

KIC 008161561

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})
008161561-01	OBS	0688.01	3.275822	134.219235	269.6	3.122	51.8	59.4	1.97	6185	3.71	2123.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008161561-01	OBS	PC	1.00	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.

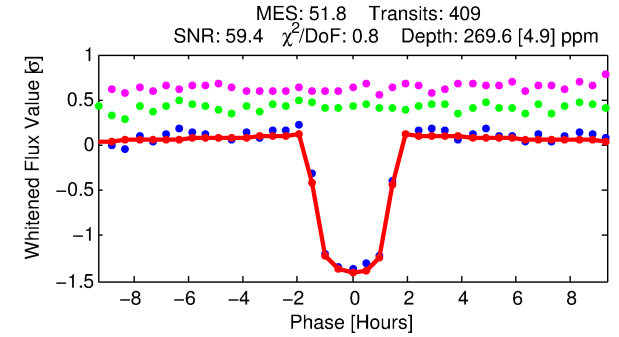
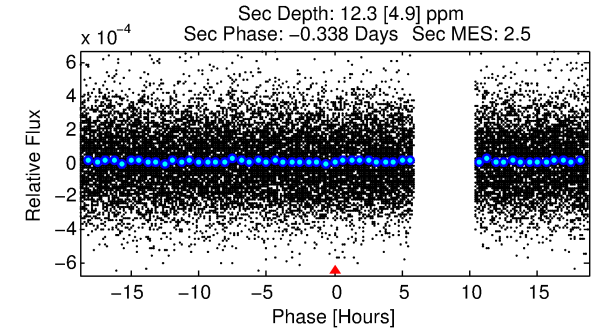
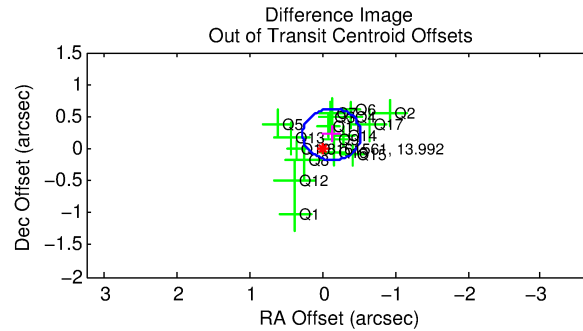
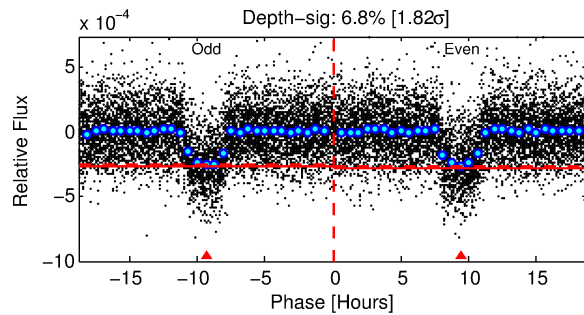
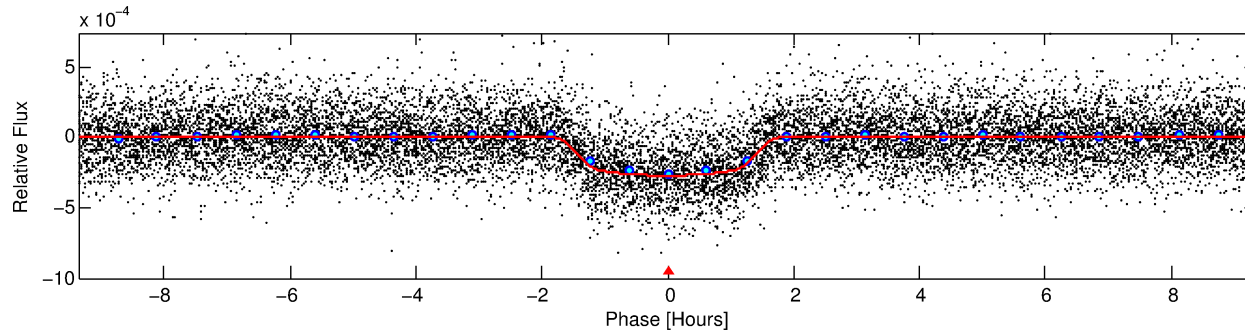
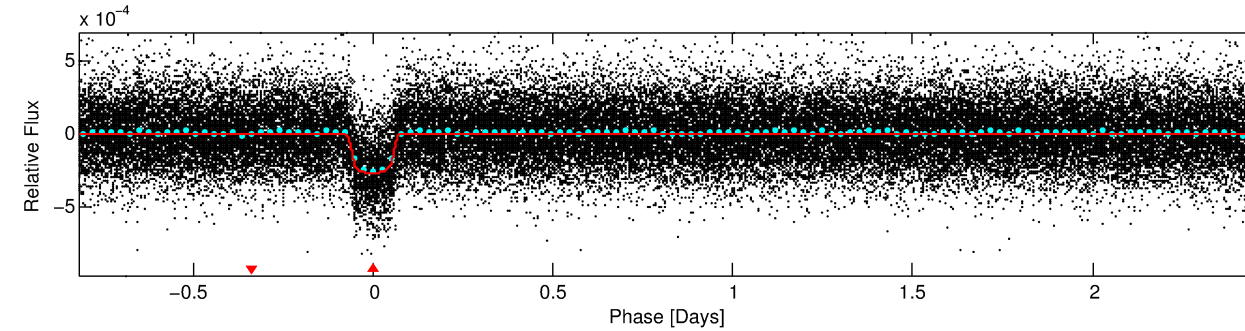
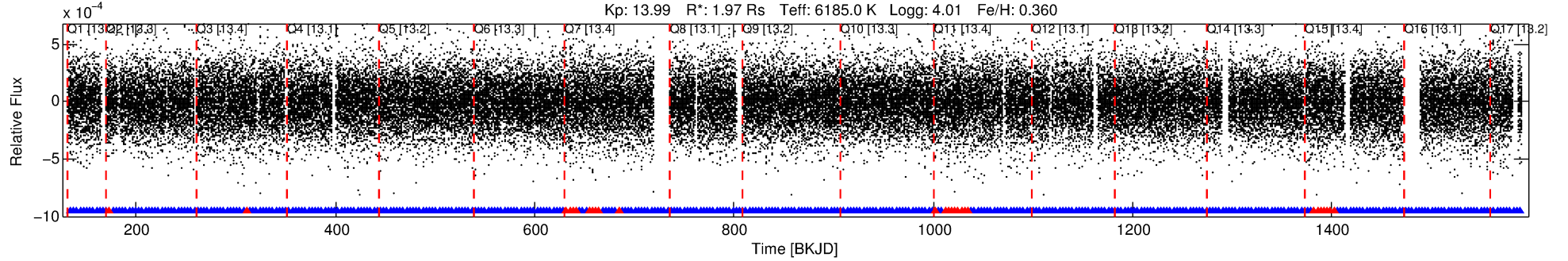
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008161561-01

No Significant Match Found

DV One-Page Summary

KIC: 8161561 Candidate: 1 of 1 Period: 3.276 d
KOI: K00688.01 Corr: 0.976



DV Fit Results:

Period = 3.27582 [0.00000] d
Epoch = 134.2192 [0.0008] BKJD
Rp/R* = 0.0173 [0.0019]
a/R* = 4.42 [2.24]
b = 0.86 [0.16]
Seff = 2123.72 [686.48]
Teq = 1731 [140] K
Rp = 3.71 [0.97] Re
a = 0.0490 [0.0103] AU
Ag = 1.18 [0.66] [0.28 σ]
Teffp = 2790 [319] K [3.04 σ]

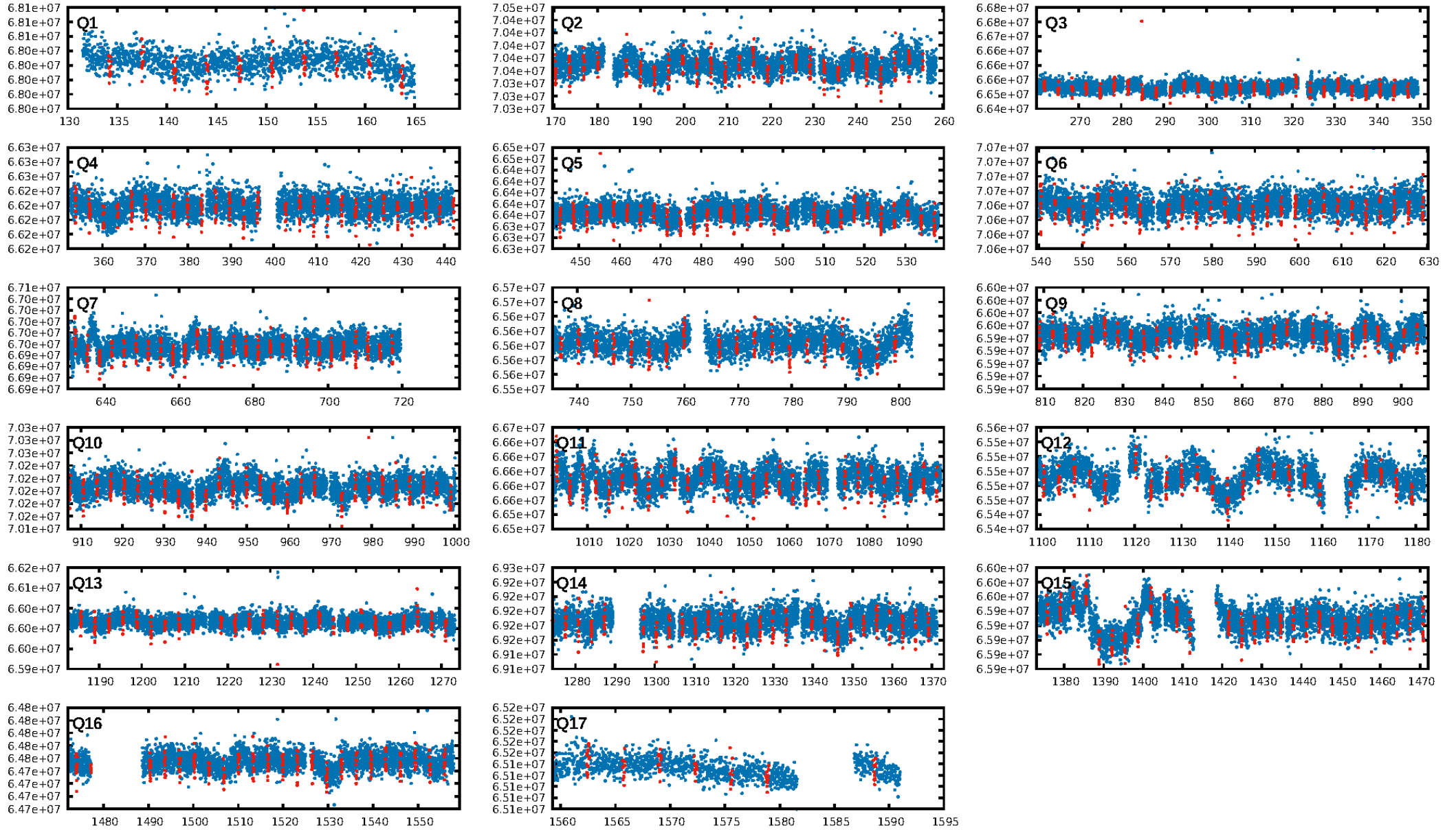
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.93 [364/391]
GhostDiagnostic-chr: 6.832
Centroid-sig: 0.6%
Centroid-so: 0.489 arcsec [2.38 σ]
OotOffset-rm: 0.256 arcsec [1.92 σ]
KicOffset-rm: 0.321 arcsec [2.37 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

