

KIC 003241581

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})
003241581-01	OBS	No	503.913071	487.481752	102.8	14.976	8.5	8.5	1.11	5709	1.26	0.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003241581-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

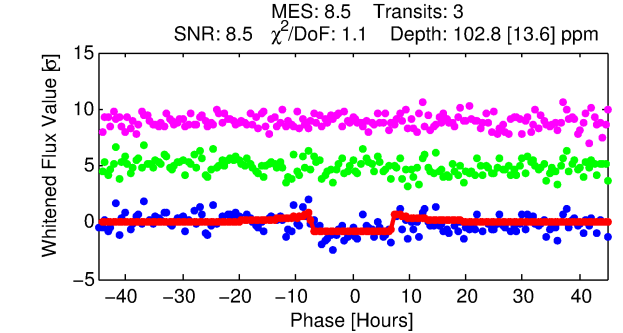
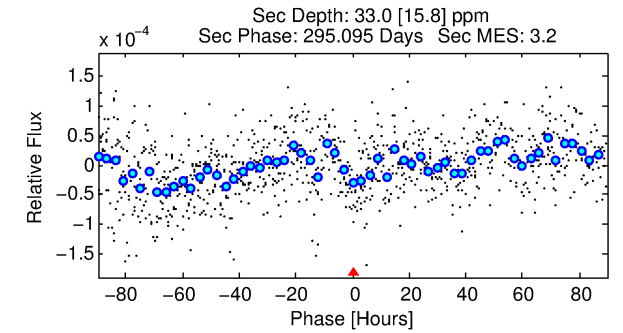
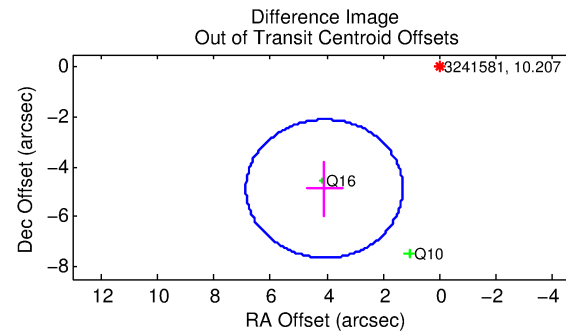
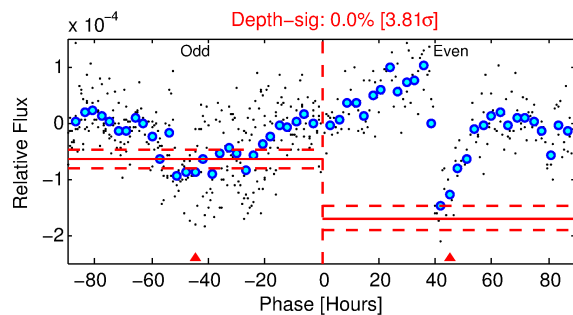
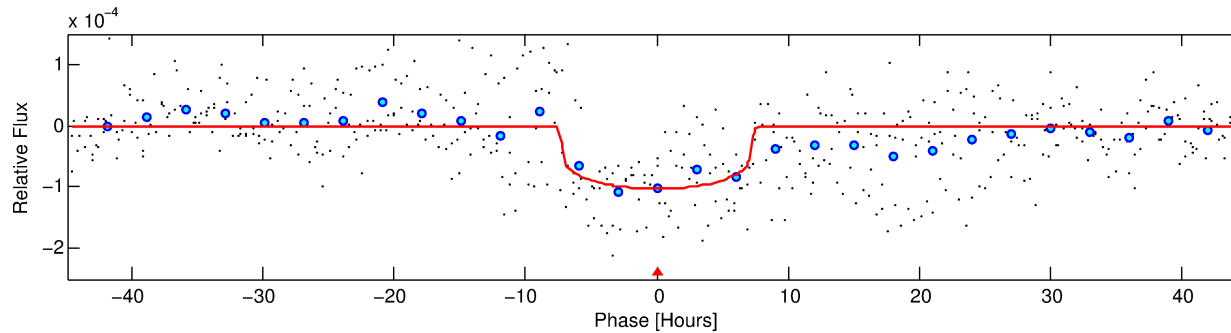
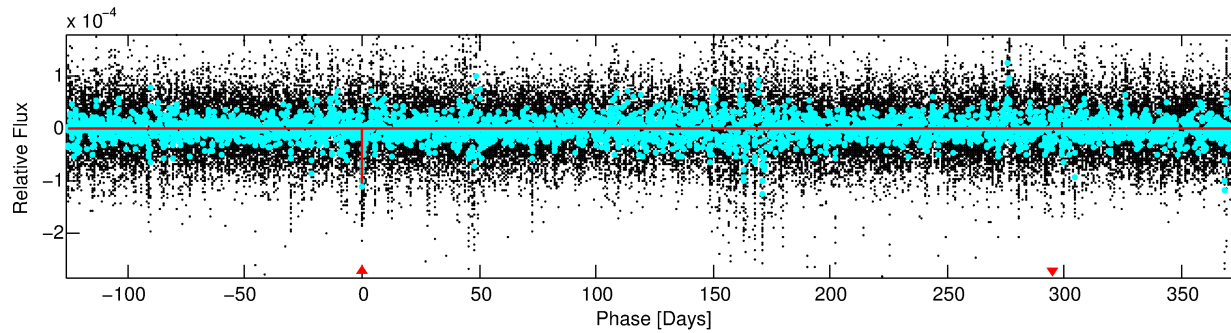
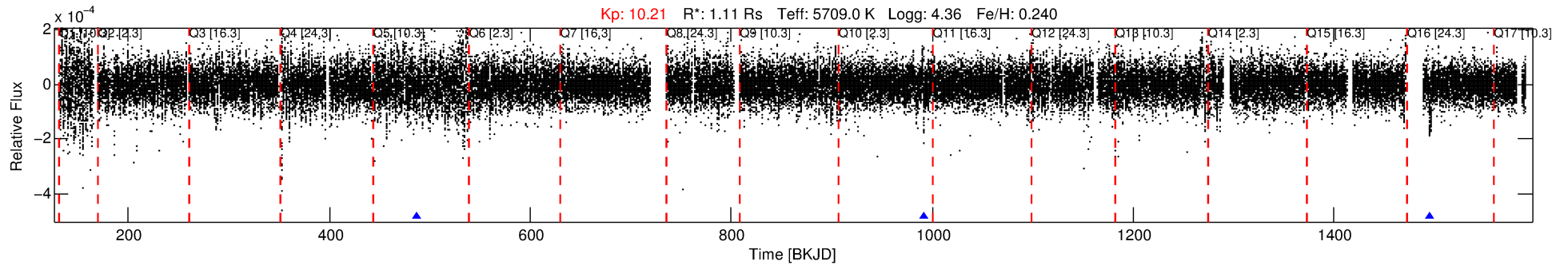
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003241581-01

No Significant Match Found

DV One-Page Summary

KIC: 3241581 Candidate: 1 of 1 Period: 503.913 d



DV Fit Results:

Period = 503.91307 [0.00883] d
Epoch = 487.4818 [0.0126] BKJD
Rp/R* = 0.0104 [0.0024]
a/R* = 153.50 [146.58]
b = 0.82 [0.40]
Seff = 0.75 [0.05]
Teq = 237 [4] K
Rp = 1.26 [0.30] Re
a = 1.2504 [0.0409] AU
Ag = 17948.59 [12015.30] [1.49 σ]
Teff = 4241 [710] K [5.64 σ]

