

KIC 012506351

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})
012506351-01	OBS	1446.01	1.227768	132.554490	51709.7	2.679	2650.2	3586.6	1.04	6207	33.21	2827.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012506351-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

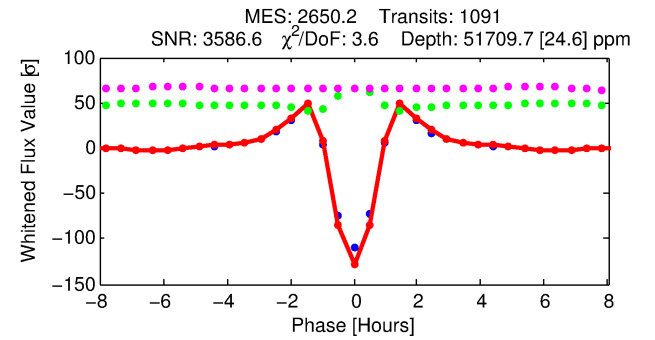
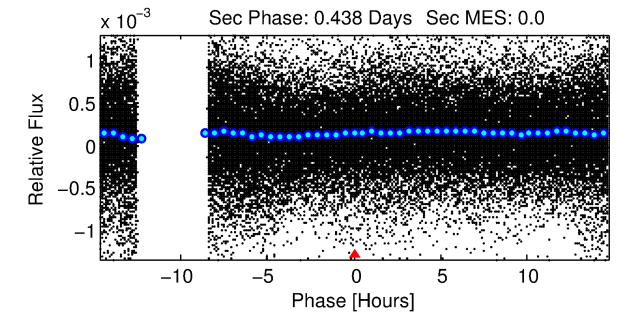
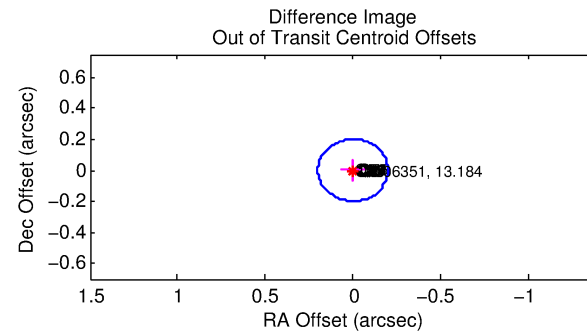
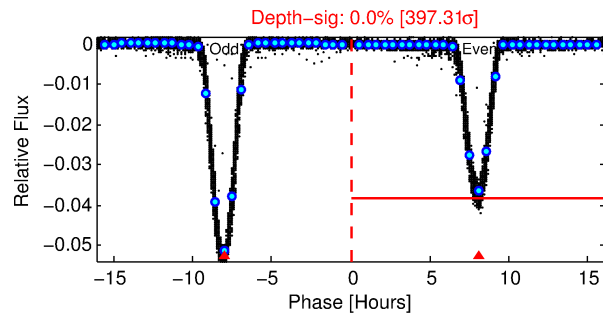
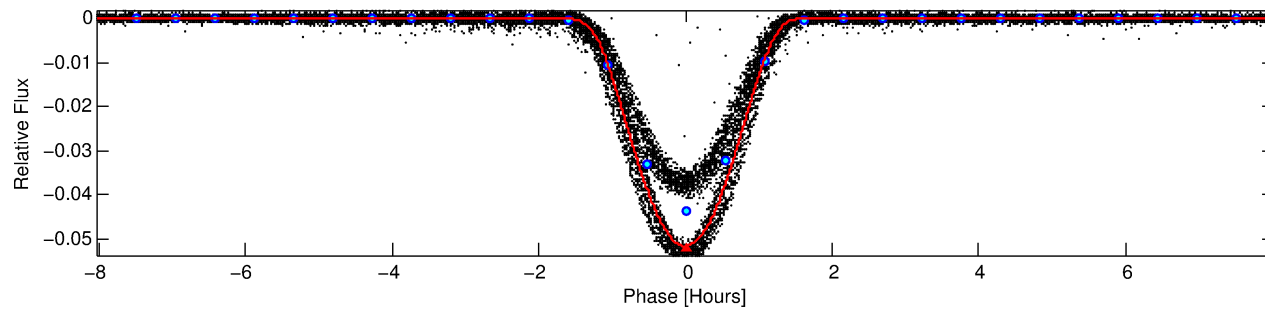
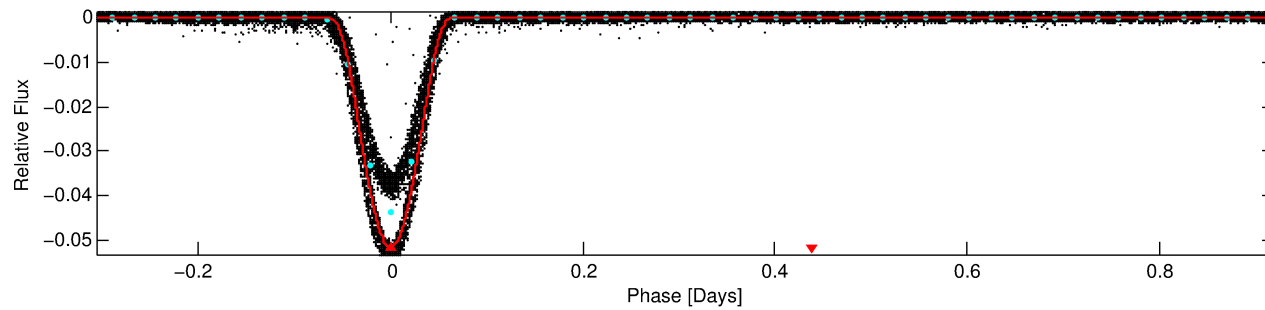
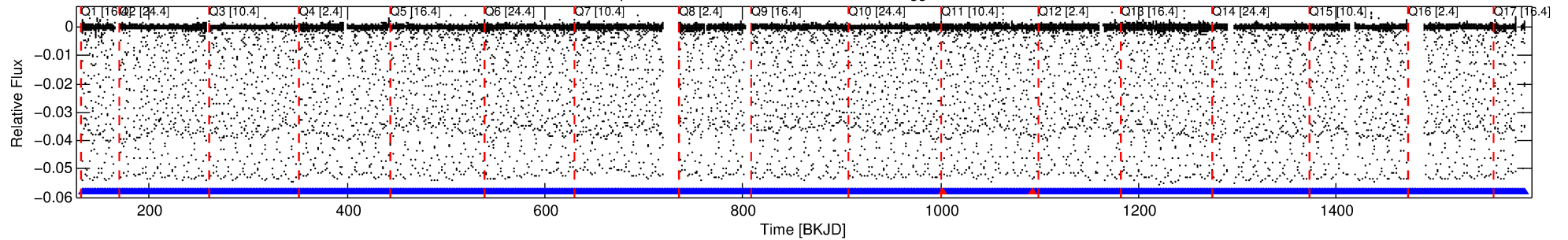
Ephemeris Match Information For 012506351-01

