

KIC 004664847

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})
004664847-01	OBS	0816.01	7.748083	136.257579	2460.1	3.714	106.3	109.0	1.08	5973	5.85	204.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004664847-01	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.

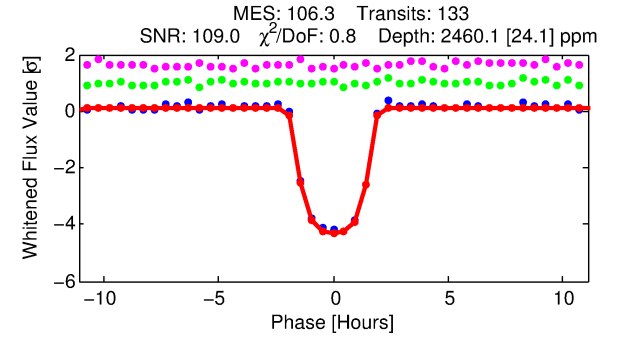
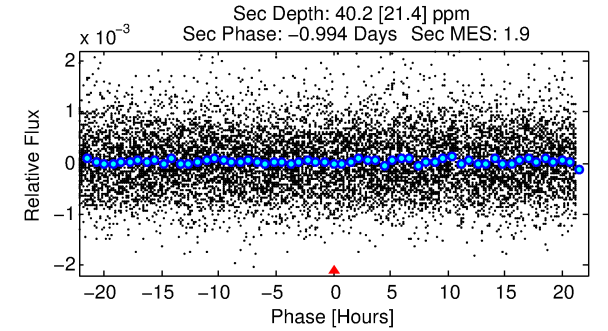
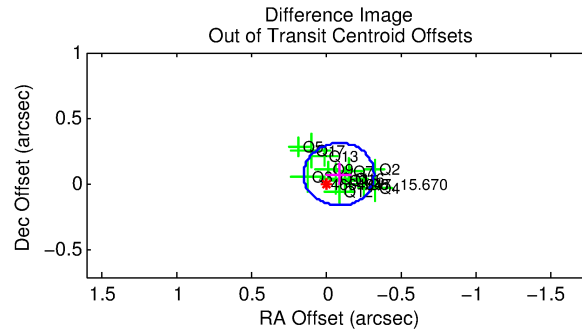
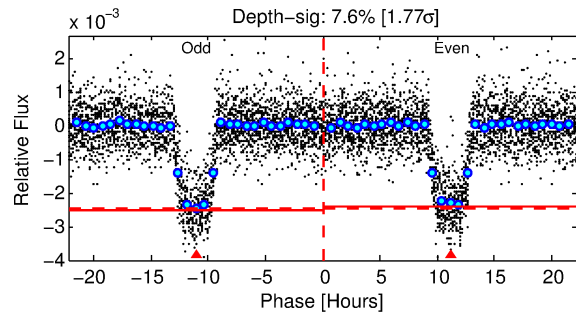
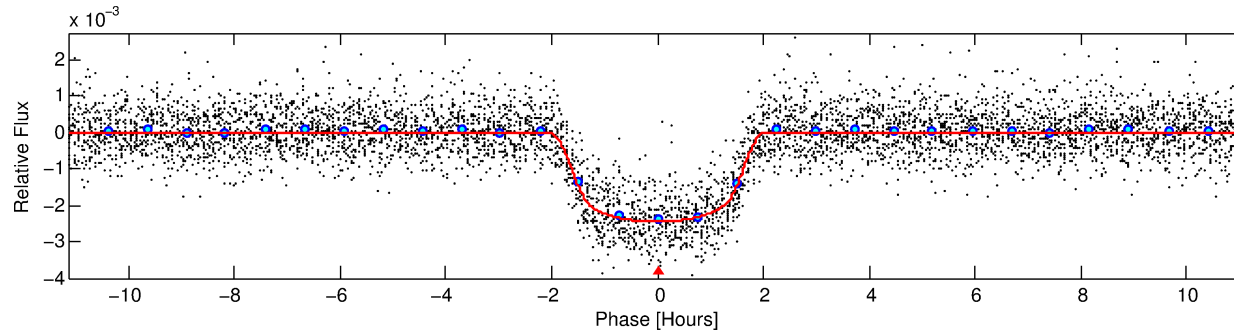
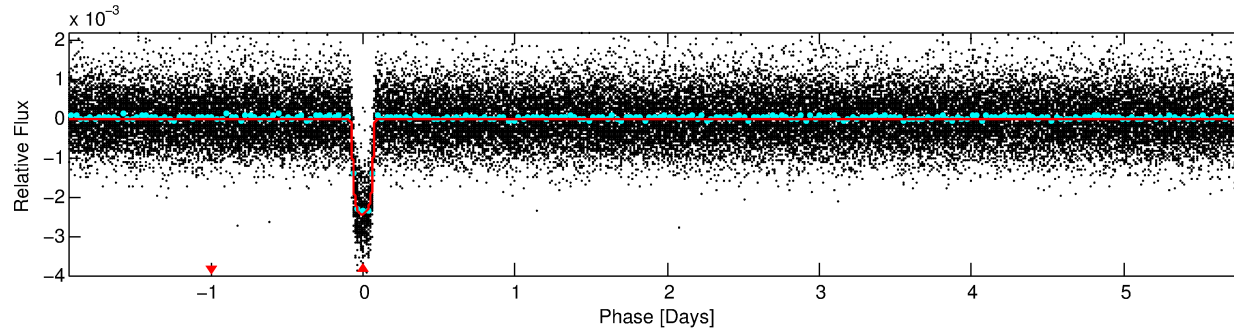
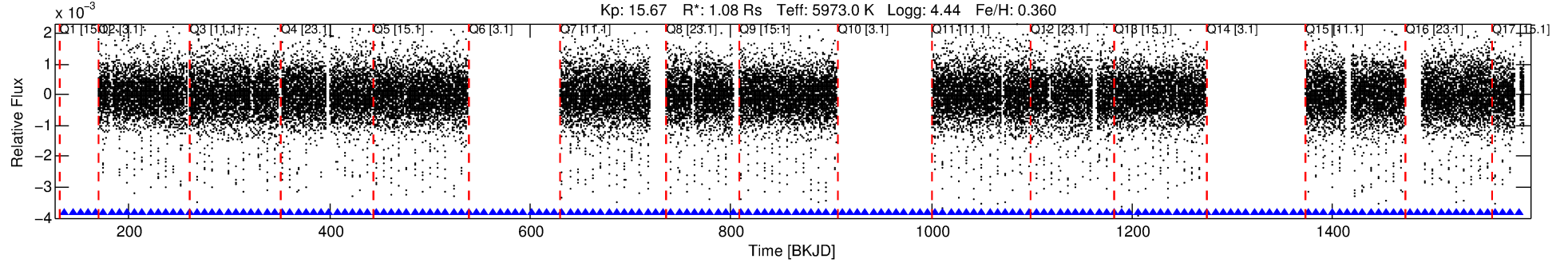
Ephemeris Match Information For 004664847-01

No Significant Match Found

DV One-Page Summary

KIC: 4664847 Candidate: 1 of 1 Period: 7.748 d
KOI: K00816.01 Corr: 0.979

Kp: 15.67 R*: 1.08 Rs Teff: 5973.0 K Logg: 4.44 Fe/H: 0.360



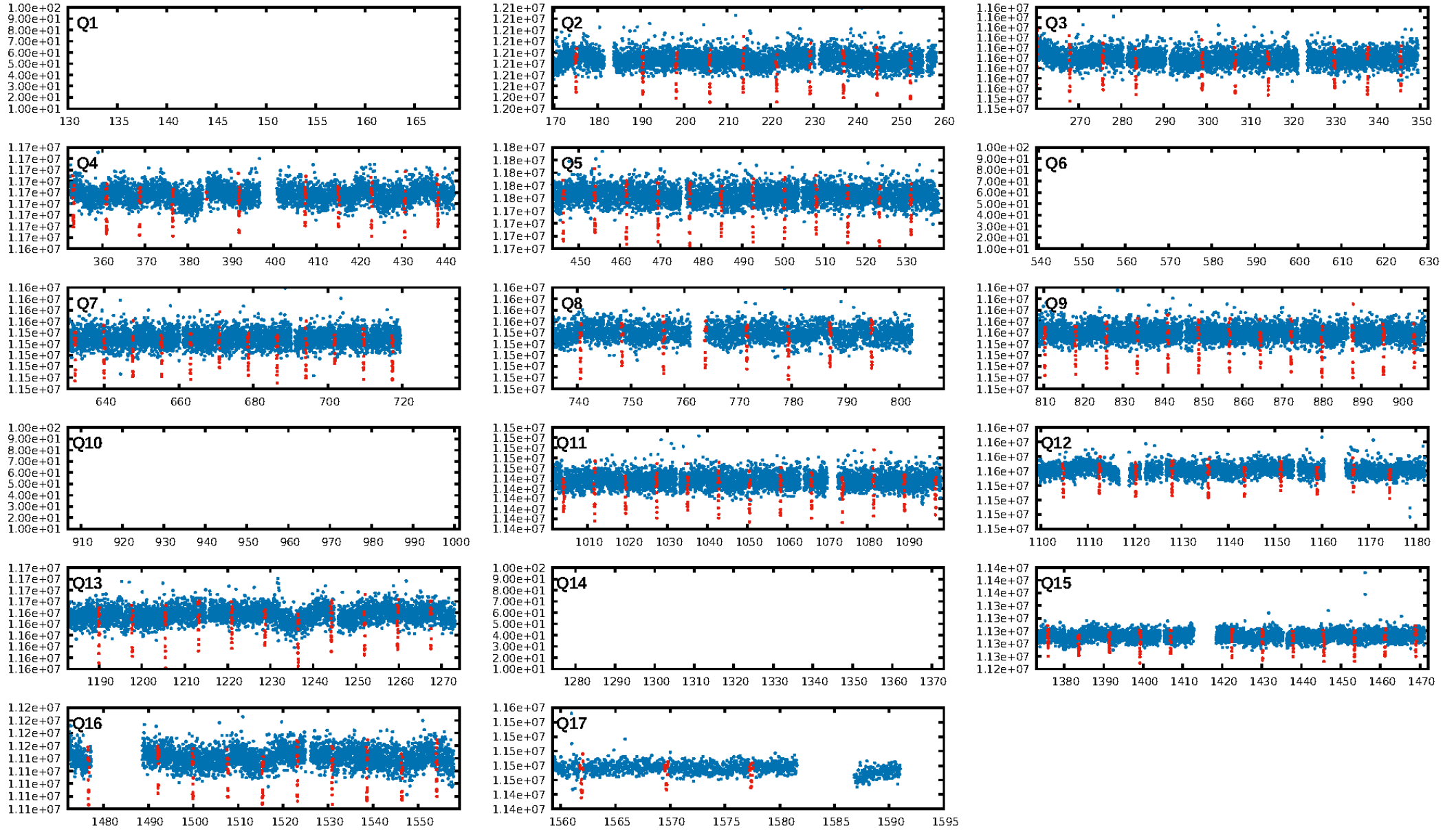
DV Fit Results:

Period = 7.74808 [0.00001] d
Epoch = 136.2576 [0.0007] BKJD
Rp/R* = 0.0494 [0.0019]
a/R* = 11.73 [1.86]
b = 0.75 [0.09]
Seff = 204.66 [87.15]
Teq = 964 [103] K
Rp = 5.85 [1.81] Re
a = 0.0810 [0.0216] AU
Ag = 4.24 [2.83] [1.14σ]
Teffp = 2139 [299] K [3.71σ]

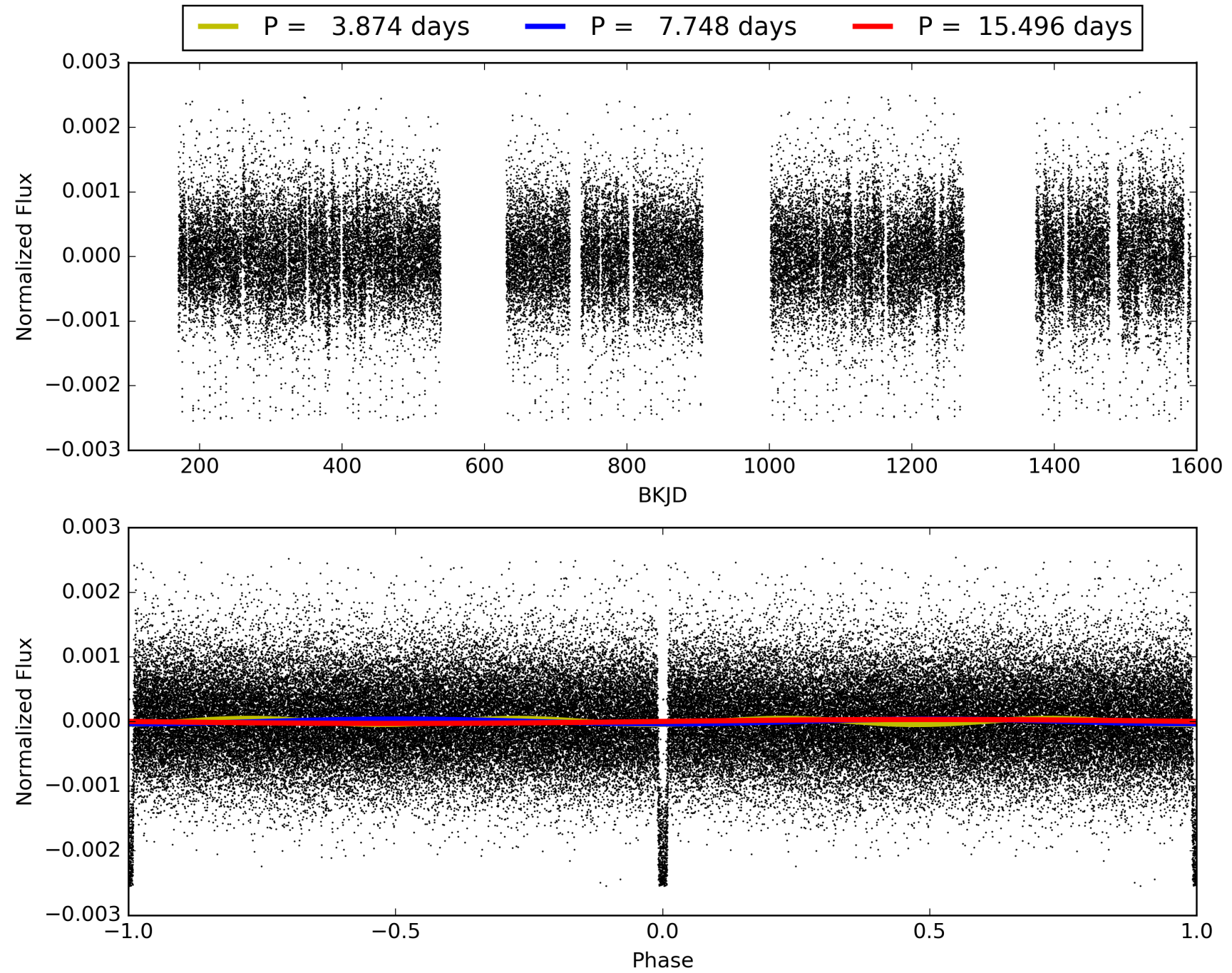
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [130/130]
GhostDiagnostic-chr: 4.354
Centroid-sig: 9.7%
Centroid-so: 0.161 arcsec [1.15σ]
OotOffset-rm: 0.117 arcsec [1.49σ]
KicOffset-rm: 0.159 arcsec [1.62σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004664847-01, PDC Light Curves

