

KIC 005084171

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})
005084171-01	OBS	4202.01	153.980210	165.484483	835.1	9.072	14.8	16.2	0.90	5858	2.70	2.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005084171-01	OBS	PC	0.95	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 005084171-01

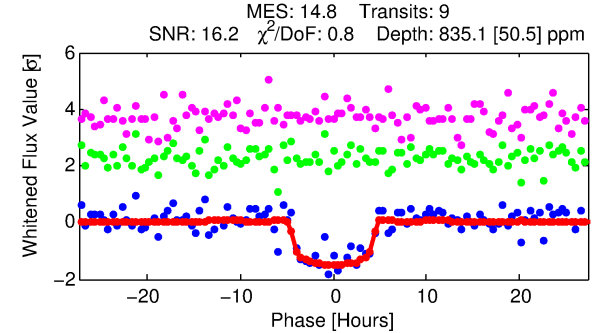
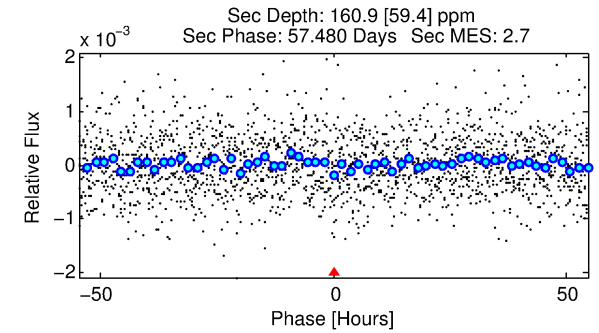
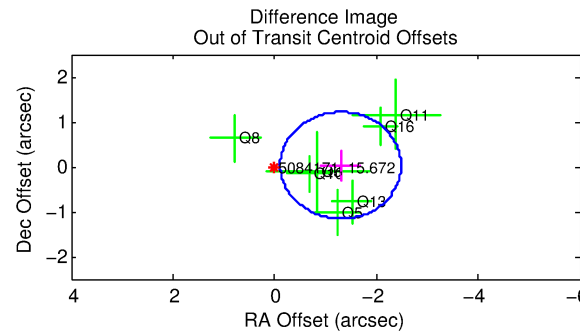
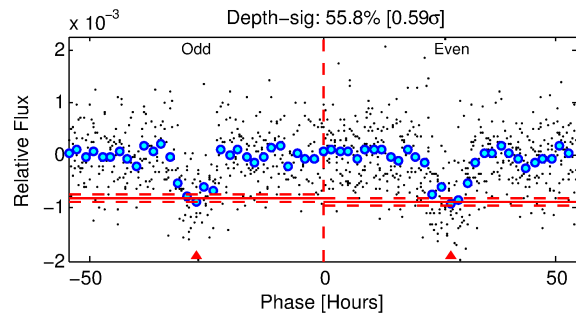
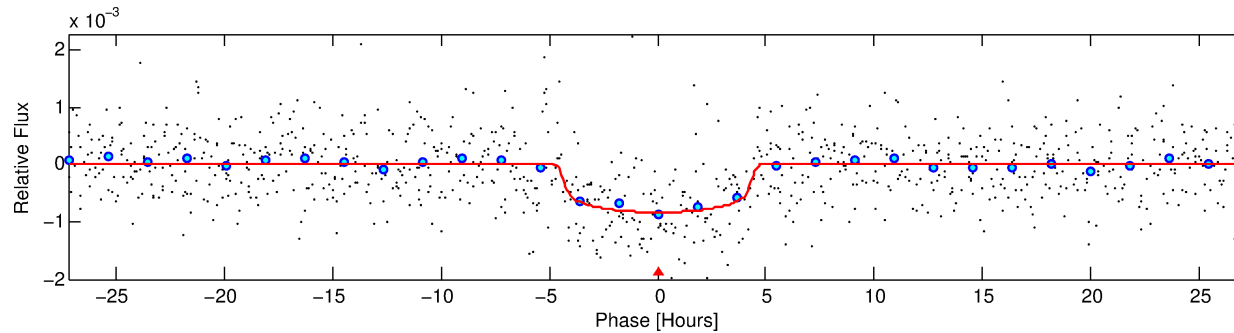
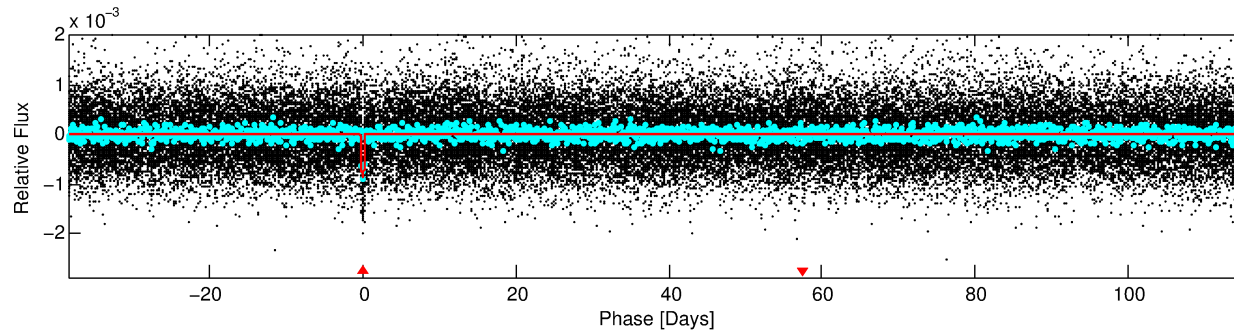
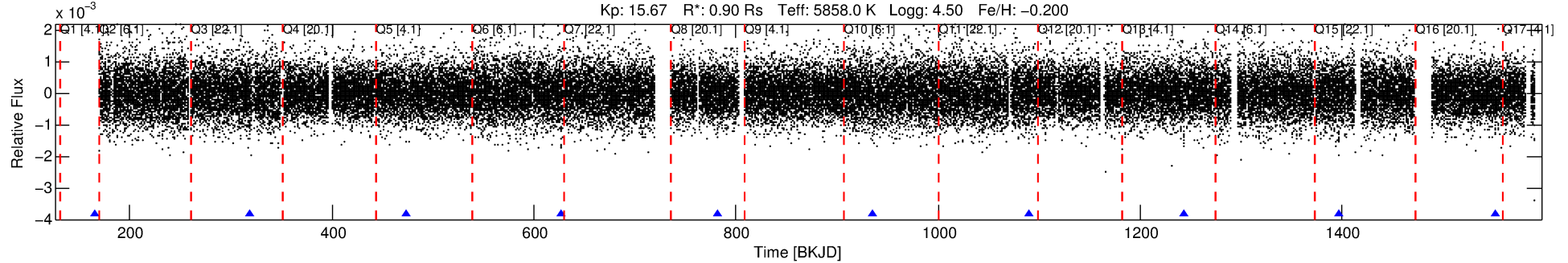
No Significant Match Found

DV One-Page Summary

KIC: 5084171 Candidate: 1 of 1 Period: 153.980 d

KOI: K04202.01 Corr: 0.993

Kp: 15.67 R*: 0.90 Rs Teff: 5858.0 K Logg: 4.50 Fe/H: -0.200



DV Fit Results:

Period = 153.98021 [0.00191] d
Epoch = 165.4845 [0.0110] BKJD
Rp/R* = 0.0274 [0.0103]
a/R* = 111.41 [192.42]
b = 0.56 [2.11]
Seff = 2.83 [1.08]
Teq = 331 [31] K
Rp = 2.70 [1.30] Re
a = 0.5518 [0.1389] AU
Ag = 3696.35 [3369.37] [1.10σ]
Teffp = 3985 [842] K [4.34σ]