No Significant Match Found

DV One-Page Summary

KIC: 12506351 Candidate: 1 of 1 Period: 1.228 d
KOI: K01446.01 Corr: 0.977

Kp: 13.18 R*: 1.04 Rs Teff: 6207.0 K Logg: 4.41 Fe/H: -0.200



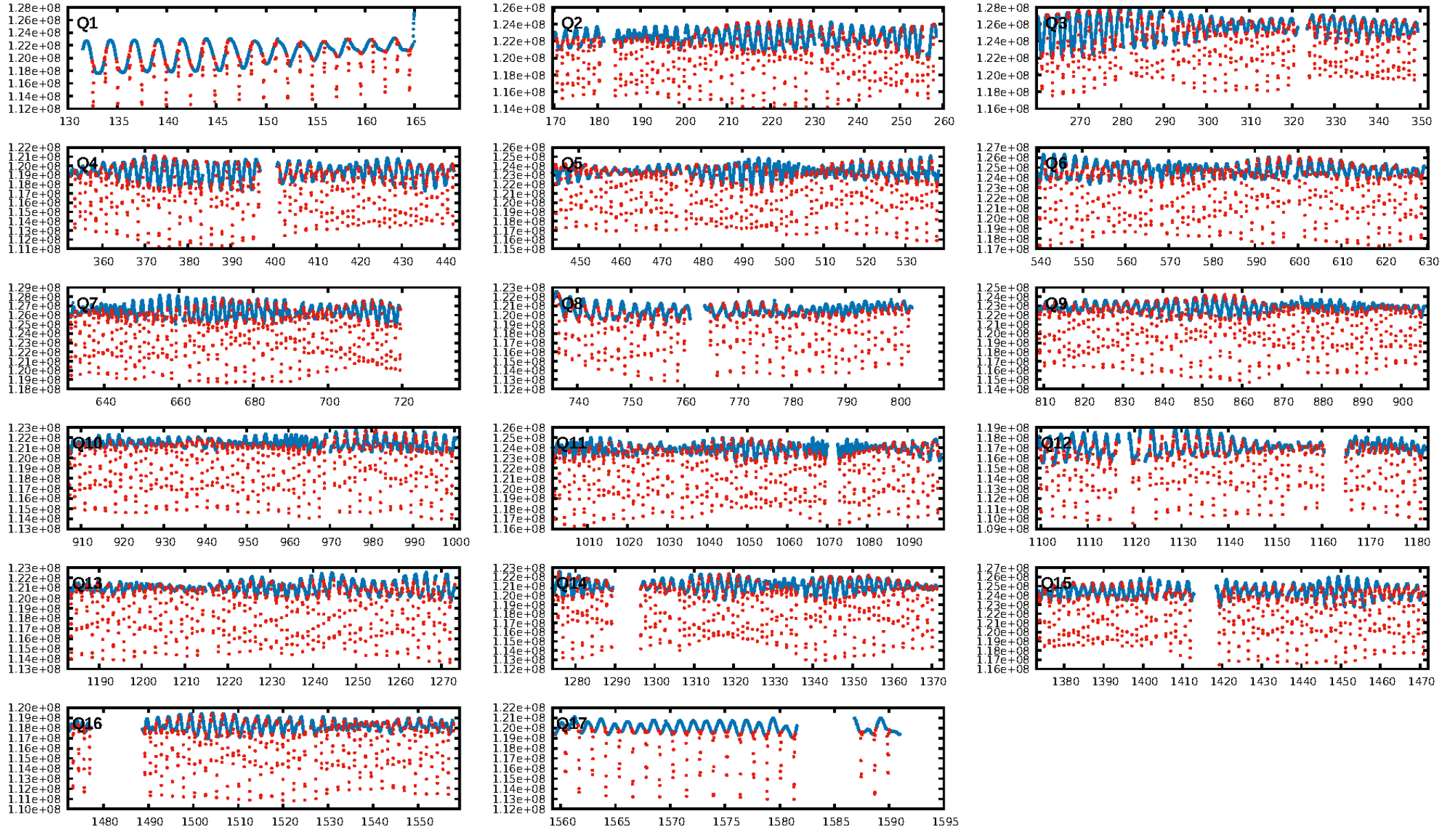
DV Fit Results:

Period = 1.22777 [0.00000] d
Epoch = 132.5545 [0.0000] BKJD
Rp/R* = 0.2915 [0.0026]
a/R* = 3.41 [0.00]
b = 0.90 [0.00]
Seff = 2827.48 [1147.42]
Teff = 1859 [189] K
Rp = 33.21 [11.14] Re
a = 0.0226 [0.0062] AU
Ag = N/A
Teffp = N/A

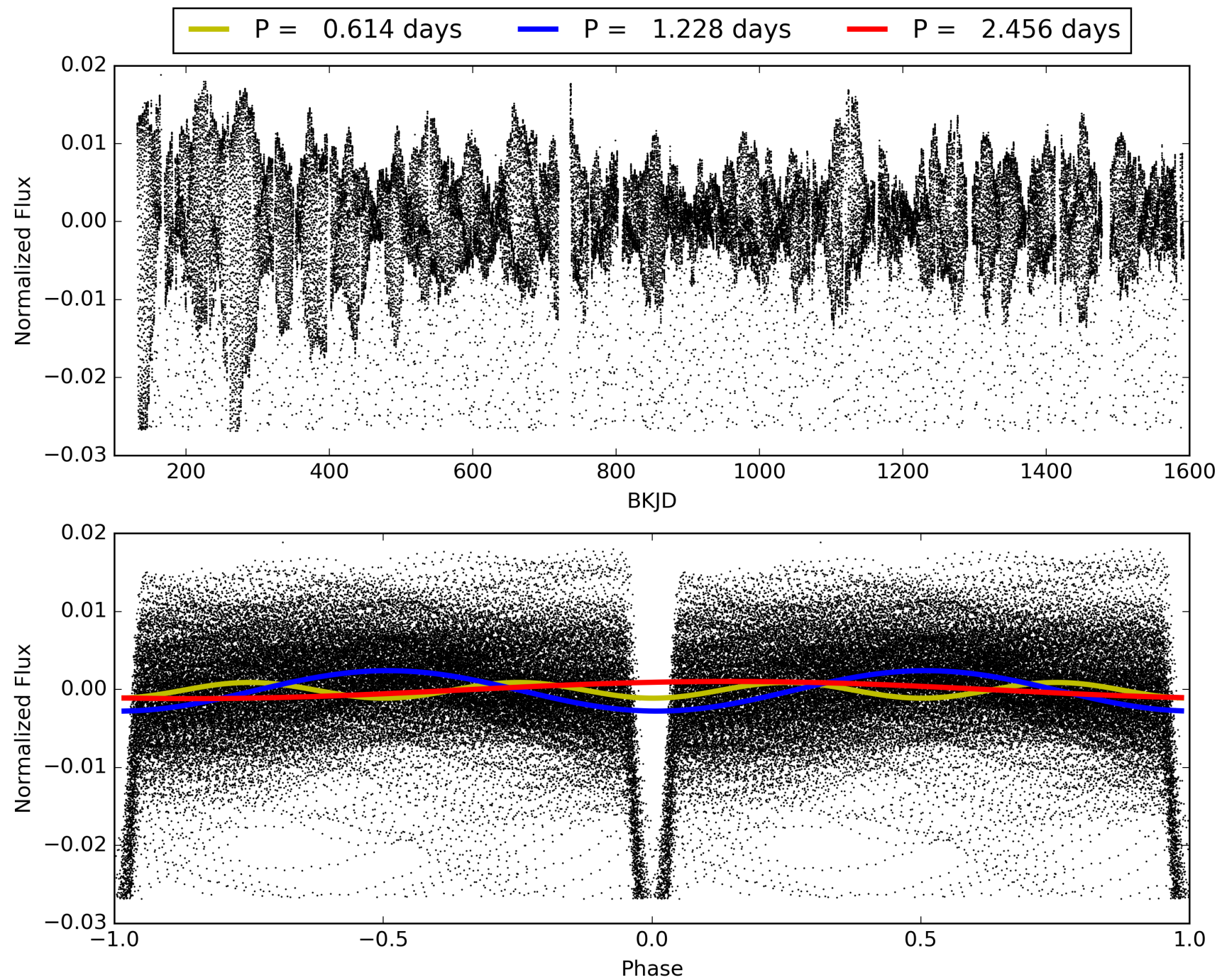
DV Diagnostic Results:

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 [1040/1042]
GhostDiagnostic-chr: 1.391
Centroid-sig: 0.0%
Centroid-so: 0.393 arcsec [404.19σ]
OotOffset-rm: 0.003 arcsec [0.04σ]
KicOffset-rm: 0.055 arcsec [0.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012506351-01, PDC Light Curves

