

KIC 010651816

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})
010651816-01	OBS	3953.01	3.187722	134.427818	140.5	8.169	18.4	18.6	0.90	5532	1.34	401.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010651816-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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.

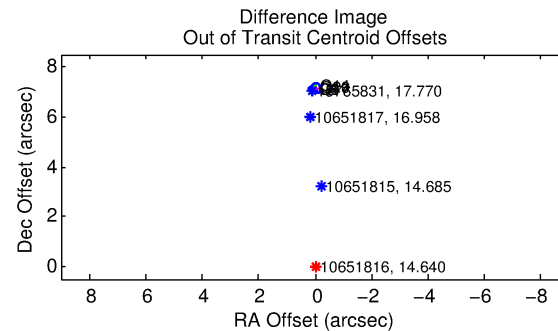
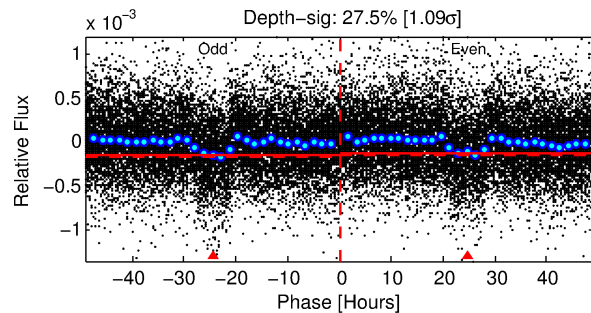
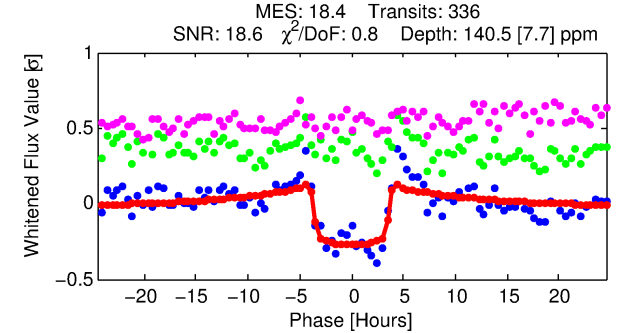
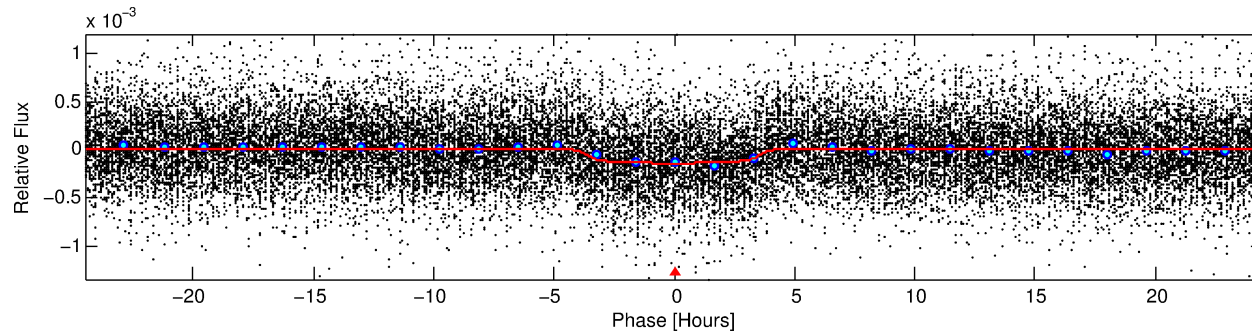
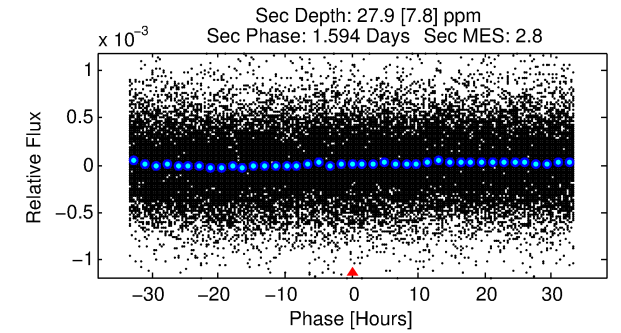
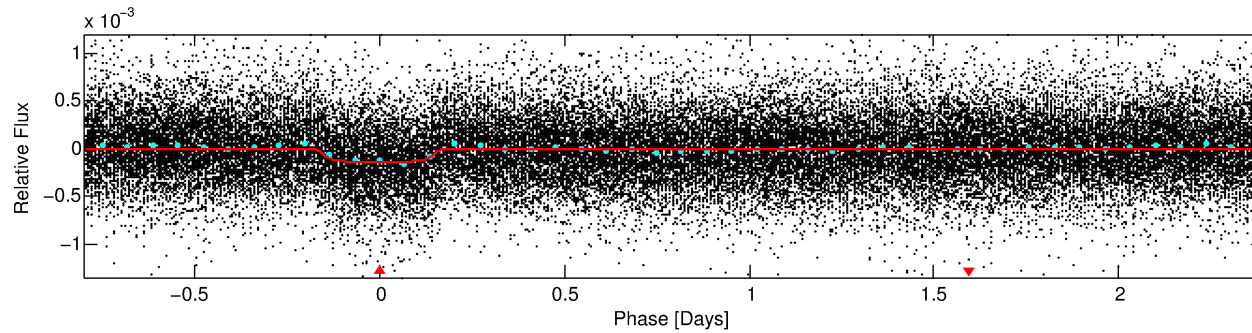
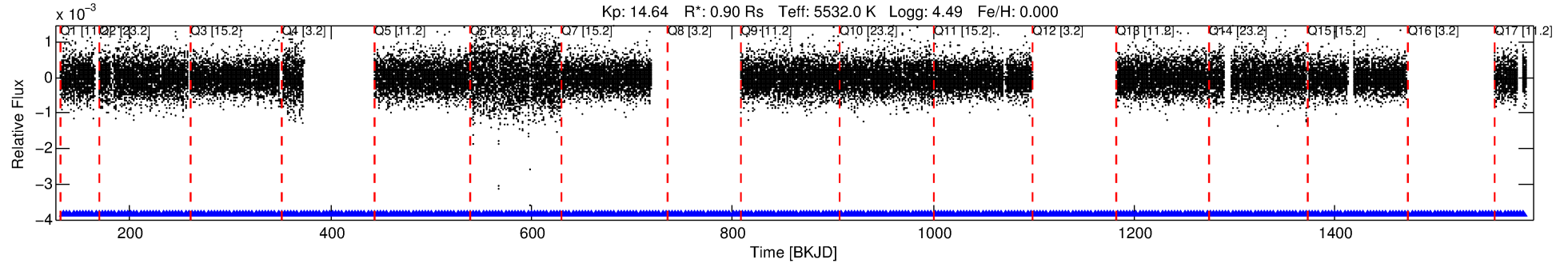
Ephemeris Match Information For 010651816-01

No Significant Match Found

DV One-Page Summary

KIC: 10651816 Candidate: 1 of 1 Period: 3.188 d
KOI: K03953.01 Corr: 0.764

Kp: 14.64 R*: 0.90 Rs Teff: 5532.0 K Logg: 4.49 Fe/H: 0.000



DV Fit Results:

Period = 3.18772 [0.00002] d
Epoch = 134.4278 [0.0046] BKJD
Rp/R* = 0.0137 [0.0008]
a/R* = 1.49 [0.19]
b = 0.94 [0.03]
Seff = 401.16 [128.60]
Teff = 1141 [91] K
Rp = 1.34 [0.34] Re
a = 0.0410 [0.0085] AU
Ag = 14.34 [6.08] [2.19σ]
Teffp = 3434 [279] K [7.80σ]

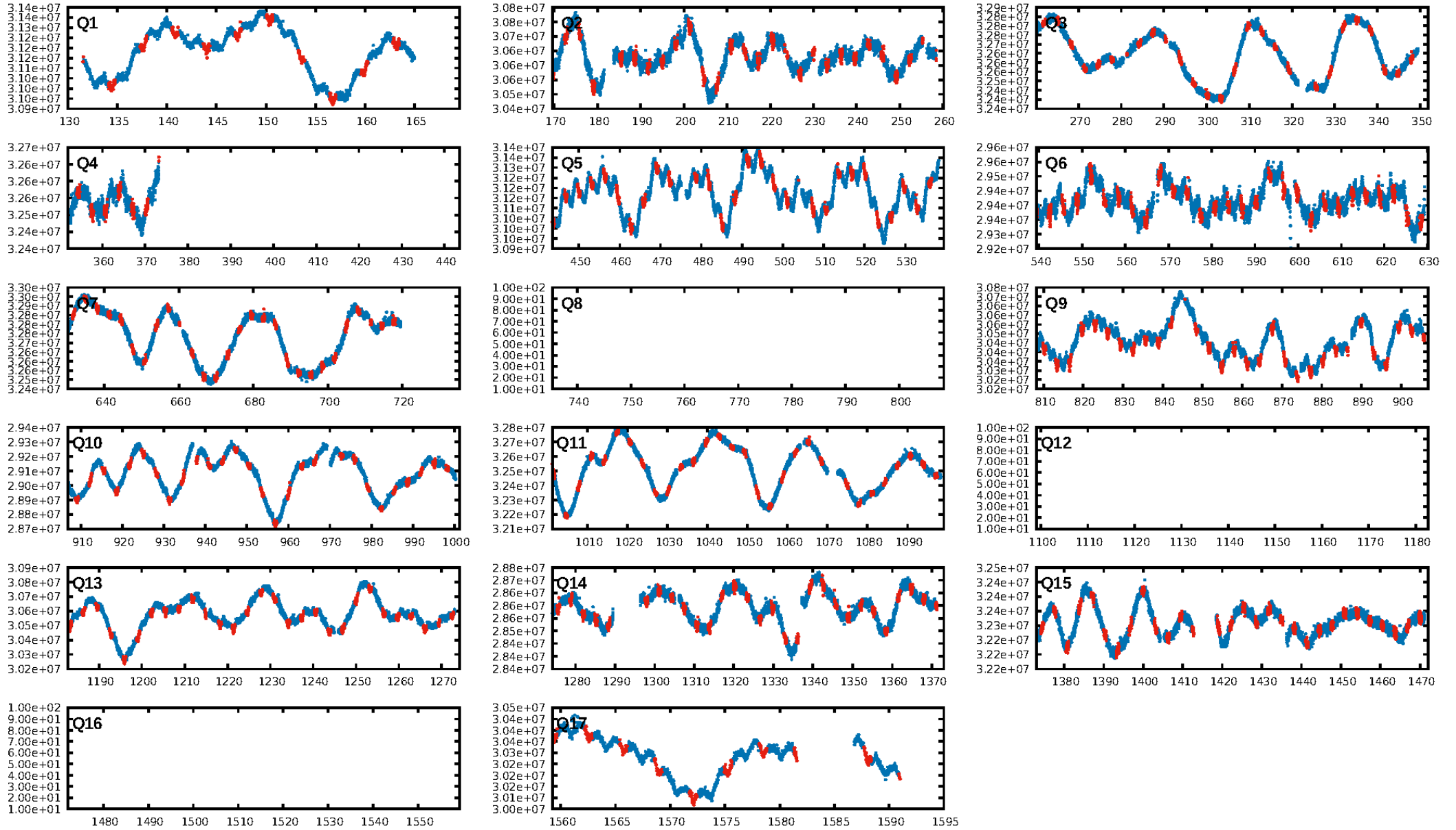
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.02e-64
RollingBand-fgt: 1.00 [311/311]
GhostDiagnostic-chr: -0.7889
Centroid-sig: 0.0%
Centroid-so: 9.010 arcsec [7.93σ]
OotOffset-rm: 7.137 arcsec [103.77σ]
KicOffset-rm: 7.040 arcsec [103.64σ]
OotOffset-st: 4/0/0/5 [9]
KicOffset-st: 4/0/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

