

KIC 009588615

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})
009588615-01	OBS	No	321.101330	168.254257	233.6	14.810	7.1	7.1	0.76	5604	1.32	0.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009588615-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

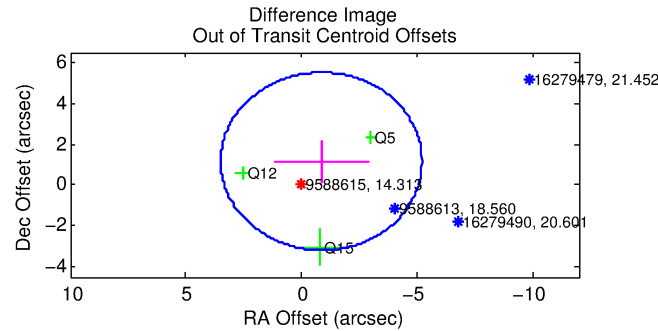
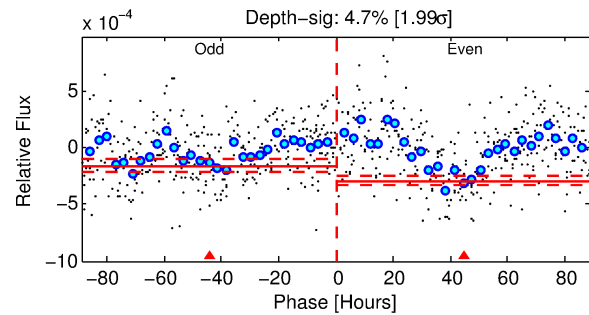
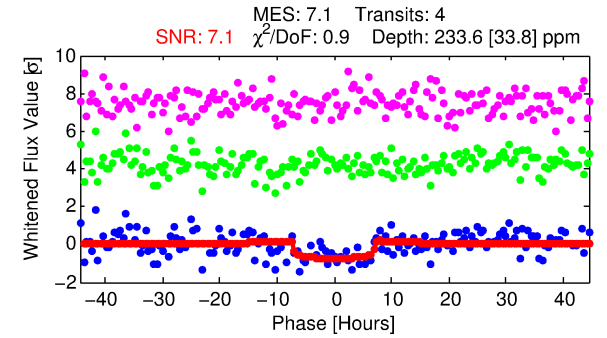
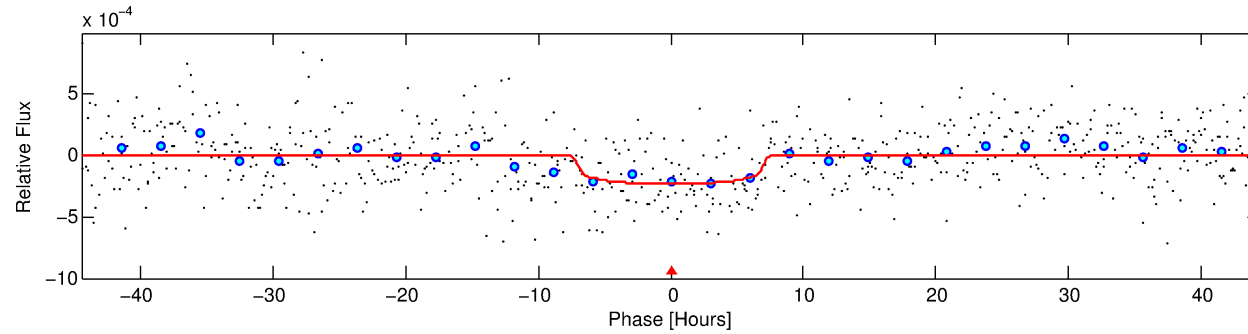
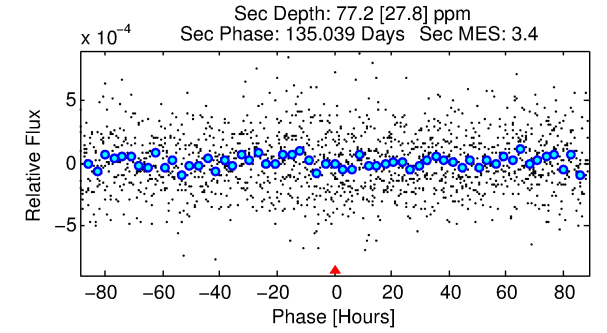
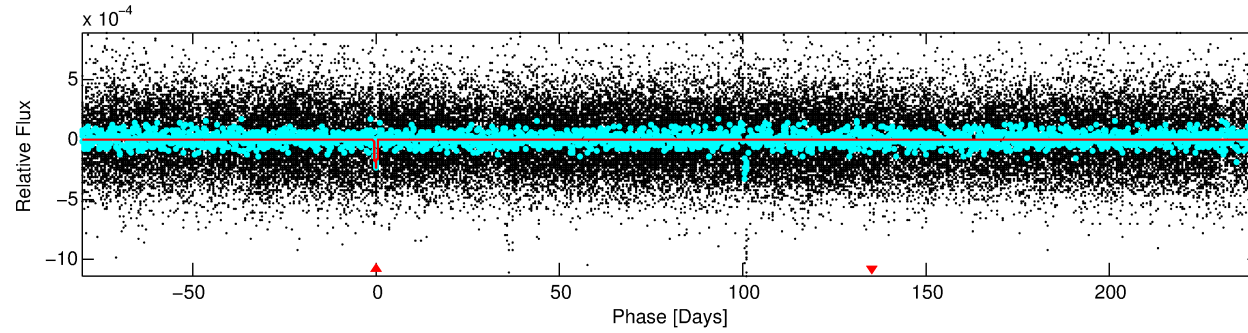
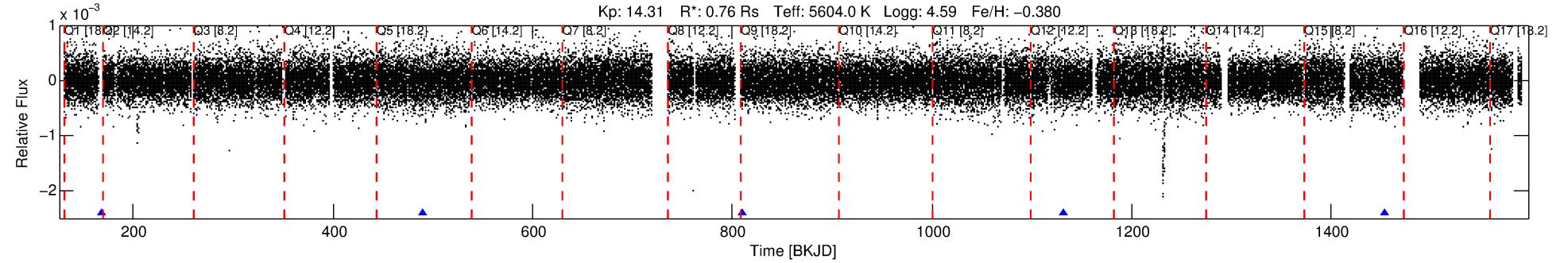
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009588615-01

No Significant Match Found

DV One-Page Summary

KIC: 9588615 Candidate: 1 of 1 Period: 321.101 d



DV Fit Results:

Period = 321.10133 [0.01325] d
Epoch = 168.2543 [0.0359] BKJD
Rp/R* = 0.0158 [0.0046]
a/R* = 97.18 [125.97]
b = 0.83 [0.49]
Seff = 0.69 [0.19]
Teq = 232 [16] K
Rp = 1.32 [0.48] Re
a = 0.8647 [0.1558] AU
Ag = 18339.10 [13465.72] [1.36σ]
Teffp = 4181 [729] K [5.42σ]

