

KIC 005016163

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})
005016163-01	OBS	5115.01	2.622832	131.856725	402729.0	7.473	18593.9	9551.8	0.99	6233	68.26	918.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005016163-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_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.

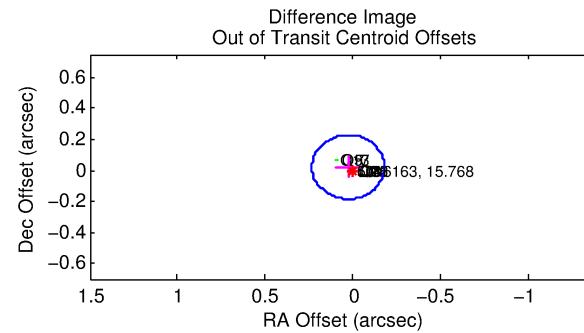
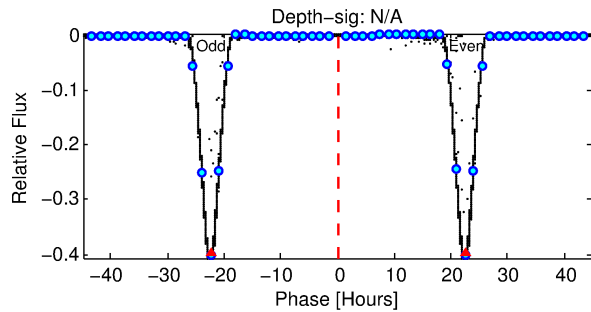
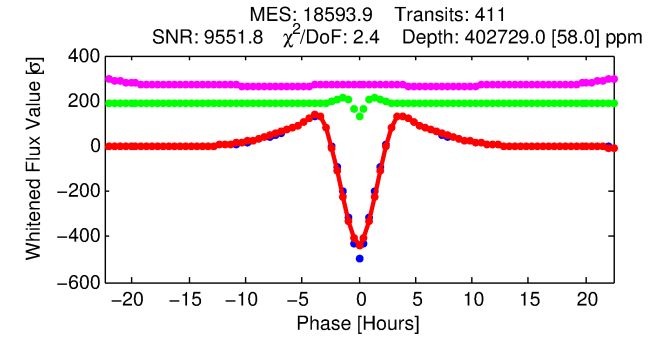
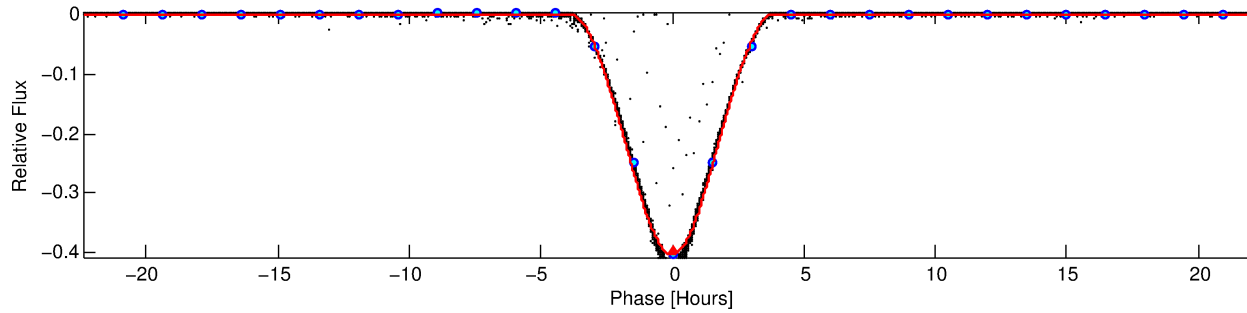
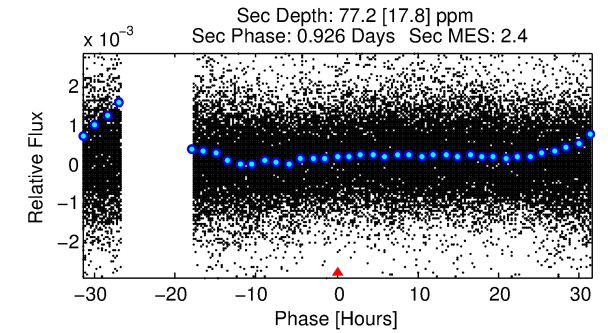
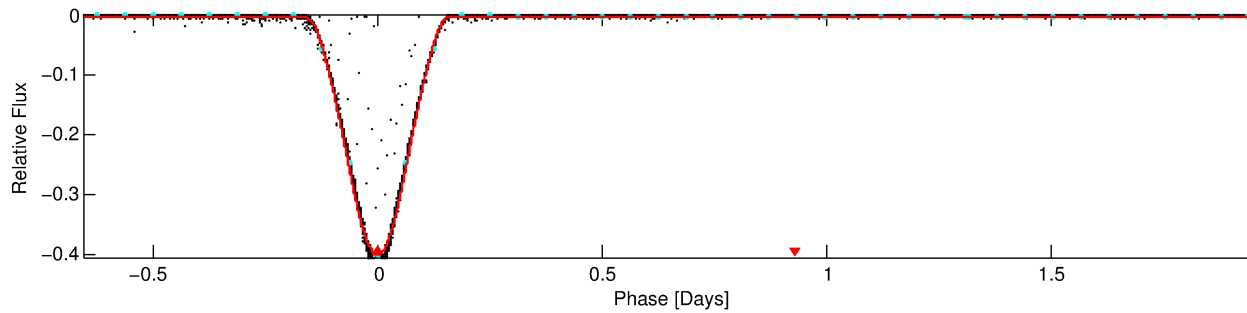
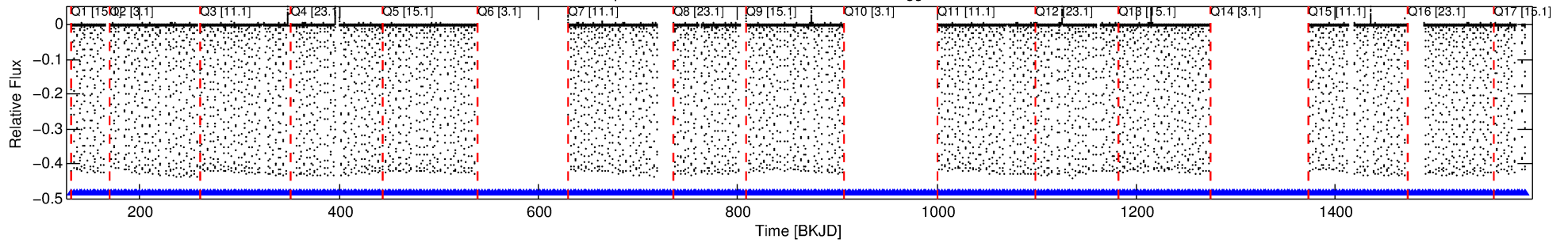
Ephemeris Match Information For 005016163-01

No Significant Match Found

DV One-Page Summary

KIC: 5016163 Candidate: 1 of 1 Period: 2.623 d
KOI: K05115.01 Corr: 0.994

Kp: 15.77 R*: 0.99 Rs Teff: 6233.0 K Logg: 4.47 Fe/H: -0.240



DV Fit Results:

Period = 2.62283 [0.00000] d
Epoch = 131.8567 [0.0000] BKJD
Rp/R* = 0.6331 [0.0008]
a/R* = 4.33 [0.00]
b = 0.46 [0.00]
Seff = 918.67 [362.70]
Teq = 1404 [139] K
Rp = 68.26 [21.07] Re
a = 0.0379 [0.0096] AU
Ag = 0.01 [0.01] [-175.16σ]
Teffp = 734 [51] K [-4.54σ]

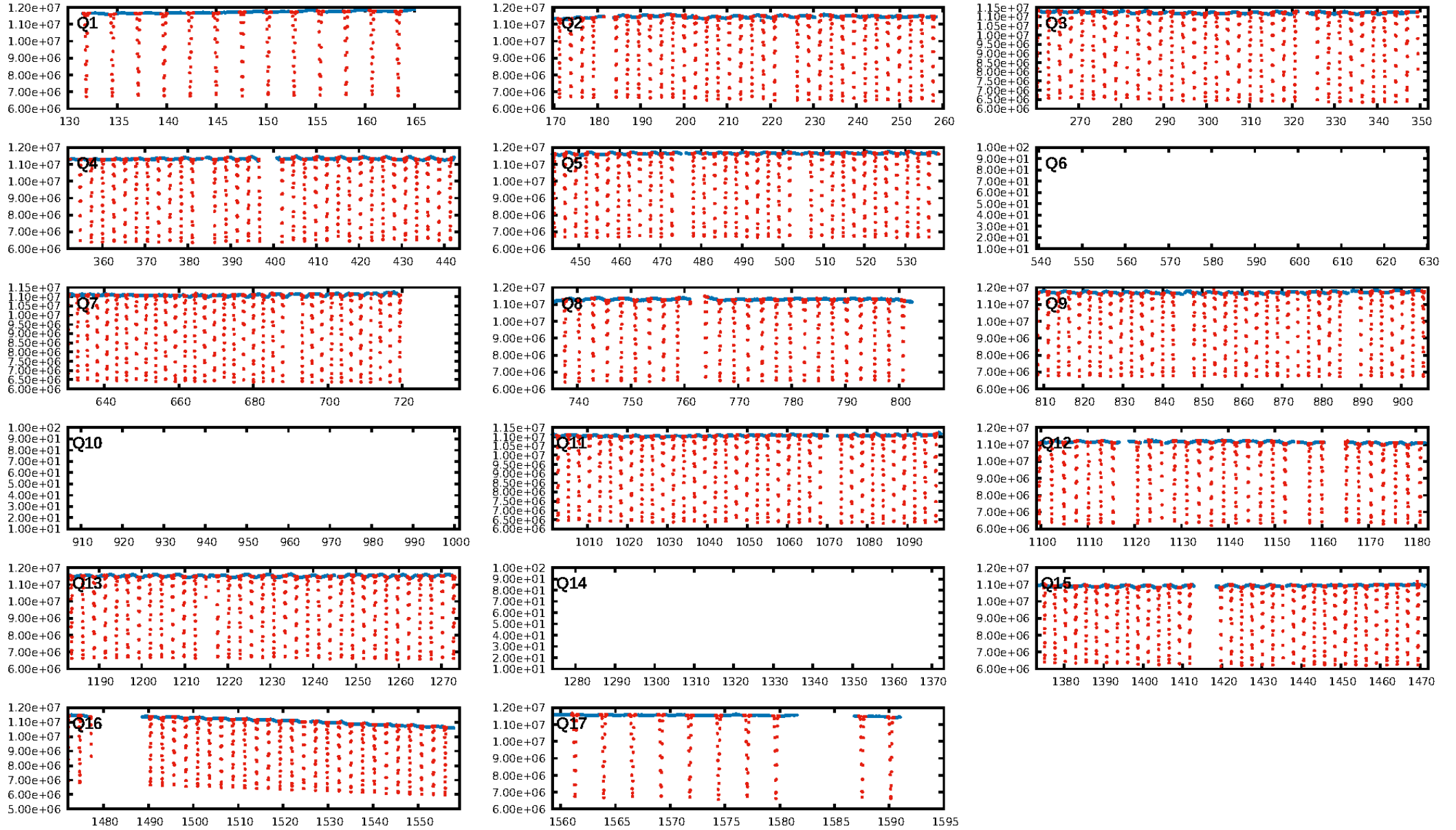
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [388/388]
GhostDiagnostic-chr: 1.61
Centroid-sig: N/A
Centroid-so: 0.181 arcsec [231.19σ]
OotOffset-rm: 0.036 arcsec [0.52σ]
KicOffset-rm: 0.142 arcsec [2.02σ]
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]

