

KIC 010724635

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})
010724635-01	OBS	No	0.745062	131.848810	28.7	3.054	14.0	9.4	0.81	5196	0.43	1975.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010724635-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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.

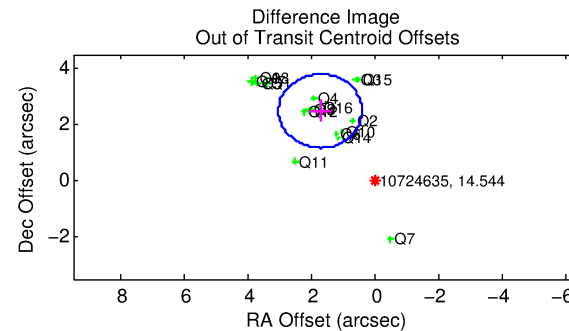
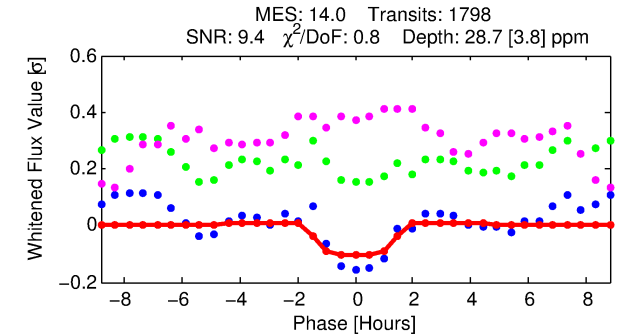
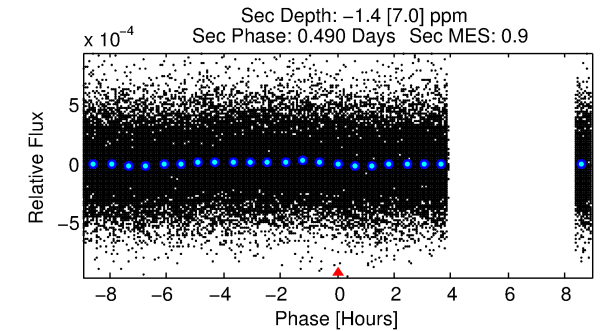
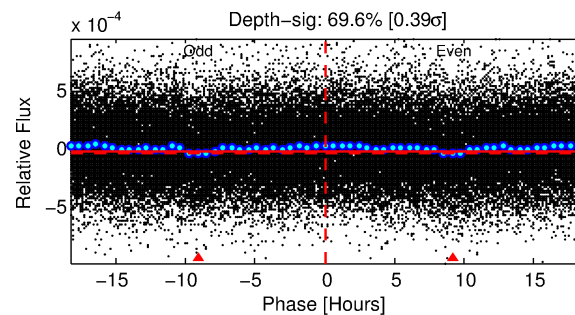
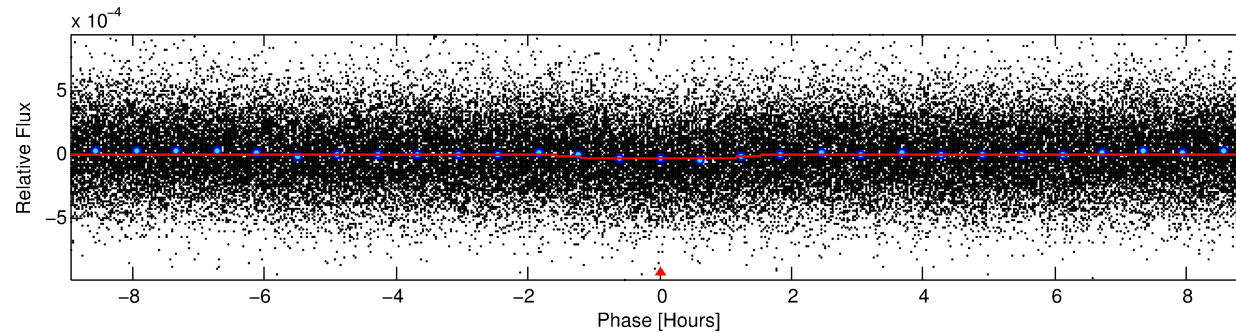
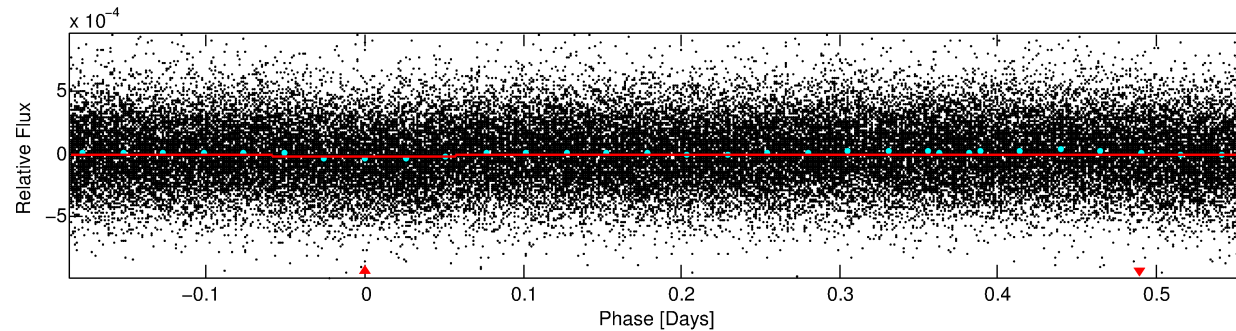
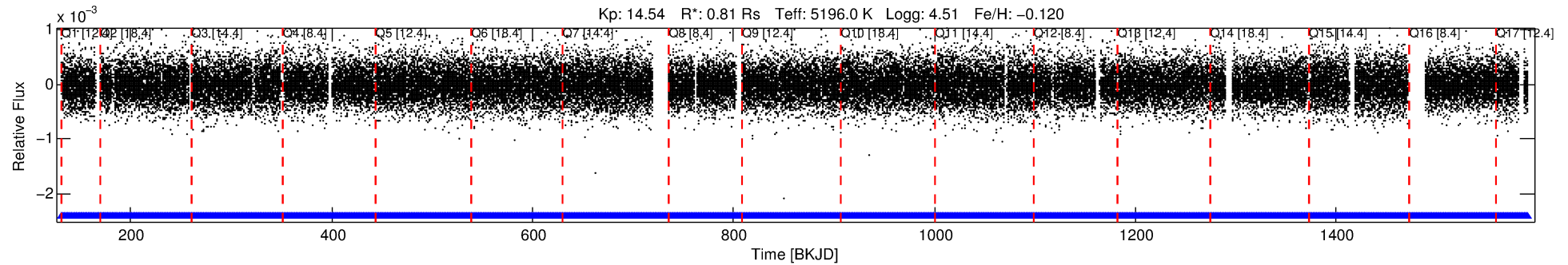
Ephemeris Match Information For 010724635-01

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
010724635-01	10724635	010724533-pri	10724533	1:1	84.7	16	-15	9.04	14.55	4379.30	Direct-PRF	0	4.08	2.14

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: 10724635 Candidate: 1 of 1 Period: 0.745 d



DV Fit Results:

Period = 0.74506 [0.00001] d
Epoch = 131.8488 [0.0041] BKJD
Rp/R* = 0.0049 [0.0042]
a/R* = 1.85 [4.14]
b = 0.40 [6.83]
Seff = 1975.54 [379.20]
Teff = 1700 [82] K
Rp = 0.43 [0.38] Re
a = 0.0148 [0.0015] AU
Ag = N/A
Teffp = N/A

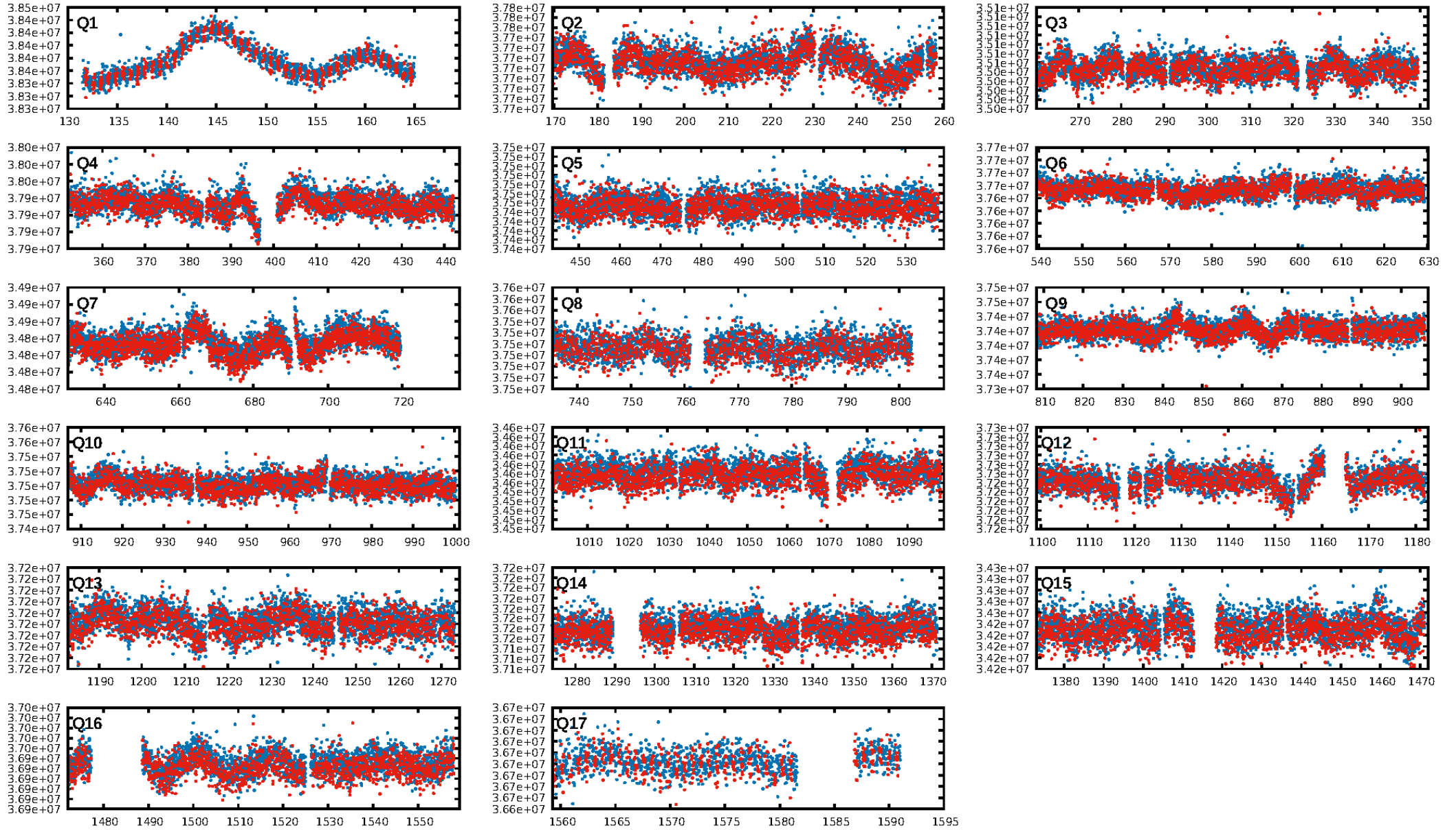
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.59e-41
RollingBand-fgt: 1.00 [1717/1717]
GhostDiagnostic-chr: -0.02299
Centroid-sig: 0.0%
Centroid-so: 4.891 arcsec [3.59 σ]
OotOffset-rm: 3.023 arcsec [6.91 σ]
KicOffset-rm: 3.064 arcsec [7.15 σ]
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]

