

KIC 004638237

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})
004638237-01	OBS	3811.01	290.140198	307.250551	4824.6	2.182	57.8	71.0	1.26	5631	11.83	2.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004638237-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

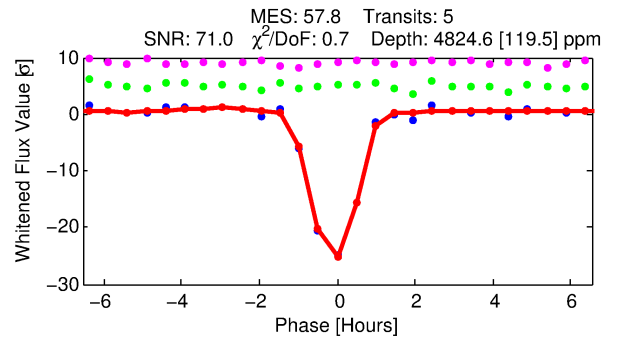
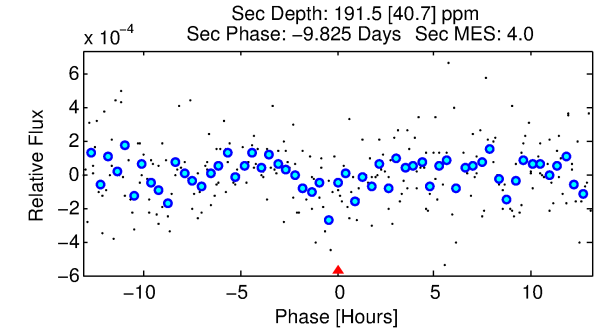
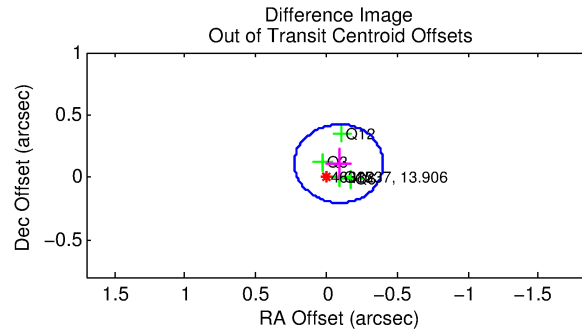
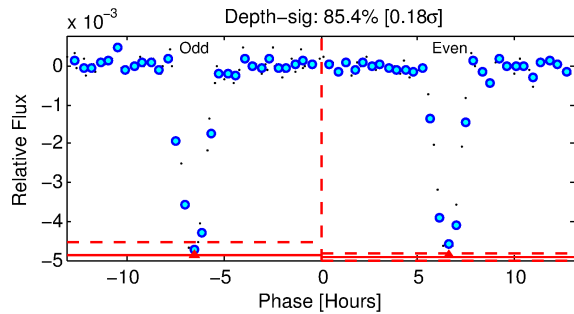
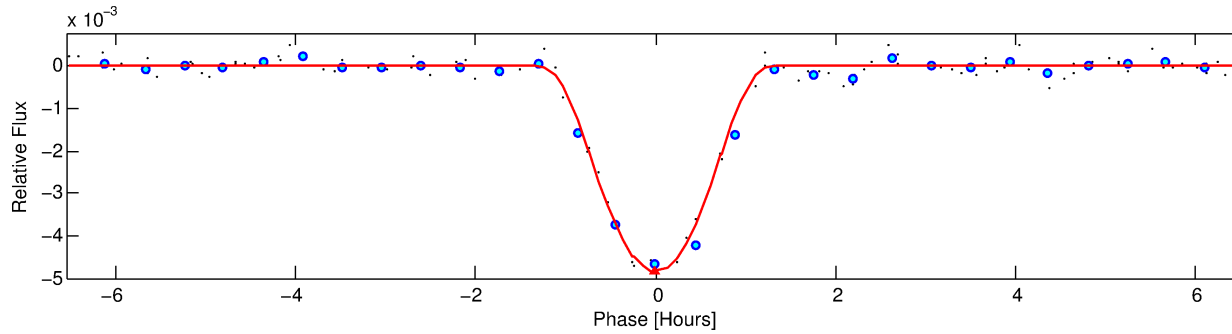
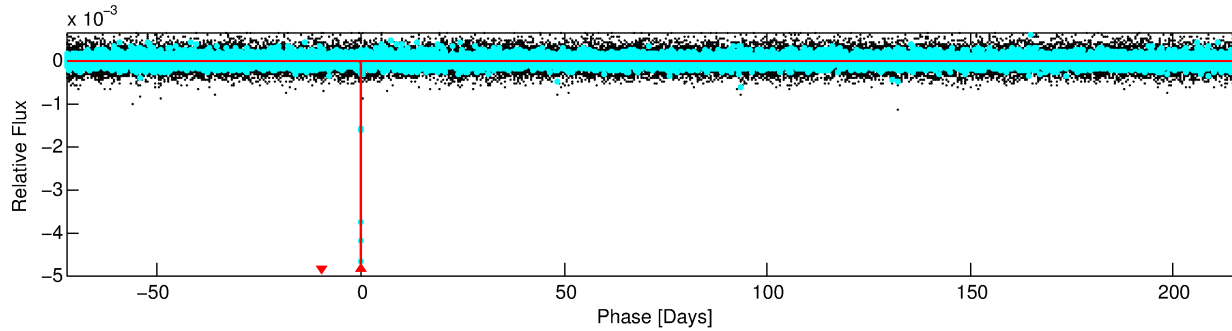
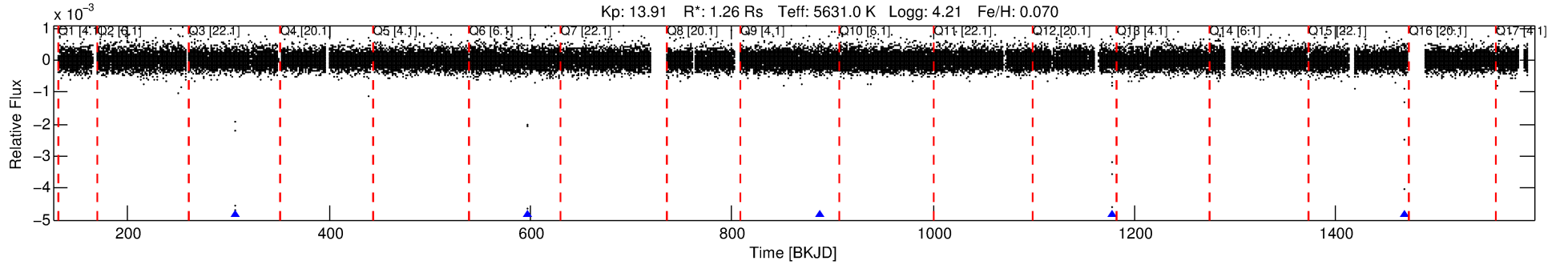
Ephemeris Match Information For 004638237-01

No Significant Match Found

DV One-Page Summary

KIC: 4638237 Candidate: 1 of 1 Period: 290.140 d

KOI: K03811.01 Corr: 0.993



DV Fit Results:

Period = 290.14020 [0.00024] d
Epoch = 307.2506 [0.0006] BKJD
Rp/R* = 0.0858 [0.0140]
a/R* = 550.84 [44.98]
b = 0.94 [0.03]
Seff = 2.02 [0.65]
Teq = 304 [24] K
Rp = 11.83 [3.00] Re
a = 0.8428 [0.1633] AU
Ag = 534.82 [268.16] [1.99 σ]
Teffp = 2261 [223] K [8.74 σ]

