

KIC 004356964

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})
004356964-01	OBS	No	414.004490	420.380039	597.9	6.477	11.0	3.8	16.15	4842	49.63	54.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004356964-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

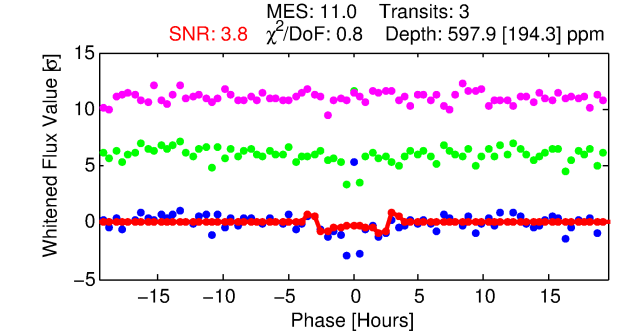
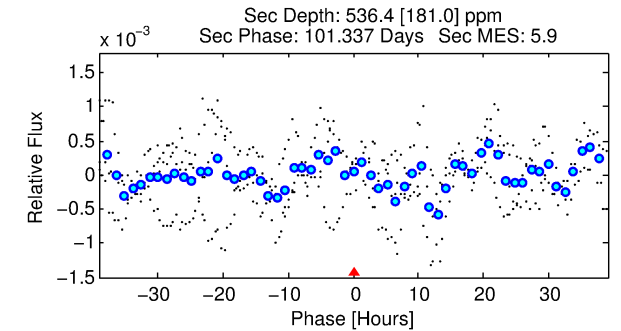
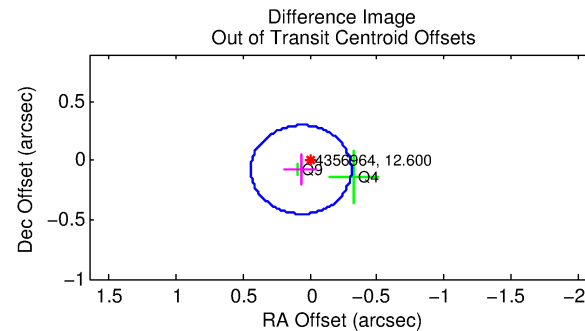
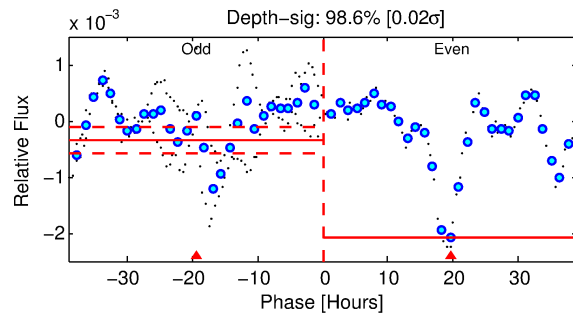
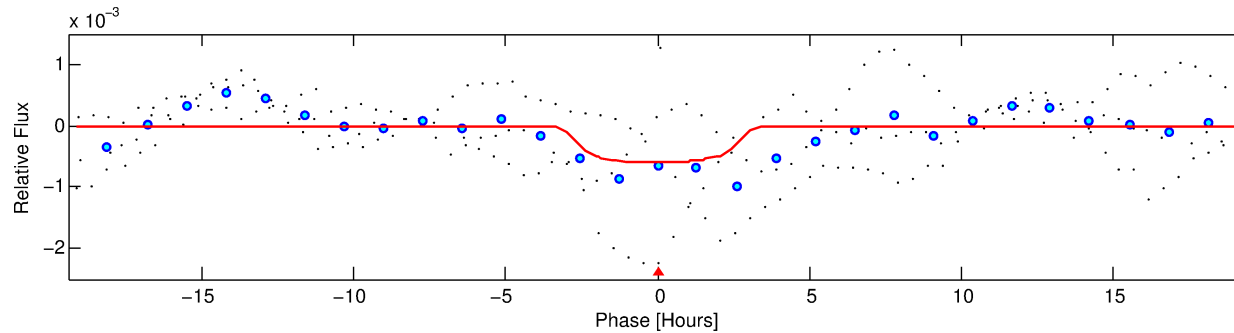
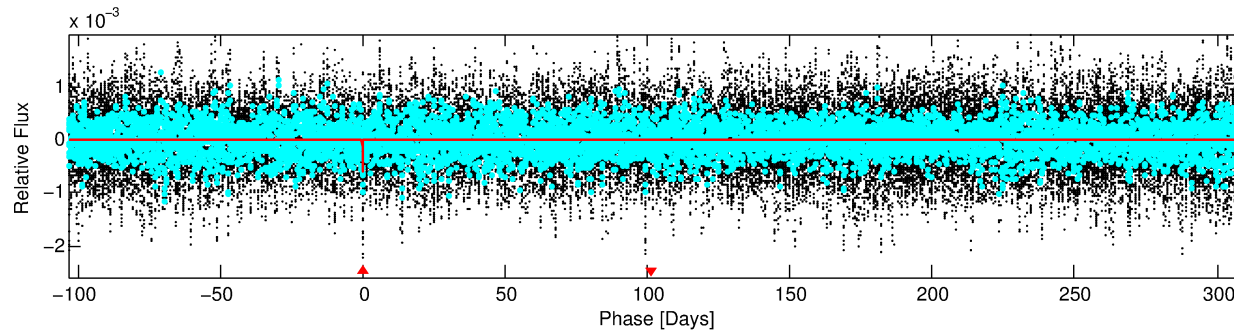
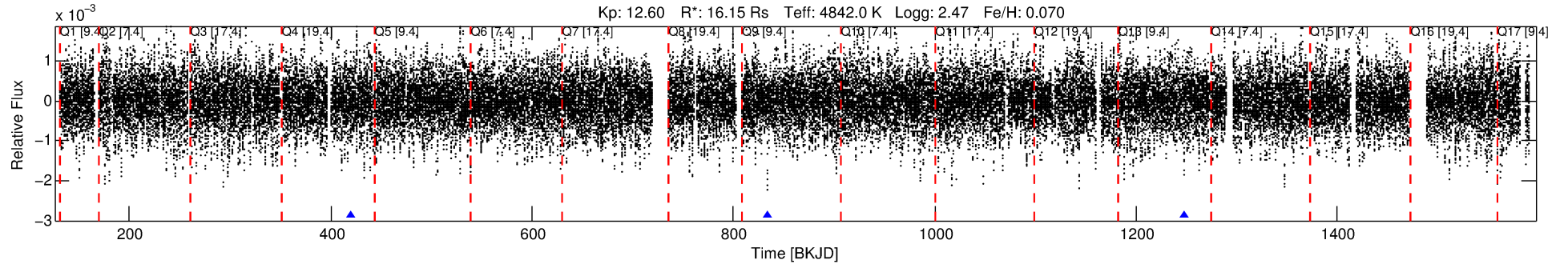
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004356964-01

No Significant Match Found

DV One-Page Summary

KIC: 4356964 Candidate: 1 of 1 Period: 414.004 d



DV Fit Results:

Period = 414.00449 [0.00550] d
Epoch = 420.3800 [0.0069] BKJD
Rp/R* = 0.0282 [0.0048]
a/R* = 223.71 [31.95]
b = 0.92 [0.02]
Seff = 54.26 [13.62]
Teq = 692 [43] K
Rp = 49.63 [17.77] Re
a = 1.5389 [0.3260] AU
Ag = 283.69 [148.88] [1.90 σ]
Teffp = 4391 [543] K [6.79 σ]

