

KIC 006428794

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})
006428794-01	OBS	4054.01	169.134135	201.810353	645.8	8.987	16.7	17.6	0.80	5171	2.24	1.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006428794-01	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.

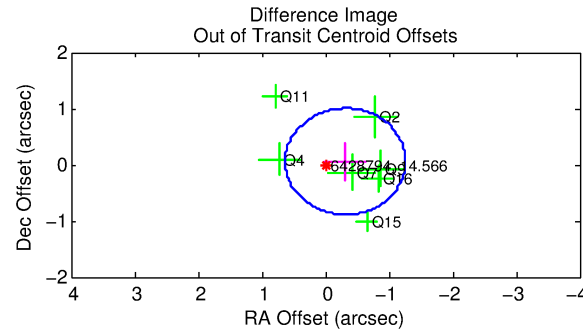
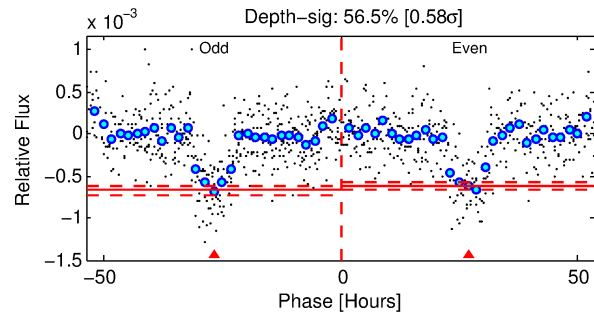
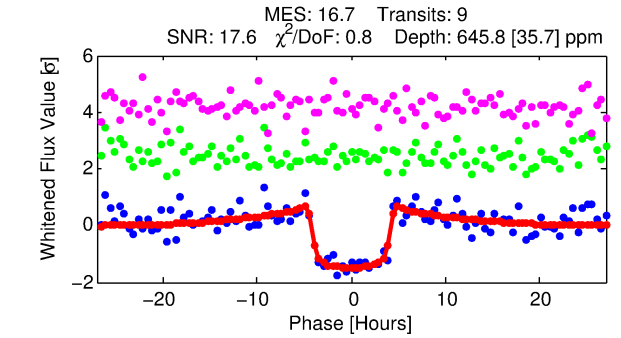
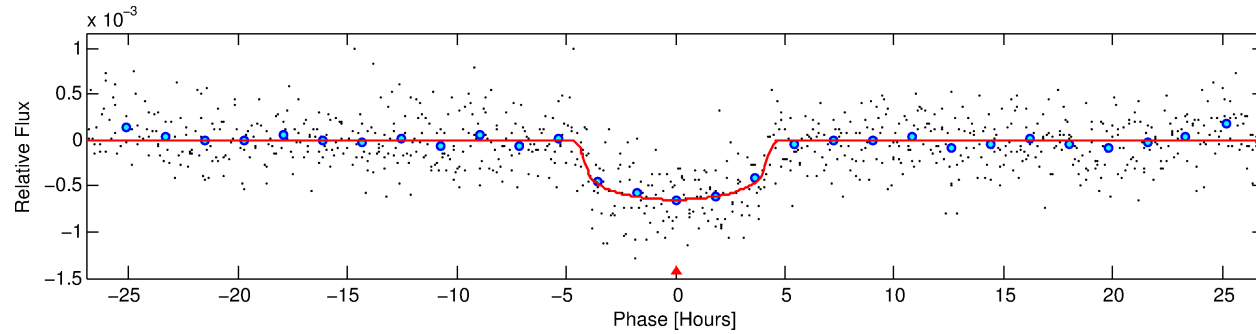
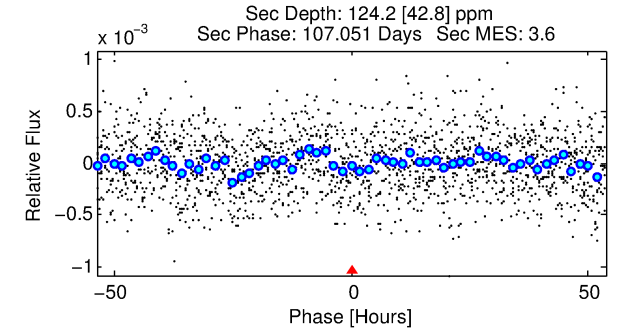
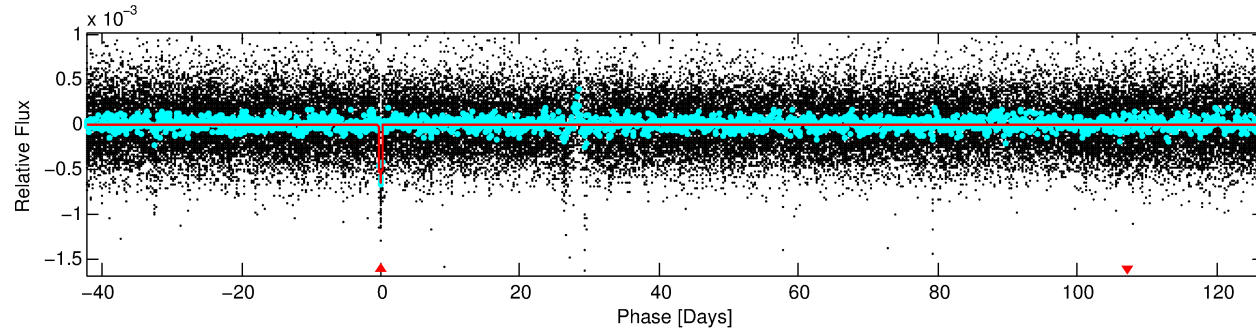
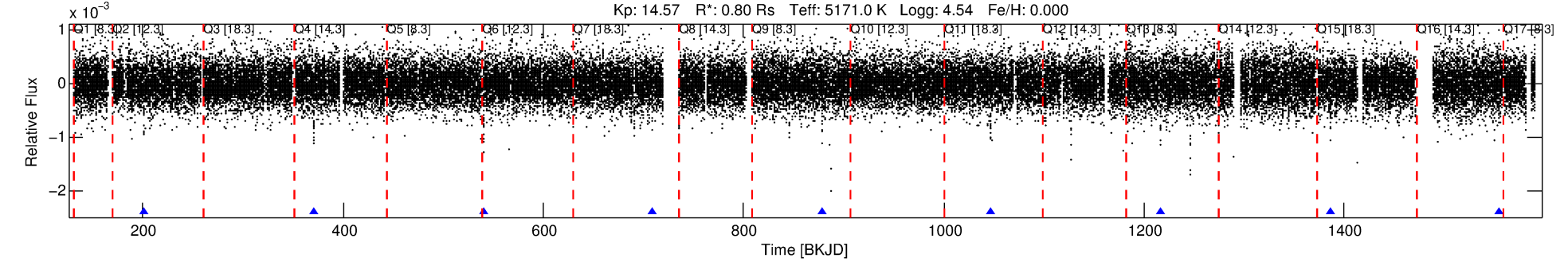
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006428794-01