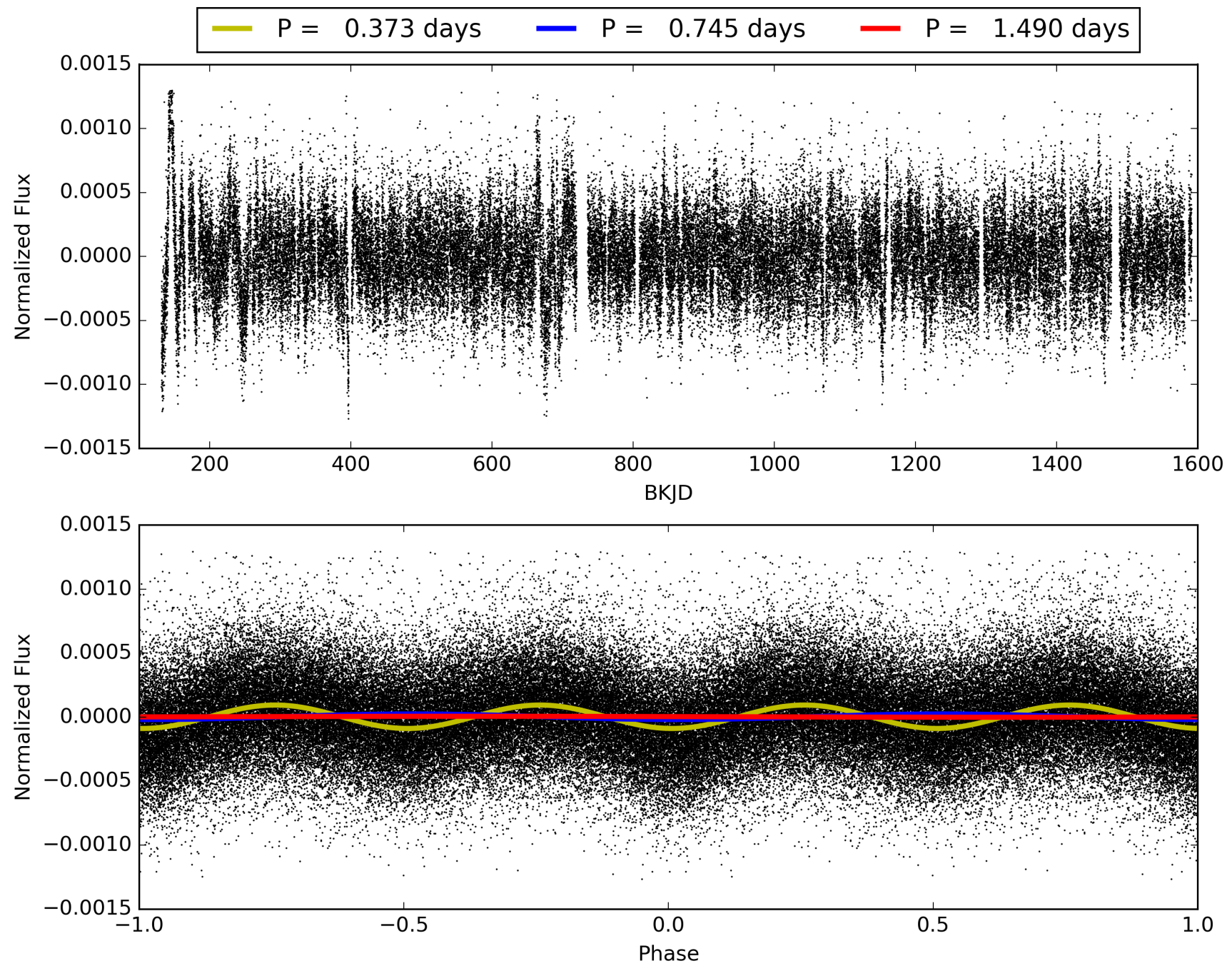
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:52:21 Z