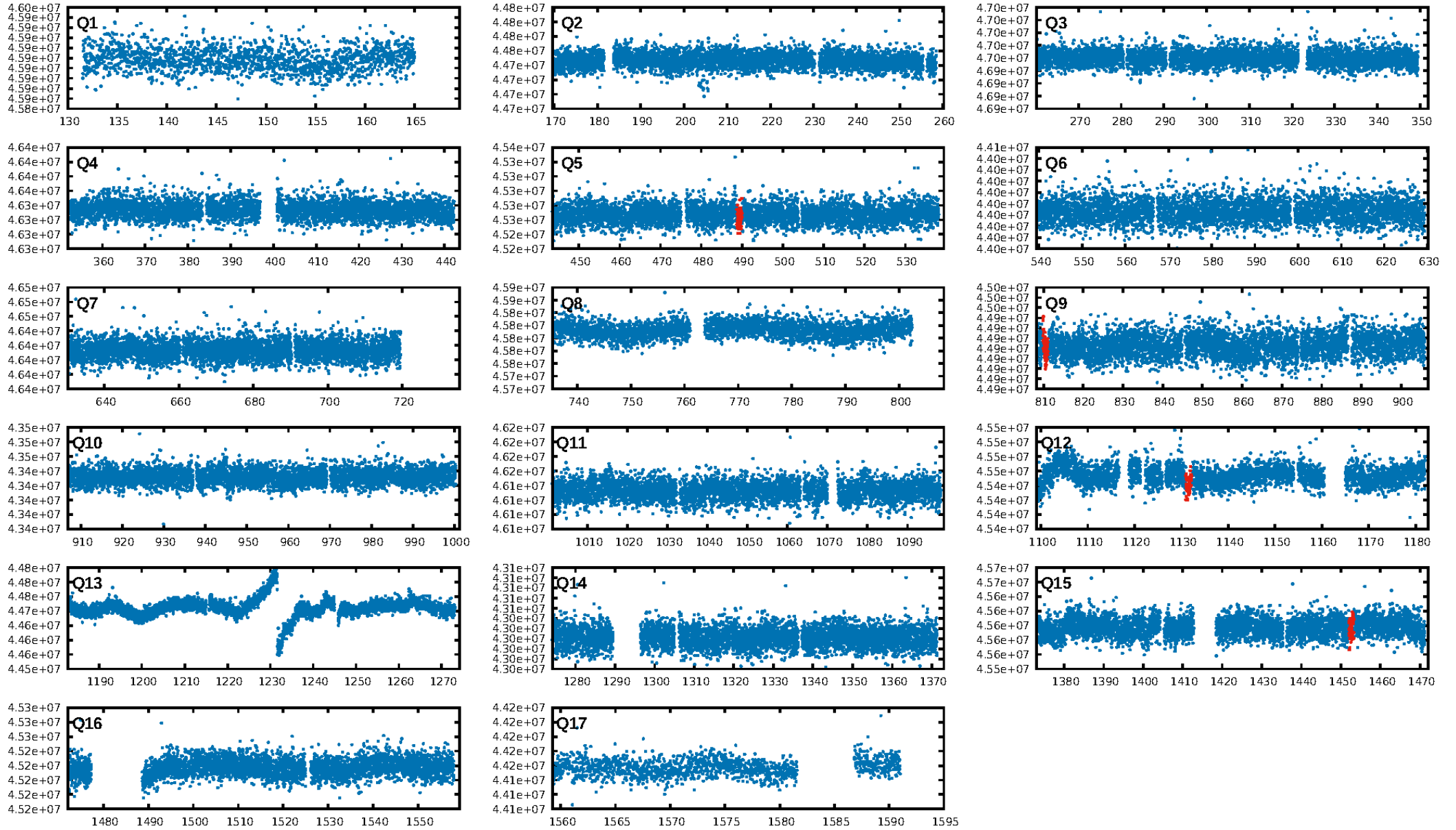
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.30e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.187
Centroid-sig: 29.1%
Centroid-so: 1.987 arcsec [1.14σ]
OotOffset-rm: 1.446 arcsec [1.00σ]
KicOffset-rm: 1.758 arcsec [1.29σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

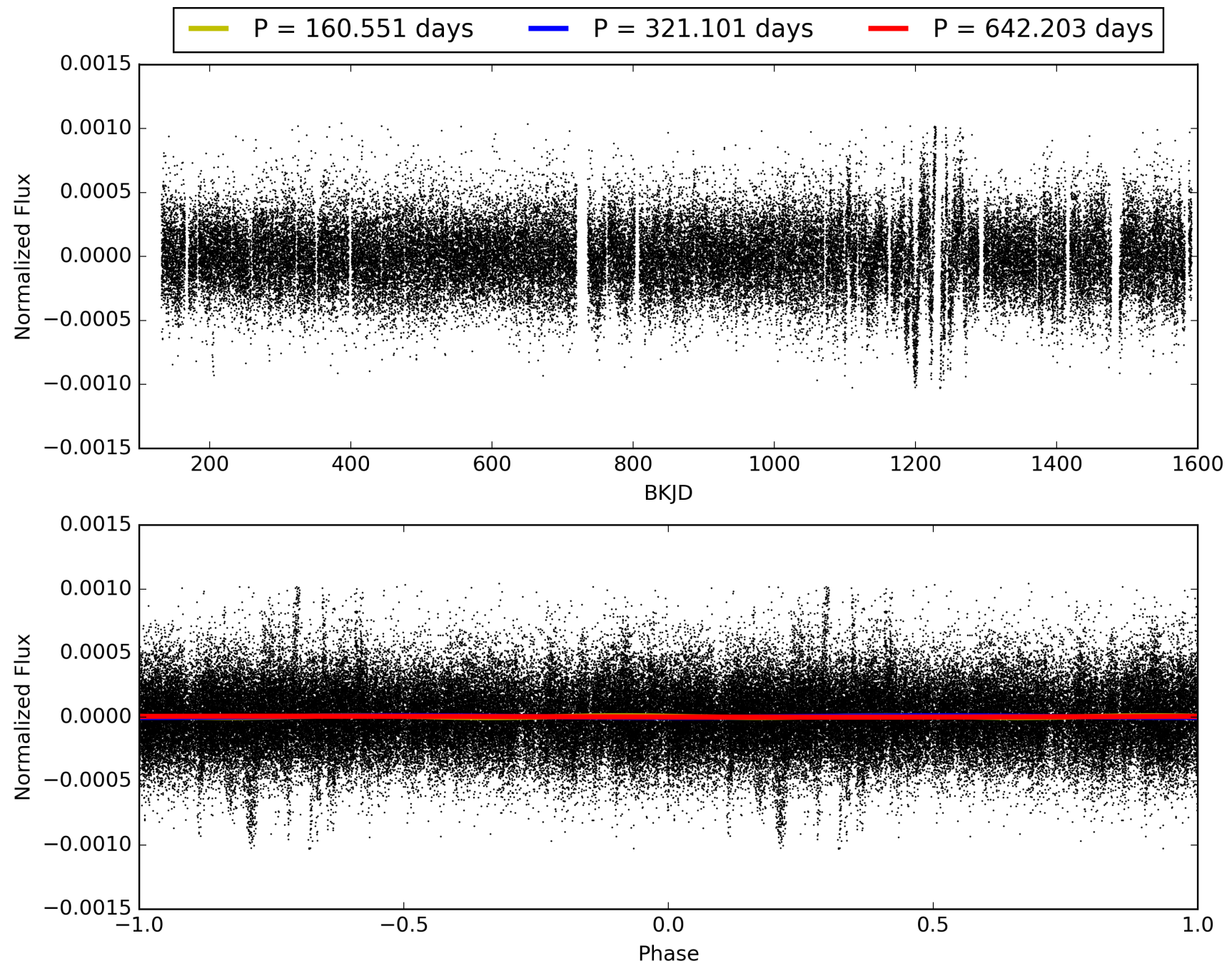
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:00:09 Z