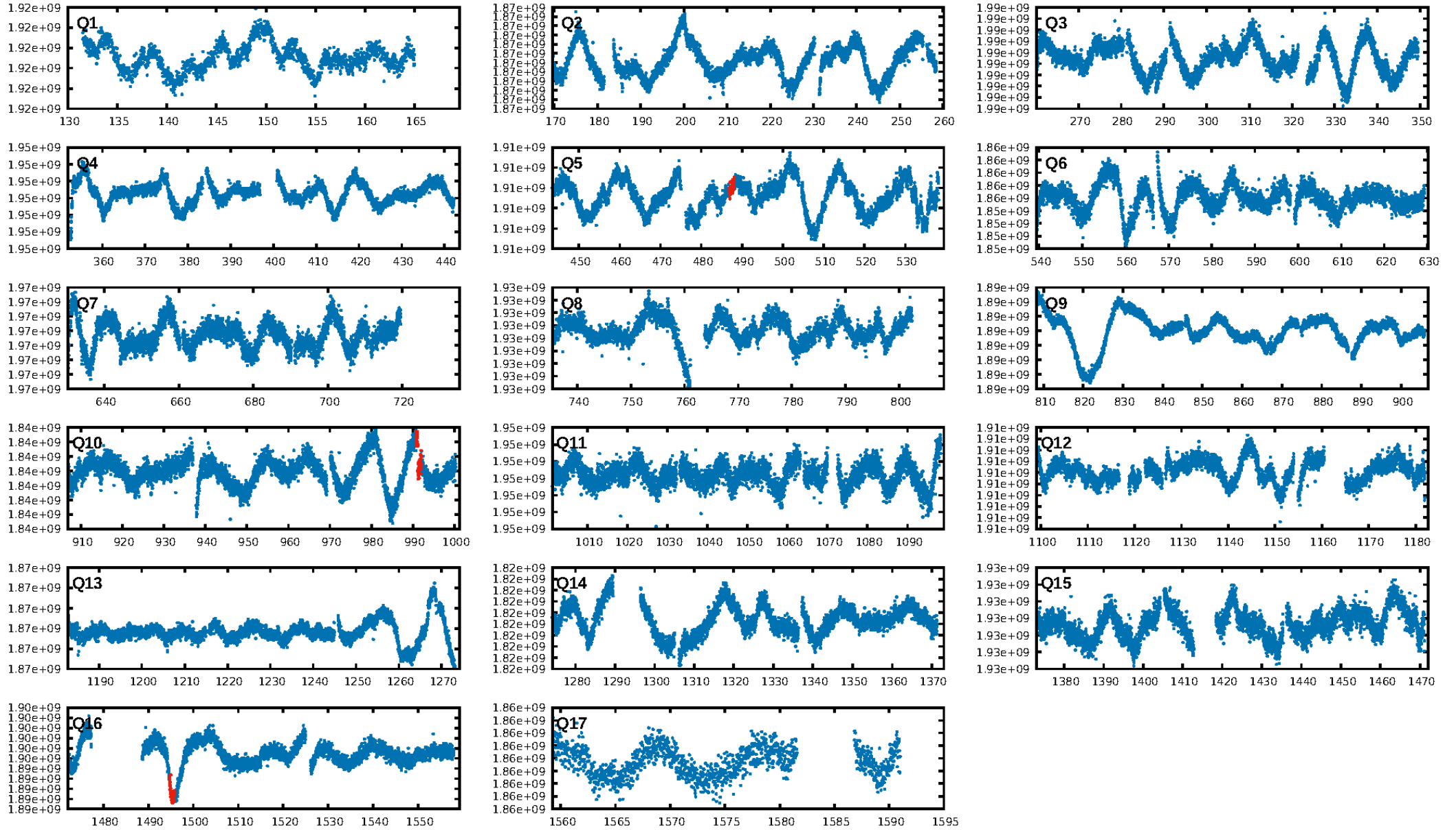
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.3%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: 9.58e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 8.2%
Centroid-so: 3.594 arcsec [1.10 σ]
OotOffset-rm: 6.364 arcsec [6.89 σ]
KicOffset-rm: 8.003 arcsec [13.77 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

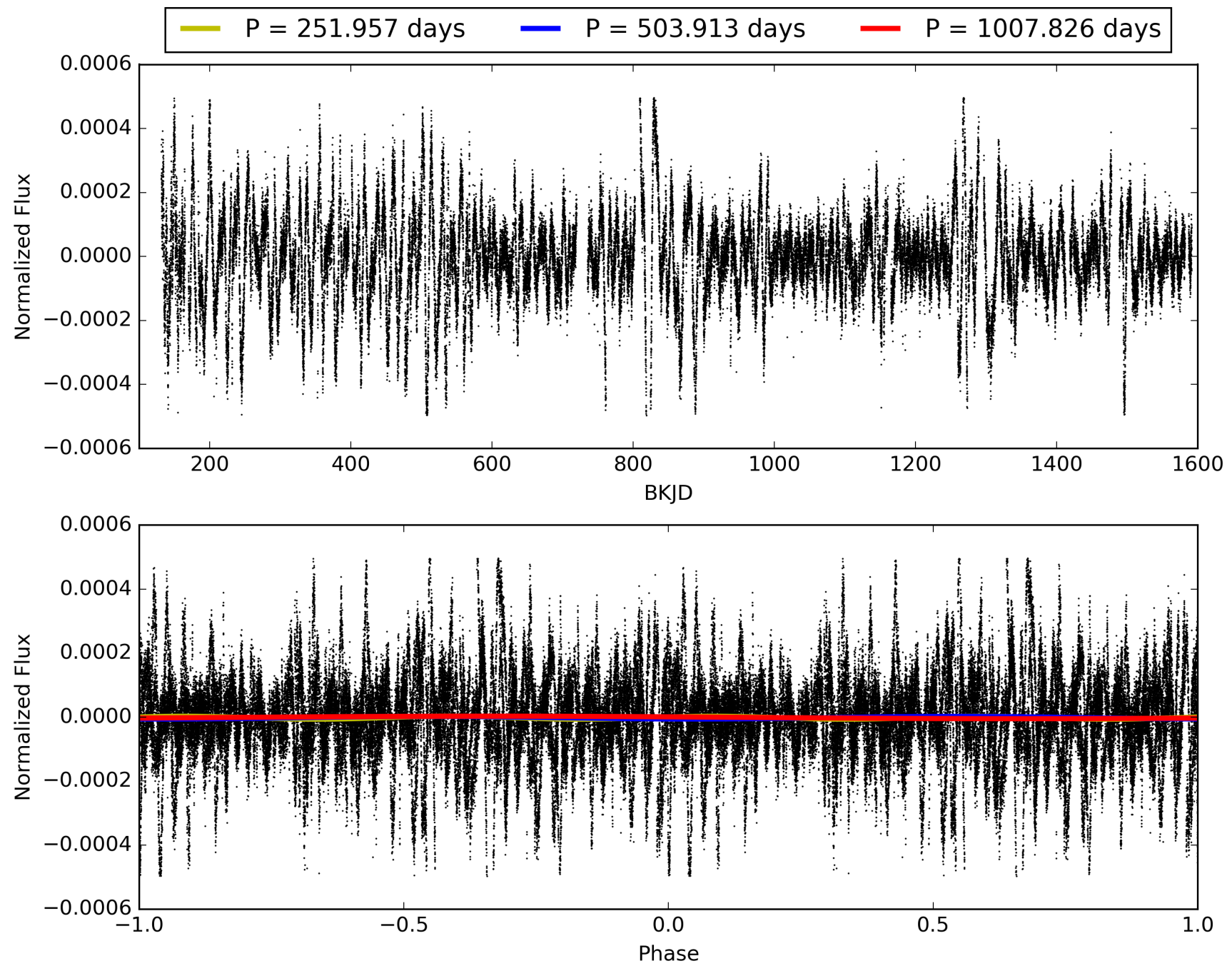
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:55:58 Z

