

KIC 003864456

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})
003864456-01	OBS	No	321.821852	288.317140	1284.7	19.310	9.3	10.2	1.14	6110	4.13	1.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003864456-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

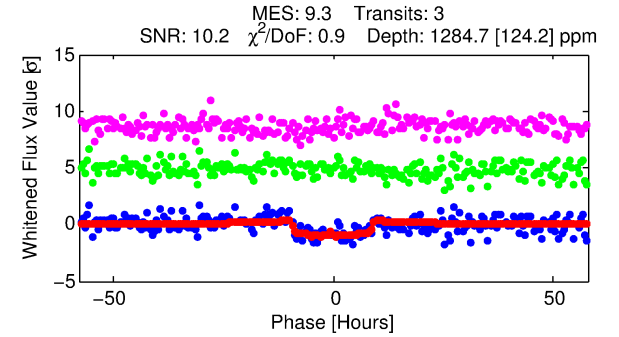
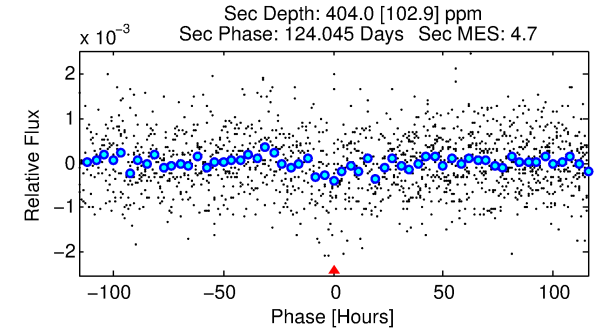
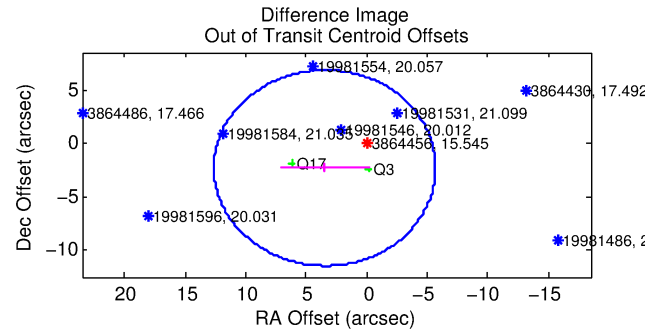
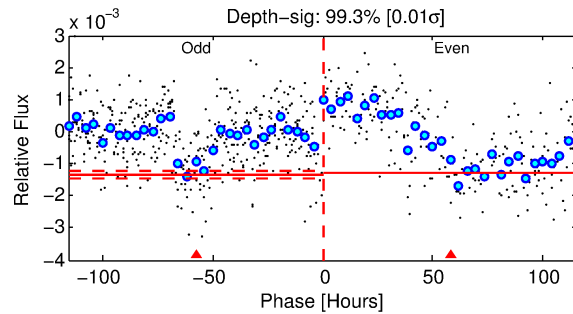
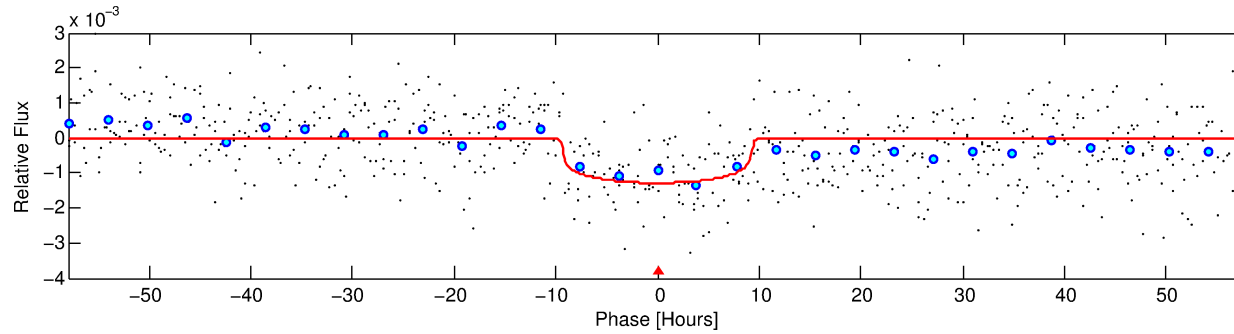
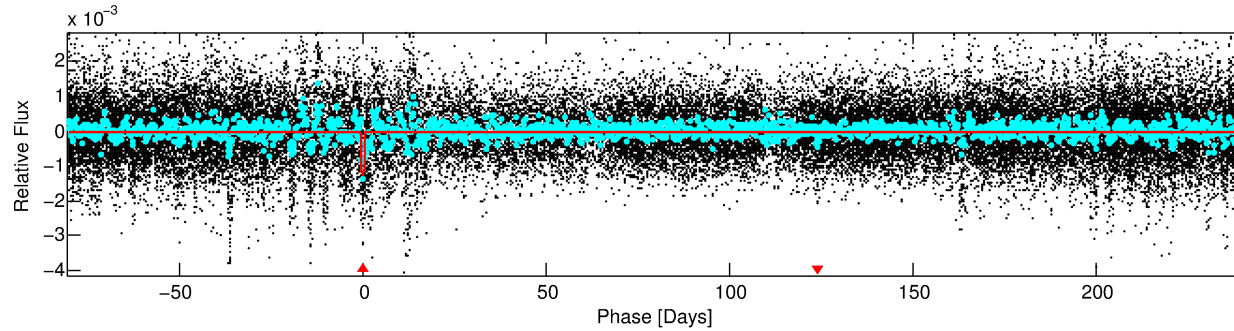
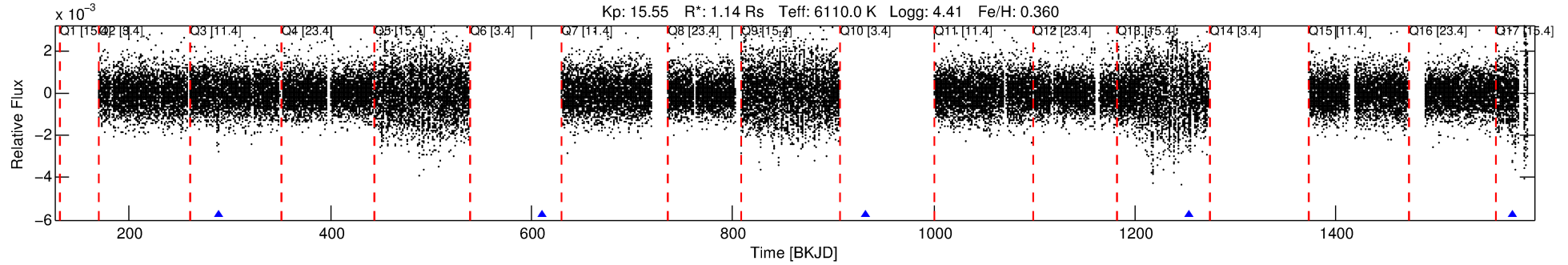
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003864456-01

No Significant Match Found

DV One-Page Summary

KIC: 3864456 Candidate: 1 of 1 Period: 321.822 d



DV Fit Results:

Period = 321.82185 [0.00631] d
Epoch = 288.3171 [0.0151] BKJD
Rp/R* = 0.0331 [0.0110]
a/R* = 123.76 [185.82]
b = 0.35 [3.79]
Seff = 1.68 [0.70]
Teq = 291 [30] K
Rp = 4.13 [1.88] Re
a = 0.9849 [0.2574] AU
Ag = 12654.31 [10245.63] [1.23σ]
Teff = 4764 [874] K [5.12σ]

