

KIC 008681817

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})
008681817-01	OBS	No	597.556270	273.027973	256.8	5.982	20.0	1.9	1.47	6446	2.49	1.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008681817-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

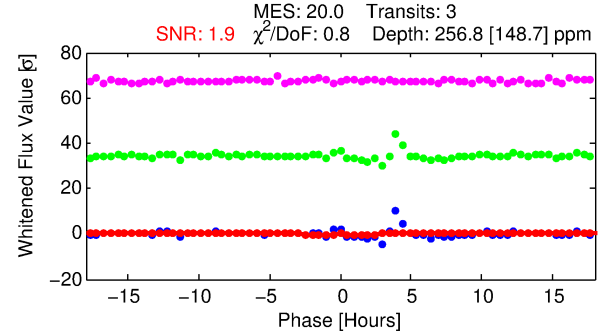
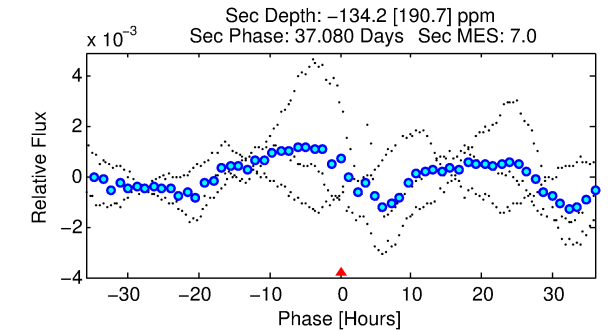
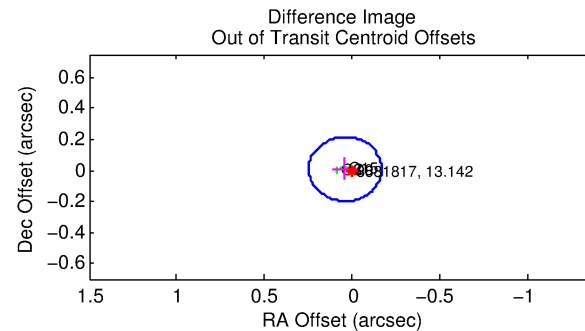
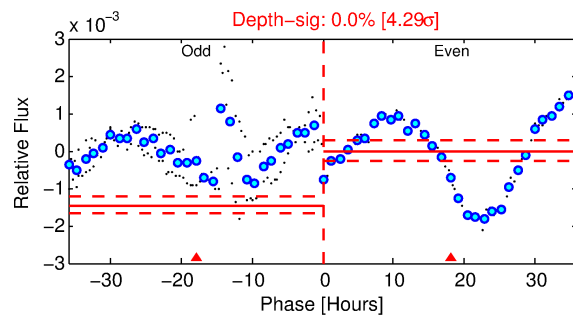
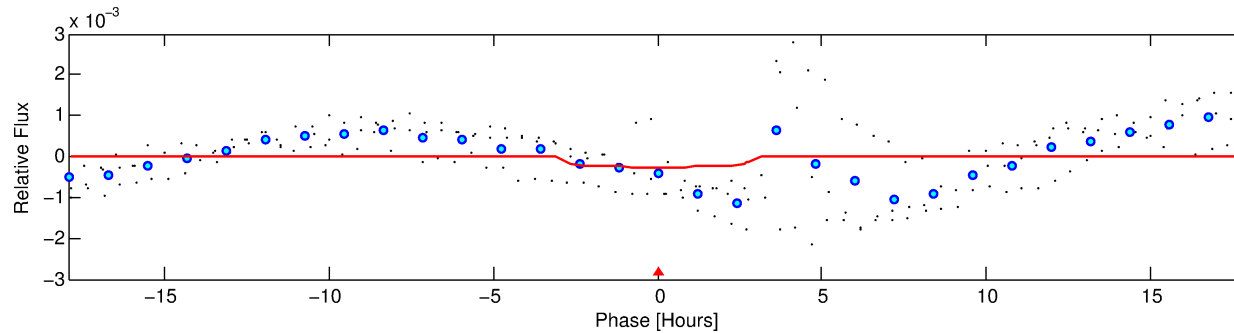
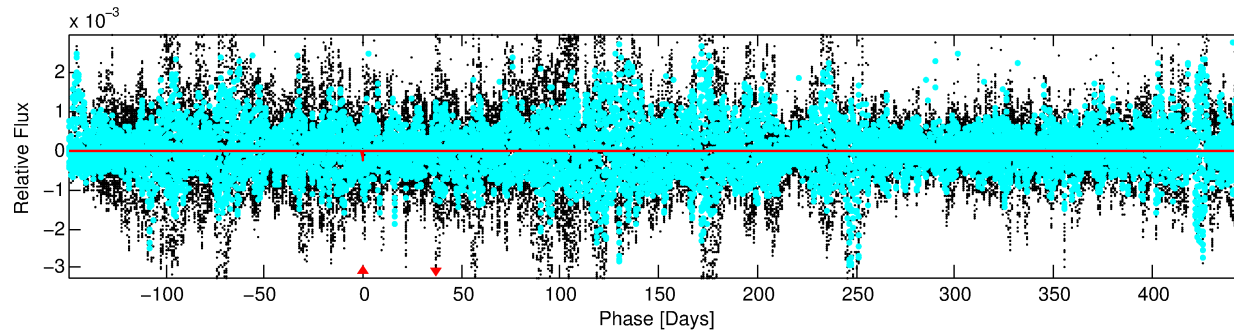
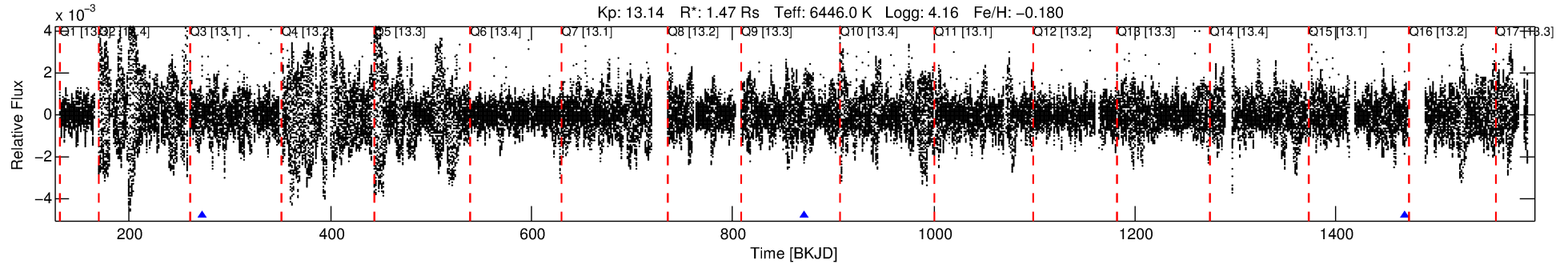
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008681817-01

No Significant Match Found

DV One-Page Summary

KIC: 8681817 Candidate: 1 of 1 Period: 597.556 d



DV Fit Results:

Period = 597.55627 [0.01260] d
Epoch = 273.0280 [0.0193] BKJD
Rp/R* = 0.0155 [0.0155]
a/R* = 594.33 [2814.22]
b = 0.65 [4.23]
Seff = 1.58 [0.63]
Teq = 286 [28] K
Rp = 2.49 [2.60] Re
a = 1.4538 [0.3732] AU
Ag = N/A
Teffp = N/A

