

KIC 010094670

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})
010094670-01	OBS	1984.01	22.063961	148.921373	393.6	3.803	27.0	28.6	1.09	6232	2.54	60.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010094670-01	OBS	PC	0.99	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.

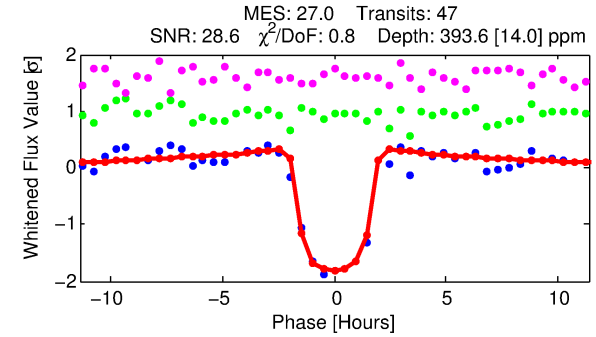
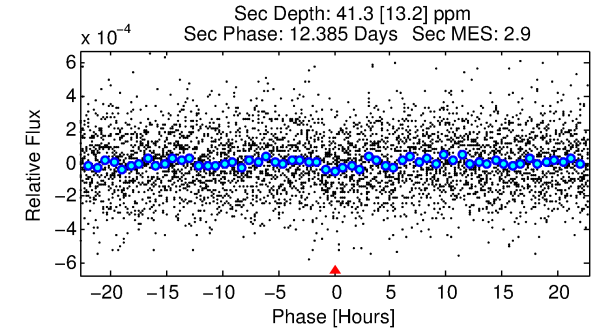
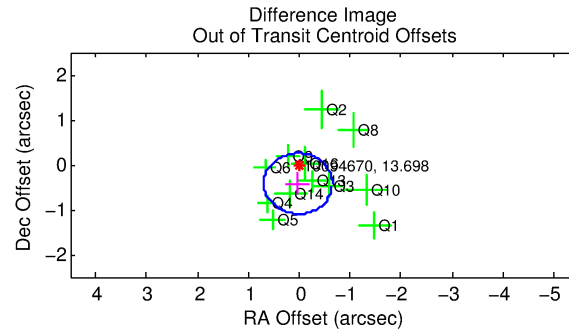
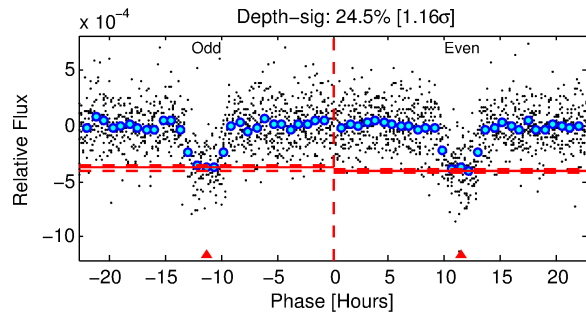
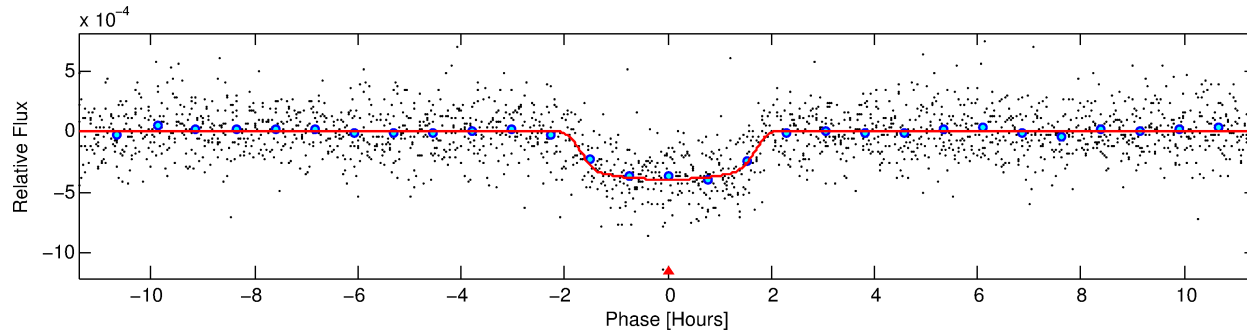
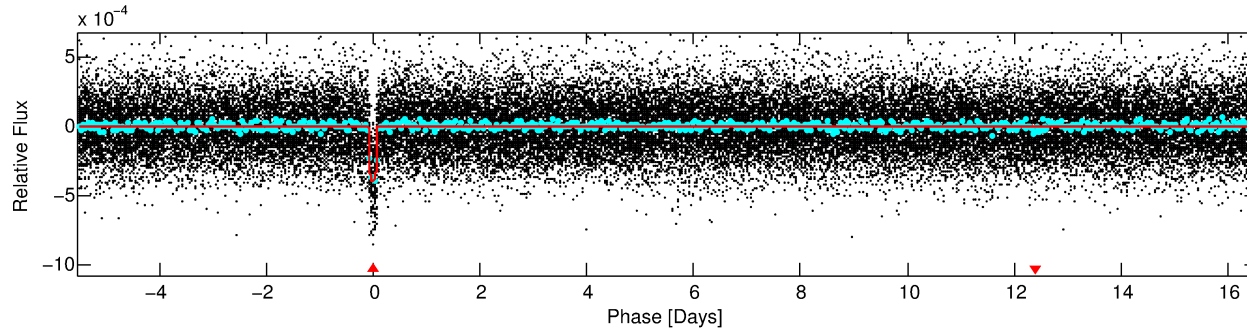
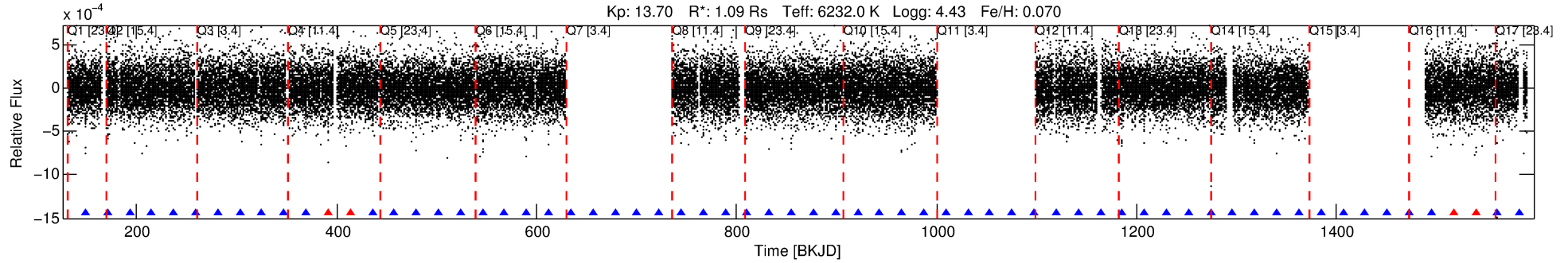
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010094670-01

No Significant Match Found

DV One-Page Summary

KIC: 10094670 Candidate: 1 of 1 Period: 22.064 d
KOI: K01984.01 Corr: 0.959



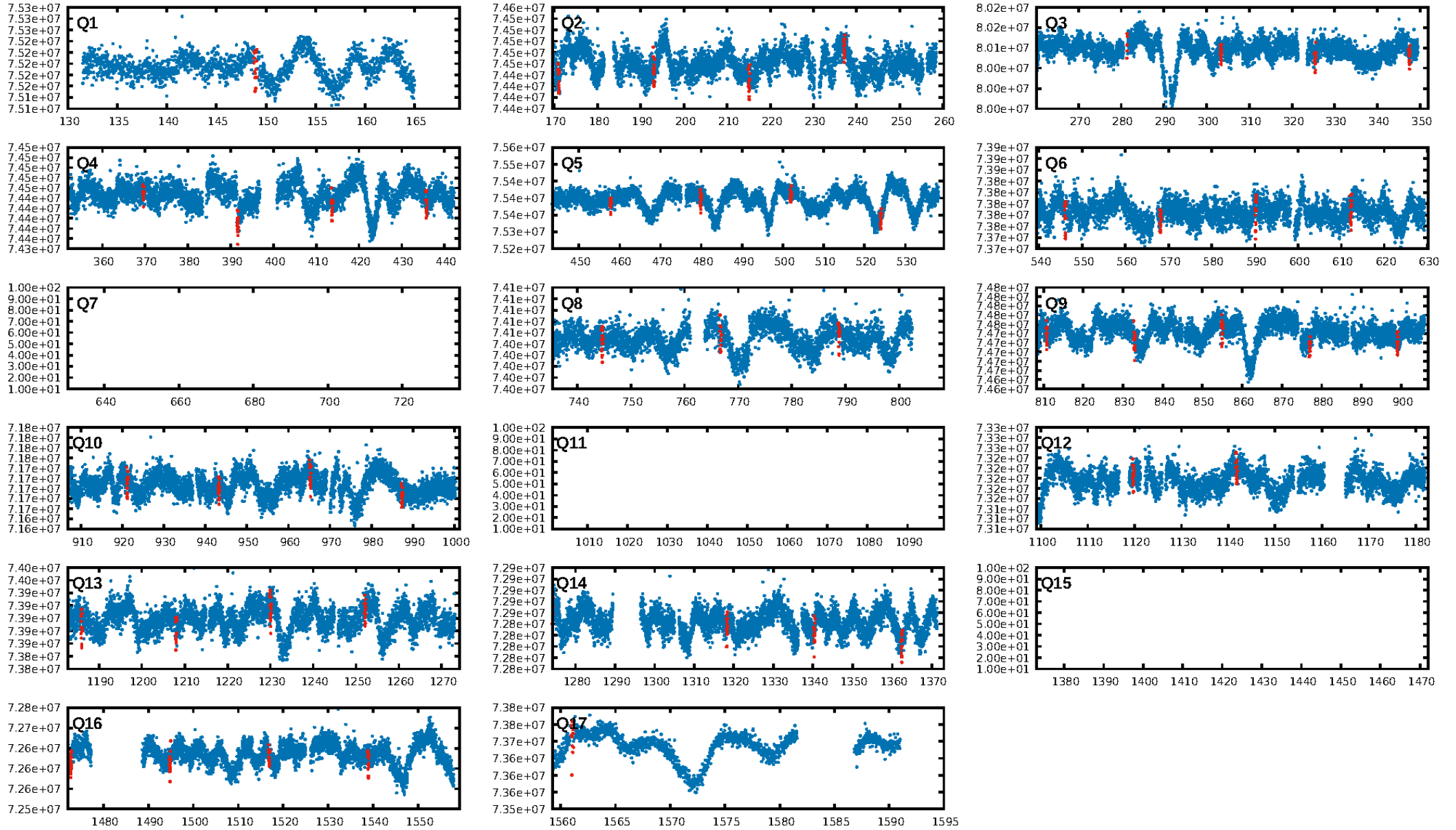
DV Fit Results:

Period = 22.06396 [0.00007] d
Epoch = 148.9214 [0.0025] BKJD
Rp/R* = 0.0213 [0.0020]
a/R* = 21.78 [10.03]
b = 0.90 [0.10]
Seff = 60.92 [26.85]
Teff = 712 [78] K
Rp = 2.54 [0.89] Re
a = 0.1623 [0.0465] AU
Ag = 93.14 [51.90] [1.78 σ]
Teffp = 3422 [337] K [7.83 σ]

