

KIC 010659624

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})
010659624-01	OBS	7354.01	43.267779	136.455856	70.7	8.540	7.7	8.5	1.73	5747	1.67	46.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010659624-01	OBS	PC	0.58	0	0	0	0	NO_COMMENT

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

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

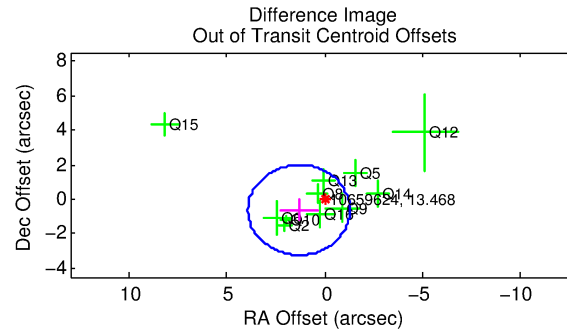
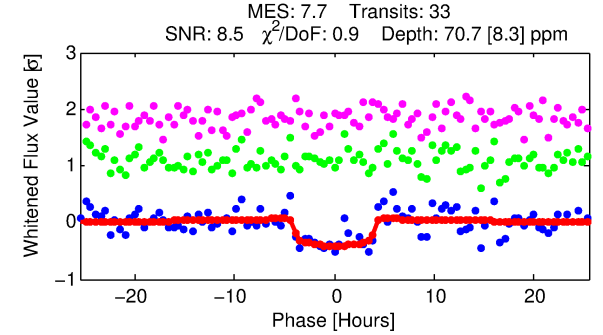
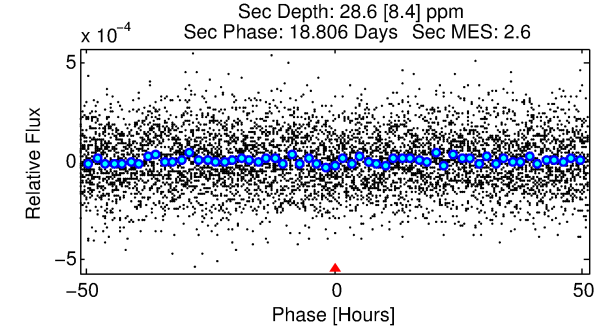
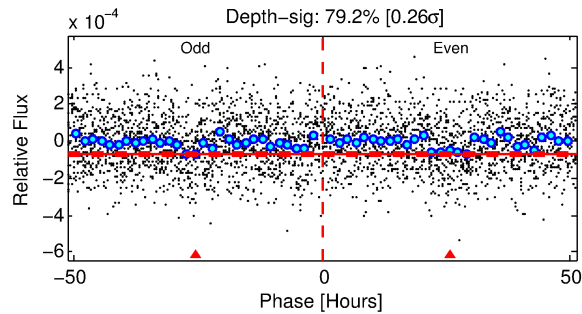
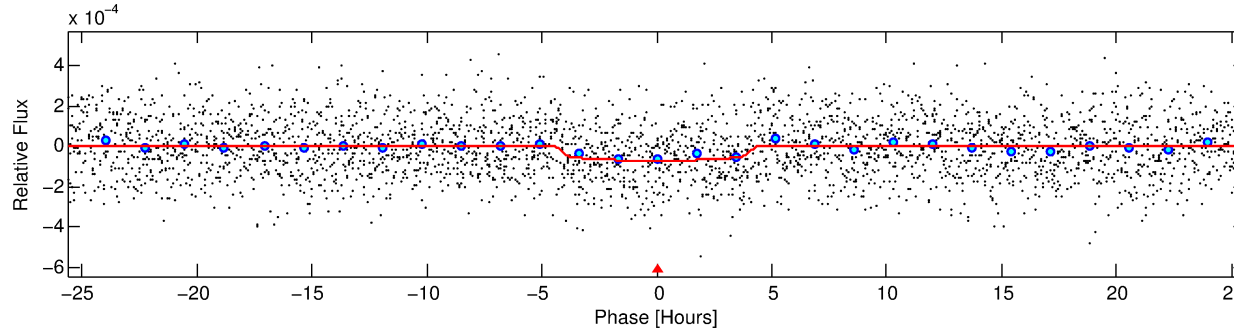
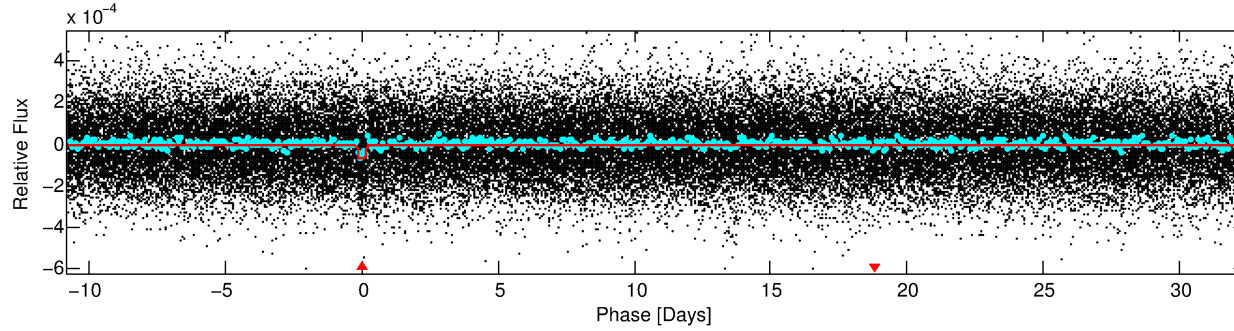
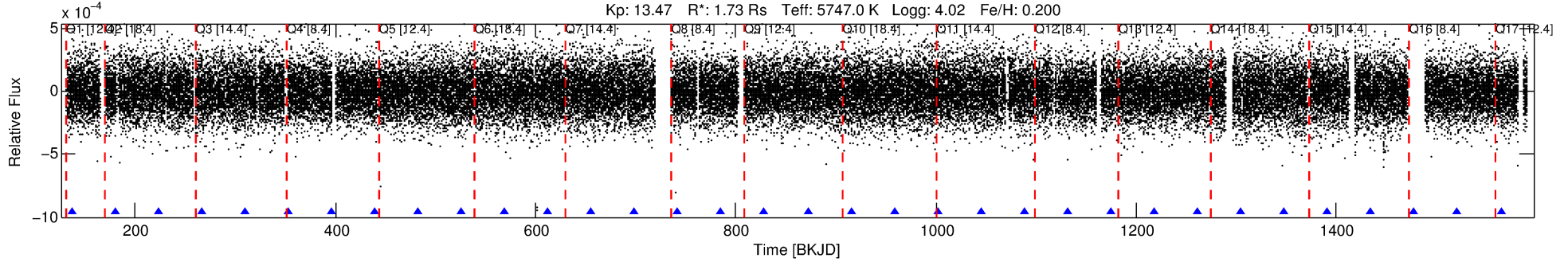
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010659624-01

No Significant Match Found

DV One-Page Summary

KIC: 10659624 Candidate: 1 of 1 Period: 43.268 d
KOI: K07354.01 Corr: 0.982



DV Fit Results:

Period = 43.26778 [0.00084] d
Epoch = 136.4559 [0.0159] BKJD
Rp/R* = 0.0089 [0.0041]
a/R* = 20.51 [43.20]
b = 0.86 [0.65]
Seff = 46.09 [20.65]
Teq = 664 [74] K
Rp = 1.67 [0.91] Re
a = 0.2518 [0.0696] AU
Ag = 356.35 [380.56] [0.93 σ]
Teffp = 4463 [1085] K [3.49 σ]

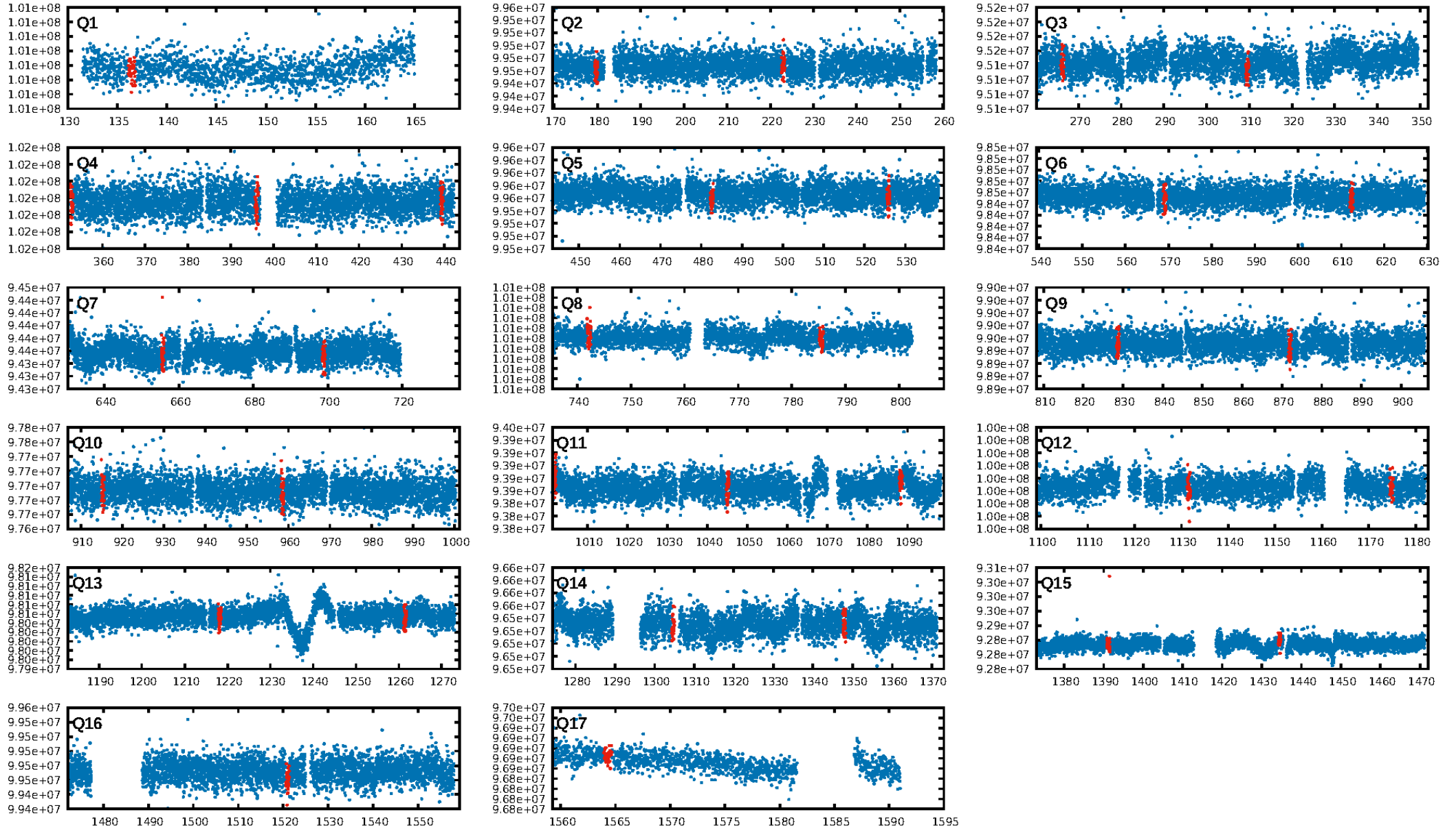
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.09e-14
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: 2.51
Centroid-sig: 0.1%
Centroid-so: 2.652 arcsec [2.19 σ]
OotOffset-rm: 1.460 arcsec [1.68 σ]
KicOffset-rm: 1.597 arcsec [1.56 σ]
OotOffset-st: 4/1/3/3 [11]
KicOffset-st: 4/1/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

