

KIC 004245449

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})
004245449-01	OBS	No	358.038352	470.907215	647.1	7.116	10.4	8.3	1.55	6052	4.66	3.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004245449-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

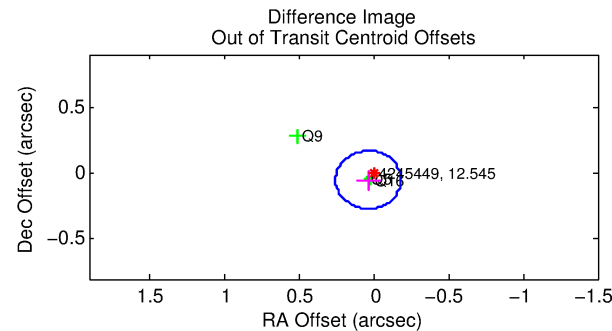
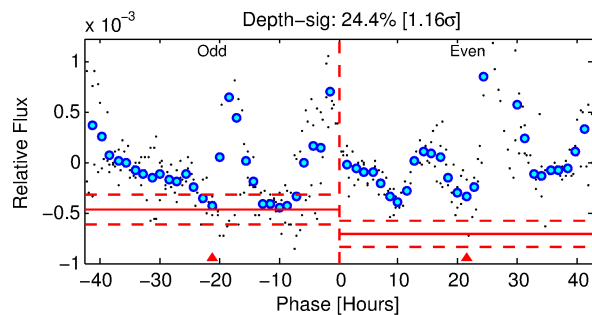
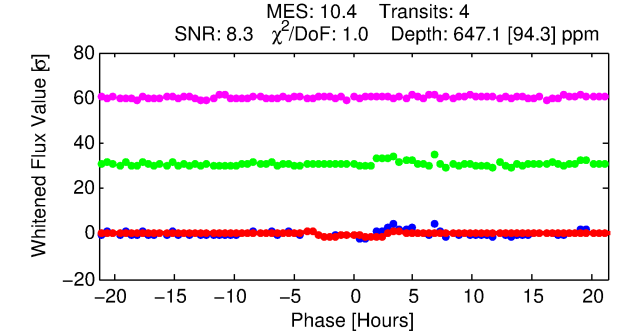
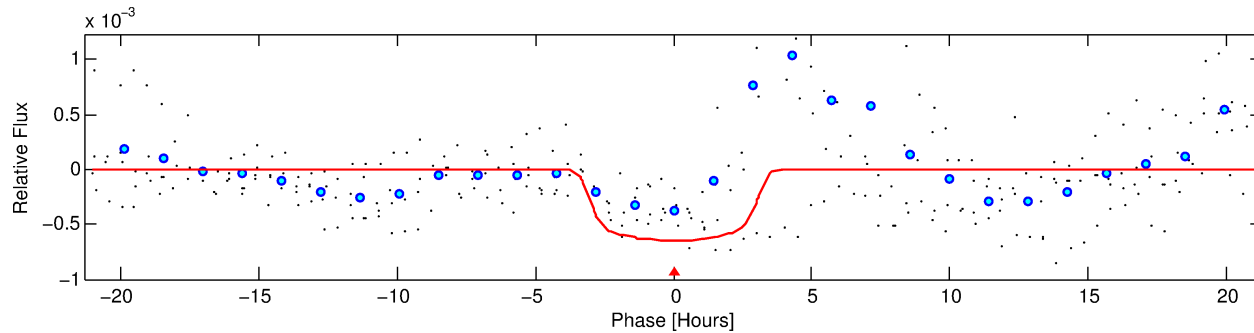
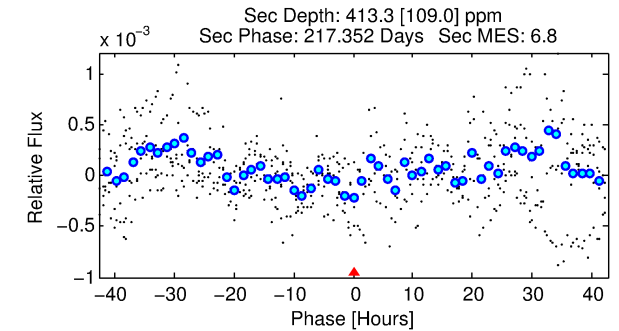
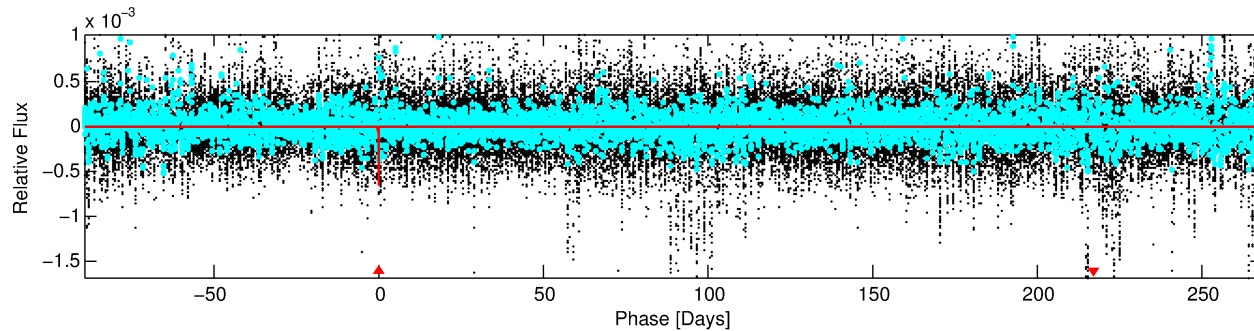
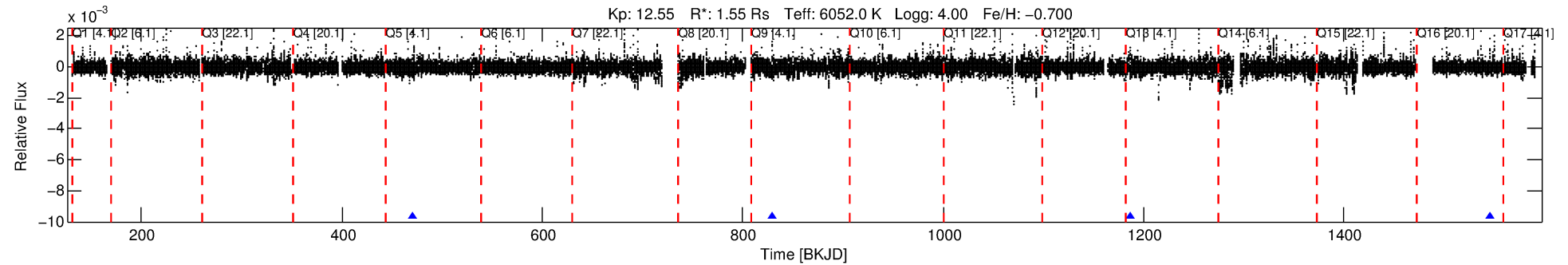
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004245449-01

No Significant Match Found

DV One-Page Summary

KIC: 4245449 Candidate: 1 of 1 Period: 358.038 d



DV Fit Results:

Period = 358.03835 [0.00360] d
Epoch = 470.9072 [0.0075] BKJD
Rp/R* = 0.0275 [0.0024]
a/R* = 185.45 [37.27]
b = 0.91 [0.04]
Seff = 3.24 [2.58]
Teq = 342 [68] K
Rp = 4.66 [2.05] Re
a = 0.9469 [0.4422] AU
Ag = 9376.70 [7989.84] [1.17σ]
Teffp = 5204 [436] K [11.01σ]

