

KIC 004544684

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})
004544684-01	OBS	4847.01	2.189035	132.105334	86.6	2.326	10.9	11.1	0.89	6077	0.97	907.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004544684-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_ALT—CENT_RESOLVED_OFFSET—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 004544684-01

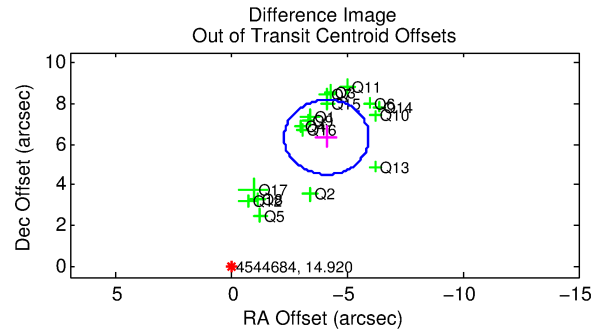
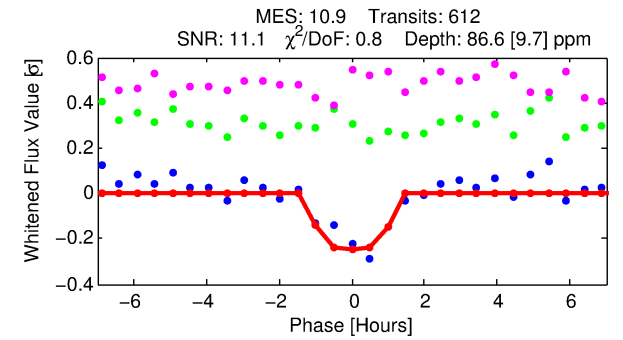
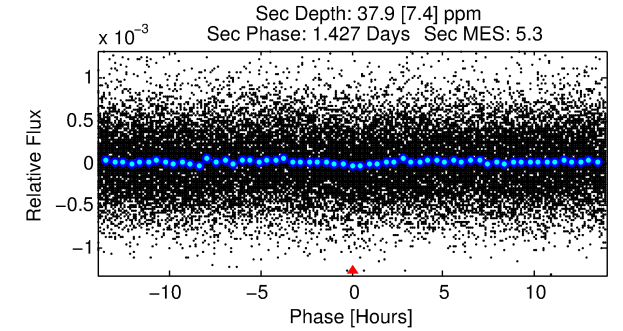
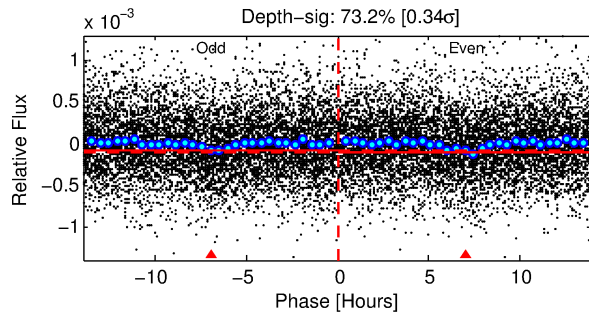
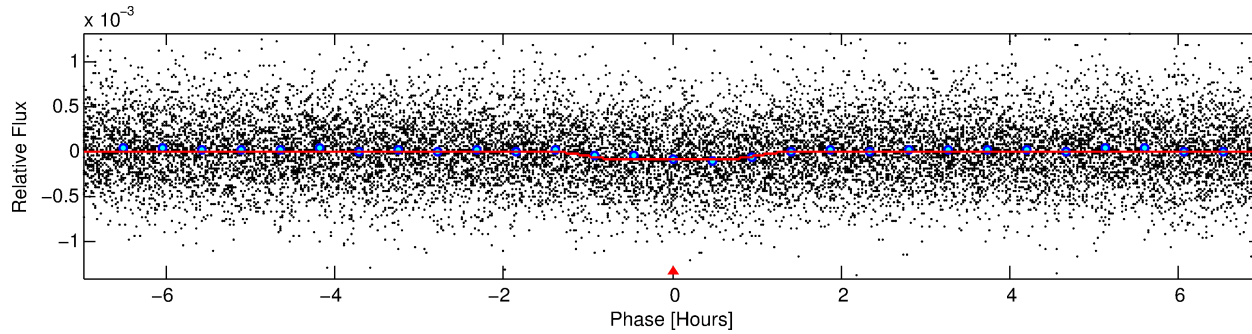
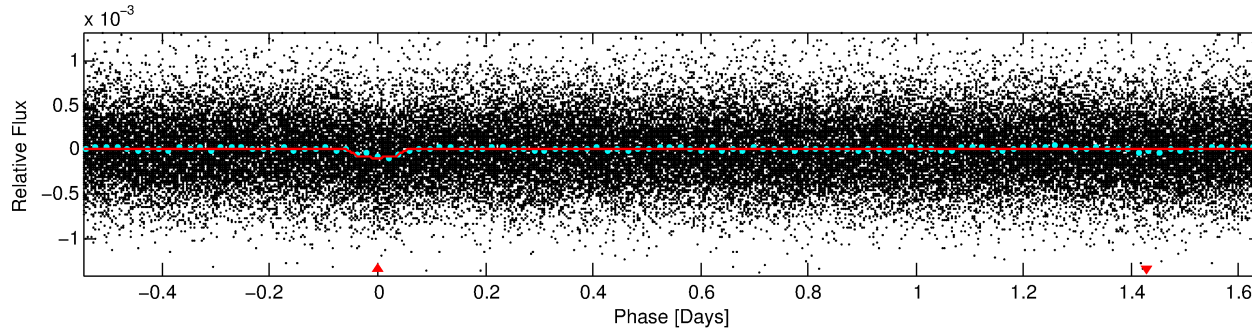
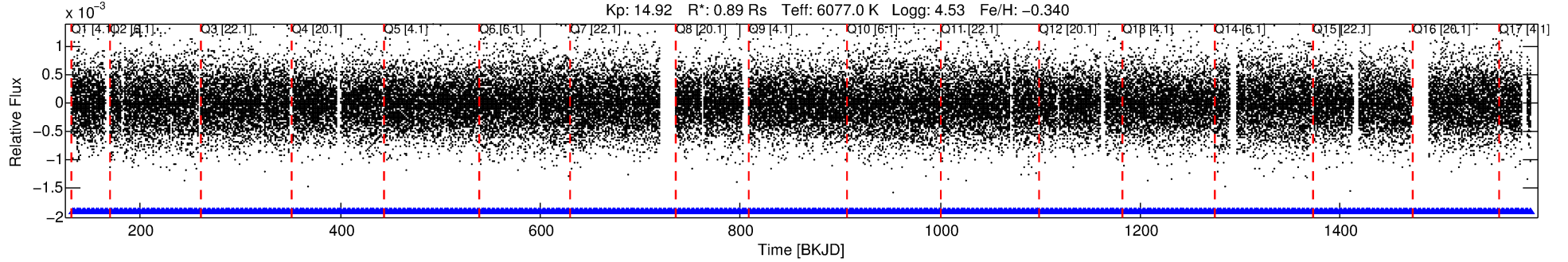
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004544684-01	4544684	004544587-pri	4544587	1:1	120.9	-15	27	10.80	14.92	5148.30	Direct-PRF	0	1.95	1.34

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 4544684 Candidate: 1 of 1 Period: 2.189 d
KOI: K04847.01 Corr: 0.920

Kp: 14.92 R*: 0.89 Rs Teff: 6077.0 K Logg: 4.53 Fe/H: -0.340



DV Fit Results:

Period = 2.18904 [0.00001] d
Epoch = 132.1053 [0.0033] BKJD
Rp/R* = 0.0100 [0.0064]
a/R* = 3.46 [11.04]
b = 0.90 [0.77]
Seff = 907.61 [361.14]
Teff = 1400 [139] K
Rp = 0.97 [0.69] Re
a = 0.0327 [0.0085] AU
Ag = 23.55 [31.90] [0.71σ]
Teffp = 4767 [1556] K [2.16σ]

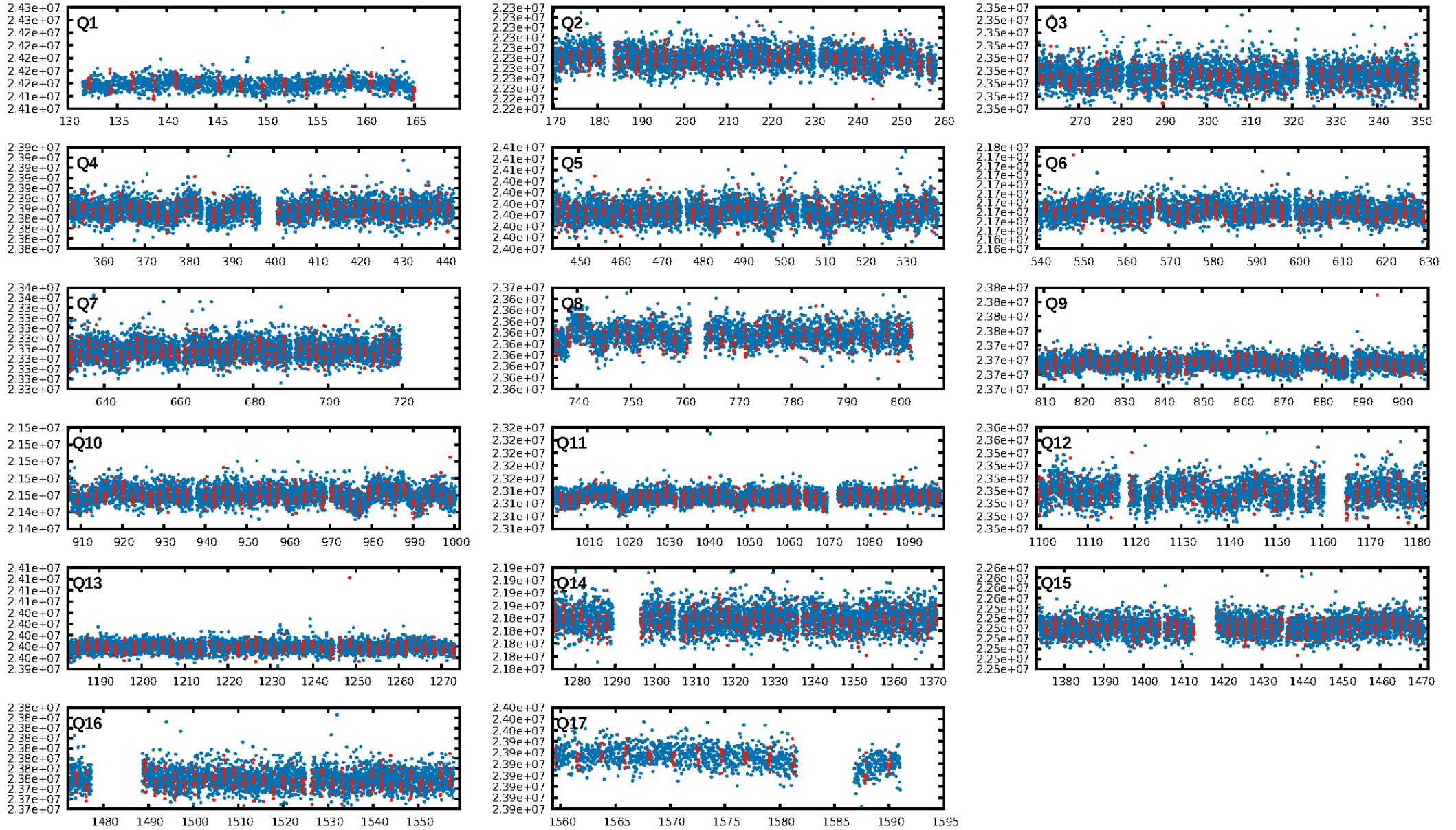
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.99e-27
RollingBand-fgt: 1.00 [583/583]
GhostDiagnostic-chr: 0.0163
Centroid-sig: 0.0%
Centroid-so: 9.222 arcsec [7.58σ]
OotOffset-rm: 7.555 arcsec [12.38σ]
KicOffset-rm: 7.273 arcsec [10.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 1.00 [17/17]

