

KIC 008740498

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})
008740498-01	OBS	No	376.064082	226.380635	1548.2	10.781	9.4	8.8	7.17	5129	28.31	20.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008740498-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

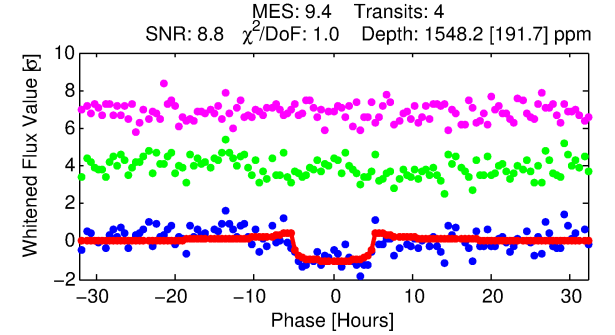
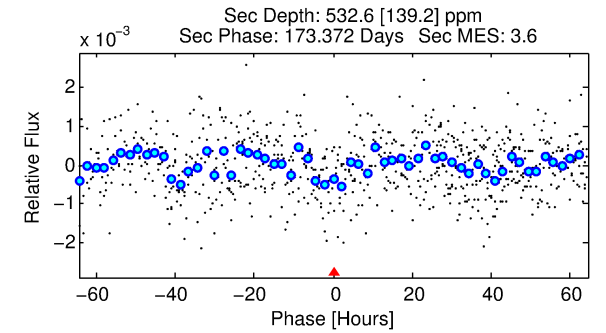
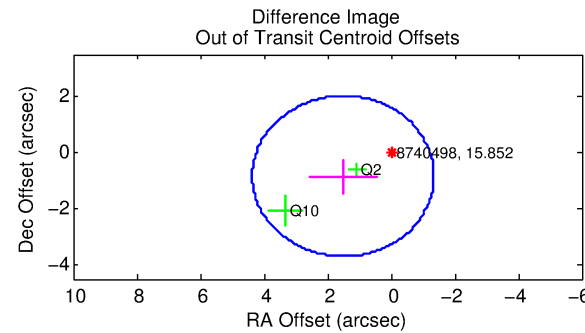
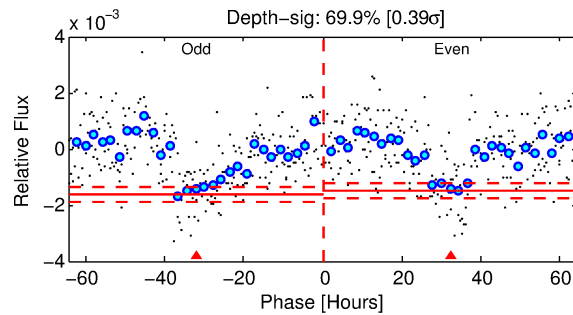
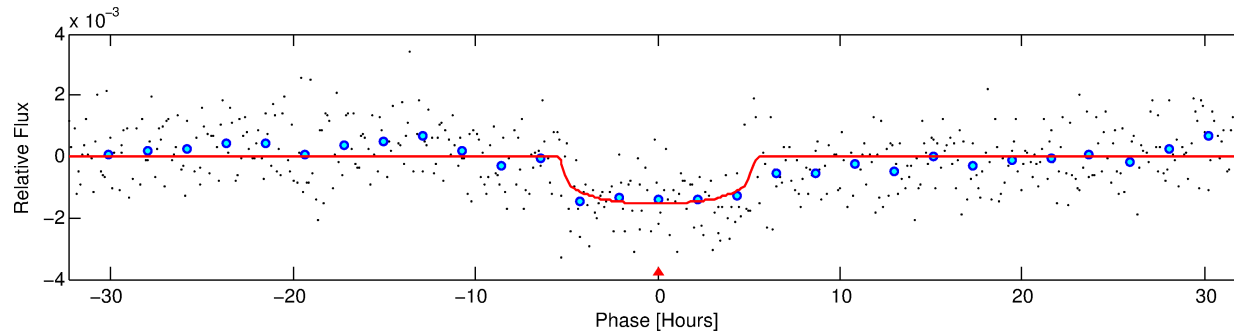
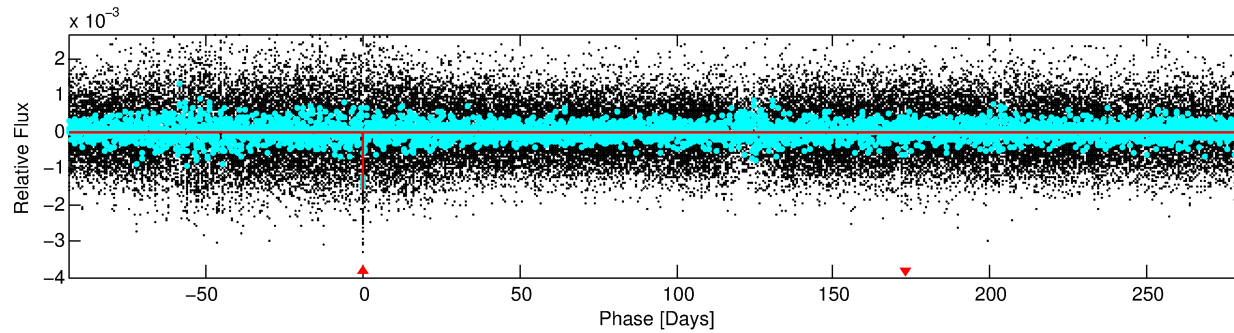
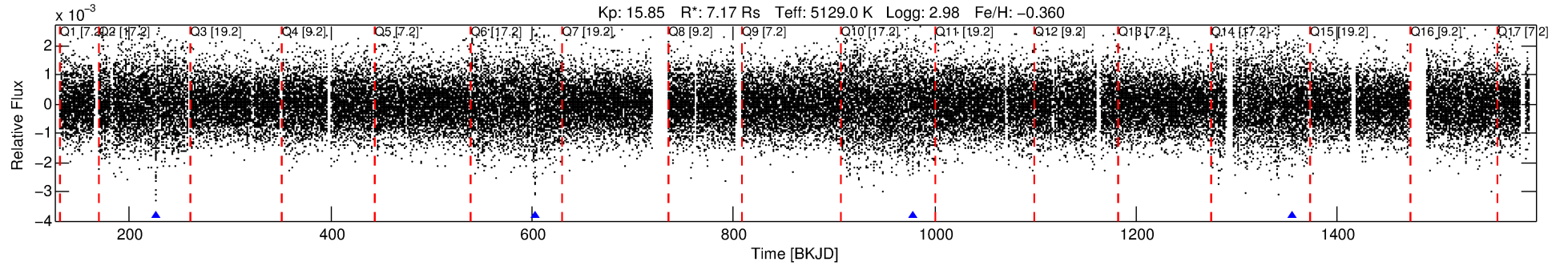
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008740498-01

No Significant Match Found

DV One-Page Summary

KIC: 8740498 Candidate: 1 of 1 Period: 376.064 d



DV Fit Results:

Period = 376.06408 [0.00717] d
Epoch = 226.3806 [0.0139] BKJD
Rp/R* = 0.0362 [0.0181]
a/R* = 251.38 [469.82]
b = 0.43 [3.59]
Seff = 20.63 [4.12]
Teq = 543 [27] K
Rp = 28.31 [15.62] Re
a = 1.2433 [0.1932] AU
Ag = 565.25 [592.85] [0.95 σ]
Teffp = 4097 [1068] K [3.33 σ]

