

KIC 006205481

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})
006205481-01	OBS	No	3.722892	134.620622	391.5	9.500	64.5	35.1	0.68	5340	1.59	185.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006205481-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—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 006205481-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006205481-01	6205481	006205460-pri	6205460	1:1	18.1	-4	2	12.75	15.68	1592.80	Direct-PRF	0	0.90	0.14

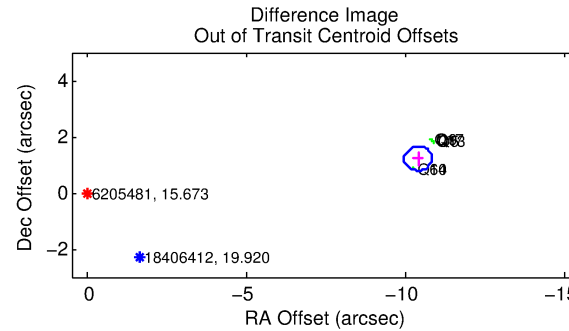
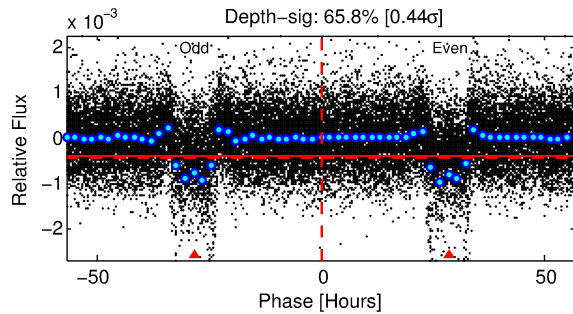
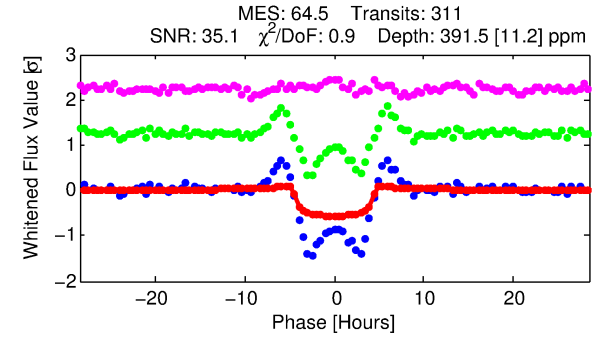
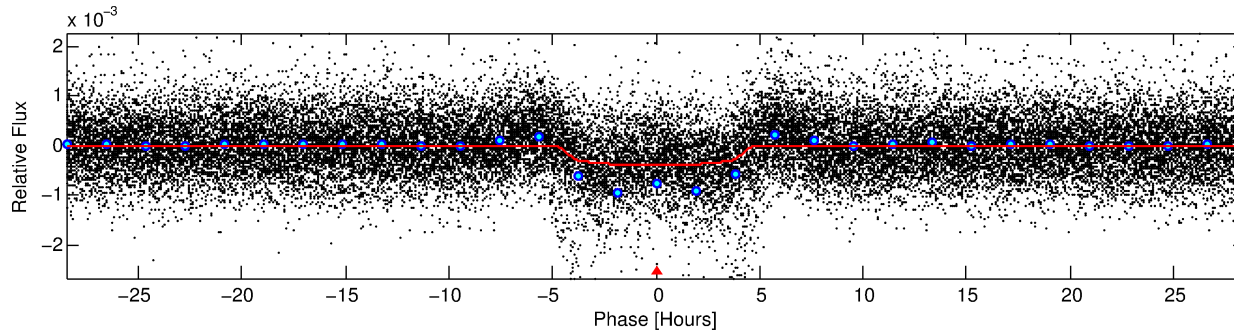
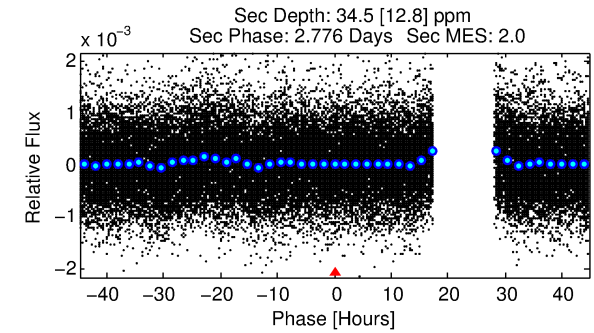
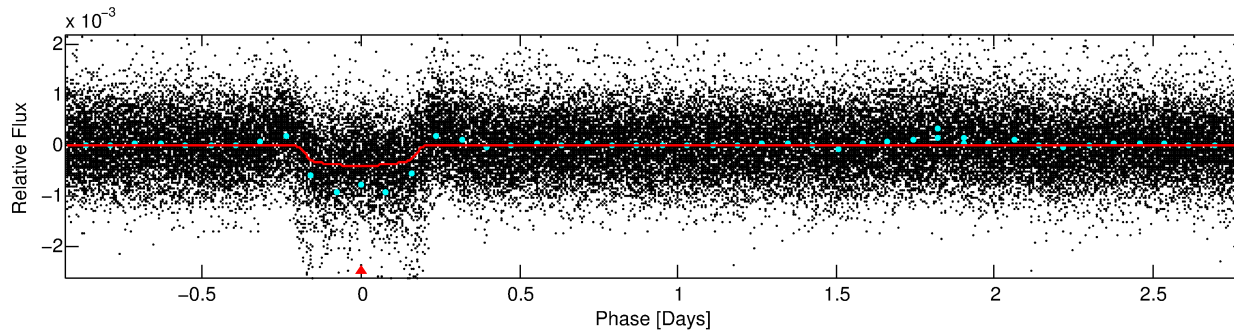
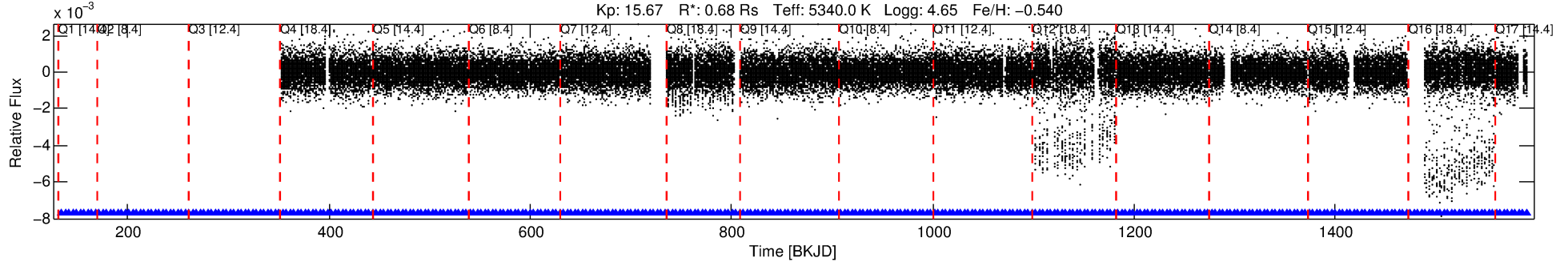
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 6205481 Candidate: 1 of 1 Period: 3.723 d

KOI: K03774 Corr: No Ephemeris Match

Kp: 15.67 R*: 0.68 Rs Teff: 5340.0 K Logg: 4.65 Fe/H: -0.540



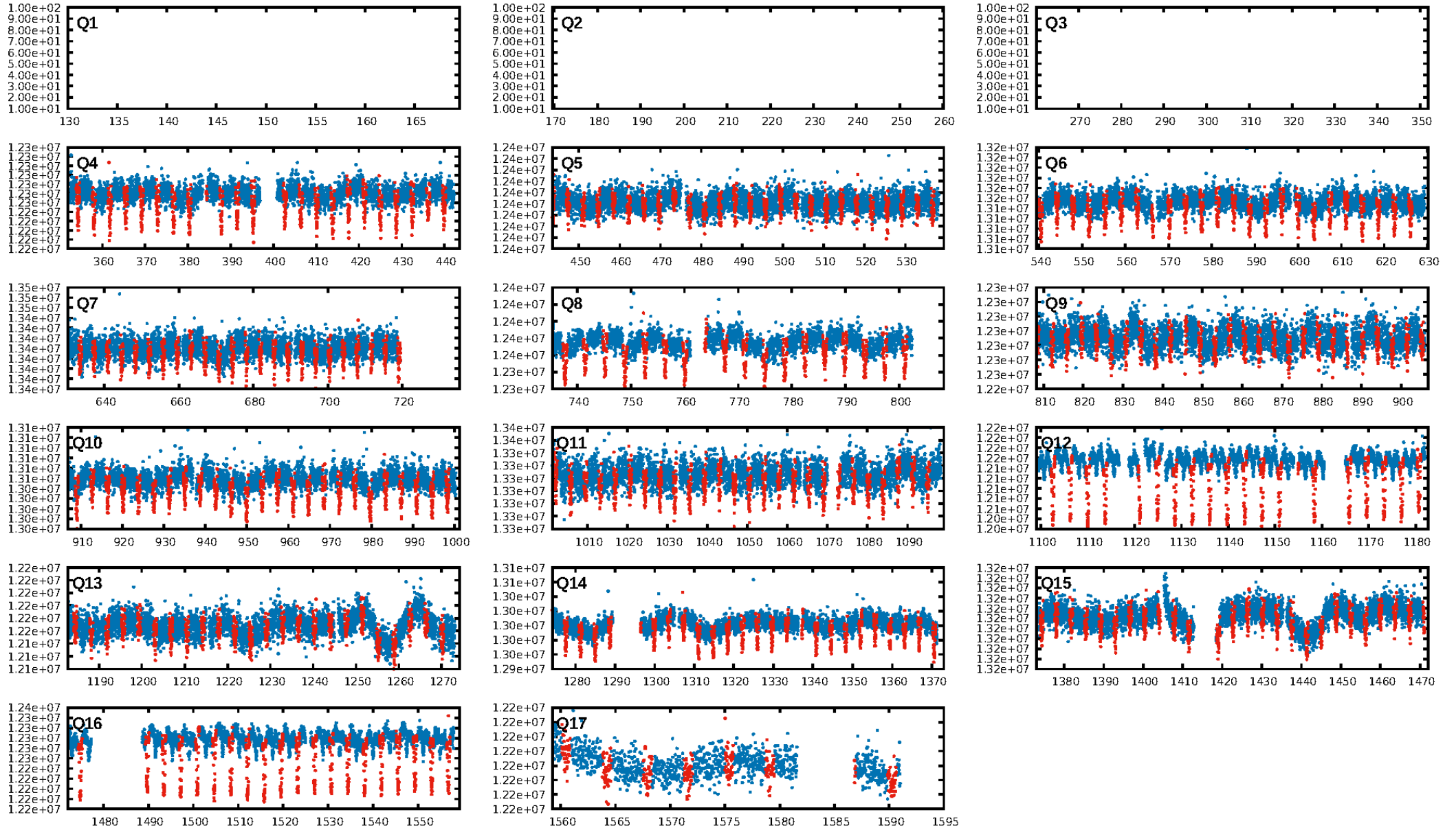
DV Fit Results:

Period = 3.72289 [0.00002] d
Epoch = 134.6206 [0.0041] BKJD
Rp/R* = 0.0214 [0.0010]
a/R* = 1.77 [0.24]
b = 0.89 [0.05]
Seff = 185.16 [40.36]
Teq = 941 [51] K
Rp = 1.59 [0.24] Re
a = 0.0427 [0.0050] AU
Ag = 13.65 [5.70] [2.22 σ]
Teff = 2795 [284] K [6.42 σ]

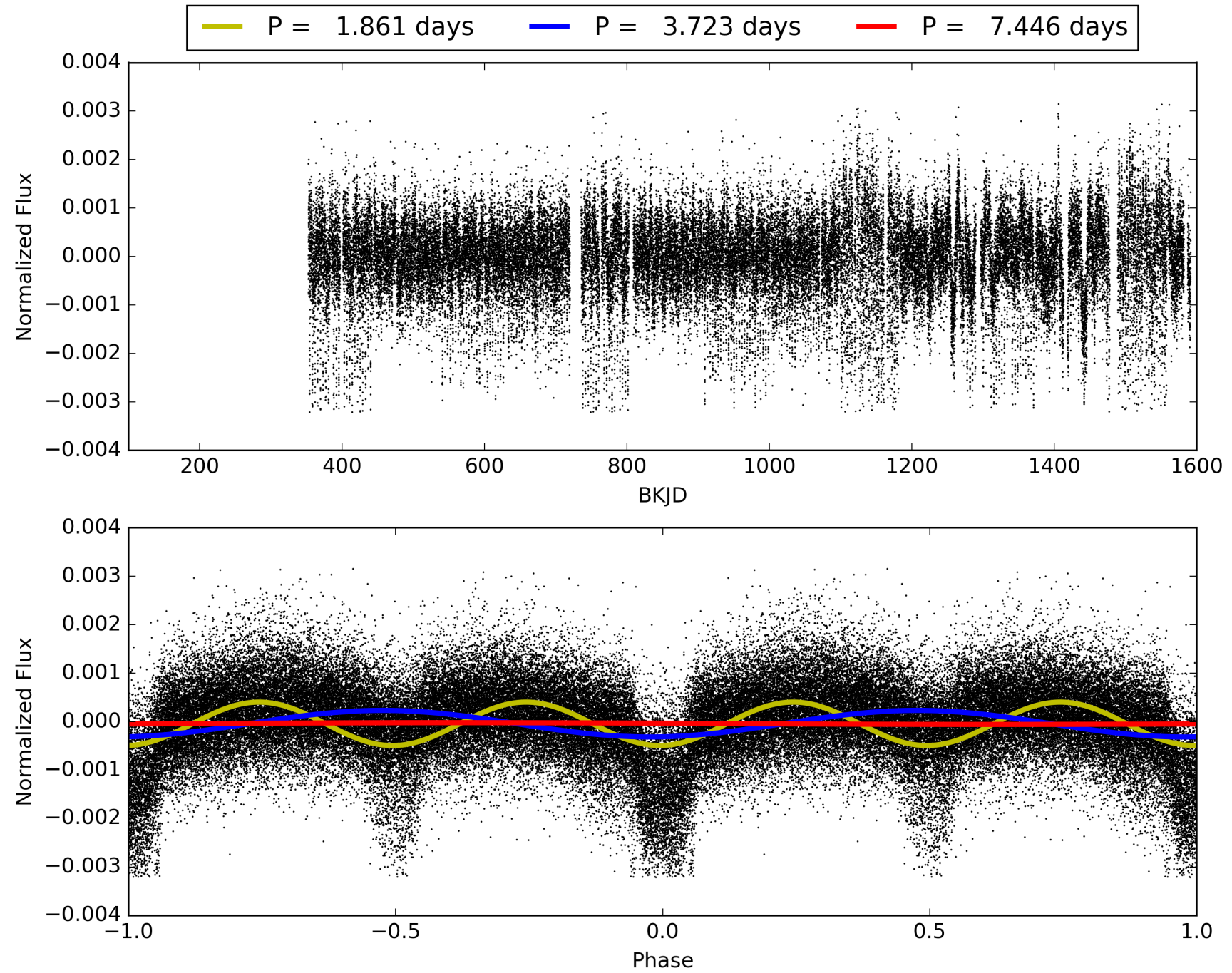
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [304/304]
GhostDiagnostic-chr: -0.2313
Centroid-sig: 0.0%
Centroid-so: 83.733 arcsec [175.51 σ]
OotOffset-rm: 10.461 arcsec [72.51 σ]
KicOffset-rm: 10.463 arcsec [66.96 σ]
OotOffset-st: 3/0/0/4 [7]
KicOffset-st: 3/0/0/4 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 006205481-01, PDC Light Curves