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

TCE 010724635-01, PDC Light Curves

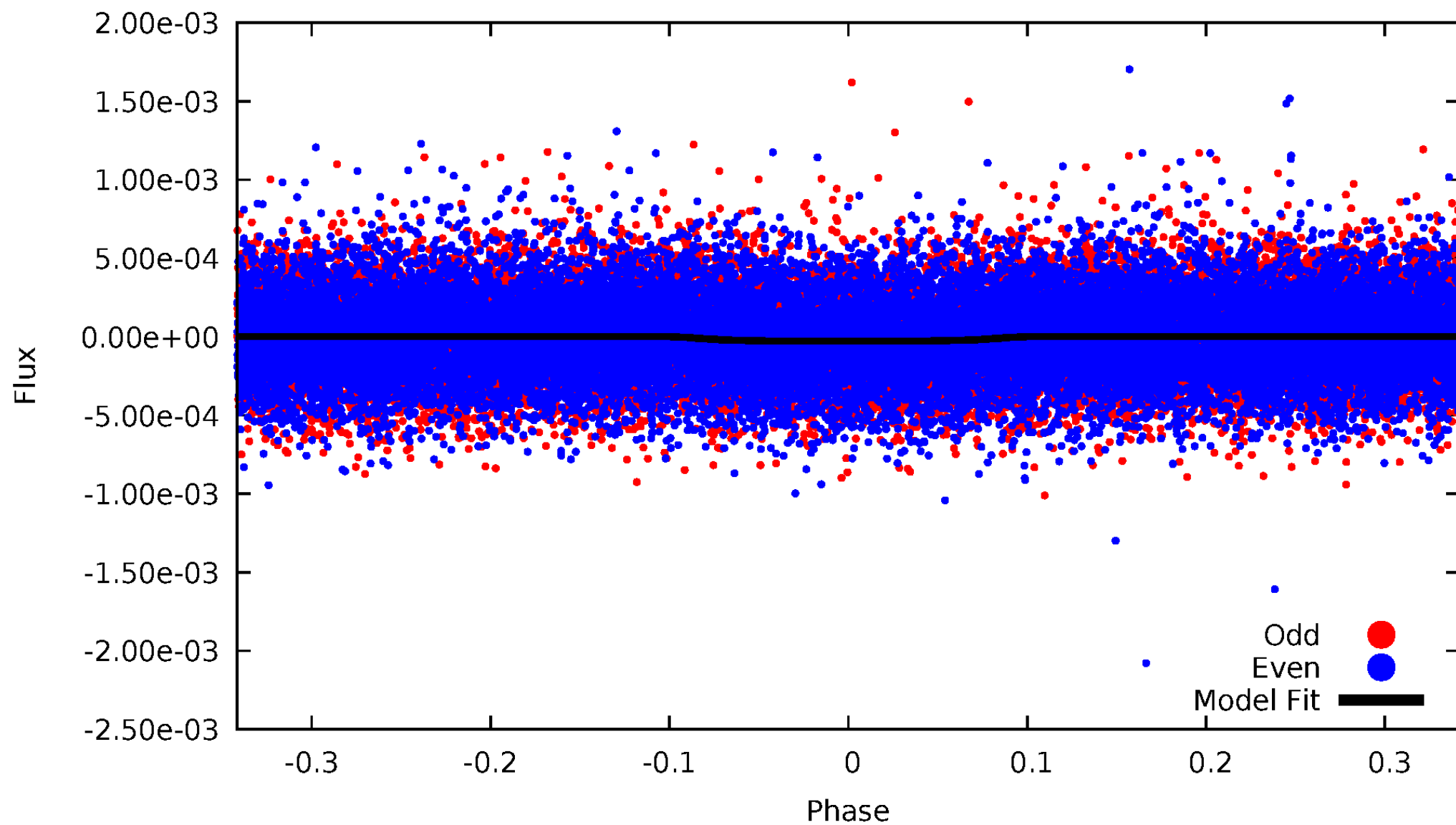


TCE 010724635-01



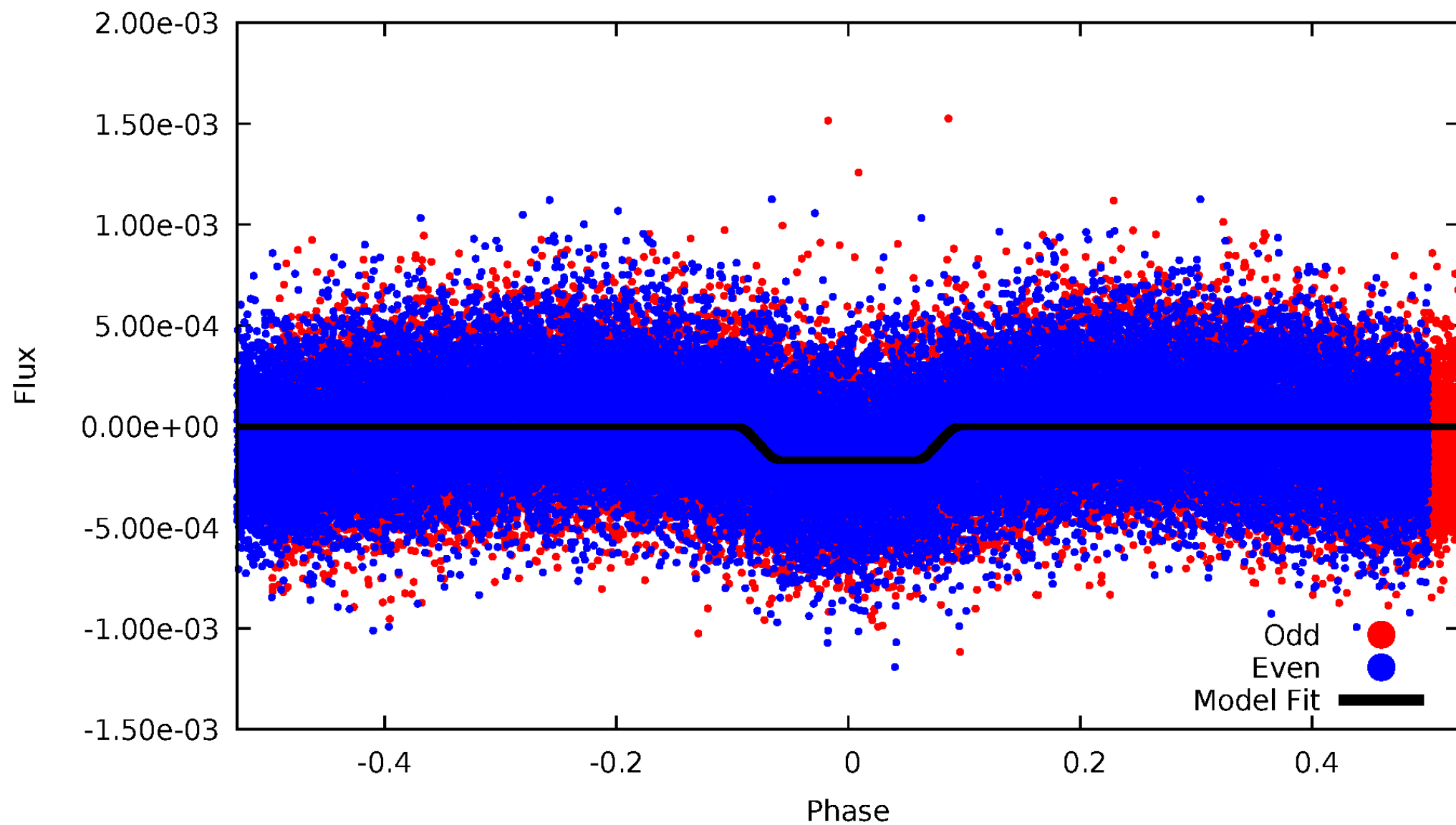
DV Odd/Even

TCE 010724635-01

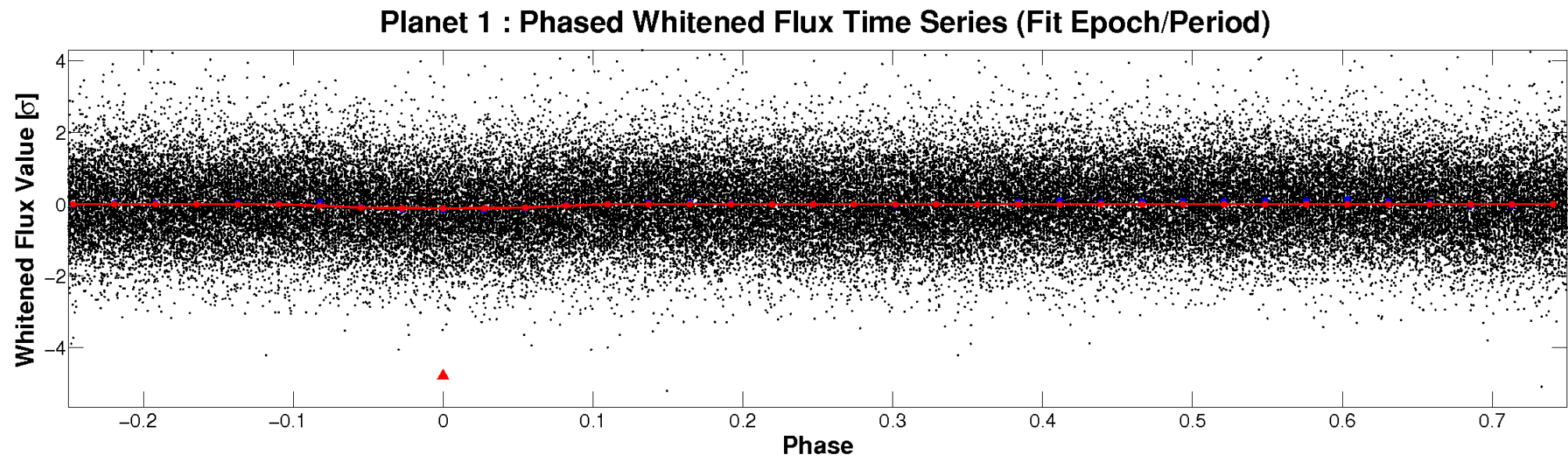
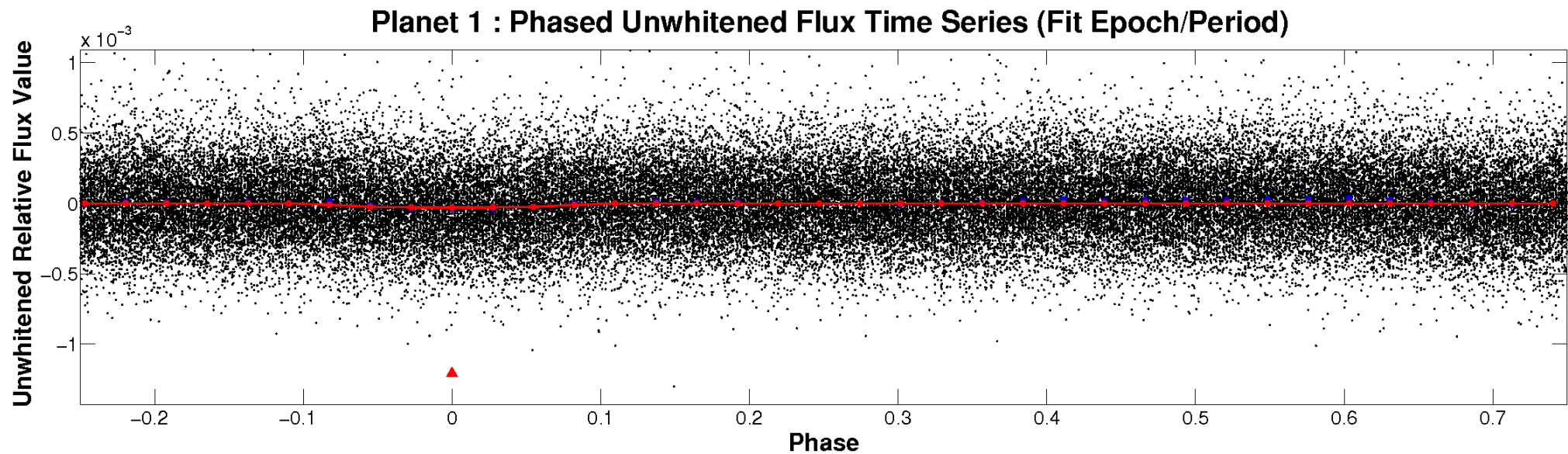


ALT Odd/Even

TCE 010724635-01

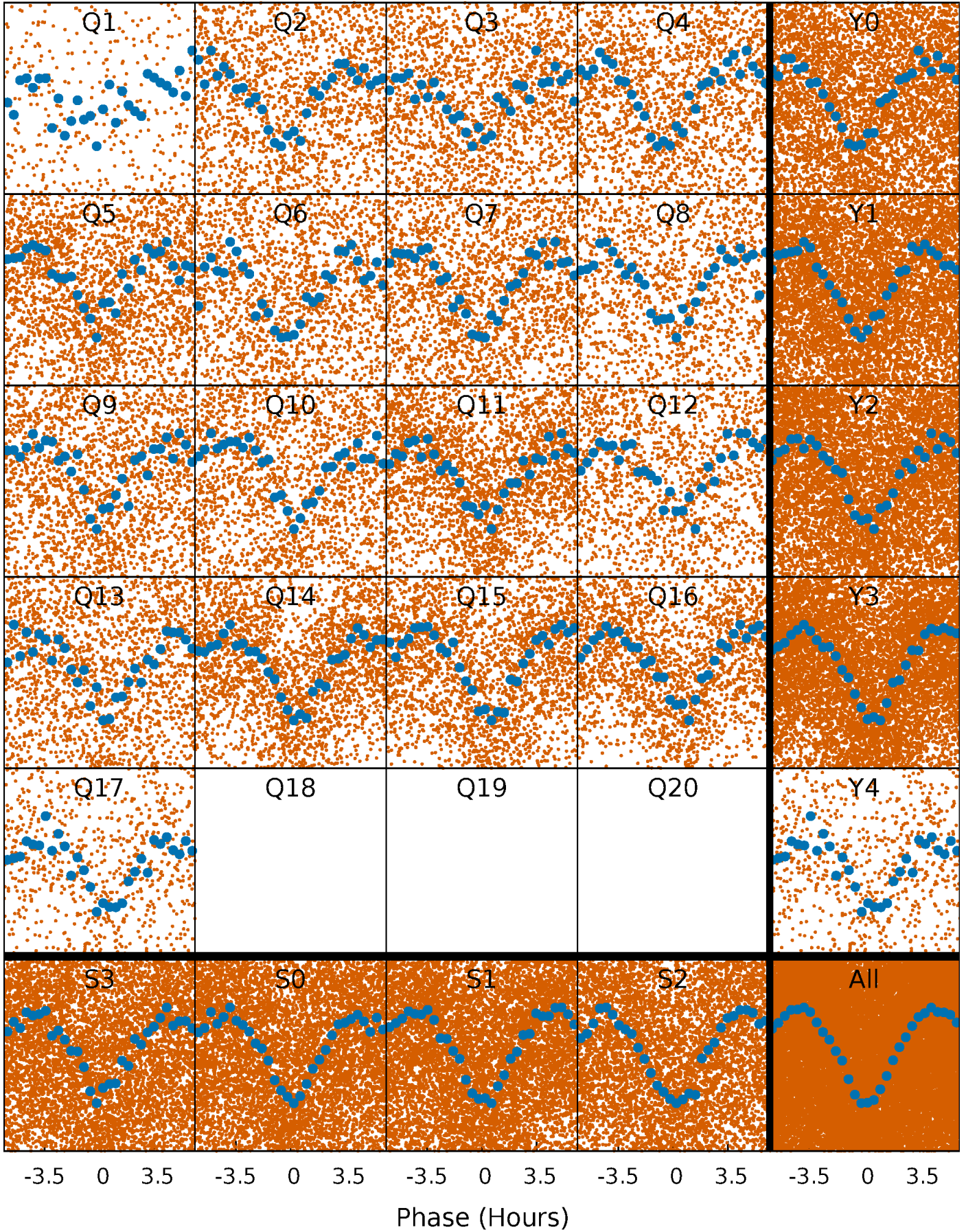


Non-Whitened Vs. Whitened Light Curve



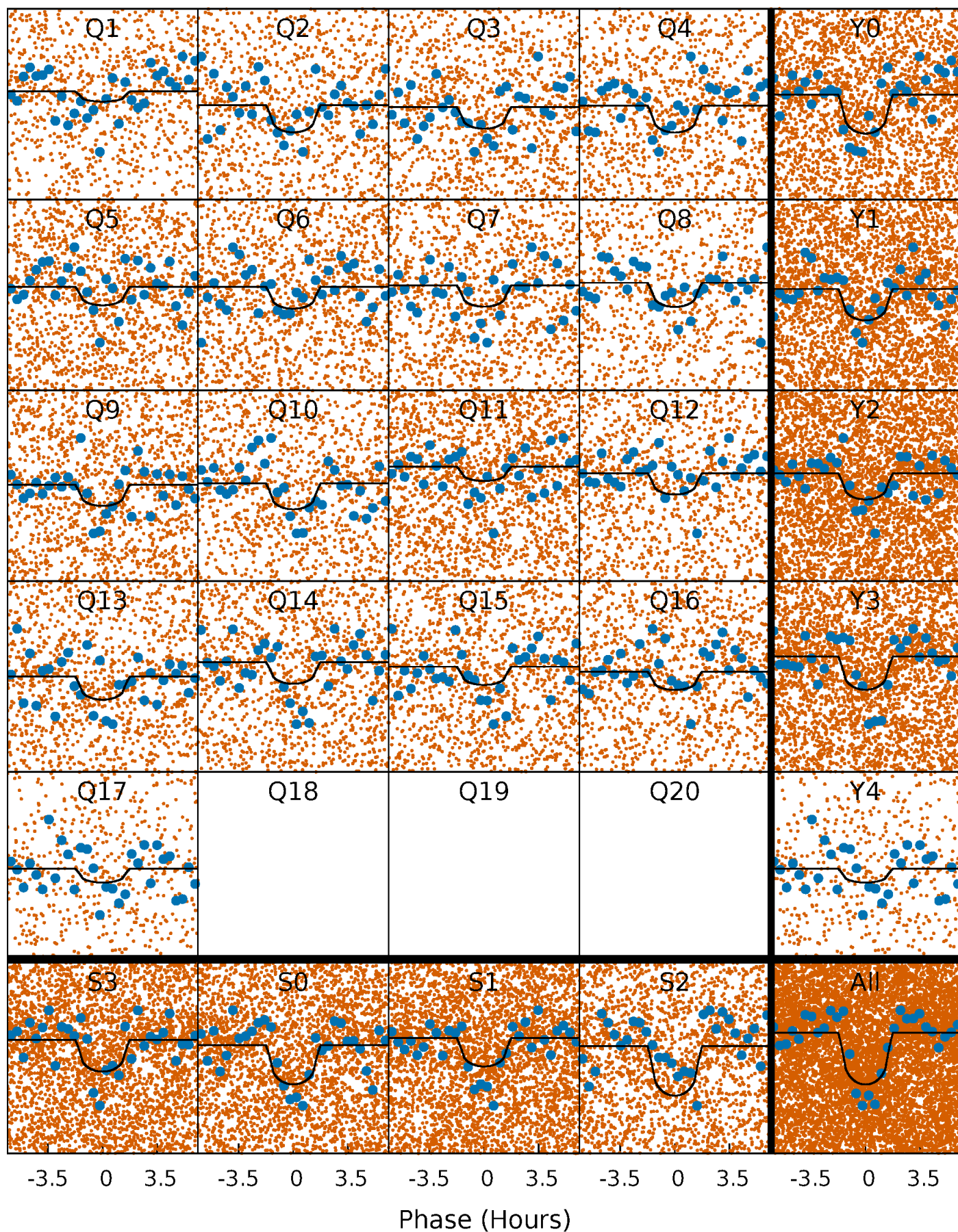
PDC Quarter-Phased Transit Curves

TCE 010724635-01 P= 0.745062 Days $T_0=131.848810$ (BKJD)



