

KIC 008540376

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})
008540376-01	OBS	7892.01	10.690622	141.312033	407.0	5.153	11.8	10.5	1.24	6474	3.09	244.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008540376-01	OBS	PC	0.99	0	0	0	0	CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

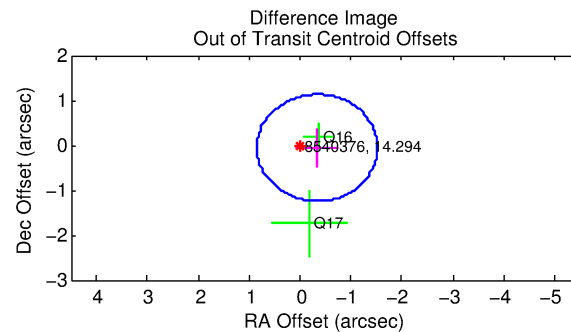
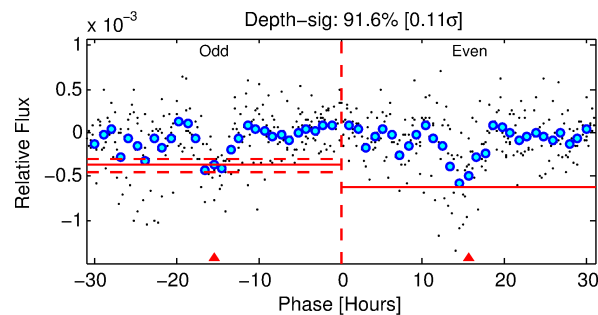
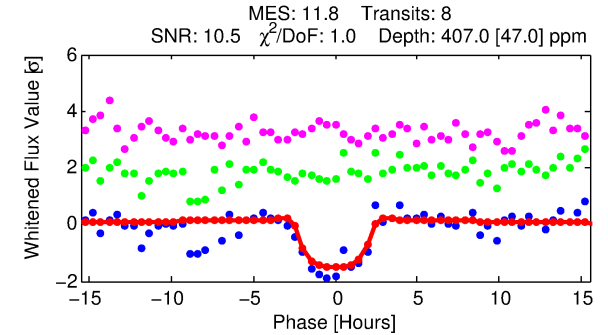
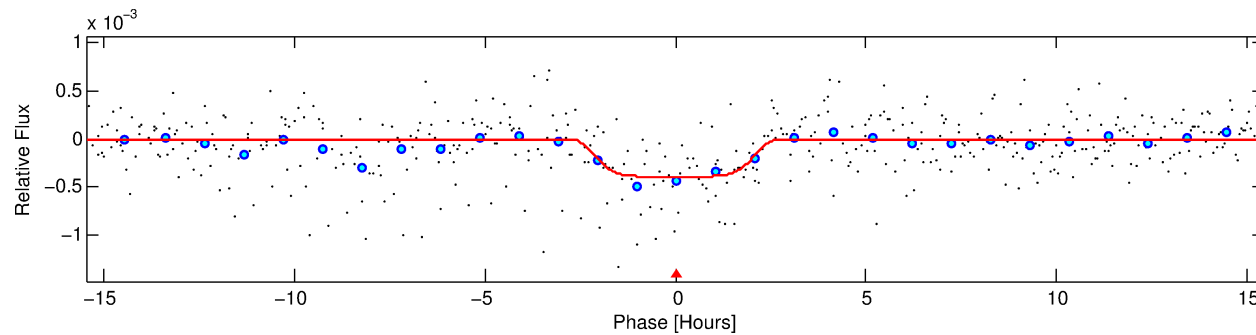
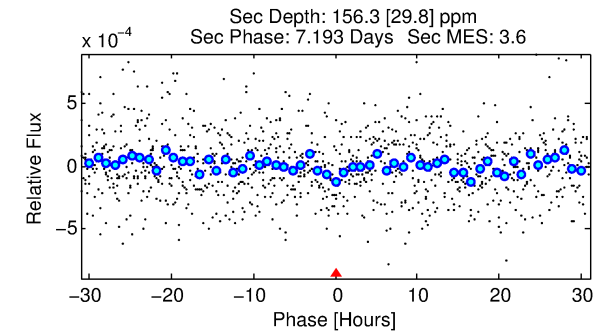
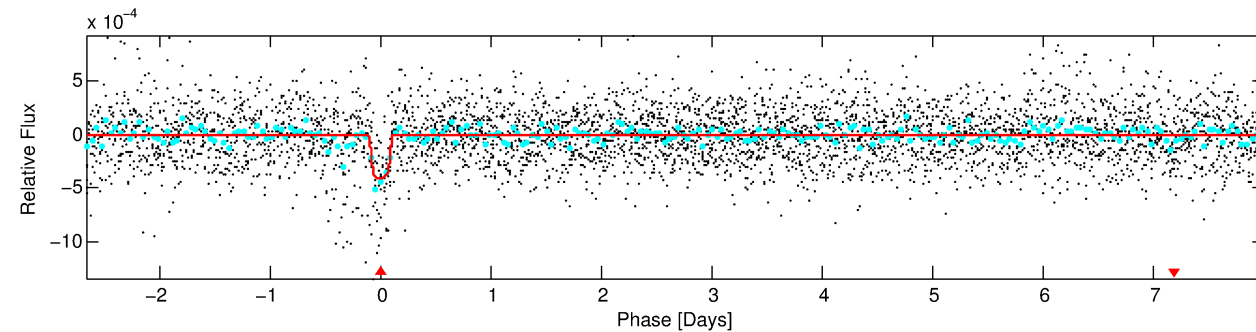
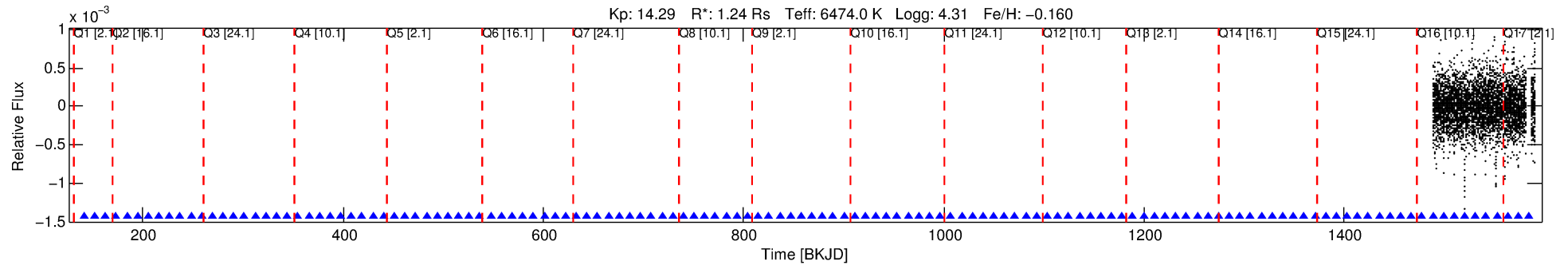
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008540376-01

