

KIC 008824737

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})
008824737-01	OBS	3347.01	12.902409	139.148041	356.1	2.554	13.9	15.3	0.79	5530	1.72	49.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008824737-01	OBS	PC	0.96	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.

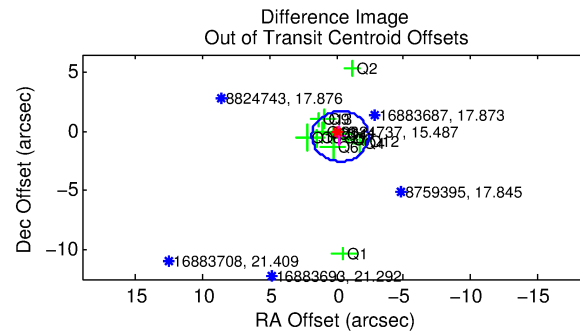
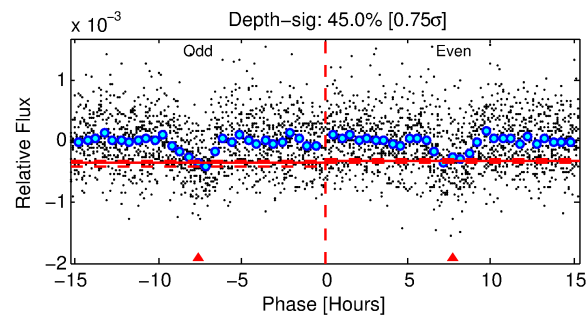
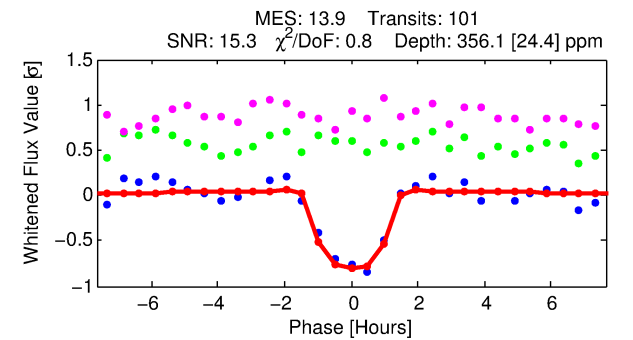
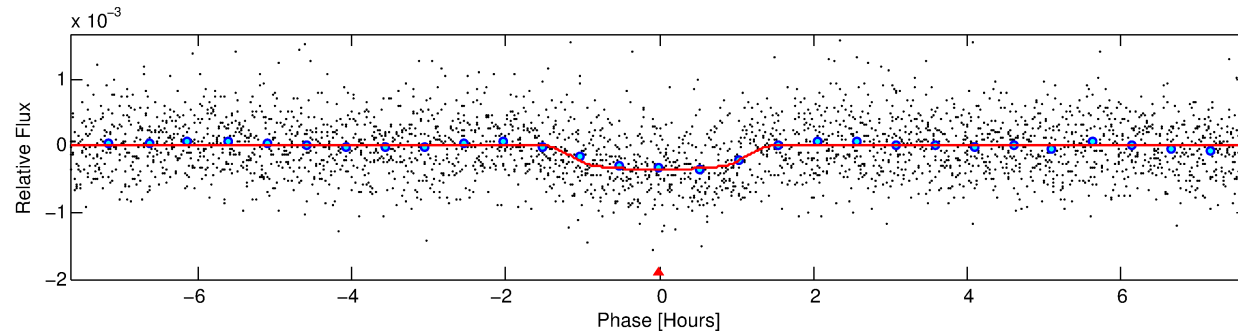
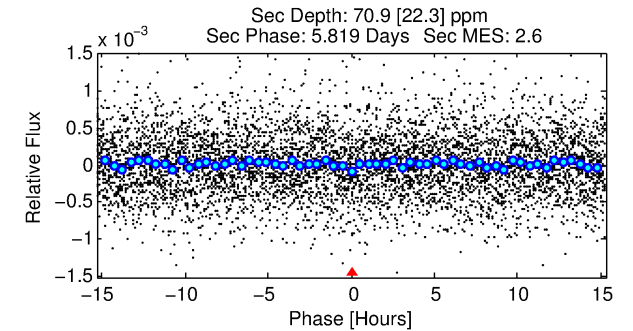
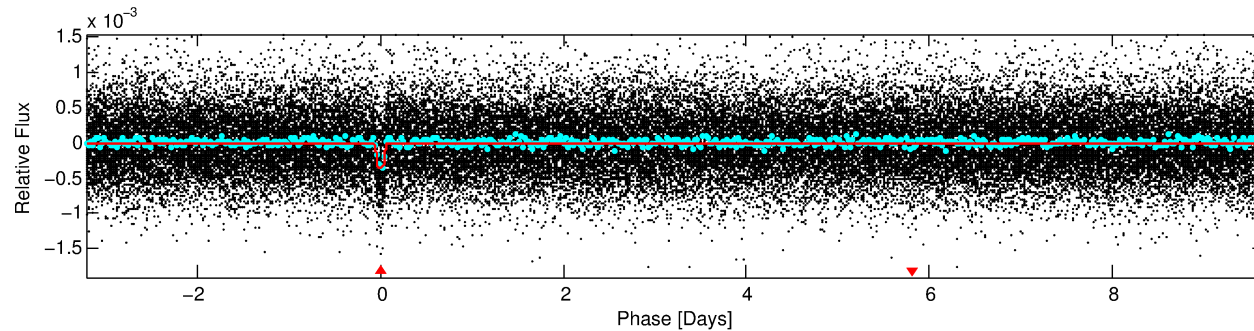
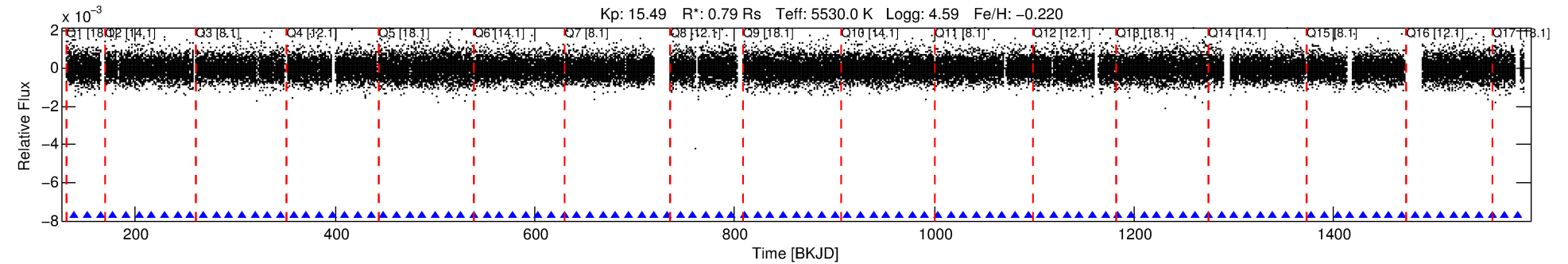
Ephemeris Match Information For 008824737-01

No Significant Match Found

DV One-Page Summary

KIC: 8824737 Candidate: 1 of 1 Period: 12.902 d

KOI: K03347.01 Corr: 0.978



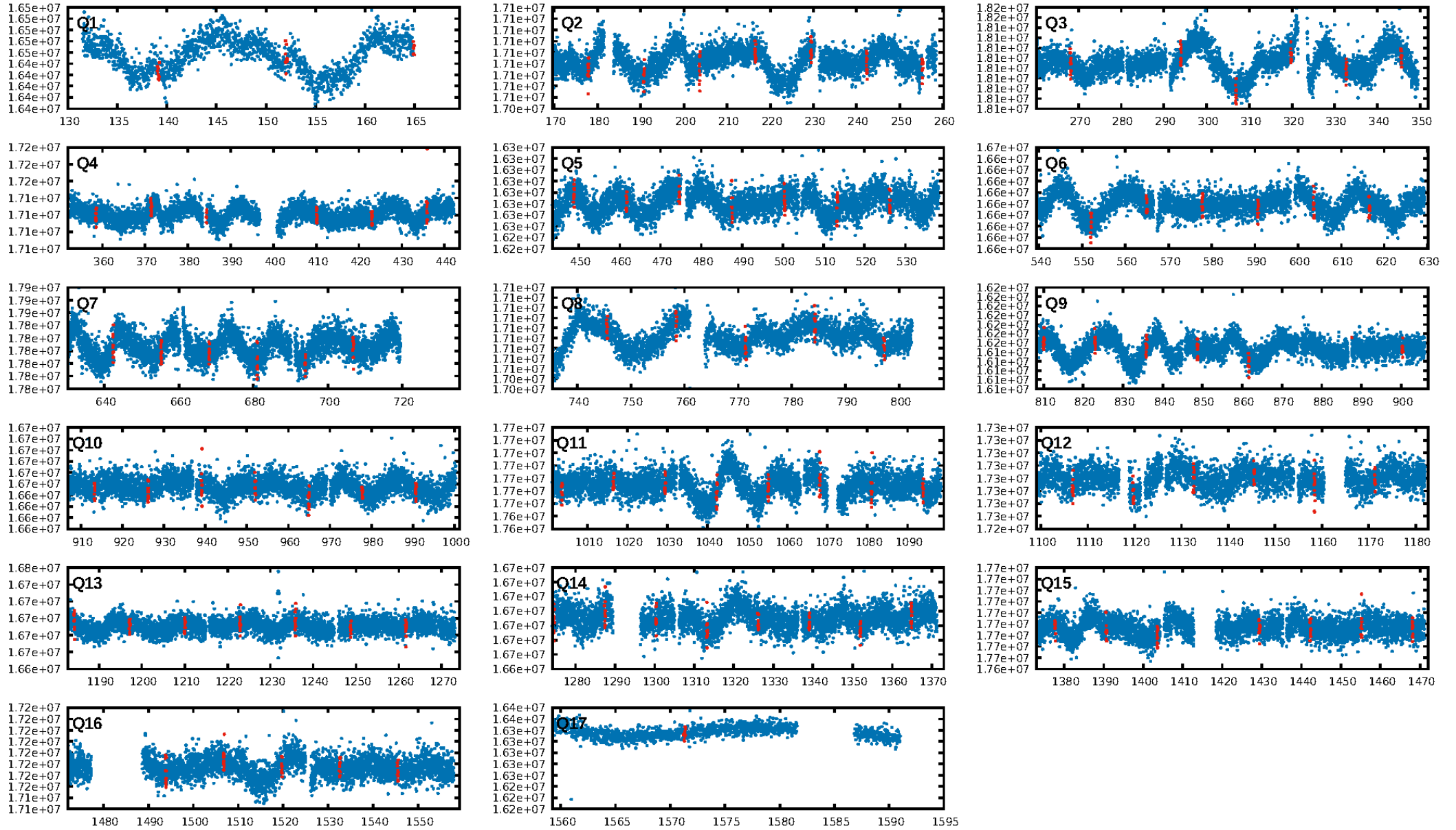
DV Fit Results:

Period = 12.90241 [0.00006] d
Epoch = 139.1480 [0.0041] BKJD
Rp/R* = 0.0199 [0.0107]
a/R* = 21.29 [49.78]
b = 0.86 [0.74]
Seff = 49.12 [14.36]
Teq = 675 [49] K
Rp = 1.71 [0.99] Re
a = 0.1029 [0.0191] AU
Ag = 140.46 [160.83] [0.87 σ]
Teffp = 3593 [1006] K [2.90 σ]