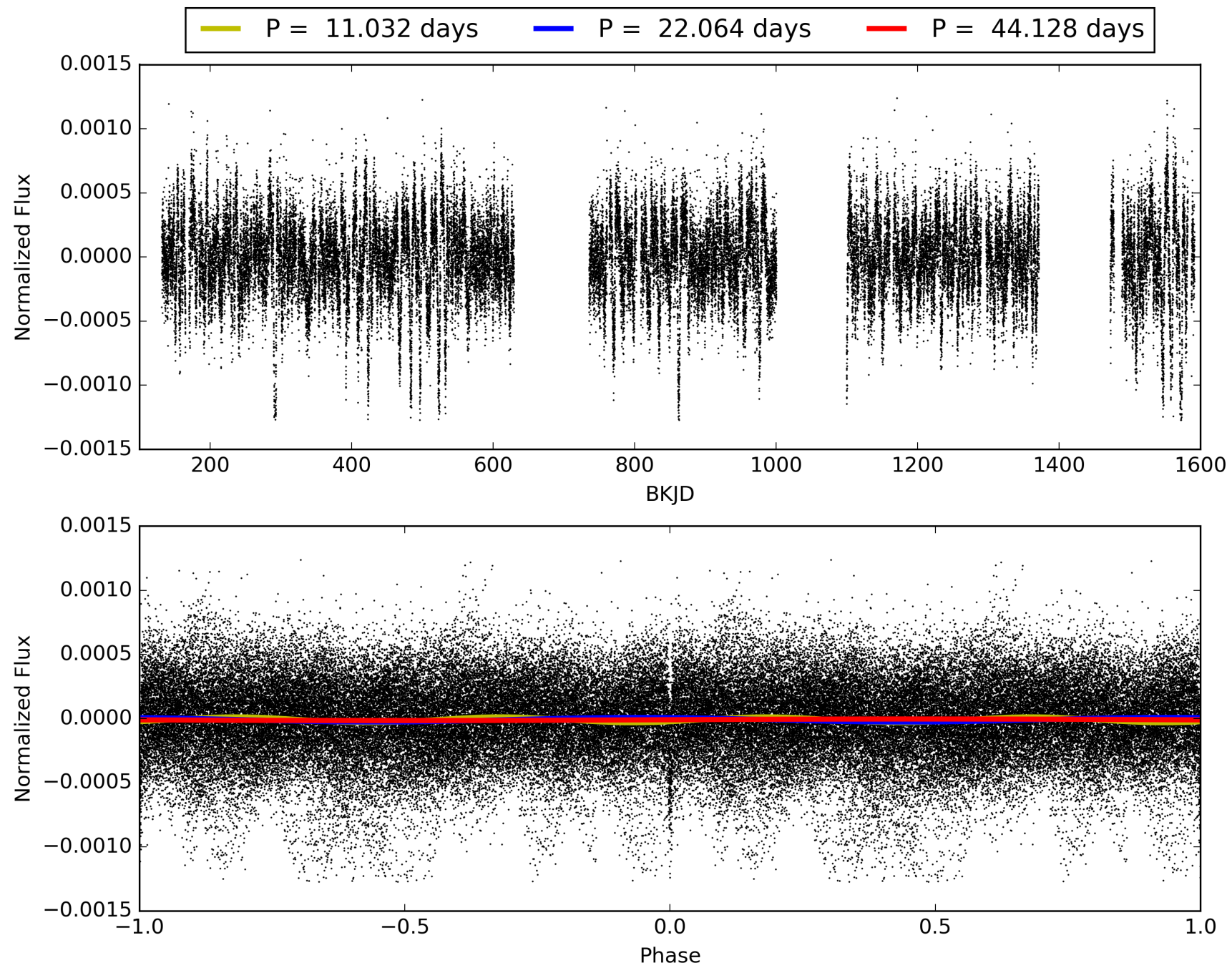
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.41e-156
RollingBand-fgt: 0.91 [41/45]
GhostDiagnostic-chr: 3.349
Centroid-sig: 91.3%
Centroid-so: 0.150 arcsec [0.36 σ]
OotOffset-rm: 0.422 arcsec [1.88 σ]
KicOffset-rm: 0.305 arcsec [1.34 σ]
OotOffset-st: 4/1/3/4 [12]
KicOffset-st: 4/1/3/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 010094670-01, PDC Light Curves