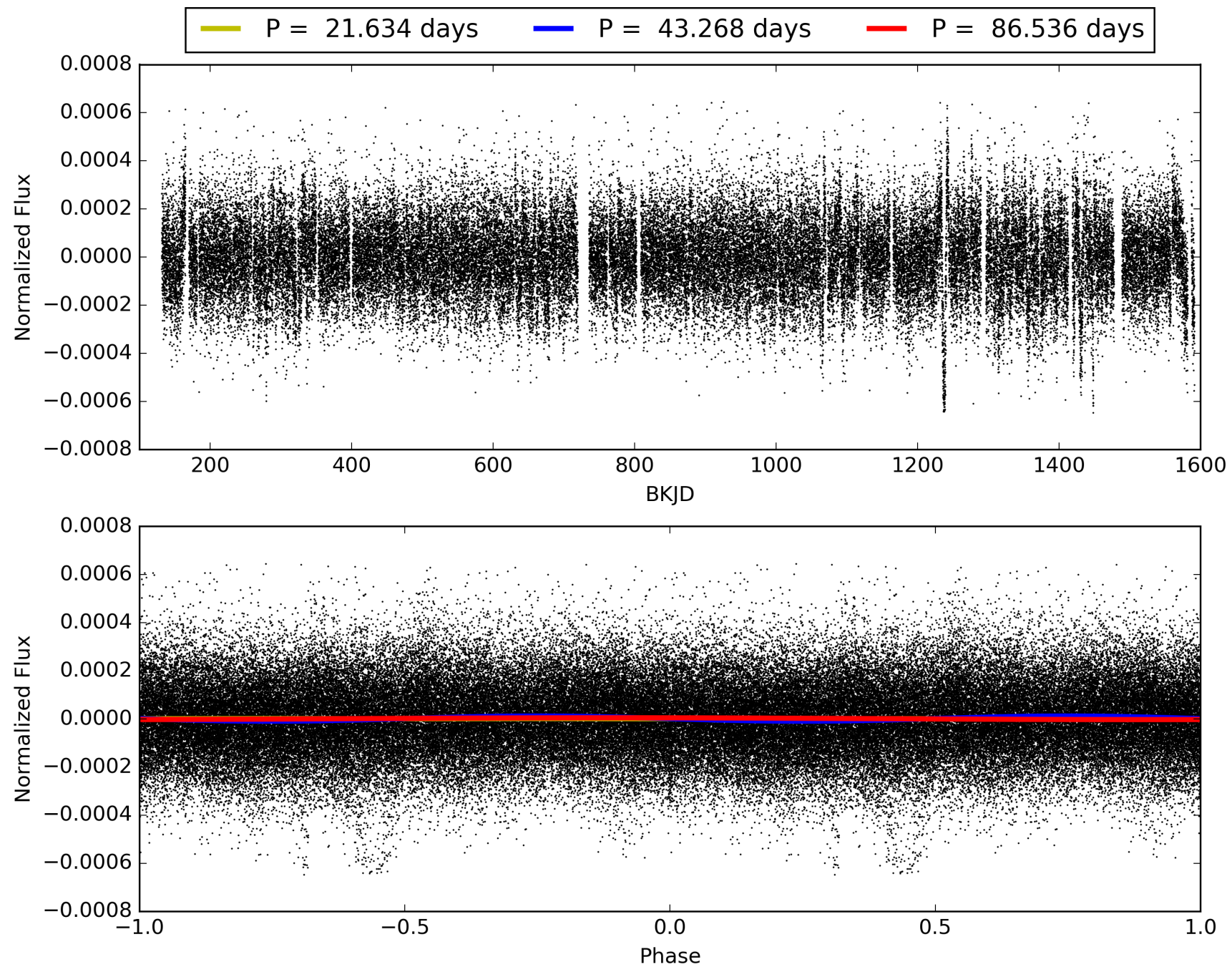
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:48:46 Z