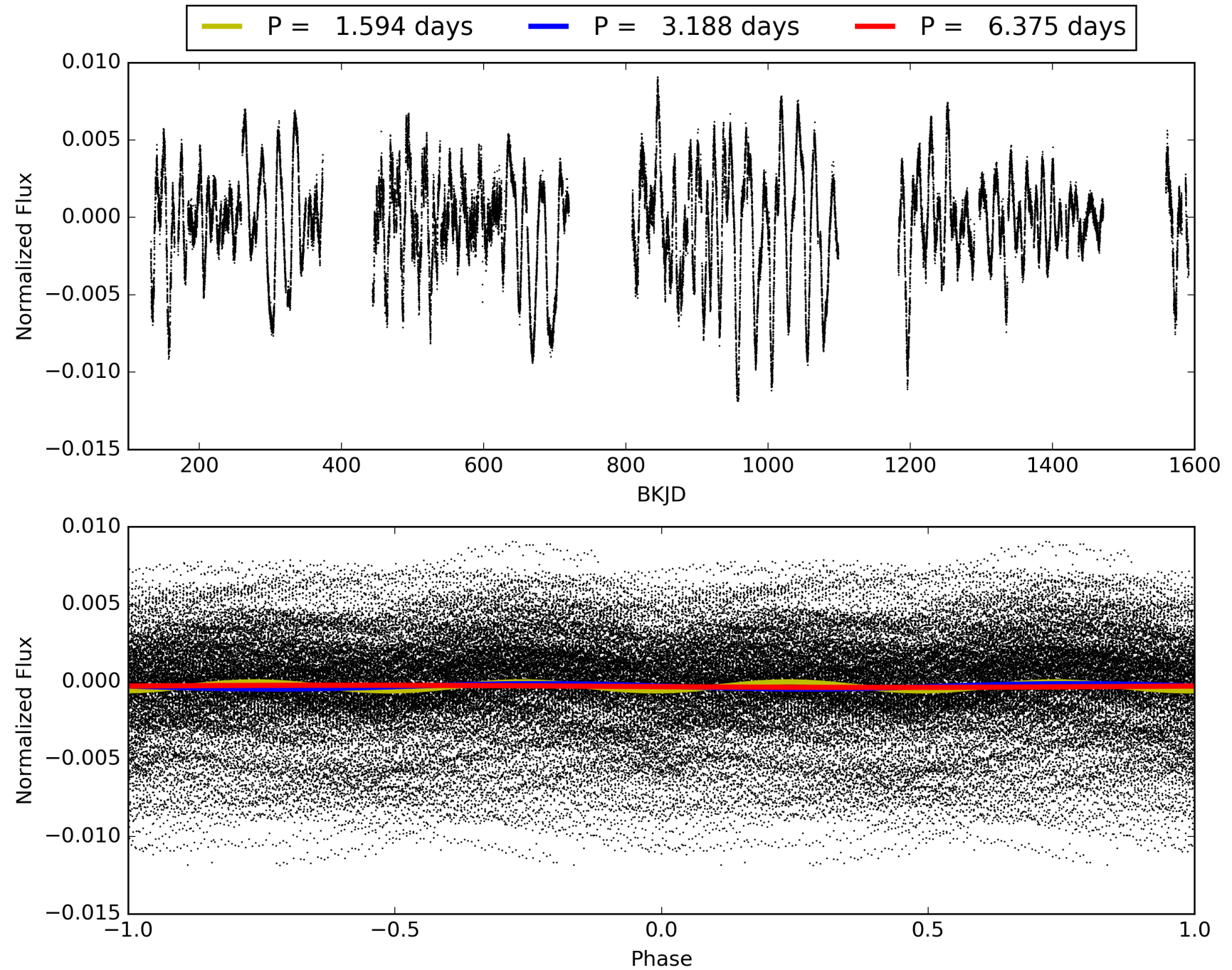
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:51:16 Z

