

KIC 005036516

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})
005036516-01	OBS	6502.01	1.060966	132.567310	39885.2	2.614	905.4	540.2	1.35	5433	37.75	3552.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005036516-01	OBS	FP	0.00	0	1	0	1	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_FEW_DIFFS—EPHEM_MATCH

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 005036516-01

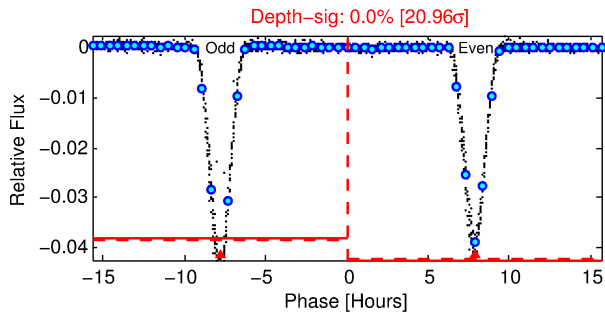
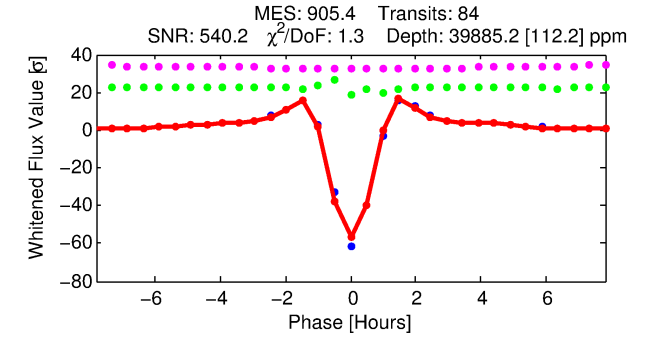
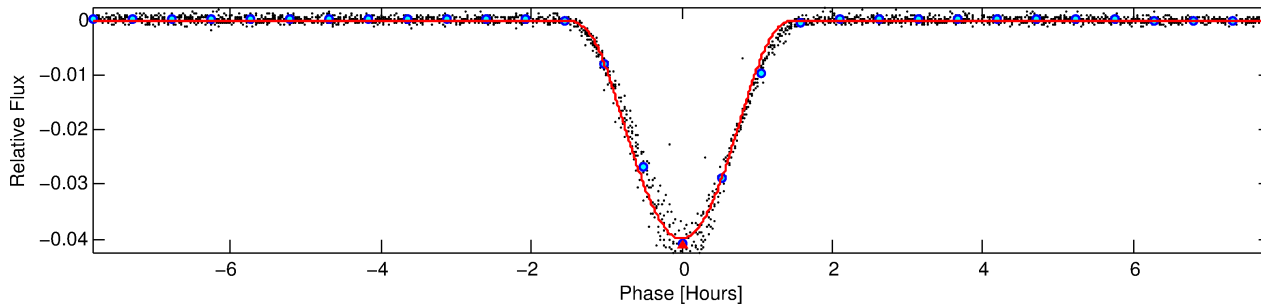
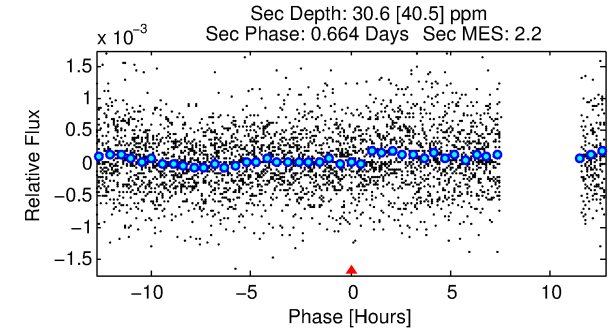
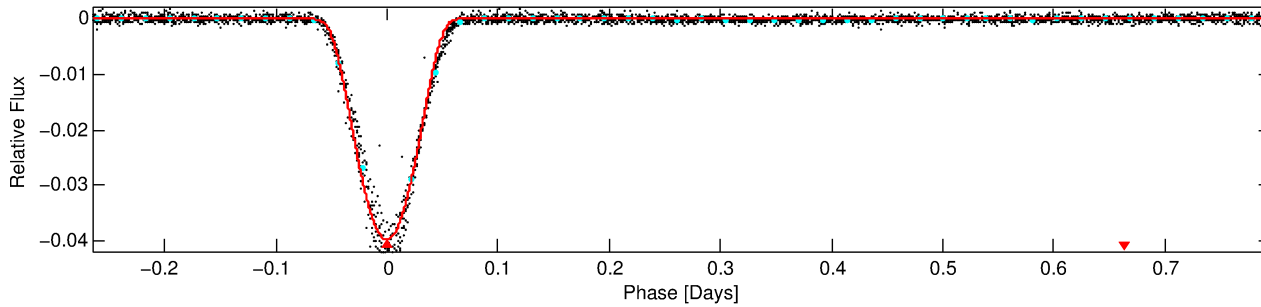
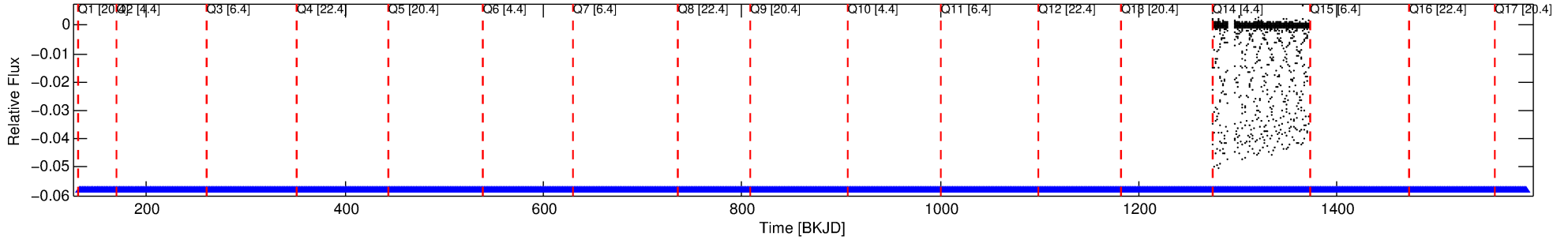
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005036516-01	5036516	6504.01	5036538	1:1	6.7	0	-1	13.35	14.34	10.54	Direct-PRF	0	3.59	3.28

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5036516 Candidate: 1 of 1 Period: 1.061 d
KOI: K06502.01 Corr: 0.881

Kp: 14.34 R*: 1.35 Rs Teff: 5433.0 K Logg: 4.15 Fe/H: 0.220



DV Fit Results:

Period = 1.06097 [0.00000] d
Epoch = 132.5673 [0.0000] BKJD
Rp/R* = 0.2566 [0.0110]
a/R* = 2.91 [0.01]
b = 0.90 [0.02]
Seff = 3552.86 [2037.73]
Teff = 1969 [282] K
Rp = 37.75 [12.73] Re
a = 0.0200 [0.0068] AU
Ag = 0.00 [0.01] [-146.71σ]
Teffp = 797 [266] K [-3.02σ]