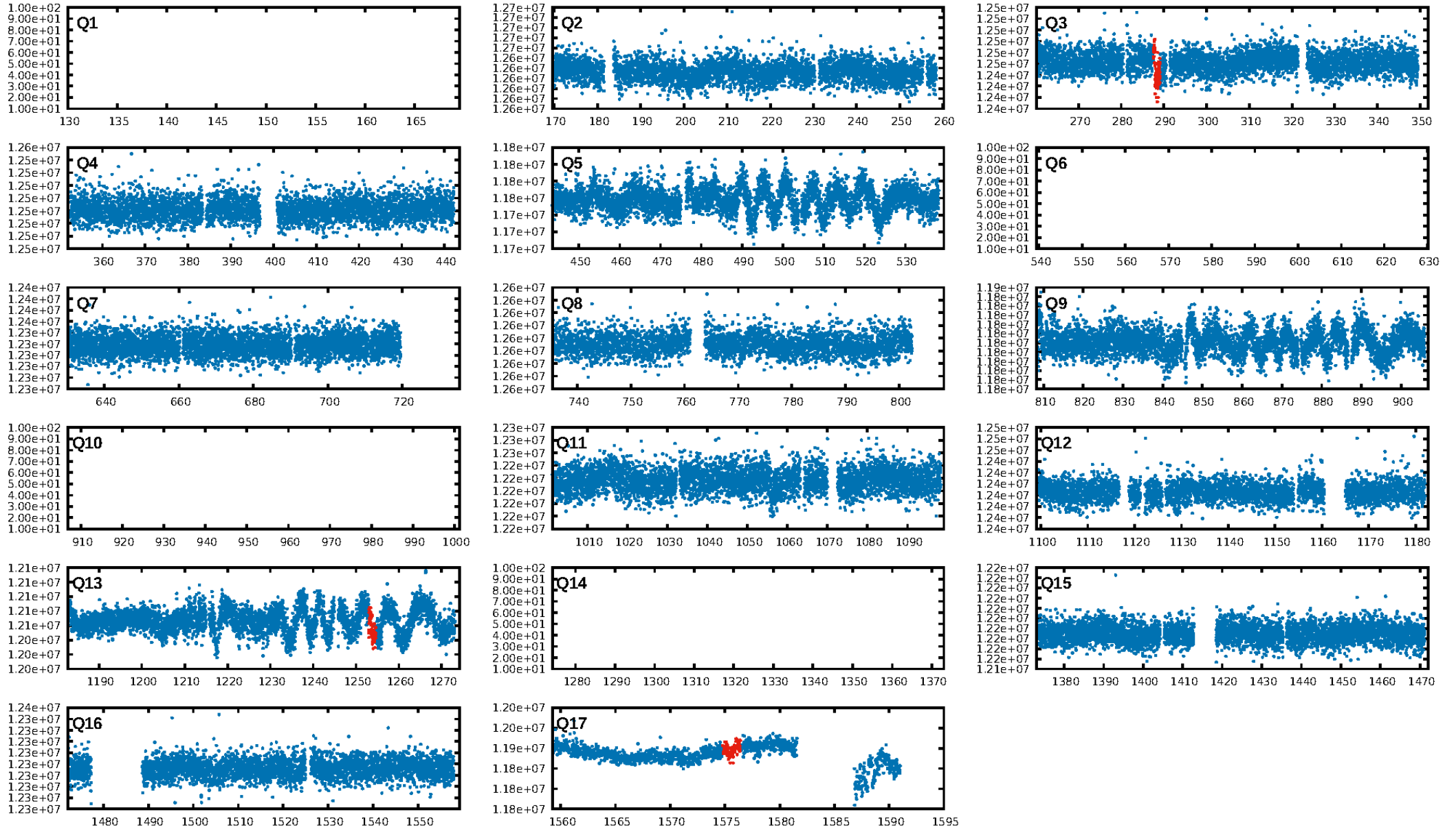
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 71.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.71e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.332
Centroid-sig: 12.0%
Centroid-so: 1.886 arcsec [1.45σ]
OotOffset-rm: 4.166 arcsec [1.37σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 4.125 arcsec [1.35σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

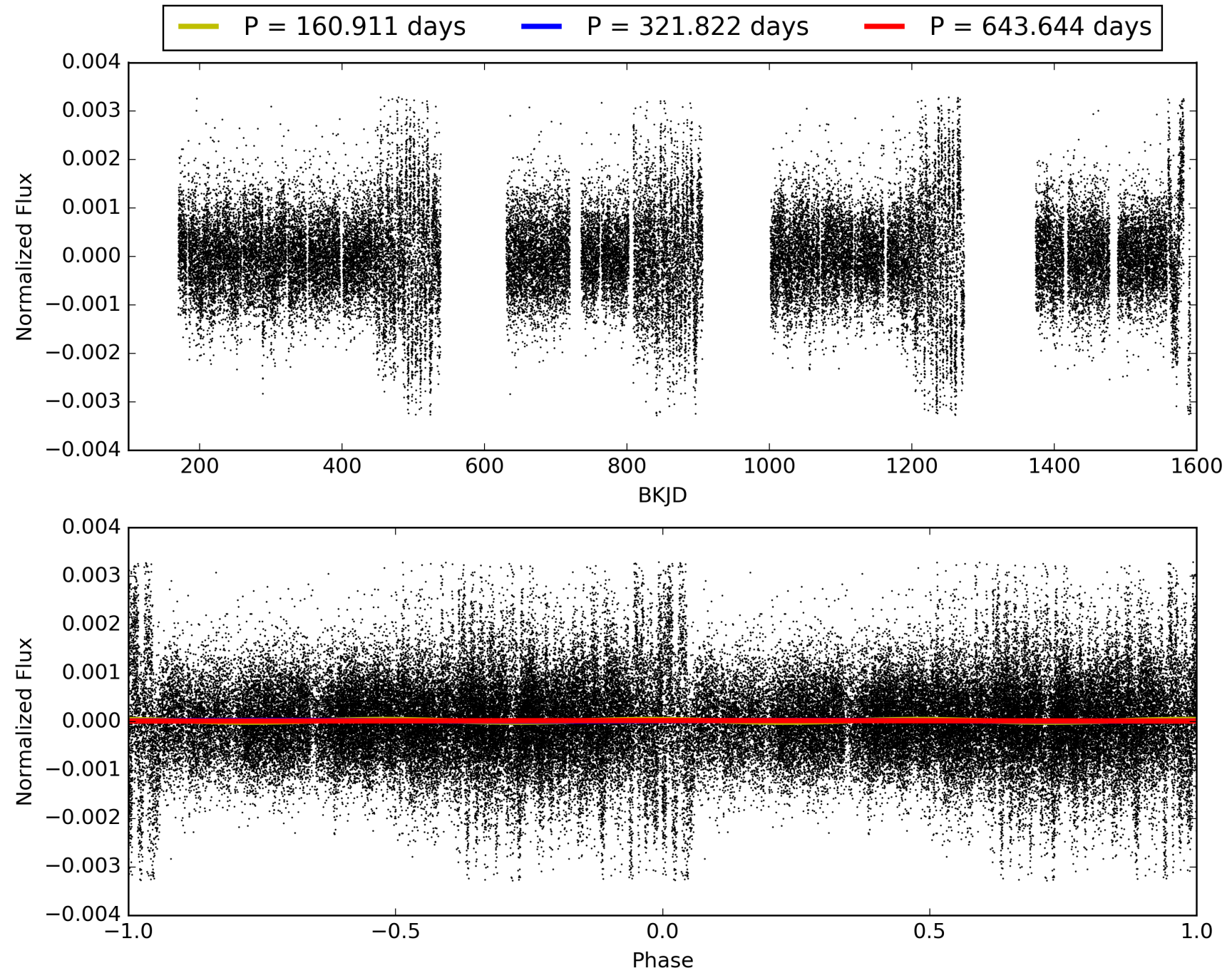
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:38:12 Z