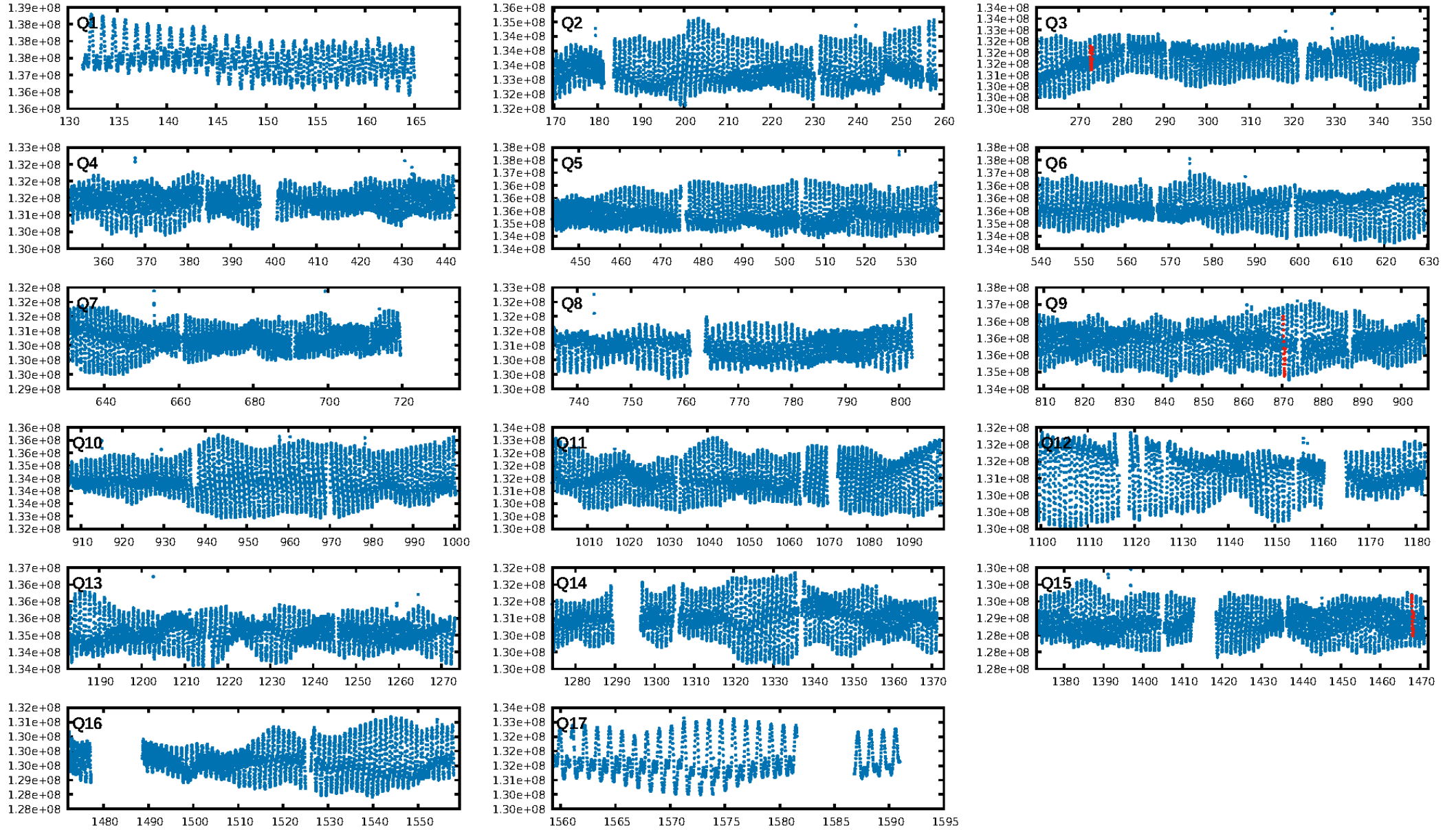
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 46.8%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.12e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.9
Centroid-sig: 19.9%
Centroid-so: 1.778 arcsec [1.30 σ]
OotOffset-rm: 0.042 arcsec [0.61 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 0.112 arcsec [1.44 σ]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

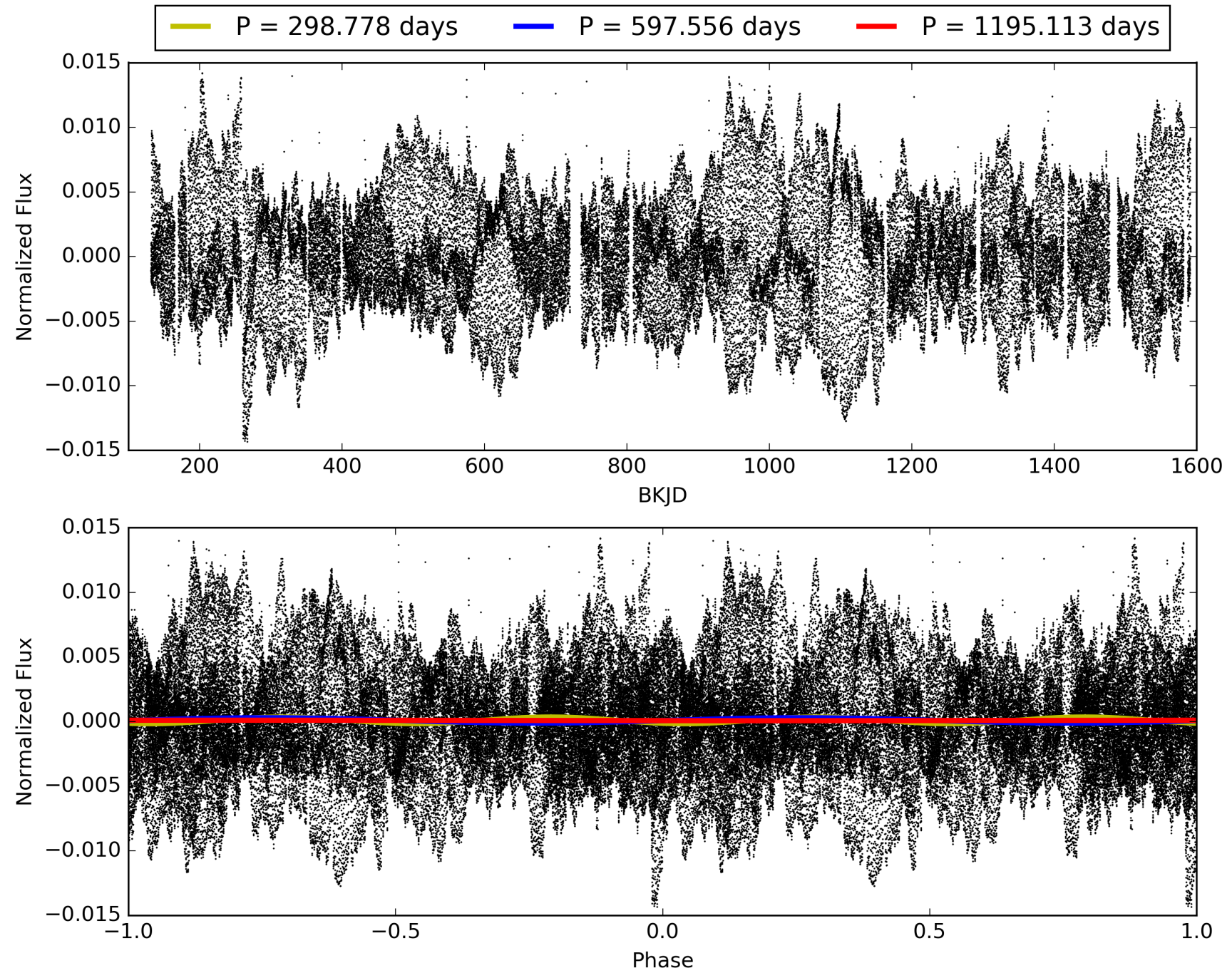
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:21:33 Z

