

KIC 003732894

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
003732894-01	OBS	4476.01	1.540359	132.012976	63.1	2.430	13.0	12.4	0.91	5812	0.86	1479.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003732894-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH

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.

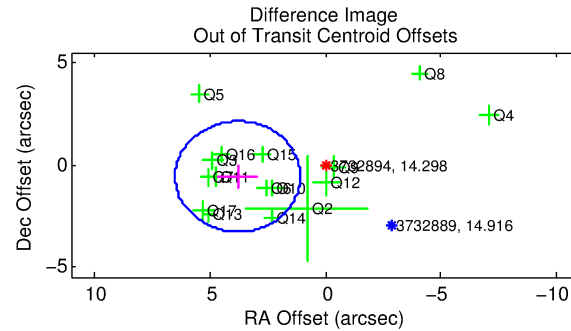
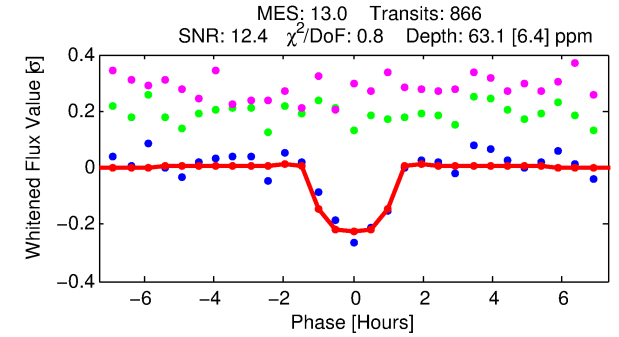
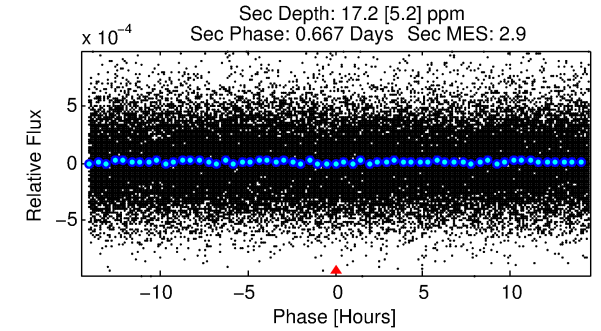
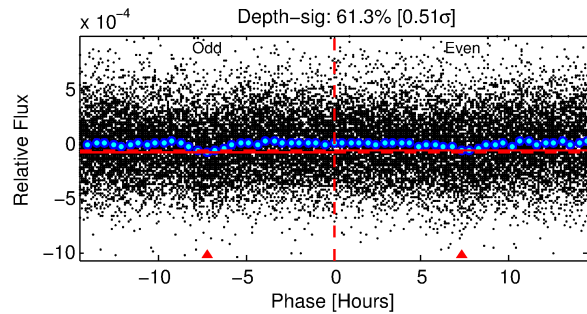
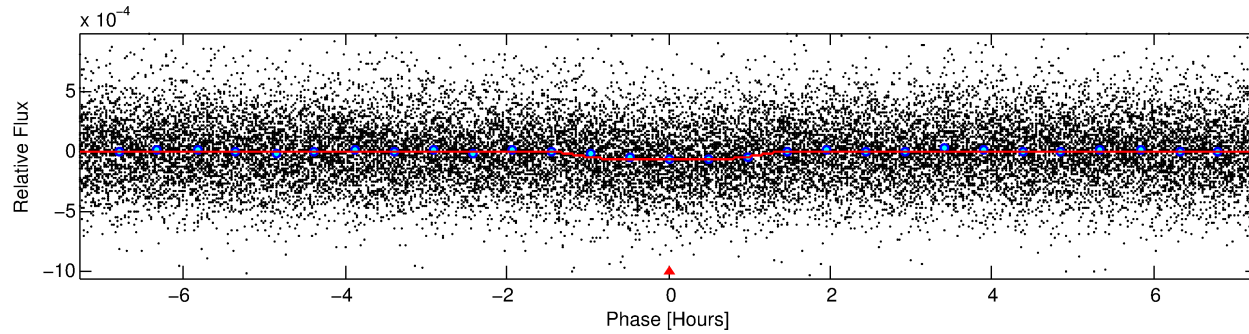
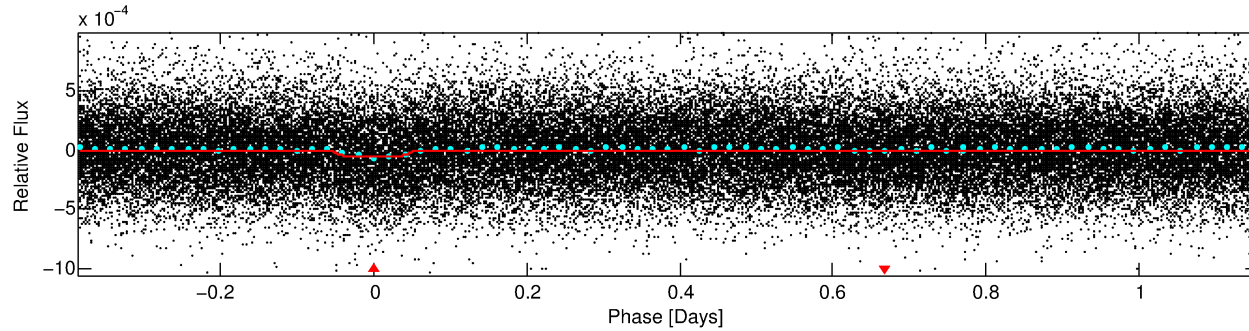
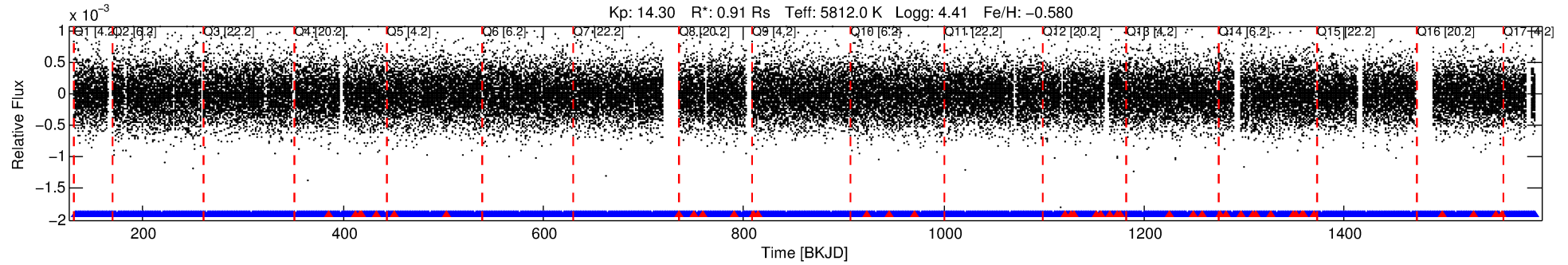
Ephemeris Match Information For 003732894-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
003732894-01	3732894	6364.01	3836439	1:1	155.0	24	-31	7.57	14.30	1122.90	Direct-PRF	0	1.86	1.03

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3732894 Candidate: 1 of 1 Period: 1.540 d
KOI: K04476.01 Corr: 0.923



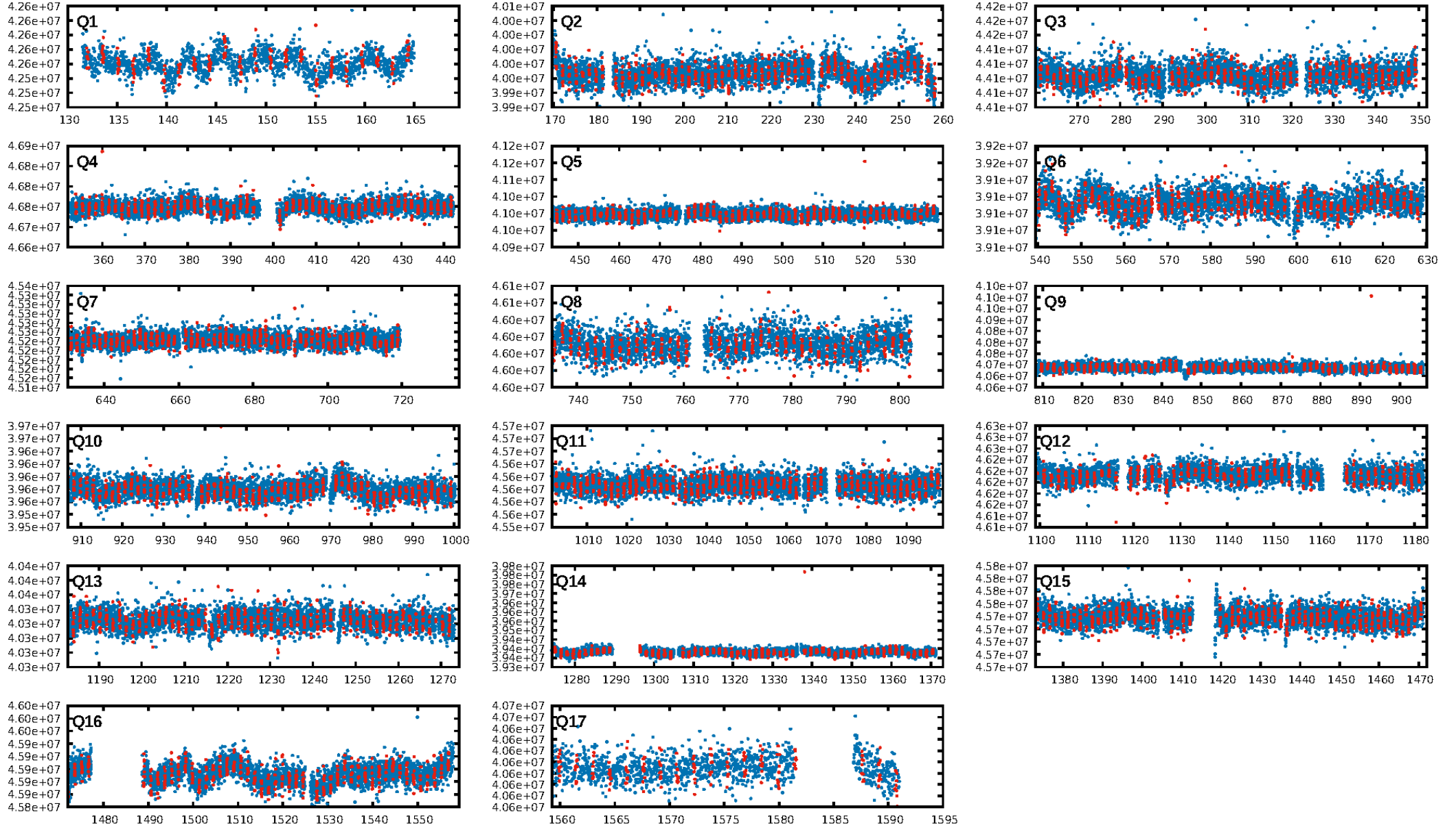
DV Fit Results:

Period = 1.54036 [0.00001] d
Epoch = 132.0130 [0.0027] BKJD
Rp/R* = 0.0086 [0.0045]
a/R* = 2.39 [5.42]
b = 0.90 [0.59]
Seff = 1479.10 [483.71]
Teff = 1581 [129] K
Rp = 0.86 [0.50] Re
a = 0.0240 [0.0051] AU
Ag = 7.43 [8.49] [0.76 σ]
Teffp = 4036 [1116] K [2.19 σ]