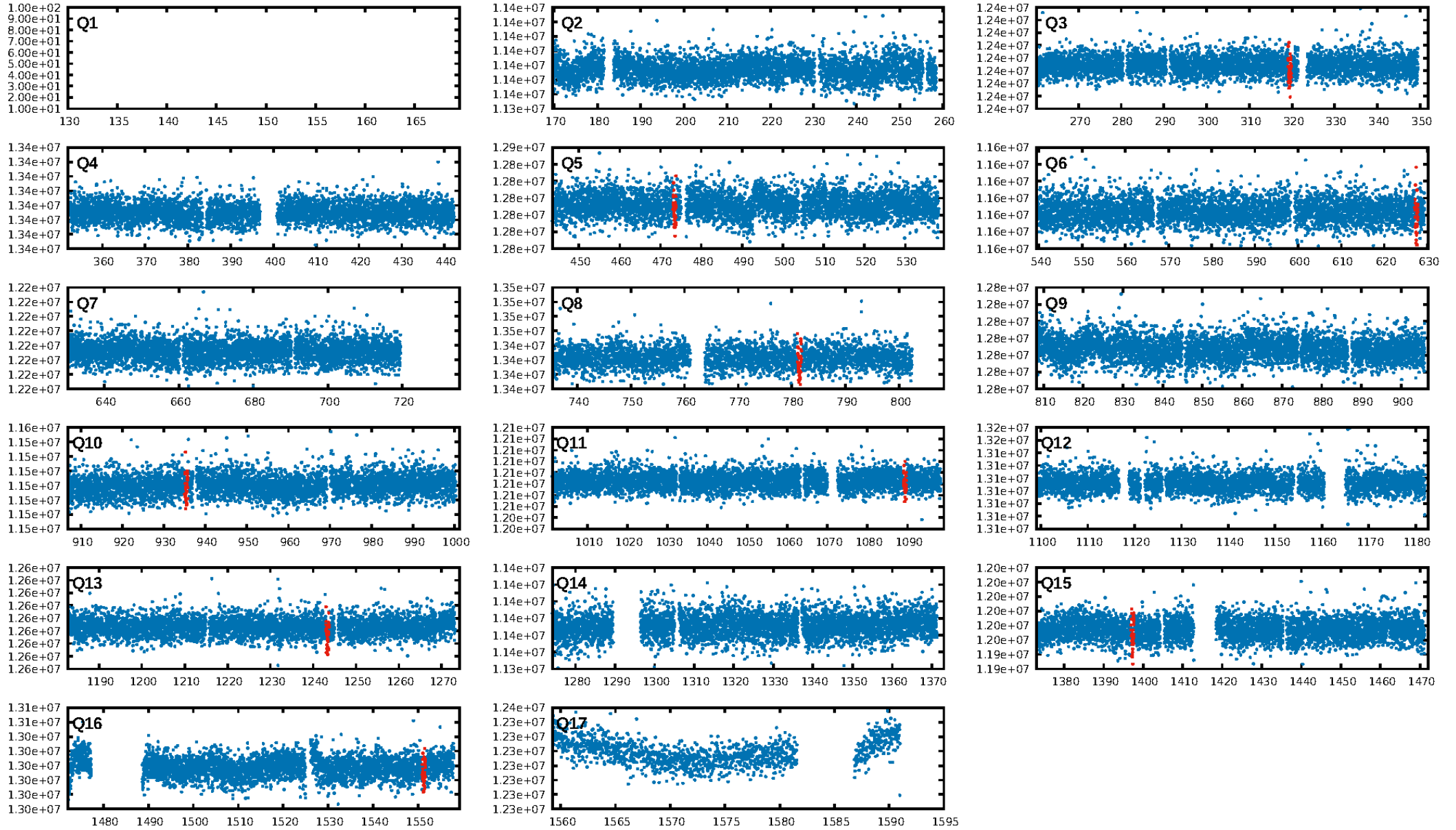
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.72e-43
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 90.01
Centroid-sig: 63.5%
Centroid-so: 0.735 arcsec [0.88σ]
OotOffset-rm: 1.298 arcsec [3.28σ]
KicOffset-rm: 1.488 arcsec [3.73σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 1.00 [8/8]

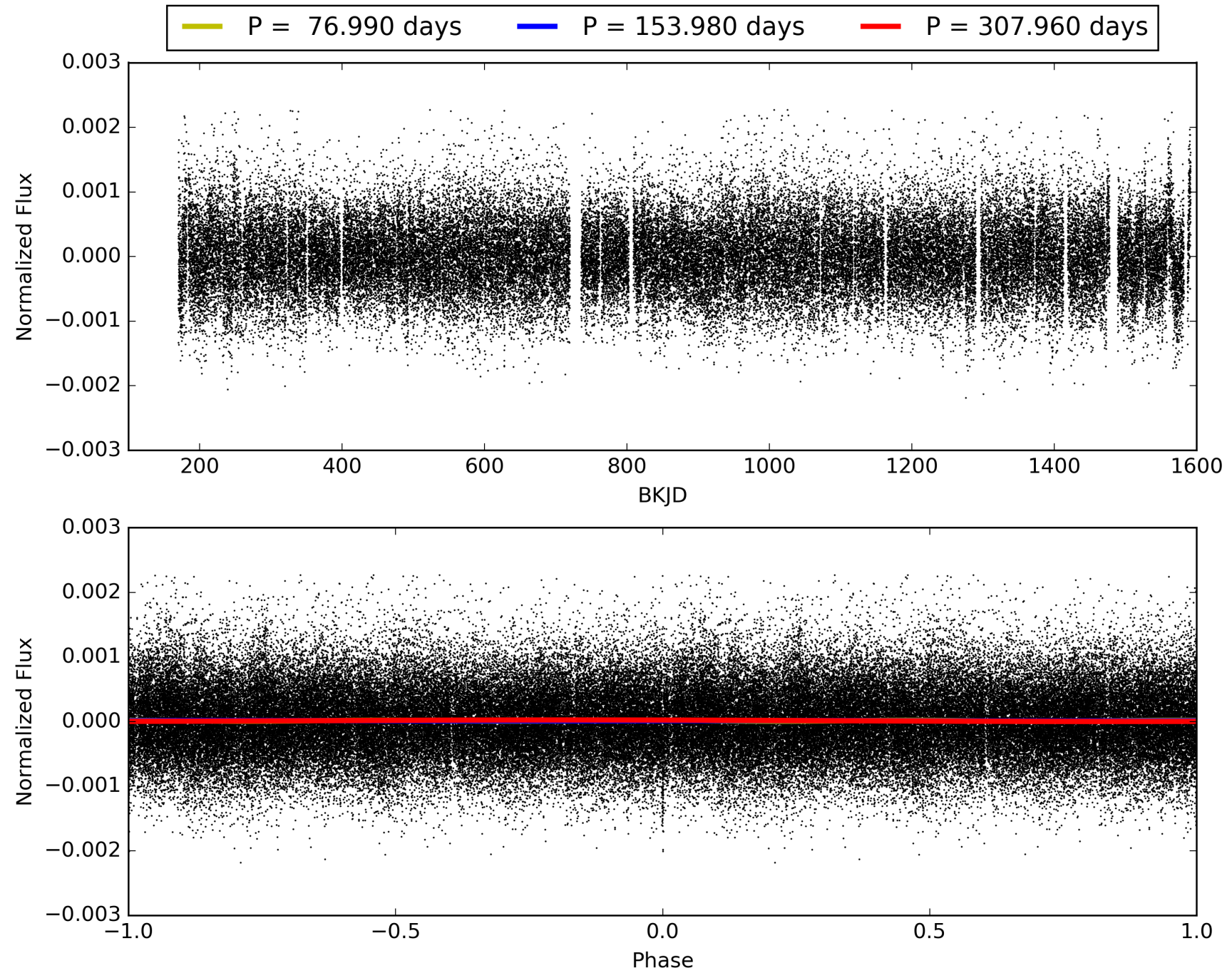
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:35:18 Z

