

KIC 003940372

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})
003940372-01	OBS	No	0.528924	131.952305	93.0	4.279	8.9	12.0	0.40	3458	0.38	226.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003940372-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

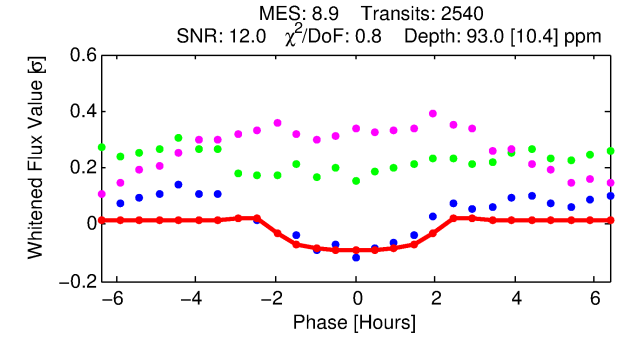
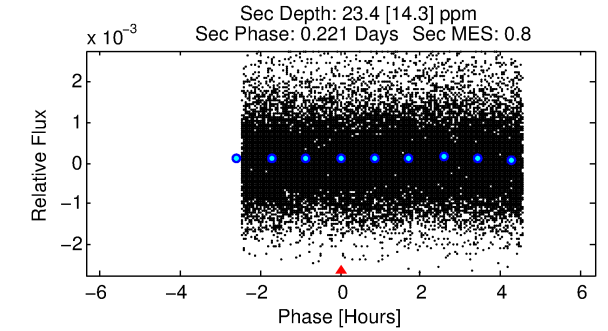
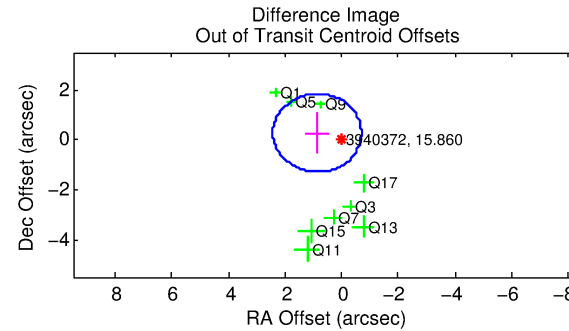
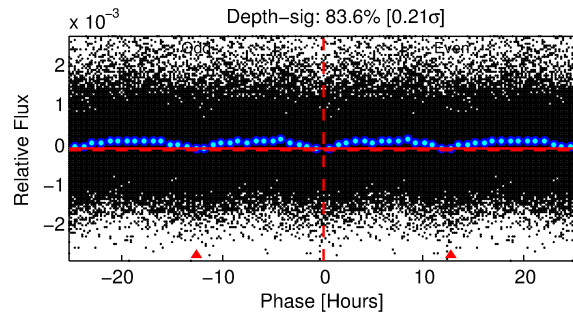
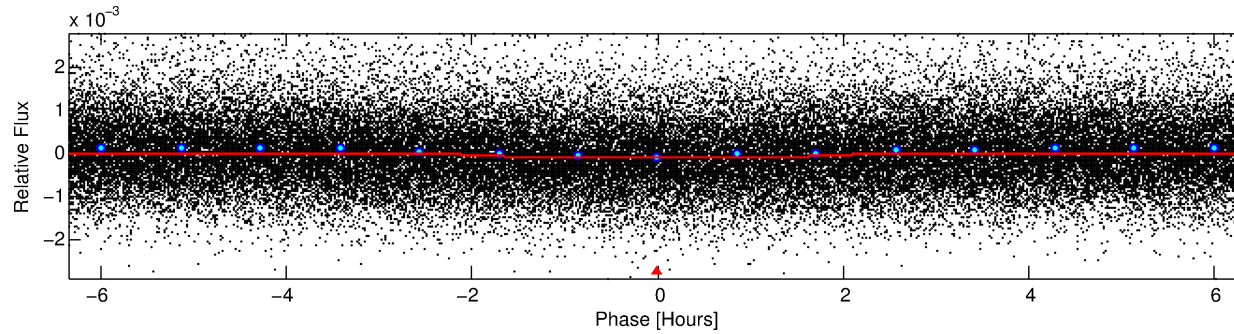
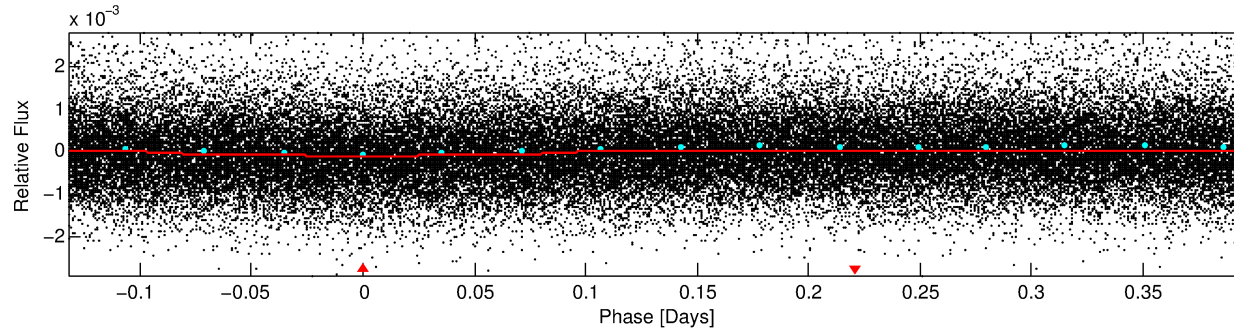
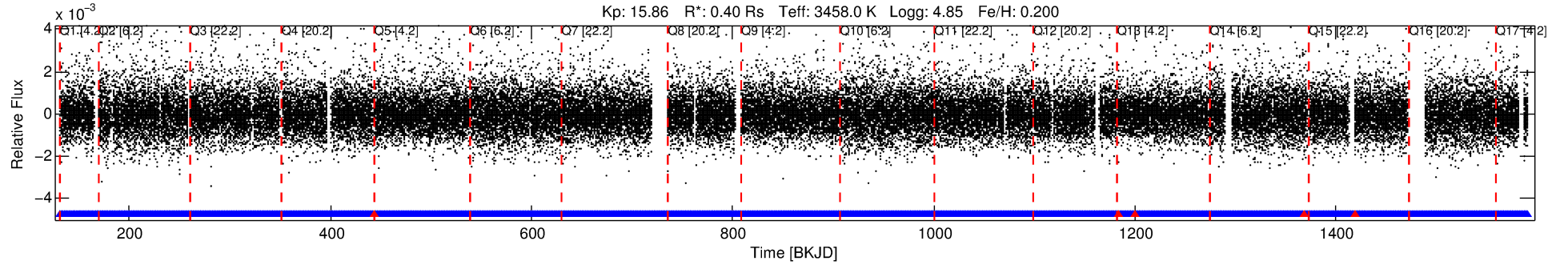
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003940372-01

No Significant Match Found

DV One-Page Summary

KIC: 3940372 Candidate: 1 of 1 Period: 0.529 d



DV Fit Results:

Period = 0.52892 [0.00001] d
Epoch = 131.9523 [0.0036] BKJD
Rp/R* = 0.0086 [0.0178]
a/R* = 1.16 [2.36]
b = 0.01 [937.20]
Seff = 226.92 [20.55]
Teq = 990 [22] K
Rp = 0.38 [0.78] Re
a = 0.0096 [0.0006] AU
Ag = 8.17 [34.01] [0.21 σ]
Teffp = 2587 [2693] K [0.59 σ]

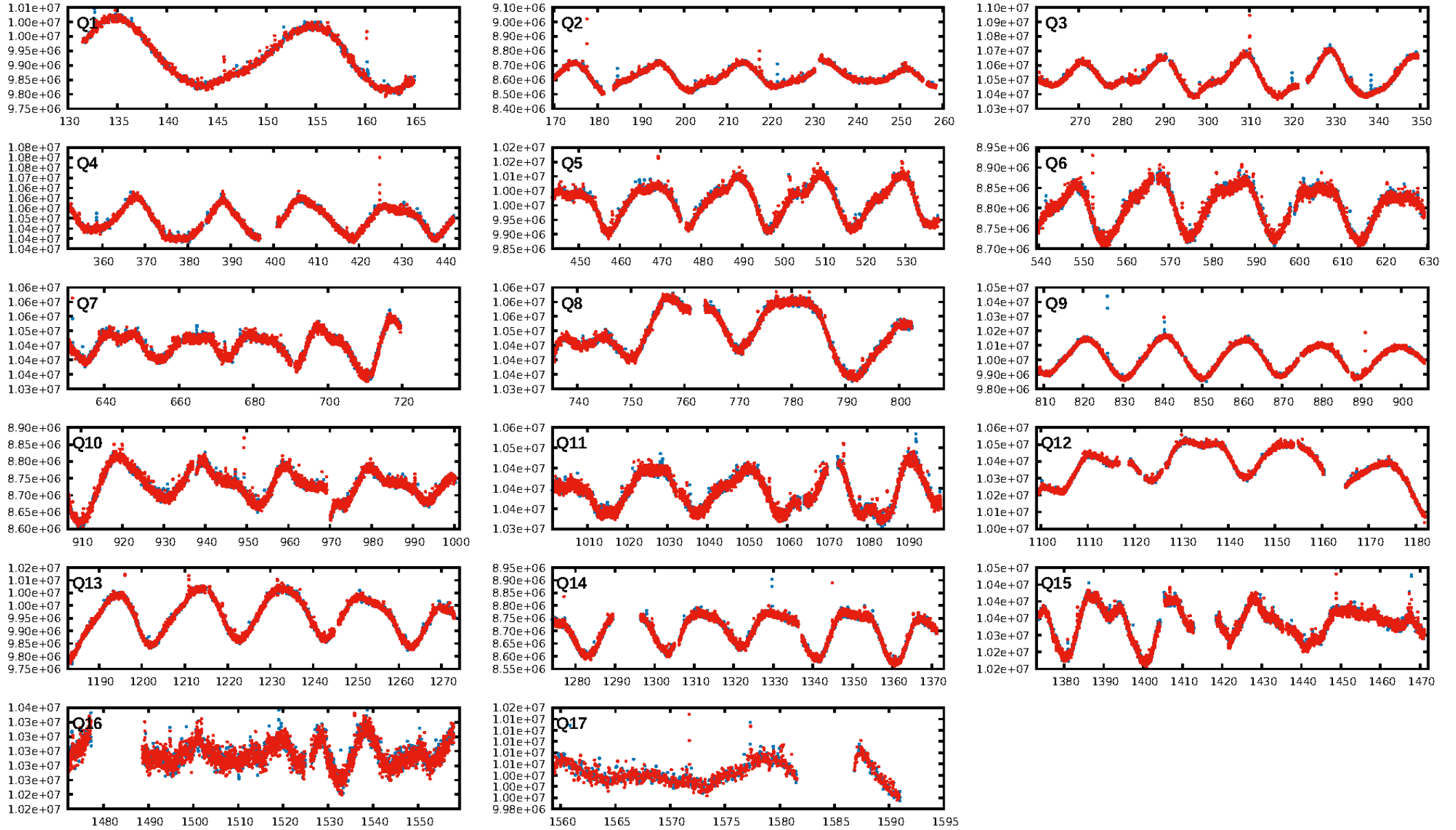
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2421/2426]
GhostDiagnostic-chr: 1.78
Centroid-sig: 4.6%
Centroid-so: 1.339 arcsec [1.30 σ]
OotOffset-rm: 0.907 arcsec [1.74 σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-rm: 0.782 arcsec [1.55 σ]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [17/17]

