

KIC 004659255

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})
004659255-01	OBS	3580.01	198.013719	234.152112	142887.4	9.726	1587.2	1361.3	0.71	5359	38.86	1.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004659255-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—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.

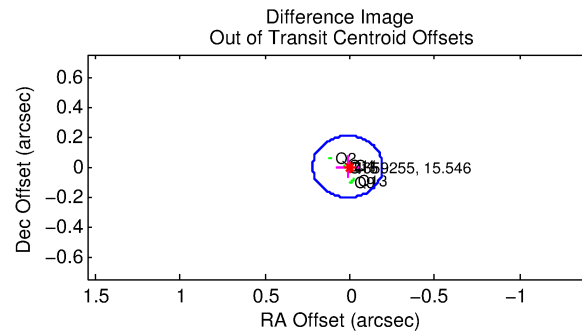
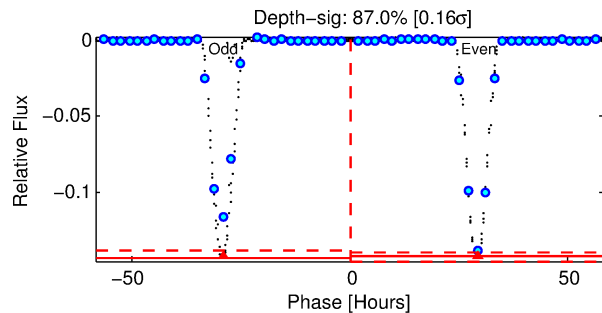
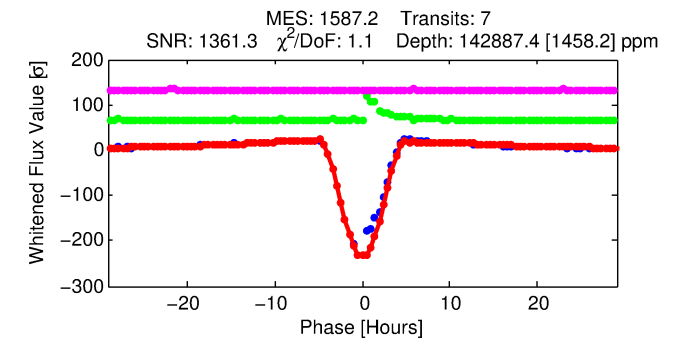
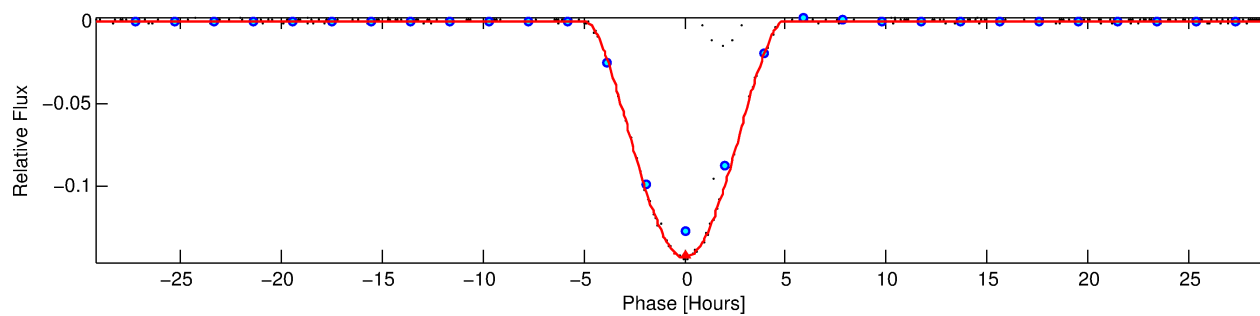
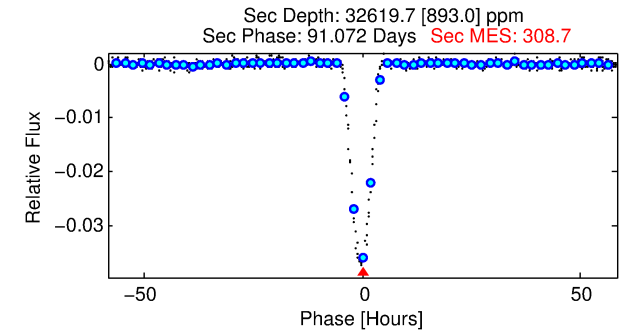
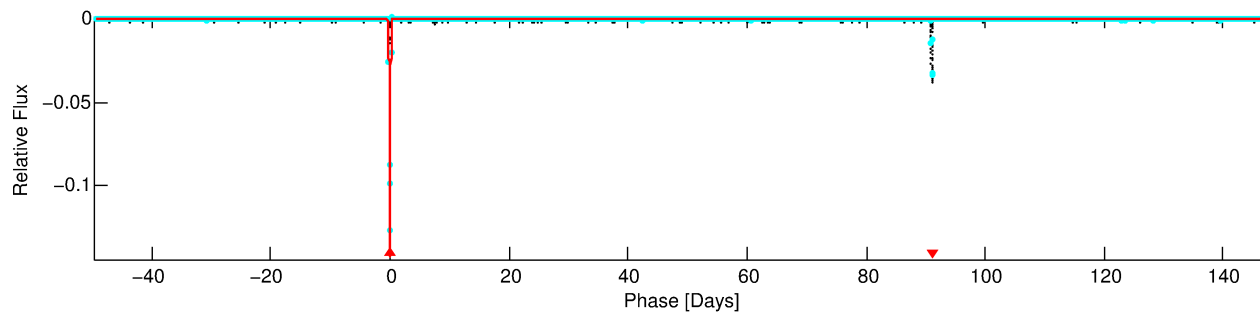
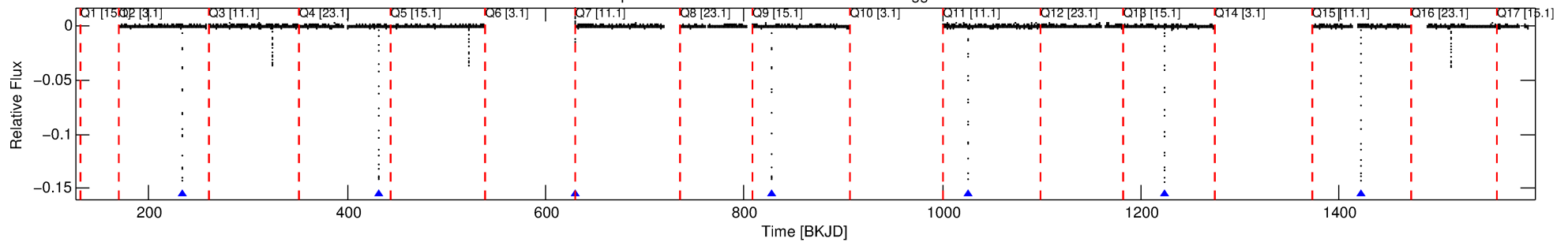
Ephemeris Match Information For 004659255-01

No Significant Match Found

DV One-Page Summary

KIC: 4659255 Candidate: 1 of 1 Period: 198.014 d
KOI: K03580.01 Corr: 0.999

Kp: 15.55 R*: 0.71 Rs Teff: 5359.0 K Logg: 4.57 Fe/H: -0.720



DV Fit Results:

Period = 198.01372 [0.00014] d
Epoch = 234.1521 [0.0005] BKJD
Rp/R* = 0.5030 [0.5094]
a/R* = 188.92 [15.90]
b = 0.89 [0.73]
Seff = 1.09 [0.22]
Teq = 261 [13] K
Rp = 38.86 [39.59] Re
a = 0.5828 [0.0588] AU
Ag = 4035.89 [8199.60] [0.49σ]
Teffp = 3211 [1630] K [1.81σ]