No Significant Match Found

DV One-Page Summary

KIC: 8540376 Candidate: 1 of 1 Period: 10.691 d



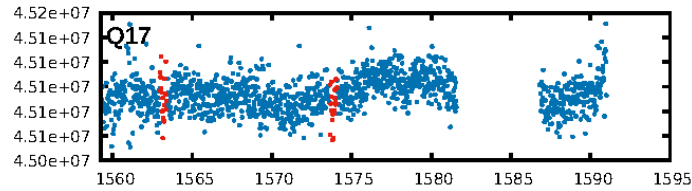
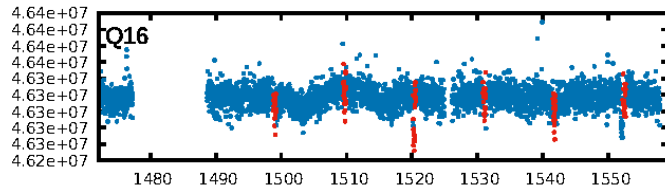
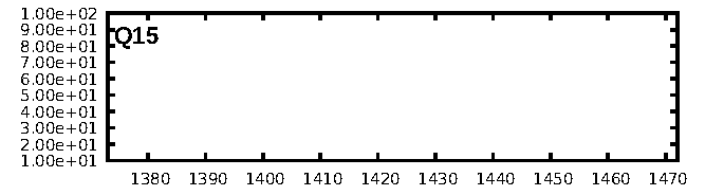
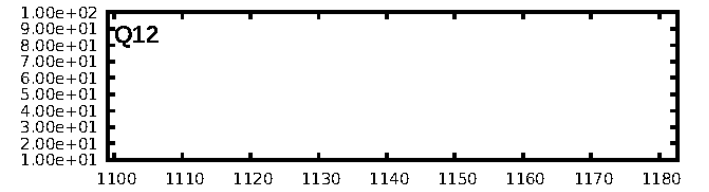
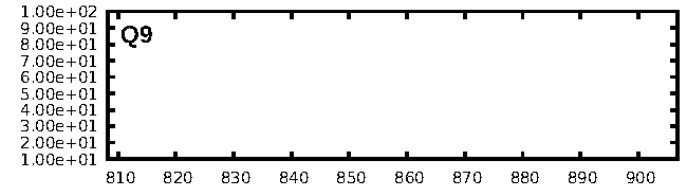
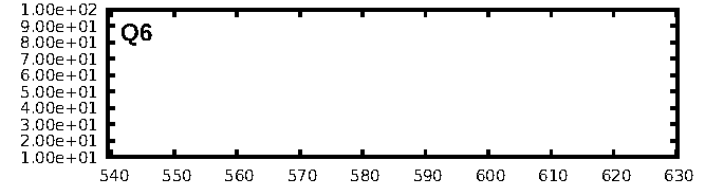
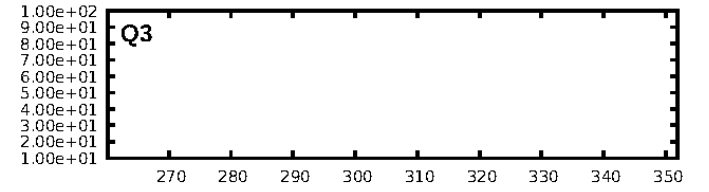
DV Fit Results:

Period = 10.69062 [0.00041] d
Epoch = 141.3120 [0.0508] BKJD
Rp/R* = 0.0228 [0.0034]
a/R* = 6.17 [4.95]
b = 0.95 [0.09]
Seff = 244.90 [98.16]
Teff = 1009 [101] K
Rp = 3.09 [1.05] Re
a = 0.0996 [0.0255] AU
Ag = 89.24 [45.51] [1.94 σ]
Teffp = 4794 [460] K [8.04 σ]

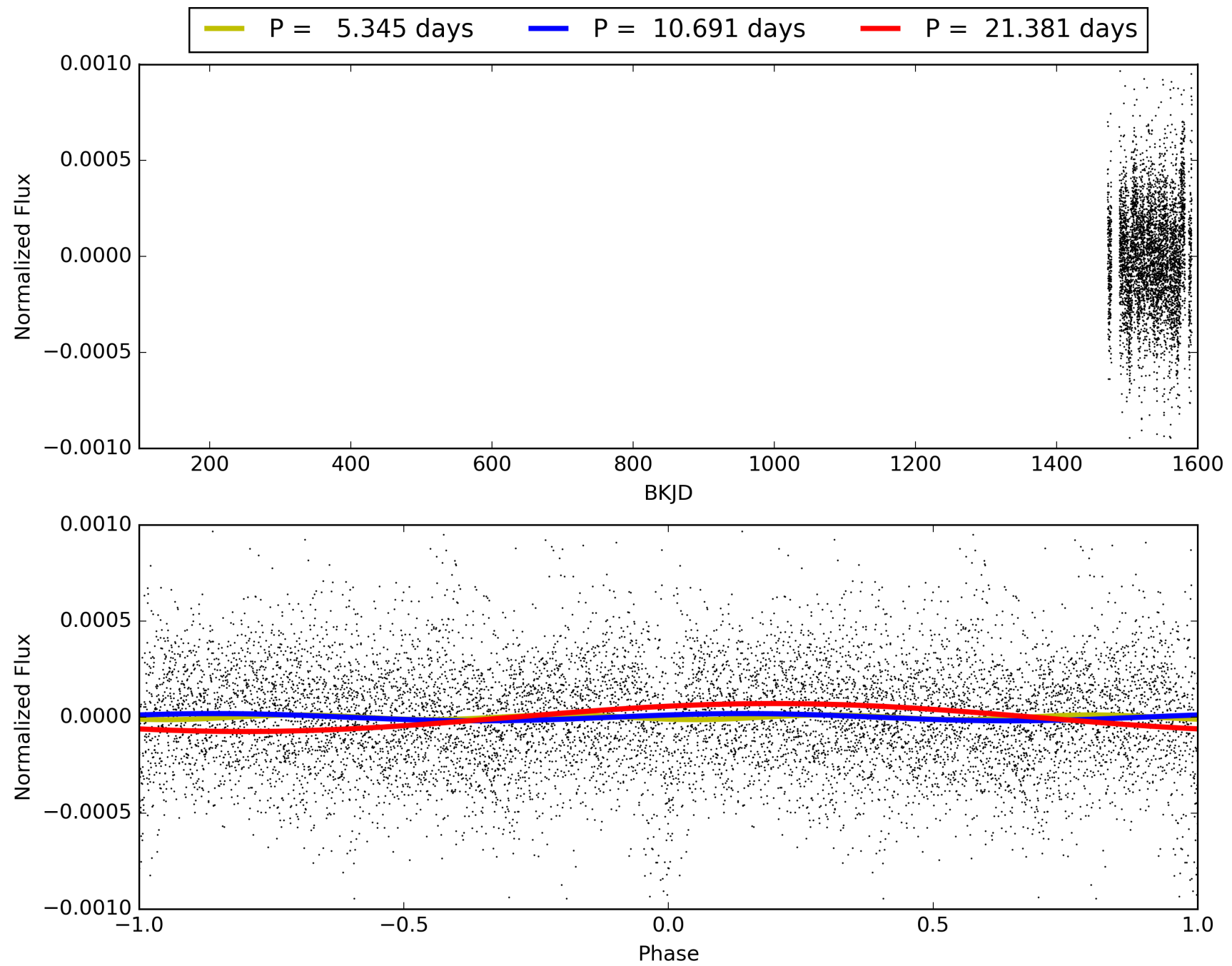
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 46.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.48e-30
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 3.276
Centroid-sig: 0.8%
Centroid-so: 2.233 arcsec [1.88 σ]
OotOffset-rm: 0.340 arcsec [0.86 σ]
KicOffset-rm: 0.312 arcsec [0.79 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008540376-01, PDC Light Curves

