

KIC 012215705

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})
012215705-01	OBS	No	555.991462	408.847497	1054.4	10.730	7.4	7.0	0.74	4836	2.66	0.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012215705-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

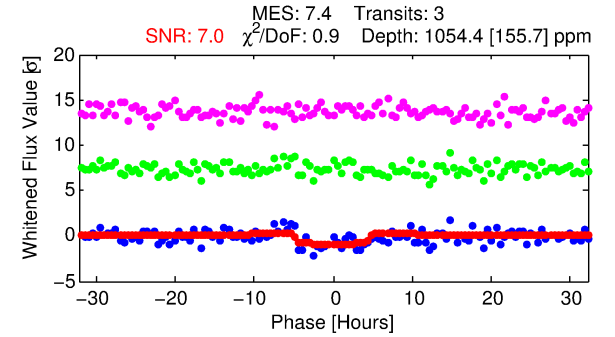
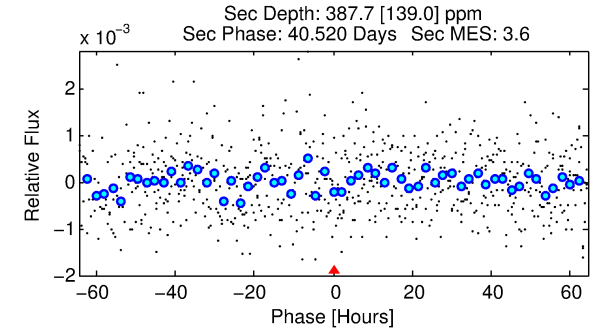
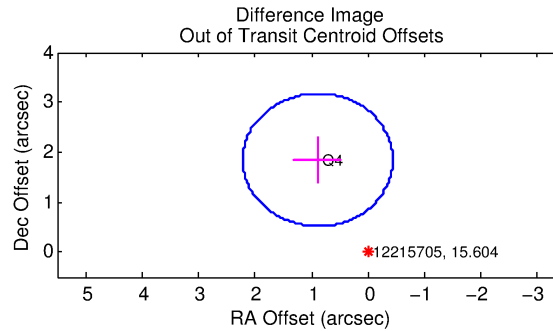
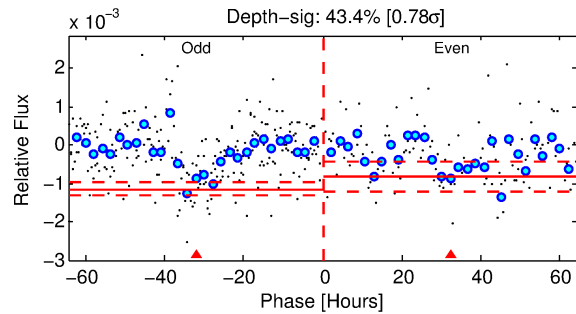
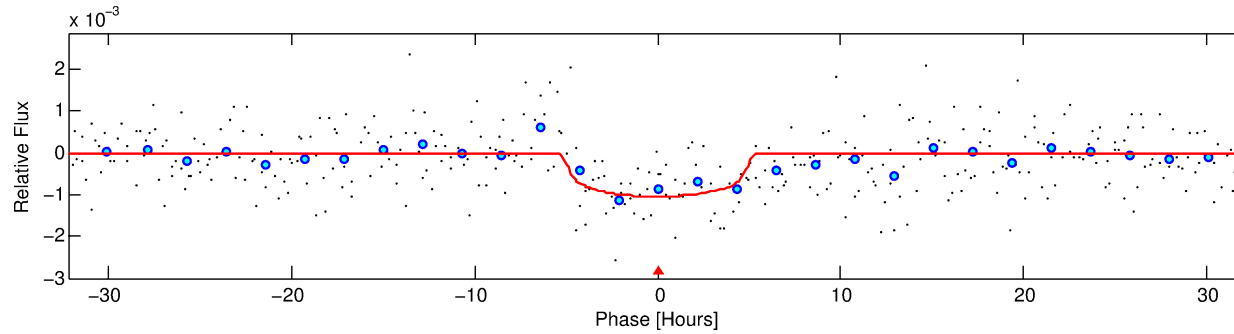
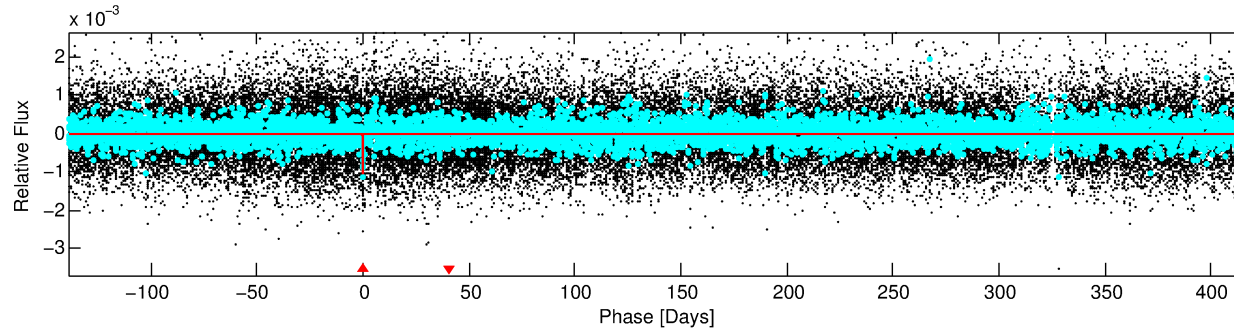
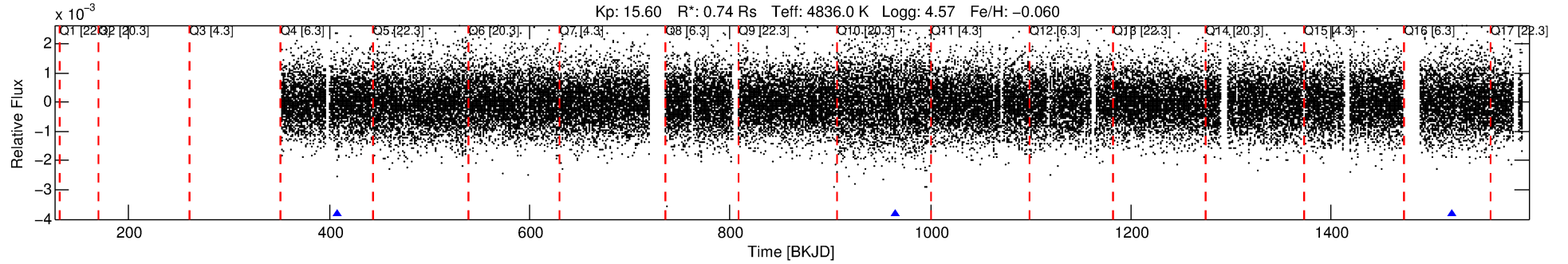
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012215705-01

No Significant Match Found

DV One-Page Summary

KIC: 12215705 Candidate: 1 of 1 Period: 555.991 d



DV Fit Results:

Period = 555.99146 [0.01296] d
Epoch = 408.8475 [0.0170] BKJD
Rp/R* = 0.0331 [0.0112]
a/R* = 265.11 [298.43]
b = 0.79 [0.56]
Seff = 0.19 [0.03]
Teq = 168 [8] K
Rp = 2.66 [0.94] Re
a = 1.1914 [0.0924] AU
Ag = 42695.19 [33058.49] [1.29 σ]
Teffp = 3729 [727] K [4.90 σ]