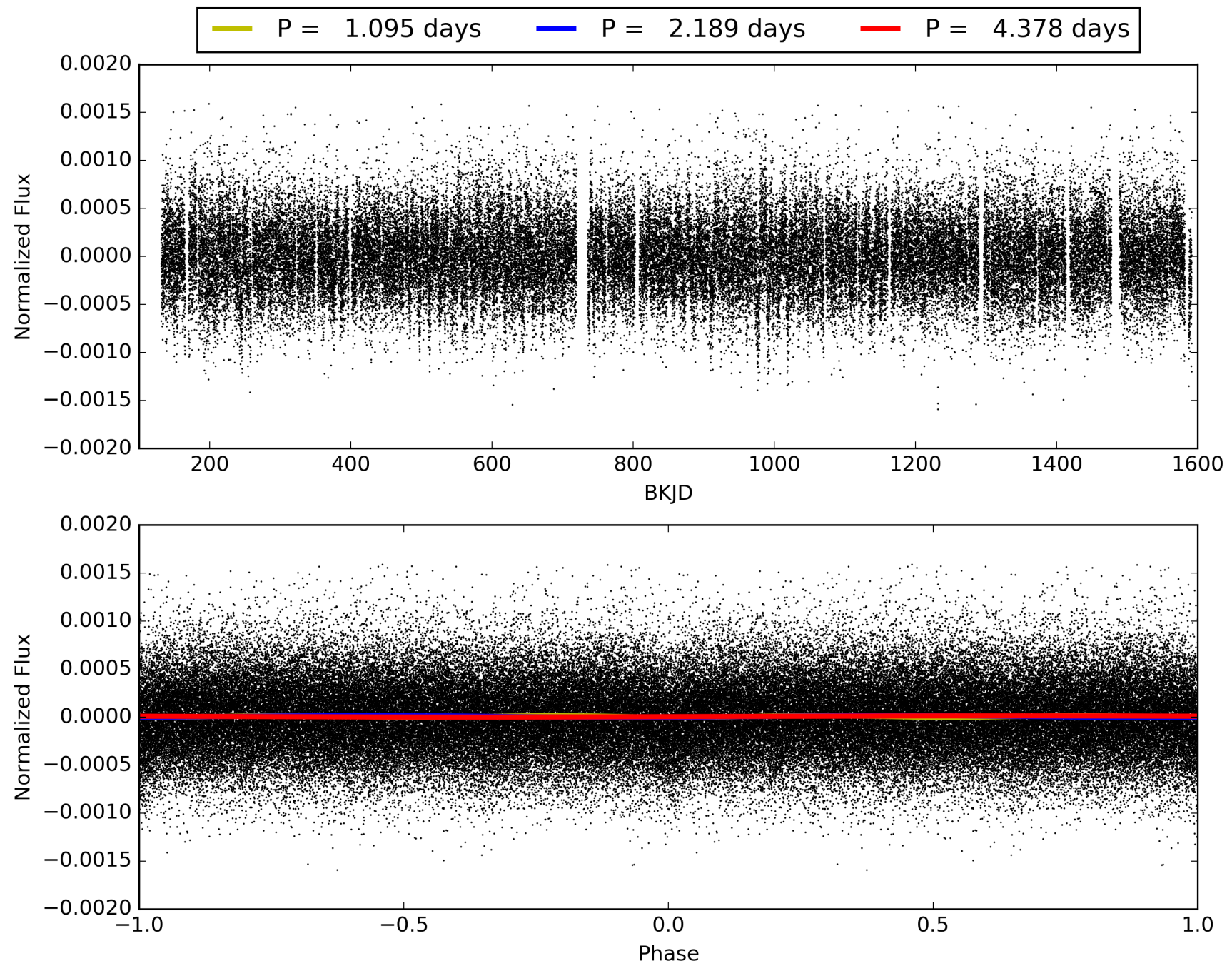
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:12:48 Z