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

TCE 010659624-01, PDC Light Curves

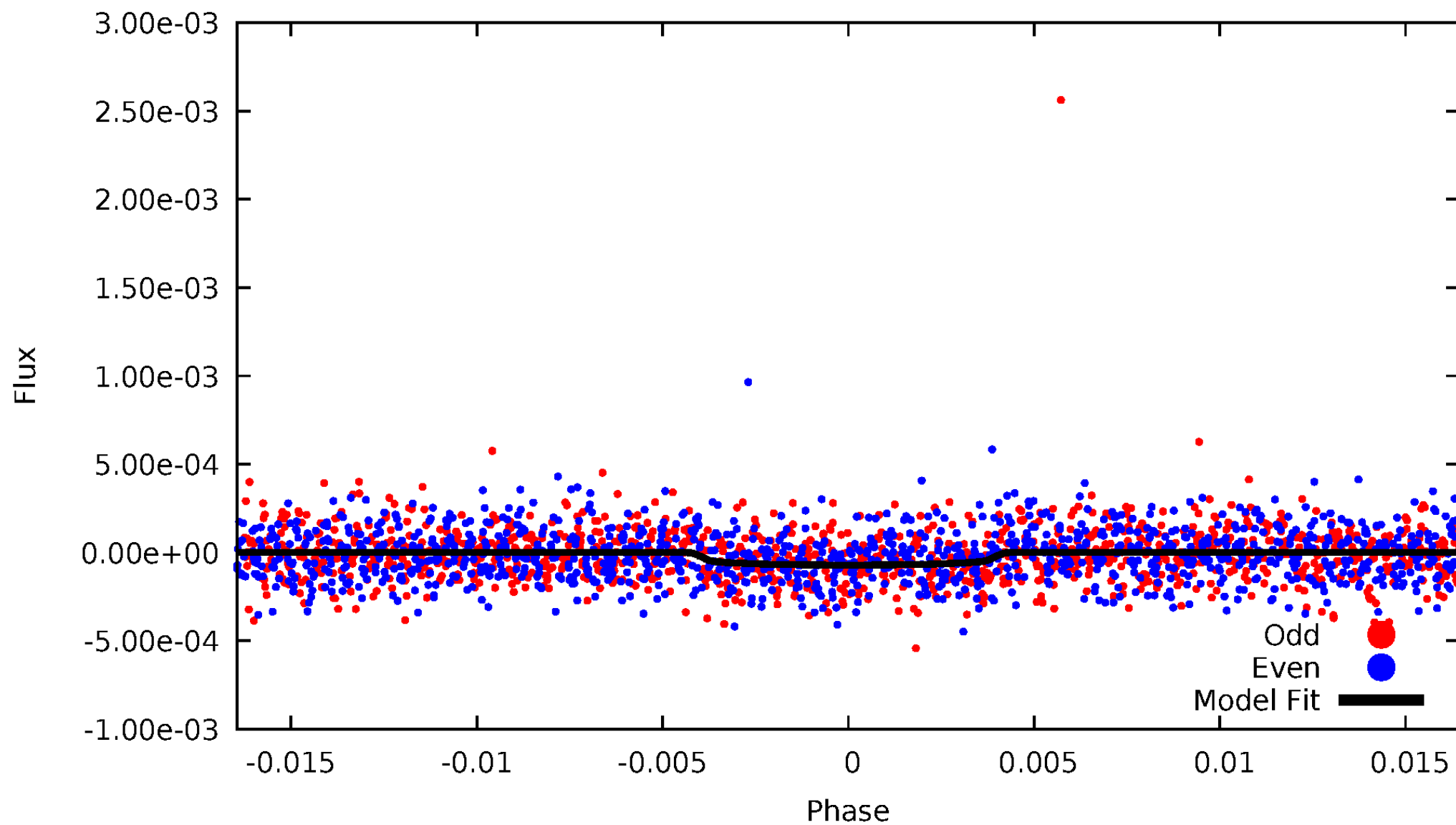


TCE 010659624-01



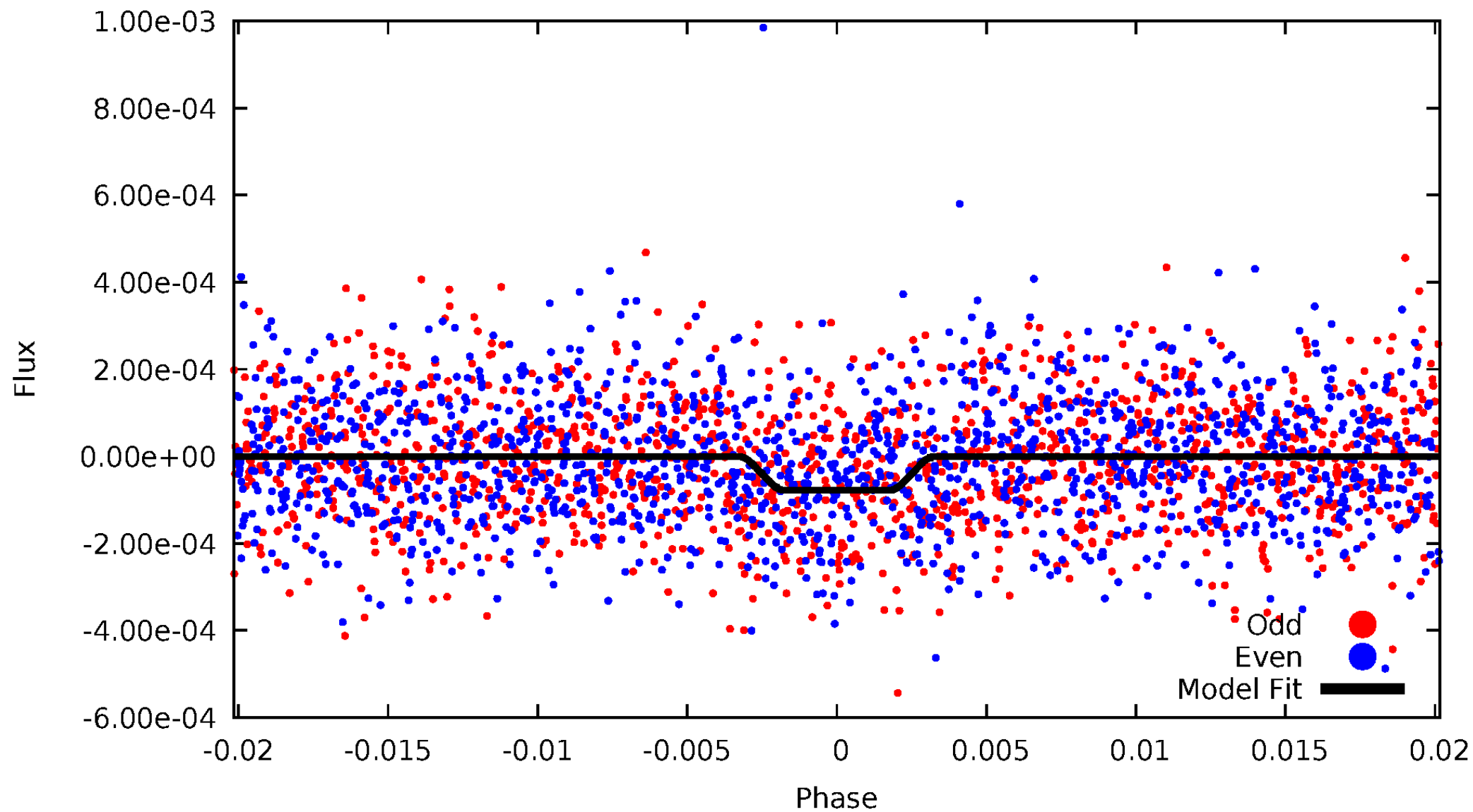
DV Odd/Even

TCE 010659624-01



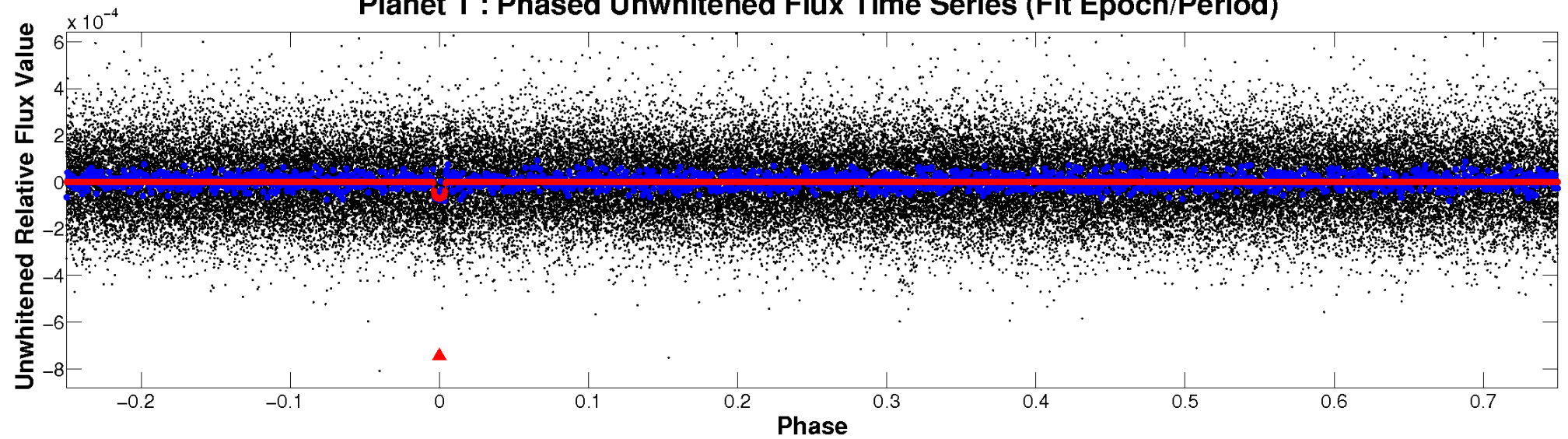
ALT Odd/Even

TCE 010659624-01

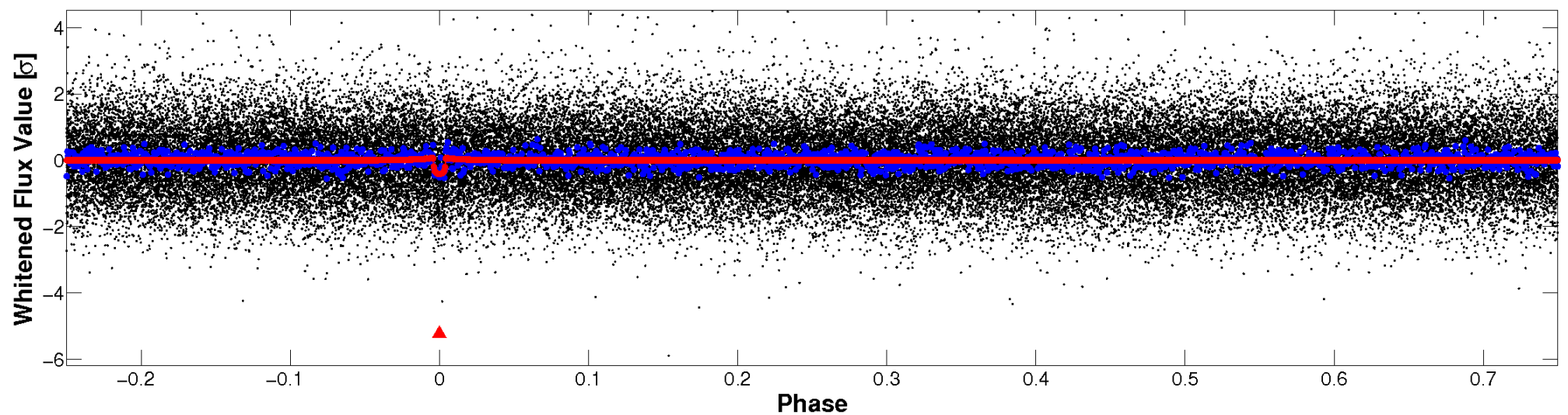


Non-Whitened Vs. Whitened Light Curve

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

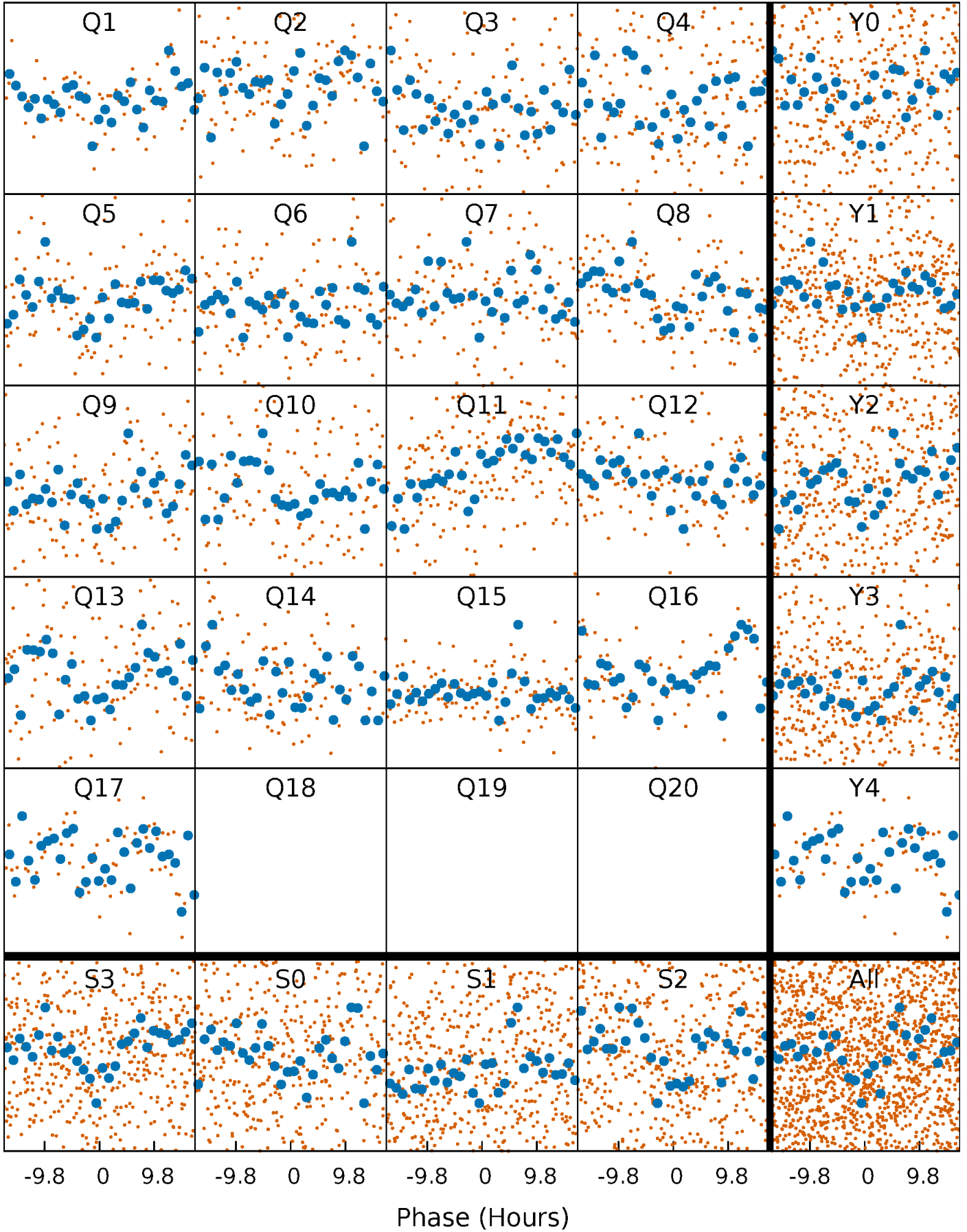


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



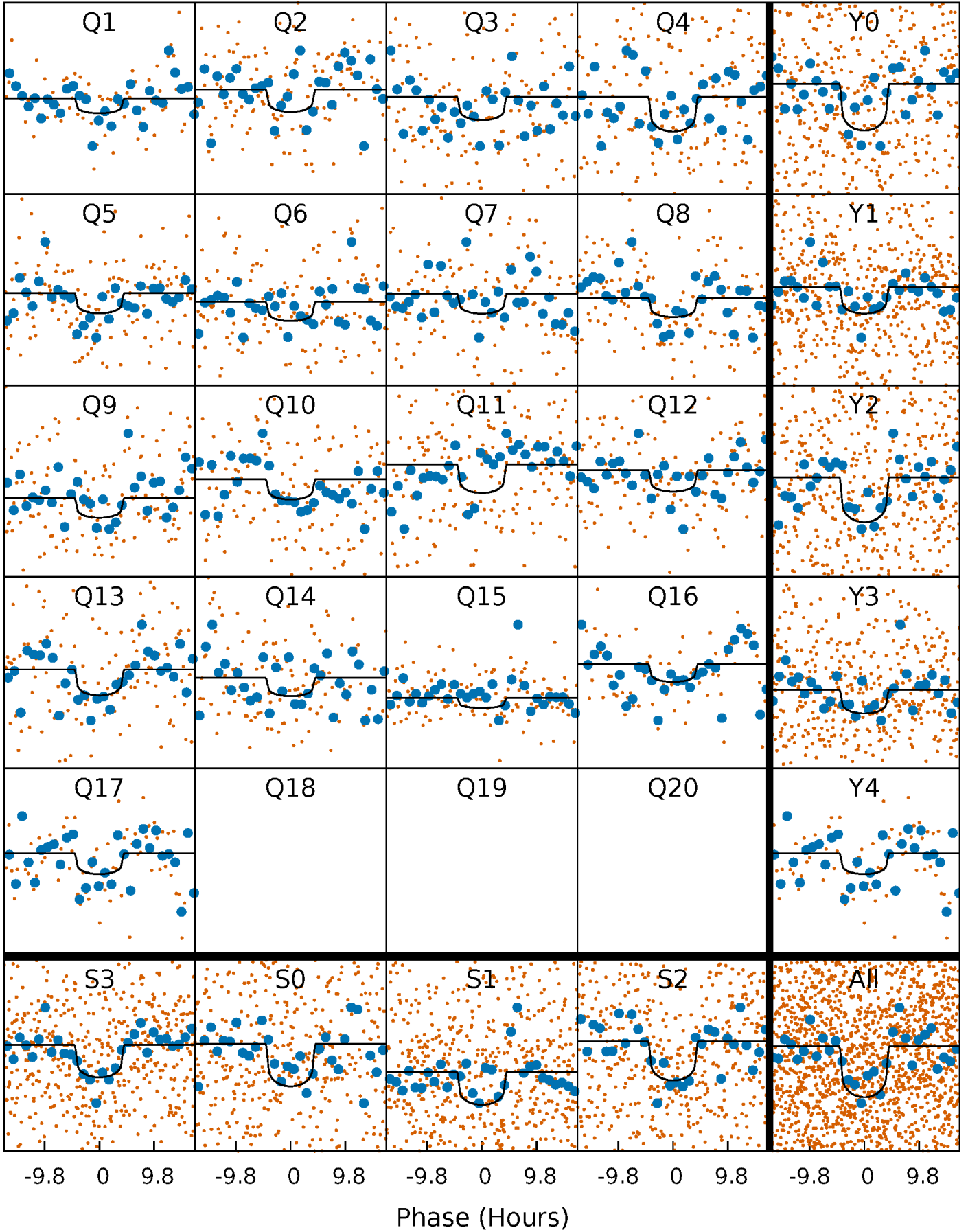
PDC Quarter-Phased Transit Curves

TCE 010659624-01 P= 43.267779 Days $T_0=136.455856$ (BKJD)



