

KIC 010338186

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})
010338186-01	OBS	No	509.762825	378.423634	343.5	7.674	9.2	4.4	1.10	6234	2.21	1.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010338186-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—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.

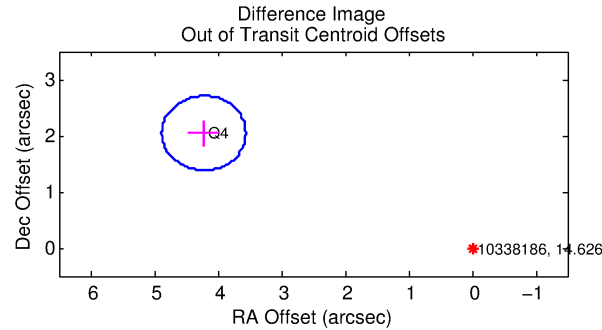
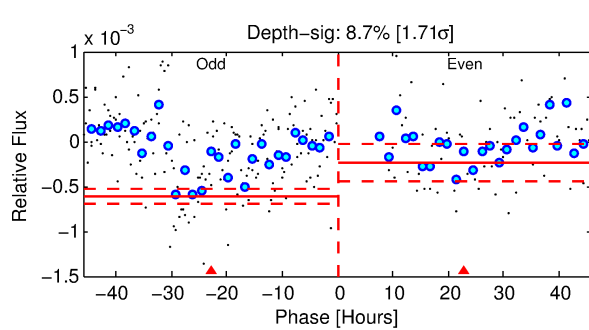
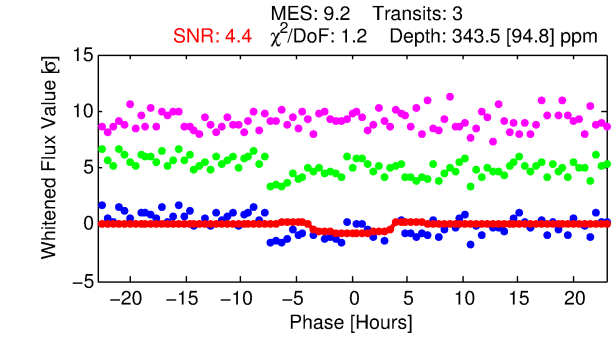
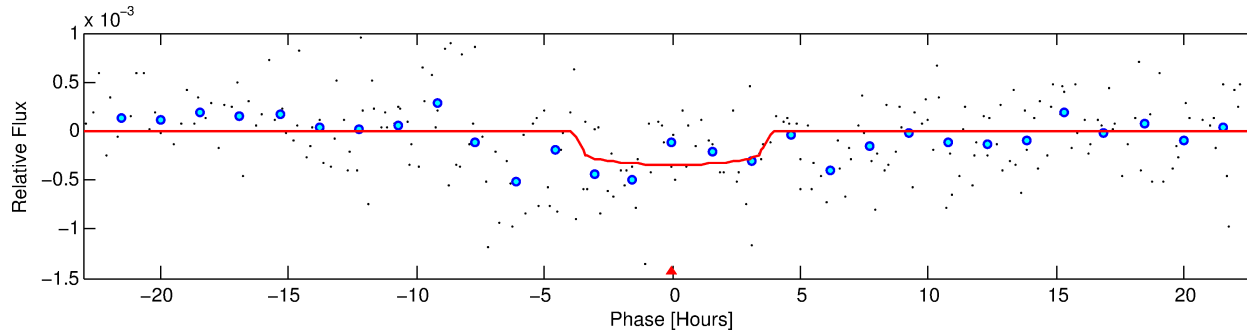
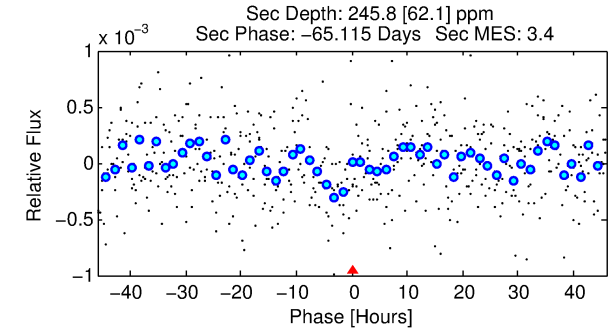
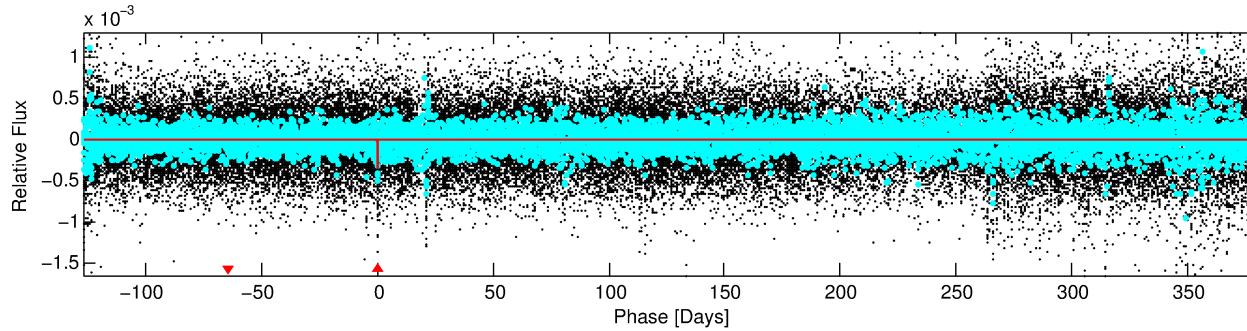
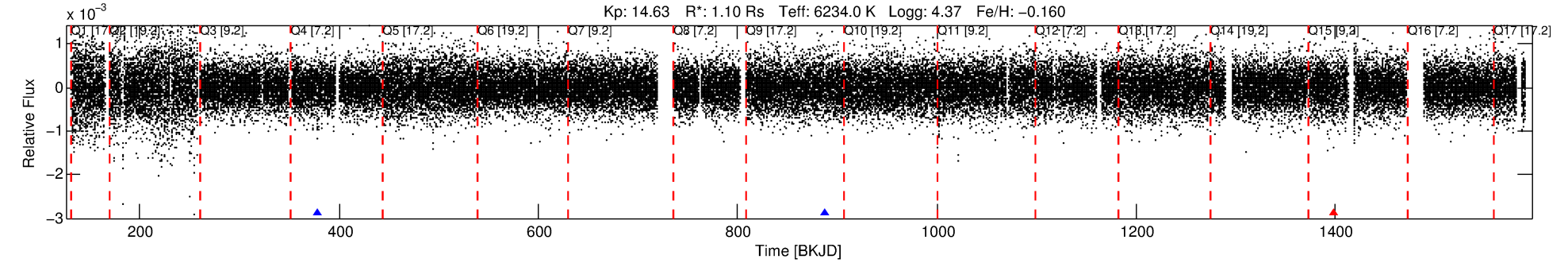
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010338186-01

No Significant Match Found

DV One-Page Summary

KIC: 10338186 Candidate: 1 of 1 Period: 509.763 d



DV Fit Results:

Period = 509.76282 [0.02069] d
Epoch = 378.4236 [0.0248] BKJD
Rp/R* = 0.0183 [0.0205]
a/R* = 358.42 [2046.24]
b = 0.73 [3.62]
Seff = 1.03 [0.42]
Teq = 257 [26] K
Rp = 2.21 [2.57] Re
a = 1.2649 [0.3344] AU
Ag = 44489.23 [101674.48] [0.44σ]
Teffp = 5764 [3255] K [1.69σ]

