

KIC 004670361

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})
004670361-01	OBS	7700.01	631.602287	145.008954	683.4	15.034	7.7	8.3	1.06	6382	2.89	0.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004670361-01	OBS	PC	0.38	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.

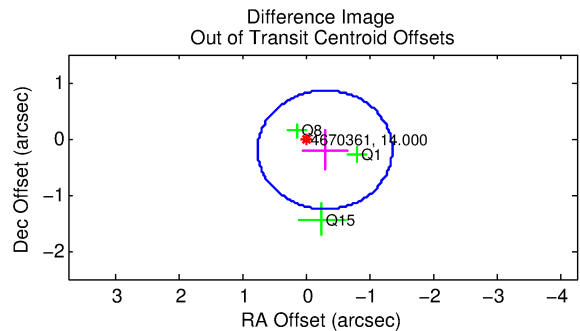
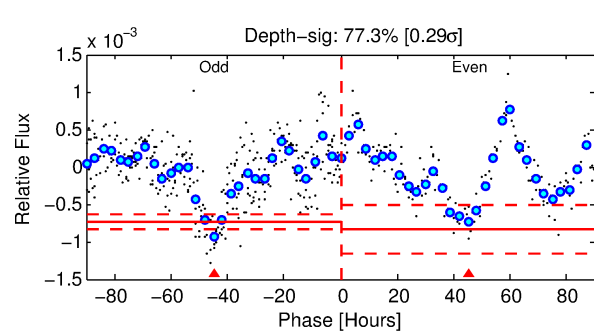
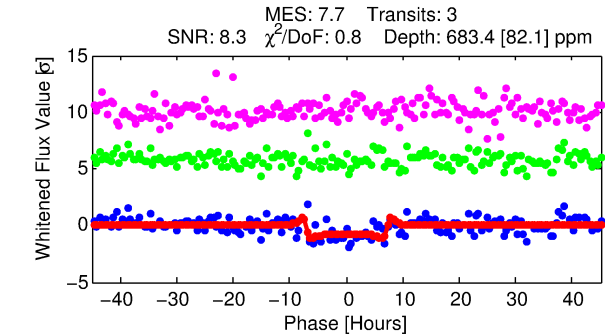
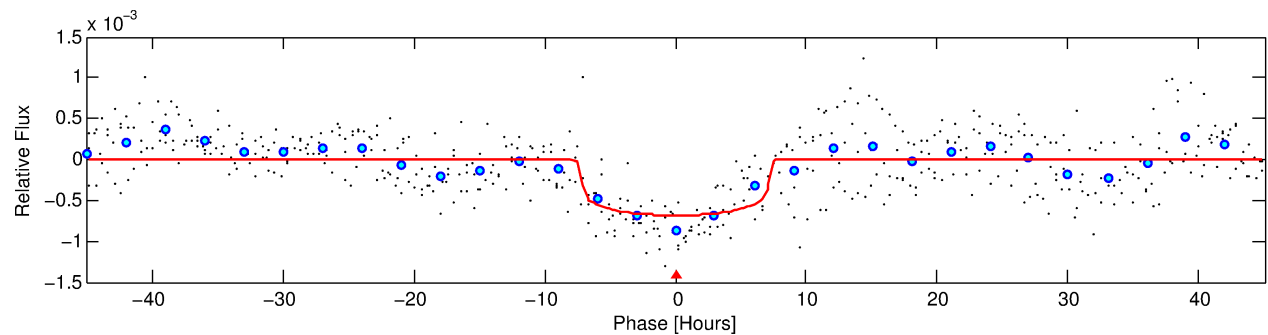
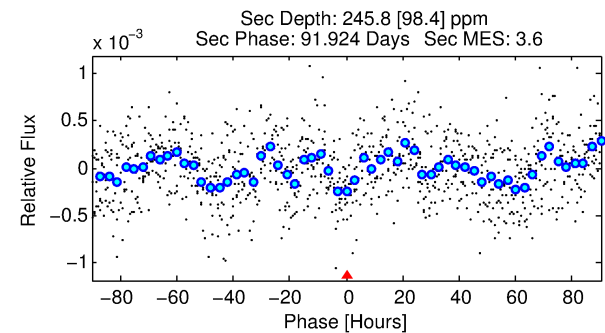
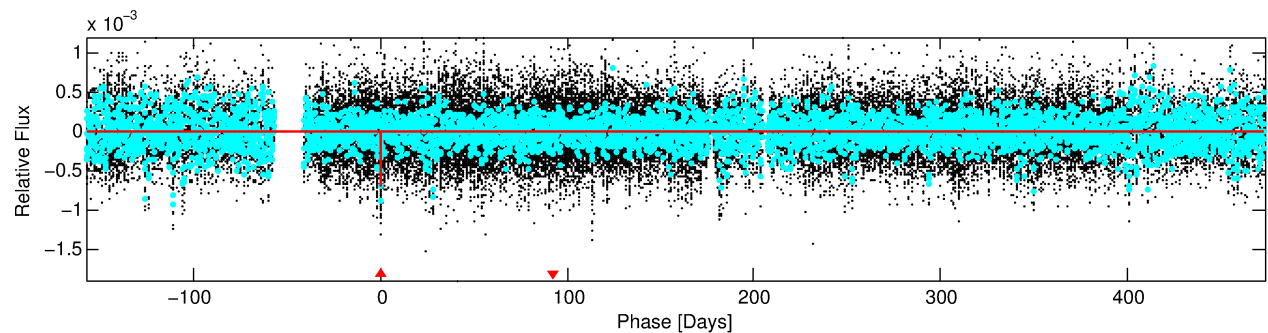
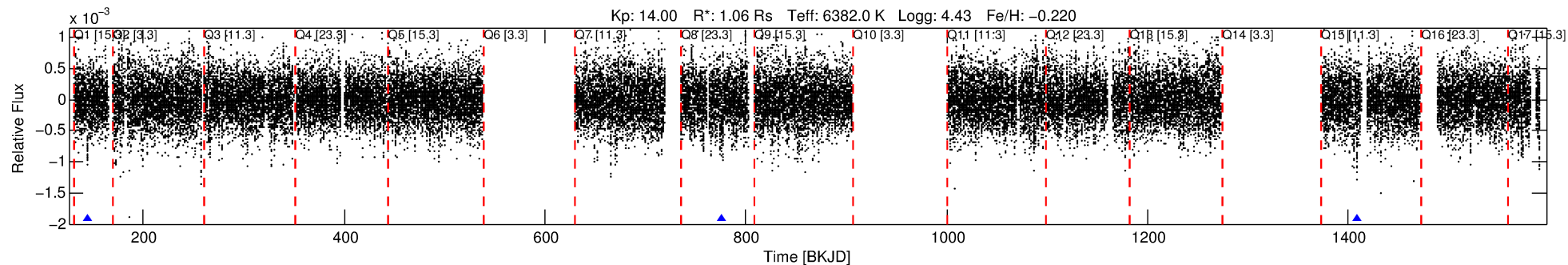
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004670361-01