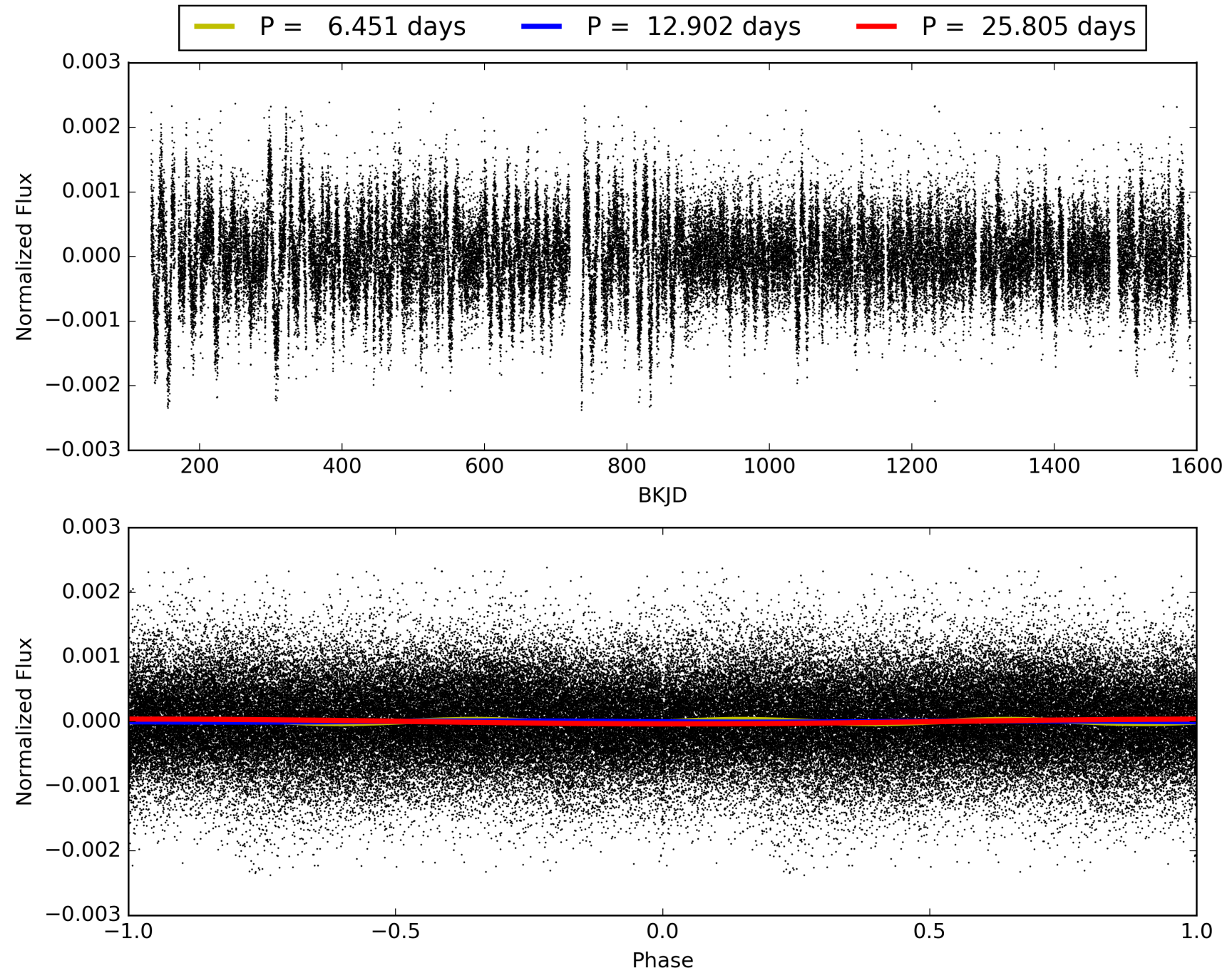
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.34e-42
RollingBand-fgt: 1.00 [97/97]
GhostDiagnostic-chr: -38.08
Centroid-sig: 0.0%
Centroid-so: 2.102 arcsec [2.87 σ]
OotOffset-rm: 0.516 arcsec [0.73 σ]
KicOffset-rm: 0.690 arcsec [1.18 σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008824737-01, PDC Light Curves