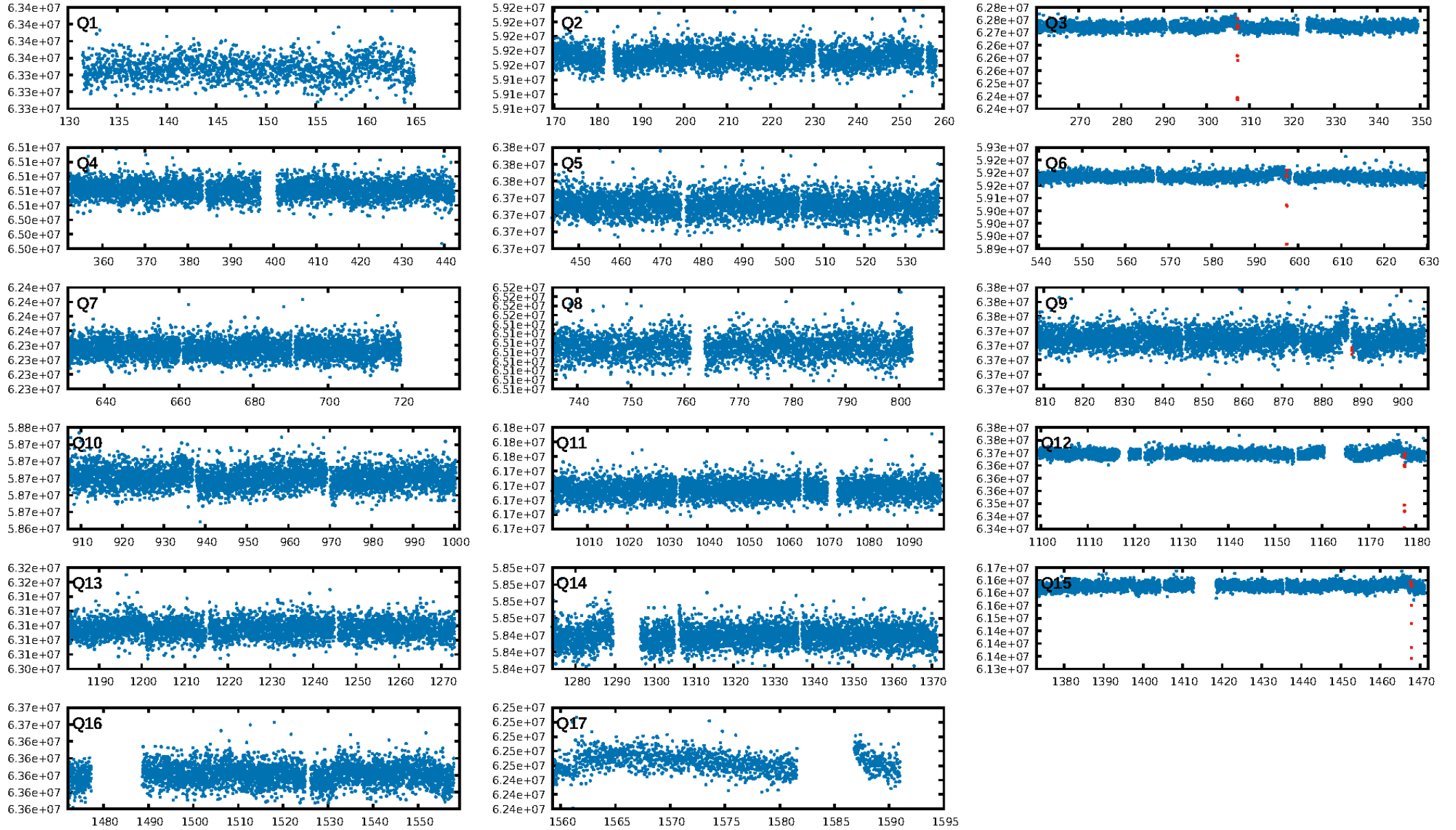
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 6.145
Centroid-sig: 4.9%
Centroid-so: 0.339 arcsec [1.70 σ]
OotOffset-rm: 0.139 arcsec [1.33 σ]
KicOffset-rm: 0.234 arcsec [2.08 σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

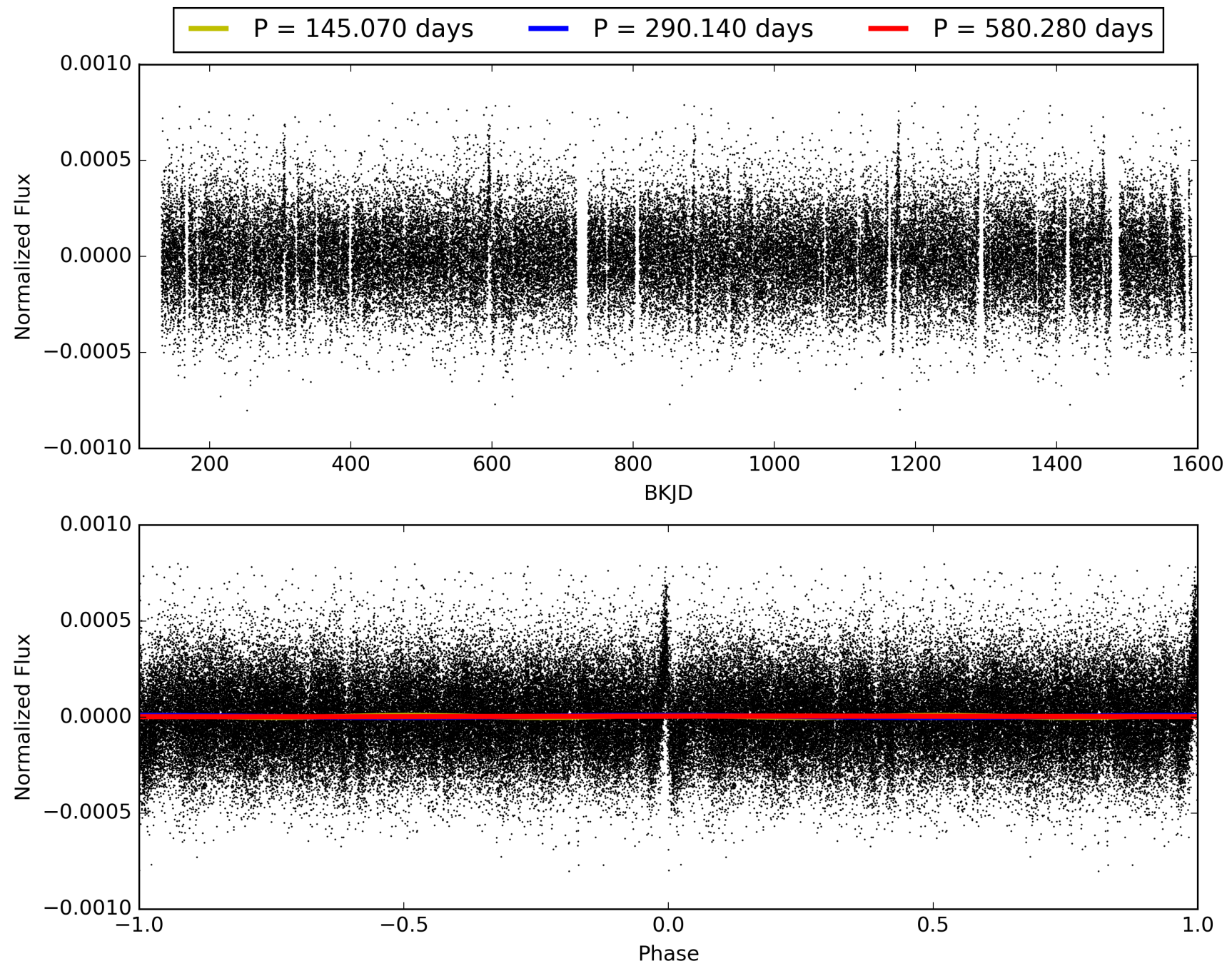
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:04:59 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004638237-01, PDC Light Curves