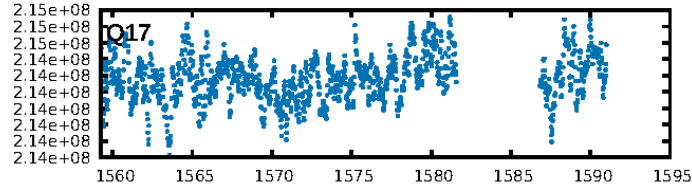
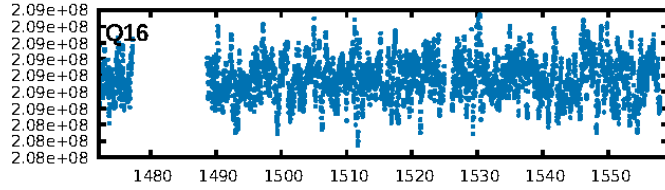
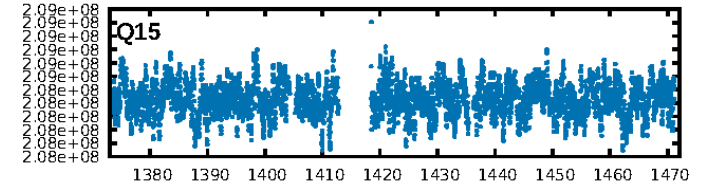
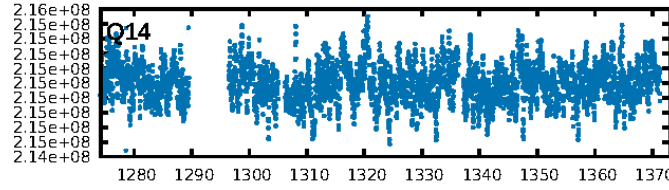
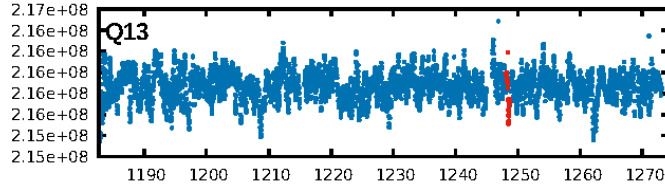
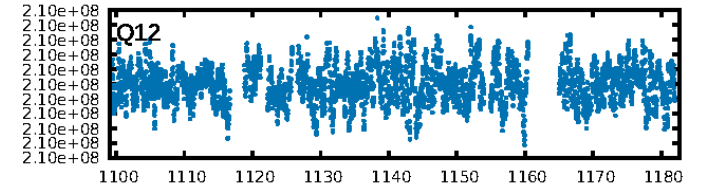
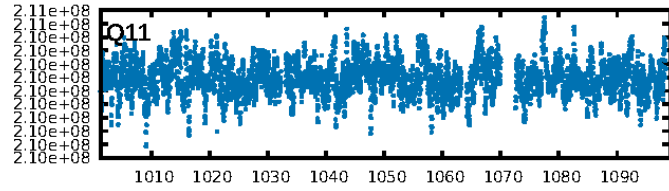
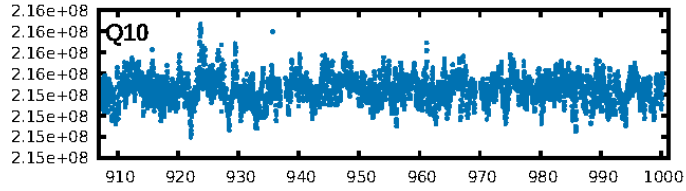
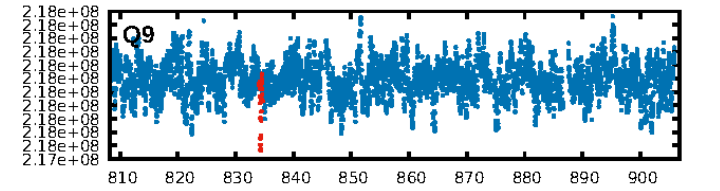
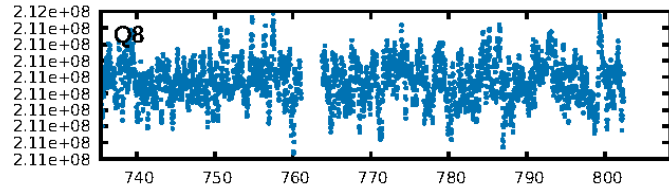
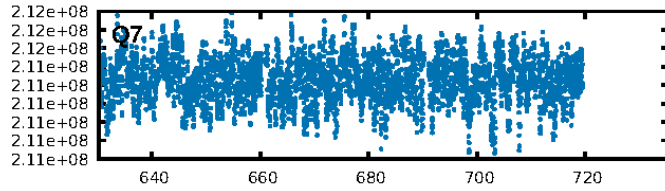
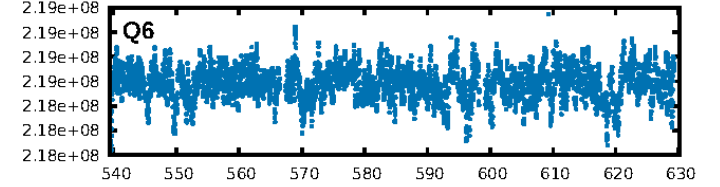
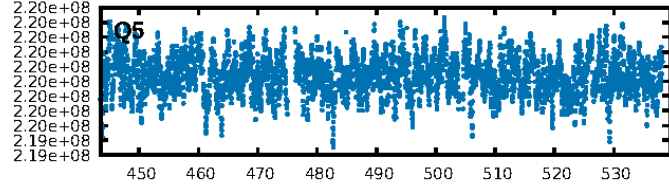
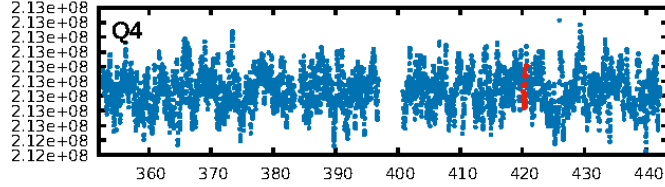
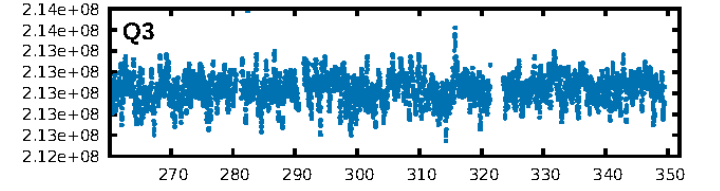
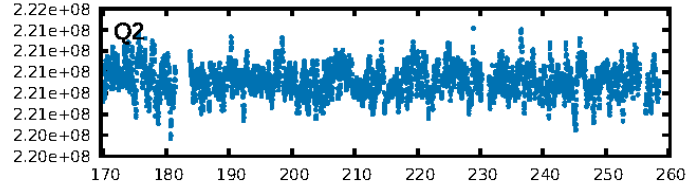
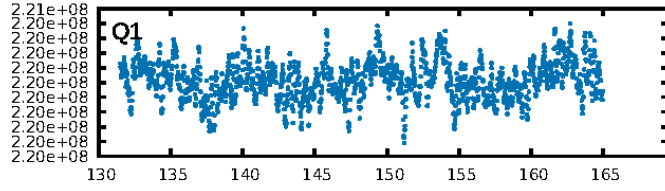
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 34.4%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 7.71e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.5068
Centroid-sig: 39.2%
Centroid-so: 0.345 arcsec [0.82 σ]
OotOffset-rm: 0.100 arcsec [0.80 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.152 arcsec [1.09 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