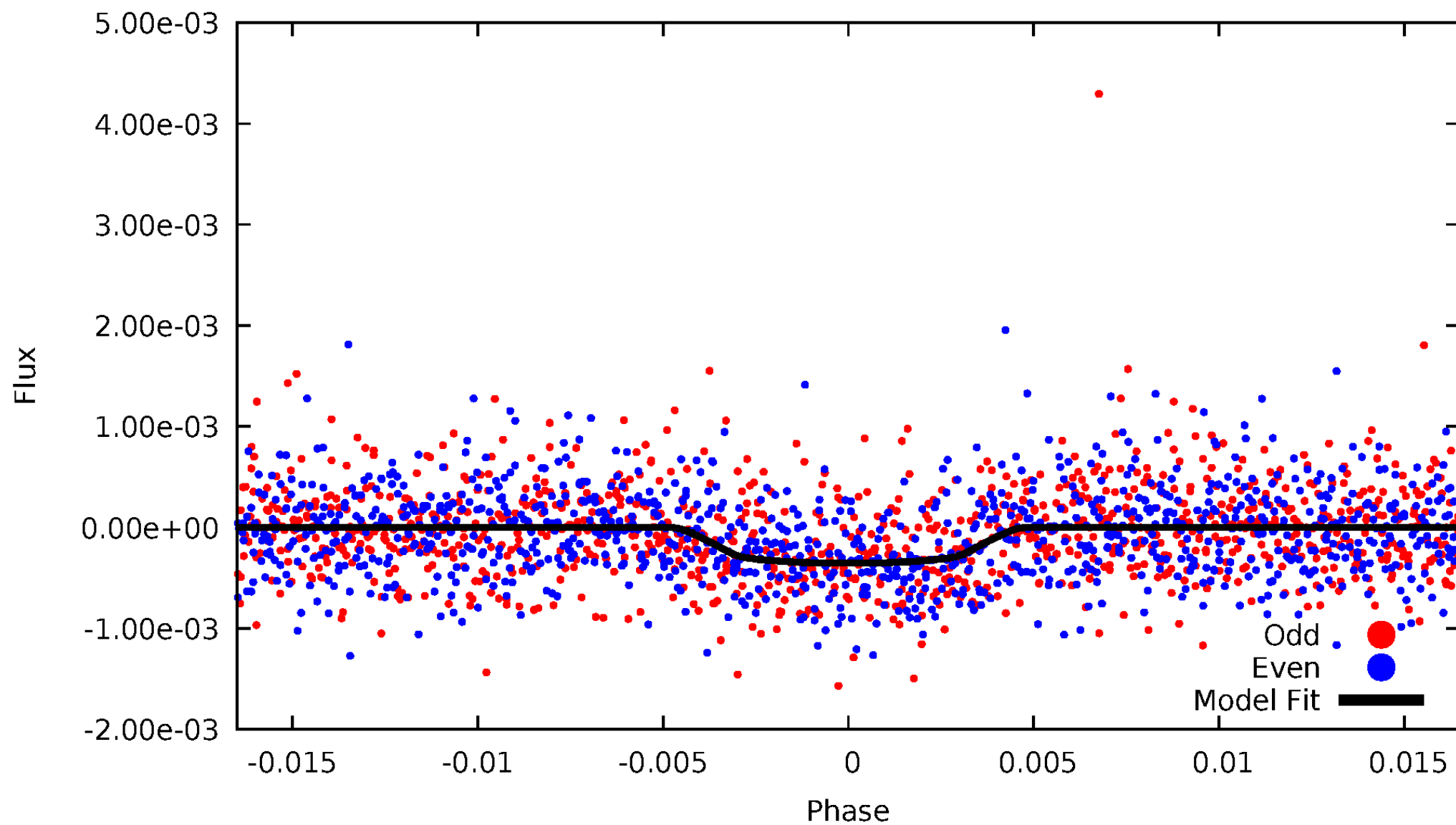


TCE 008824737-01



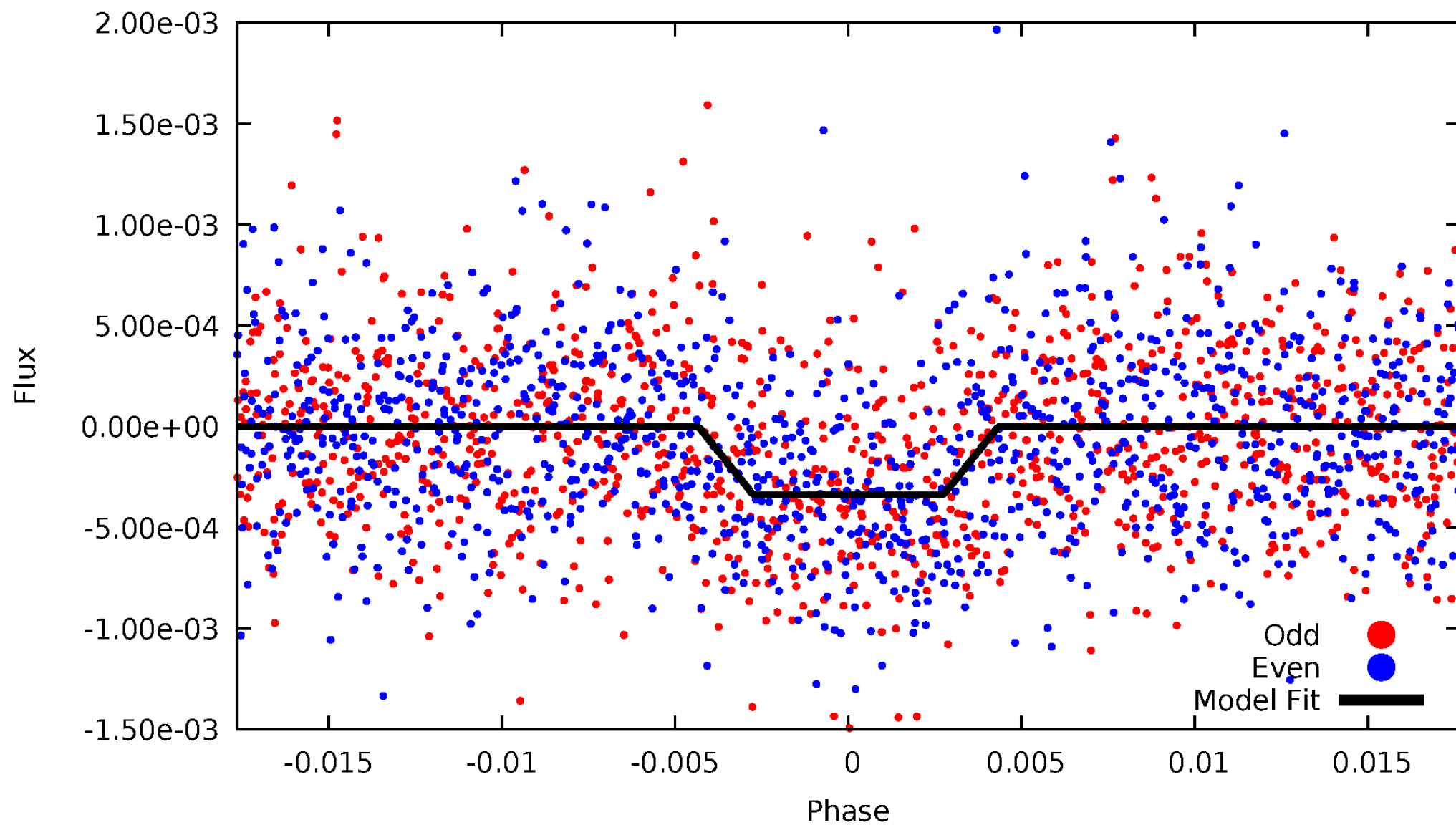
DV Odd/Even

TCE 008824737-01



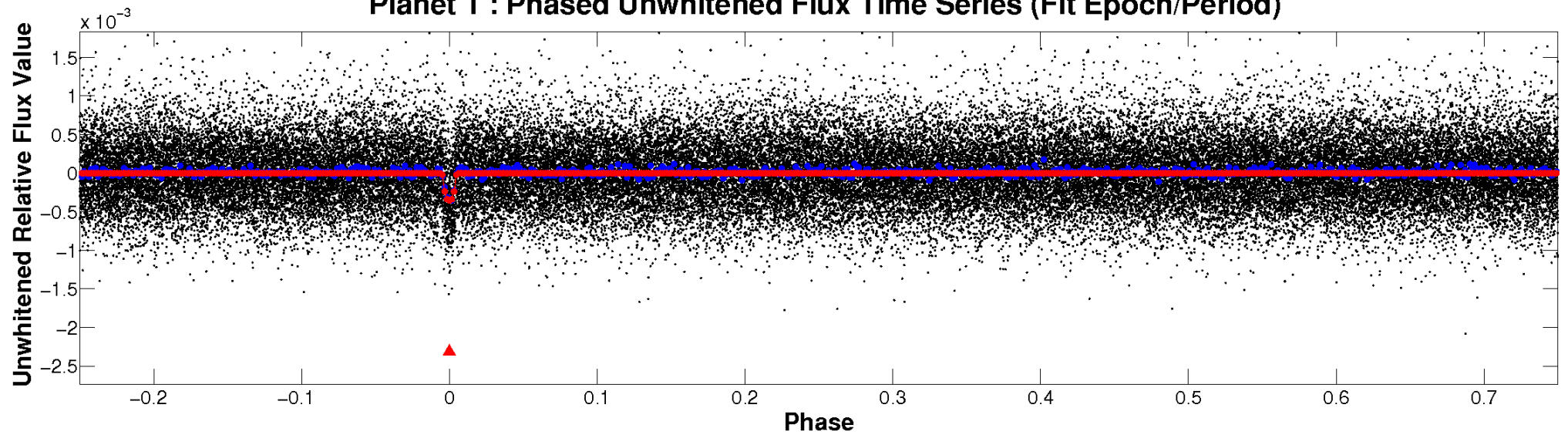
ALT Odd/Even

TCE 008824737-01

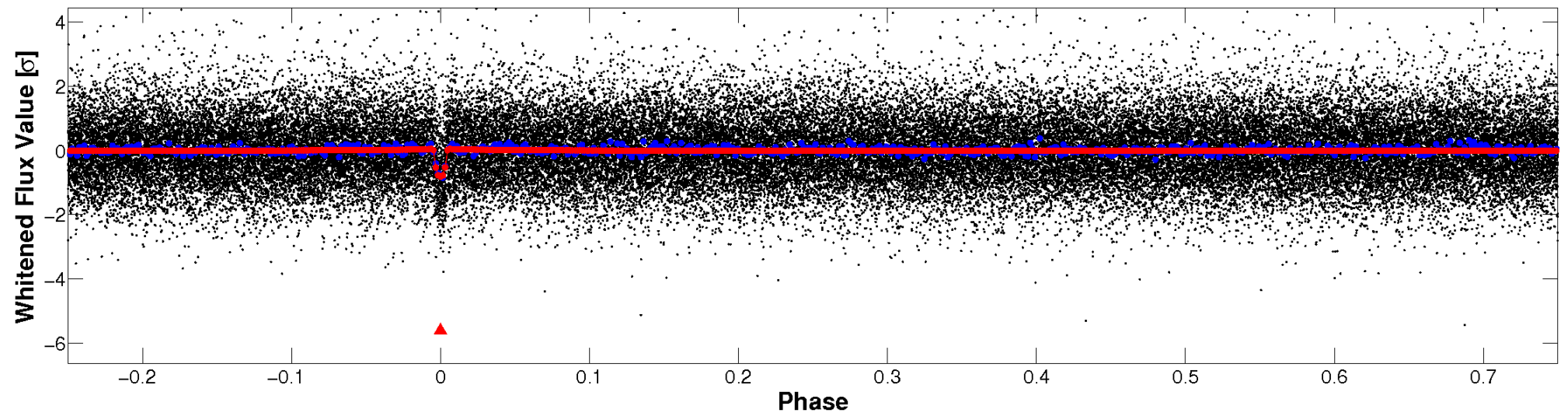


Non-Whitened Vs. Whitened Light Curve

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

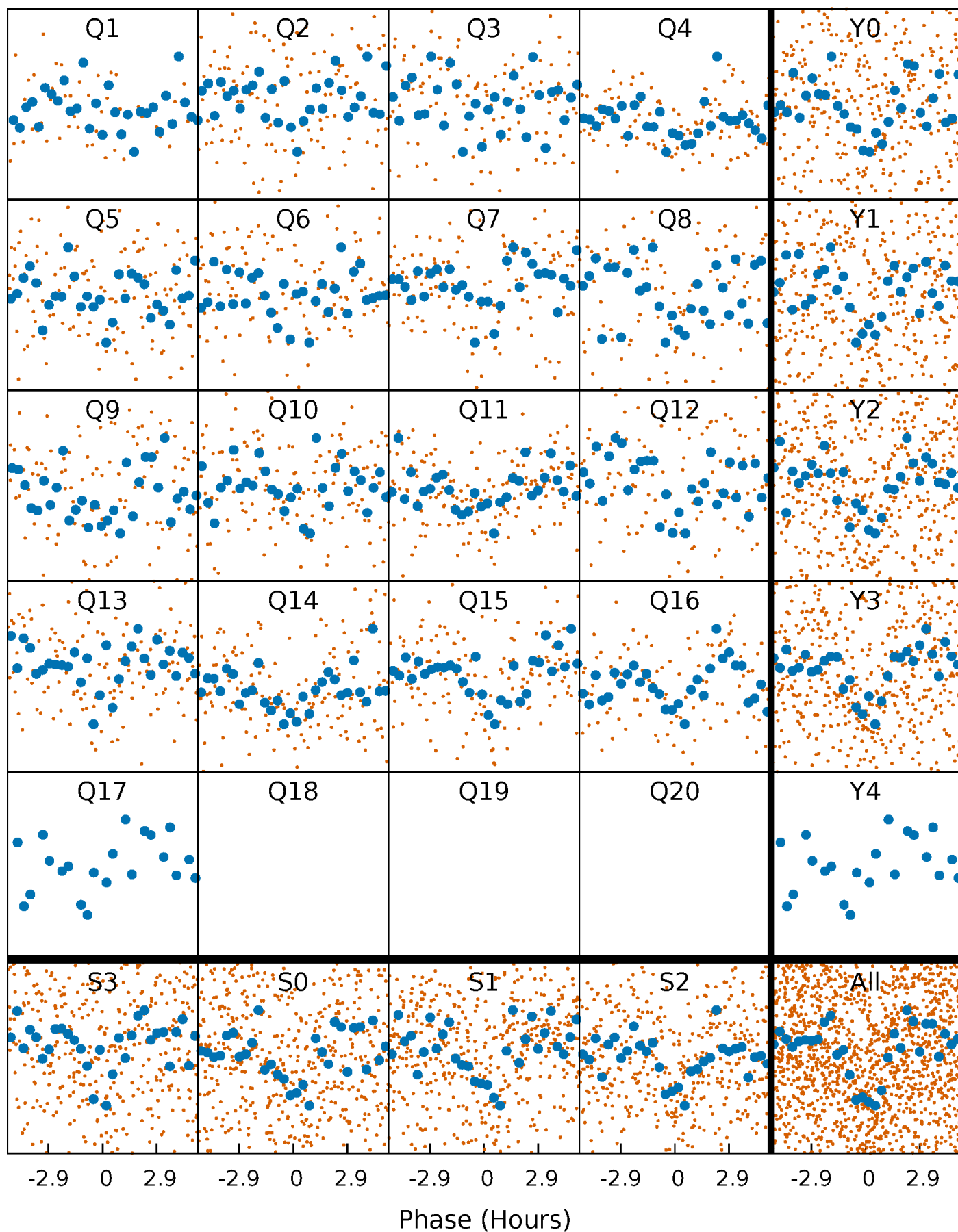


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



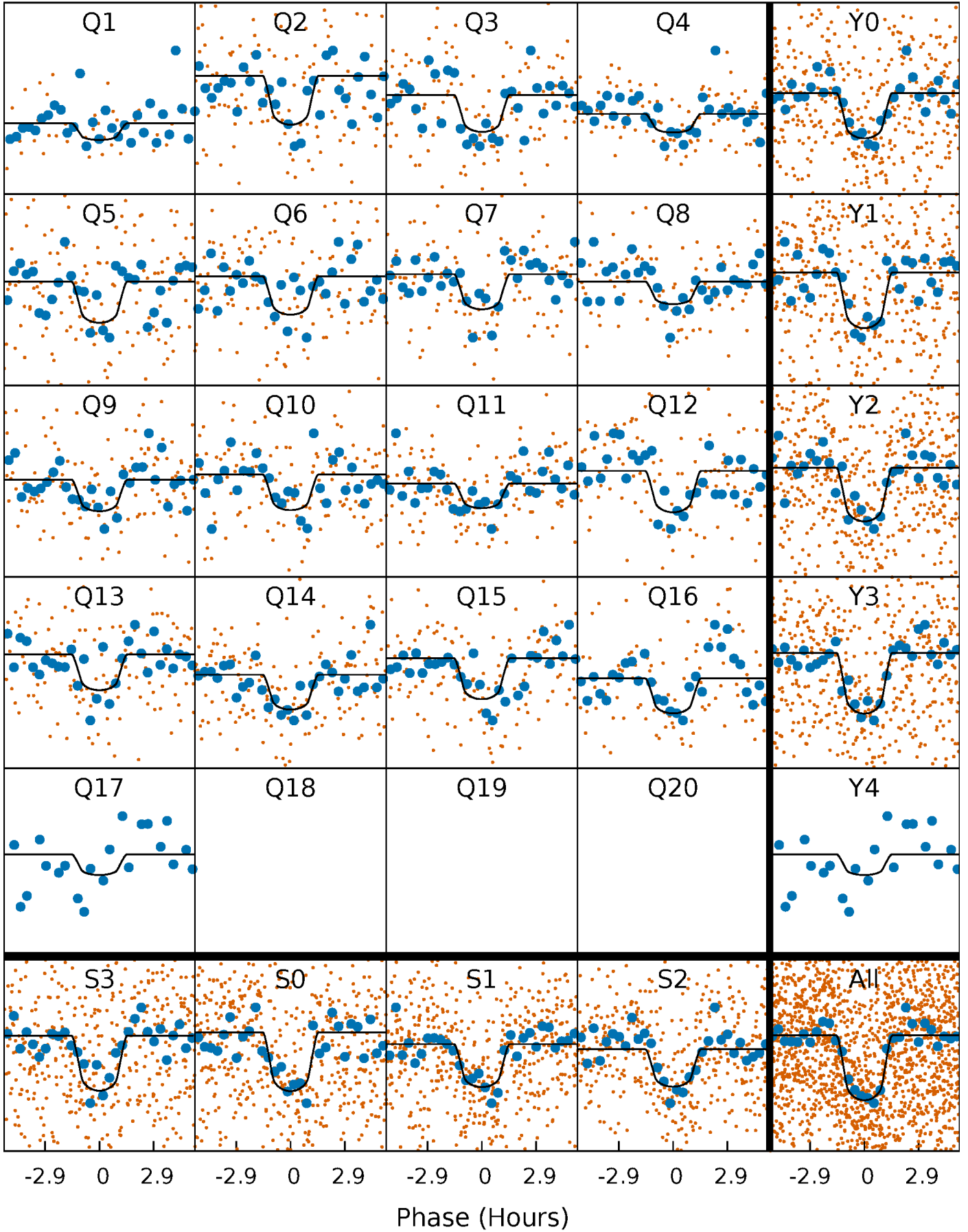
PDC Quarter-Phased Transit Curves

TCE 008824737-01 P= 12.902409 Days $T_0=139.148041$ (BKJD)