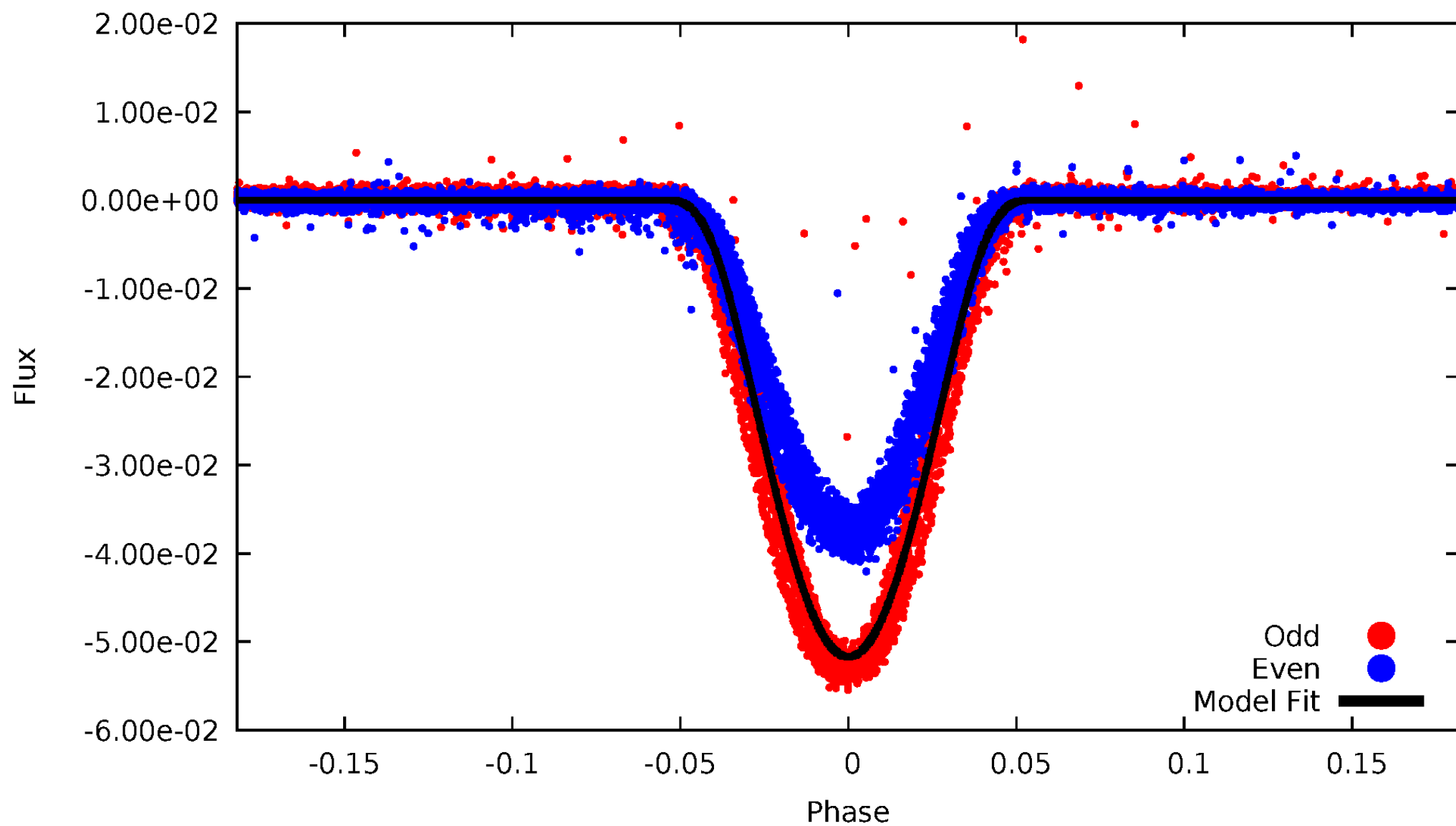


TCE 012506351-01



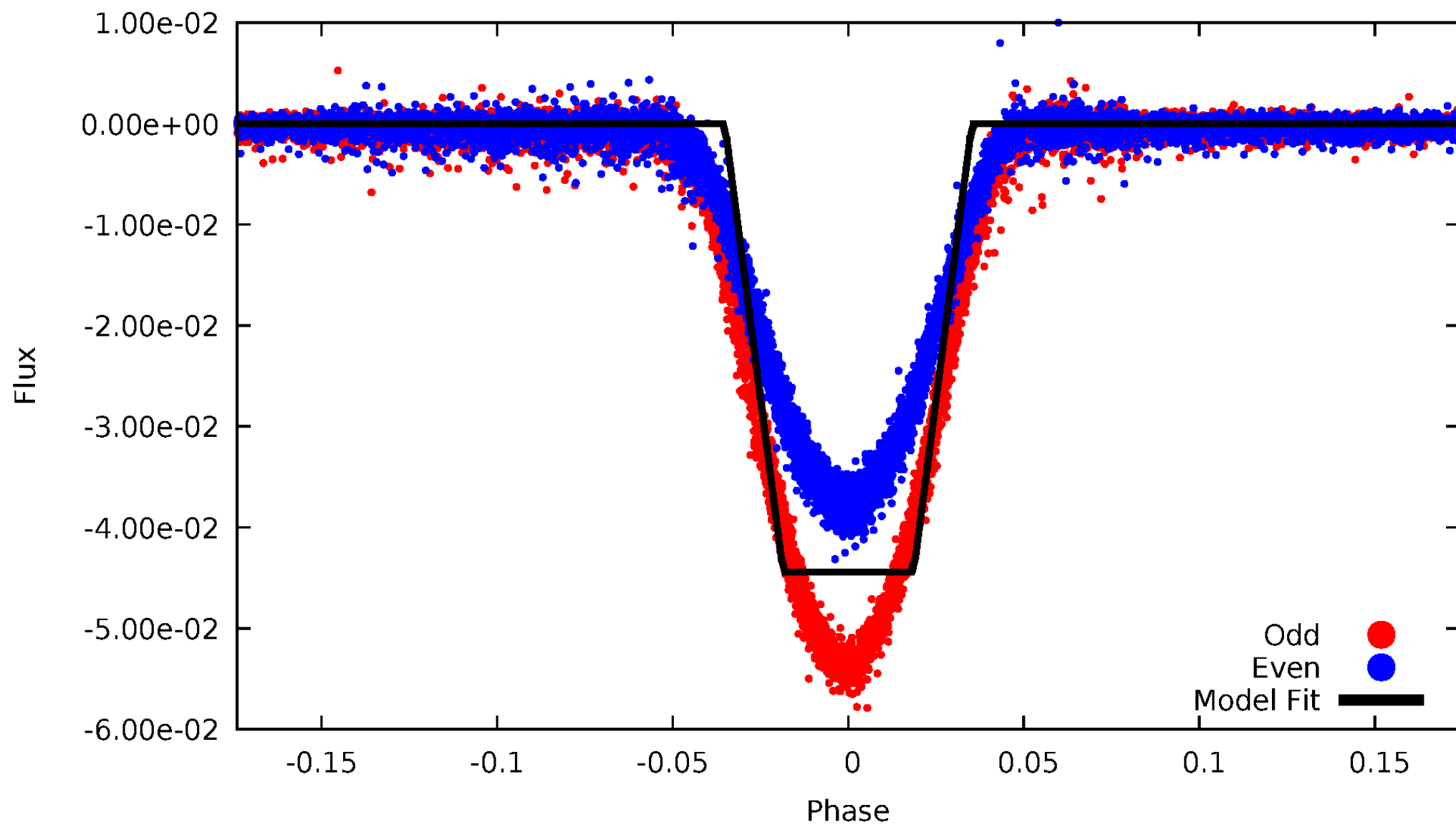
DV Odd/Even

TCE 012506351-01



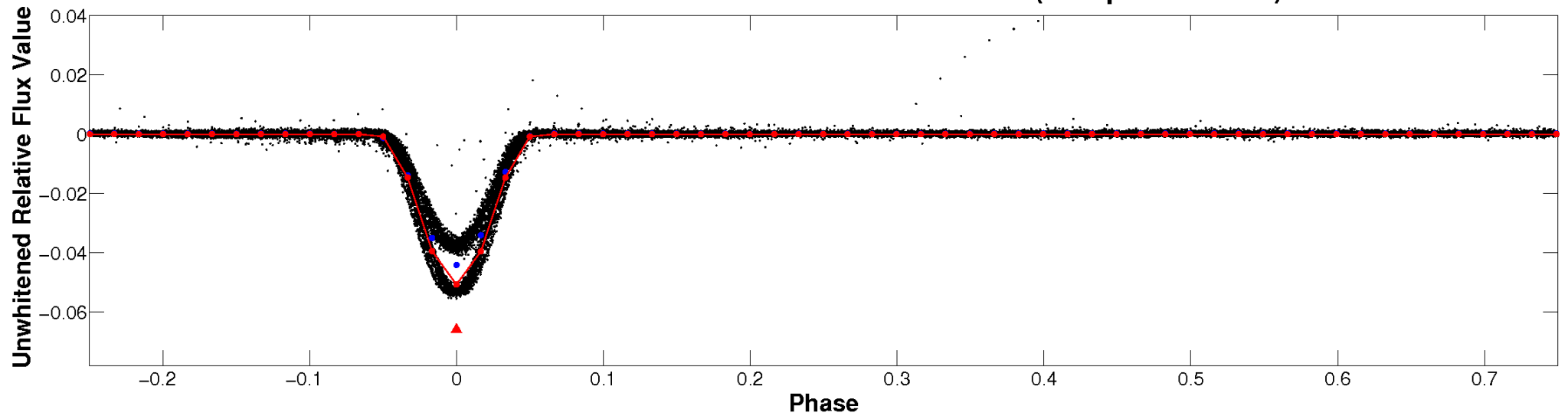
ALT Odd/Even

TCE 012506351-01

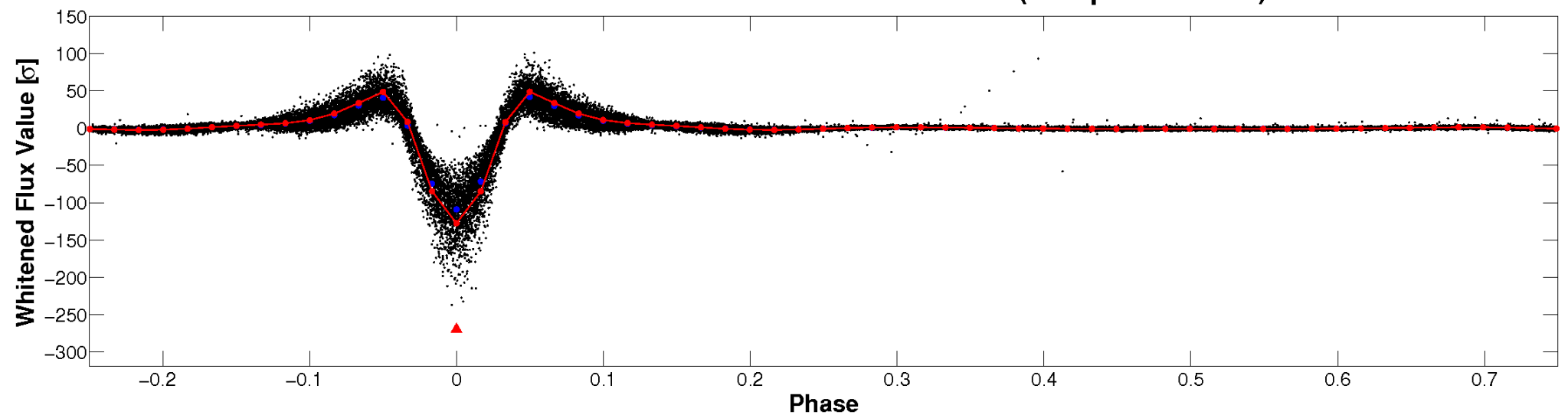


Non-Whitened Vs. Whitened Light Curve