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

TCE 003864456-01, PDC Light Curves

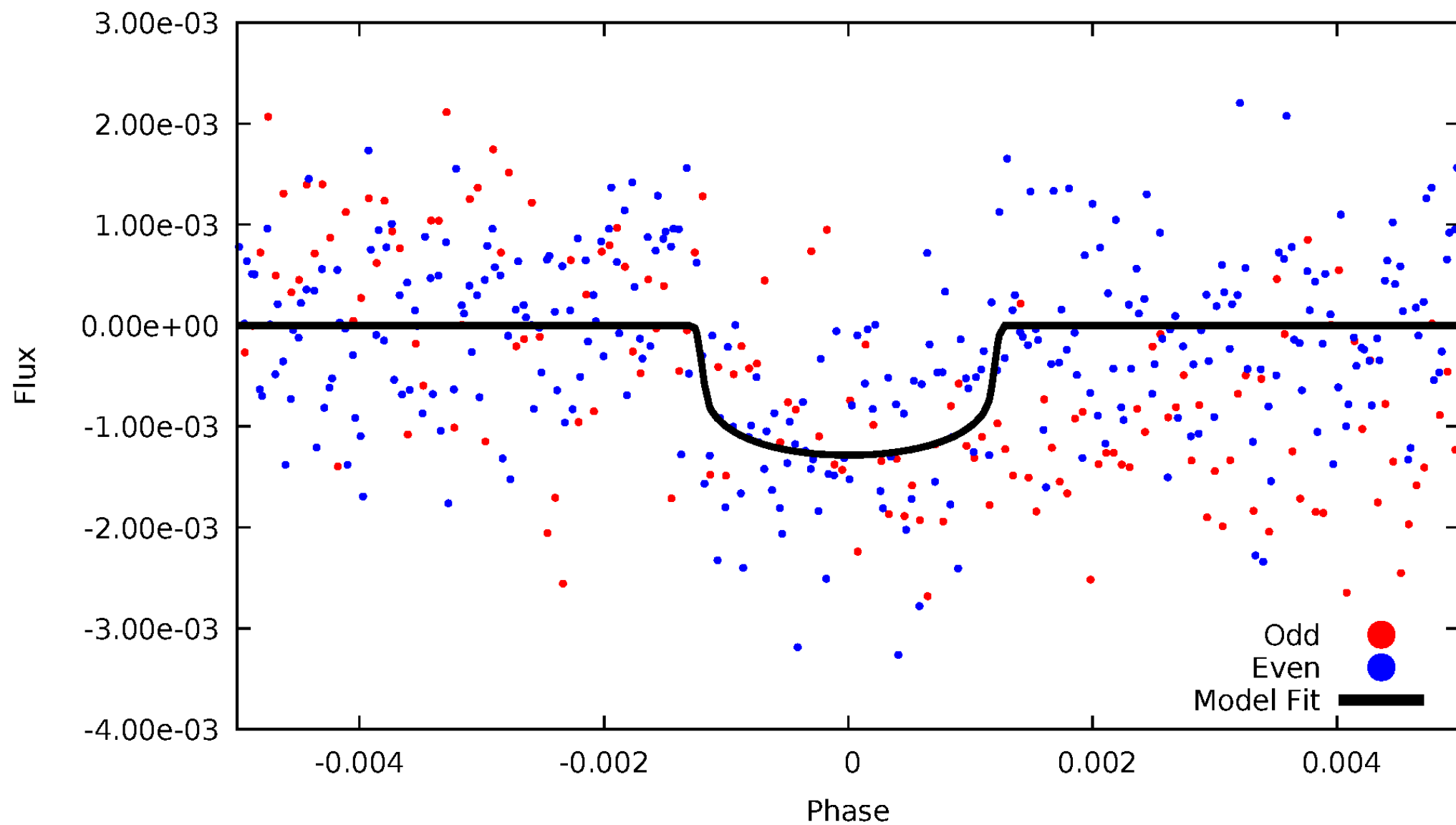


TCE 003864456-01



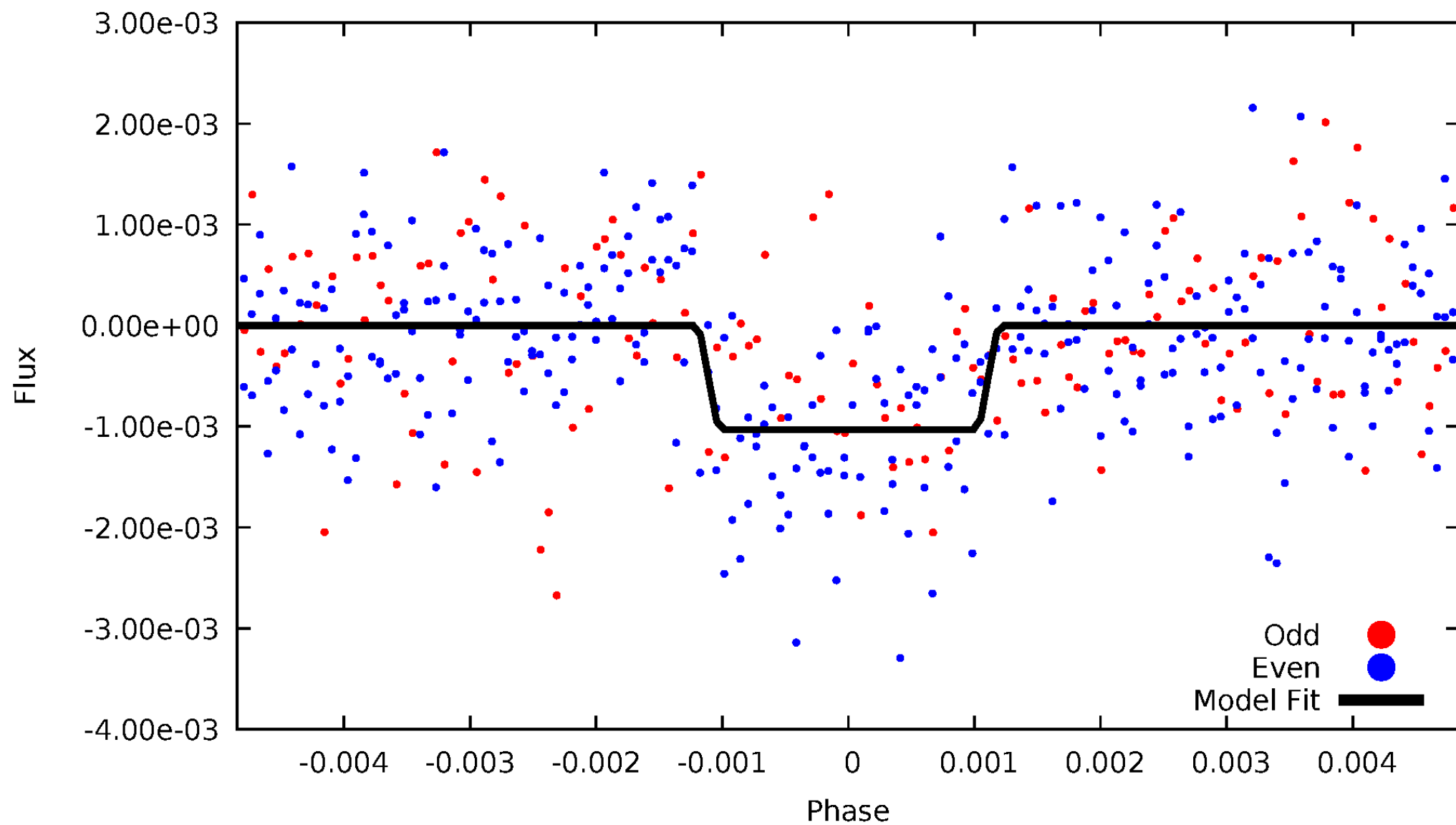
DV Odd/Even

TCE 003864456-01



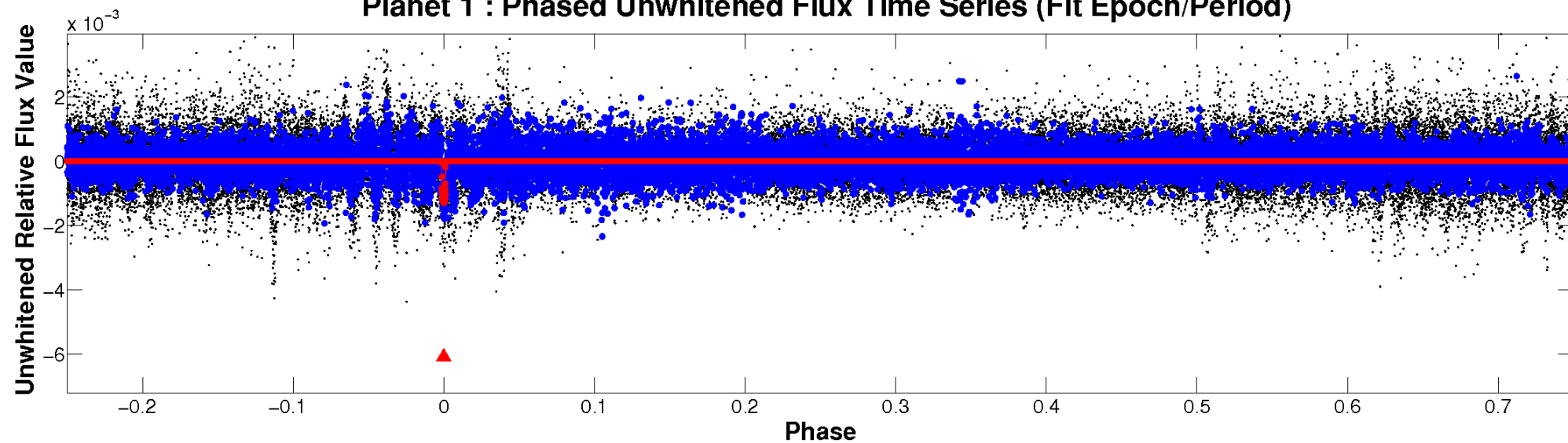