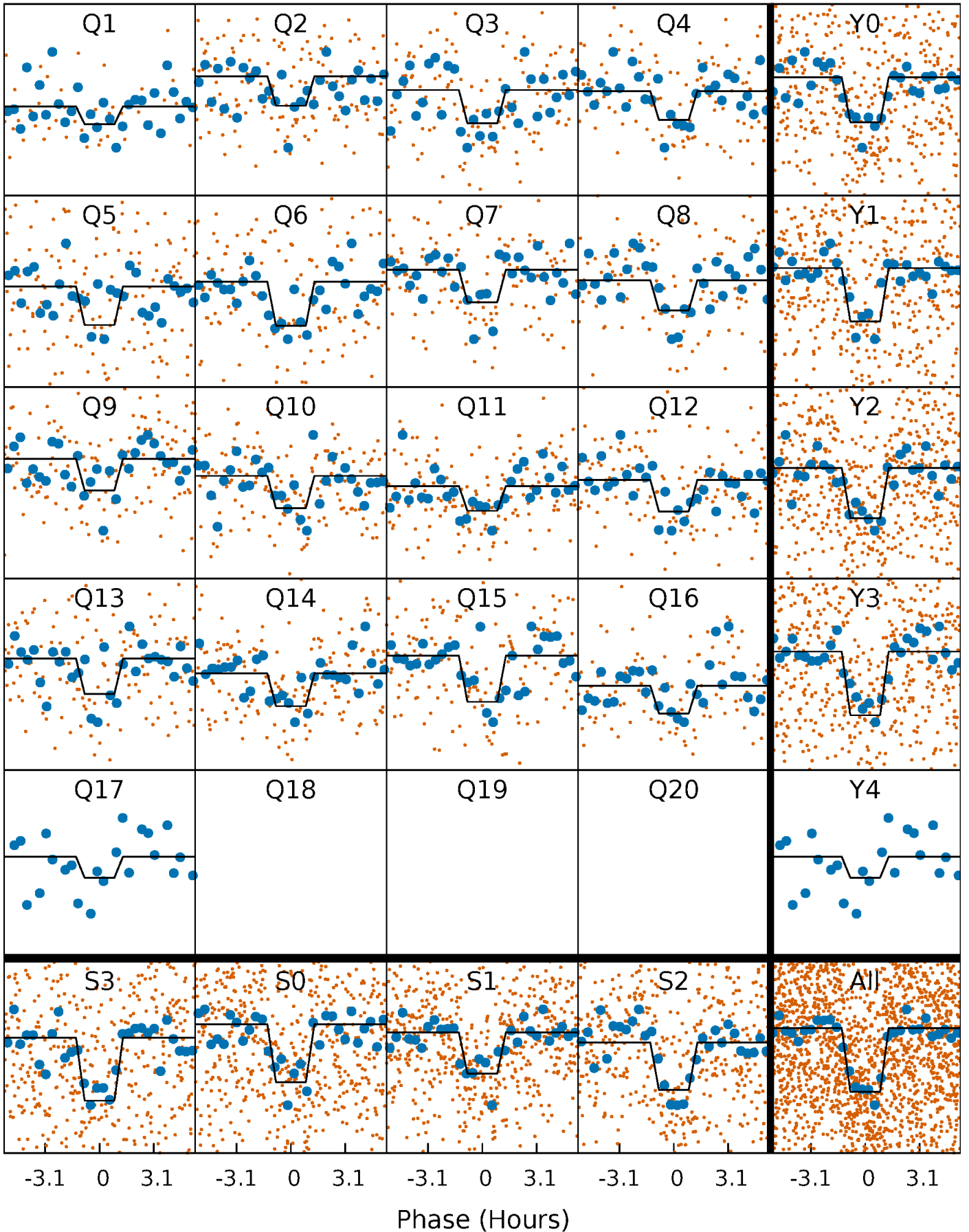
DV Quarter-Phased Transit Curves

TCE 008824737-01 P= 12.902409 Days $T_0=139.148041$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

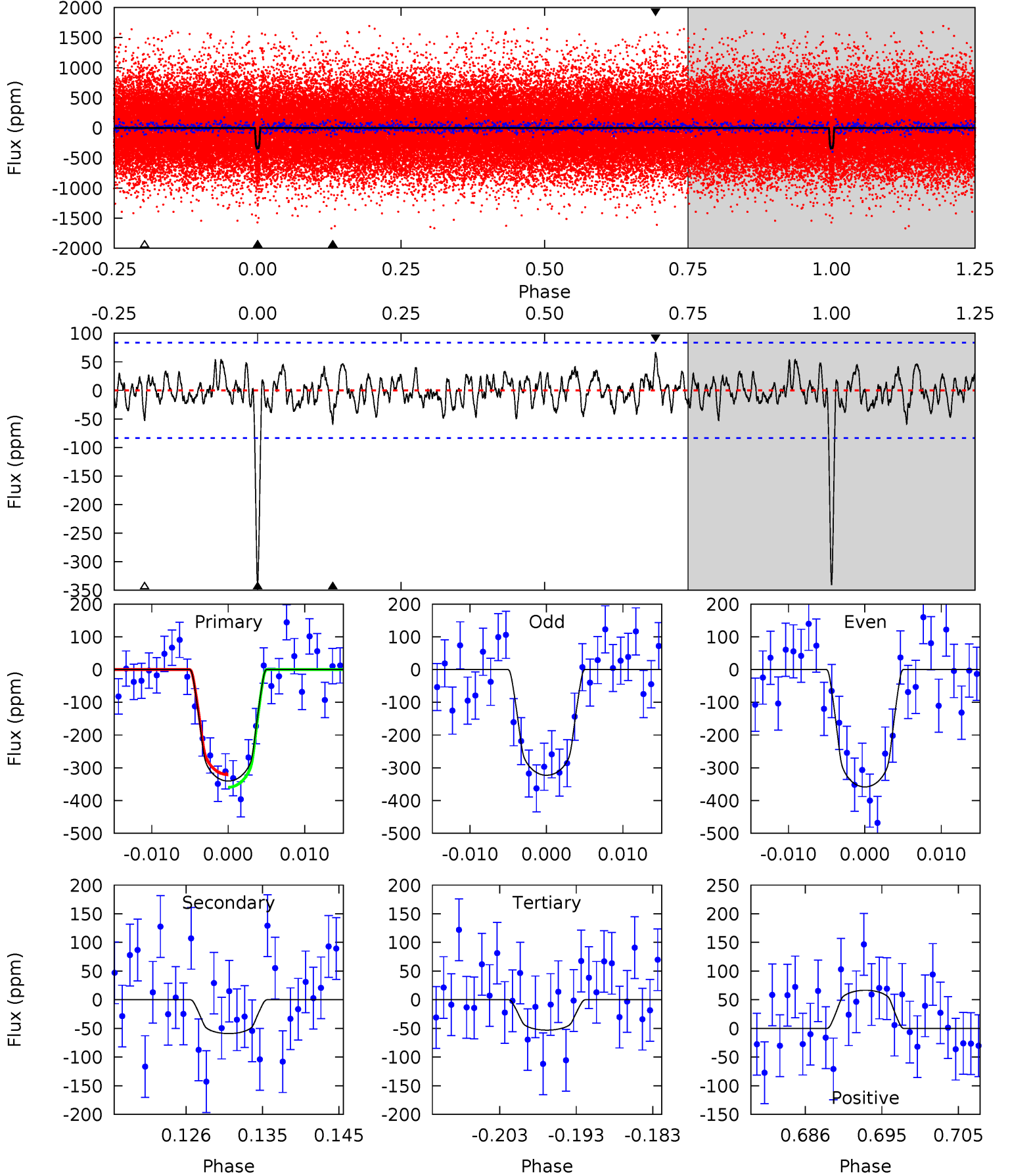
TCE 008824737-01 P= 12.902278 Days $T_0=139.155648$ (BKJD)



DV Model-Shift Uniqueness Test

008824737-01, P = 12.902409 Days, E = 126.245632 Days

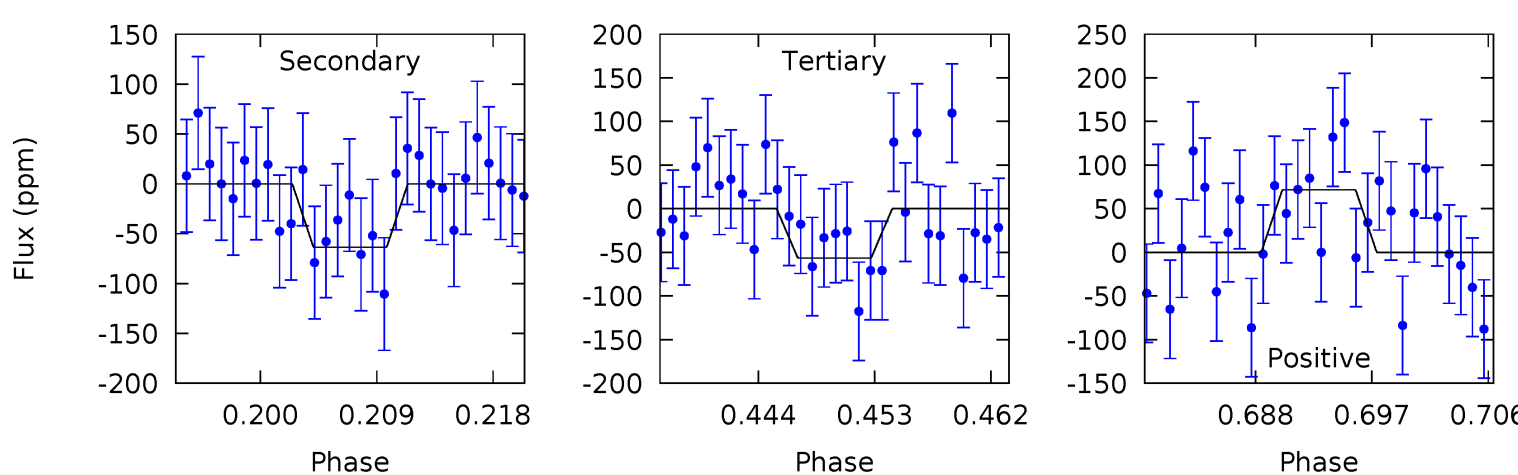
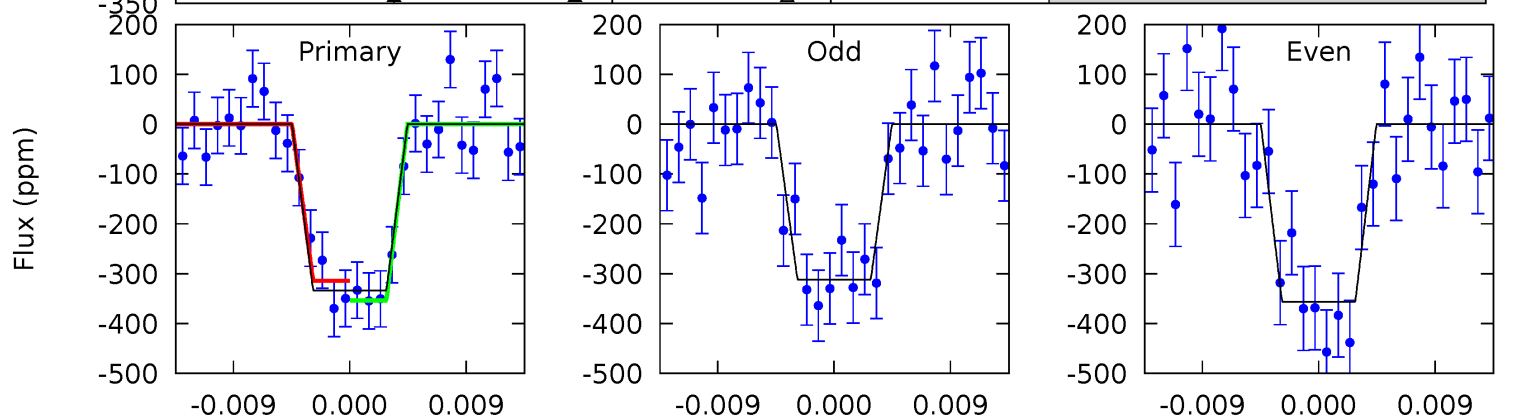
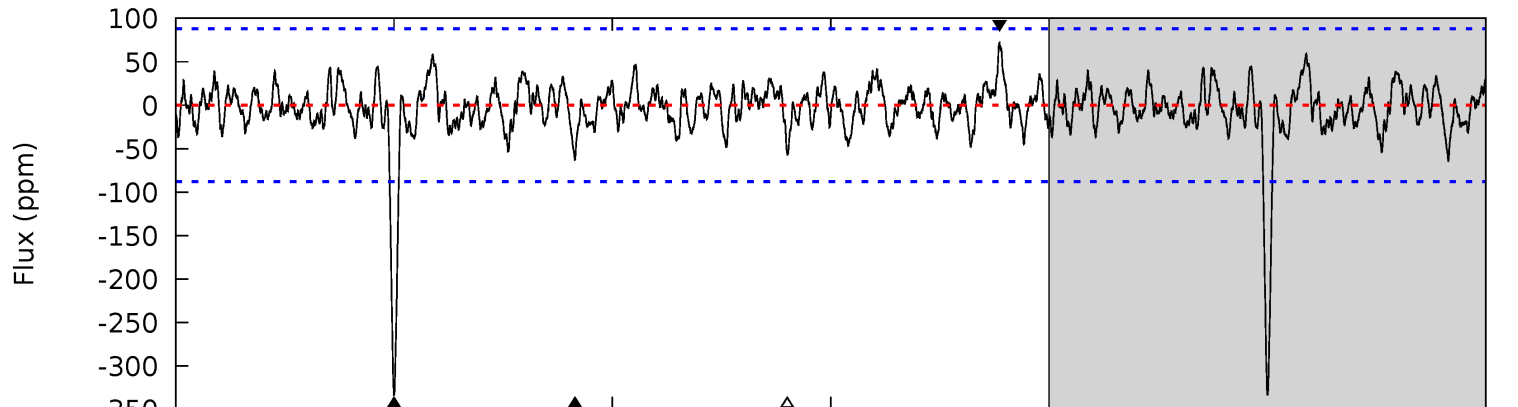
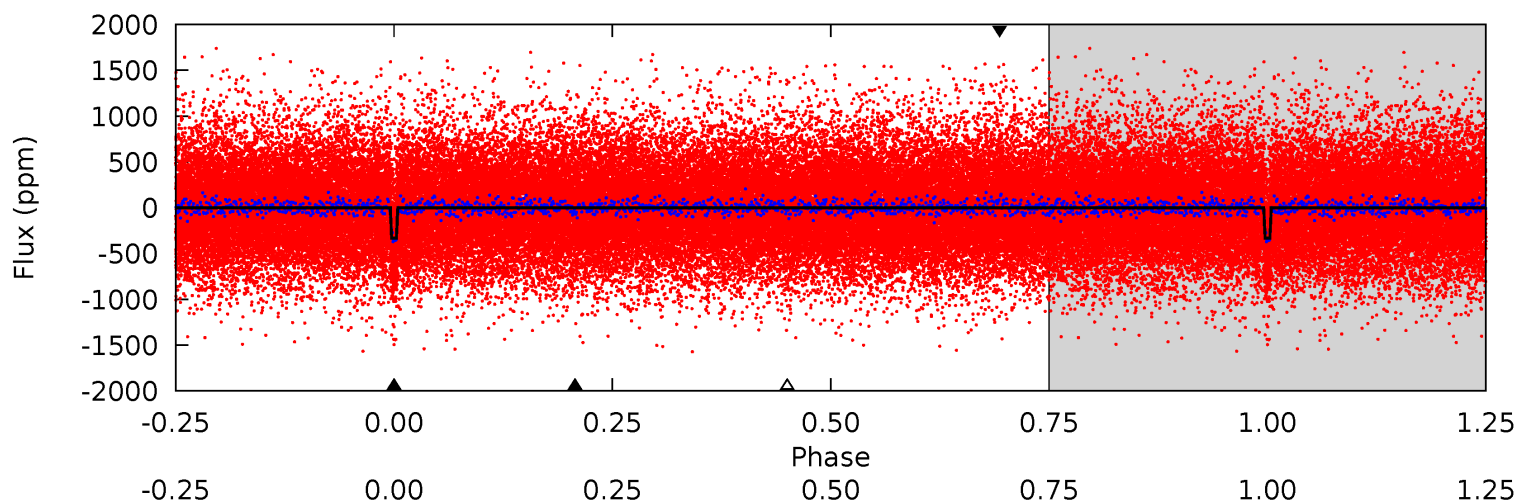
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	3.56	3.19	4.01	5.03	2.59	1.22	17.3	16.5	0.37	-0.46	1.07	0.98	0.16	1.16