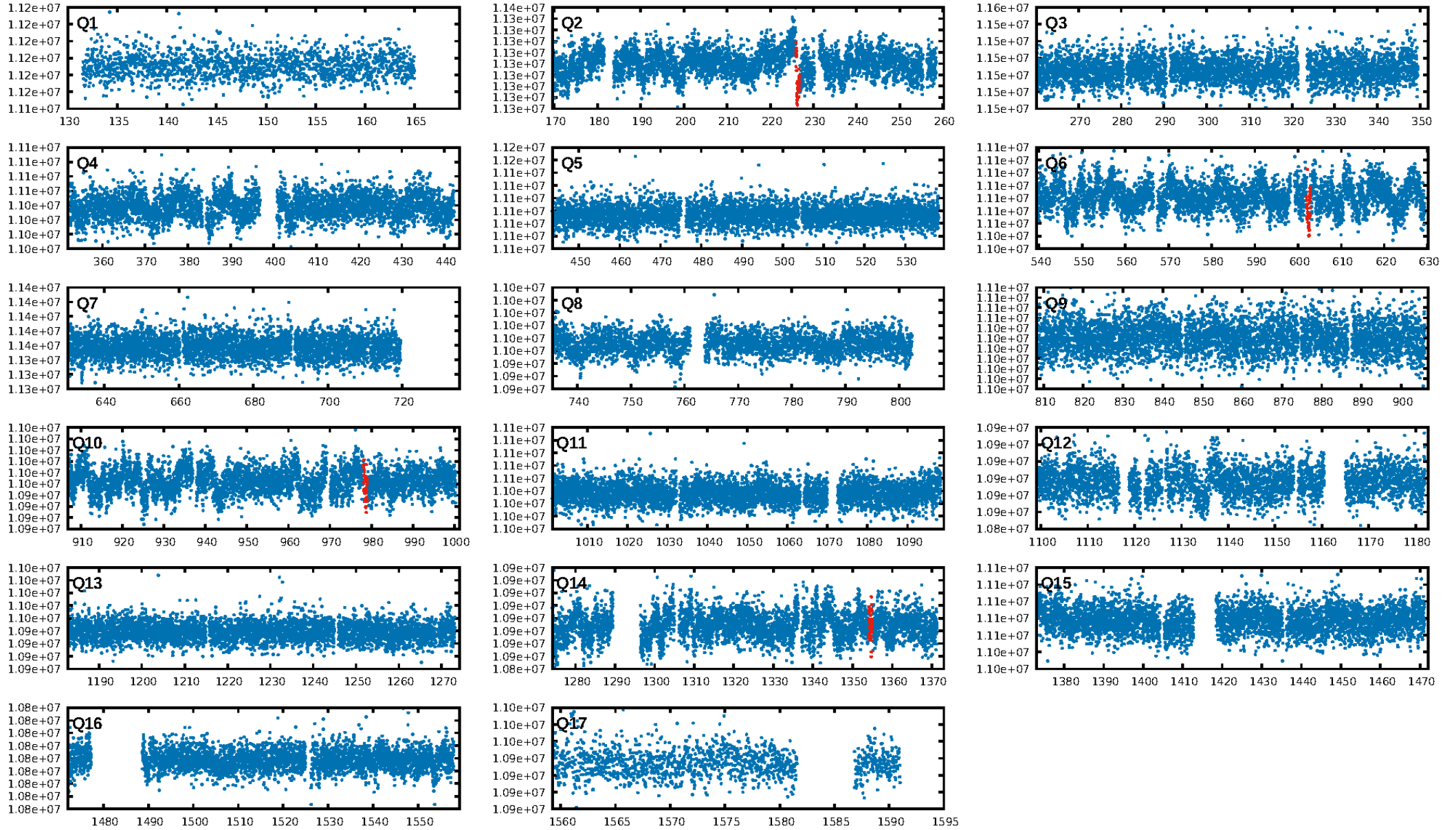
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.7%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.45e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.368
Centroid-sig: 27.8%
Centroid-so: 2.059 arcsec [1.18 σ]
OotOffset-rm: 1.725 arcsec [1.81 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 1.692 arcsec [1.31 σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

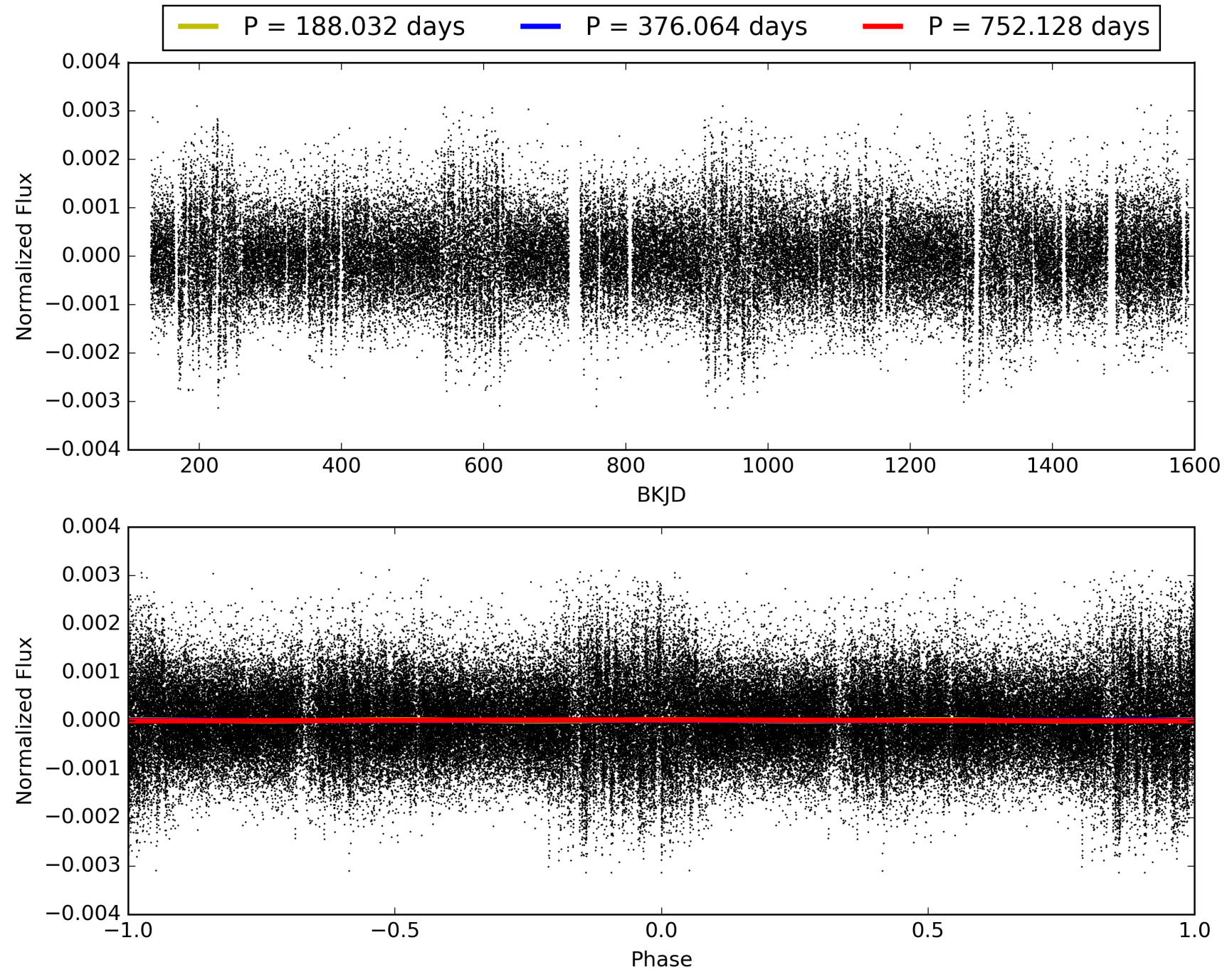
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:36:50 Z