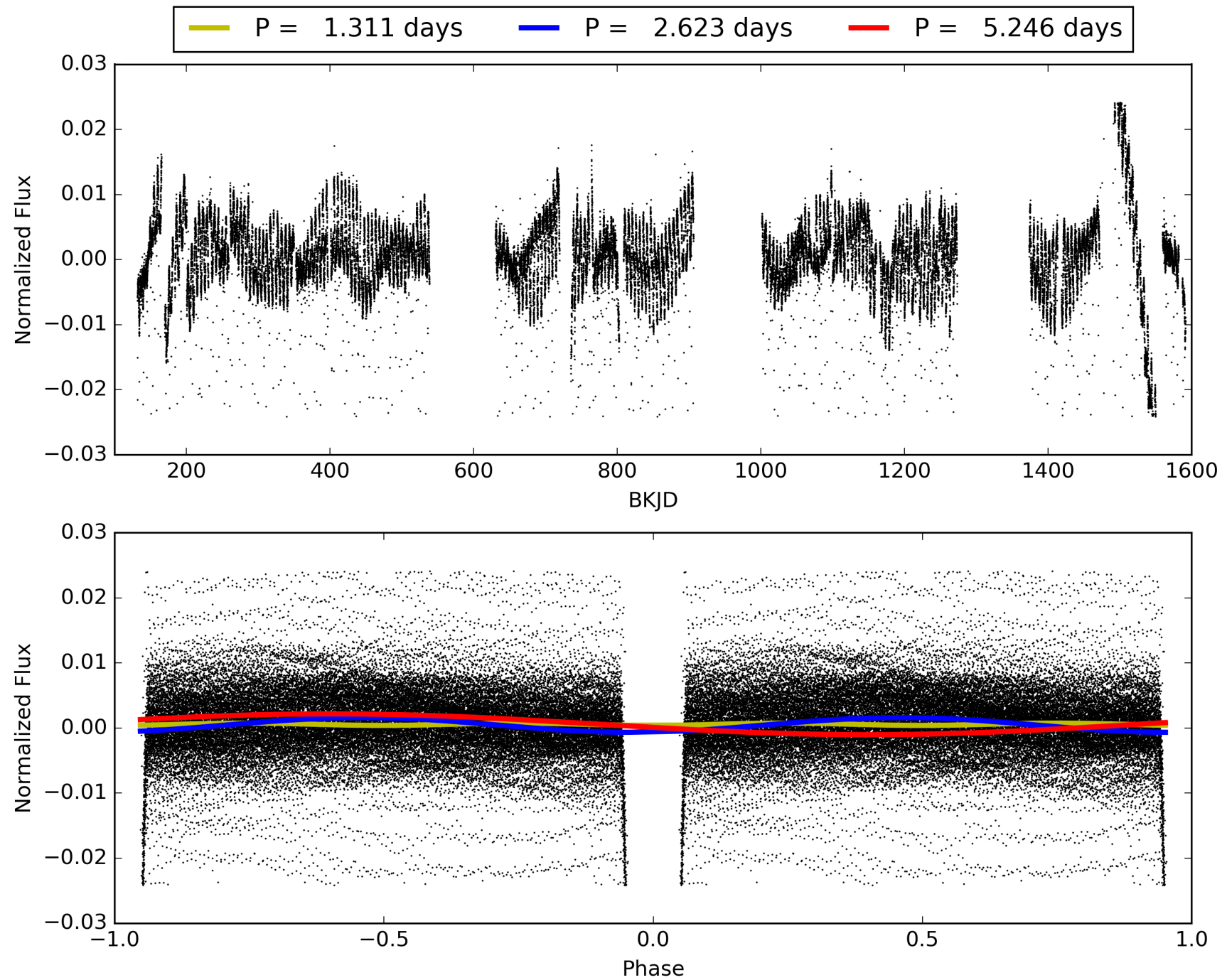
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:10:40 Z