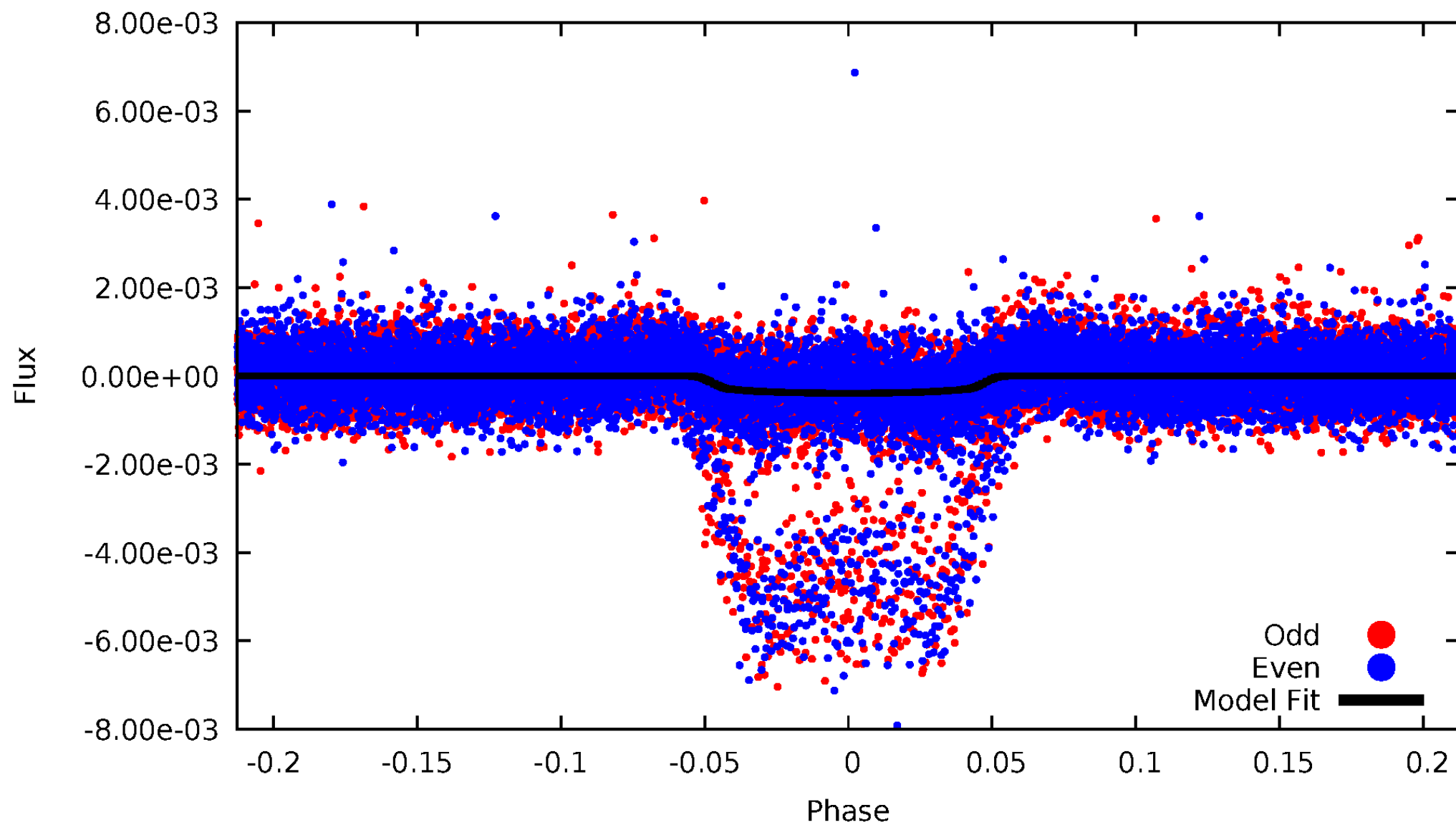


TCE 006205481-01



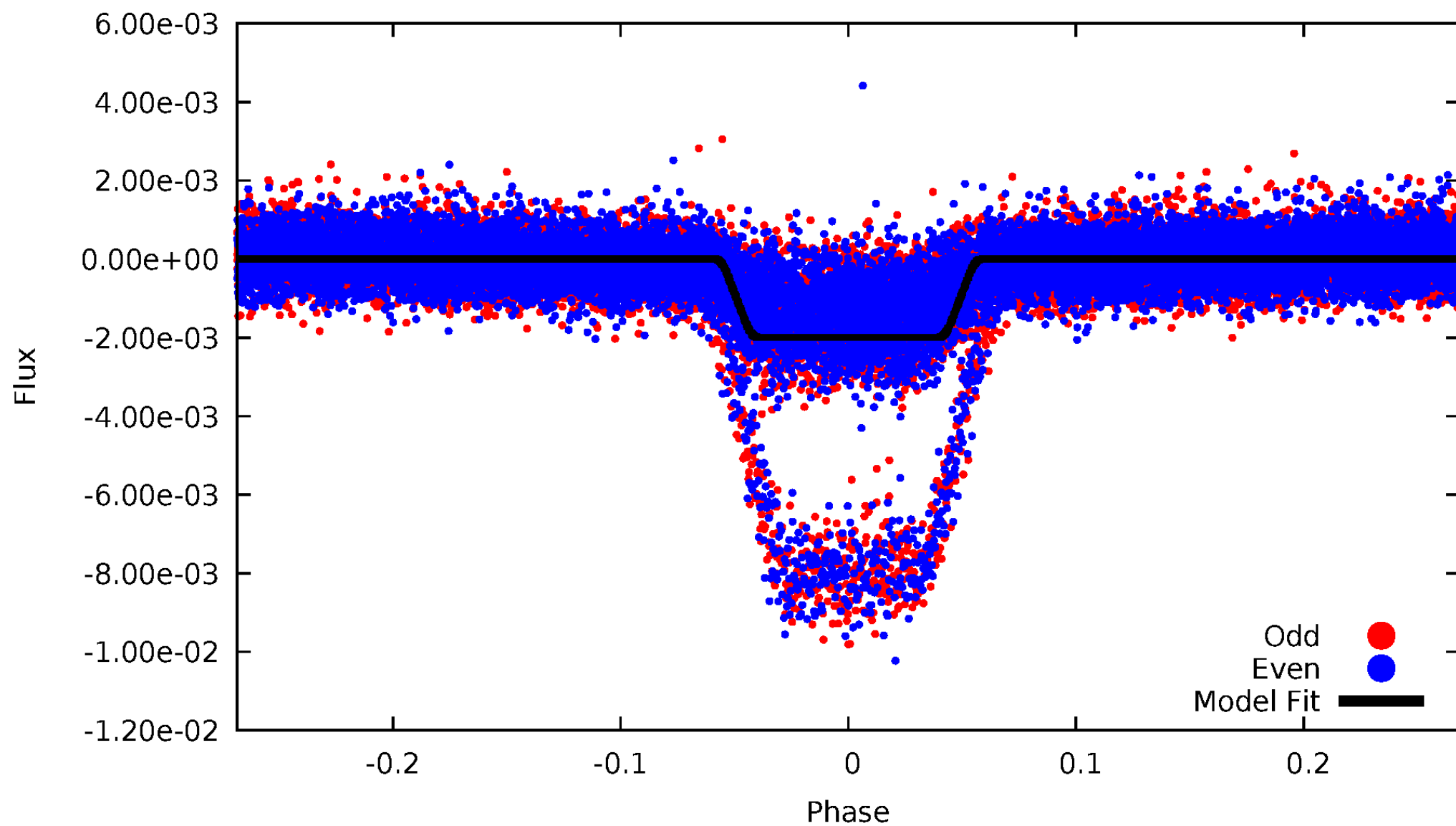
DV Odd/Even

TCE 006205481-01



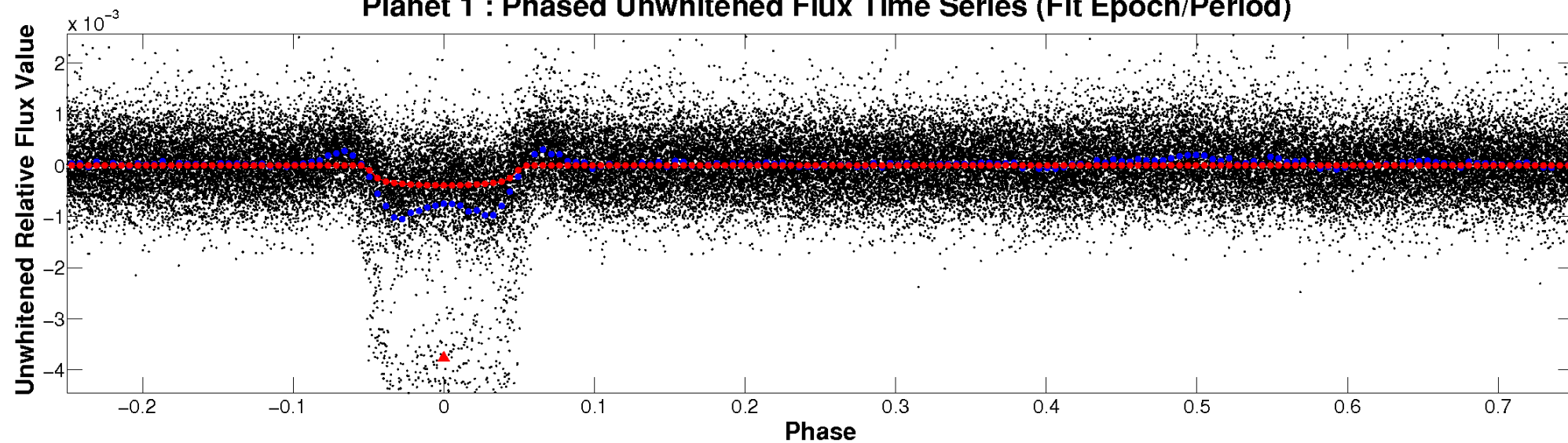
ALT Odd/Even

TCE 006205481-01

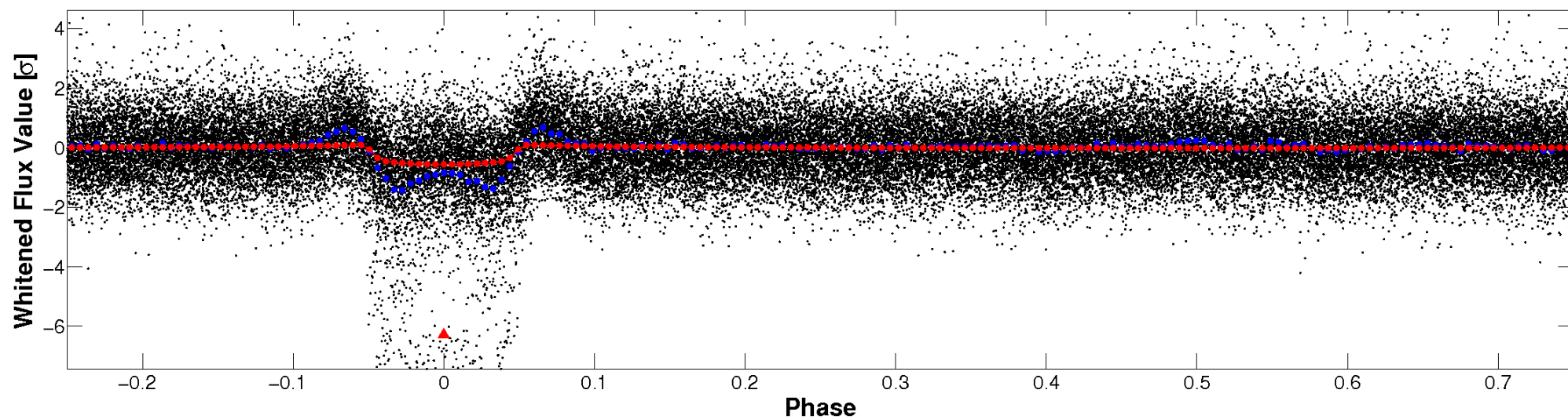


Non-Whitened Vs. Whitened Light Curve

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

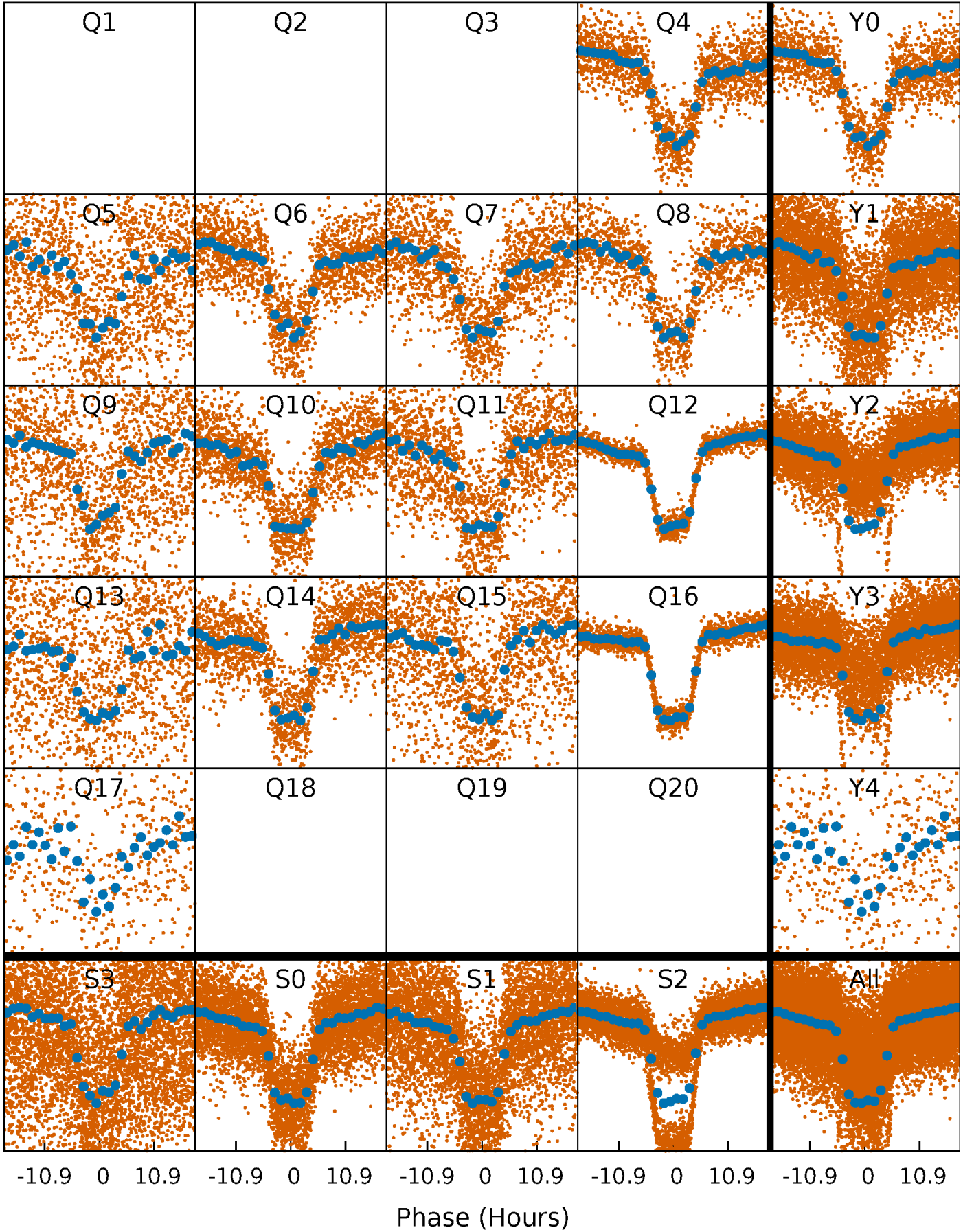


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



