

KIC 011913072

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})
011913072-01	OBS	4729.01	3.747901	134.173563	72.5	3.331	10.8	11.1	1.11	6341	1.10	728.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011913072-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_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 011913072-01

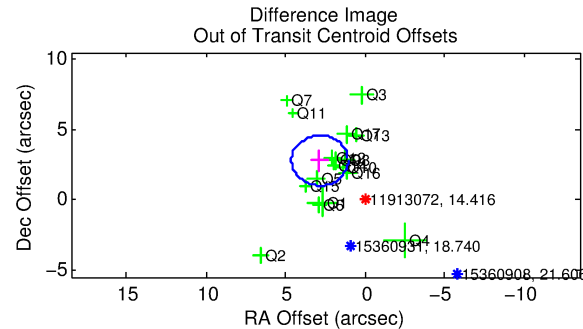
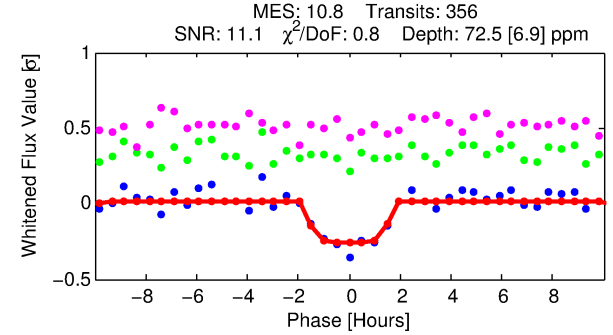
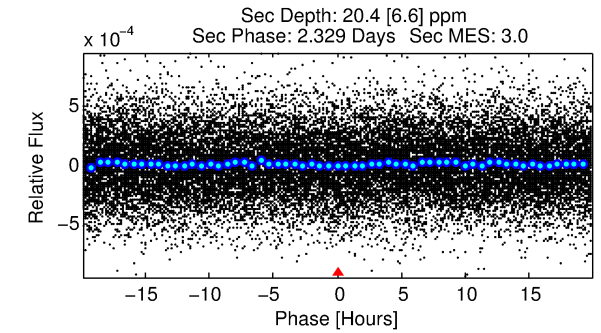
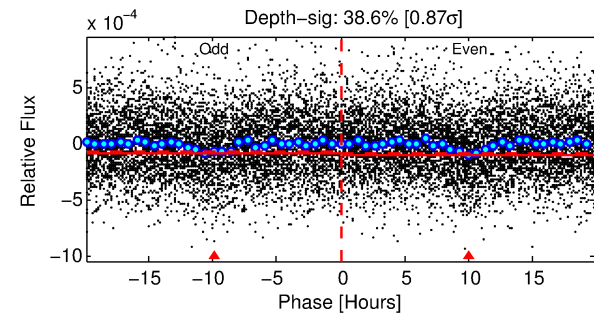
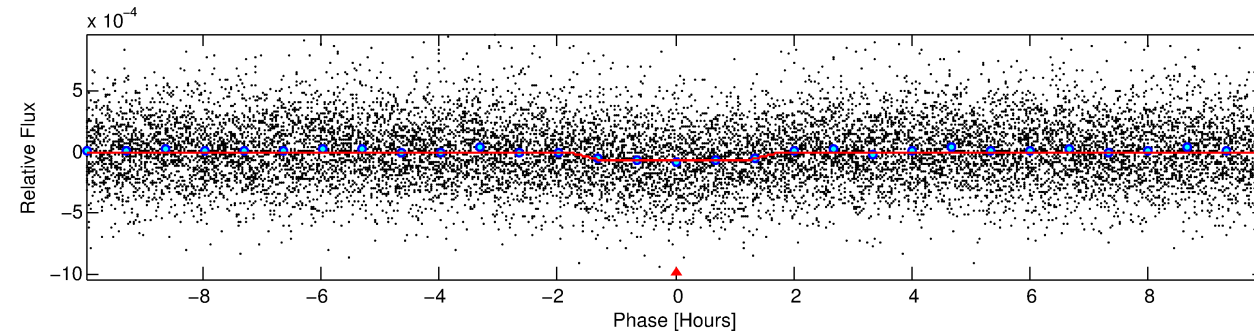
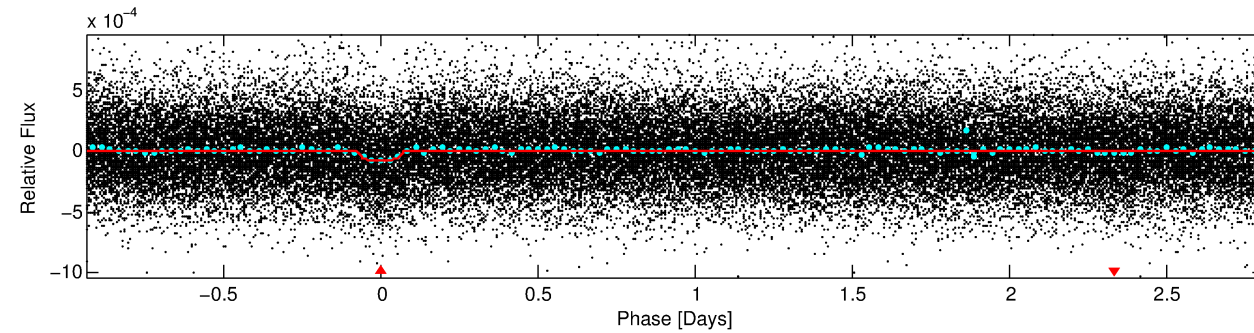
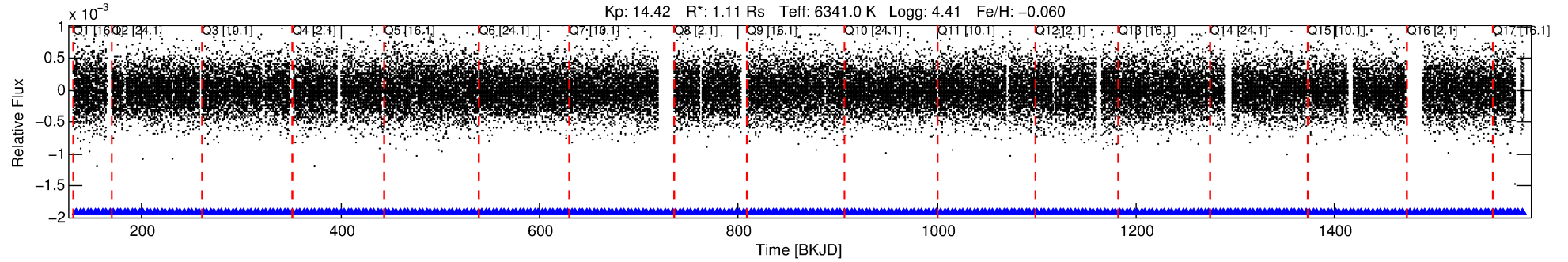
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011913072-01	11913072	011913071-pri	11913071	1:1	102.6	-22	14	9.53	14.41	2589.00	Direct-PRF	0	0.99	0.61

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: 11913072 Candidate: 1 of 1 Period: 3.748 d
KOI: K04729.01 Corr: 0.890

Kp: 14.42 R*: 1.11 Rs Teff: 6341.0 K Logg: 4.41 Fe/H: -0.060



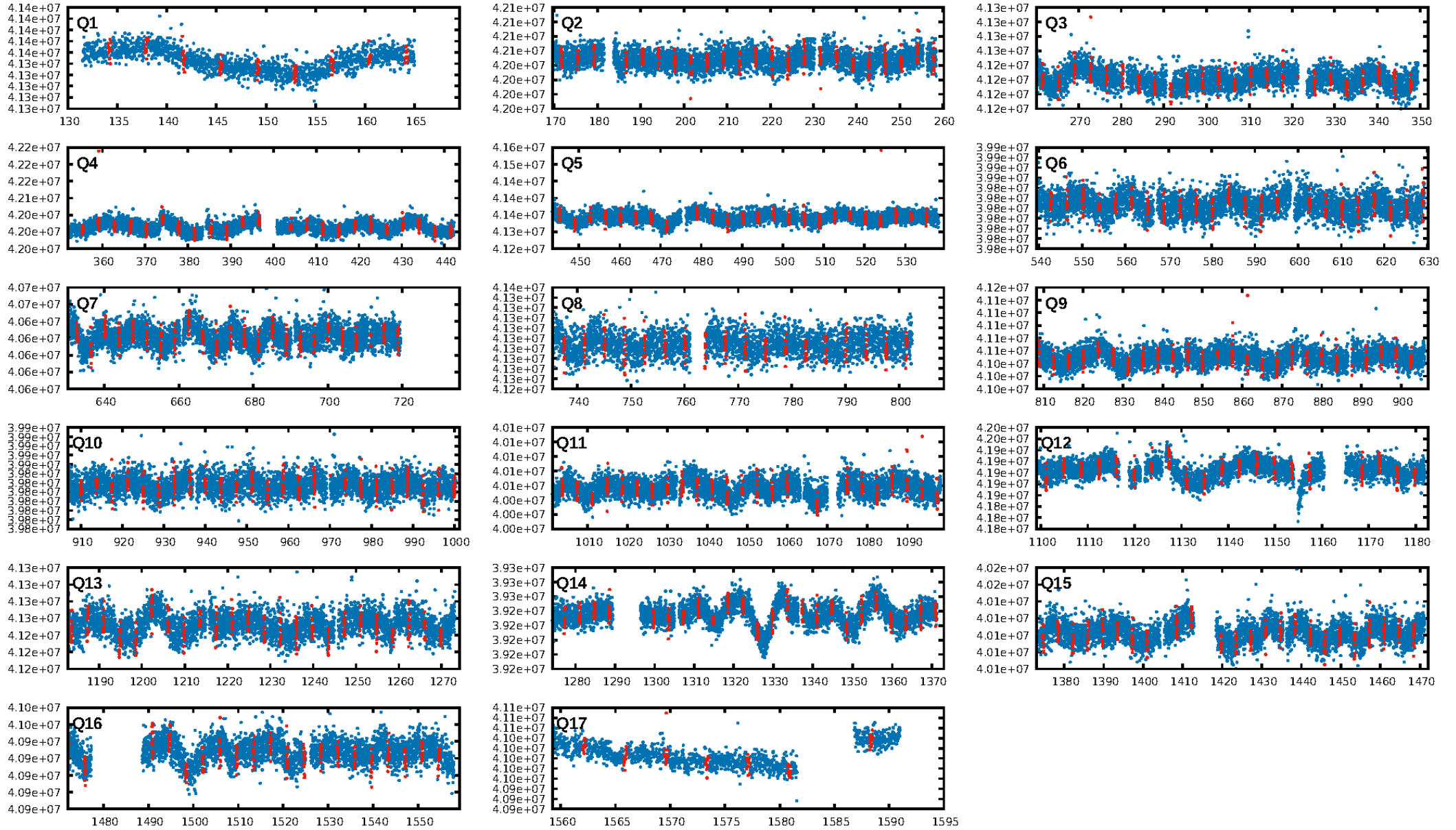
DV Fit Results:

Period = 3.74790 [0.00003] d
Epoch = 134.1736 [0.0045] BKJD
Rp/R* = 0.0091 [0.0041]
a/R* = 4.21 [9.96]
b = 0.89 [0.60]
Seff = 728.26 [278.61]
Teq = 1325 [127] K
Rp = 1.10 [0.60] Re
a = 0.0495 [0.0123] AU
Ag = 22.83 [23.51] [0.93σ]
Teffp = 4477 [1090] K [2.87σ]

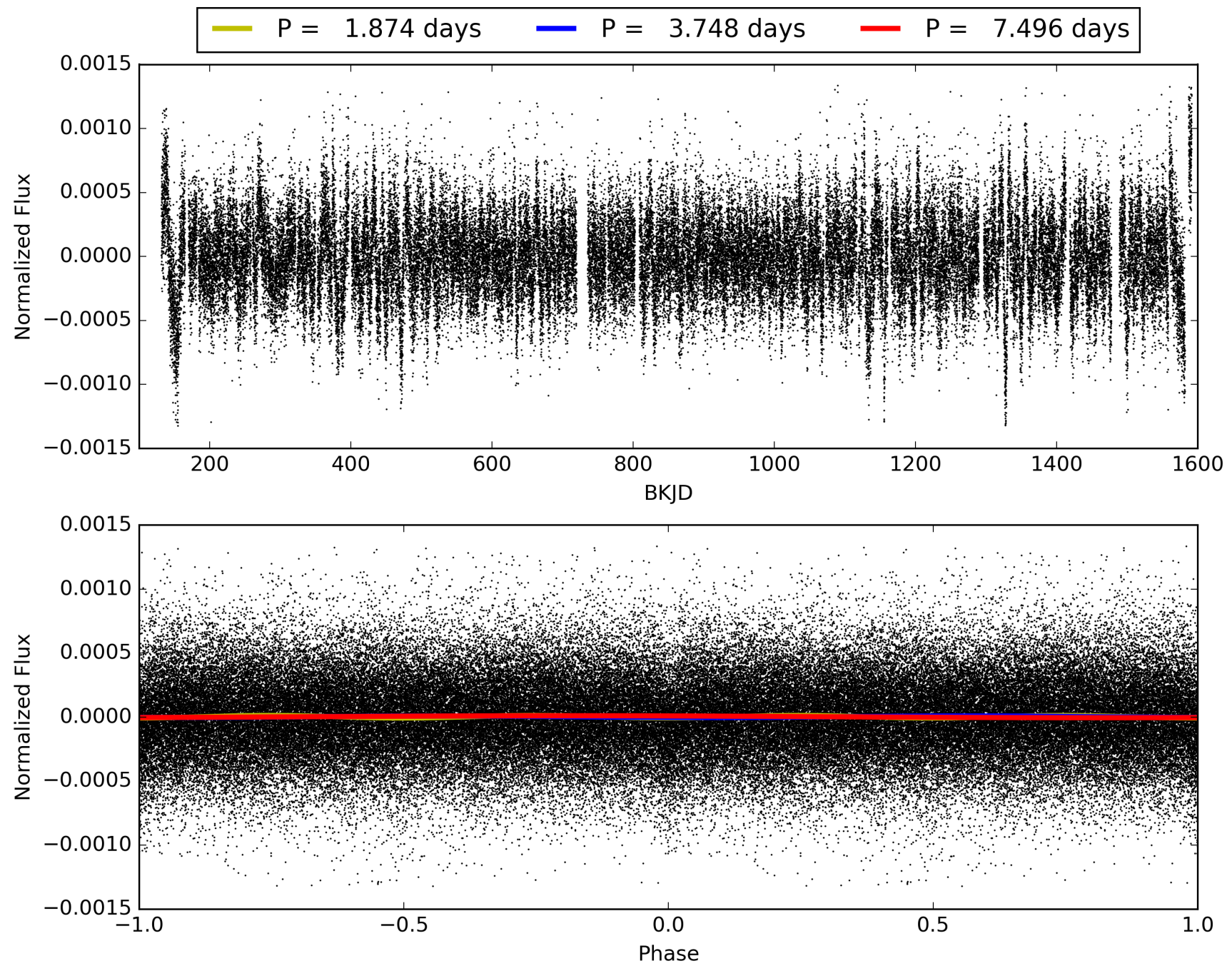
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.07e-26
RollingBand-fgt: 1.00 [340/340]
GhostDiagnostic-chr: -0.01473
Centroid-sig: 0.2%
Centroid-so: 2.292 arcsec [1.76σ]
OotOffset-rm: 3.991 arcsec [6.72σ]
KicOffset-rm: 3.865 arcsec [6.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011913072-01, PDC Light Curves

