

KIC 004365461

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})
004365461-01	OBS	5058.01	1.714415	131.866274	109755.5	5.150	14262.6	11804.3	1.61	6351	77.00	4116.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004365461-01	OBS	FP	0.00	0	1	0	0	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.

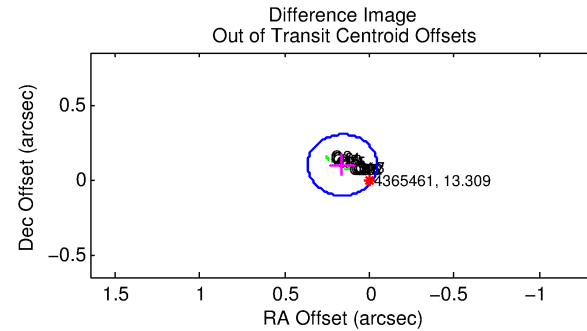
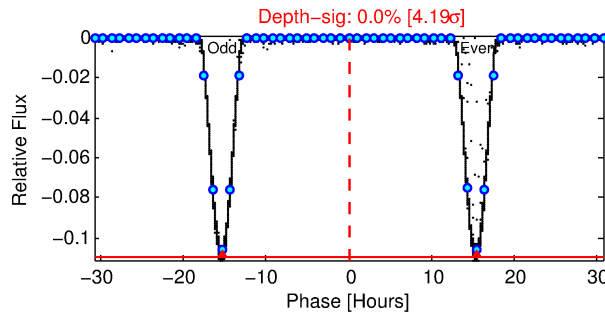
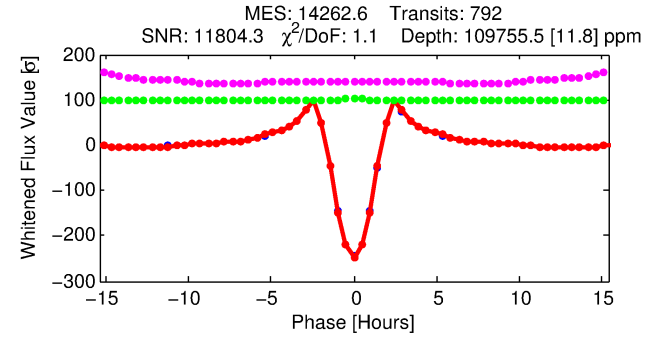
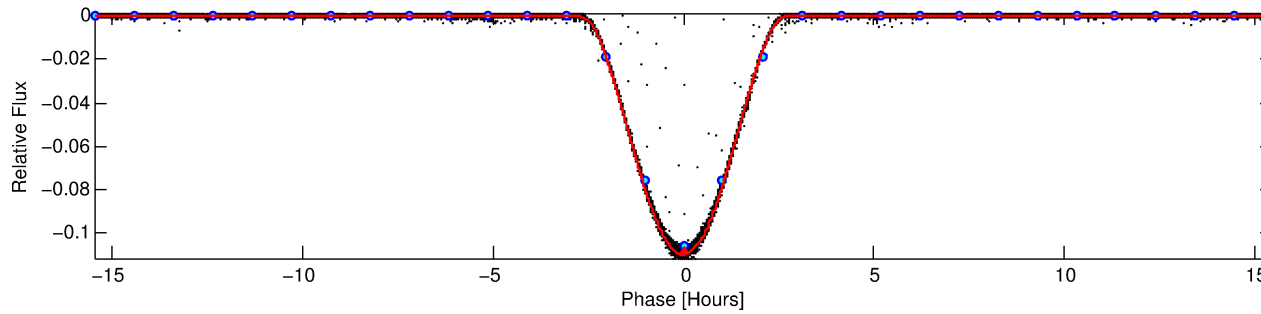
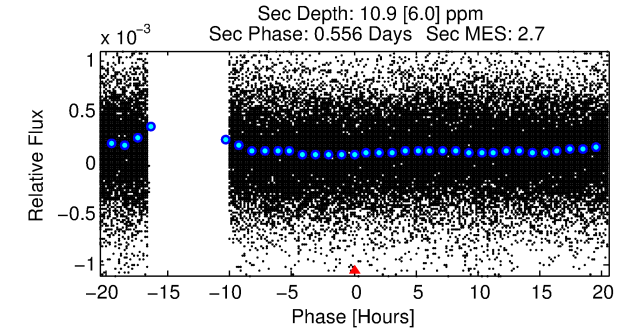
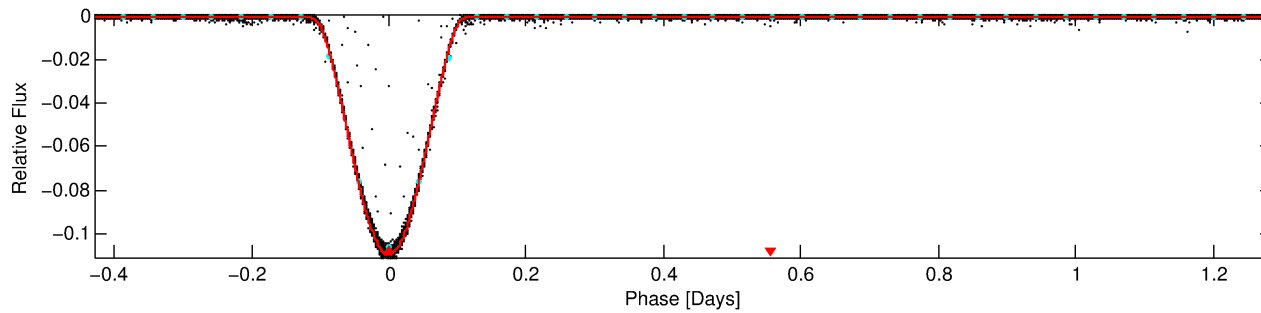
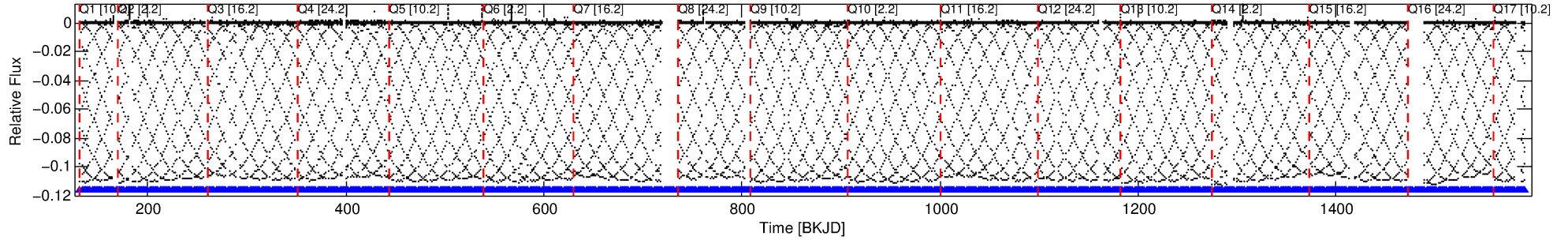
Ephemeris Match Information For 004365461-01

No Significant Match Found

DV One-Page Summary

KIC: 4365461 Candidate: 1 of 1 Period: 1.714 d
KOI: K05058.01 Corr: 0.999

Kp: 13.31 R*: 1.61 Rs Teff: 6351.0 K Logg: 4.13 Fe/H: -0.040



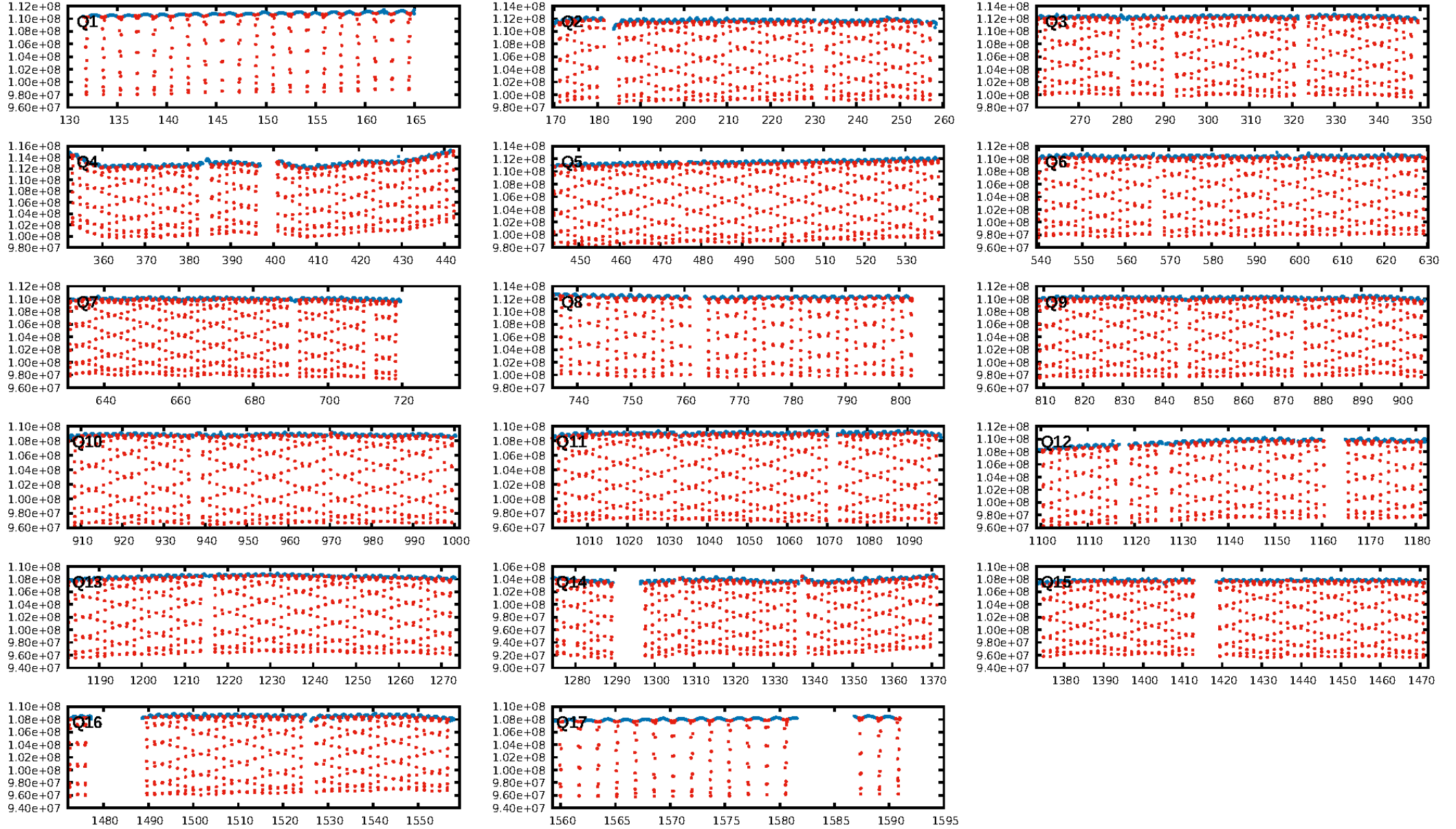
DV Fit Results:

Period = 1.71441 [0.00000] d
Epoch = 131.8663 [0.0000] BKJD
Rp/R* = 0.4375 [0.0018]
a/R* = 3.07 [0.00]
b = 0.89 [0.00]
Seff = 4116.53 [1721.25]
Teff = 2042 [214] K
Rp = 77.00 [22.63] Re
a = 0.0304 [0.0079] AU
Ag = 0.00 [0.00] [-1578.58σ]
Teffp = 552 [78] K [-6.56σ]

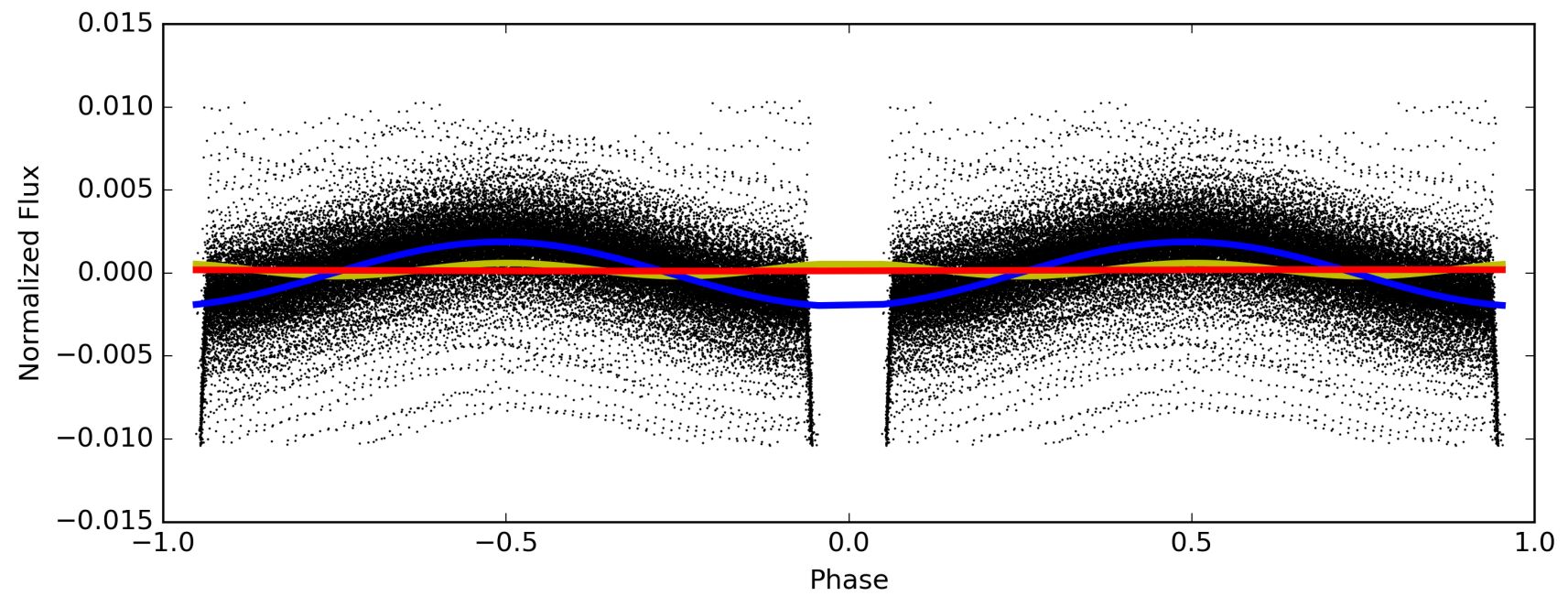
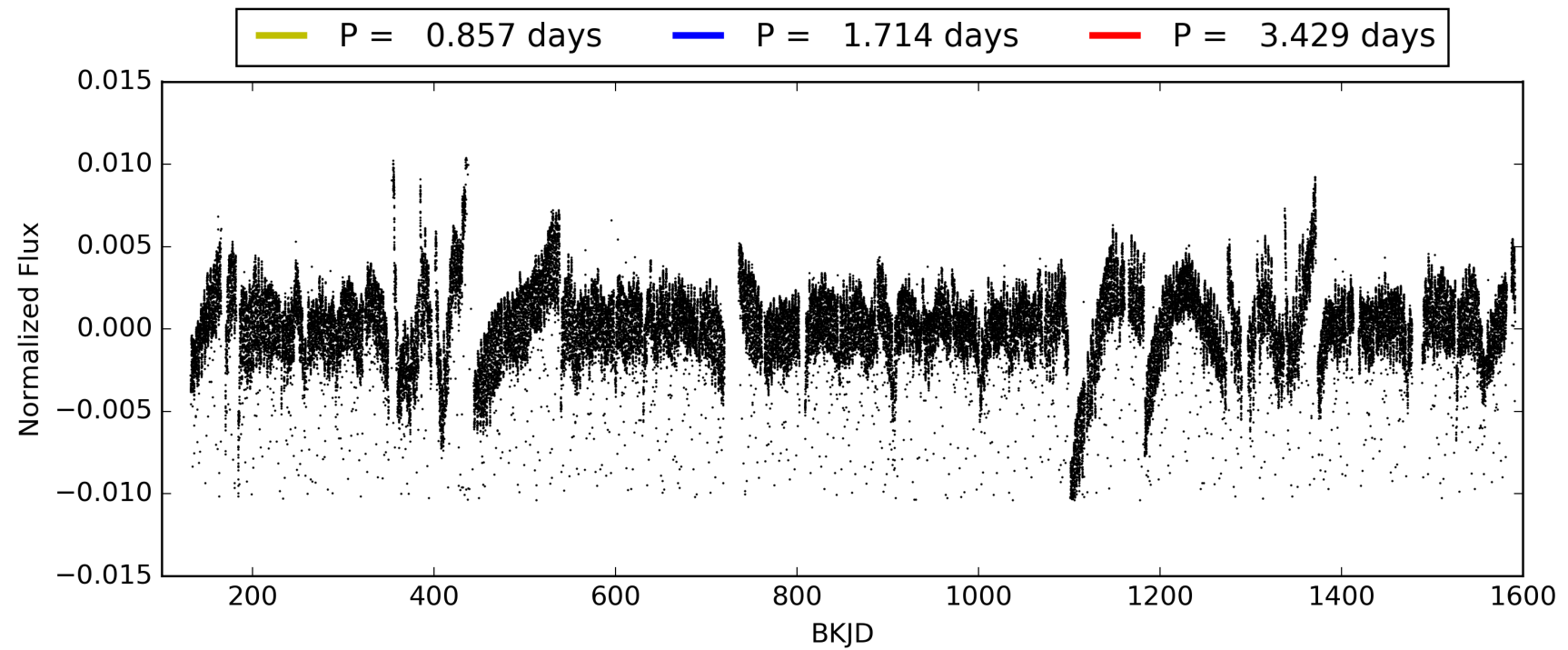
DV Diagnostic Results:

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 [756/756]
GhostDiagnostic-chr: 3.539
Centroid-sig: 0.0%
Centroid-so: 0.086 arcsec [170.11σ]
OotOffset-rm: 0.189 arcsec [2.77σ]
KicOffset-rm: 0.062 arcsec [0.92σ]
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 004365461-01, PDC Light Curves