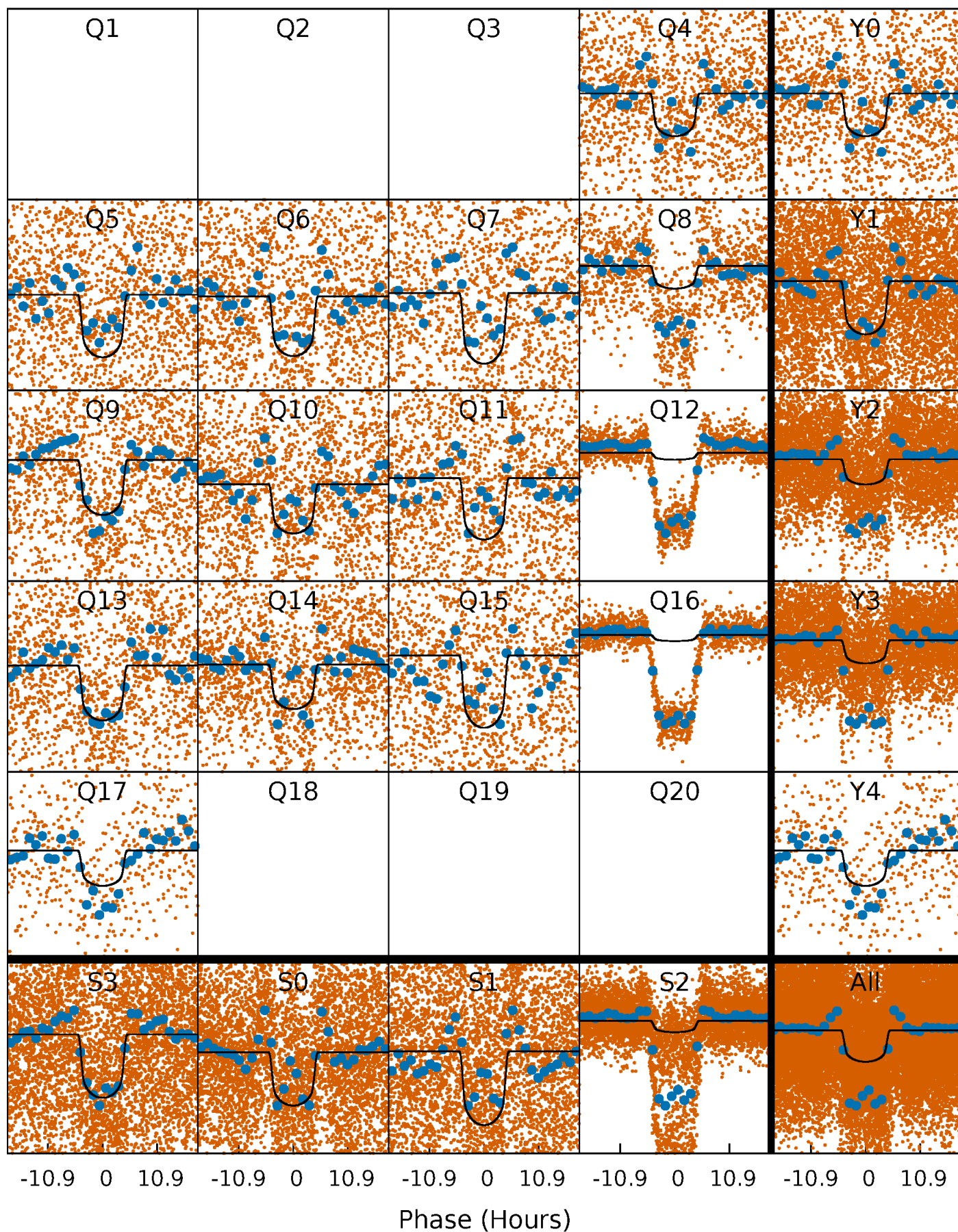
PDC Quarter-Phased Transit Curves

TCE 006205481-01 P= 3.722892 Days $T_0=134.620622$ (BKJD)



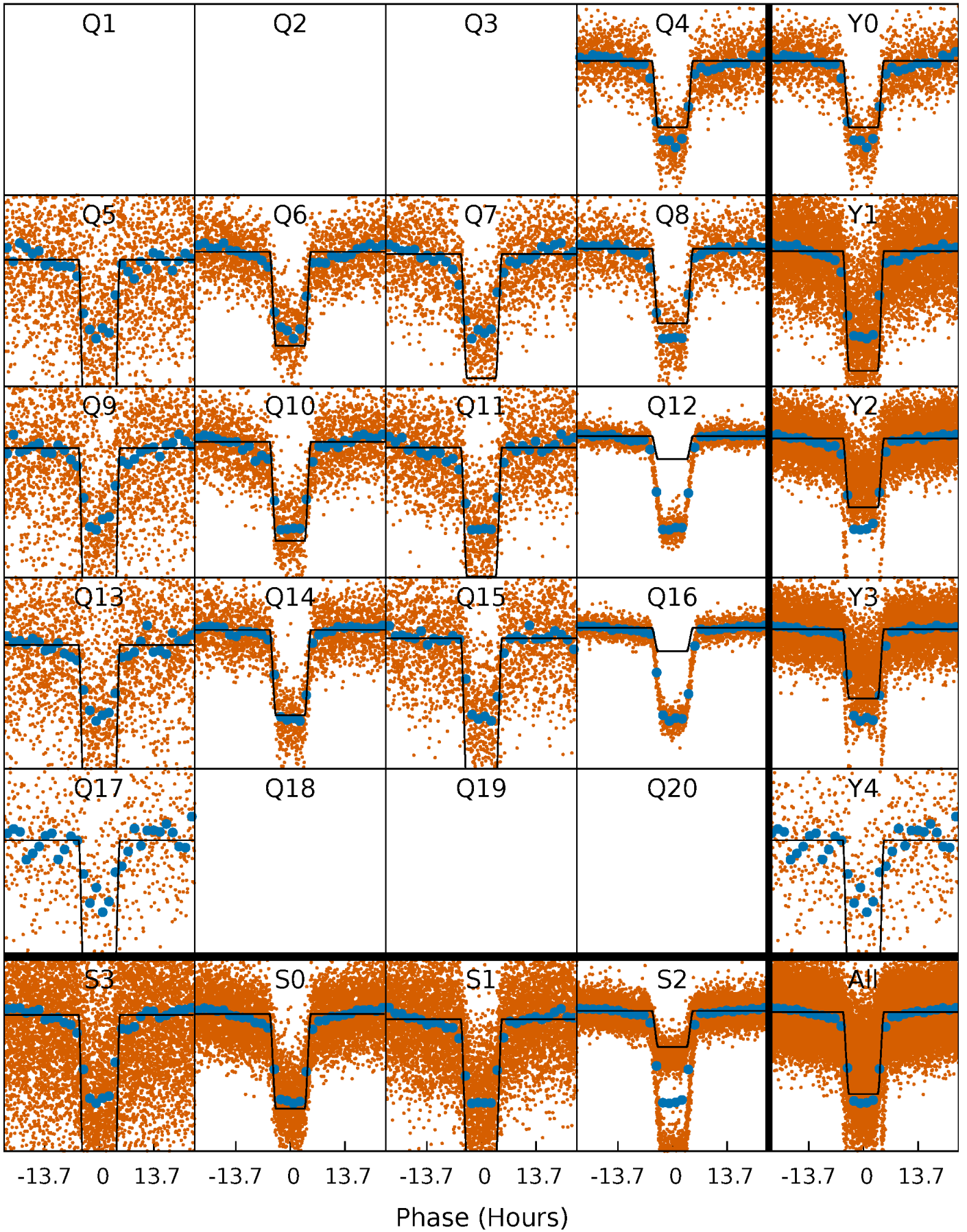
DV Quarter-Phased Transit Curves

TCE 006205481-01 P= 3.722892 Days $T_0=134.620622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

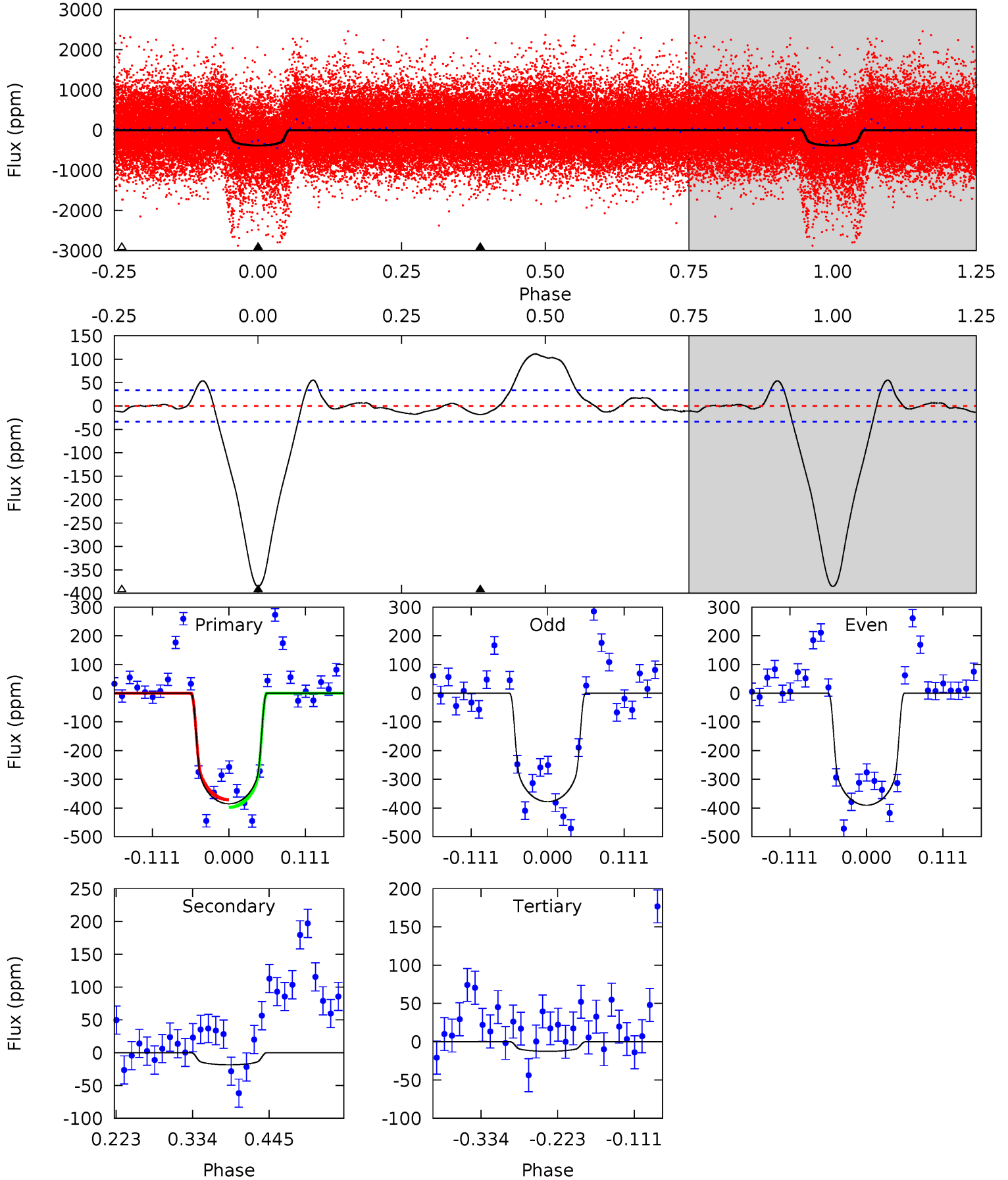
TCE 006205481-01 P= 3.722783 Days $T_0=134.647181$ (BKJD)