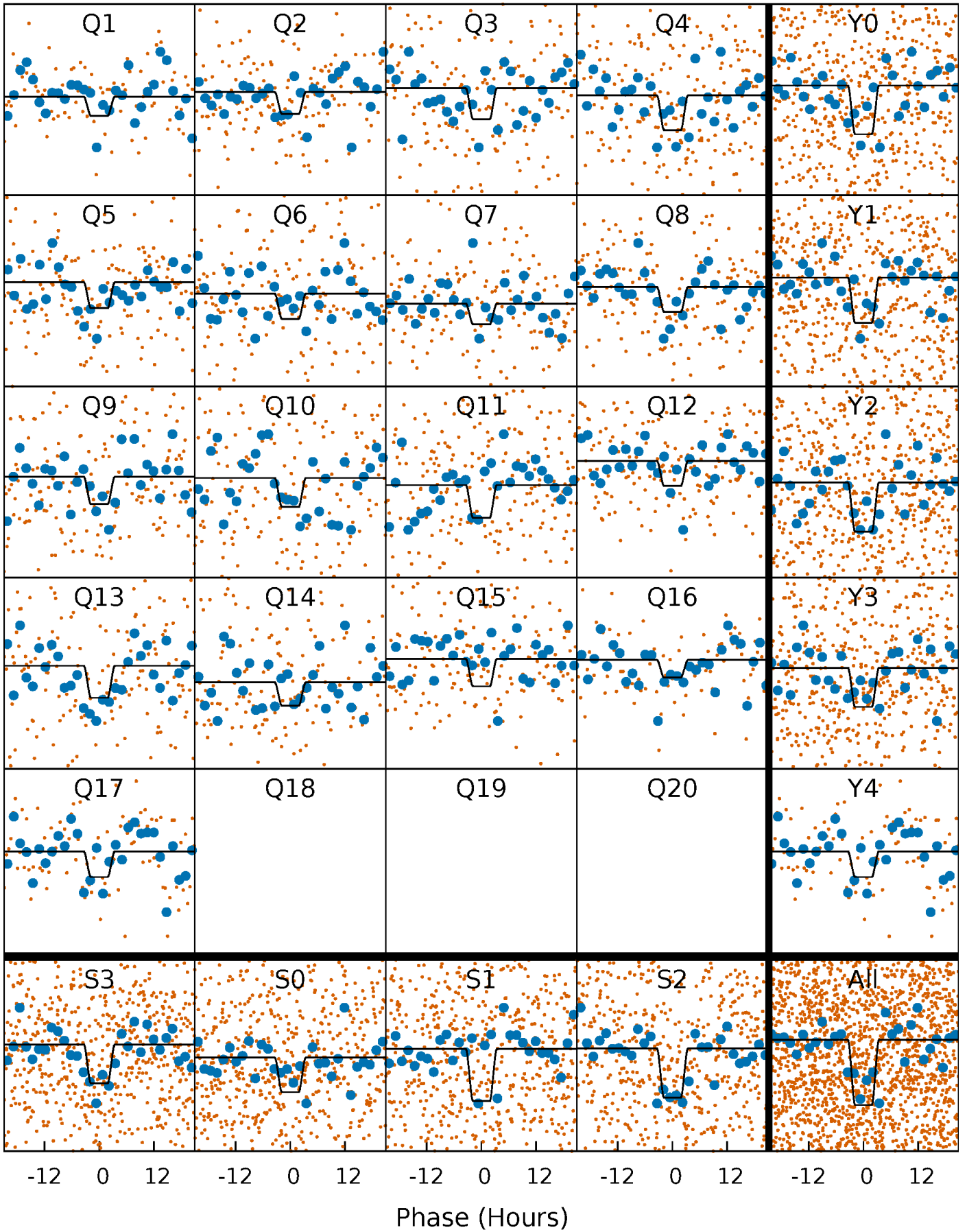
DV Quarter-Phased Transit Curves

TCE 010659624-01 P= 43.267779 Days $T_0=136.455856$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

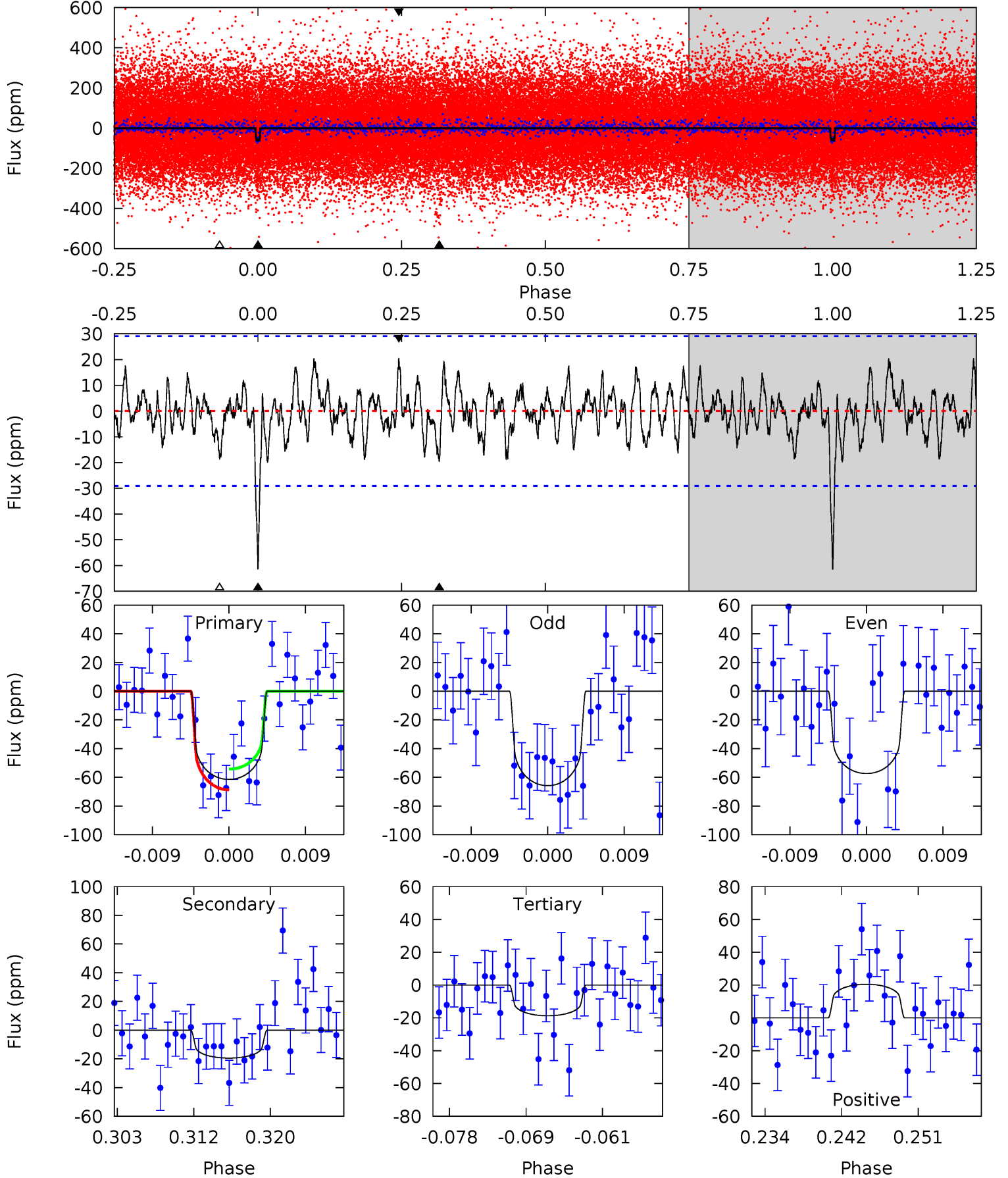
TCE 010659624-01 P= 43.267825 Days $T_0=136.445130$ (BKJD)



DV Model-Shift Uniqueness Test

010659624-01, P = 43.267779 Days, E = 93.188077 Days

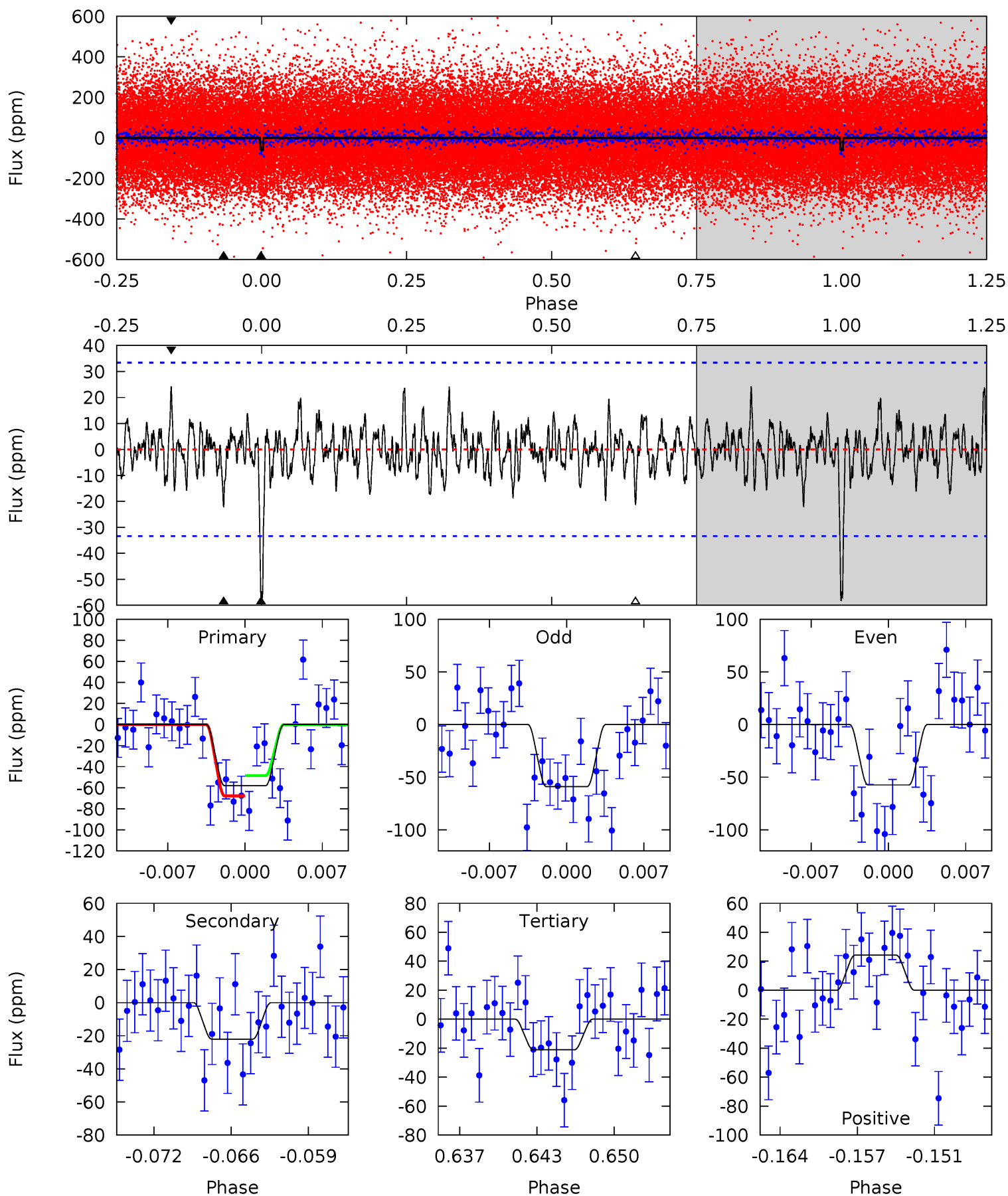
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.38	3.25	3.55	5.05	2.63	1.27	7.42	7.12	0.13	-0.18	0.73	0.77	0.25	1.25