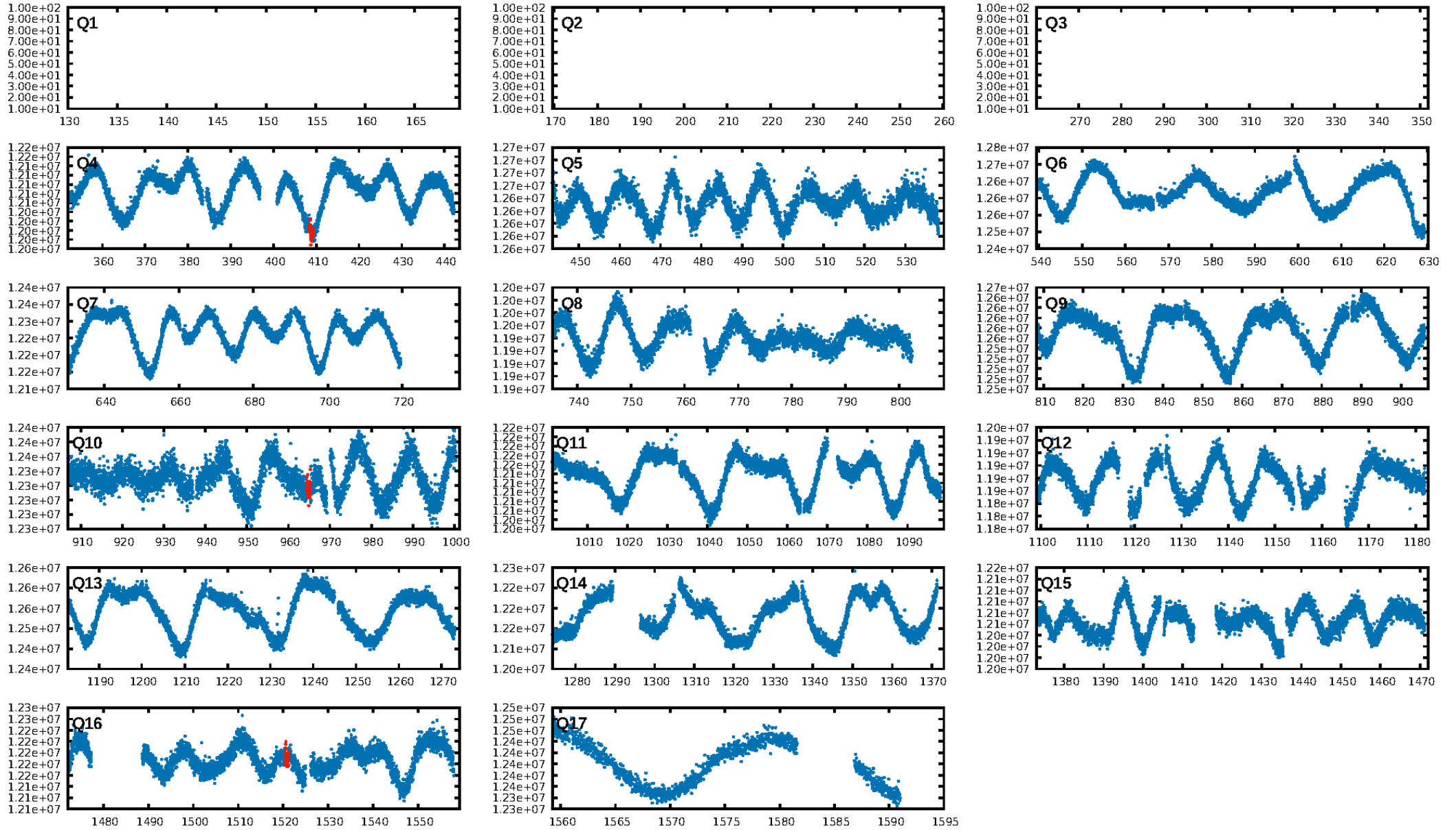
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.3%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.15e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.3553
Centroid-sig: 87.8%
Centroid-so: 1.889 arcsec [1.83 σ]
OotOffset-rm: 2.049 arcsec [4.62 σ]
KicOffset-rm: 1.813 arcsec [4.17 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

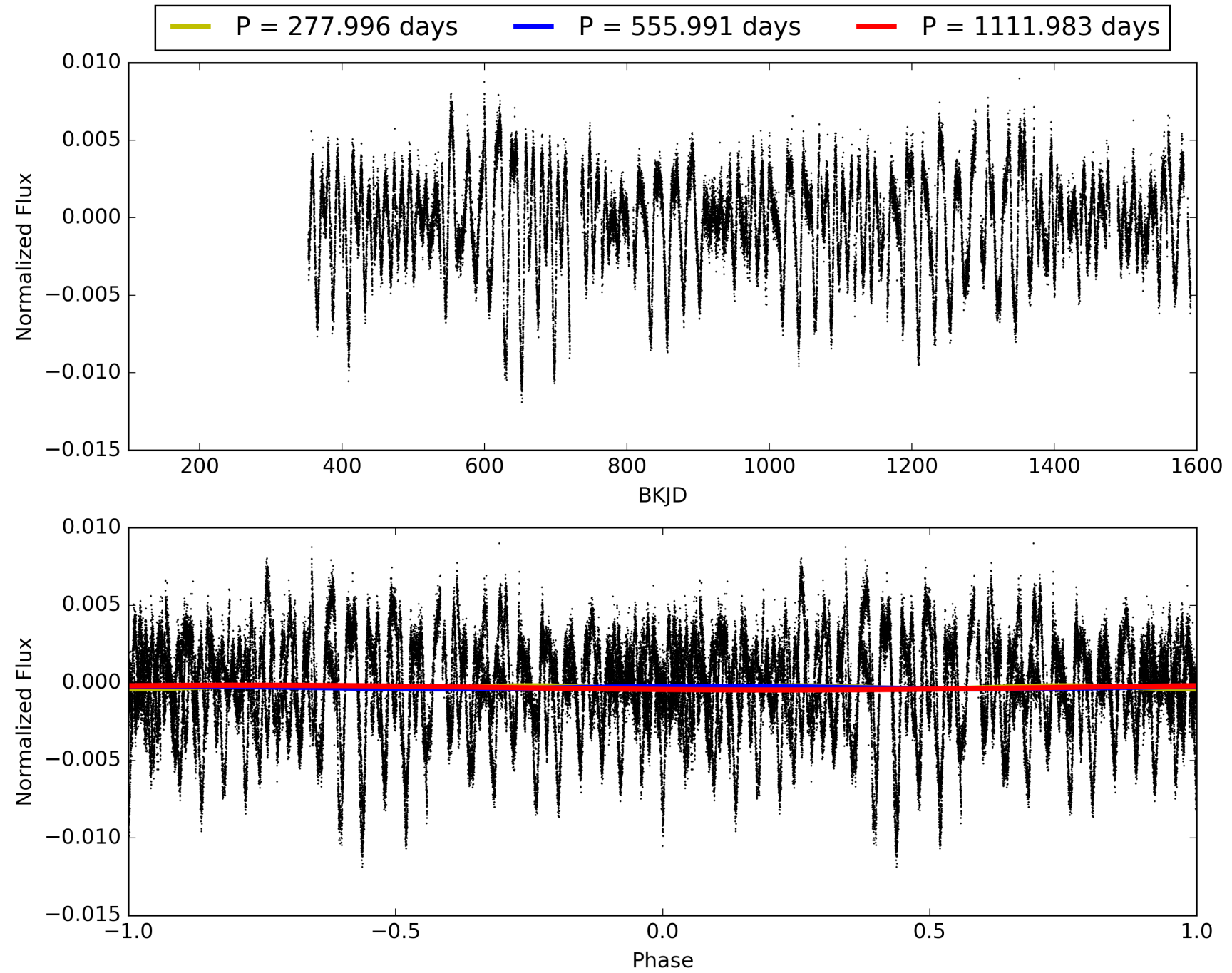
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:21:57 Z