No Significant Match Found

DV One-Page Summary

KIC: 4670361 Candidate: 1 of 1 Period: 631.602 d



DV Fit Results:

Period = 631.60229 [0.00646] d
Epoch = 145.0090 [0.0085] BKJD
Rp/R* = 0.0250 [0.0047]
a/R* = 271.00 [246.07]
b = 0.58 [1.03]
Seff = 0.75 [0.30]
Teq = 237 [24] K
Rp = 2.89 [1.06] Re
a = 1.4902 [0.3927] AU
Ag = 35965.75 [24022.95] [1.50 σ]
Teffp = 5053 [708] K [6.80 σ]

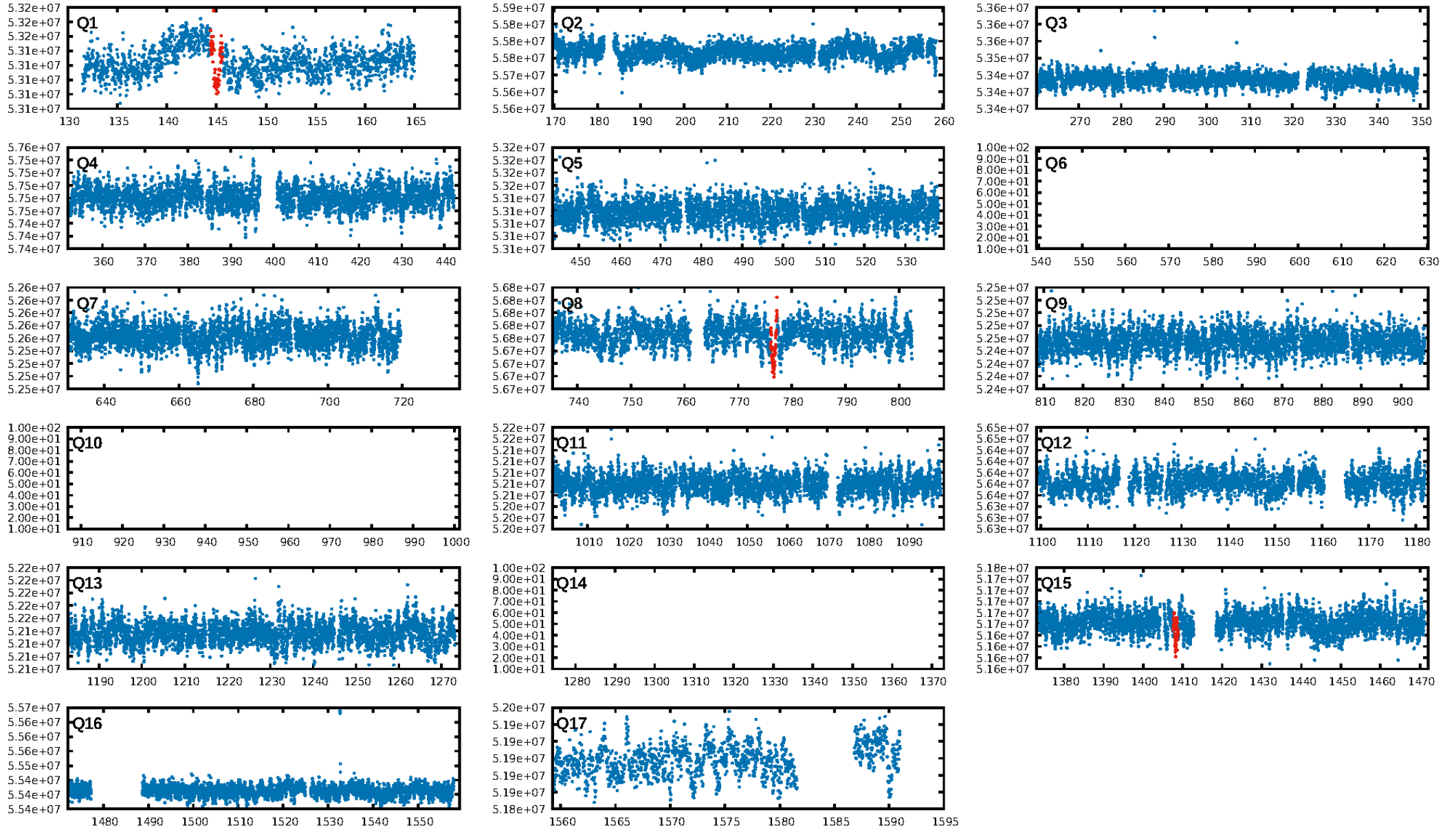
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.31e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 4.982
Centroid-sig: 4.3%
Centroid-so: 0.756 arcsec [1.18 σ]
OotOffset-rm: 0.351 arcsec [1.00 σ]
KicOffset-rm: 0.249 arcsec [0.70 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