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

TCE 004544684-01, PDC Light Curves

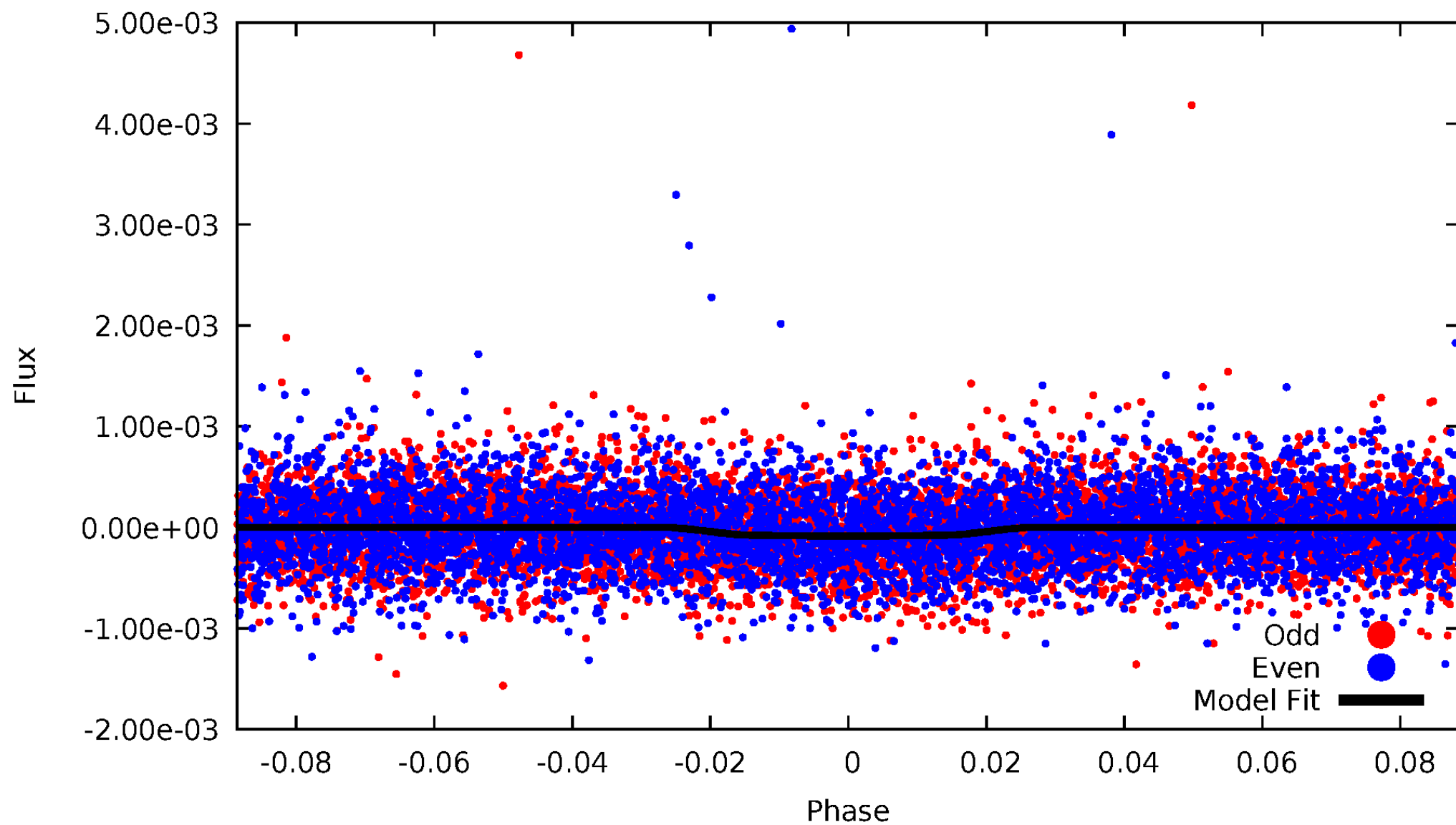


TCE 004544684-01



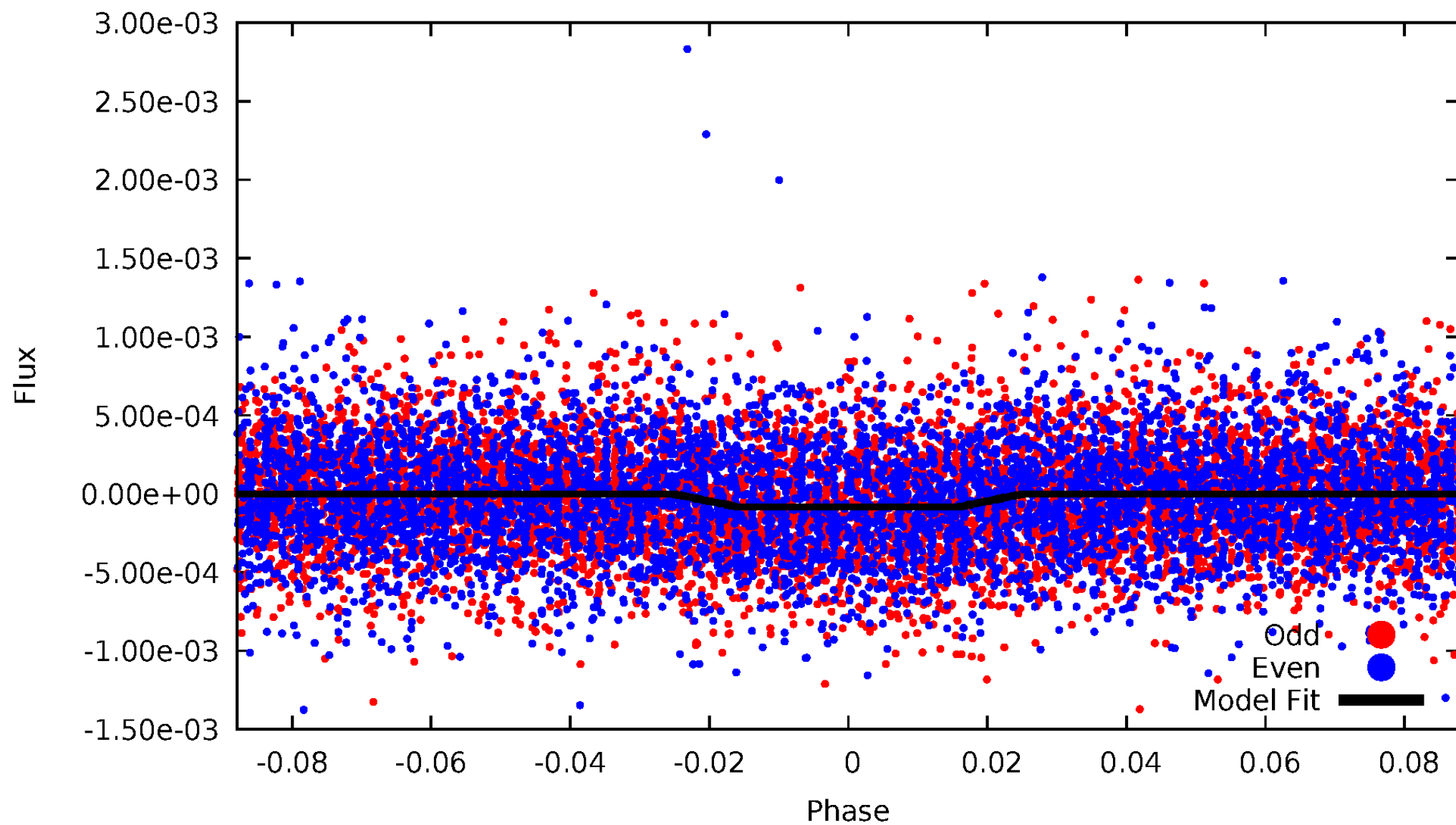
DV Odd/Even

TCE 004544684-01



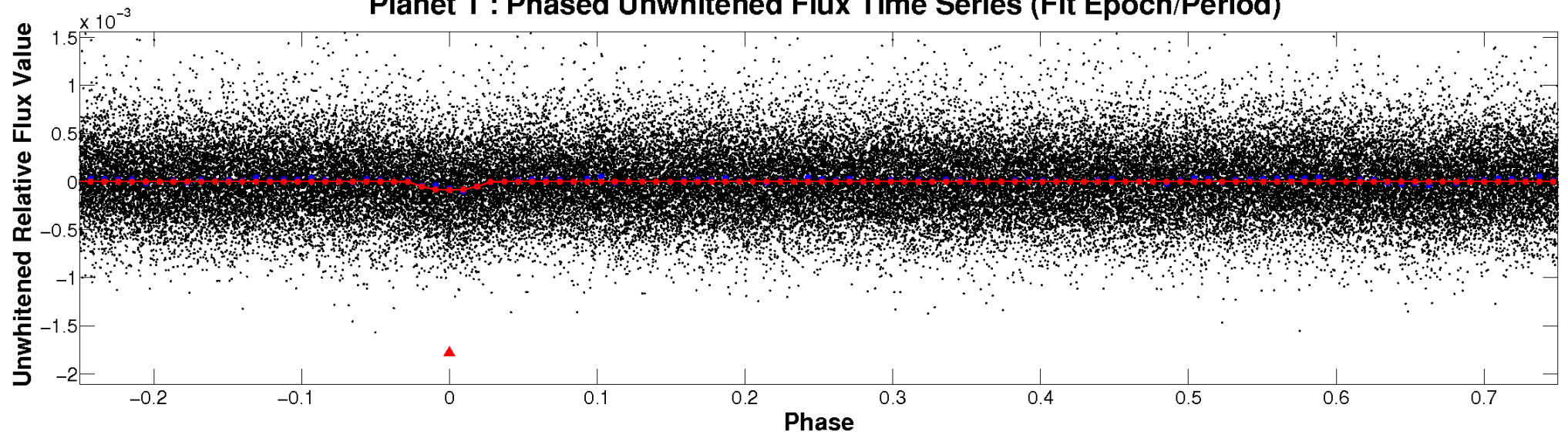
ALT Odd/Even

TCE 004544684-01

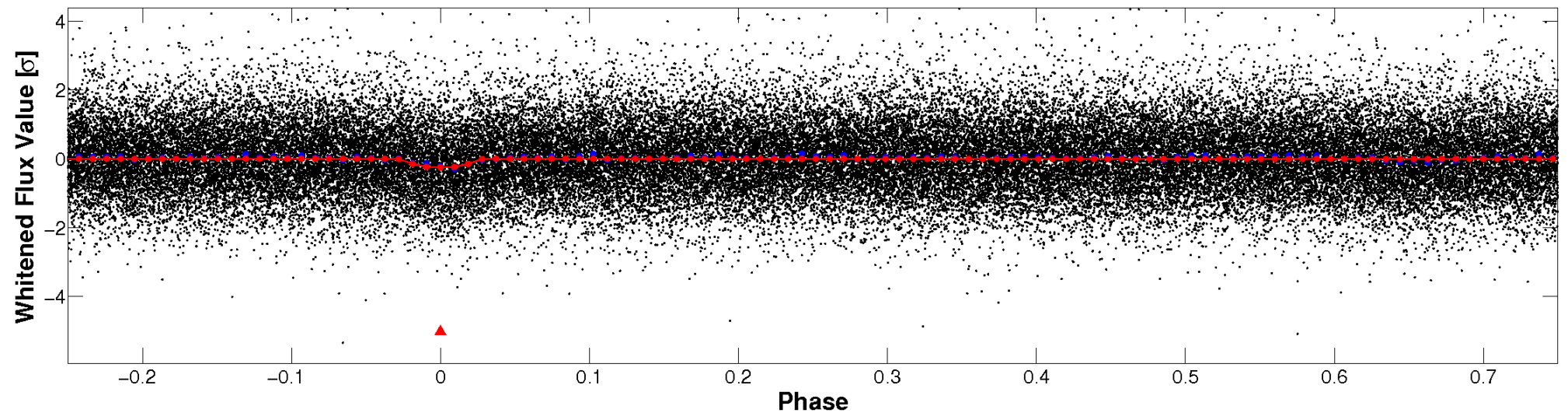


Non-Whitened Vs. Whitened Light Curve

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

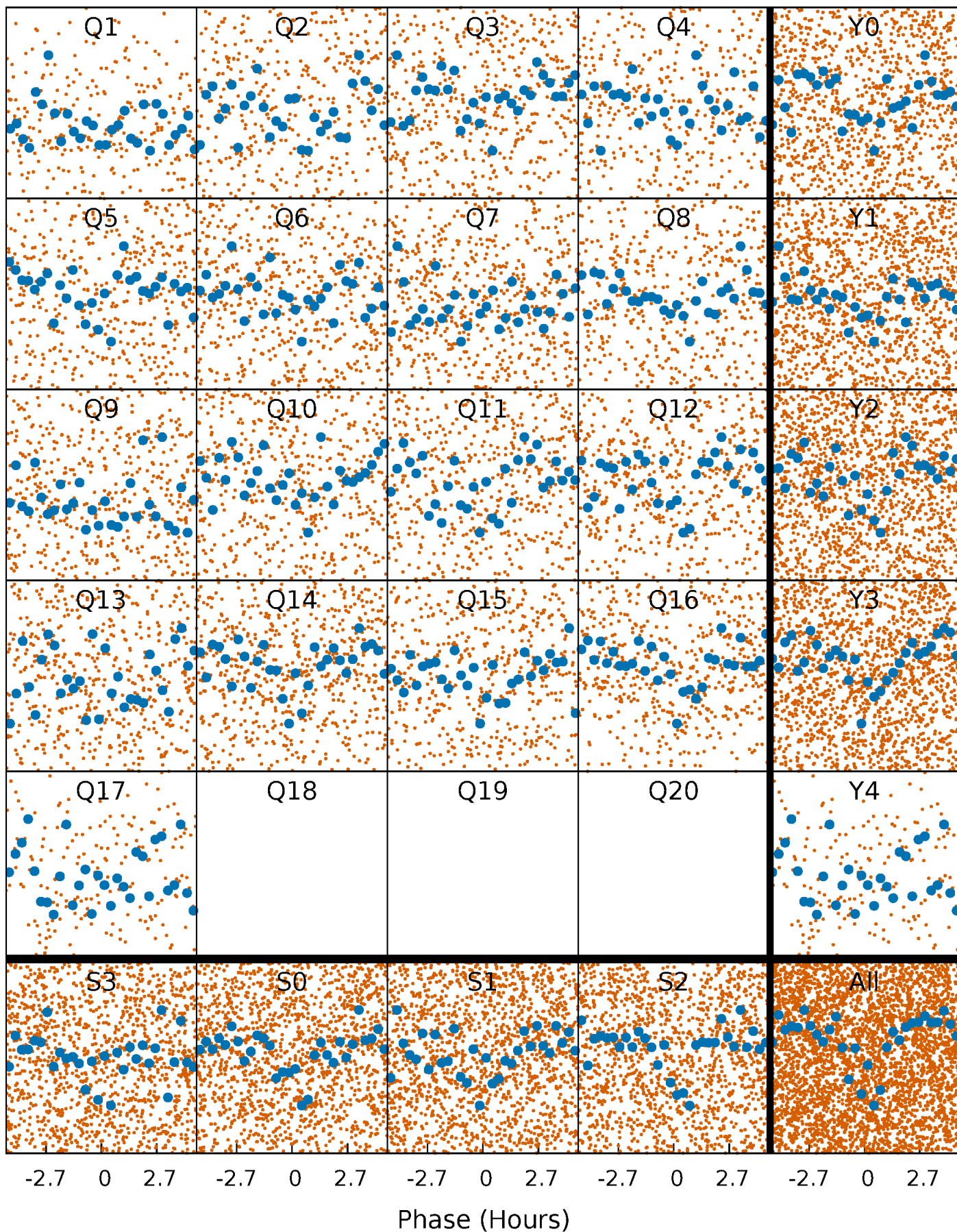