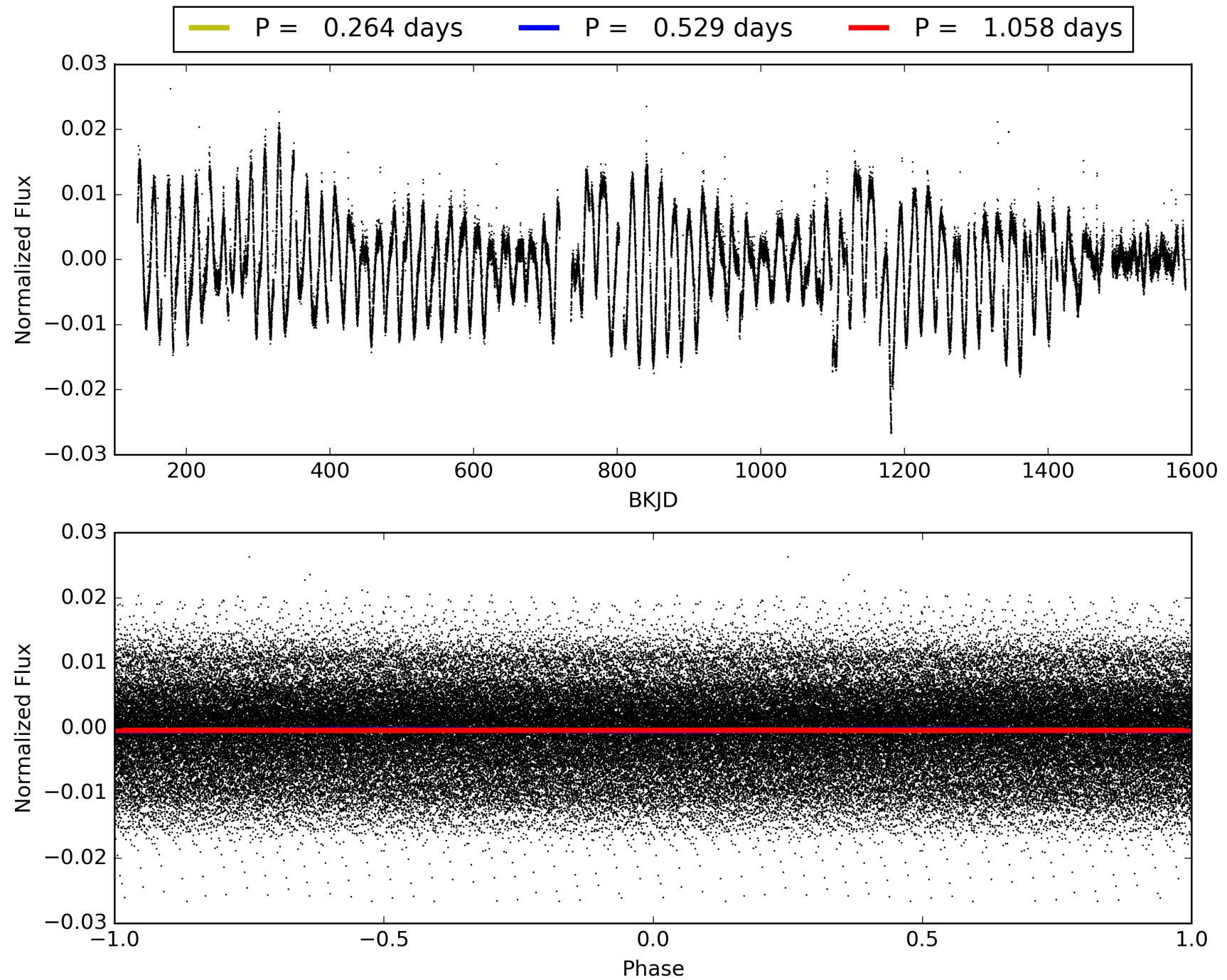
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:44:45 Z