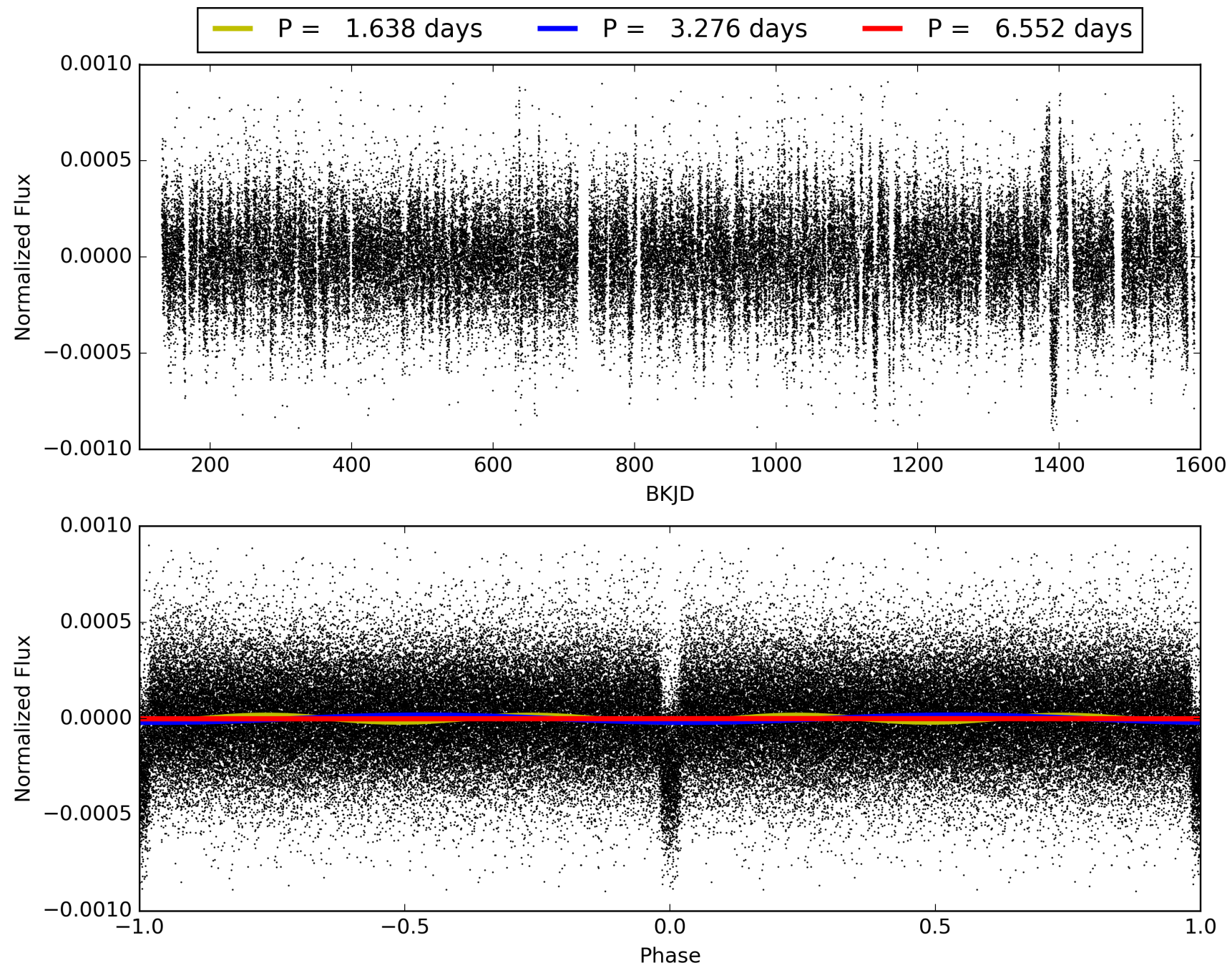
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:06:33 Z