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

TCE 008681817-01, PDC Light Curves

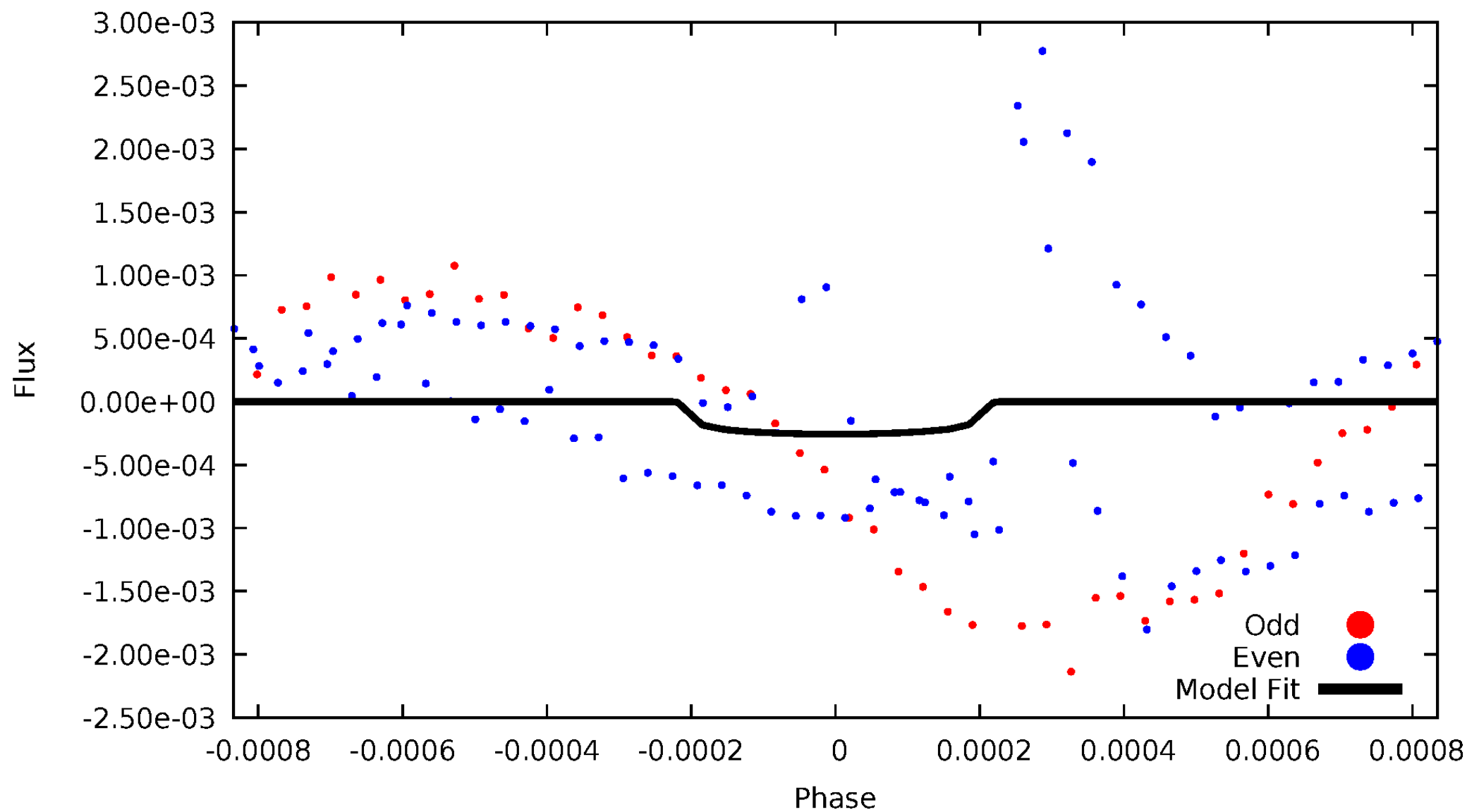


TCE 008681817-01



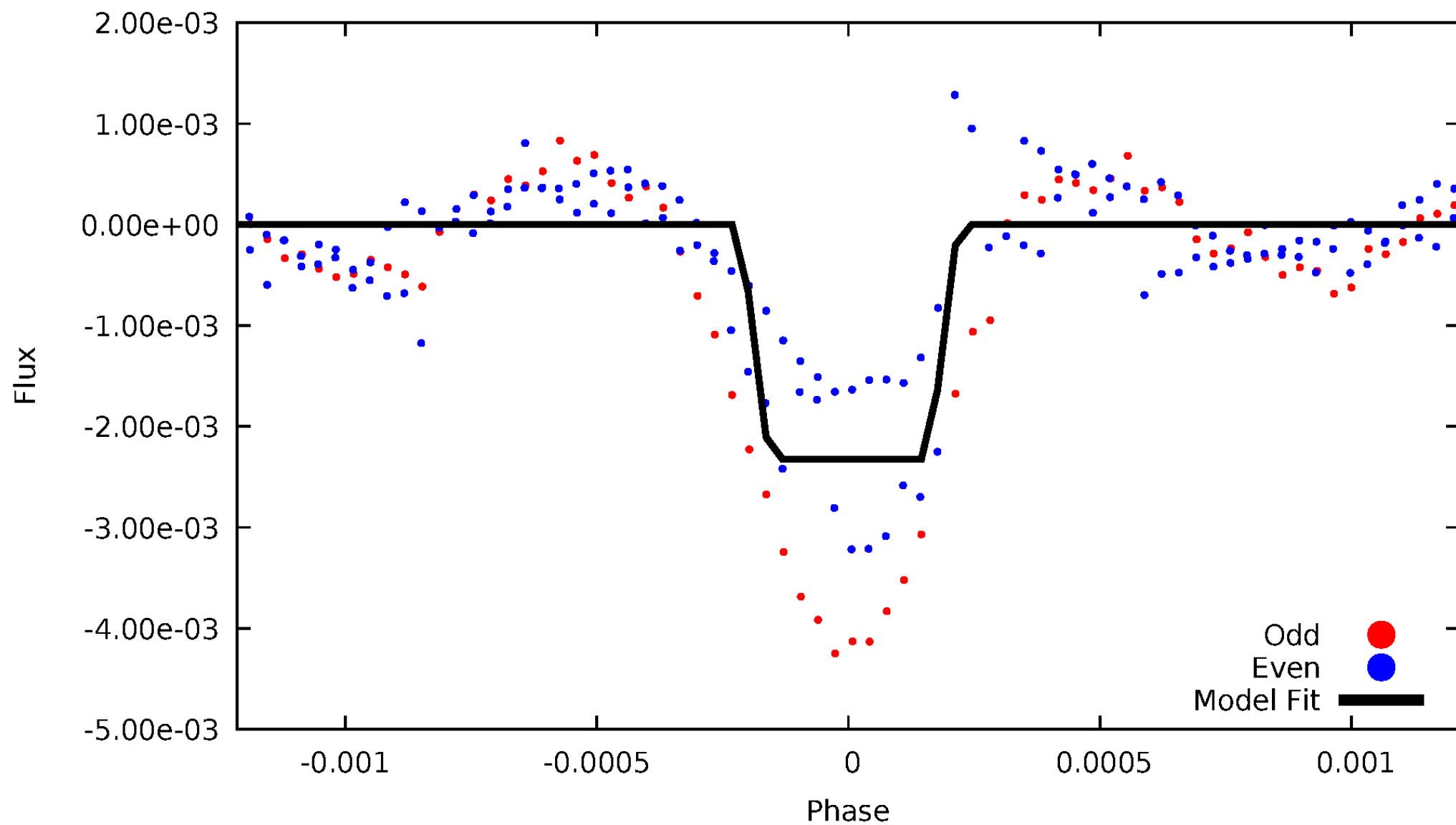
DV Odd/Even

TCE 008681817-01



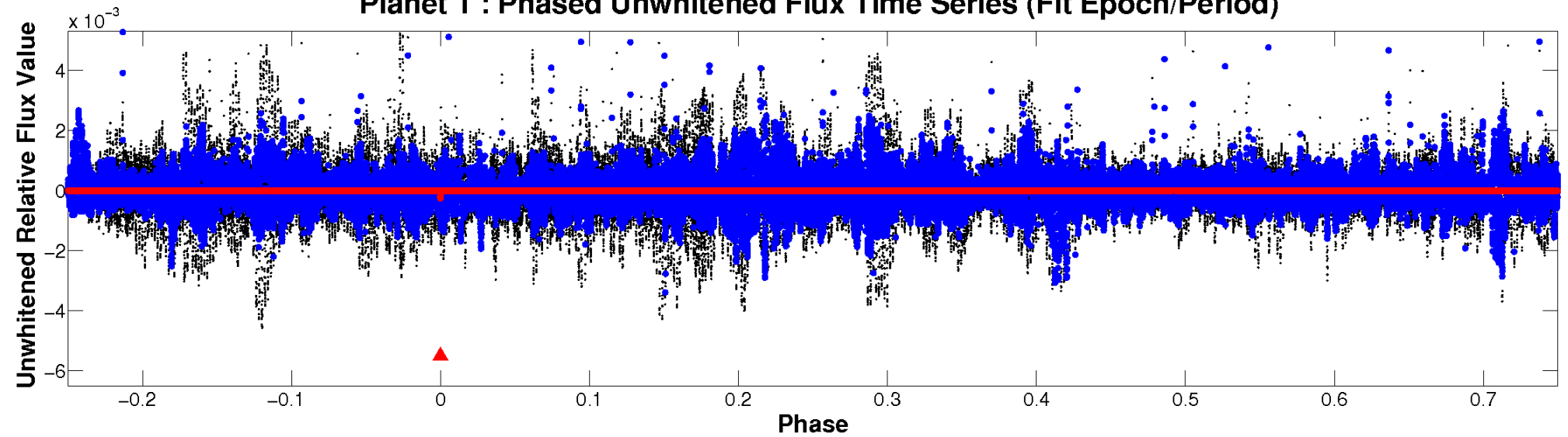
ALT Odd/Even

TCE 008681817-01

