

KIC 011873171

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})
011873171-01	OBS	7488.01	0.734429	131.924589	64.4	1.786	8.0	7.4	1.00	6406	0.95	5782.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011873171-01	OBS	FP	0.00	0	0	1	1	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 011873171-01

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
011873171-01	11873171	011873166-pri	11873166	1:2	26.1	-4	-4	13.47	15.59	1884.40	Direct-PRF	0	0.79	0.54

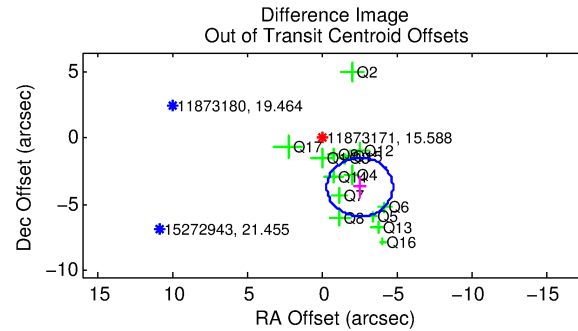
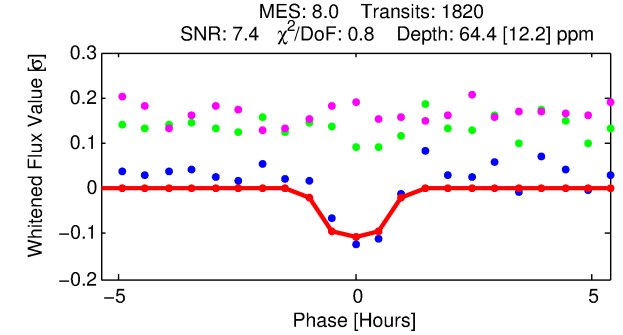
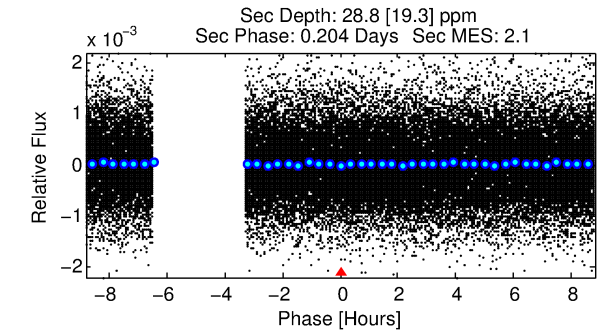
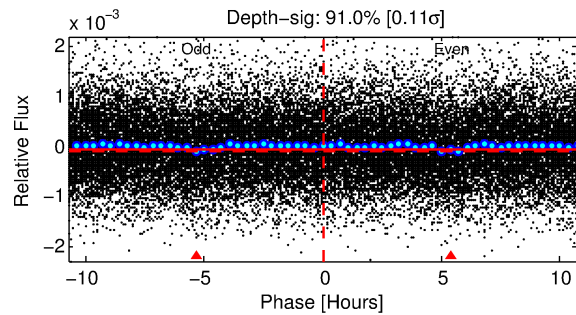
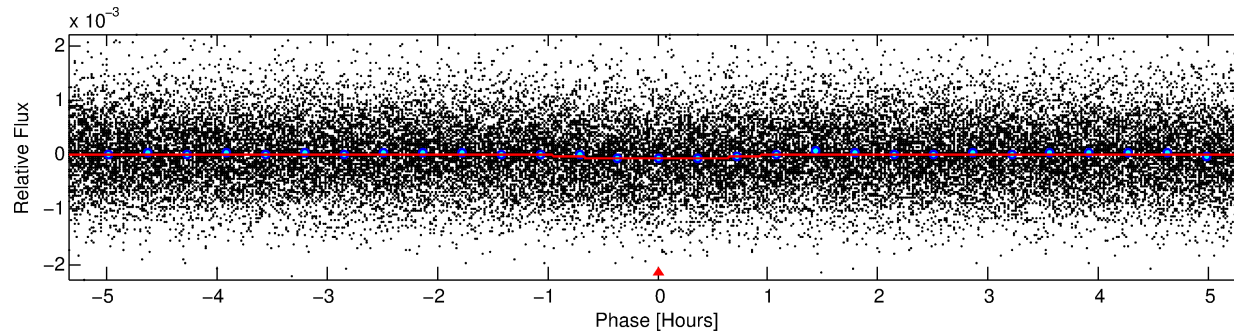
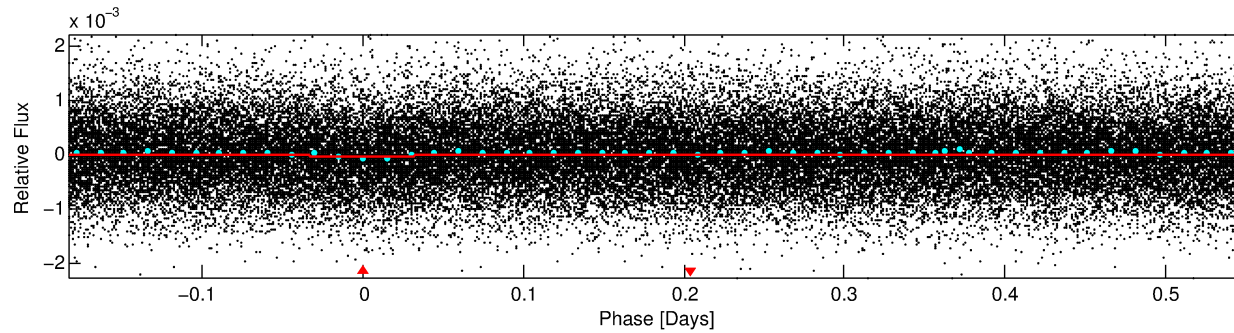
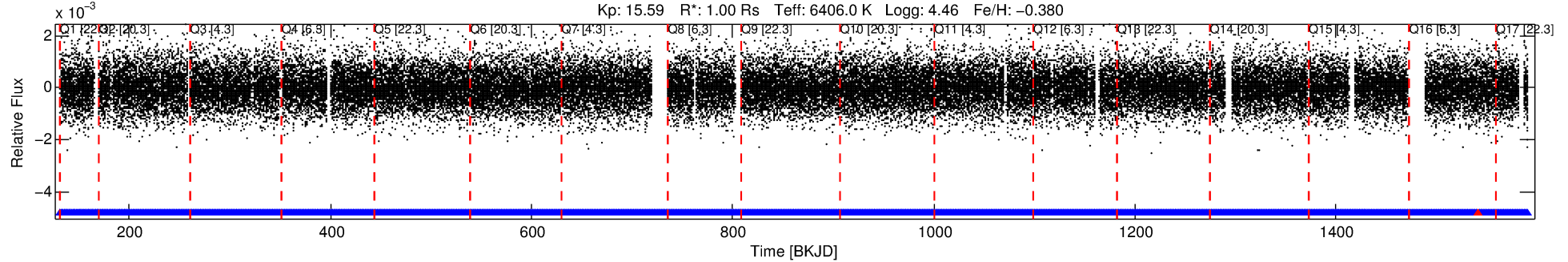
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 11873171 Candidate: 1 of 1 Period: 0.734 d

KOI: K07488.01 Corr: 0.952

Kp: 15.59 R*: 1.00 Rs Teff: 6406.0 K Logg: 4.46 Fe/H: -0.380



DV Fit Results:

Period = 0.73443 [0.00001] d
Epoch = 131.9246 [0.0036] BKJD
Rp/R* = 0.0087 [0.0061]
a/R* = 1.68 [4.40]
b = 0.91 [0.81]
Seff = 5782.11 [2145.95]
Teq = 2224 [206] K
Rp = 0.95 [0.72] Re
a = 0.0162 [0.0038] AU
Ag = 4.64 [7.42] [0.49σ]
Teffp = 5046 [1978] K [1.42σ]

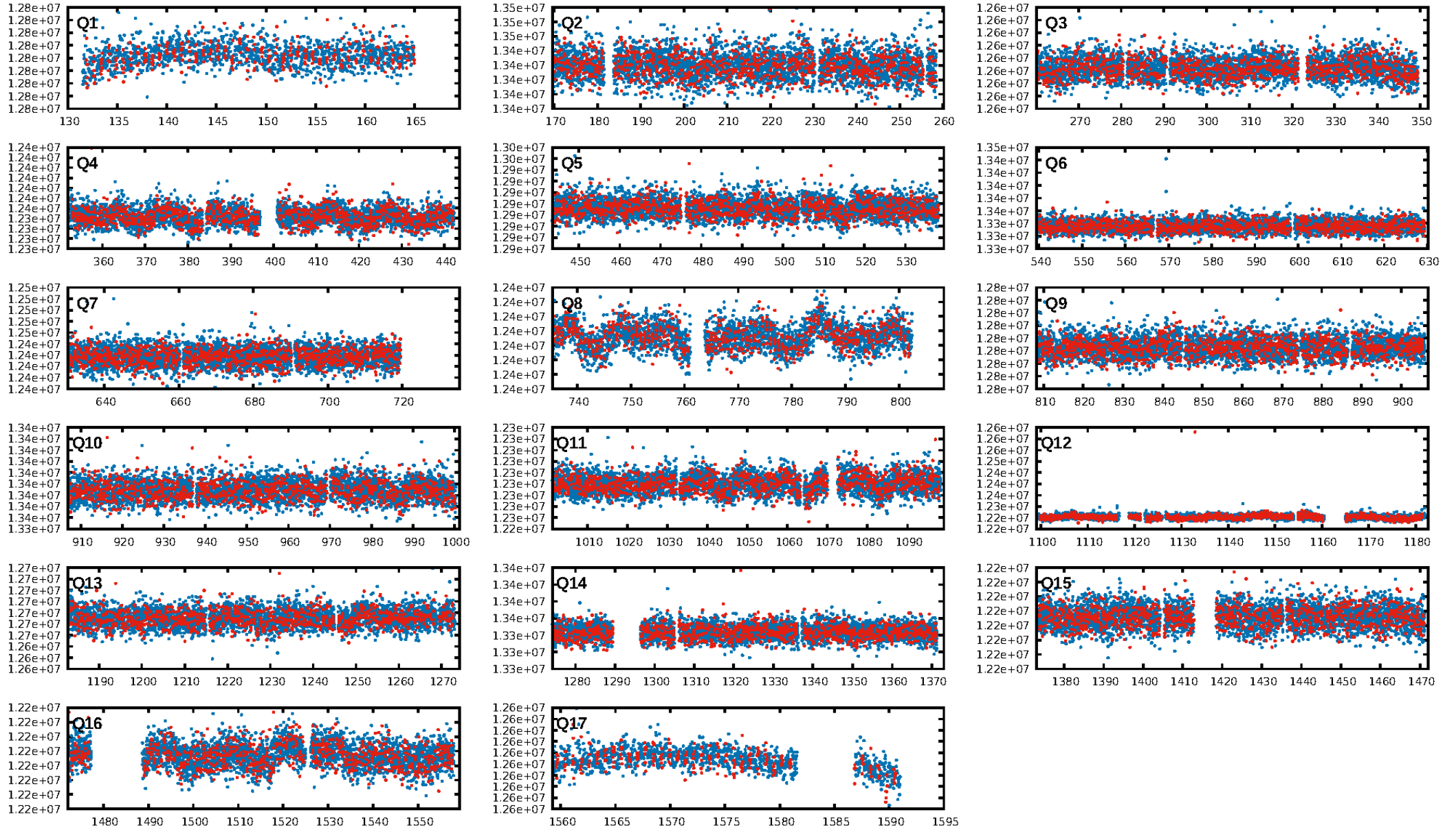
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.80e-18
RollingBand-fgt: 1.00 [1737/1738]
GhostDiagnostic-chr: -0.117
Centroid-sig: 0.0%
Centroid-so: 15.920 arcsec [7.62σ]
OotOffset-rm: 4.488 arcsec [6.09σ]
KicOffset-rm: 4.501 arcsec [5.84σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 1.00 [17/17]

