

KIC 002438061

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})
002438061-01	OBS	6270.01	2.442933	132.014598	31290.9	4.252	494.1	304.0	1.00	5780	25.96	793.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002438061-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_KIC_POS

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.

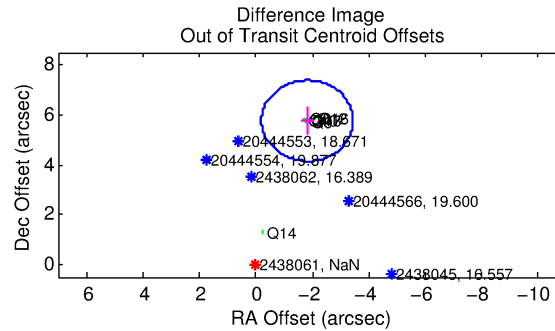
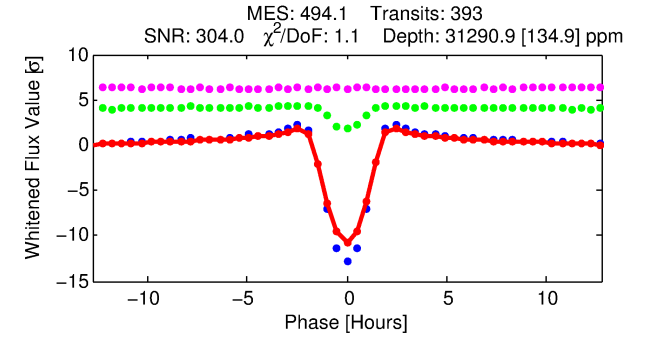
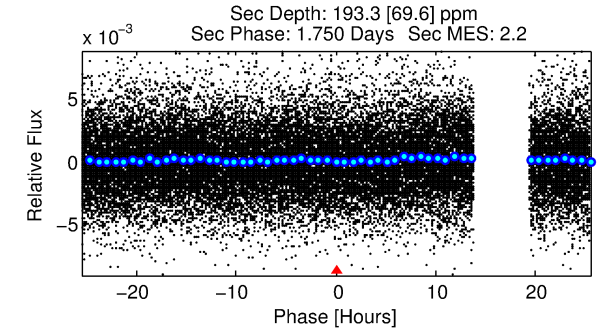
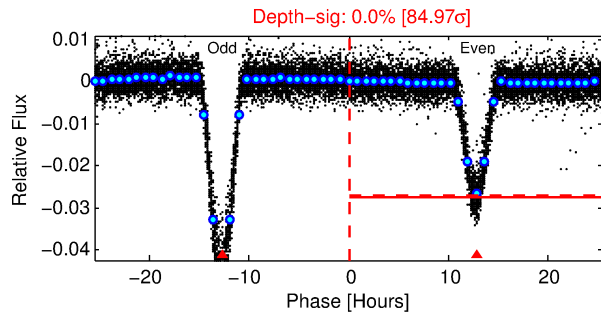
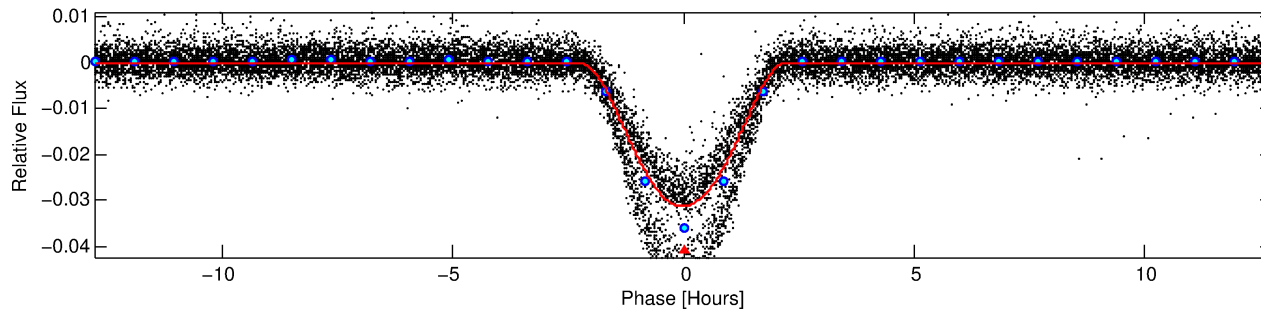
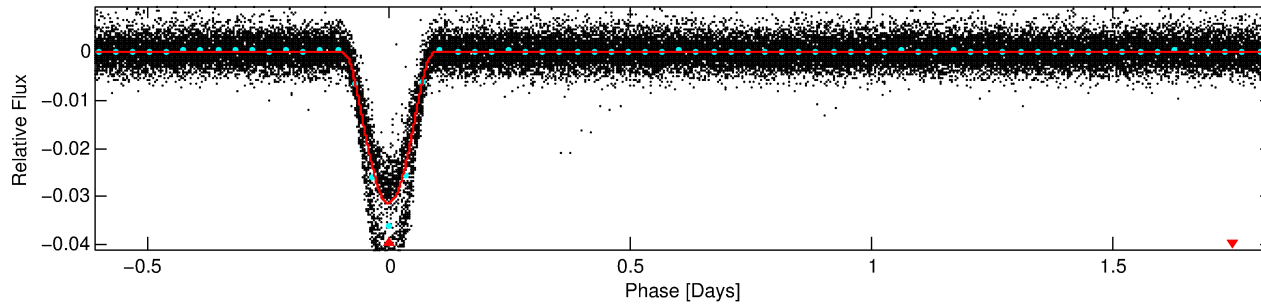
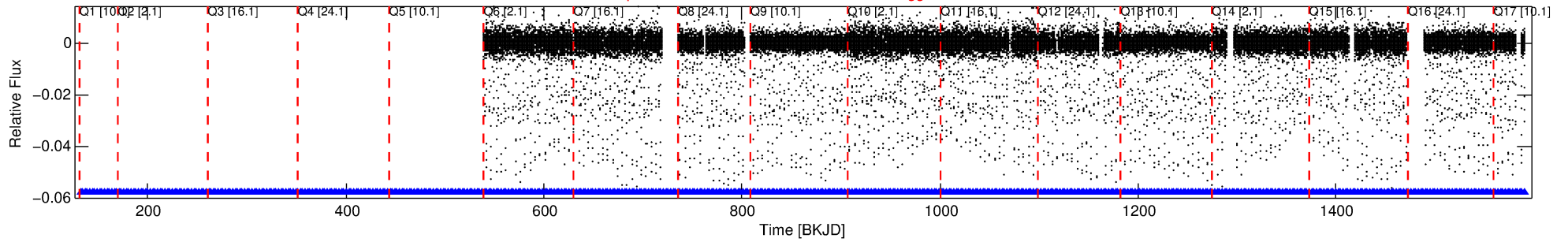
Ephemeris Match Information For 002438061-01