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

TCE 003940372-01, PDC Light Curves

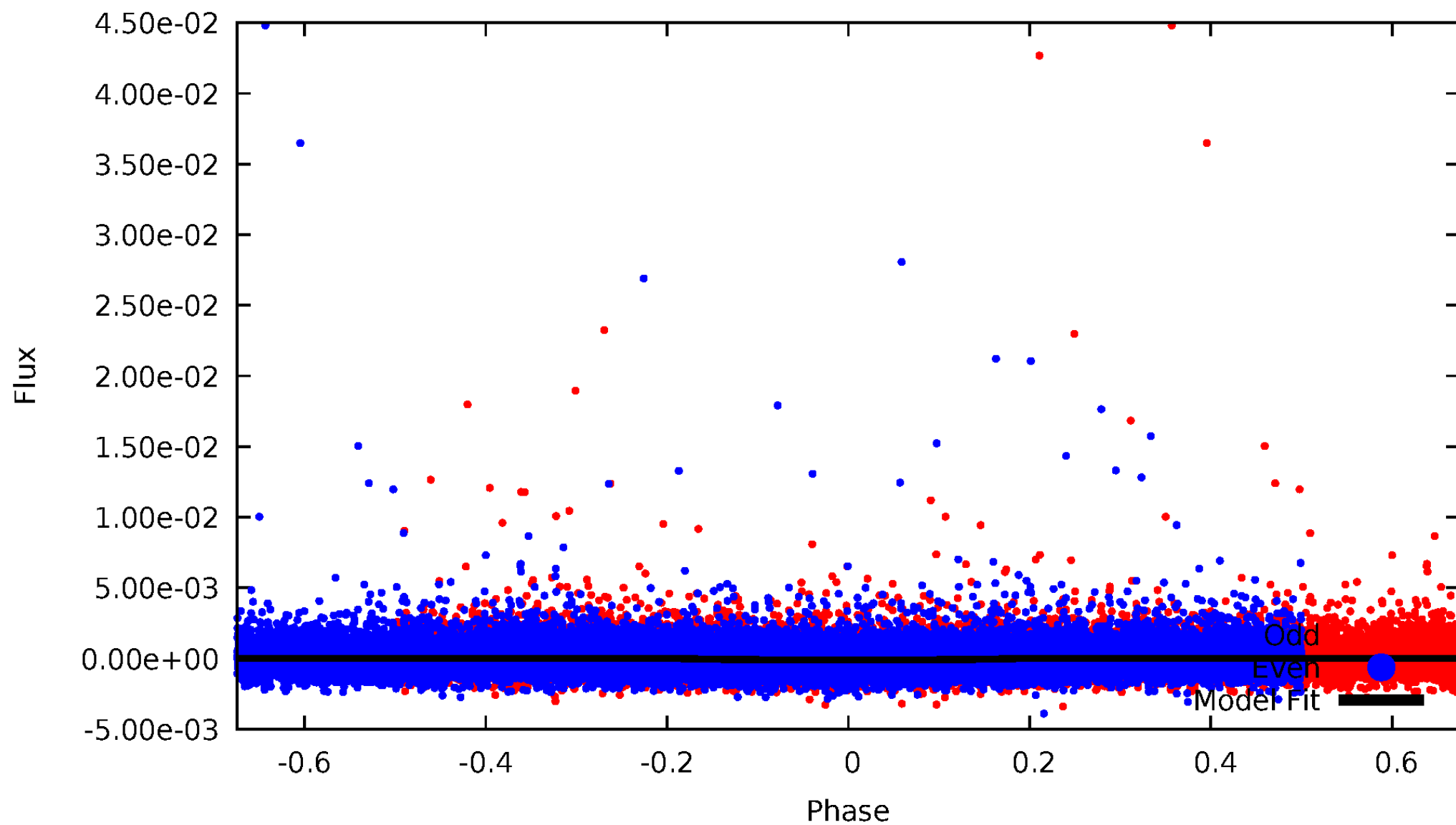


TCE 003940372-01



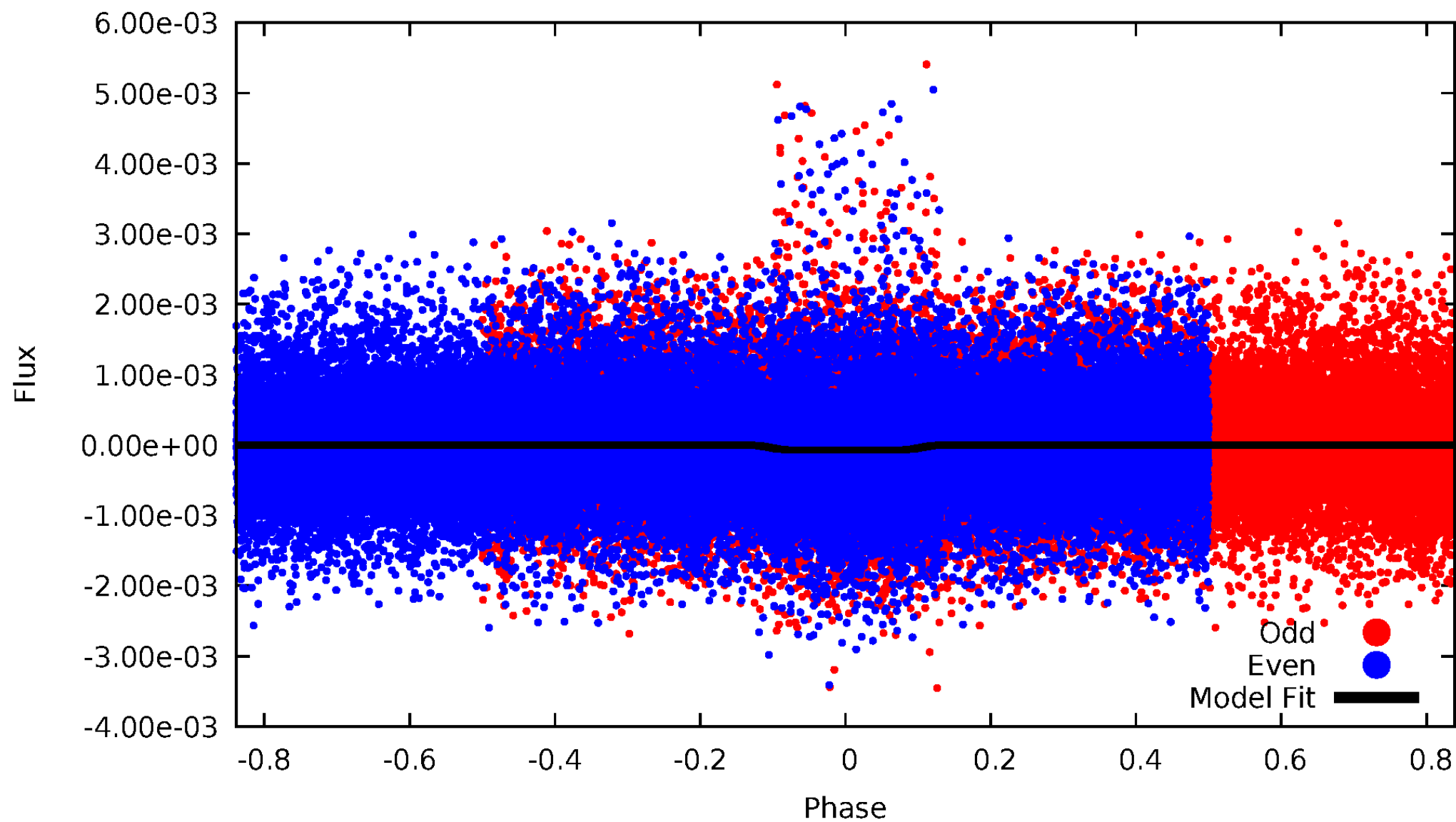
DV Odd/Even

TCE 003940372-01



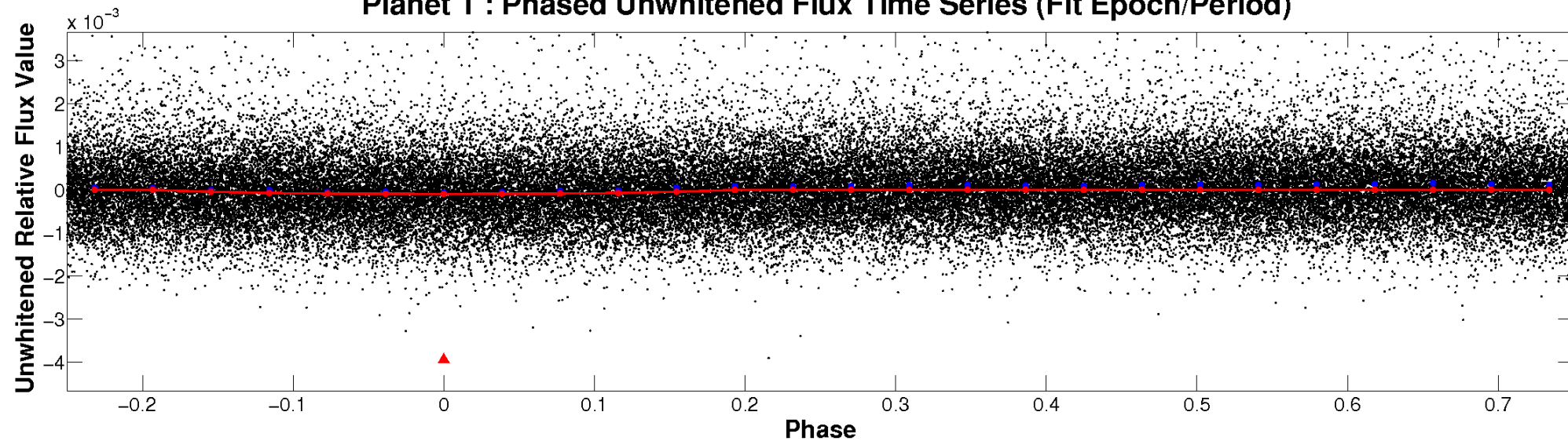
ALT Odd/Even

TCE 003940372-01

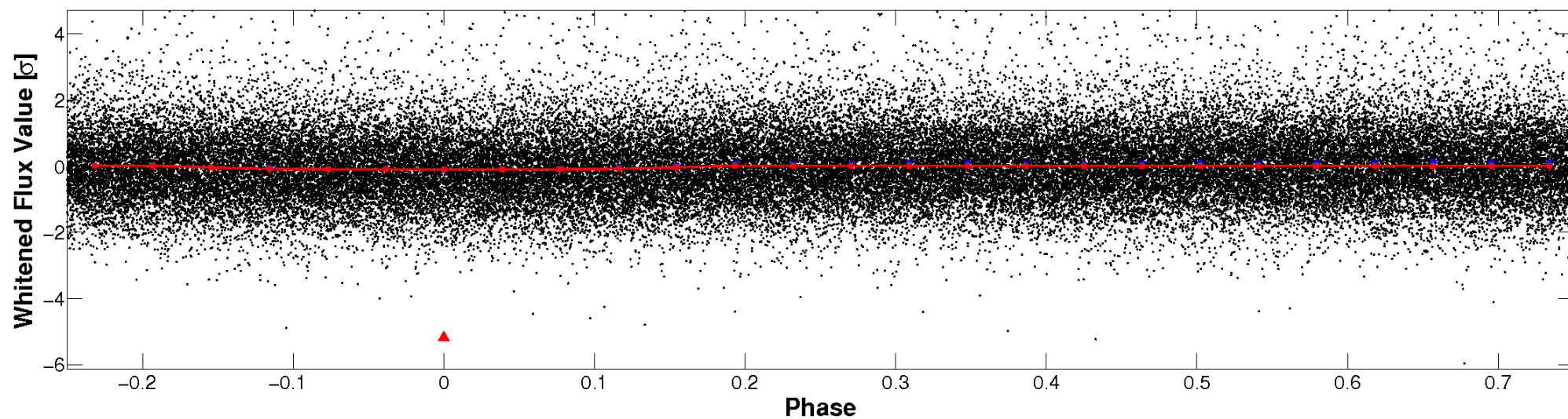


Non-Whitened Vs. Whitened Light Curve

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

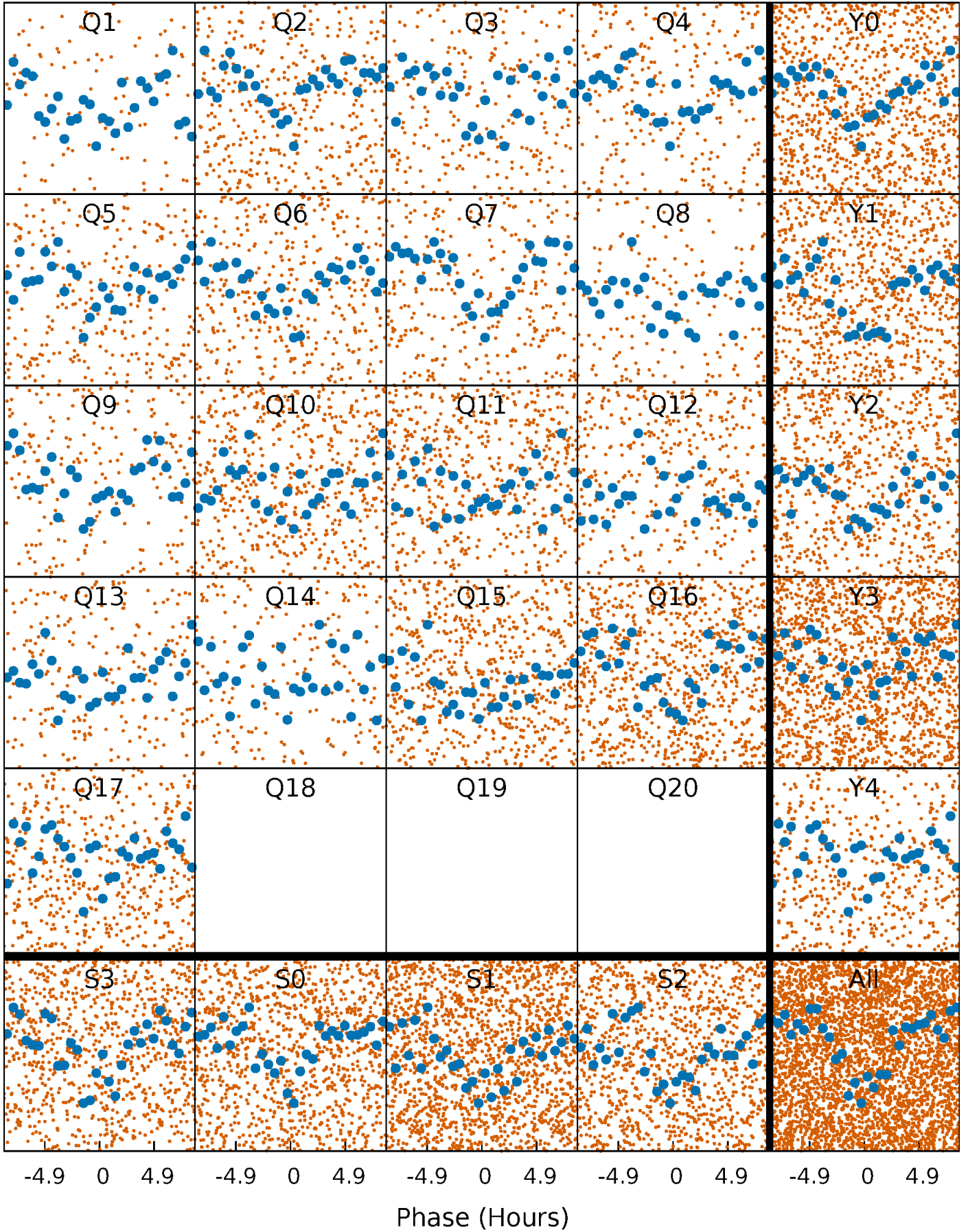


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



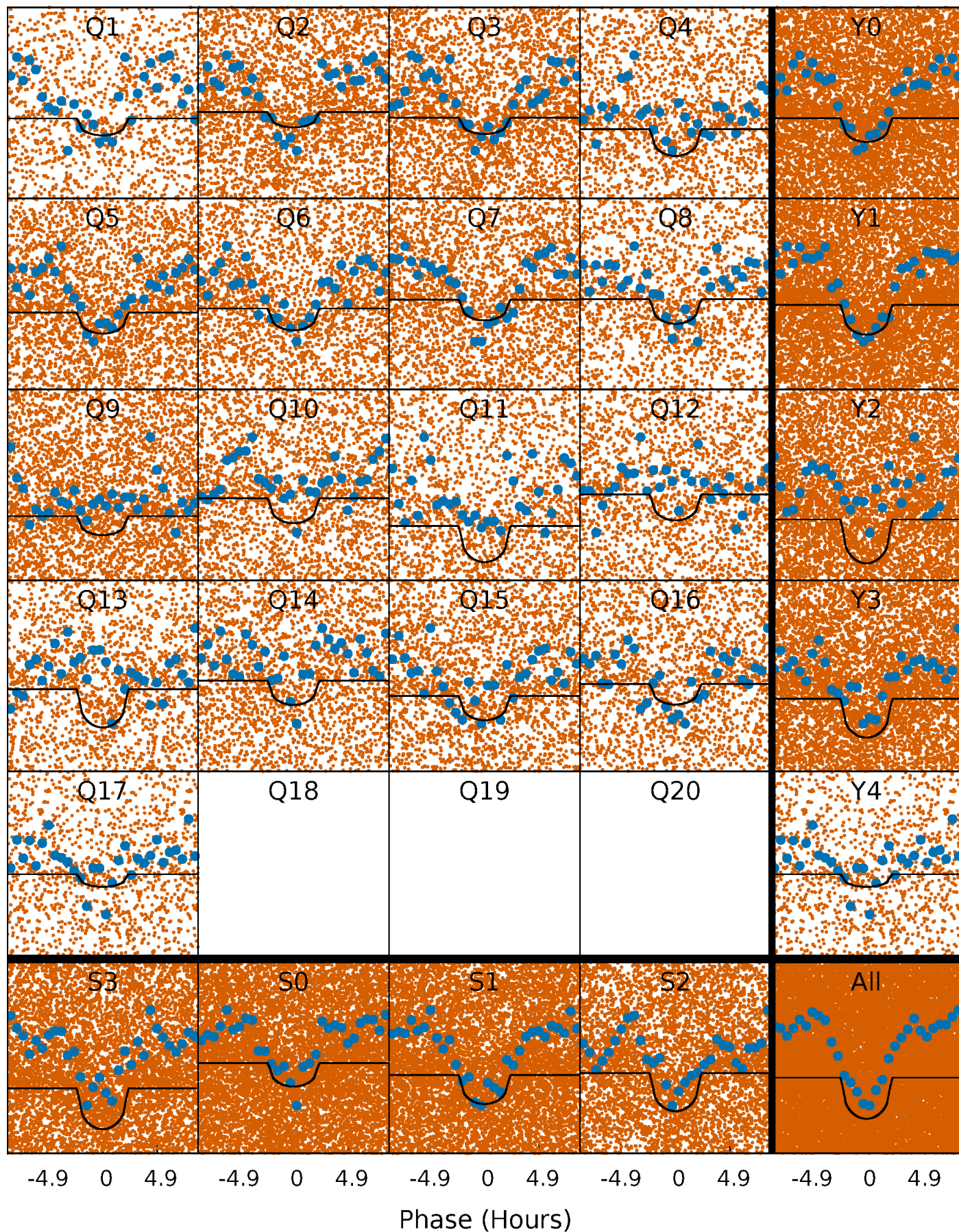
PDC Quarter-Phased Transit Curves

TCE 003940372-01 P= 0.528924 Days $T_0=131.952305$ (BKJD)