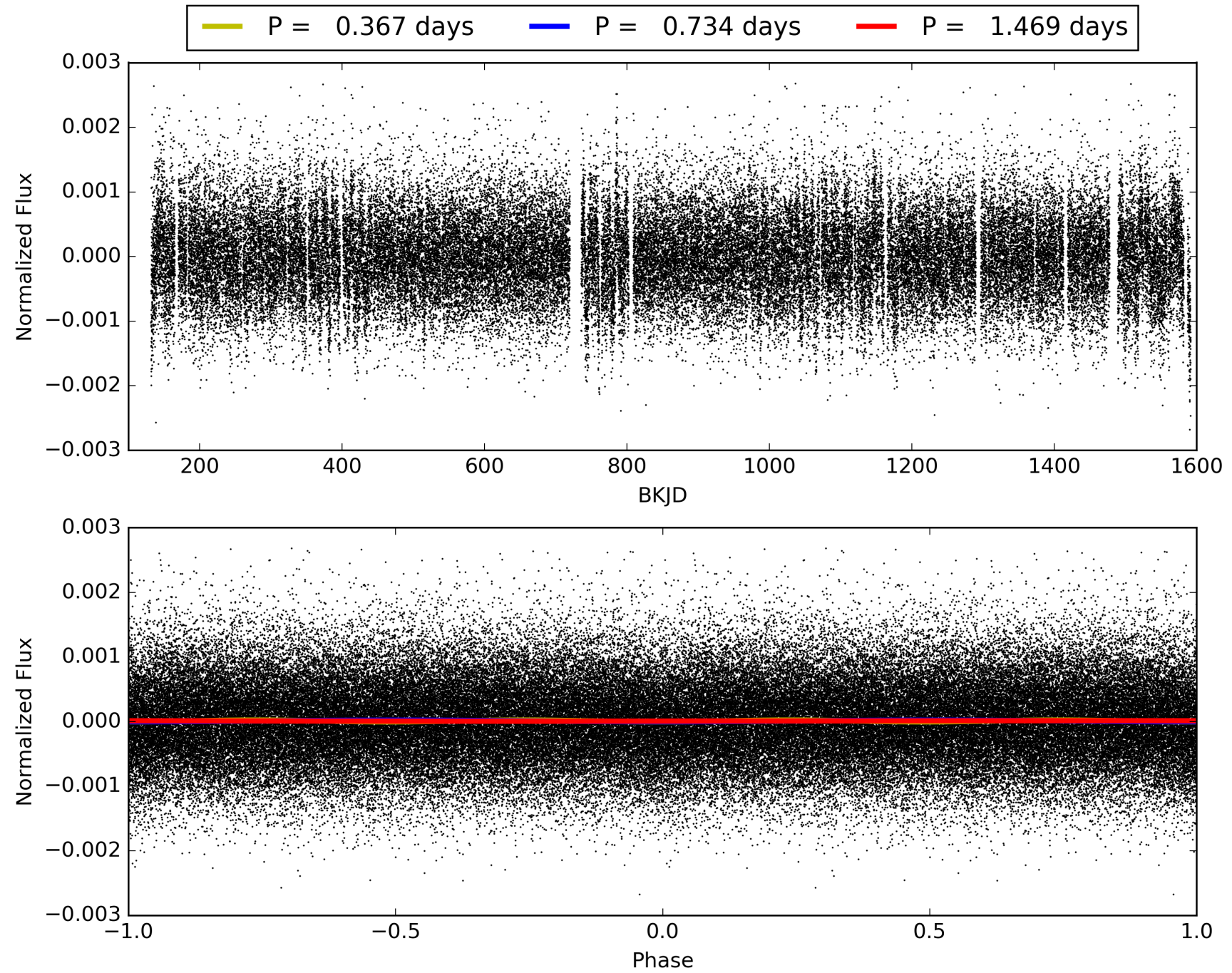
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:38:30 Z

