

KIC 009838311

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})
009838311-01	OBS	No	3.807329	133.429765	8.2	38.292	12.2	2.6	1.19	6400	0.35	841.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009838311-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

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

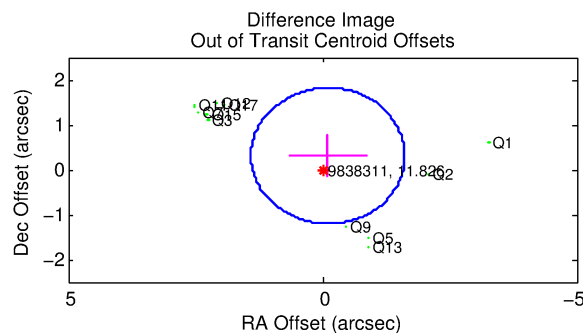
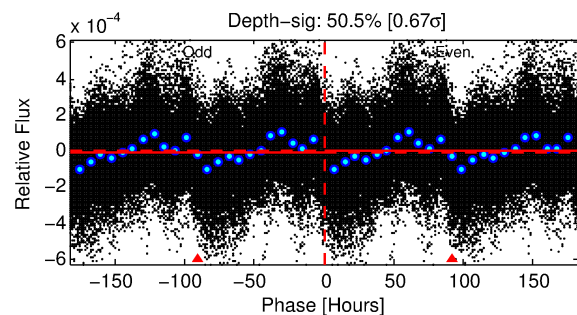
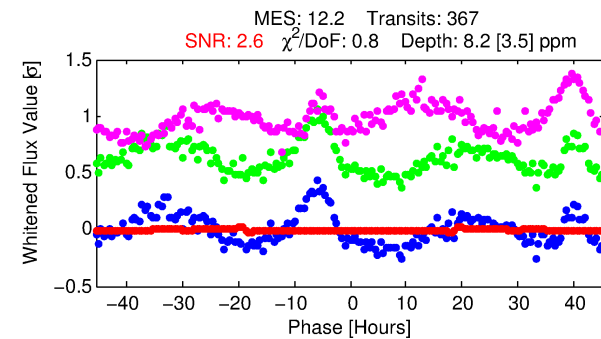
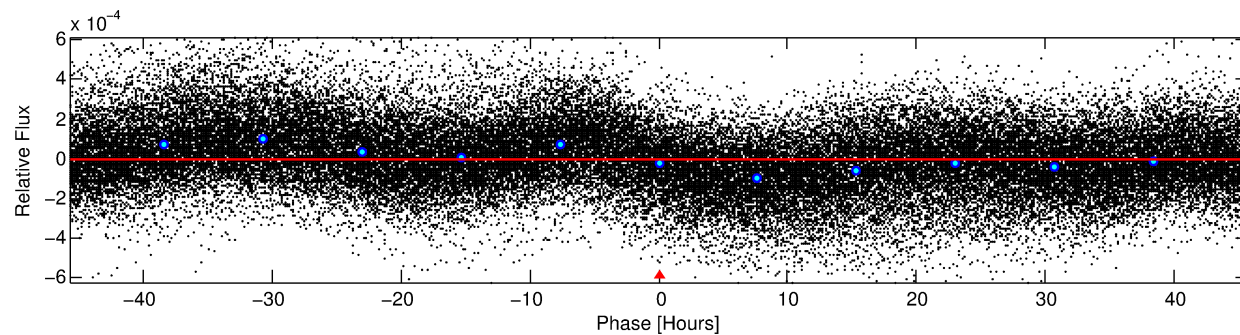
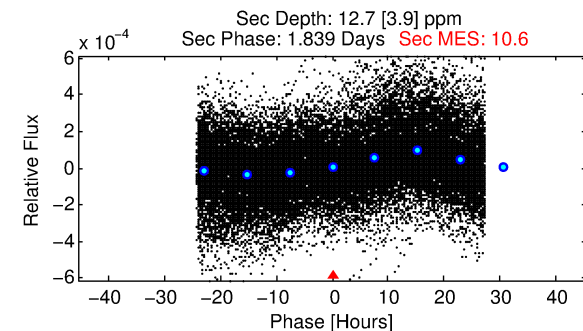
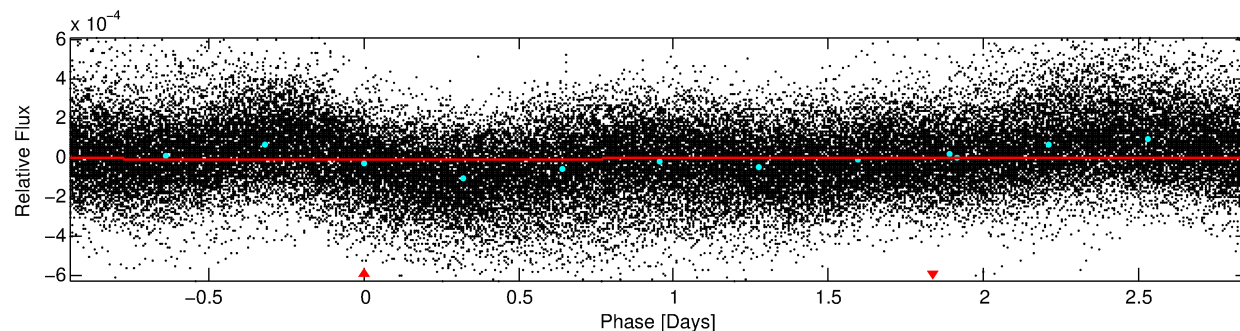
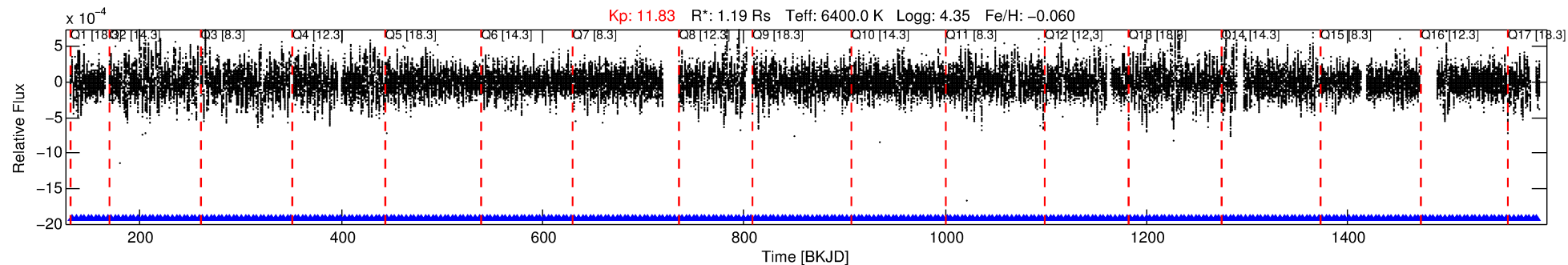
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009838311-01

No Significant Match Found

DV One-Page Summary

KIC: 9838311 Candidate: 1 of 1 Period: 3.807 d



DV Fit Results:

Period = 3.80733 [0.00012] d
Epoch = 133.4298 [0.0207] BKJD
Rp/R* = 0.0027 [0.0022]
a/R* = 1.03 [0.24]
b = 0.51 [6.48]
Seff = 841.56 [243.36]
Teq = 1373 [99] K
Rp = 0.35 [0.29] Re
a = 0.0502 [0.0094] AU
Ag = 143.06 [237.33] [0.60σ]
Teffp = 7344 [3013] K [1.98σ]

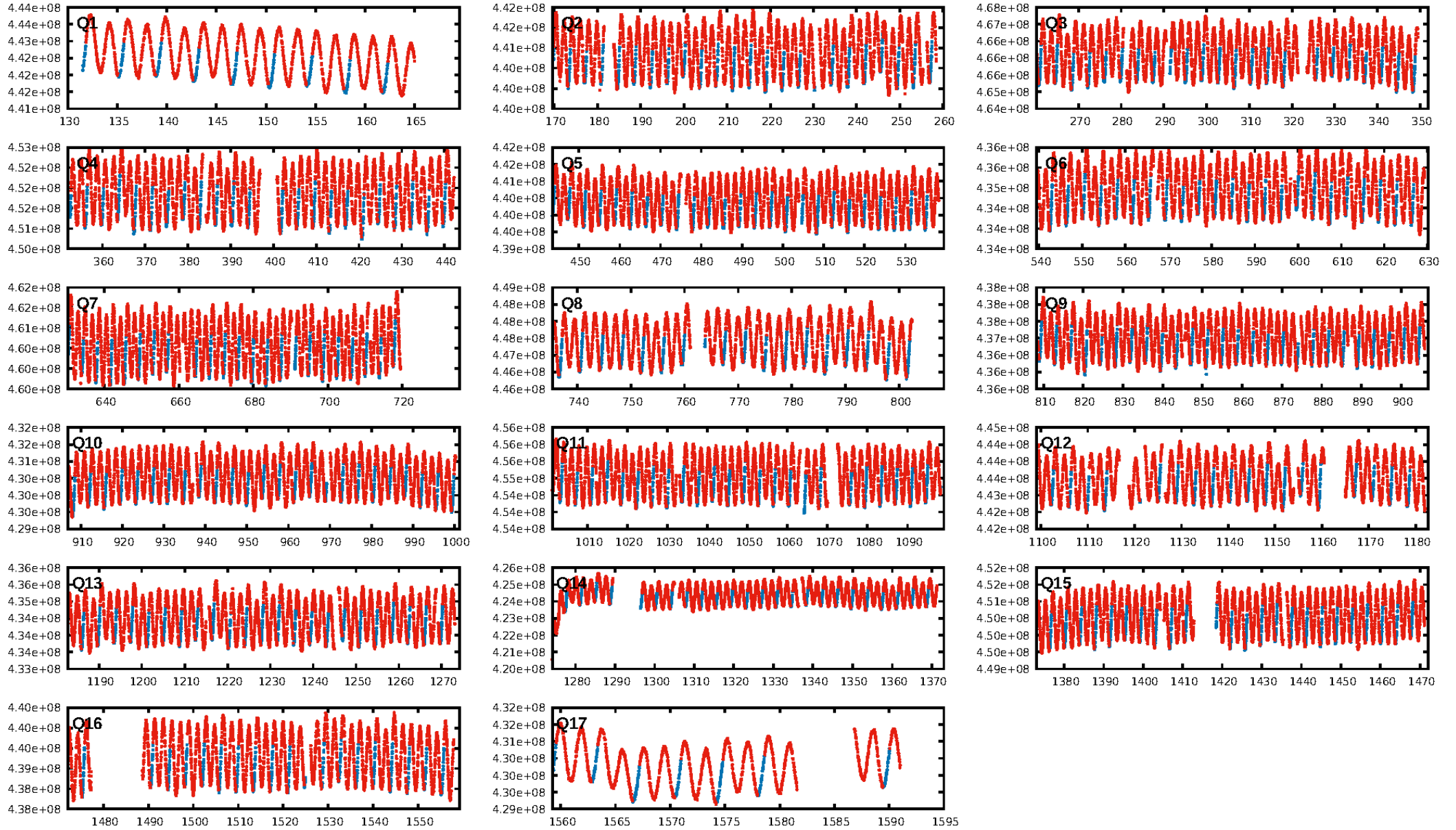
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [350/350]
GhostDiagnostic-chr: 1.133
Centroid-sig: 26.4%
Centroid-so: 0.871 arcsec [0.99σ]
OotOffset-rm: 0.324 arcsec [0.64σ]
KicOffset-rm: 0.367 arcsec [0.76σ]
OotOffset-st: 1/4/1/5 [11]
KicOffset-st: 1/4/1/5 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [17/17]