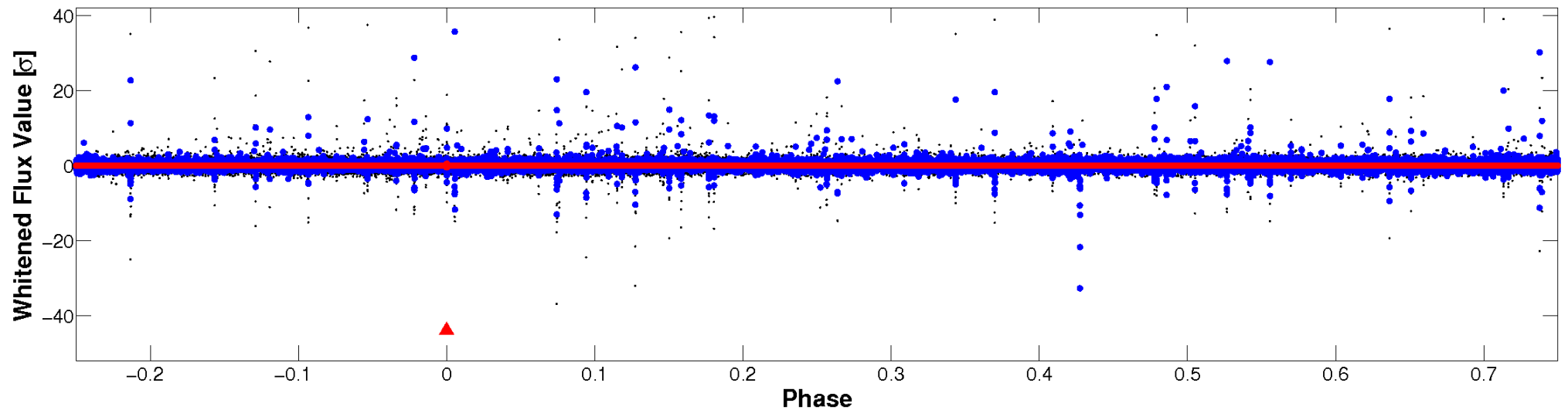


Non-Whitened Vs. Whitened Light Curve

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

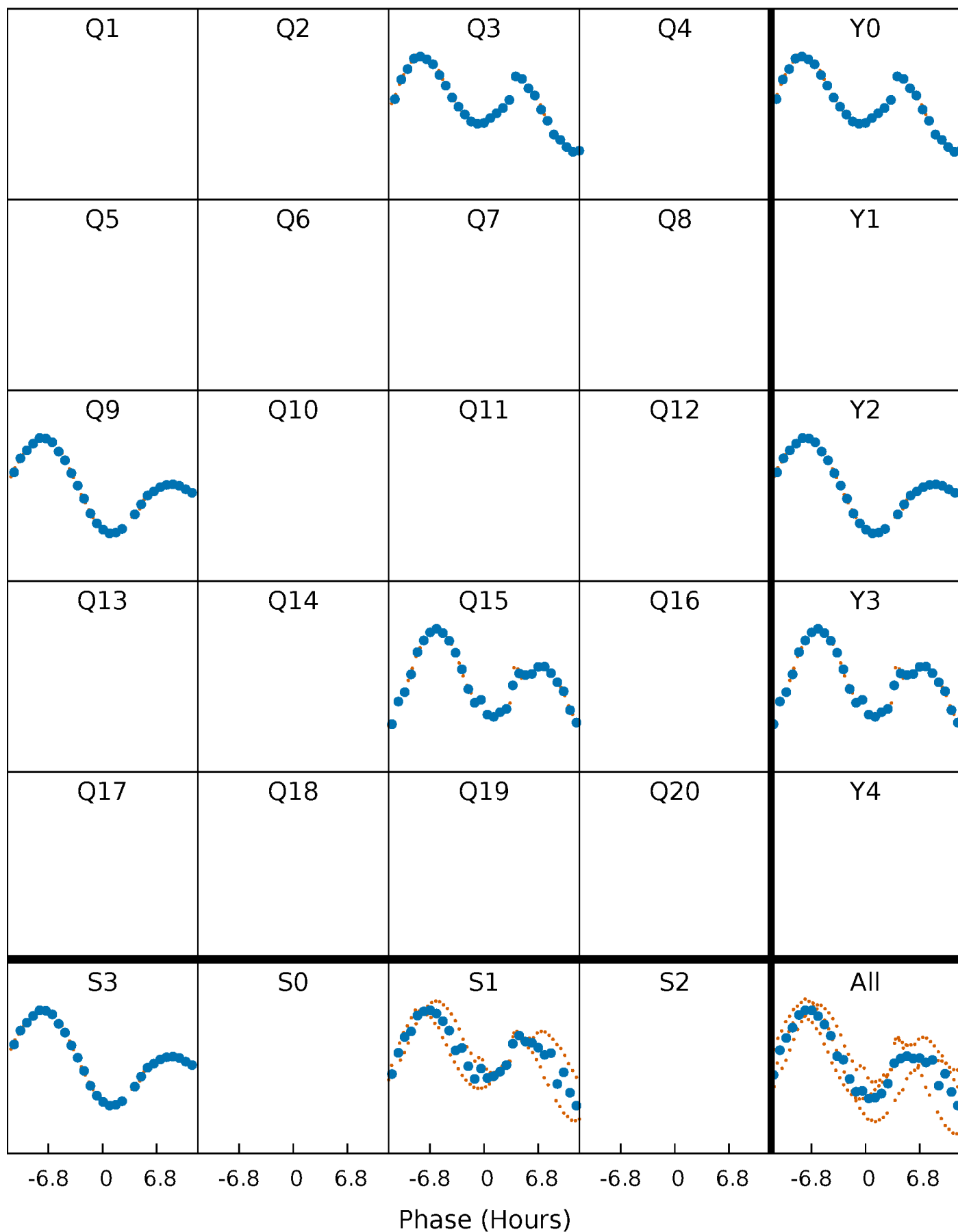


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



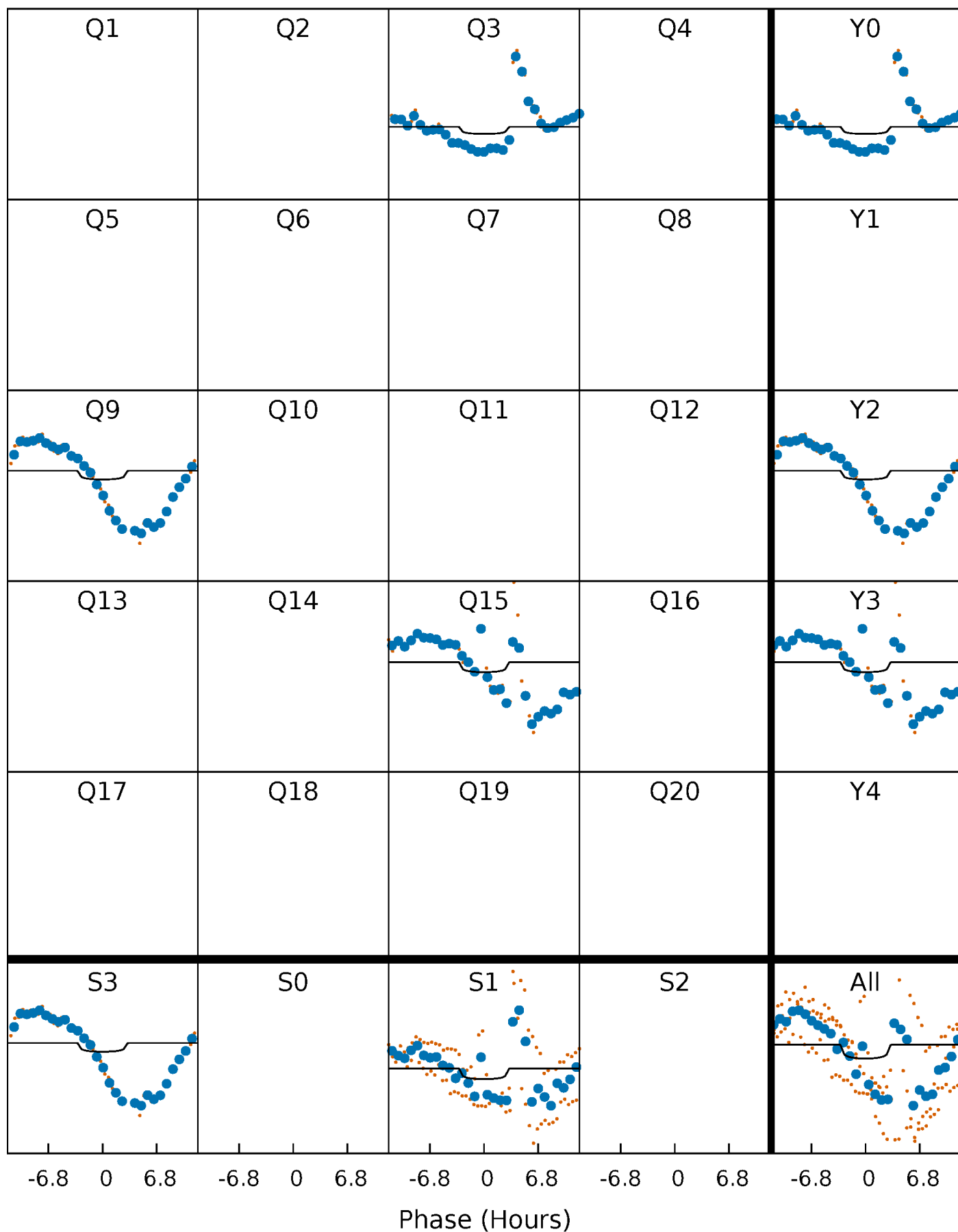
PDC Quarter-Phased Transit Curves

