

KIC 004552729

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})
004552729-01	OBS	2691.01	97.446533	204.820773	2092.2	8.854	44.1	44.2	0.69	4735	4.07	1.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004552729-01	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.

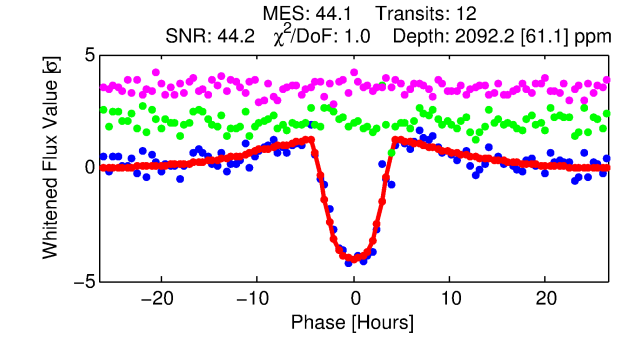
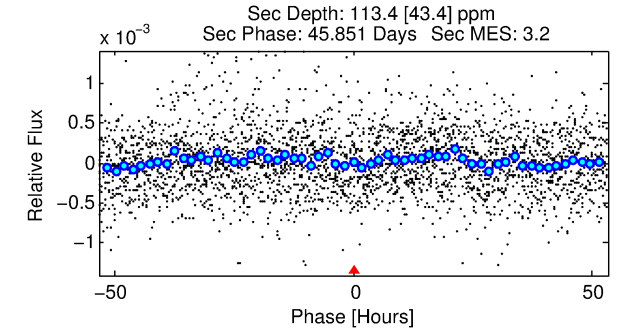
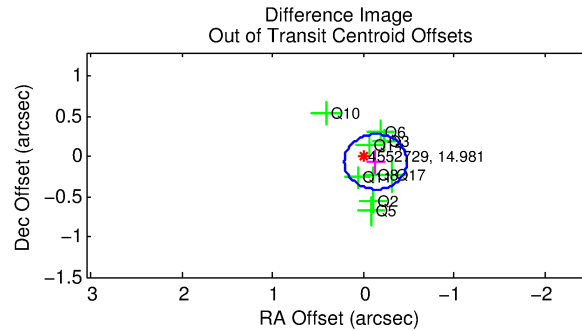
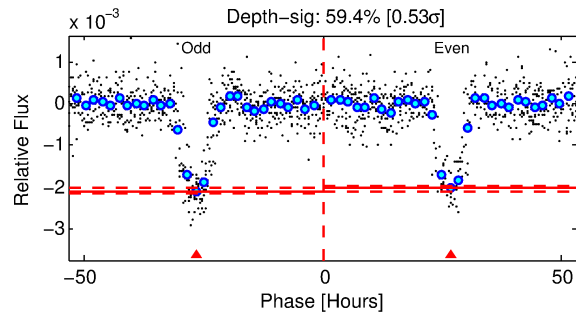
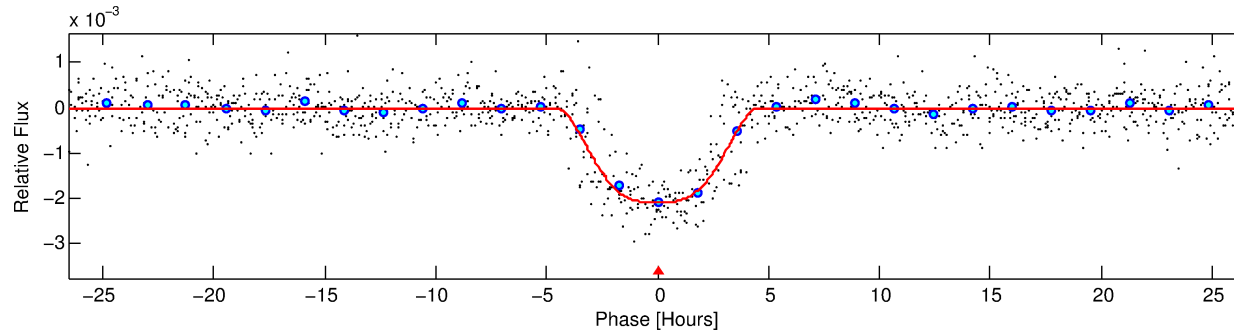
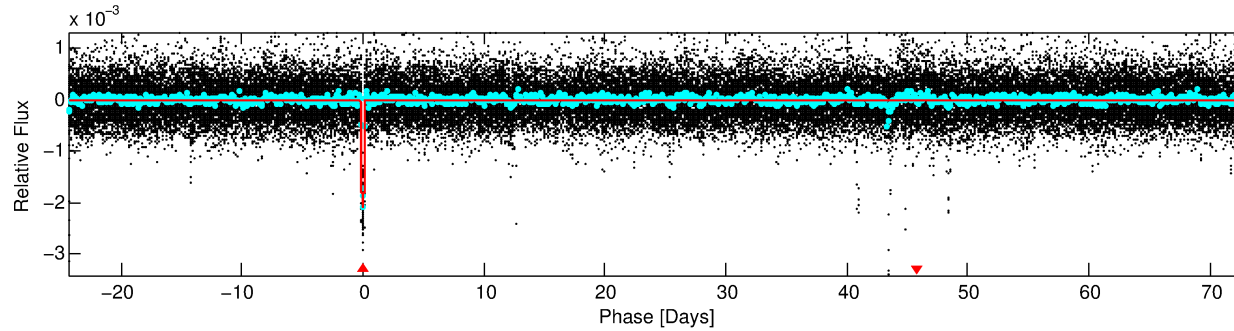
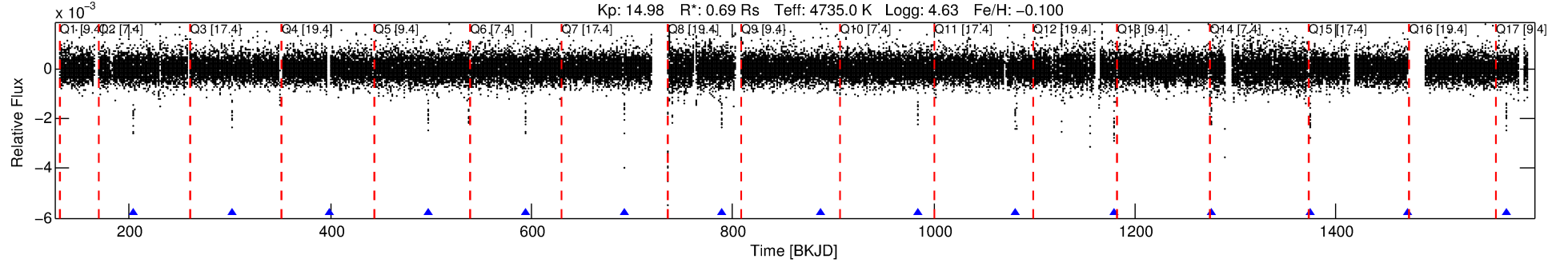
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004552729-01