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

TCE 005016163-01, PDC Light Curves

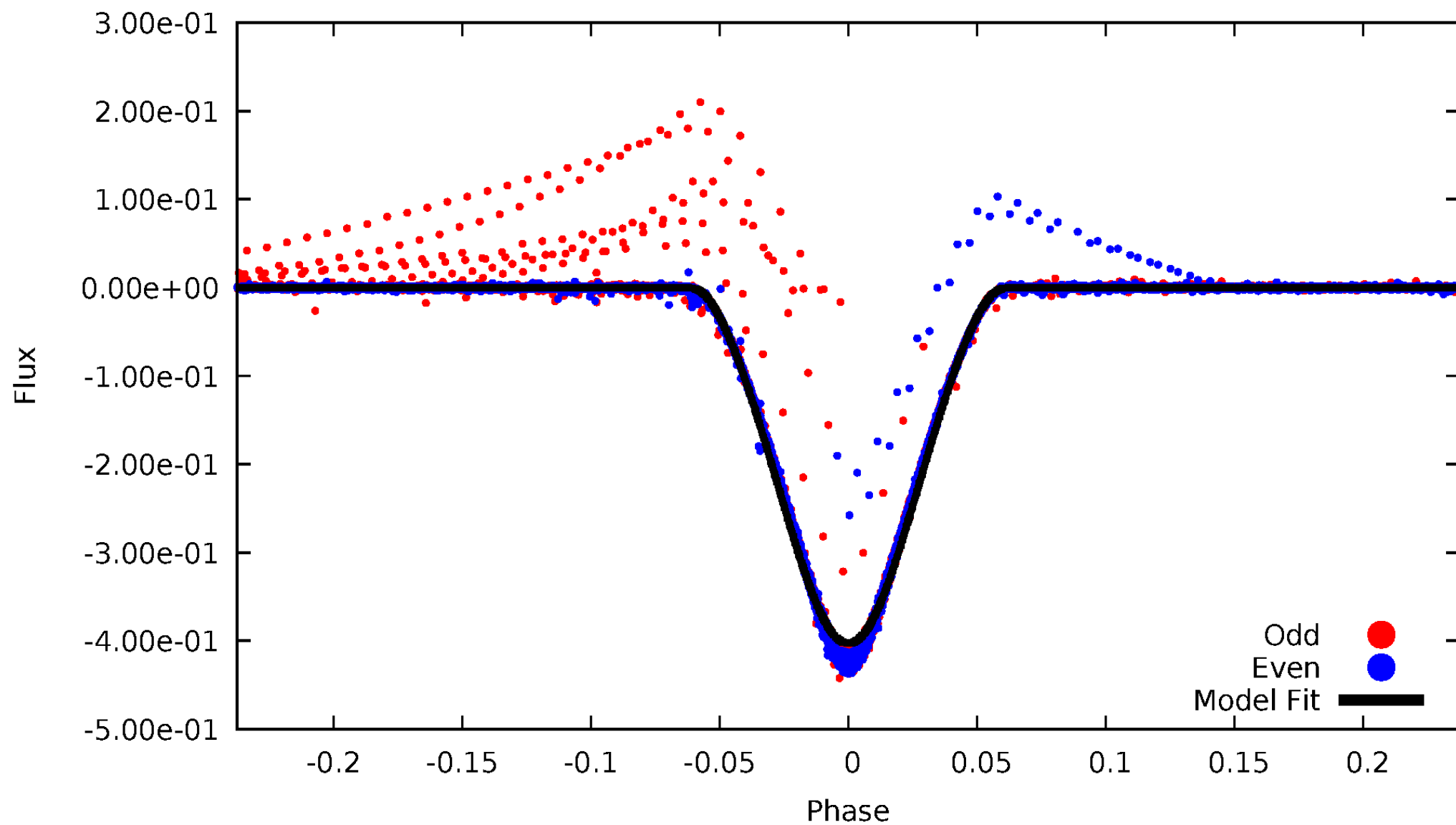


TCE 005016163-01



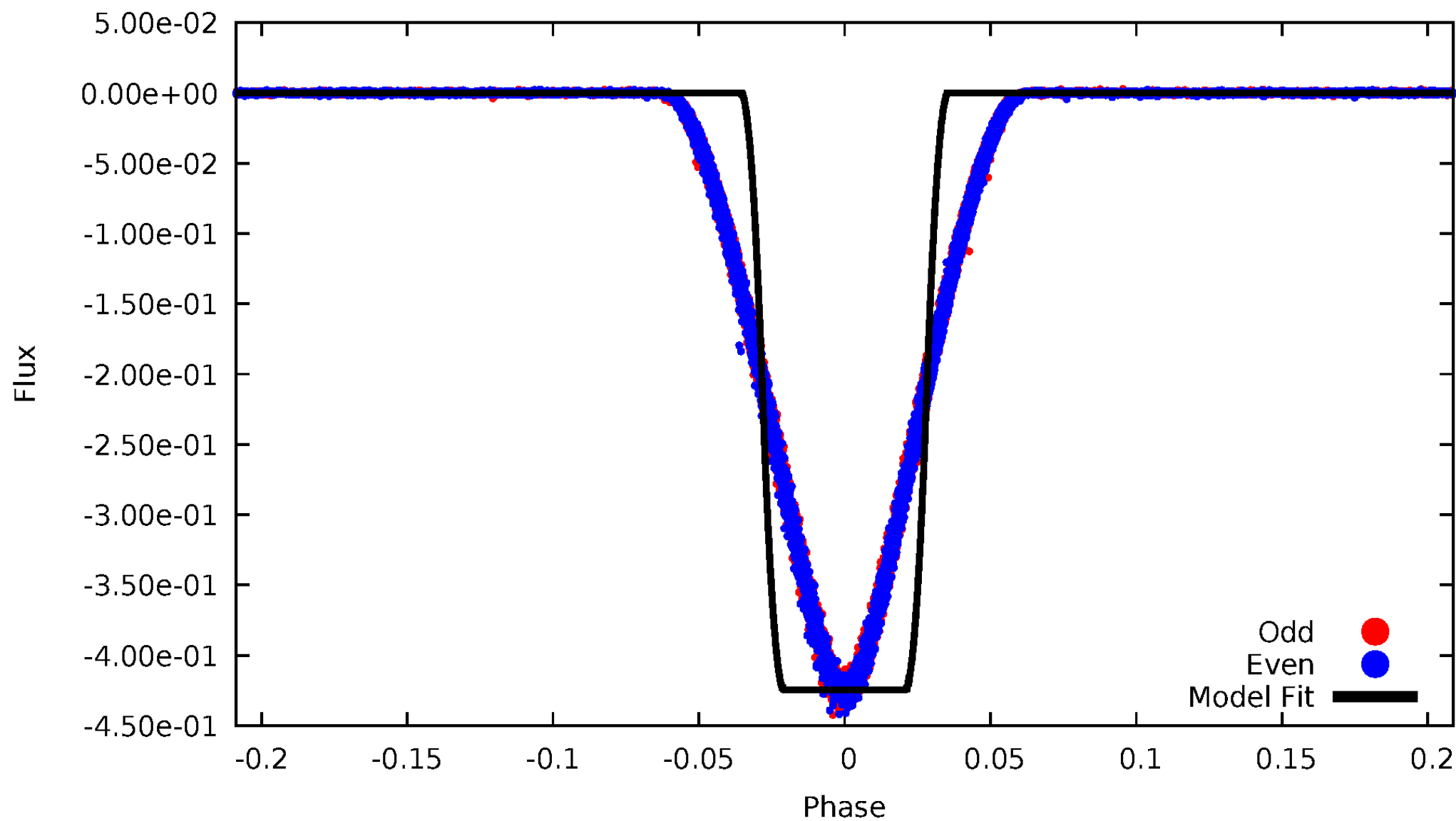
DV Odd/Even

TCE 005016163-01



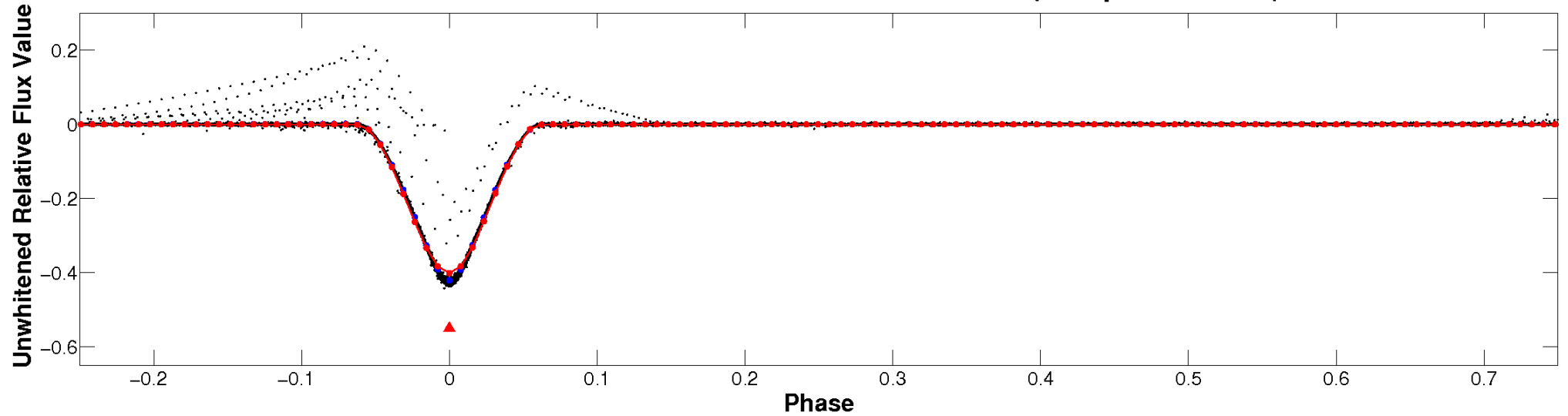
ALT Odd/Even

TCE 005016163-01

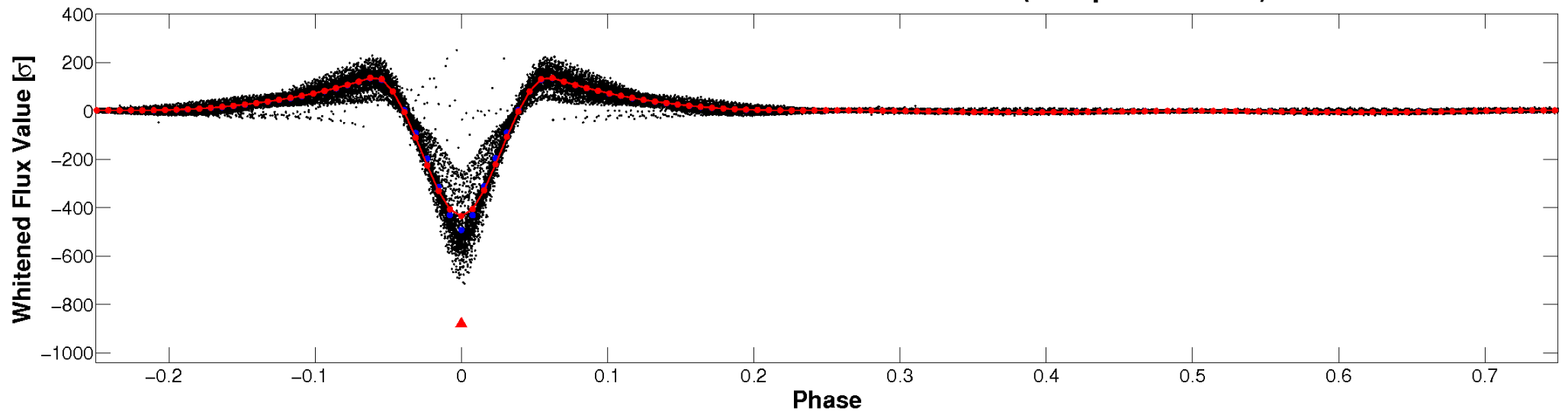


Non-Whitened Vs. Whitened Light Curve

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

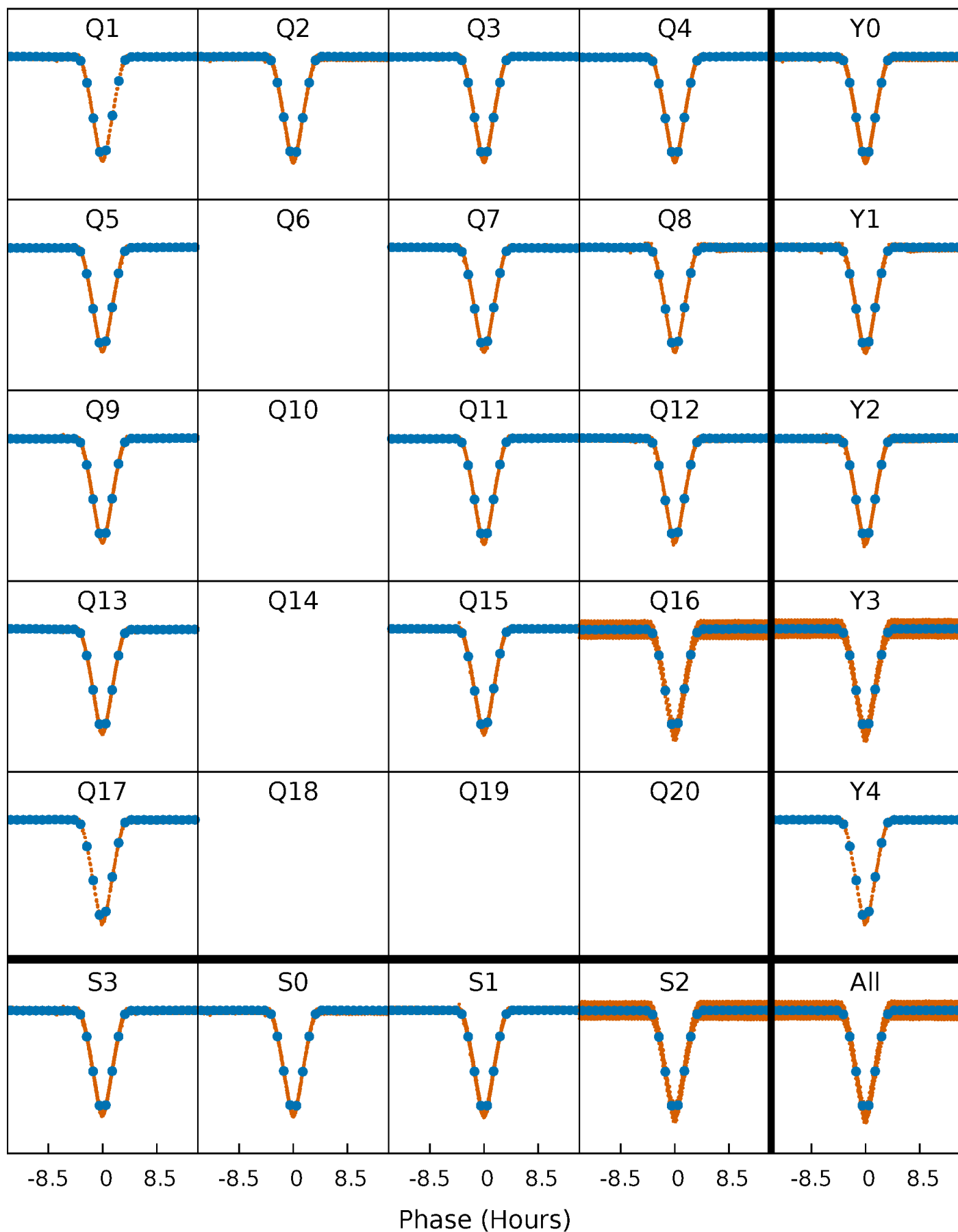


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



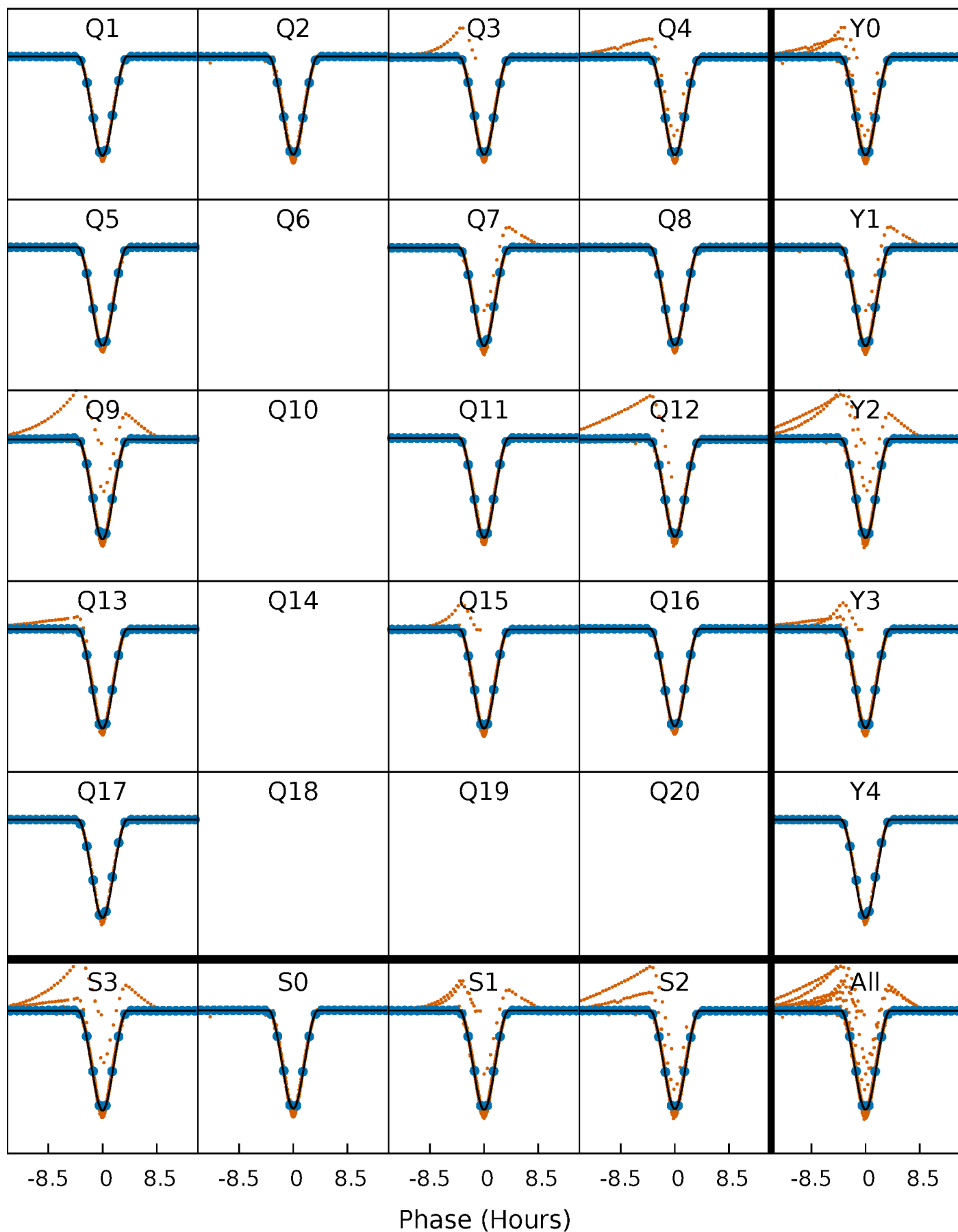
PDC Quarter-Phased Transit Curves

TCE 005016163-01 P= 2.622832 Days $T_0=131.856725$ (BKJD)