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

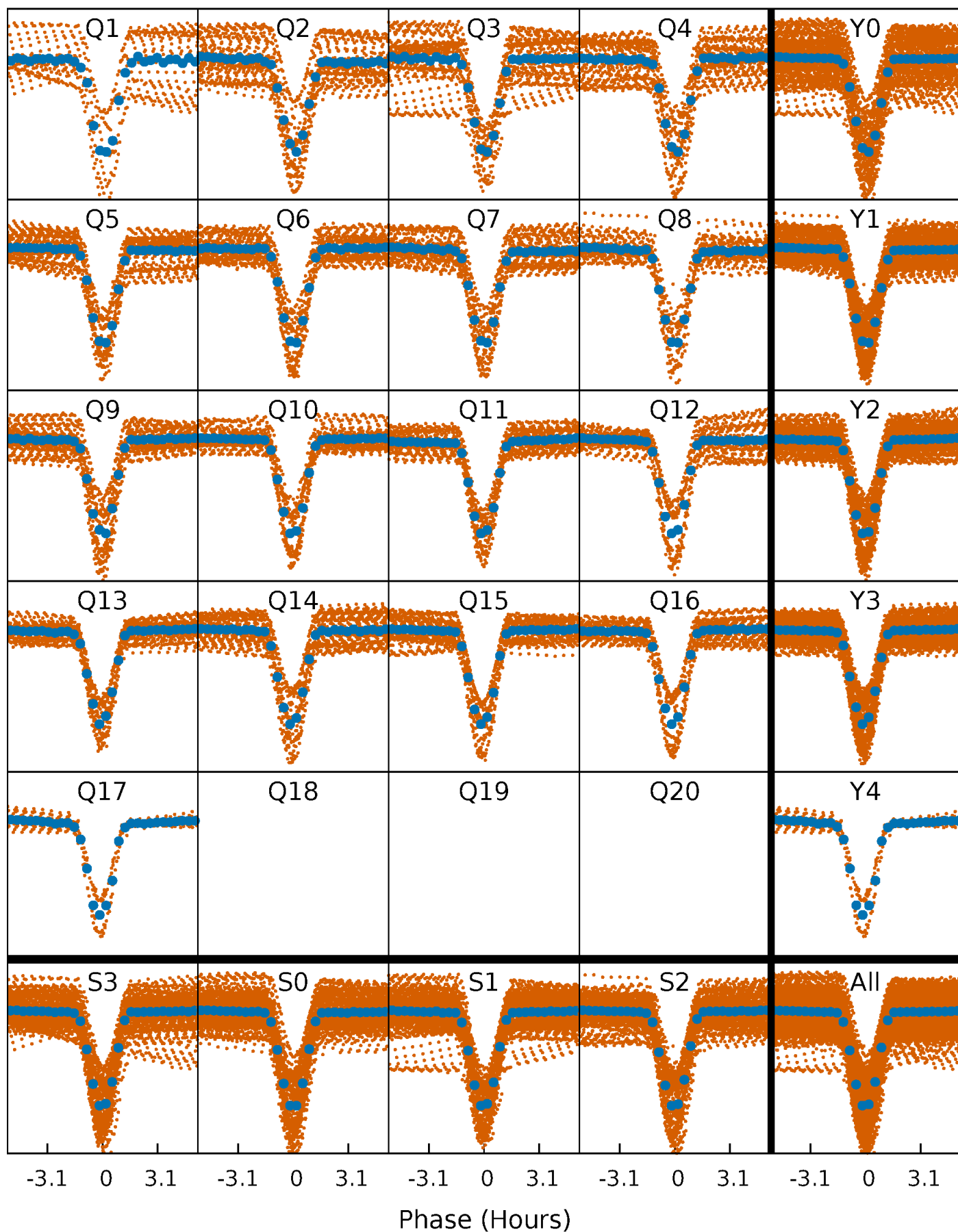


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



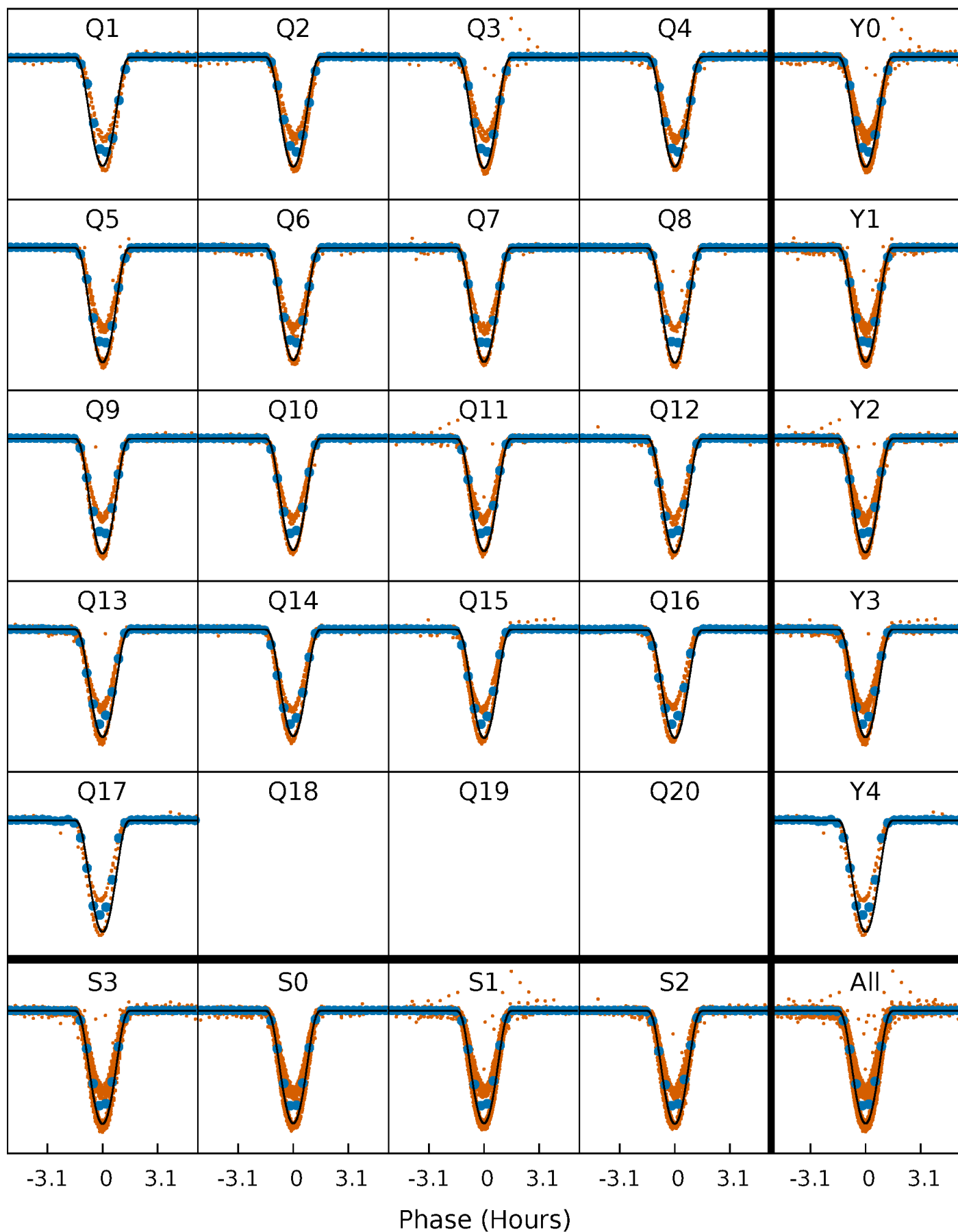
PDC Quarter-Phased Transit Curves

TCE 012506351-01 P= 1.227768 Days $T_0=132.554490$ (BKJD)