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

TCE 003241581-01, PDC Light Curves

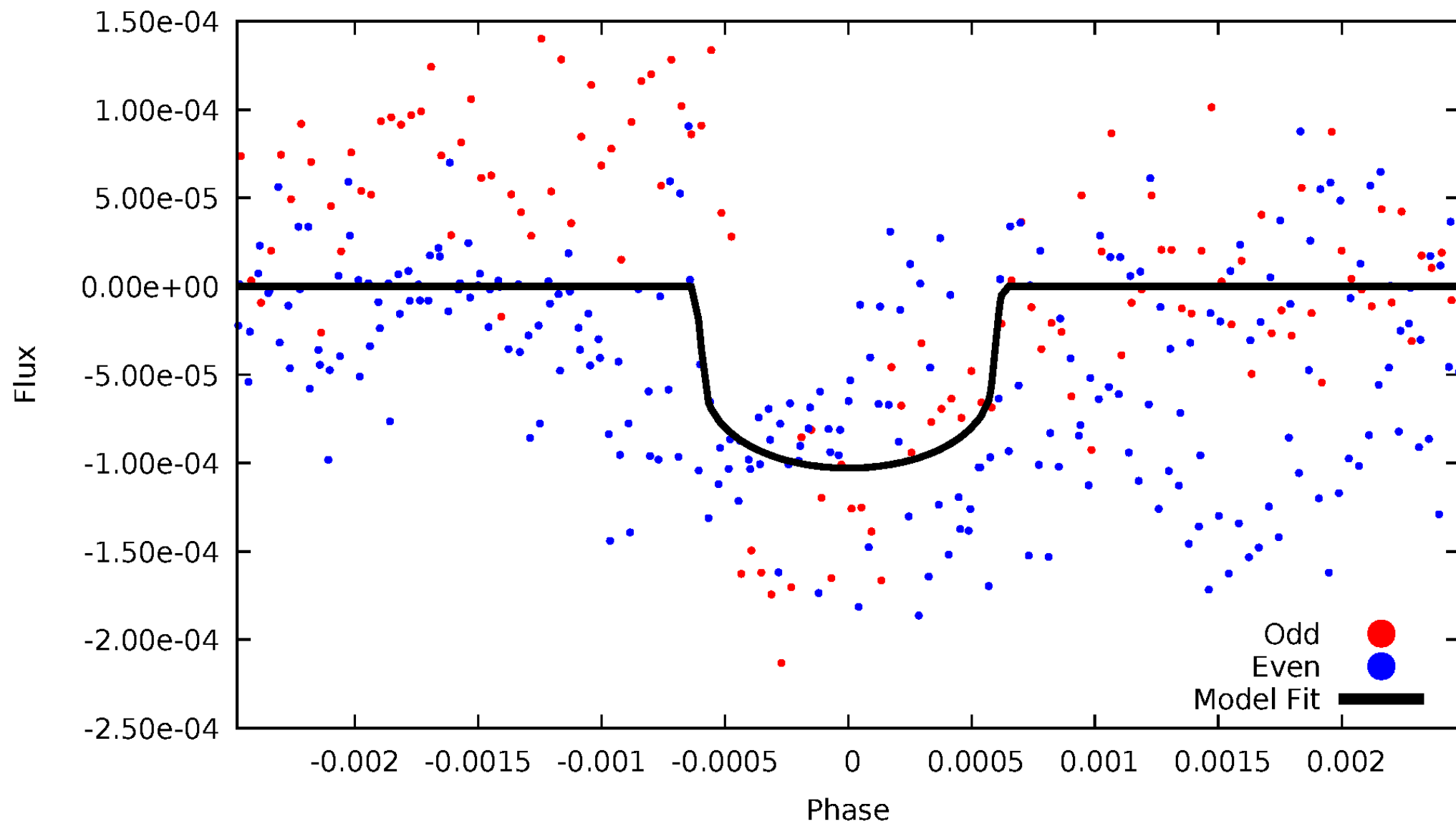


TCE 003241581-01



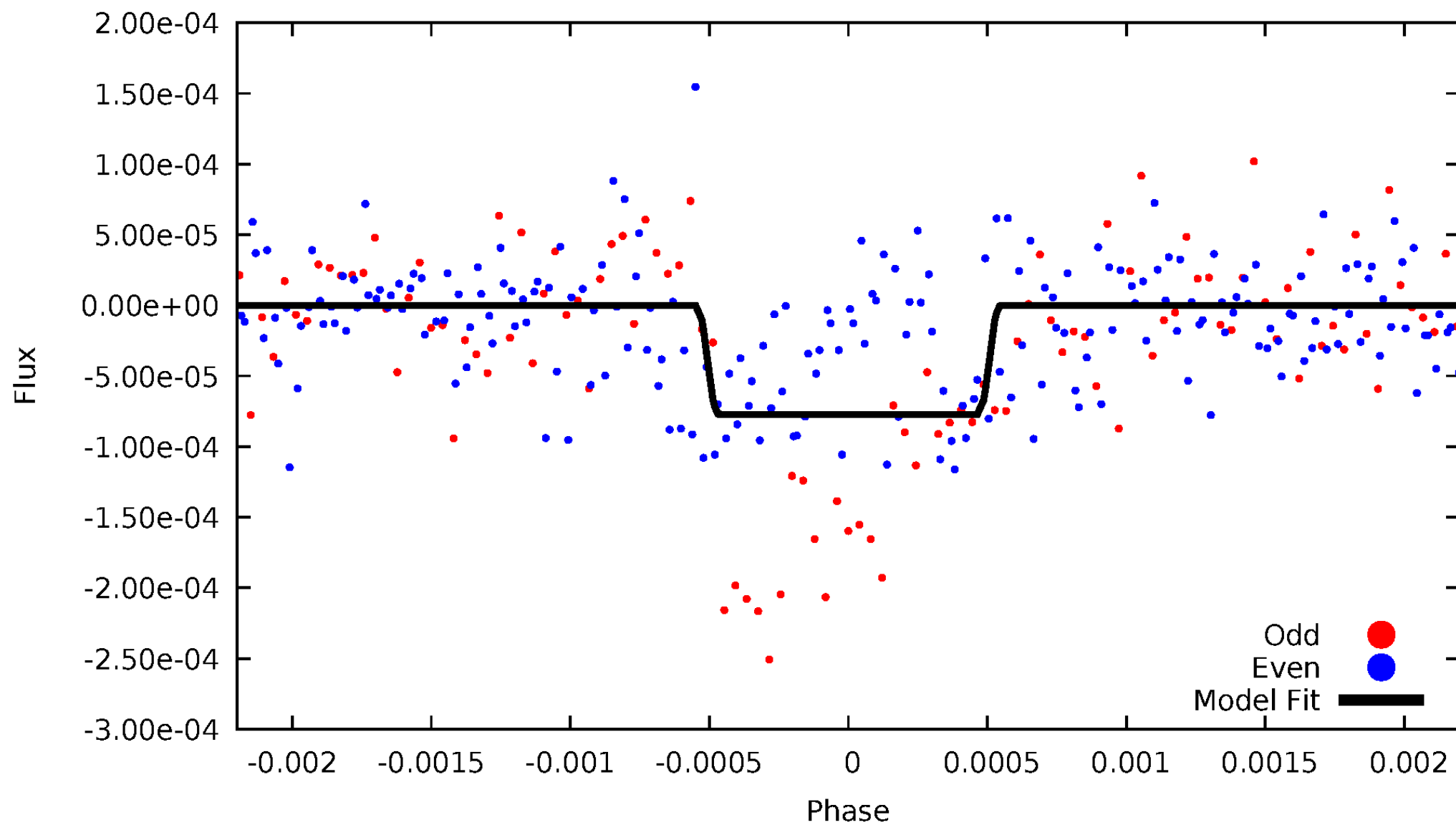
DV Odd/Even

TCE 003241581-01



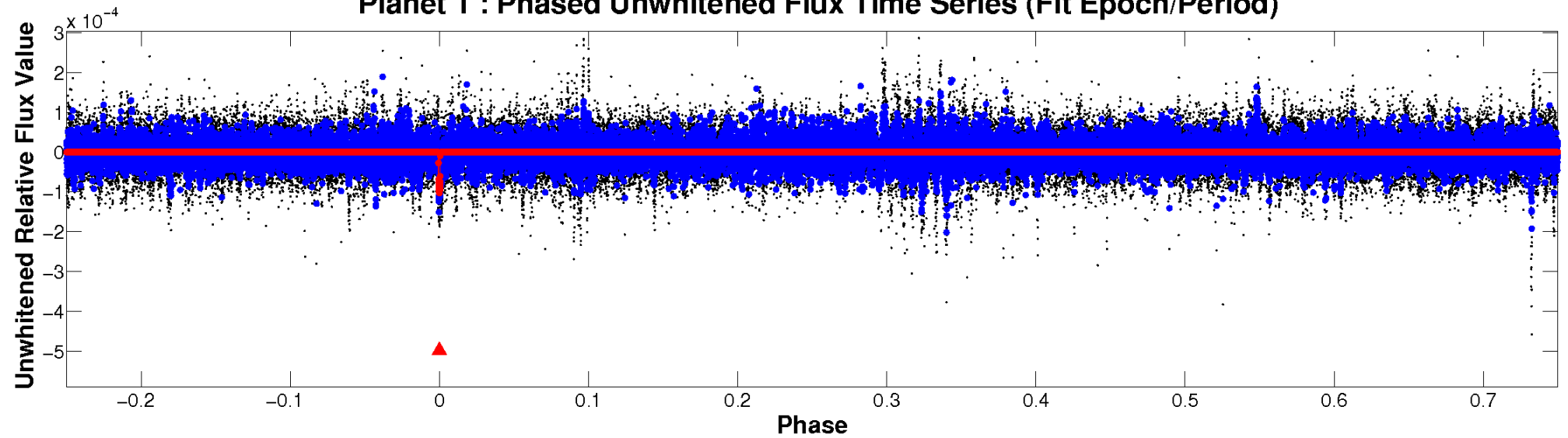
ALT Odd/Even

TCE 003241581-01

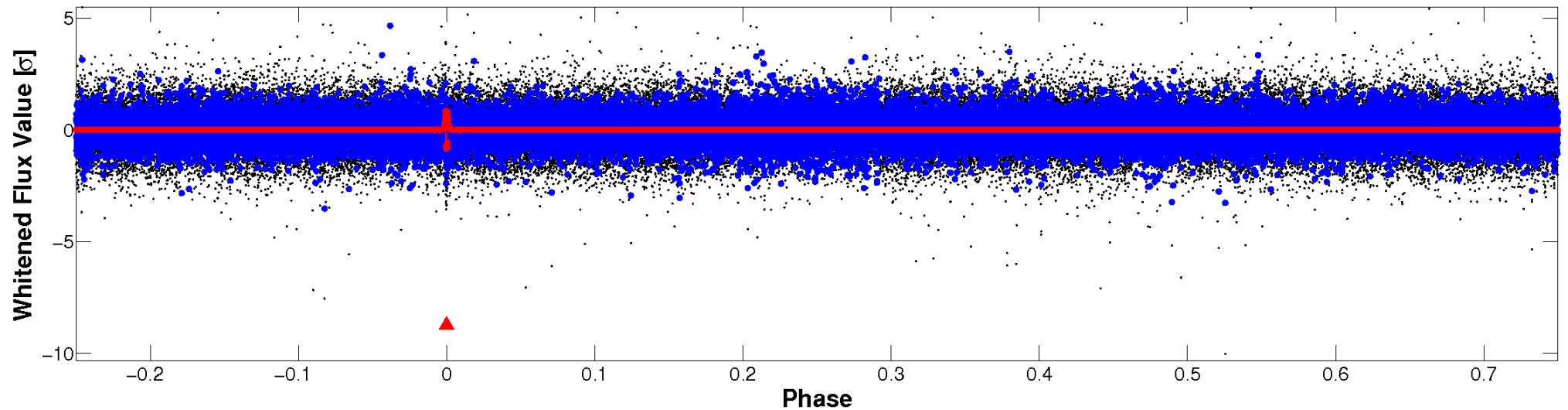


Non-Whitened Vs. Whitened Light Curve

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