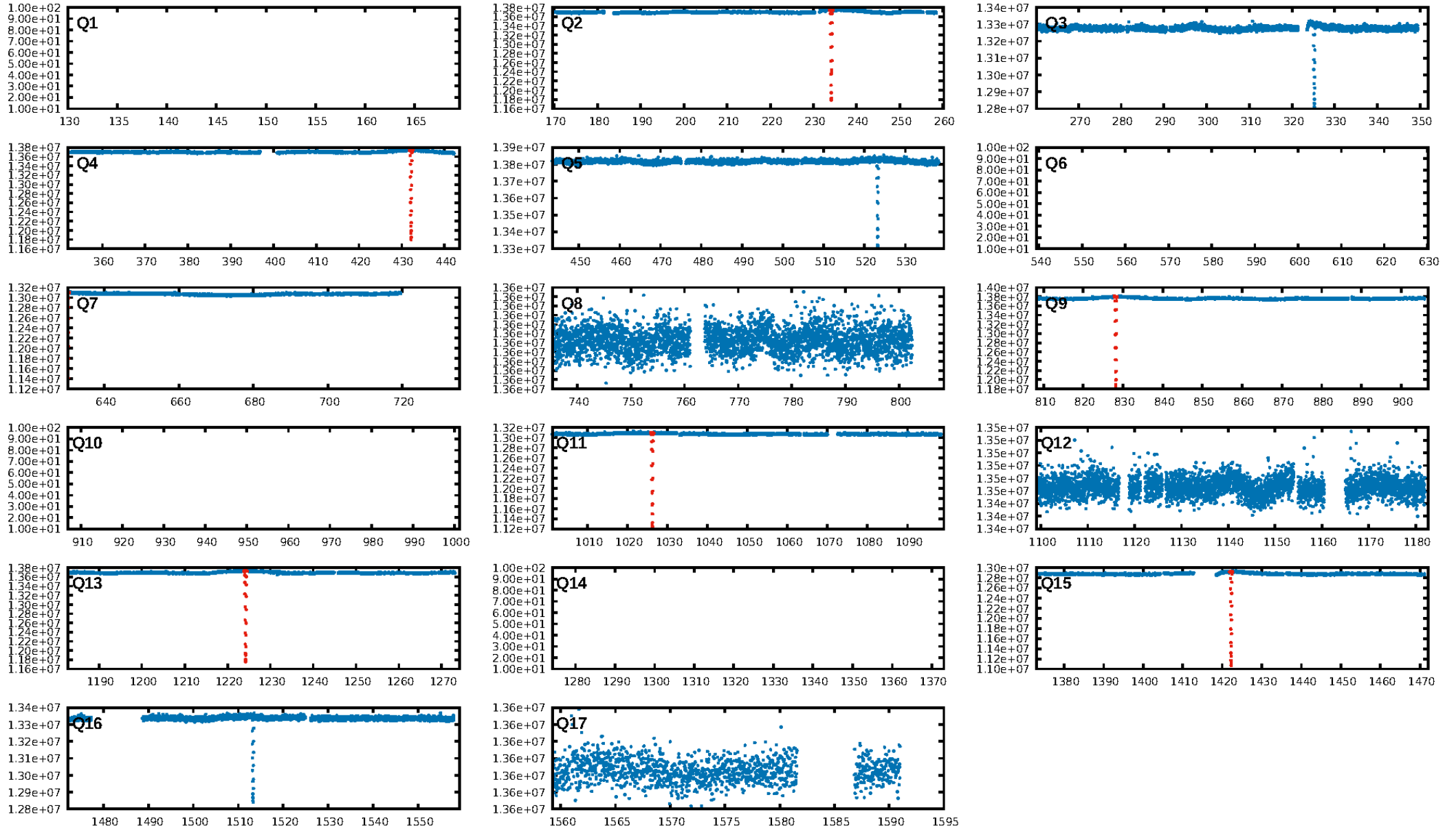
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 5.861
Centroid-sig: 0.0%
Centroid-so: 0.132 arcsec [15.93σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.136 arcsec [1.95σ]
OotOffset-st: 1/2/1/2 [6]
KicOffset-st: 1/2/1/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

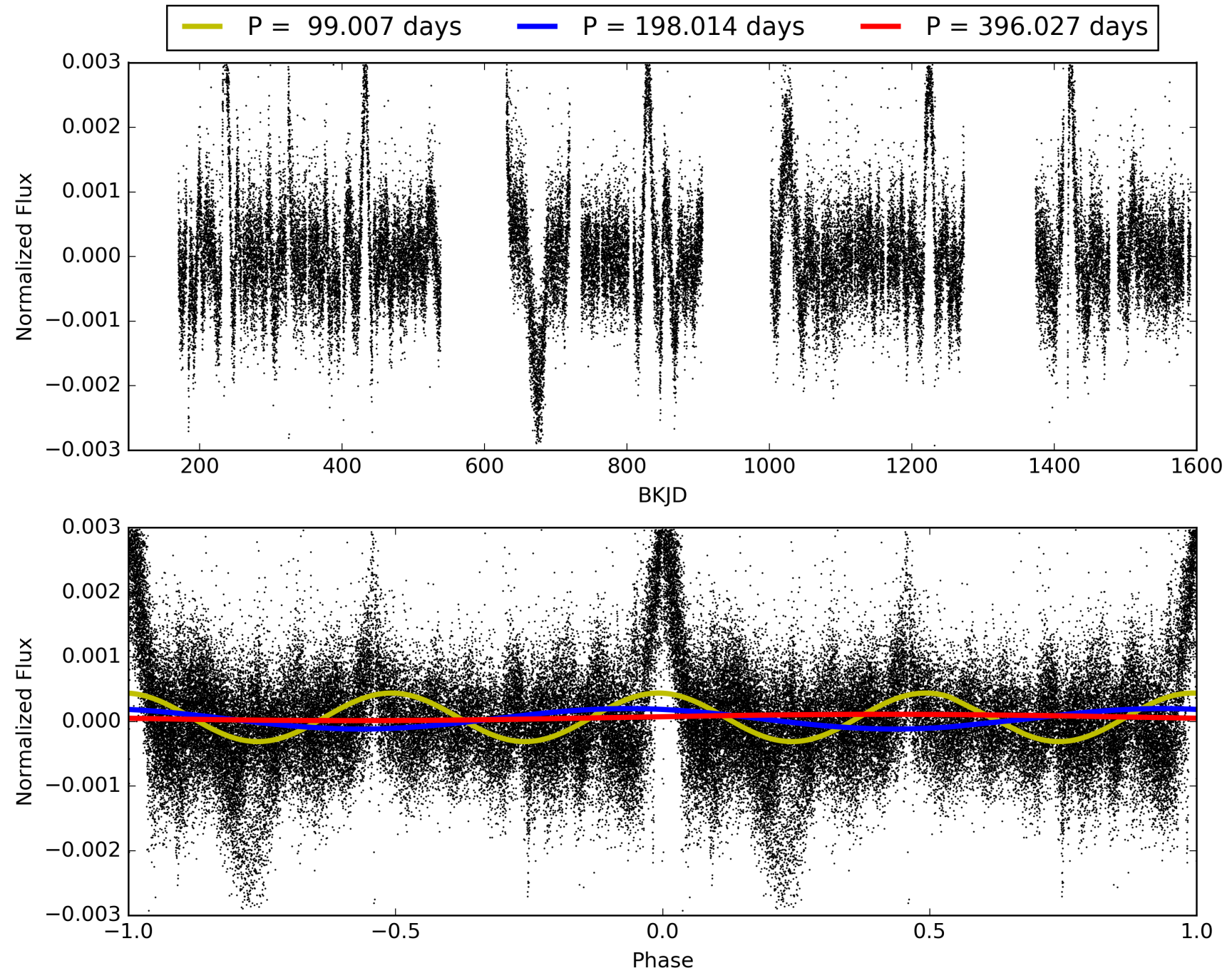
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:15:07 Z

