

KIC 006878641

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})
006878641-01	OBS	No	415.149824	152.790214	155.3	8.978	7.3	7.9	0.57	4570	0.82	0.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006878641-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

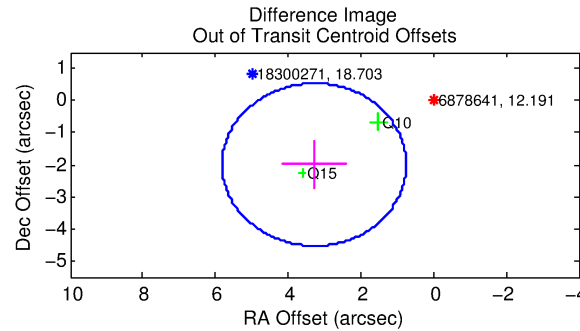
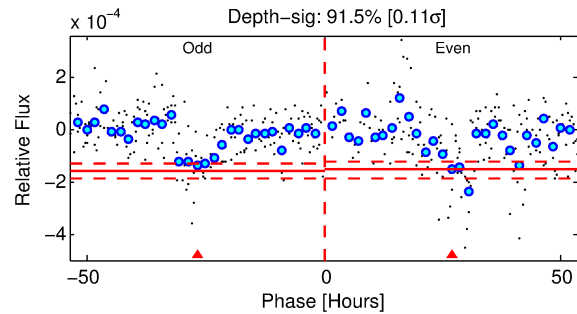
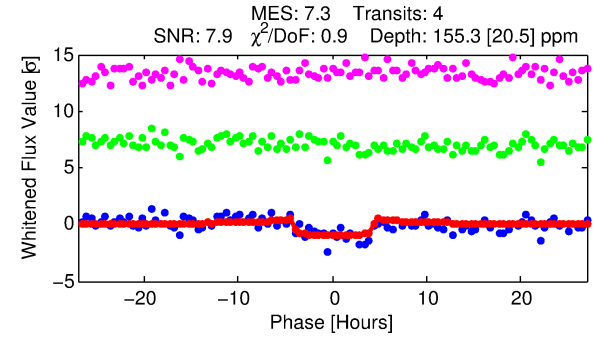
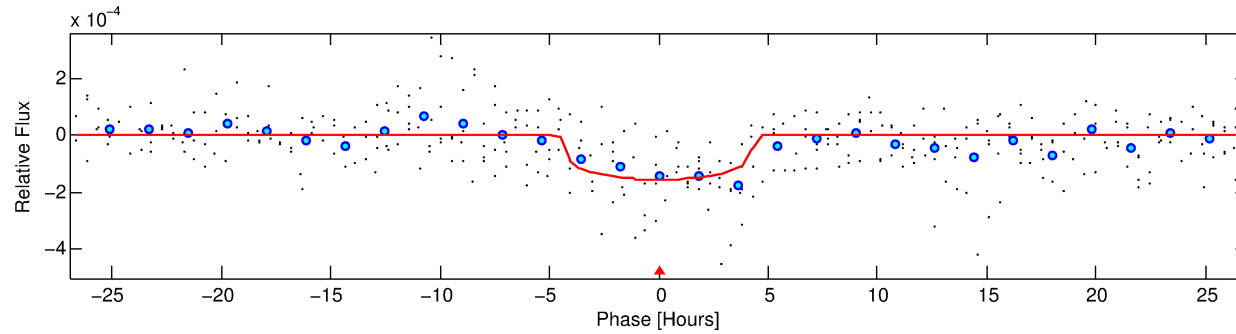
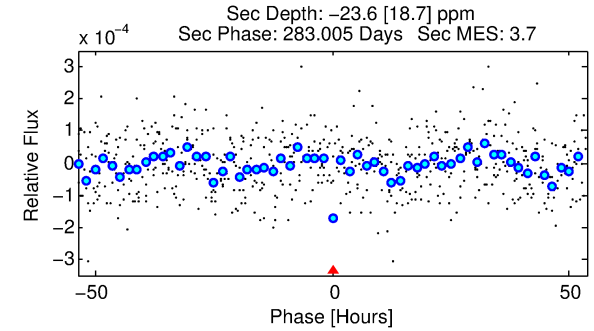
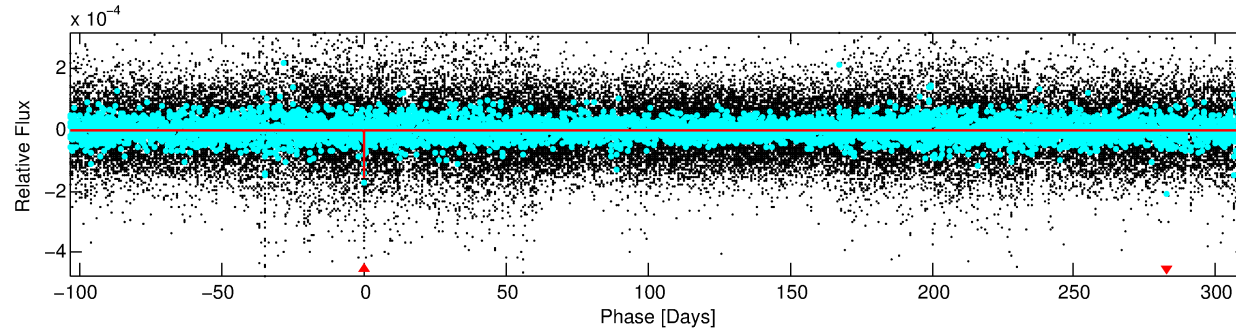
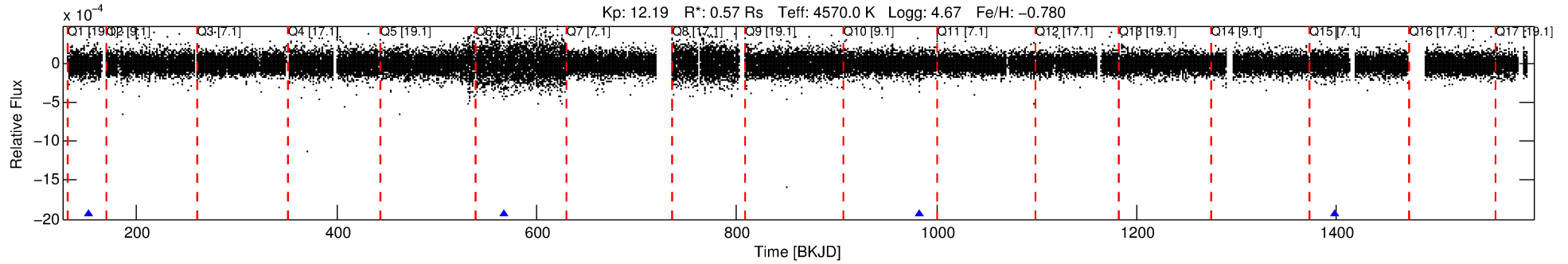
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006878641-01

No Significant Match Found

DV One-Page Summary

KIC: 6878641 Candidate: 1 of 1 Period: 415.150 d



DV Fit Results:

Period = 415.14982 [0.00580] d
Epoch = 152.7902 [0.0116] BKJD
Rp/R* = 0.0131 [0.0055]
a/R* = 202.74 [310.21]
b = 0.83 [0.56]
Seff = 0.16 [0.02]
Teq = 161 [6] K
Rp = 0.82 [0.35] Re
a = 0.9007 [0.0585] AU
Ag = N/A
Teffp = N/A