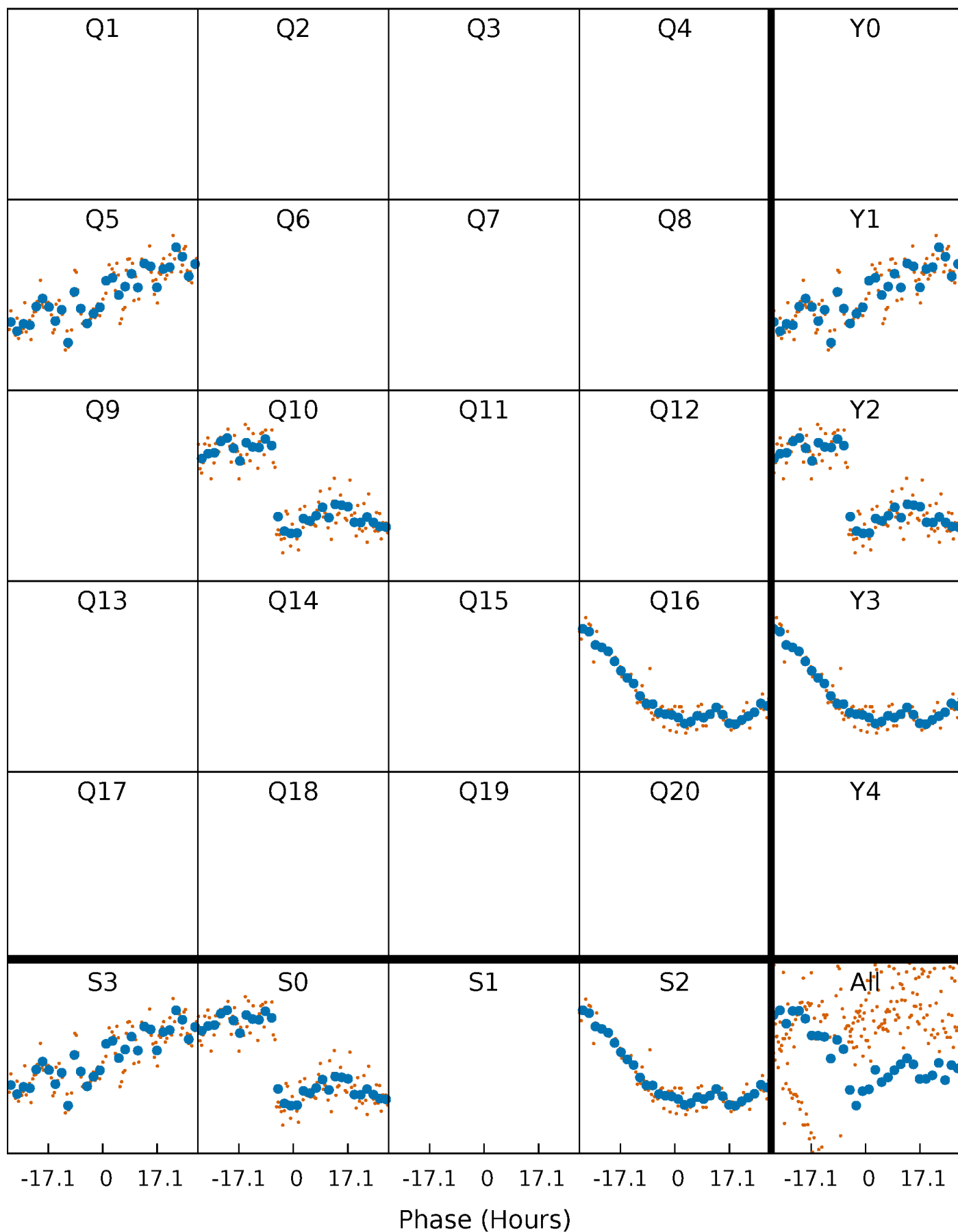


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



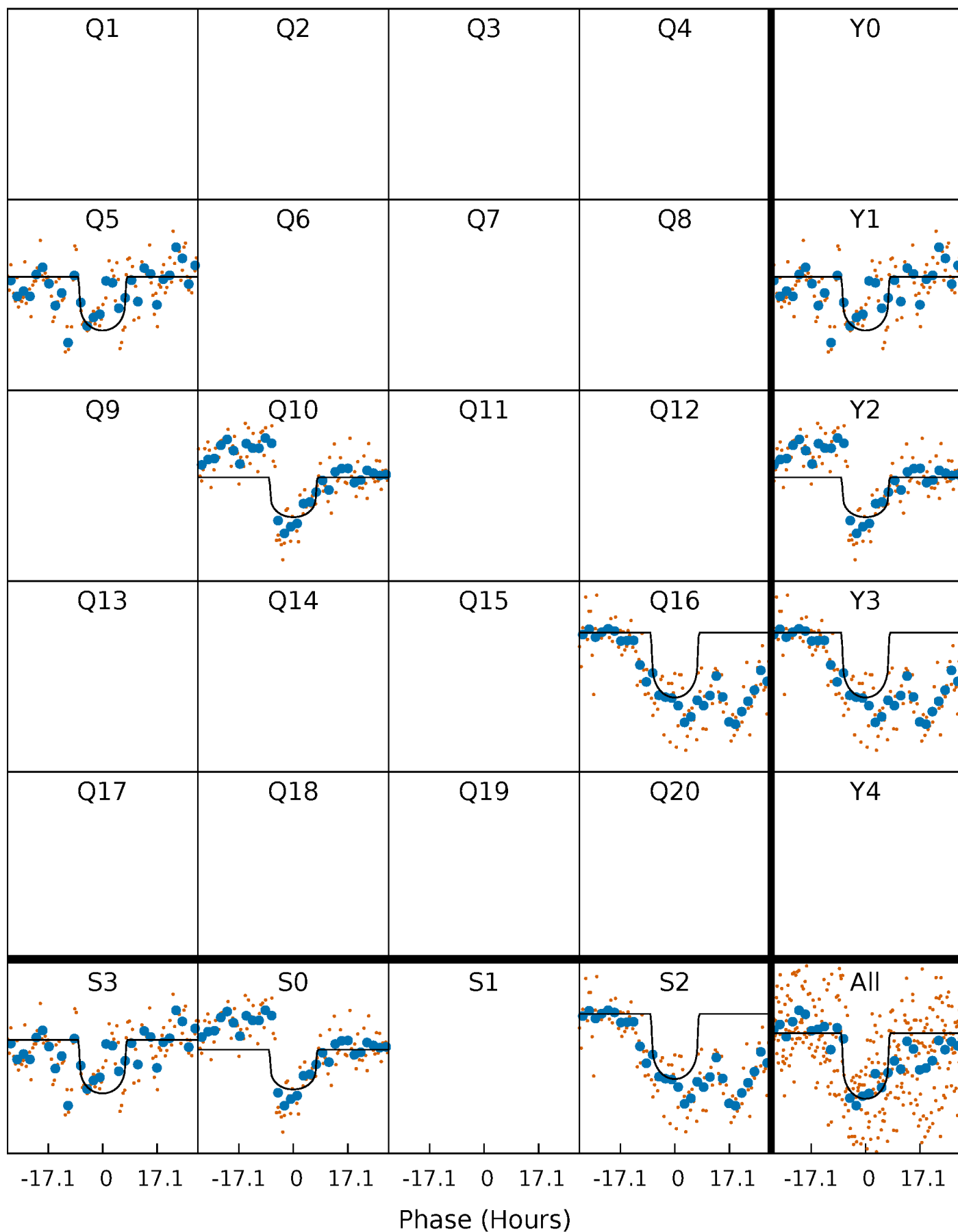
PDC Quarter-Phased Transit Curves

TCE 003241581-01 P=503.913071 Days $T_0=487.481752$ (BKJD)



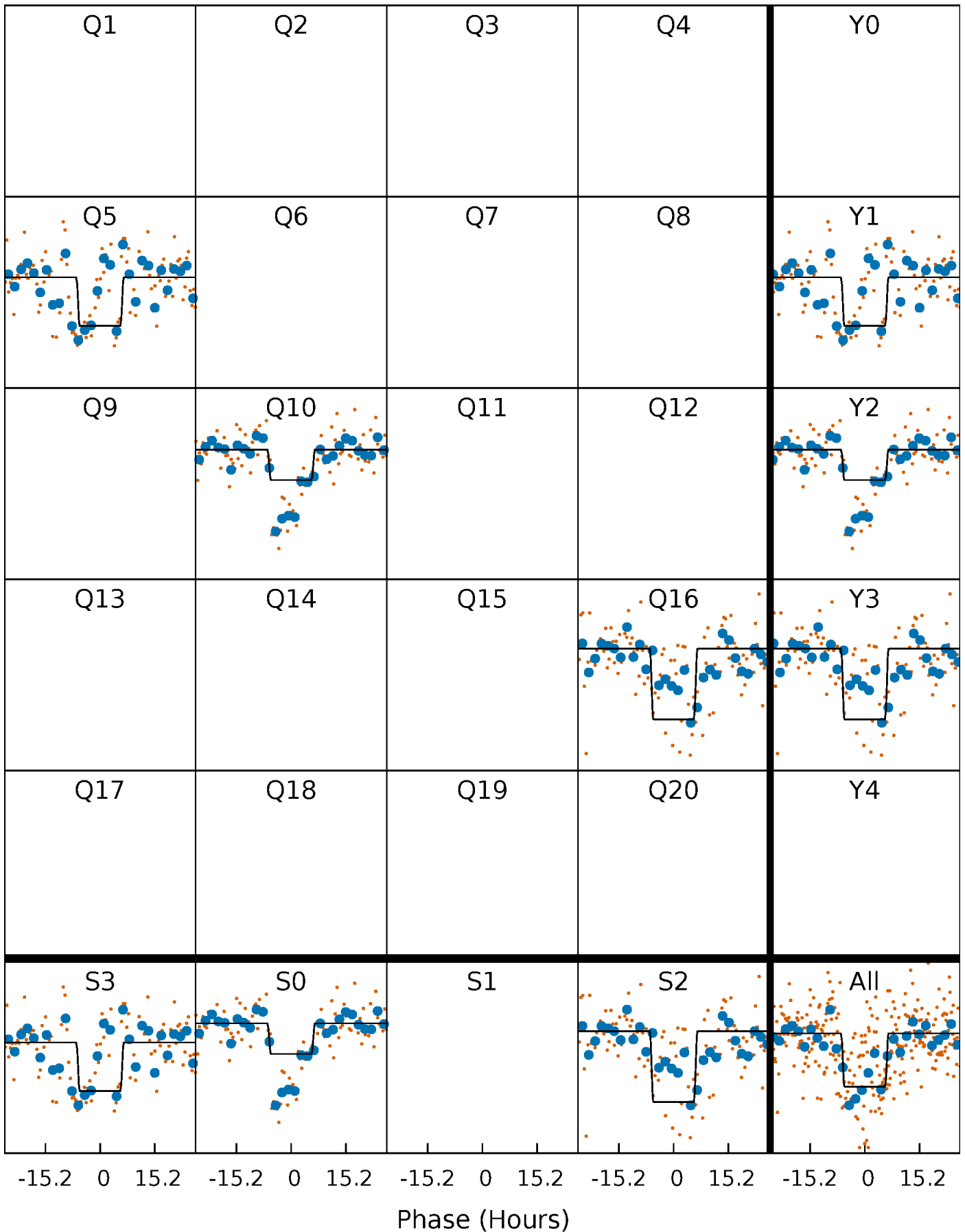
DV Quarter-Phased Transit Curves

TCE 003241581-01 P=503.913071 Days $T_0=487.481752$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