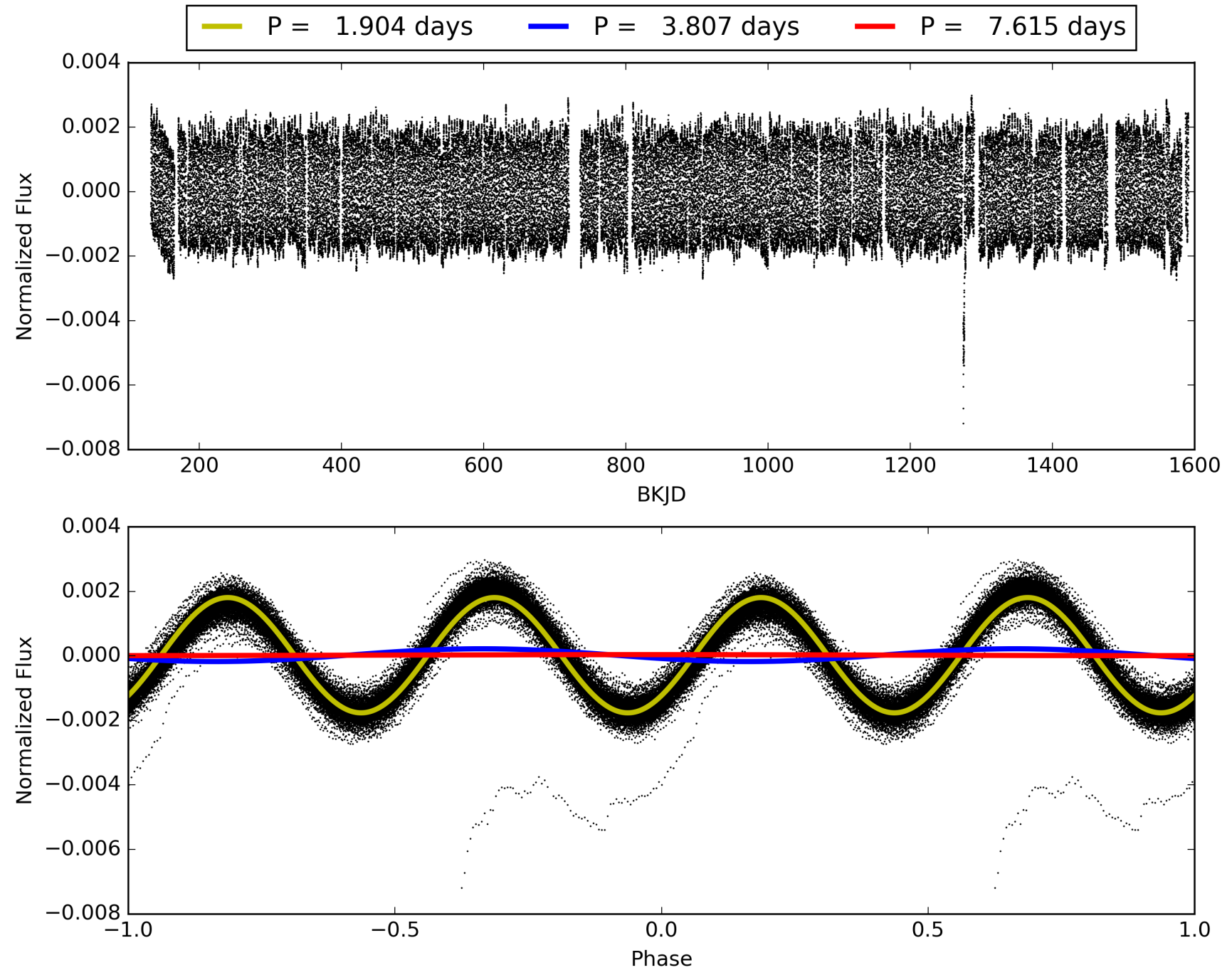
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:36:26 Z

