

KIC 007386827

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})
007386827-01	OBS	1704.01	10.418872	137.750505	652.9	2.987	36.8	40.0	1.06	5692	3.10	126.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007386827-01	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.

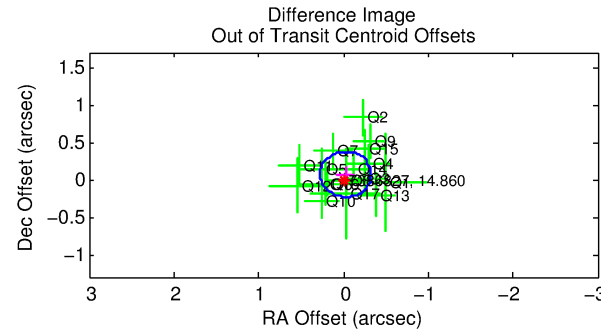
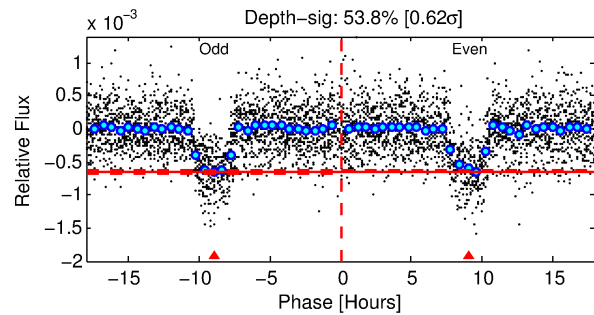
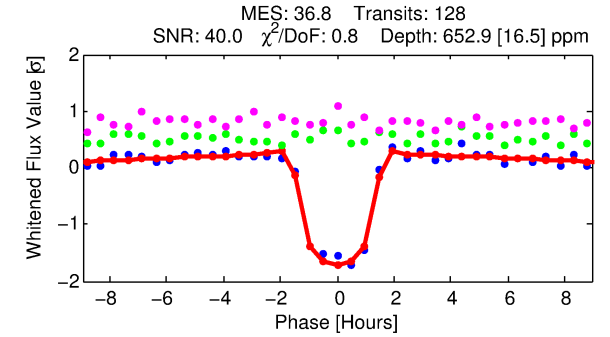
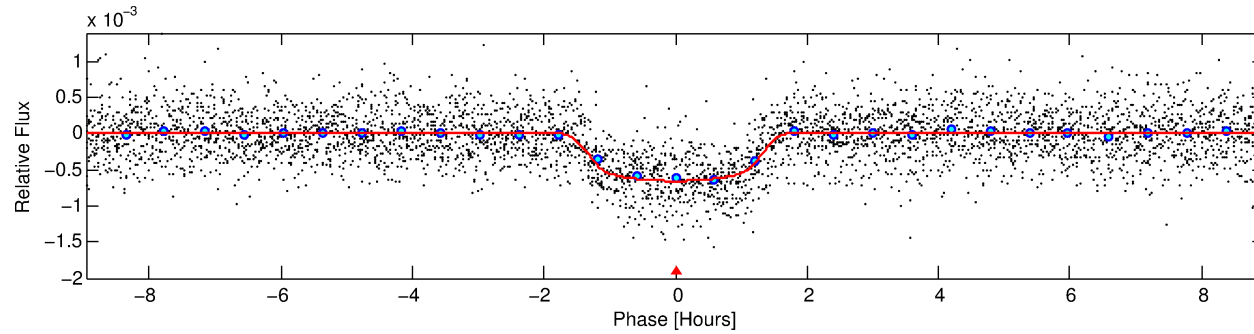
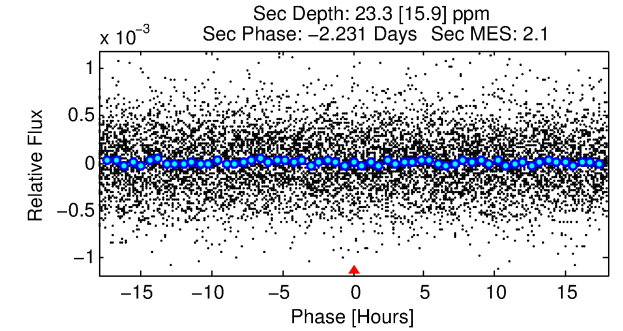
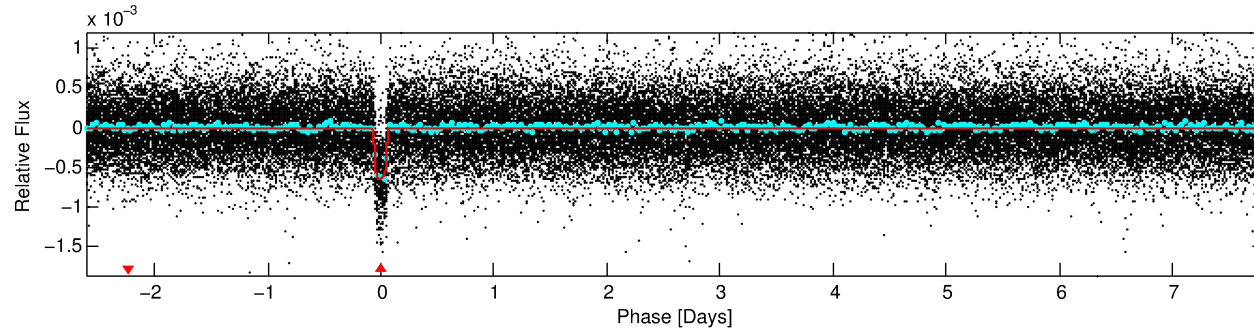
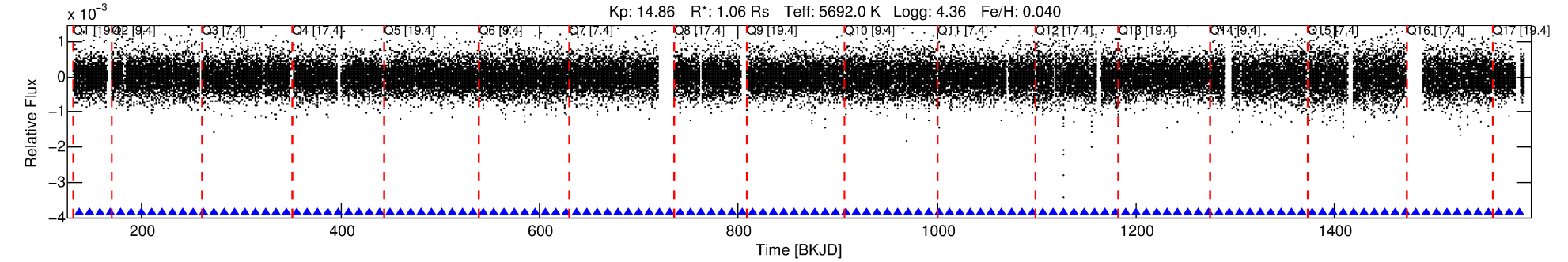
Ephemeris Match Information For 007386827-01

No Significant Match Found

DV One-Page Summary

KIC: 7386827 Candidate: 1 of 1 Period: 10.419 d

KOI: K01704.01 Corr: 0.969



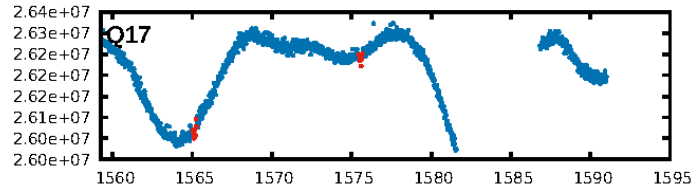
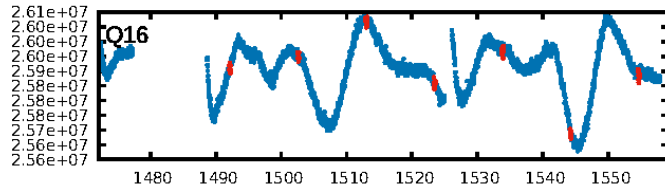
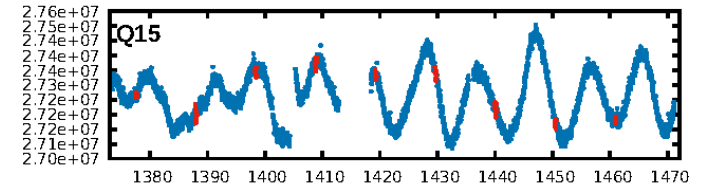
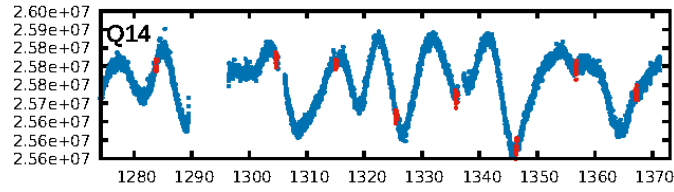
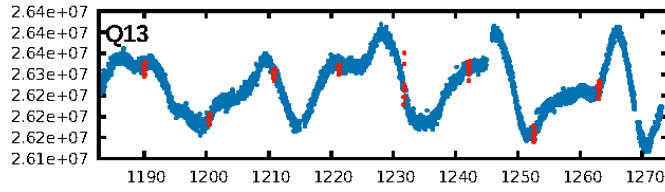
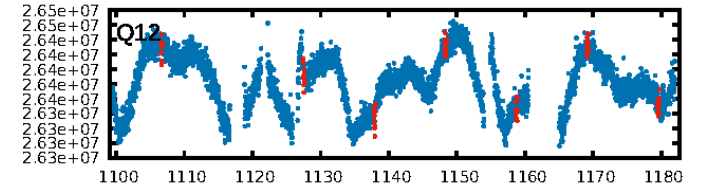
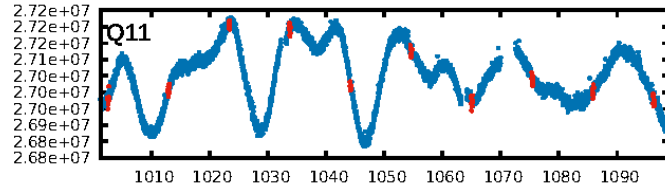
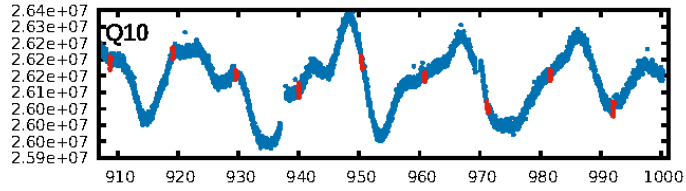
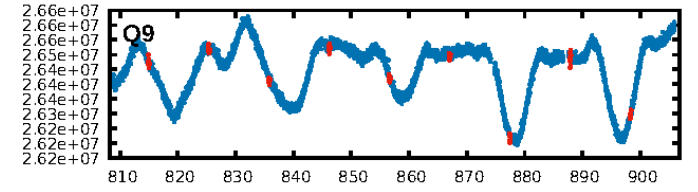
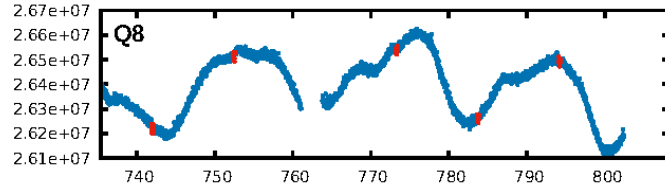
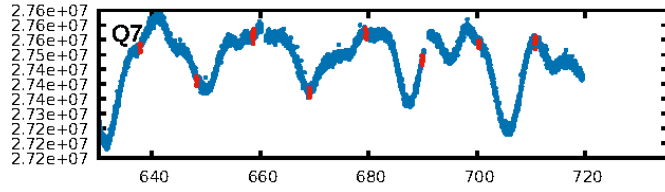
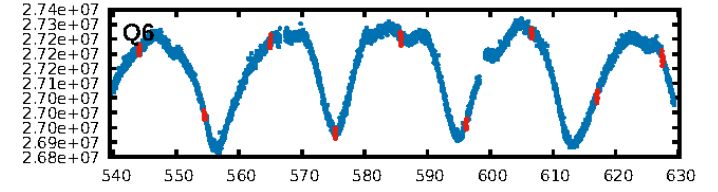
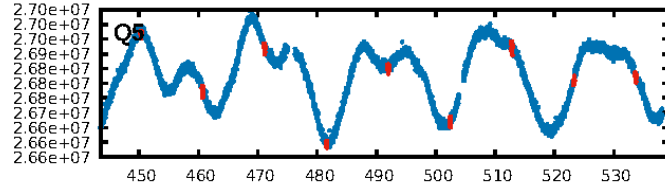
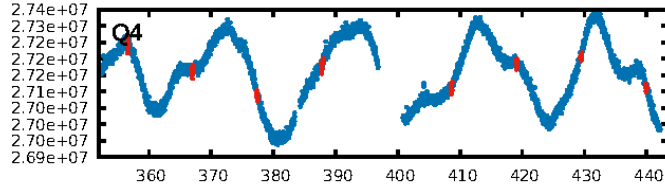
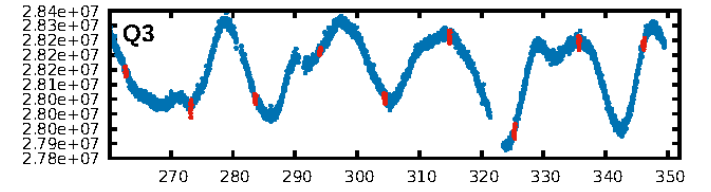
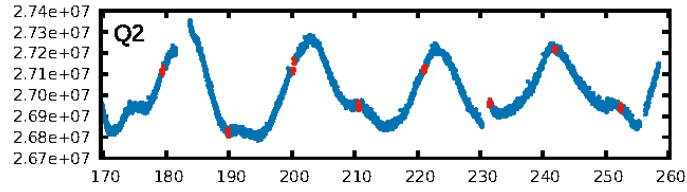
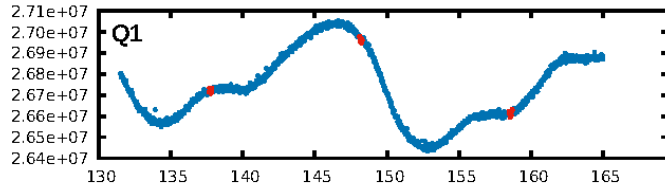
DV Fit Results:

Period = 10.41887 [0.00002] d
Epoch = 137.7505 [0.0015] BKJD
Rp/R* = 0.0267 [0.0035]
a/R* = 15.63 [8.84]
b = 0.84 [0.20]
Seff = 126.71 [48.27]
T_{eq} = 856 [81] K
Rp = 3.10 [0.99] R_e
a = 0.0917 [0.0227] AU
Ag = 11.23 [9.12] [1.12σ]
T_{effp} = 2421 [447] K [3.45σ]

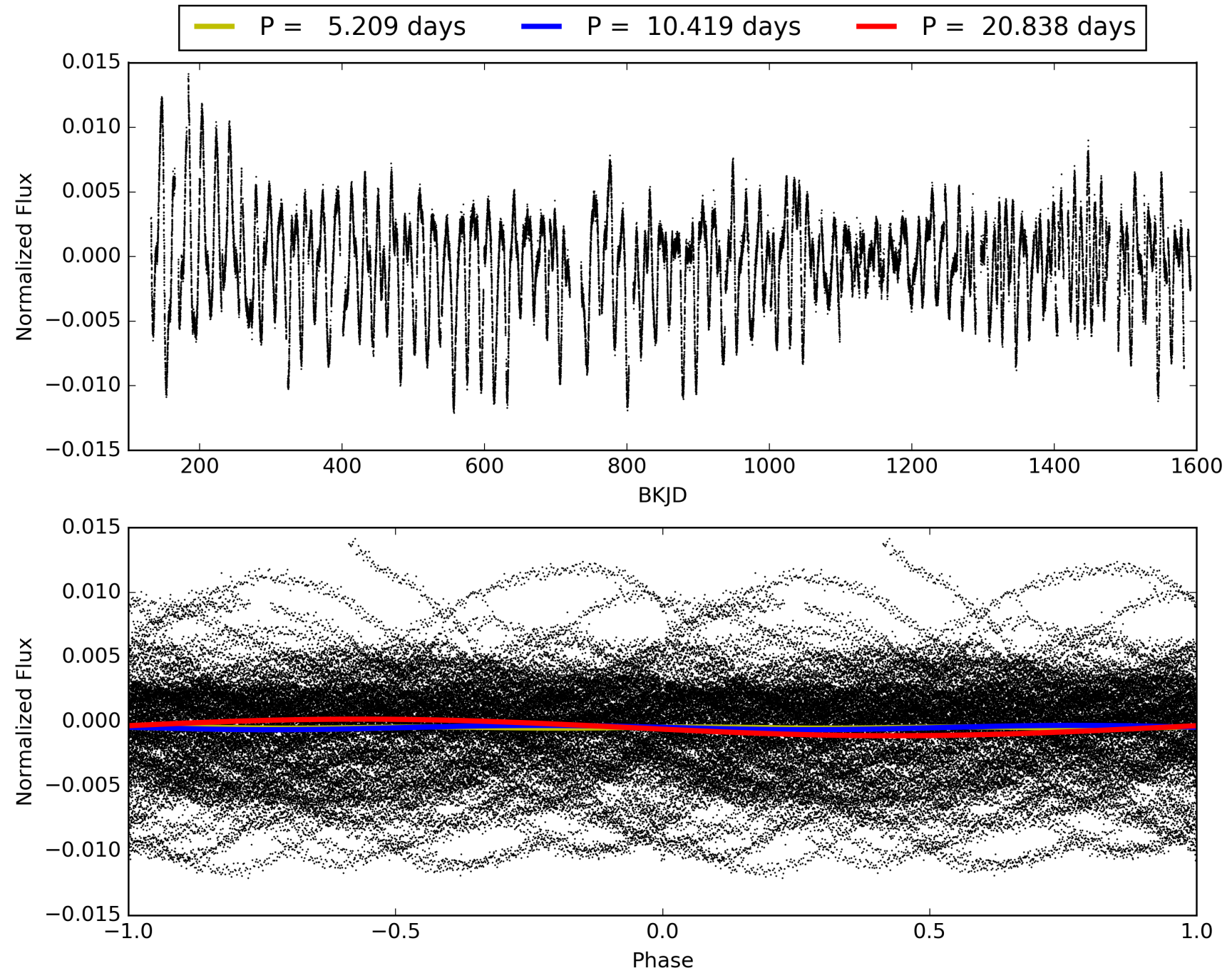
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.87e-278
RollingBand-fgt: 1.00 [123/123]
GhostDiagnostic-chr: 45.36
Centroid-sig: 0.0%
Centroid-so: 0.348 arcsec [1.26σ]
OotOffset-rm: 0.075 arcsec [0.74σ]
KicOffset-rm: 0.064 arcsec [0.62σ]
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]