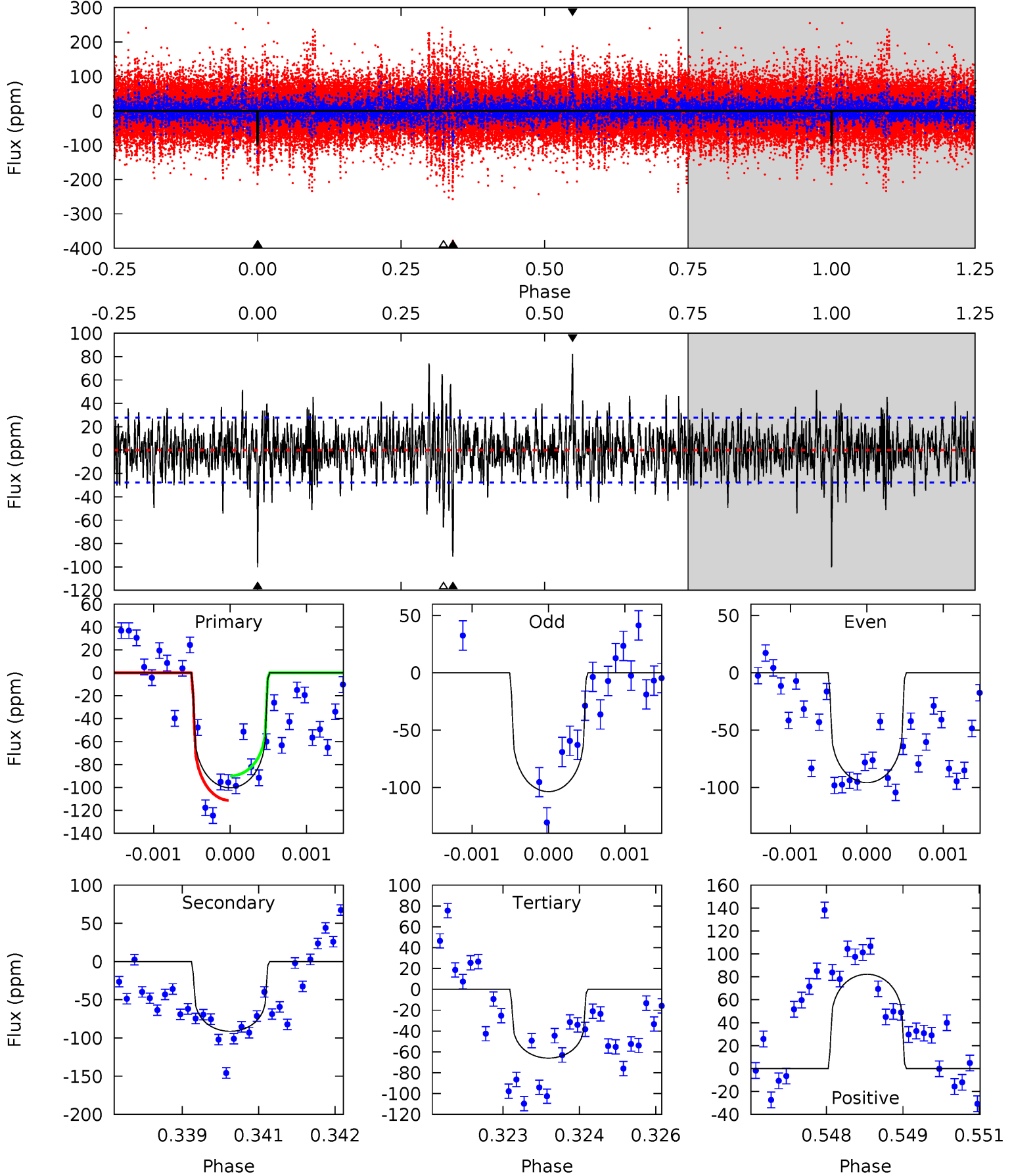
TCE 003241581-01 P=503.857534 Days $T_0=487.543694$ (BKJD)



DV Model-Shift Uniqueness Test

003241581-01, P = 503.913071 Days, E = 487.481752 Days

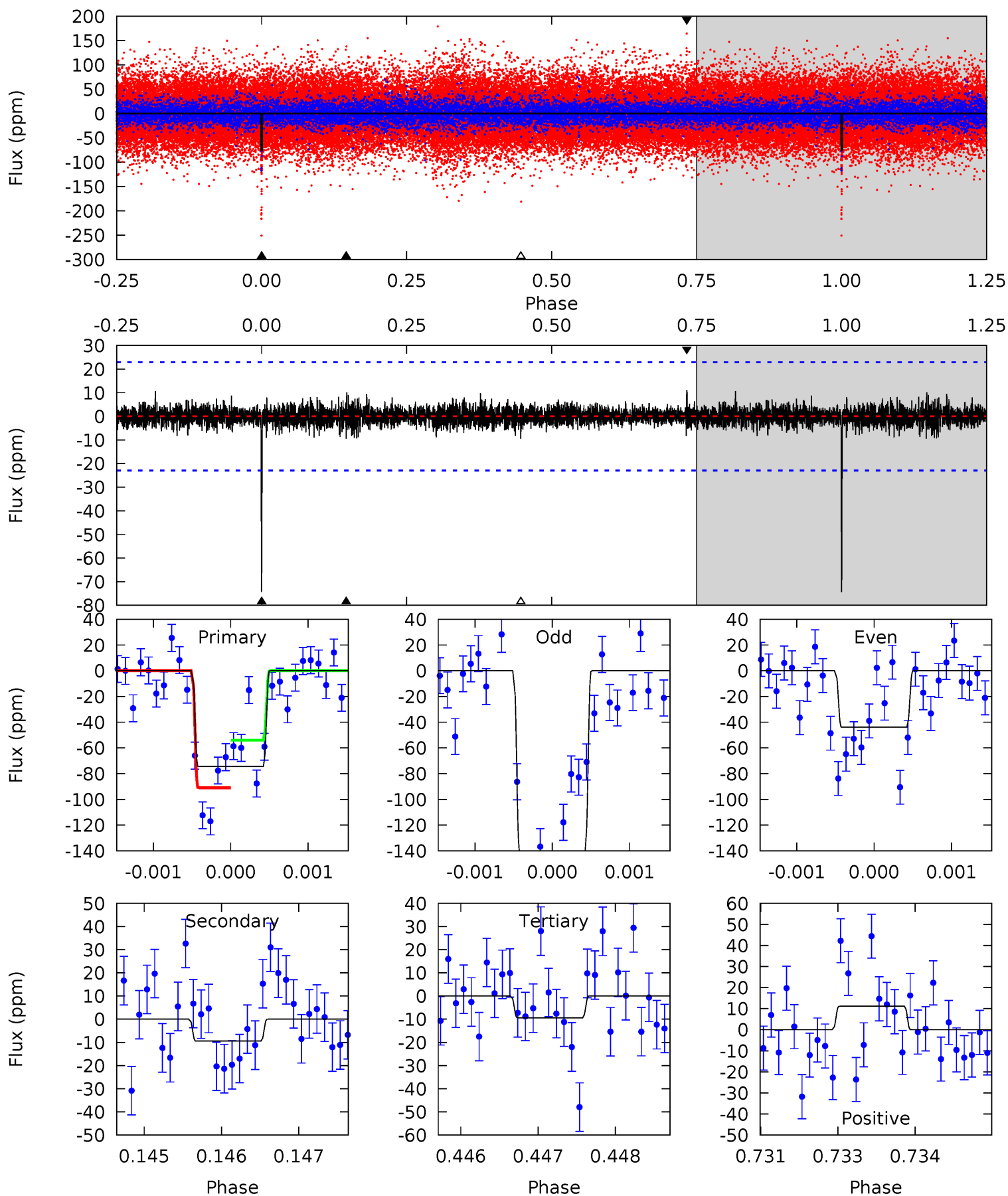
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	17.8	12.9	16.1	5.41	3.23	3.21	6.71	3.53	4.94	1.77	0.72	0.95	0.45	2.09