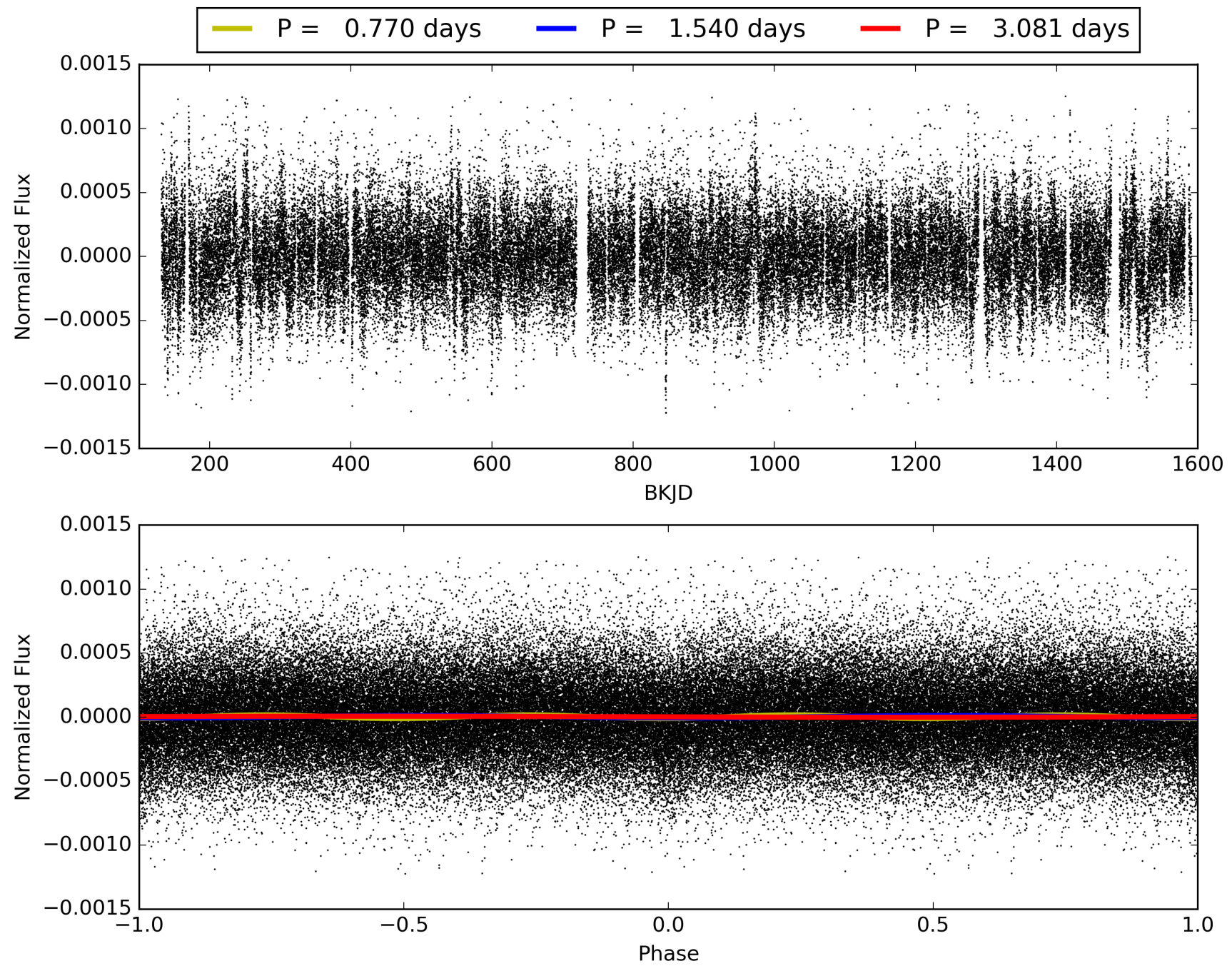
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.63e-36
RollingBand-fgt: 0.95 [784/826]
GhostDiagnostic-chr: 0.2182
Centroid-sig: 0.0%
Centroid-so: 3.304 arcsec [4.71 σ]
OotOffset-rm: 3.837 arcsec [4.26 σ]
KicOffset-rm: 3.462 arcsec [3.89 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003732894-01, PDC Light Curves