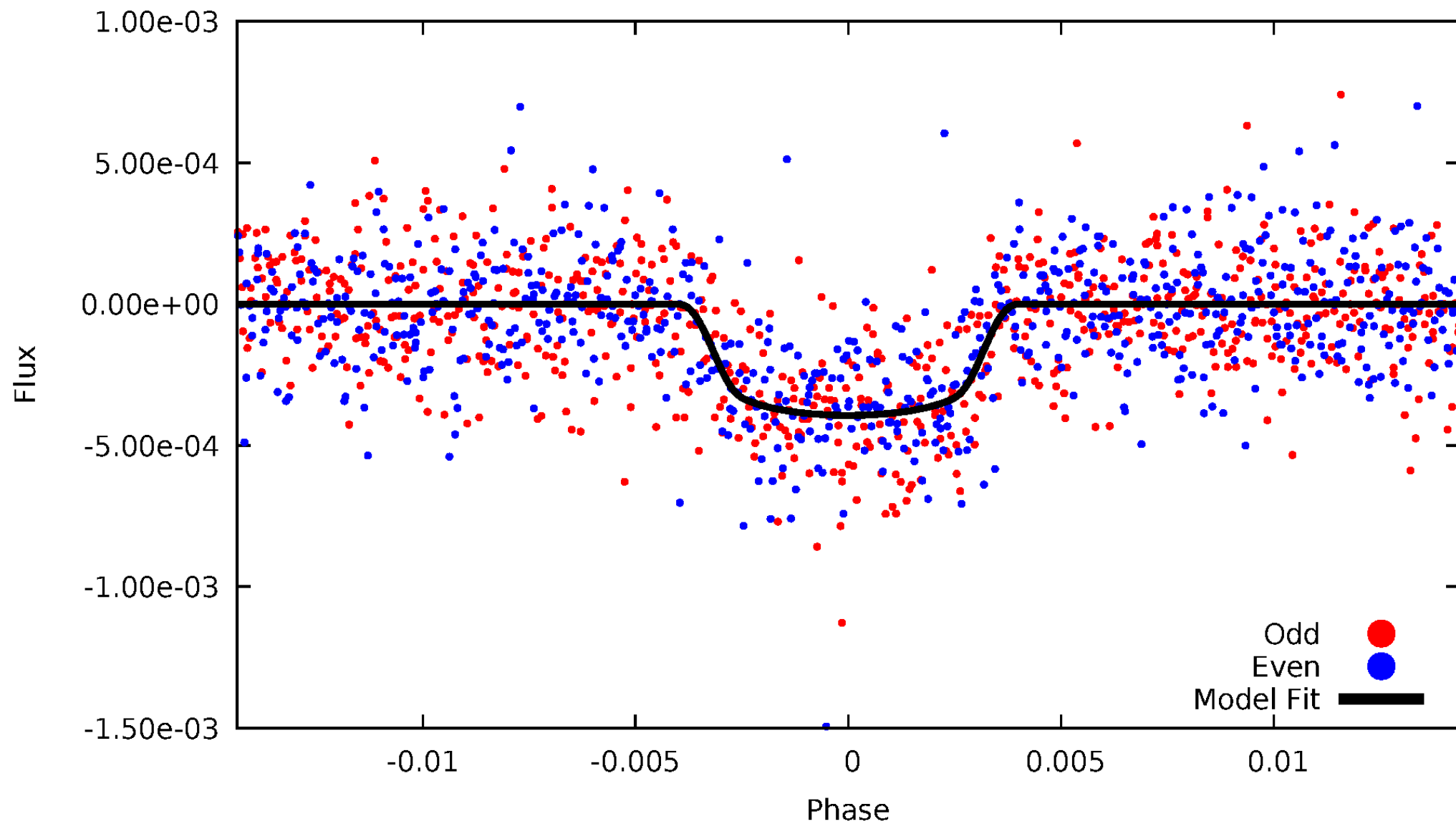


TCE 010094670-01



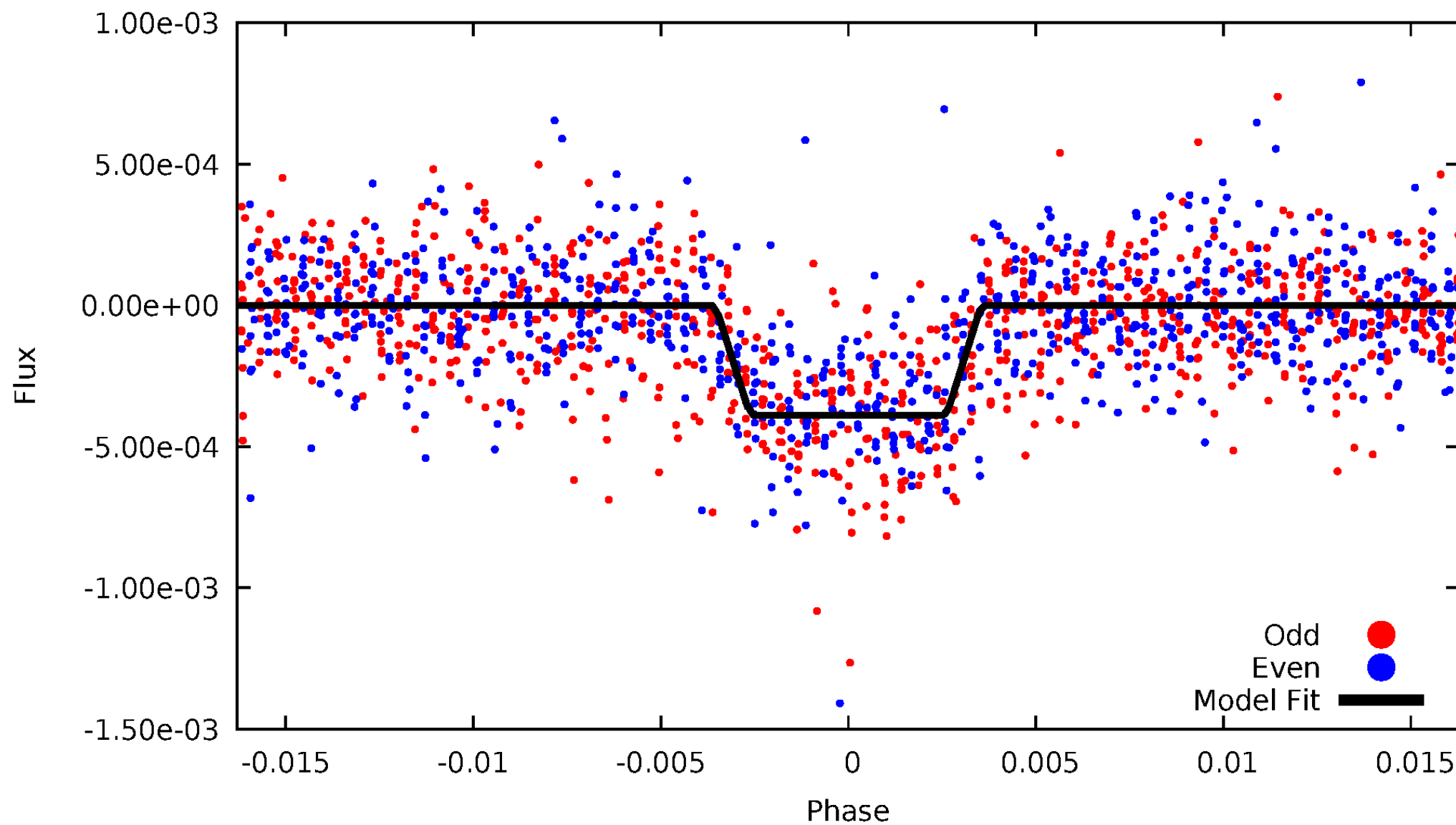
DV Odd/Even

TCE 010094670-01



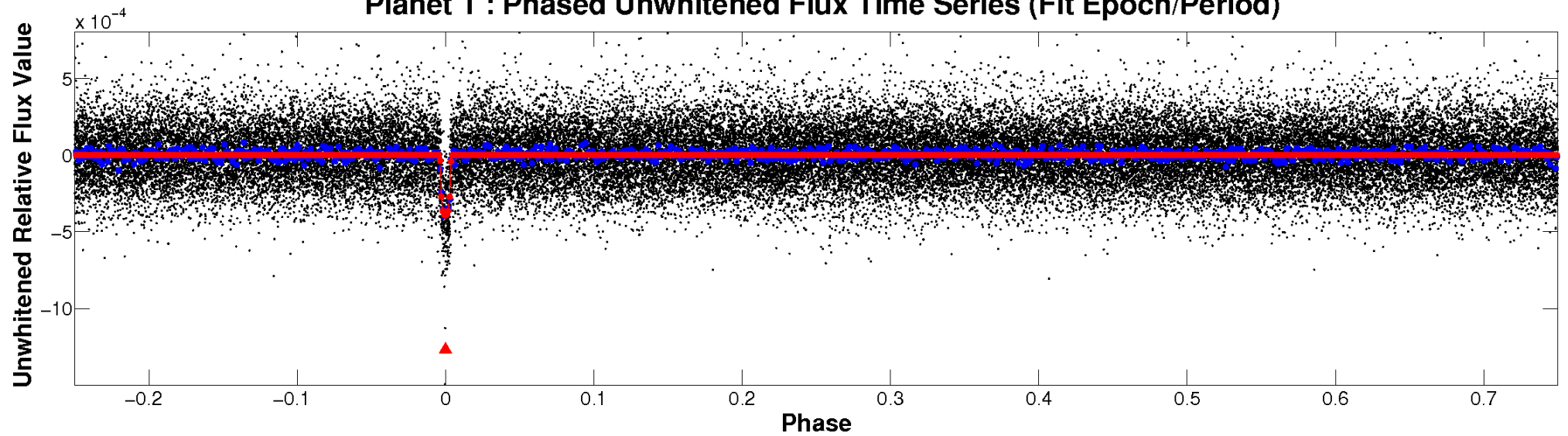
ALT Odd/Even

TCE 010094670-01

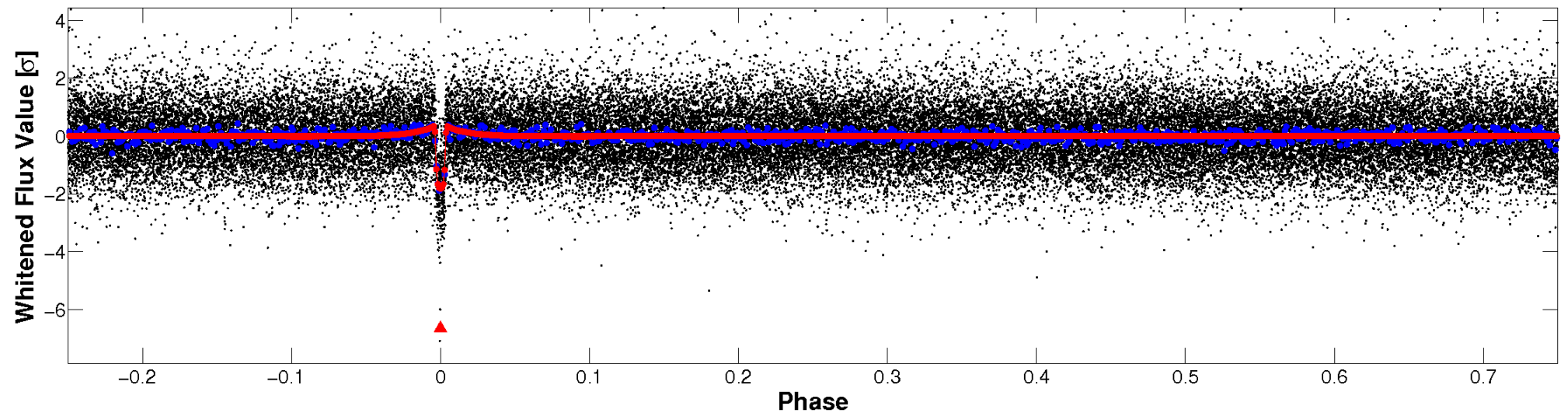


Non-Whitened Vs. Whitened Light Curve

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

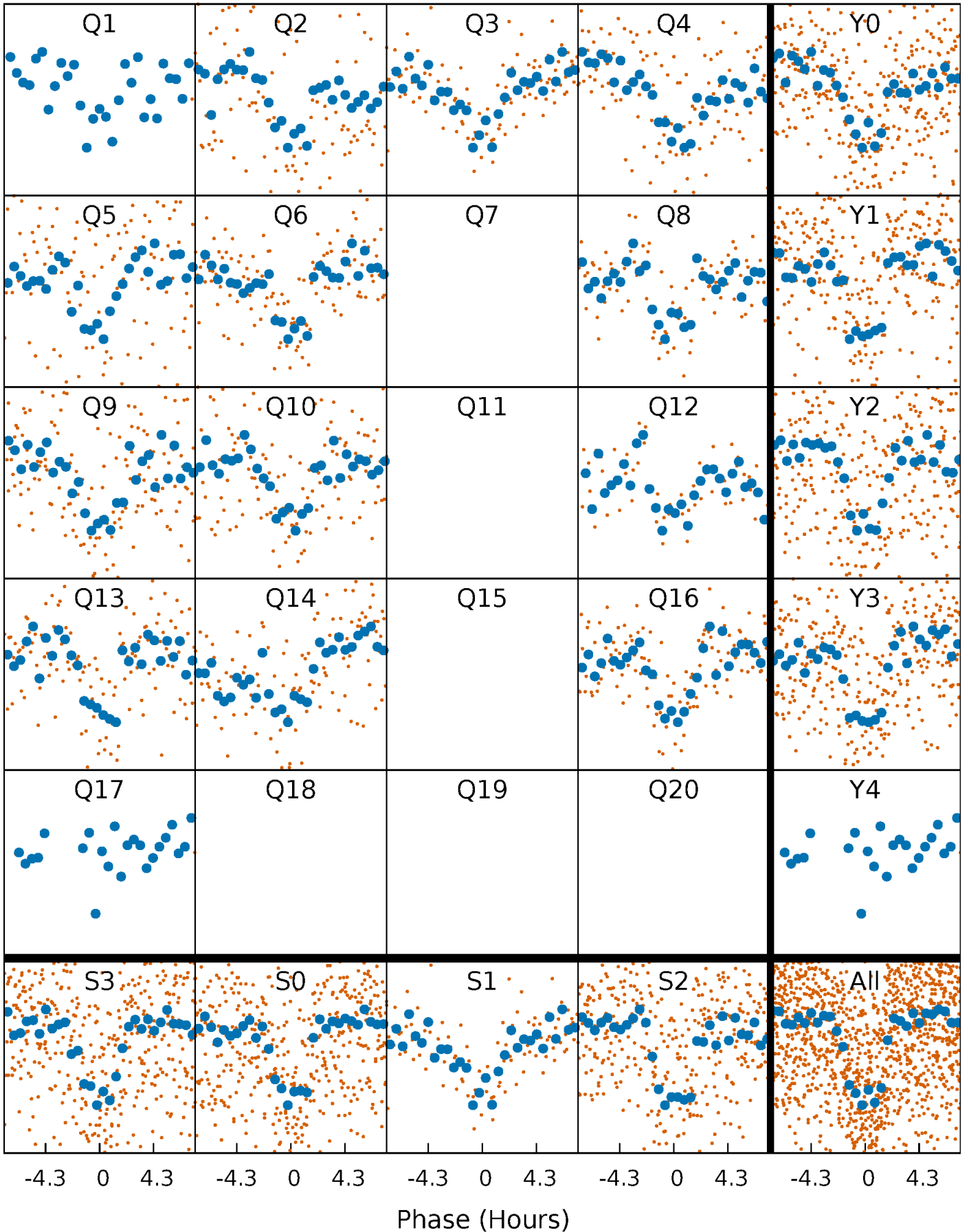


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