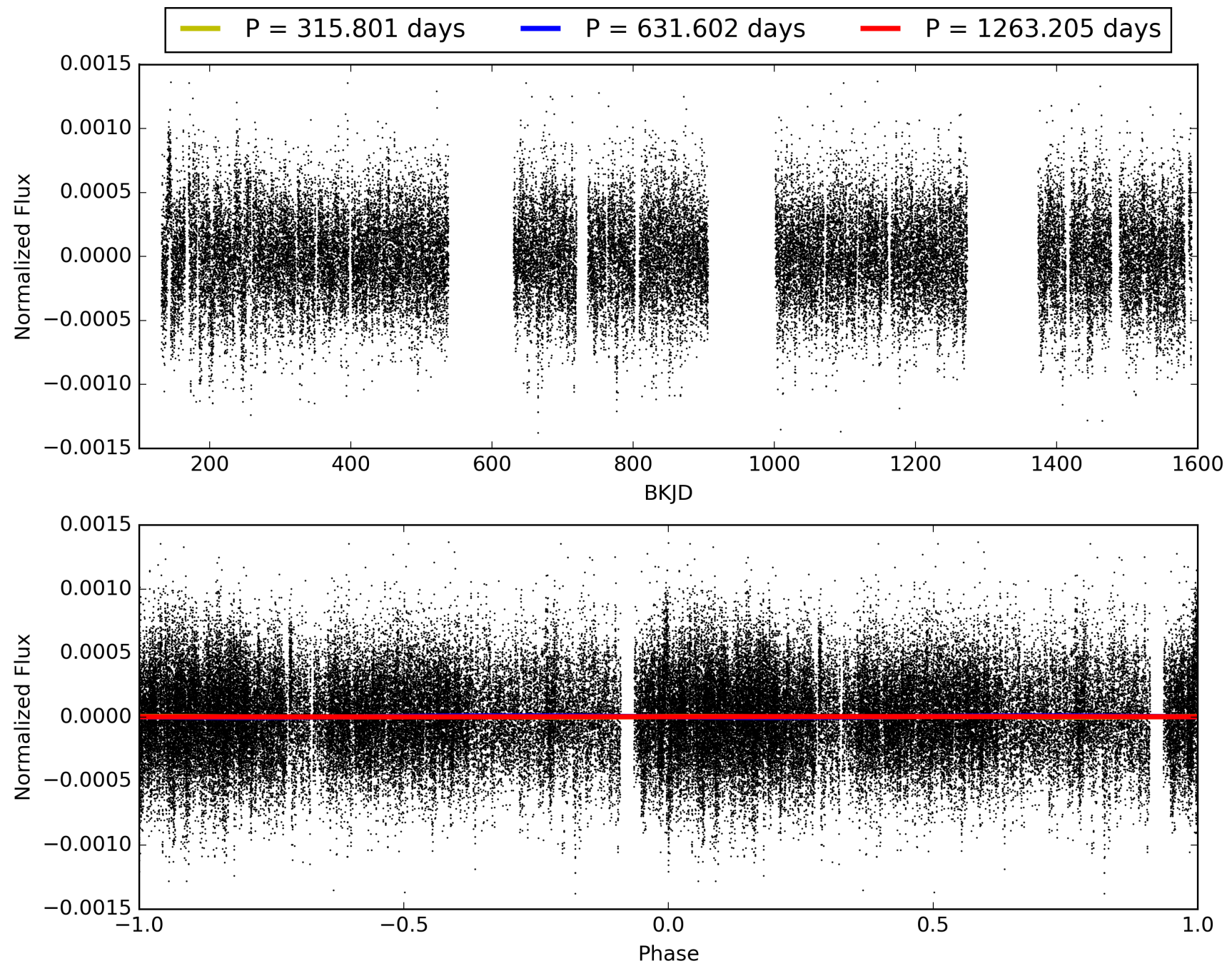
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:44:40 Z