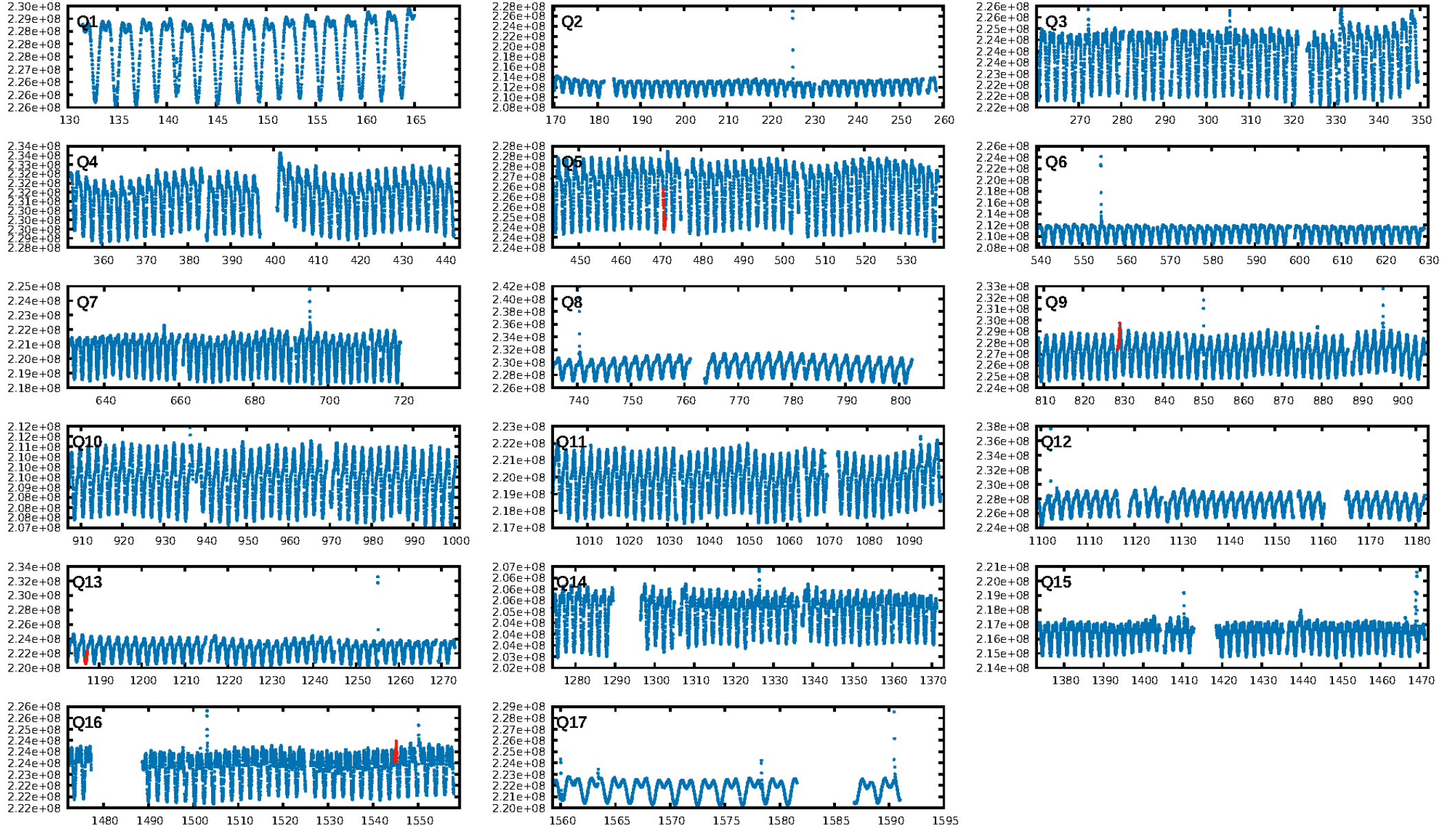
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 37.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.86e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -10.72
Centroid-sig: 1.0%
Centroid-so: 0.622 arcsec [1.68σ]
OotOffset-rm: 0.061 arcsec [0.83σ]
KicOffset-rm: 0.185 arcsec [1.80σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

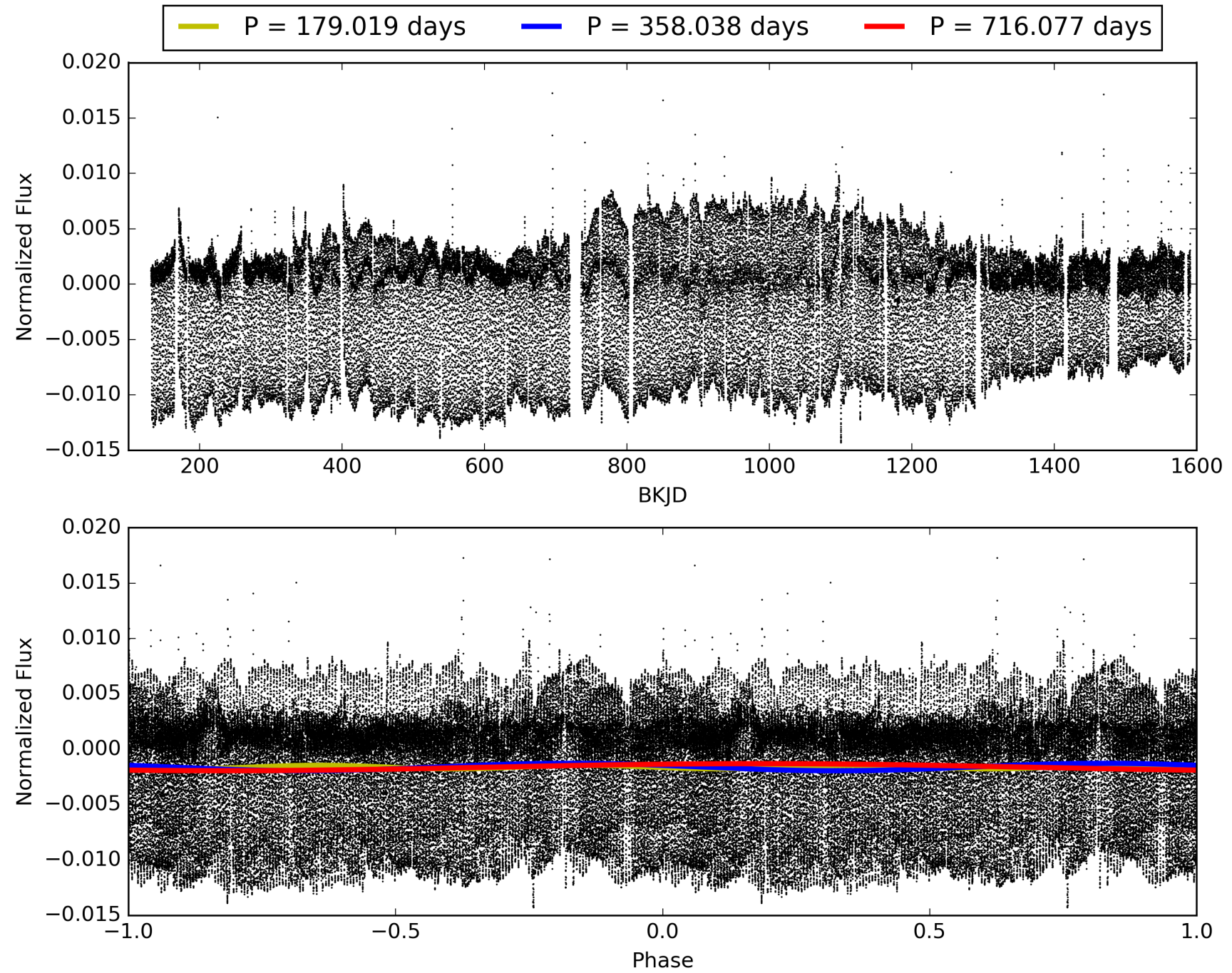
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:17:43 Z