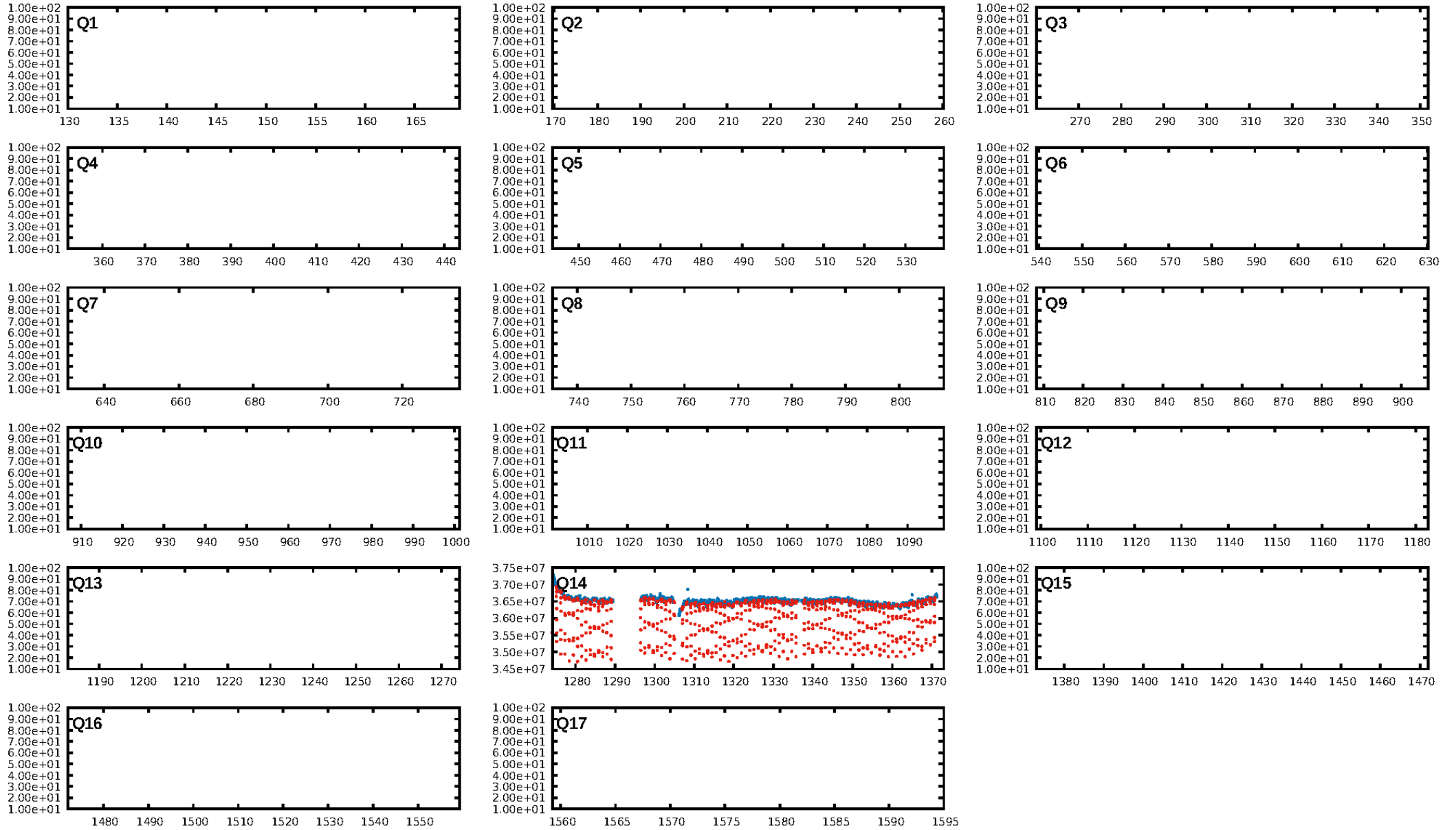
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 61.3%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [84/84]
GhostDiagnostic-chr: -1.221
Centroid-sig: 0.0%
Centroid-so: 11.953 arcsec [476.41σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

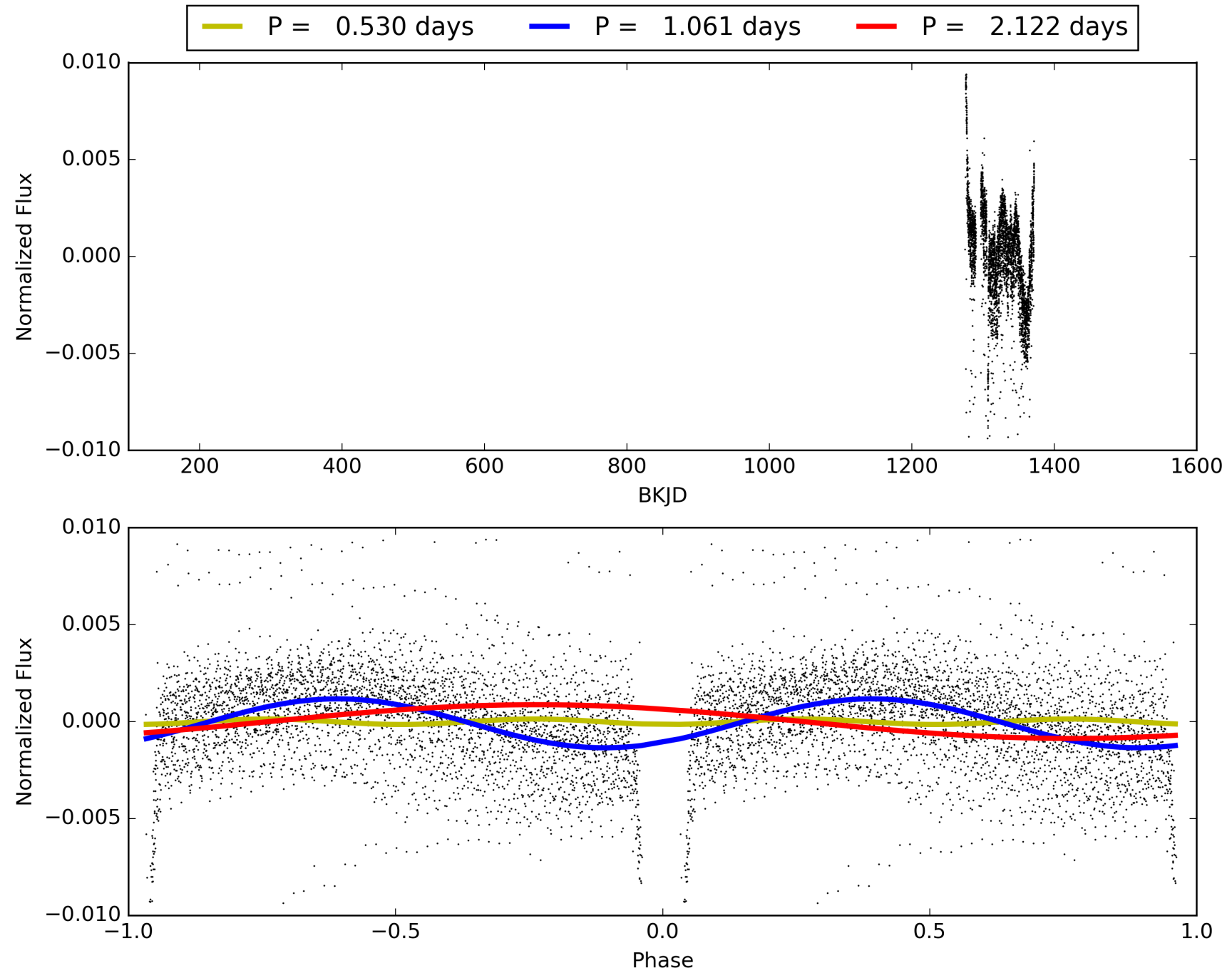
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:56:52 Z