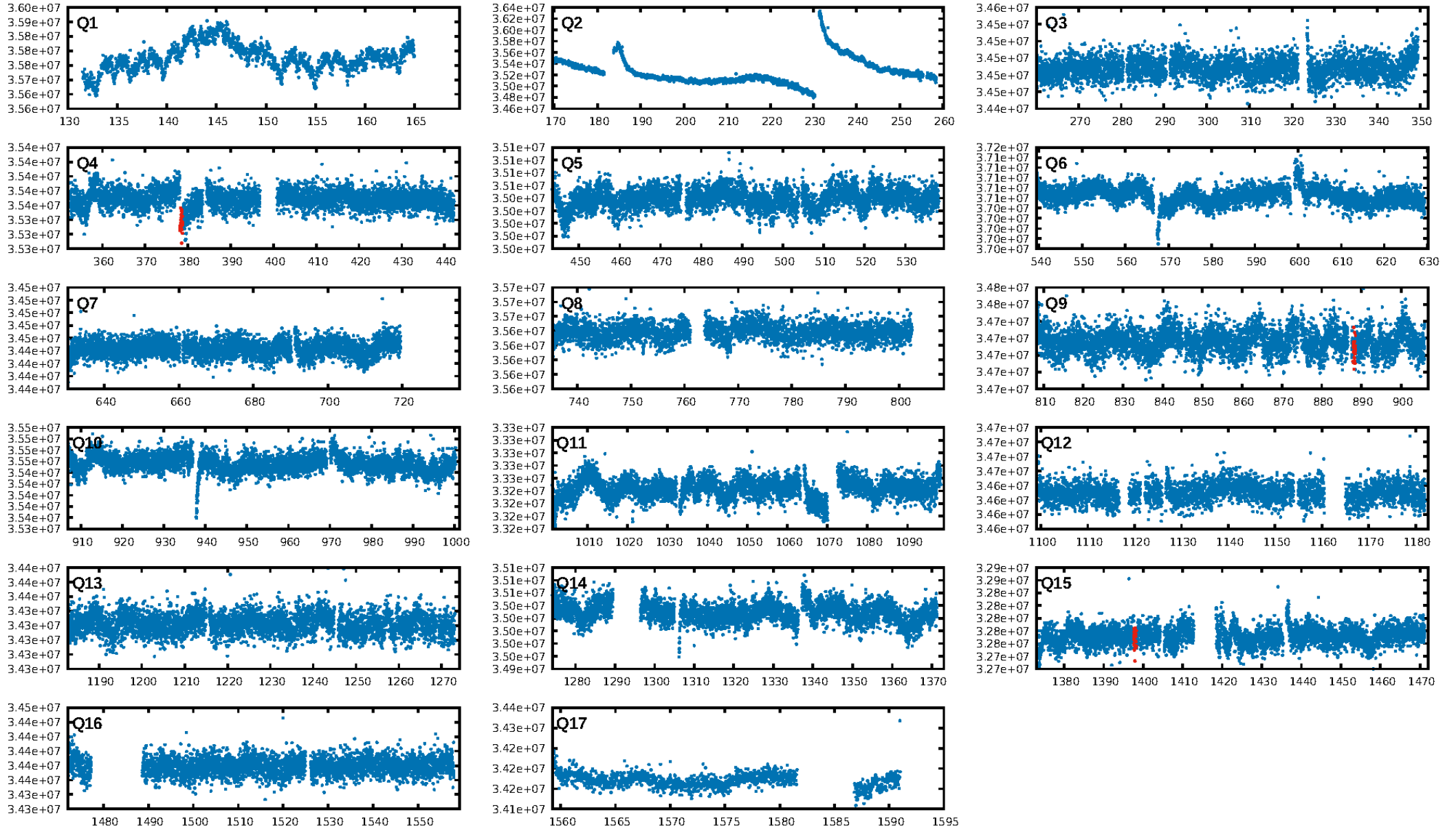
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.8%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: 2.79e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.9652
Centroid-sig: 0.1%
Centroid-so: 4.695 arcsec [3.44σ]
OotOffset-rm: 4.689 arcsec [21.25σ]
KicOffset-rm: 3.797 arcsec [17.18σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

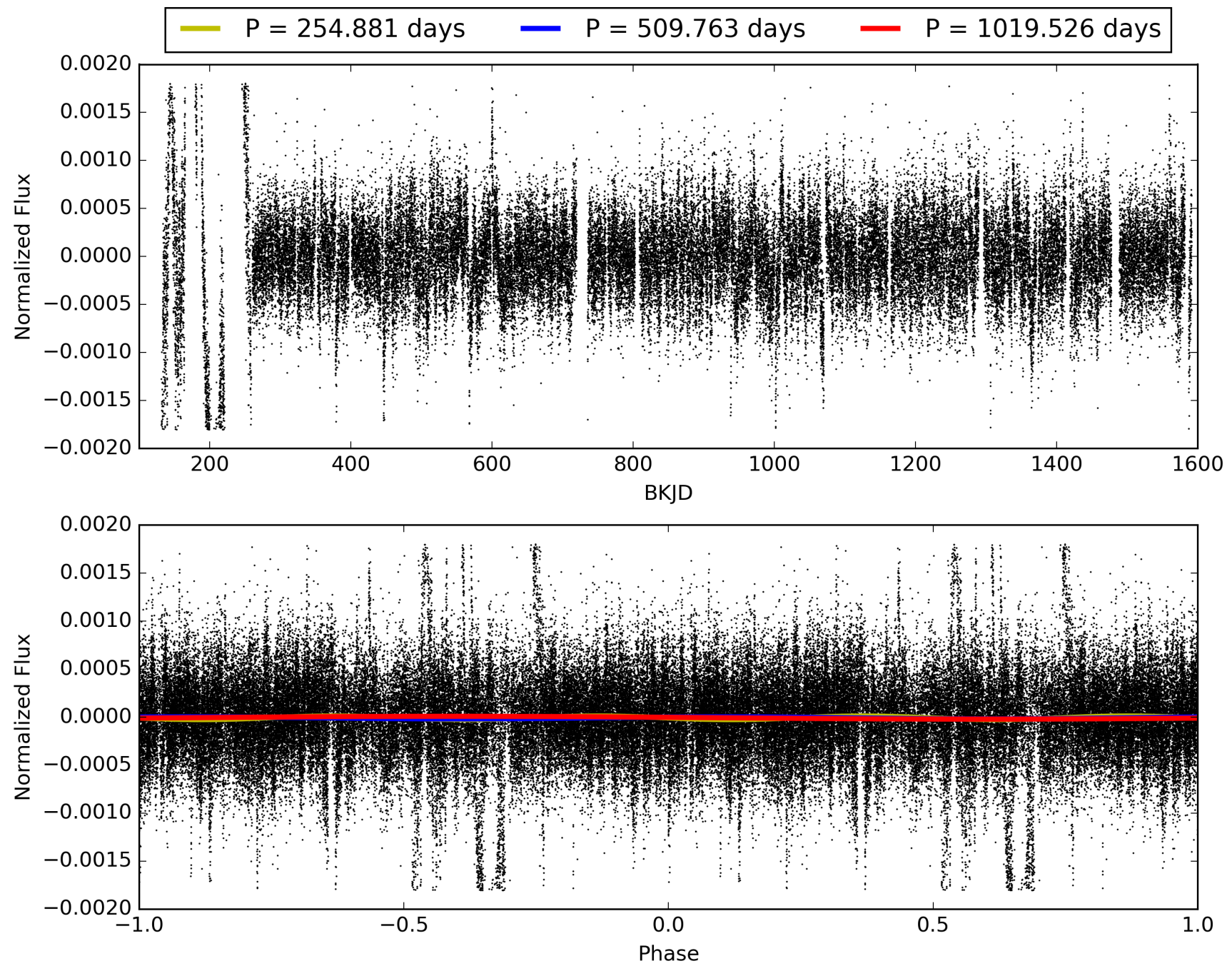
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:13:59 Z