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

TCE 004659255-01, PDC Light Curves

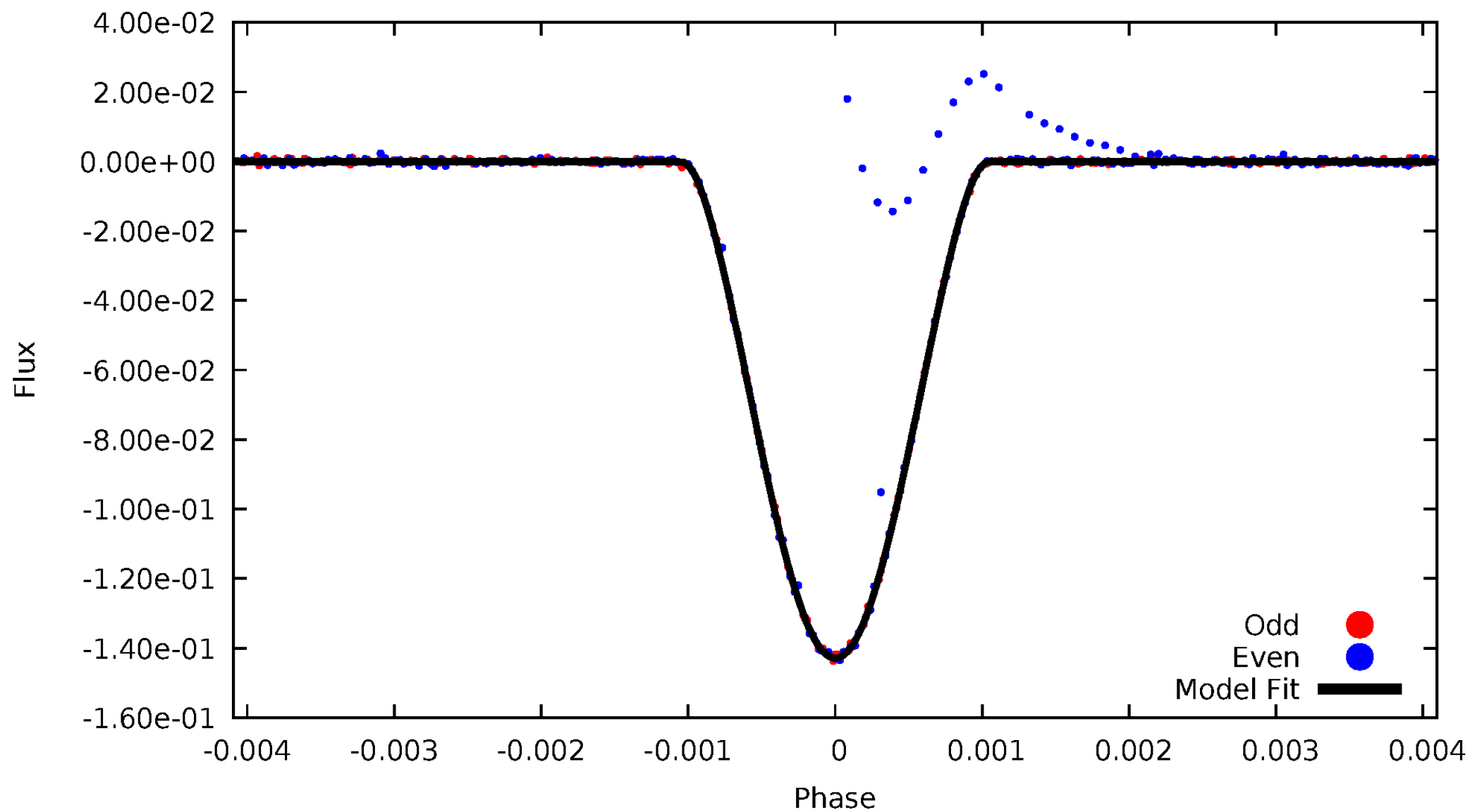


TCE 004659255-01



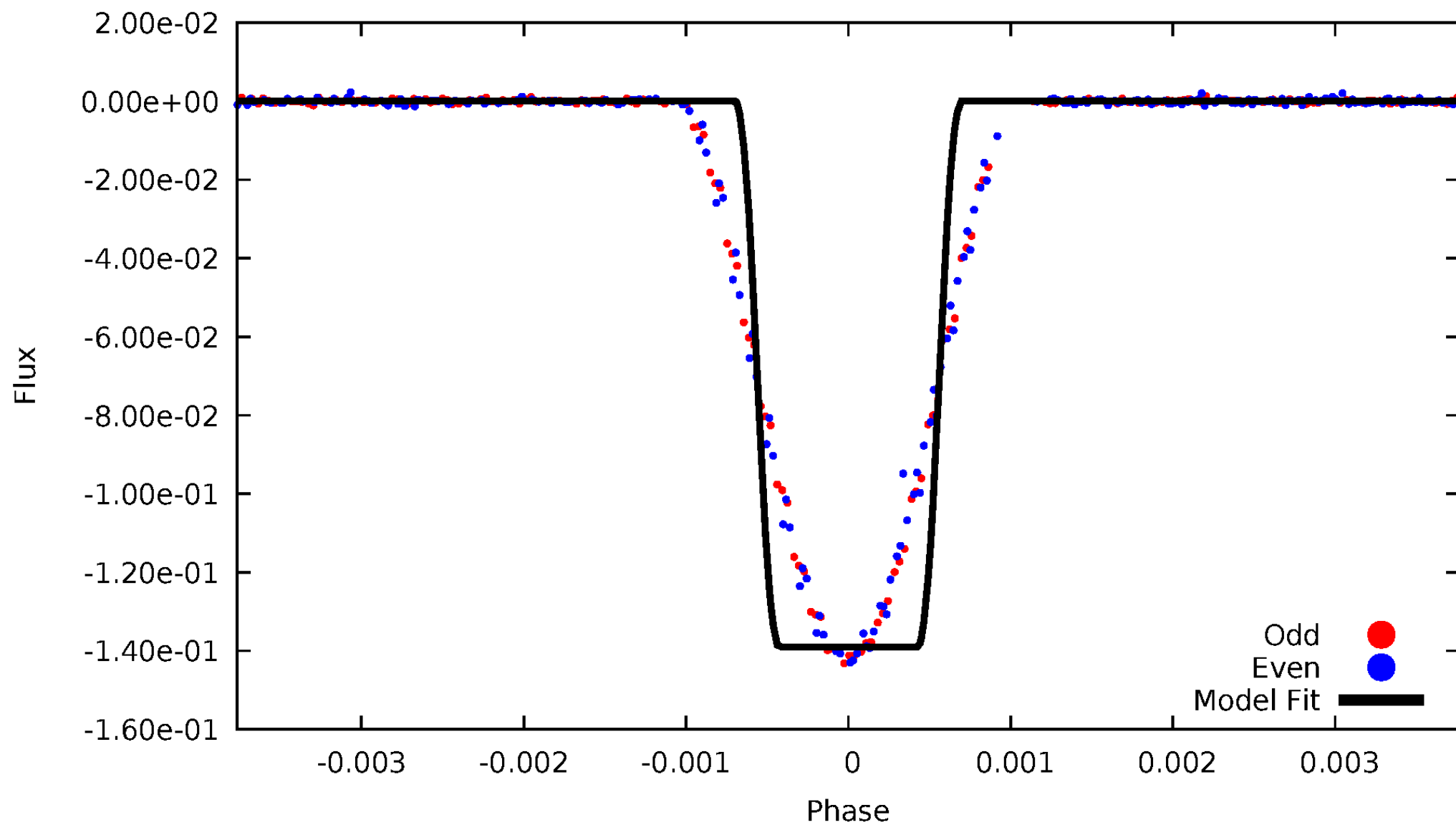
DV Odd/Even

TCE 004659255-01



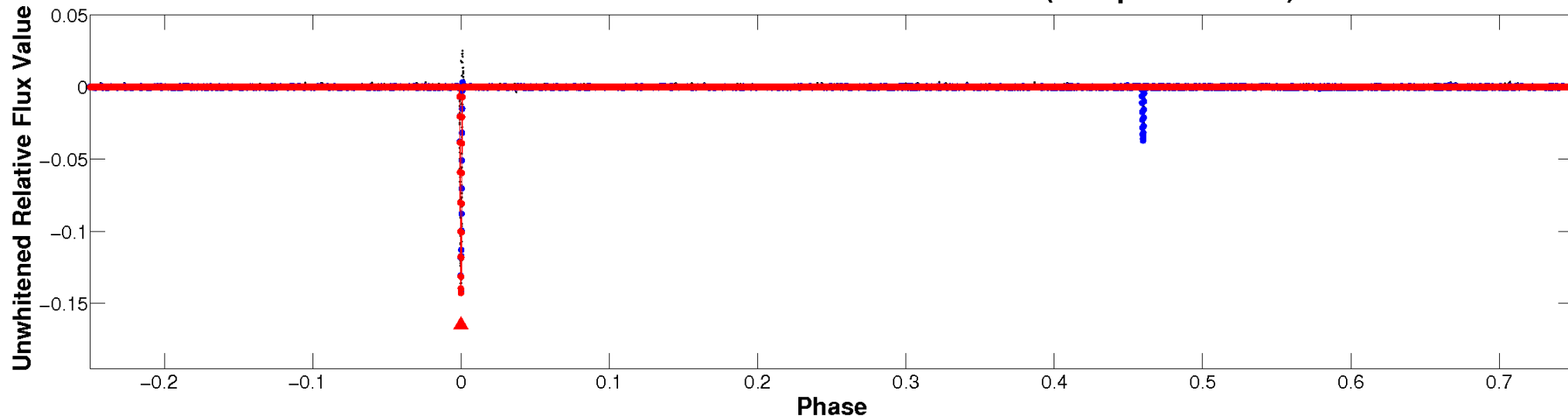
ALT Odd/Even

TCE 004659255-01

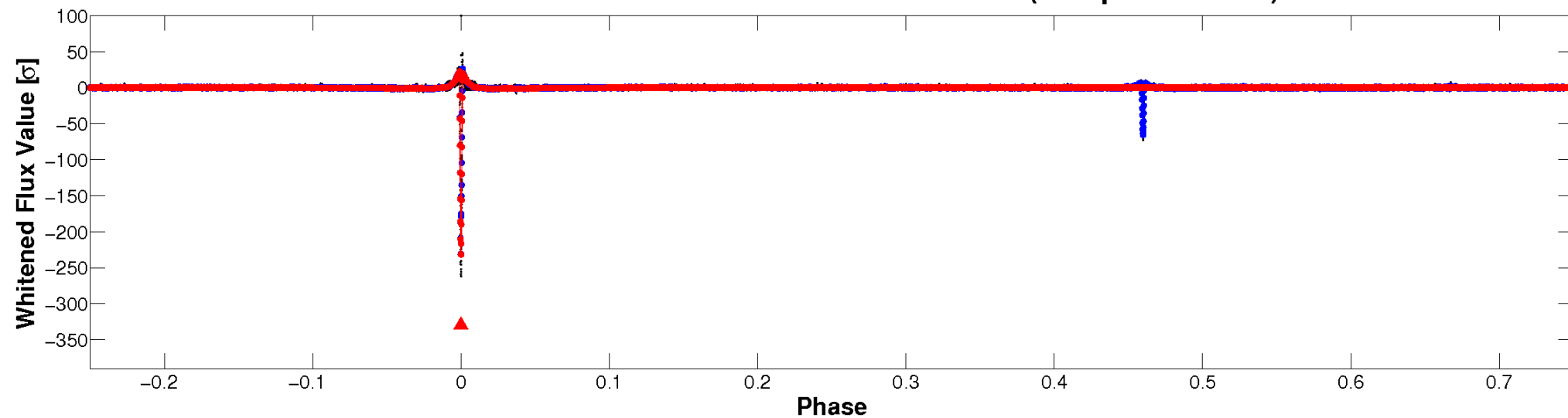


Non-Whitened Vs. Whitened Light Curve

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