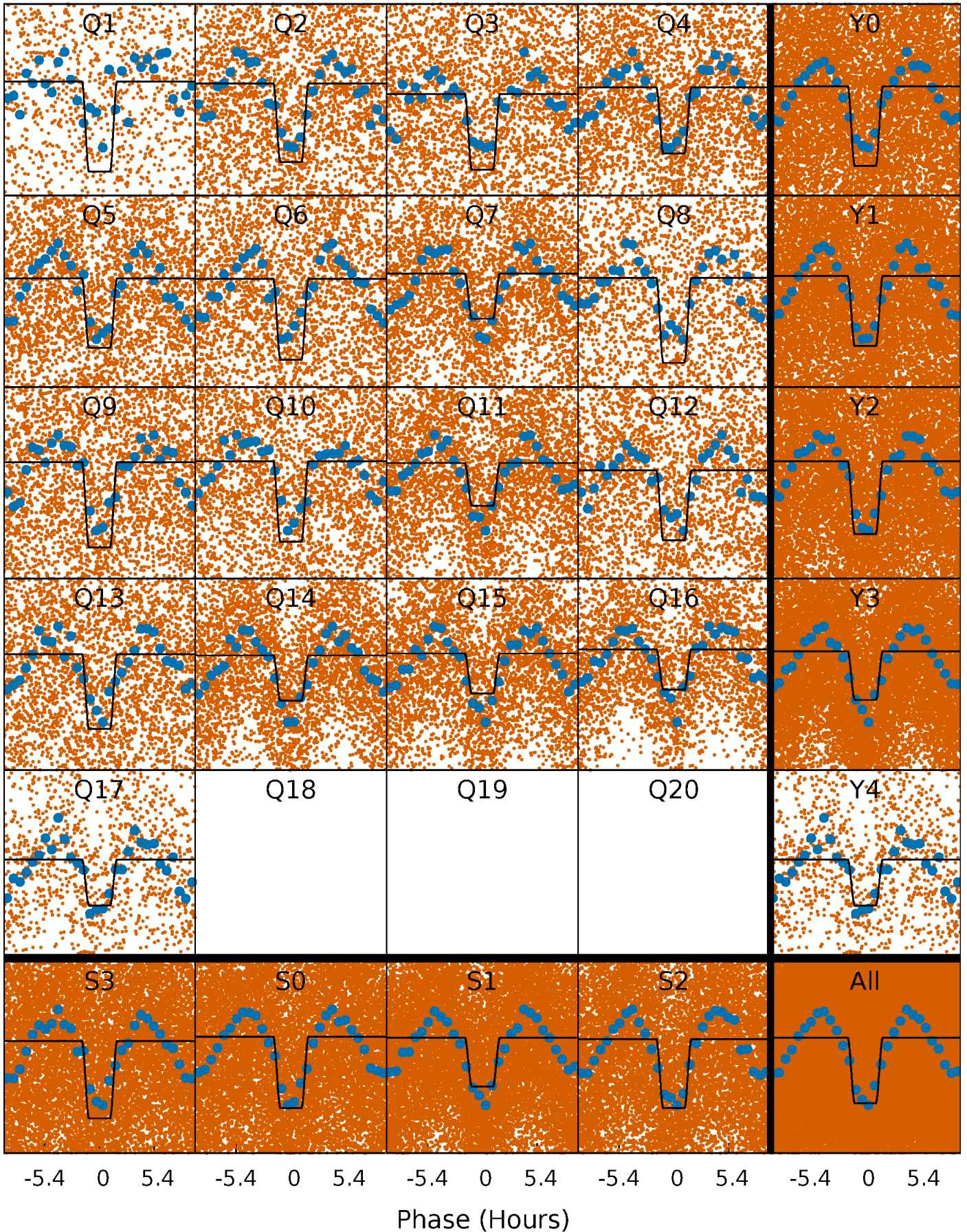
DV Quarter-Phased Transit Curves

TCE 010724635-01 P= 0.745062 Days $T_0=131.848810$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

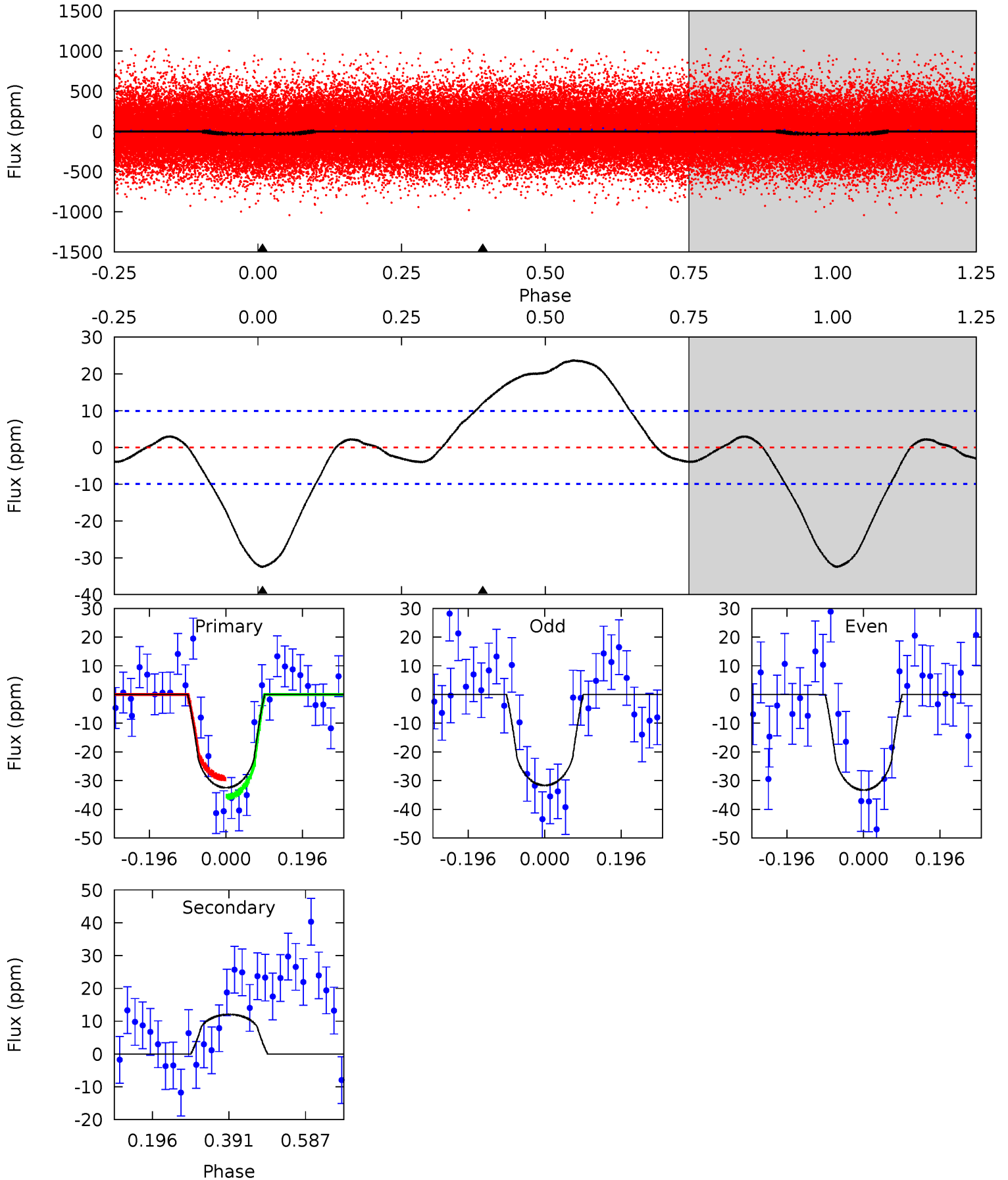
TCE 010724635-01 P= 0.745089 Days $T_0=131.826160$ (BKJD)



DV Model-Shift Uniqueness Test

010724635-01, P = 0.745062 Days, E = 131.103748 Days

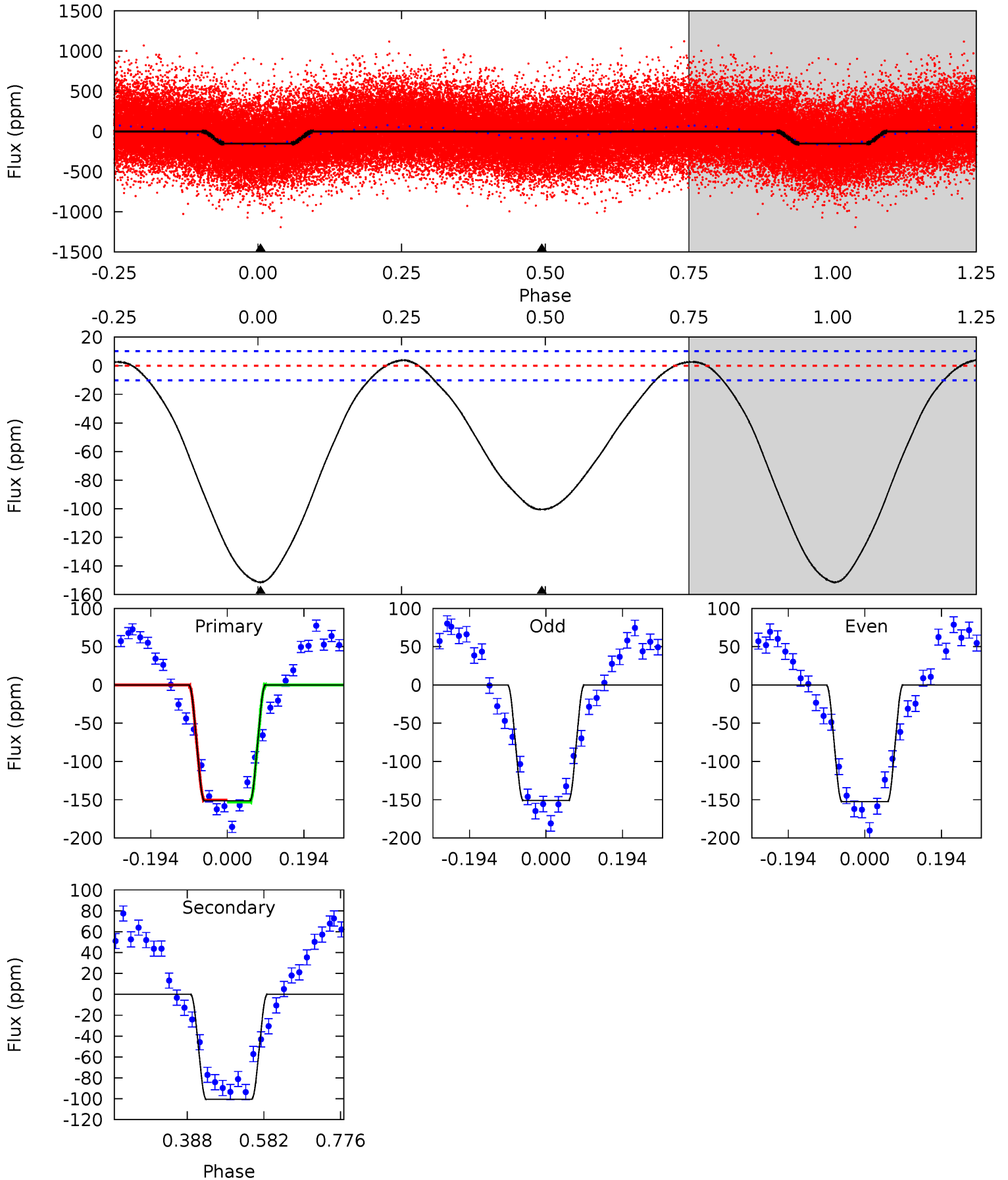
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	-5.37	0	0	4.42	1.29	3.77	14.5	14.5	-5.37	-5.37	0.36	1.15	0.42	1.45