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

TCE 005036516-01, PDC Light Curves

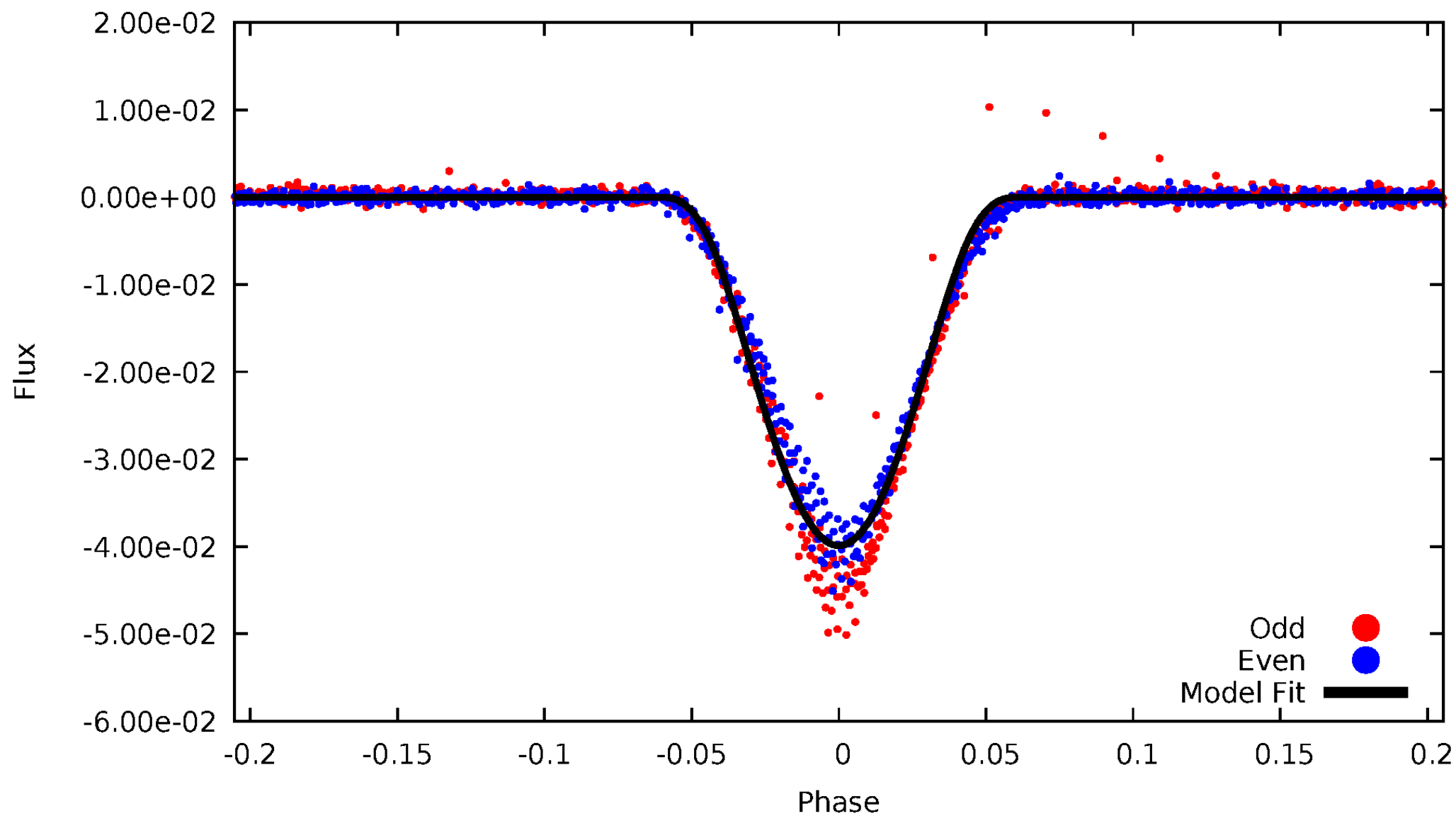


TCE 005036516-01



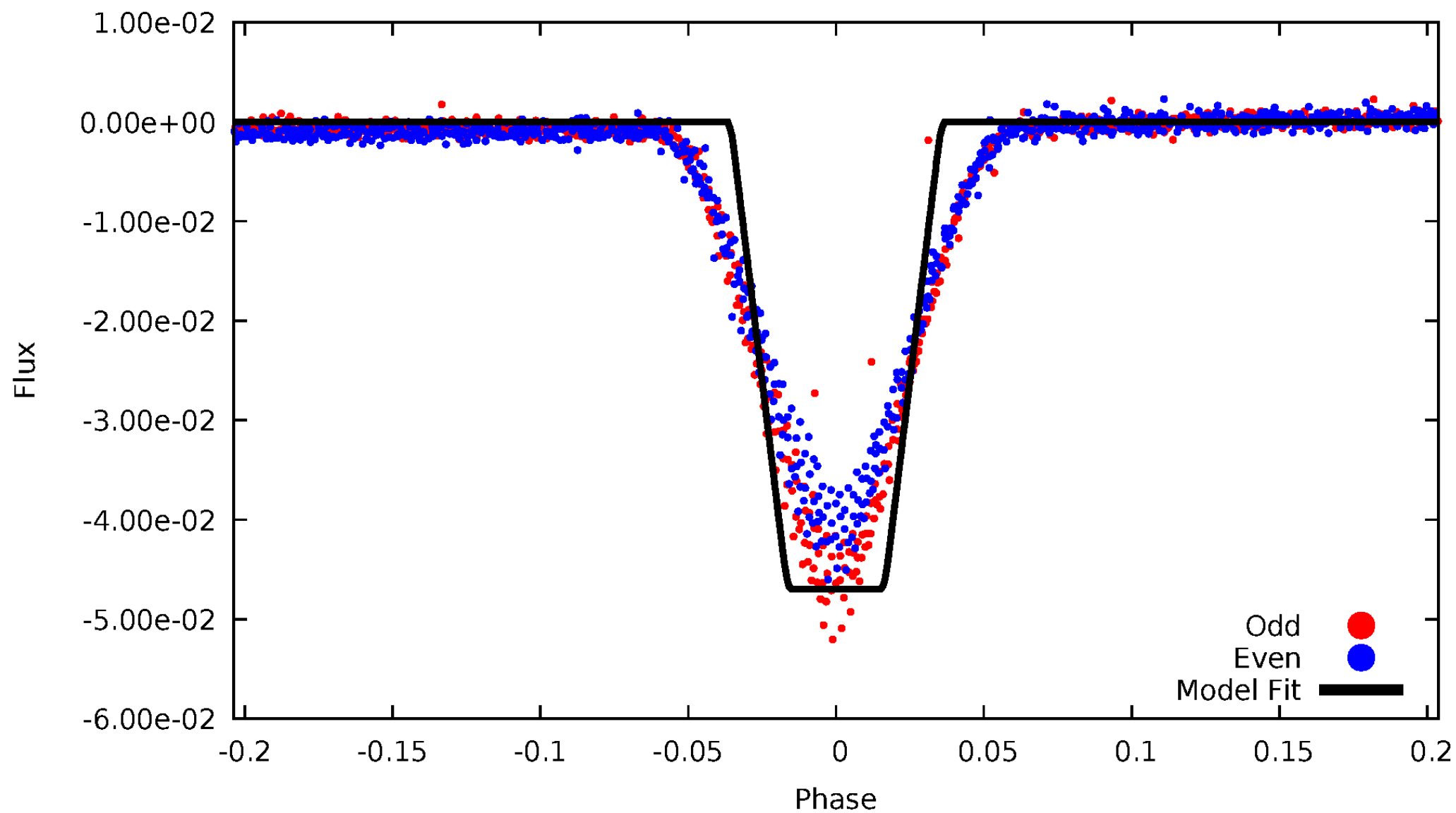
DV Odd/Even

TCE 005036516-01



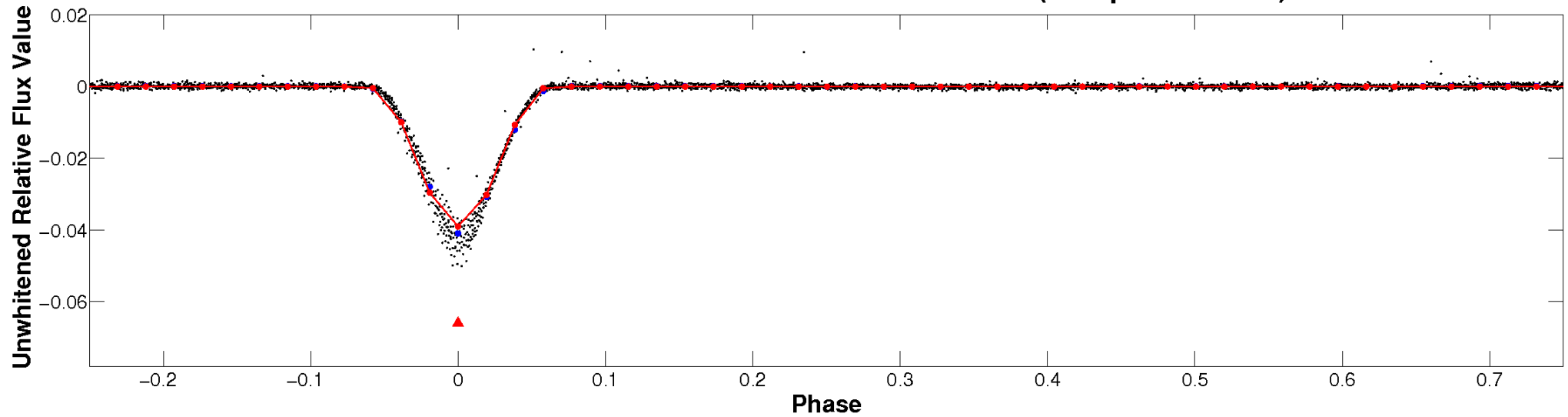
ALT Odd/Even