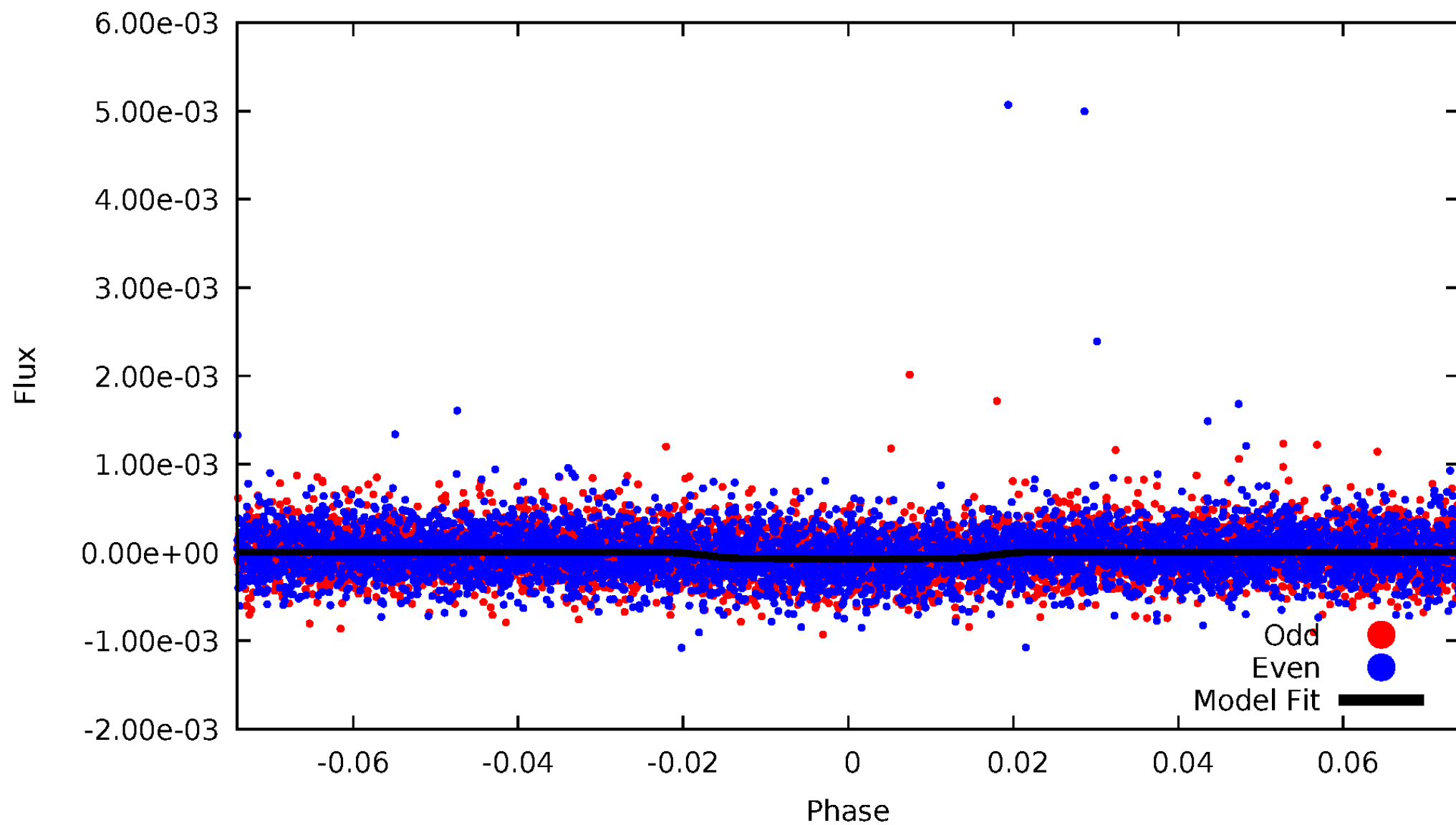


TCE 011913072-01



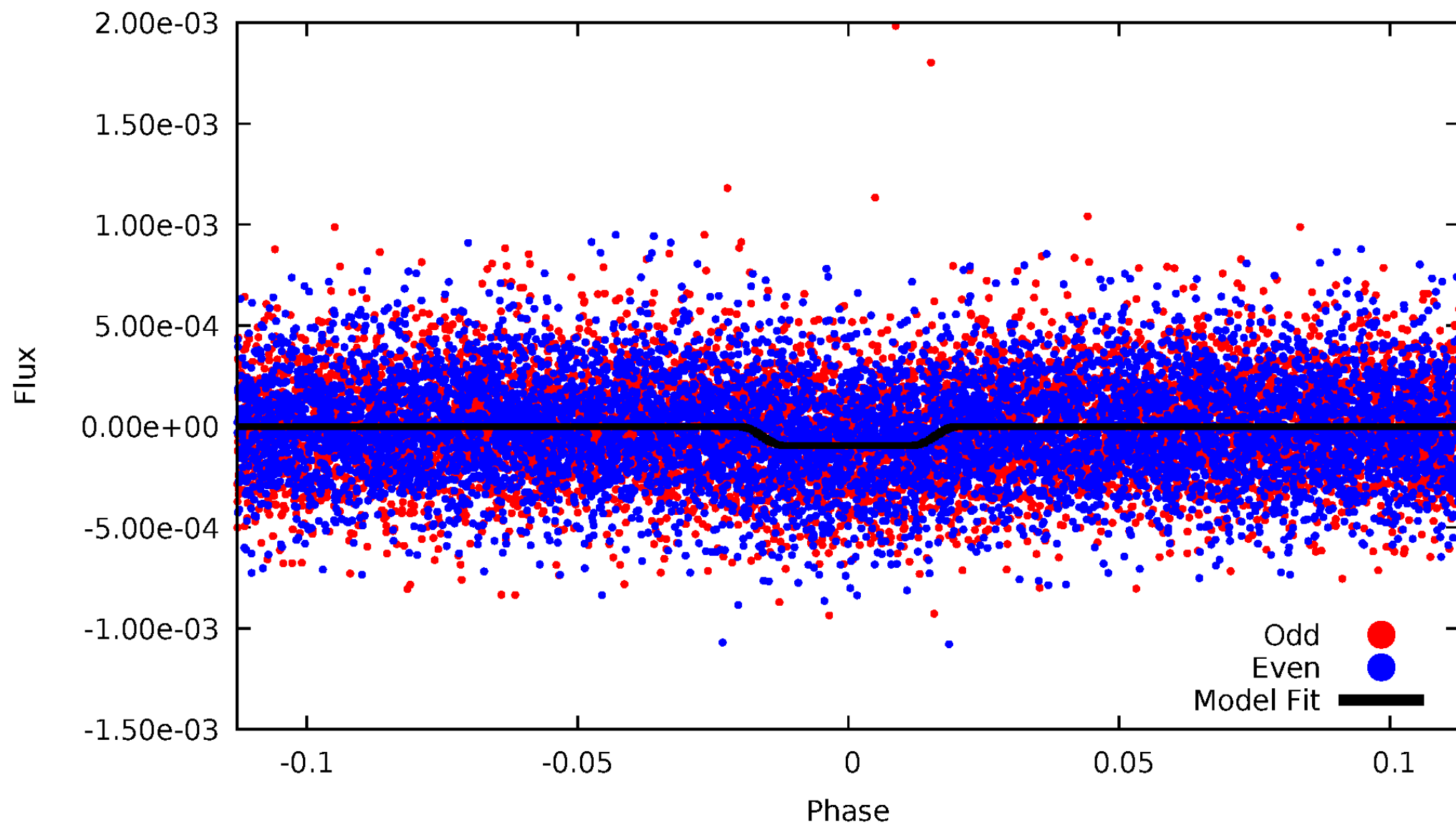
DV Odd/Even

TCE 011913072-01



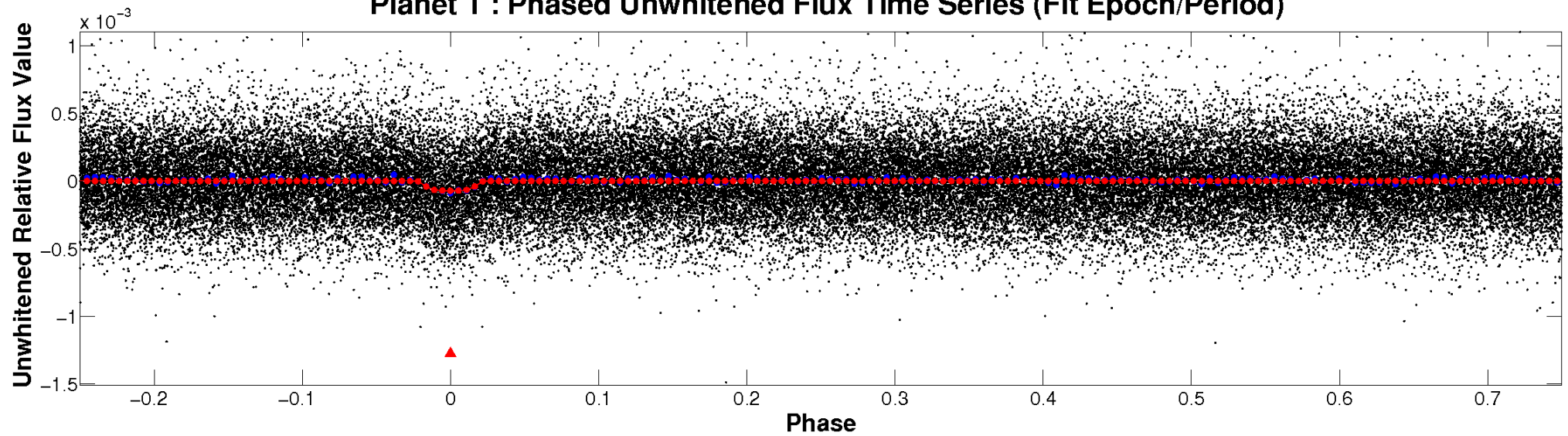
ALT Odd/Even

TCE 011913072-01

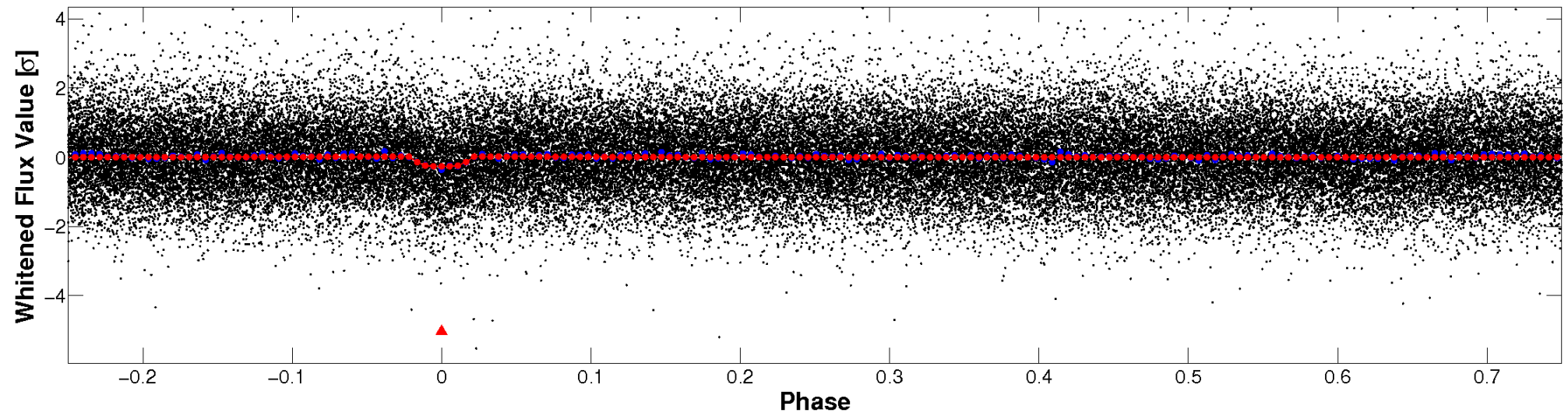


Non-Whitened Vs. Whitened Light Curve

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

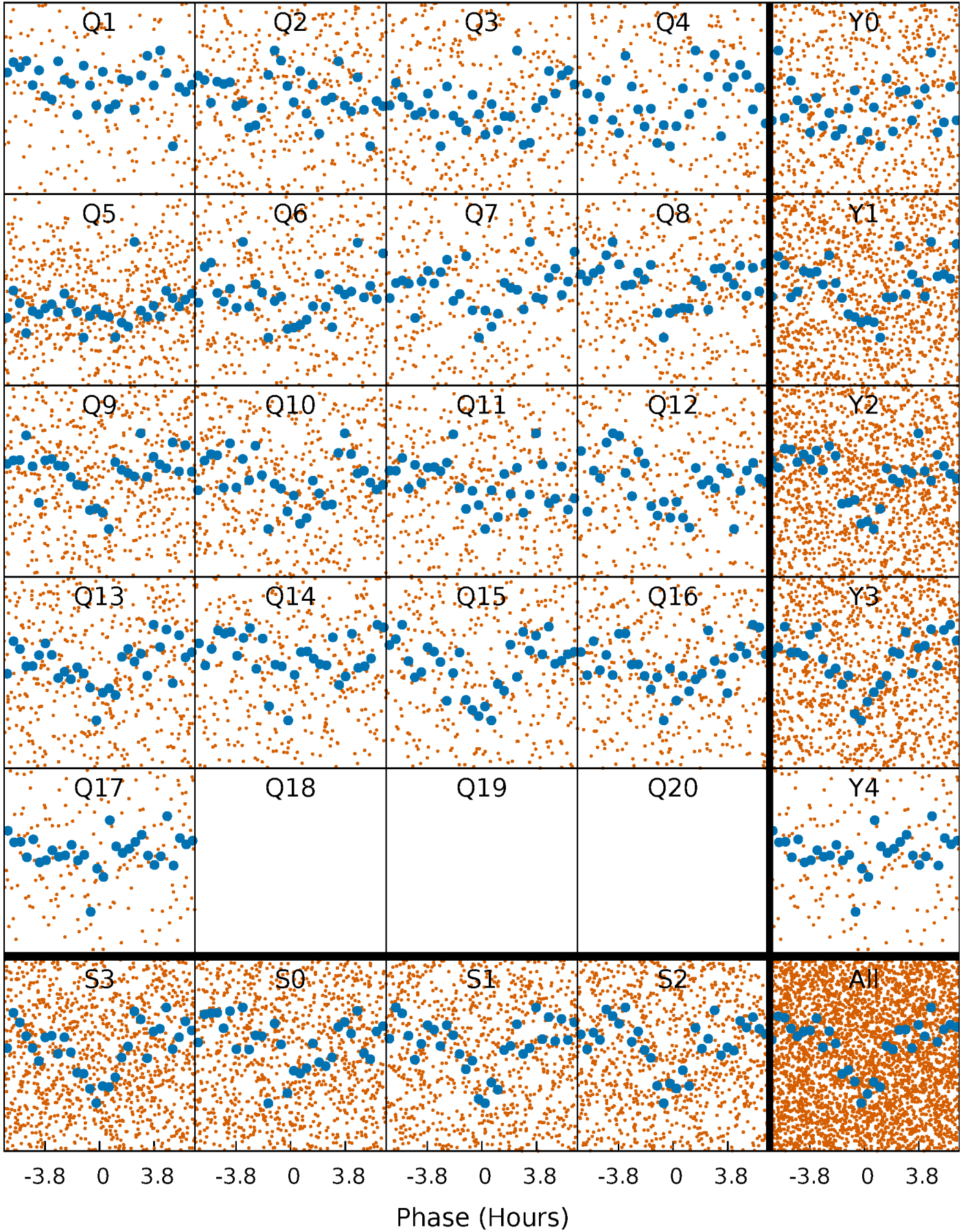


