

KIC 004484312

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
004484312-01	OBS	6419.01	2.242913	133.486030	32.4	2.624	8.4	9.5	1.18	6082	0.81	1771.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484312-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

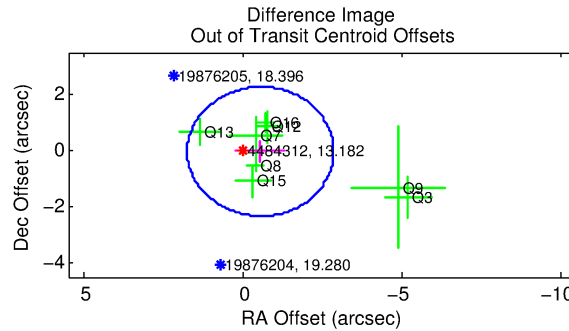
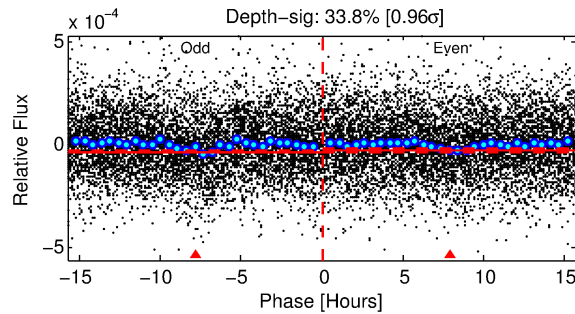
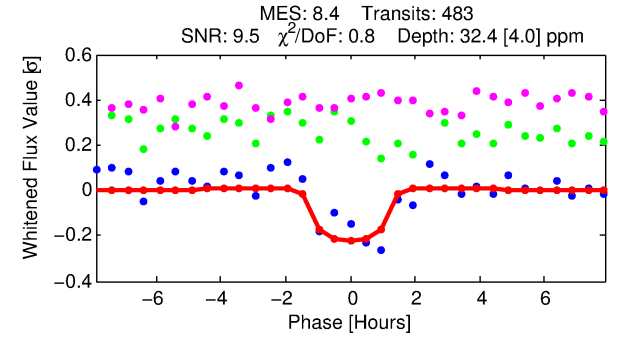
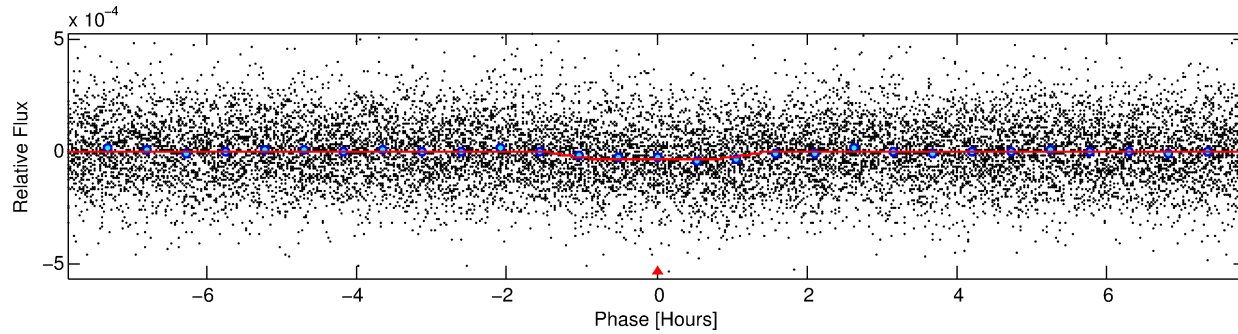
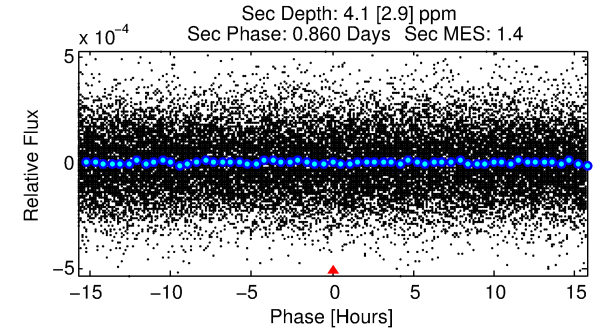
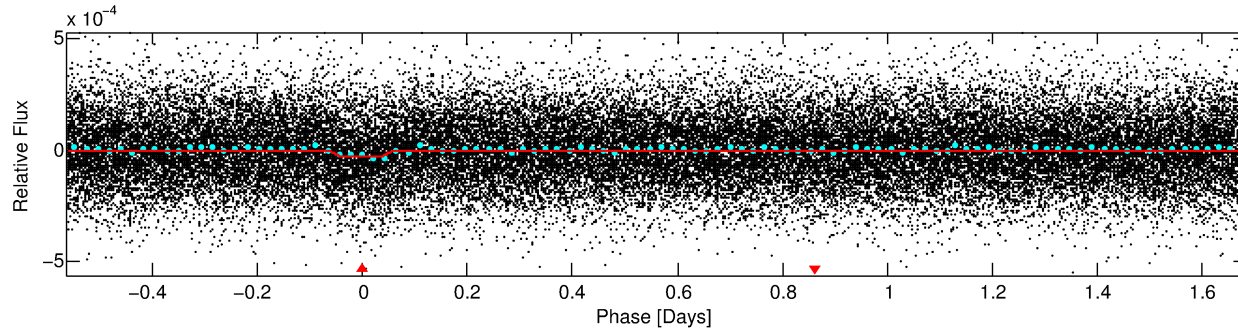
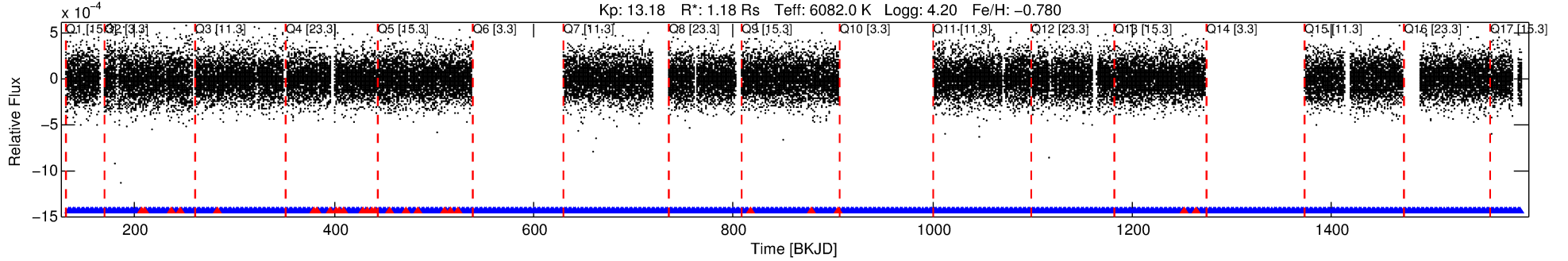
Ephemeris Match Information For 004484312-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
004484312-01	4484312	6112.01	4285087	1:1	1125.9	284	1	12.79	13.19	8847.50	Col-Anomaly	0	3.13	1.92

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4484312 Candidate: 1 of 1 Period: 2.243 d
KOI: K06419.01 Corr: 0.946



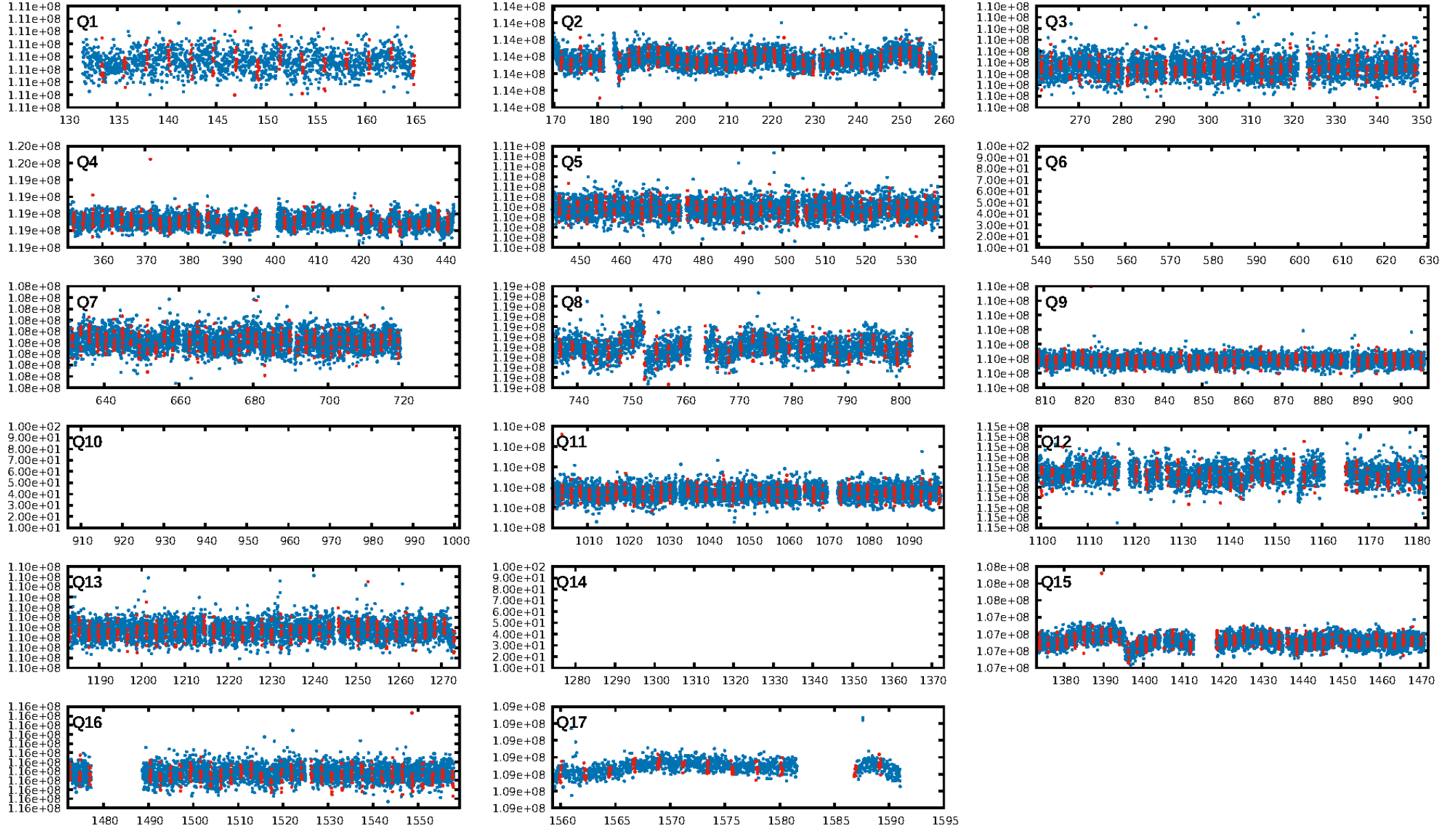
DV Fit Results:

Period = 2.24291 [0.00002] d
Epoch = 133.4860 [0.0041] BKJD
Rp/R* = 0.0063 [0.0031]
a/R* = 2.71 [6.66]
b = 0.93 [0.43]
Seff = 1771.05 [926.36]
Teq = 1654 [216] K
Rp = 0.81 [0.47] Re
a = 0.0312 [0.0095] AU
Ag = 3.31 [4.36] [0.53σ]
Teffp = 3448 [1054] K [1.67σ]

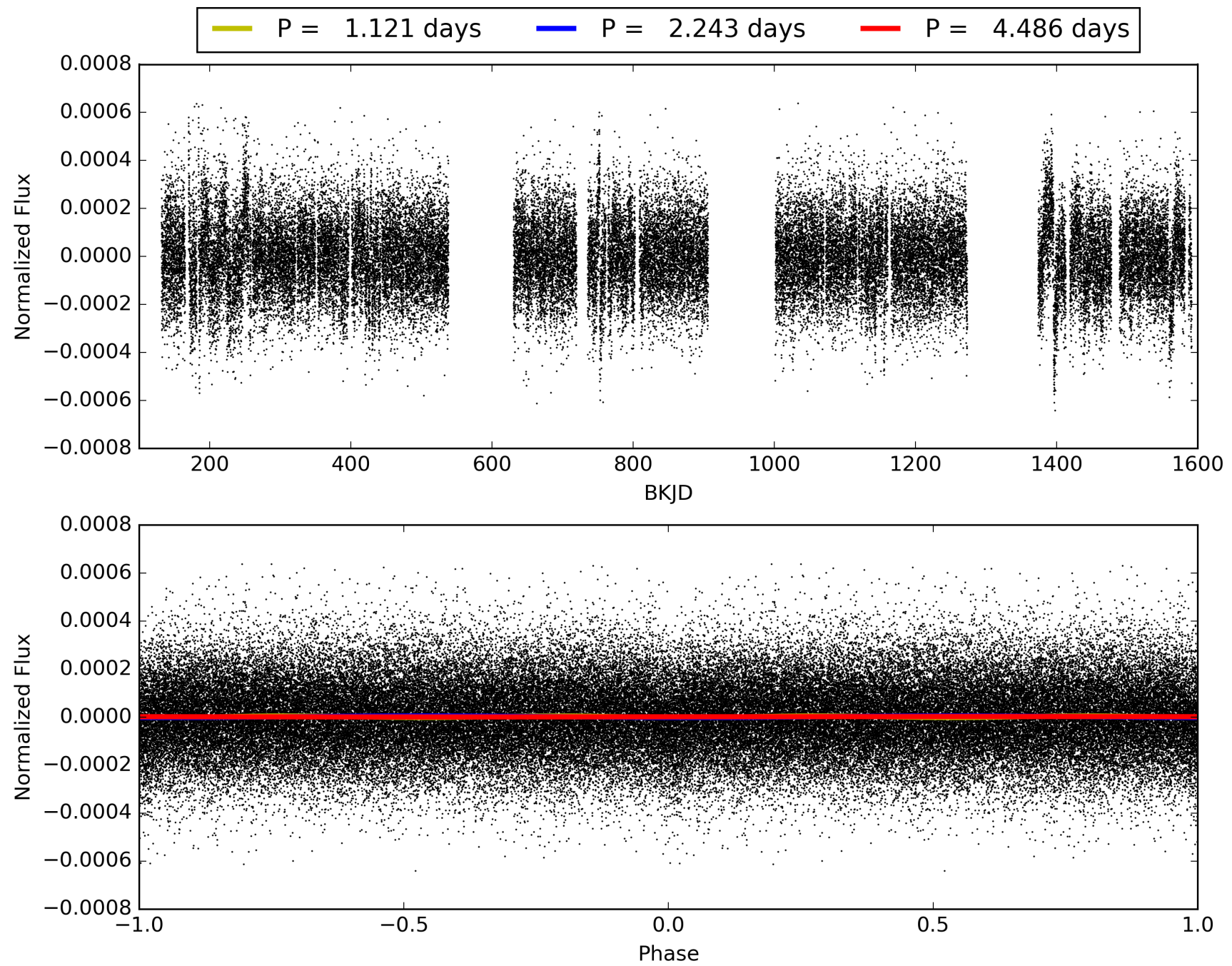
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.04e-16
RollingBand-fgt: 0.94 [430/456]
GhostDiagnostic-chr: -4.163
Centroid-sig: 20.3%
Centroid-so: 1.953 arcsec [1.40σ]
OotOffset-rm: 0.546 arcsec [0.71σ]
KicOffset-rm: 0.363 arcsec [0.47σ]
OotOffset-st: 0/3/3/2 [8]
KicOffset-st: 0/3/3/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004484312-01, PDC Light Curves