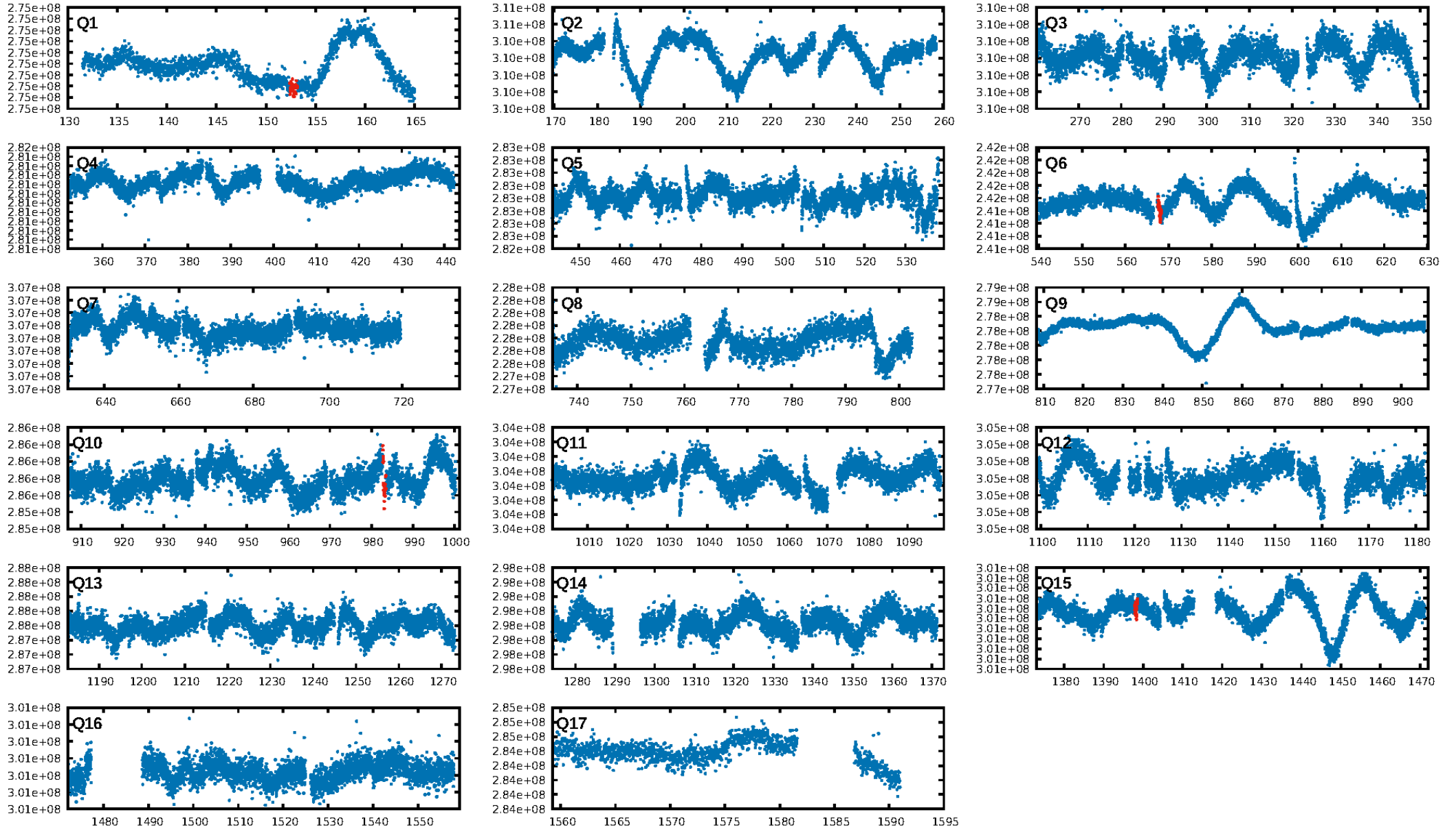
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.3%
ModelChiSquareGof-sig: 93.6%
Bootstrap-pfa: 1.29e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -5.731
Centroid-sig: 19.0%
Centroid-so: 0.597 arcsec [0.66σ]
OotOffset-rm: 3.850 arcsec [4.56σ]
KicOffset-rm: 4.662 arcsec [5.04σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

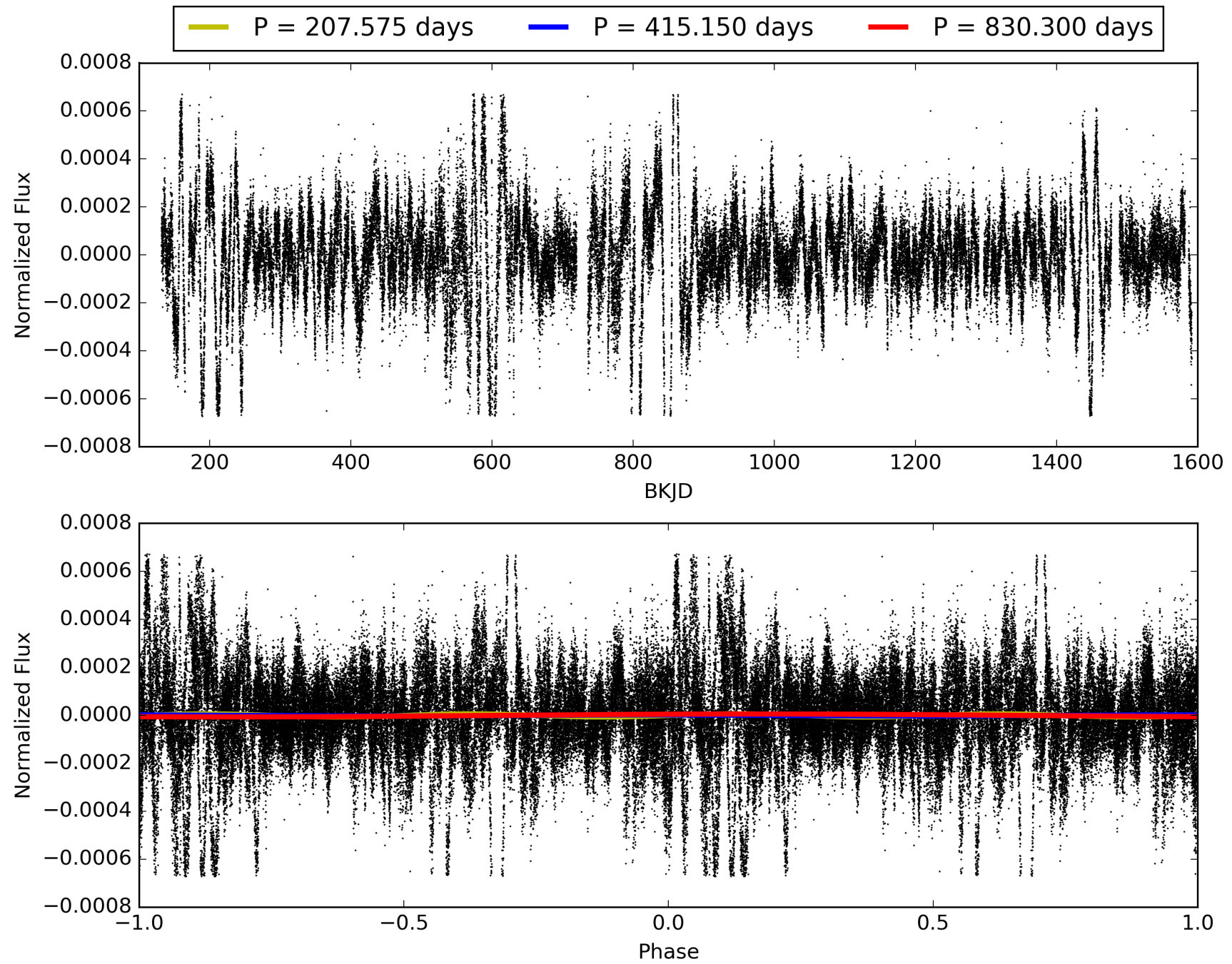
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:08:48 Z