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

TCE 009588615-01, PDC Light Curves

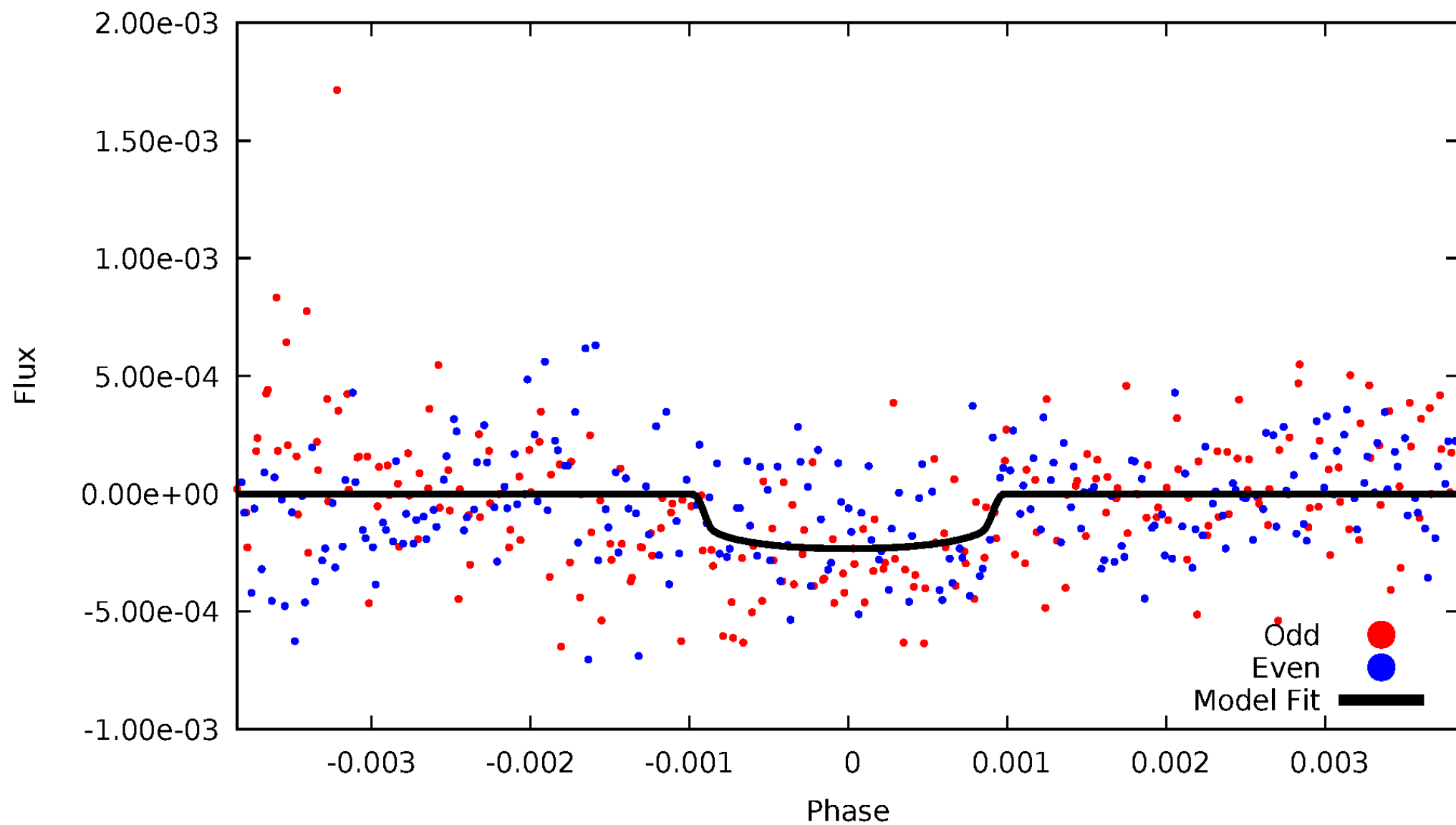


TCE 009588615-01



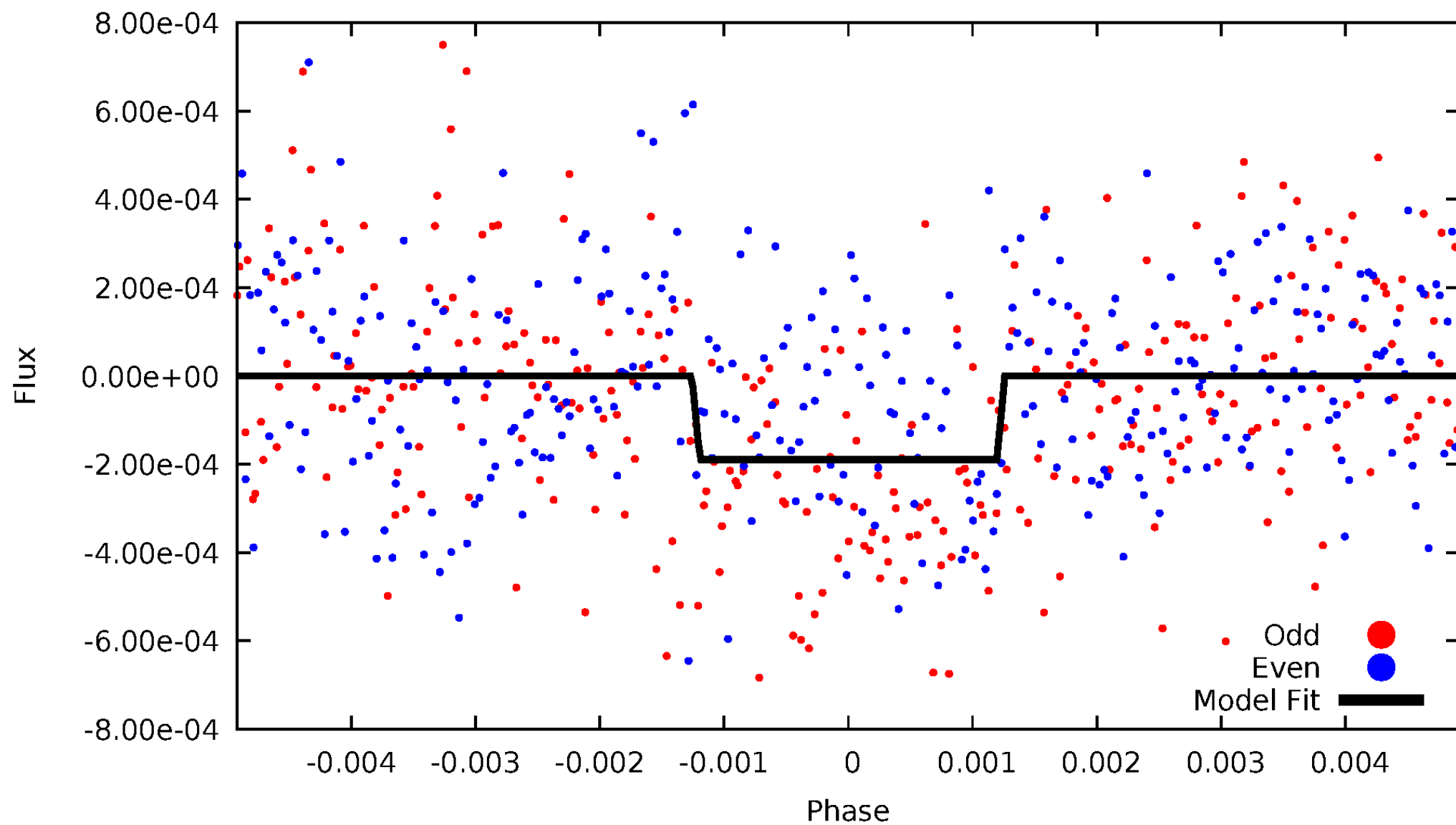
DV Odd/Even

TCE 009588615-01

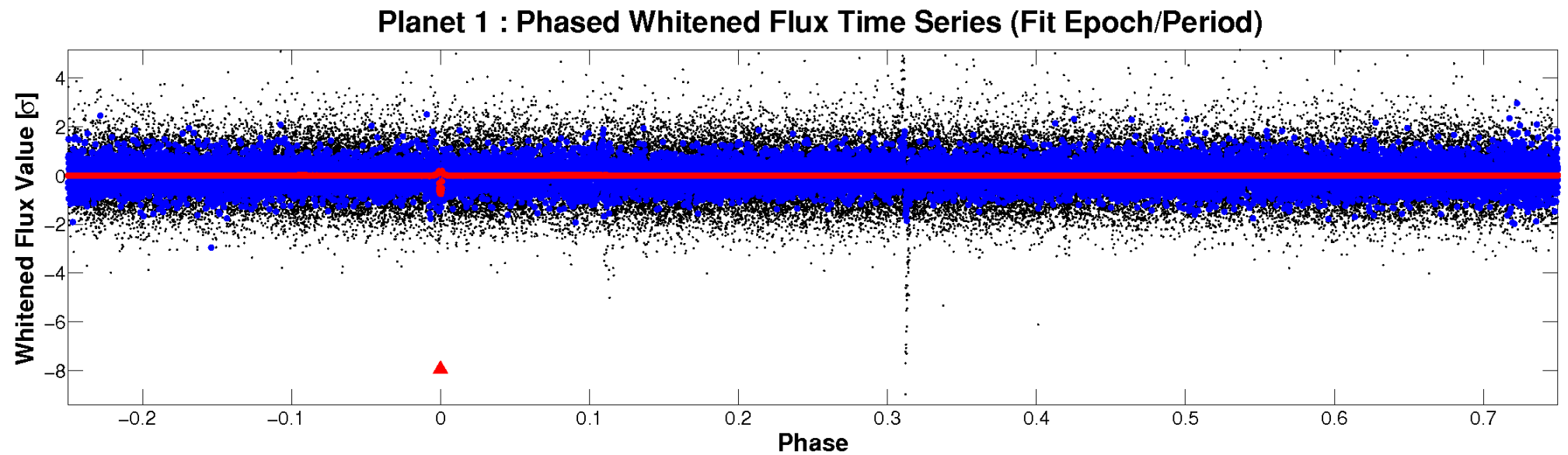
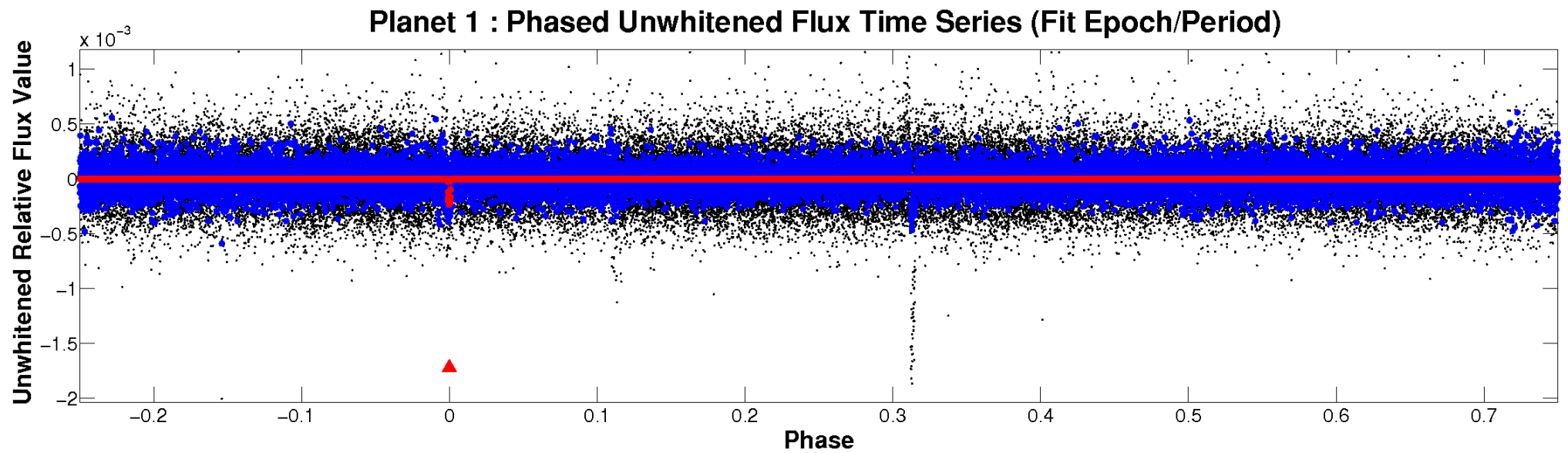


ALT Odd/Even

TCE 009588615-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009588615-01 P=321.101330 Days $T_0=168.254256$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009588615-01 P=321.101330 Days $T_0=168.254256$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