No Significant Match Found

DV One-Page Summary

KIC: 2438061 Candidate: 1 of 1 Period: 2.443 d
KOI: K06270.01 Corr: 0.990

Kp: 0.00 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



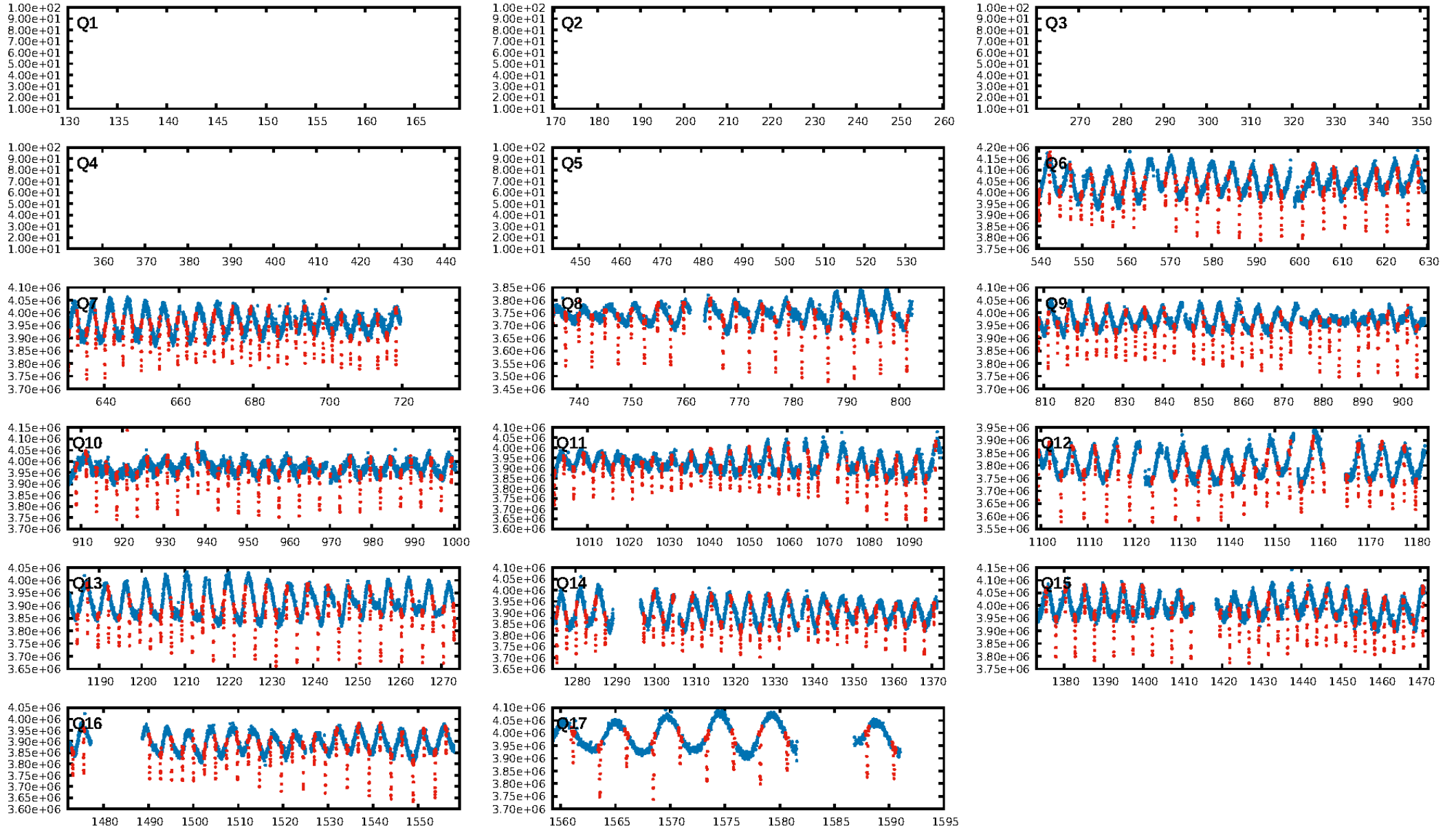
DV Fit Results:

Period = 2.44293 [0.00000] d
Epoch = 132.0146 [0.0003] BKJD
Rp/R* = 0.2379 [0.0210]
a/R* = 3.72 [0.04]
b = 0.93 [0.03]
Seff = 793.21 [0.00]
Teq = 1353 [0] K
Rp = 25.96 [2.29] Re
a = 0.0355 [0.0000] AU
Ag = 0.20 [0.08] [-10.04σ]
Teffp = 1397 [140] K [0.31σ]

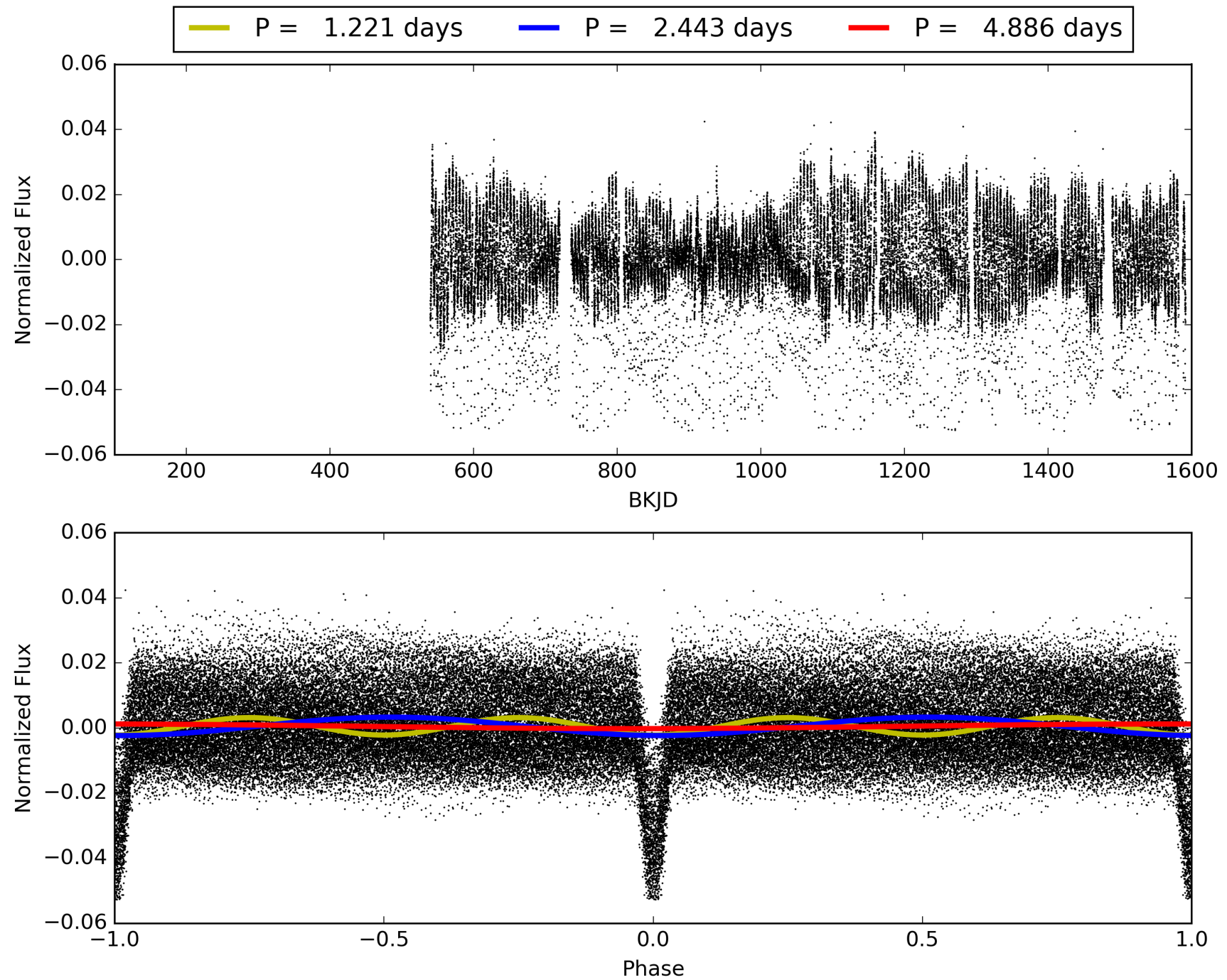
DV Diagnostic Results:

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 [382/382]
GhostDiagnostic-chr: 3.353
Centroid-sig: 0.0%
Centroid-so: 3.501 arcsec [930.55σ]
OotOffset-rm: 6.038 arcsec [11.19σ]
KicOffset-rm: 0.160 arcsec [2.05σ]
OotOffset-st: 3/0/2/3 [8]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [12/12]

