

KIC 009838168

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})
009838168-01	OBS	No	11.923932	135.335212	135.3	42.572	8.3	13.4	1.75	6266	4.01	363.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009838168-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS

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

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

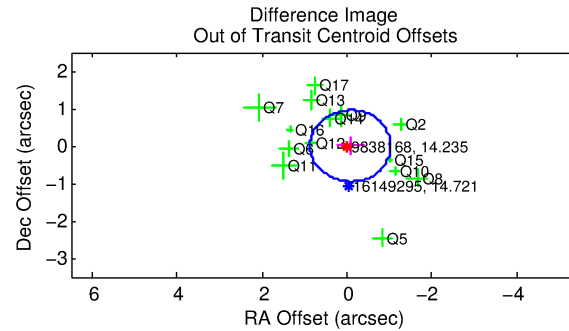
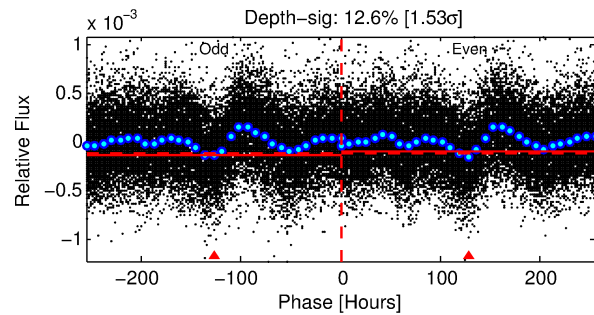
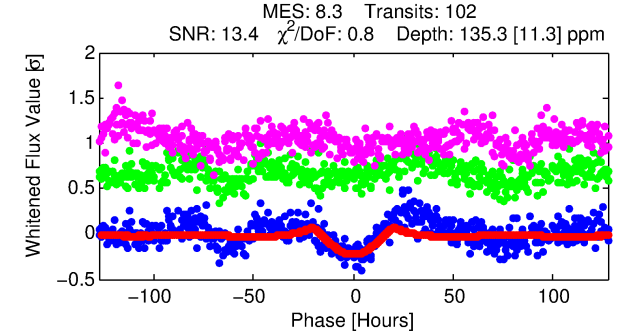
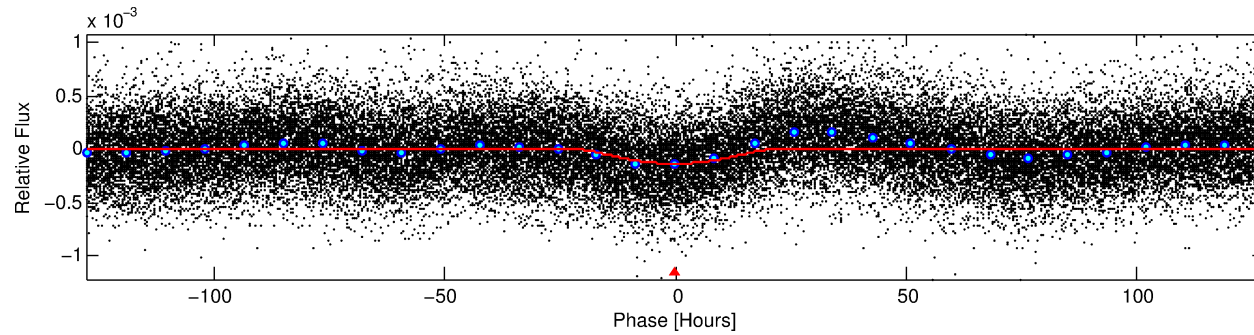
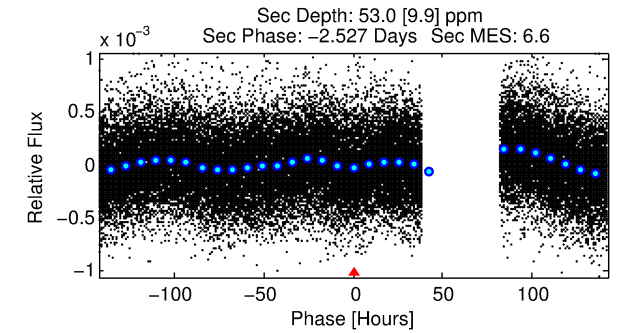
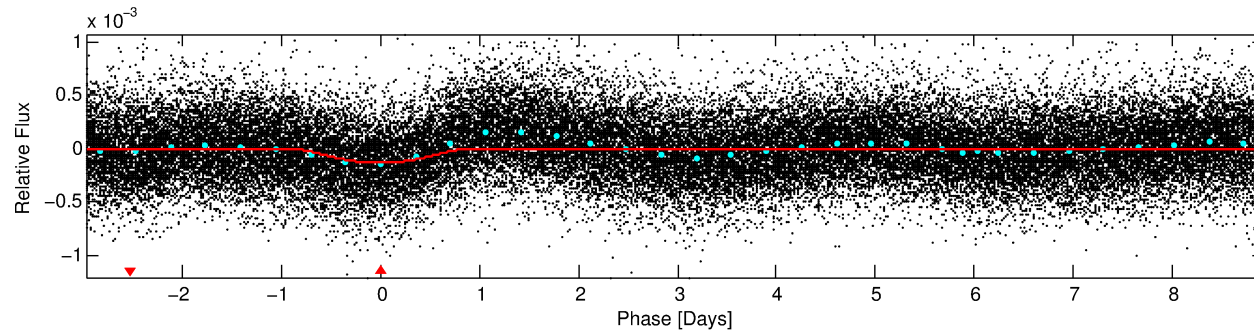
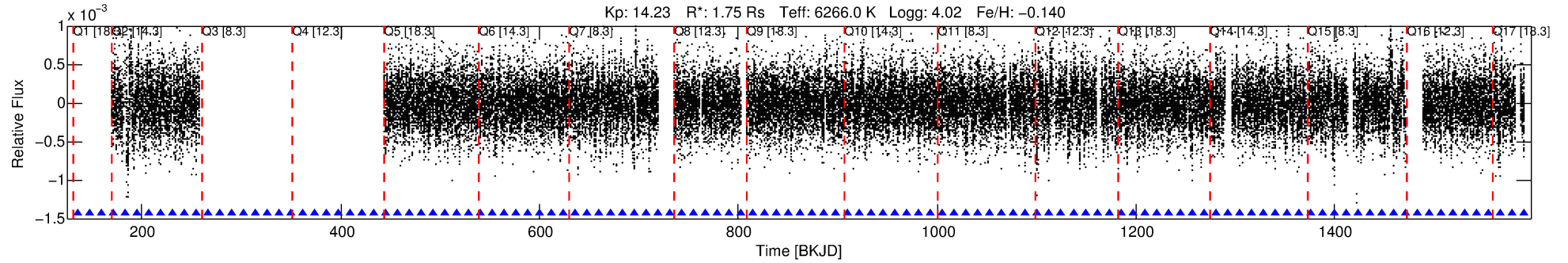
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009838168-01

No Significant Match Found

DV One-Page Summary

KIC: 9838168 Candidate: 1 of 1 Period: 11.924 d



DV Fit Results:

Period = 11.92393 [0.00092] d
Epoch = 135.3352 [0.0709] BKJD
Rp/R* = 0.0211 [0.0245]
a/R* = 1.10 [0.03]
b = 1.00 [0.04]
Seff = 363.21 [216.21]
Teff = 1113 [166] K
Rp = 4.01 [4.87] Re
a = 0.1076 [0.0376] AU
Ag = 20.99 [50.43] [0.40σ]
Teffp = 3684 [2154] K [1.19σ]

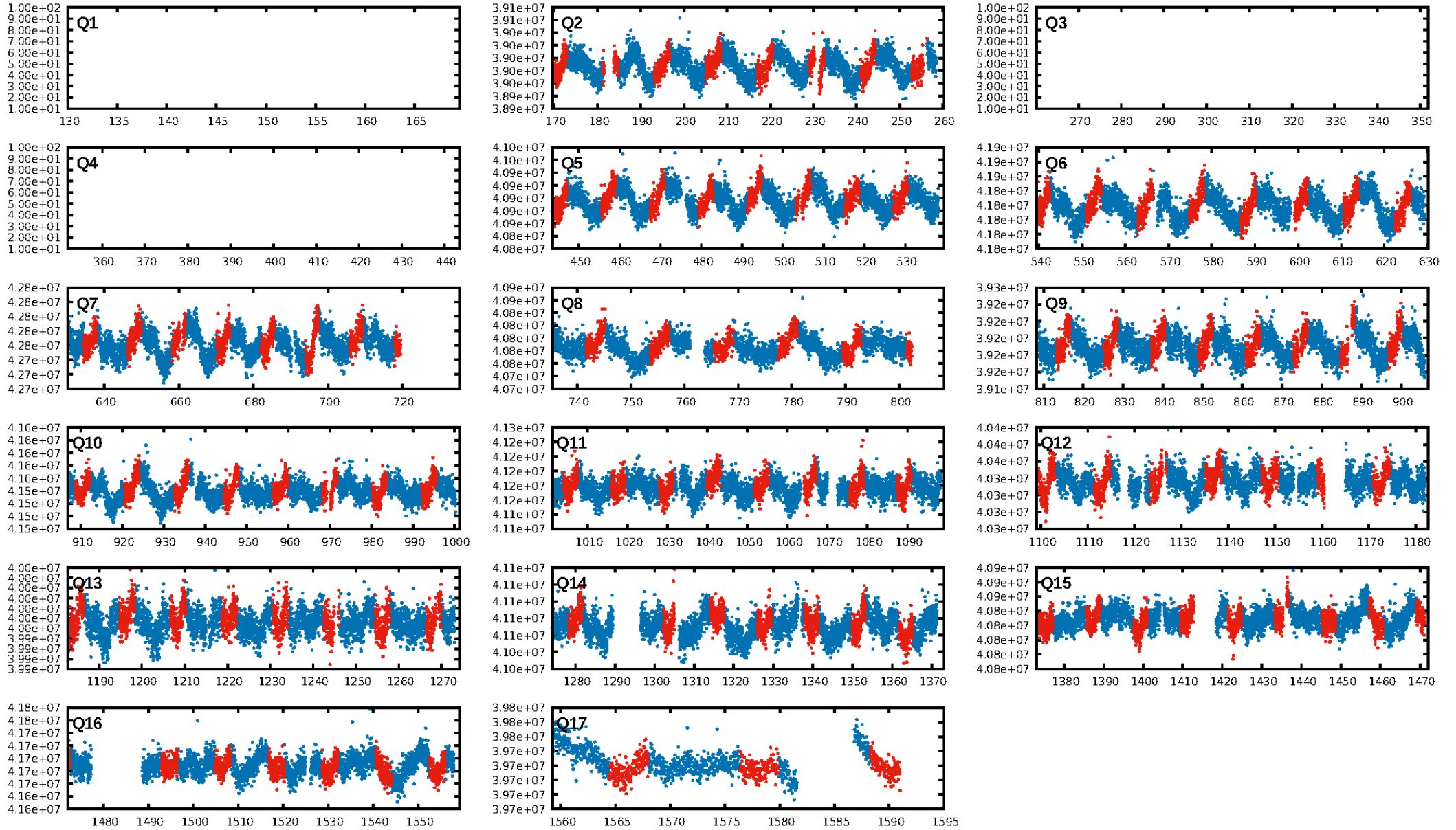
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.99e-17
RollingBand-fgt: 1.00 [99/99]
GhostDiagnostic-chr: 1.314
Centroid-sig: 0.2%
Centroid-so: 1.522 arcsec [2.51σ]
OotOffset-rm: 0.088 arcsec [0.28σ]
KicOffset-rm: 0.844 arcsec [2.59σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