TCE 007386827-01, PDC Light Curves

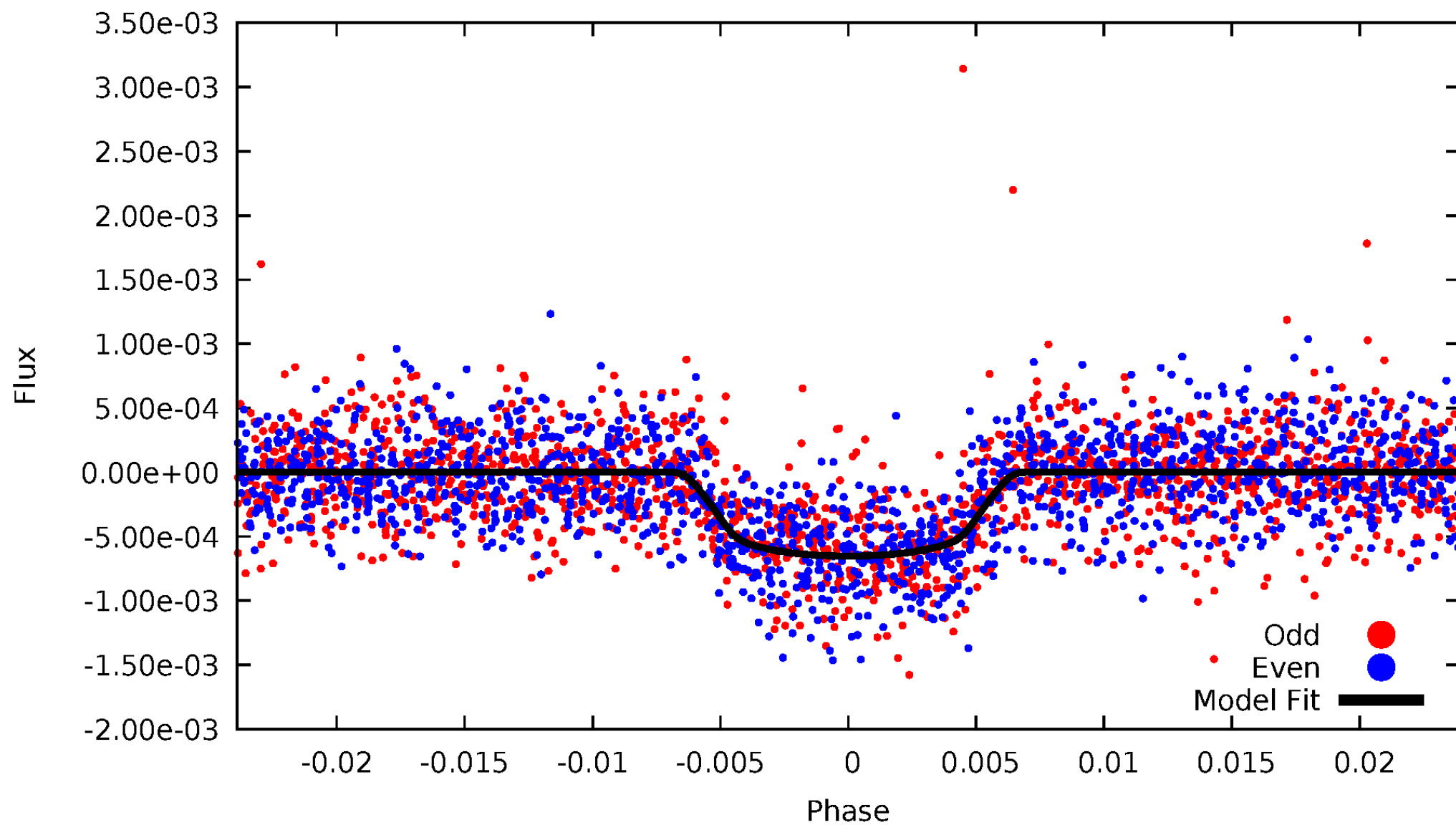


TCE 007386827-01



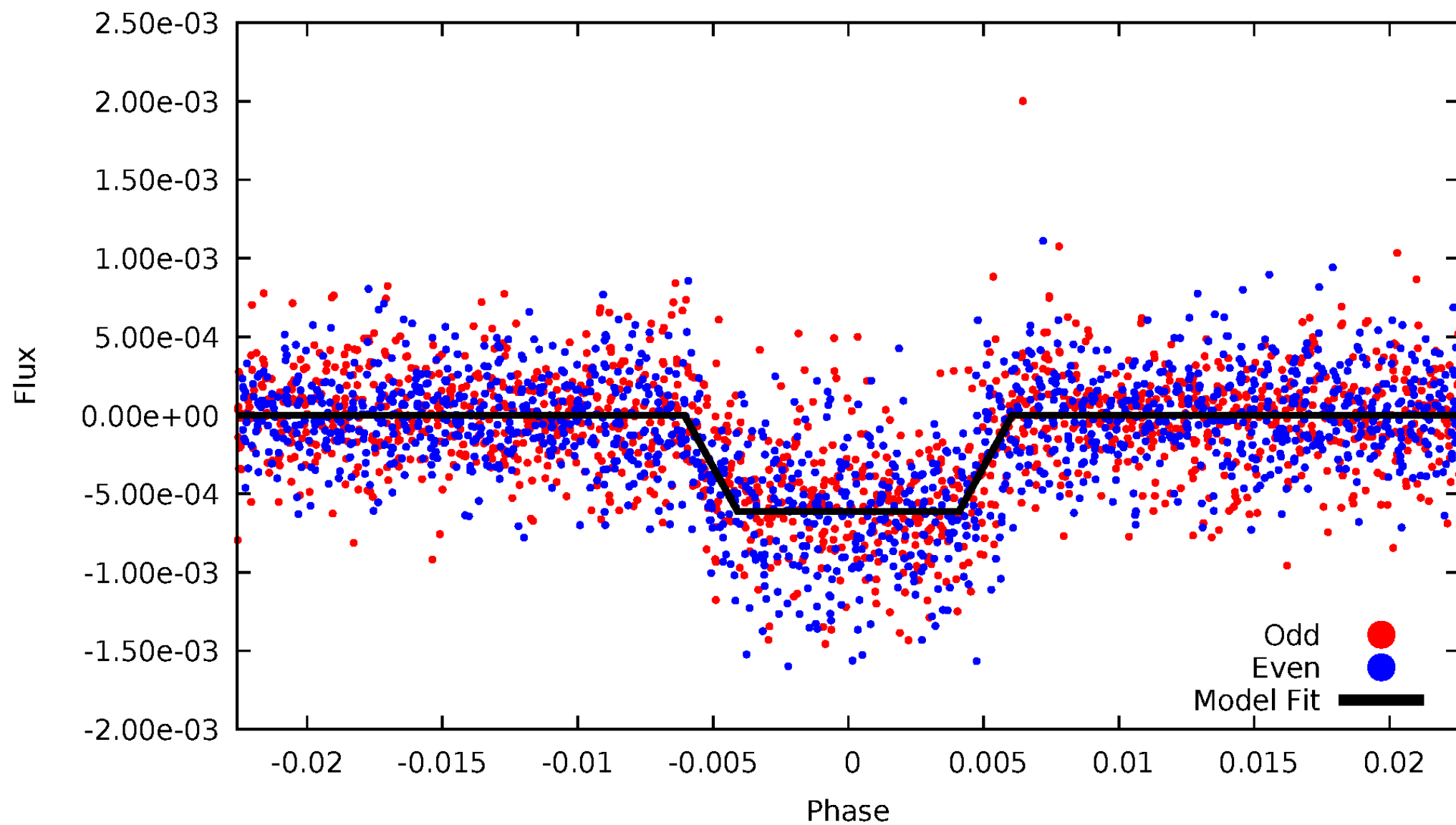
DV Odd/Even

TCE 007386827-01

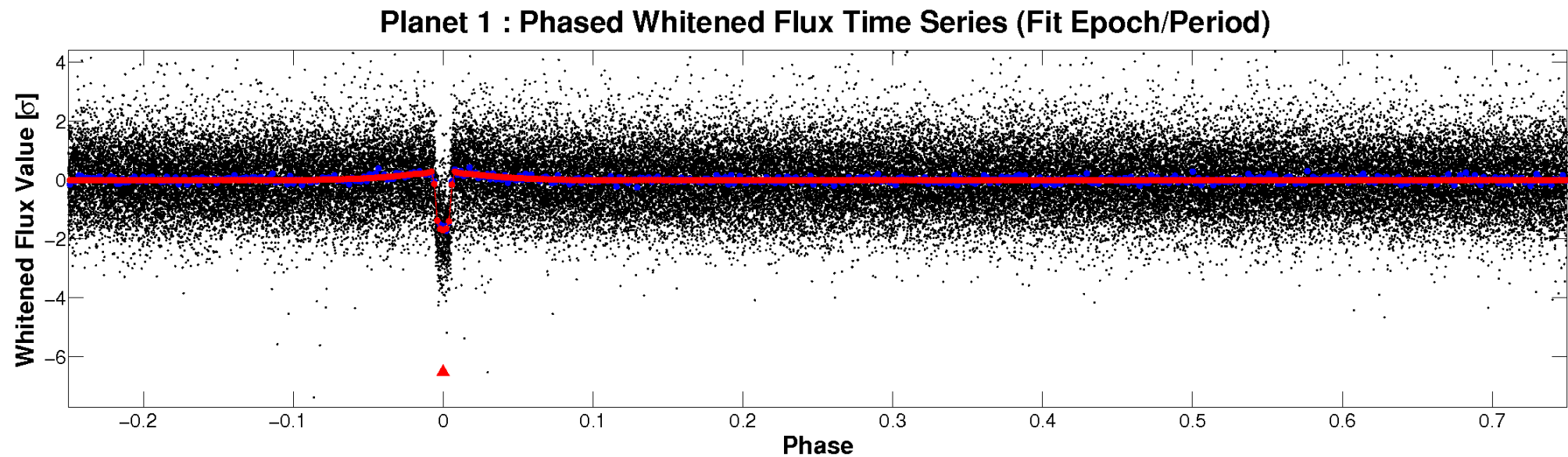
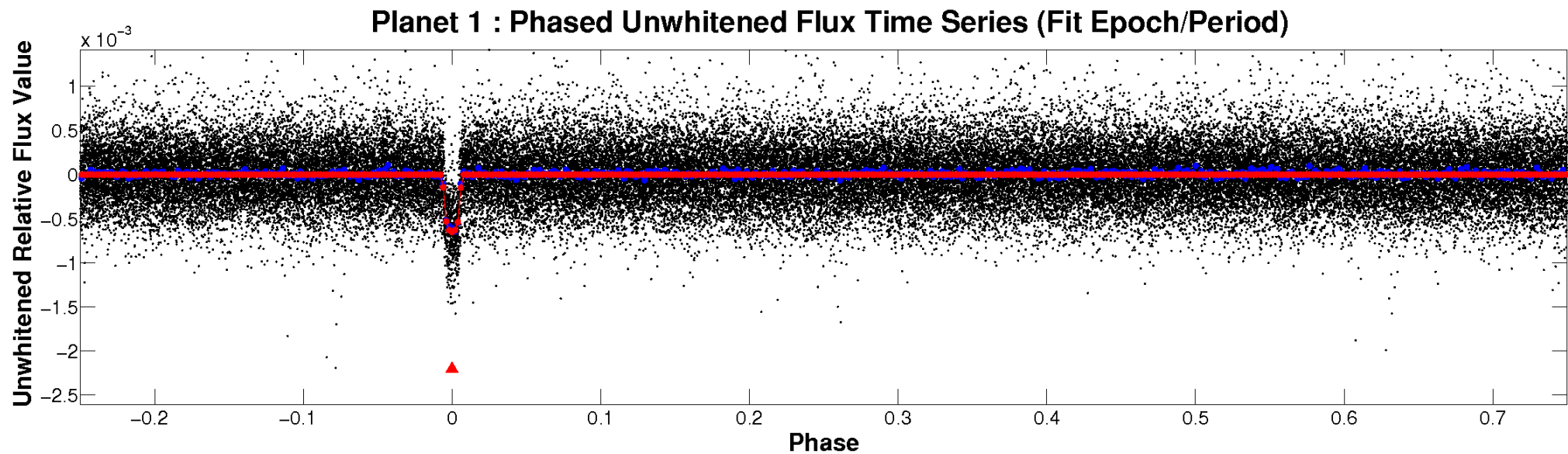


