

KIC 009836073

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})
009836073-01	OBS	No	0.646650	131.693504	55.1	7.760	11.2	12.8	1.93	7705	1.49	38224.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009836073-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

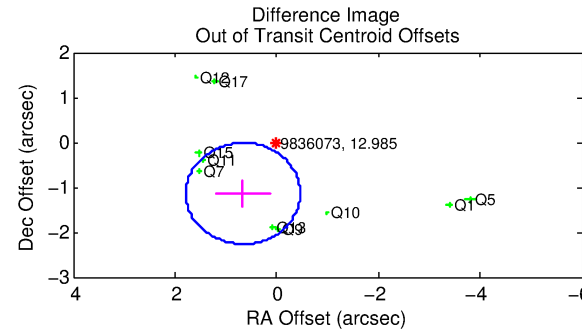
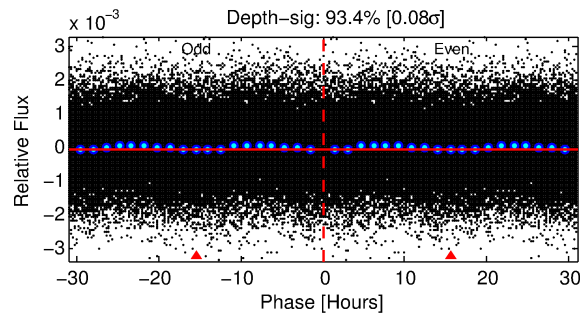
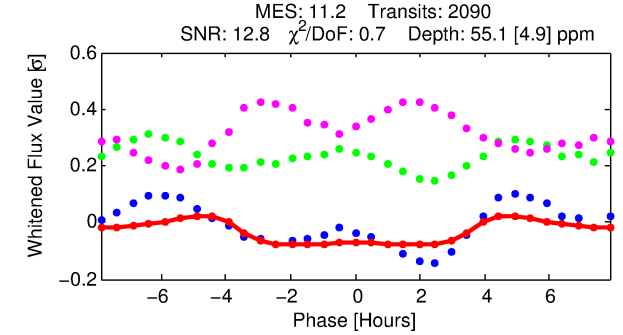
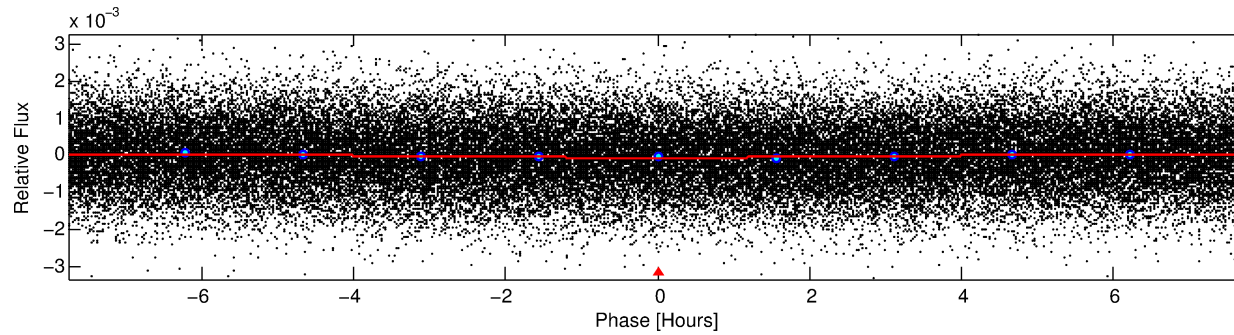
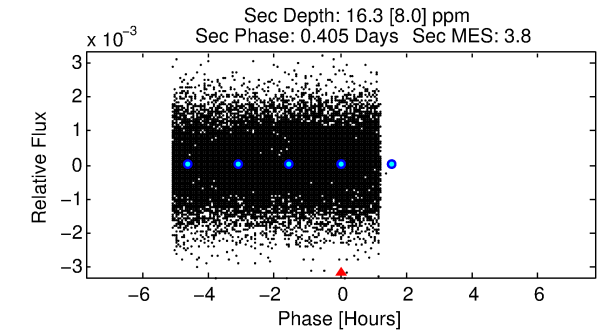
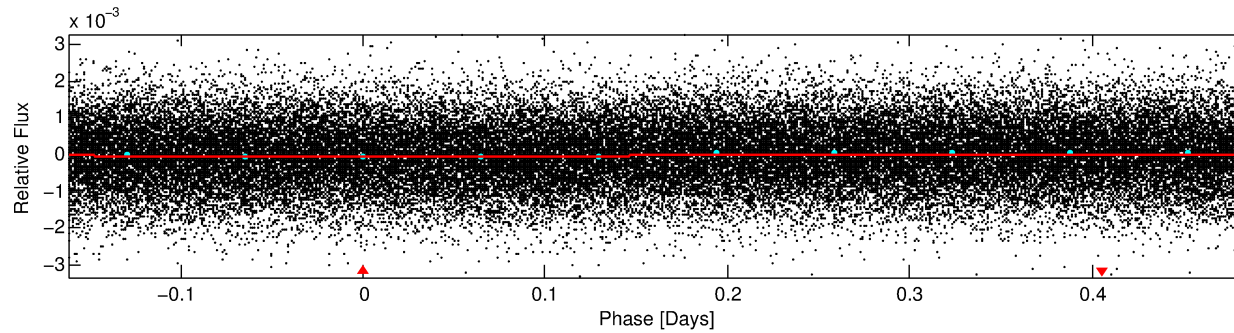
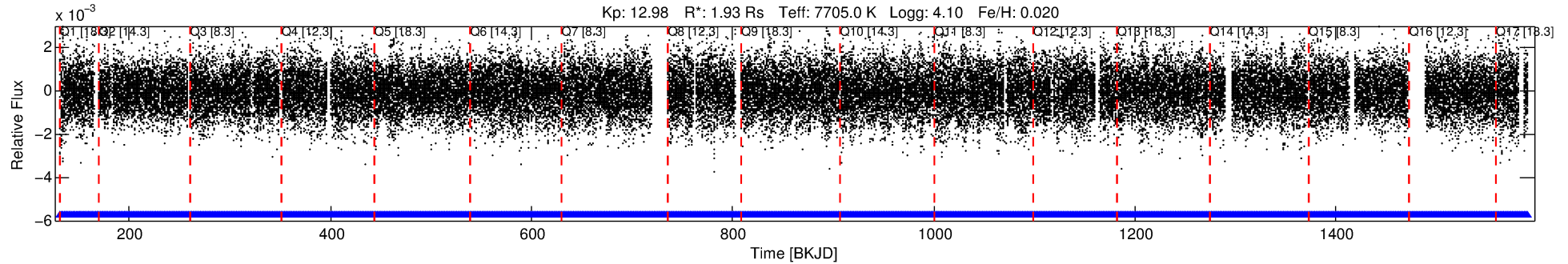
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009836073-01

No Significant Match Found

DV One-Page Summary

KIC: 9836073 Candidate: 1 of 1 Period: 0.647 d



DV Fit Results:

Period = 0.64665 [0.00001] d
Epoch = 131.6935 [0.0054] BKJD
Rp/R* = 0.0071 [0.0034]
a/R* = 1.00 [0.01]
b = 0.50 [4.56]
Seff = 38224.92 [13319.81]
Teq = 3565 [311] K
Rp = 1.49 [0.81] Re
a = 0.0175 [0.0037] AU
Ag = 1.24 [1.40] [0.18σ]
Teffp = 5822 [1590] K [1.39σ]

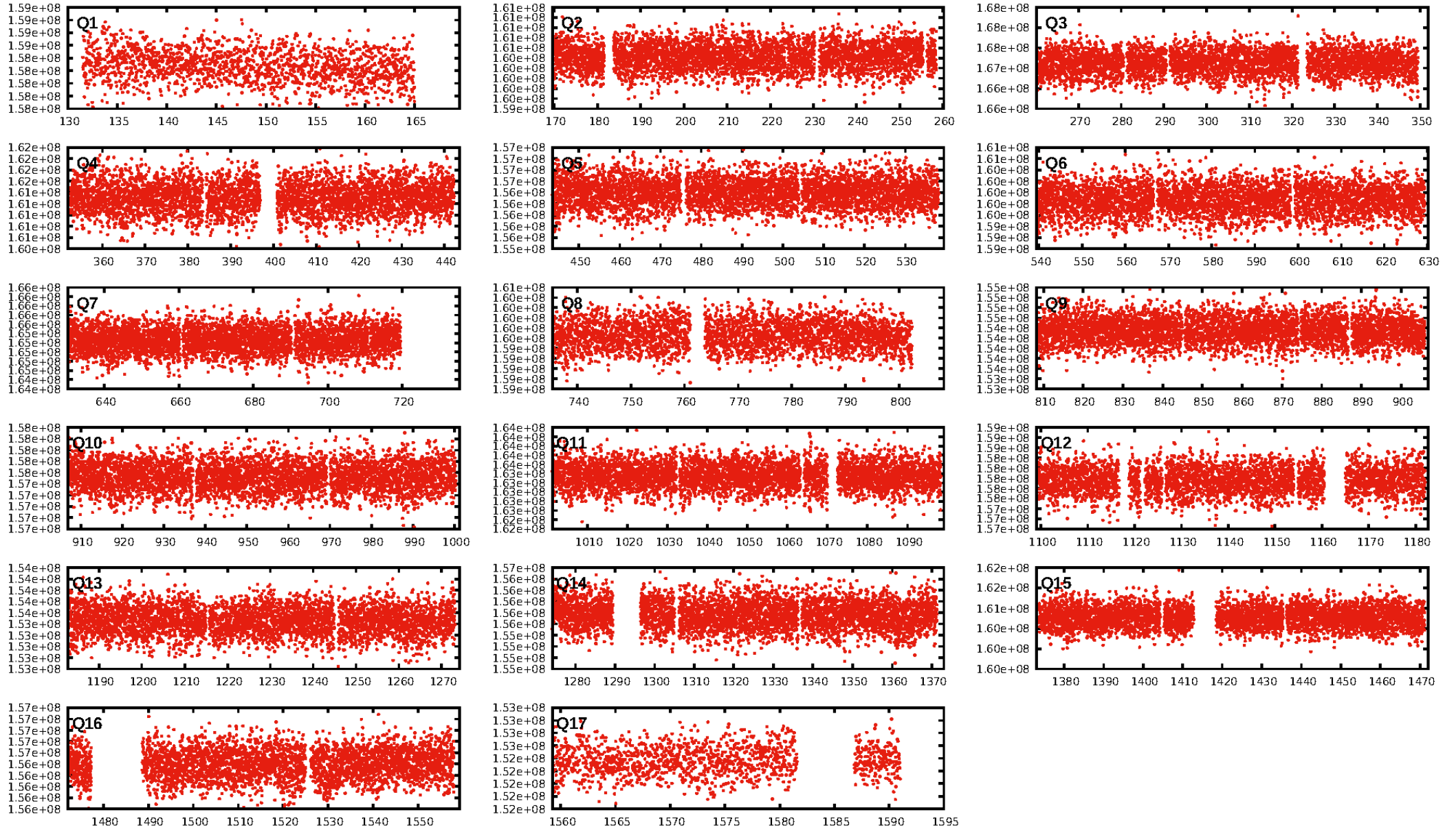
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1997/1997]
GhostDiagnostic-chr: 1.042
Centroid-sig: 0.0%
Centroid-so: 0.452 arcsec [2.72σ]
OotOffset-rm: 1.320 arcsec [3.52σ]
KicOffset-rm: 1.284 arcsec [3.60σ]
OotOffset-st: 1/3/1/5 [10]
KicOffset-st: 1/3/1/5 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [17/17]