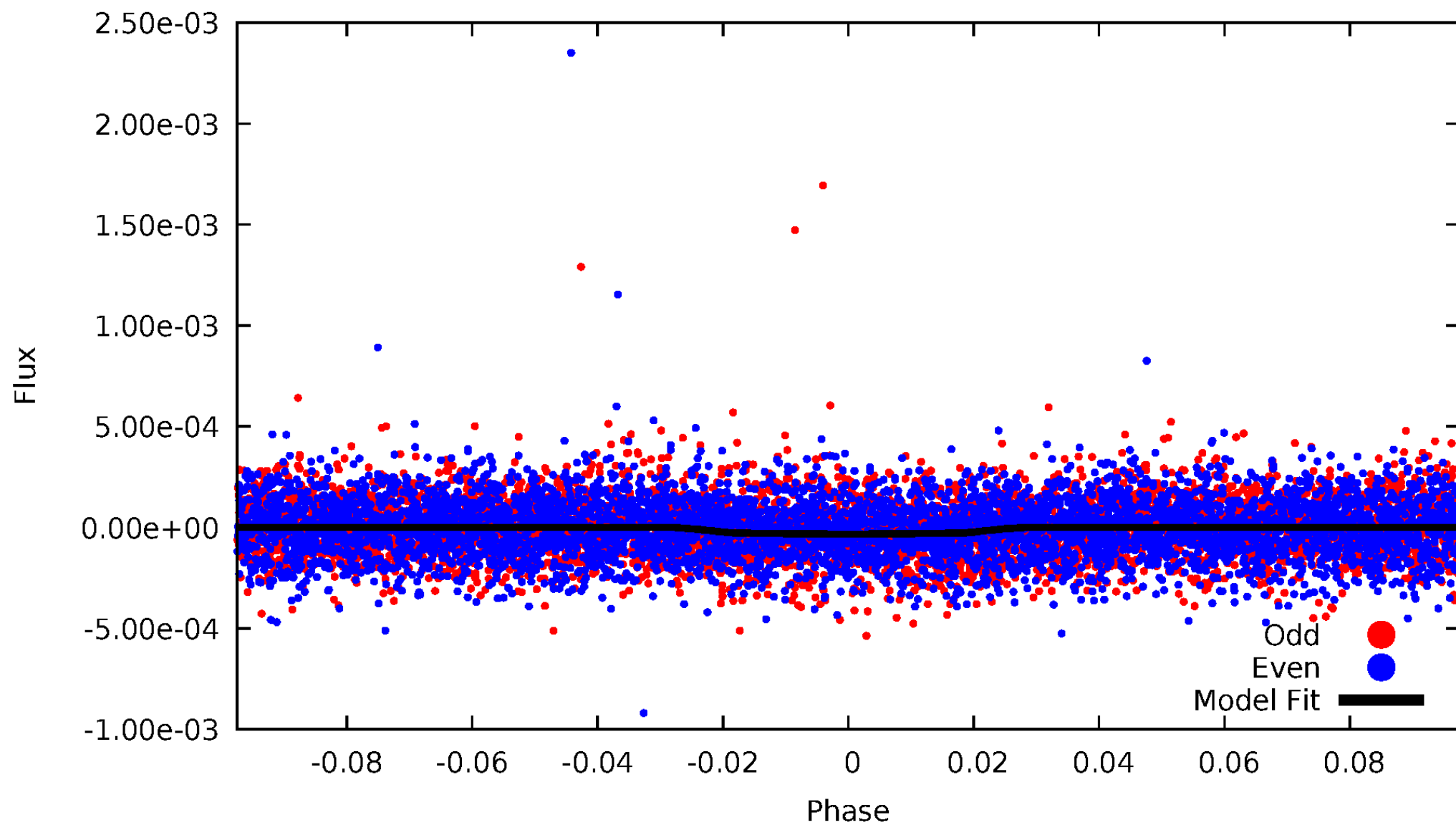


TCE 004484312-01



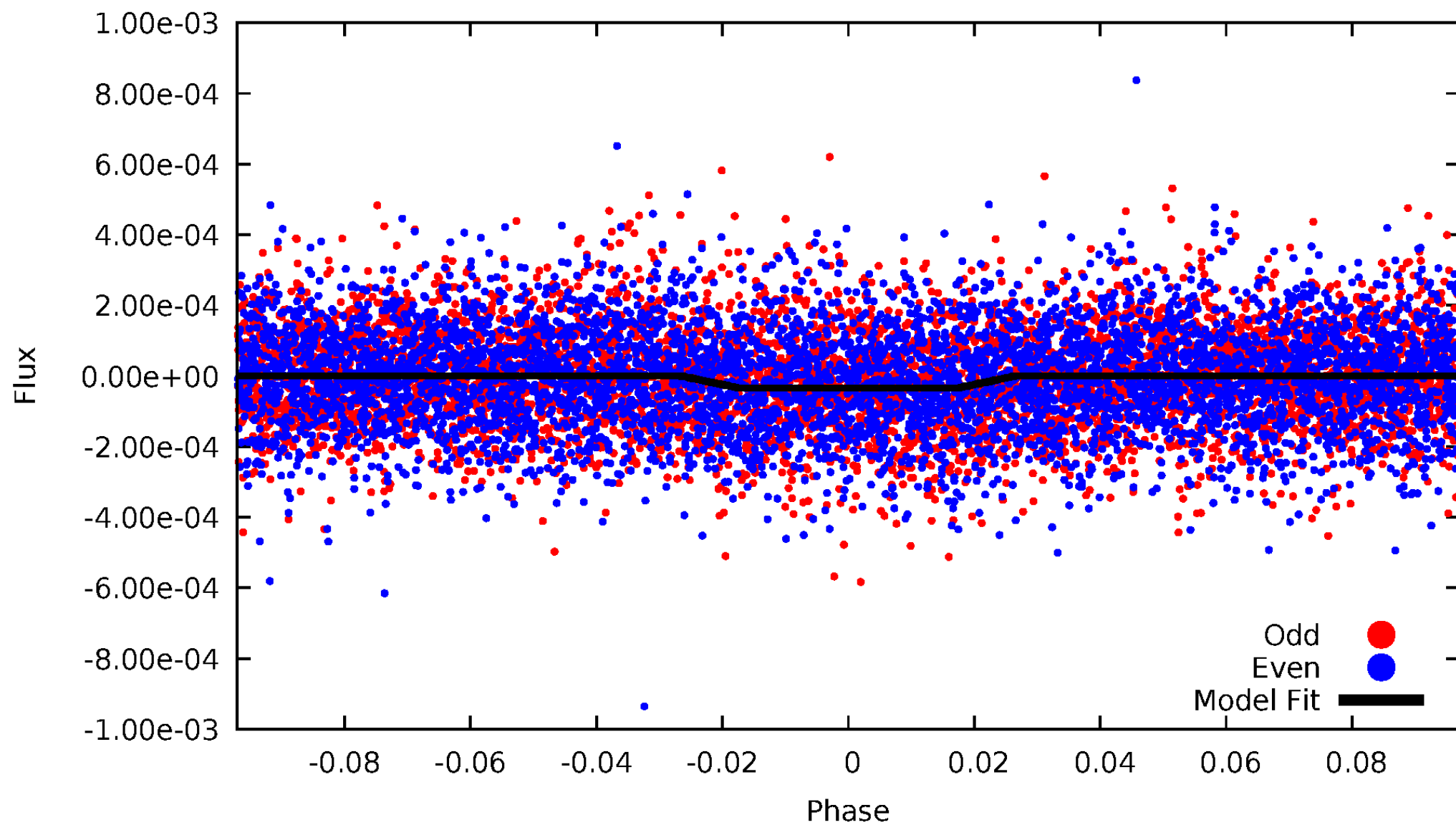
DV Odd/Even

TCE 004484312-01



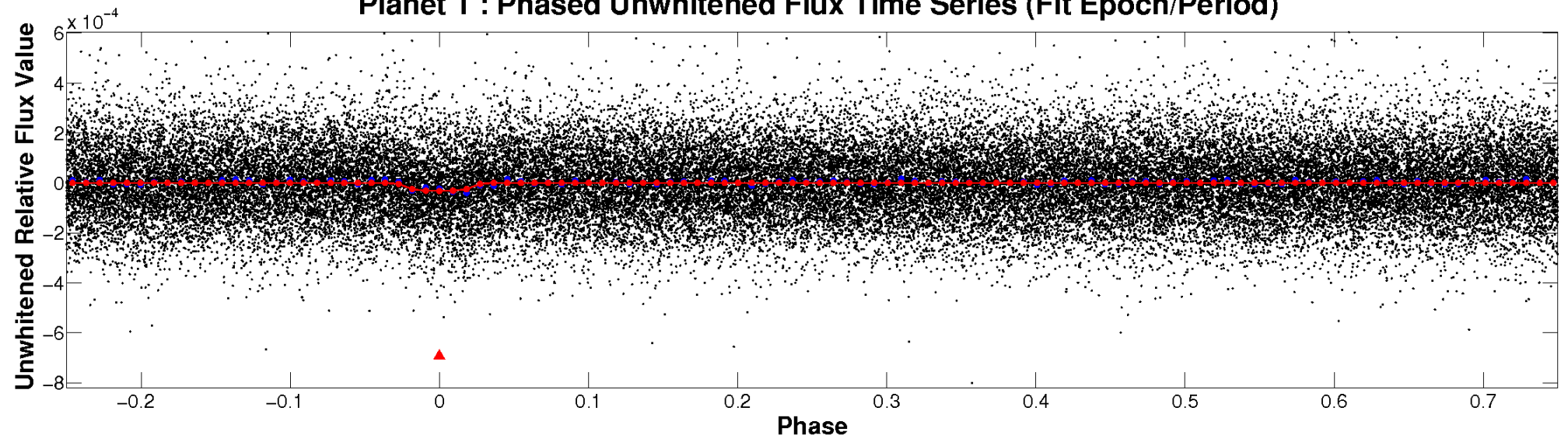
ALT Odd/Even

TCE 004484312-01

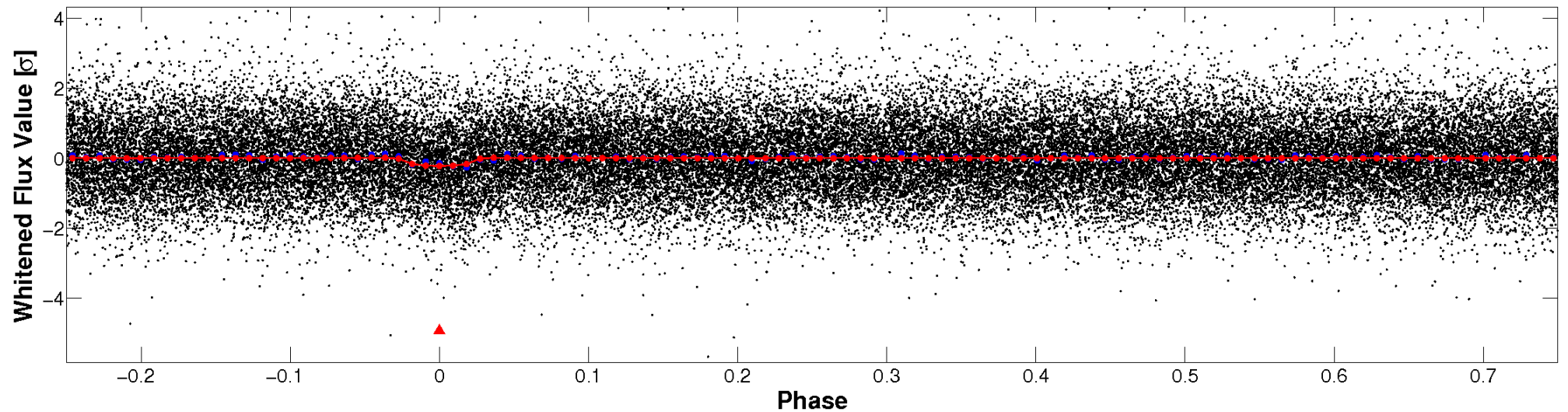


Non-Whitened Vs. Whitened Light Curve

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

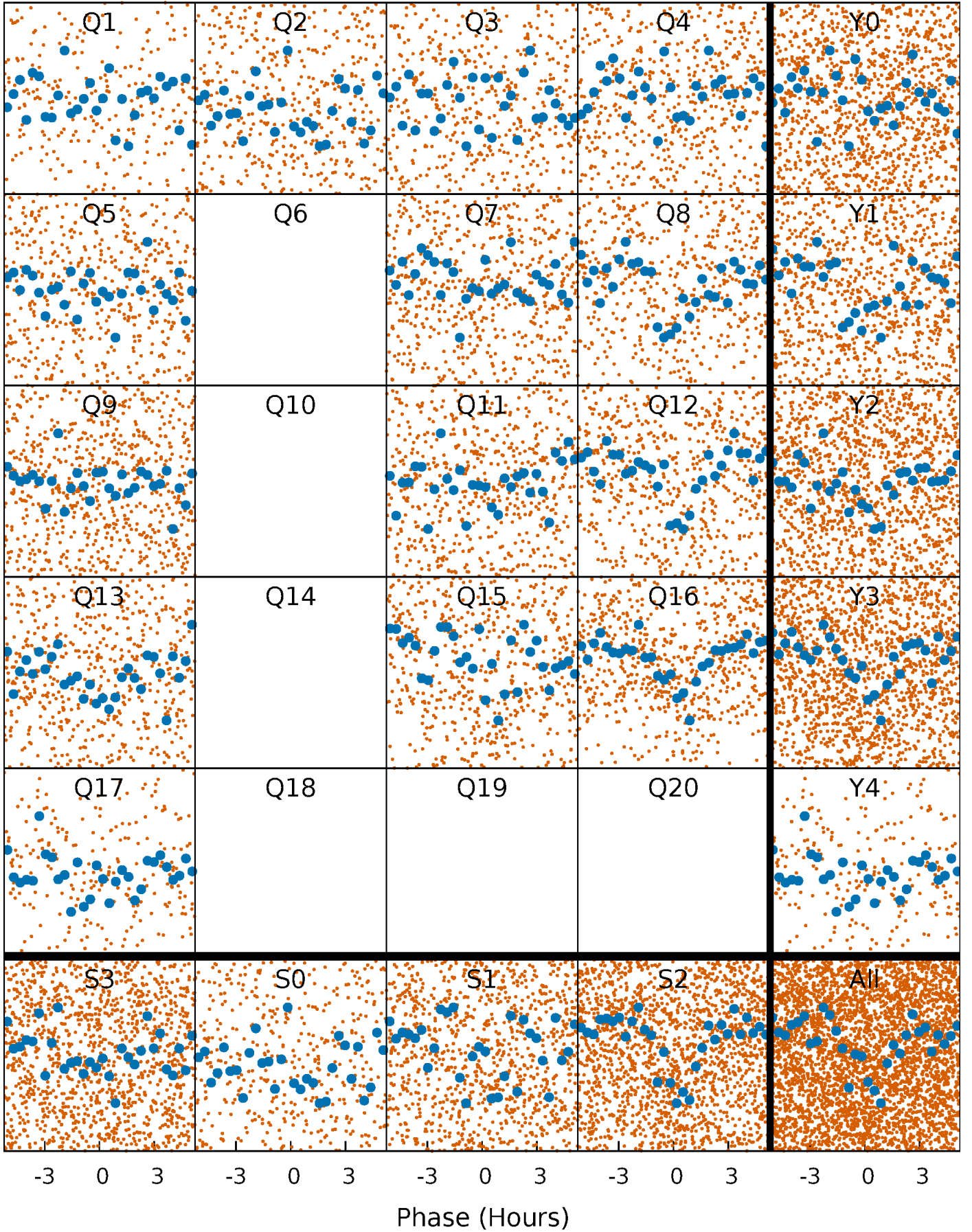