No Significant Match Found

DV One-Page Summary

KIC: 6428794 Candidate: 1 of 1 Period: 169.134 d
KOI: K04054.01 Corr: 0.979



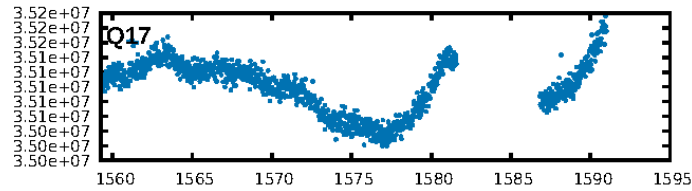
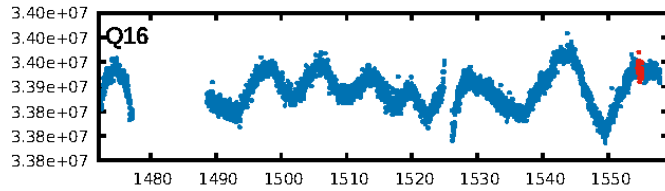
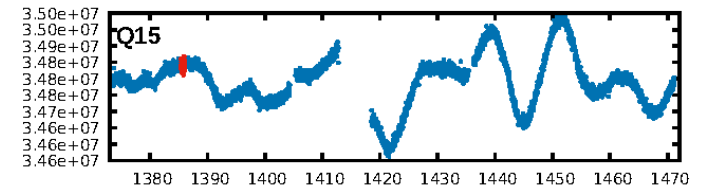
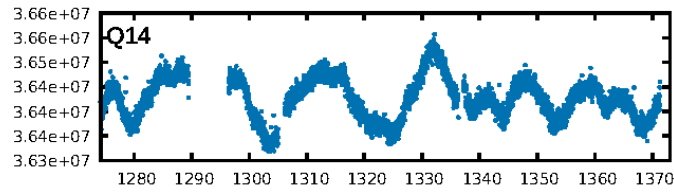
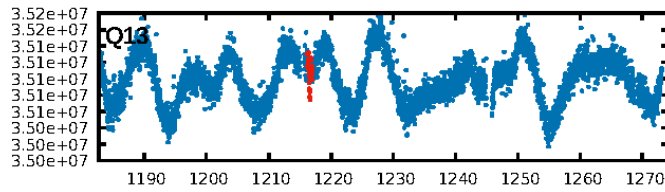
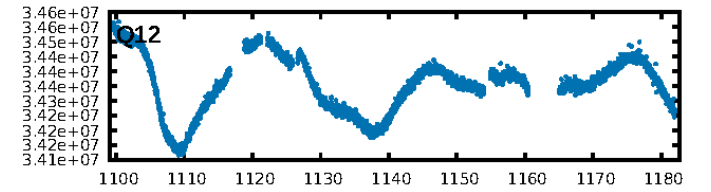
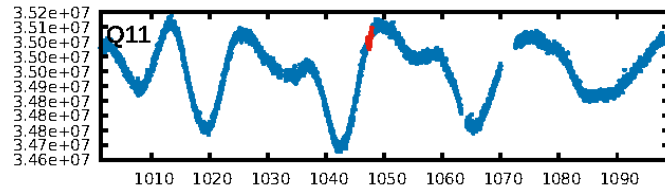
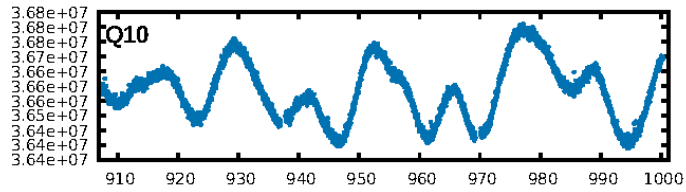
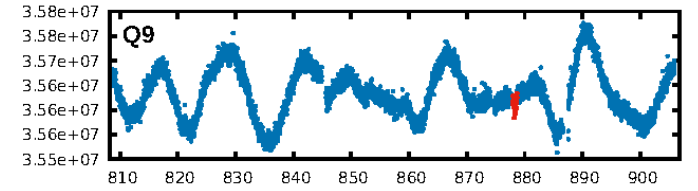
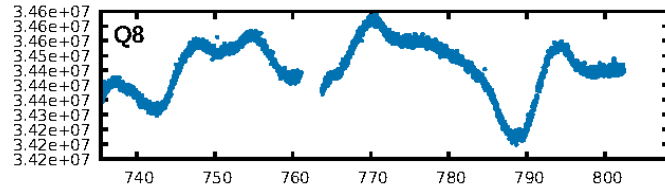
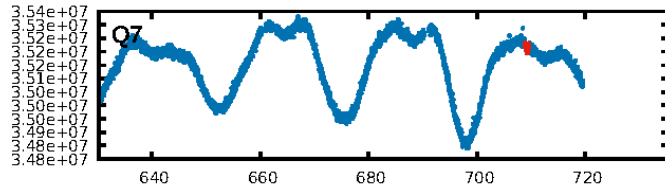
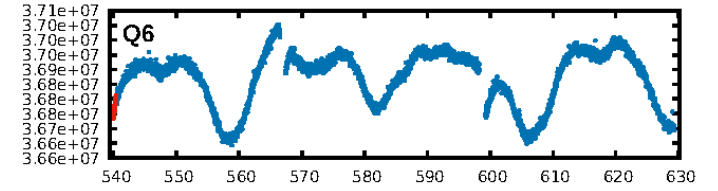
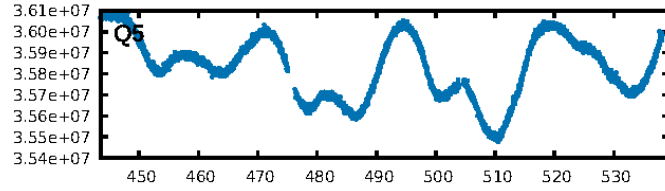
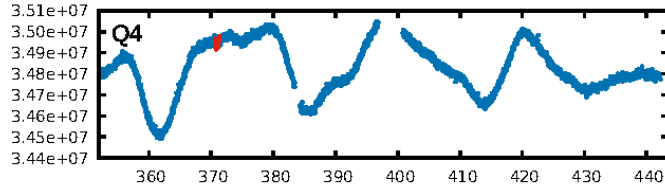
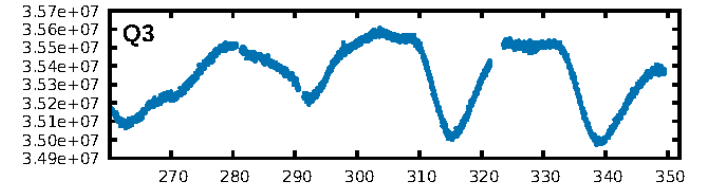
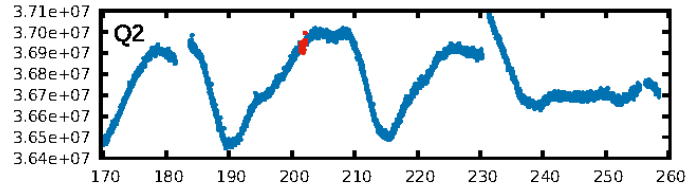
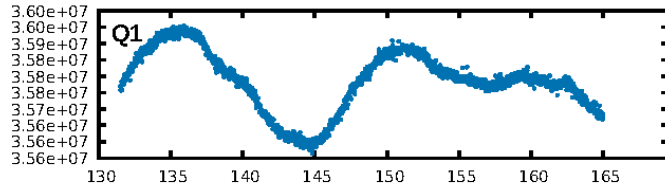
DV Fit Results:

Period = 169.13413 [0.00134] d
Epoch = 201.8104 [0.0063] BKJD
Rp/R* = 0.0256 [0.0046]
a/R* = 97.65 [64.20]
b = 0.77 [0.36]
Seff = 1.31 [0.16]
Teq = 273 [8] K
Rp = 2.24 [0.43] Re
a = 0.5605 [0.0331] AU
Ag = 4295.82 [2173.12] [1.98 σ]
Teffp = 3413 [430] K [7.30 σ]

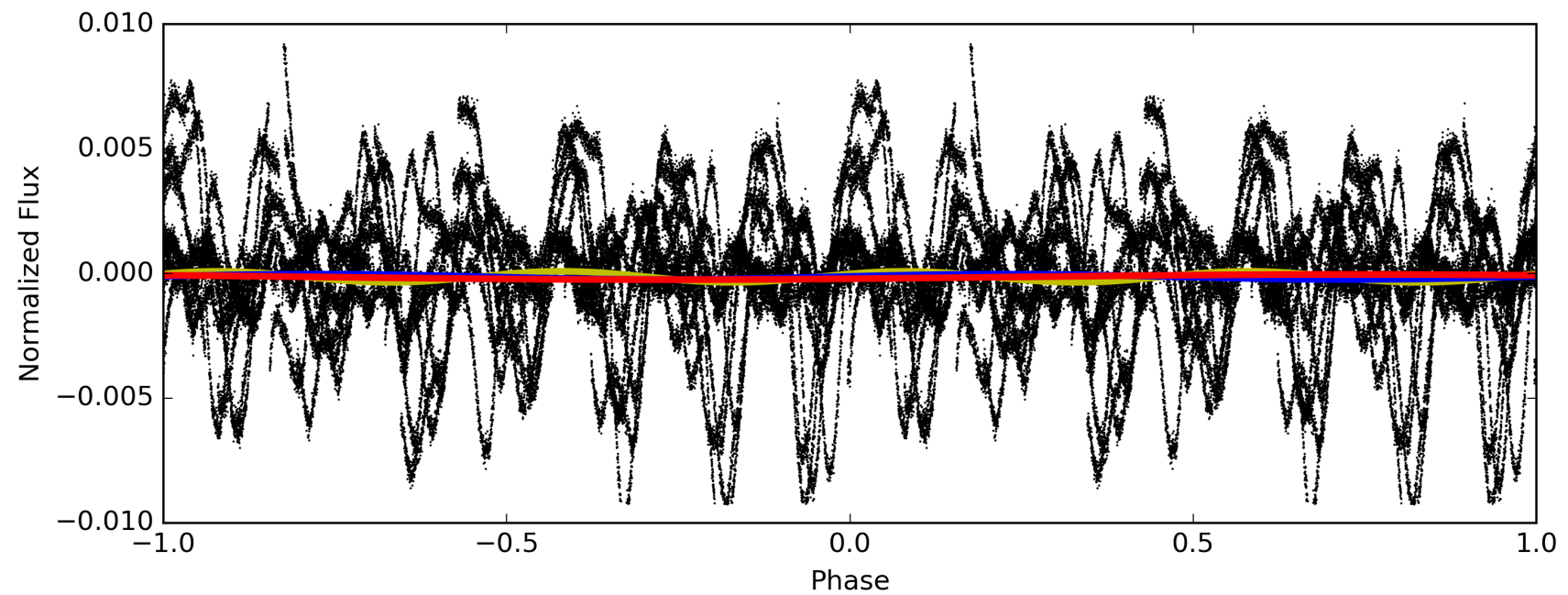
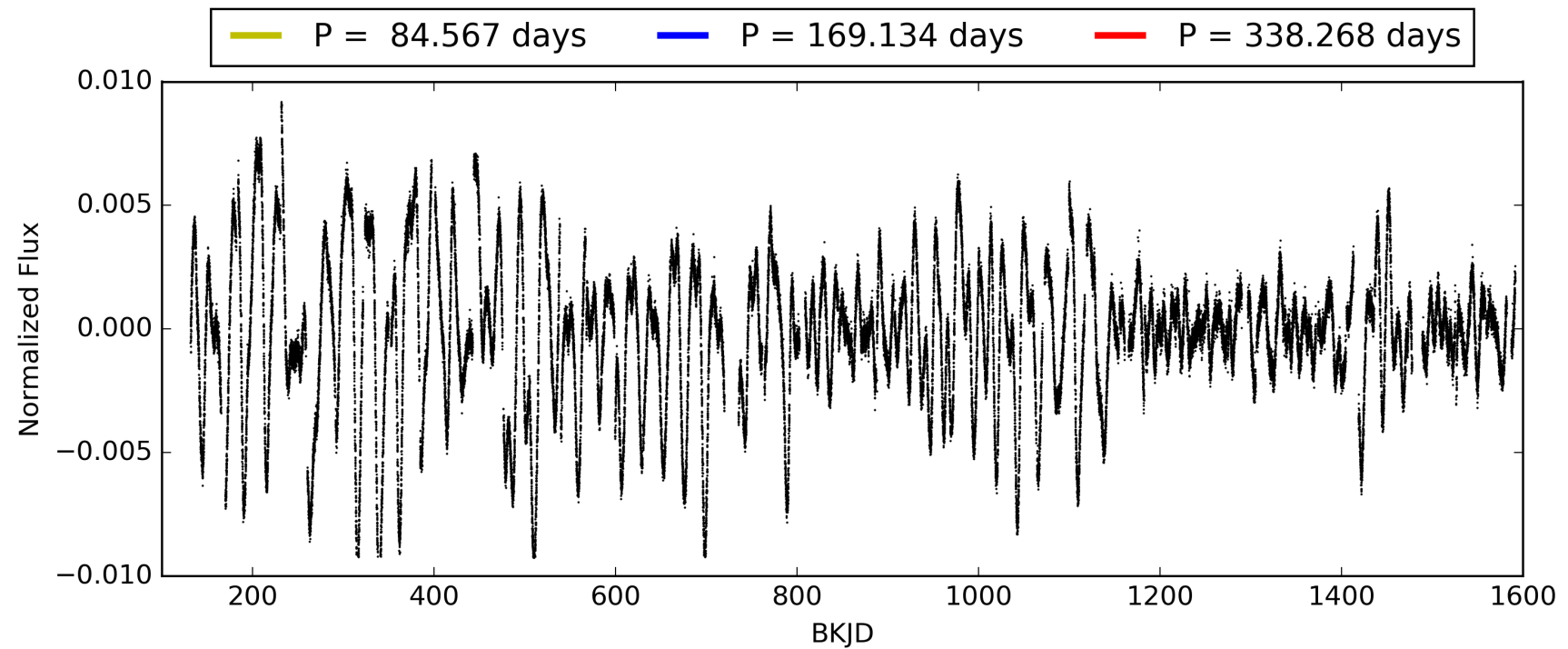
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 74.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.17e-41
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 2.113
Centroid-sig: 1.0%
Centroid-so: 0.952 arcsec [1.84 σ]
OotOffset-rm: 0.317 arcsec [1.01 σ]
KicOffset-rm: 0.399 arcsec [1.18 σ]
OotOffset-st: 1/3/2/1 [7]
KicOffset-st: 1/3/2/1 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