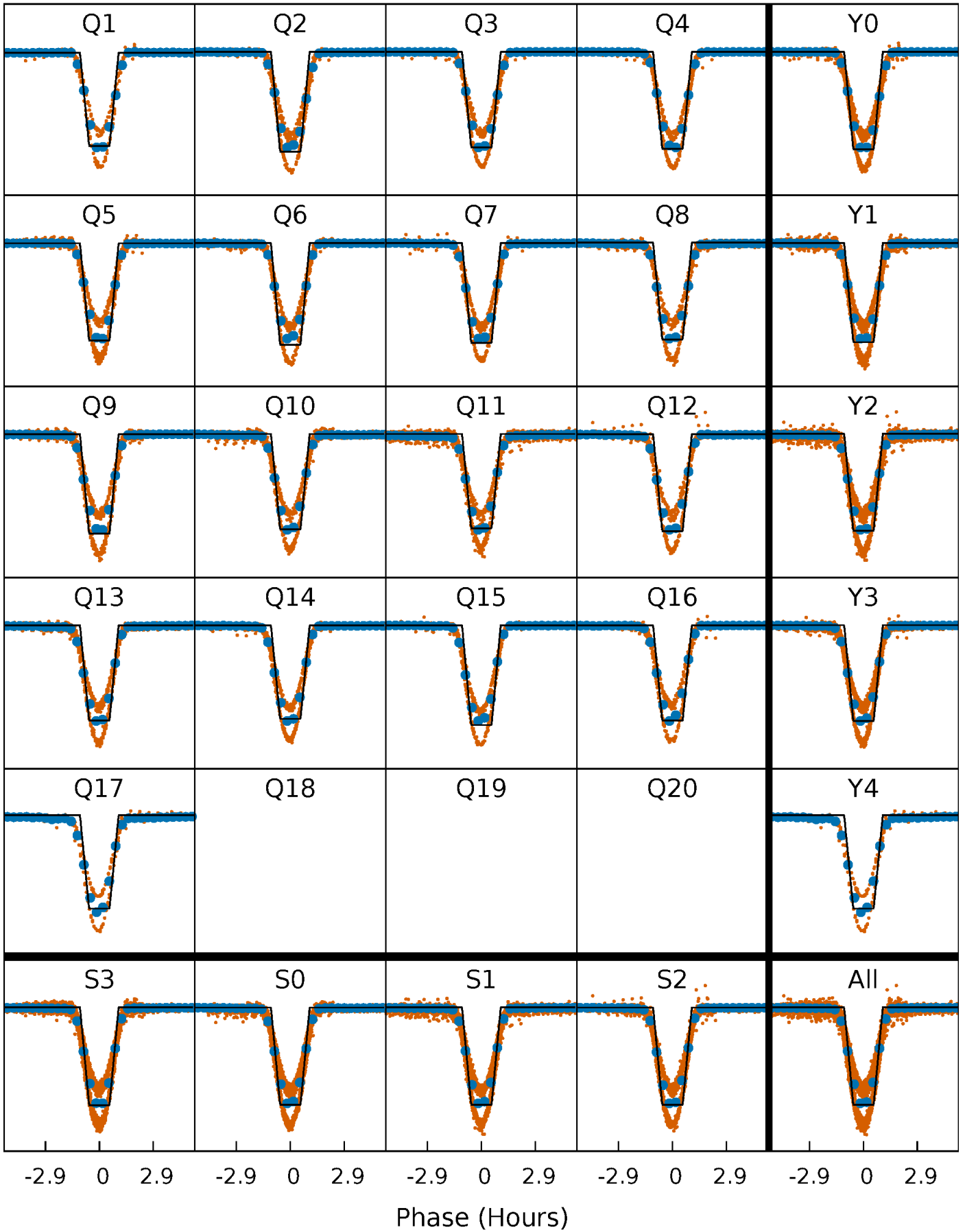
DV Quarter-Phased Transit Curves

TCE 012506351-01 P= 1.227768 Days $T_0=132.554490$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

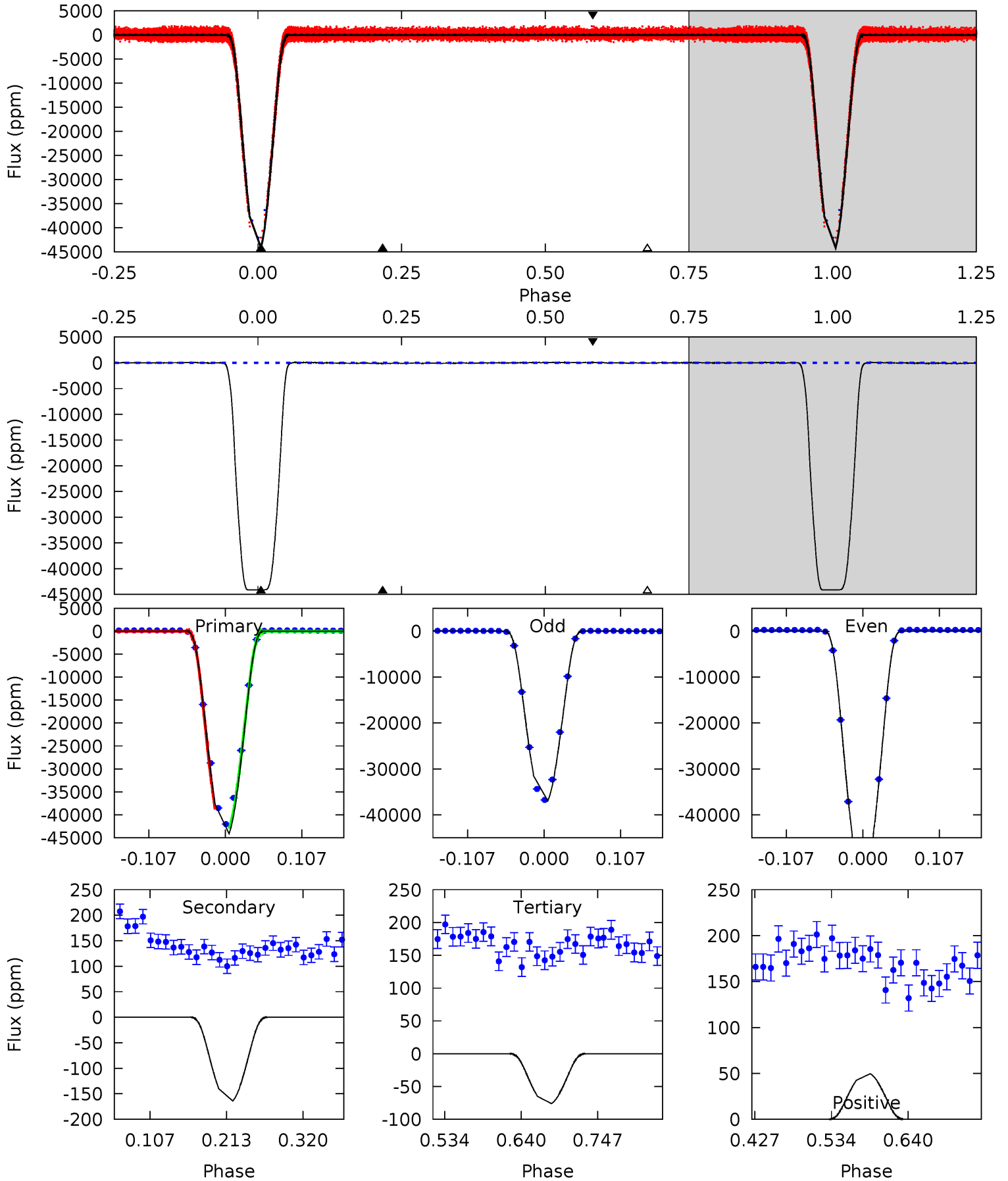
TCE 012506351-01 P= 1.227763 Days $T_0=132.557255$ (BKJD)



DV Model-Shift Uniqueness Test

012506351-01, P = 1.227768 Days, E = 131.326722 Days

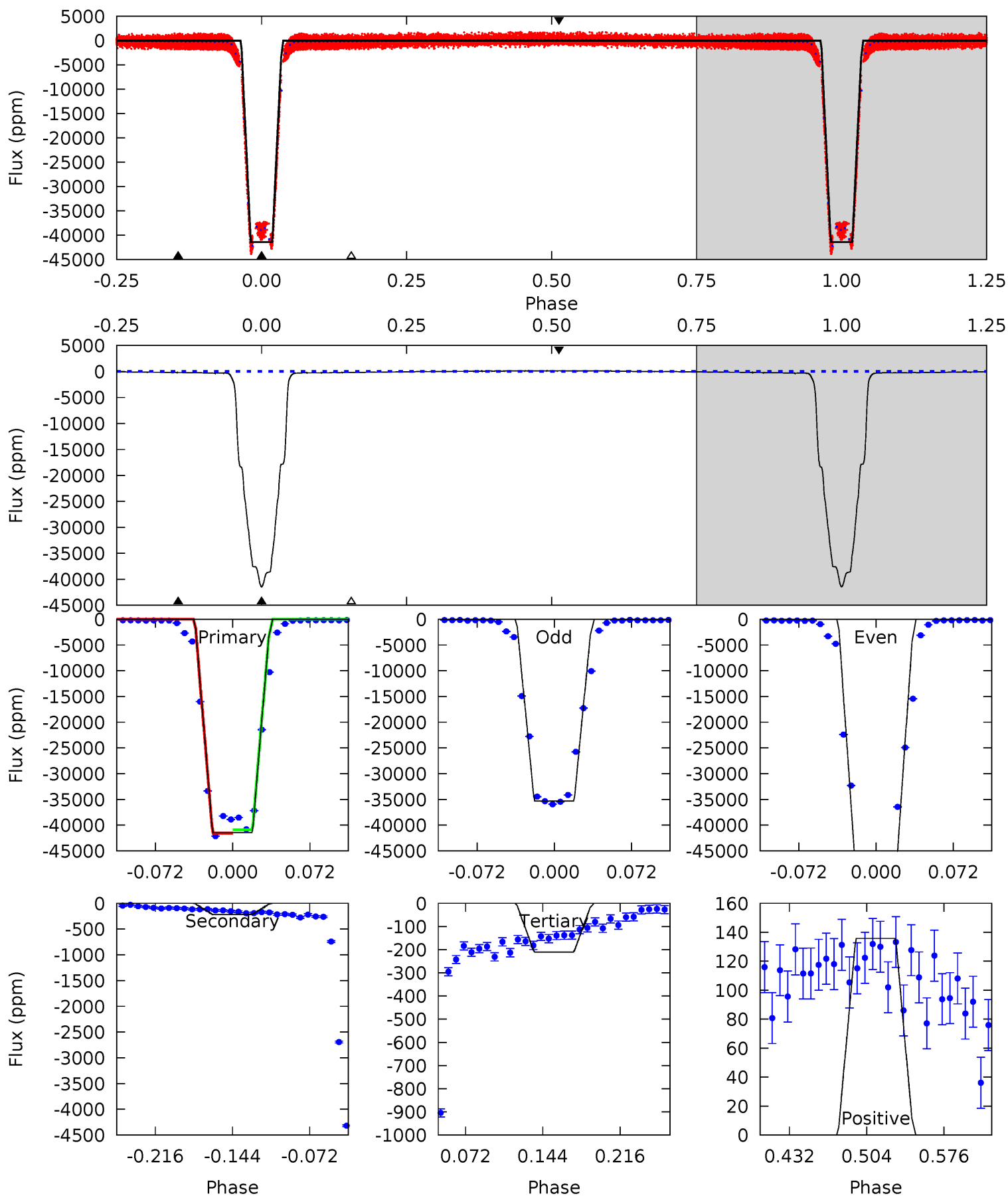
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4842	18.0	8.35	5.45	4.55	1.61	4.27	4833	4836	9.64	12.5	1106	1.09	0.00	0