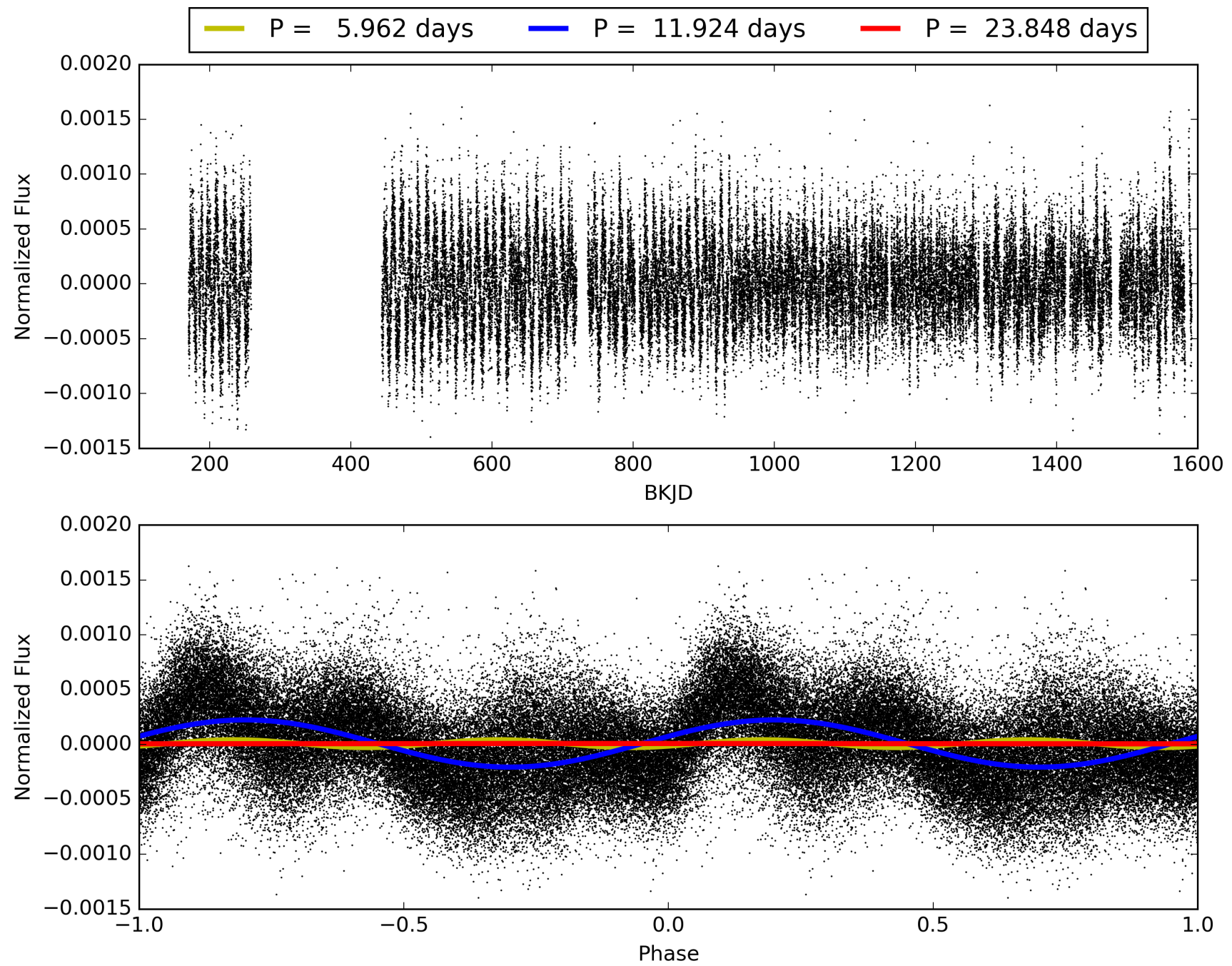
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:55:26 Z