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



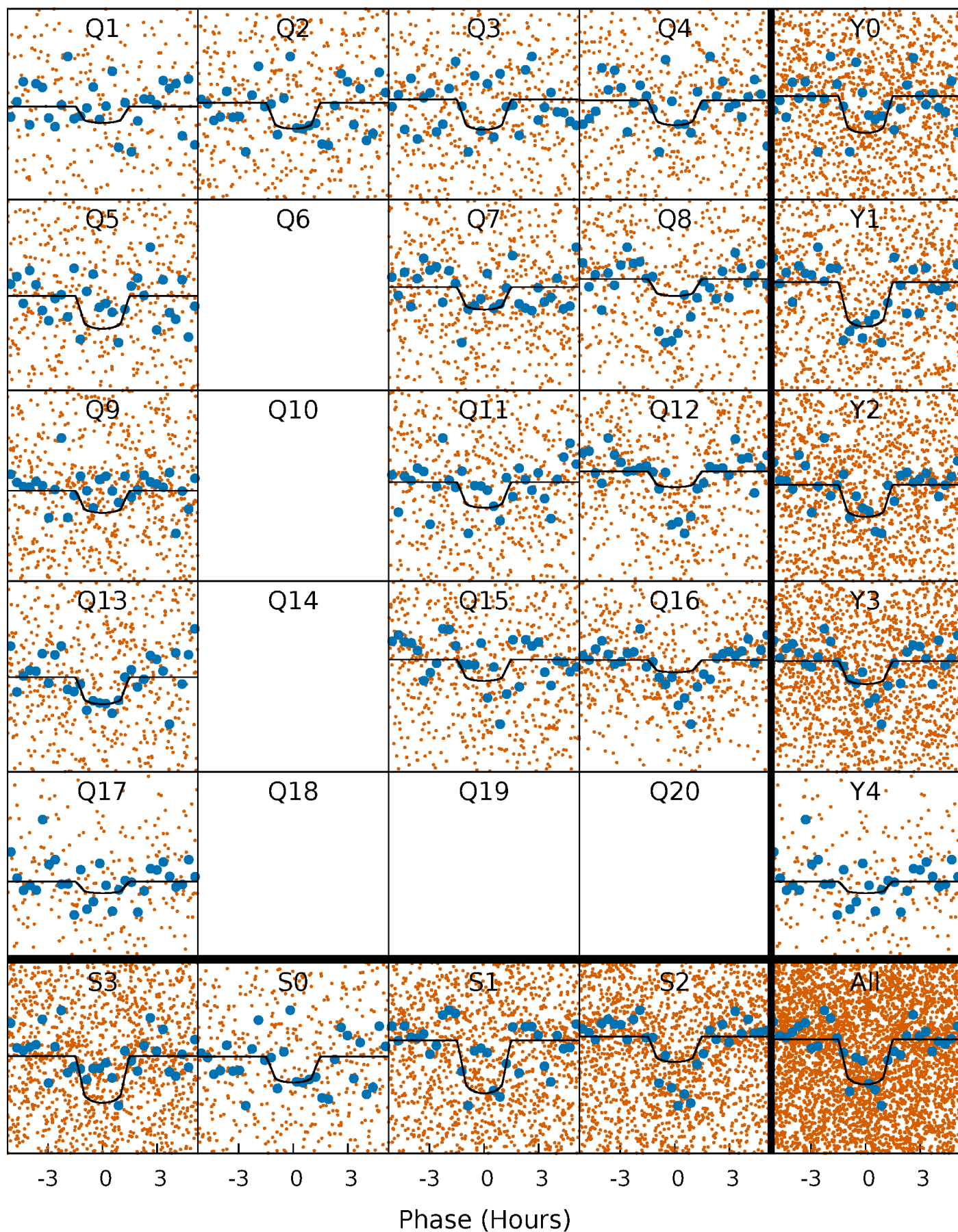
PDC Quarter-Phased Transit Curves

TCE 004484312-01 P= 2.242913 Days $T_0=133.486030$ (BKJD)



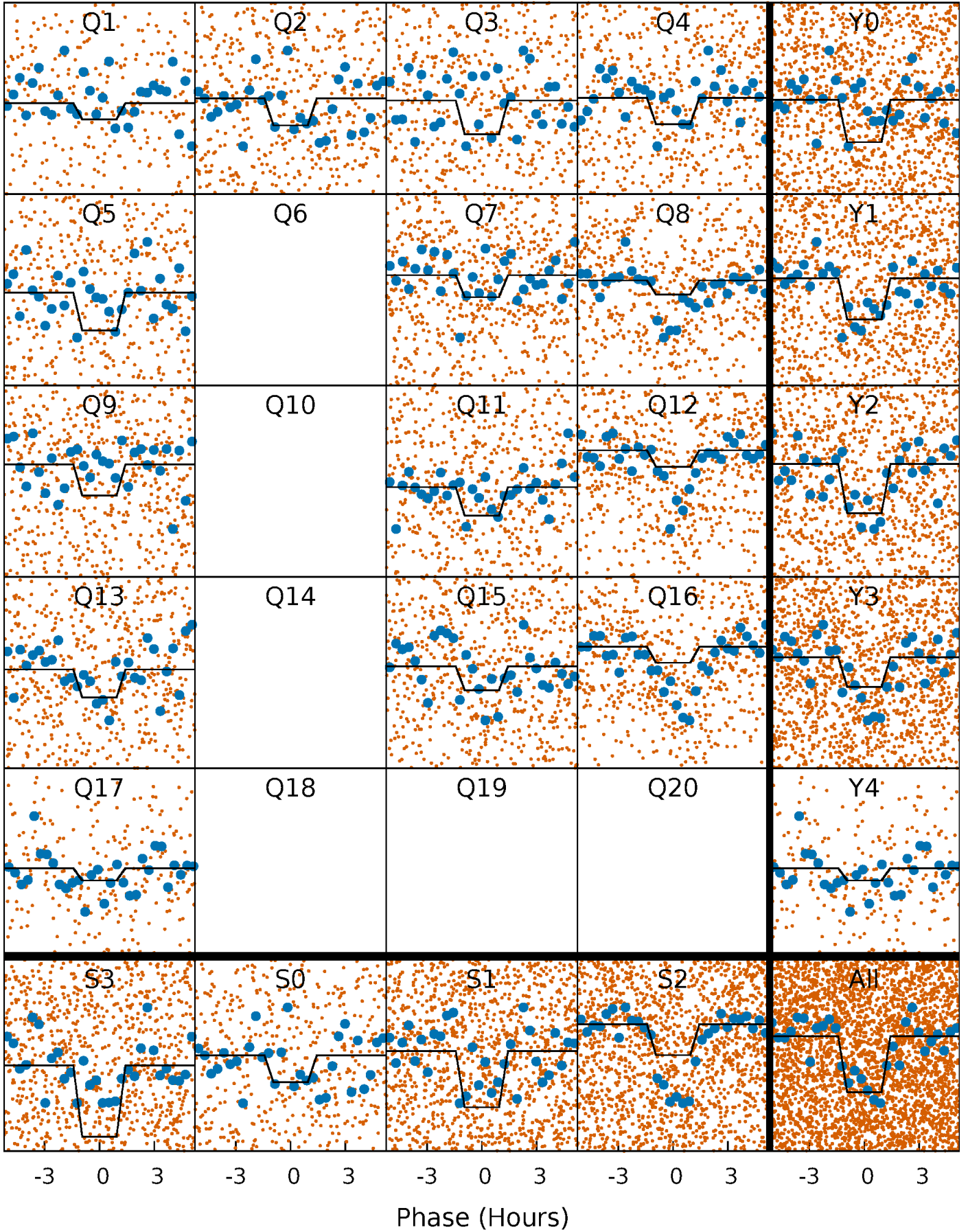
DV Quarter-Phased Transit Curves

TCE 004484312-01 P= 2.242913 Days $T_0=133.486030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