Alt Model-Shift Uniqueness Test

010724635-01, P = 0.745089 Days, E = 131.081071 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.0	43.8	0	0	4.42	1.30	1.73	66.0	66.0	43.8	43.8	0.38	1.00	0.03	0.59



Stellar Parameters For KIC 010724635

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5196^{+155}_{-140}	$4.507^{+0.085}_{-0.076}$	$-0.120^{+0.300}_{-0.300}$	$0.812^{+0.091}_{-0.091}$	$0.773^{+0.099}_{-0.061}$	$2.035^{+0.758}_{-0.509}$
	+3%/-3%	+2%/-2%	+250%/-250%	+11%/-11%	+13%/-8%	+37%/-25%
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 010724635-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	12 ± 2	$0.49^{+0.35}_{-0.30}$	2374^{+99}_{-103}	-4331^{+705}_{-2162}	$-6.004^{+4.049}_{-33.801}$
Alt.	-100 ± 2	$1.16^{+0.39}_{-0.37}$	2371^{+101}_{-92}	4632^{+818}_{-479}	$8.957^{+10.664}_{-3.743}$

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

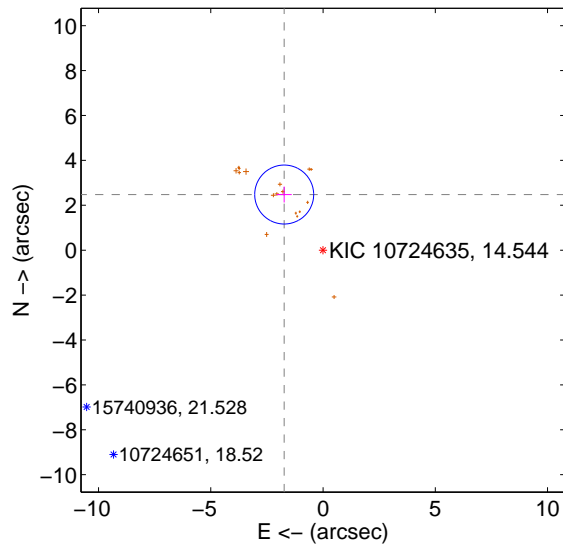
Supplemental centroid analysis for 010724635-01. Kepler magnitude: 14.54. Transit SNR 9.36

There are 0 quarters with good PRF difference image offsets

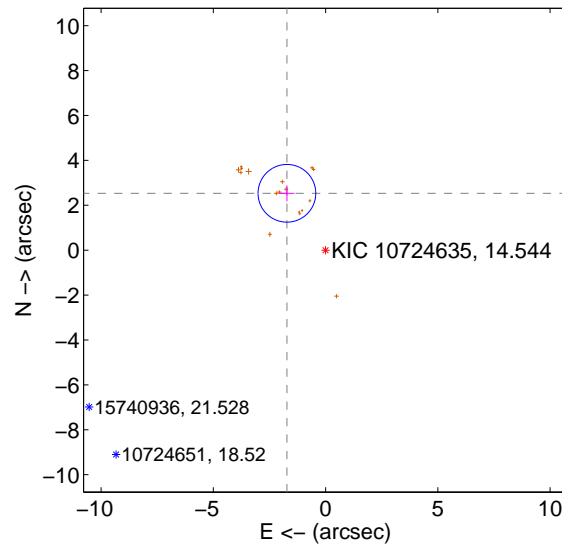
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.023 ± 0.438	6.91	1.731 ± 0.337	2.479 ± 0.356
PRF-fit source offset from KIC position	3.064 ± 0.428	7.15	1.723 ± 0.336	2.533 ± 0.355
photometric centroid source offset	4.89 ± 1.36	3.59	-0.88 ± 1.33	4.81 ± 1.36

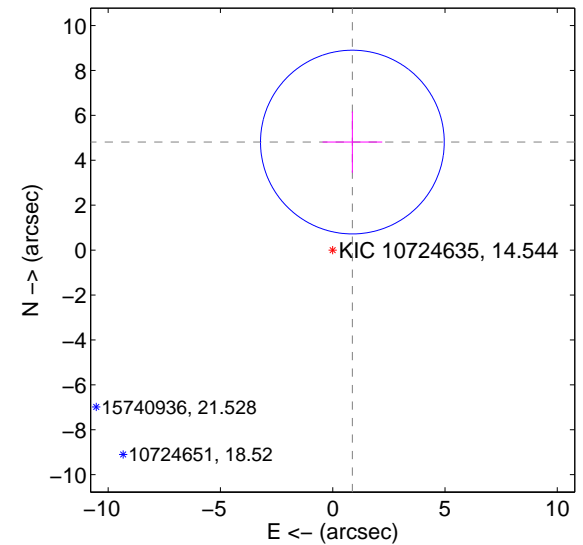
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

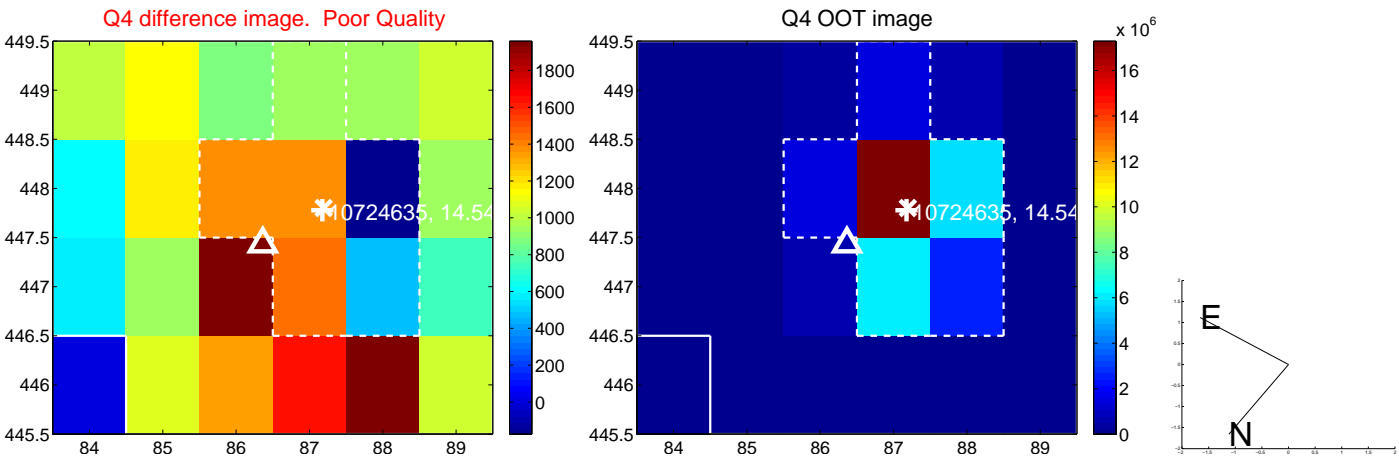
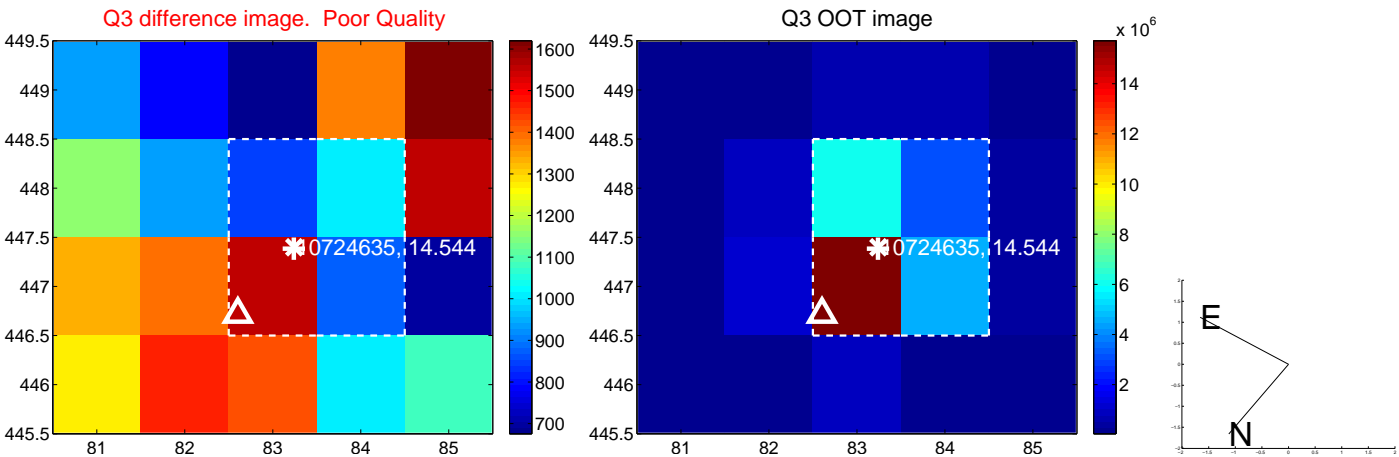
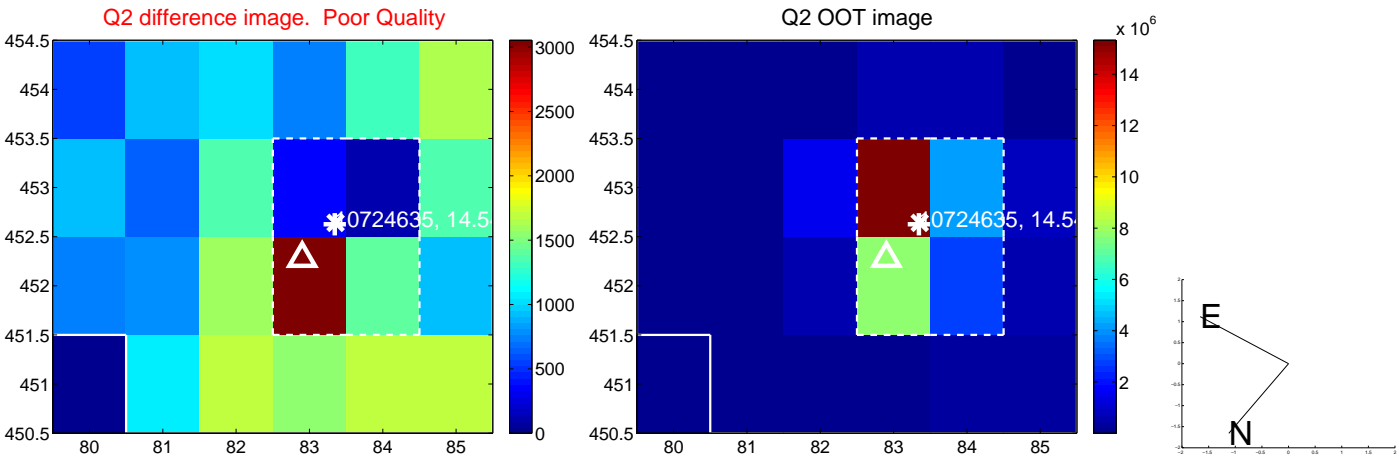
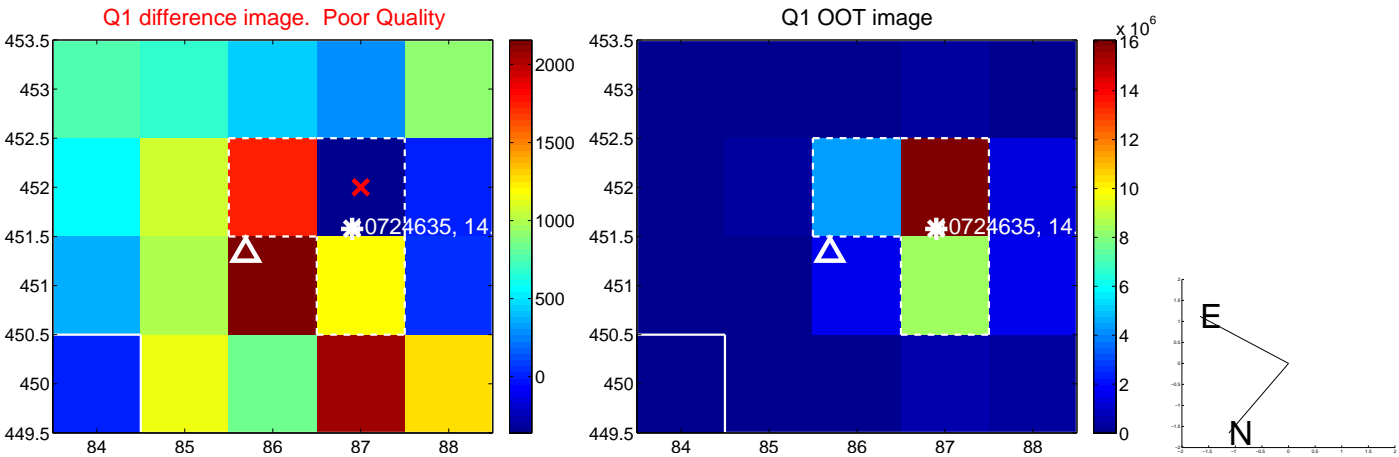


