

KIC 004840818

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})
004840818-01	OBS	6458.01	5.024770	133.120081	39886.1	3.909	3631.7	1925.2	0.99	6322	21.38	426.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004840818-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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.

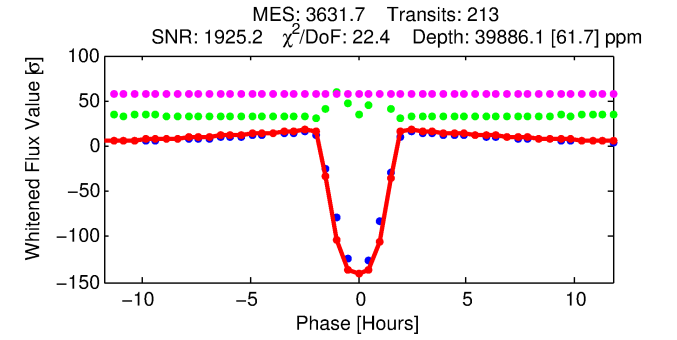
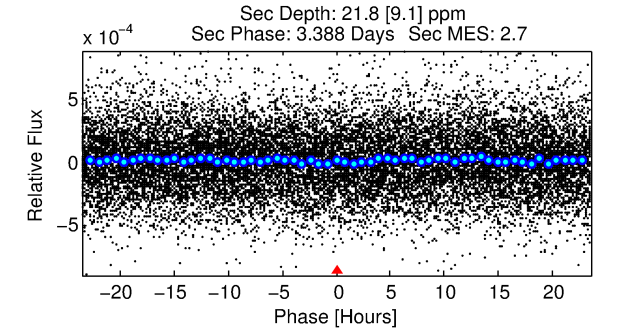
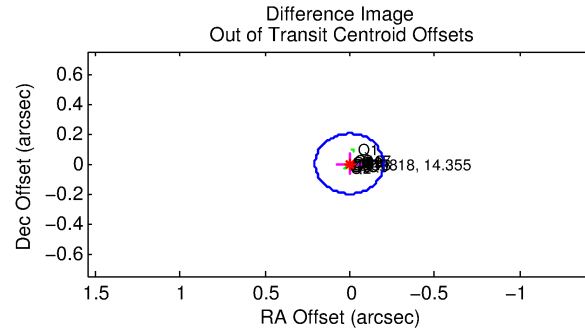
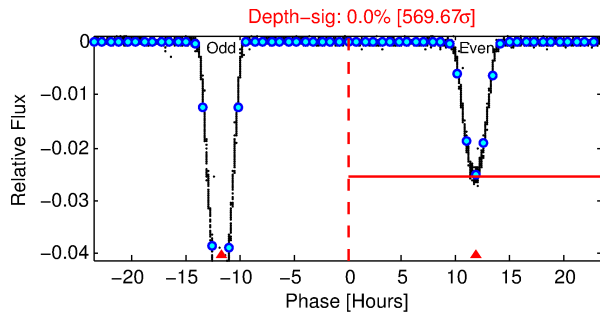
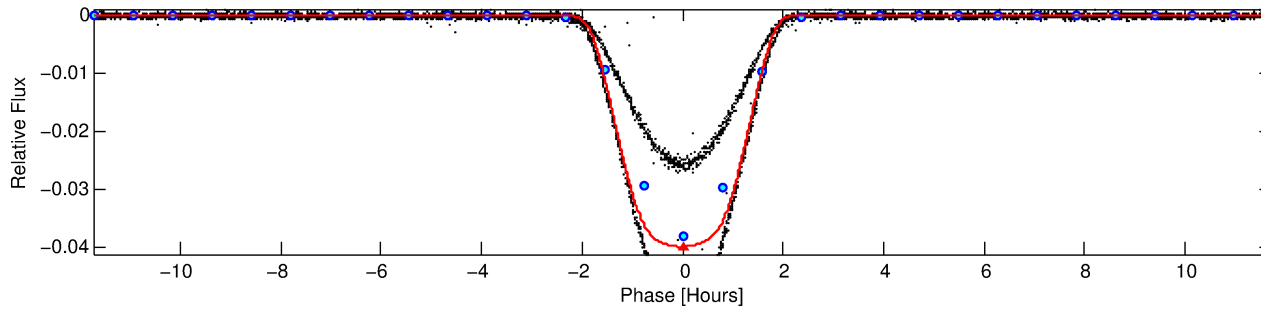
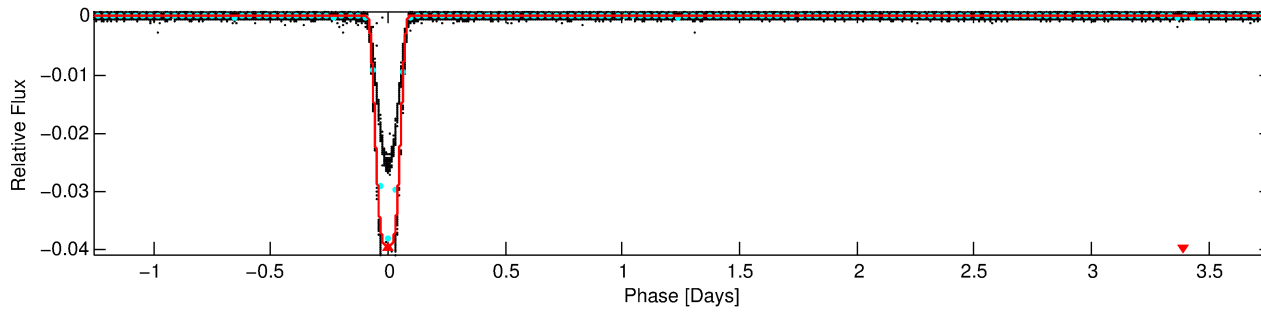
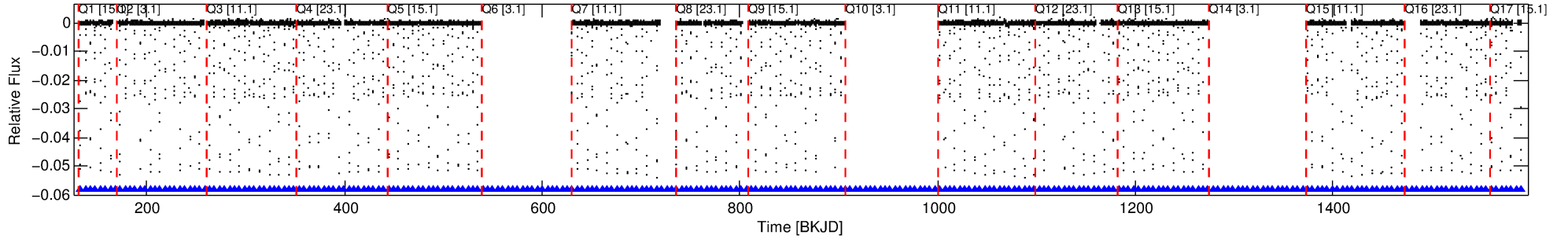
Ephemeris Match Information For 004840818-01

No Significant Match Found

DV One-Page Summary

KIC: 4840818 Candidate: 1 of 1 Period: 5.025 d
KOI: K06458.01 Corr: 0.996

Kp: 14.35 R*: 0.99 Rs Teff: 6322.0 K Logg: 4.44 Fe/H: -0.440



DV Fit Results:

Period = 5.02477 [0.00000] d
Epoch = 133.1201 [0.0001] BKJD
Rp/R* = 0.1981 [0.0003]
a/R* = 9.50 [0.03]
b = 0.71 [0.00]
Seff = 426.86 [167.21]
Teq = 1159 [114] K
Rp = 21.38 [6.40] Re
a = 0.0573 [0.0145] AU
Ag = 0.09 [0.05] [-19.02σ]
Teffp = 971 [107] K [-1.21σ]