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

TCE 005084171-01, PDC Light Curves

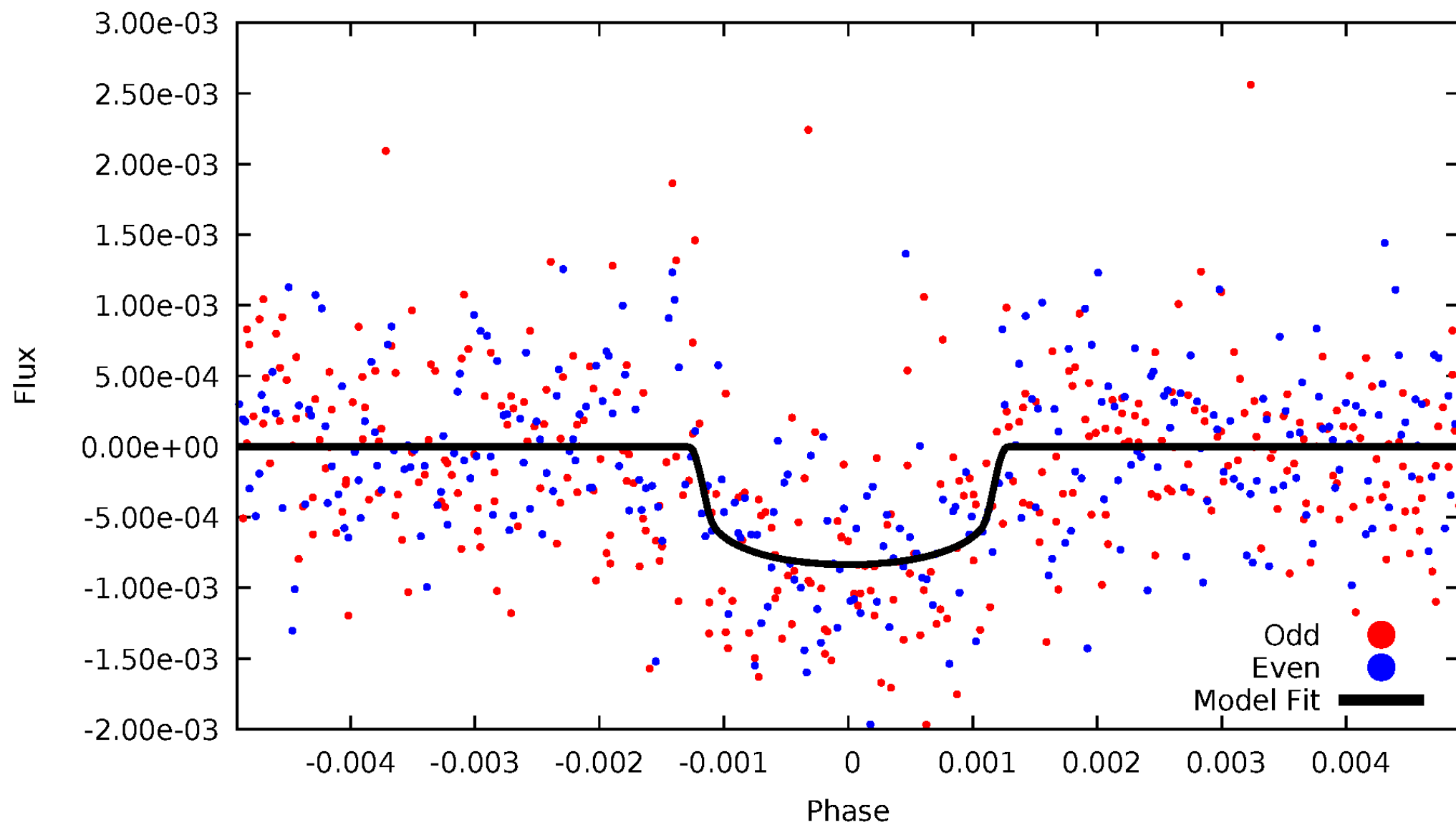


TCE 005084171-01



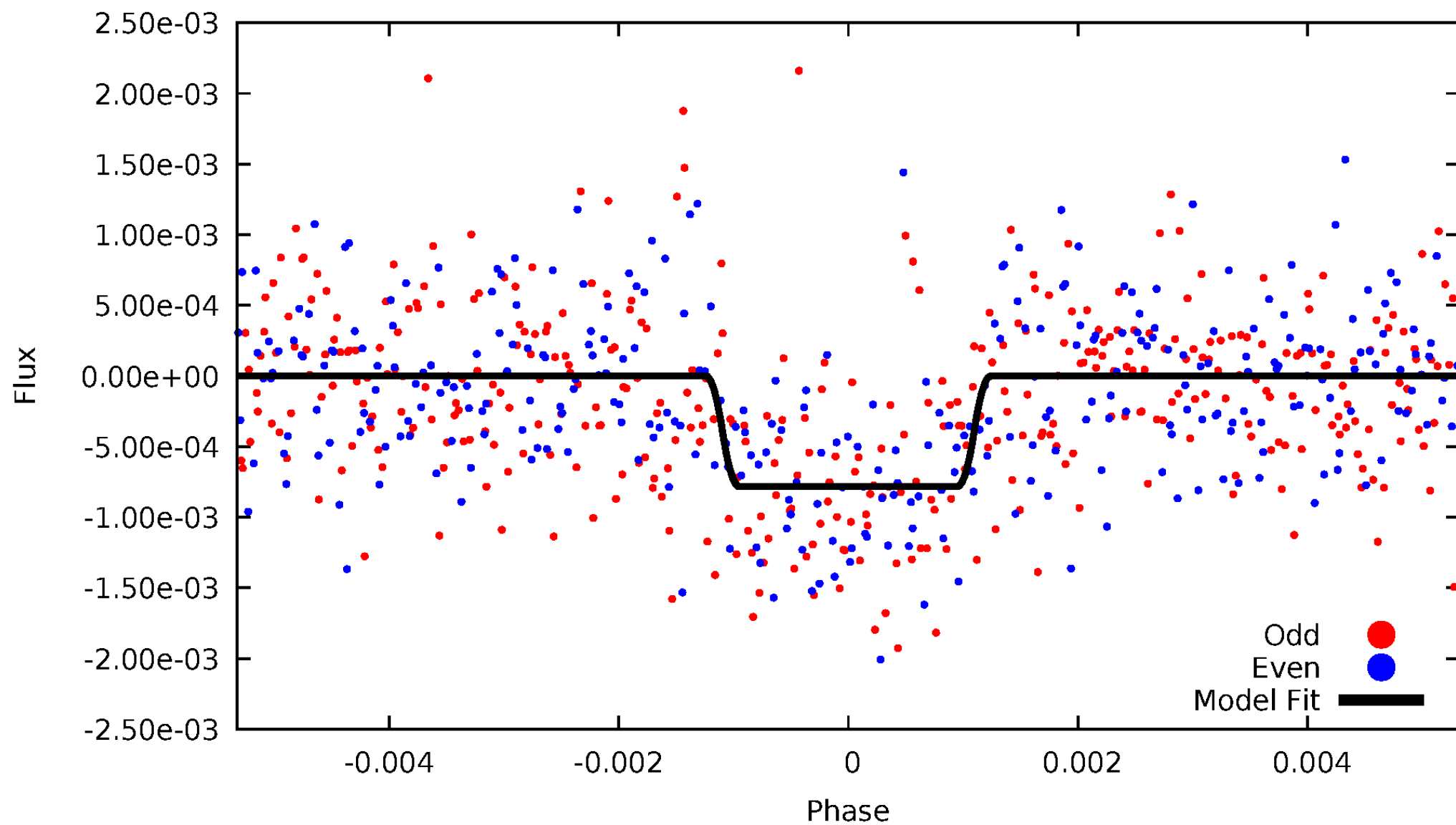
DV Odd/Even

TCE 005084171-01

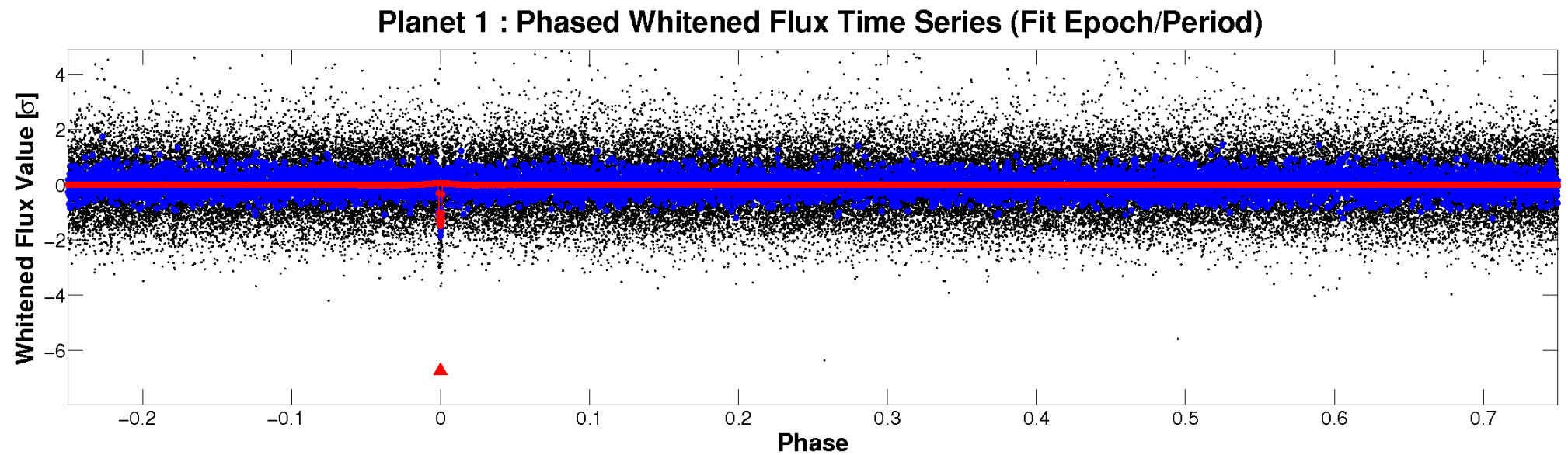
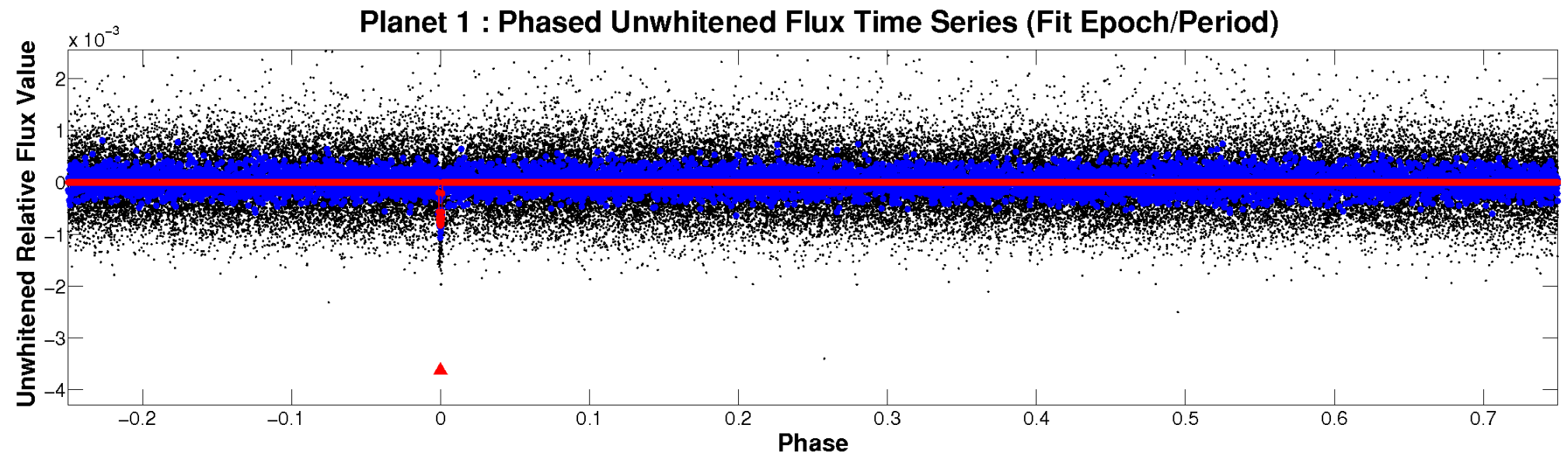