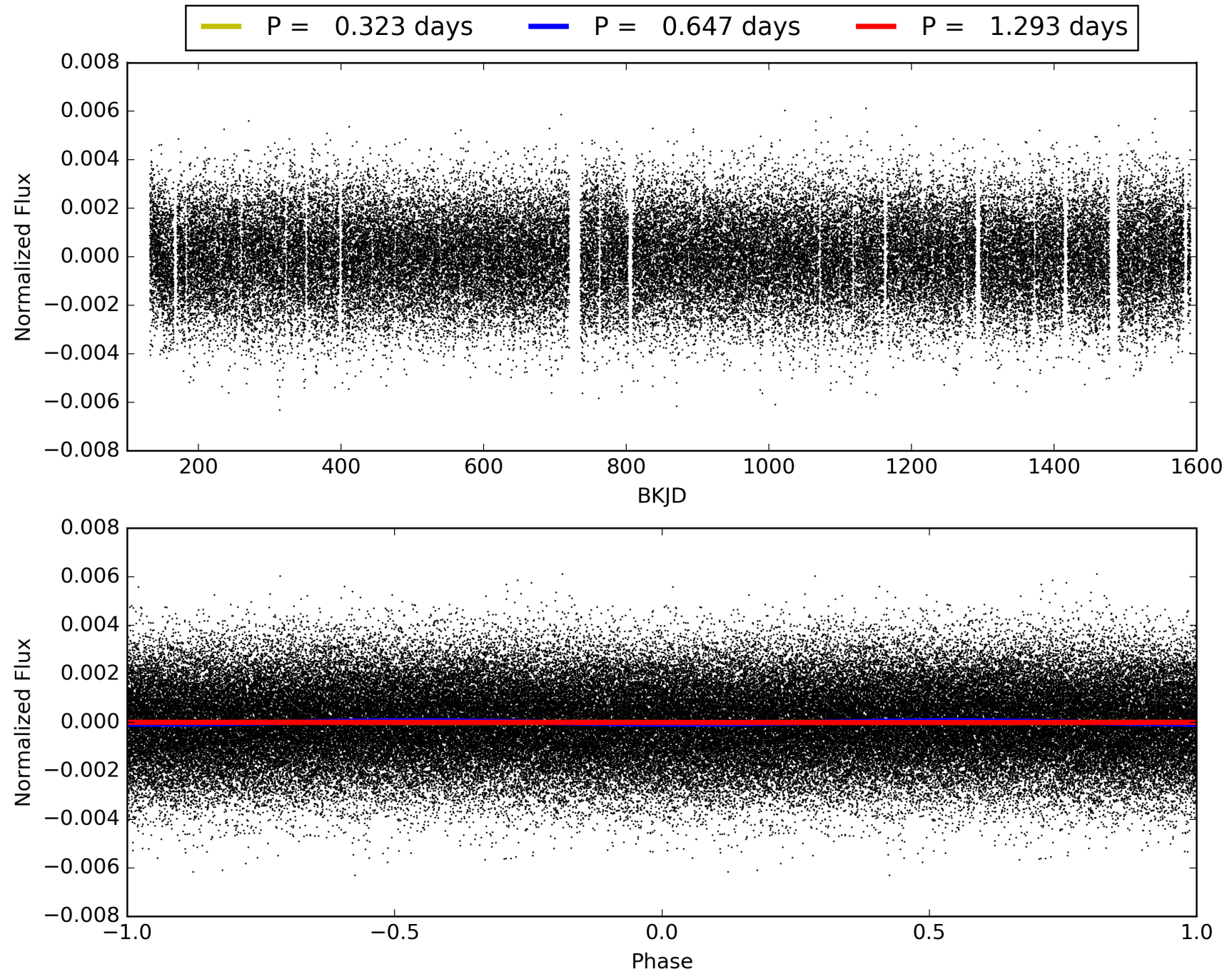
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:22:51 Z

