

KIC 010666242

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})
010666242-01	OBS	0198.01	87.244134	153.326842	17617.1	4.157	612.3	462.8	0.95	5671	18.80	5.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010666242-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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.

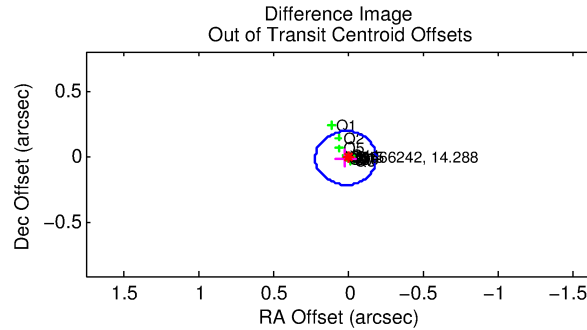
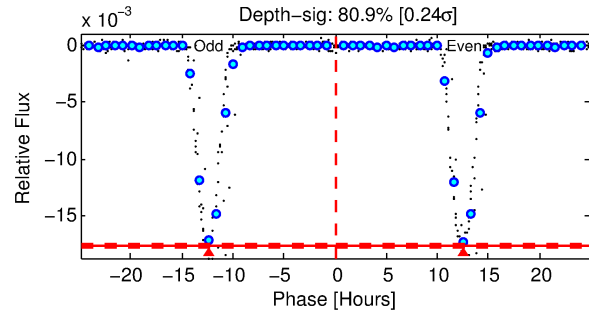
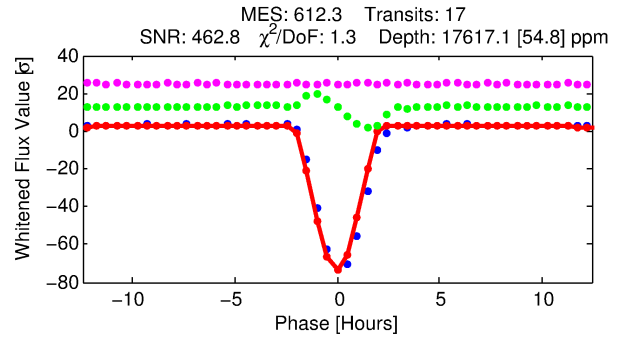
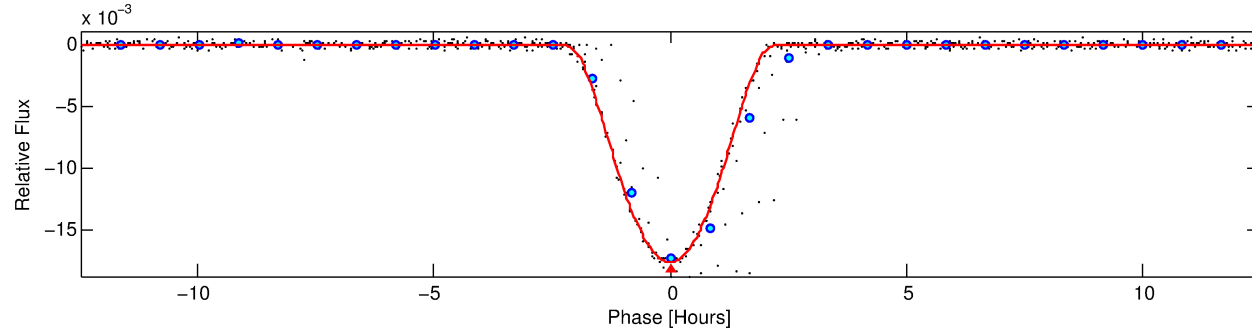
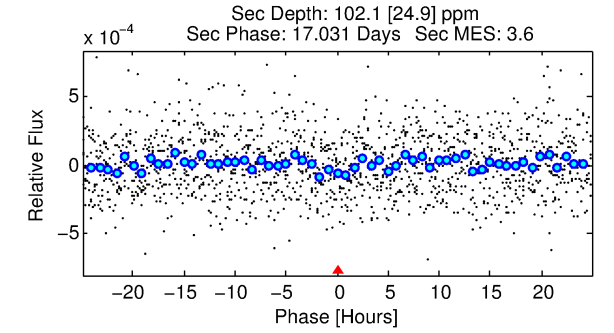
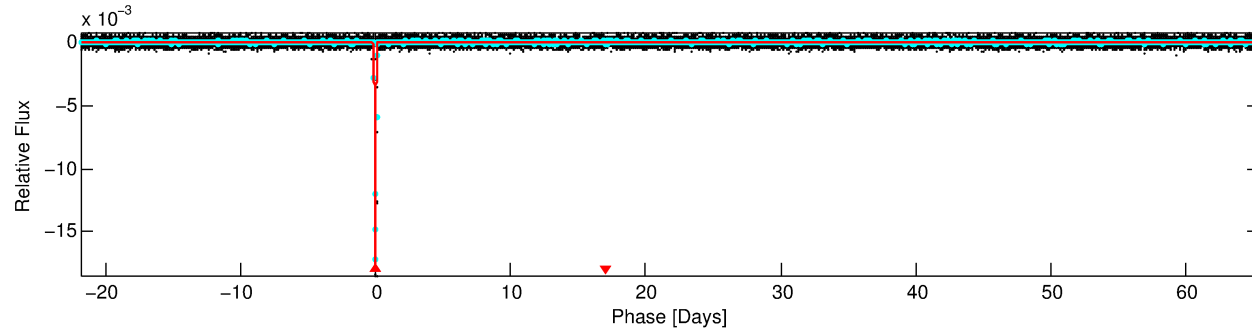
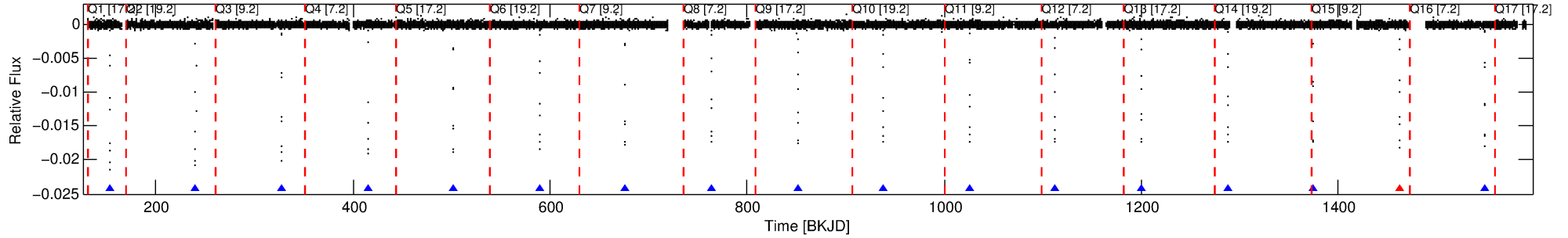
Ephemeris Match Information For 010666242-01

No Significant Match Found

DV One-Page Summary

KIC: 10666242 Candidate: 1 of 1 Period: 87.244 d
KOI: K00198.01 Corr: 0.948

Kp: 14.29 R*: 0.95 Rs Teff: 5671.0 K Logg: 4.50 Fe/H: 0.280



DV Fit Results:

Period = 87.24413 [0.00003] d
Epoch = 153.3268 [0.0002] BKJD
Rp/R* = 0.1804 [0.0135]
a/R* = 113.75 [1.66]
b = 0.94 [0.02]
Seff = 5.50 [1.11]
Teq = 391 [20] K
Rp = 18.80 [2.94] Re
a = 0.3919 [0.0478] AU
Ag = 24.42 [8.33] [2.81σ]
Teff = 1342 [100] K [9.36σ]

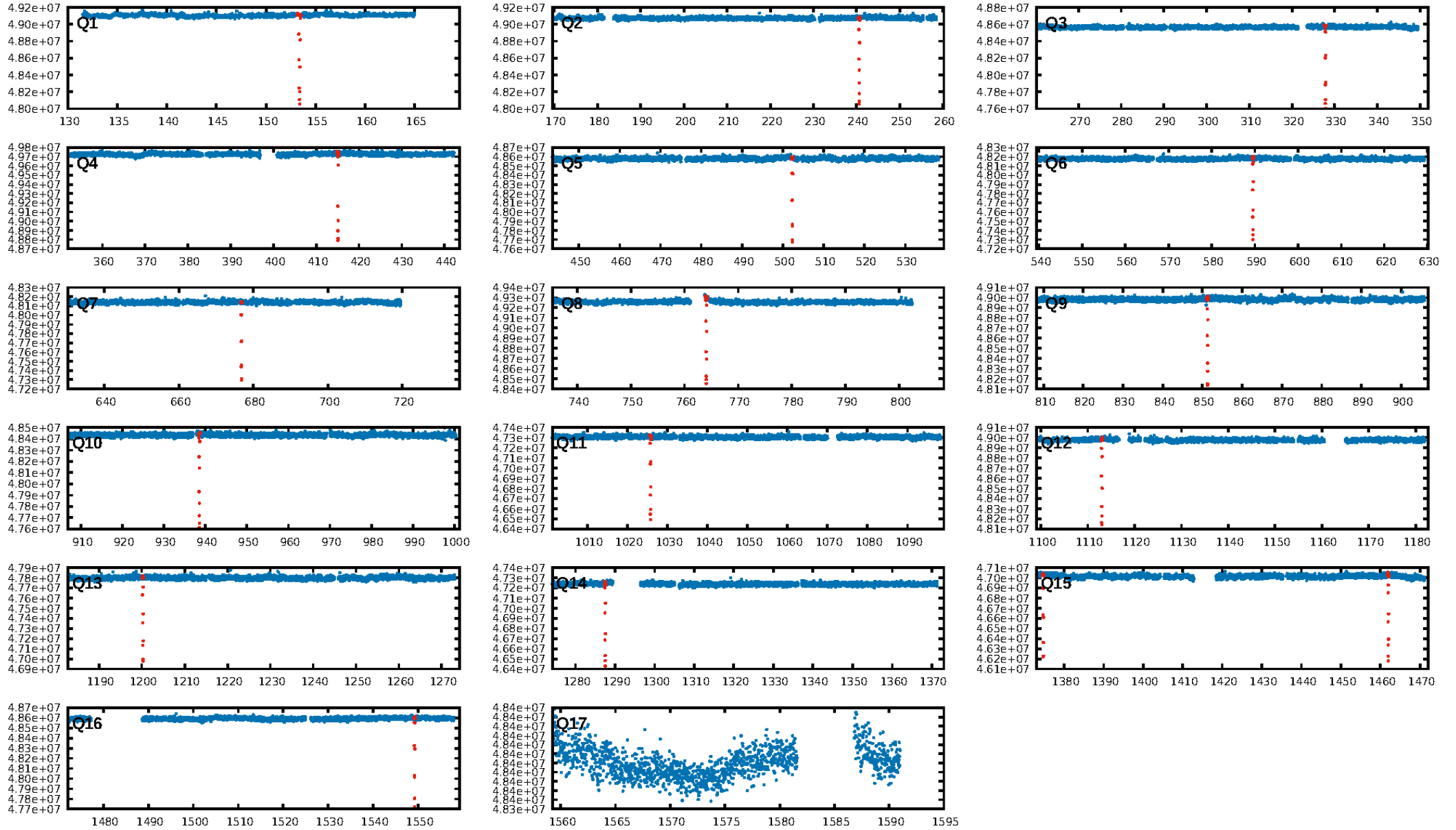
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 75.2%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.94 [15/16]
GhostDiagnostic-chr: 4.453
Centroid-sig: 2.6%
Centroid-so: 0.196 arcsec [8.99σ]
OotOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-rm: 0.206 arcsec [2.69σ]
OotOffset-st: 3/4/1/3 [11]
KicOffset-st: 3/4/1/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