ALT Odd/Even

TCE 005084171-01

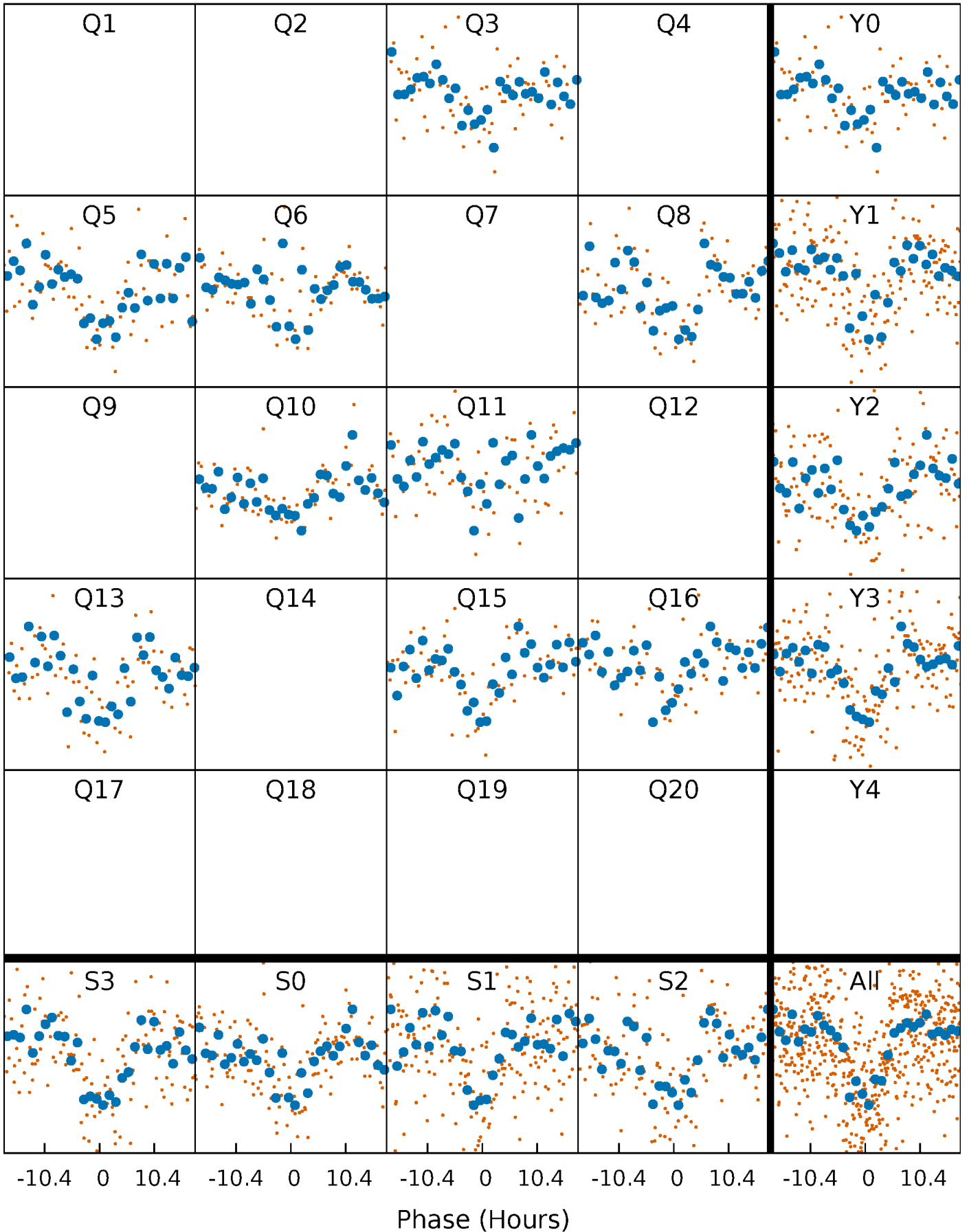


Non-Whitened Vs. Whitened Light Curve



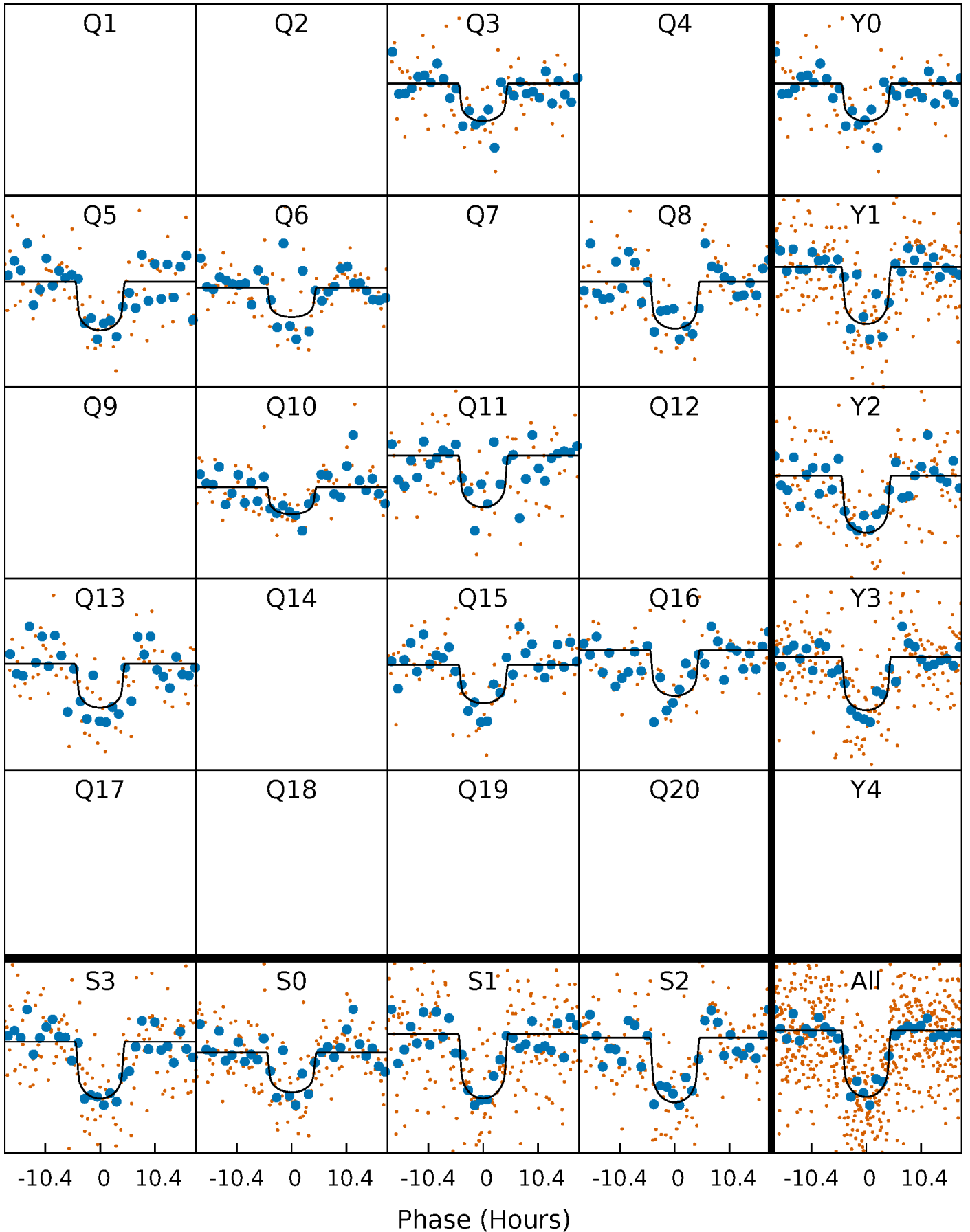
PDC Quarter-Phased Transit Curves

TCE 005084171-01 P=153.980210 Days $T_0=165.484483$ (BKJD)