No Significant Match Found

DV One-Page Summary

KIC: 4552729 Candidate: 1 of 1 Period: 97.447 d
KOI: K02691.01 Corr: 0.904



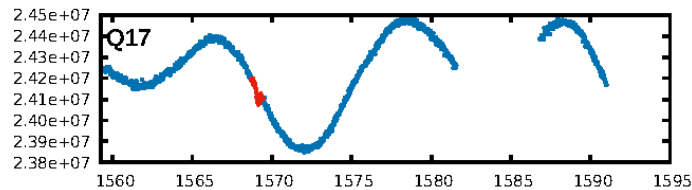
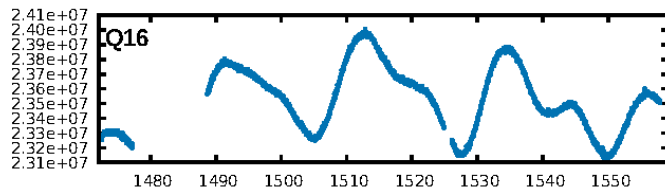
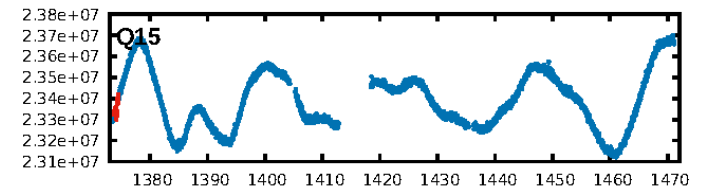
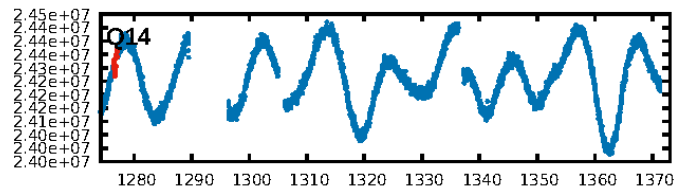
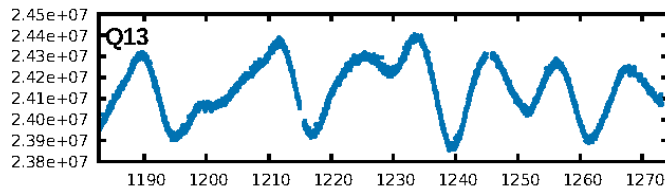
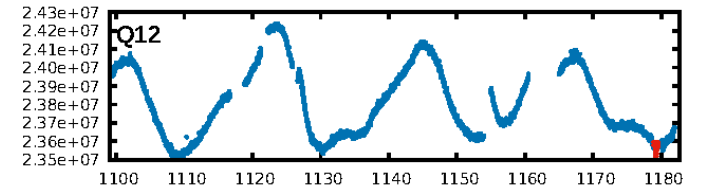
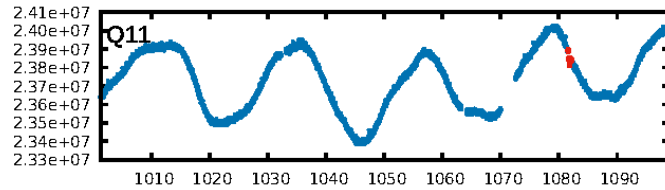
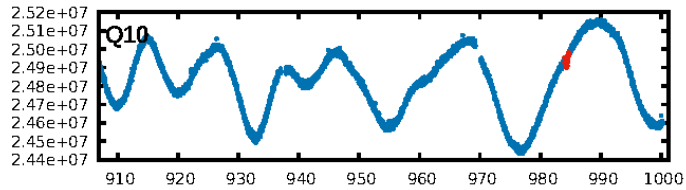
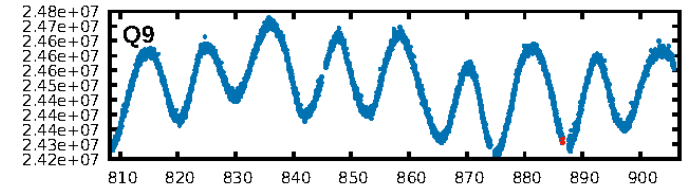
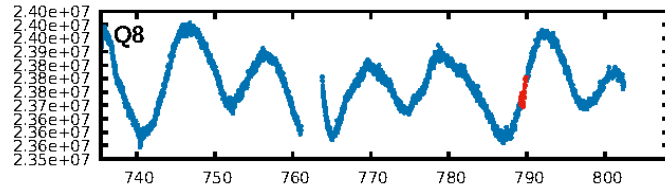
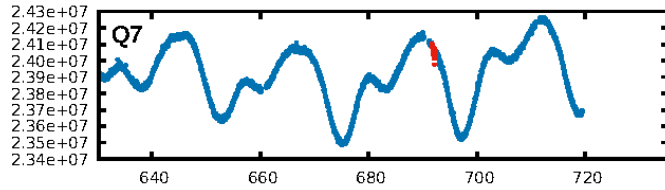
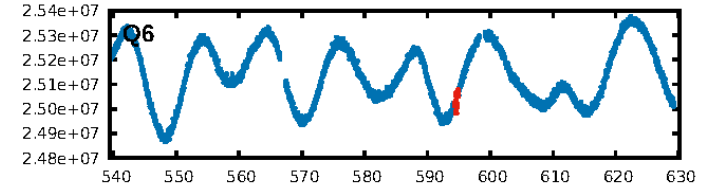
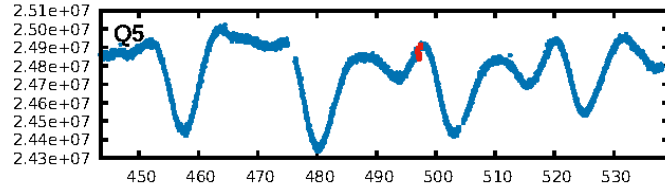
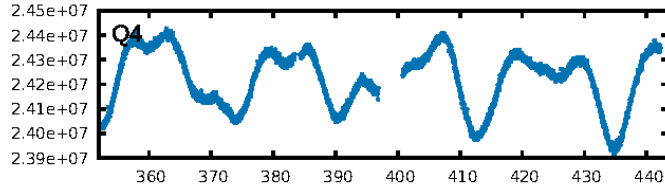
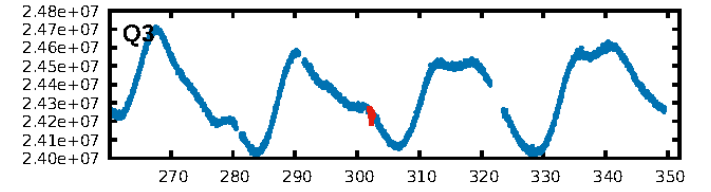
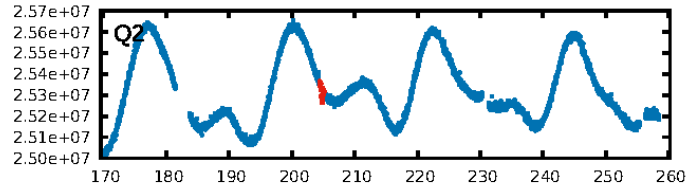
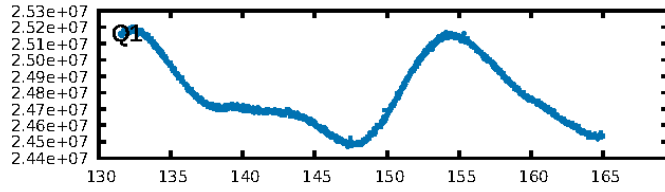
DV Fit Results:

Period = 97.44653 [0.00048] d
Epoch = 204.8208 [0.0037] BKJD
Rp/R* = 0.0543 [0.0014]
a/R* = 41.14 [1.92]
b = 0.93 [0.01]
Seff = 1.53 [0.26]
Teq = 283 [12] K
Rp = 4.07 [0.39] Re
a = 0.3728 [0.0266] AU
Ag = 524.35 [208.60] [2.51 σ]
Teffp = 2097 [216] K [8.38 σ]

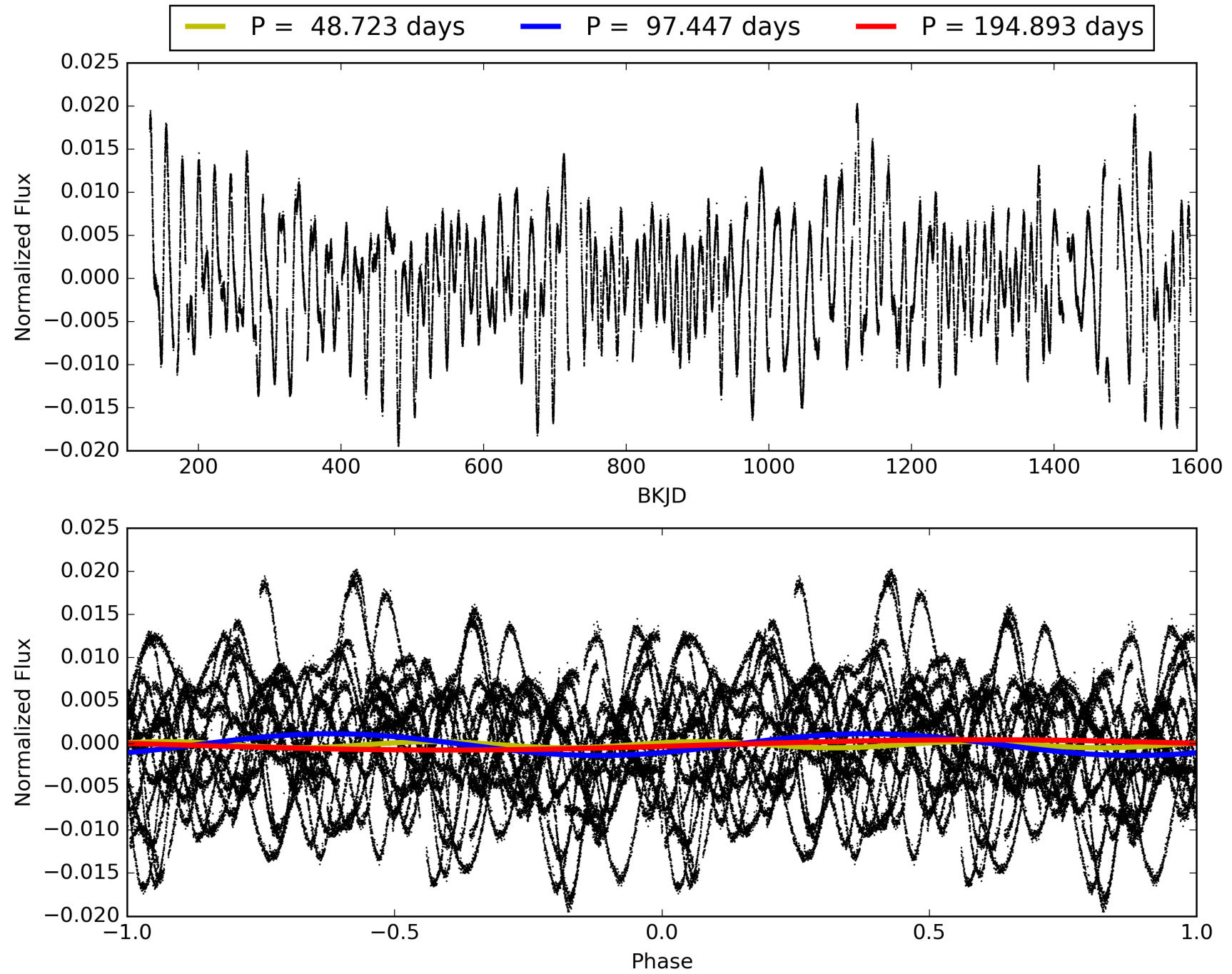
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 2.485
Centroid-sig: 0.0%
Centroid-so: 0.597 arcsec [3.11 σ]
OotOffset-rm: 0.149 arcsec [1.30 σ]
KicOffset-rm: 0.172 arcsec [1.61 σ]
OotOffset-st: 4/2/1/2 [9]
KicOffset-st: 4/2/1/2 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 004552729-01, PDC Light Curves