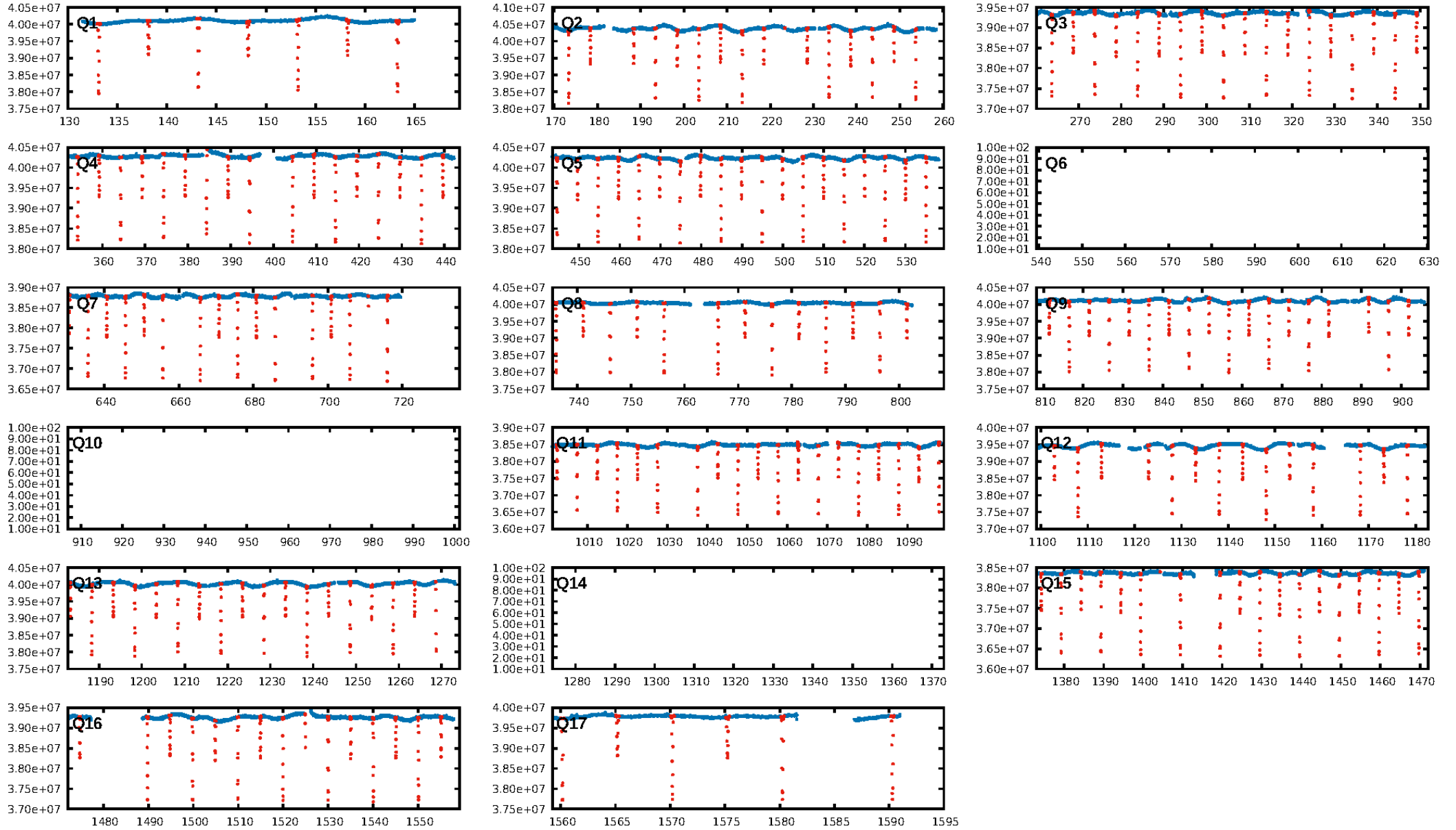
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [200/200]
GhostDiagnostic-chr: 4.449
Centroid-sig: 0.0%
Centroid-so: 0.078 arcsec [24.70σ]
OotOffset-rm: 0.005 arcsec [0.07σ]
KicOffset-rm: 0.053 arcsec [0.78σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

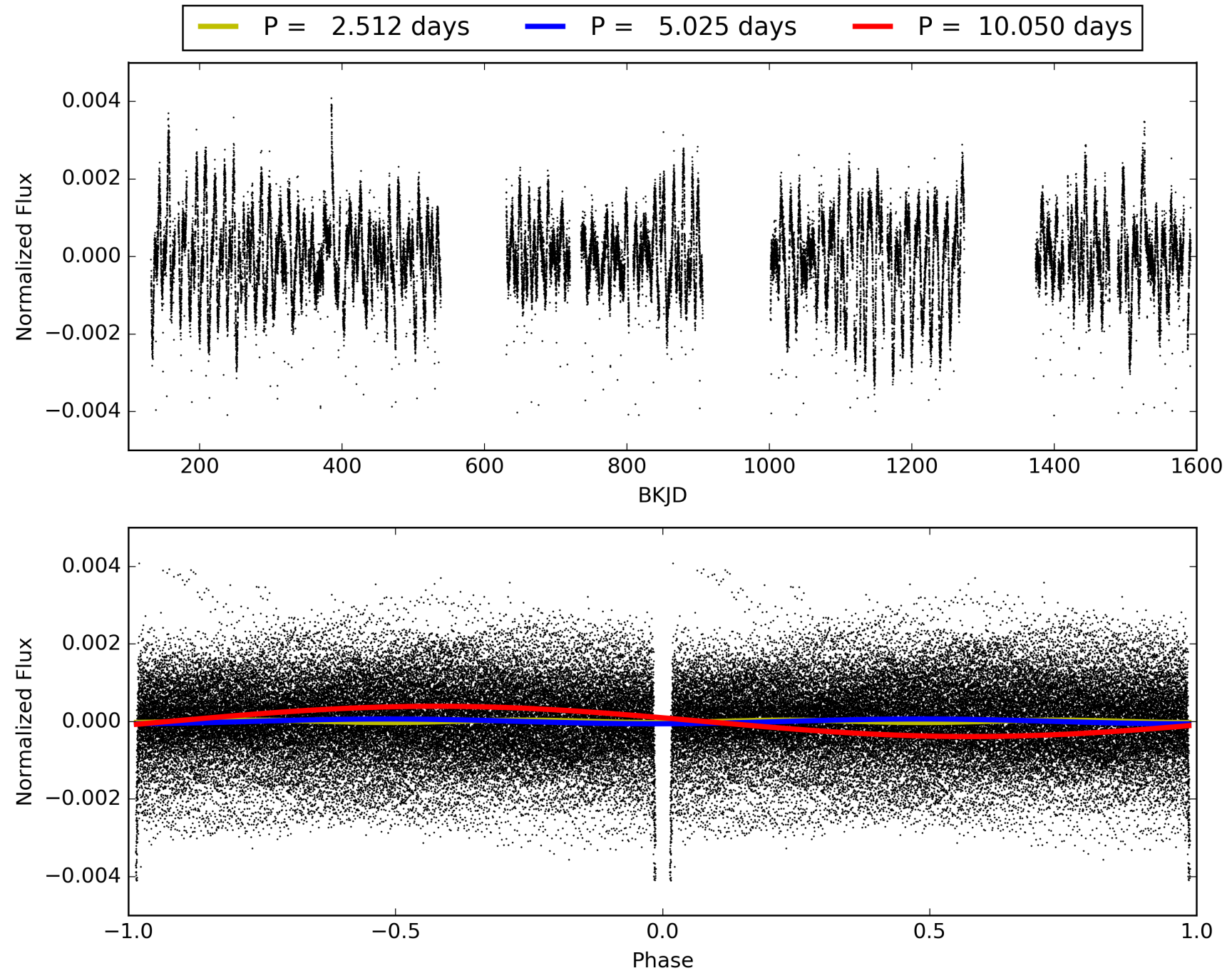
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:48:07 Z