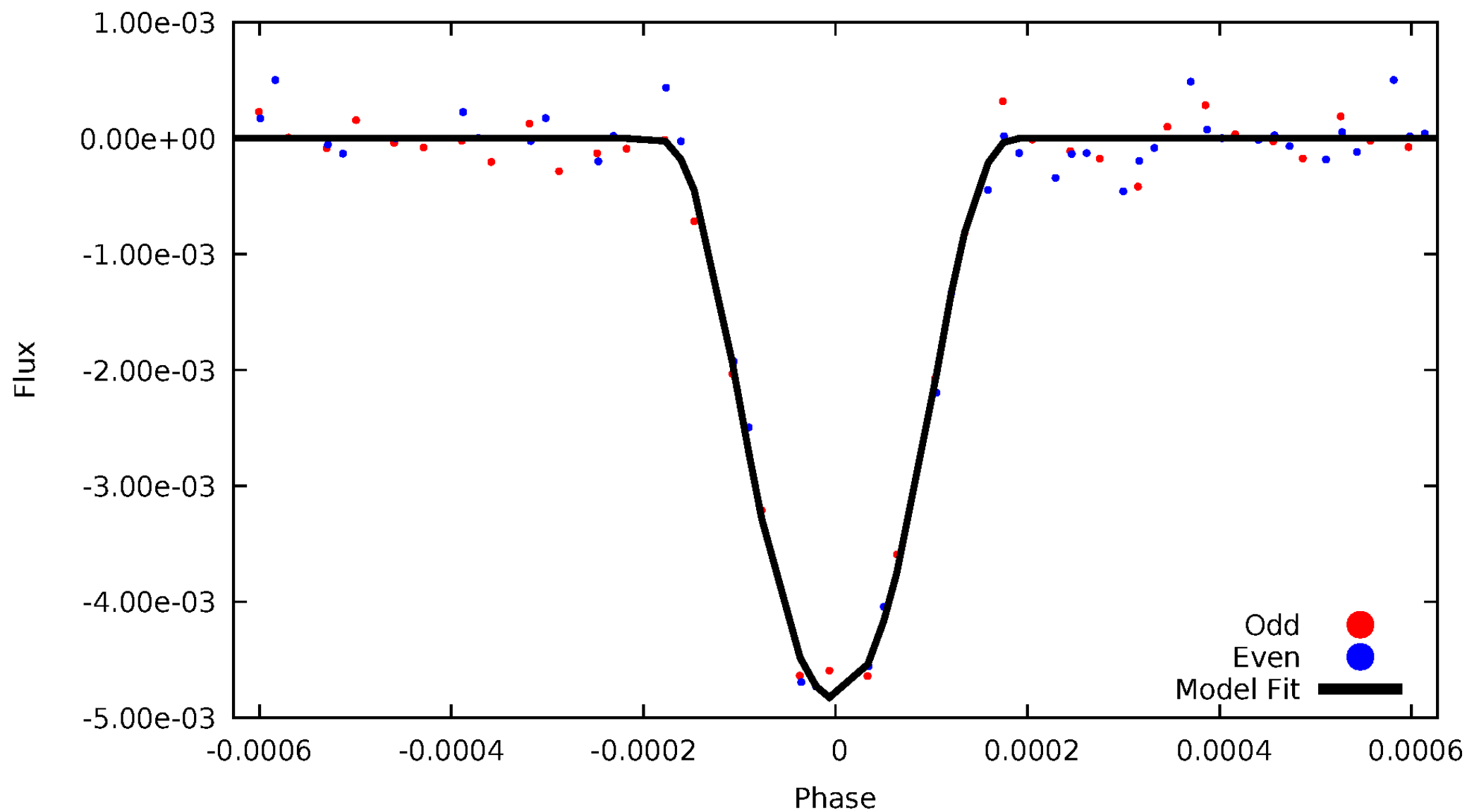


TCE 004638237-01



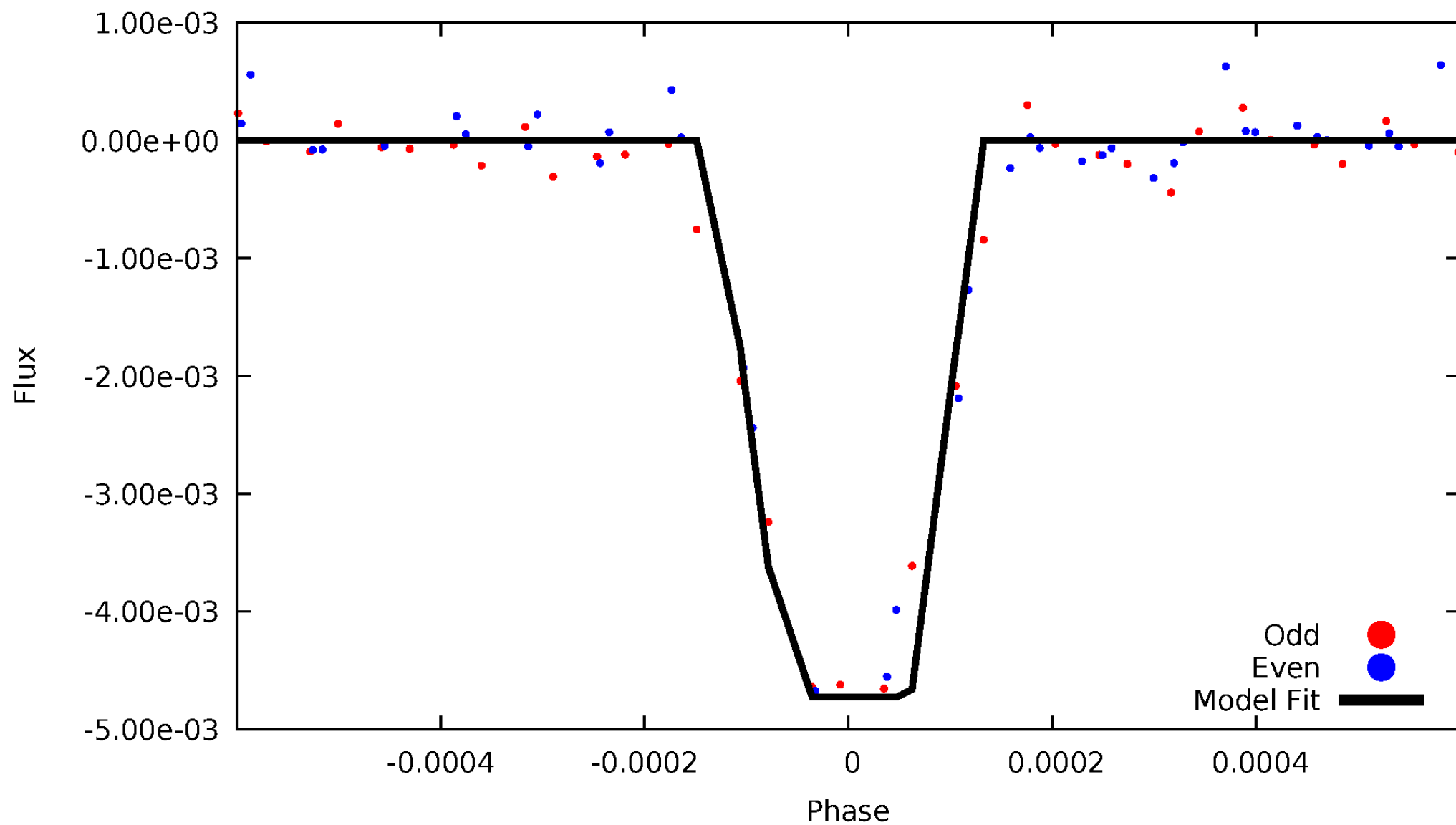
DV Odd/Even

TCE 004638237-01



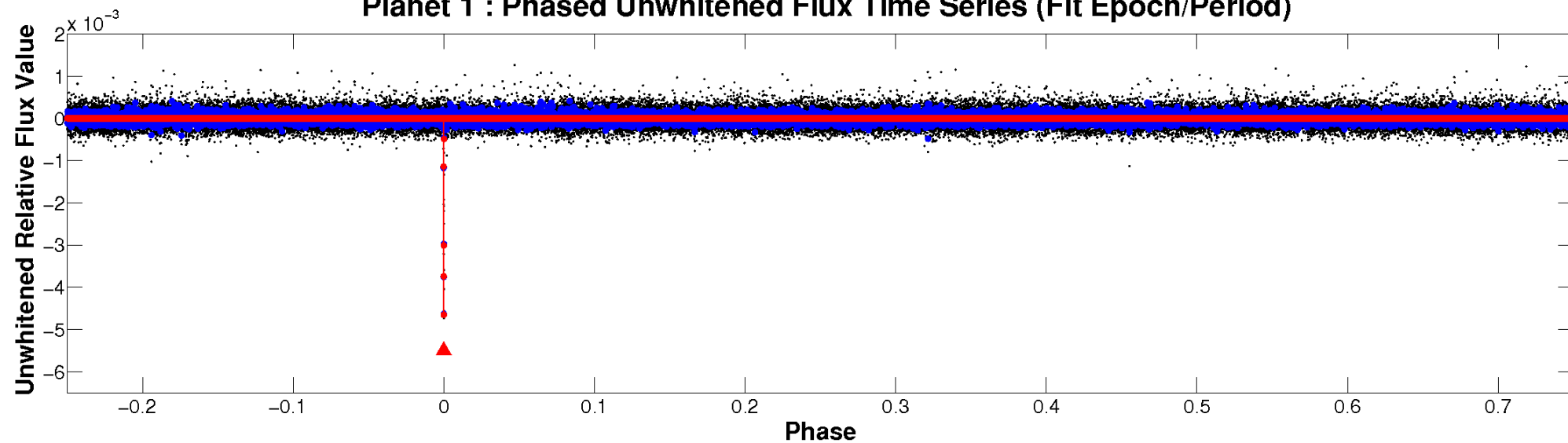
ALT Odd/Even

TCE 004638237-01

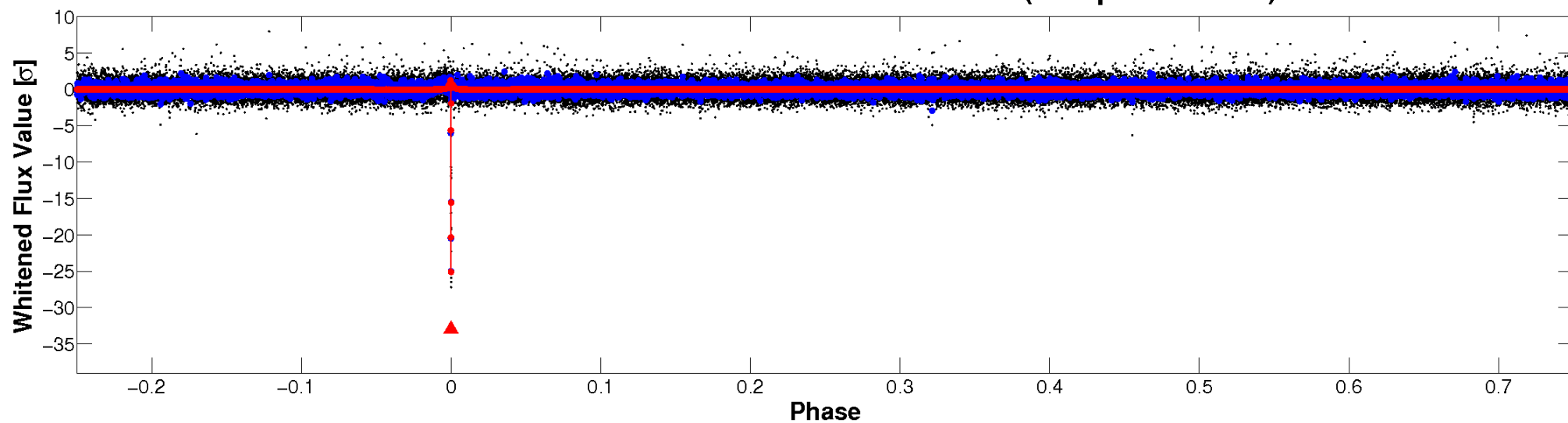


Non-Whitened Vs. Whitened Light Curve