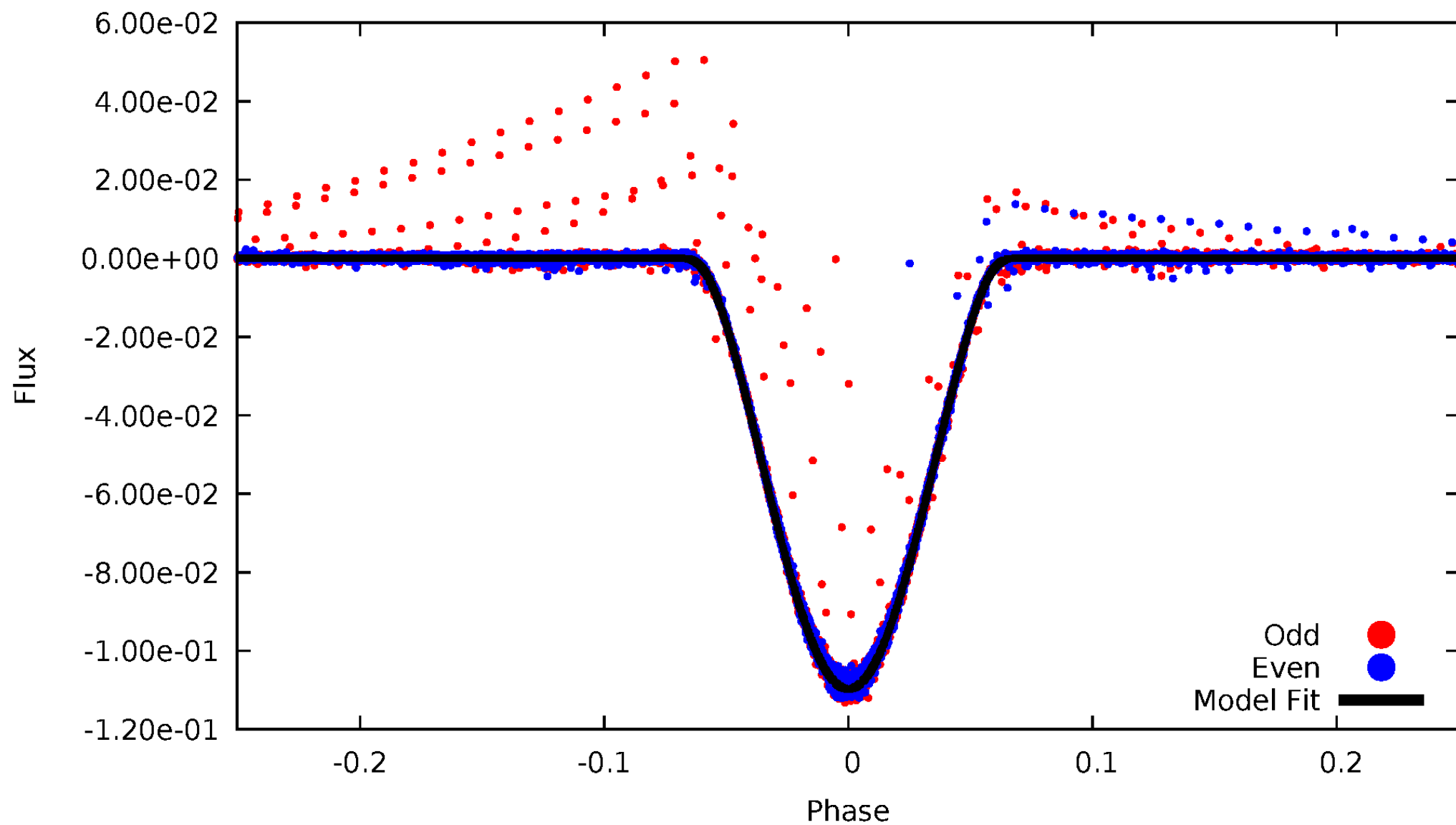


TCE 004365461-01



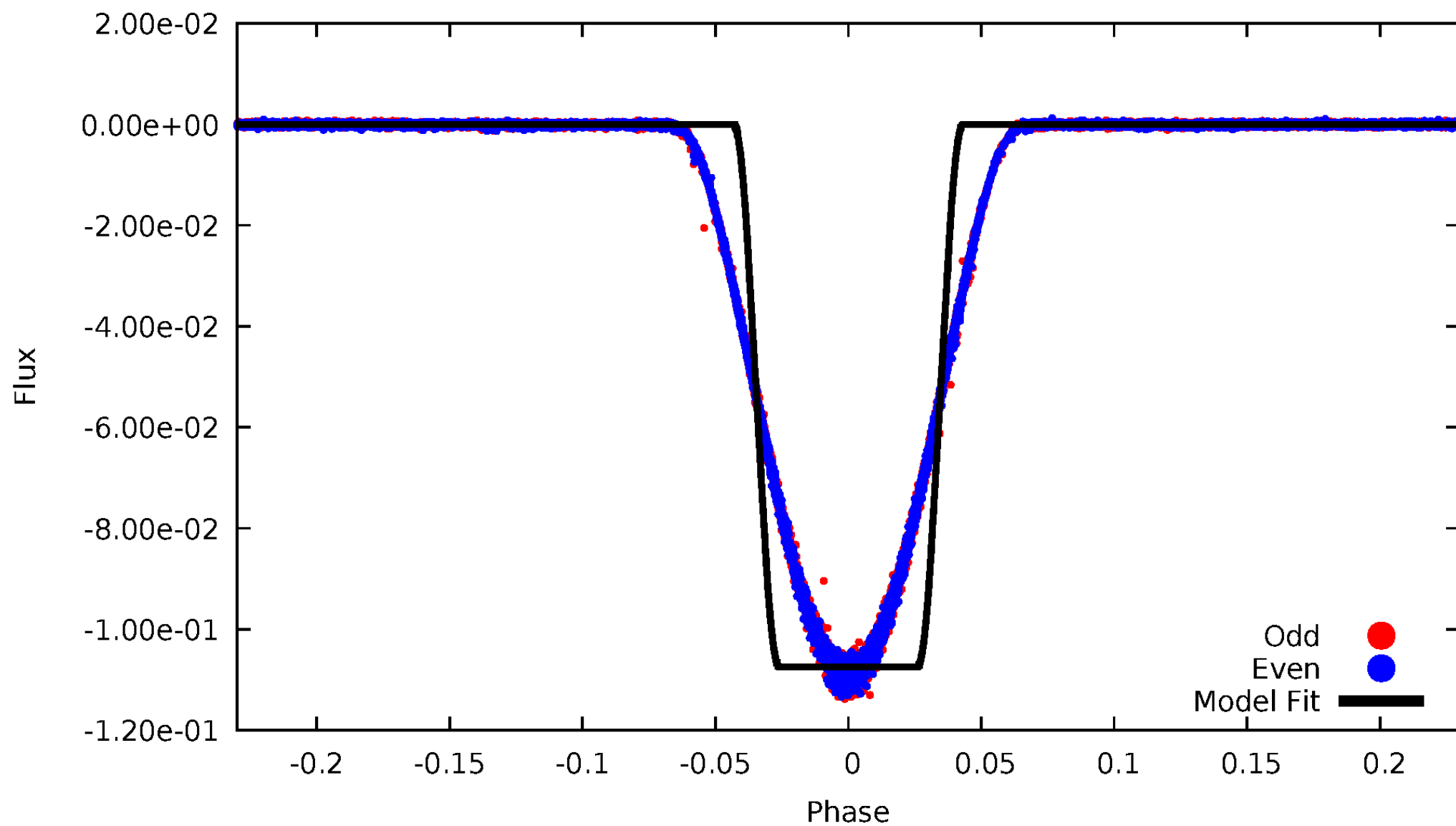
DV Odd/Even

TCE 004365461-01



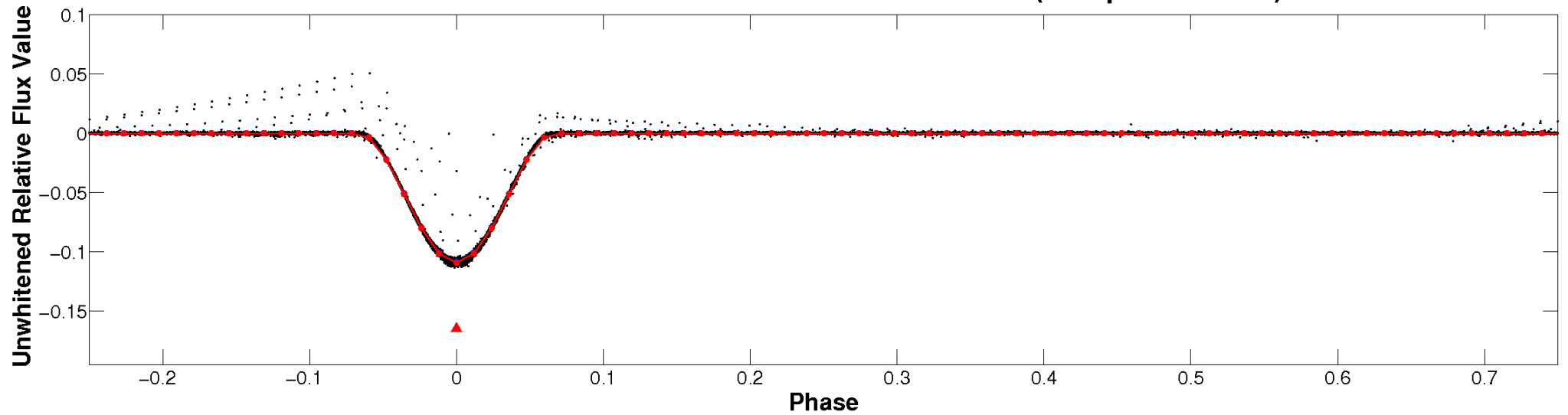
ALT Odd/Even

TCE 004365461-01

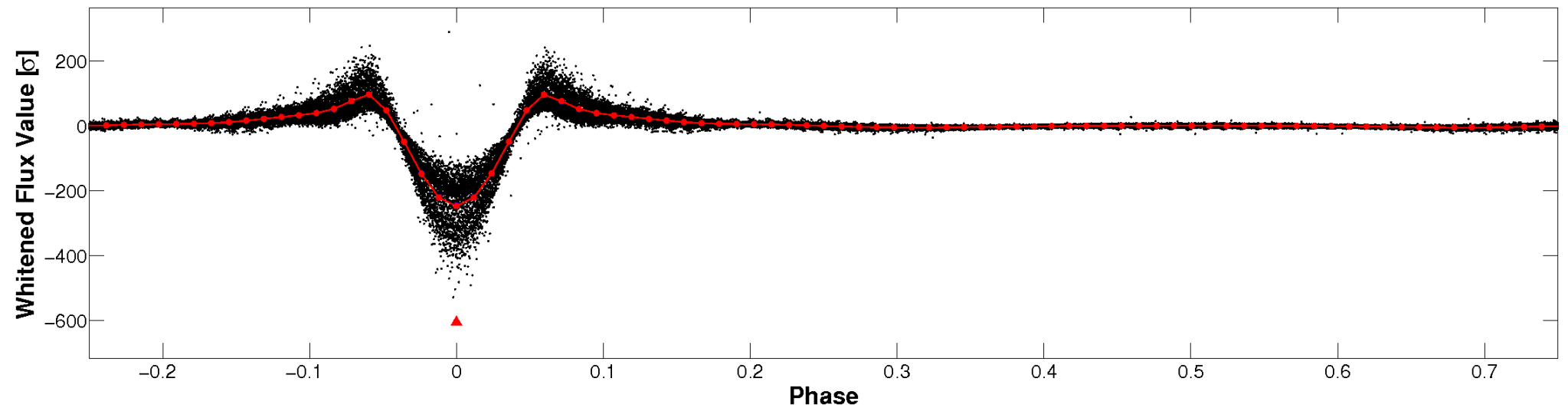


Non-Whitened Vs. Whitened Light Curve

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

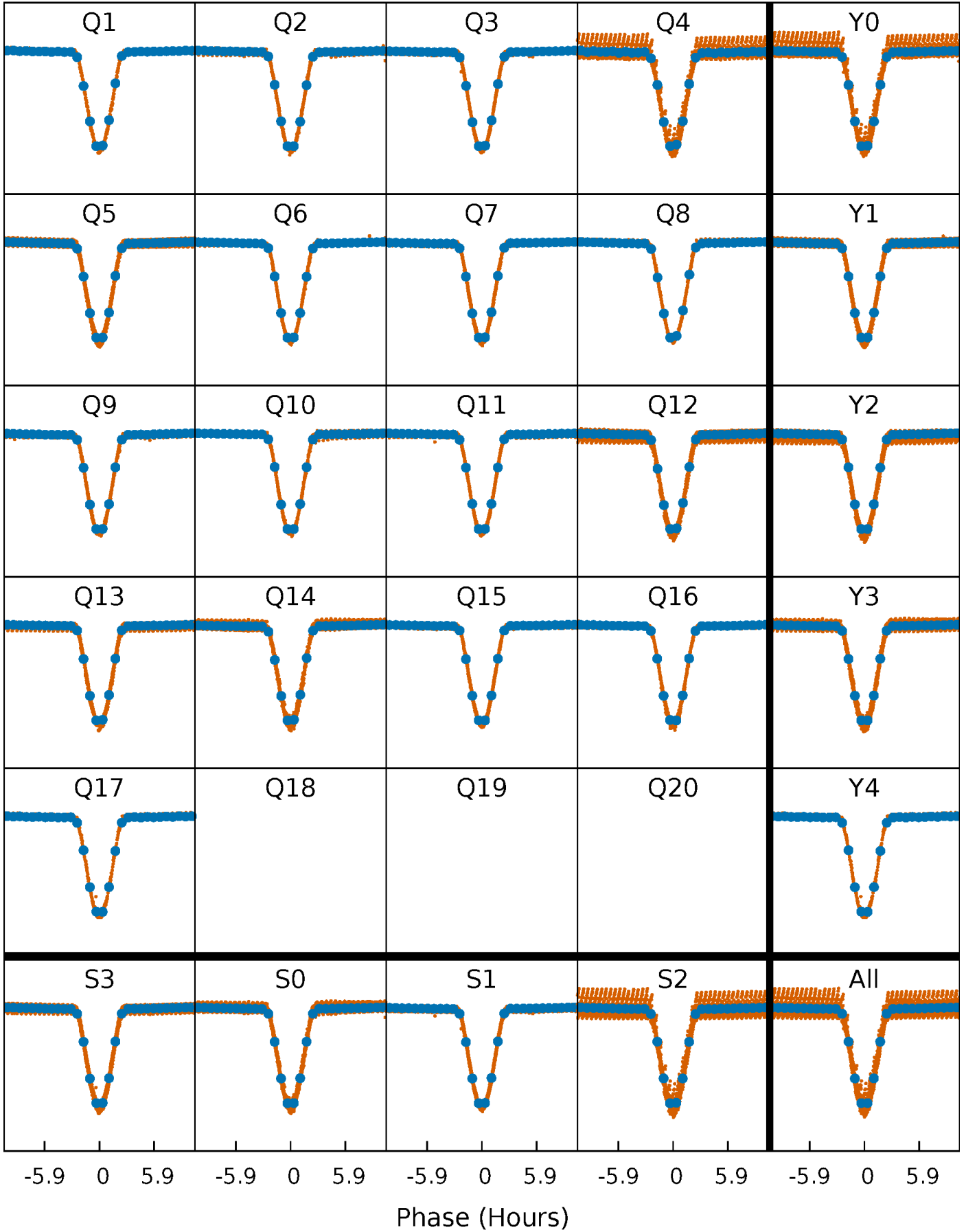


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