TCE 008681817-01 P=597.556270 Days $T_0=273.027973$ (BKJD)



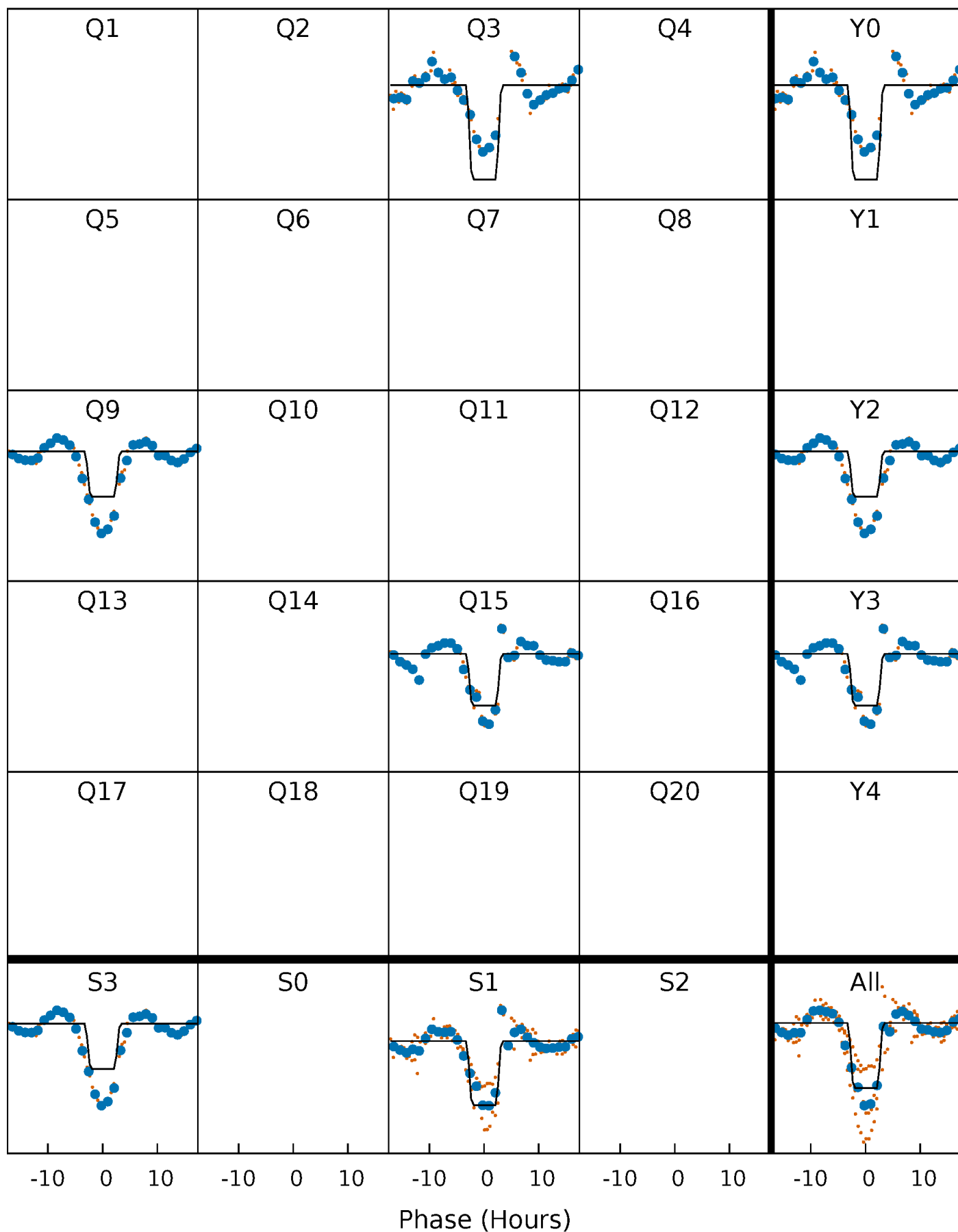
DV Quarter-Phased Transit Curves

TCE 008681817-01 P=597.556270 Days $T_0=273.027973$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

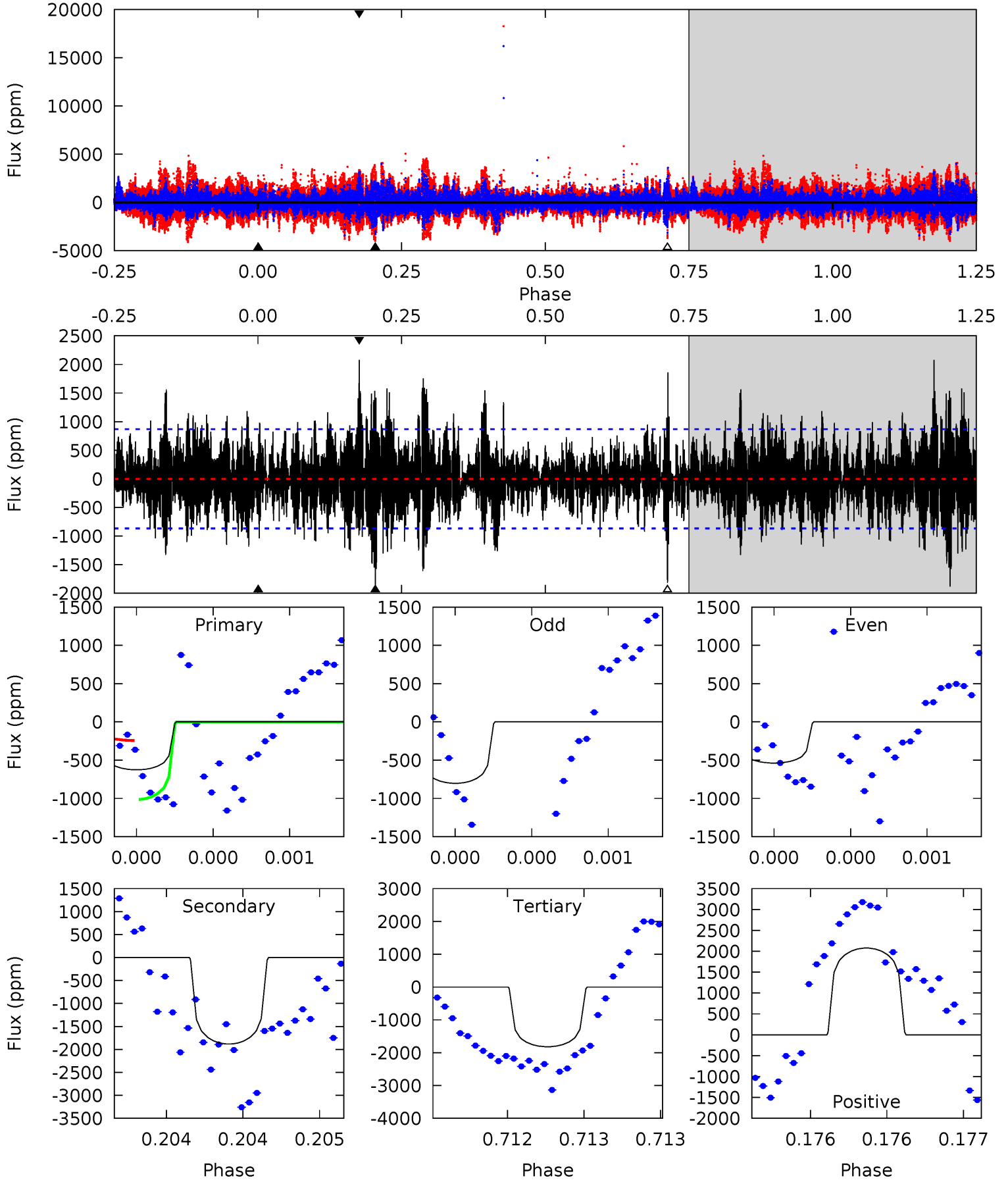
TCE 008681817-01 P=597.559029 Days $T_0=273.052114$ (BKJD)