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

TCE 010651816-01, PDC Light Curves

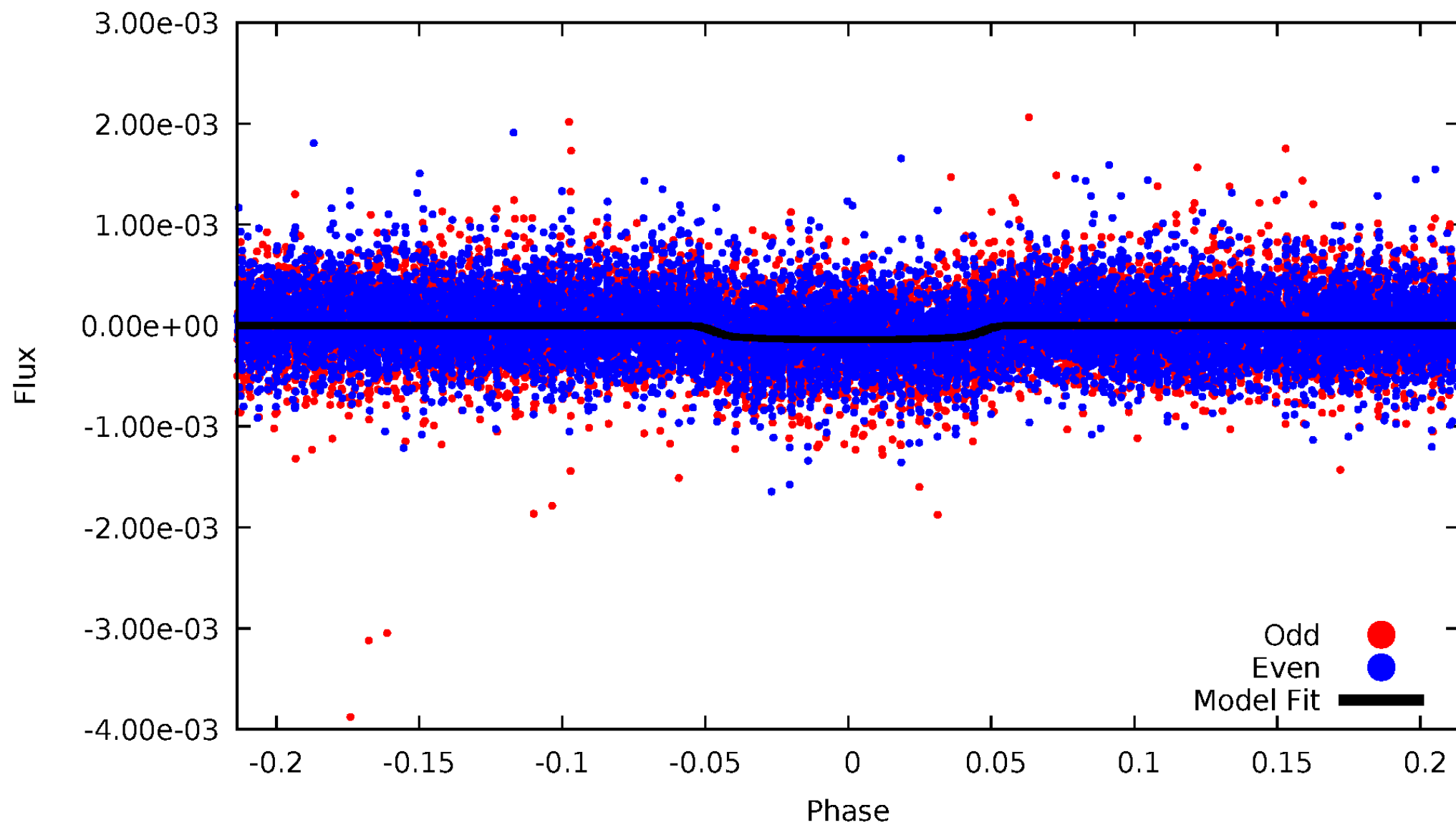


TCE 010651816-01



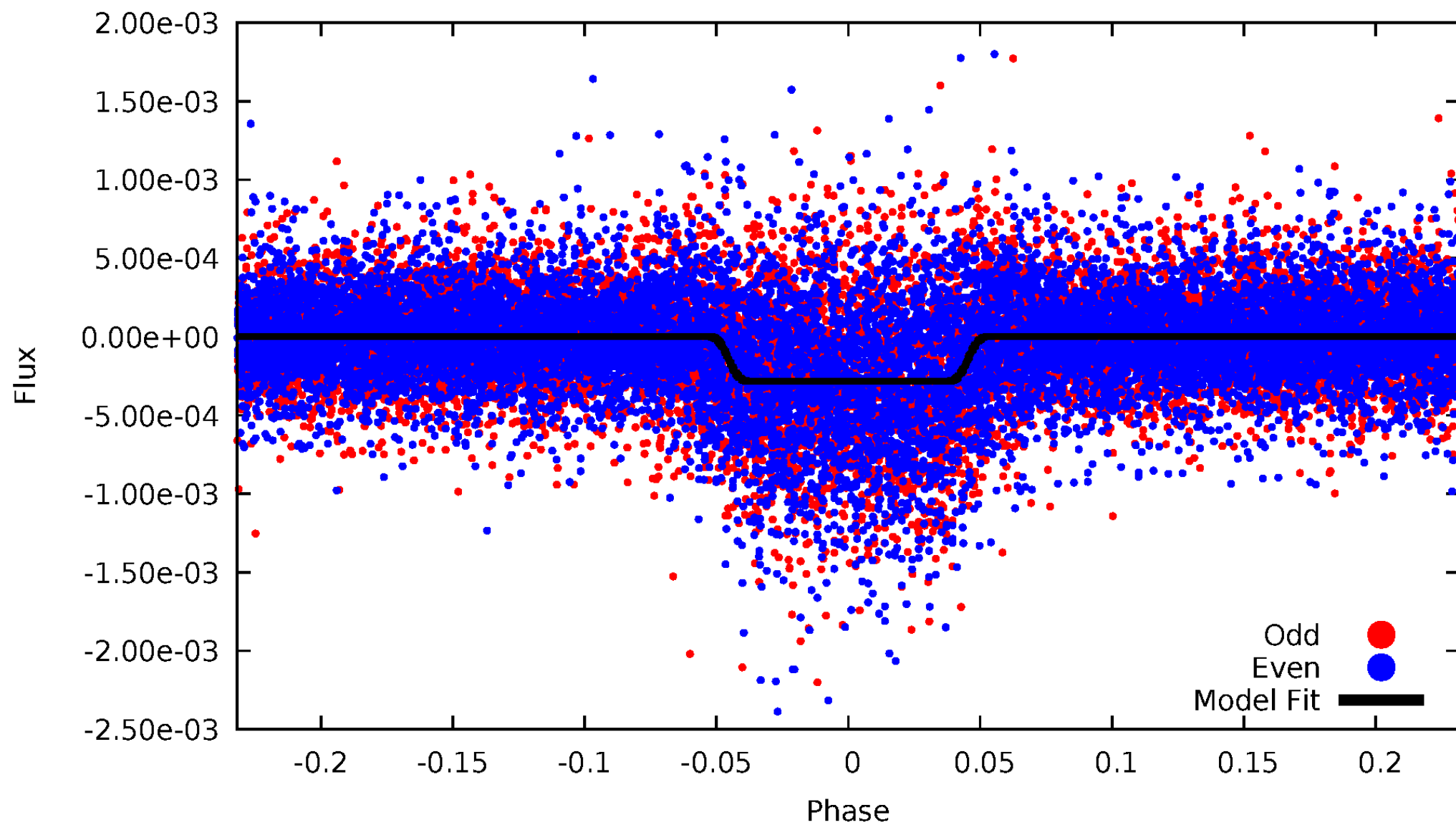
DV Odd/Even

TCE 010651816-01



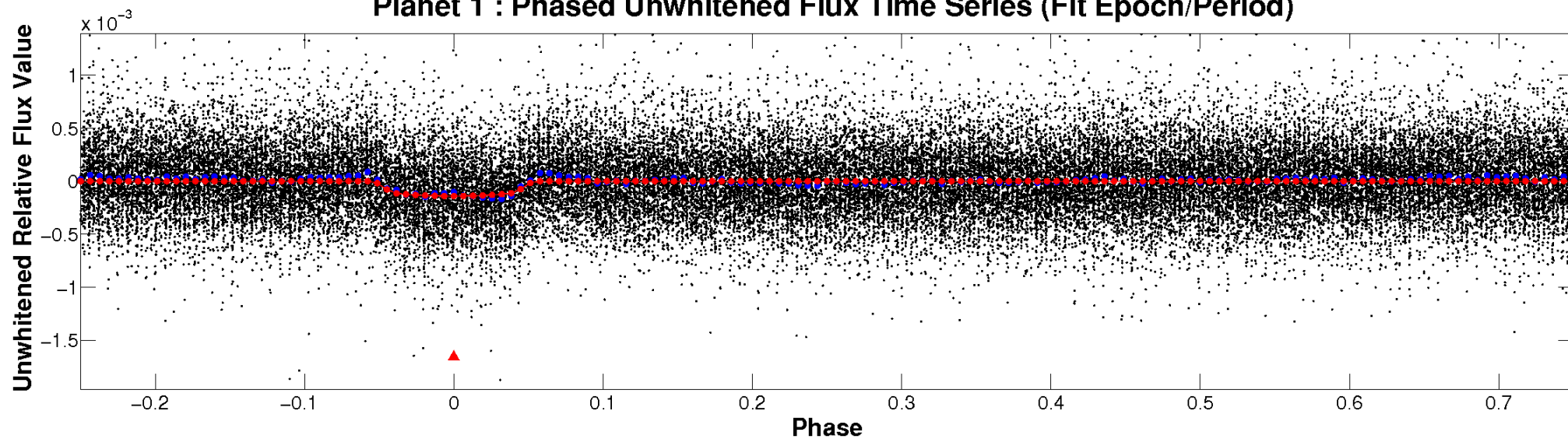
ALT Odd/Even

TCE 010651816-01

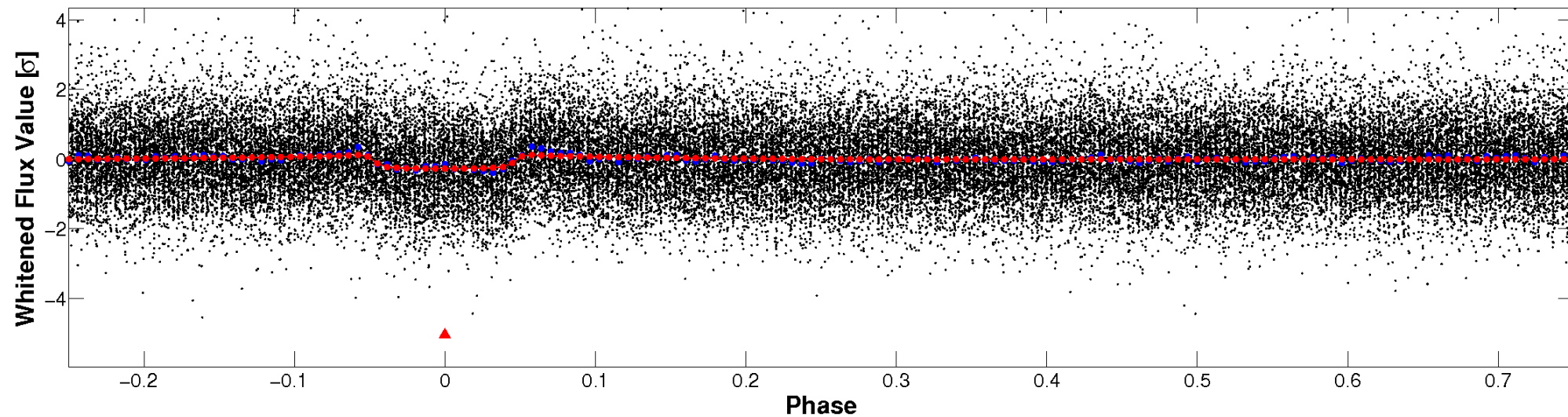


Non-Whitened Vs. Whitened Light Curve

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

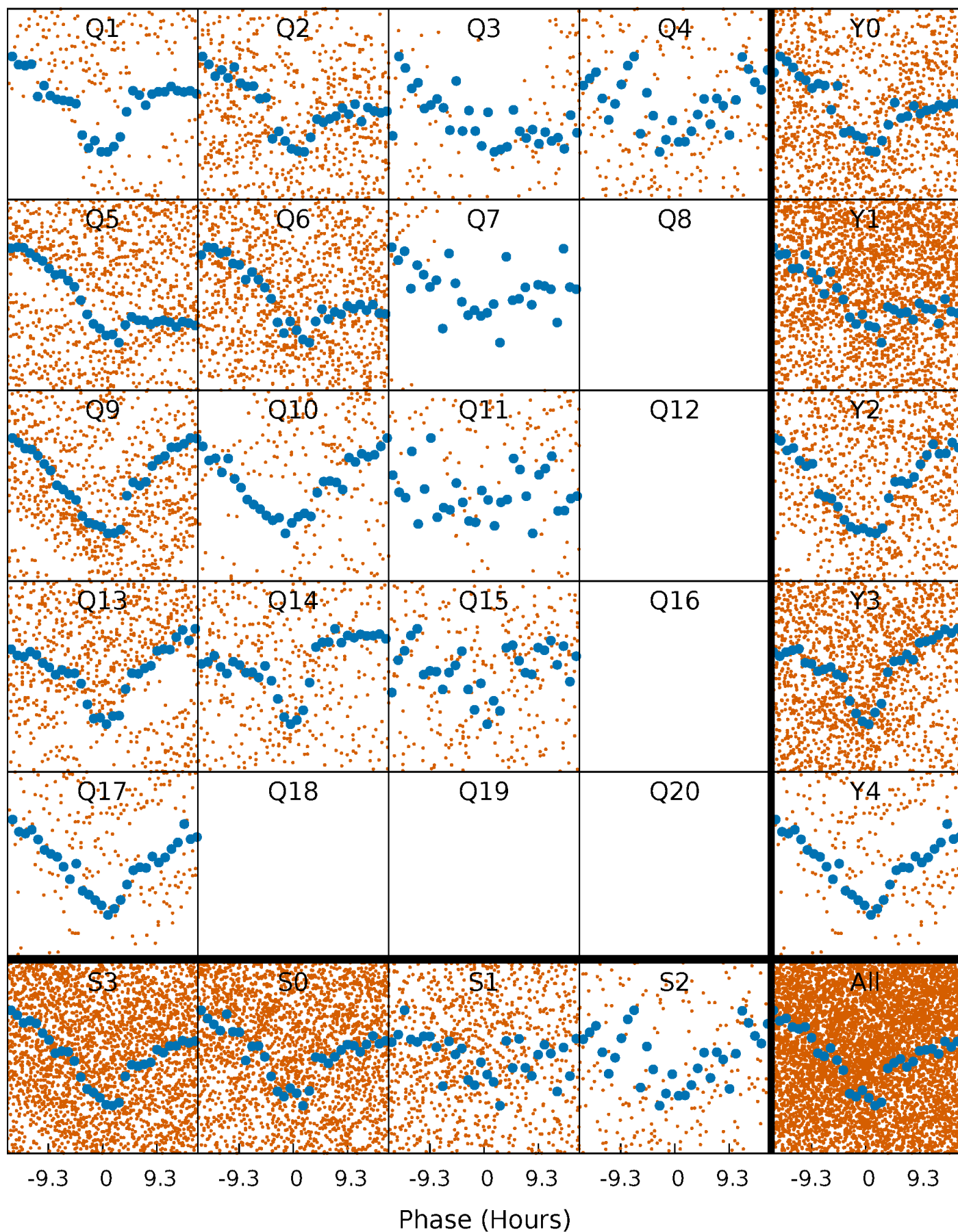