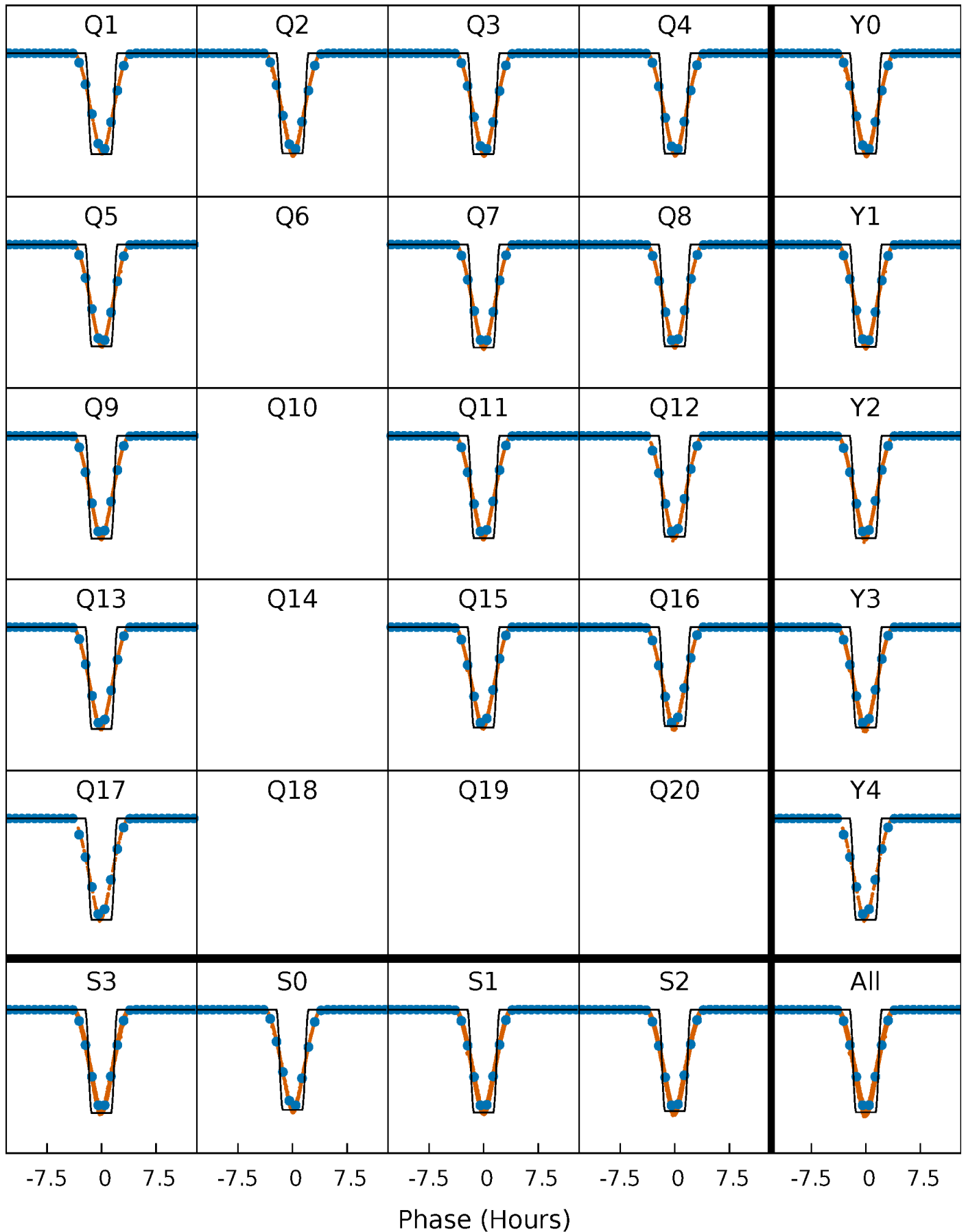
DV Quarter-Phased Transit Curves

TCE 005016163-01 P= 2.622832 Days $T_0=131.856725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

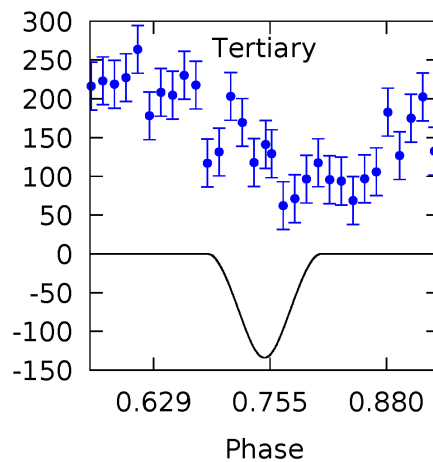
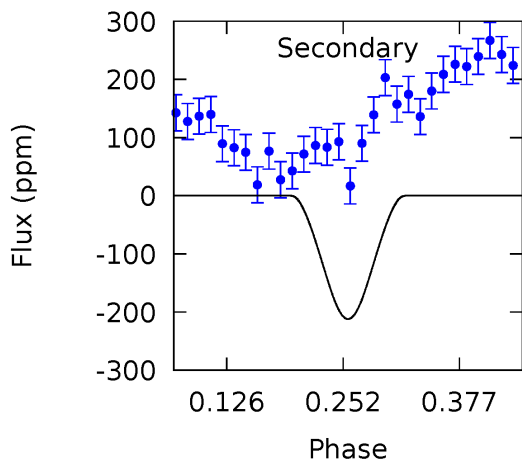
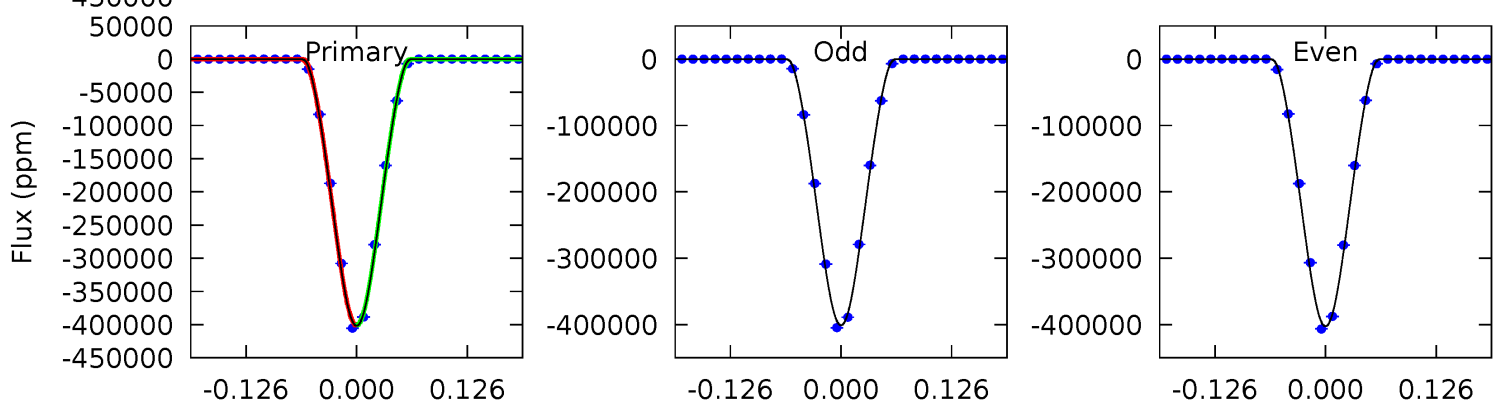
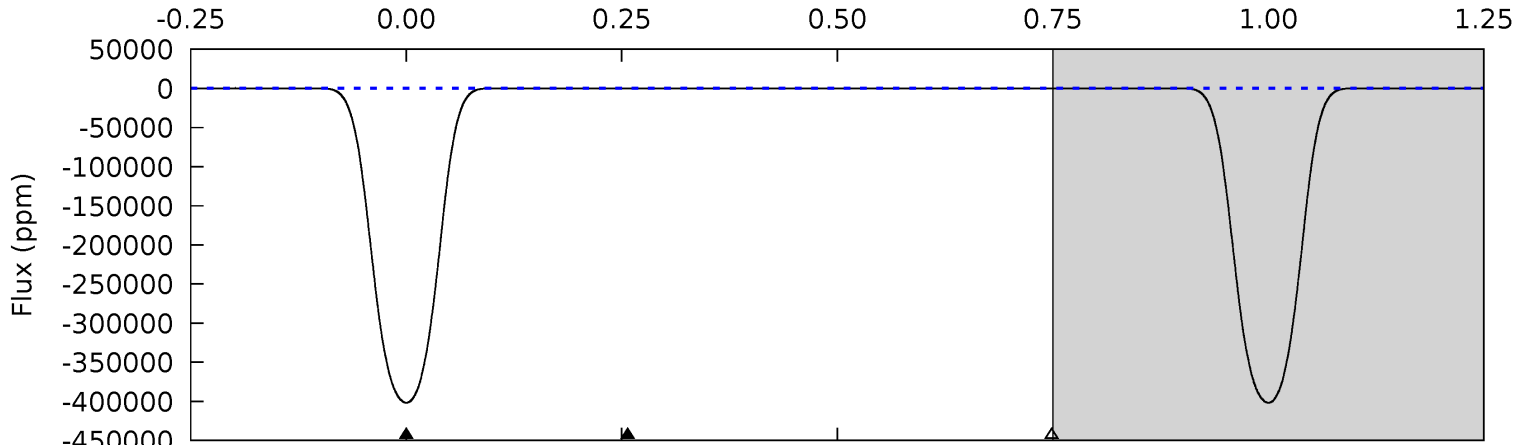
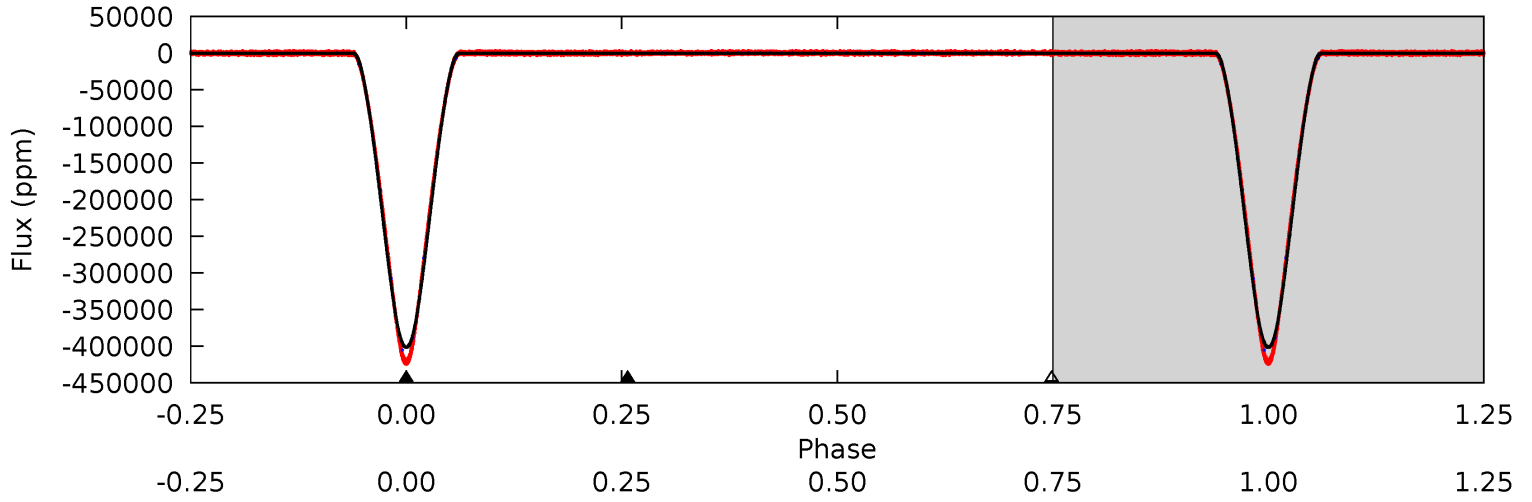
TCE 005016163-01 P= 2.622847 Days $T_0=131.852687$ (BKJD)