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

TCE 004245449-01, PDC Light Curves

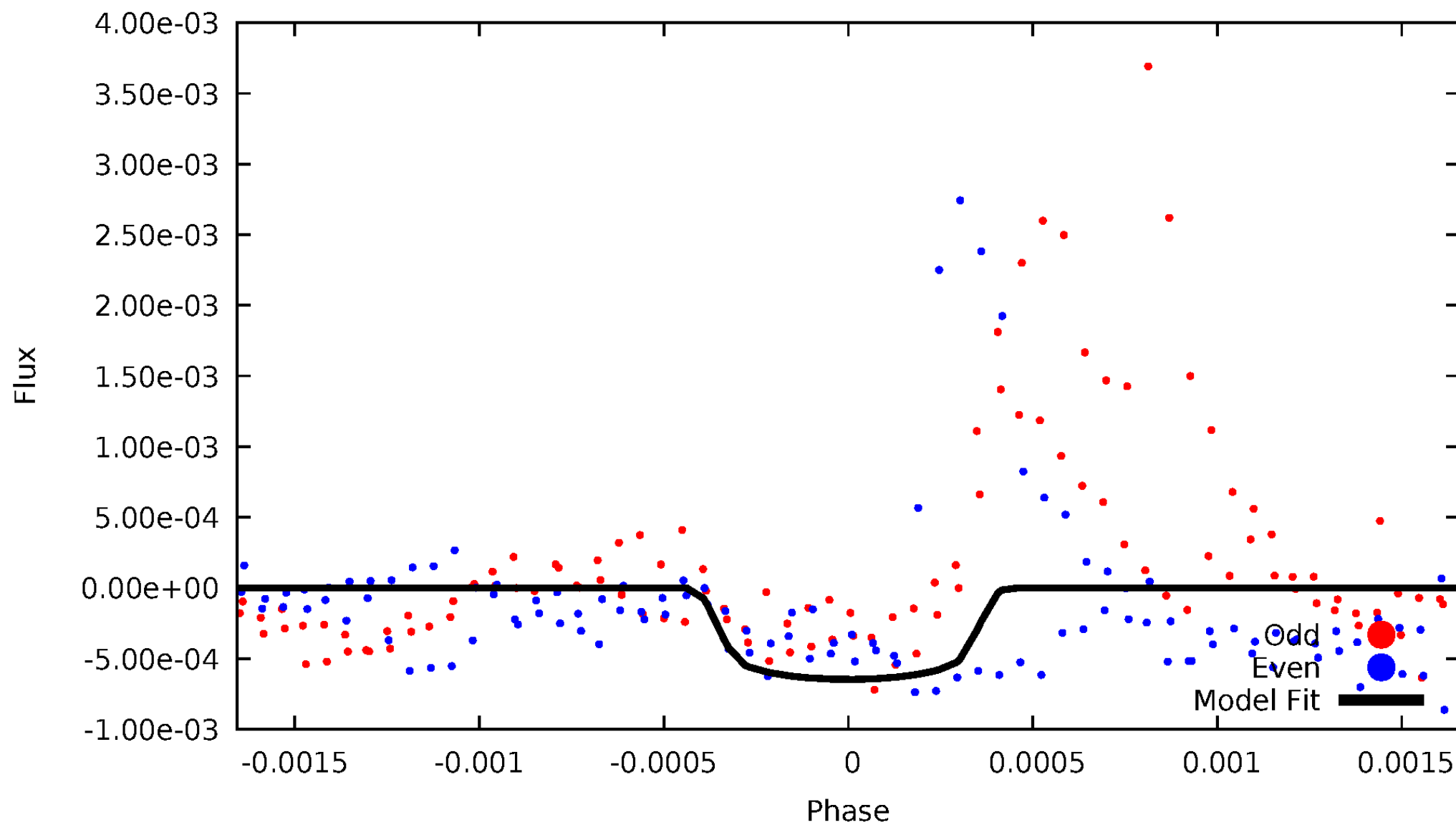


TCE 004245449-01



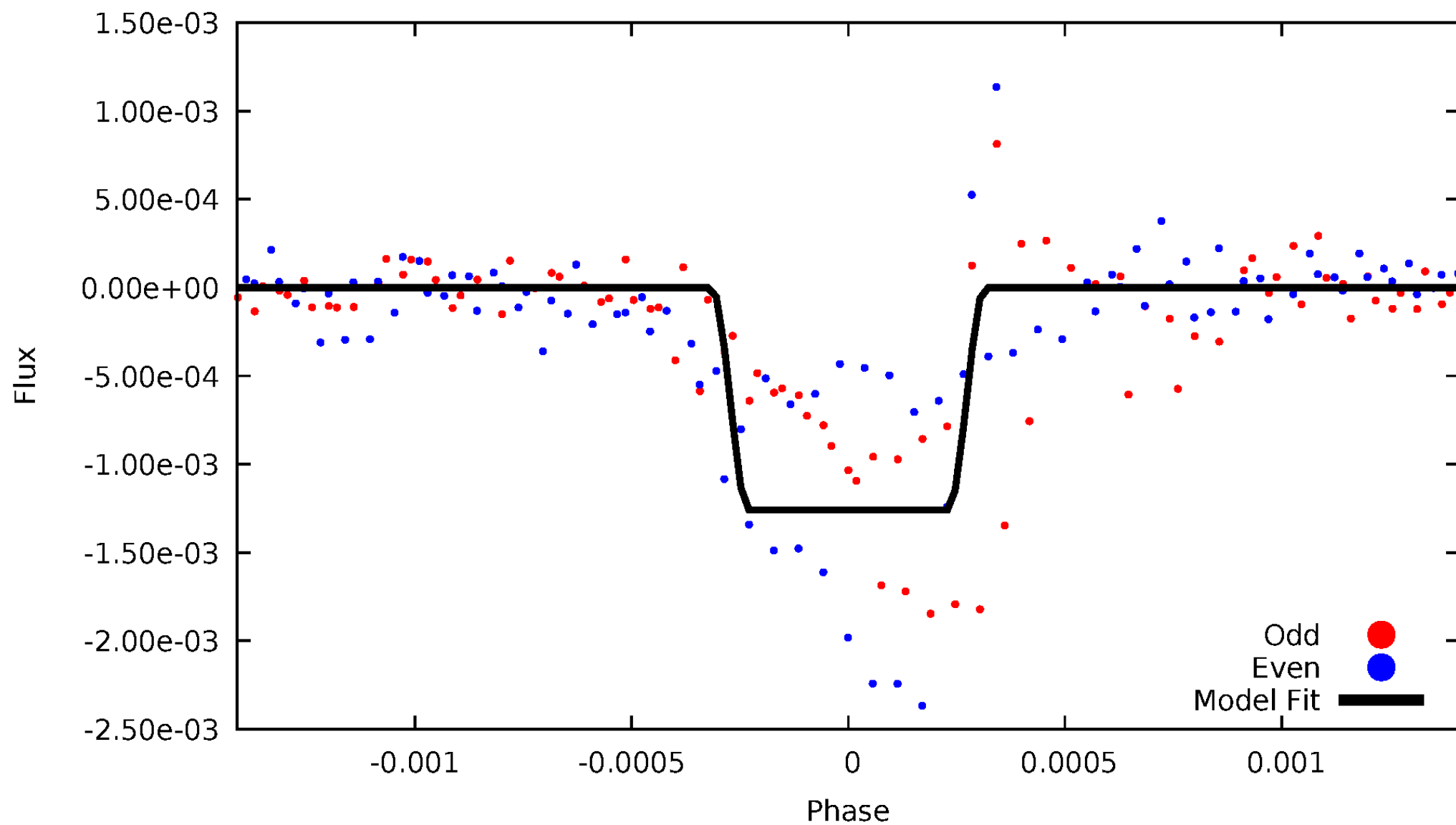
DV Odd/Even

TCE 004245449-01



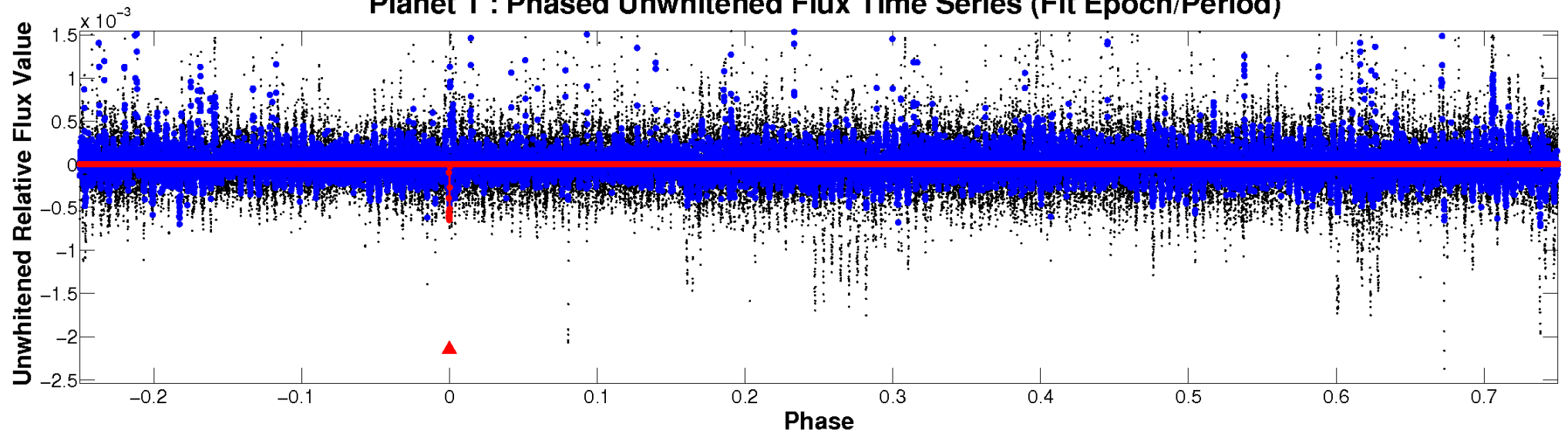
ALT Odd/Even