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

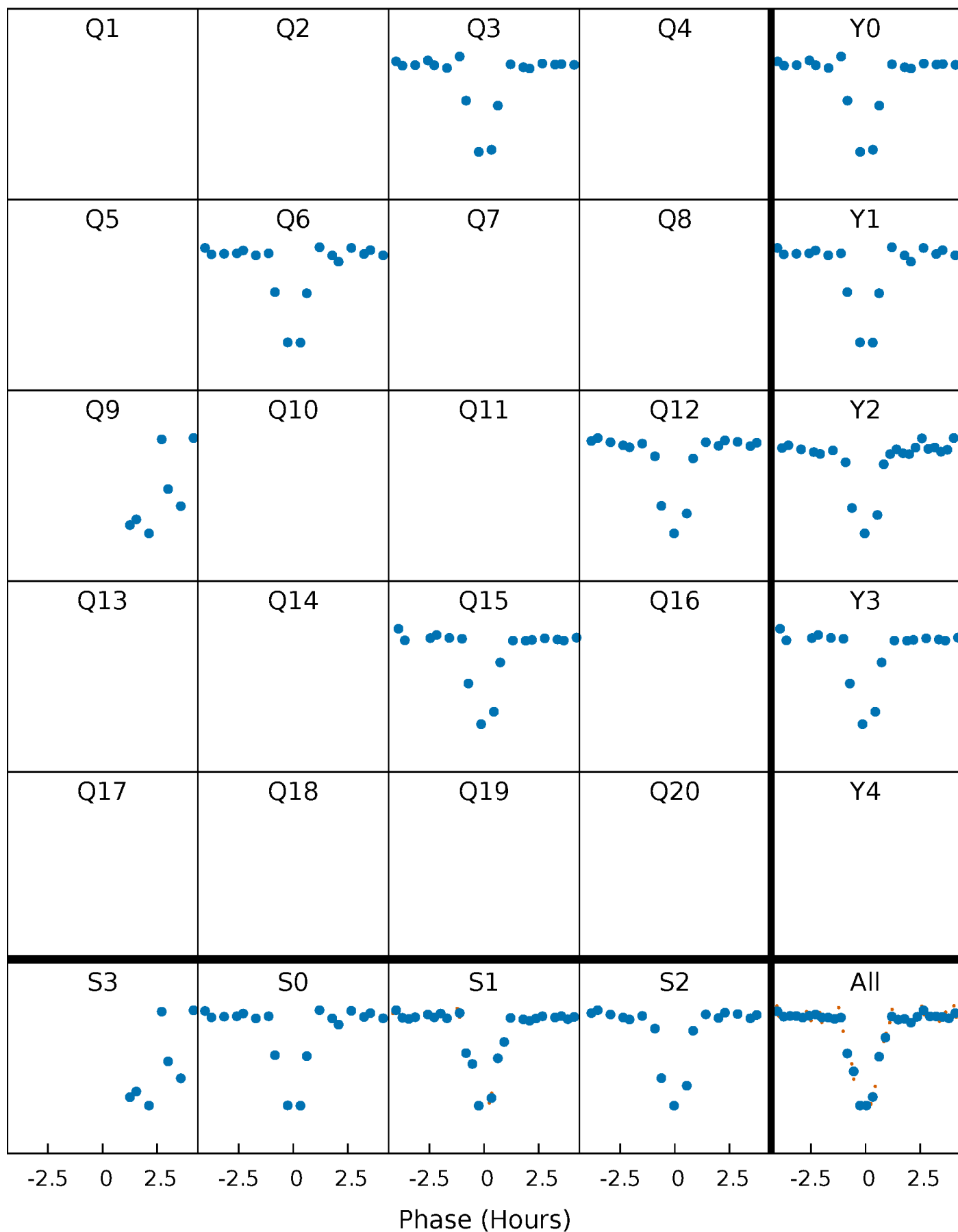


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



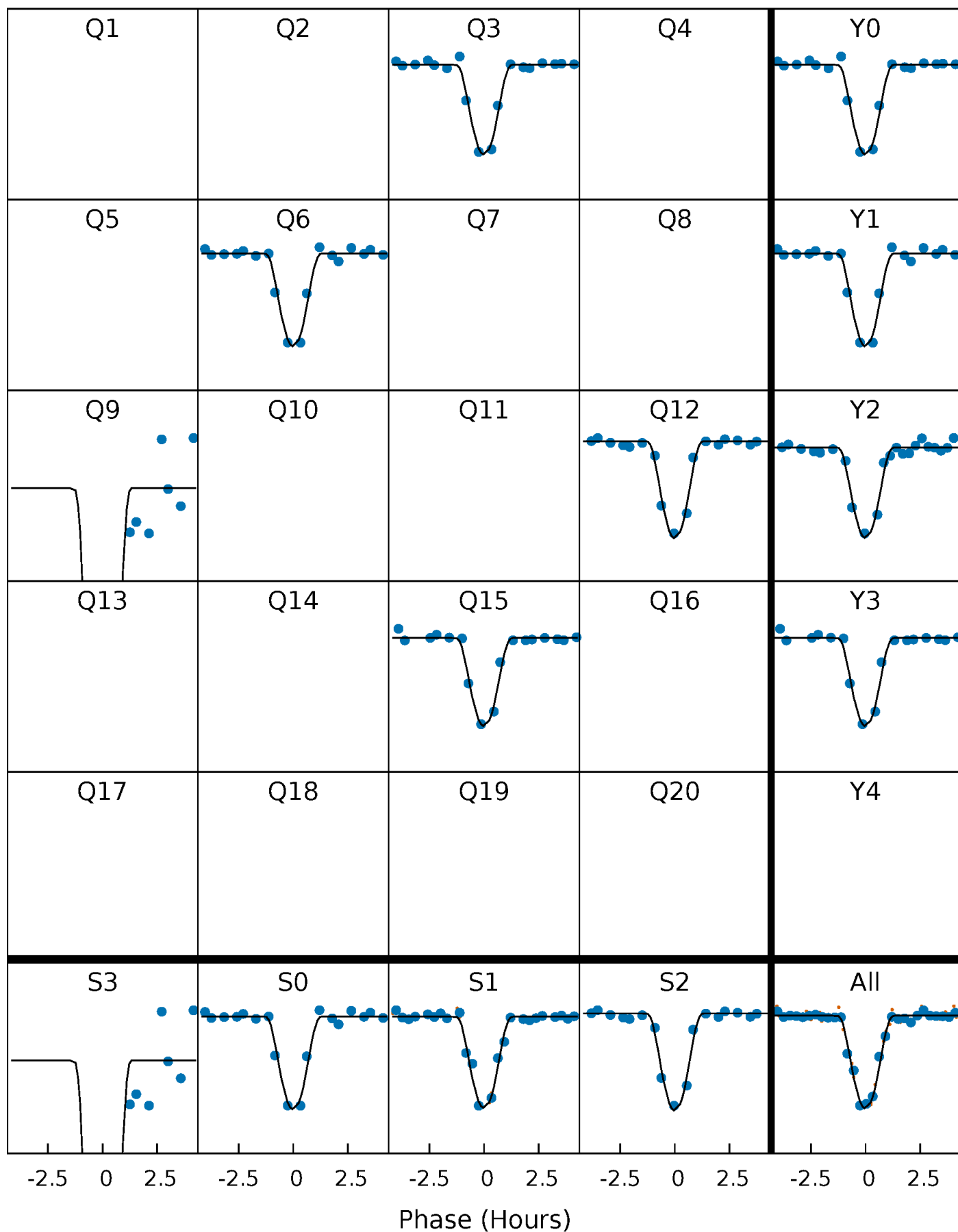
PDC Quarter-Phased Transit Curves

TCE 004638237-01 P=290.140198 Days $T_0=307.250551$ (BKJD)