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

TCE 009838311-01, PDC Light Curves

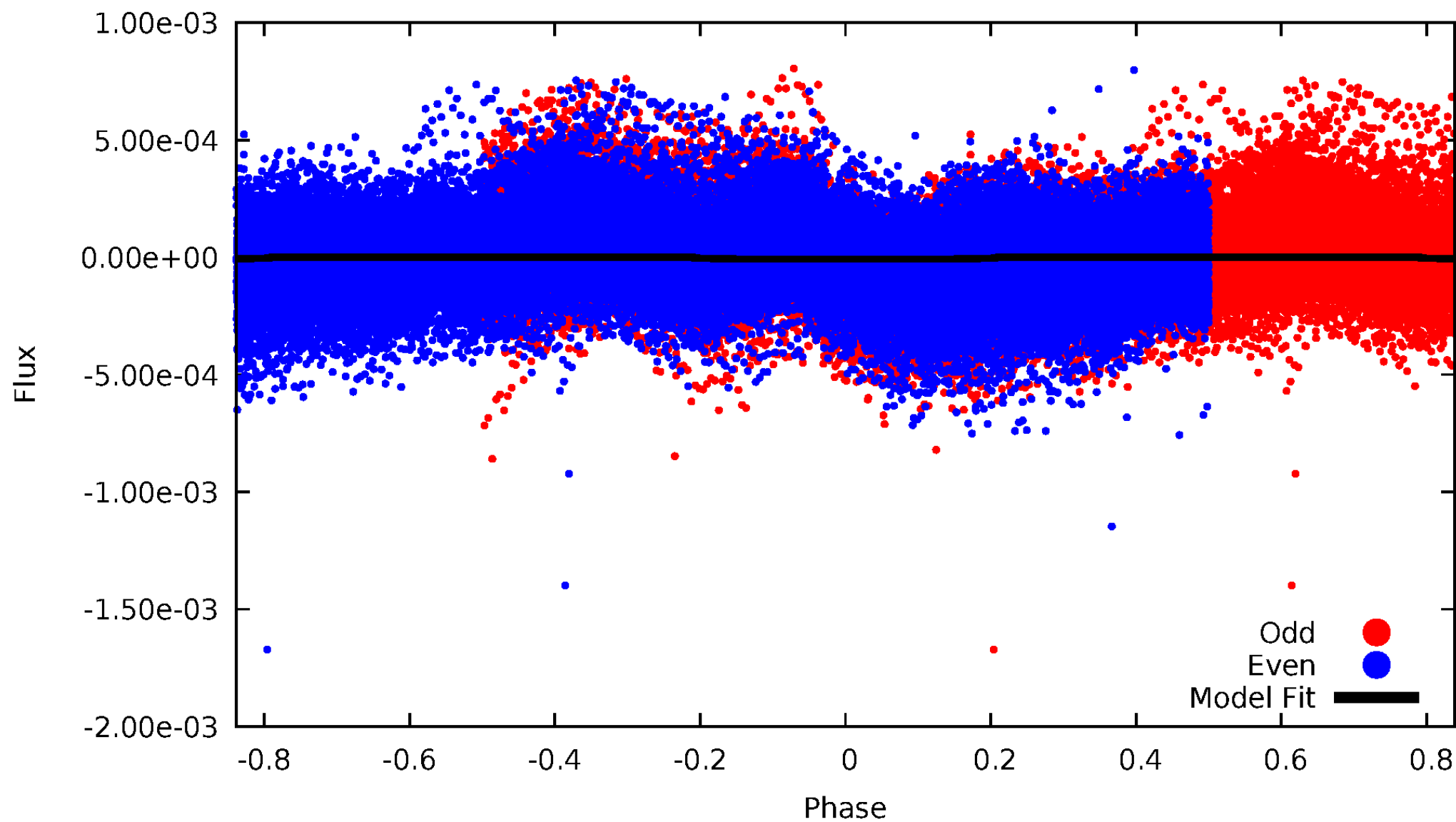


TCE 009838311-01



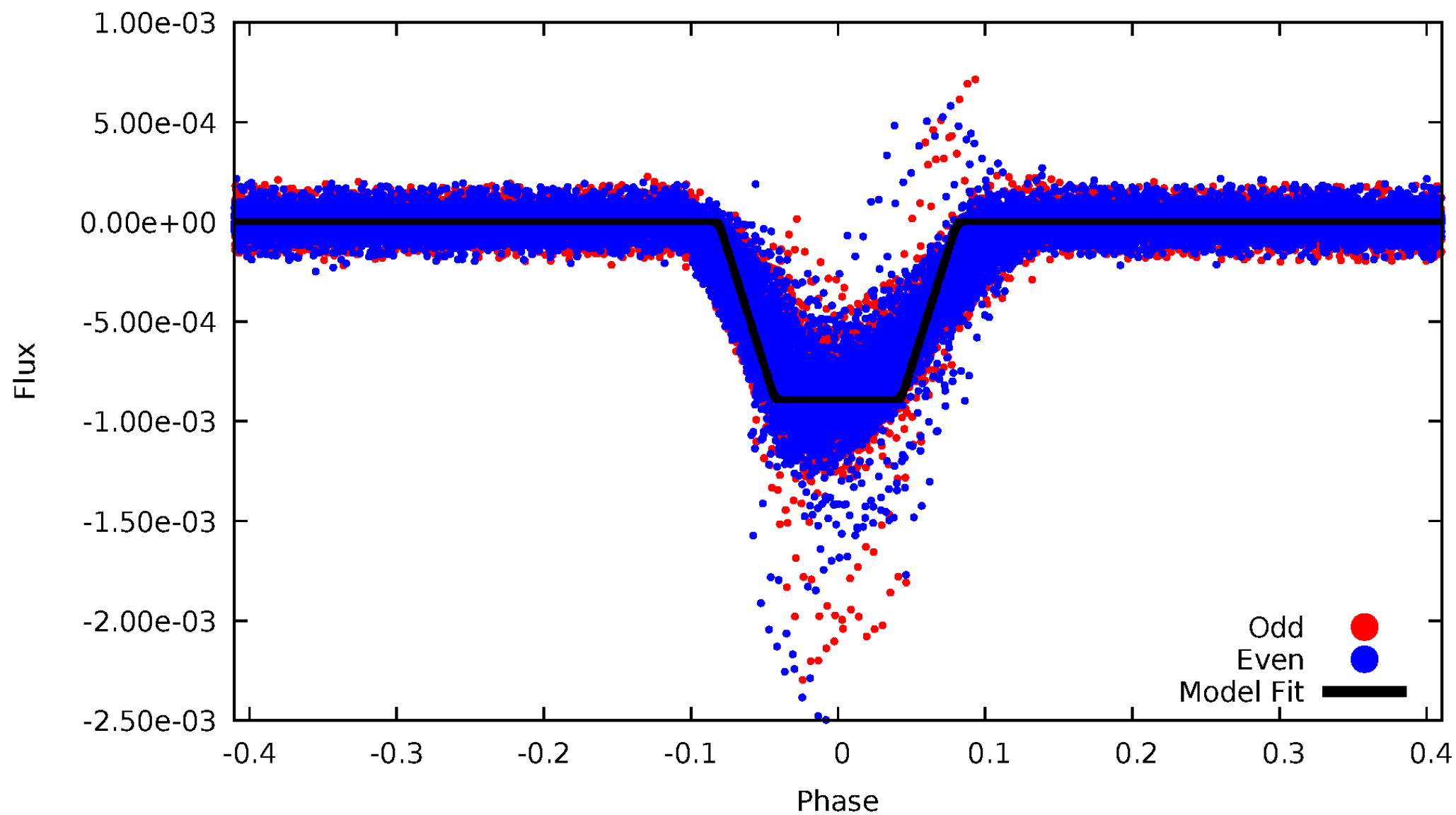
DV Odd/Even

TCE 009838311-01

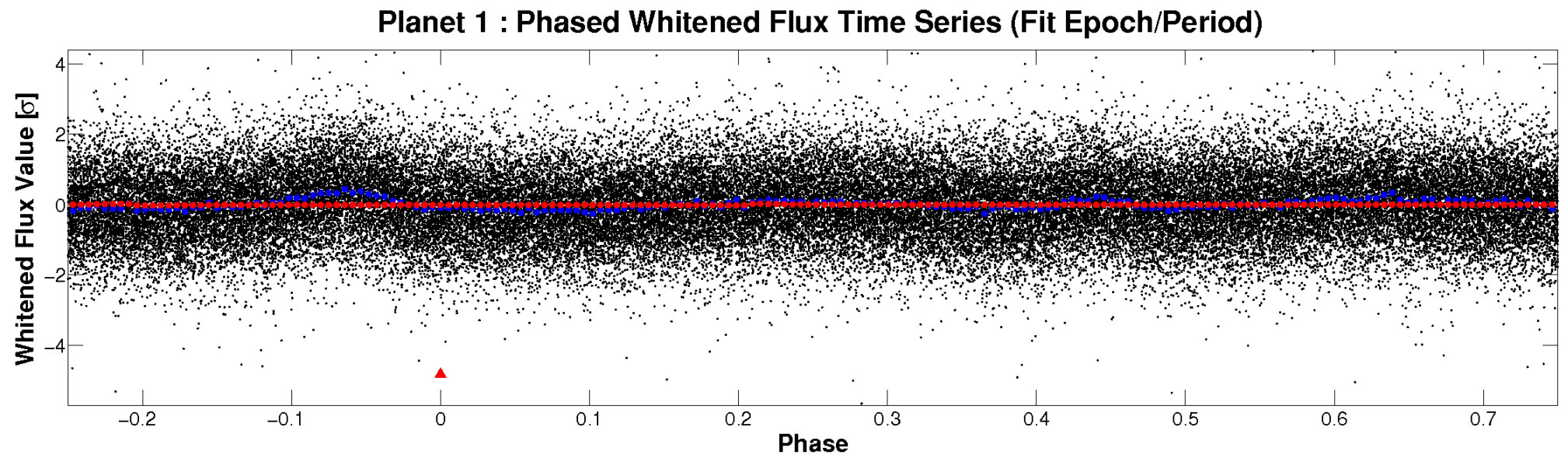
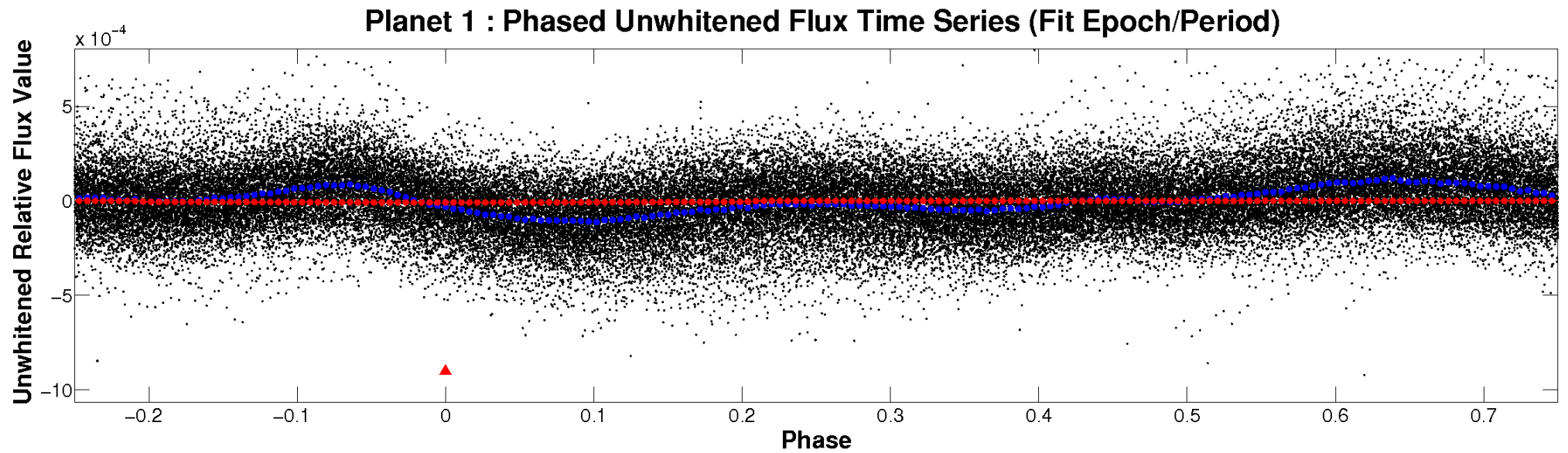