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

TCE 004840818-01, PDC Light Curves

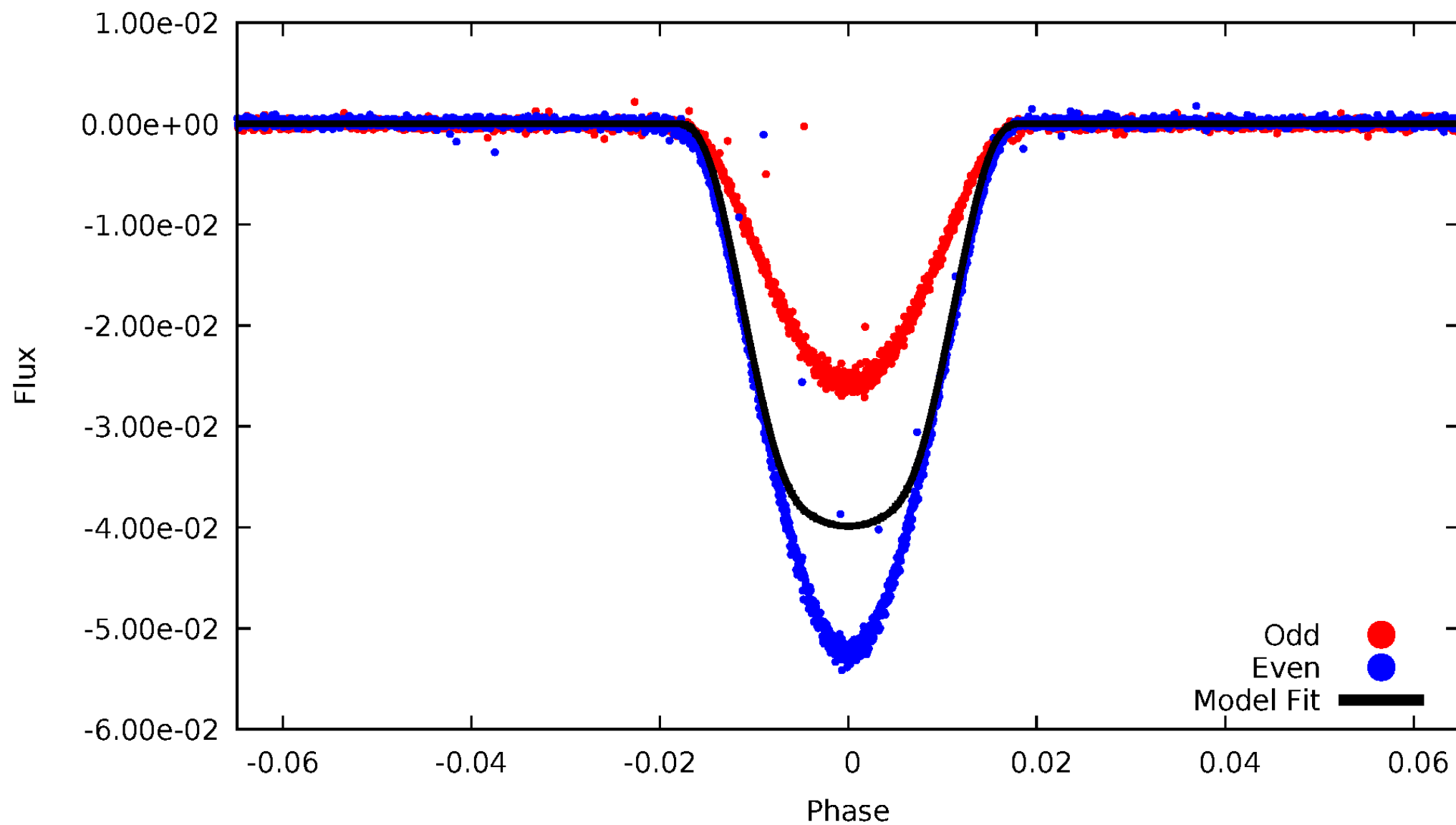


TCE 004840818-01



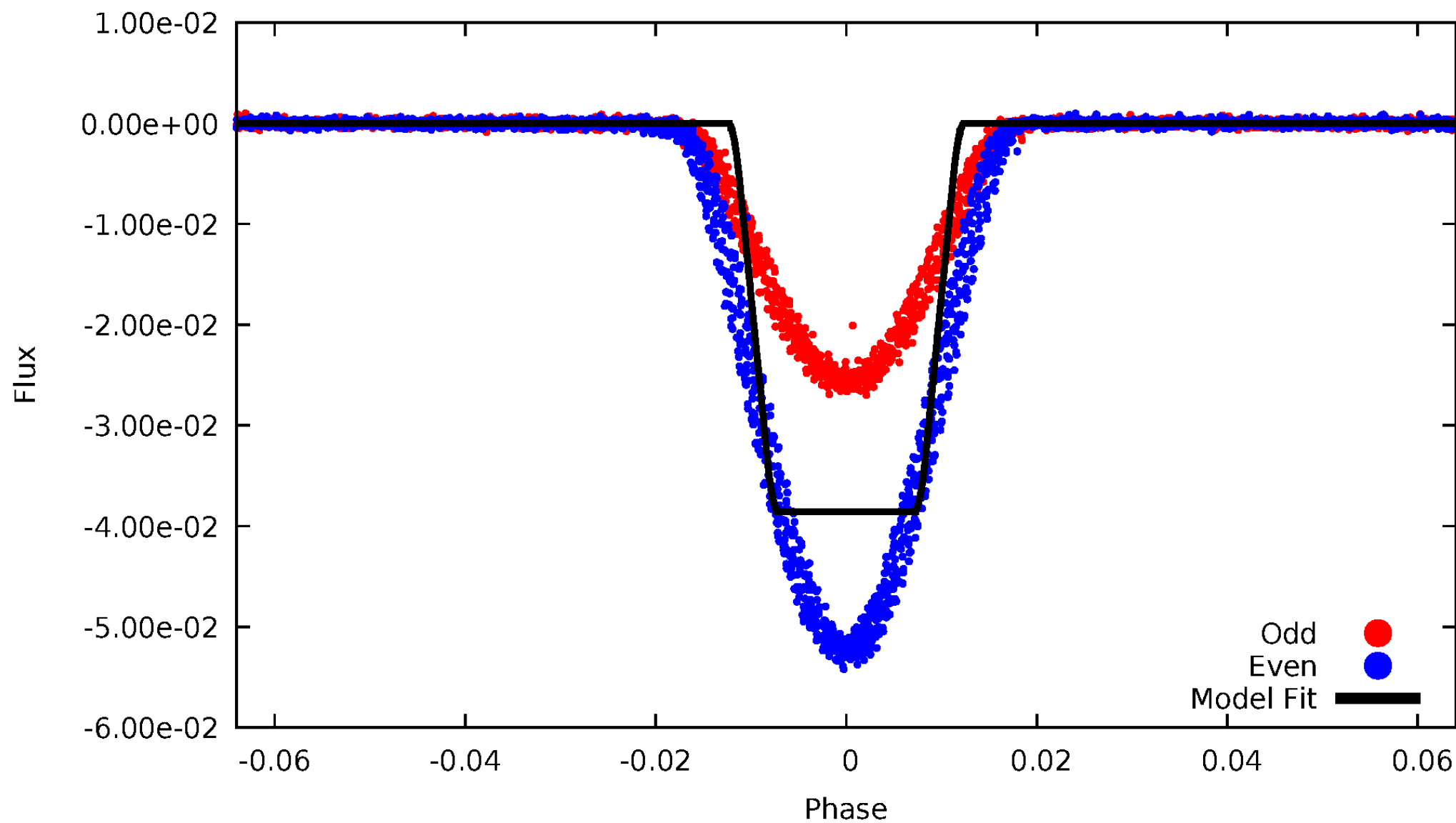
DV Odd/Even

TCE 004840818-01



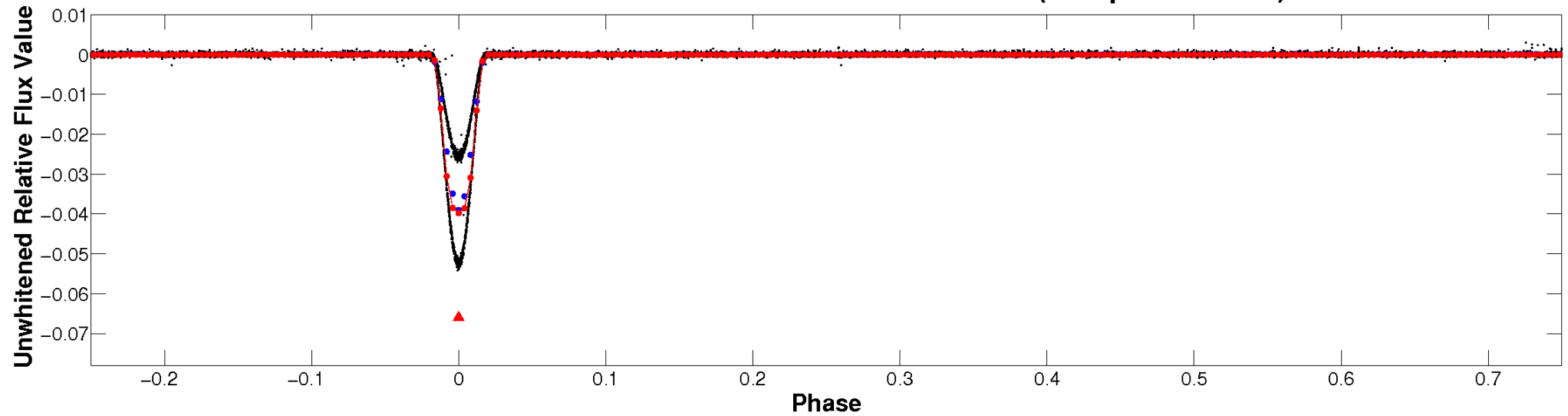
ALT Odd/Even

TCE 004840818-01

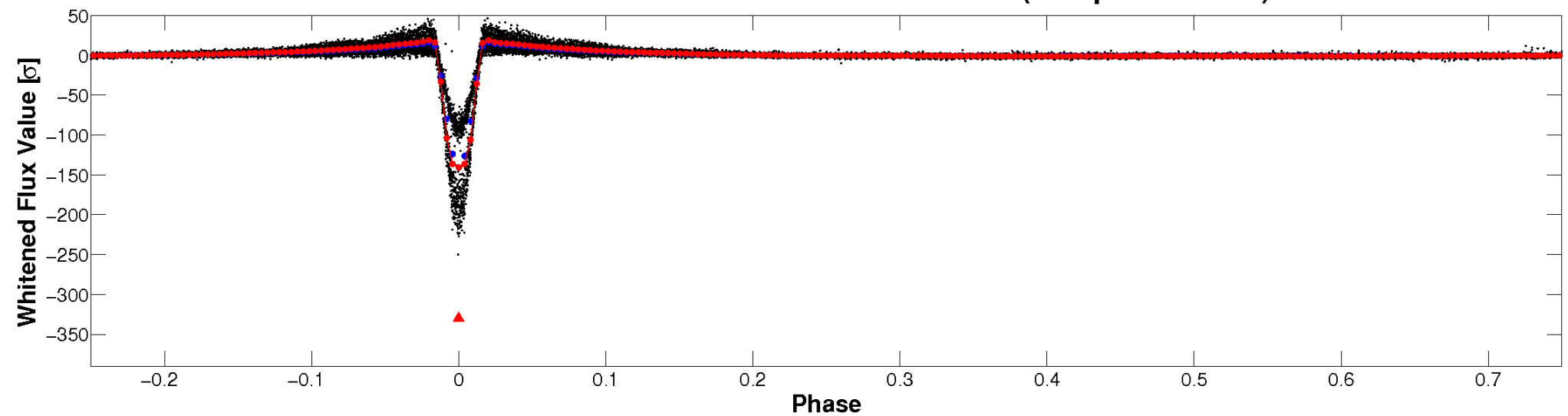


Non-Whitened Vs. Whitened Light Curve

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