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



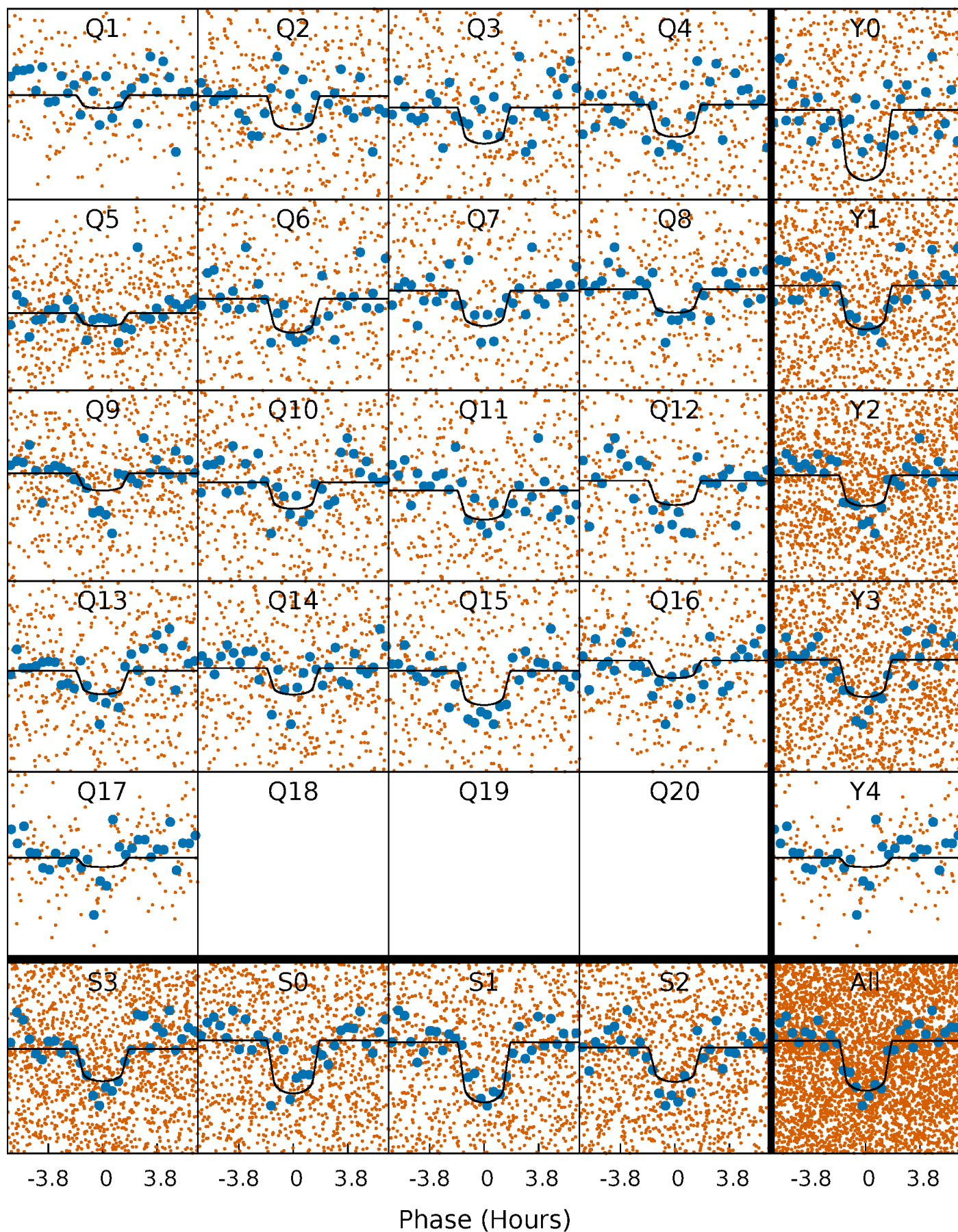
PDC Quarter-Phased Transit Curves

TCE 011913072-01 P= 3.747901 Days $T_0=134.173563$ (BKJD)



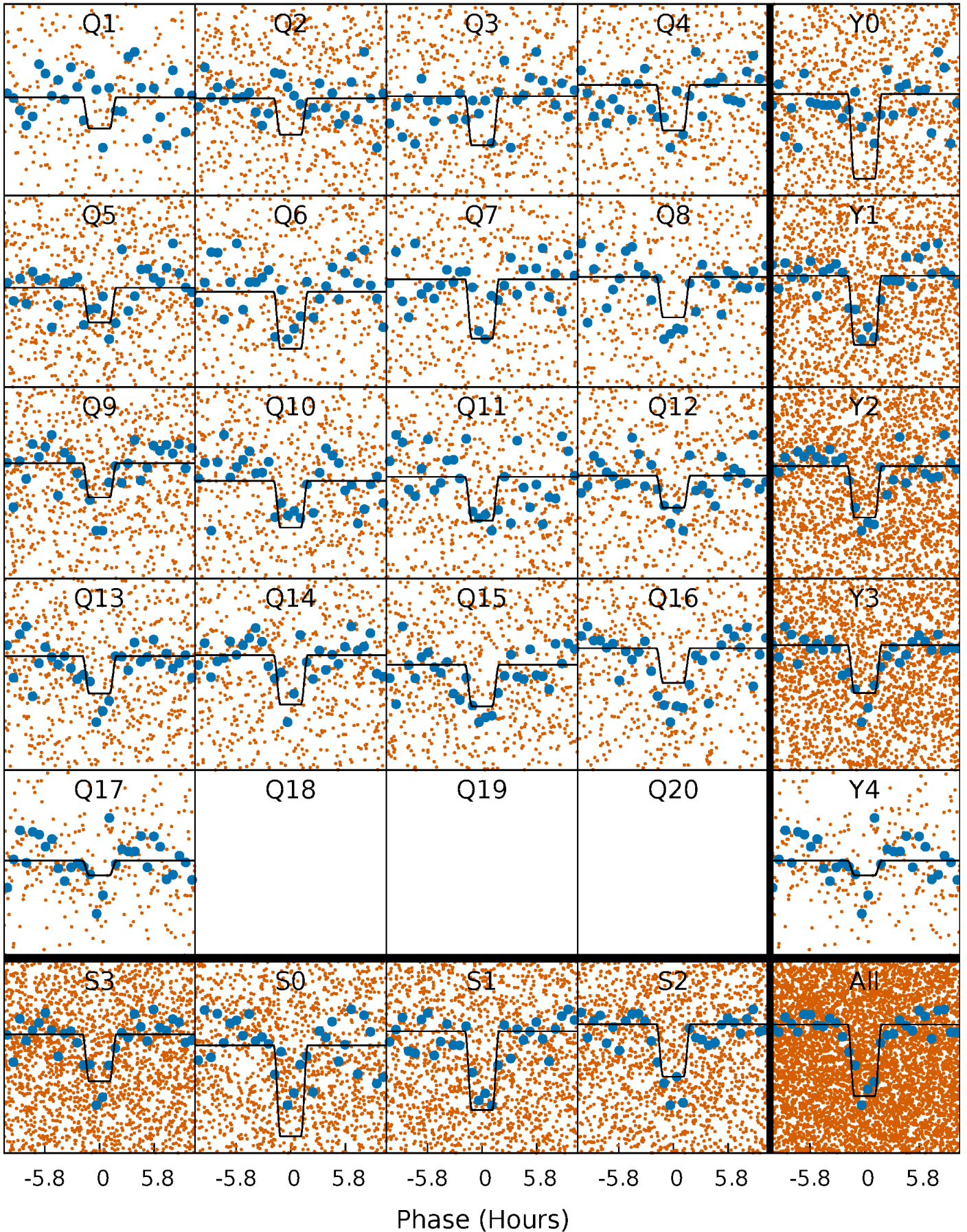
DV Quarter-Phased Transit Curves

TCE 011913072-01 P= 3.747901 Days $T_0=134.173563$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