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

TCE 008740498-01, PDC Light Curves

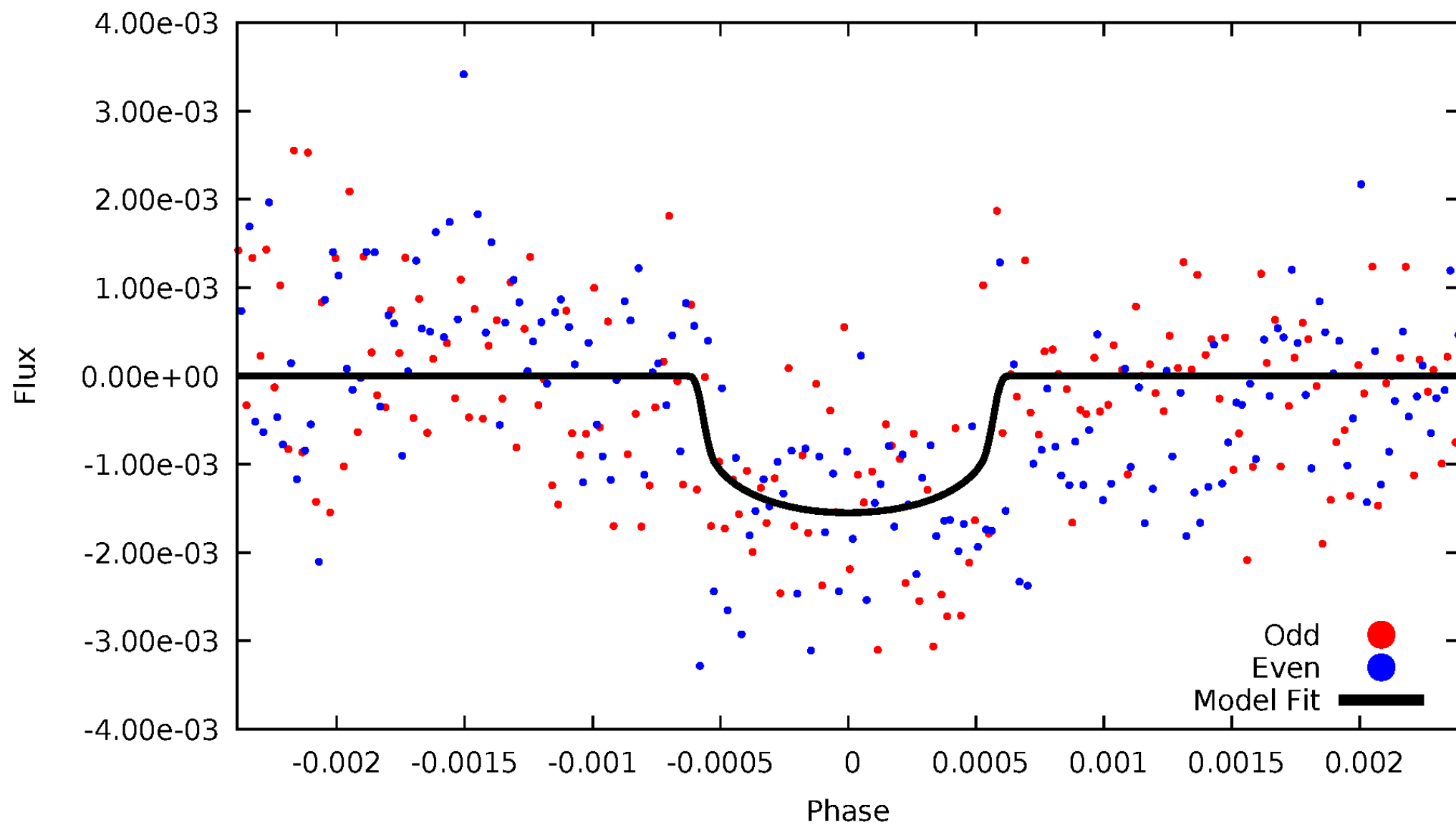


TCE 008740498-01



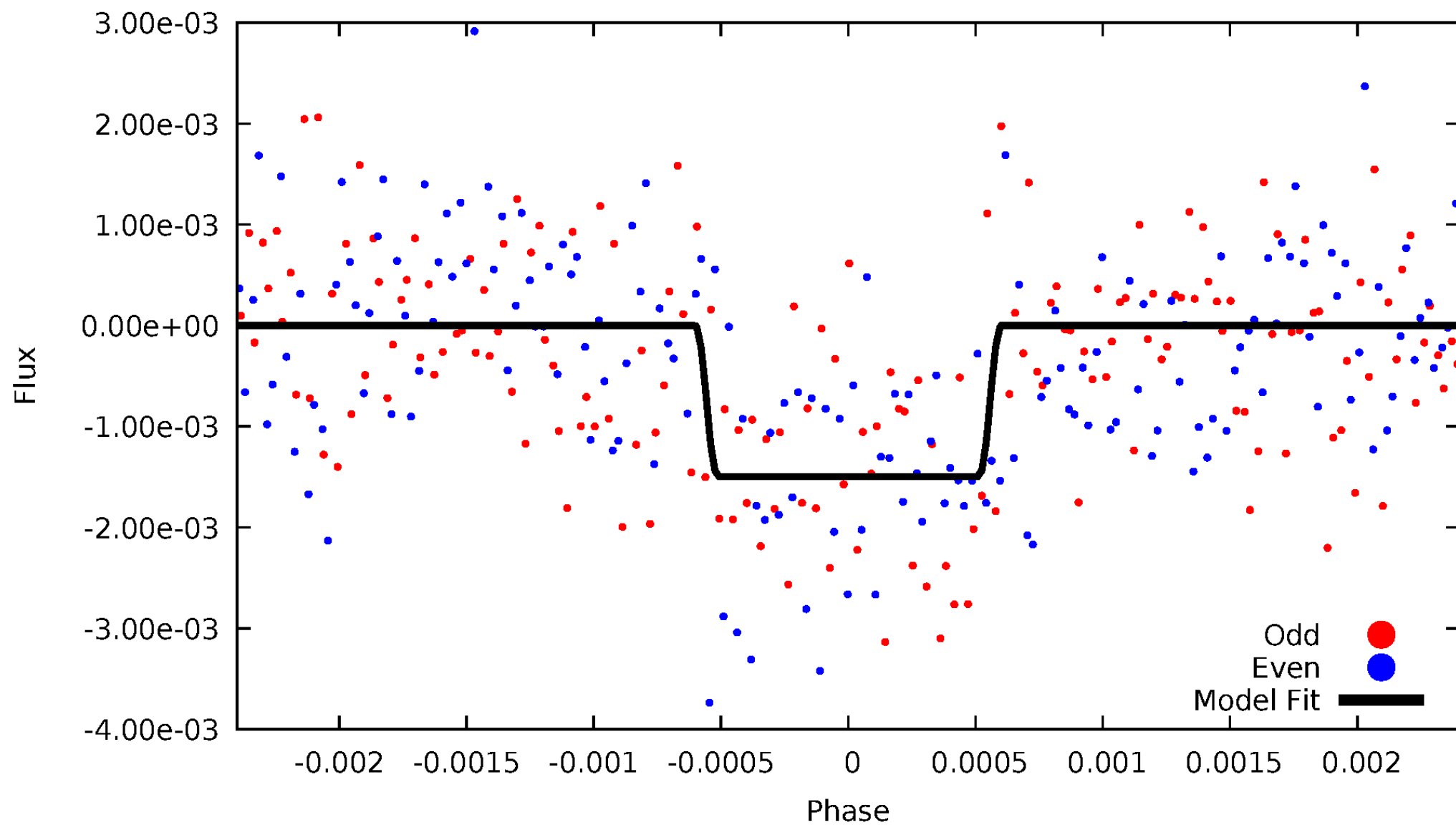
DV Odd/Even

TCE 008740498-01



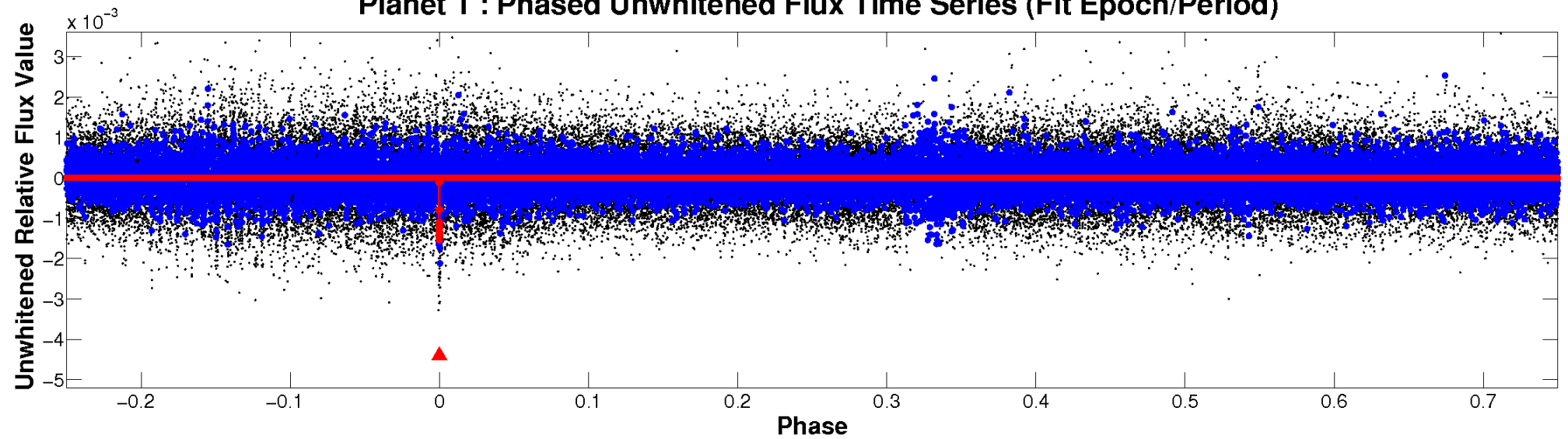
ALT Odd/Even

TCE 008740498-01

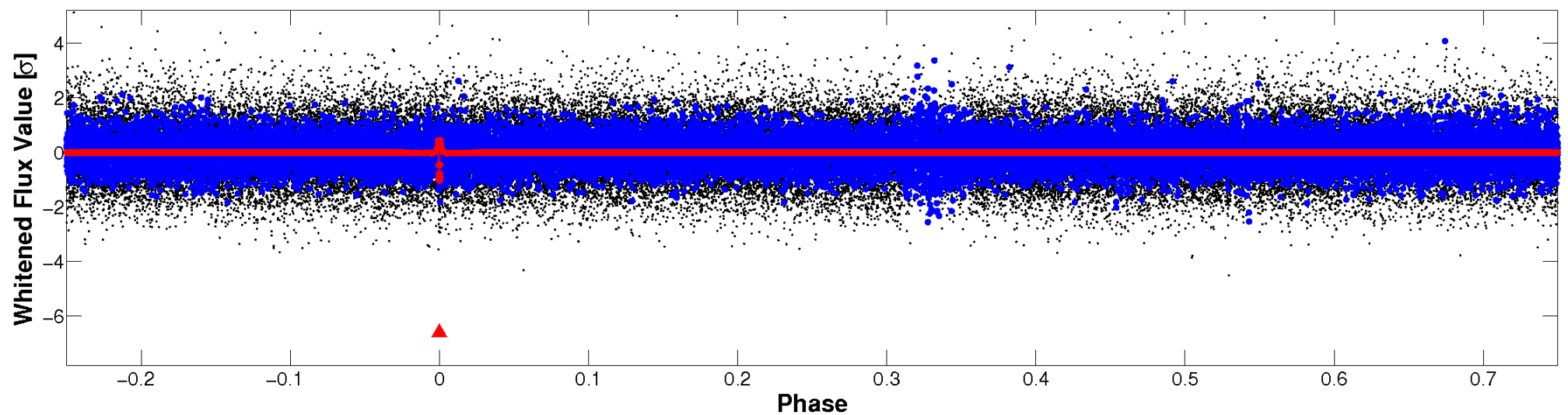