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

TCE 004670361-01, PDC Light Curves

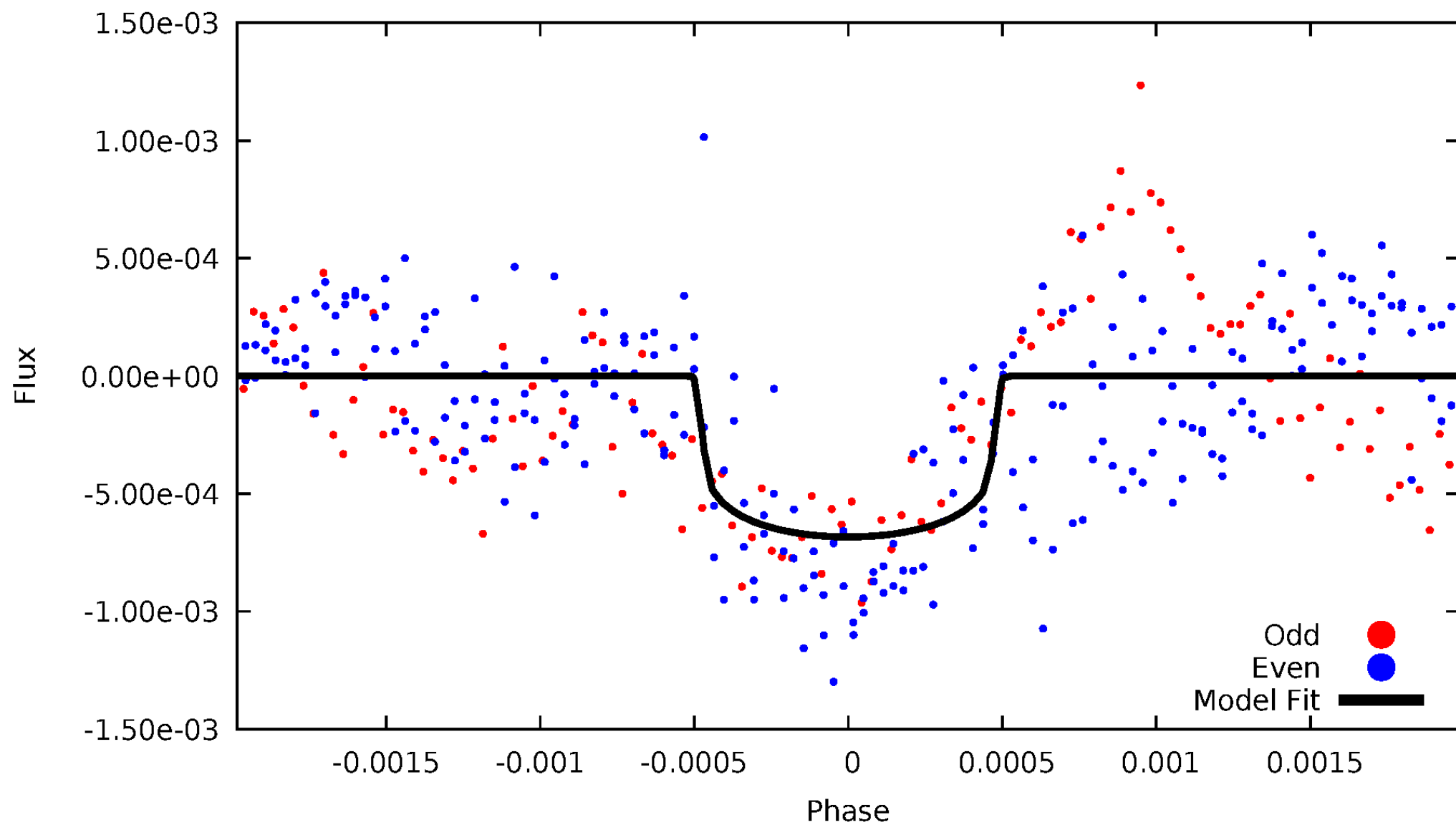


TCE 004670361-01



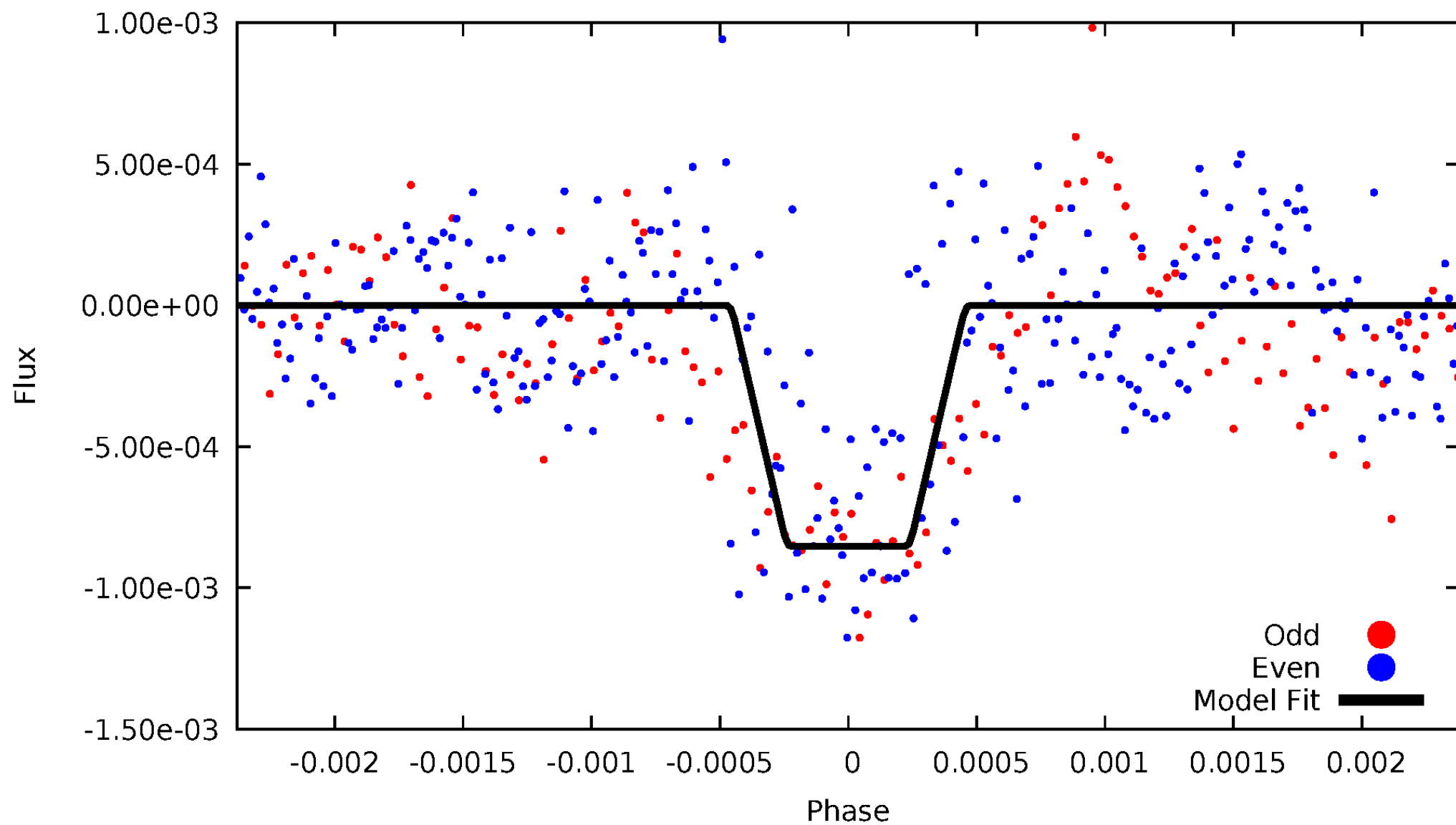
DV Odd/Even

TCE 004670361-01

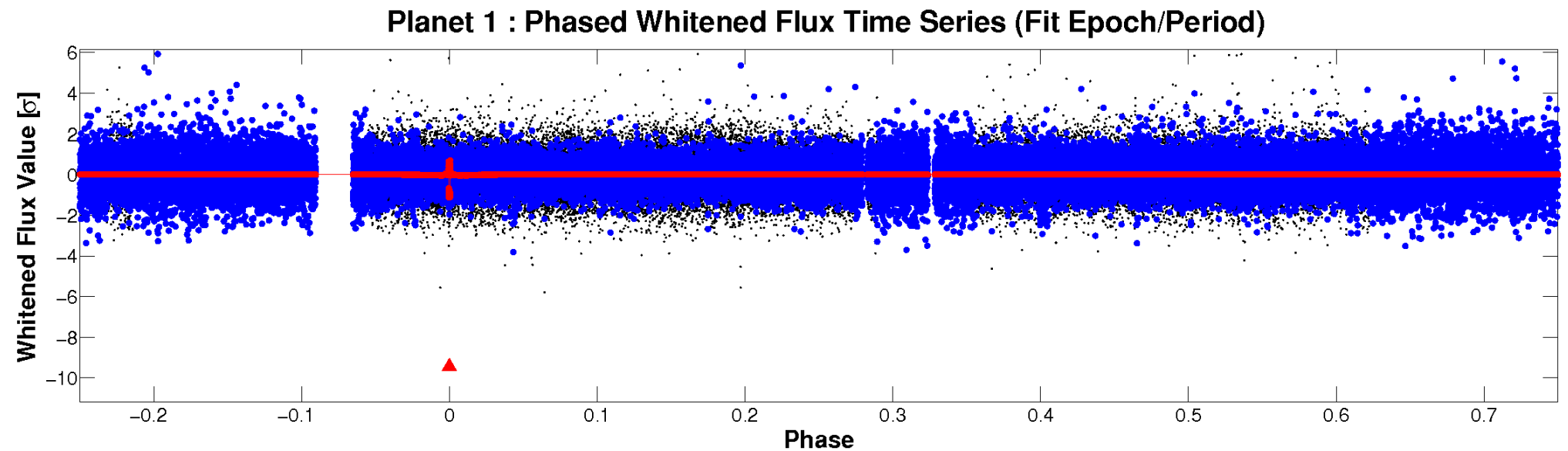
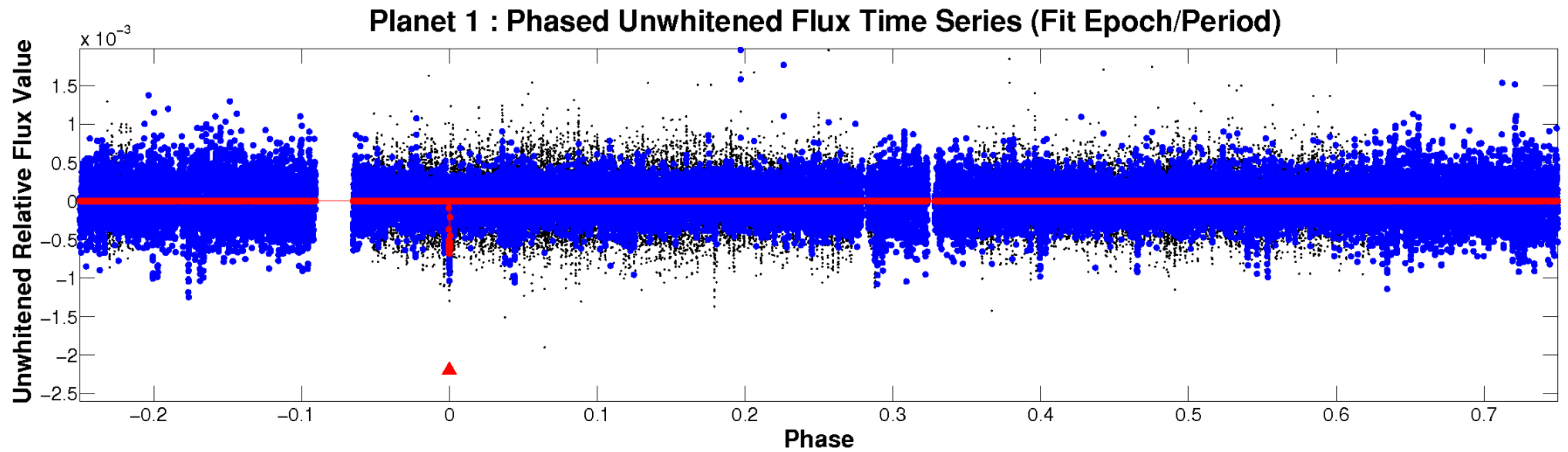