Alt Model-Shift Uniqueness Test

008824737-01, $P = 12.902278$ Days, $E = 126.253370$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	3.65	3.25	4.12	5.05	2.62	1.13	15.9	15.0	0.40	-0.47	1.27	0.90	0.18	1.13



Stellar Parameters For KIC 008824737

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5530^{+166}_{-166}	$4.586^{+0.036}_{-0.144}$	$-0.220^{+0.300}_{-0.300}$	$0.788^{+0.176}_{-0.070}$	$0.882^{+0.083}_{-0.102}$	$2.542^{+0.483}_{-1.088}$
	+3%/-3%	+1%/-3%	+136%/-136%	+22%/-9%	+9%/-12%	+19%/-43%
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 008824737-01 / KOI 3347.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 17	$1.77^{+0.94}_{-0.86}$	961^{+54}_{-40}	3798^{+983}_{-531}	109^{+271}_{-67}
Alt.	-64 ± 17	$1.67^{+0.97}_{-0.80}$	964^{+48}_{-44}	3909^{+1157}_{-548}	130^{+364}_{-81}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

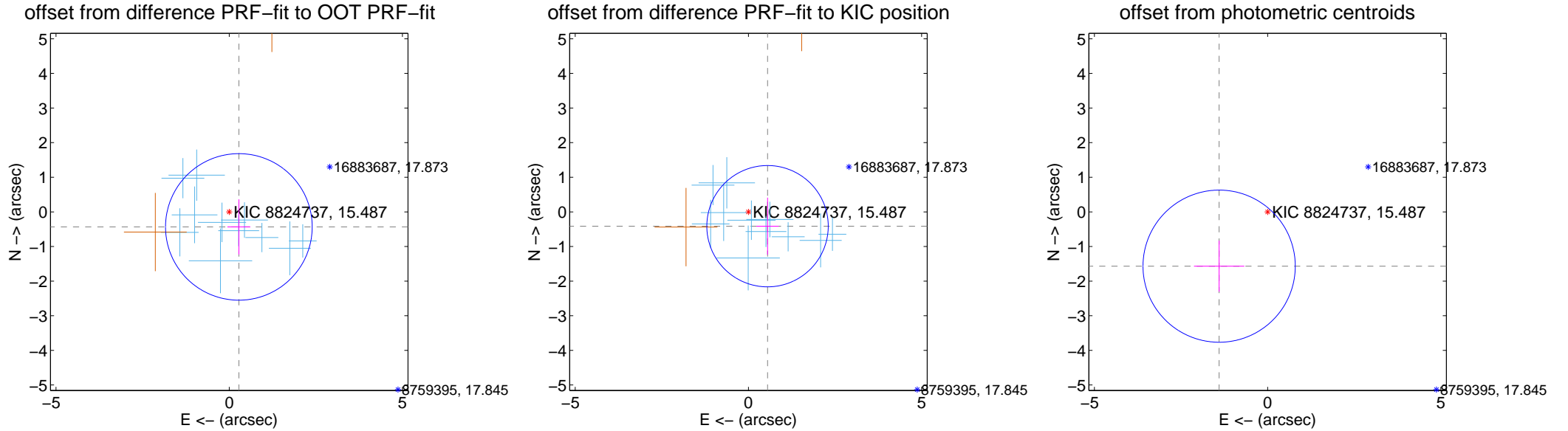
DV Centroid Data

Supplemental centroid analysis for 008824737-01. Kepler magnitude: 15.49. Transit SNR 15.33