DV Model-Shift Uniqueness Test

005016163-01, P = 2.622832 Days, E = 129.233893 Days

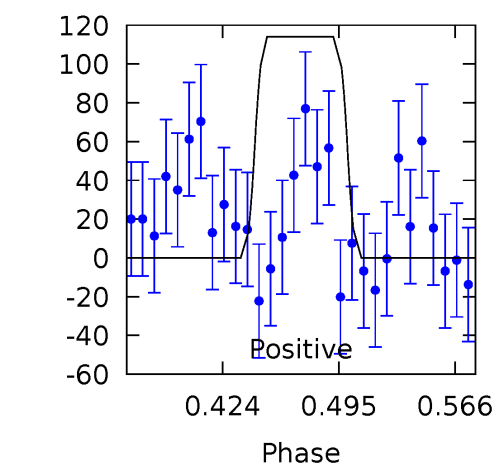
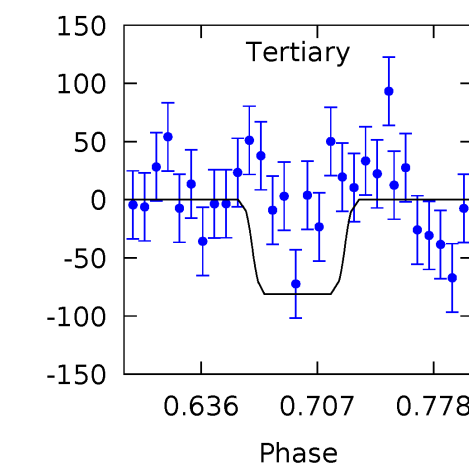
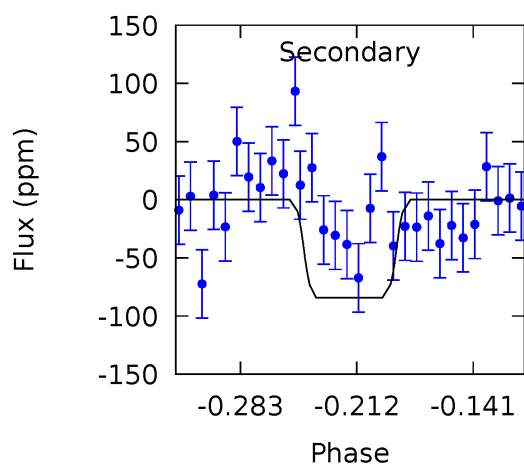
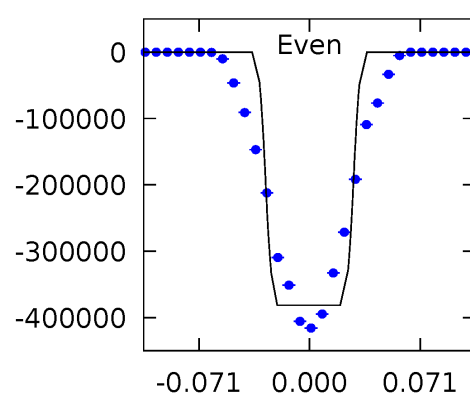
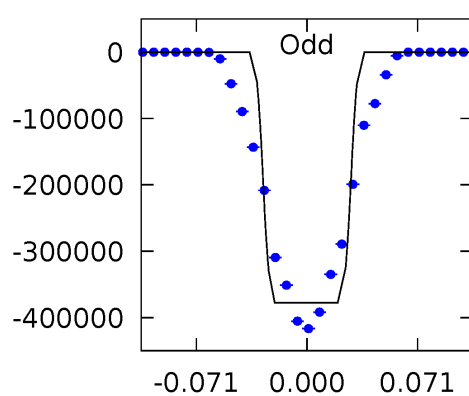
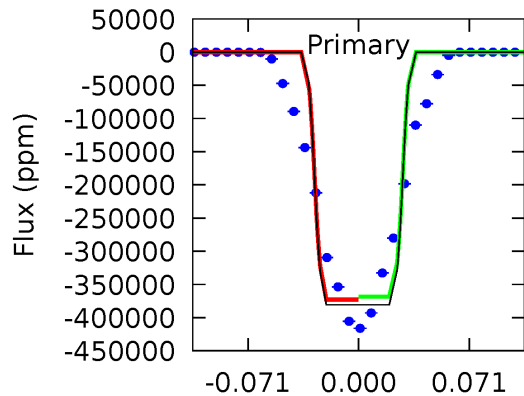
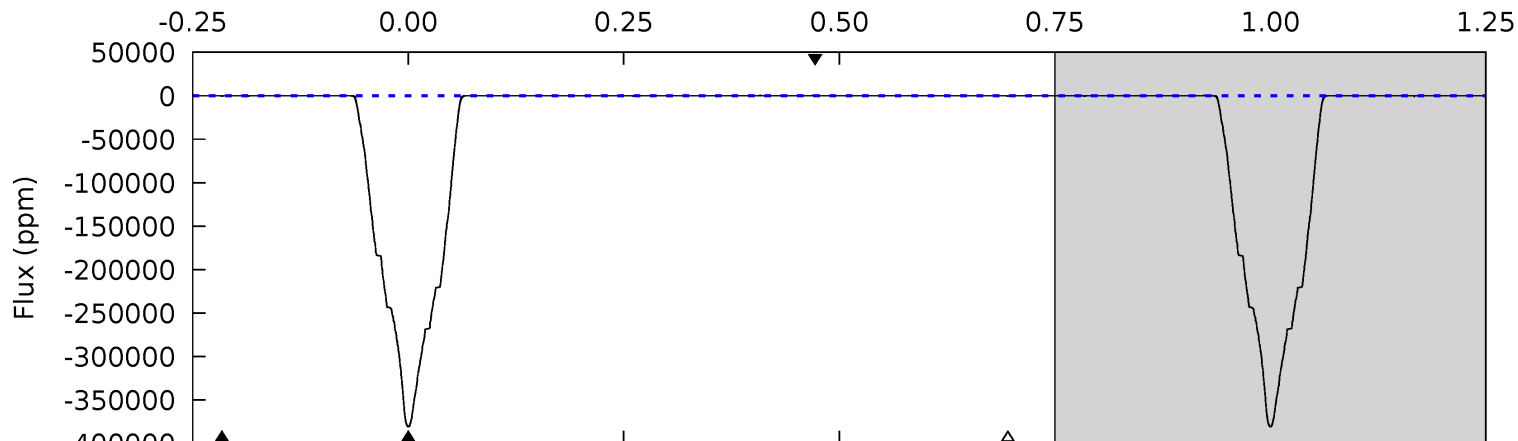
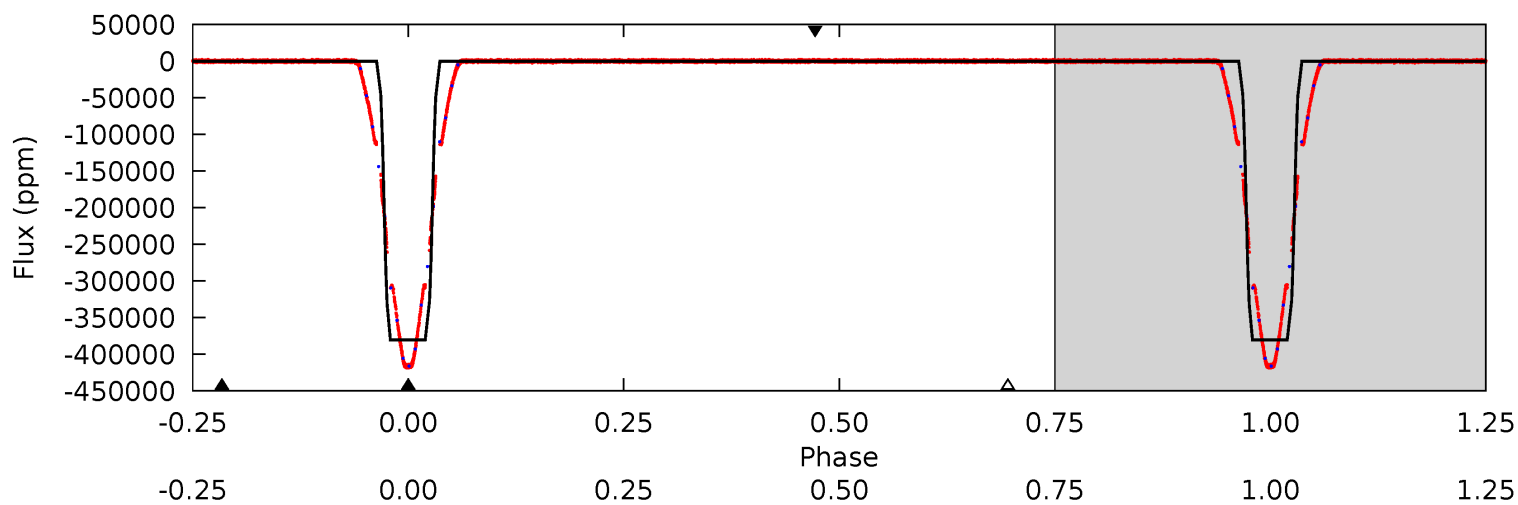
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34161	18.0	11.4	0	4.52	1.53	7.42	34150	34161	6.65	18.0	65.4	0.99	0.00	19.7



Alt Model-Shift Uniqueness Test

005016163-01, P = 2.622847 Days, E = 129.229840 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15114	3.35	3.22	4.53	4.64	1.81	1.14	15111	15110	0.12	-1.18	69.5	1.00	0.00	0



Stellar Parameters For KIC 005016163

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6233^{+175}_{-241}	$4.472^{+0.052}_{-0.195}$	$-0.240^{+0.250}_{-0.350}$	$0.988^{+0.305}_{-0.122}$	$1.054^{+0.144}_{-0.144}$	$1.541^{+0.419}_{-0.790}$
	+3%/-4%	+1%/-4%	+104%/-146%	+31%/-12%	+14%/-14%	+27%/-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 005016163-01 / KOI 5115.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-212 ± 12	$70.72^{+11.73}_{-6.33}$	2005^{+137}_{-102}	-2464^{+65}_{-91}	$0.033^{+0.006}_{-0.008}$
Alt.	-84 ± 25	$72.61^{+11.45}_{-6.20}$	2000^{+144}_{-104}	-2482^{+64}_{-92}	$0.012^{+0.005}_{-0.004}$

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

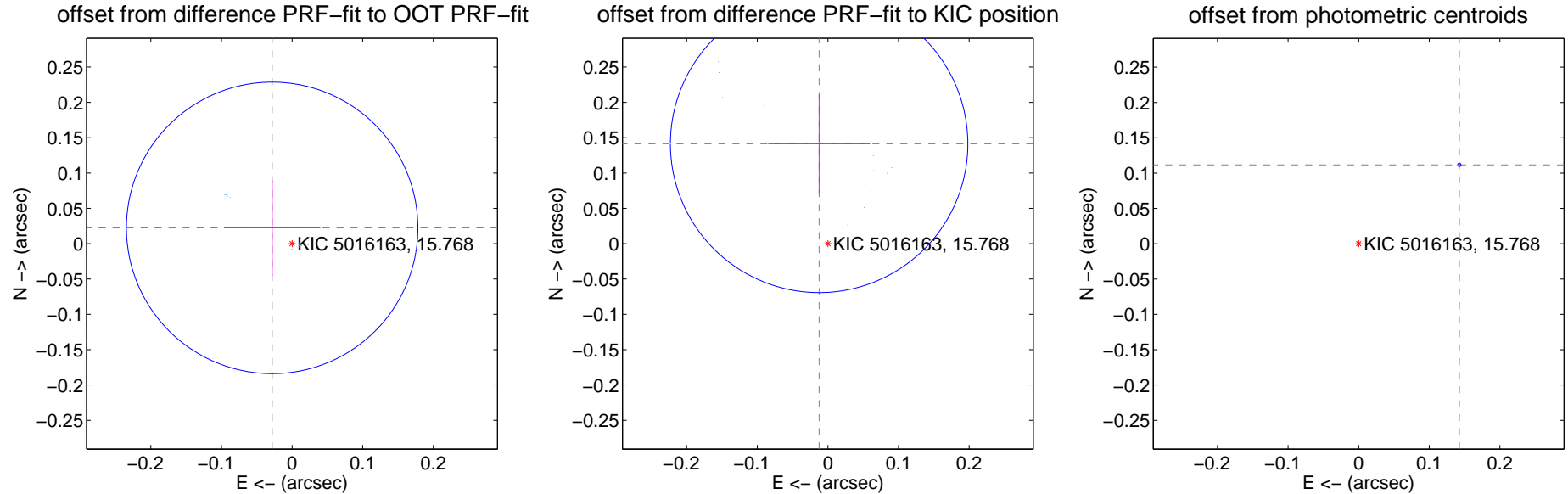
DV Centroid Data

Supplemental centroid analysis for 005016163-01. Kepler magnitude: 15.77. Transit SNR 9551.82