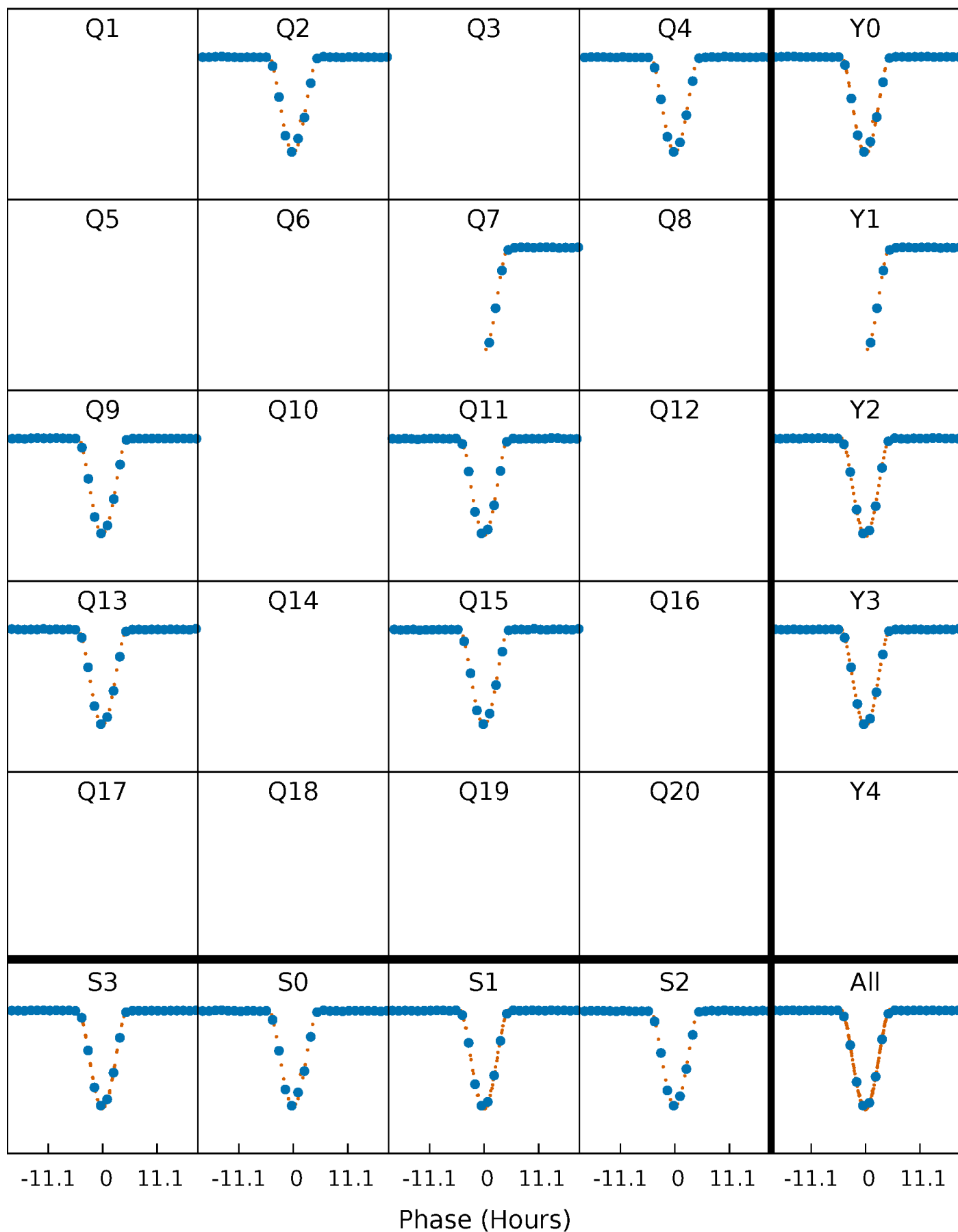


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



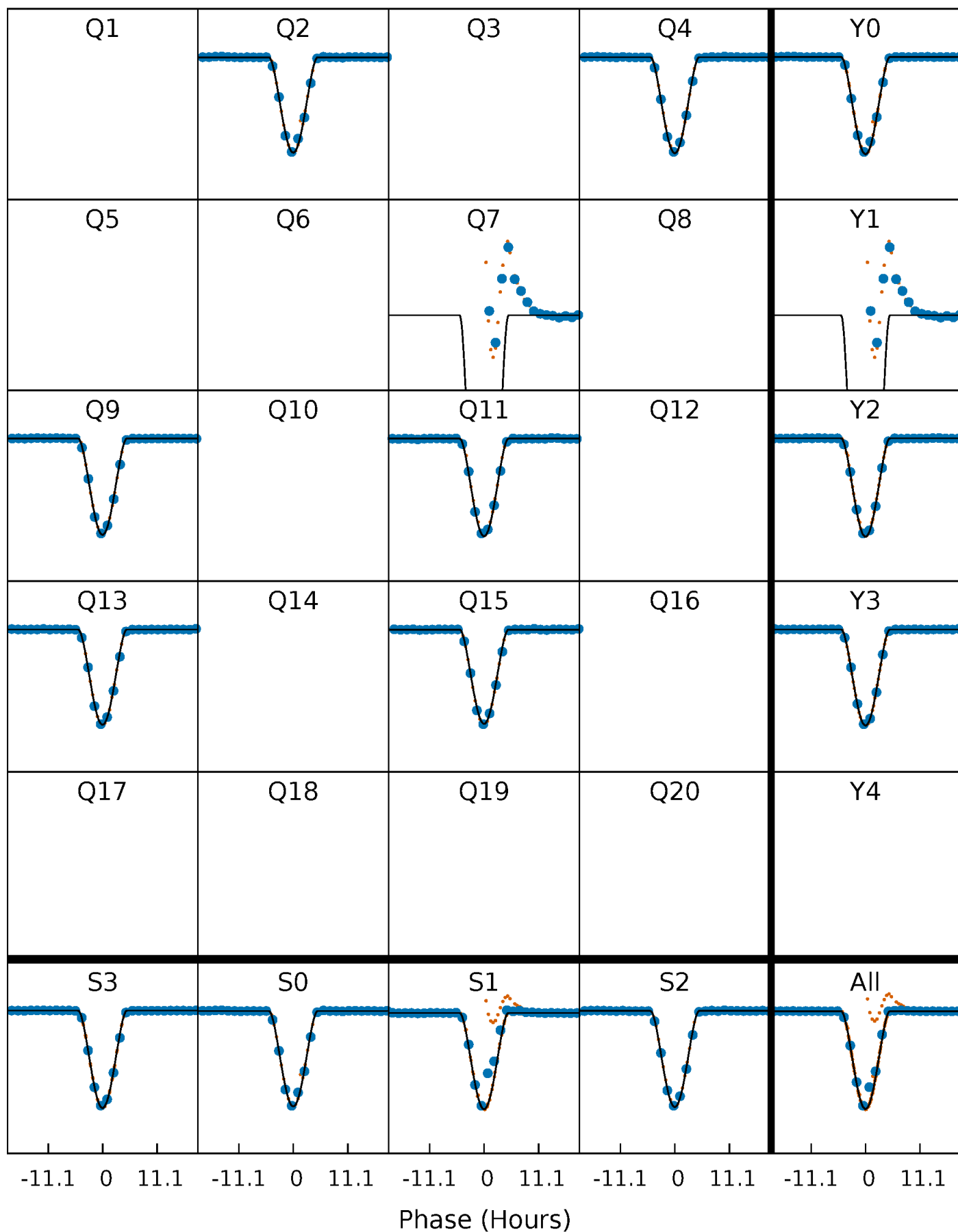
PDC Quarter-Phased Transit Curves

TCE 004659255-01 P=198.013719 Days $T_0=234.152112$ (BKJD)



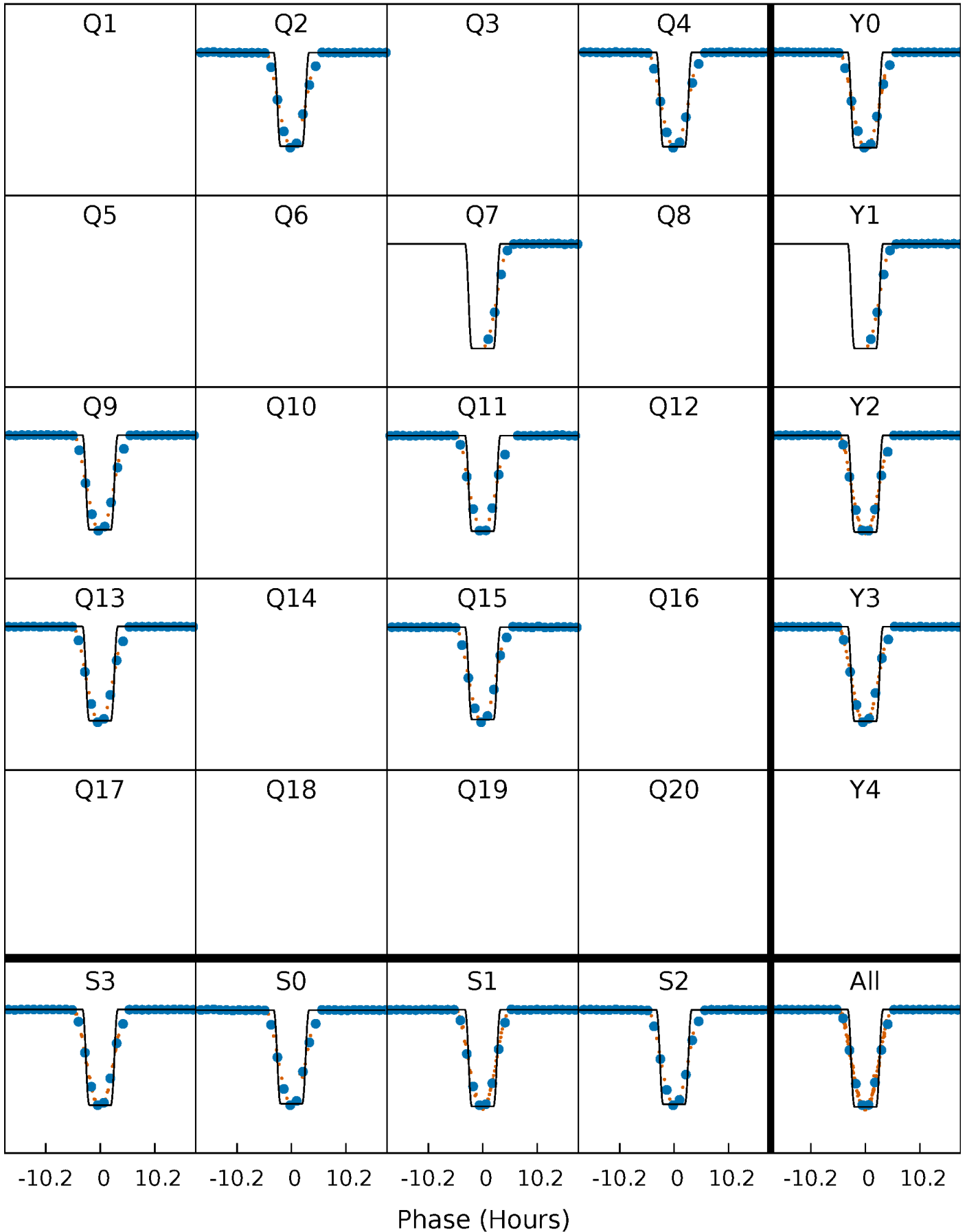
DV Quarter-Phased Transit Curves

TCE 004659255-01 P=198.013719 Days $T_0=234.152112$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

