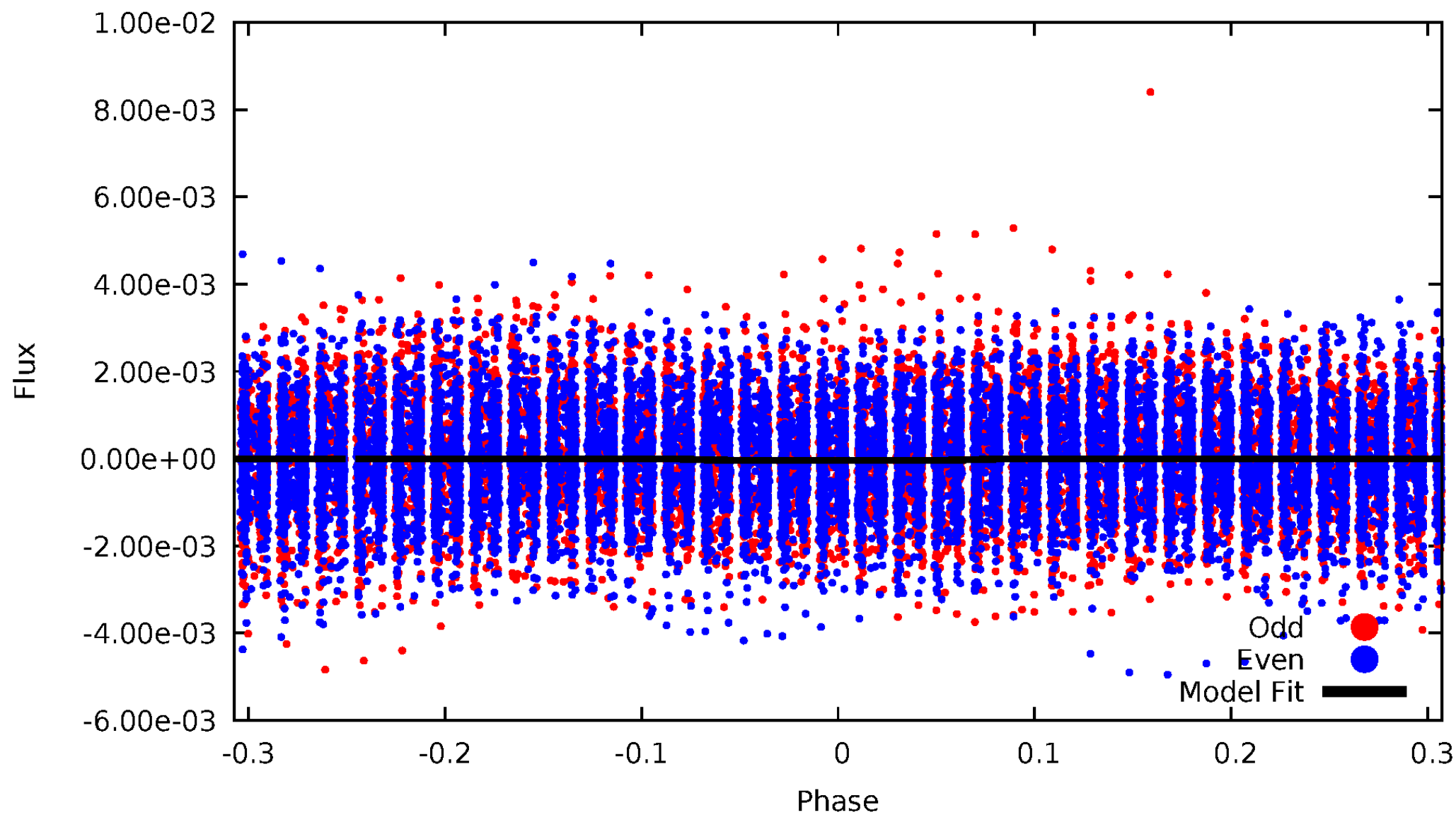


TCE 010424977-01



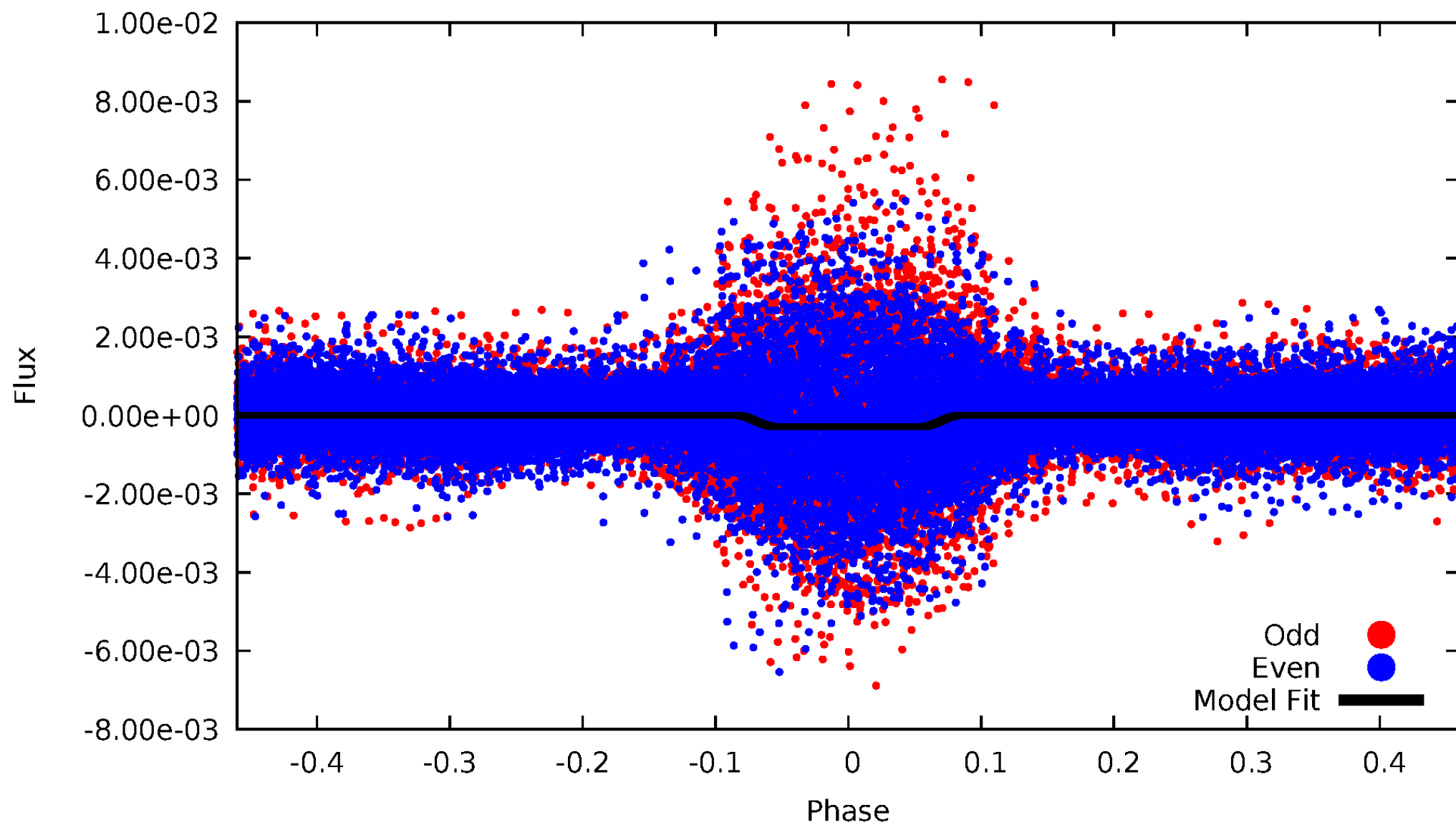
DV Odd/Even

TCE 010424977-01

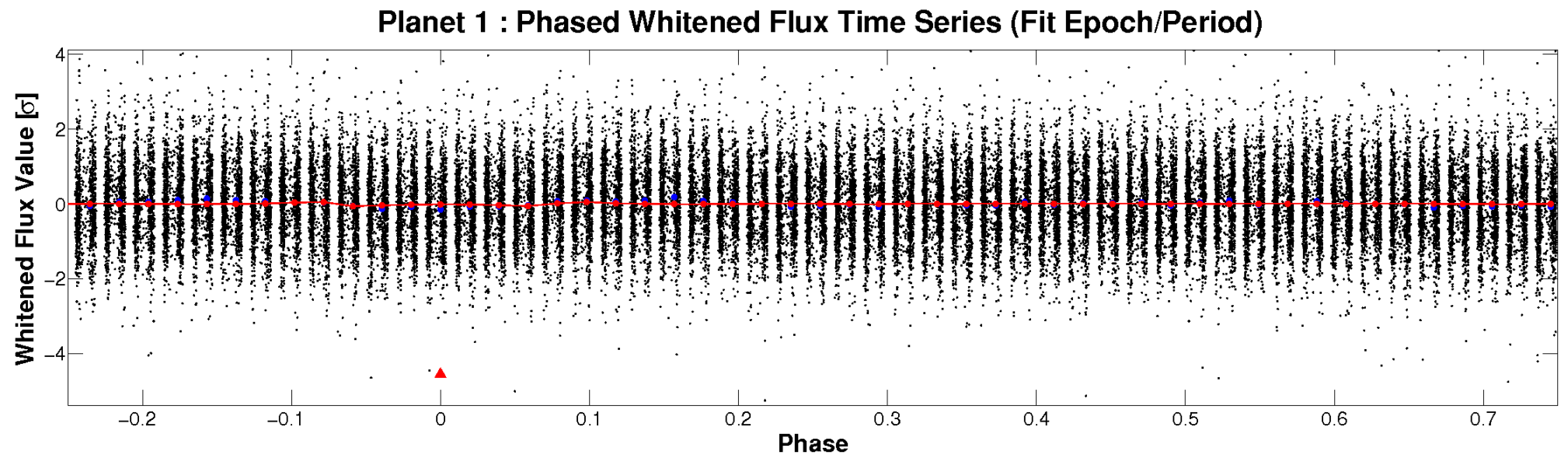
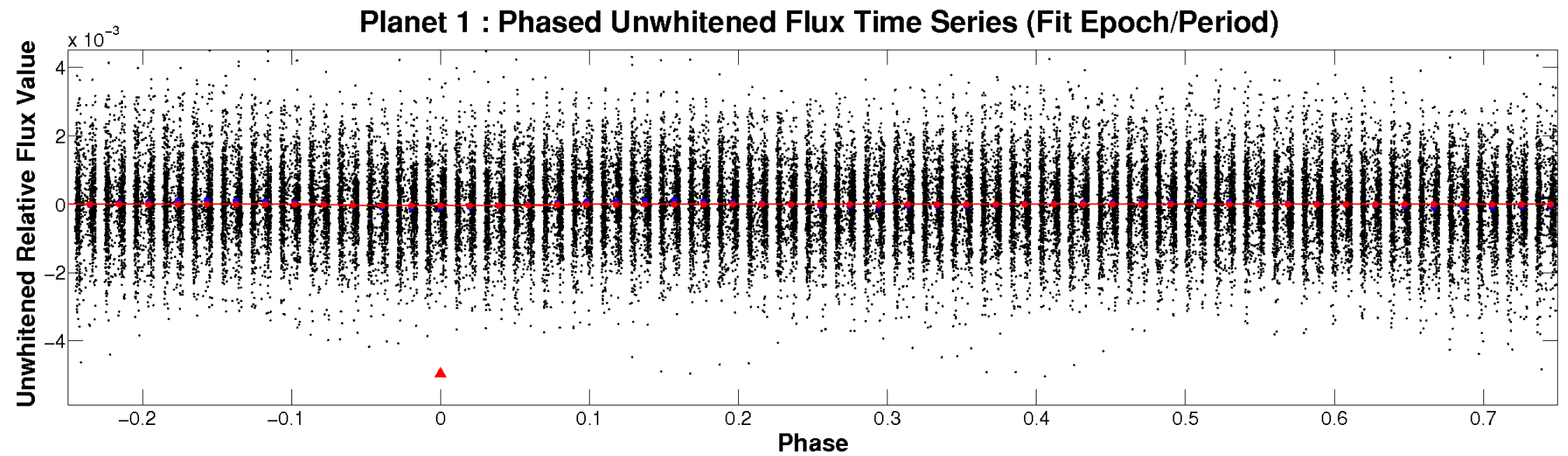


ALT Odd/Even

