

KIC 004644604

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})
004644604-01	OBS	0628.01	14.485849	131.548667	456.2	3.132	43.1	48.6	1.08	5784	2.85	89.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004644604-01	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.

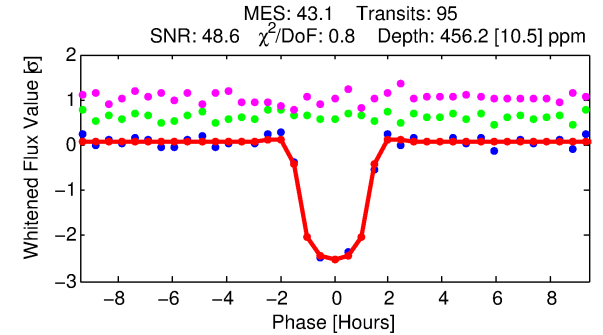
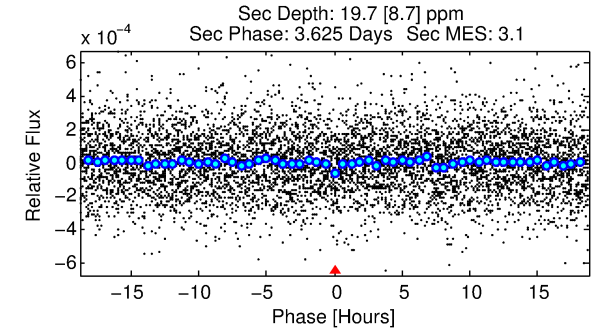
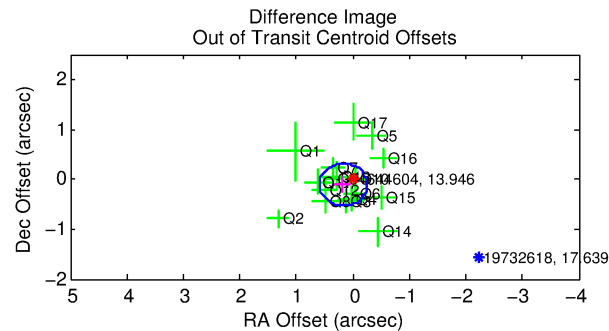
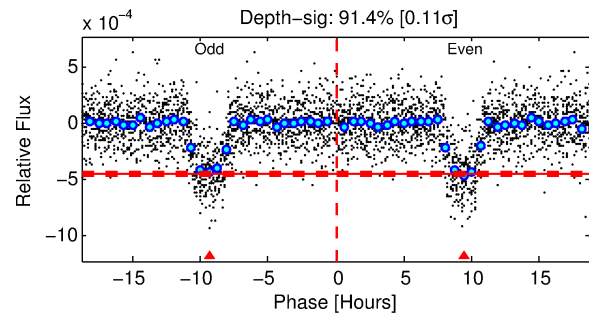
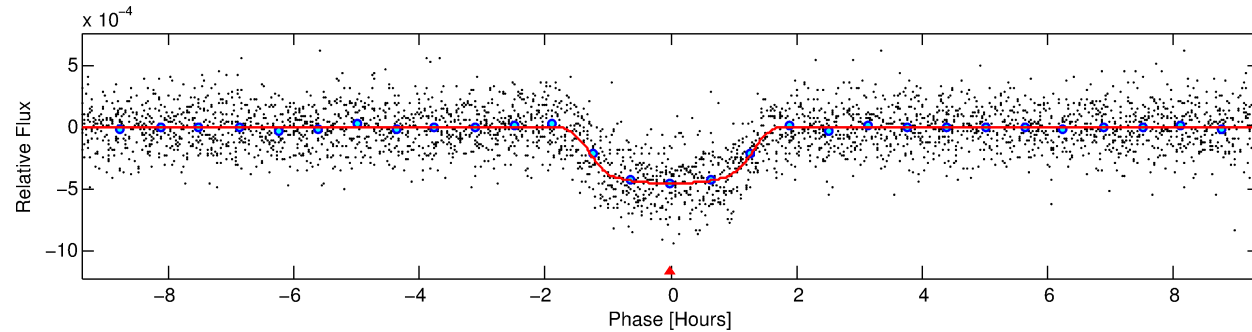
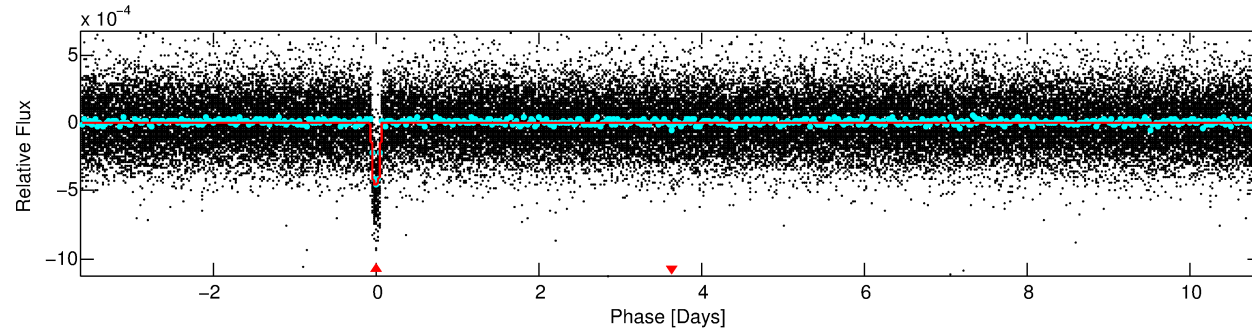
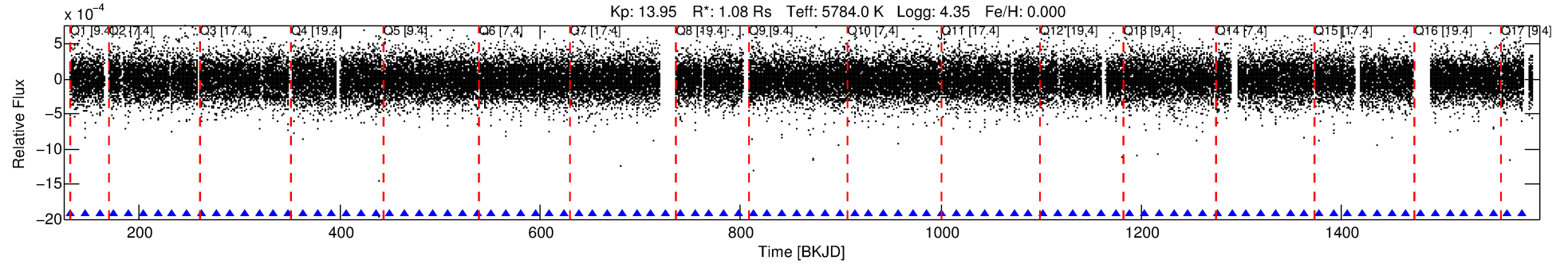
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004644604-01

No Significant Match Found

DV One-Page Summary

KIC: 4644604 Candidate: 1 of 1 Period: 14.486 d
KOI: K00628.01 Corr: 0.931



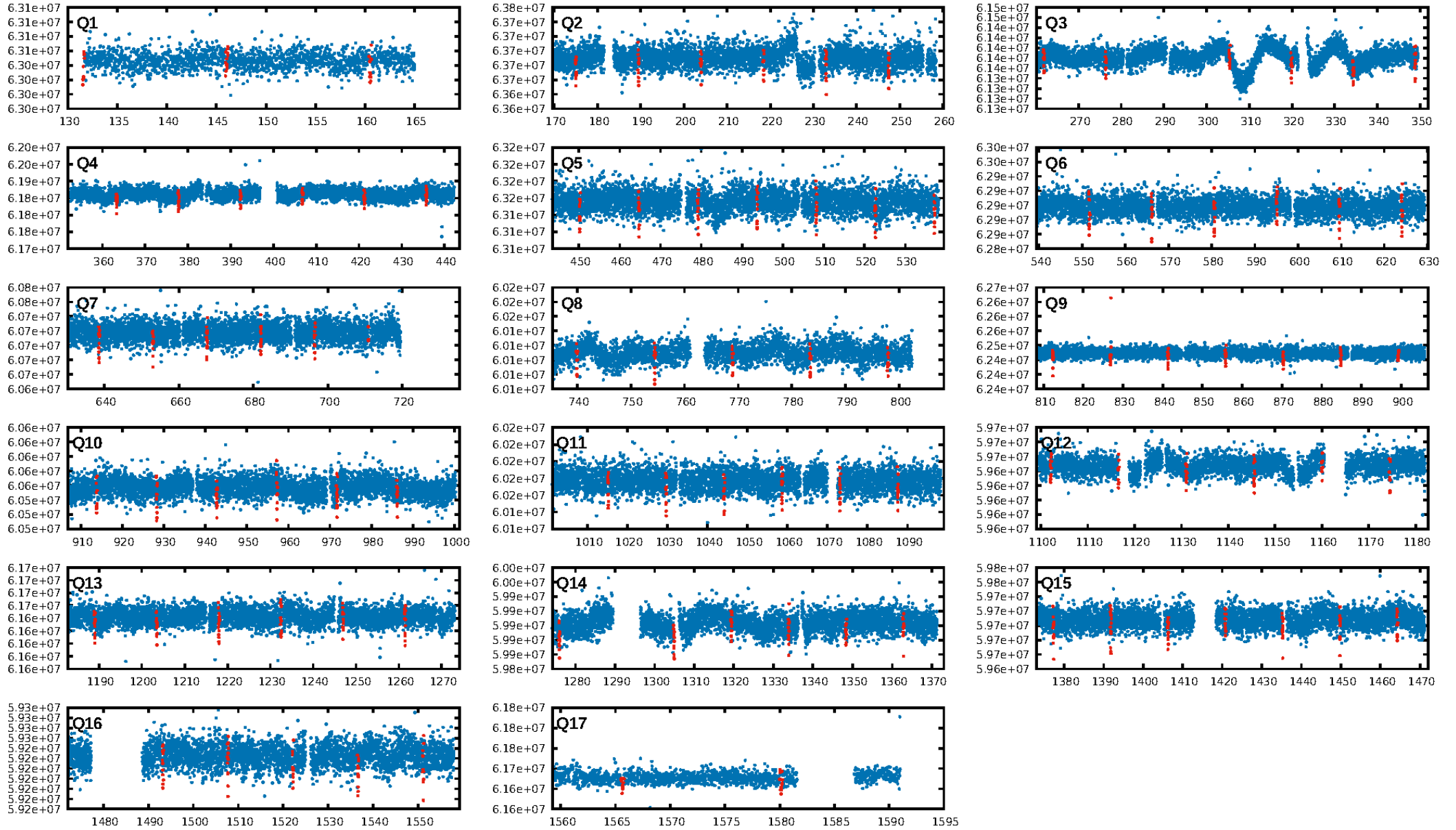
DV Fit Results:

Period = 14.48585 [0.00003] d
Epoch = 131.5487 [0.0015] BKJD
Rp/R* = 0.0241 [0.0010]
a/R* = 15.25 [2.72]
b = 0.93 [0.03]
Seff = 89.30 [19.67]
Teq = 784 [43] K
Rp = 2.85 [0.46] Re
a = 0.1150 [0.0157] AU
Ag = 17.60 [8.68] [1.91 σ]
Teffp = 2482 [283] K [5.94 σ]

