

KIC 010405250

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})
010405250-01	OBS	No	411.593021	186.420947	476.8	10.784	8.6	6.2	0.85	5485	1.96	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010405250-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—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.

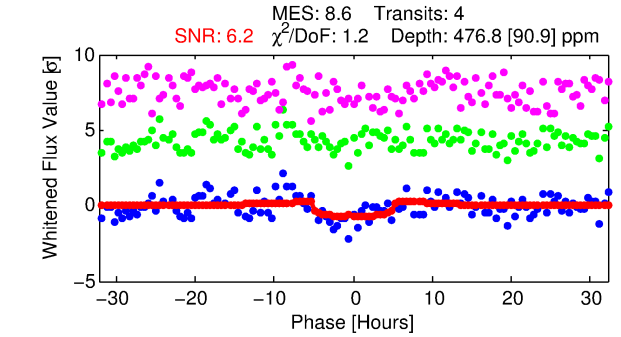
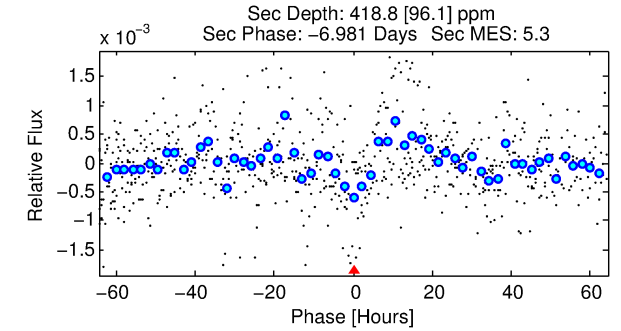
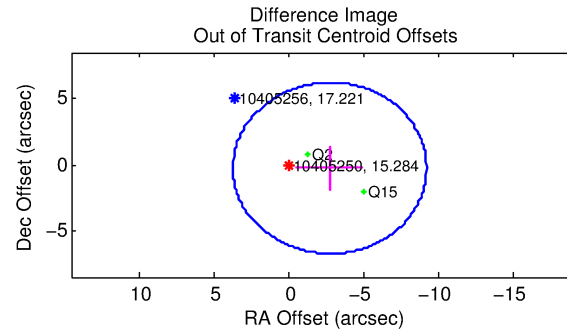
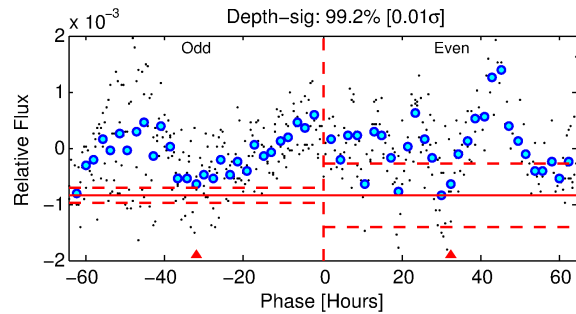
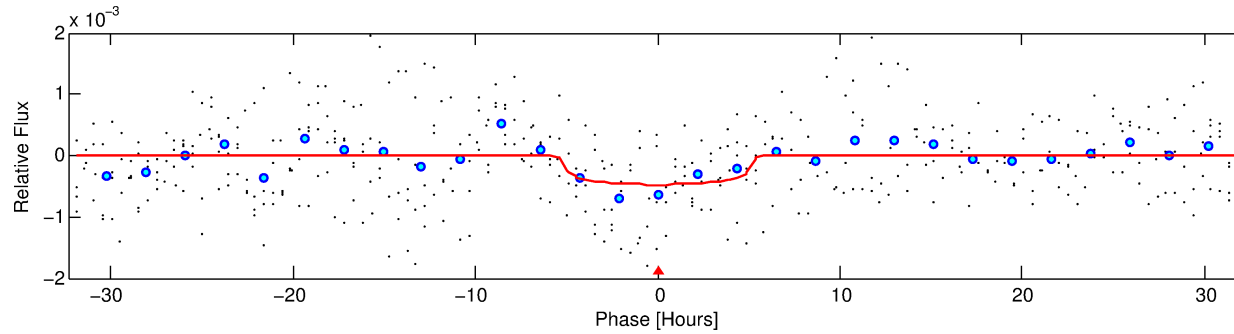
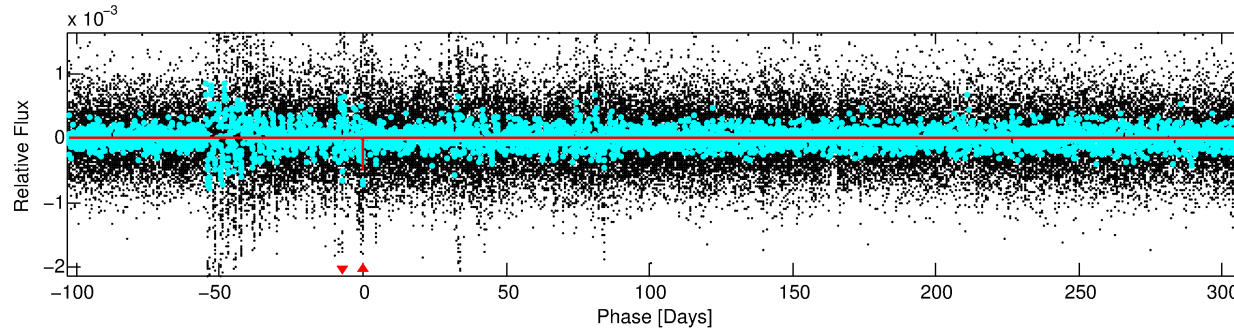
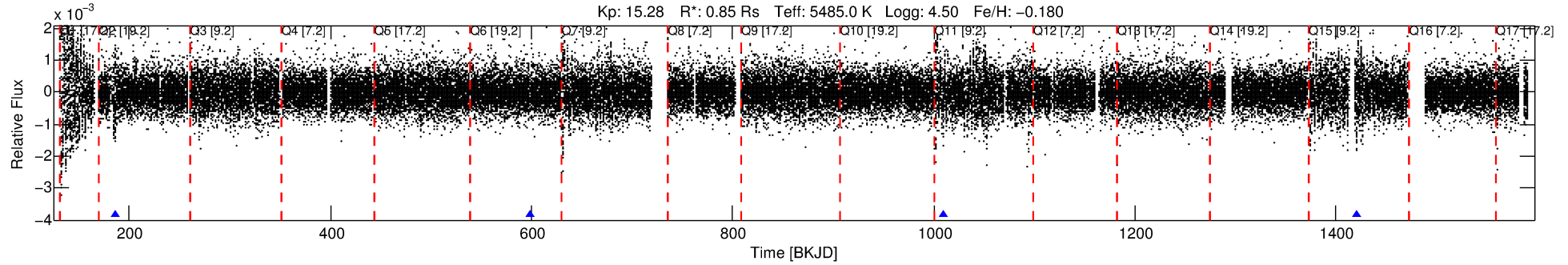
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010405250-01

No Significant Match Found

DV One-Page Summary

KIC: 10405250 Candidate: 1 of 1 Period: 411.593 d



DV Fit Results:

Period = 411.59302 [0.01511] d
Epoch = 186.4209 [0.0262] BKJD
Rp/R* = 0.0211 [0.0158]
a/R* = 224.73 [676.78]
b = 0.67 [2.51]
Seff = 0.56 [0.15]
Teq = 221 [15] K
Rp = 1.96 [1.52] Re
a = 1.0185 [0.1706] AU
Ag = 62127.70 [95003.21] [0.65σ]
Teffp = 5396 [2043] K [2.53σ]