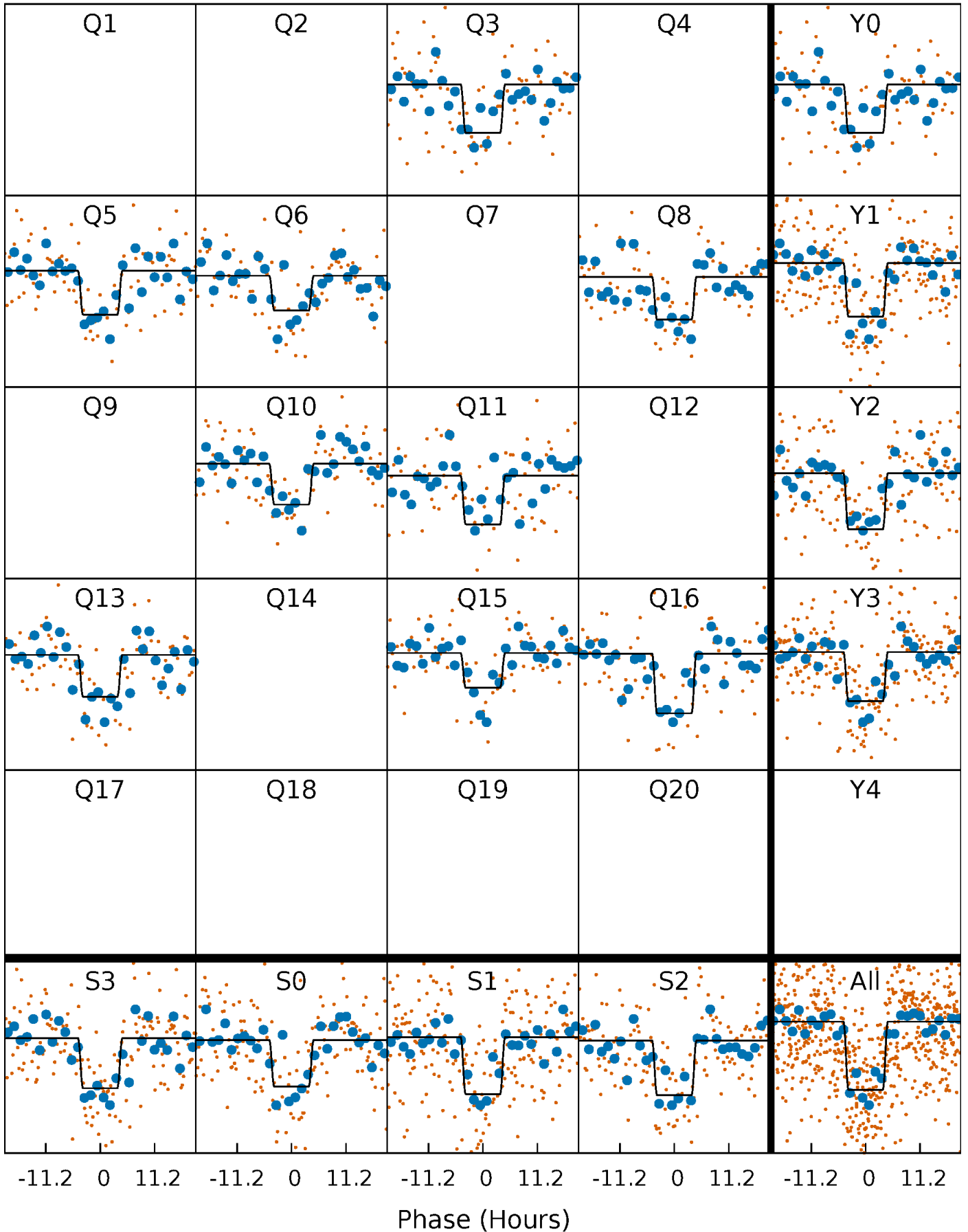
DV Quarter-Phased Transit Curves

TCE 005084171-01 P=153.980210 Days $T_0=165.484483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

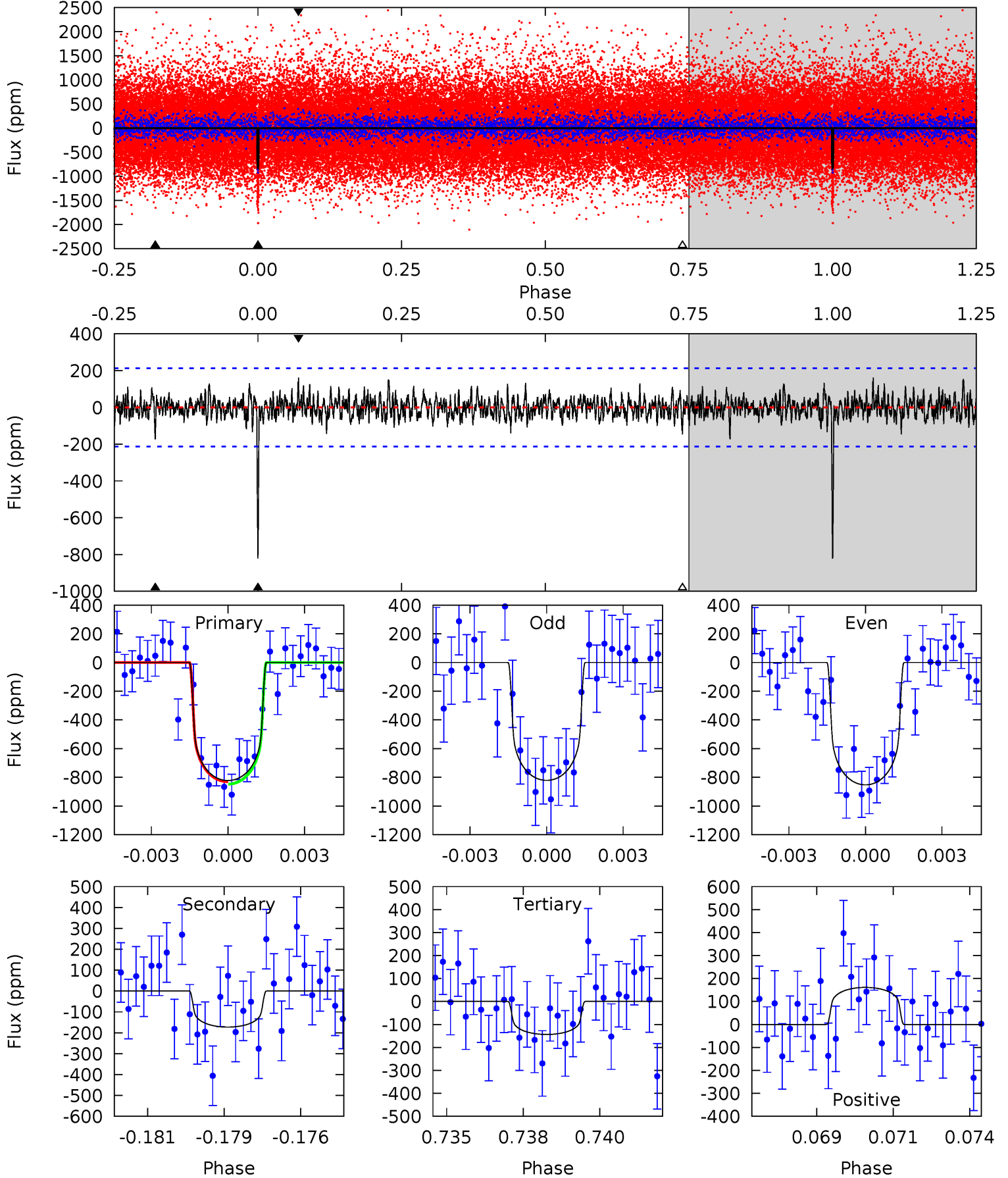
TCE 005084171-01 P=153.973686 Days $T_0=165.520963$ (BKJD)



DV Model-Shift Uniqueness Test

005084171-01, P = 153.980210 Days, E = 165.484483 Days

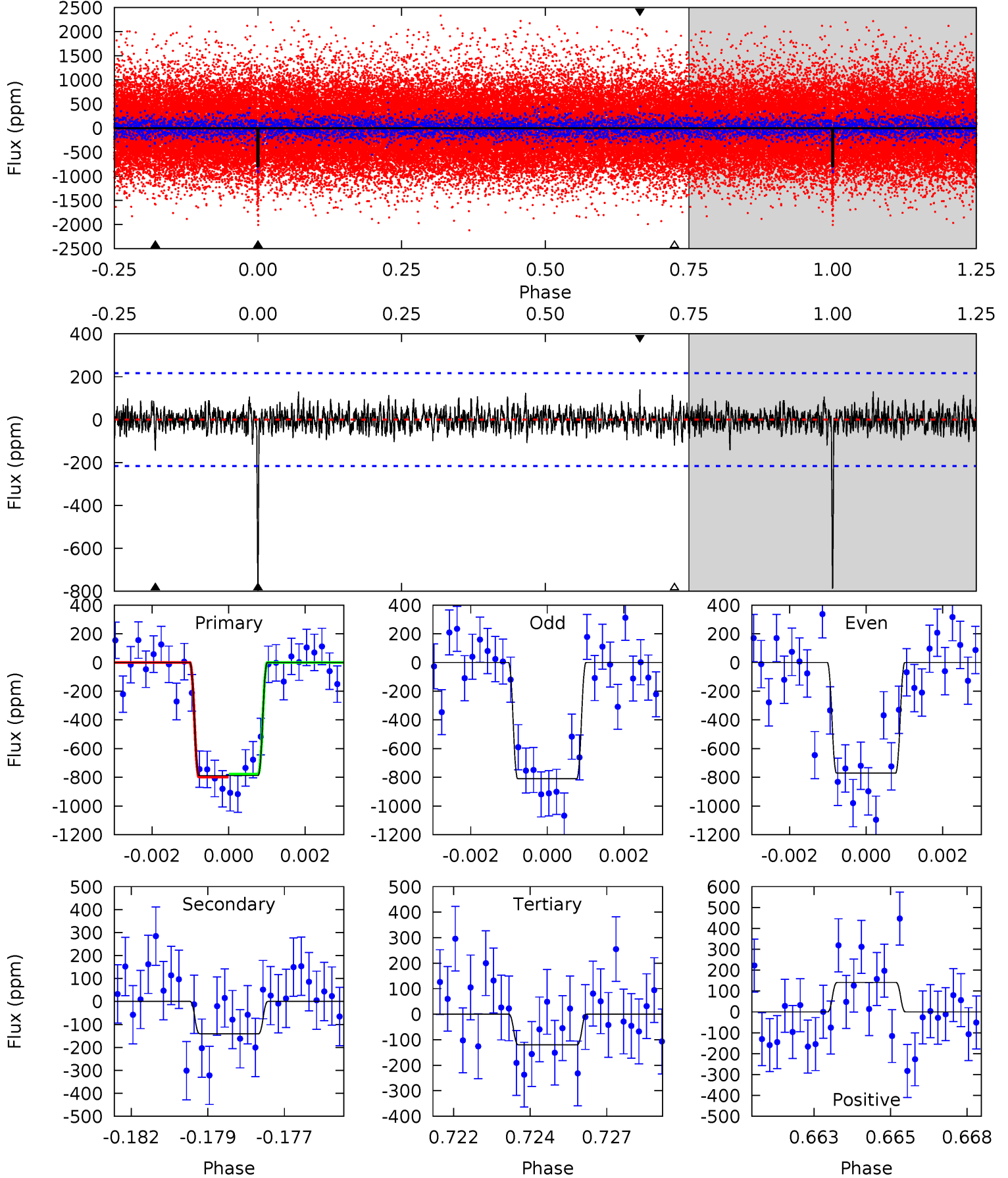
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	4.29	3.57	4.00	5.28	3.02	1.10	16.9	16.4	0.72	0.29	0.38	1.00	0.16	0.21