offset from photometric centroids

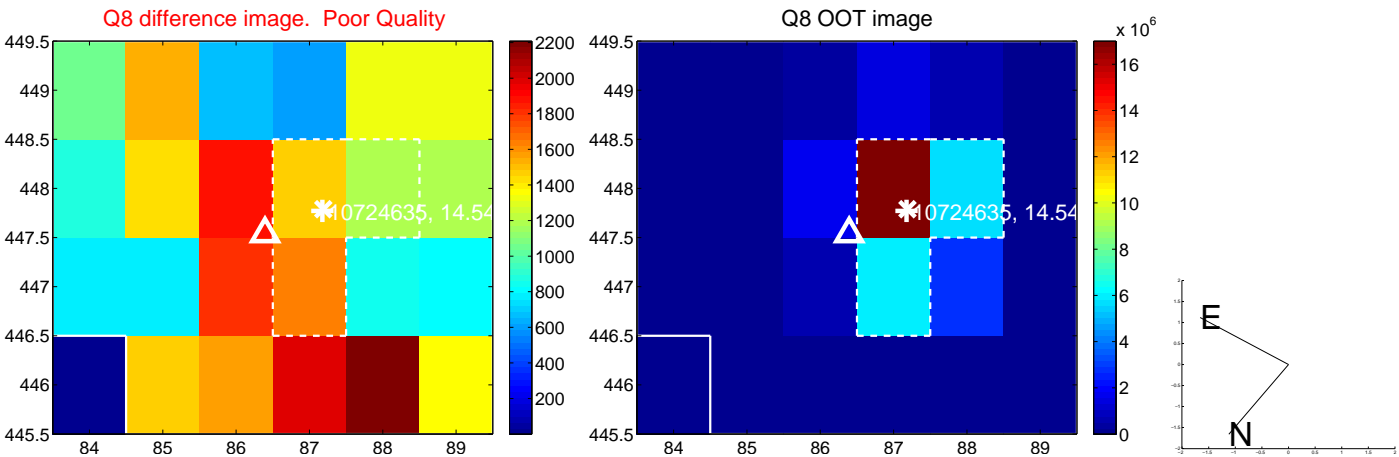
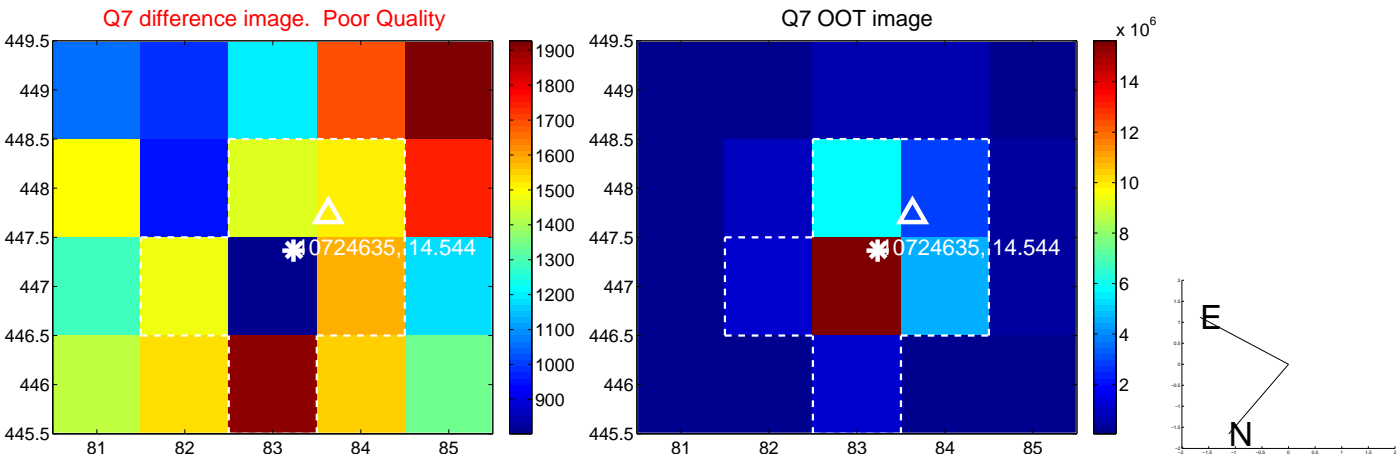
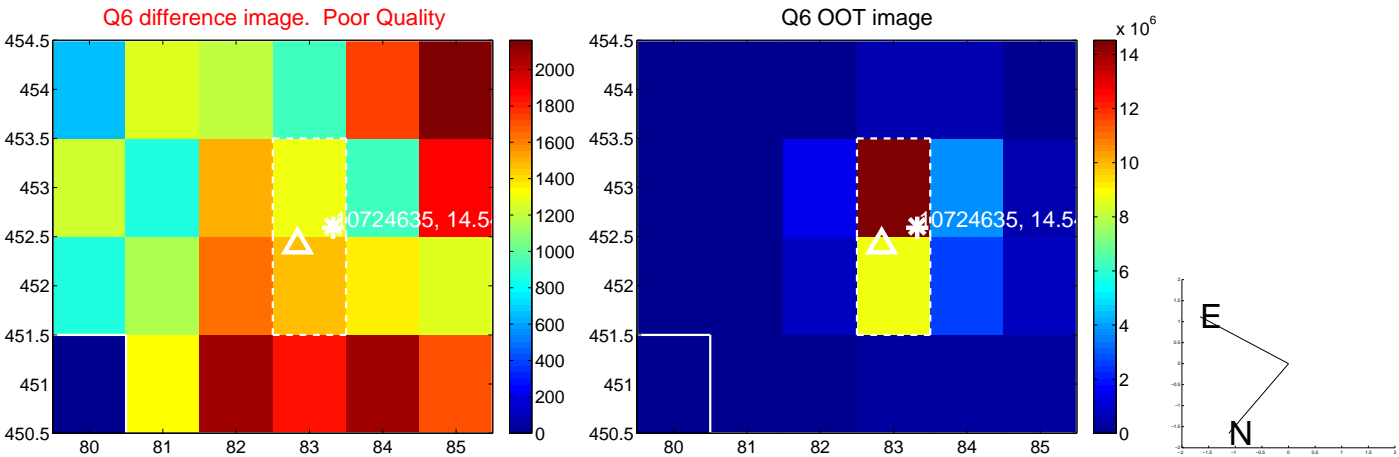
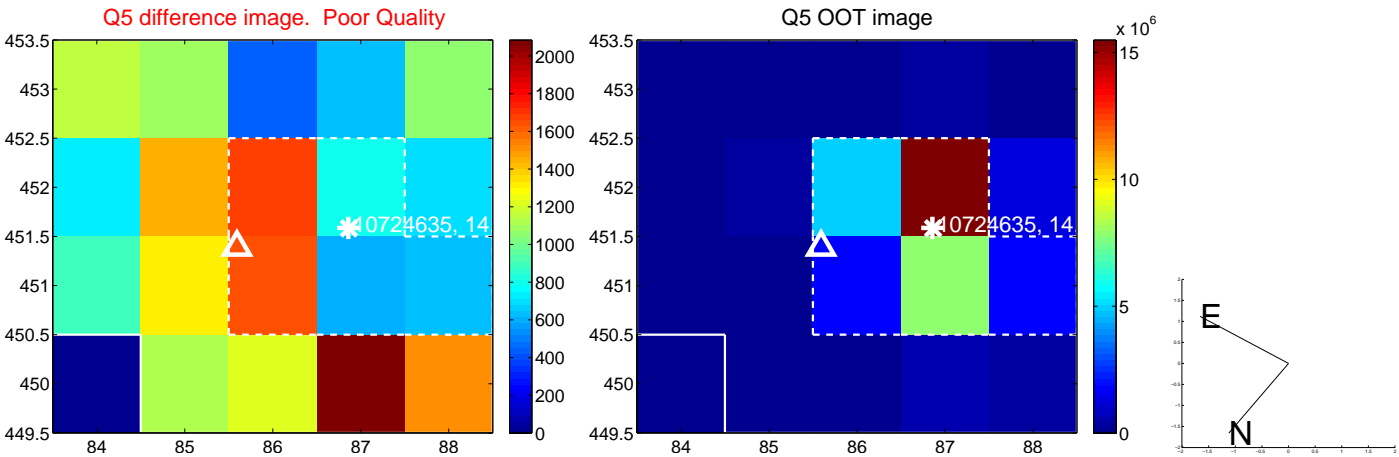