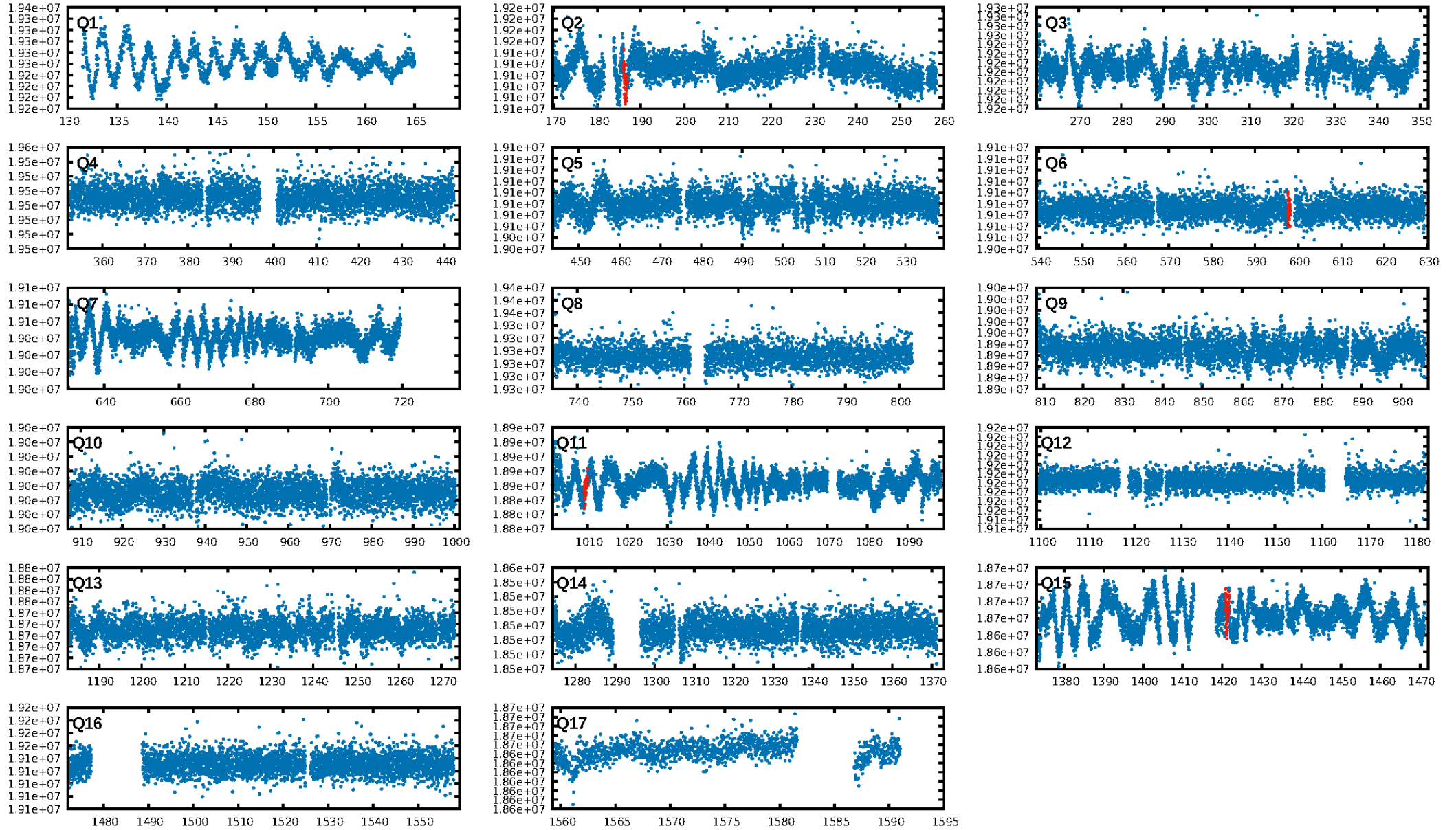
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 74.6%
Bootstrap-pfa: 3.04e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.267
Centroid-sig: 27.3%
Centroid-so: 2.775 arcsec [0.93σ]
OotOffset-rm: 2.797 arcsec [1.30σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 2.844 arcsec [1.33σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

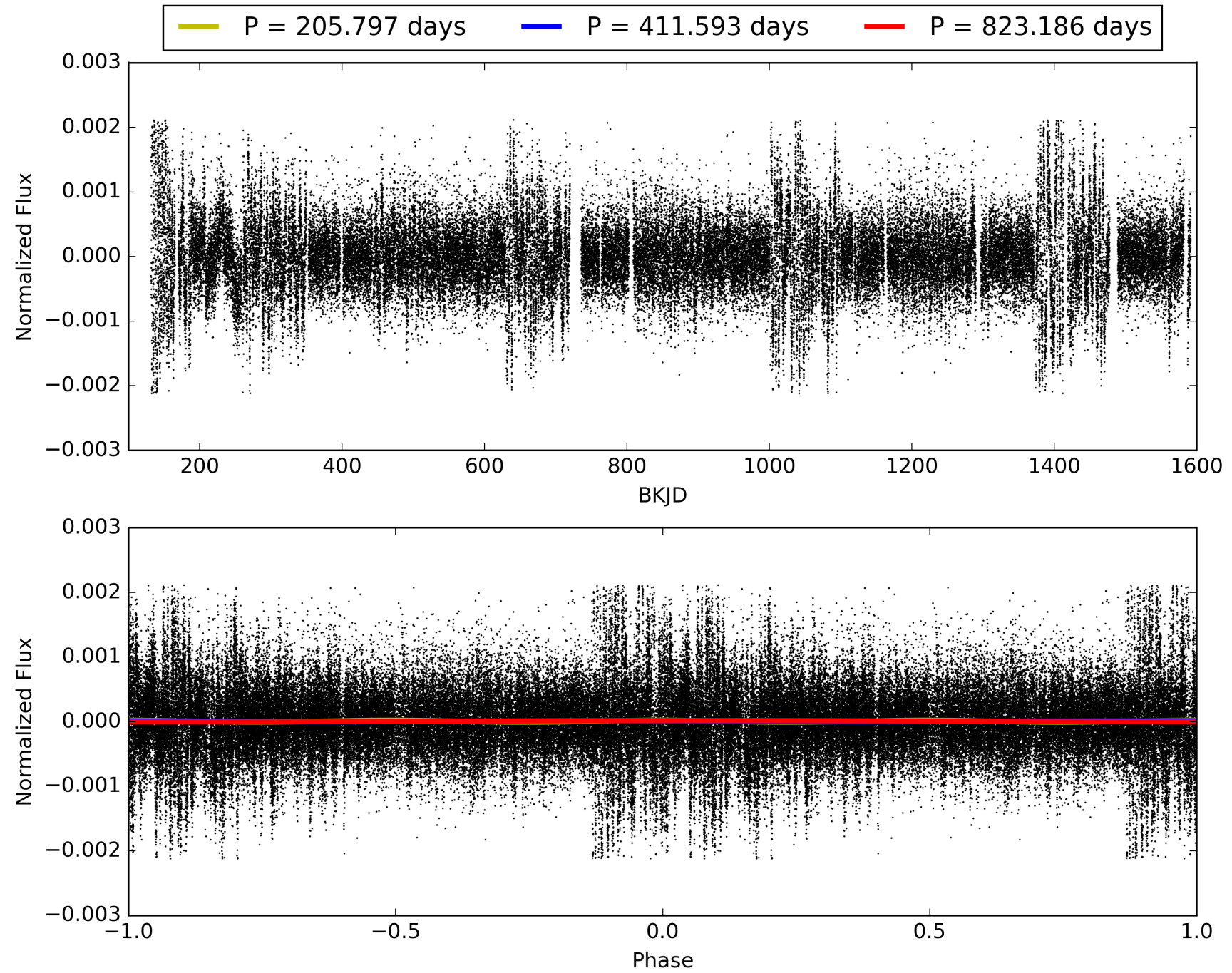
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:20:43 Z