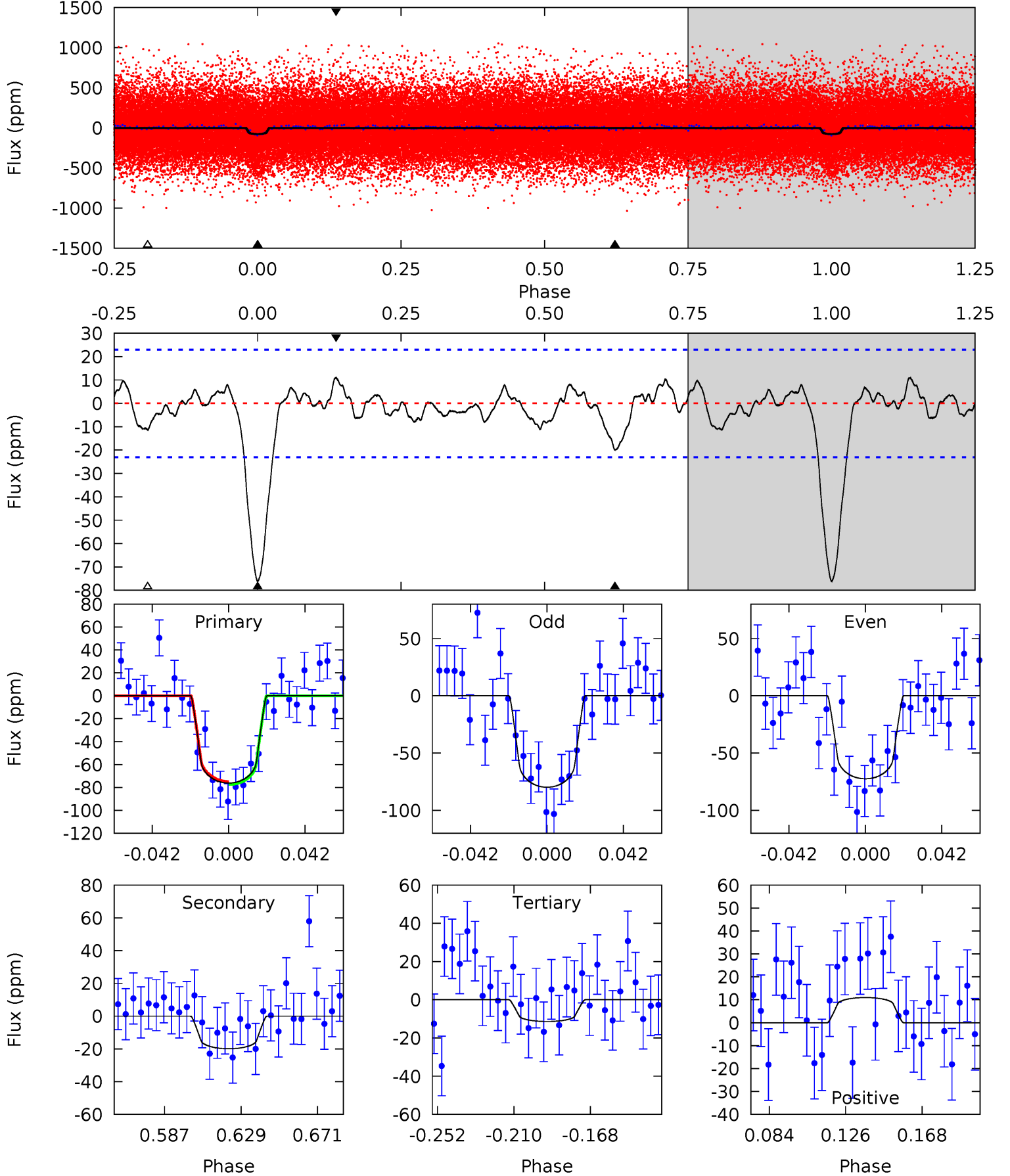
TCE 011913072-01 P= 3.747857 Days $T_0=134.185596$ (BKJD)



DV Model-Shift Uniqueness Test

011913072-01, P = 3.747901 Days, E = 130.425662 Days

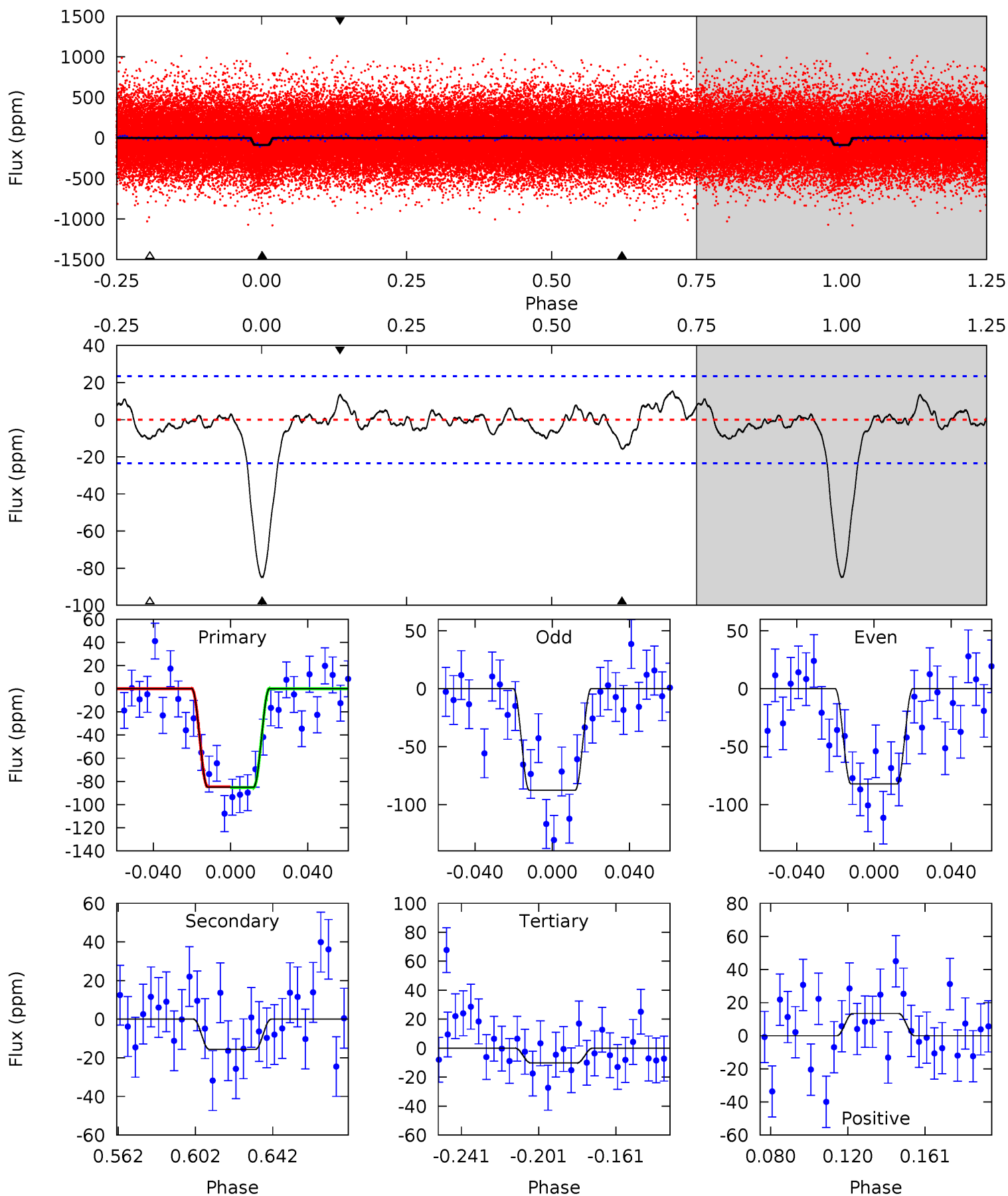
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	4.11	2.35	2.26	4.74	2.03	1.01	13.4	13.4	1.76	1.85	0.76	1.04	0.13	0.25



Alt Model-Shift Uniqueness Test

011913072-01, P = 3.747857 Days, E = 130.437739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	3.18	2.08	2.72	4.75	2.05	1.06	15.1	14.5	1.10	0.46	0.55	1.01	0.15	0.07



Stellar Parameters For KIC 011913072

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6341^{+172}_{-210}	$4.409^{+0.065}_{-0.195}$	$-0.060^{+0.250}_{-0.300}$	$1.111^{+0.330}_{-0.118}$	$1.154^{+0.154}_{-0.154}$	$1.187^{+0.325}_{-0.613}$
	+3%/-3%	+1%/-4%	+417%/-500%	+30%/-11%	+13%/-13%	+27%/-52%
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 011913072-01 / KOI 4729.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 5	$1.17^{+0.53}_{-0.53}$	1880^{+133}_{-96}	4548^{+1382}_{-653}	19^{+47}_{-10}
Alt.	-16 ± 5	$1.20^{+0.50}_{-0.48}$	1877^{+128}_{-92}	4287^{+1125}_{-575}	14^{+29}_{-8}

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

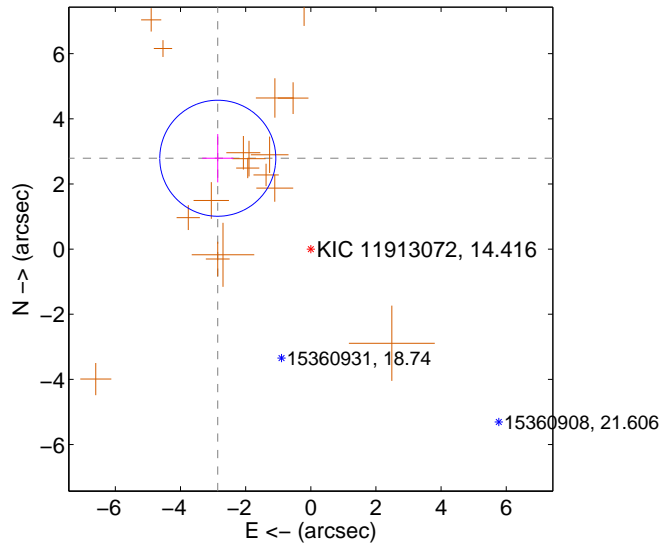
Supplemental centroid analysis for 011913072-01. Kepler magnitude: 14.42. Transit SNR 11.11