TCE 010424977-01

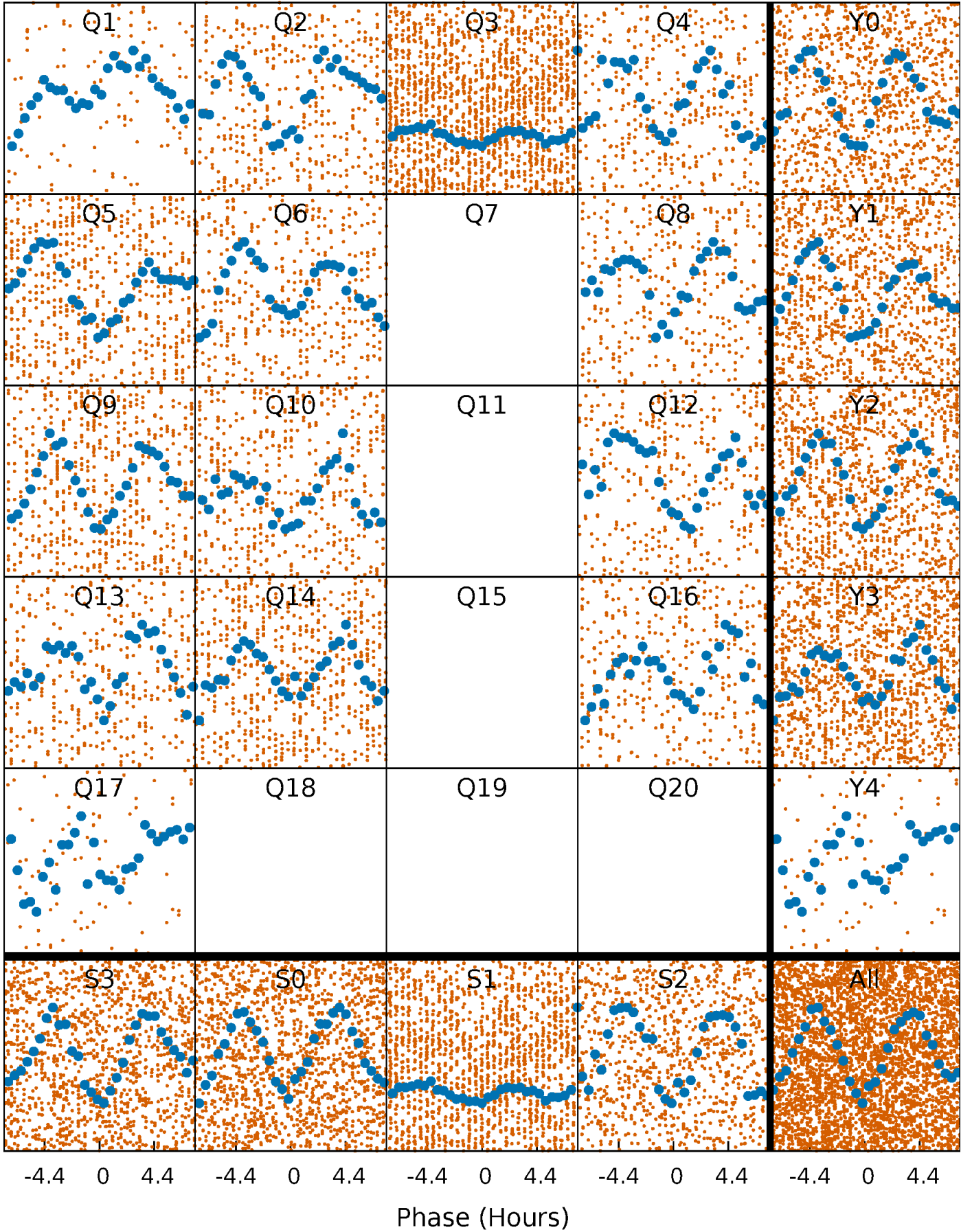


Non-Whitened Vs. Whitened Light Curve



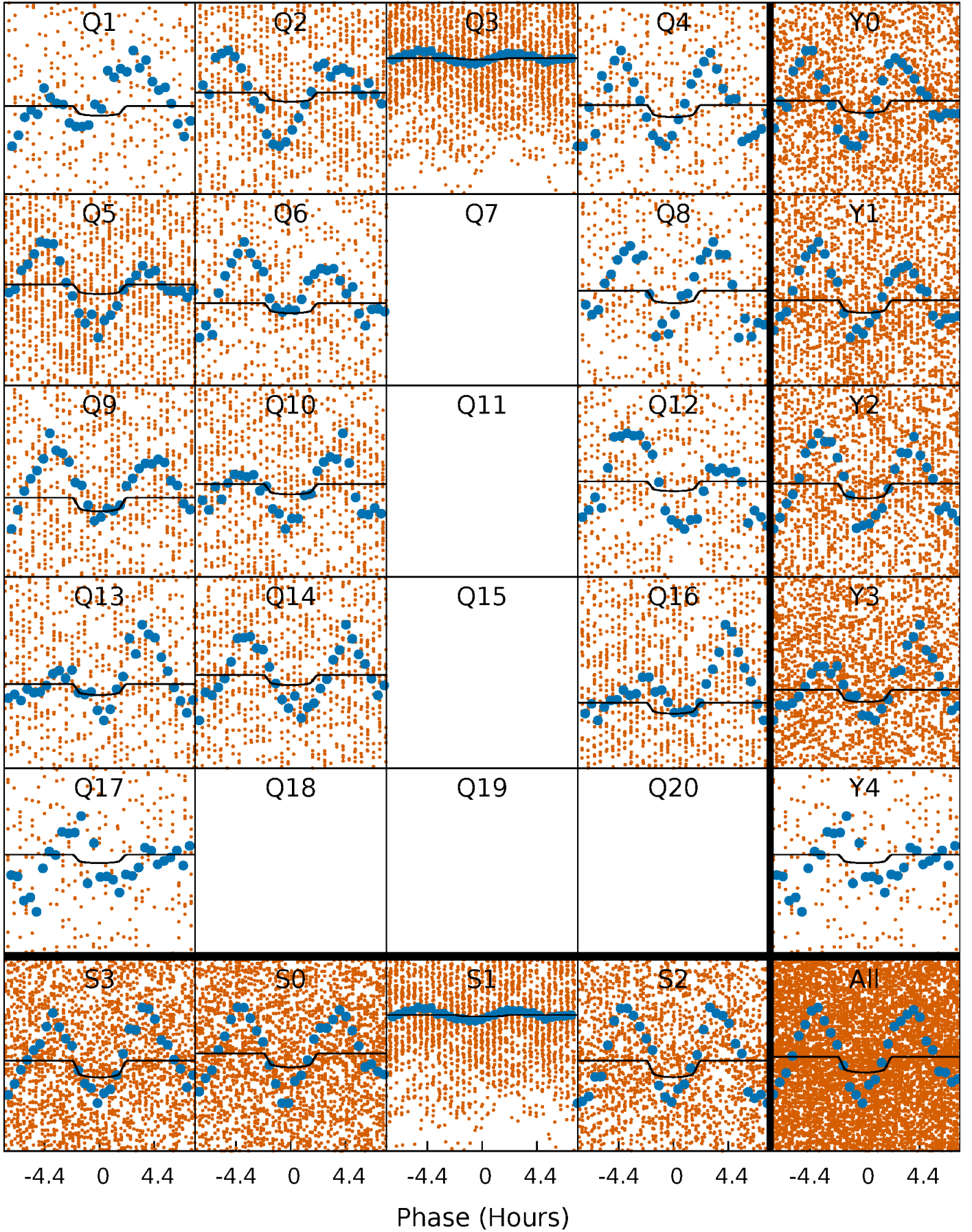
PDC Quarter-Phased Transit Curves

TCE 010424977-01 P= 1.042144 Days $T_0=132.264260$ (BKJD)