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

TCE 011873171-01, PDC Light Curves

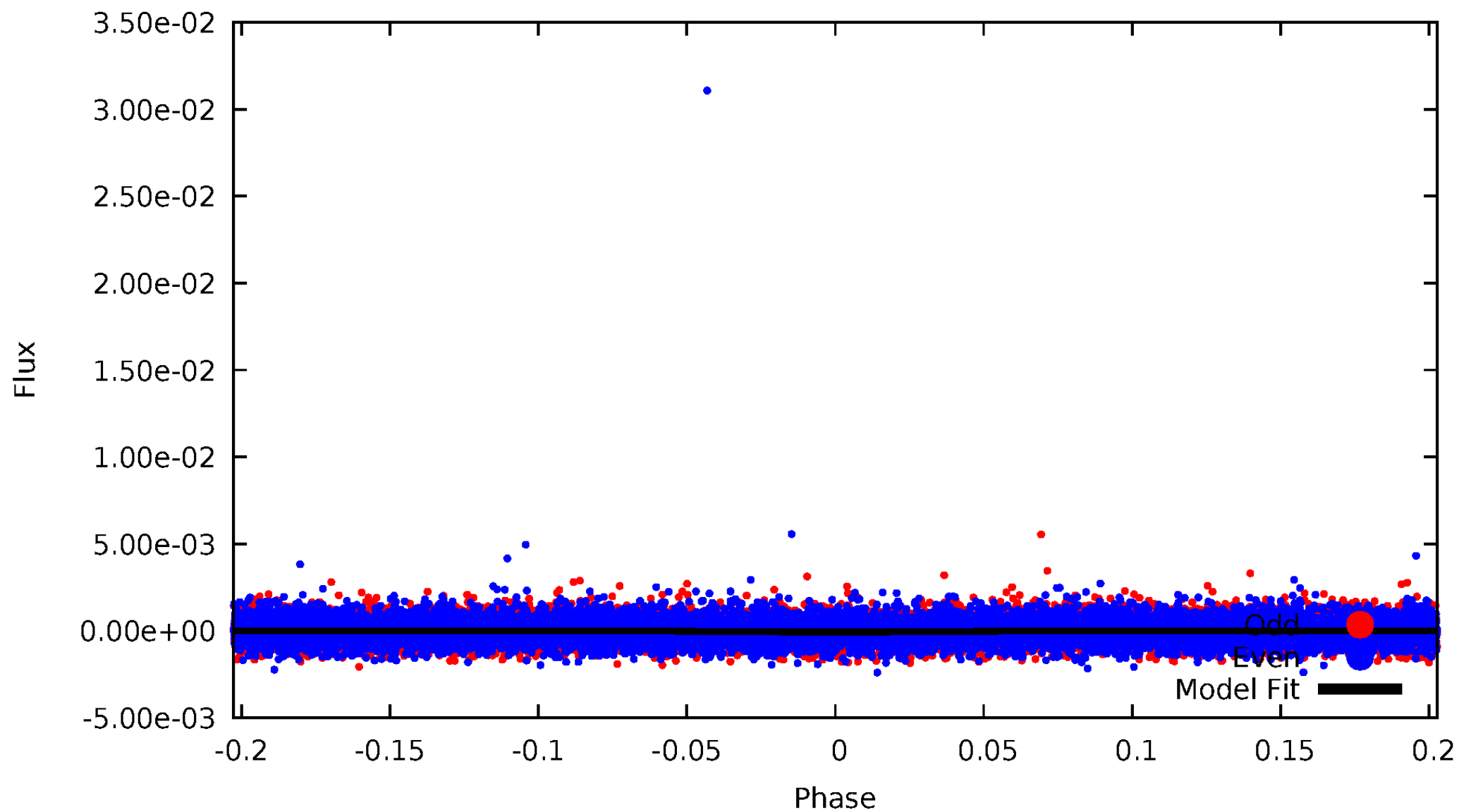


TCE 011873171-01



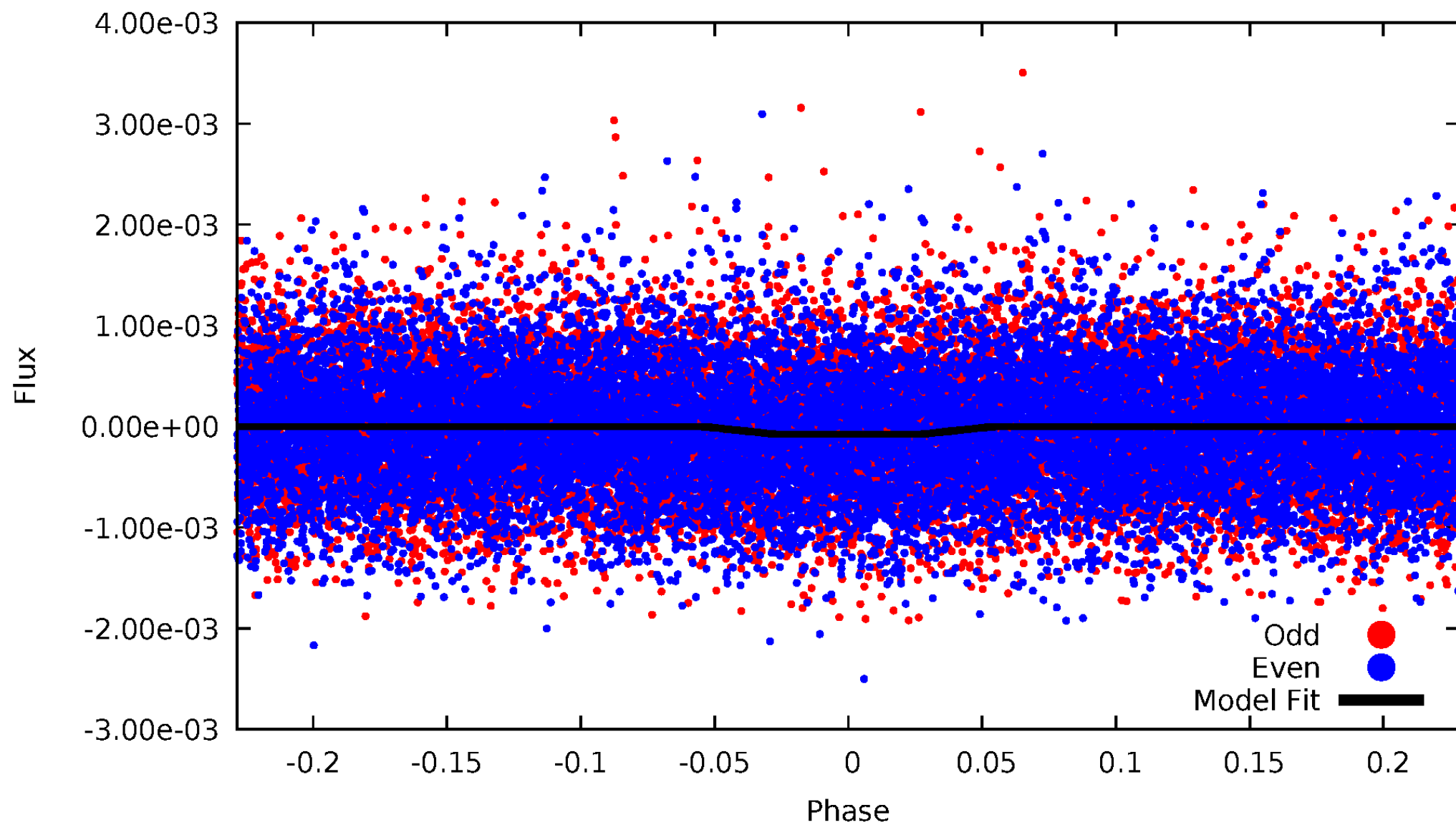
DV Odd/Even

TCE 011873171-01



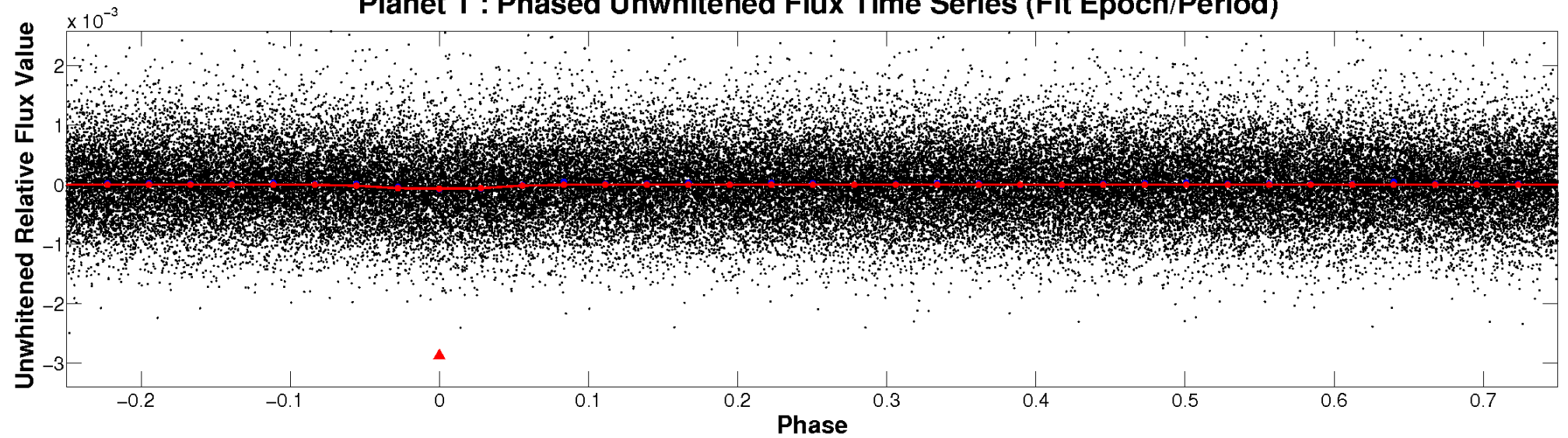
ALT Odd/Even

TCE 011873171-01

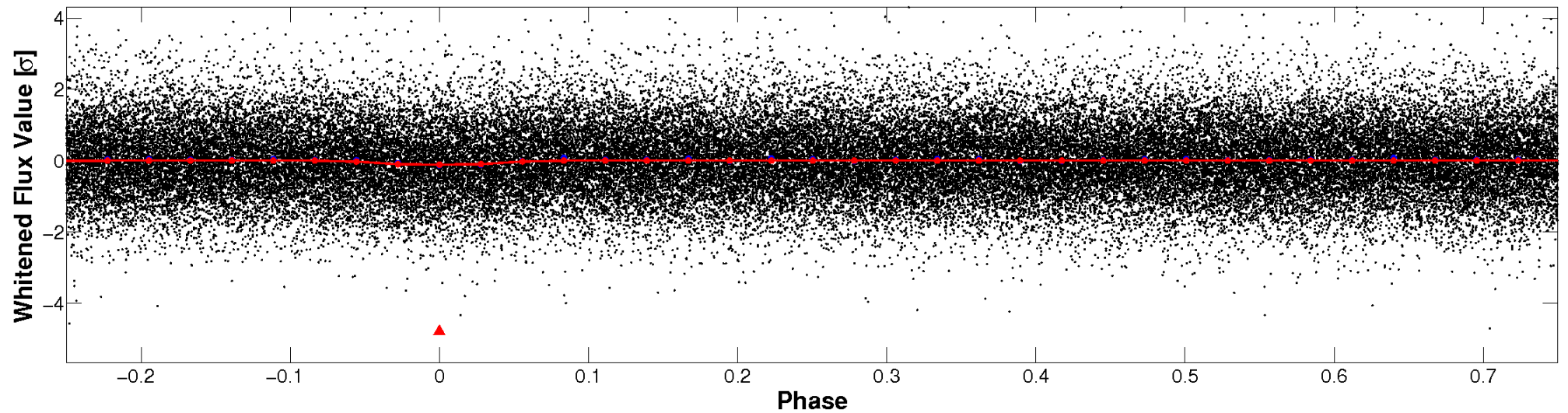


Non-Whitened Vs. Whitened Light Curve

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

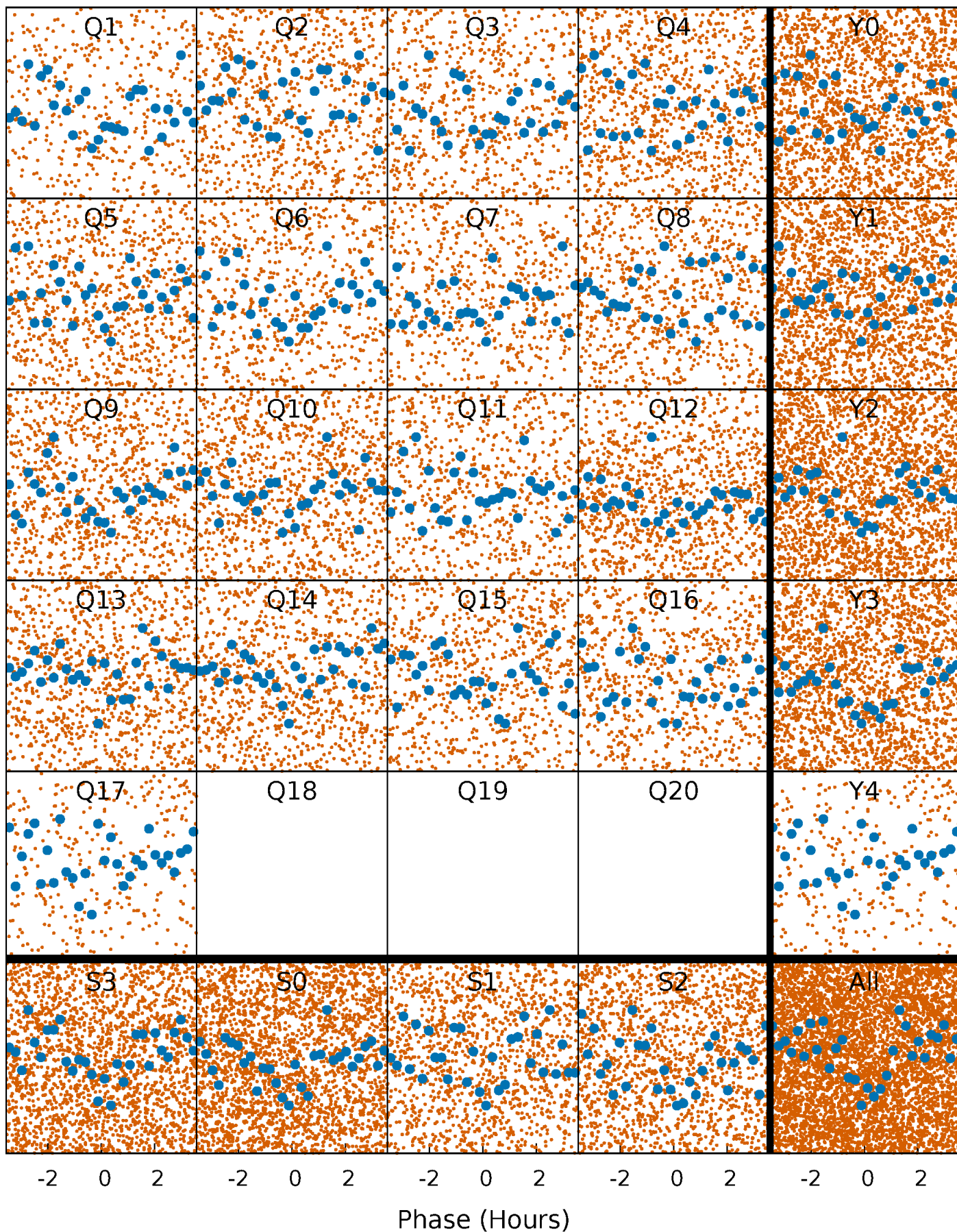


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



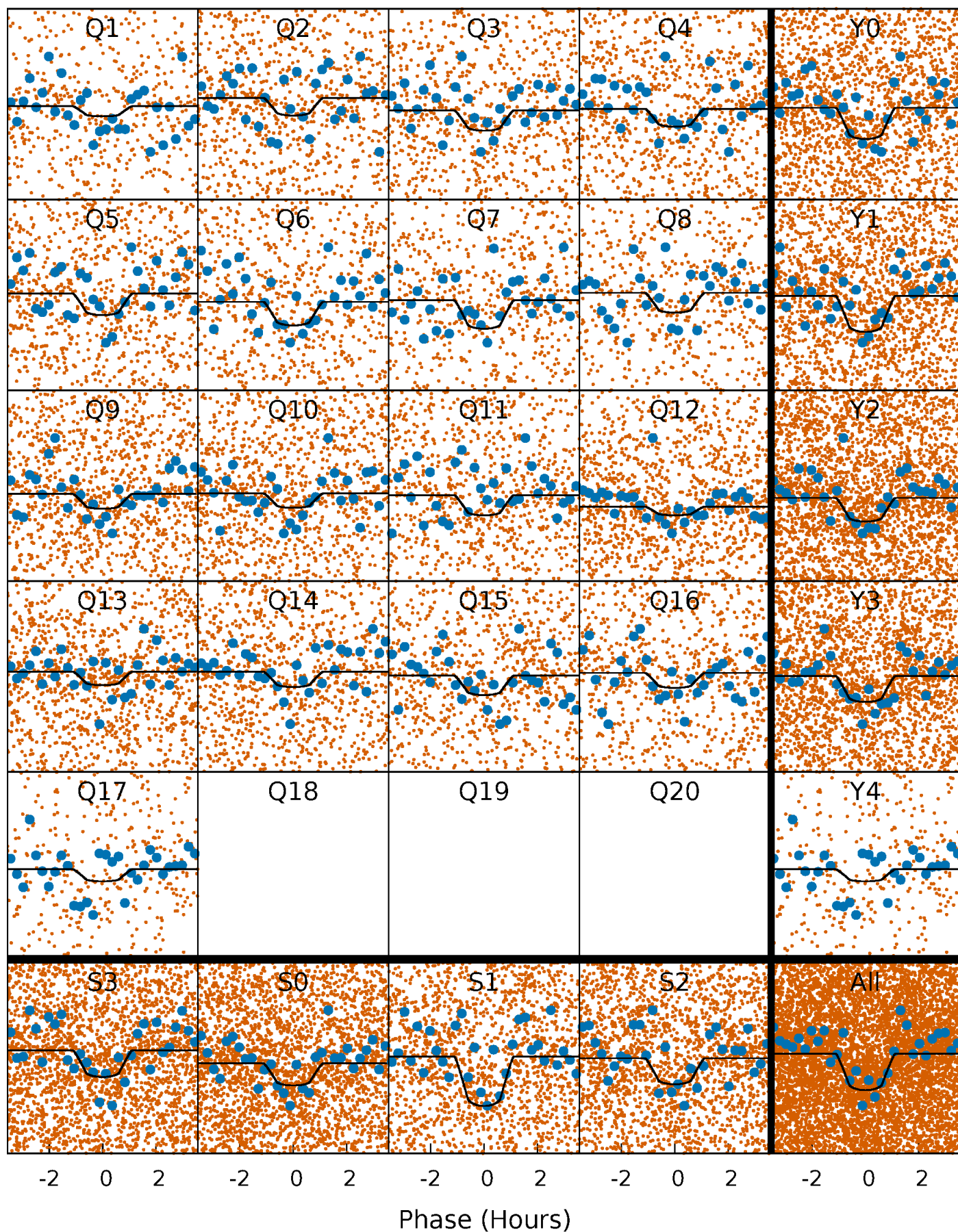
PDC Quarter-Phased Transit Curves

TCE 011873171-01 P= 0.734429 Days $T_0=131.924589$ (BKJD)