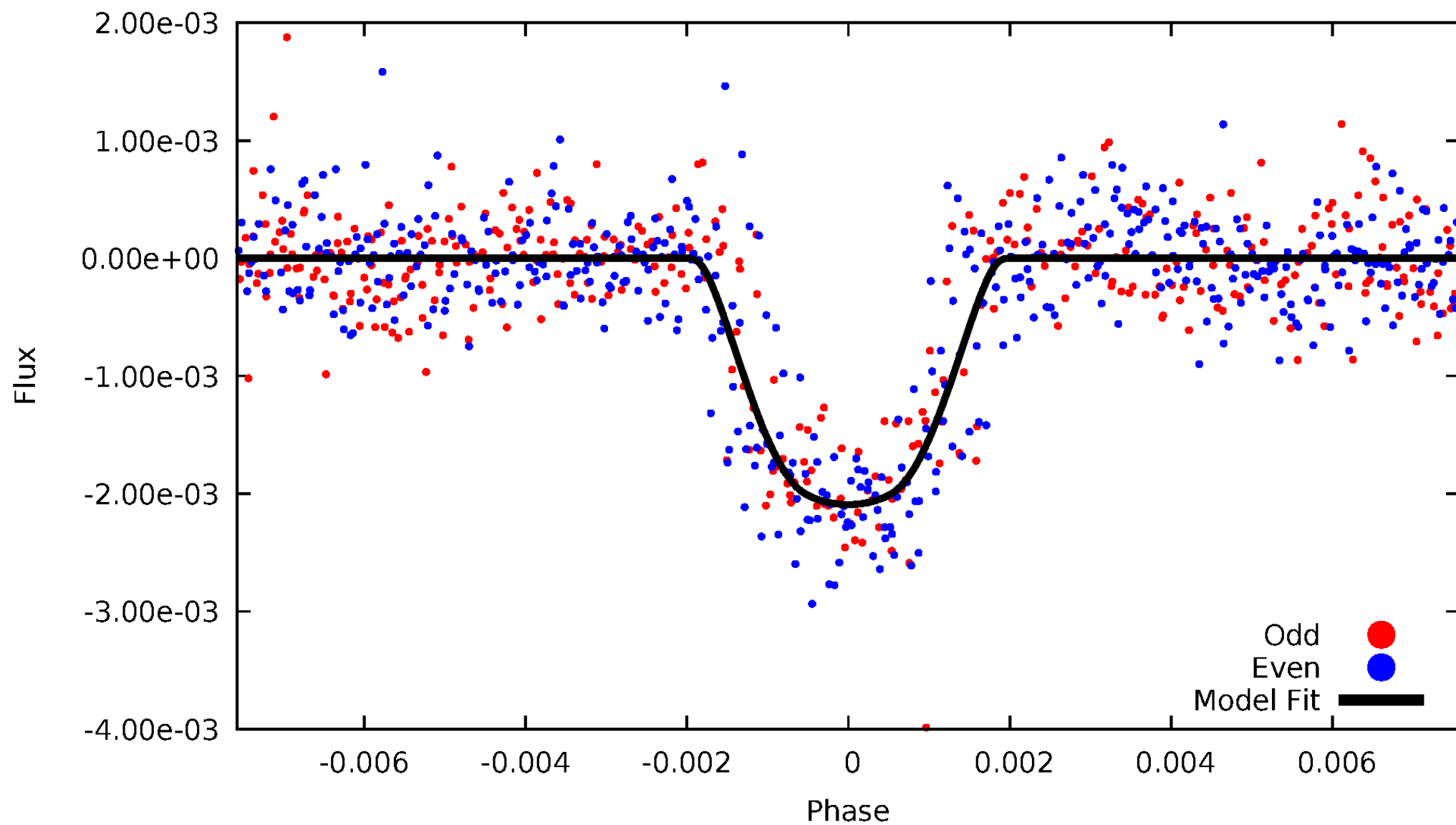


TCE 004552729-01



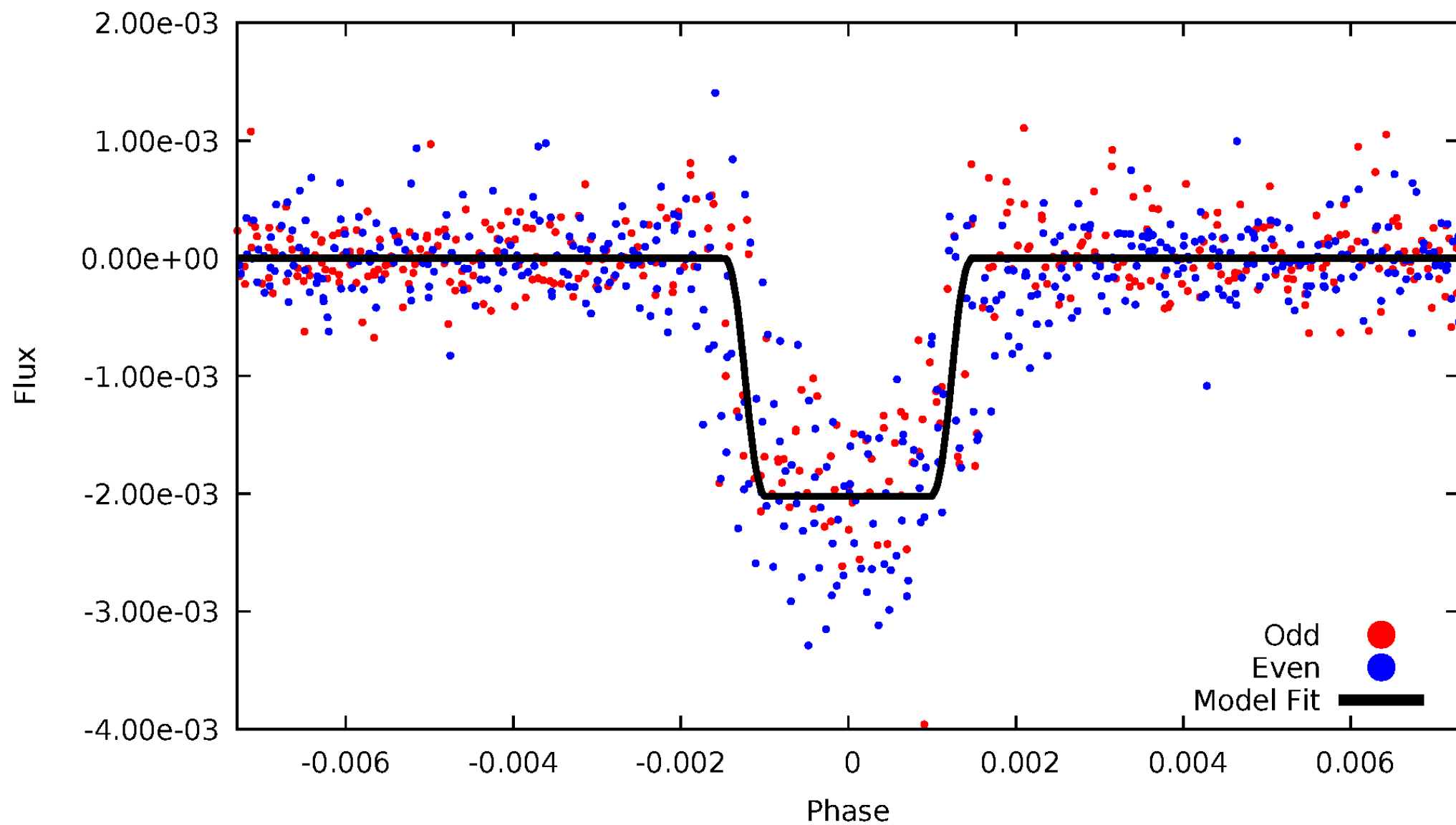
DV Odd/Even

TCE 004552729-01



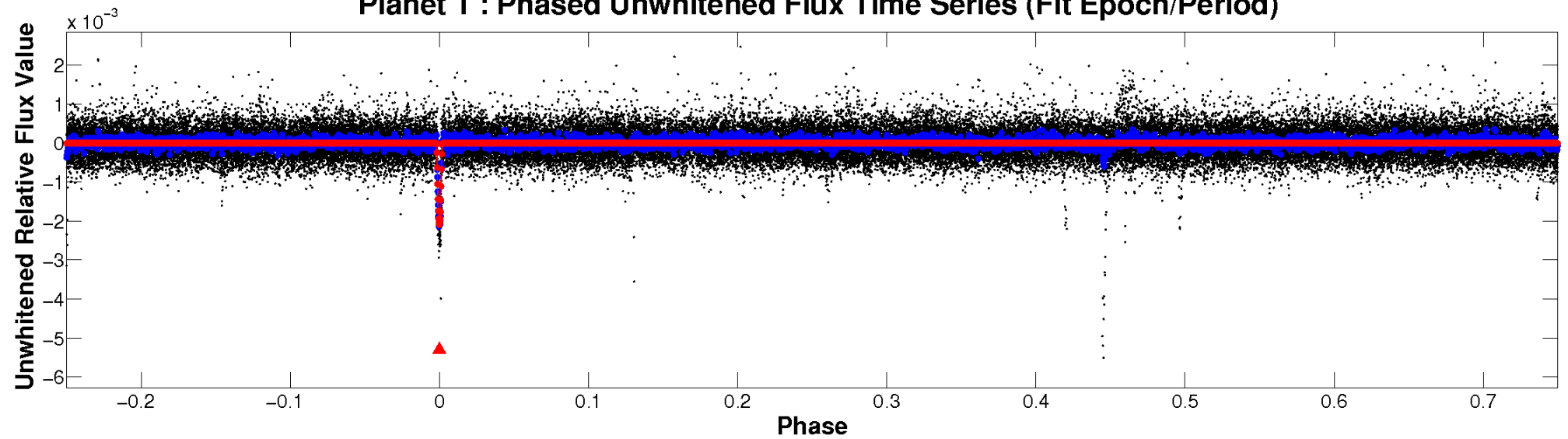
ALT Odd/Even

TCE 004552729-01

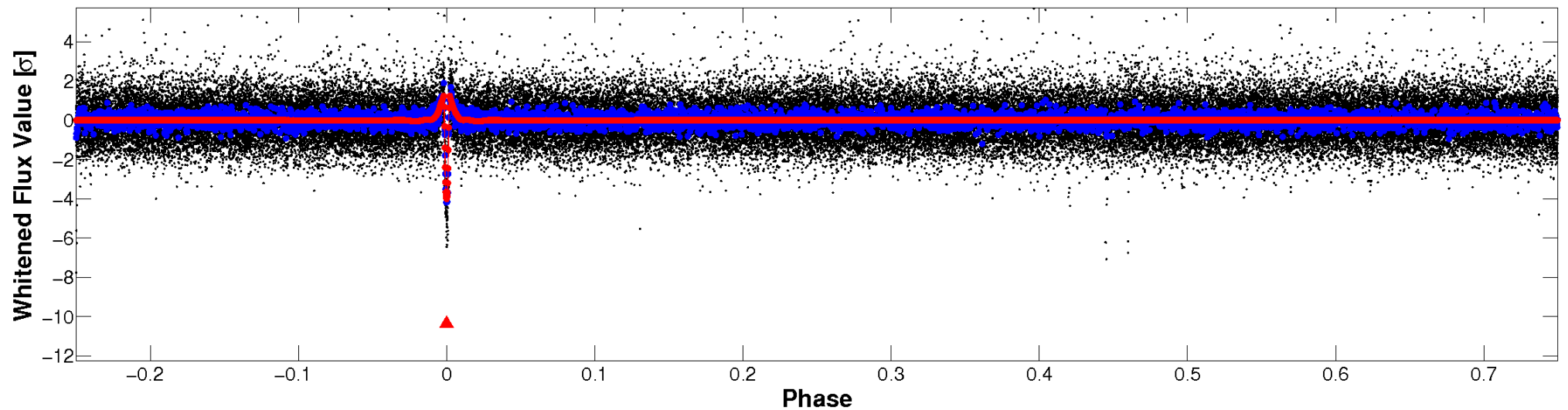


Non-Whitened Vs. Whitened Light Curve

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

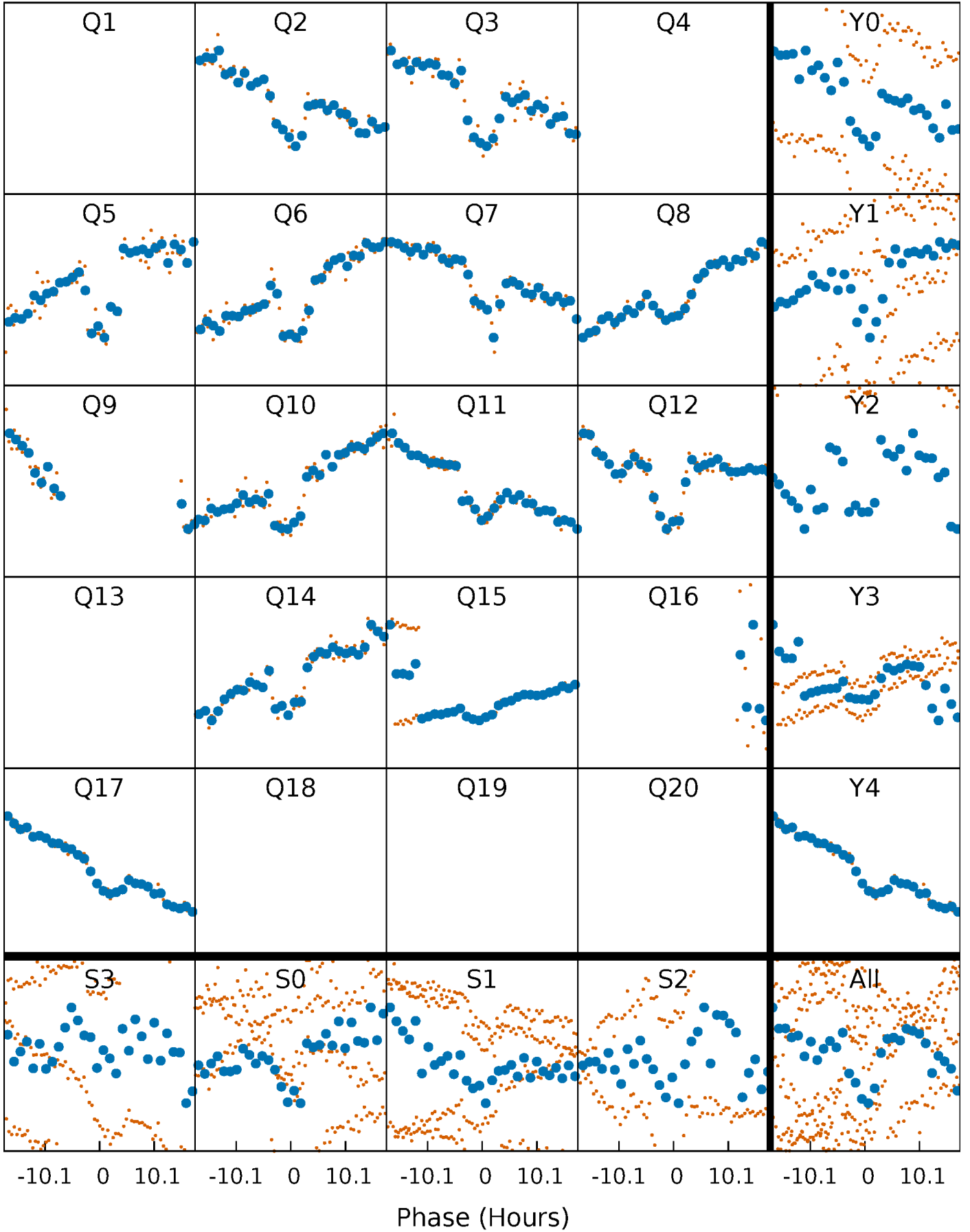