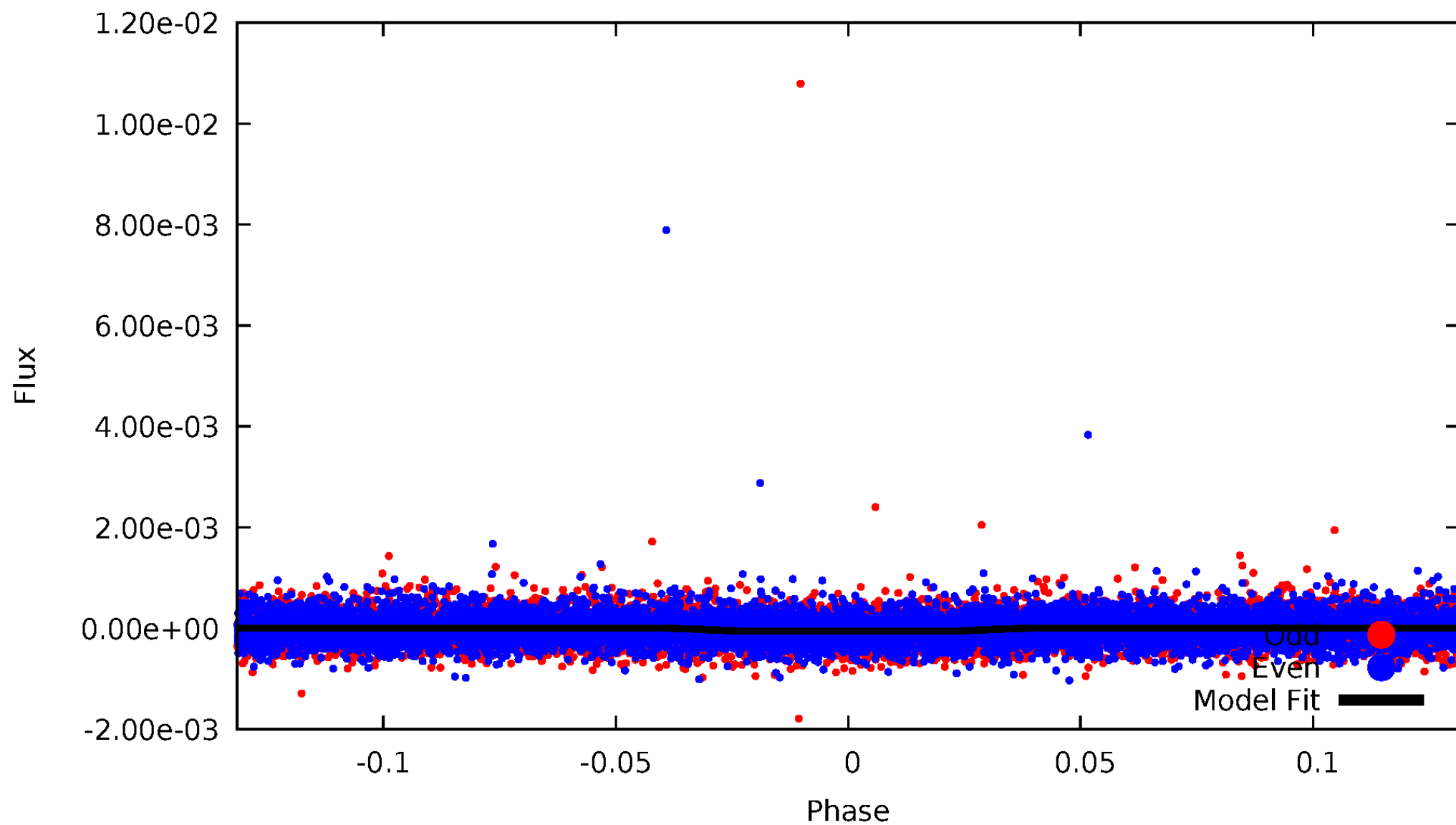


TCE 003732894-01



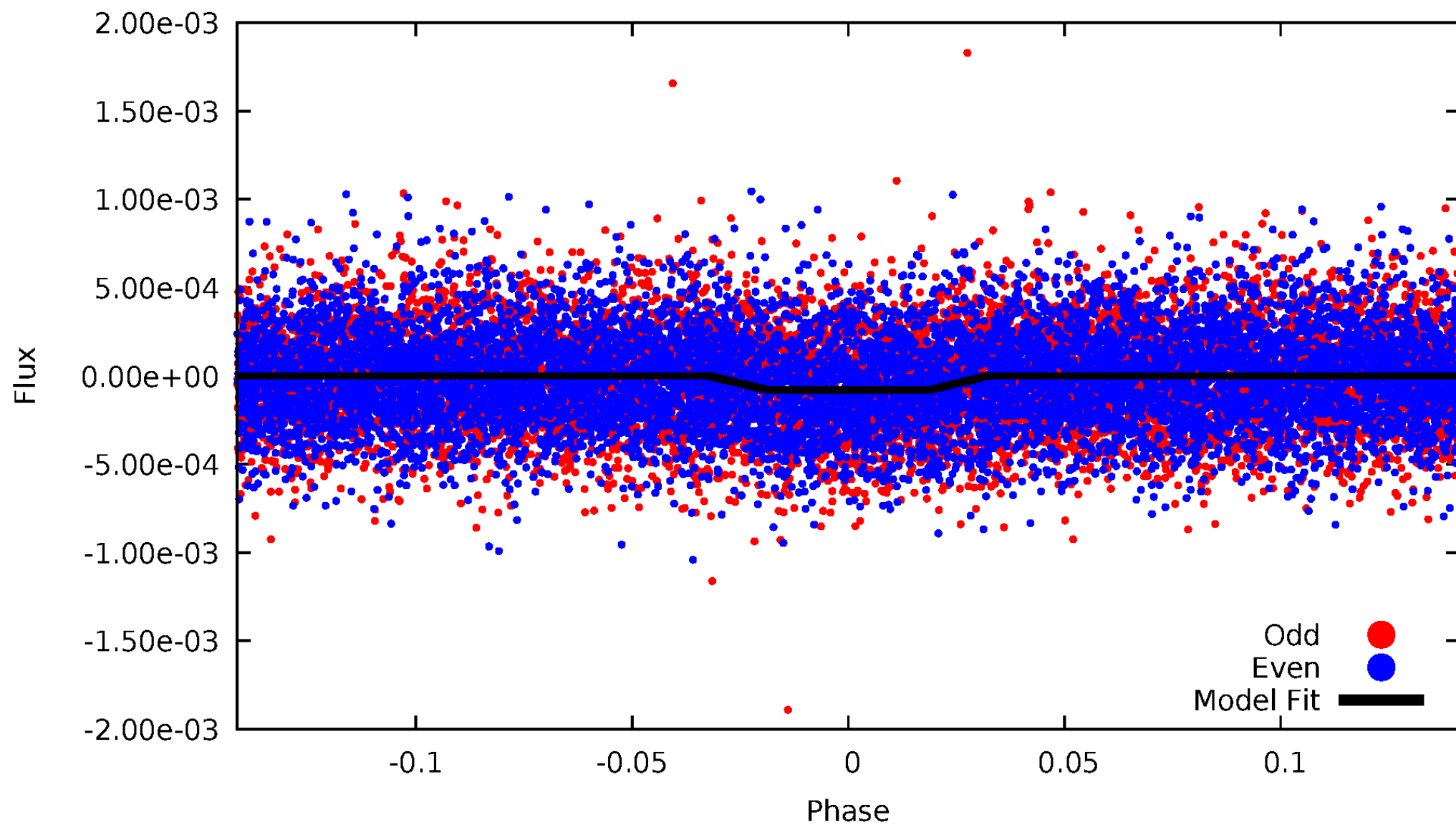
DV Odd/Even

TCE 003732894-01

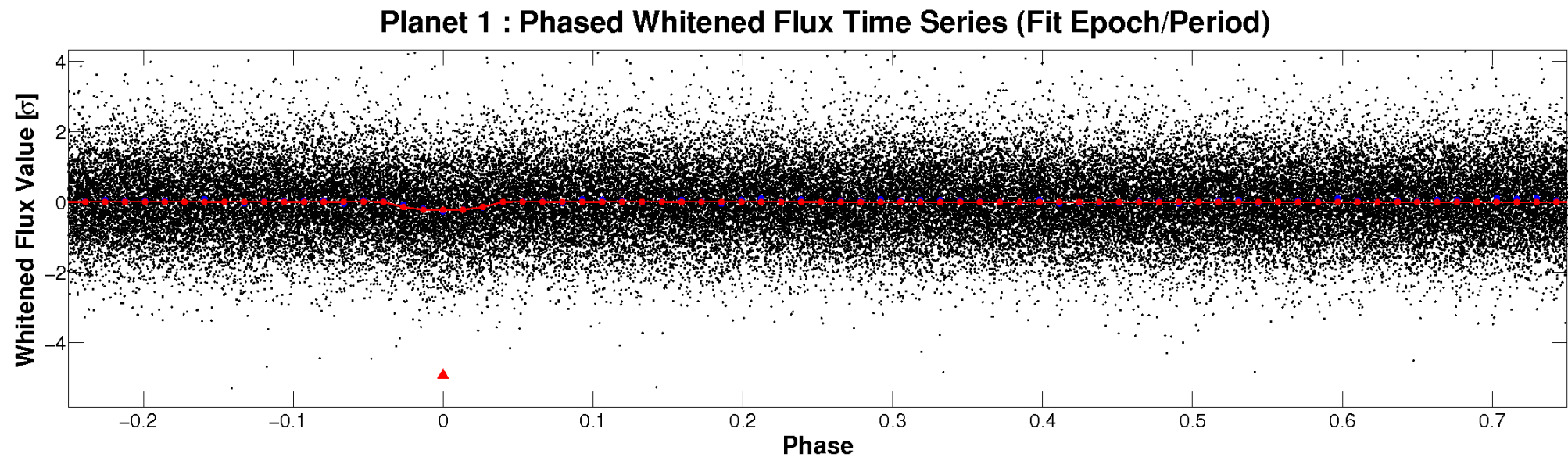
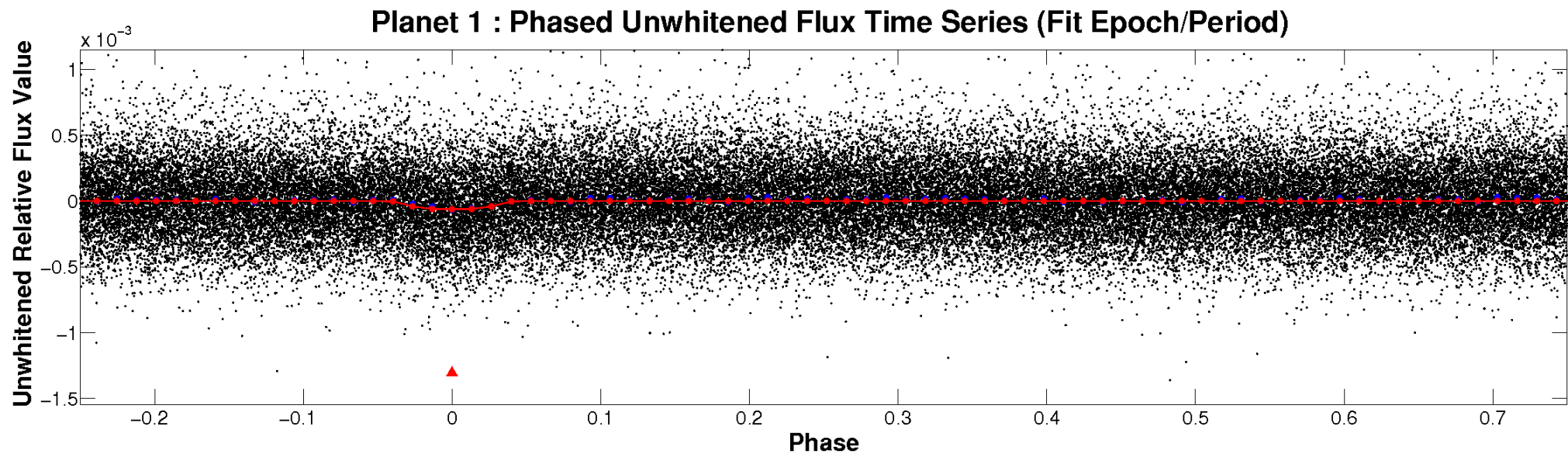


ALT Odd/Even

TCE 003732894-01

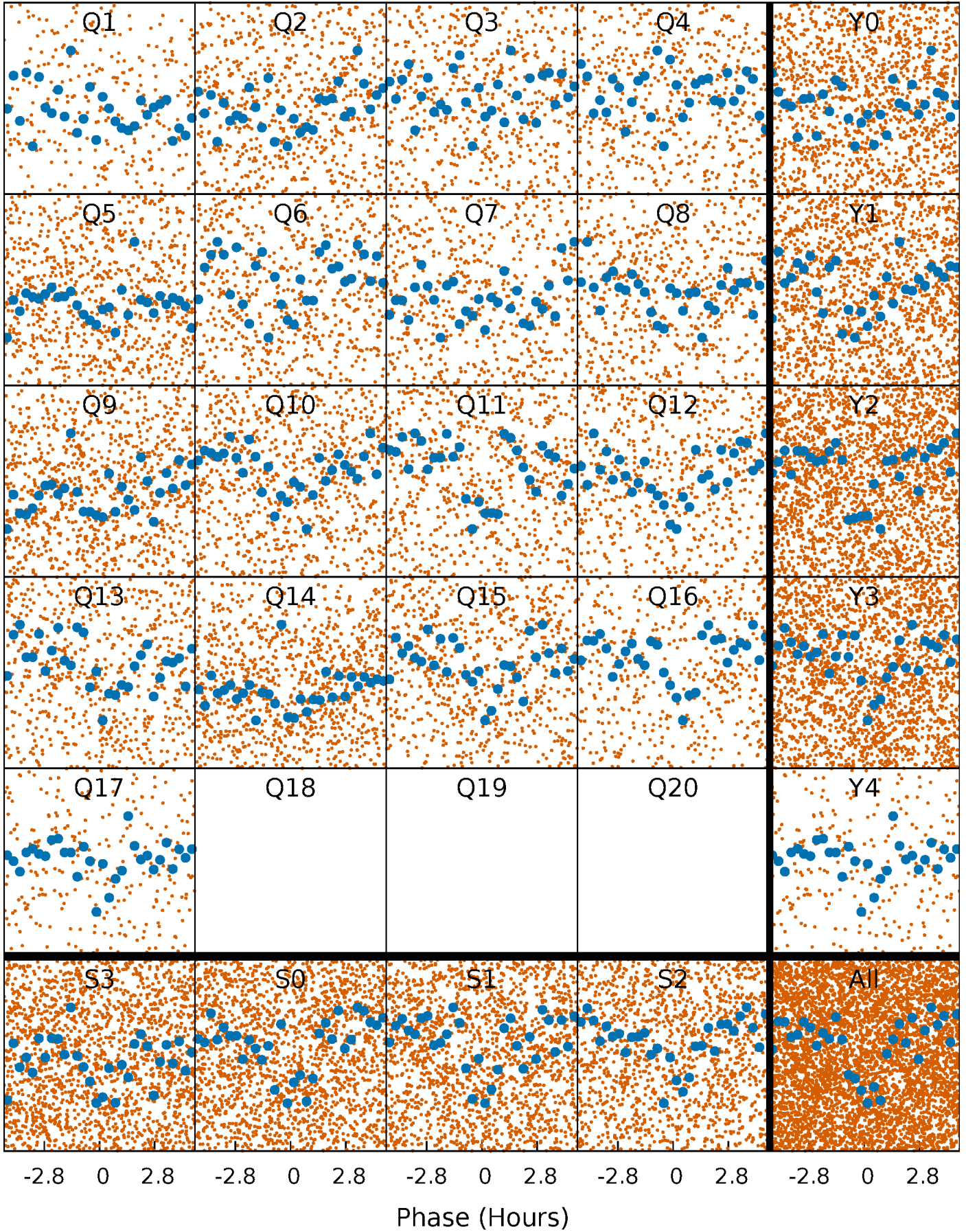


Non-Whitened Vs. Whitened Light Curve



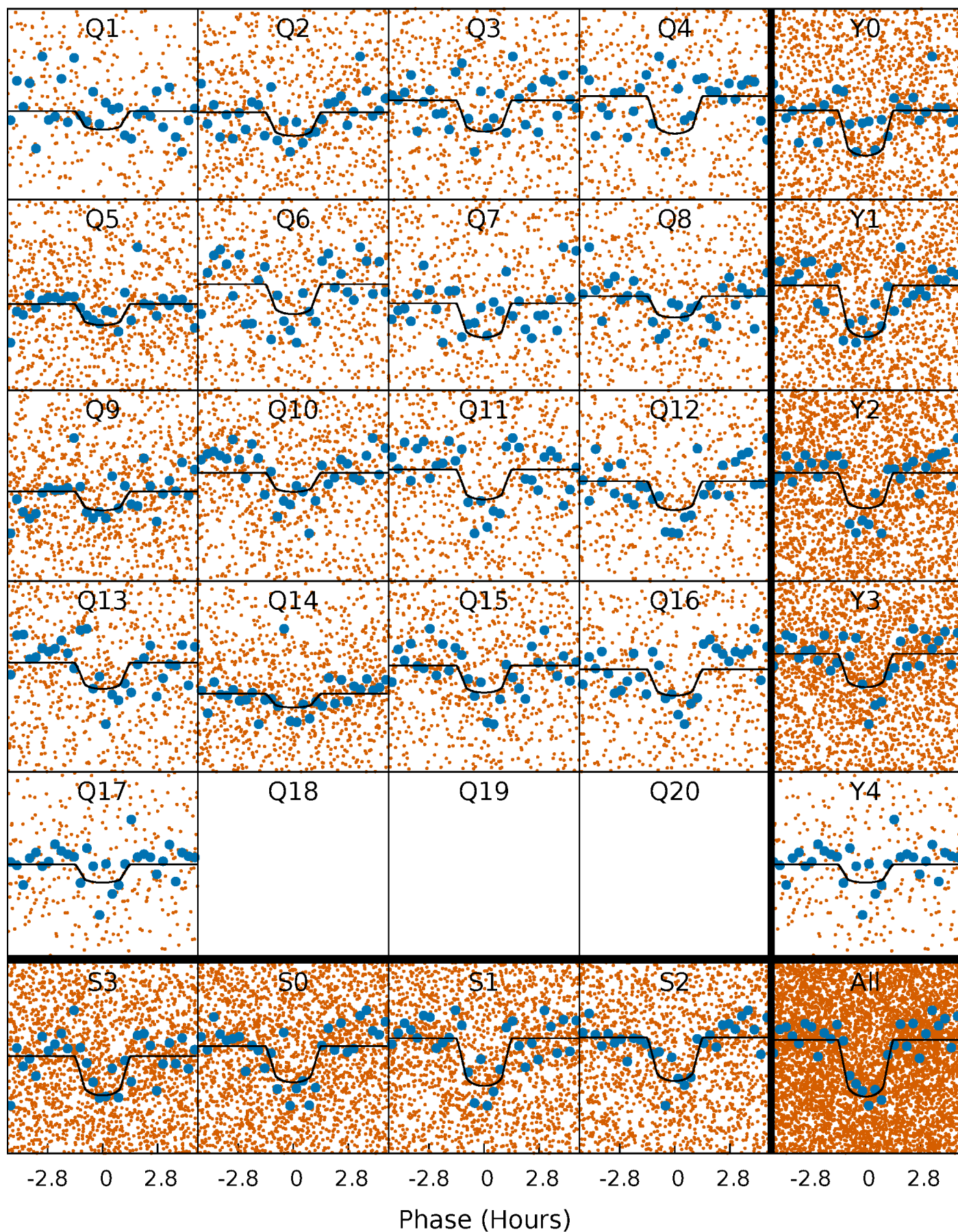
PDC Quarter-Phased Transit Curves

TCE 003732894-01 P= 1.540359 Days $T_0=132.012976$ (BKJD)