DV Model-Shift Uniqueness Test

008681817-01, P = 597.556270 Days, E = 273.027973 Days

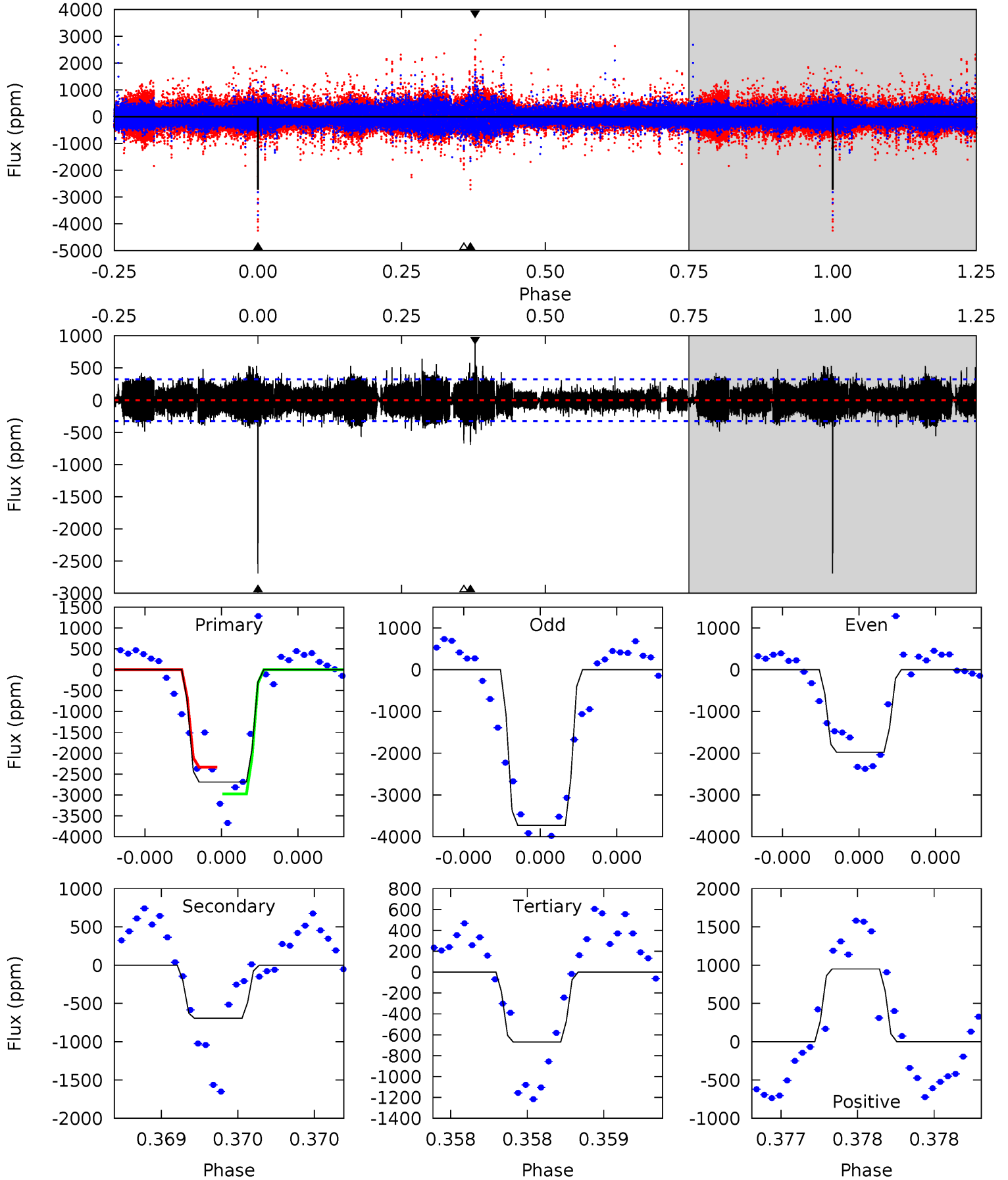
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.04	12.1	11.7	13.4	5.60	3.52	2.80	-7.69	-9.35	0.41	-1.25	0.85	0.78	0.52	2.49



Alt Model-Shift Uniqueness Test

008681817-01, P = 597.559029 Days, E = 273.052114 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.6	12.0	11.6	16.4	5.59	3.51	2.96	35.0	30.1	0.42	-4.42	15.4	1.00	0.26	5.34



Stellar Parameters For KIC 008681817

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6446^{+155}_{-194}	$4.163^{+0.209}_{-0.171}$	$-0.180^{+0.250}_{-0.300}$	$1.470^{+0.442}_{-0.362}$	$1.149^{+0.193}_{-0.161}$	$0.509^{+0.585}_{-0.235}$
	+2%/-3%	+5%/-4%	+139%/-167%	+30%/-25%	+17%/-14%	+115%/-46%
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 008681817-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1882 ± 155	$2.92^{+2.58}_{-1.78}$	397^{+33}_{-28}	11287^{+17361}_{-3906}	$255806^{+1453519}_{-183283}$
Alt.	-694 ± 58	$7.56^{+2.63}_{-2.68}$	396^{+28}_{-27}	4893^{+989}_{-521}	13924^{+19937}_{-6021}

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 $A_{\text{obs}} \gg 1.0$

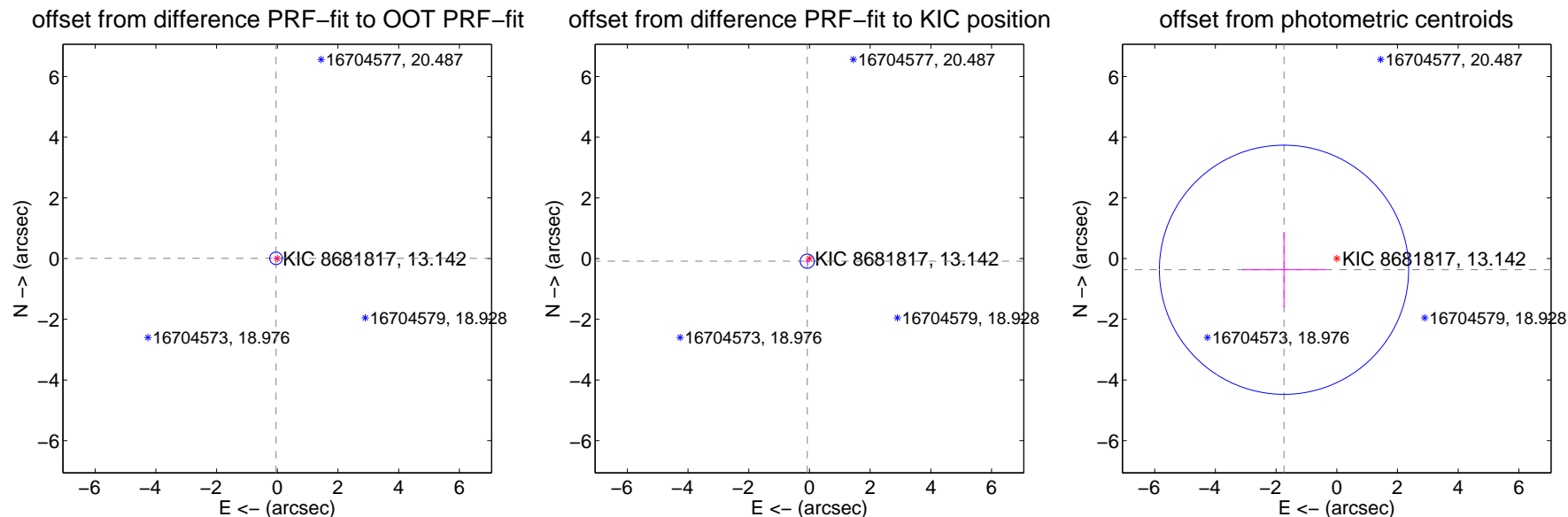
DV Centroid Data

Supplemental centroid analysis for 008681817-01. Kepler magnitude: 13.14. Transit SNR 1.94