ALT Odd/Even

TCE 009838311-01

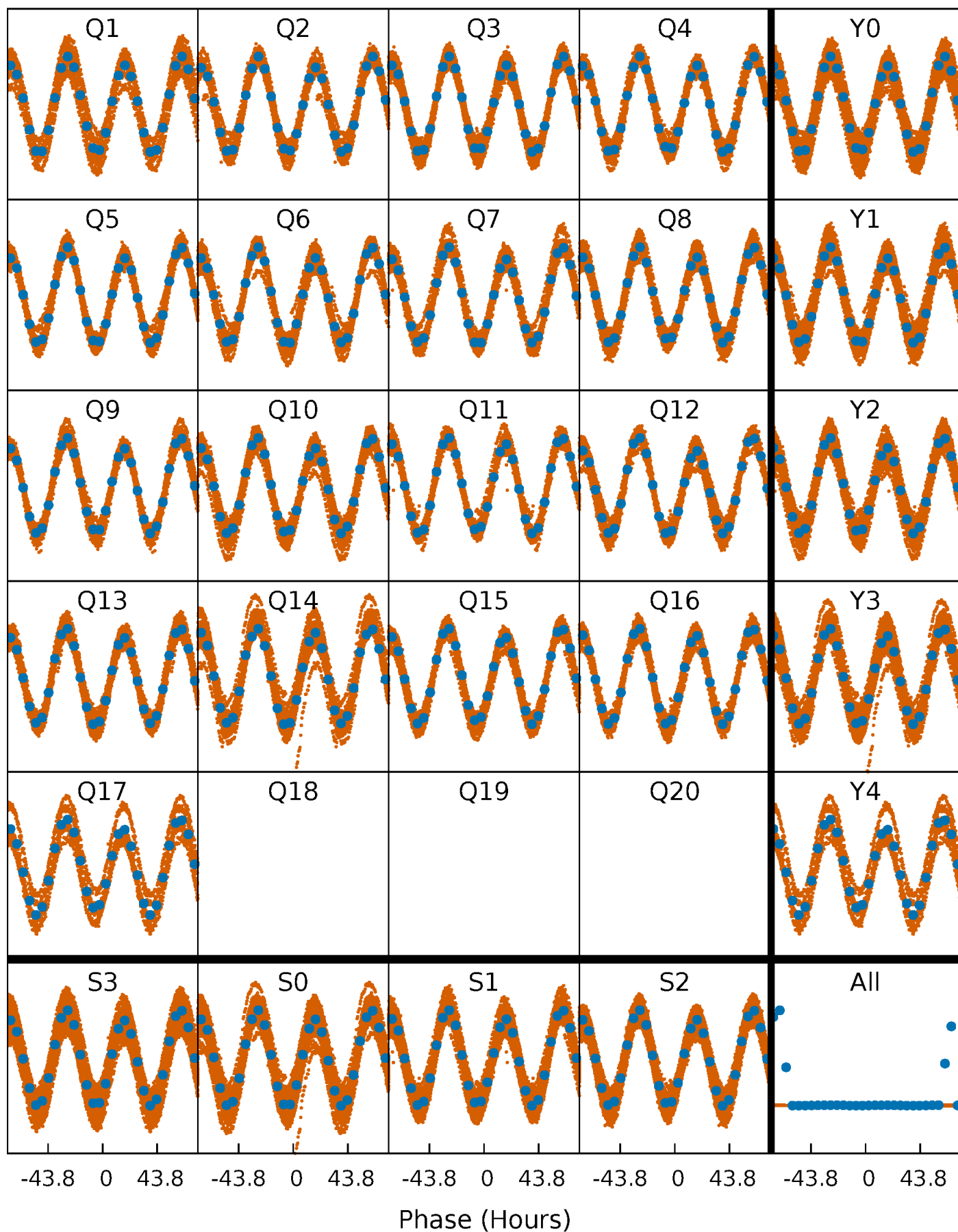


Non-Whitened Vs. Whitened Light Curve



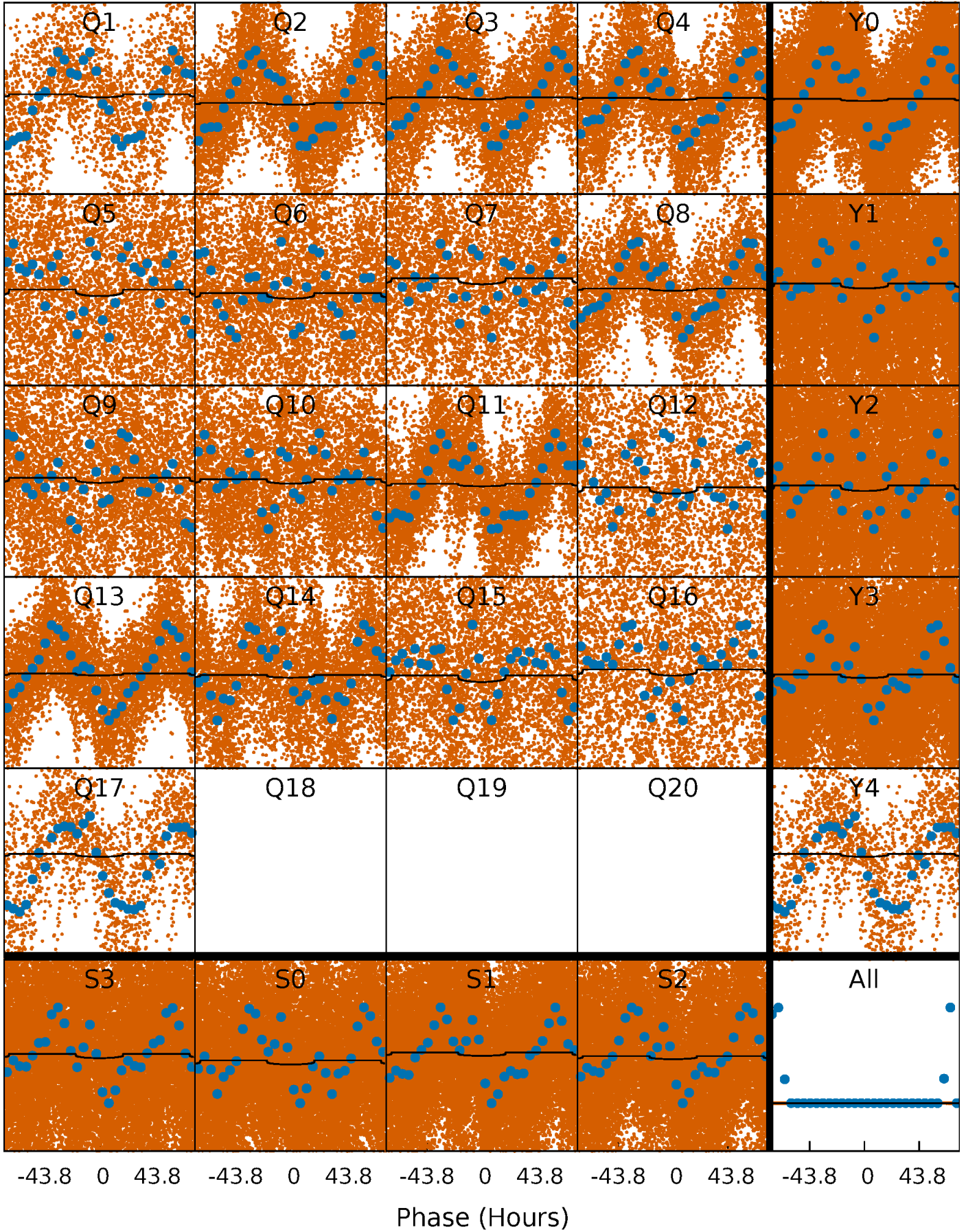
PDC Quarter-Phased Transit Curves

TCE 009838311-01 P= 3.807329 Days $T_0=133.429765$ (BKJD)



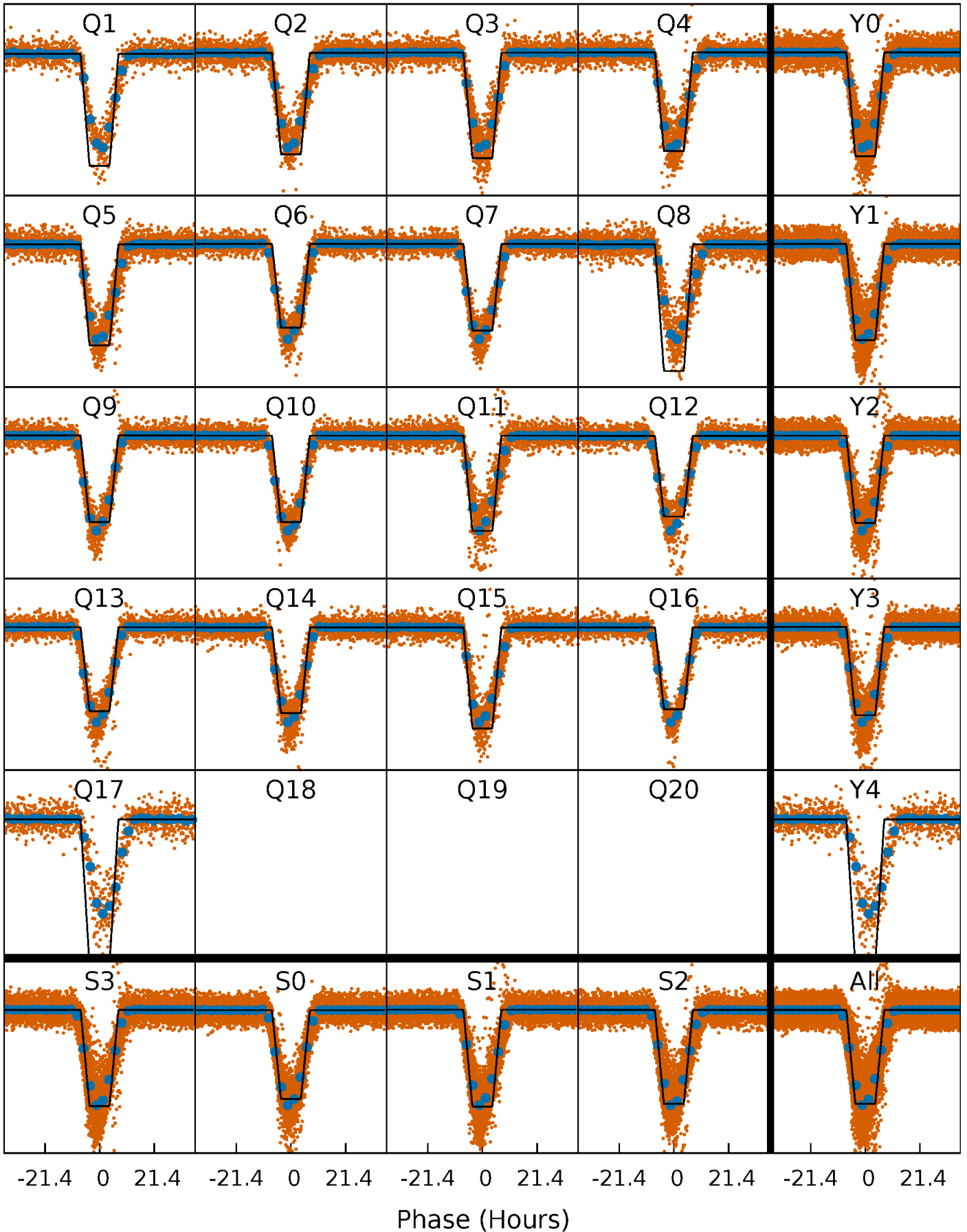
DV Quarter-Phased Transit Curves

TCE 009838311-01 P= 3.807329 Days $T_0=133.429765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