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

TCE 010338186-01, PDC Light Curves

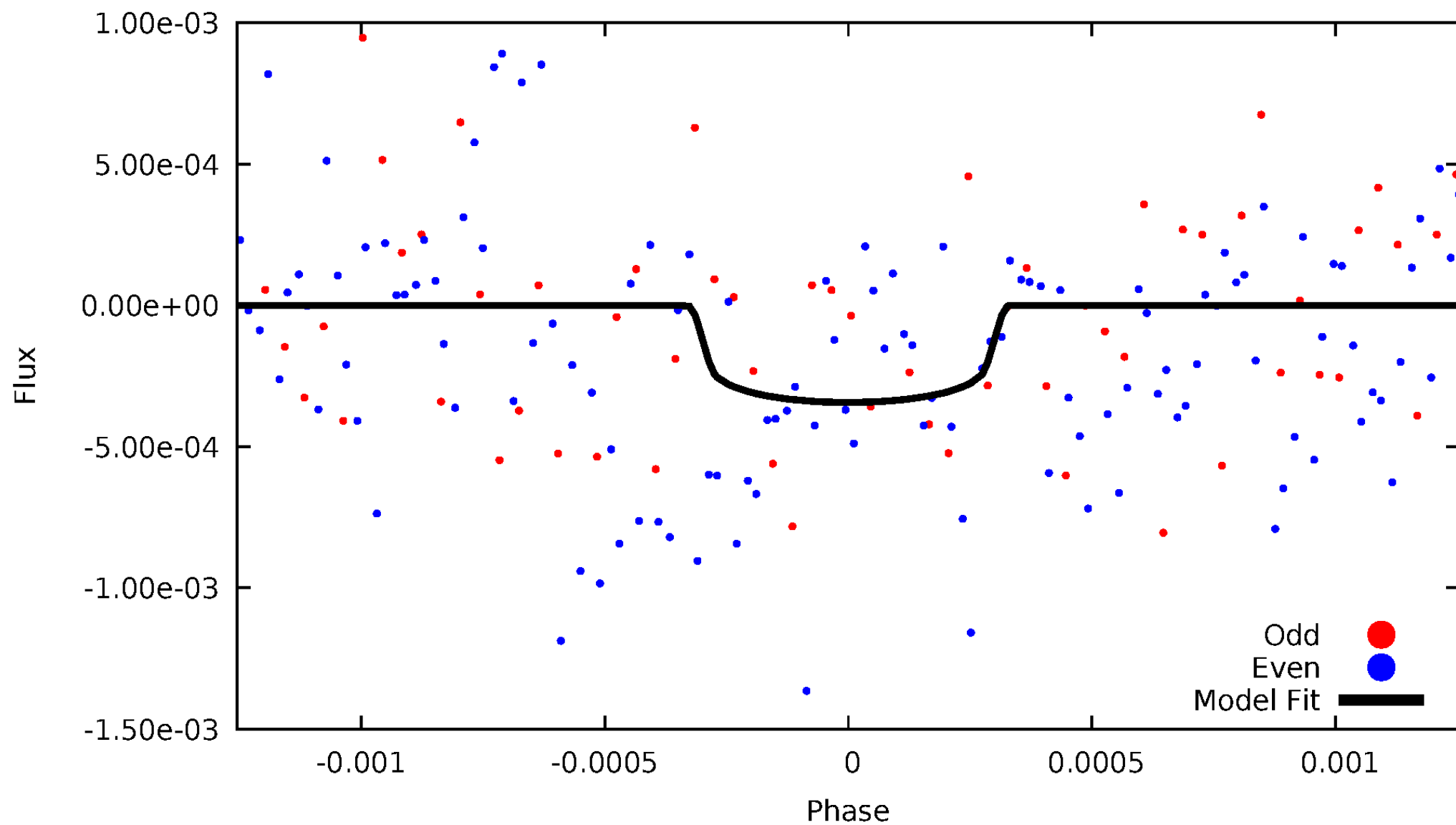


TCE 010338186-01



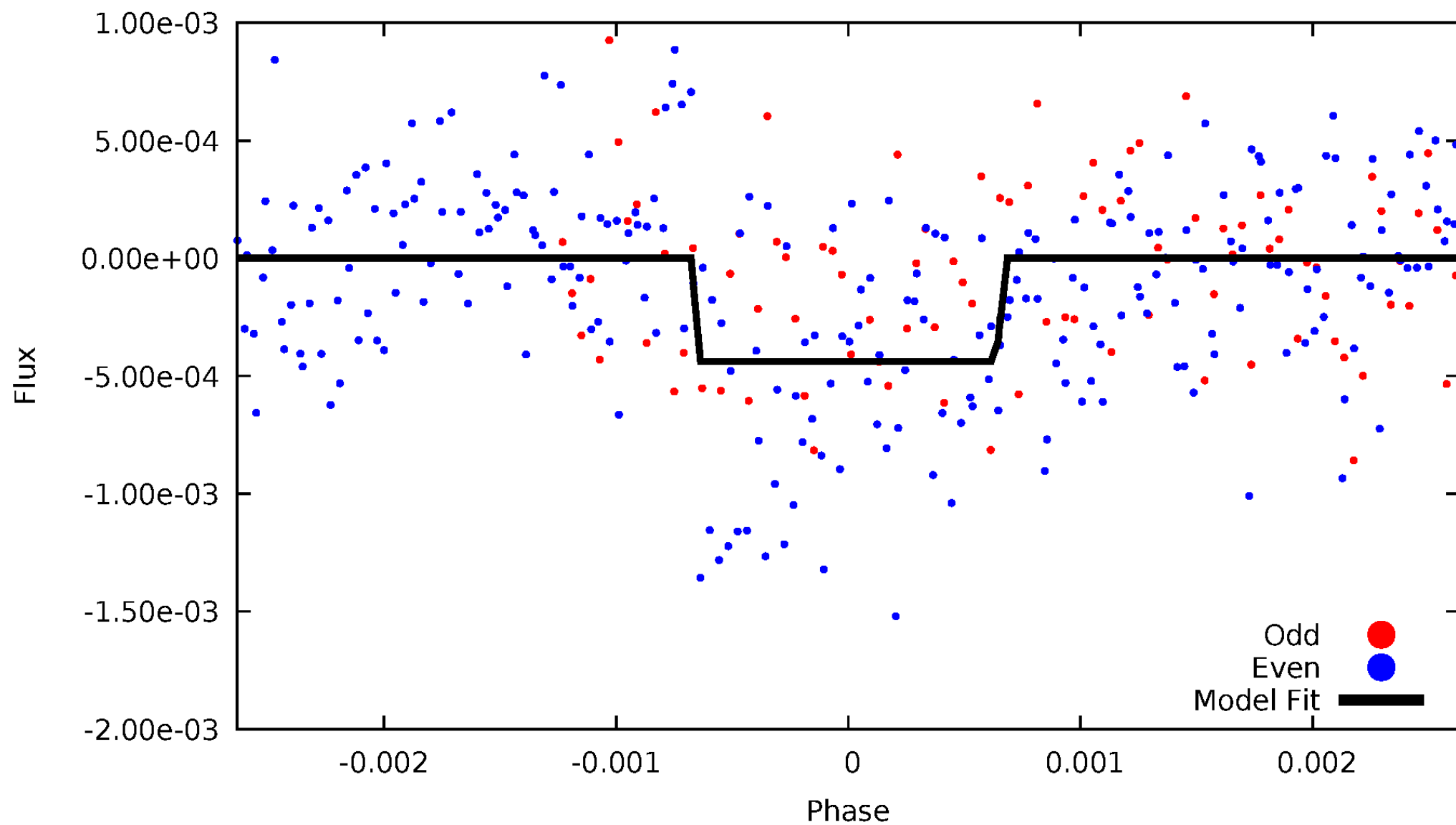
DV Odd/Even

TCE 010338186-01



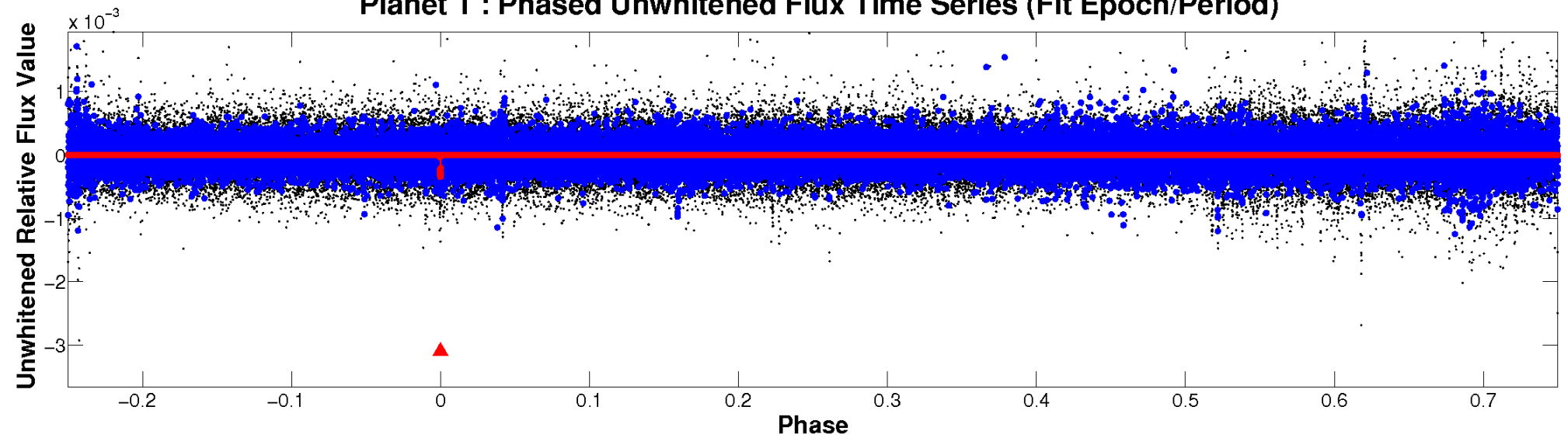
ALT Odd/Even

TCE 010338186-01