There are 11 quarters with good PRF difference image offsets

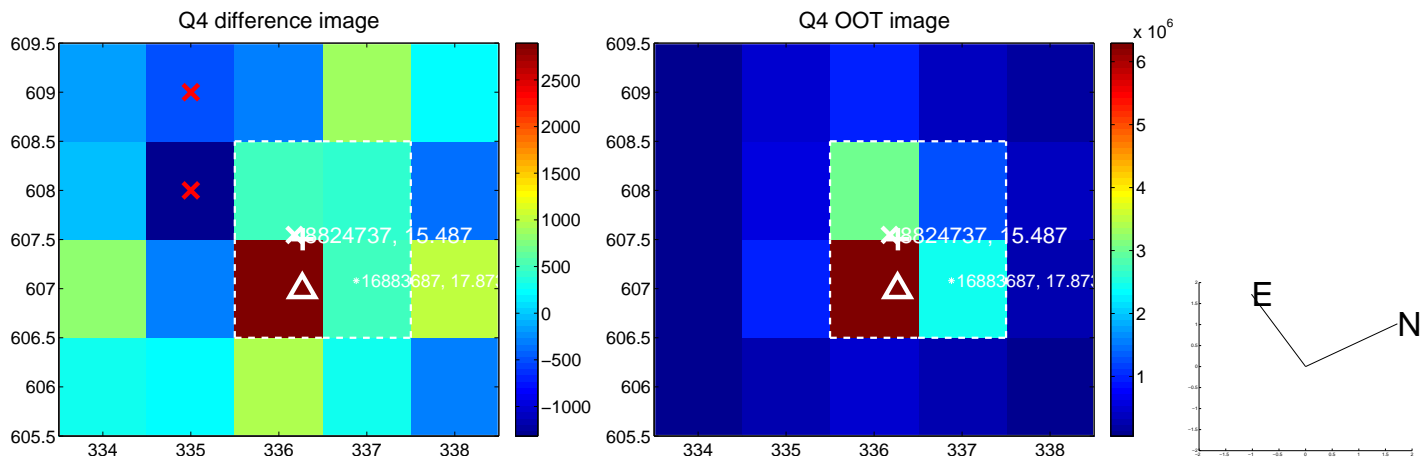
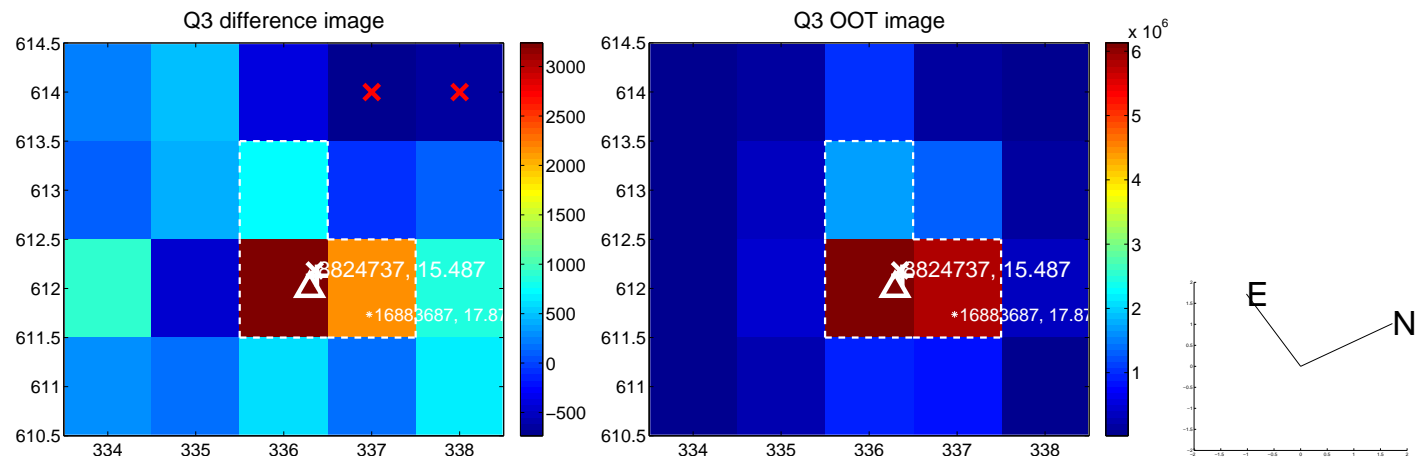
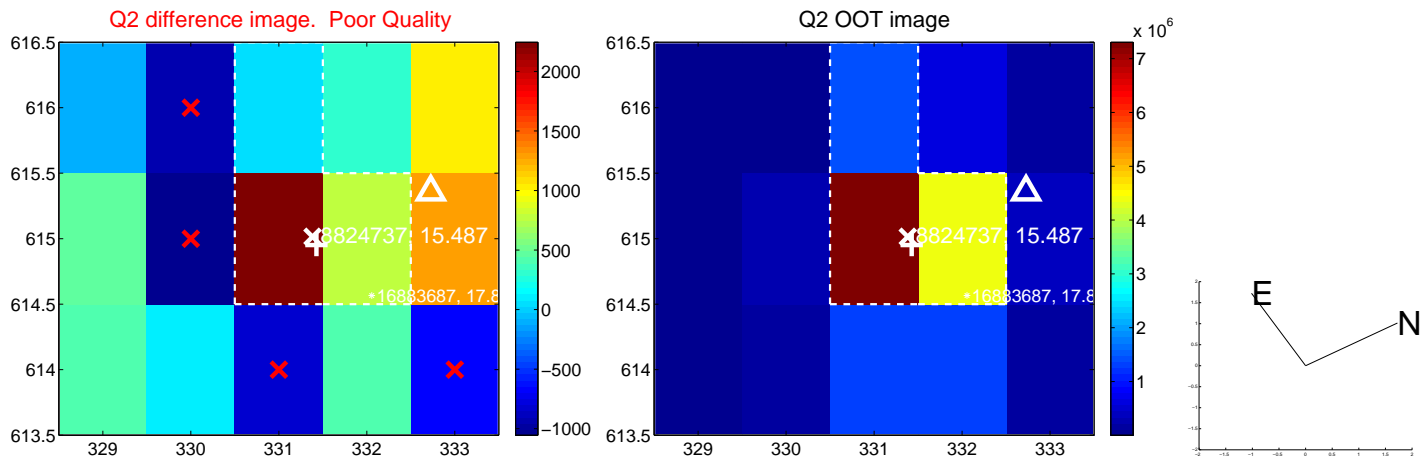
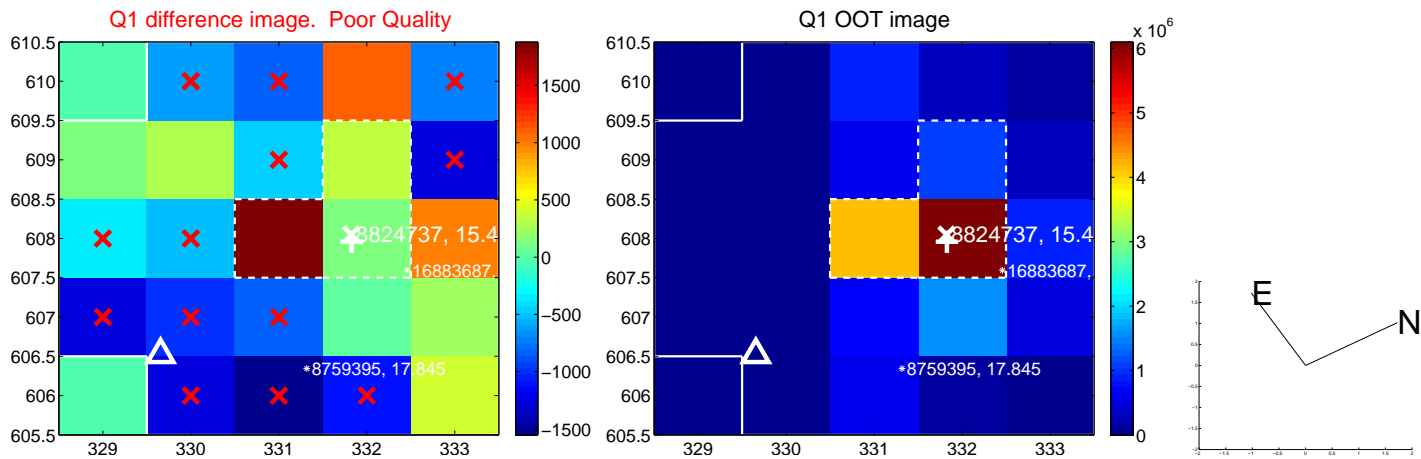
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.516 ± 0.706	0.73	-0.279 ± 0.332	-0.434 ± 0.796
PRF-fit source offset from KIC position	0.690 ± 0.584	1.18	-0.552 ± 0.321	-0.413 ± 0.824
photometric centroid source offset	2.10 ± 0.73	2.87	1.40 ± 0.73	-1.57 ± 0.74

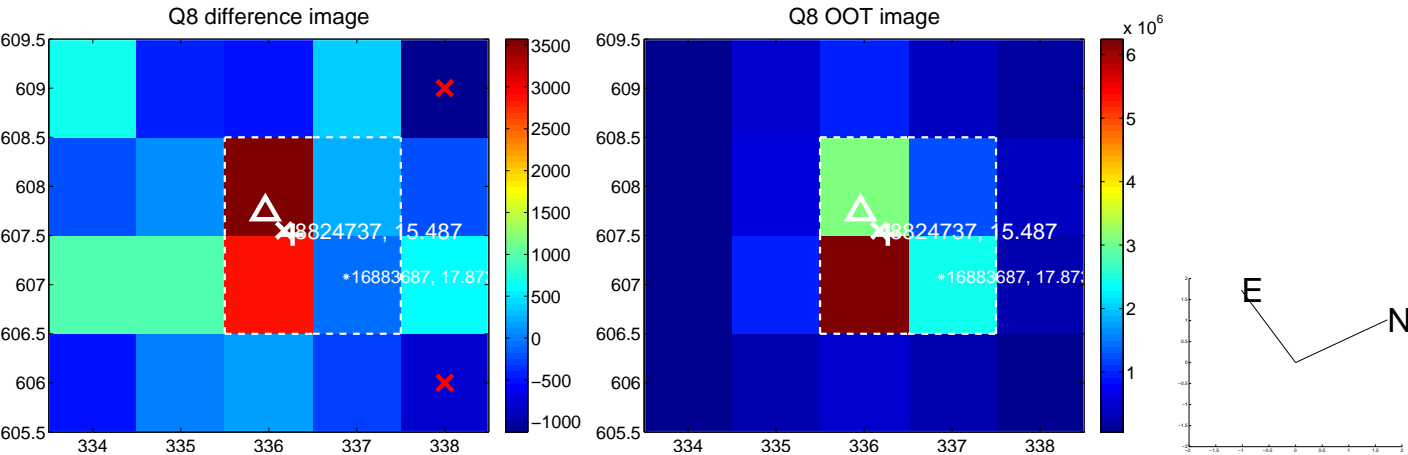
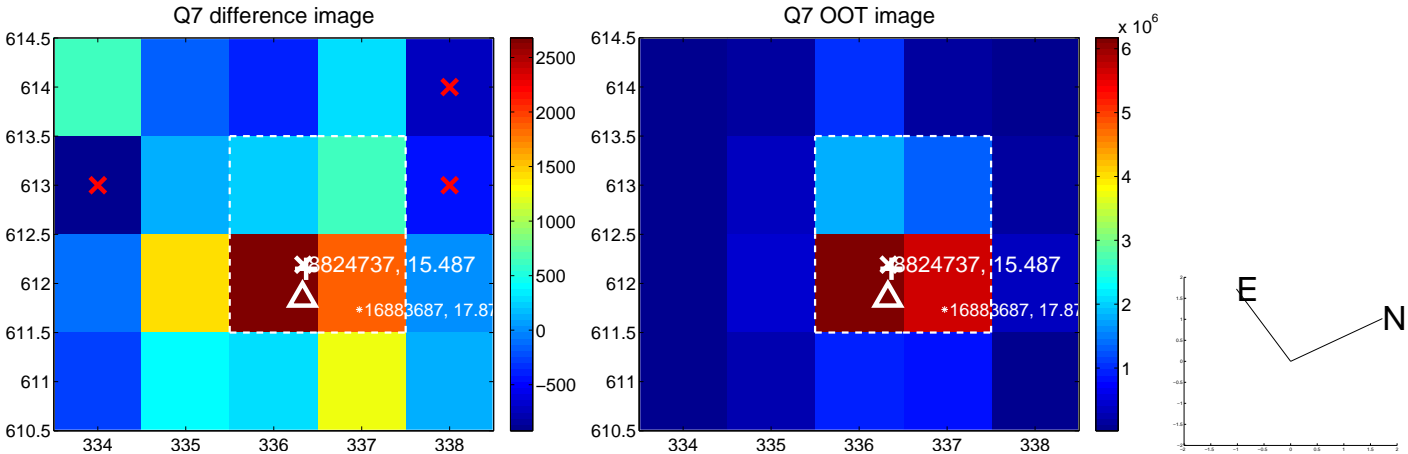
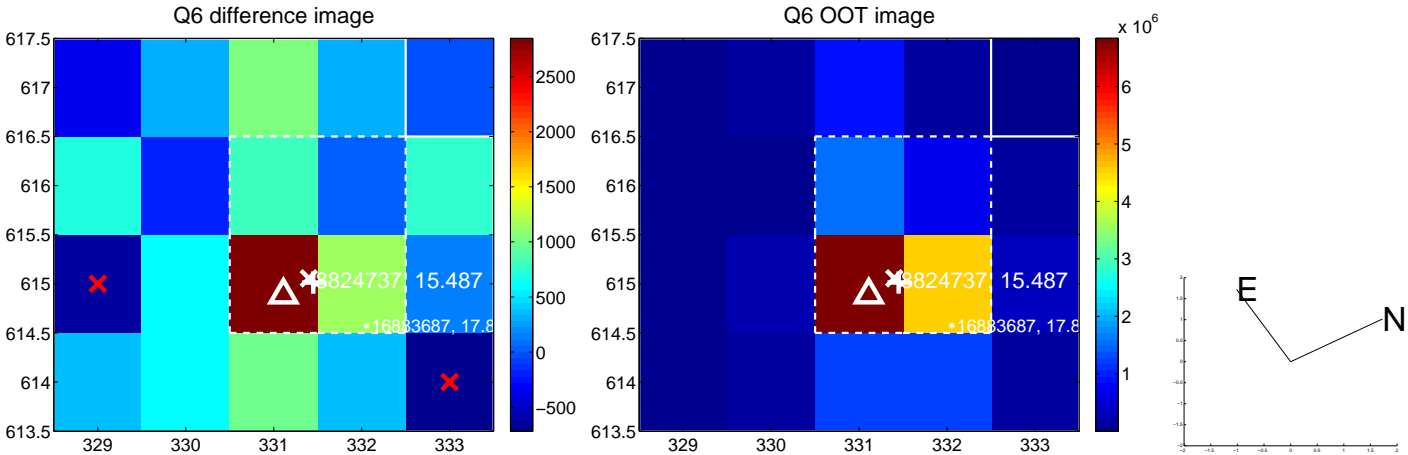
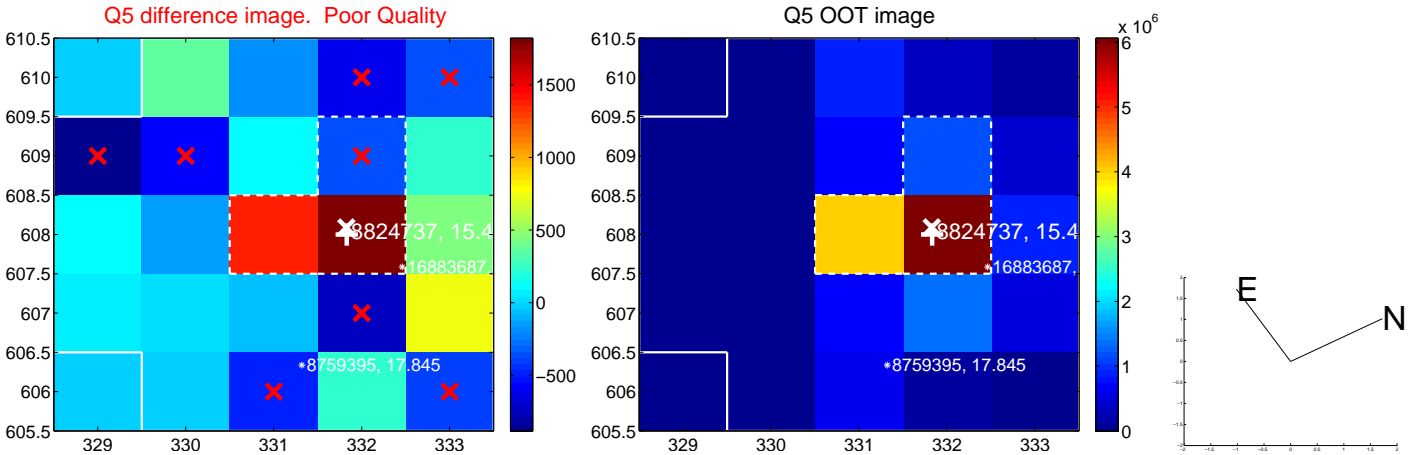