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

TCE 012215705-01, PDC Light Curves

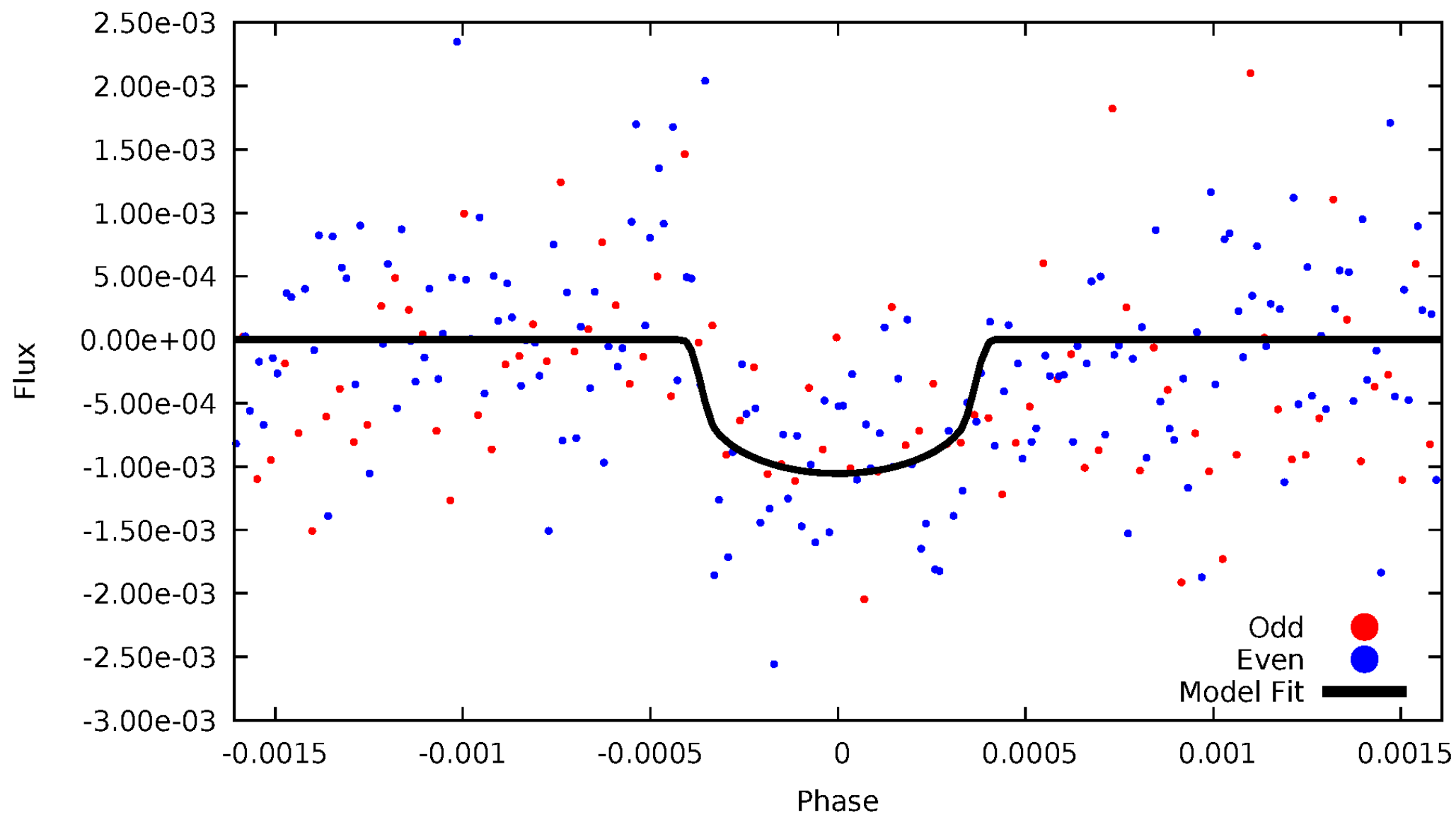


TCE 012215705-01



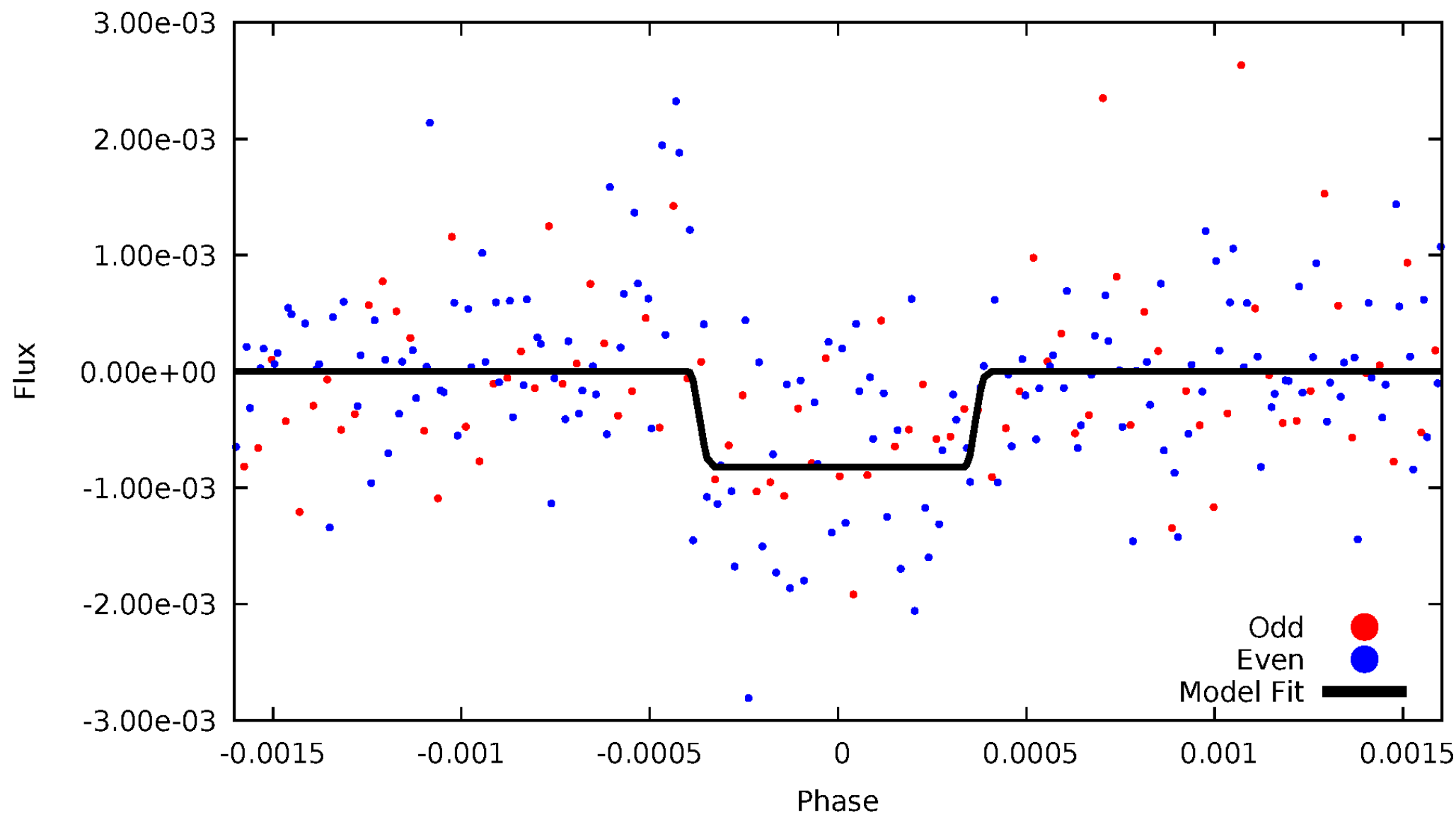
DV Odd/Even

TCE 012215705-01



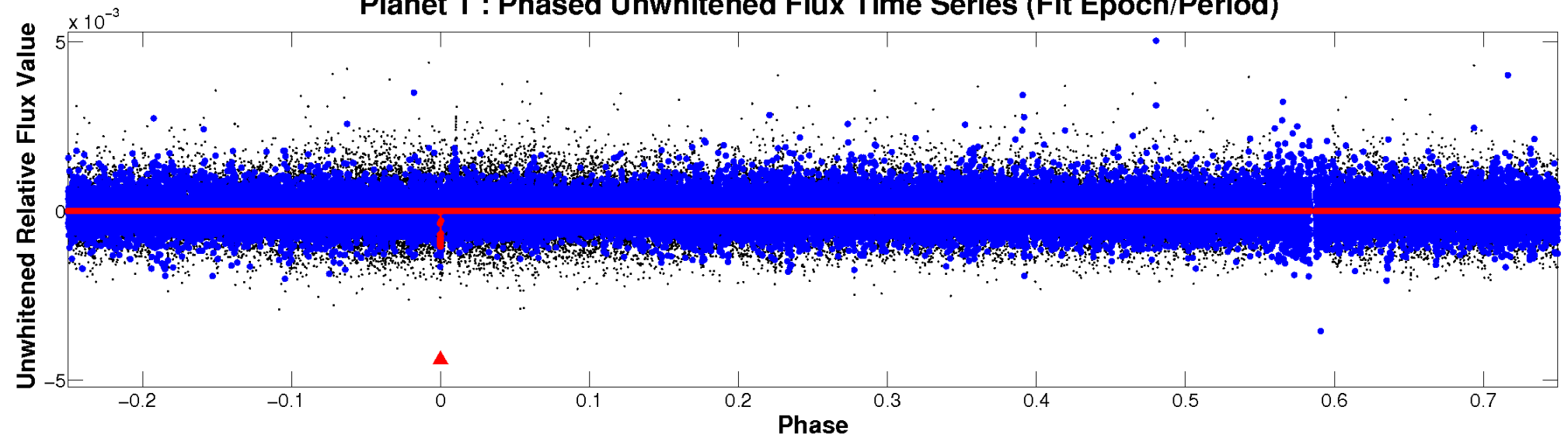
ALT Odd/Even