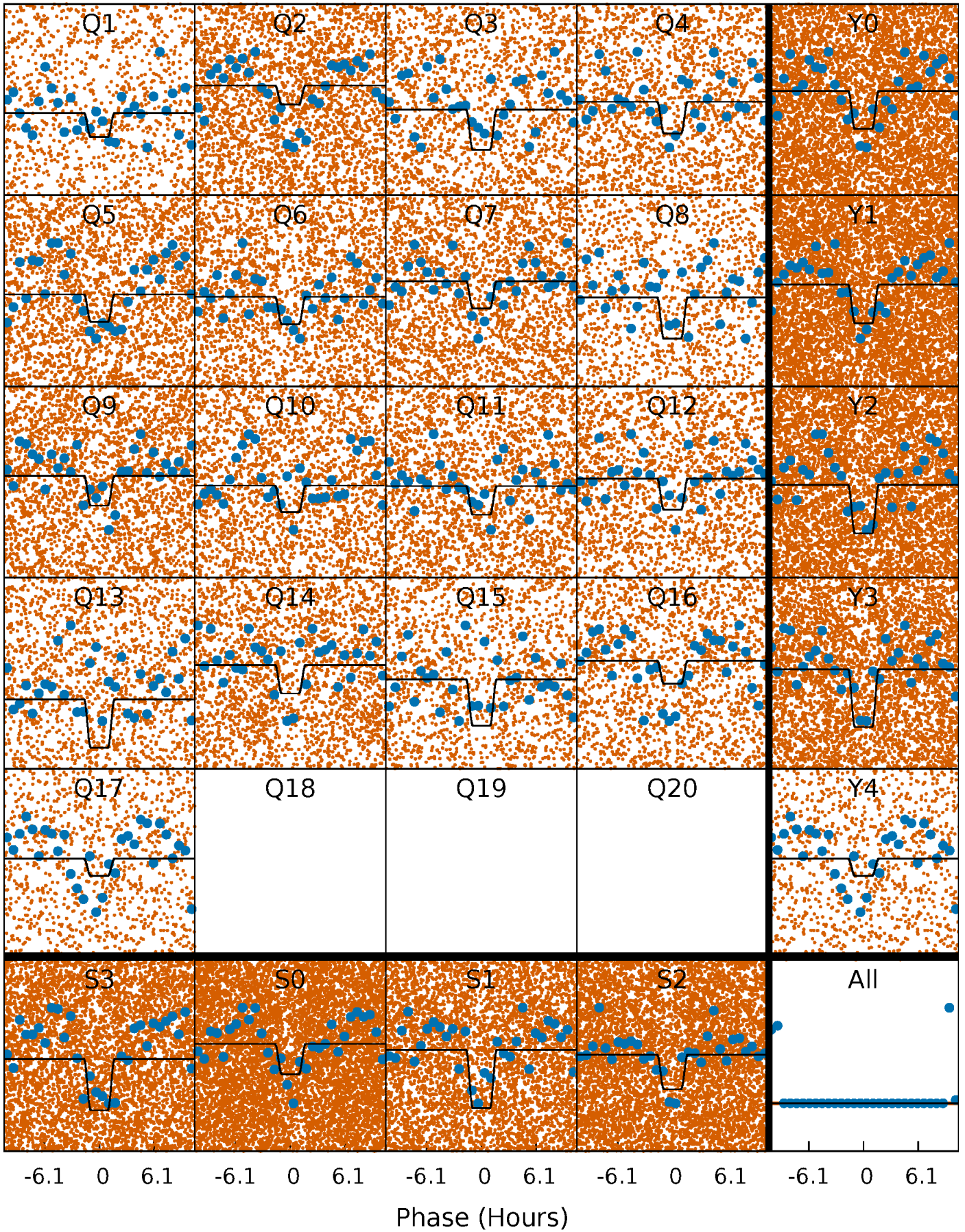
DV Quarter-Phased Transit Curves

TCE 003940372-01 P= 0.528924 Days $T_0=131.952305$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

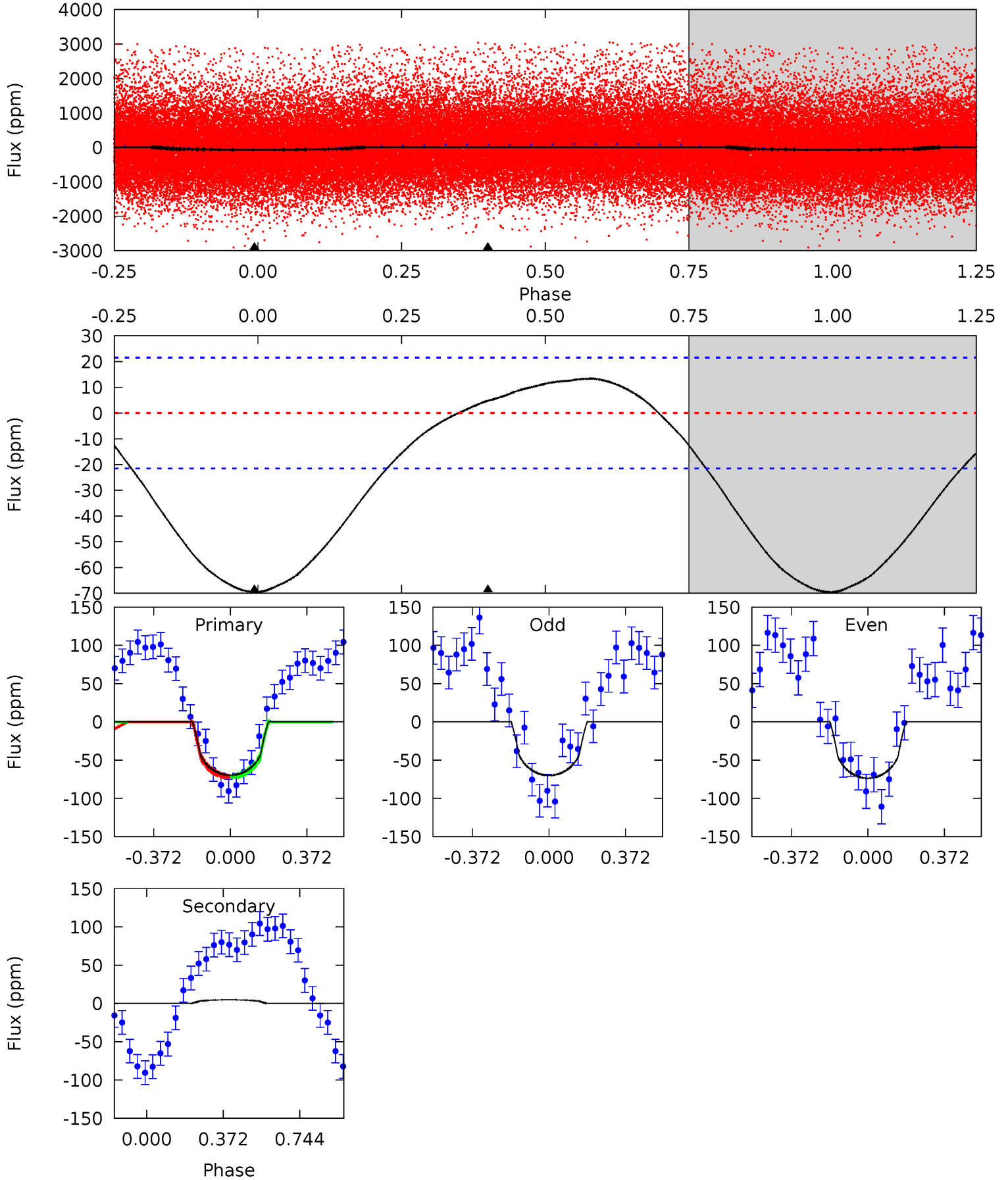
TCE 003940372-01 P= 0.528947 Days $T_0=131.914986$ (BKJD)



DV Model-Shift Uniqueness Test

003940372-01, P = 0.528924 Days, E = 131.423381 Days

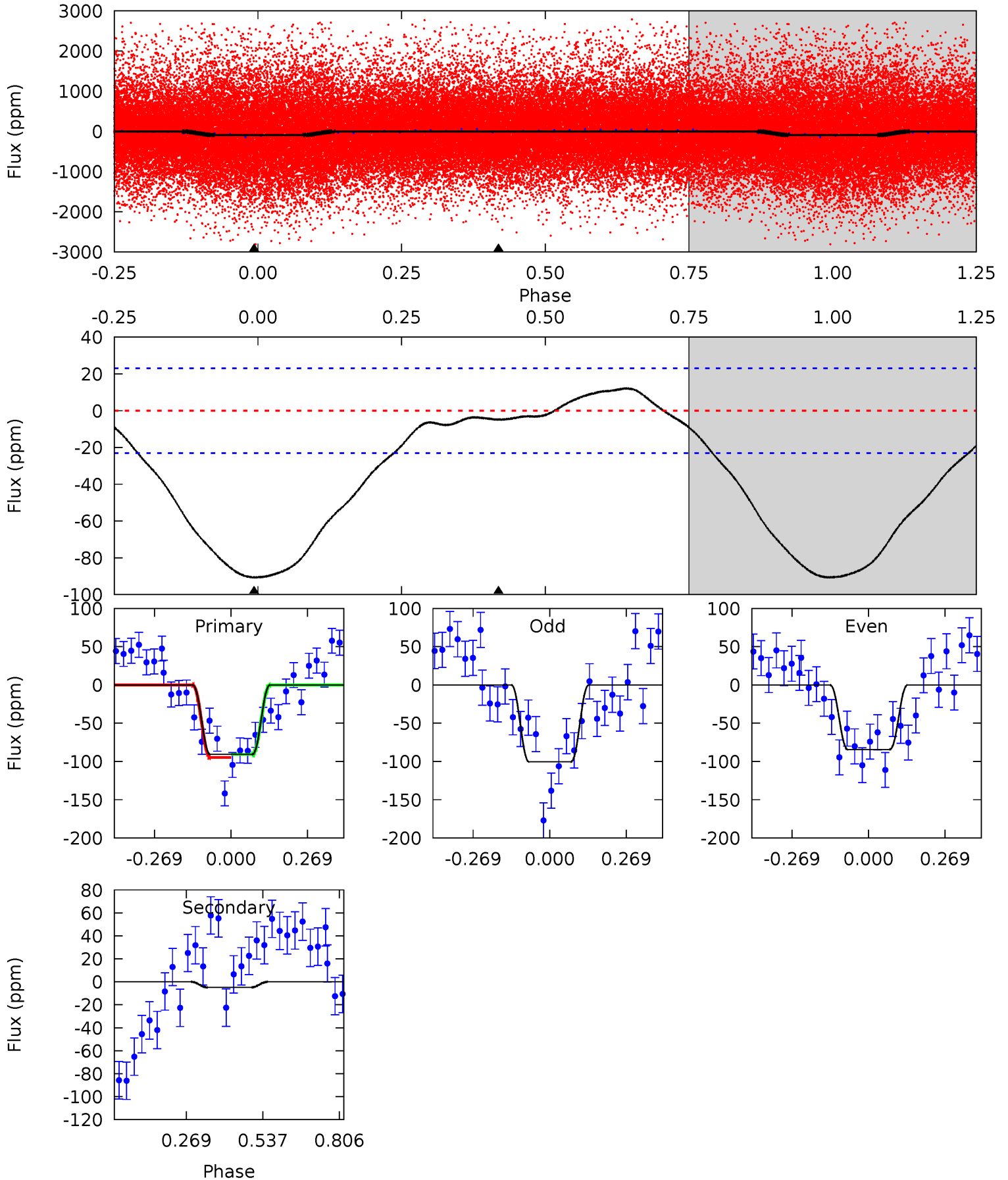
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	-0.95	0	0	4.28	0.89	1.22	13.8	13.8	-0.95	-0.95	0.37	0.40	0.16	0.01