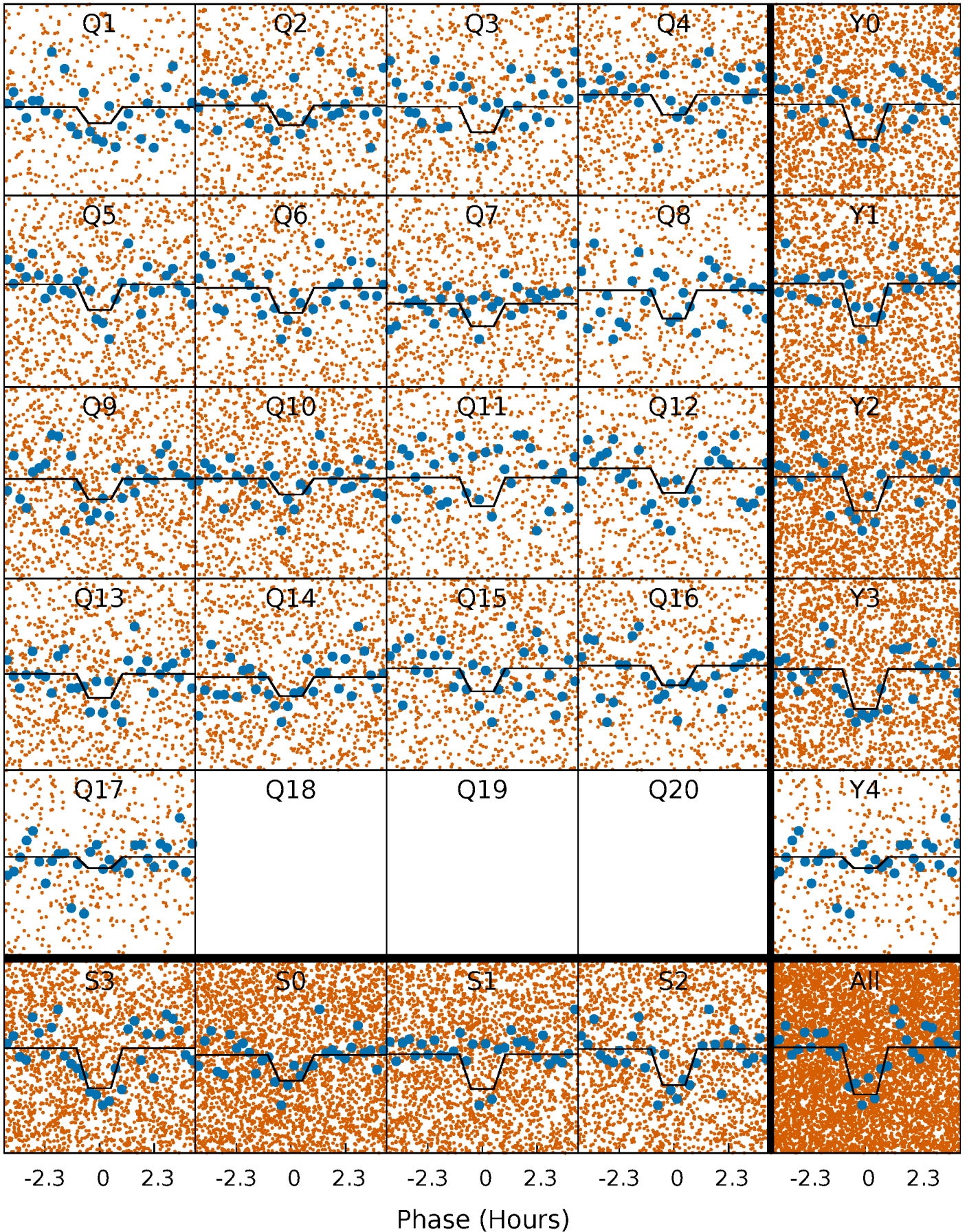
DV Quarter-Phased Transit Curves

TCE 011873171-01 P= 0.734429 Days $T_0=131.924589$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

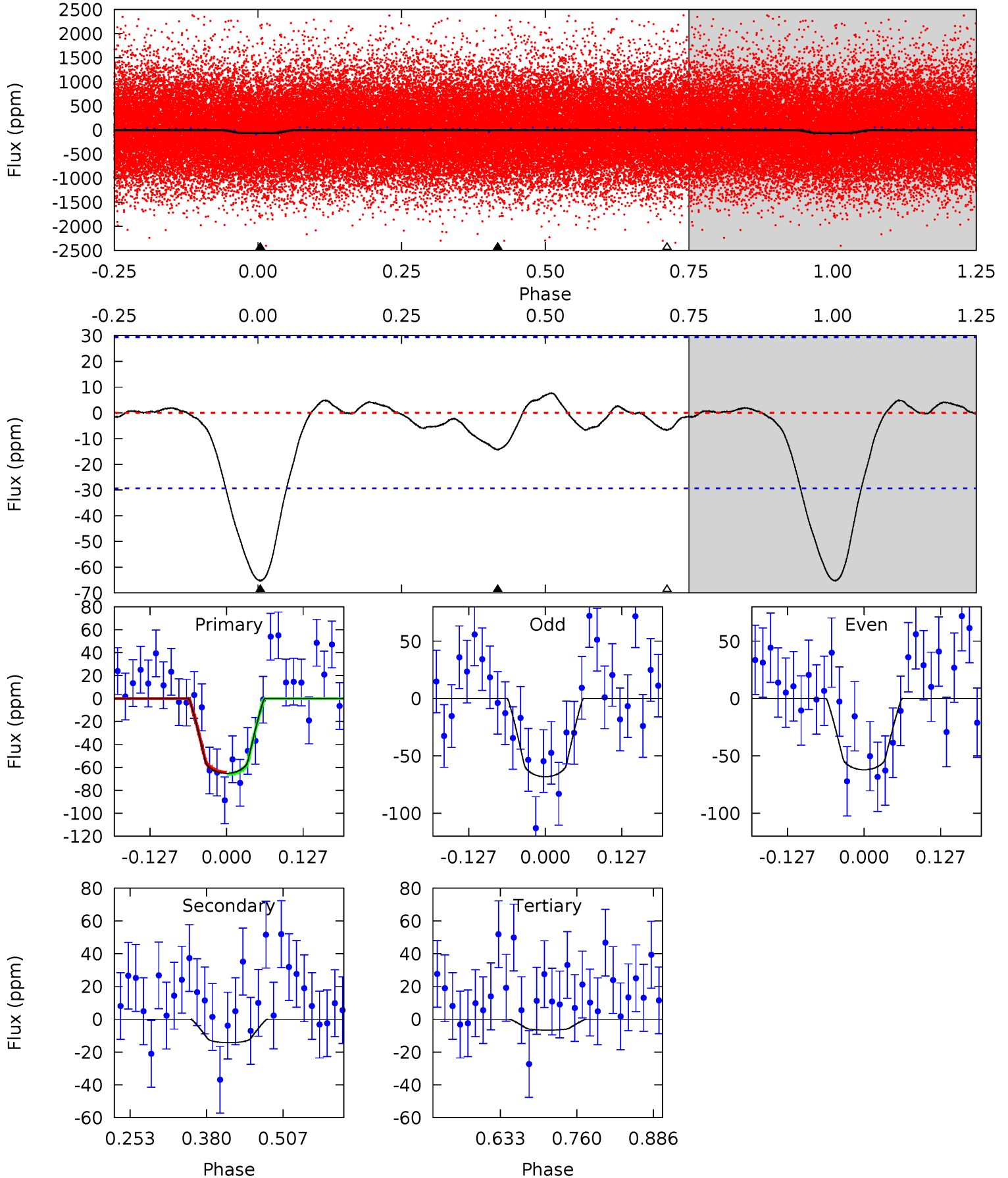
TCE 011873171-01 P= 0.734435 Days $T_0=131.923071$ (BKJD)