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

TCE 009838168-01, PDC Light Curves

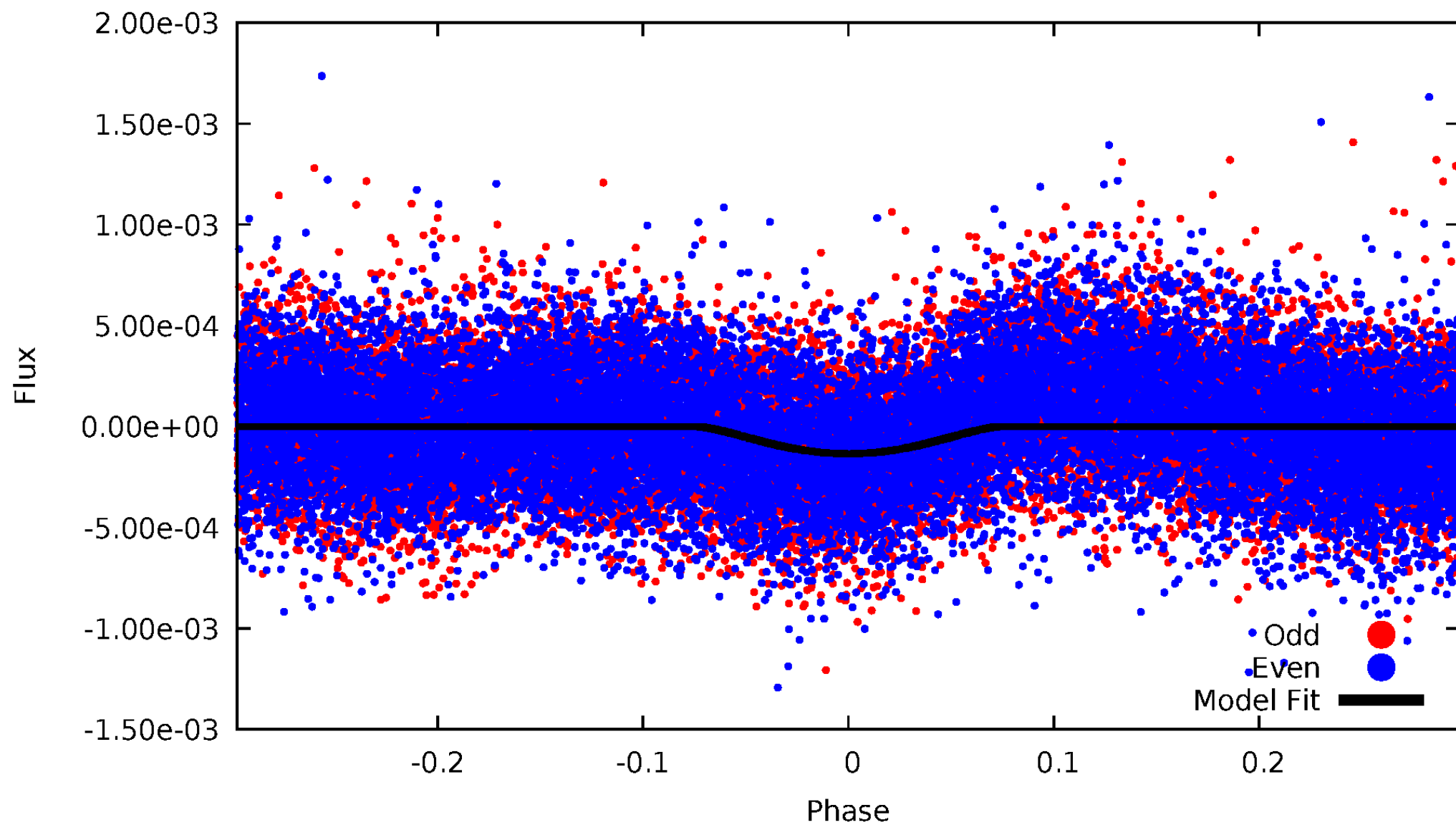


TCE 009838168-01



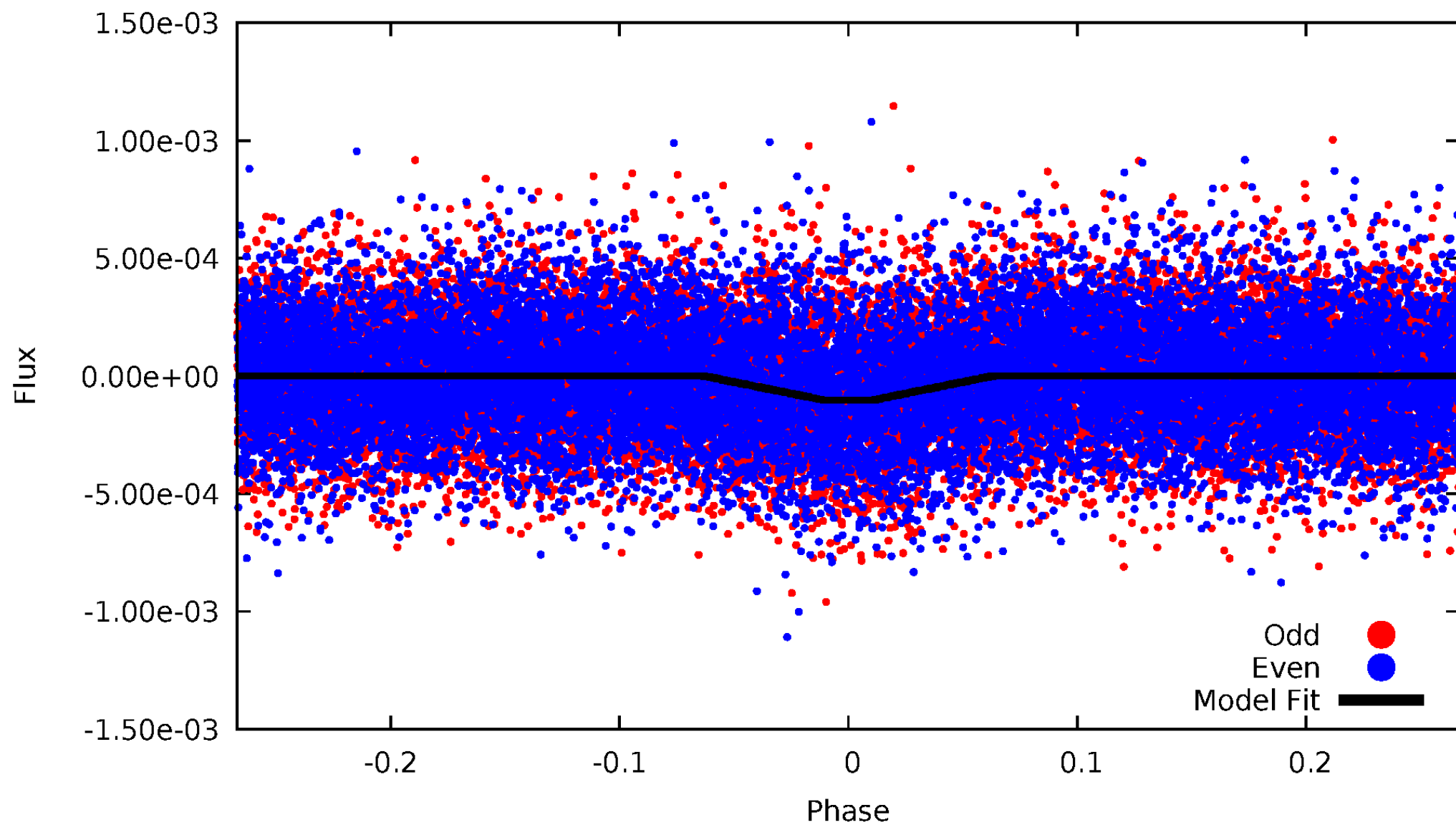
DV Odd/Even

TCE 009838168-01

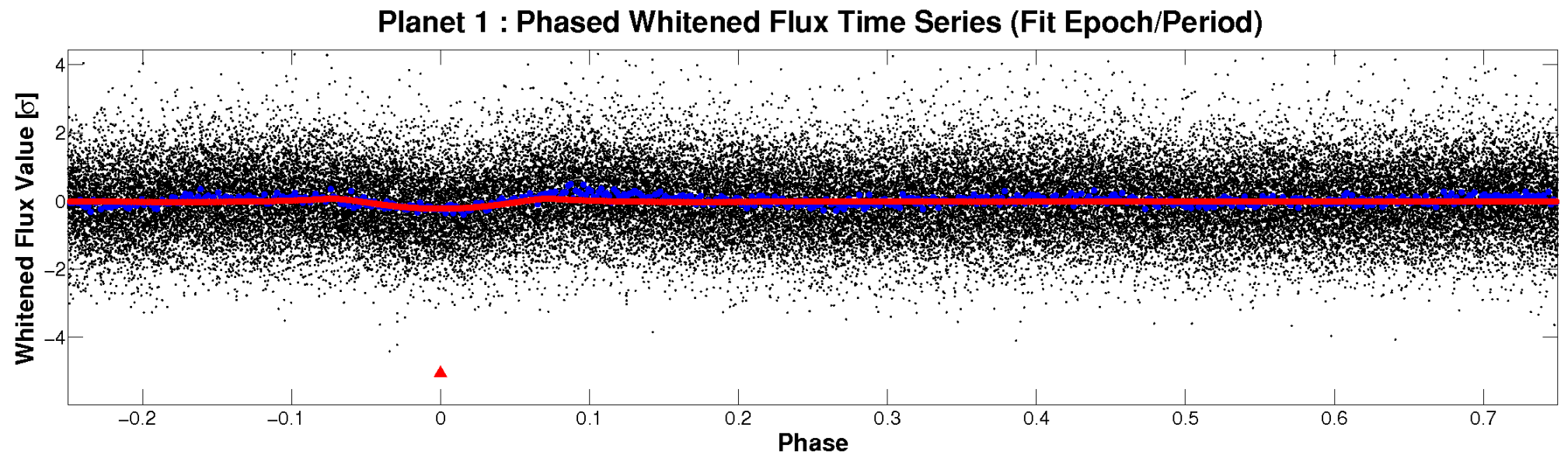
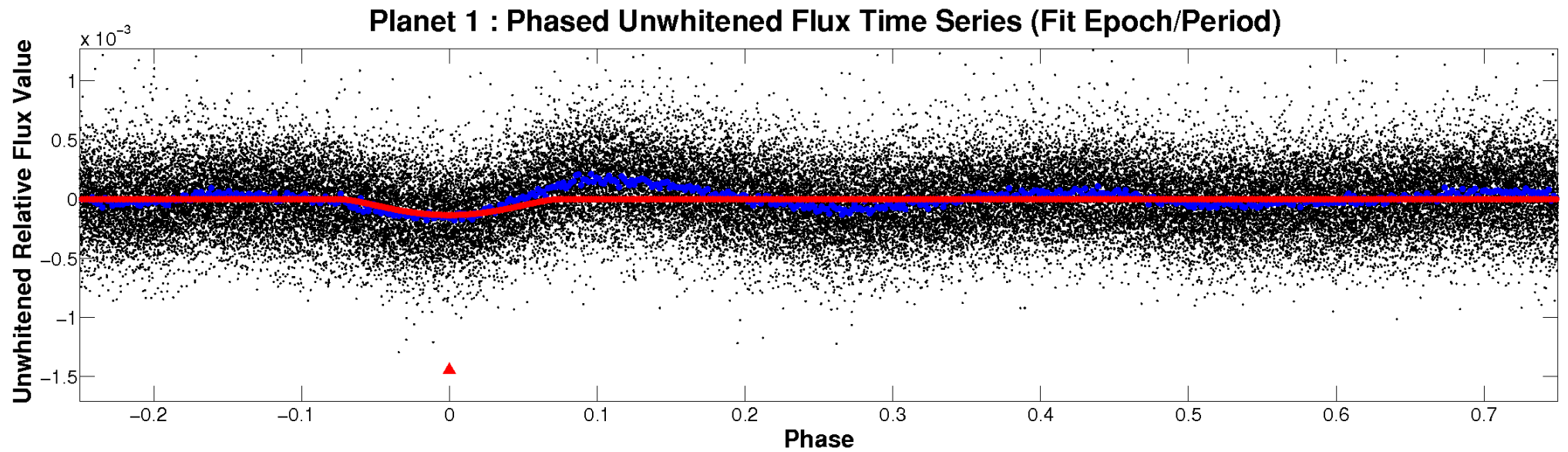