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



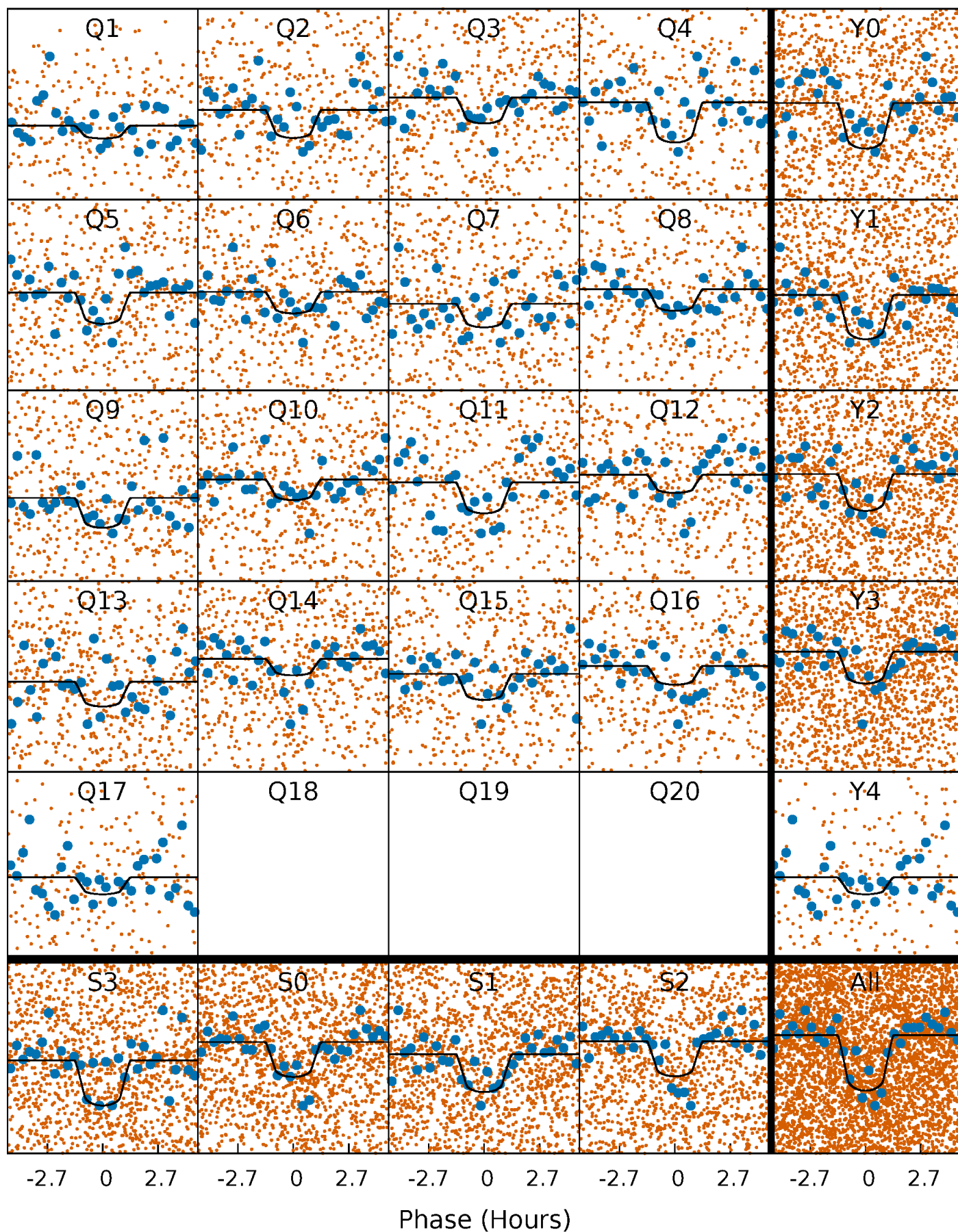
PDC Quarter-Phased Transit Curves

TCE 004544684-01 P= 2.189035 Days $T_0=132.105334$ (BKJD)



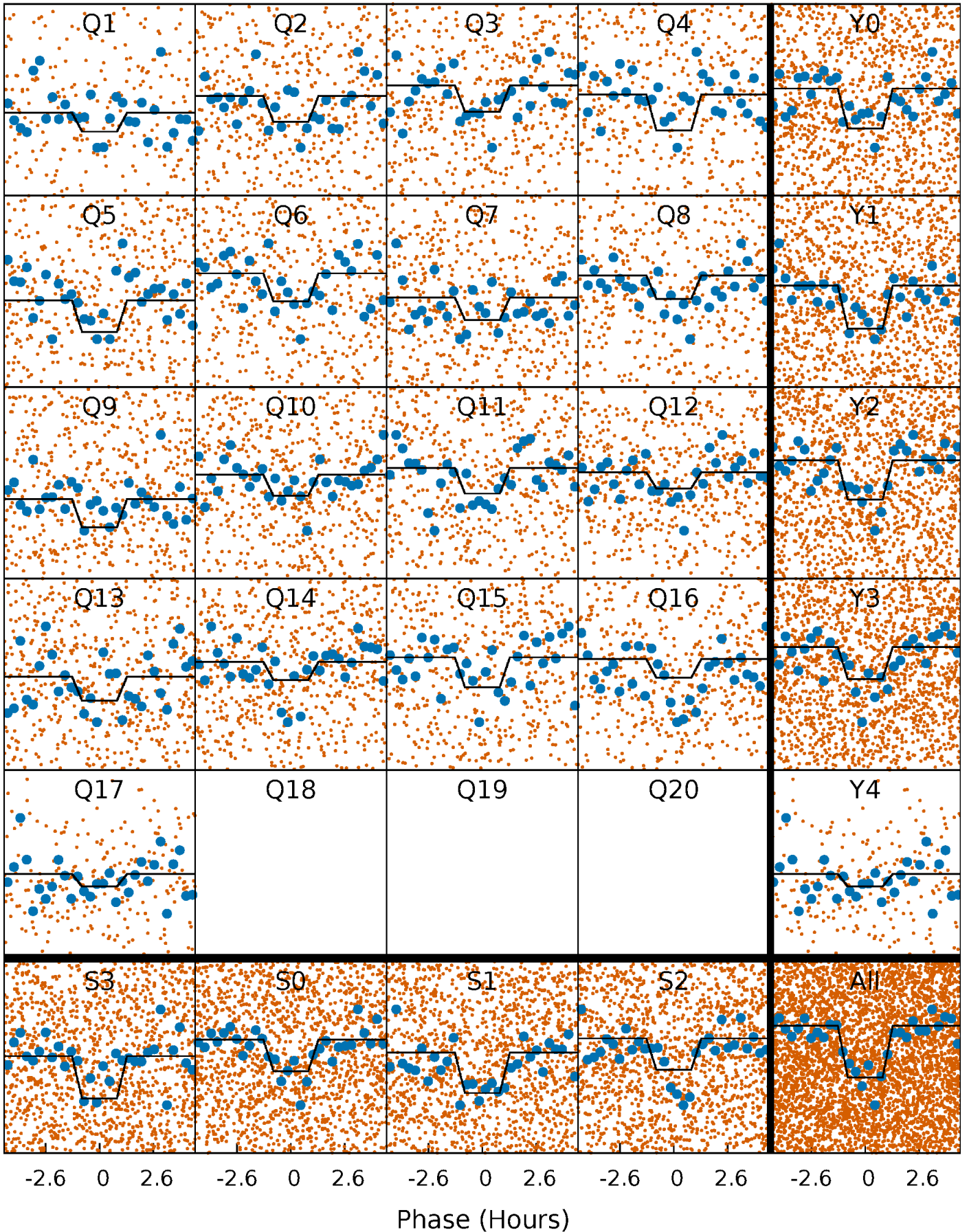
DV Quarter-Phased Transit Curves

TCE 004544684-01 P= 2.189035 Days $T_0=132.105334$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

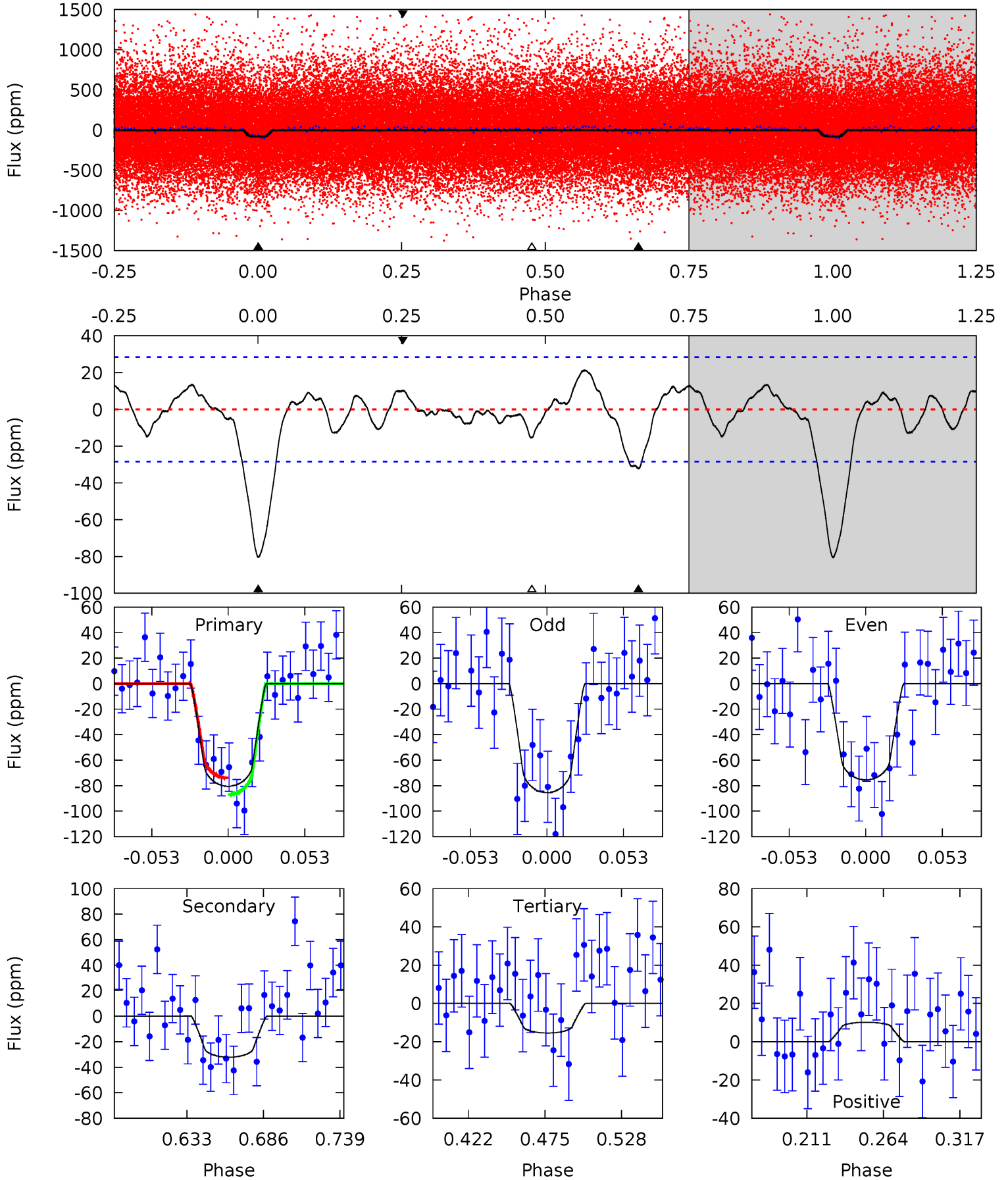
TCE 004544684-01 P= 2.189040 Days $T_0=132.104592$ (BKJD)