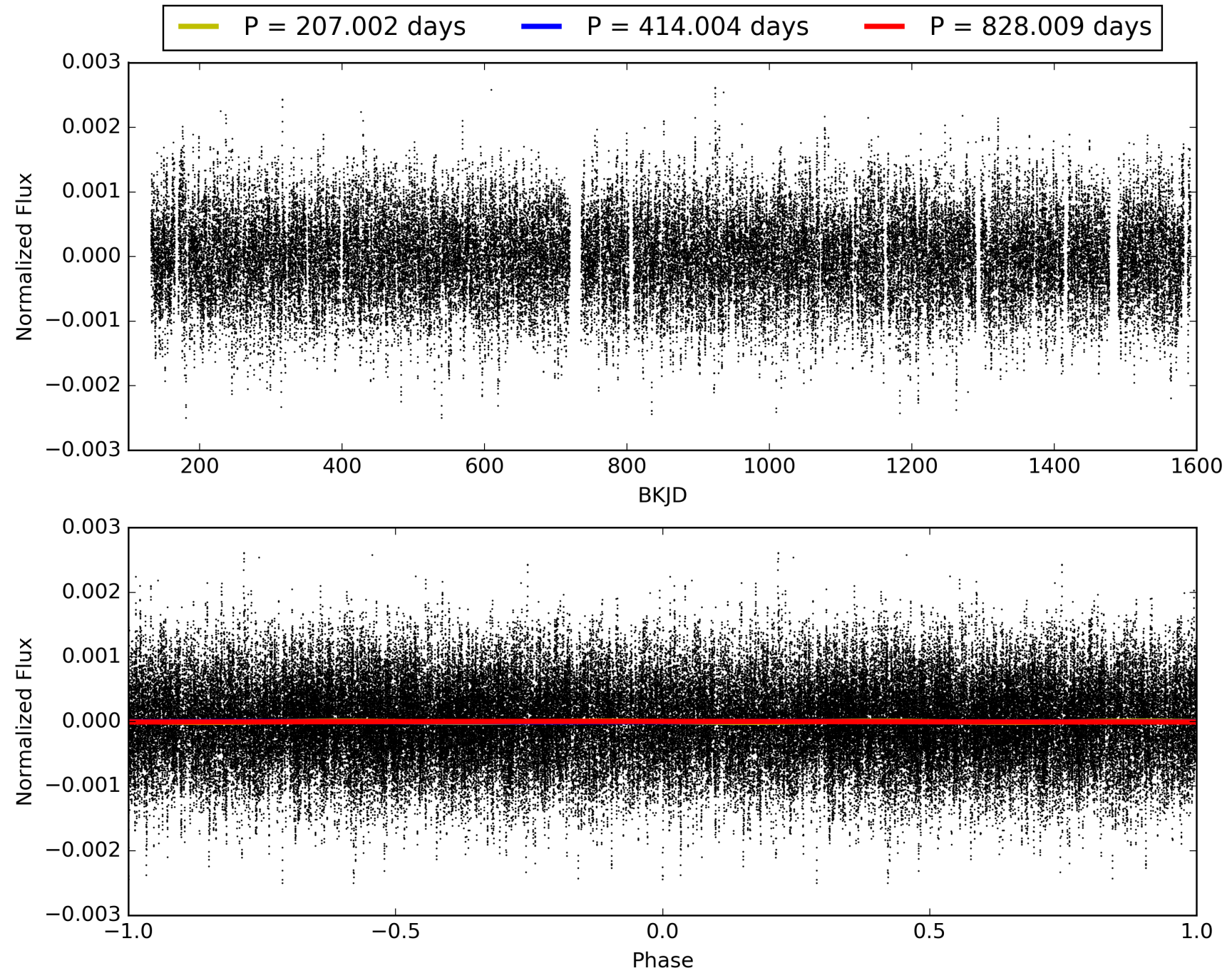
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:14:50 Z