ALT Odd/Even

TCE 009838168-01

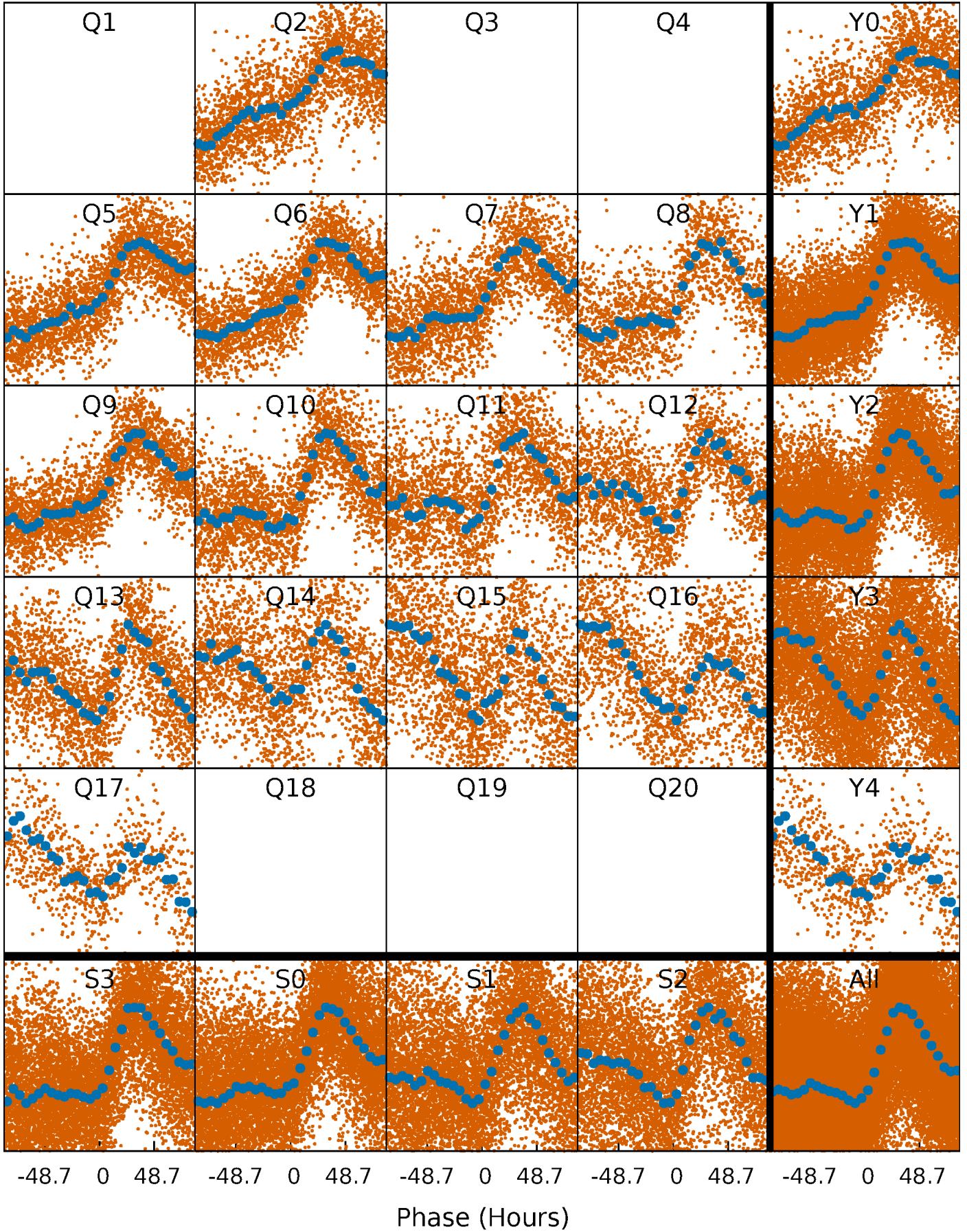


Non-Whitened Vs. Whitened Light Curve



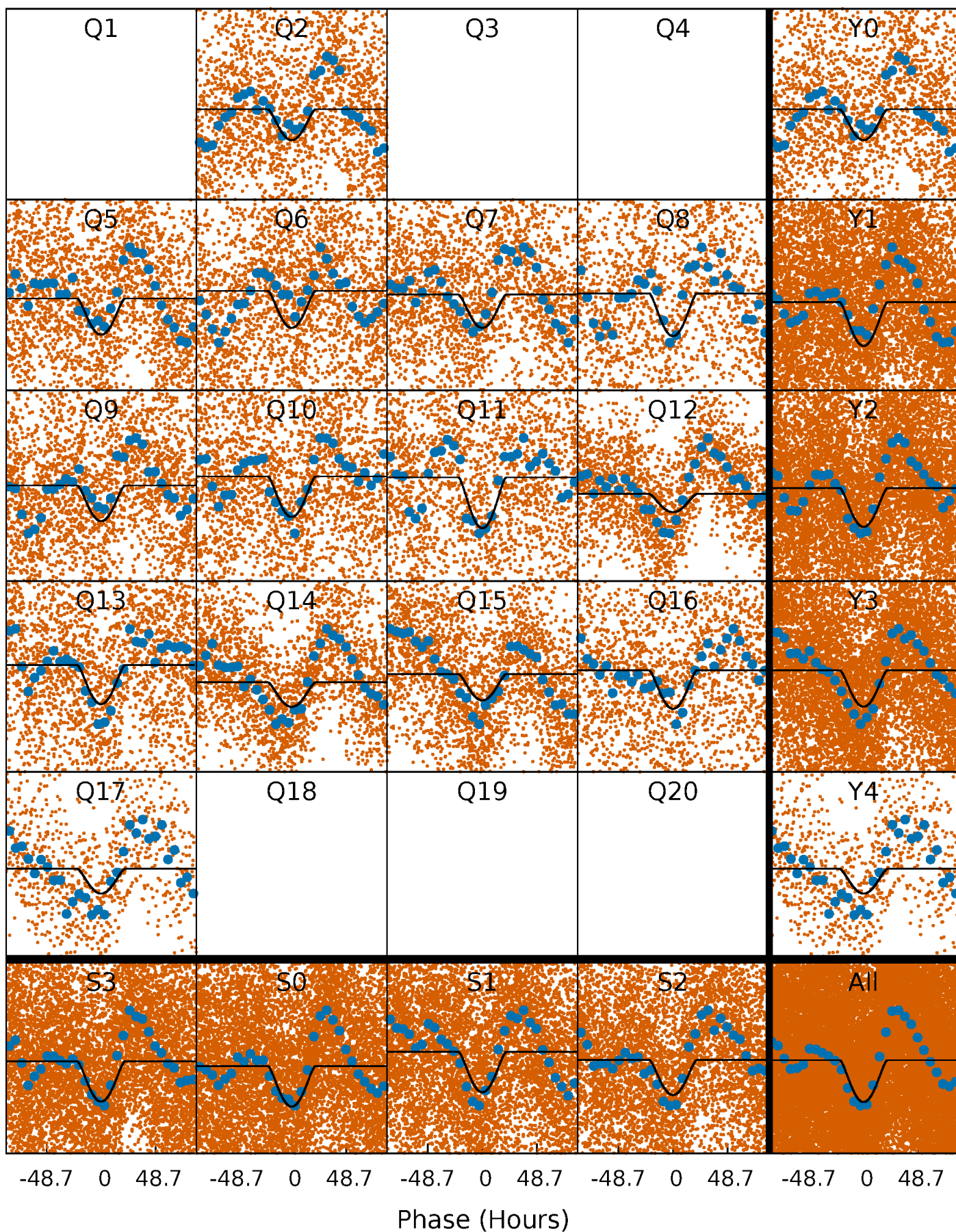
PDC Quarter-Phased Transit Curves

TCE 009838168-01 P= 11.923932 Days $T_0=135.335212$ (BKJD)



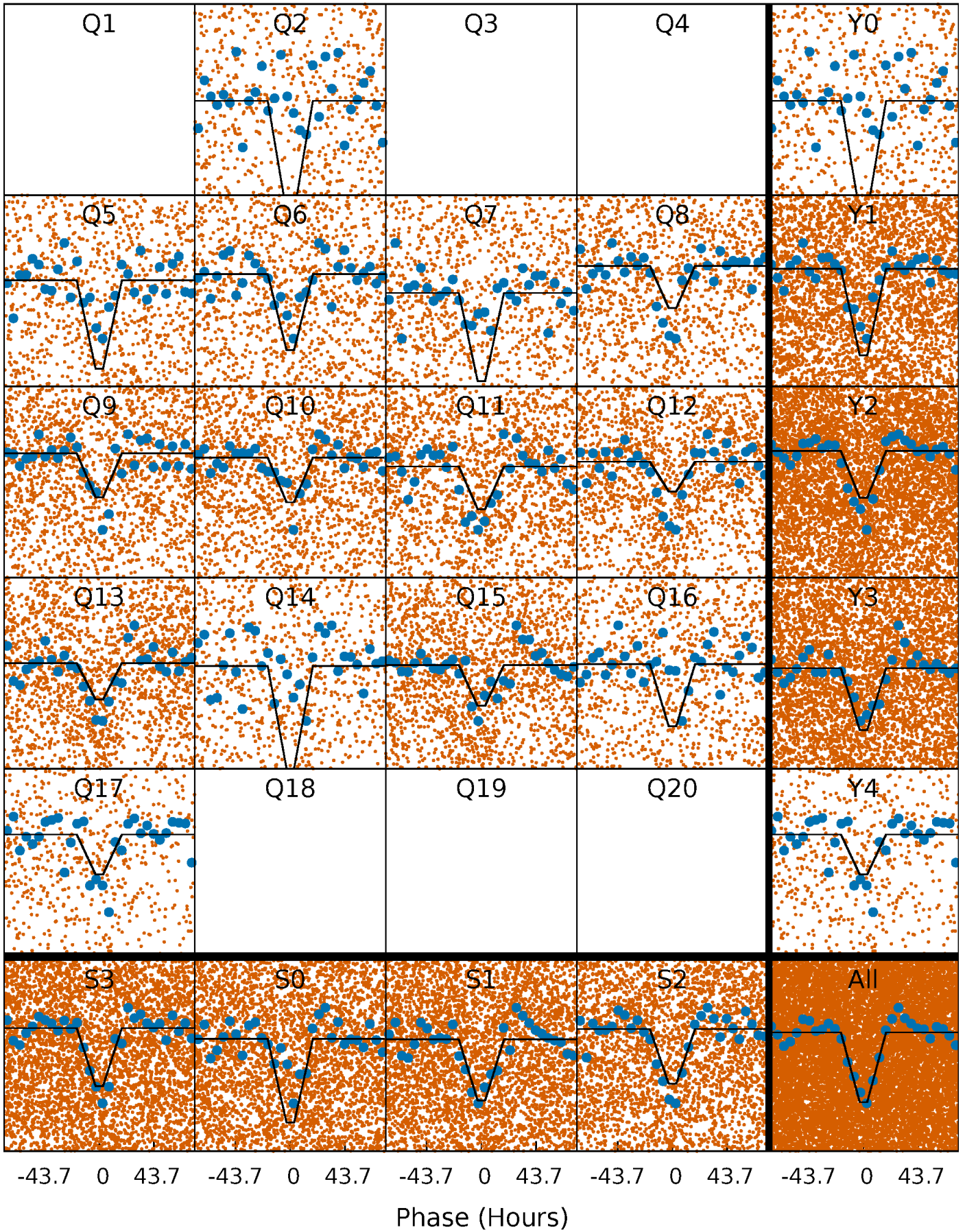
DV Quarter-Phased Transit Curves

TCE 009838168-01 P= 11.923932 Days $T_0=135.335212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

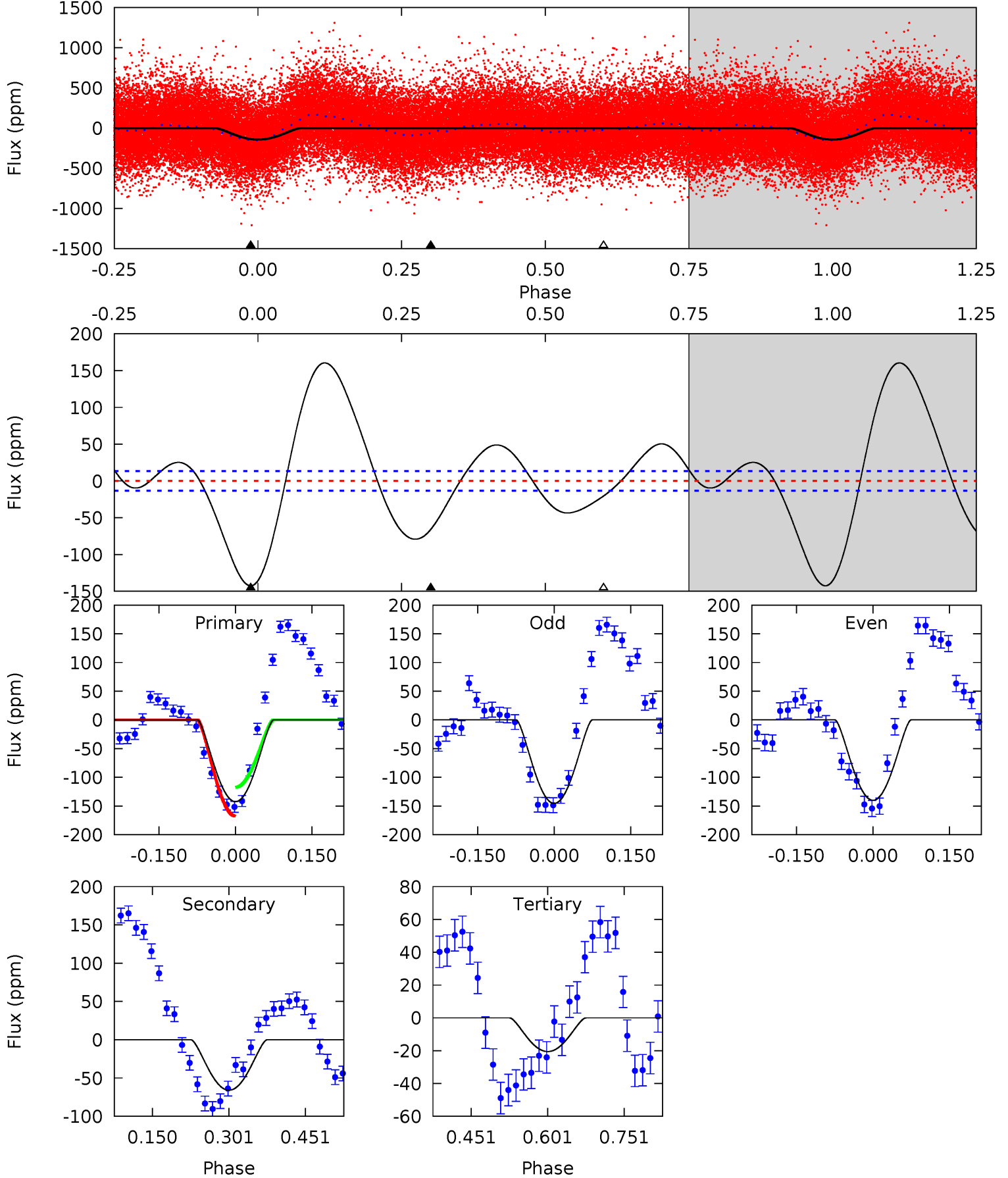
TCE 009838168-01 P= 11.921170 Days $T_0=135.543259$ (BKJD)