DV Model-Shift Uniqueness Test

004544684-01, P = 2.189035 Days, E = 129.916299 Days

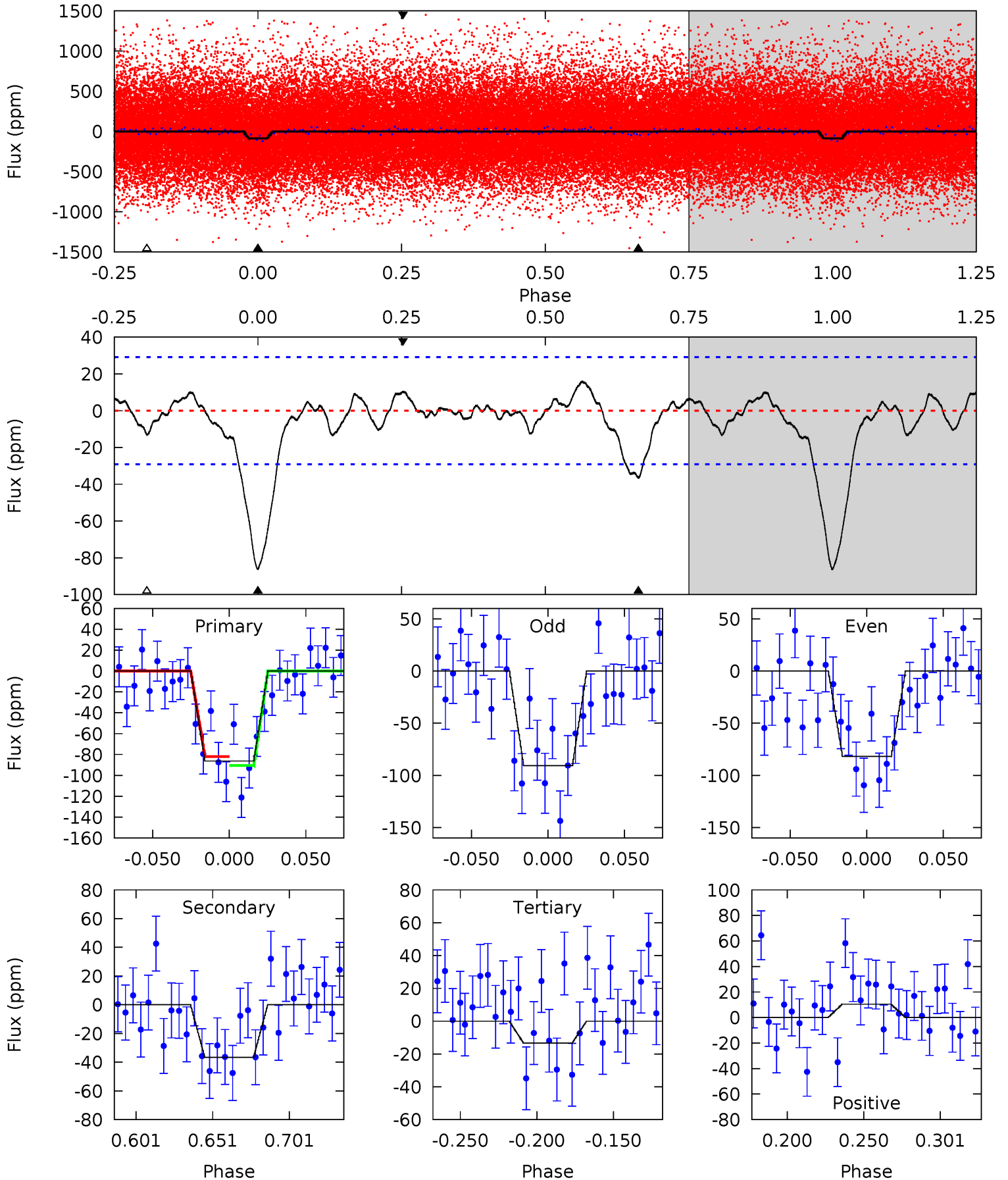
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	5.32	2.56	1.68	4.70	1.94	1.28	10.8	11.6	2.76	3.64	0.83	1.05	0.21	1.09



Alt Model-Shift Uniqueness Test

004544684-01, P = 2.189040 Days, E = 129.915552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	5.92	2.15	1.69	4.71	1.96	0.99	11.8	12.3	3.77	4.23	0.72	0.94	0.16	0.68



Stellar Parameters For KIC 004544684

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+164}_{-182}	$4.526^{+0.052}_{-0.208}$	$-0.340^{+0.300}_{-0.300}$	$0.891^{+0.274}_{-0.091}$	$0.974^{+0.116}_{-0.128}$	$1.936^{+0.407}_{-1.028}$
	+3%/-3%	+1%/-5%	+88%/-88%	+31%/-10%	+12%/-13%	+21%/-53%
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 004544684-01 / KOI 4847.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 6	$1.06^{+0.67}_{-0.57}$	2002^{+143}_{-97}	4594^{+2124}_{-764}	16^{+61}_{-10}
Alt.	-37 ± 6	$1.03^{+0.61}_{-0.58}$	2002^{+138}_{-93}	4814^{+2435}_{-774}	20^{+81}_{-13}

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 $A_{\text{obs}} \gg 1.0$

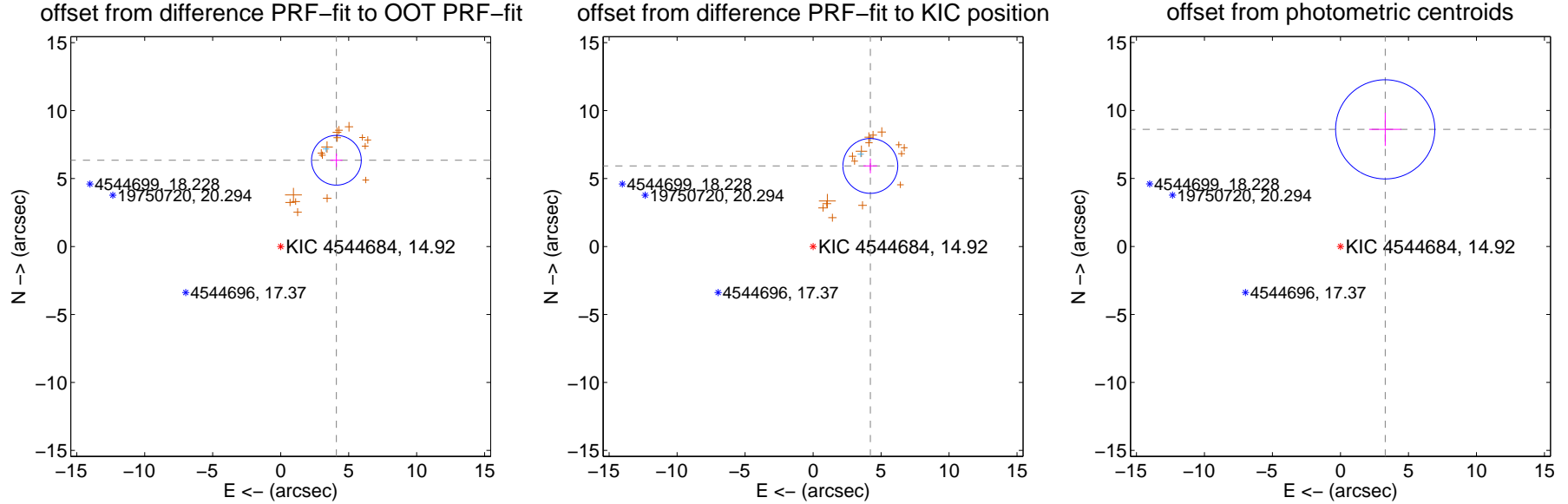
DV Centroid Data

Supplemental centroid analysis for 004544684-01. Kepler magnitude: 14.92. Transit SNR 11.09