Non-Whitened Vs. Whitened Light Curve

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

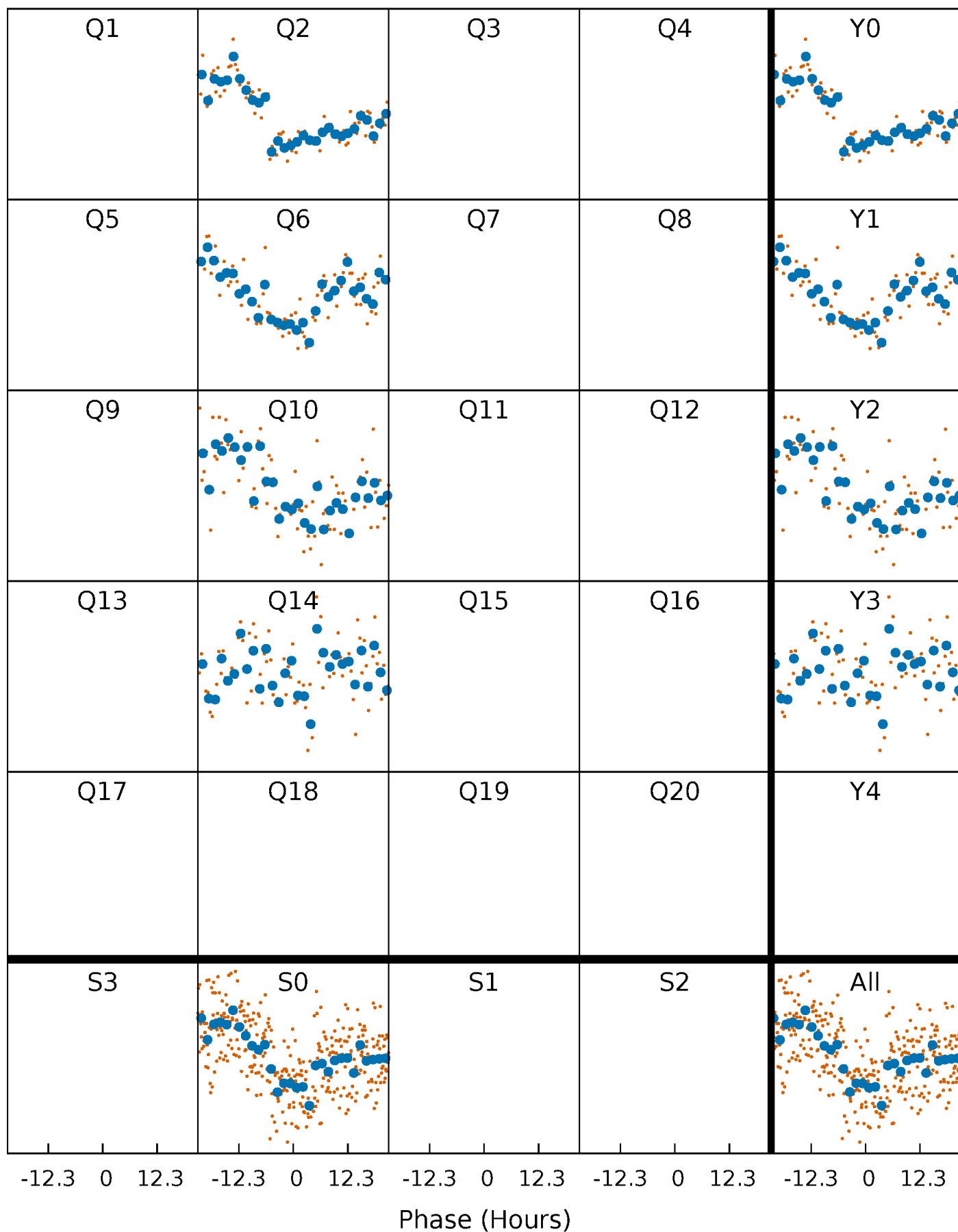


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



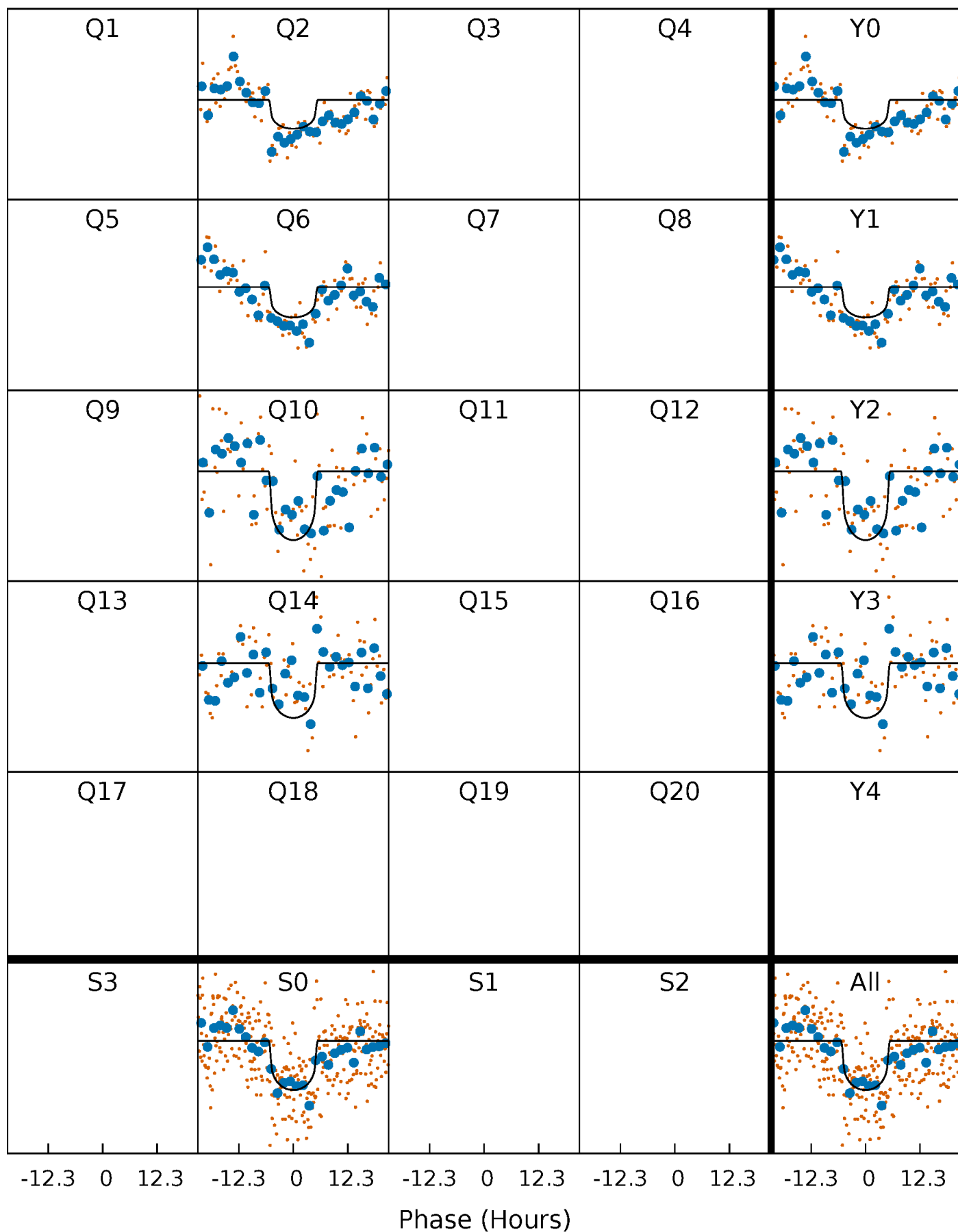
PDC Quarter-Phased Transit Curves

TCE 008740498-01 $P=376.064082$ Days $T_0=226.380635$ (BKJD)