There are 0 quarters with good PRF difference image offsets

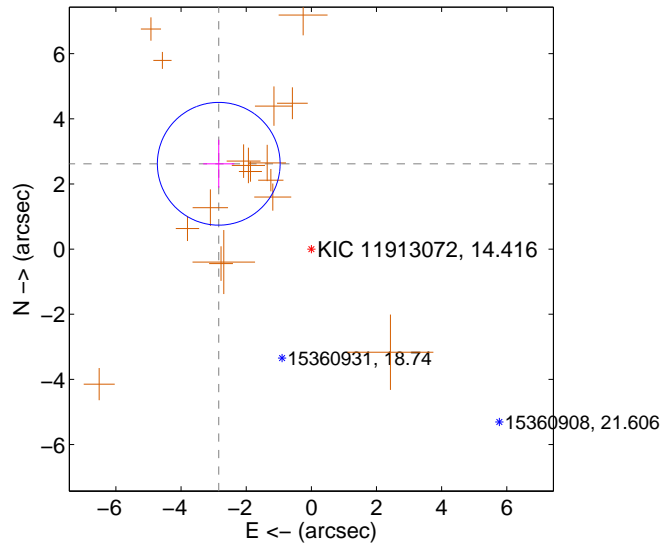
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.991 ± 0.593	6.72	2.855 ± 0.479	2.788 ± 0.741
PRF-fit source offset from KIC position	3.865 ± 0.628	6.16	2.842 ± 0.477	2.619 ± 0.735
photometric centroid source offset	2.29 ± 1.30	1.76	0.26 ± 1.13	2.28 ± 1.30

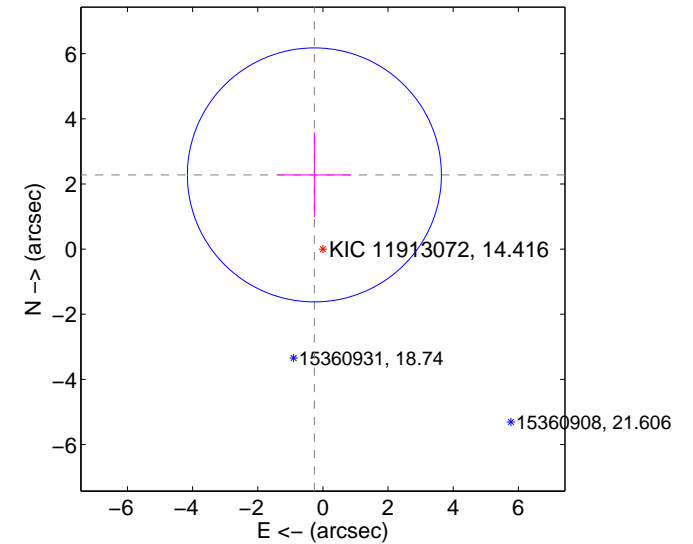
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

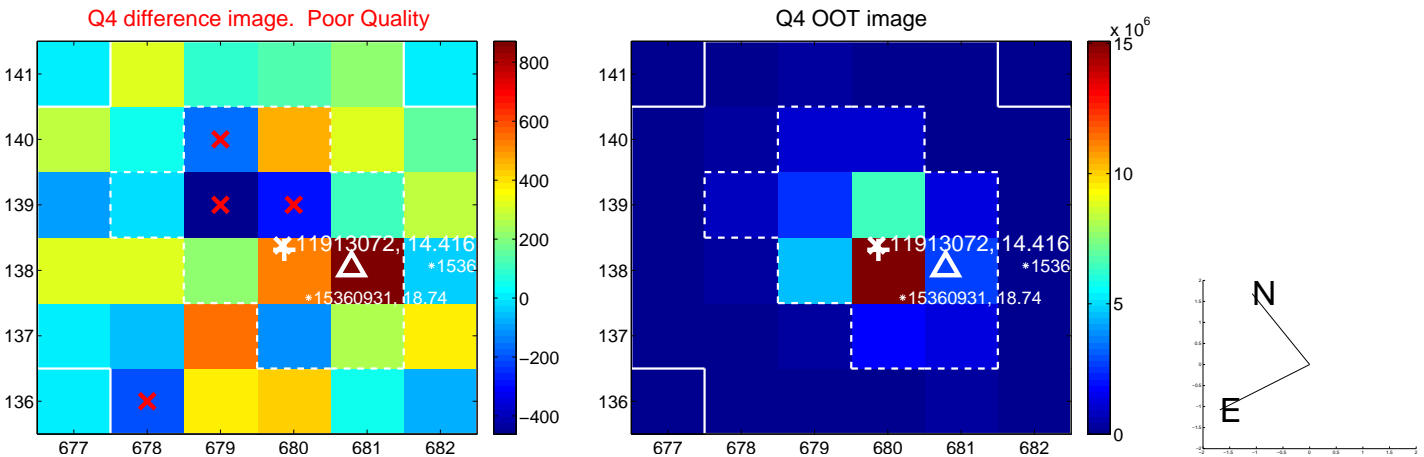
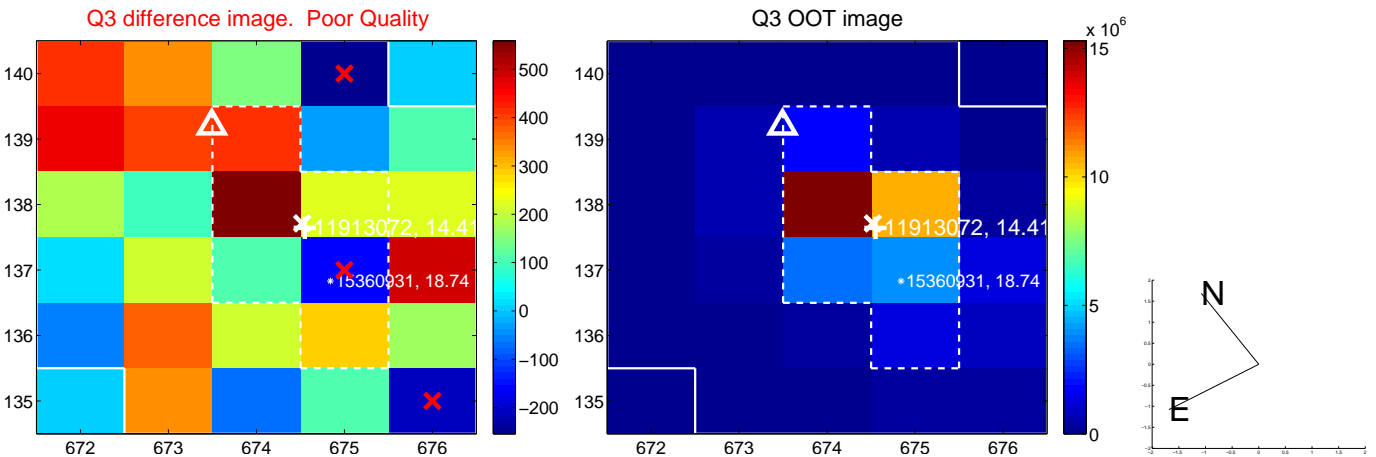
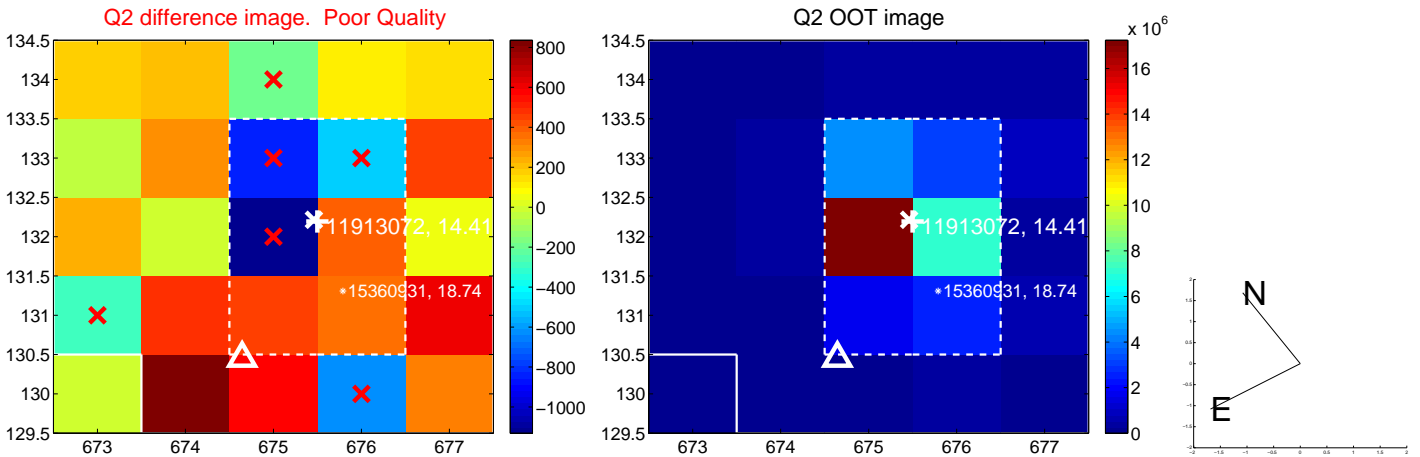
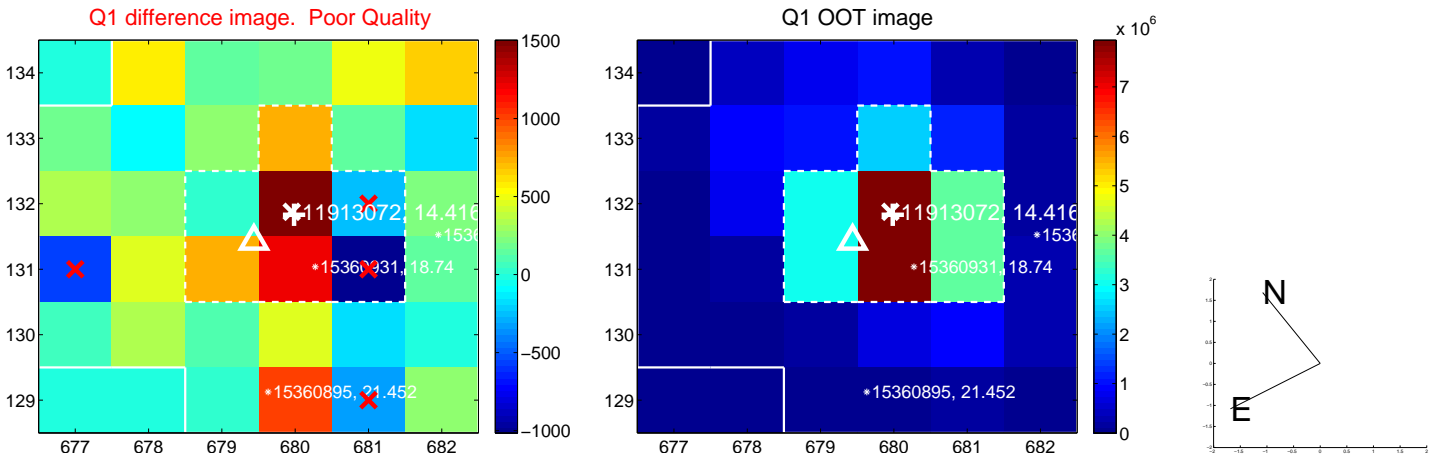