Alt Model-Shift Uniqueness Test

005084171-01, P = 153.973686 Days, E = 165.520963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	3.43	2.93	3.44	5.29	3.03	0.89	16.3	15.8	0.50	-0.01	0.48	0.93	0.15	0.26



Stellar Parameters For KIC 005084171

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5858^{+159}_{-176}	$4.502^{+0.052}_{-0.195}$	$-0.200^{+0.300}_{-0.300}$	$0.903^{+0.274}_{-0.091}$	$0.944^{+0.120}_{-0.108}$	$1.810^{+0.490}_{-0.924}$
	+3%/-3%	+1%/-4%	+150%/-150%	+30%/-10%	+13%/-11%	+27%/-51%
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 005084171-01 / KOI 4202.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-173 ± 40	$2.82^{+1.14}_{-1.09}$	470^{+32}_{-22}	4270^{+955}_{-520}	3592^{+5497}_{-1928}
Alt.	-141 ± 41	$2.86^{+1.13}_{-1.08}$	471^{+33}_{-22}	4067^{+898}_{-471}	2667^{+4746}_{-1352}

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

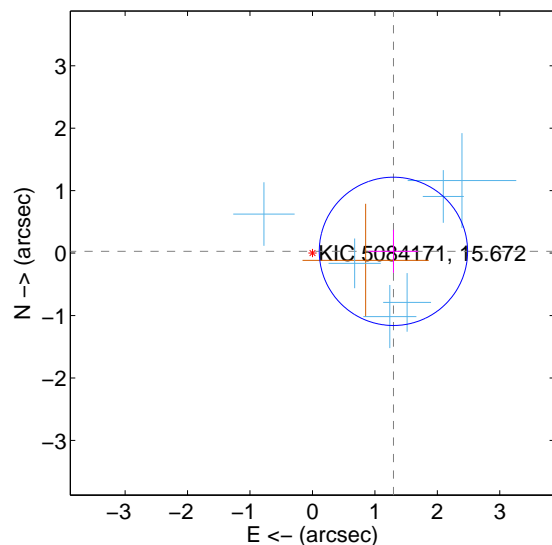
Supplemental centroid analysis for 005084171-01. Kepler magnitude: 15.67. Transit SNR 16.21

There are 6 quarters with good PRF difference image offsets

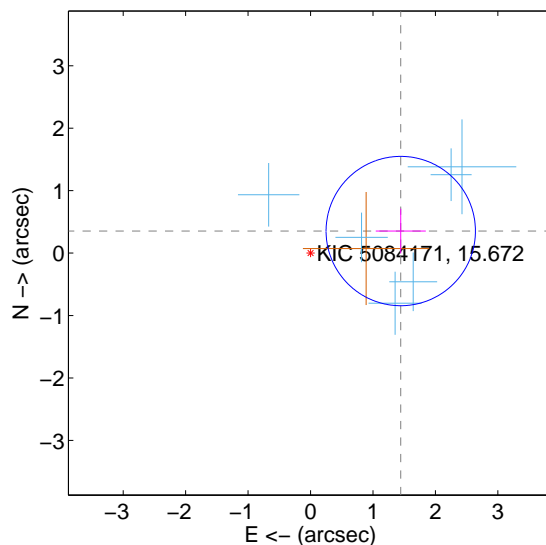
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.298 ± 0.396	3.28	-1.297 ± 0.396	0.028 ± 0.345
PRF-fit source offset from KIC position	1.488 ± 0.399	3.73	-1.445 ± 0.401	0.353 ± 0.357
photometric centroid source offset	0.74 ± 0.83	0.88	-0.49 ± 0.79	0.55 ± 0.87

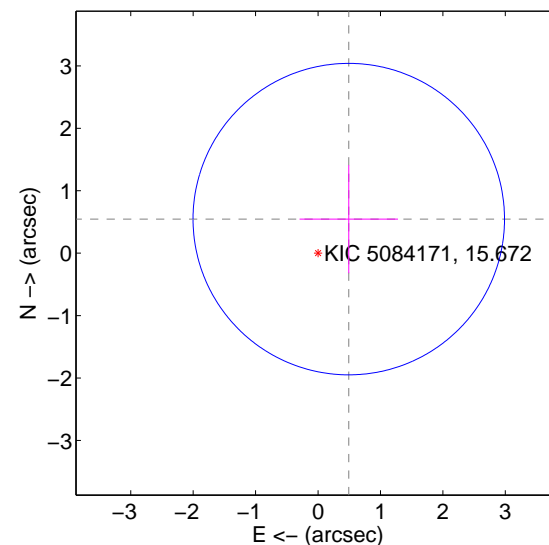
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

