

KIC 007461314

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})
007461314-01	OBS	6881.01	0.773602	132.077403	60.6	1.118	10.1	10.7	0.94	5973	0.87	3610.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461314-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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 007461314-01

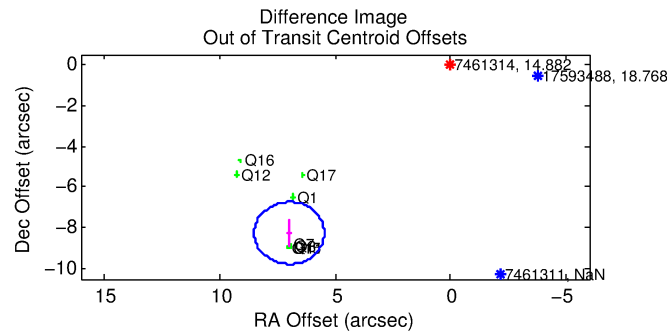
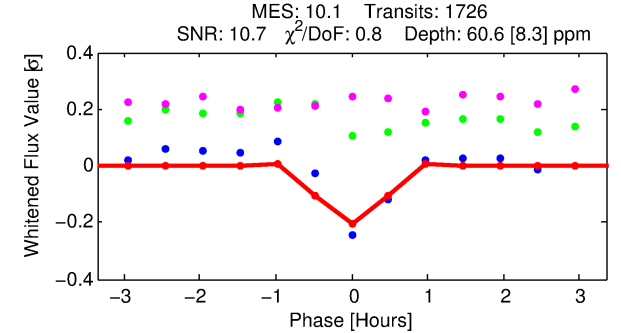
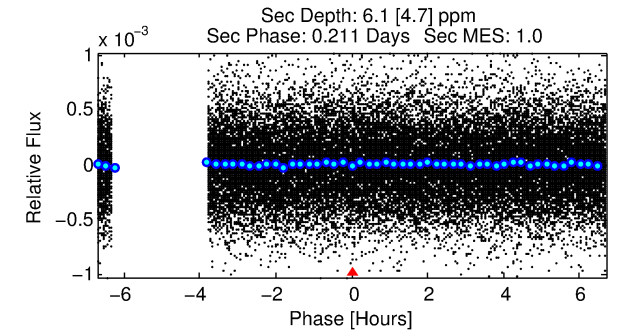
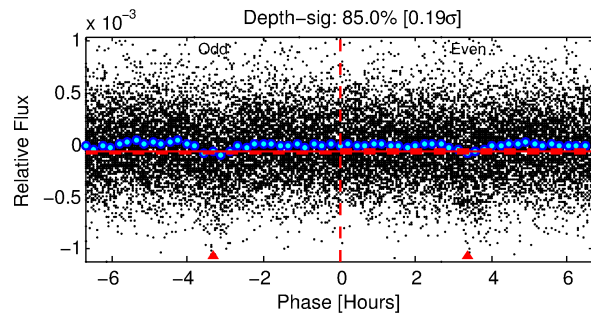
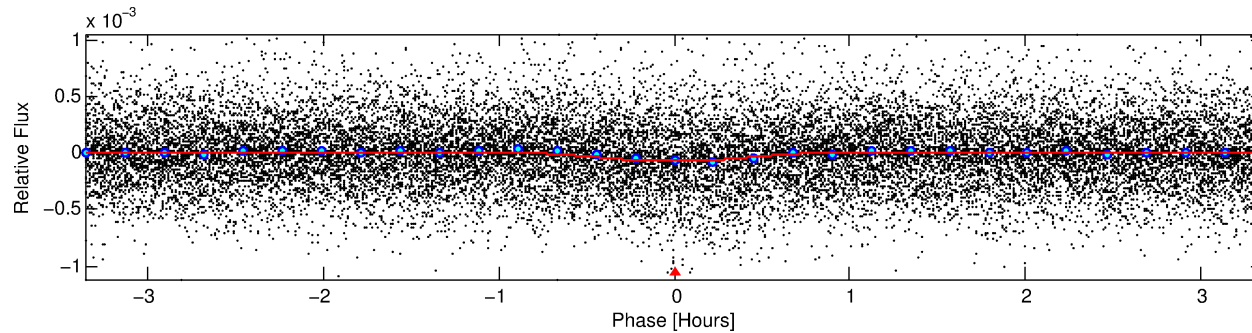
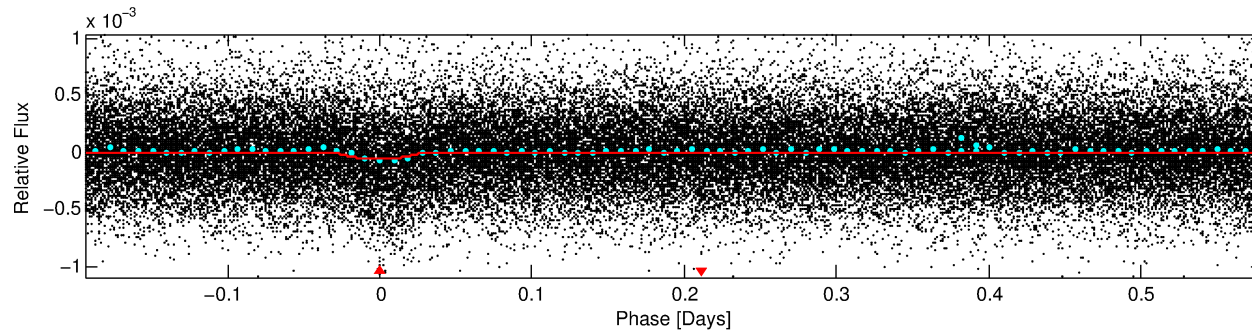
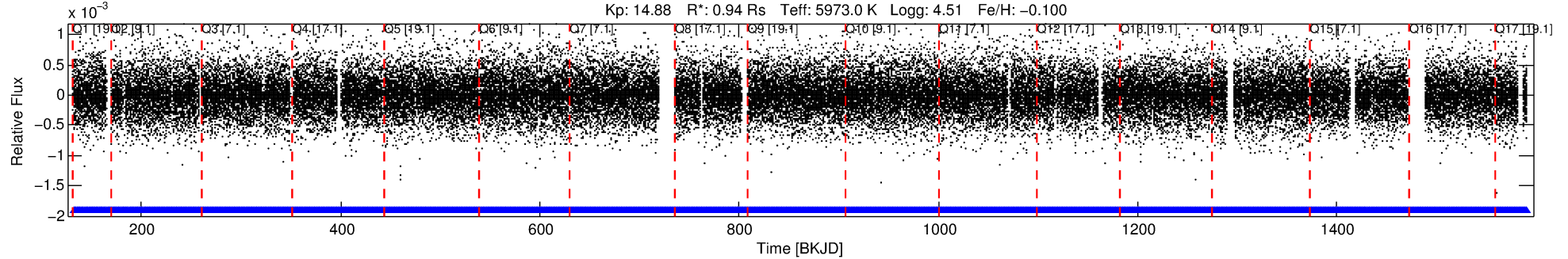
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007461314-01	7461314	2909.01	7461307	1:1	27.8	5	6	14.62	14.89	1.28	Direct-PRF	1	1.34	1.50

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: 7461314 Candidate: 1 of 1 Period: 0.774 d
KOI: K06881 Corr: No Ephemeris Match

Kp: 14.88 R*: 0.94 Rs Teff: 5973.0 K Logg: 4.51 Fe/H: -0.100



DV Fit Results:

Period = 0.77360 [0.00001] d
Epoch = 132.0774 [0.0018] BKJD
Rp/R* = 0.0085 [0.0037]
a/R* = 2.54 [4.75]
b = 0.90 [0.46]
Seff = 3610.07 [1361.53]
Teq = 1977 [186] K
Rp = 0.87 [0.45] Re
a = 0.0166 [0.0040] AU
Ag = 1.22 [1.48] [0.15σ]
Teffp = 3213 [940] K [1.29σ]

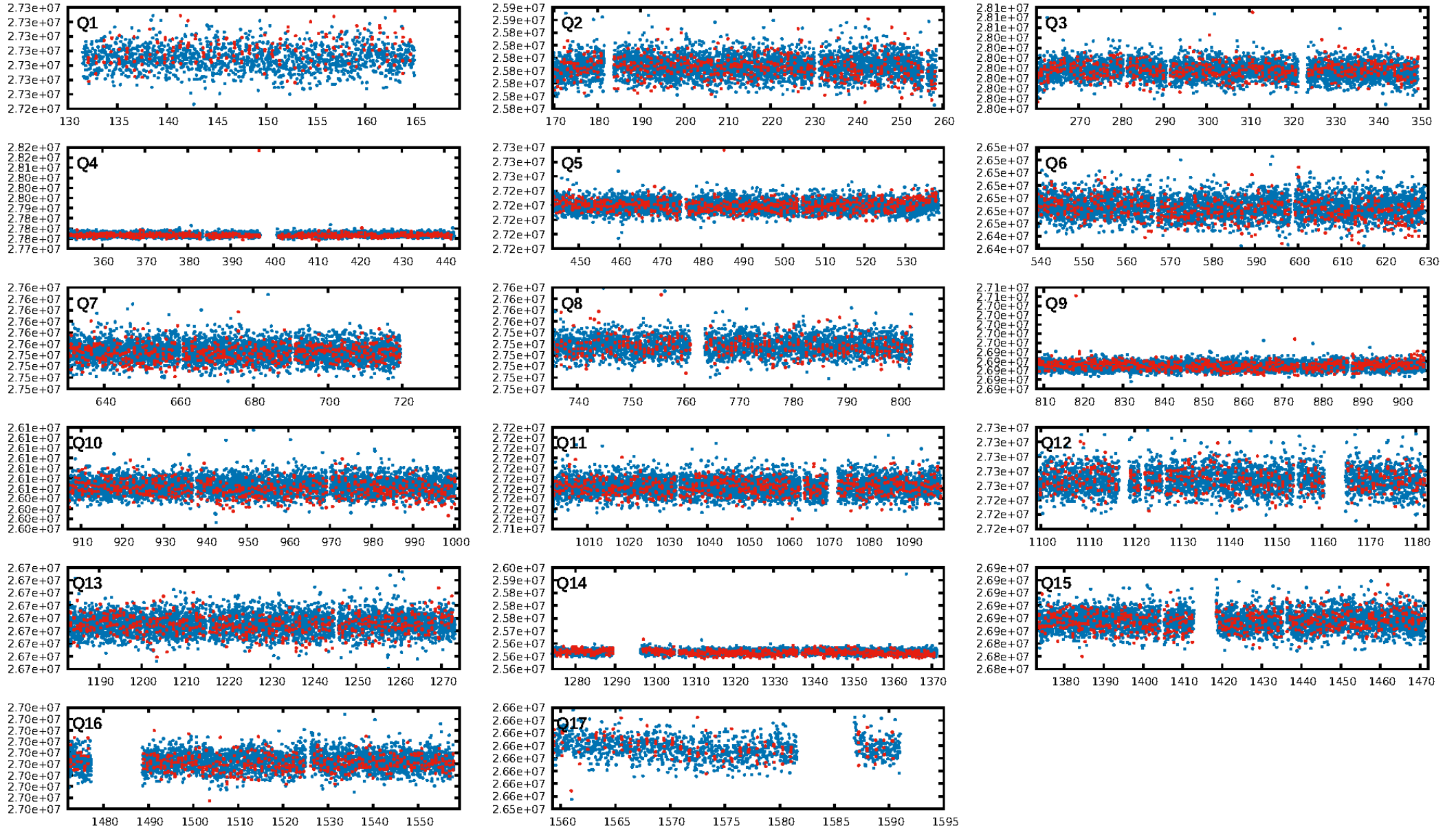
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.15e-24
RollingBand-fgt: 1.00 [1650/1650]
GhostDiagnostic-chr: -0.4799
Centroid-sig: 0.0%
Centroid-so: 20.971 arcsec [16.87σ]
OotOffset-rm: 10.814 arcsec [21.32σ]
KicOffset-rm: 10.867 arcsec [21.32σ]
OotOffset-st: 0/4/2/2 [8]
KicOffset-st: 0/4/2/2 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [17/17]