There are 1 quarters with good PRF difference image offsets

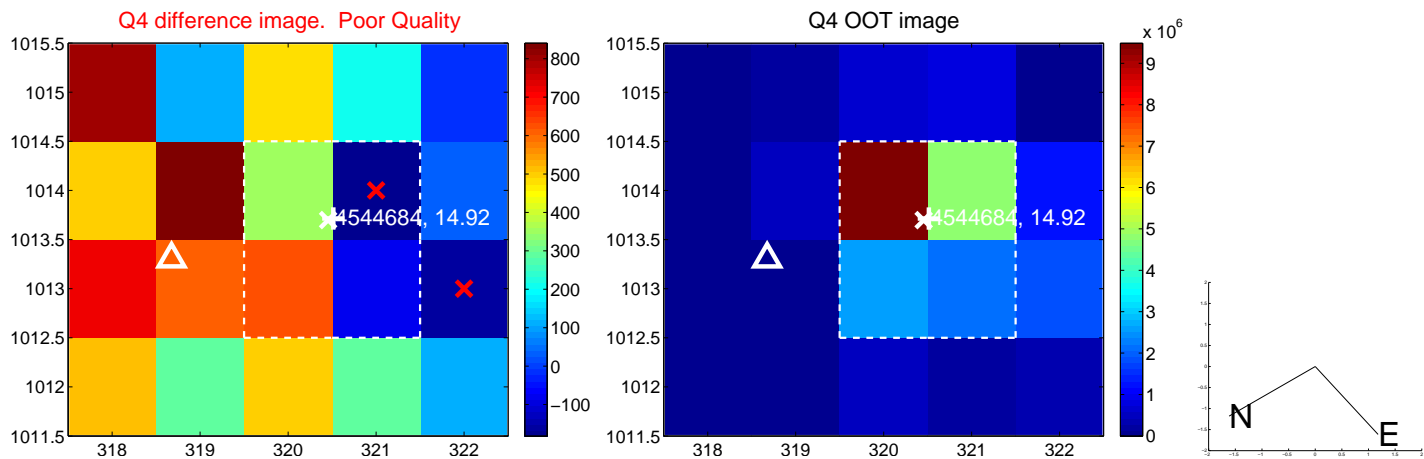
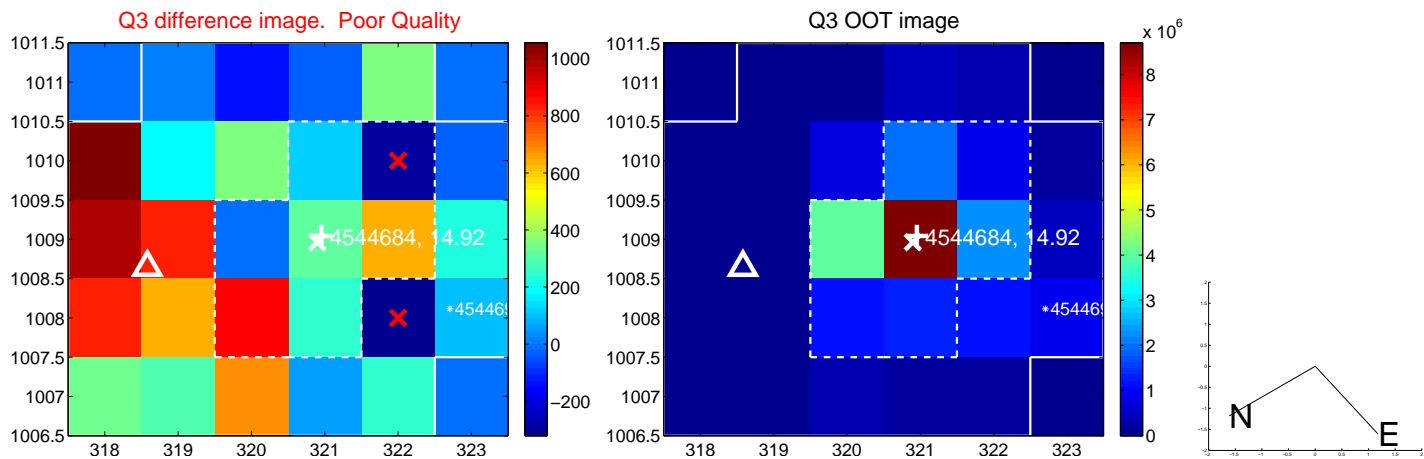
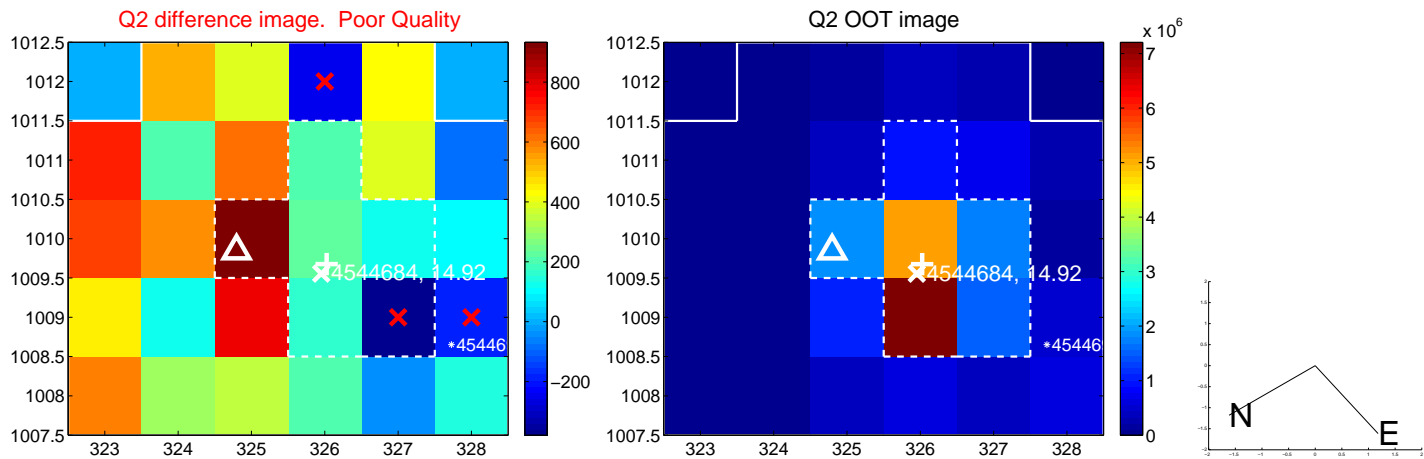
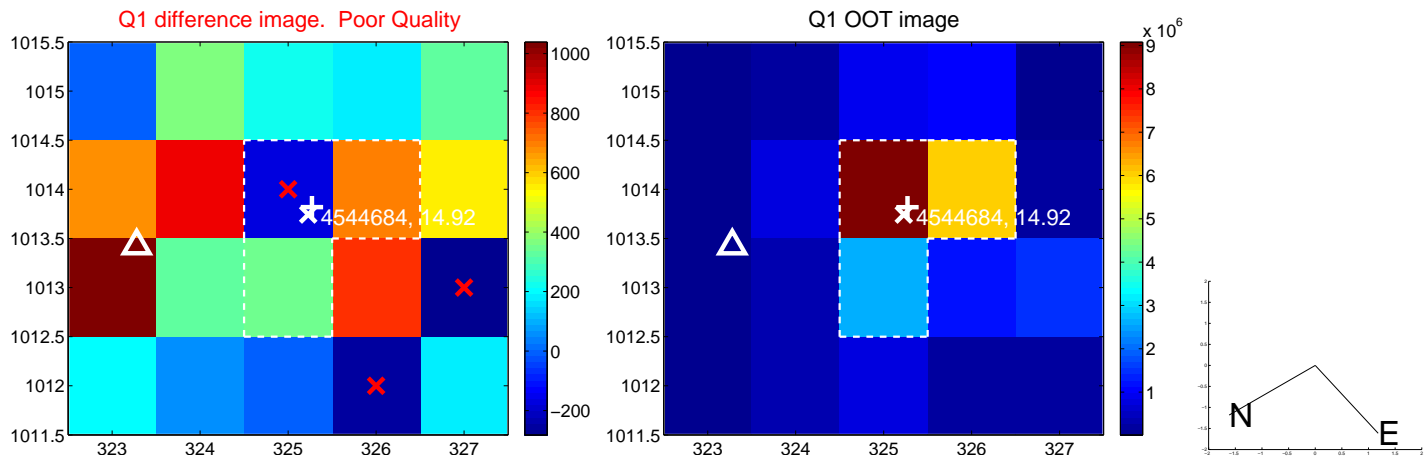
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.555 \pm 0.610	12.38	-4.098 \pm 0.446	6.347 \pm 0.499
PRF-fit source offset from KIC position	7.273 \pm 0.673	10.81	-4.211 \pm 0.499	5.930 \pm 0.543
photometric centroid source offset	9.22 \pm 1.22	7.58	-3.29 \pm 1.18	8.61 \pm 1.22