DV Model-Shift Uniqueness Test

006205481-01, P = 3.722892 Days, E = 134.620622 Days

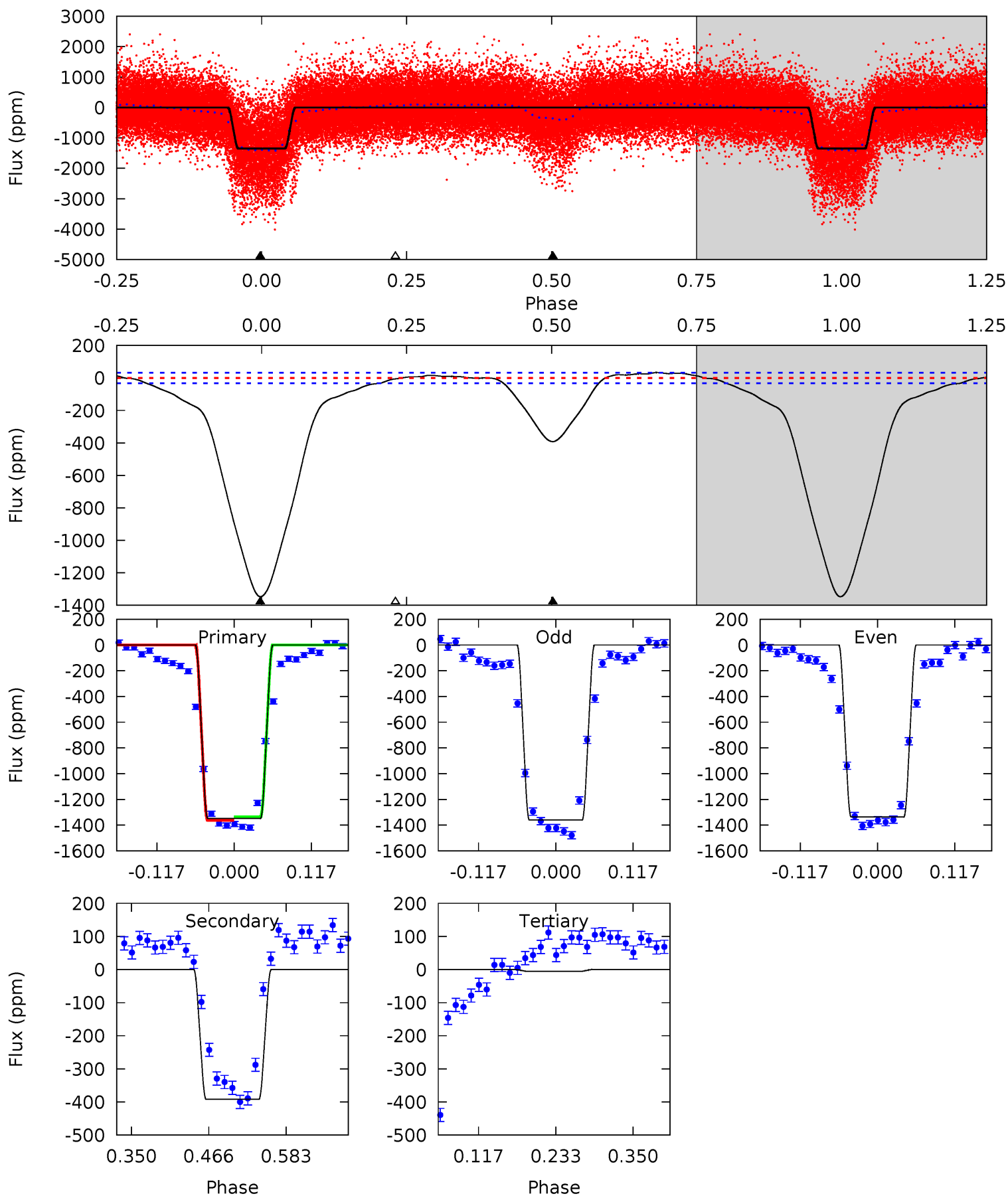
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.0	2.49	1.68	0	4.54	1.59	3.81	50.3	52.0	0.81	2.49	0.83	2.70	0.22	1.81



Alt Model-Shift Uniqueness Test

006205481-01, P = 3.722783 Days, E = 134.647181 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
189.6	55.2	0.78	0	4.53	1.57	7.17	188.8	189.6	54.4	55.2	1.74	1.50	0.02	1.91



Stellar Parameters For KIC 006205481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5340^{+185}_{-185}	$4.646^{+0.030}_{-0.090}$	$-0.540^{+0.300}_{-0.300}$	$0.680^{+0.098}_{-0.049}$	$0.754^{+0.073}_{-0.073}$	$3.369^{+0.528}_{-0.971}$
	+3%/-3%	+1%/-2%	+56%/-56%	+14%/-7%	+10%/-10%	+16%/-29%
Source	KIC0	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 006205481-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 7	$1.63^{+0.14}_{-0.12}$	1330^{+61}_{-54}	3007^{+184}_{-227}	$6.836^{+3.269}_{-2.841}$
Alt.	-392 ± 7	$3.37^{+0.27}_{-0.19}$	1328^{+60}_{-52}	3875^{+107}_{-105}	34^{+3}_{-4}

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 $A_{\text{obs}} \gg 1.0$

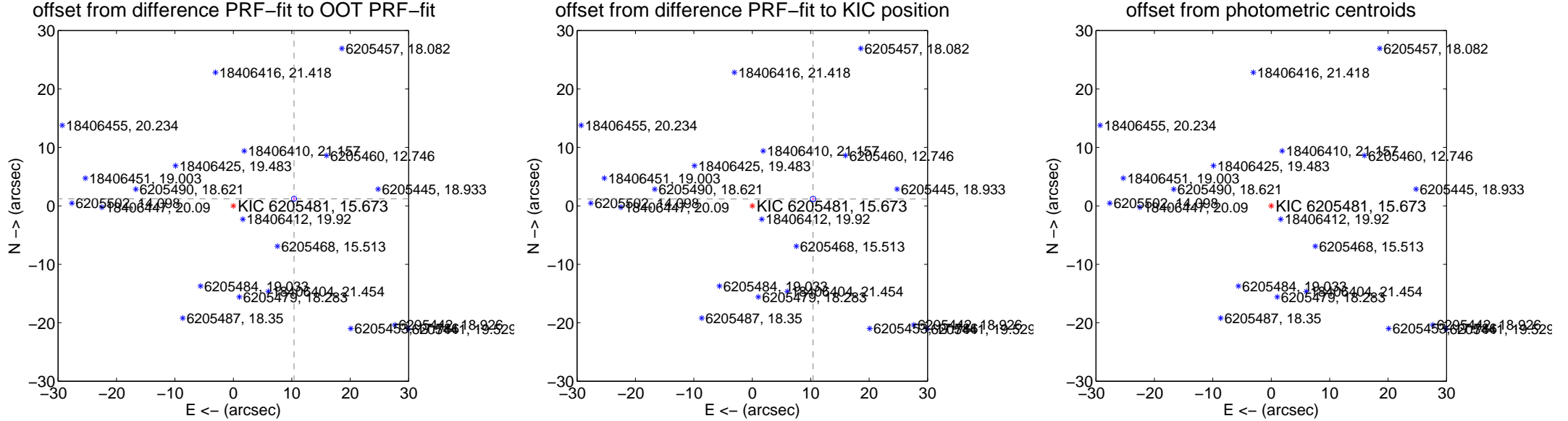
DV Centroid Data

Supplemental centroid analysis for 006205481-01. Kepler magnitude: 15.67. Transit SNR 35.11

There are 7 quarters with good PRF difference image offsets

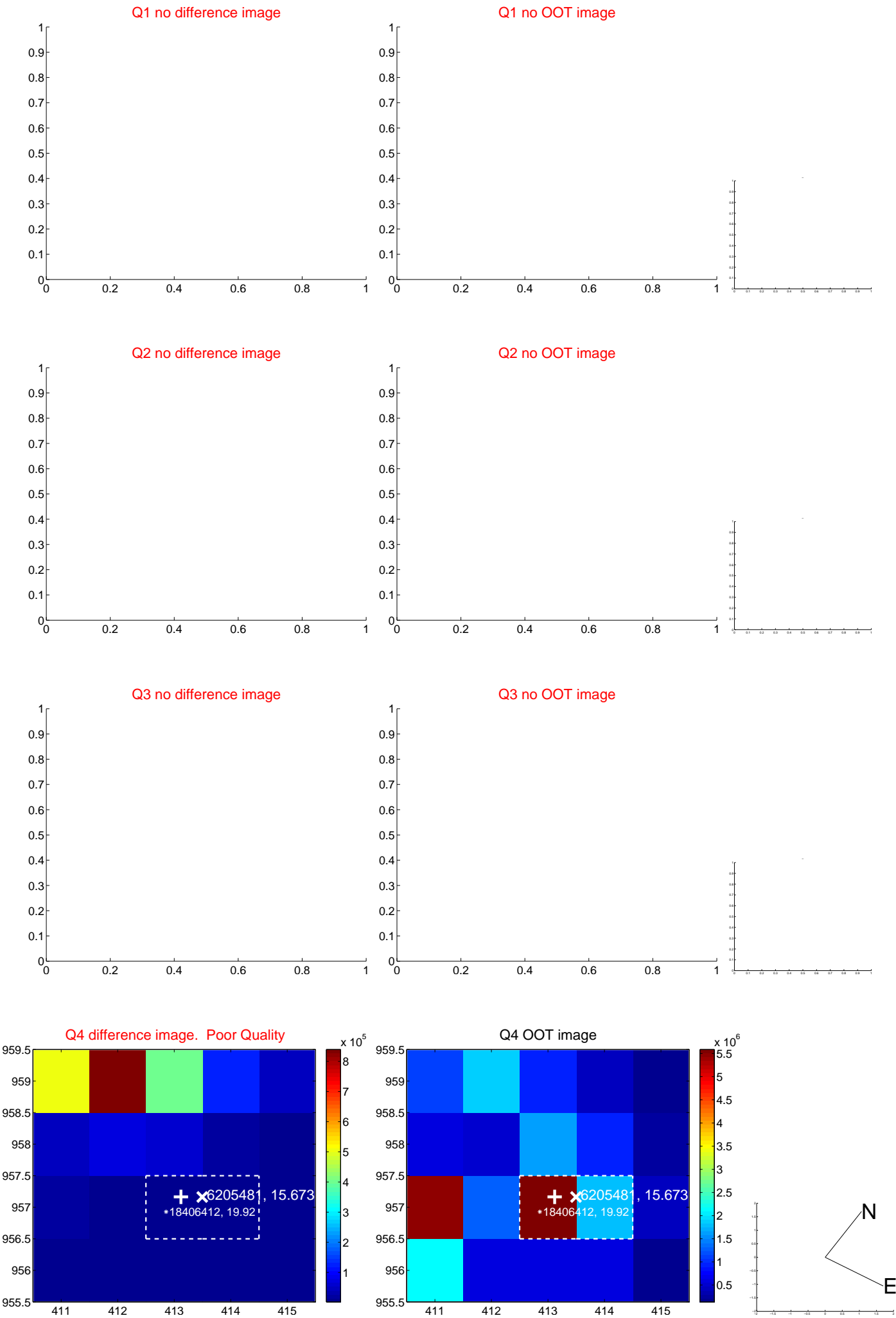
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.461 \pm 0.144	72.51	-10.390 \pm 0.143	1.219 \pm 0.228
PRF-fit source offset from KIC position	10.463 \pm 0.156	66.96	-10.396 \pm 0.141	1.175 \pm 0.174
photometric centroid source offset	83.72 \pm 0.48	175.51	-77.48 \pm 0.47	31.73 \pm 0.52