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

TCE 008161561-01, PDC Light Curves

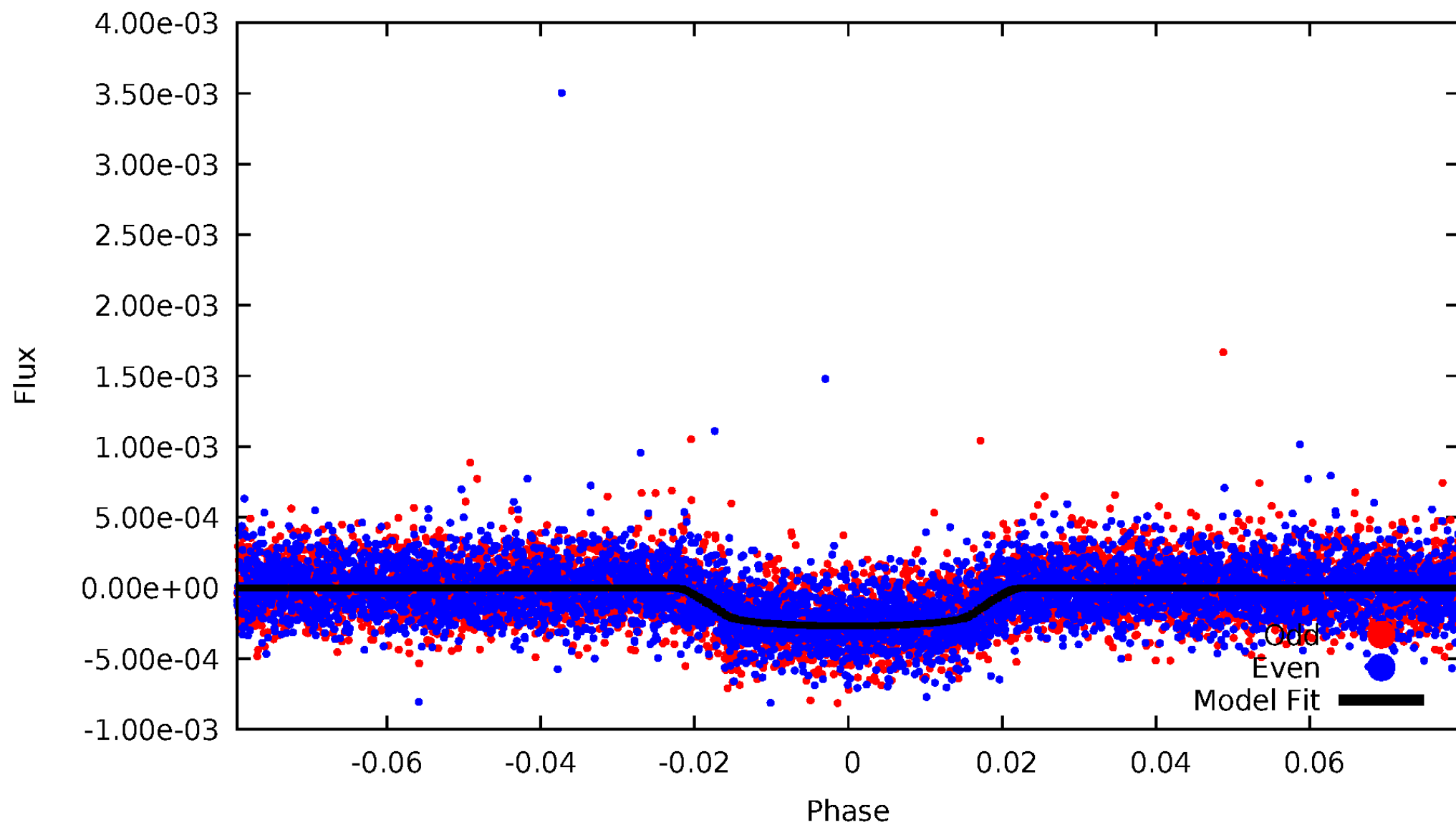


TCE 008161561-01



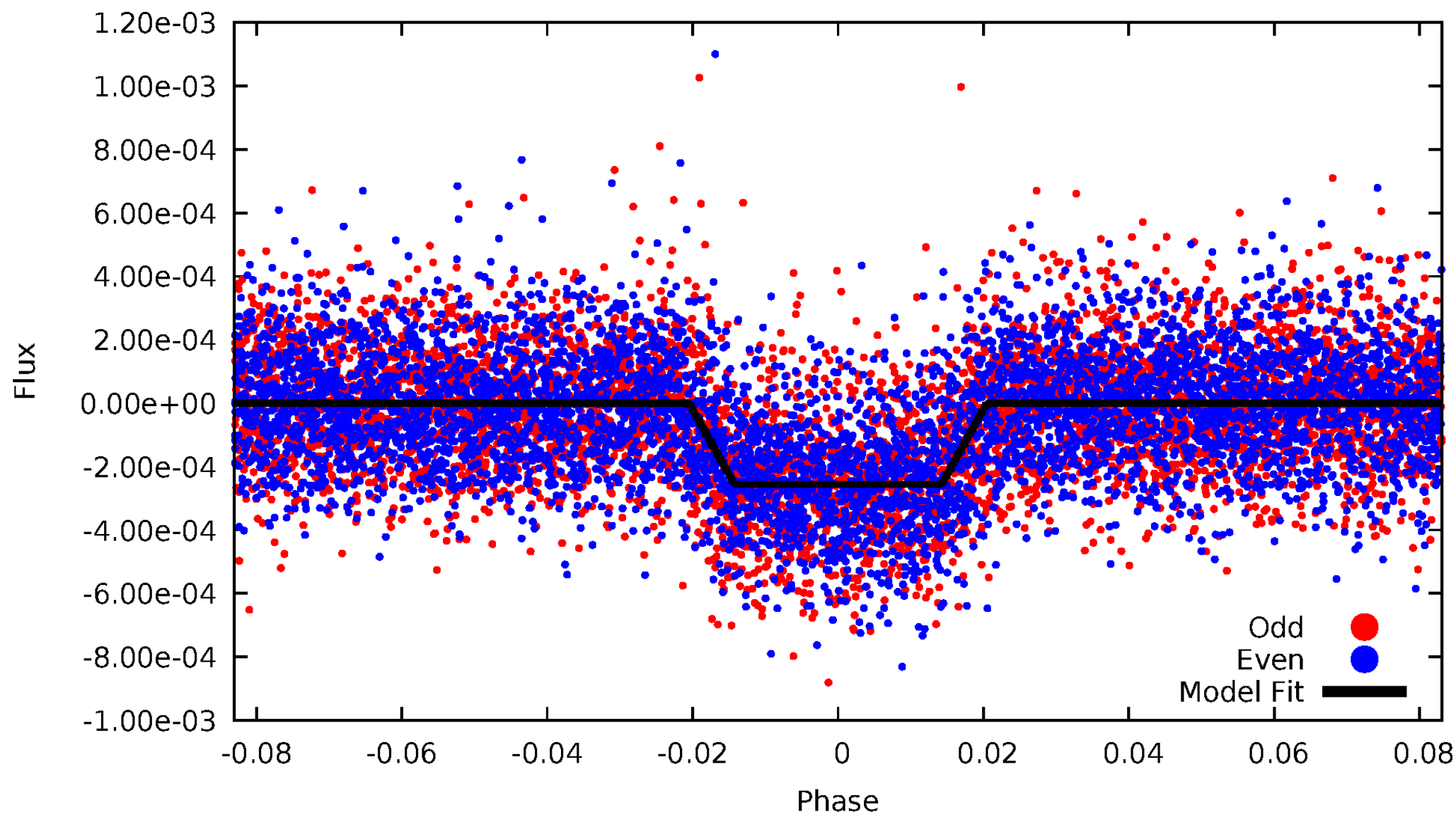
DV Odd/Even

TCE 008161561-01



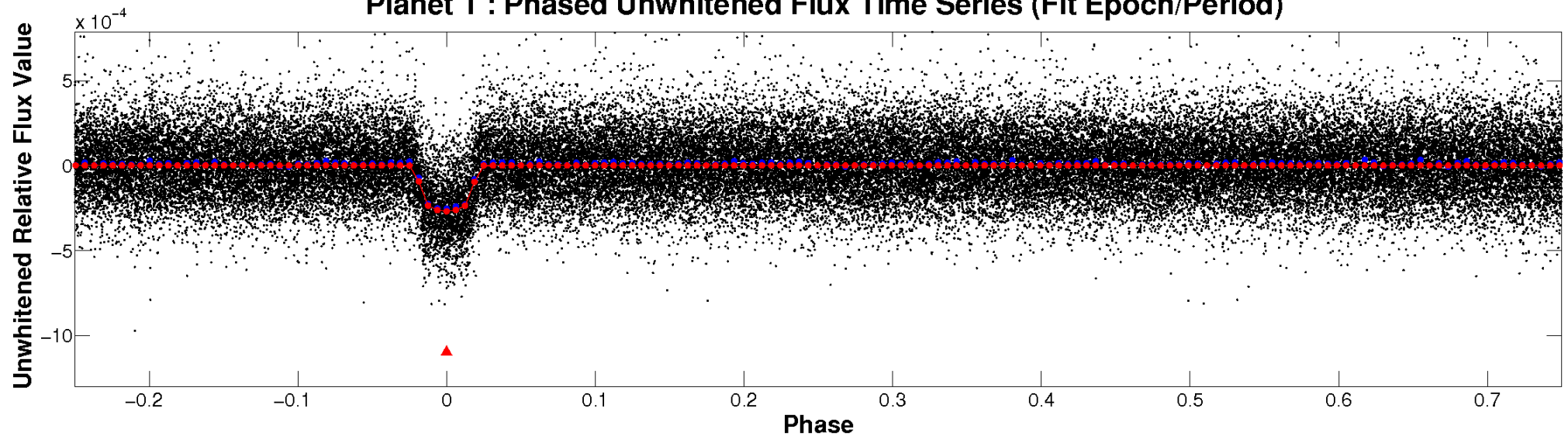
ALT Odd/Even

TCE 008161561-01

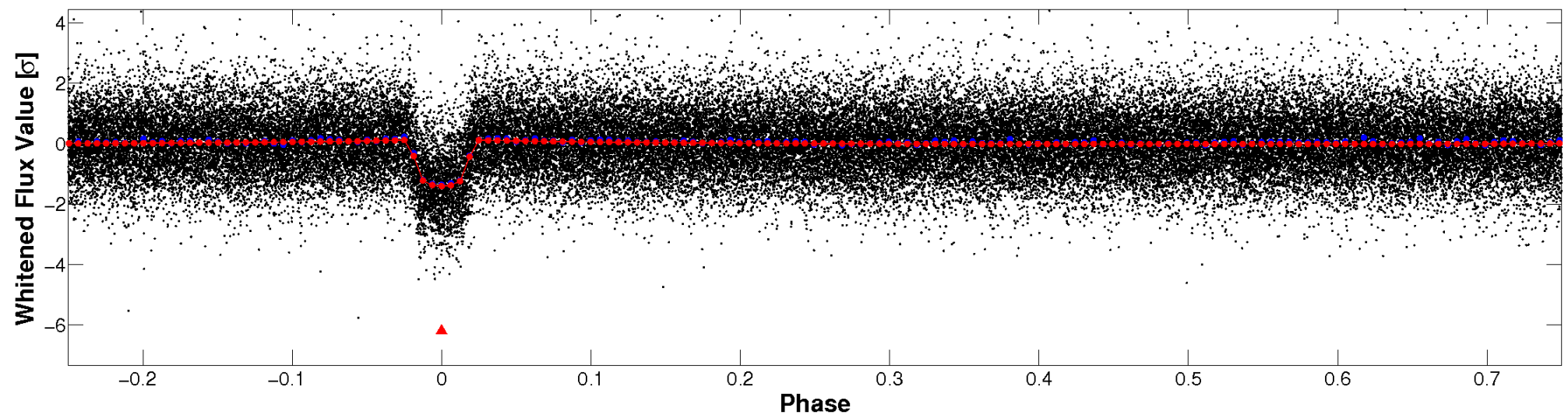


Non-Whitened Vs. Whitened Light Curve

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