TCE 004245449-01

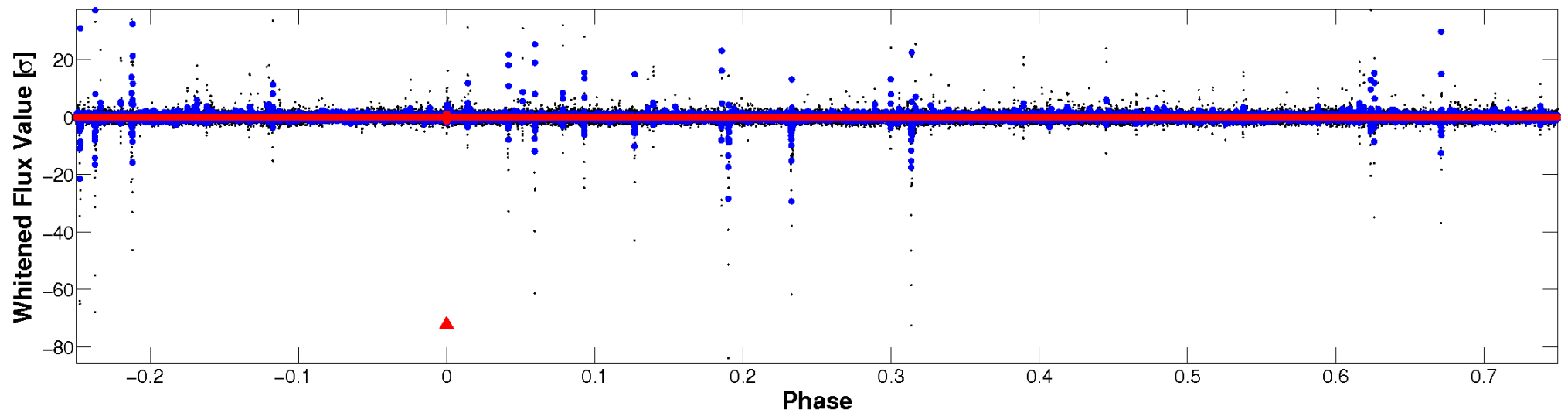


Non-Whitened Vs. Whitened Light Curve

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

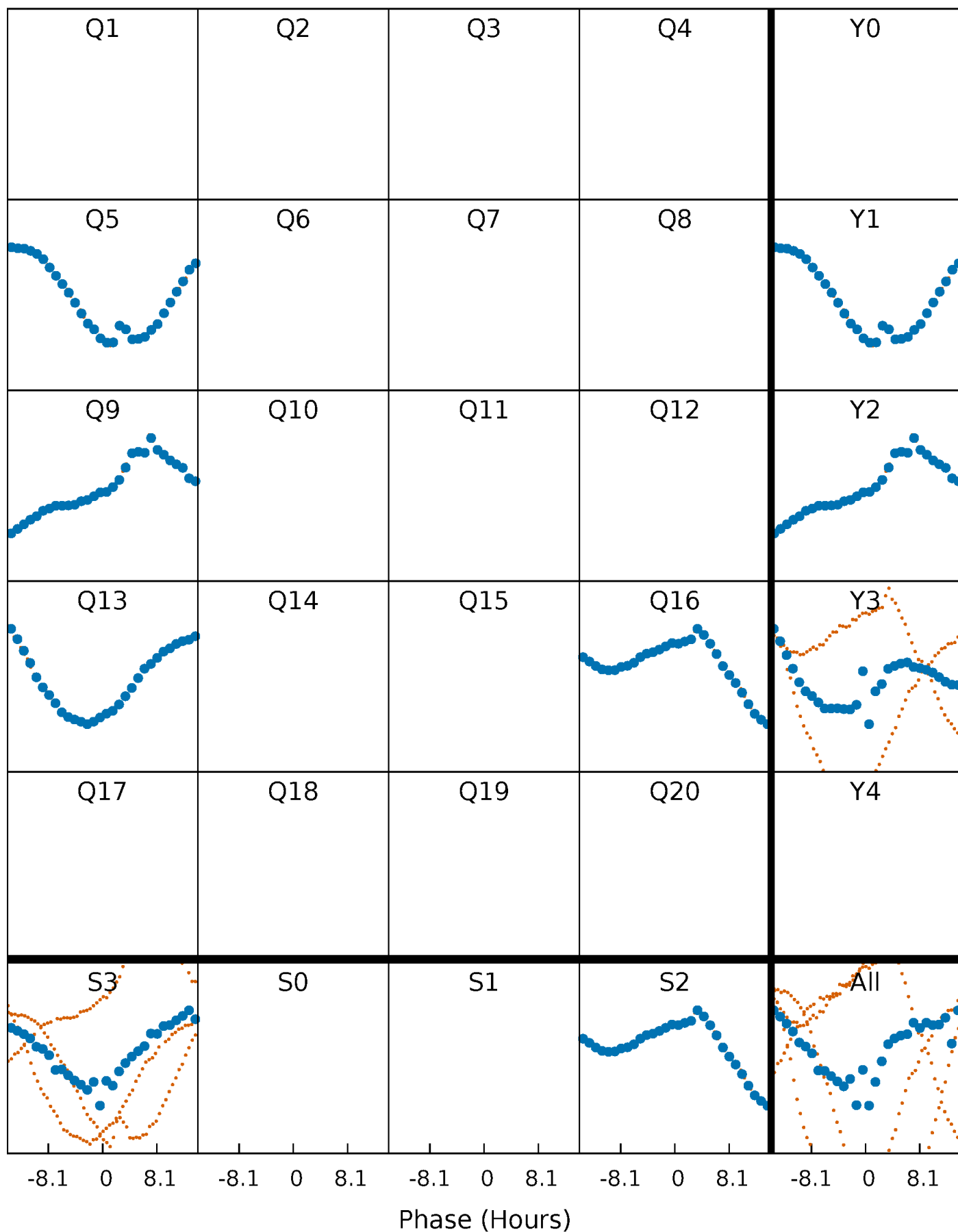


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



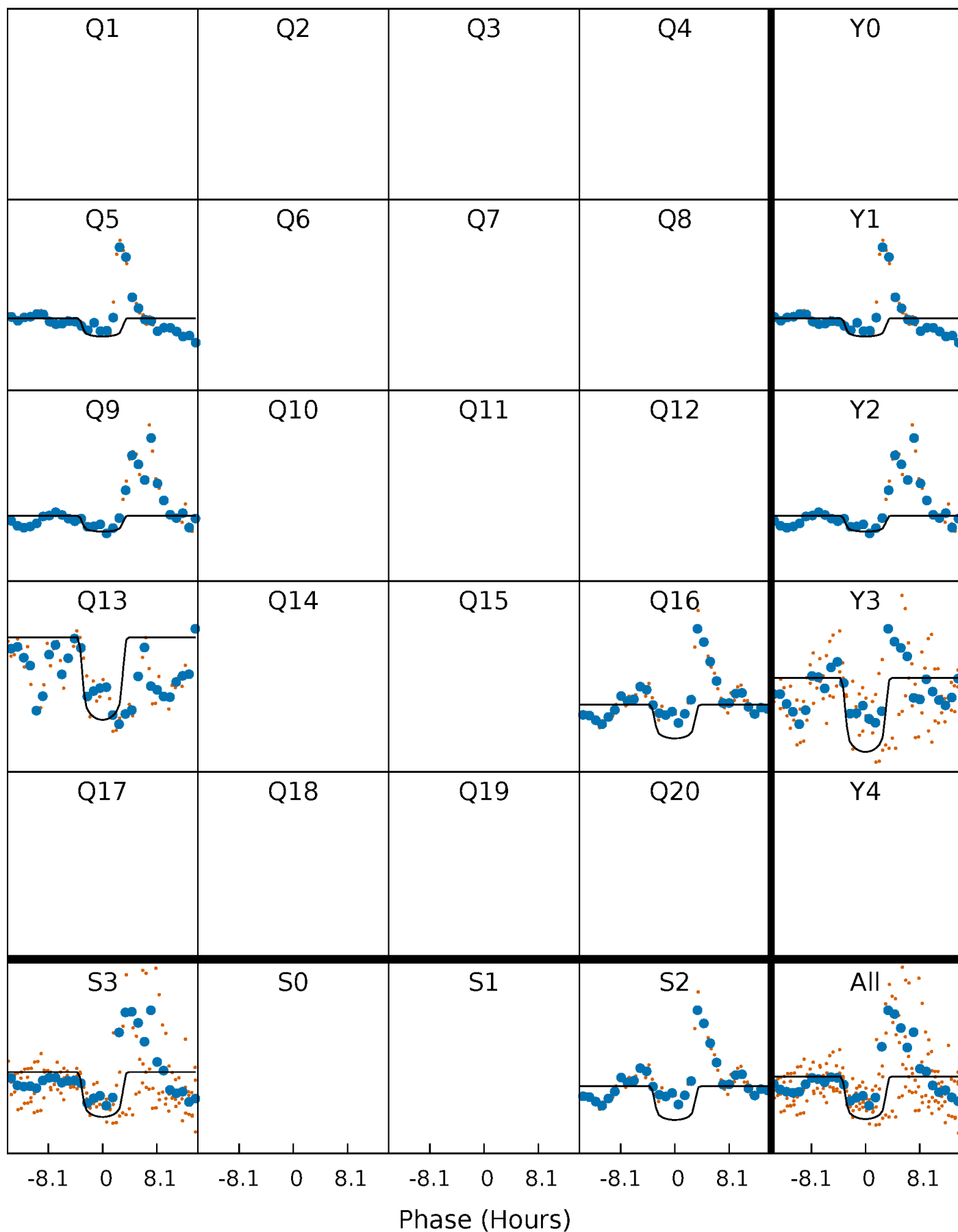