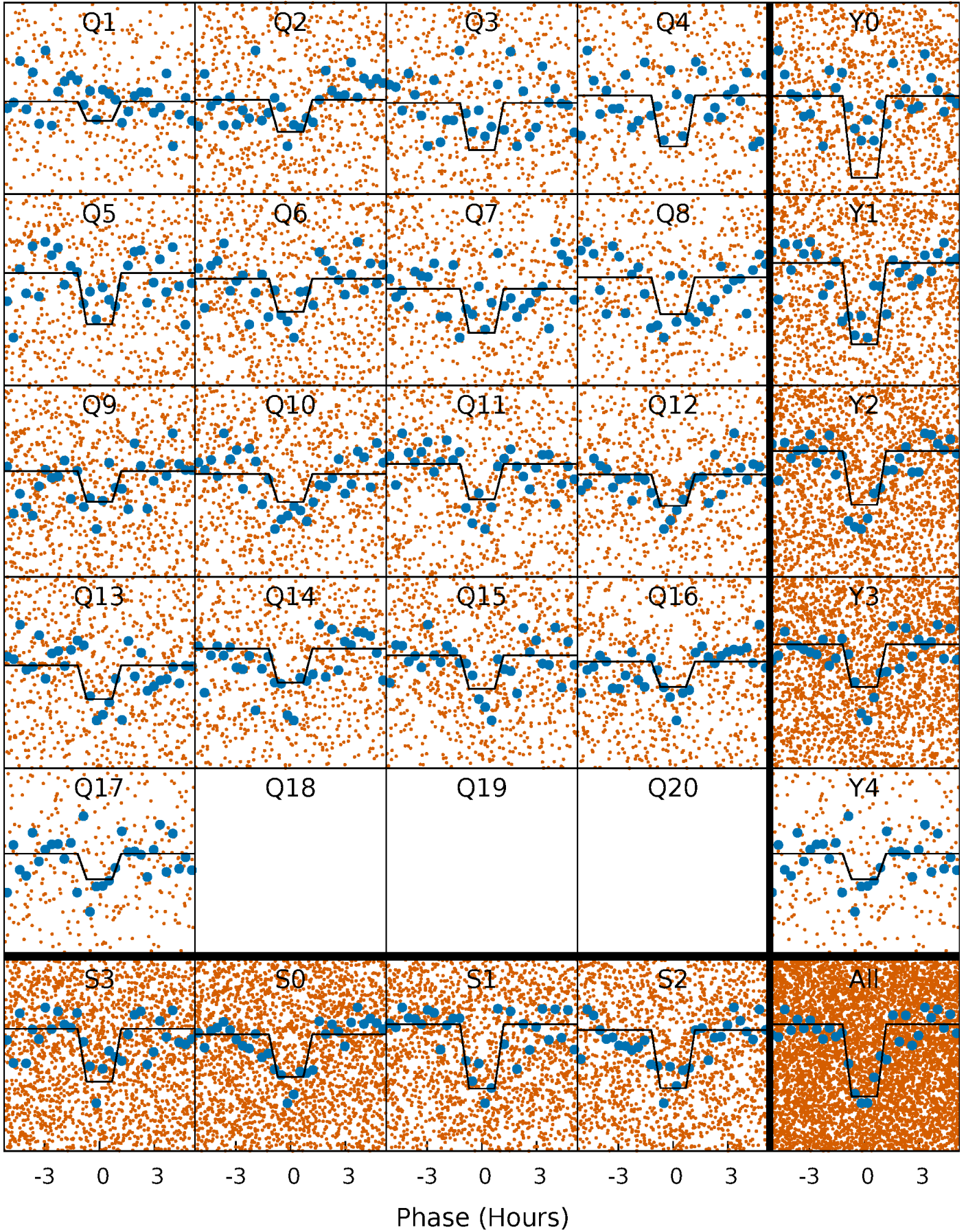
DV Quarter-Phased Transit Curves

TCE 003732894-01 P= 1.540359 Days $T_0=132.012976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

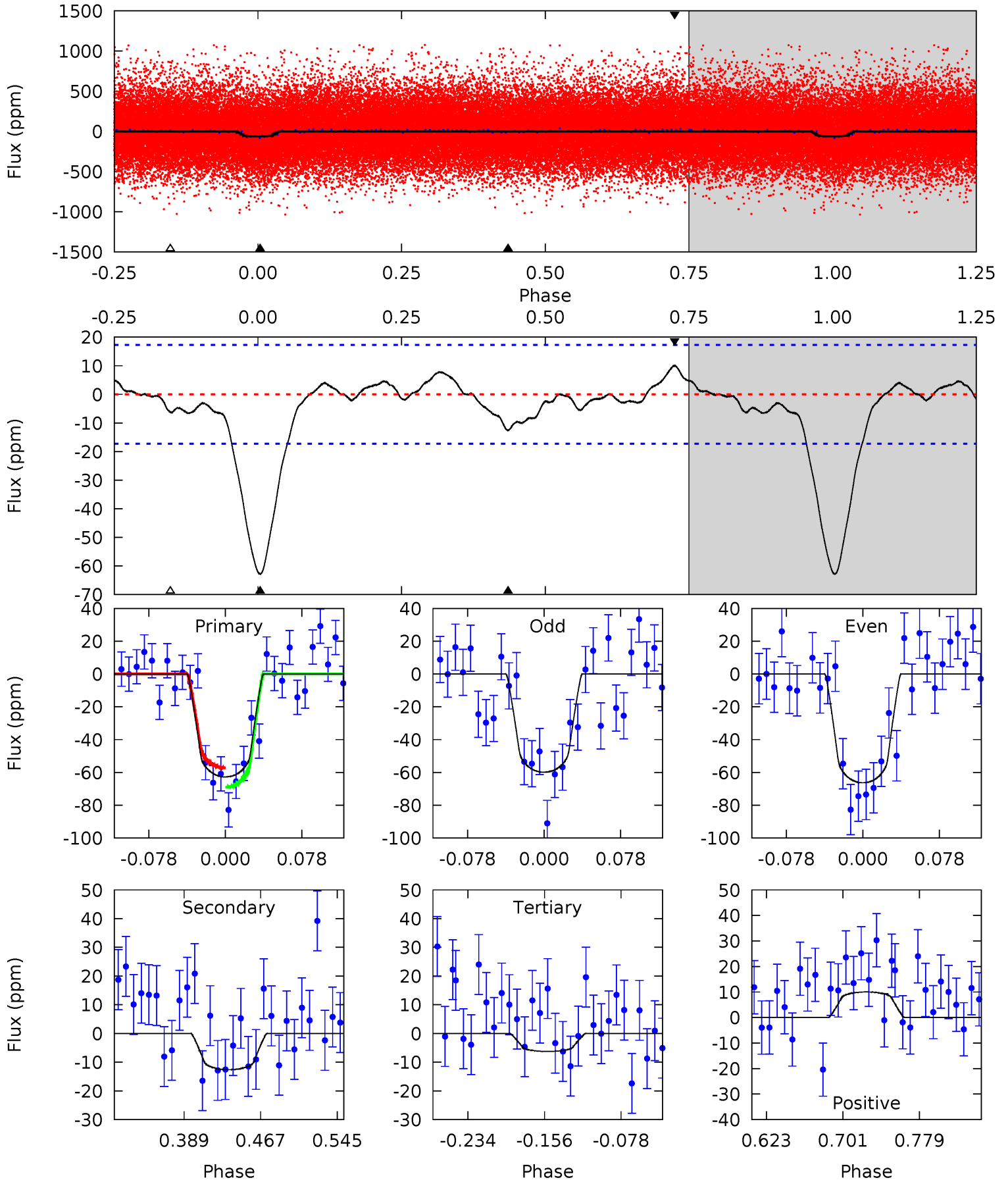
TCE 003732894-01 P= 1.540371 Days $T_0=132.010365$ (BKJD)



DV Model-Shift Uniqueness Test

003732894-01, P = 1.540359 Days, E = 130.472617 Days

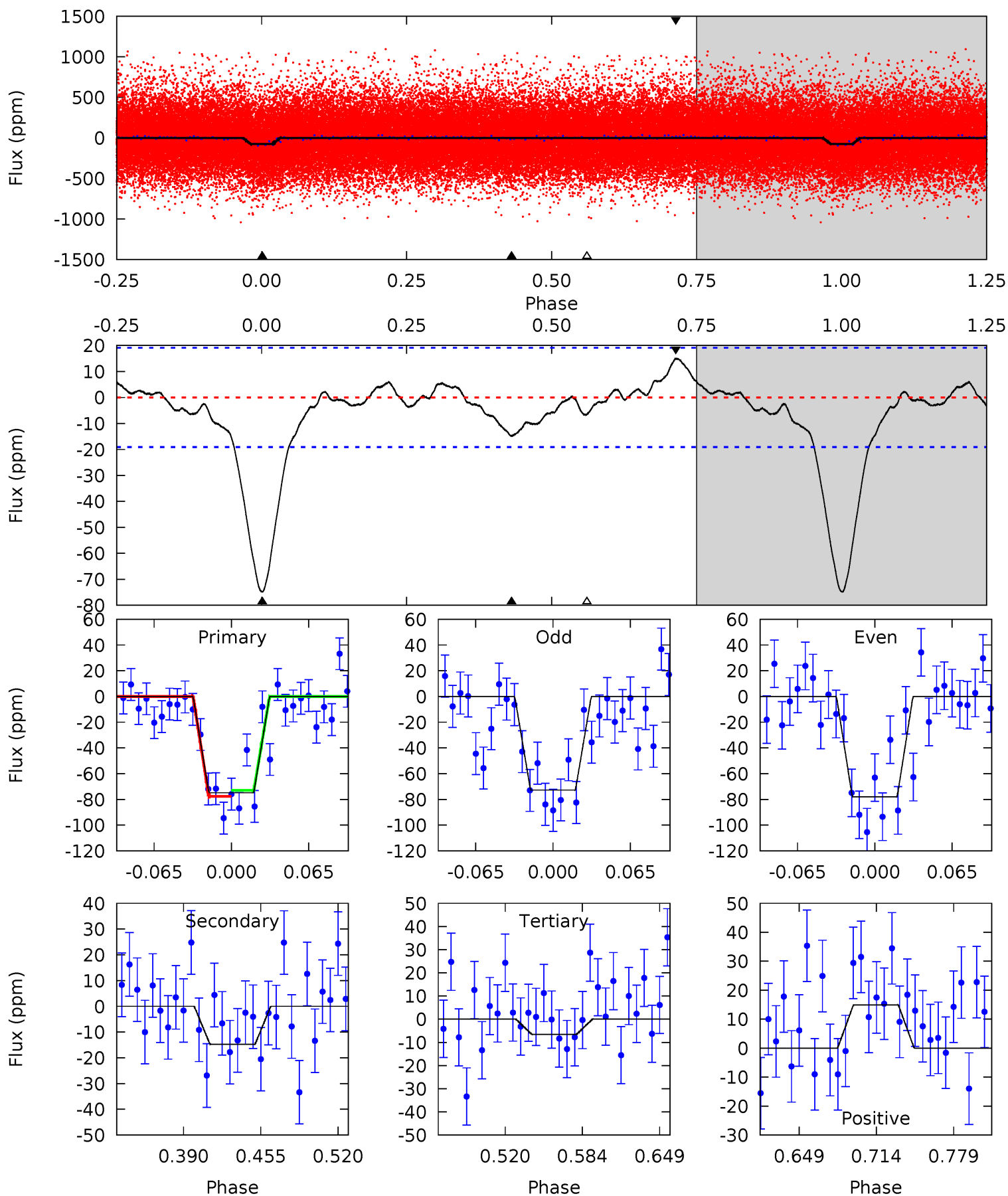
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	3.38	1.67	2.68	4.62	1.76	1.01	15.1	14.1	1.70	0.69	0.86	0.89	0.14	1.58