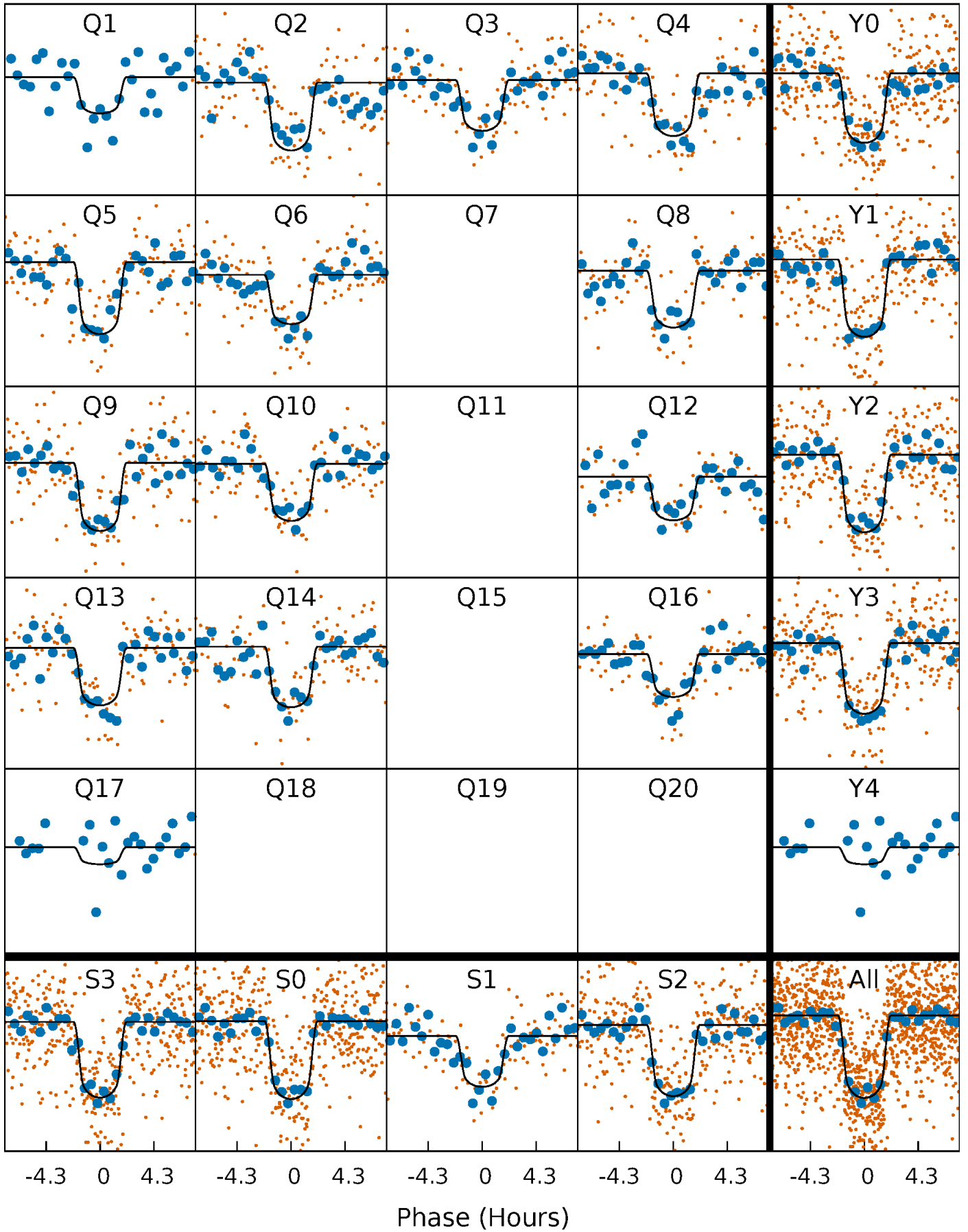
PDC Quarter-Phased Transit Curves

TCE 010094670-01 P= 22.063961 Days $T_0=148.921373$ (BKJD)



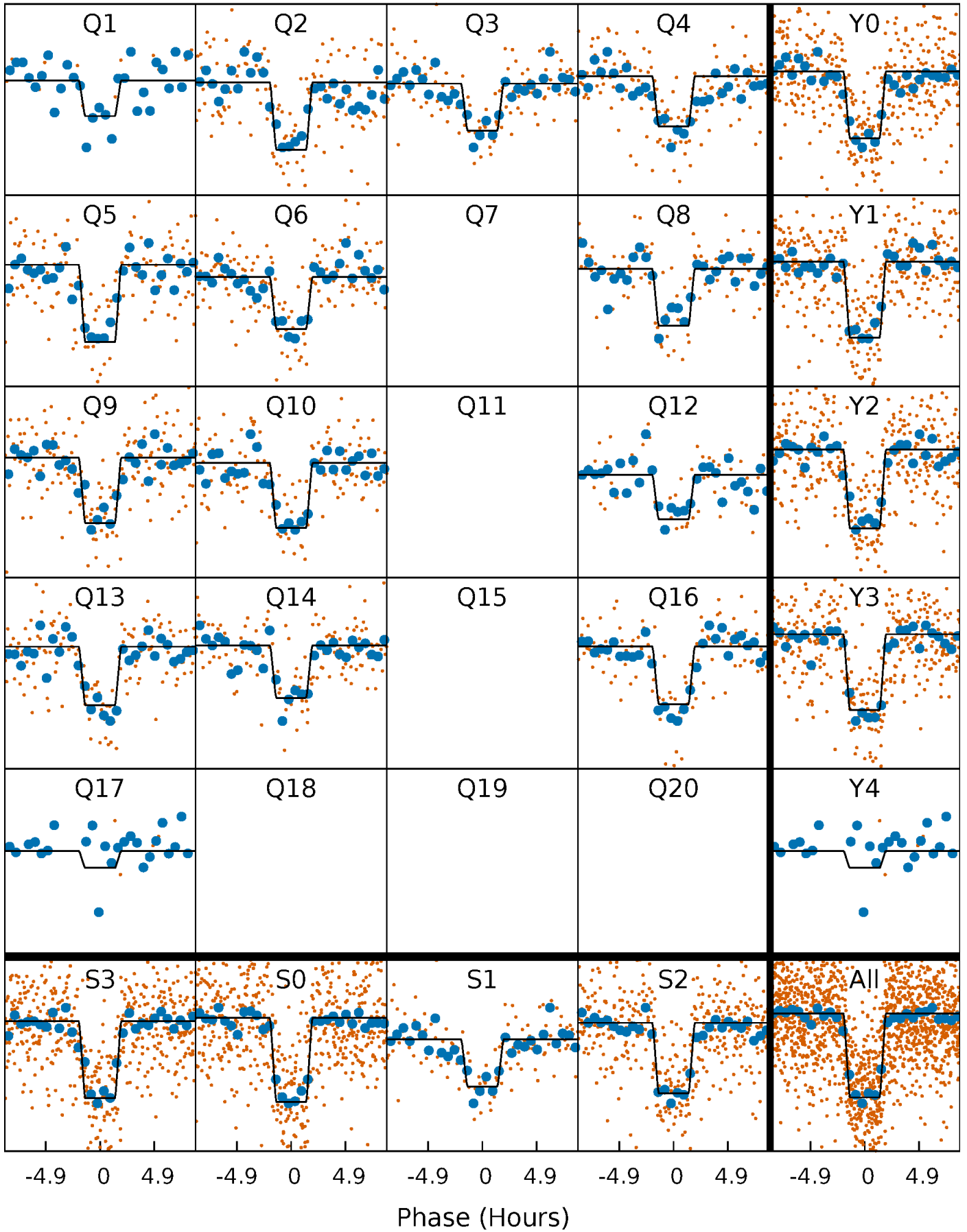
DV Quarter-Phased Transit Curves

TCE 010094670-01 P= 22.063961 Days $T_0=148.921373$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

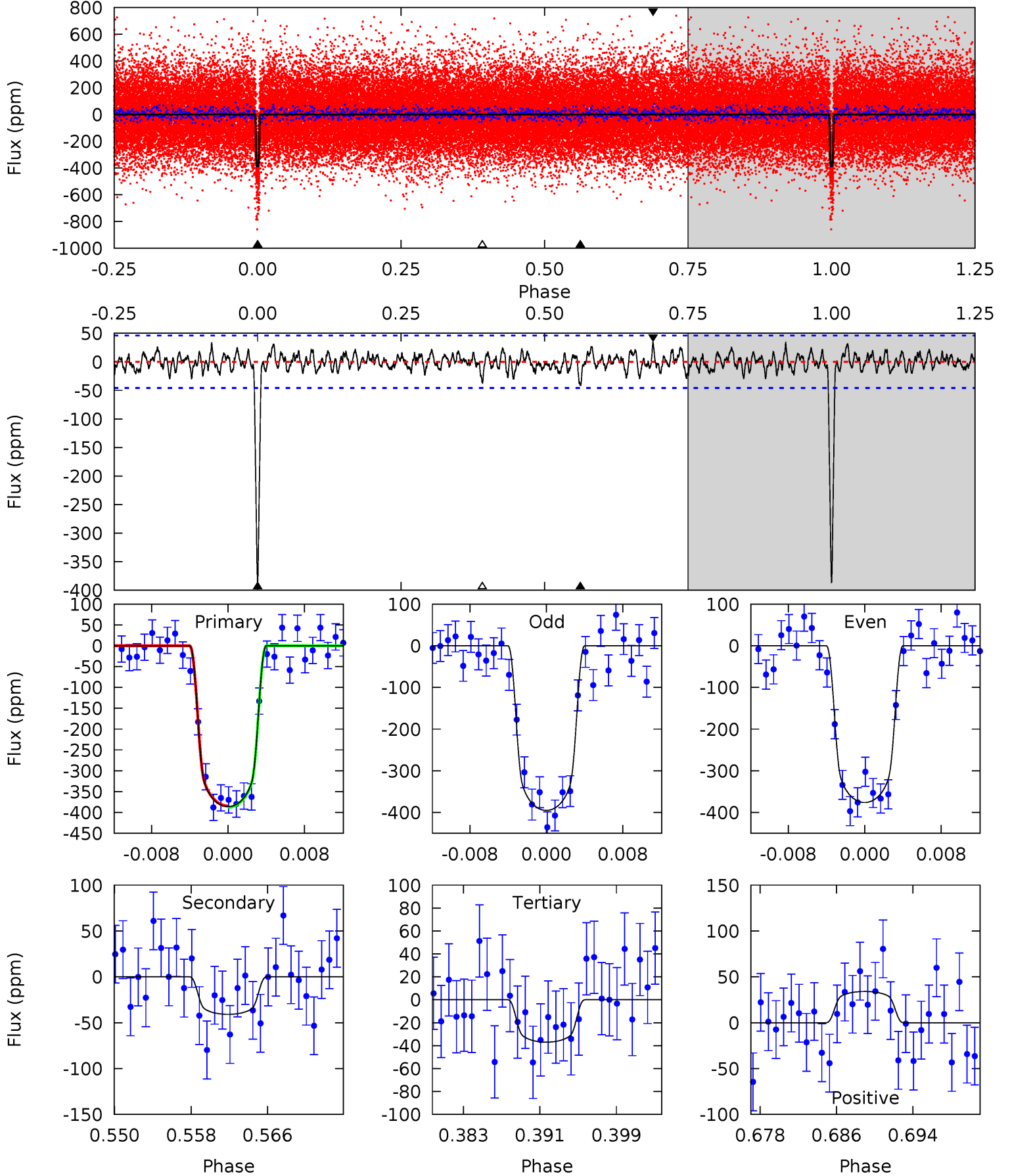
TCE 010094670-01 P= 22.063796 Days $T_0=148.925423$ (BKJD)