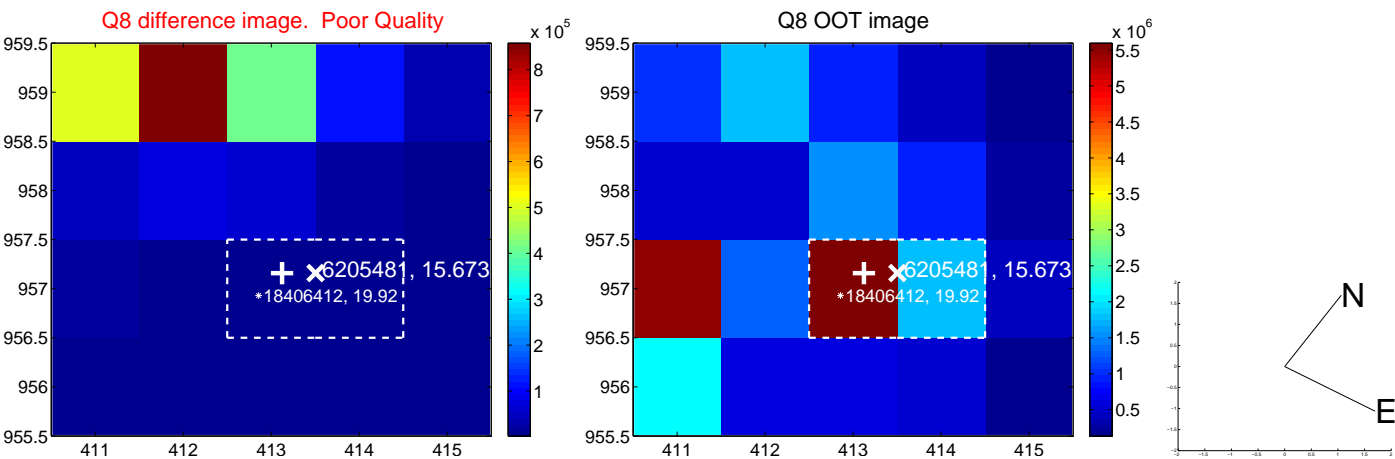
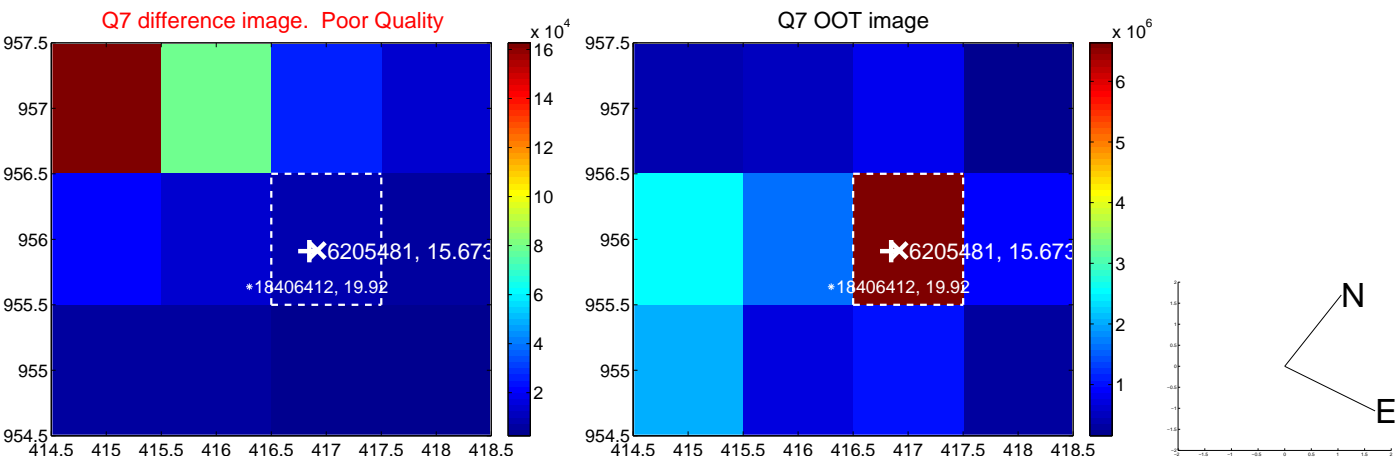
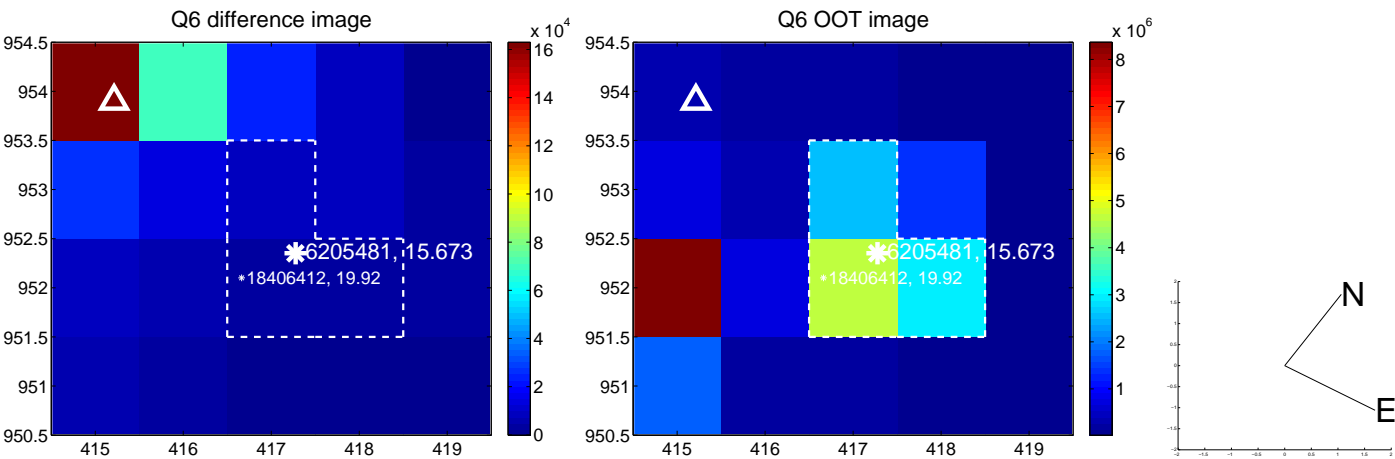
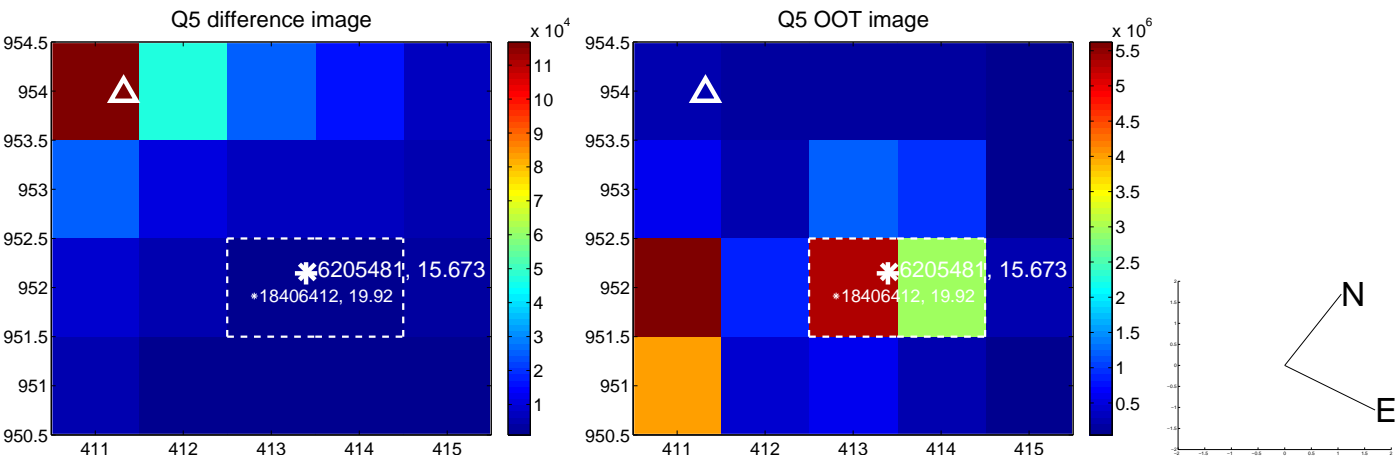