TCE 002438061-01, PDC Light Curves

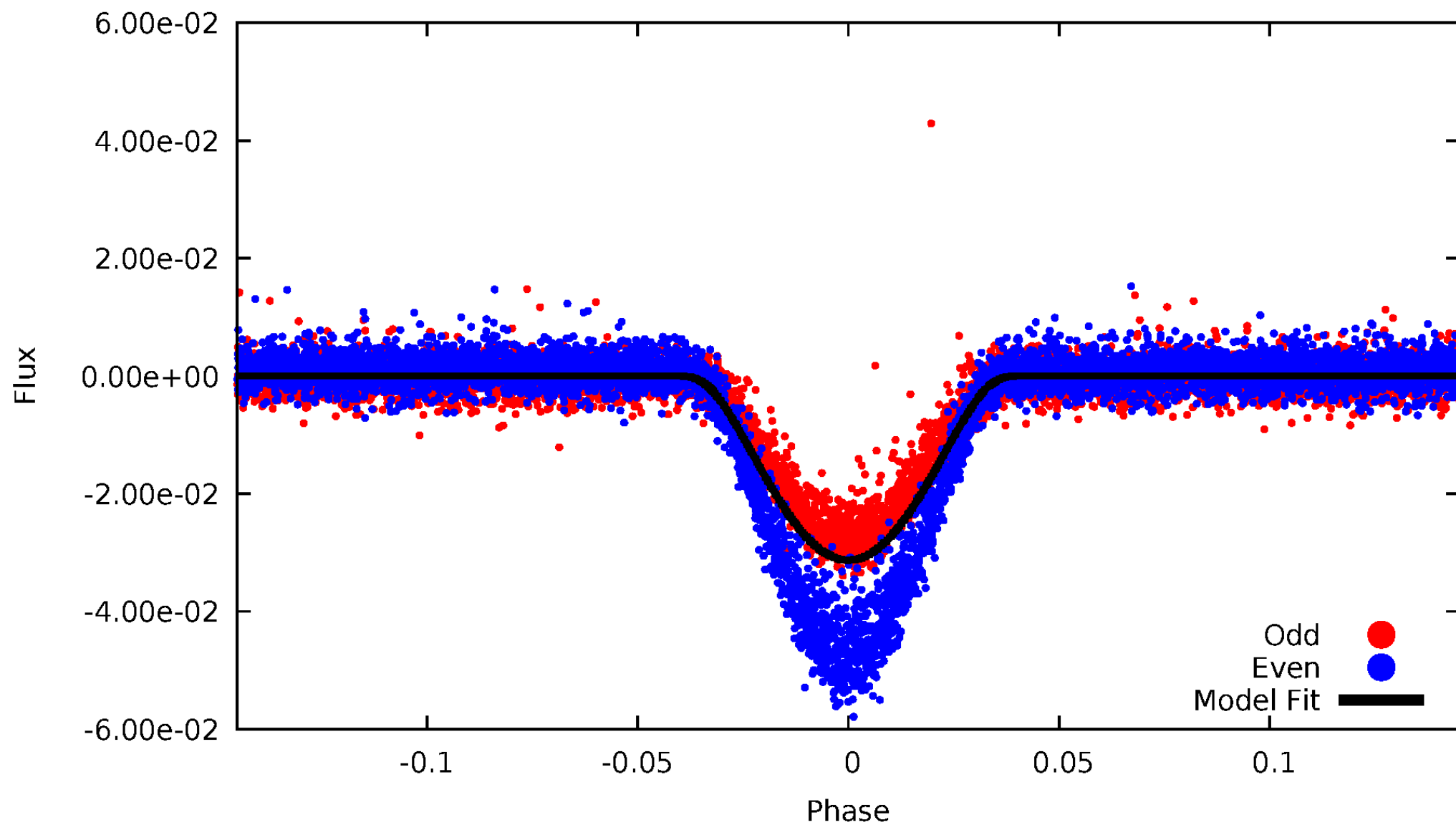


TCE 002438061-01



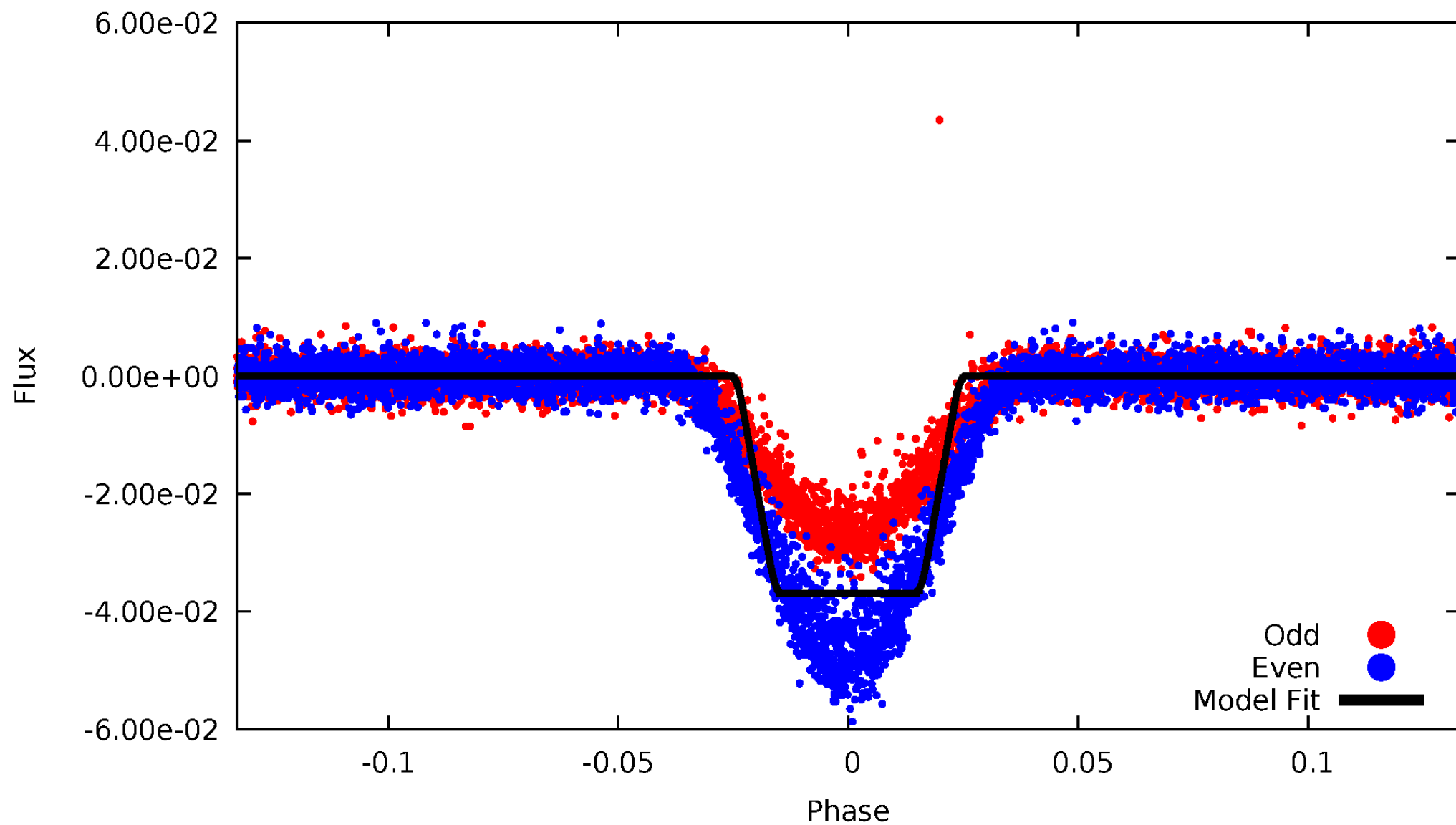
DV Odd/Even

TCE 002438061-01



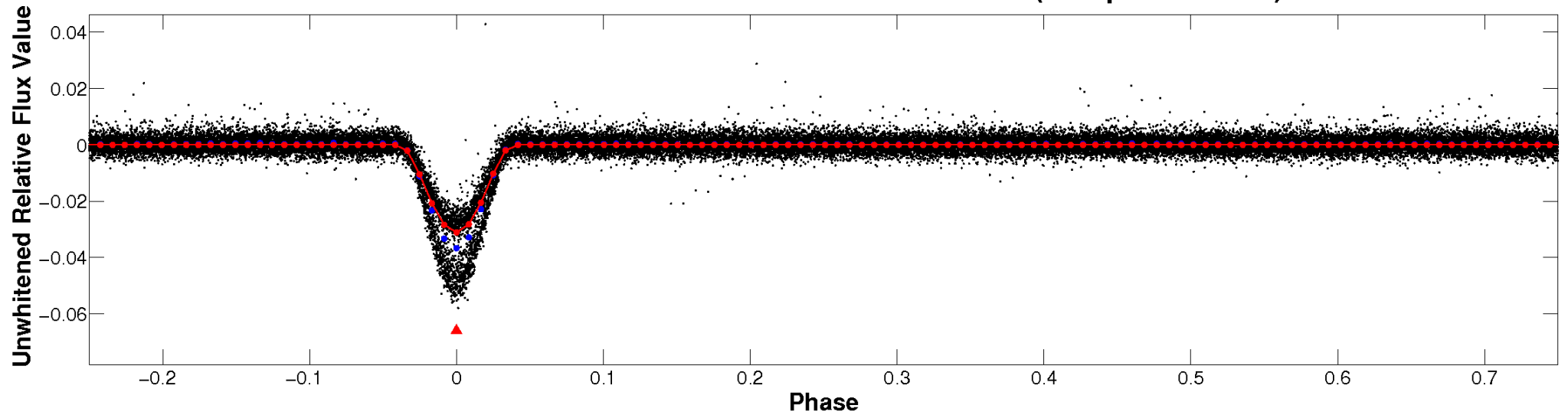
ALT Odd/Even

TCE 002438061-01