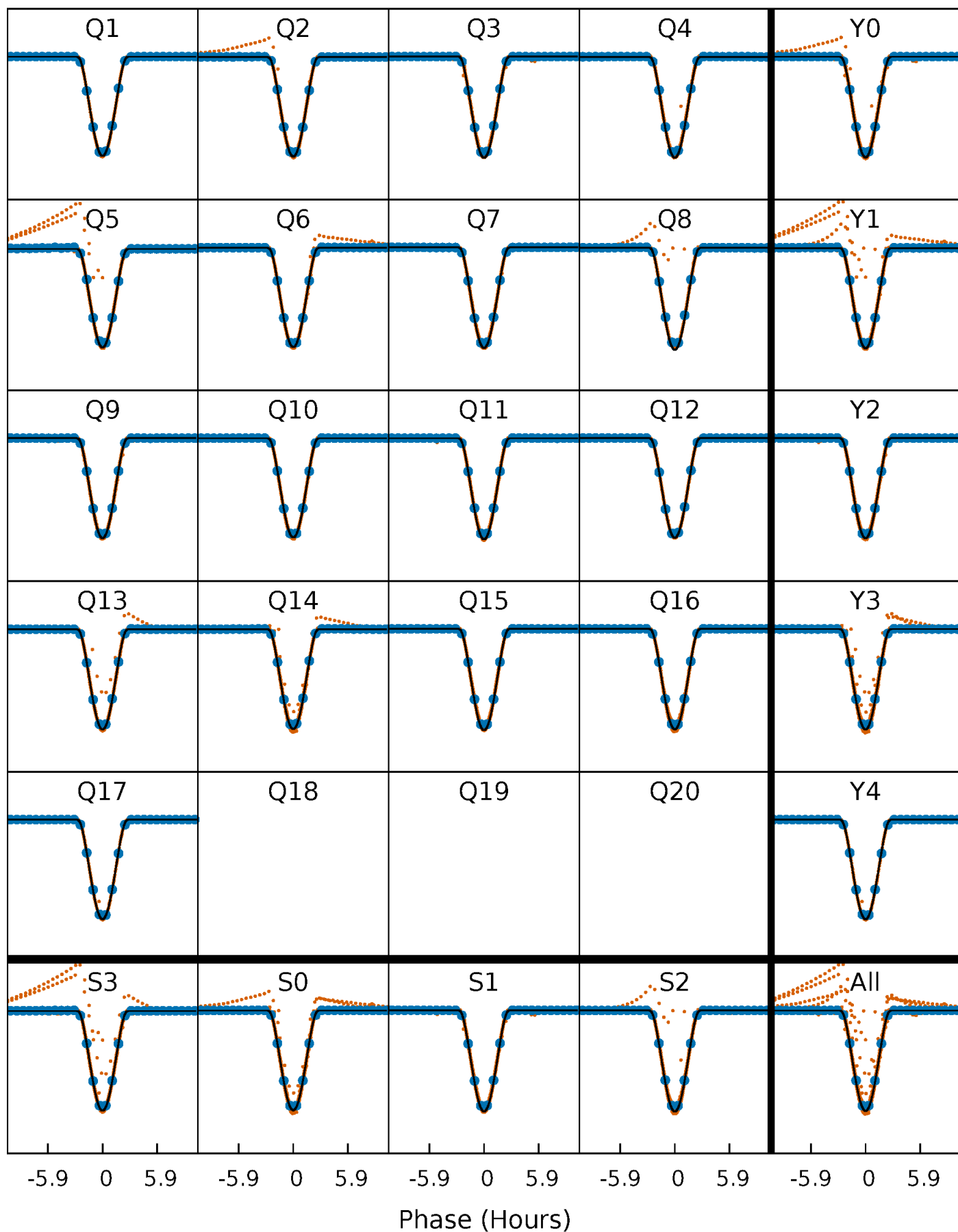
PDC Quarter-Phased Transit Curves

TCE 004365461-01 P= 1.714415 Days $T_0=131.866274$ (BKJD)



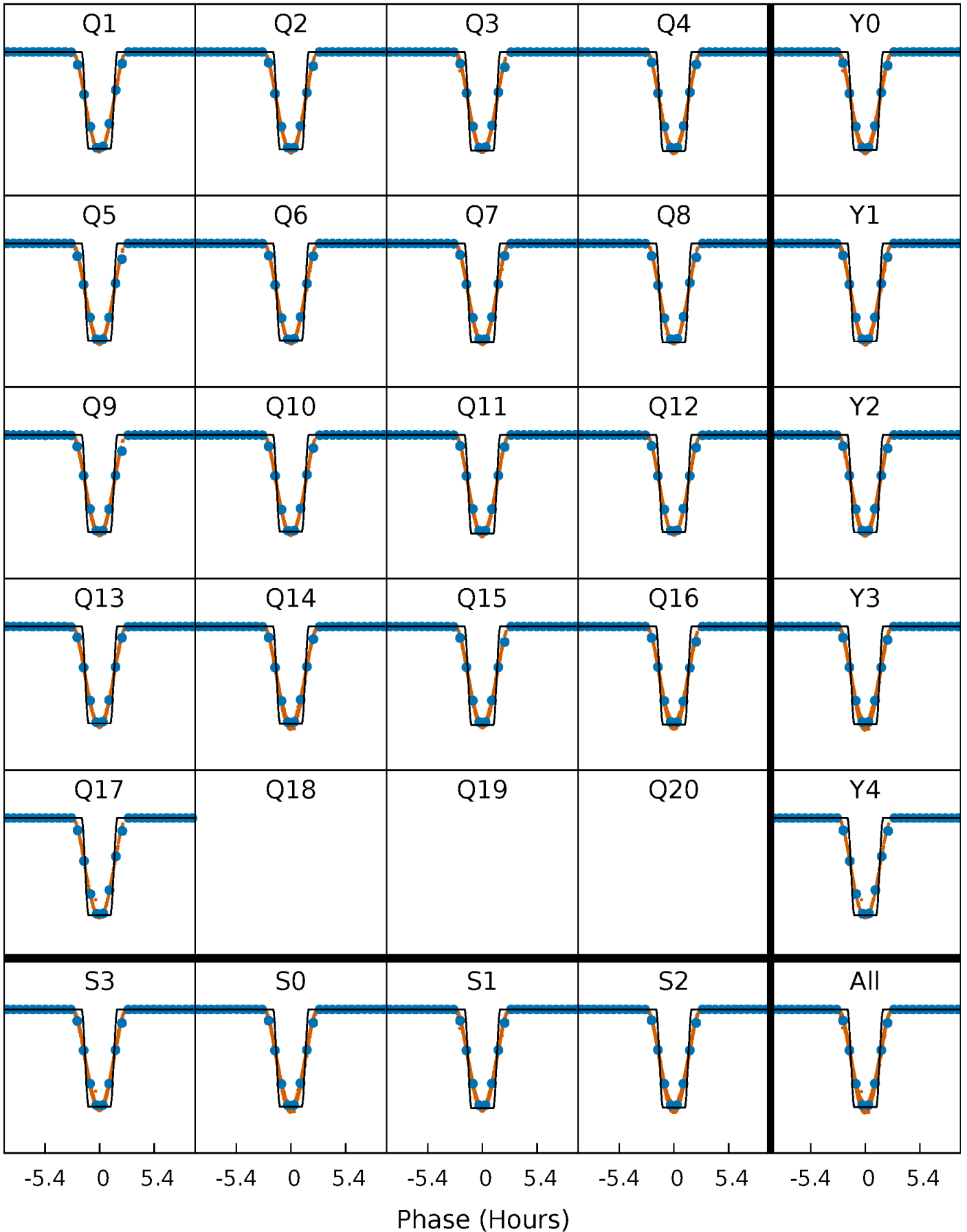
DV Quarter-Phased Transit Curves

TCE 004365461-01 P= 1.714415 Days $T_0=131.866274$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

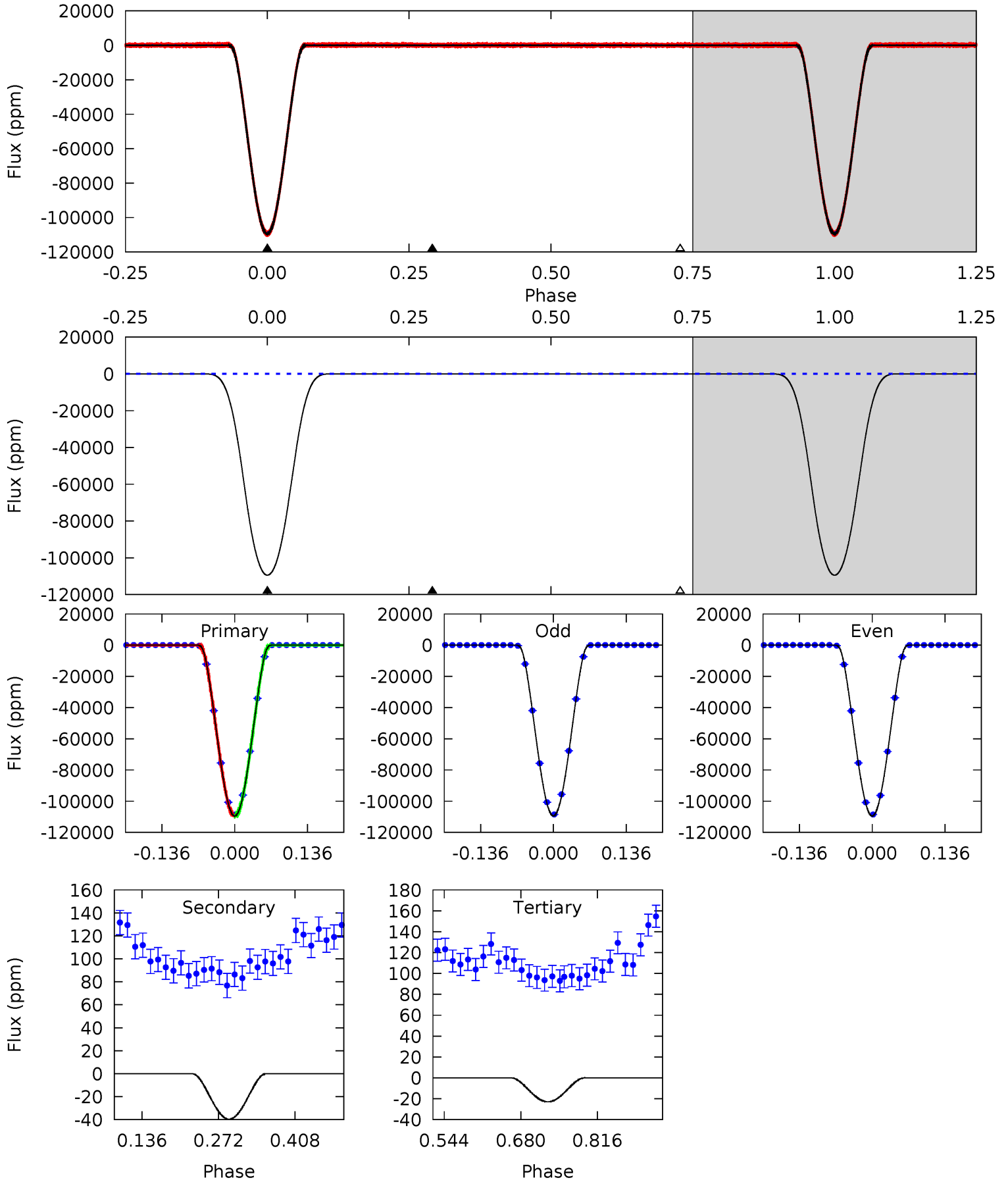
TCE 004365461-01 P= 1.714415 Days $T_0=131.866198$ (BKJD)