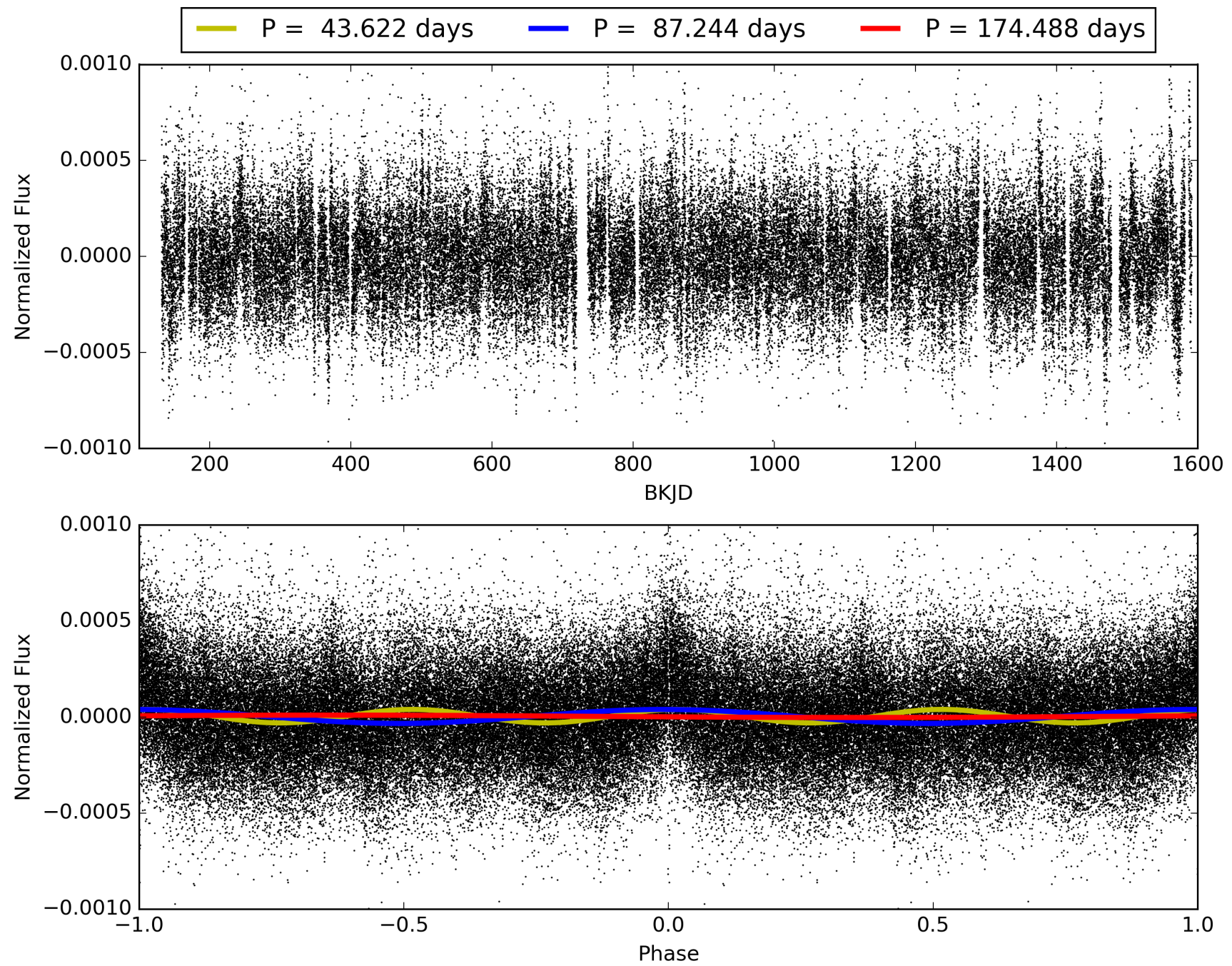
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:06:33 Z