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



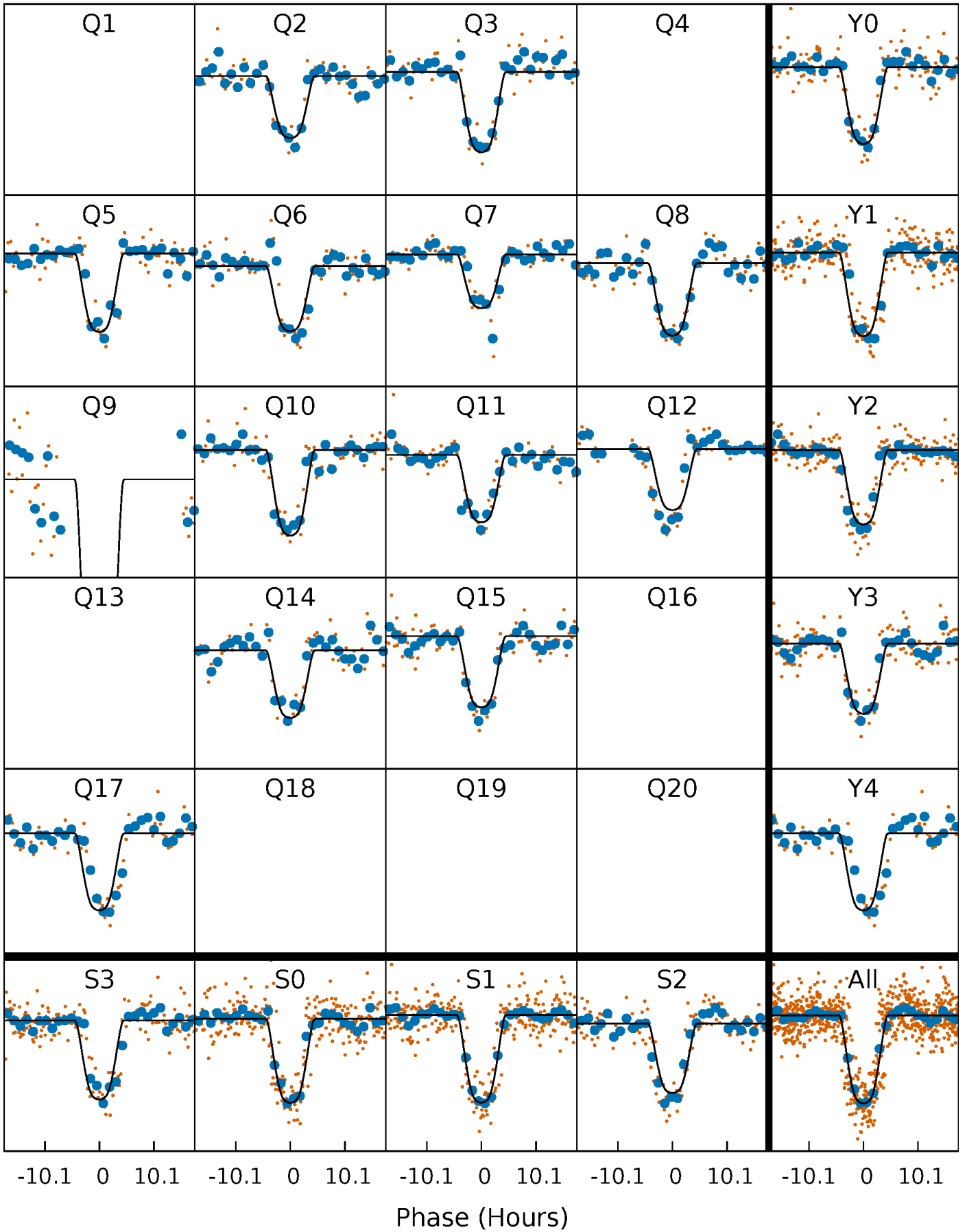
PDC Quarter-Phased Transit Curves

TCE 004552729-01 P= 97.446533 Days $T_0=204.820773$ (BKJD)



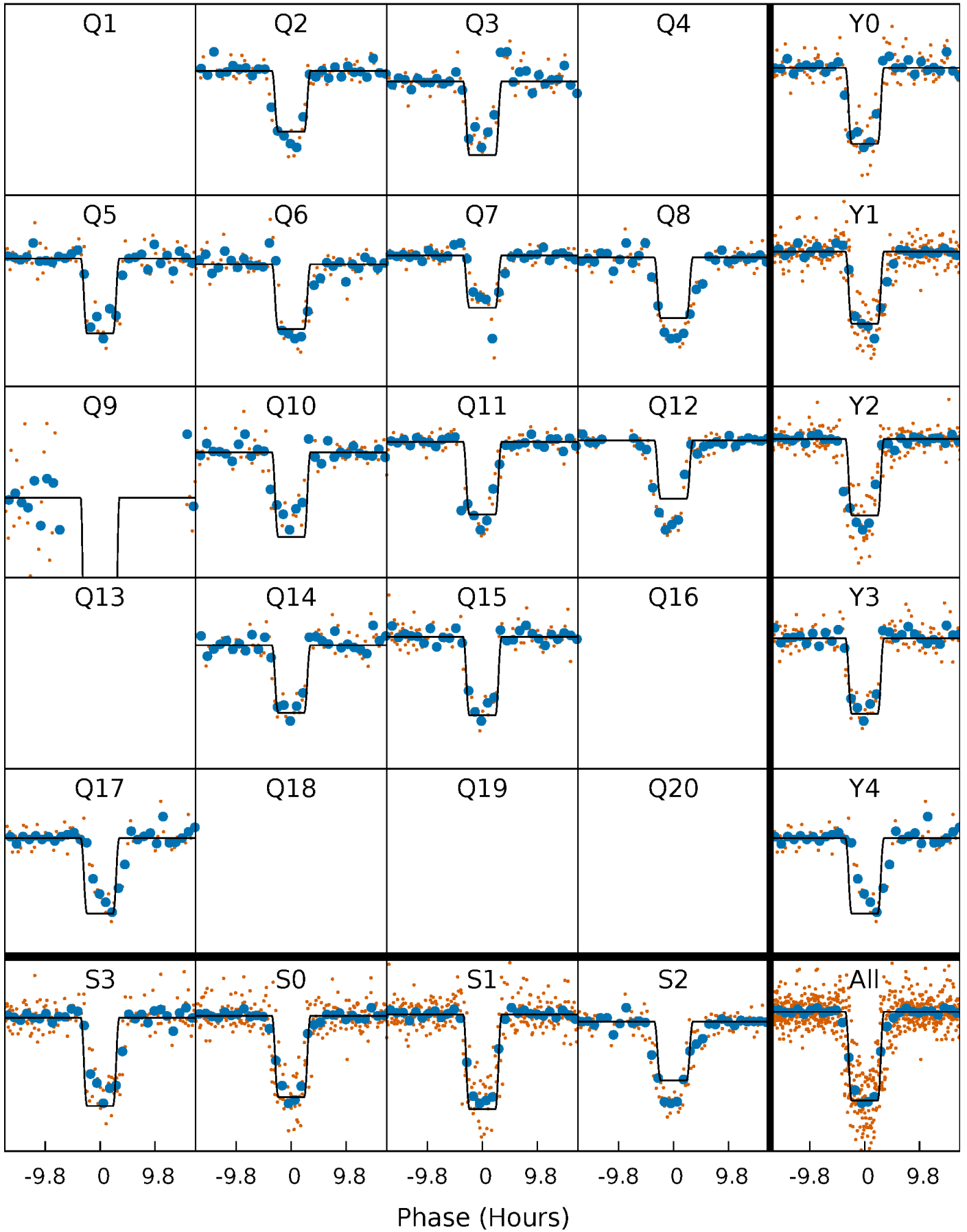
DV Quarter-Phased Transit Curves

TCE 004552729-01 P= 97.446533 Days $T_0=204.820773$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