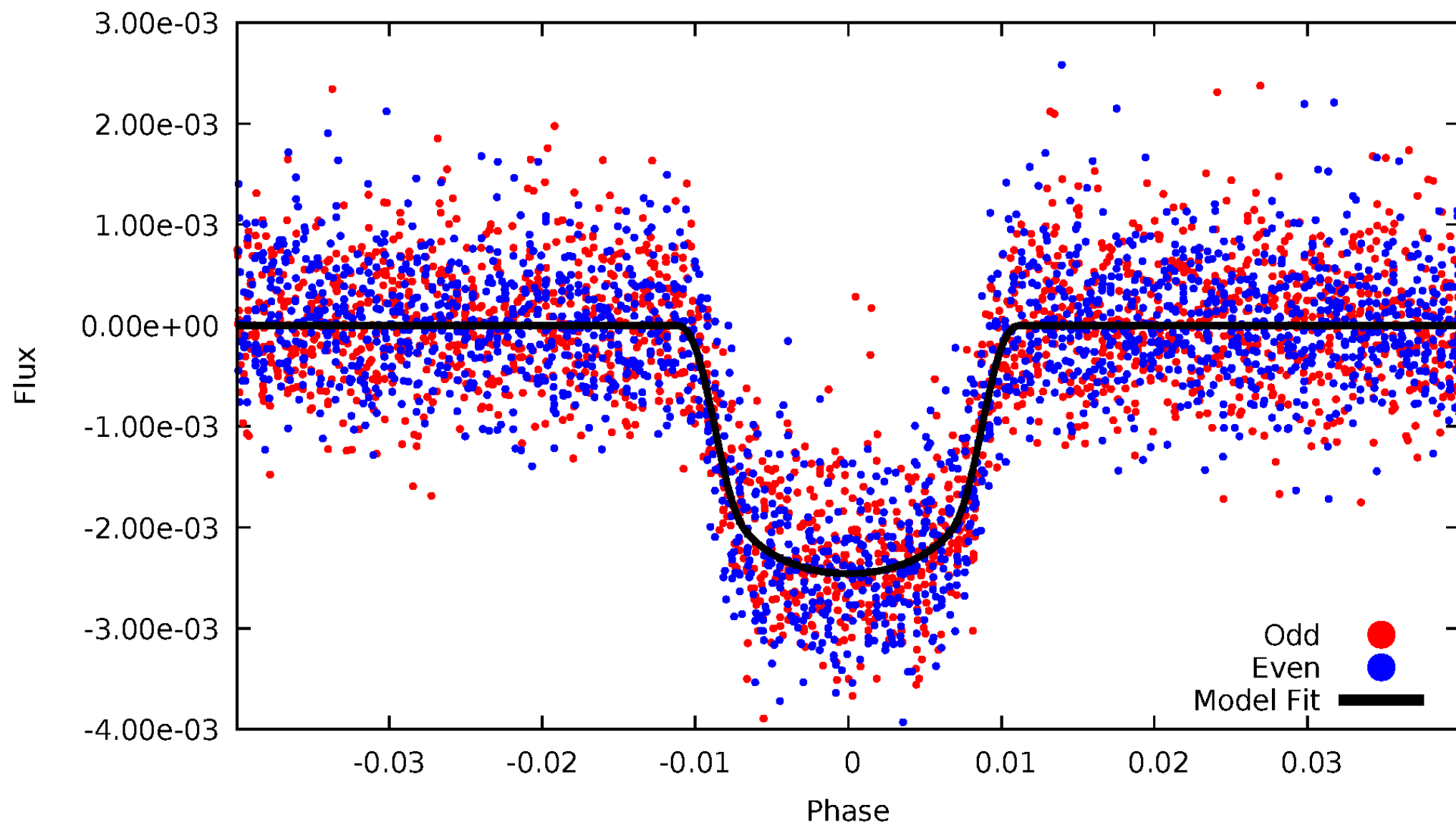


TCE 004664847-01



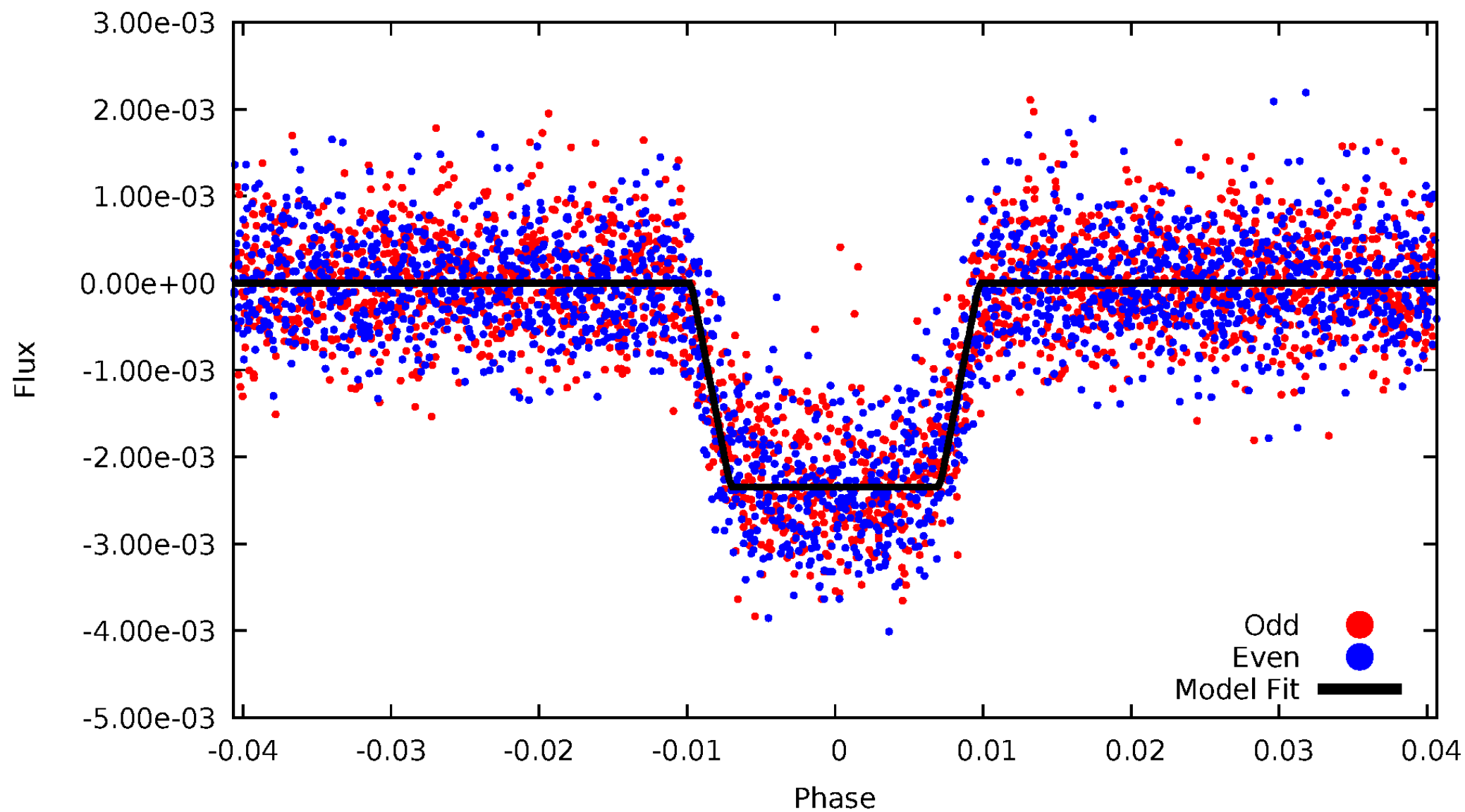
DV Odd/Even

TCE 004664847-01



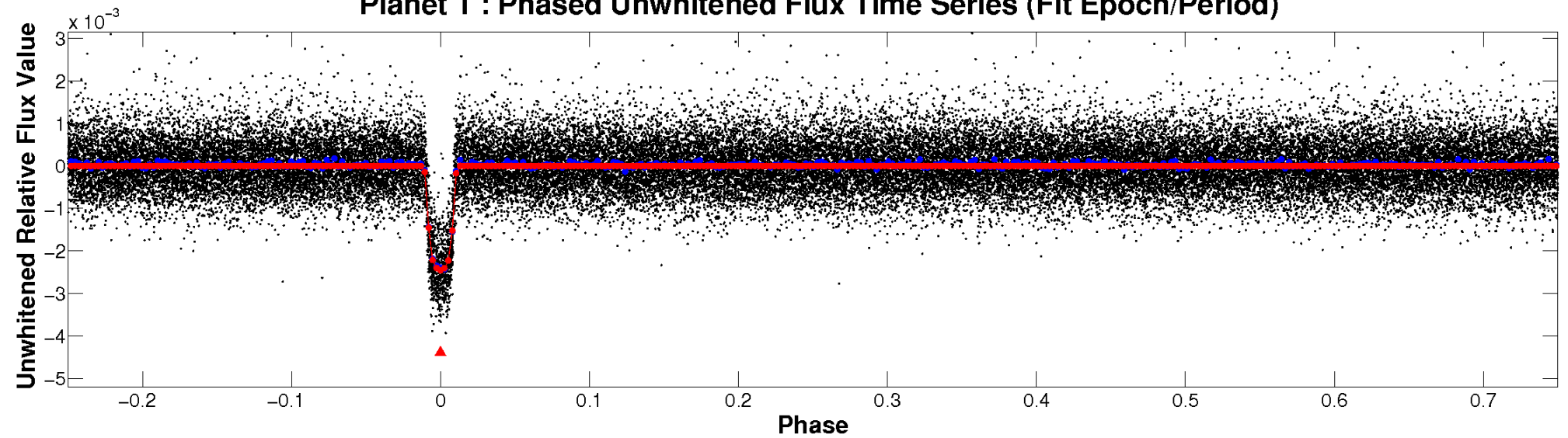
ALT Odd/Even

TCE 004664847-01

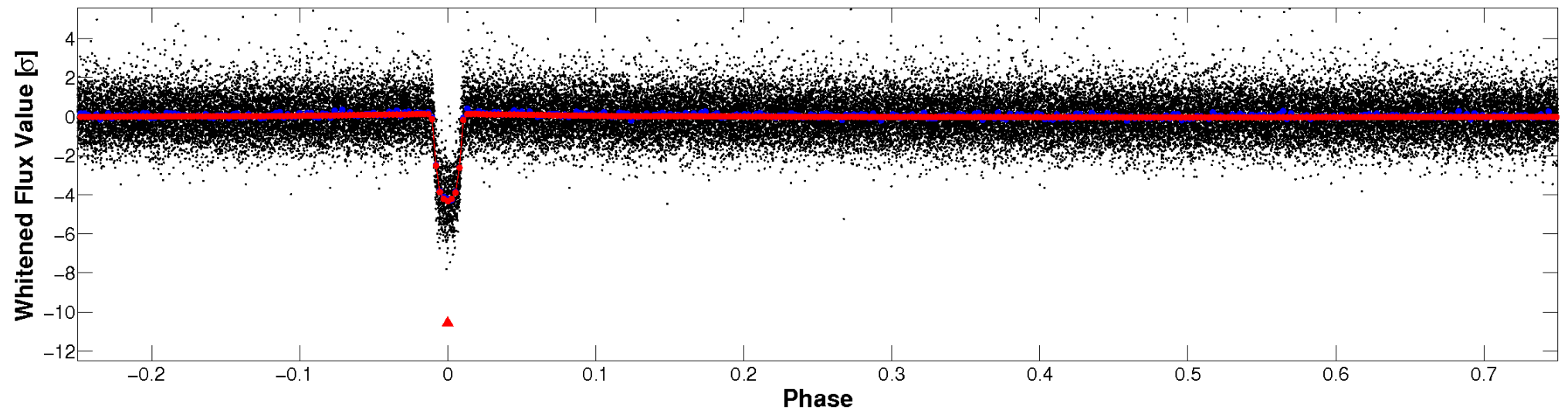


Non-Whitened Vs. Whitened Light Curve

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

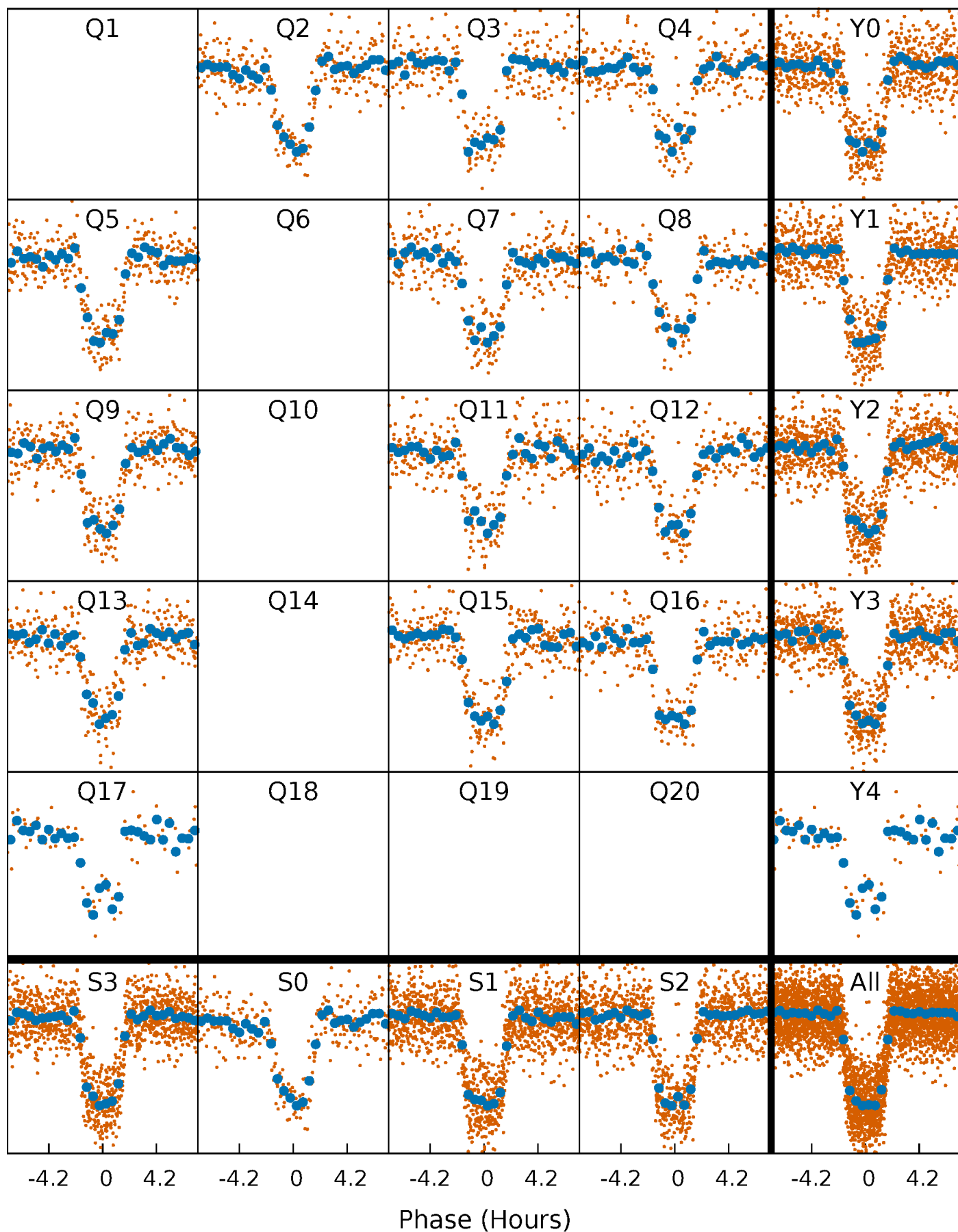