TCE 006428794-01, PDC Light Curves

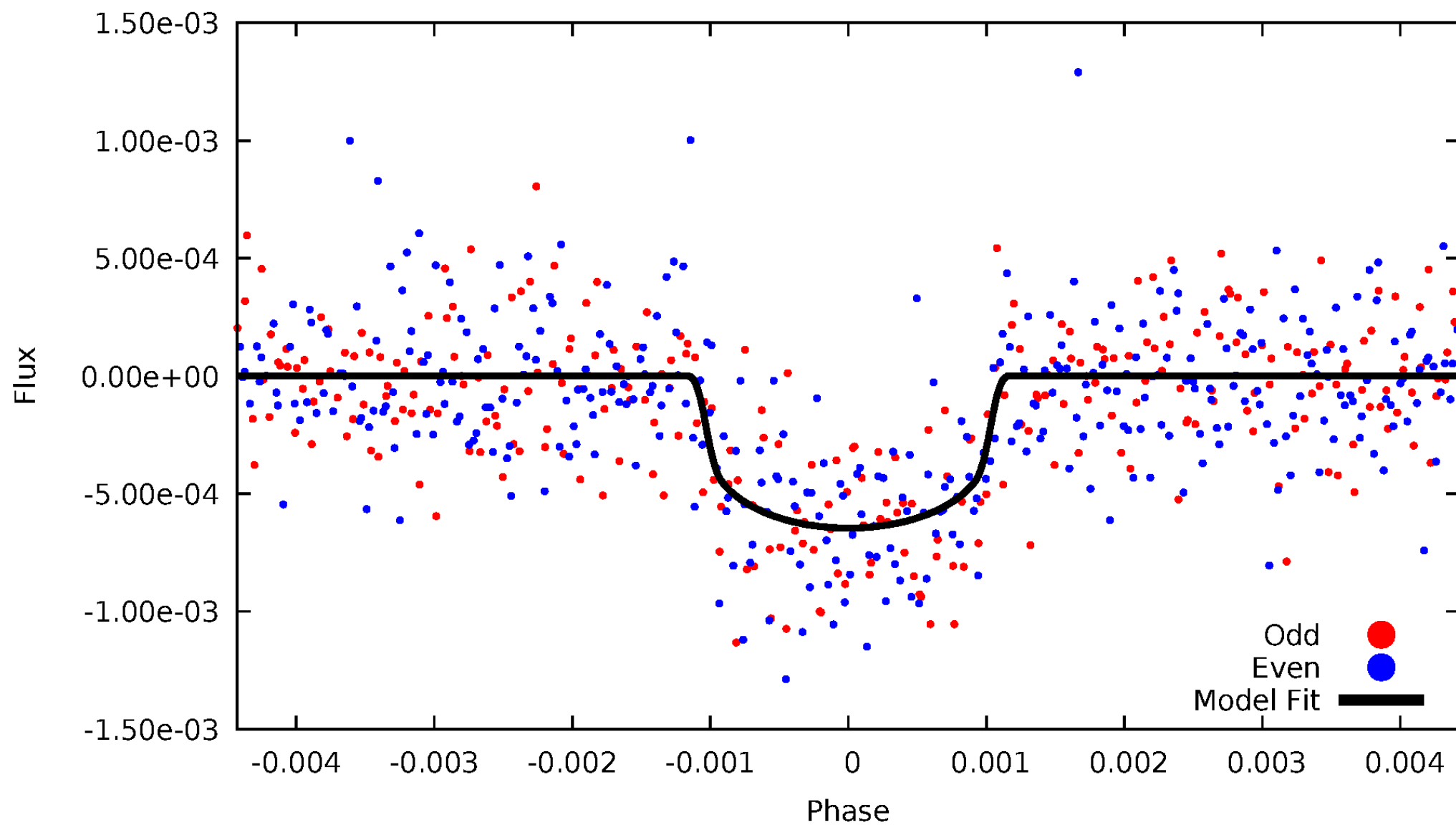


TCE 006428794-01



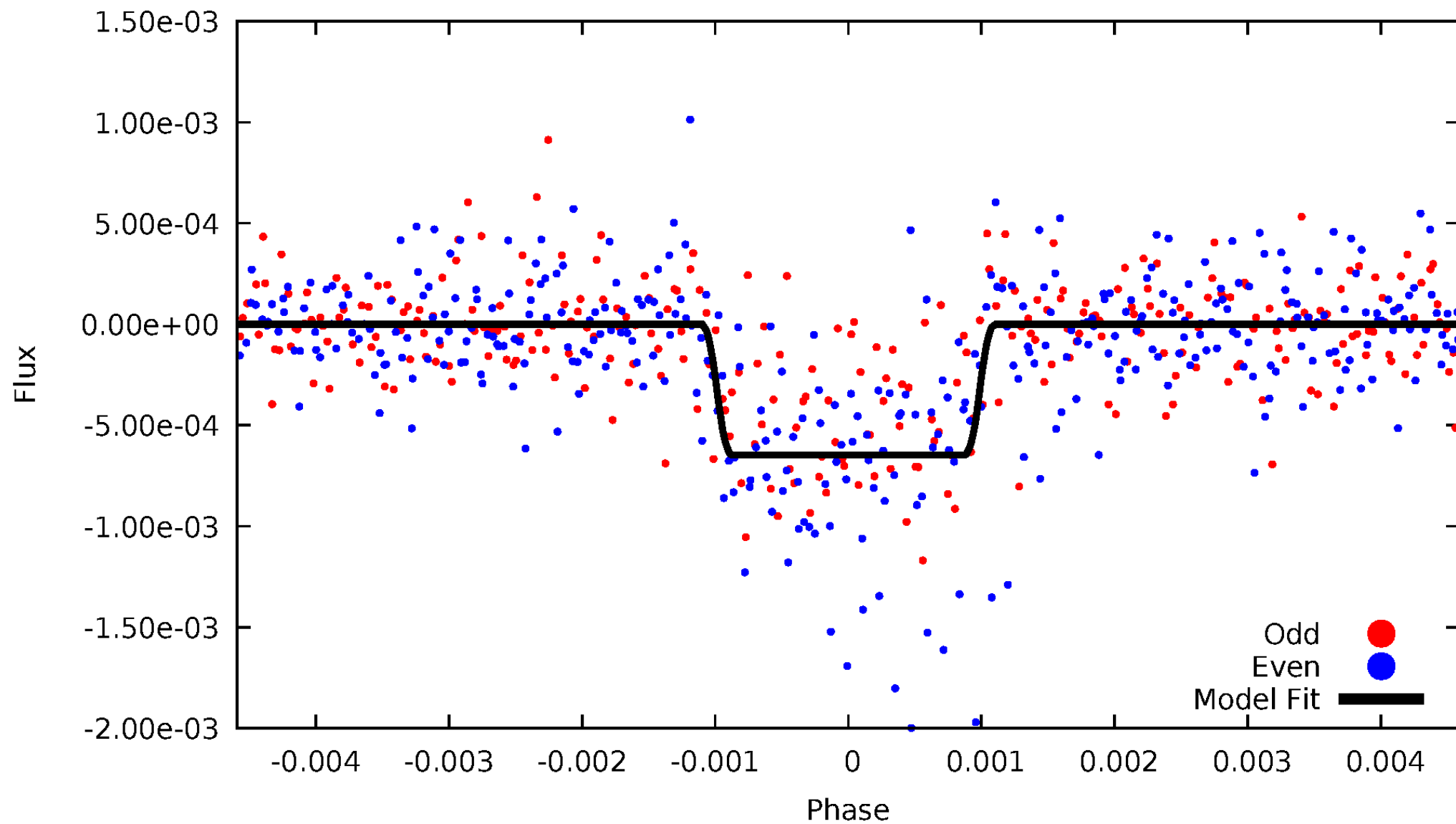
DV Odd/Even

TCE 006428794-01



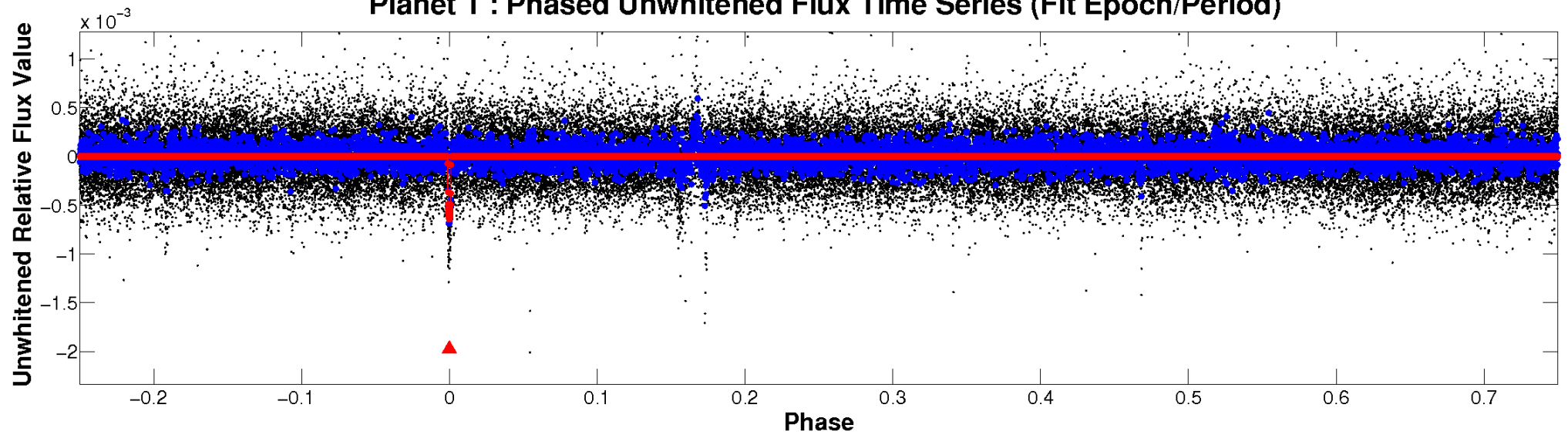
ALT Odd/Even

TCE 006428794-01

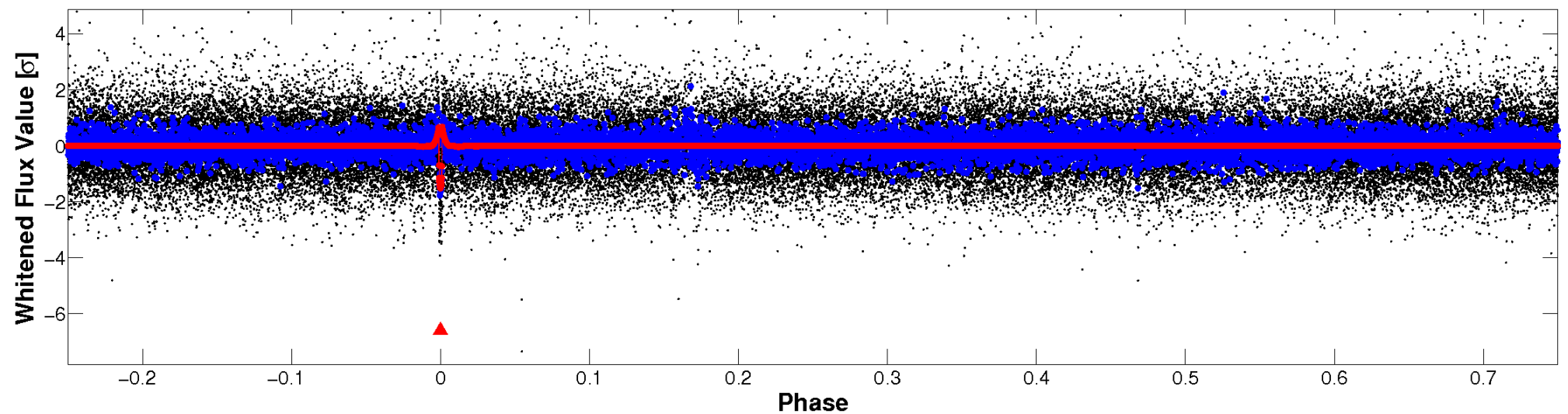