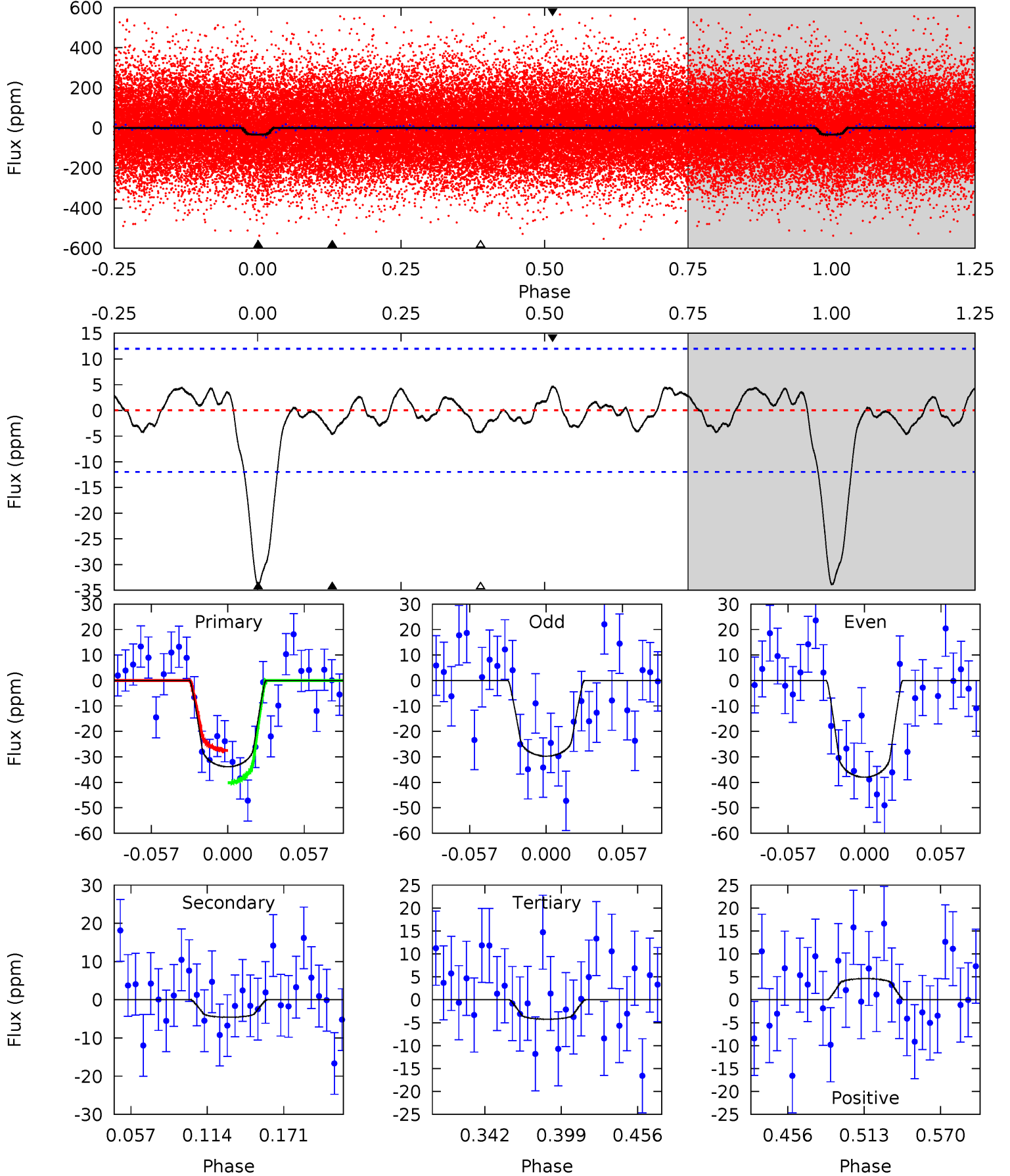
TCE 004484312-01 P= 2.242923 Days $T_0=133.485255$ (BKJD)



DV Model-Shift Uniqueness Test

004484312-01, P = 2.242913 Days, E = 131.243117 Days

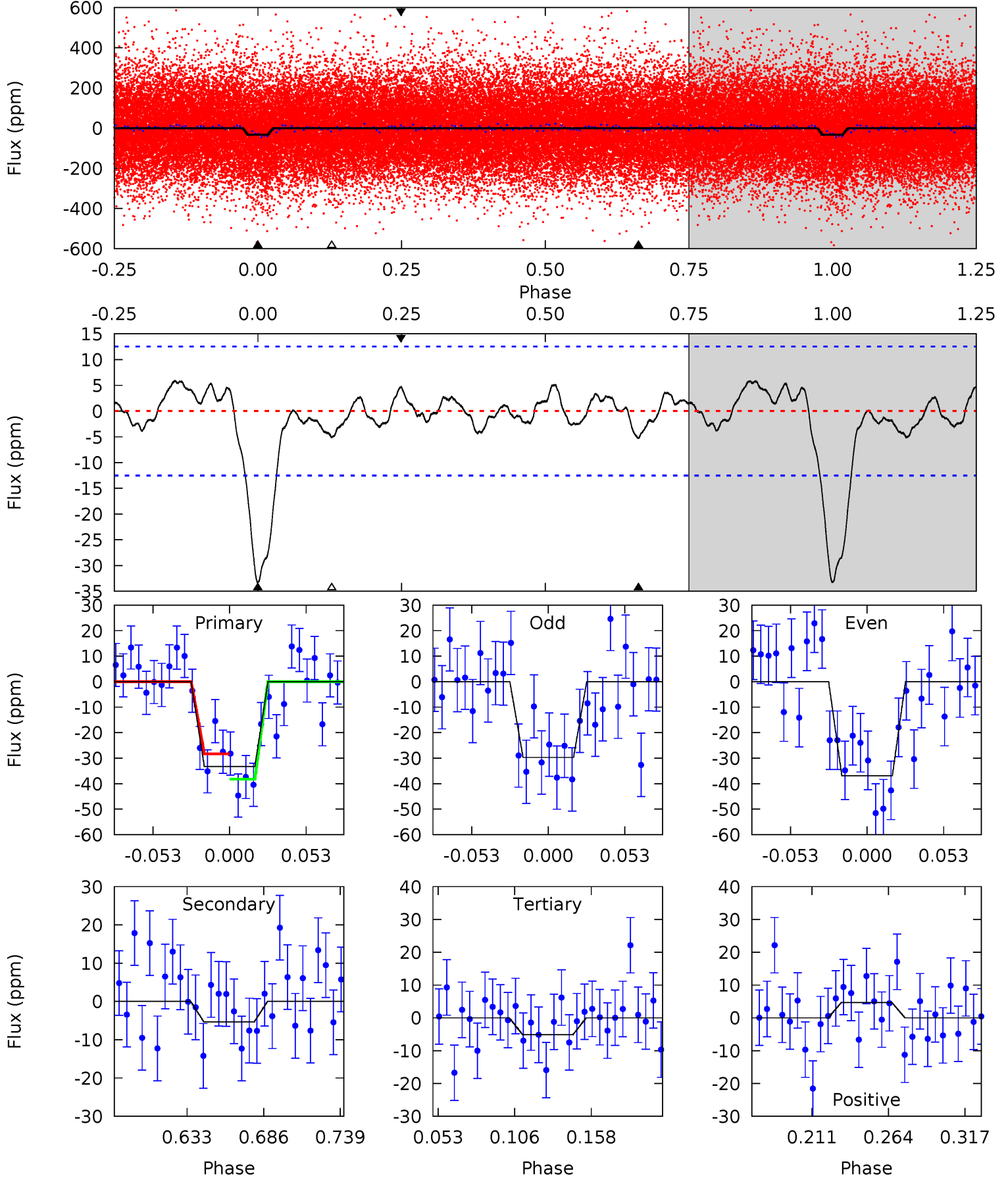
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	1.79	1.66	1.80	4.68	1.90	0.93	11.6	11.4	0.13	-0.01	1.62	1.05	0.12	2.50



Alt Model-Shift Uniqueness Test

004484312-01, P = 2.242923 Days, E = 131.242332 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	1.99	1.91	1.76	4.70	1.94	0.96	10.6	10.7	0.08	0.23	1.35	1.06	0.15	1.87



Stellar Parameters For KIC 004484312

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6082^{+182}_{-164}	$4.195^{+0.306}_{-0.204}$	$-0.780^{+0.300}_{-0.250}$	$1.184^{+0.349}_{-0.349}$	$0.802^{+0.105}_{-0.048}$	$0.680^{+1.260}_{-0.337}$
	+3%/-3%	+7%/-5%	+38%/-32%	+29%/-29%	+13%/-6%	+185%/-50%
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 004484312-01 / KOI 6419.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 3	$0.79^{+0.47}_{-0.37}$	2306^{+194}_{-202}	3801^{+1196}_{-765}	$3.571^{+11.730}_{-2.536}$
Alt.	-5 ± 3	$0.75^{+0.44}_{-0.37}$	2298^{+190}_{-202}	3989^{+1354}_{-697}	$4.867^{+16.777}_{-3.272}$

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

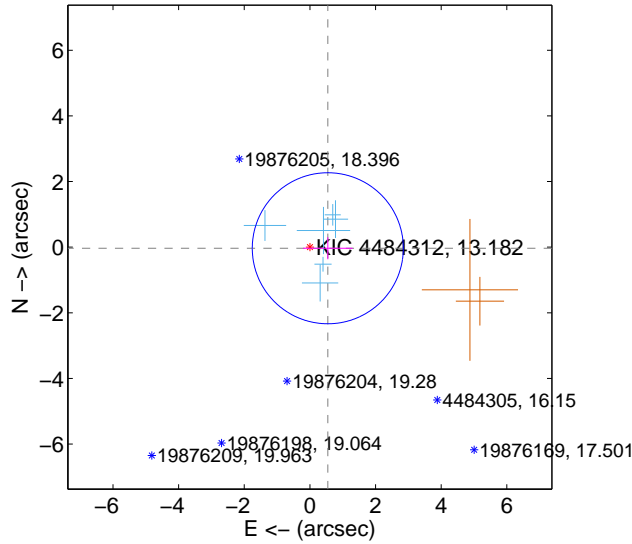
Supplemental centroid analysis for 004484312-01. Kepler magnitude: 13.18. Transit SNR 9.48

There are 6 quarters with good PRF difference image offsets

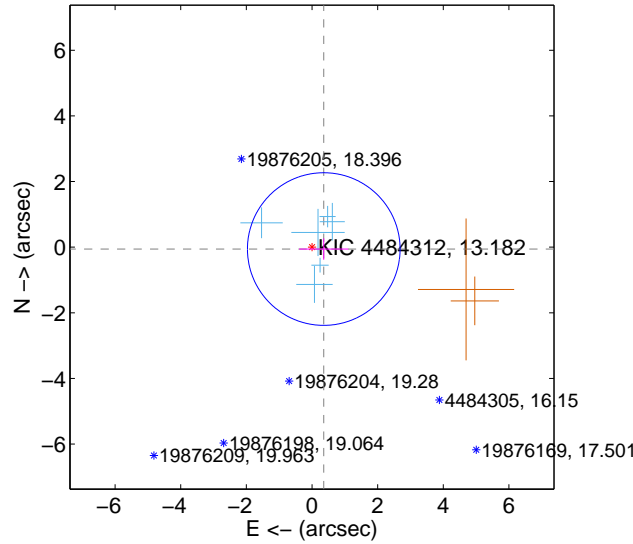
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.546 ± 0.767	0.71	-0.545 ± 0.754	-0.033 ± 0.334
PRF-fit source offset from KIC position	0.363 ± 0.775	0.47	-0.358 ± 0.750	-0.057 ± 0.324
photometric centroid source offset	1.95 ± 1.40	1.40	1.92 ± 1.39	-0.36 ± 1.46