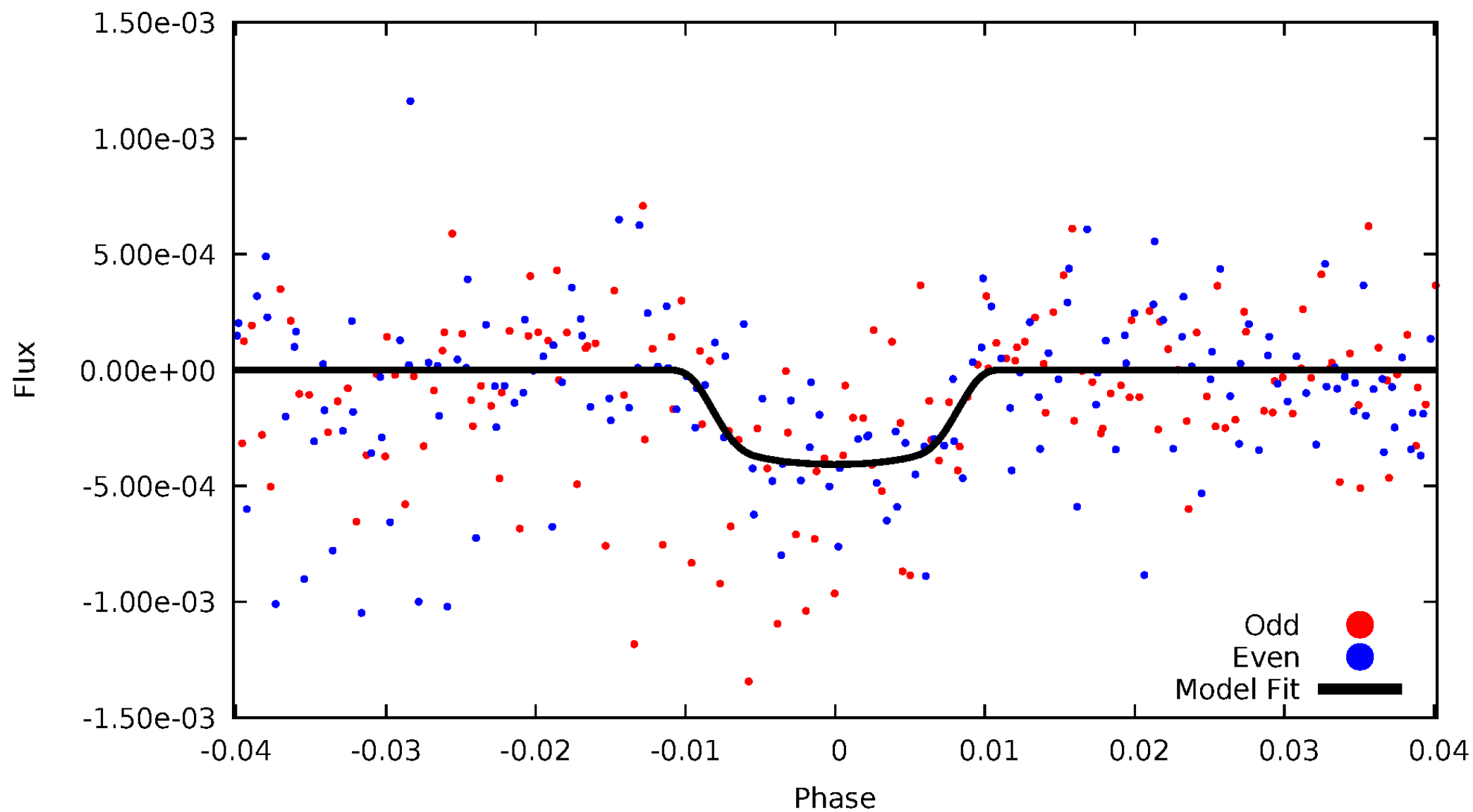


TCE 008540376-01



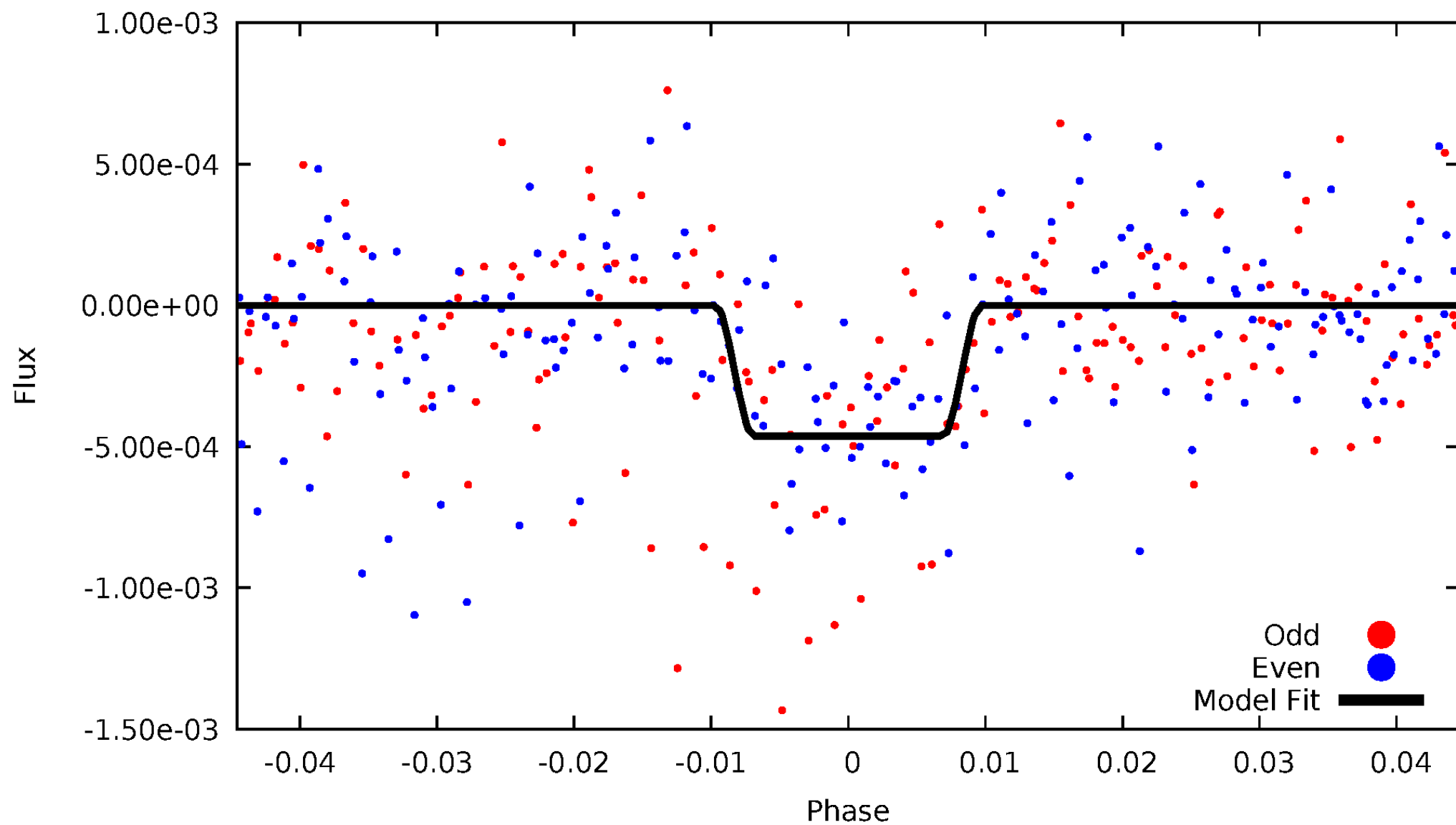