TCE 012215705-01

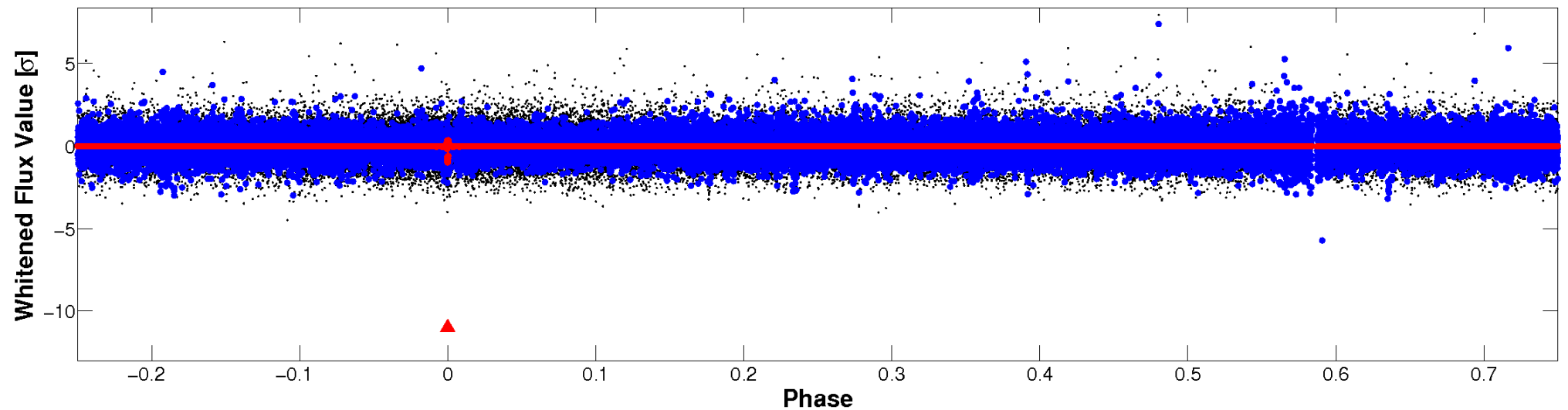


Non-Whitened Vs. Whitened Light Curve

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

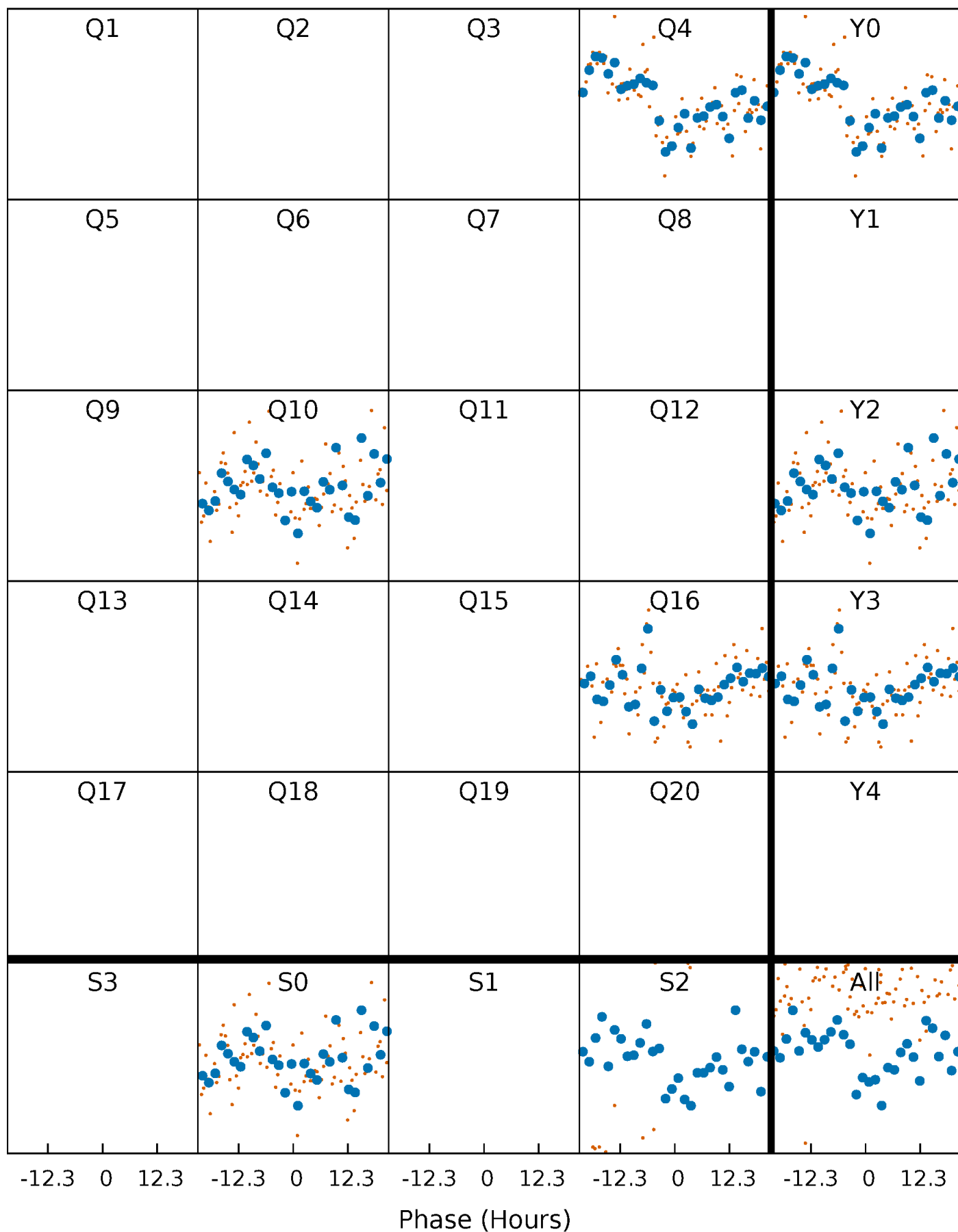


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



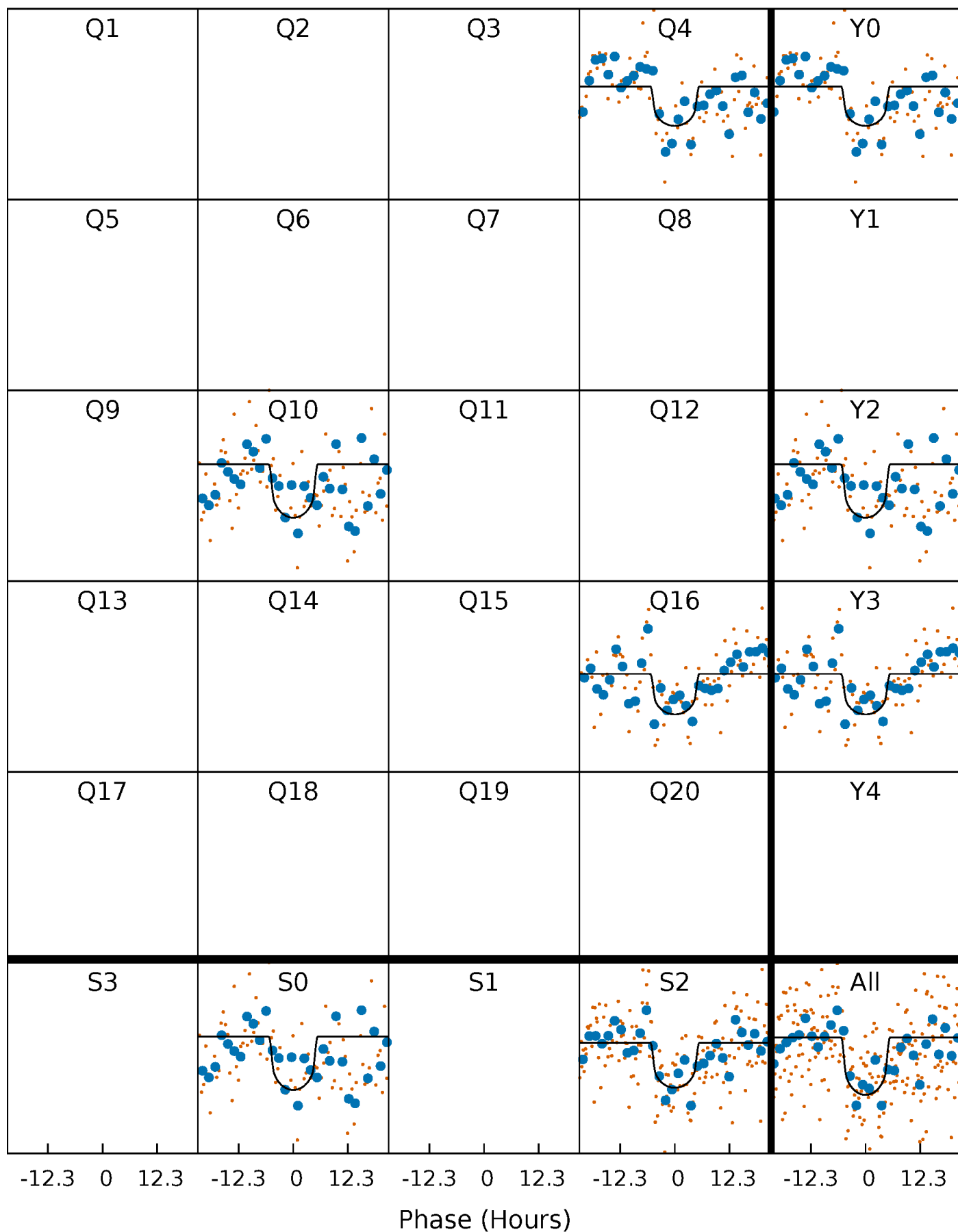