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

TCE 004356964-01, PDC Light Curves

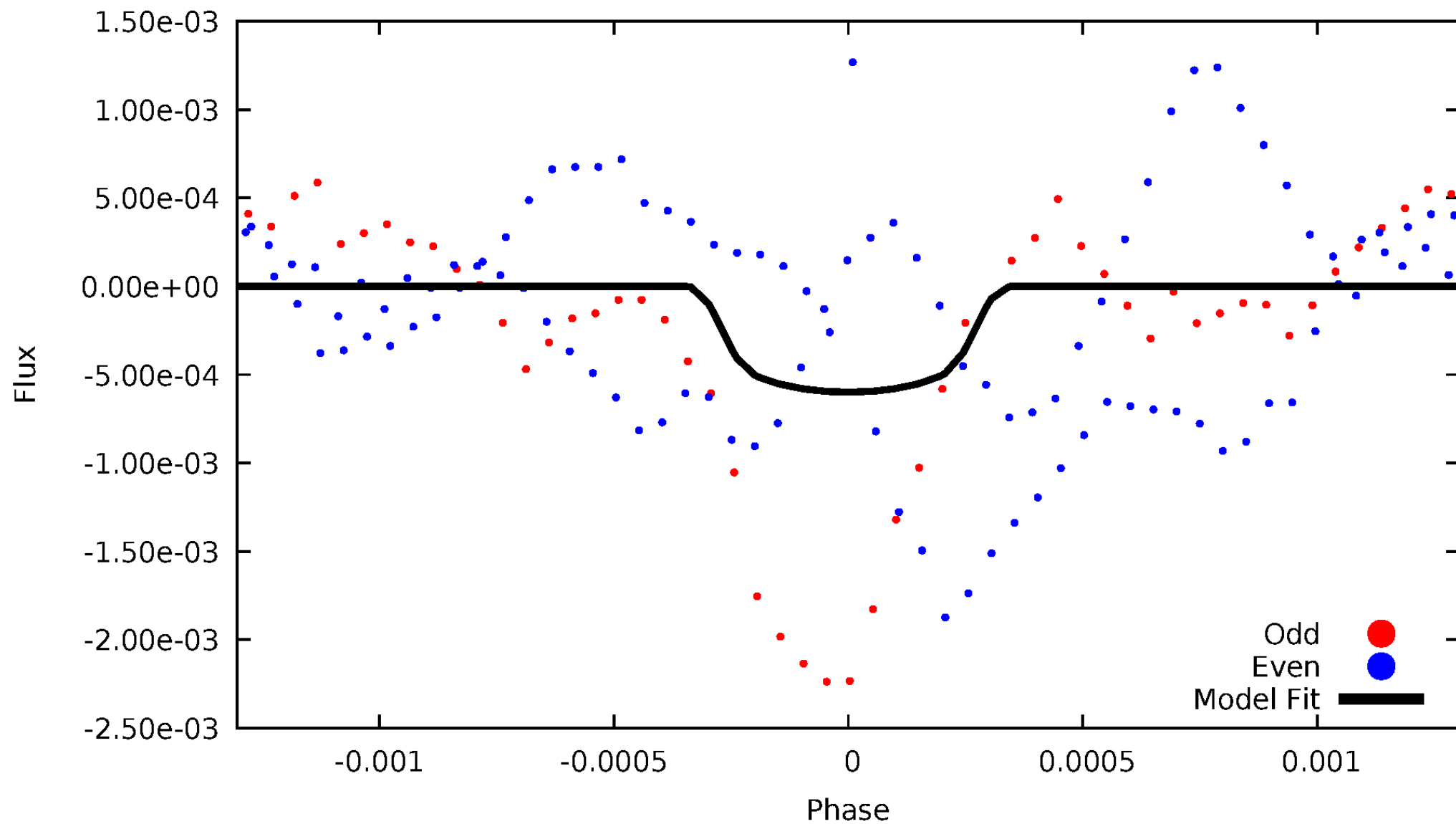


TCE 004356964-01



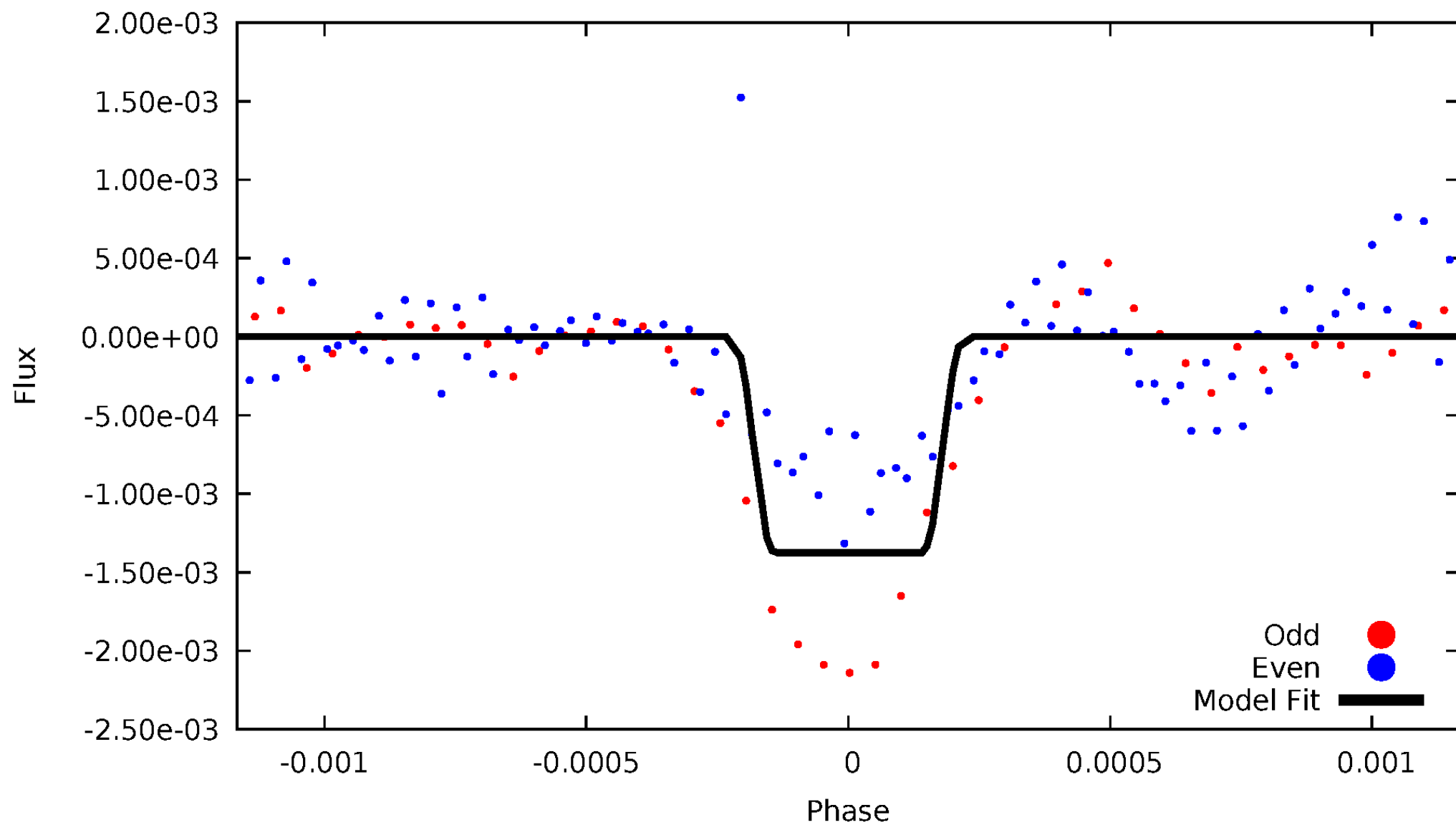
DV Odd/Even

TCE 004356964-01



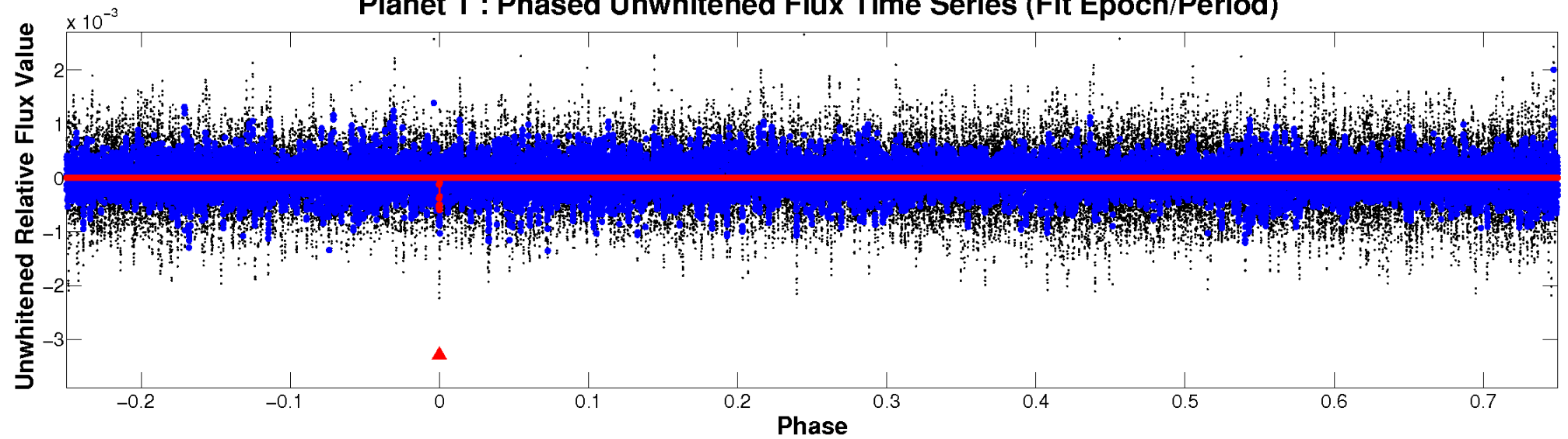
ALT Odd/Even

TCE 004356964-01

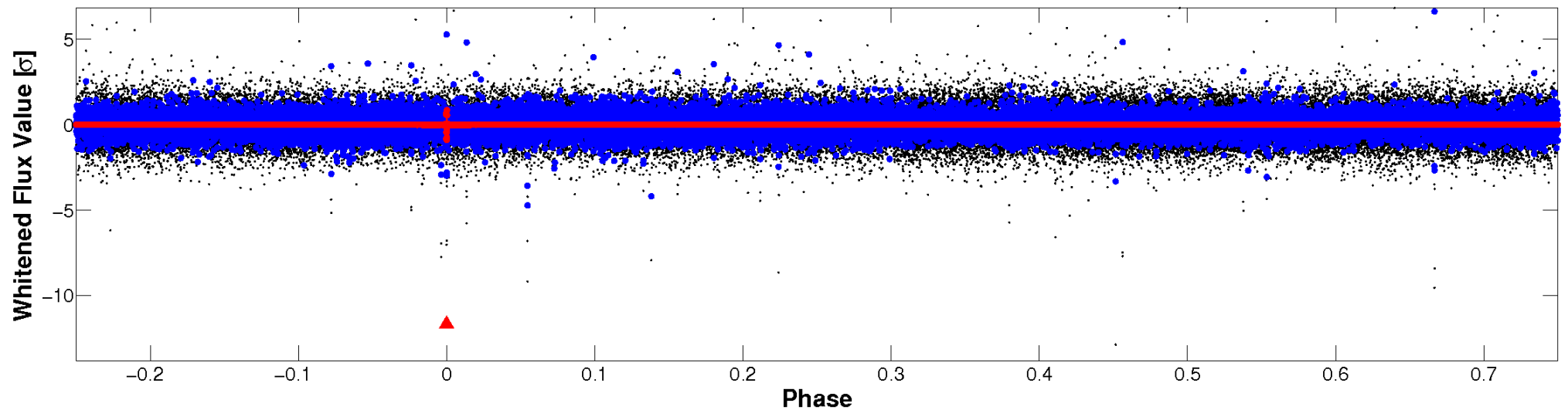


Non-Whitened Vs. Whitened Light Curve

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