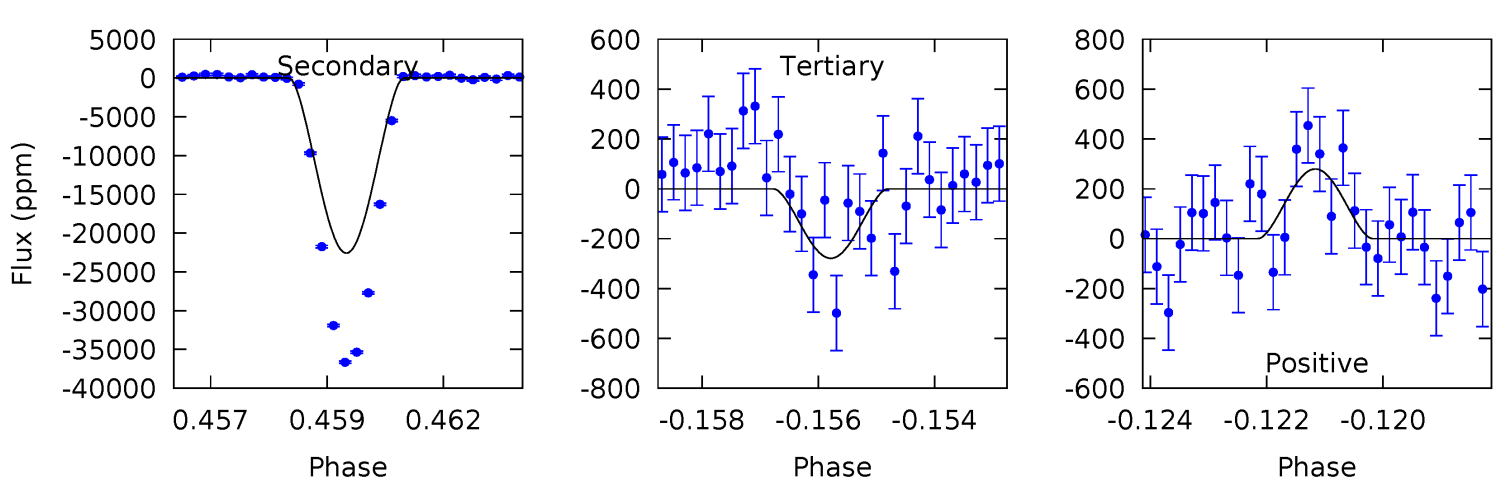
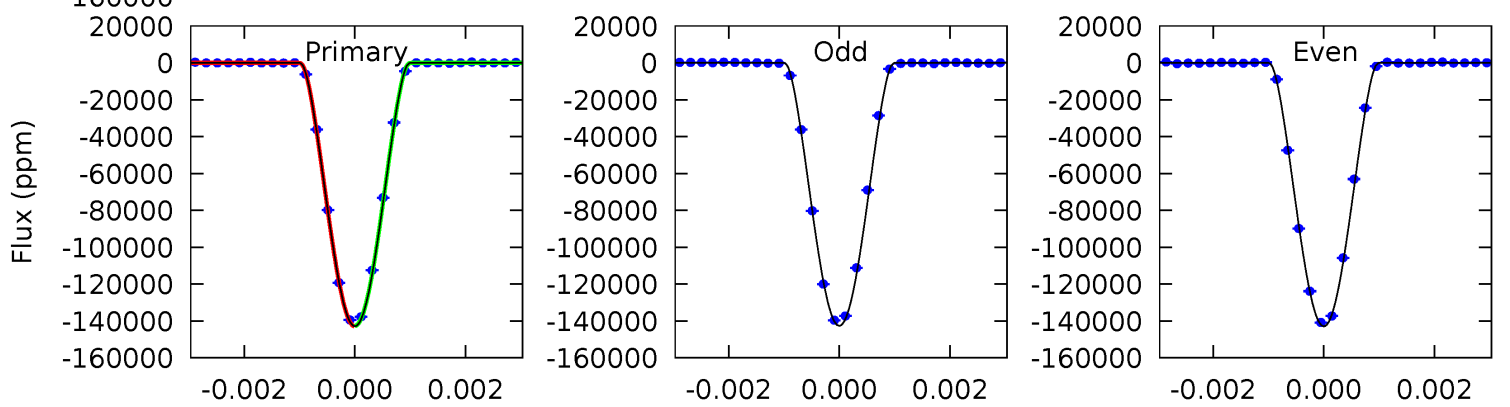
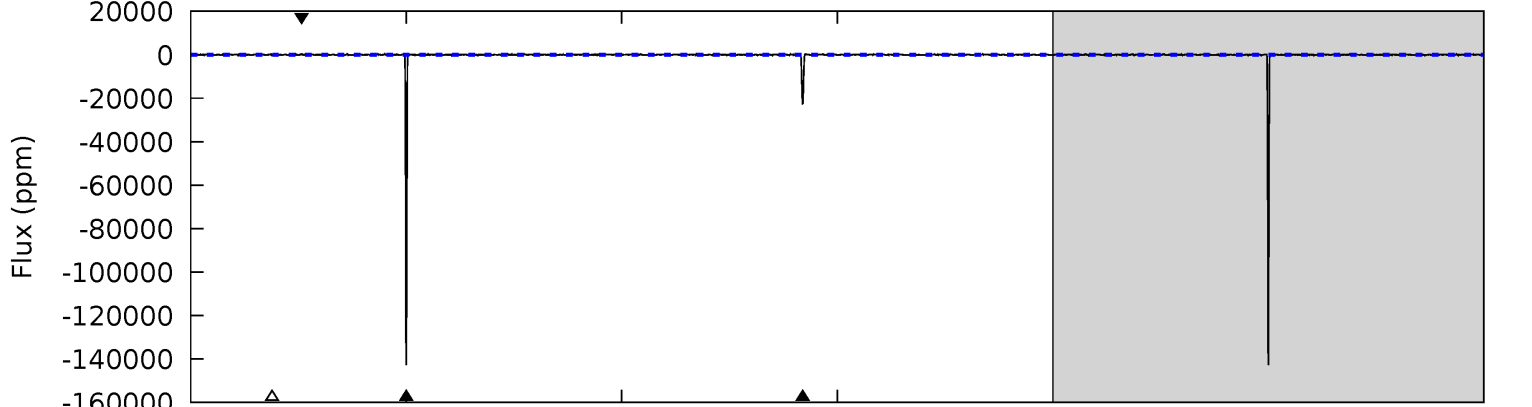
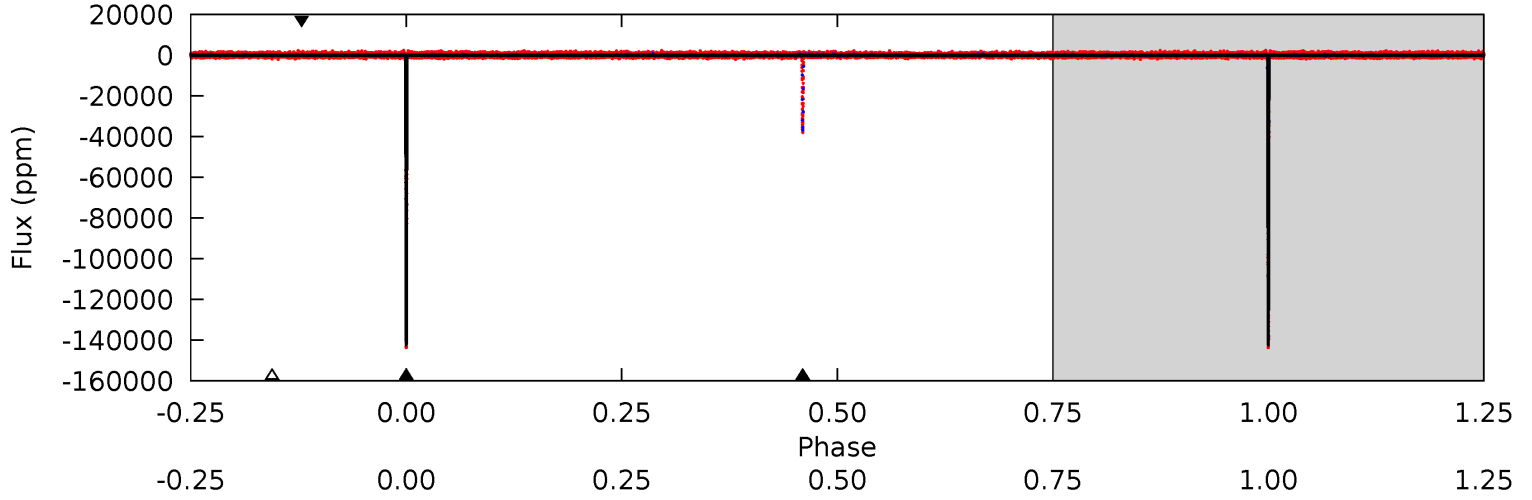
TCE 004659255-01 P=198.015321 Days $T_0=234.146764$ (BKJD)