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

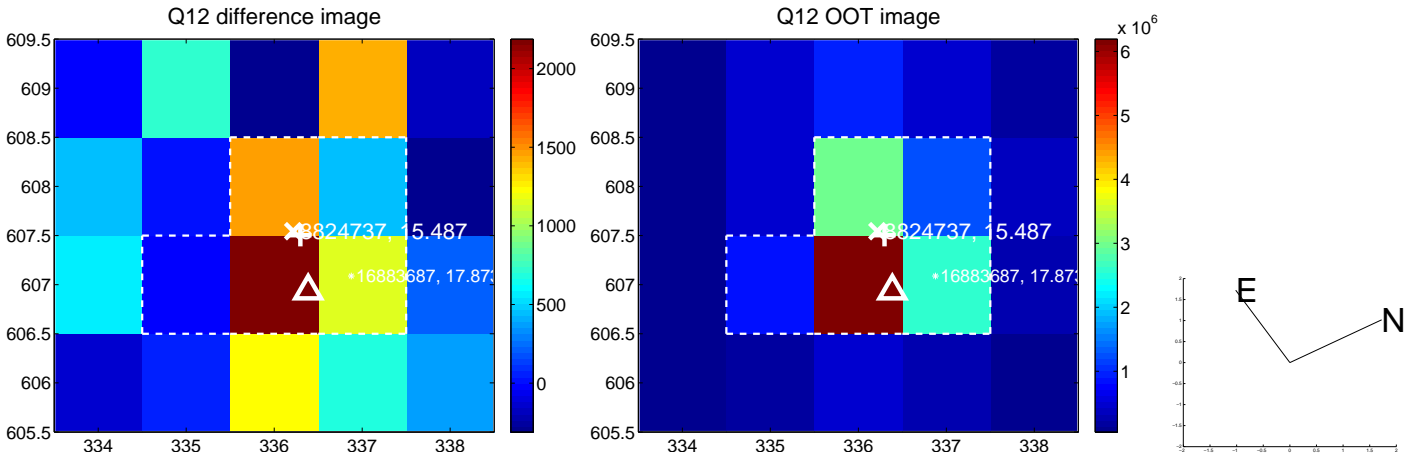
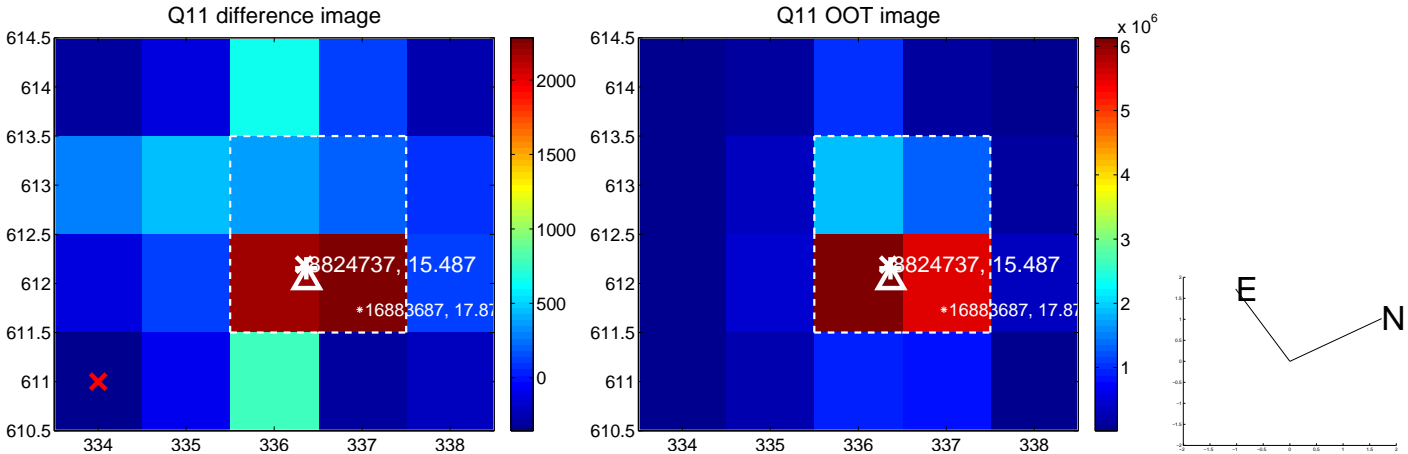
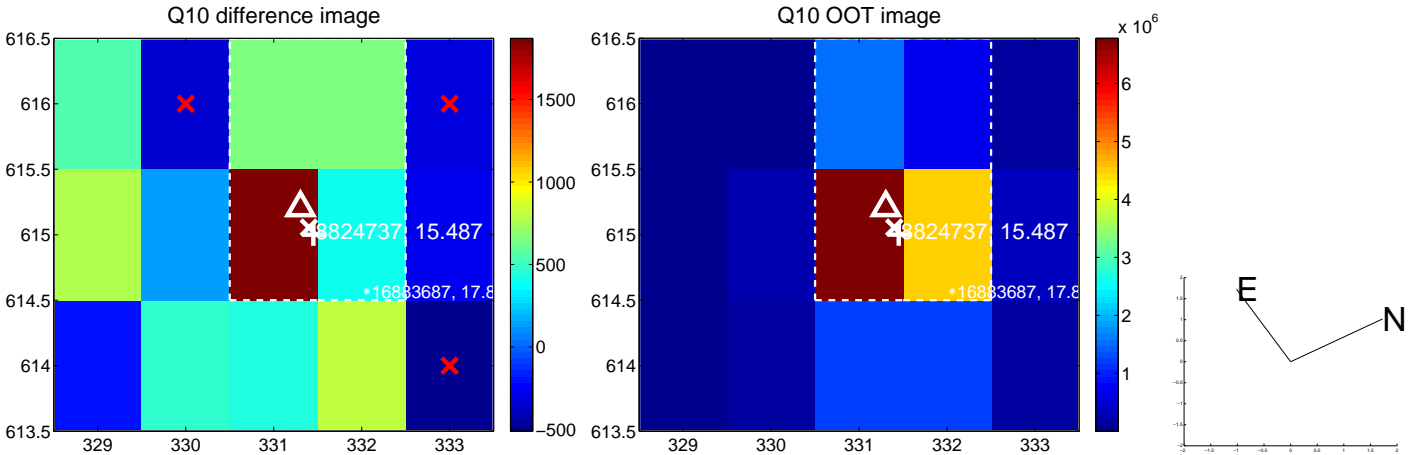
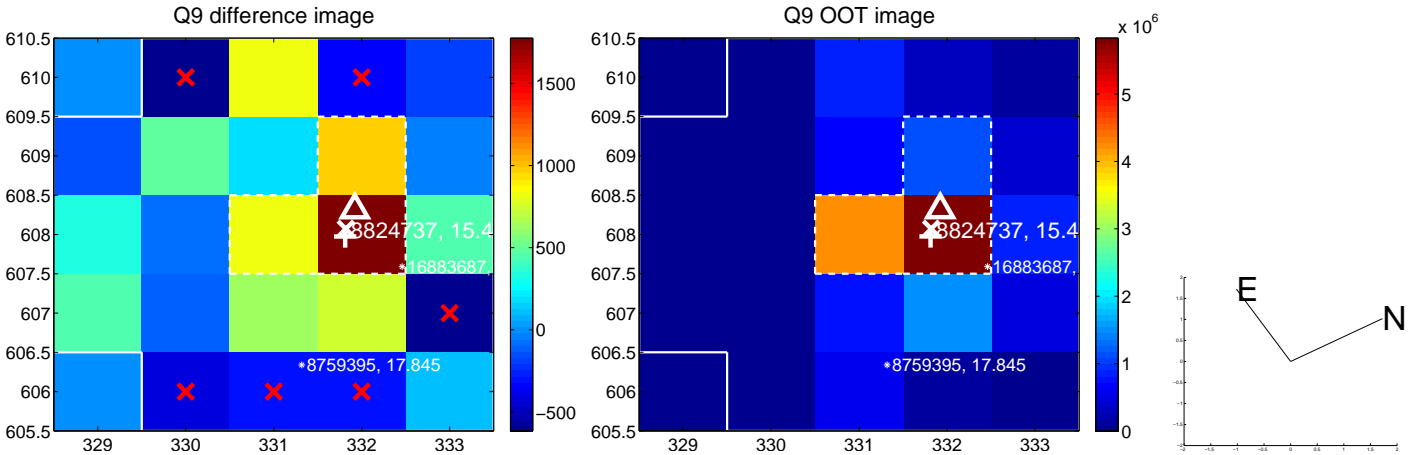
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