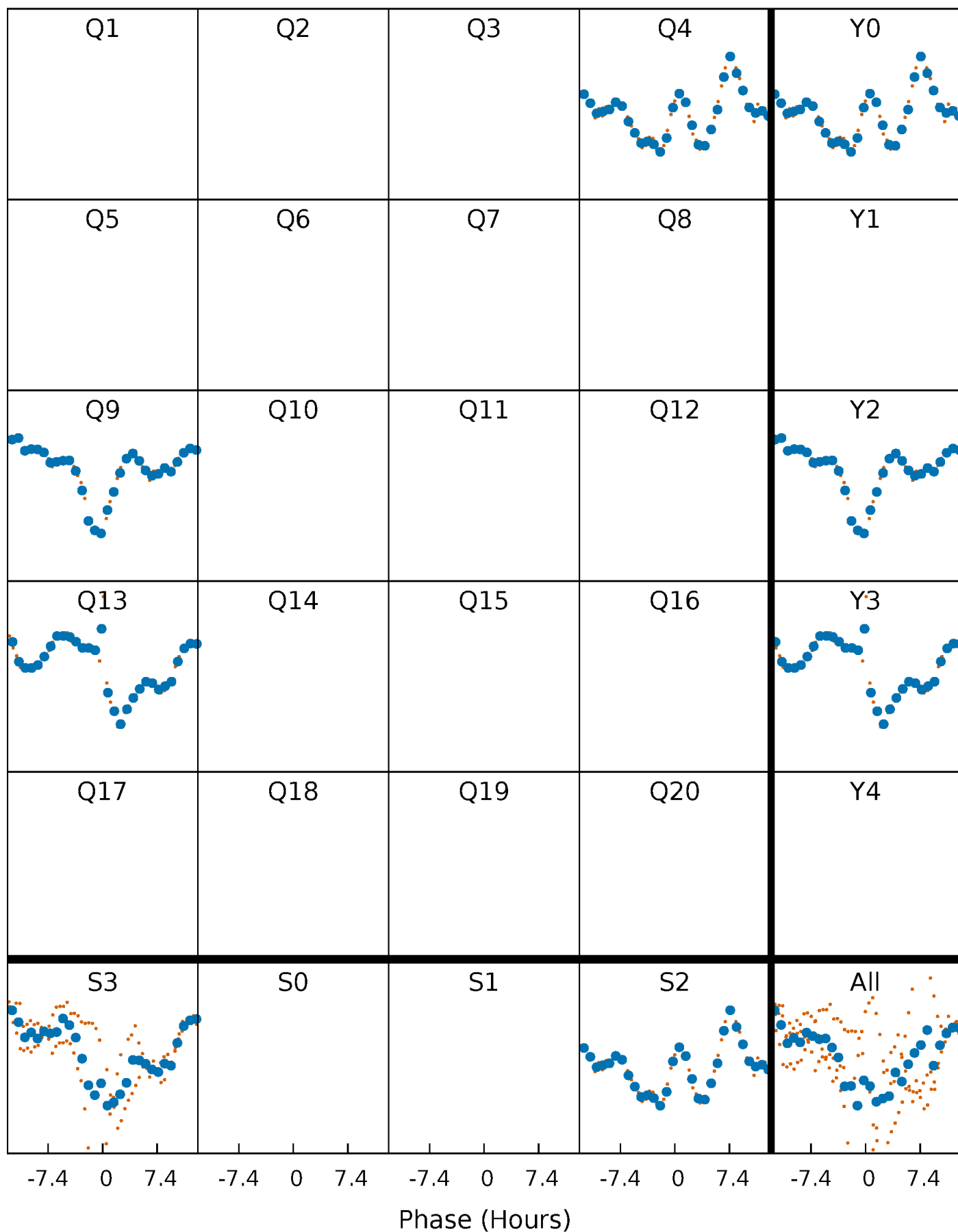


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



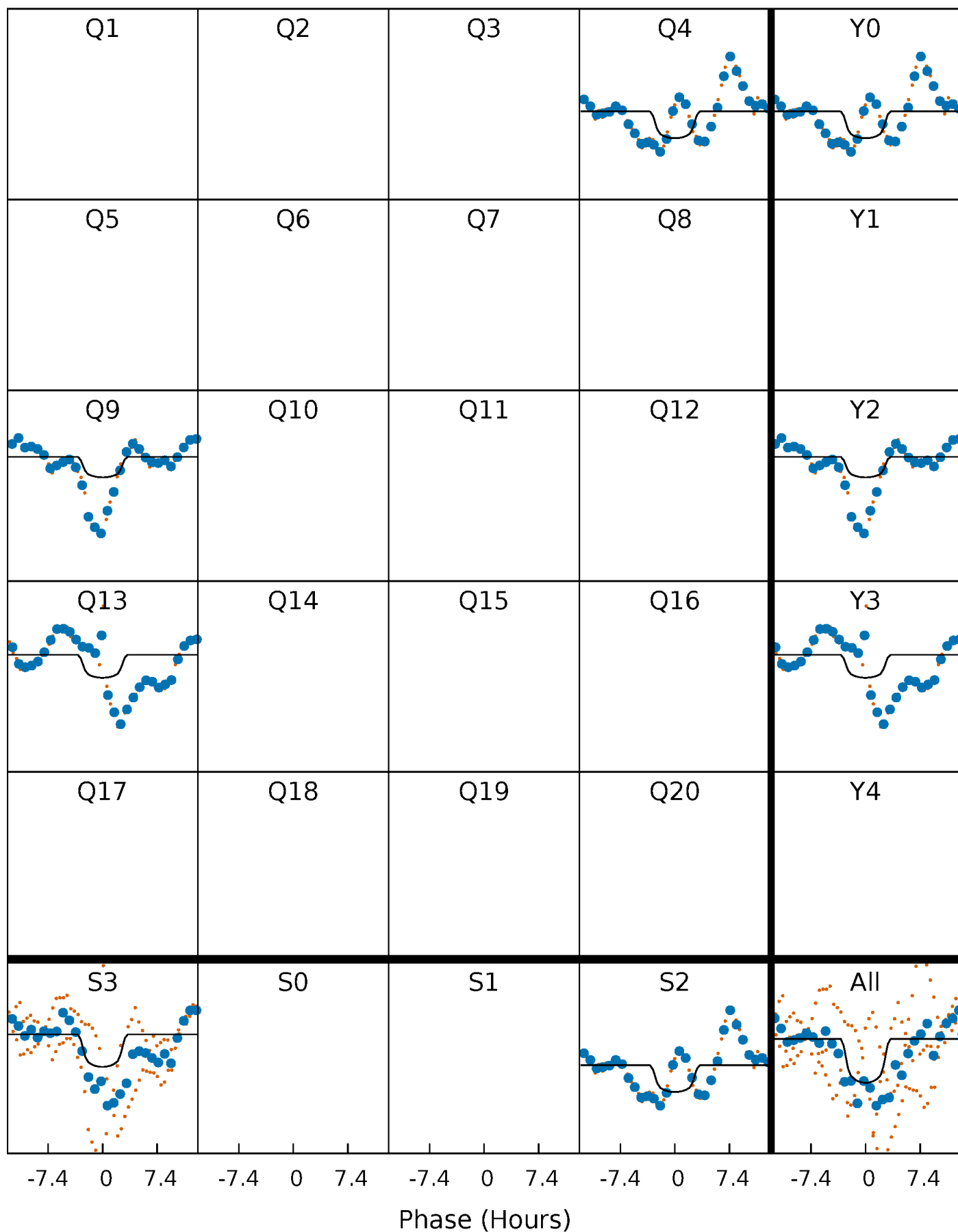
PDC Quarter-Phased Transit Curves

TCE 004356964-01 P=414.004489 Days $T_0=420.380039$ (BKJD)



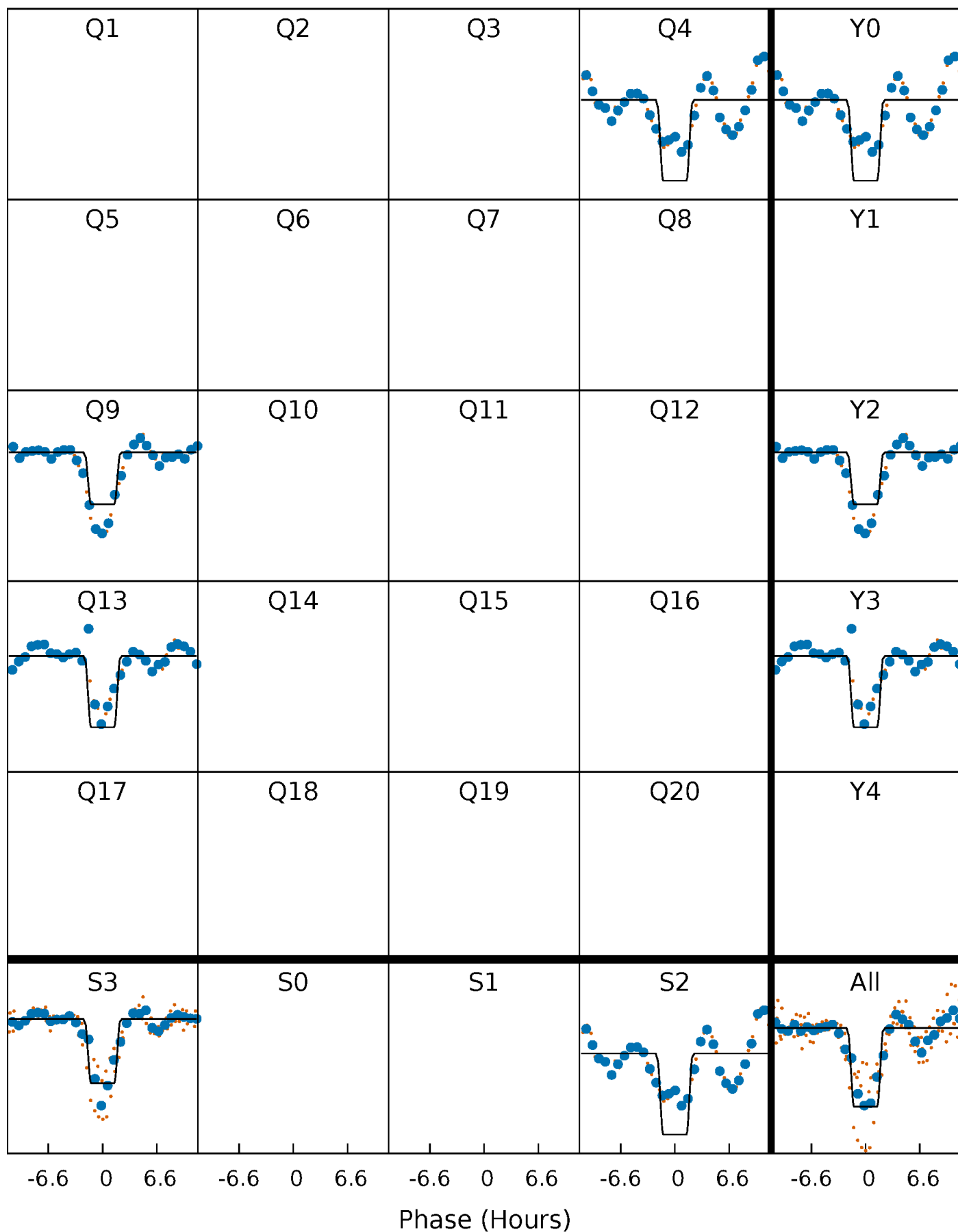
DV Quarter-Phased Transit Curves

TCE 004356964-01 P=414.004489 Days $T_0=420.380039$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