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

TCE 010405250-01, PDC Light Curves

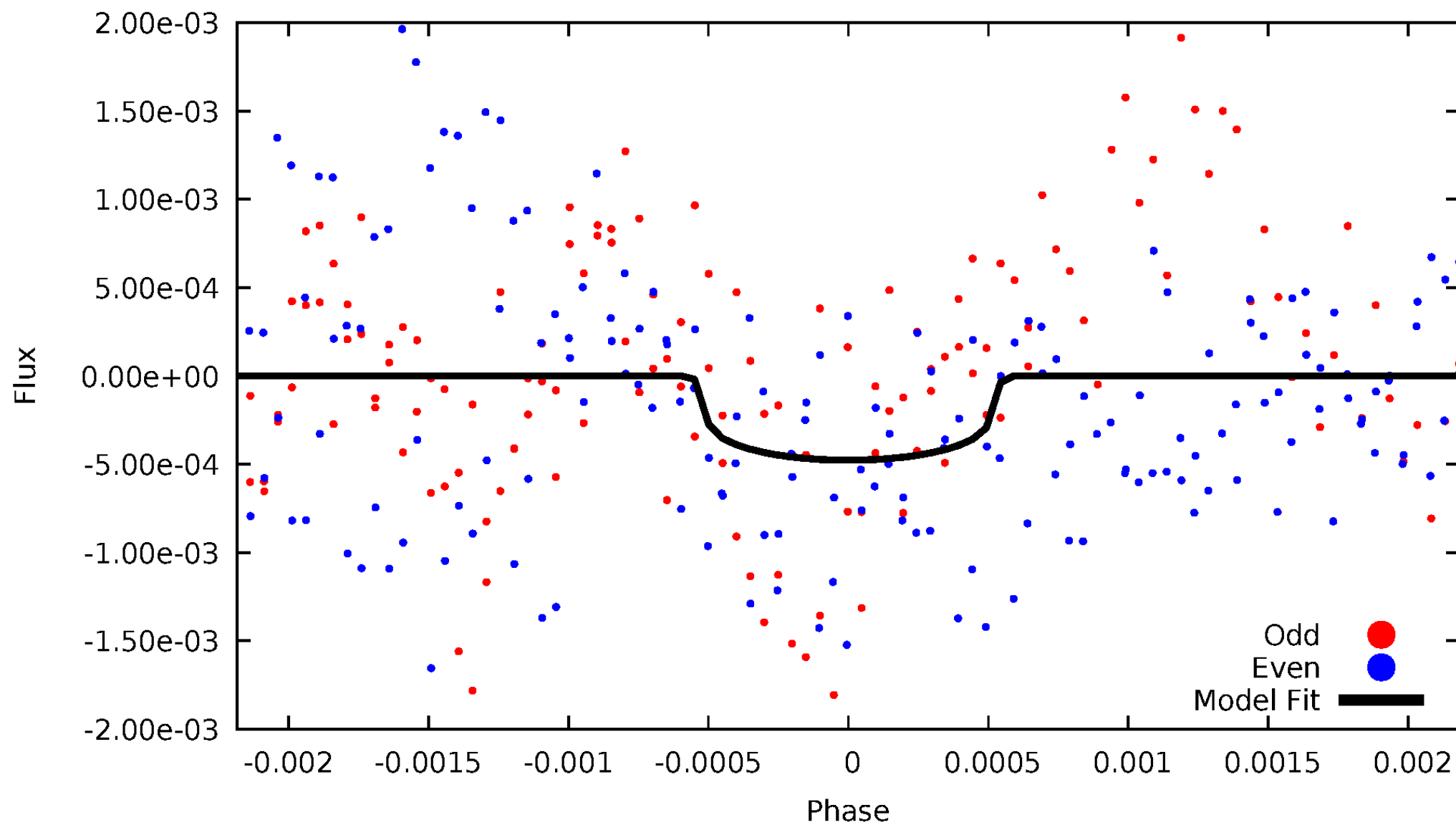


TCE 010405250-01



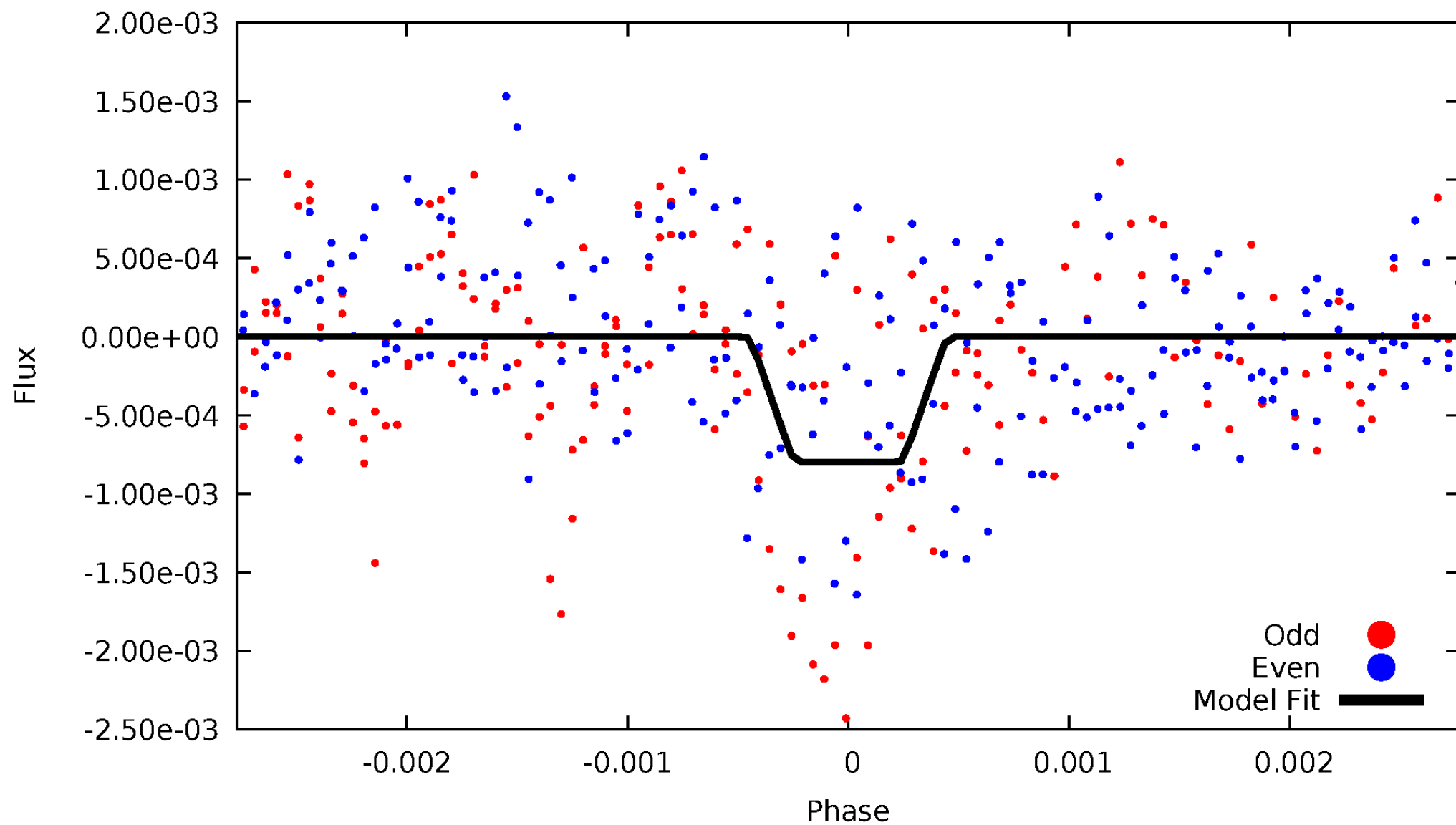
DV Odd/Even

TCE 010405250-01



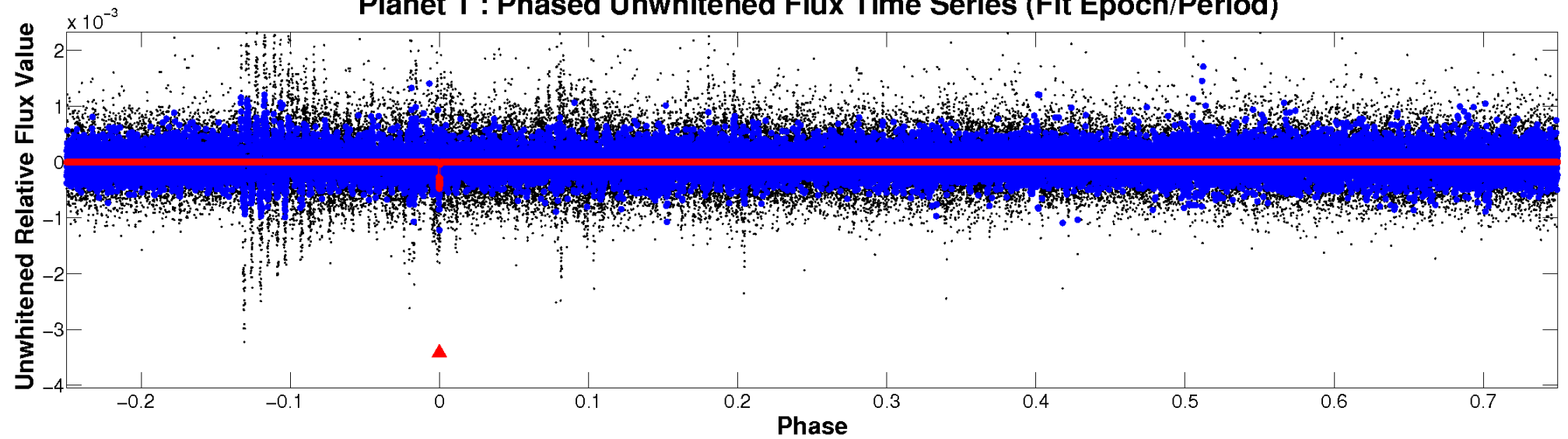
ALT Odd/Even

TCE 010405250-01

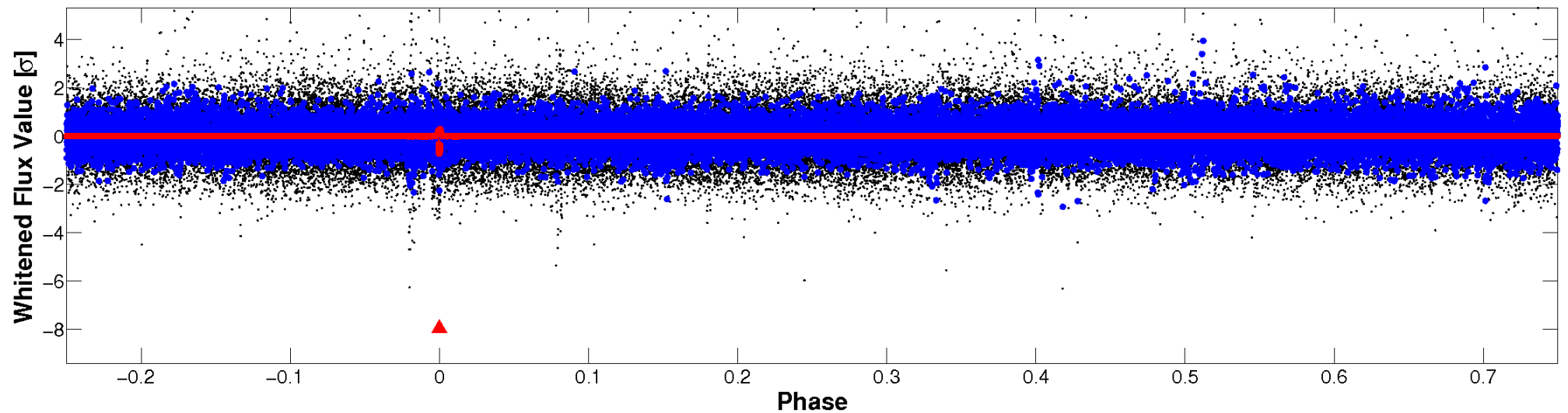