DV Model-Shift Uniqueness Test

010094670-01, $P = 22.063961$ Days, $E = 126.857412$ Days

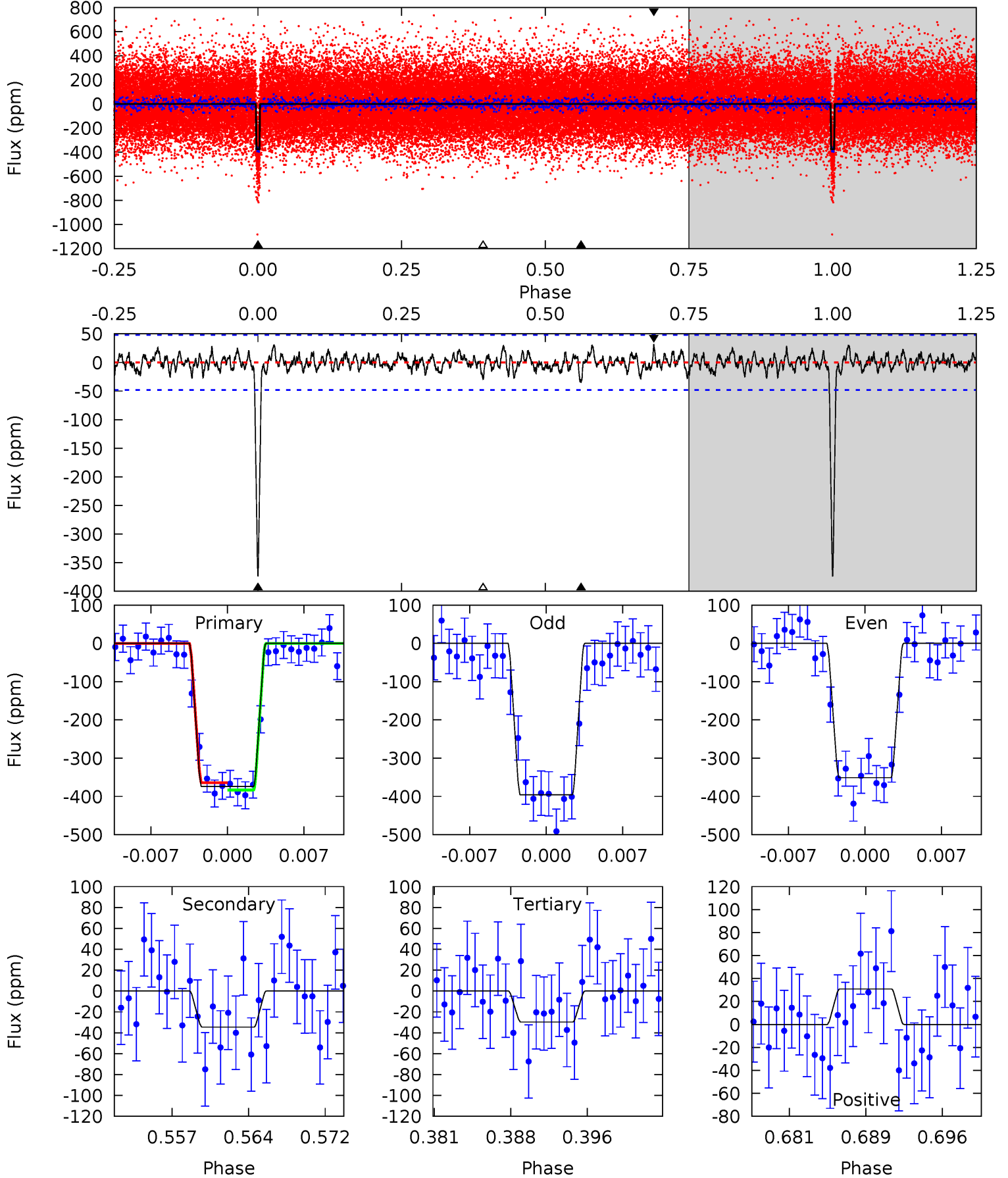
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.6	4.52	4.08	3.76	5.07	2.65	1.25	38.5	38.8	0.44	0.76	1.05	1.03	0.08	0.18



Alt Model-Shift Uniqueness Test

010094670-01, $P = 22.063796$ Days, $E = 126.861627$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.6	3.66	3.15	3.27	5.09	2.68	1.10	36.4	36.3	0.51	0.39	2.37	1.02	0.08	1.01



Stellar Parameters For KIC 010094670

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6232^{+173}_{-217}	$4.432^{+0.054}_{-0.229}$	$0.070^{+0.250}_{-0.300}$	$1.090^{+0.370}_{-0.116}$	$1.174^{+0.158}_{-0.158}$	$1.276^{+0.287}_{-0.672}$
	+3%/-3%	+1%/-5%	+357%/-429%	+34%/-11%	+13%/-13%	+22%/-53%
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 010094670-01 / KOI 1984.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-41 ± 9	$2.64^{+0.52}_{-0.35}$	1015^{+77}_{-49}	3784^{+205}_{-201}	82^{+33}_{-28}
Alt.	-35 ± 9	$2.46^{+0.46}_{-0.32}$	1020^{+77}_{-56}	3771^{+224}_{-240}	78^{+37}_{-28}

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 $A_{obs} \gg 1.0$

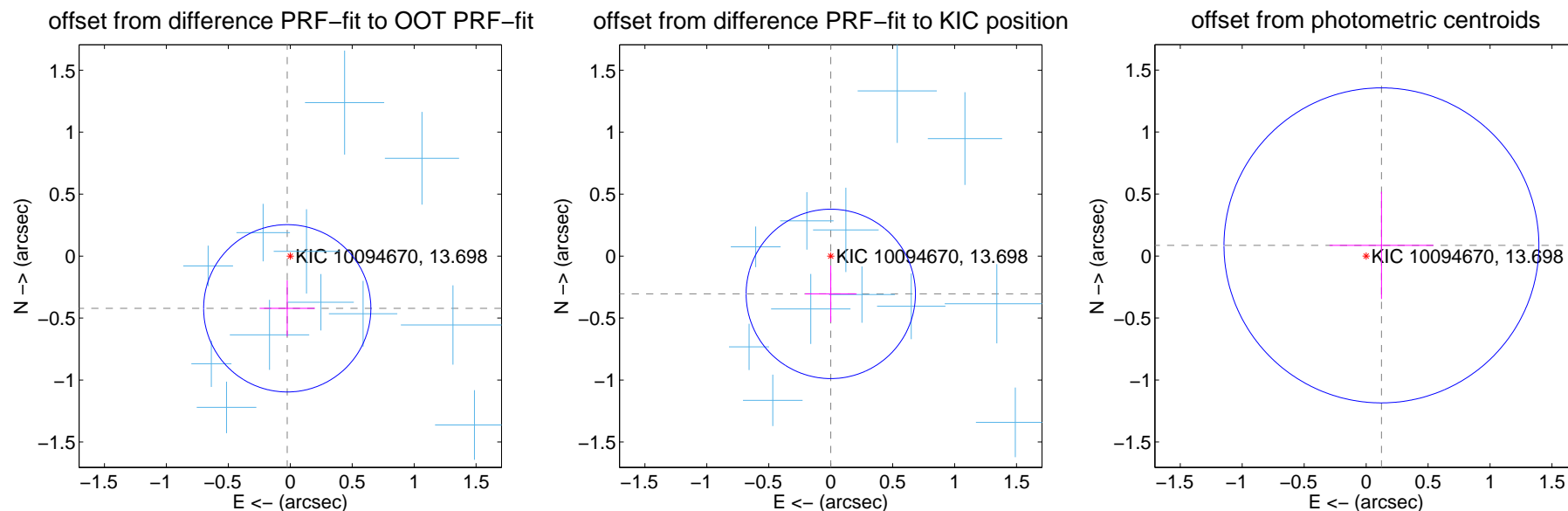
DV Centroid Data

Supplemental centroid analysis for 010094670-01. Kepler magnitude: 13.70. Transit SNR 28.62

There are 12 quarters with good PRF difference image offsets

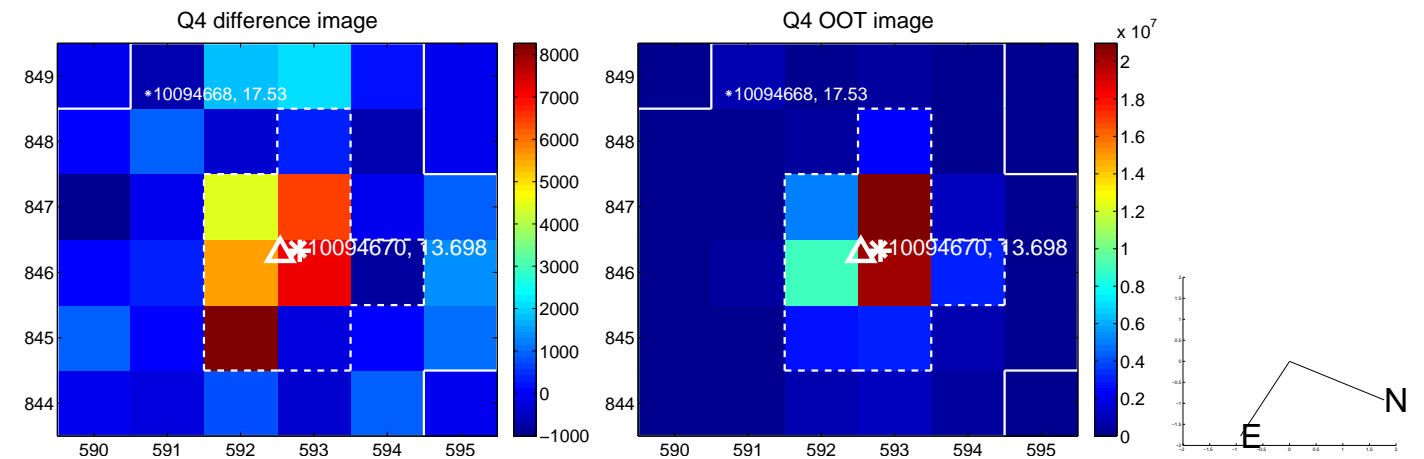
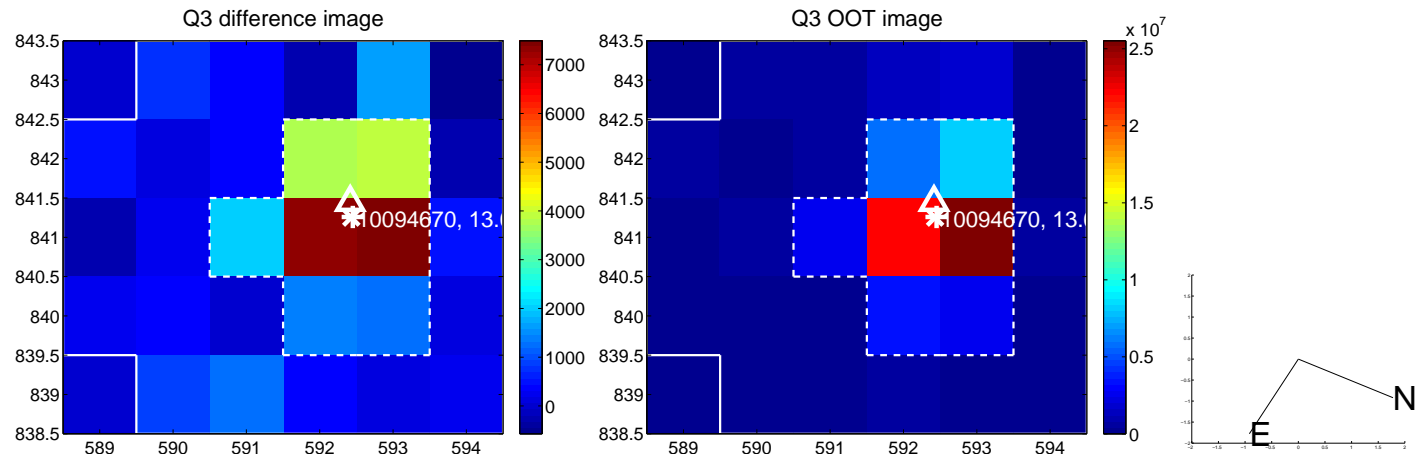
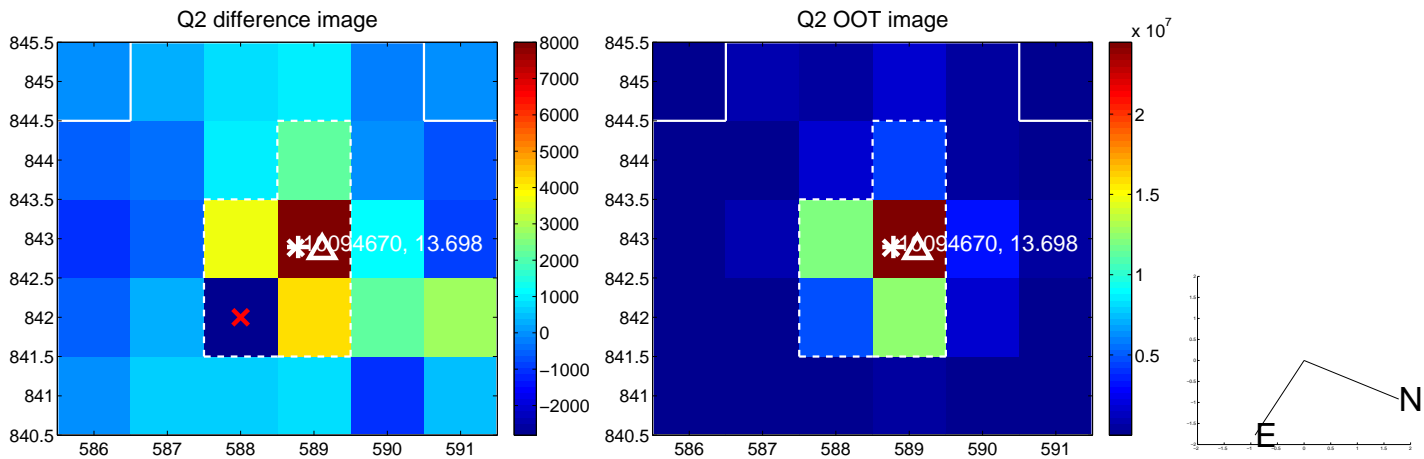
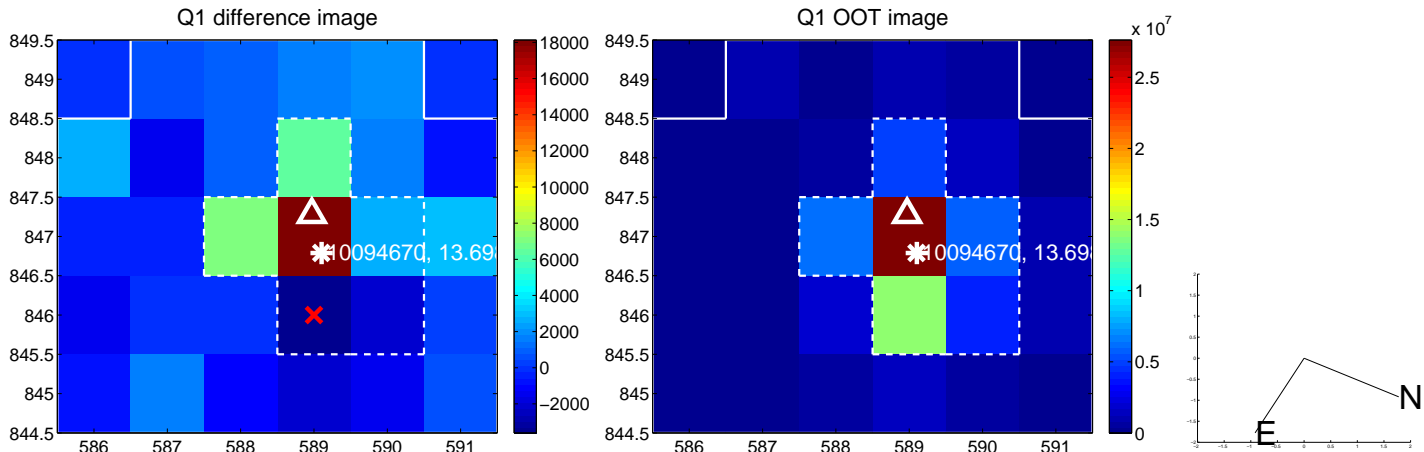
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.422 ± 0.225	1.88	0.024 ± 0.223	-0.421 ± 0.224
PRF-fit source offset from KIC position	0.305 ± 0.228	1.34	-0.000 ± 0.208	-0.305 ± 0.228
photometric centroid source offset	0.15 ± 0.42	0.36	-0.12 ± 0.42	0.09 ± 0.43