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

TCE 006878641-01, PDC Light Curves

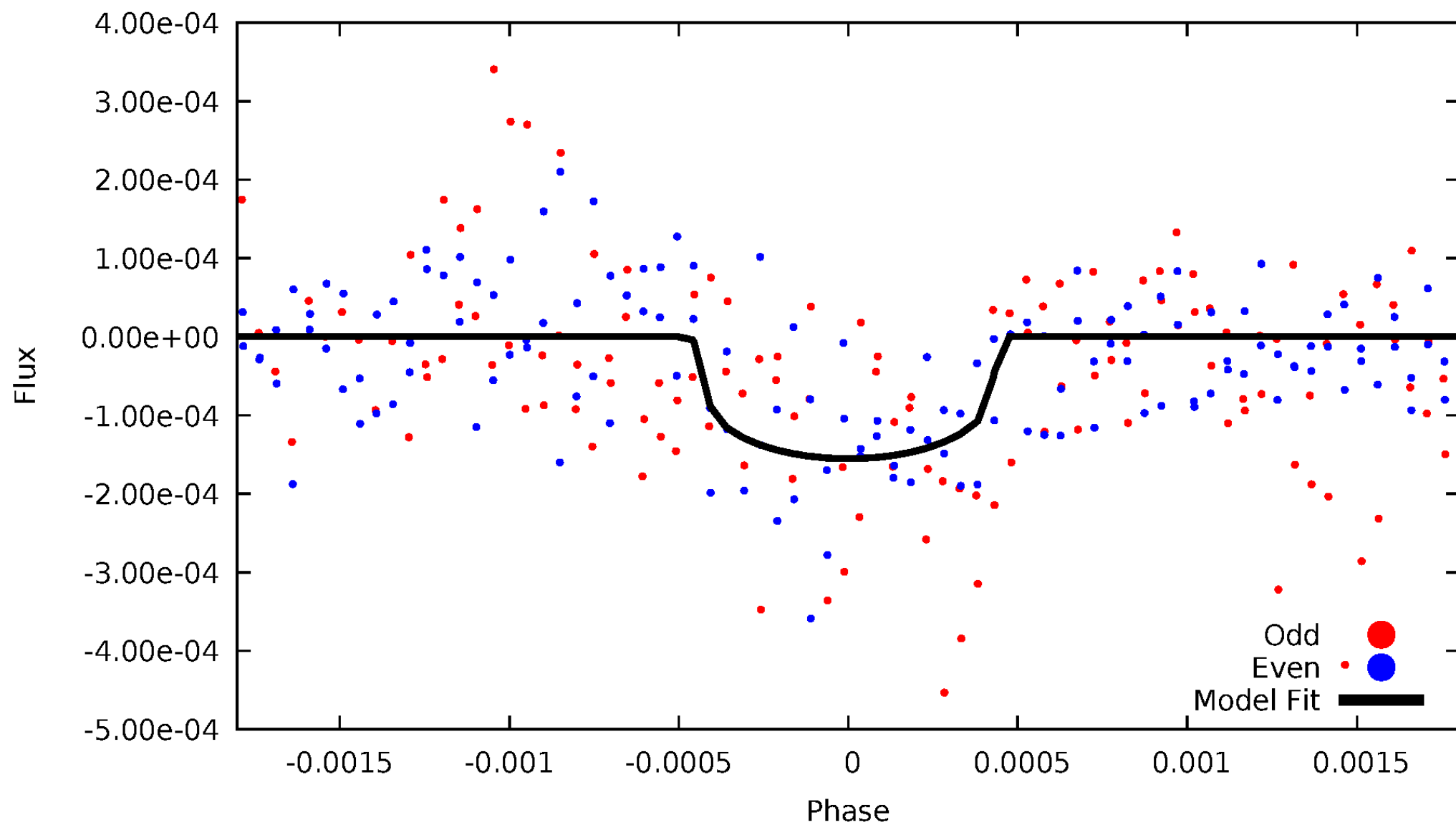


TCE 006878641-01



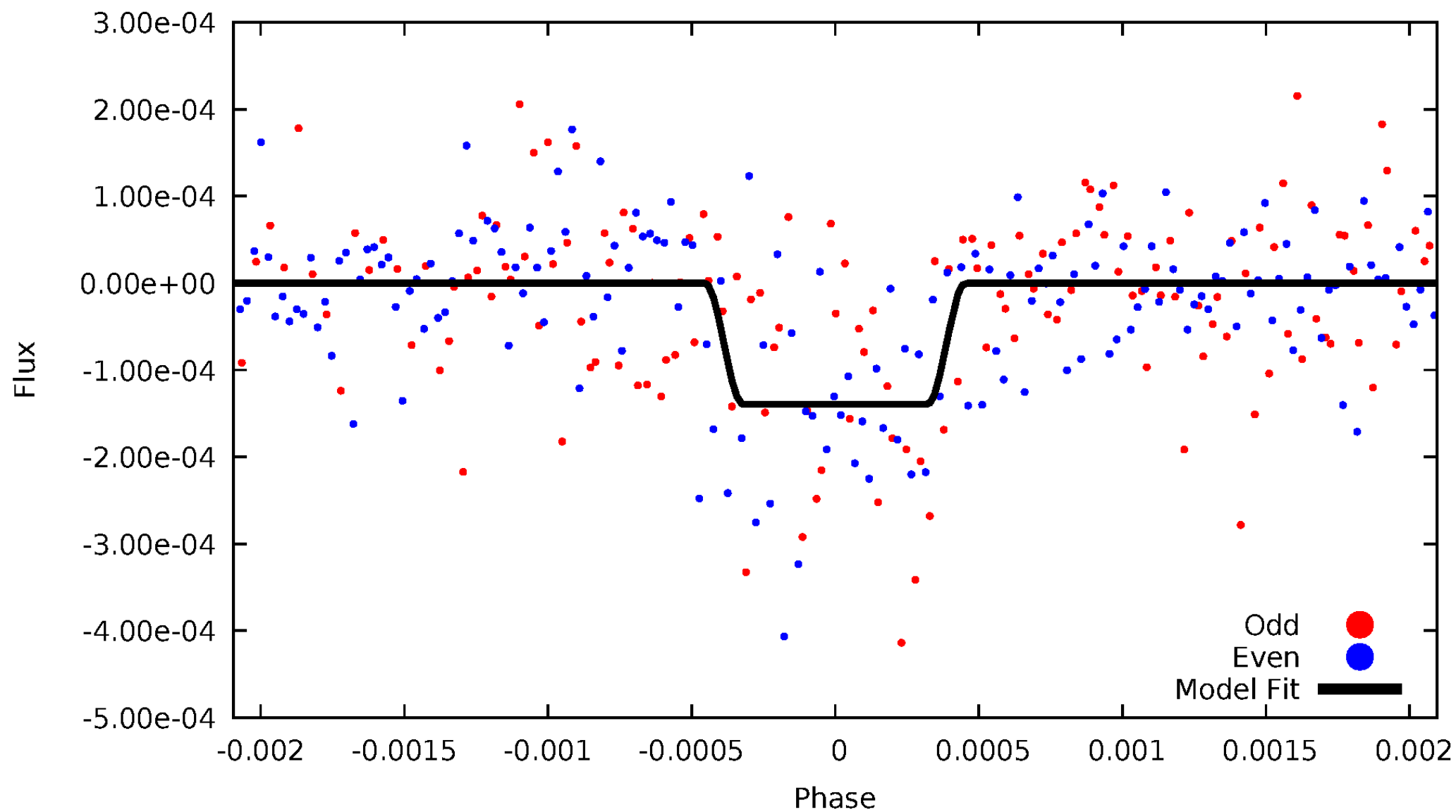
DV Odd/Even

TCE 006878641-01



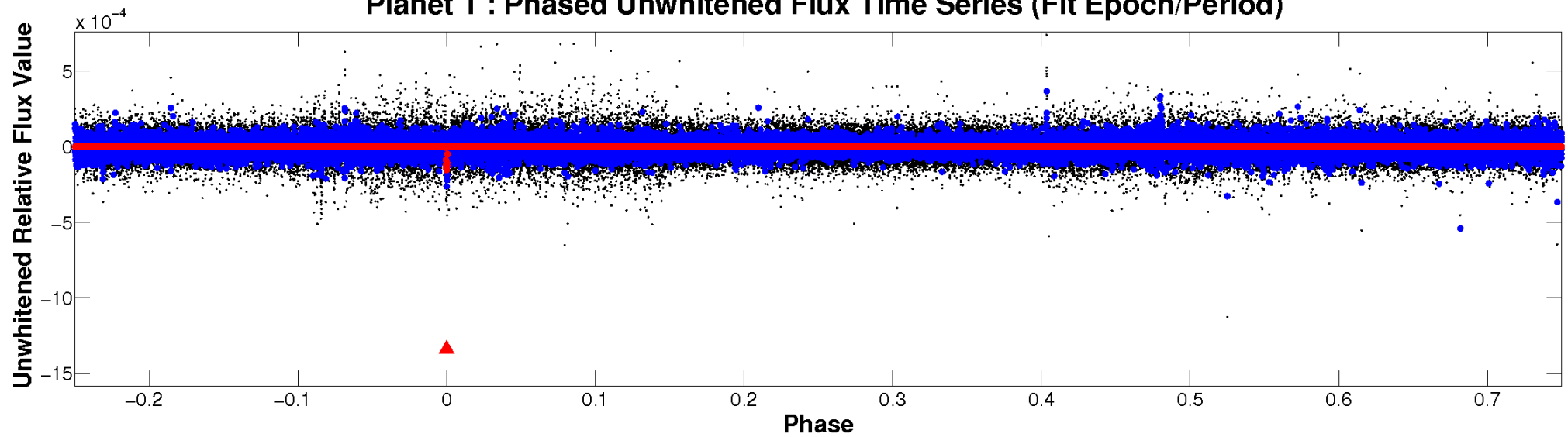
ALT Odd/Even

TCE 006878641-01

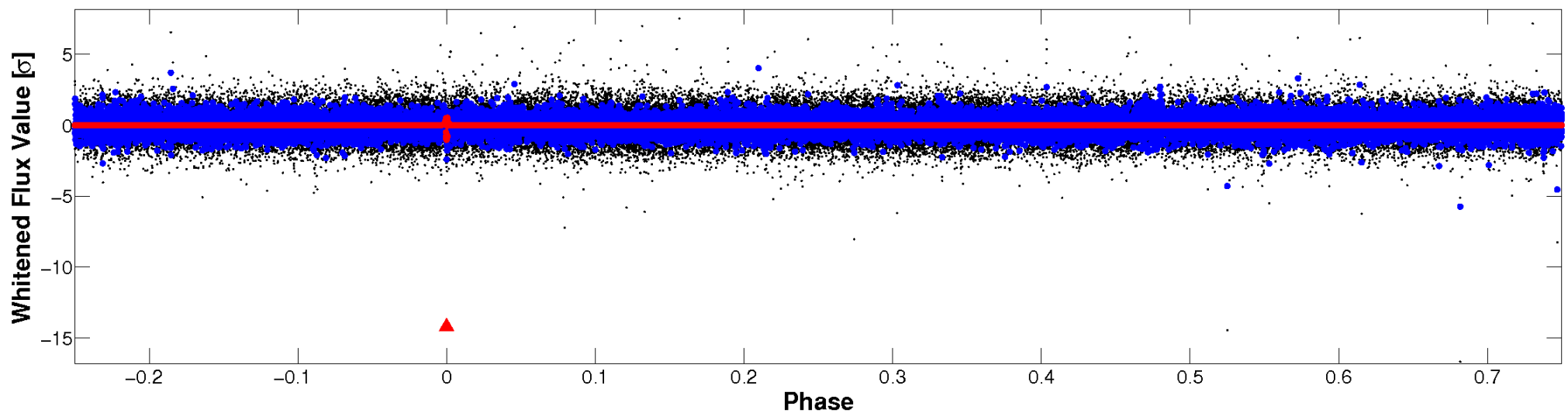