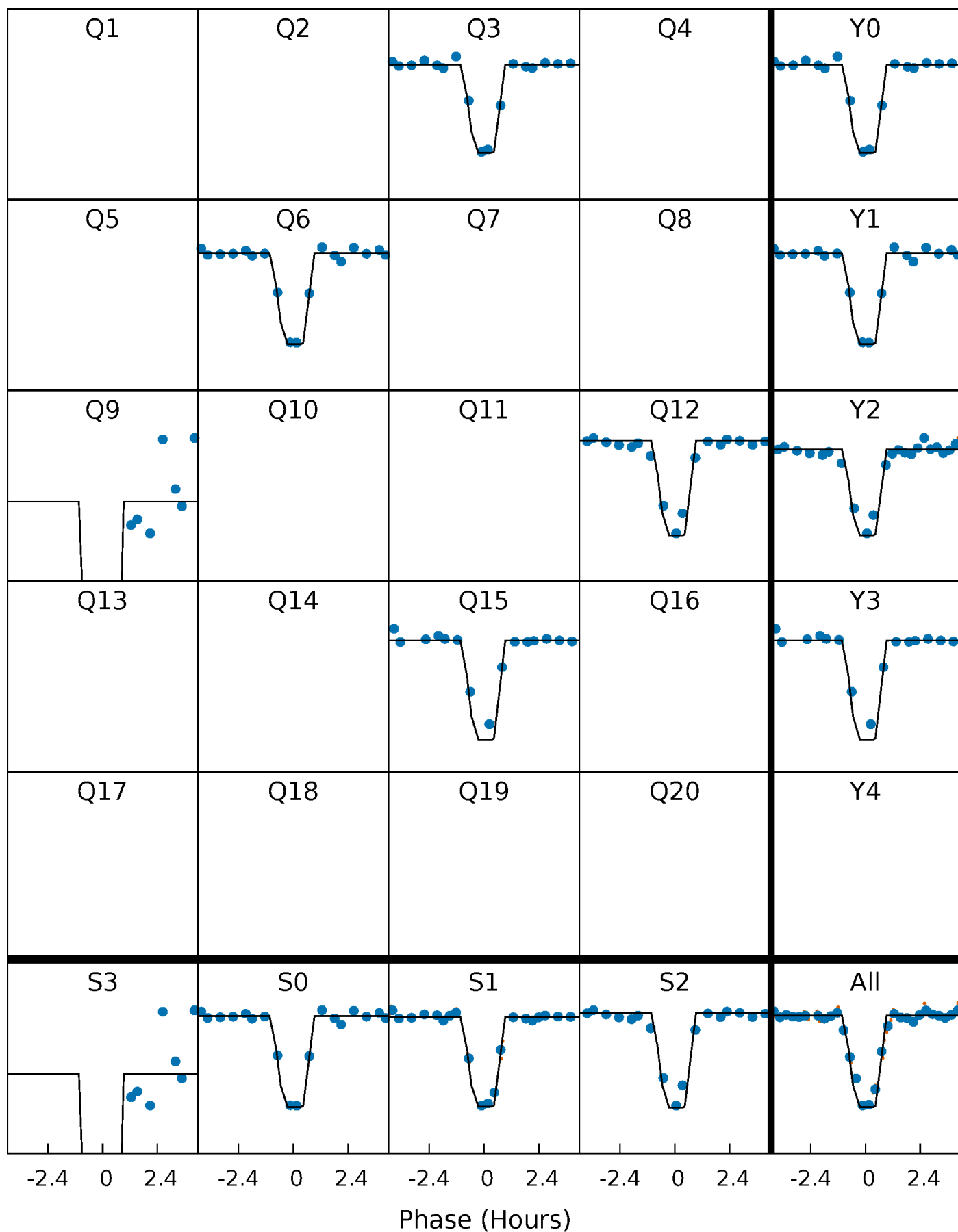
DV Quarter-Phased Transit Curves

TCE 004638237-01 P=290.140198 Days $T_0=307.250551$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

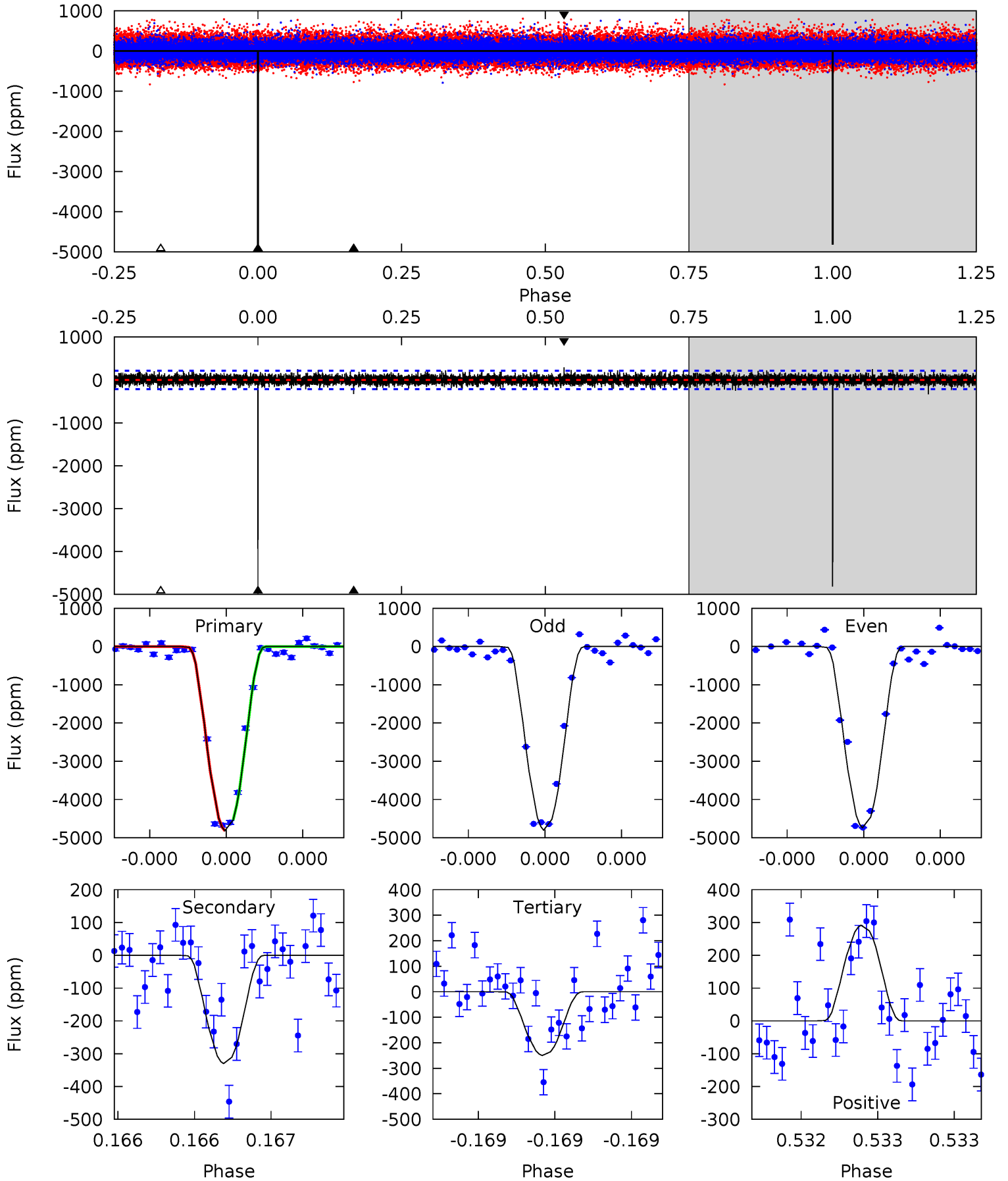
TCE 004638237-01 P=290.140669 Days $T_0=307.249618$ (BKJD)