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

TCE 010666242-01, PDC Light Curves

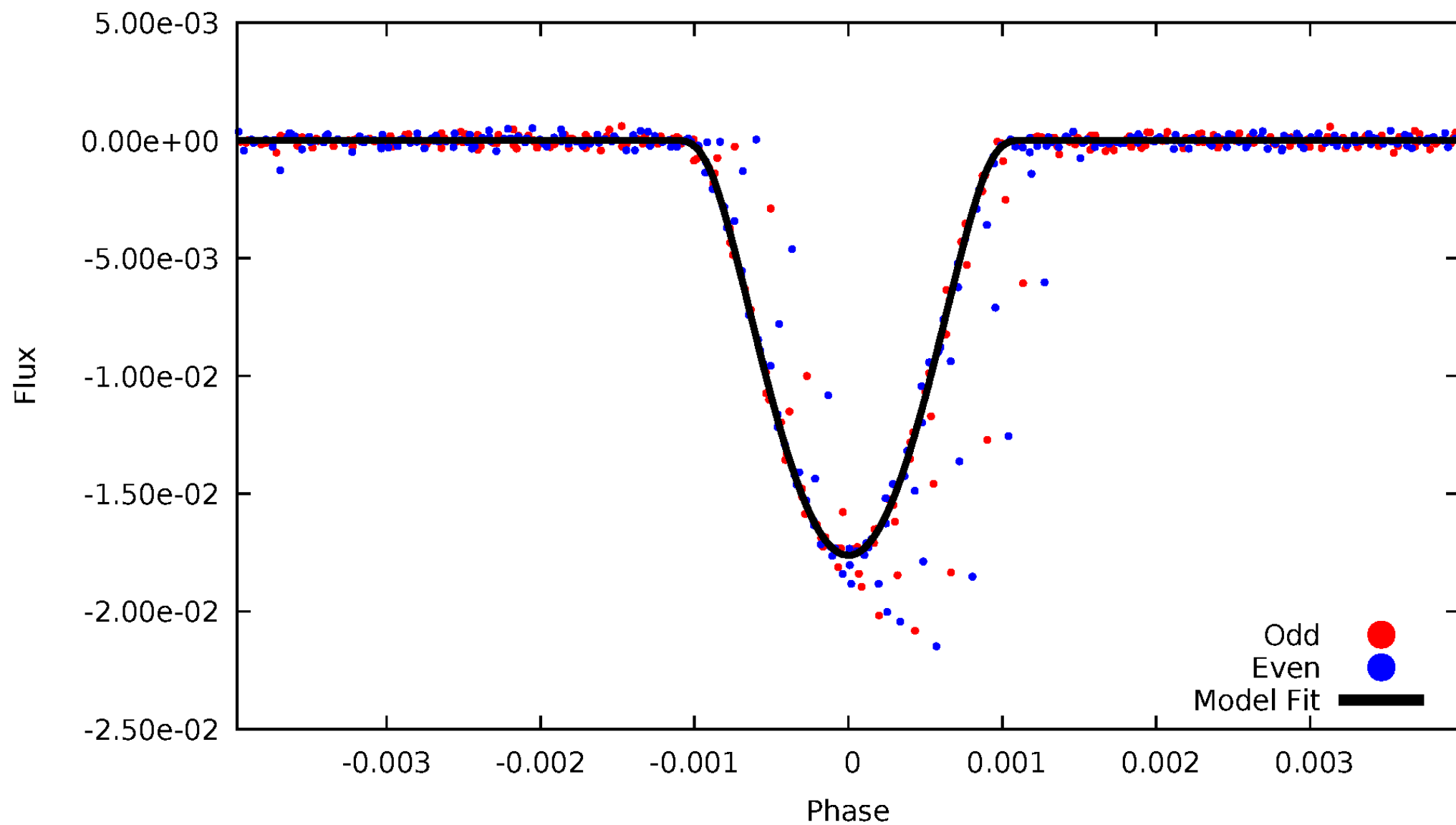


TCE 010666242-01



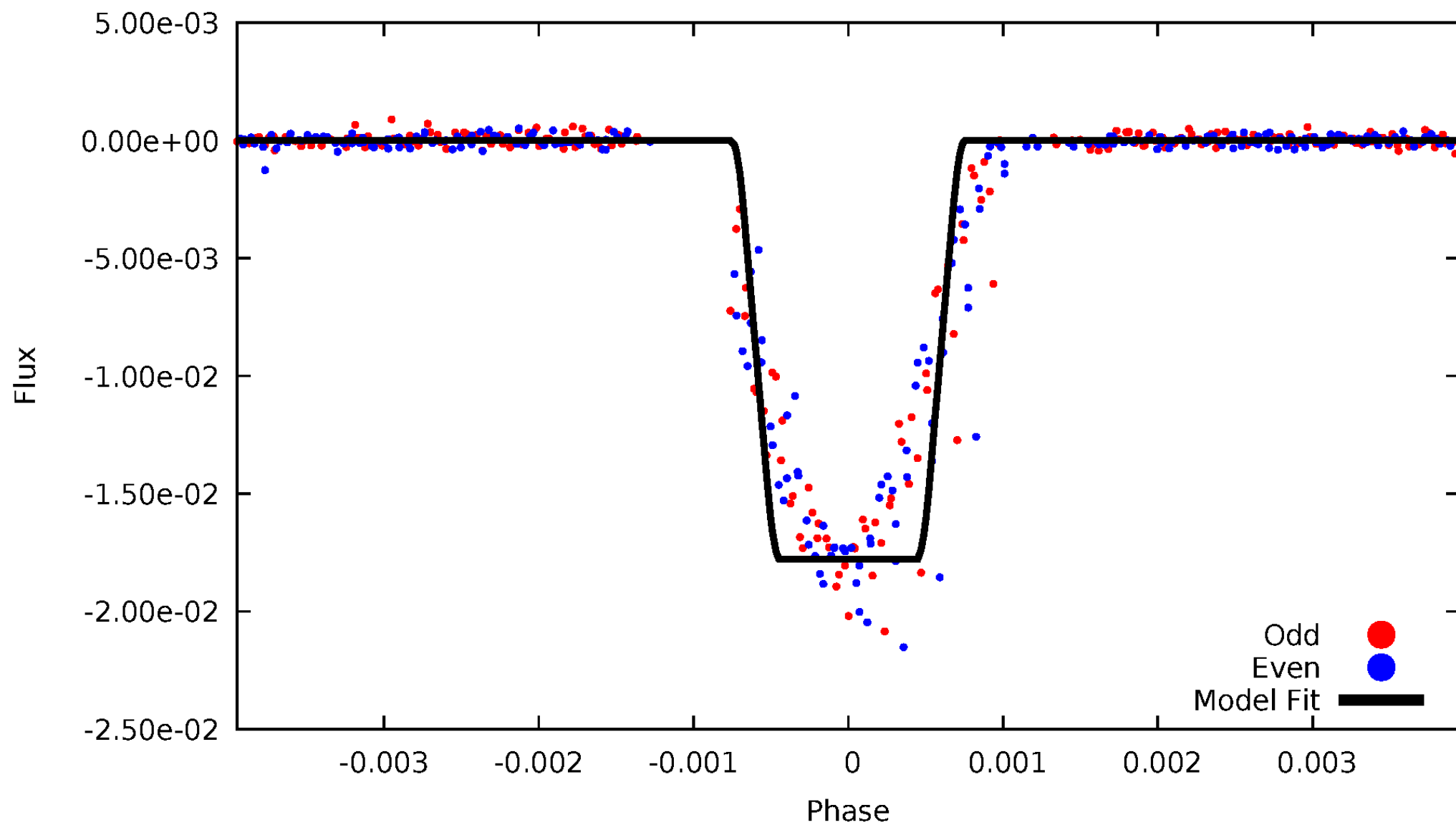
DV Odd/Even

TCE 010666242-01



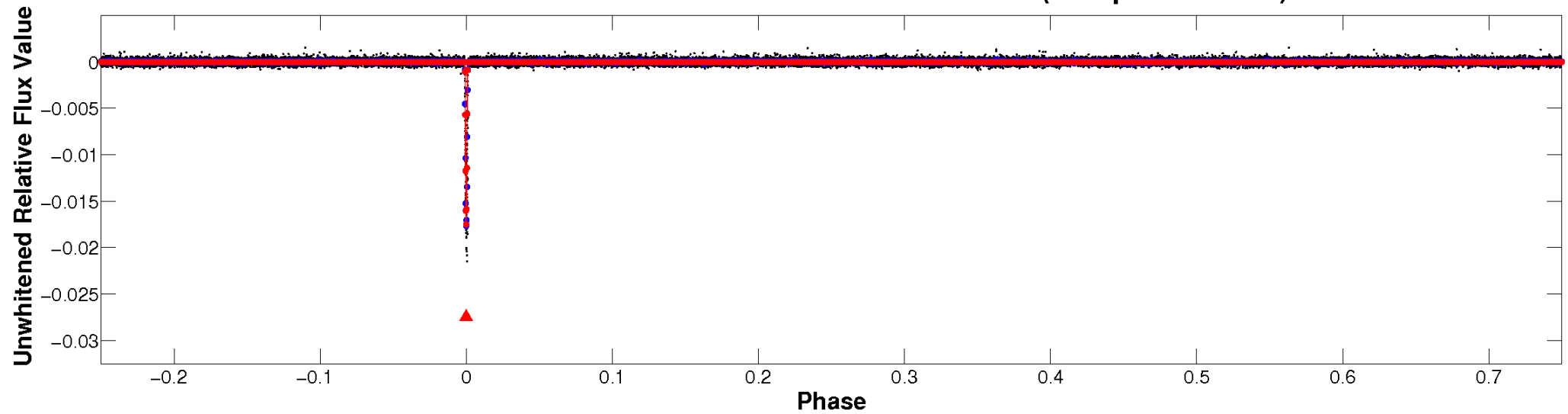
ALT Odd/Even

TCE 010666242-01

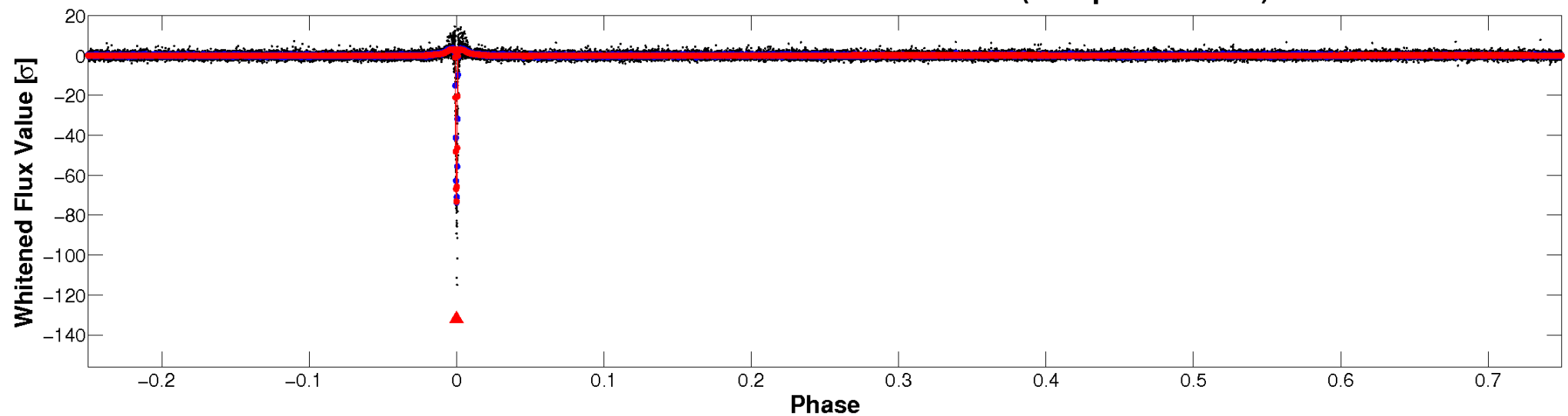


Non-Whitened Vs. Whitened Light Curve

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