ALT Odd/Even

TCE 003864456-01

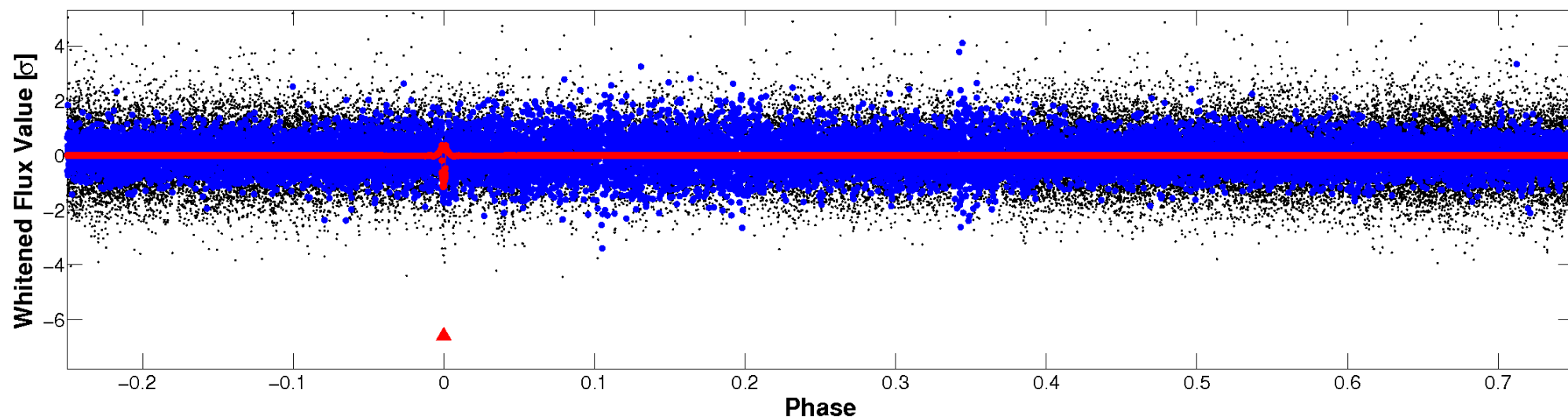


Non-Whitened Vs. Whitened Light Curve

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

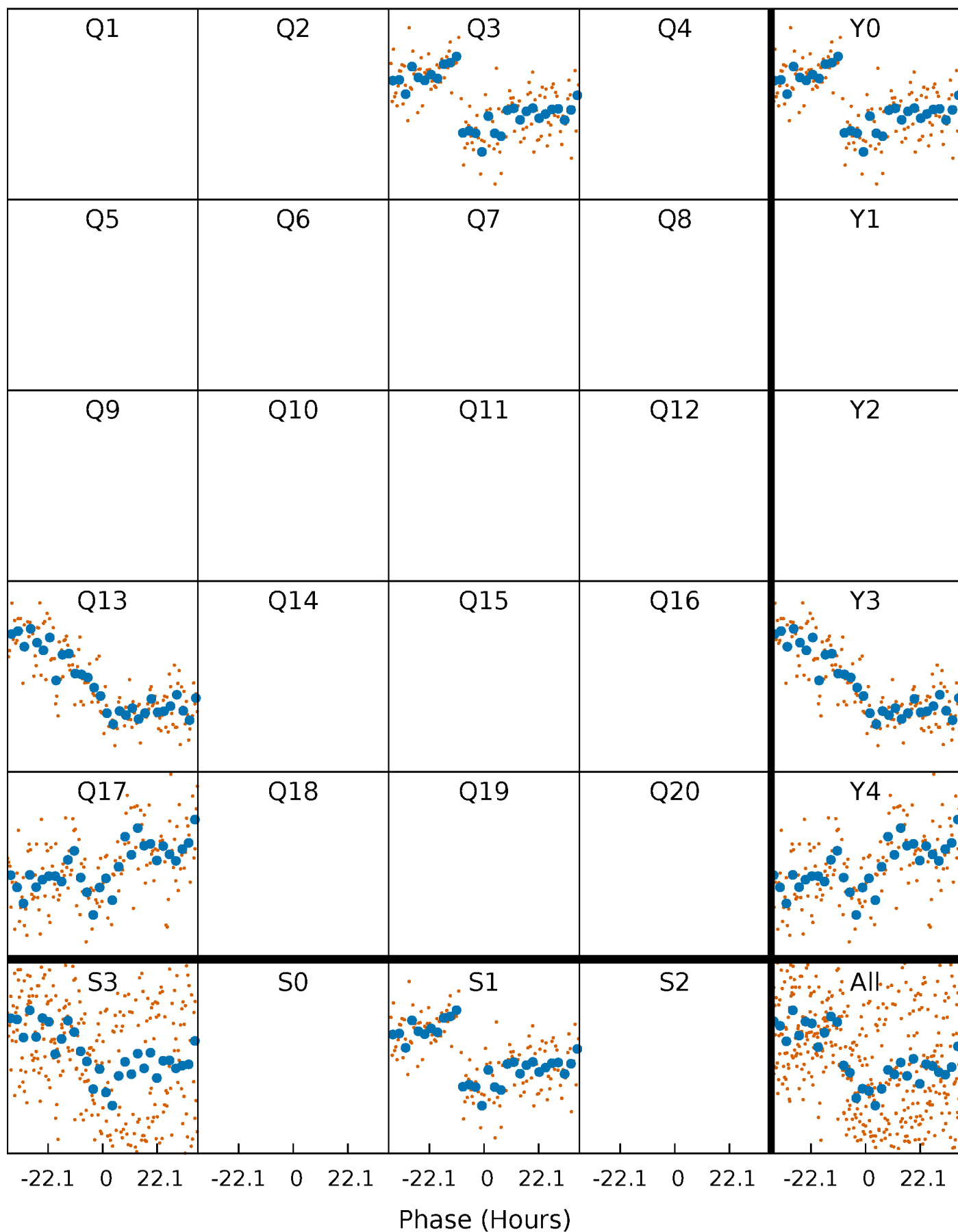


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