DV Model-Shift Uniqueness Test

004638237-01, $P = 290.140198$ Days, $E = 17.110353$ Days

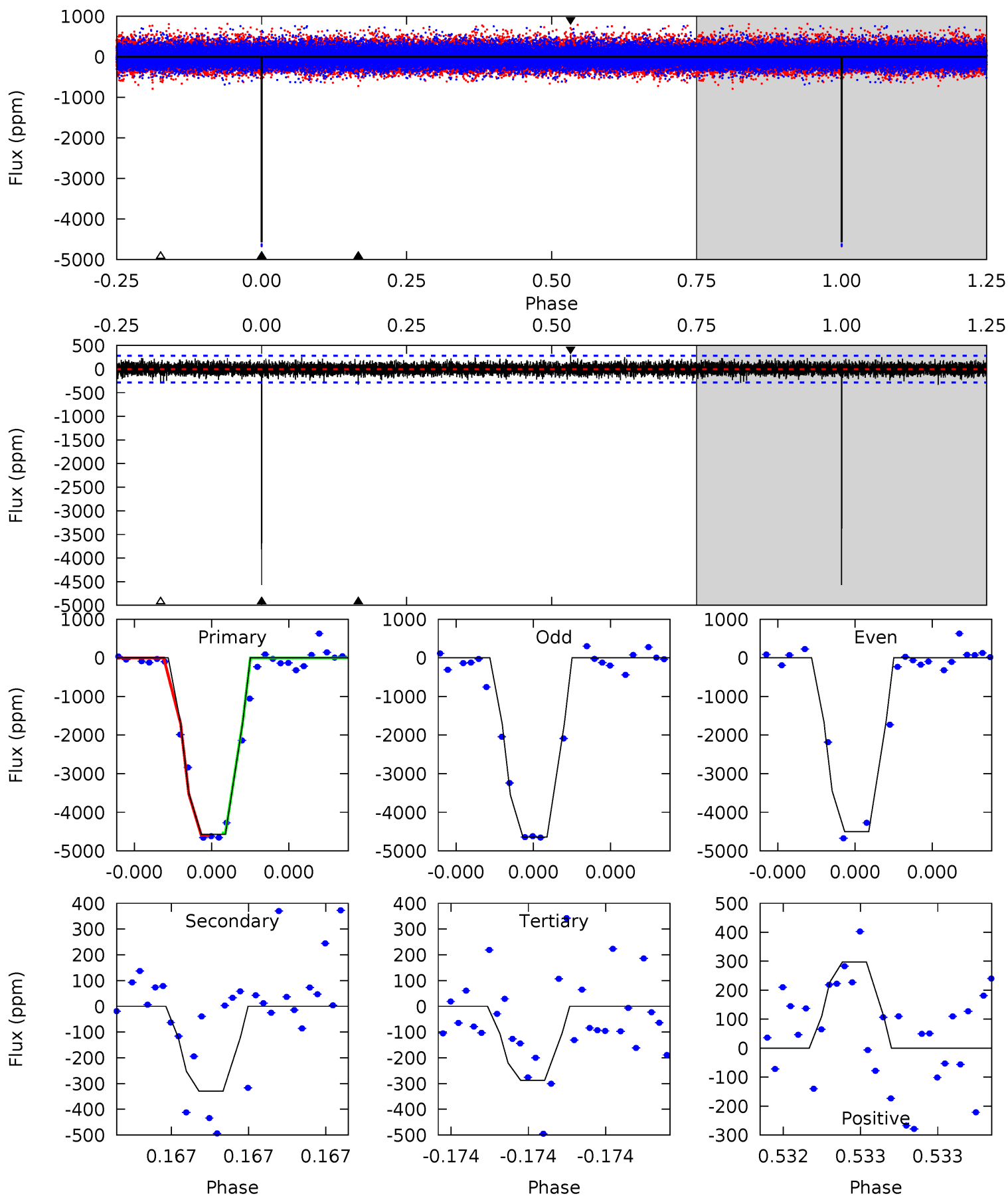
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
125.8	8.63	6.53	7.62	5.63	3.56	1.60	119.3	118.2	2.10	1.01	0.80	1.00	0.06	3.70



Alt Model-Shift Uniqueness Test

004638237-01, $P = 290.140669$ Days, $E = 17.108949$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
91.4	6.59	5.75	5.95	5.68	3.65	1.32	85.7	85.5	0.84	0.64	1.38	1.00	0.06	0.58



Stellar Parameters For KIC 004638237

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5631^{+84}_{-67}	$4.212^{+0.188}_{-0.101}$	$0.070^{+0.150}_{-0.150}$	$1.263^{+0.200}_{-0.245}$	$0.947^{+0.080}_{-0.047}$	$0.662^{+0.610}_{-0.218}$
	+1%/-1%	+4%/-2%	+214%/-214%	+16%/-19%	+8%/-5%	+92%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004638237-01 / KOI 3811.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-330 ± 38	$11.64^{+2.24}_{-2.19}$	424^{+18}_{-23}	3192^{+182}_{-145}	964^{+497}_{-288}
Alt.	-330 ± 50	$9.22^{+2.33}_{-2.25}$	422^{+19}_{-25}	3411^{+305}_{-208}	1509^{+1150}_{-578}

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 $A_{obs} \gg 1.0$

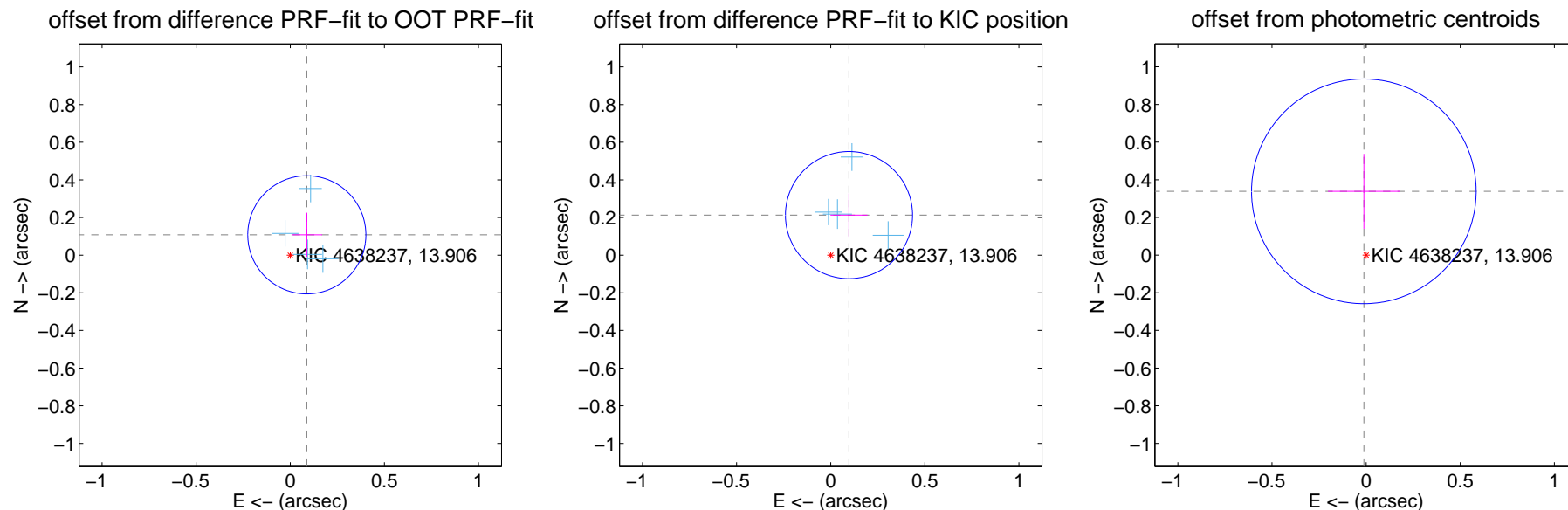
DV Centroid Data

Supplemental centroid analysis for 004638237-01. Kepler magnitude: 13.91. Transit SNR 71.03

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.105	1.33	-0.088 ± 0.081	0.108 ± 0.118
PRF-fit source offset from KIC position	0.234 ± 0.113	2.08	-0.097 ± 0.098	0.213 ± 0.115
photometric centroid source offset	0.34 ± 0.20	1.70	0.01 ± 0.19	0.34 ± 0.20



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.