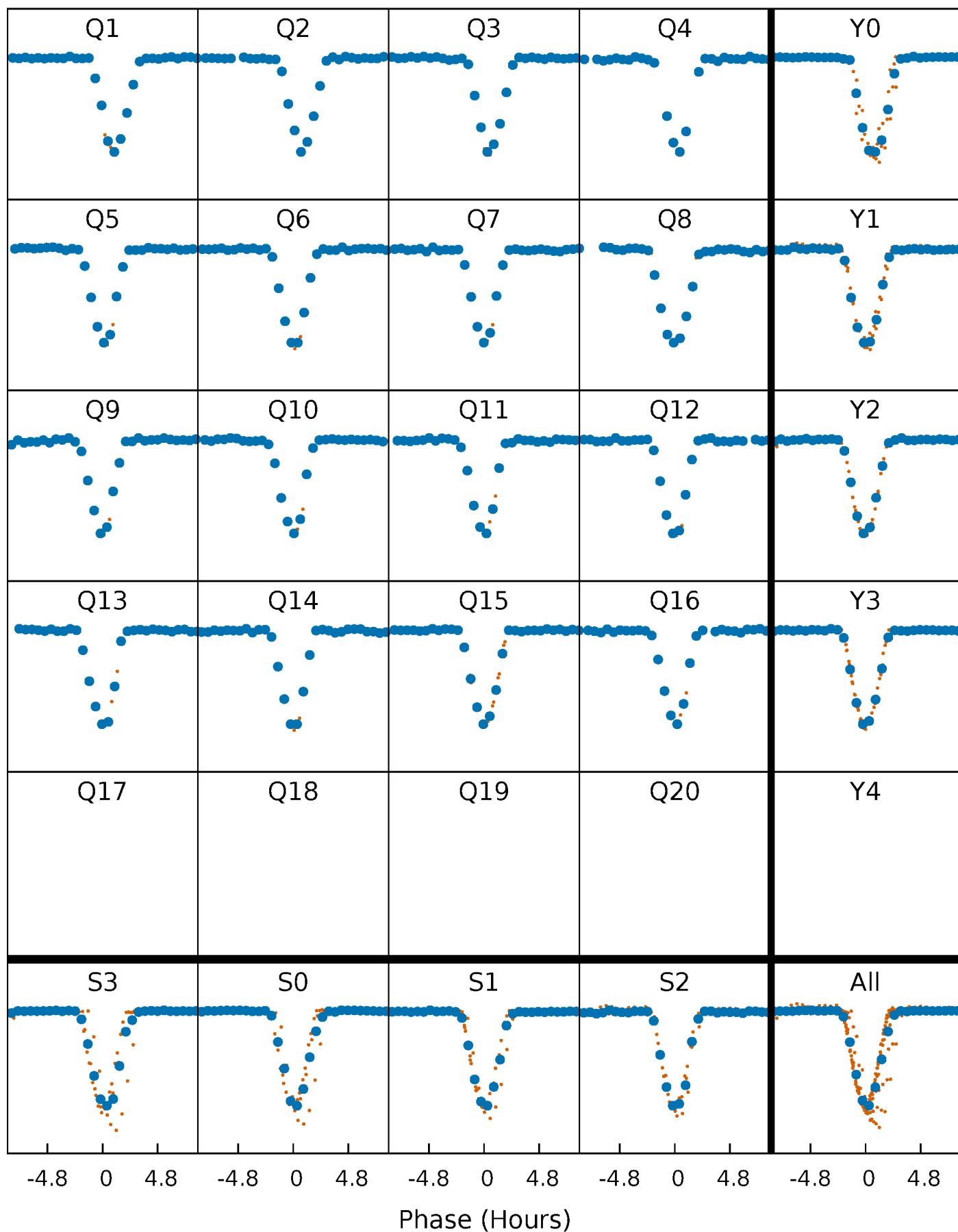


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



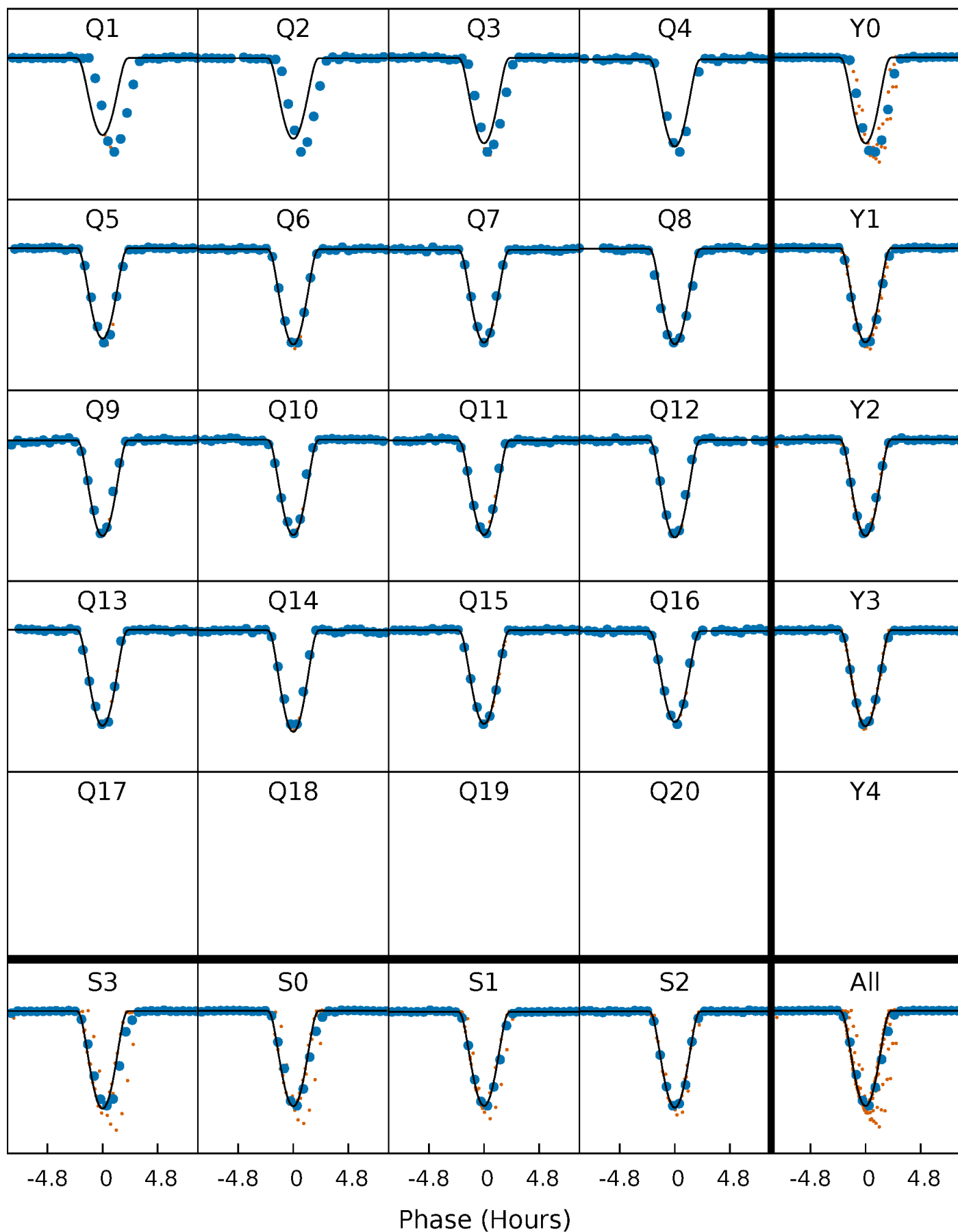
PDC Quarter-Phased Transit Curves

TCE 010666242-01 P= 87.244134 Days $T_0=153.326842$ (BKJD)



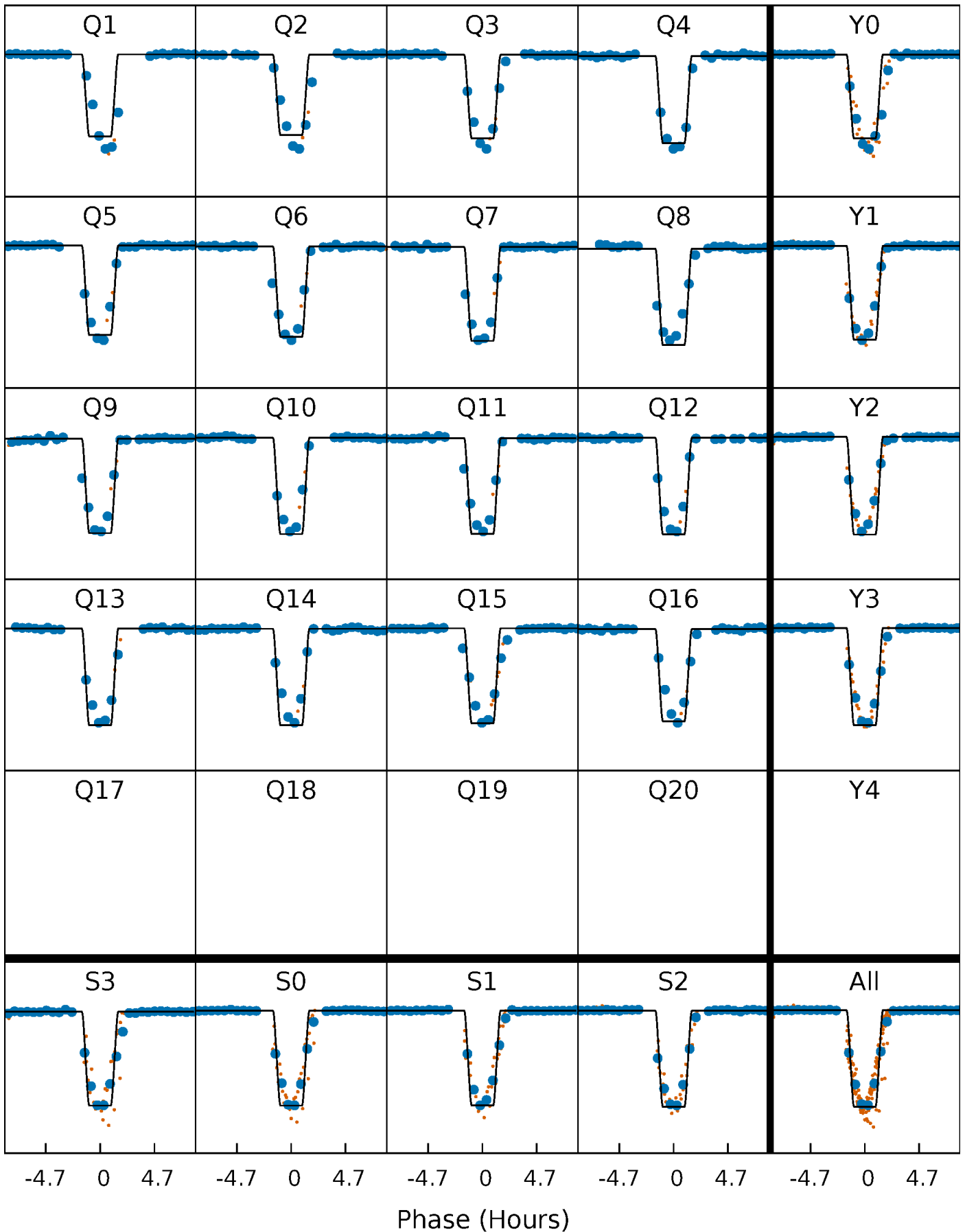
DV Quarter-Phased Transit Curves

TCE 010666242-01 P= 87.244134 Days $T_0=153.326842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