Alt Model-Shift Uniqueness Test

010659624-01, P = 43.267825 Days, E = 93.177305 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.89	3.37	3.23	3.70	5.11	2.72	1.09	5.66	5.18	0.14	-0.33	0.12	0.85	0.29	1.48



Stellar Parameters For KIC 010659624

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5747^{+77}_{-77}	$4.018^{+0.262}_{-0.087}$	$0.200^{+0.150}_{-0.150}$	$1.729^{+0.265}_{-0.492}$	$1.135^{+0.119}_{-0.119}$	$0.309^{+0.502}_{-0.084}$
	+1%/-1%	+7%/-2%	+75%/-75%	+15%/-28%	+10%/-10%	+162%/-27%
Source	SPE90	FLK73	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010659624-01 / KOI 7354.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 6	$1.65^{+0.76}_{-0.73}$	917^{+41}_{-69}	4245^{+1034}_{-588}	248^{+553}_{-141}
Alt.	-22 ± 7	$1.61^{+0.86}_{-0.76}$	917^{+43}_{-72}	4296^{+1329}_{-556}	282^{+803}_{-159}

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

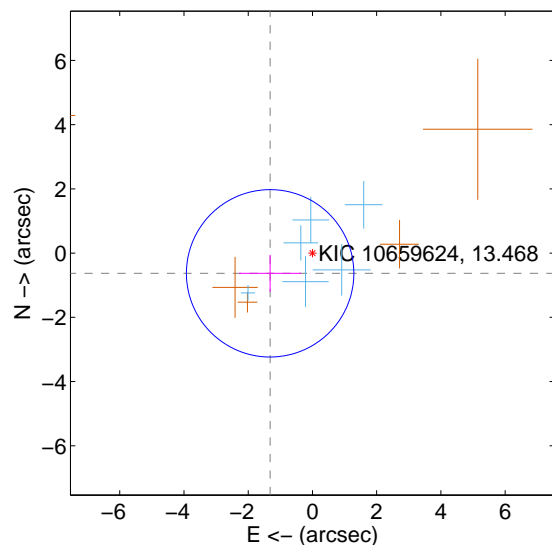
Supplemental centroid analysis for 010659624-01. Kepler magnitude: 13.47. Transit SNR 8.51

There are 6 quarters with good PRF difference image offsets

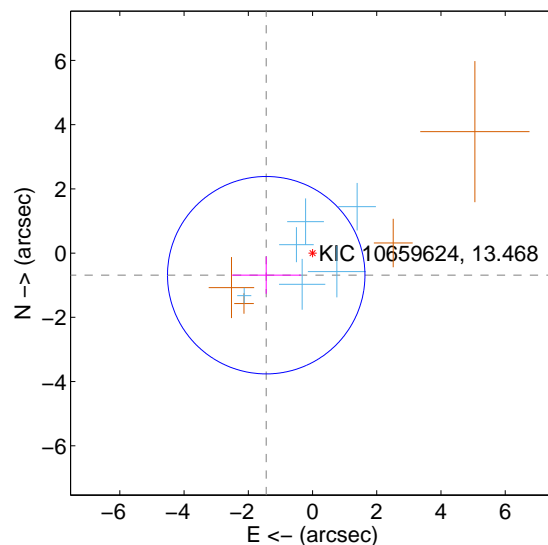
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.460 ± 0.868	1.68	1.317 ± 0.963	-0.630 ± 0.573
PRF-fit source offset from KIC position	1.597 ± 1.024	1.56	1.442 ± 1.074	-0.688 ± 0.578
photometric centroid source offset	2.65 ± 1.21	2.19	-0.96 ± 1.51	2.47 ± 1.16

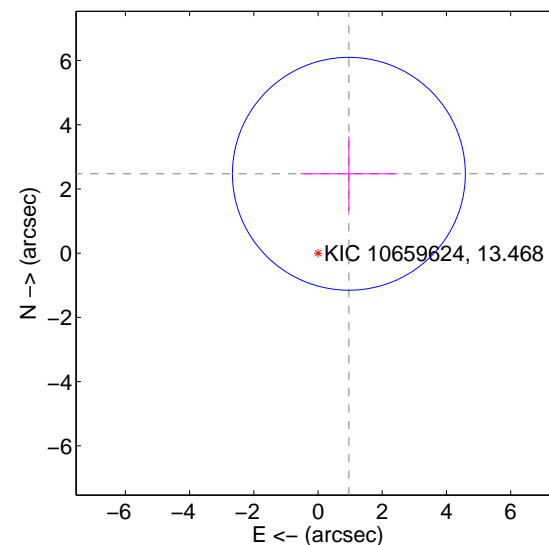
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

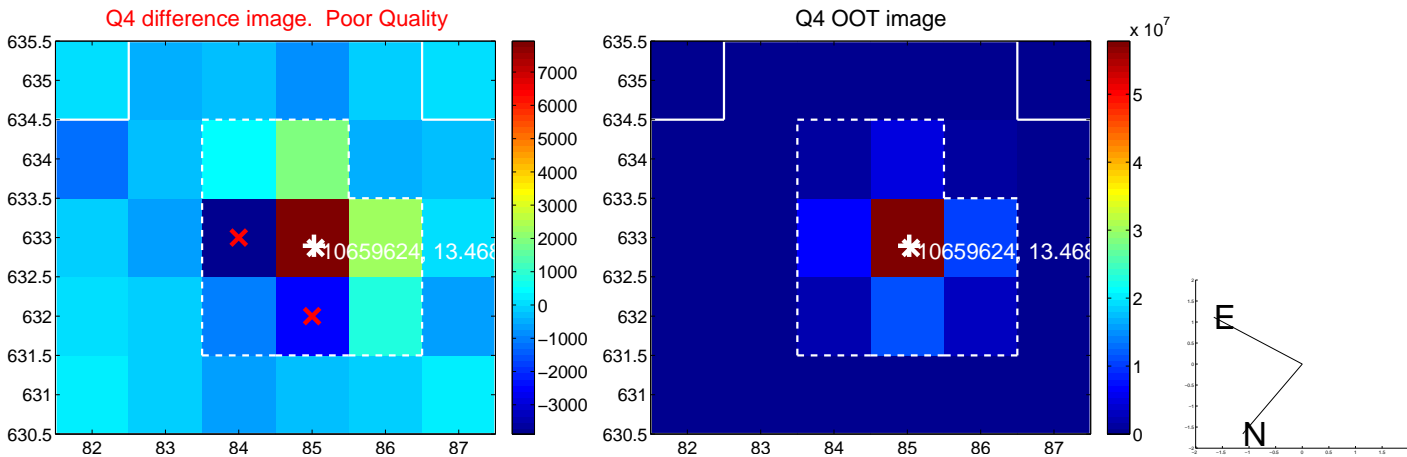
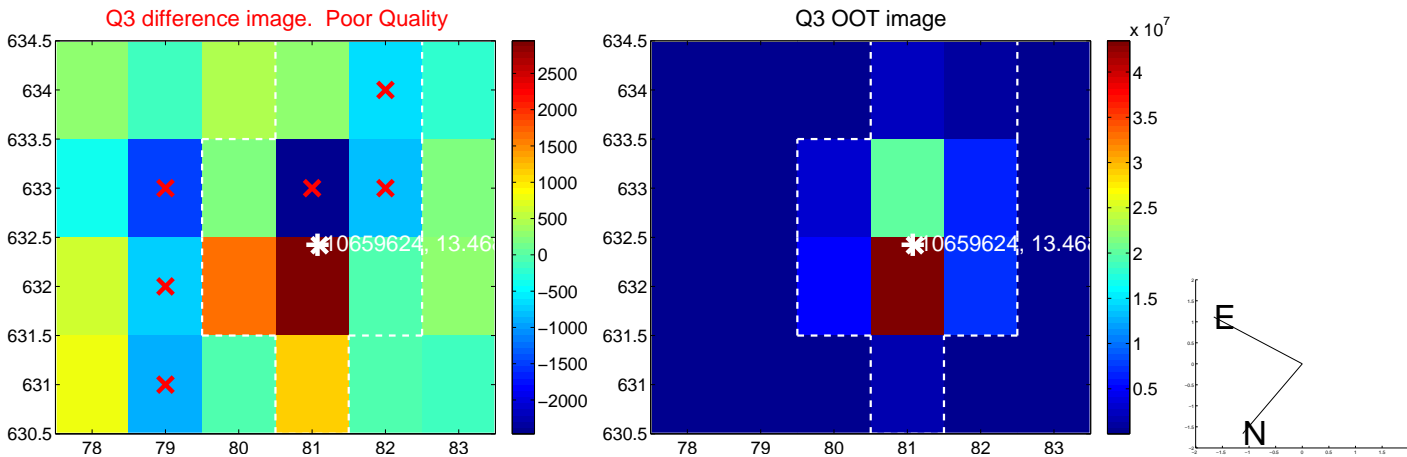
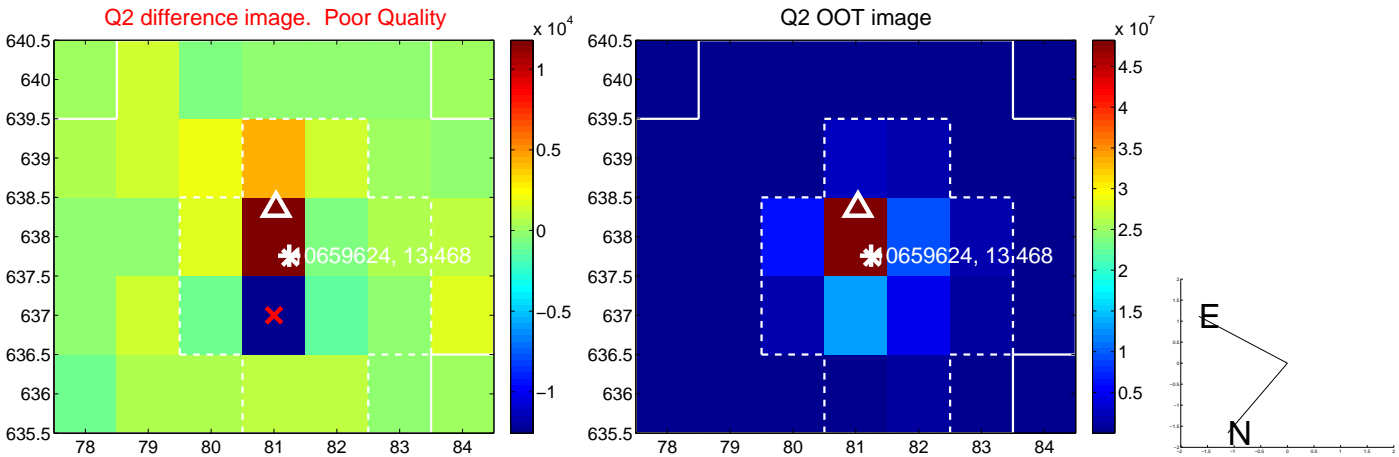
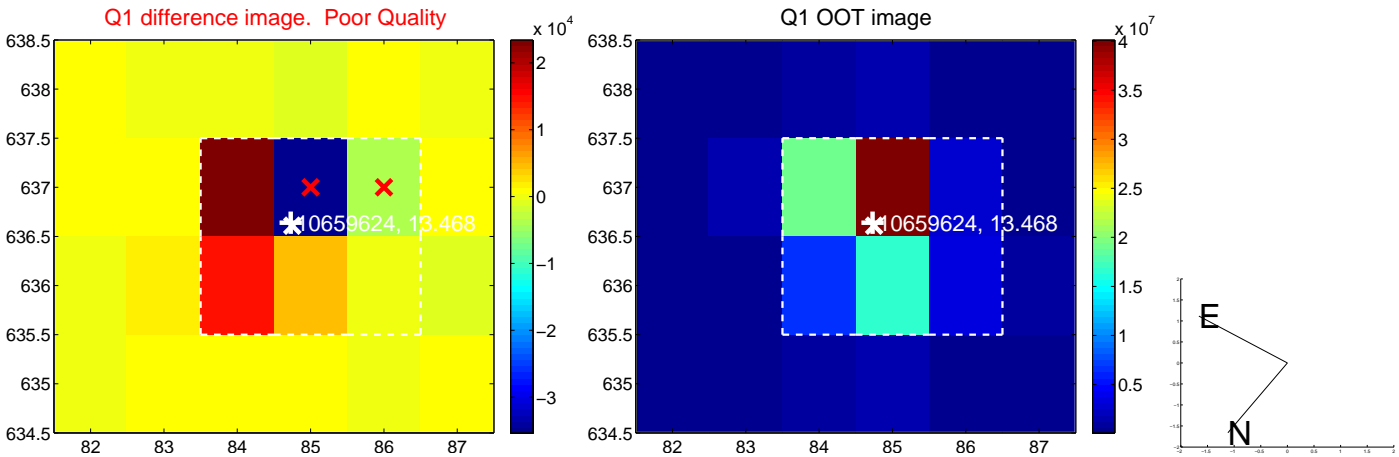