There are 3 quarters with good PRF difference image offsets

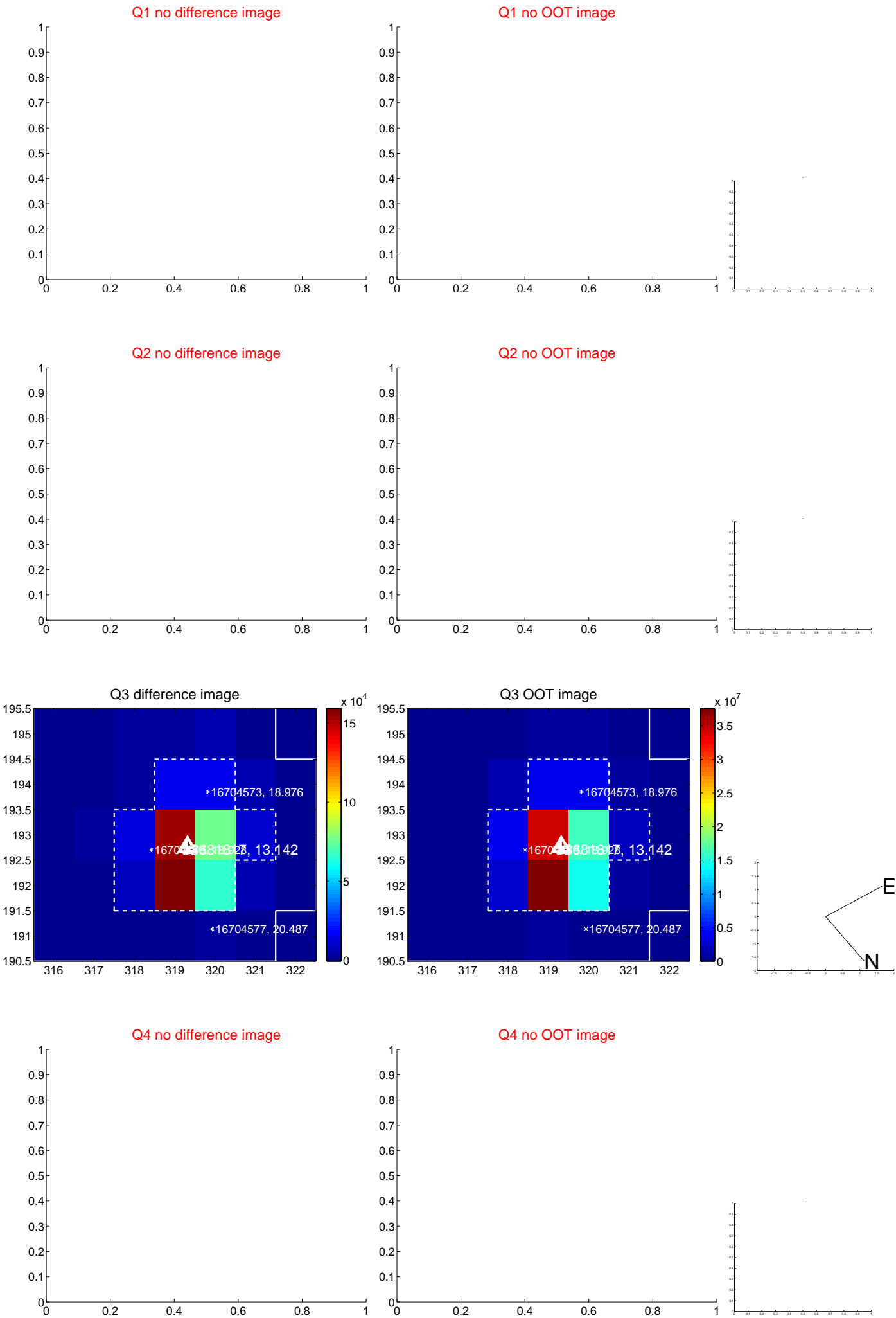
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.069	0.61	0.041 ± 0.069	0.009 ± 0.067
PRF-fit source offset from KIC position	0.112 ± 0.078	1.44	0.072 ± 0.070	-0.086 ± 0.083
photometric centroid source offset	1.78 ± 1.37	1.30	1.74 ± 1.37	-0.37 ± 1.24



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.

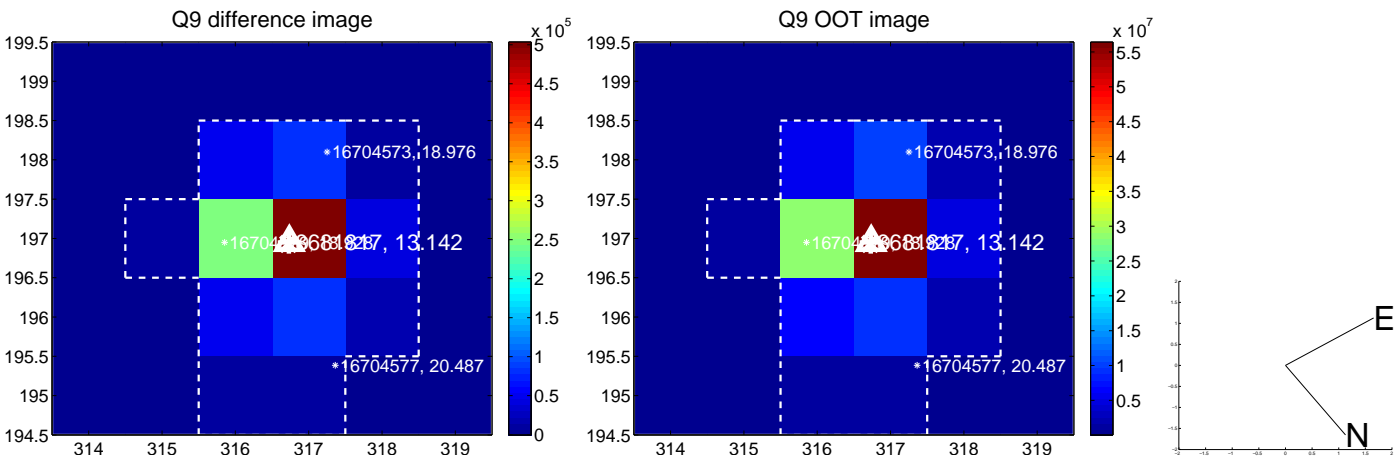
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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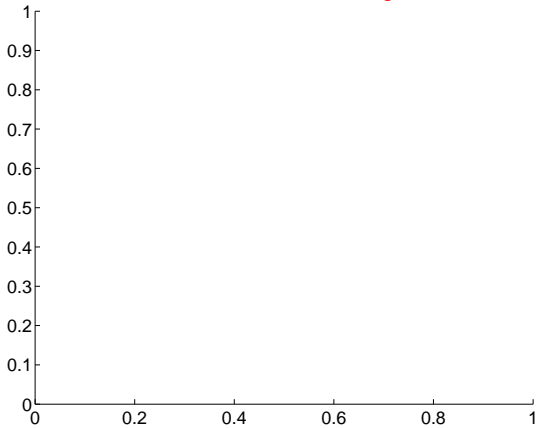
Q13 no difference image