Non-Whitened Vs. Whitened Light Curve

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

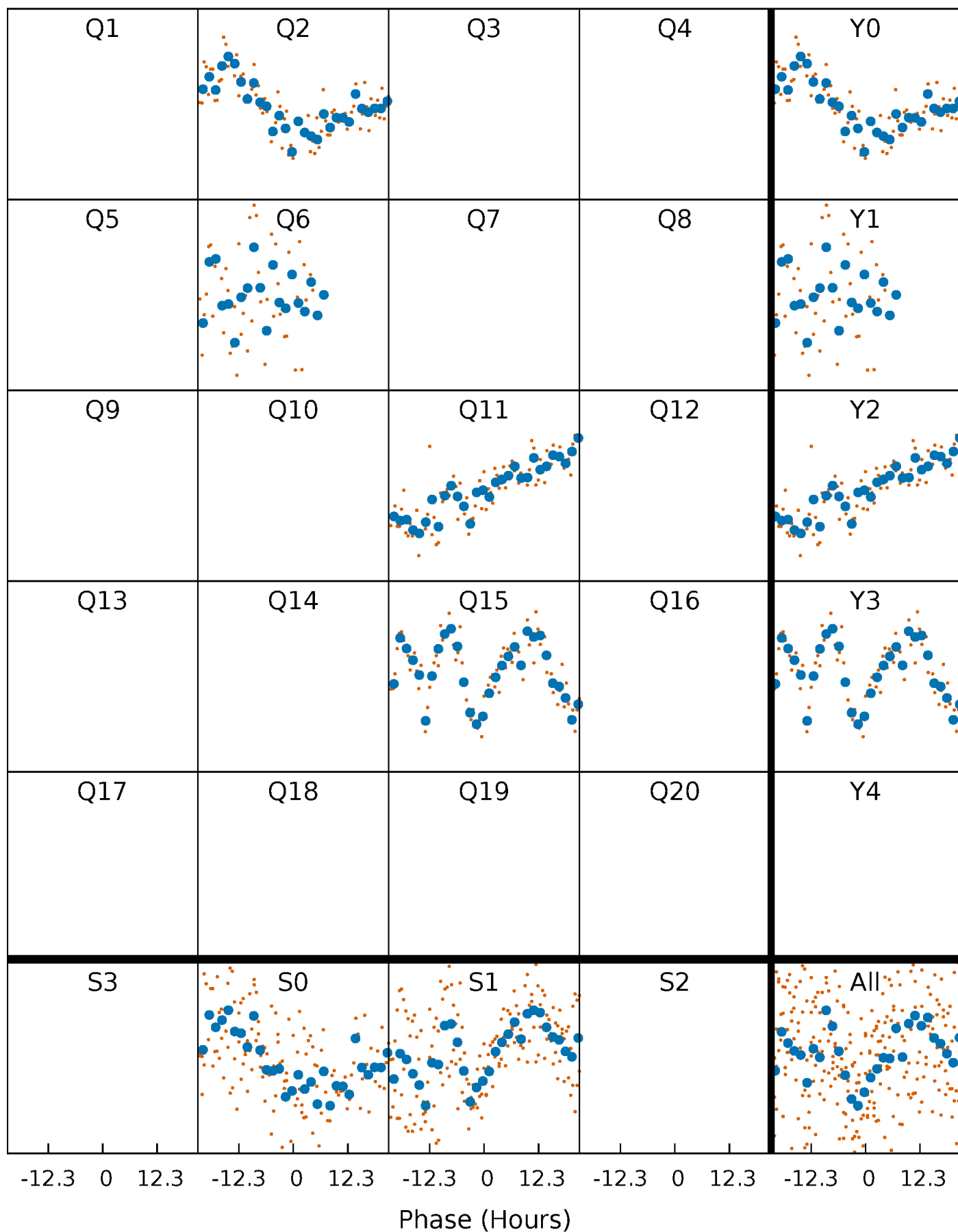


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



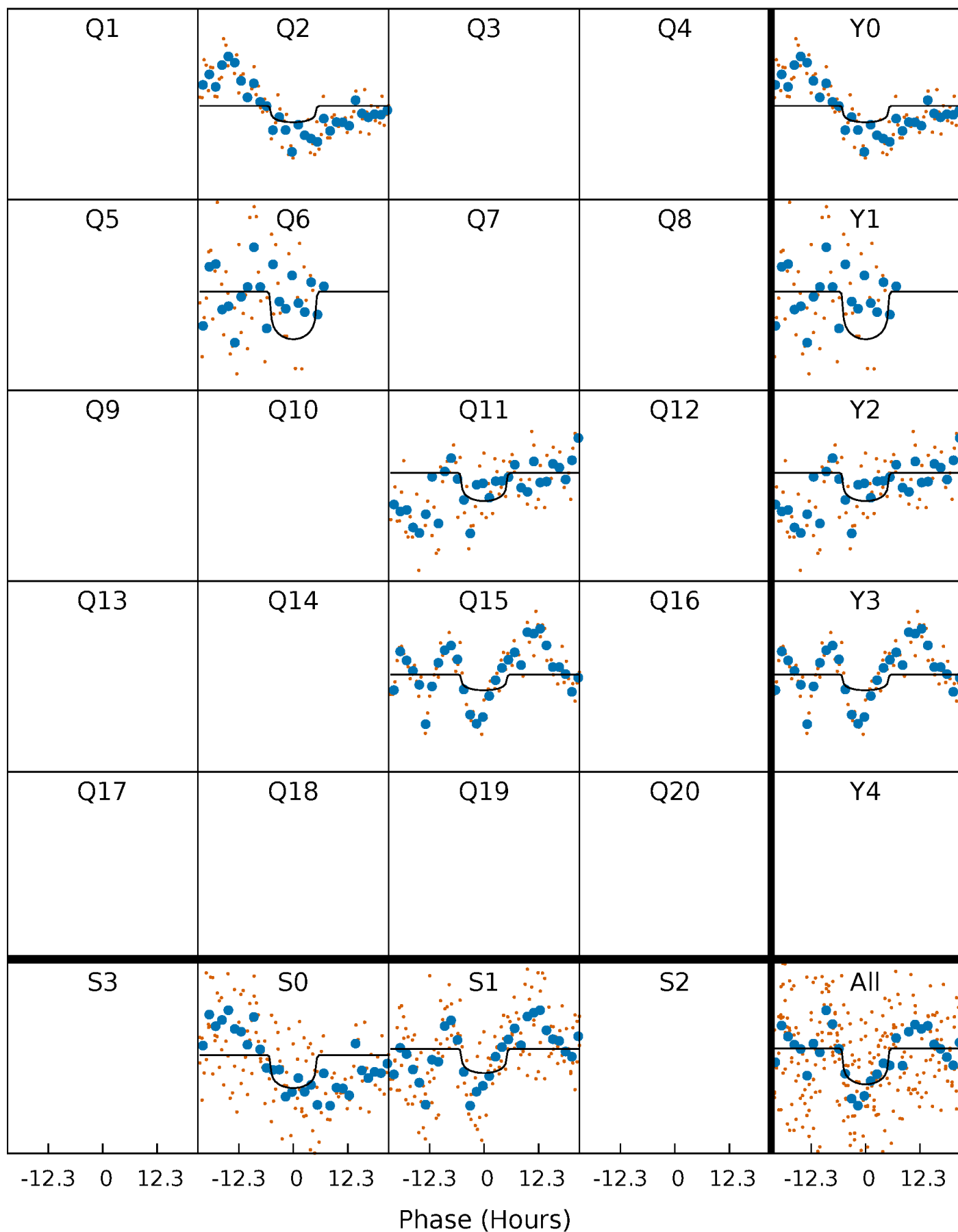
PDC Quarter-Phased Transit Curves

TCE 010405250-01 $P=411.593021$ Days $T_0=186.420947$ (BKJD)