ALT Odd/Even

TCE 007386827-01

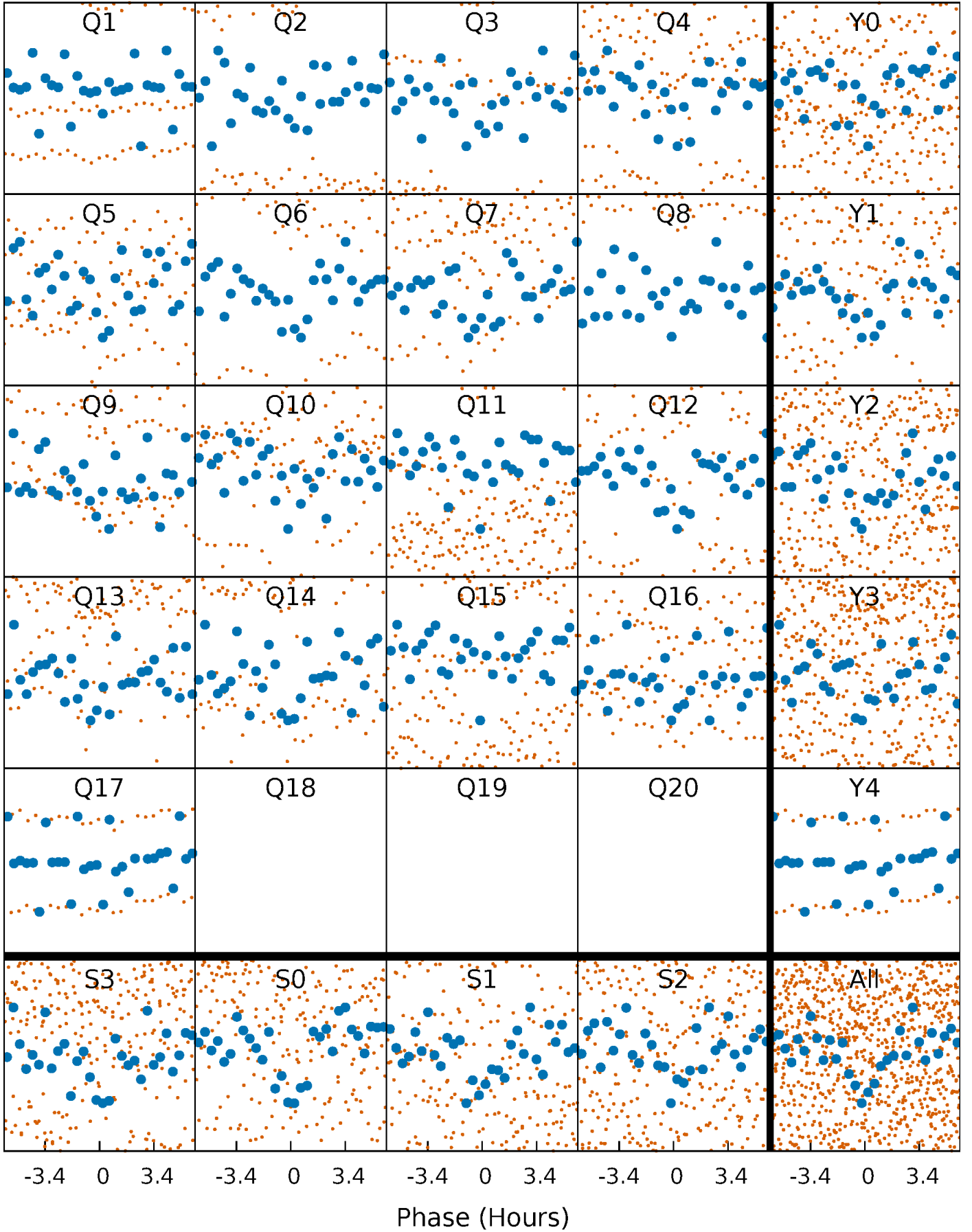


Non-Whitened Vs. Whitened Light Curve



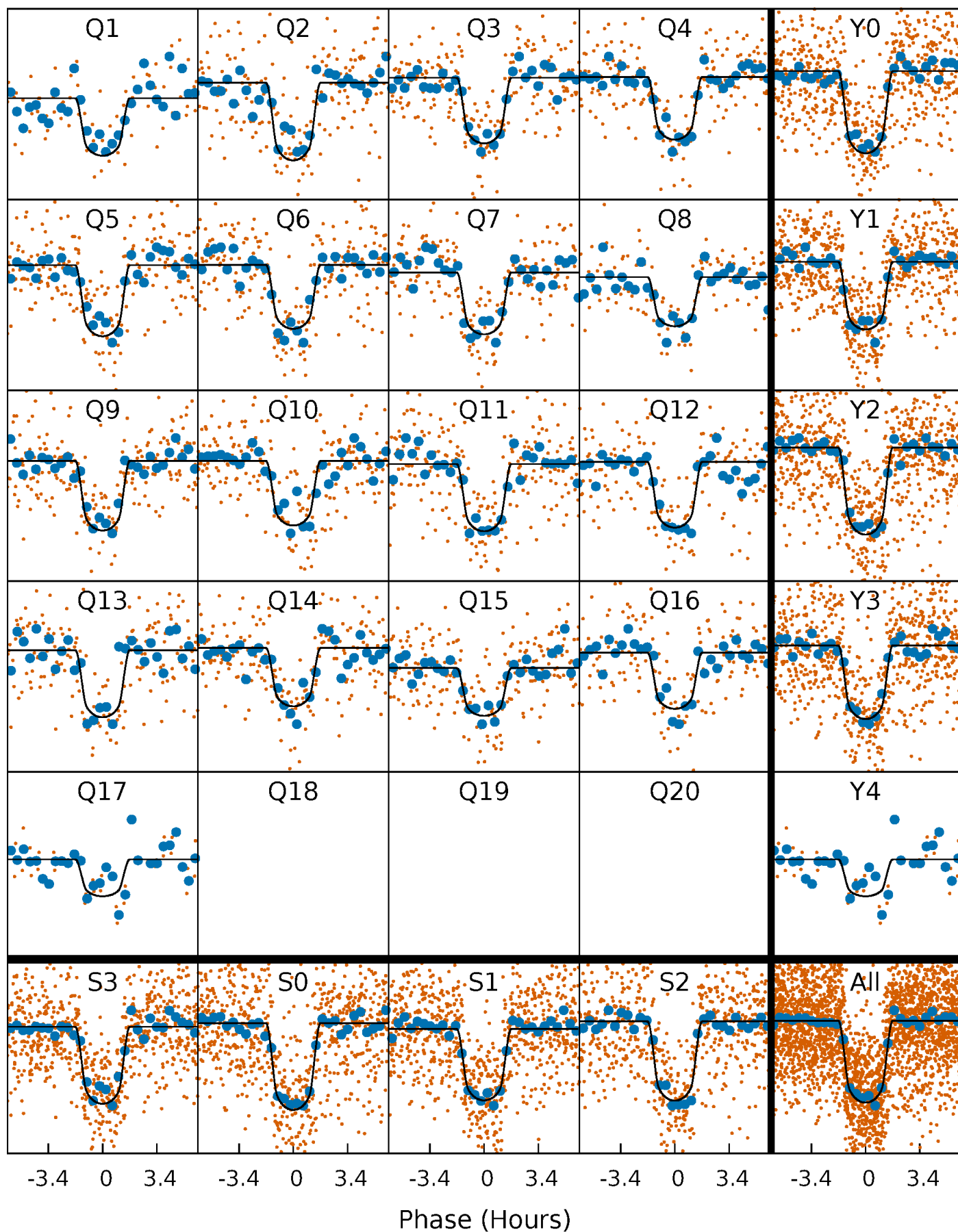
PDC Quarter-Phased Transit Curves

TCE 007386827-01 P= 10.418872 Days $T_0=137.750505$ (BKJD)



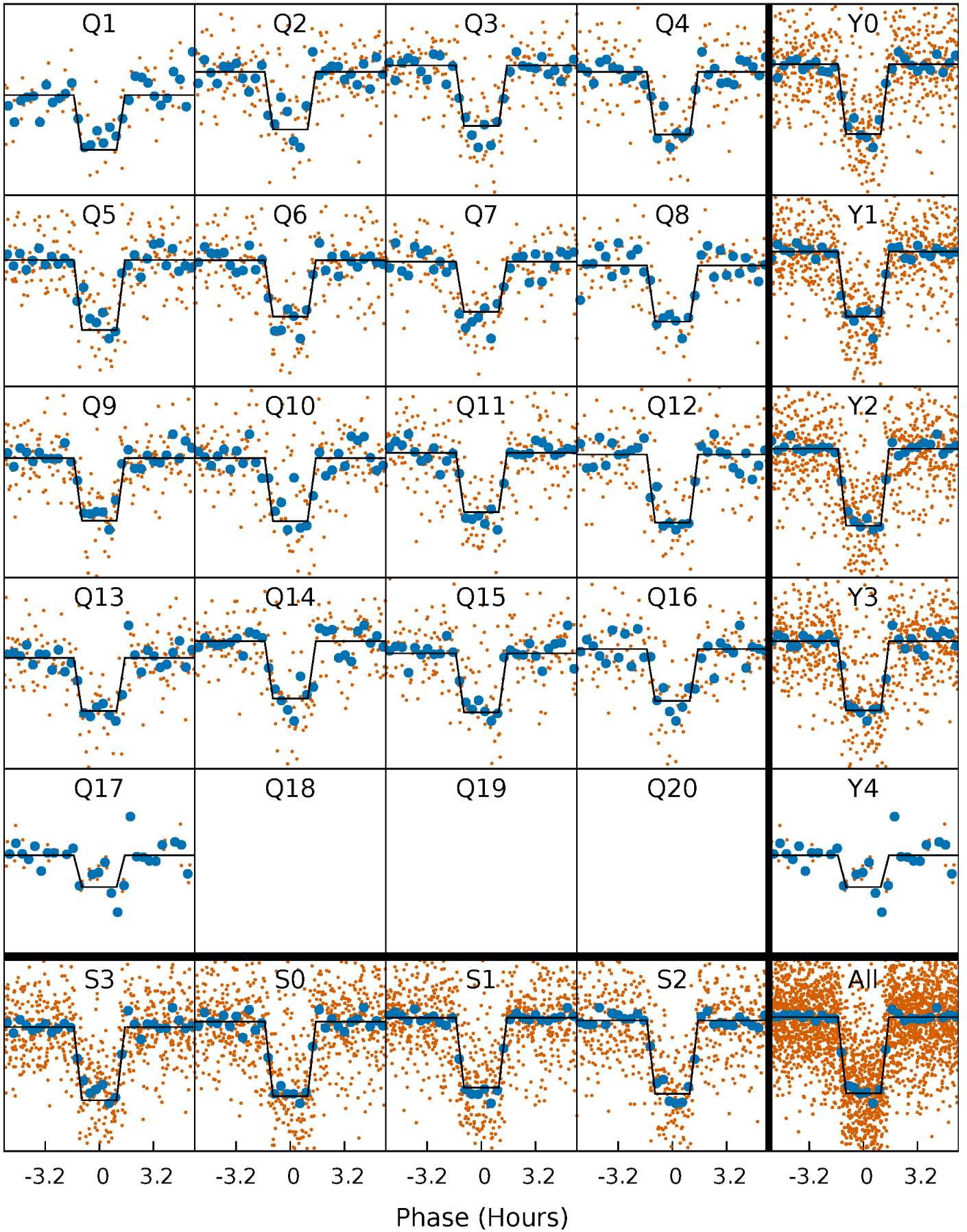
DV Quarter-Phased Transit Curves

TCE 007386827-01 P= 10.418872 Days $T_0=137.750505$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