PDC Quarter-Phased Transit Curves

TCE 012215705-01 P=555.991462 Days $T_0=408.847497$ (BKJD)



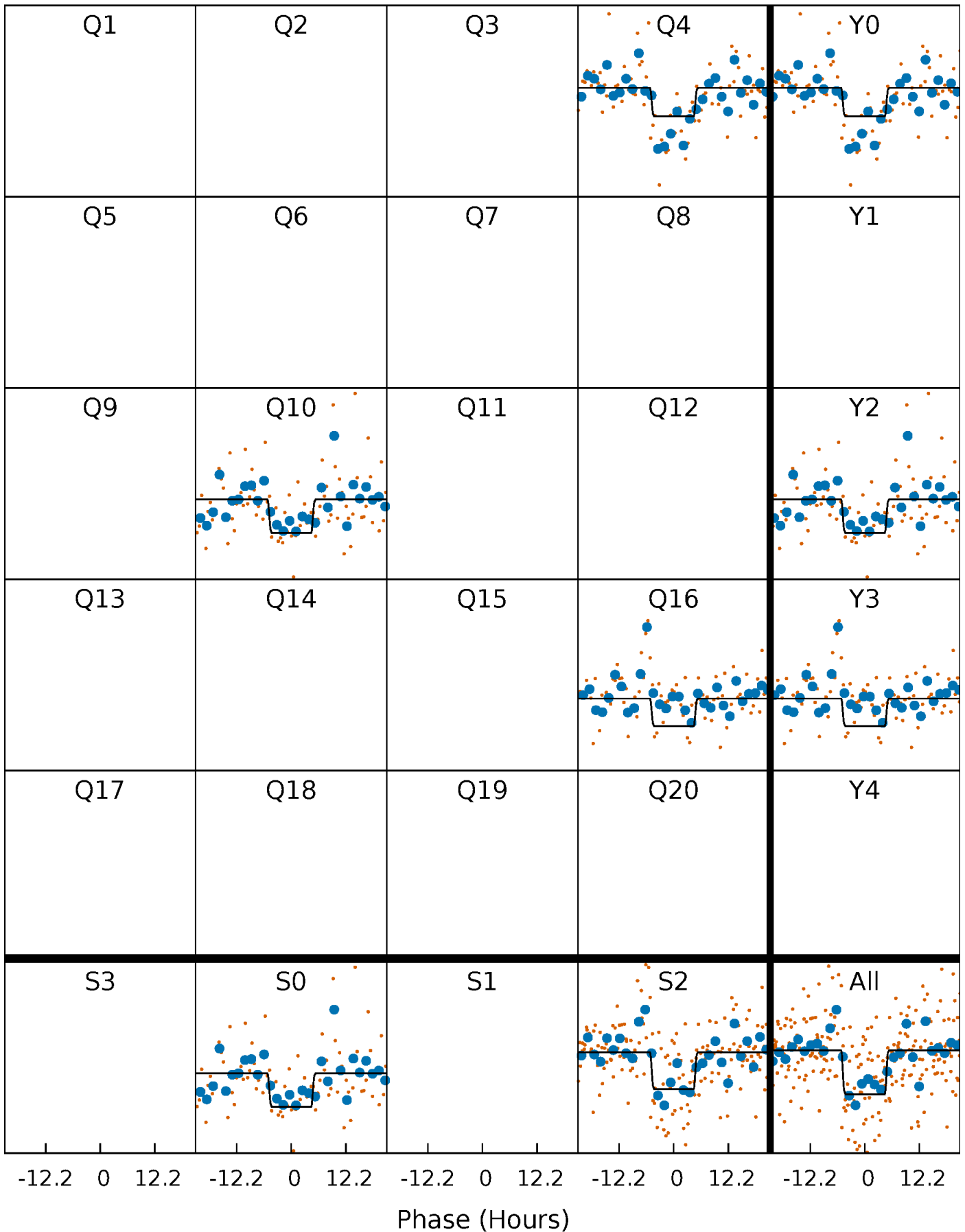
DV Quarter-Phased Transit Curves

TCE 012215705-01 P=555.991462 Days $T_0=408.847497$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