DV Model-Shift Uniqueness Test

011873171-01, P = 0.734429 Days, E = 131.190160 Days

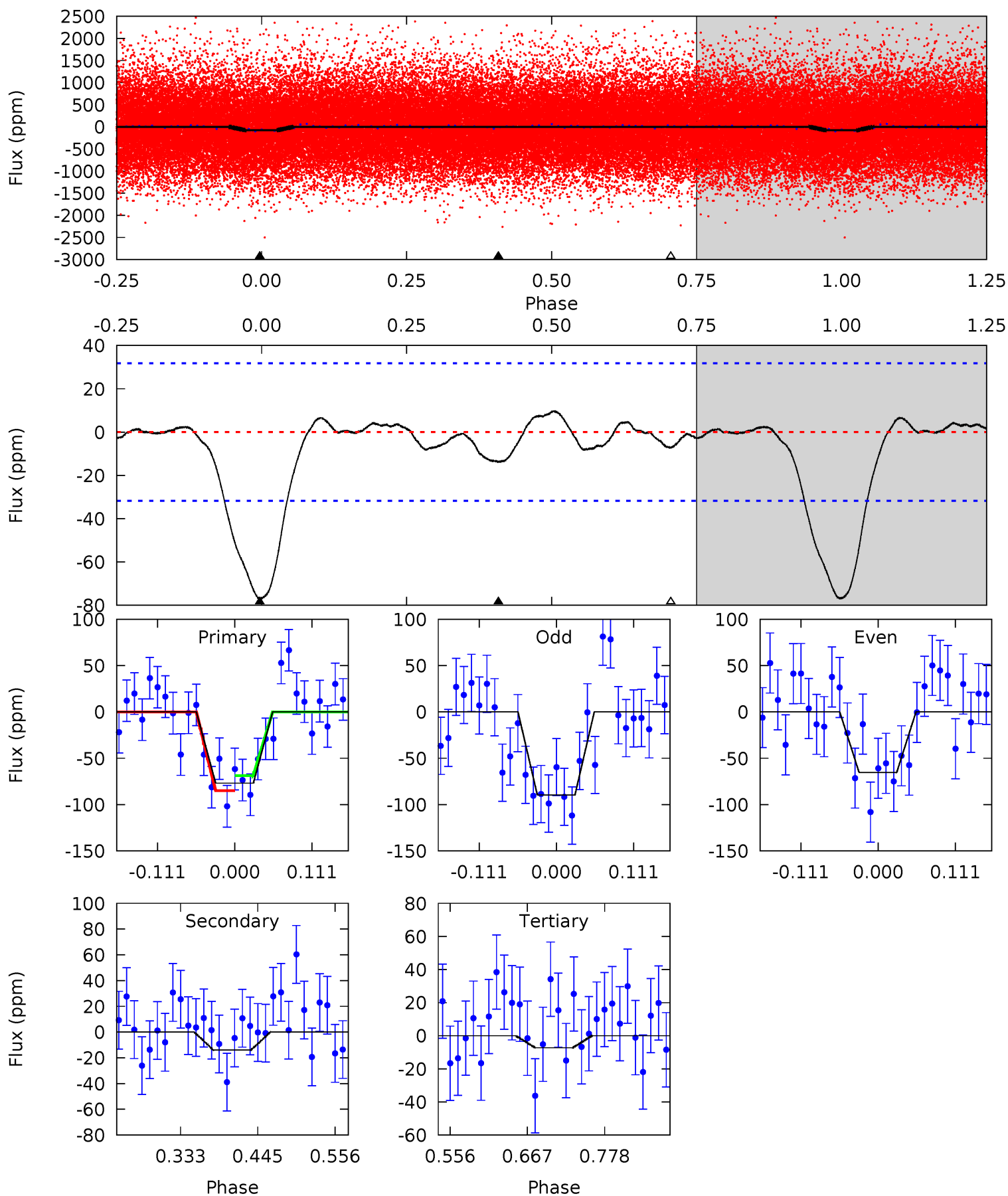
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	2.20	1.02	0	4.52	1.53	0.45	9.00	10.0	1.18	2.20	0.46	0.89	0.11	0.13



Alt Model-Shift Uniqueness Test

011873171-01, P = 0.734435 Days, E = 131.188636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	2.00	1.04	0	4.54	1.59	0.51	9.96	11.0	0.96	2.00	1.74	0.84	0.11	1.17



Stellar Parameters For KIC 011873171

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6406^{+155}_{-222}	$4.458^{+0.062}_{-0.188}$	$-0.380^{+0.250}_{-0.350}$	$1.005^{+0.283}_{-0.121}$	$1.057^{+0.128}_{-0.142}$	$1.467^{+0.469}_{-0.693}$
	+2%/-3%	+1%/-4%	+66%/-92%	+28%/-12%	+12%/-13%	+32%/-47%
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 011873171-01 / KOI 7488.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 7	$1.05^{+0.68}_{-0.62}$	3140^{+229}_{-141}	4170^{+1938}_{-1068}	$1.852^{+8.677}_{-1.297}$
Alt.	-14 ± 7	$1.07^{+0.70}_{-0.62}$	3163^{+215}_{-150}	4084^{+2058}_{-1049}	$1.626^{+8.205}_{-1.122}$

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

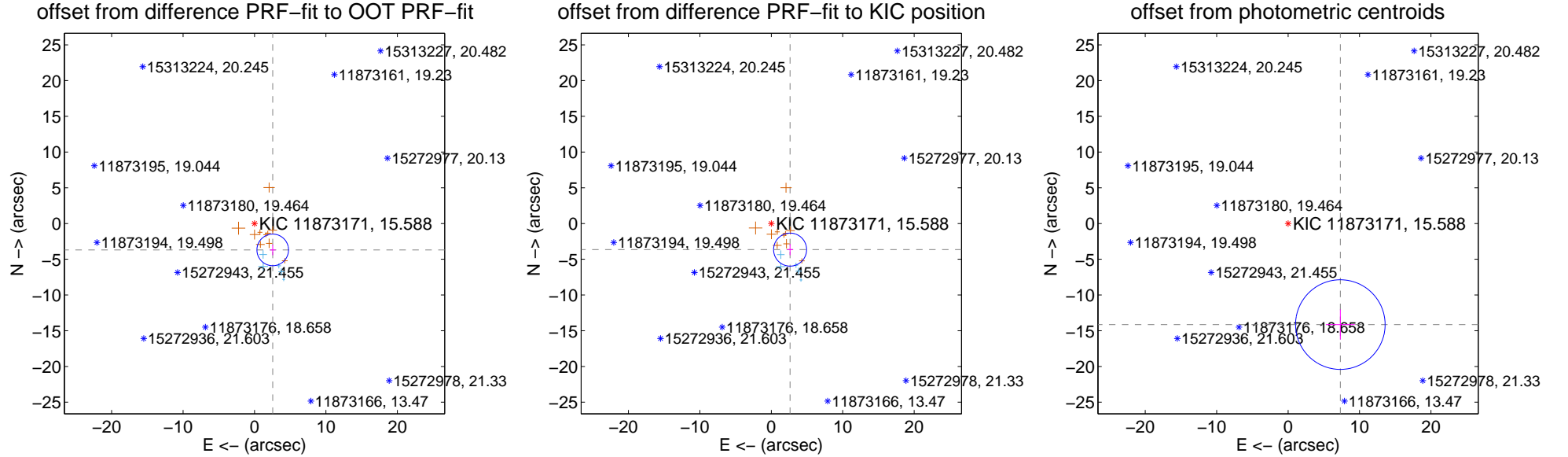
DV Centroid Data

Supplemental centroid analysis for 011873171-01. Kepler magnitude: 15.59. Transit SNR 7.38

There are 5 quarters with good PRF difference image offsets

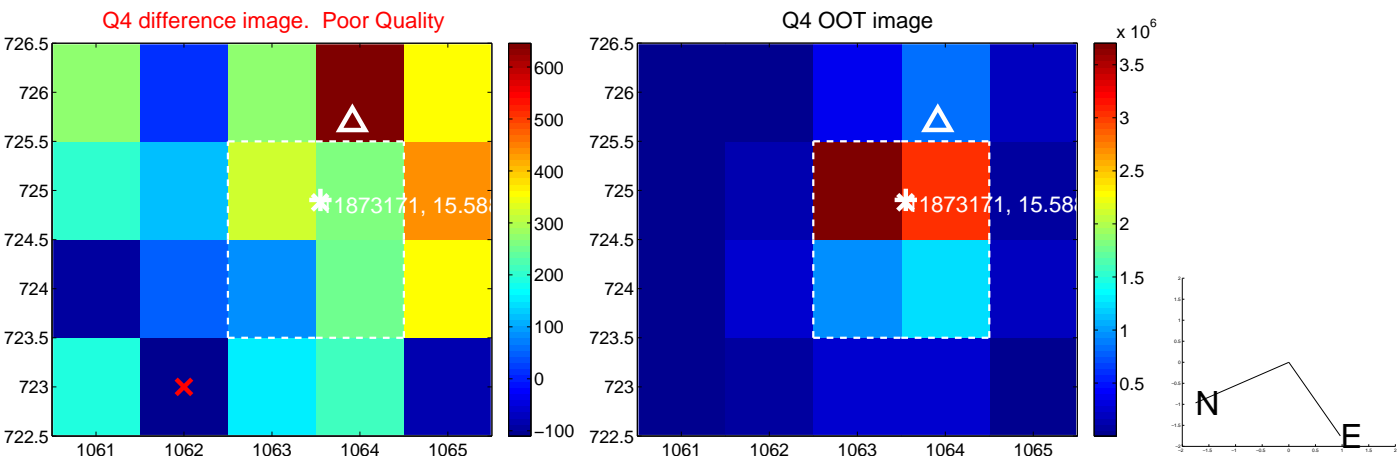
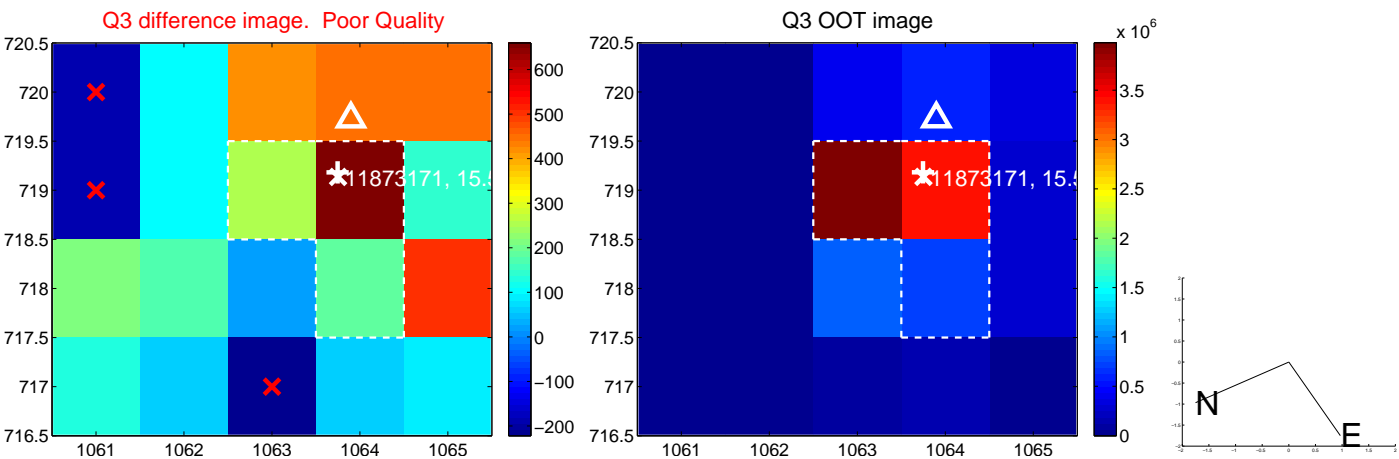
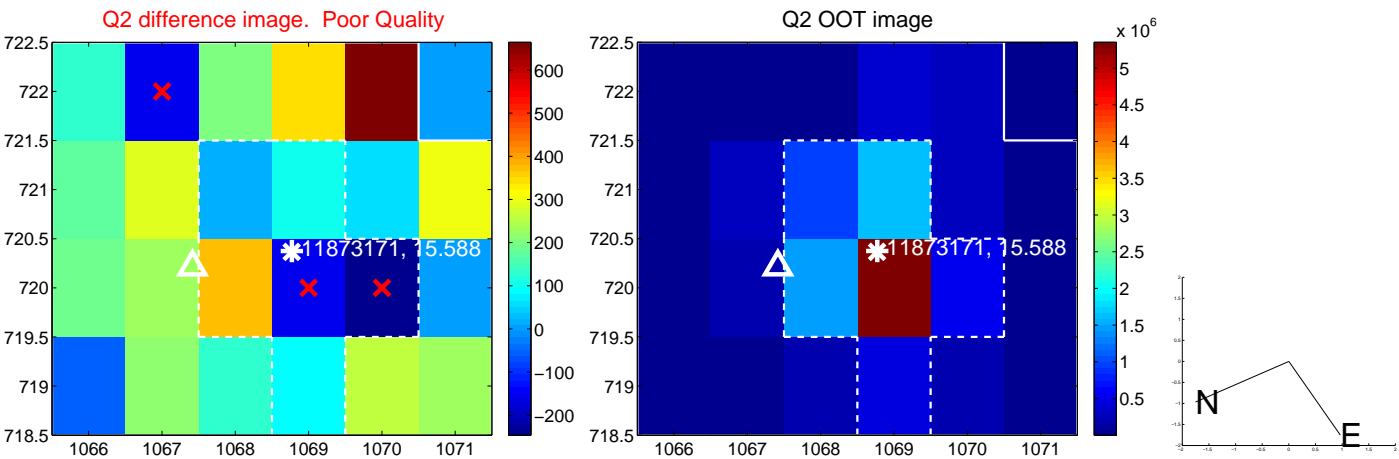
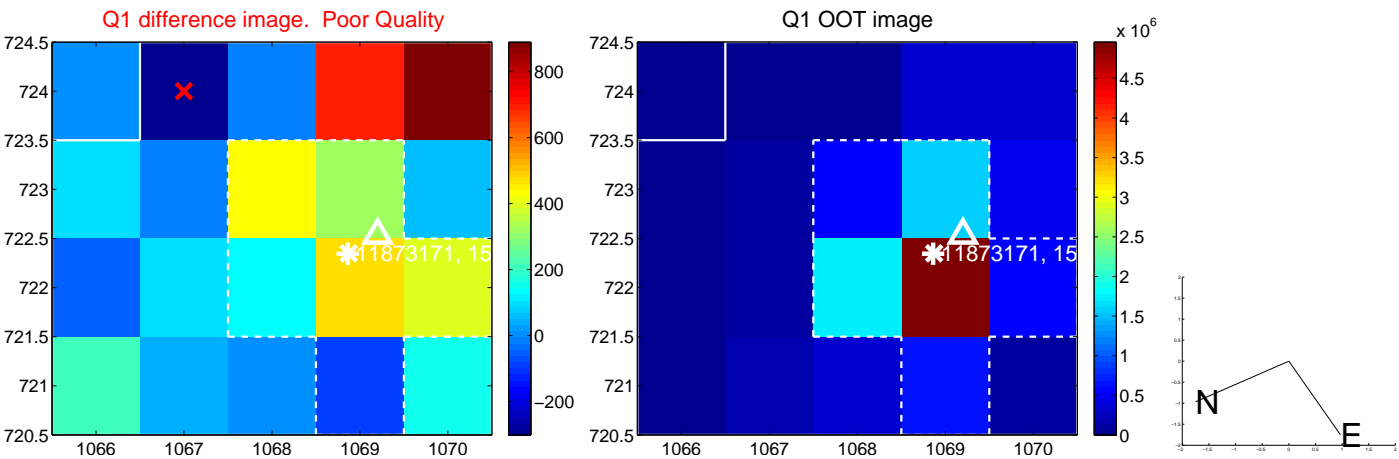
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.488 ± 0.737	6.09	-2.552 ± 0.409	-3.693 ± 0.733
PRF-fit source offset from KIC position	4.501 ± 0.770	5.84	-2.632 ± 0.431	-3.651 ± 0.782
photometric centroid source offset	15.92 ± 2.09	7.62	-7.31 ± 2.02	-14.14 ± 2.11