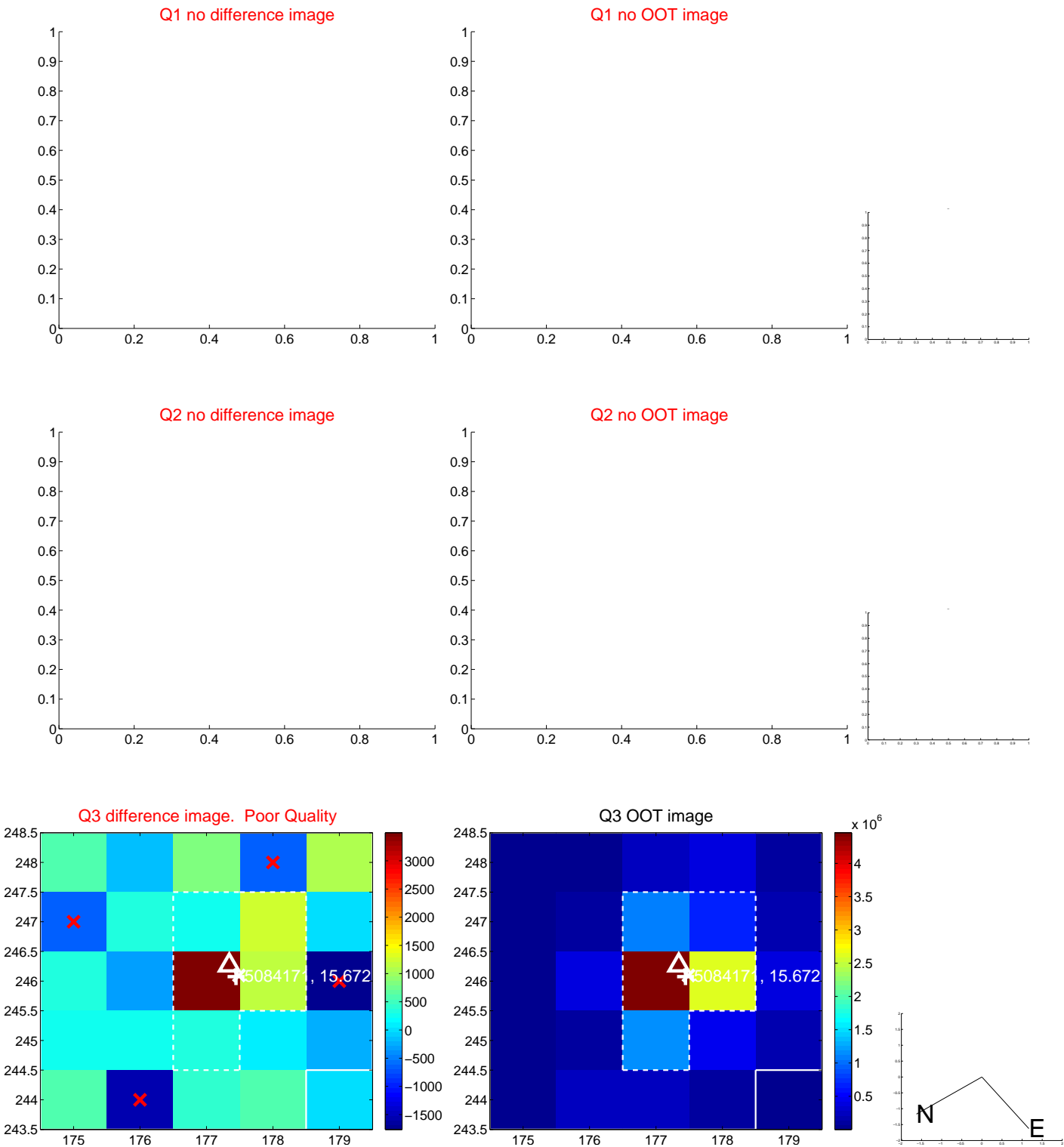


offset from photometric centroids

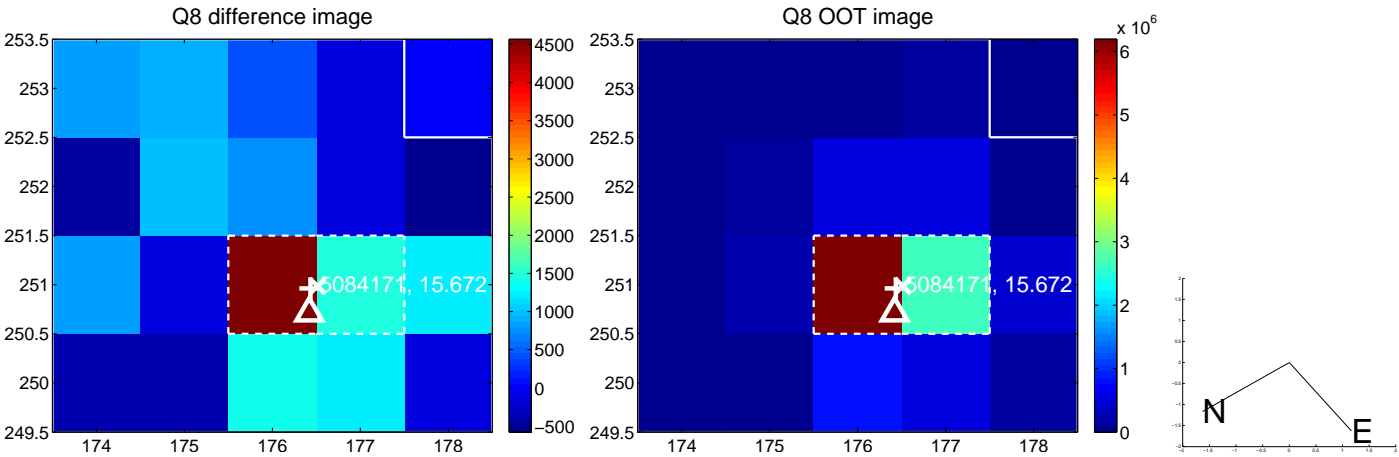
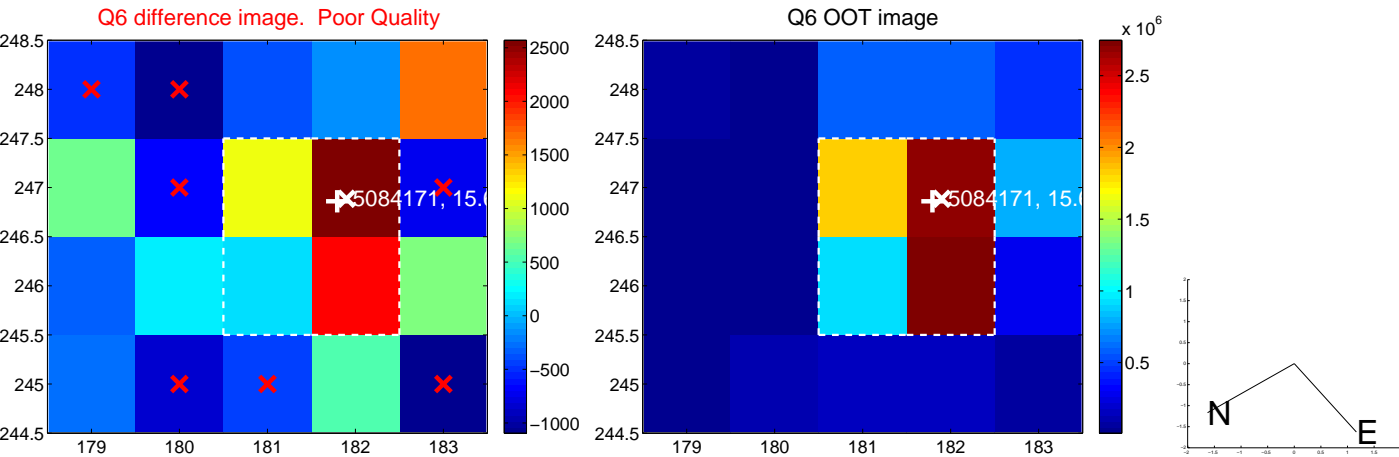
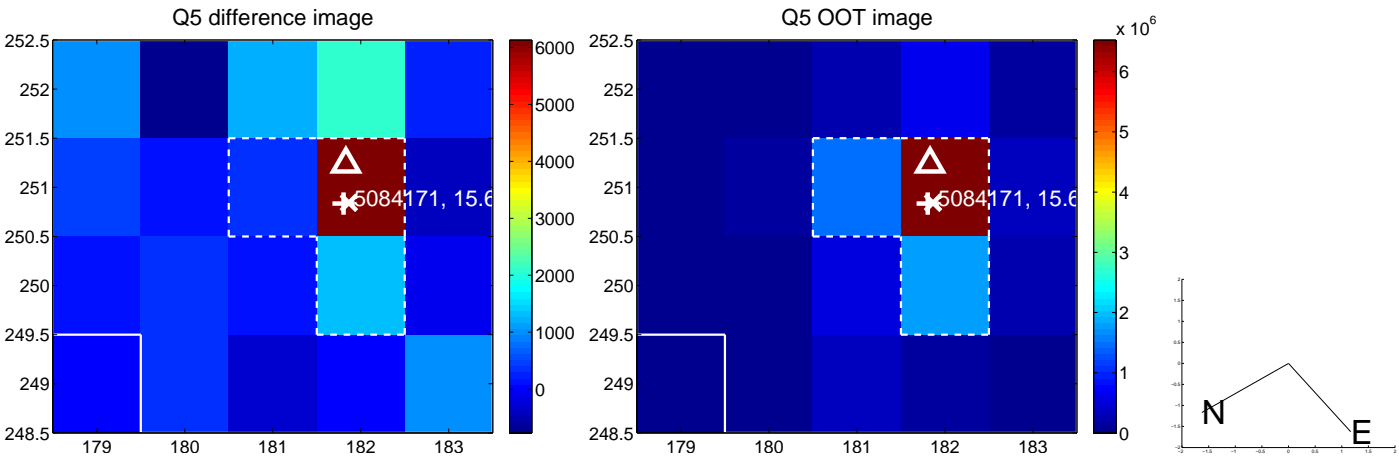


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



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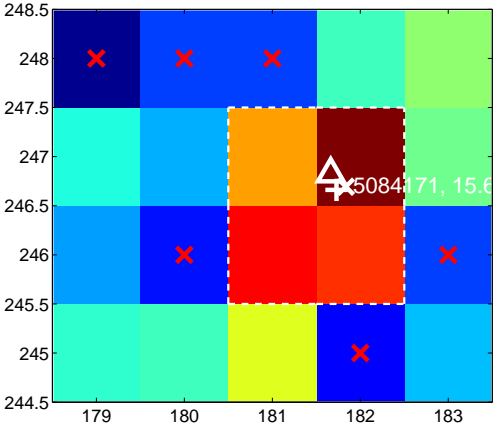
Q9 no difference image



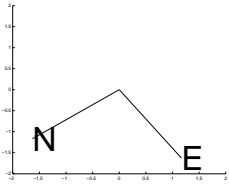
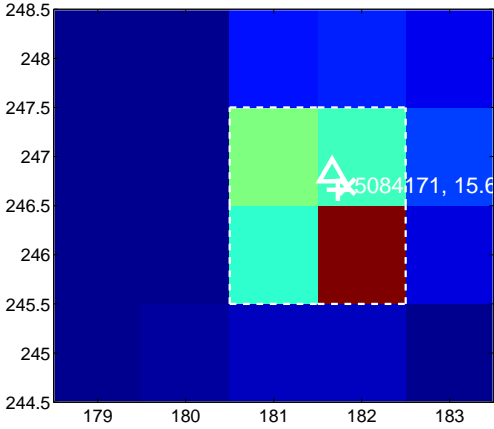
Q9 no OOT image



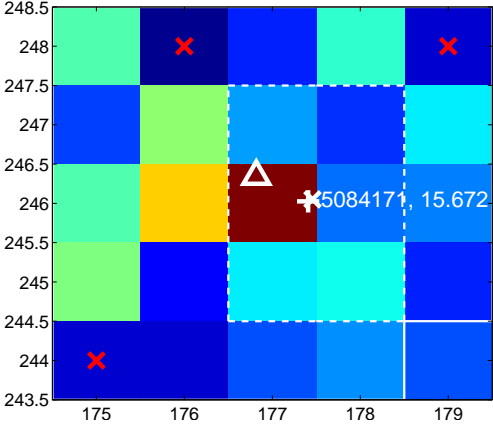
Q10 difference image



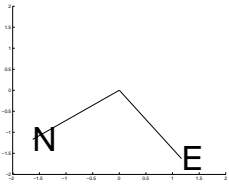
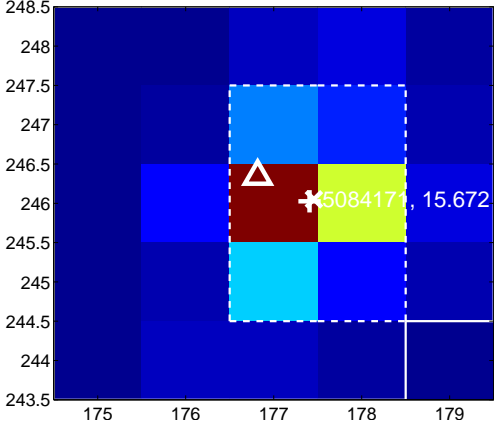
Q10 OOT image