PDC Quarter-Phased Transit Curves

TCE 004245449-01 $P=358.038352$ Days $T_0=470.907215$ (BKJD)



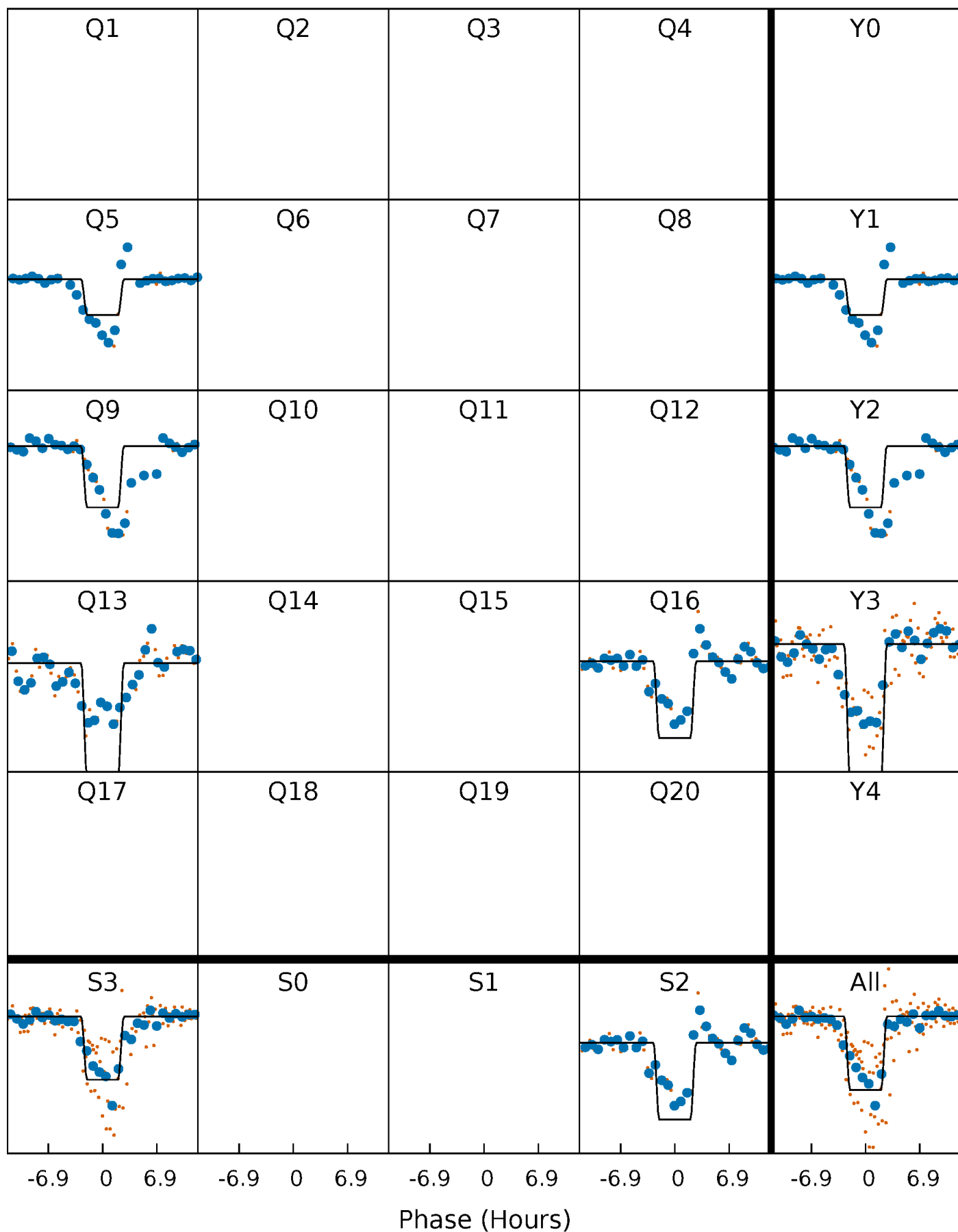
DV Quarter-Phased Transit Curves

TCE 004245449-01 P=358.038352 Days $T_0=470.907215$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