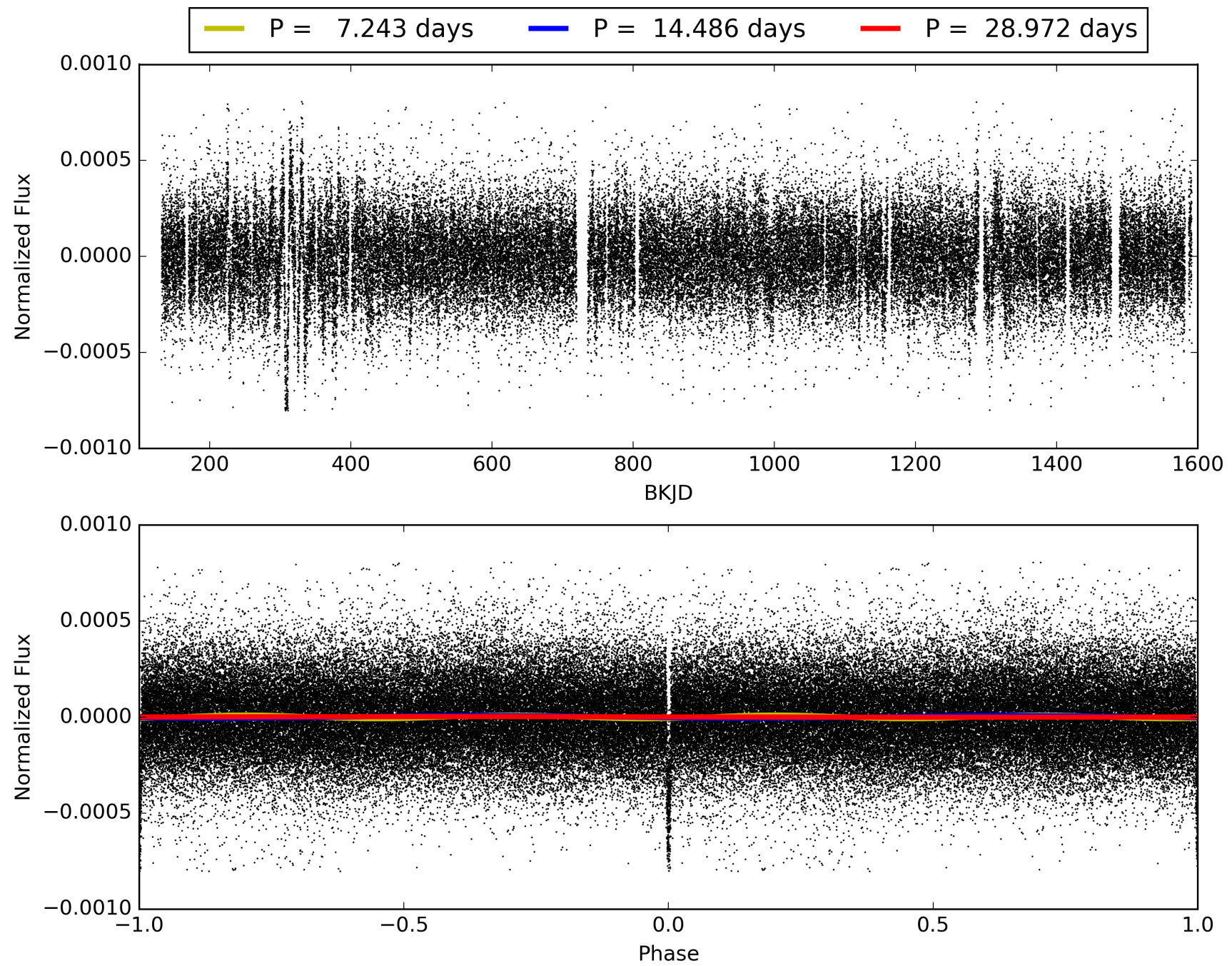
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [90/90]
GhostDiagnostic-chr: 10.32
Centroid-sig: 1.3%
Centroid-so: 0.254 arcsec [0.94 σ]
OotOffset-rm: 0.208 arcsec [1.47 σ]
KicOffset-rm: 0.403 arcsec [2.71 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]