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



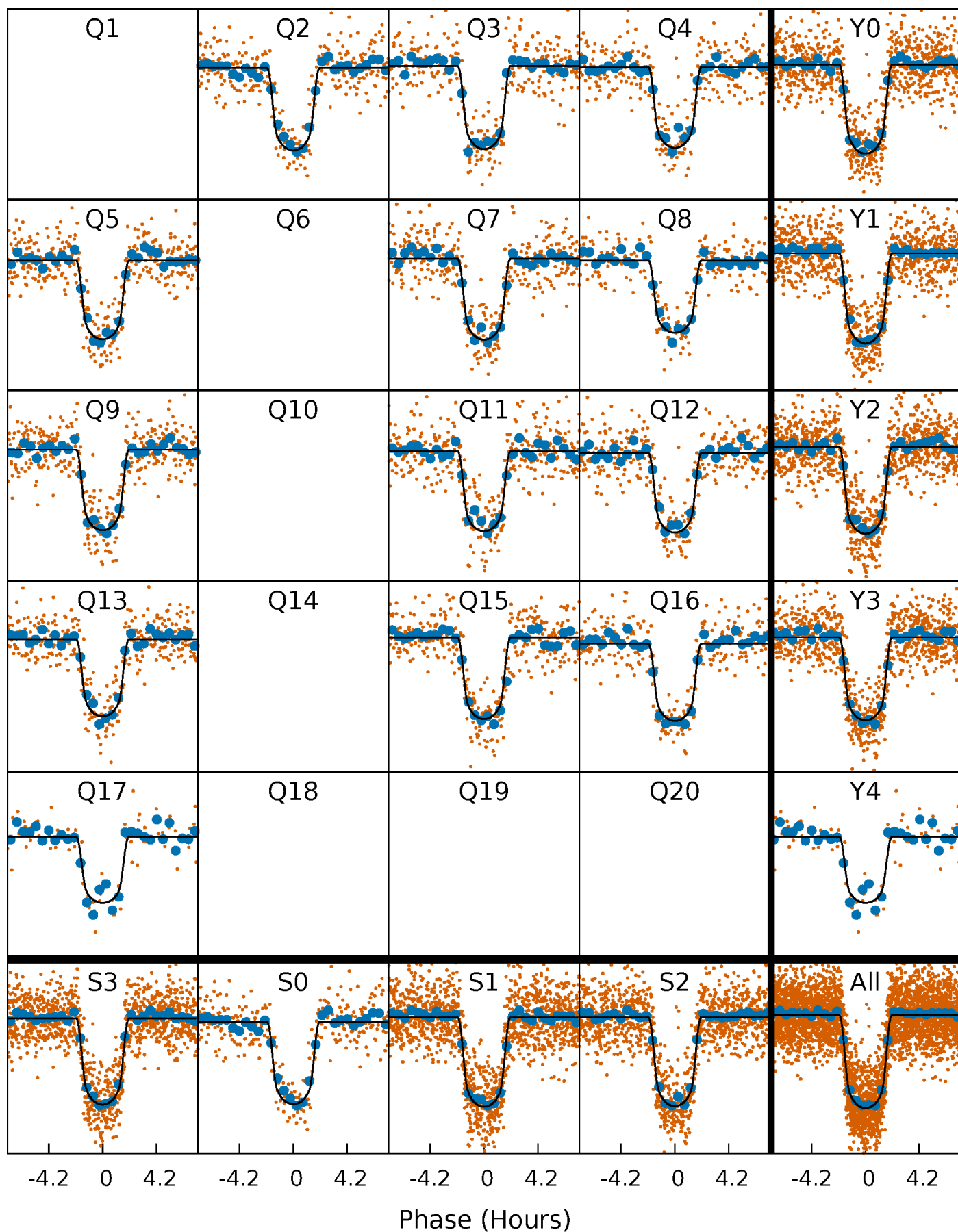
PDC Quarter-Phased Transit Curves

TCE 004664847-01 P= 7.748083 Days $T_0=136.257579$ (BKJD)



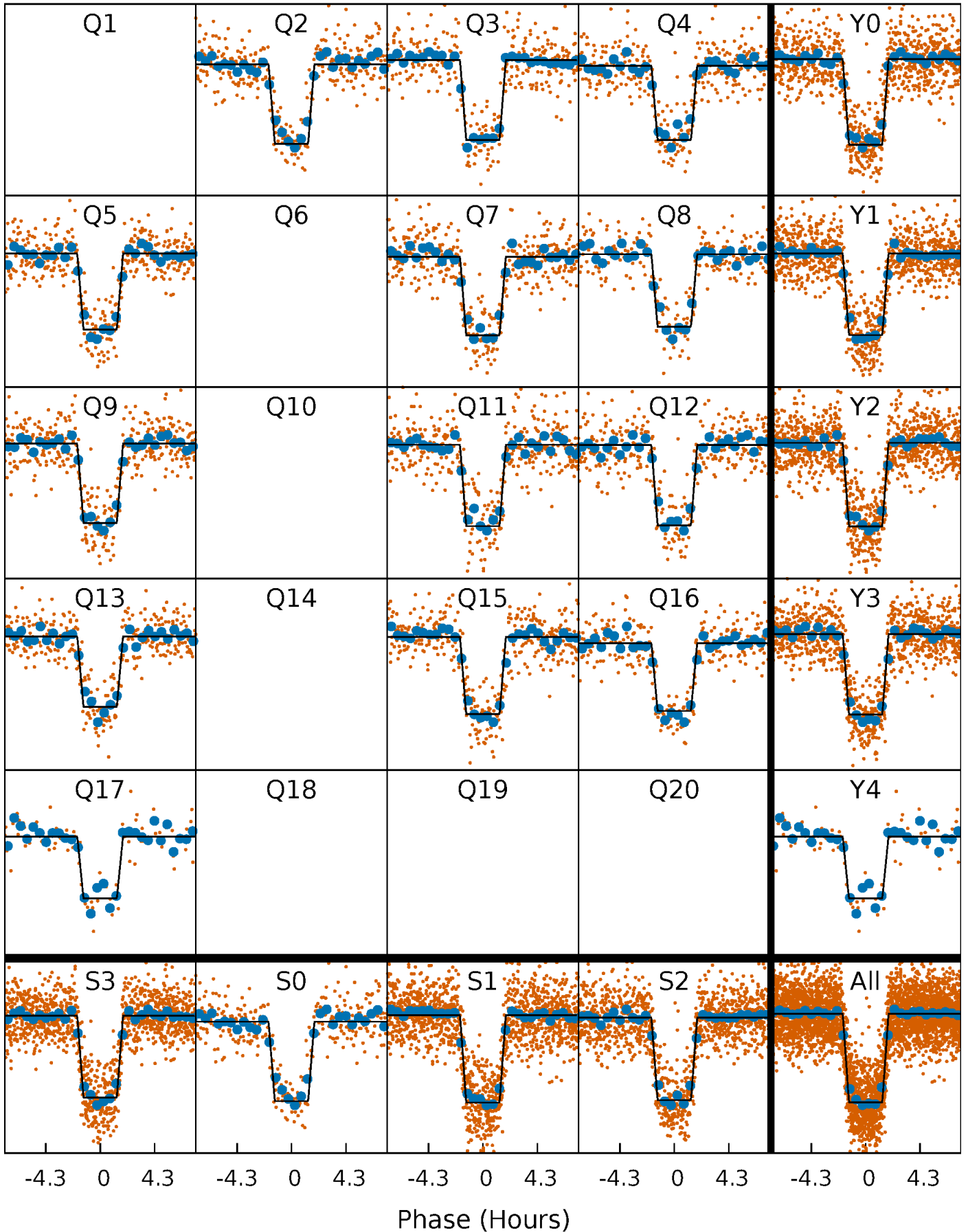
DV Quarter-Phased Transit Curves

TCE 004664847-01 P= 7.748083 Days $T_0=136.257579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