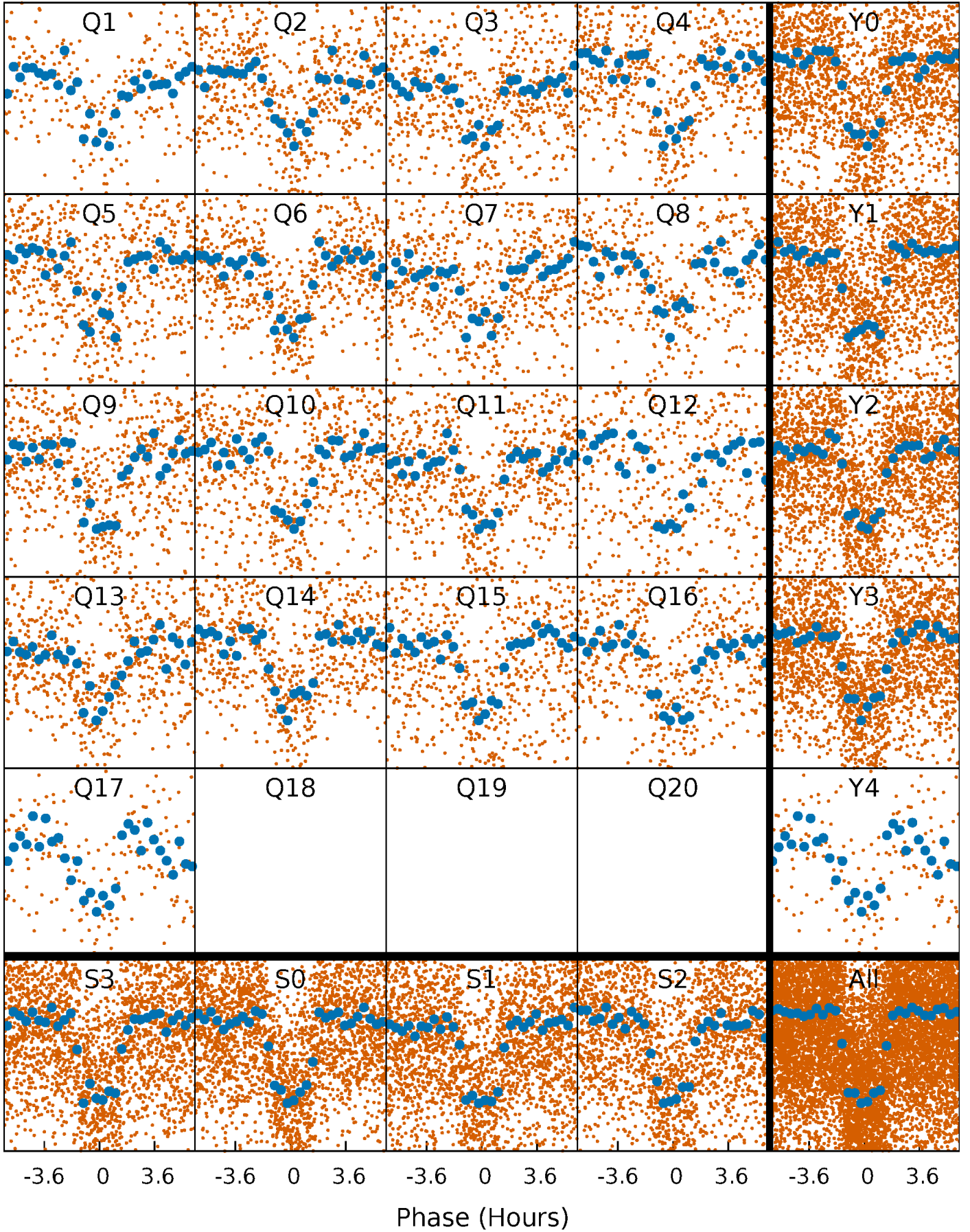


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



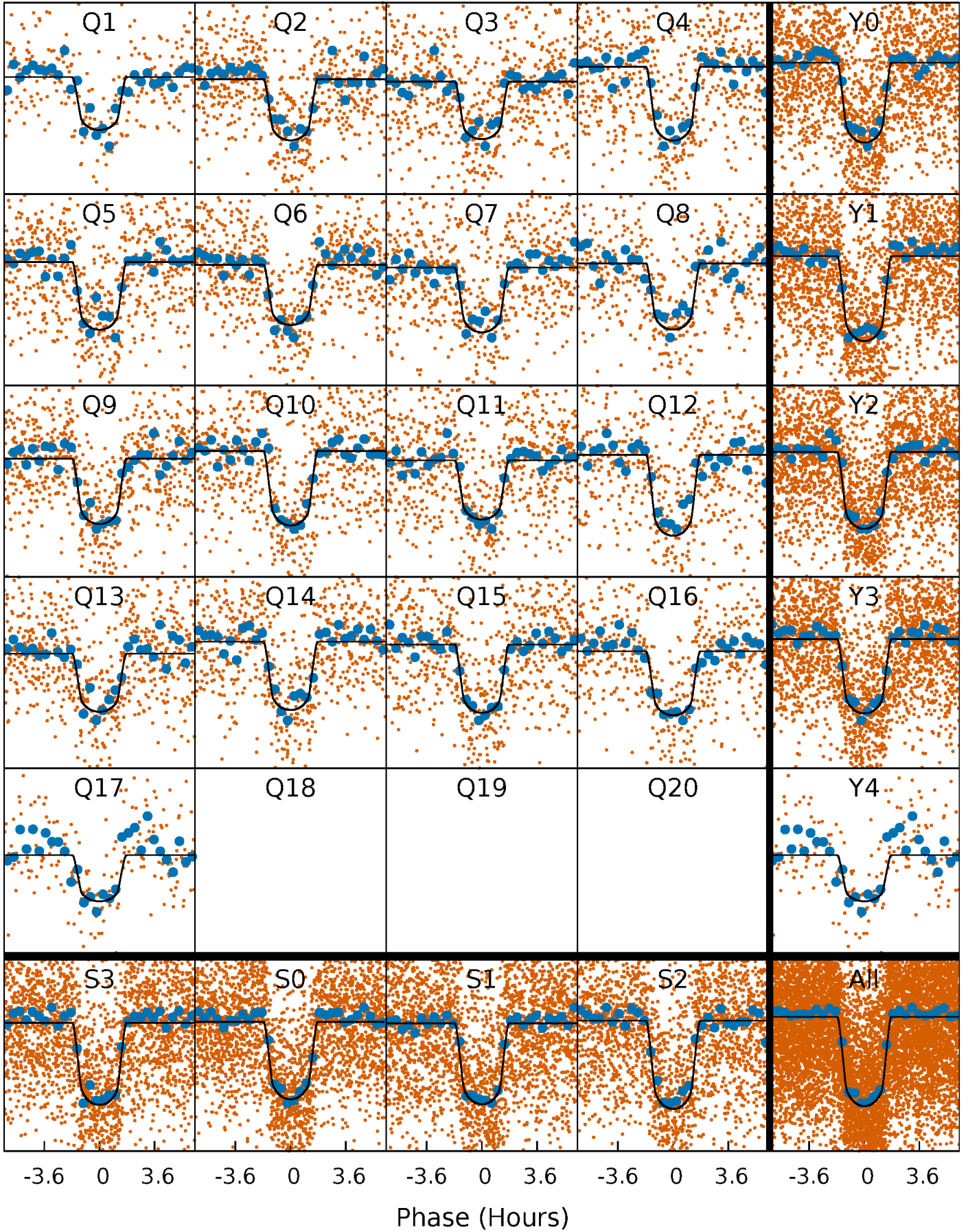
PDC Quarter-Phased Transit Curves

TCE 008161561-01 P= 3.275822 Days $T_0=134.219235$ (BKJD)



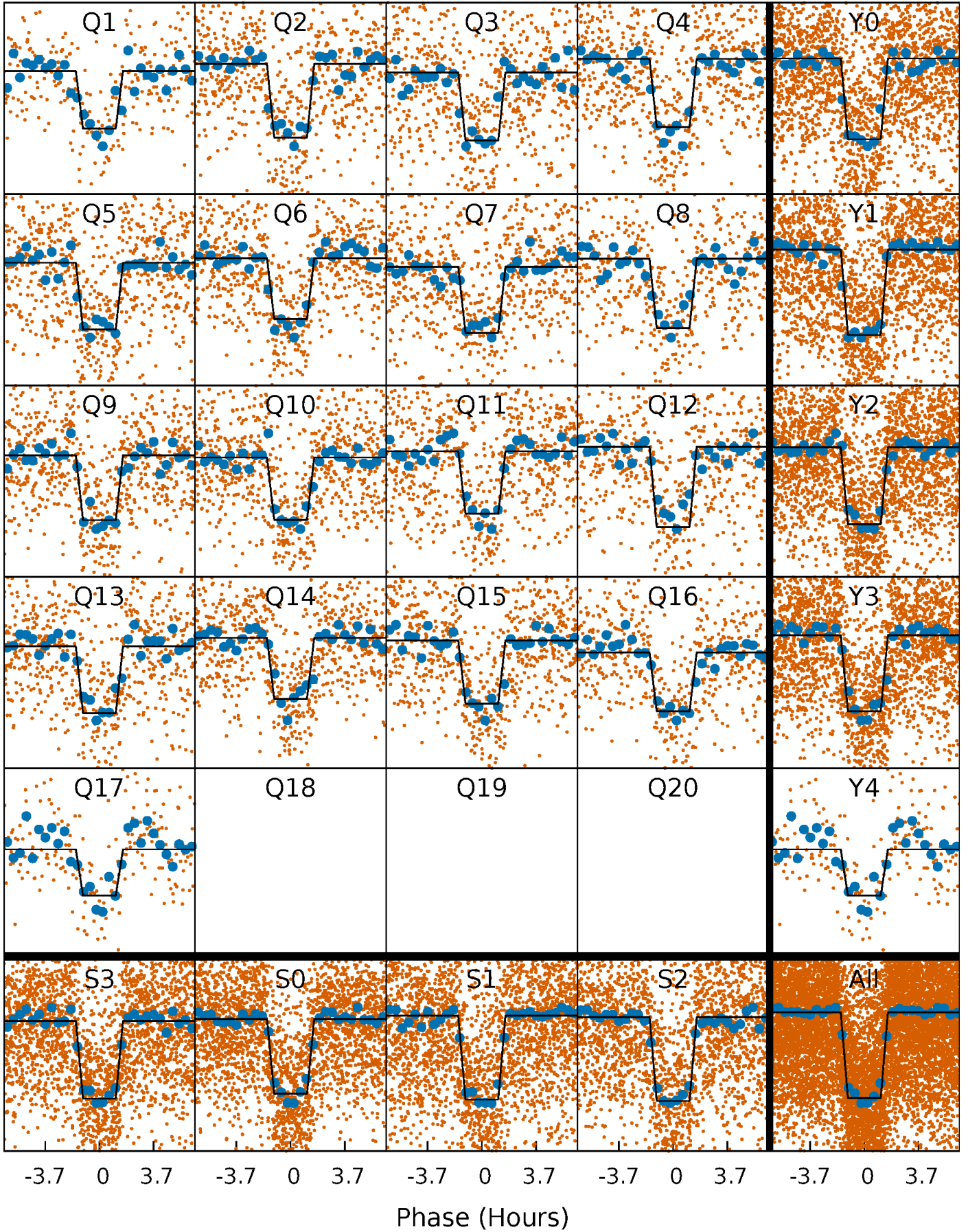
DV Quarter-Phased Transit Curves

TCE 008161561-01 P= 3.275822 Days $T_0=134.219235$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