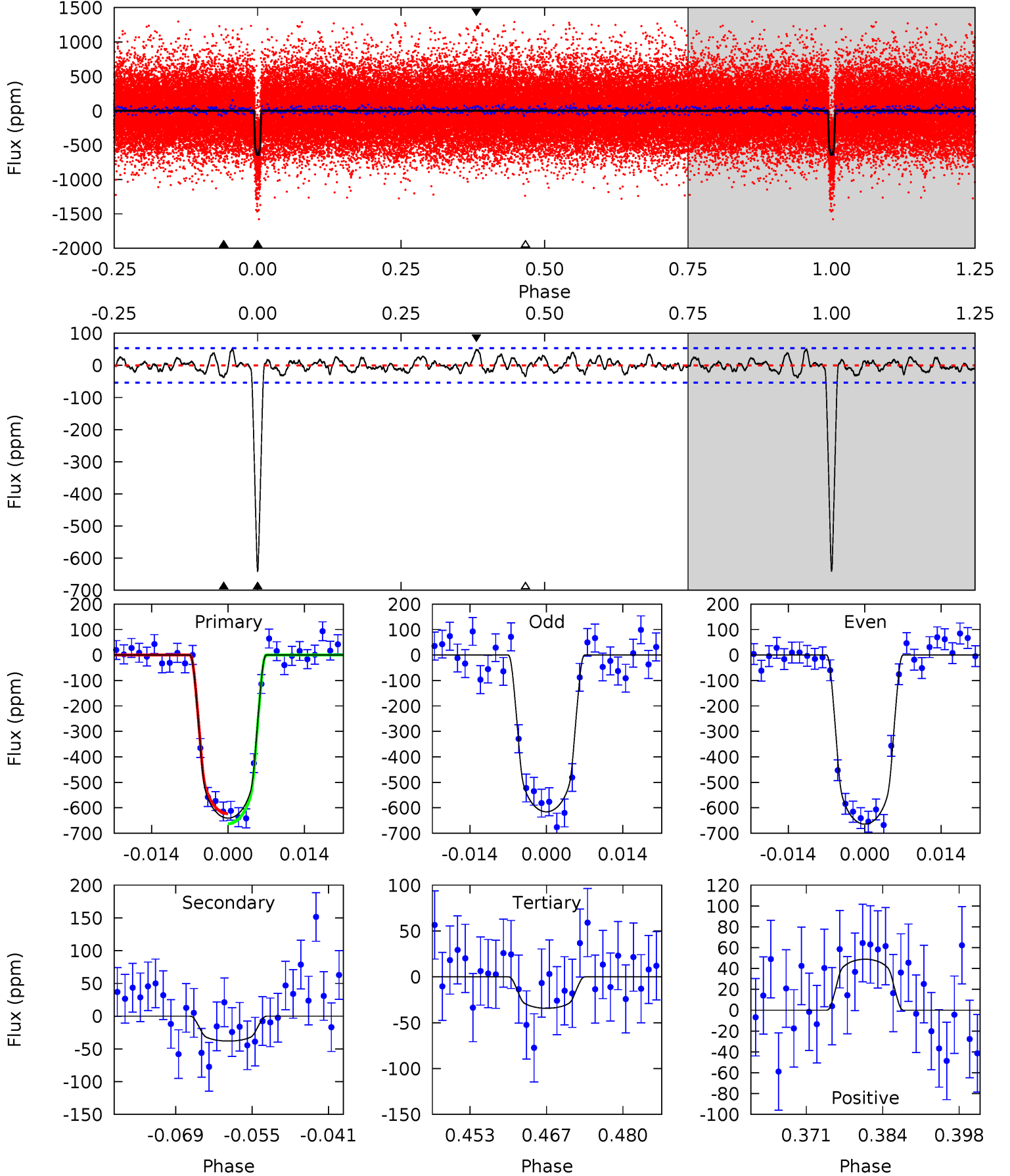
TCE 007386827-01 P= 10.418854 Days $T_0=137.752352$ (BKJD)



DV Model-Shift Uniqueness Test

007386827-01, $P = 10.418872$ Days, $E = 127.331633$ Days

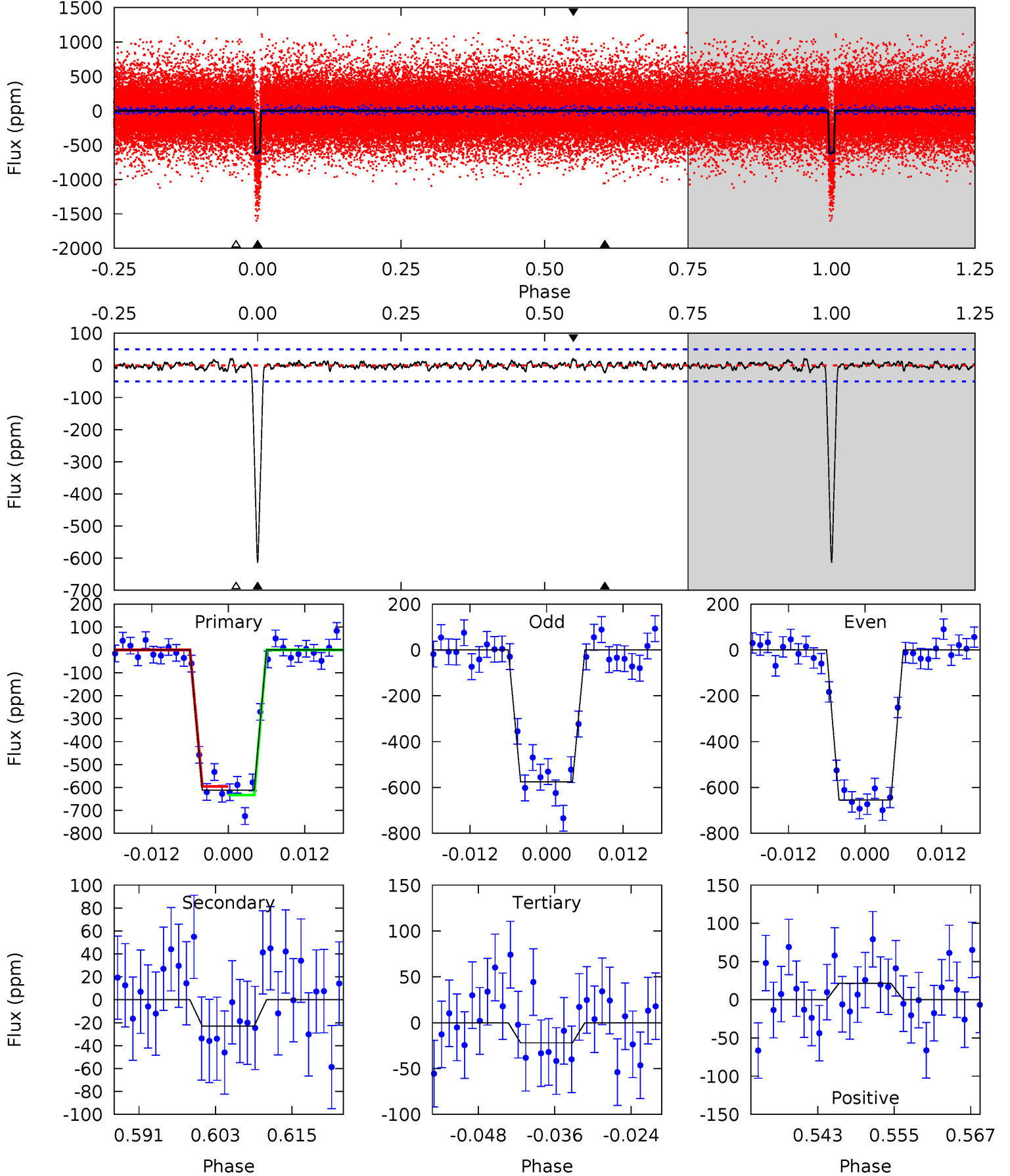
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.4	3.53	3.18	4.53	4.97	2.46	1.43	56.2	54.8	0.35	-1.01	2.25	0.92	0.07	1.83



Alt Model-Shift Uniqueness Test

007386827-01, $P = 10.418854$ Days, $E = 127.333498$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.2	2.30	2.19	2.15	4.99	2.51	0.72	59.0	59.0	0.10	0.15	3.93	0.97	0.03	1.91



Stellar Parameters For KIC 007386827

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+173}_{-173}	$4.360^{+0.132}_{-0.198}$	$0.040^{+0.250}_{-0.300}$	$1.064^{+0.311}_{-0.191}$	$0.946^{+0.125}_{-0.091}$	$1.106^{+0.769}_{-0.520}$
	+3%/-3%	+3%/-5%	+625%/-750%	+29%/-18%	+13%/-10%	+70%/-47%
Source	PHO1	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 007386827-01 / KOI 1704.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 11	$3.18^{+0.65}_{-0.53}$	1204^{+107}_{-72}	3271^{+221}_{-215}	17^{+10}_{-7}
Alt.	-23 ± 10	$2.92^{+0.64}_{-0.56}$	1204^{+87}_{-77}	3096^{+251}_{-266}	12^{+9}_{-6}

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 $A_{obs} \gg 1.0$

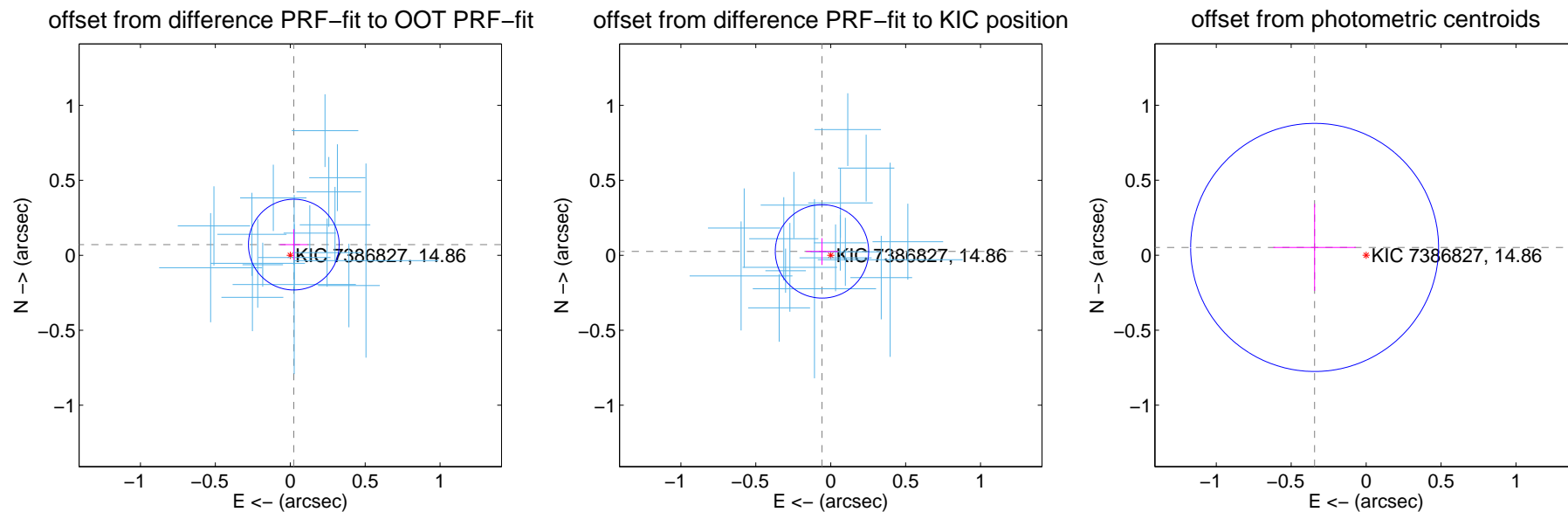
DV Centroid Data

Supplemental centroid analysis for 007386827-01. Kepler magnitude: 14.86. Transit SNR 39.99