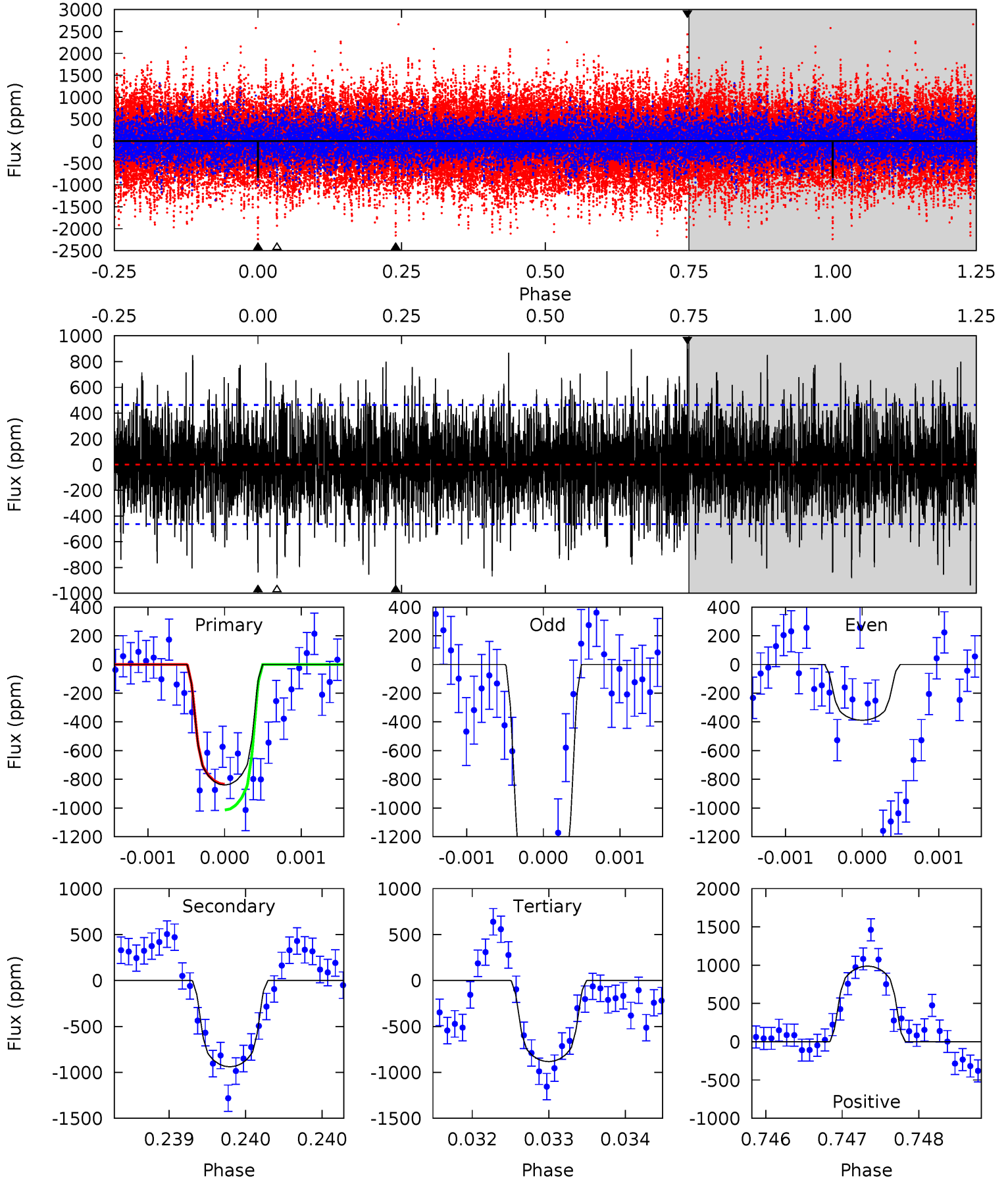
TCE 004356964-01 P=414.113338 Days $T_0=420.251095$ (BKJD)



DV Model-Shift Uniqueness Test

004356964-01, P = 414.004489 Days, E = 6.375550 Days

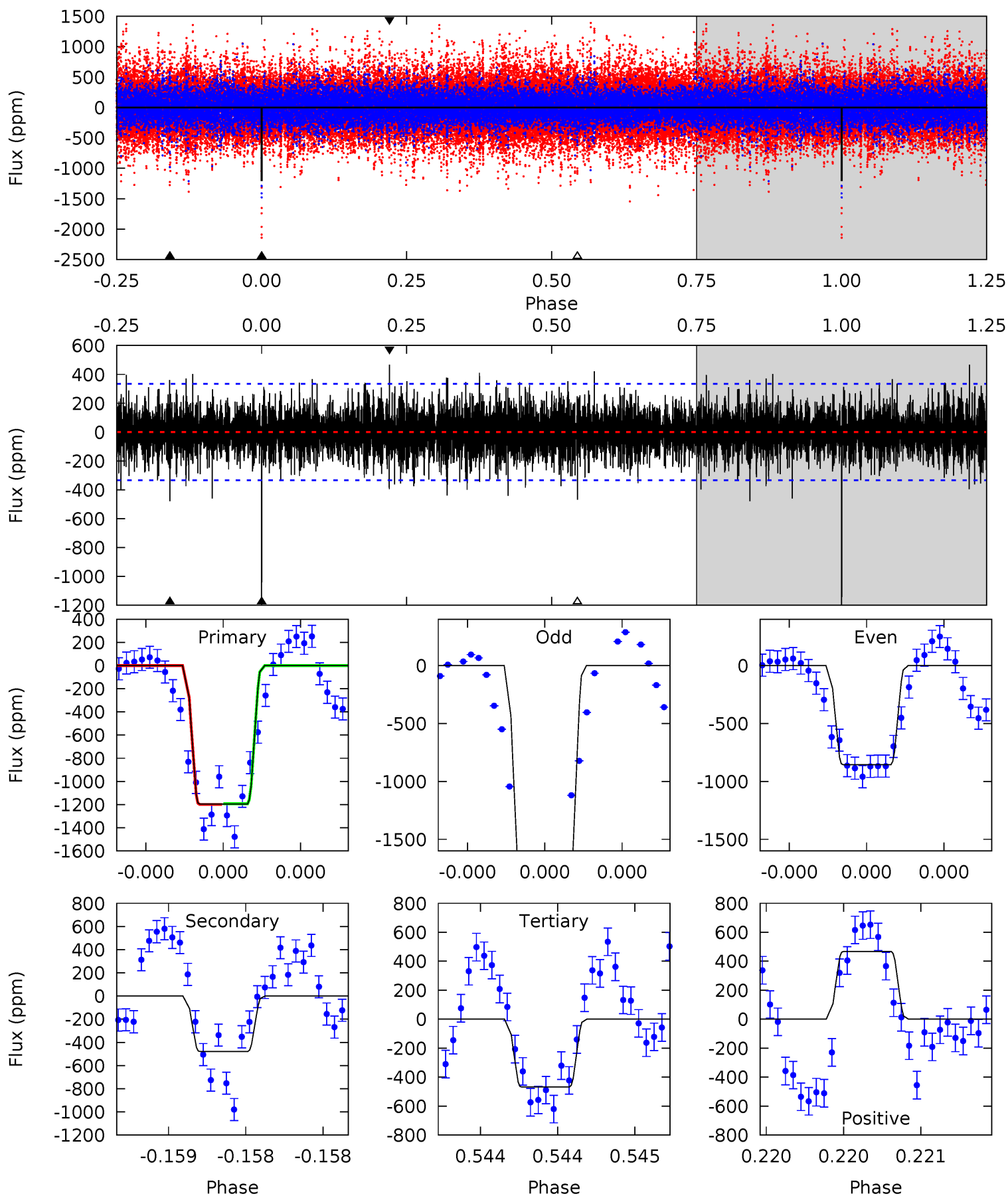
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	11.2	10.5	11.8	5.52	3.39	2.91	-0.51	-1.77	0.67	-0.58	7.56	1.61	0.51	1.05