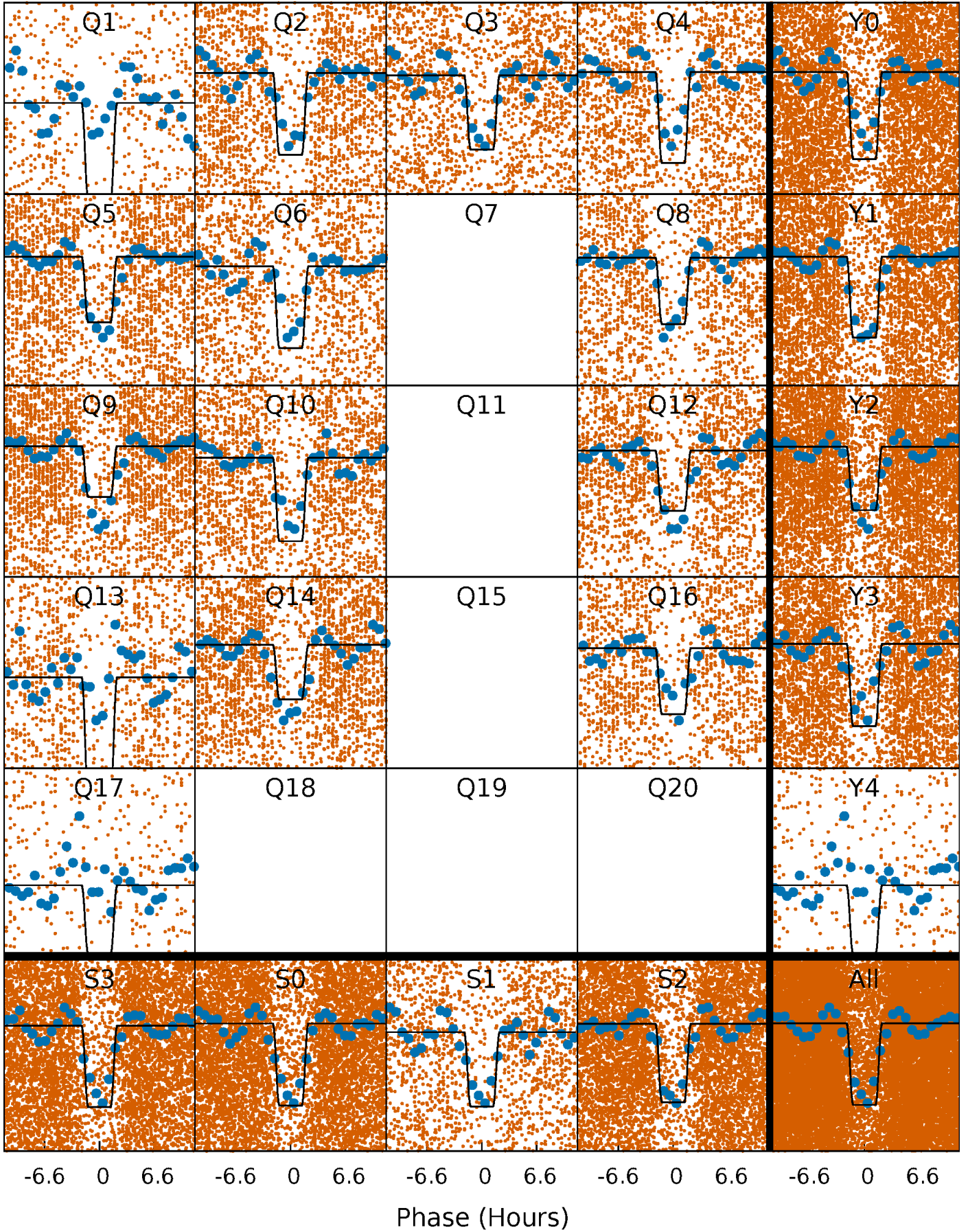
DV Quarter-Phased Transit Curves

TCE 010424977-01 P= 1.042144 Days $T_0=132.264260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

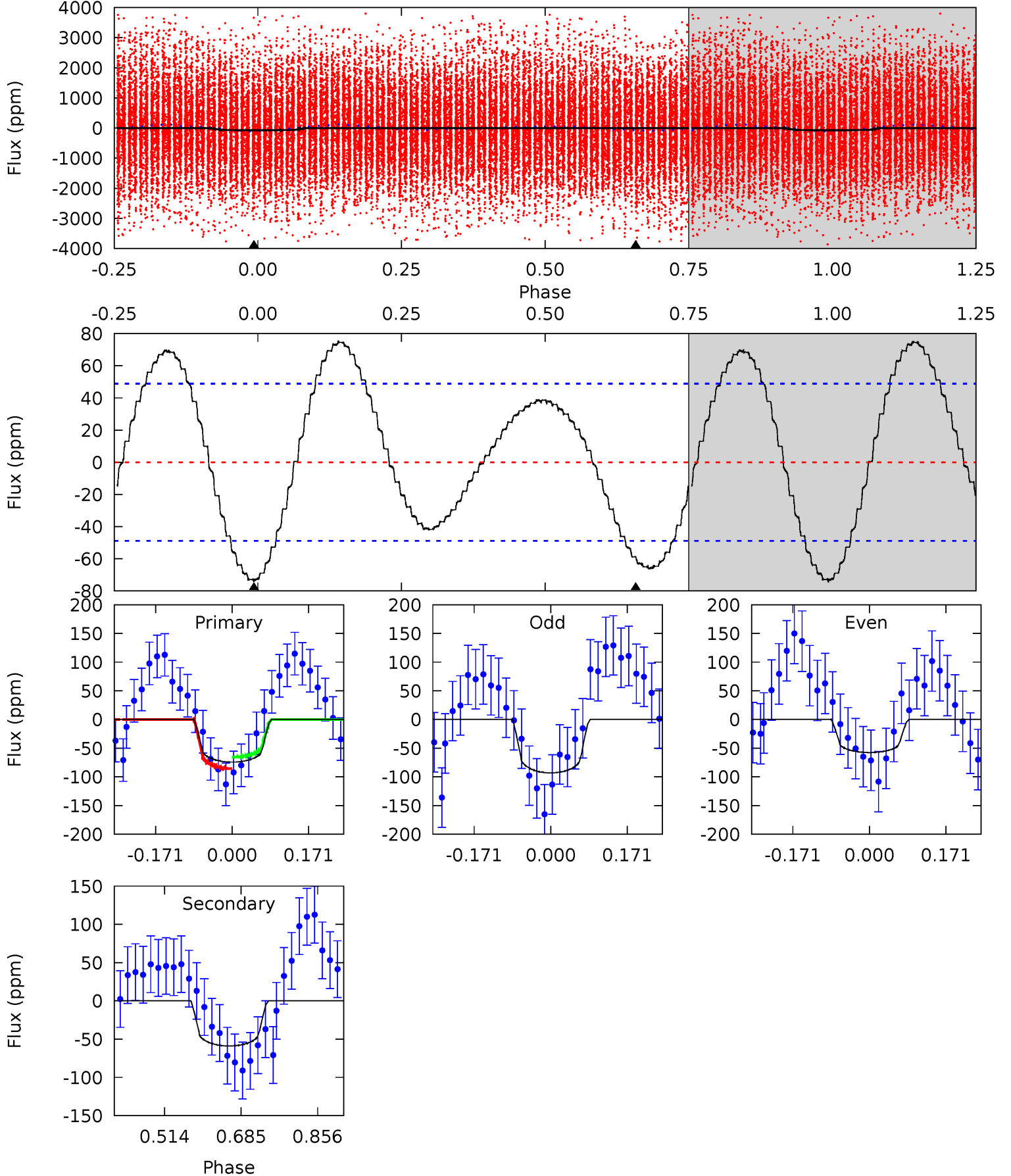
TCE 010424977-01 P= 1.042203 Days $T_0=132.221651$ (BKJD)