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



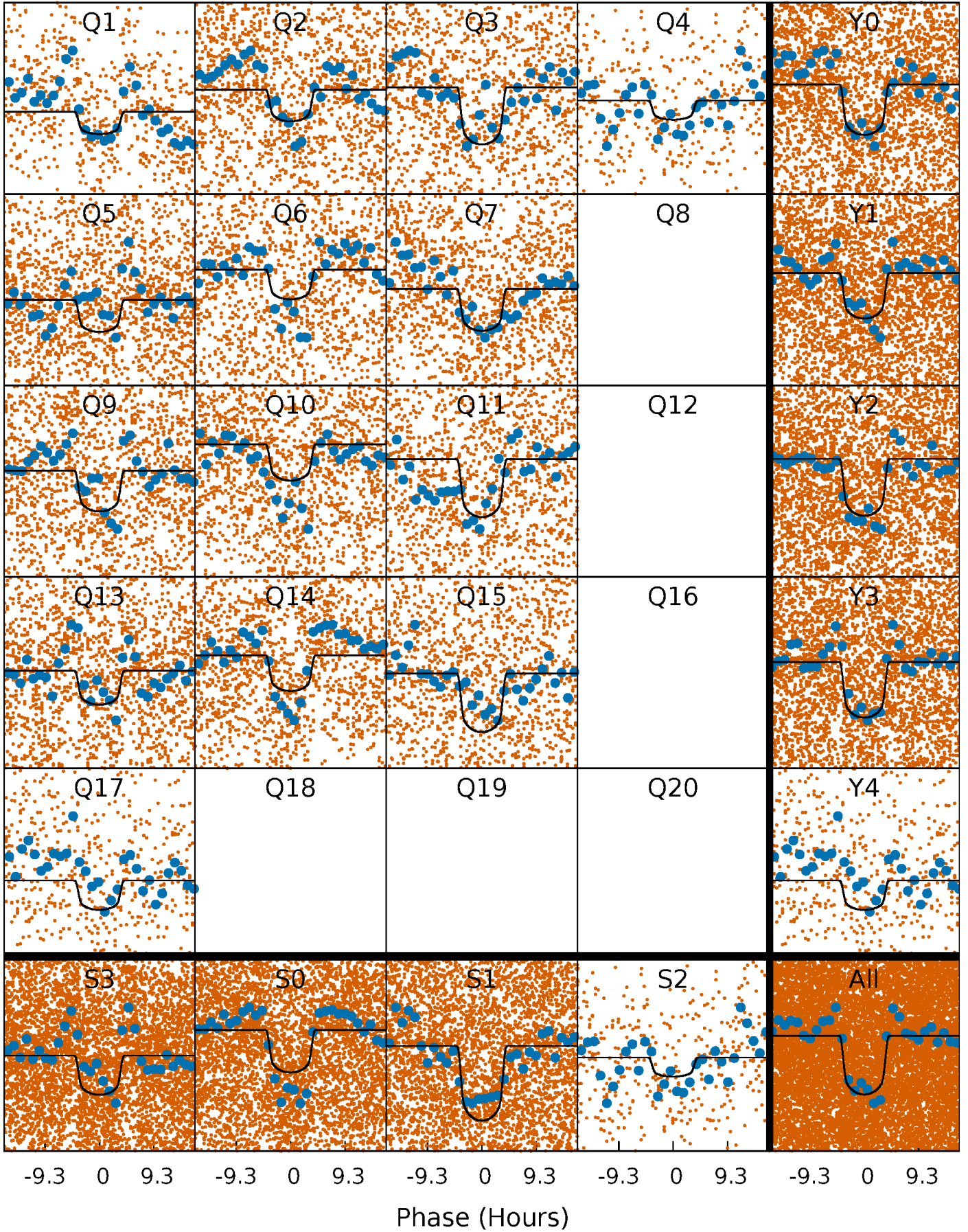
PDC Quarter-Phased Transit Curves

TCE 010651816-01 P= 3.187722 Days $T_0=134.427818$ (BKJD)



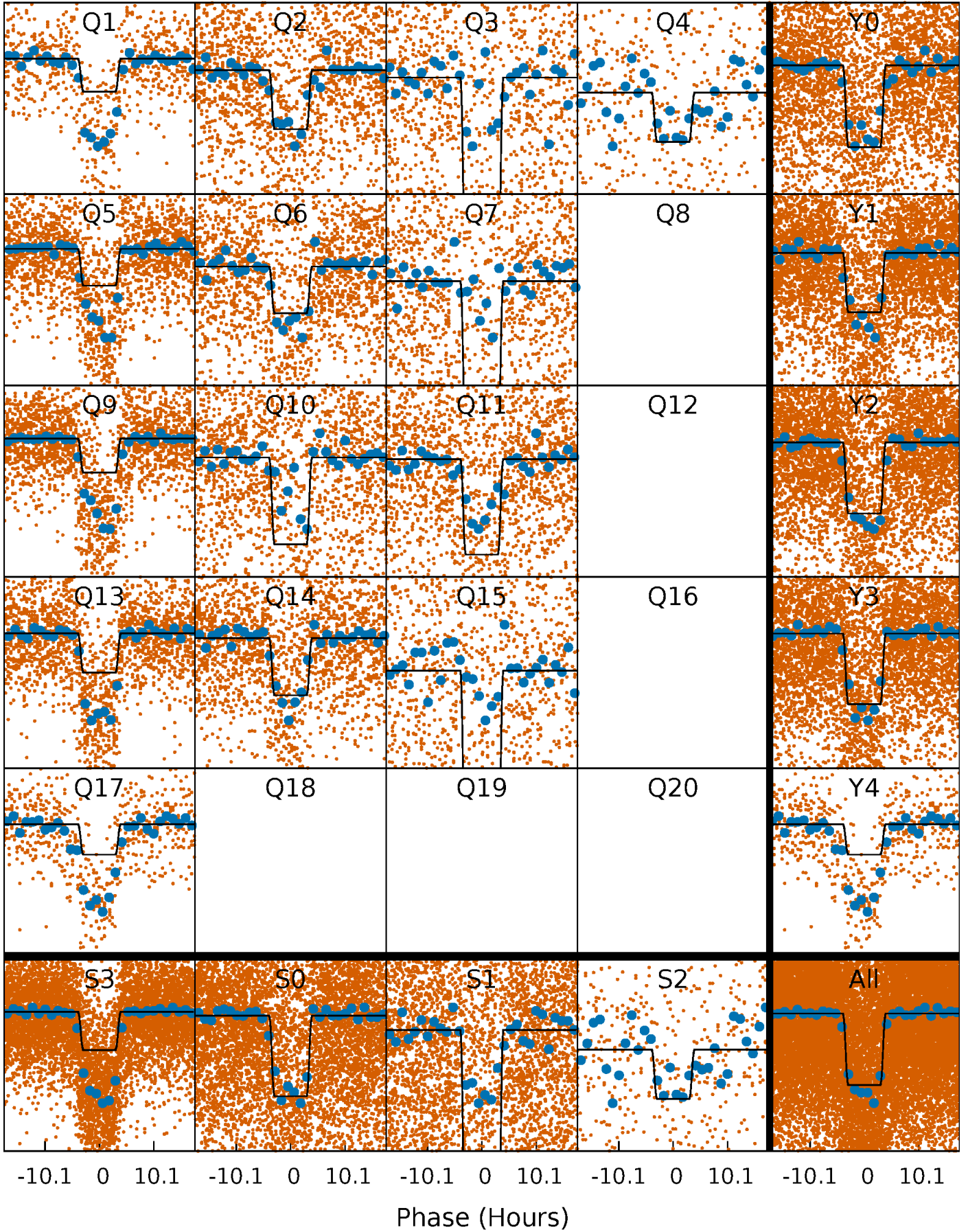
DV Quarter-Phased Transit Curves

TCE 010651816-01 P= 3.187722 Days $T_0=134.427818$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

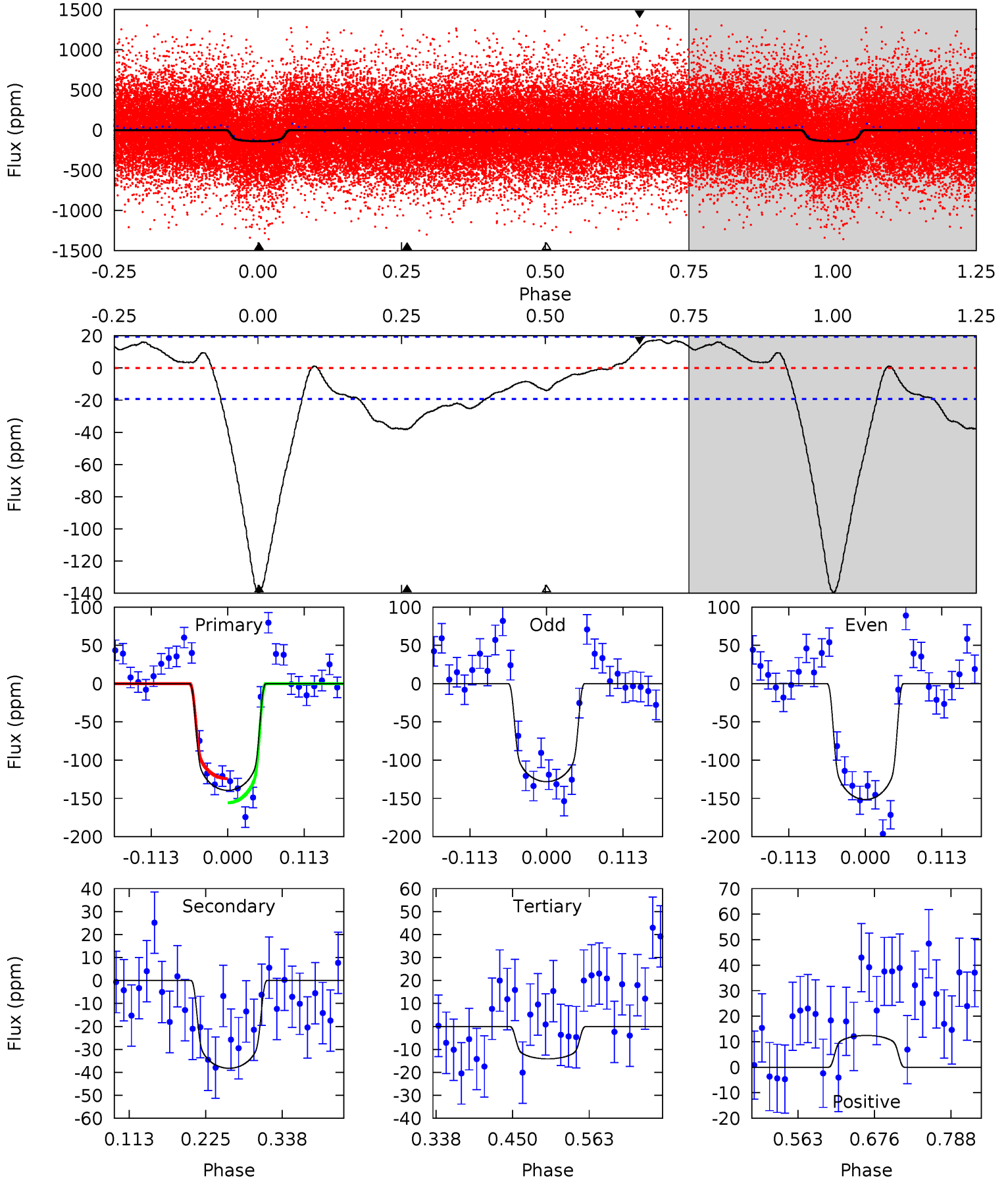
TCE 010651816-01 P= 3.187754 Days $T_0=134.425385$ (BKJD)