Non-Whitened Vs. Whitened Light Curve

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

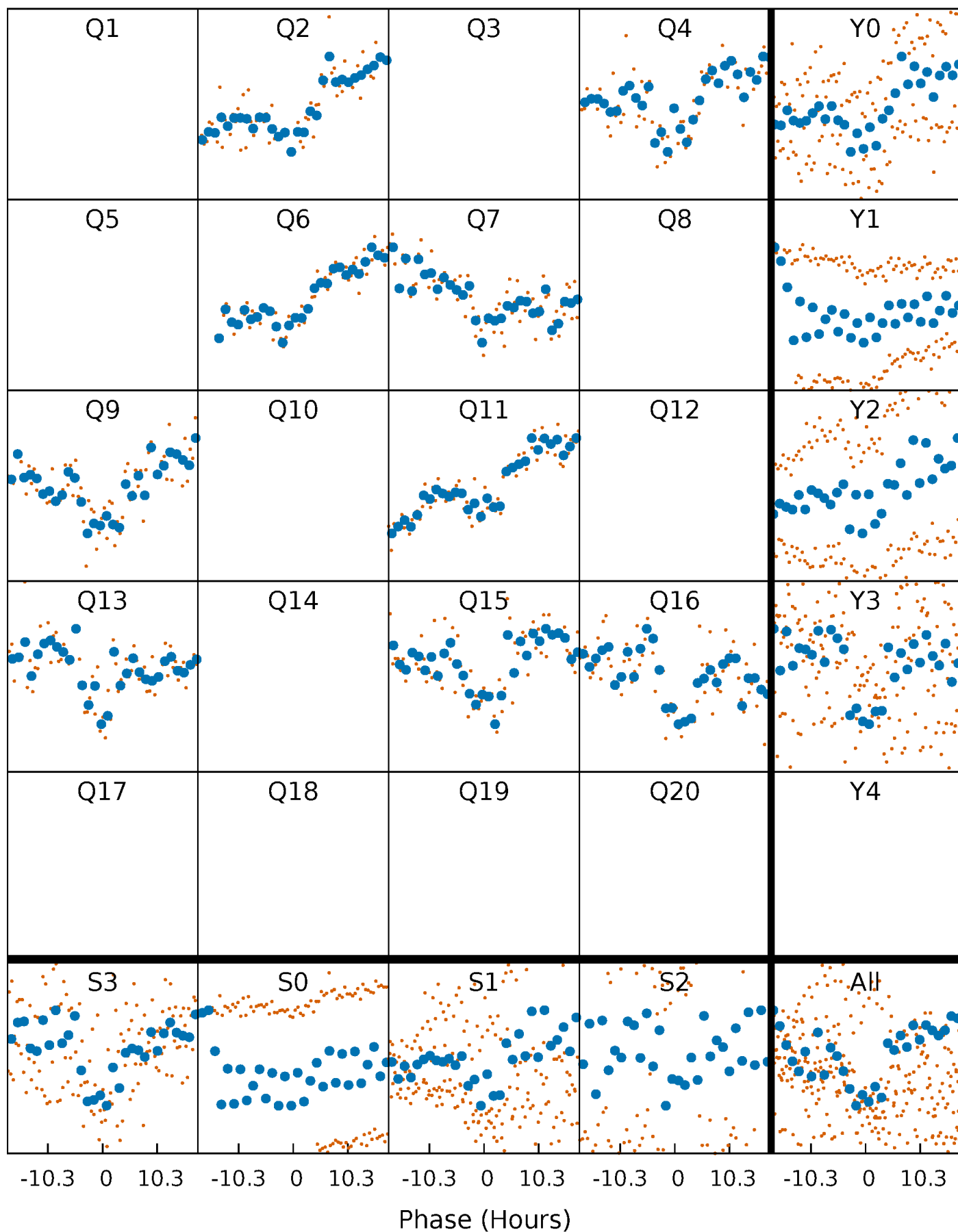


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



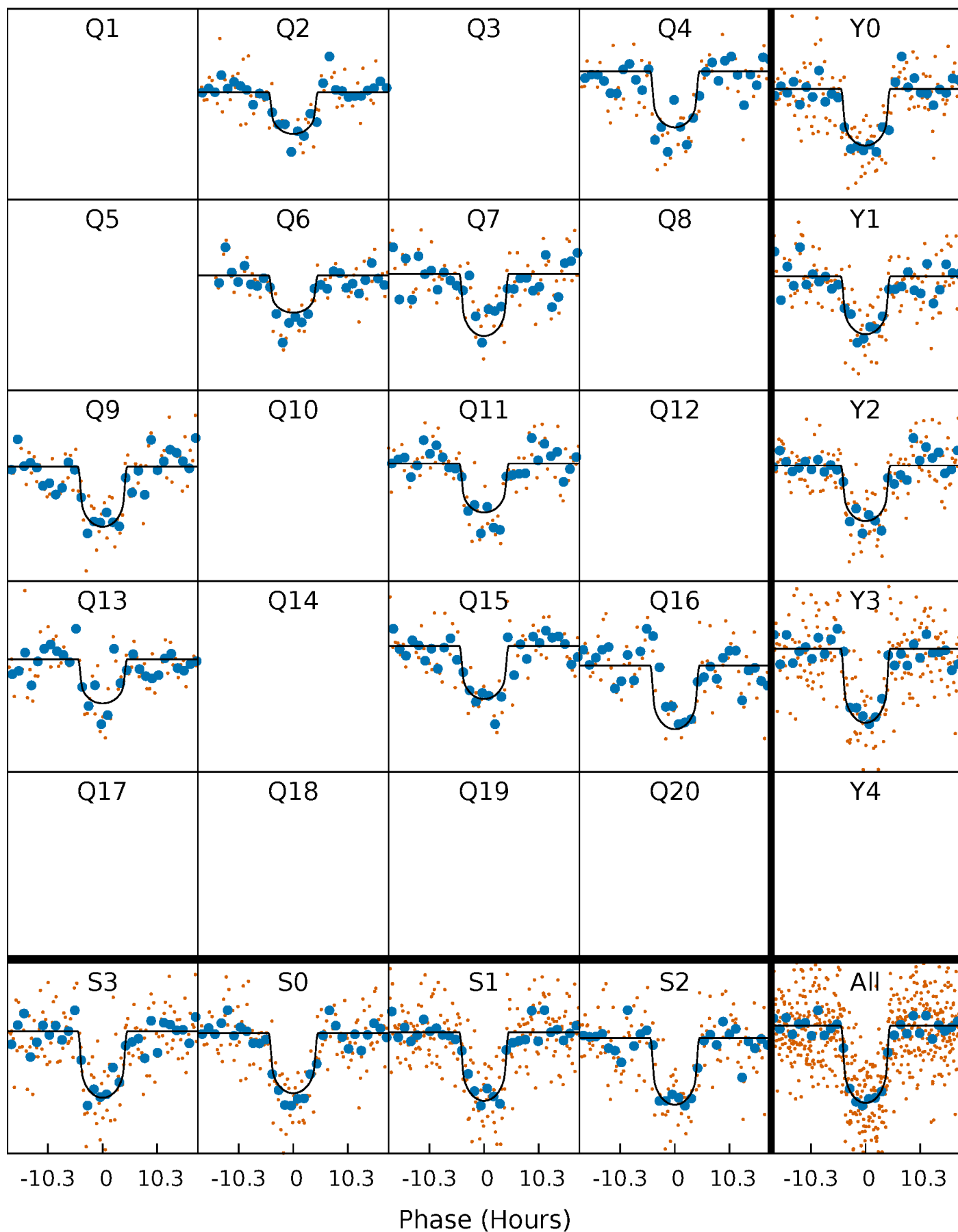
PDC Quarter-Phased Transit Curves

TCE 006428794-01 P=169.134135 Days $T_0=201.810353$ (BKJD)