TCE 005036516-01

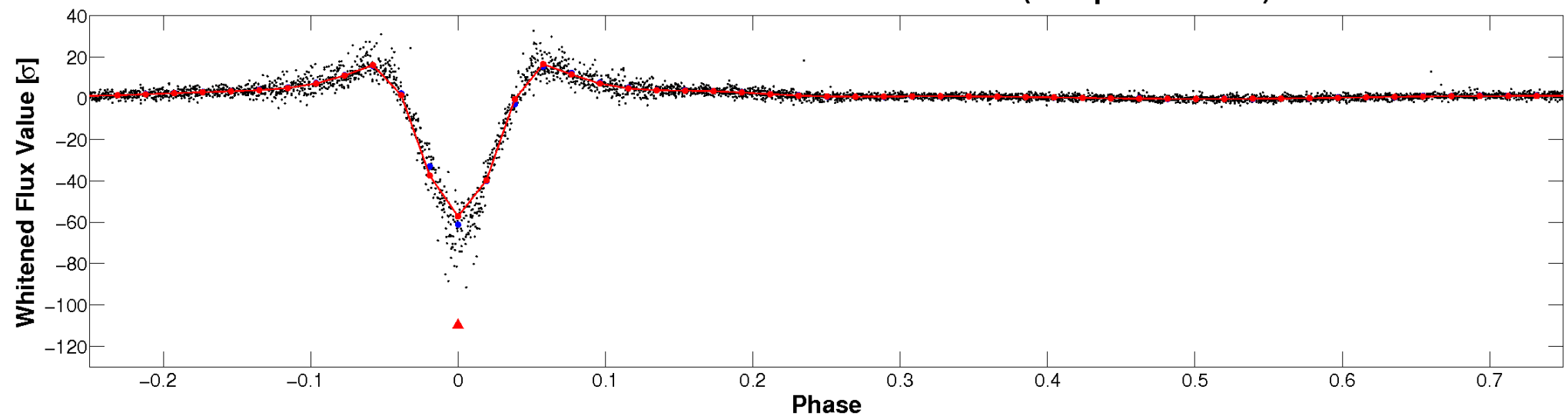


Non-Whitened Vs. Whitened Light Curve

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

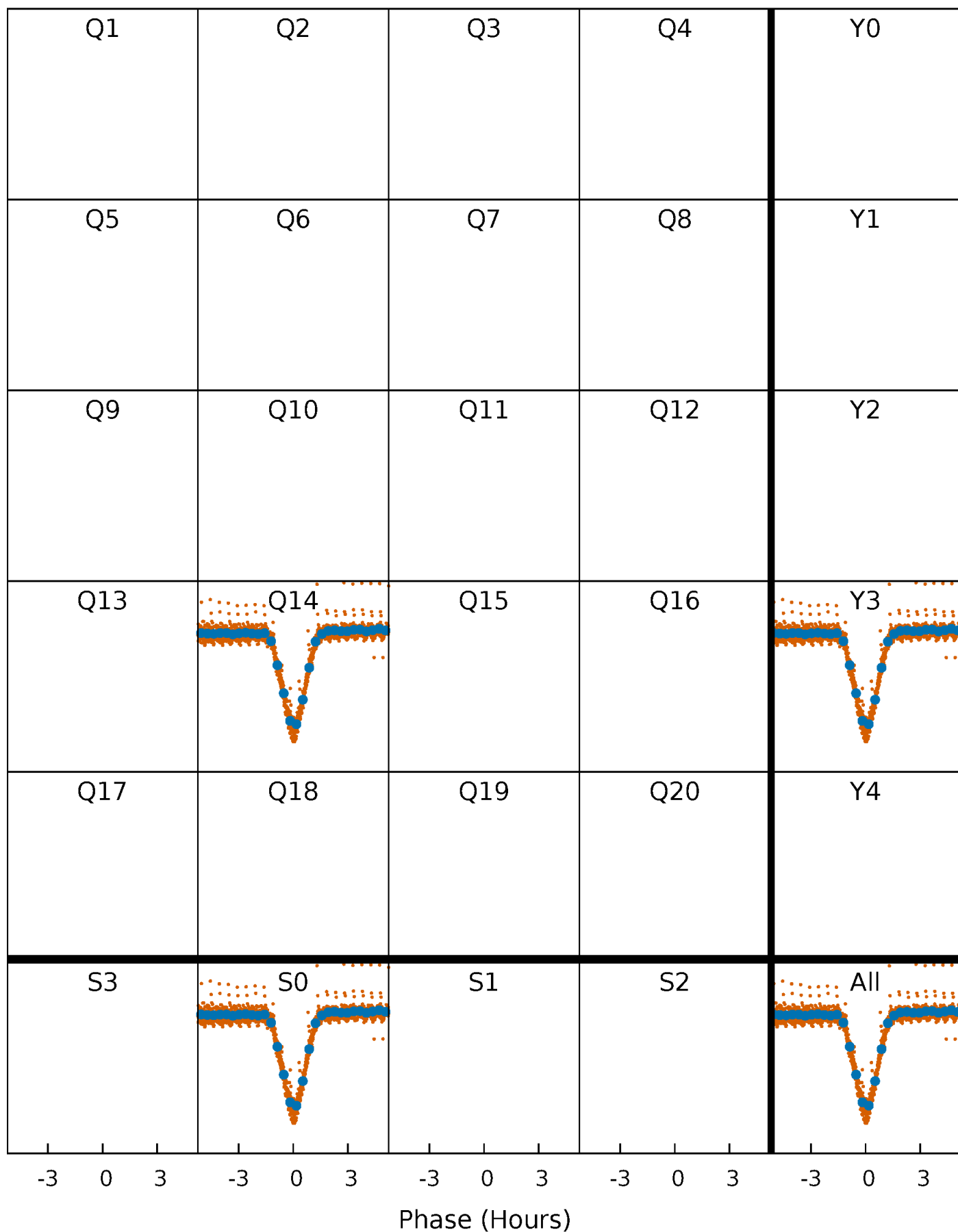


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



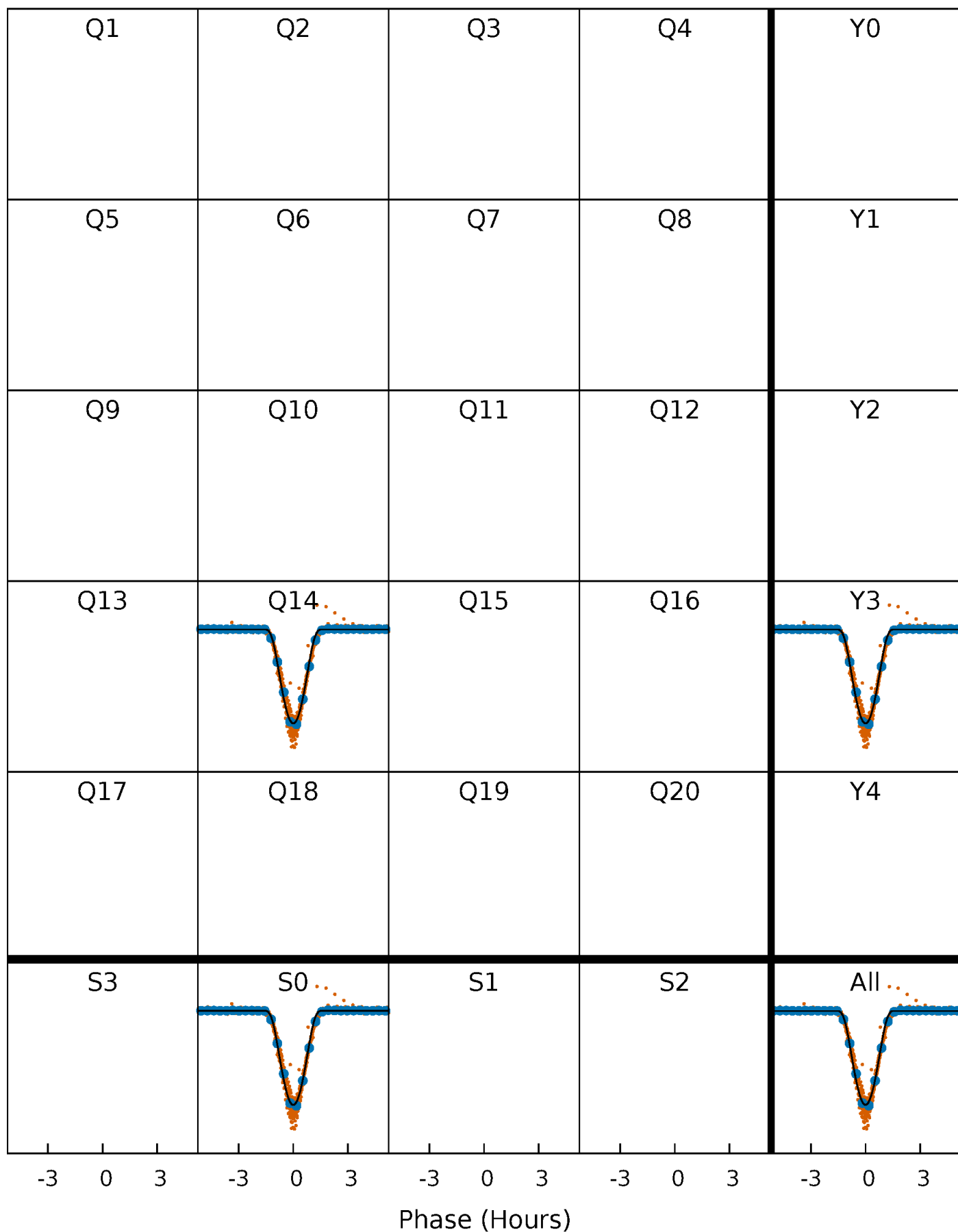