TCE 004644604-01, PDC Light Curves

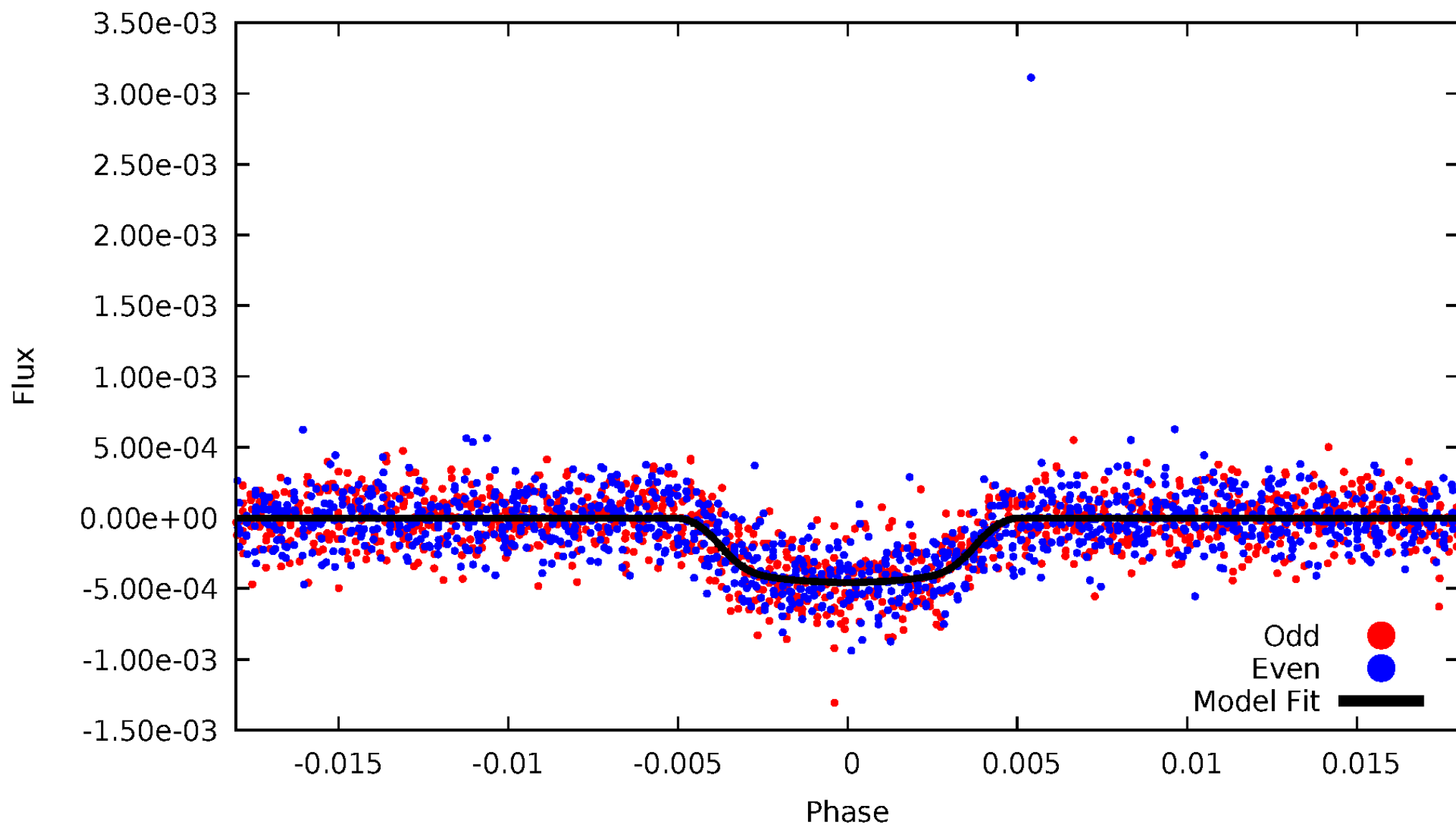


TCE 004644604-01



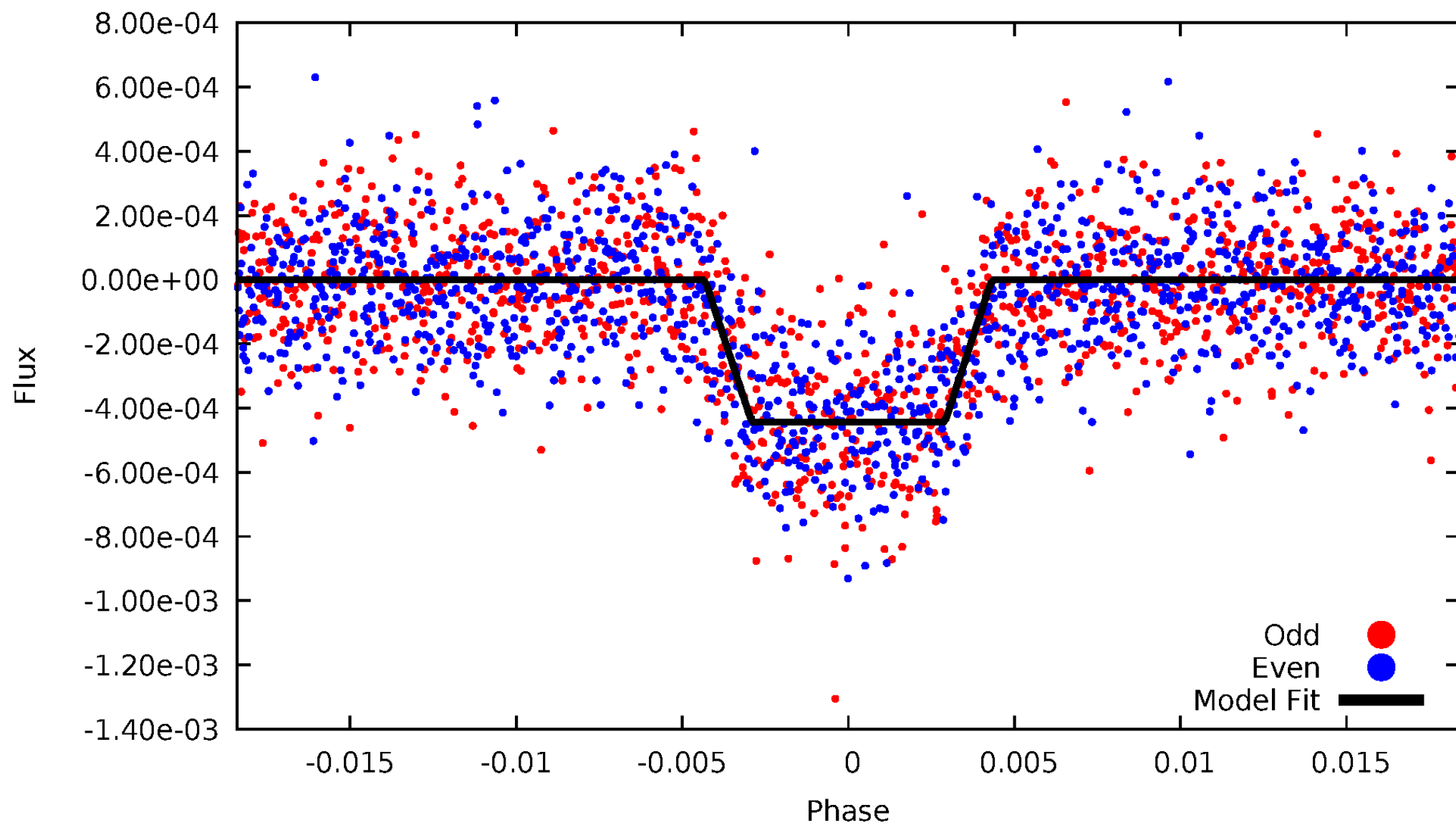
DV Odd/Even

TCE 004644604-01



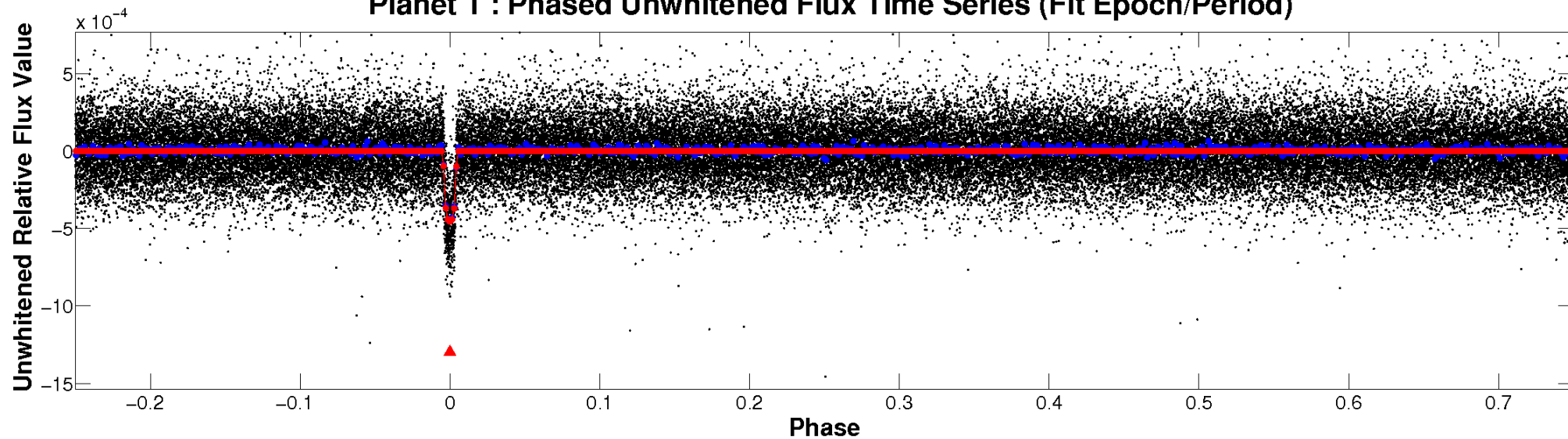
ALT Odd/Even

TCE 004644604-01

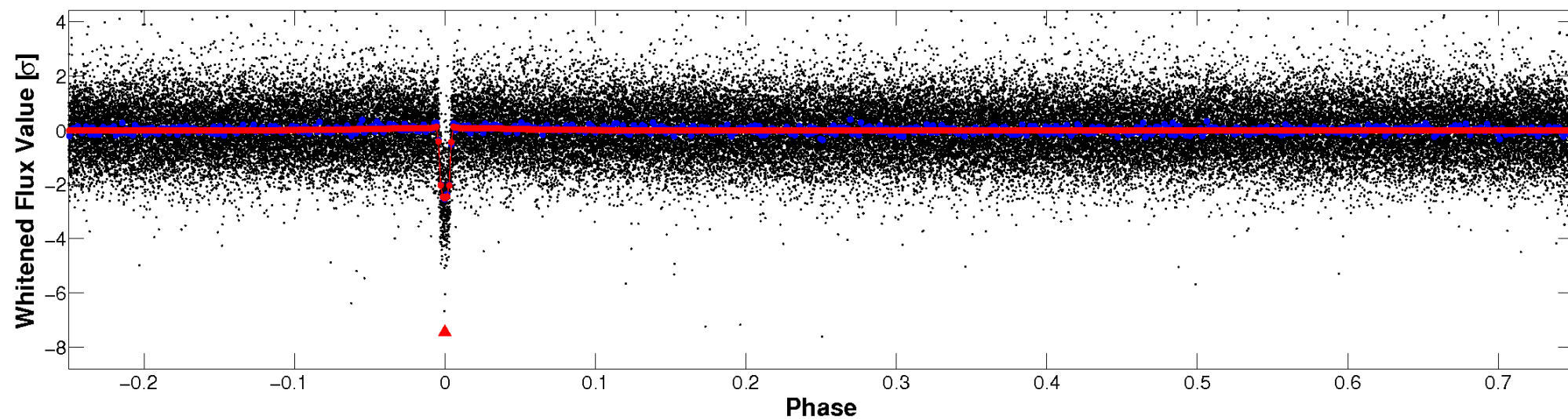


Non-Whitened Vs. Whitened Light Curve

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

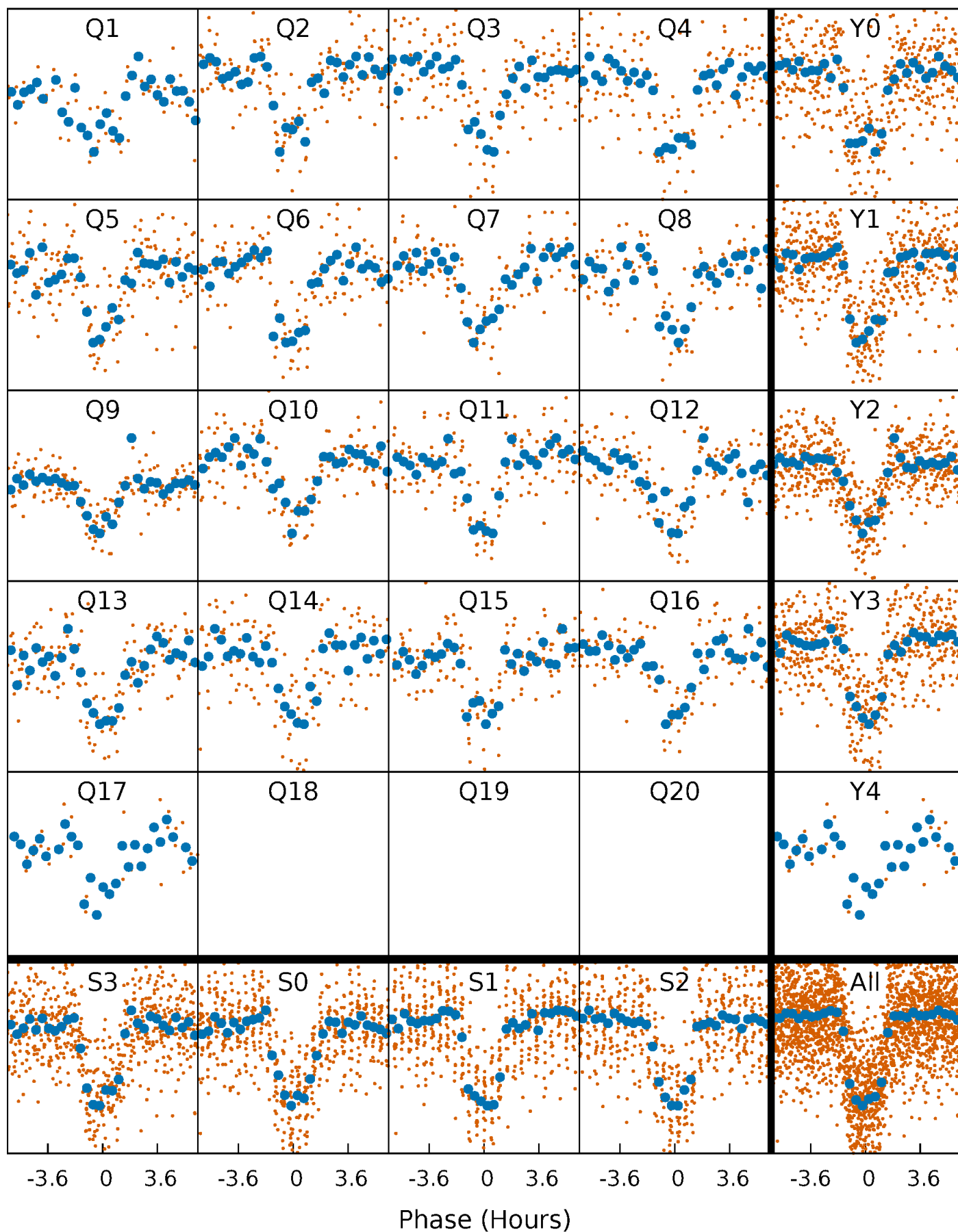


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



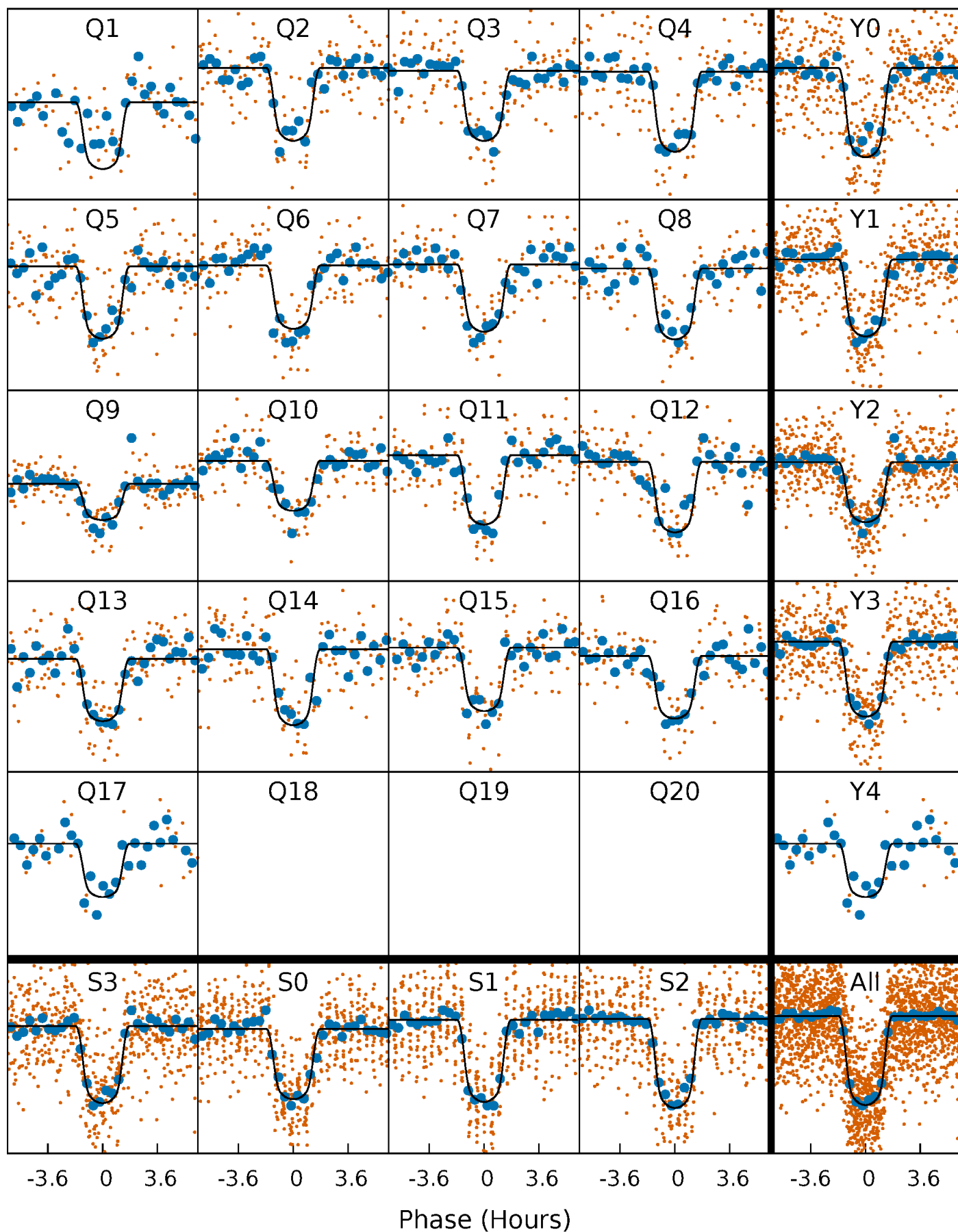
PDC Quarter-Phased Transit Curves

TCE 004644604-01 P= 14.485849 Days $T_0=131.548667$ (BKJD)