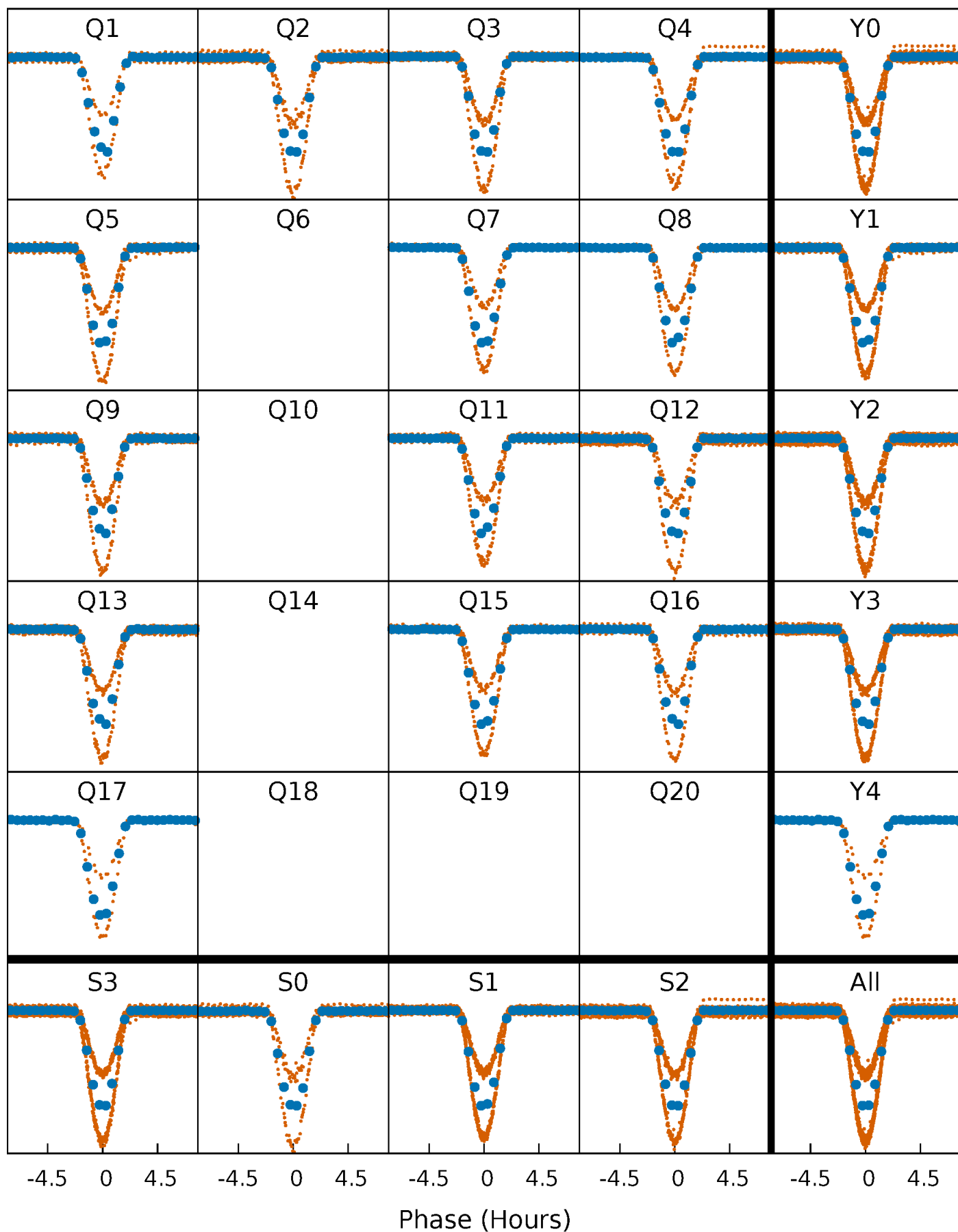


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



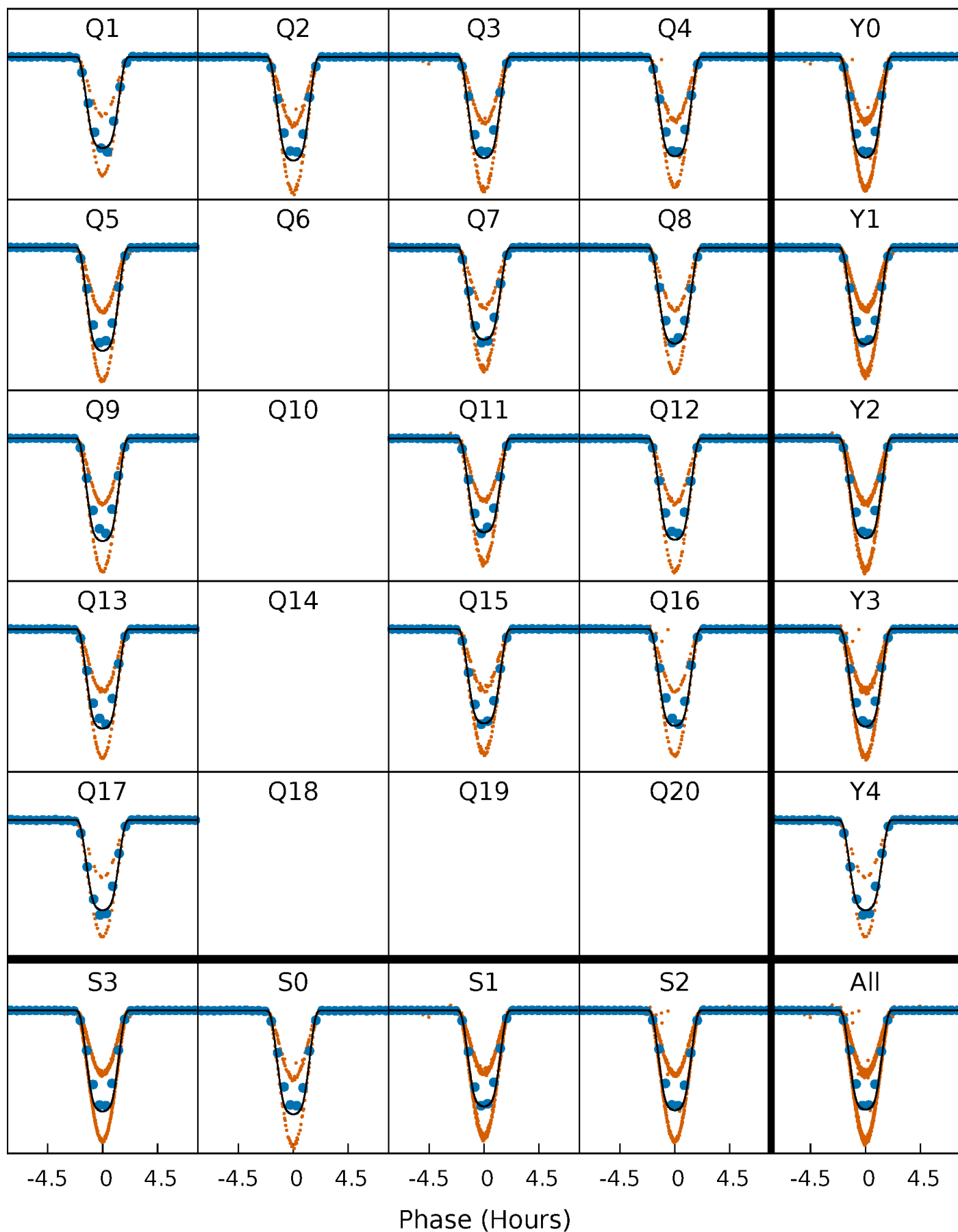
PDC Quarter-Phased Transit Curves

TCE 004840818-01 P= 5.024770 Days $T_0=133.120081$ (BKJD)



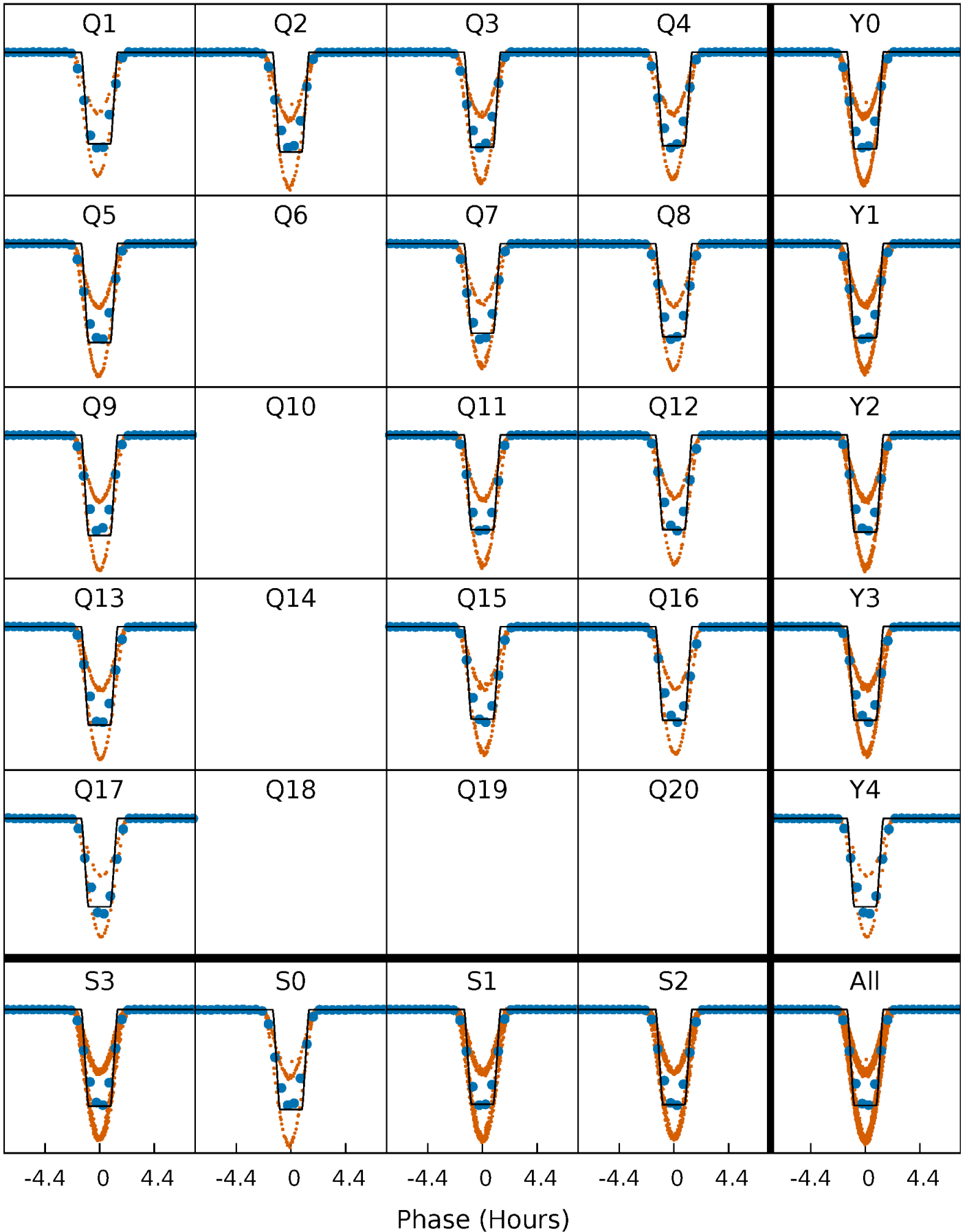
DV Quarter-Phased Transit Curves

TCE 004840818-01 P= 5.024770 Days $T_0=133.120081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