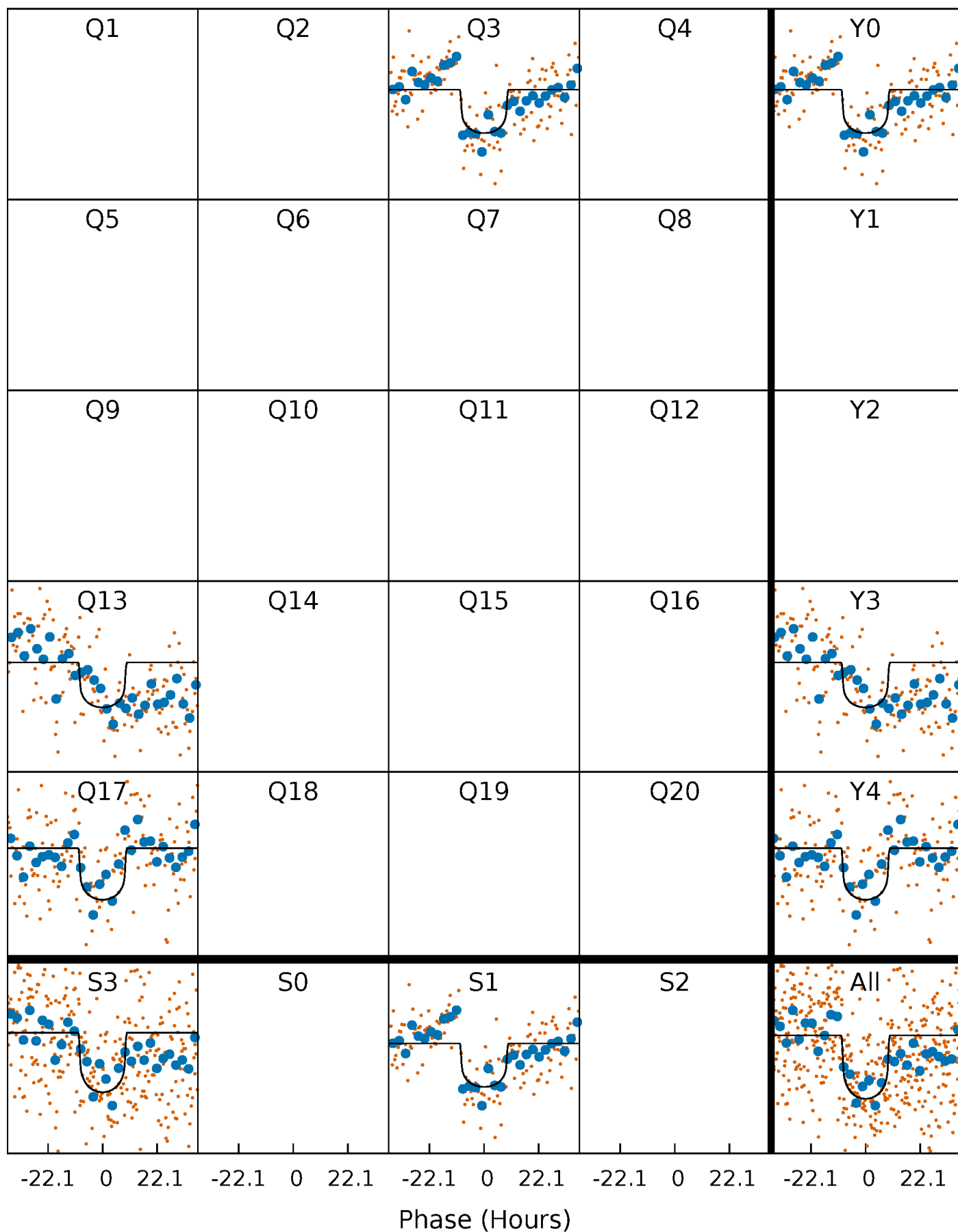
PDC Quarter-Phased Transit Curves

TCE 003864456-01 P=321.821852 Days $T_0=288.317140$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003864456-01 P=321.821852 Days $T_0=288.317140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