offset from photometric centroids

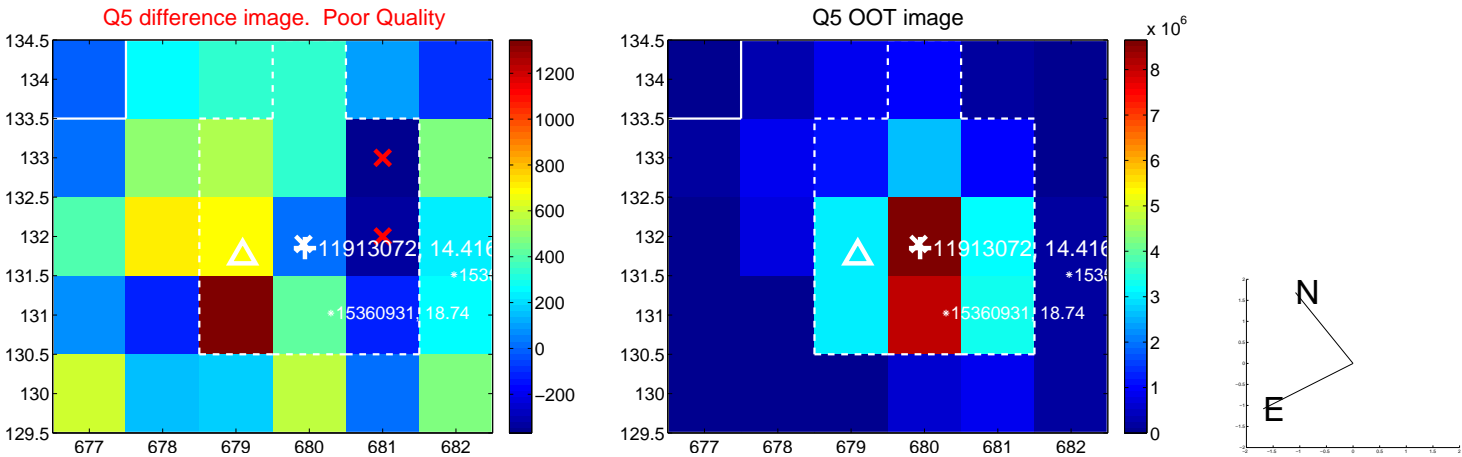


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

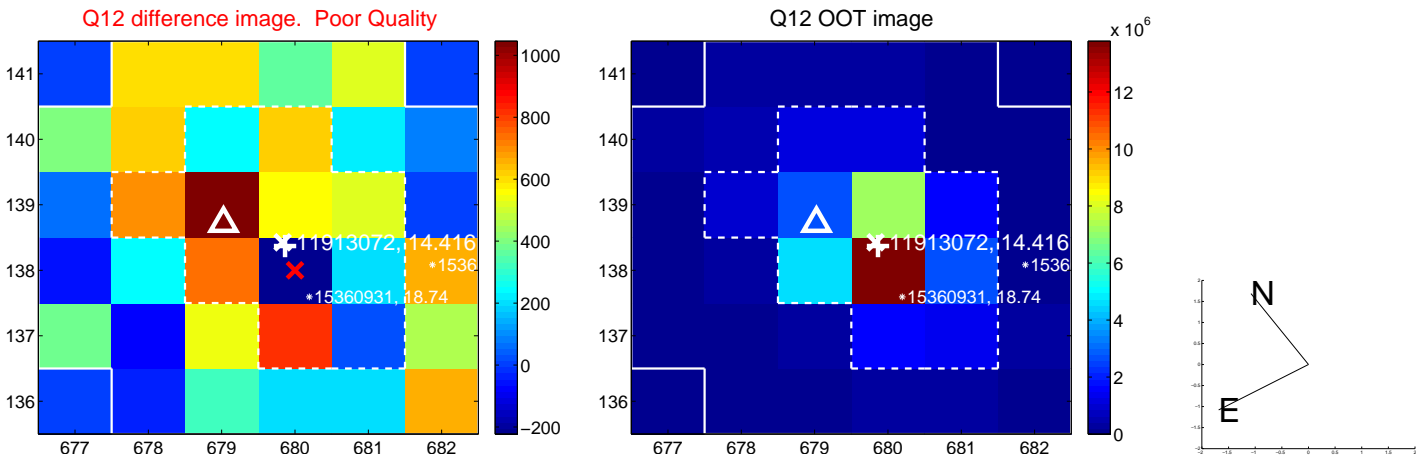
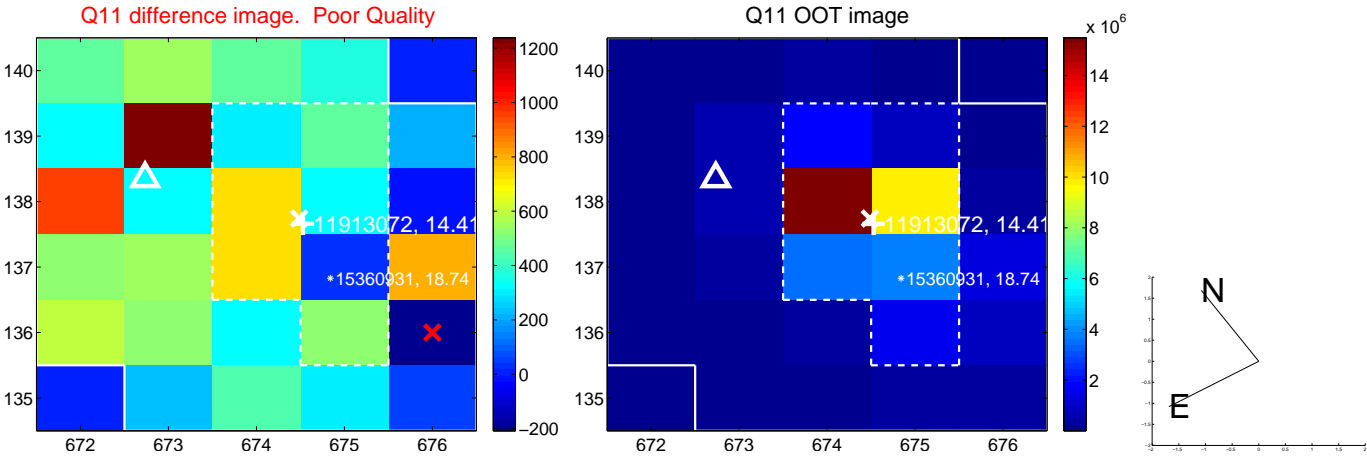
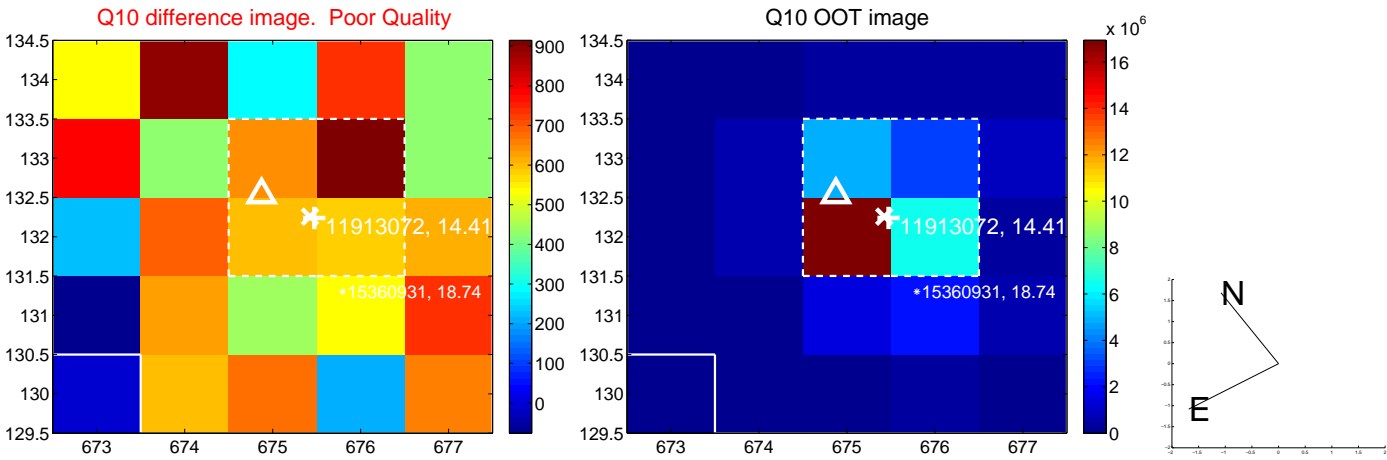
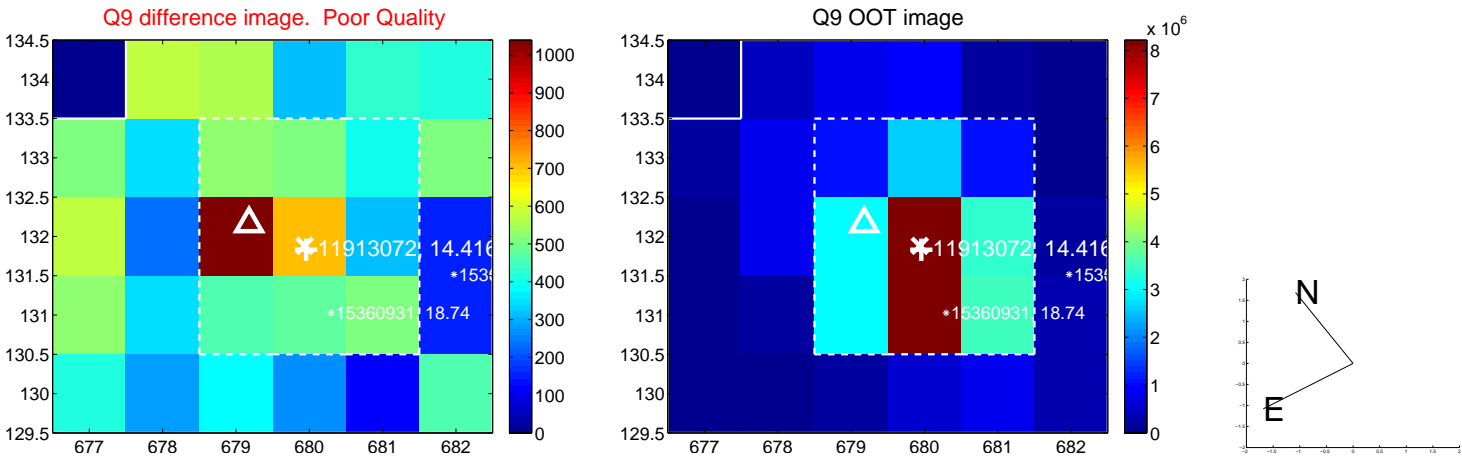
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