DV Model-Shift Uniqueness Test

004365461-01, P = 1.714415 Days, E = 130.151859 Days

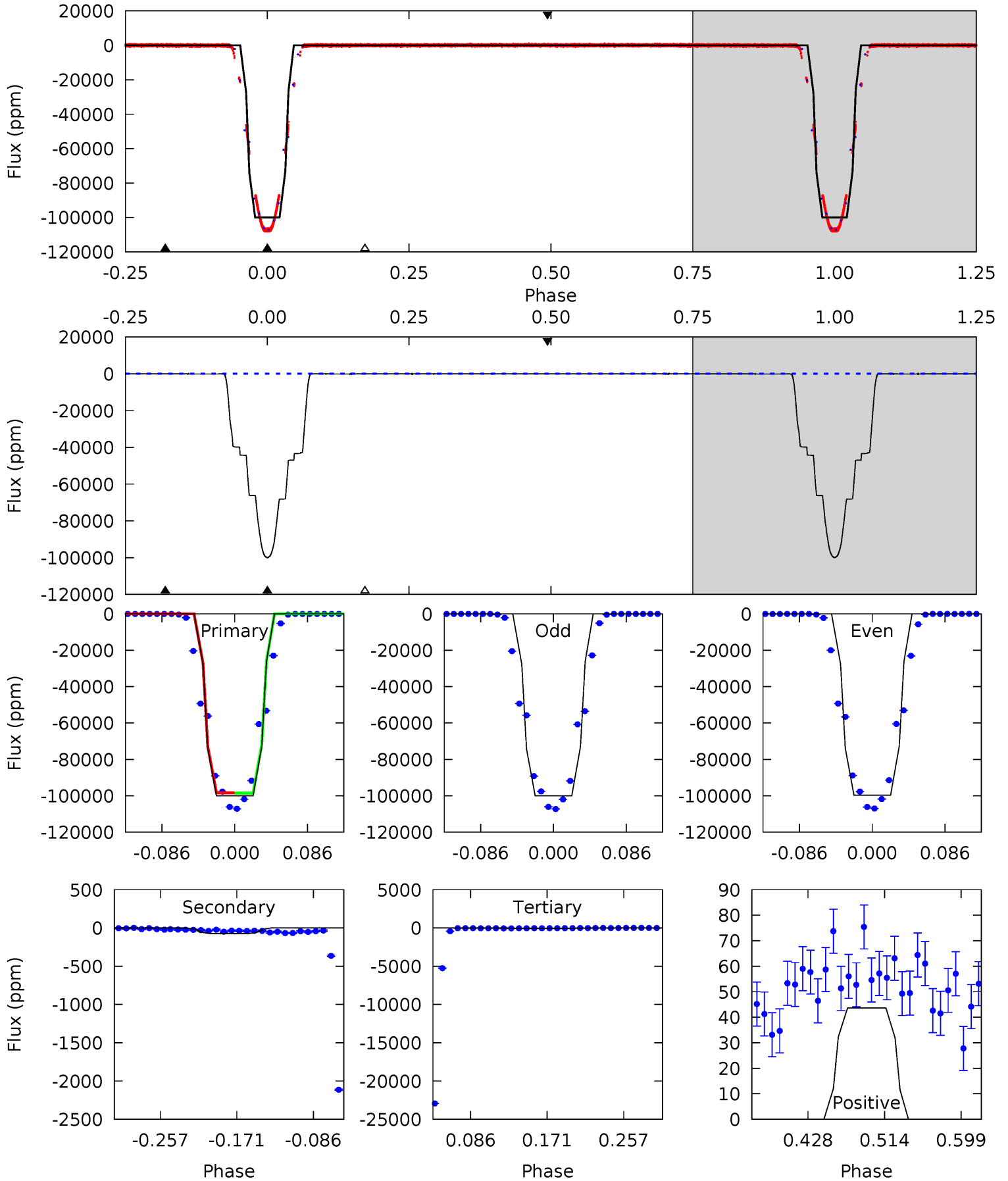
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28565	10.4	6.00	0	4.50	1.49	3.25	28559	28565	4.35	10.4	6.00	0.99	0.00	0



Alt Model-Shift Uniqueness Test

004365461-01, P = 1.714415 Days, E = 130.151783 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19204	14.2	13.1	8.37	4.60	1.72	7.55	19191	19196	1.06	5.81	34.3	1.00	0.00	0



Stellar Parameters For KIC 004365461

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6351^{+151}_{-208}	$4.126^{+0.225}_{-0.184}$	$-0.040^{+0.250}_{-0.300}$	$1.613^{+0.474}_{-0.474}$	$1.270^{+0.182}_{-0.222}$	$0.426^{+0.557}_{-0.211}$
	+2%/-3%	+5%/-4%	+625%/-750%	+29%/-29%	+14%/-17%	+131%/-49%
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 004365461-01 / KOI 5058.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 4	$76.66^{+12.68}_{-12.25}$	2820^{+239}_{-217}	-2981^{+132}_{-142}	$0.003^{+0.001}_{-0.001}$
Alt.	-74 ± 5	$57.85^{+9.23}_{-9.07}$	2844^{+233}_{-227}	-2983^{+137}_{-144}	$0.011^{+0.004}_{-0.003}$

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

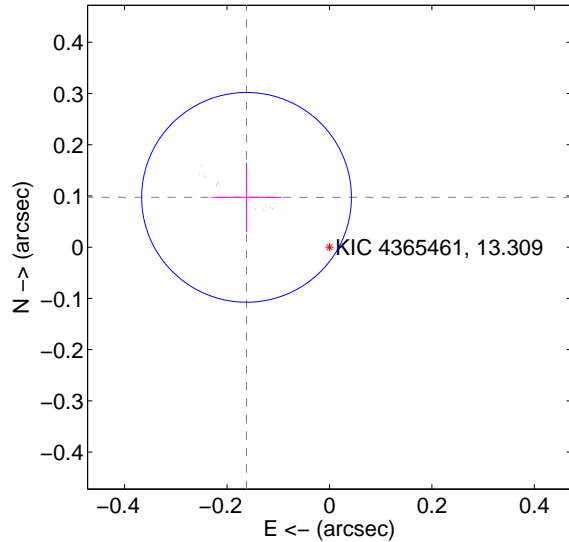
Supplemental centroid analysis for 004365461-01. Kepler magnitude: 13.31. Transit SNR 11804.34

There are 17 quarters with good PRF difference image offsets

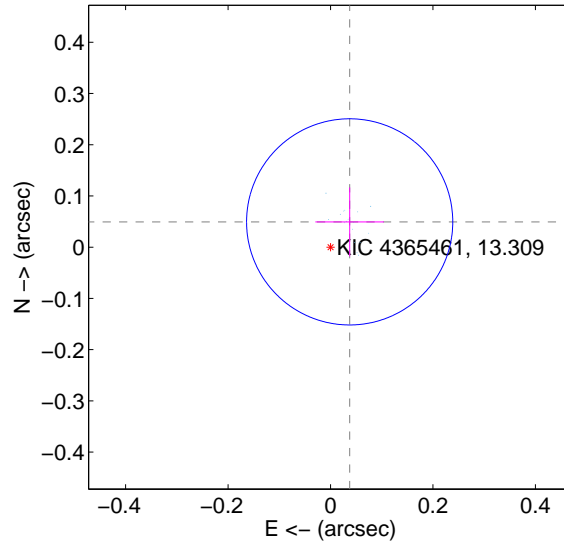
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.068	2.77	0.162 ± 0.069	0.097 ± 0.067
PRF-fit source offset from KIC position	0.062 ± 0.067	0.92	-0.037 ± 0.067	0.049 ± 0.067
photometric centroid source offset	0.09 ± 0.00	170.11	-0.08 ± 0.00	0.02 ± 0.00

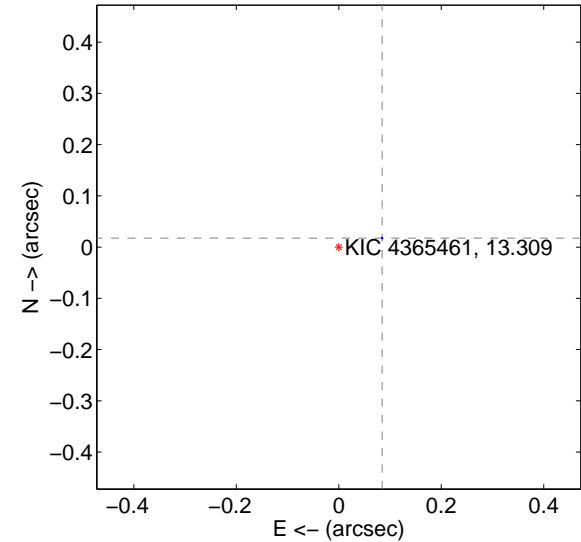
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