DV Model-Shift Uniqueness Test

004659255-01, P = 198.013719 Days, E = 36.138393 Days

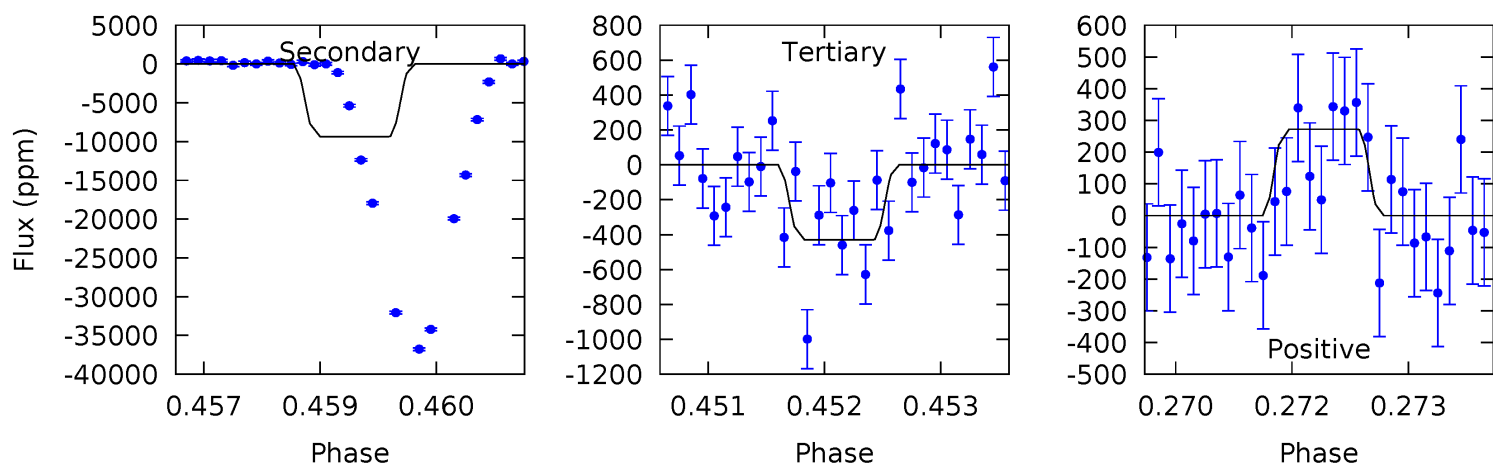
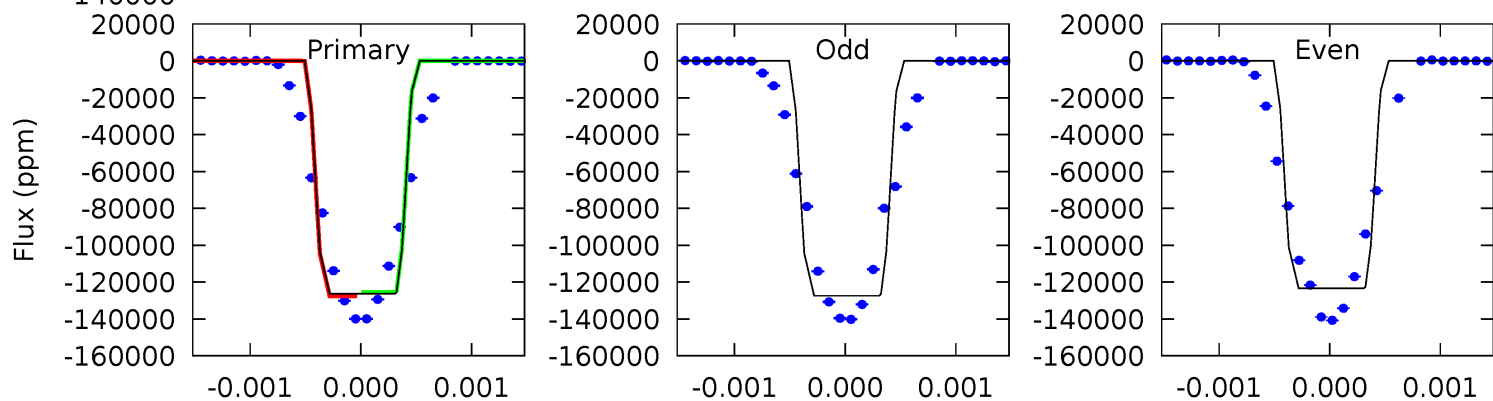
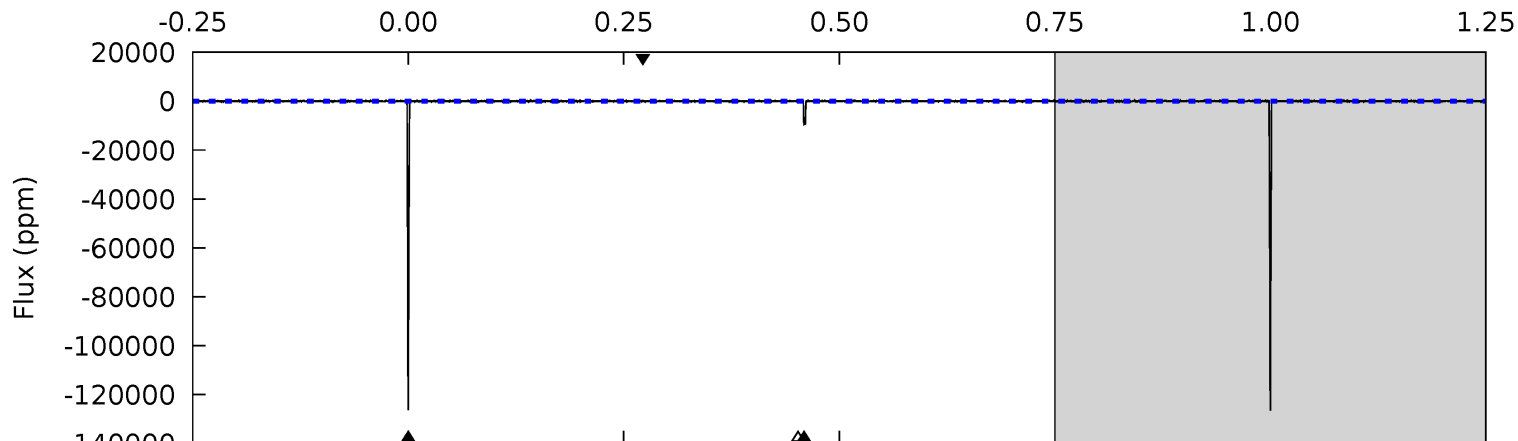
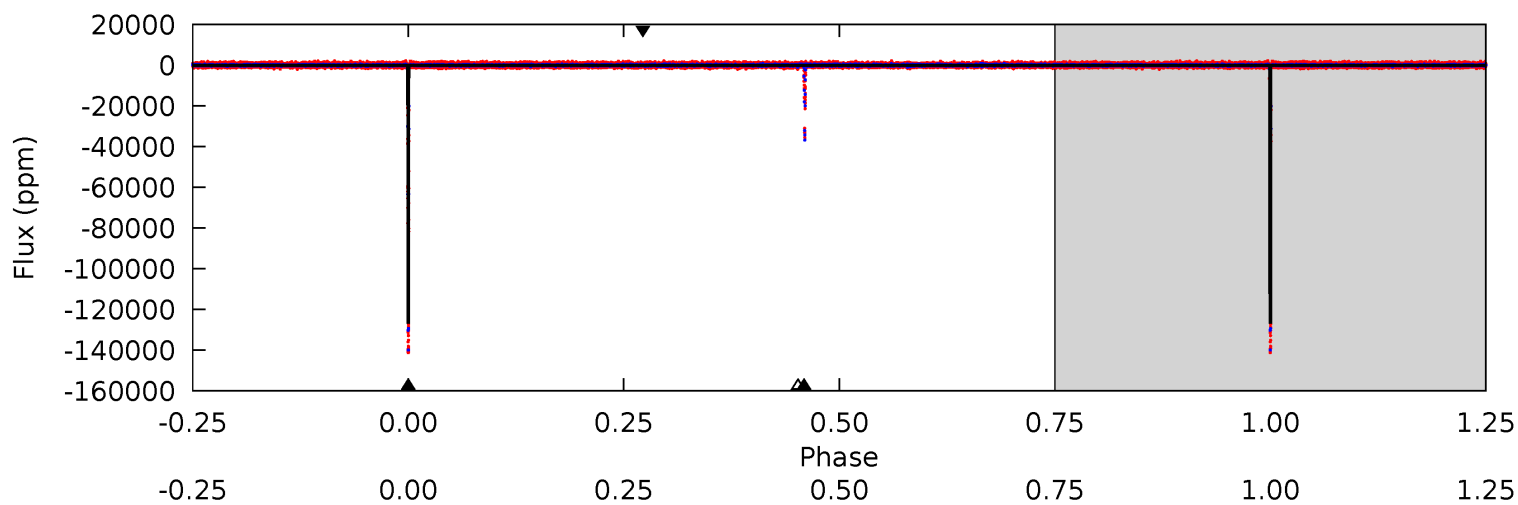
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3096	489.4	6.04	6.06	5.32	3.07	1.74	3090	3090	483.3	483.3	2.63	0.86	0.00	1.50



Alt Model-Shift Uniqueness Test

004659255-01, P = 198.015321 Days, E = 36.131443 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1801	133.4	6.13	3.87	5.40	3.20	2.32	1795	1797	127.3	129.6	28.2	1.00	0.00	0



Stellar Parameters For KIC 004659255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5359^{+159}_{-175}	$4.566^{+0.090}_{-0.060}$	$-0.720^{+0.300}_{-0.300}$	$0.708^{+0.078}_{-0.078}$	$0.673^{+0.082}_{-0.033}$	$2.670^{+1.047}_{-0.586}$
	+3%/-3%	+2%/-1%	+42%/-42%	+11%/-11%	+12%/-5%	+39%/-22%
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 004659255-01 / KOI 3580.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22584 ± 46	$46.72^{+36.35}_{-30.14}$	363^{+15}_{-16}	3256^{+1449}_{-497}	2047^{+13836}_{-1415}
Alt.	-9366 ± 70	$39.21^{+34.14}_{-25.75}$	363^{+13}_{-15}	3018^{+1196}_{-490}	1183^{+8594}_{-852}