PDC Quarter-Phased Transit Curves

TCE 005036516-01 P= 1.060966 Days $T_0=132.567310$ (BKJD)



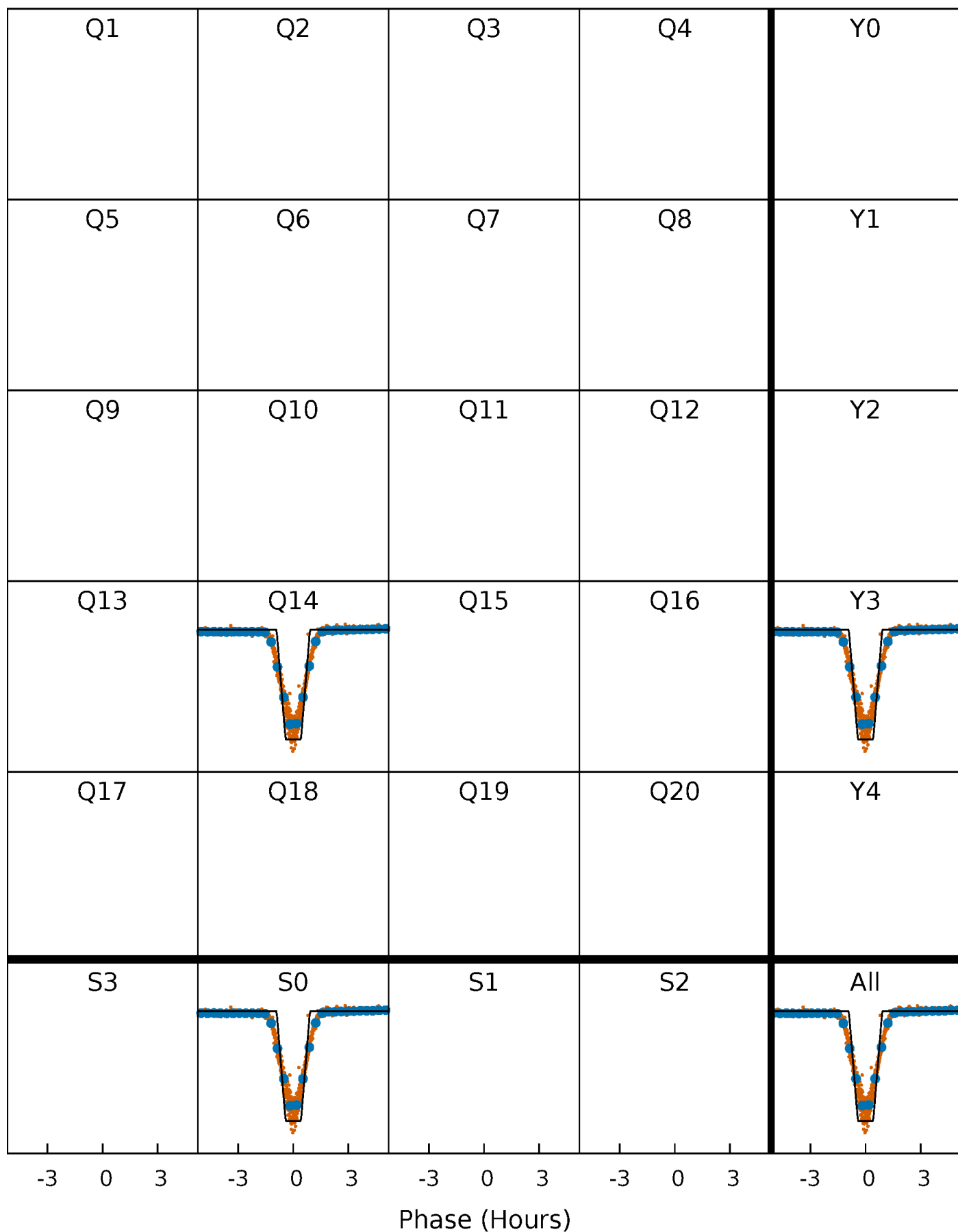
DV Quarter-Phased Transit Curves

TCE 005036516-01 P= 1.060966 Days $T_0=132.567310$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