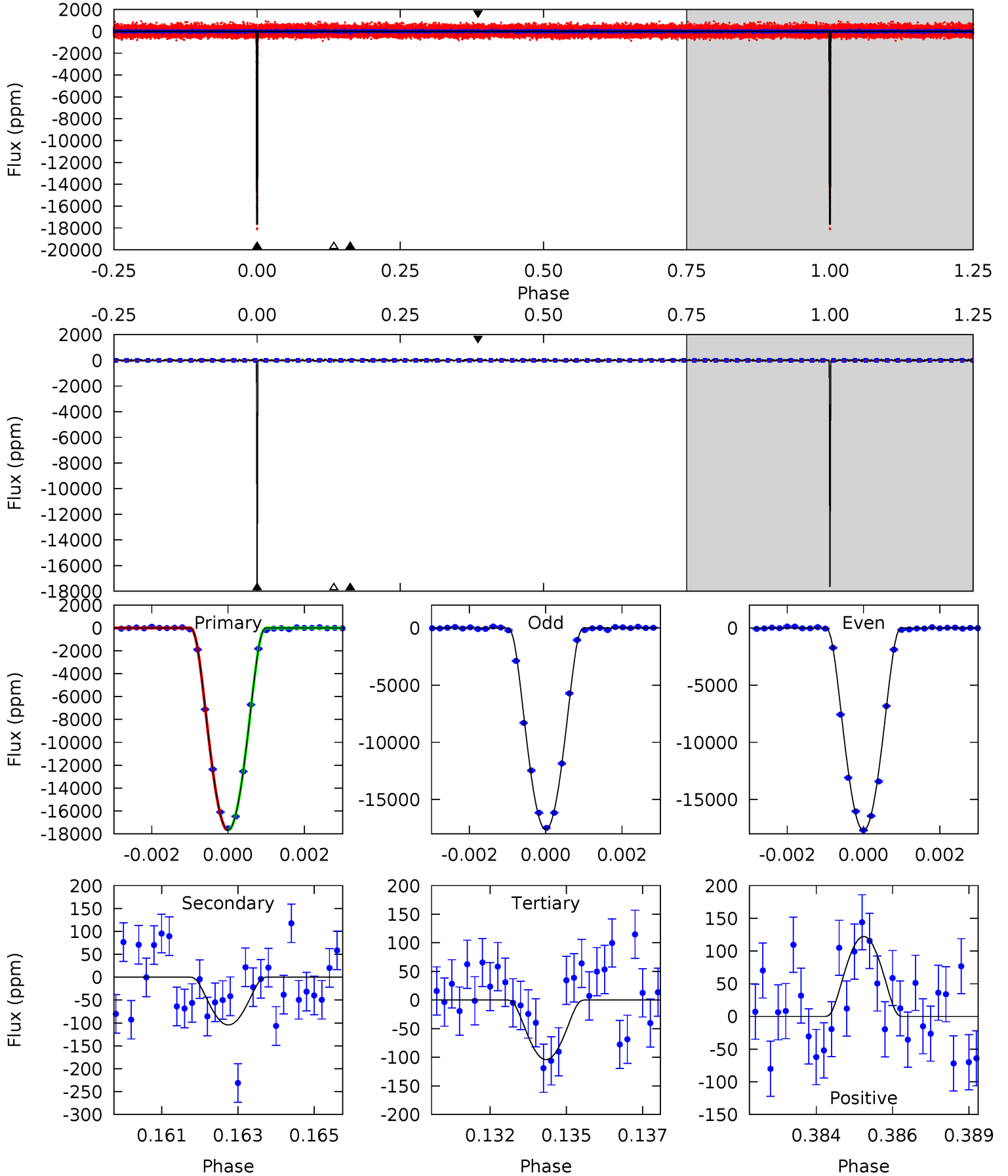
TCE 010666242-01 P= 87.242620 Days $T_0=153.345616$ (BKJD)



DV Model-Shift Uniqueness Test

010666242-01, P = 87.244134 Days, E = 66.082708 Days

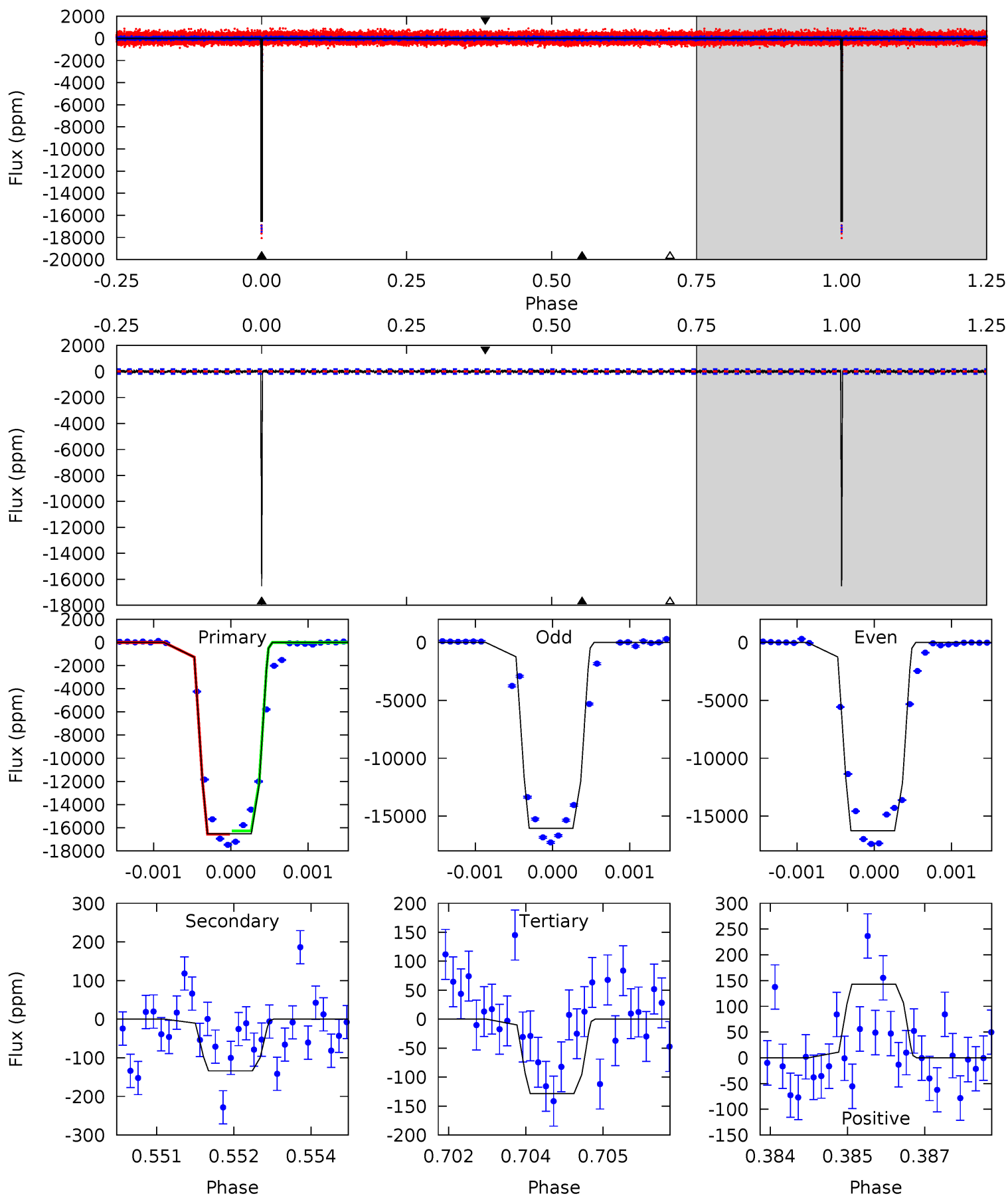
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
874.2	5.17	5.15	6.05	5.31	3.07	1.59	869.0	868.1	0.01	-0.88	2.04	1.01	0.01	0



Alt Model-Shift Uniqueness Test

010666242-01, P = 87.242620 Days, E = 66.102996 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
496.2	4.02	3.85	4.29	5.38	3.18	1.39	492.4	491.9	0.17	-0.27	3.30	1.03	0.01	4.21



Stellar Parameters For KIC 010666242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5671^{+102}_{-113}	$4.501^{+0.028}_{-0.105}$	$0.280^{+0.150}_{-0.150}$	$0.955^{+0.131}_{-0.044}$	$1.054^{+0.042}_{-0.079}$	$1.705^{+0.175}_{-0.553}$
	+2%/-2%	+1%/-2%	+54%/-54%	+14%/-5%	+4%/-7%	+10%/-32%
Source	SPE18	SPE18	SPE18	DSEP		

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

Secondary Eclipse Parameters for KIC 010666242-01 / KOI 0198.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-104 ± 20	$19.09^{+1.81}_{-1.69}$	550^{+20}_{-15}	2272^{+68}_{-69}	24^{+7}_{-6}
Alt.	-134 ± 33	$14.05^{+1.82}_{-1.55}$	551^{+20}_{-15}	2513^{+102}_{-106}	55^{+22}_{-17}

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

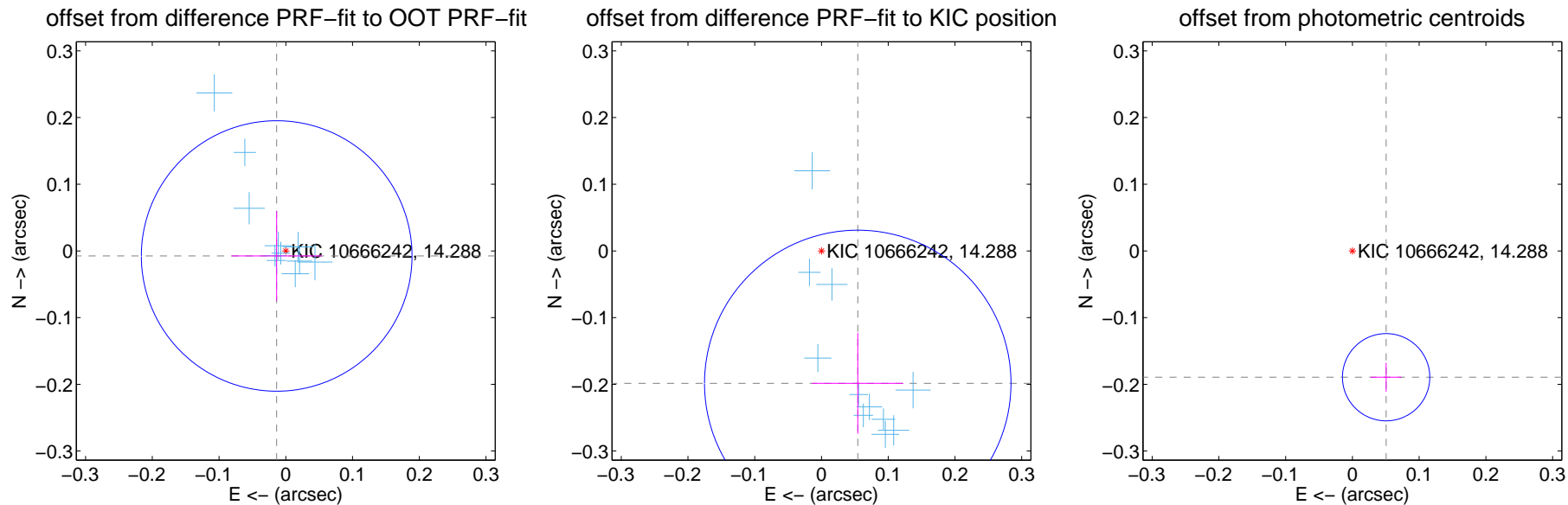
DV Centroid Data

Supplemental centroid analysis for 010666242-01. Kepler magnitude: 14.29. Transit SNR 462.79