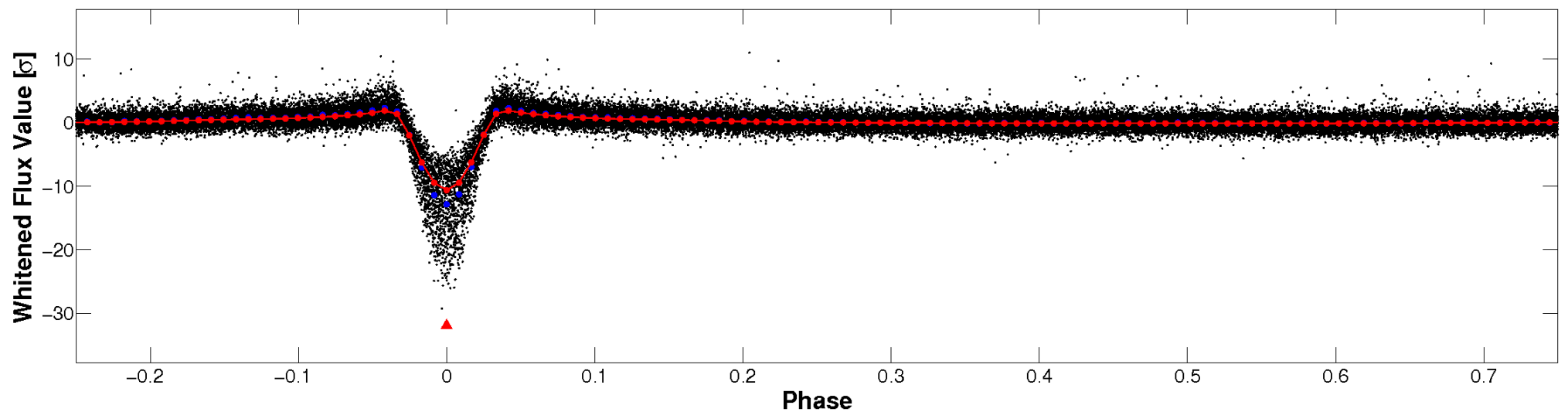


Non-Whitened Vs. Whitened Light Curve

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

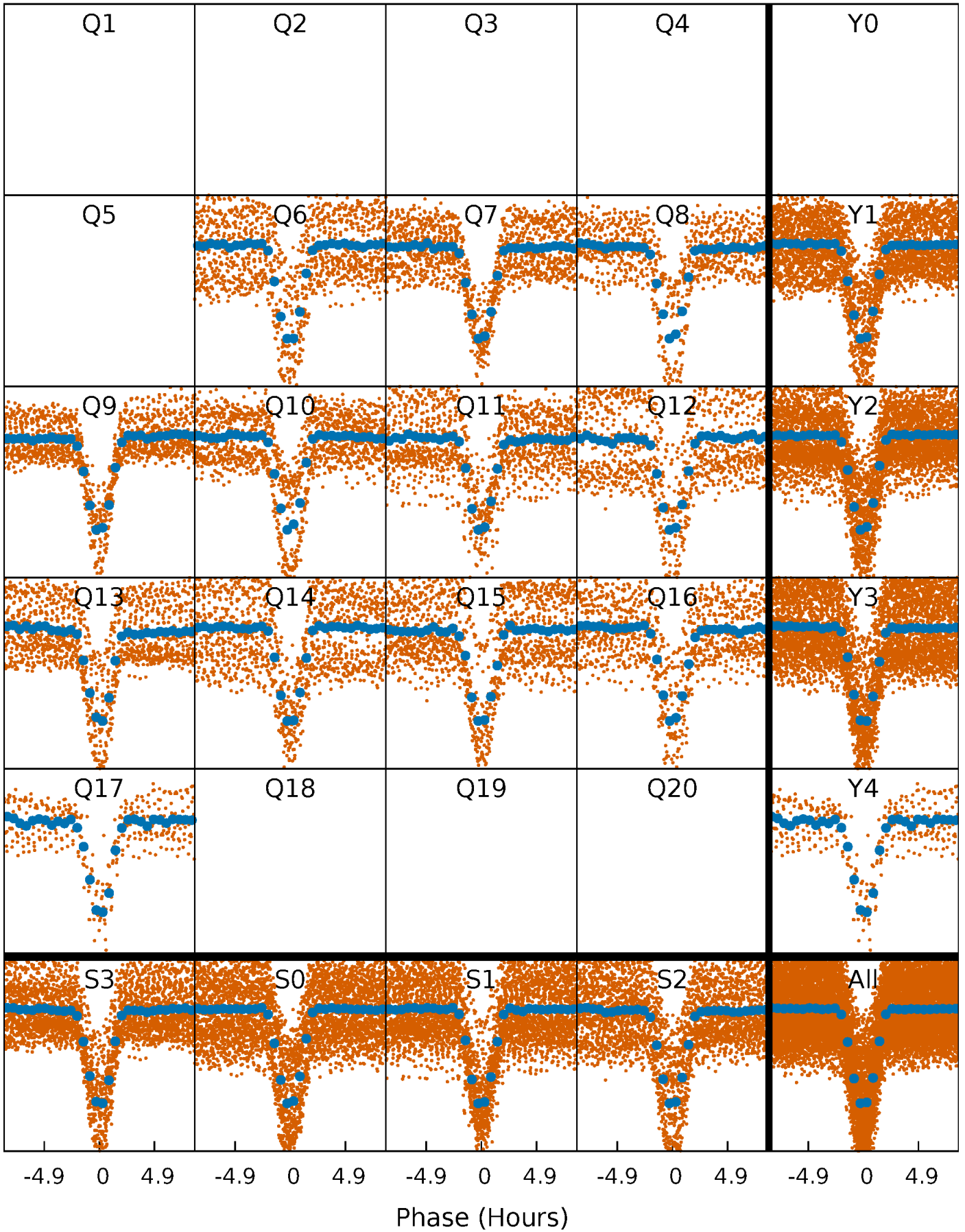


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



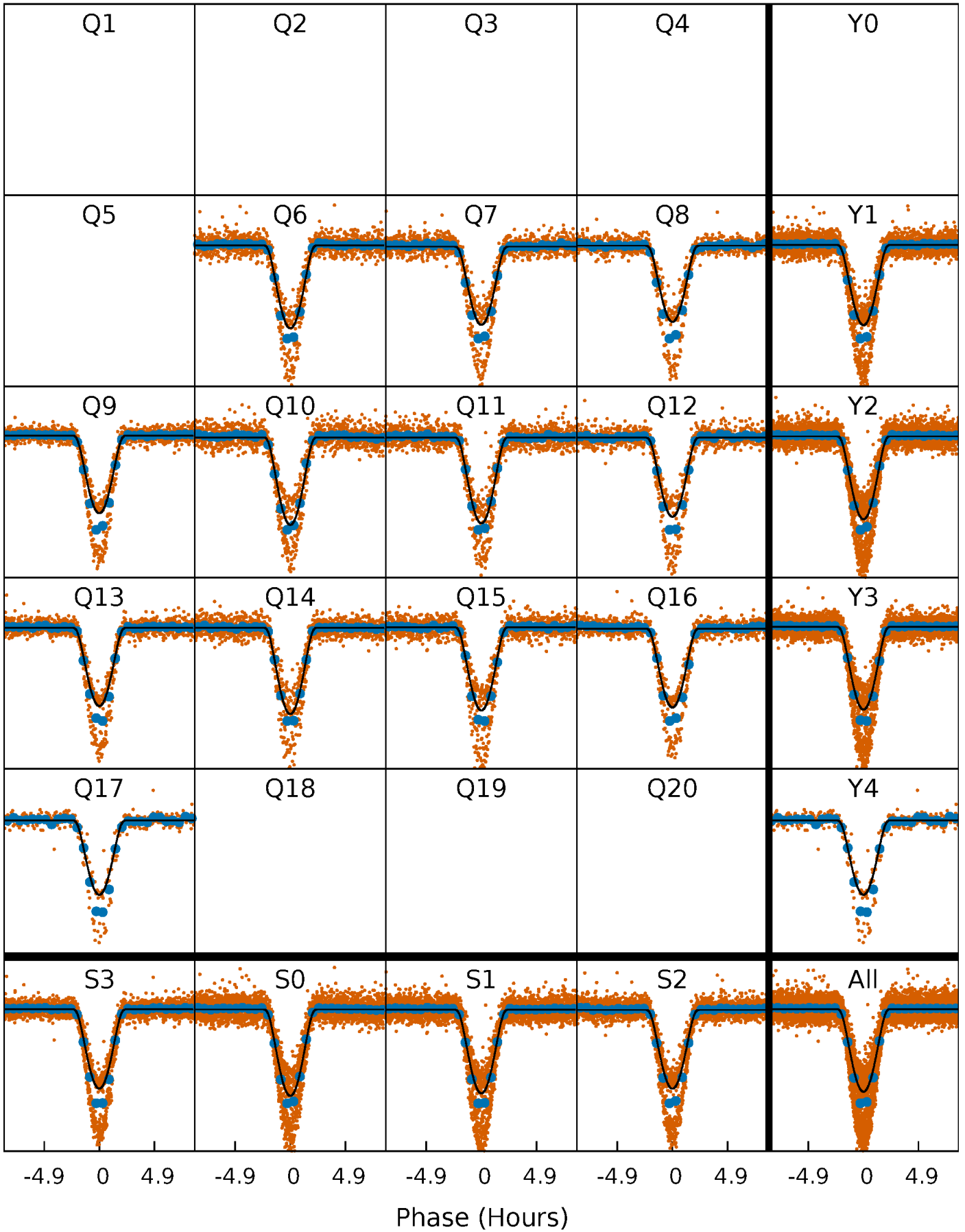