Alt Model-Shift Uniqueness Test

012506351-01, P = 1.227763 Days, E = 131.329492 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2981	15.6	15.1	9.77	4.63	1.80	8.09	2966	2971	0.52	5.87	647.5	0.96	0.00	21.7



Stellar Parameters For KIC 012506351

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6207^{+150}_{-206}	$4.412^{+0.072}_{-0.203}$	$-0.200^{+0.250}_{-0.300}$	$1.044^{+0.350}_{-0.117}$	$1.021^{+0.159}_{-0.115}$	$1.263^{+0.468}_{-0.655}$
	+2%/-3%	+2%/-5%	+125%/-150%	+34%/-11%	+16%/-11%	+37%/-52%
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 012506351-01 / KOI 1446.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-164 ± 9	$33.29^{+6.41}_{-2.29}$	2633^{+210}_{-123}	-2820^{+80}_{-135}	$0.040^{+0.007}_{-0.011}$
Alt.	-217 ± 14	$24.13^{+4.34}_{-1.64}$	2621^{+200}_{-127}	-2712^{+92}_{-151}	$0.101^{+0.018}_{-0.024}$

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 $A_{obs} \gg 1.0$

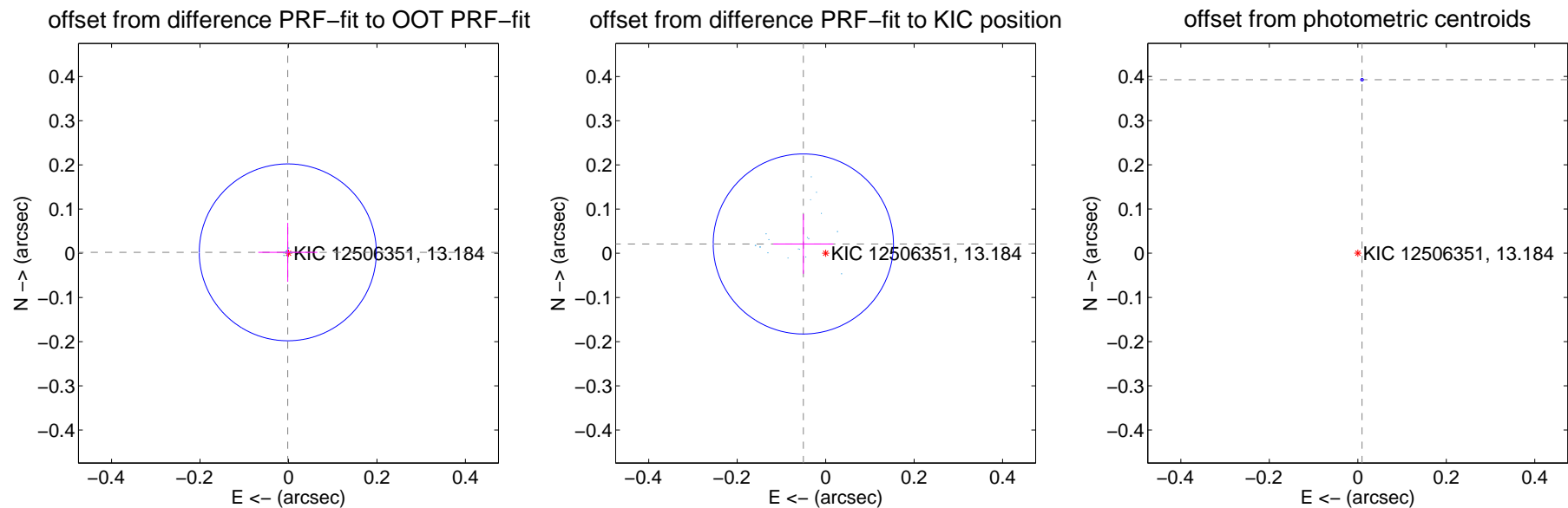
DV Centroid Data

Supplemental centroid analysis for 012506351-01. Kepler magnitude: 13.18. Transit SNR 3586.61

There are 17 quarters with good PRF difference image offsets

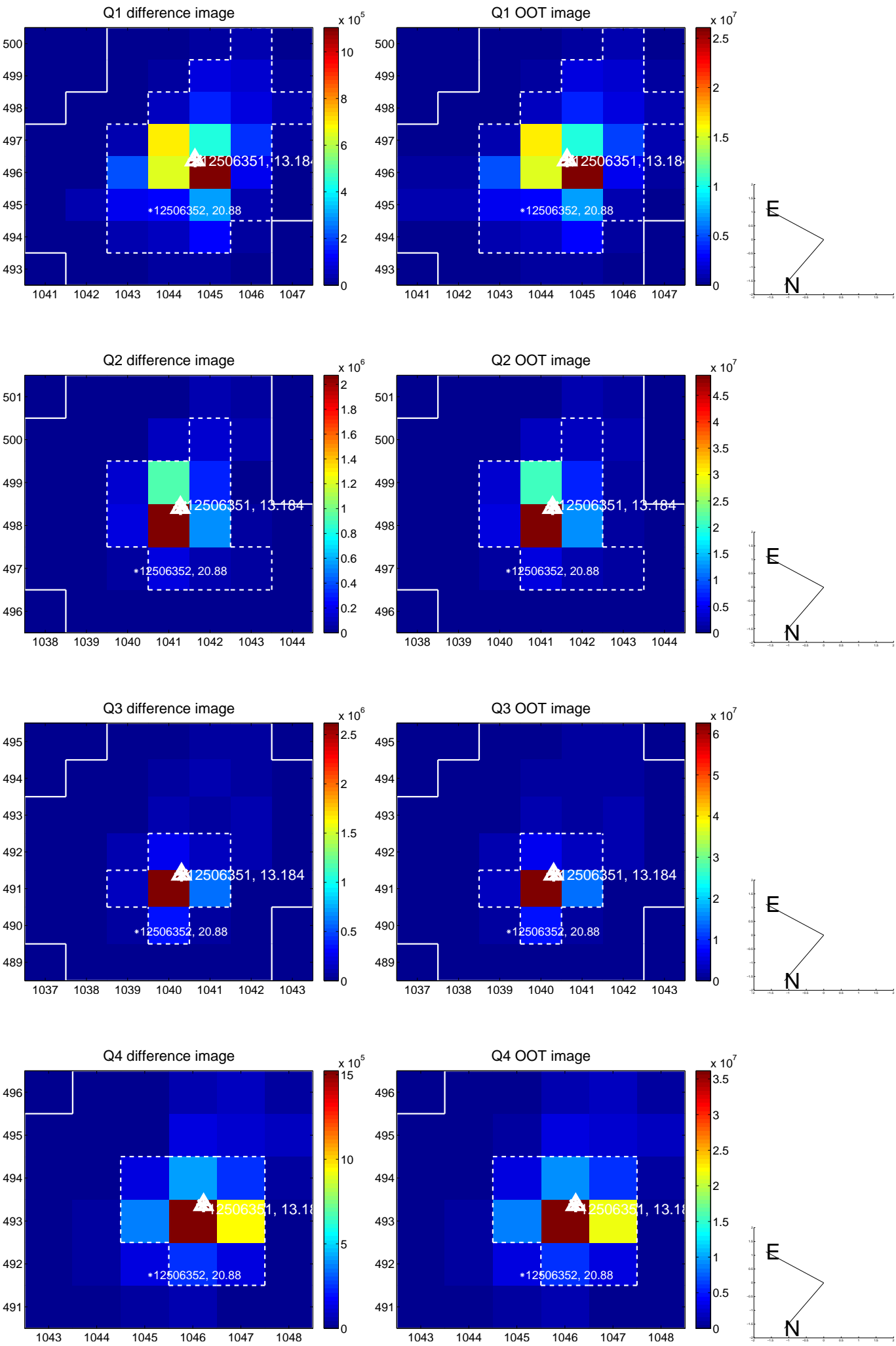
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.003 ± 0.067	0.04	0.002 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.055 ± 0.068	0.81	0.050 ± 0.068	0.021 ± 0.067
photometric centroid source offset	0.39 ± 0.00	404.19	-0.01 ± 0.00	0.39 ± 0.00