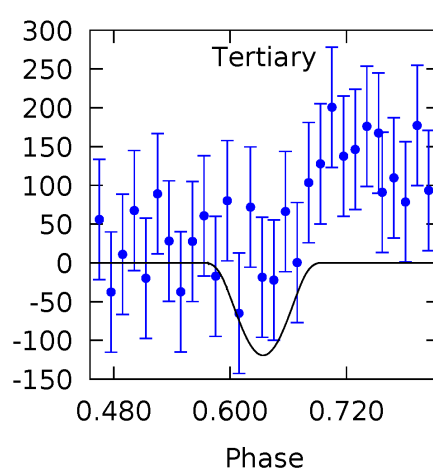
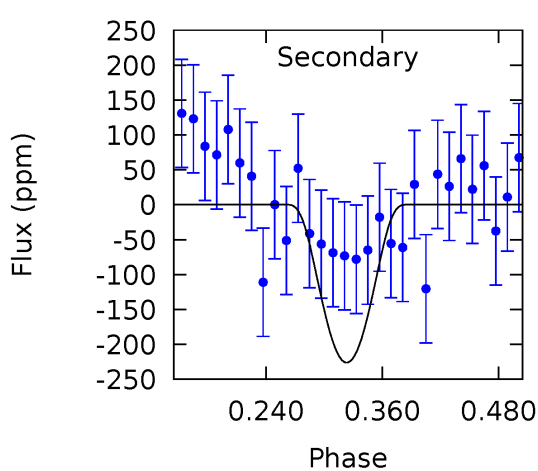
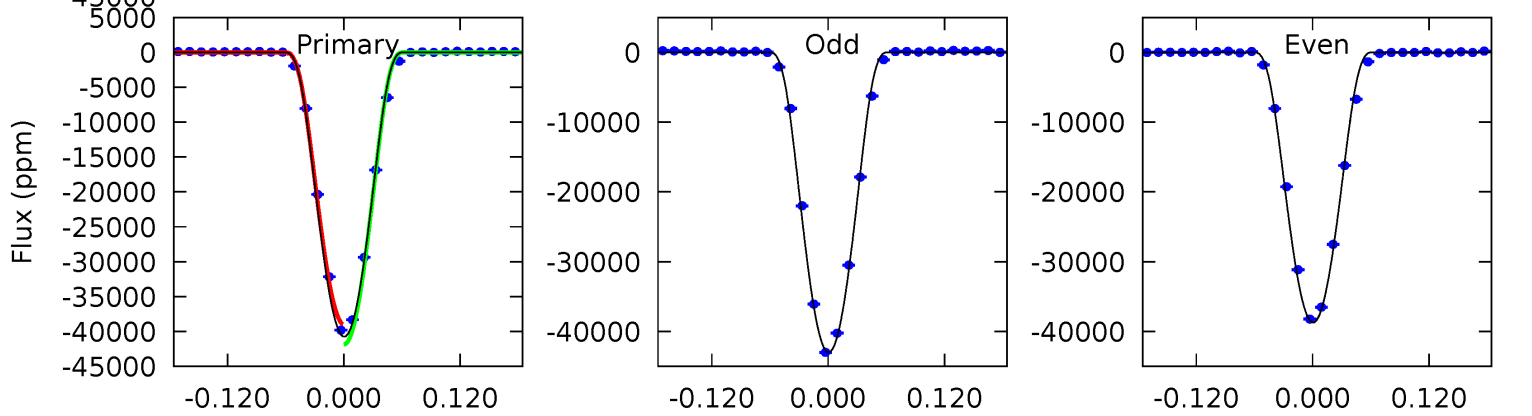
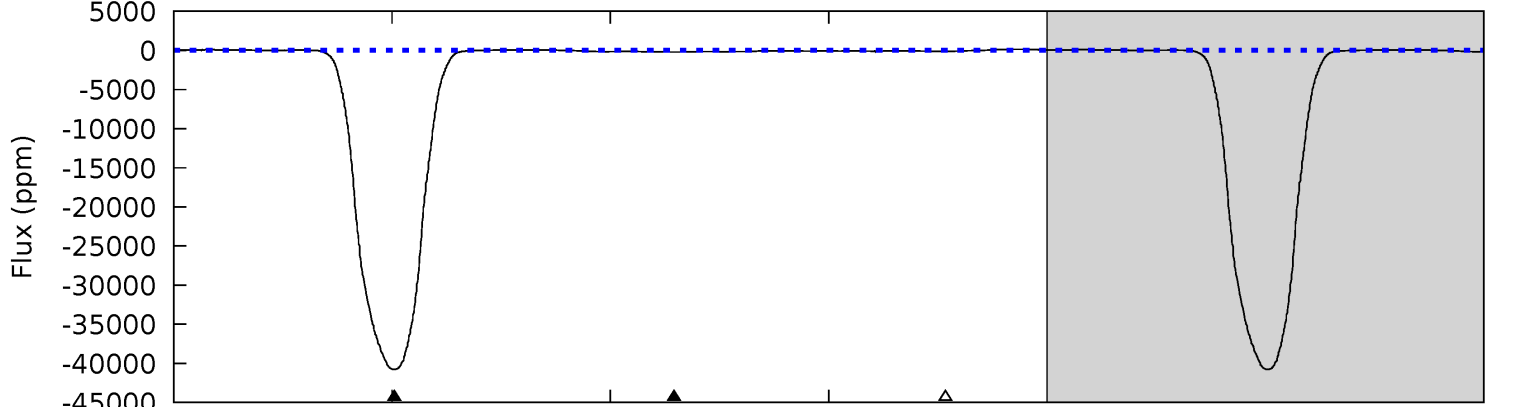
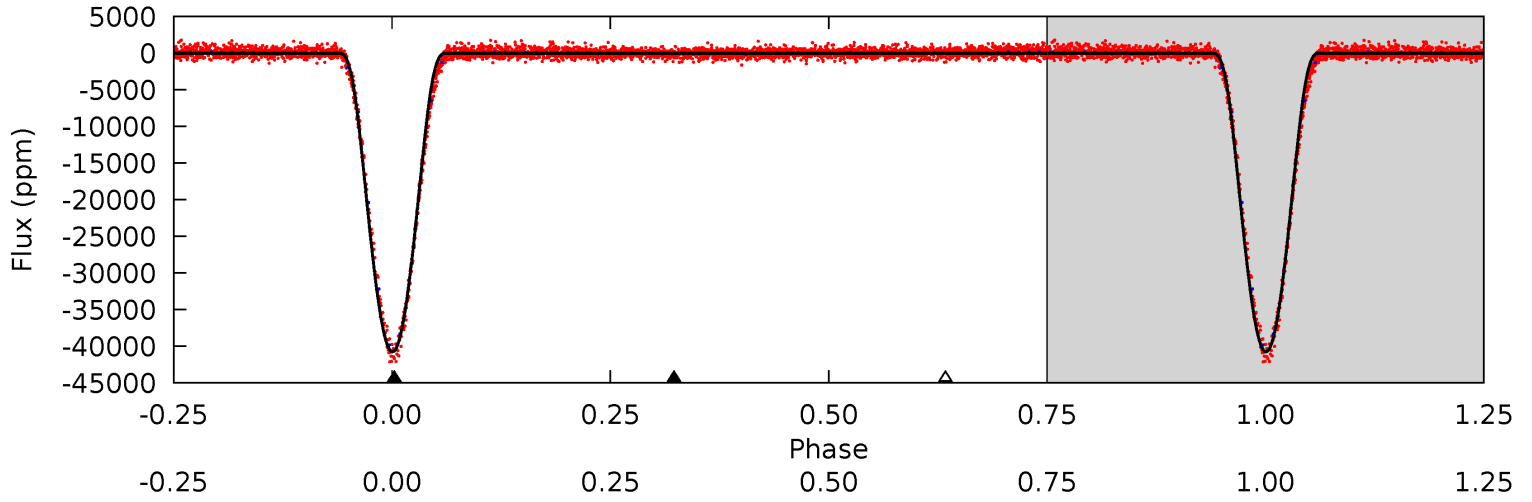
TCE 005036516-01 P= 1.060975 Days $T_0=132.558391$ (BKJD)