Q1 no difference image



Q1 no OOT image



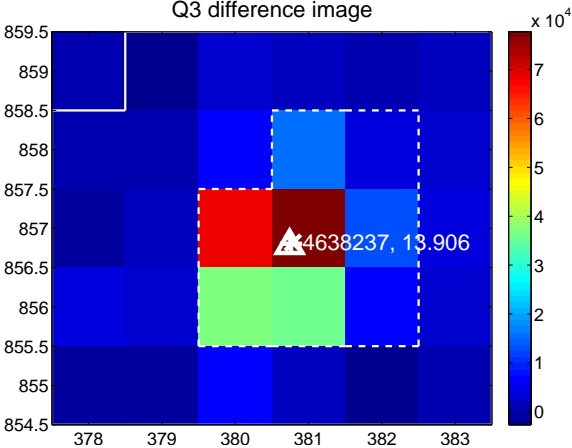
Q2 no difference image



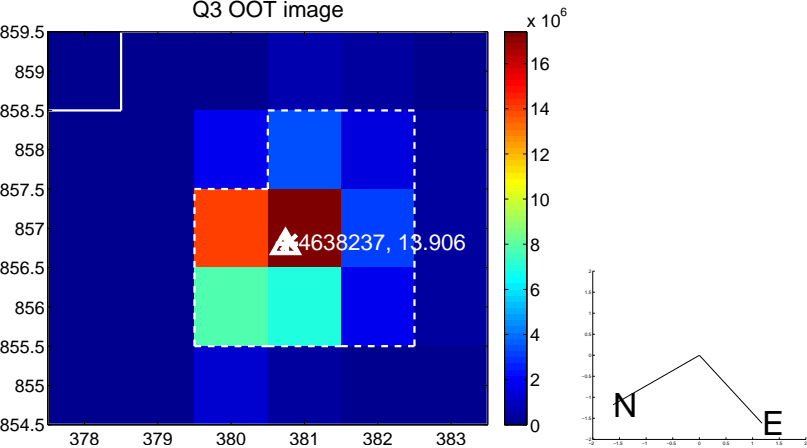
Q2 no OOT image



Q3 difference image



Q3 OOT image



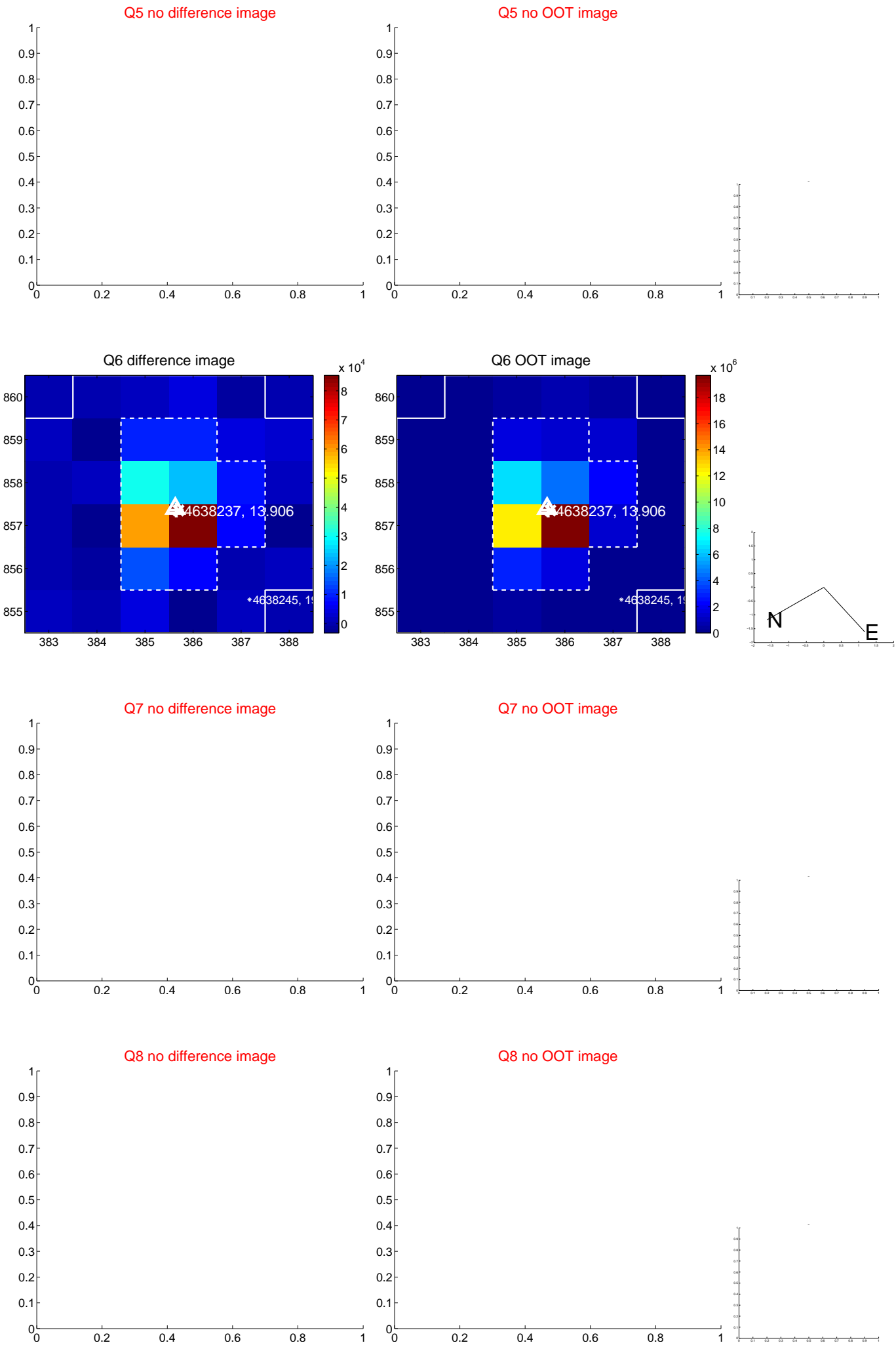
Q4 no difference image