There are 11 quarters with good PRF difference image offsets

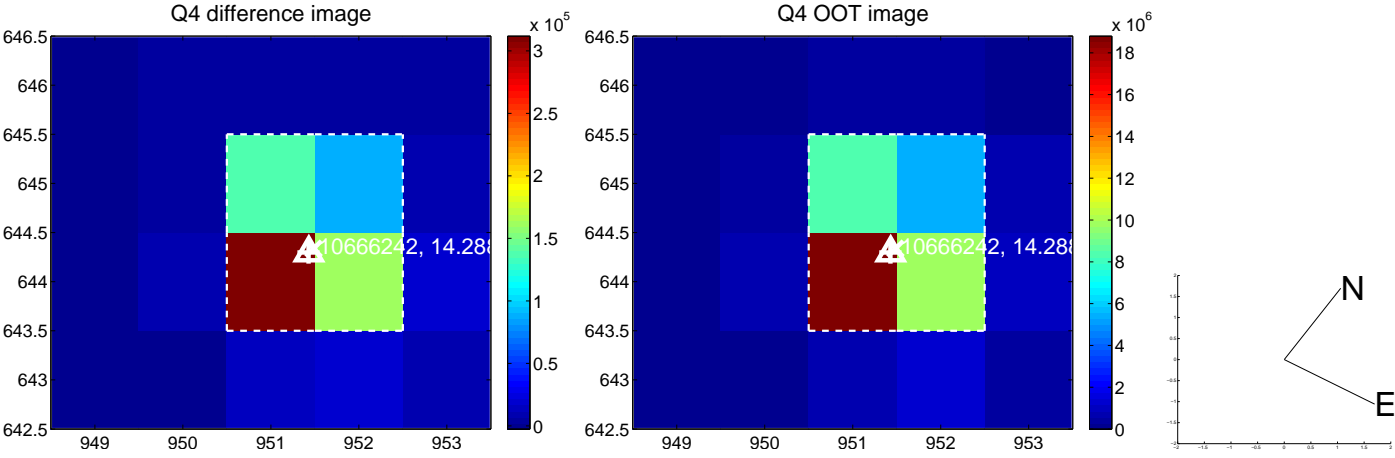
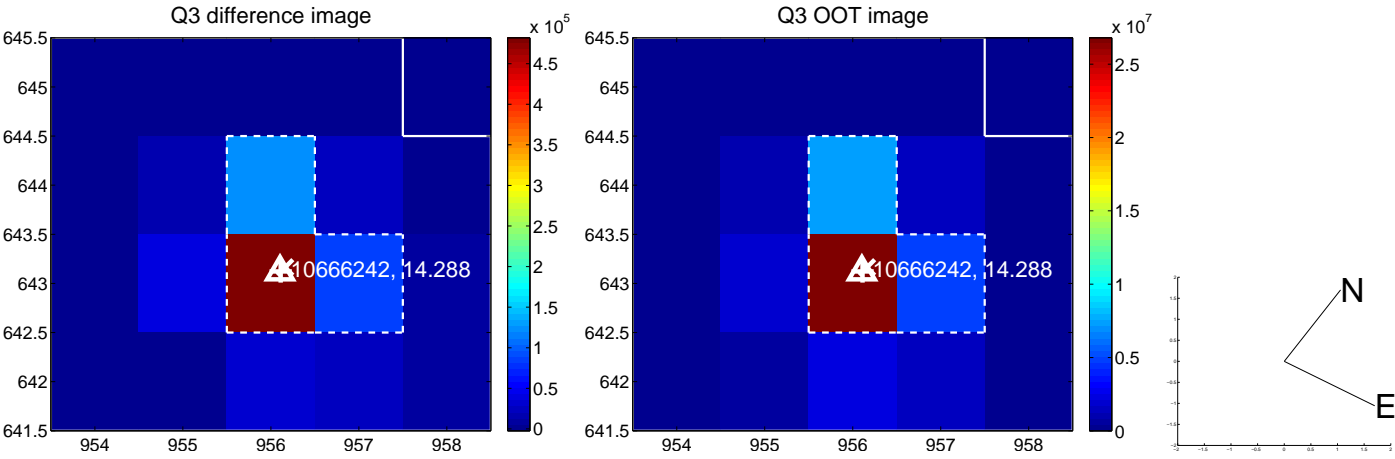
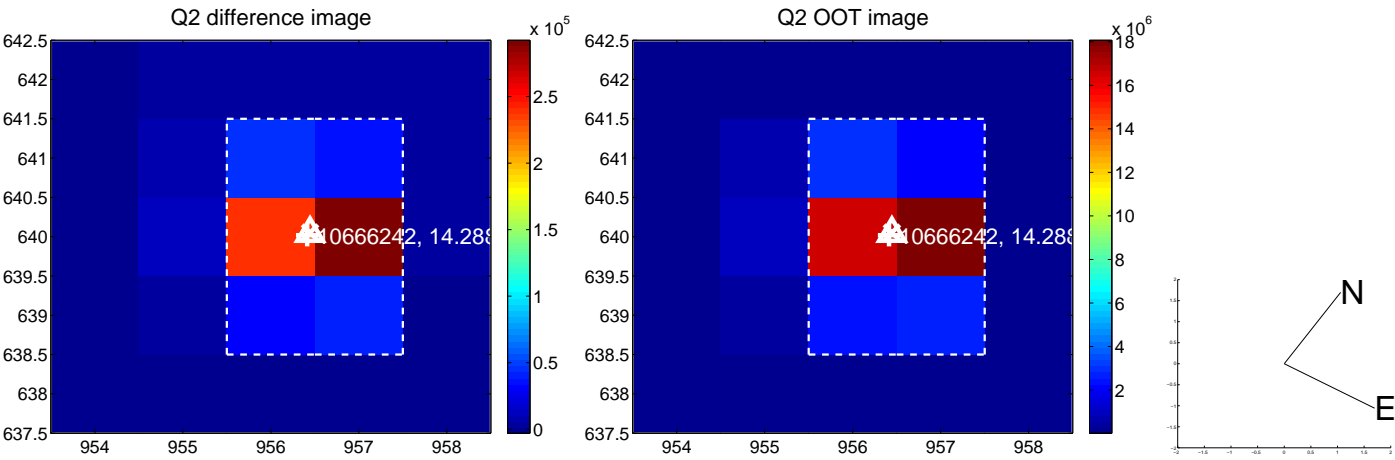
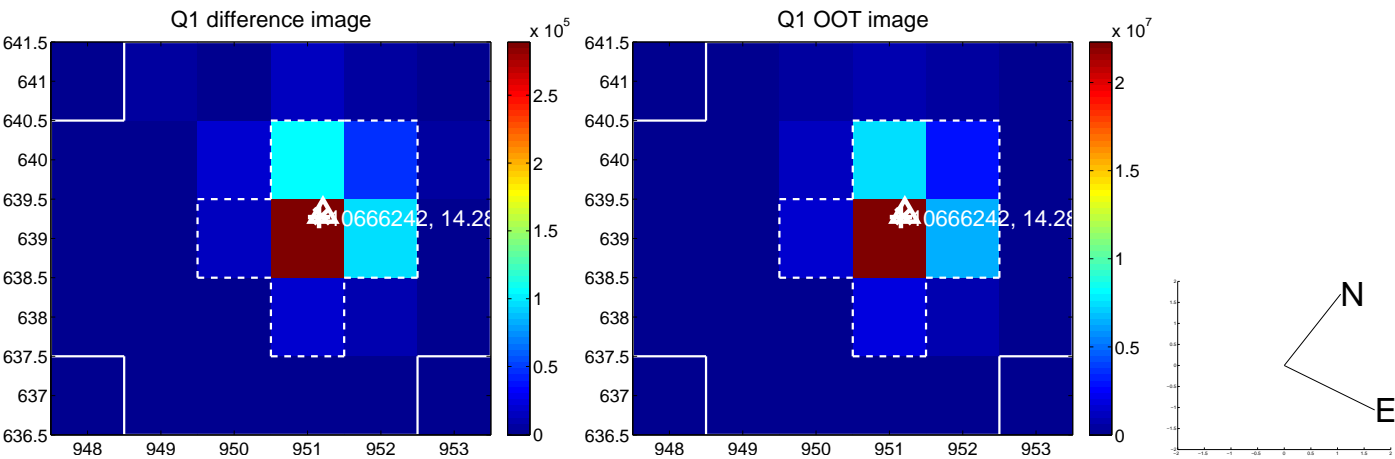
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.068	0.23	0.014 ± 0.068	-0.008 ± 0.067
PRF-fit source offset from KIC position	0.206 ± 0.077	2.69	-0.054 ± 0.068	-0.199 ± 0.076
photometric centroid source offset	0.20 ± 0.02	8.99	-0.05 ± 0.02	-0.19 ± 0.02