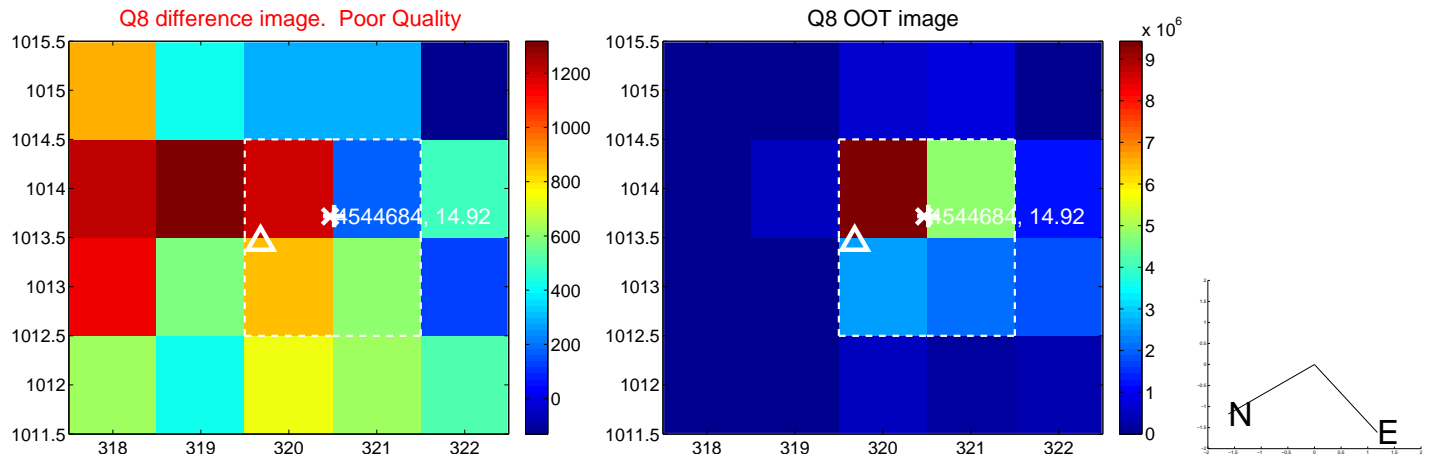
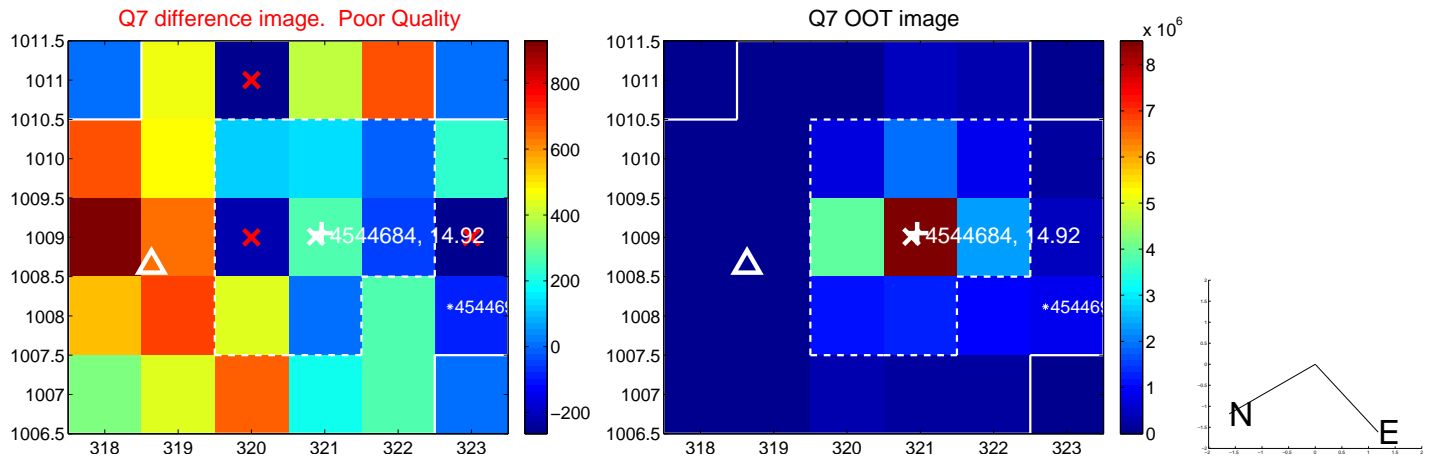
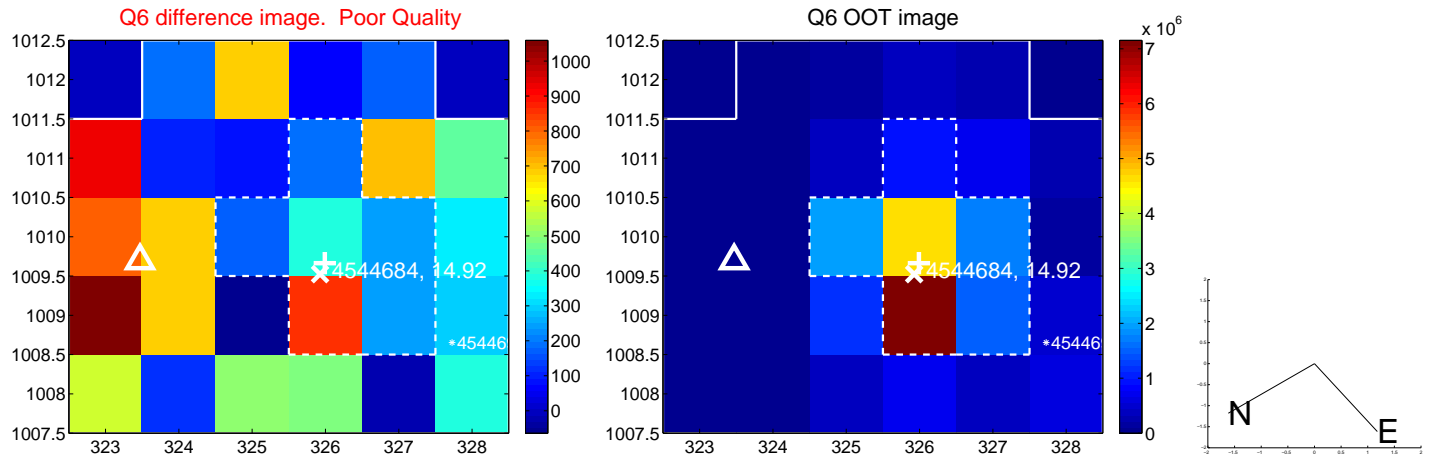
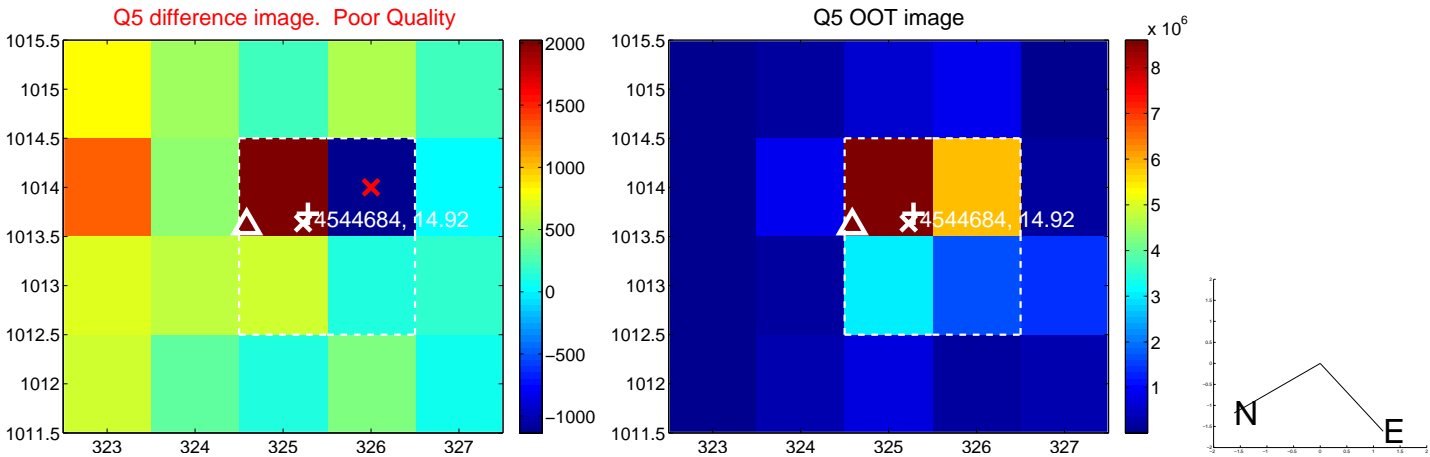


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

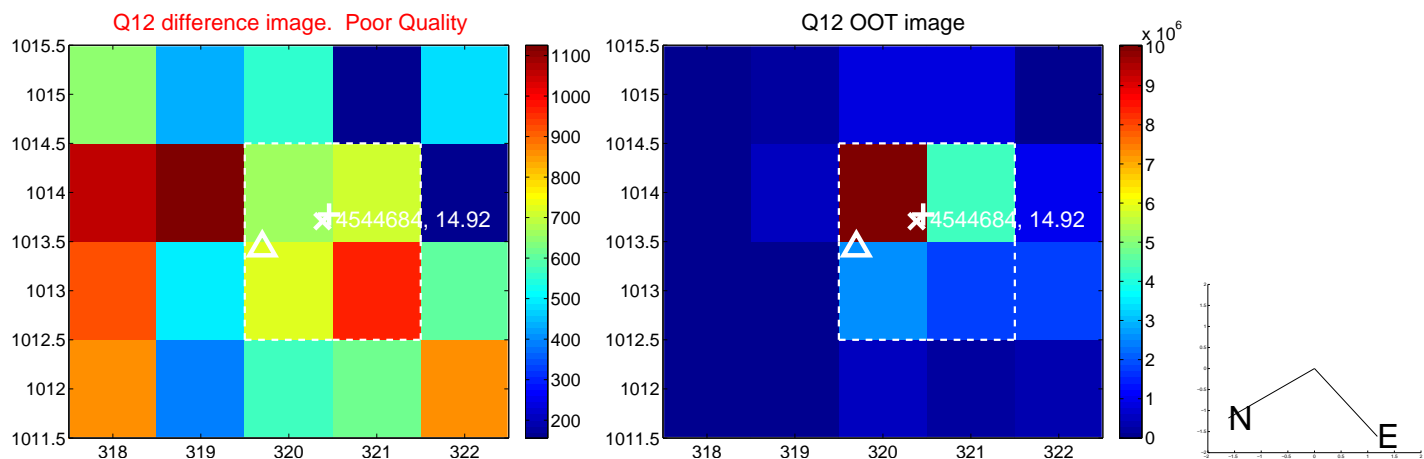
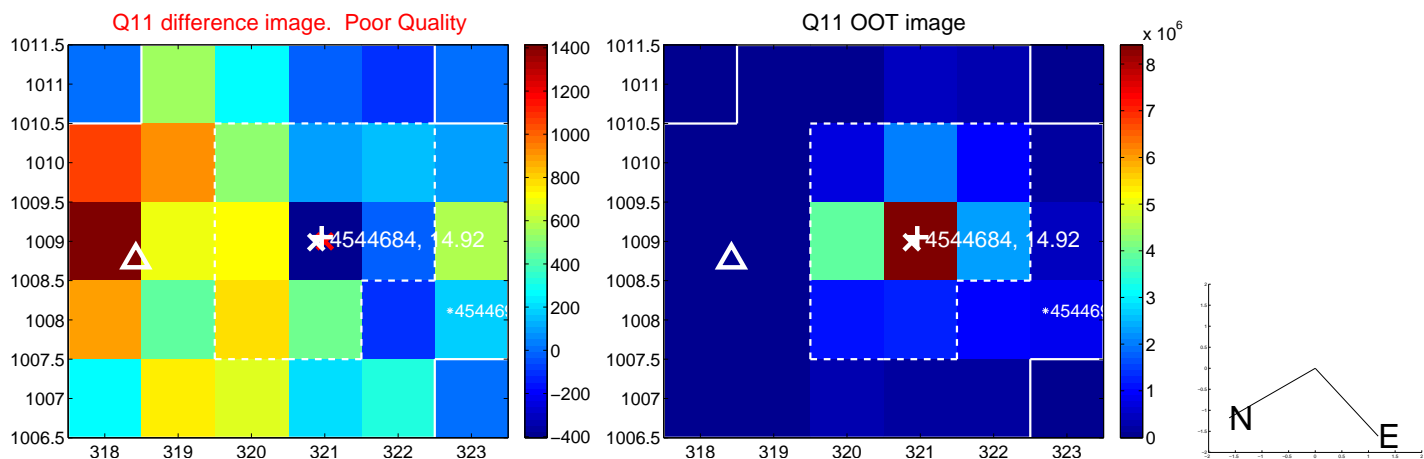
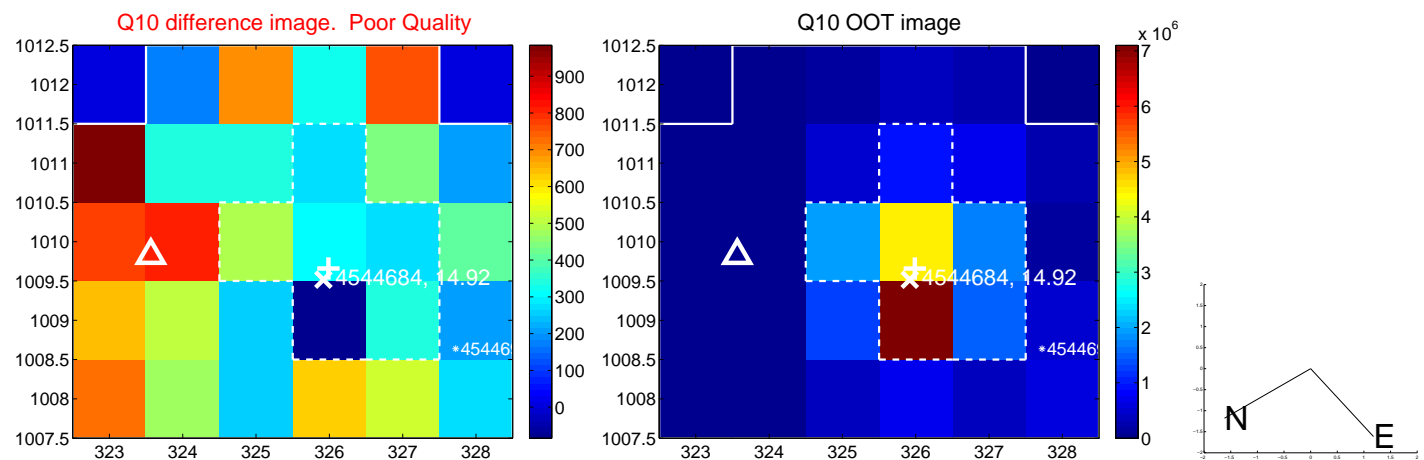
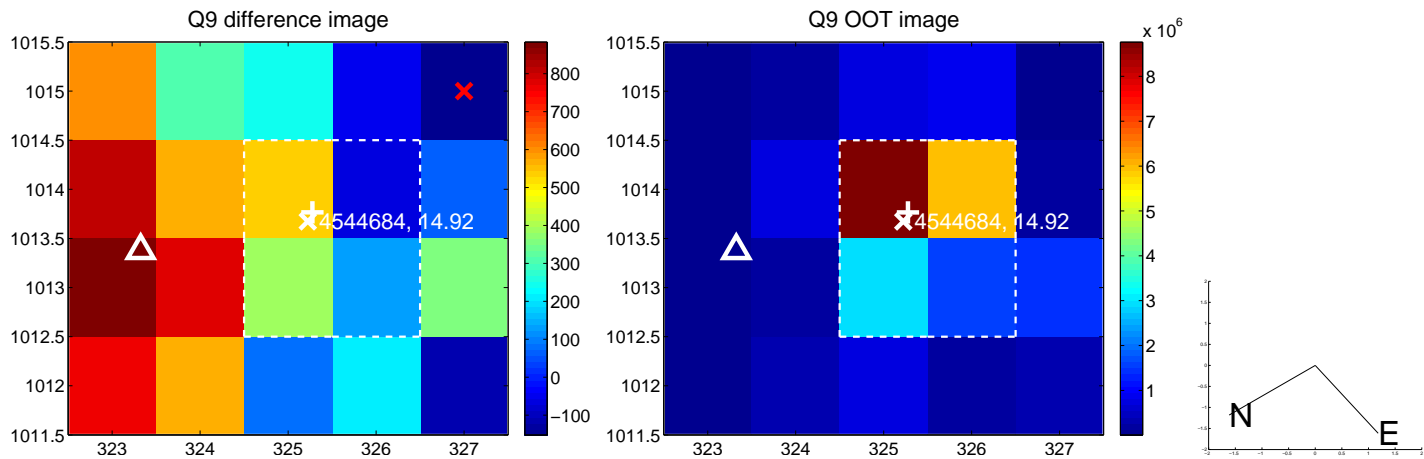
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