There are 17 quarters with good PRF difference image offsets

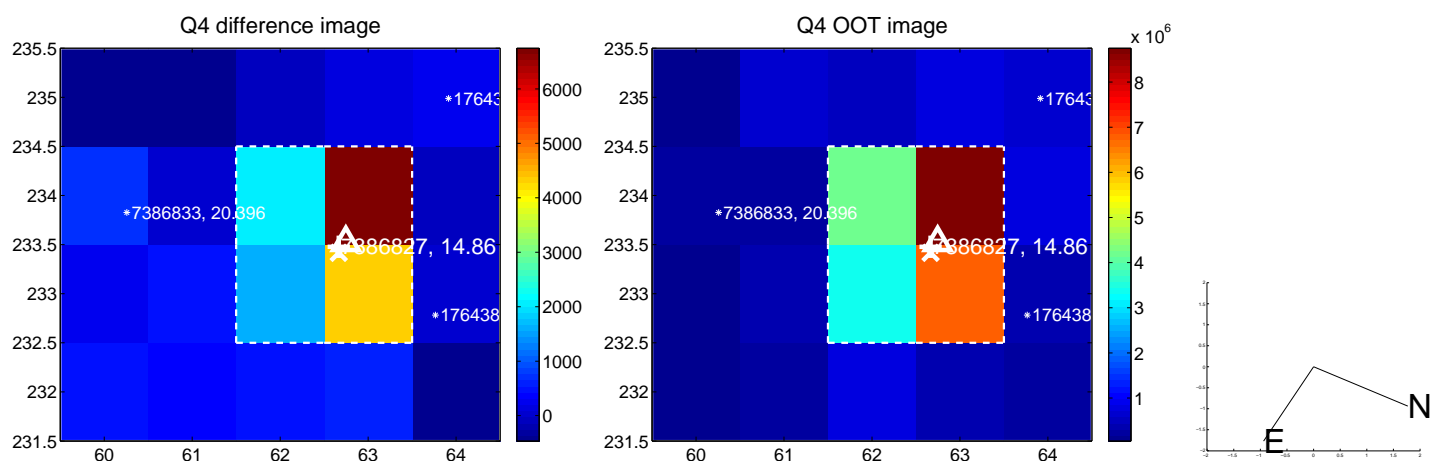
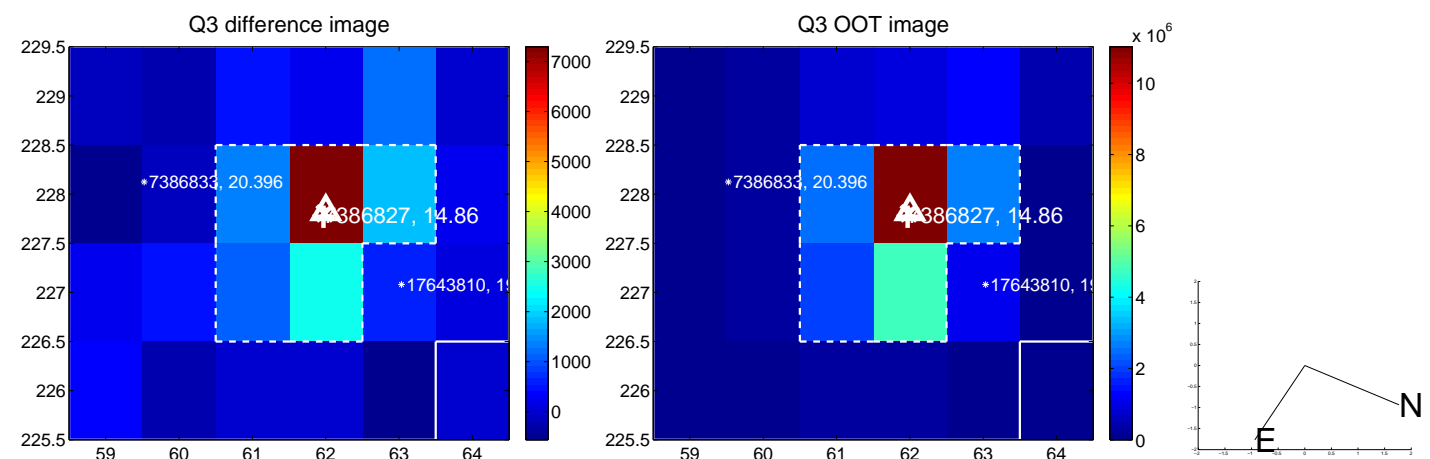
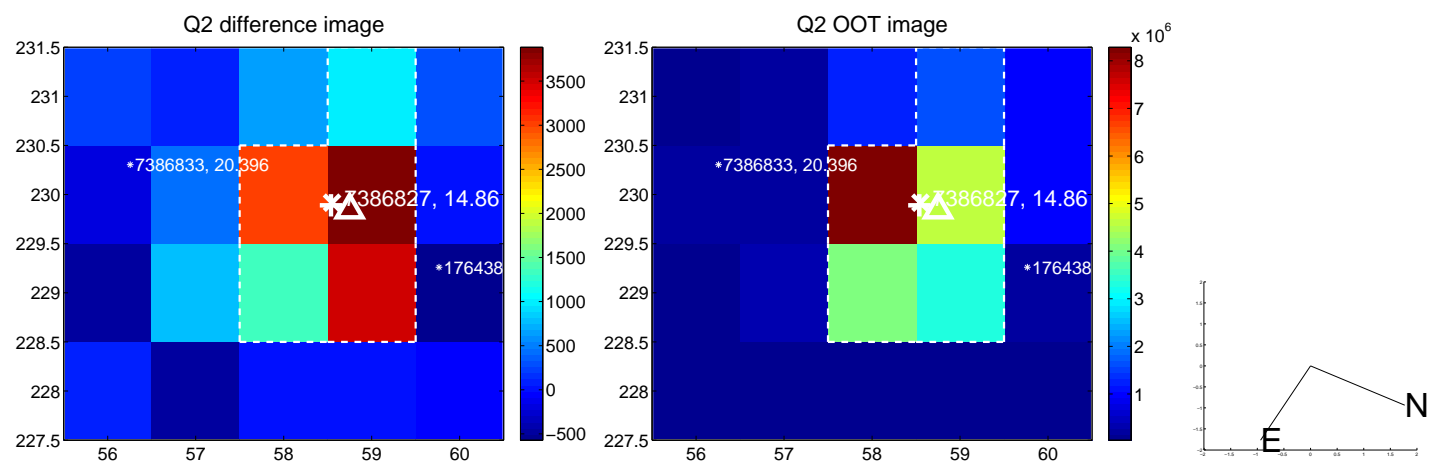
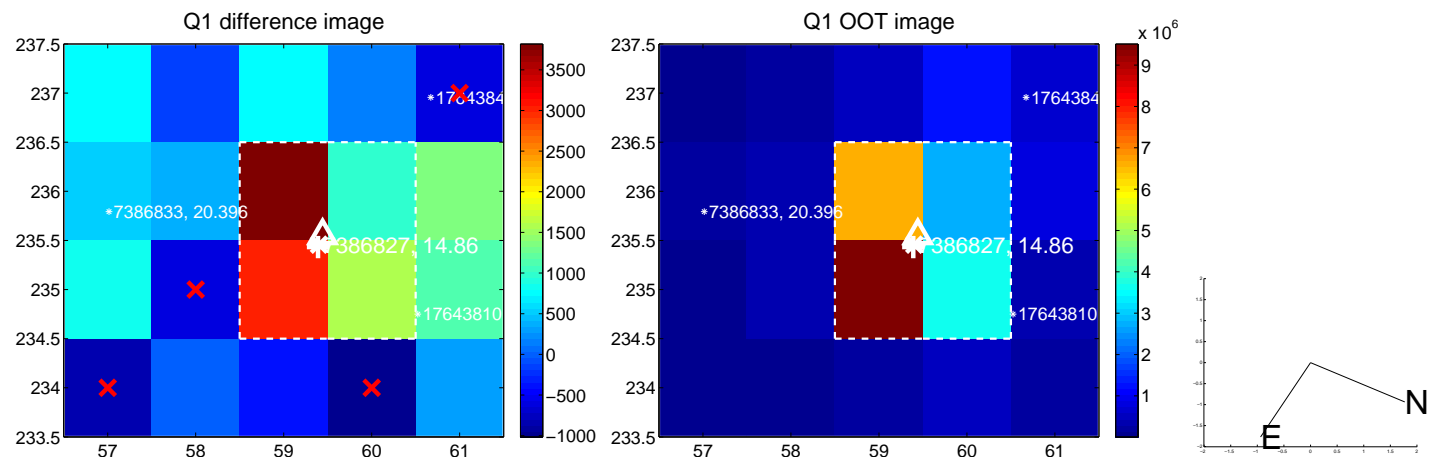
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.075 ± 0.101	0.74	-0.024 ± 0.093	0.071 ± 0.102
PRF-fit source offset from KIC position	0.064 ± 0.104	0.62	0.058 ± 0.107	0.026 ± 0.088
photometric centroid source offset	0.35 ± 0.28	1.26	0.34 ± 0.28	0.05 ± 0.29