DV Odd/Even

TCE 008540376-01

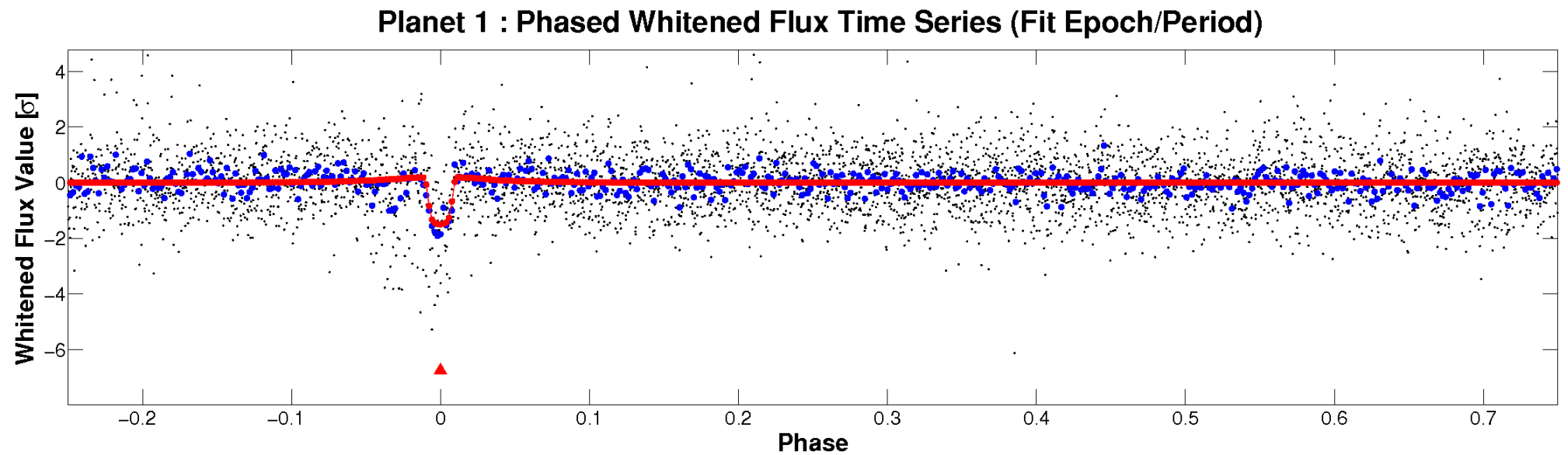
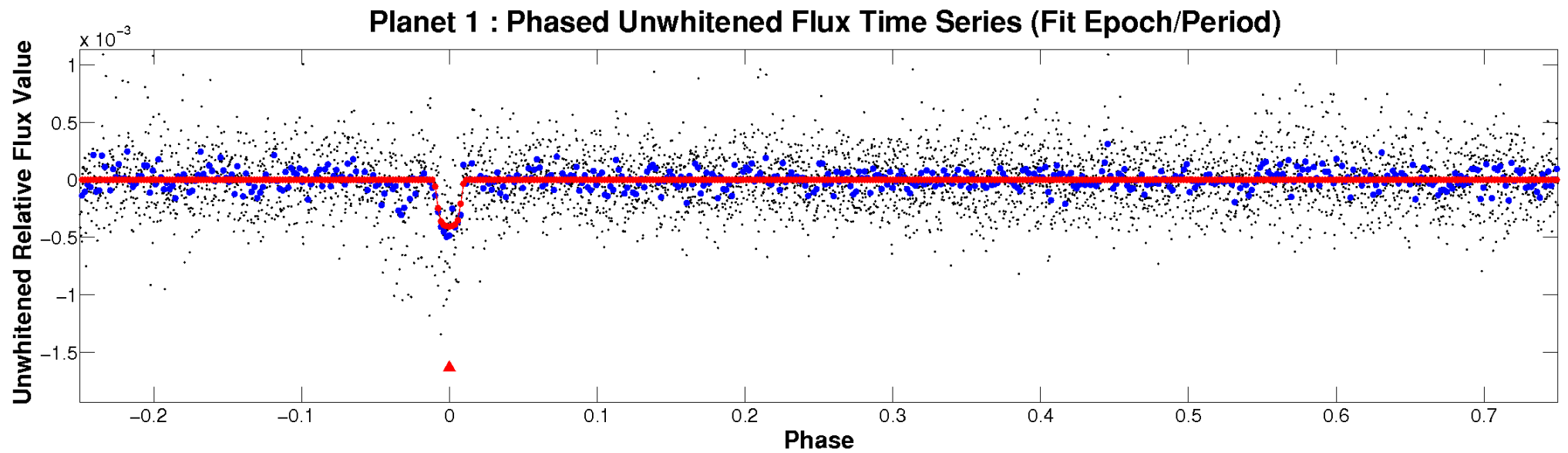