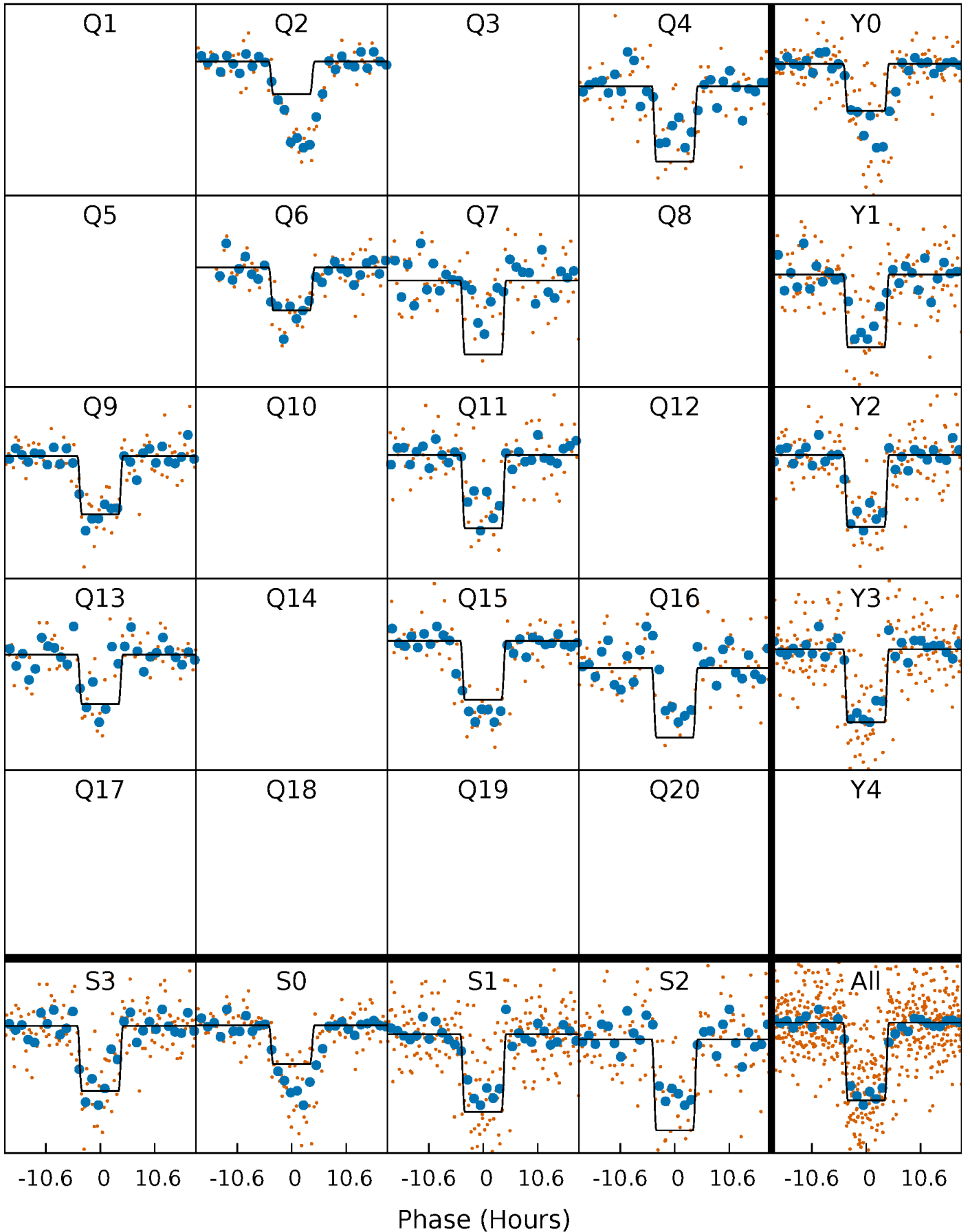
DV Quarter-Phased Transit Curves

TCE 006428794-01 P=169.134135 Days $T_0=201.810353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

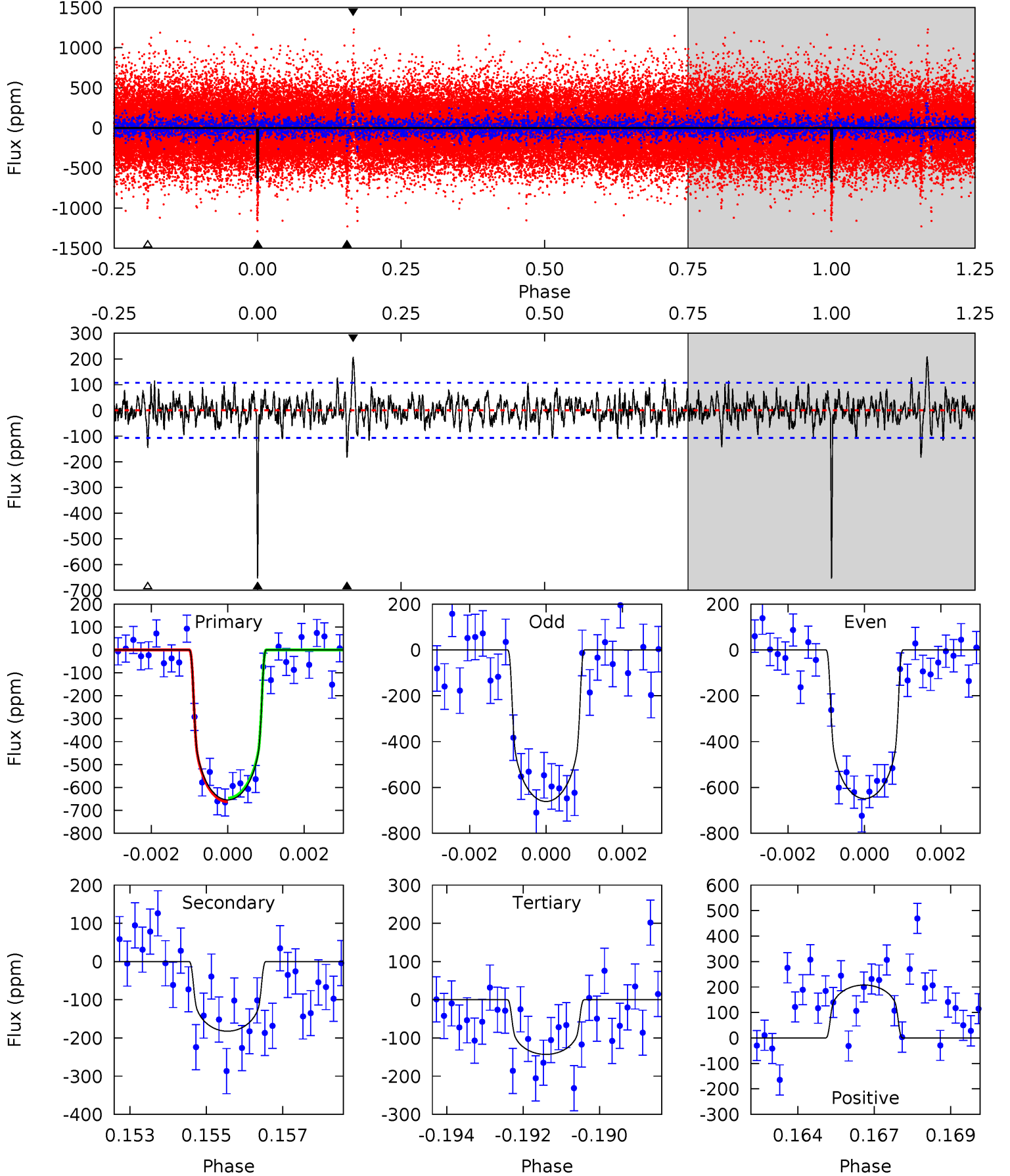
TCE 006428794-01 P=169.135387 Days $T_0=201.807691$ (BKJD)