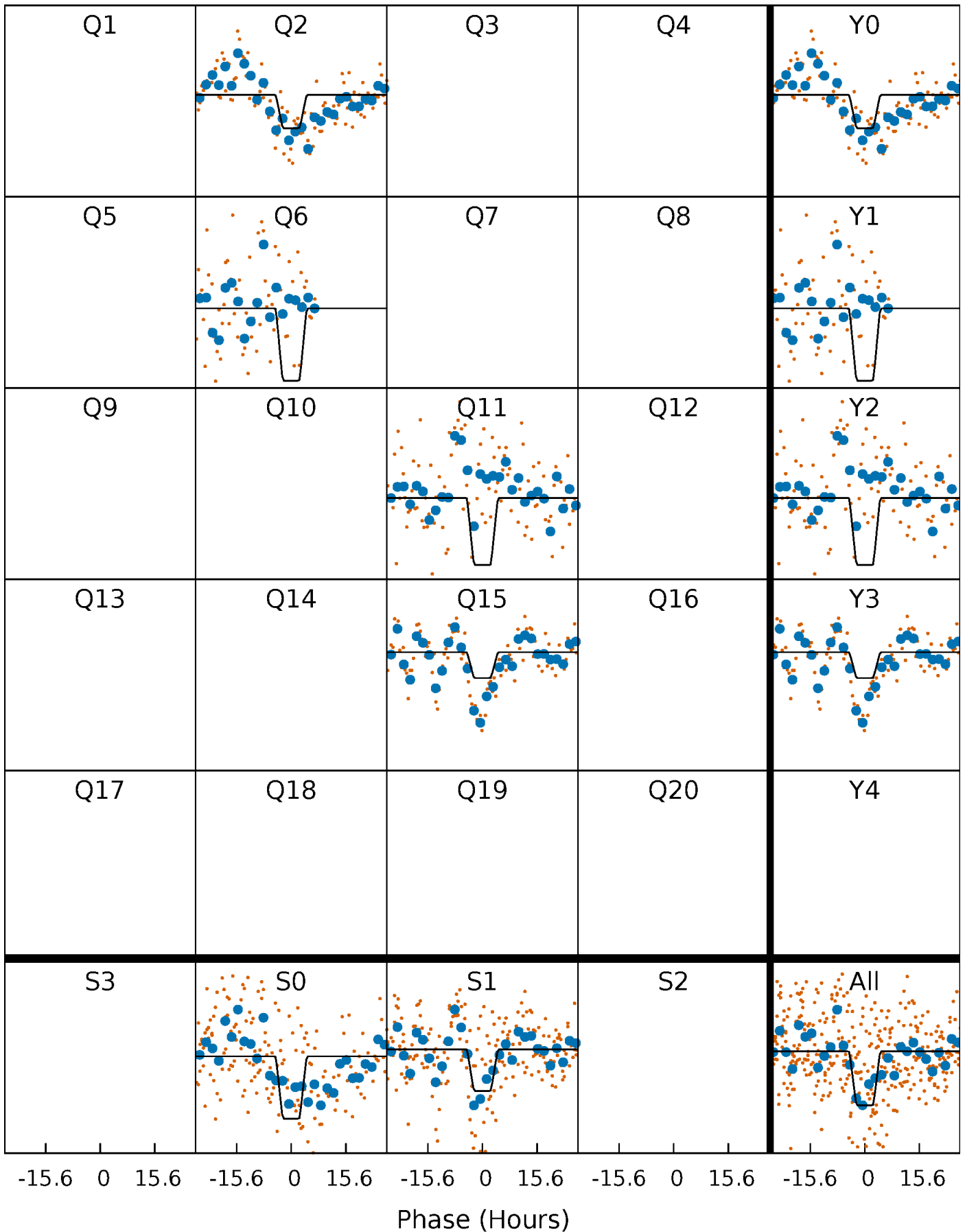
DV Quarter-Phased Transit Curves

TCE 010405250-01 P=411.593021 Days $T_0=186.420947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

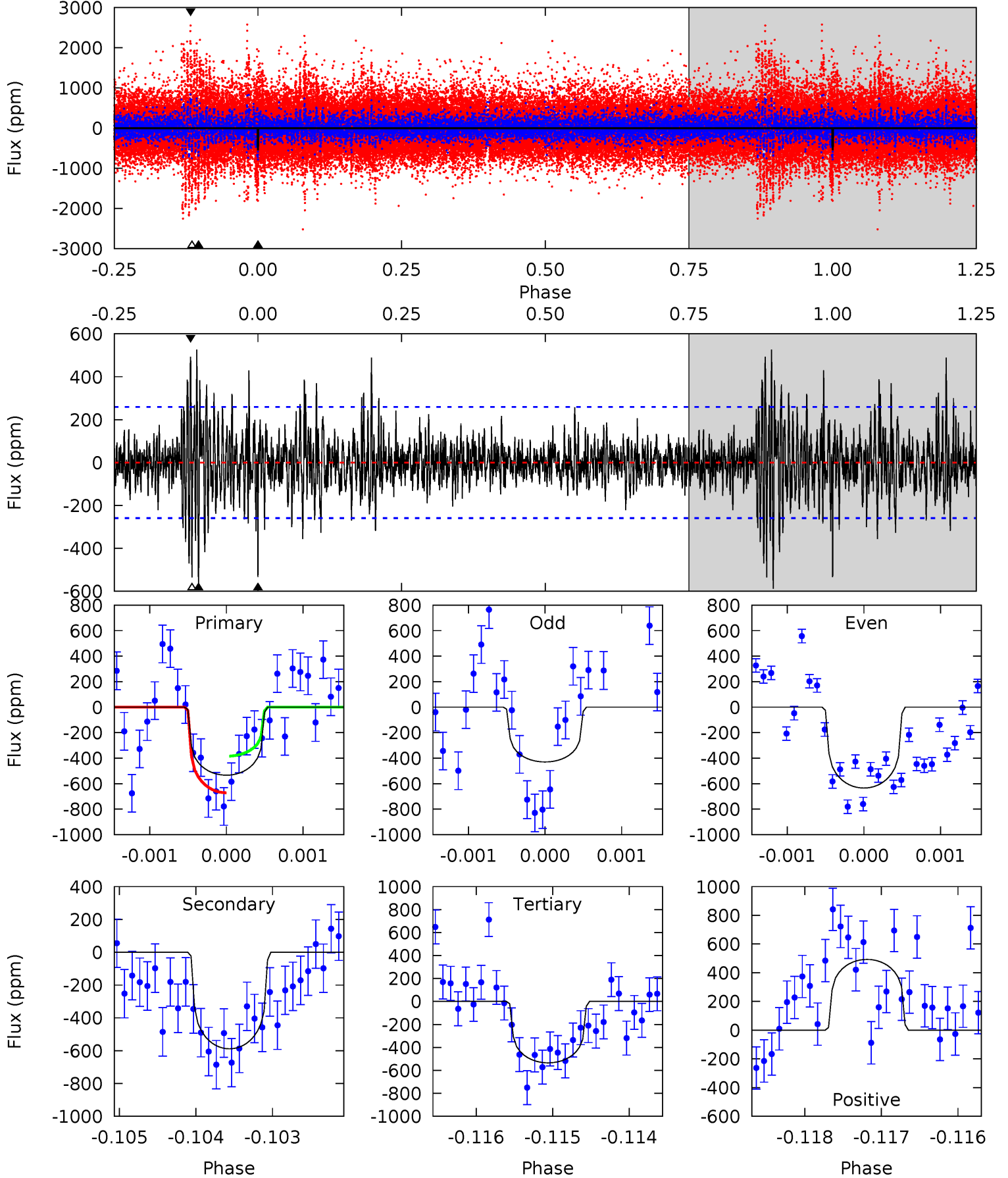
TCE 010405250-01 P=411.593199 Days $T_0=186.403196$ (BKJD)



DV Model-Shift Uniqueness Test

010405250-01, P = 411.593021 Days, E = 186.420947 Days

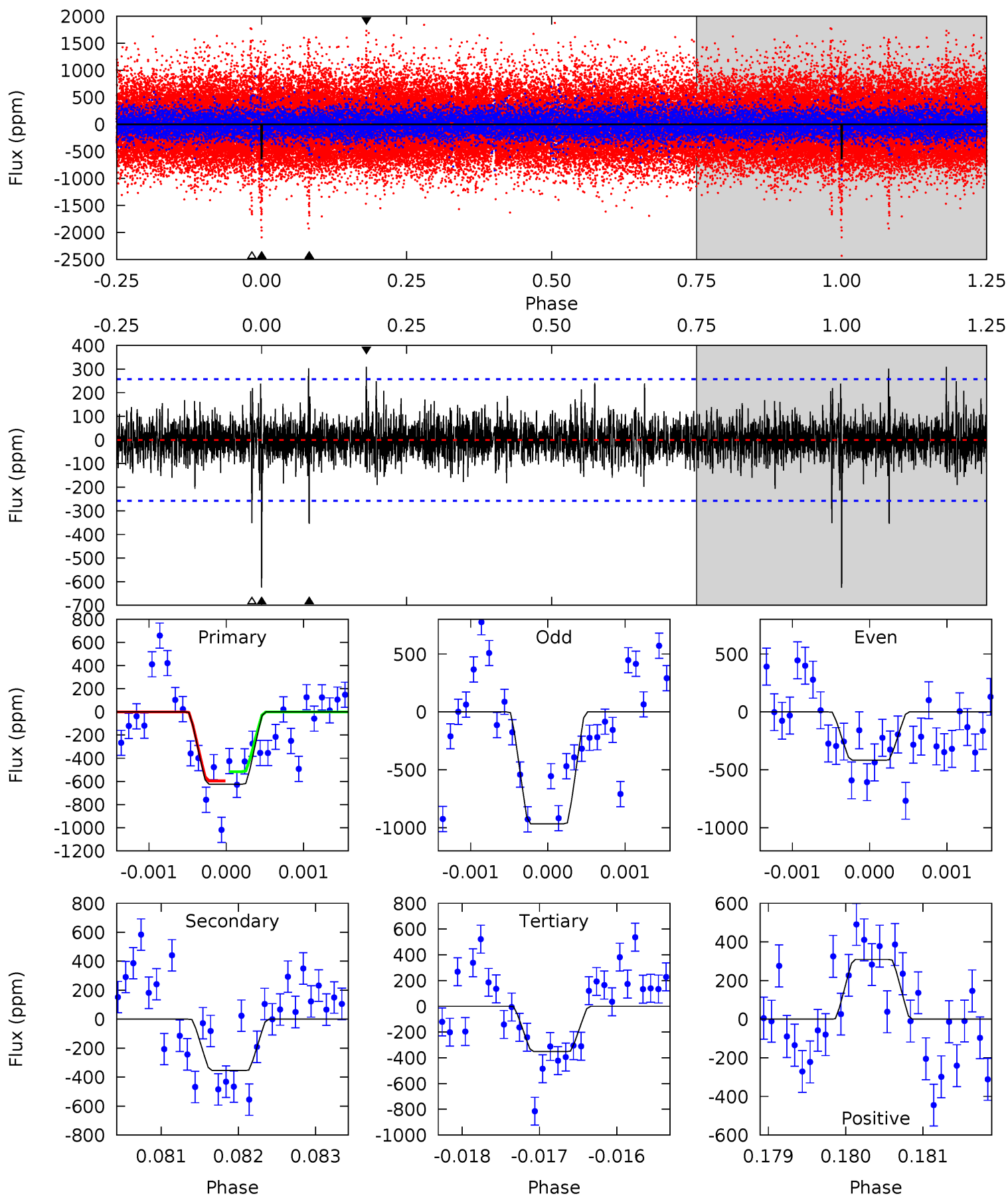
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	12.3	11.2	10.3	5.44	3.27	2.20	-0.02	0.85	1.13	2.01	2.09	0.88	0.47	3.02