ALT Odd/Even

TCE 008540376-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008540376-01 P= 10.690622 Days $T_0=141.312033$ (BKJD)



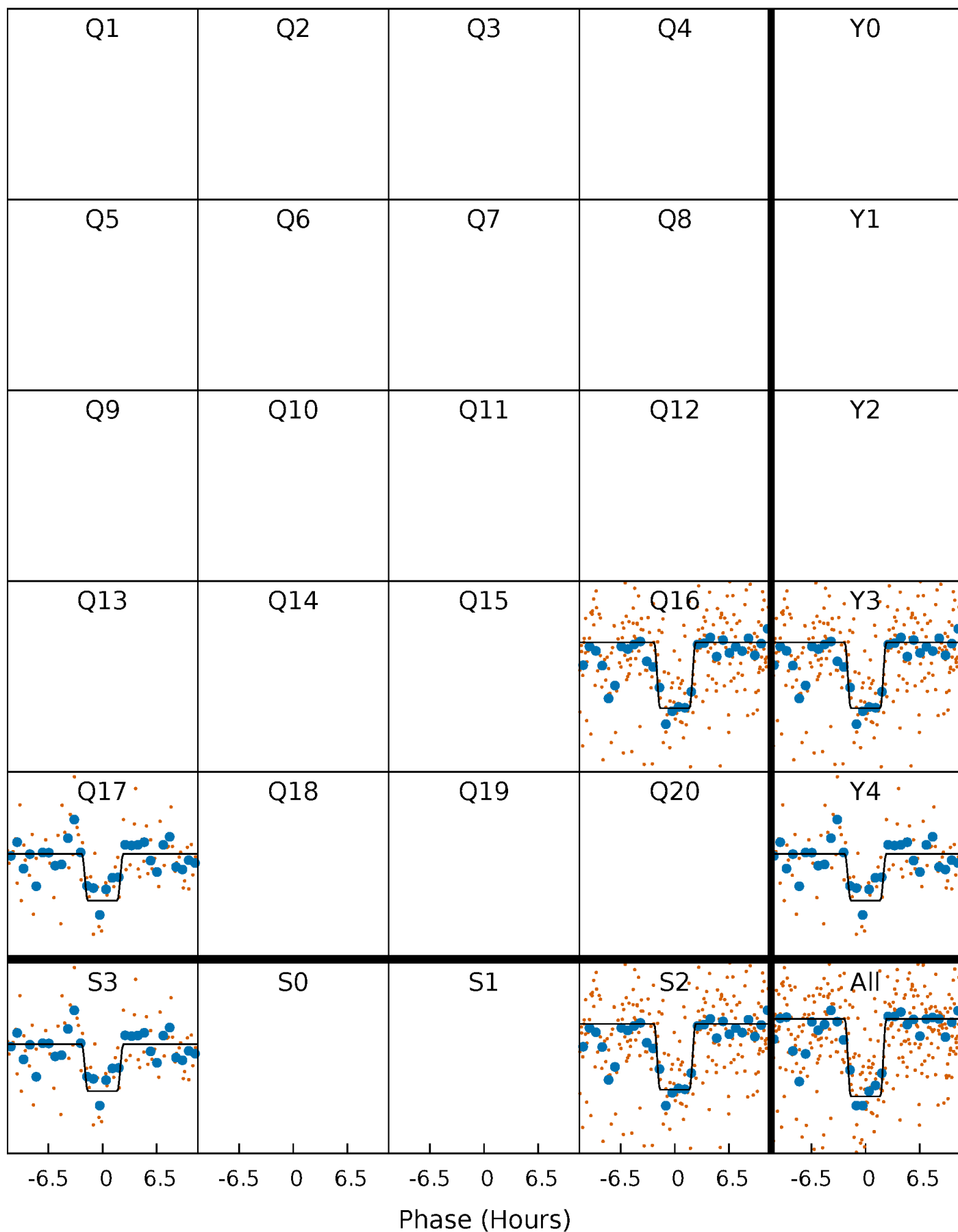
DV Quarter-Phased Transit Curves

TCE 008540376-01 P= 10.690622 Days $T_0=141.312033$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

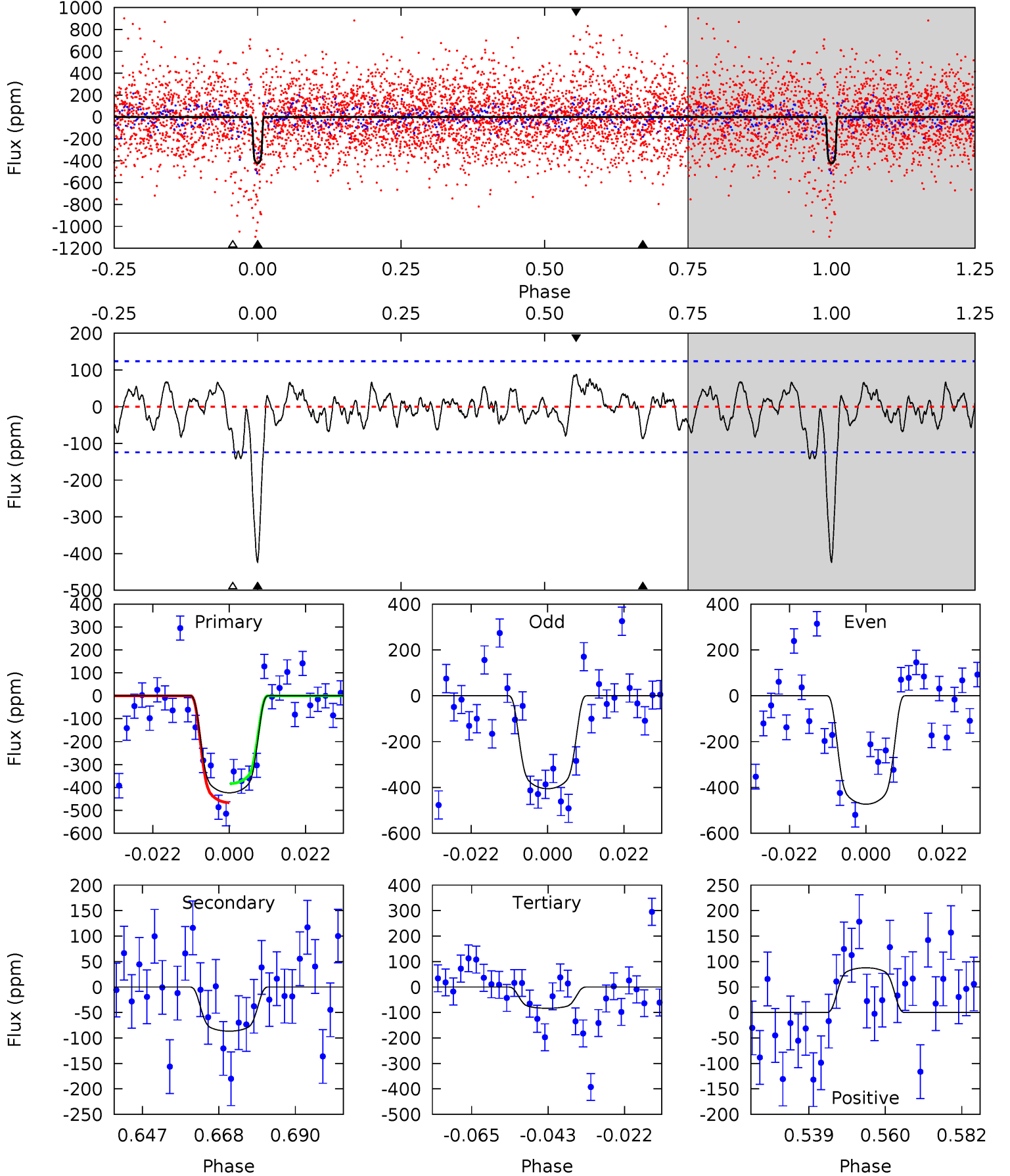
TCE 008540376-01 P= 10.694125 Days $T_0=140.849878$ (BKJD)