PDC Quarter-Phased Transit Curves

TCE 002438061-01 P= 2.442933 Days $T_0=132.014598$ (BKJD)



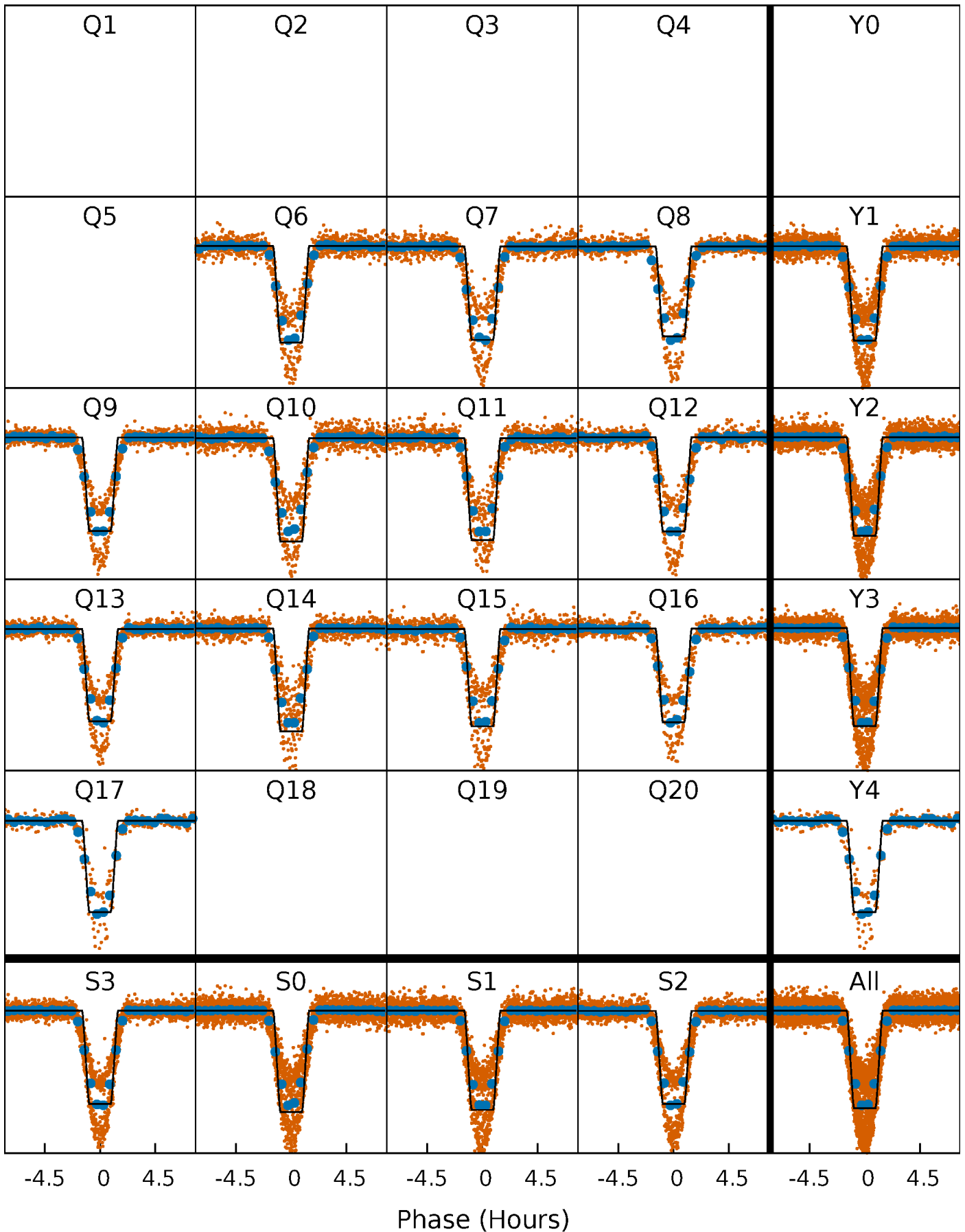
DV Quarter-Phased Transit Curves

TCE 002438061-01 P= 2.442933 Days $T_0=132.014598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