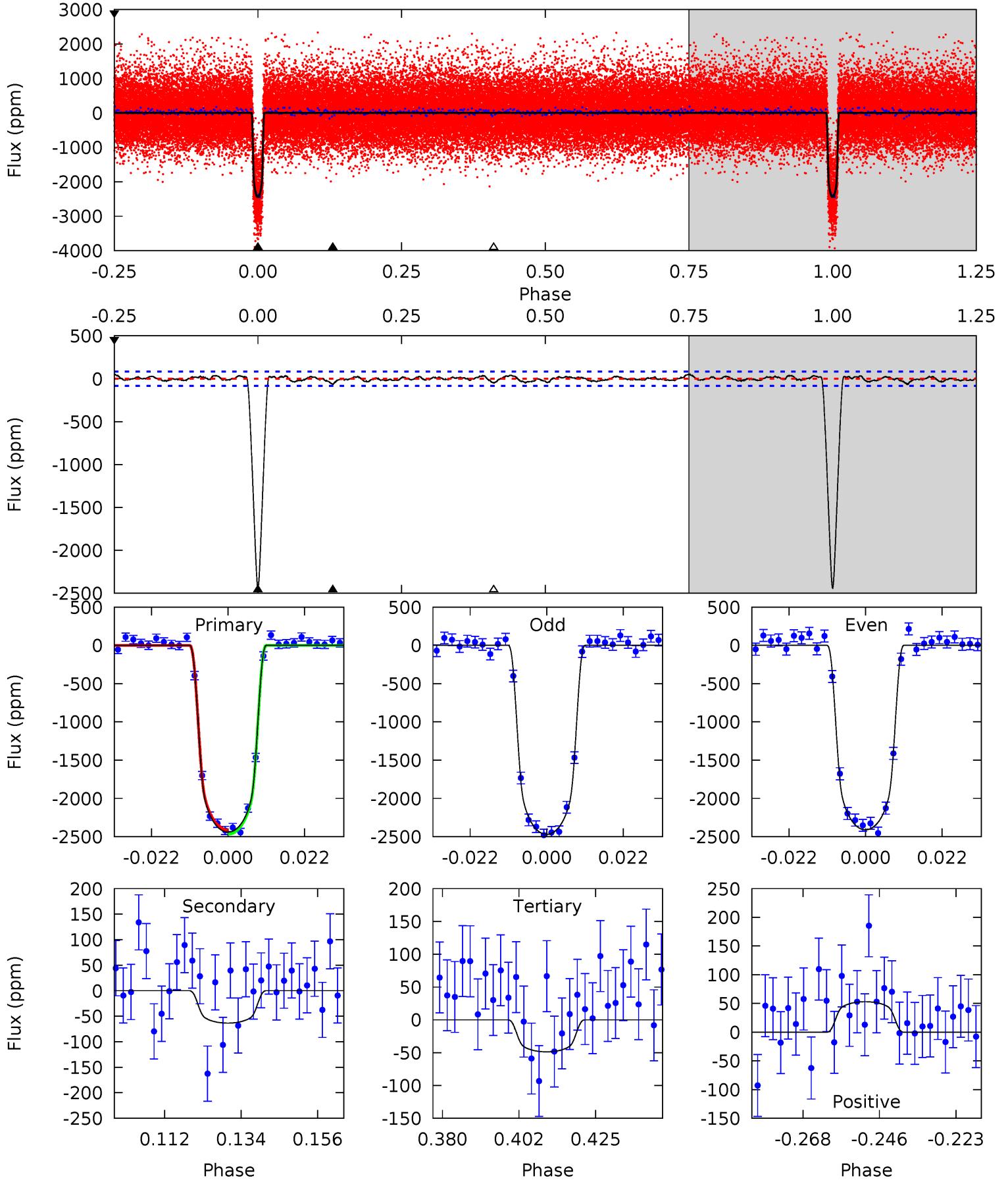
TCE 004664847-01 P= 7.748068 Days $T_0=136.259106$ (BKJD)



DV Model-Shift Uniqueness Test

004664847-01, P = 7.748083 Days, E = 136.257579 Days

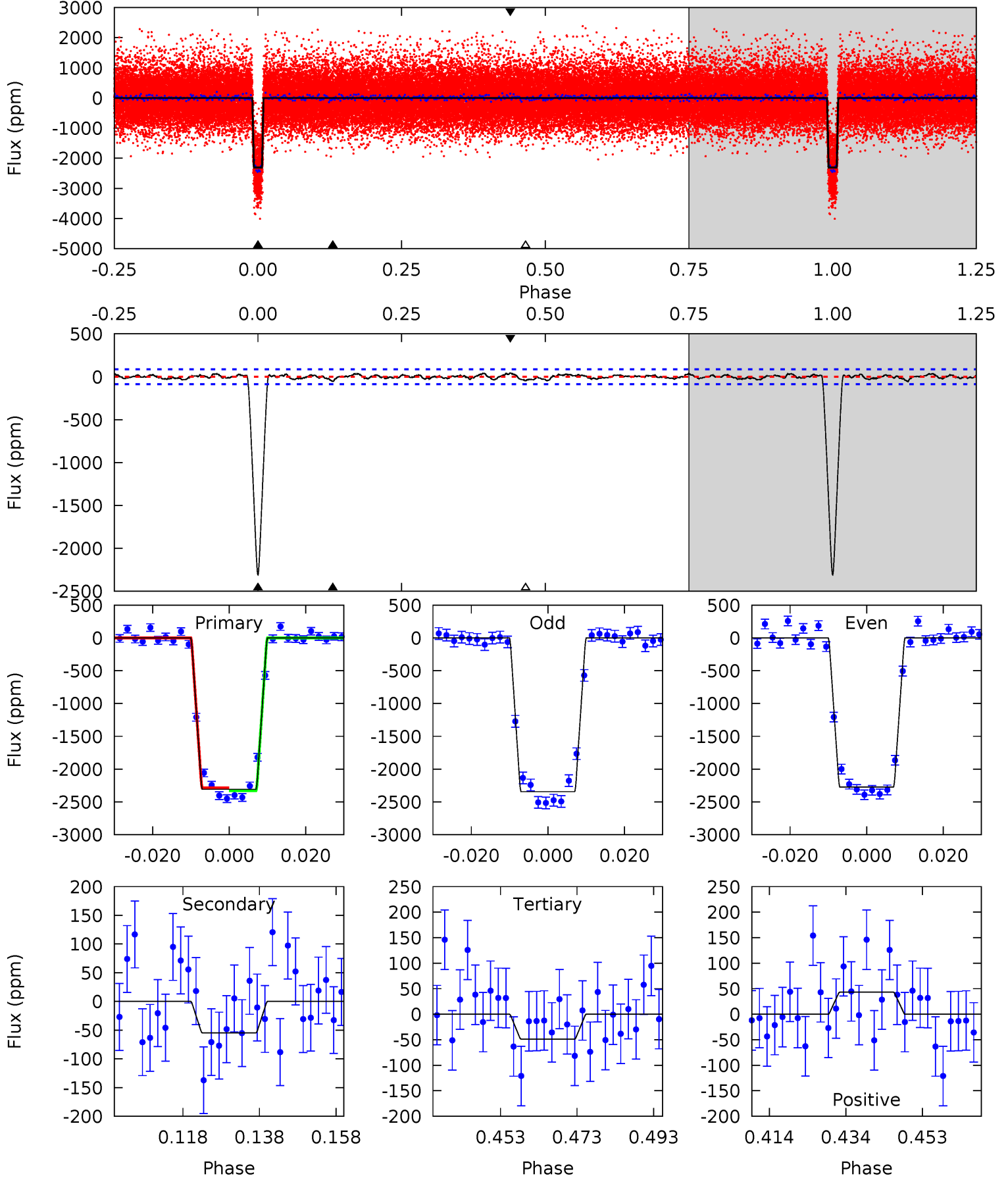
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
143.1	3.72	2.86	3.11	4.87	2.28	1.11	140.2	140.0	0.87	0.62	1.78	0.99	0.02	1.54



Alt Model-Shift Uniqueness Test

004664847-01, P = 7.748068 Days, E = 136.259106 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
128.3	3.04	2.70	2.41	4.89	2.33	0.99	125.6	125.9	0.34	0.64	1.92	0.99	0.02	1.15



Stellar Parameters For KIC 004664847

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5973^{+169}_{-232}	$4.439^{+0.052}_{-0.221}$	$0.360^{+0.100}_{-0.300}$	$1.085^{+0.334}_{-0.111}$	$1.181^{+0.121}_{-0.151}$	$1.303^{+0.291}_{-0.726}$
	+3%/-4%	+1%/-5%	+28%/-83%	+31%/-10%	+10%/-13%	+22%/-56%
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 004664847-01 / KOI 0816.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-64 ± 17	$6.02^{+1.03}_{-0.53}$	1374^{+105}_{-70}	3019^{+133}_{-148}	$5.892^{+2.338}_{-1.953}$
Alt.	-55 ± 18	$5.90^{+0.98}_{-0.56}$	1376^{+102}_{-77}	2975^{+163}_{-173}	$5.352^{+2.439}_{-2.030}$

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 $A_{\text{obs}} \gg 1.0$

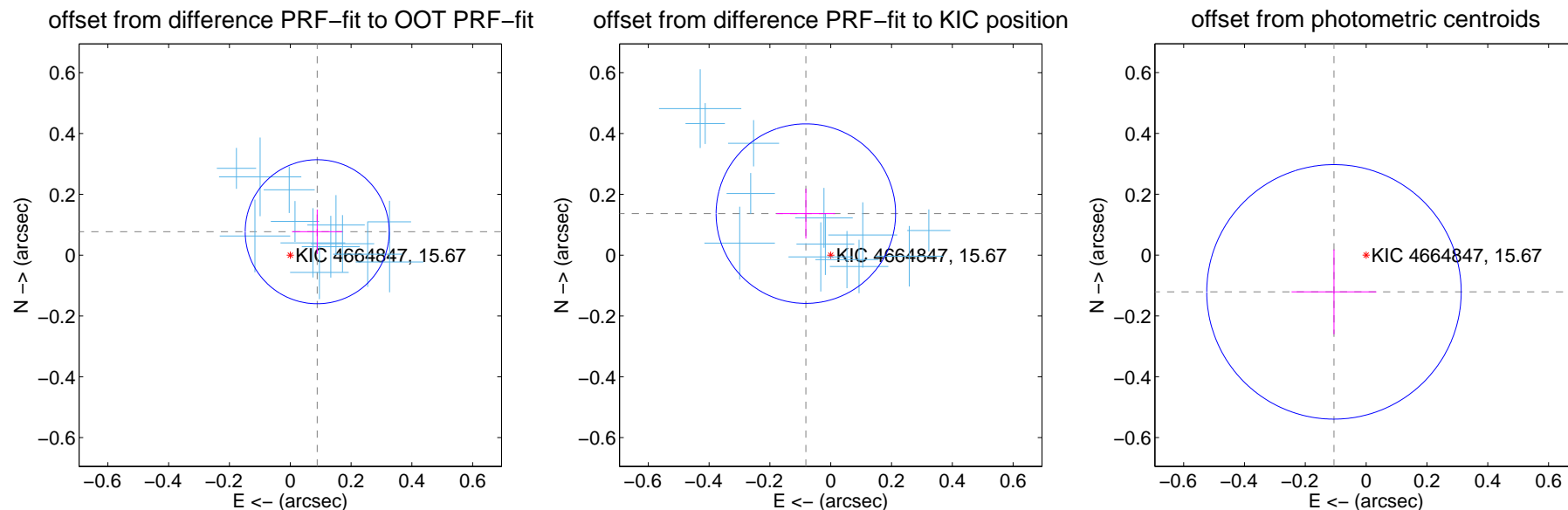
DV Centroid Data

Supplemental centroid analysis for 004664847-01. Kepler magnitude: 15.67. Transit SNR 108.96