There are 14 quarters with good PRF difference image offsets

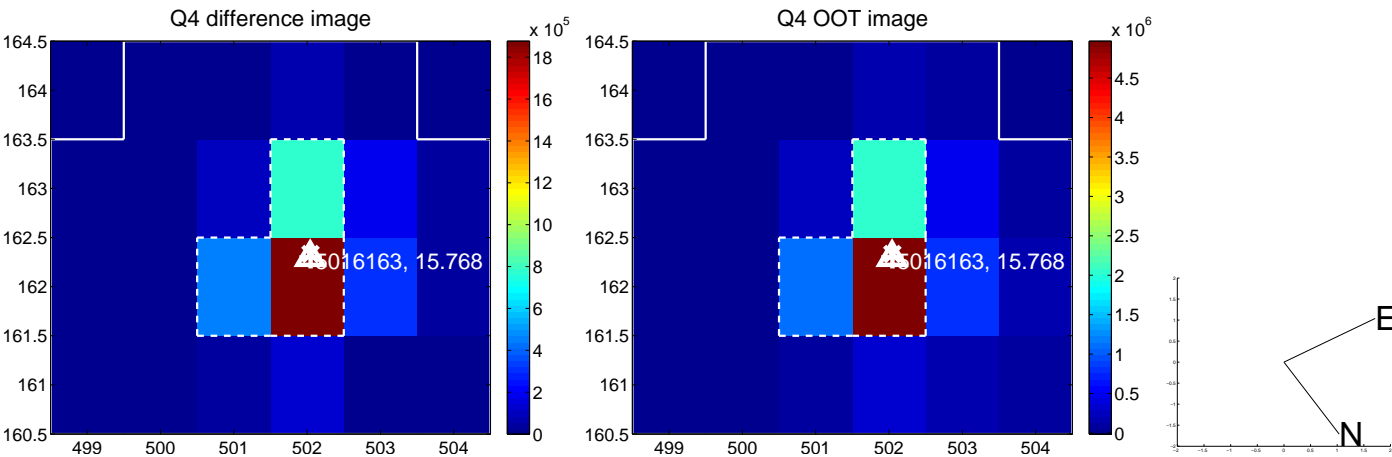
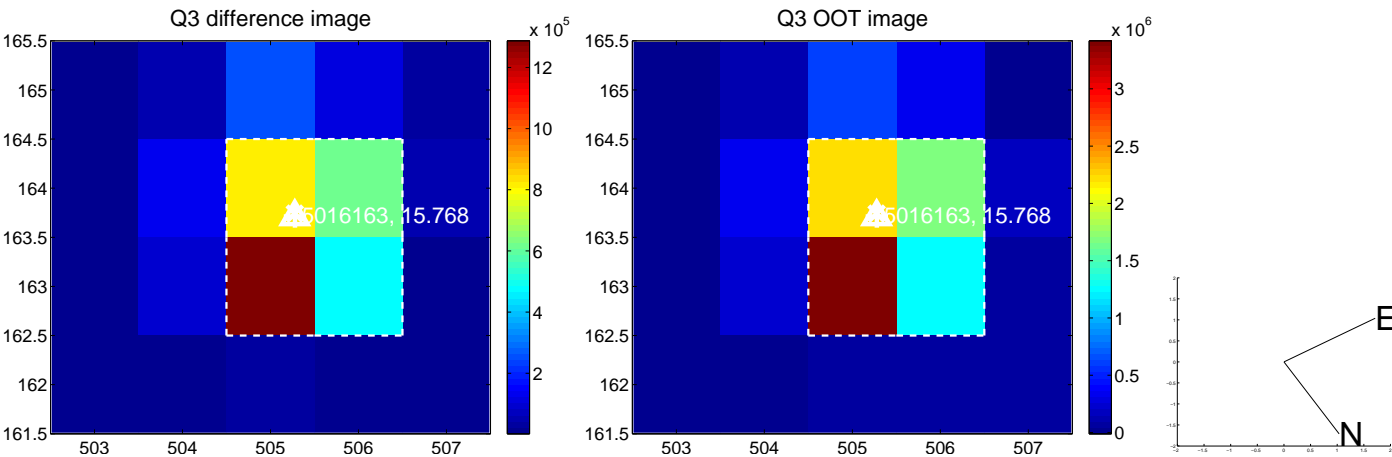
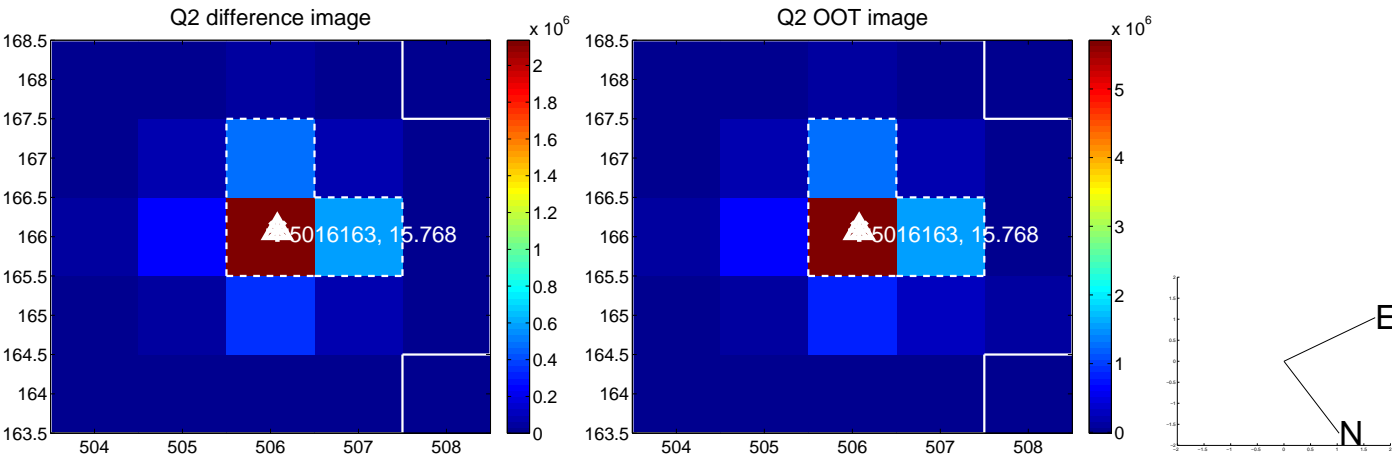
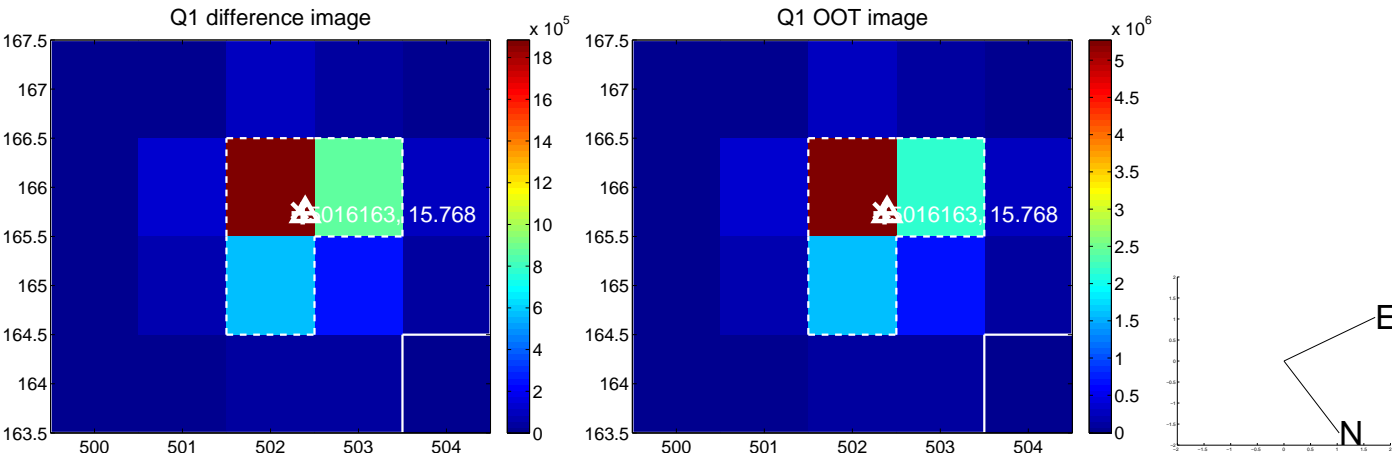
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.069	0.52	0.028 ± 0.068	0.022 ± 0.067
PRF-fit source offset from KIC position	0.142 ± 0.070	2.02	0.012 ± 0.072	0.141 ± 0.070
photometric centroid source offset	0.18 ± 0.00	231.19	-0.14 ± 0.00	0.11 ± 0.00