Alt Model-Shift Uniqueness Test

004356964-01, P = 414.113338 Days, E = 6.137757 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	8.02	7.84	7.82	5.59	3.51	1.85	12.2	12.2	0.18	0.20	8.14	1.33	0.28	0.05



Stellar Parameters For KIC 004356964

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4842^{+57}_{-154}	$2.474^{+0.033}_{-0.024}$	$0.070^{+0.150}_{-0.300}$	$16.153^{+1.274}_{-5.096}$	$2.836^{+0.470}_{-1.411}$	$0.001^{+0.001}_{-0.000}$
	+1%/-3%	+1%/-1%	+214%/-429%	+8%/-32%	+17%/-50%	+53%/-12%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 004356964-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-939 ± 84	$50.97^{+9.31}_{-9.65}$	964^{+21}_{-33}	4969^{+398}_{-347}	489^{+212}_{-135}
Alt.	-479 ± 60	$67.02^{+10.21}_{-10.76}$	965^{+22}_{-35}	3926^{+239}_{-203}	144^{+57}_{-36}

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 $A_{obs} \gg 1.0$

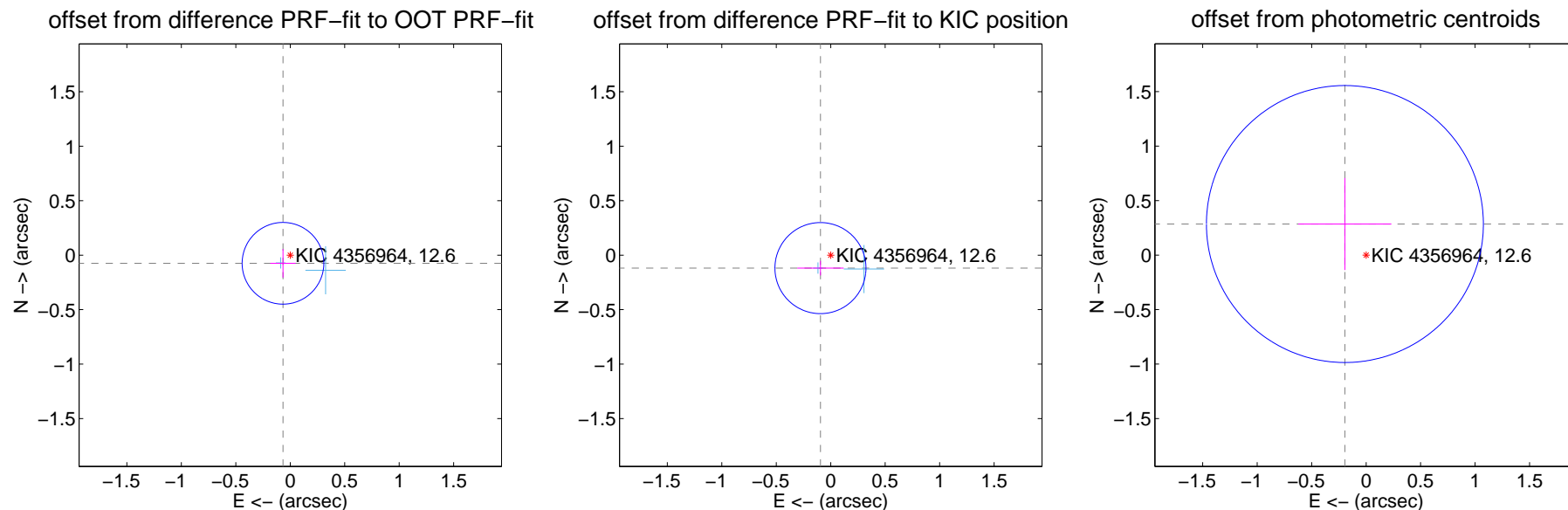
DV Centroid Data

Supplemental centroid analysis for 004356964-01. Kepler magnitude: 12.60. Transit SNR 3.79

There are 2 quarters with good PRF difference image offsets

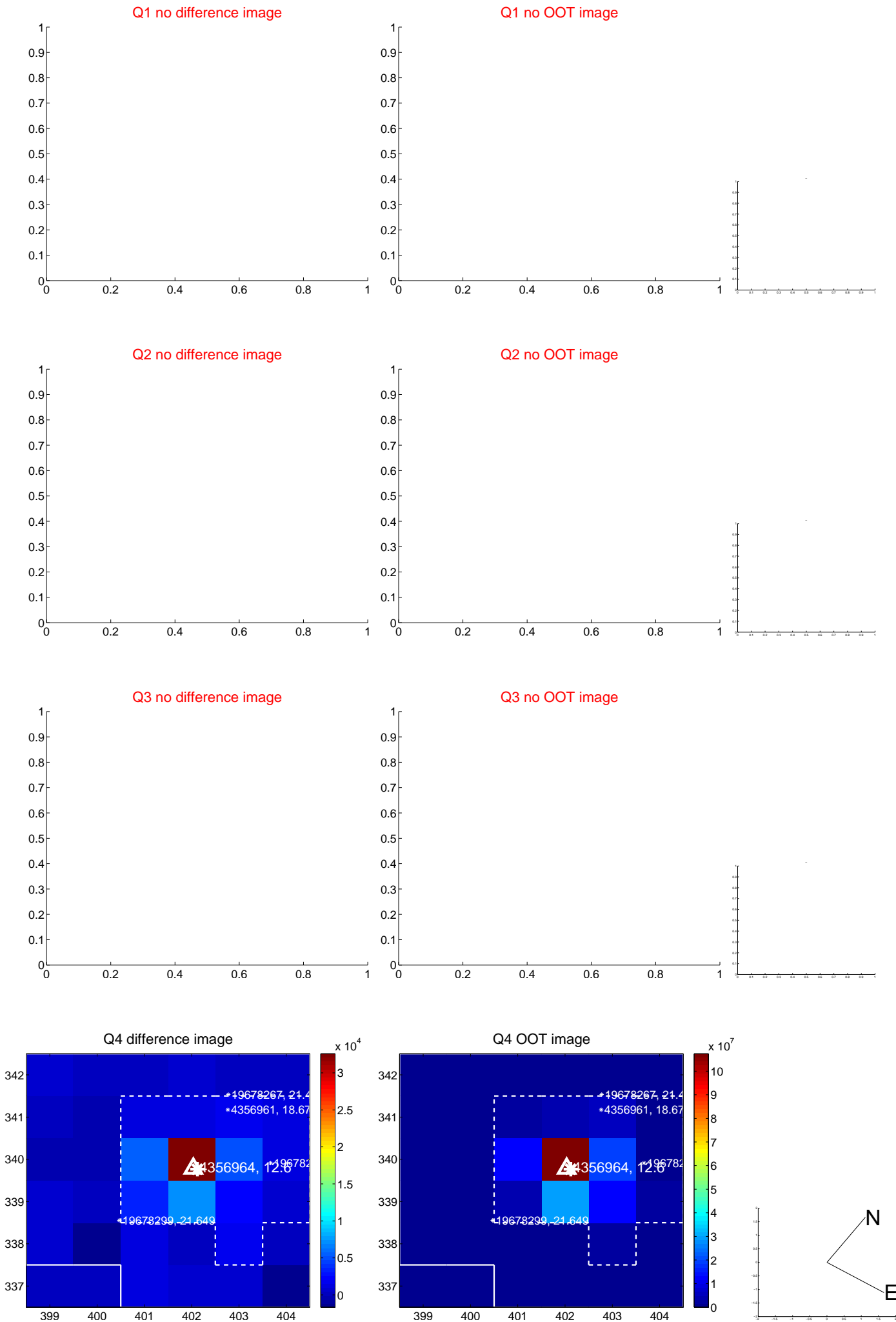
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.100 ± 0.125	0.80	0.067 ± 0.116	-0.075 ± 0.132
PRF-fit source offset from KIC position	0.152 ± 0.139	1.09	0.094 ± 0.213	-0.119 ± 0.067
photometric centroid source offset	0.35 ± 0.42	0.82	0.19 ± 0.43	0.29 ± 0.42



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.