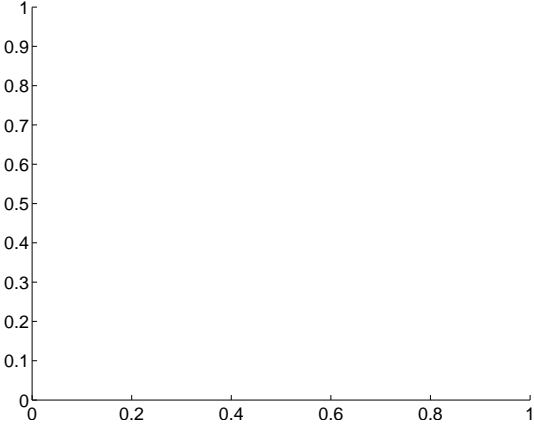
Q11 difference image



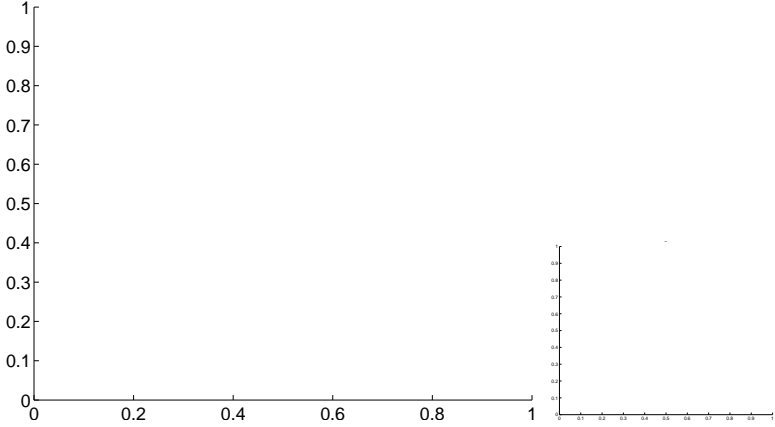
Q11 OOT image



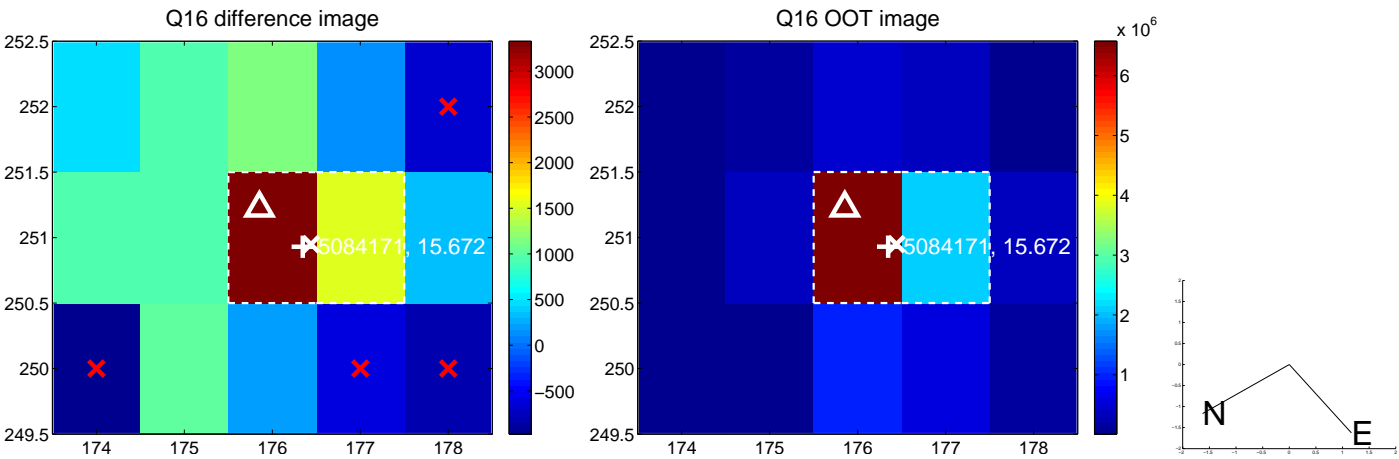
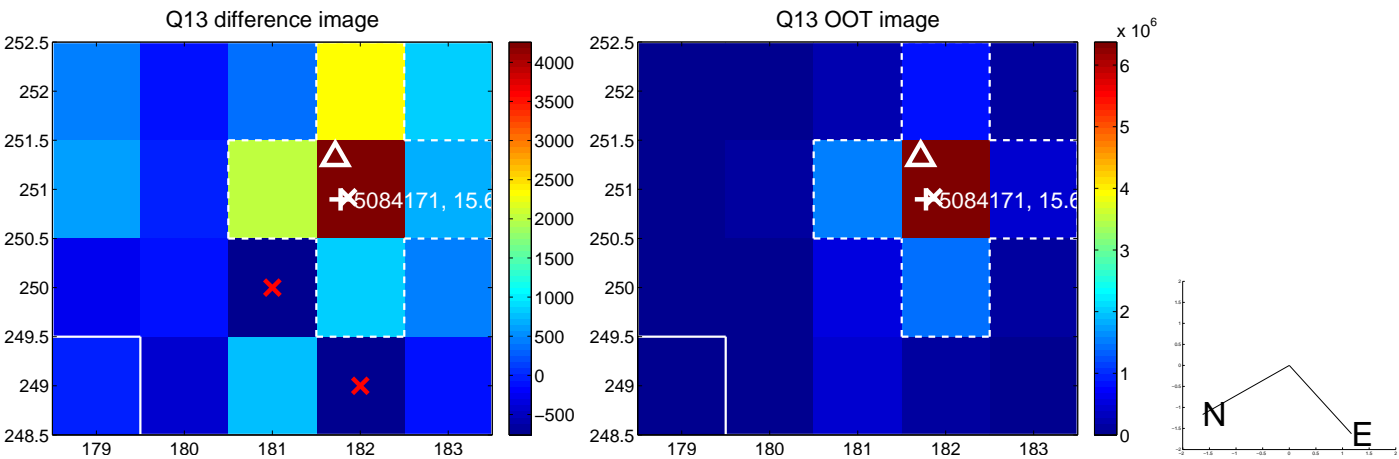
Q12 no difference image



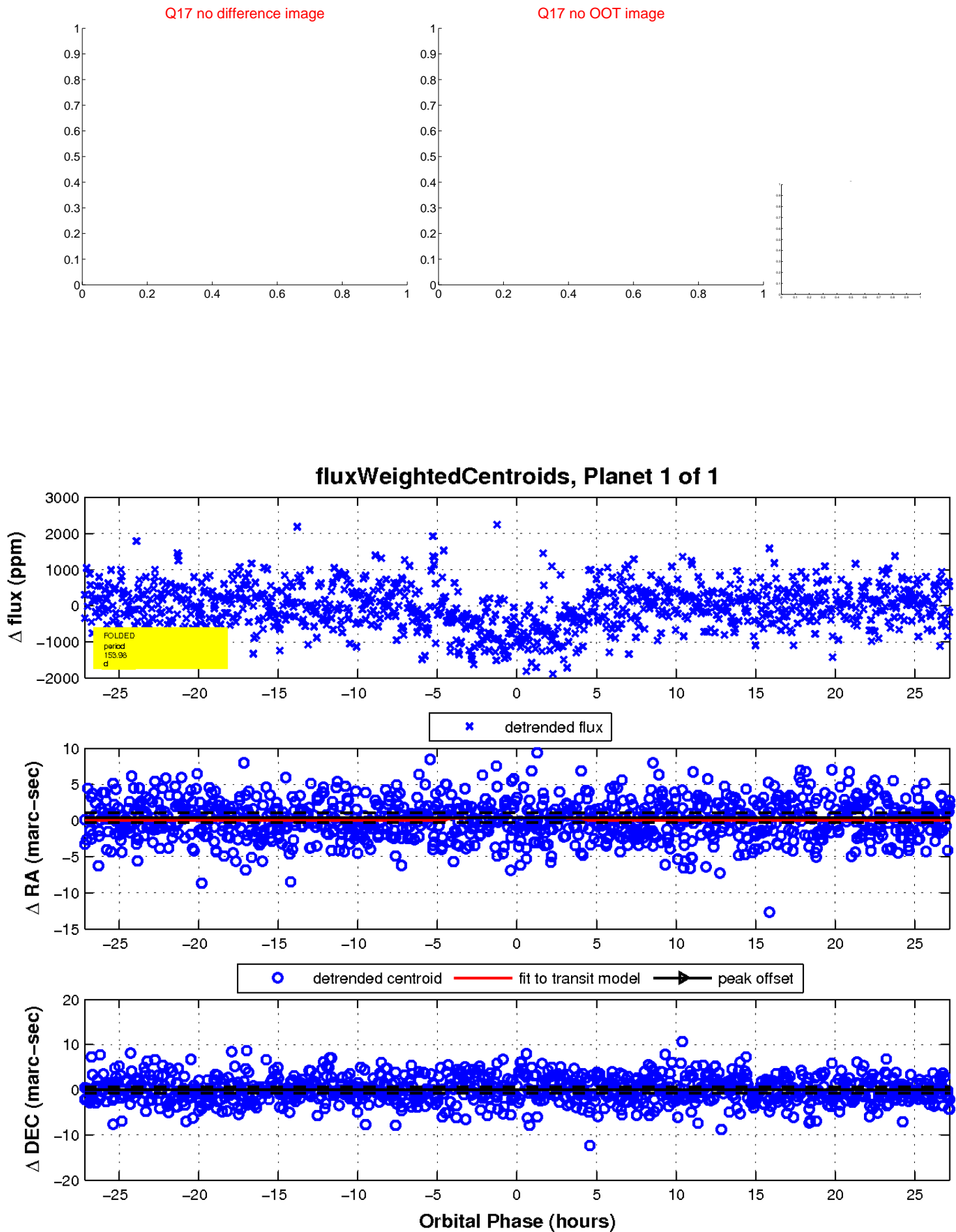
Q12 no OOT image



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