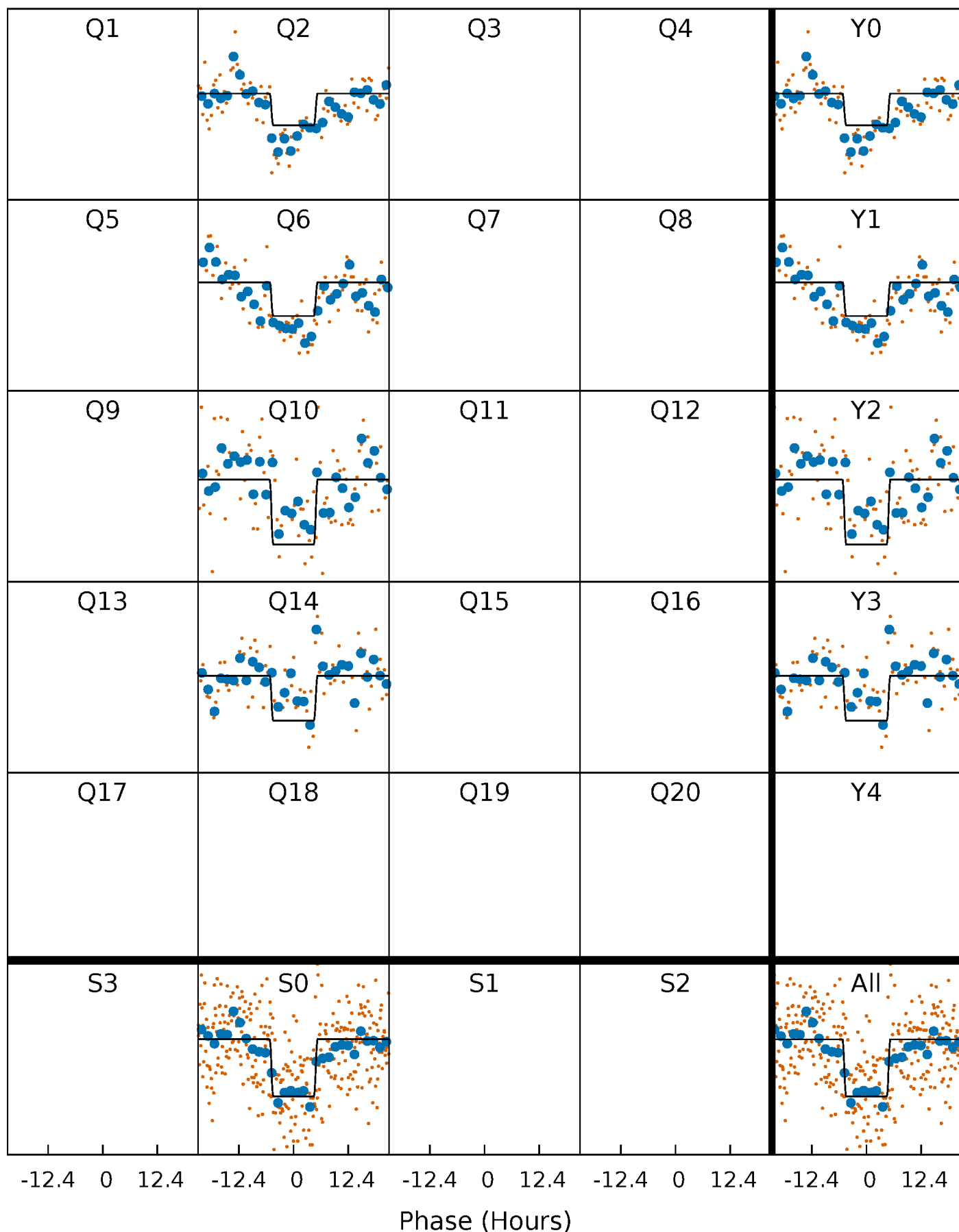
DV Quarter-Phased Transit Curves

TCE 008740498-01 P=376.064082 Days $T_0=226.380635$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

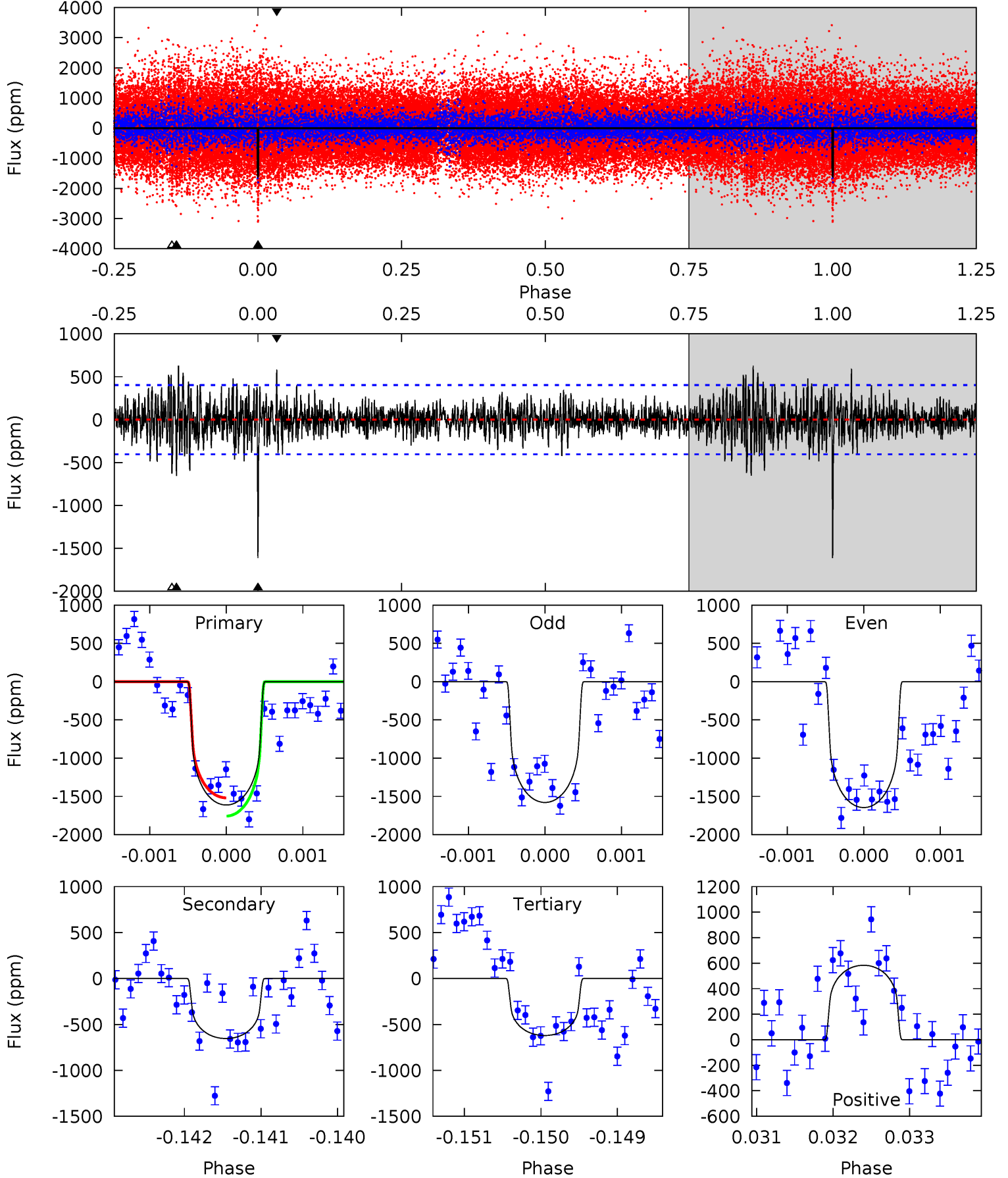
TCE 008740498-01 P=376.066049 Days $T_0=226.367529$ (BKJD)



DV Model-Shift Uniqueness Test

008740498-01, $P = 376.064082$ Days, $E = 226.380635$ Days

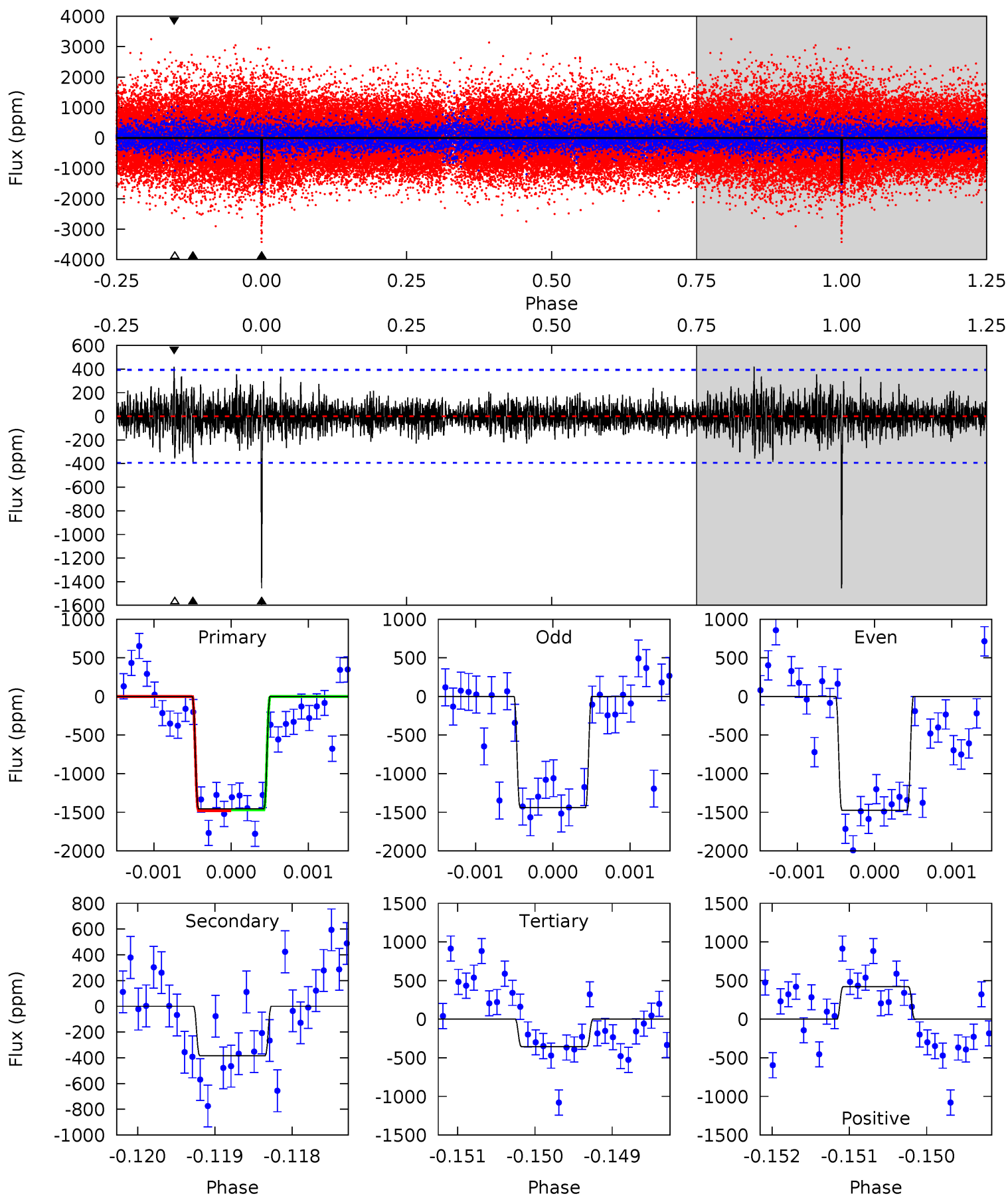
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	8.79	8.35	7.85	5.41	3.23	1.87	13.3	13.8	0.44	0.94	0.45	0.98	0.28	1.58