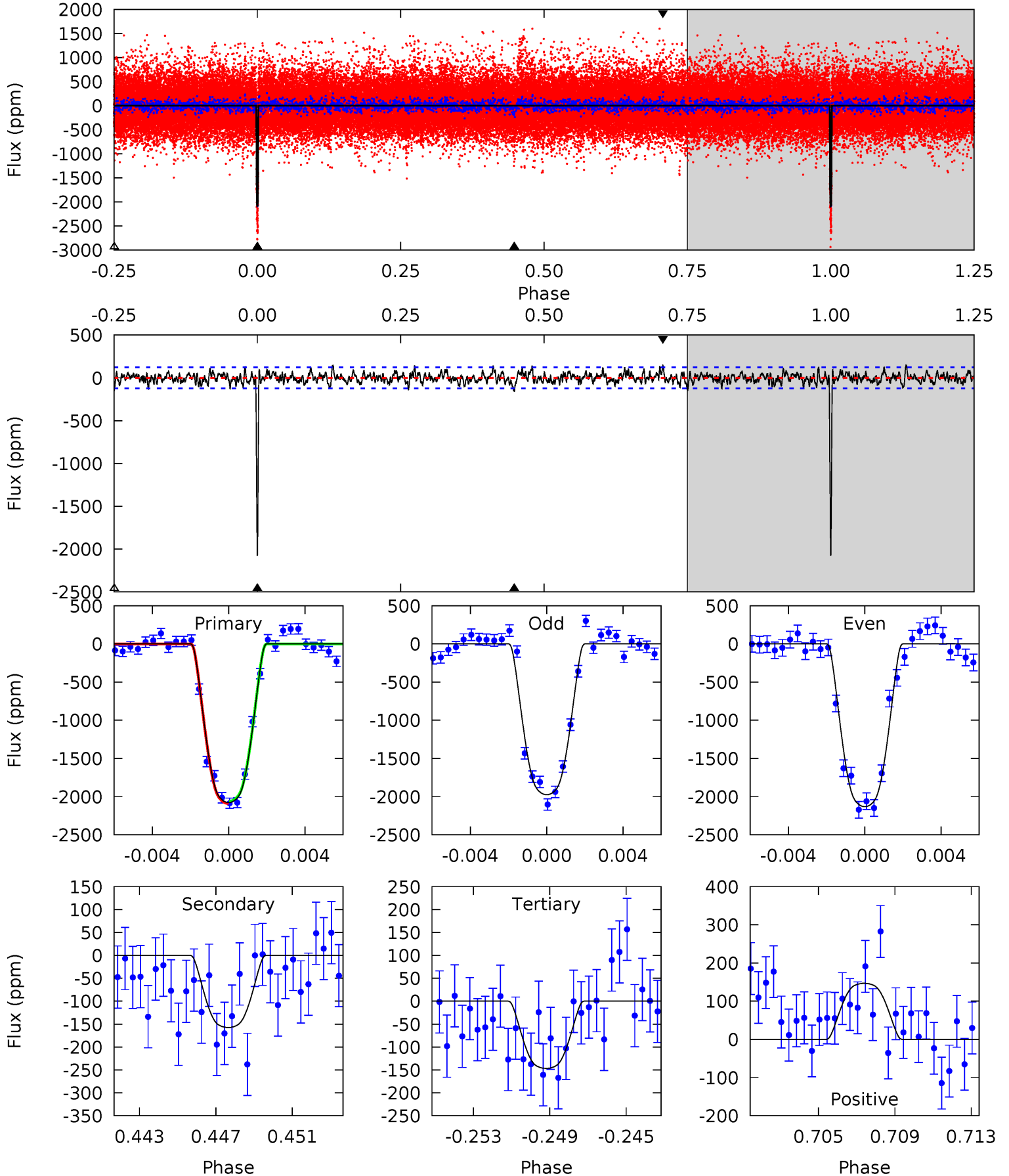
TCE 004552729-01 P= 97.445971 Days $T_0=204.829242$ (BKJD)



DV Model-Shift Uniqueness Test

004552729-01, P = 97.446533 Days, E = 107.374240 Days

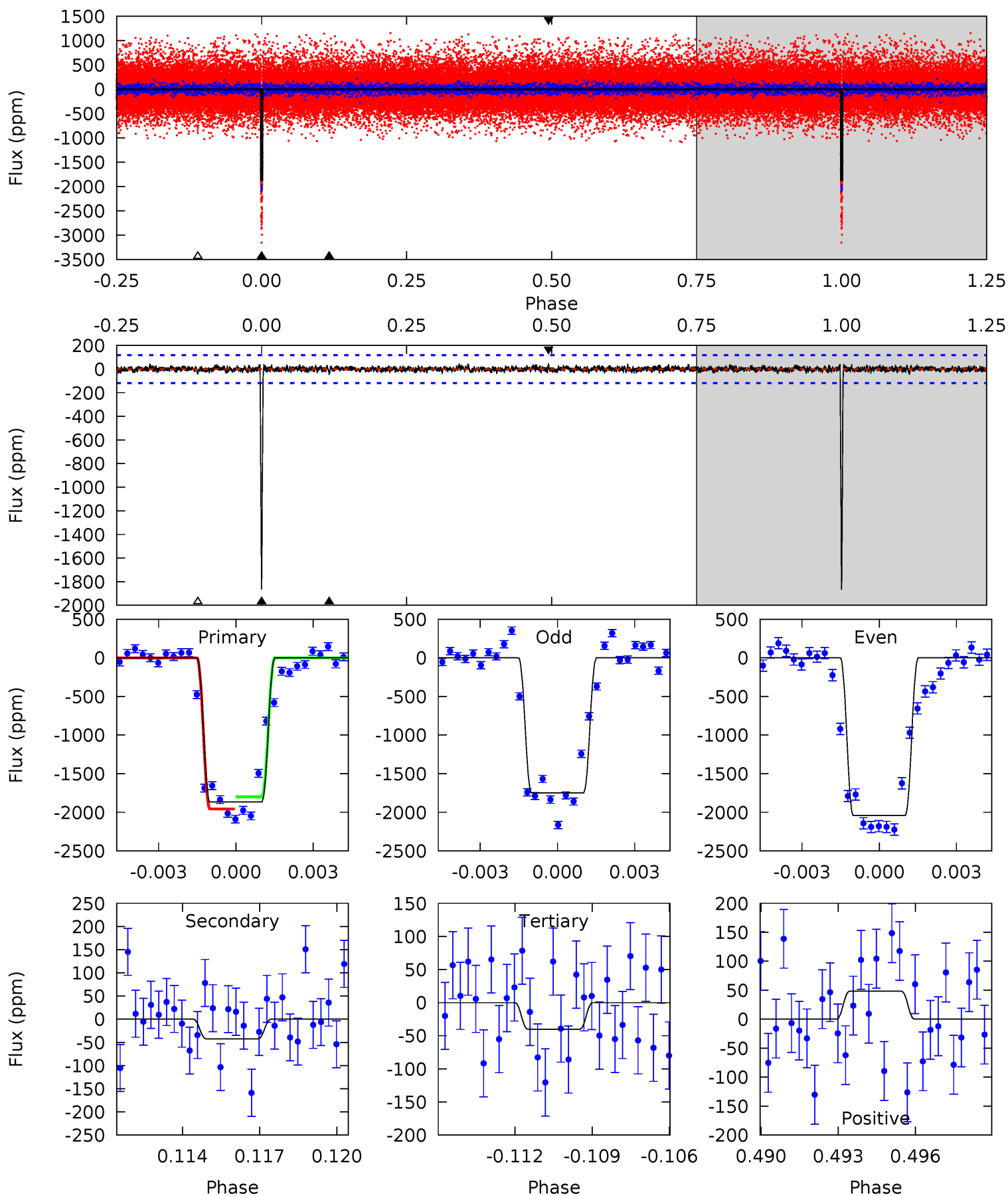
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.9	6.66	6.21	6.21	5.20	2.88	1.94	81.7	81.7	0.46	0.46	3.28	1.01	0.07	0.56



Alt Model-Shift Uniqueness Test

004552729-01, P = 97.445971 Days, E = 107.383271 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.8	1.88	1.78	2.14	5.26	2.97	0.52	81.0	80.7	0.10	-0.26	6.46	1.03	0.03	3.47



Stellar Parameters For KIC 004552729

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4735^{+170}_{-170}	$4.627^{+0.032}_{-0.048}$	$-0.100^{+0.300}_{-0.300}$	$0.686^{+0.063}_{-0.057}$	$0.730^{+0.065}_{-0.071}$	$3.189^{+0.532}_{-0.593}$
	+4%/-4%	+1%/-1%	+300%/-300%	+9%/-8%	+9%/-10%	+17%/-19%
Source	PHO16	PHO16	PHO16	DSEP		

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

Secondary Eclipse Parameters for KIC 004552729-01 / KOI 2691.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-157 ± 24	$4.11^{+0.23}_{-0.22}$	397^{+15}_{-16}	2907^{+101}_{-92}	714^{+133}_{-122}
Alt.	-42 ± 23	$3.40^{+0.19}_{-0.19}$	398^{+15}_{-16}	2580^{+172}_{-264}	276^{+168}_{-158}