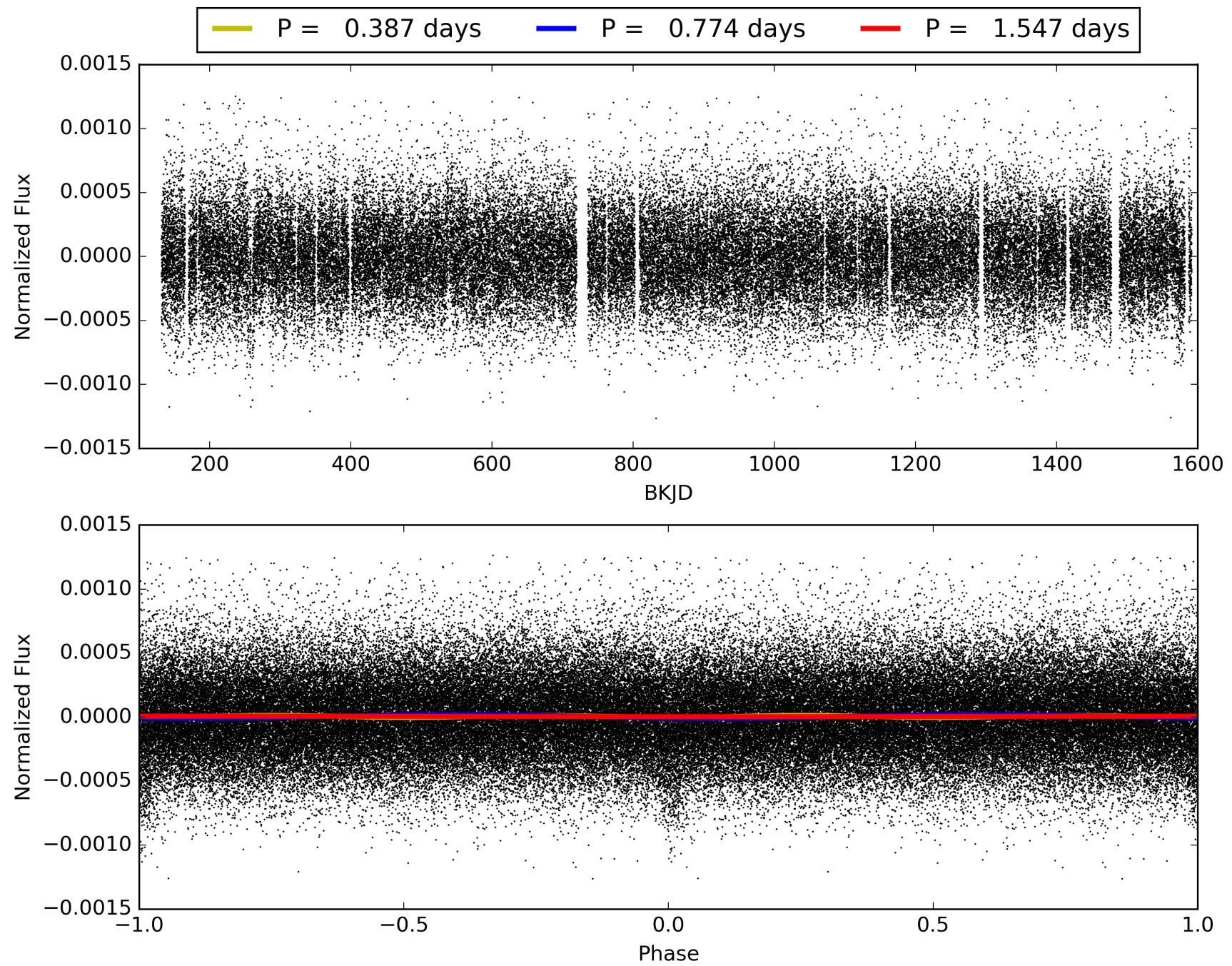
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:02:46 Z