DV Model-Shift Uniqueness Test

010424977-01, P = 1.042144 Days, E = 131.222116 Days

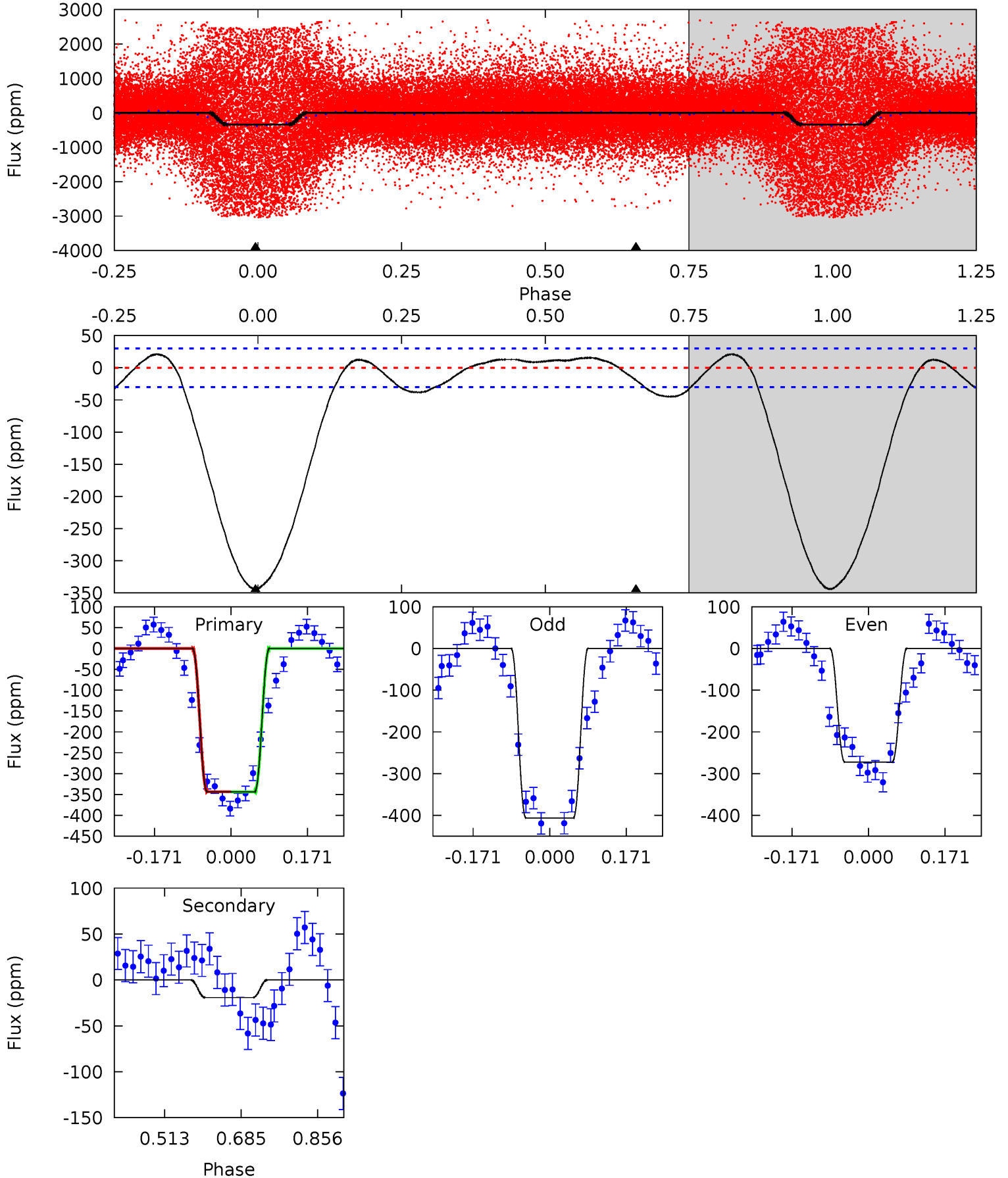
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.76	5.37	0	0	4.45	1.37	2.80	6.76	6.76	5.37	5.37	1.63	1.08	0.50	0.94



Alt Model-Shift Uniqueness Test

010424977-01, P = 1.042203 Days, E = 131.179448 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.9	2.85	0	0	4.45	1.37	2.75	50.9	50.9	2.85	2.85	9.79	0.94	0.06	0.02



Stellar Parameters For KIC 010424977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+198}_{-247}	$2.794^{+0.603}_{-0.033}$	$-0.500^{+0.550}_{-0.150}$	$11.948^{+0.842}_{-7.580}$	$3.239^{+0.072}_{-1.373}$	$0.003^{+0.030}_{-0.001}$
	+3%/-4%	+22%/-1%	+110%/-30%	+7%/-63%	+2%/-42%	+1122%/-23%
Source	PHO1	FLK73	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 010424977-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 11	$6.57^{+2.85}_{-2.47}$	8155^{+602}_{-1284}	6582^{+2347}_{-3177}	$0.646^{+0.958}_{-0.338}$
Alt.	-19 ± 7	$19.24^{+4.19}_{-5.77}$	8075^{+624}_{-1146}	-6445^{+979}_{-560}	$0.024^{+0.023}_{-0.010}$

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

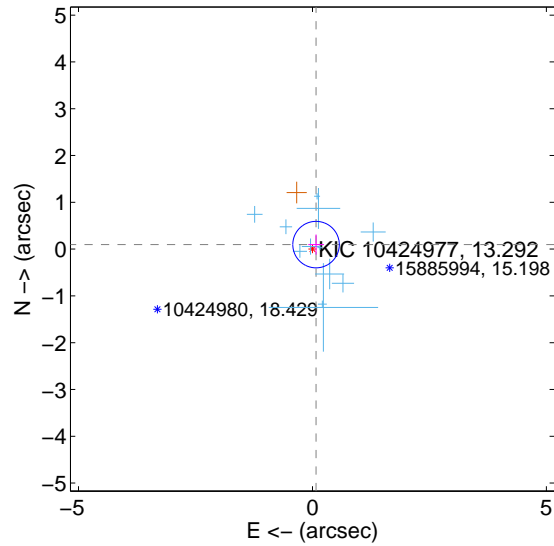
Supplemental centroid analysis for 010424977-01. Kepler magnitude: 13.29. Transit SNR 4.48

There are 12 quarters with good PRF difference image offsets

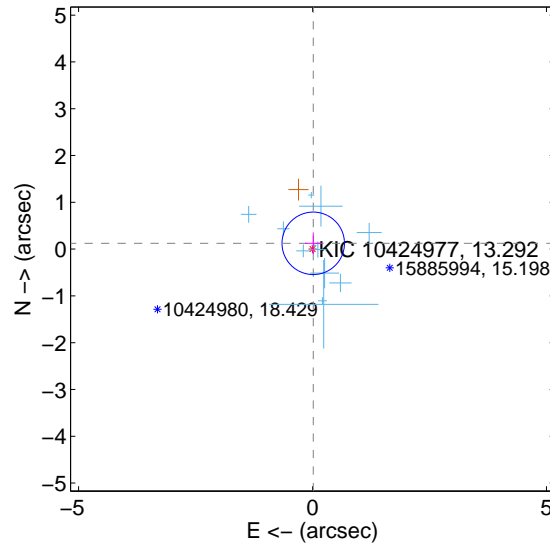
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.123 ± 0.166	0.74	-0.077 ± 0.166	0.096 ± 0.215
PRF-fit source offset from KIC position	0.125 ± 0.222	0.56	-0.015 ± 0.178	0.124 ± 0.231
photometric centroid source offset	2.03 ± 0.76	2.66	-0.70 ± 0.79	-1.90 ± 0.76

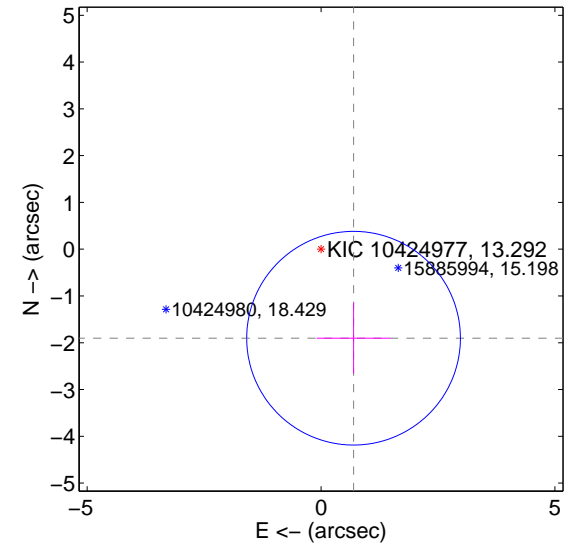
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