DV Model-Shift Uniqueness Test

010651816-01, P = 3.187722 Days, E = 131.240096 Days

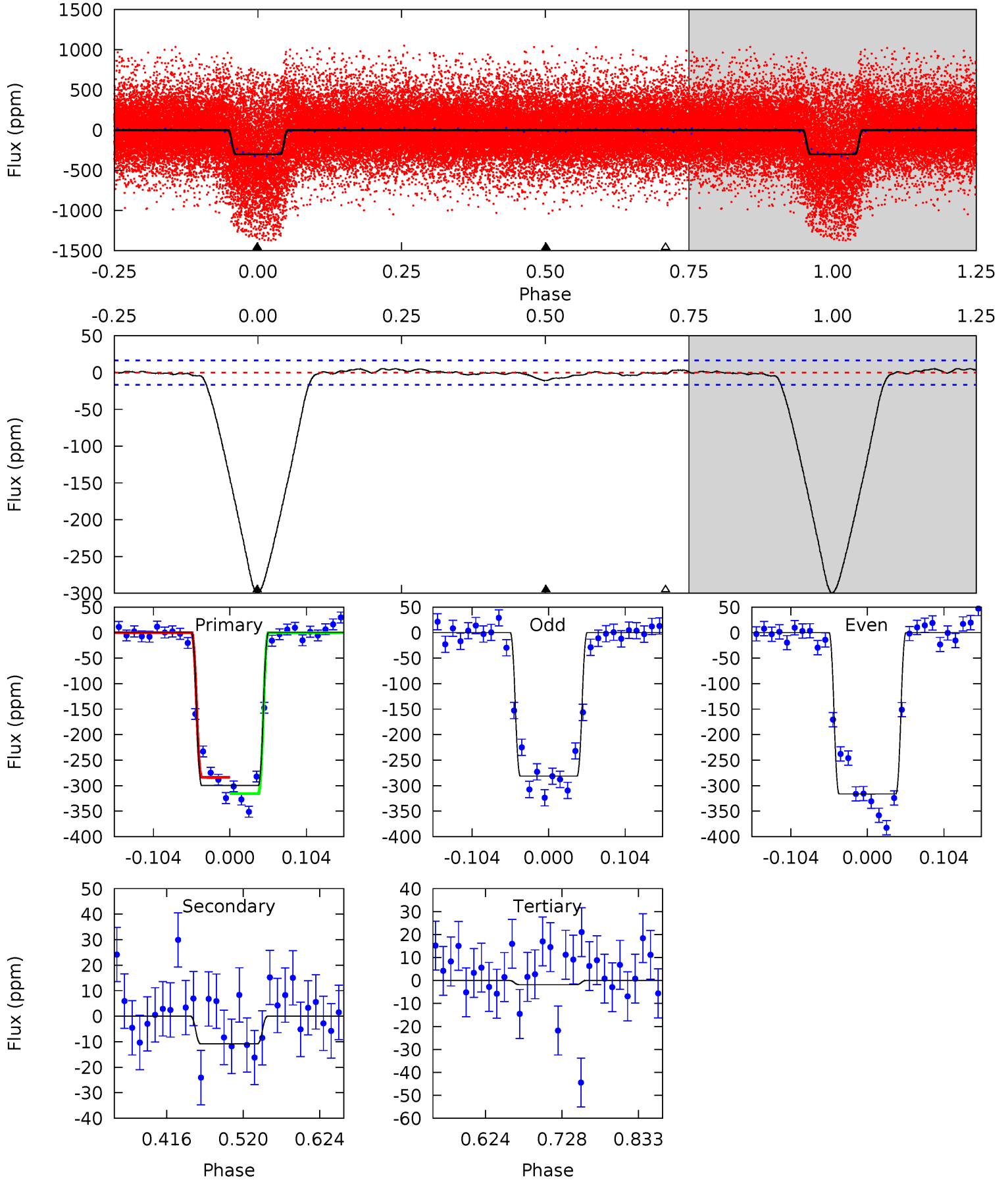
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.9	9.01	3.33	2.94	4.54	1.59	2.85	29.6	29.9	5.68	6.07	2.76	1.06	0.11	3.72



Alt Model-Shift Uniqueness Test

010651816-01, P = 3.187754 Days, E = 131.237631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.4	2.99	0.52	0	4.56	1.63	0.66	81.9	82.4	2.47	2.99	4.79	1.04	0.02	4.38



Stellar Parameters For KIC 010651816

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5532^{+149}_{-166}	$4.489^{+0.069}_{-0.161}$	$0.000^{+0.250}_{-0.300}$	$0.896^{+0.222}_{-0.095}$	$0.904^{+0.102}_{-0.083}$	$1.768^{+0.530}_{-0.809}$
	+3%/-3%	+2%/-4%	+inf%/-inf%	+25%/-11%	+11%/-9%	+30%/-46%
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 010651816-01 / KOI 3953.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 4	$1.36^{+0.18}_{-0.13}$	1605^{+94}_{-68}	3999^{+147}_{-146}	19^{+5}_{-4}
Alt.	-11 ± 4	$1.67^{+0.25}_{-0.14}$	1615^{+100}_{-70}	3032^{+158}_{-191}	$3.347^{+1.597}_{-1.225}$

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

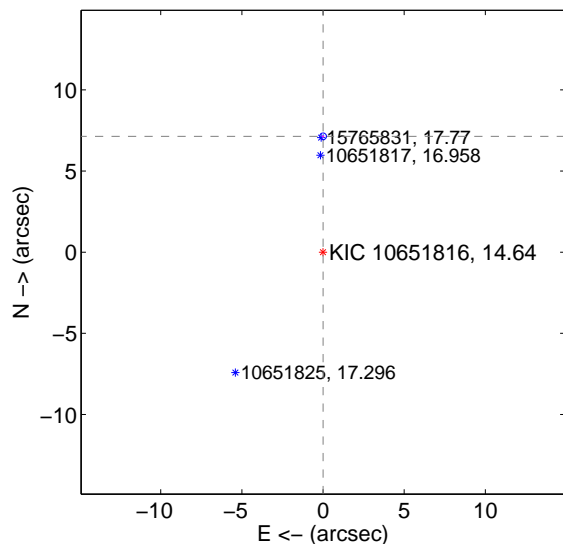
Supplemental centroid analysis for 010651816-01. Kepler magnitude: 14.64. Transit SNR 18.55

There are 9 quarters with good PRF difference image offsets

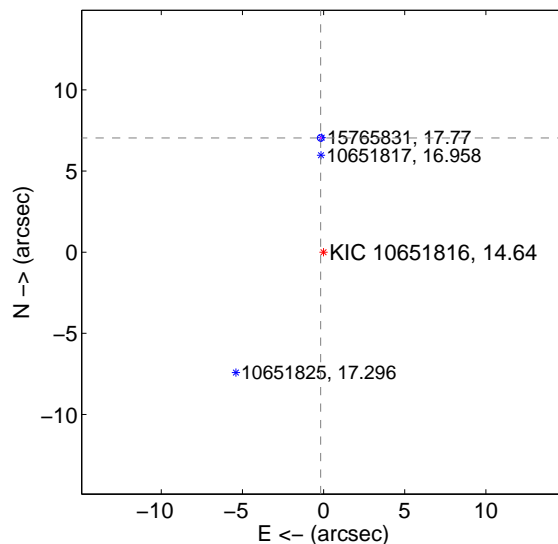
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.137 ± 0.069	103.77	-0.003 ± 0.067	7.137 ± 0.069
PRF-fit source offset from KIC position	7.040 ± 0.068	103.64	0.179 ± 0.068	7.038 ± 0.068
photometric centroid source offset	9.01 ± 1.14	7.93	2.56 ± 0.46	8.64 ± 1.18

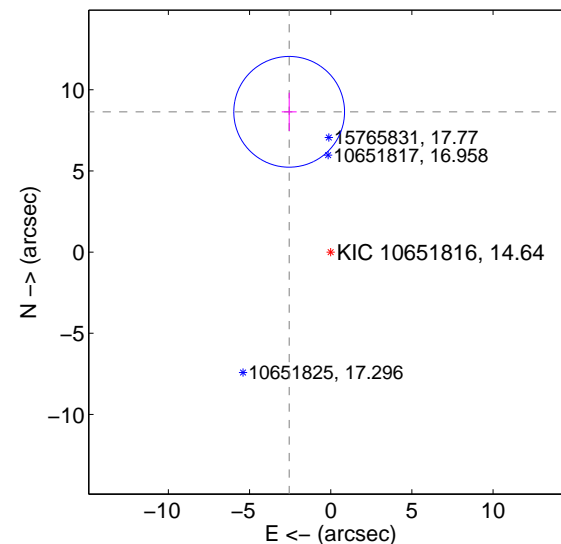
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