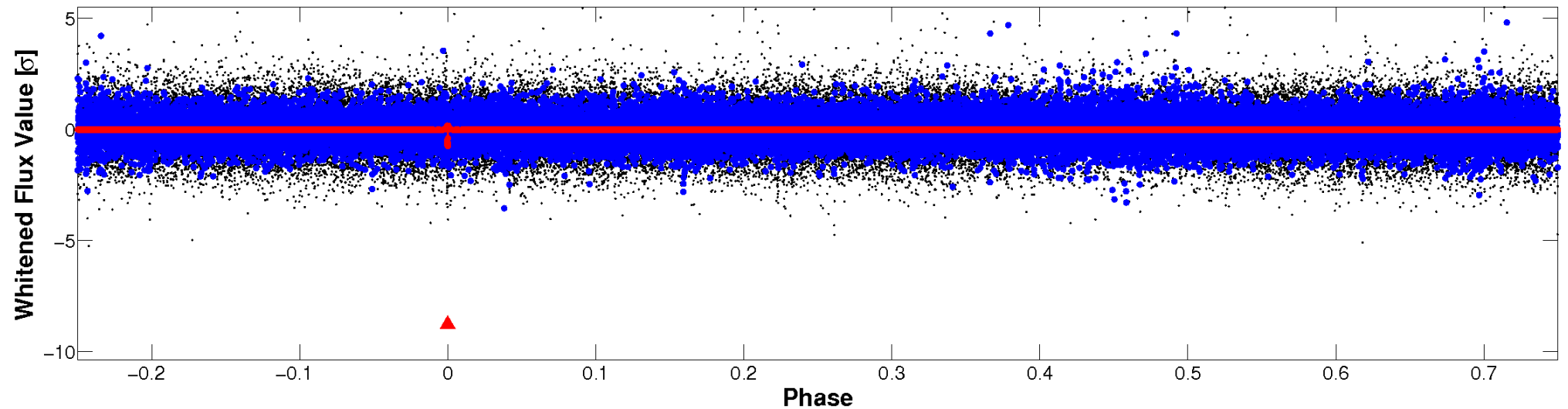


Non-Whitened Vs. Whitened Light Curve

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

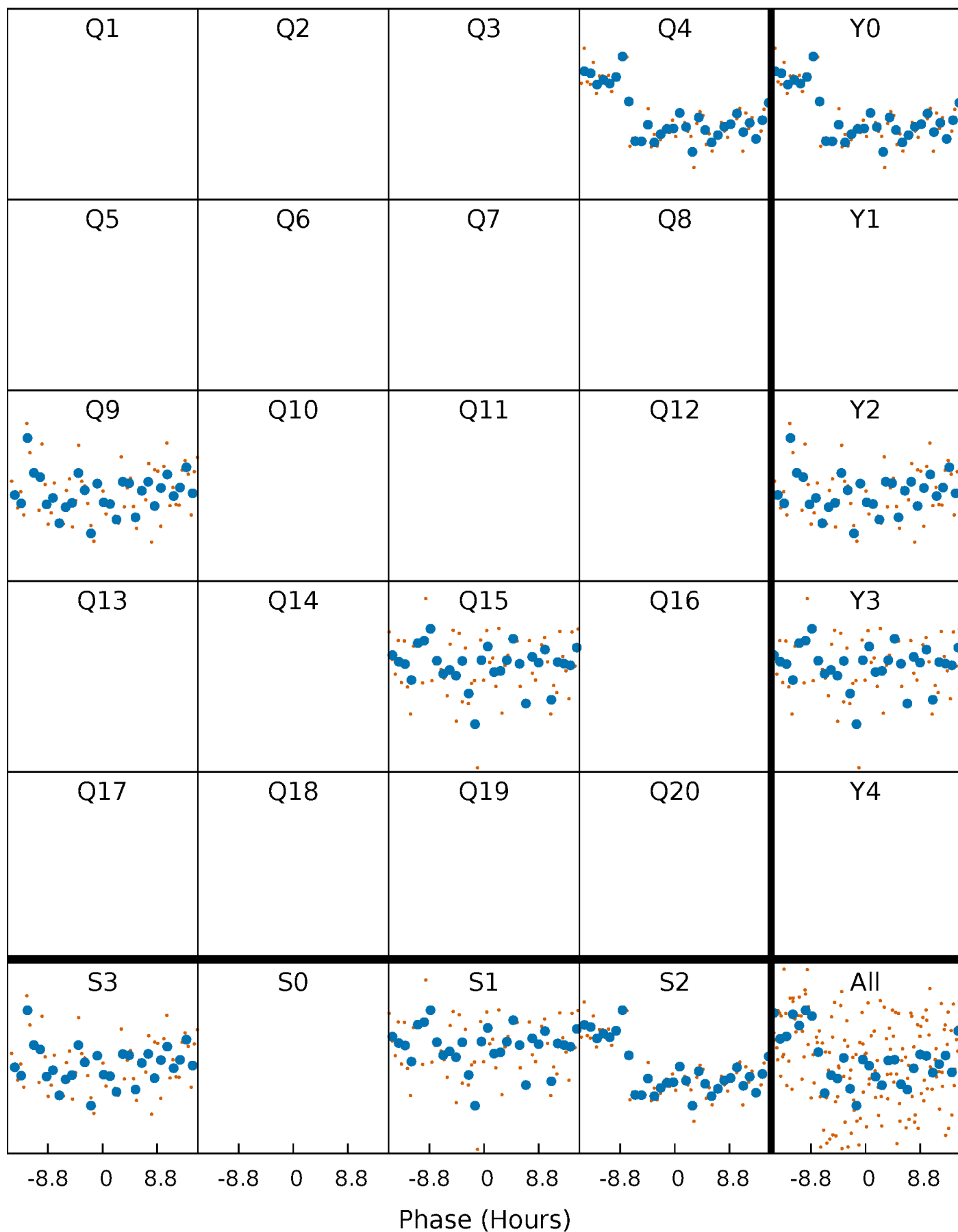


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



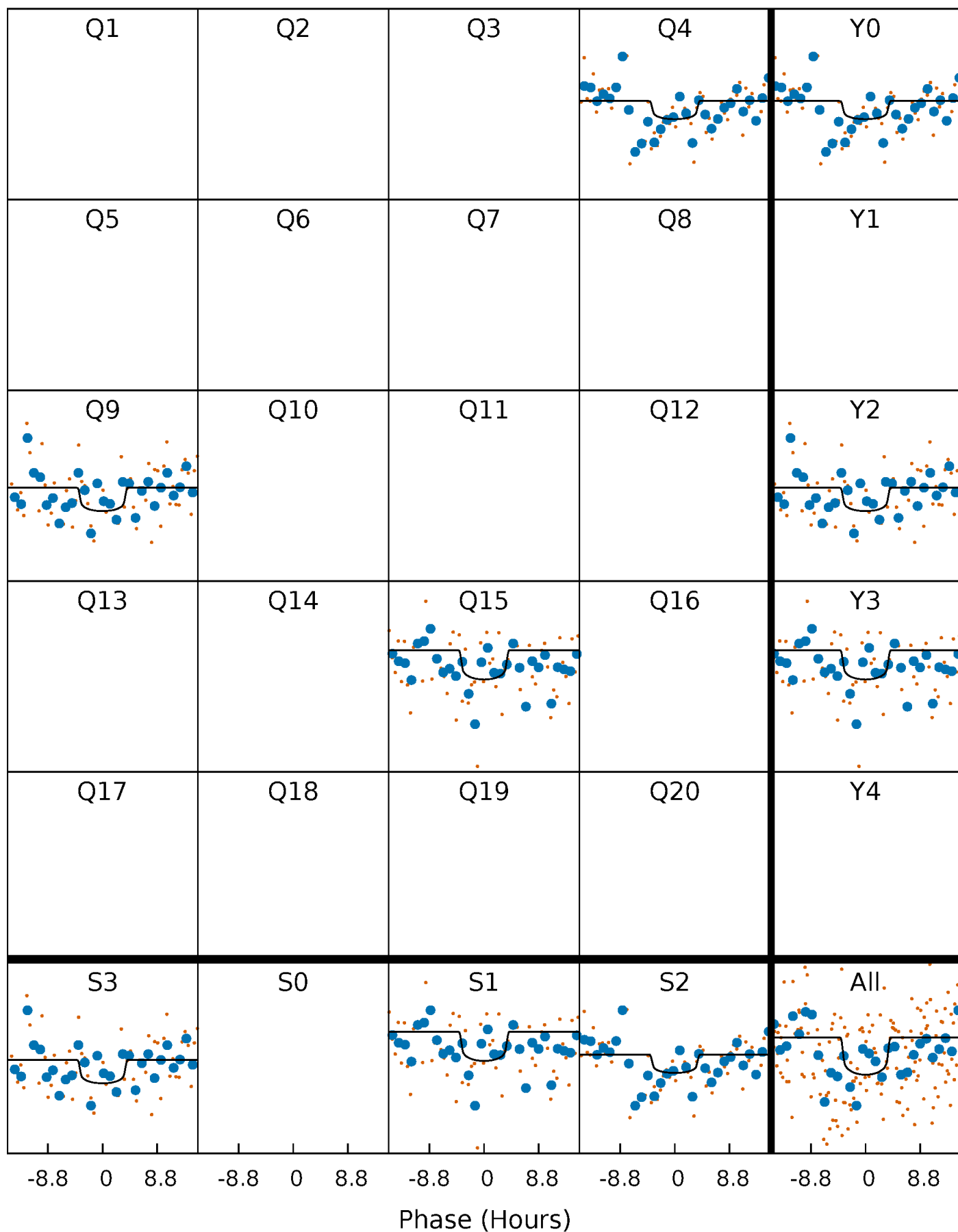
PDC Quarter-Phased Transit Curves