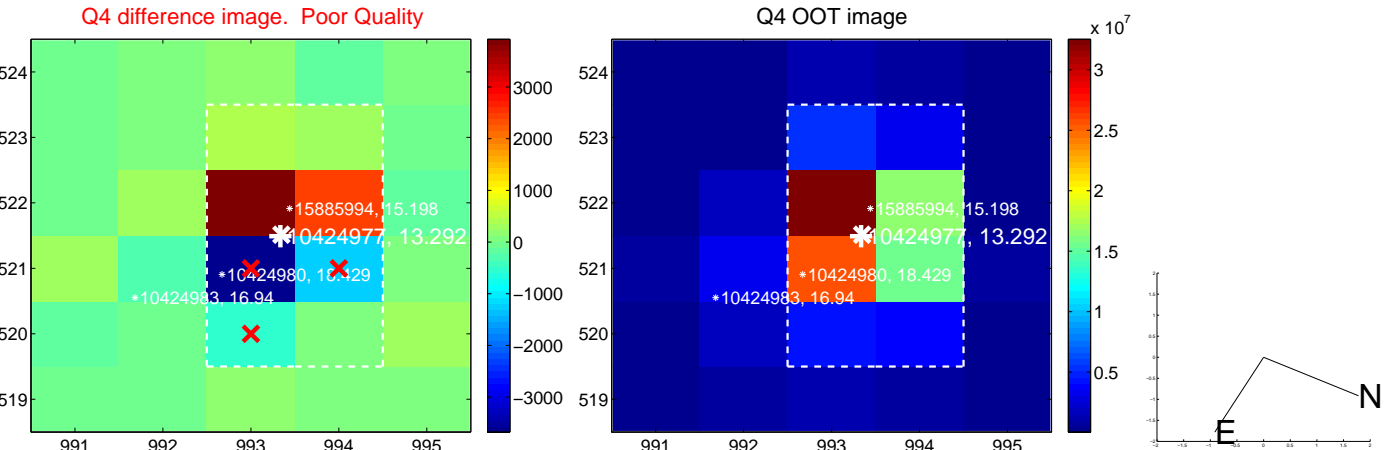
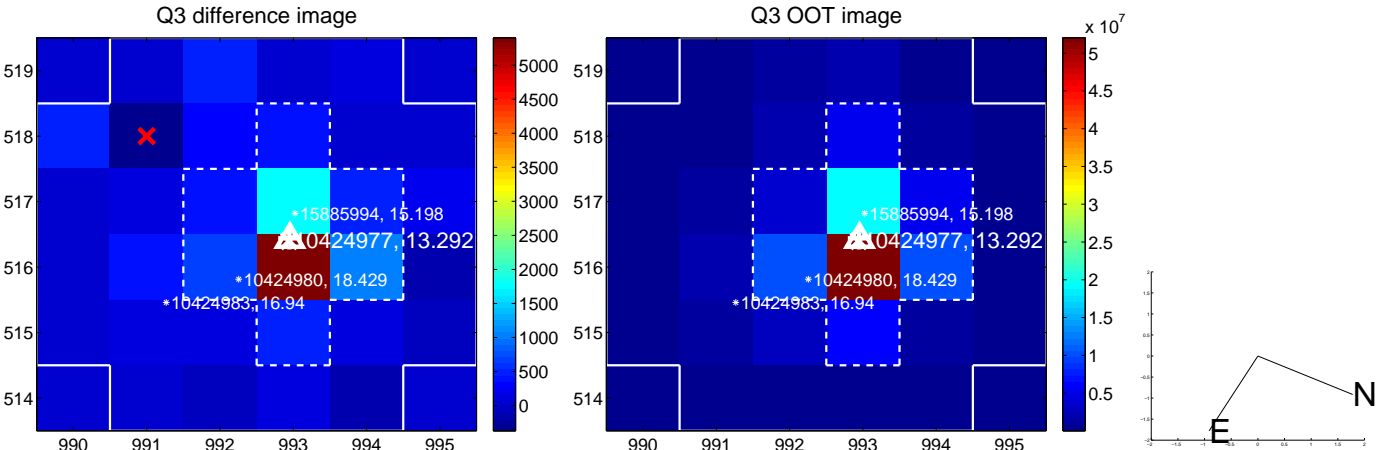
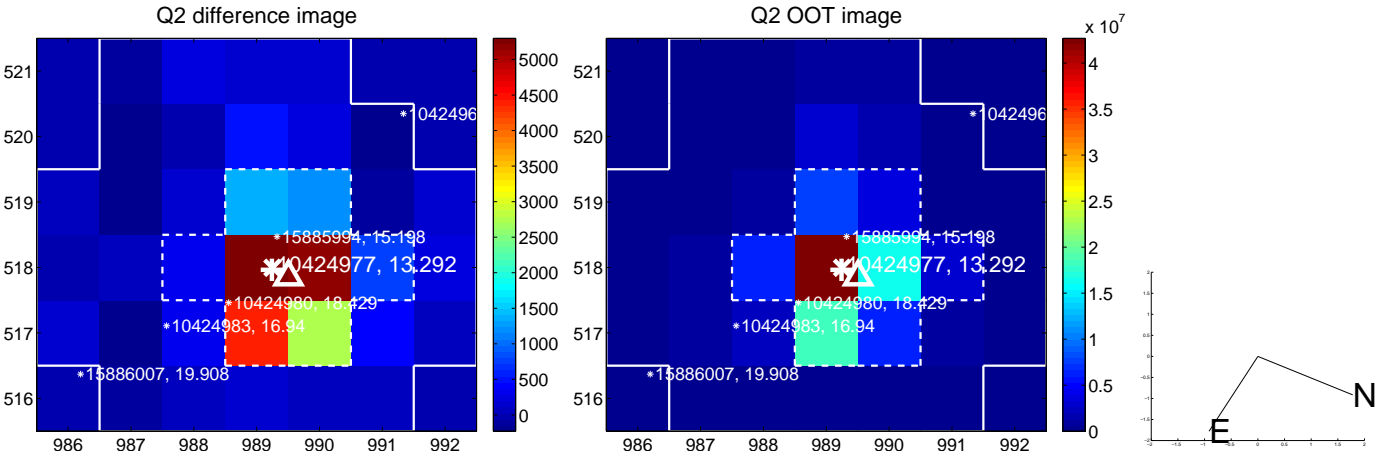
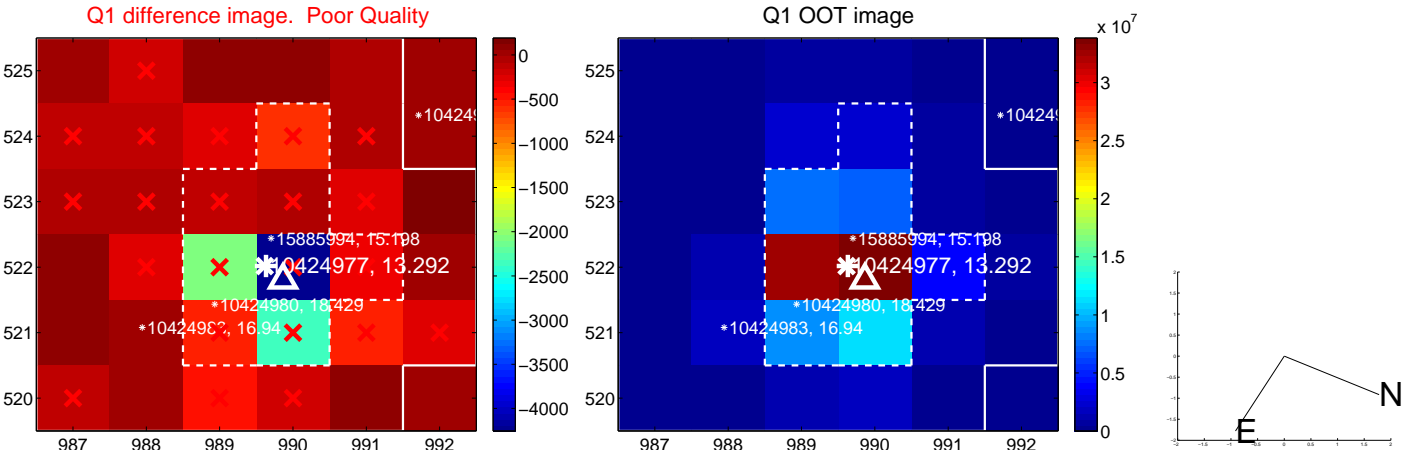