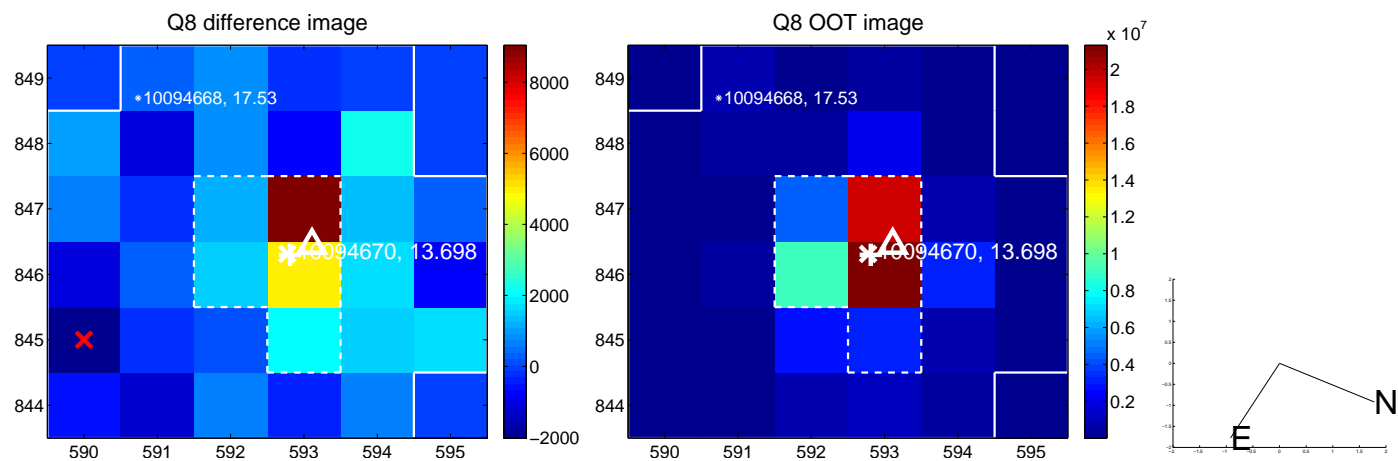
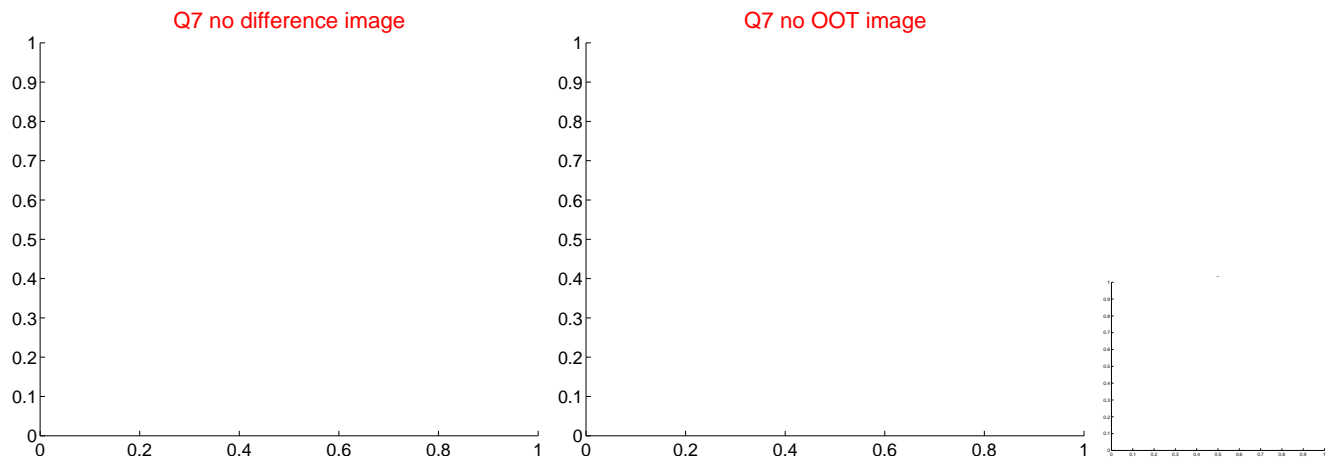
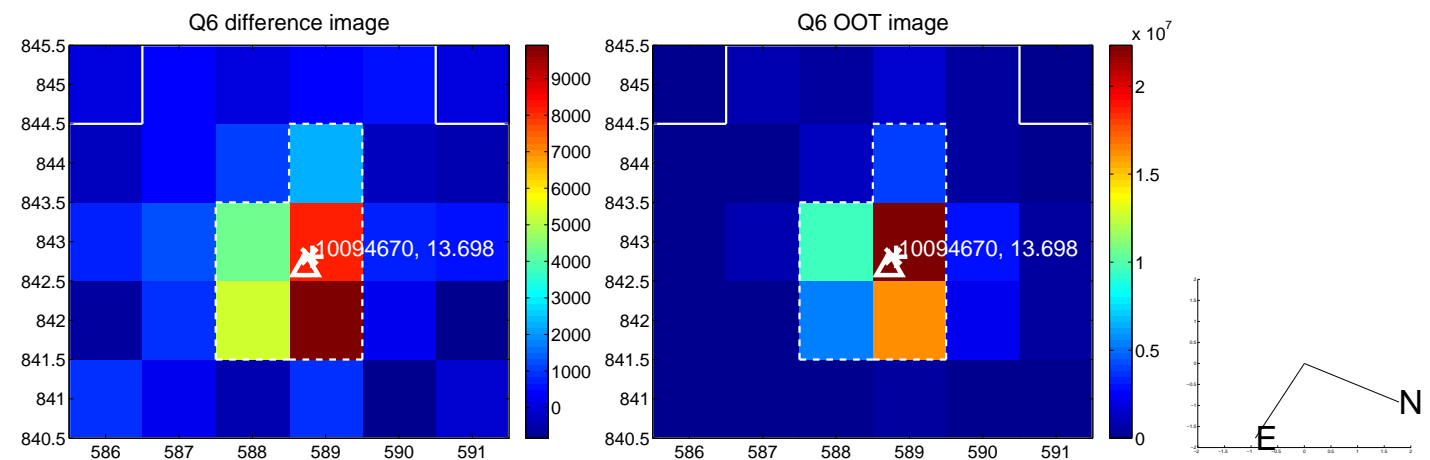
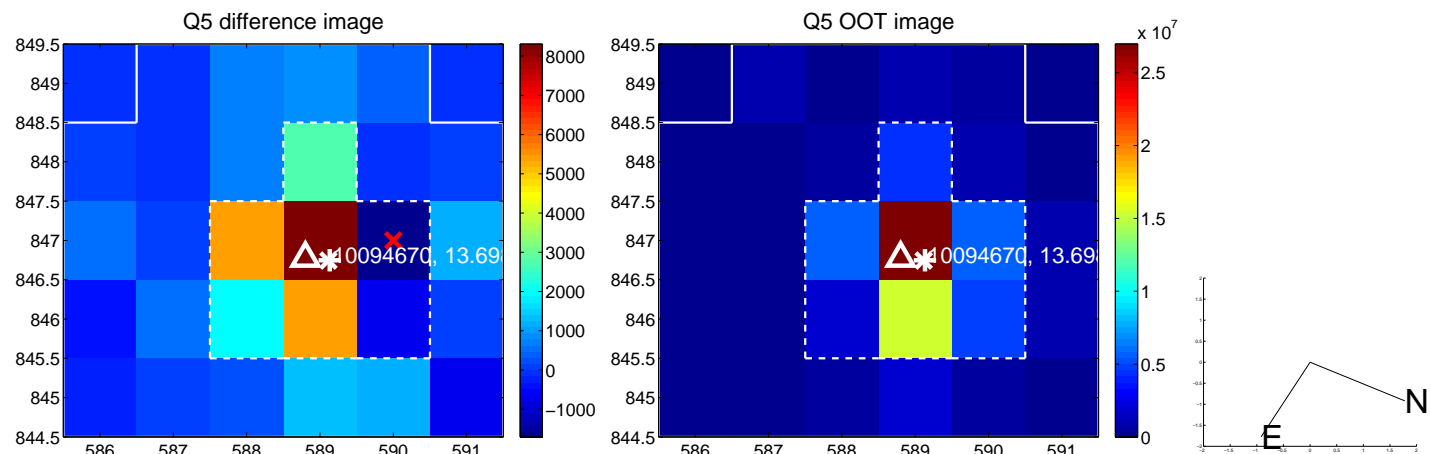