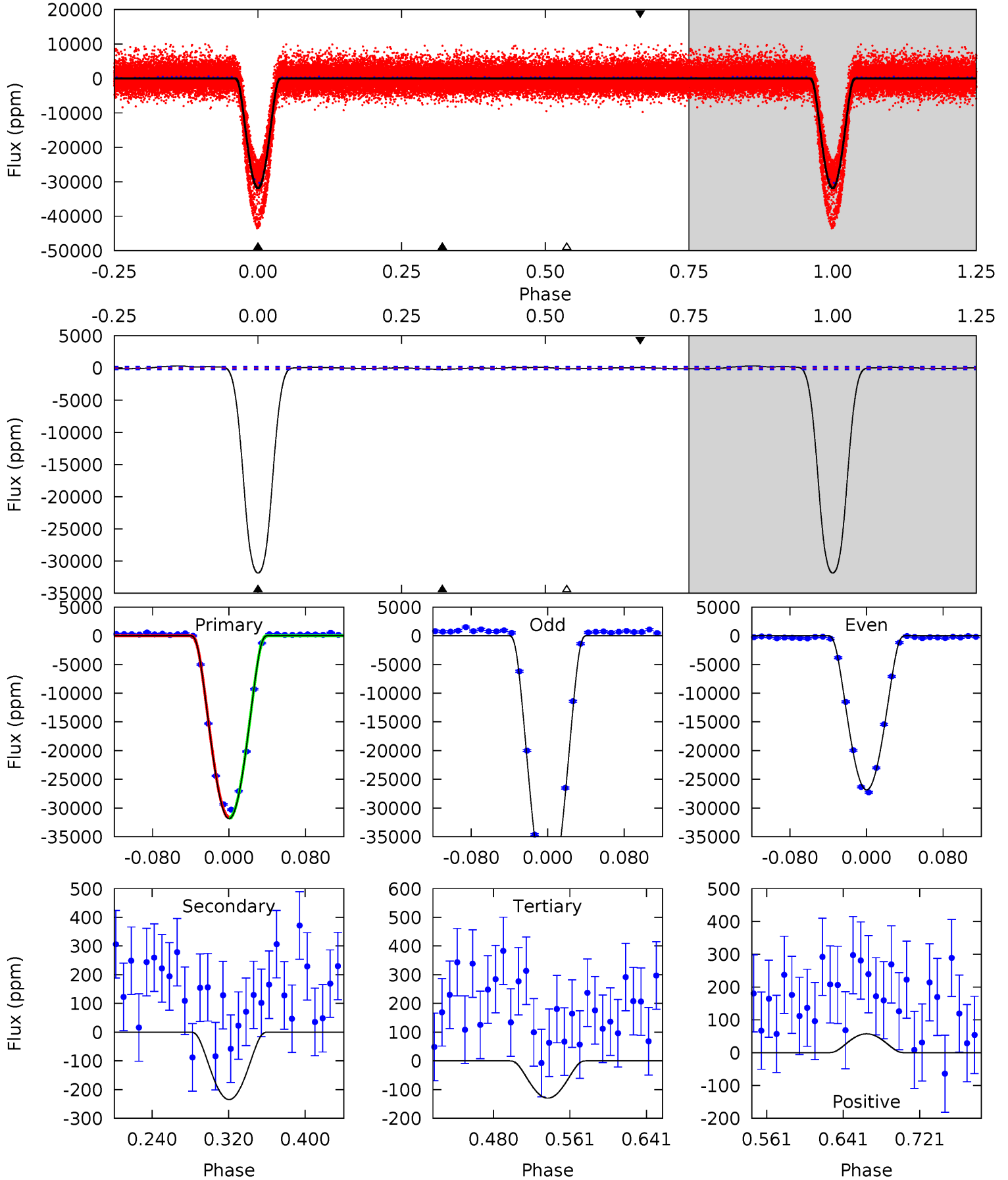
TCE 002438061-01 P= 2.442938 Days $T_0=132.012634$ (BKJD)



DV Model-Shift Uniqueness Test

002438061-01, P = 2.442933 Days, E = 132.014598 Days

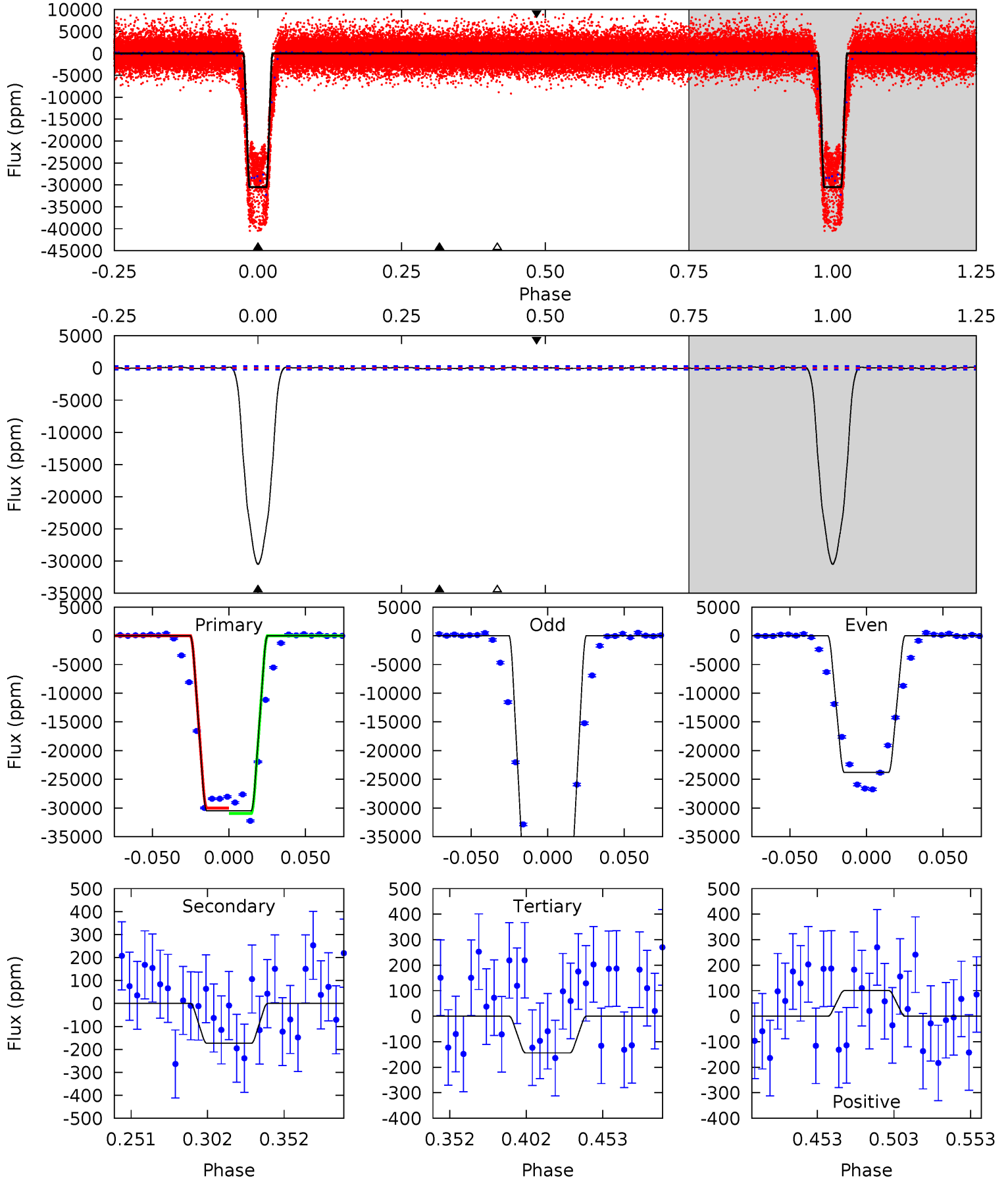
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
745.6	5.50	3.04	1.34	4.61	1.75	2.55	742.5	744.2	2.46	4.15	243.7	1.15	0.01	1.88



Alt Model-Shift Uniqueness Test

002438061-01, P = 2.442938 Days, E = 132.012634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
526.2	2.99	2.48	1.73	4.71	1.96	1.08	523.7	524.4	0.51	1.27	200.9	1.15	0.01	7.98



Stellar Parameters For KIC 002438061

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 002438061-01 / KOI 6270.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-235 ± 43	$25.93^{+3.01}_{-3.10}$	1893^{+86}_{-87}	-2013^{+3879}_{-193}	$0.245^{+0.080}_{-0.064}$
Alt.	-173 ± 58	$20.84^{+3.04}_{-2.71}$	1889^{+97}_{-90}	-1915^{+4064}_{-305}	$0.267^{+0.134}_{-0.095}$

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

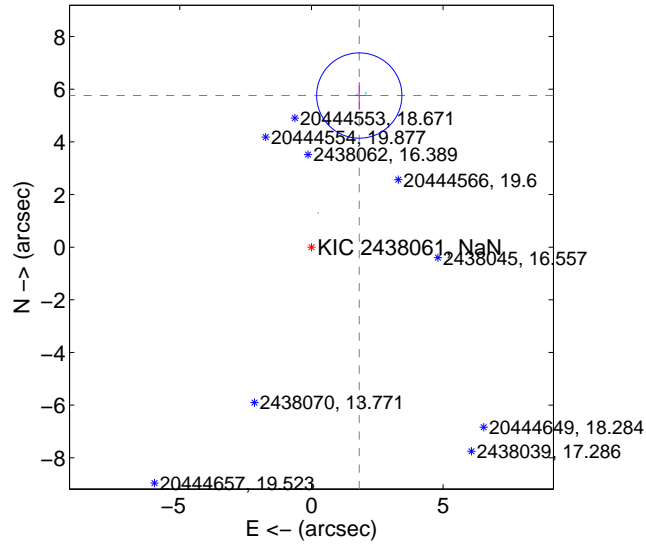
Supplemental centroid analysis for 002438061-01. Kepler magnitude: NaN. Transit SNR 304.01