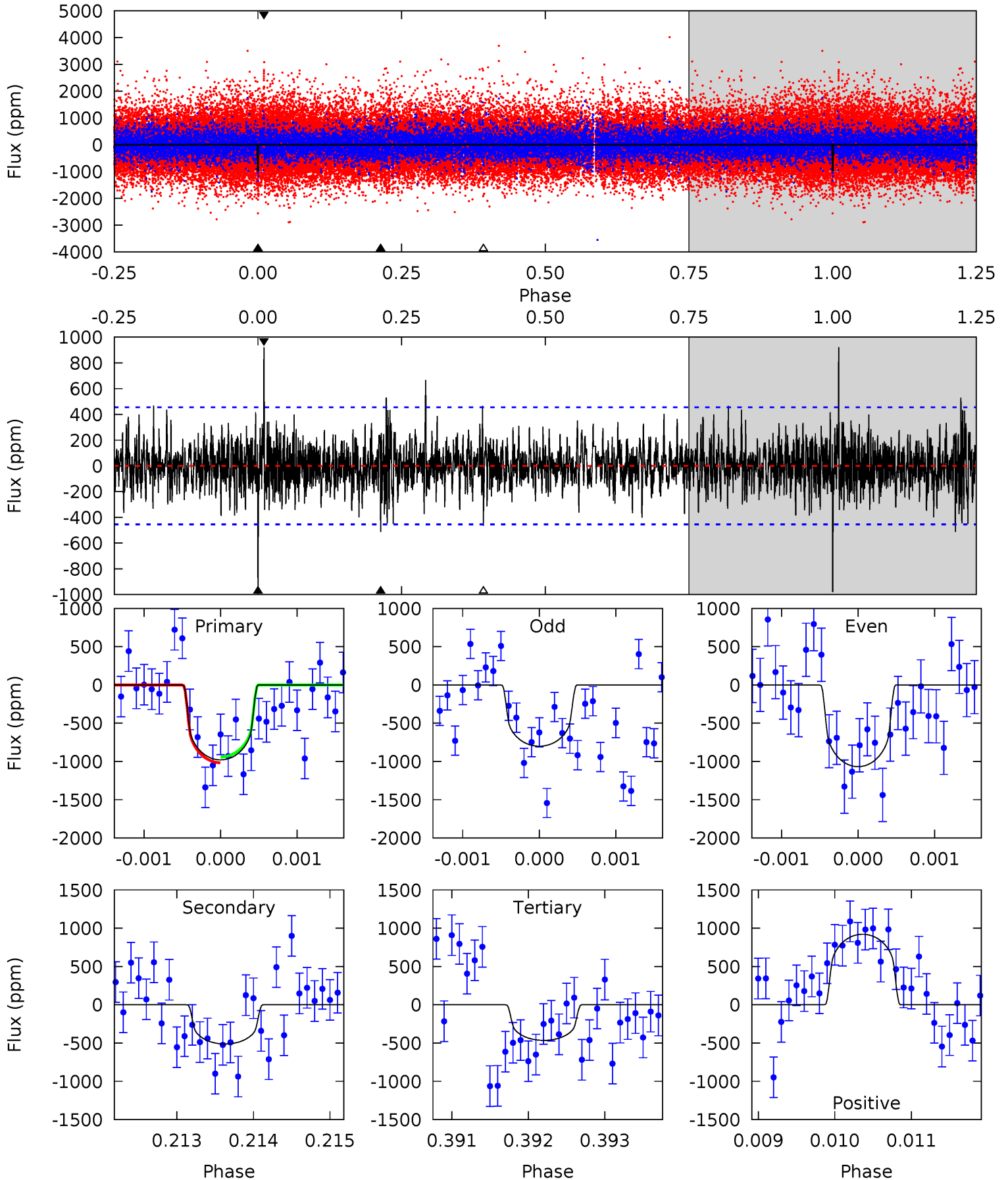
TCE 012215705-01 P=555.969923 Days $T_0=408.884935$ (BKJD)



DV Model-Shift Uniqueness Test

012215705-01, P = 555.991462 Days, E = 408.847497 Days

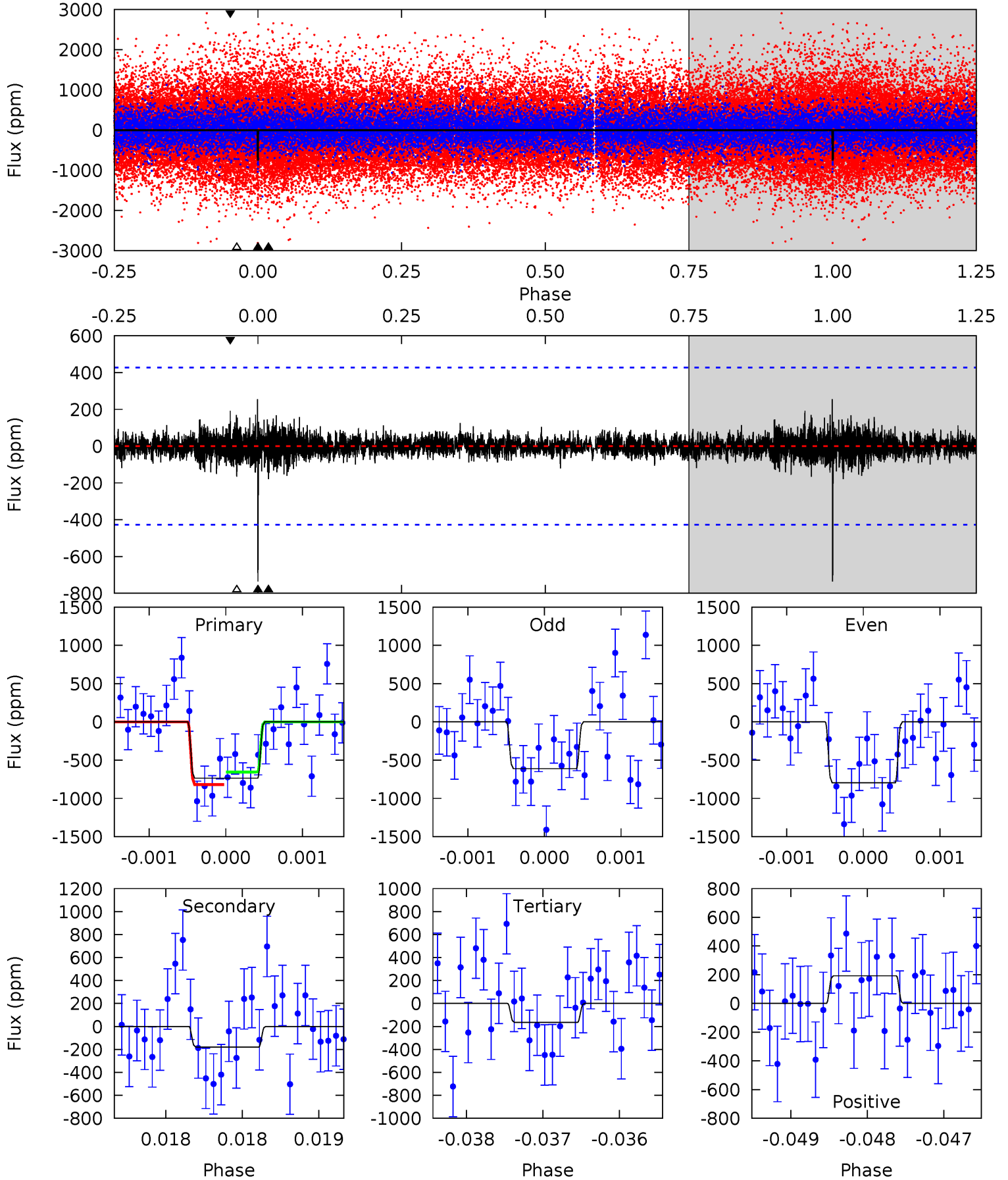
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	6.18	5.60	11.1	5.48	3.34	1.62	6.19	0.70	0.57	-4.92	1.50	1.02	0.48	0.45



Alt Model-Shift Uniqueness Test

012215705-01, P = 555.969923 Days, E = 408.884935 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.44	2.30	2.12	2.47	5.49	3.35	0.47	7.32	6.97	0.18	-0.17	1.12	1.20	0.26	1.05



Stellar Parameters For KIC 012215705

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4836^{+175}_{-175}	$4.566^{+0.060}_{-0.040}$	$-0.060^{+0.300}_{-0.300}$	$0.737^{+0.062}_{-0.069}$	$0.728^{+0.081}_{-0.054}$	$2.566^{+0.676}_{-0.370}$
	+4%/-4%	+1%/-1%	+500%/-500%	+8%/-9%	+11%/-7%	+26%/-14%
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 012215705-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-513 ± 83	$2.66^{+0.92}_{-0.99}$	234^{+9}_{-10}	4189^{+789}_{-472}	56817^{+86783}_{-26372}
Alt.	-179 ± 78	$2.28^{+0.89}_{-0.89}$	234^{+10}_{-10}	3634^{+719}_{-427}	25802^{+48878}_{-14338}