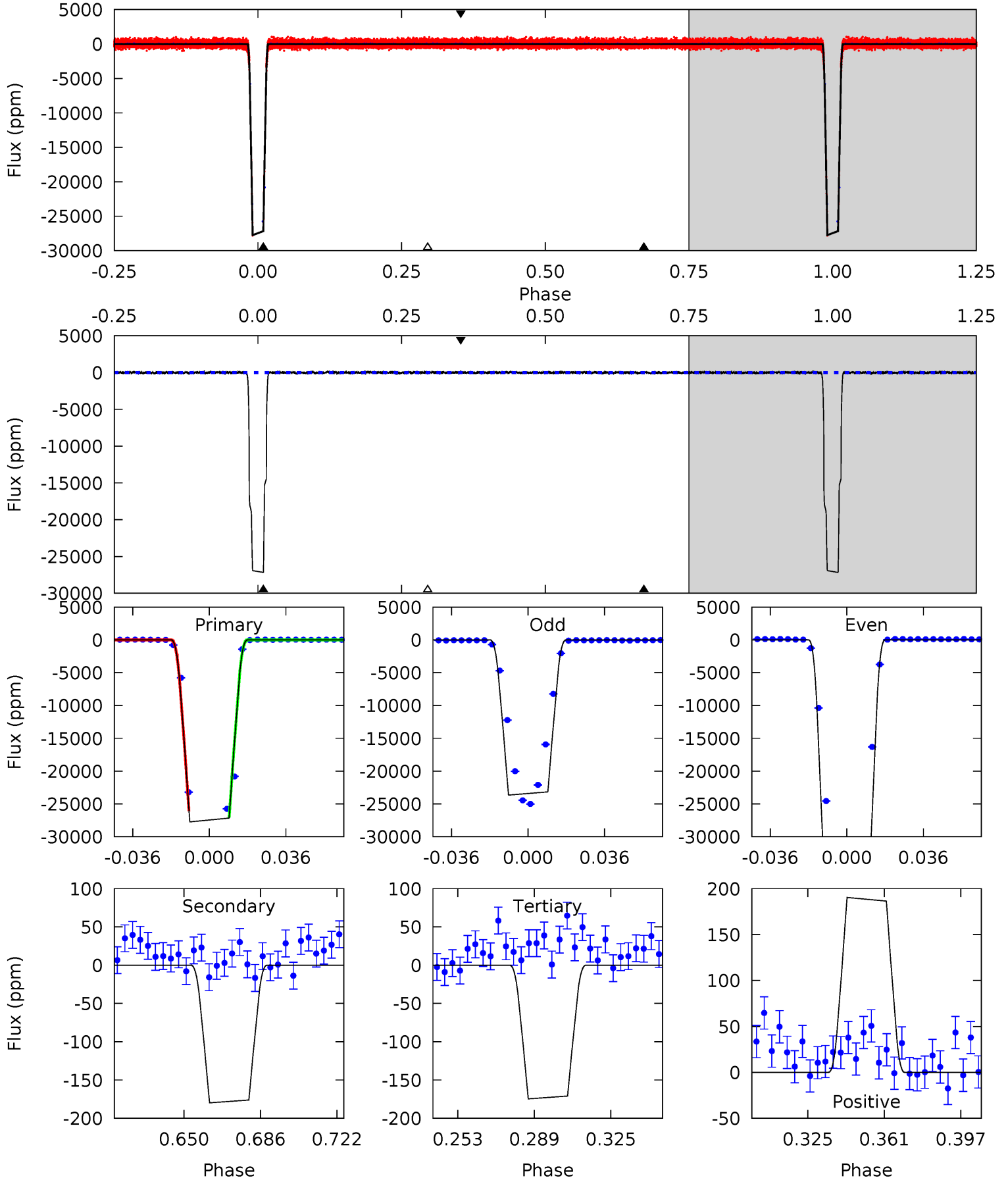
TCE 004840818-01 P= 5.024727 Days $T_0=133.126098$ (BKJD)



DV Model-Shift Uniqueness Test

004840818-01, P = 5.024770 Days, E = 128.095311 Days

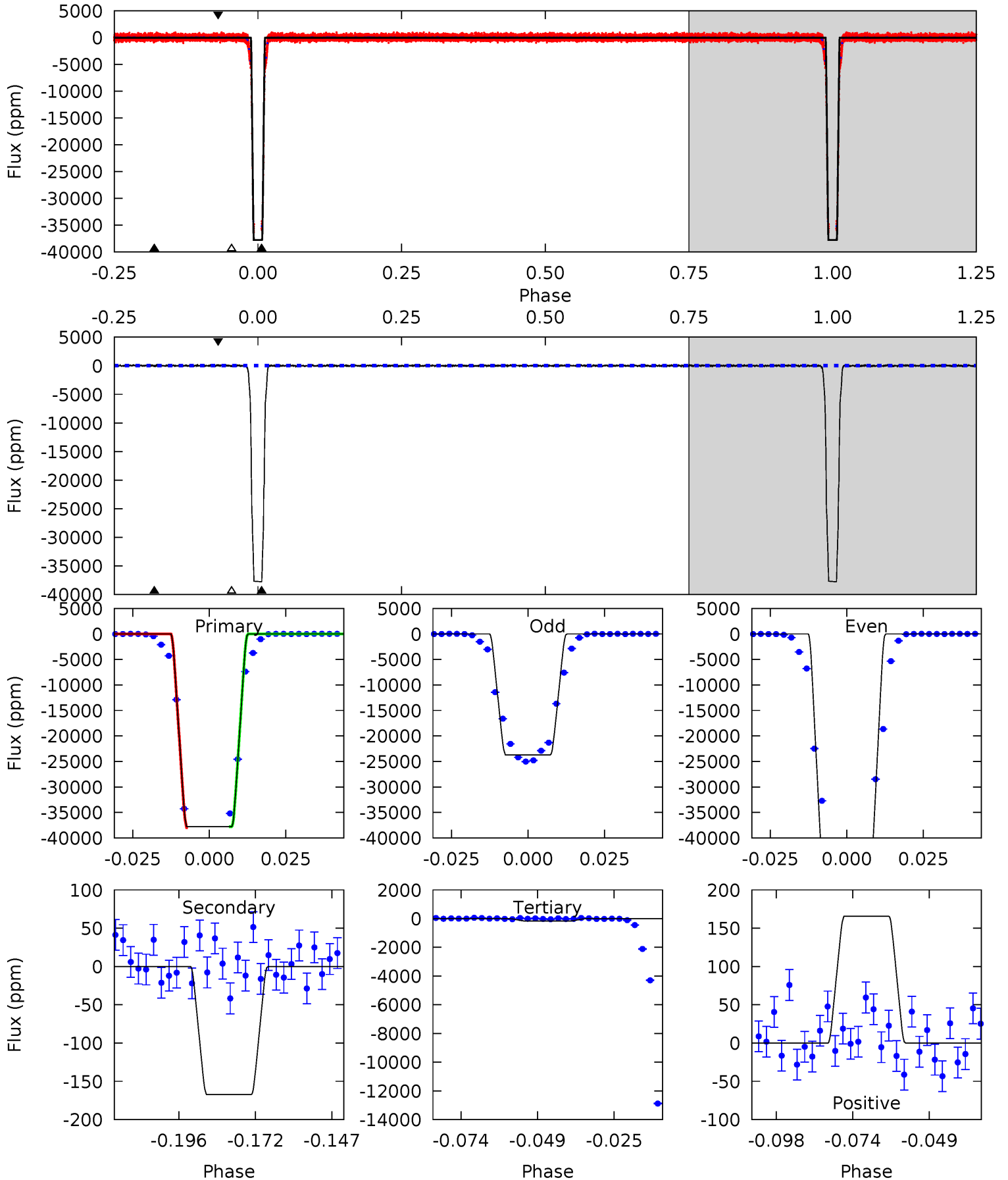
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1923	12.5	12.1	13.2	4.77	2.10	3.63	1911	1910	0.36	-0.73	1969	0.77	0.01	0



Alt Model-Shift Uniqueness Test

004840818-01, P = 5.024727 Days, E = 128.101371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1300	5.76	5.65	5.70	4.85	2.25	1.65	1295	1295	0.11	0.06	1038	0.79	0.00	0