DV Model-Shift Uniqueness Test

008540376-01, P = 10.690622 Days, E = 141.312033 Days

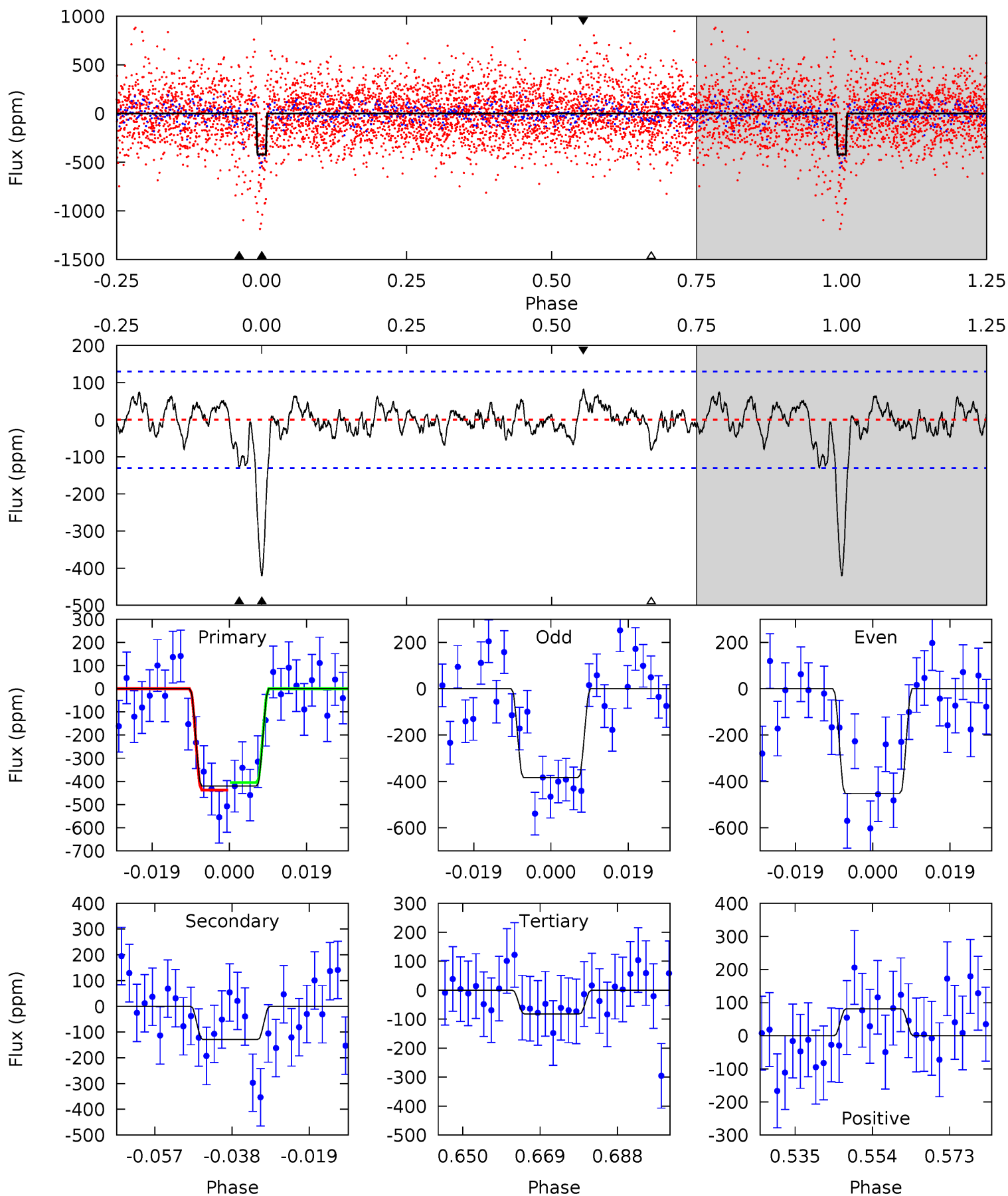
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.41	3.28	3.45	4.88	2.30	1.47	13.4	13.2	0.13	-0.04	1.34	1.05	0.17	1.62



Alt Model-Shift Uniqueness Test

008540376-01, P = 10.694125 Days, E = 140.849878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	4.87	3.09	3.08	4.90	2.34	1.12	12.8	12.8	1.78	1.79	1.27	1.11	0.16	0.60



Stellar Parameters For KIC 008540376

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6474^{+159}_{-250}	$4.311^{+0.108}_{-0.201}$	$-0.160^{+0.250}_{-0.300}$	$1.242^{+0.380}_{-0.205}$	$1.148^{+0.192}_{-0.157}$	$0.845^{+0.470}_{-0.428}$
	+2%/-4%	+3%/-5%	+156%/-188%	+31%/-17%	+17%/-14%	+56%/-51%
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 008540376-01 / KOI 7892.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-87 ± 25	$3.13^{+0.67}_{-0.55}$	1418^{+108}_{-85}	4351^{+361}_{-369}	47^{+27}_{-20}
Alt.	-129 ± 26	$3.03^{+0.68}_{-0.57}$	1420^{+113}_{-82}	4783^{+400}_{-364}	75^{+44}_{-26}