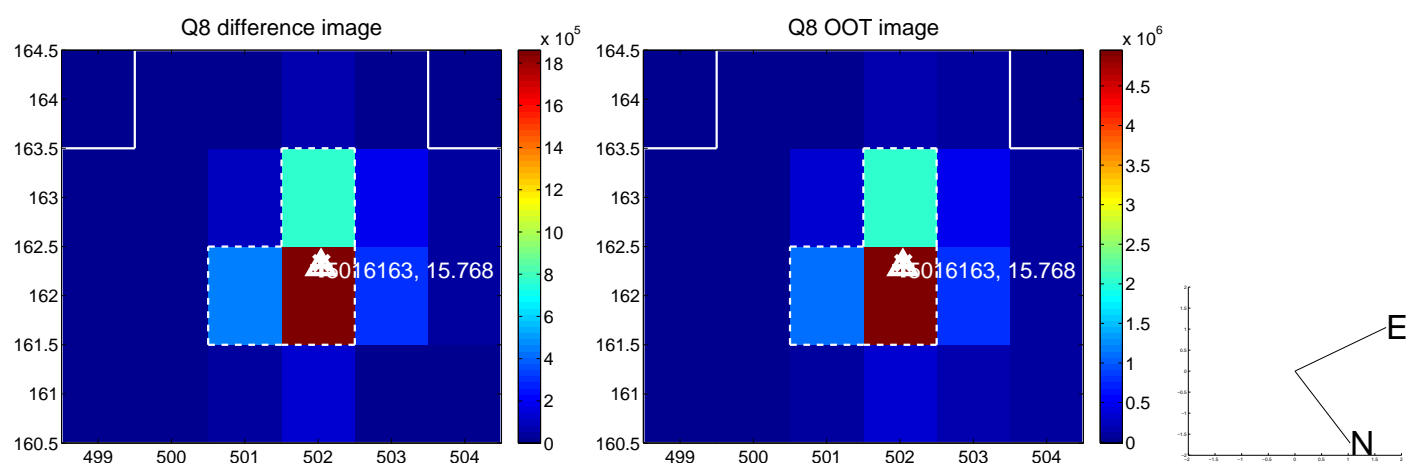
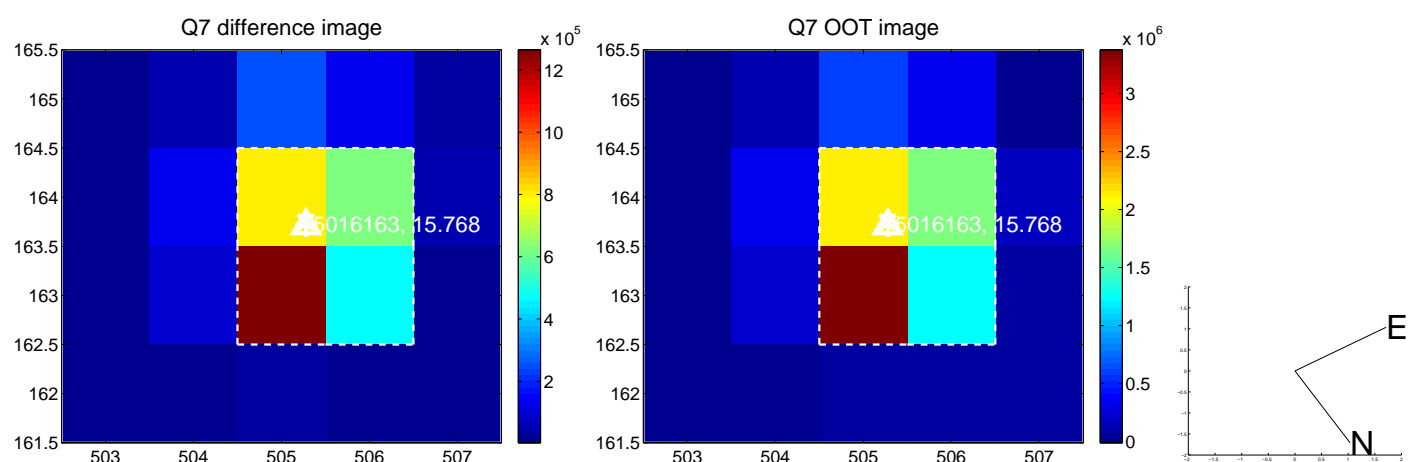
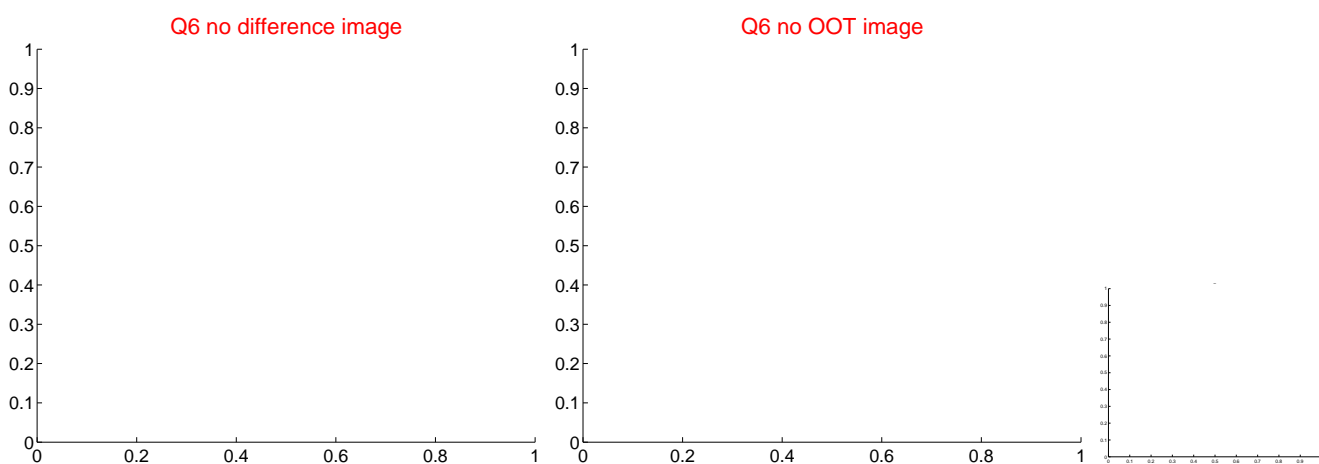
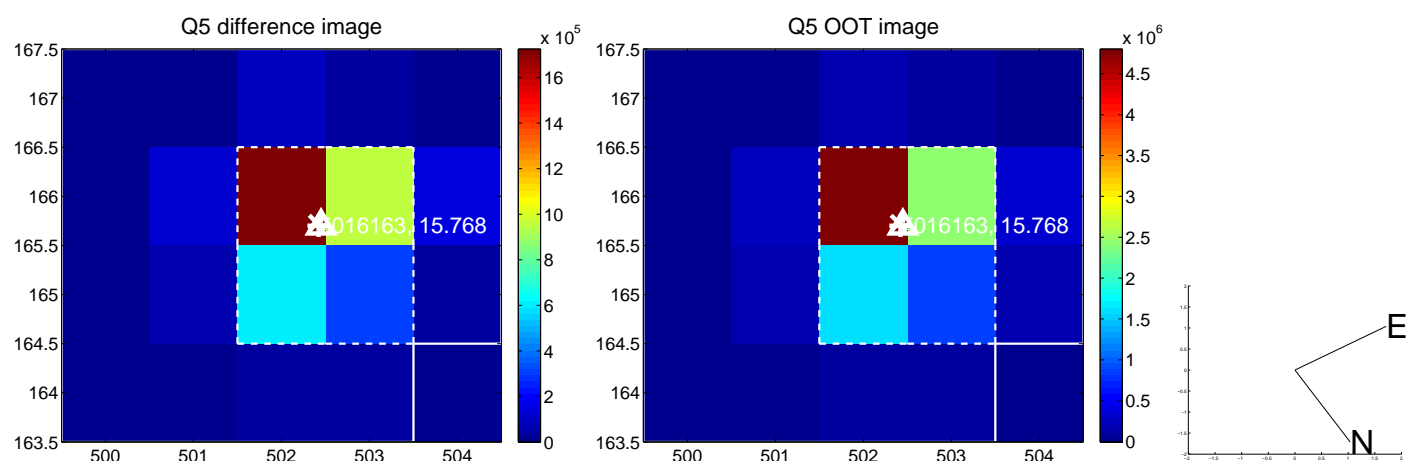


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

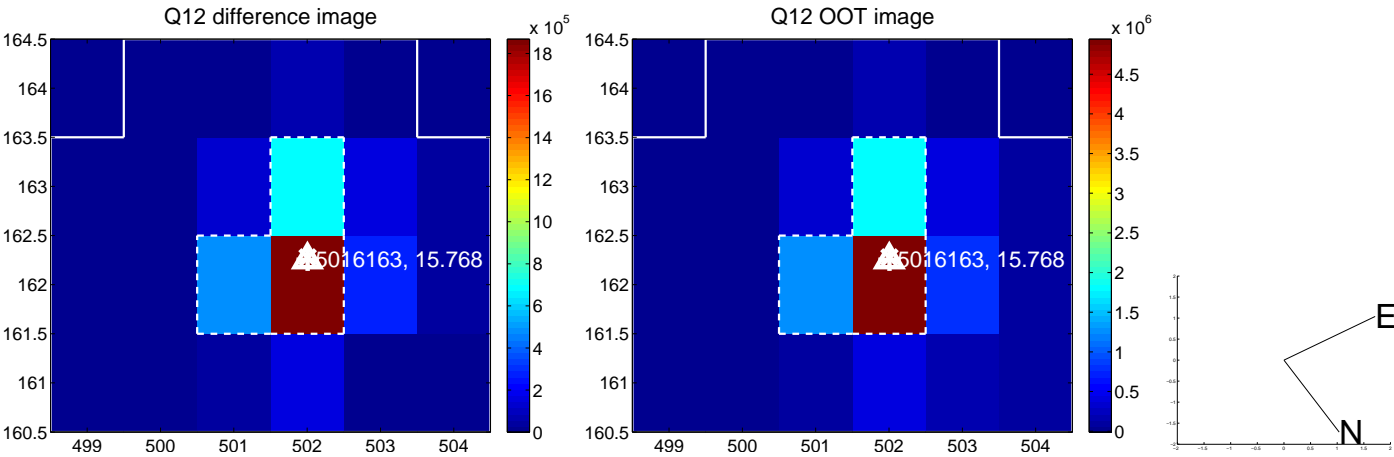
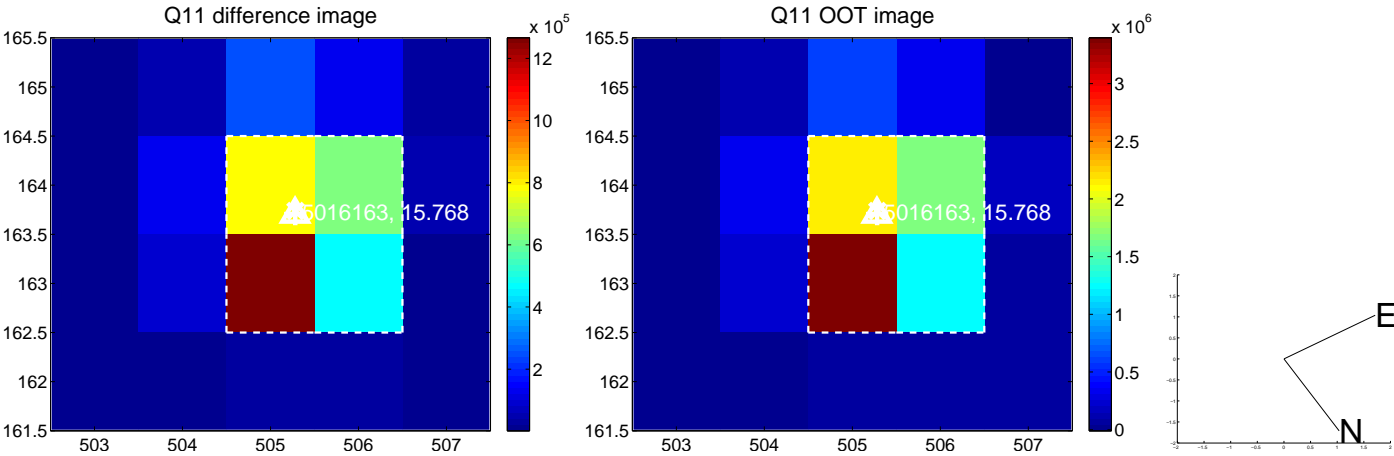
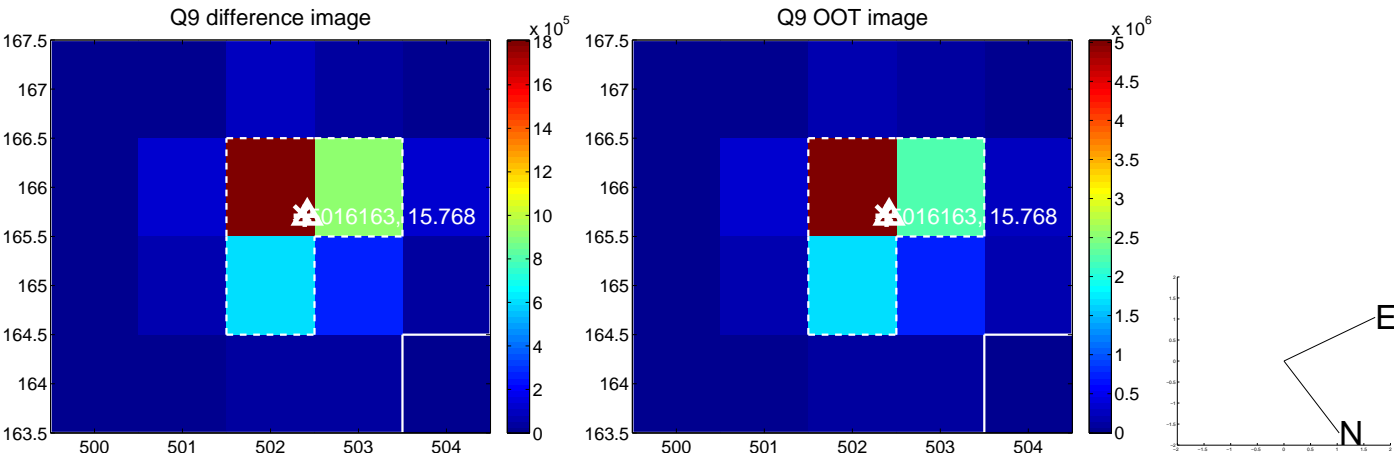
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