Alt Model-Shift Uniqueness Test

003241581-01, P = 503.857534 Days, E = 487.543694 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	2.24	2.22	2.64	5.44	3.26	0.56	15.4	15.0	0.02	-0.40	10.8	1.62	0.13	4.37



Stellar Parameters For KIC 003241581

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5709^{+77}_{-77}	$4.361^{+0.025}_{-0.023}$	$0.240^{+0.150}_{-0.150}$	$1.107^{+0.040}_{-0.044}$	$1.025^{+0.057}_{-0.057}$	$1.063^{+0.099}_{-0.082}$
	+1%/-1%	+1%/-1%	+62%/-62%	+4%/-4%	+6%/-6%	+9%/-8%
Source	SPE72	AST10	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003241581-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-91 ± 5	$1.26^{+0.28}_{-0.29}$	331^{+6}_{-6}	5473^{+718}_{-484}	48812^{+33595}_{-16215}
Alt.	-9 ± 4	$1.07^{+0.32}_{-0.31}$	331^{+5}_{-6}	3707^{+517}_{-363}	6674^{+7554}_{-3223}

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

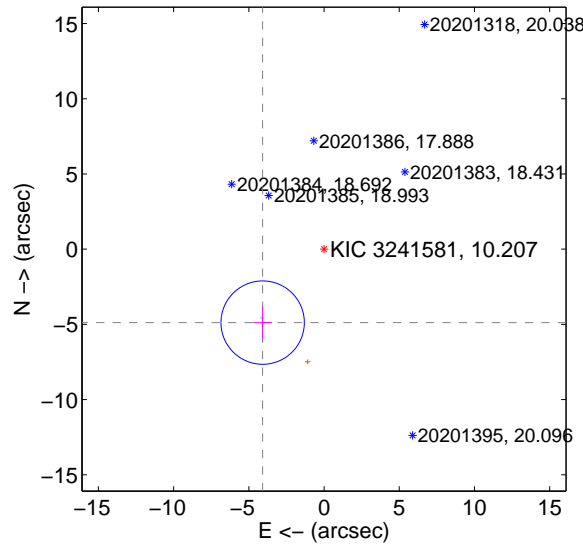
Supplemental centroid analysis for 003241581-01. **Kepler magnitude: 10.21.** Transit SNR 8.47

There are 1 quarters with good PRF difference image offsets

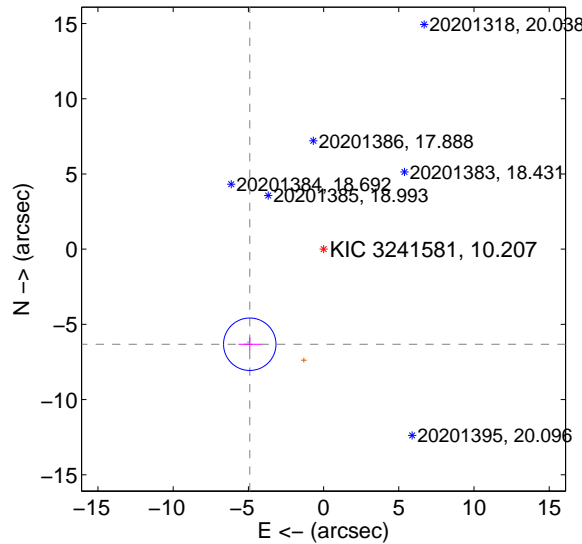
The direct PRF centroid is offset from the target star catalog position by about 1.84 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.364 ± 0.924	6.89	4.082 ± 0.628	-4.883 ± 1.084
PRF-fit source offset from KIC position	8.003 ± 0.581	13.77	4.909 ± 0.754	-6.321 ± 0.446
photometric centroid source offset	3.59 ± 3.27	1.10	0.17 ± 1.62	3.59 ± 3.27

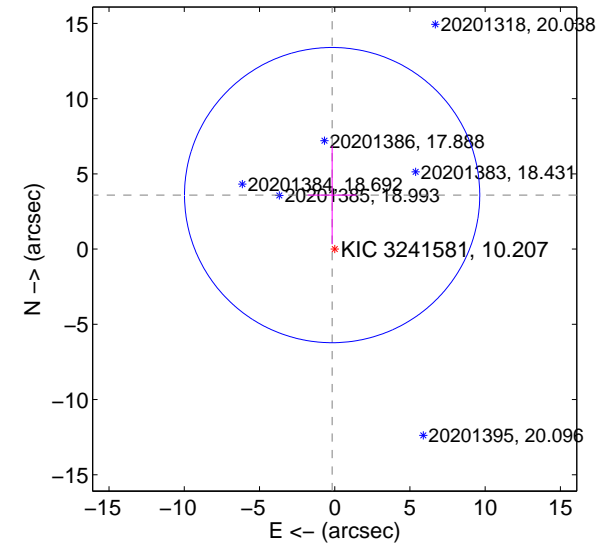
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

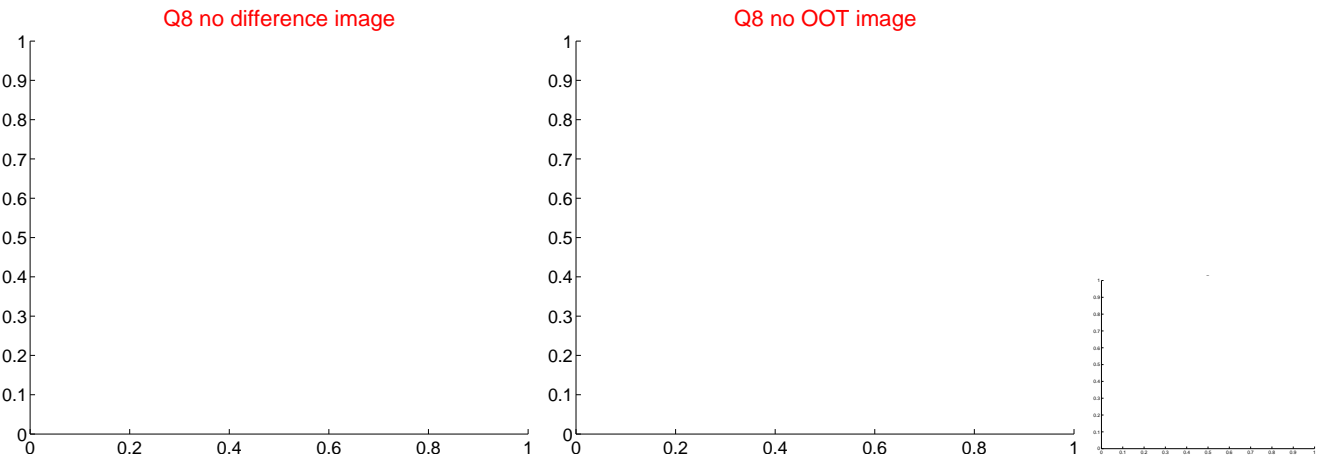
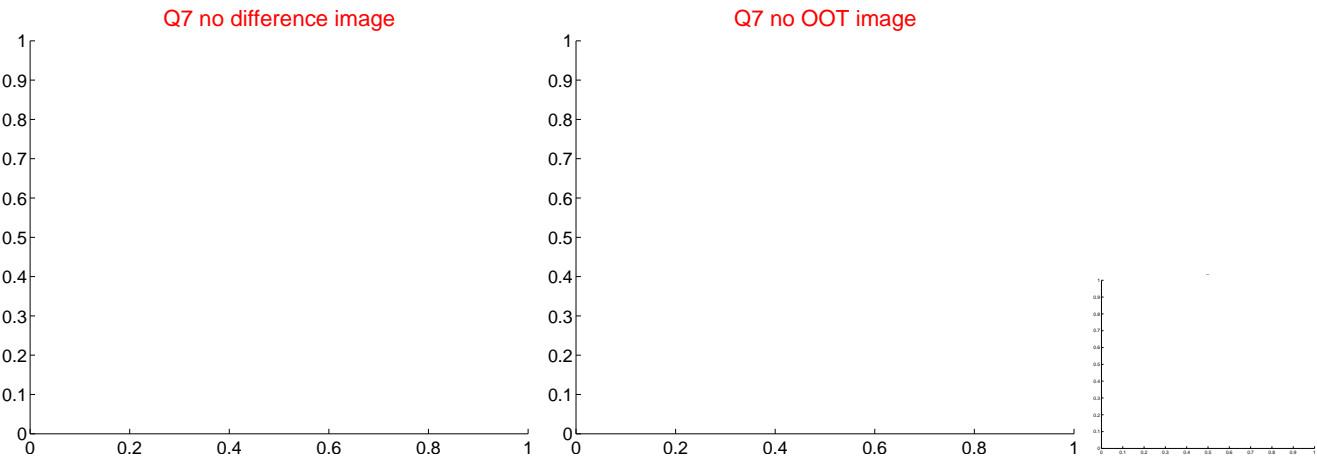
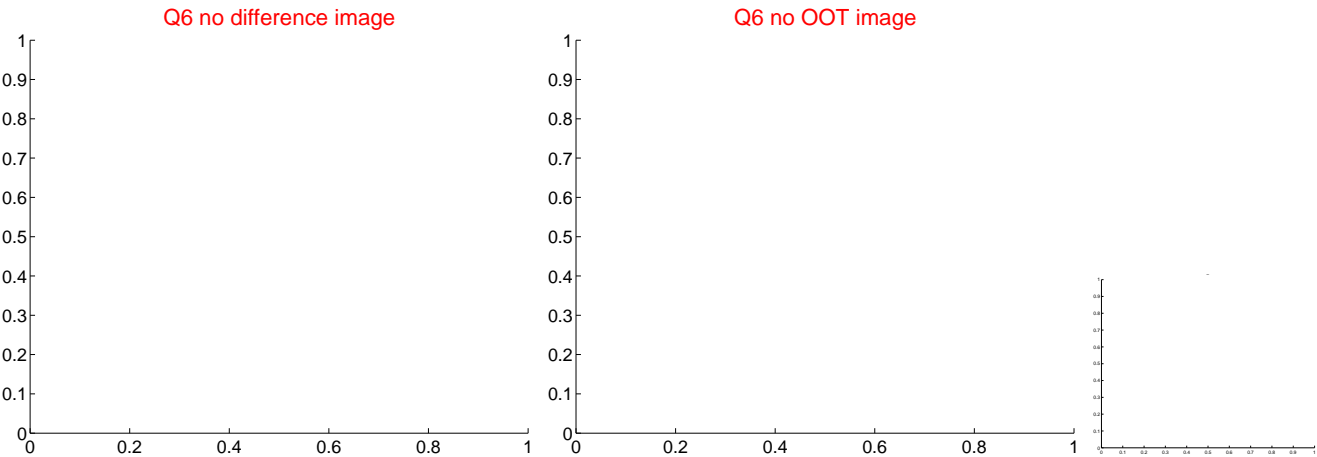
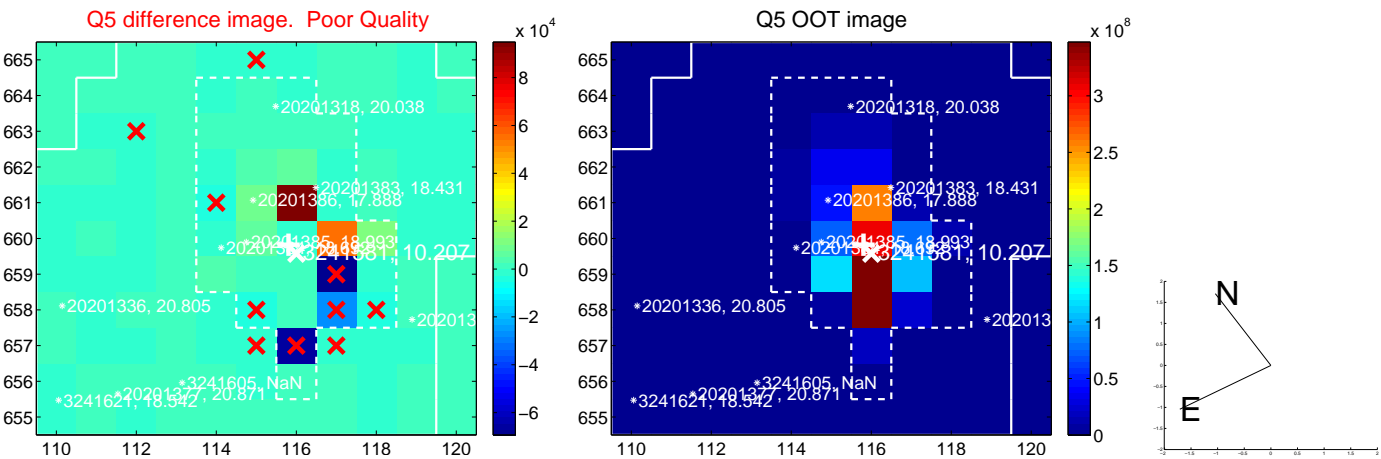