Alt Model-Shift Uniqueness Test

010405250-01, P = 411.593199 Days, E = 186.403196 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	7.51	7.45	6.55	5.46	3.31	1.25	5.79	6.69	0.06	0.96	5.87	1.40	0.33	0.84



Stellar Parameters For KIC 010405250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5485^{+164}_{-147}	$4.499^{+0.077}_{-0.132}$	$-0.180^{+0.300}_{-0.300}$	$0.850^{+0.170}_{-0.099}$	$0.832^{+0.110}_{-0.073}$	$1.910^{+0.697}_{-0.756}$
	+3%/-3%	+2%/-3%	+167%/-167%	+20%/-12%	+13%/-9%	+36%/-40%
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 010405250-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-589 ± 48	$2.14^{+1.49}_{-1.22}$	312^{+16}_{-14}	5669^{+3468}_{-1085}	$73461^{+332007}_{-47168}$
Alt.	-354 ± 47	$2.72^{+1.47}_{-1.34}$	311^{+17}_{-13}	4615^{+1659}_{-704}	27997^{+80267}_{-16908}

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 $A_{obs} \gg 1.0$

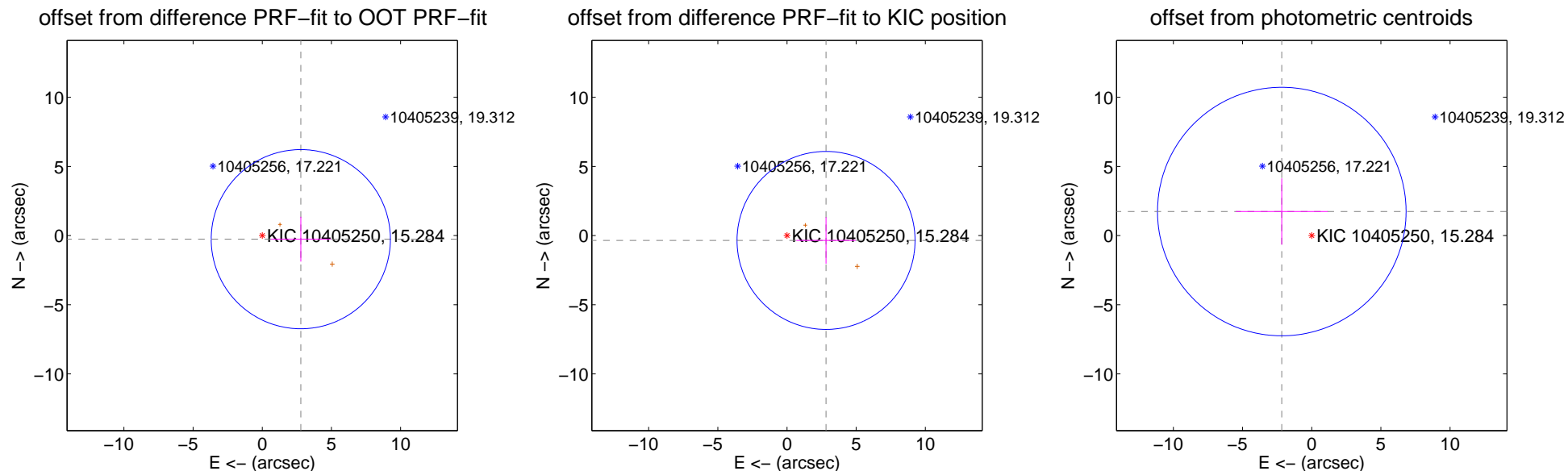
DV Centroid Data

Supplemental centroid analysis for 010405250-01. Kepler magnitude: 15.28. Transit SNR 6.18

There are 0 quarters with good PRF difference image offsets

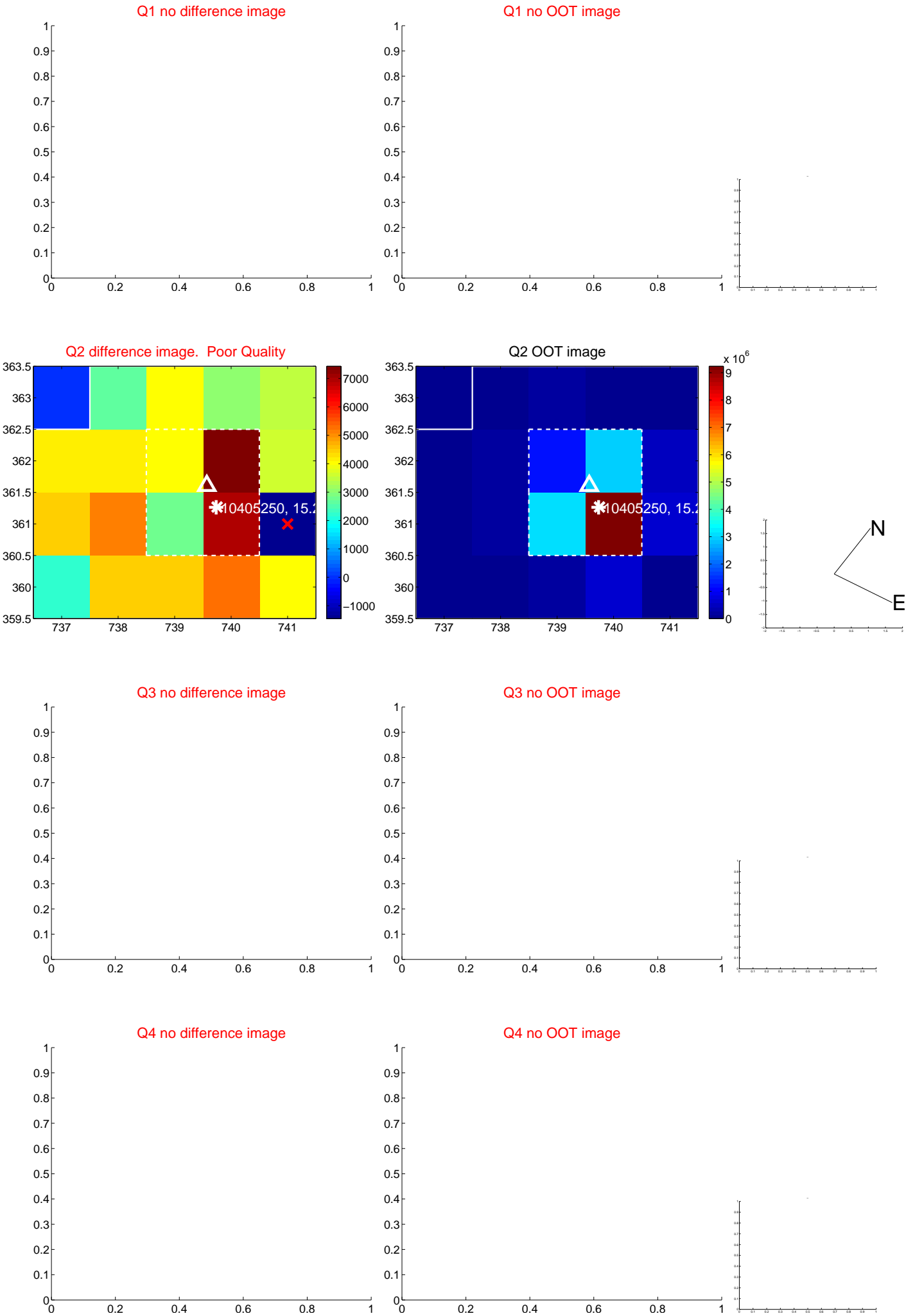
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.797 ± 2.159	1.30	-2.785 ± 2.163	-0.260 ± 1.618
PRF-fit source offset from KIC position	2.844 ± 2.144	1.33	-2.822 ± 2.151	-0.351 ± 1.683
photometric centroid source offset	2.78 ± 2.99	0.93	2.16 ± 3.32	1.74 ± 2.40



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.