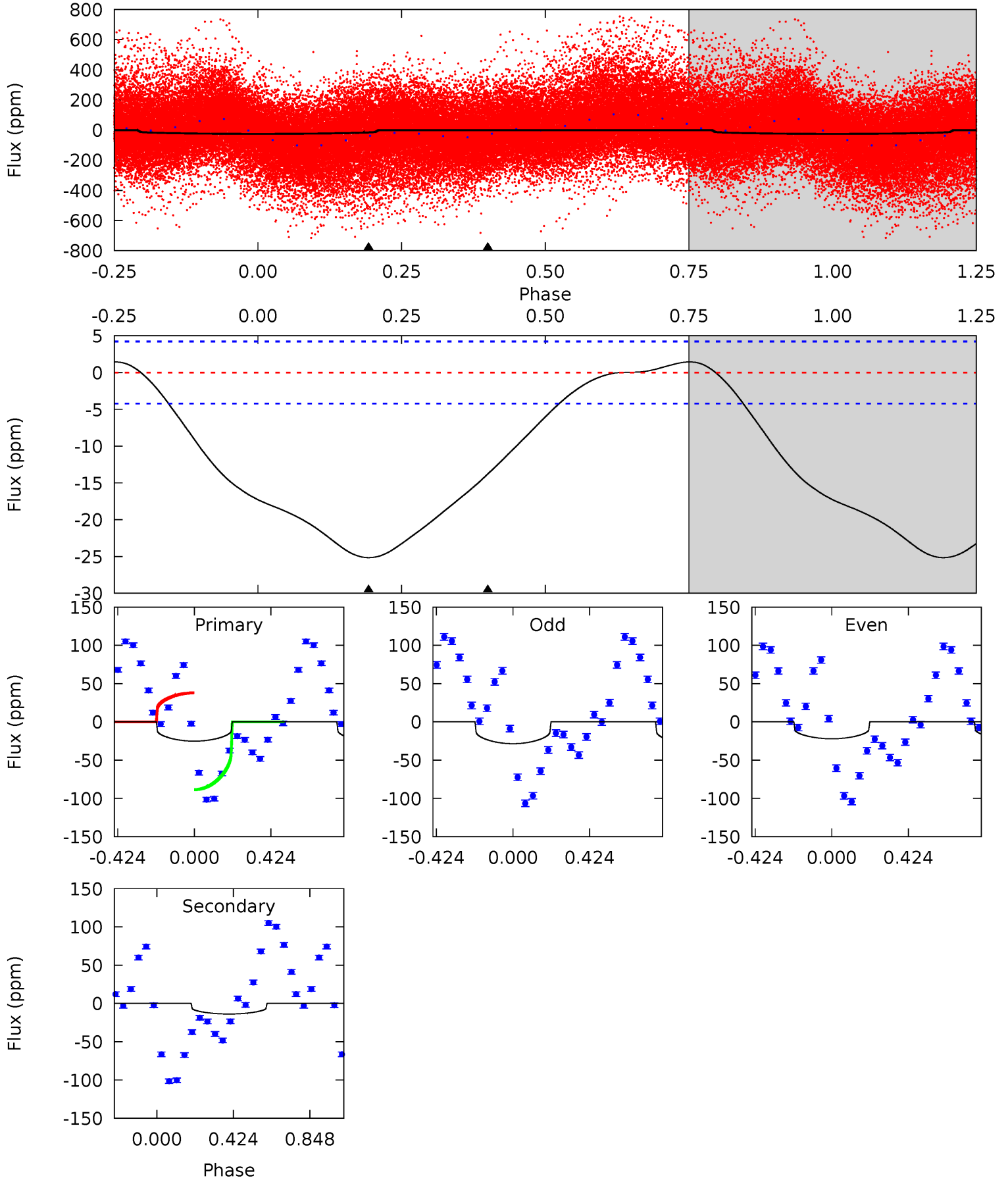
TCE 009838311-01 P= 3.807086 Days $T_0=133.473640$ (BKJD)



DV Model-Shift Uniqueness Test

009838311-01, P = 3.807329 Days, E = 129.622436 Days

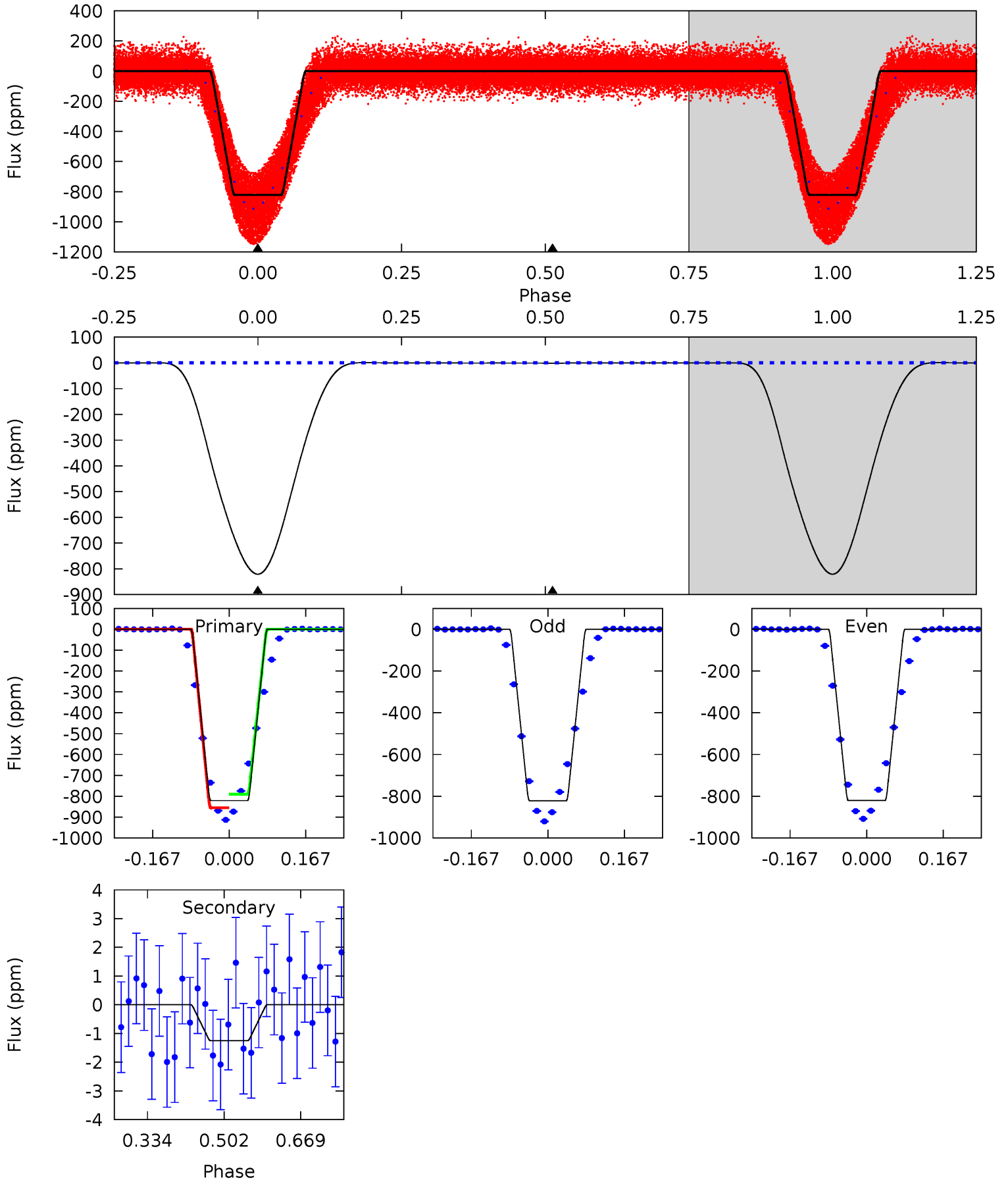
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	13.9	0	0	4.25	0.80	1.85	25.4	25.4	13.9	13.9	3.28	2.13	0.05	25.8



Alt Model-Shift Uniqueness Test

009838311-01, P = 3.807086 Days, E = 129.666554 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1528	2.33	0	0	4.46	1.38	0.58	1528	1528	2.33	2.33	1.33	1.01	0.00	59.5



Stellar Parameters For KIC 009838311

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6400^{+144}_{-176}	$4.354^{+0.066}_{-0.143}$	$-0.060^{+0.250}_{-0.300}$	$1.187^{+0.272}_{-0.136}$	$1.162^{+0.144}_{-0.144}$	$0.977^{+0.334}_{-0.414}$
	+2%/-3%	+2%/-3%	+417%/-500%	+23%/-11%	+12%/-12%	+34%/-42%
Source	PHO1	FLK73	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 009838311-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 1	$0.38^{+0.29}_{-0.22}$	1936^{+104}_{-79}	7361^{+6685}_{-1862}	132^{+613}_{-89}
Alt.	-1 ± 1	$3.96^{+0.55}_{-0.41}$	1941^{+97}_{-79}	-2331^{+99}_{-101}	$0.107^{+0.053}_{-0.048}$