There are 12 quarters with good PRF difference image offsets

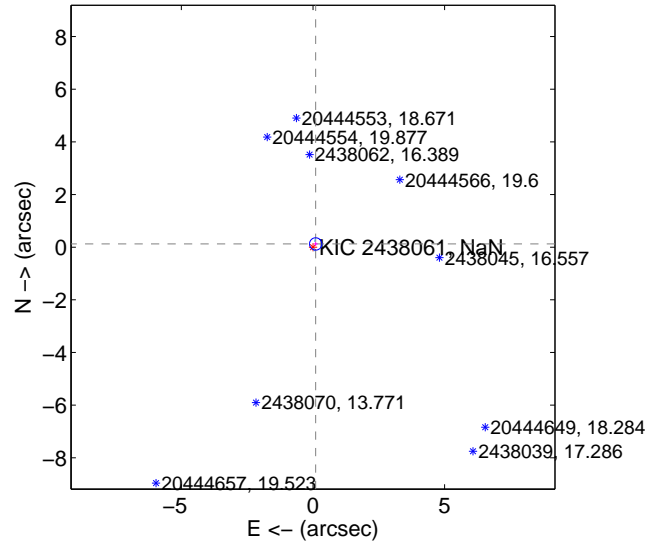
The OOT PRF centroid is offset from the target star catalog position by about 5.71 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.038 ± 0.540	11.19	-1.816 ± 0.196	5.758 ± 0.509
PRF-fit source offset from KIC position	0.160 ± 0.078	2.05	-0.103 ± 0.076	0.122 ± 0.078
photometric centroid source offset	3.50 ± 0.00	930.56	0.52 ± 0.00	-3.46 ± 0.00

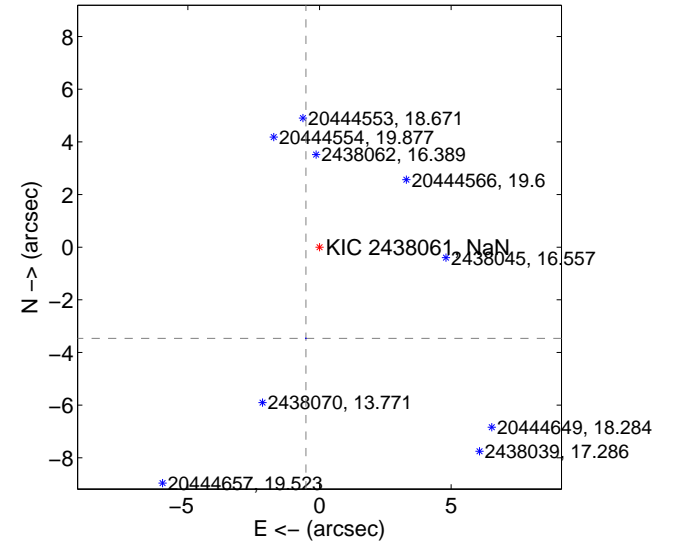
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