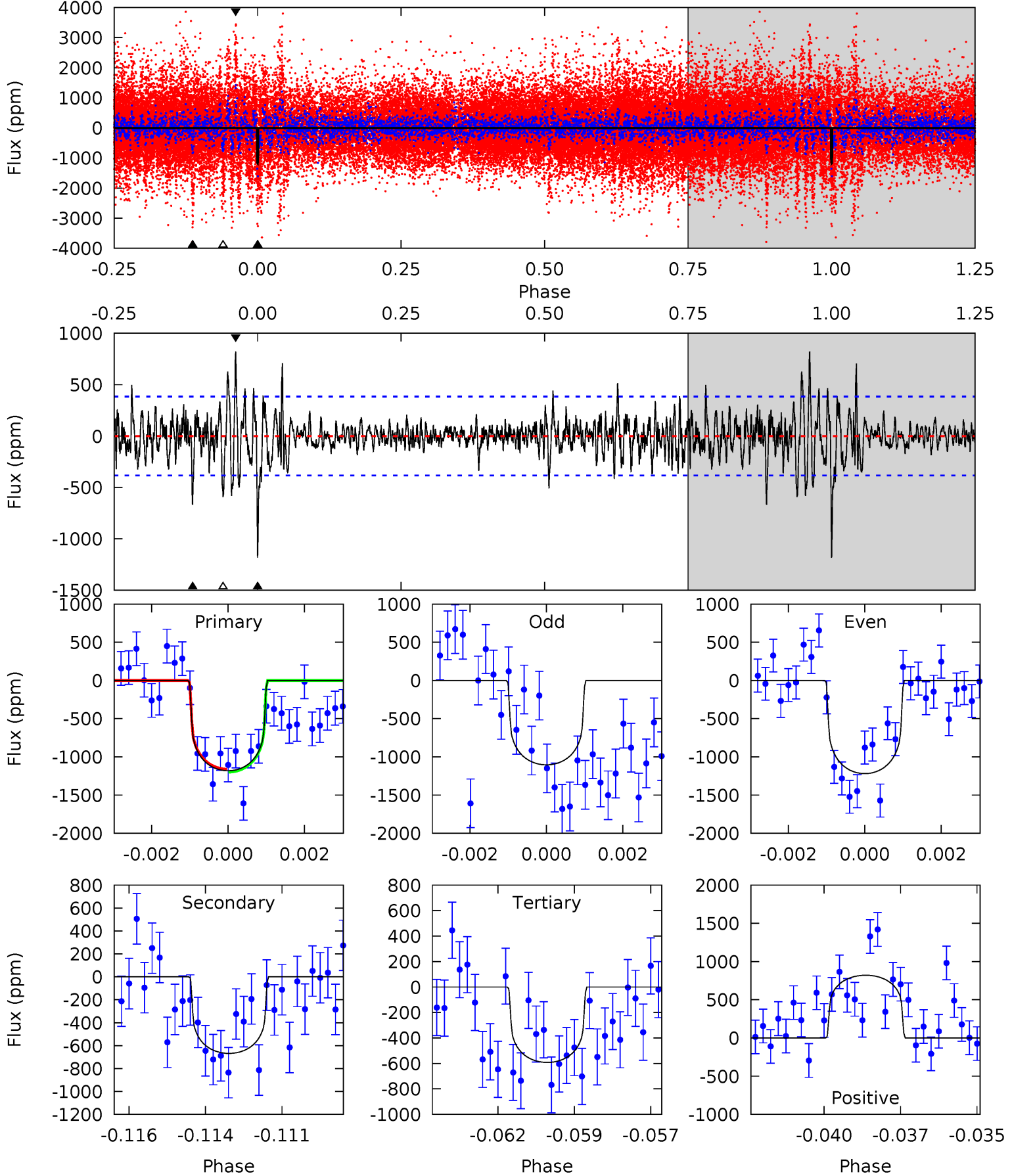
TCE 003864456-01 P=321.828570 Days $T_0=288.289531$ (BKJD)



DV Model-Shift Uniqueness Test

003864456-01, P = 321.821852 Days, E = 288.317140 Days

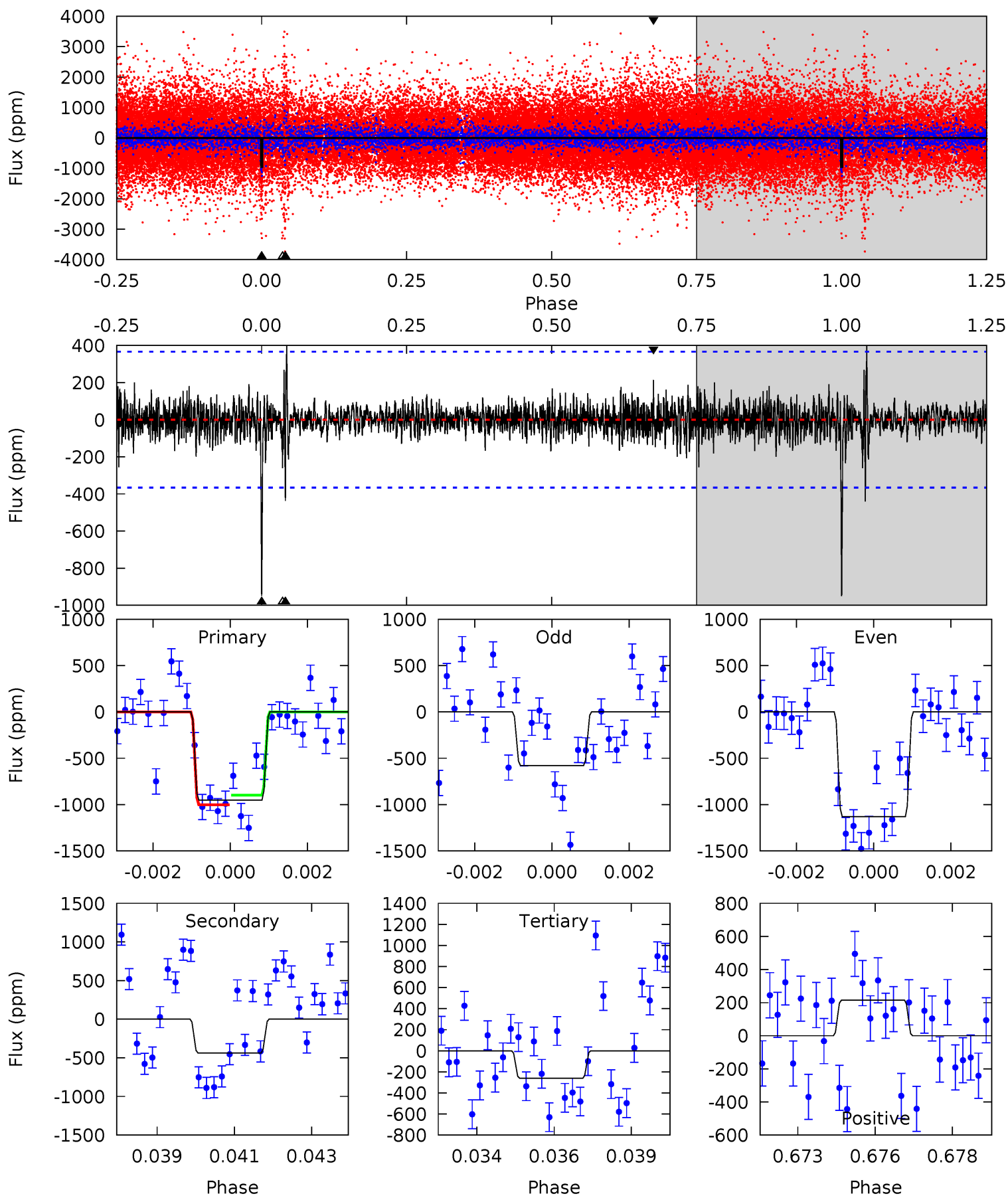
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	9.22	8.17	11.3	5.29	3.03	2.09	8.13	4.98	1.05	-2.11	0.72	1.07	0.41	0.26



Alt Model-Shift Uniqueness Test

003864456-01, P = 321.828570 Days, E = 288.289531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	6.33	3.77	3.10	5.29	3.03	0.84	9.97	10.6	2.56	3.23	3.67	0.97	0.29	0.74



Stellar Parameters For KIC 003864456

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6110^{+190}_{-253}	$4.411^{+0.052}_{-0.208}$	$0.360^{+0.100}_{-0.350}$	$1.144^{+0.355}_{-0.142}$	$1.231^{+0.136}_{-0.181}$	$1.157^{+0.322}_{-0.601}$
	+3%/-4%	+1%/-5%	+28%/-97%	+31%/-12%	+11%/-15%	+28%/-52%
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 003864456-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-668 ± 72	$4.31^{+1.53}_{-1.54}$	415^{+31}_{-22}	5411^{+1341}_{-605}	18734^{+26395}_{-8854}
Alt.	-438 ± 69	$4.17^{+1.66}_{-1.41}$	417^{+28}_{-25}	5025^{+1057}_{-611}	13092^{+17141}_{-6558}