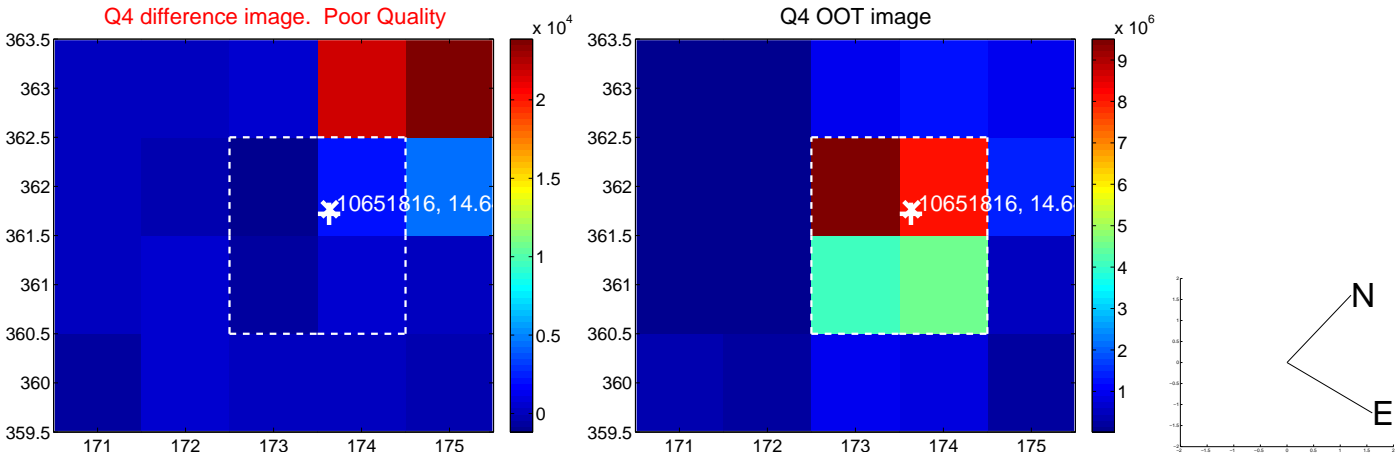
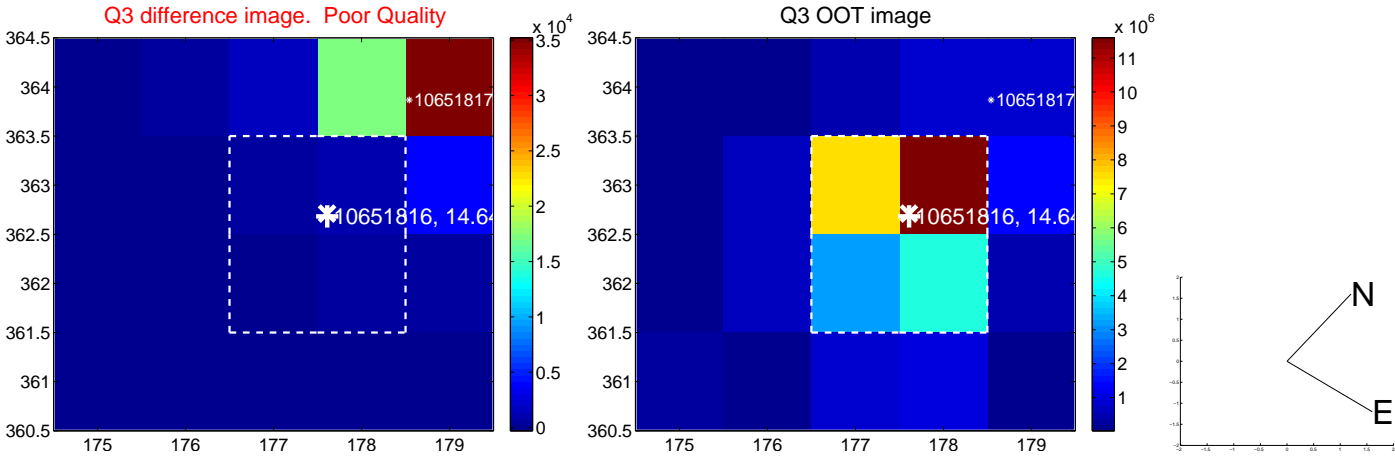
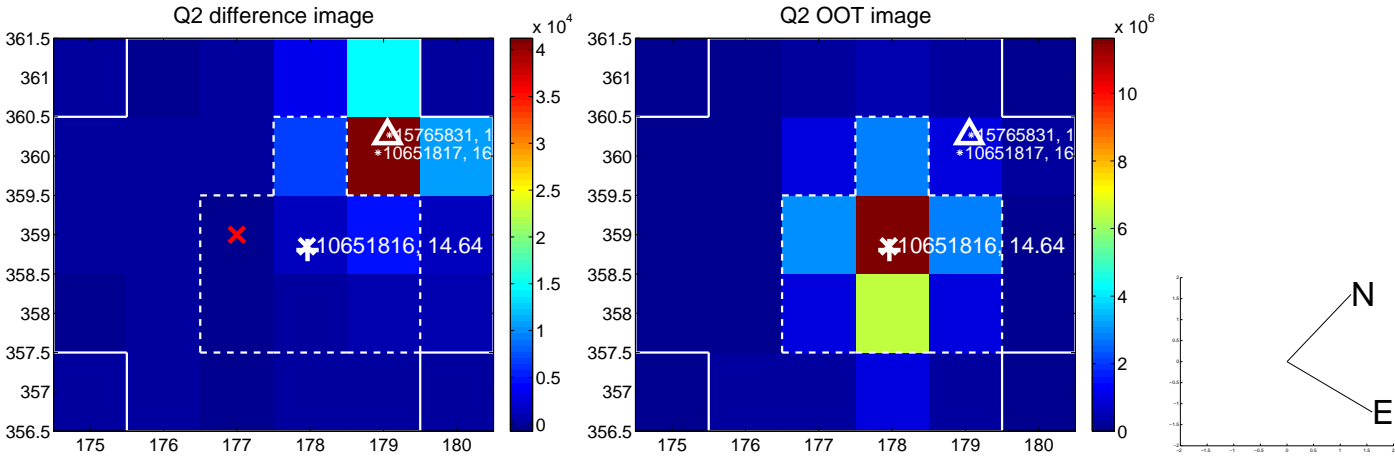
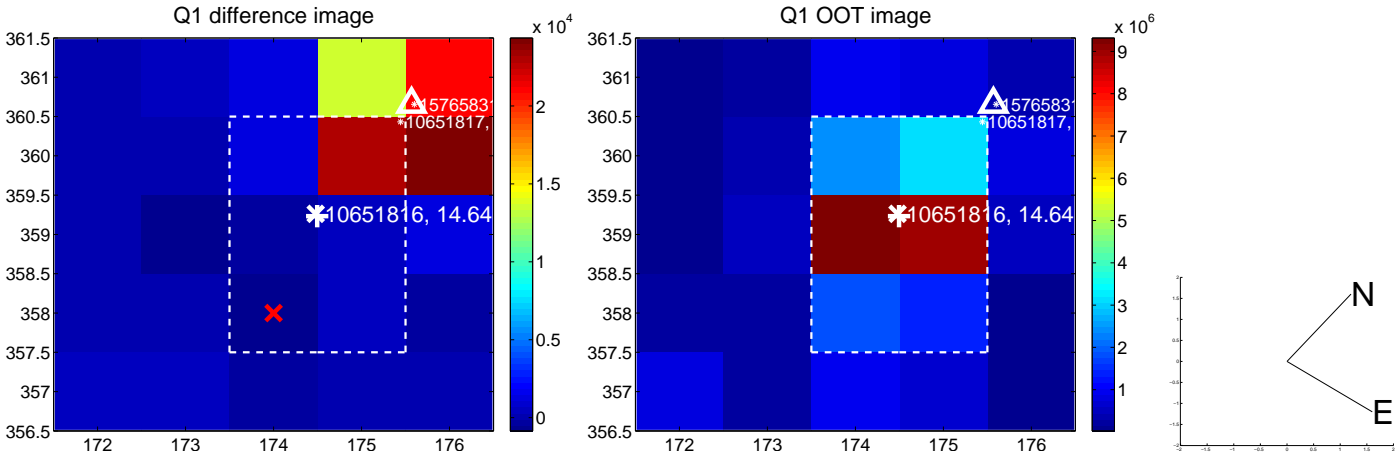


offset from photometric centroids

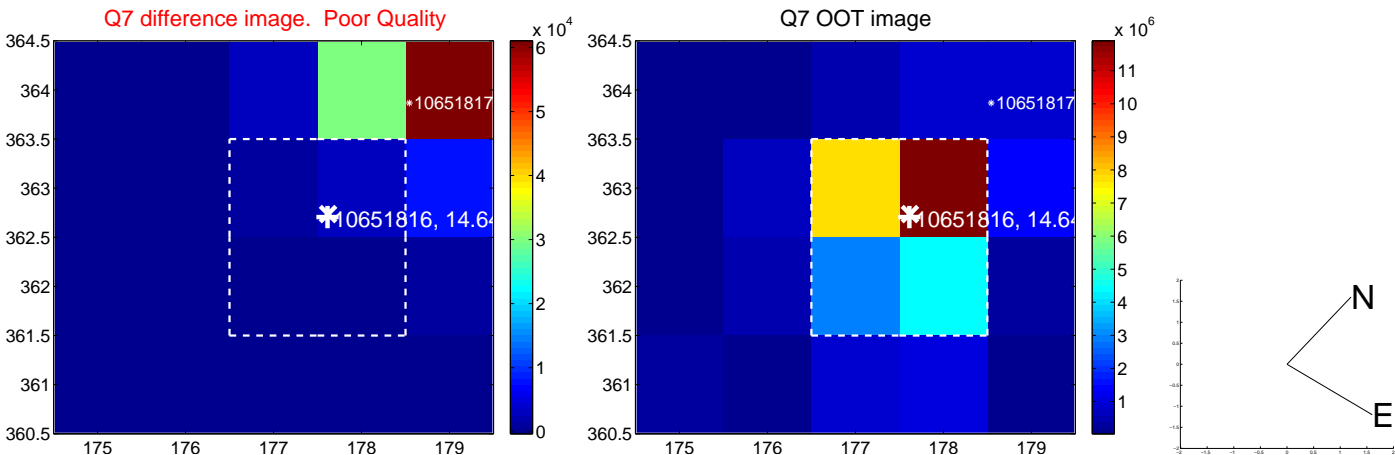
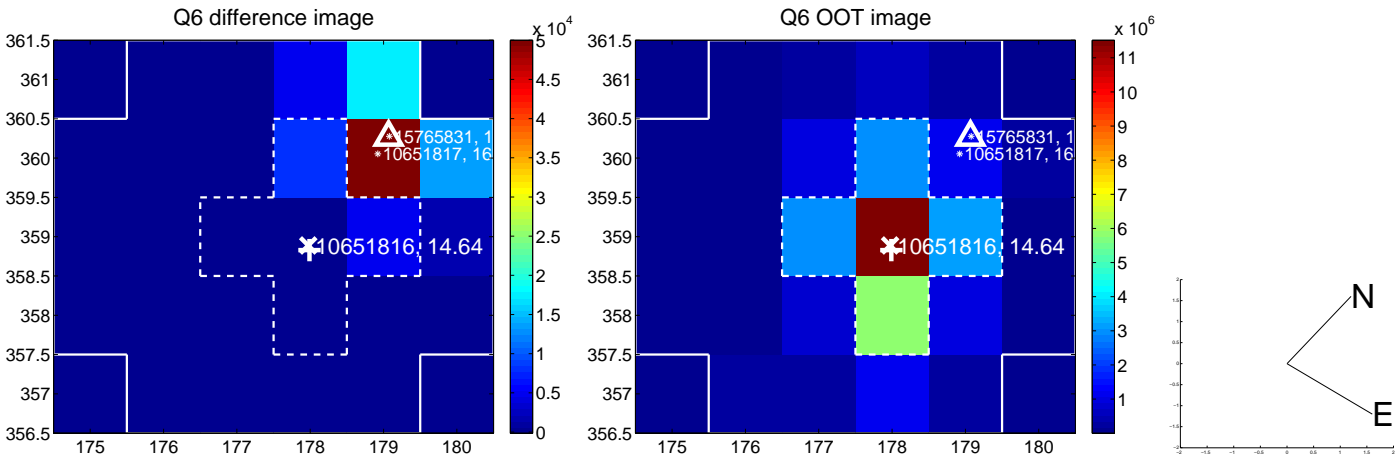
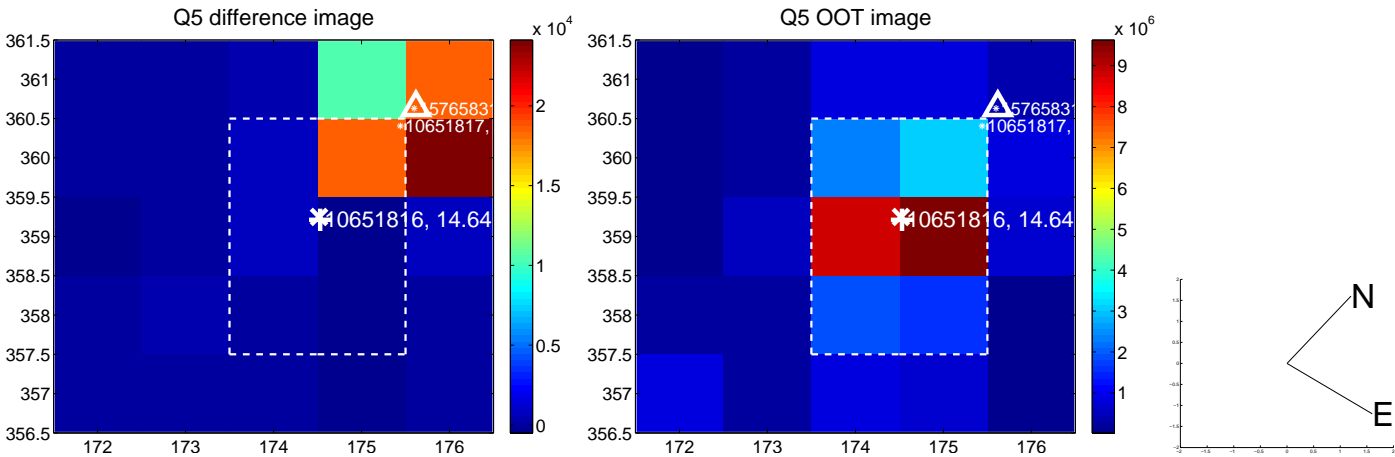