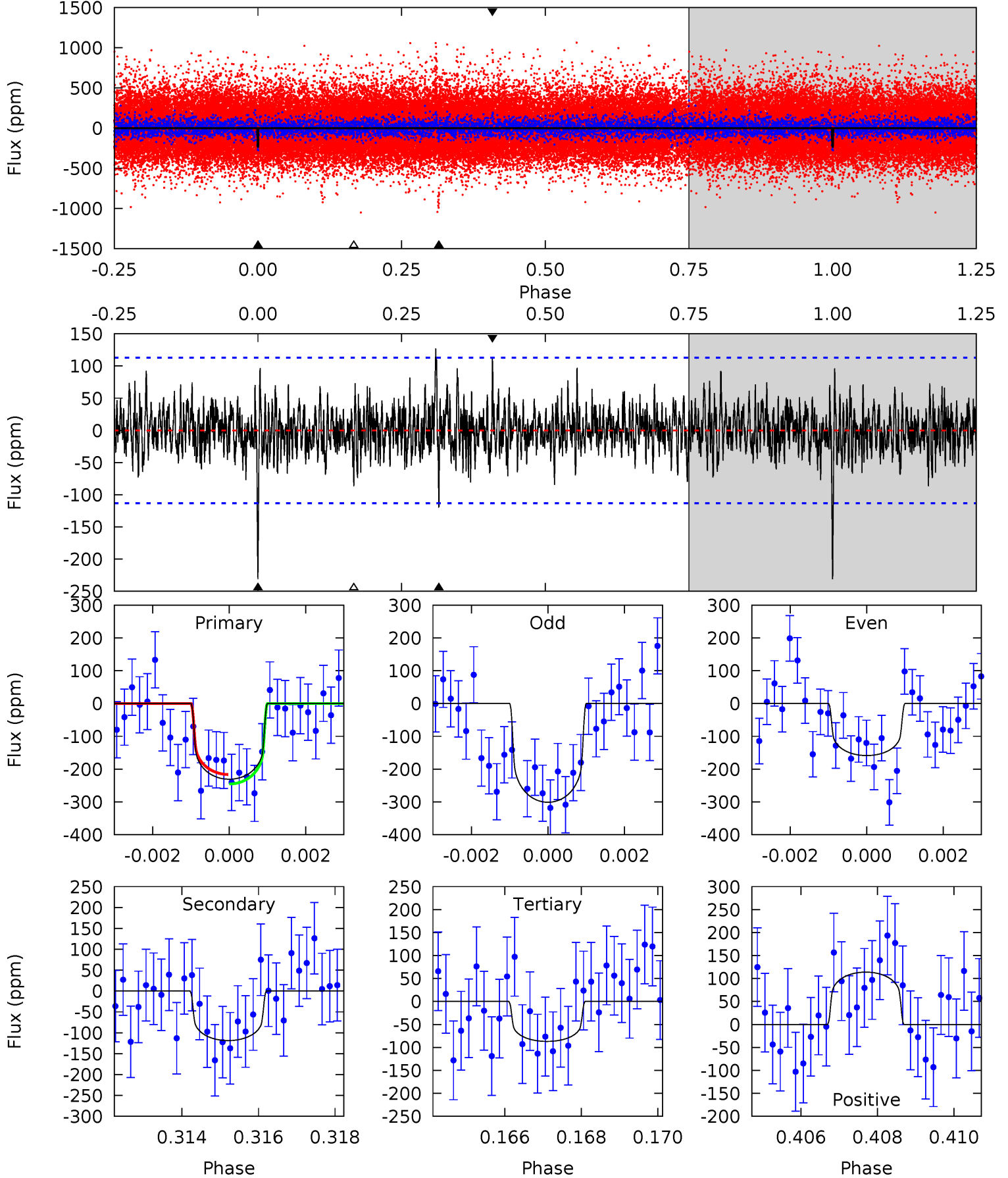
TCE 009588615-01 P=321.099773 Days $T_0=168.148288$ (BKJD)



DV Model-Shift Uniqueness Test

009588615-01, P = 321.101330 Days, E = 168.254256 Days

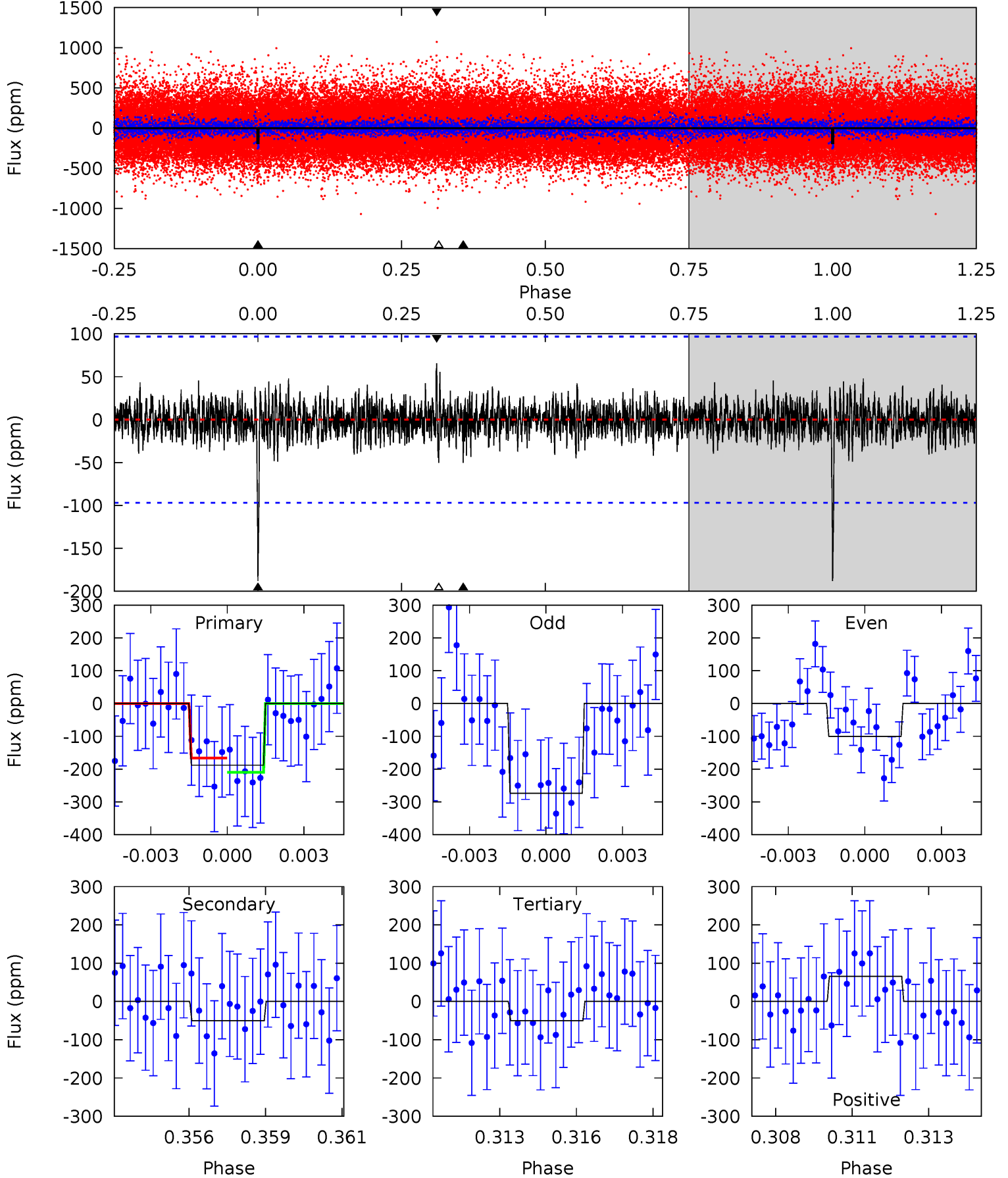
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	5.60	4.10	5.37	5.33	3.09	1.34	6.78	5.52	1.49	0.23	3.35	1.04	0.35	0.68



Alt Model-Shift Uniqueness Test

009588615-01, P = 321.099773 Days, E = 168.148288 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	2.75	2.74	3.58	5.28	3.02	0.76	7.51	6.67	0.01	-0.83	4.72	0.98	0.26	1.19



Stellar Parameters For KIC 009588615

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5604^{+152}_{-152}	$4.594^{+0.036}_{-0.135}$	$-0.380^{+0.300}_{-0.300}$	$0.764^{+0.169}_{-0.056}$	$0.837^{+0.089}_{-0.089}$	$2.642^{+0.488}_{-1.057}$
	+3%/-3%	+1%/-3%	+79%/-79%	+22%/-7%	+11%/-11%	+18%/-40%
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 009588615-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-119±21	$1.36^{+0.41}_{-0.39}$	331^{+17}_{-13}	4781^{+793}_{-484}	25454^{+27019}_{-10850}
Alt.	-50±18	$1.14^{+0.41}_{-0.38}$	330^{+15}_{-12}	4277^{+830}_{-500}	15086^{+20076}_{-7880}