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 $A_{obs} \gg 1.0$

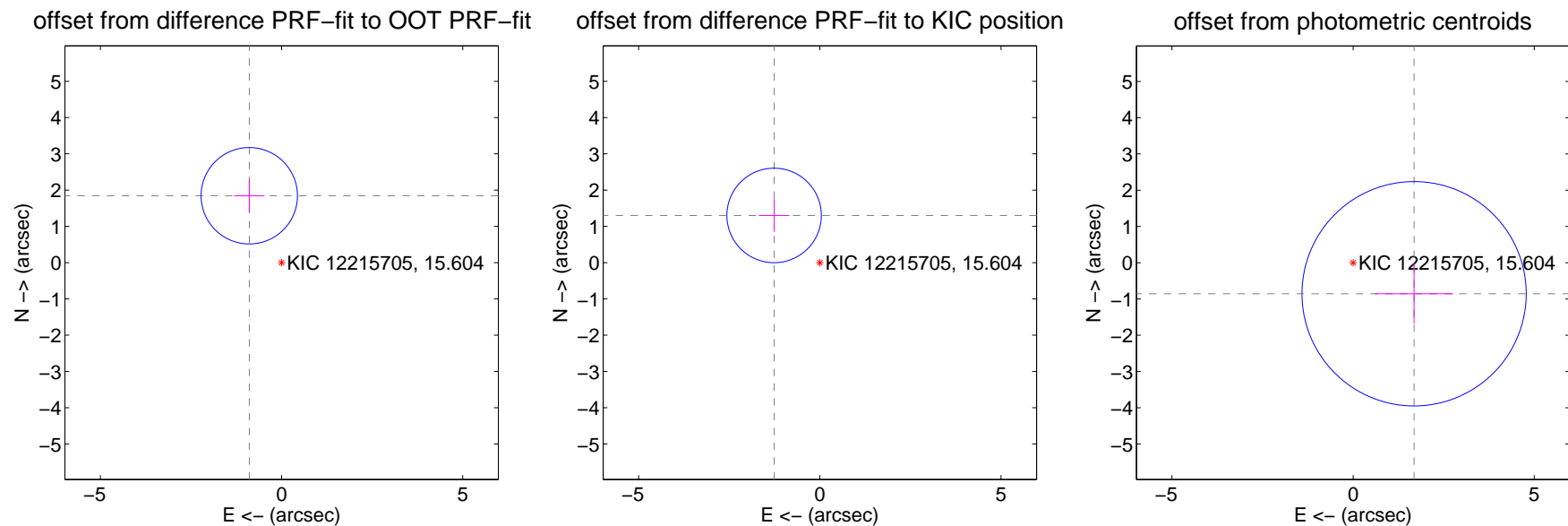
DV Centroid Data

Supplemental centroid analysis for 012215705-01. Kepler magnitude: 15.60. Transit SNR 6.97

There are 1 quarters with good PRF difference image offsets

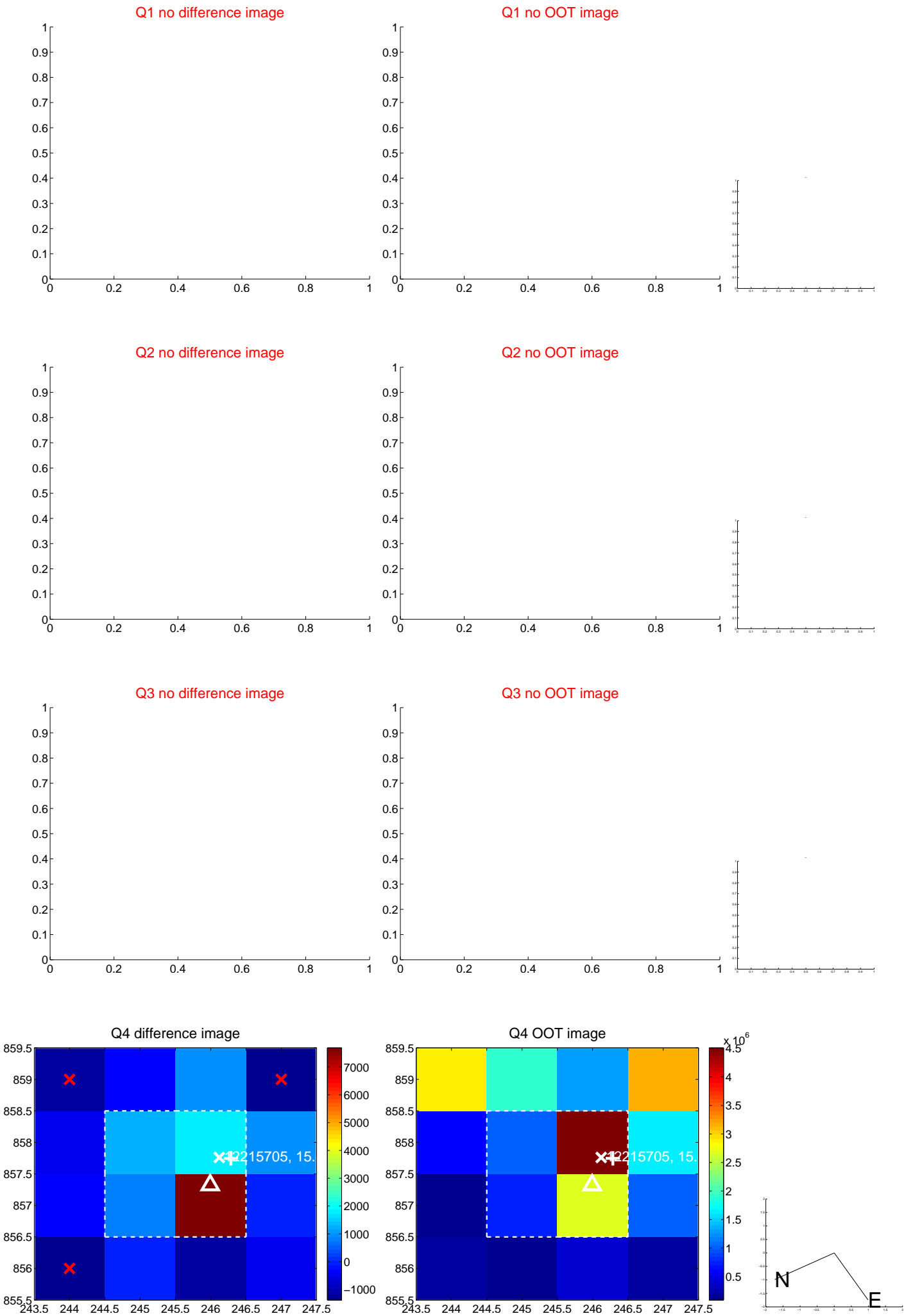
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.049 \pm 0.443	4.62	0.891 \pm 0.419	1.845 \pm 0.449
PRF-fit source offset from KIC position	1.813 \pm 0.434	4.17	1.262 \pm 0.419	1.302 \pm 0.449
photometric centroid source offset	1.89 \pm 1.03	1.83	-1.68 \pm 1.08	-0.86 \pm 0.83



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.