DV Model-Shift Uniqueness Test

009838168-01, P = 11.923932 Days, E = 135.335212 Days

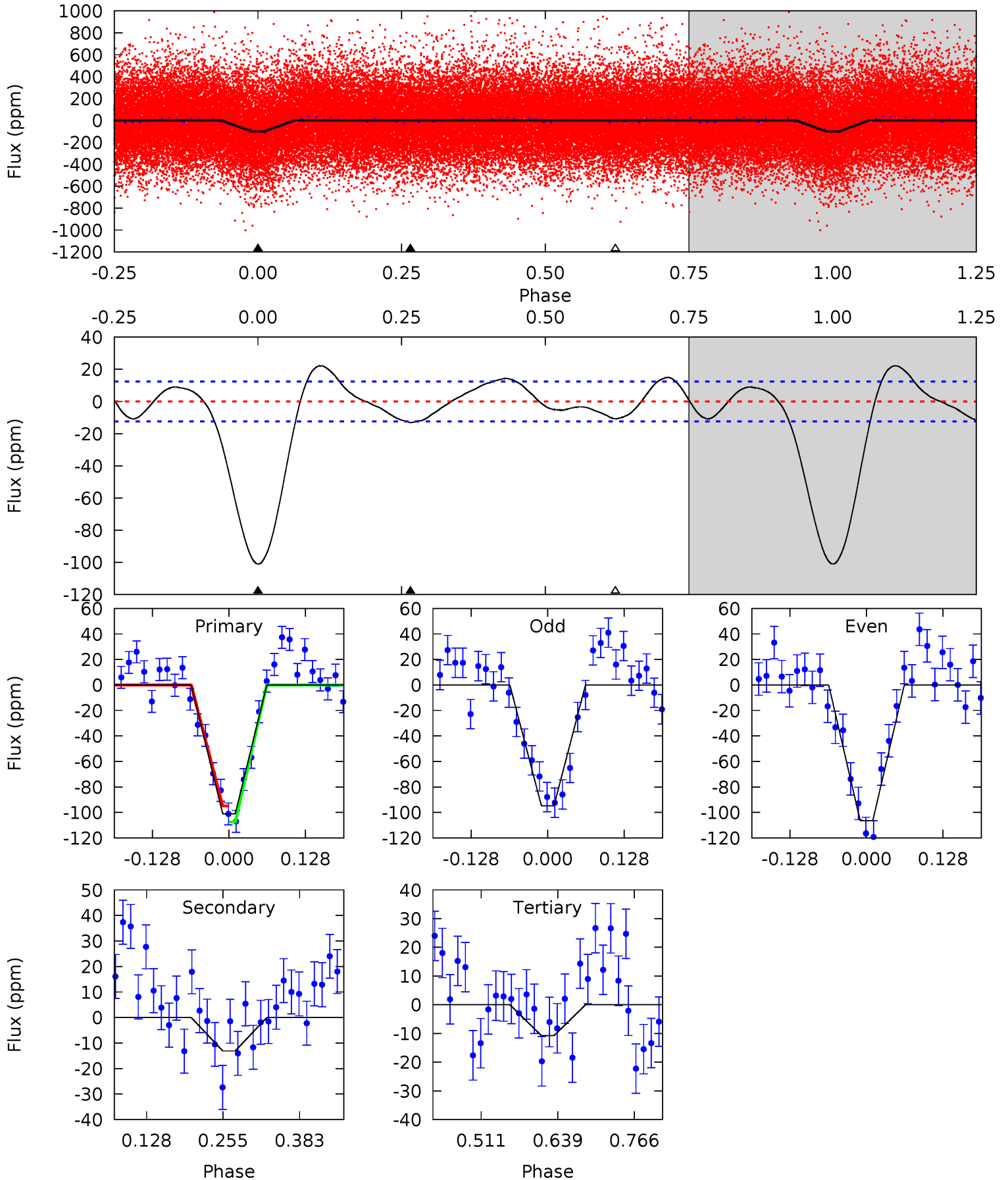
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.1	22.2	6.93	0	4.48	1.44	12.4	41.2	48.1	15.3	22.2	0.90	0.94	0.53	8.37



Alt Model-Shift Uniqueness Test

009838168-01, P = 11.921170 Days, E = 135.543259 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.7	4.75	3.90	0	4.51	1.52	3.11	32.8	36.7	0.84	4.75	2.12	0.85	0.18	2.28



Stellar Parameters For KIC 009838168

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6266^{+199}_{-243}	$4.022^{+0.343}_{-0.147}$	$-0.140^{+0.250}_{-0.300}$	$1.745^{+0.493}_{-0.603}$	$1.167^{+0.202}_{-0.182}$	$0.310^{+0.728}_{-0.137}$
	+3%/-4%	+9%/-4%	+179%/-214%	+28%/-35%	+17%/-16%	+235%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009838168-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-66 ± 3	$4.61^{+4.12}_{-2.81}$	1510^{+136}_{-141}	3825^{+1742}_{-685}	19^{+106}_{-14}
Alt.	-13 ± 3	$3.63^{+3.84}_{-2.32}$	1527^{+121}_{-146}	3201^{+1395}_{-646}	$6.226^{+40.690}_{-4.773}$

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 $A_{obs} \gg 1.0$

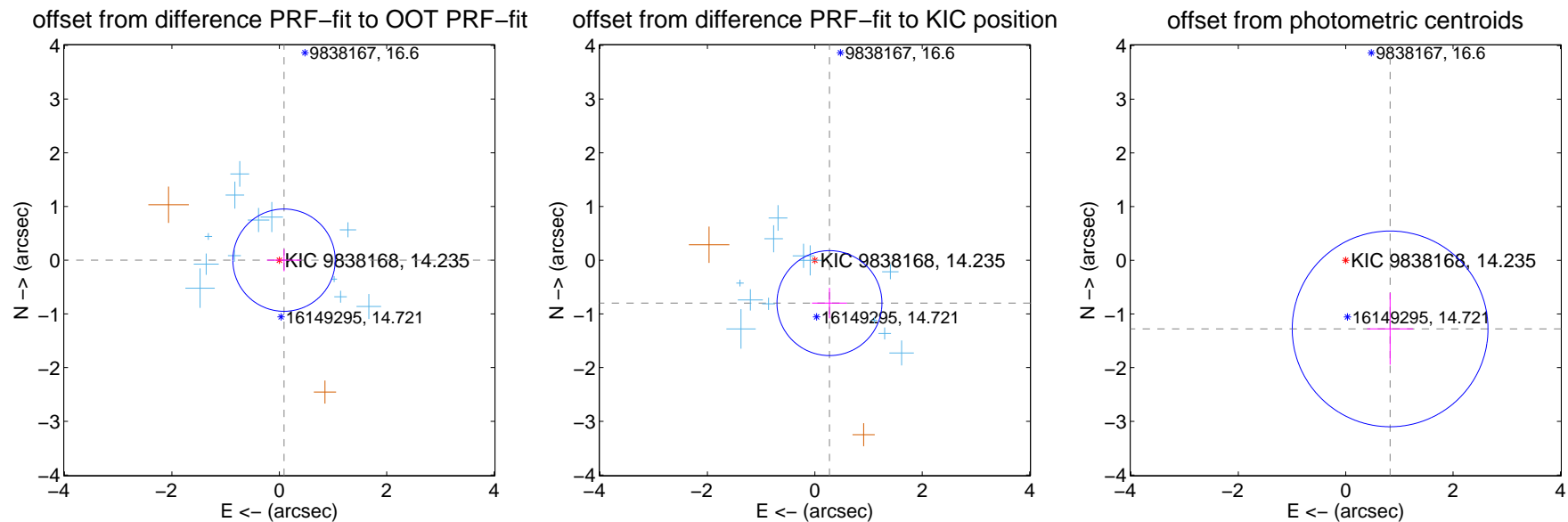
DV Centroid Data

Supplemental centroid analysis for 009838168-01. Kepler magnitude: 14.23. Transit SNR 13.41

There are 12 quarters with good PRF difference image offsets

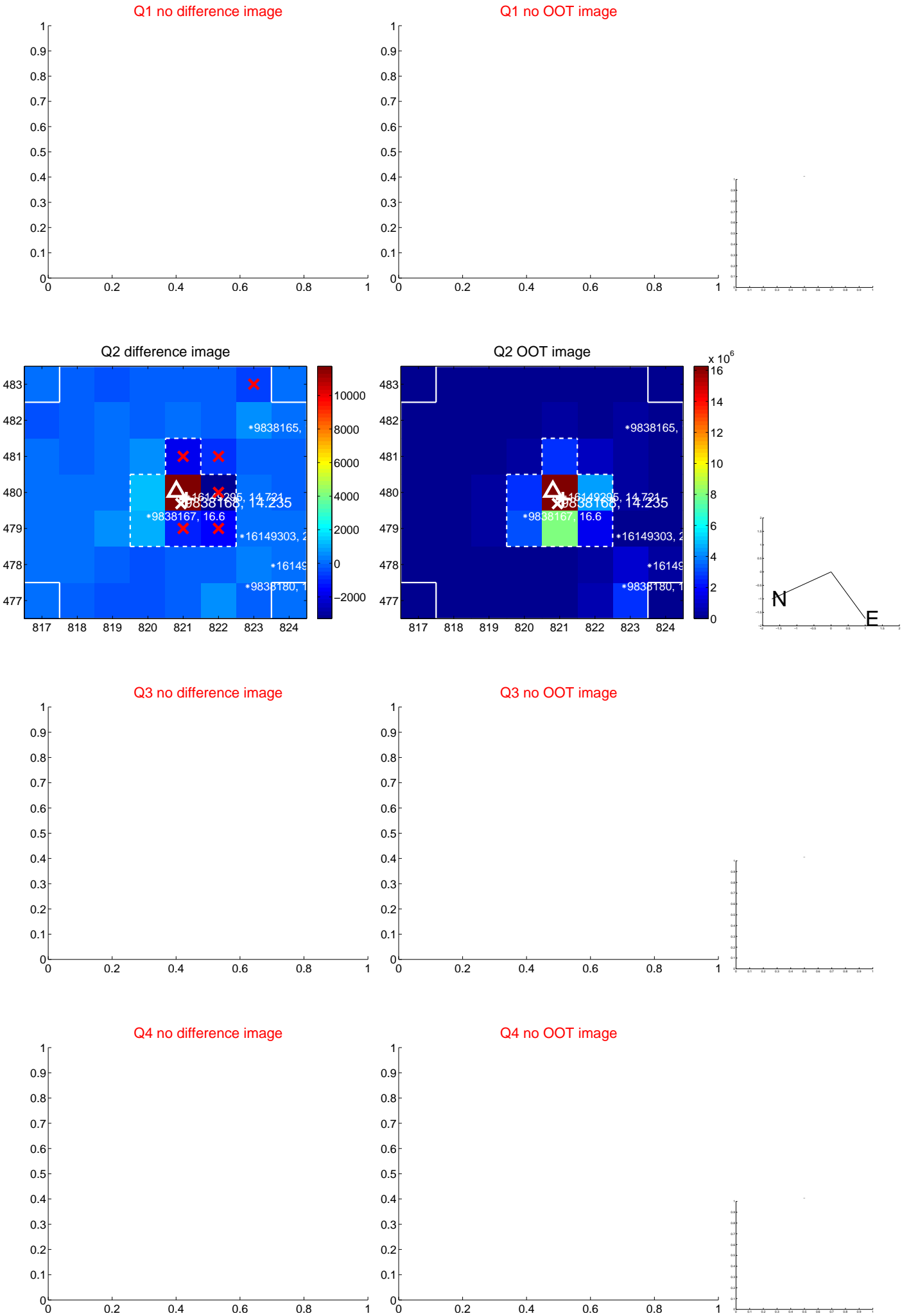
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.088 ± 0.318	0.28	-0.088 ± 0.318	0.001 ± 0.207
PRF-fit source offset from KIC position	0.844 ± 0.326	2.59	-0.273 ± 0.325	-0.799 ± 0.283
photometric centroid source offset	1.52 ± 0.61	2.51	-0.83 ± 0.43	-1.28 ± 0.67