offset from photometric centroids

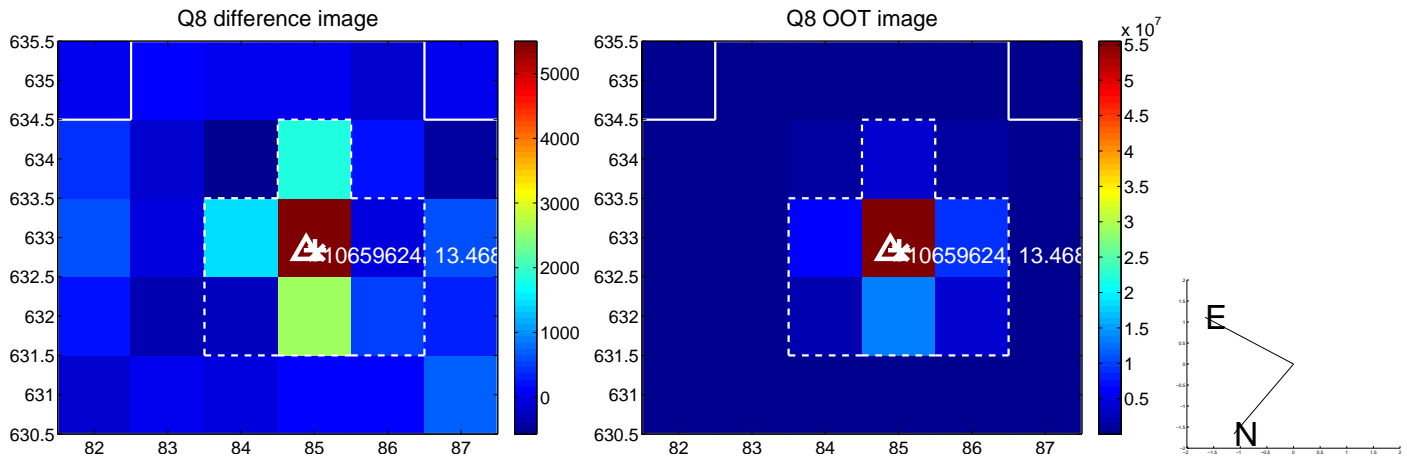
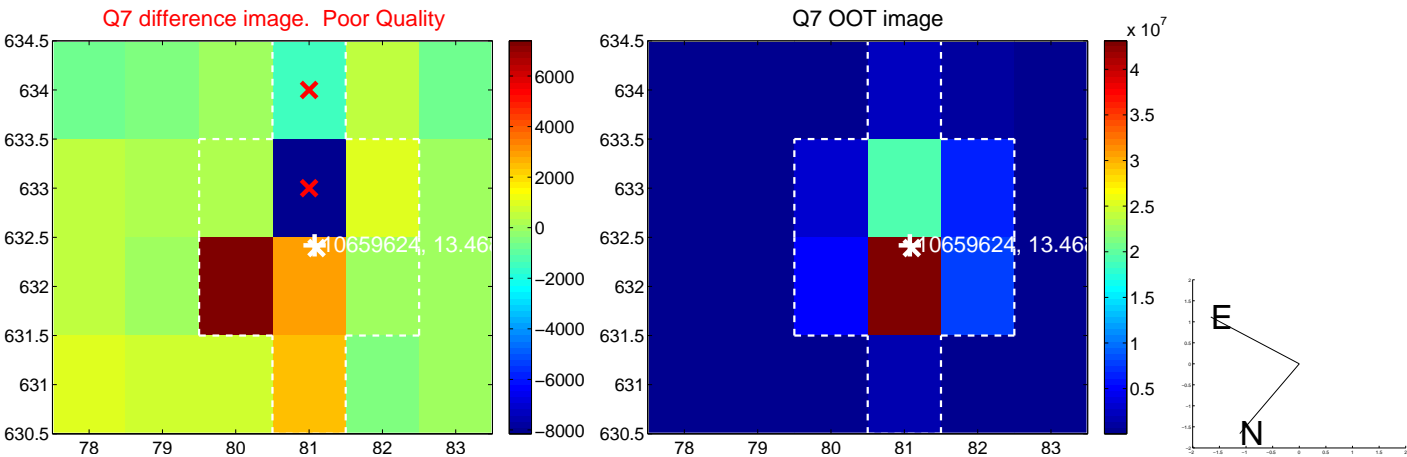
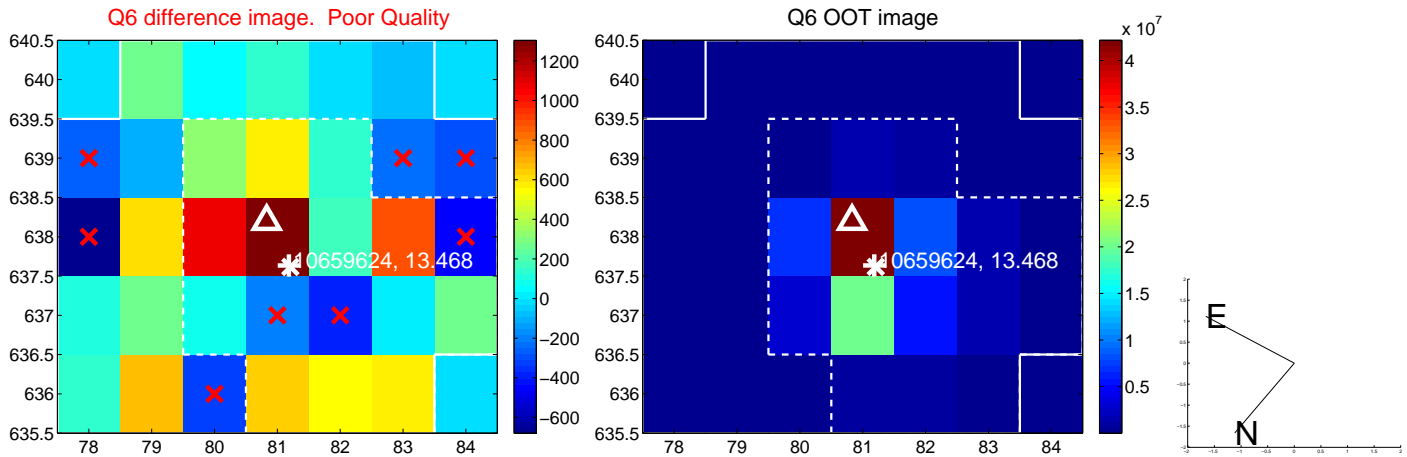
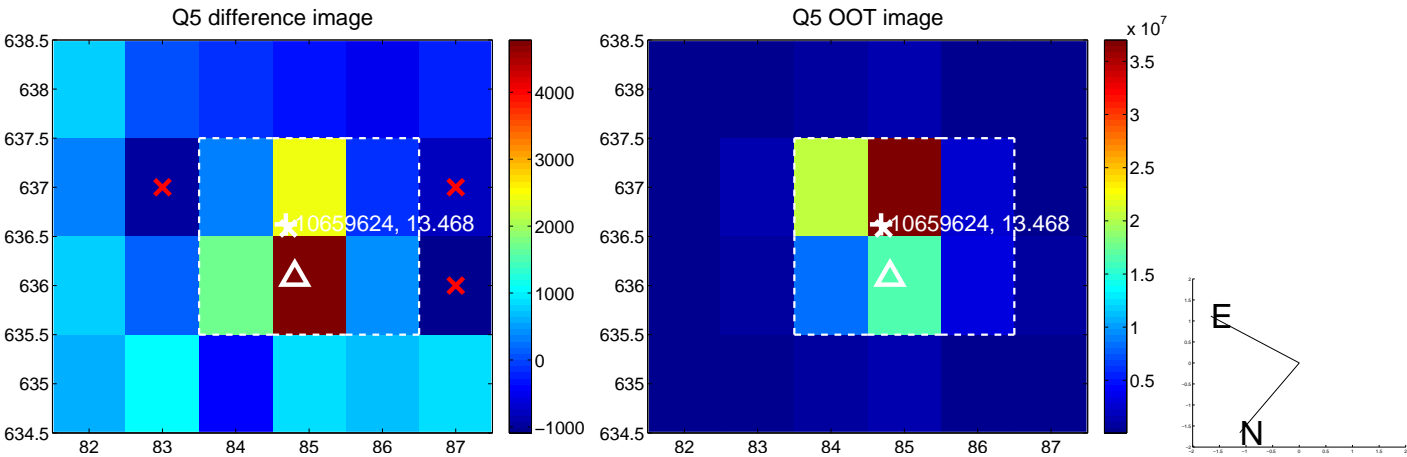