Alt Model-Shift Uniqueness Test

003732894-01, P = 1.540371 Days, E = 130.469994 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	3.60	1.59	3.64	4.65	1.85	1.20	16.6	14.6	2.01	-0.04	0.64	1.01	0.17	0.57



Stellar Parameters For KIC 003732894

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5812^{+157}_{-157}	$4.408^{+0.153}_{-0.170}$	$-0.580^{+0.300}_{-0.300}$	$0.914^{+0.226}_{-0.151}$	$0.781^{+0.108}_{-0.046}$	$1.438^{+1.013}_{-0.693}$
	+3%/-3%	+3%/-4%	+52%/-52%	+25%/-17%	+14%/-6%	+70%/-48%
Source	PHO1	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 003732894-01 / KOI 4476.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$0.88^{+0.45}_{-0.43}$	2218^{+149}_{-134}	3990^{+1329}_{-637}	$5.305^{+15.021}_{-3.266}$
Alt.	-15 ± 4	$0.89^{+0.47}_{-0.44}$	2211^{+149}_{-131}	4082^{+1244}_{-642}	$5.859^{+16.633}_{-3.512}$

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

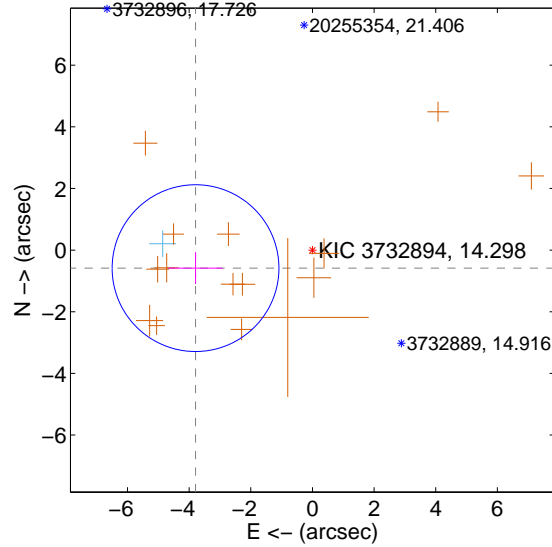
Supplemental centroid analysis for 003732894-01. Kepler magnitude: 14.30. Transit SNR 12.38

There are 1 quarters with good PRF difference image offsets

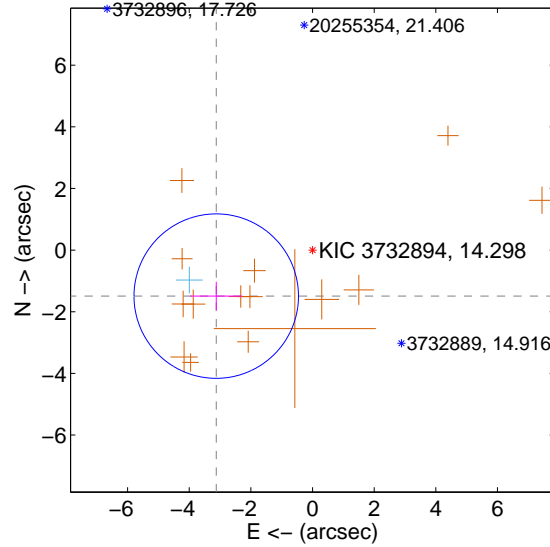
The direct PRF centroid is offset from the target star catalog position by about 1.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.837 ± 0.902	4.26	3.792 ± 0.879	-0.585 ± 0.518
PRF-fit source offset from KIC position	3.462 ± 0.889	3.89	3.124 ± 0.846	-1.493 ± 0.466
photometric centroid source offset	3.30 ± 0.70	4.71	2.68 ± 0.68	1.94 ± 0.75

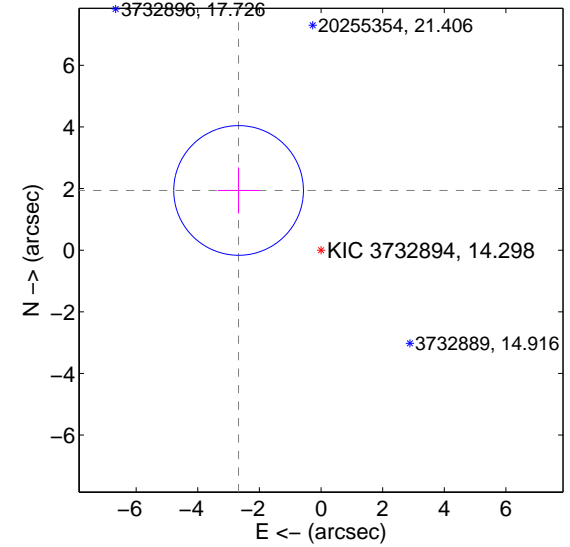
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

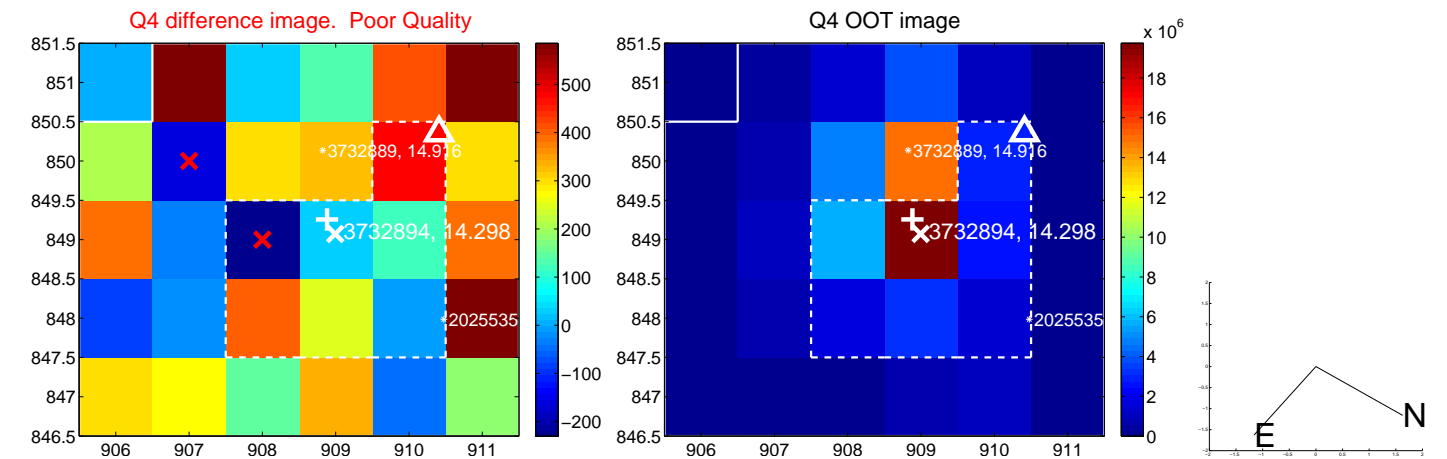
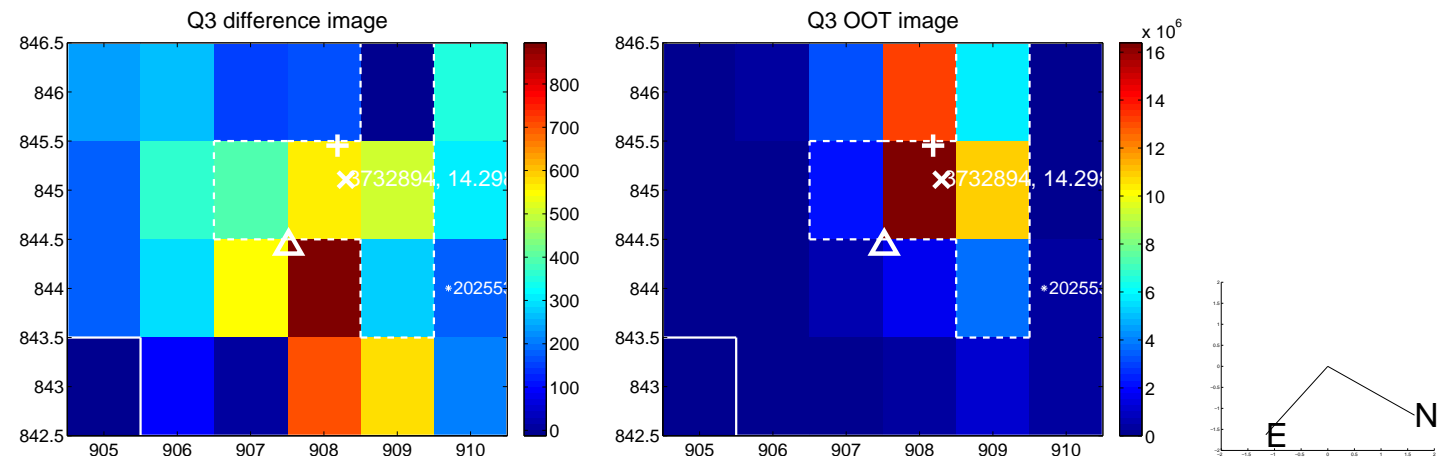
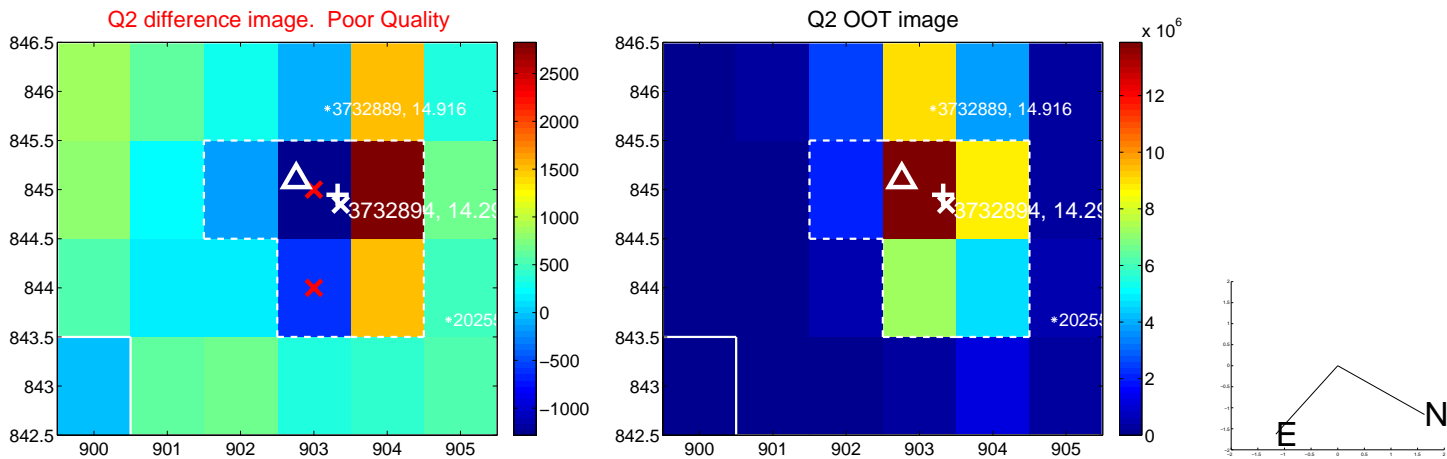
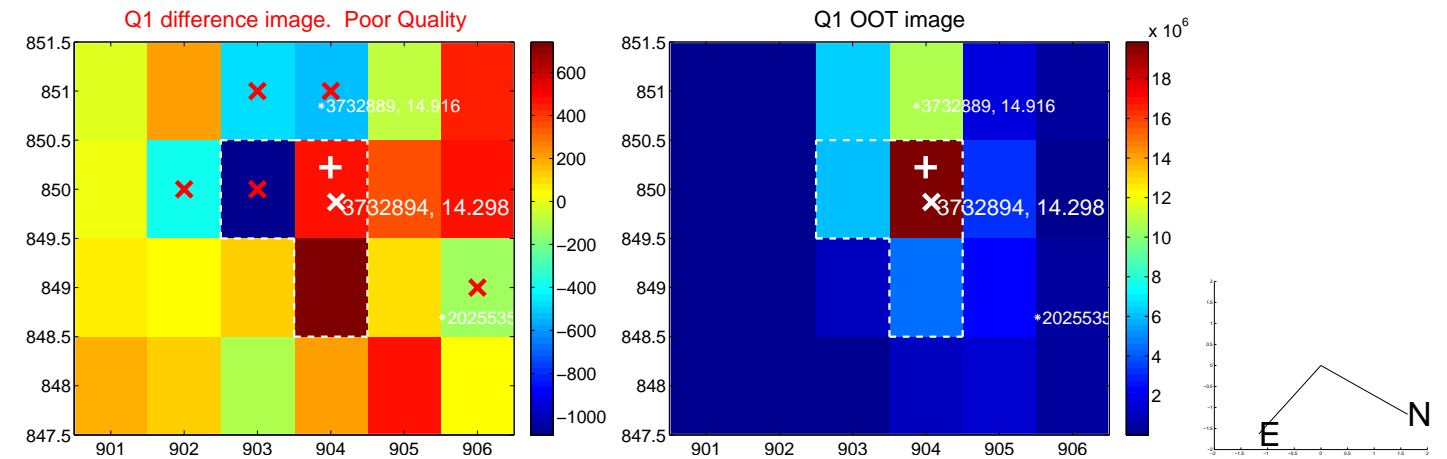