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

TCE 009836073-01, PDC Light Curves

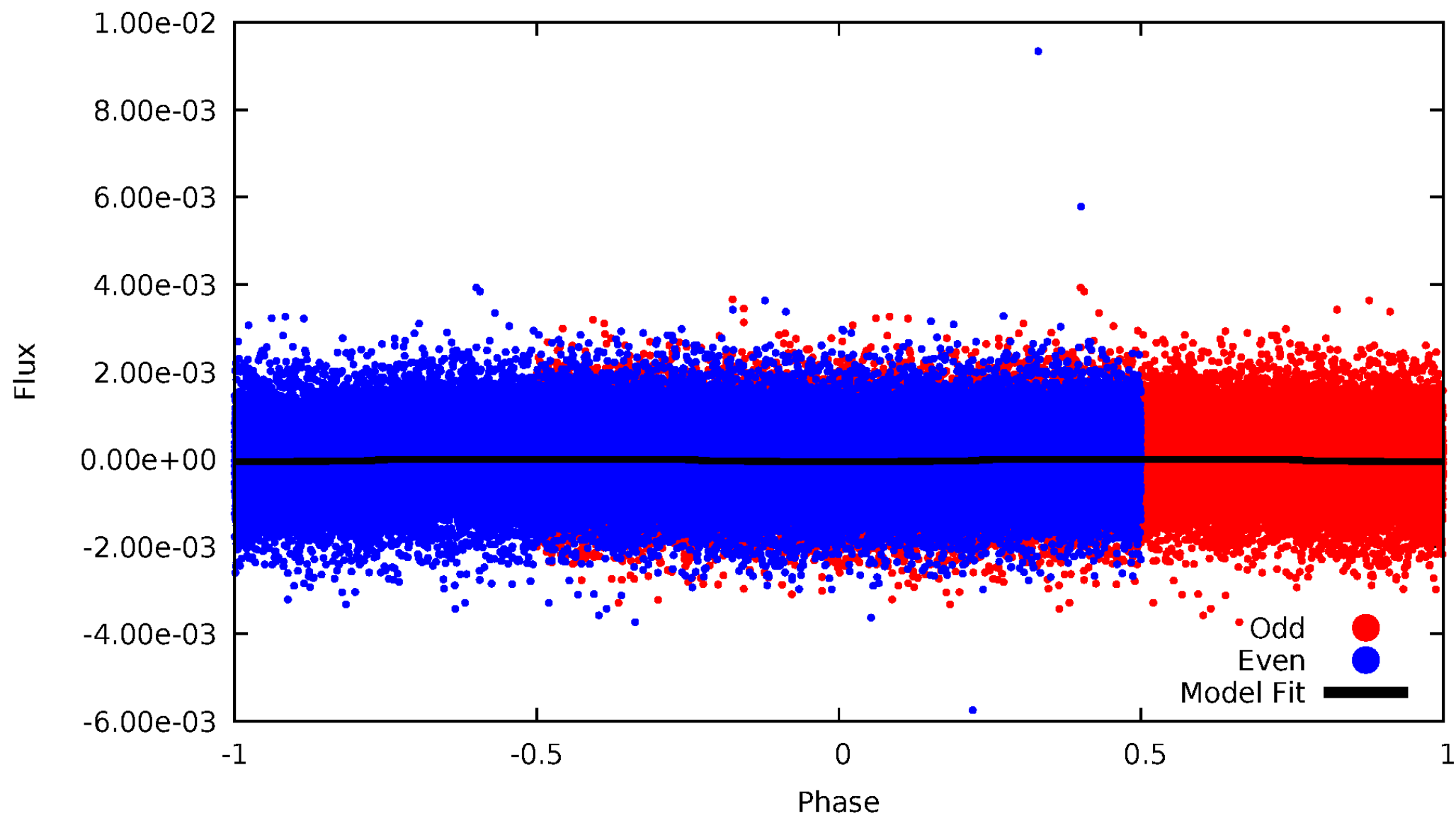


TCE 009836073-01



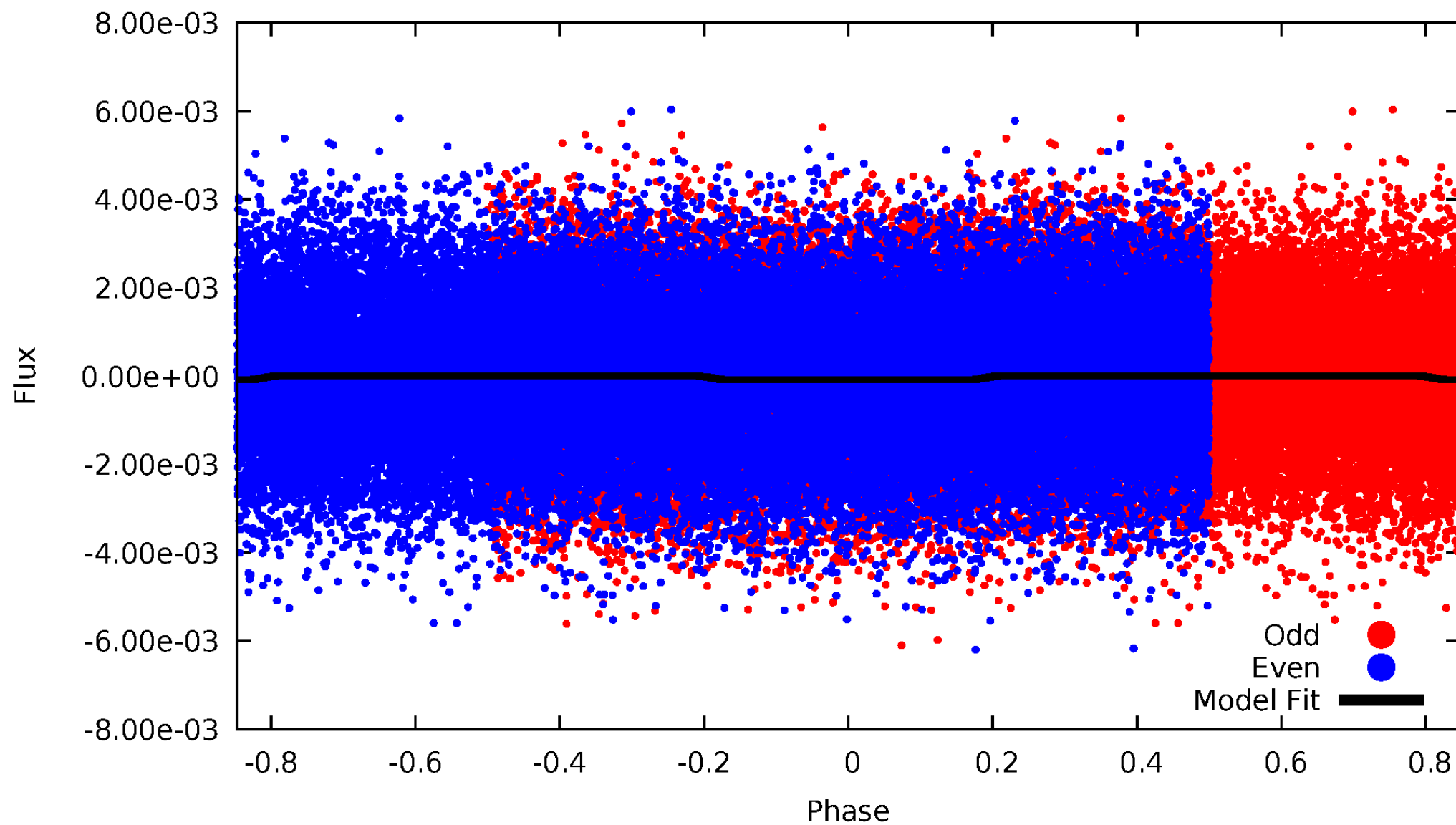
DV Odd/Even

TCE 009836073-01



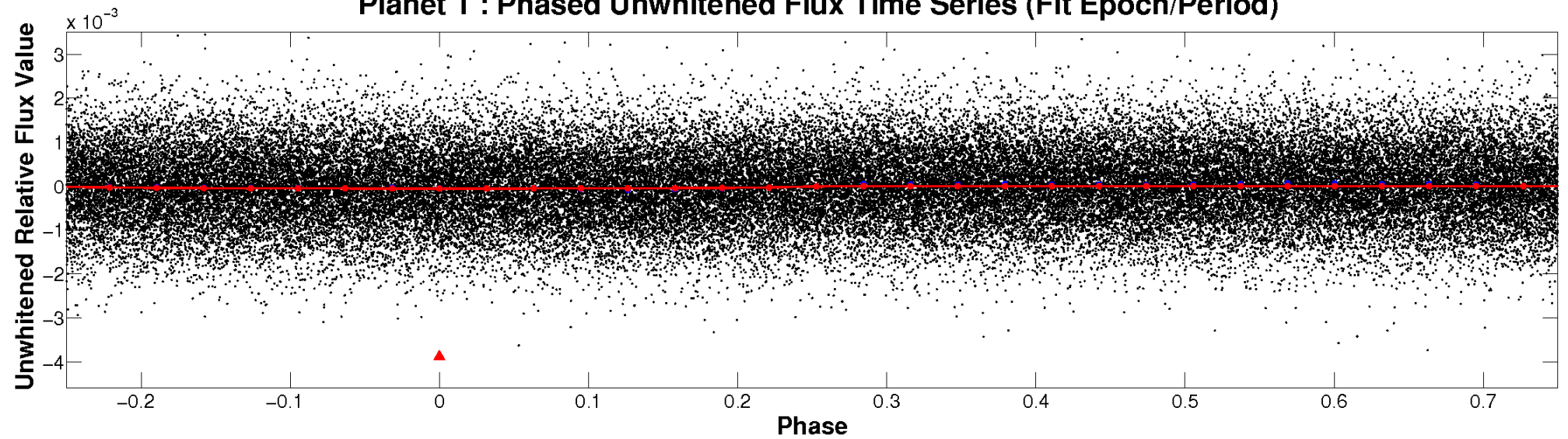
ALT Odd/Even

TCE 009836073-01

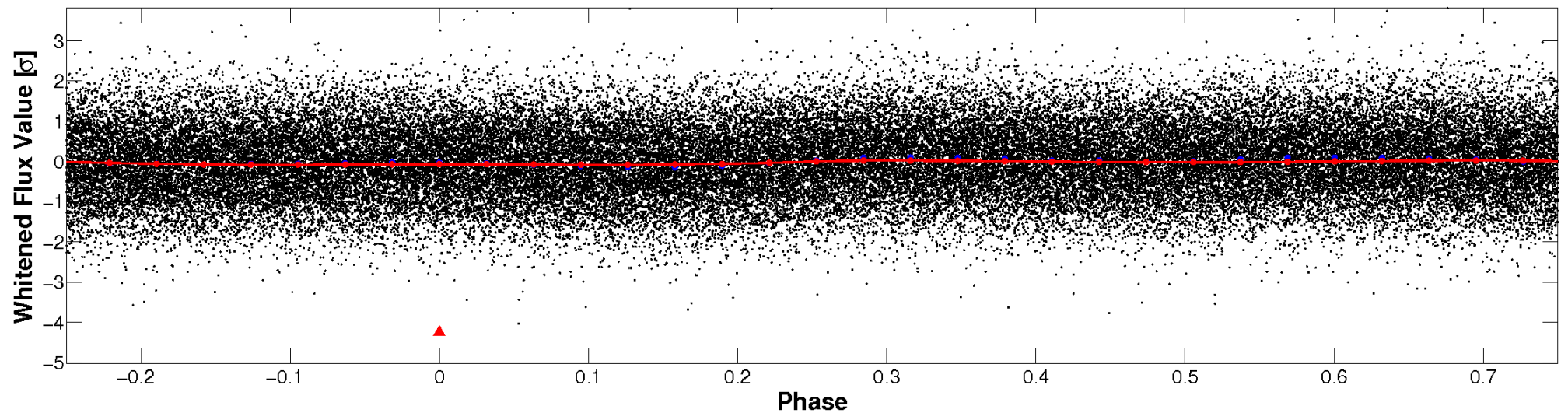


Non-Whitened Vs. Whitened Light Curve

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

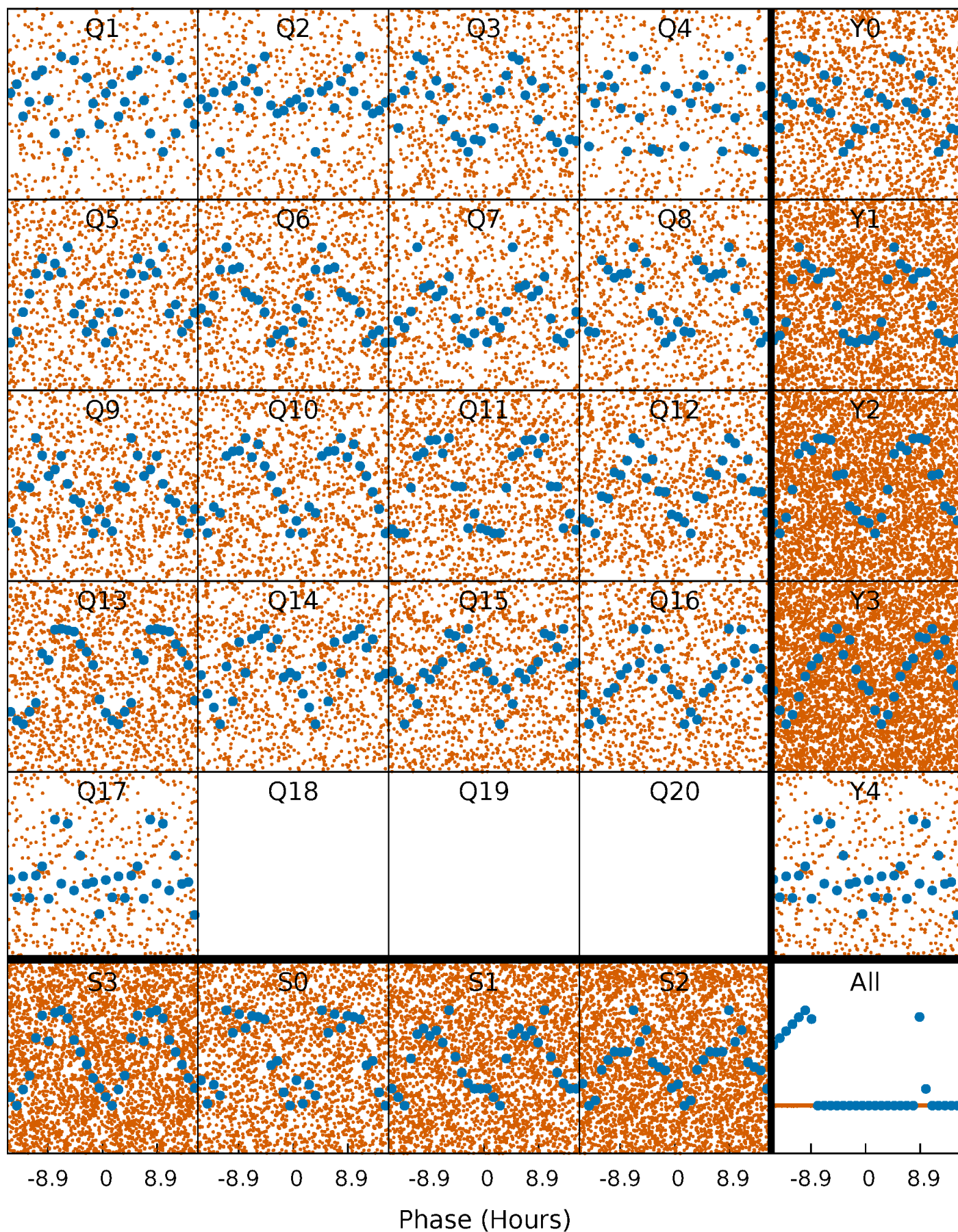


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



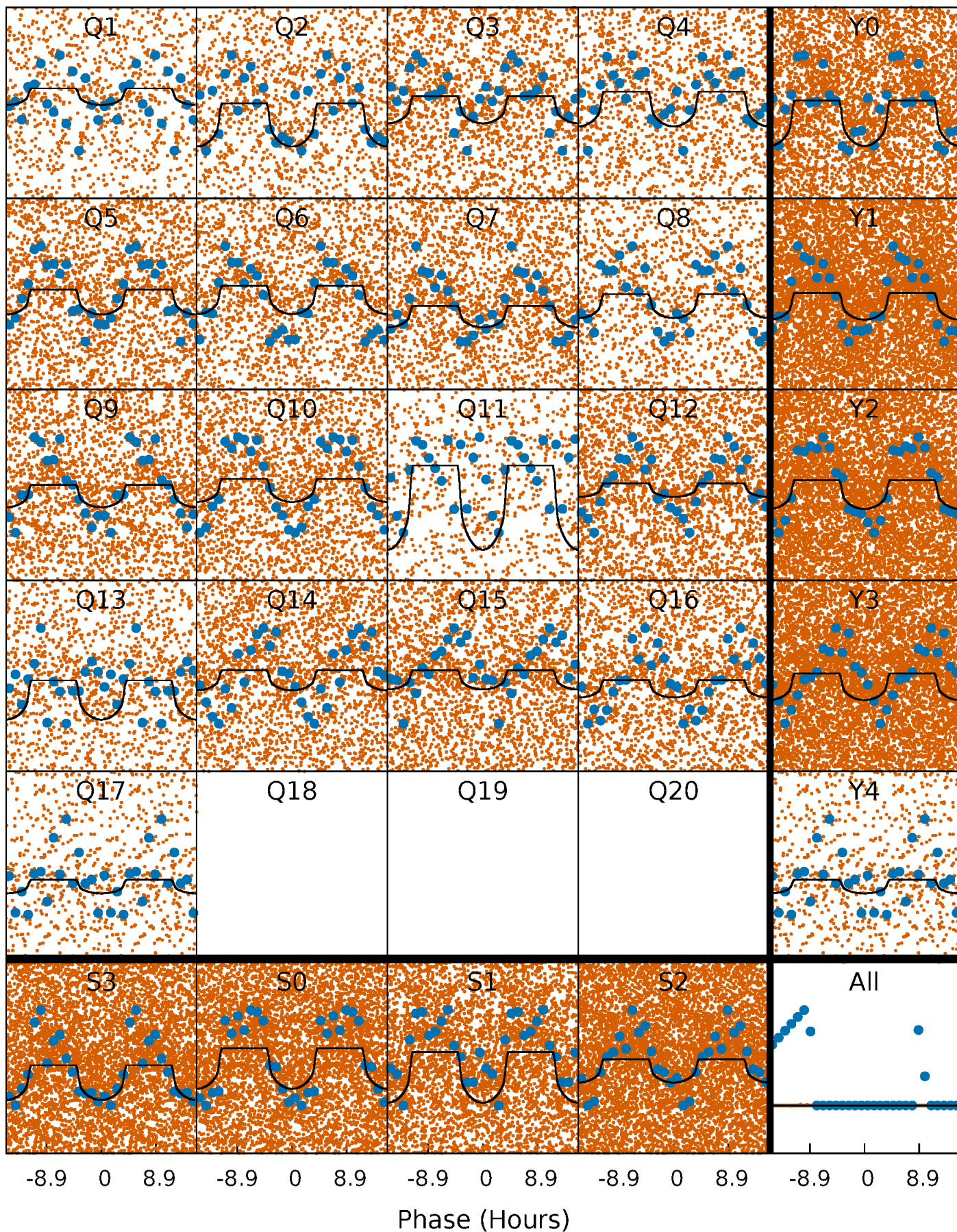
PDC Quarter-Phased Transit Curves

TCE 009836073-01 P= 0.646650 Days $T_0=131.693504$ (BKJD)