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 $A_{obs} \gg 1.0$

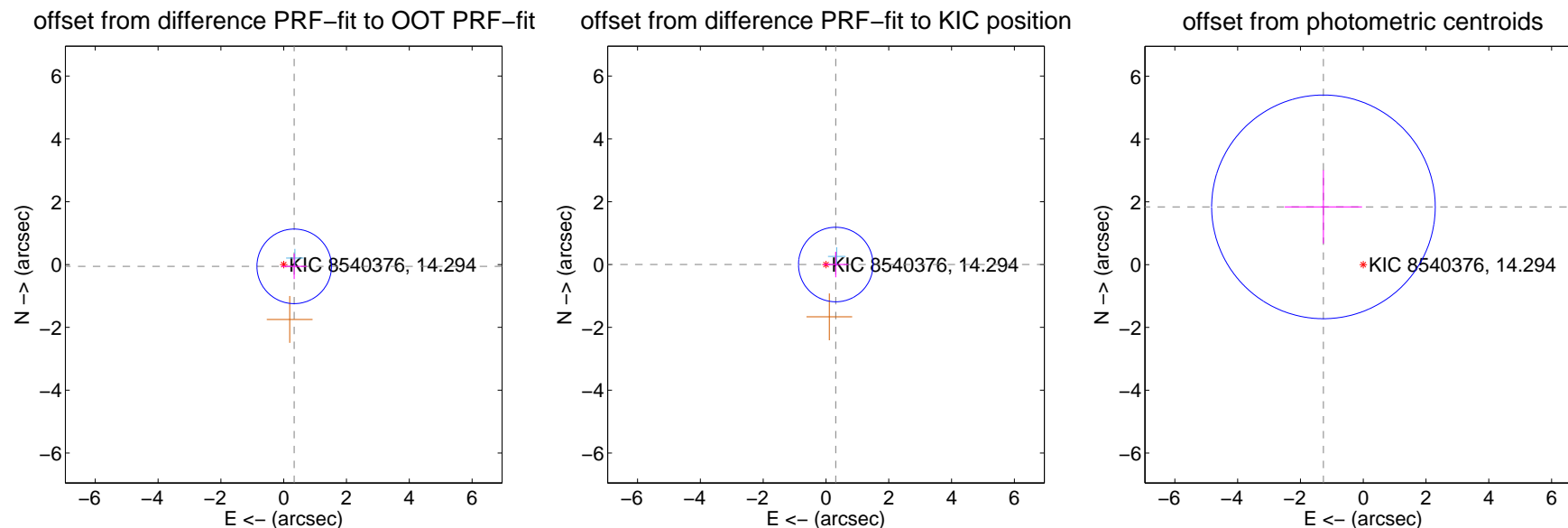
DV Centroid Data

Supplemental centroid analysis for 008540376-01. Kepler magnitude: 14.29. Transit SNR 10.50

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.340 ± 0.396	0.86	-0.335 ± 0.395	-0.057 ± 0.406
PRF-fit source offset from KIC position	0.312 ± 0.395	0.79	-0.312 ± 0.395	0.000 ± 0.406
photometric centroid source offset	2.23 ± 1.19	1.88	1.27 ± 1.23	1.84 ± 1.17



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.



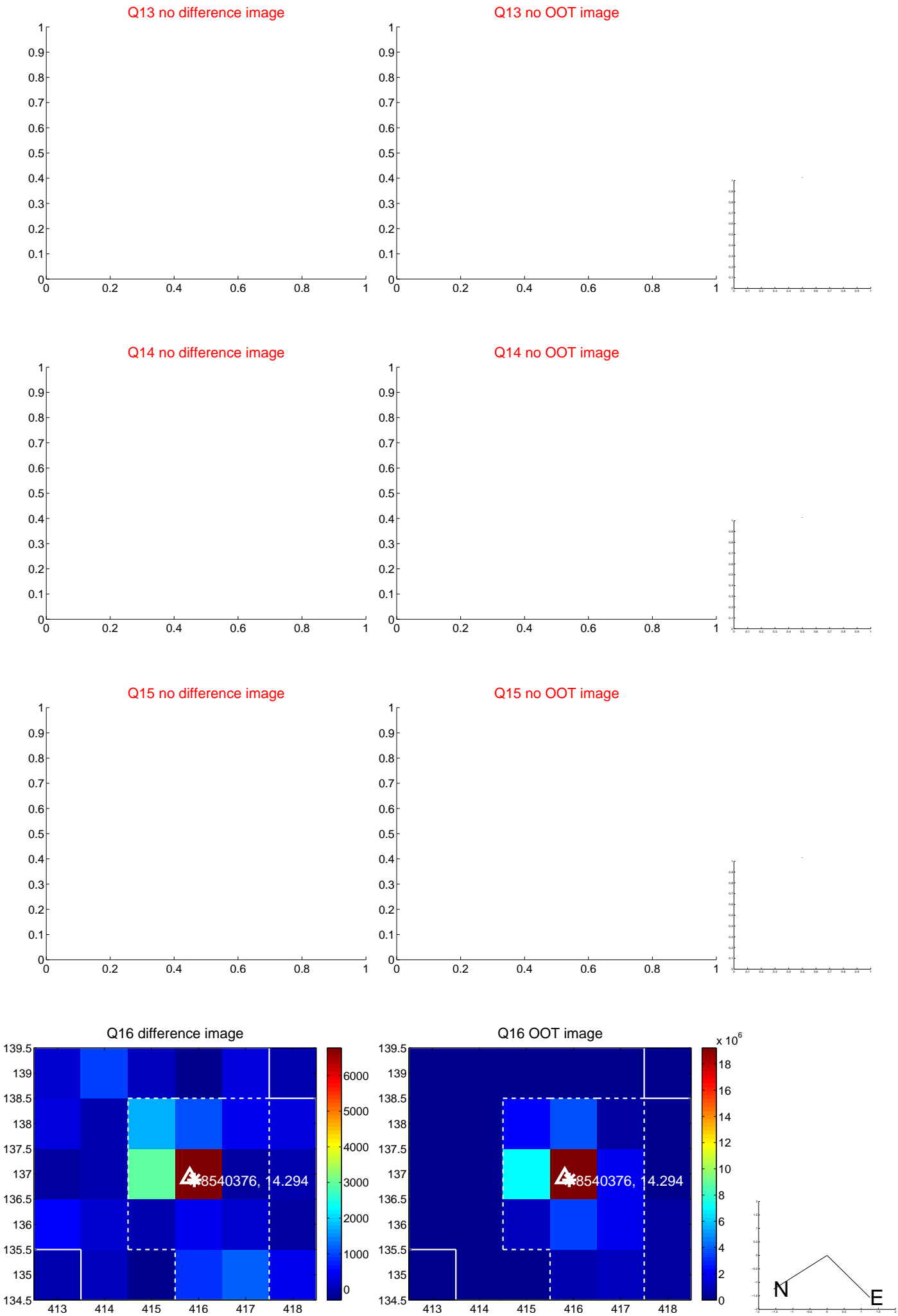
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