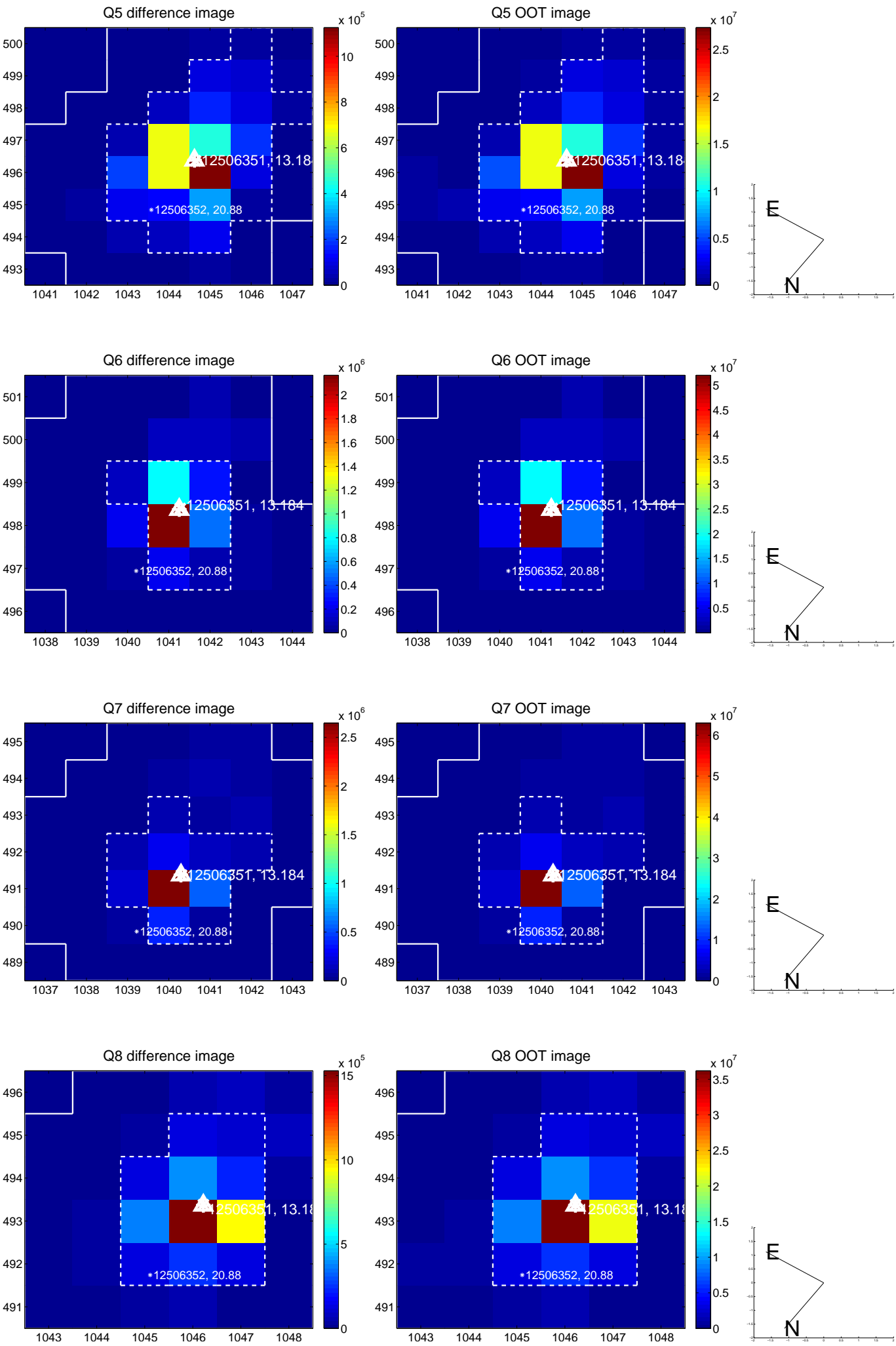


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

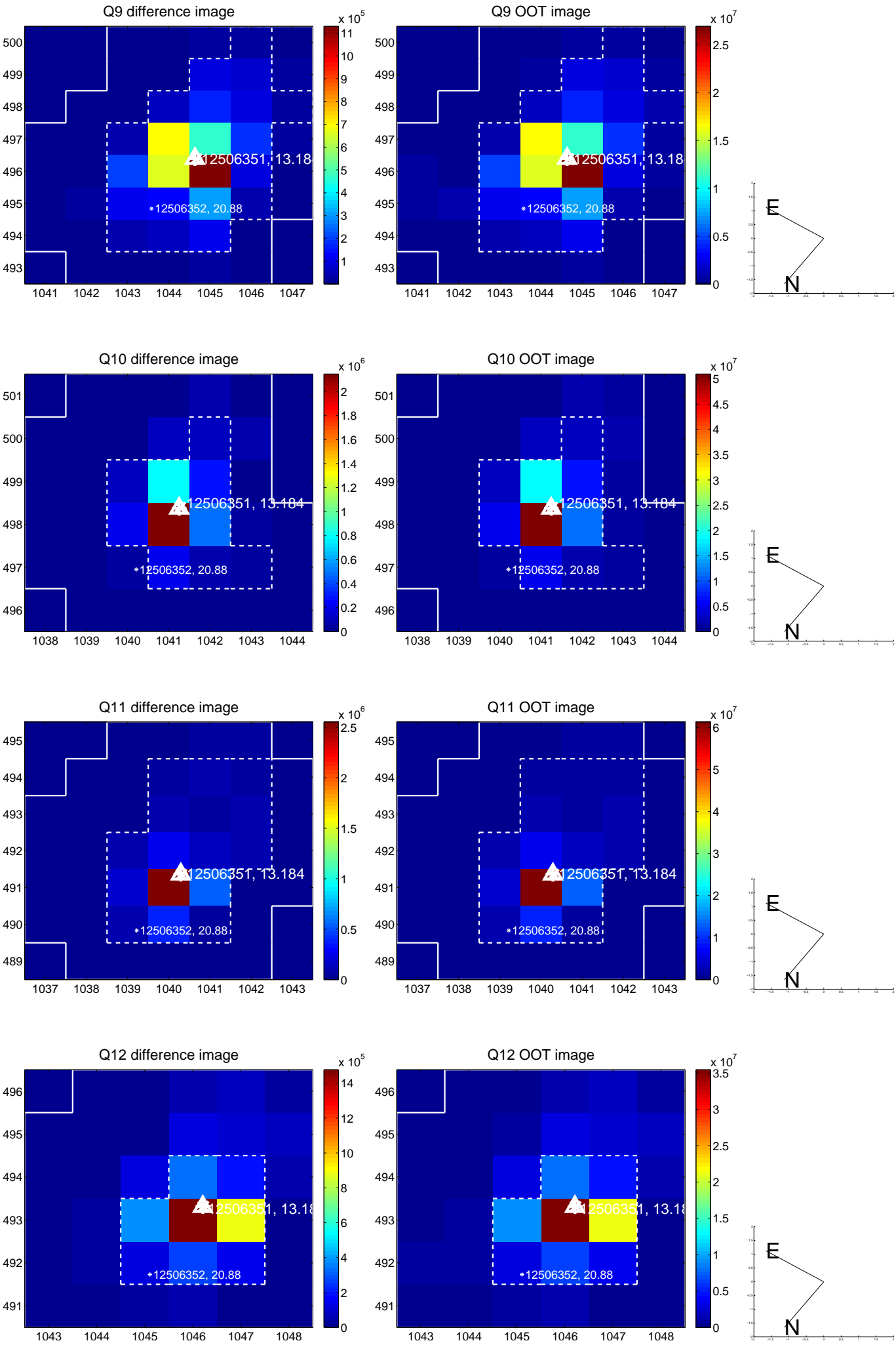
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