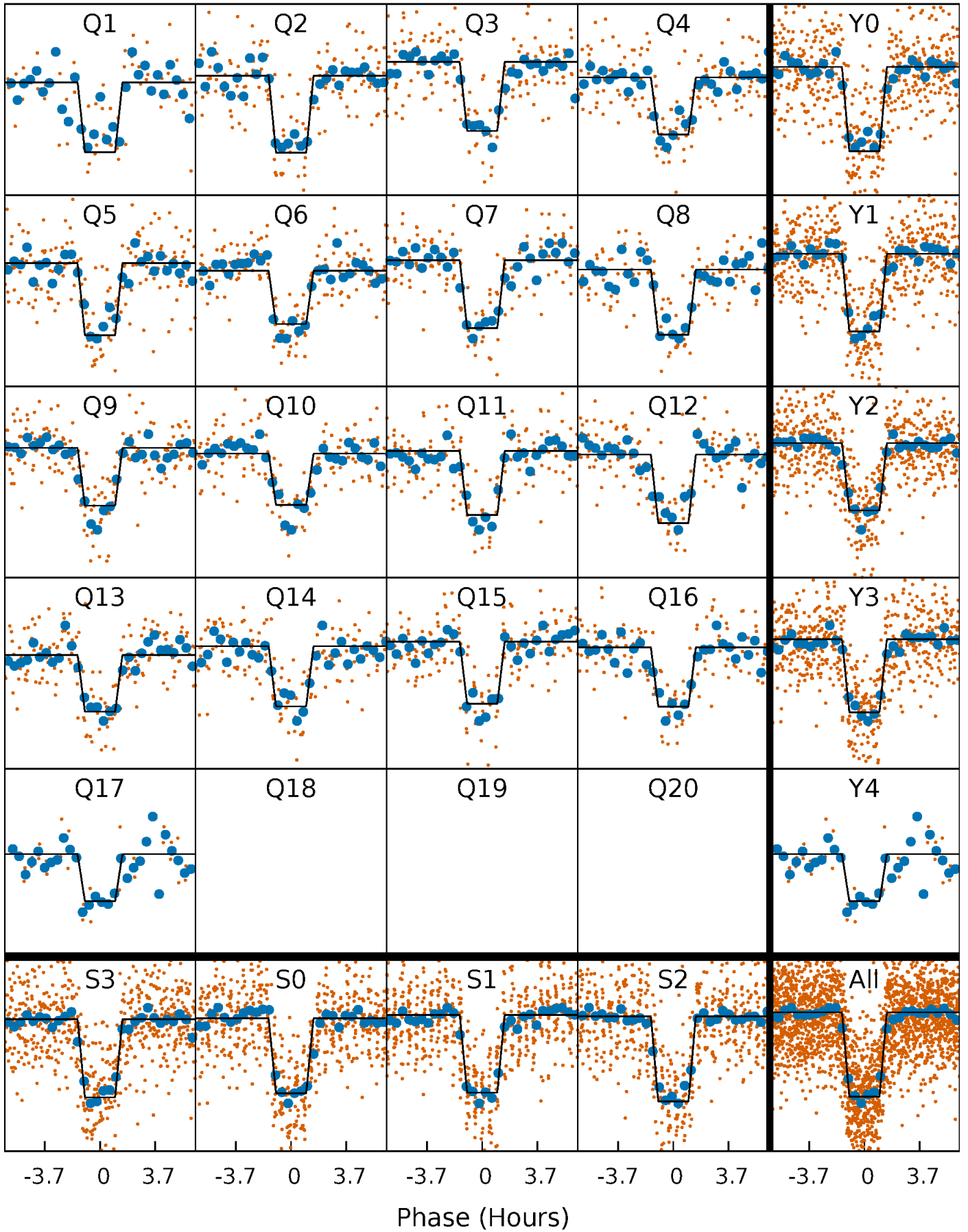
DV Quarter-Phased Transit Curves

TCE 004644604-01 P= 14.485849 Days $T_0=131.548667$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

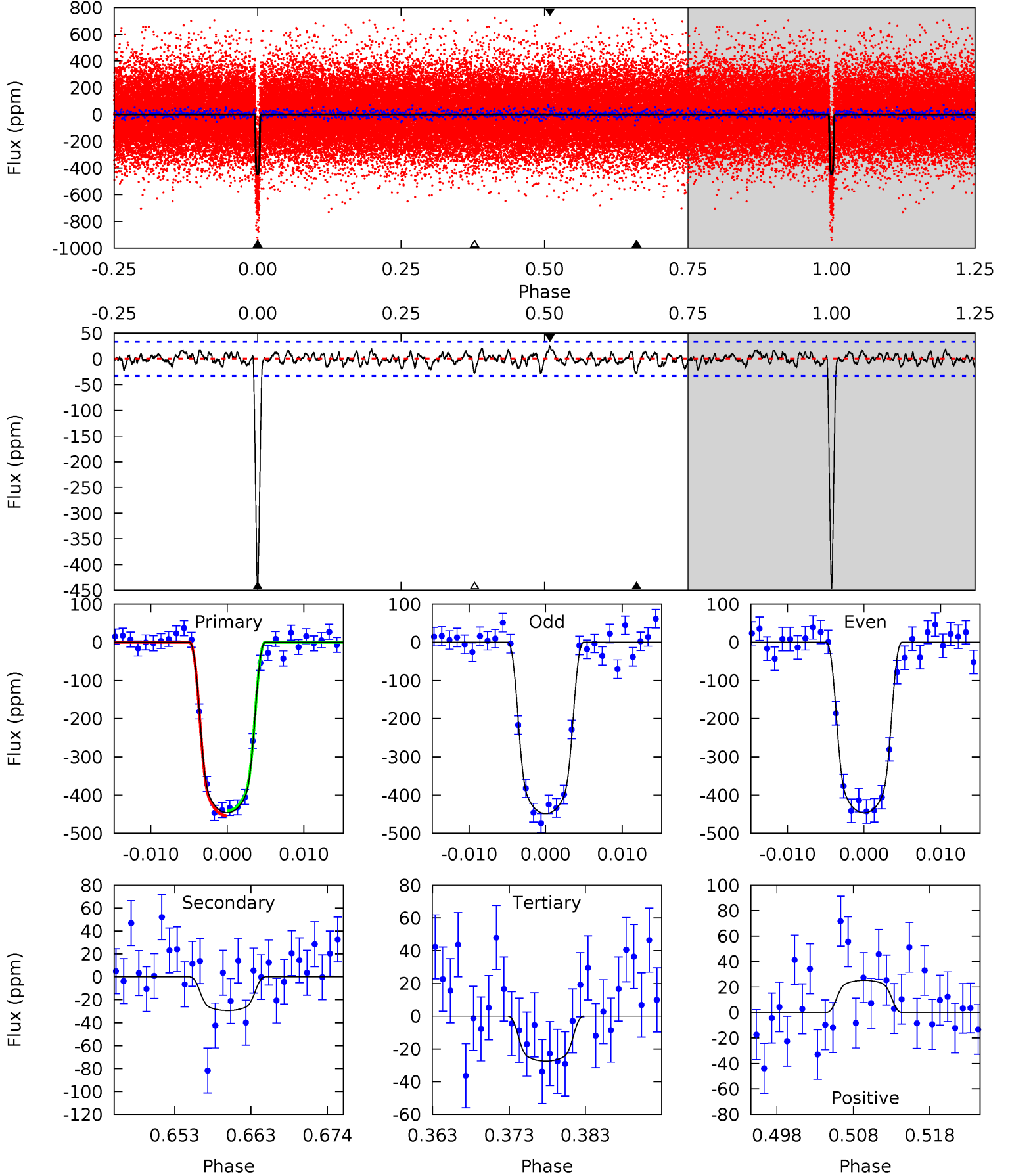
TCE 004644604-01 P= 14.485887 Days $T_0=131.546916$ (BKJD)



DV Model-Shift Uniqueness Test

004644604-01, $P = 14.485849$ Days, $E = 117.062818$ Days

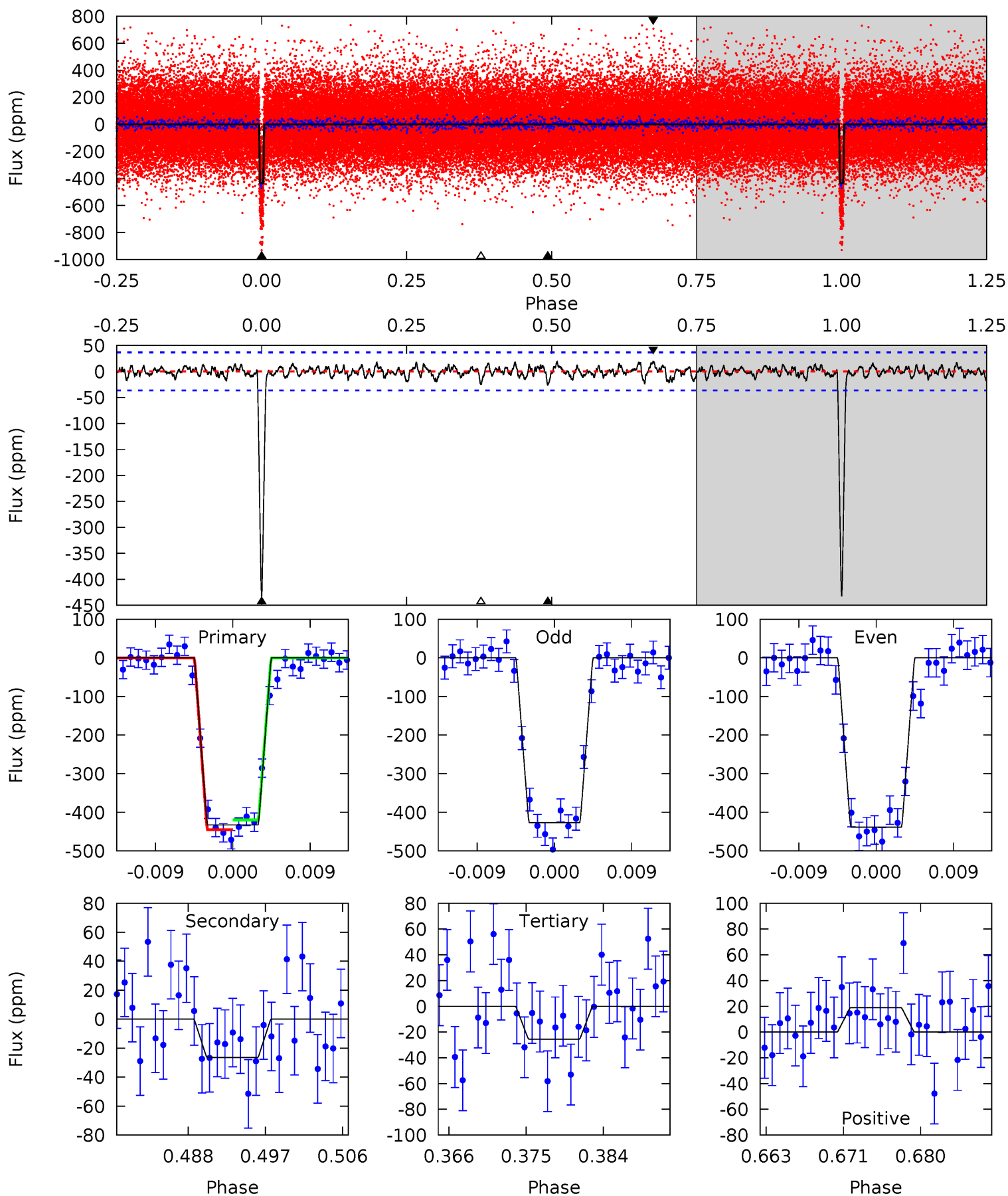
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.9	4.41	4.12	3.79	5.02	2.56	1.24	62.8	63.1	0.29	0.63	0.15	1.00	0.05	0.98