offset from photometric centroids

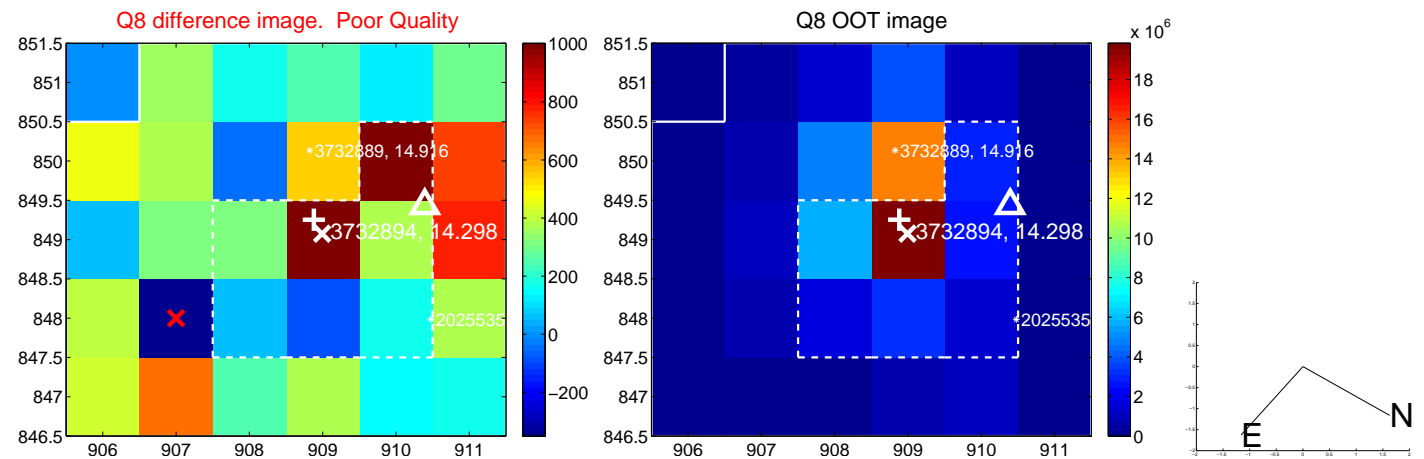
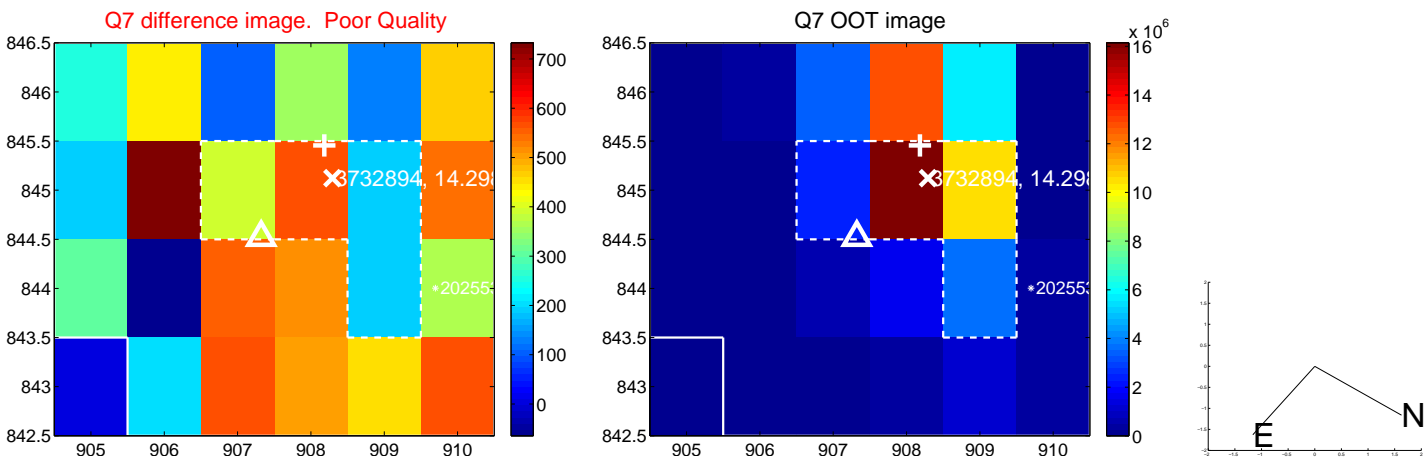
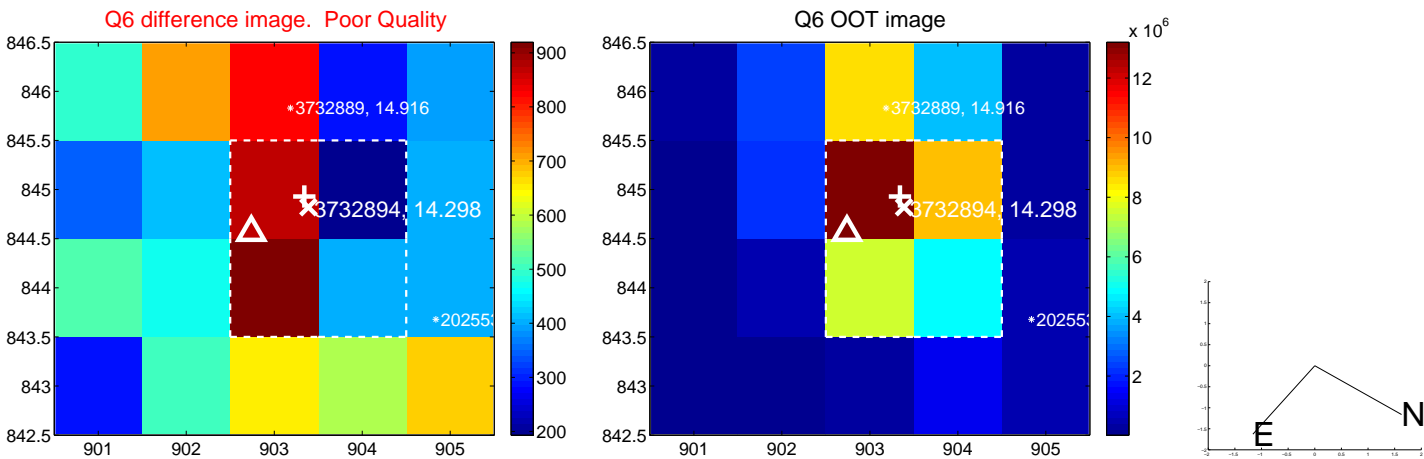
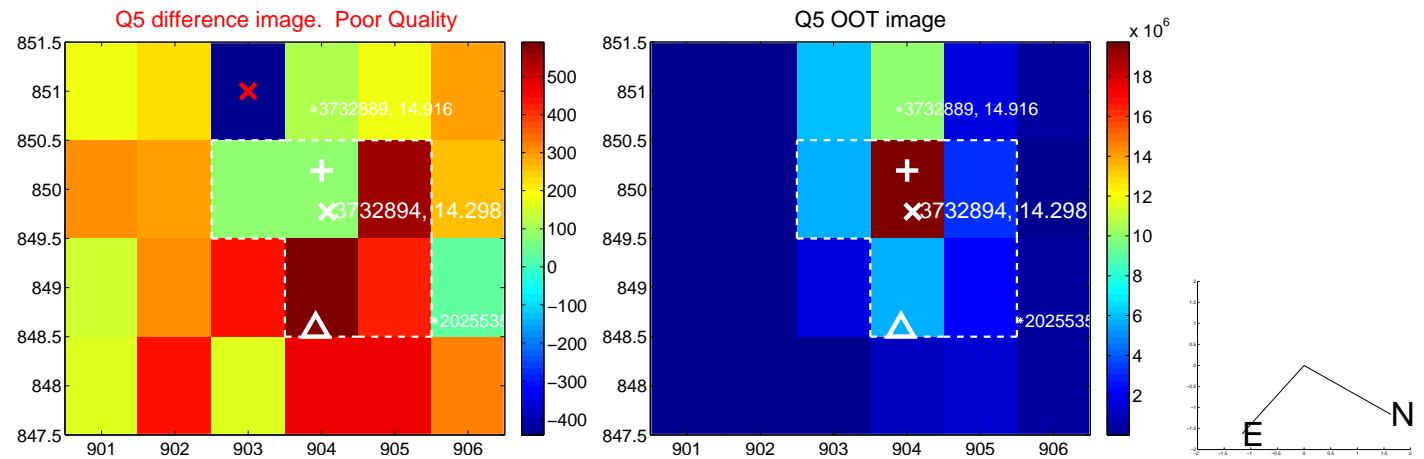