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

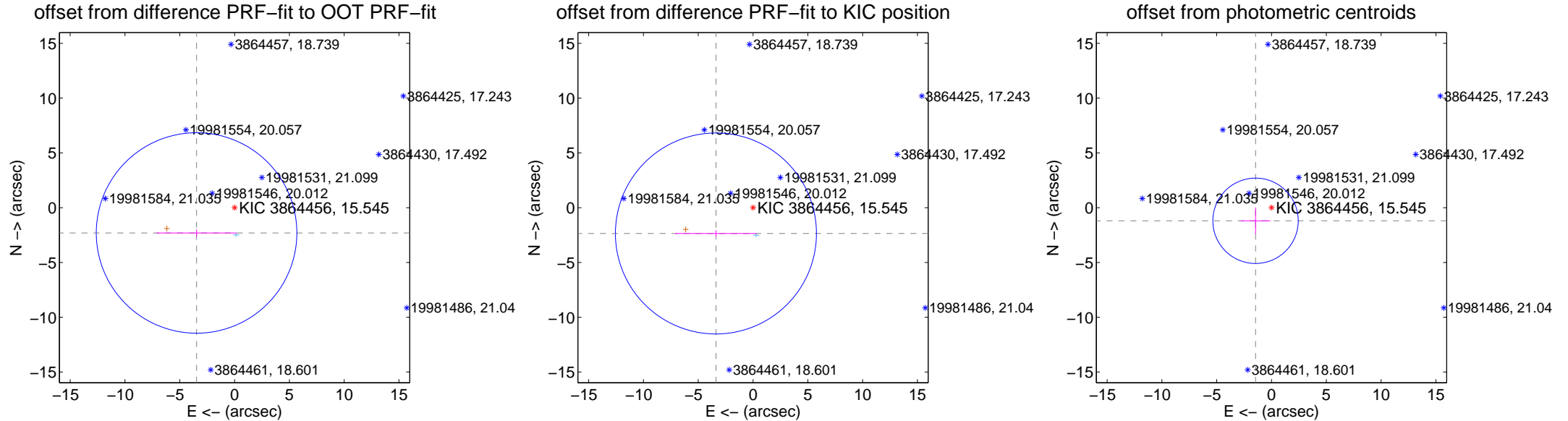
DV Centroid Data

Supplemental centroid analysis for 003864456-01. Kepler magnitude: 15.54. Transit SNR 10.16

There are 1 quarters with good PRF difference image offsets

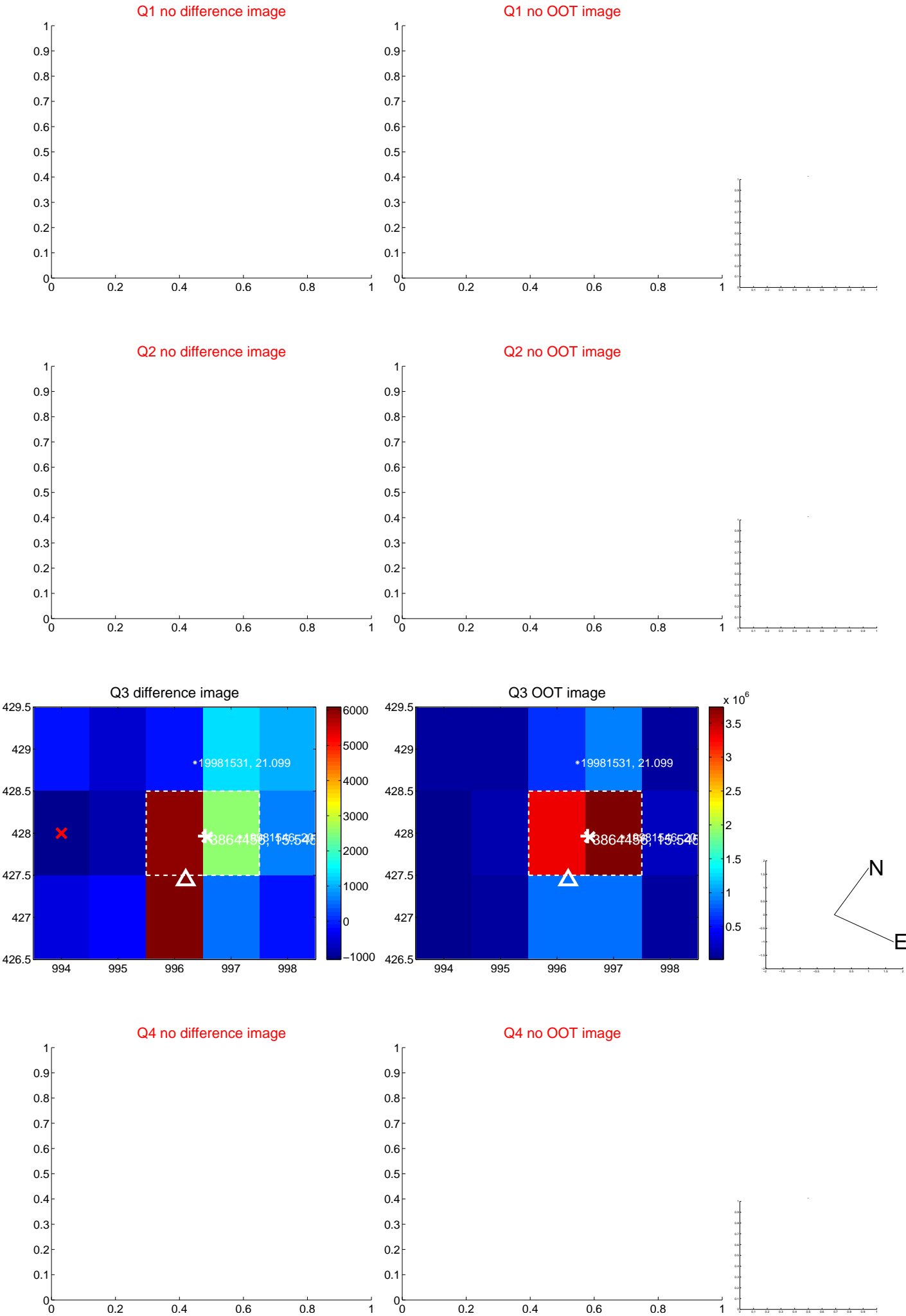
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.166 ± 3.050	1.37	3.468 ± 3.657	-2.308 ± 0.318
PRF-fit source offset from KIC position	4.125 ± 3.057	1.35	3.387 ± 3.718	-2.355 ± 0.295
photometric centroid source offset	1.89 ± 1.30	1.45	1.46 ± 1.35	-1.20 ± 1.21



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.