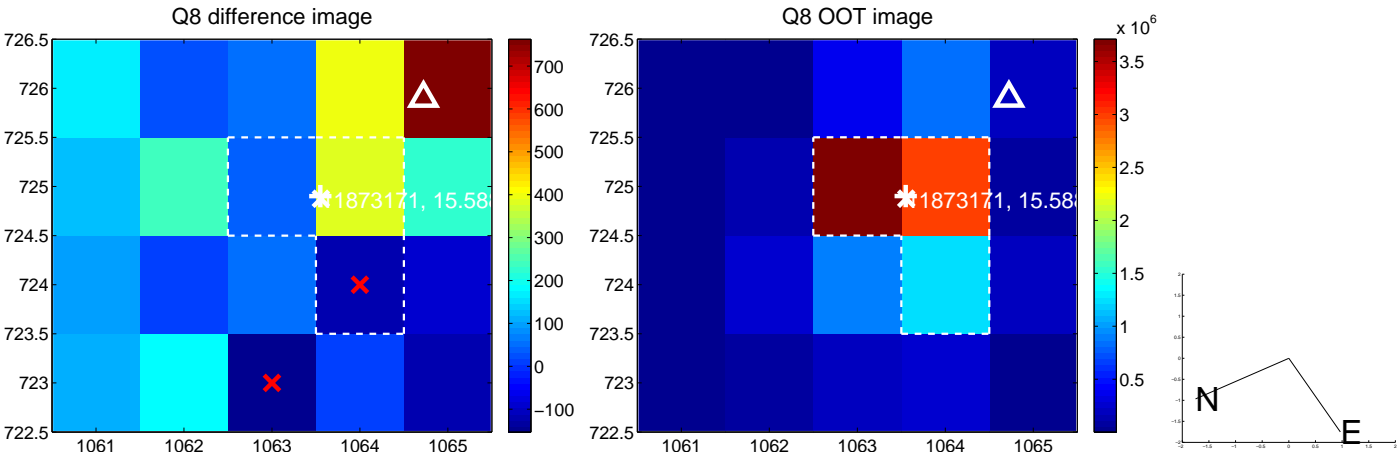
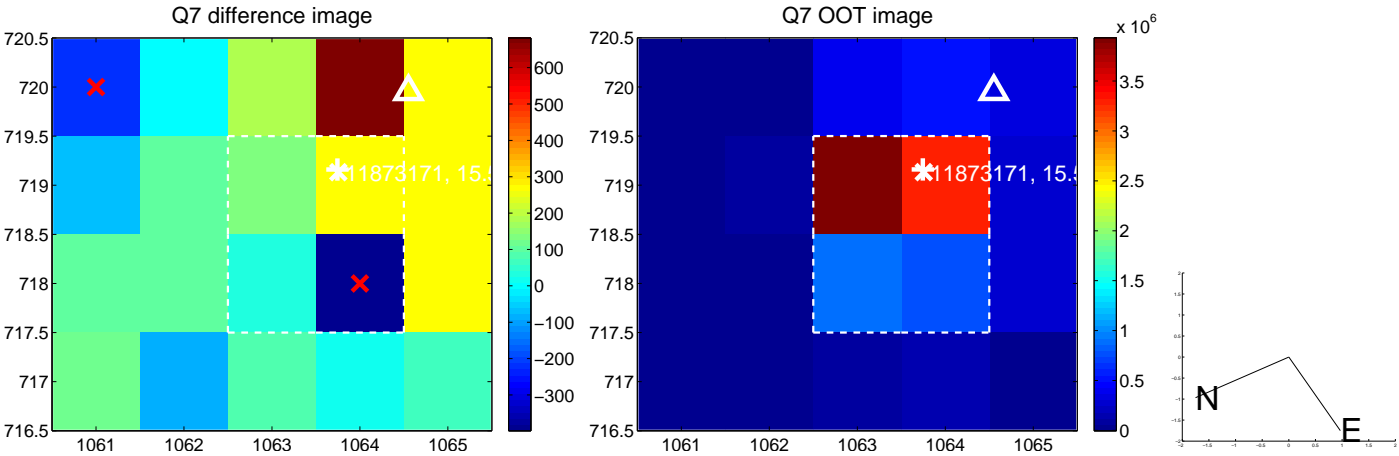
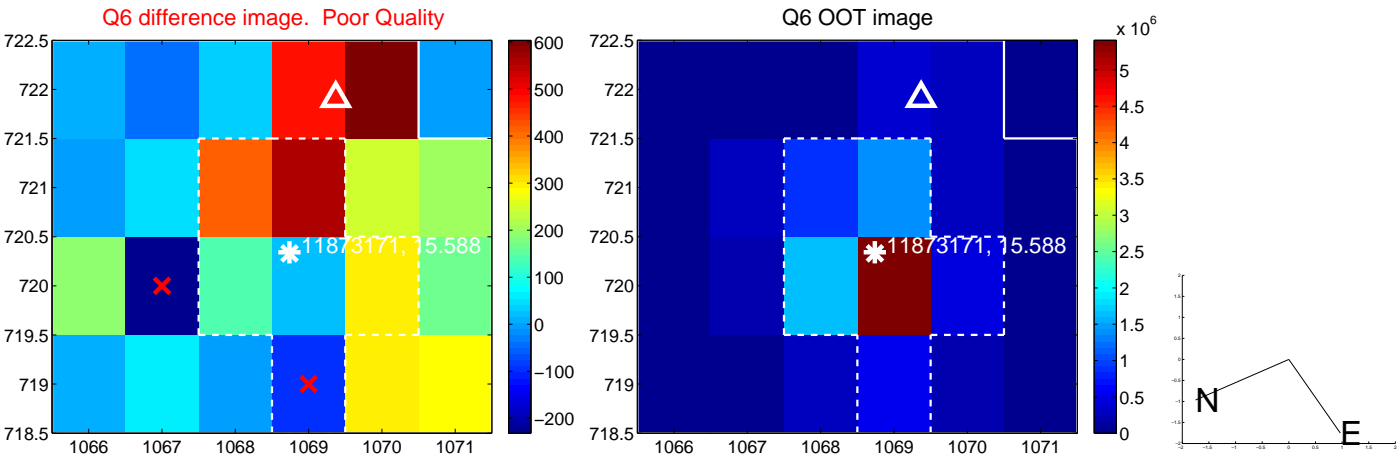
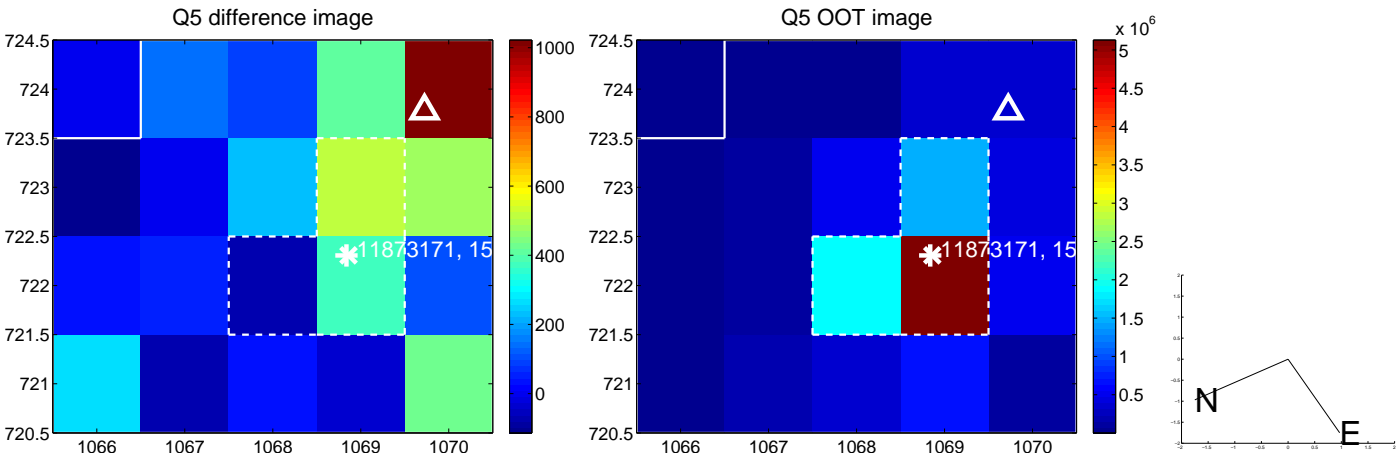