DV Model-Shift Uniqueness Test

006428794-01, P = 169.134135 Days, E = 32.676218 Days

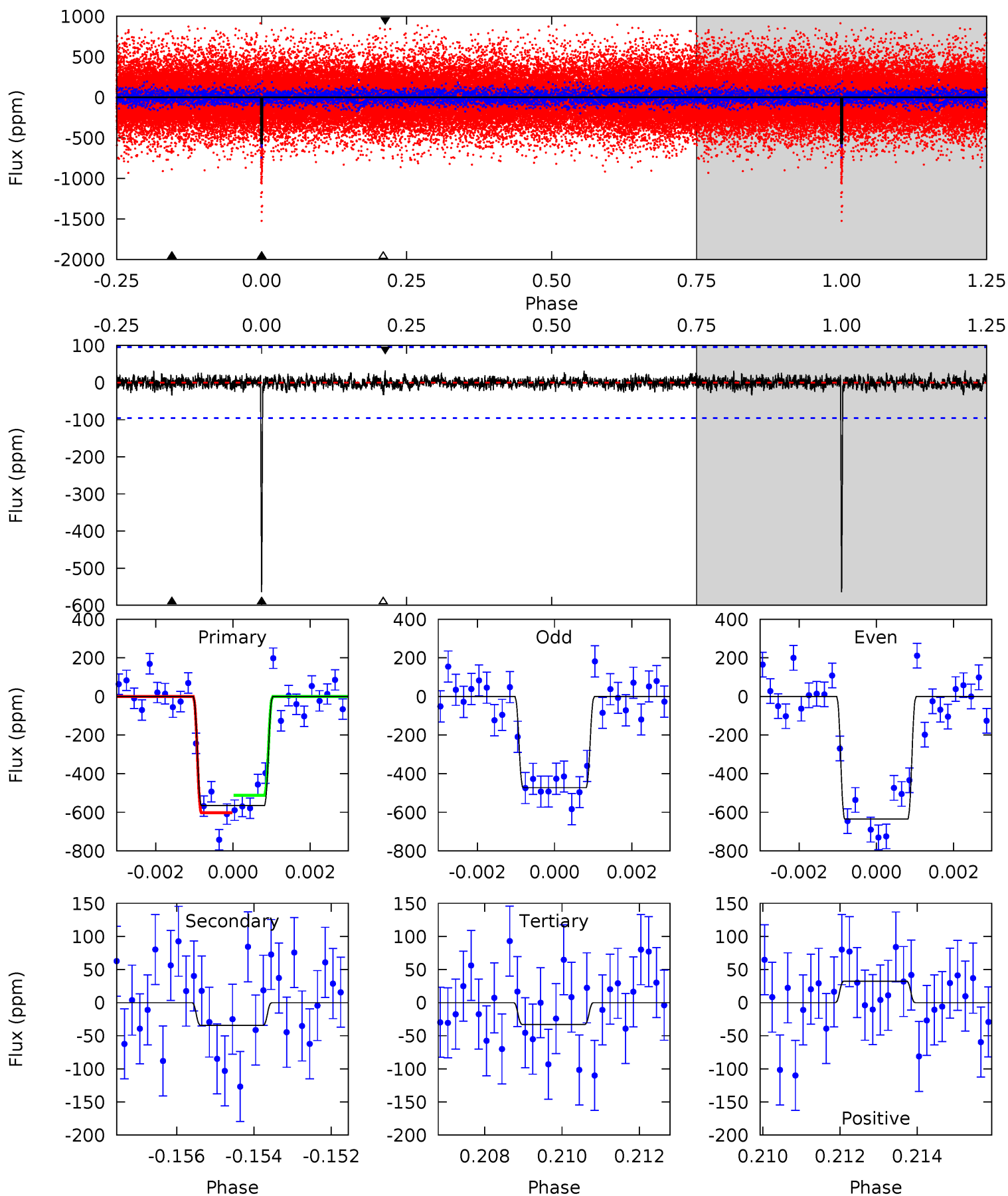
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.3	9.00	7.06	10.3	5.30	3.05	1.90	25.3	22.1	1.94	-1.26	0.31	1.02	0.24	0.39



Alt Model-Shift Uniqueness Test

006428794-01, P = 169.135387 Days, E = 32.672304 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	1.90	1.82	1.81	5.31	3.07	0.48	29.6	29.6	0.08	0.10	4.54	1.31	0.05	0



Stellar Parameters For KIC 006428794

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5171^{+103}_{-103}	$4.545^{+0.045}_{-0.050}$	$0.000^{+0.150}_{-0.150}$	$0.801^{+0.054}_{-0.043}$	$0.820^{+0.046}_{-0.041}$	$2.249^{+0.348}_{-0.363}$
	+2%/-2%	+1%/-1%	+inf%/-inf%	+7%/-5%	+6%/-5%	+15%/-16%
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 006428794-01 / KOI 4054.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-182 ± 20	$2.22^{+0.43}_{-0.39}$	382^{+10}_{-10}	4045^{+302}_{-256}	6360^{+3421}_{-1968}
Alt.	-34 ± 18	$2.19^{+0.44}_{-0.40}$	381^{+10}_{-10}	3092^{+281}_{-334}	1181^{+959}_{-650}

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 $A_{obs} \gg 1.0$

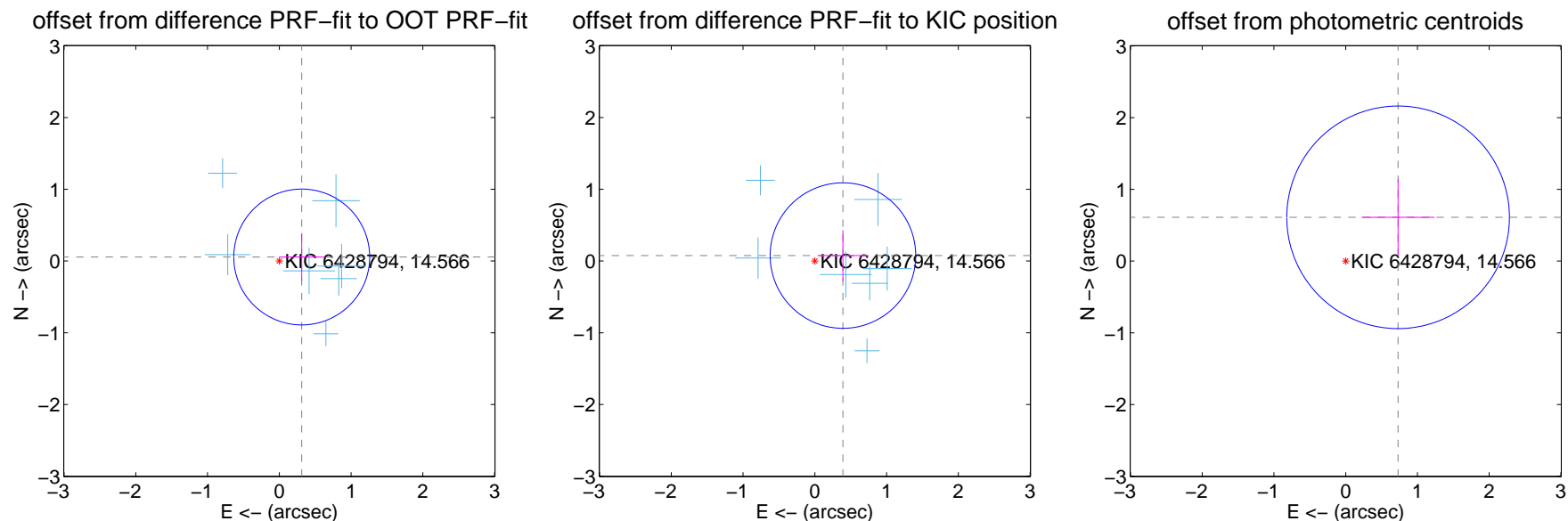
DV Centroid Data

Supplemental centroid analysis for 006428794-01. Kepler magnitude: 14.57. Transit SNR 17.58