TCE 010338186-01 P=509.762825 Days $T_0=378.423634$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010338186-01 P=509.762825 Days $T_0=378.423634$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

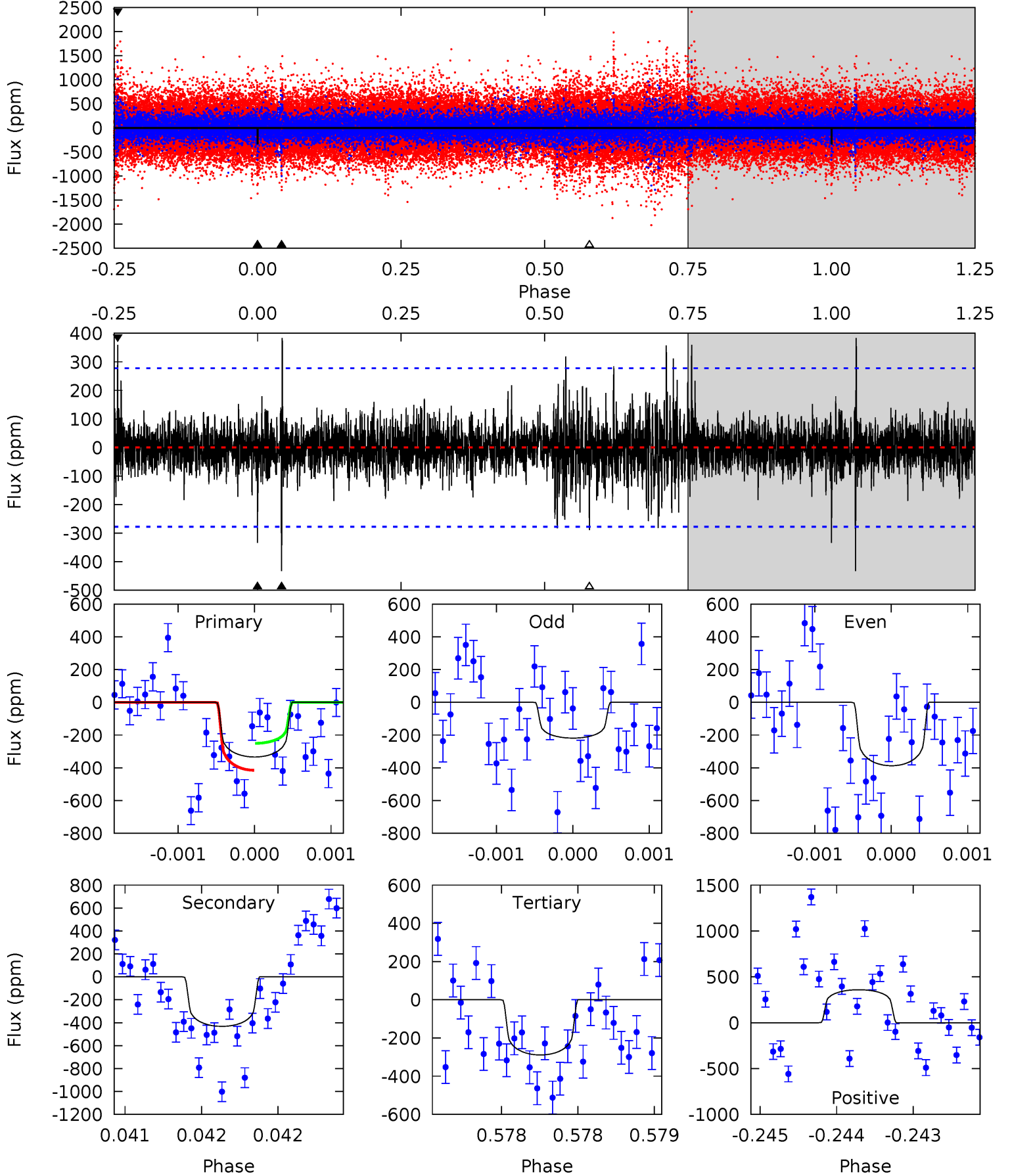
TCE 010338186-01 P=509.756021 Days $T_0=378.447591$ (BKJD)