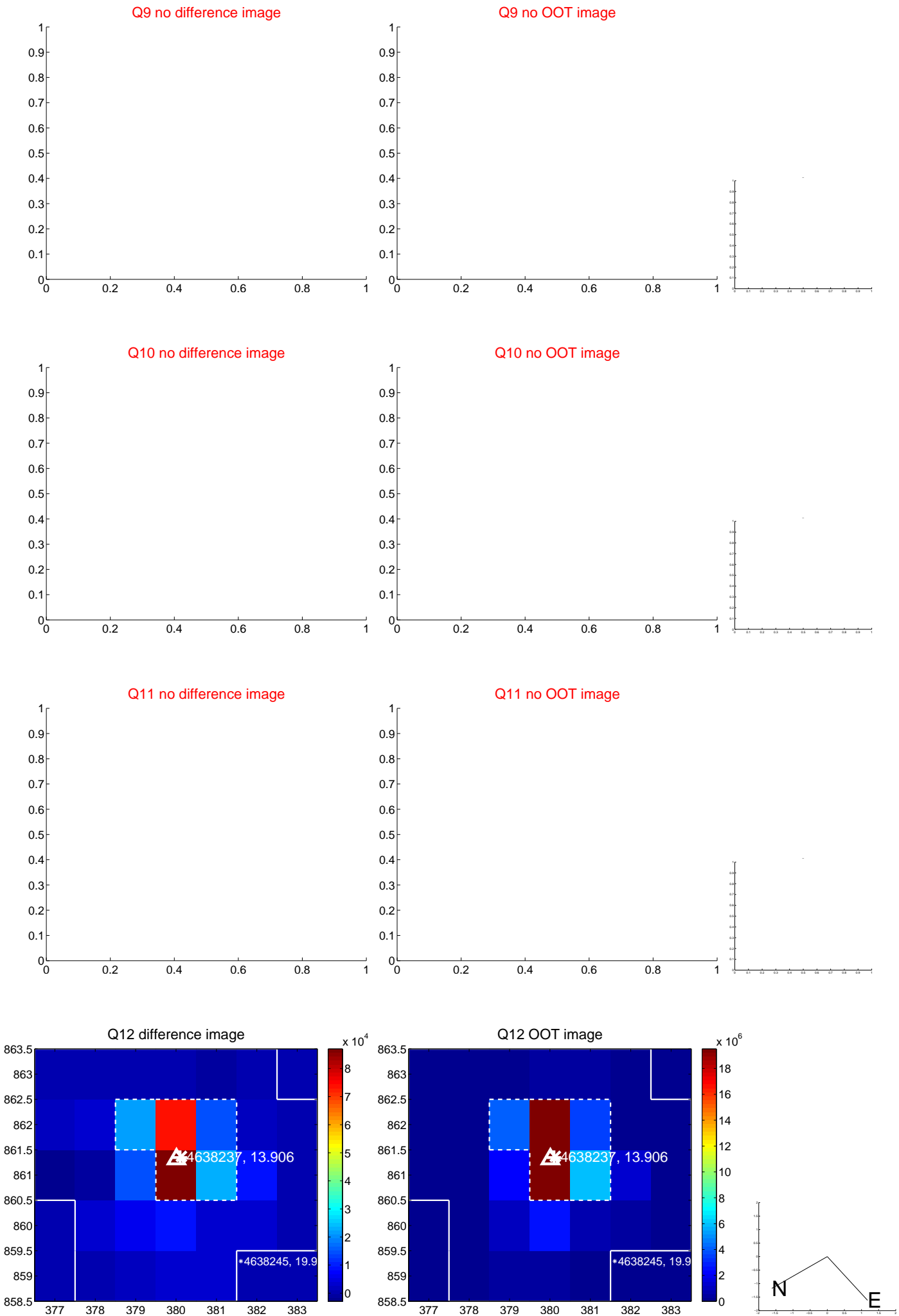
Q4 no OOT image



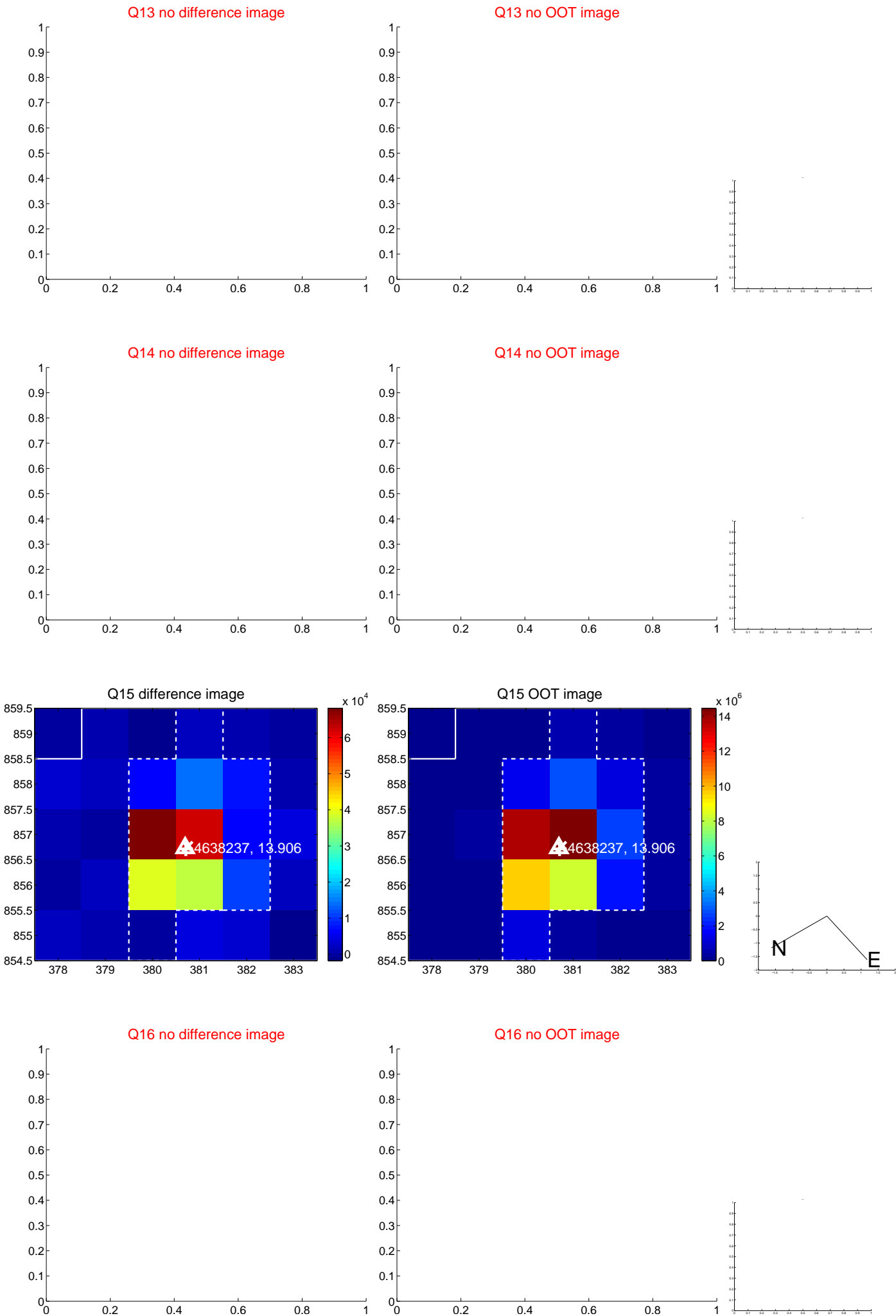
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



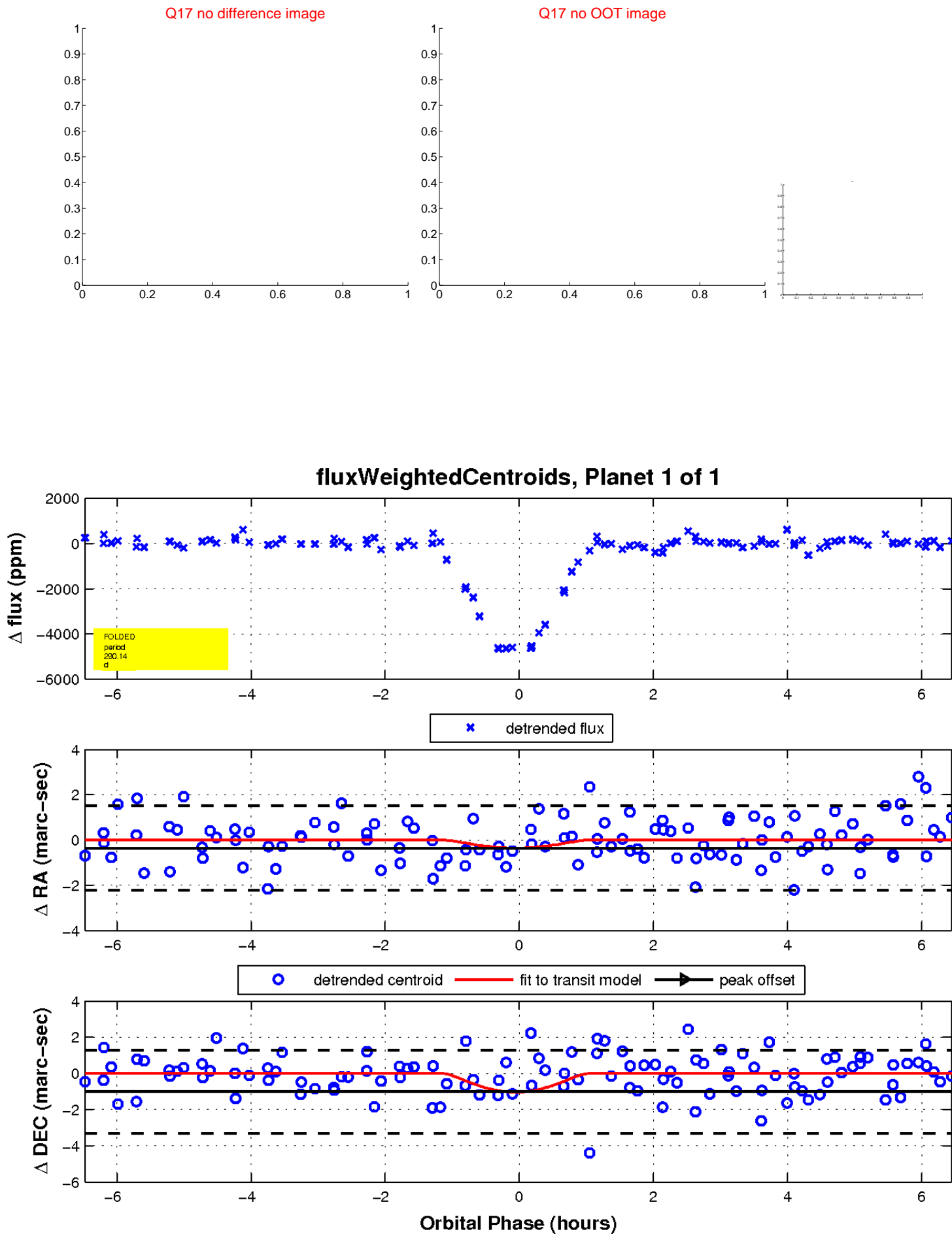
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