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

TCE 007461314-01, PDC Light Curves

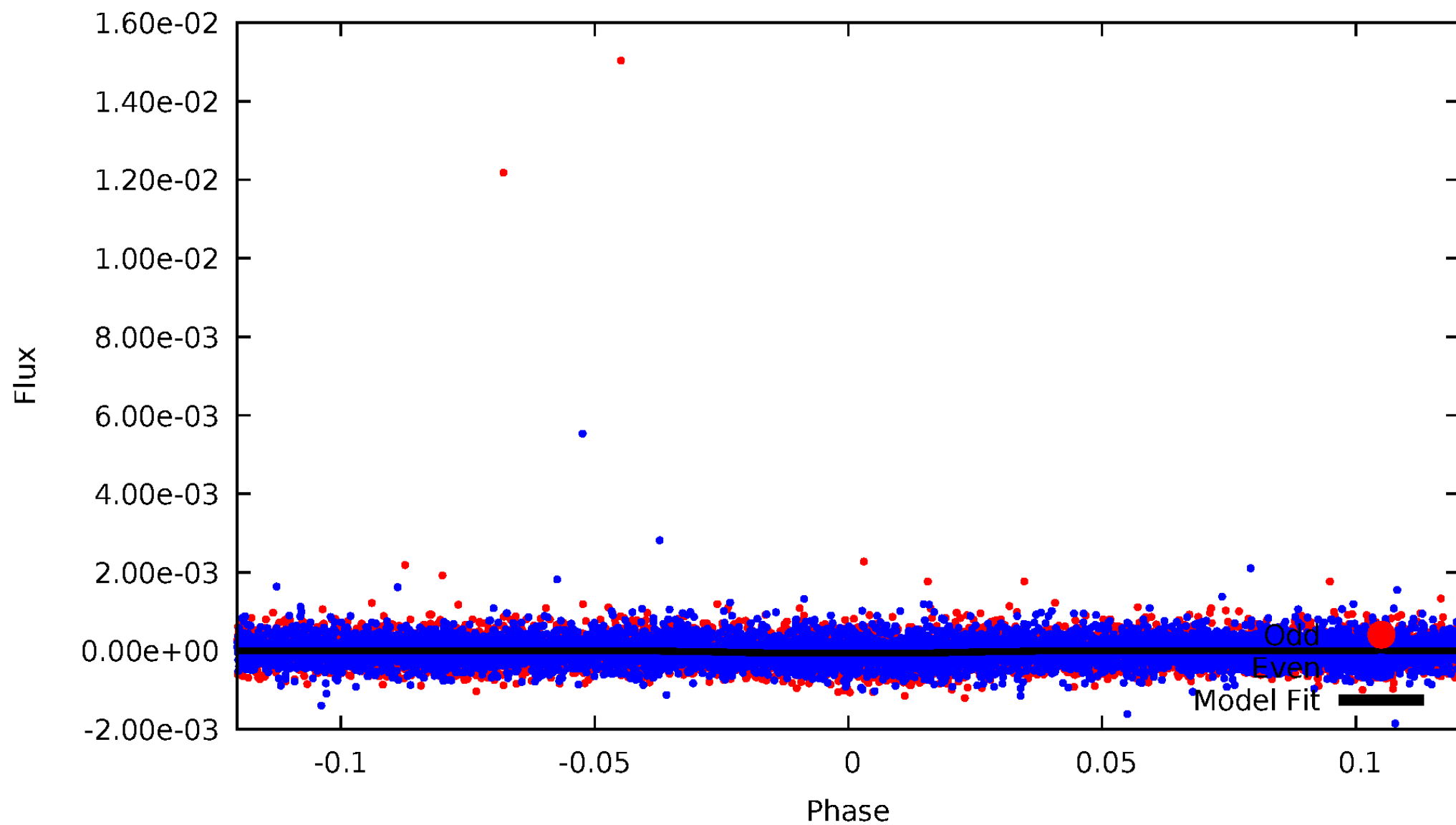


TCE 007461314-01



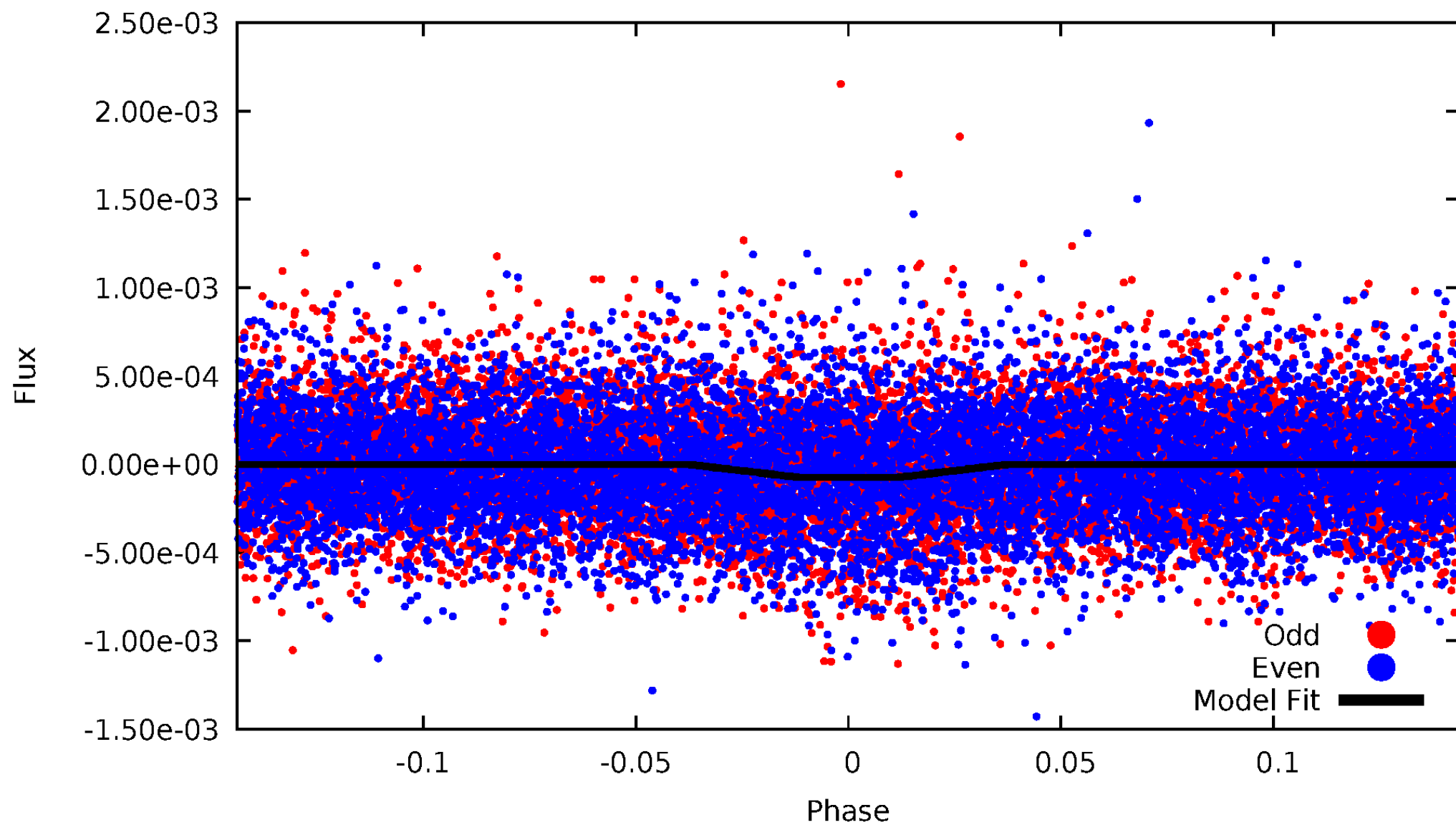
DV Odd/Even

TCE 007461314-01



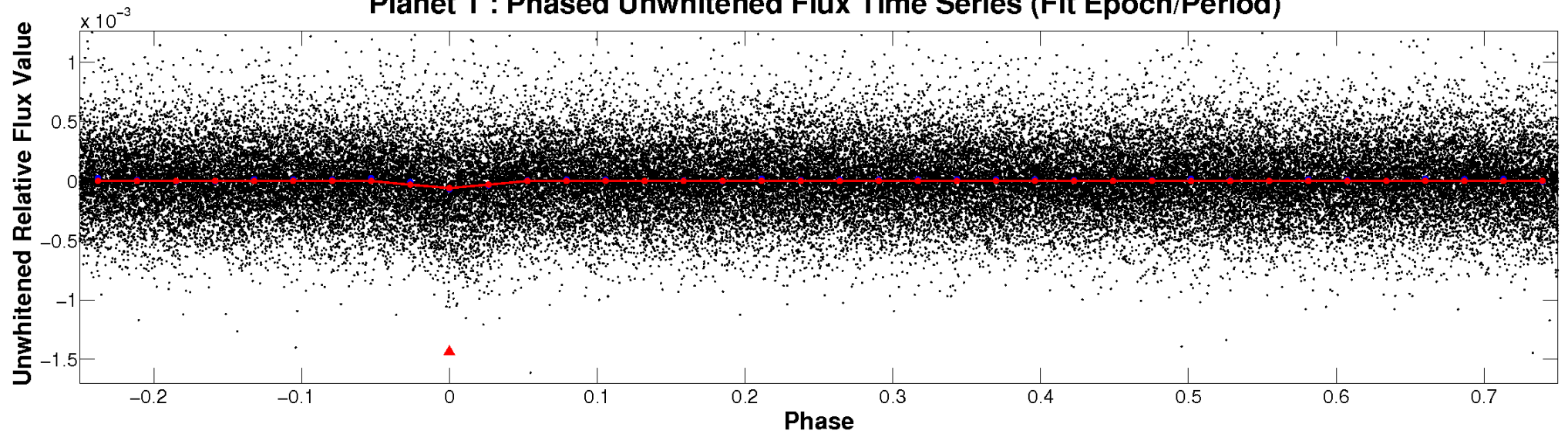
ALT Odd/Even

TCE 007461314-01

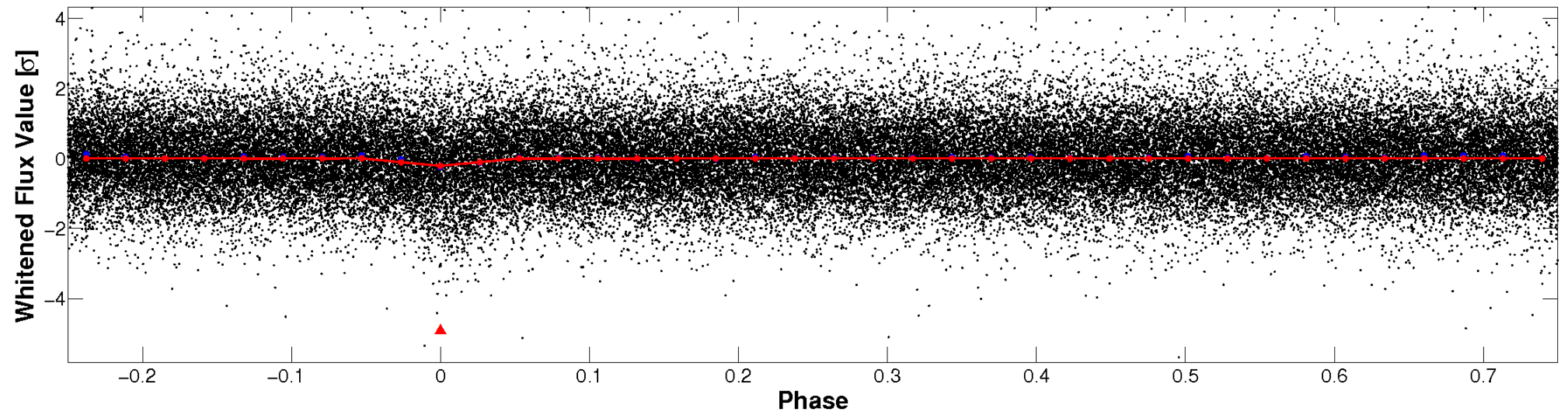


Non-Whitened Vs. Whitened Light Curve

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

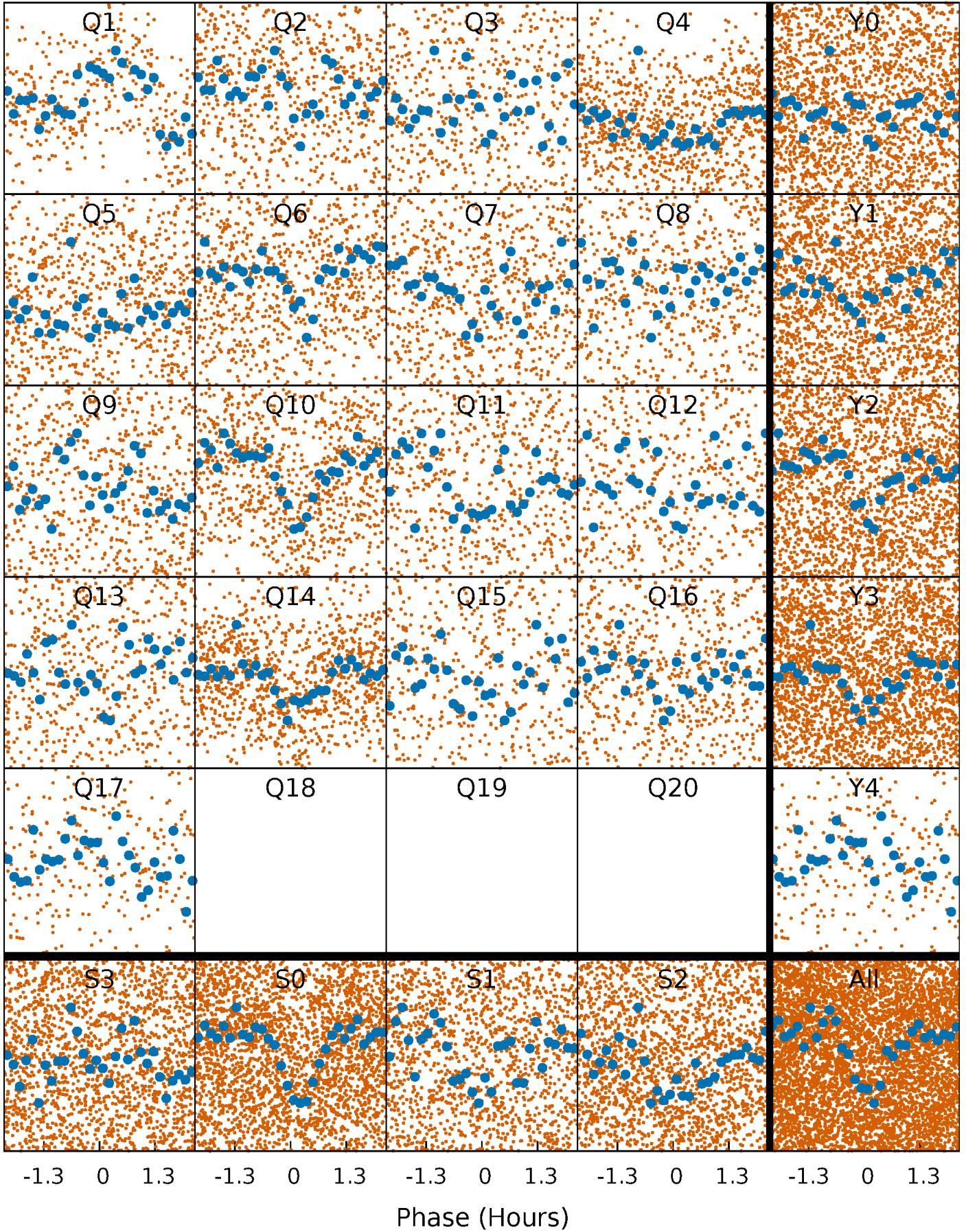