Non-Whitened Vs. Whitened Light Curve

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

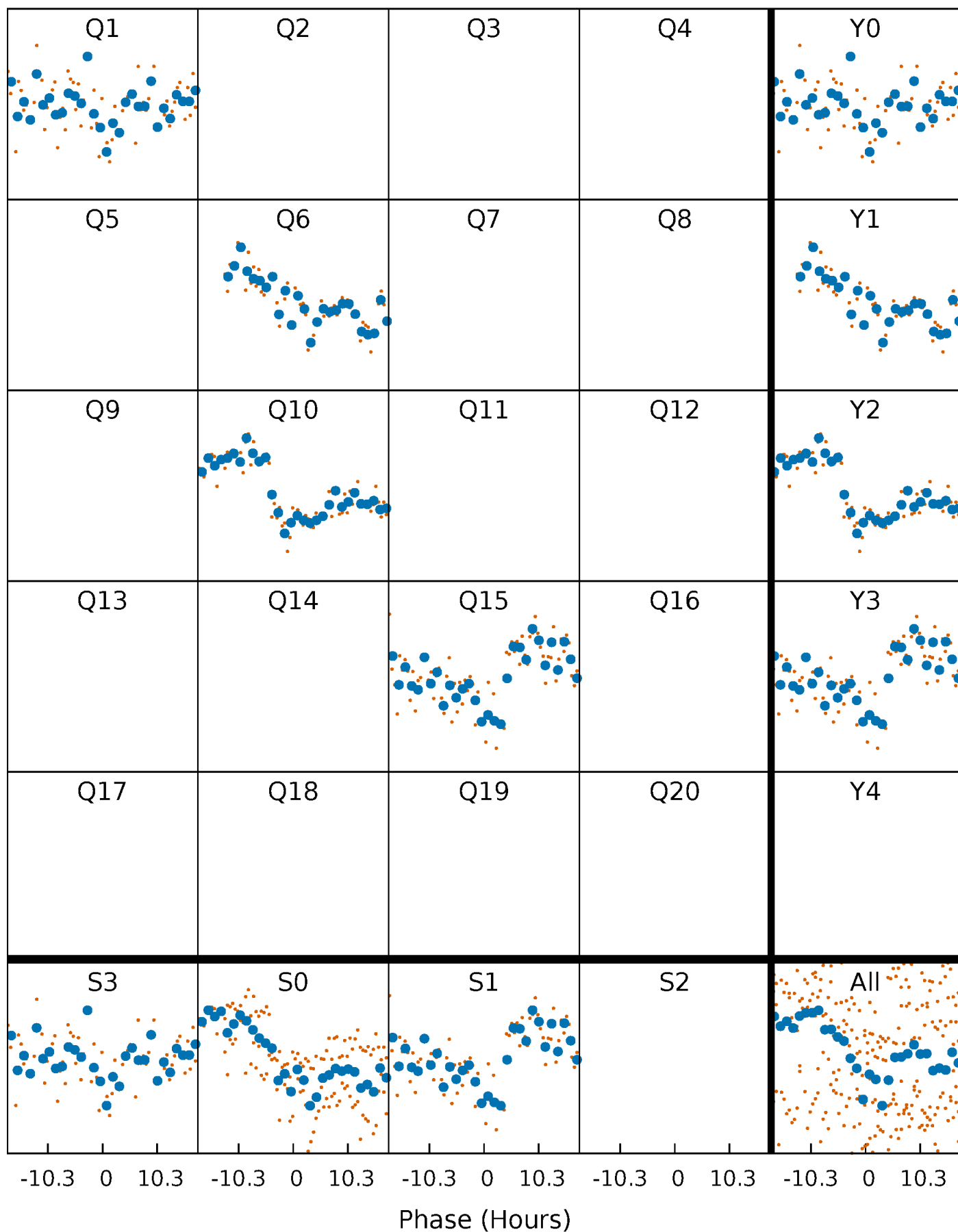


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



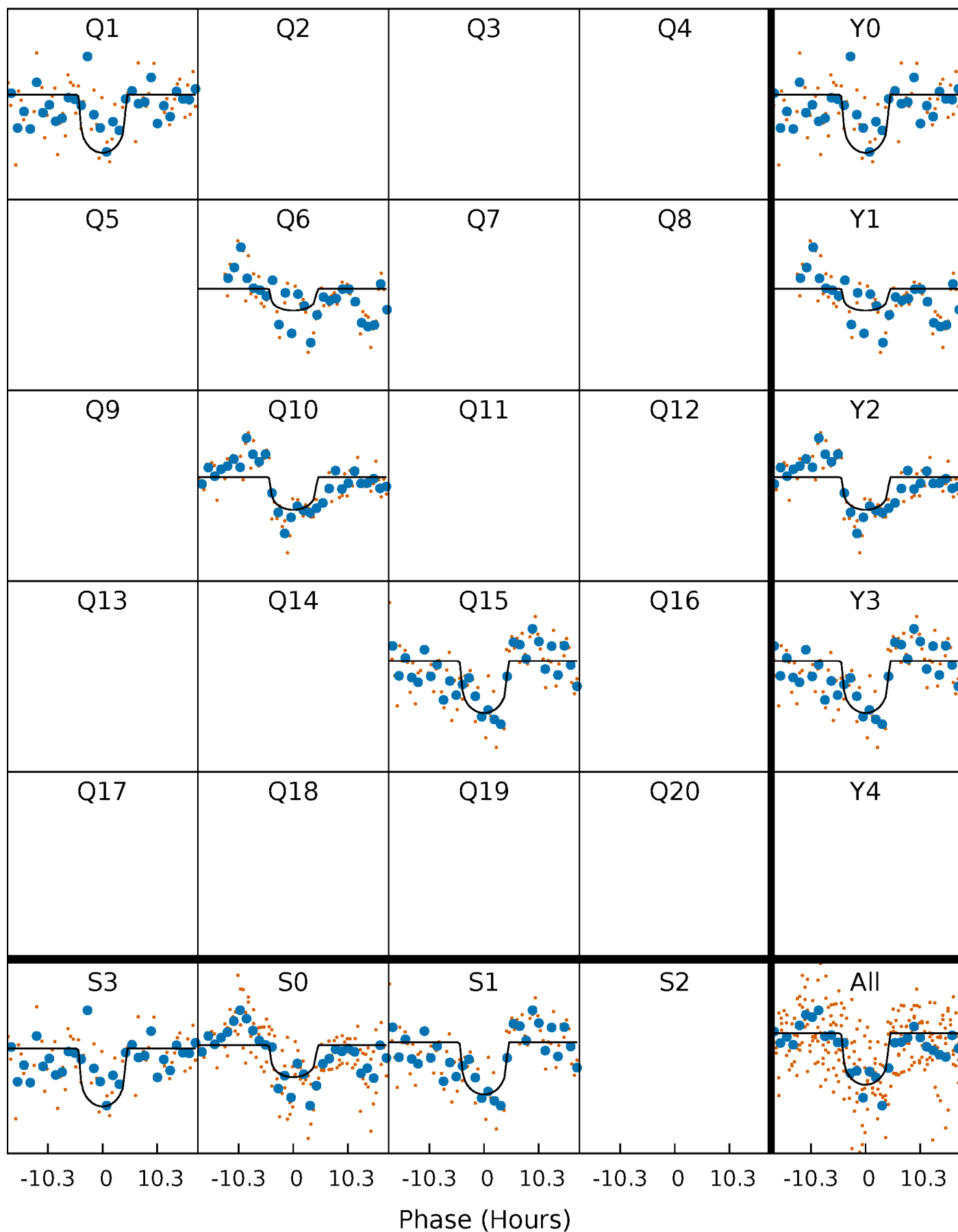
PDC Quarter-Phased Transit Curves

TCE 006878641-01 P=415.149824 Days $T_0=152.790214$ (BKJD)