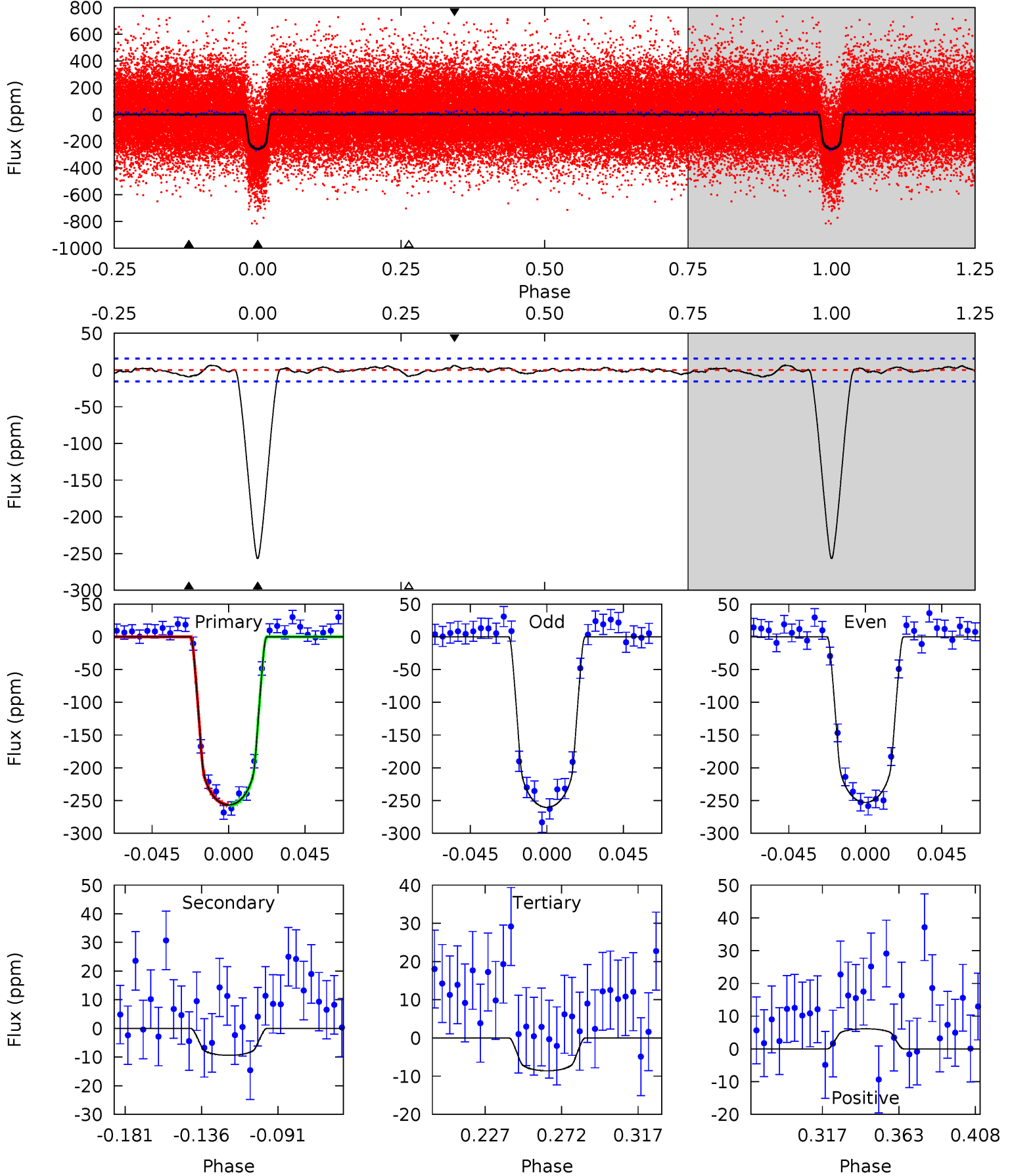
TCE 008161561-01 P= 3.275788 Days $T_0=134.226637$ (BKJD)



DV Model-Shift Uniqueness Test

008161561-01, P = 3.275822 Days, E = 130.943413 Days

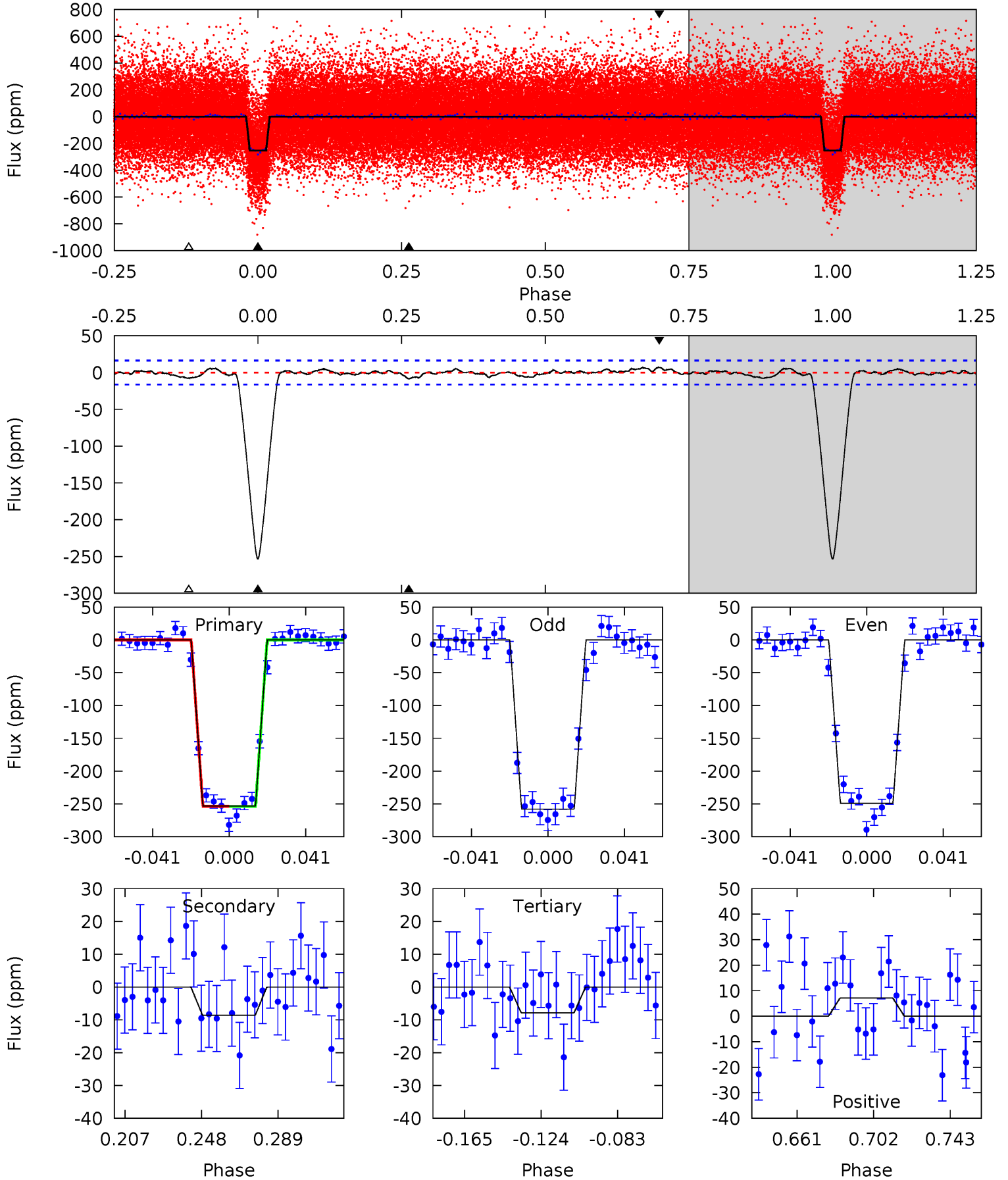
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.2	2.86	2.62	1.87	4.73	2.00	0.82	75.6	76.3	0.24	0.99	1.13	0.97	0.02	0.14



Alt Model-Shift Uniqueness Test

008161561-01, P = 3.275788 Days, E = 130.950849 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.9	2.51	2.30	2.08	4.75	2.04	0.88	71.6	71.8	0.21	0.43	1.29	0.98	0.03	0.01



Stellar Parameters For KIC 008161561

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6185^{+80}_{-80}	$4.013^{+0.180}_{-0.120}$	$0.360^{+0.100}_{-0.150}$	$1.972^{+0.386}_{-0.472}$	$1.460^{+0.137}_{-0.164}$	$0.268^{+0.259}_{-0.096}$
	+1%/-1%	+4%/-3%	+28%/-42%	+20%/-24%	+9%/-11%	+97%/-36%
Source	SPE90	SPE90	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 008161561-01 / KOI 0688.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 3	$3.67^{+0.60}_{-0.54}$	2415^{+124}_{-144}	3023^{+227}_{-359}	$0.911^{+0.466}_{-0.391}$
Alt.	-9 ± 3	$3.39^{+0.57}_{-0.55}$	2409^{+128}_{-154}	3059^{+262}_{-336}	$0.980^{+0.611}_{-0.413}$