ALT Odd/Even

TCE 004670361-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 004670361-01 P=631.602287 Days $T_0=145.008954$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004670361-01 P=631.602287 Days $T_0=145.008954$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

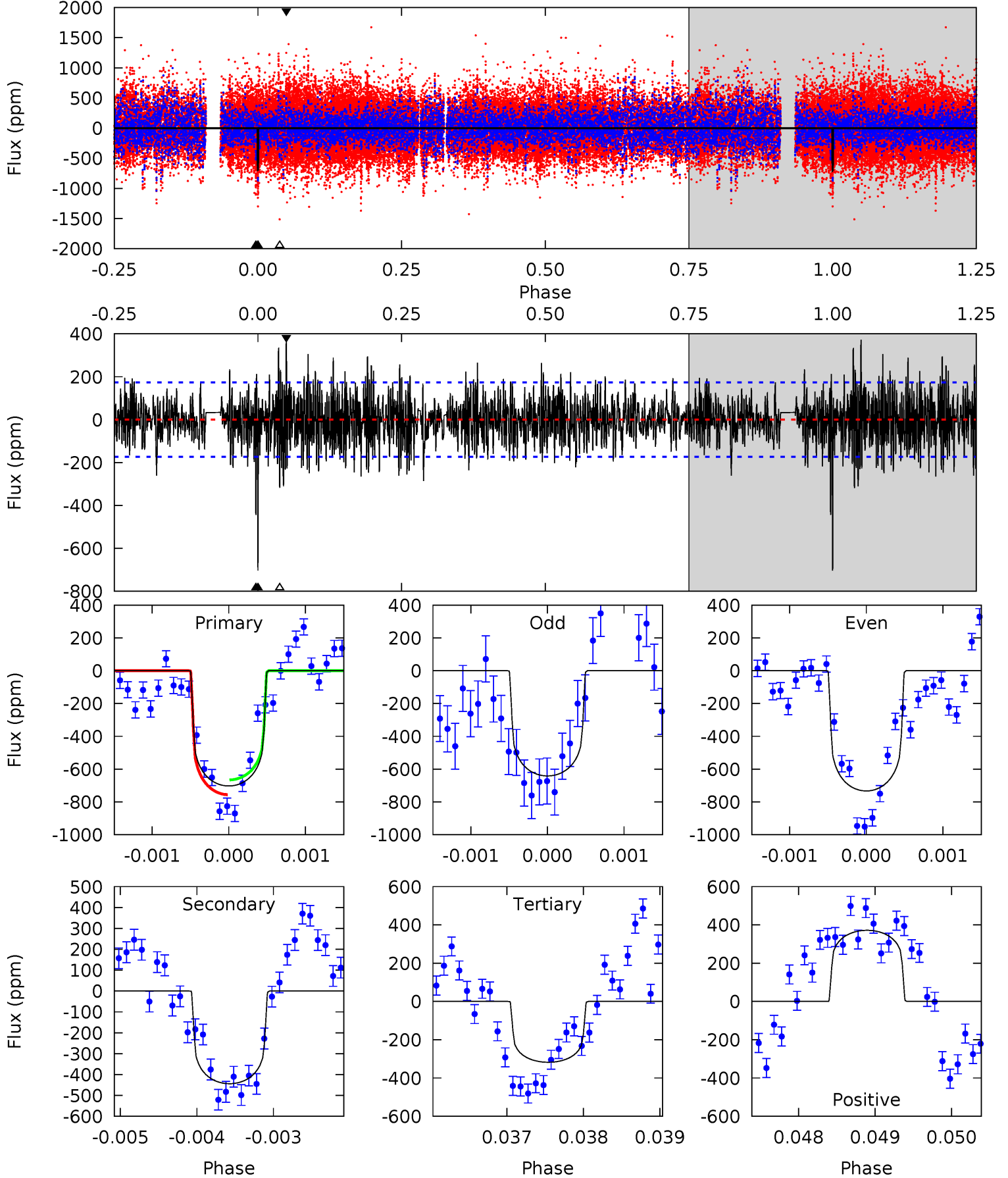
TCE 004670361-01 P=631.587717 Days $T_0=145.022836$ (BKJD)