Stellar Parameters For KIC 004840818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6322^{+171}_{-209}	$4.444^{+0.067}_{-0.202}$	$-0.440^{+0.300}_{-0.300}$	$0.989^{+0.296}_{-0.127}$	$0.990^{+0.145}_{-0.106}$	$1.441^{+0.510}_{-0.730}$
	+3%/-3%	+2%/-5%	+68%/-68%	+30%/-13%	+15%/-11%	+35%/-51%
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 004840818-01 / KOI 6458.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-176 ± 14	$22.11^{+3.35}_{-1.92}$	1648^{+111}_{-73}	2306^{+63}_{-93}	$0.636^{+0.124}_{-0.145}$
Alt.	-167 ± 29	$21.99^{+3.73}_{-1.90}$	1652^{+122}_{-85}	2281^{+96}_{-149}	$0.611^{+0.166}_{-0.171}$

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

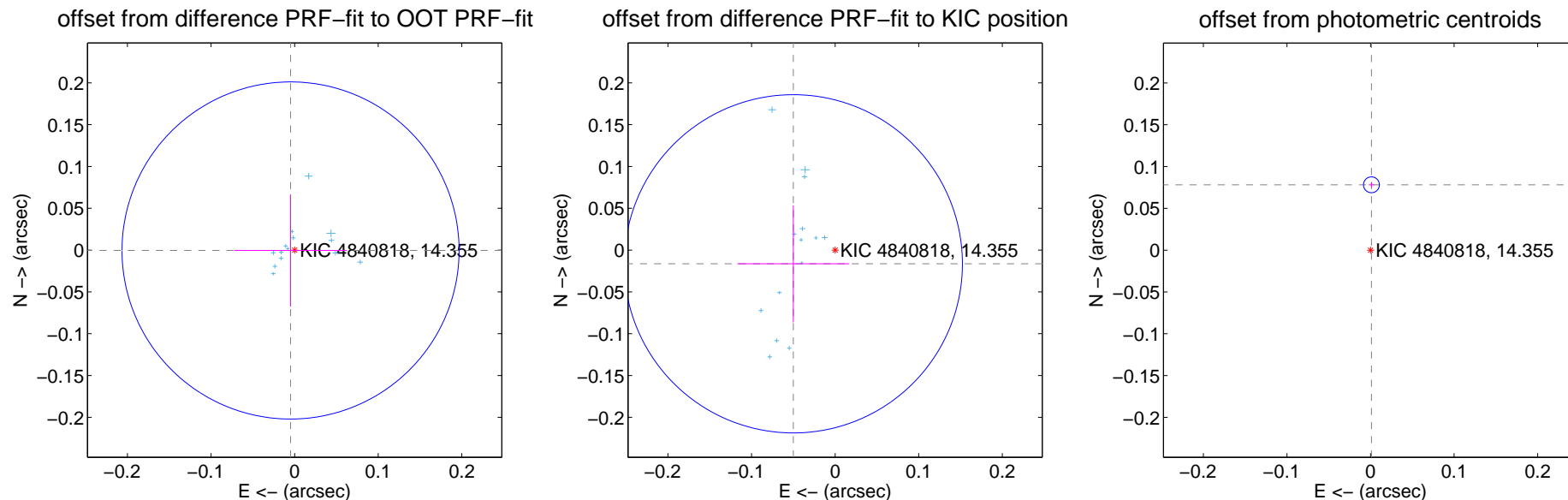
DV Centroid Data

Supplemental centroid analysis for 004840818-01. Kepler magnitude: 14.36. Transit SNR 1925.22

There are 14 quarters with good PRF difference image offsets

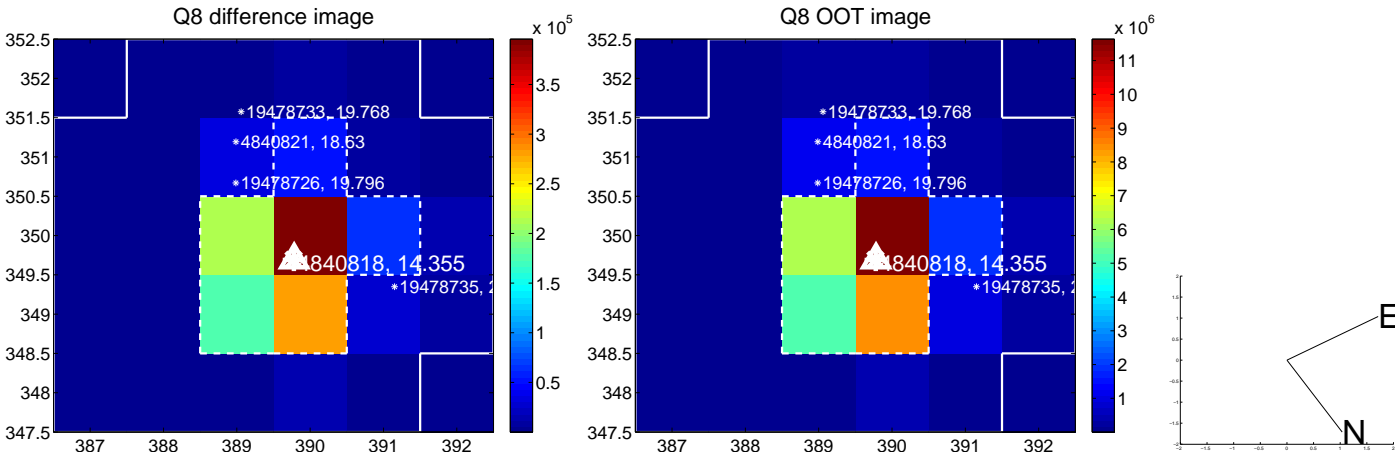
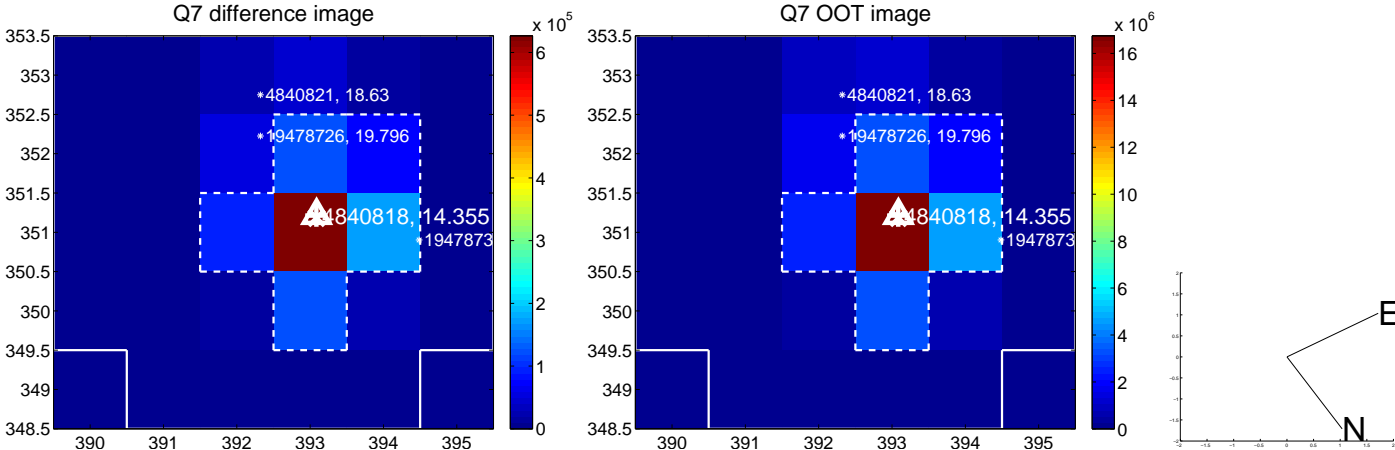
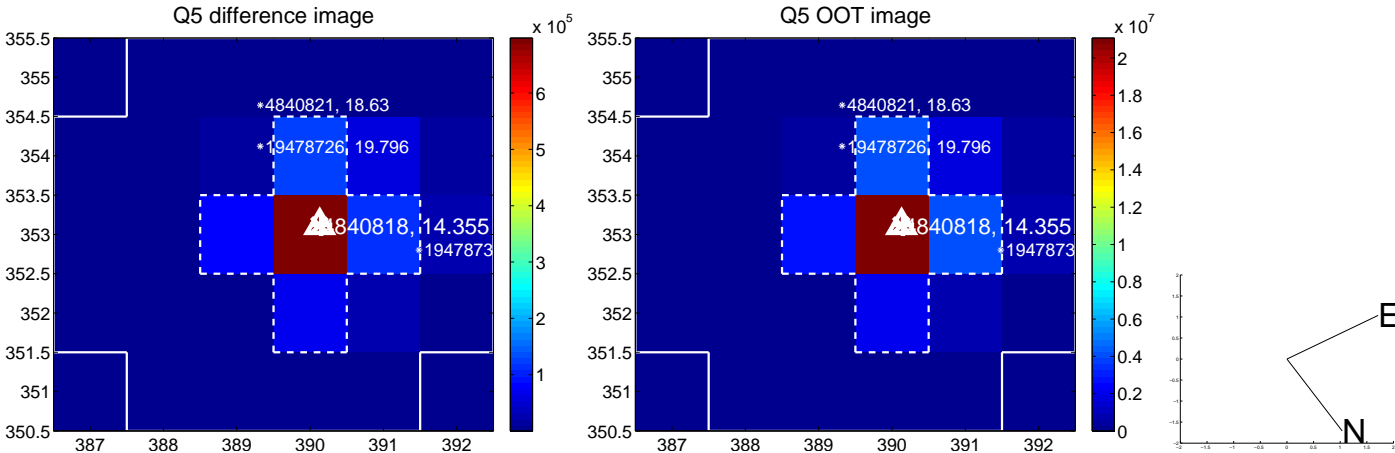
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.07	0.005 ± 0.067	-0.000 ± 0.067
PRF-fit source offset from KIC position	0.053 ± 0.067	0.78	0.050 ± 0.067	-0.016 ± 0.070
photometric centroid source offset	0.08 ± 0.00	24.70	-0.00 ± 0.00	0.08 ± 0.00