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



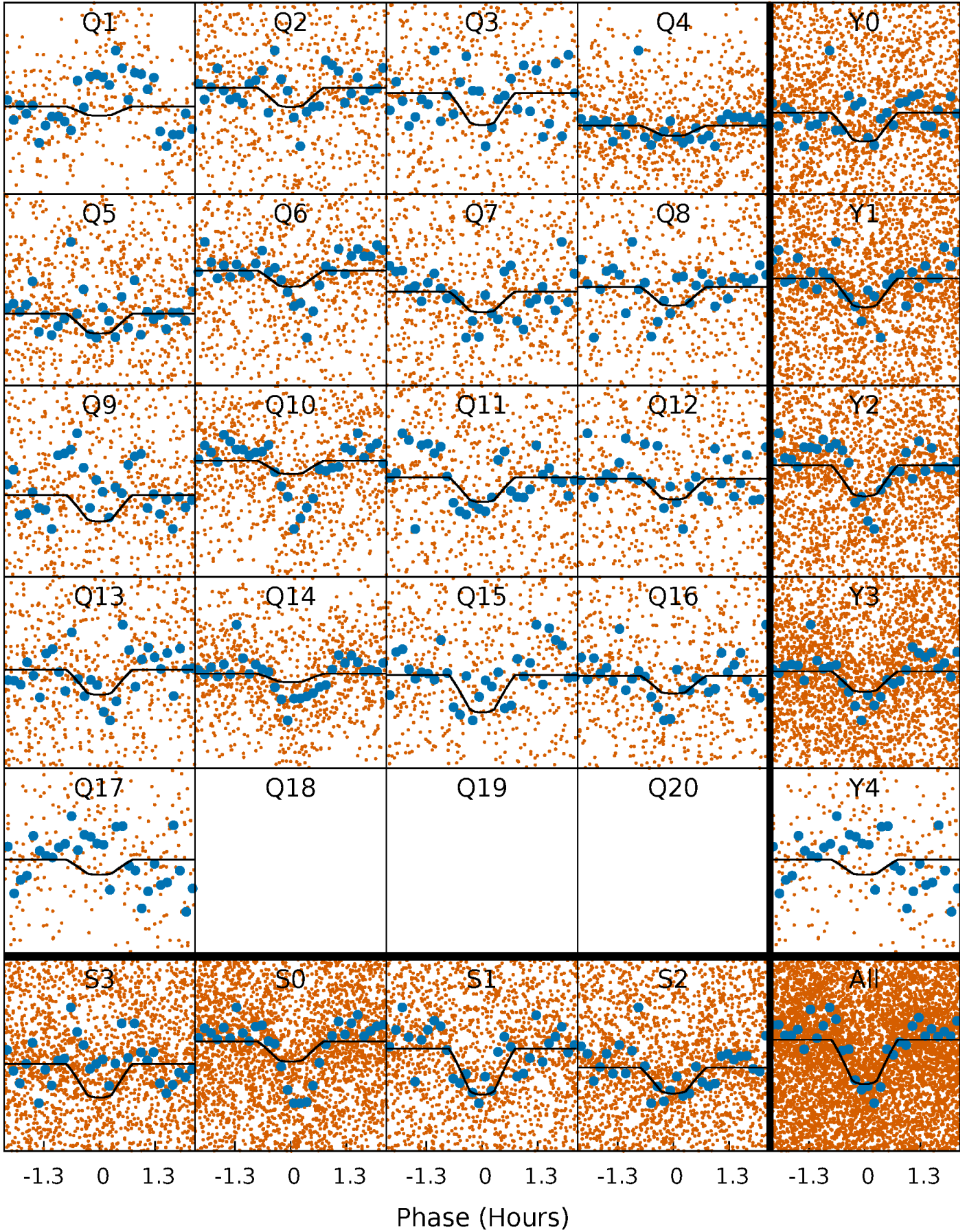
PDC Quarter-Phased Transit Curves

TCE 007461314-01 P= 0.773602 Days $T_0=132.077403$ (BKJD)



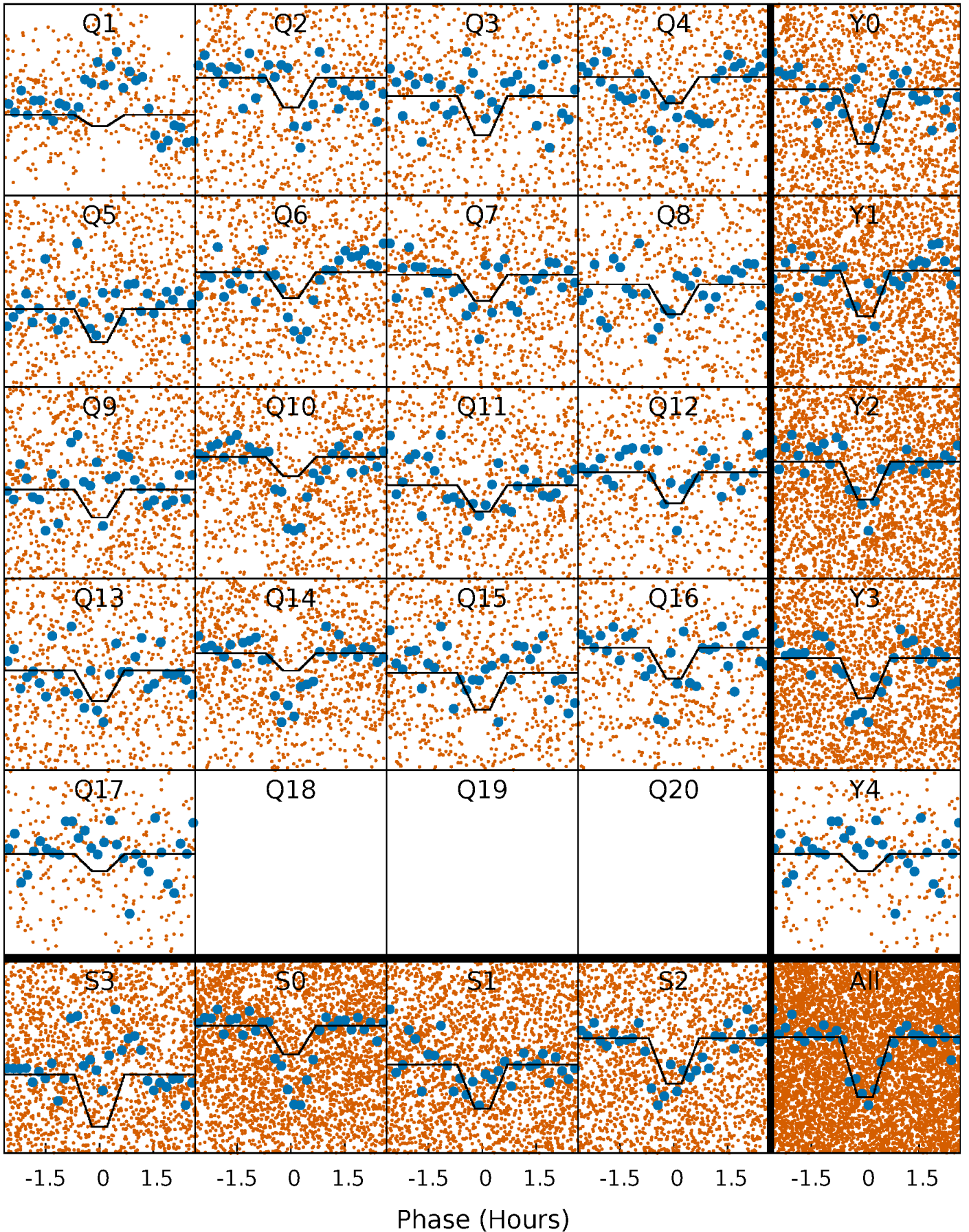
DV Quarter-Phased Transit Curves

TCE 007461314-01 P= 0.773602 Days $T_0=132.077403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

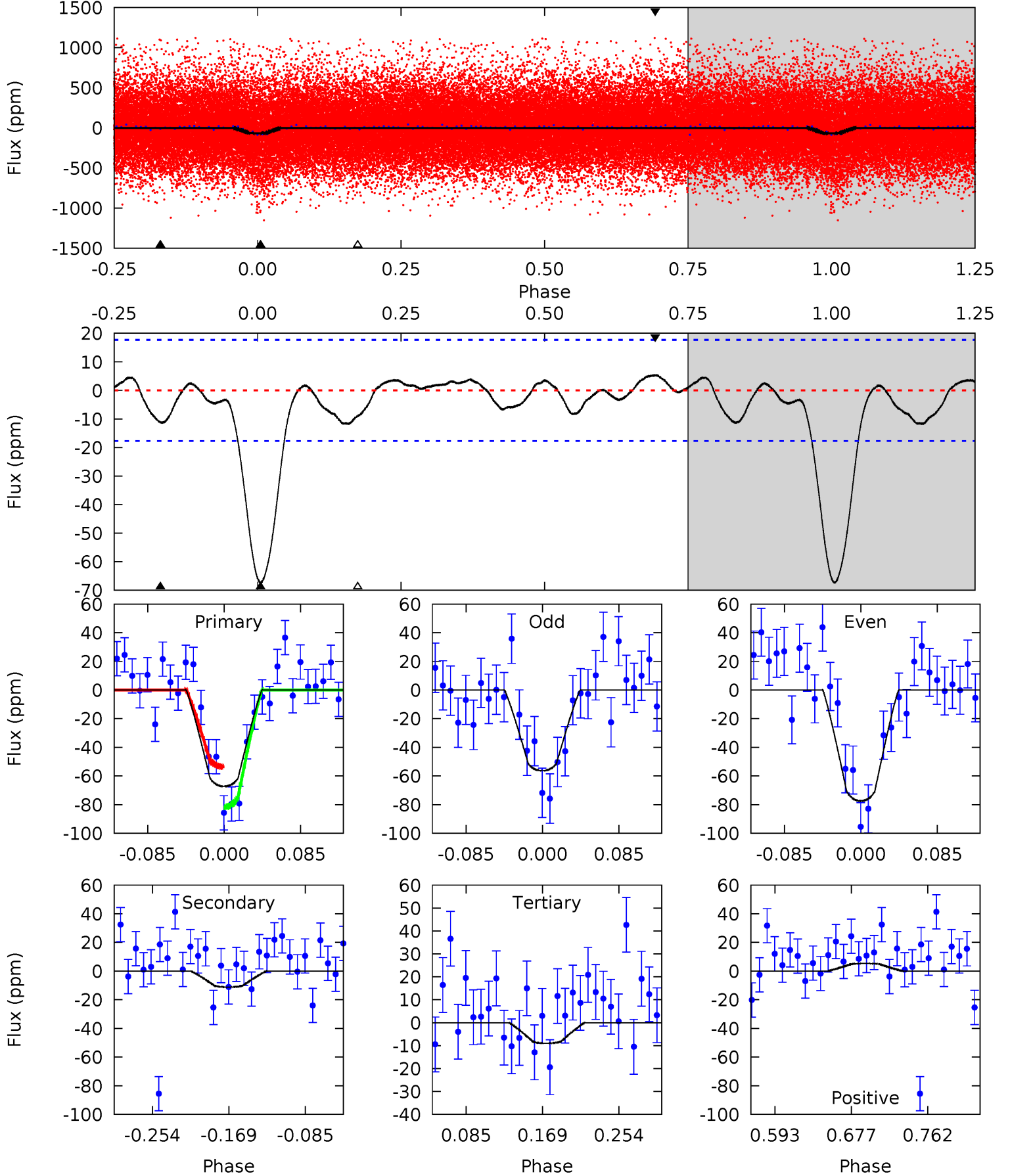
TCE 007461314-01 P= 0.773607 Days $T_0=132.076294$ (BKJD)