DV Model-Shift Uniqueness Test

004670361-01, P = 631.602287 Days, E = 145.008954 Days

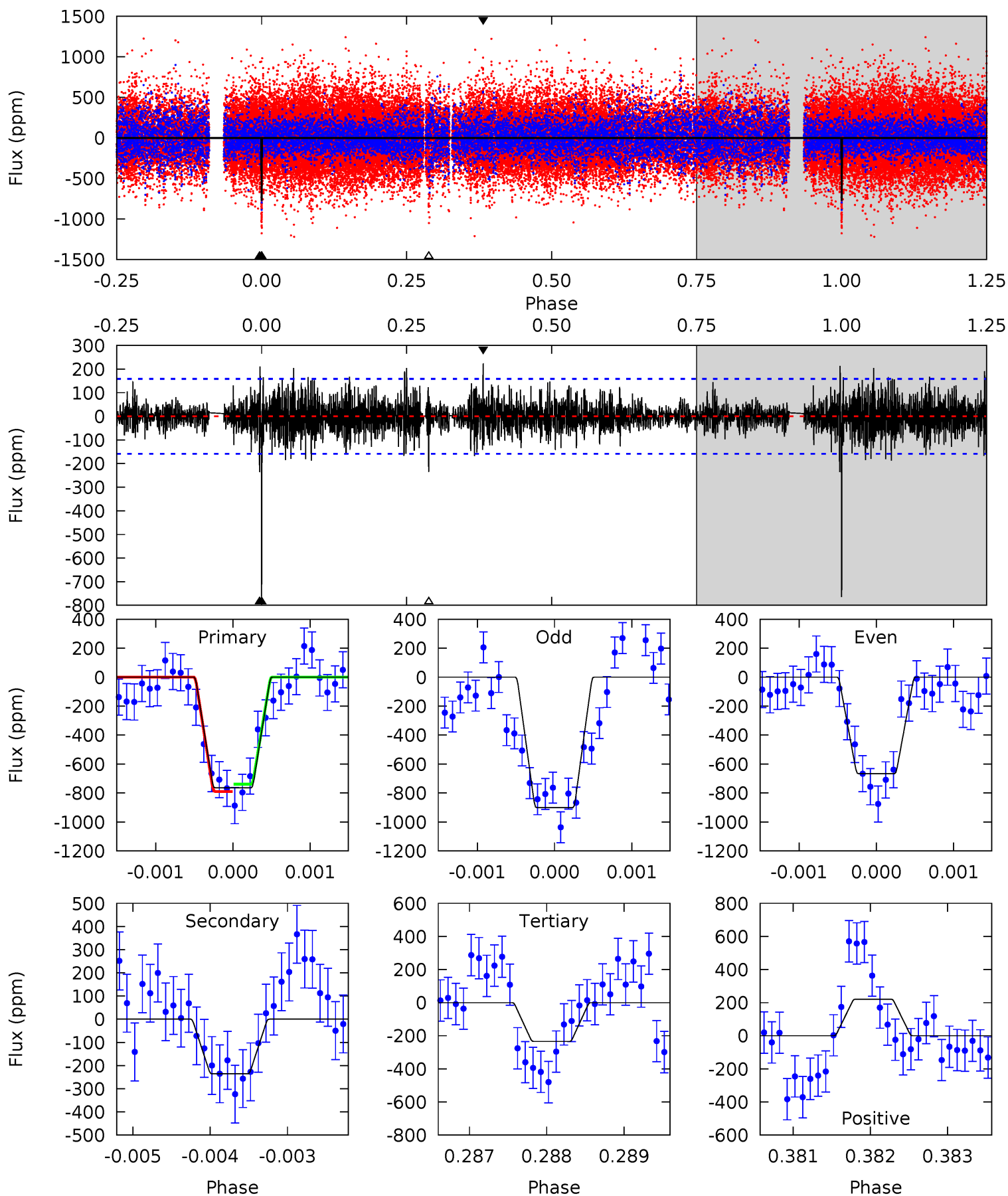
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	14.0	9.99	11.7	5.45	3.29	2.96	12.1	10.4	3.96	2.27	1.35	1.02	0.35	1.41



Alt Model-Shift Uniqueness Test

004670361-01, P = 631.587717 Days, E = 145.022836 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.3	8.13	8.09	7.61	5.46	3.31	1.84	18.3	18.7	0.05	0.53	3.84	0.83	0.22	0.87



Stellar Parameters For KIC 004670361

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6382^{+170}_{-189}	$4.432^{+0.065}_{-0.208}$	$-0.220^{+0.250}_{-0.300}$	$1.059^{+0.333}_{-0.111}$	$1.104^{+0.153}_{-0.138}$	$1.310^{+0.370}_{-0.690}$
	+3%/-3%	+1%/-5%	+114%/-136%	+31%/-10%	+14%/-12%	+28%/-53%
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 004670361-01 / KOI 7700.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-444 ± 32	$3.01^{+0.69}_{-0.59}$	338^{+25}_{-15}	5883^{+631}_{-458}	59197^{+33840}_{-19959}
Alt.	-236 ± 29	$3.47^{+0.76}_{-0.58}$	338^{+22}_{-17}	4775^{+389}_{-338}	23115^{+10836}_{-7728}

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

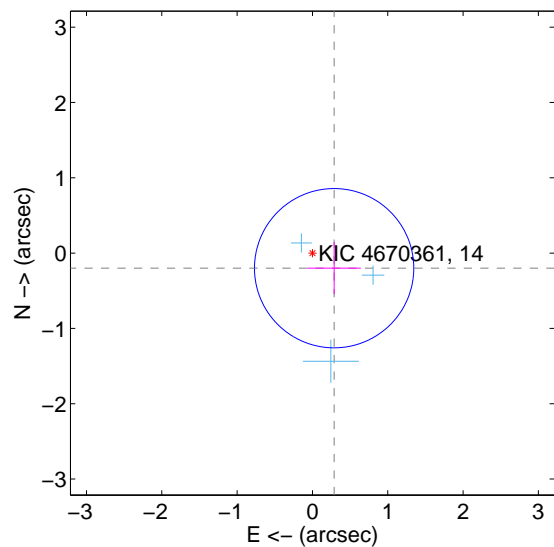
Supplemental centroid analysis for 004670361-01. Kepler magnitude: 14.00. Transit SNR 8.25

There are 3 quarters with good PRF difference image offsets

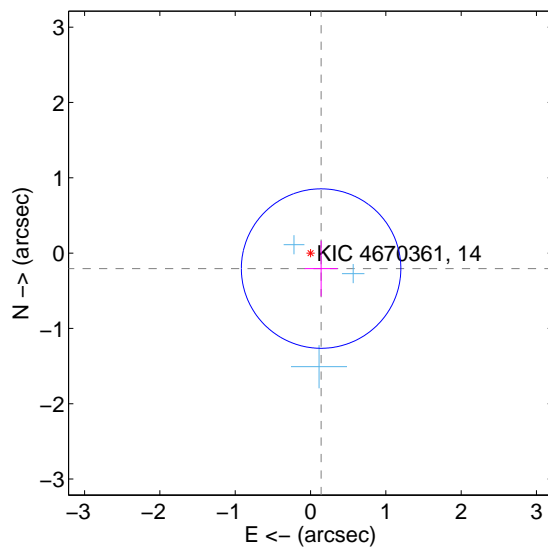
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.351 ± 0.352	1.00	-0.288 ± 0.355	-0.200 ± 0.347
PRF-fit source offset from KIC position	0.249 ± 0.353	0.70	-0.140 ± 0.219	-0.205 ± 0.369
photometric centroid source offset	0.76 ± 0.64	1.18	0.21 ± 0.61	-0.73 ± 0.64