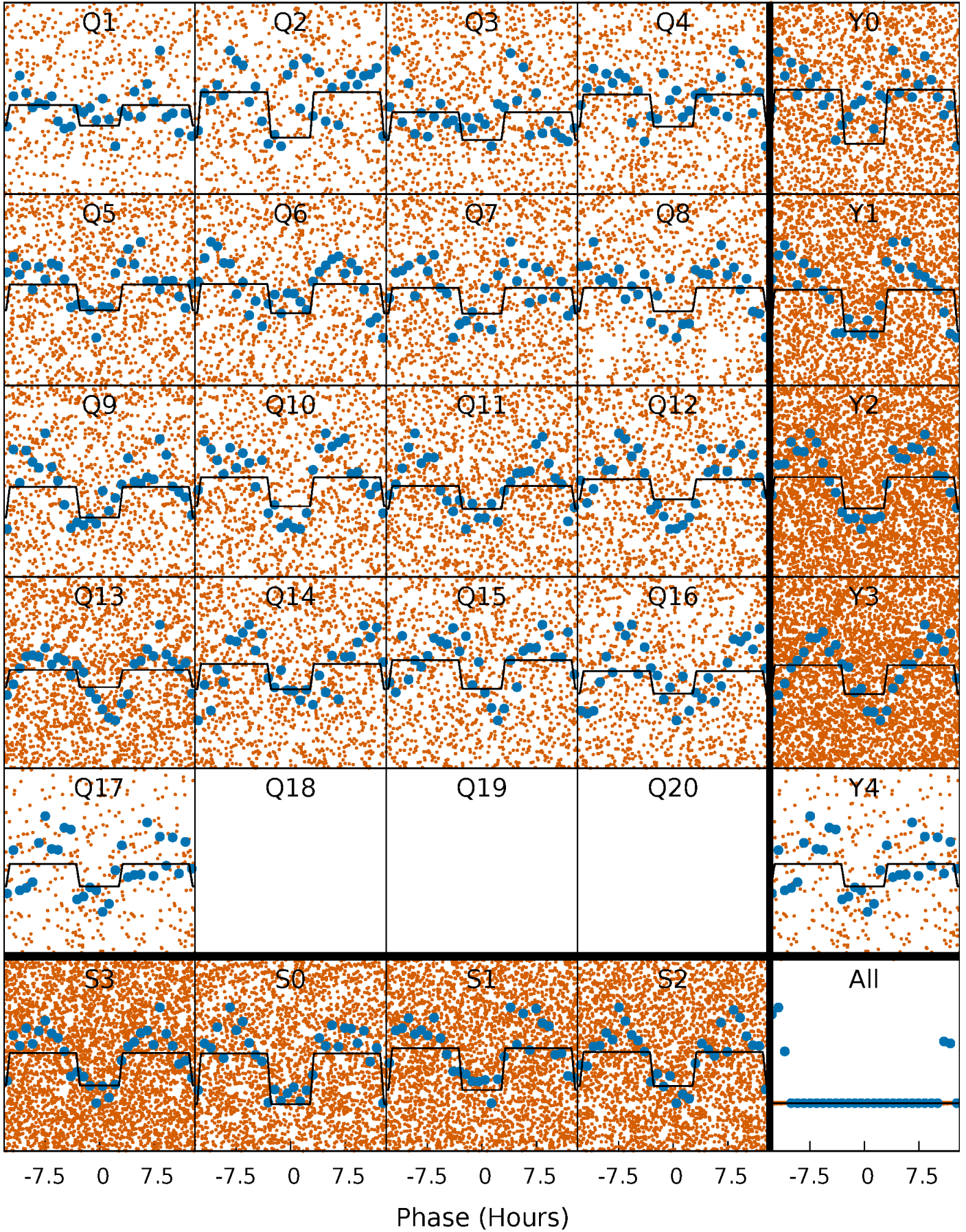
DV Quarter-Phased Transit Curves

TCE 009836073-01 P= 0.646650 Days $T_0=131.693504$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

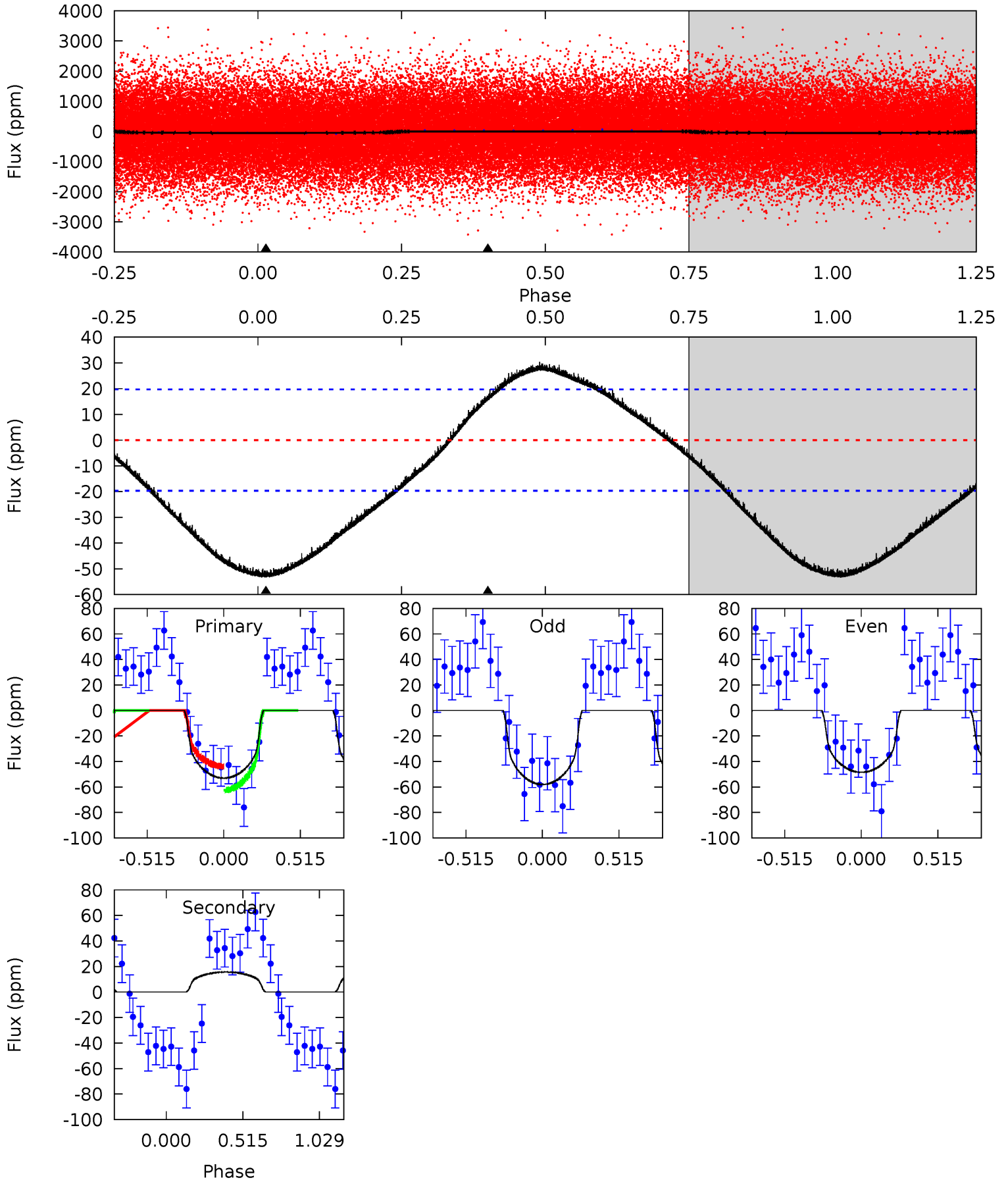
TCE 009836073-01 P= 0.646665 Days $T_0=131.708543$ (BKJD)



DV Model-Shift Uniqueness Test

009836073-01, P = 0.646650 Days, E = 131.046854 Days

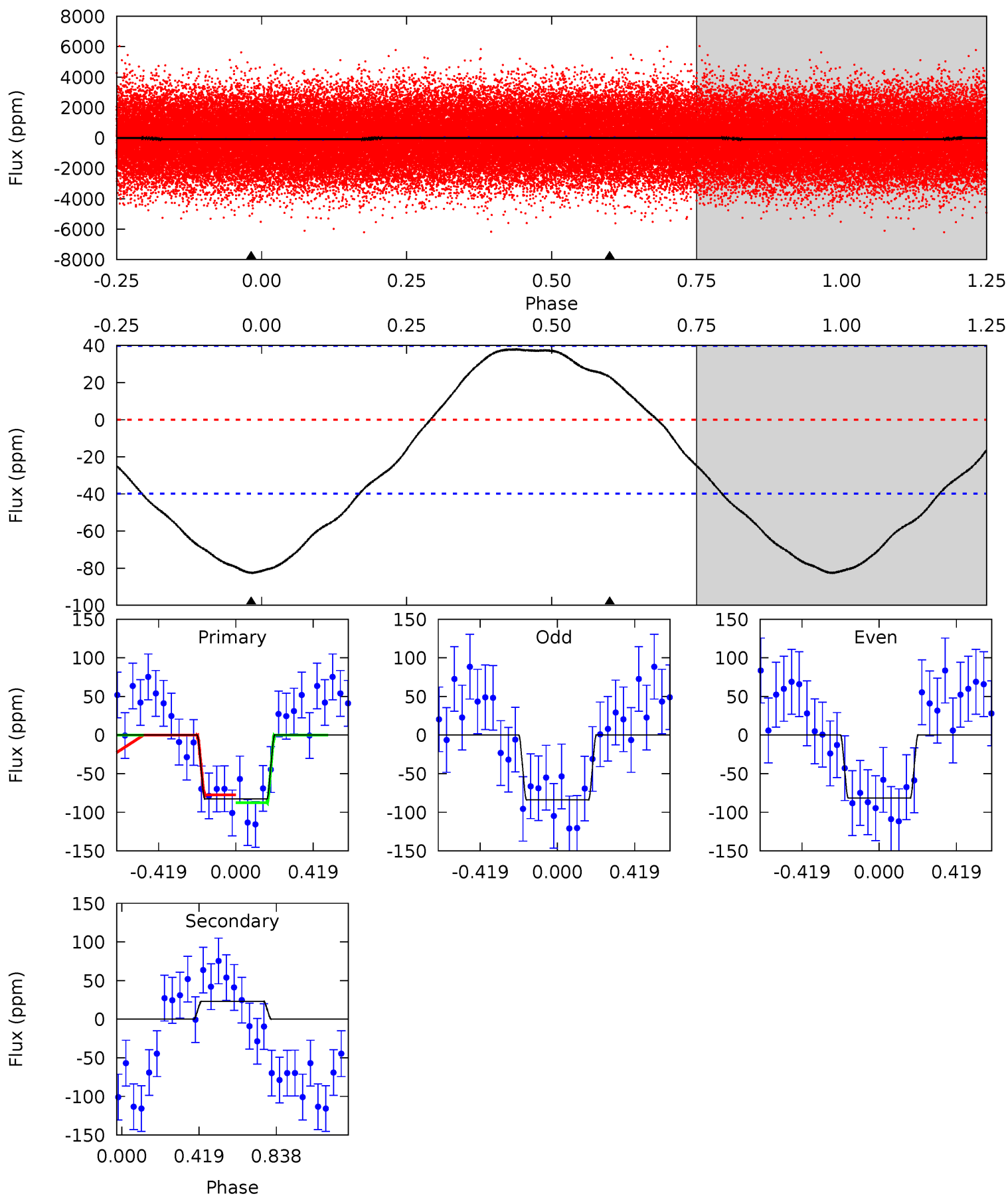
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	-3.35	0	0	4.21	0.65	1.14	11.4	11.4	-3.35	-3.35	1.03	1.00	0.36	2.04