Alt Model-Shift Uniqueness Test

008740498-01, P = 376.066049 Days, E = 226.367529 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	5.28	4.90	5.78	5.42	3.24	1.16	15.2	14.3	0.38	-0.50	0.24	1.00	0.22	0.09



Stellar Parameters For KIC 008740498

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5129^{+75}_{-151}	$2.985^{+0.033}_{-0.027}$	$-0.360^{+0.150}_{-0.300}$	$7.171^{+0.330}_{-1.649}$	$1.811^{+0.137}_{-0.732}$	$0.007^{+0.003}_{-0.001}$
	+1%/-3%	+1%/-1%	+42%/-83%	+5%/-23%	+8%/-40%	+37%/-8%
Source	PHO1	AST71	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 008740498-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-654 ± 74	$28.67^{+13.80}_{-13.33}$	757^{+17}_{-24}	4390^{+1368}_{-558}	659^{+1739}_{-349}
Alt.	-384 ± 73	$29.64^{+15.14}_{-13.62}$	759^{+16}_{-26}	3930^{+1058}_{-494}	363^{+899}_{-198}

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 $A_{obs} \gg 1.0$

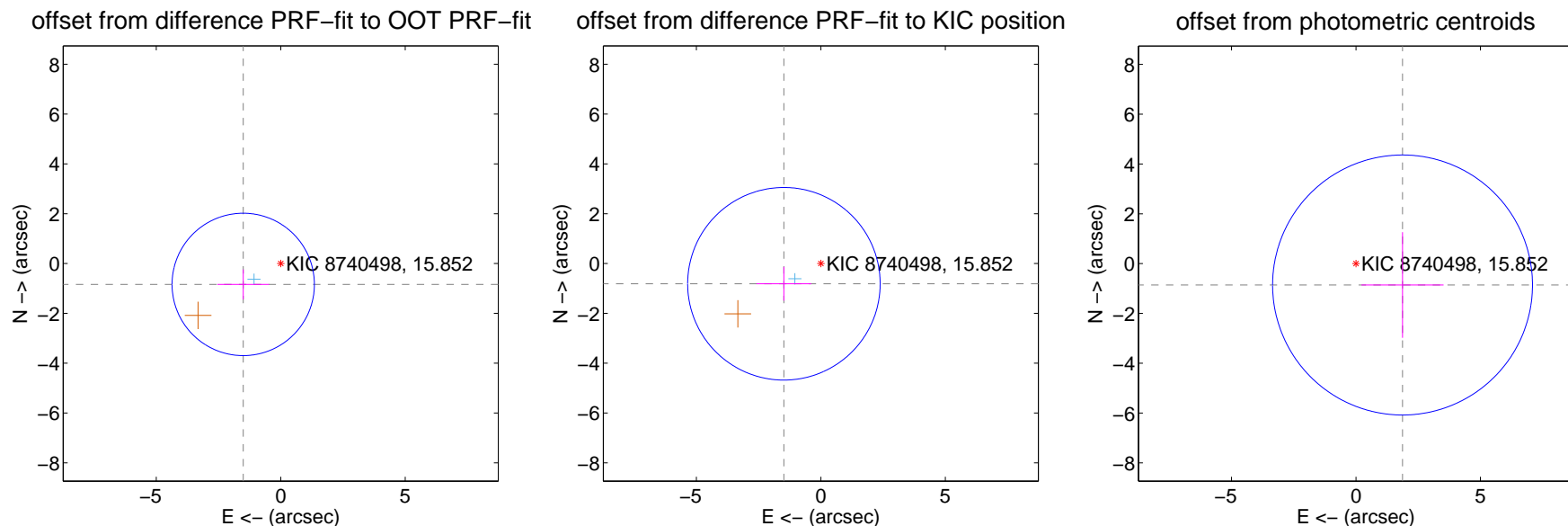
DV Centroid Data

Supplemental centroid analysis for 008740498-01. Kepler magnitude: 15.85. Transit SNR 8.80

There are 1 quarters with good PRF difference image offsets

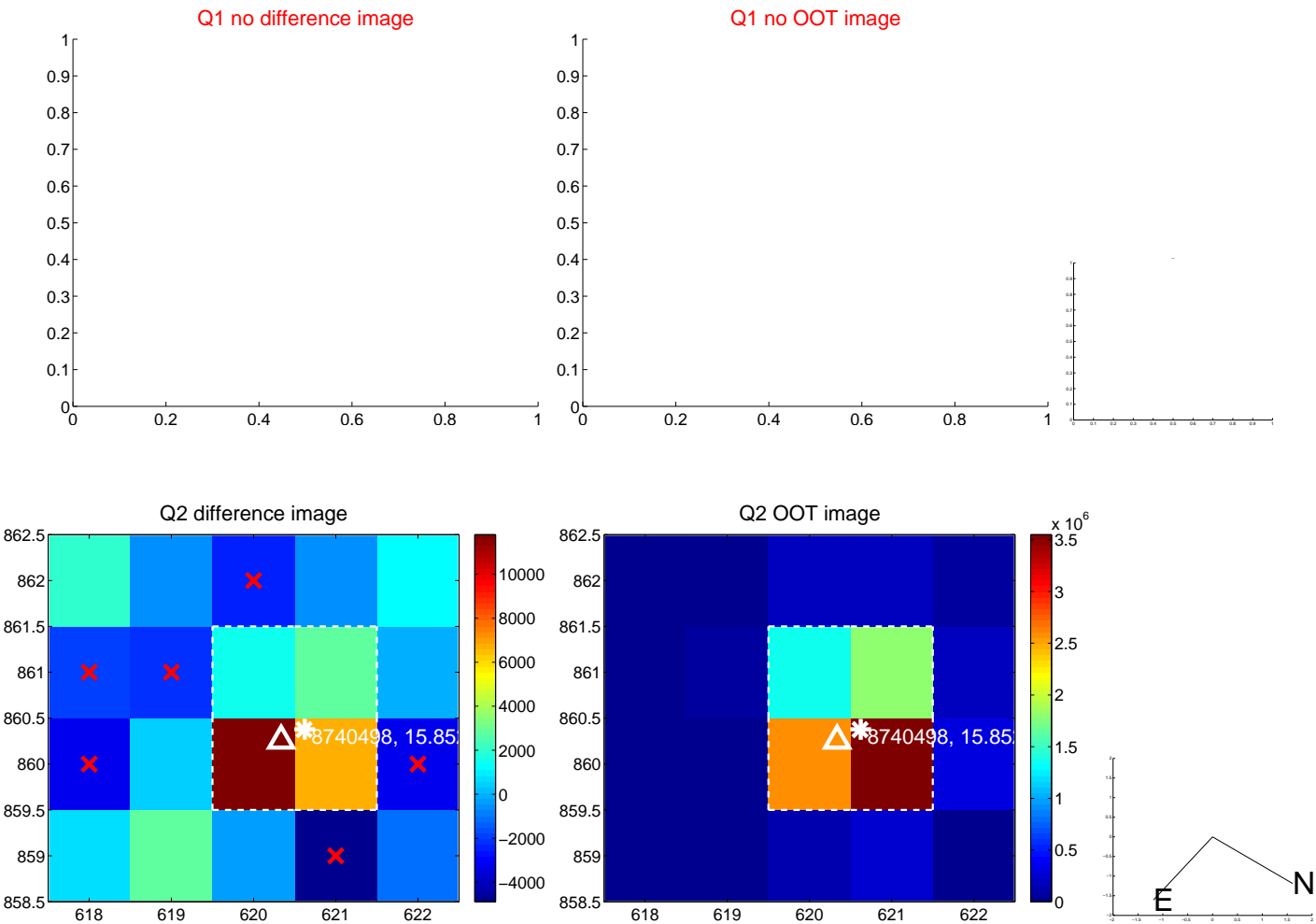
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.725 ± 0.953	1.81	1.507 ± 1.038	-0.838 ± 0.598
PRF-fit source offset from KIC position	1.692 ± 1.289	1.31	1.484 ± 1.100	-0.812 ± 0.678
photometric centroid source offset	2.06 ± 1.74	1.18	-1.87 ± 1.65	-0.86 ± 2.12