Alt Model-Shift Uniqueness Test

004644604-01, $P = 14.485887$ Days, $E = 117.061029$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.9	3.67	3.53	2.63	5.05	2.62	1.06	56.4	57.3	0.14	1.04	0.81	0.97	0.04	1.76



Stellar Parameters For KIC 004644604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5784^{+104}_{-116}	$4.352^{+0.115}_{-0.115}$	$0.000^{+0.150}_{-0.150}$	$1.085^{+0.170}_{-0.139}$	$0.966^{+0.080}_{-0.058}$	$1.064^{+0.506}_{-0.342}$
	+2%/-2%	+3%/-3%	+inf%/-inf%	+16%/-13%	+8%/-6%	+48%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004644604-01 / KOI 0628.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 7	$2.86^{+0.28}_{-0.24}$	1094^{+54}_{-47}	3280^{+122}_{-138}	26^{+8}_{-7}
Alt.	-26 ± 7	$2.50^{+0.25}_{-0.24}$	1095^{+52}_{-49}	3382^{+151}_{-170}	31^{+11}_{-9}

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 $A_{obs} \gg 1.0$

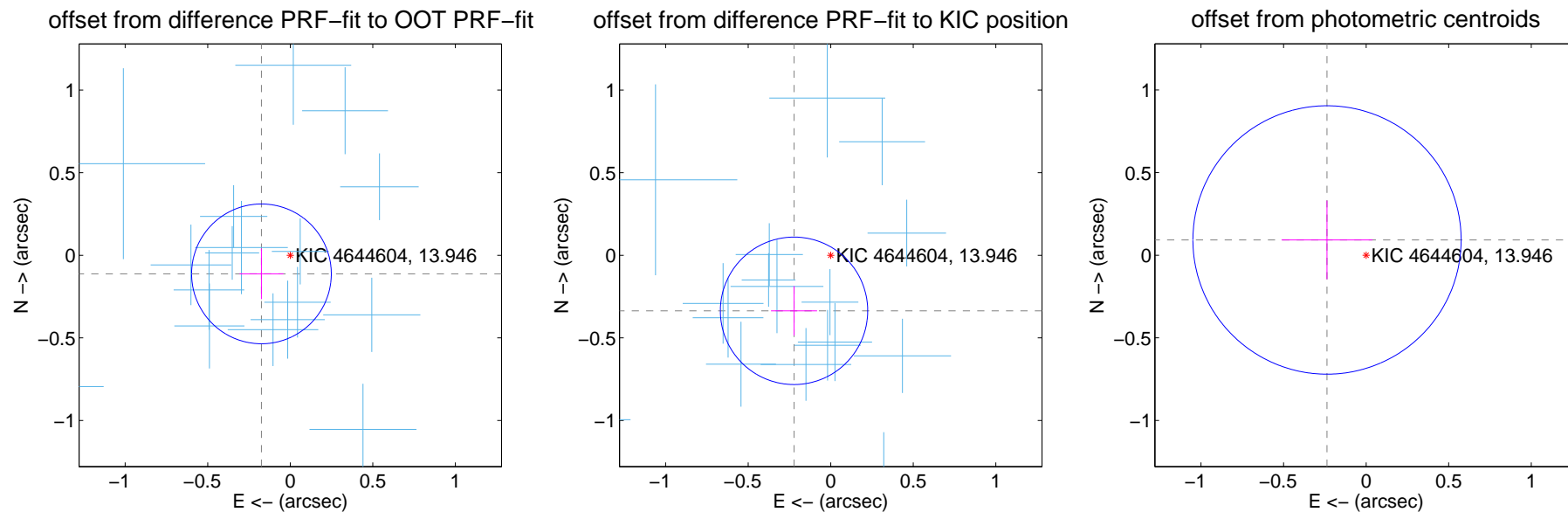
DV Centroid Data

Supplemental centroid analysis for 004644604-01. Kepler magnitude: 13.95. Transit SNR 48.57

There are 17 quarters with good PRF difference image offsets

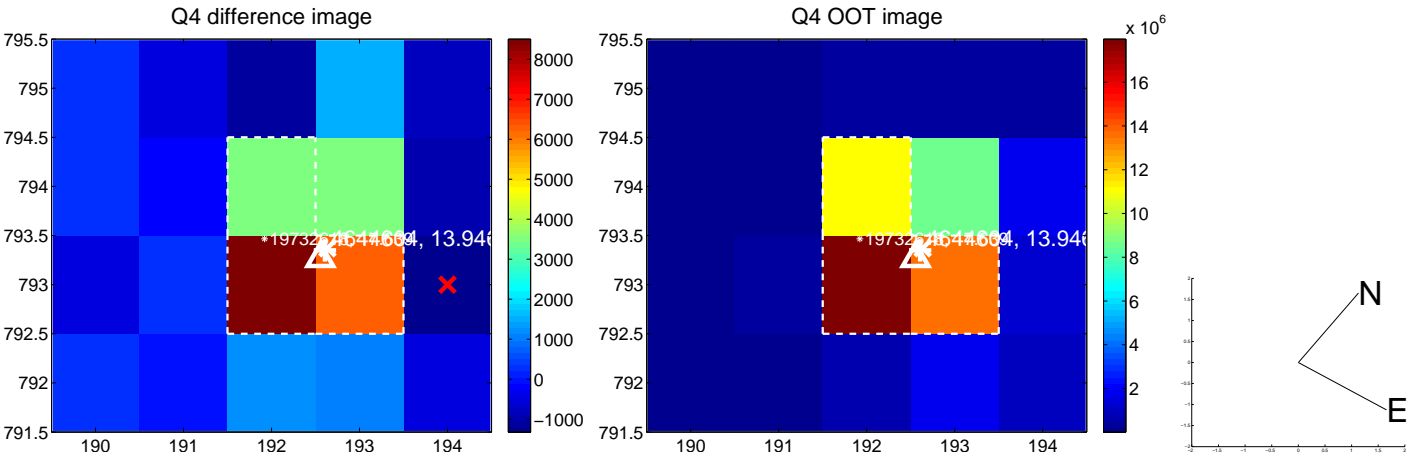
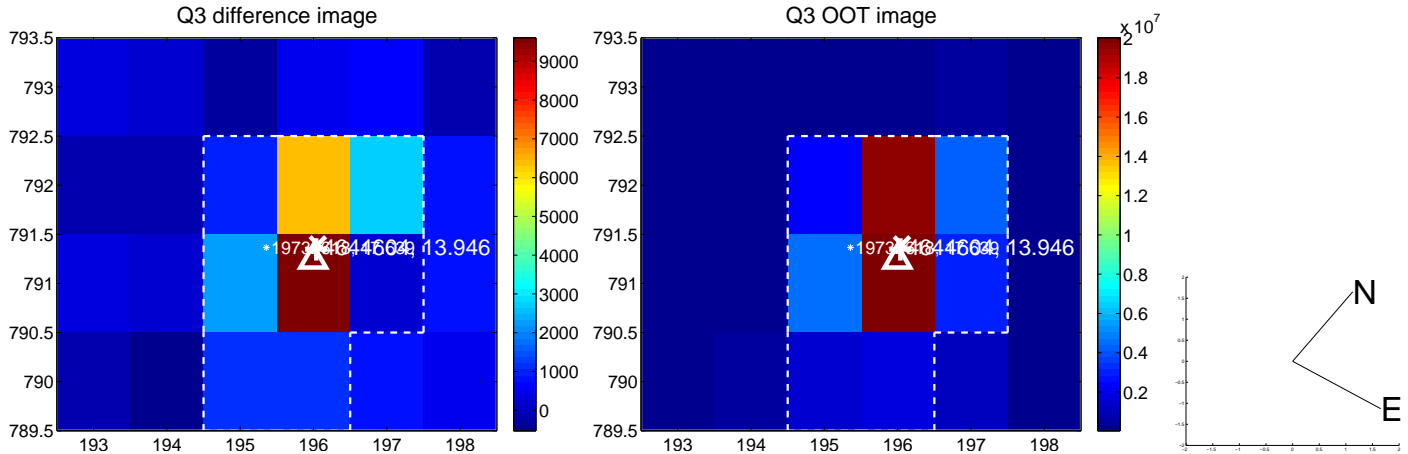
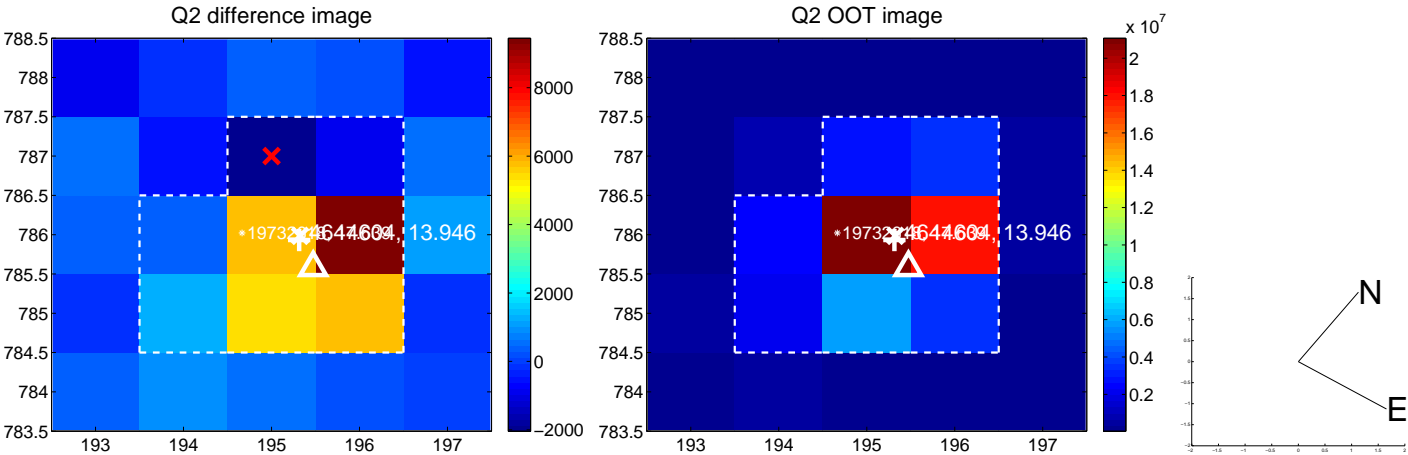
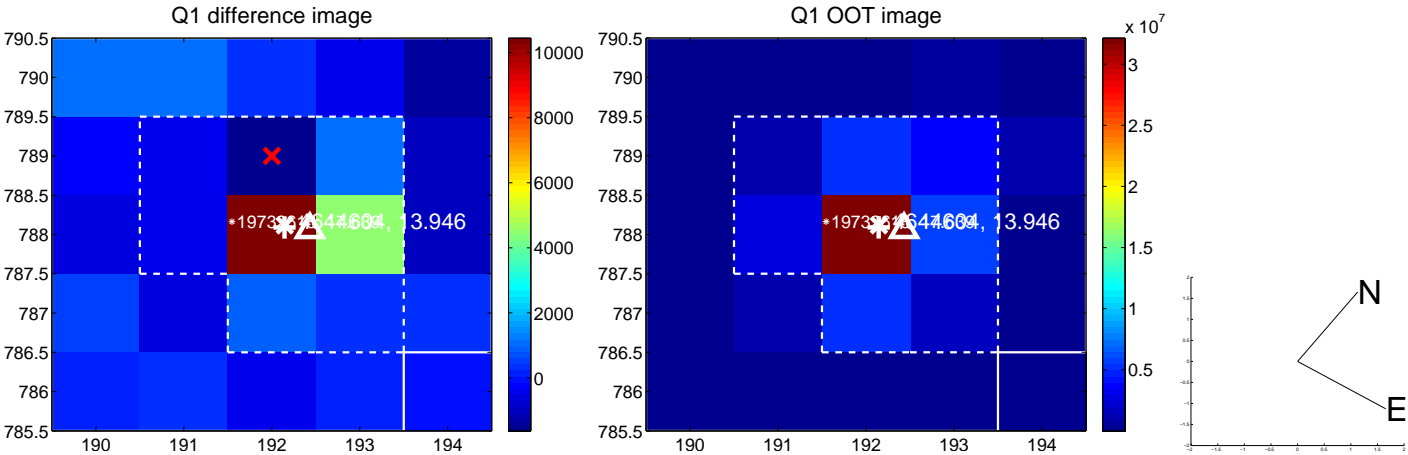
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.208 ± 0.141	1.47	0.175 ± 0.133	-0.113 ± 0.153
PRF-fit source offset from KIC position	0.403 ± 0.149	2.71	0.222 ± 0.140	-0.336 ± 0.149
photometric centroid source offset	0.25 ± 0.27	0.94	0.24 ± 0.28	0.09 ± 0.24