There are 13 quarters with good PRF difference image offsets

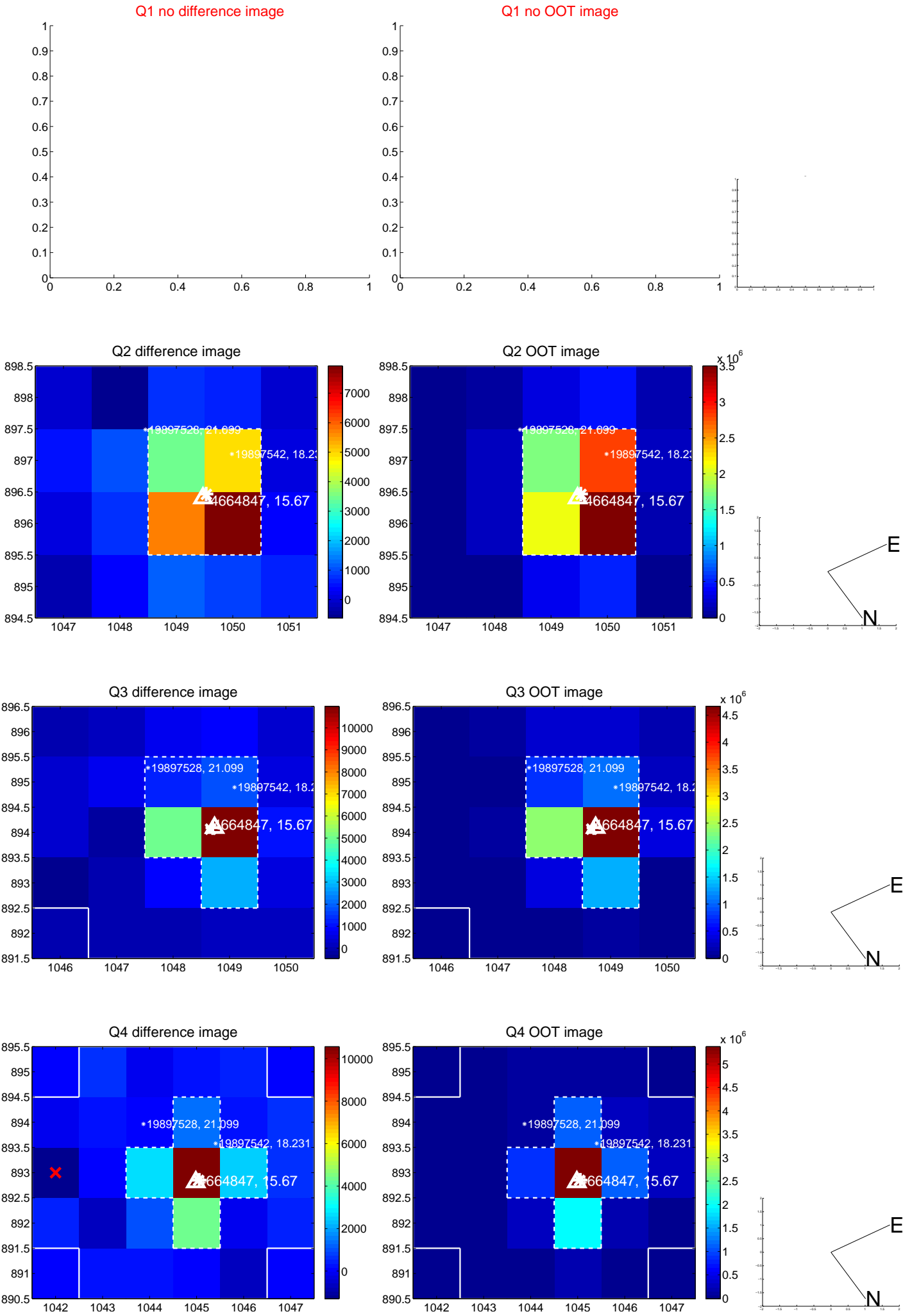
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.079	1.49	-0.089 ± 0.083	0.077 ± 0.073
PRF-fit source offset from KIC position	0.159 ± 0.098	1.62	0.082 ± 0.096	0.137 ± 0.082
photometric centroid source offset	0.16 ± 0.14	1.15	0.11 ± 0.14	-0.12 ± 0.14

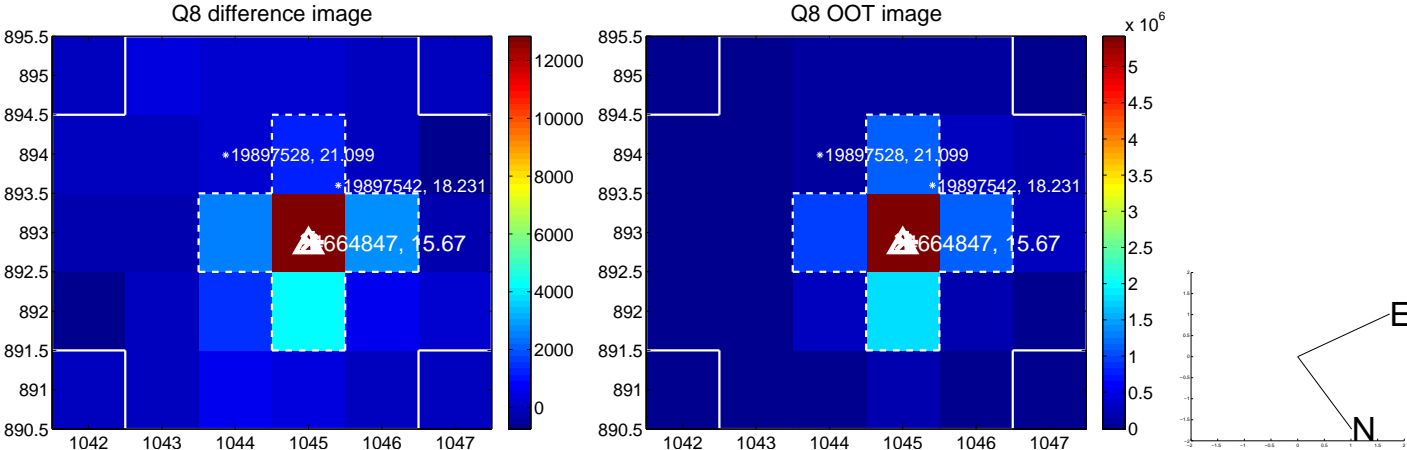
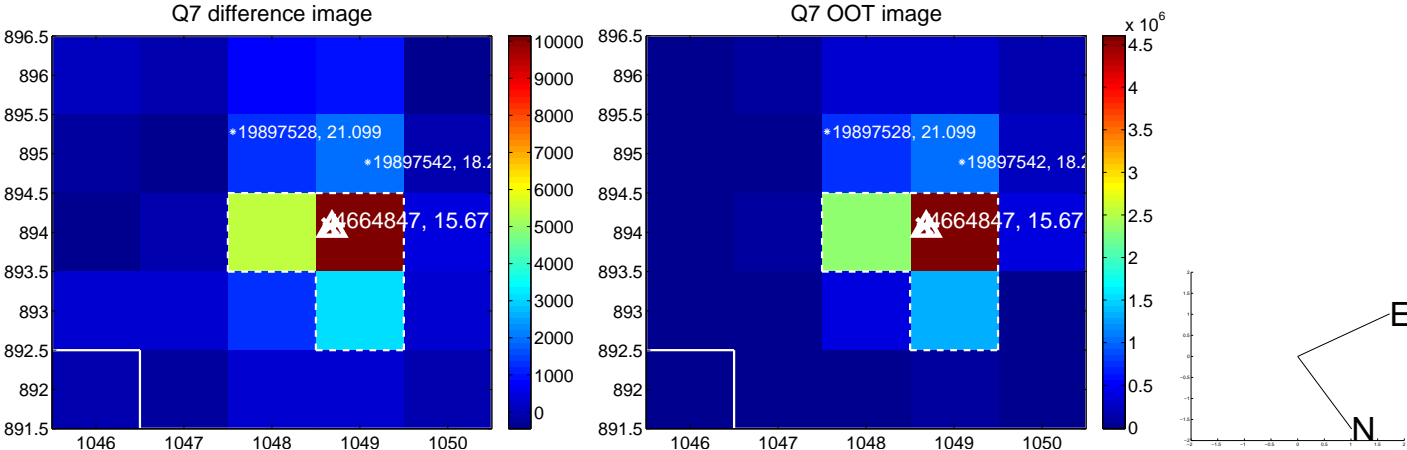
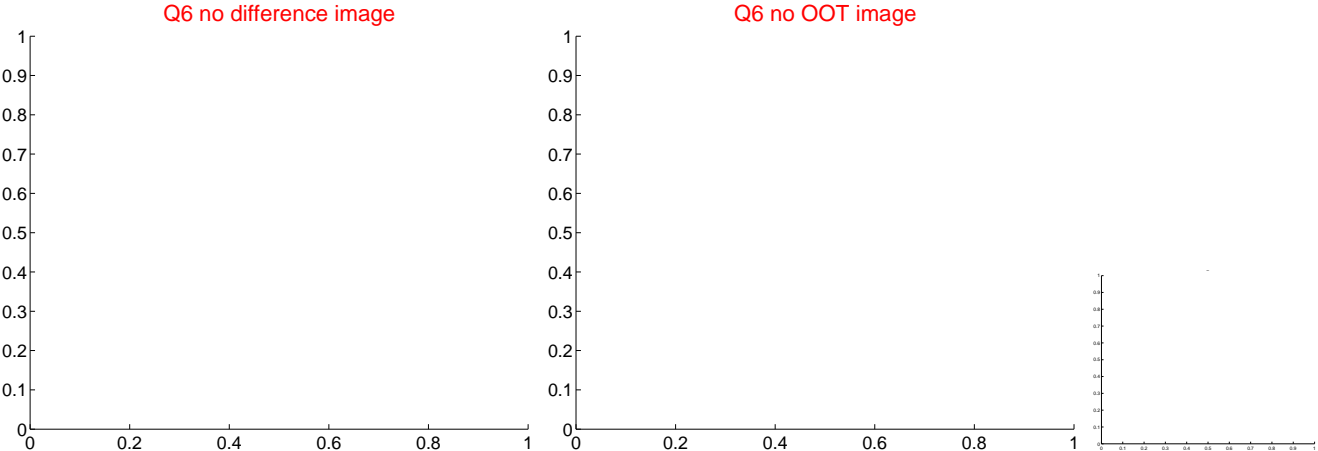
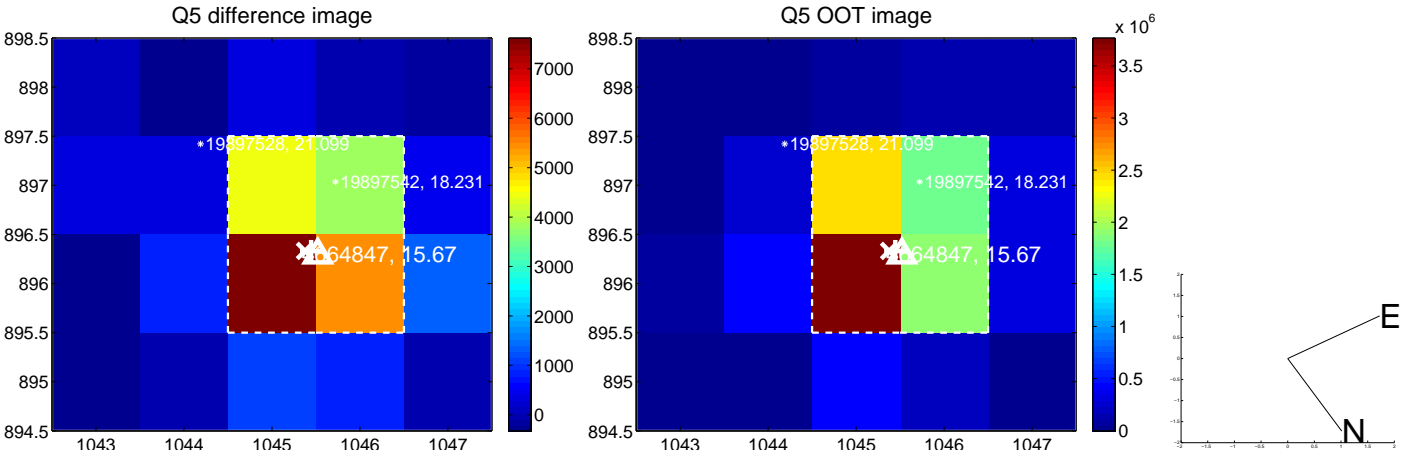