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

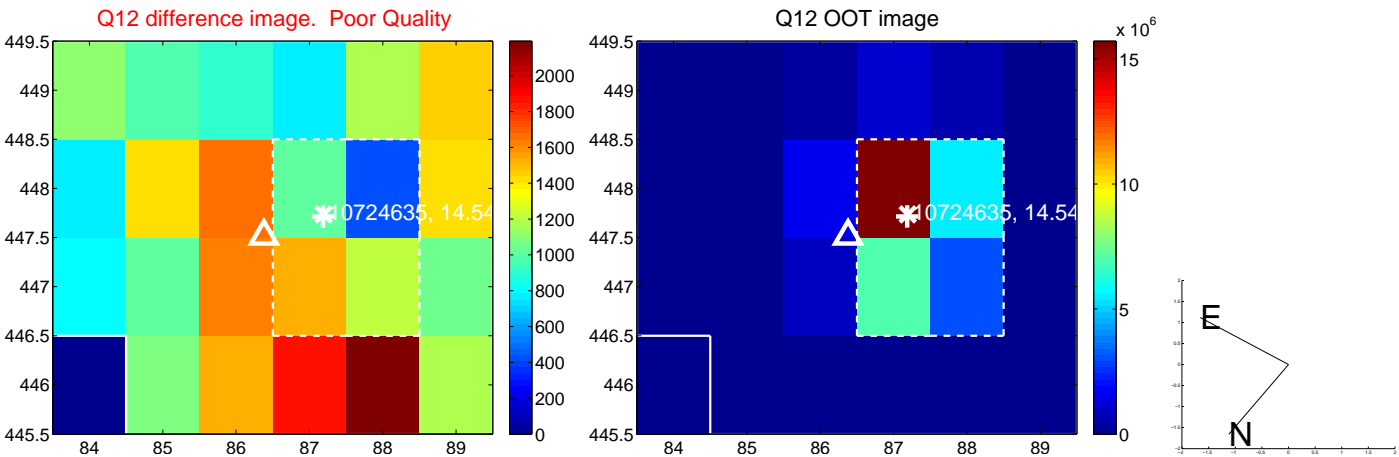
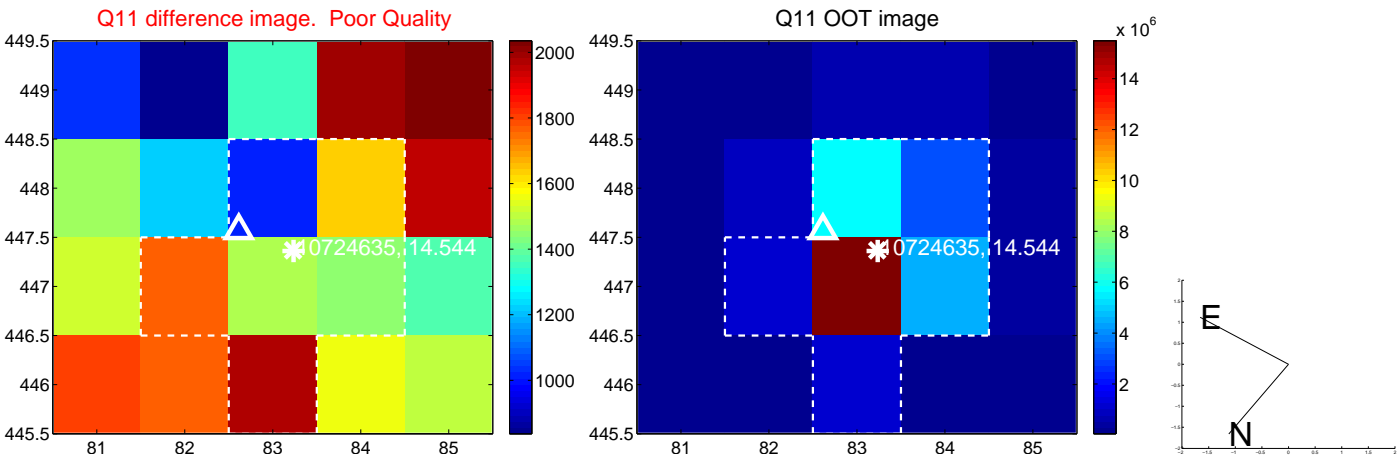
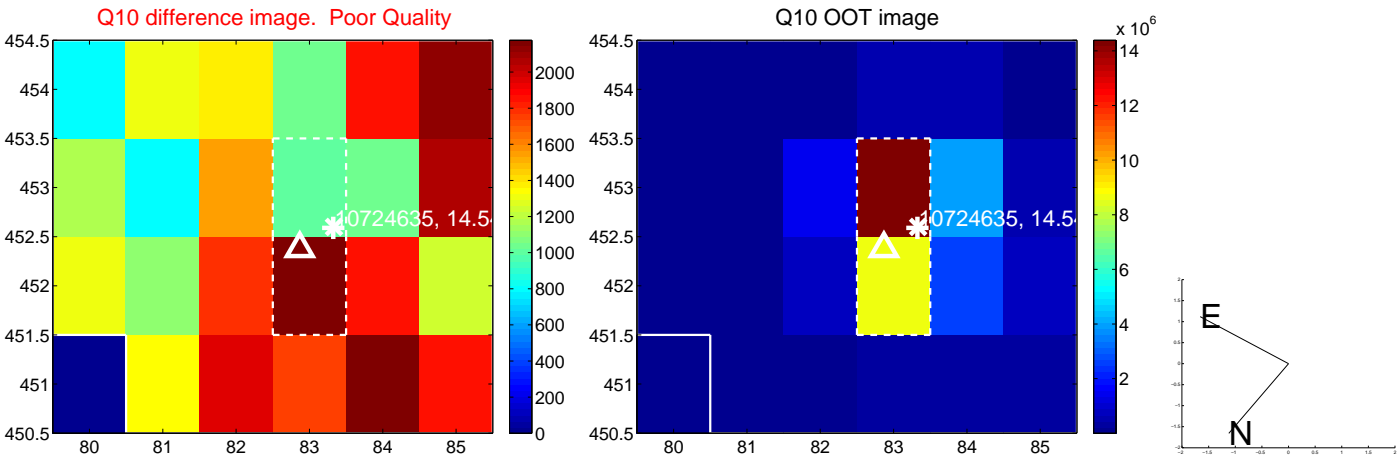
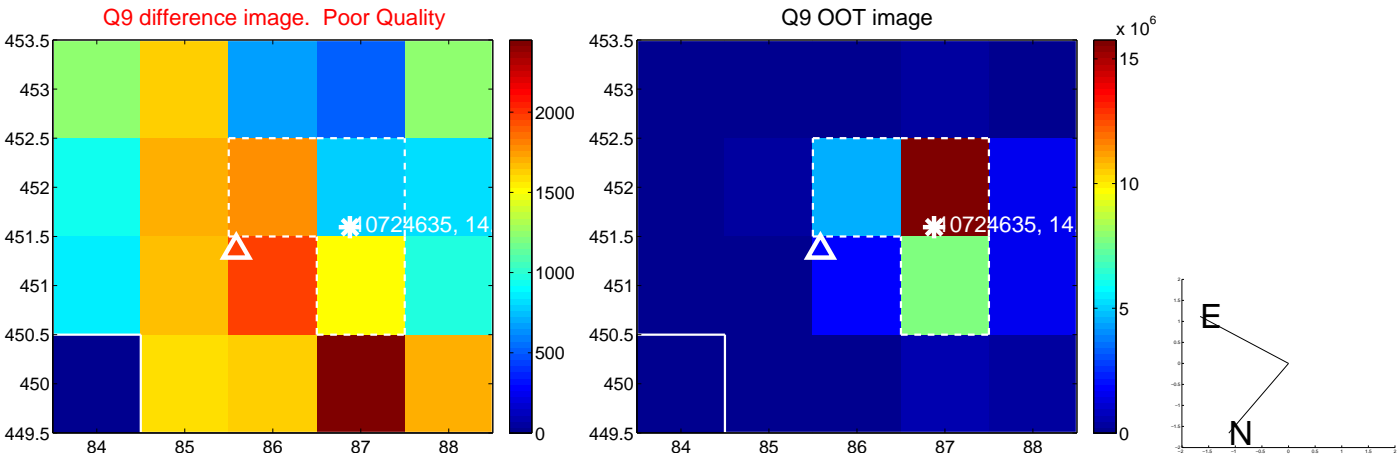
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