Alt Model-Shift Uniqueness Test

009836073-01, P = 0.646665 Days, E = 131.061878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	-2.46	0	0	4.25	0.81	1.20	8.82	8.82	-2.46	-2.46	0.12	1.21	0.31	0.55



Stellar Parameters For KIC 009836073

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.495}_{-0.405}$	$1.713^{+0.204}_{-0.249}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+26%/-21%	+12%/-15%	+68%/-47%
Source	KIC0	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 009836073-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	16 ± 5	$1.55^{+0.82}_{-0.75}$	4989^{+347}_{-296}	-5902^{+753}_{-1988}	$-1.092^{+0.634}_{-3.097}$
Alt.	23 ± 9	$1.95^{+0.83}_{-0.76}$	4981^{+354}_{-310}	-5757^{+734}_{-1396}	$-0.955^{+0.572}_{-1.822}$

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

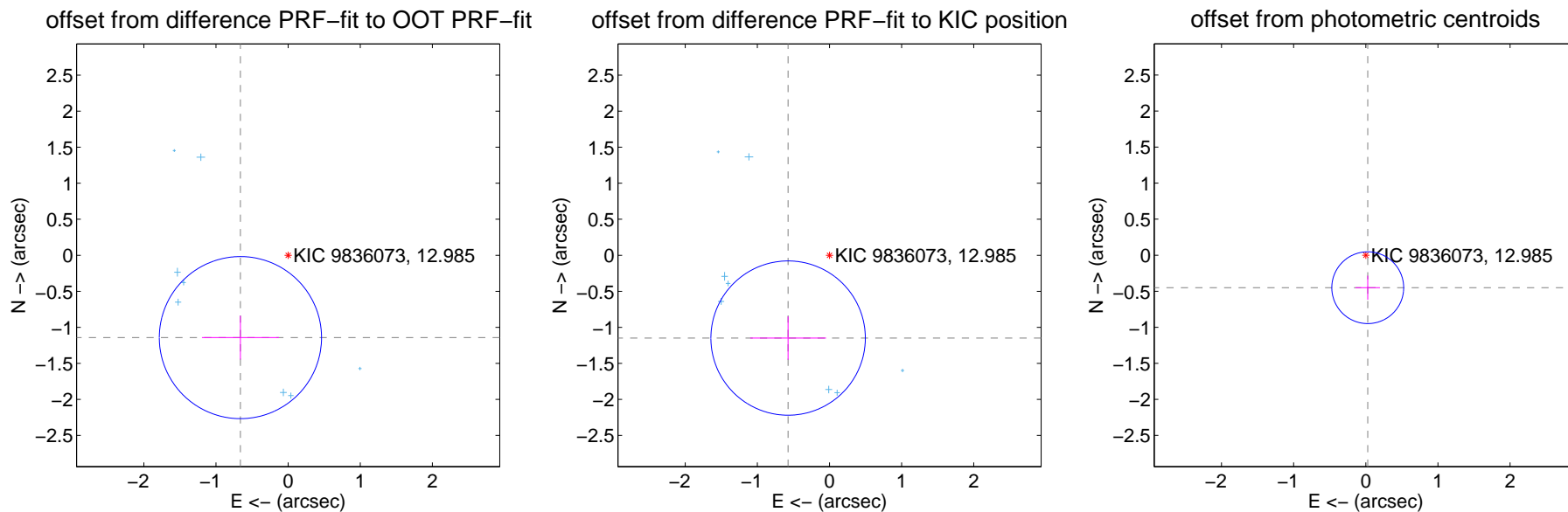
DV Centroid Data

Supplemental centroid analysis for 009836073-01. Kepler magnitude: 12.98. Transit SNR 12.76

There are 8 quarters with good PRF difference image offsets

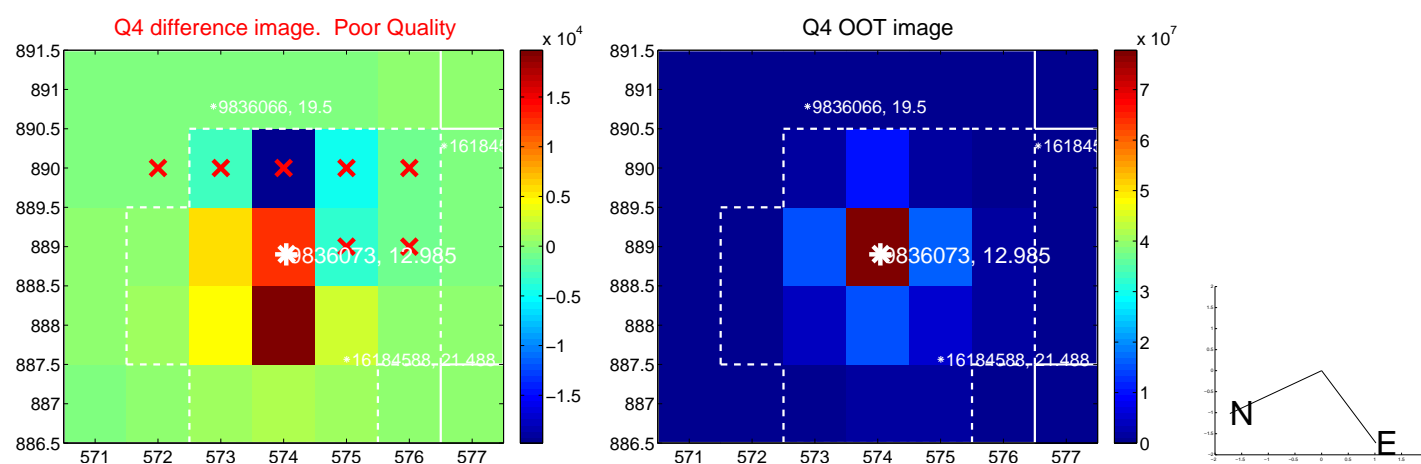
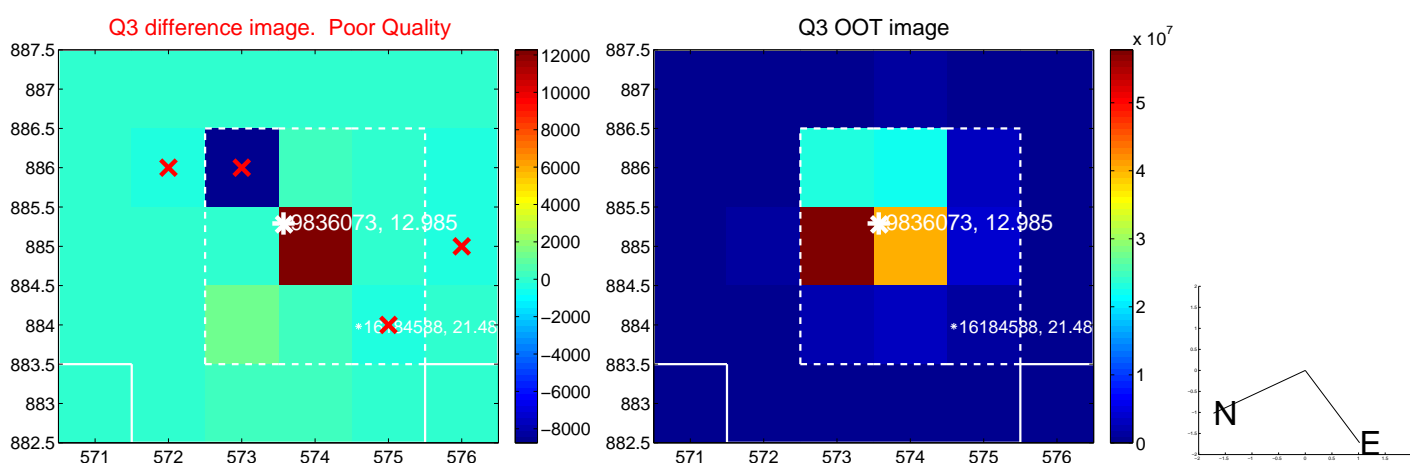
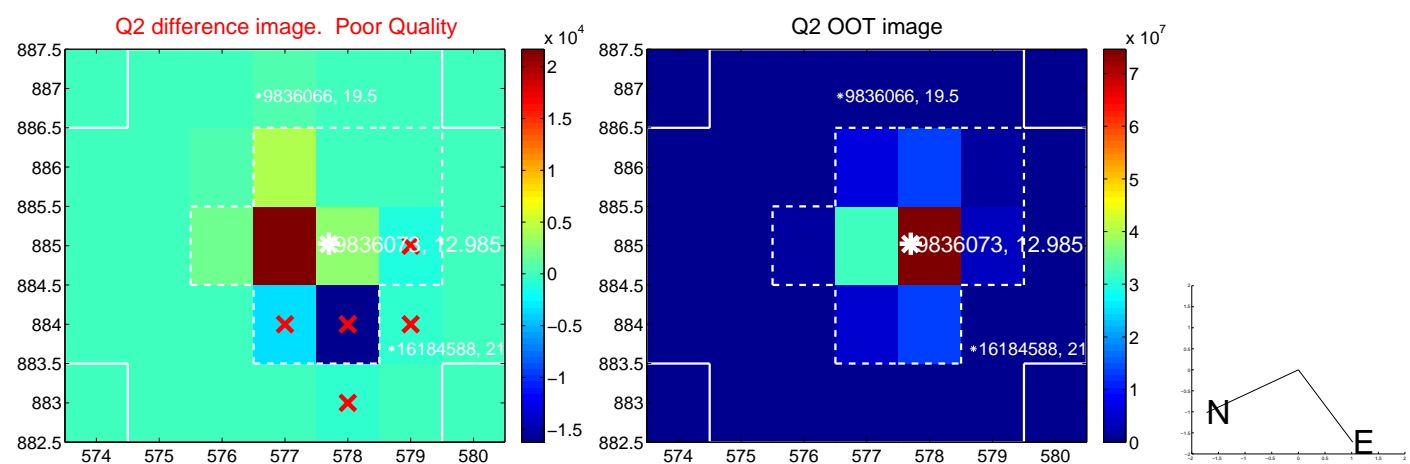
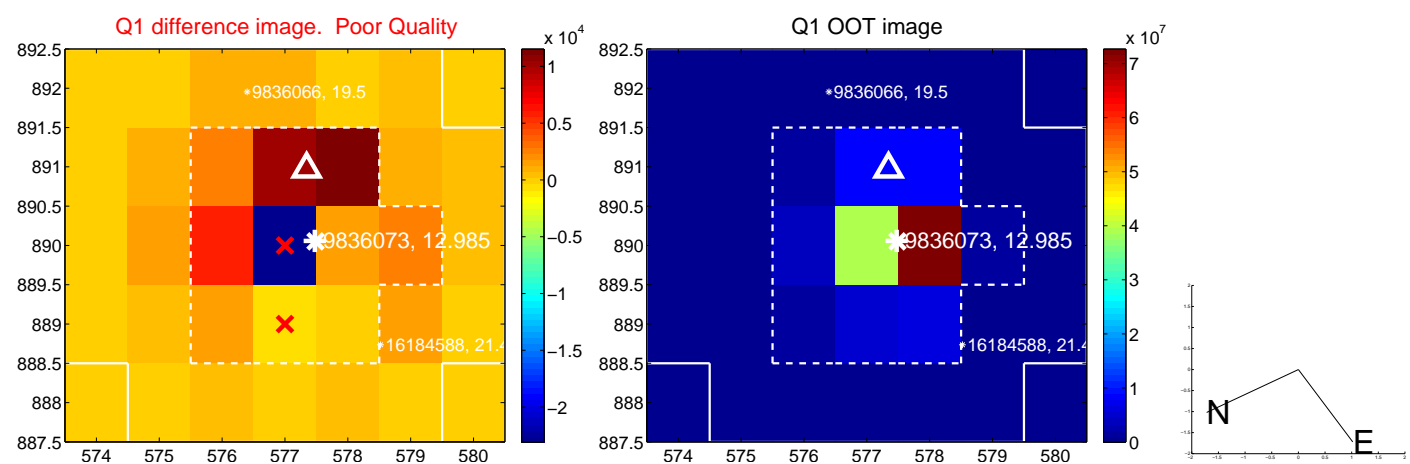
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.320 ± 0.375	3.52	0.661 ± 0.534	-1.143 ± 0.304
PRF-fit source offset from KIC position	1.284 ± 0.357	3.60	0.574 ± 0.526	-1.149 ± 0.300
photometric centroid source offset	0.45 ± 0.17	2.72	-0.03 ± 0.17	-0.45 ± 0.17