Alt Model-Shift Uniqueness Test

003940372-01, P = 0.528947 Days, E = 131.386039 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	0.94	0	0	4.35	1.11	1.22	17.1	17.1	0.94	0.94	1.53	0.82	0.12	0.35



Stellar Parameters For KIC 003940372

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3458^{+47}_{-47}	$4.849^{+0.031}_{-0.031}$	$0.200^{+0.100}_{-0.100}$	$0.403^{+0.033}_{-0.033}$	$0.423^{+0.031}_{-0.043}$	$9.077^{+1.583}_{-1.222}$
	+1%/-1%	+1%/-1%	+50%/-50%	+8%/-8%	+7%/-10%	+17%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 003940372-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	5 ± 5	$0.71^{+0.65}_{-0.49}$	1385^{+25}_{-29}	-2145^{+191}_{-488}	$-0.346^{+0.386}_{-3.090}$
Alt.	-5 ± 5	$0.70^{+0.63}_{-0.45}$	1383^{+27}_{-27}	1662^{+919}_{-3665}	$0.346^{+3.108}_{-0.369}$

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 $A_{obs} \gg 1.0$

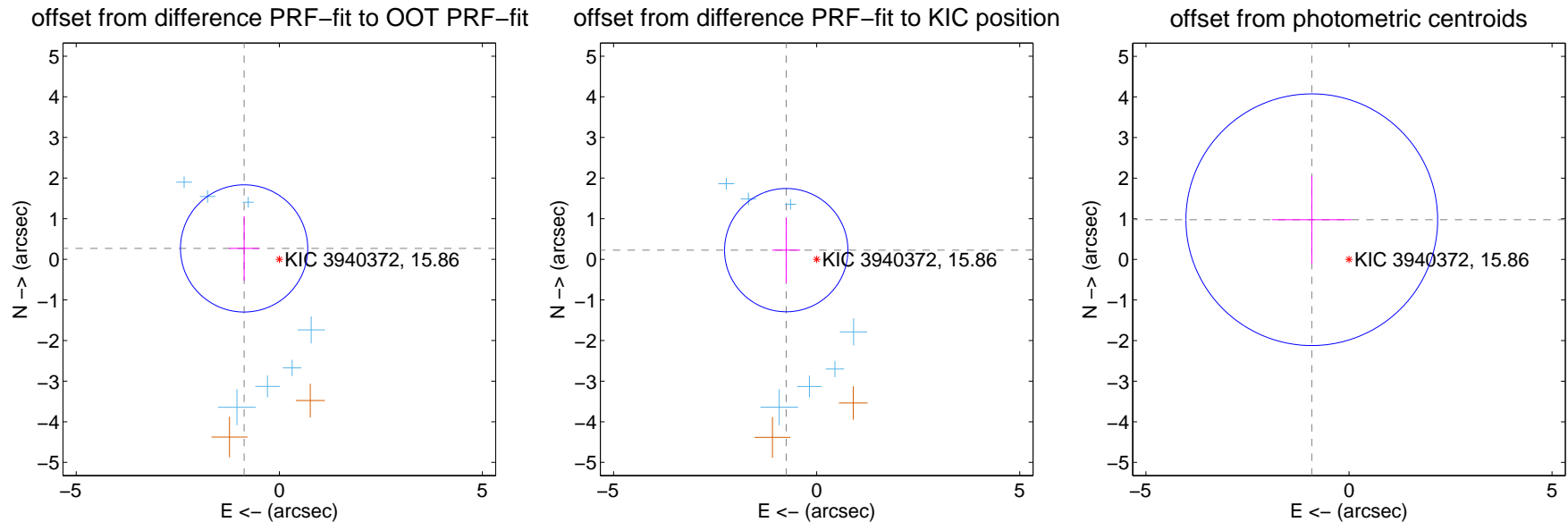
DV Centroid Data

Supplemental centroid analysis for 003940372-01. Kepler magnitude: 15.86. Transit SNR 11.99

There are 7 quarters with good PRF difference image offsets

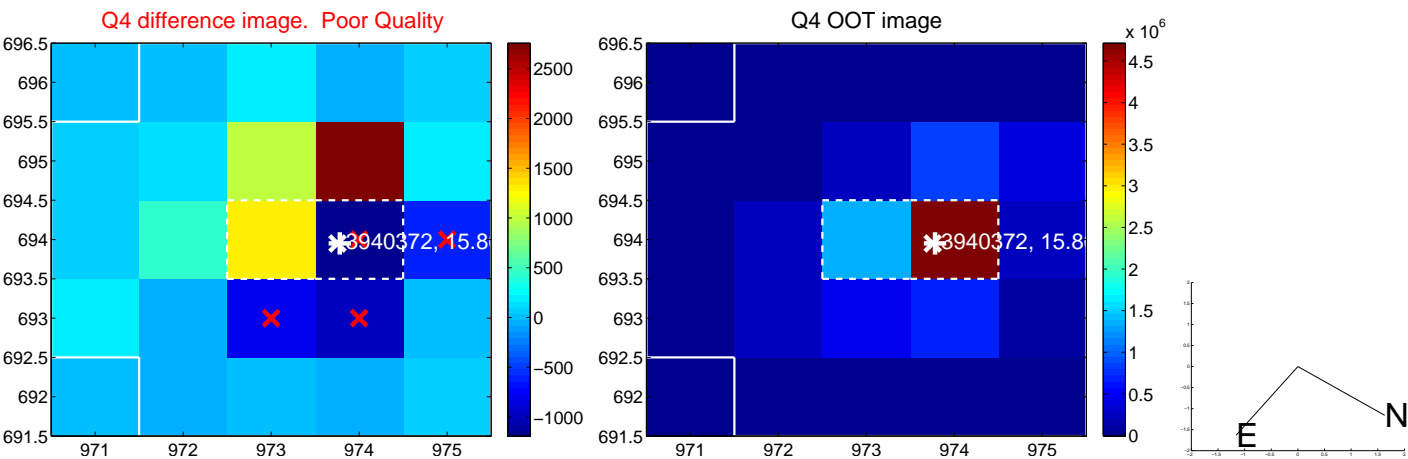
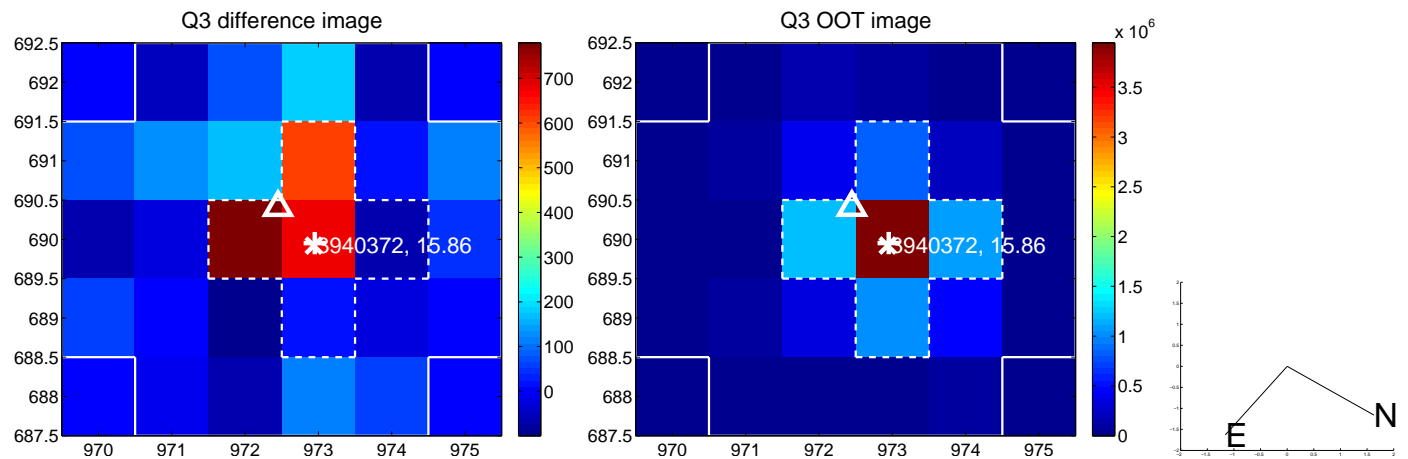
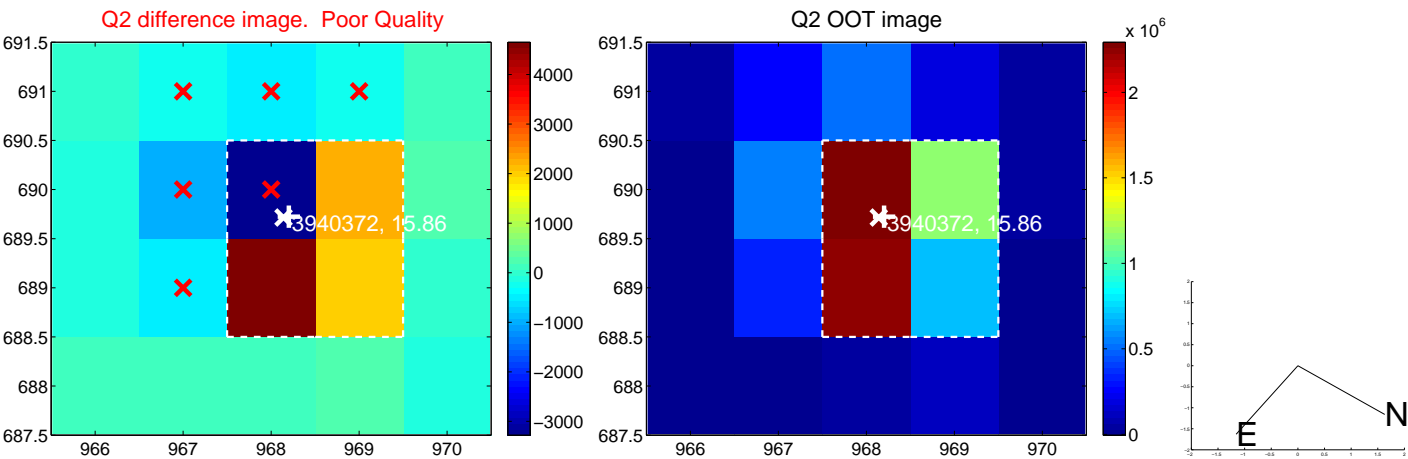
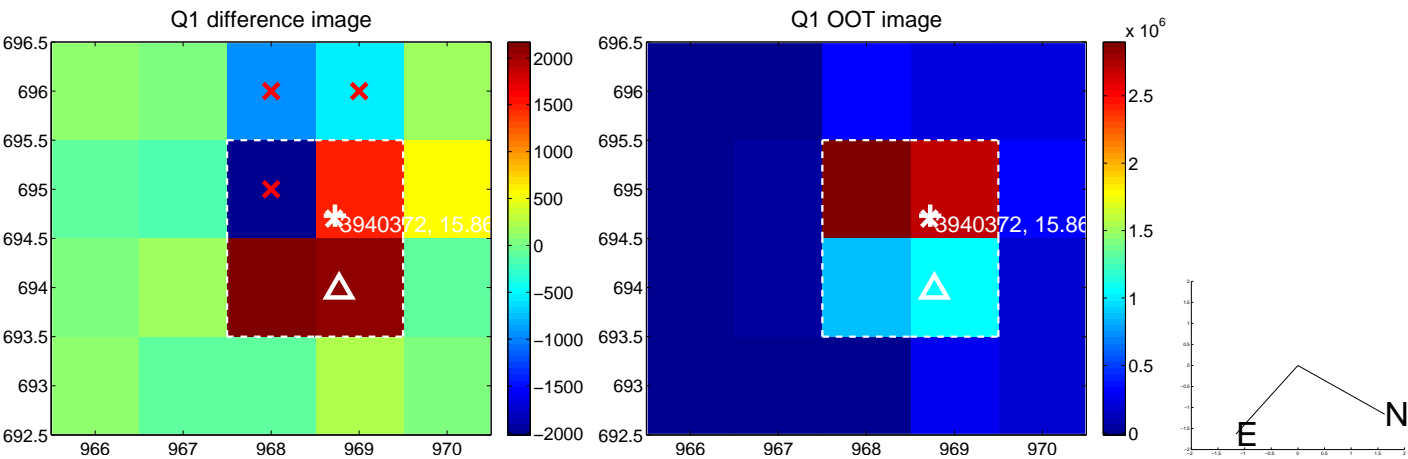
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.907 ± 0.522	1.74	0.867 ± 0.374	0.268 ± 0.794
PRF-fit source offset from KIC position	0.782 ± 0.506	1.55	0.749 ± 0.345	0.226 ± 0.805
photometric centroid source offset	1.34 ± 1.03	1.30	0.92 ± 0.98	0.98 ± 1.08