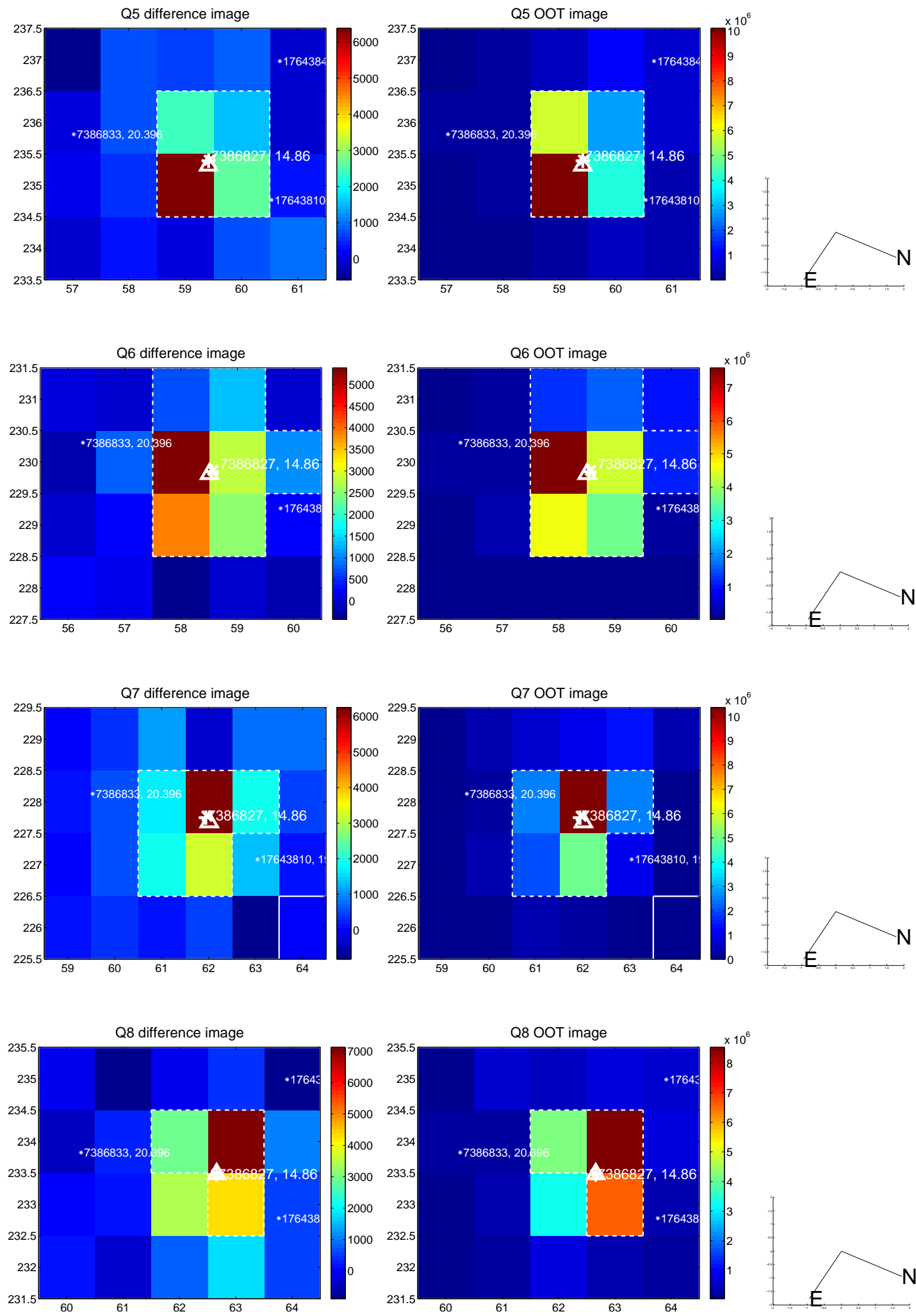


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

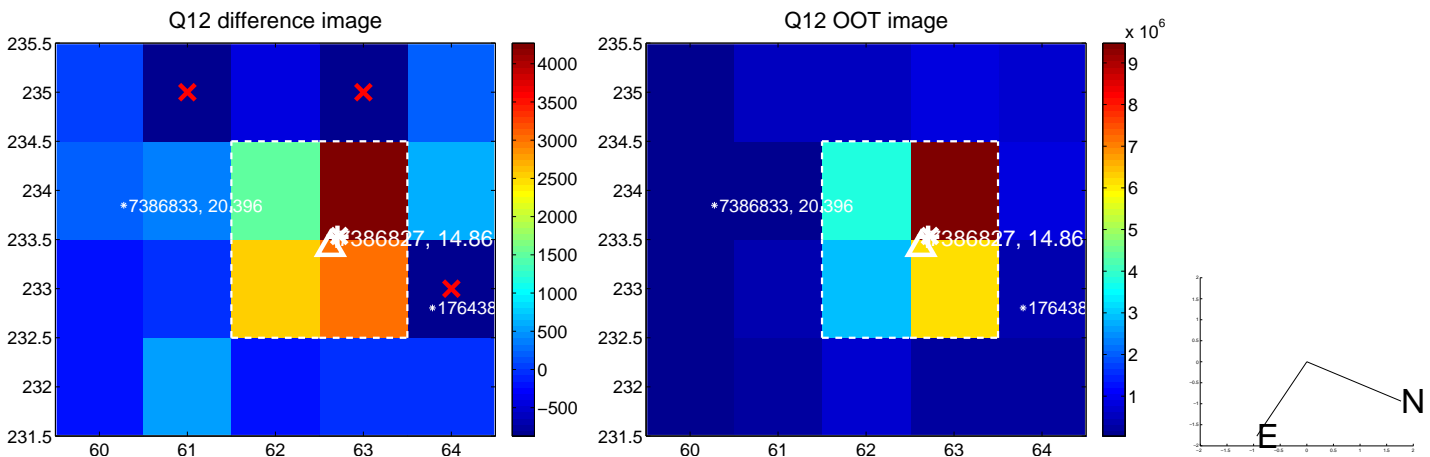
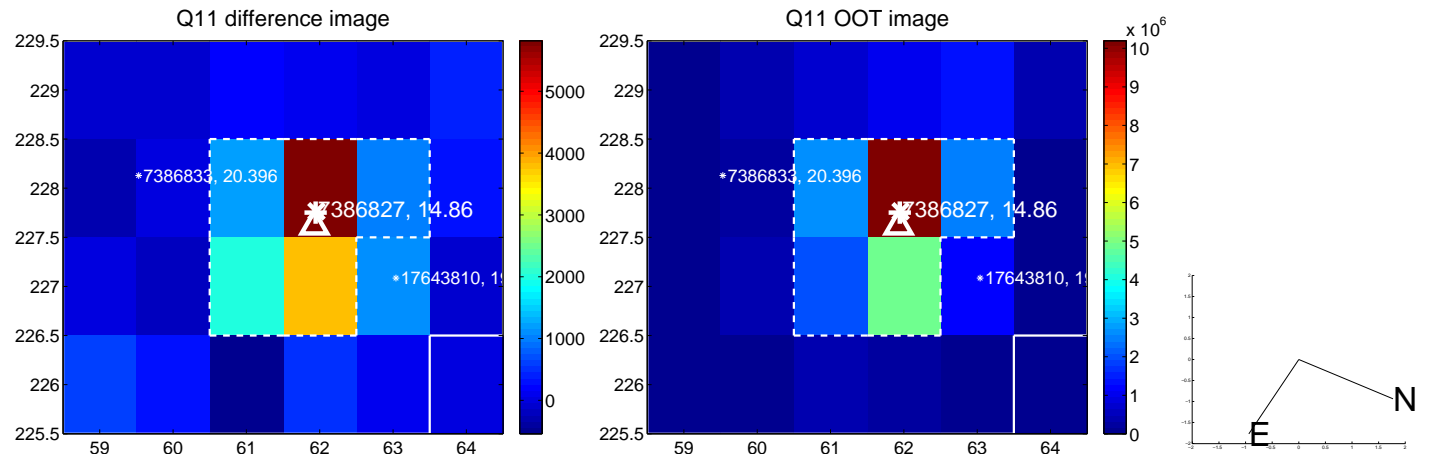
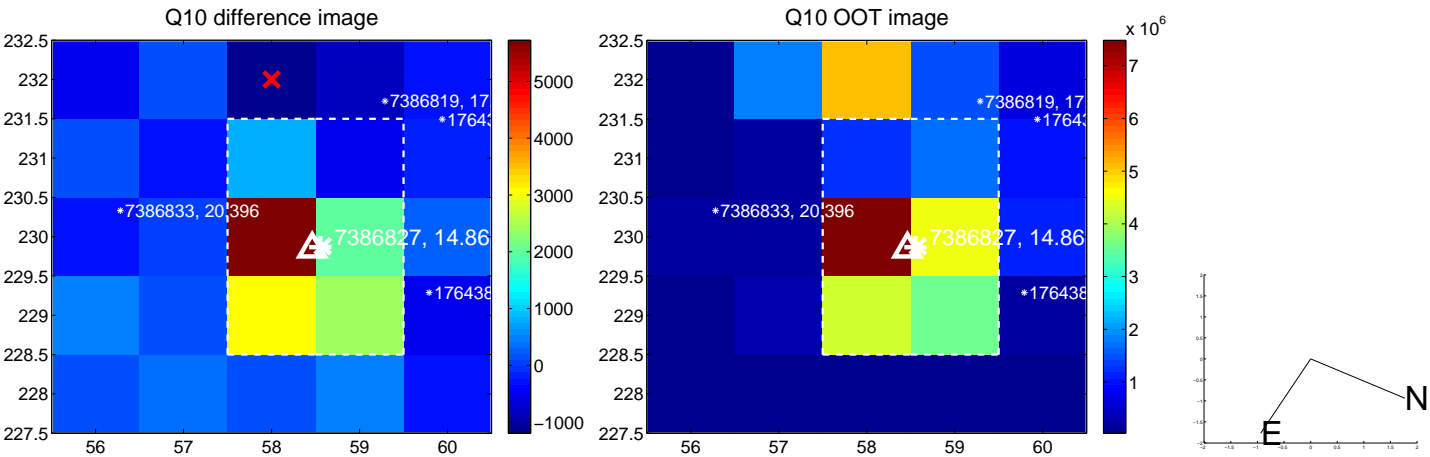
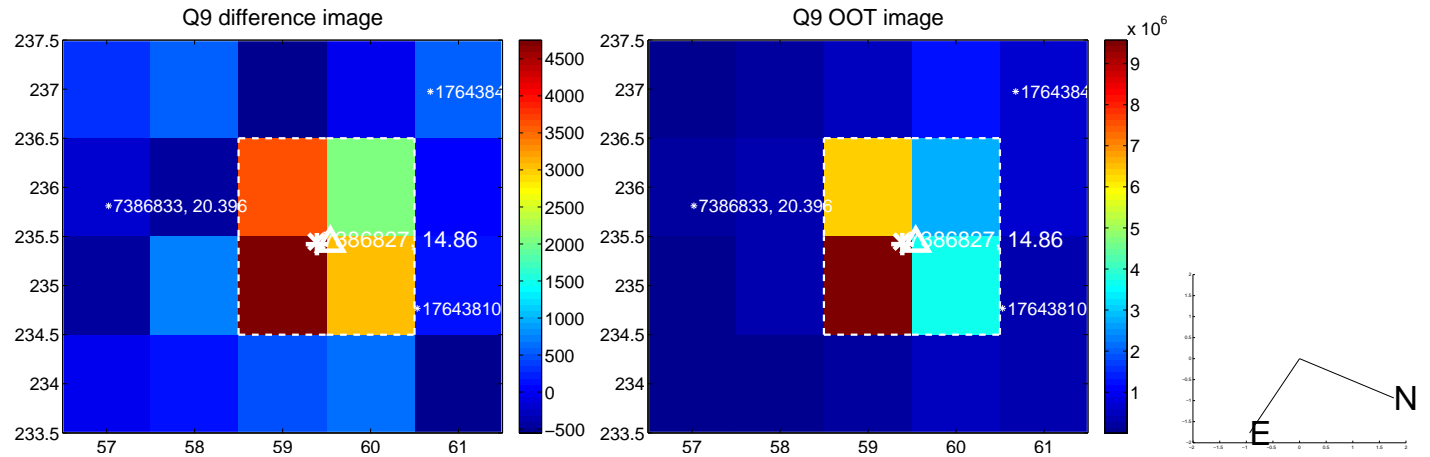
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