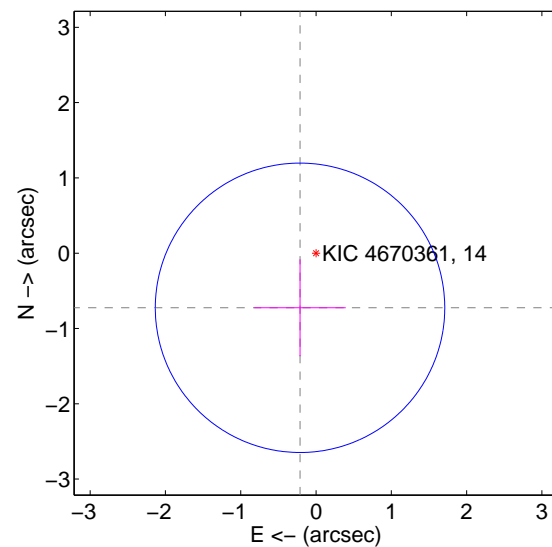
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

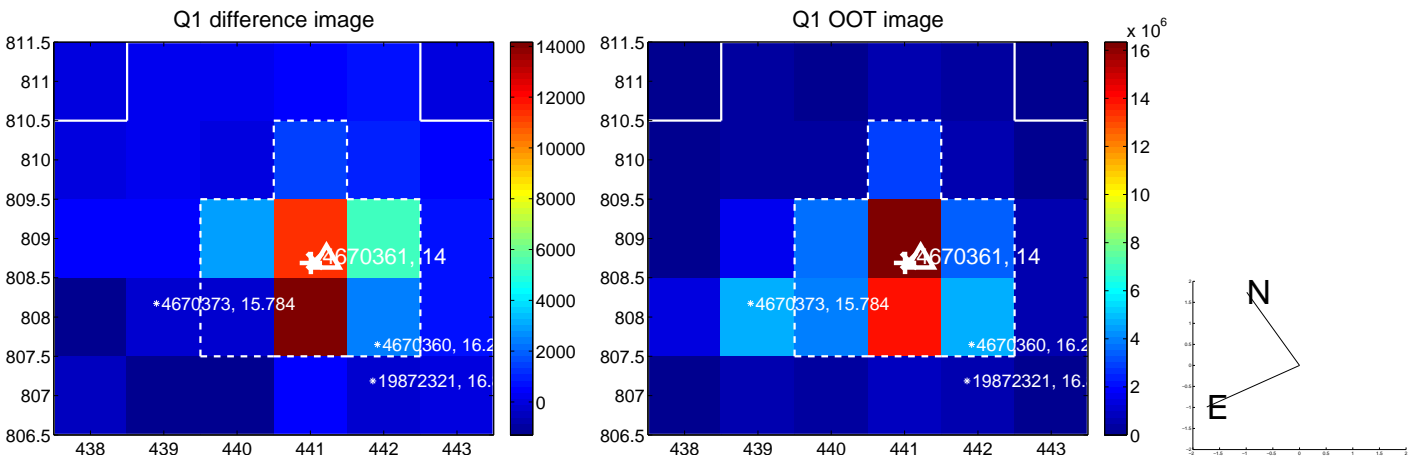


offset from photometric centroids

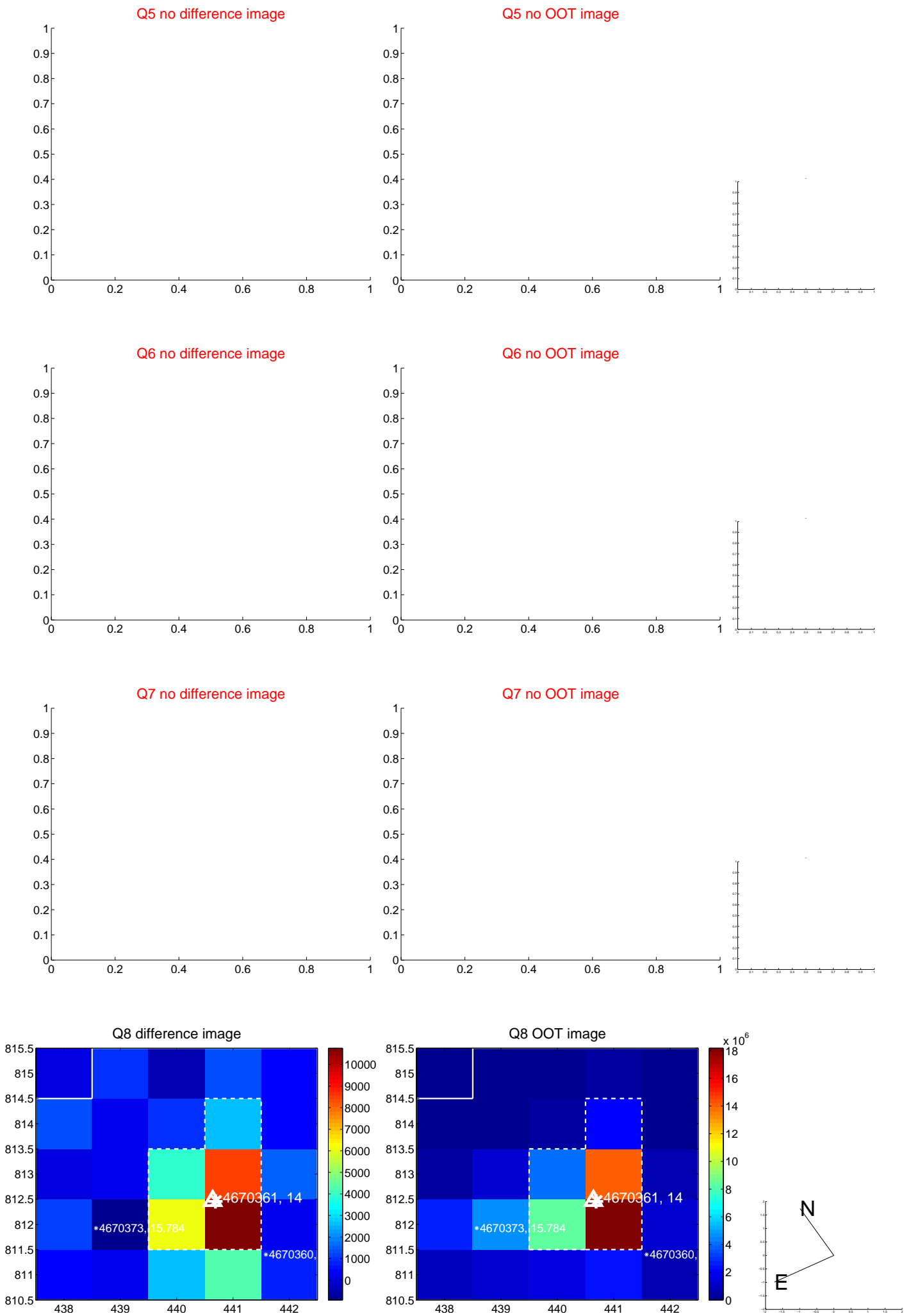