DV Model-Shift Uniqueness Test

005036516-01, P = 1.060966 Days, E = 132.567310 Days

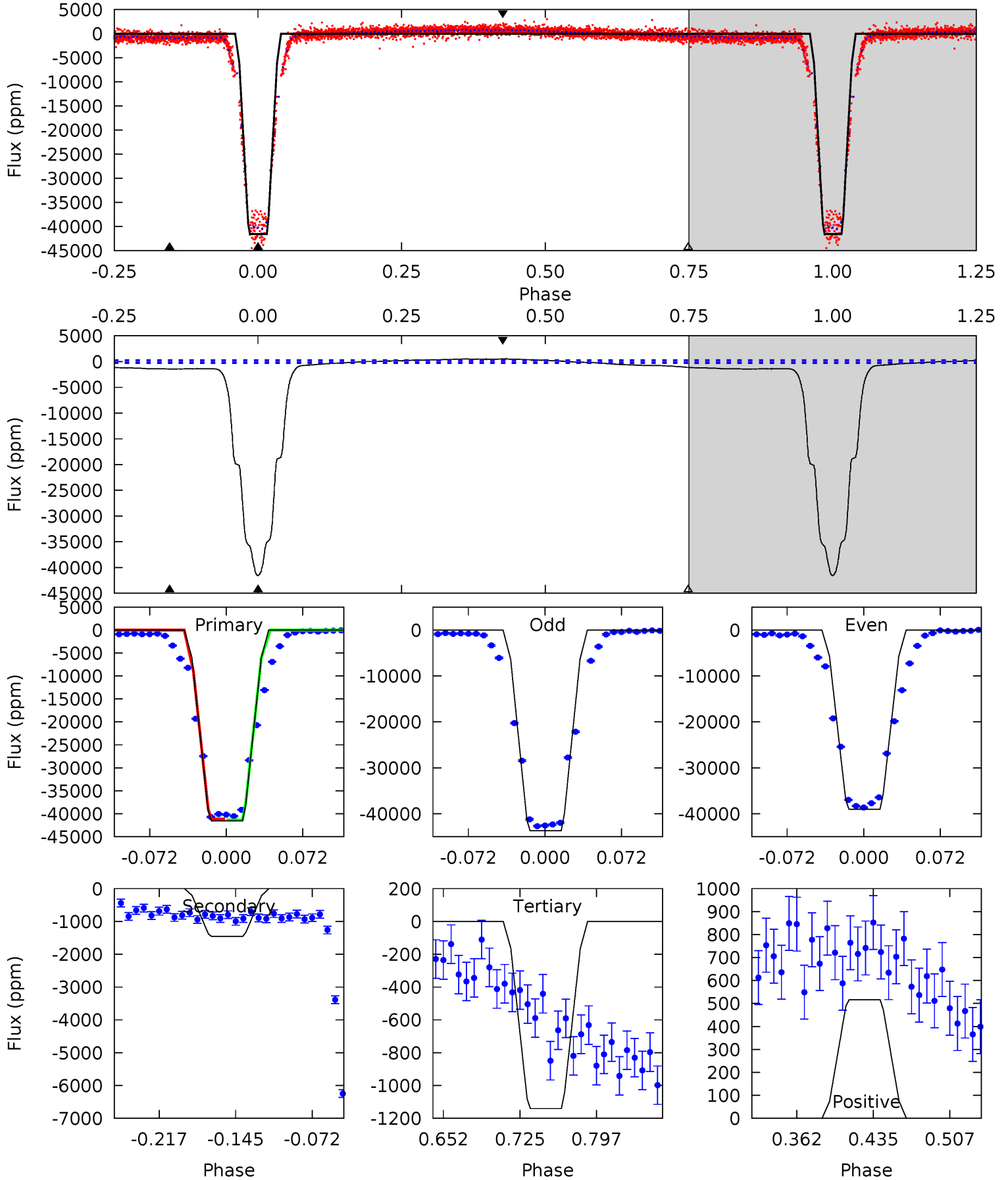
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1552	8.62	4.54	0	4.53	1.55	2.74	1548	1552	4.08	8.62	83.7	1.00	0.00	0



Alt Model-Shift Uniqueness Test

005036516-01, P = 1.060975 Days, E = 132.558391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
676.3	23.7	18.6	8.39	4.63	1.80	8.41	657.7	667.9	5.17	15.3	38.2	1.00	0.01	0



Stellar Parameters For KIC 005036516

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5433^{+197}_{-164}	$4.154^{+0.331}_{-0.178}$	$0.220^{+0.200}_{-0.250}$	$1.348^{+0.369}_{-0.451}$	$0.944^{+0.092}_{-0.083}$	$0.543^{+1.274}_{-0.265}$
	+4%/-3%	+8%/-4%	+91%/-114%	+27%/-33%	+10%/-9%	+234%/-49%
Source	KIC0	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 005036516-01 / KOI 6502.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-226 ± 26	$36.80^{+6.54}_{-6.88}$	2728^{+237}_{-274}	-2870^{+184}_{-151}	$0.037^{+0.020}_{-0.011}$
Alt.	-1459 ± 61	$31.64^{+5.32}_{-5.82}$	2744^{+216}_{-265}	2122^{+478}_{-4592}	$0.323^{+0.153}_{-0.085}$

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

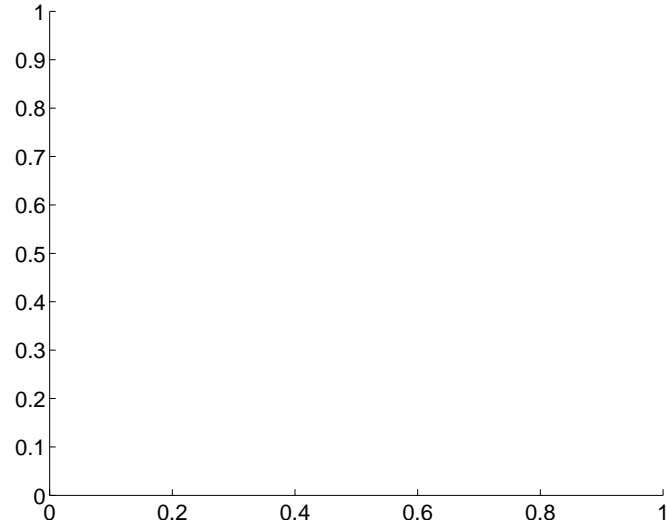
Supplemental centroid analysis for 005036516-01. Kepler magnitude: 14.34. Transit SNR 540.23

There are 0 quarters with good PRF difference image offsets

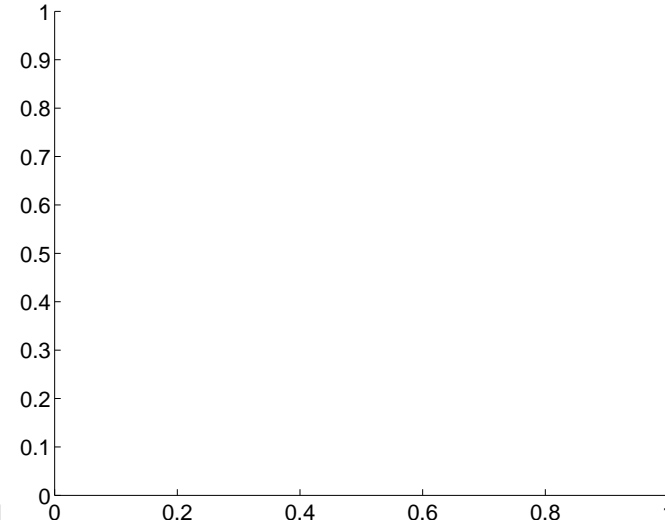
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	11.95 ± 0.03	476.41	11.86 ± 0.03	1.48 ± 0.01

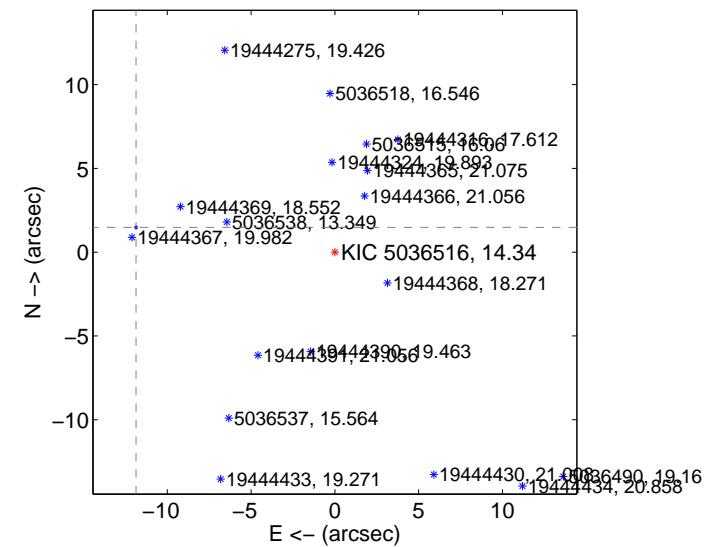
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.