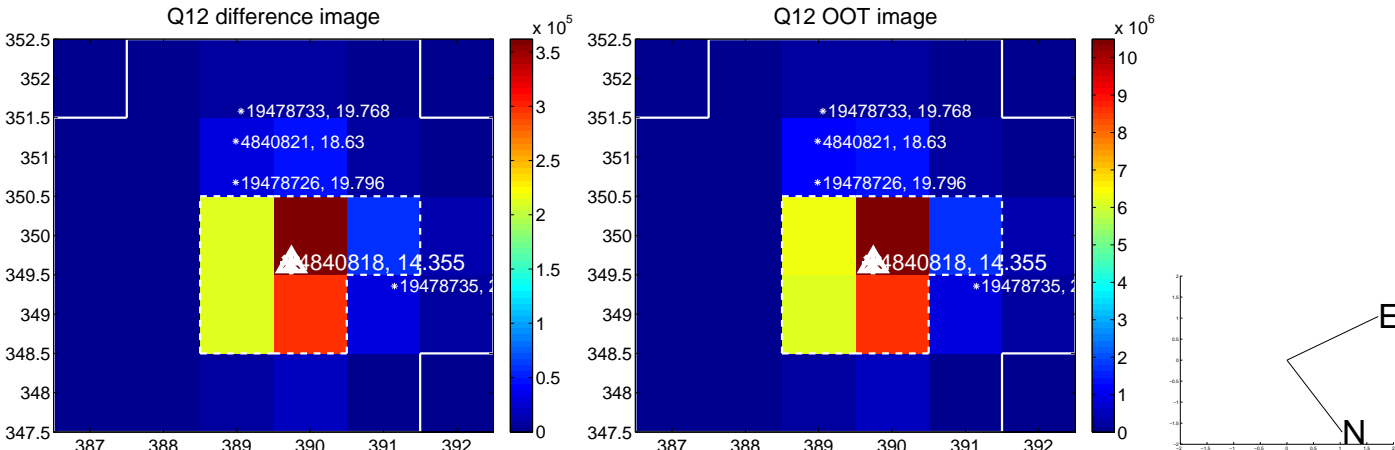
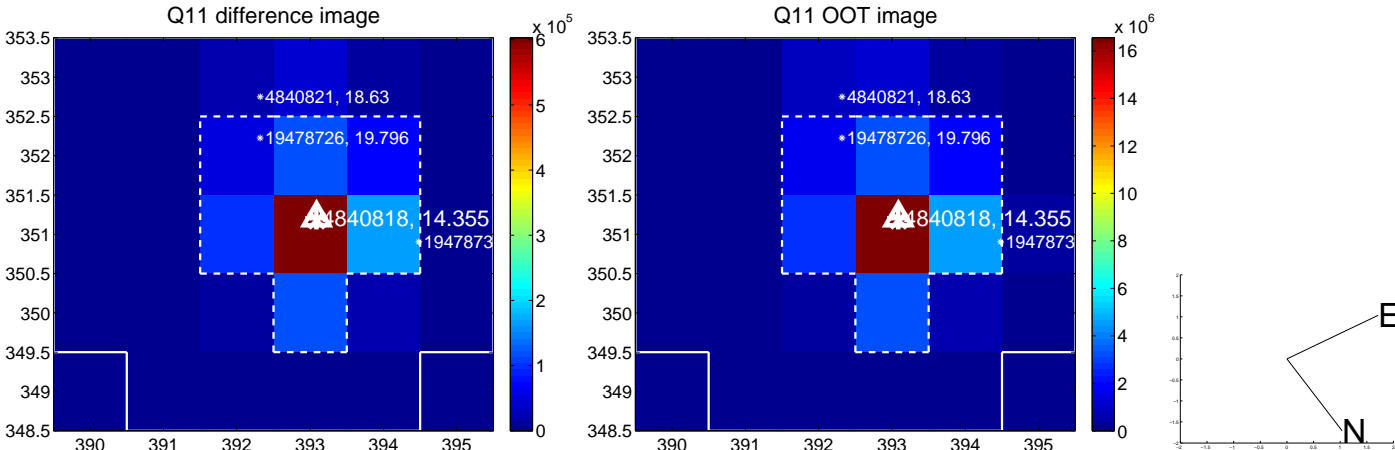
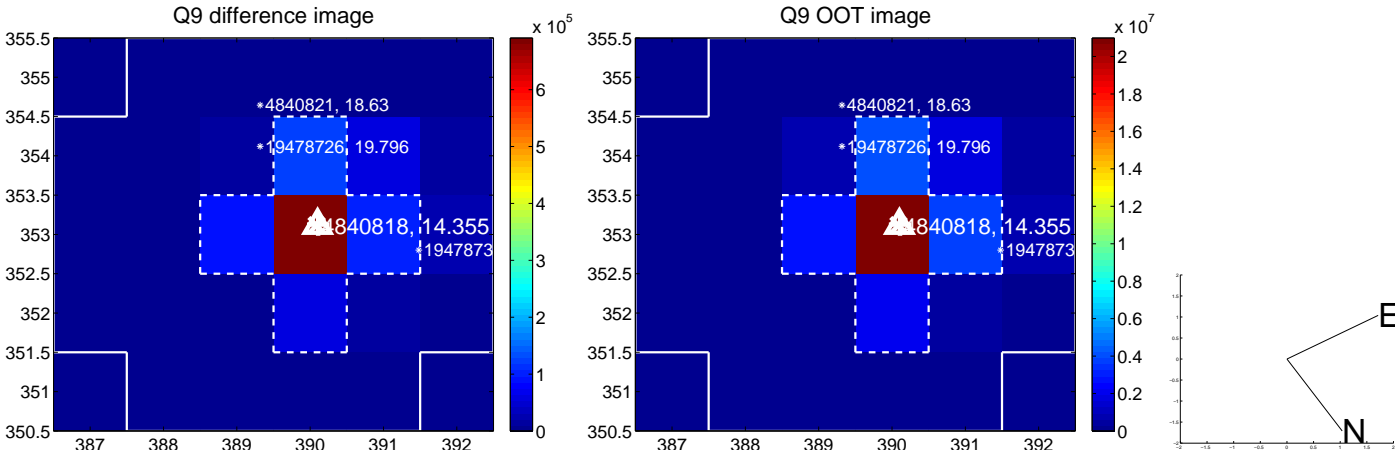