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 $A_{obs} \gg 1.0$

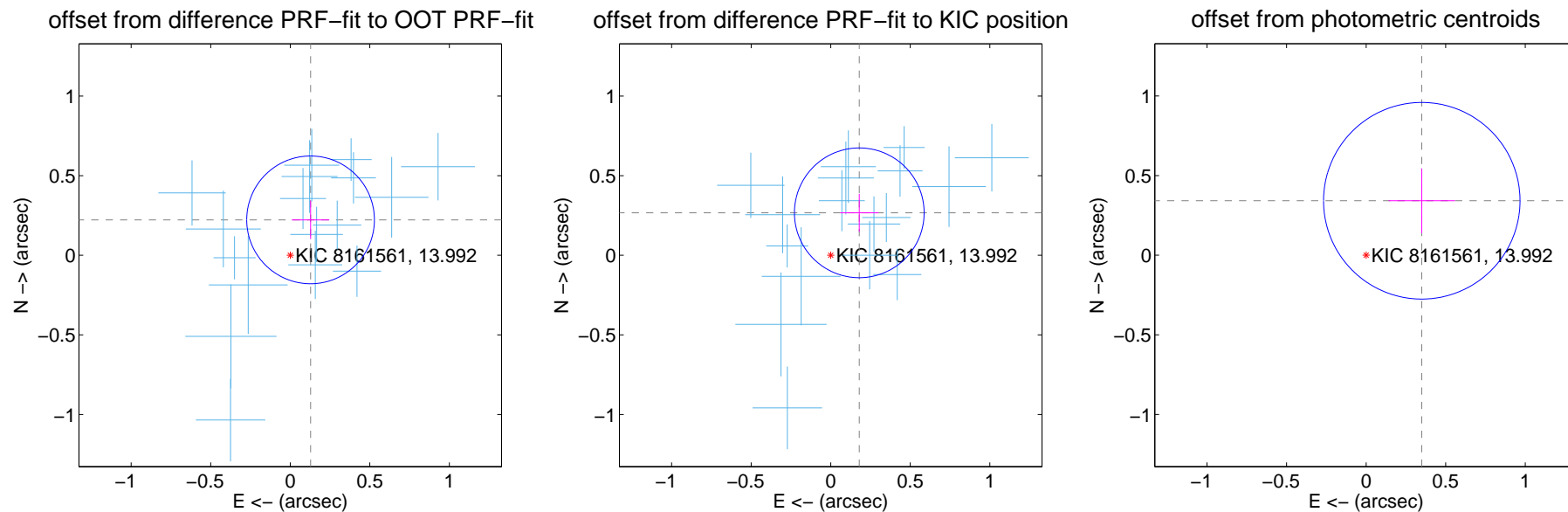
DV Centroid Data

Supplemental centroid analysis for 008161561-01. Kepler magnitude: 13.99. Transit SNR 59.42

There are 17 quarters with good PRF difference image offsets

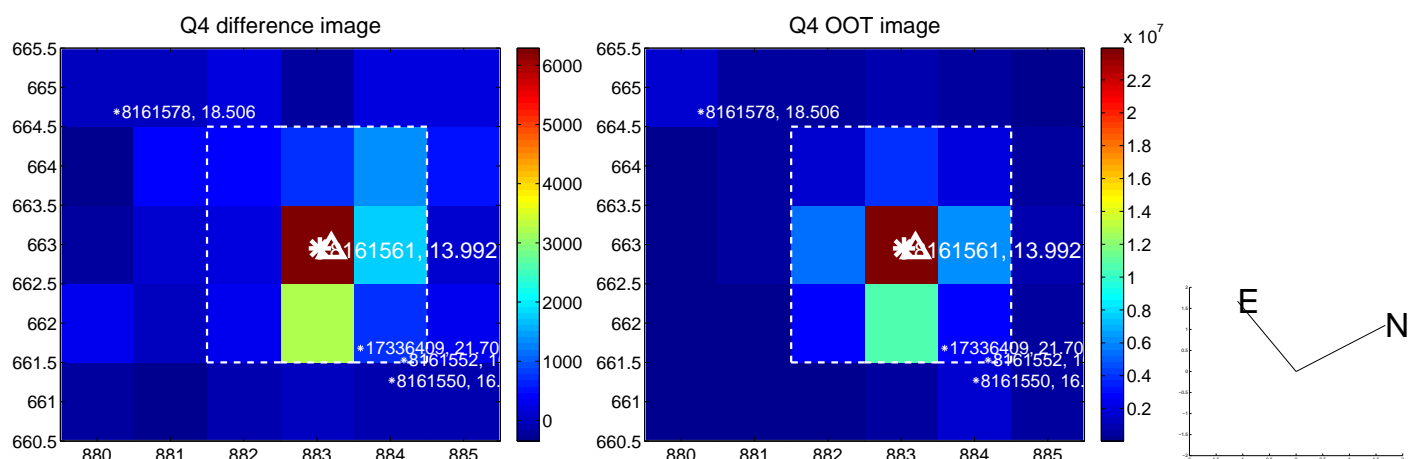
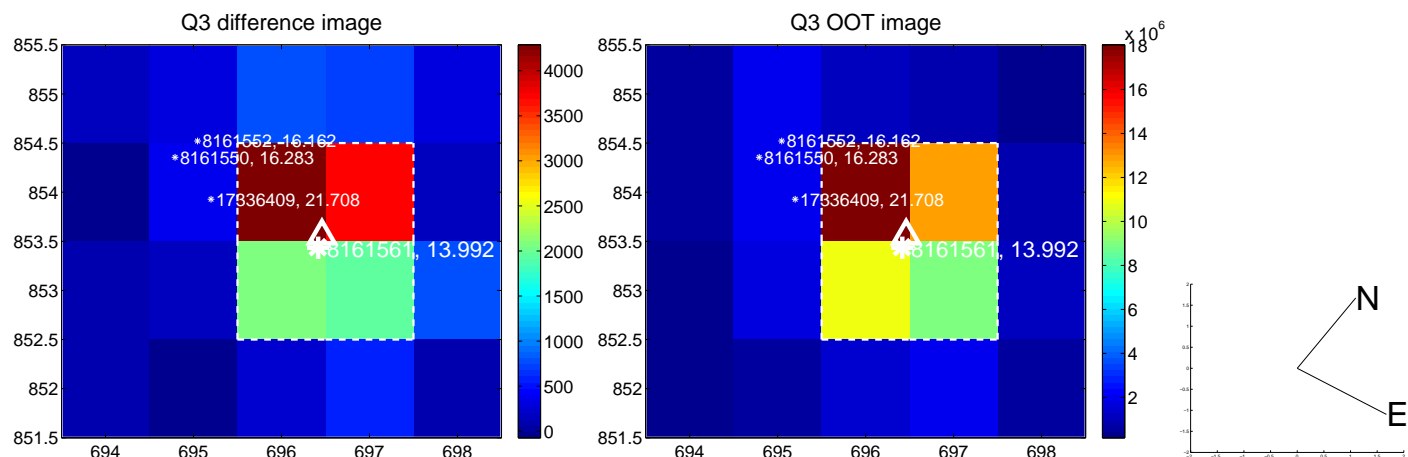
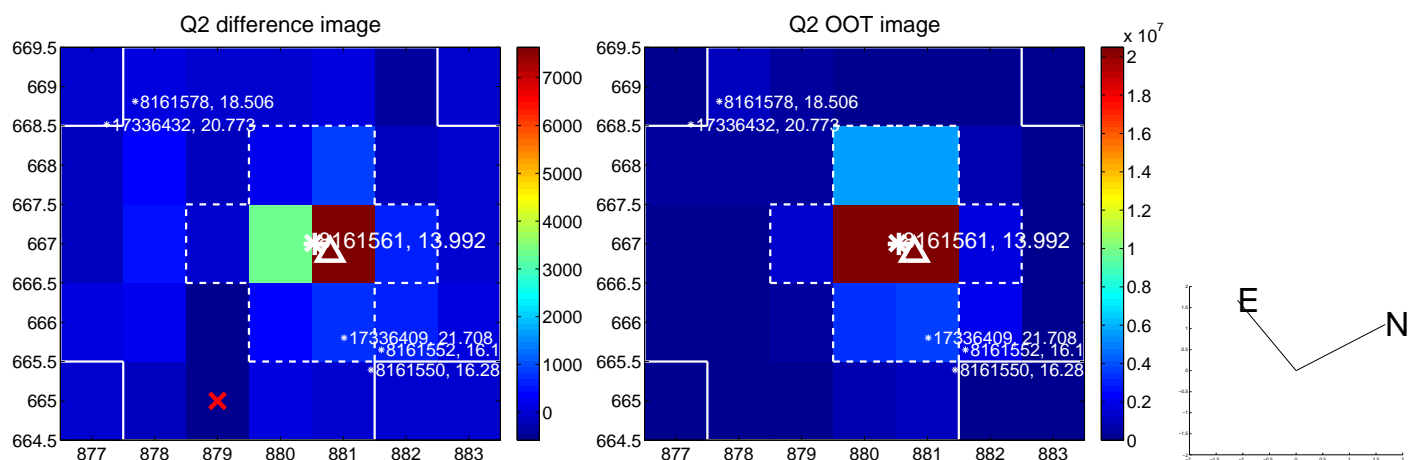
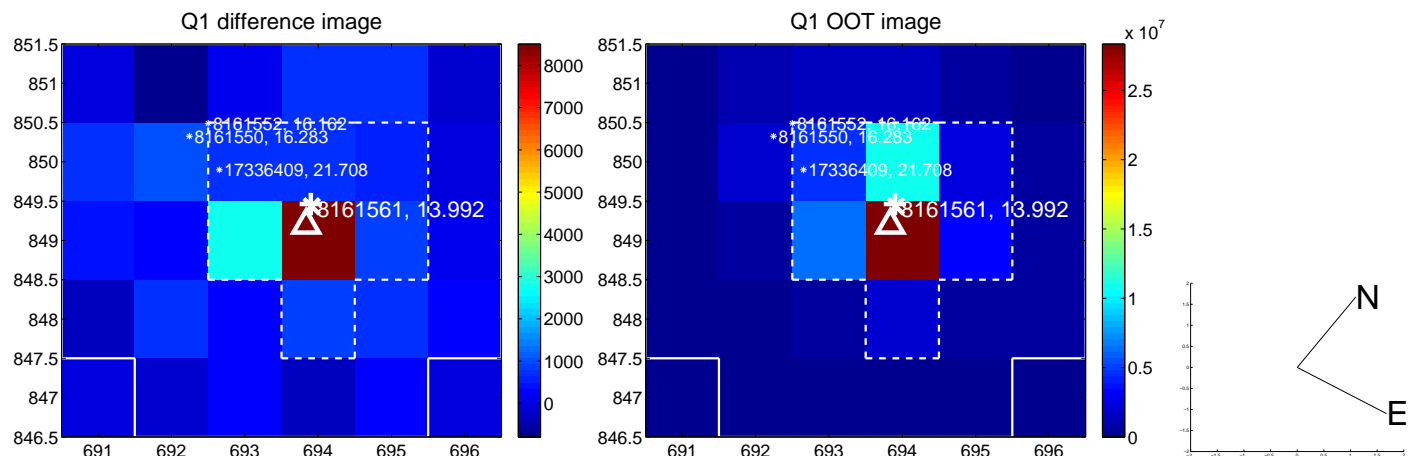
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.256 ± 0.134	1.92	-0.128 ± 0.118	0.222 ± 0.121
PRF-fit source offset from KIC position	0.321 ± 0.136	2.37	-0.179 ± 0.120	0.267 ± 0.120
photometric centroid source offset	0.49 ± 0.21	2.38	-0.35 ± 0.21	0.34 ± 0.20