There are 7 quarters with good PRF difference image offsets

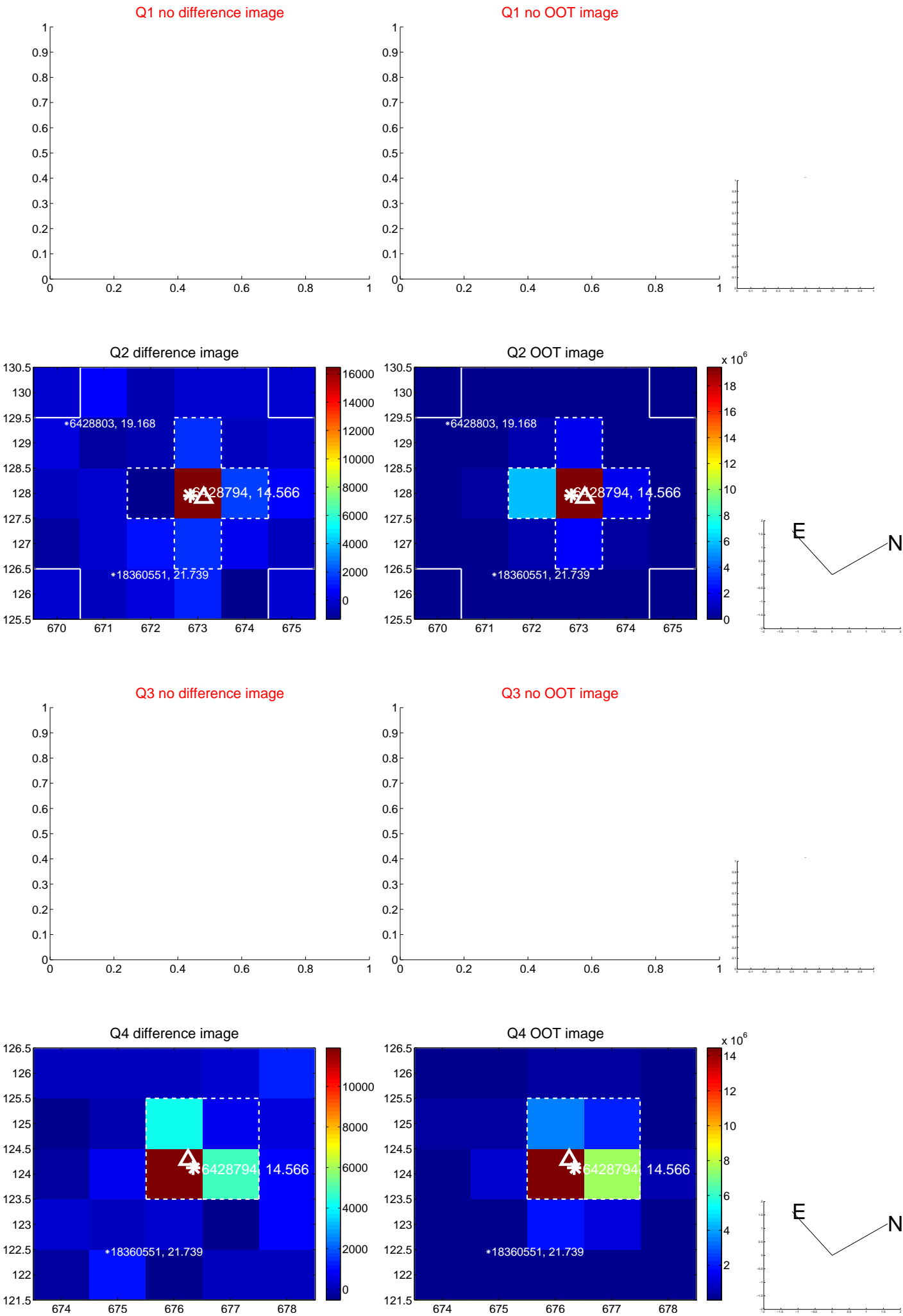
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.317 ± 0.316	1.01	-0.312 ± 0.315	0.056 ± 0.333
PRF-fit source offset from KIC position	0.399 ± 0.338	1.18	-0.392 ± 0.337	0.076 ± 0.356
photometric centroid source offset	0.95 ± 0.52	1.84	-0.73 ± 0.51	0.61 ± 0.53

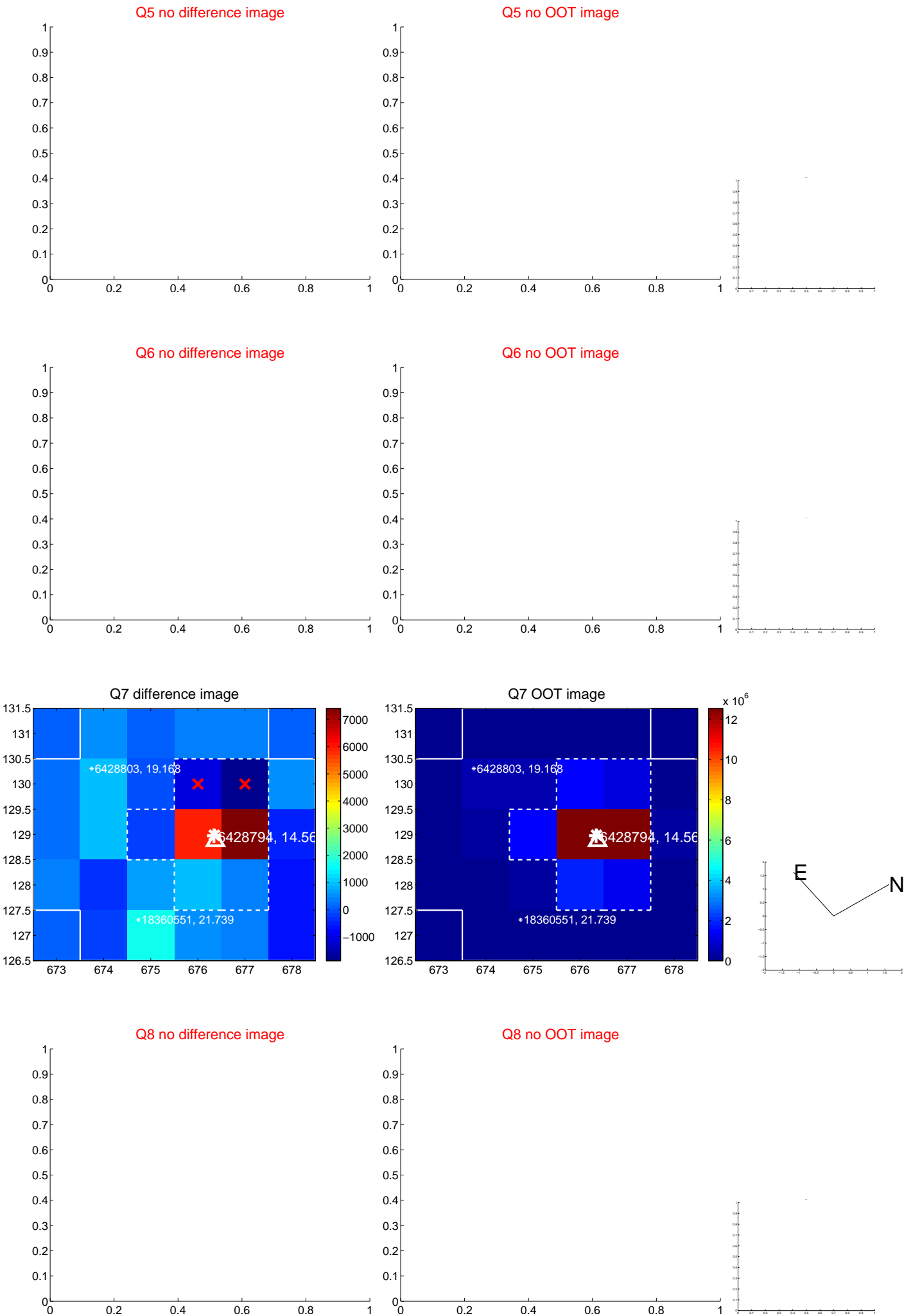


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

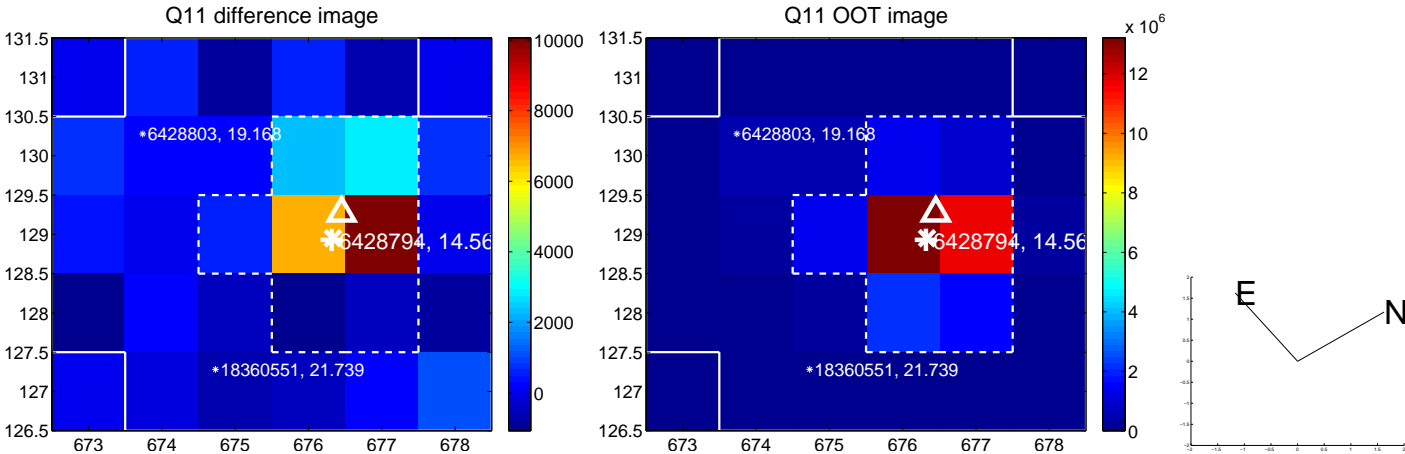
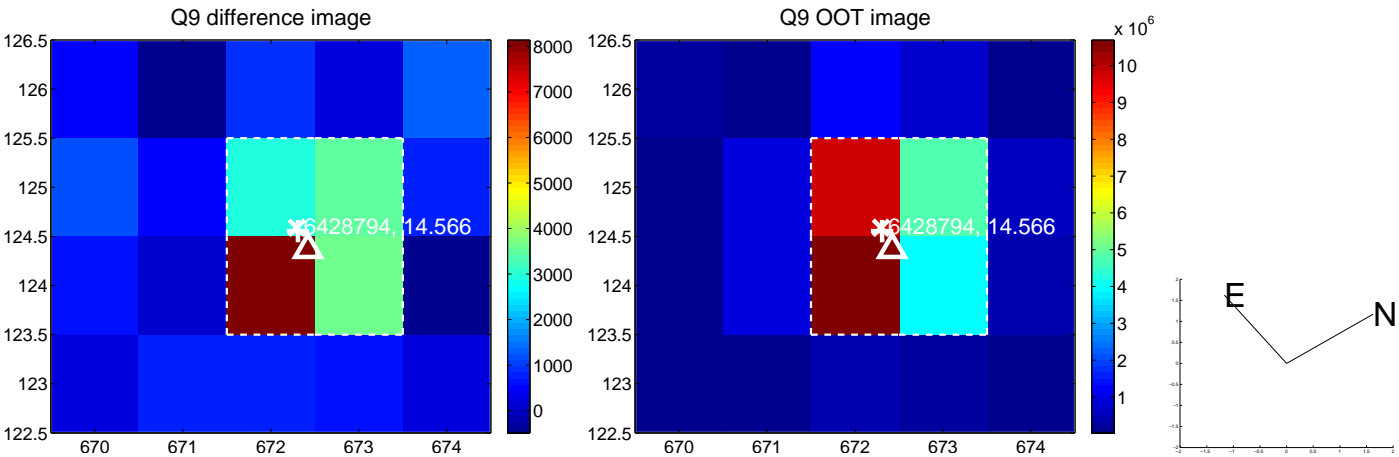
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