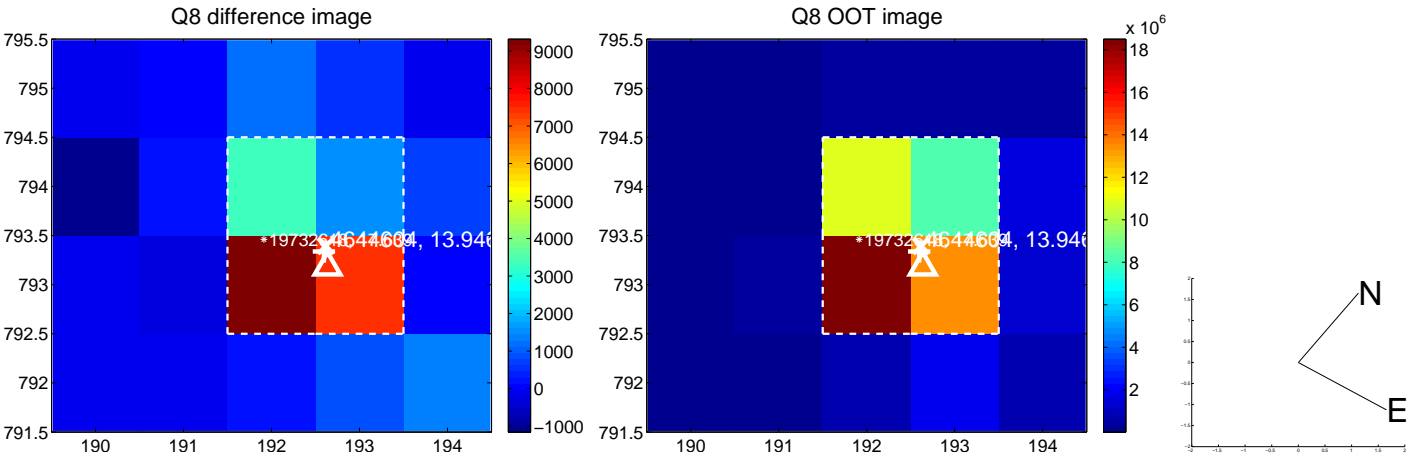
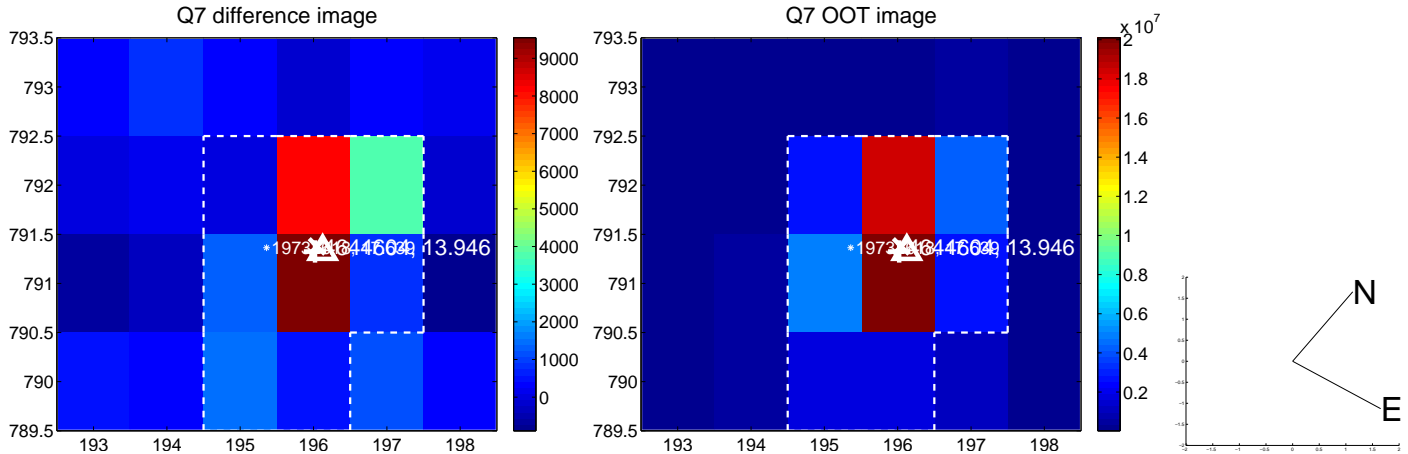
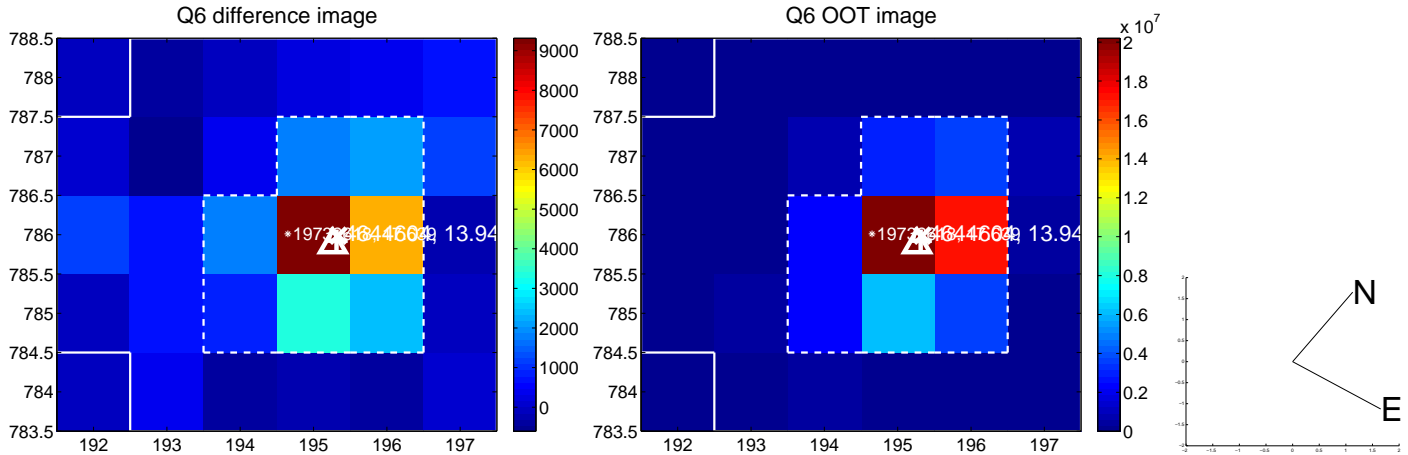
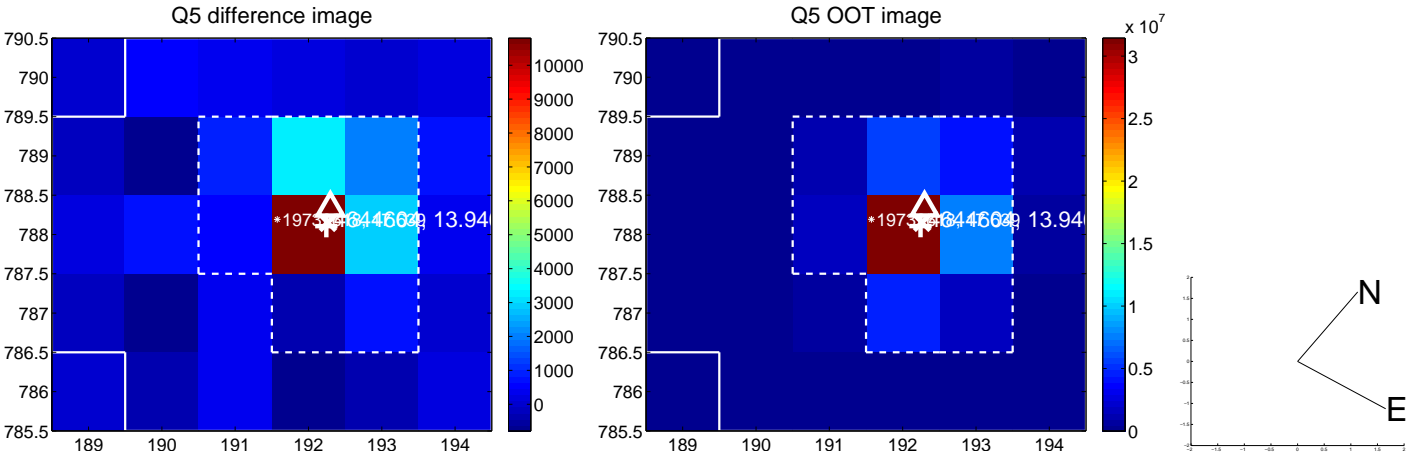