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

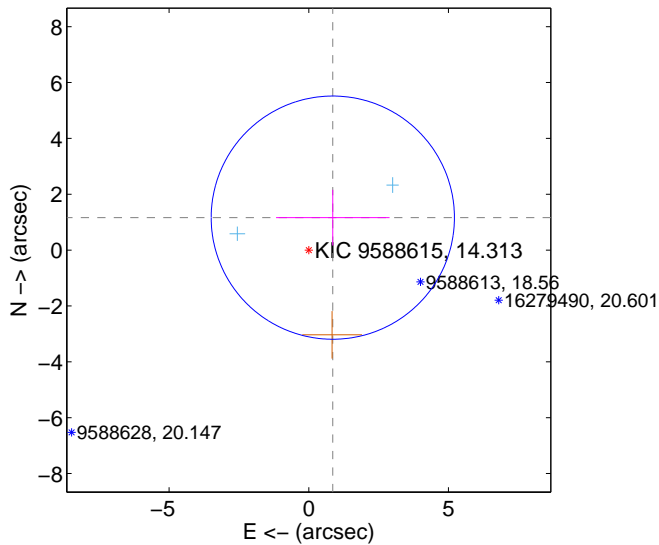
Supplemental centroid analysis for 009588615-01. Kepler magnitude: 14.31. Transit SNR 7.07

There are 2 quarters with good PRF difference image offsets

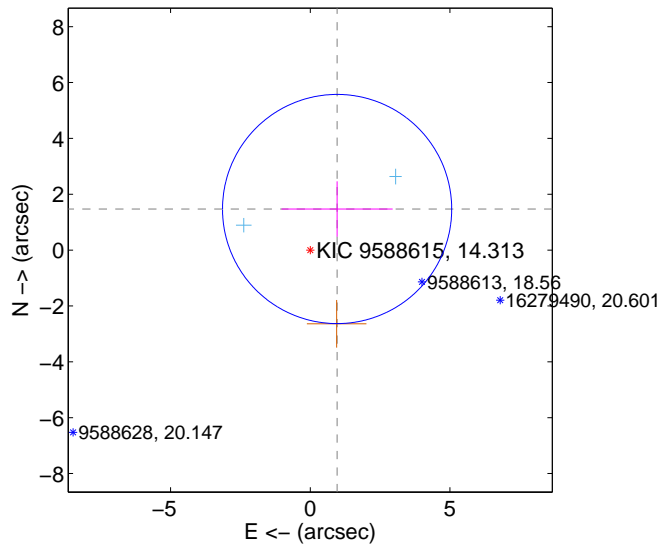
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.446 ± 1.451	1.00	-0.861 ± 2.033	1.162 ± 0.998
PRF-fit source offset from KIC position	1.758 ± 1.368	1.29	-0.962 ± 1.988	1.471 ± 0.991
photometric centroid source offset	1.99 ± 1.74	1.14	1.89 ± 1.74	0.60 ± 1.79

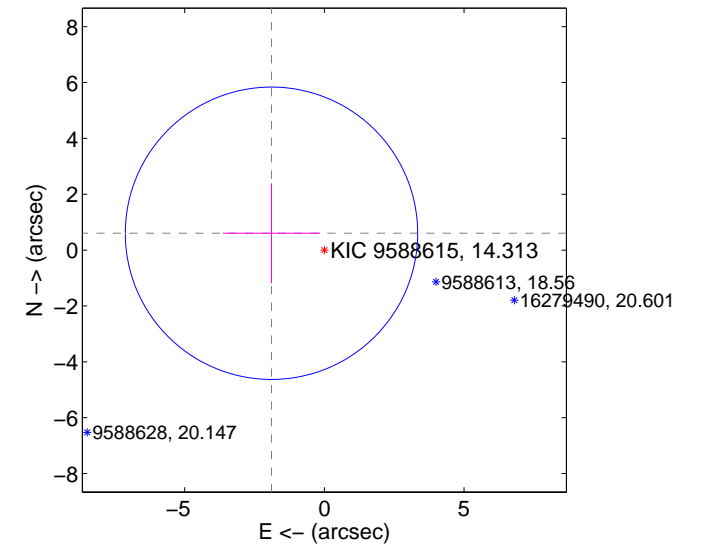
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

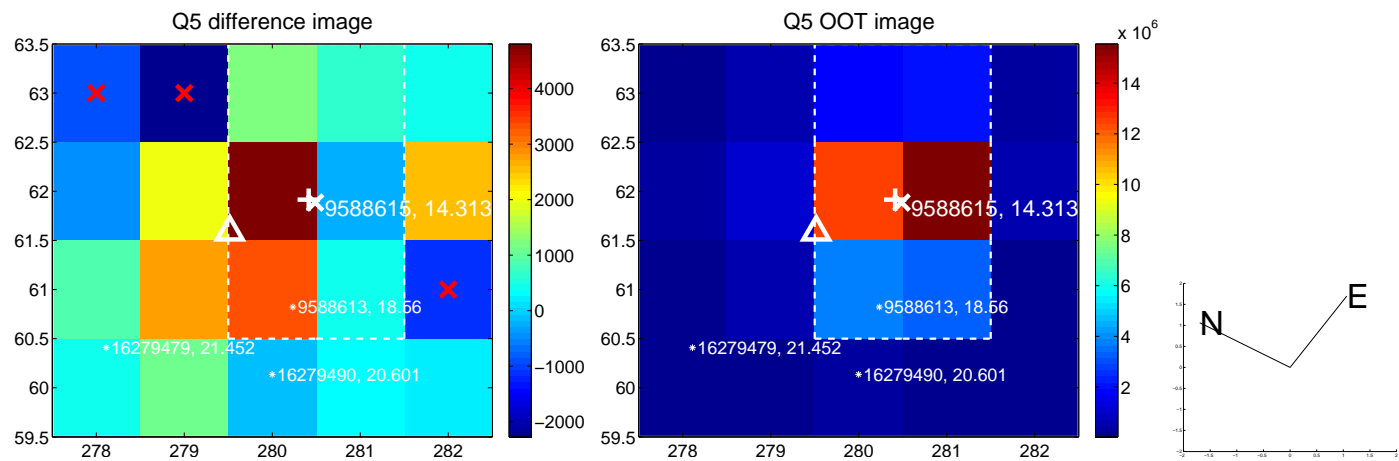


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

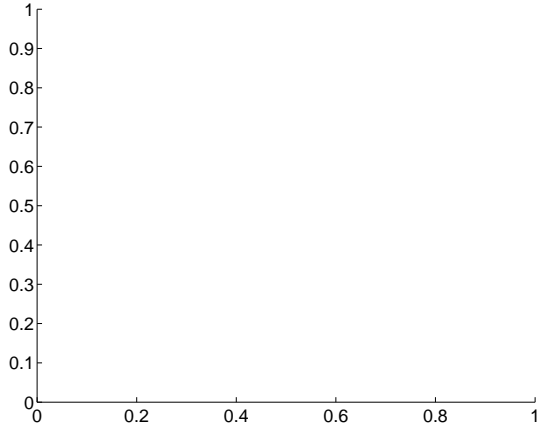
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