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

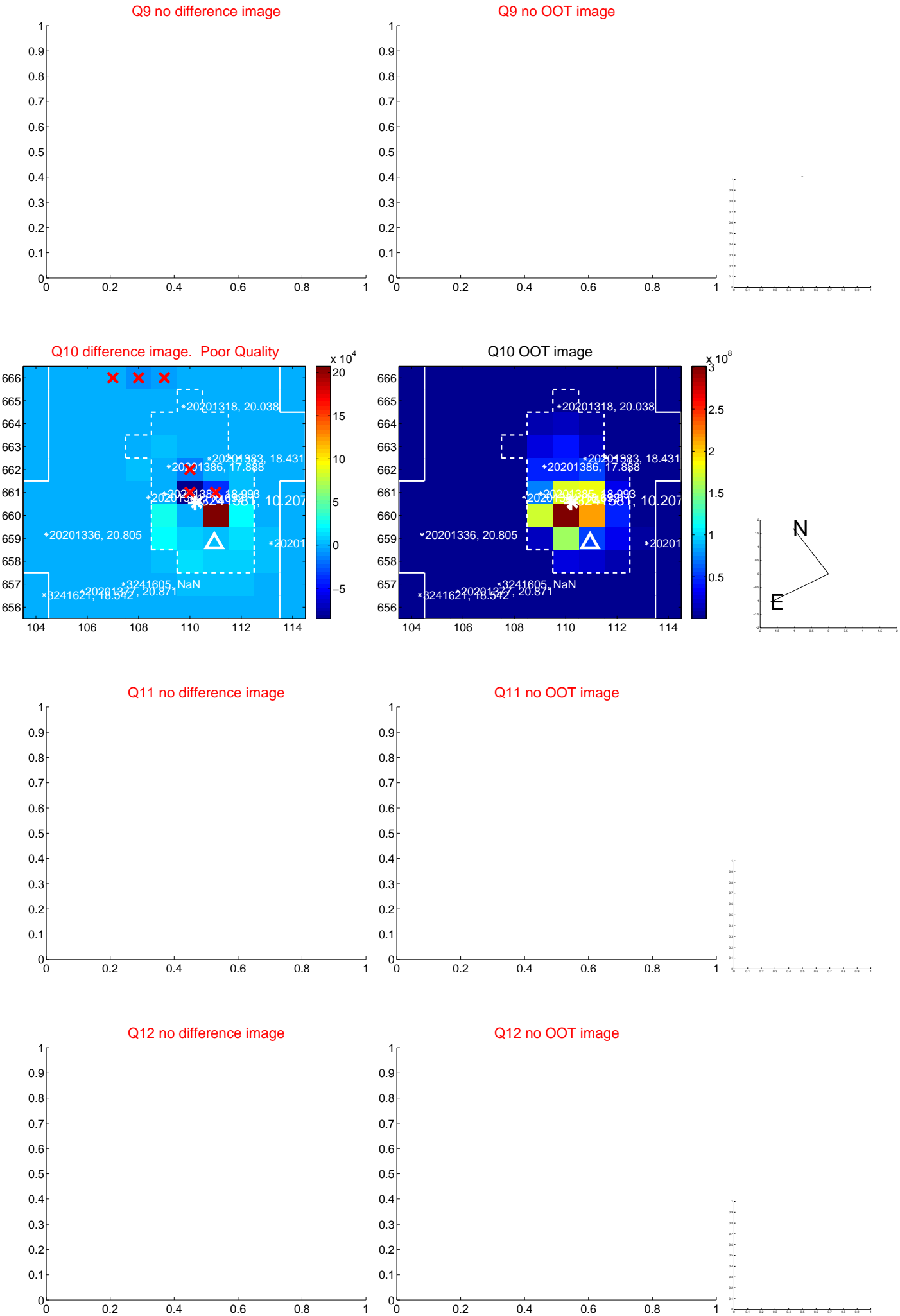
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