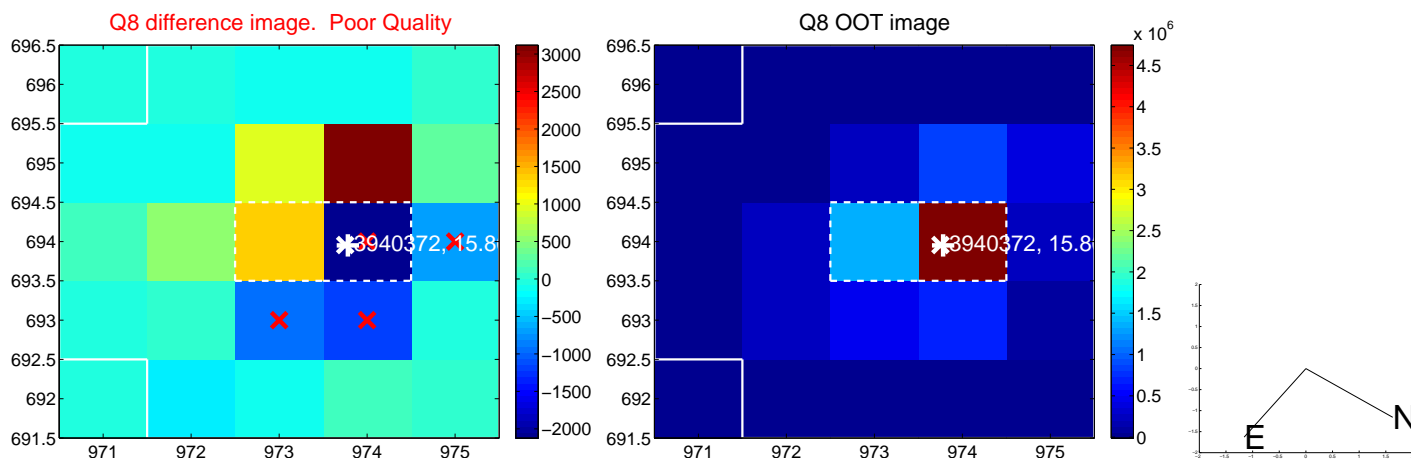
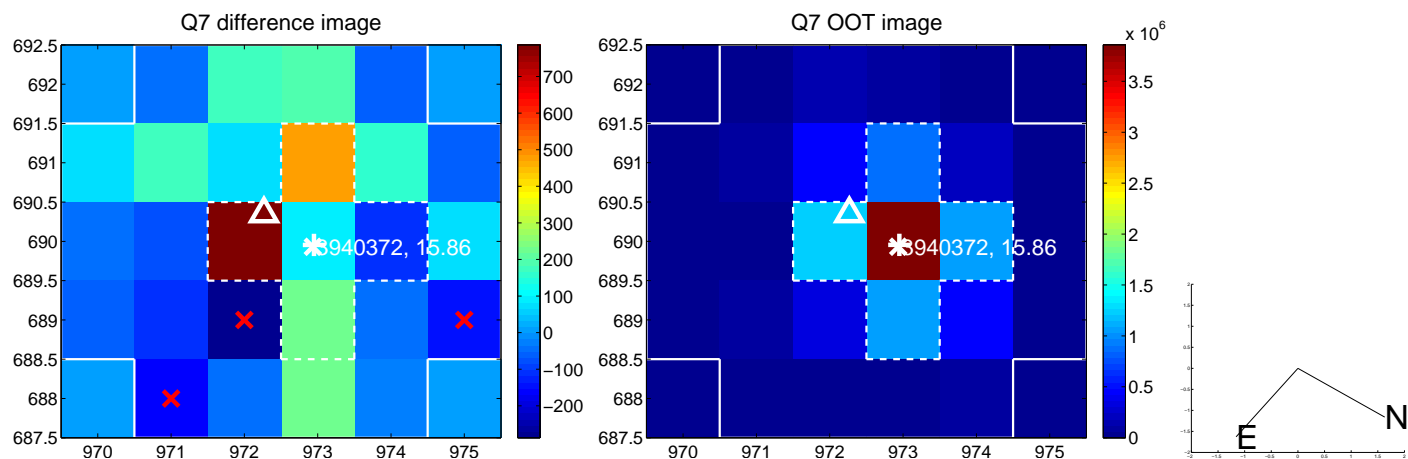
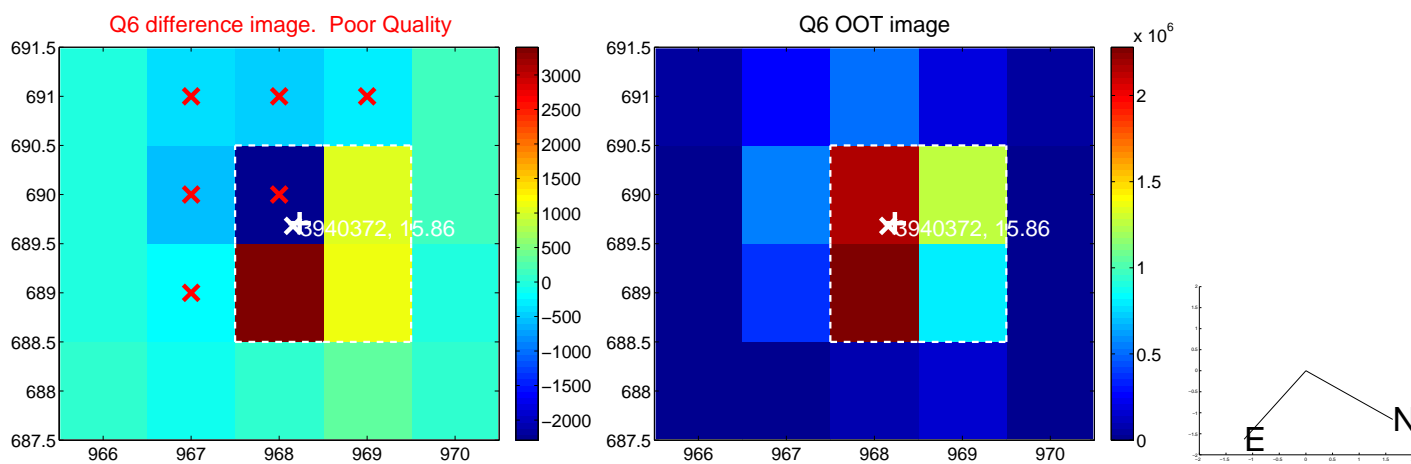
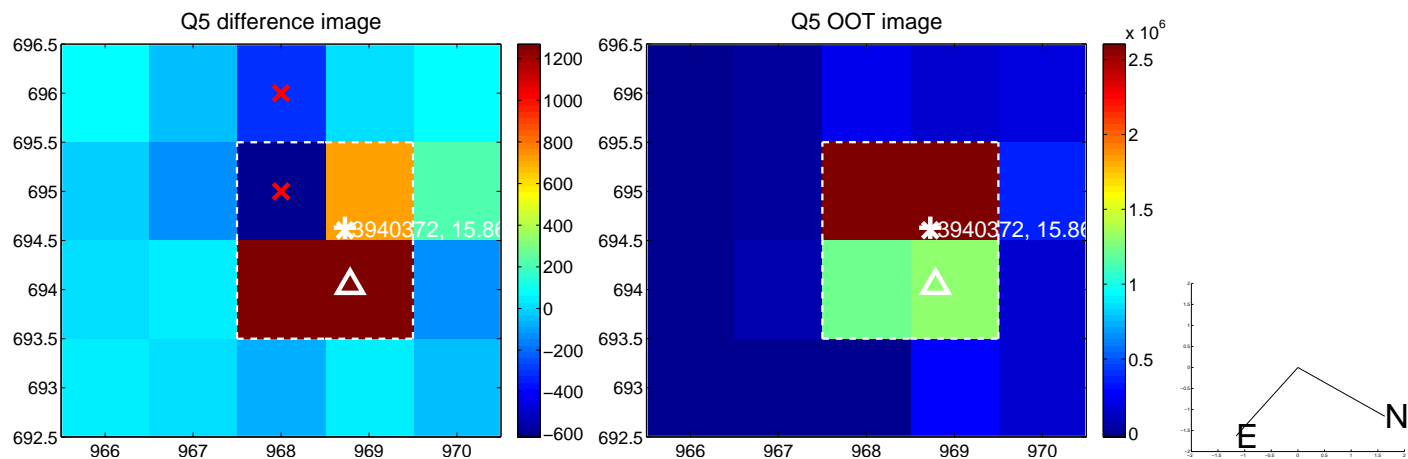