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 $A_{obs} \gg 1.0$

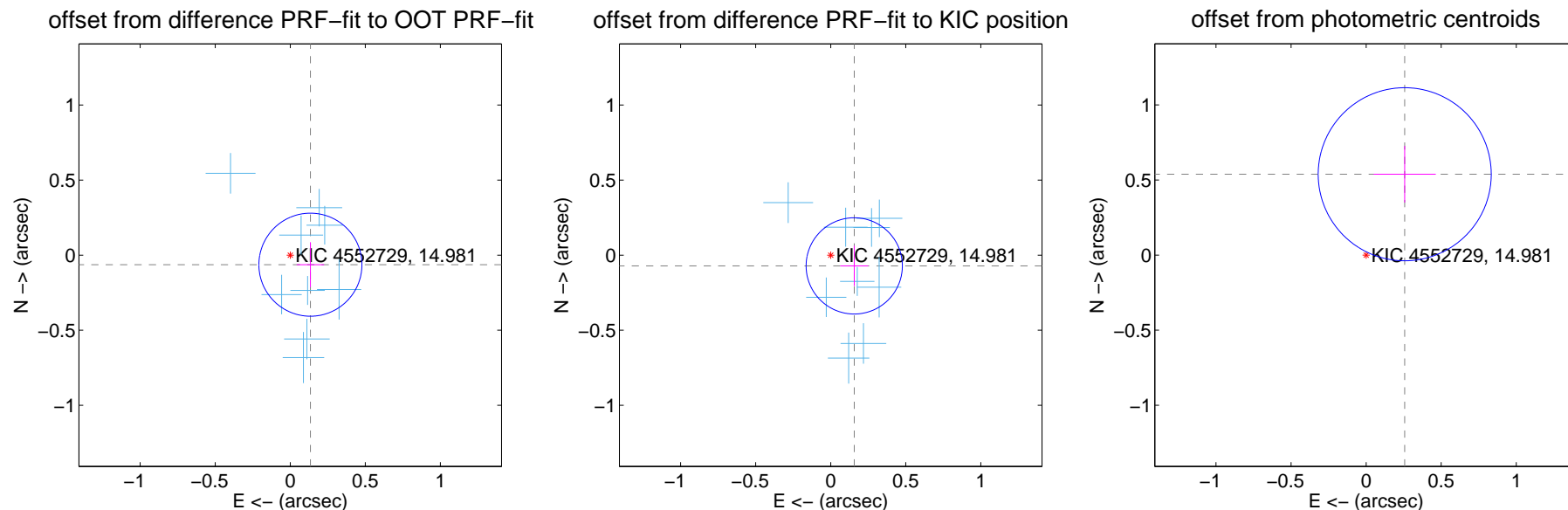
DV Centroid Data

Supplemental centroid analysis for 004552729-01. Kepler magnitude: 14.98. Transit SNR 44.15

There are 9 quarters with good PRF difference image offsets

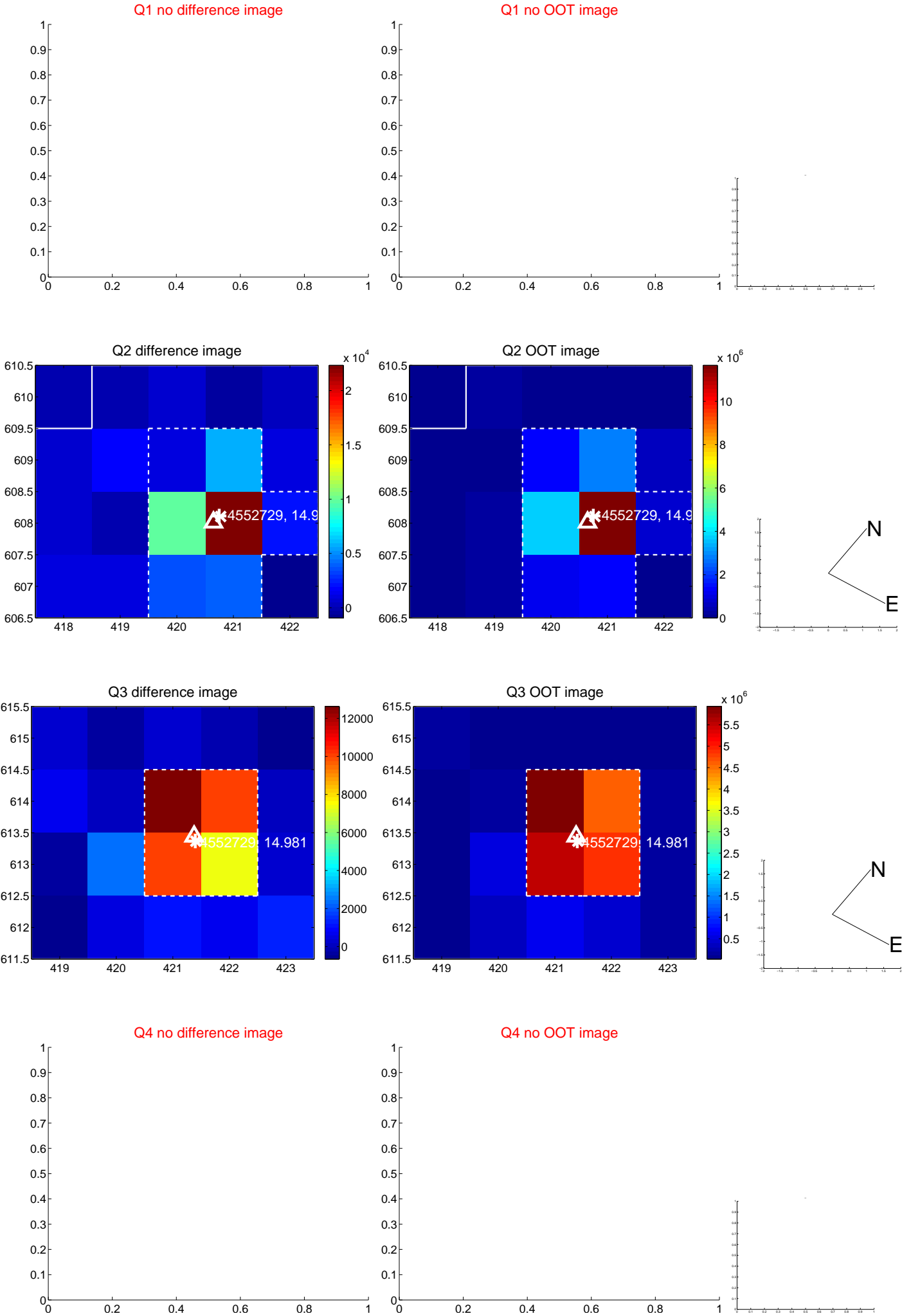
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.149 ± 0.114	1.30	-0.134 ± 0.091	-0.064 ± 0.150
PRF-fit source offset from KIC position	0.172 ± 0.107	1.61	-0.157 ± 0.093	-0.072 ± 0.134
photometric centroid source offset	0.60 ± 0.19	3.11	-0.26 ± 0.21	0.54 ± 0.19