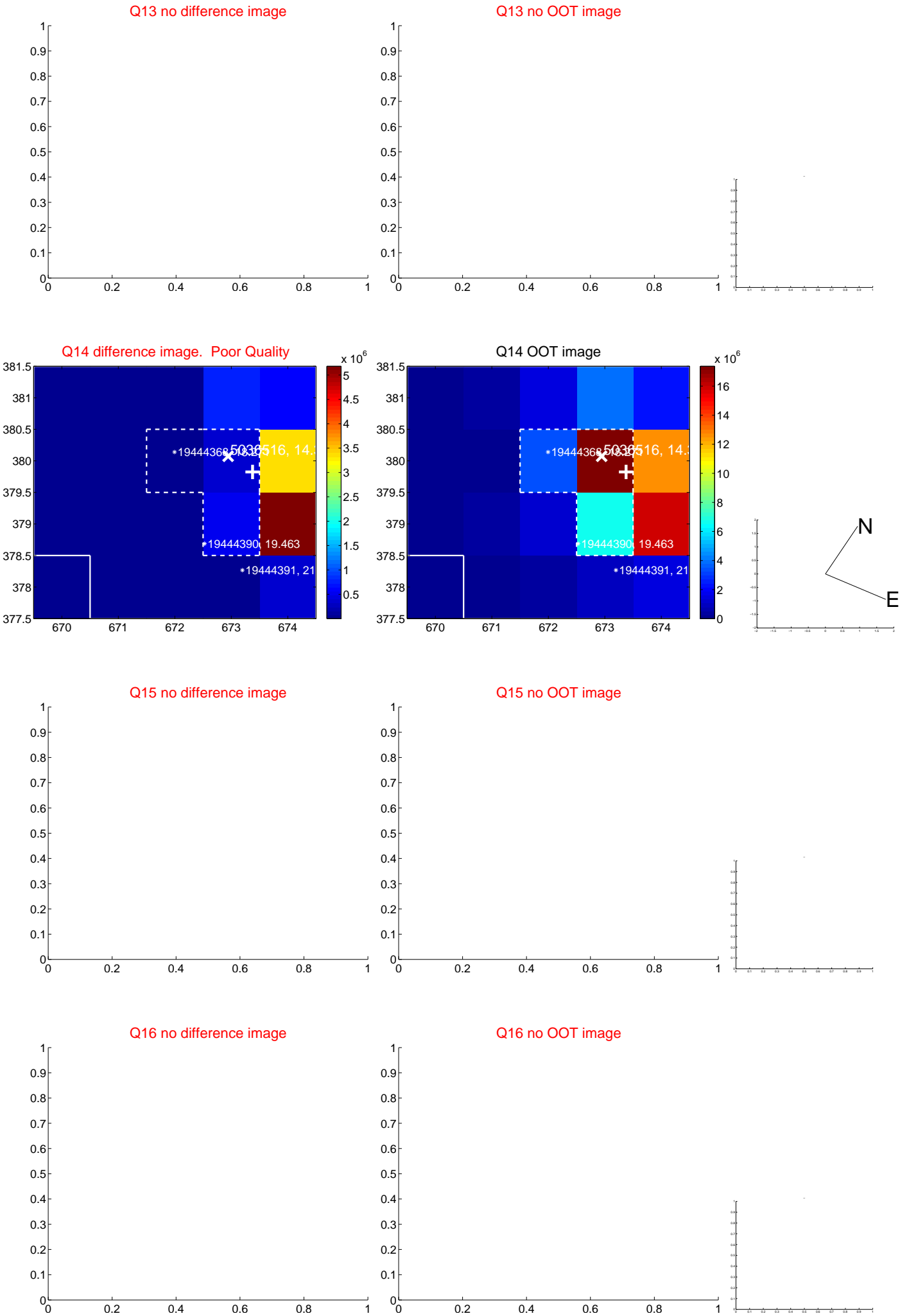
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



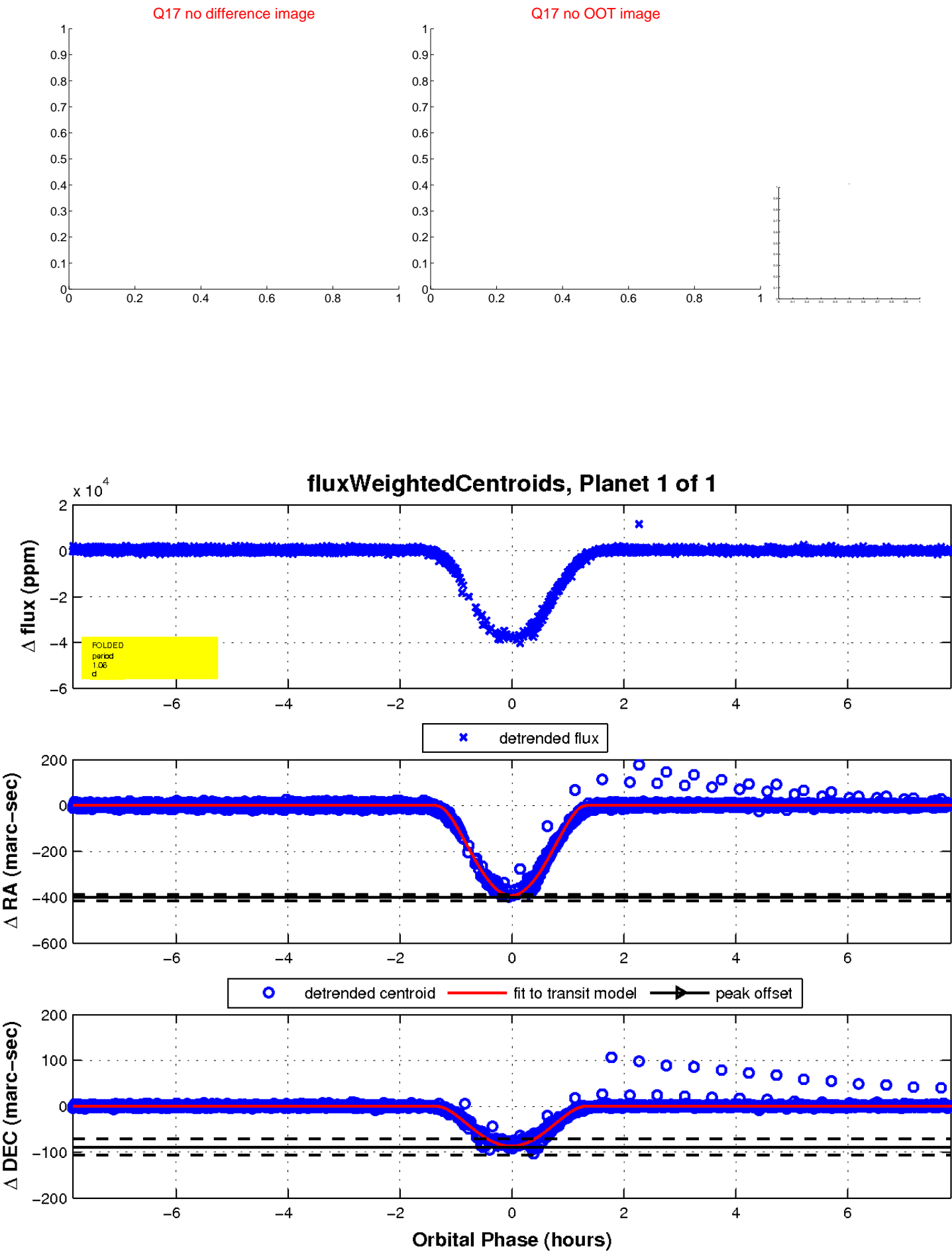
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