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

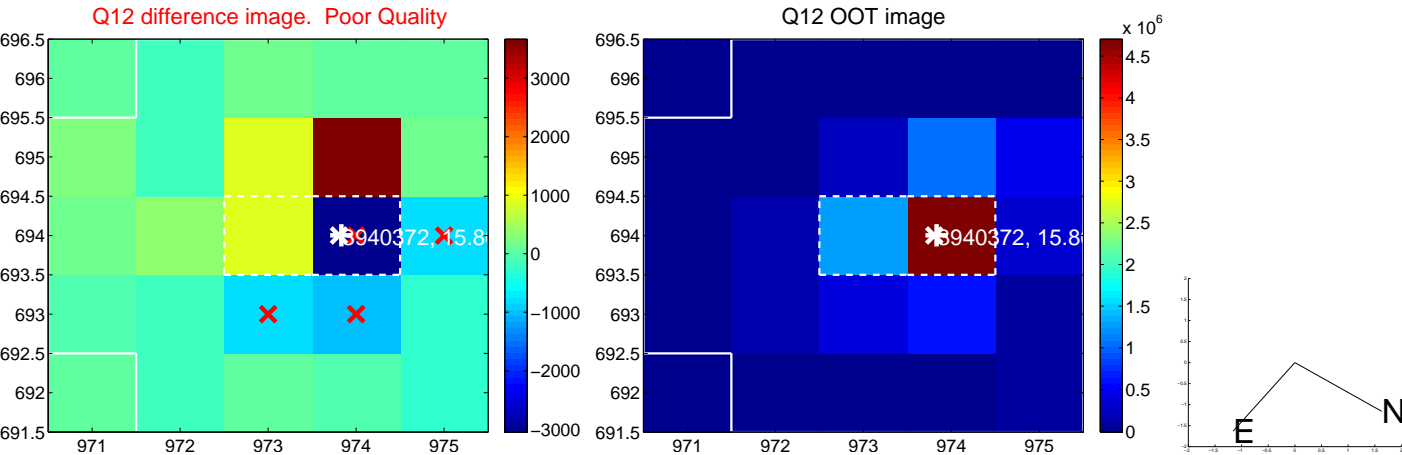
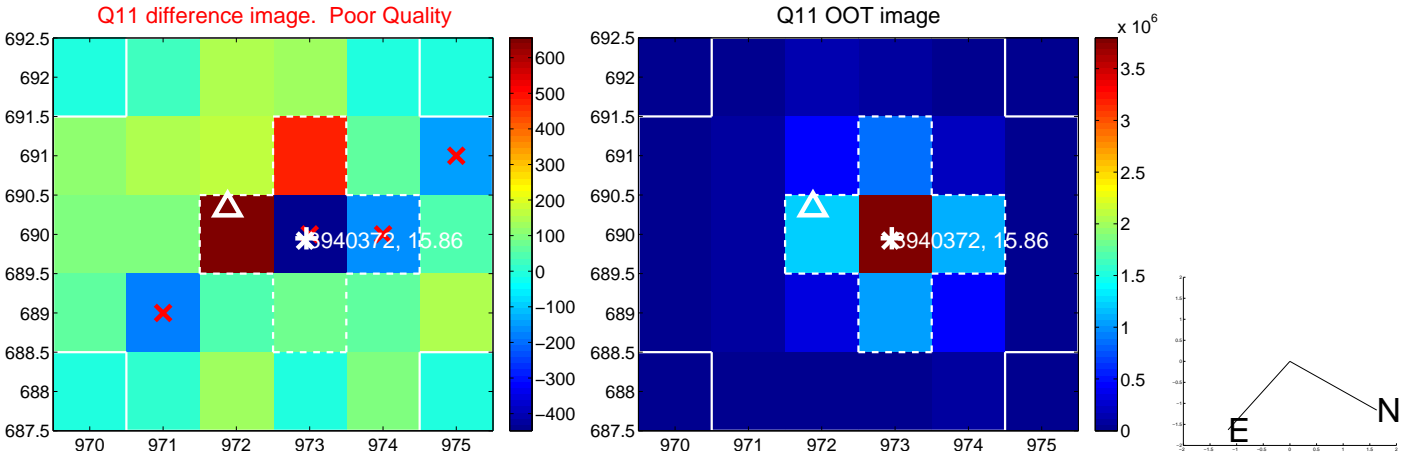
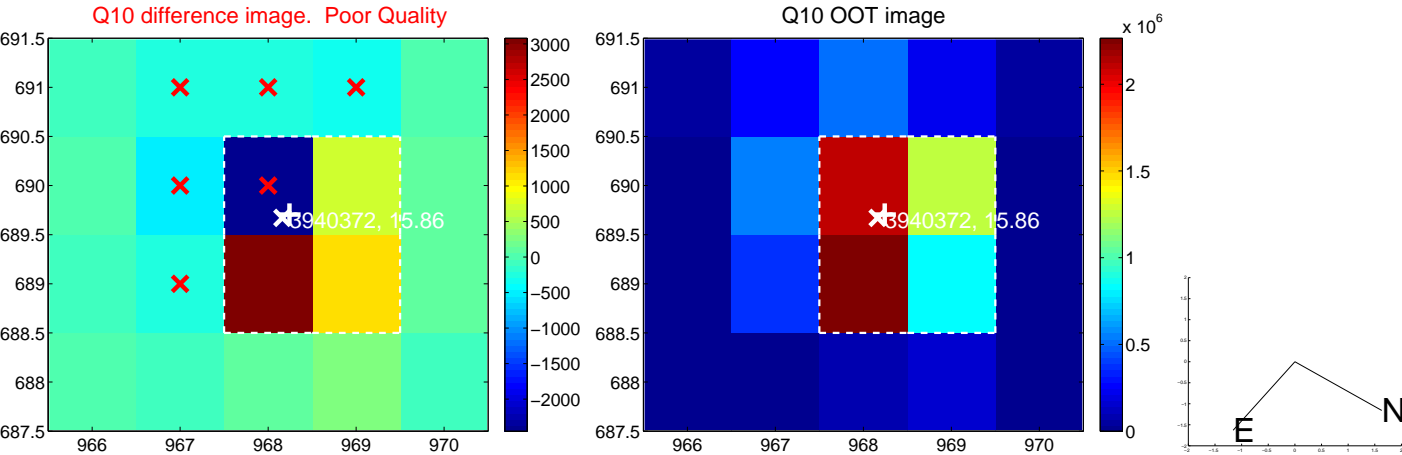
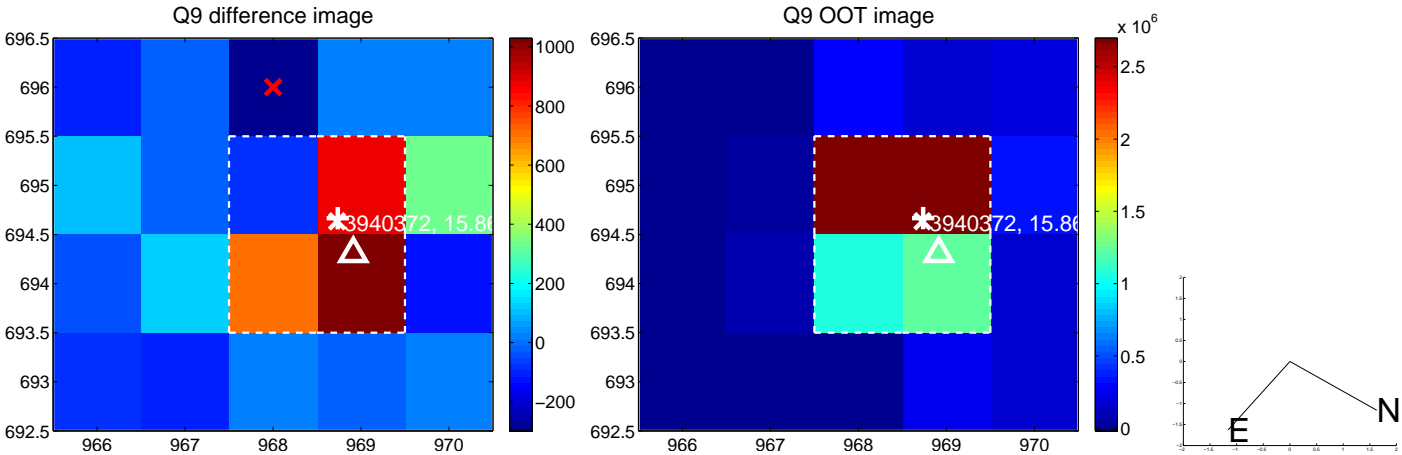
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