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

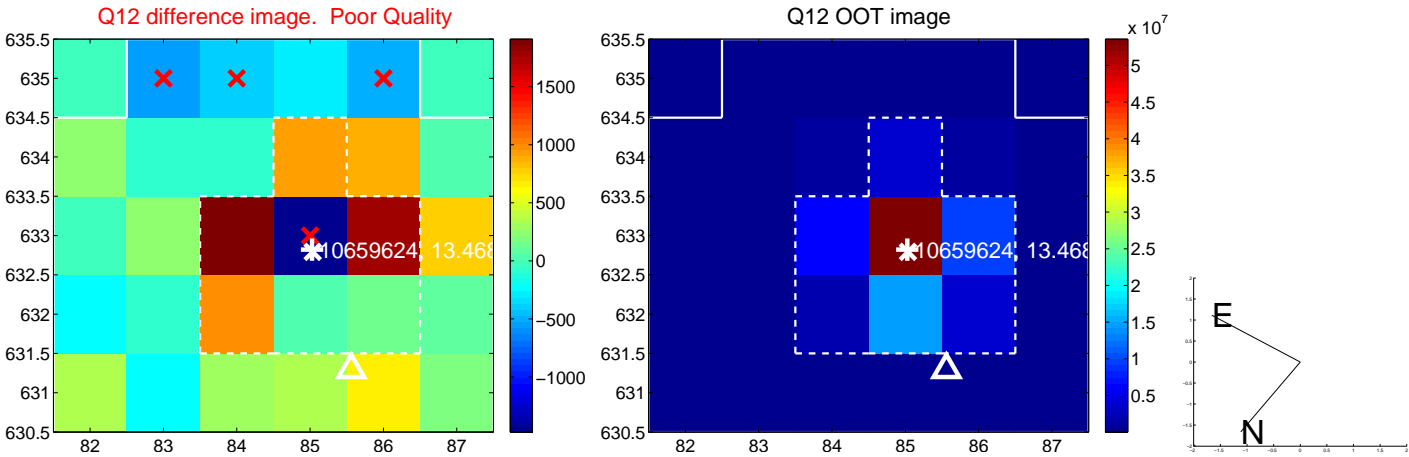
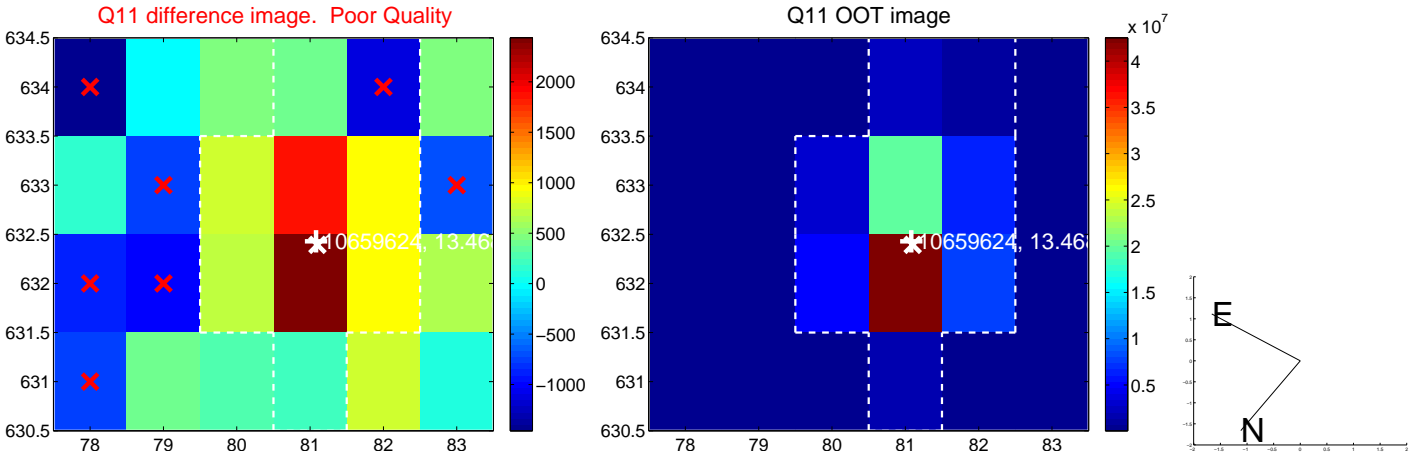
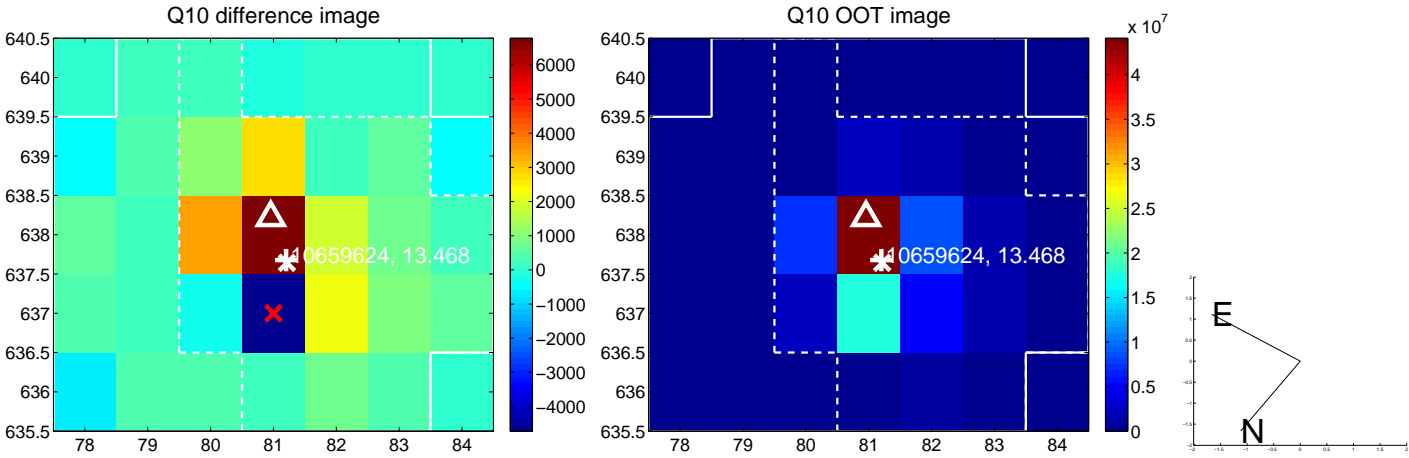
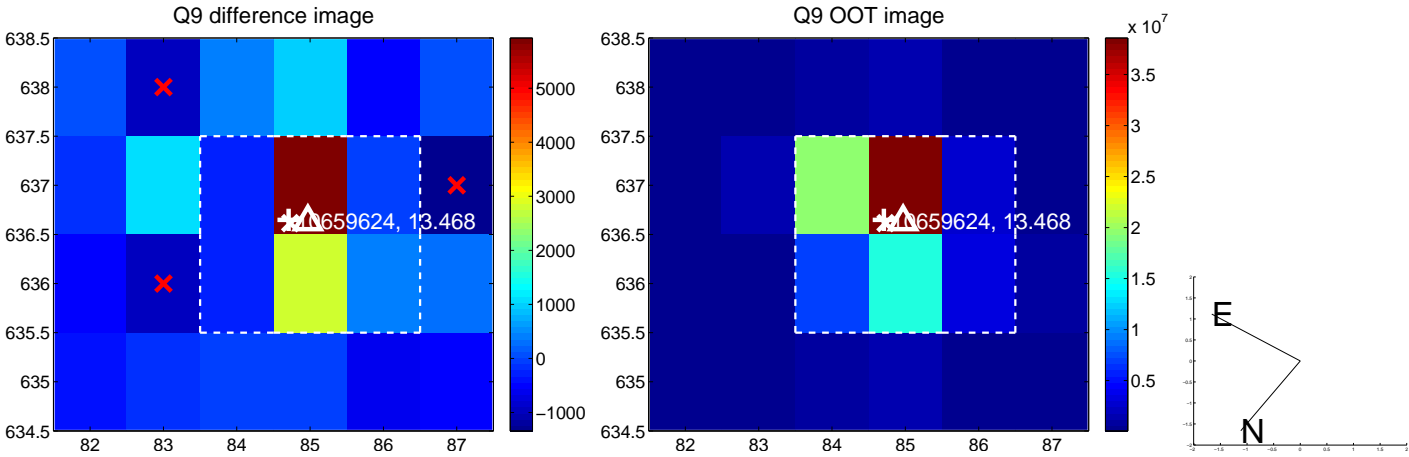
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