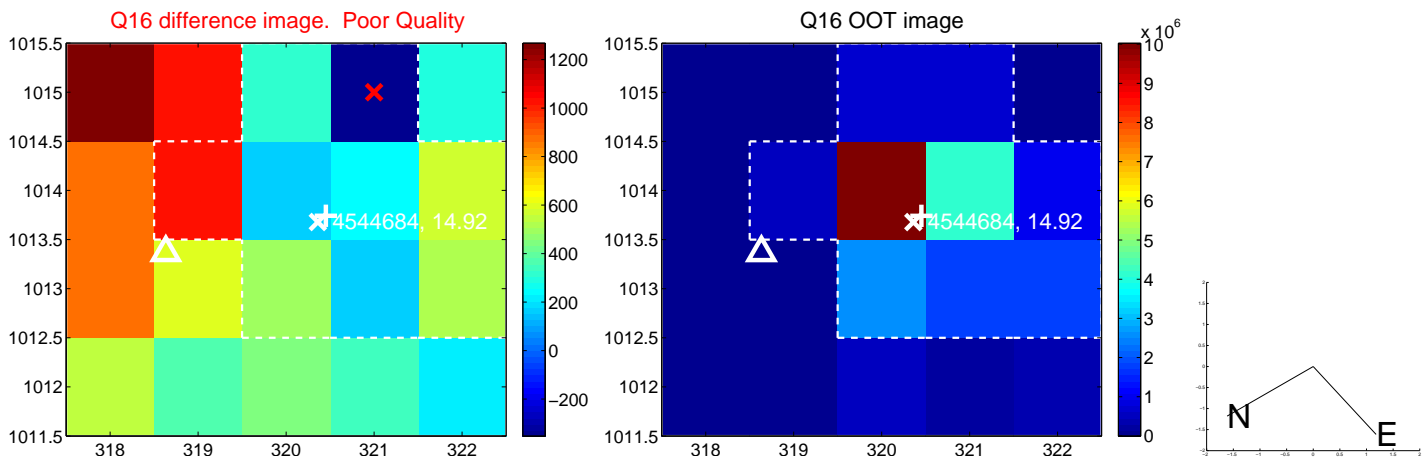
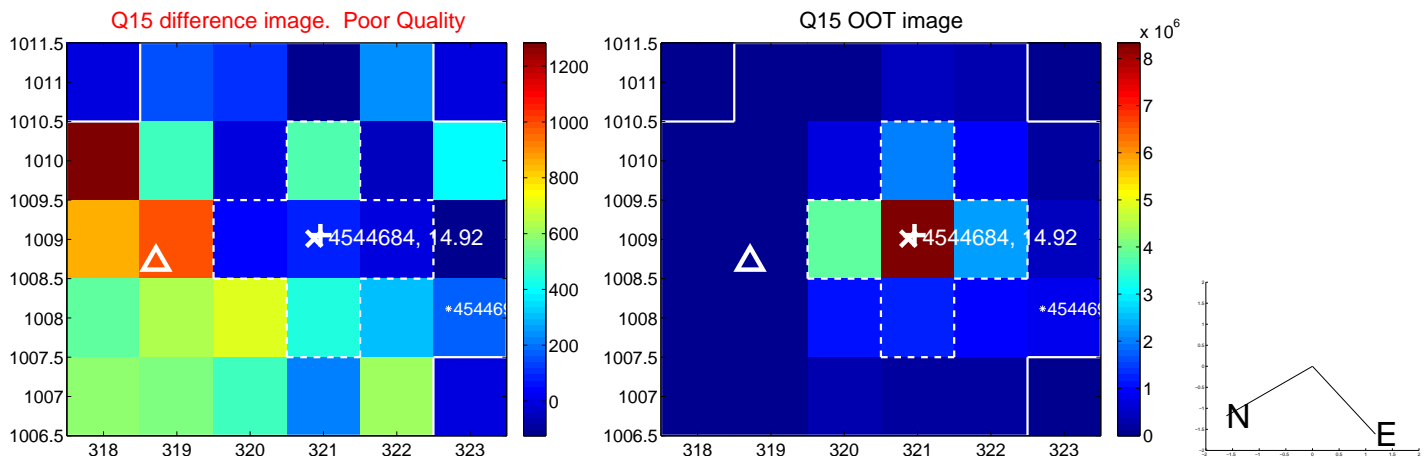
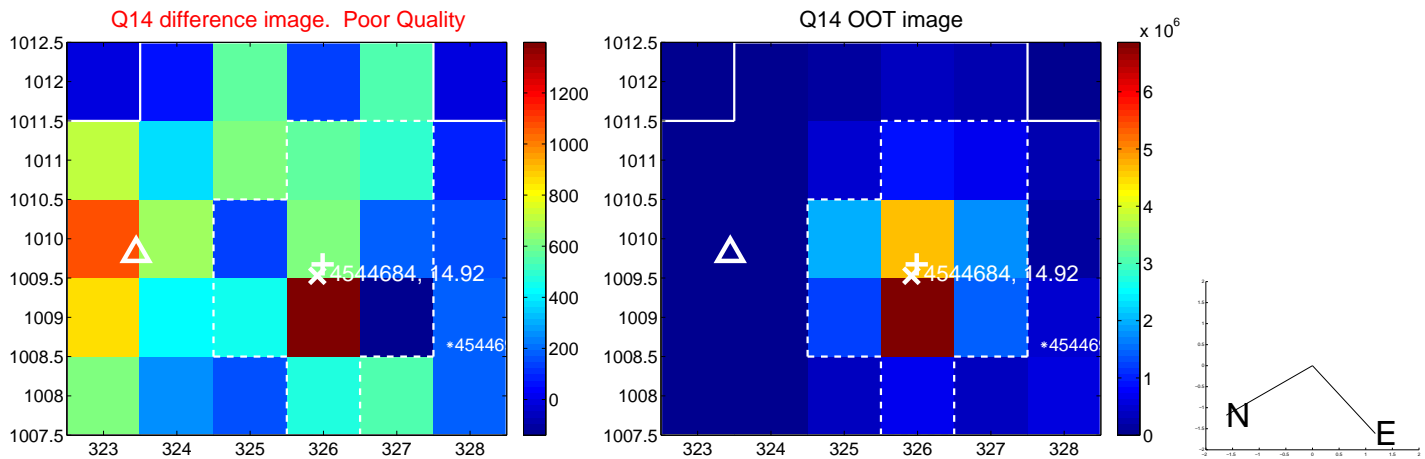
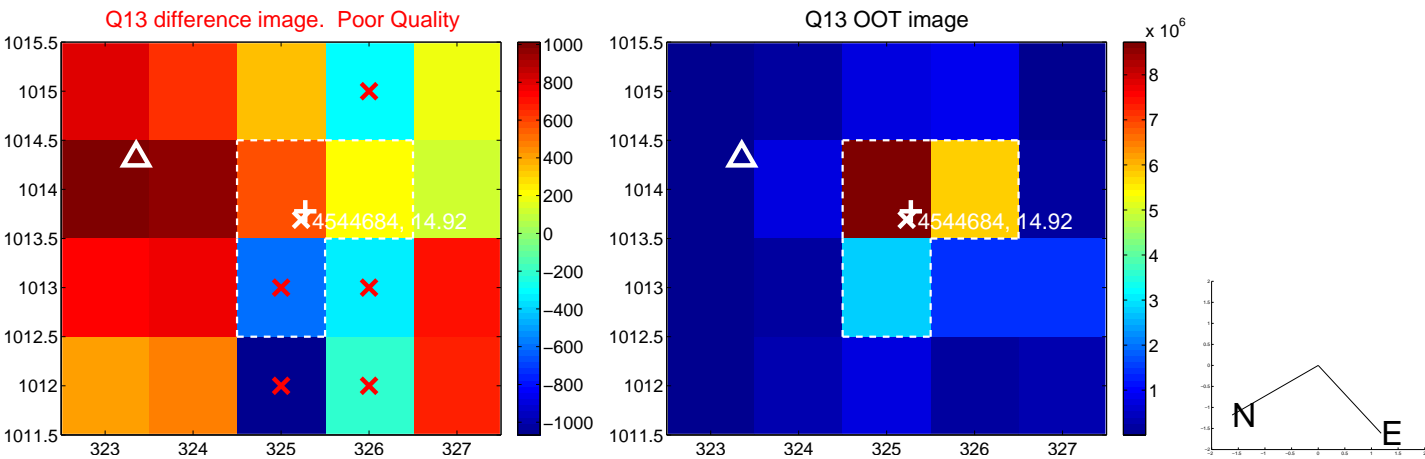
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