DV Model-Shift Uniqueness Test

007461314-01, P = 0.773602 Days, E = 131.303801 Days

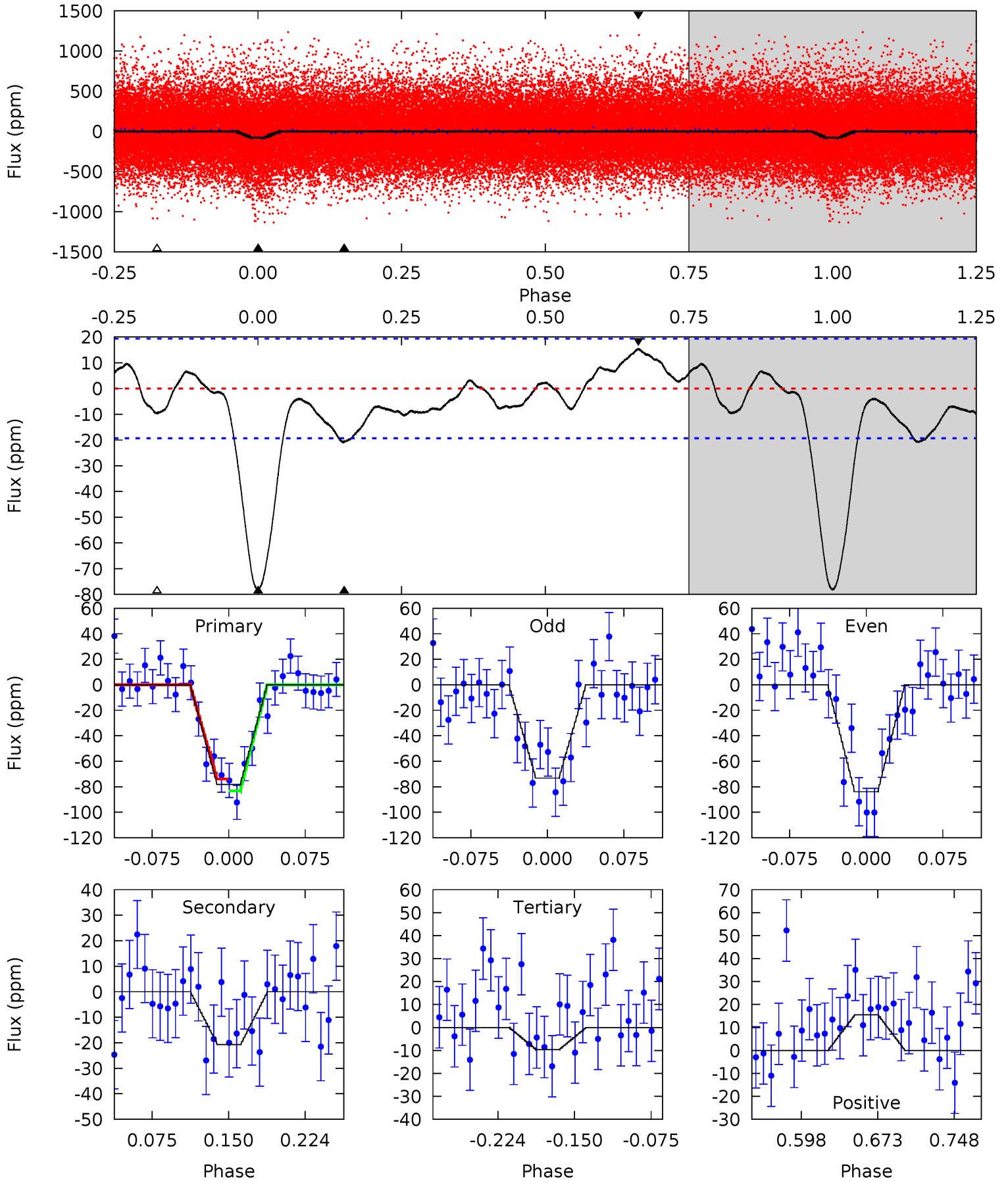
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	2.90	2.34	1.39	4.60	1.72	1.12	15.1	16.1	0.57	1.51	2.75	0.88	0.07	3.65



Alt Model-Shift Uniqueness Test

007461314-01, P = 0.773607 Days, E = 131.302687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	4.95	2.31	3.70	4.63	1.78	1.68	16.4	15.0	2.64	1.25	1.28	0.86	0.17	1.13



Stellar Parameters For KIC 007461314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5973^{+188}_{-208}	$4.506^{+0.048}_{-0.192}$	$-0.100^{+0.300}_{-0.300}$	$0.935^{+0.266}_{-0.089}$	$1.024^{+0.119}_{-0.132}$	$1.762^{+0.451}_{-0.878}$
	+3%/-3%	+1%/-4%	+300%/-300%	+28%/-10%	+12%/-13%	+26%/-50%
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 007461314-01 / KOI 6881.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 4	$0.92^{+0.44}_{-0.39}$	2818^{+177}_{-148}	3849^{+1057}_{-621}	$1.879^{+3.817}_{-1.079}$
Alt.	-21 ± 4	$0.92^{+0.42}_{-0.41}$	2815^{+189}_{-139}	4432^{+1343}_{-665}	$3.565^{+7.688}_{-1.953}$

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 $A_{obs} \gg 1.0$

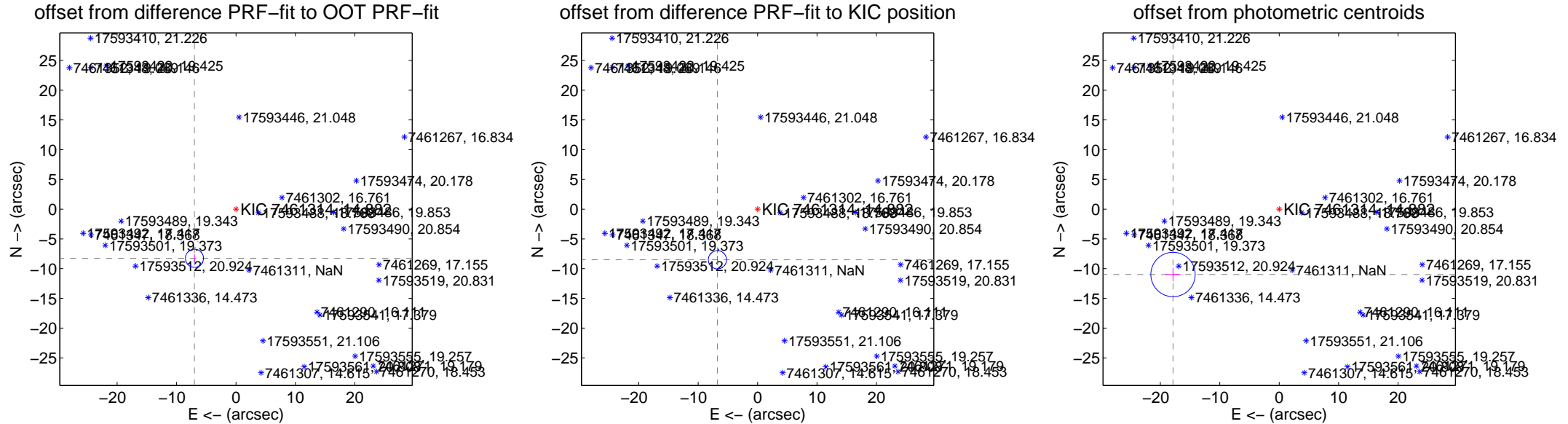
DV Centroid Data

Supplemental centroid analysis for 007461314-01. Kepler magnitude: 14.88. Transit SNR 10.71

There are 7 quarters with good PRF difference image offsets

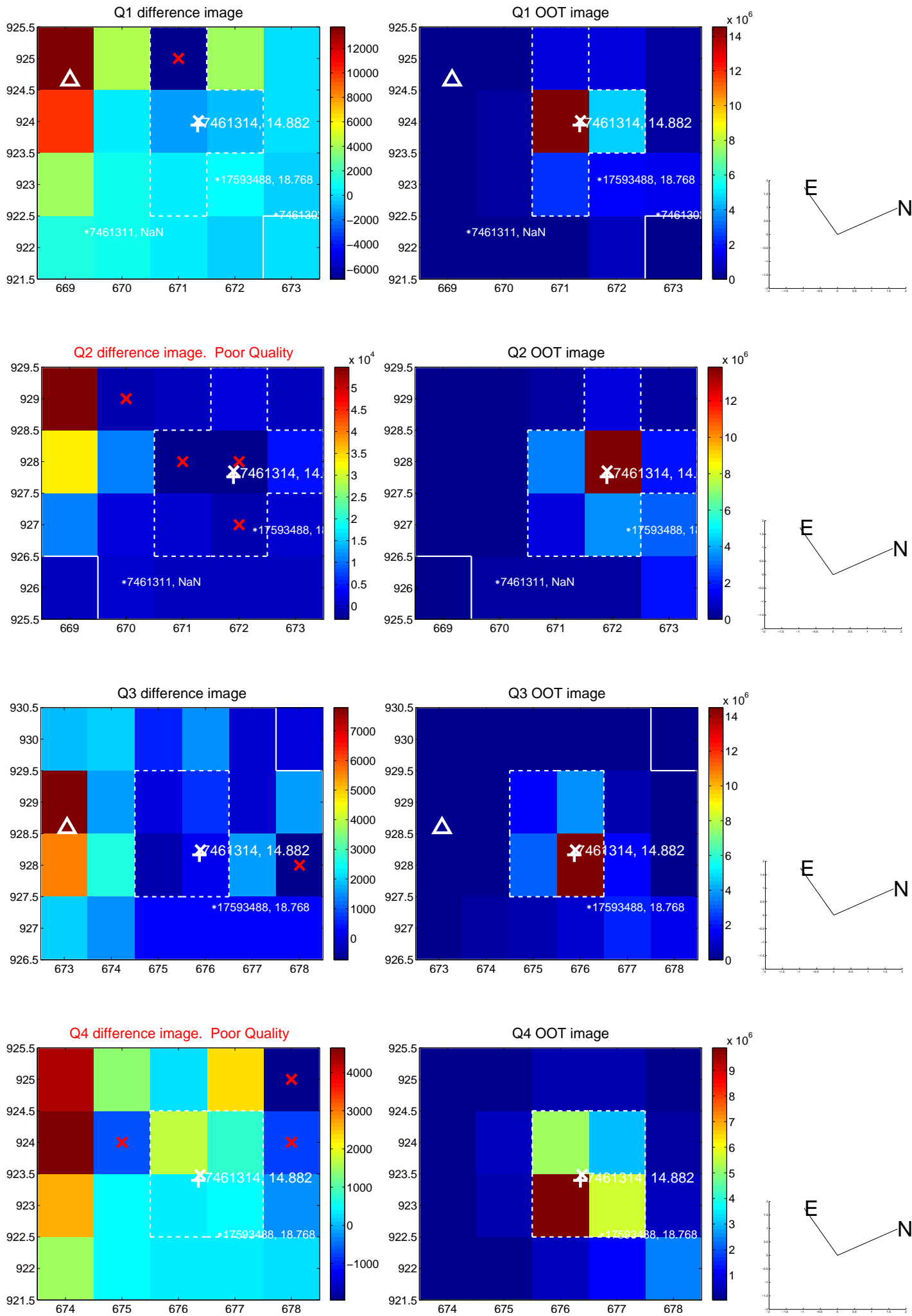
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.814 ± 0.507	21.32	6.986 ± 0.112	-8.254 ± 0.658
PRF-fit source offset from KIC position	10.867 ± 0.510	21.32	6.759 ± 0.107	-8.510 ± 0.645
photometric centroid source offset	20.97 ± 1.24	16.87	17.87 ± 1.29	-10.98 ± 1.12