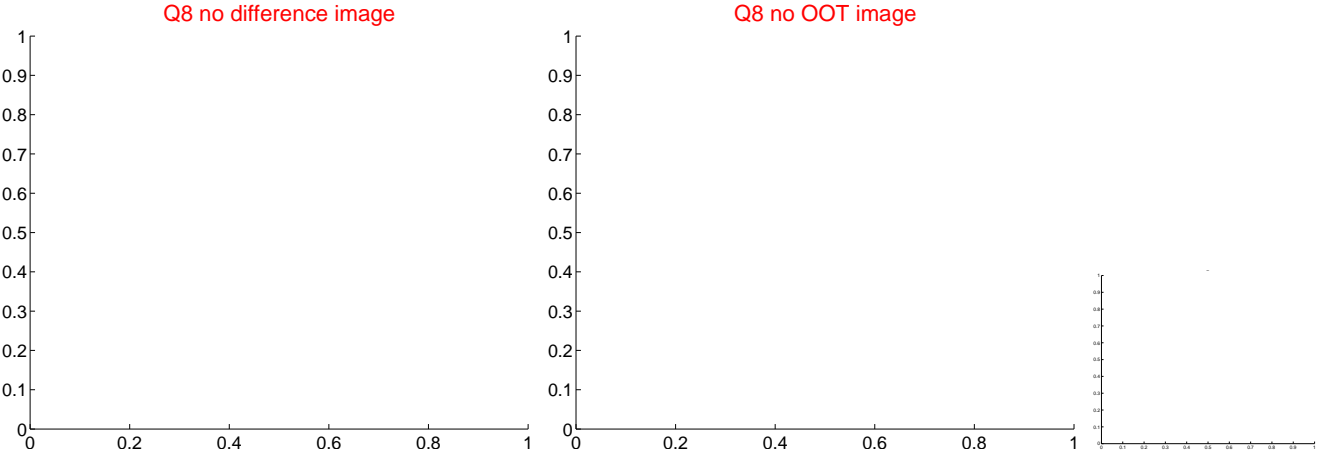
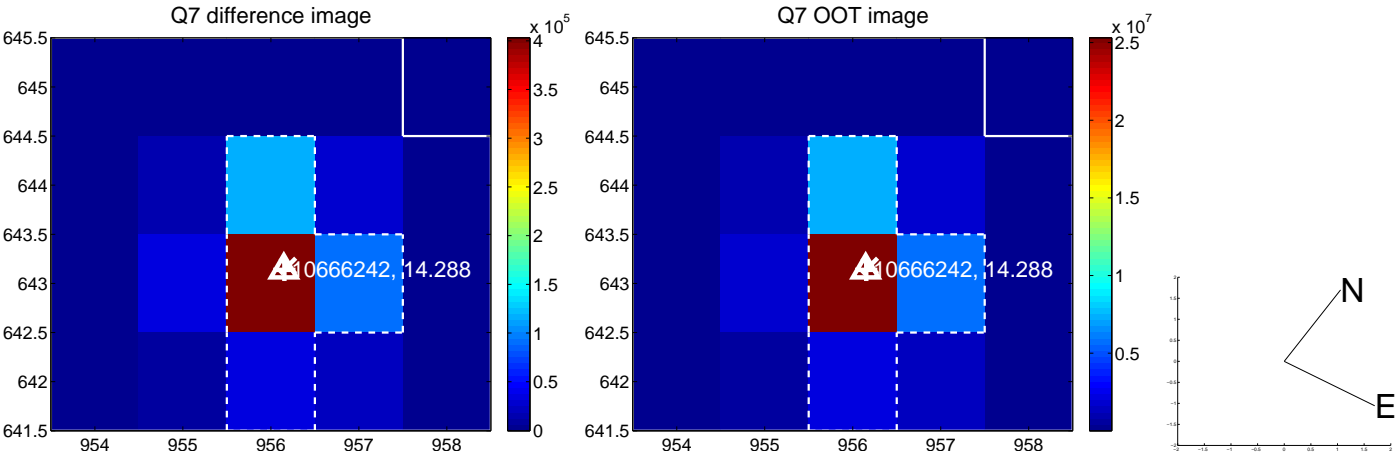
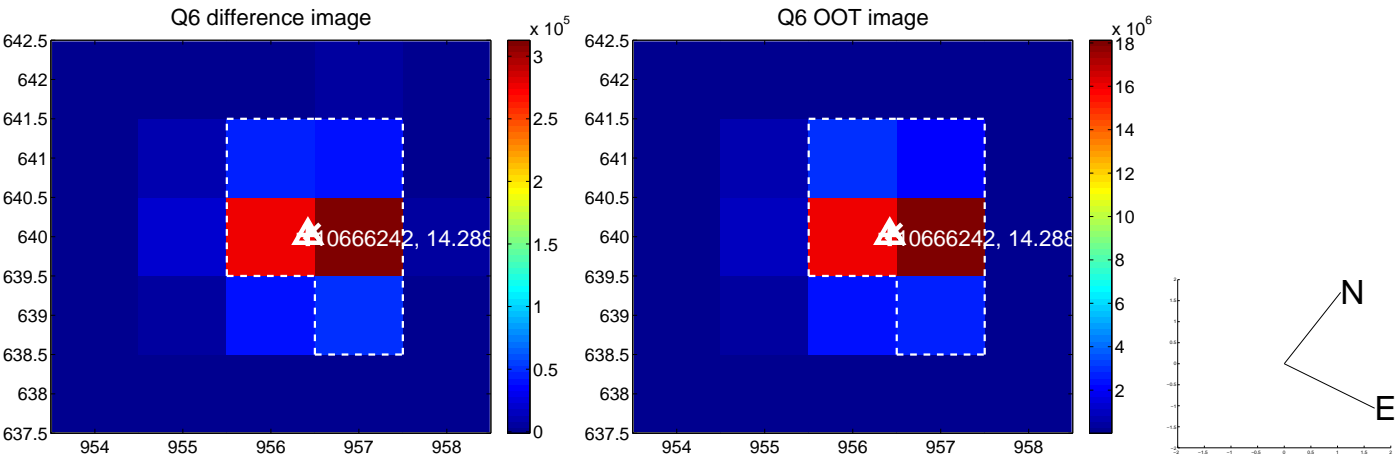
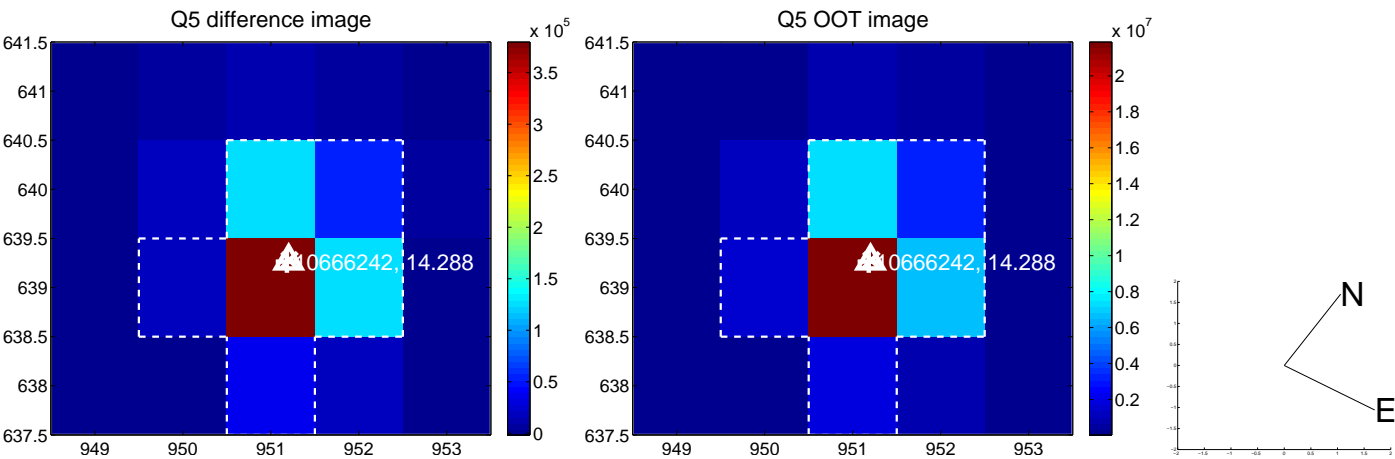