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

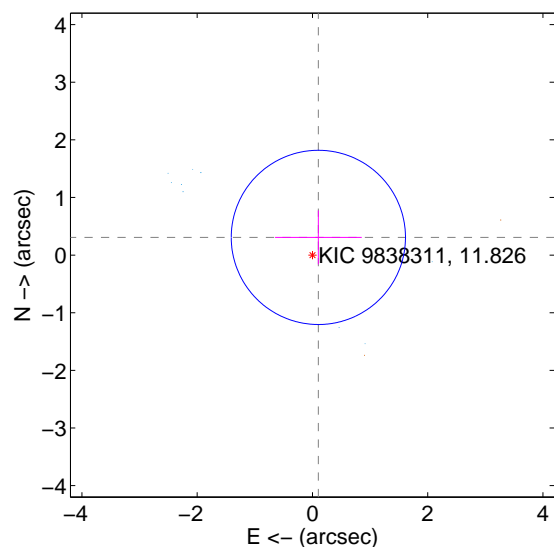
Supplemental centroid analysis for 009838311-01. **Kepler magnitude: 11.83.** Transit SNR 2.55

There are 9 quarters with good PRF difference image offsets

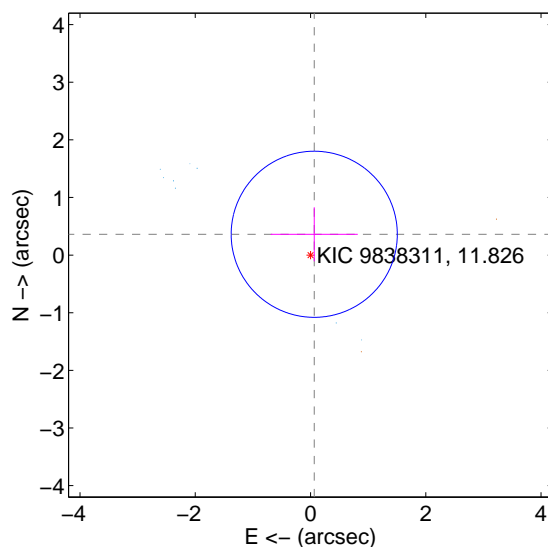
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.324 ± 0.504	0.64	-0.103 ± 0.752	0.307 ± 0.468
PRF-fit source offset from KIC position	0.367 ± 0.481	0.76	-0.064 ± 0.756	0.361 ± 0.469
photometric centroid source offset	0.87 ± 0.88	0.99	0.50 ± 0.88	0.72 ± 0.87

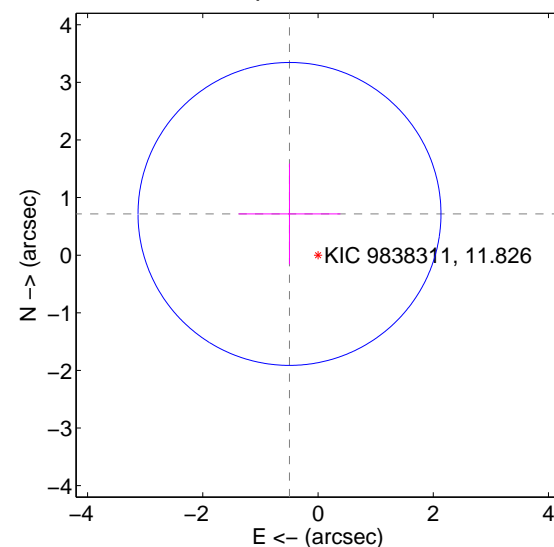
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

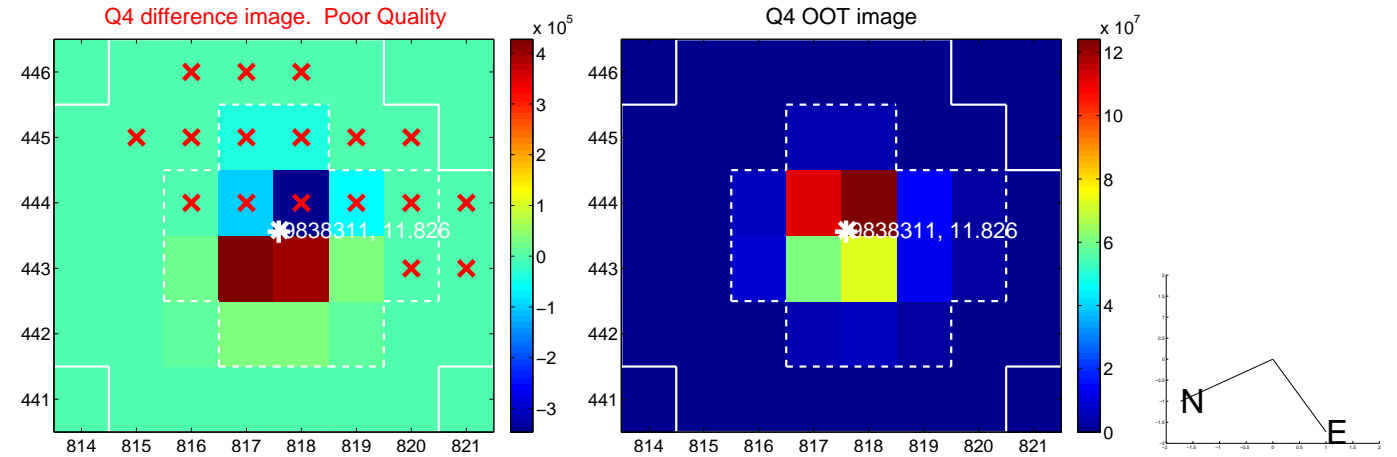
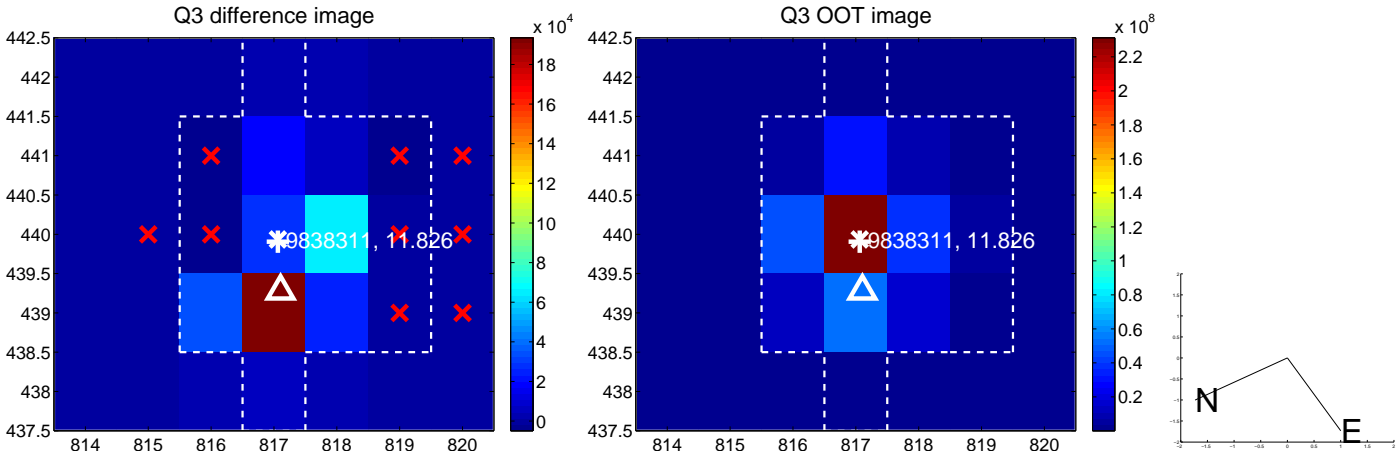
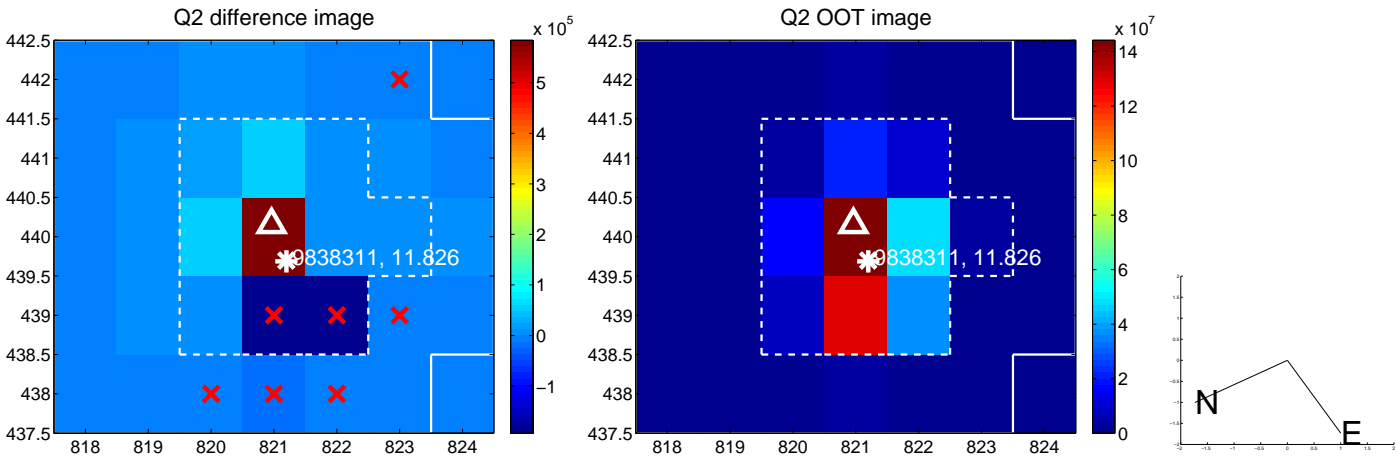
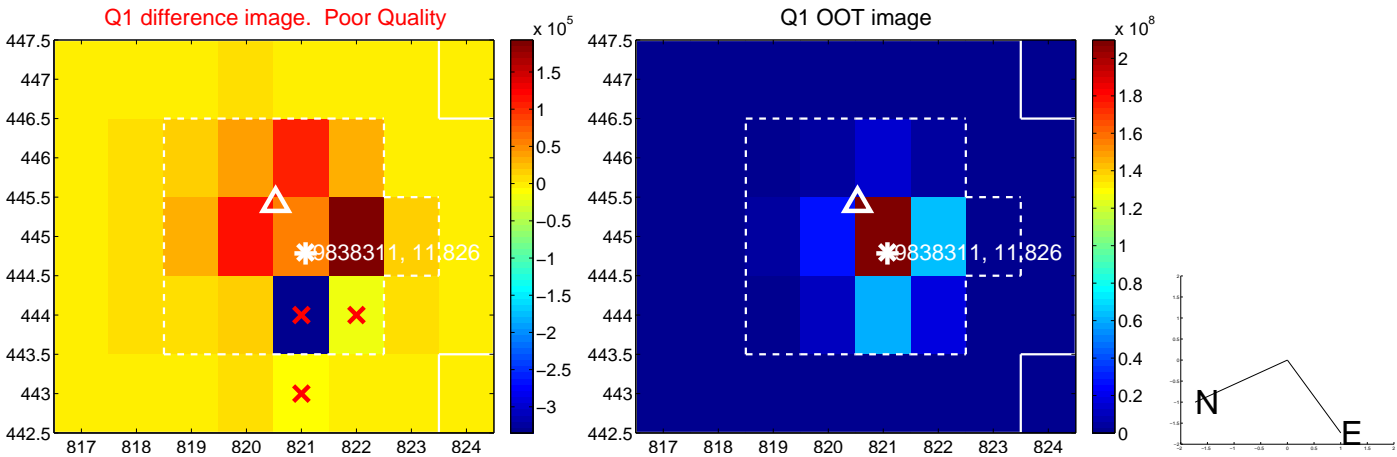