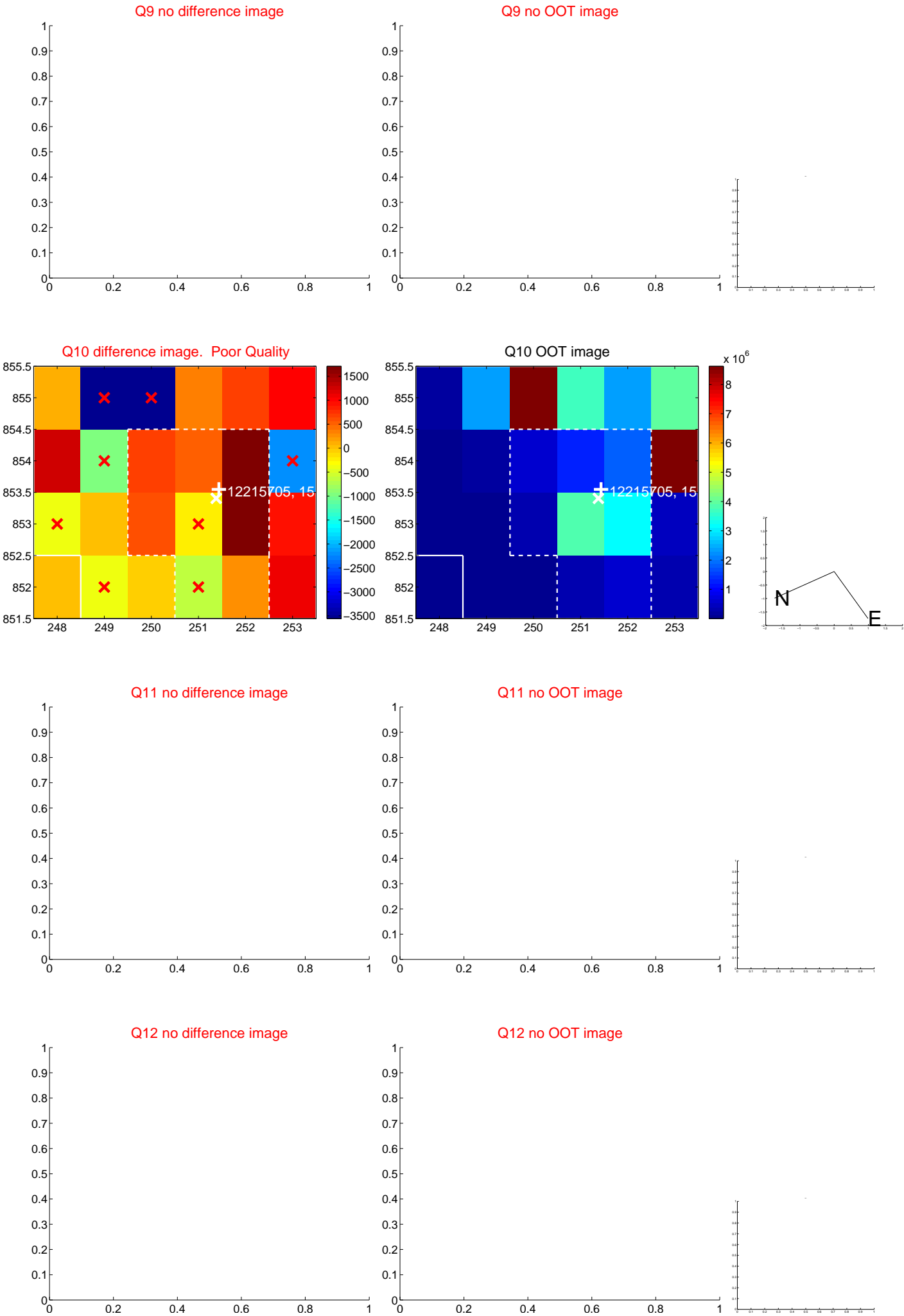
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



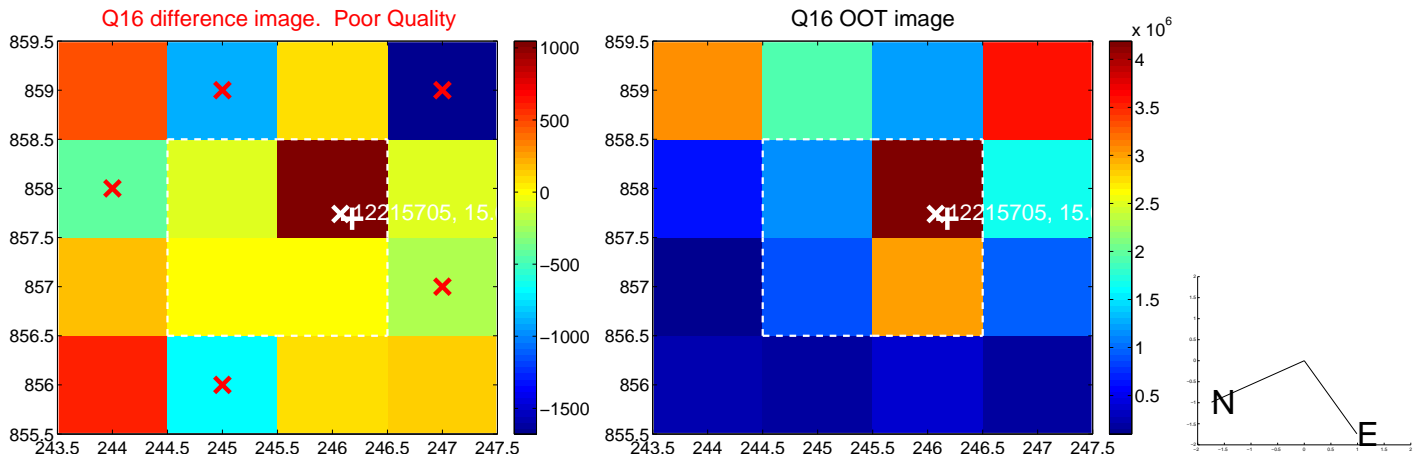
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



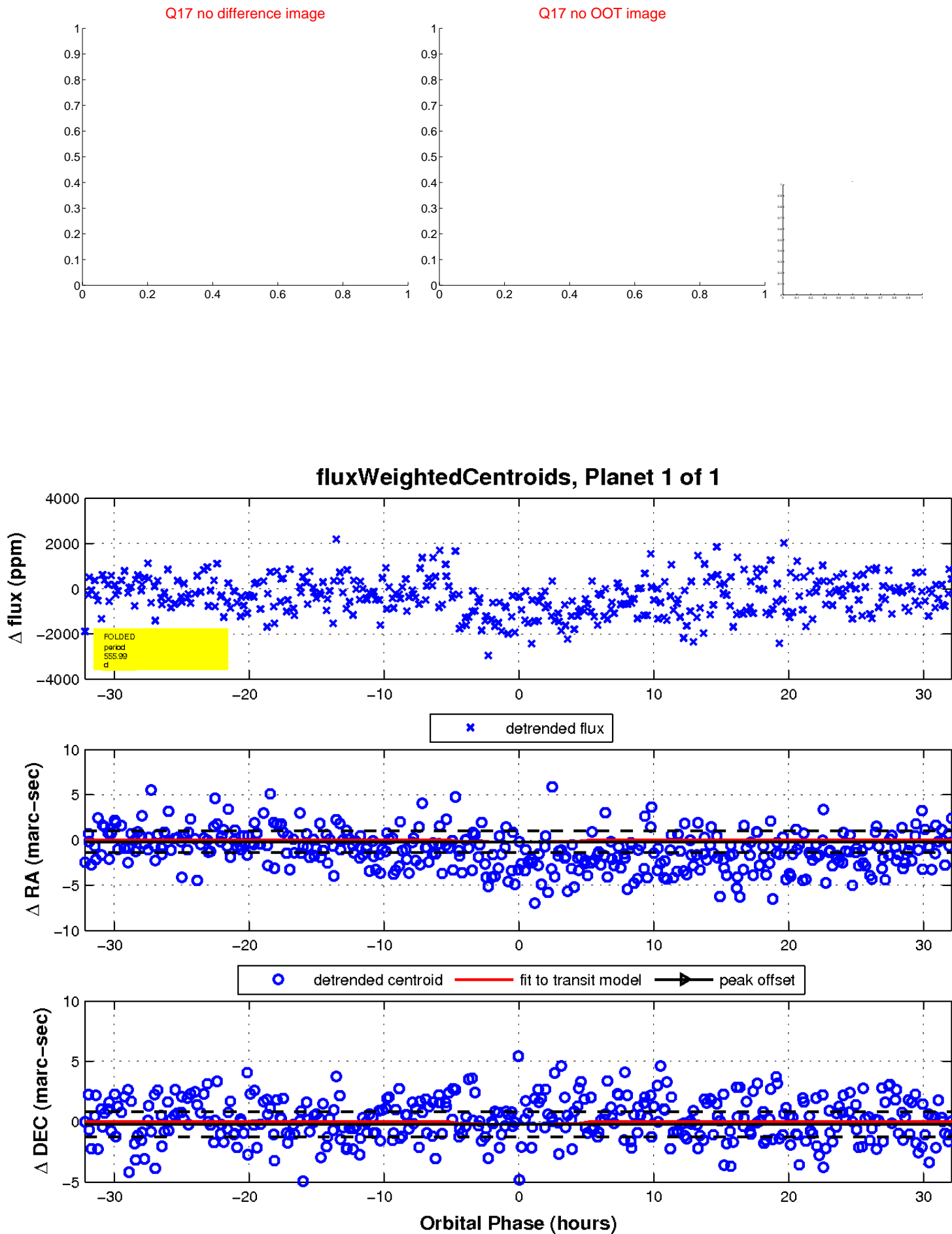
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