offset from photometric centroids

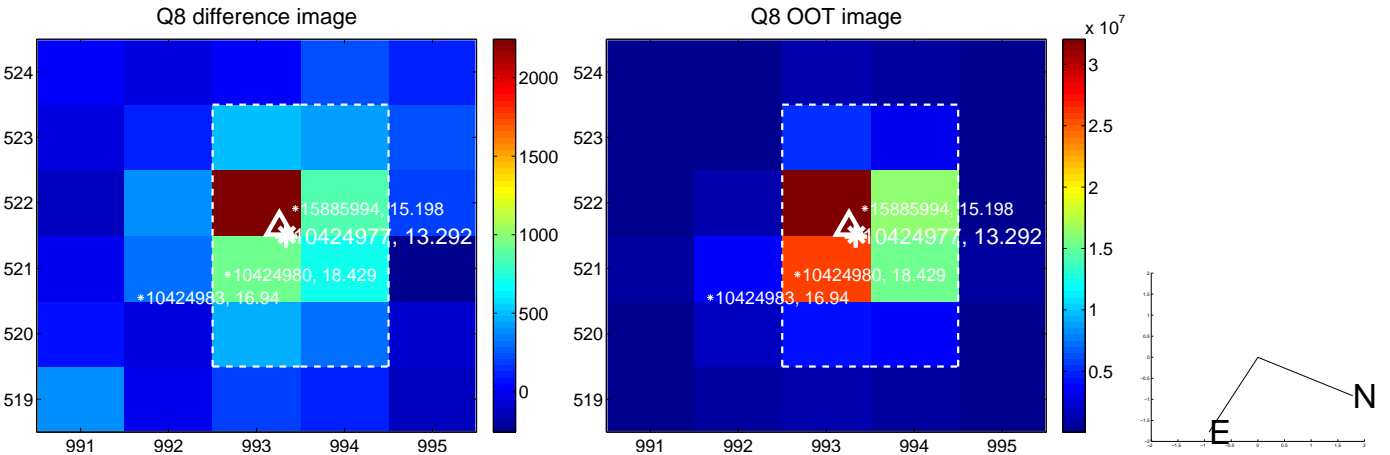
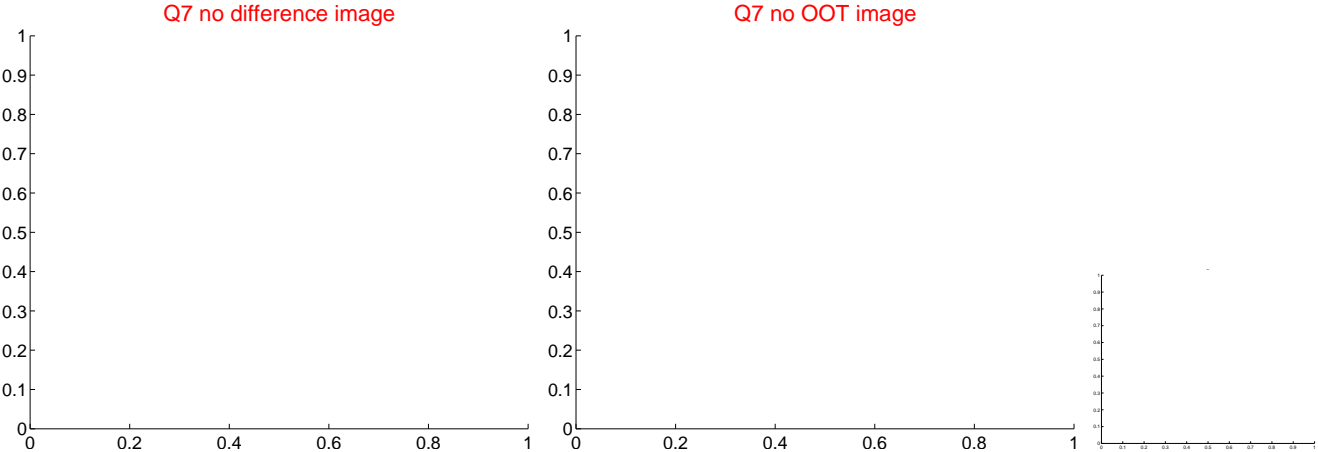
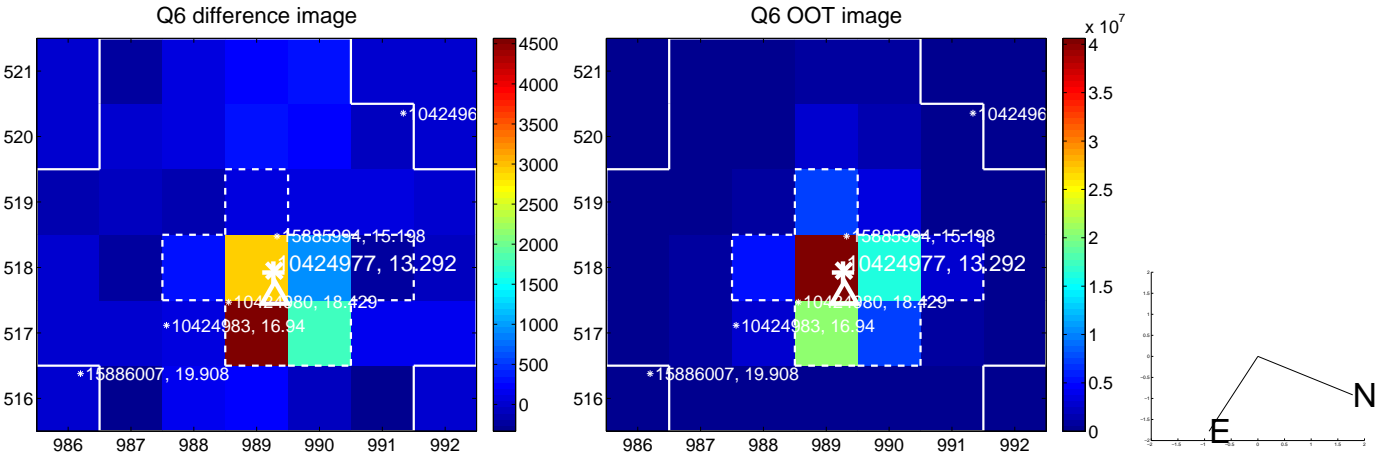
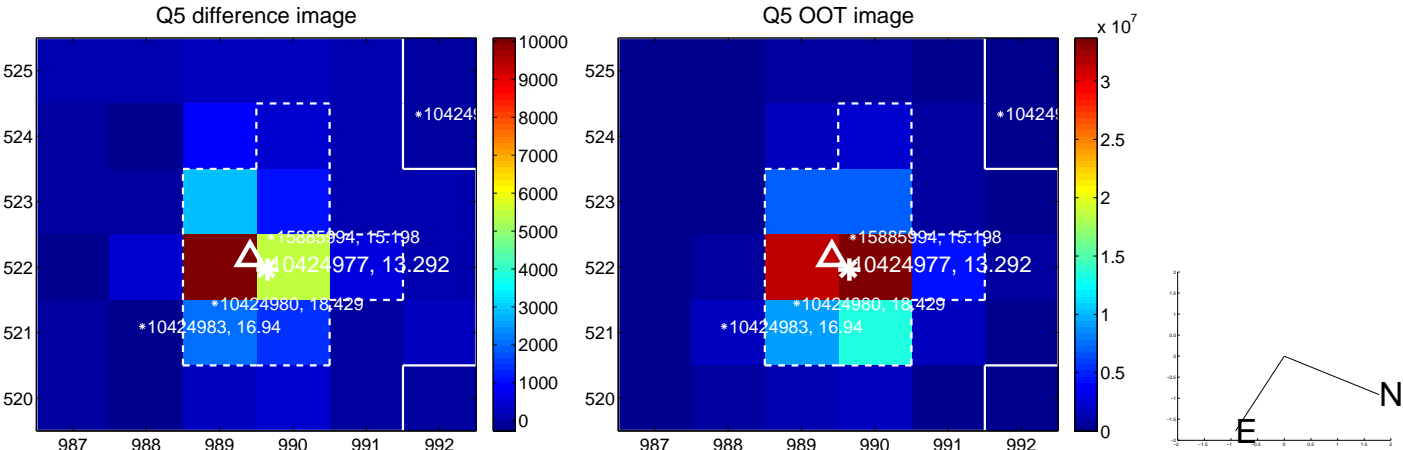