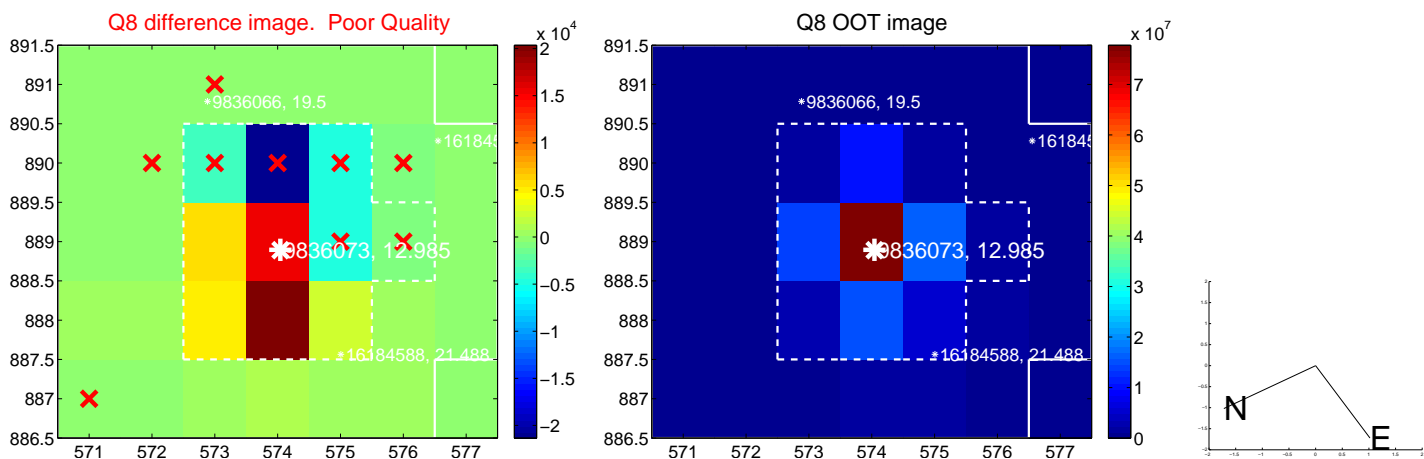
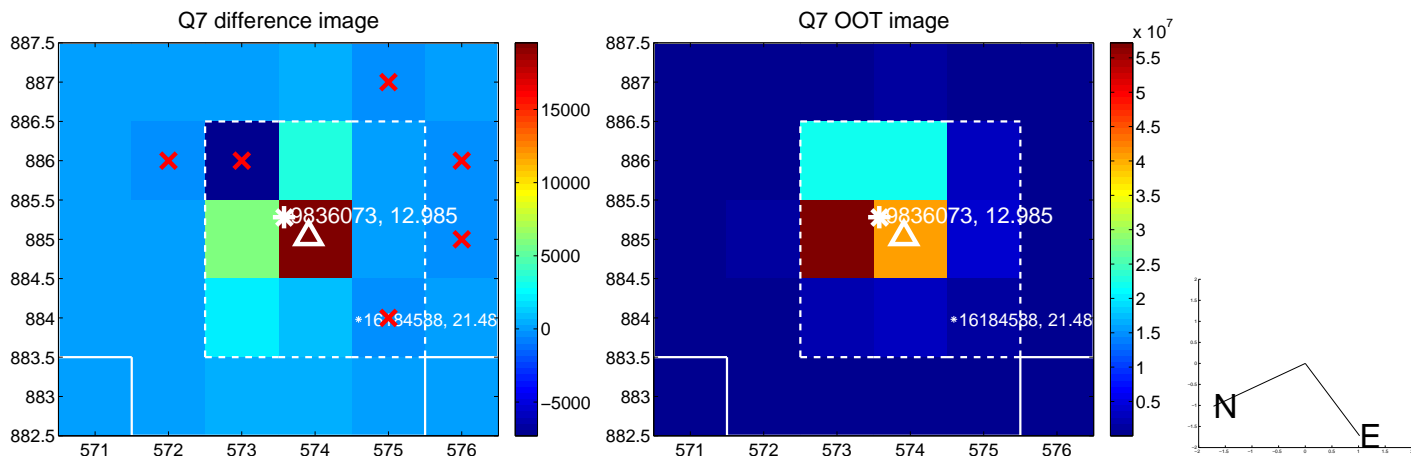
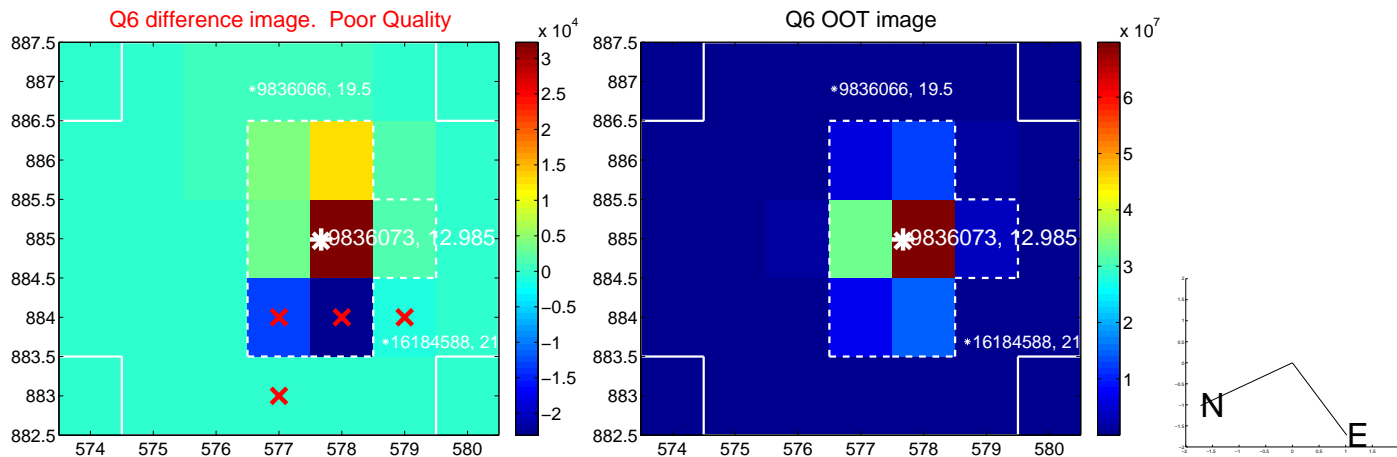
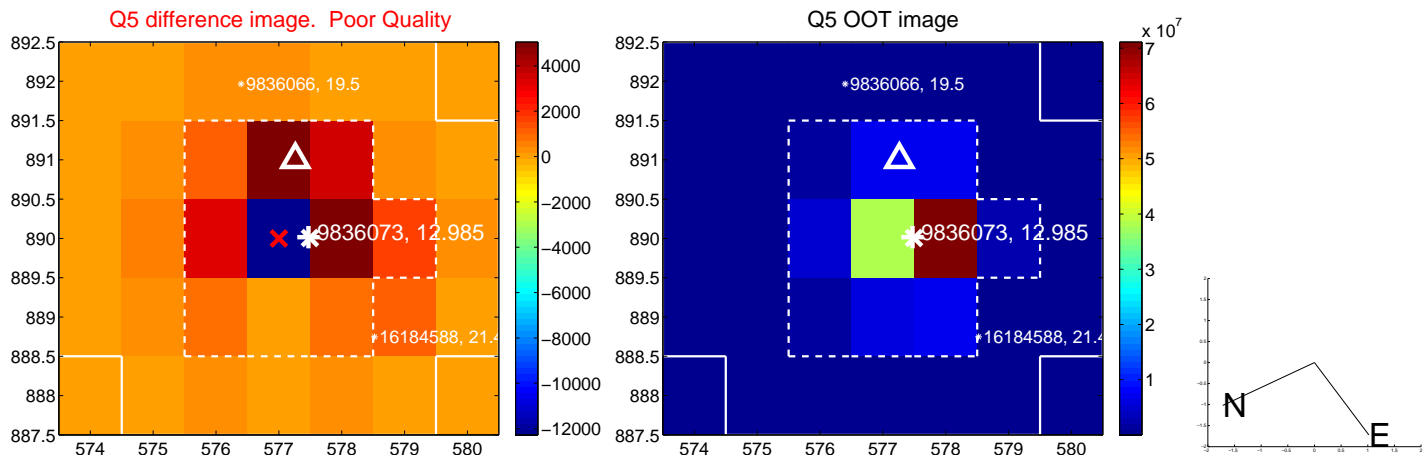