offset from photometric centroids

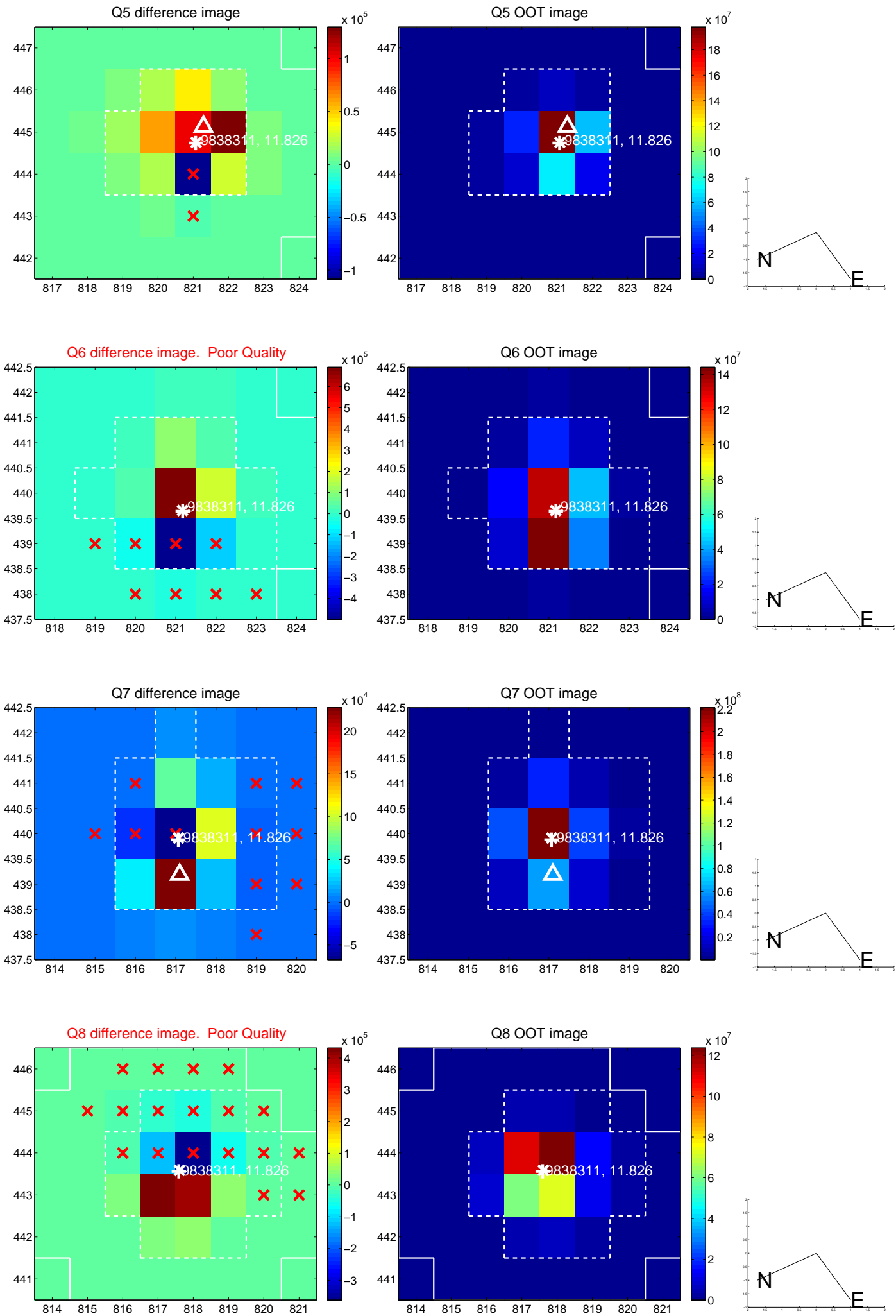


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

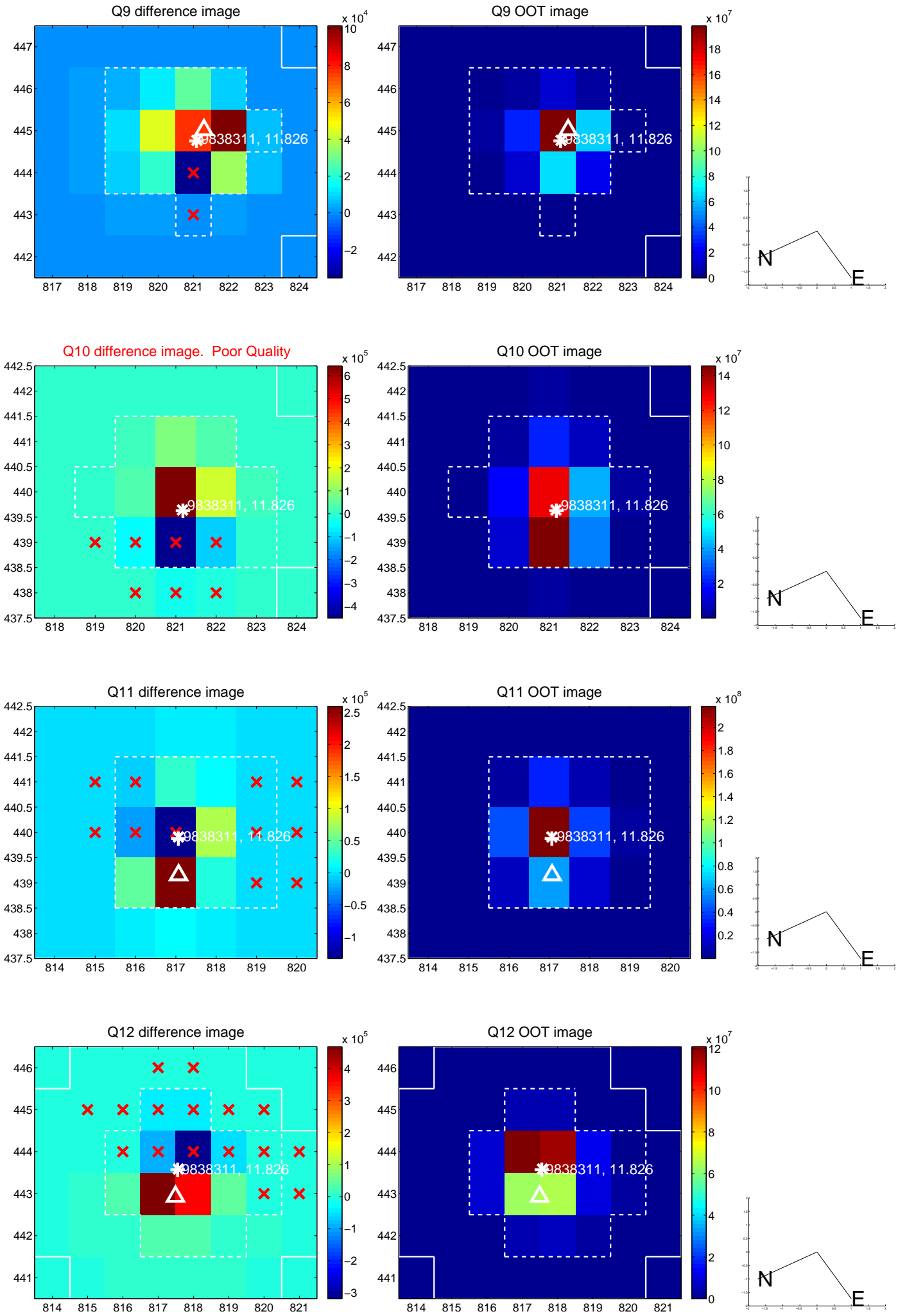
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