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

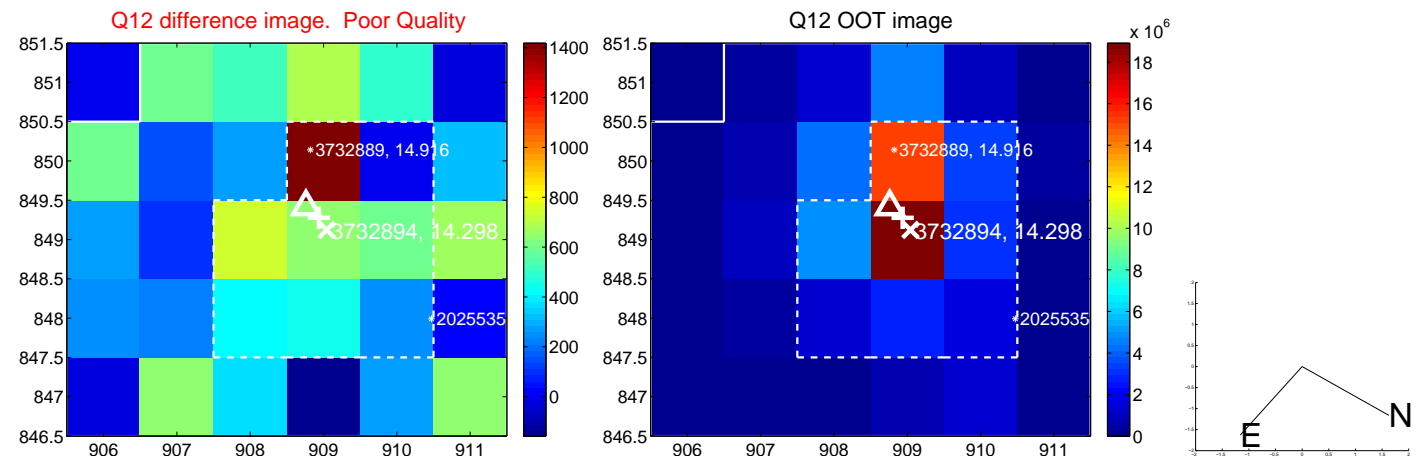
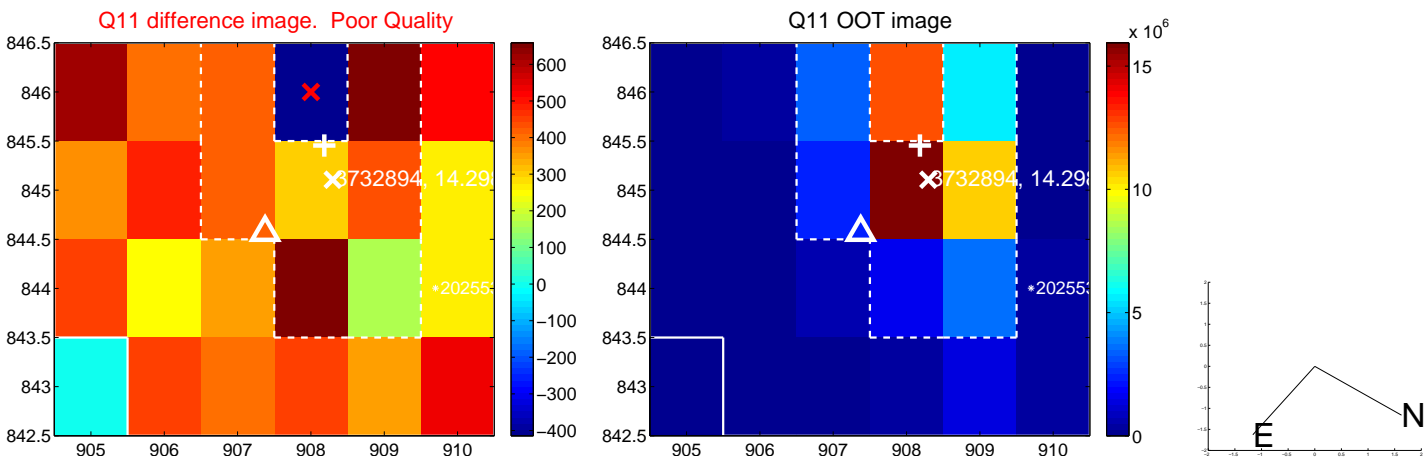
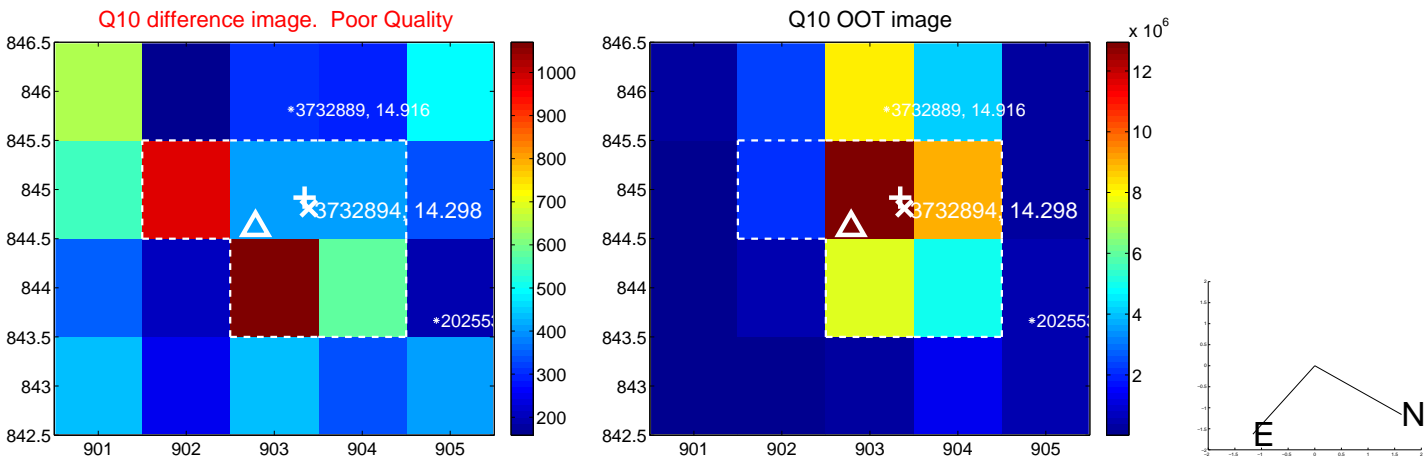
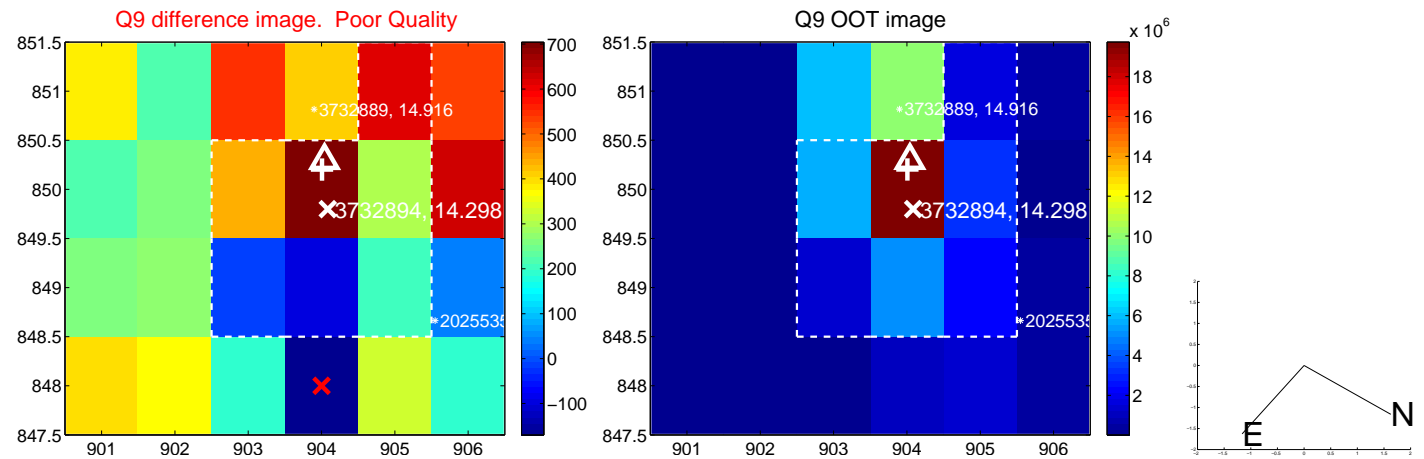
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