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

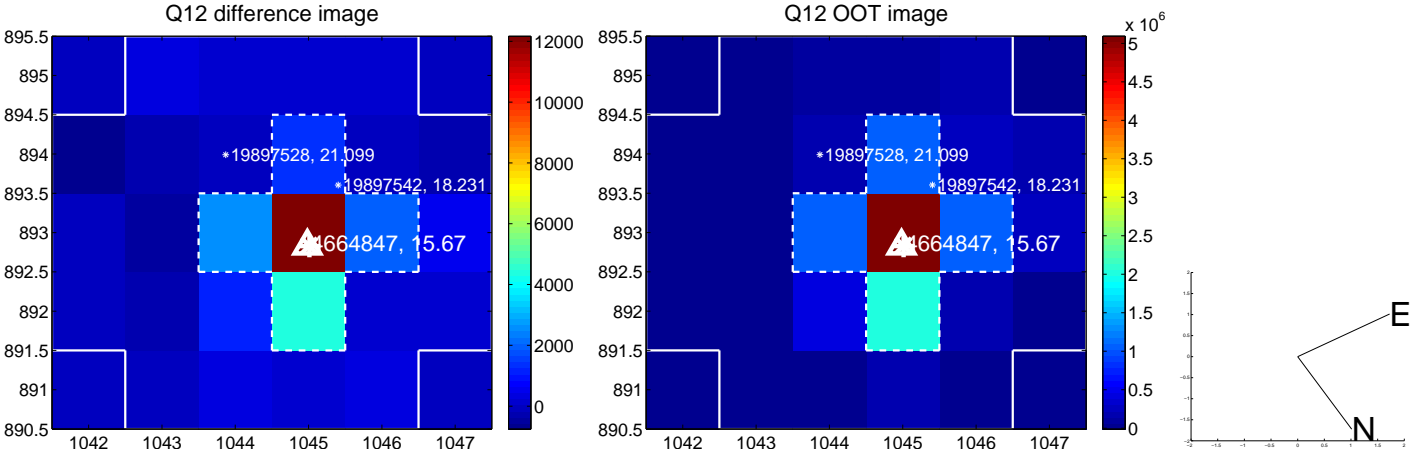
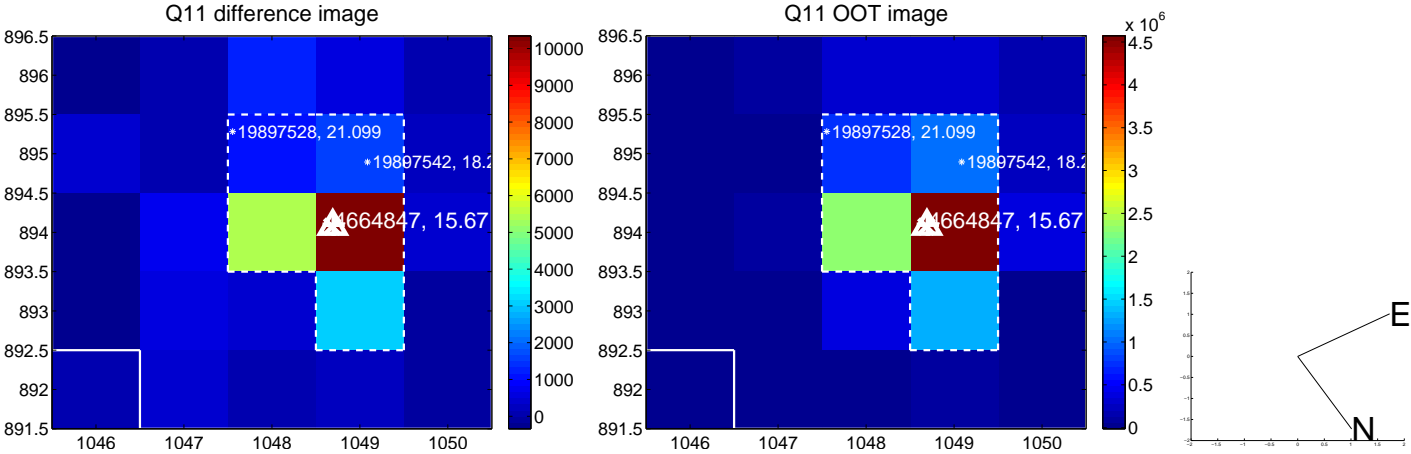
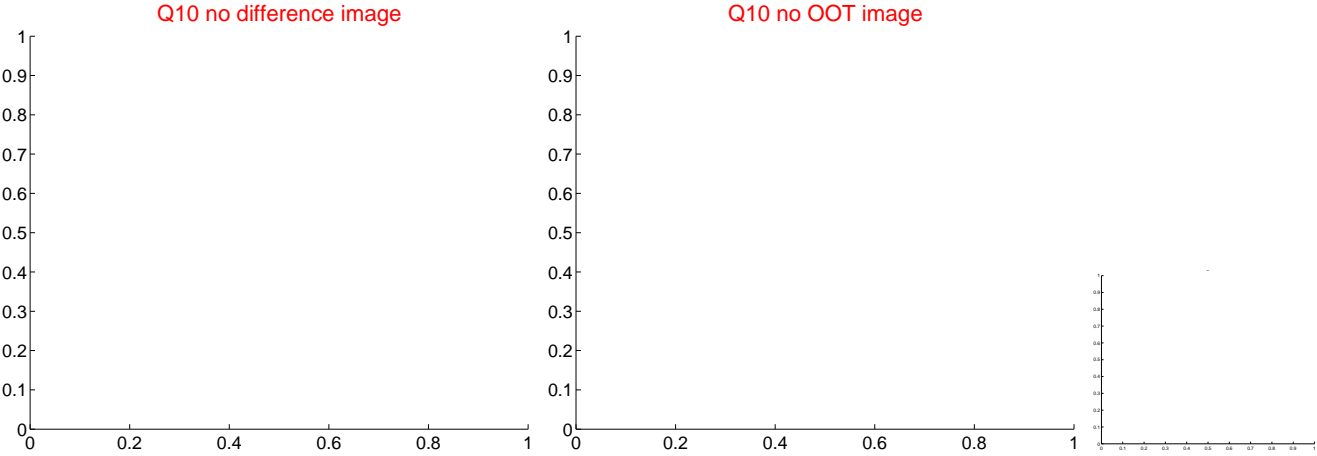
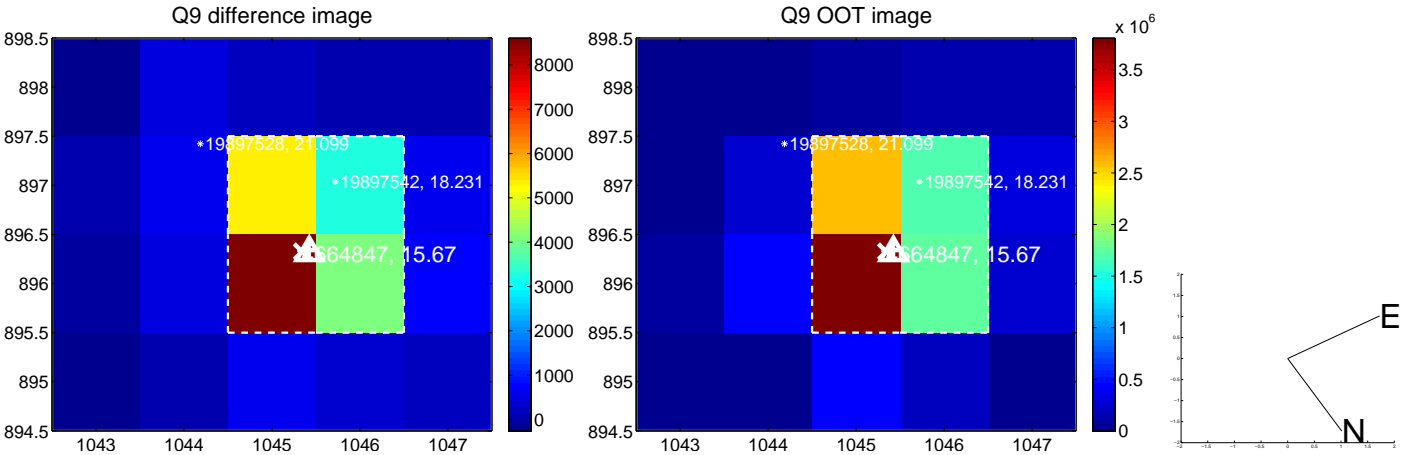
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