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

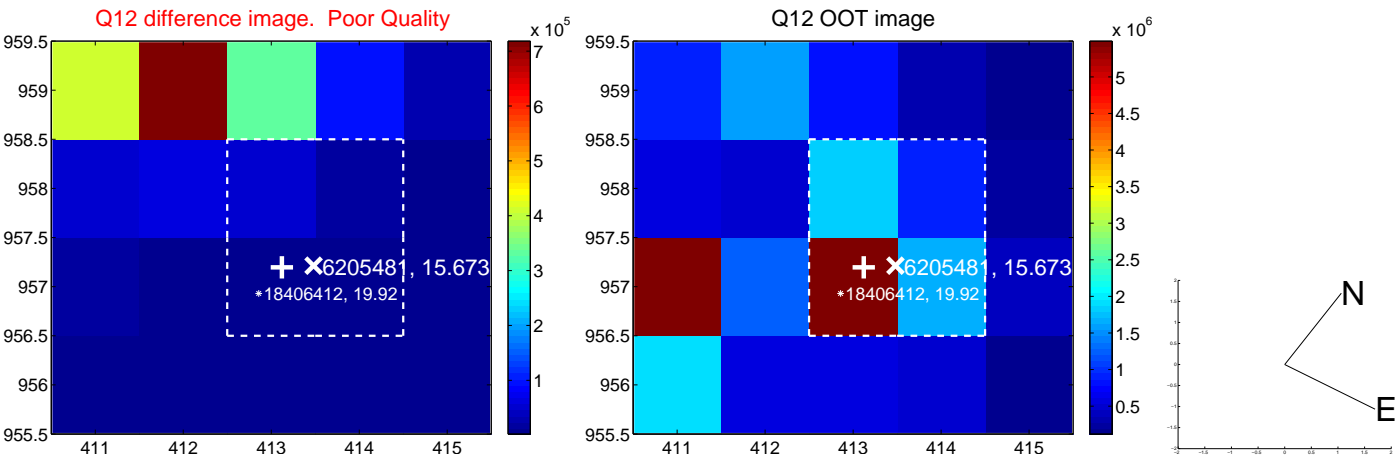
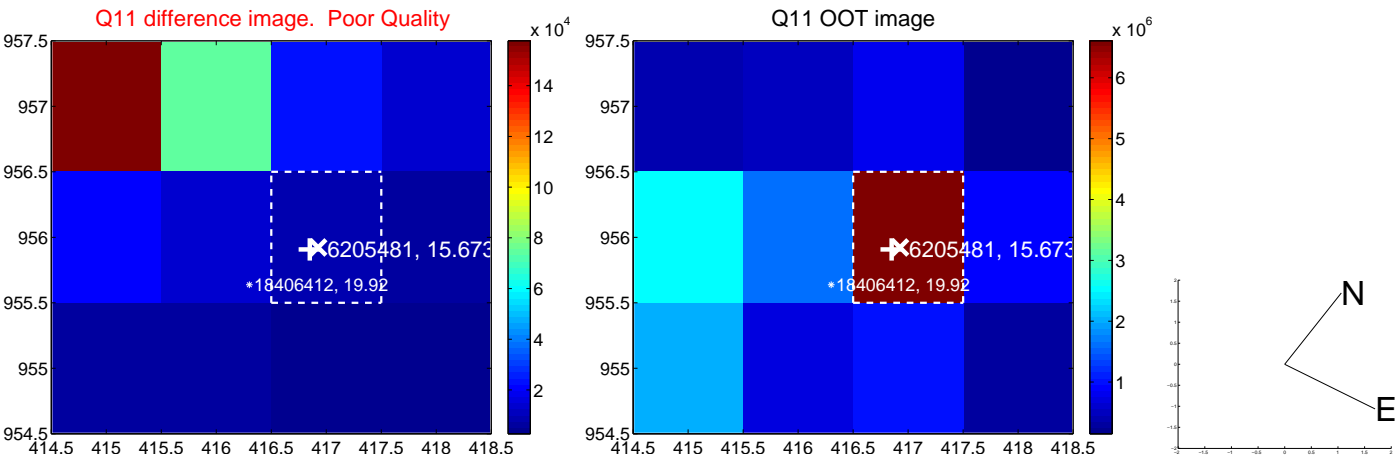
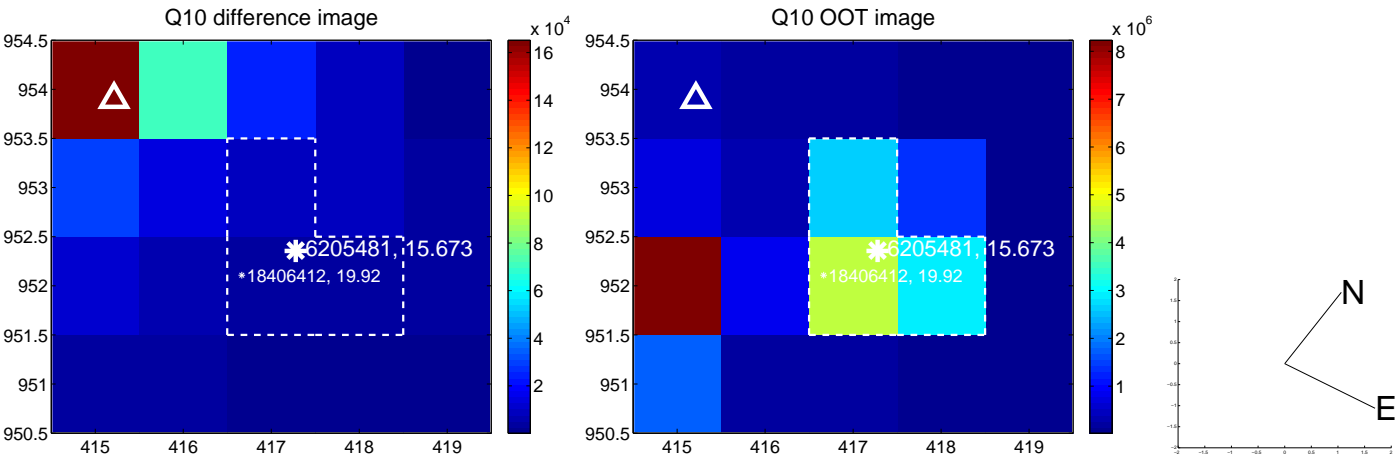
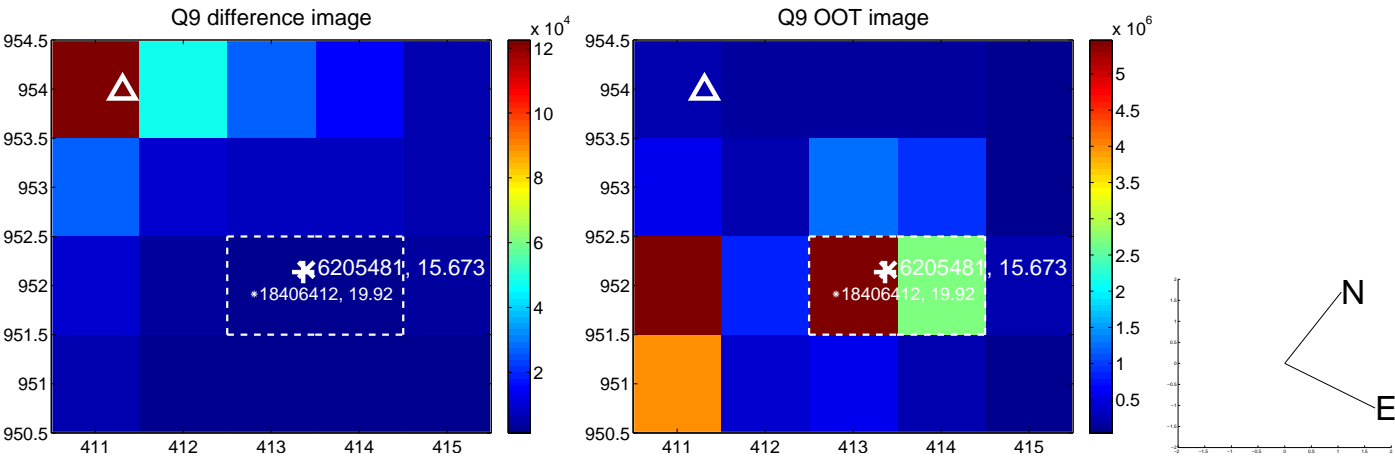
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