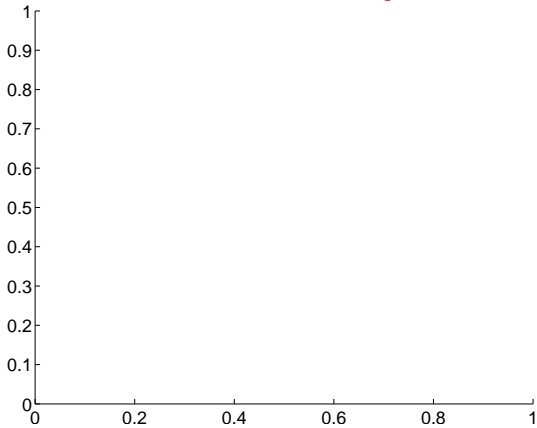


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

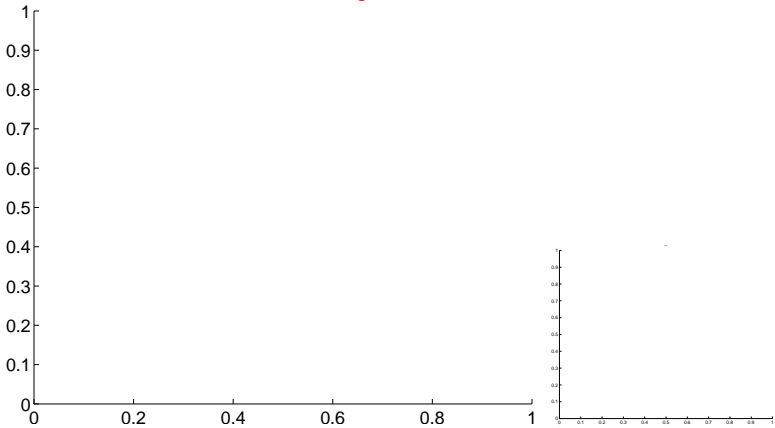


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

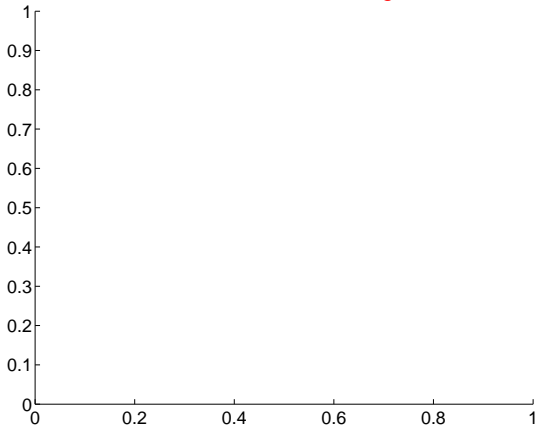
Q13 no difference image



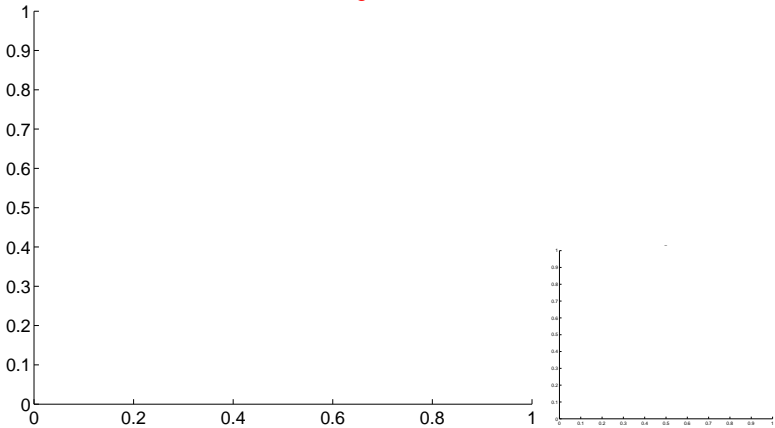
Q13 no OOT image



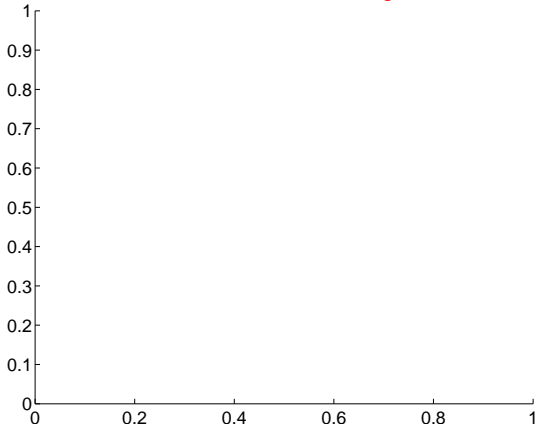
Q14 no difference image



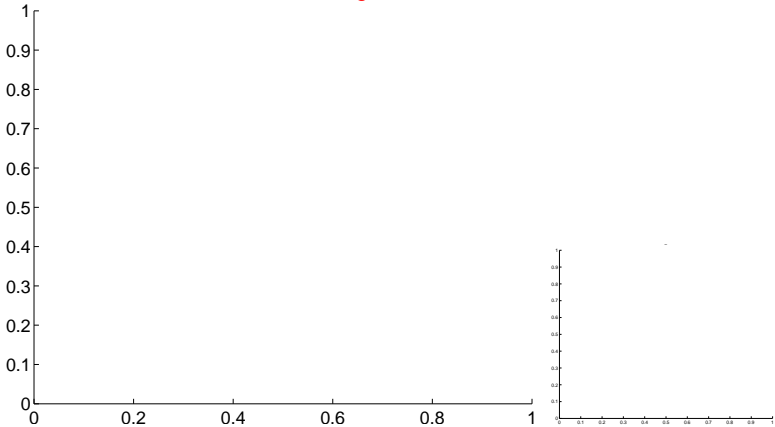
Q14 no OOT image



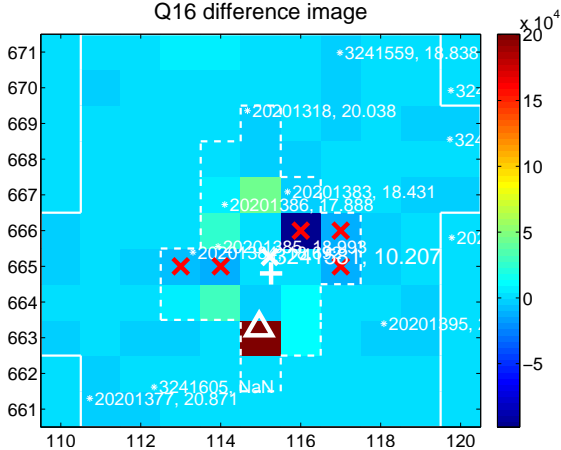
Q15 no difference image



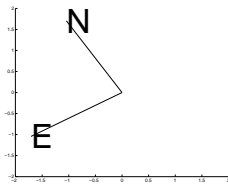
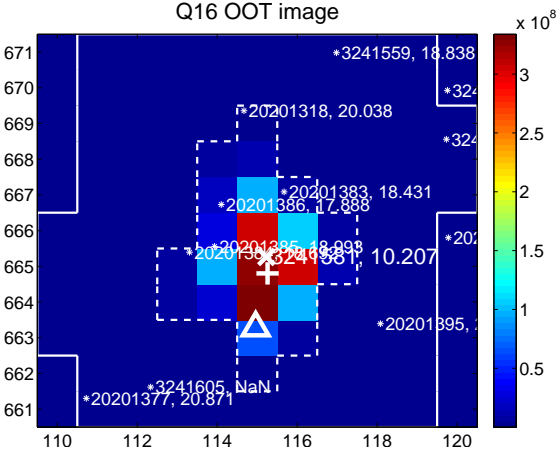
Q15 no OOT image



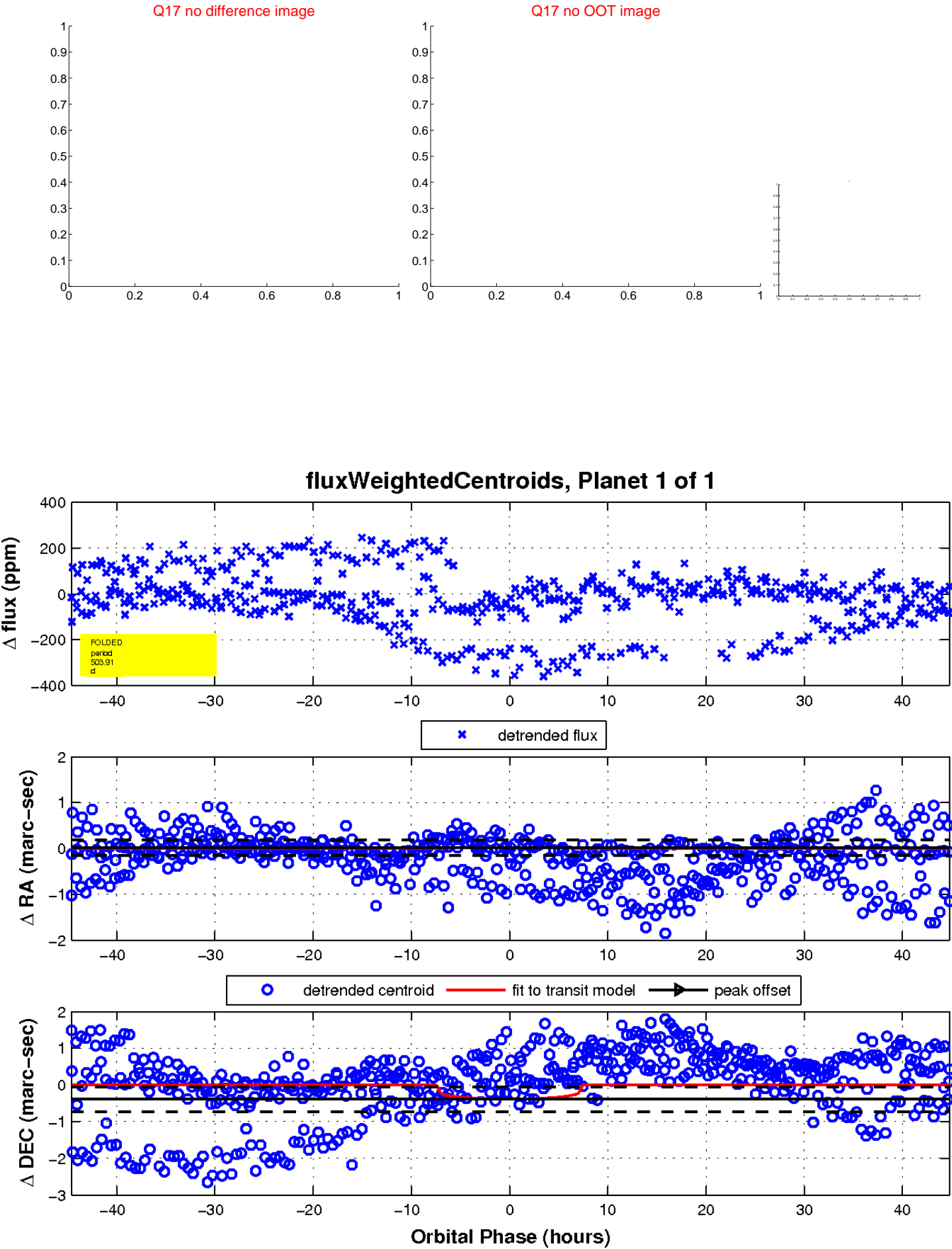
Q16 difference image



Q16 OOT image



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



UKIRT Image