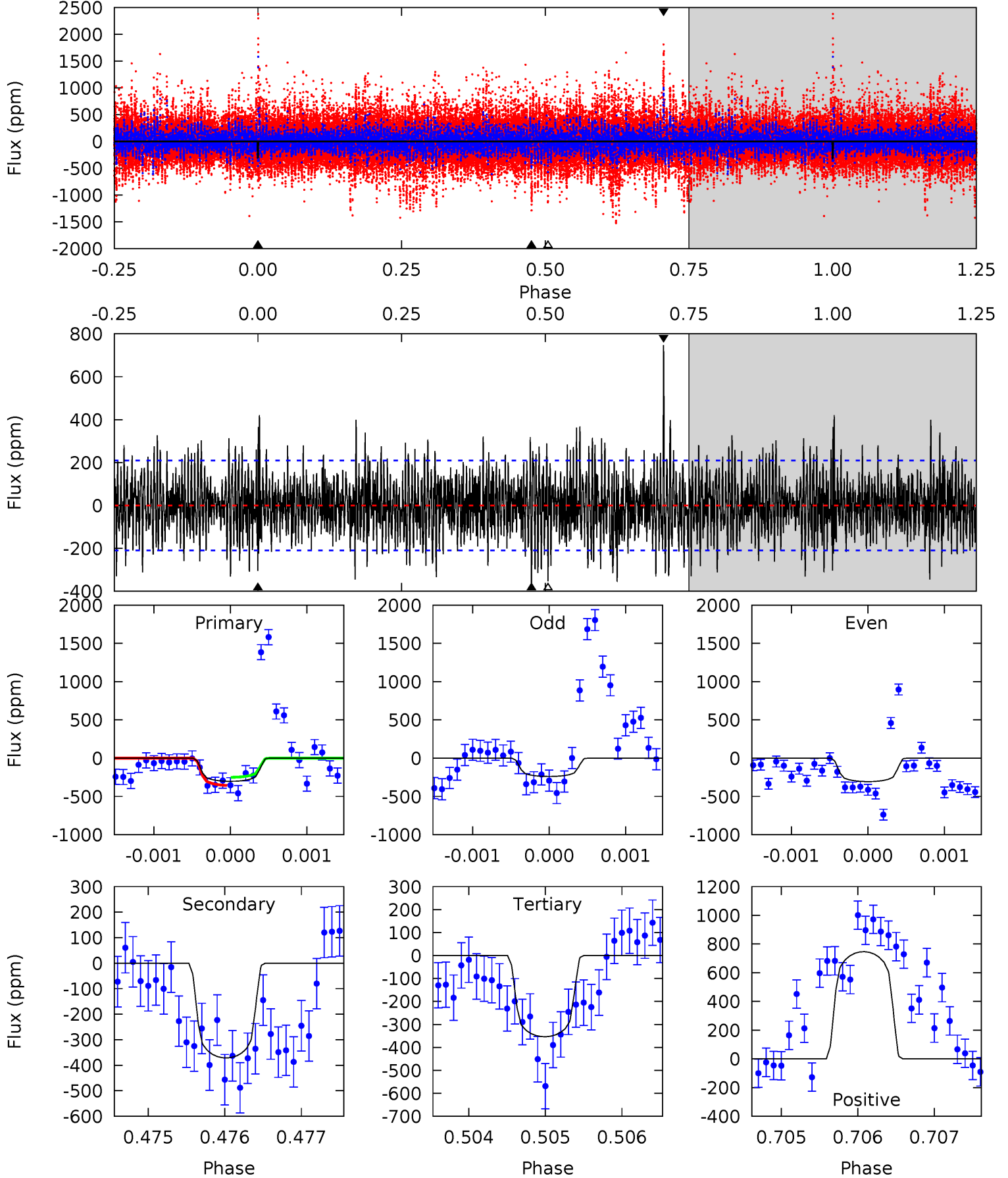
TCE 004245449-01 P=358.050461 Days $T_0=470.893404$ (BKJD)



DV Model-Shift Uniqueness Test

004245449-01, P = 358.038352 Days, E = 112.868863 Days

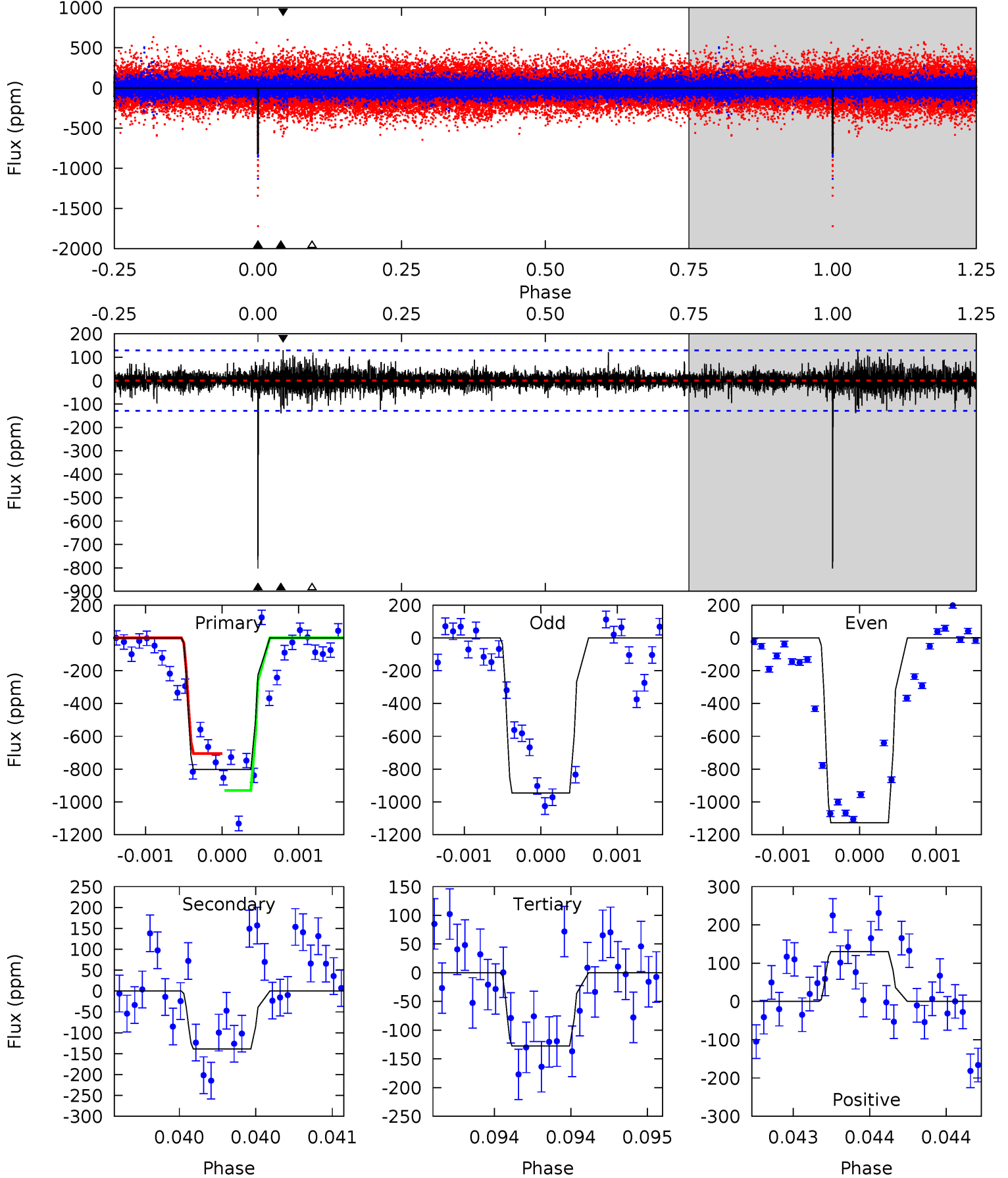
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.89	9.68	9.22	19.5	5.47	3.32	3.02	-1.33	-11.6	0.46	-9.79	0.65	0.83	0.67	1.40



Alt Model-Shift Uniqueness Test

004245449-01, P = 358.050461 Days, E = 112.842943 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.5	5.96	5.49	5.59	5.54	3.43	1.02	29.0	28.9	0.47	0.38	4.26	1.10	0.14	4.61