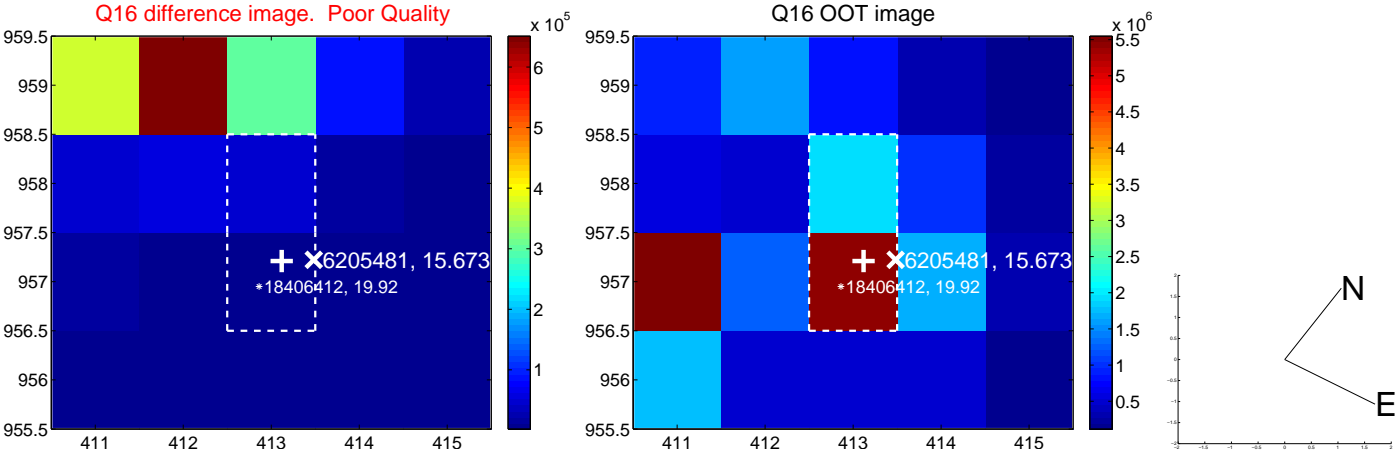
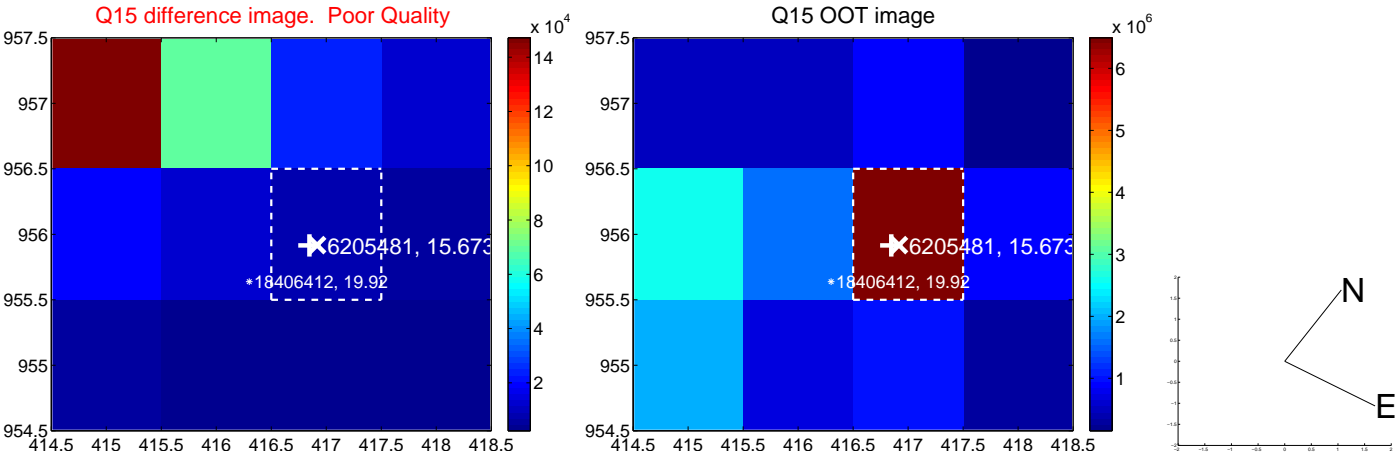
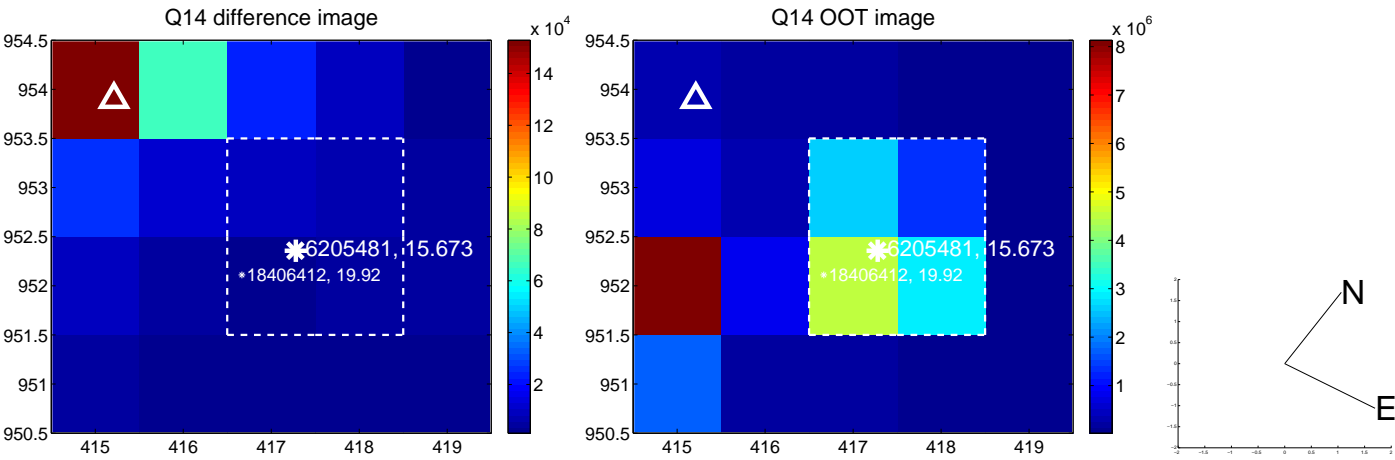
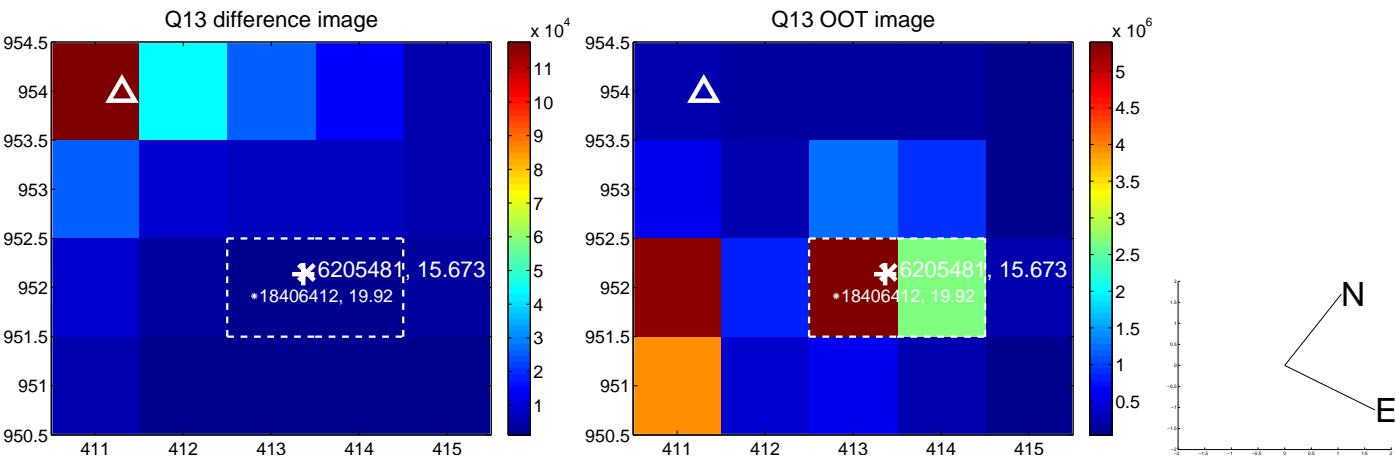
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



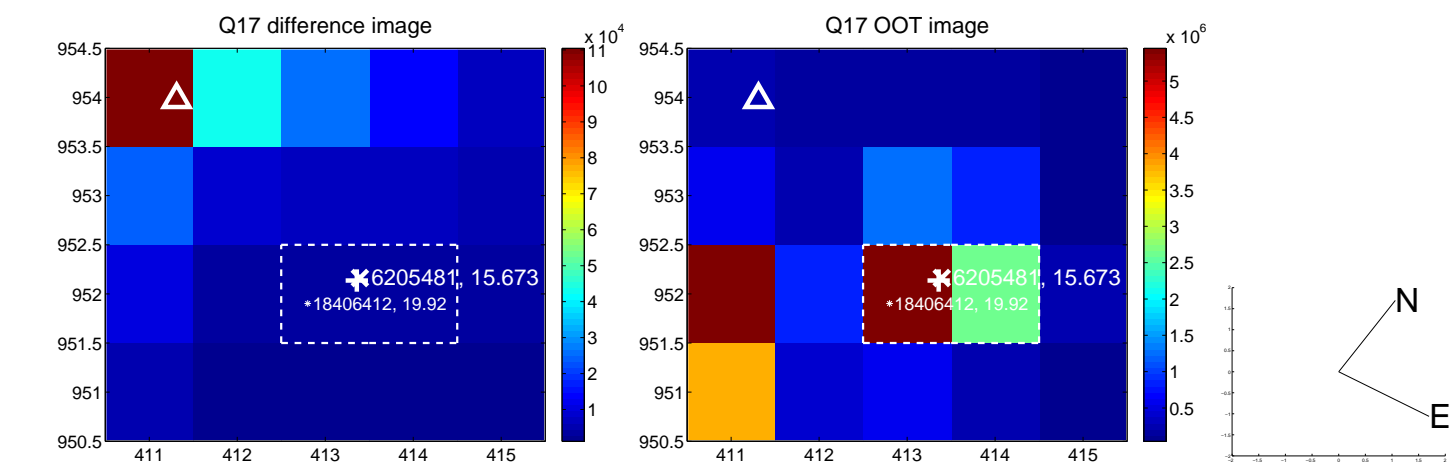
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



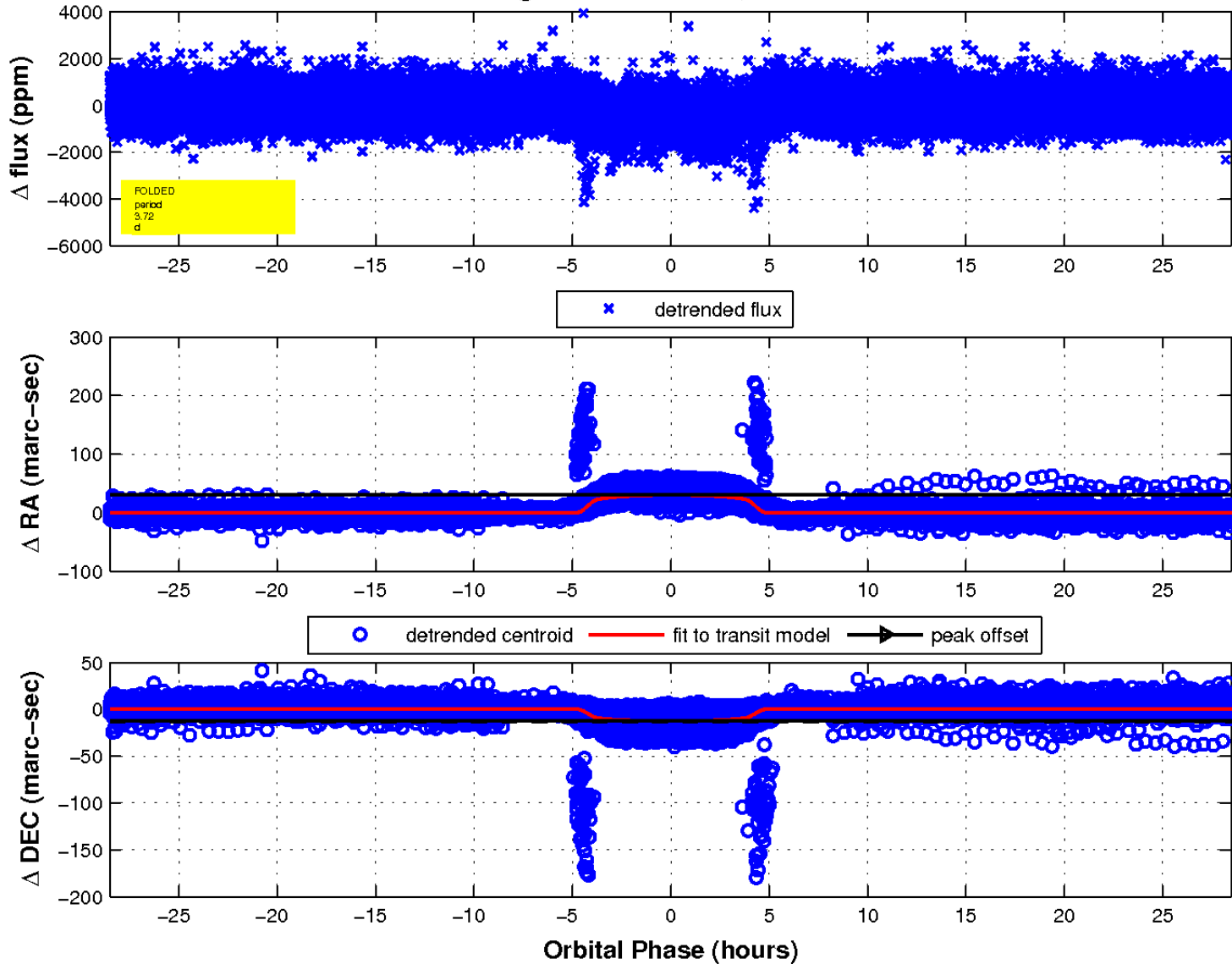
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