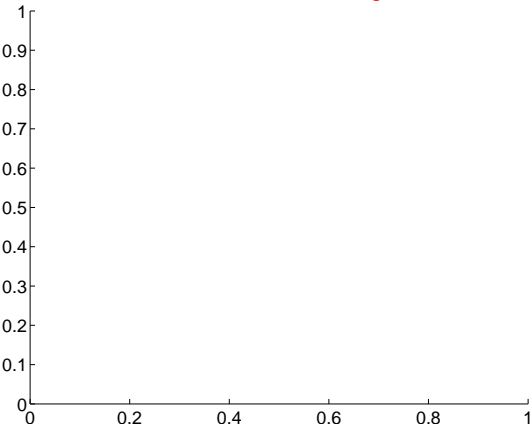


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

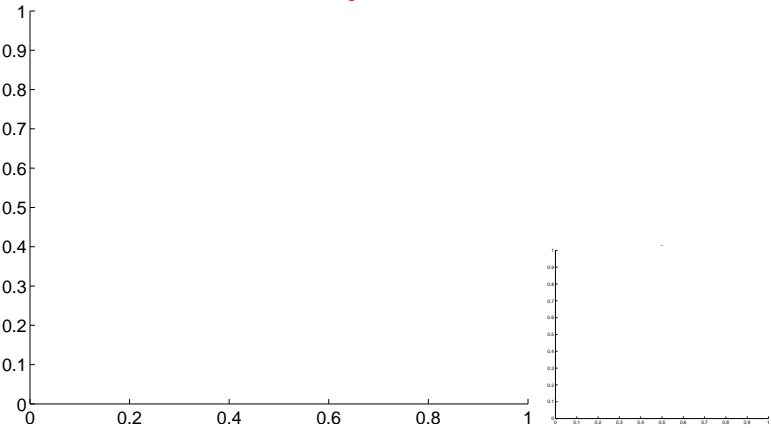


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

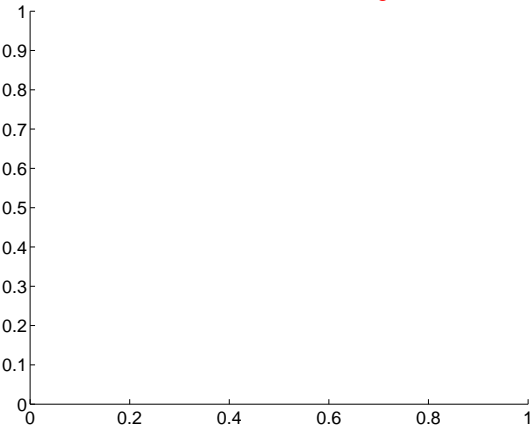
Q9 no difference image



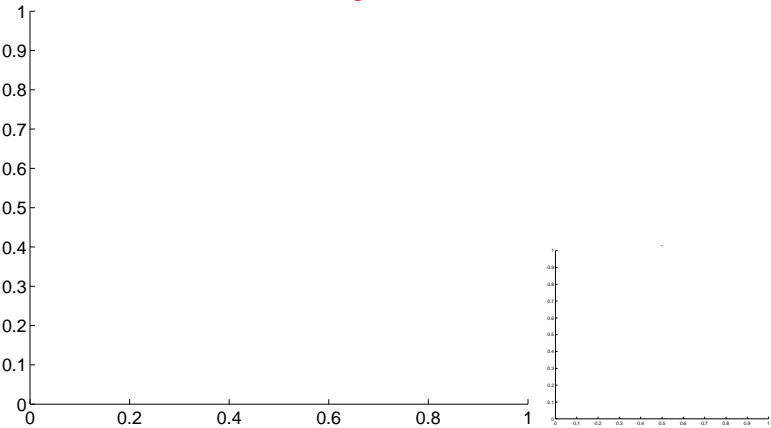
Q9 no OOT image



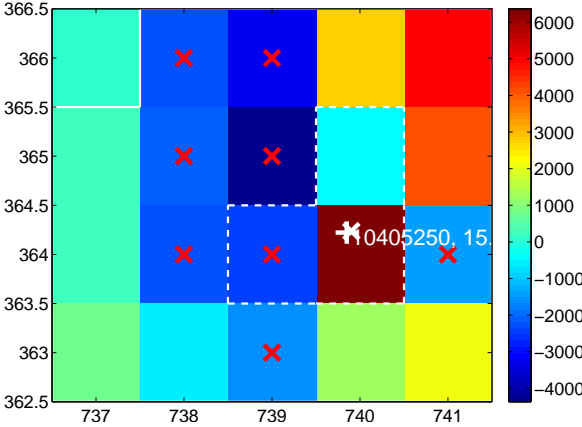
Q10 no difference image



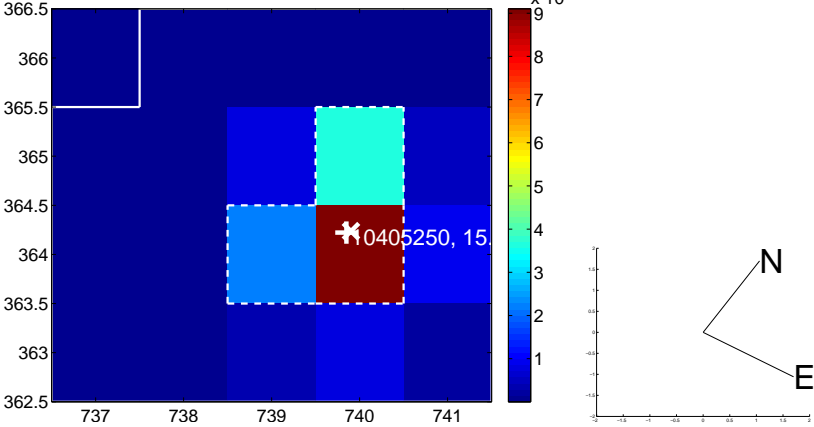
Q10 no OOT image



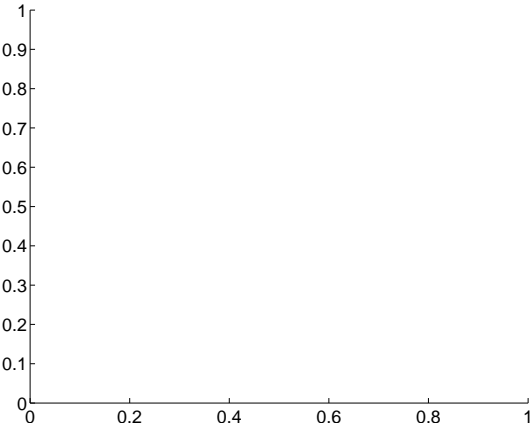
Q11 difference image. Poor Quality



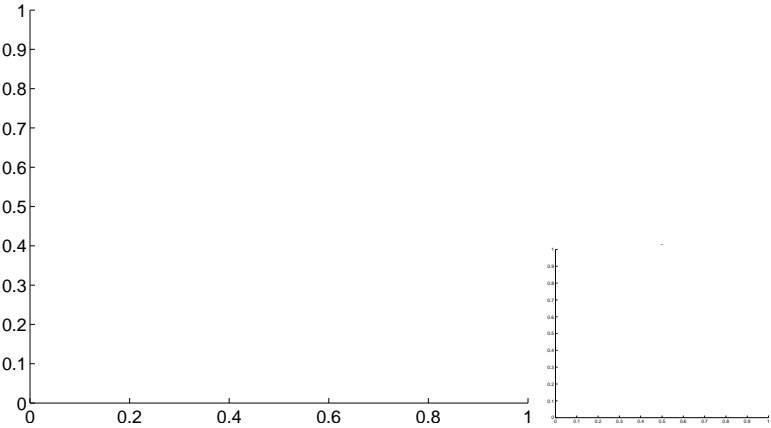