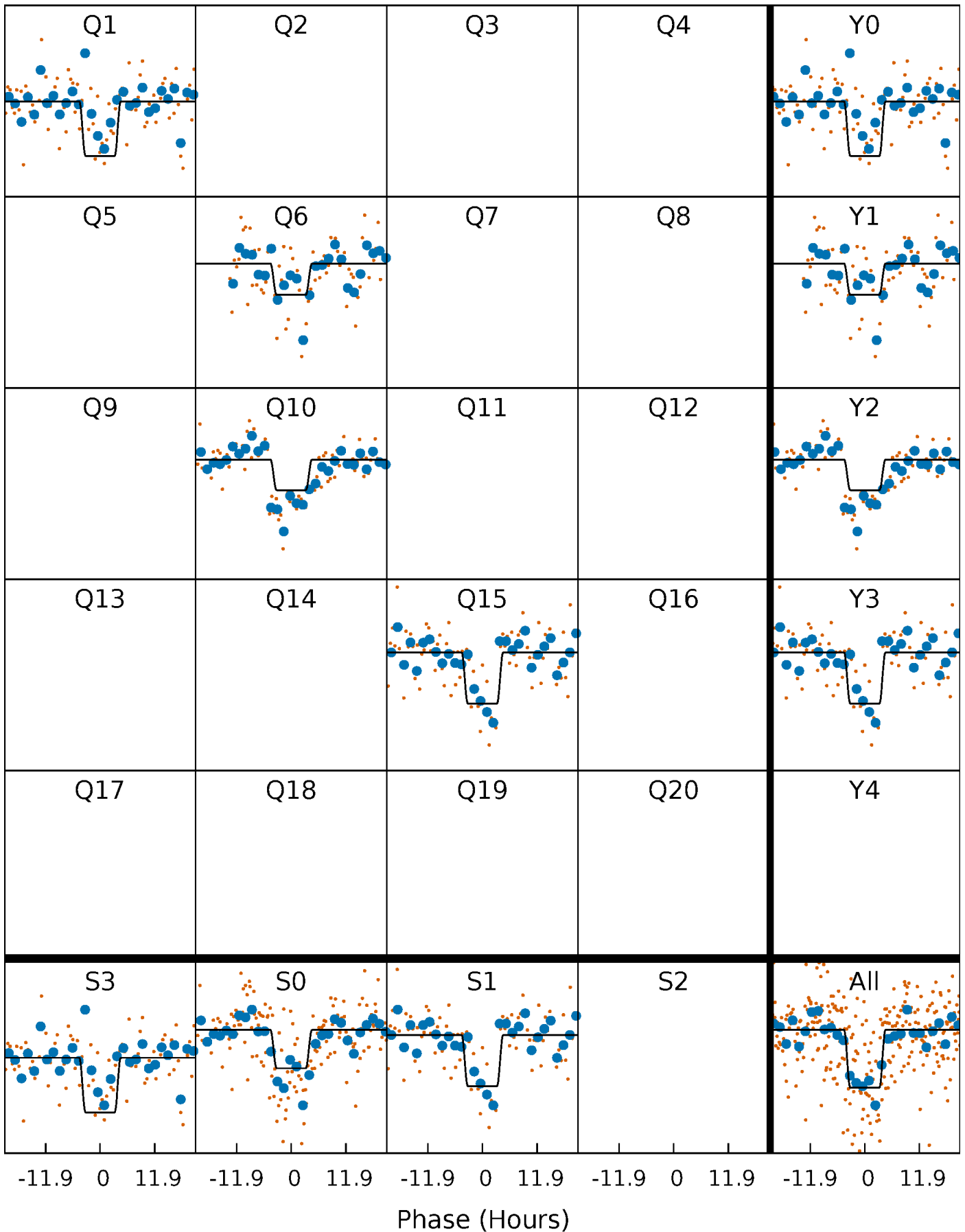
DV Quarter-Phased Transit Curves

TCE 006878641-01 P=415.149824 Days $T_0=152.790214$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

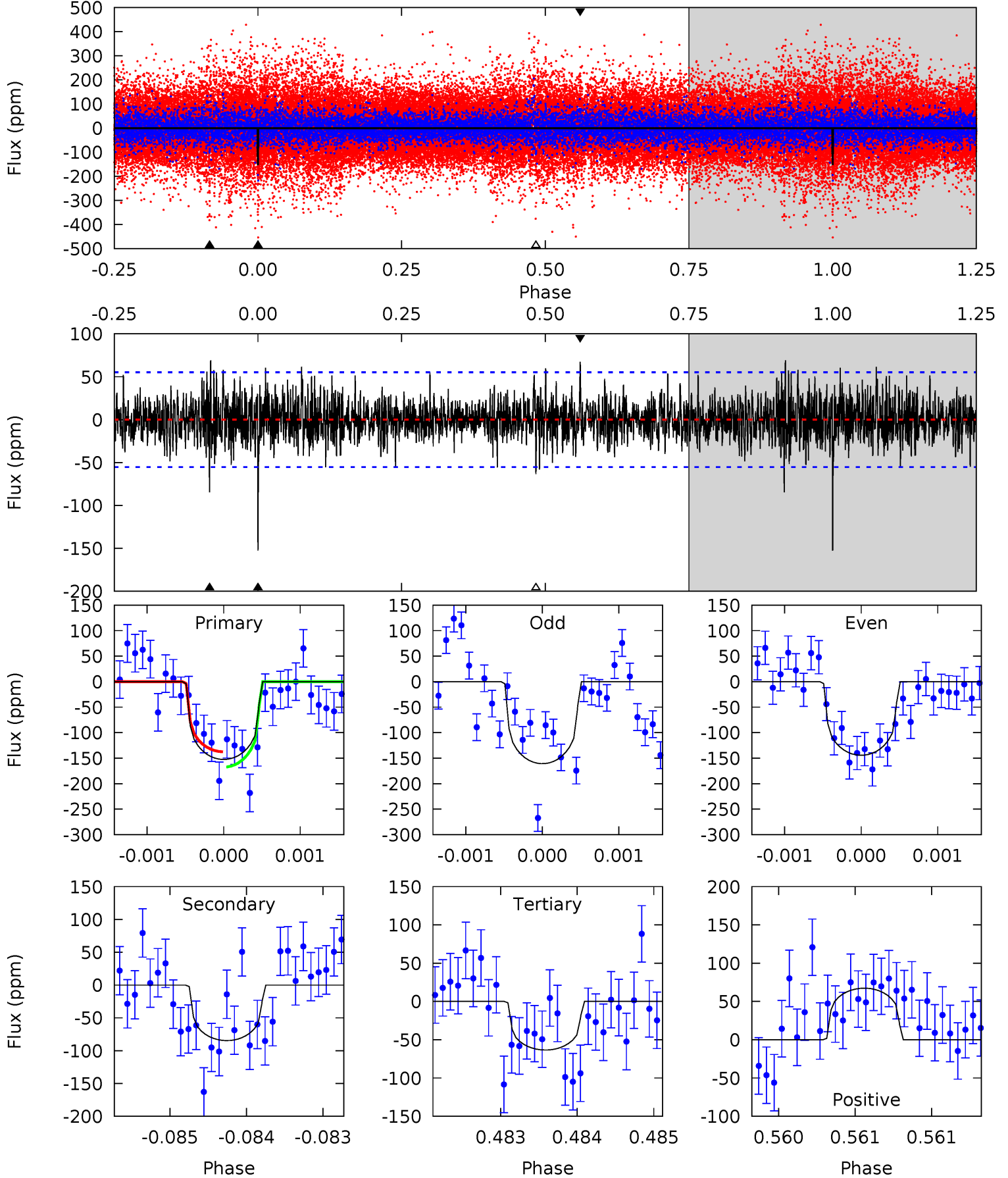
TCE 006878641-01 P=415.155450 Days $T_0=152.806544$ (BKJD)