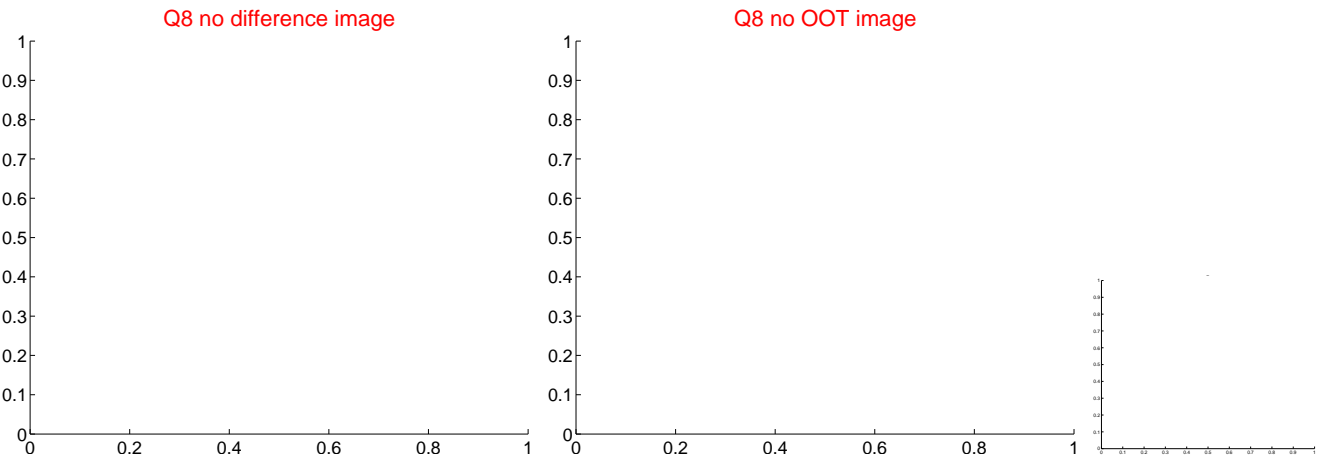
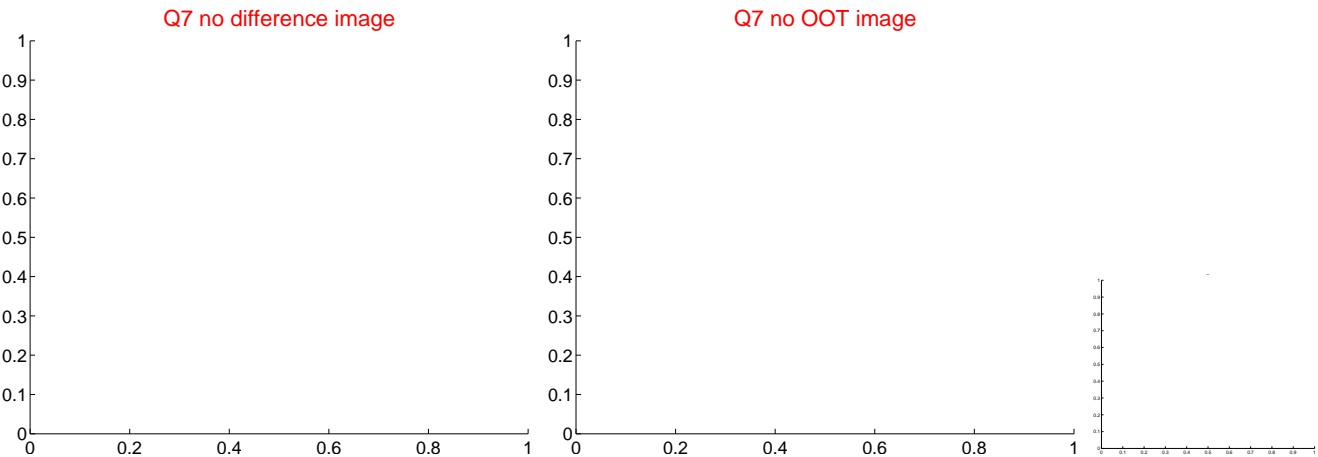
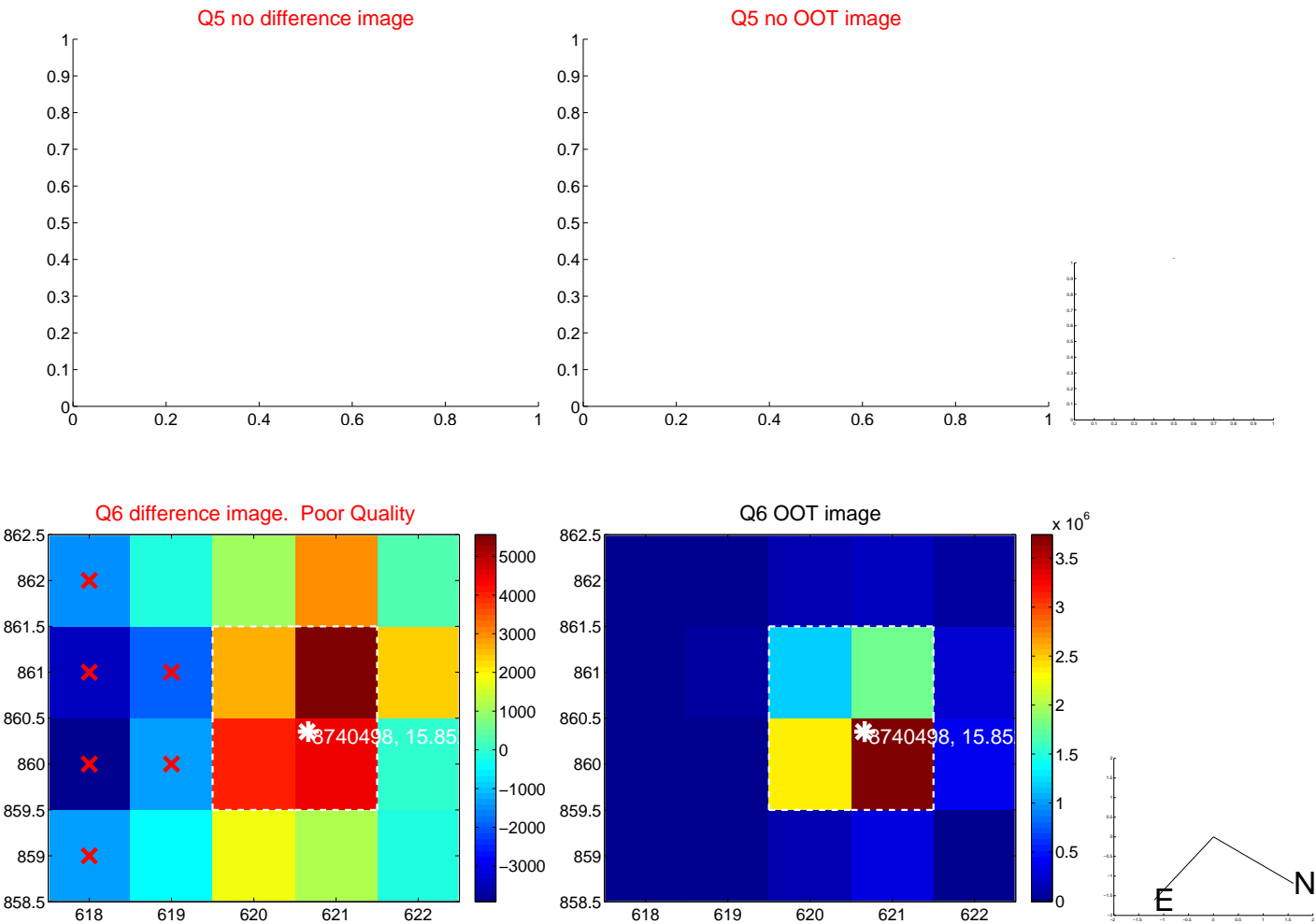