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

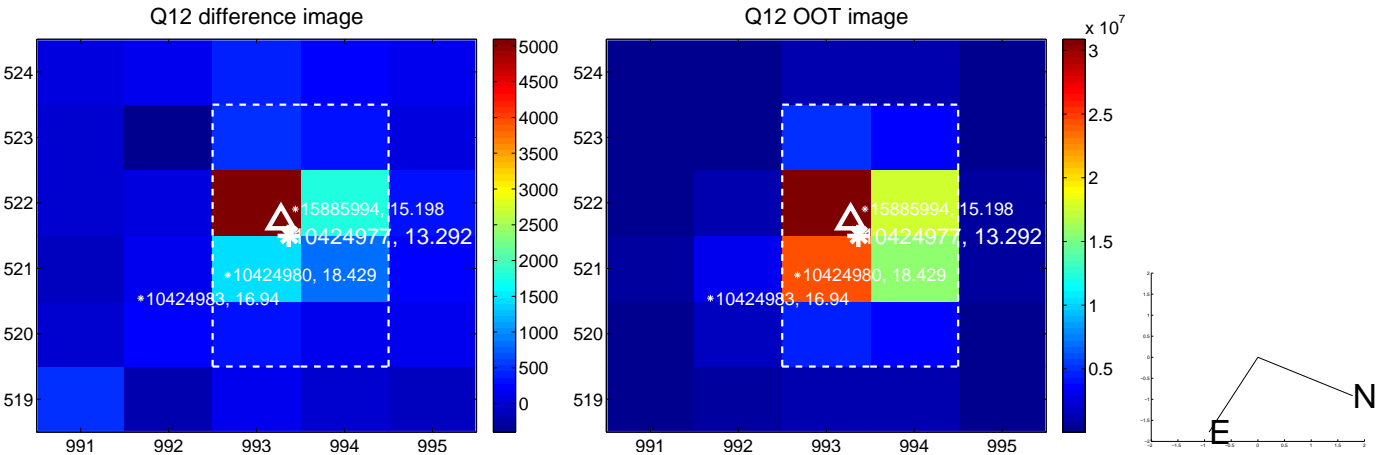
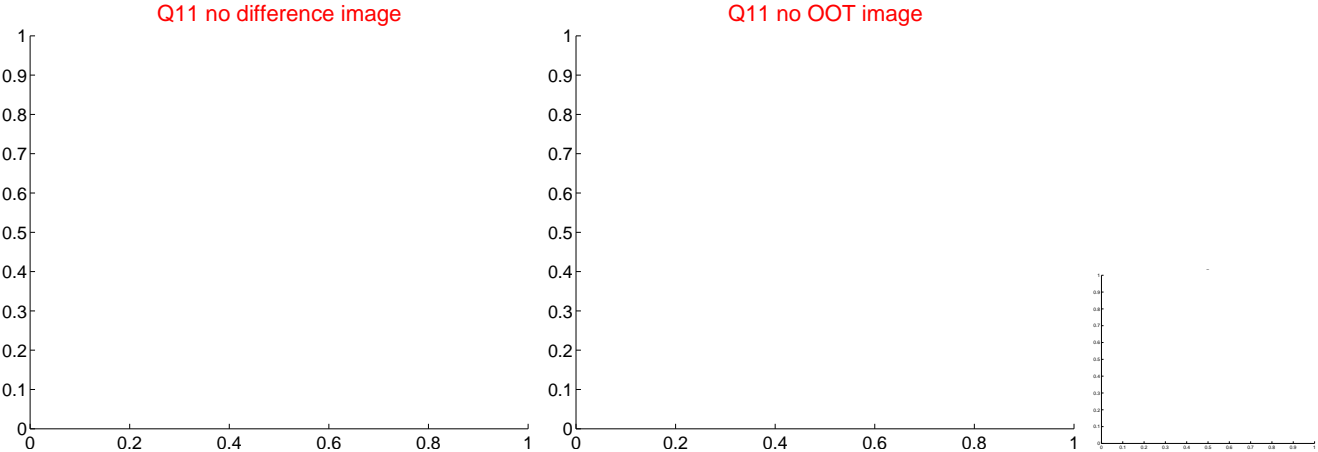
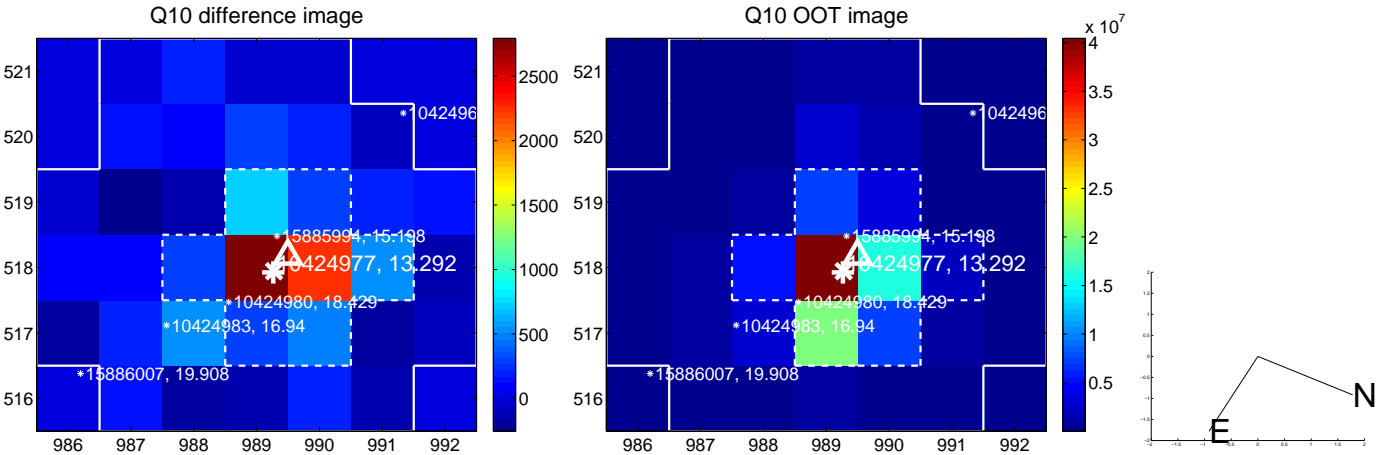
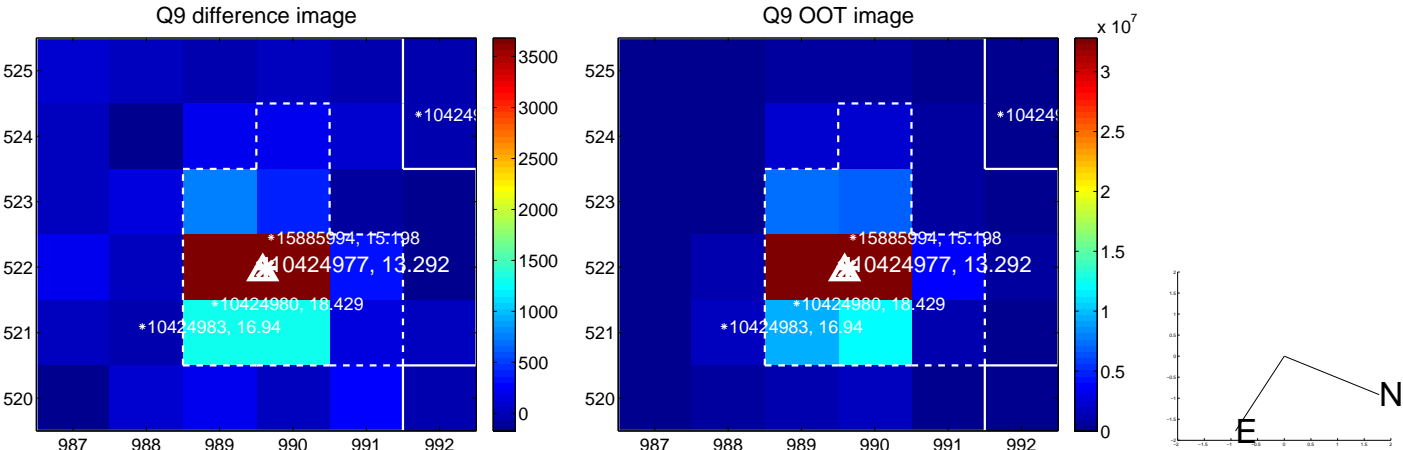
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



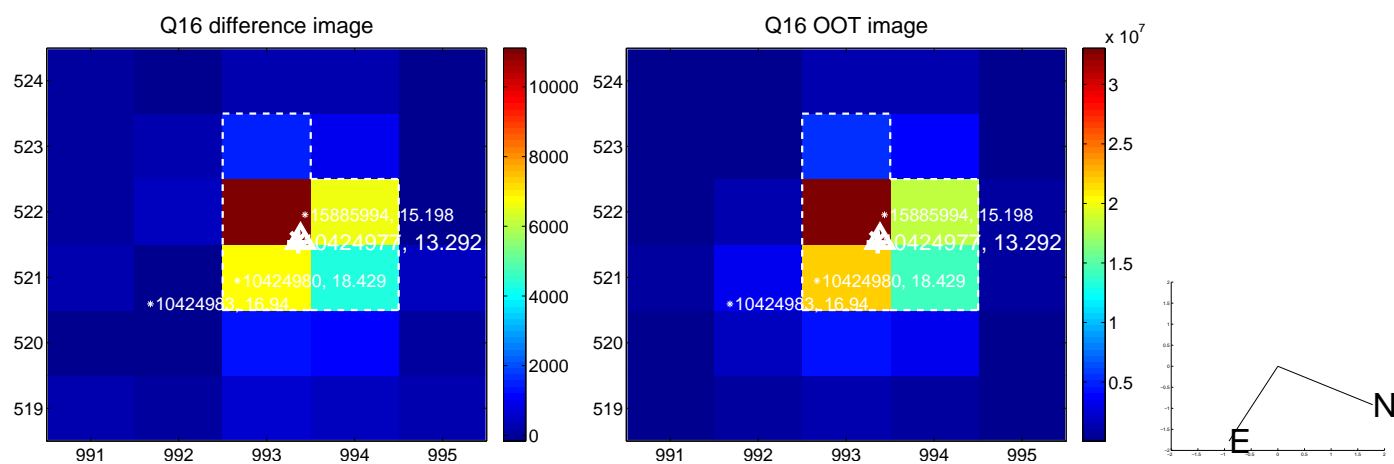
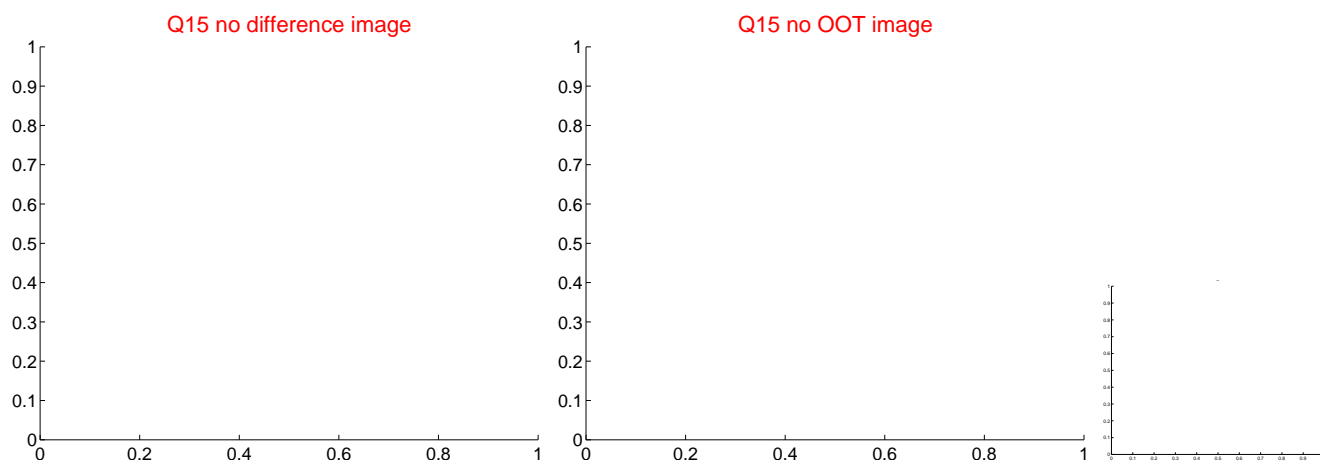
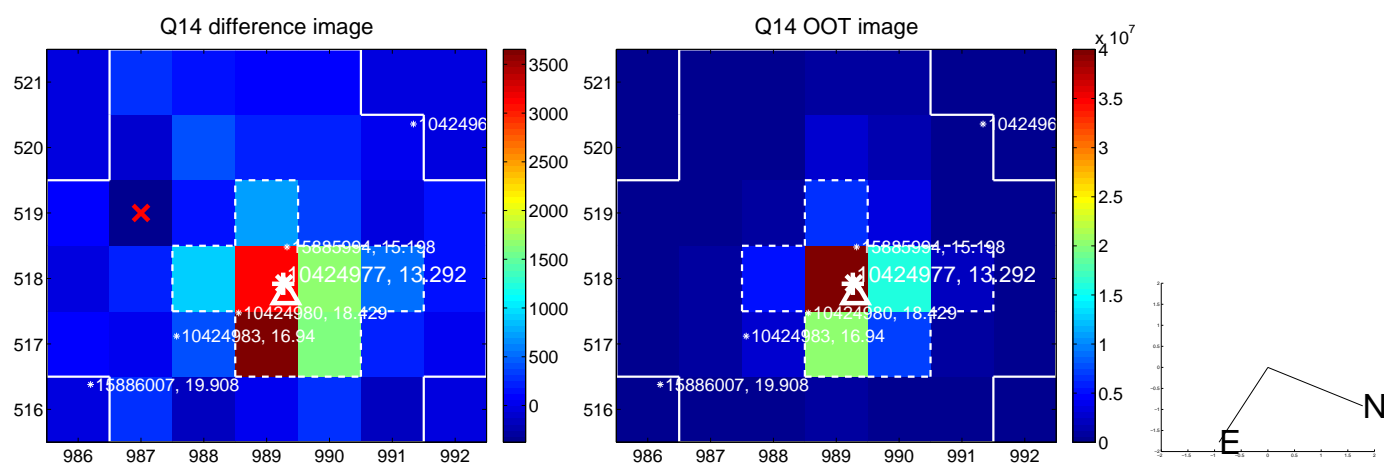
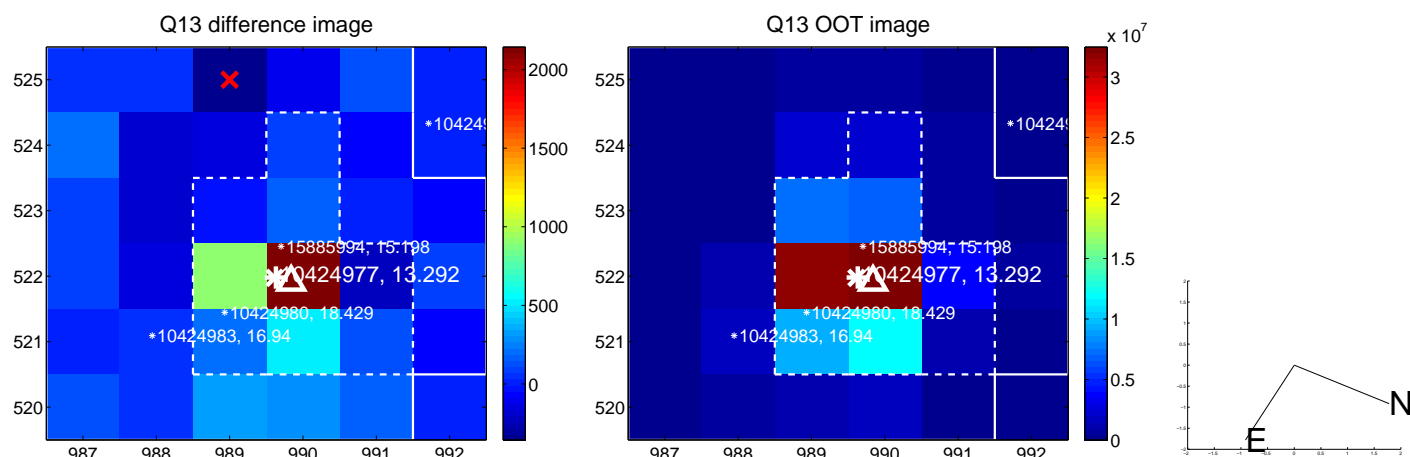
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