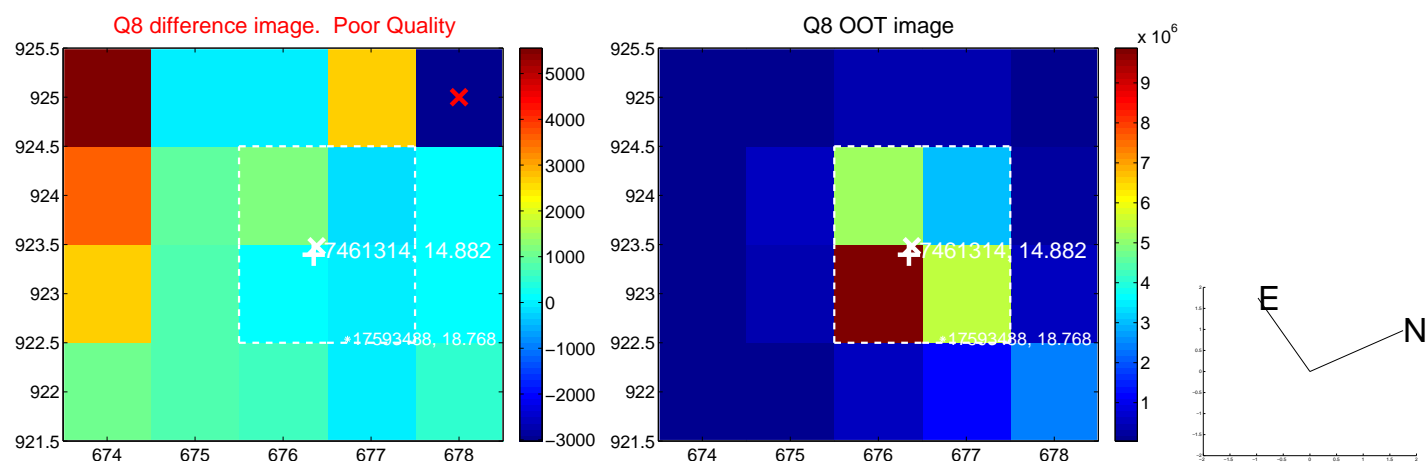
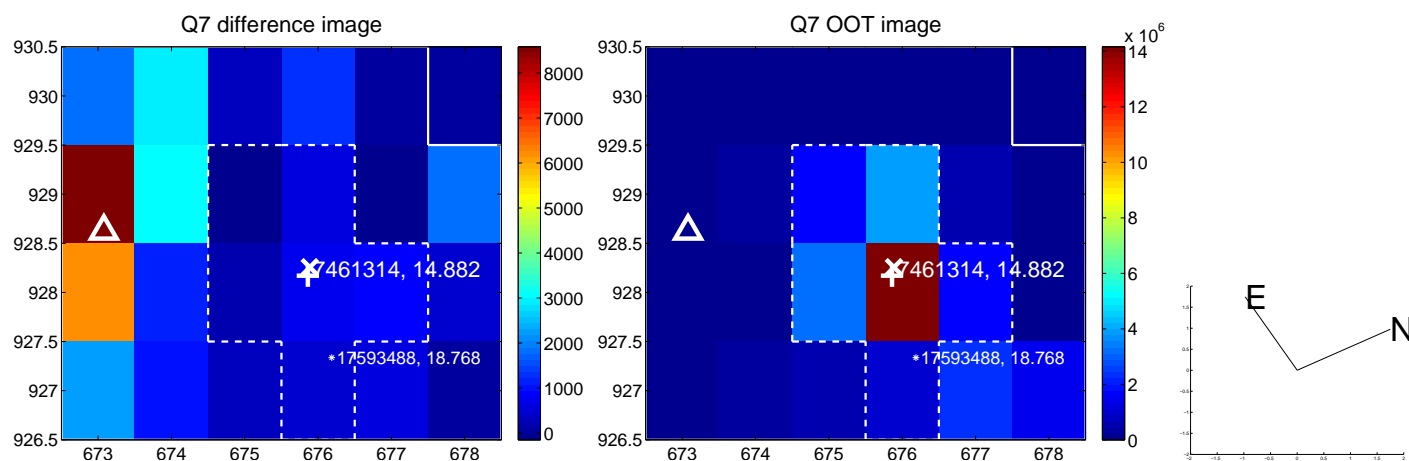
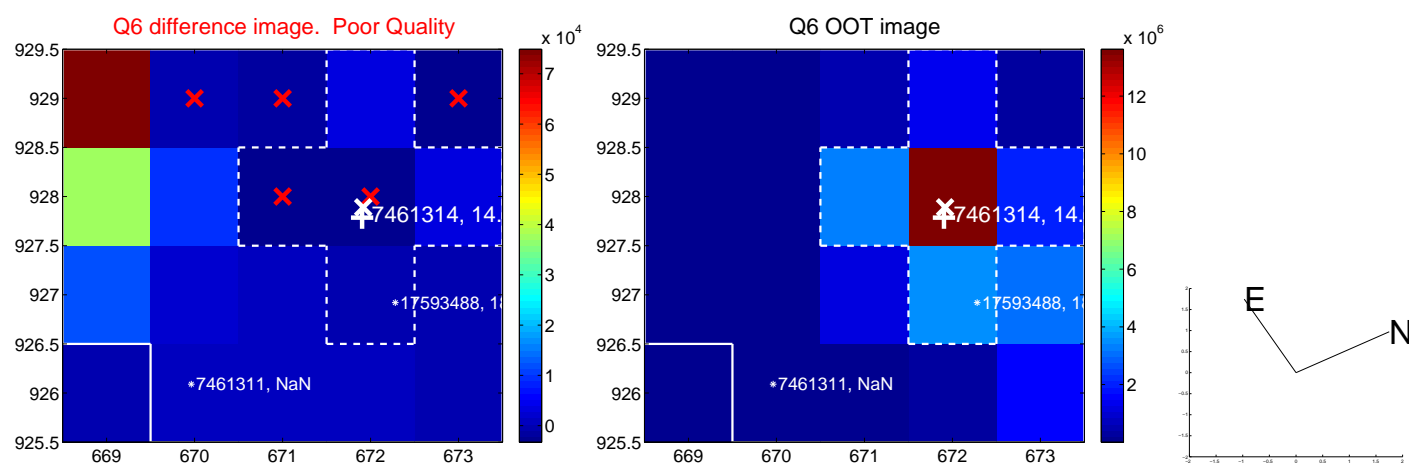
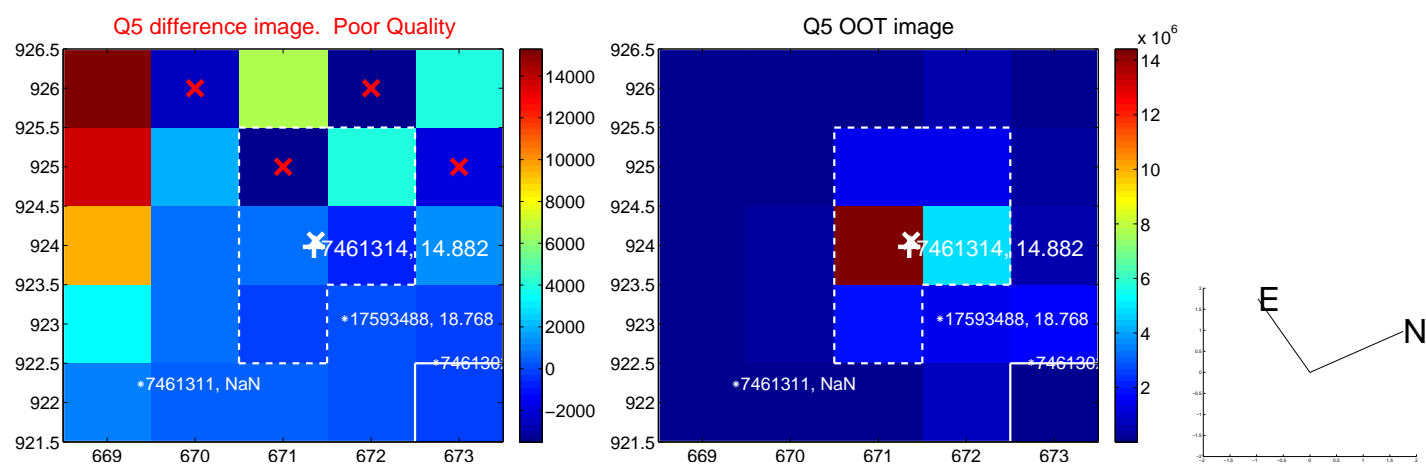