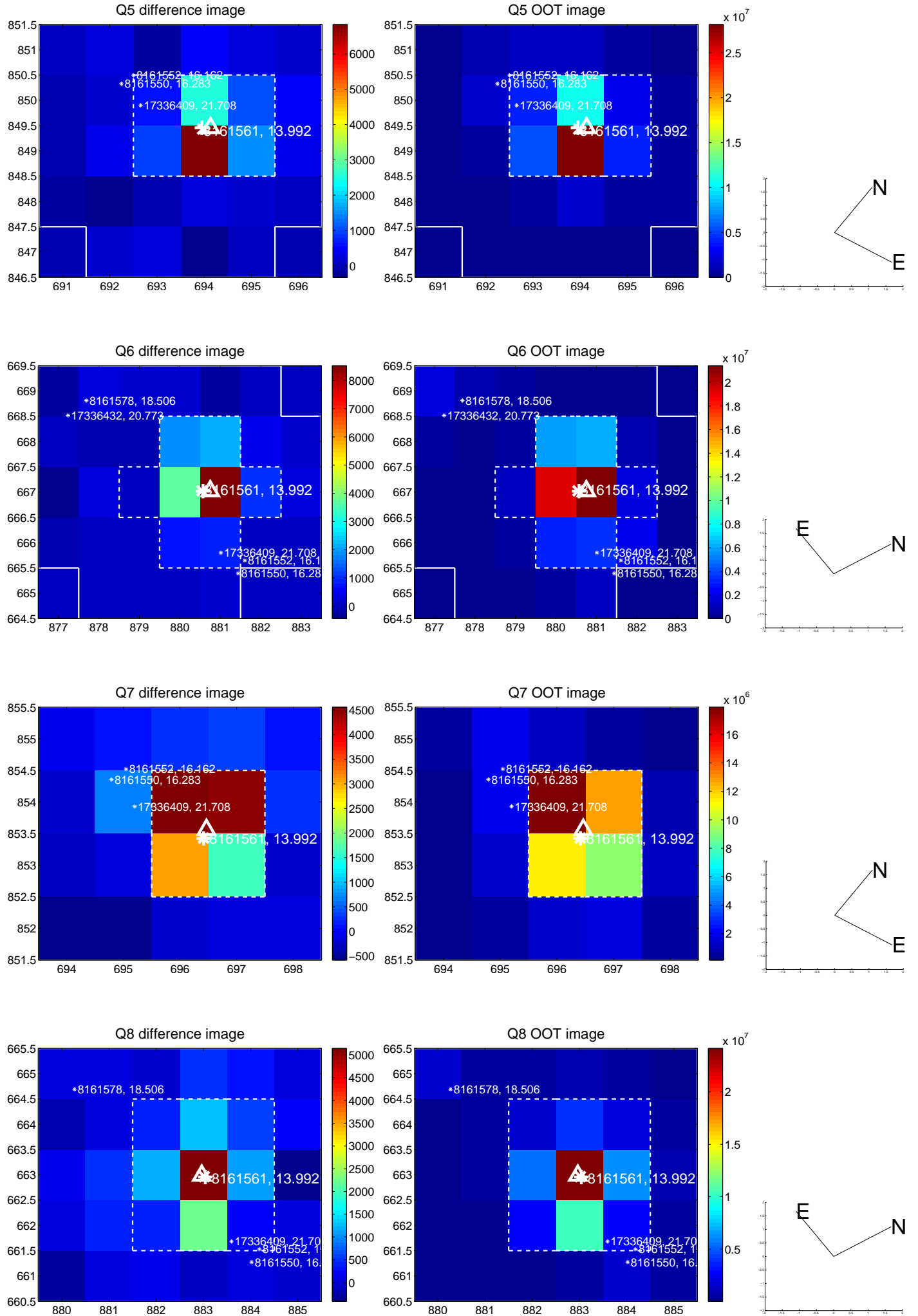


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

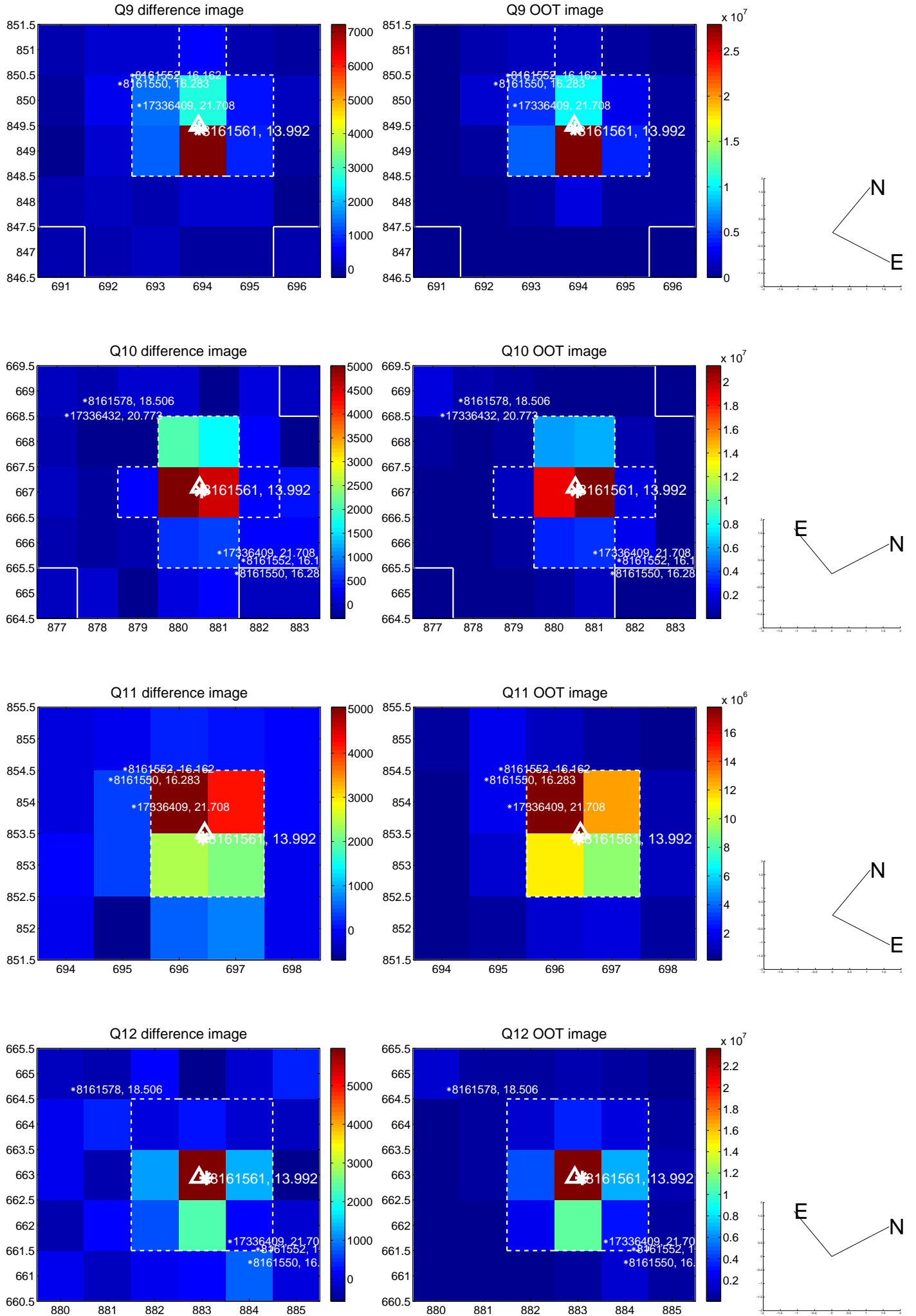
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