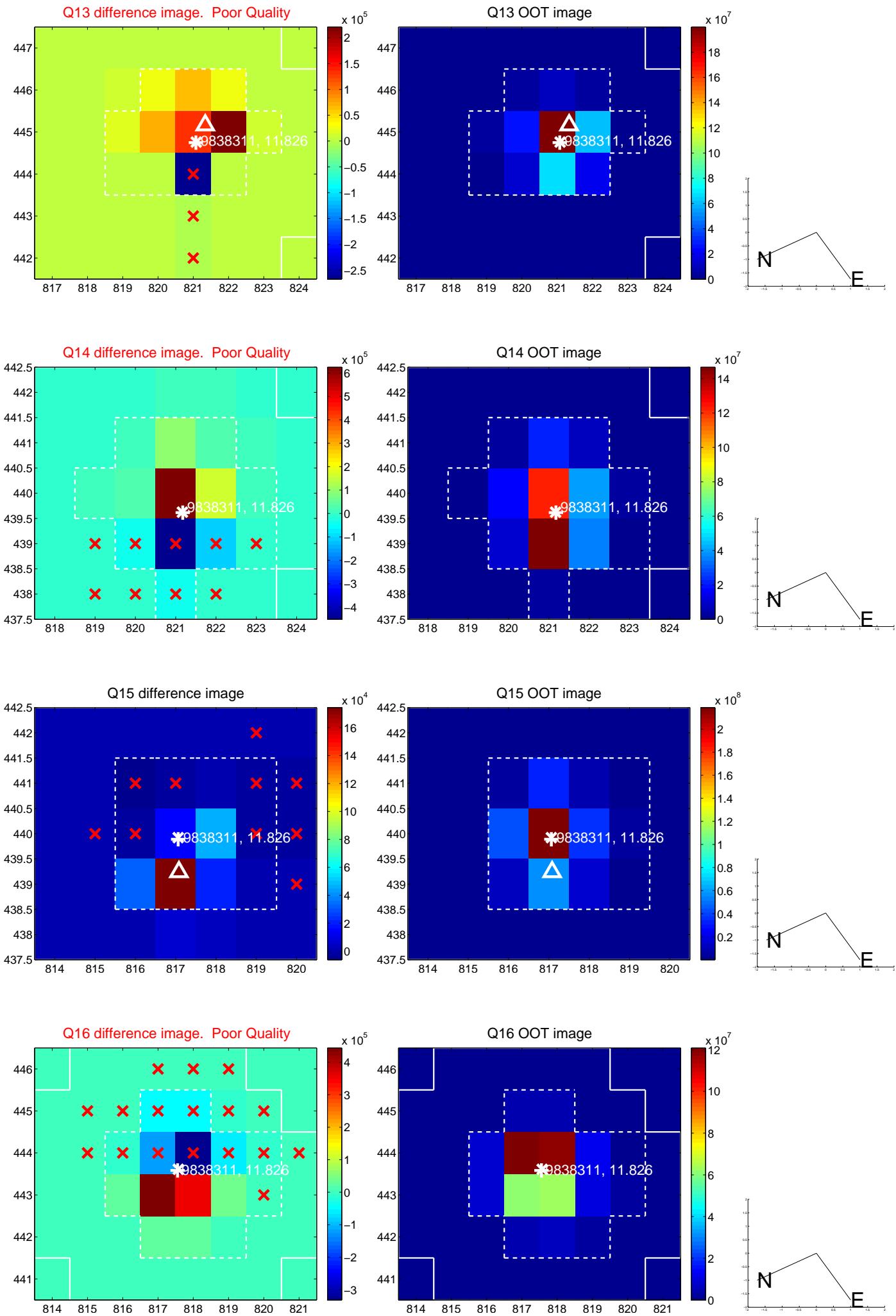
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



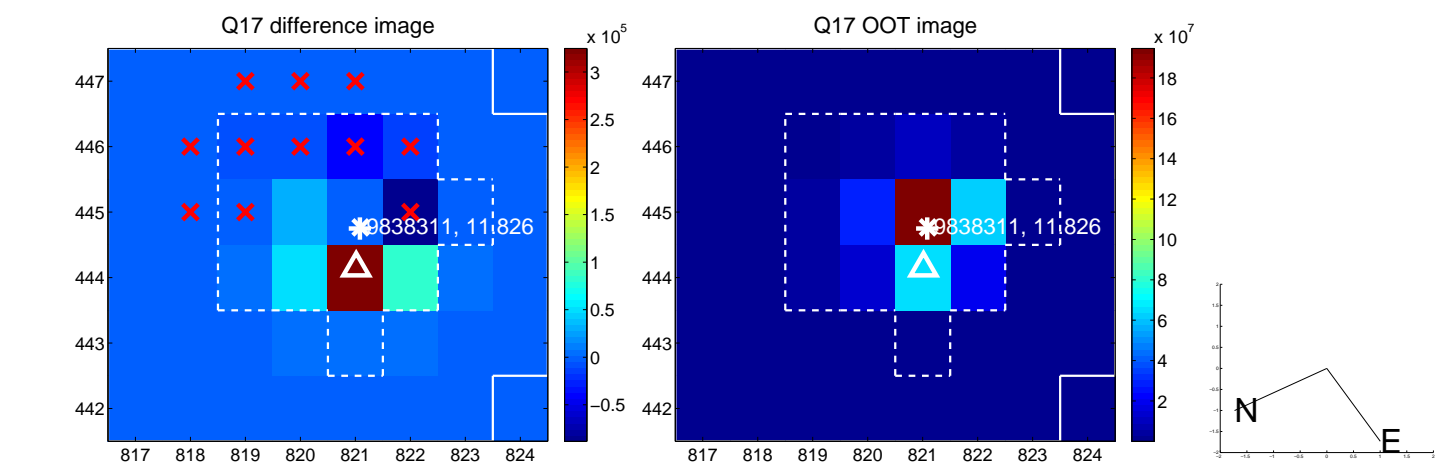
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



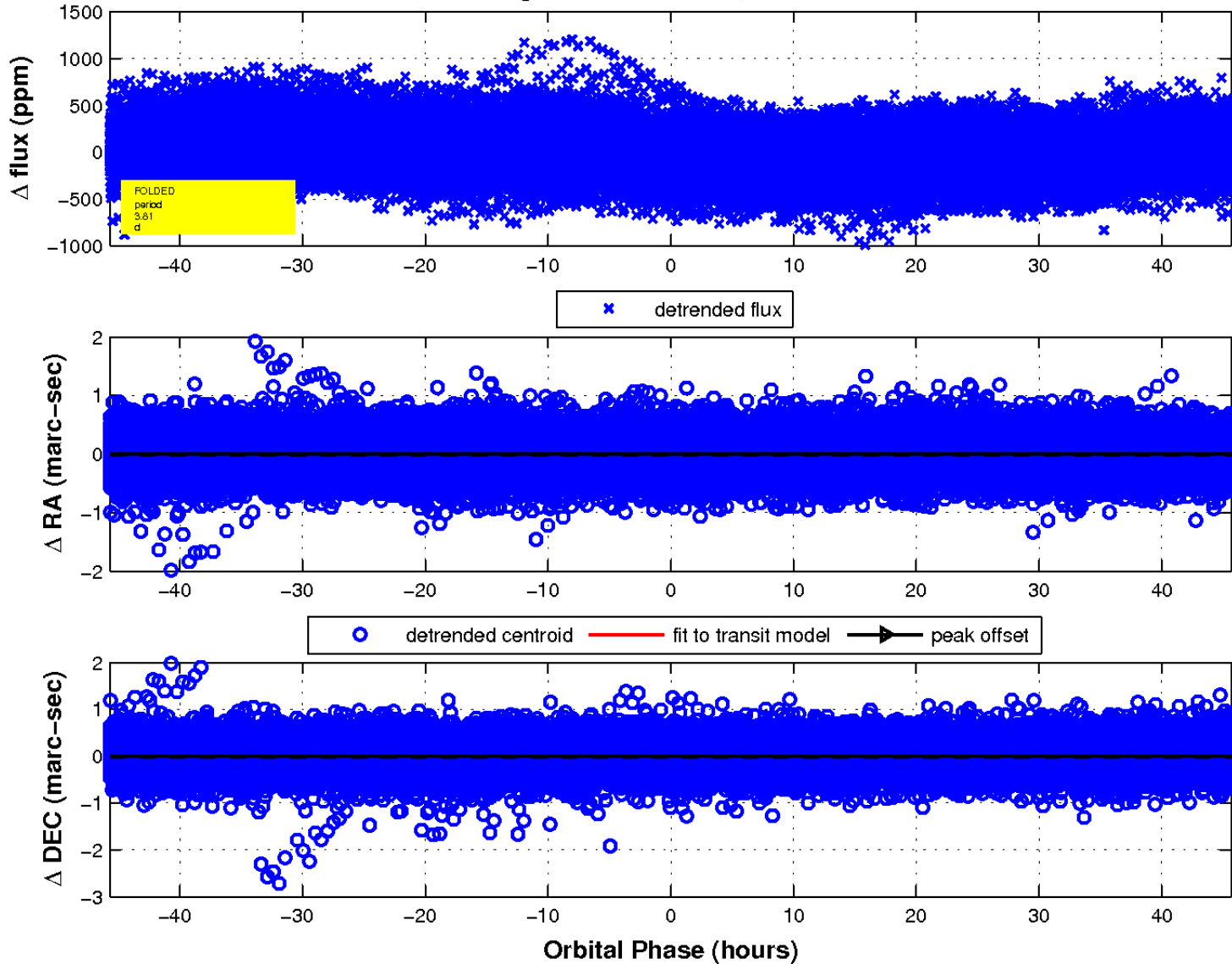
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