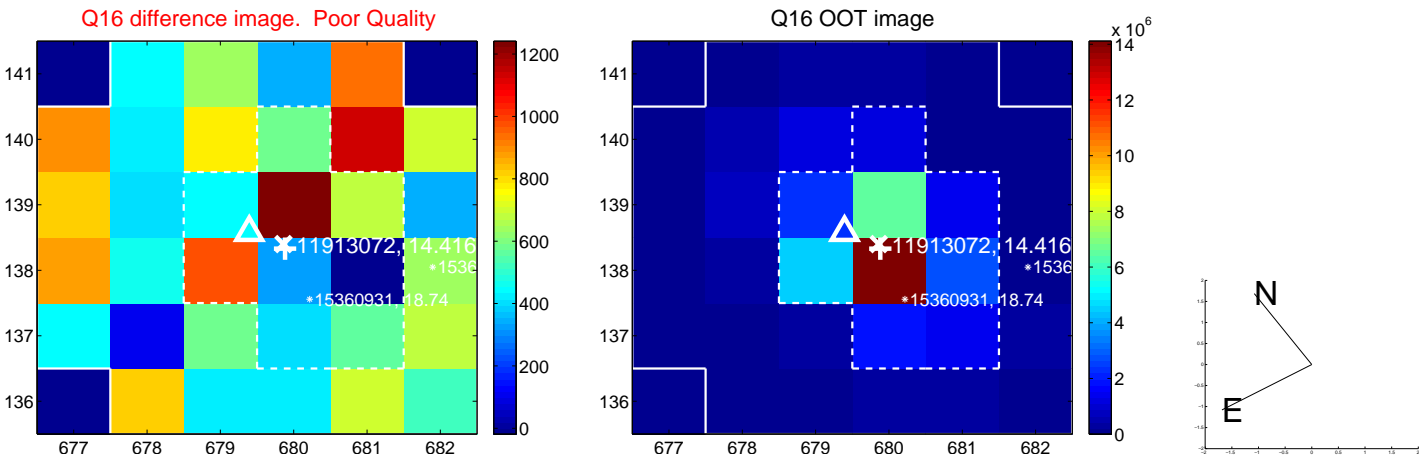
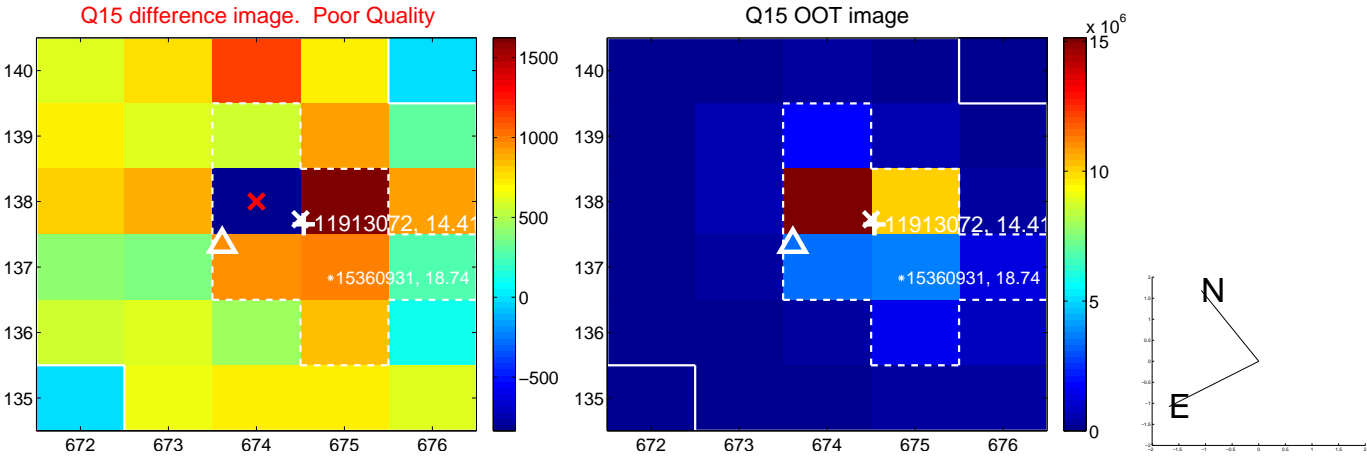
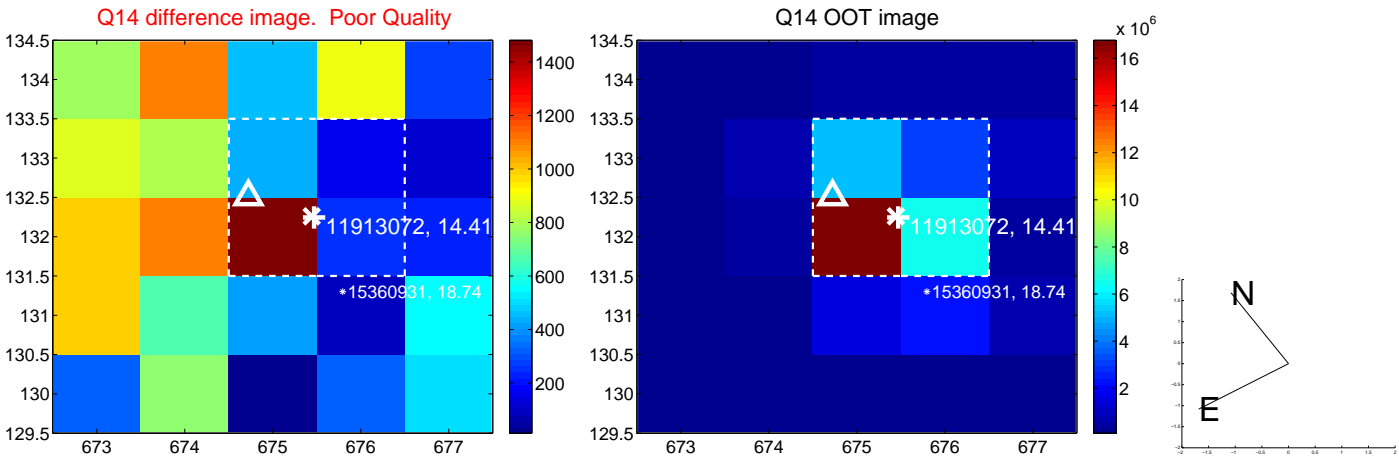
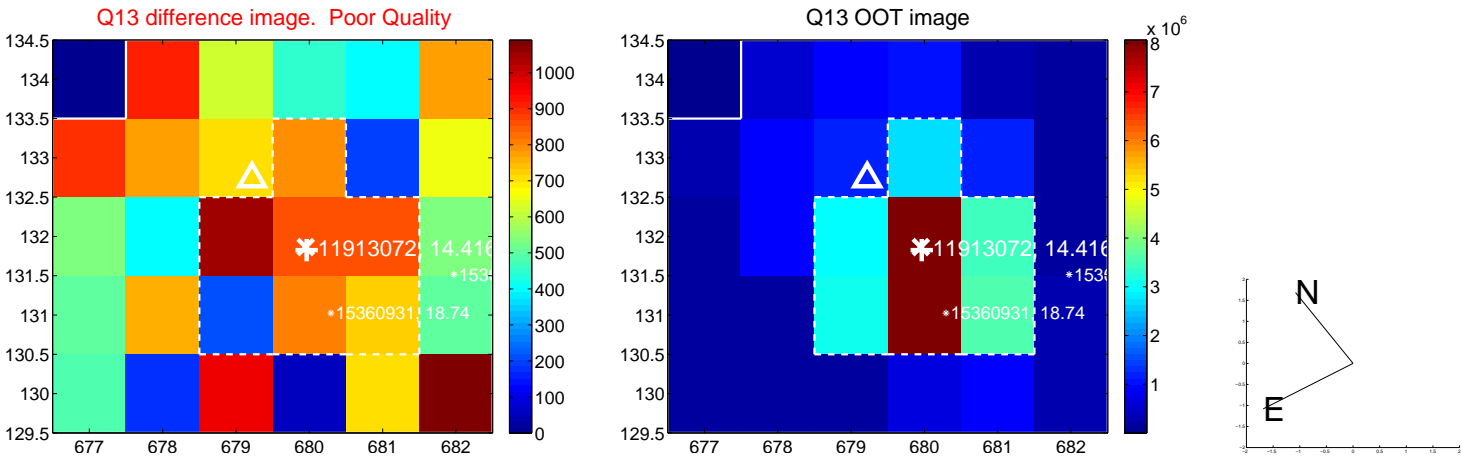
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