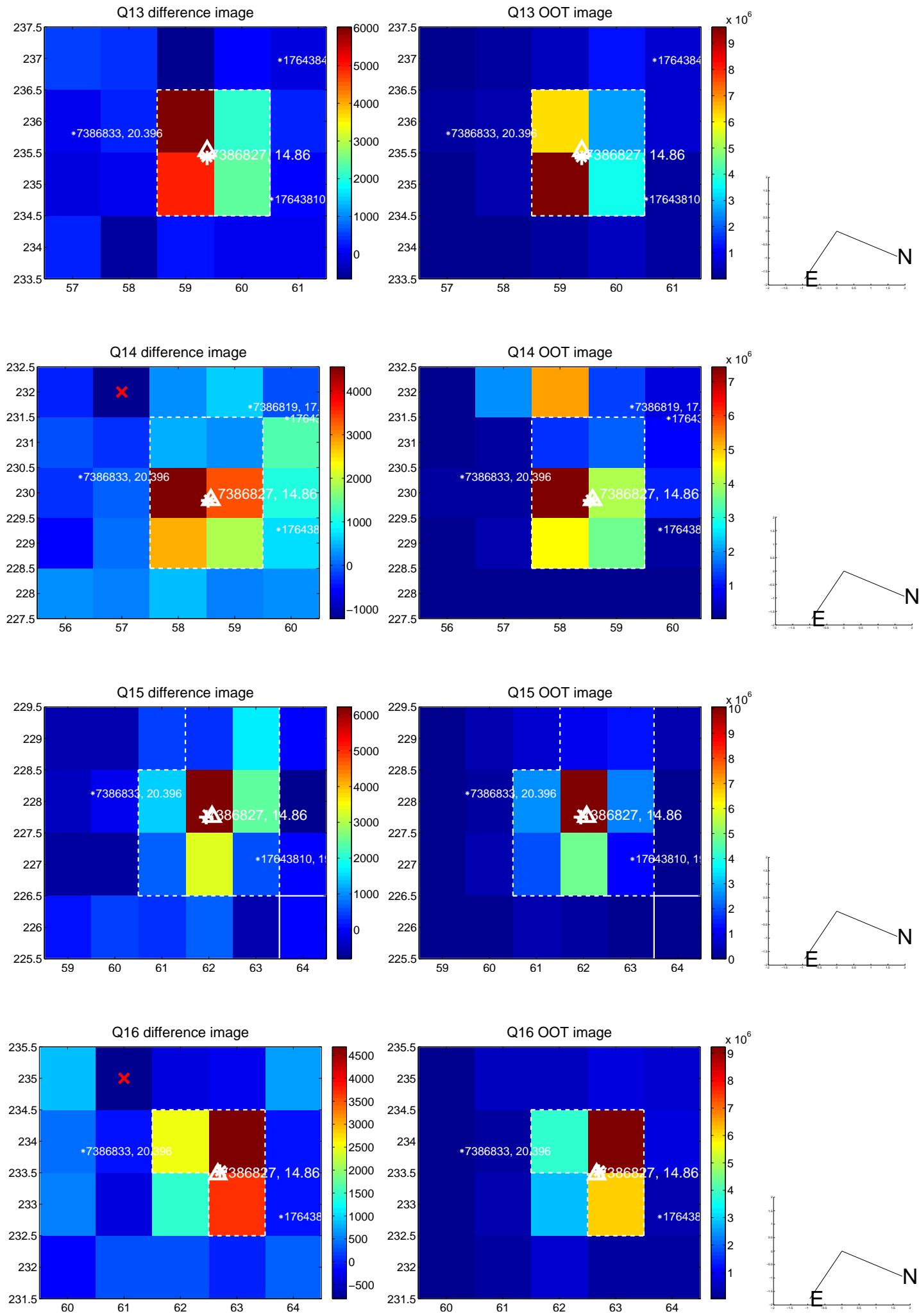
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



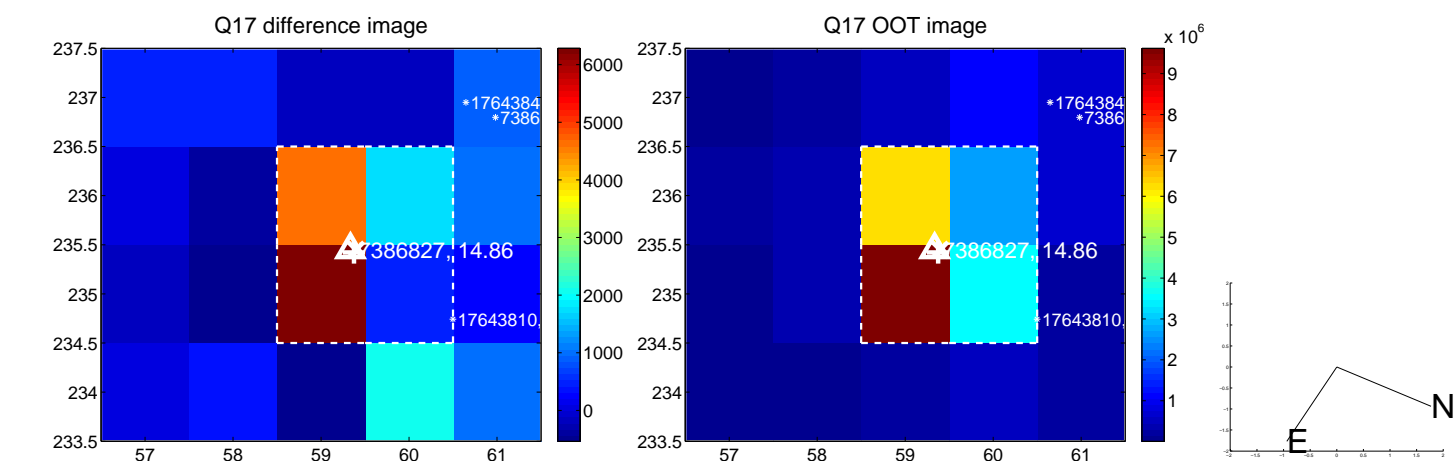
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



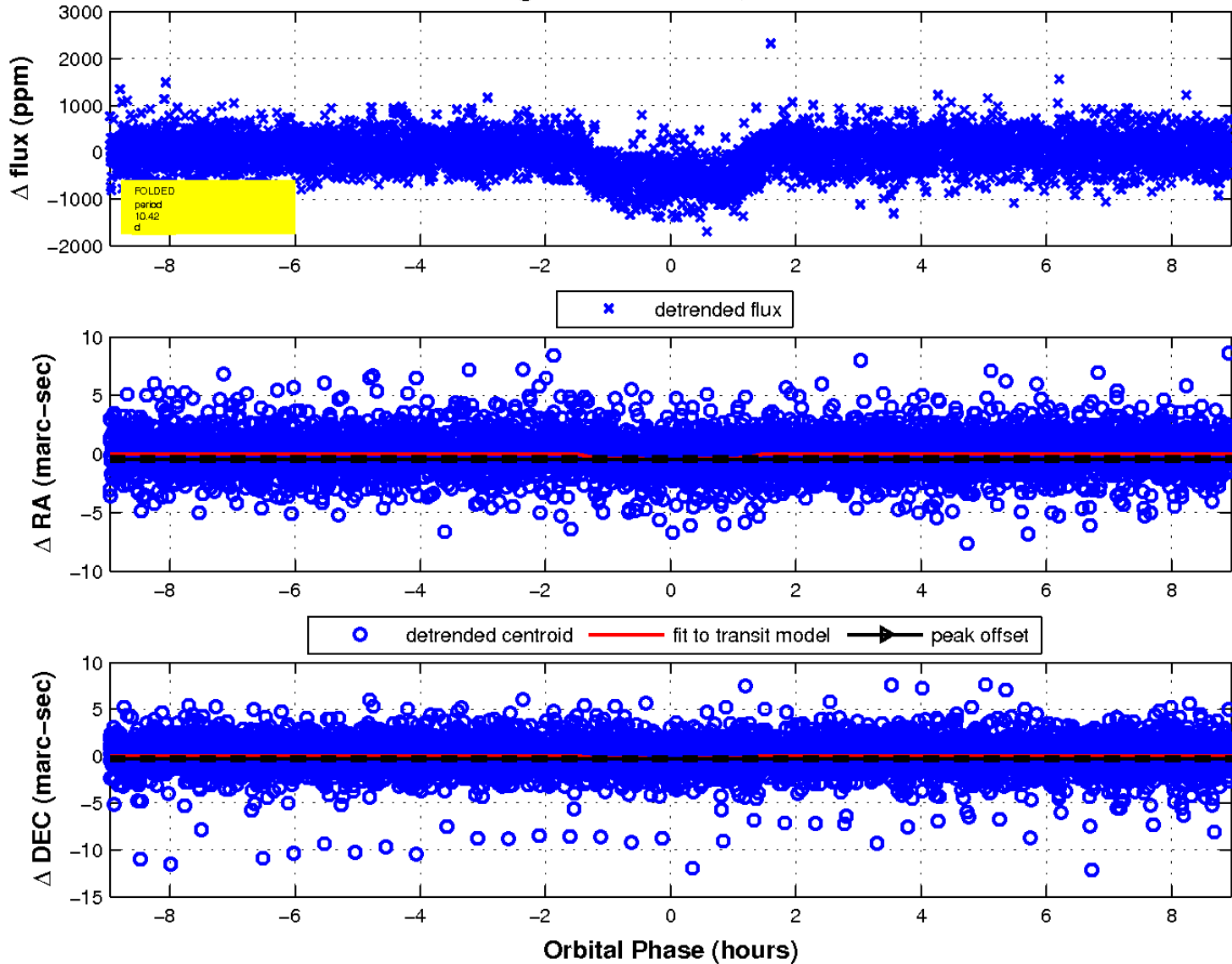
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