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

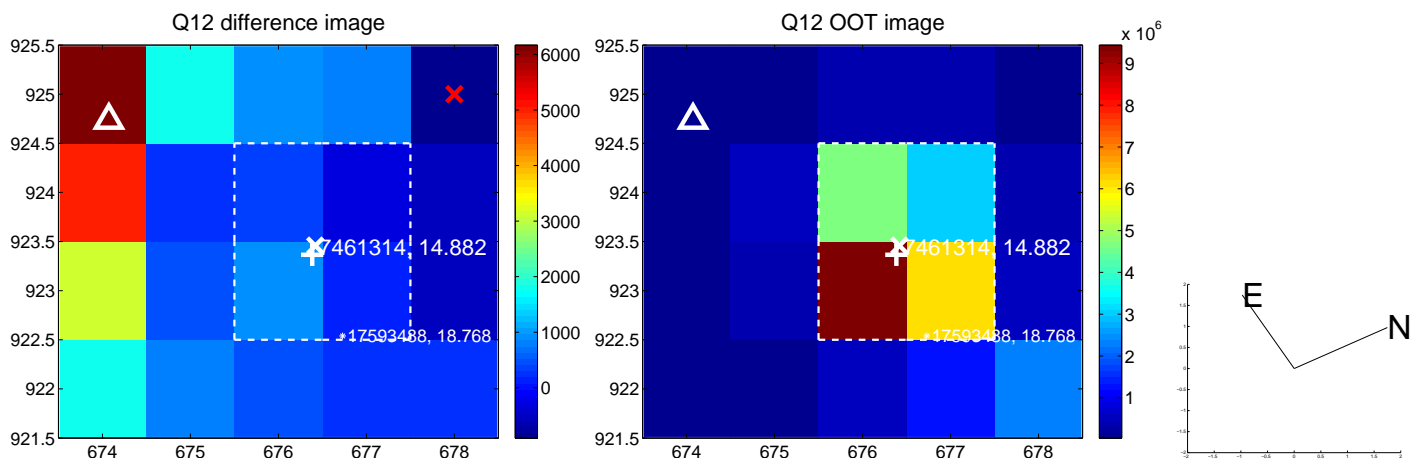
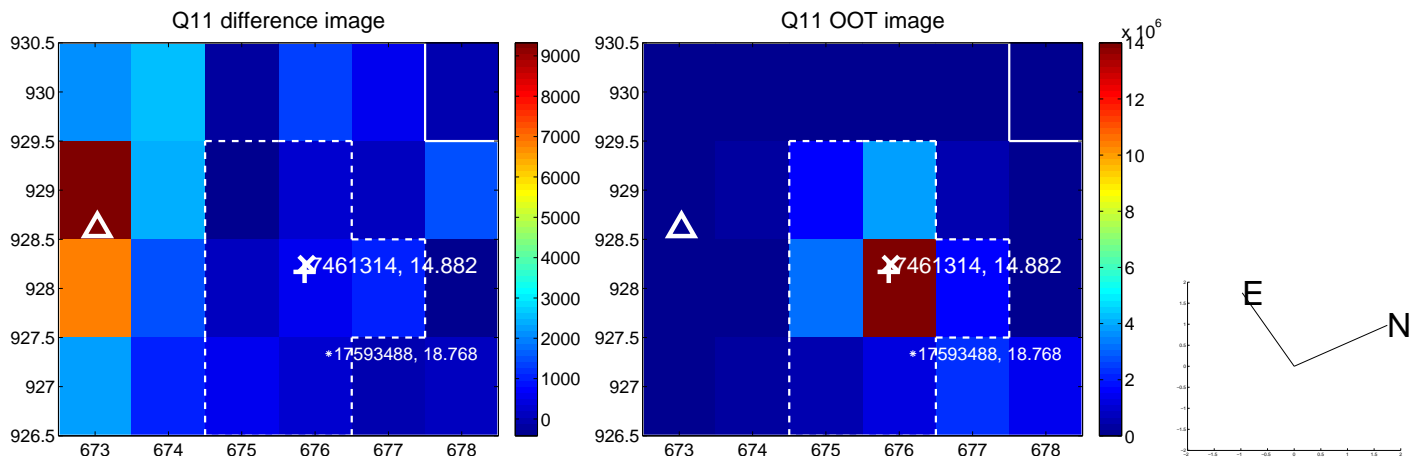
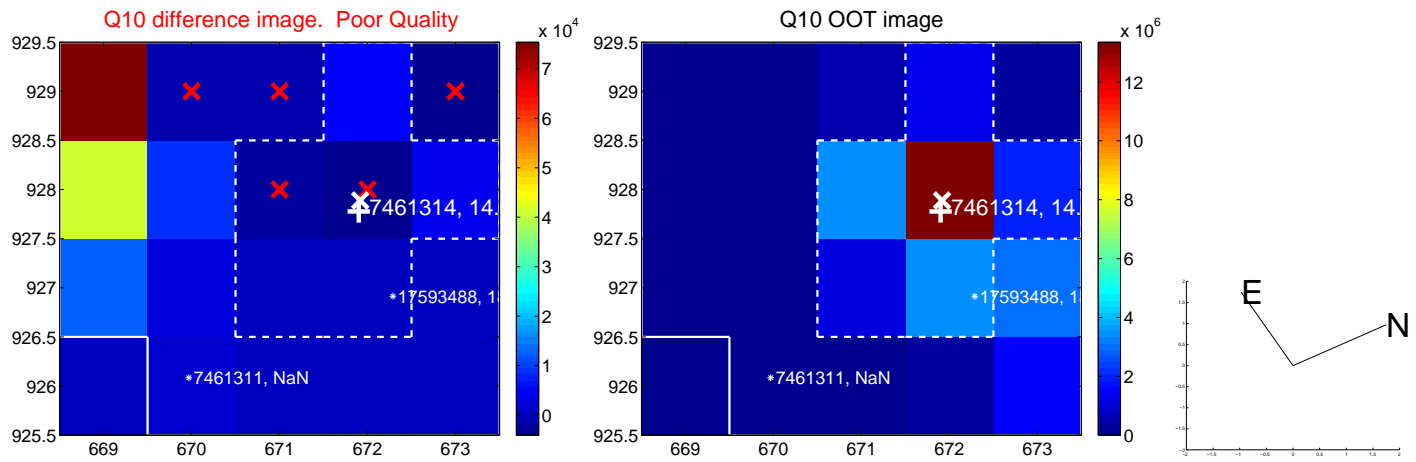
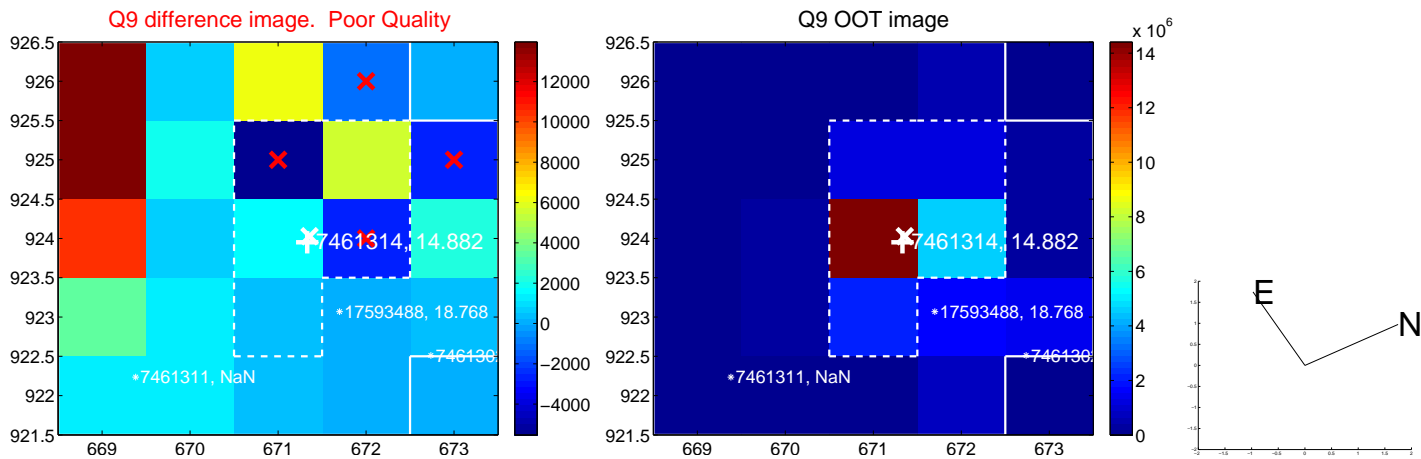
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