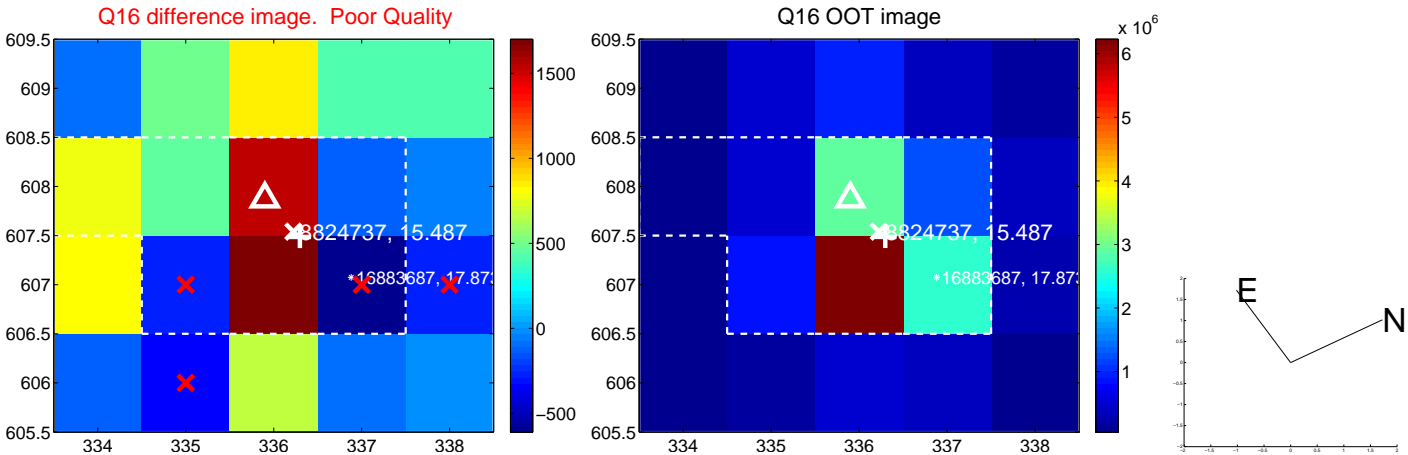
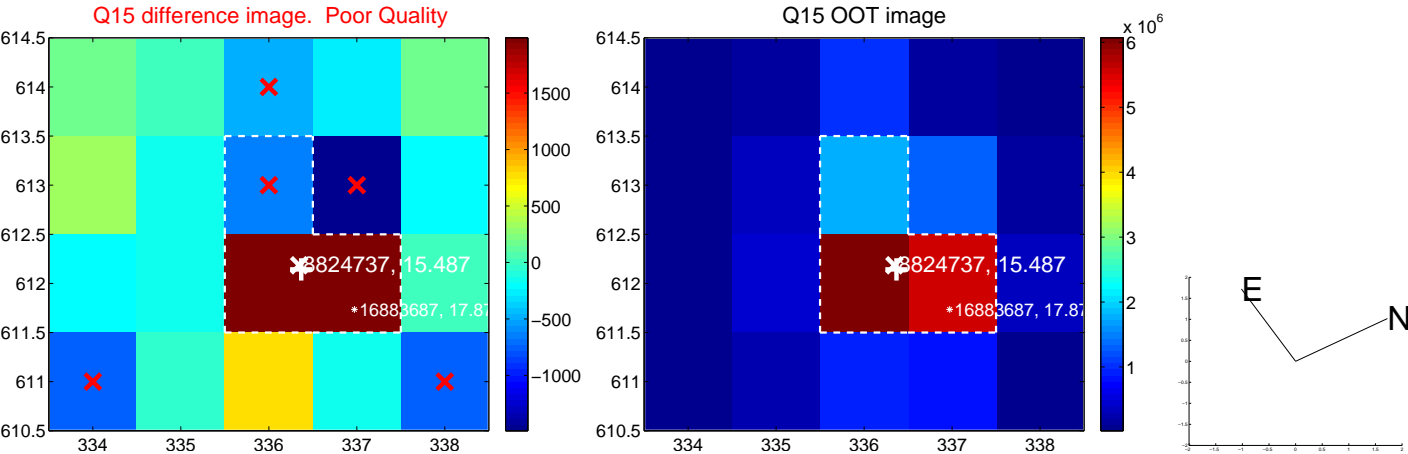
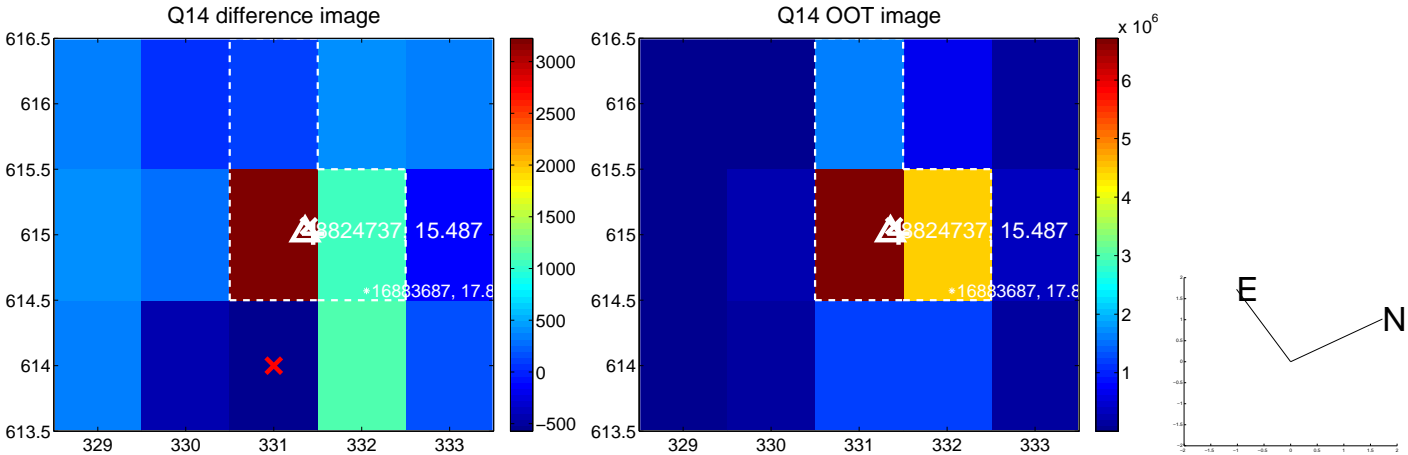
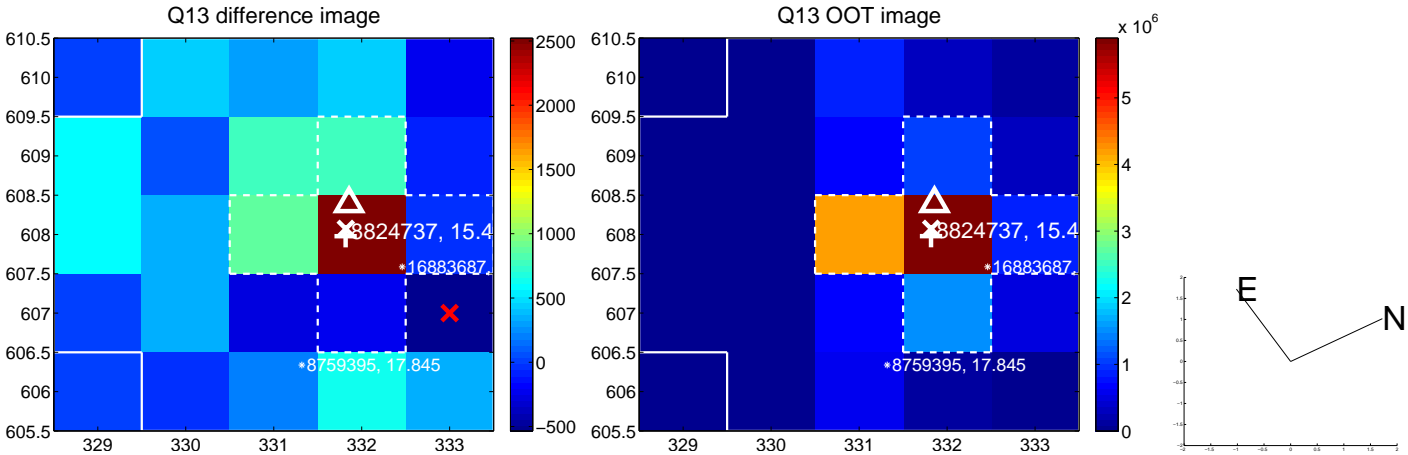
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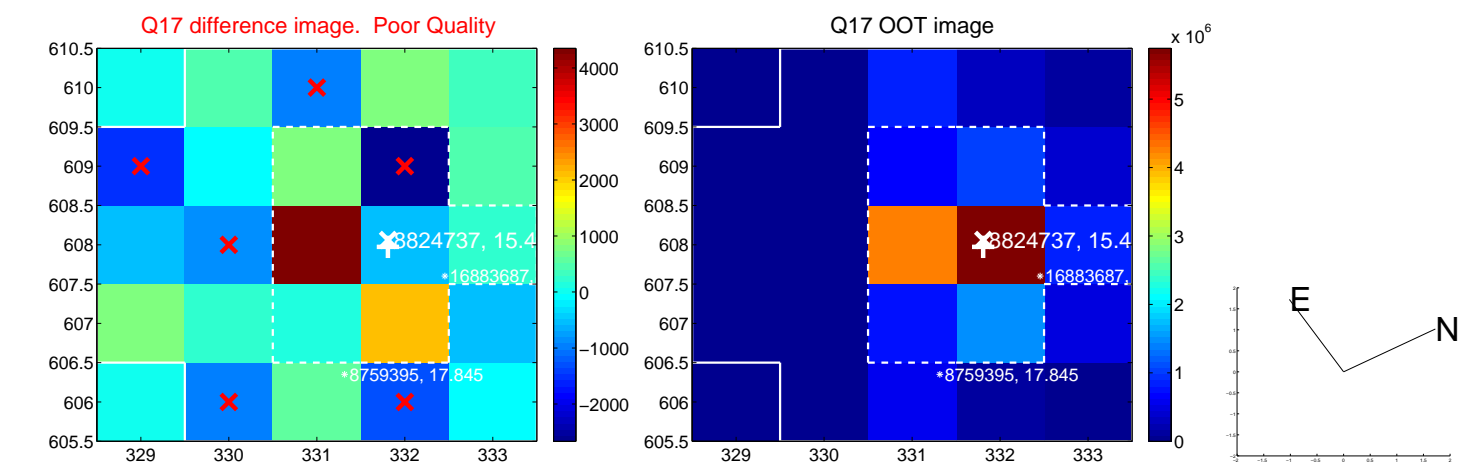
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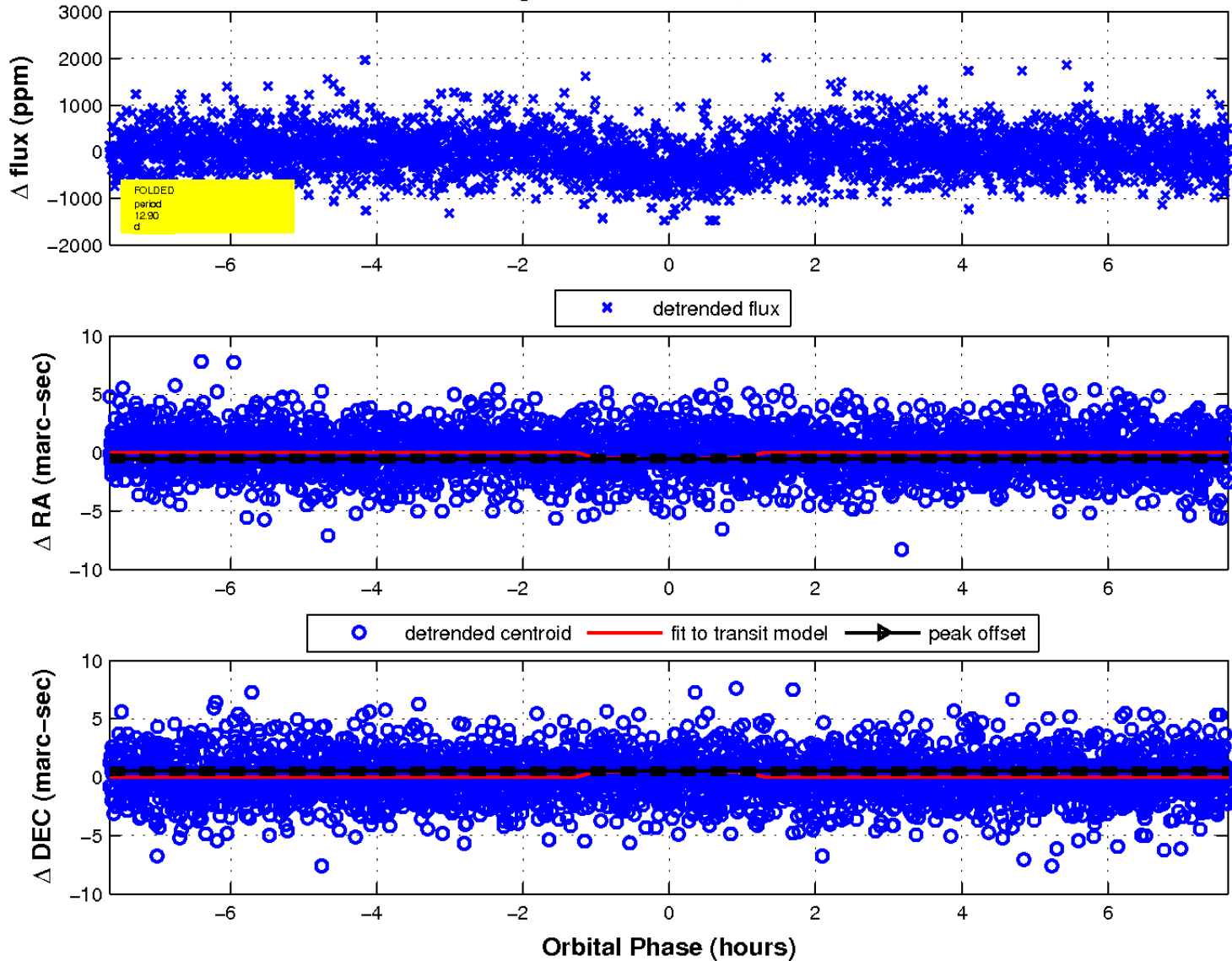
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