DV Model-Shift Uniqueness Test

010338186-01, P = 509.762825 Days, E = 378.423634 Days

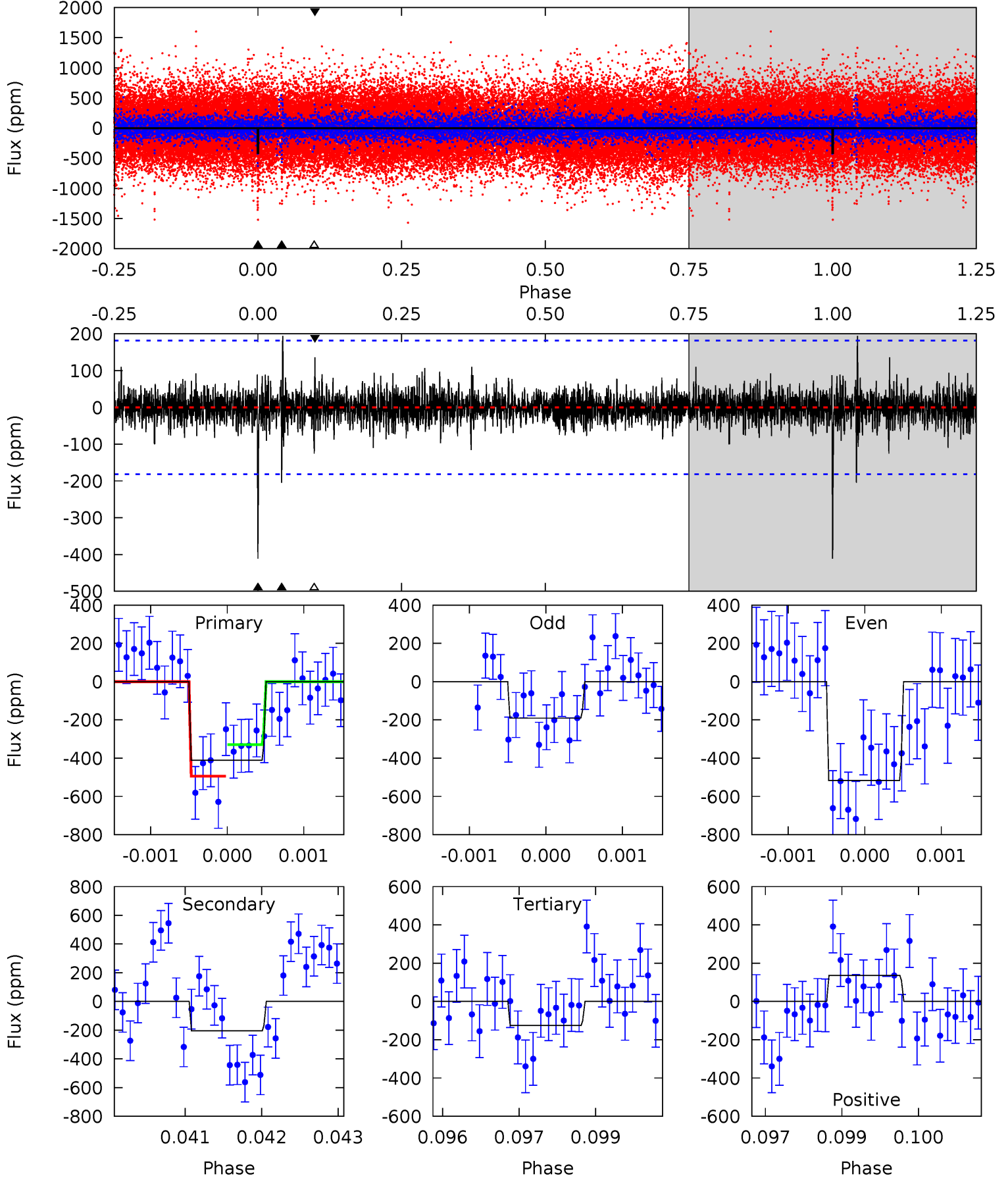
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.64	8.59	5.75	7.14	5.52	3.40	1.27	0.90	-0.50	2.85	1.45	1.62	0.95	0.47	1.64



Alt Model-Shift Uniqueness Test

010338186-01, P = 509.756021 Days, E = 378.447591 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	6.07	3.73	4.04	5.40	3.20	0.85	8.49	8.18	2.34	2.03	4.61	1.88	0.32	2.45



Stellar Parameters For KIC 010338186

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6234^{+169}_{-225}	$4.370^{+0.101}_{-0.203}$	$-0.160^{+0.250}_{-0.300}$	$1.102^{+0.353}_{-0.151}$	$1.033^{+0.173}_{-0.115}$	$1.088^{+0.500}_{-0.542}$
	+3%/-4%	+2%/-5%	+156%/-188%	+32%/-14%	+17%/-11%	+46%/-50%
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 010338186-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-432 ± 50	$3.05^{+2.29}_{-1.91}$	362^{+29}_{-20}	5810^{+4398}_{-1248}	$41299^{+243760}_{-27990}$
Alt.	-204 ± 34	$3.14^{+2.34}_{-1.96}$	362^{+29}_{-21}	4774^{+2885}_{-877}	$18477^{+107357}_{-12509}$

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

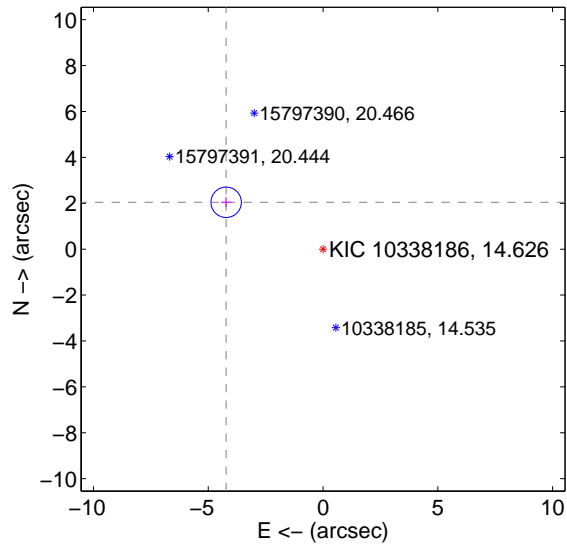
Supplemental centroid analysis for 010338186-01. Kepler magnitude: 14.63. Transit SNR 4.43