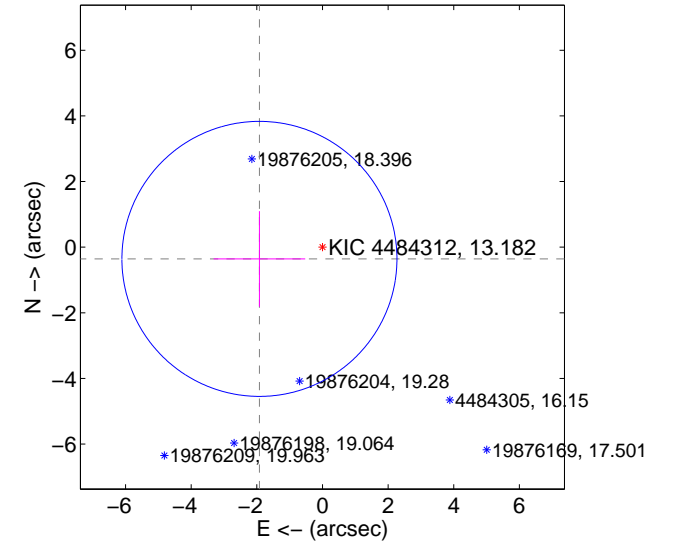
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

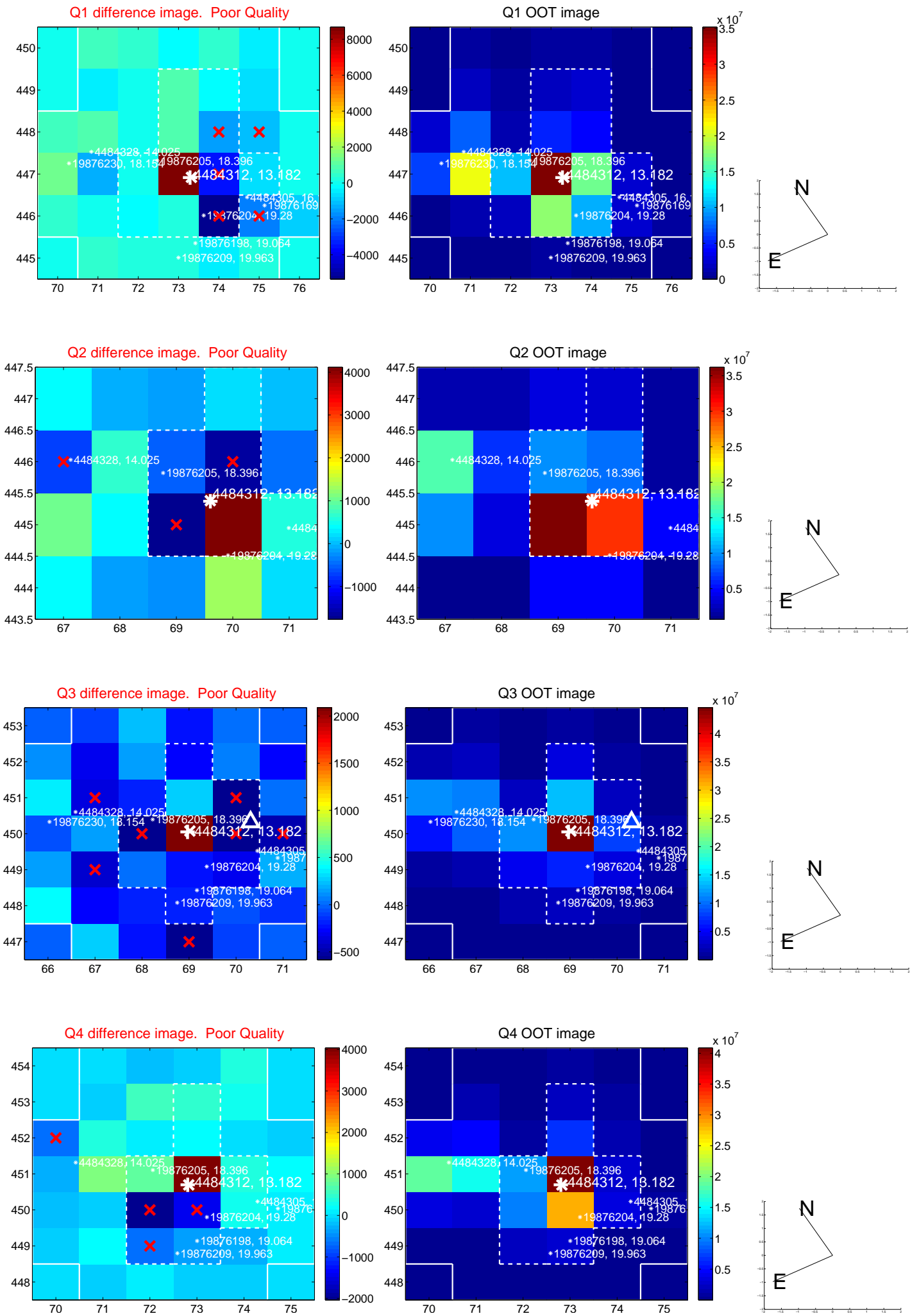


offset from photometric centroids

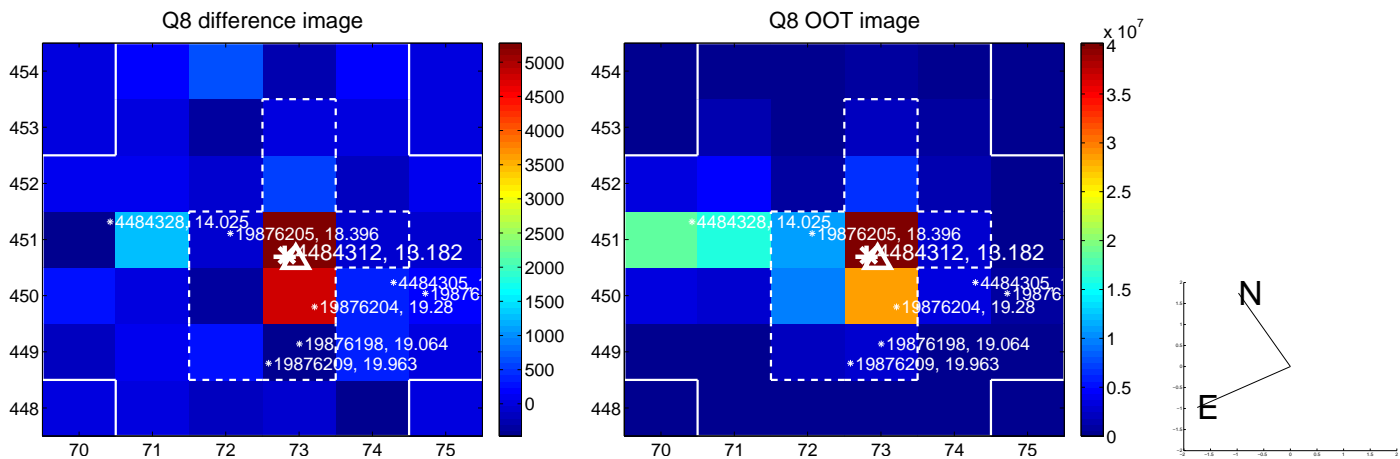
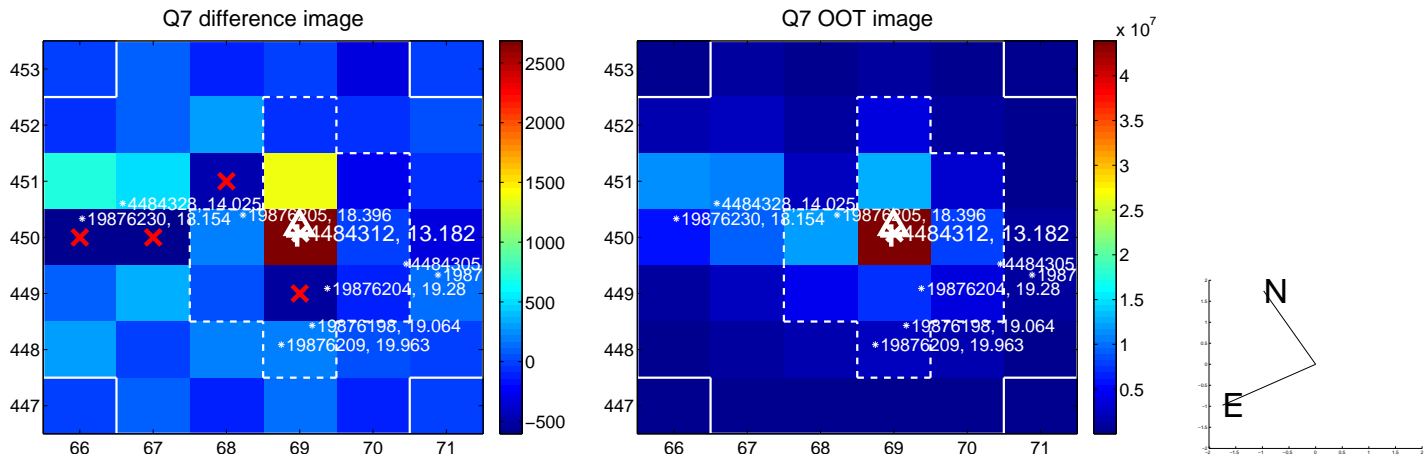
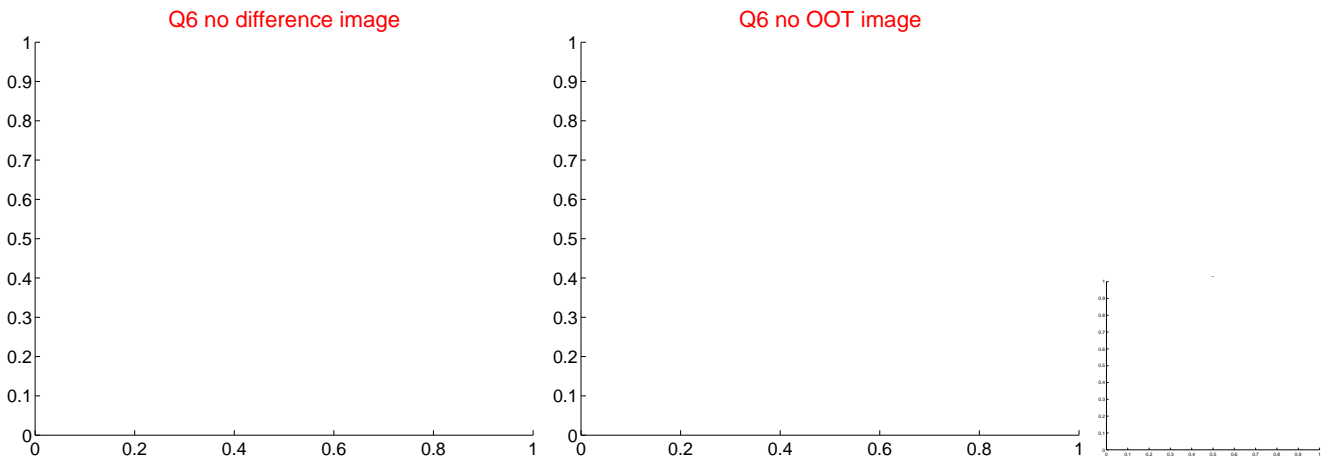
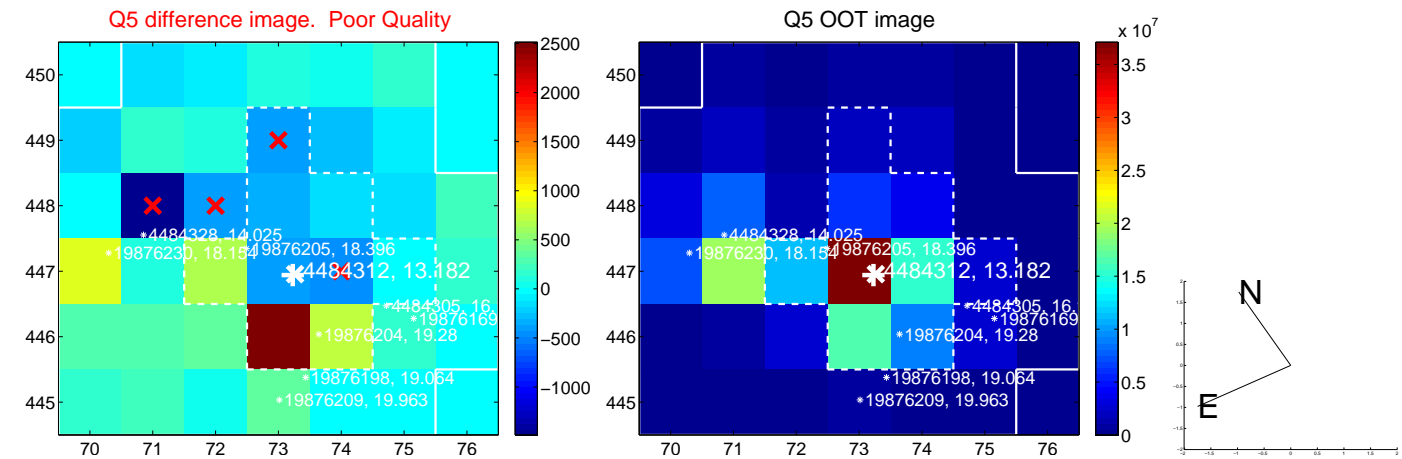