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

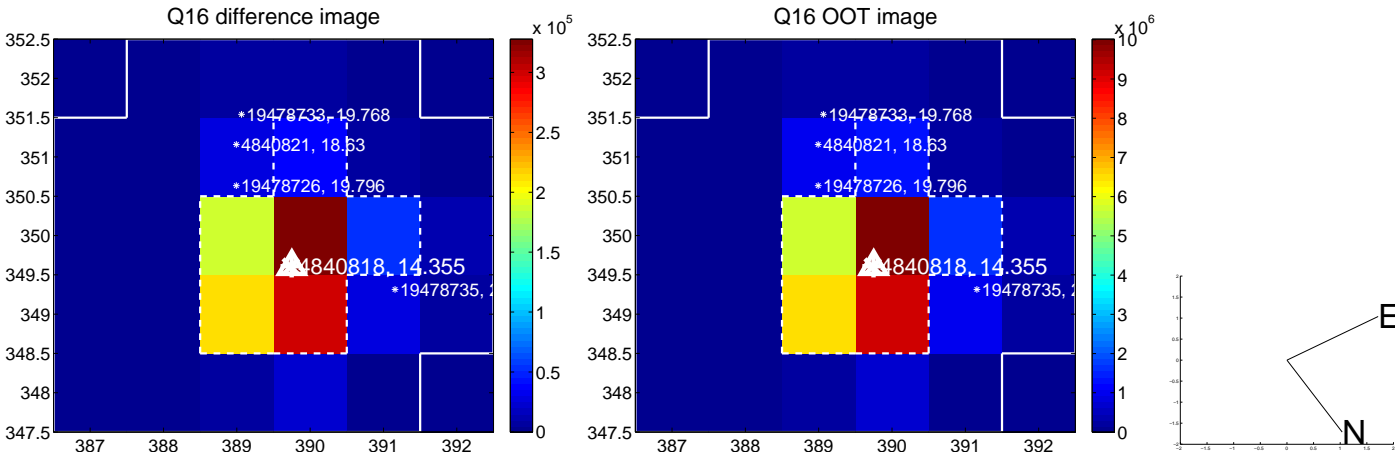
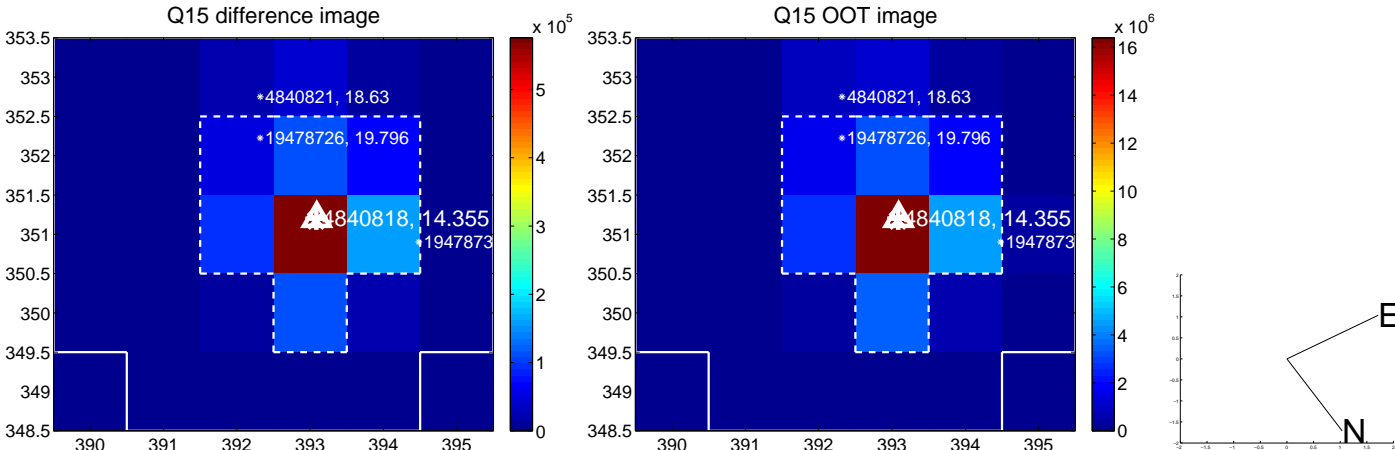
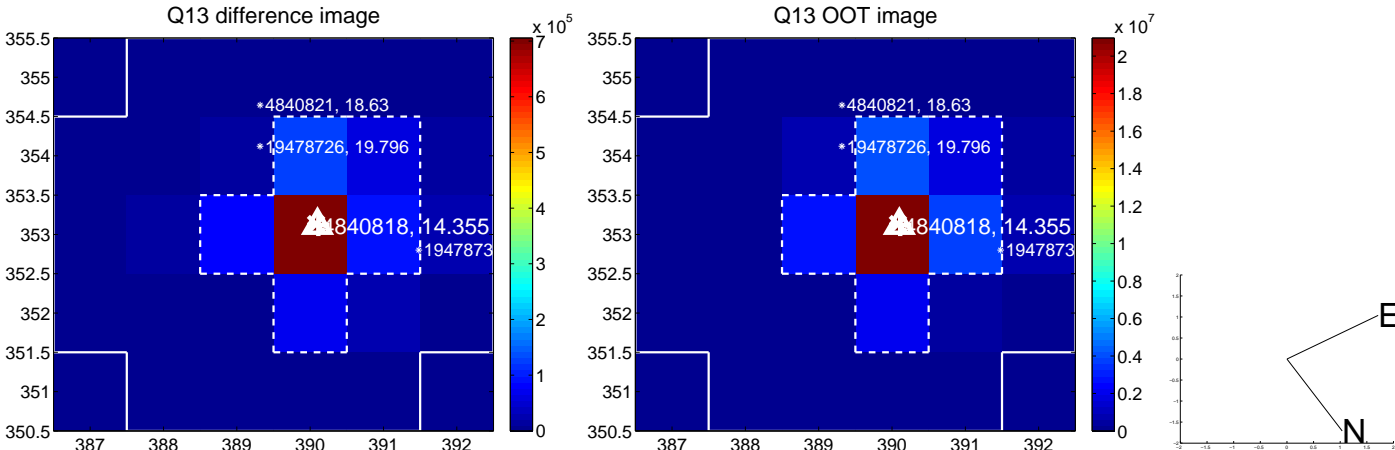
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



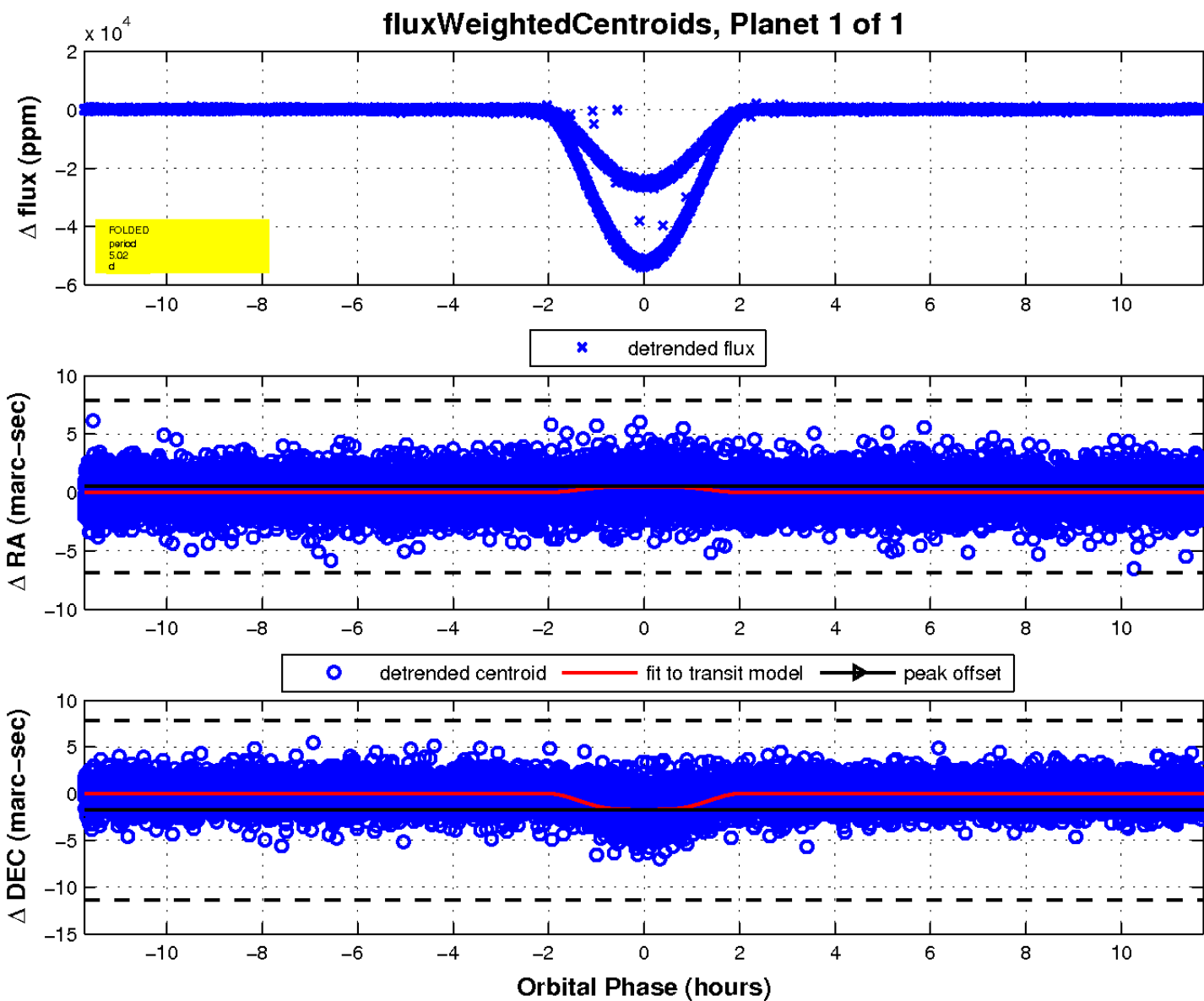
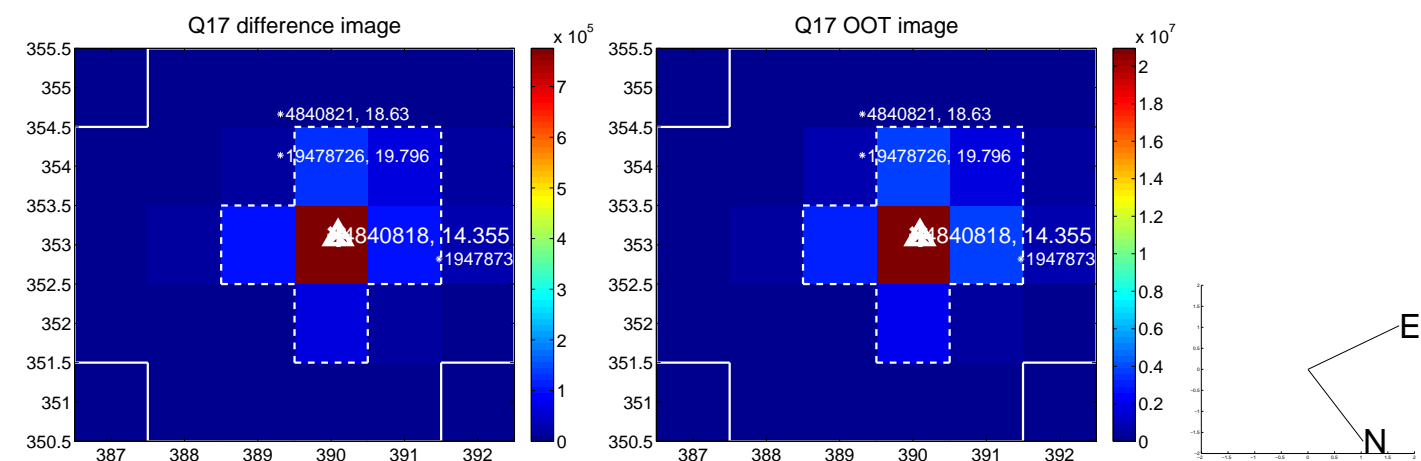
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