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

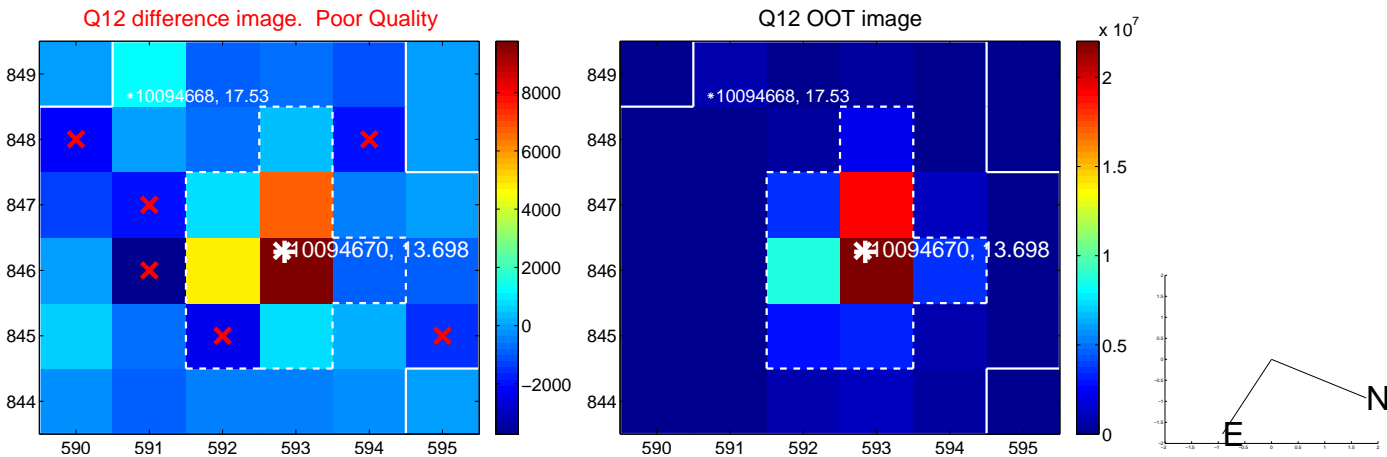
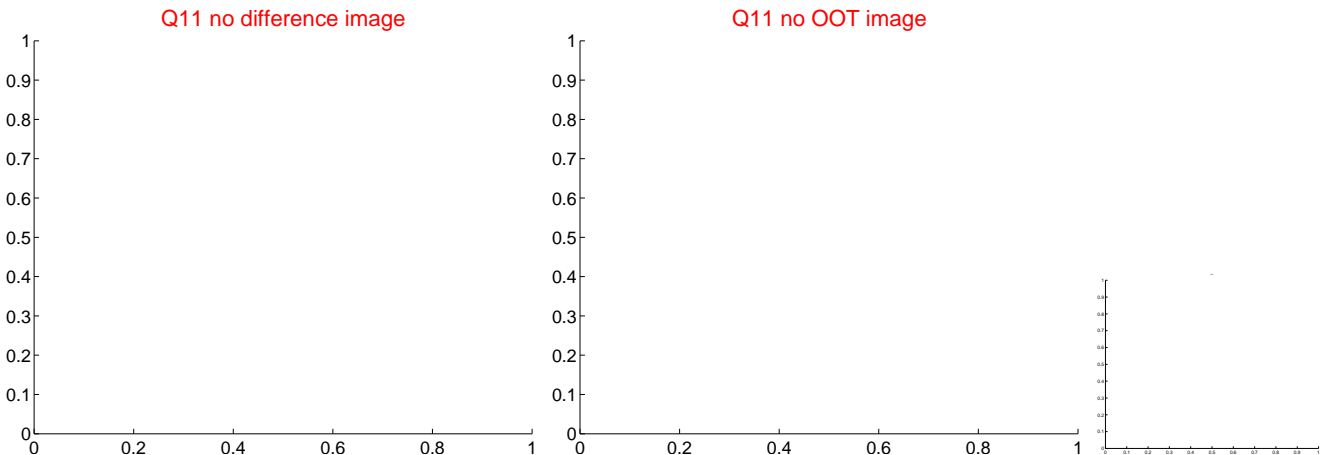
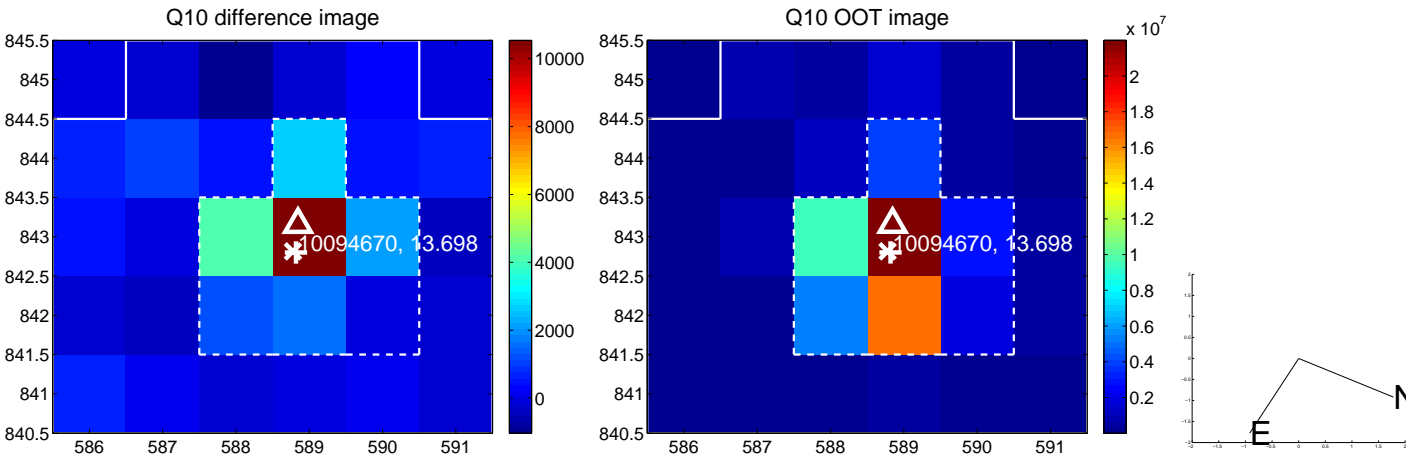
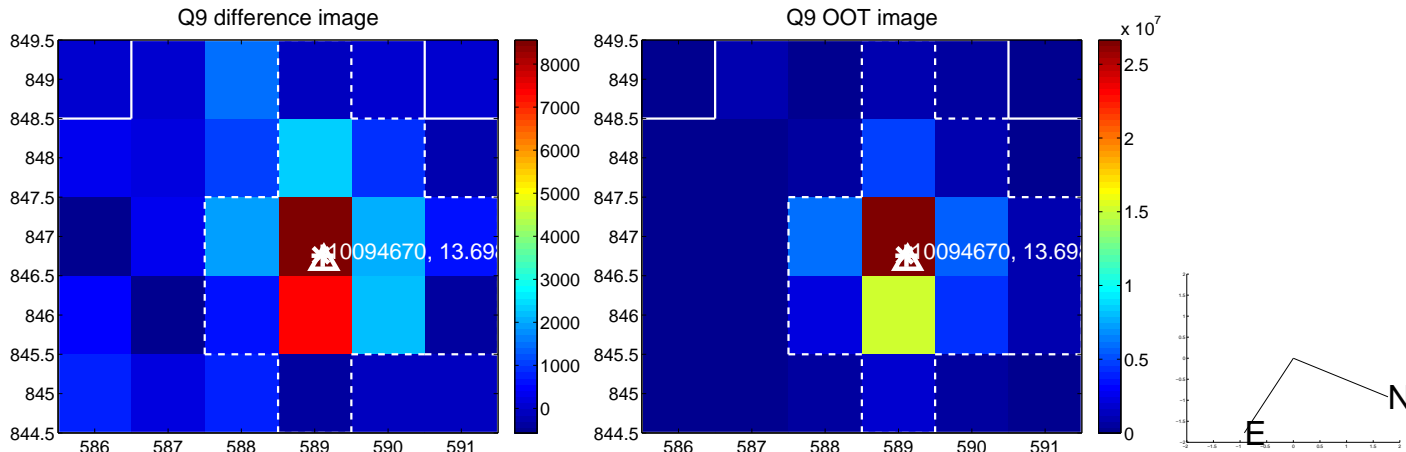
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