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

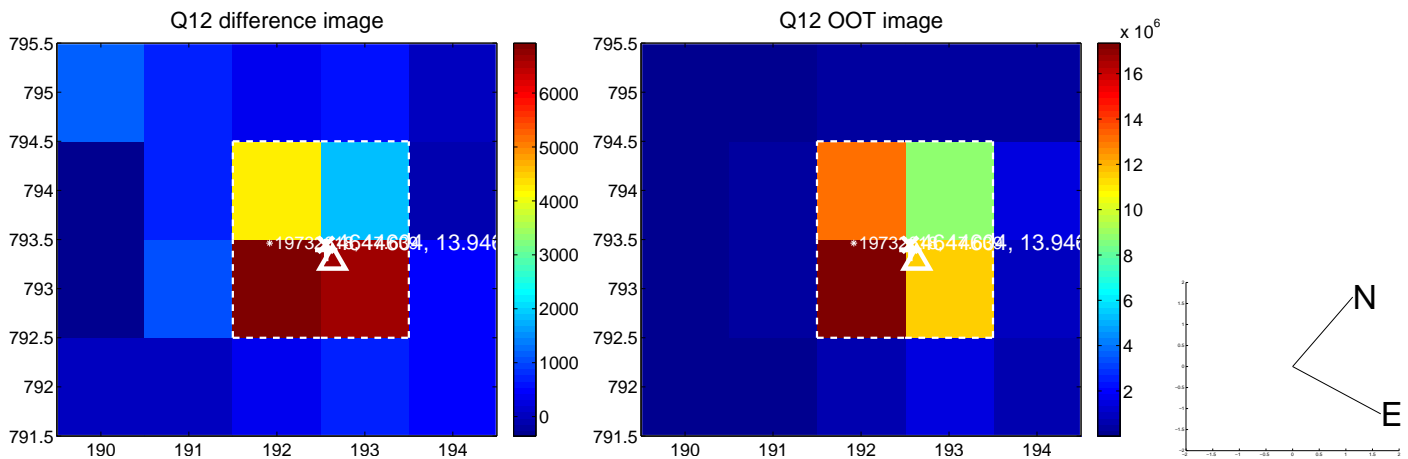
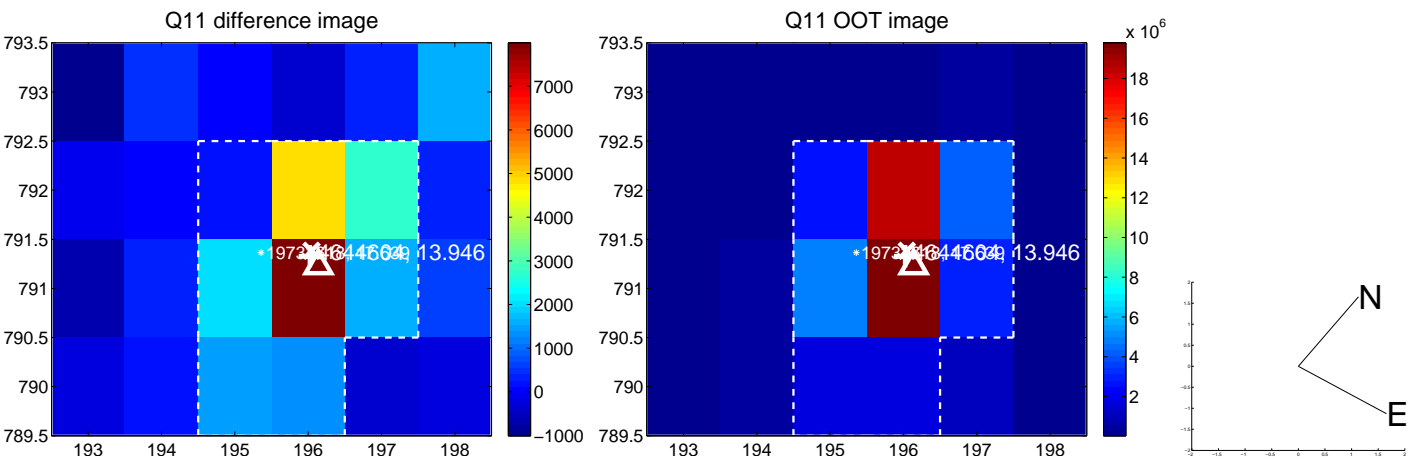
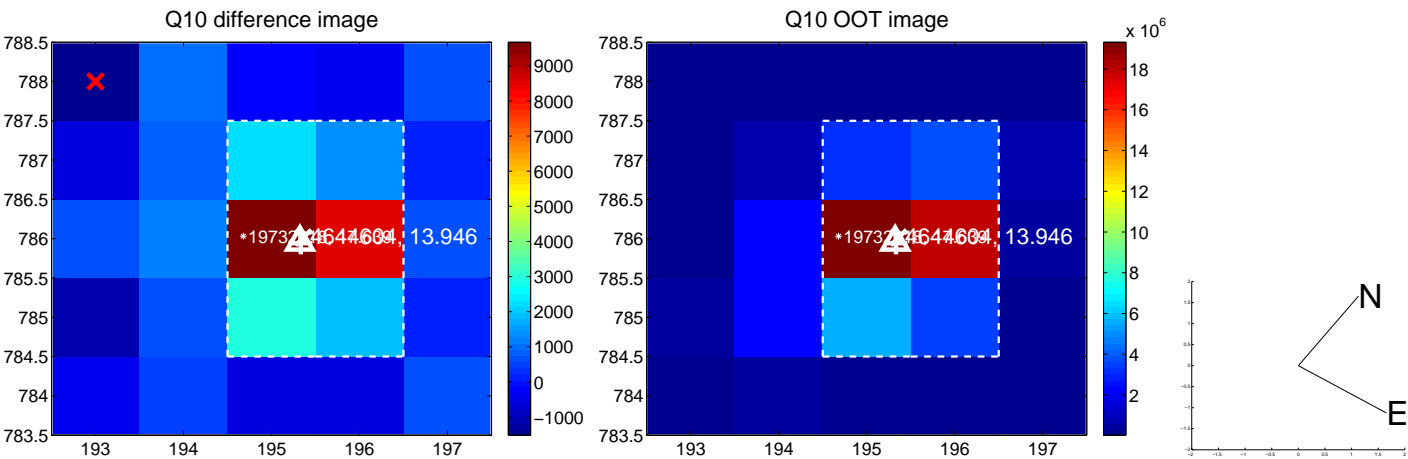
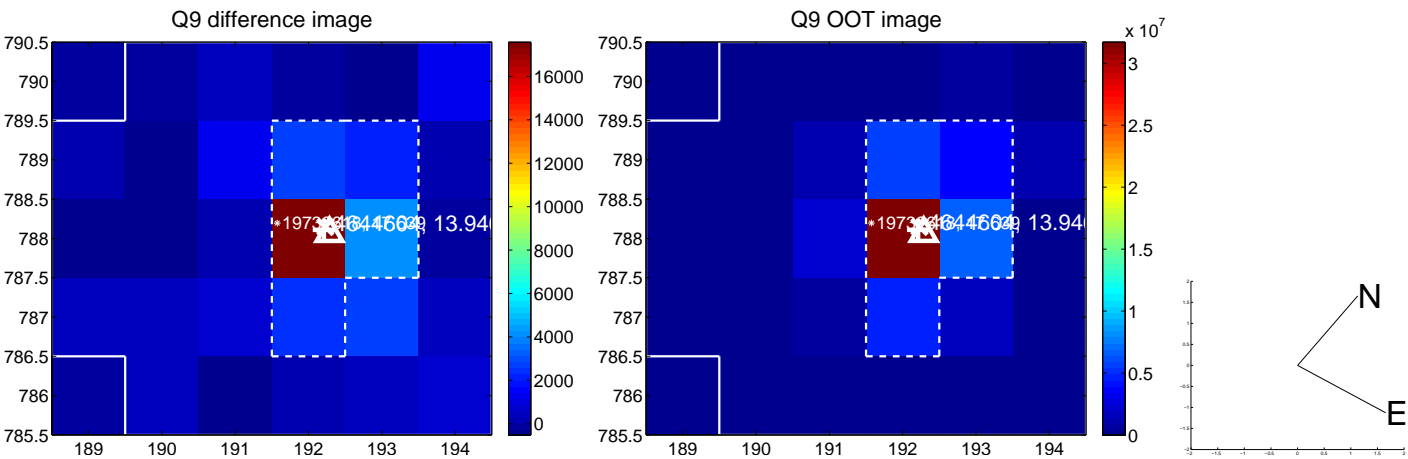
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