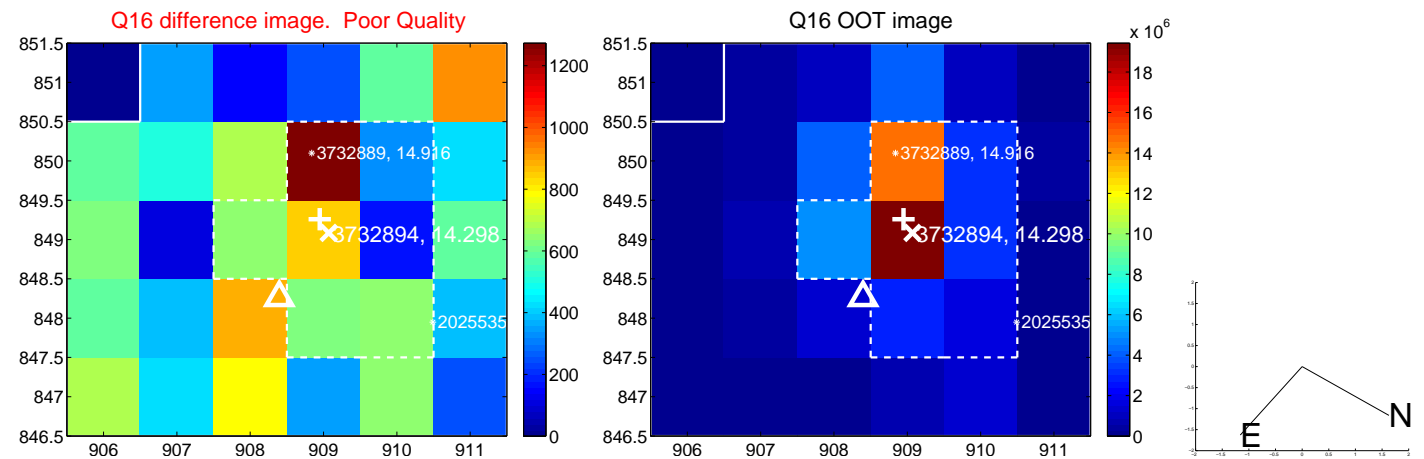
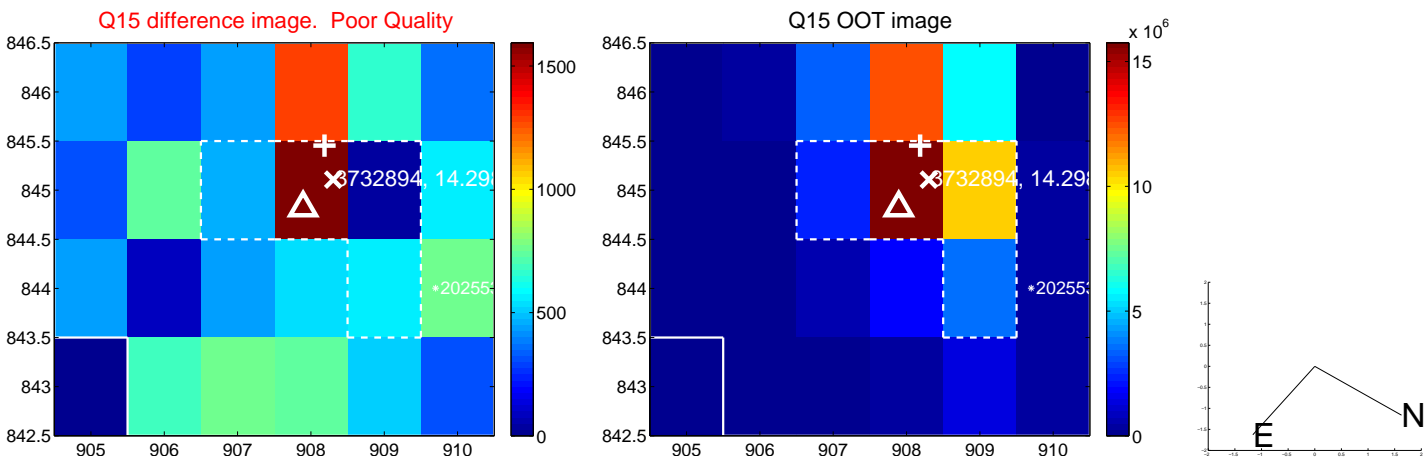
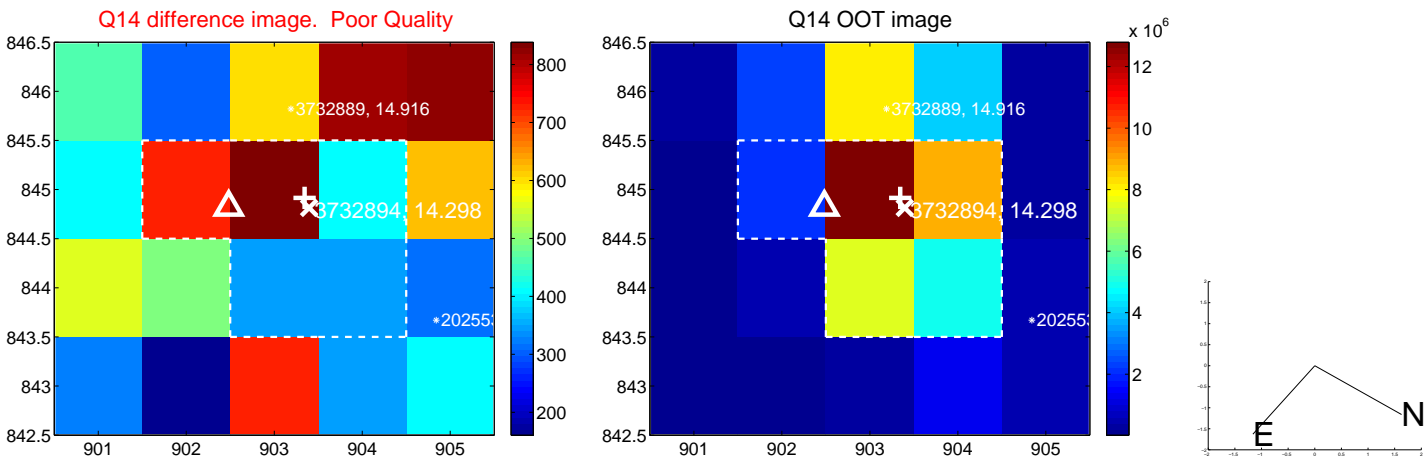
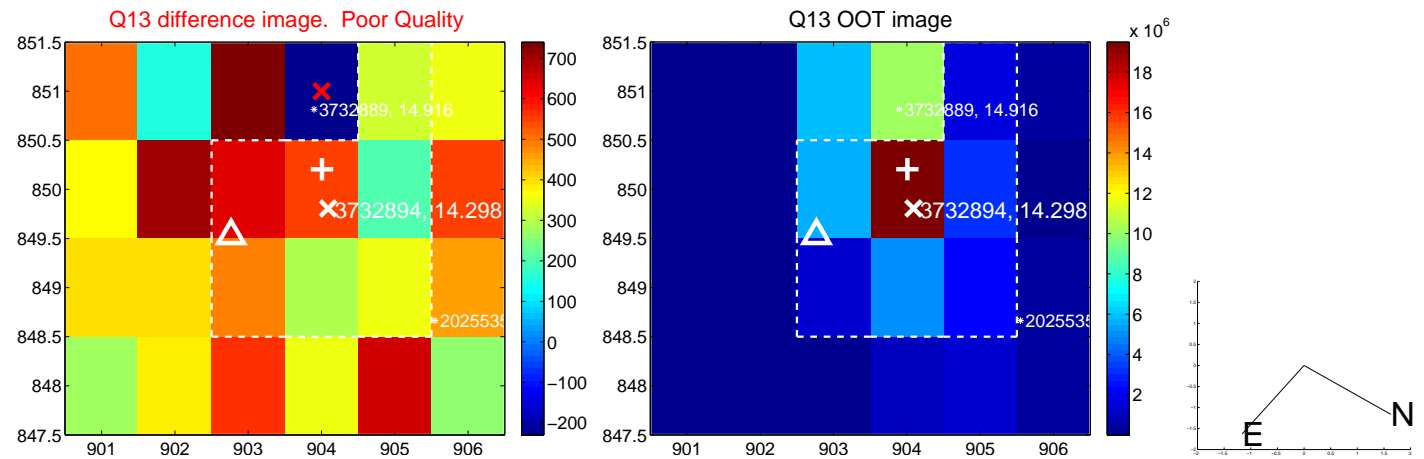
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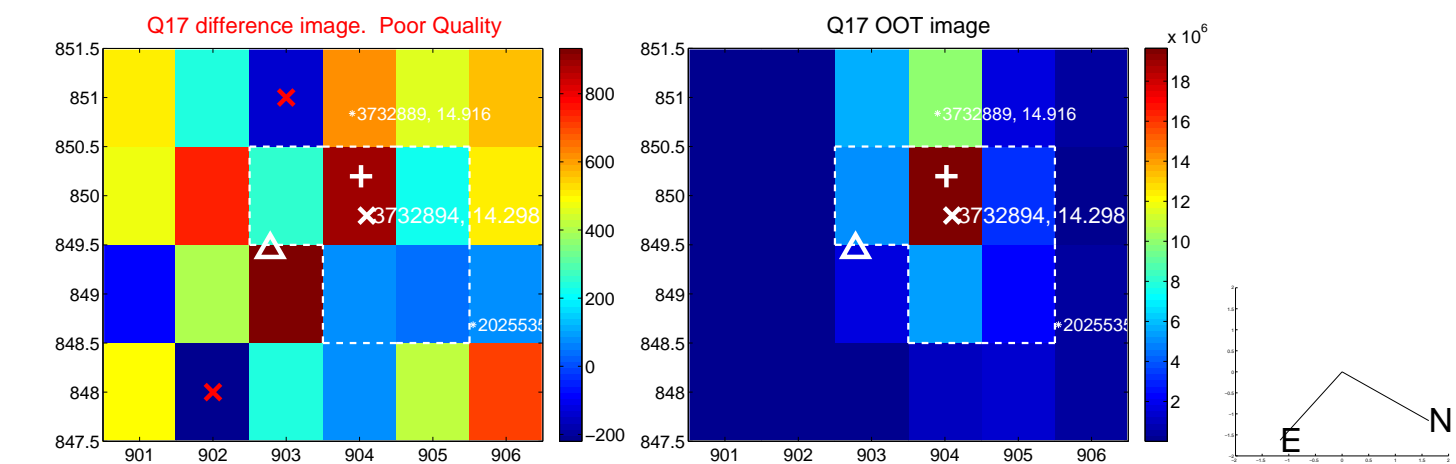
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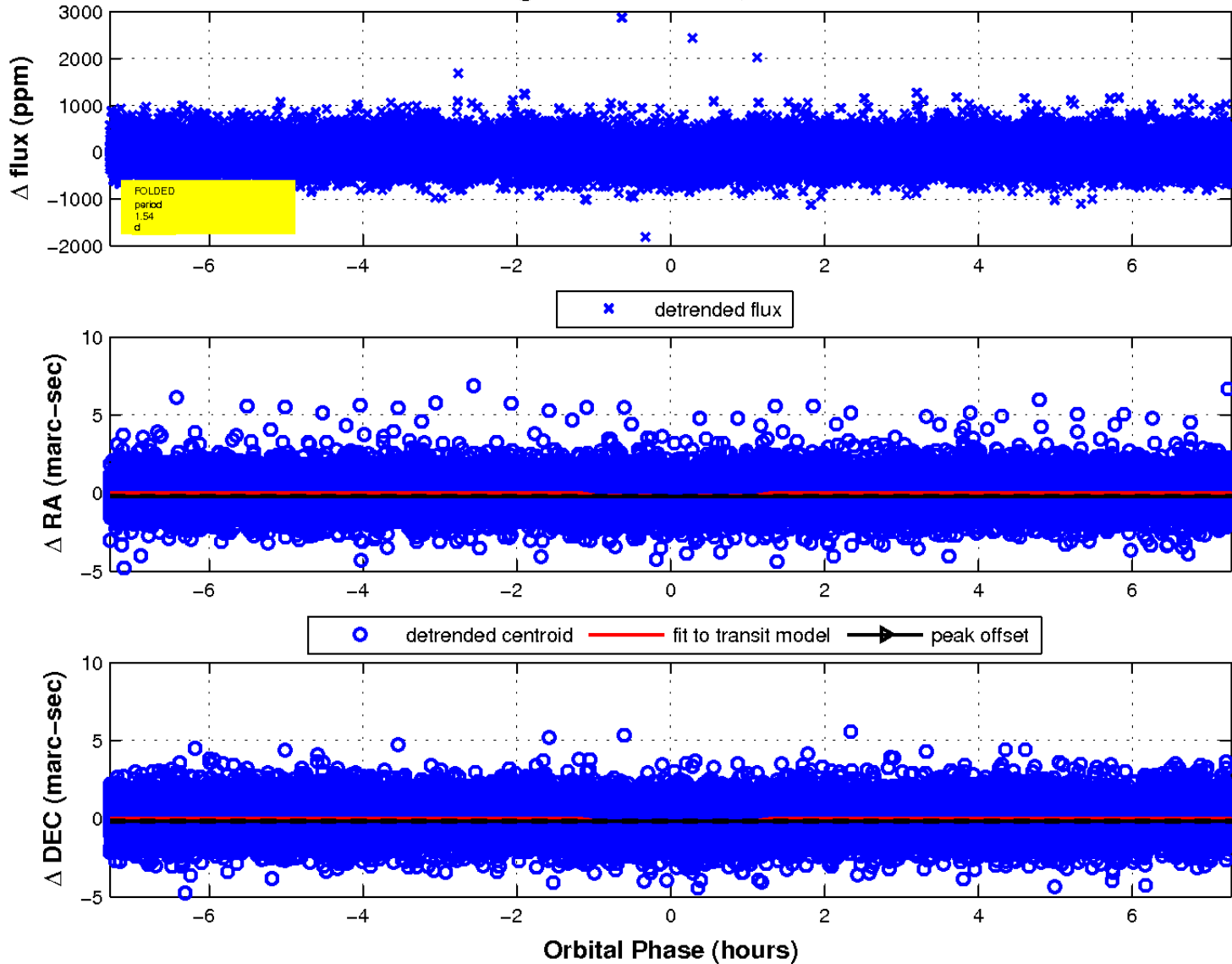
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