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

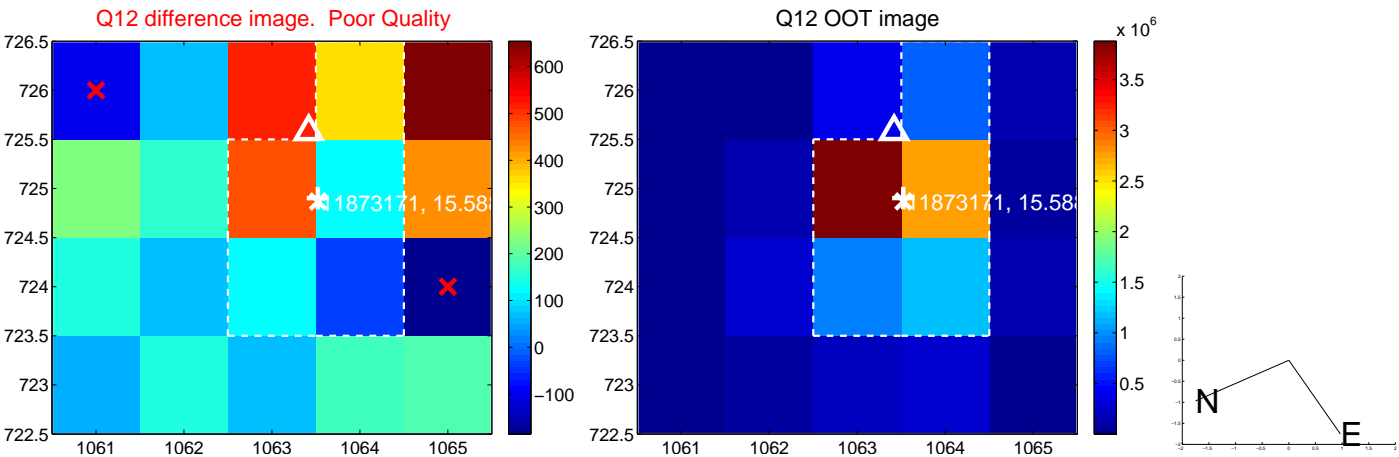
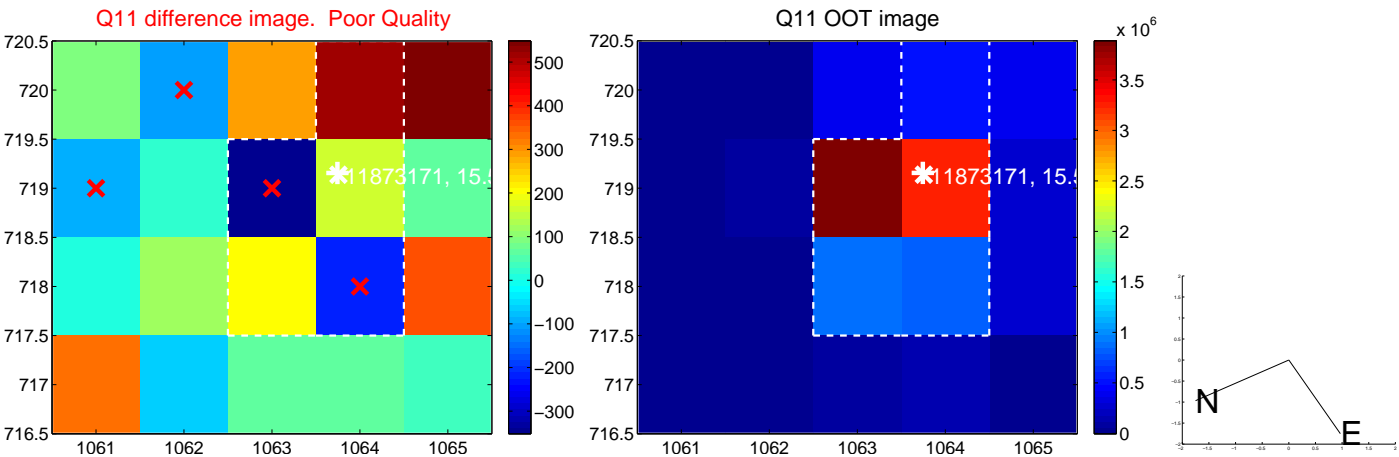
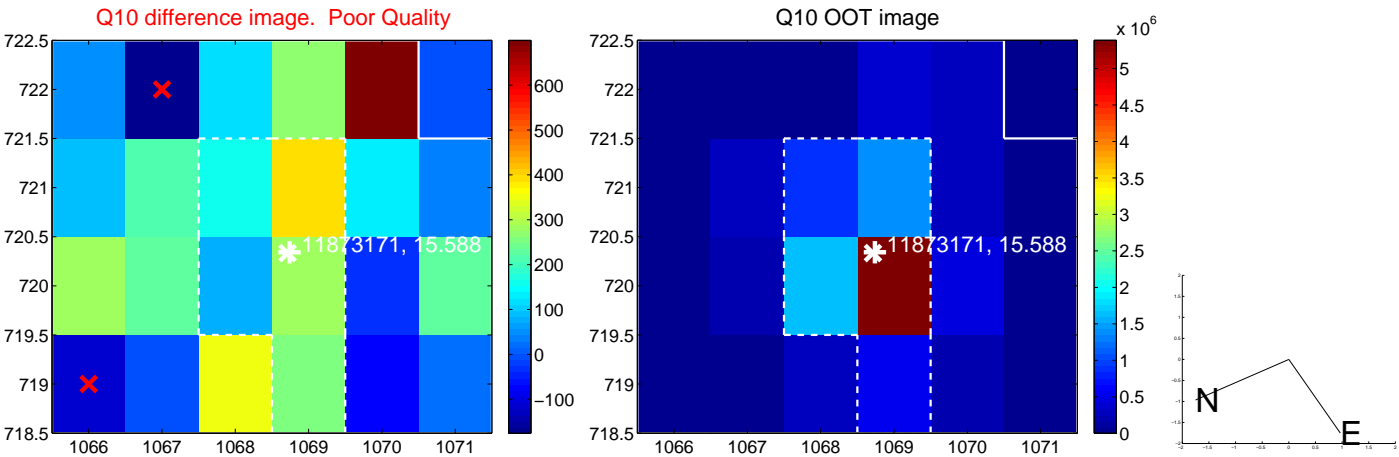
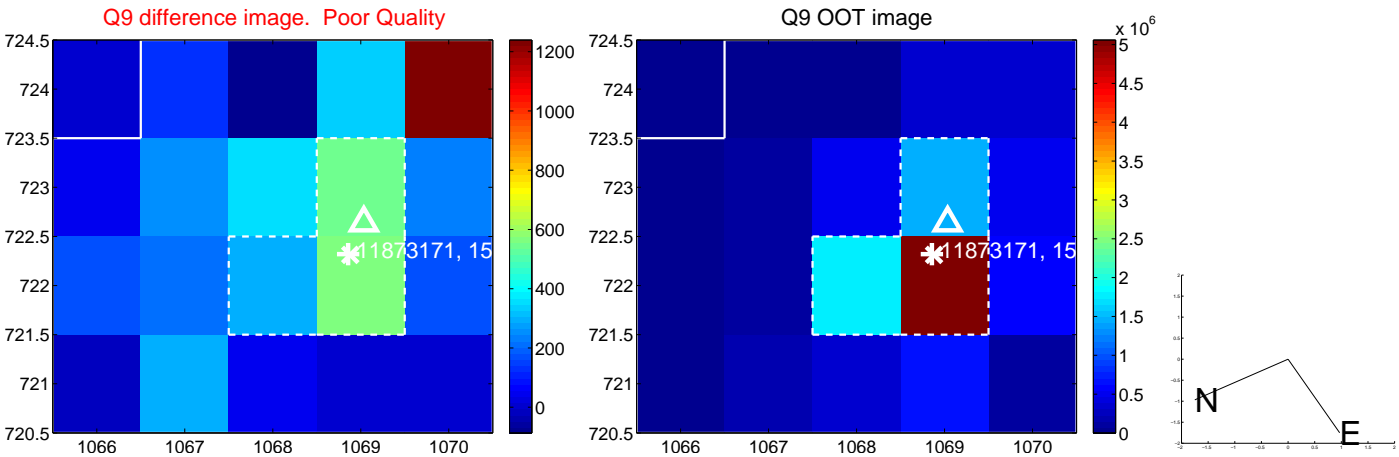
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