Stellar Parameters For KIC 004245449

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6052^{+163}_{-163}	$4.001^{+0.480}_{-0.160}$	$-0.700^{+0.300}_{-0.250}$	$1.554^{+0.446}_{-0.669}$	$0.882^{+0.108}_{-0.088}$	$0.331^{+1.330}_{-0.165}$
	+3%/-3%	+12%/-4%	+43%/-36%	+29%/-43%	+12%/-10%	+402%/-50%
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 004245449-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-371 ± 38	$4.52^{+0.90}_{-1.03}$	472^{+38}_{-53}	5134^{+282}_{-248}	9084^{+5780}_{-2881}
Alt.	-139 ± 23	$5.75^{+1.07}_{-1.27}$	468^{+39}_{-56}	3854^{+159}_{-164}	2098^{+1359}_{-684}

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

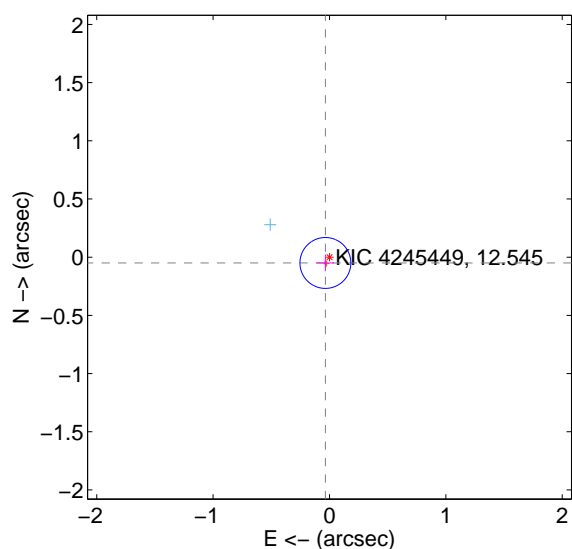
Supplemental centroid analysis for 004245449-01. Kepler magnitude: 12.54. Transit SNR 8.32

There are 2 quarters with good PRF difference image offsets

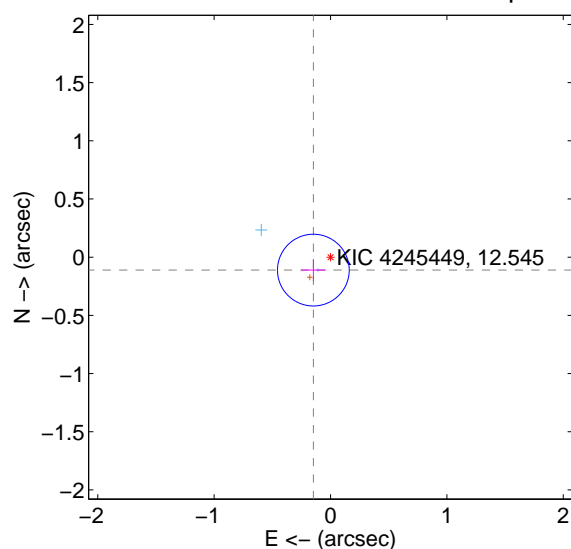
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.073	0.83	0.035 ± 0.076	-0.050 ± 0.071
PRF-fit source offset from KIC position	0.185 ± 0.103	1.80	0.147 ± 0.107	-0.111 ± 0.095
photometric centroid source offset	0.62 ± 0.37	1.68	-0.47 ± 0.32	-0.41 ± 0.43

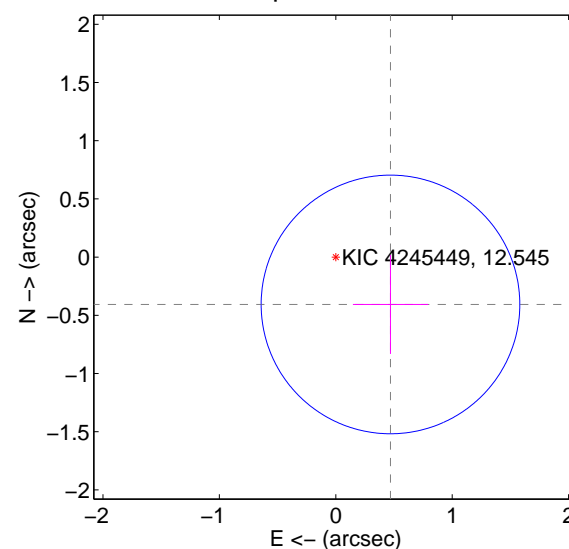
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

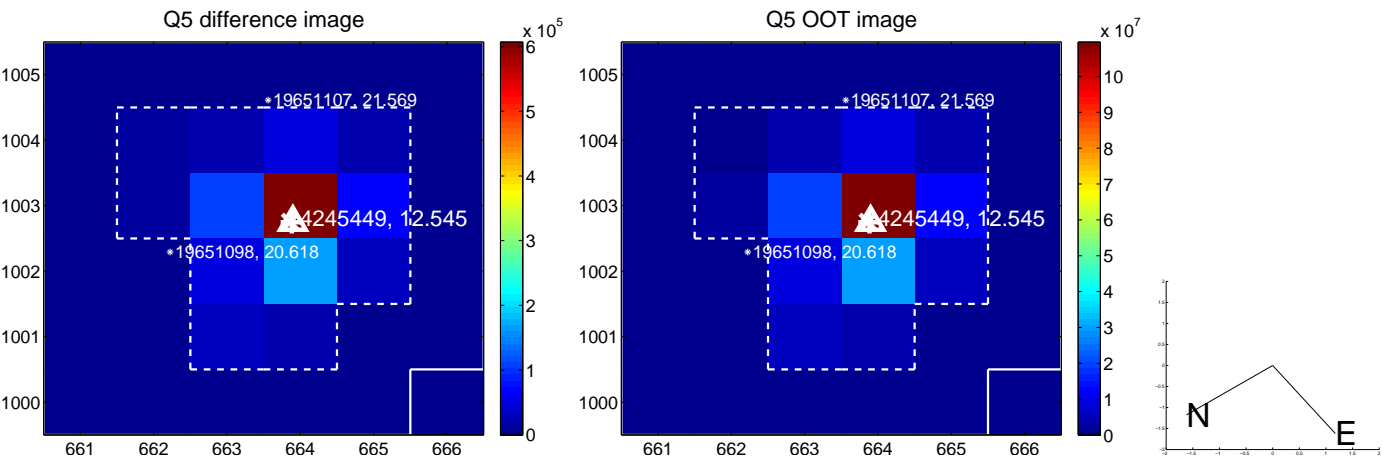


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

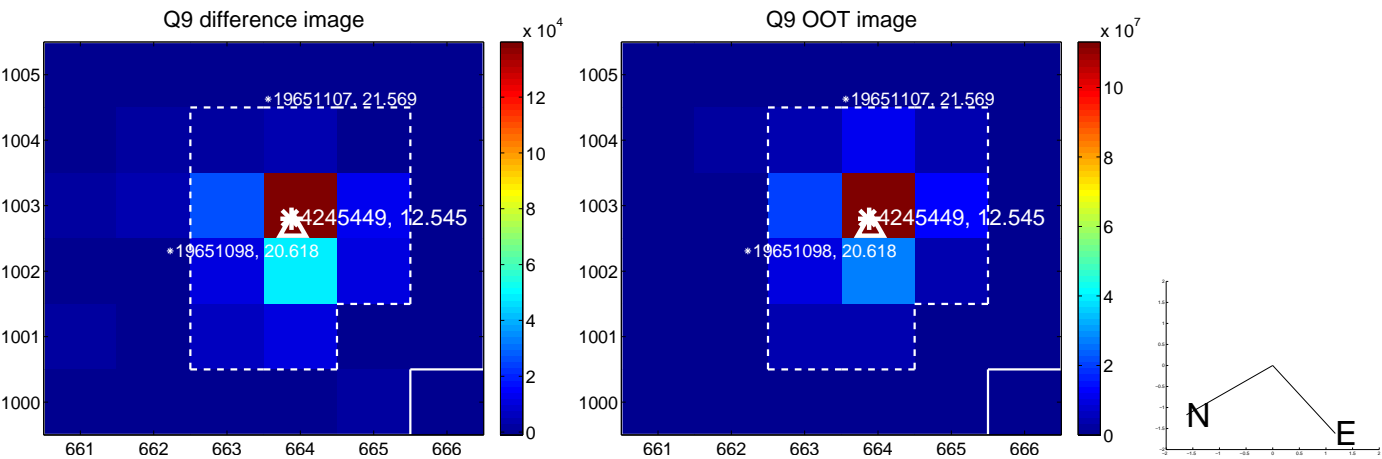
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