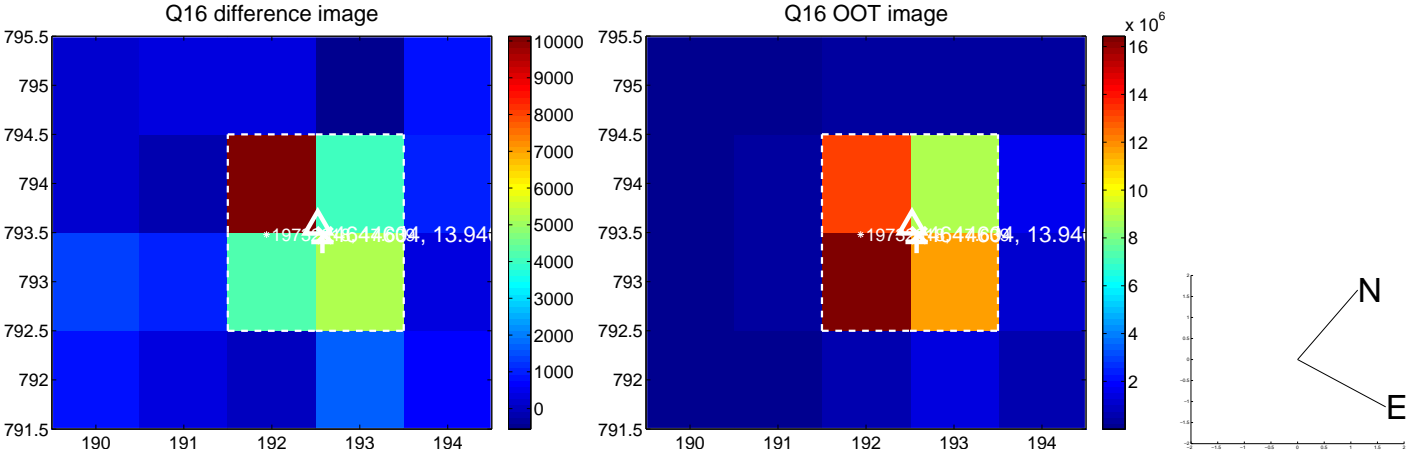
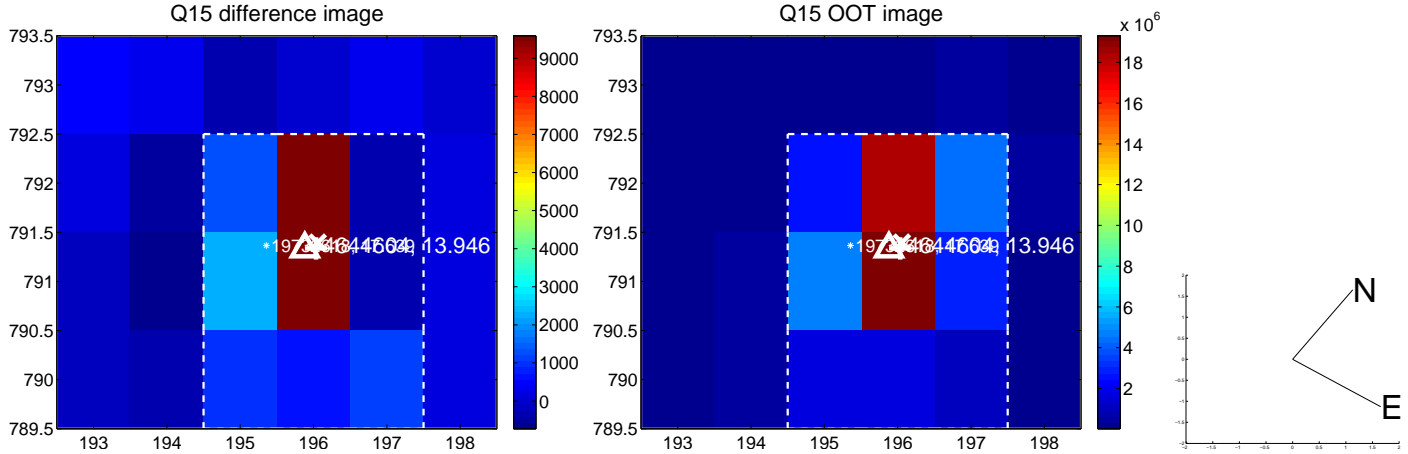
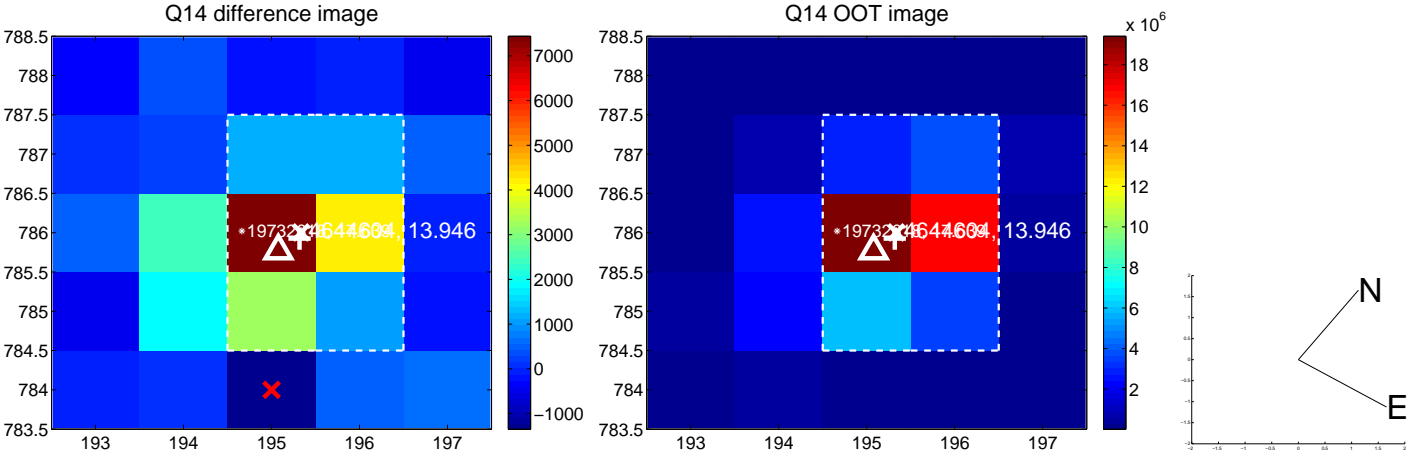
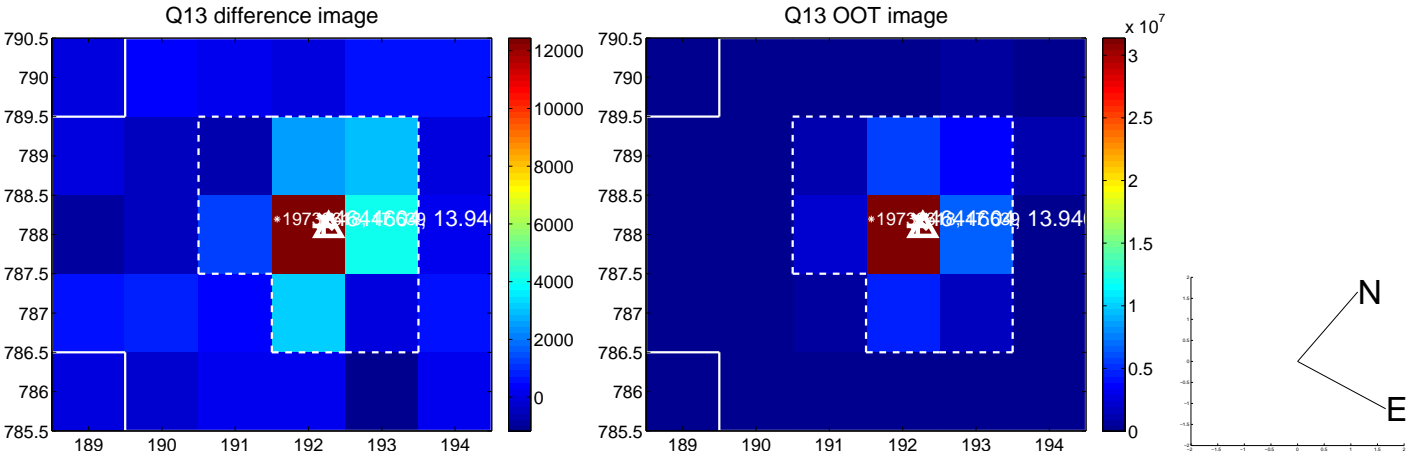
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



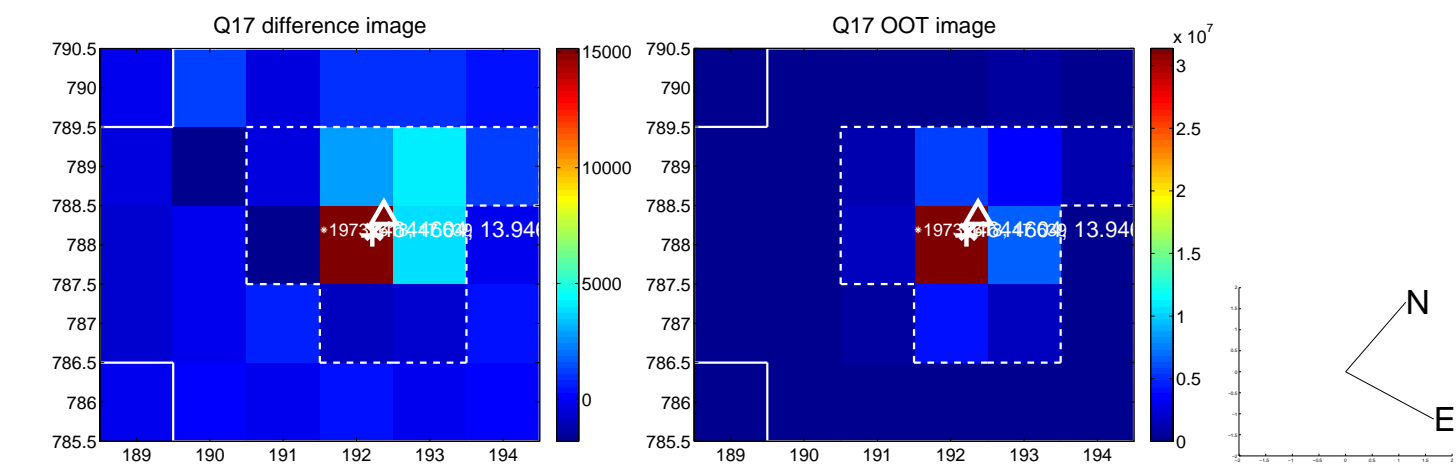
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



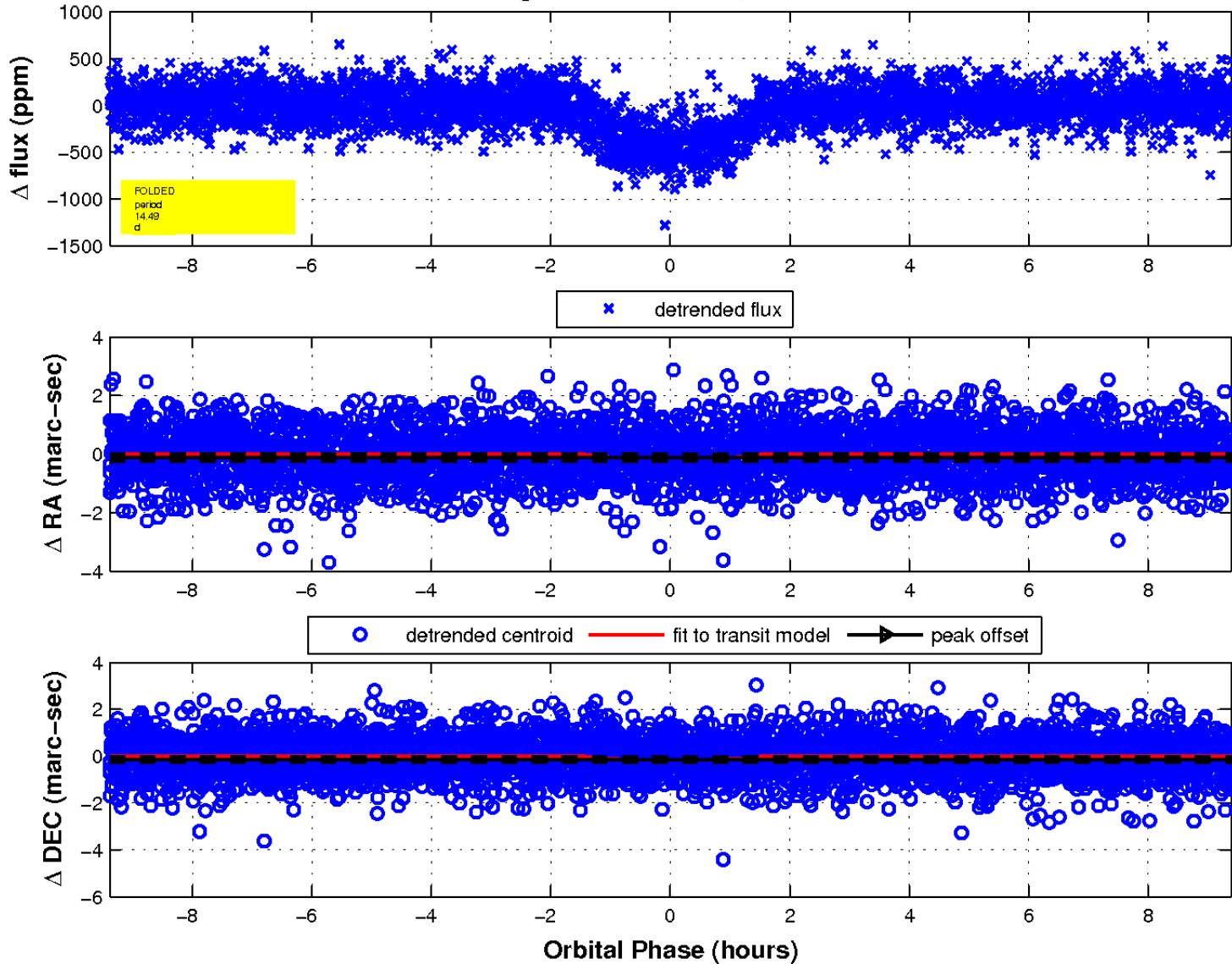
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