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 $A_{obs} \gg 1.0$

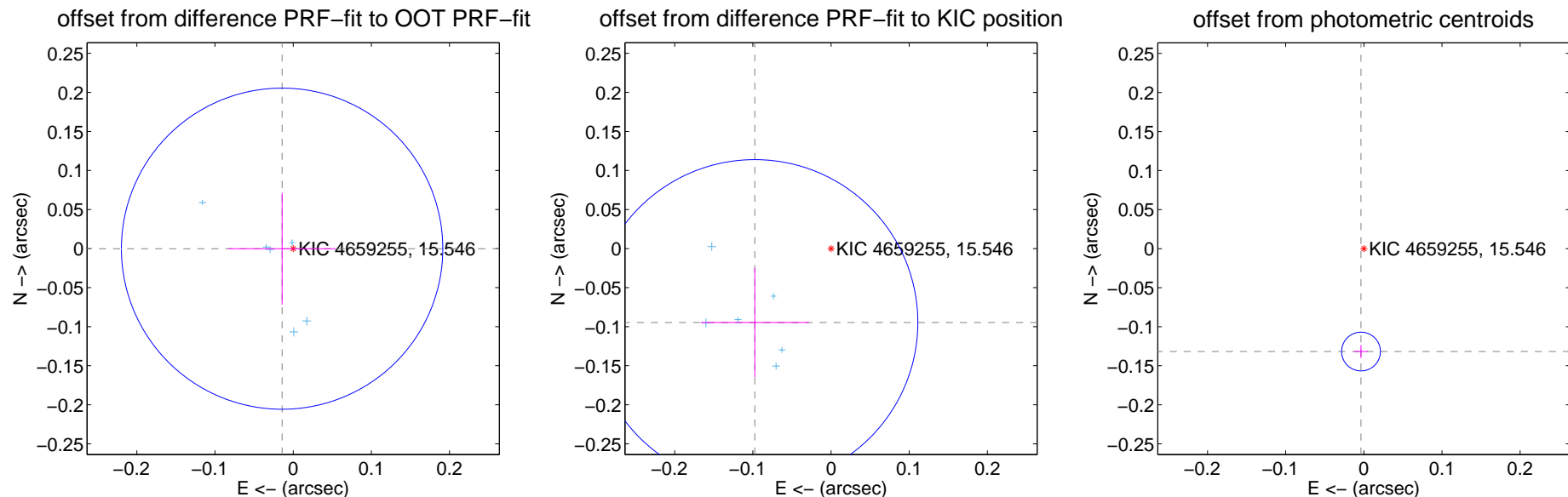
DV Centroid Data

Supplemental centroid analysis for 004659255-01. Kepler magnitude: 15.55. Transit SNR 1361.31

There are 6 quarters with good PRF difference image offsets

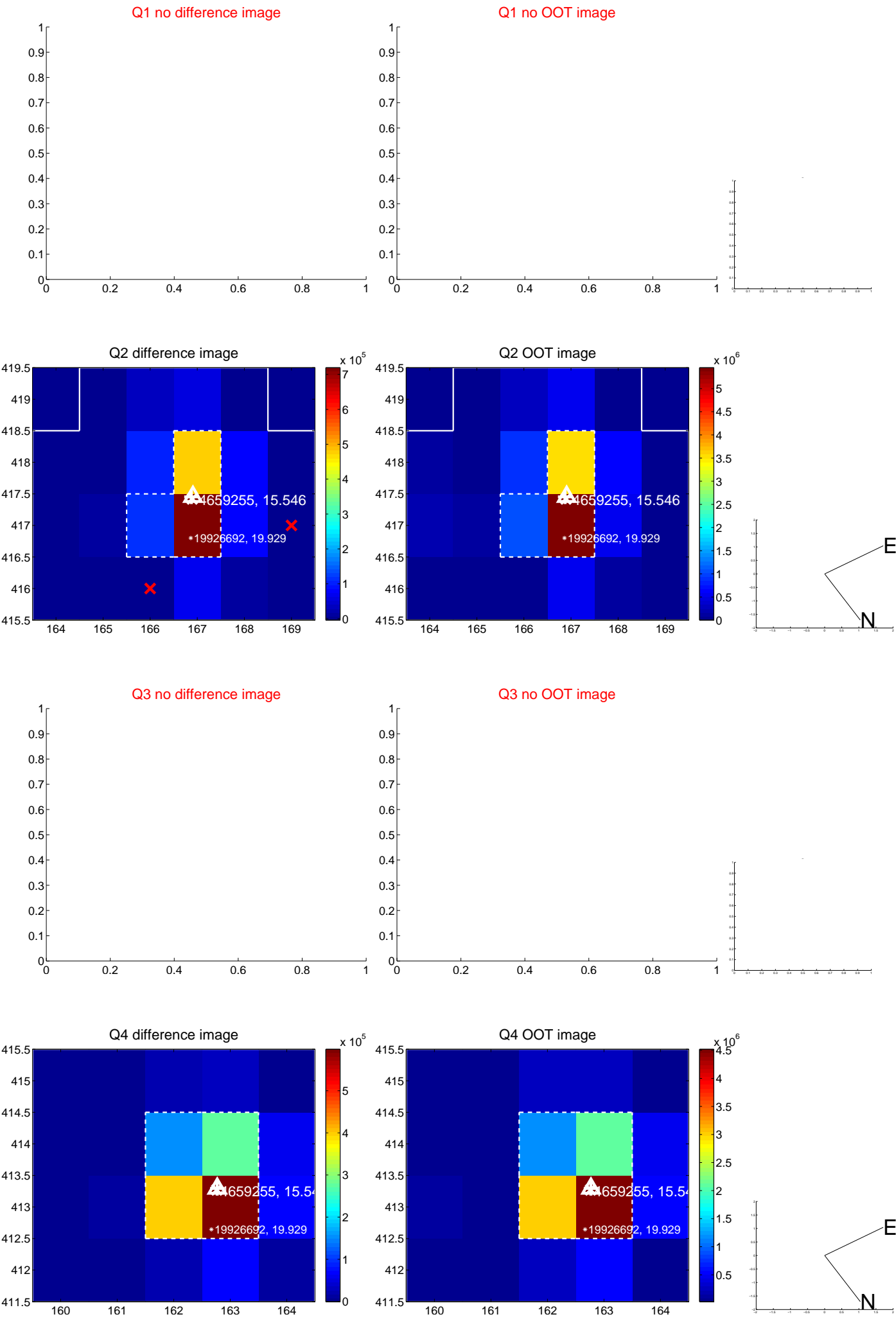
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.069	0.21	0.014 ± 0.069	-0.000 ± 0.072
PRF-fit source offset from KIC position	0.136 ± 0.070	1.95	0.098 ± 0.069	-0.095 ± 0.070
photometric centroid source offset	0.13 ± 0.01	15.93	0.00 ± 0.01	-0.13 ± 0.01



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.

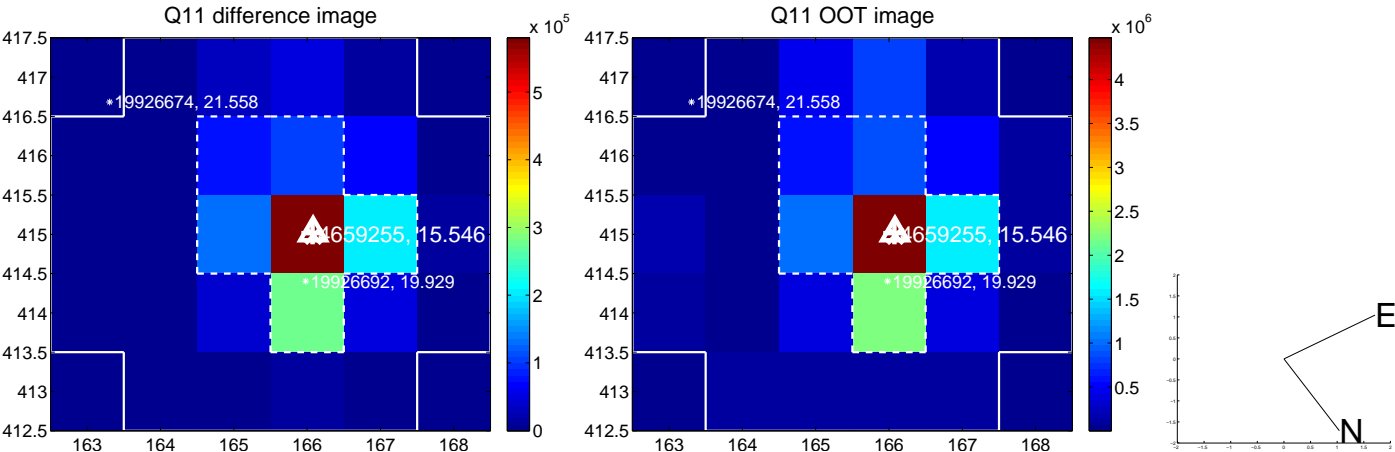
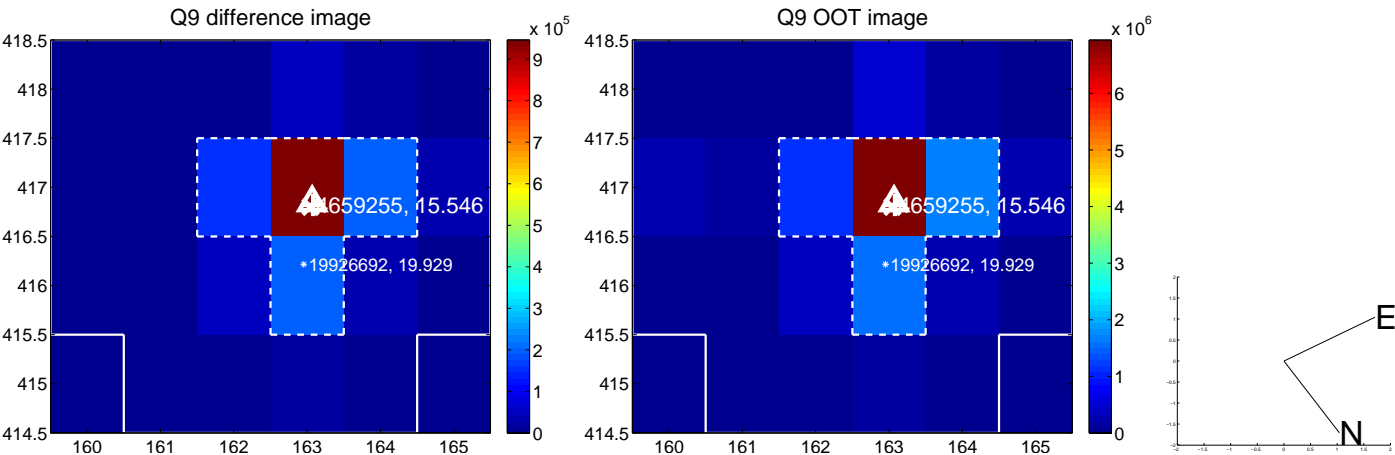
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