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

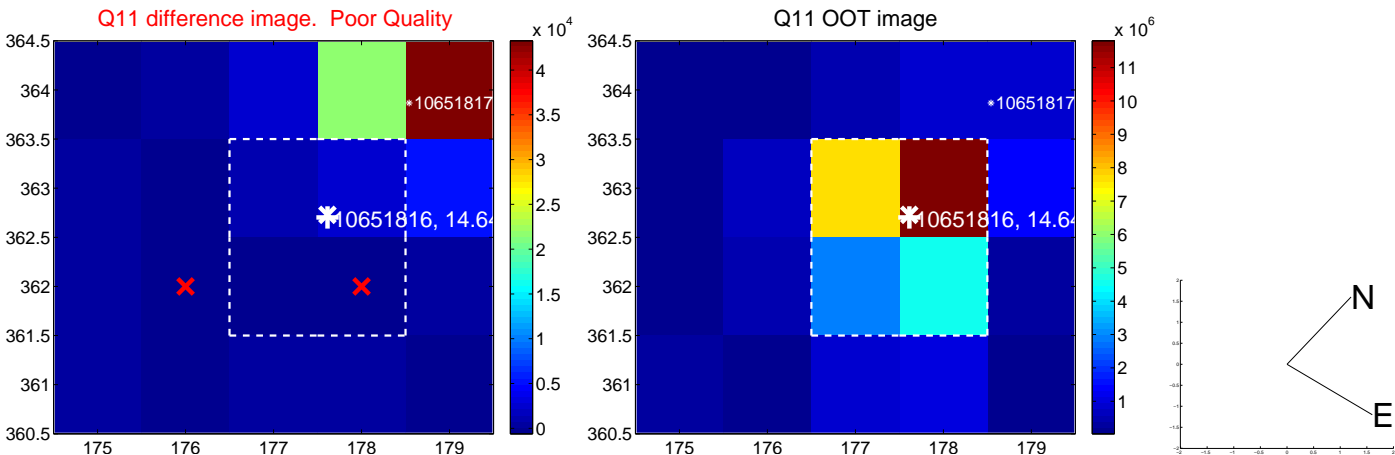
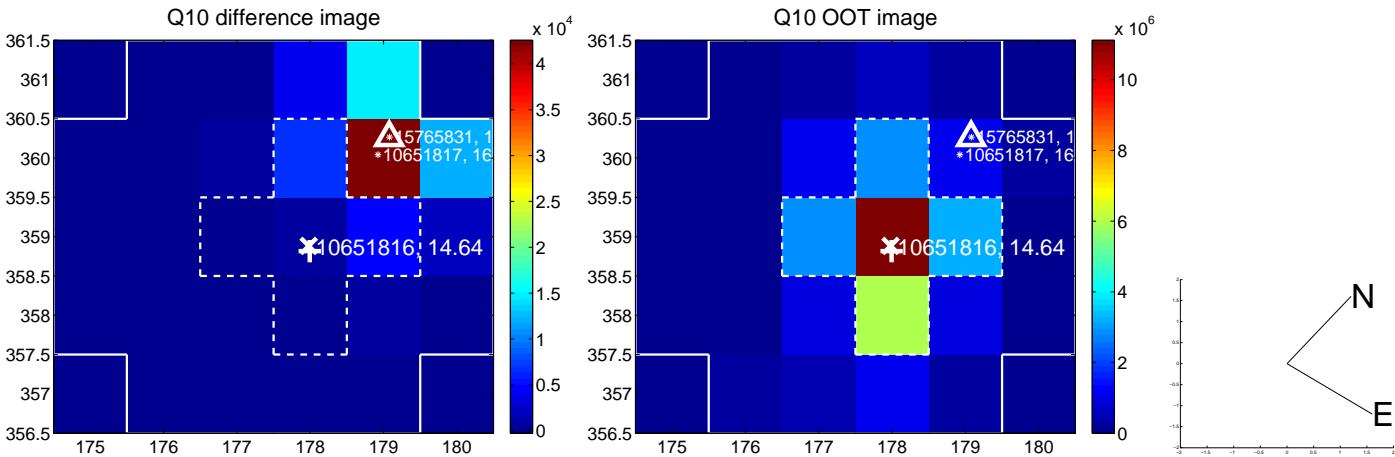
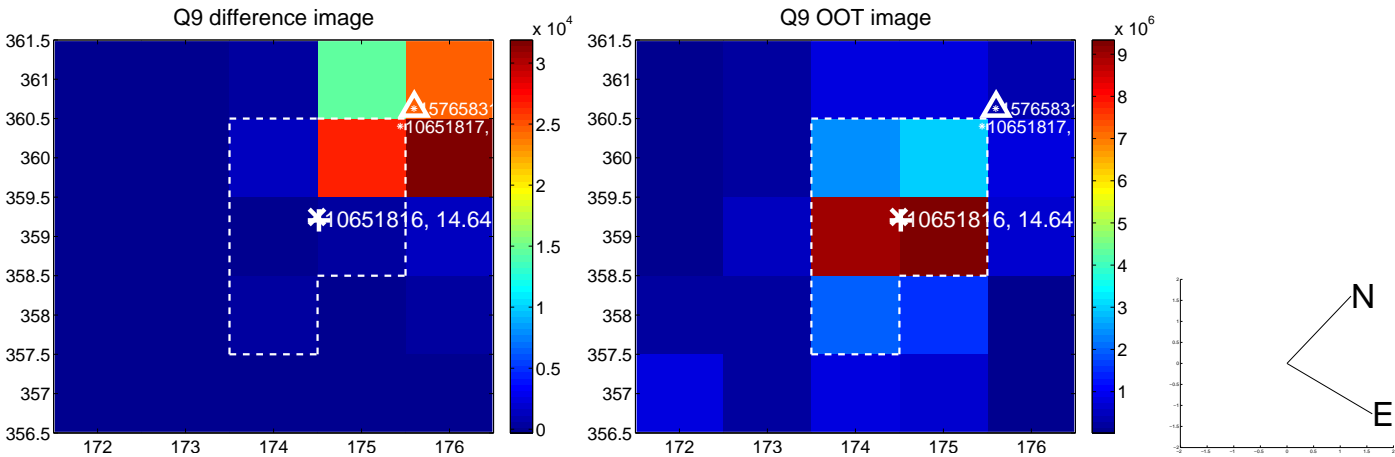
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