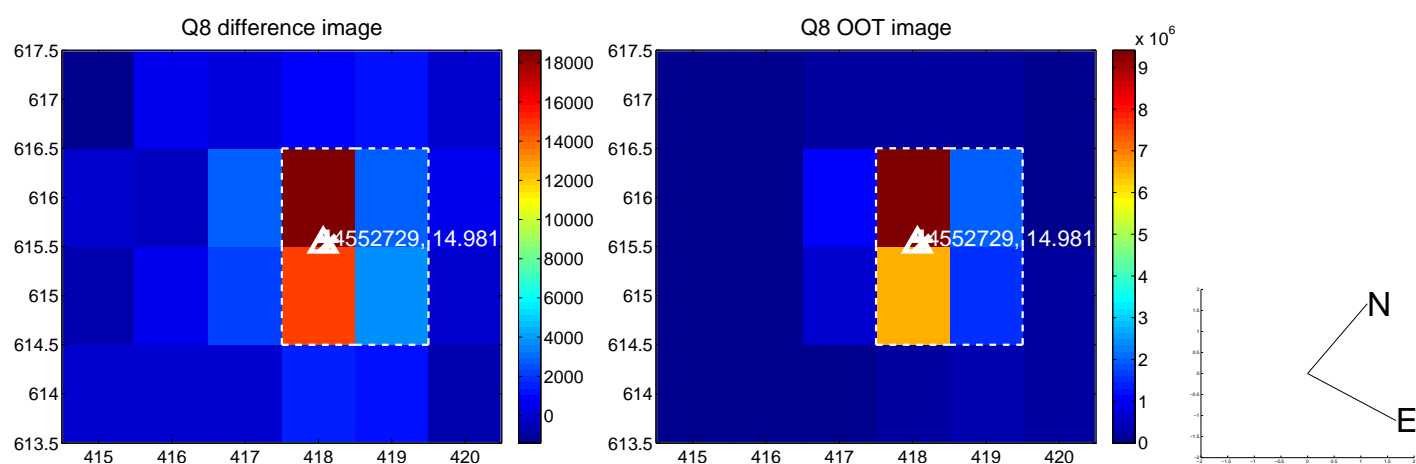
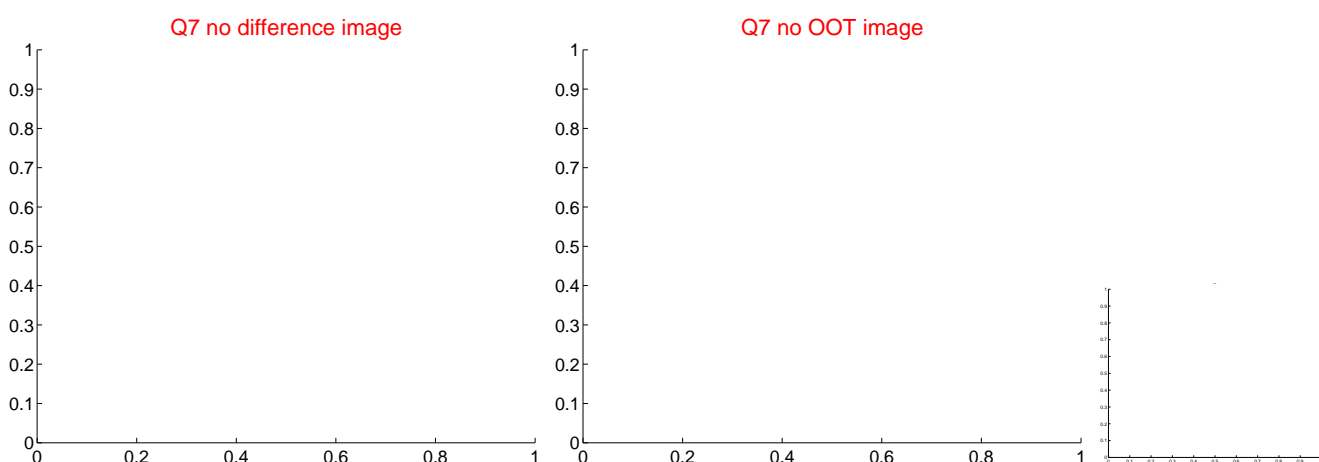
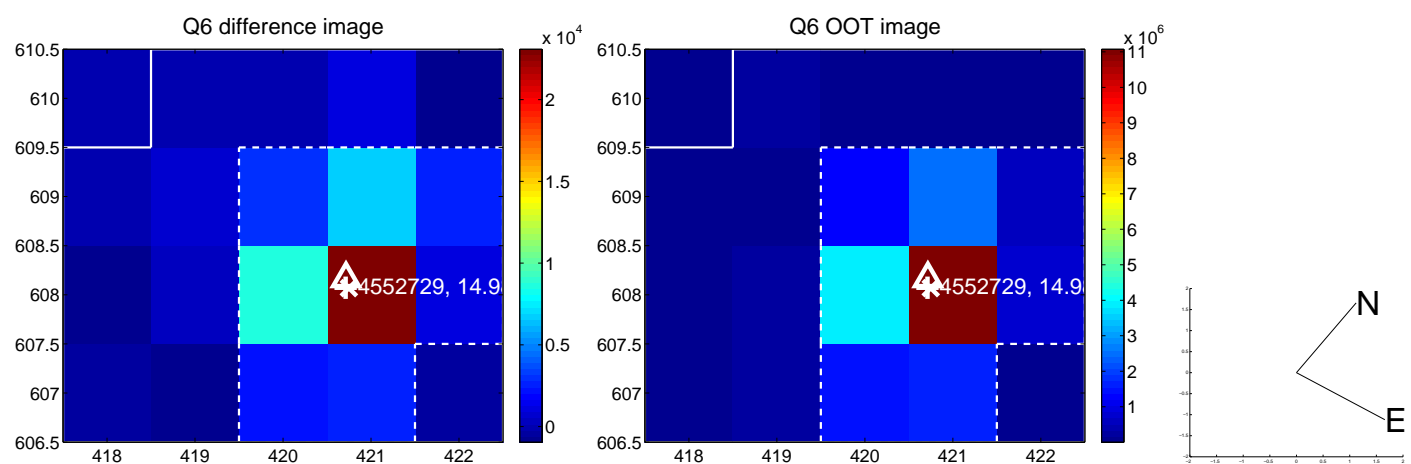
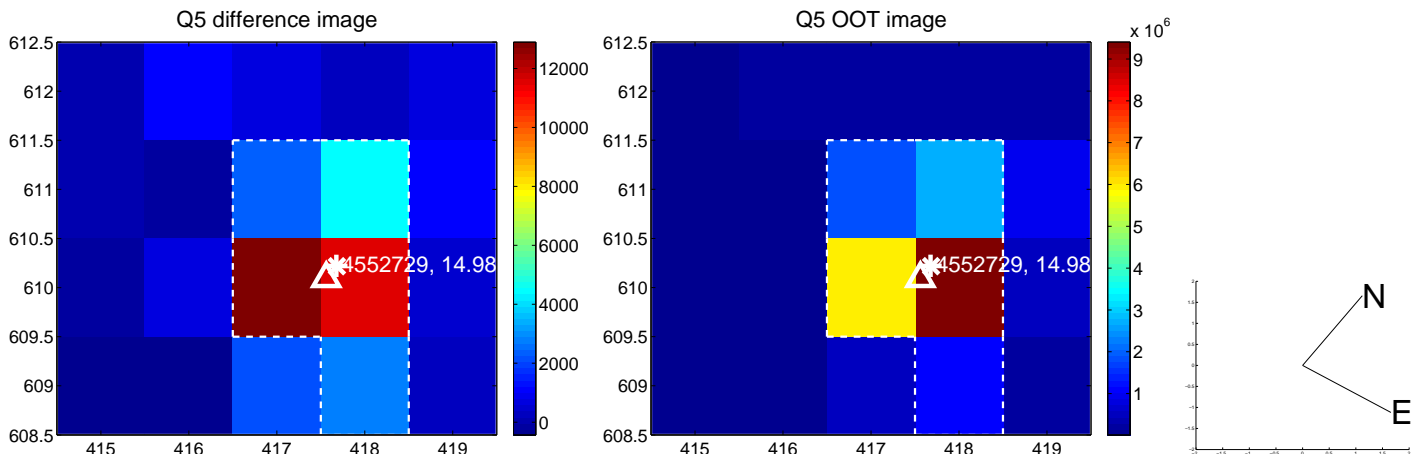


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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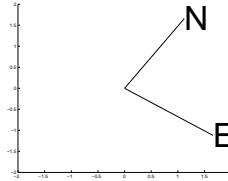
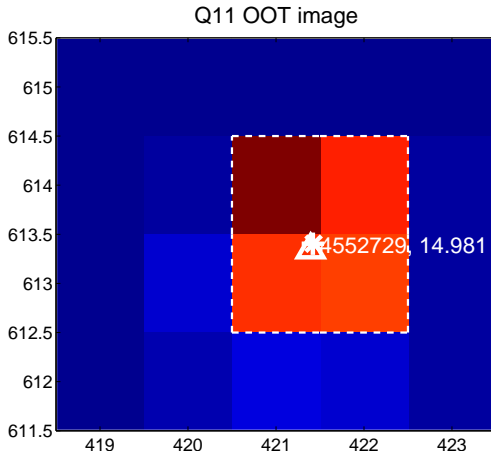
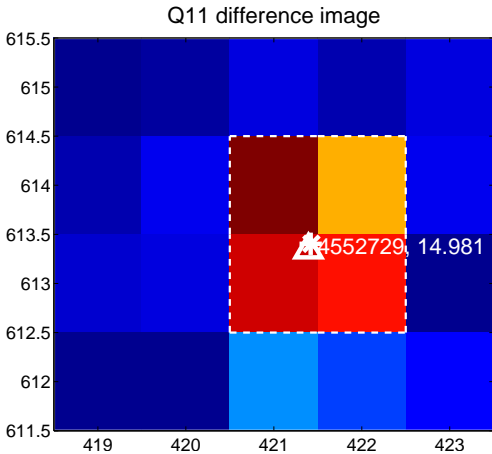
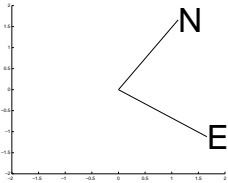
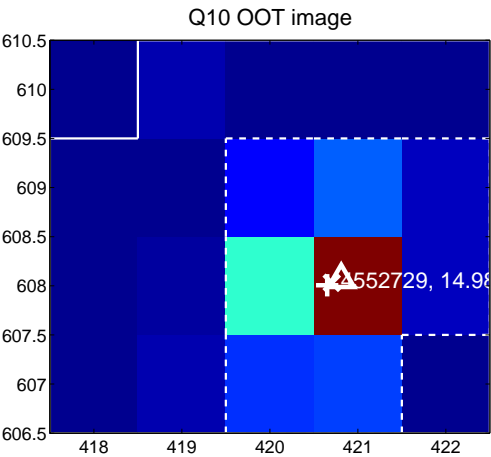
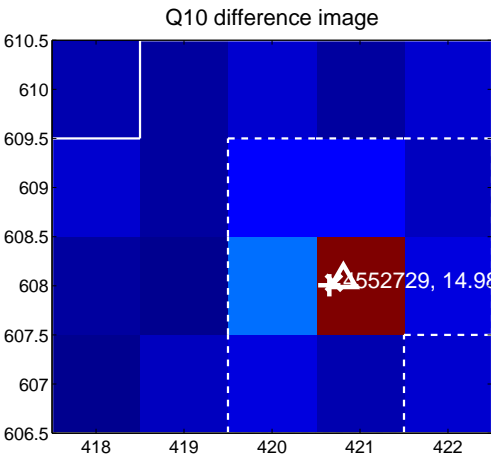


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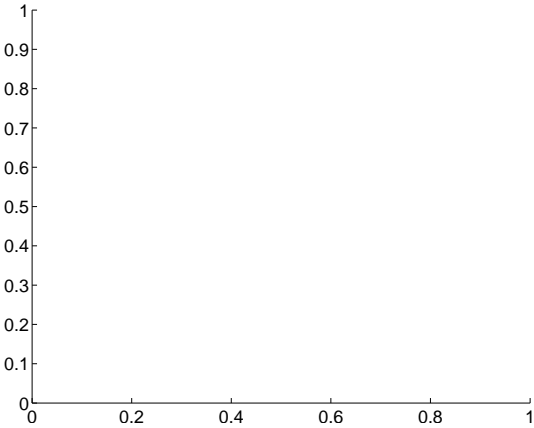
Q9 no difference image