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

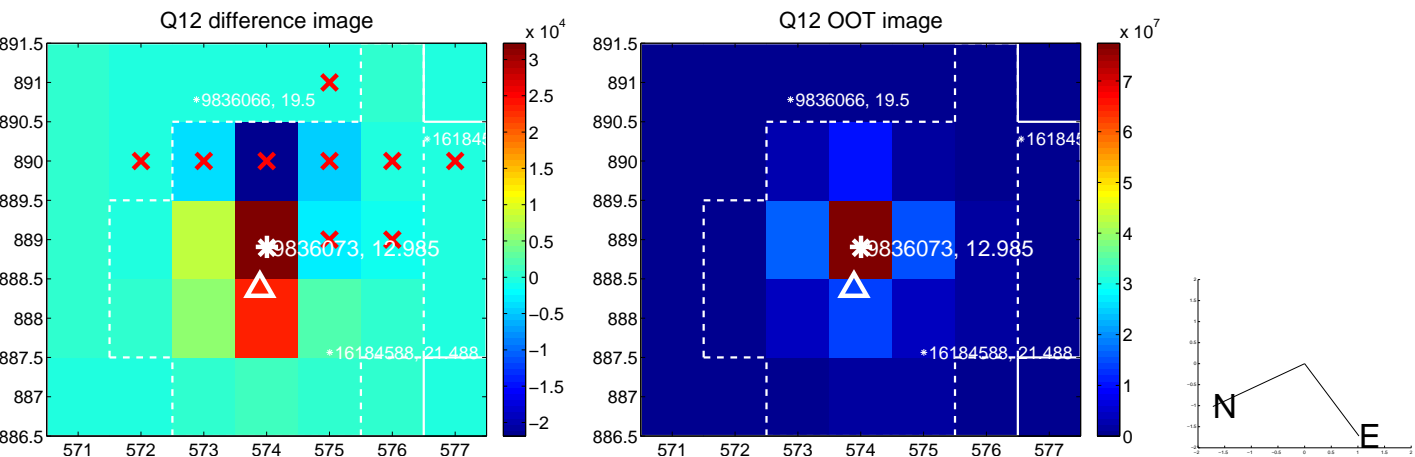
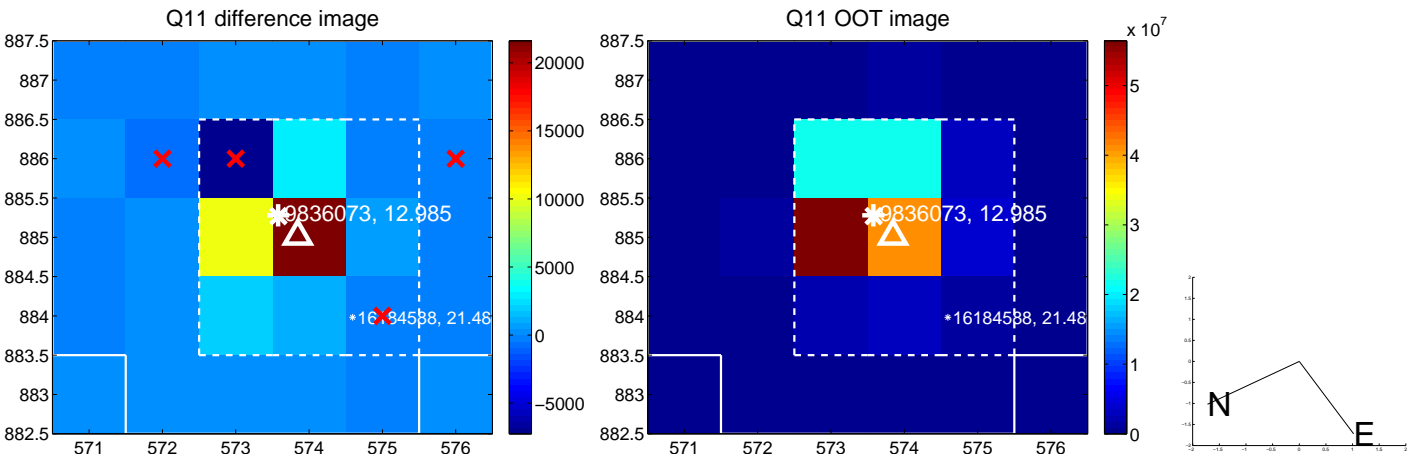
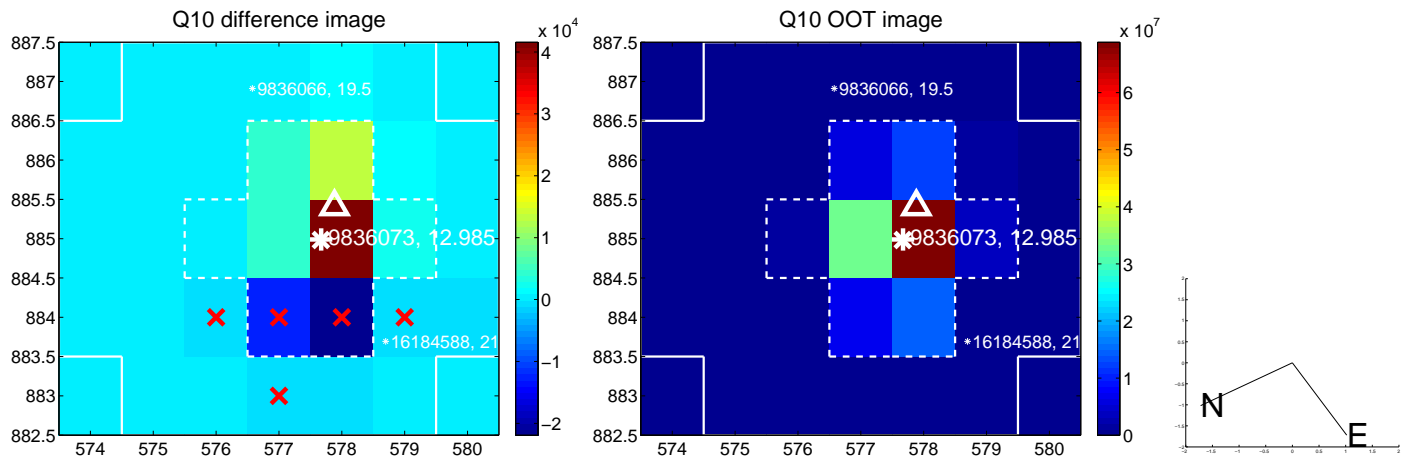
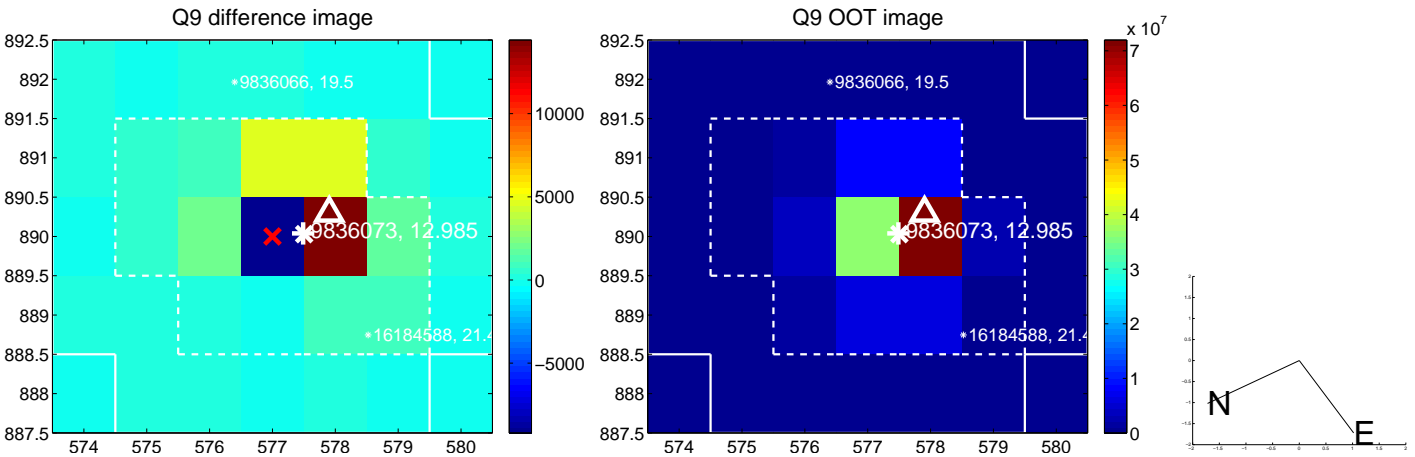
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