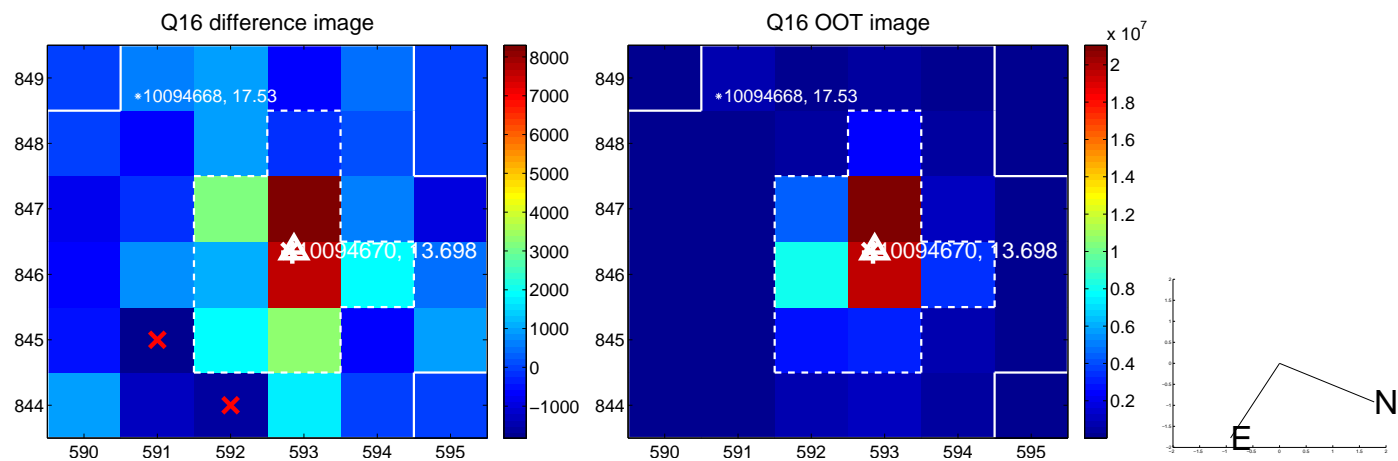
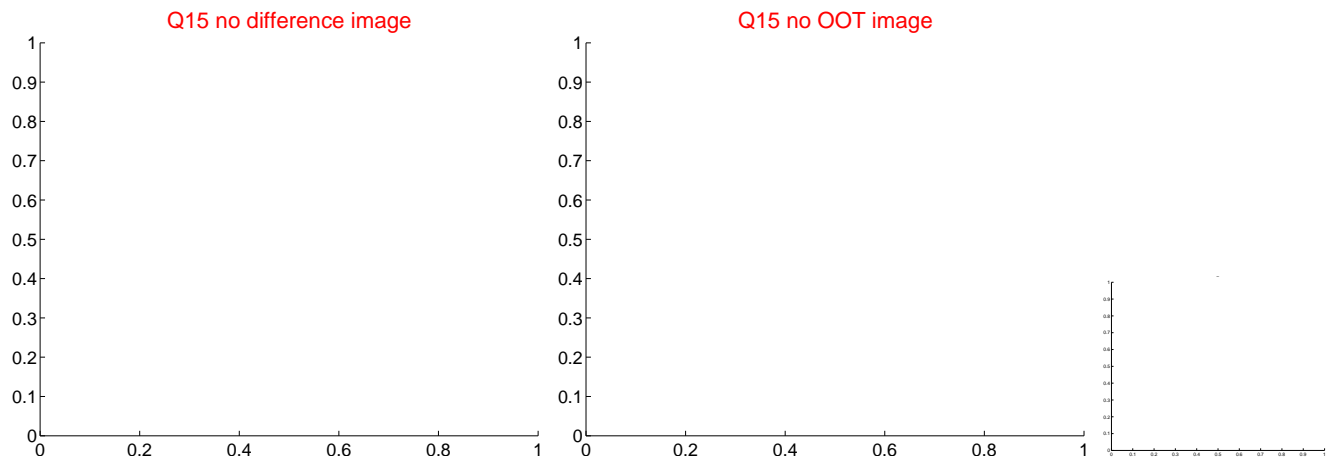
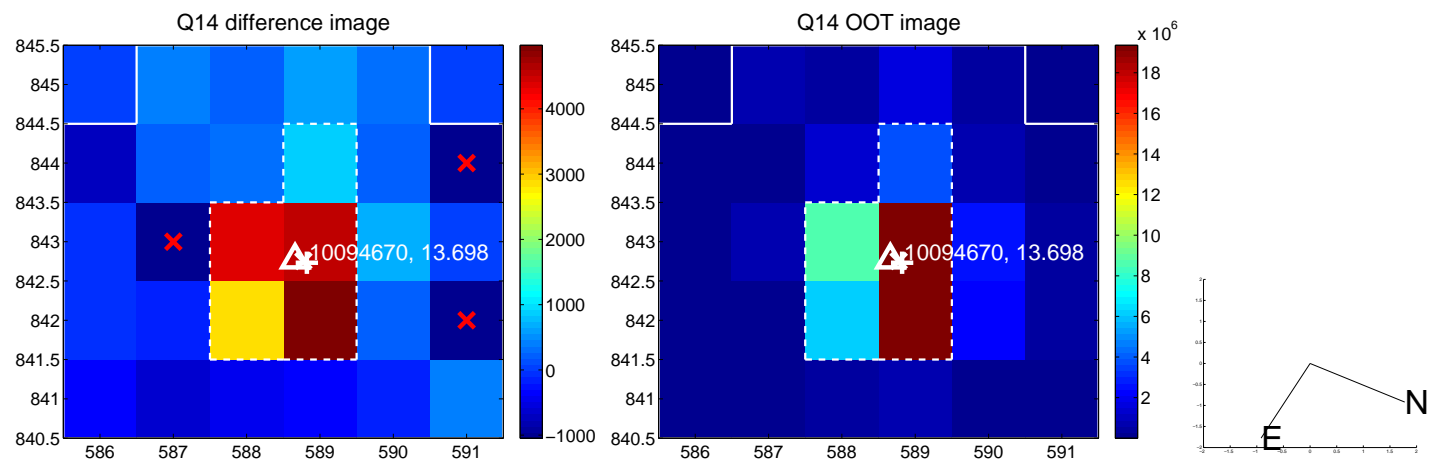
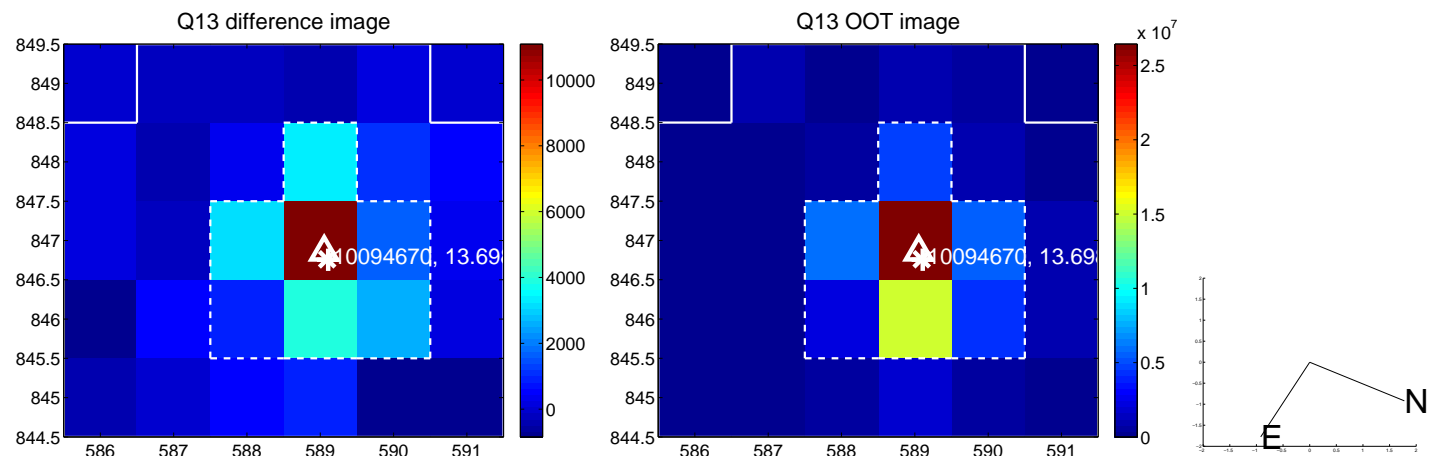
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



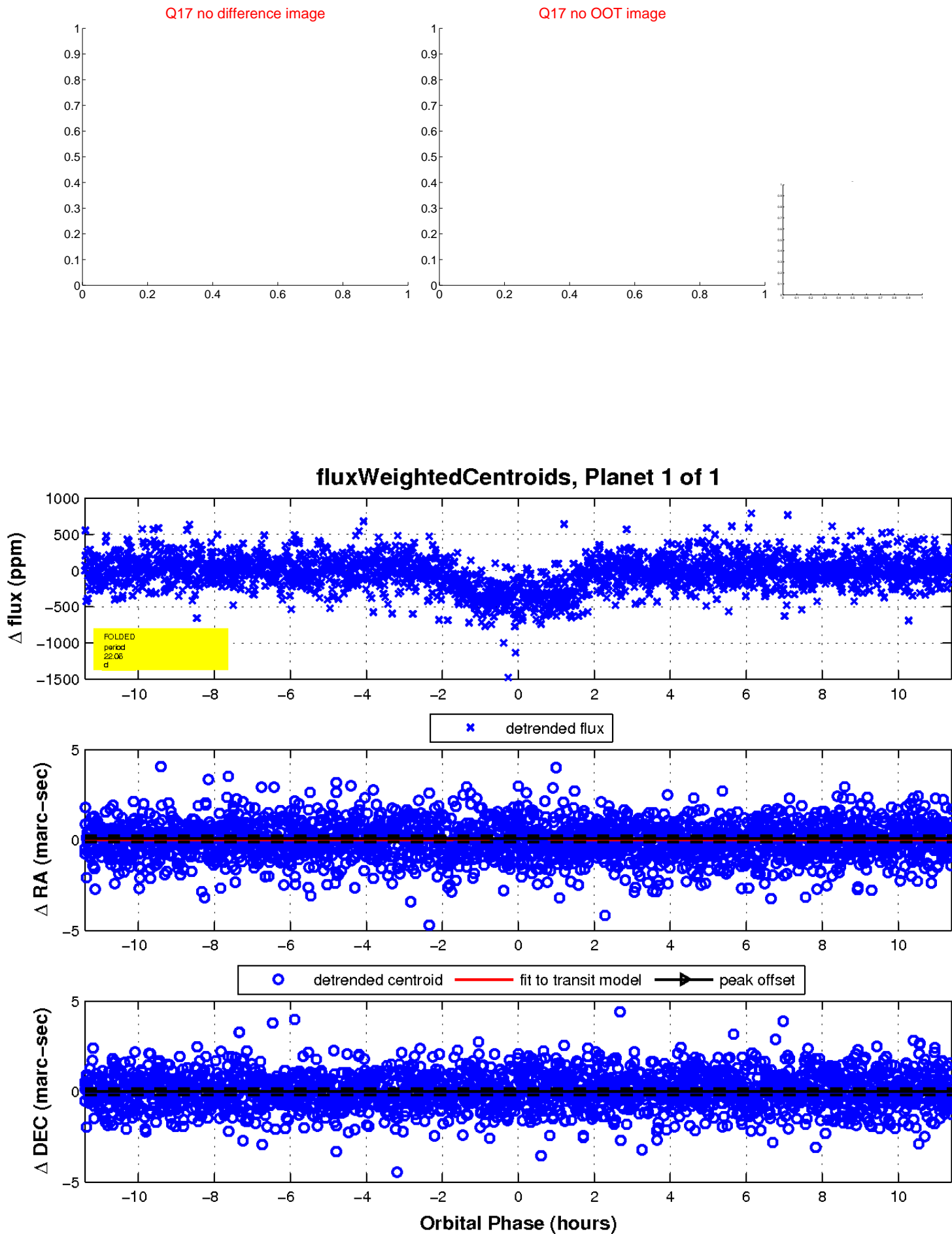
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