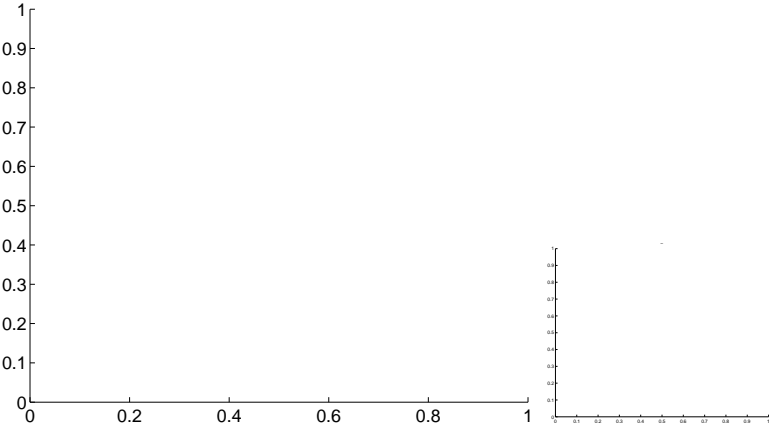
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



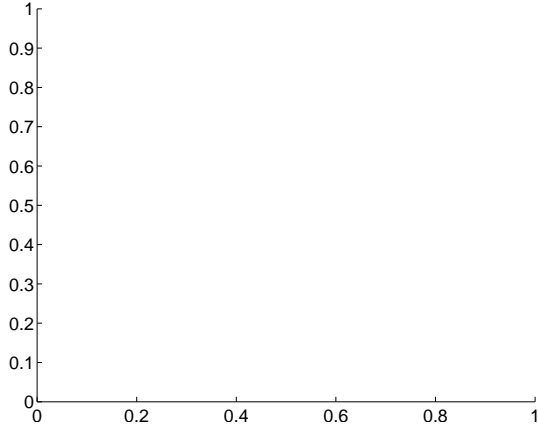
Q6 no difference image



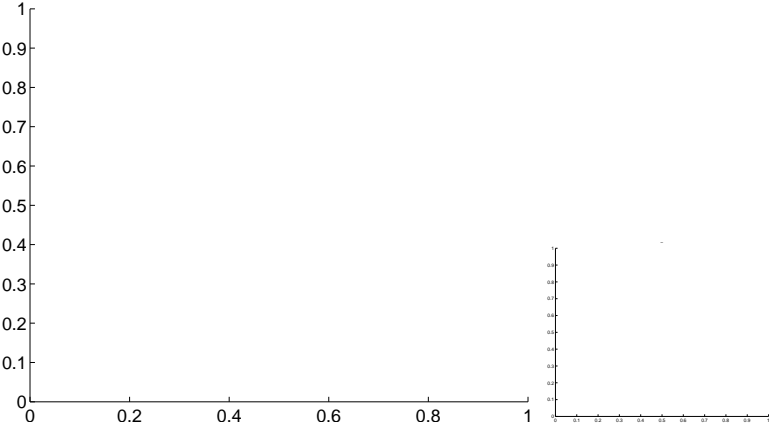
Q6 no OOT image



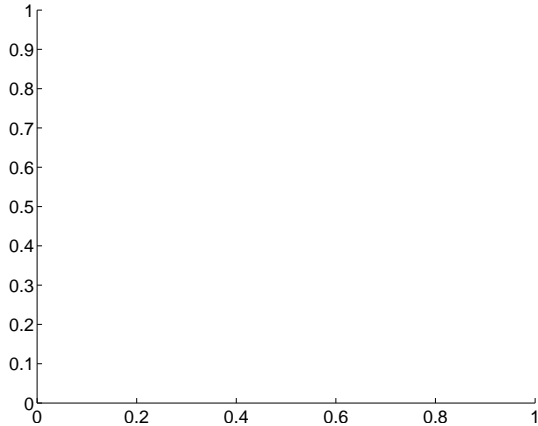
Q7 no difference image



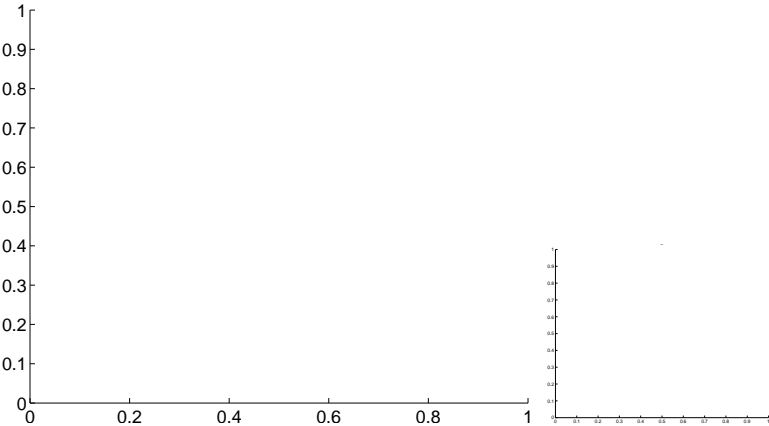
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