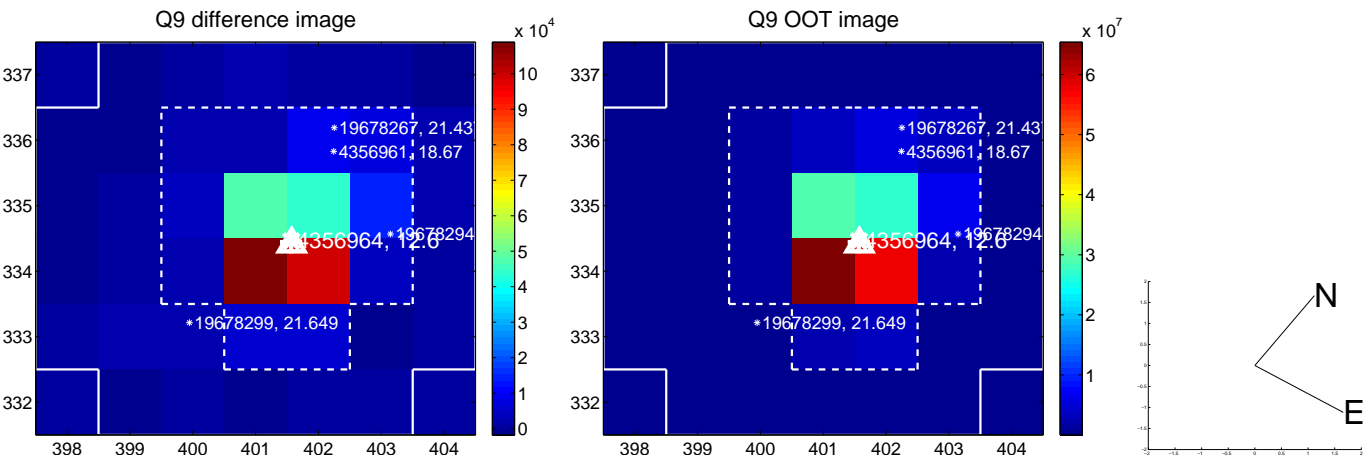
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



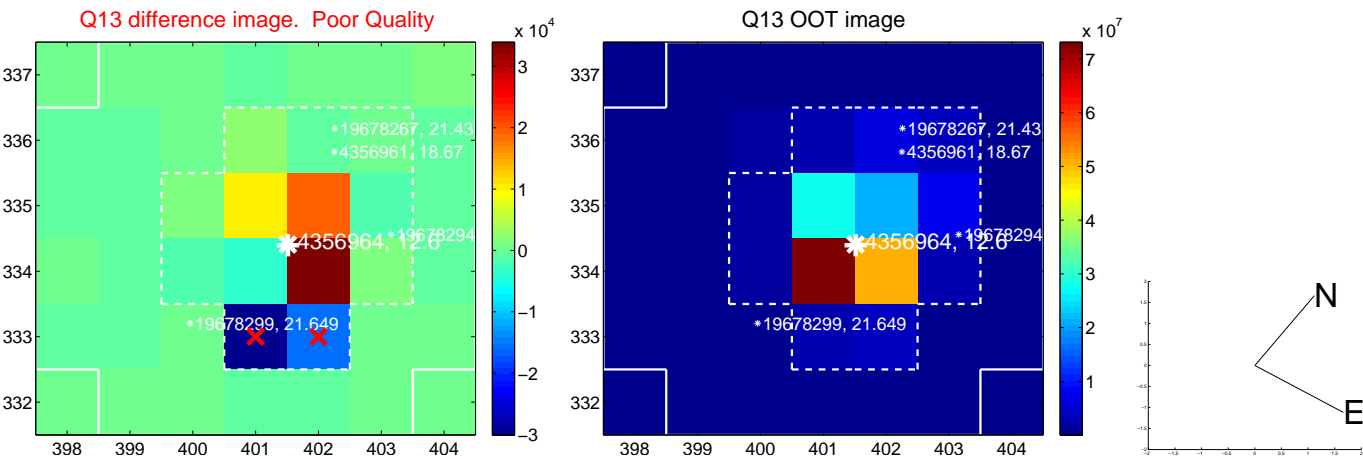
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



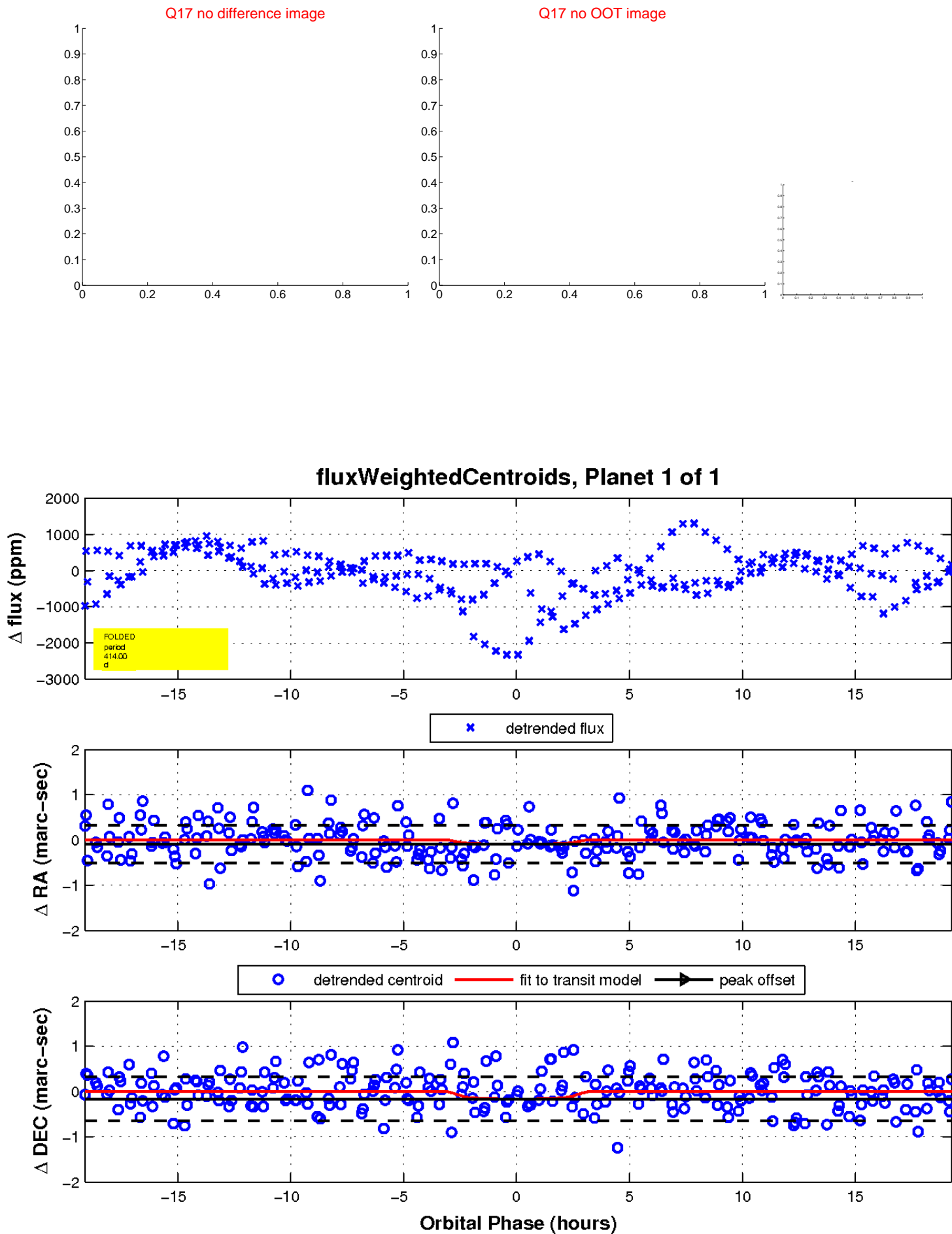
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