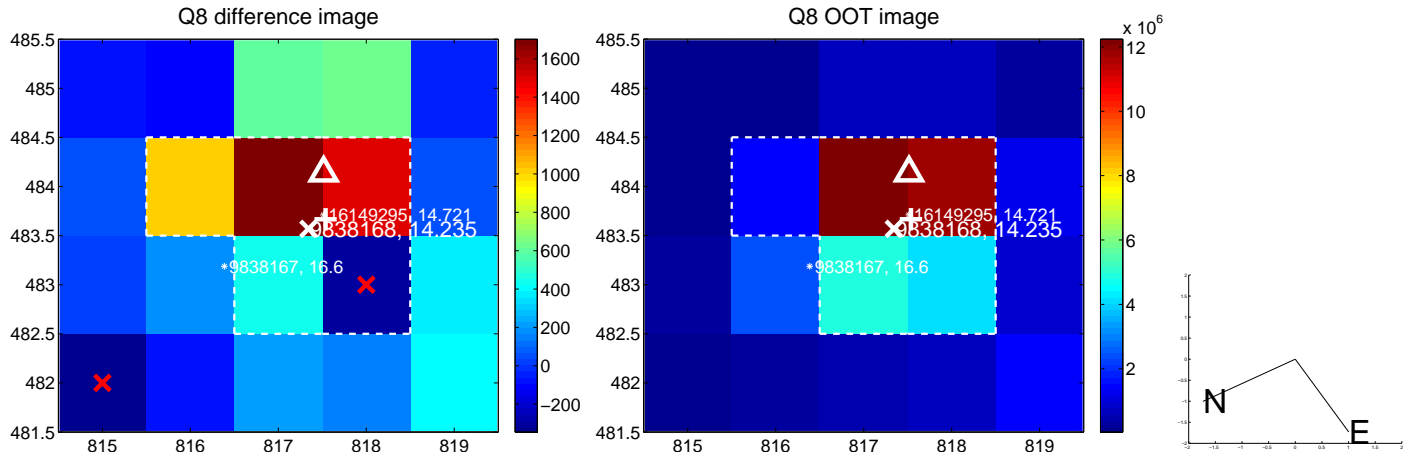
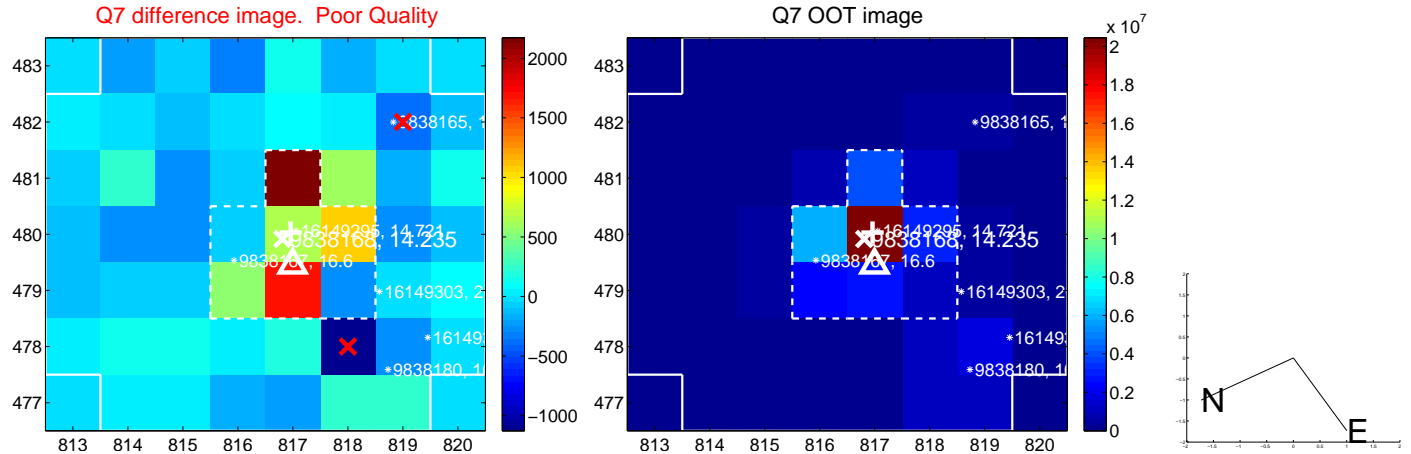
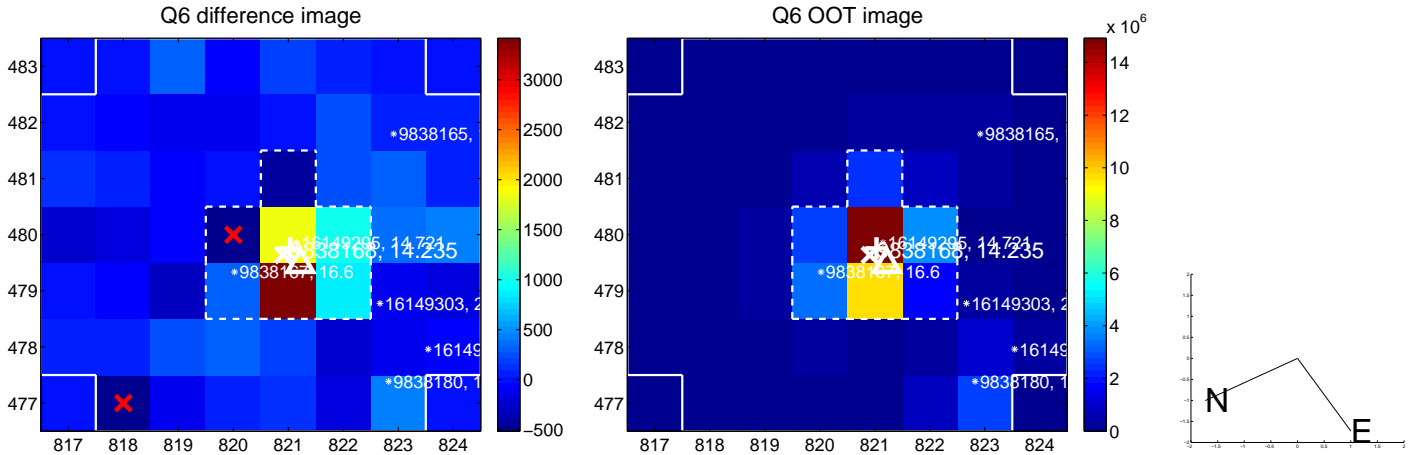
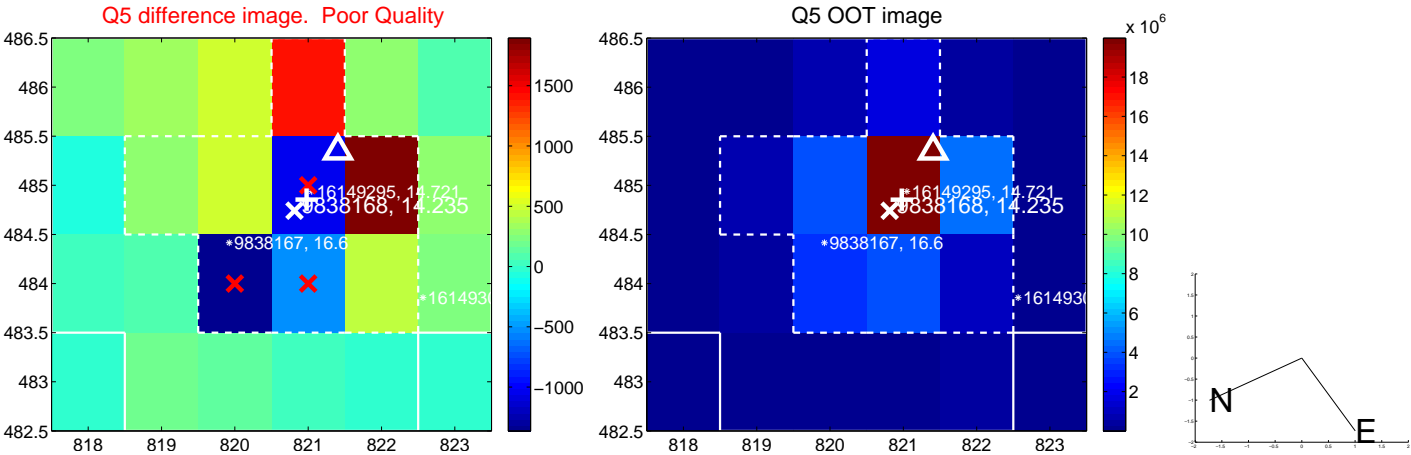