Q11 OOT image



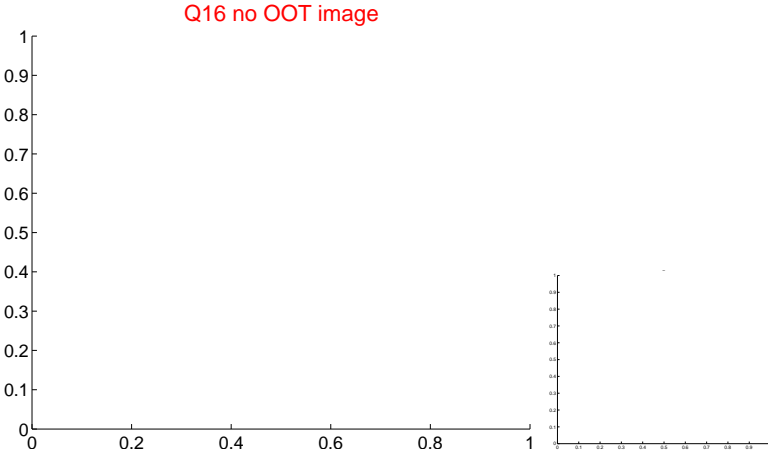
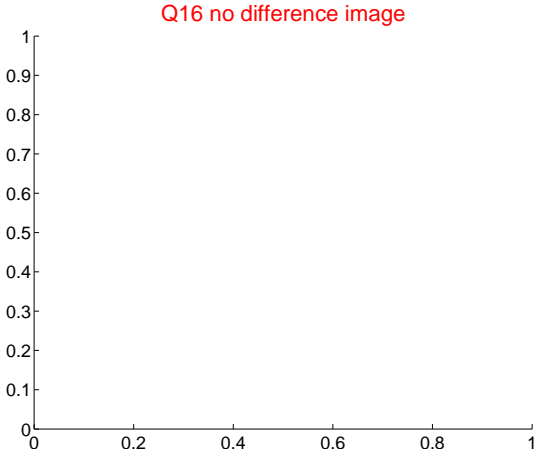
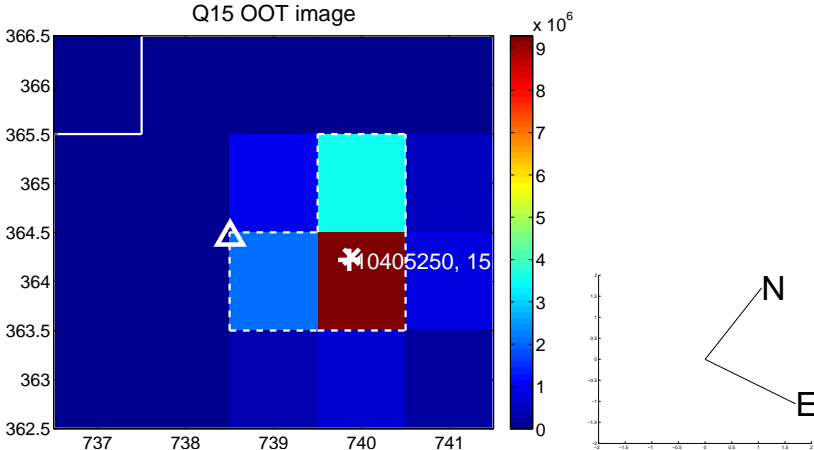
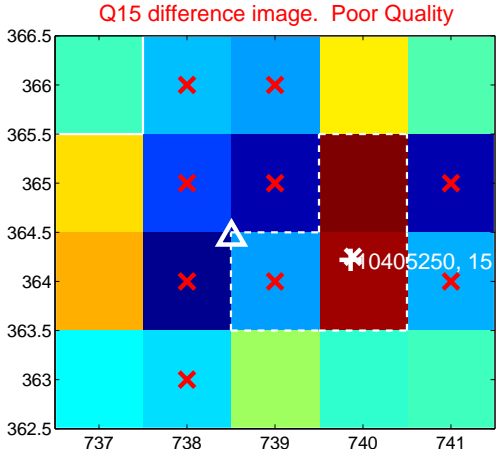
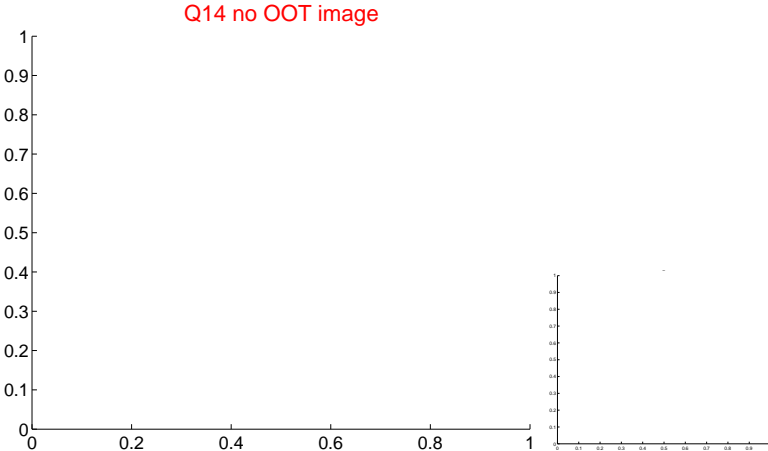
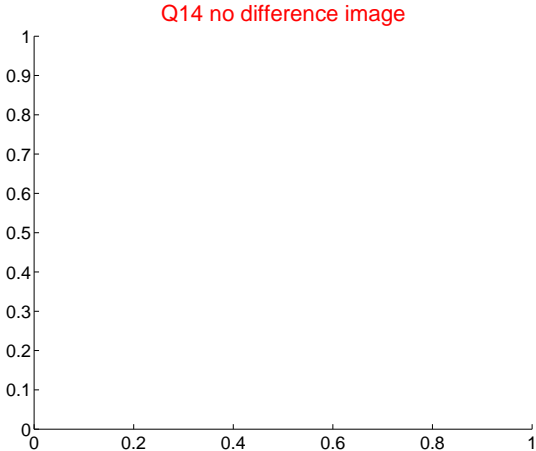
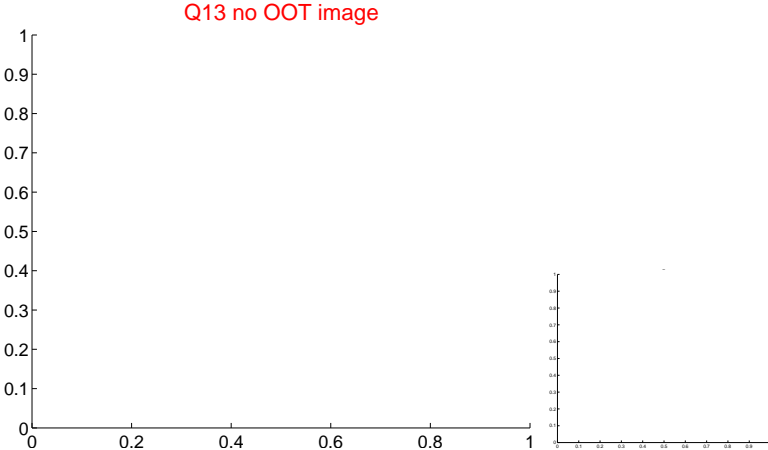
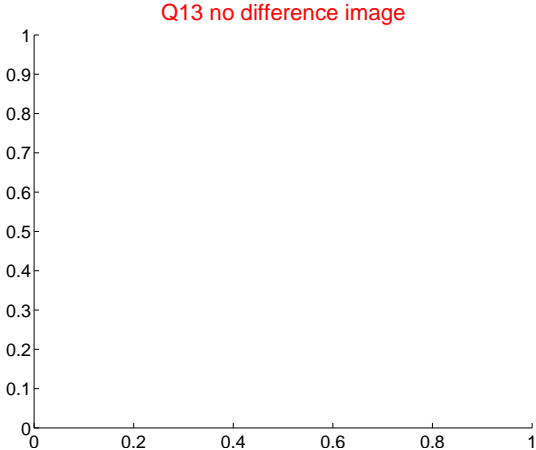
Q12 no difference image



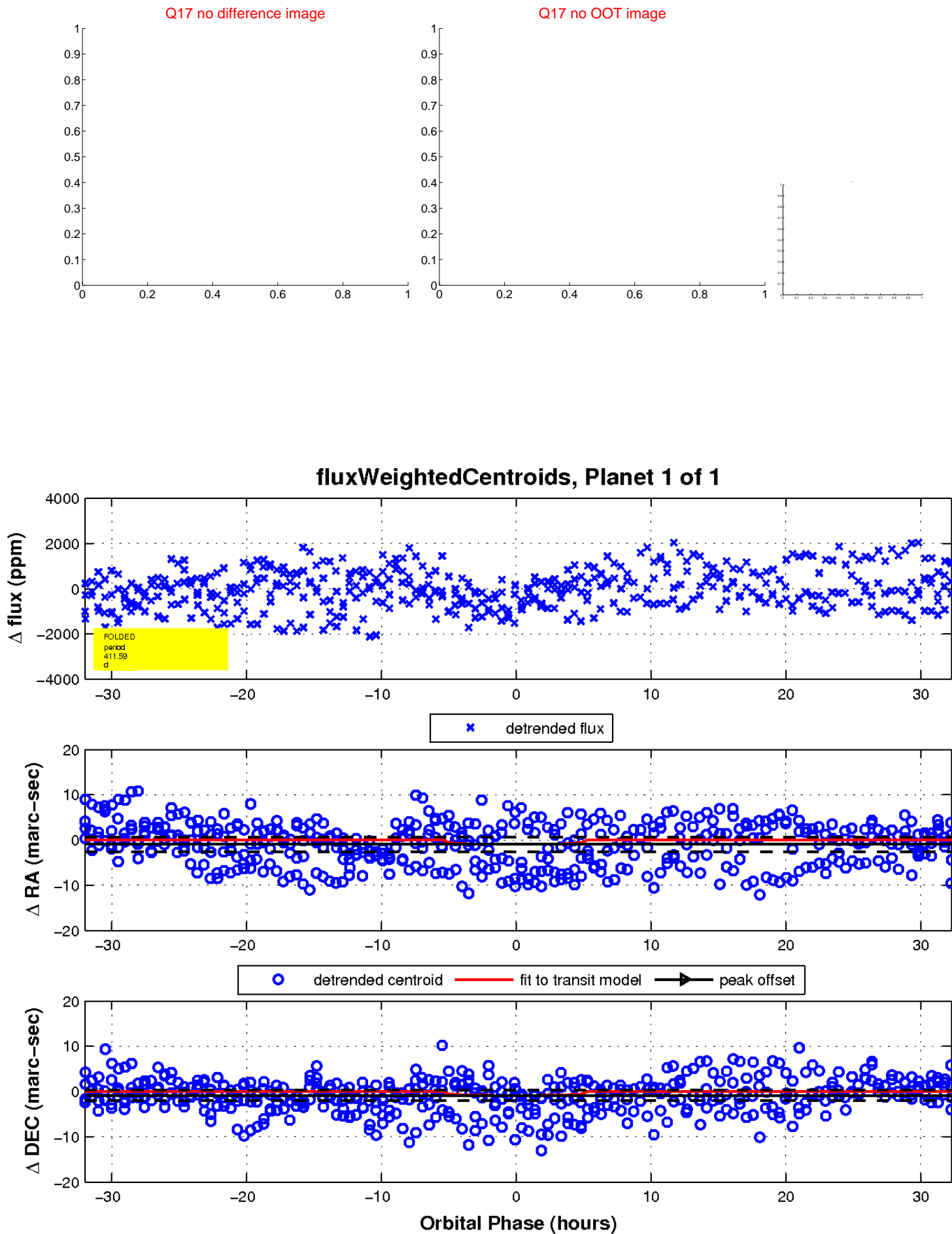
Q12 no OOT image



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



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



UKIRT Image

Declination