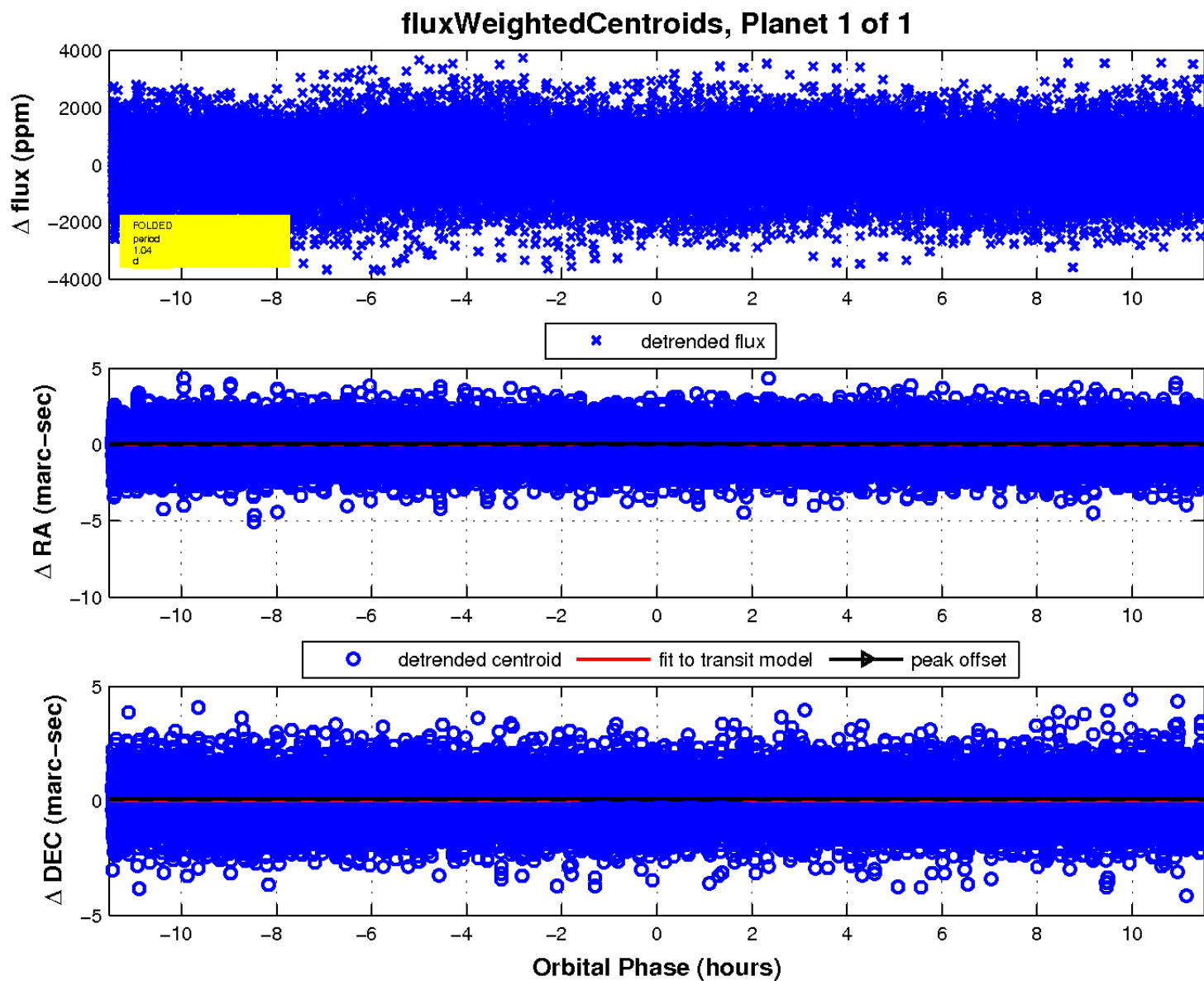
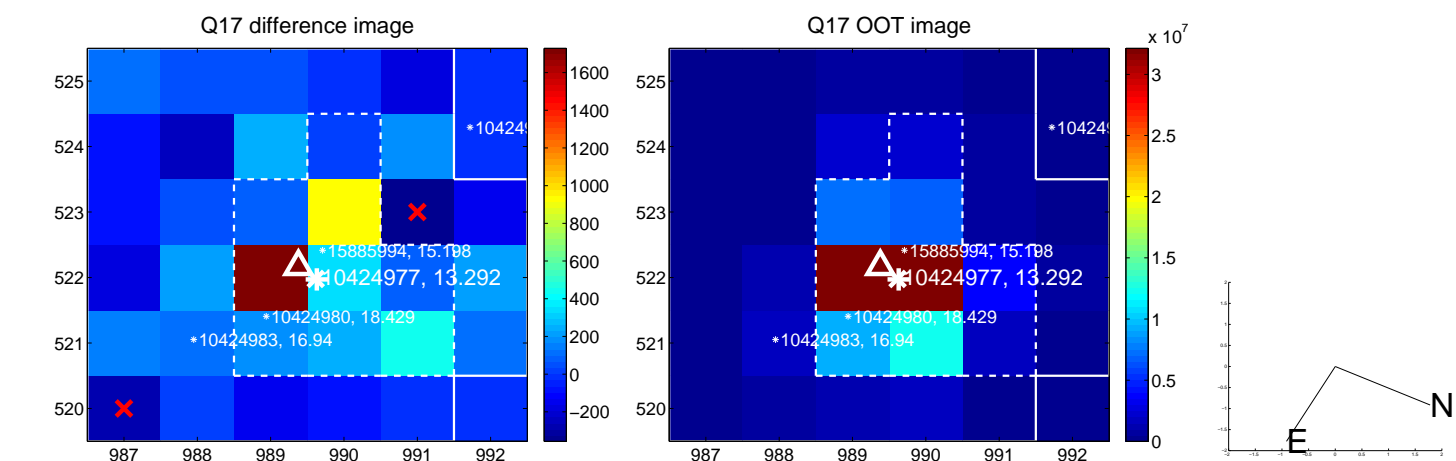
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