DV Model-Shift Uniqueness Test

006878641-01, P = 415.149824 Days, E = 152.790214 Days

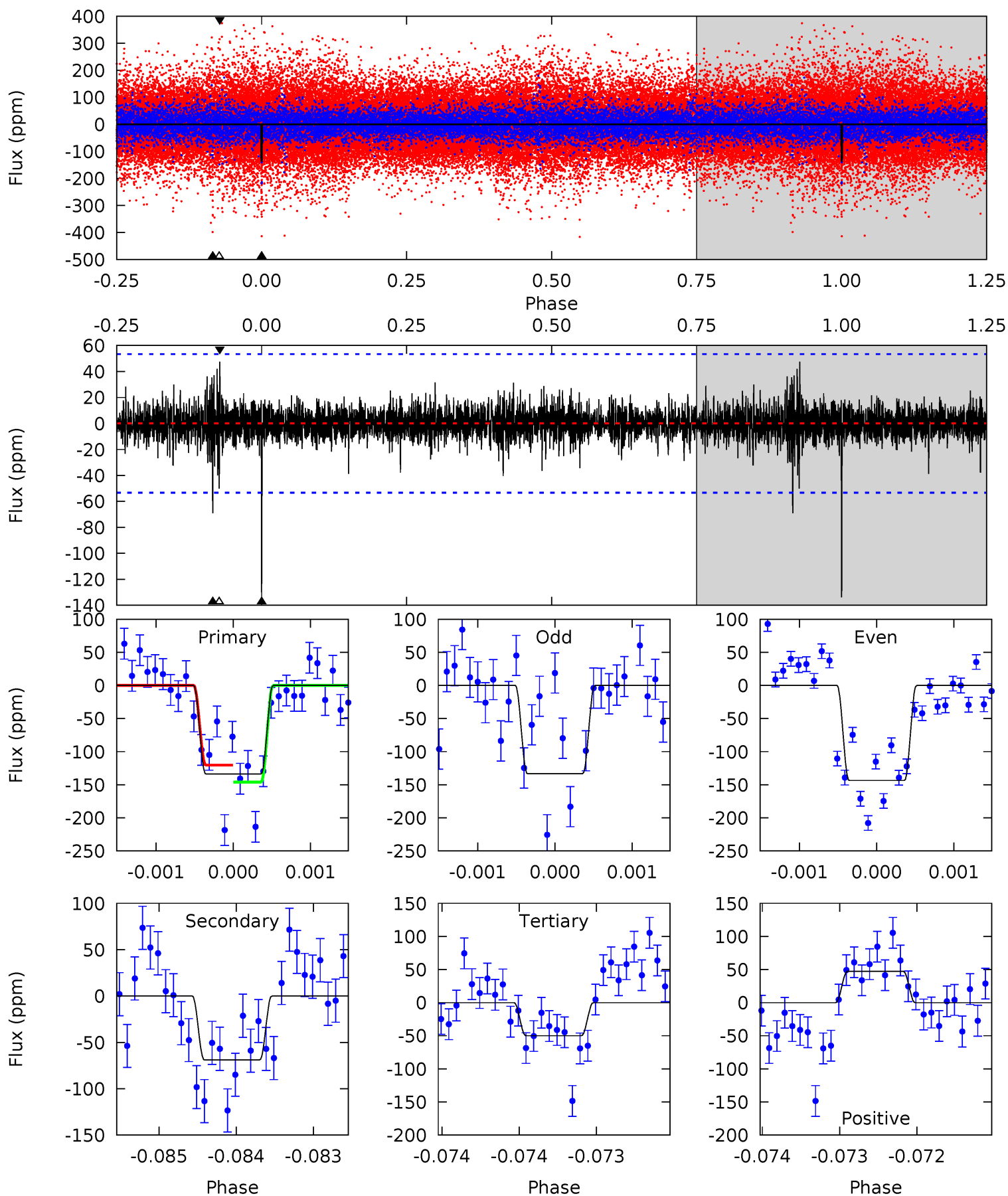
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	8.37	6.27	6.66	5.46	3.31	1.70	8.81	8.42	2.10	1.71	0.81	0.95	0.31	1.47



Alt Model-Shift Uniqueness Test

006878641-01, P = 415.155450 Days, E = 152.806544 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	7.08	5.13	4.87	5.47	3.32	0.91	8.60	8.87	1.95	2.21	0.53	1.03	0.26	1.32



Stellar Parameters For KIC 006878641

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4570^{+138}_{-138}	$4.674^{+0.048}_{-0.032}$	$-0.780^{+0.300}_{-0.300}$	$0.573^{+0.046}_{-0.041}$	$0.564^{+0.056}_{-0.028}$	$4.228^{+0.897}_{-0.568}$
	+3%/-3%	+1%/-1%	+38%/-38%	+8%/-7%	+10%/-5%	+21%/-13%
Source	PHO1	FLK73	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 006878641-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-85 ± 10	$0.82^{+0.36}_{-0.34}$	224^{+8}_{-8}	3986^{+1009}_{-474}	$56353^{+110539}_{-28995}$
Alt.	-69 ± 10	$0.76^{+0.35}_{-0.33}$	224^{+8}_{-8}	3978^{+966}_{-507}	$54731^{+111955}_{-29869}$

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

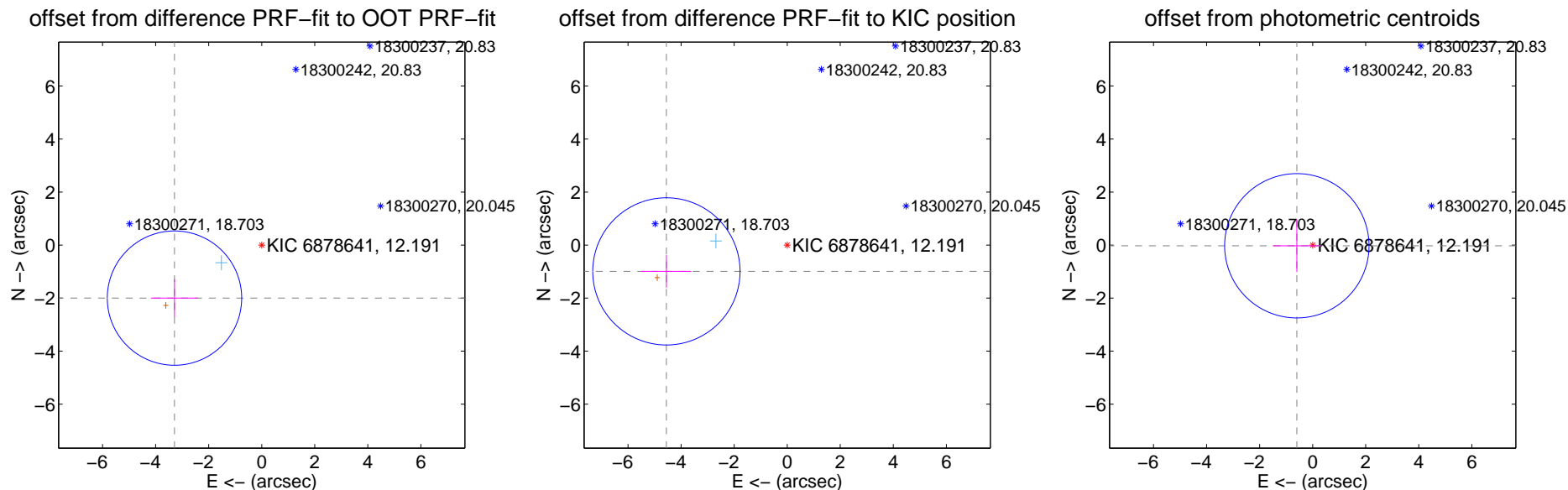
DV Centroid Data

Supplemental centroid analysis for 006878641-01. Kepler magnitude: 12.19. Transit SNR 7.86