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

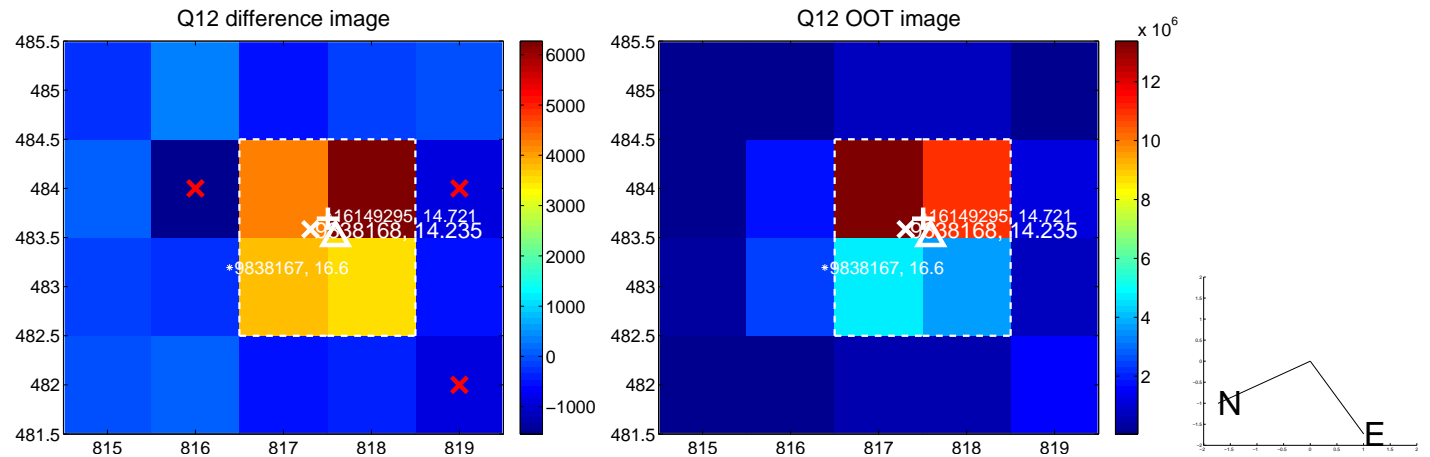
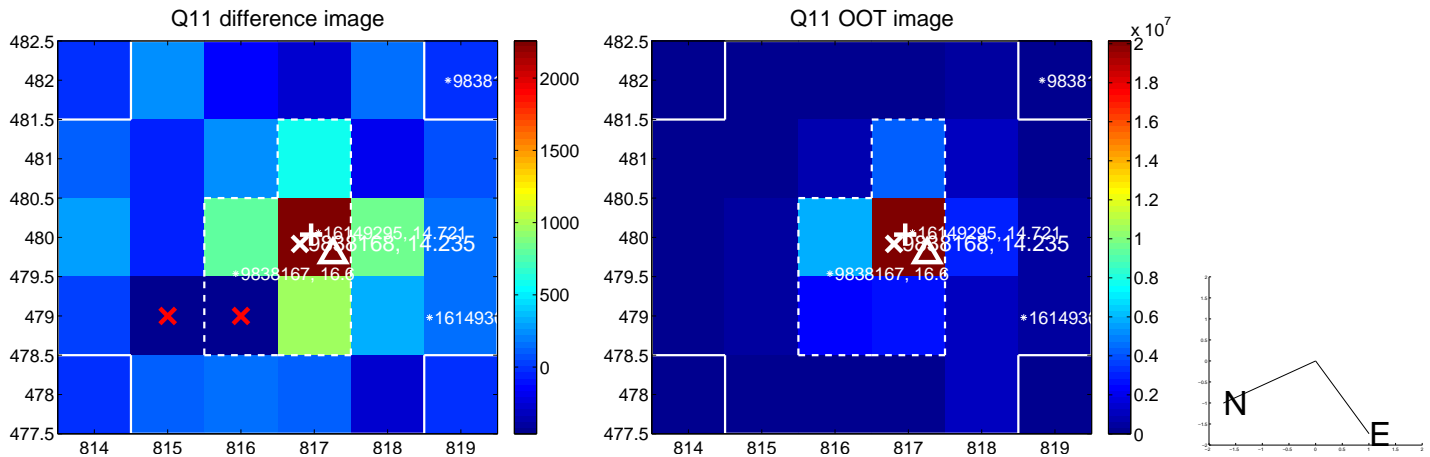
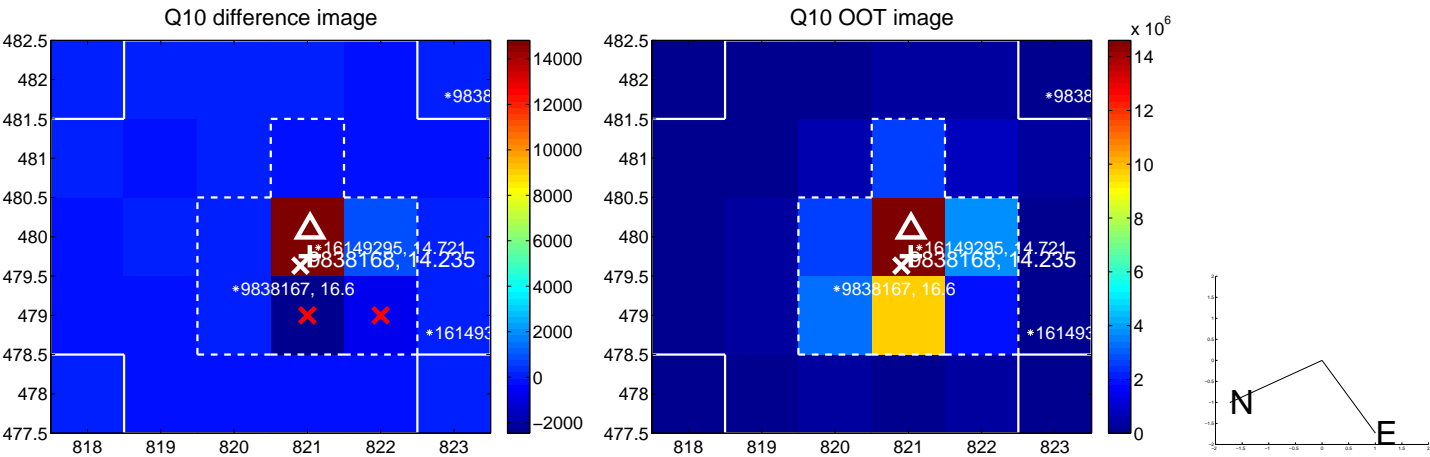
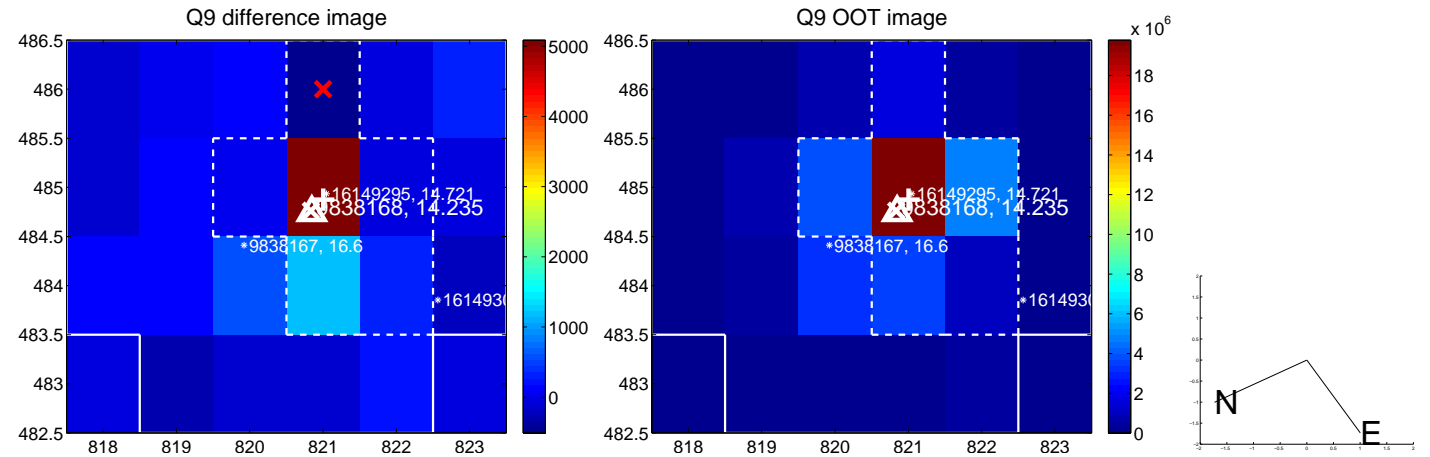
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