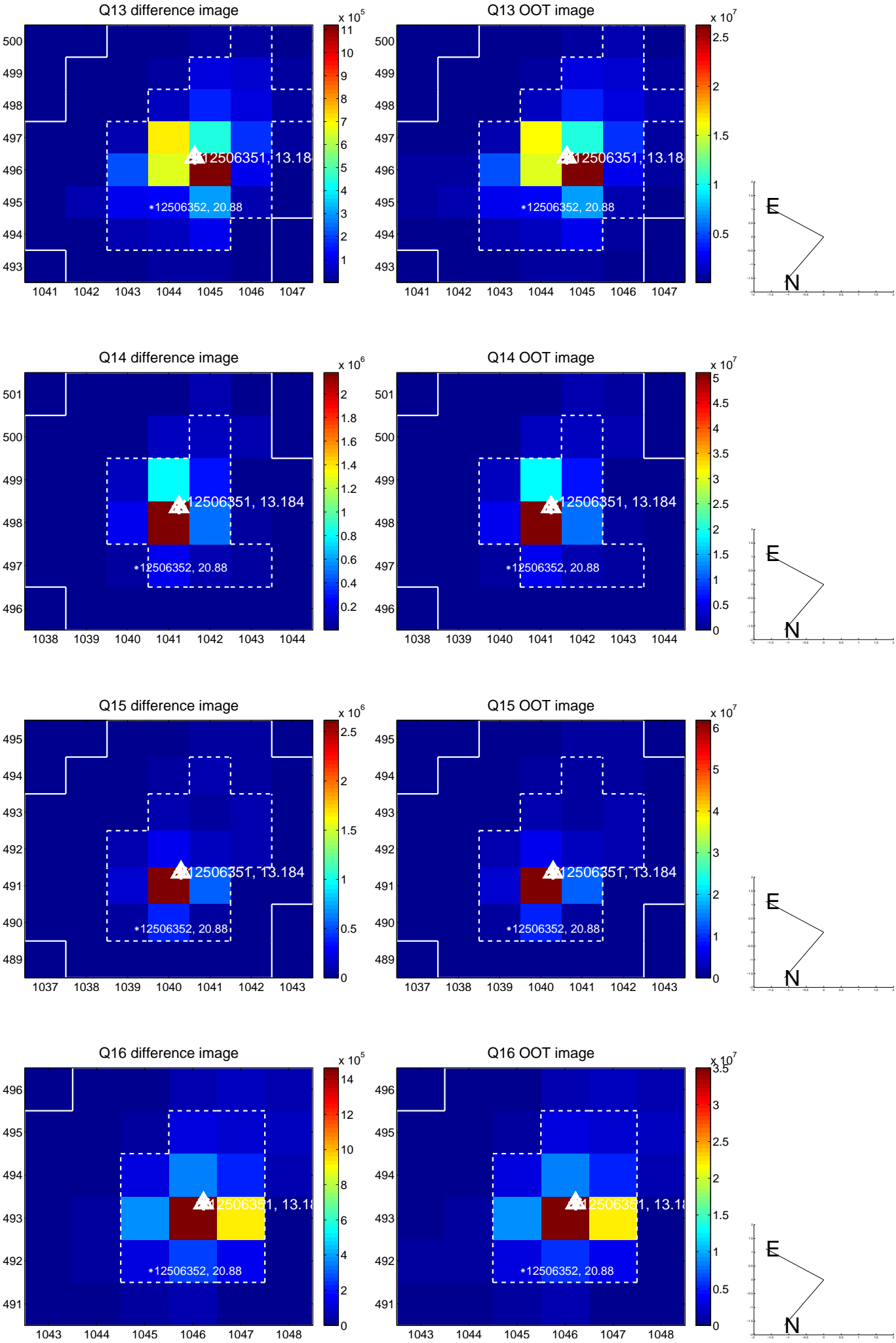
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



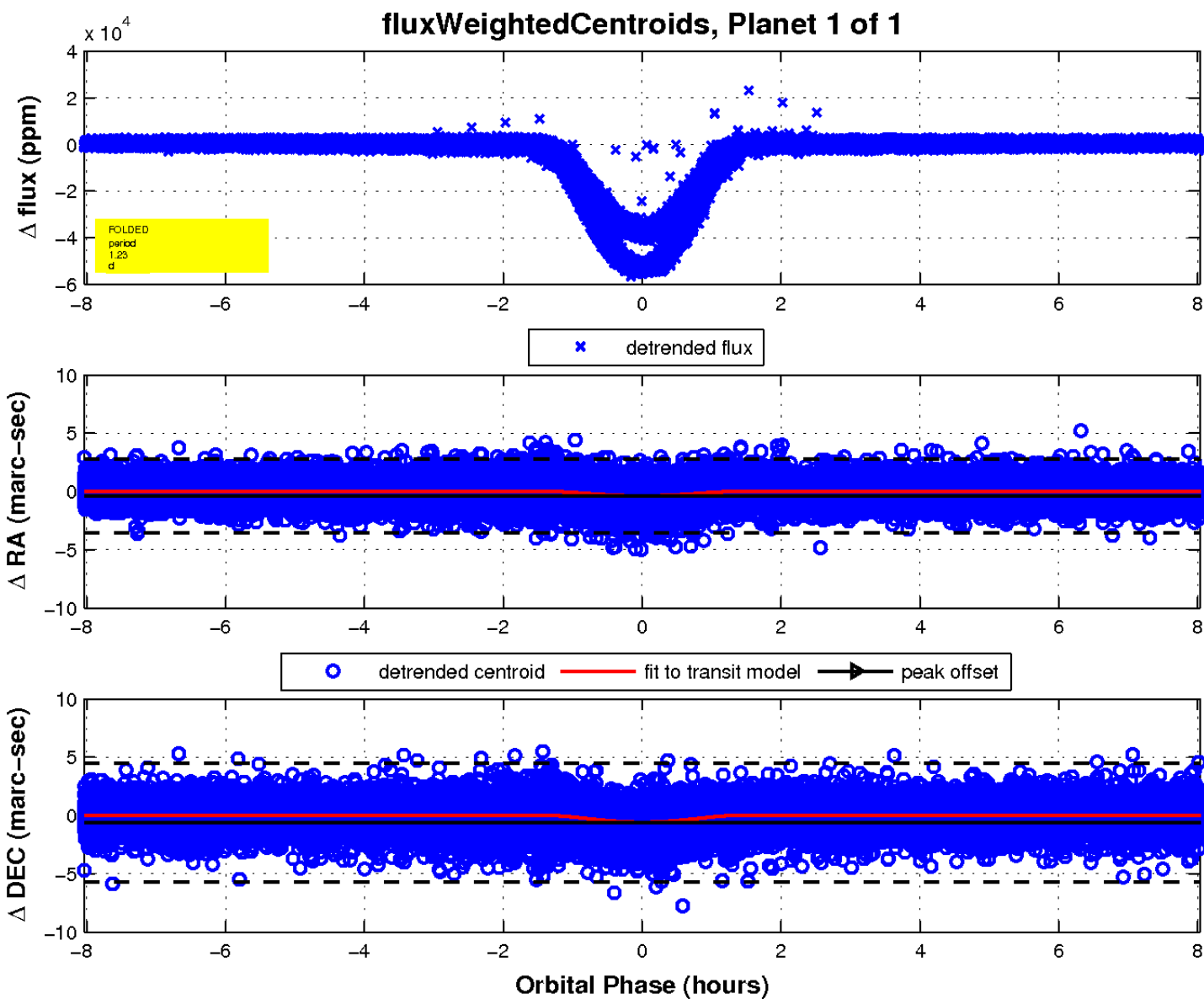
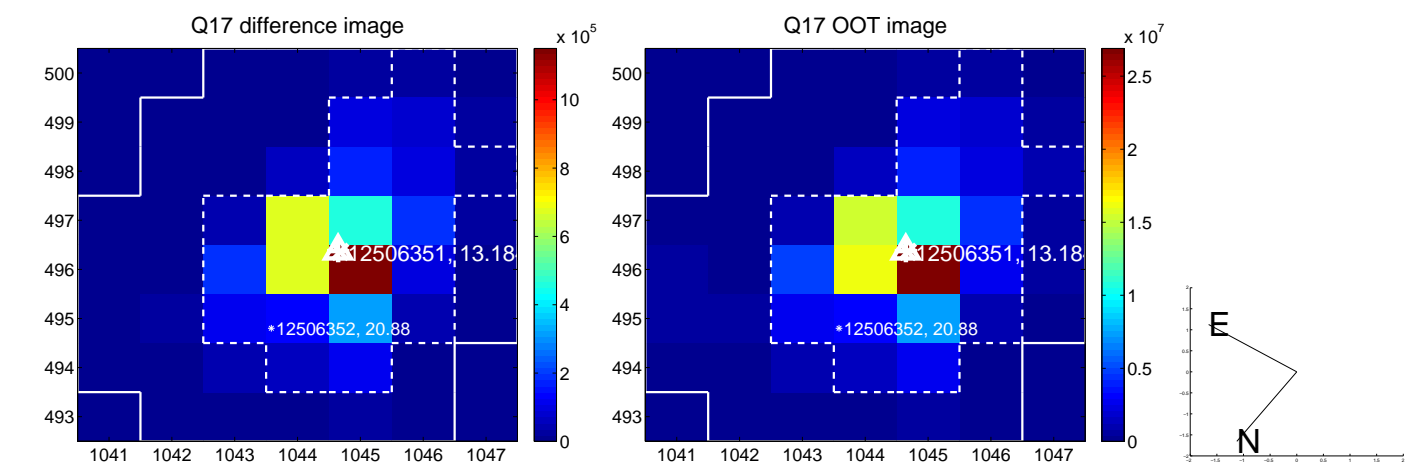
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