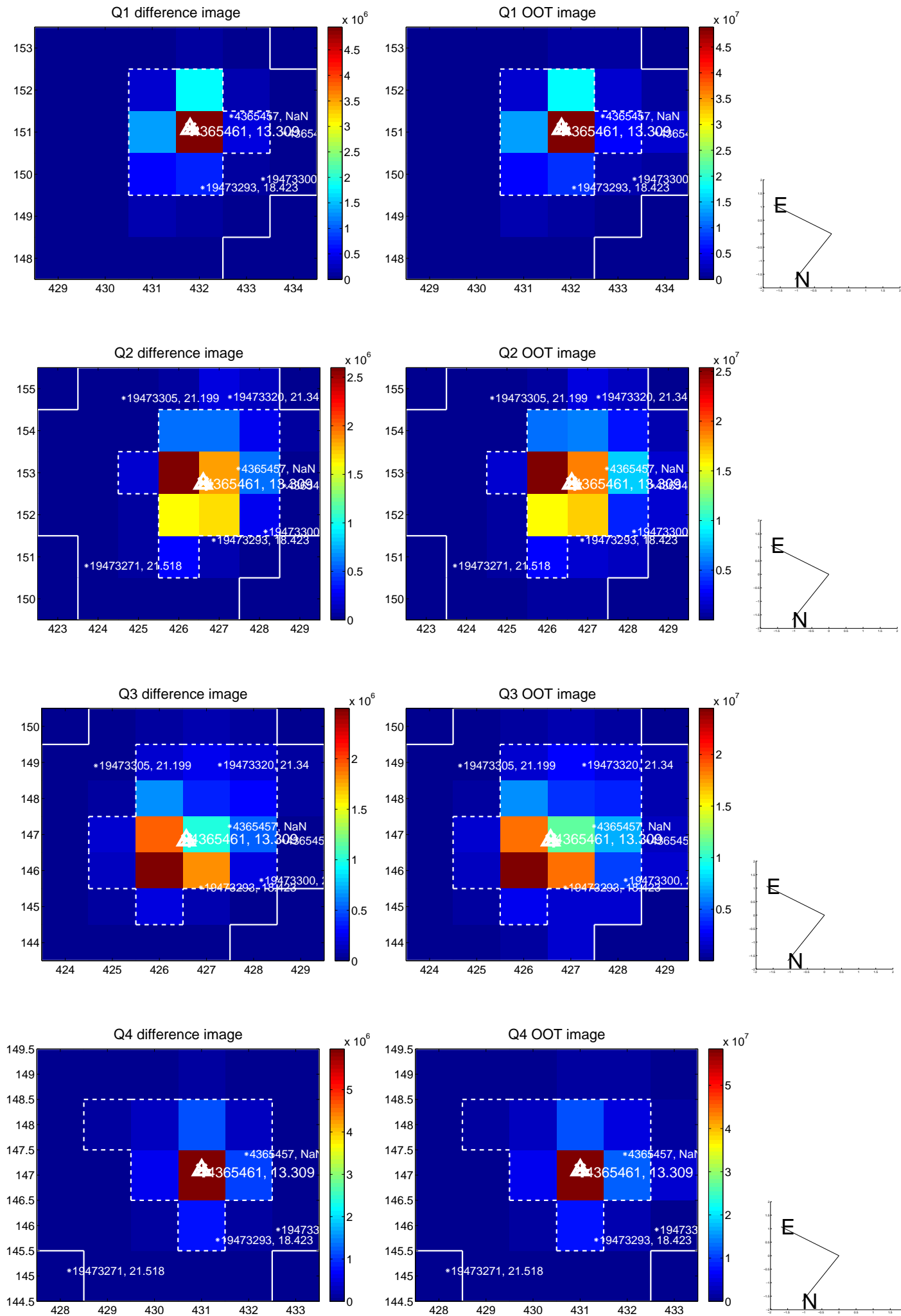


offset from photometric centroids

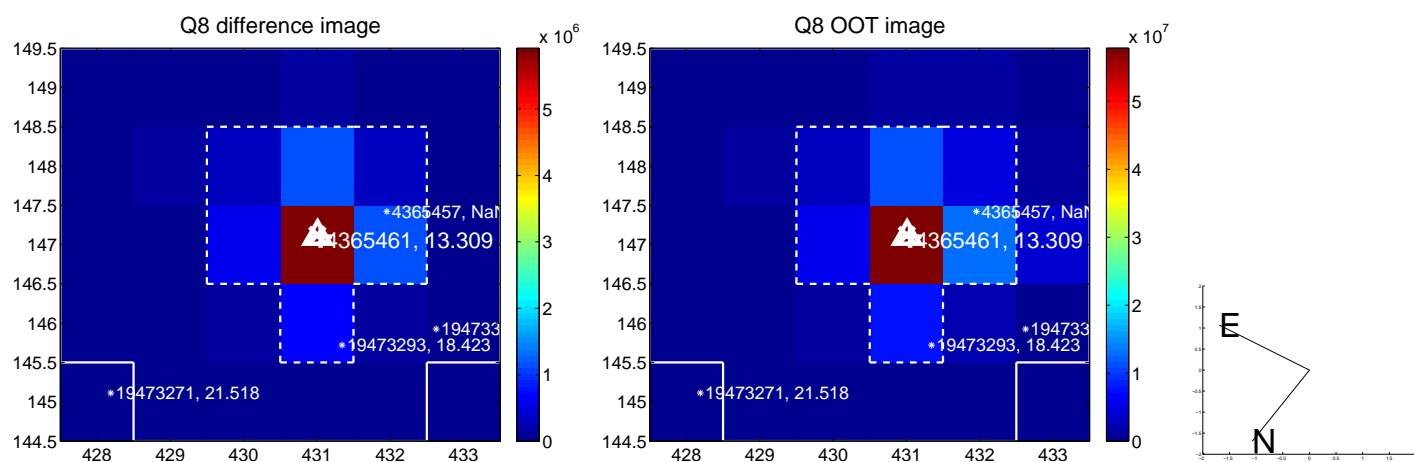
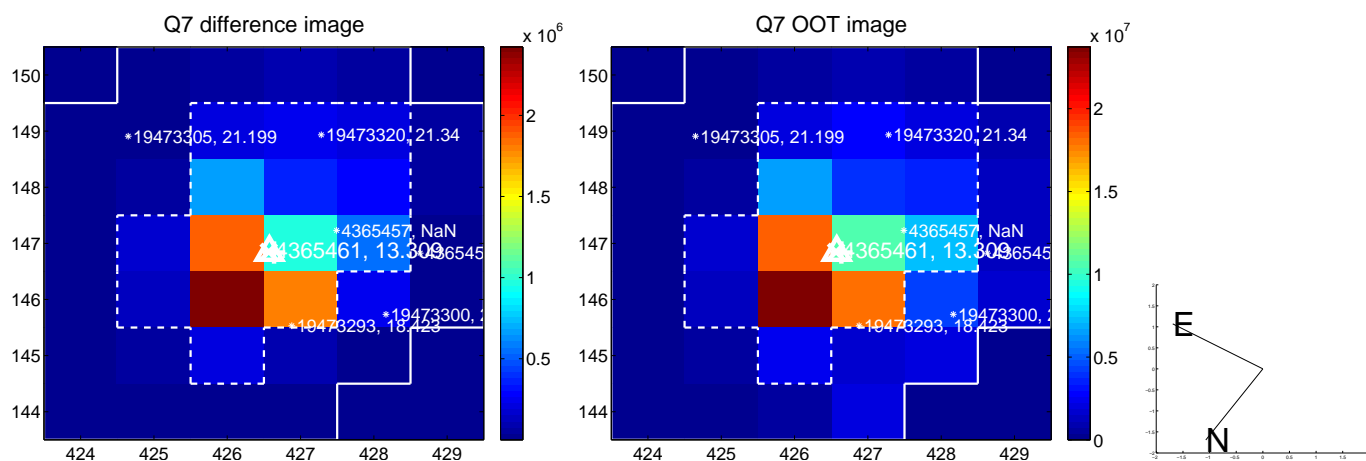
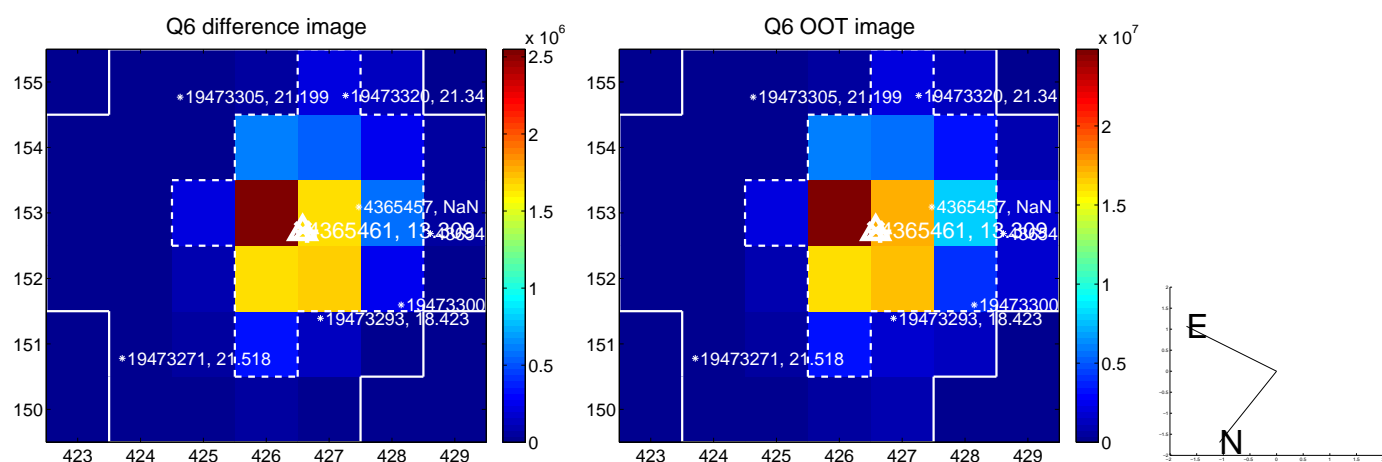
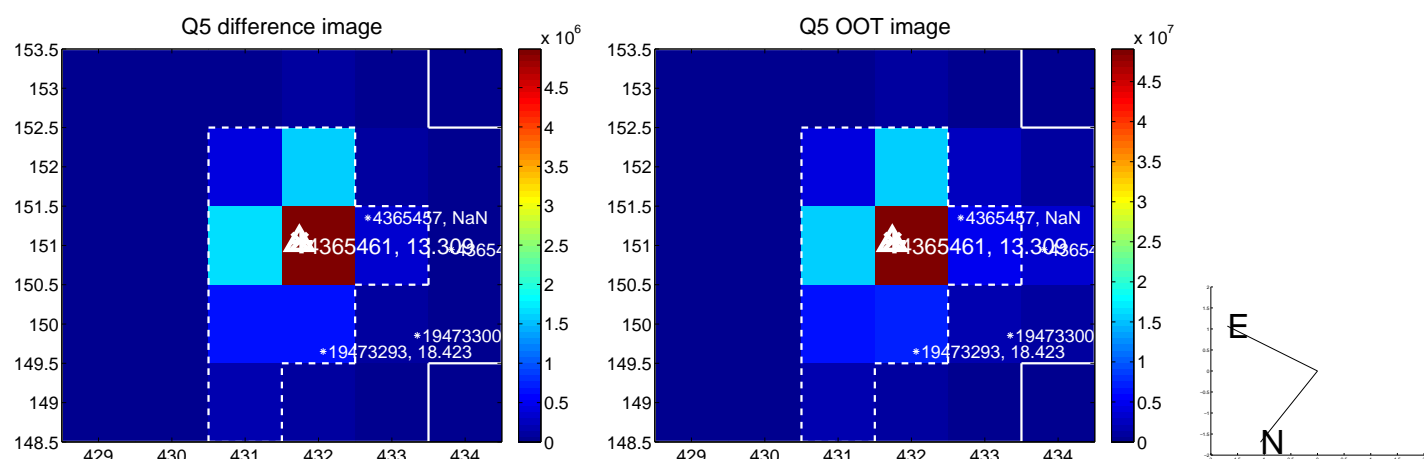