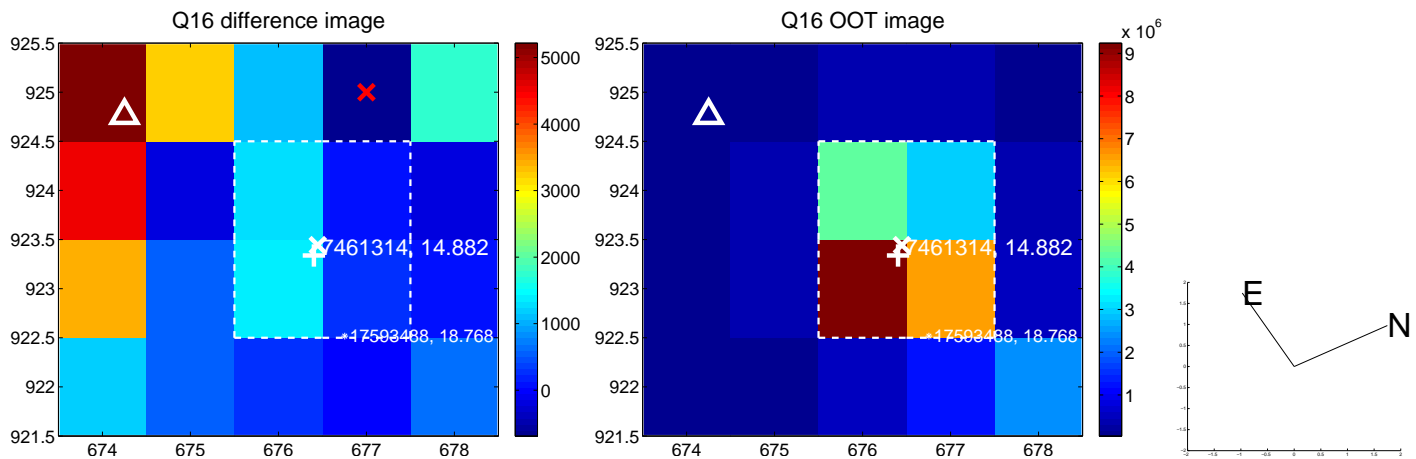
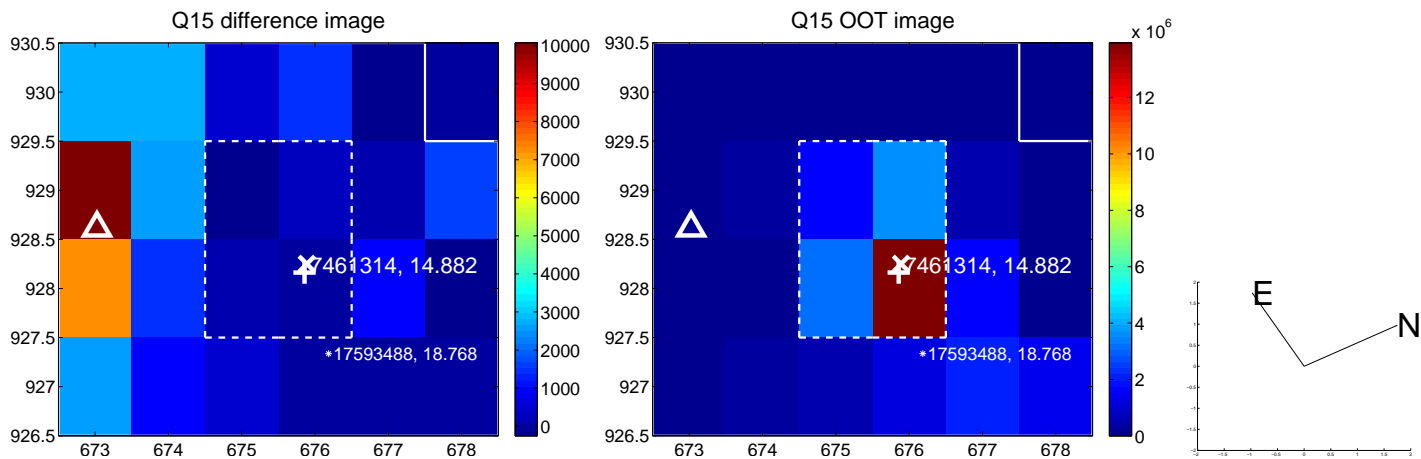
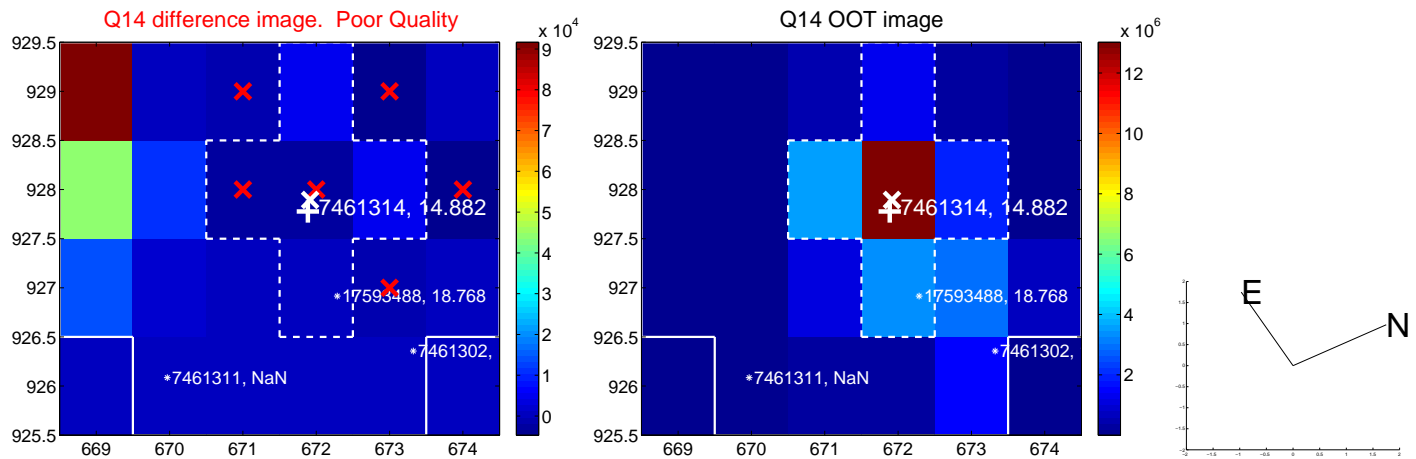
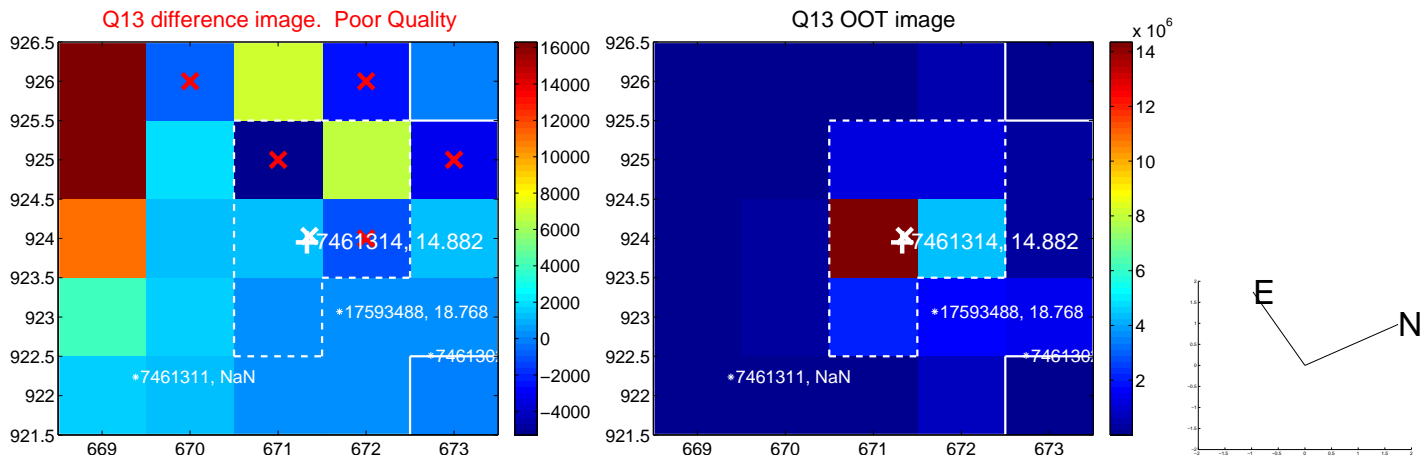
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



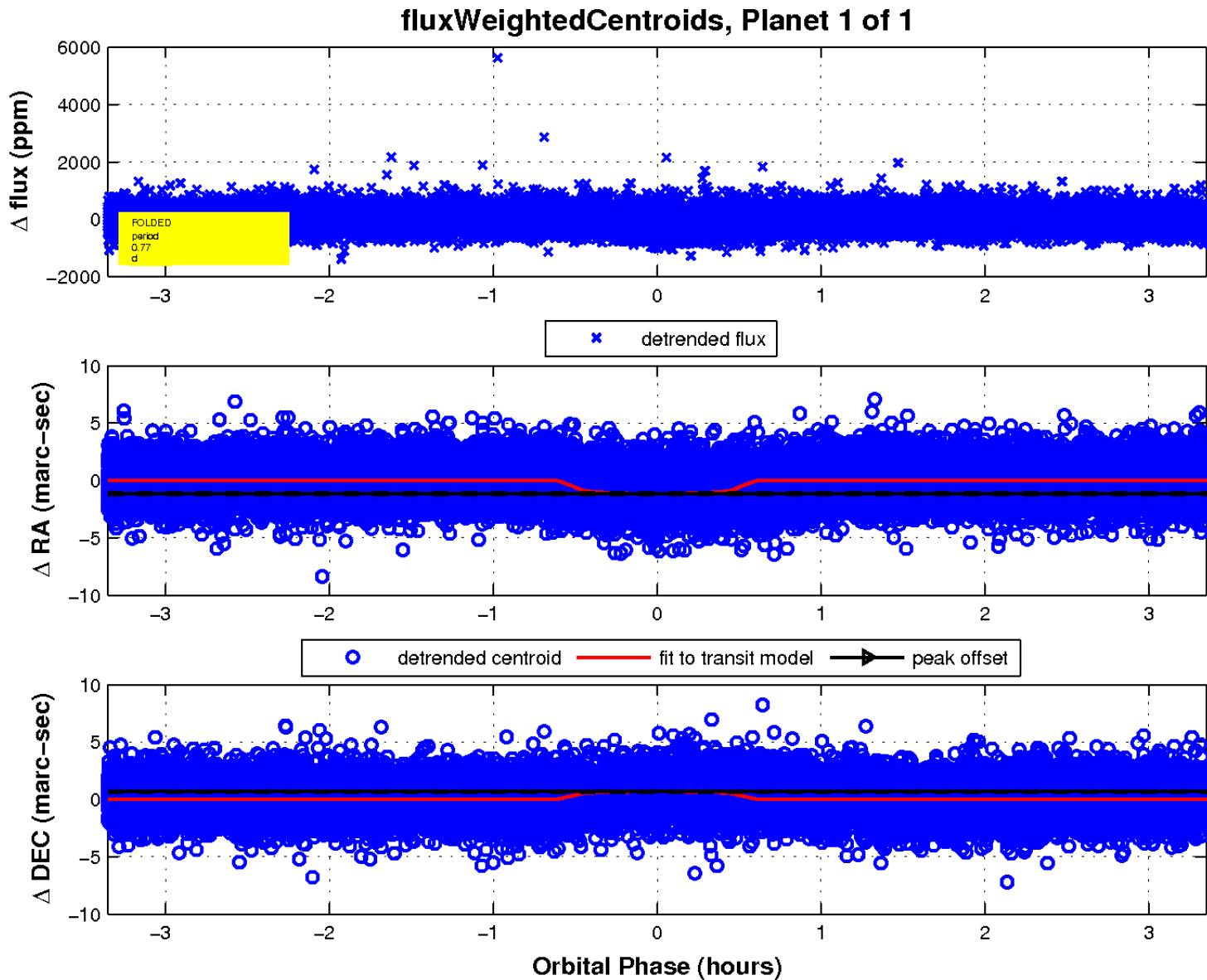
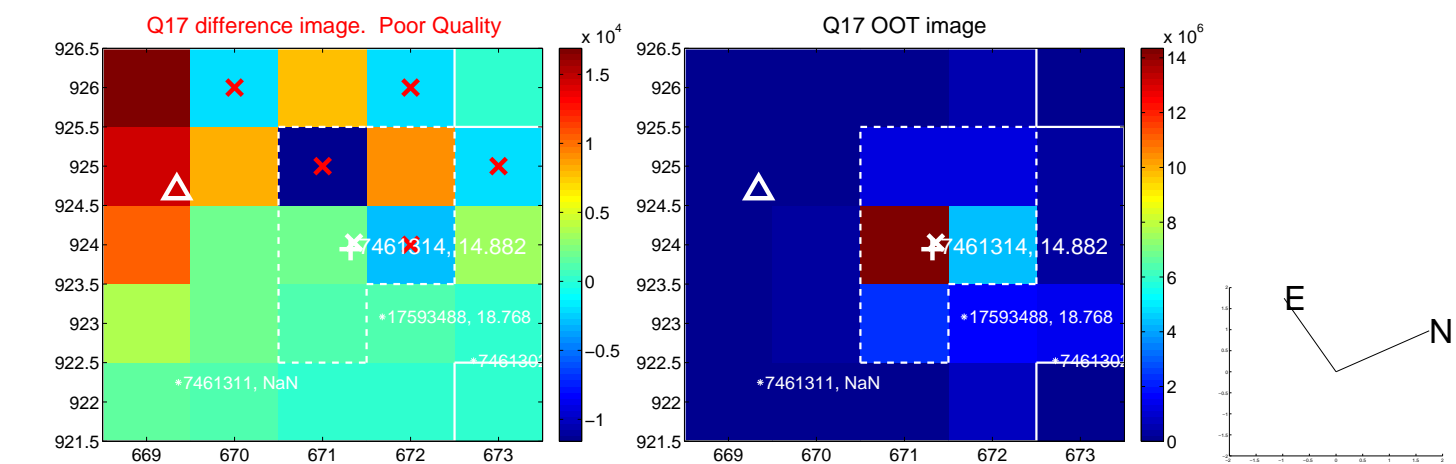
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