There are 1 quarters with good PRF difference image offsets

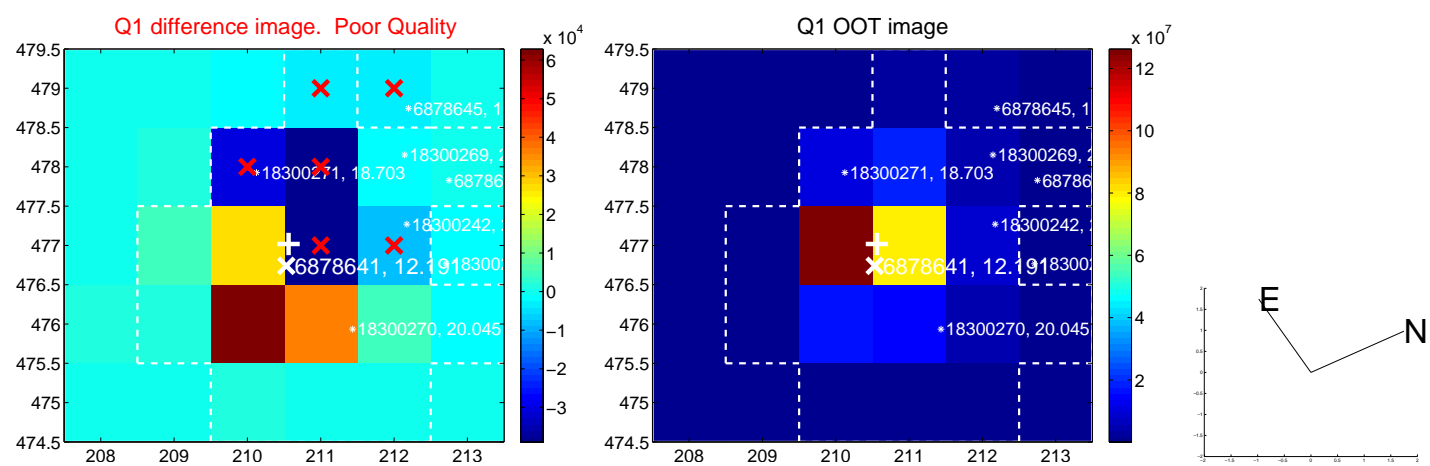
The direct PRF centroid is offset from the target star catalog position by about 1.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.850 ± 0.844	4.56	3.290 ± 0.889	-2.000 ± 0.710
PRF-fit source offset from KIC position	4.662 ± 0.926	5.04	4.555 ± 0.938	-0.992 ± 0.612
photometric centroid source offset	0.60 ± 0.91	0.66	0.60 ± 0.91	-0.03 ± 0.99



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.

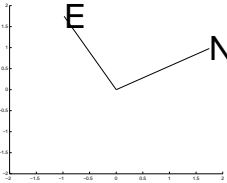
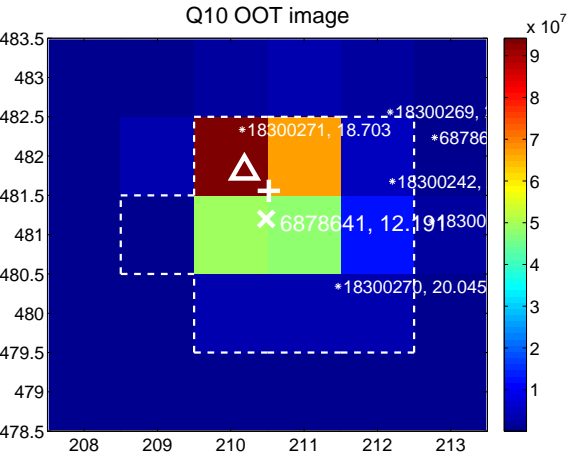
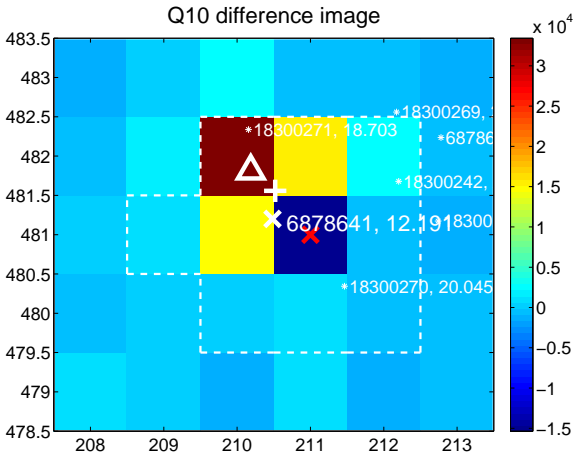
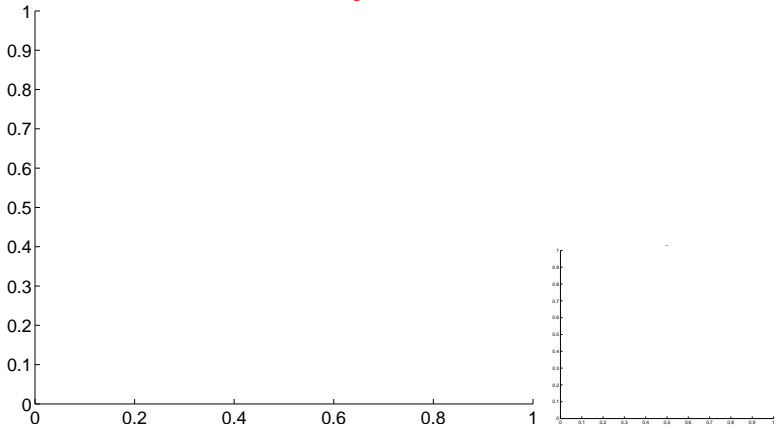


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

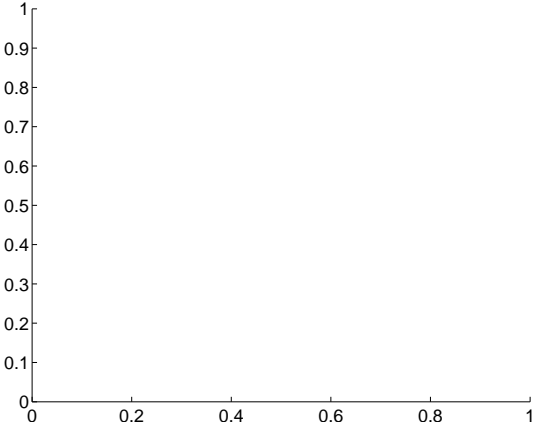
Q9 no difference image



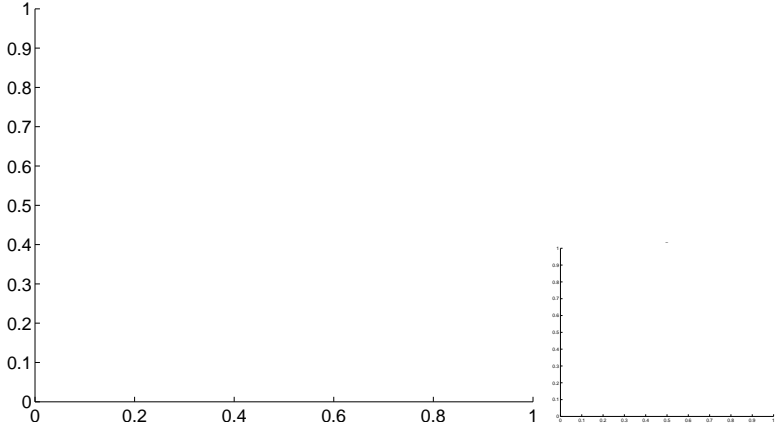
Q9 no OOT image



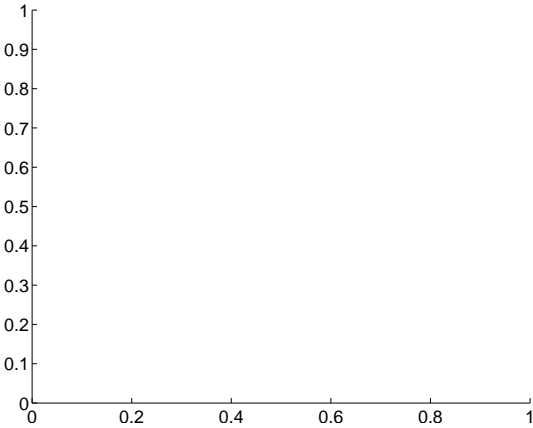
Q11 no difference image



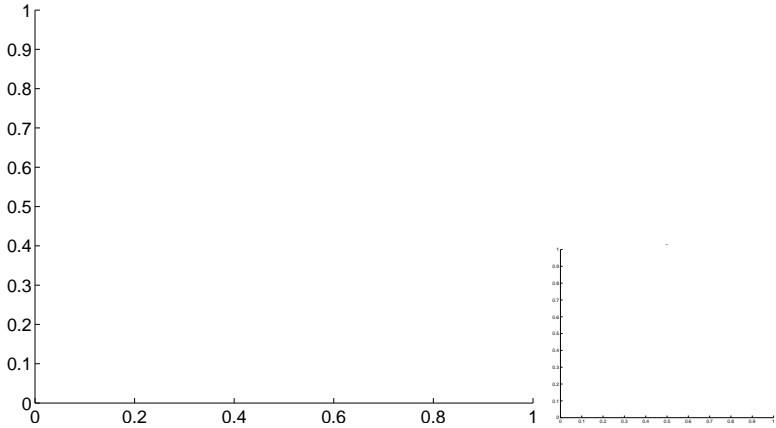
Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