There are 1 quarters with good PRF difference image offsets

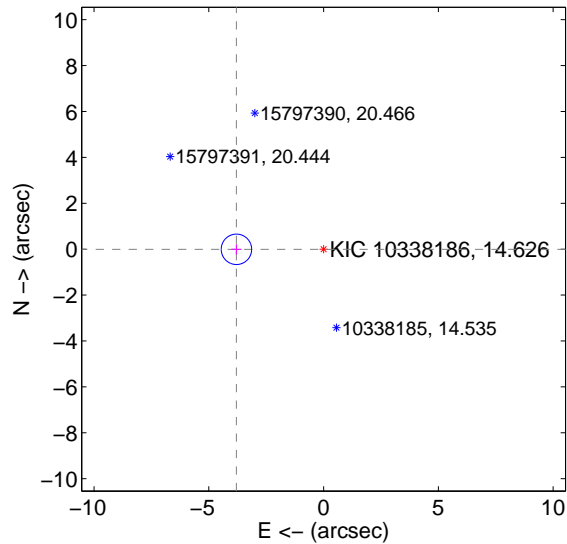
The OOT PRF centroid is offset from the target star catalog position by about 2.09 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.689 ± 0.221	21.25	4.221 ± 0.221	2.043 ± 0.220
PRF-fit source offset from KIC position	3.797 ± 0.221	17.18	3.797 ± 0.221	-0.006 ± 0.220
photometric centroid source offset	4.69 ± 1.36	3.44	2.30 ± 1.44	-4.09 ± 1.34

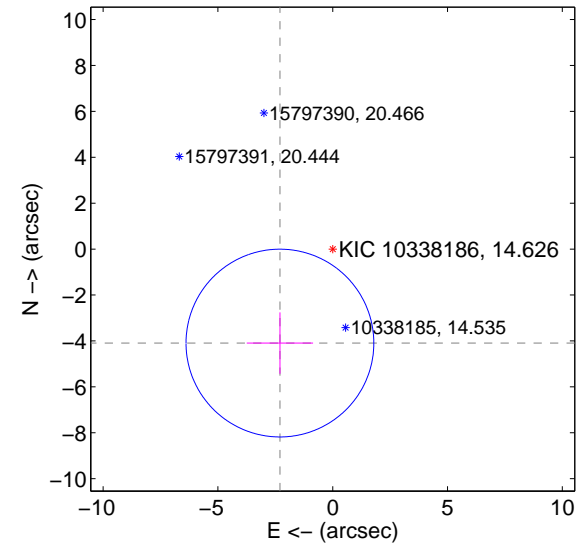
offset from difference PRF-fit to OOT PRF-fit