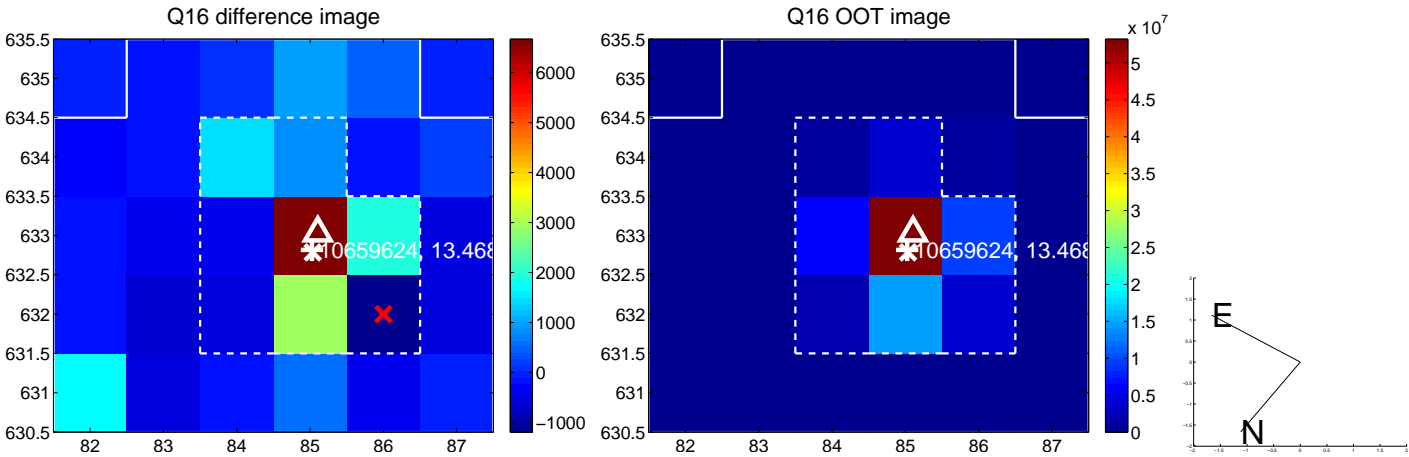
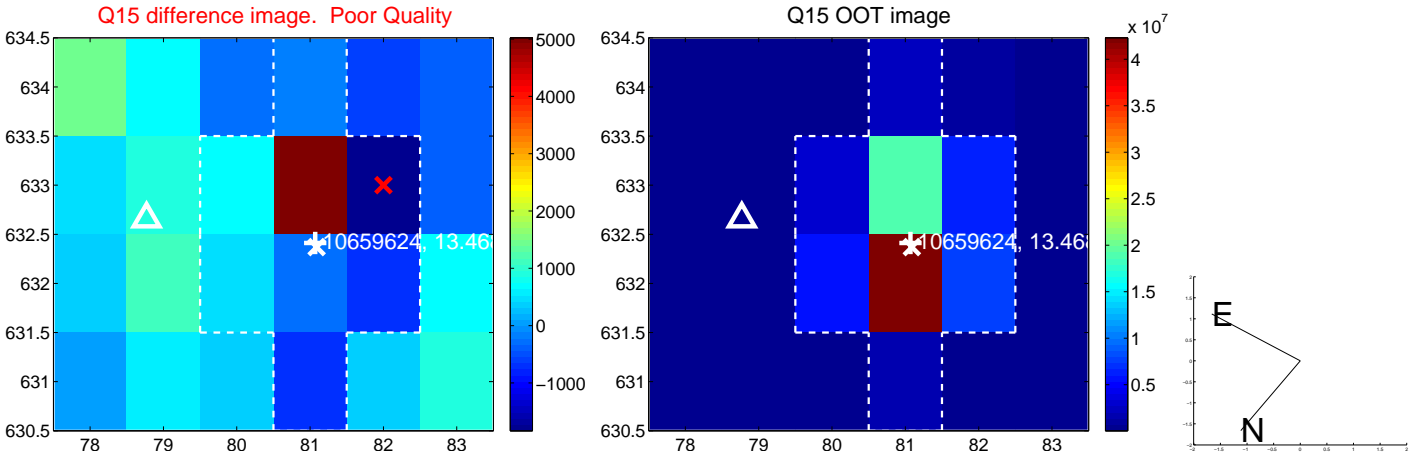
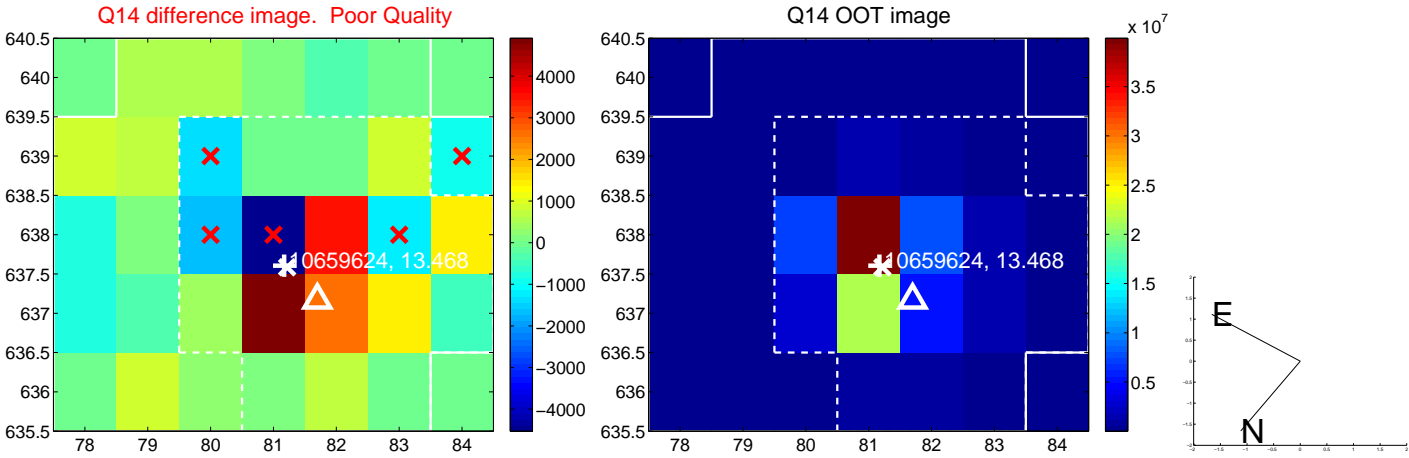
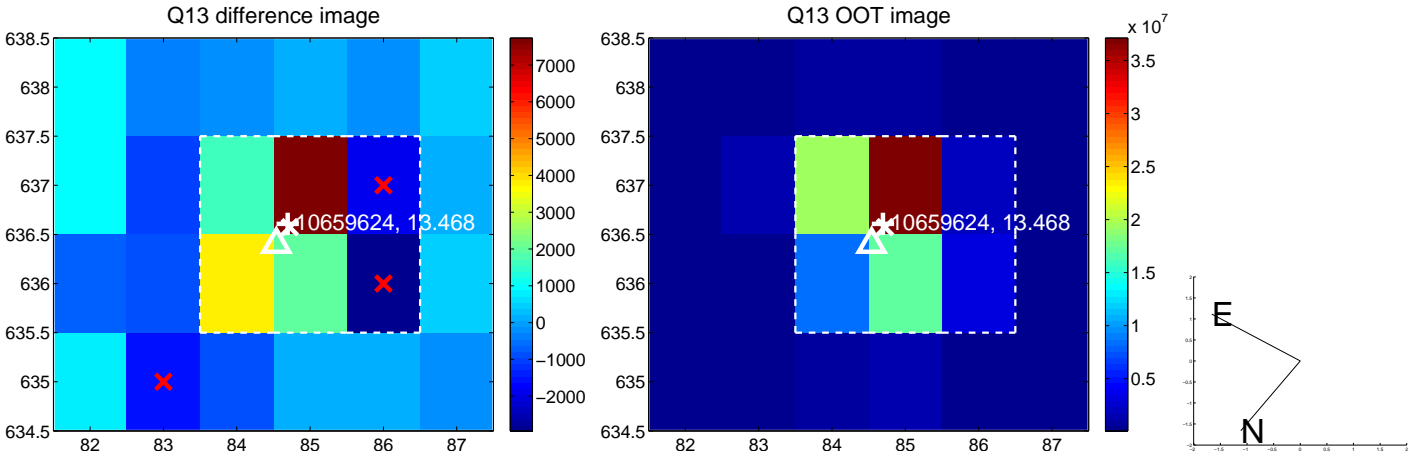
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



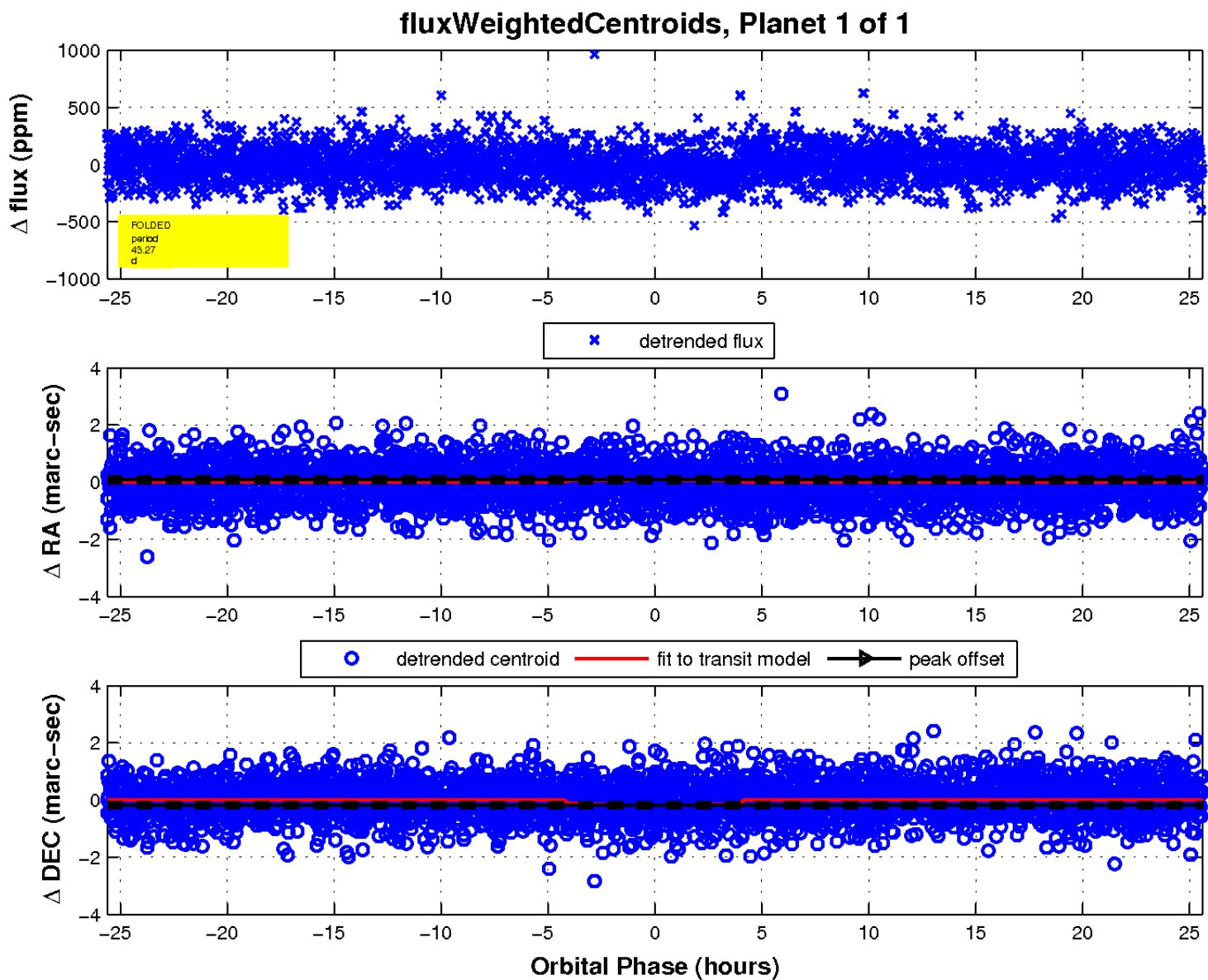
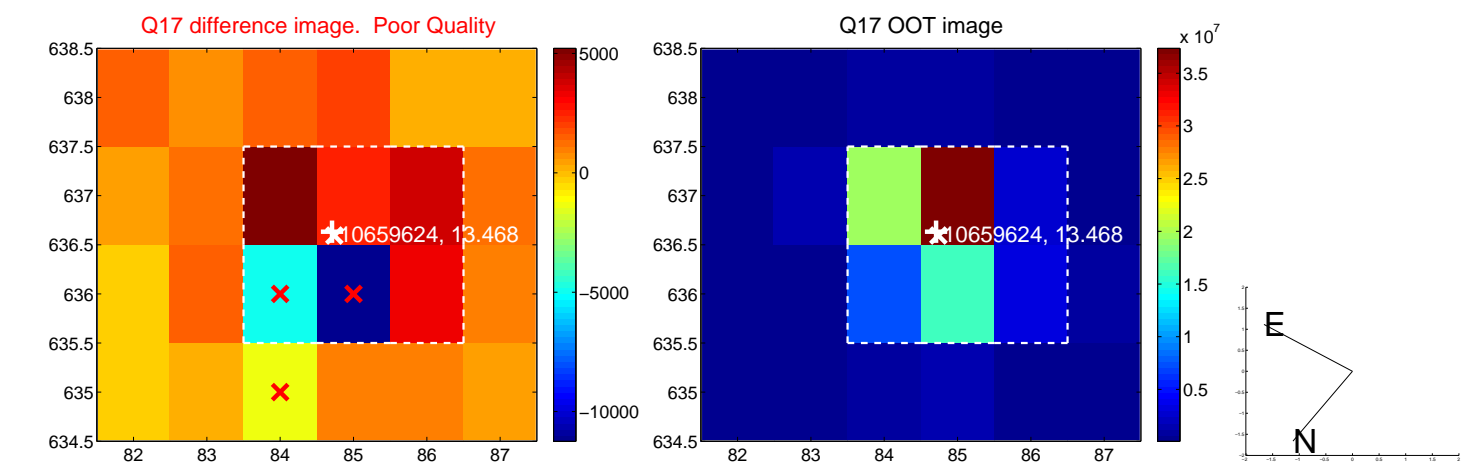
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