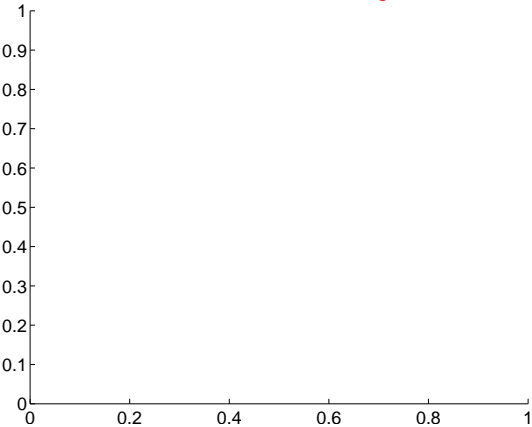
Q10 no difference image



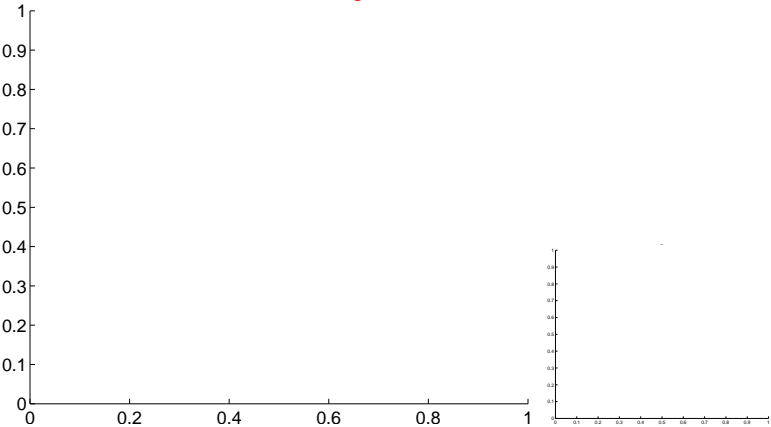
Q10 no OOT image



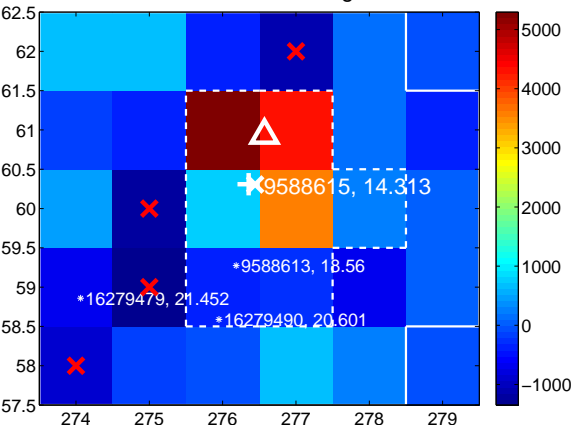
Q11 no difference image



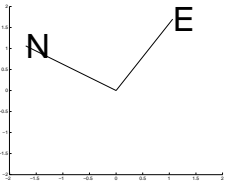
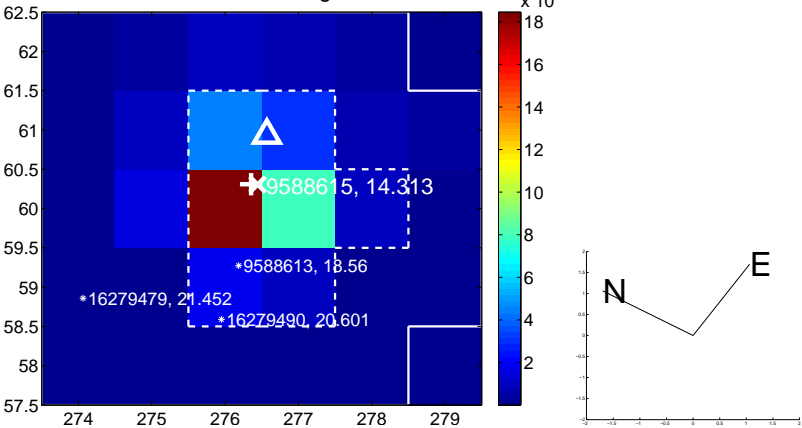
Q11 no OOT image



Q12 difference image



Q12 OOT image



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

Q13 no difference image



Q13 no OOT image



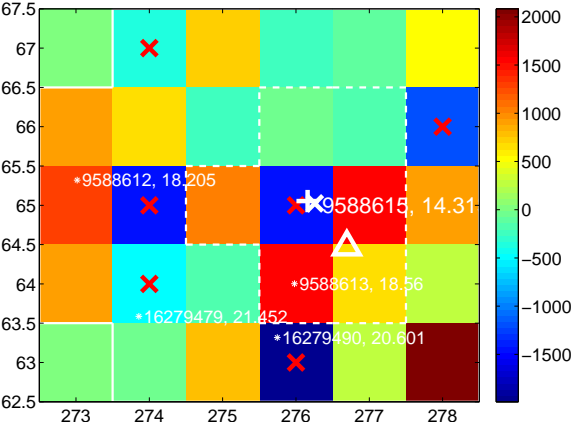
Q14 no difference image



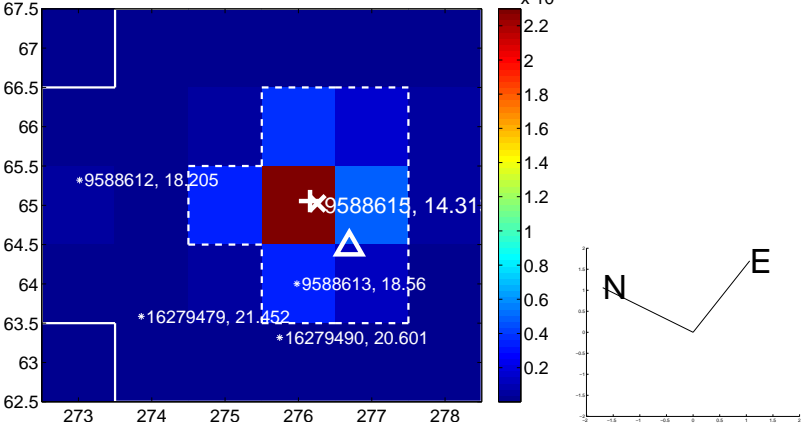
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



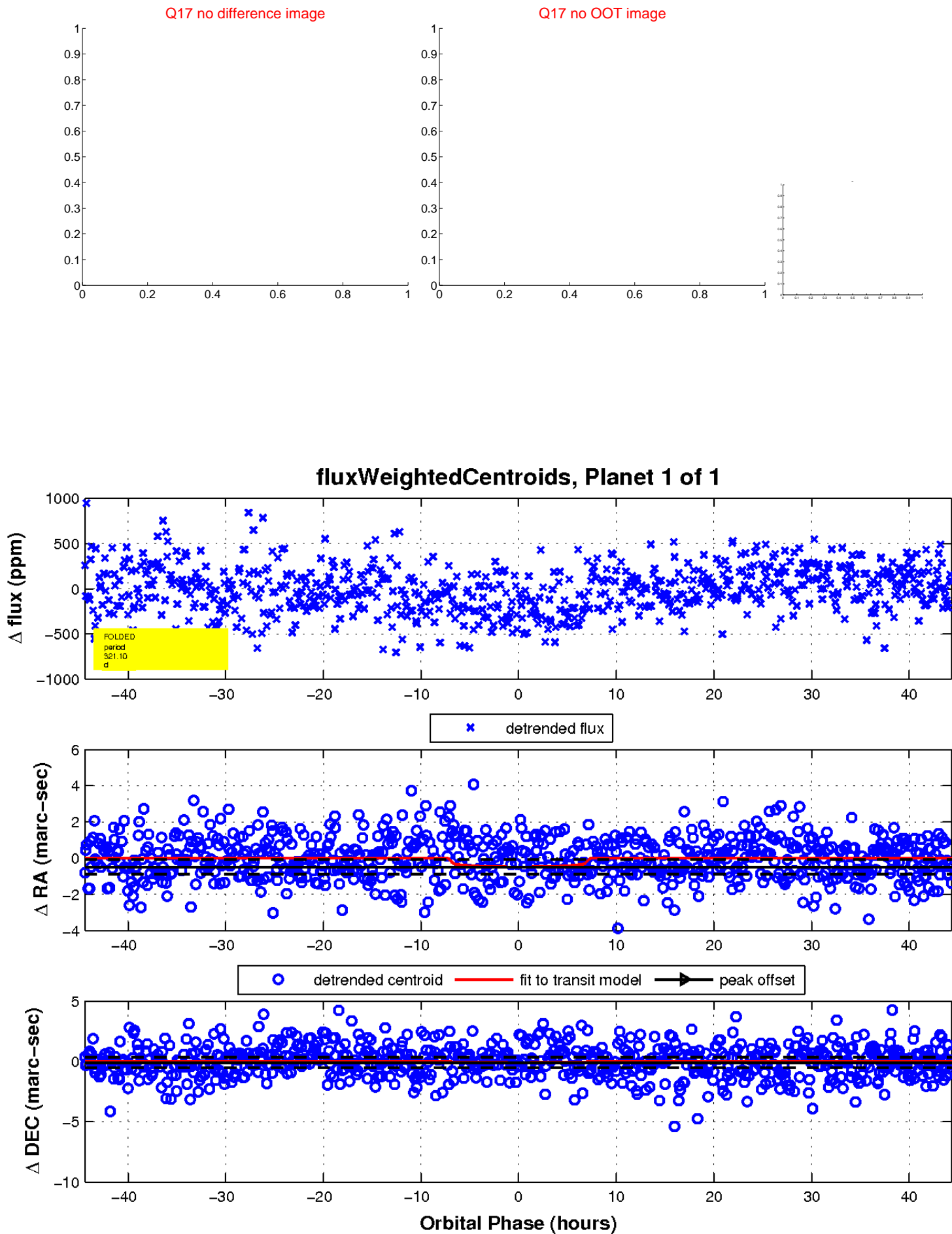
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