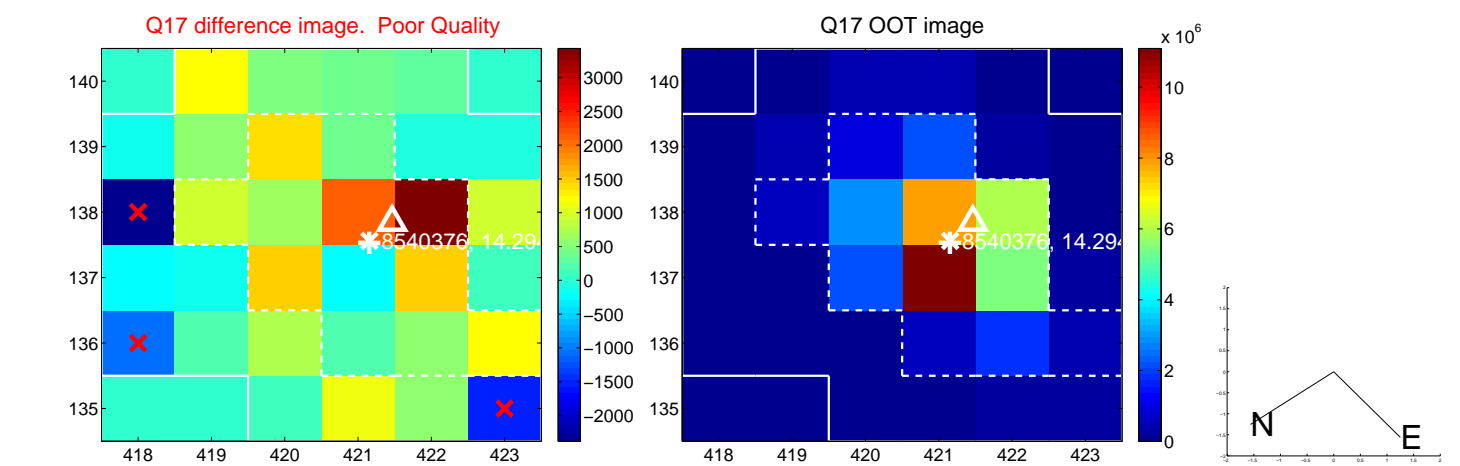
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



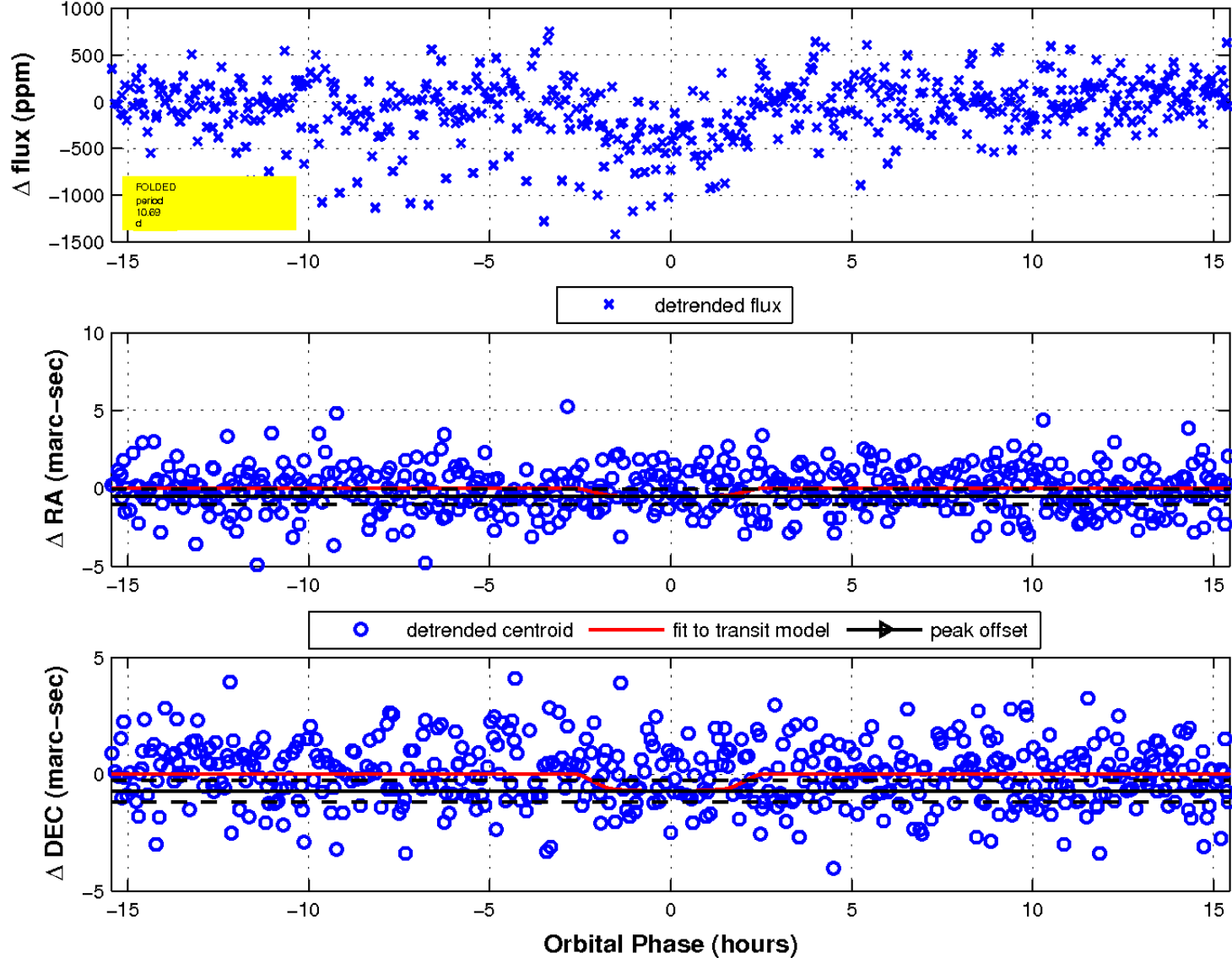
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