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

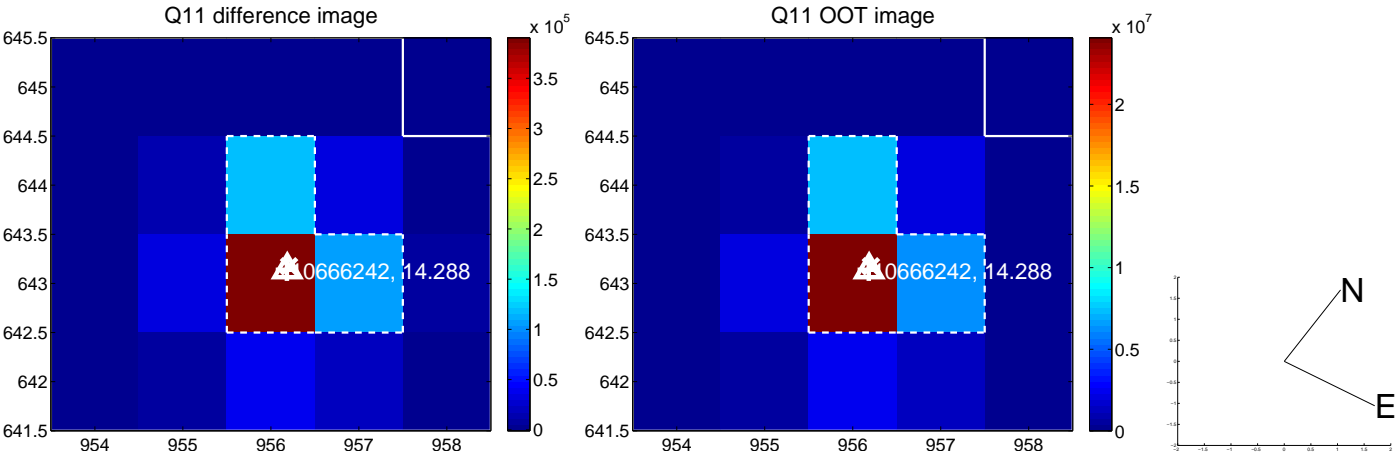
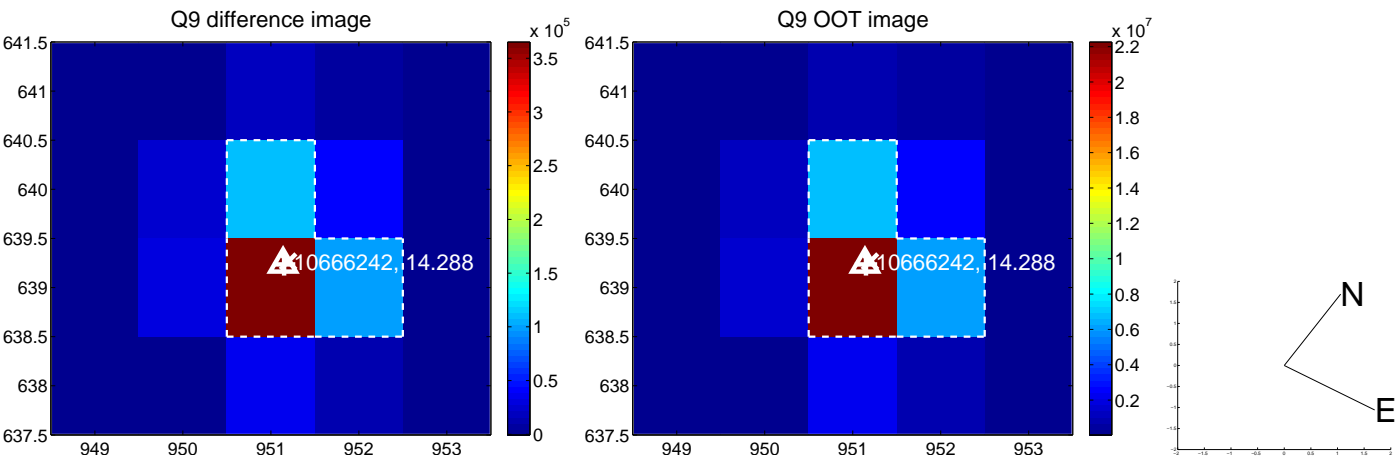
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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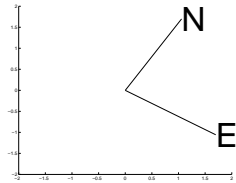
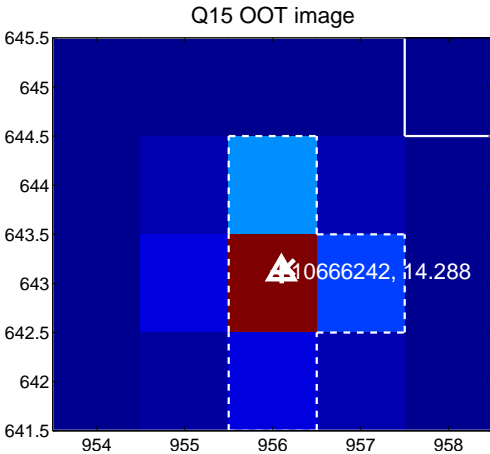
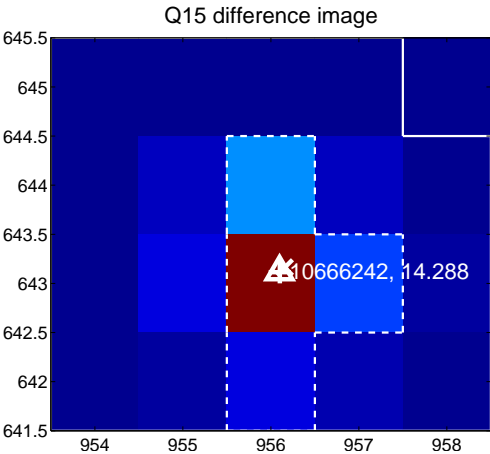
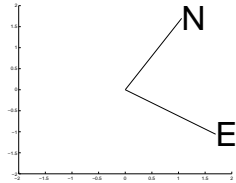
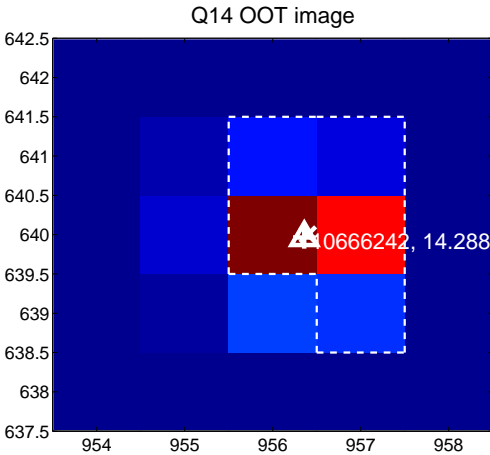
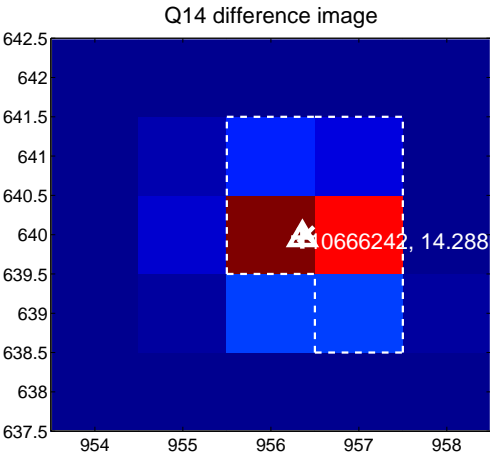


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

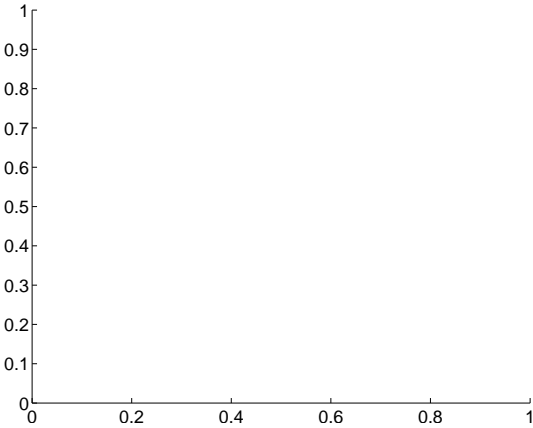
Q13 no difference image



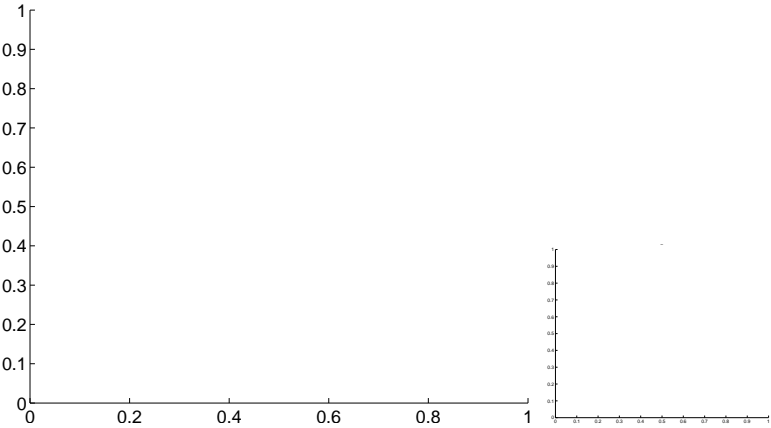
Q13 no OOT image



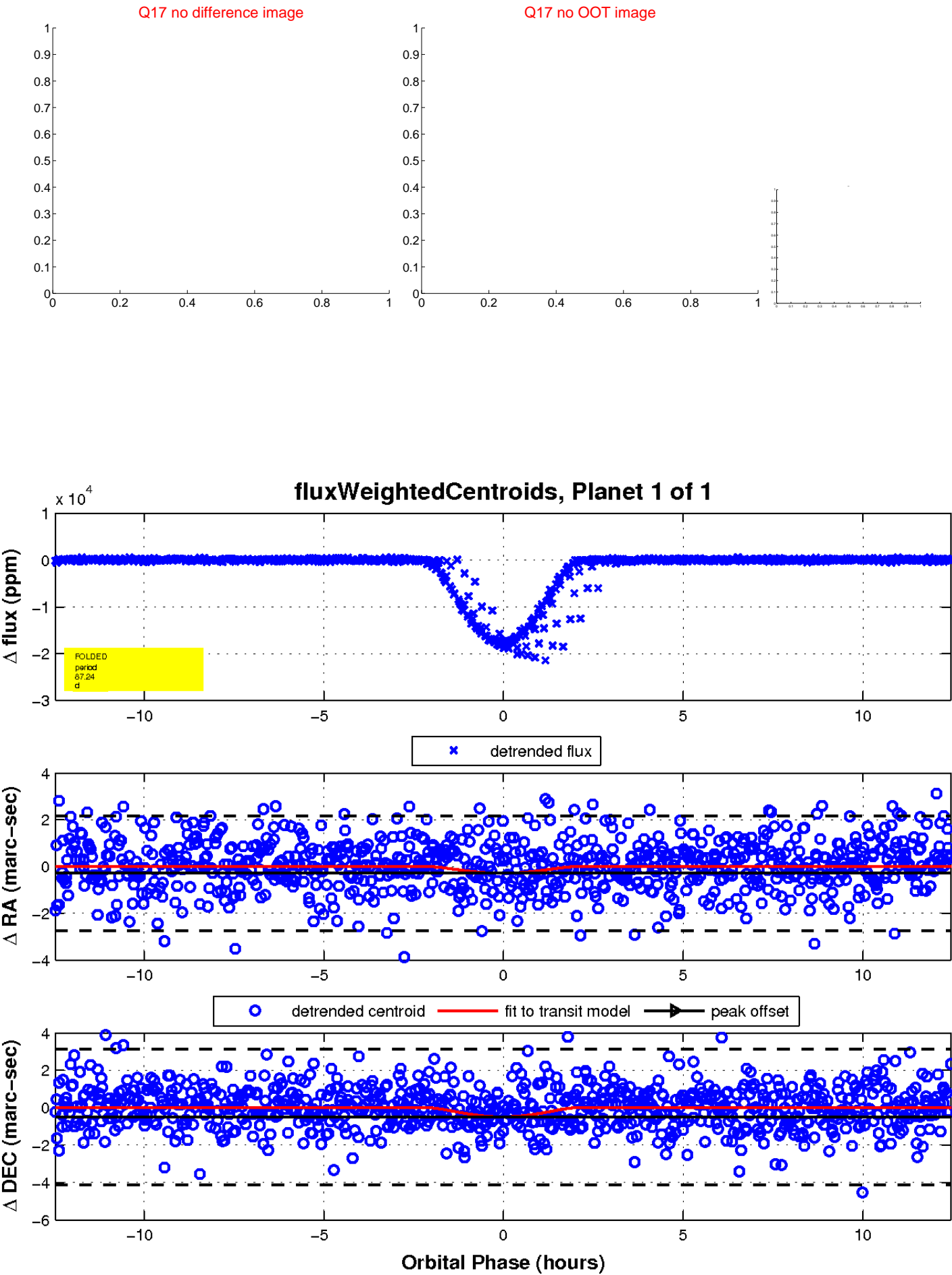
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