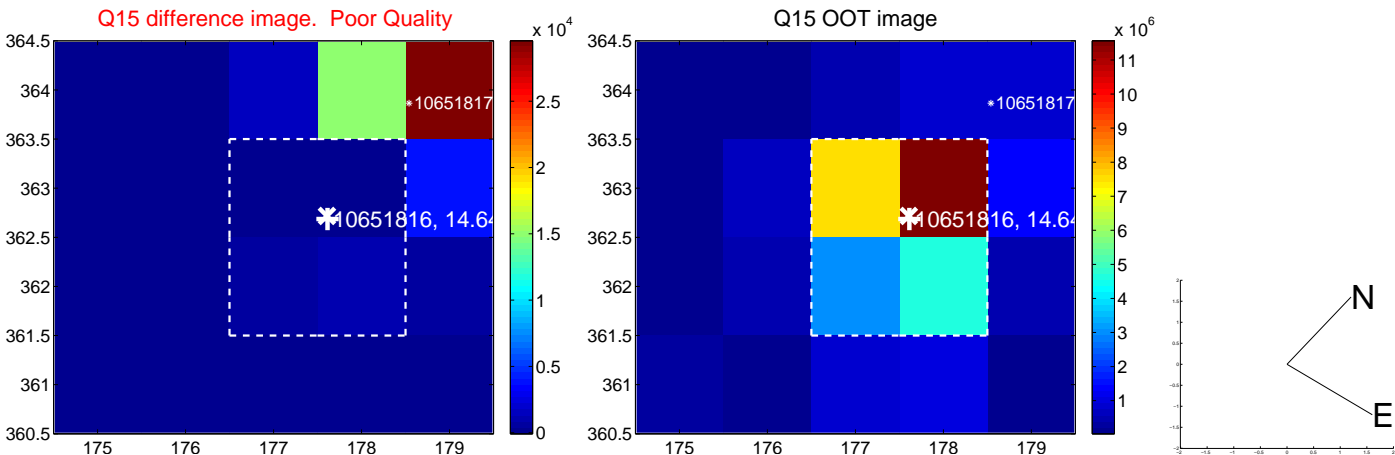
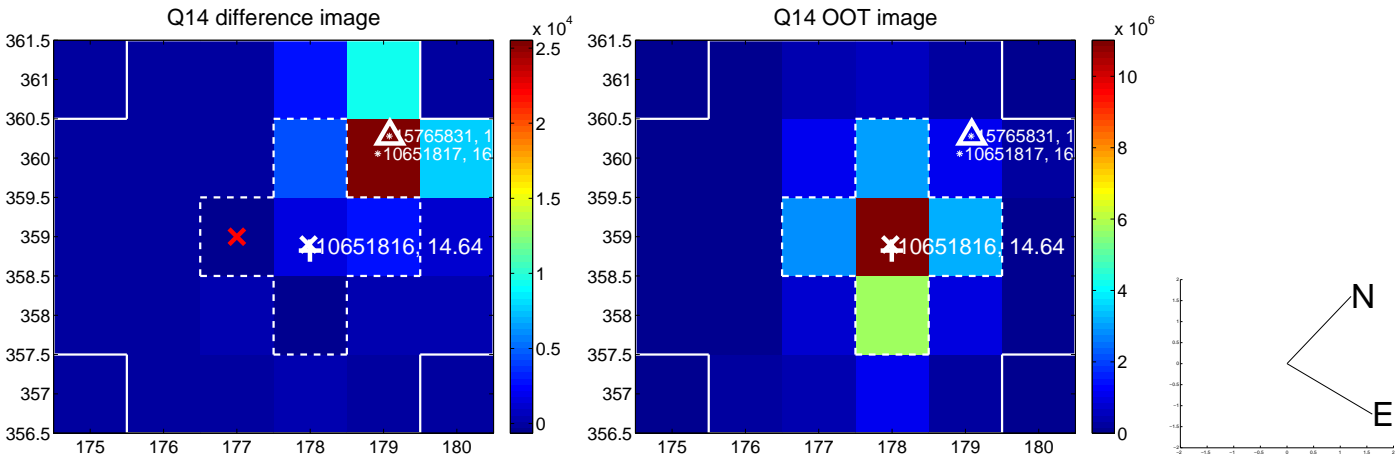
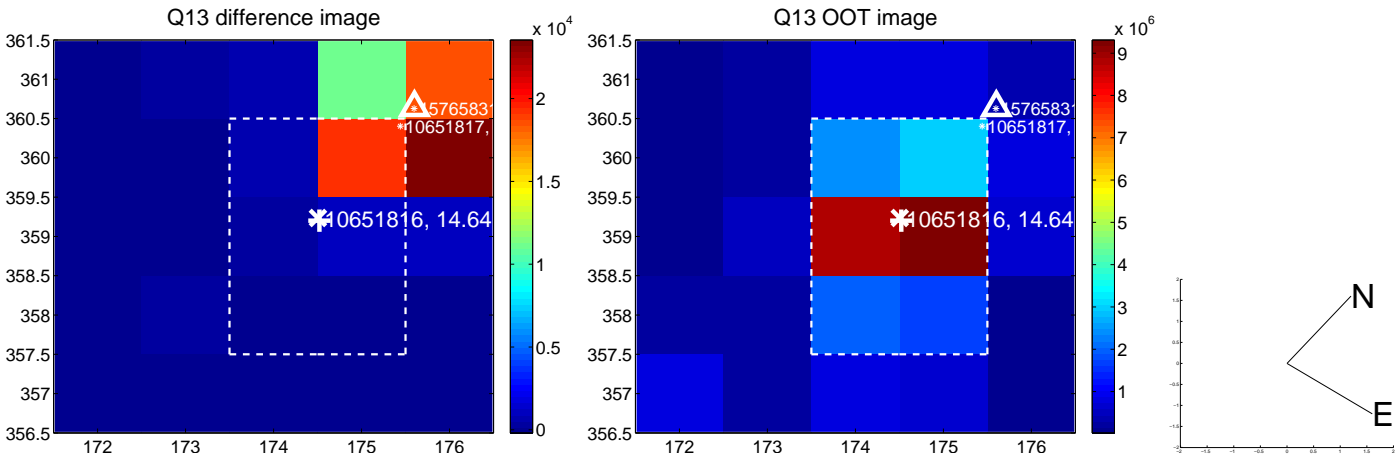
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



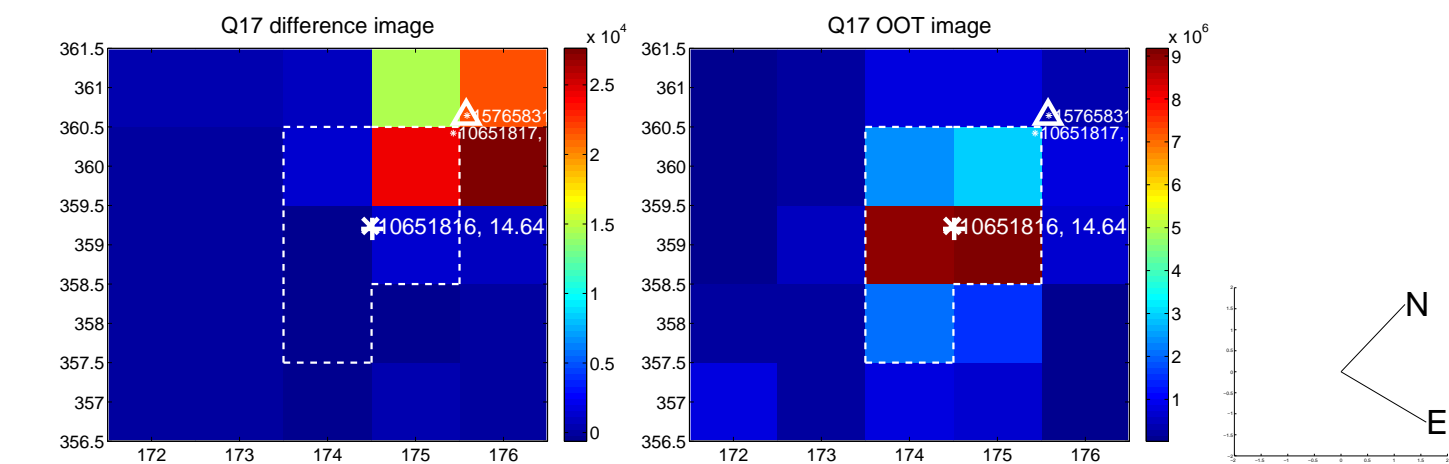
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



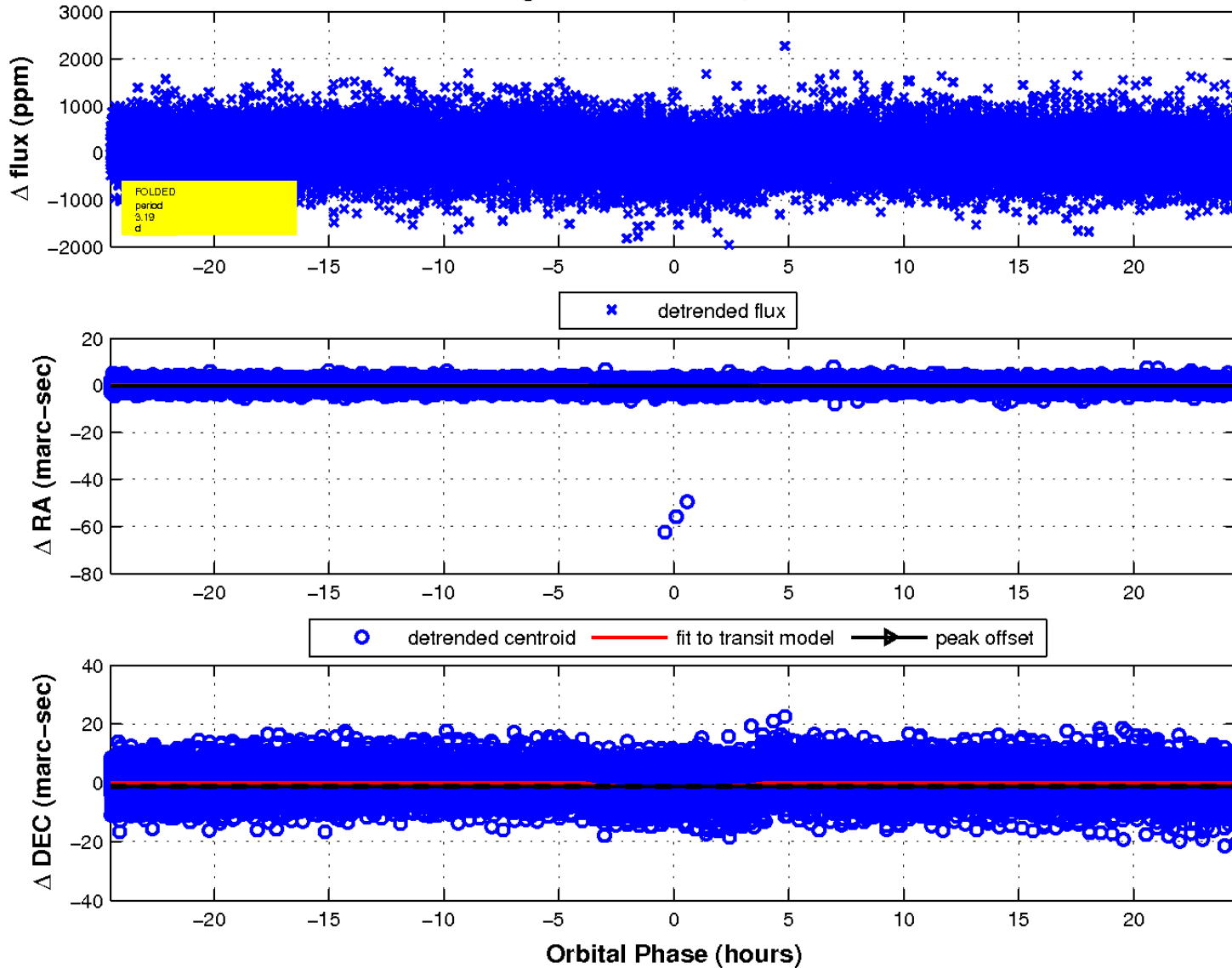
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