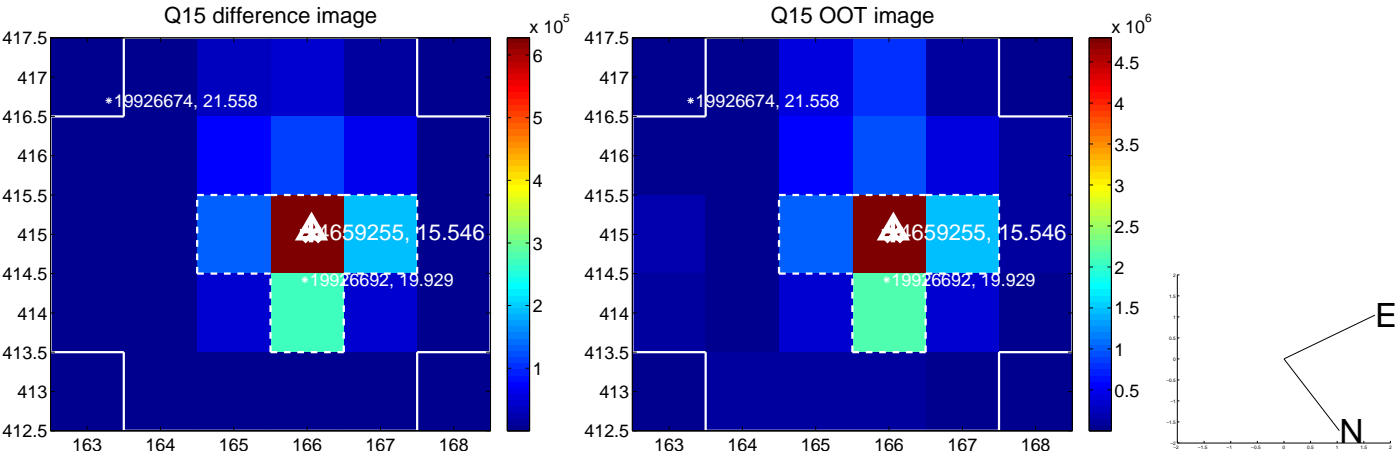
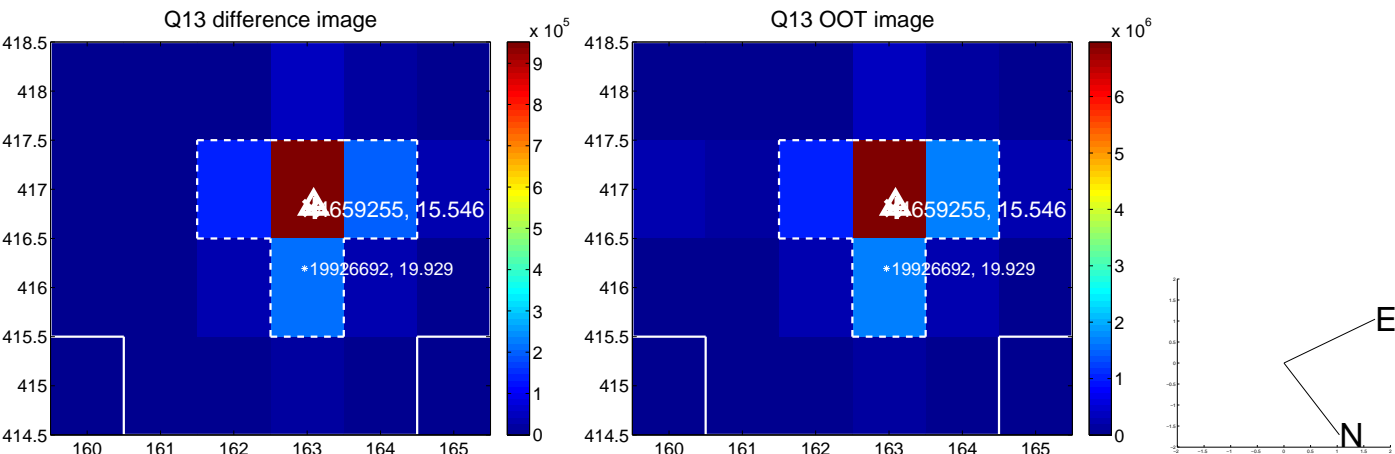
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



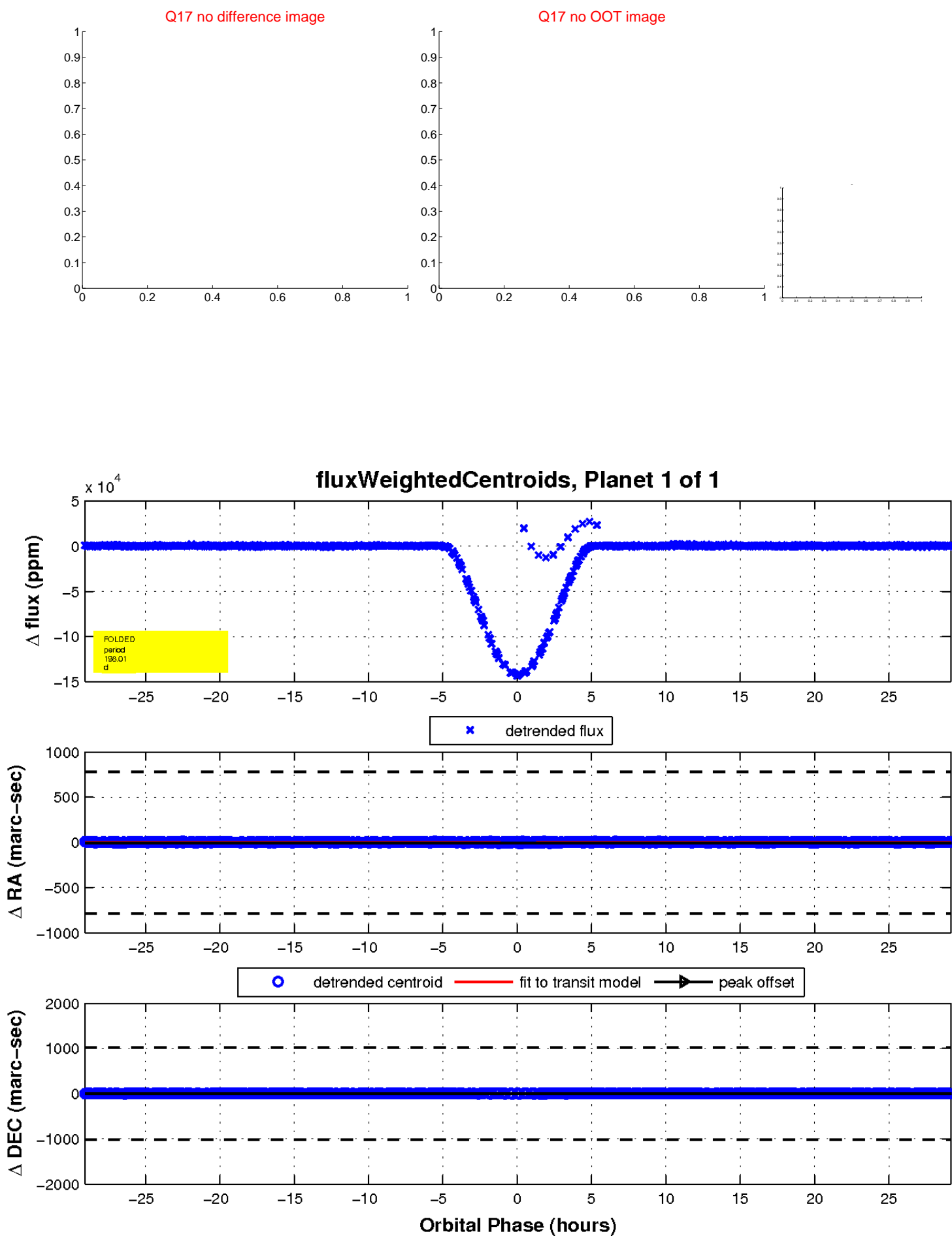
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