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

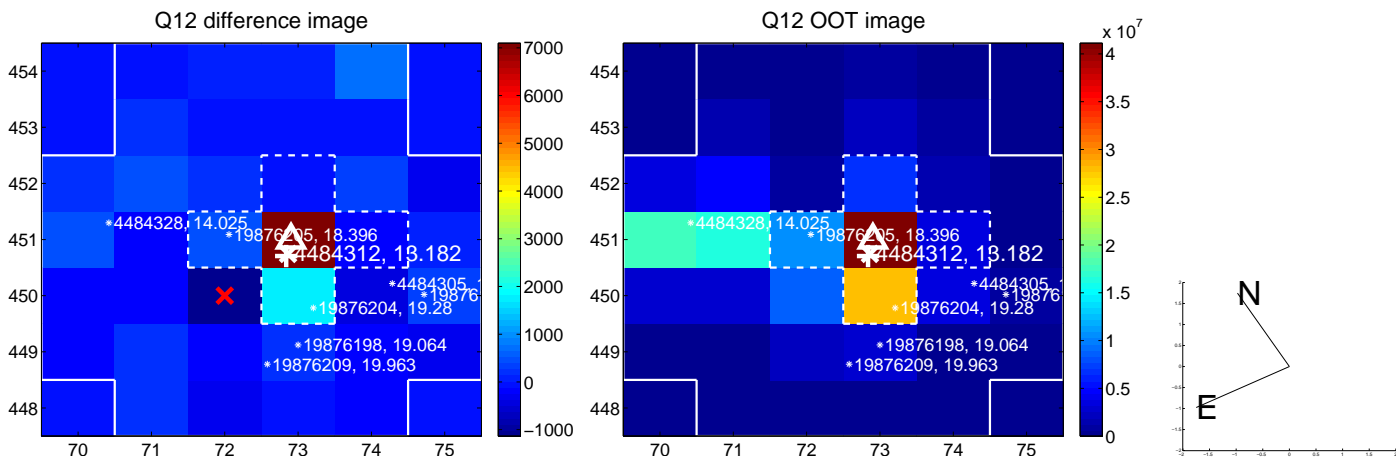
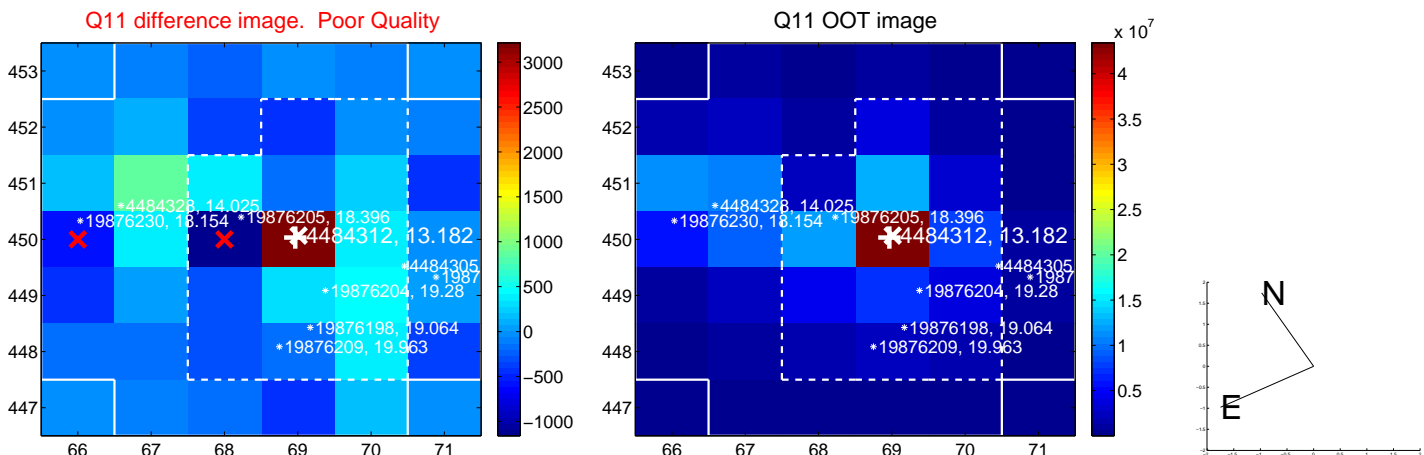
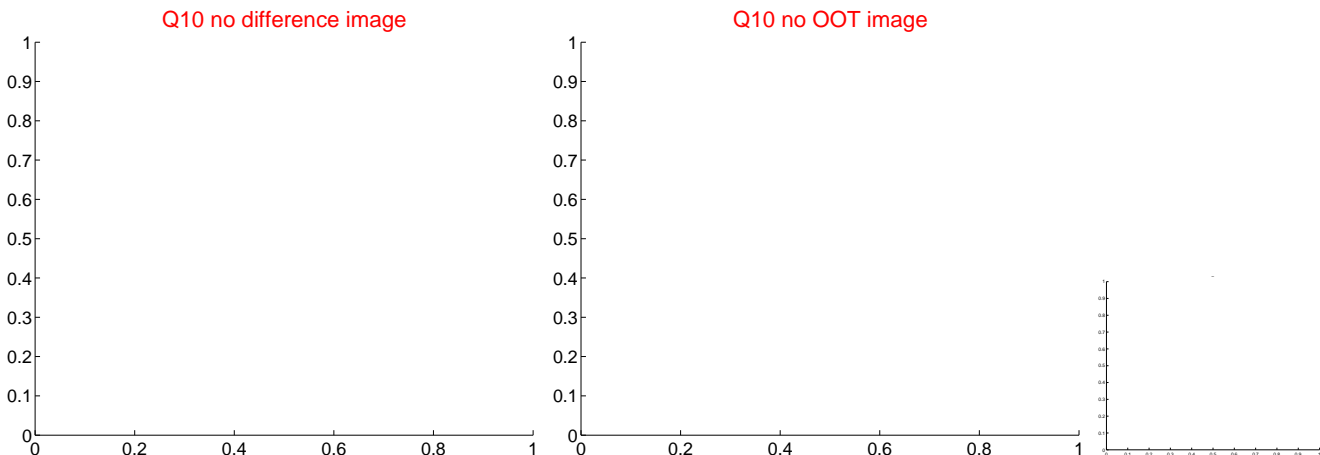
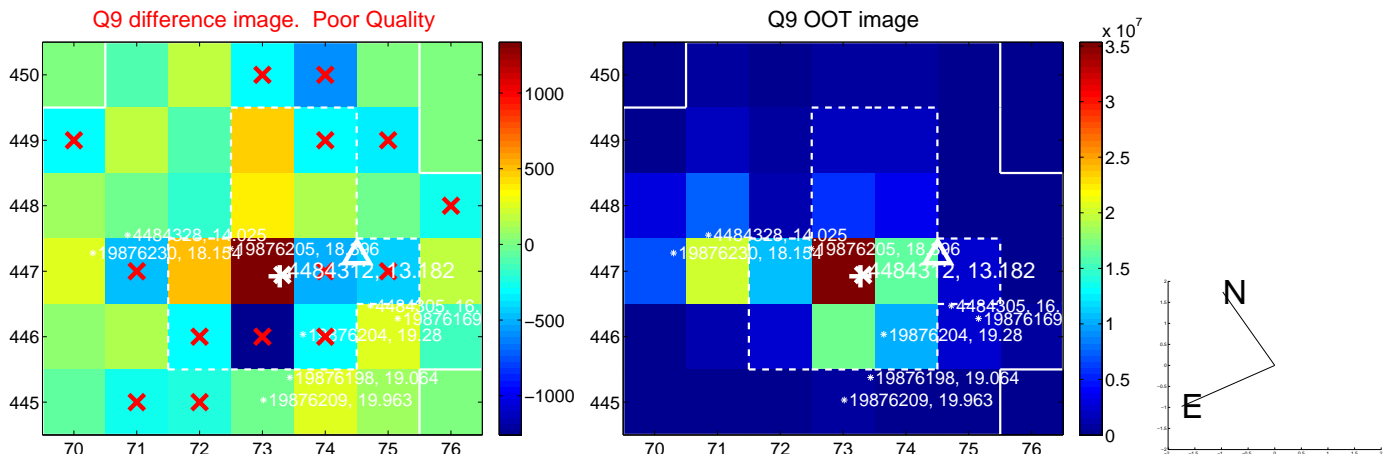
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