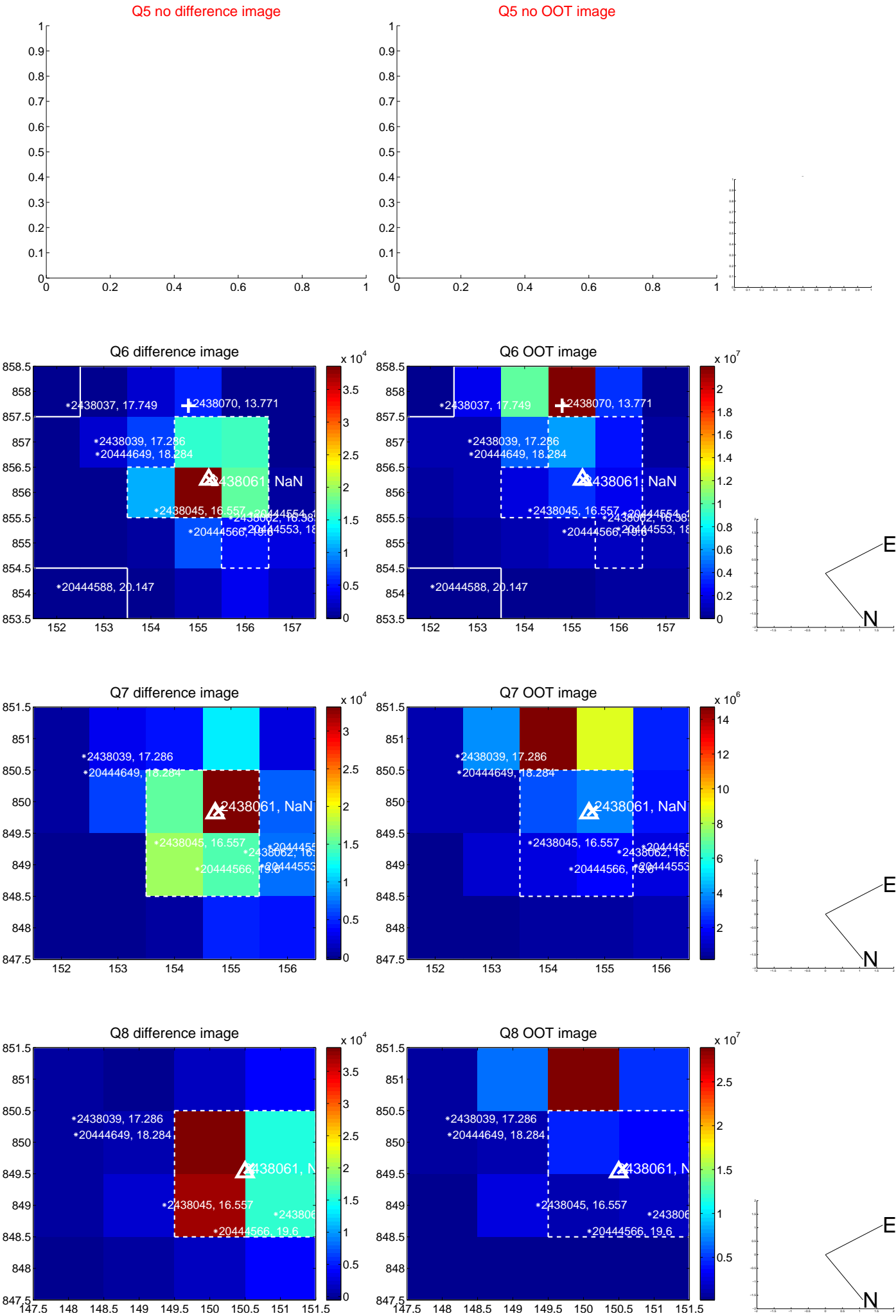


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

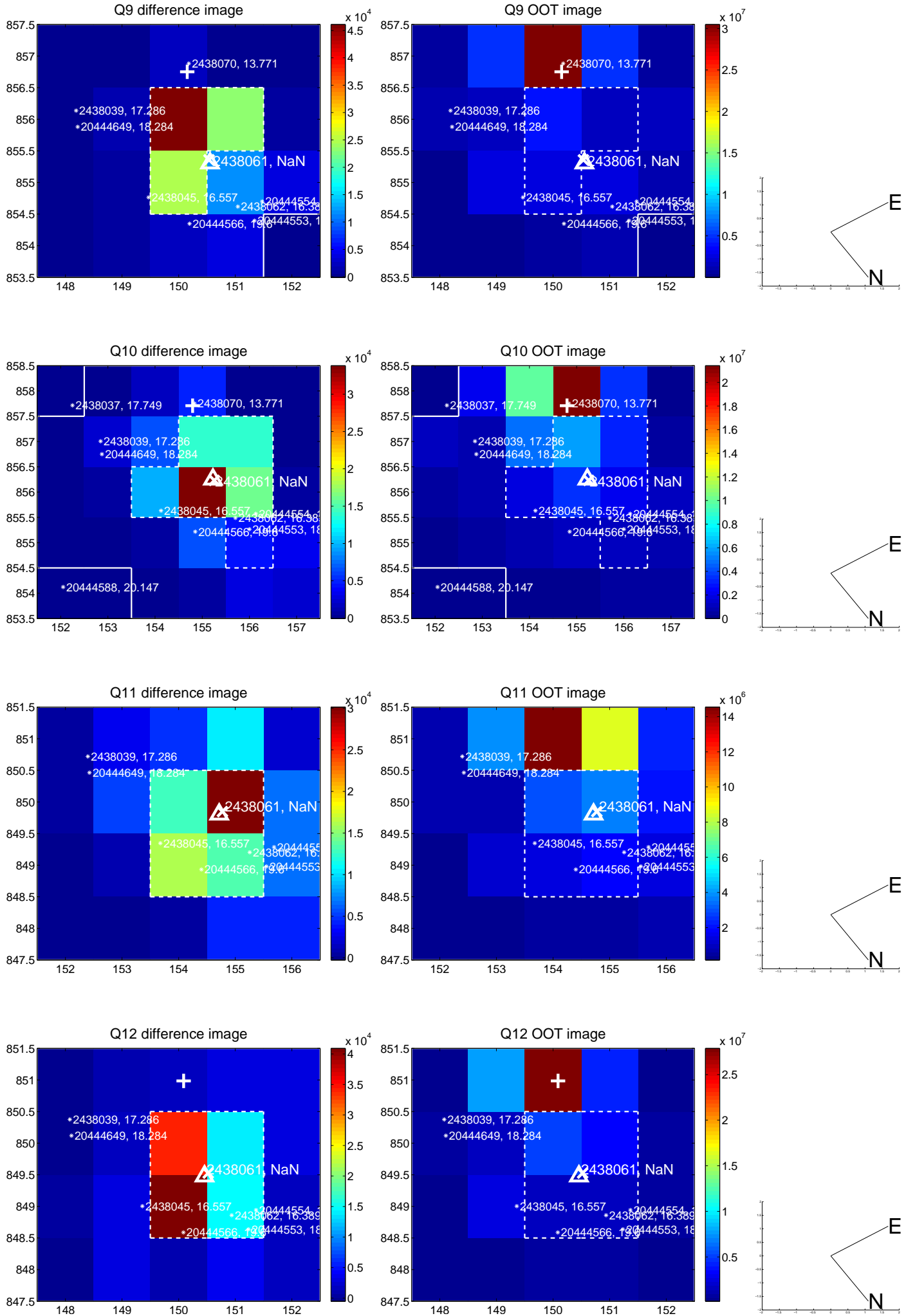
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



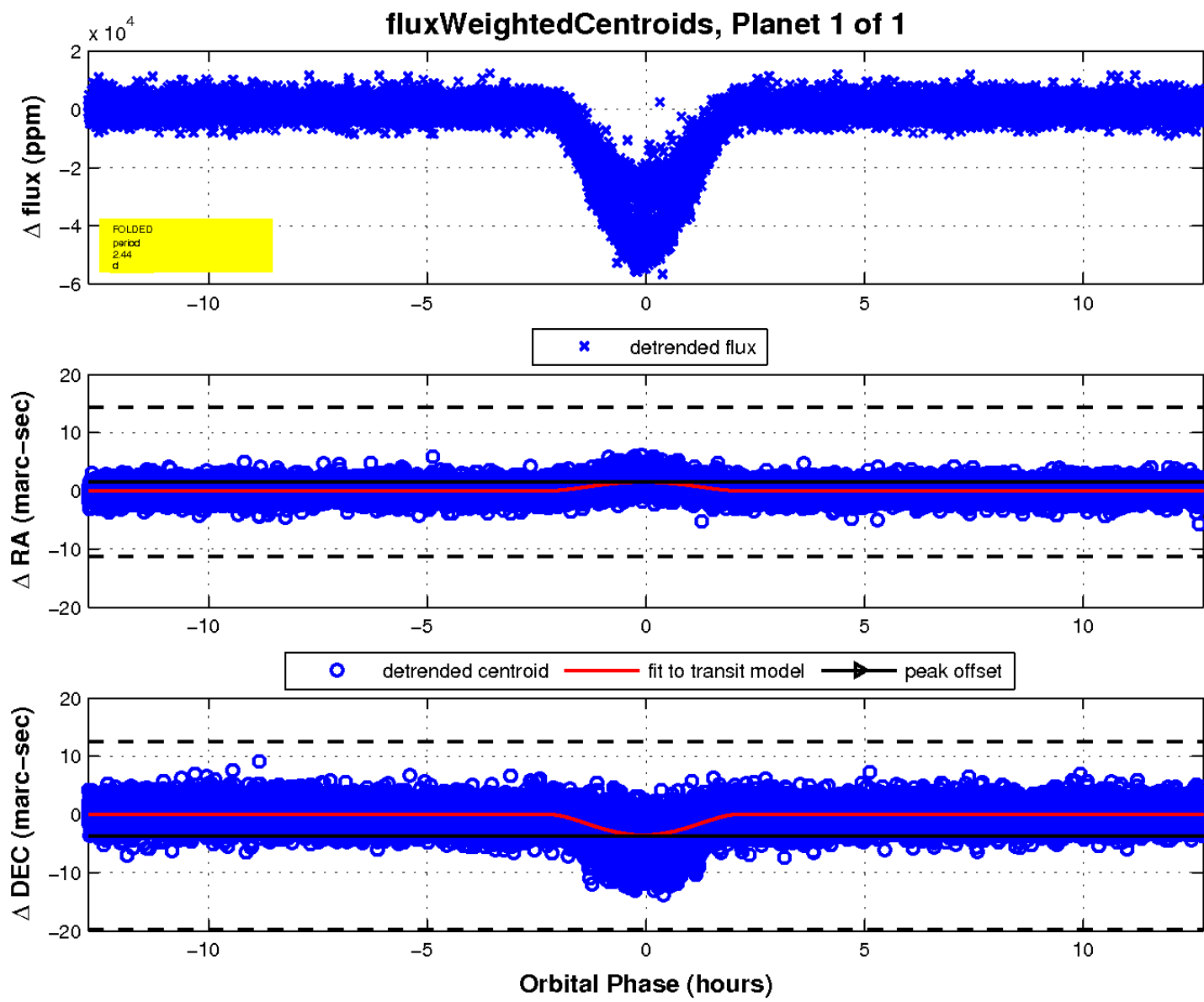
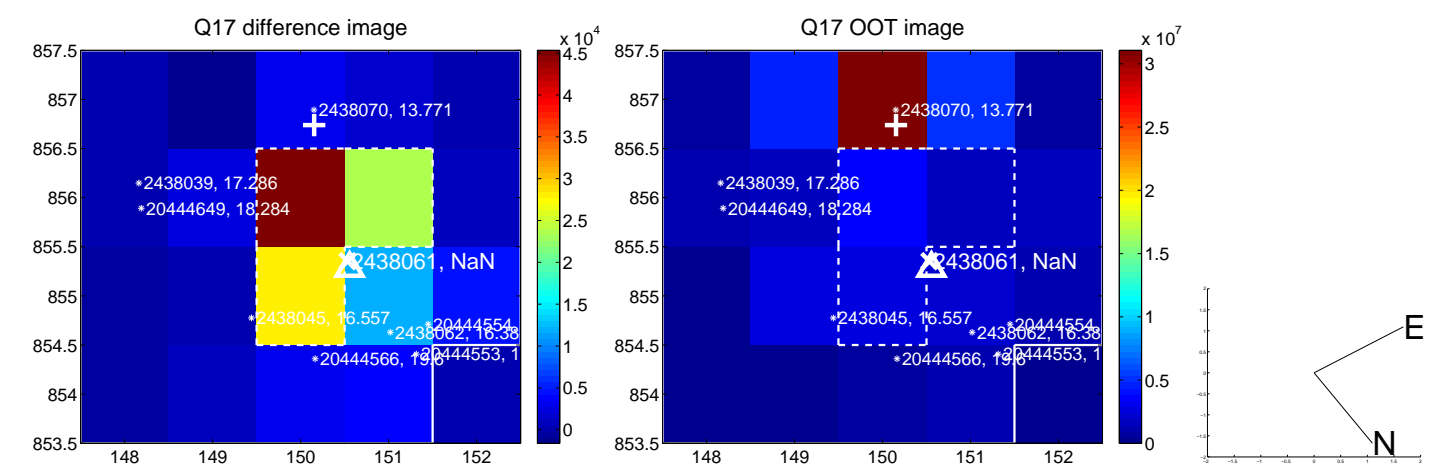
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