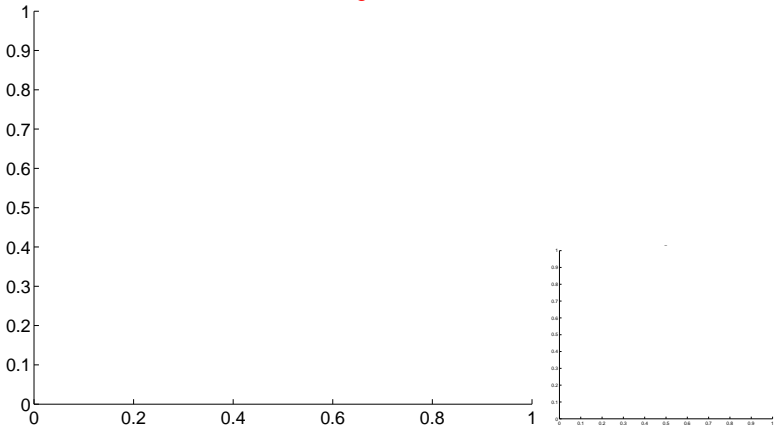
Q13 no OOT image



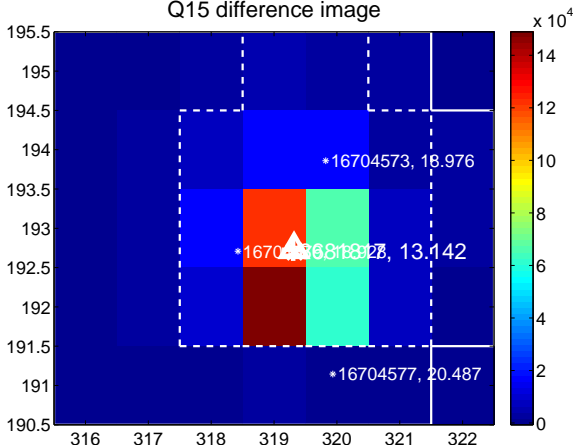
Q14 no difference image



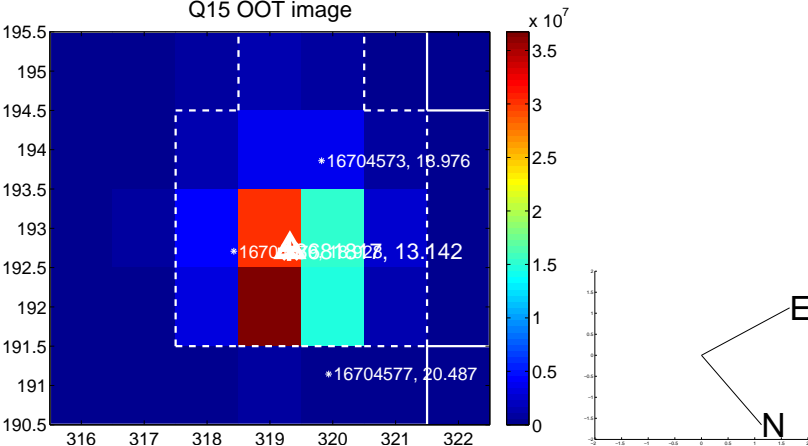
Q14 no OOT image



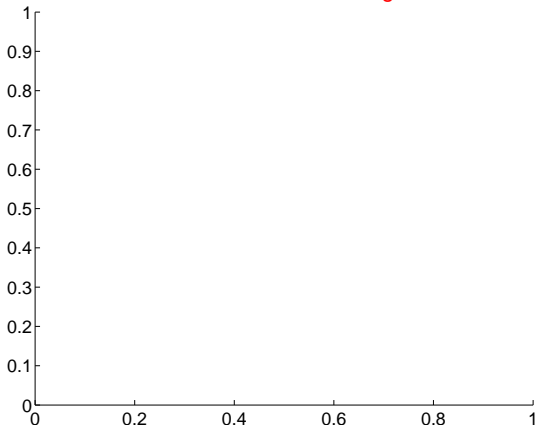
Q15 difference image



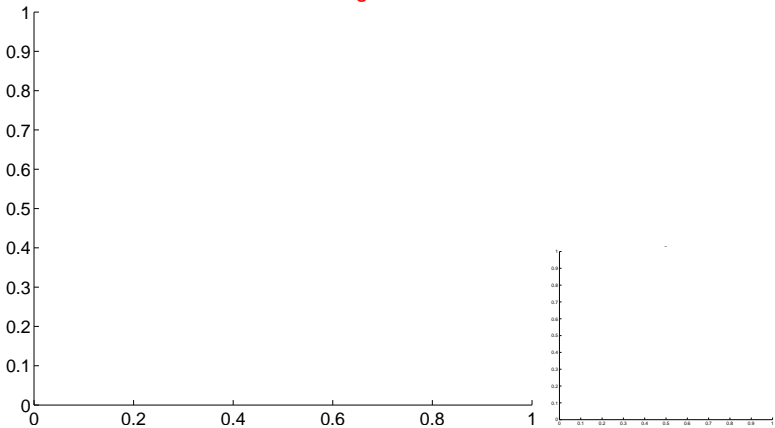
Q15 OOT image



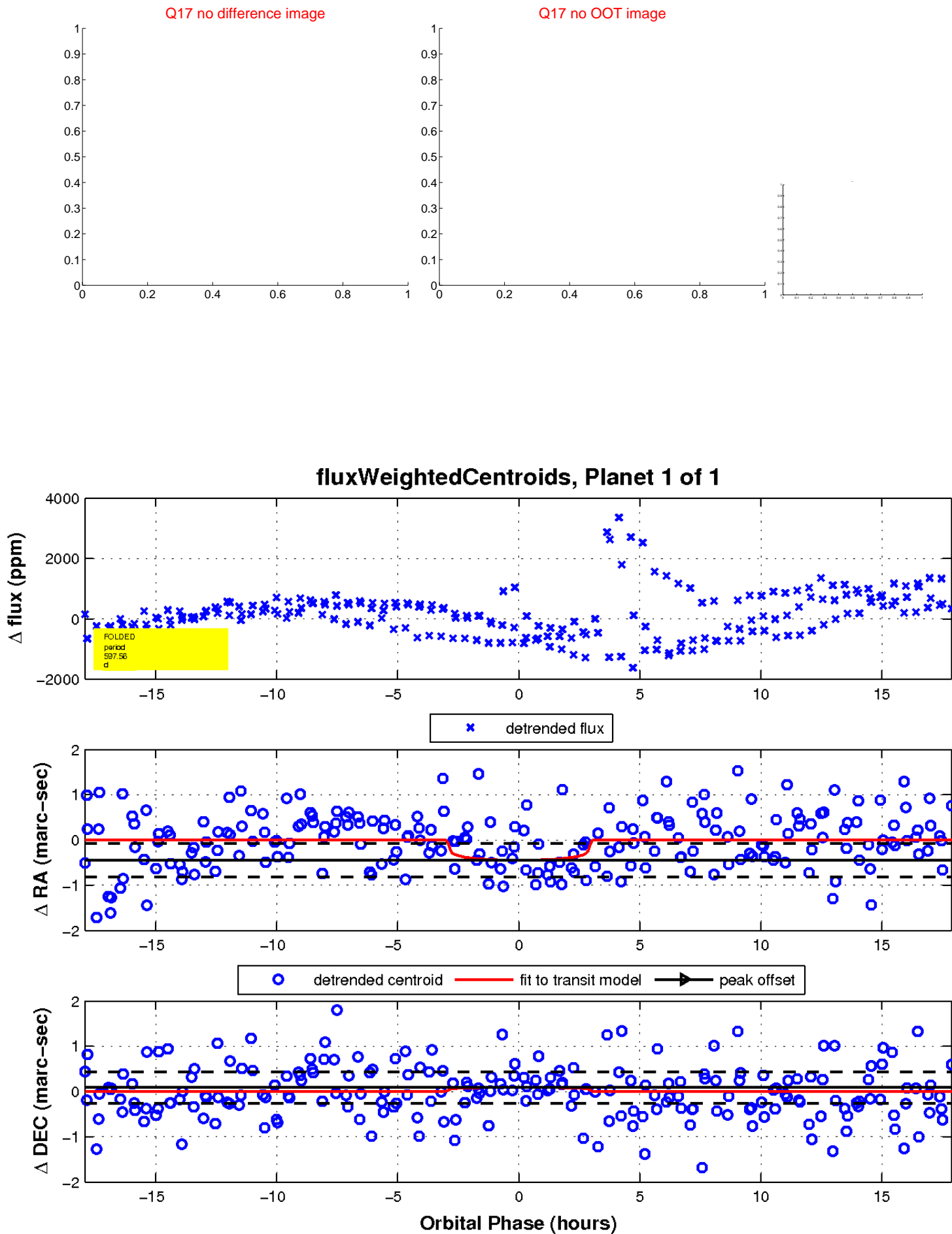
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