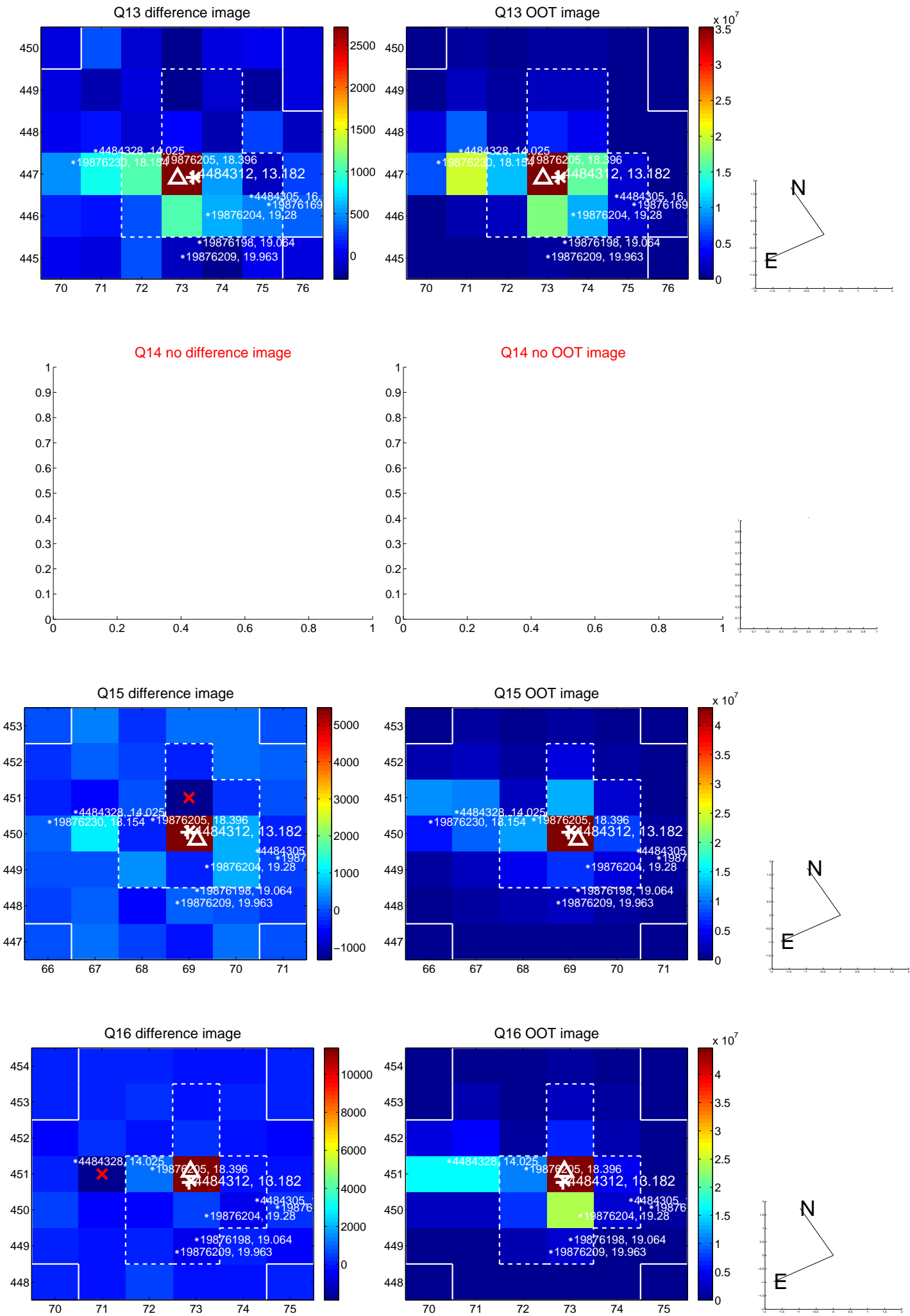
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



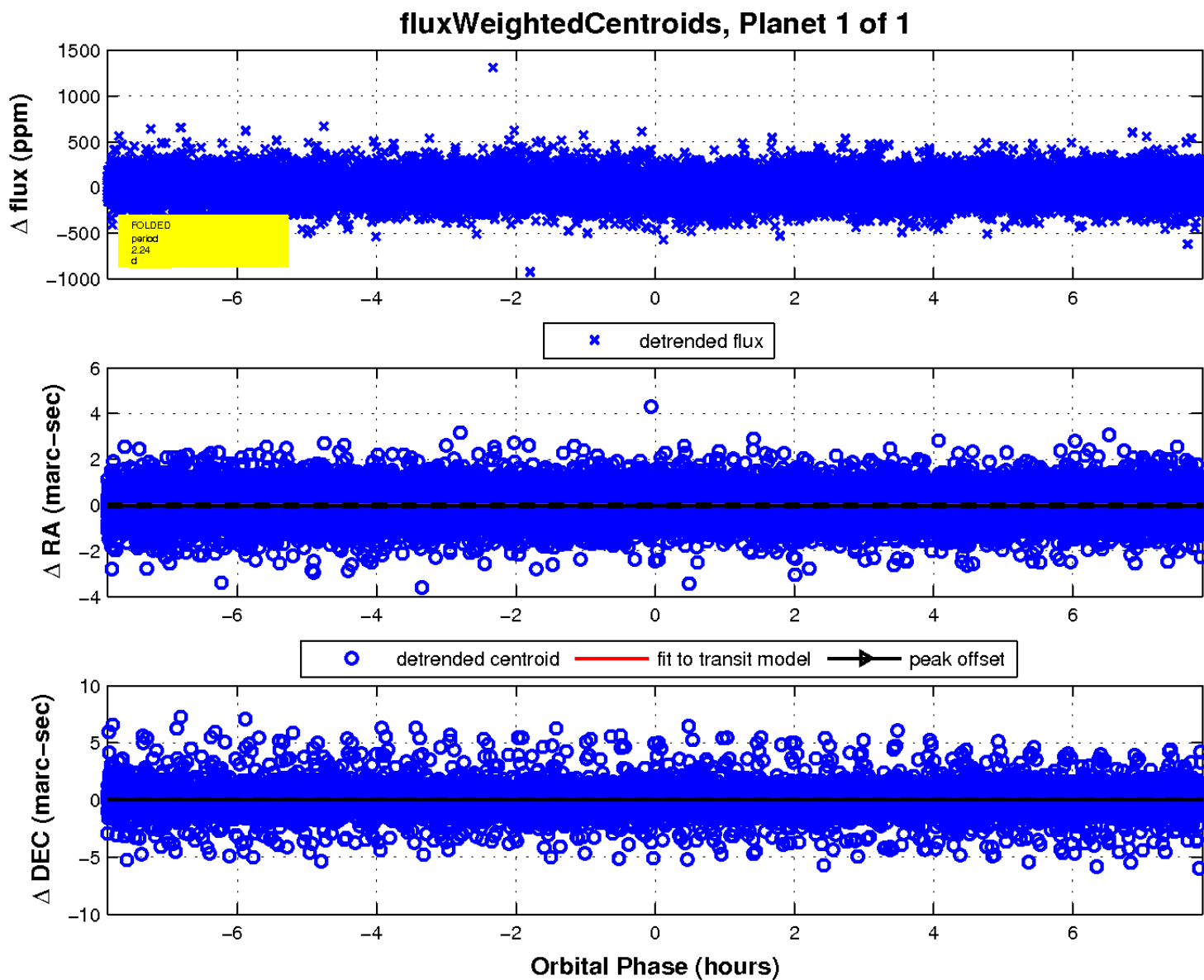
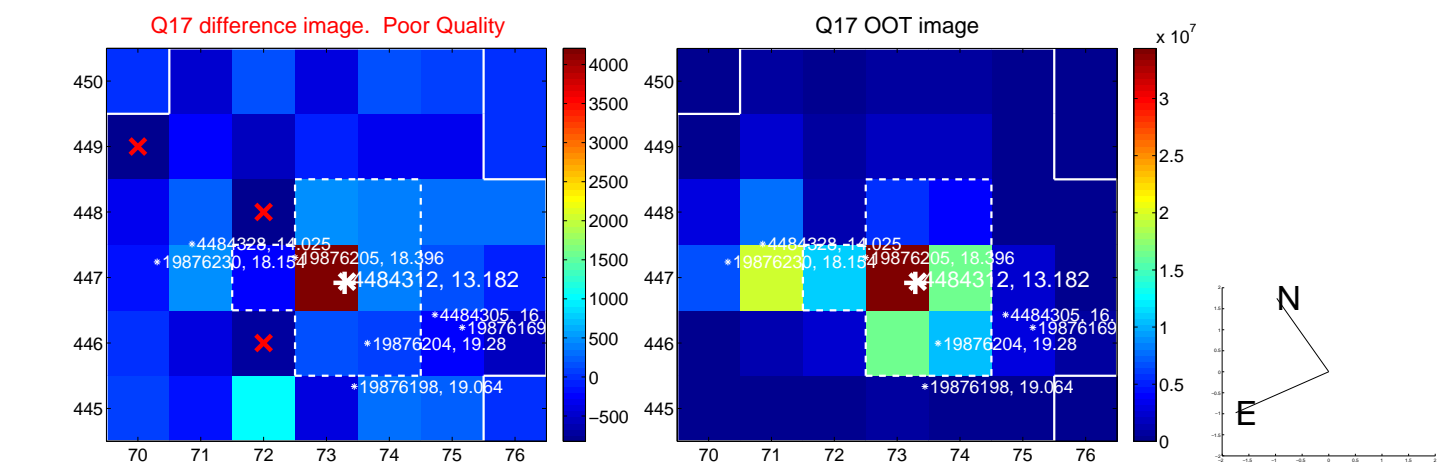
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UKIRT Image