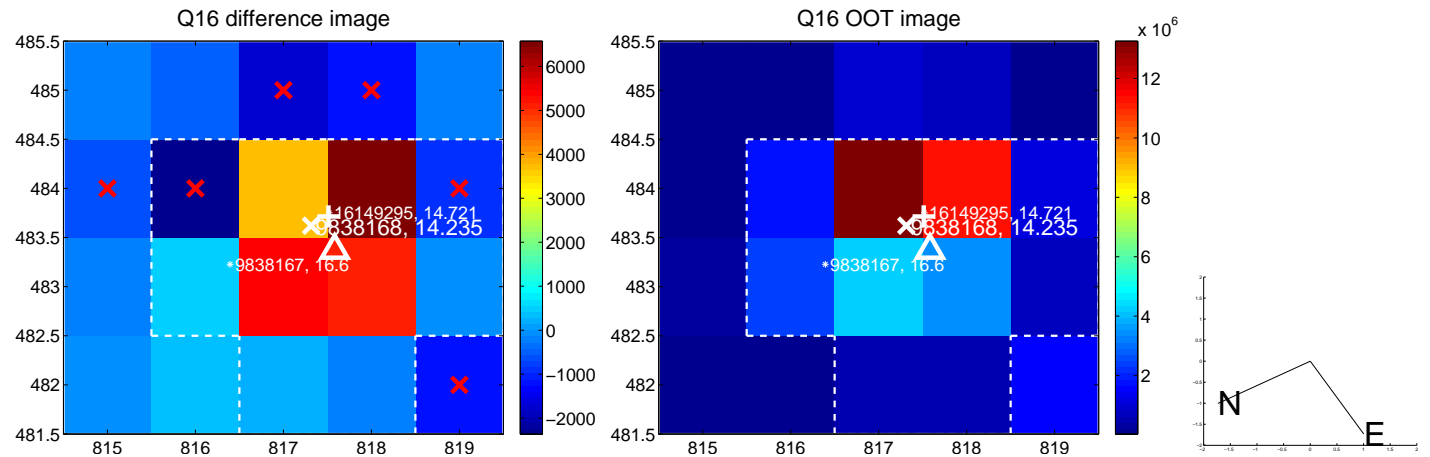
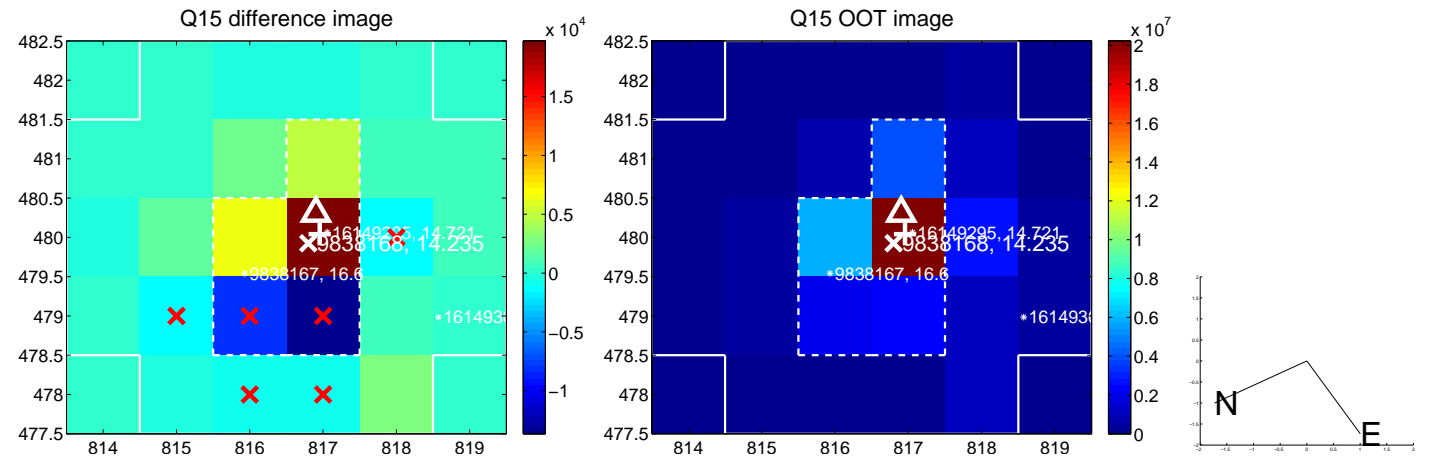
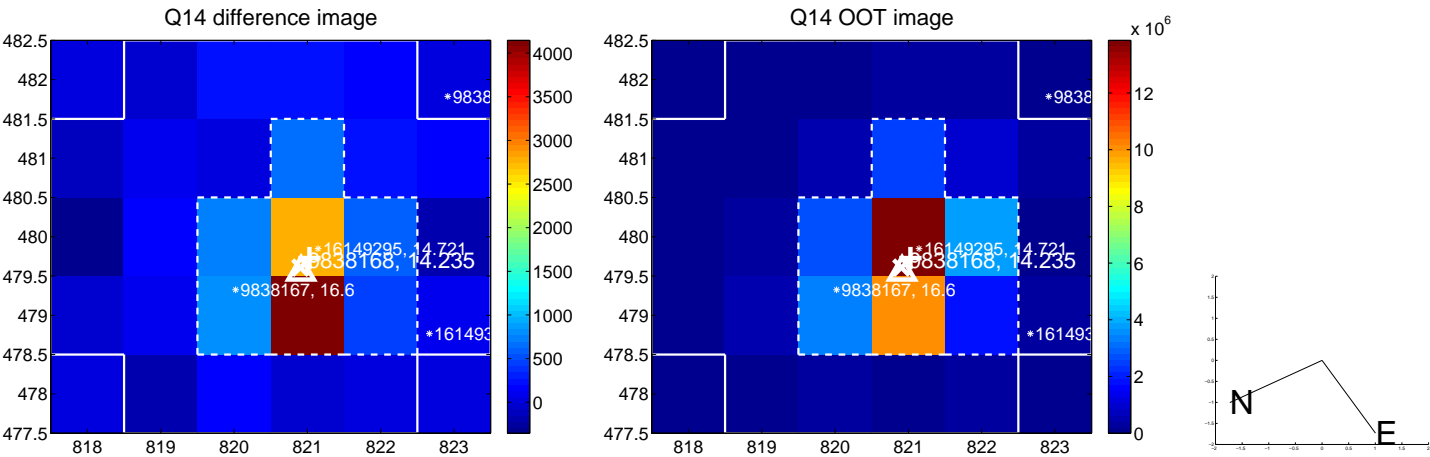
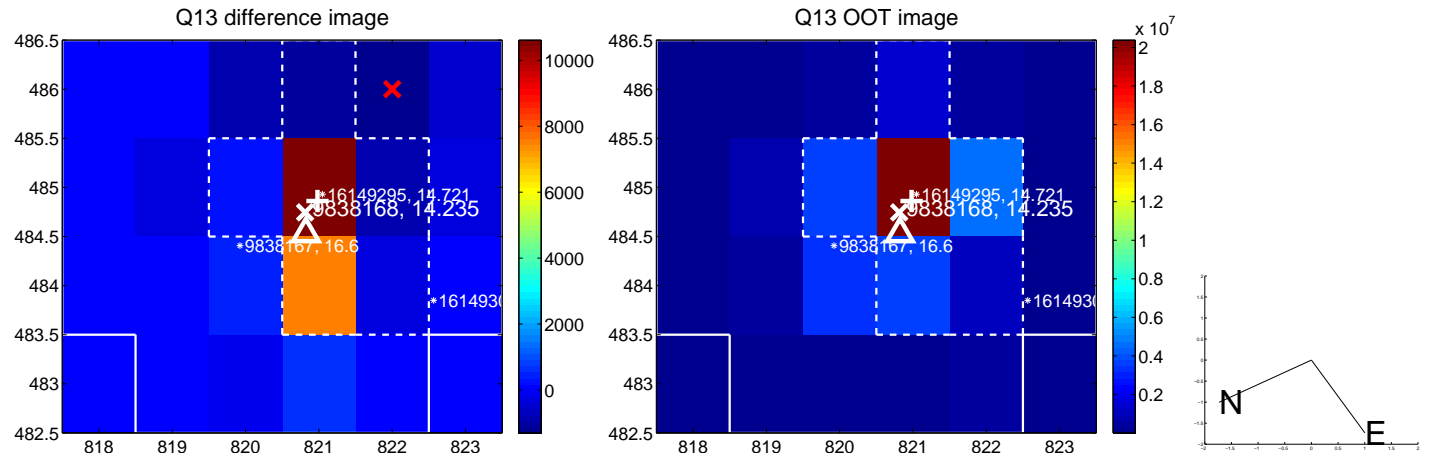
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



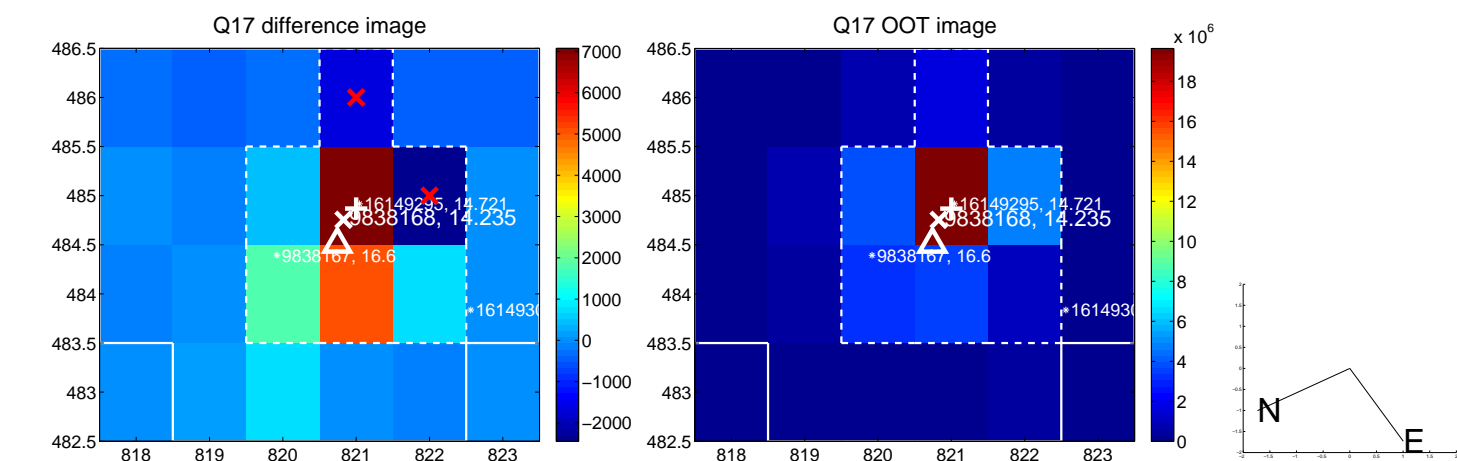
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



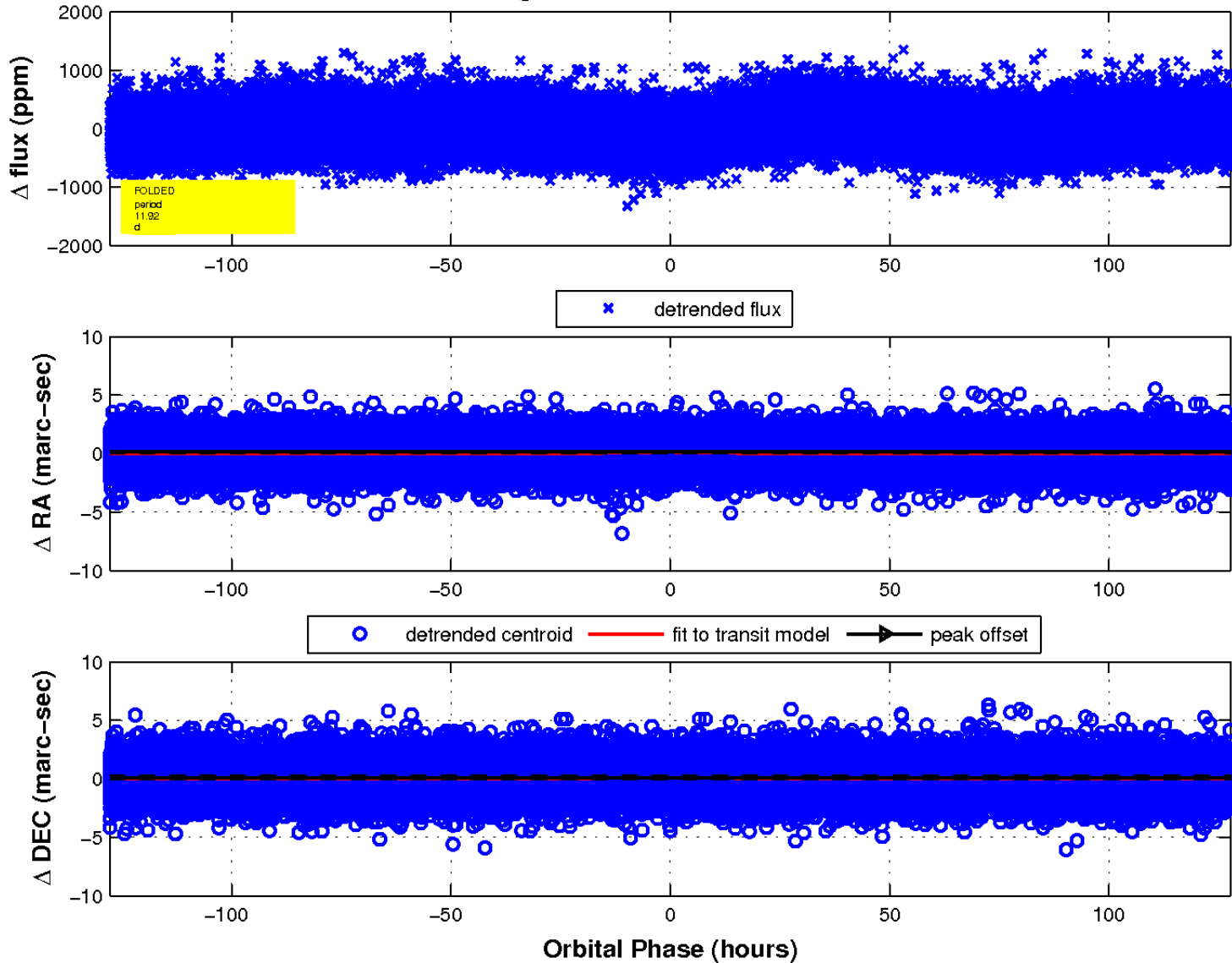
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