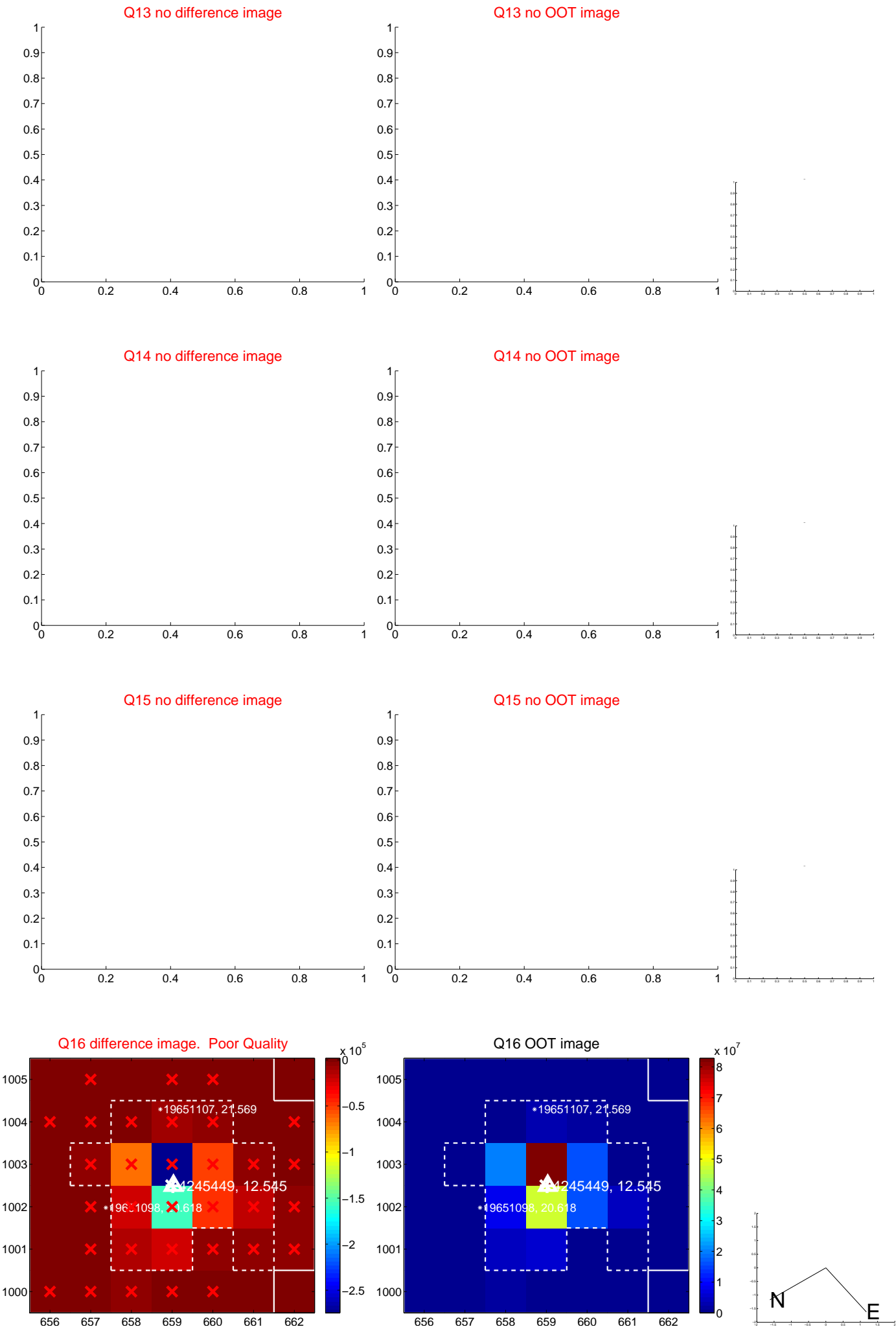
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



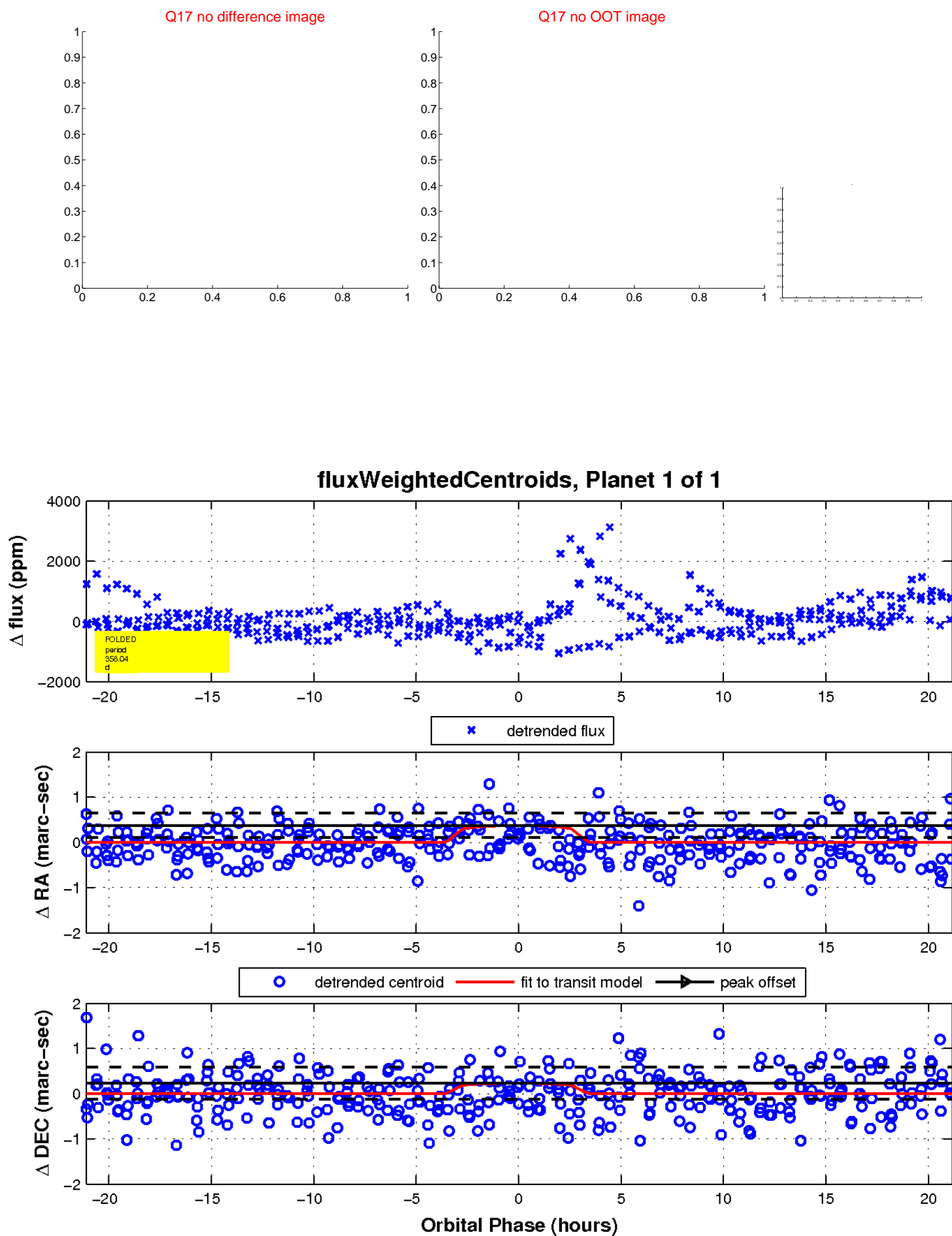
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