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

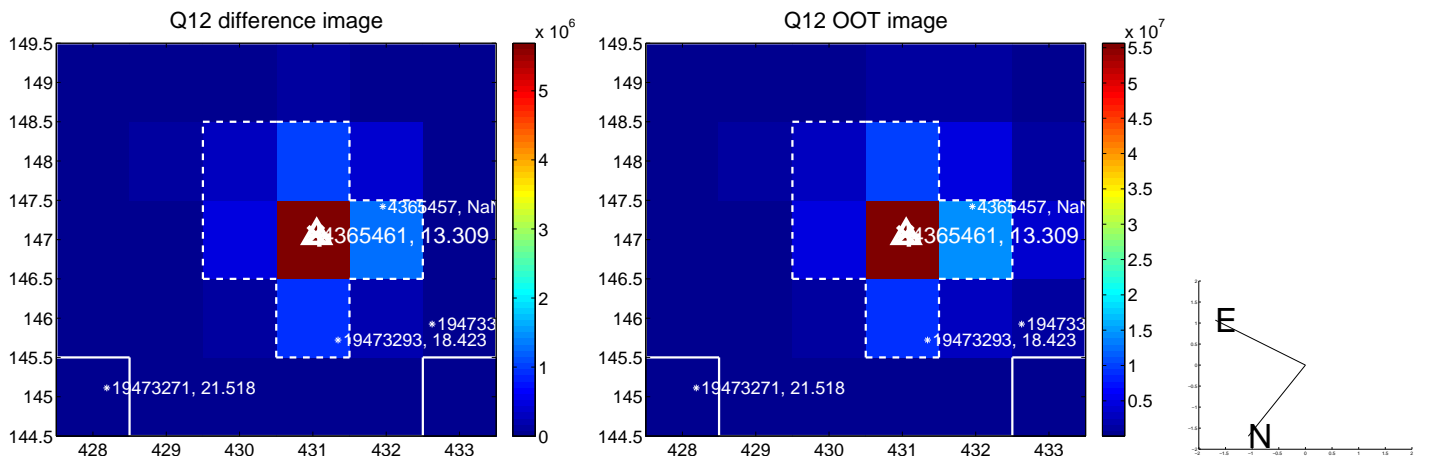
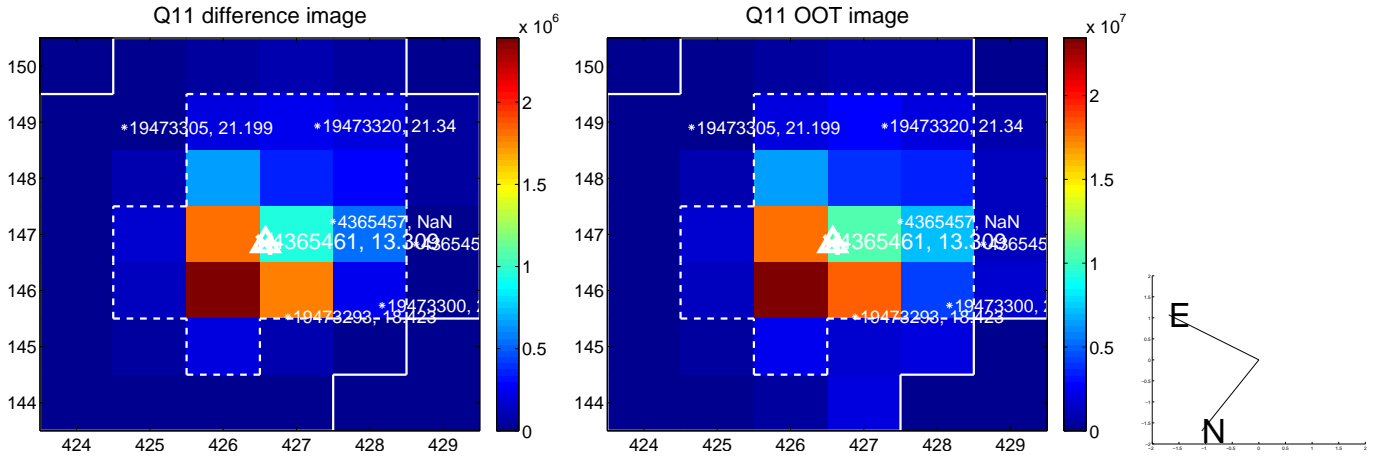
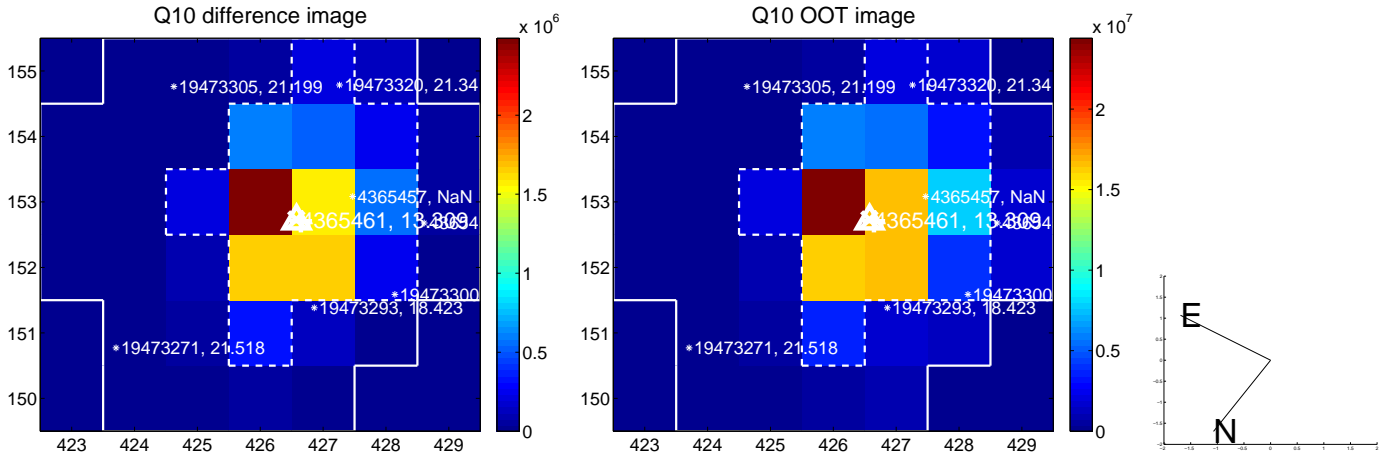
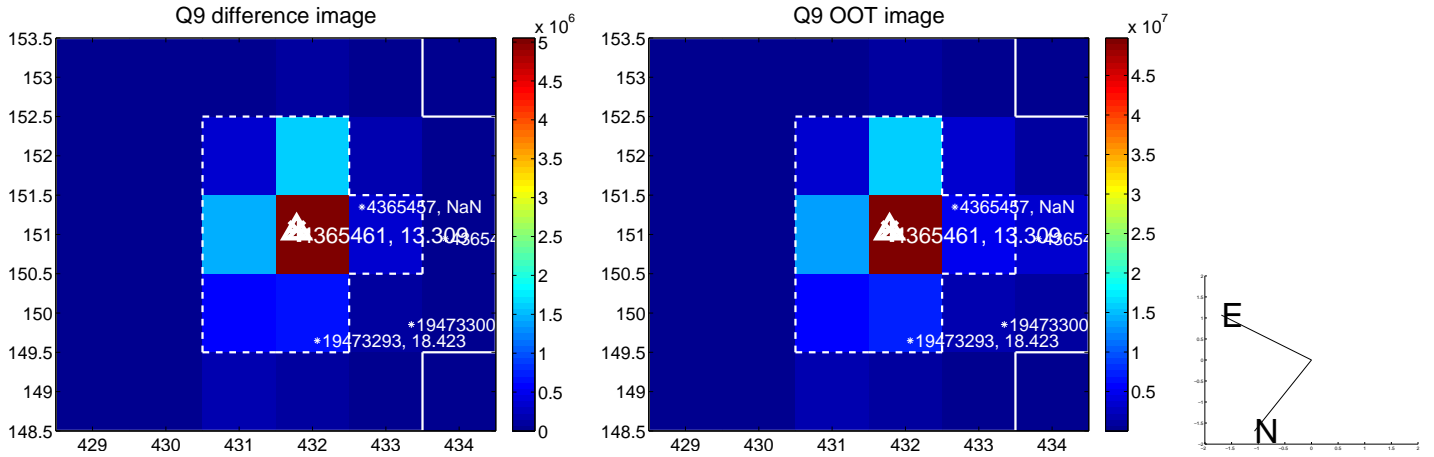
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