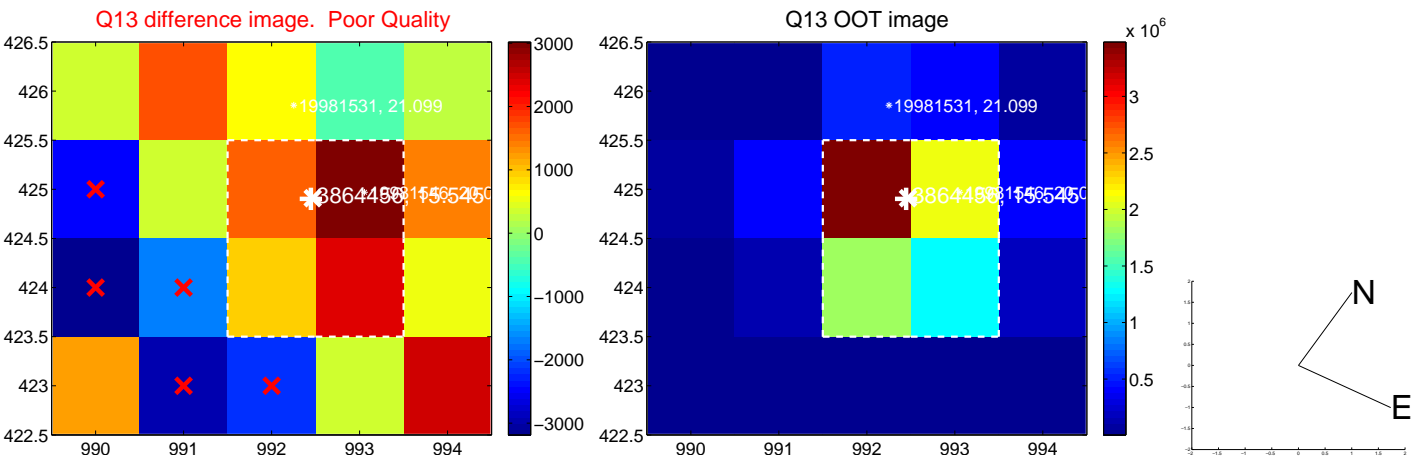
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



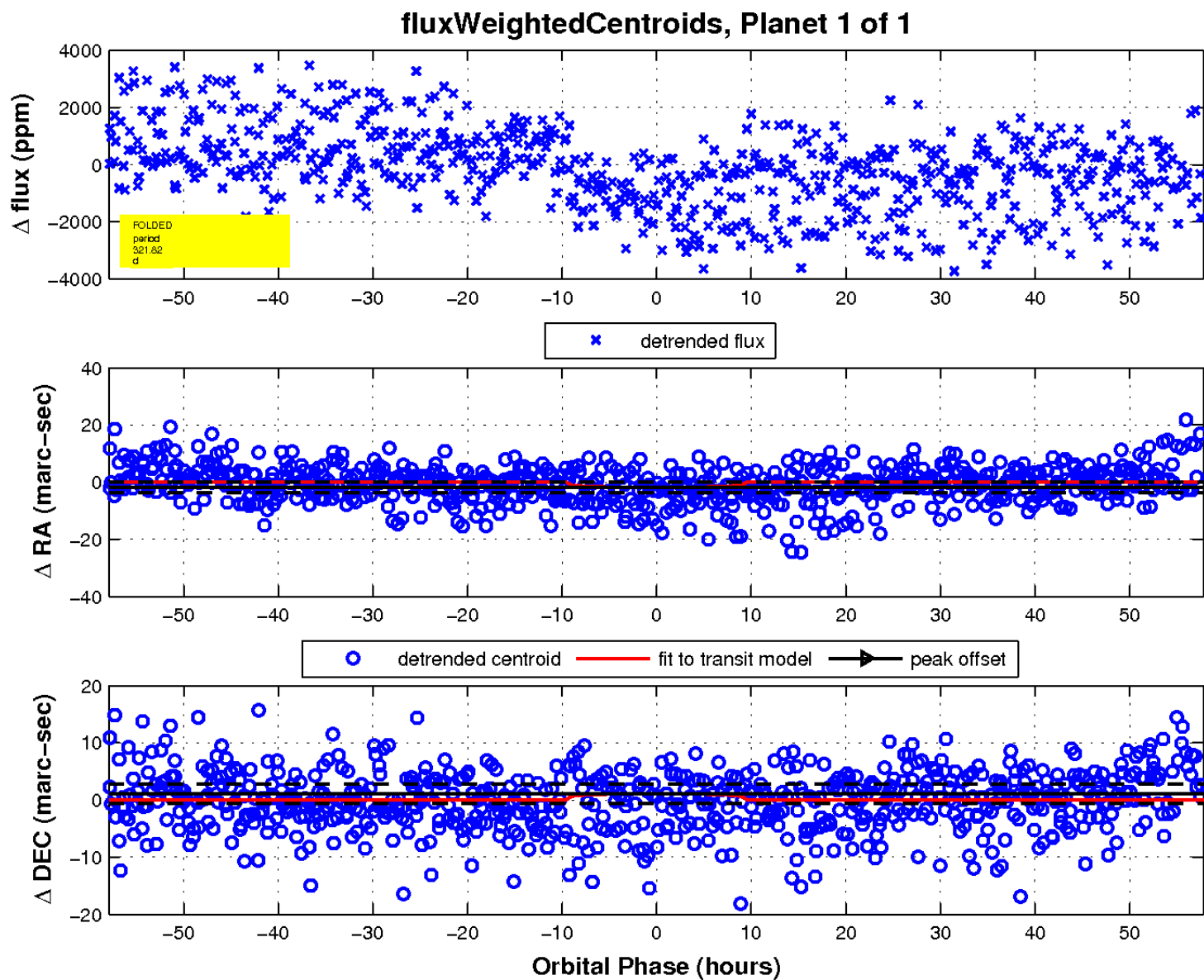
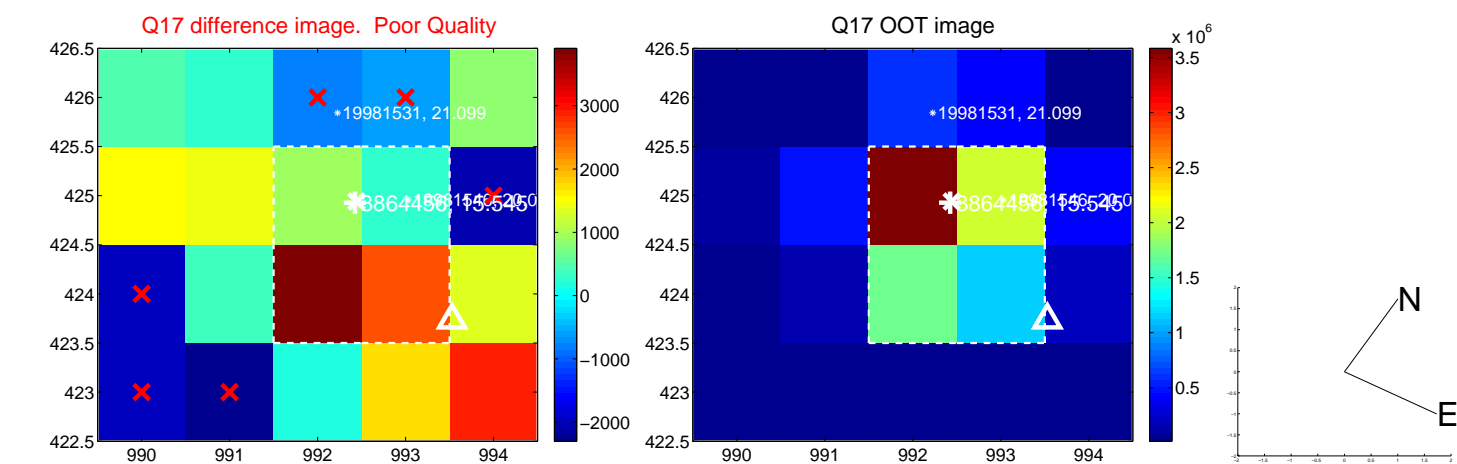
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