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

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



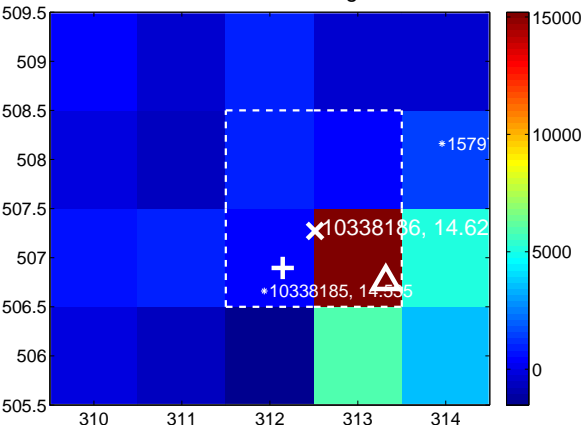
Q3 no difference image



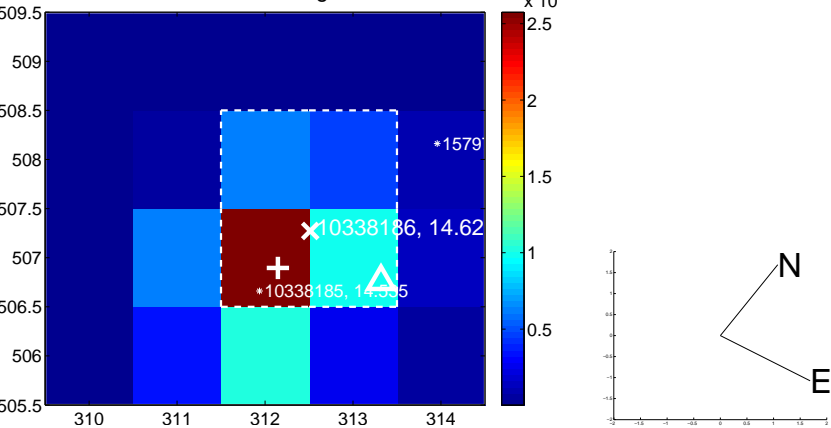
Q3 no OOT image



Q4 difference image



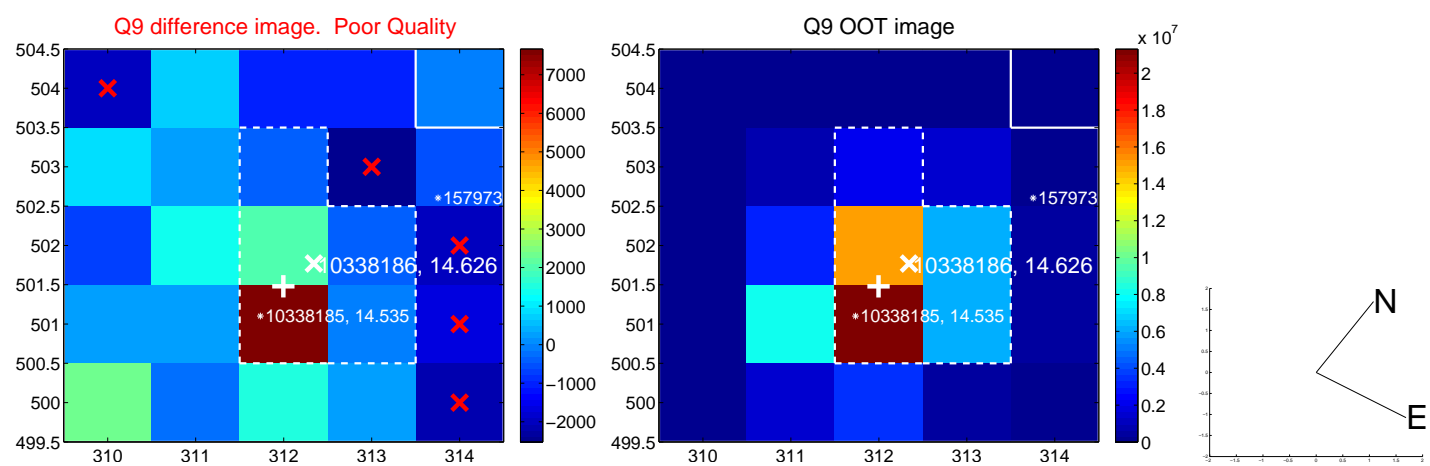
Q4 OOT image



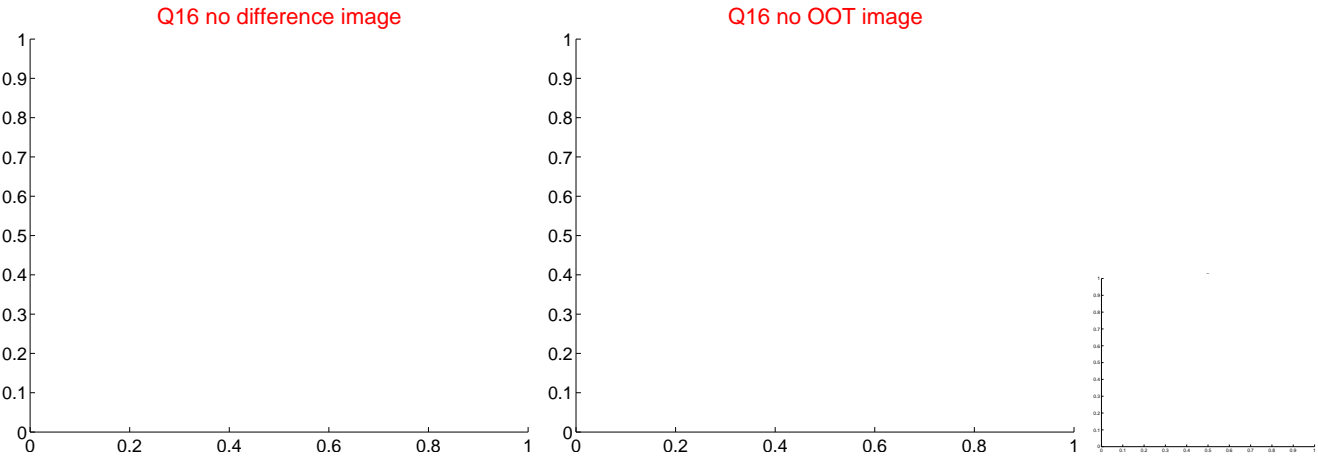
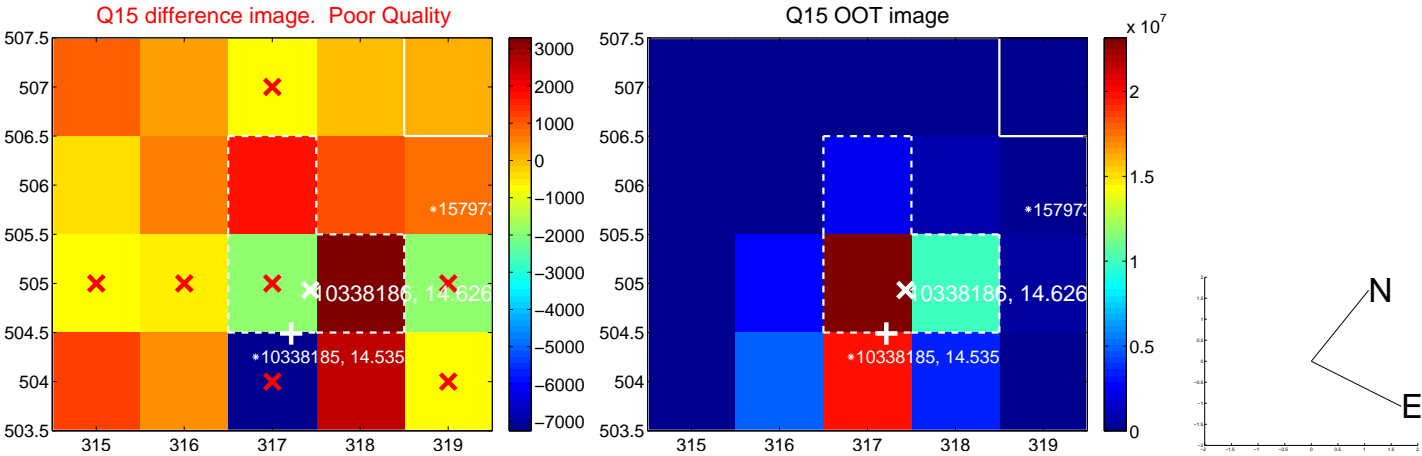
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



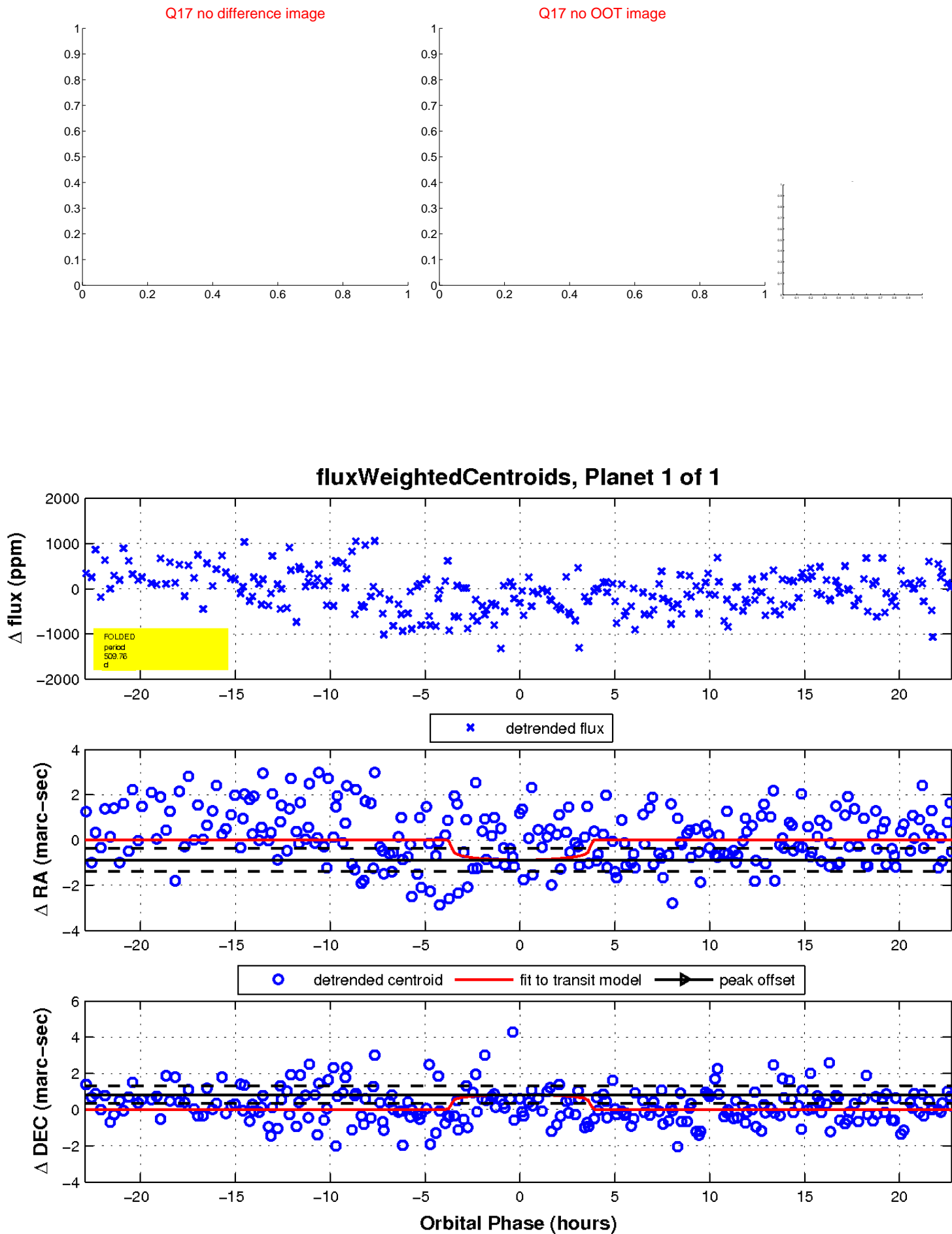
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