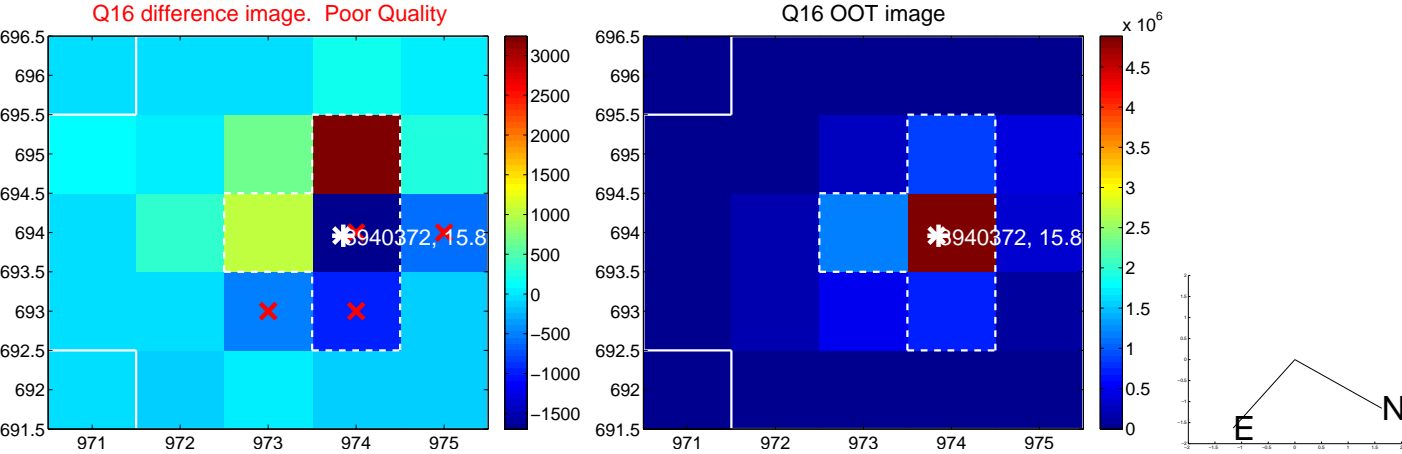
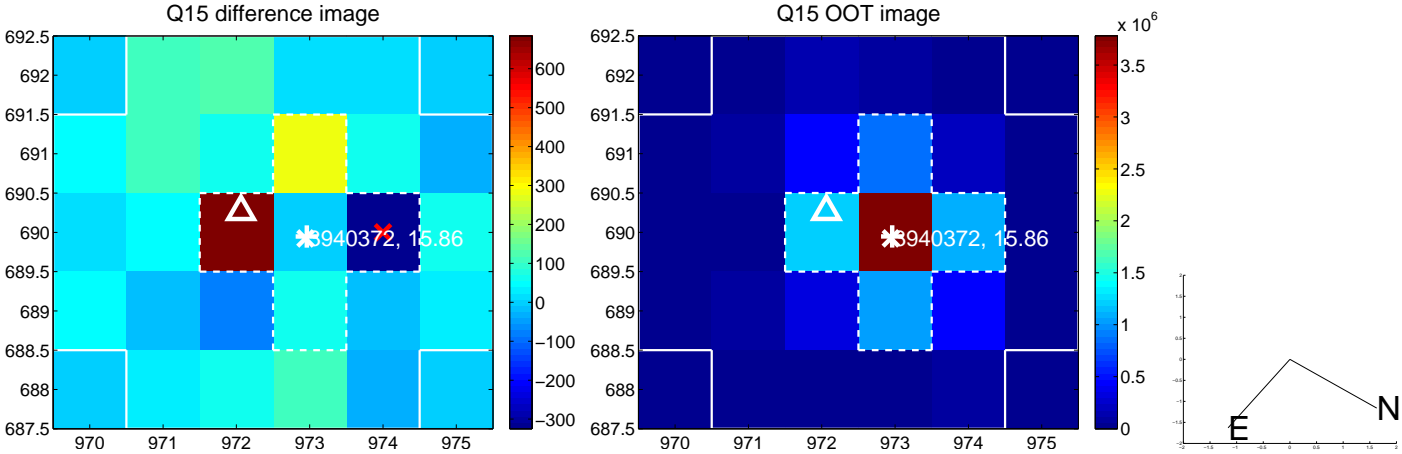
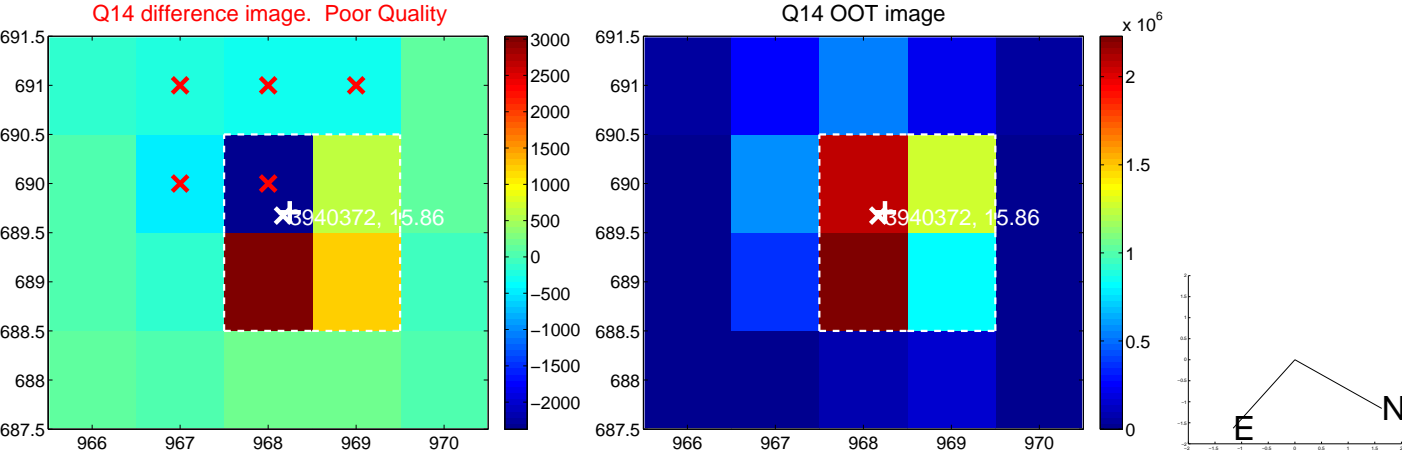
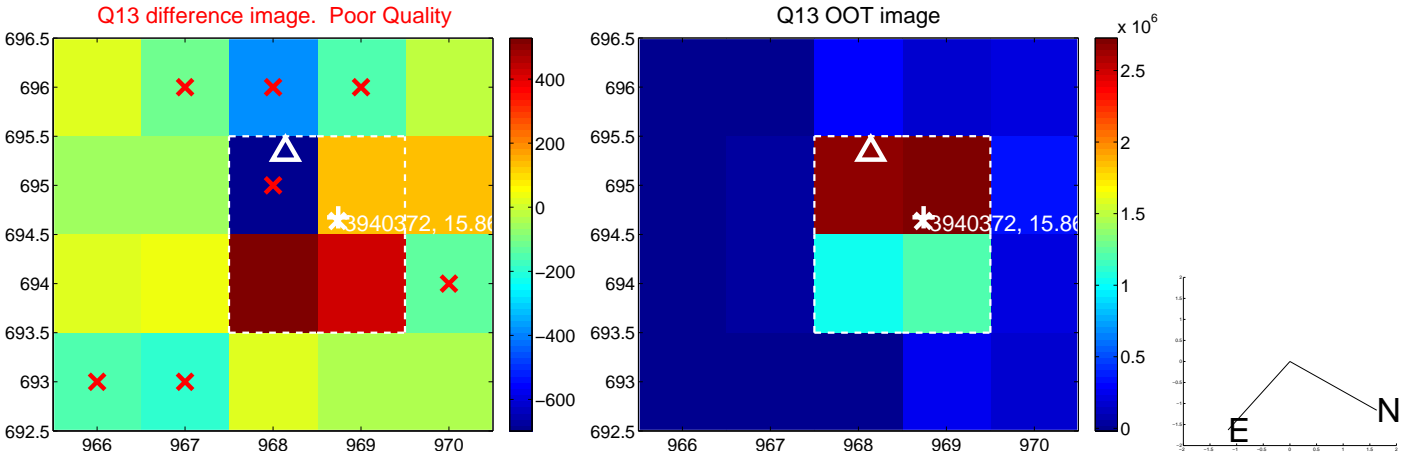
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



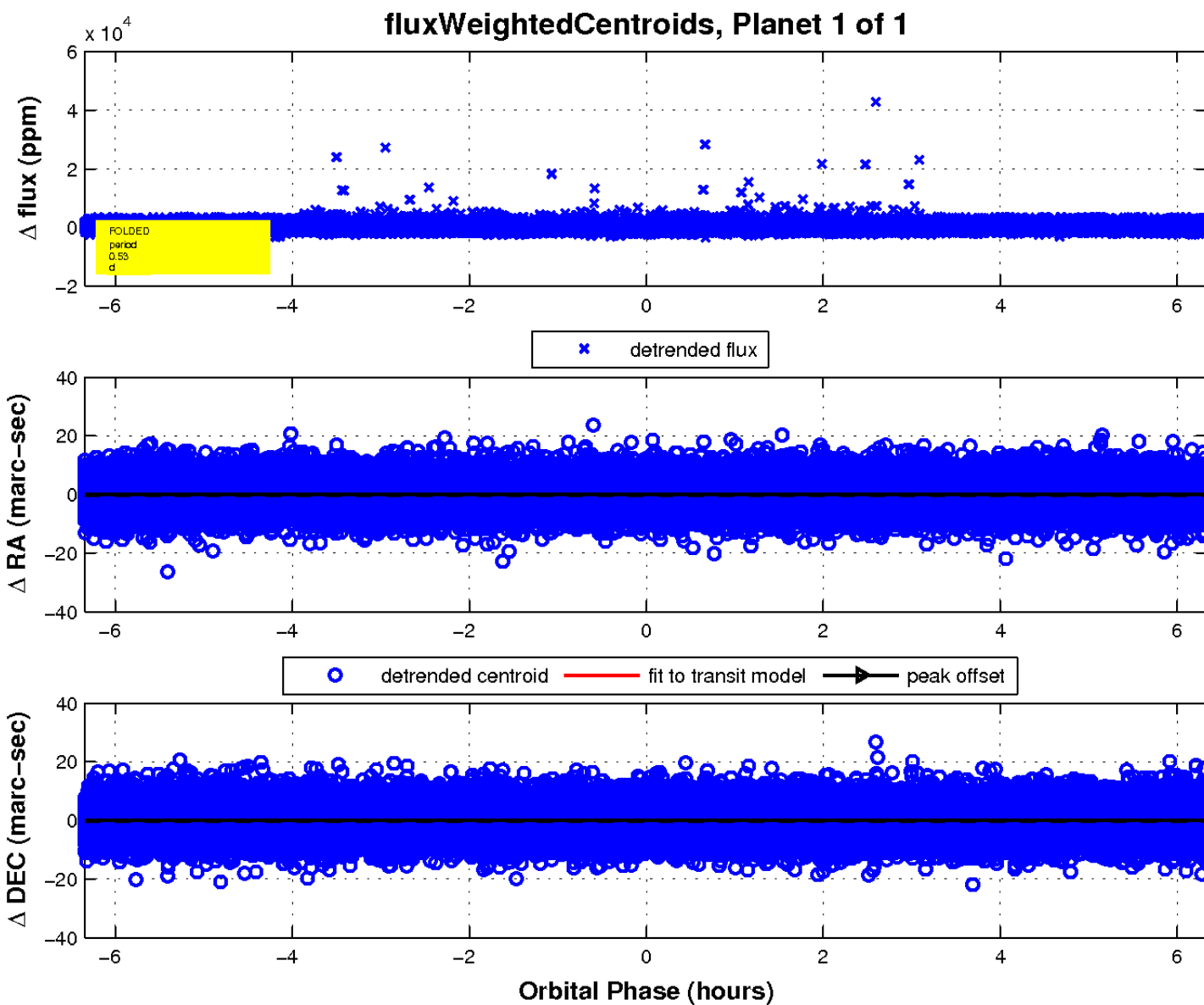
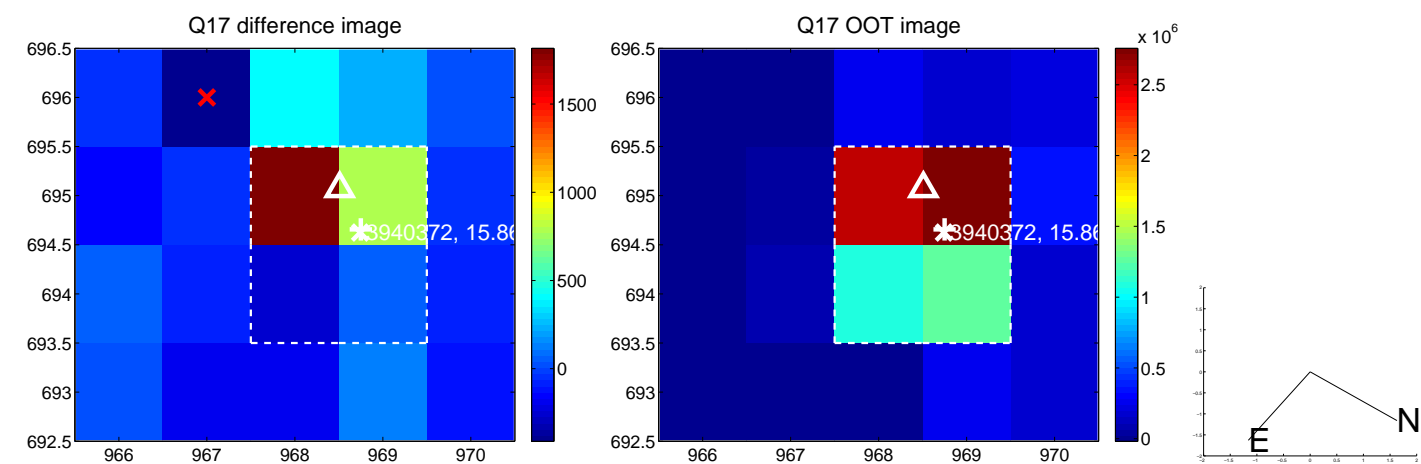
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

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10.0 20.0 30.0 39:02:40.0 50.0