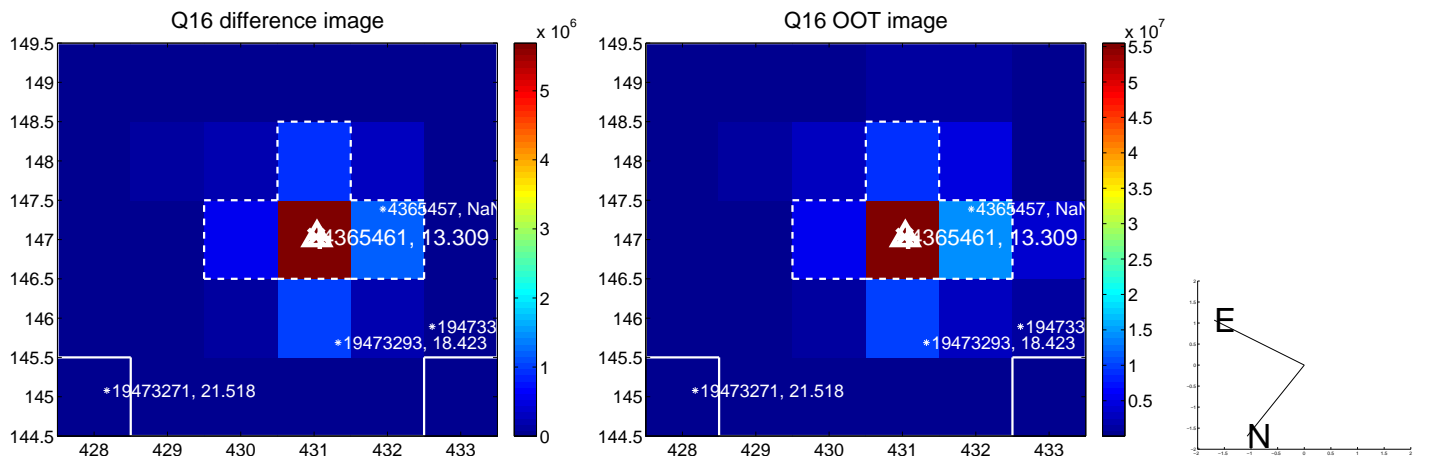
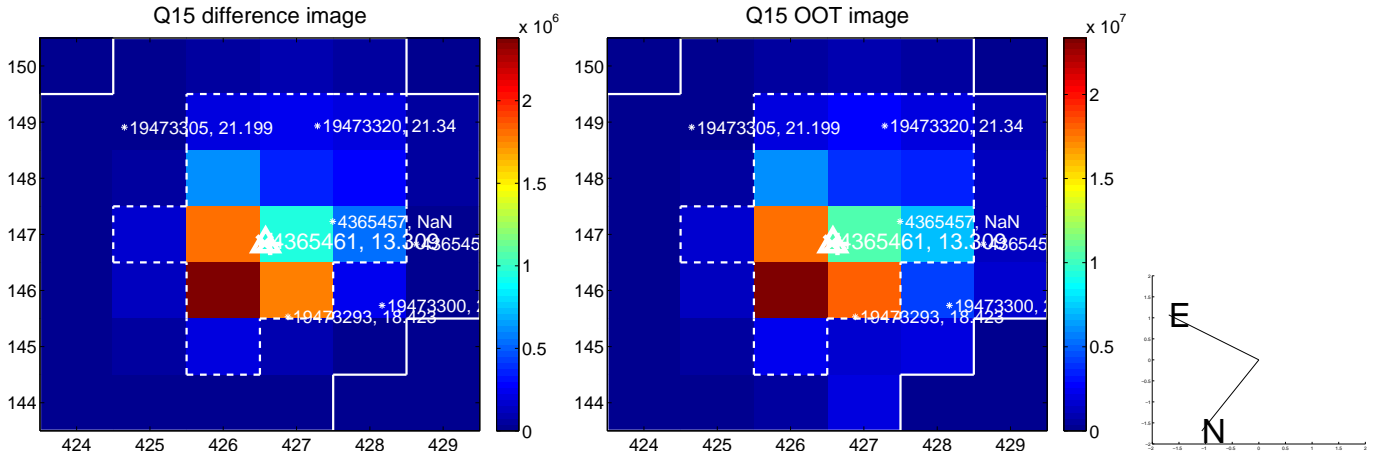
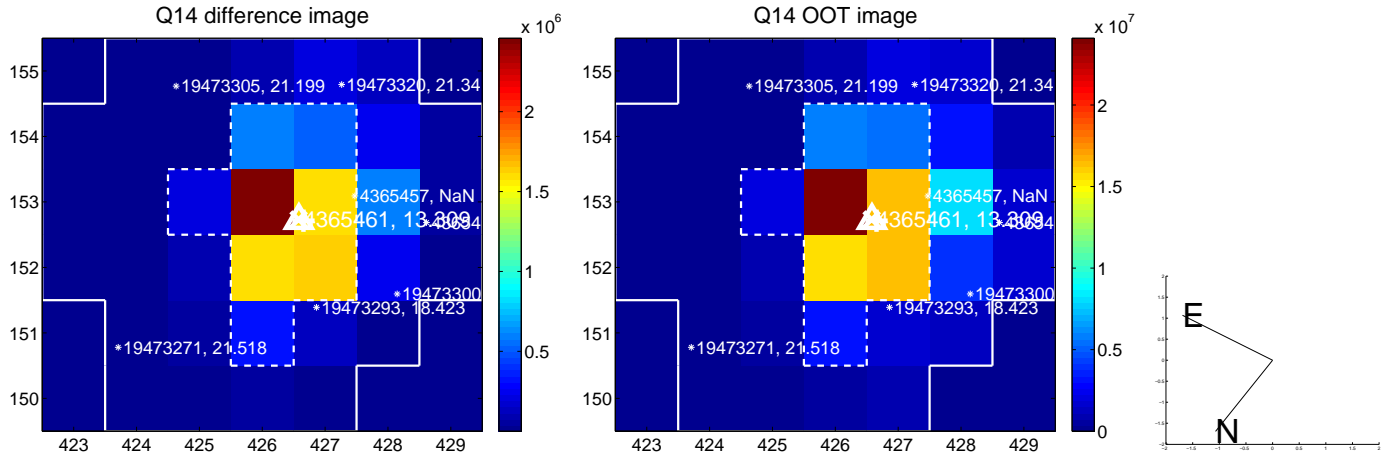
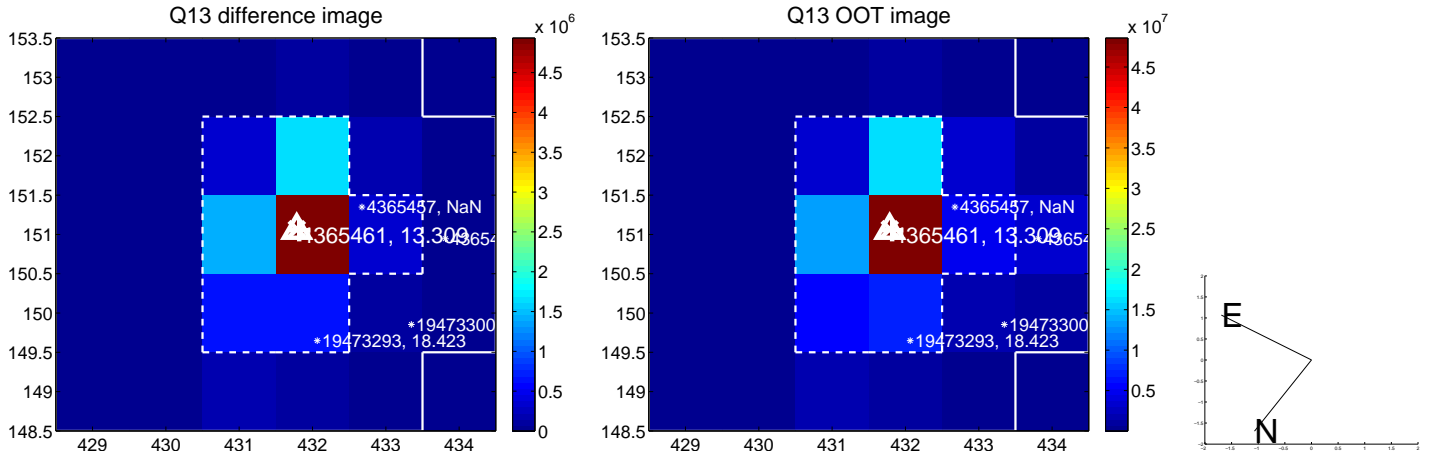
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



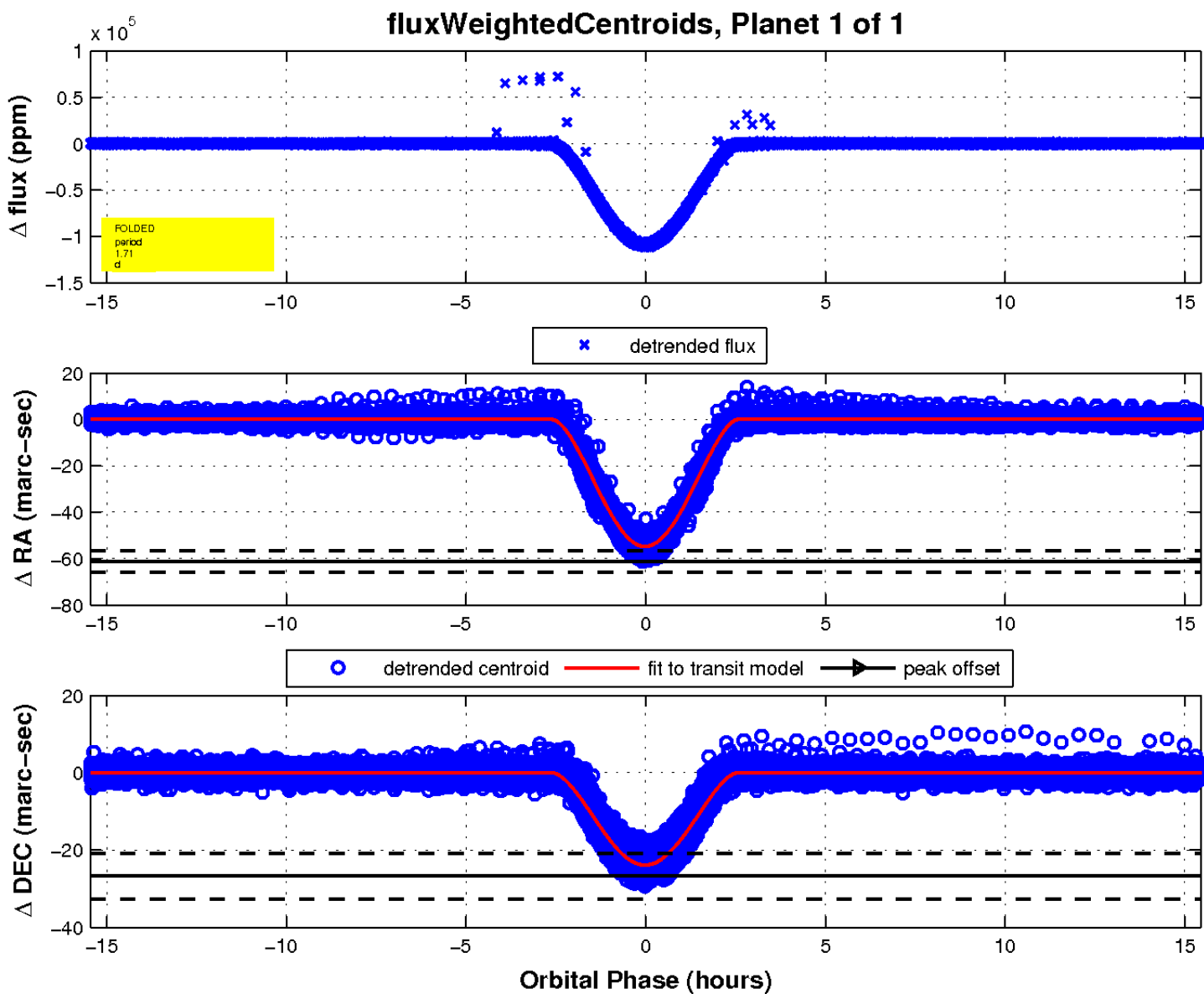
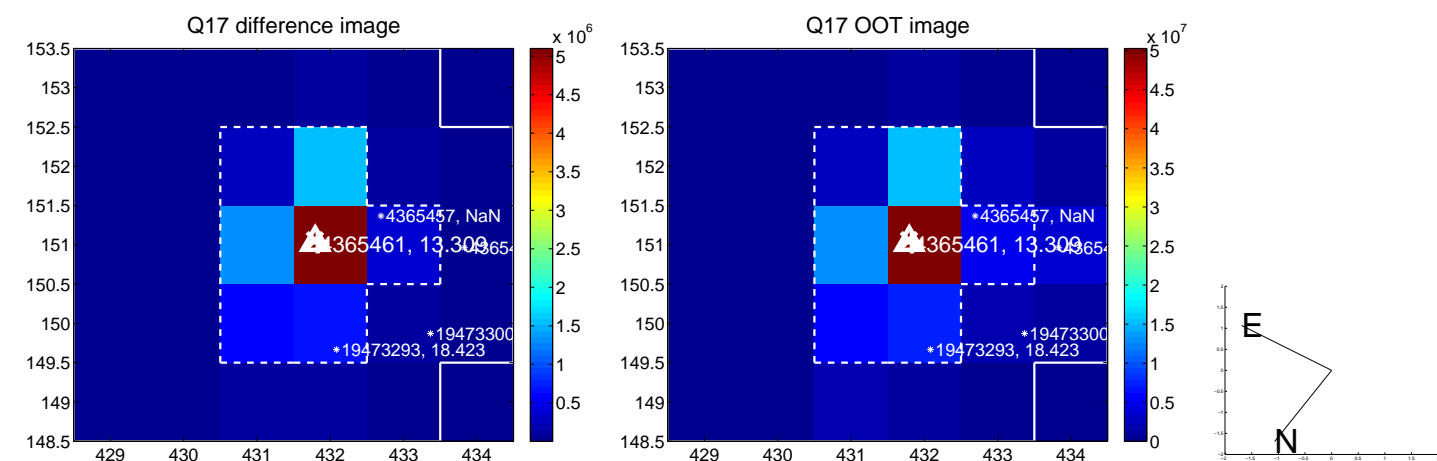
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