Q13 no difference image



Q13 no OOT image



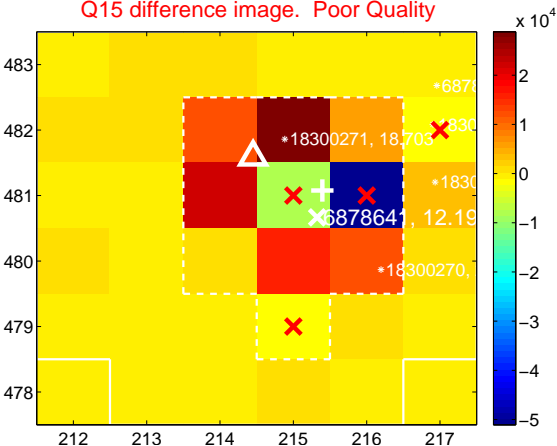
Q14 no difference image



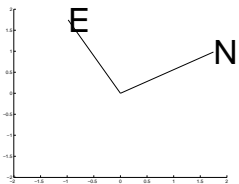
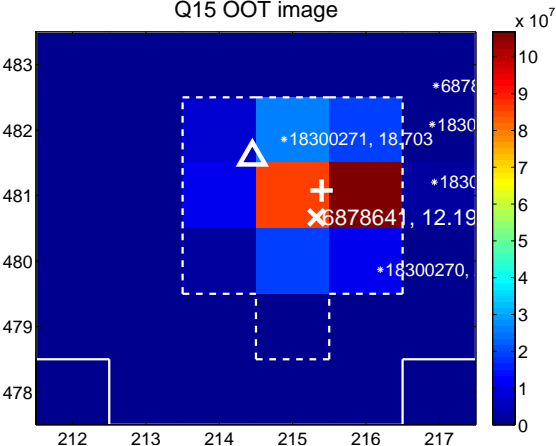
Q14 no OOT image



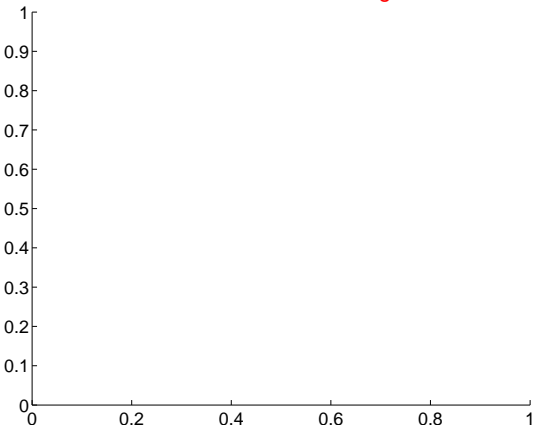
Q15 difference image. Poor Quality



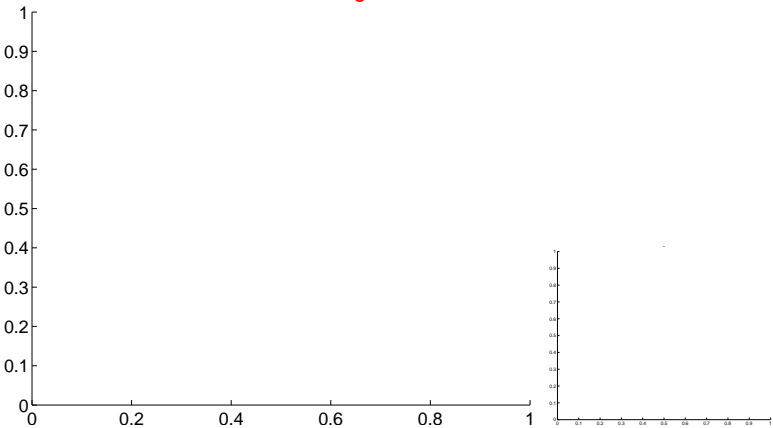
Q15 OOT image



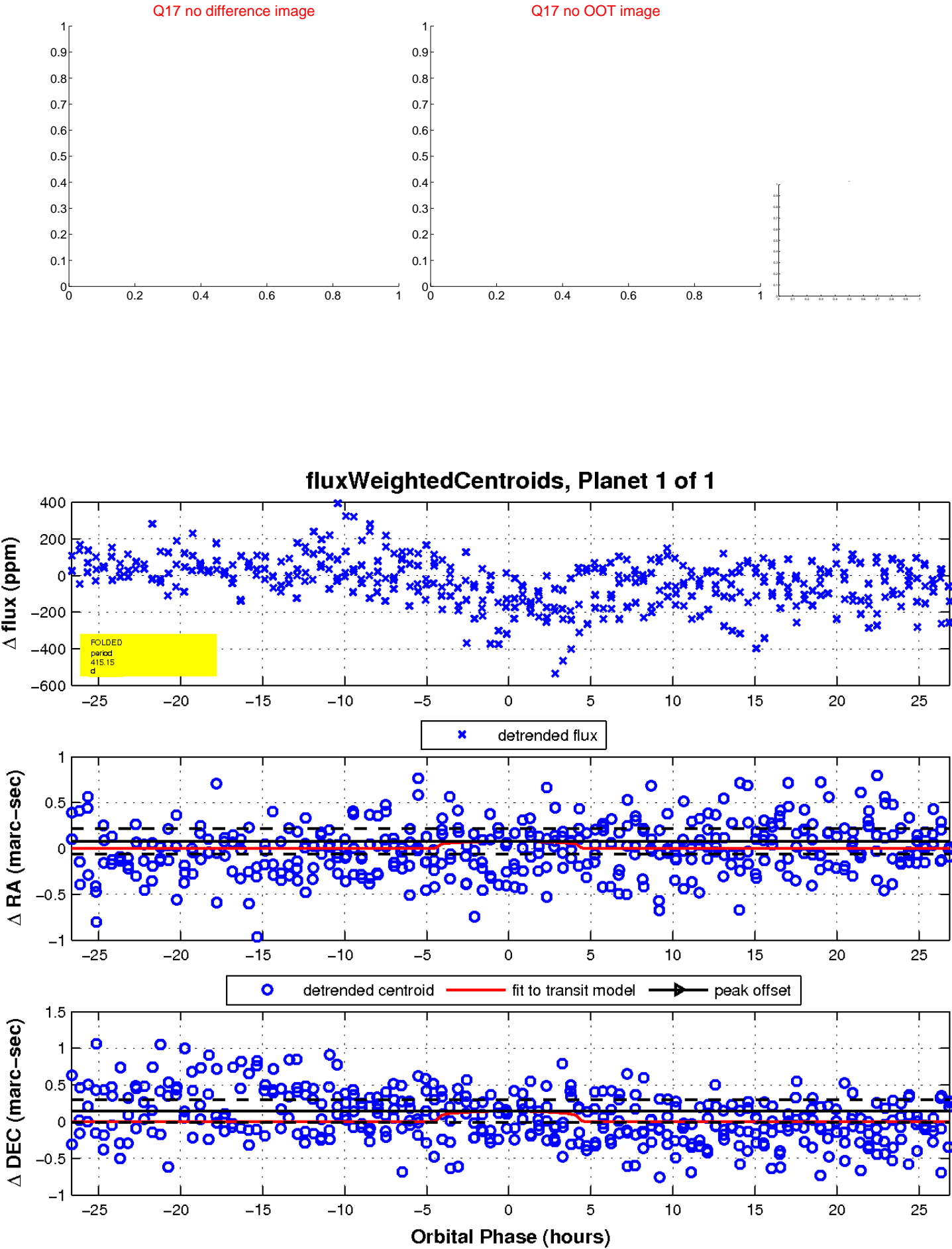
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