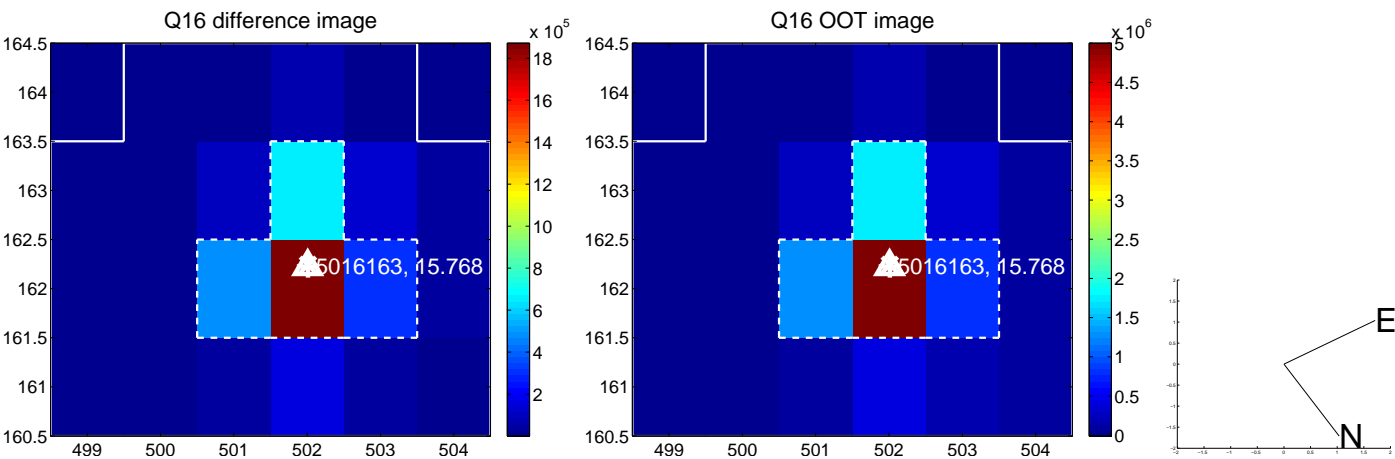
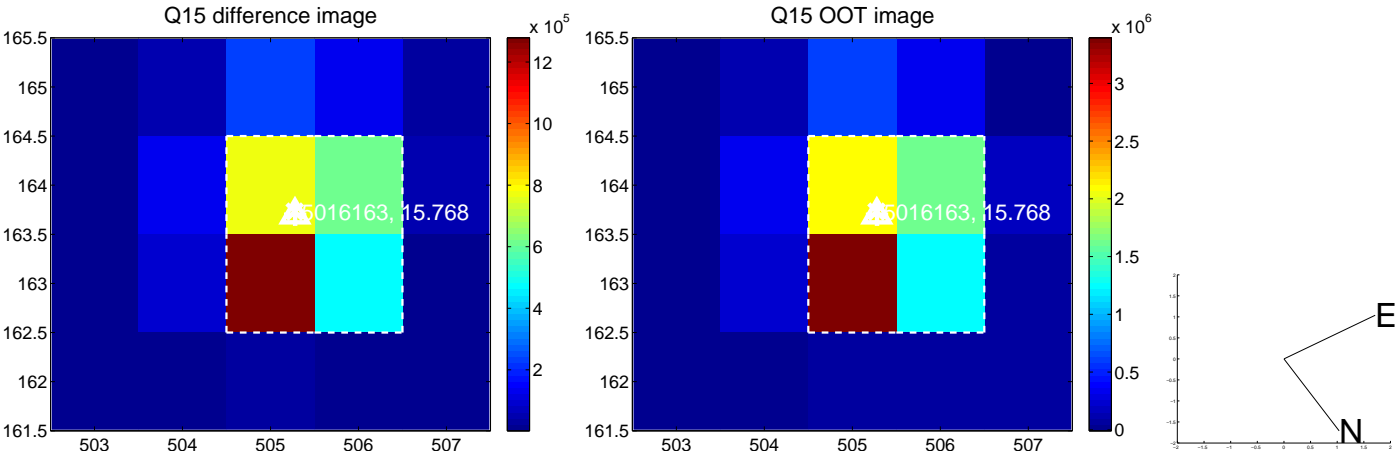
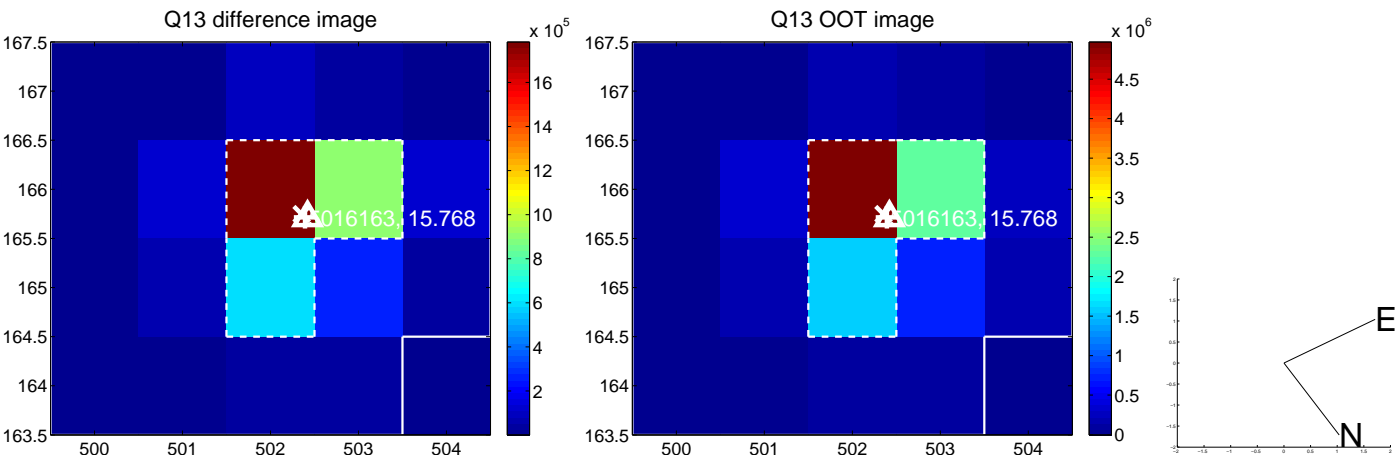
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



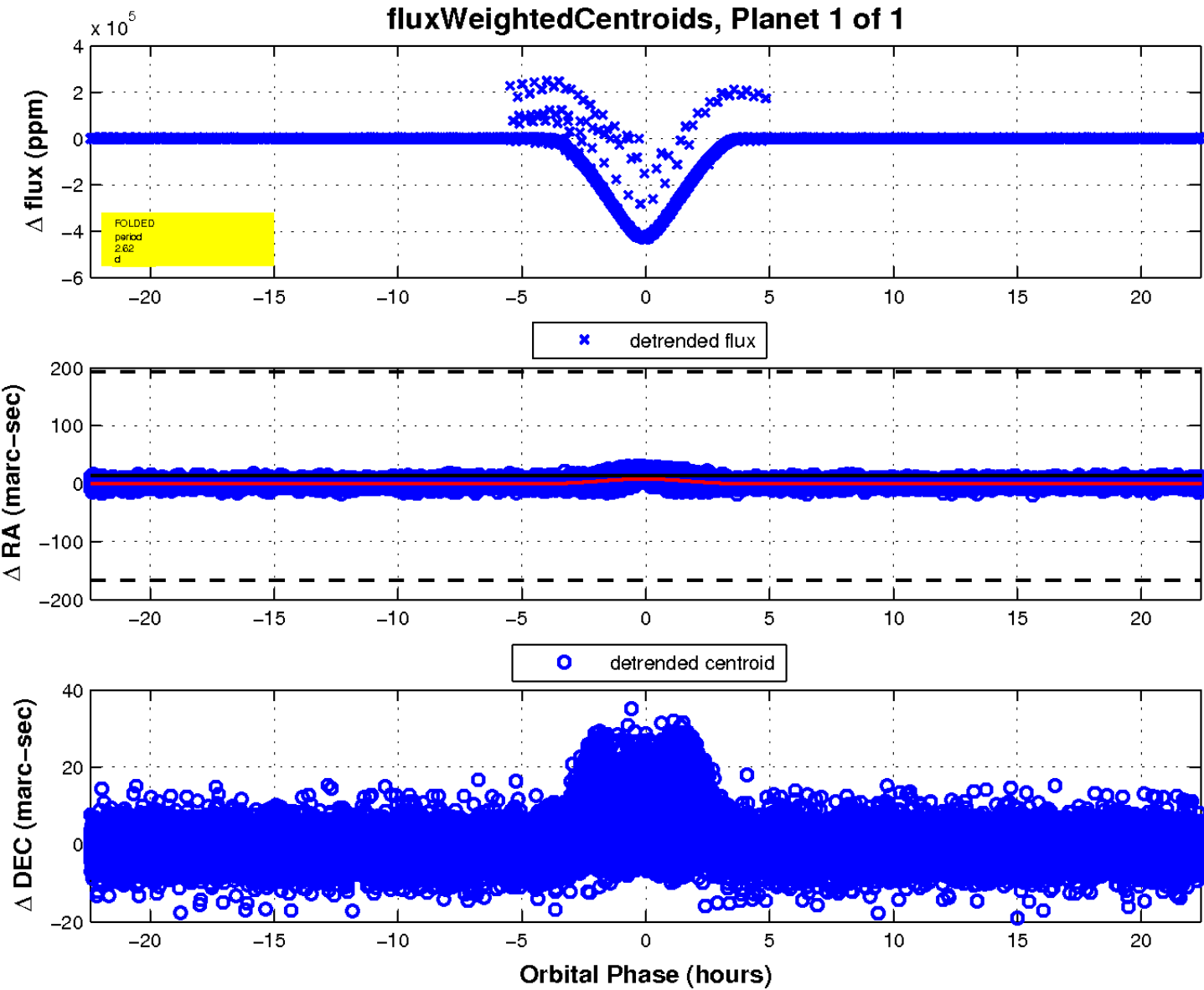
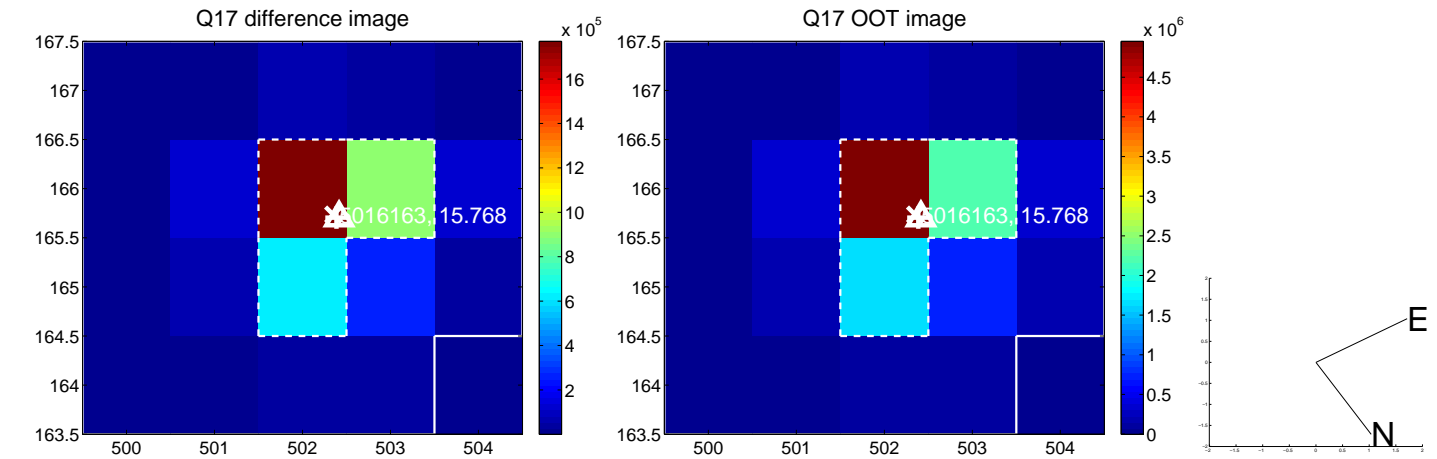
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