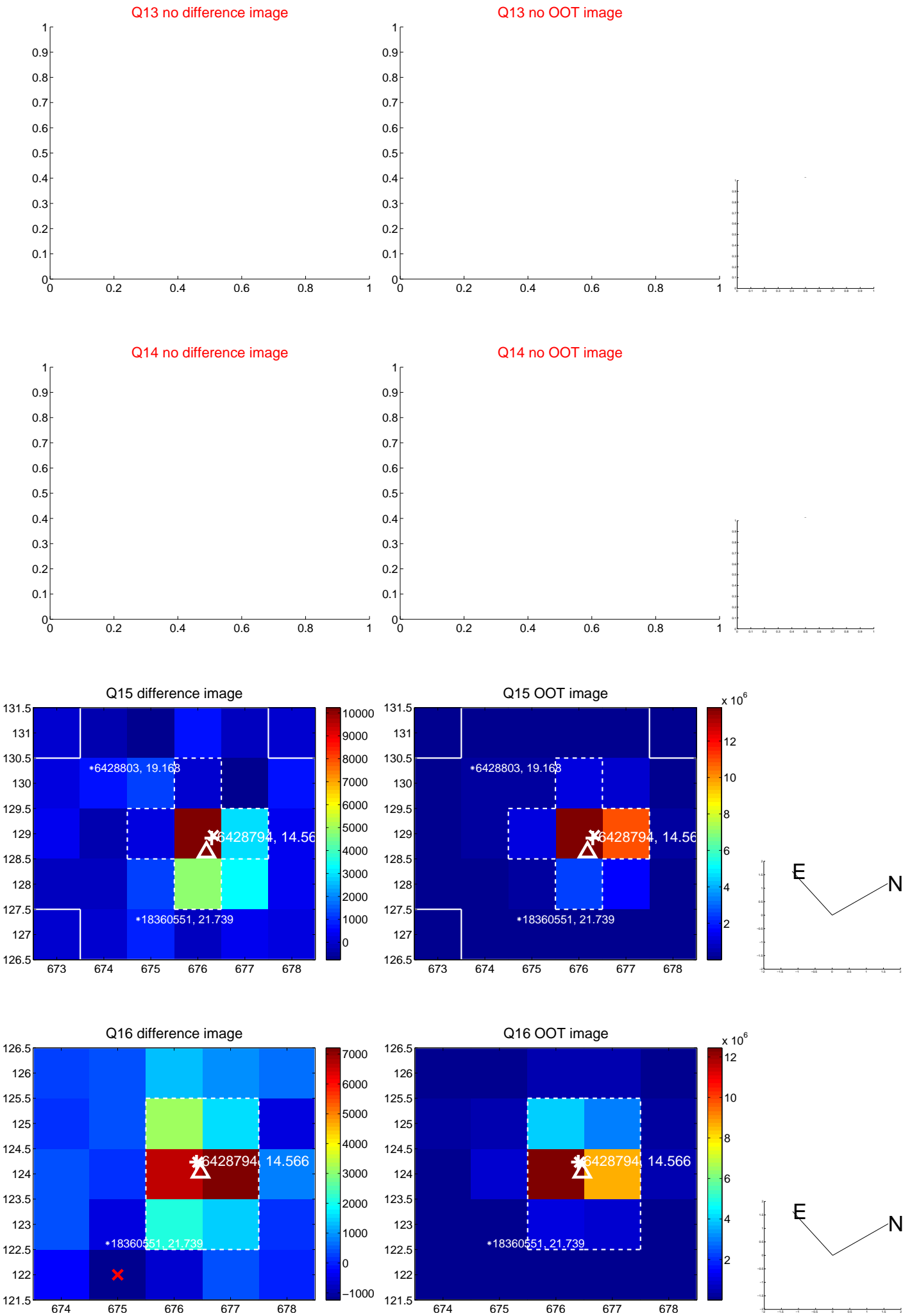
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



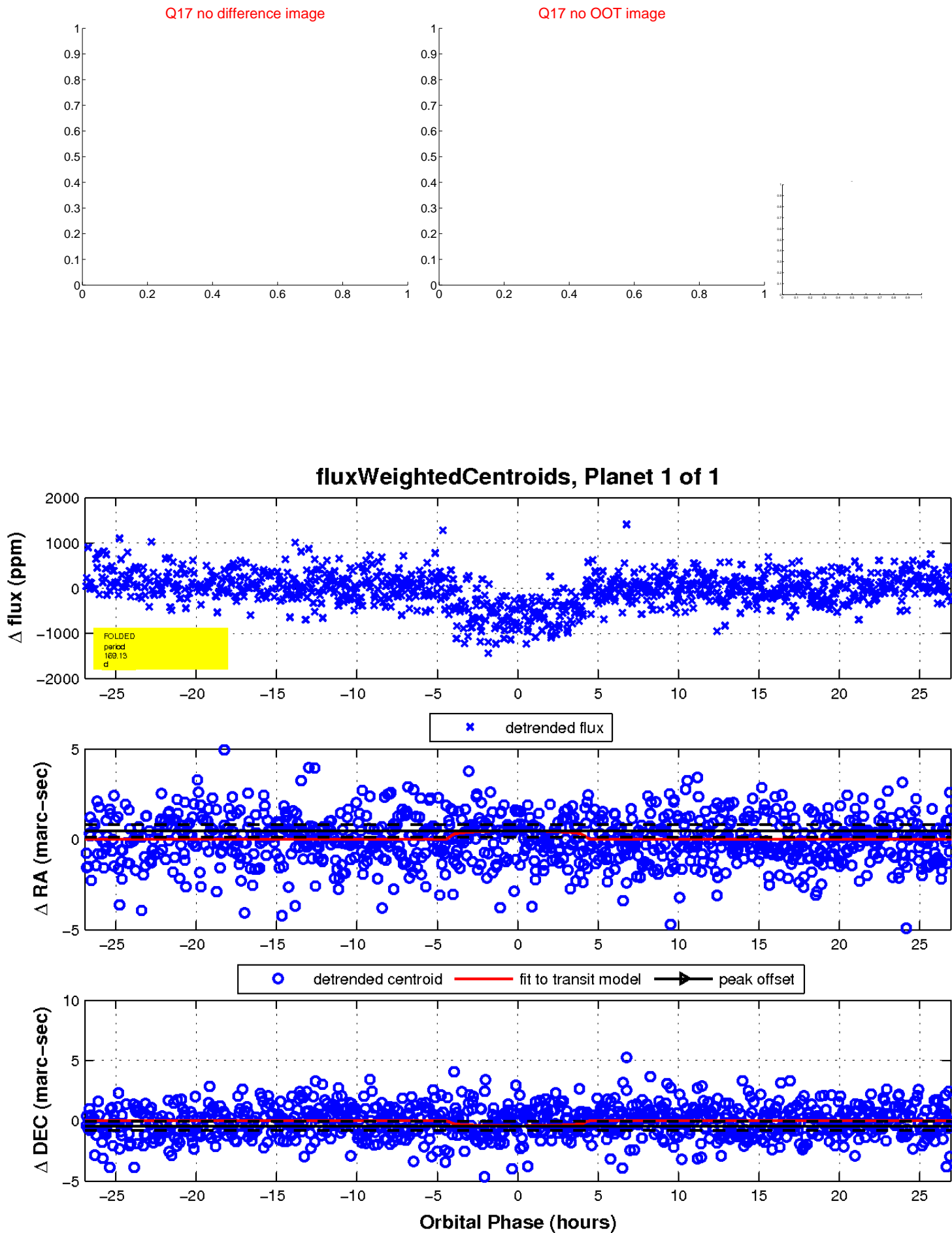
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