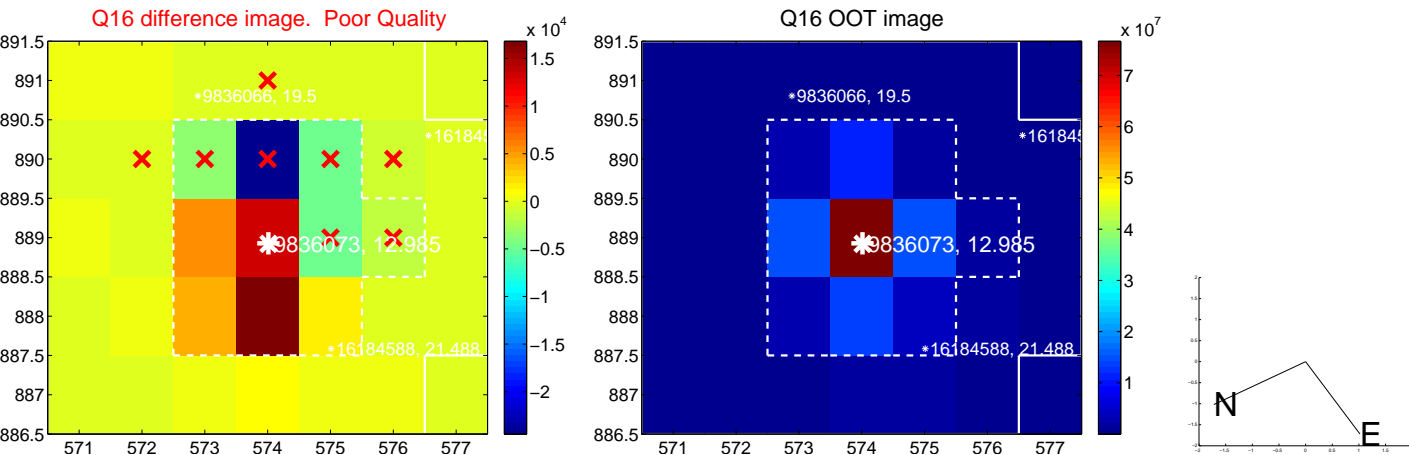
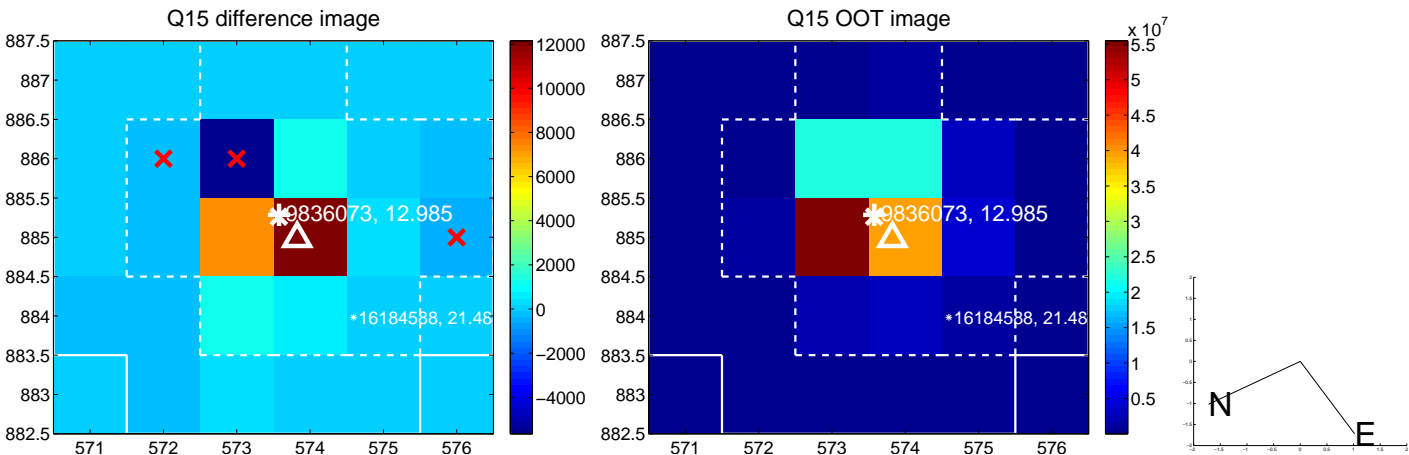
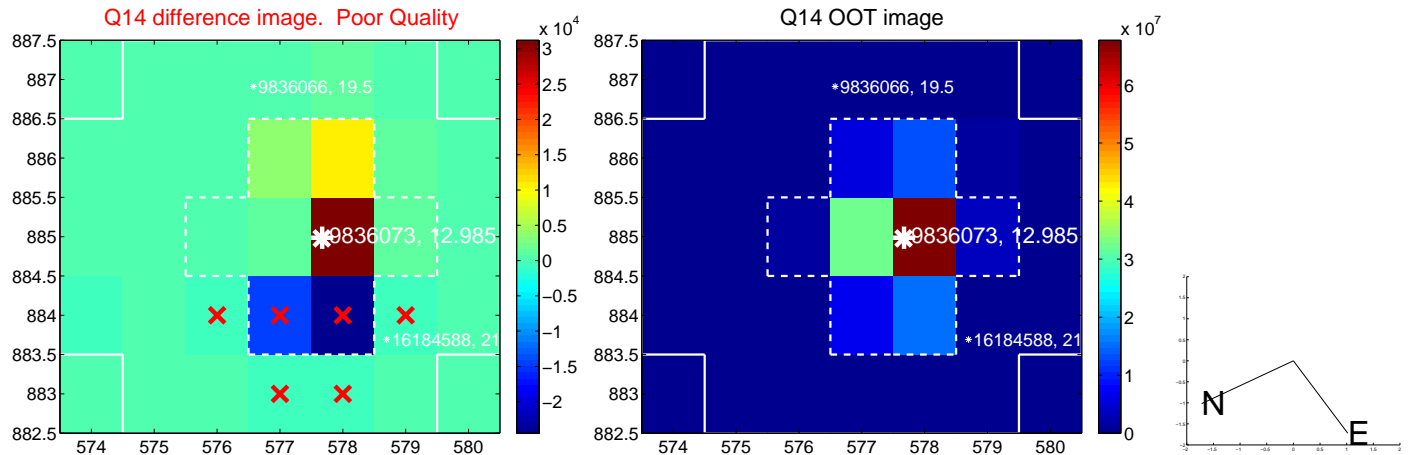
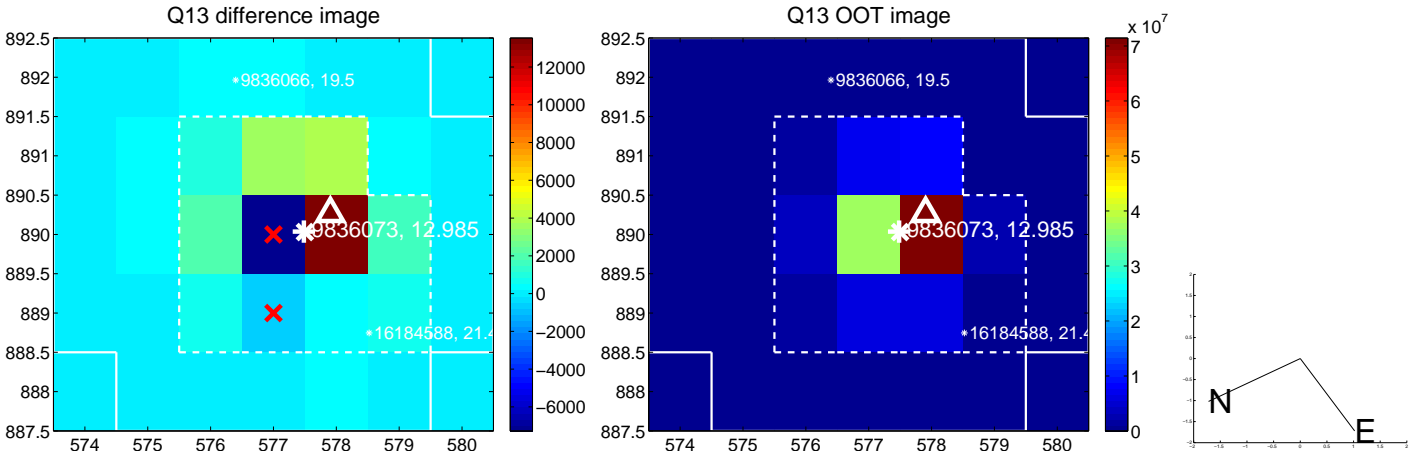
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



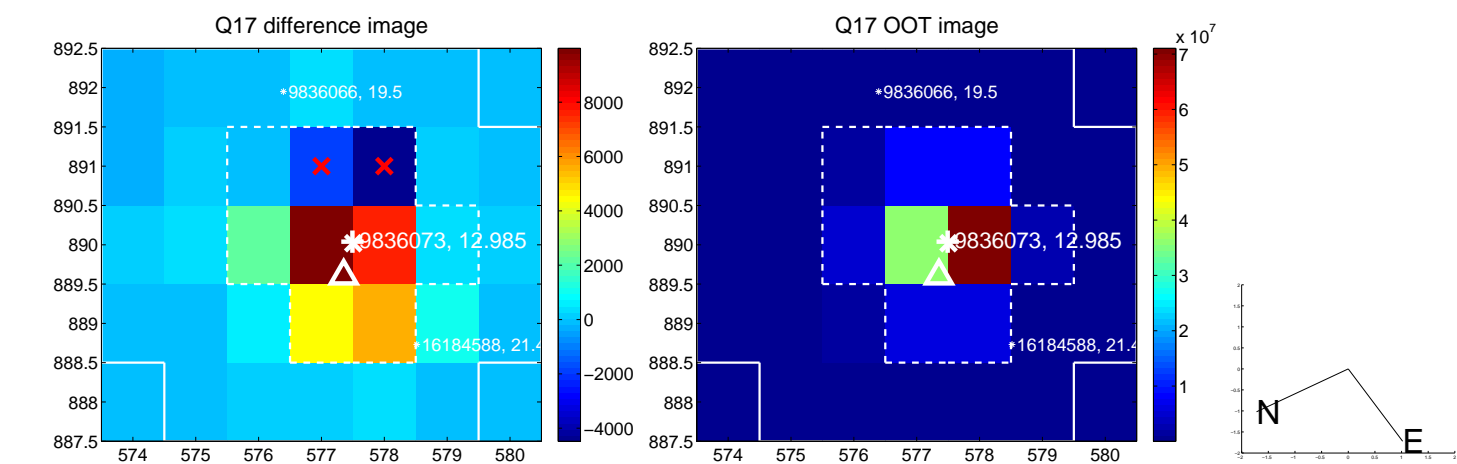
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



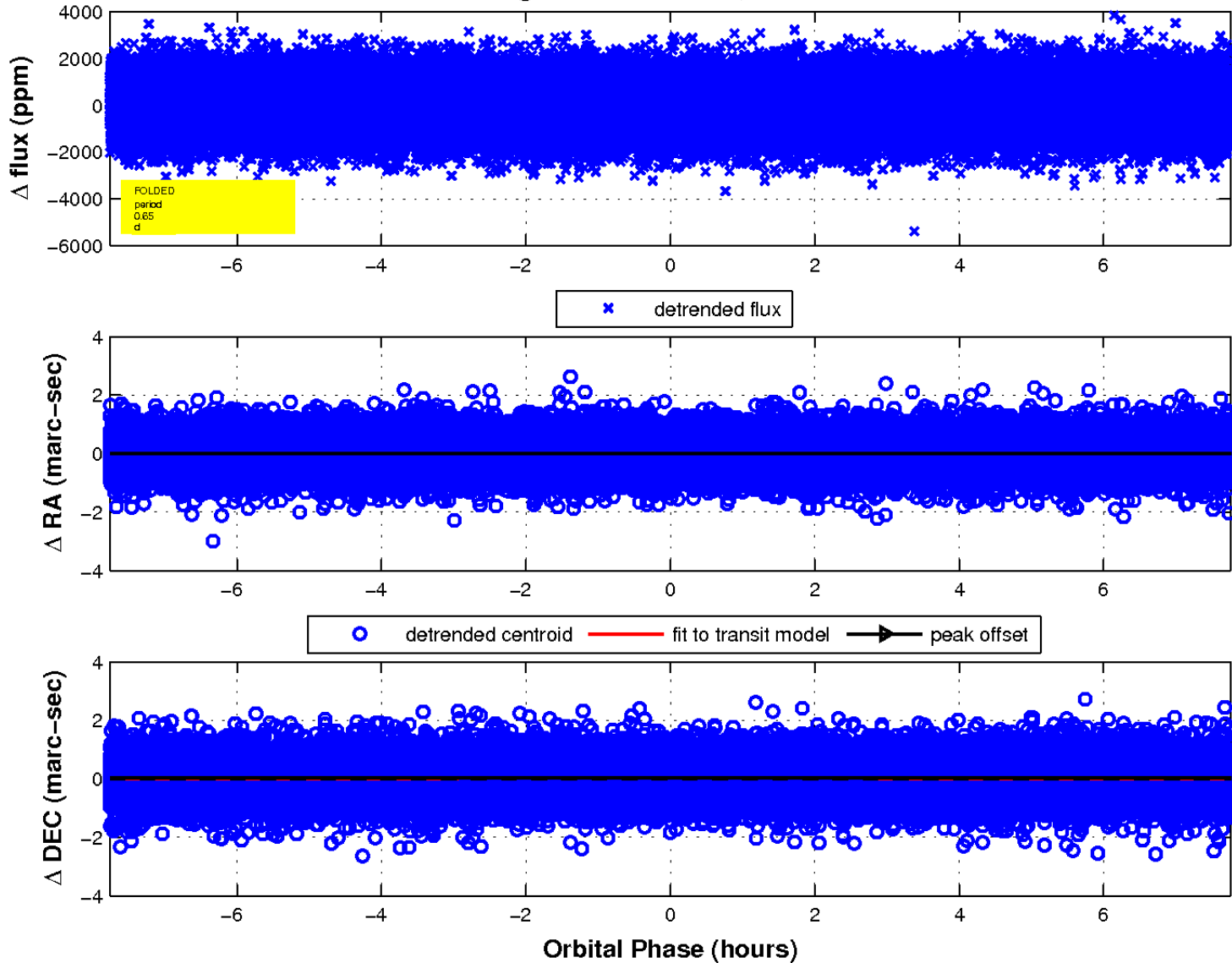
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