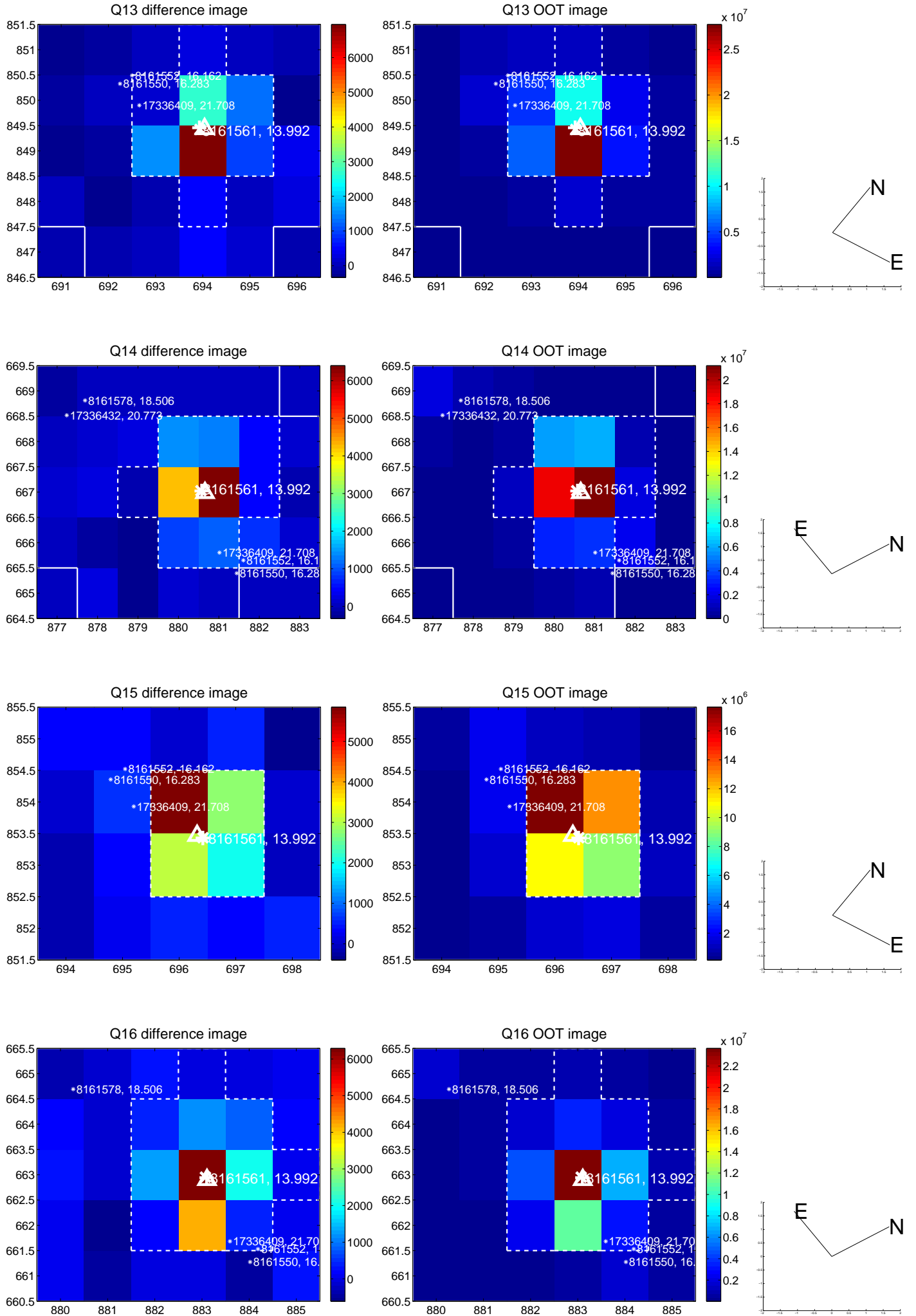
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



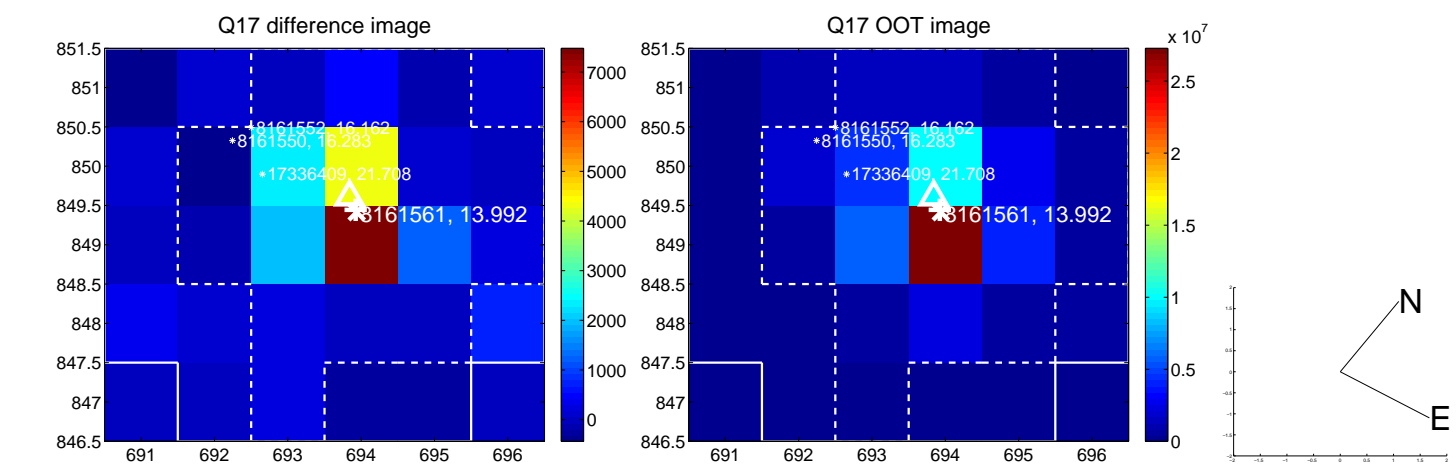
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



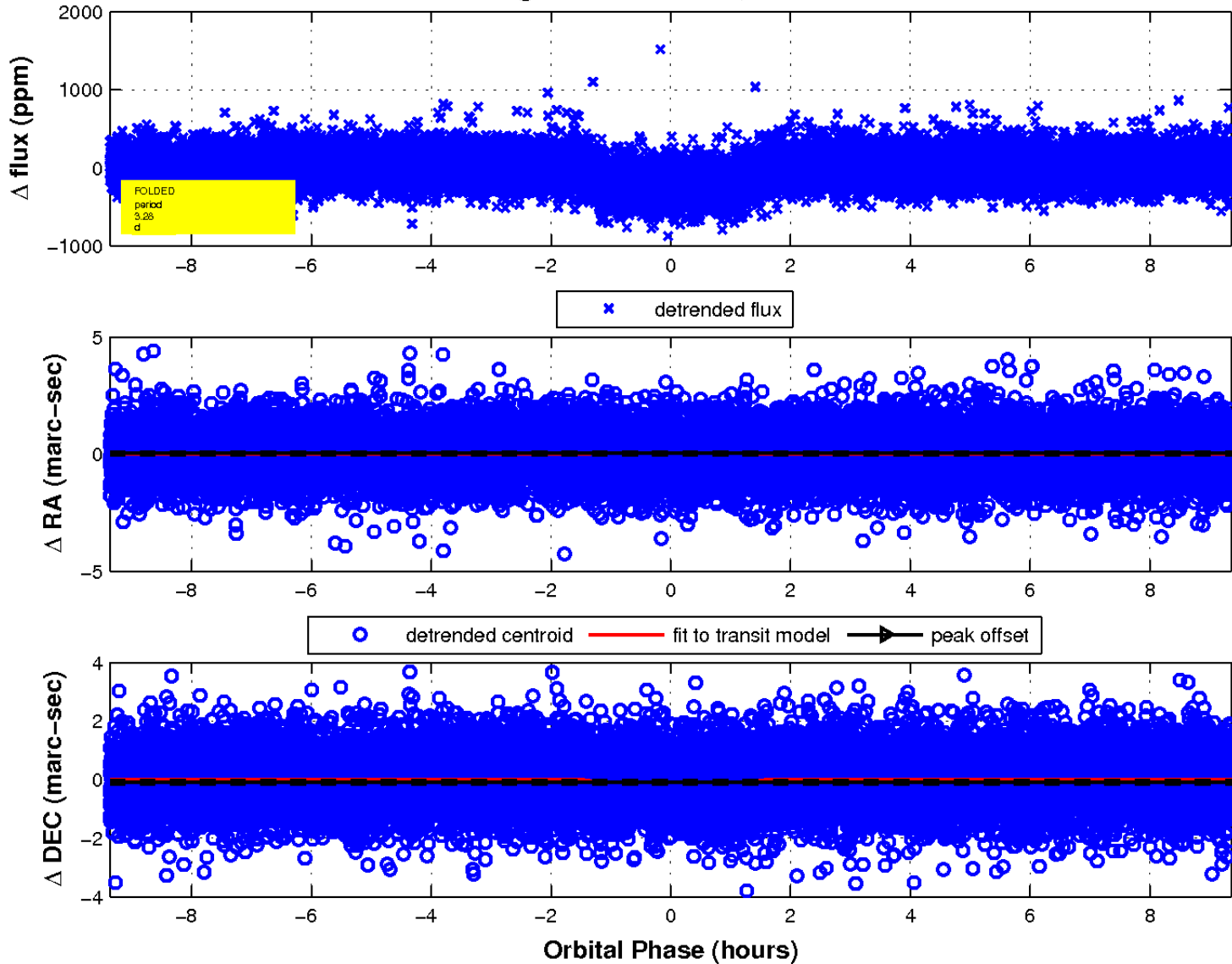
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