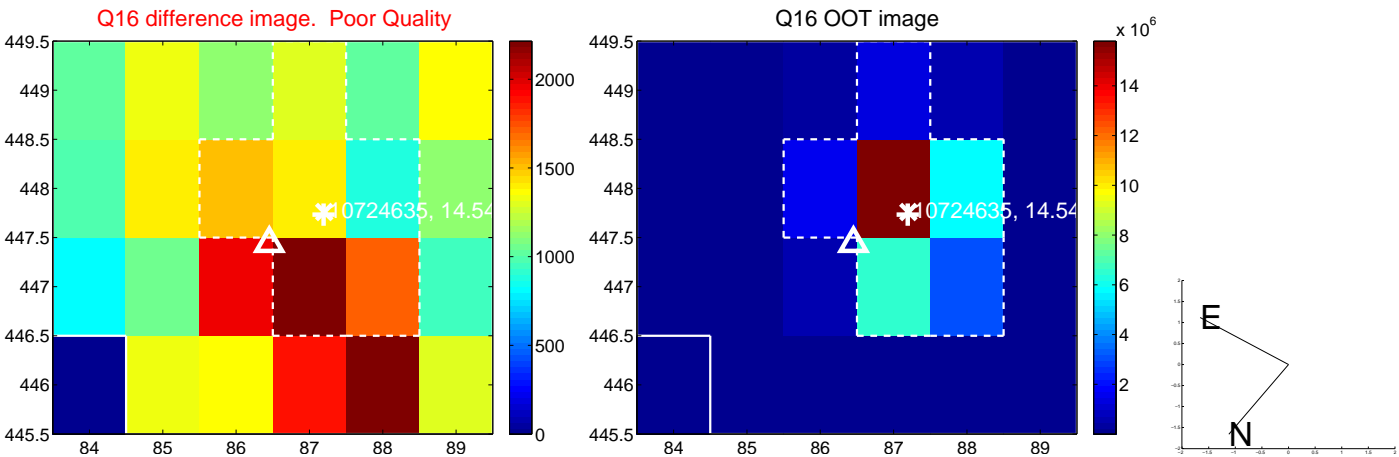
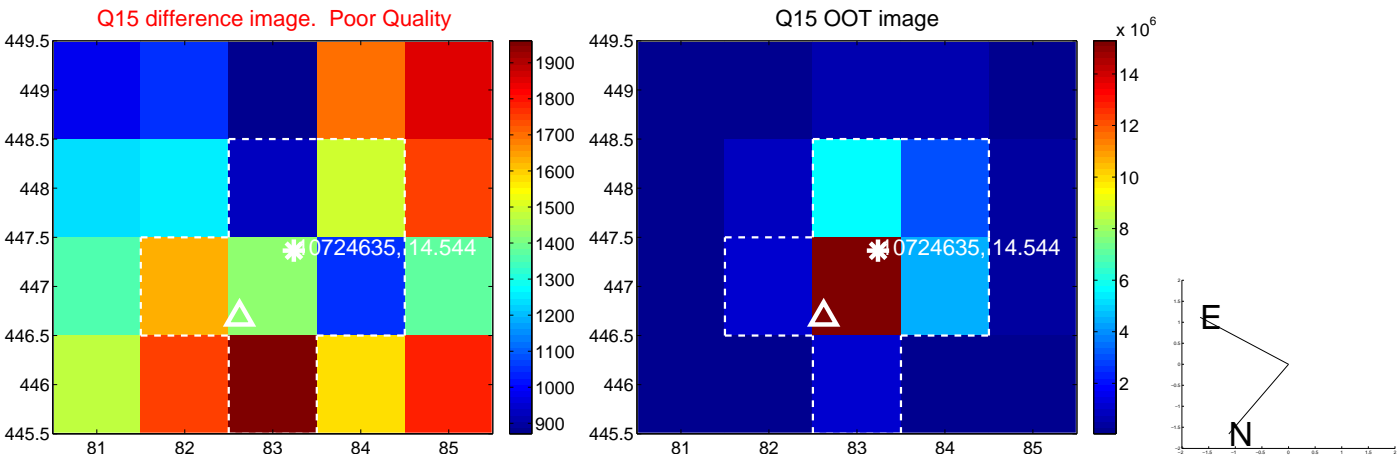
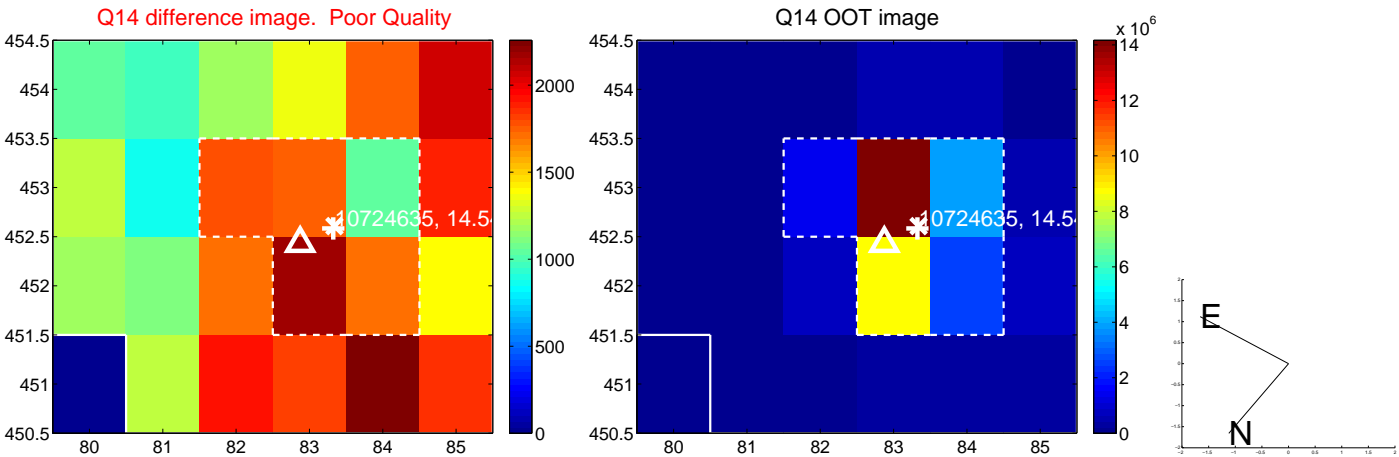
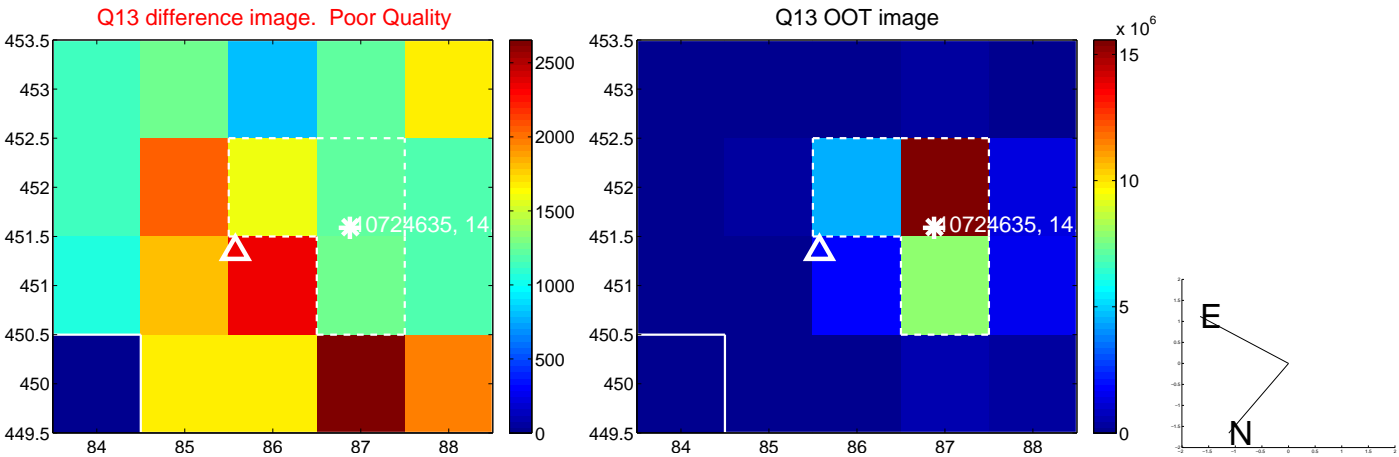
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



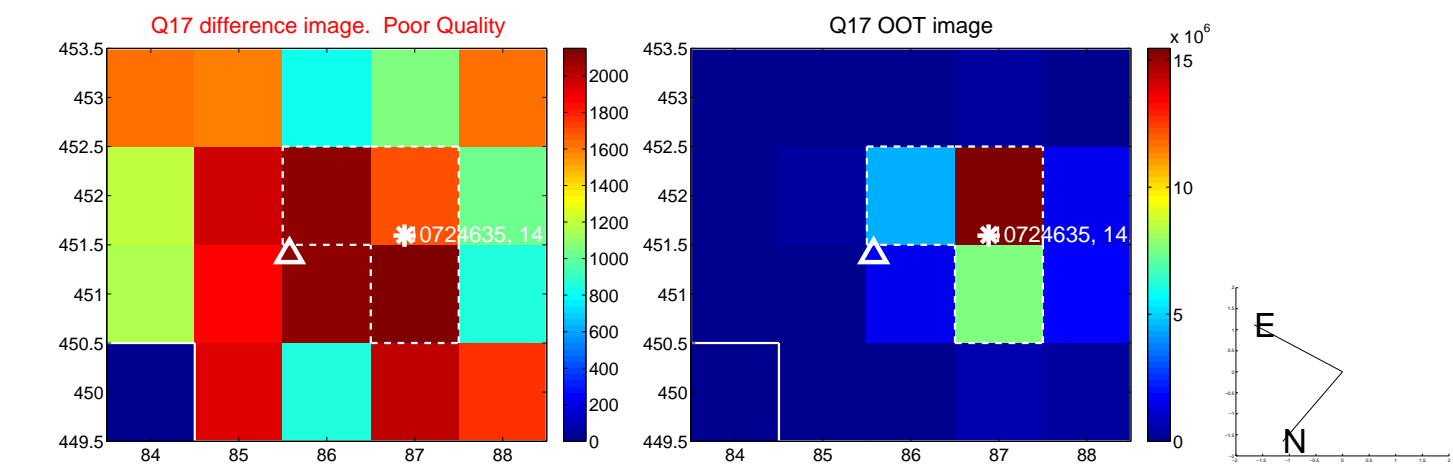
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



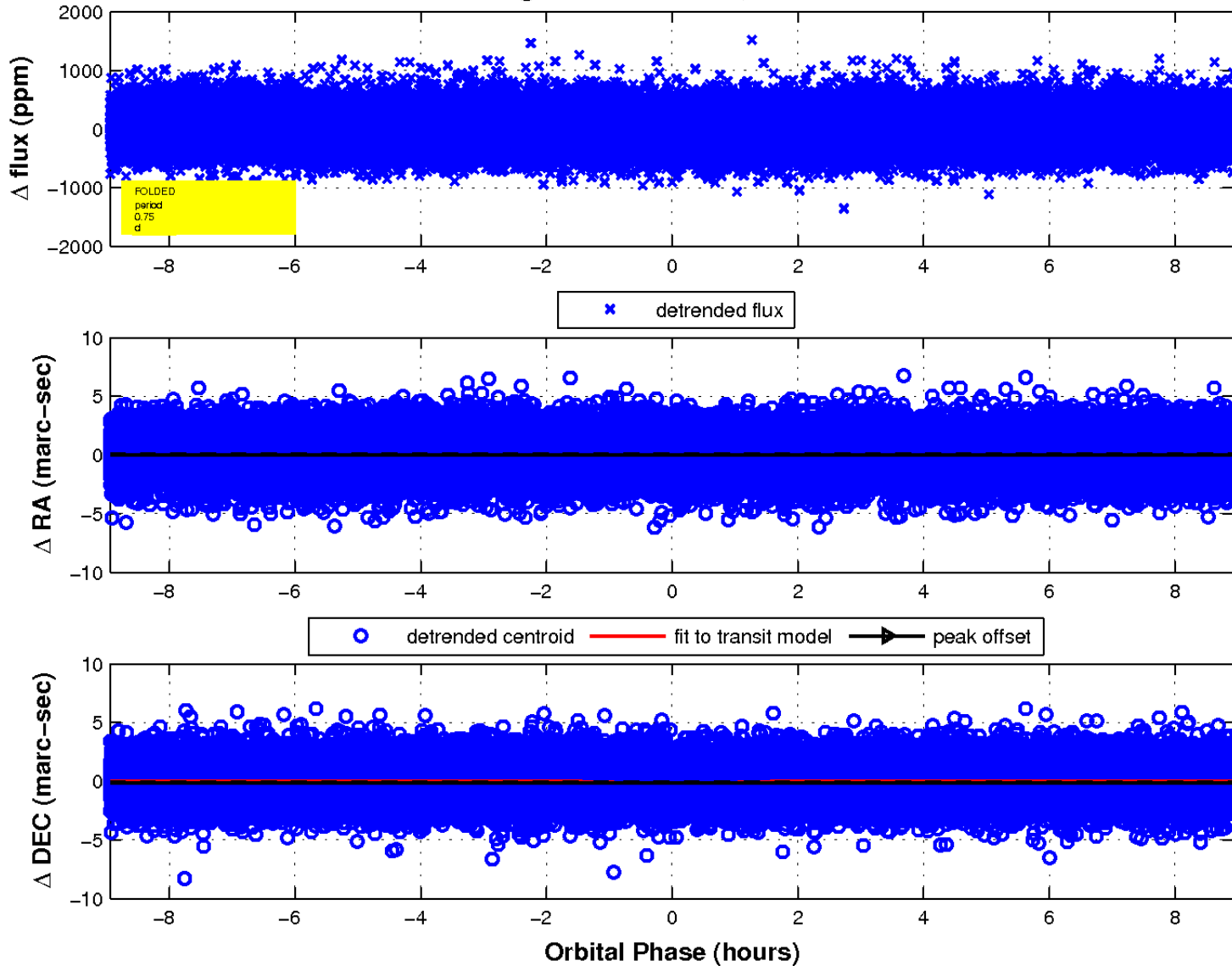
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