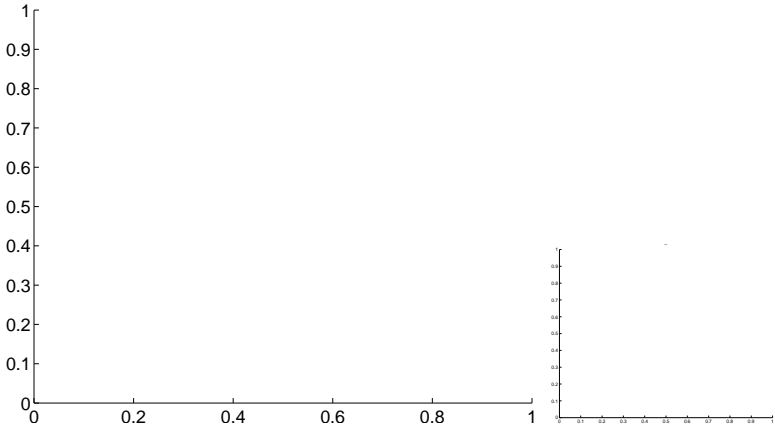
Q9 no OOT image



Q12 no difference image



Q12 no OOT image

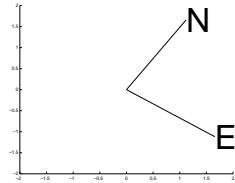
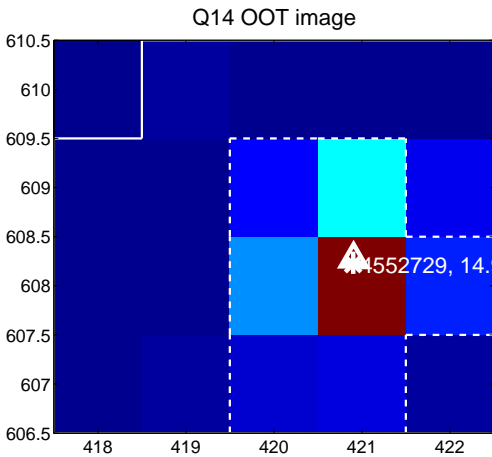
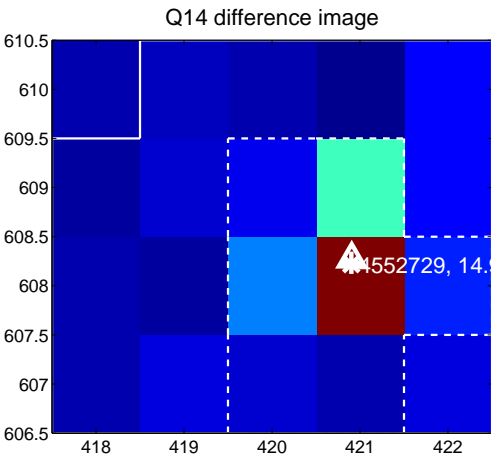


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

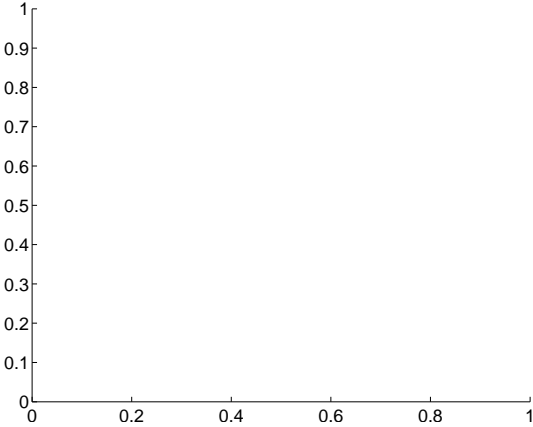
Q13 no difference image



Q13 no OOT image



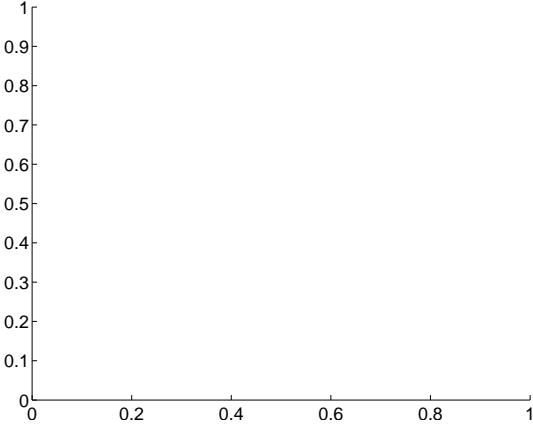
Q15 no difference image



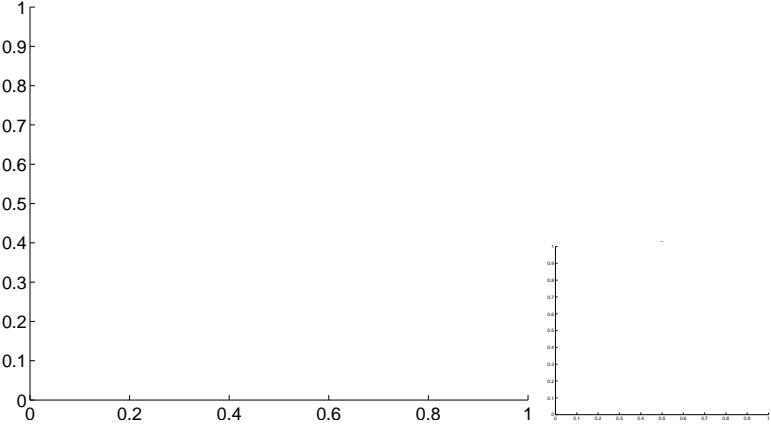
Q15 no OOT image



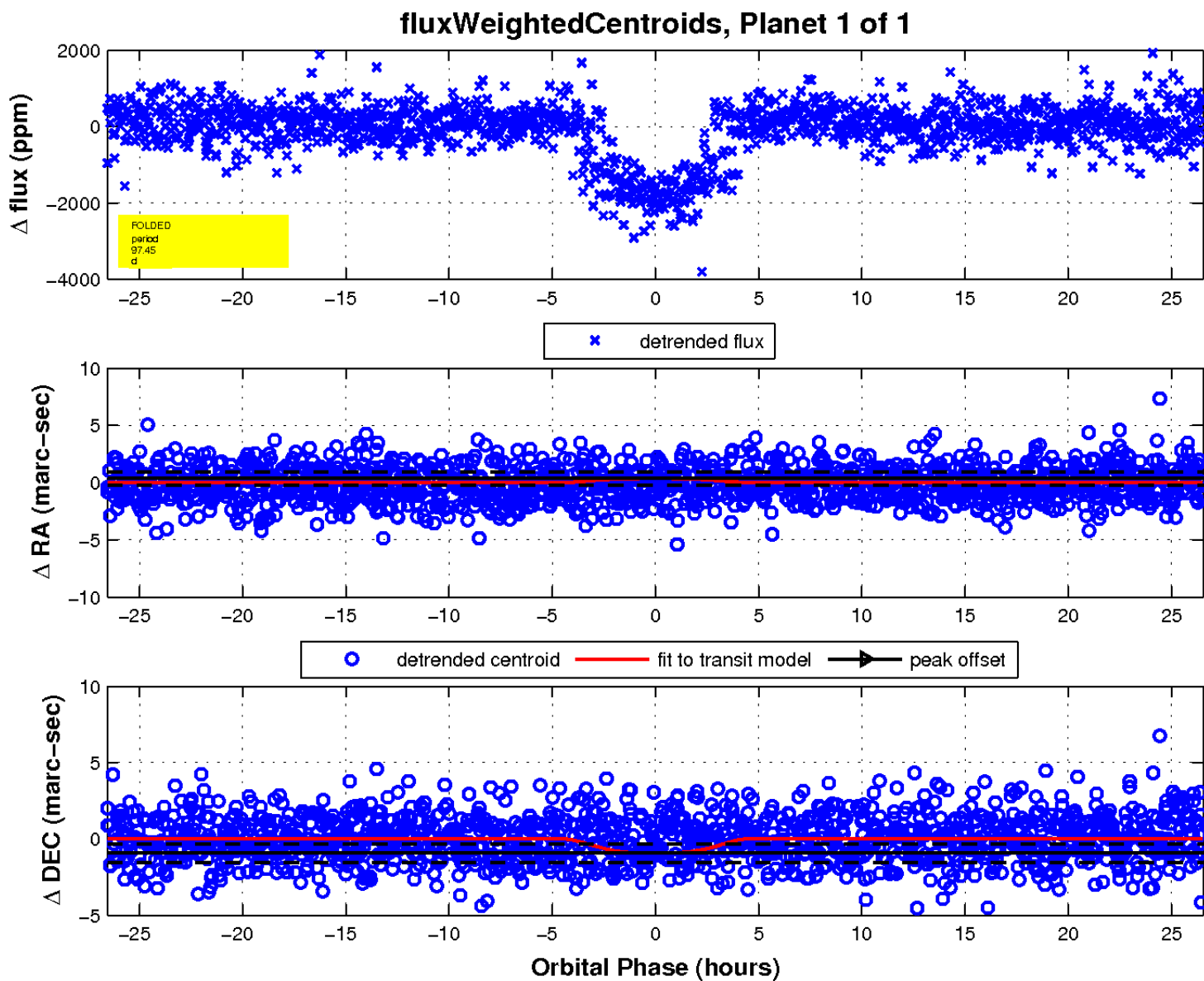
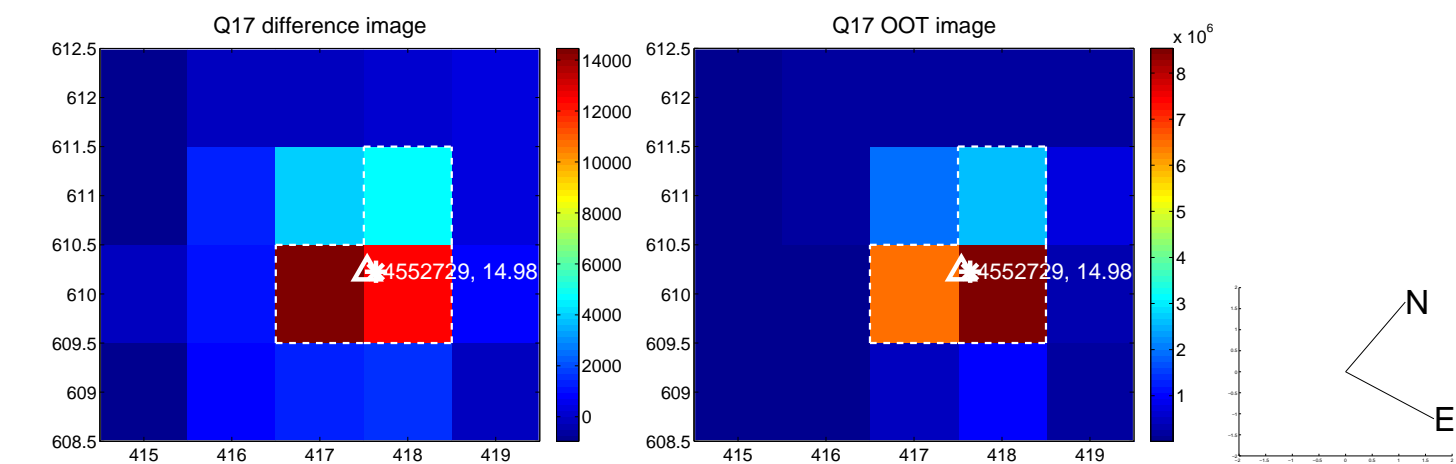
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