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



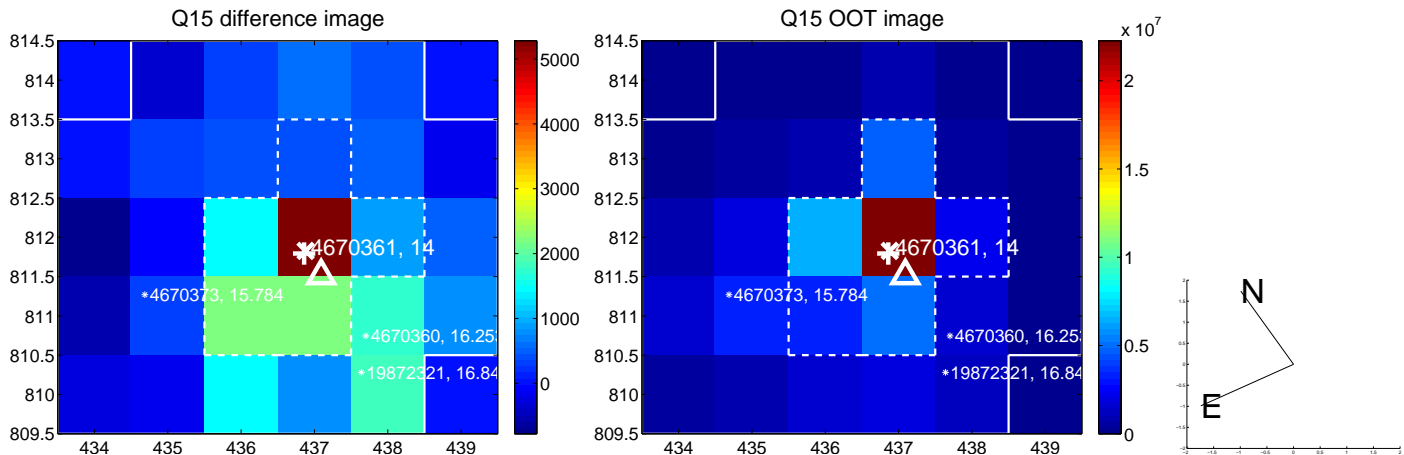
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



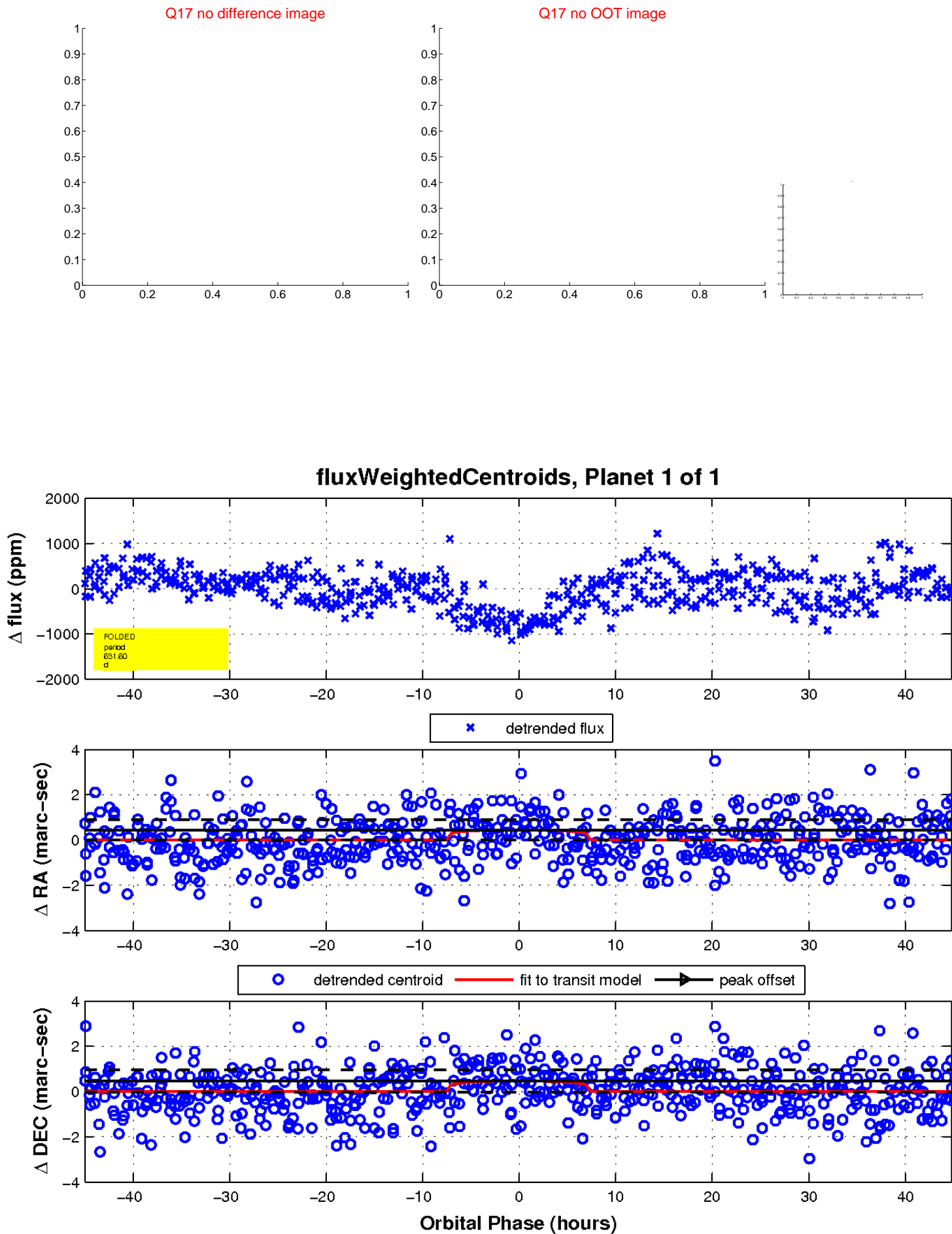
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