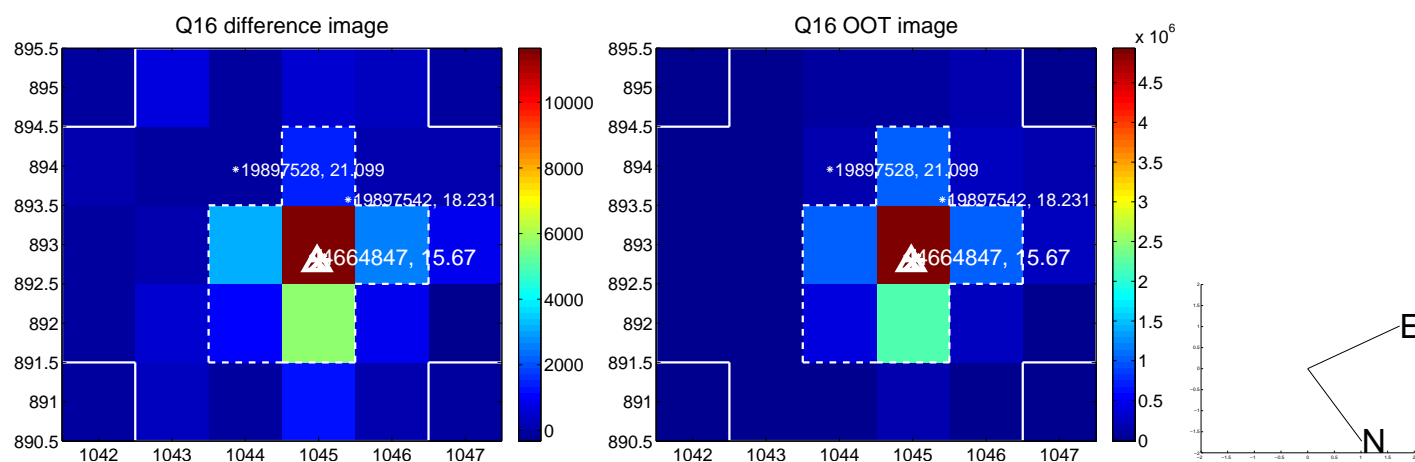
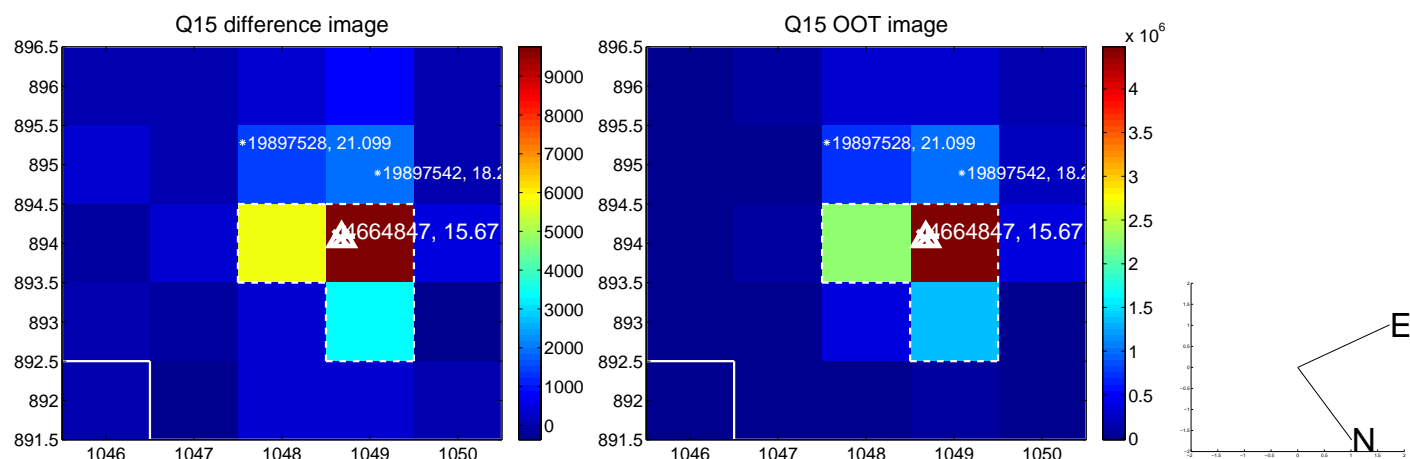
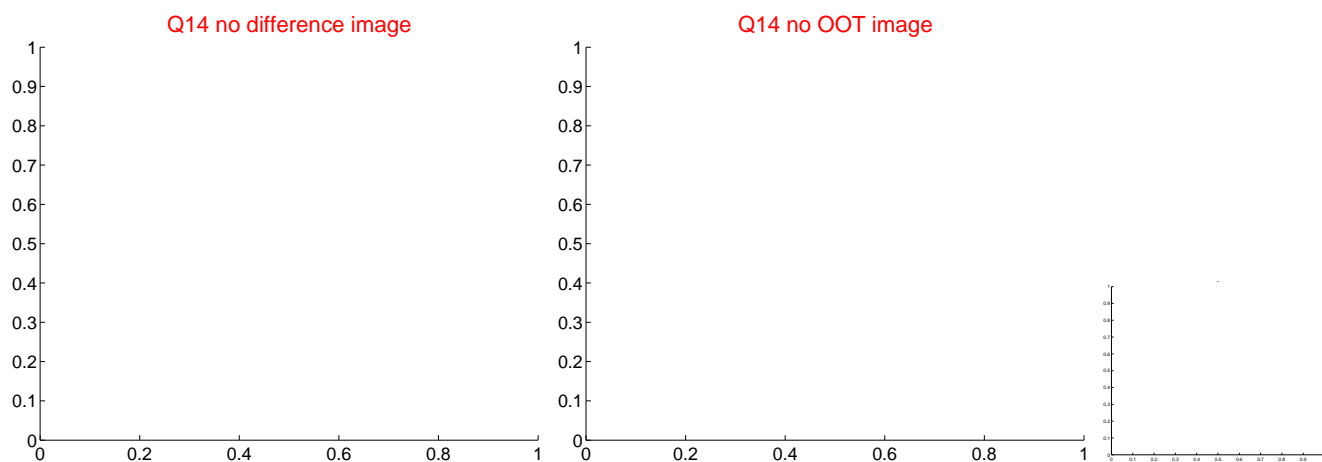
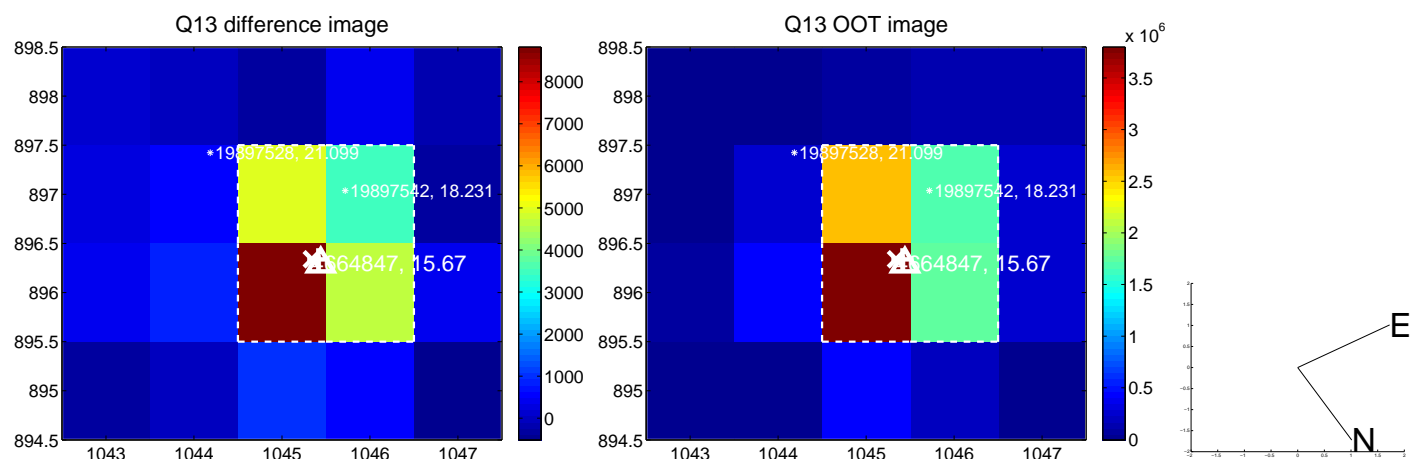
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