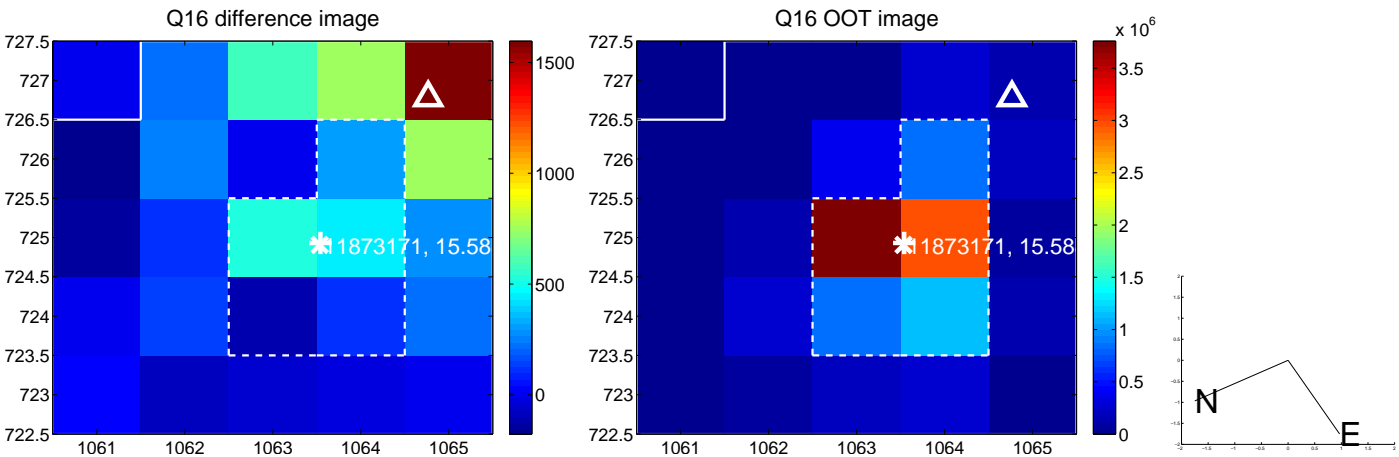
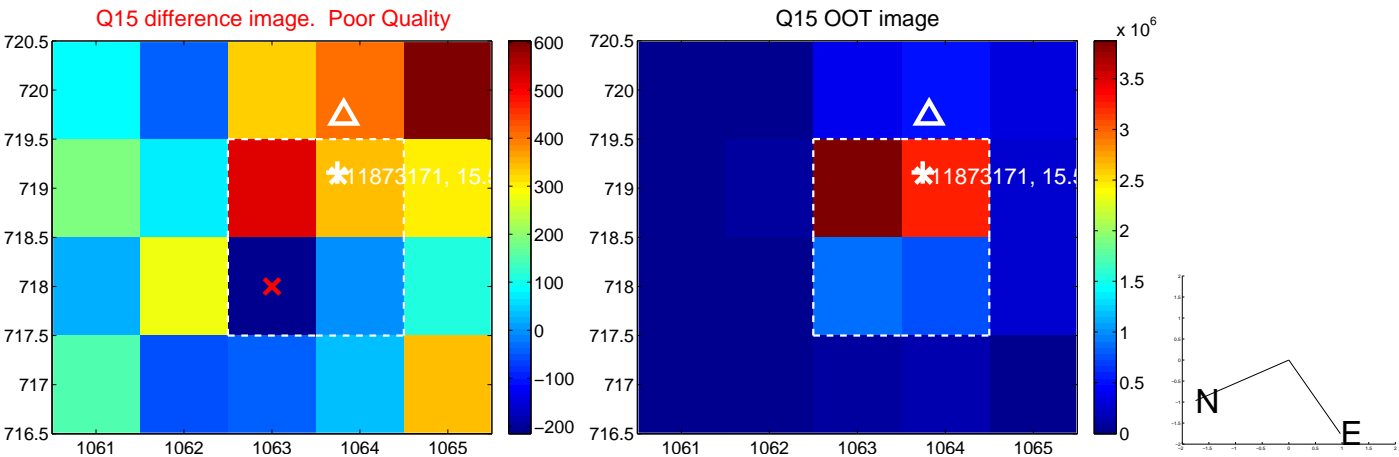
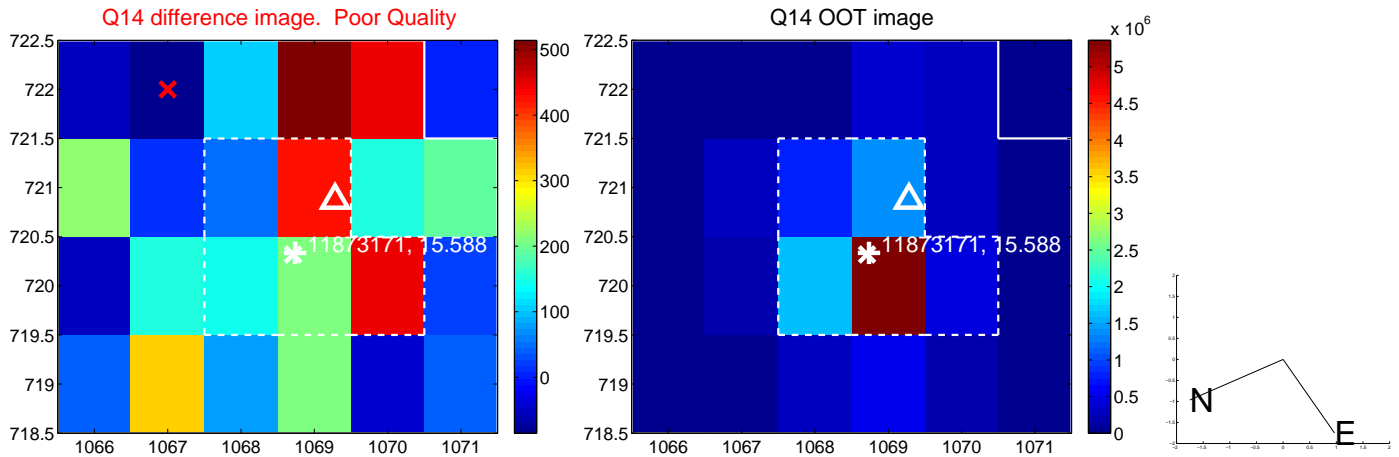
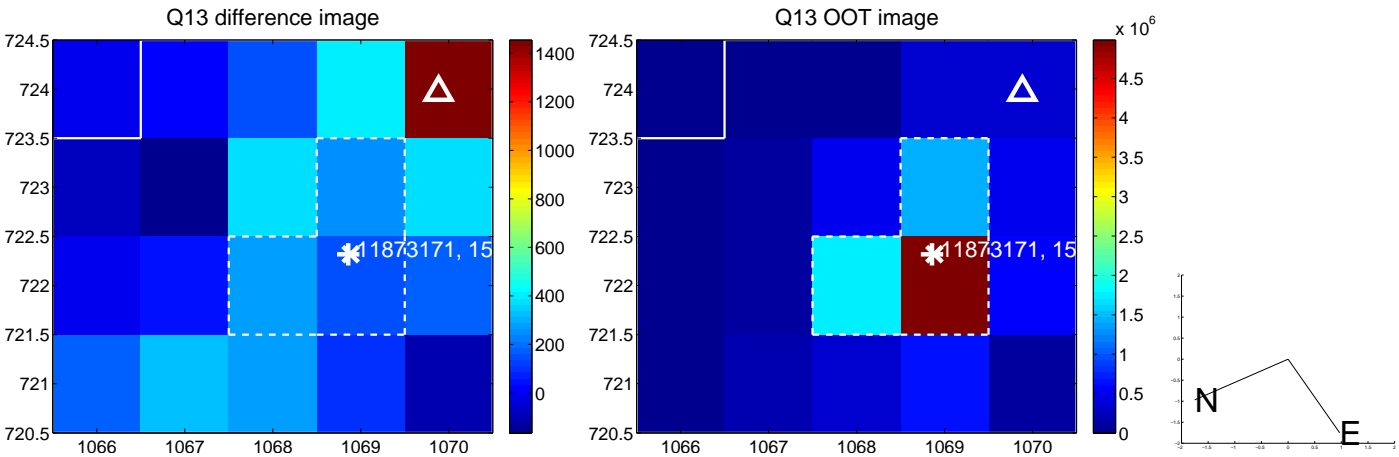
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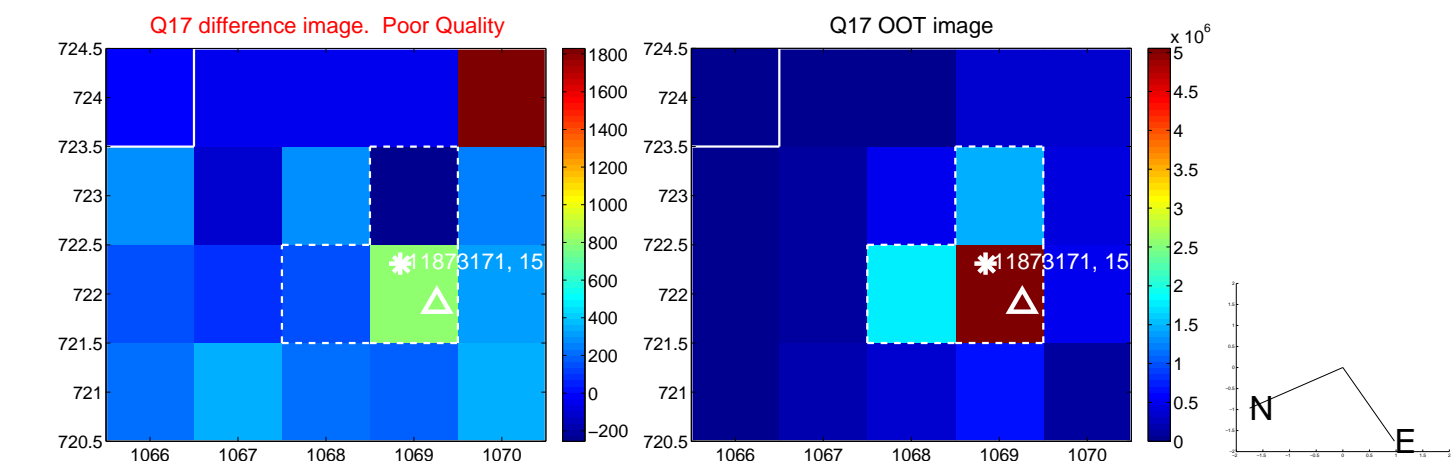
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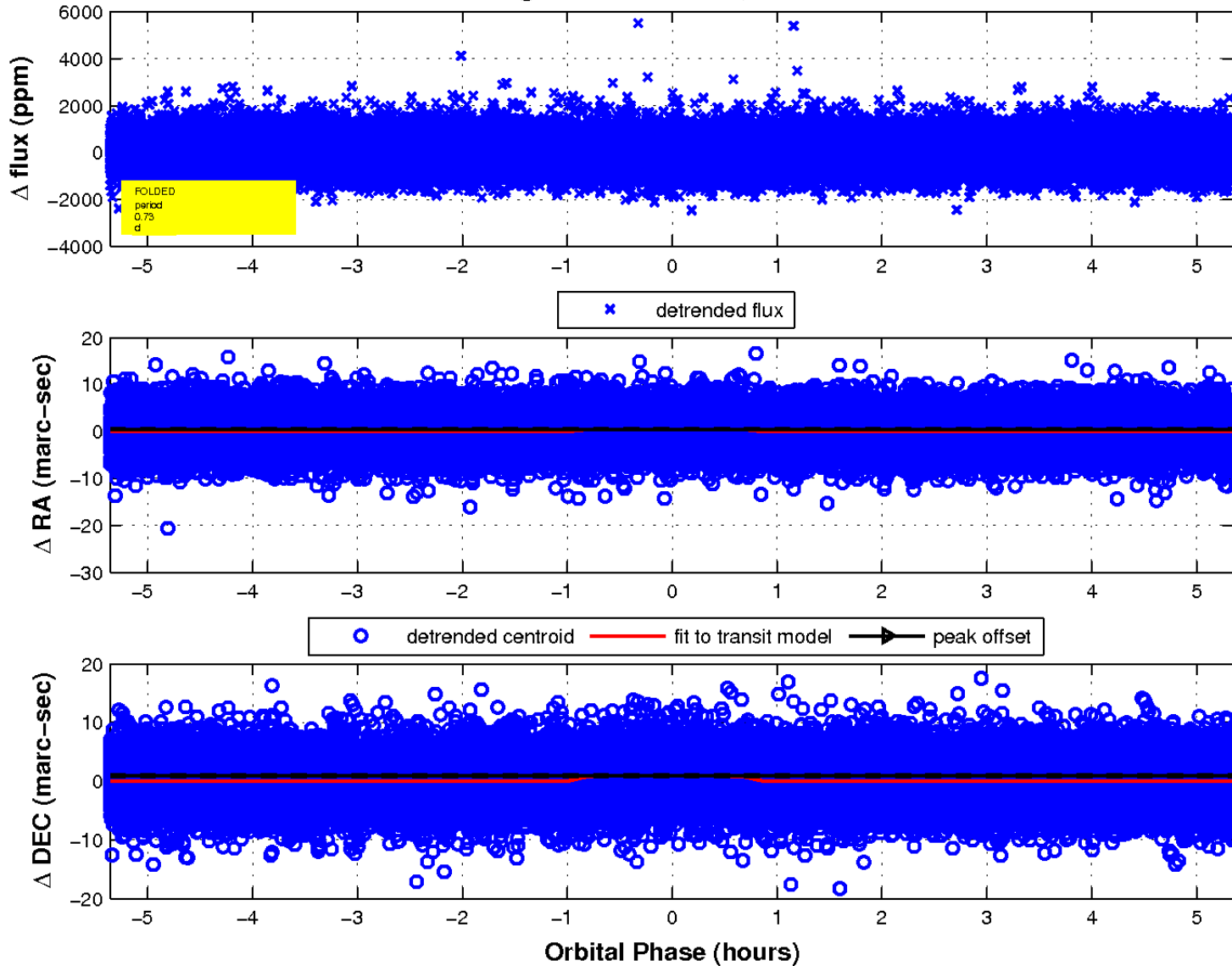
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