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

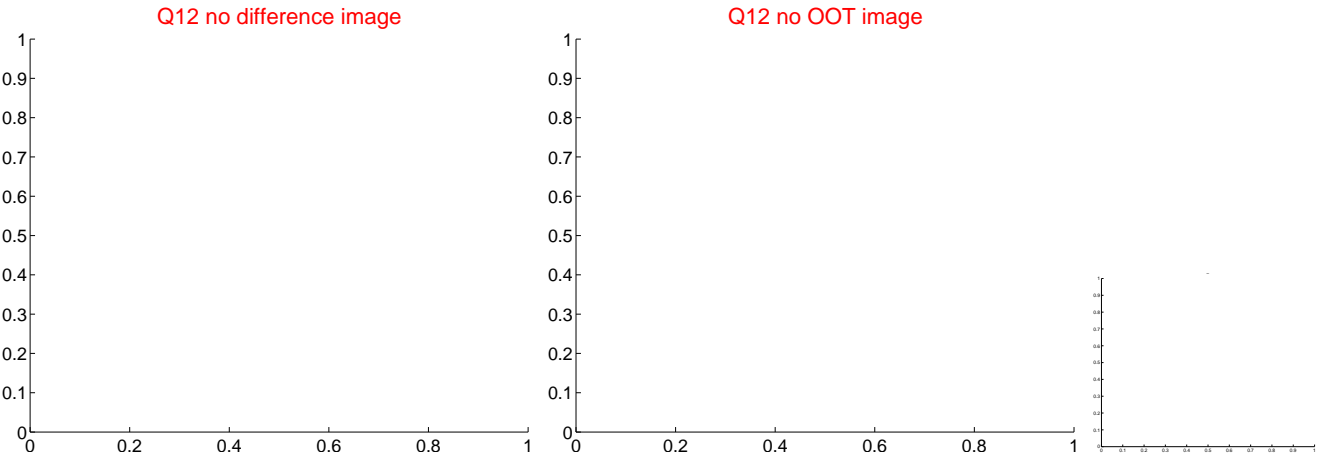
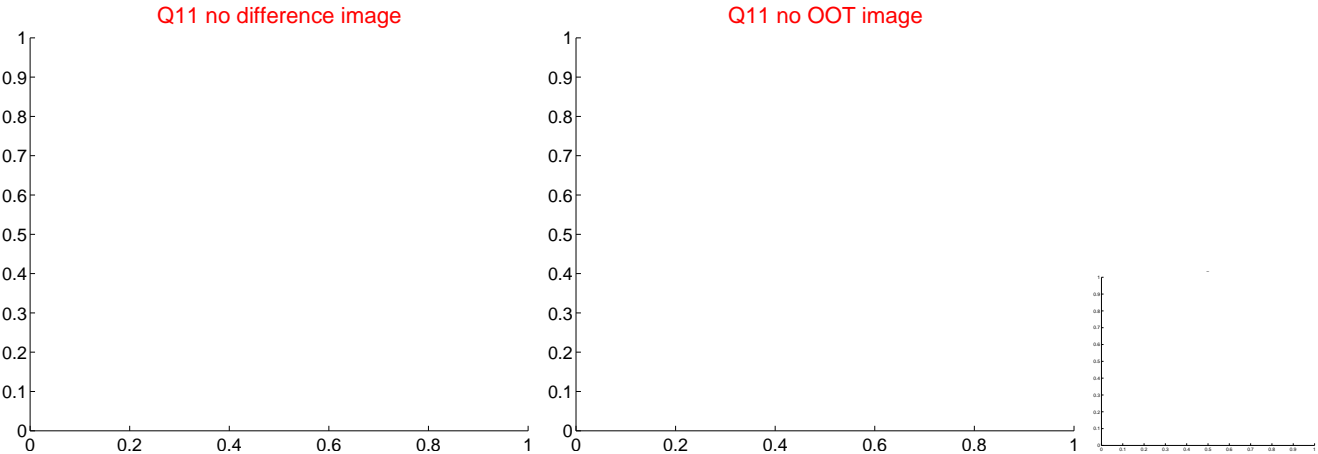
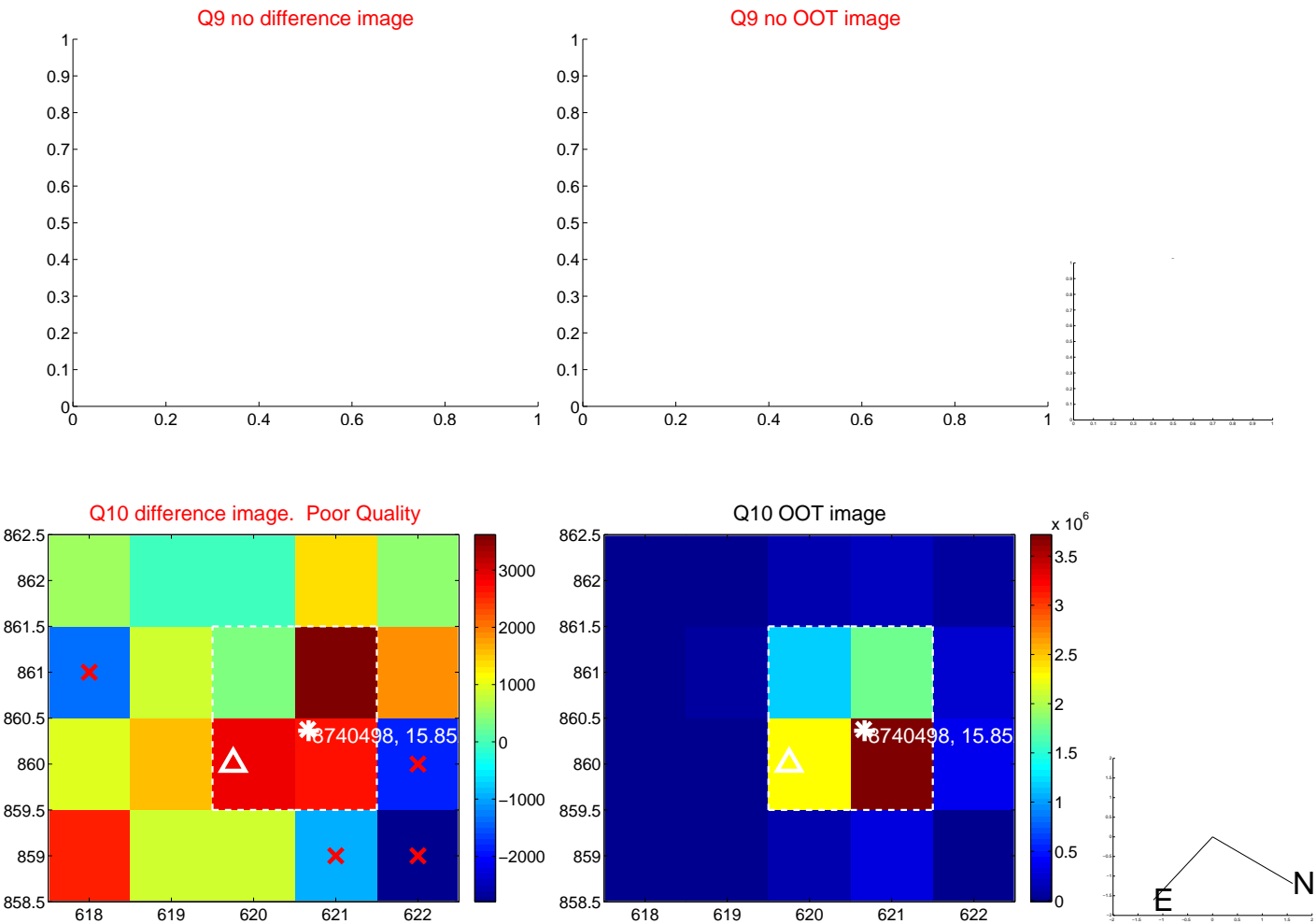
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



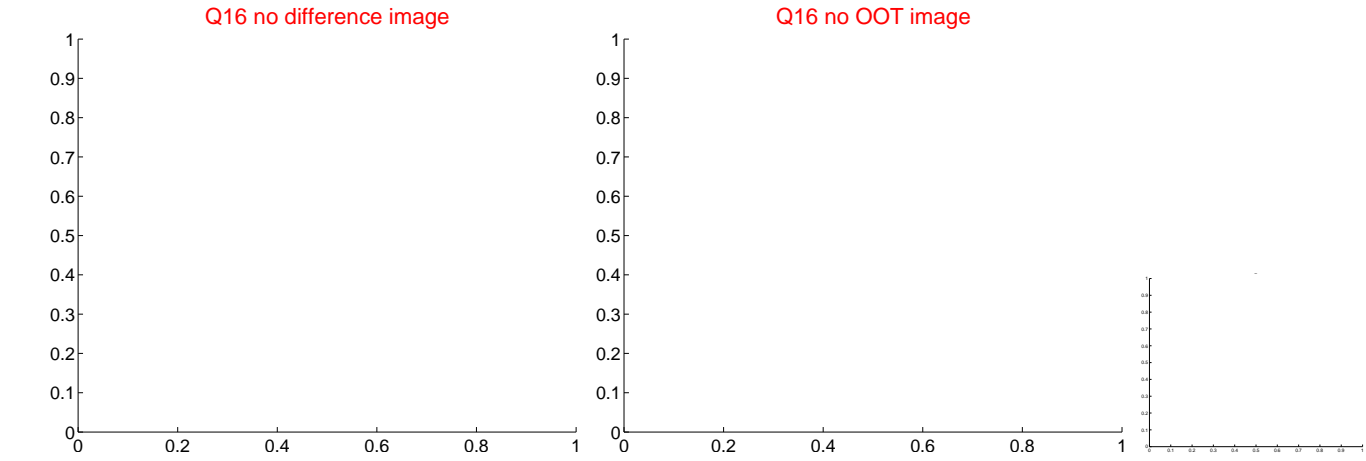
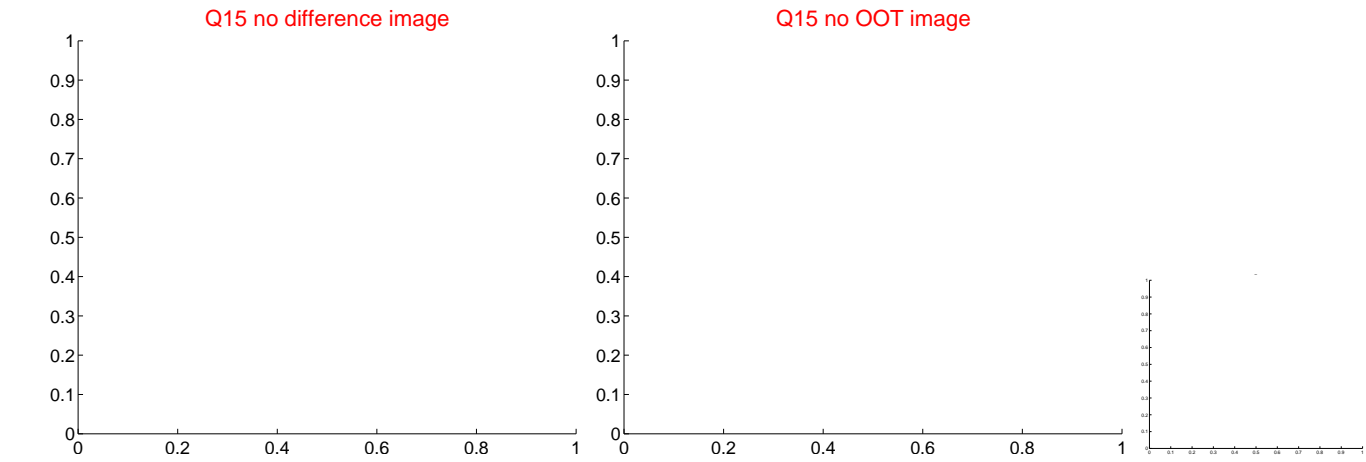
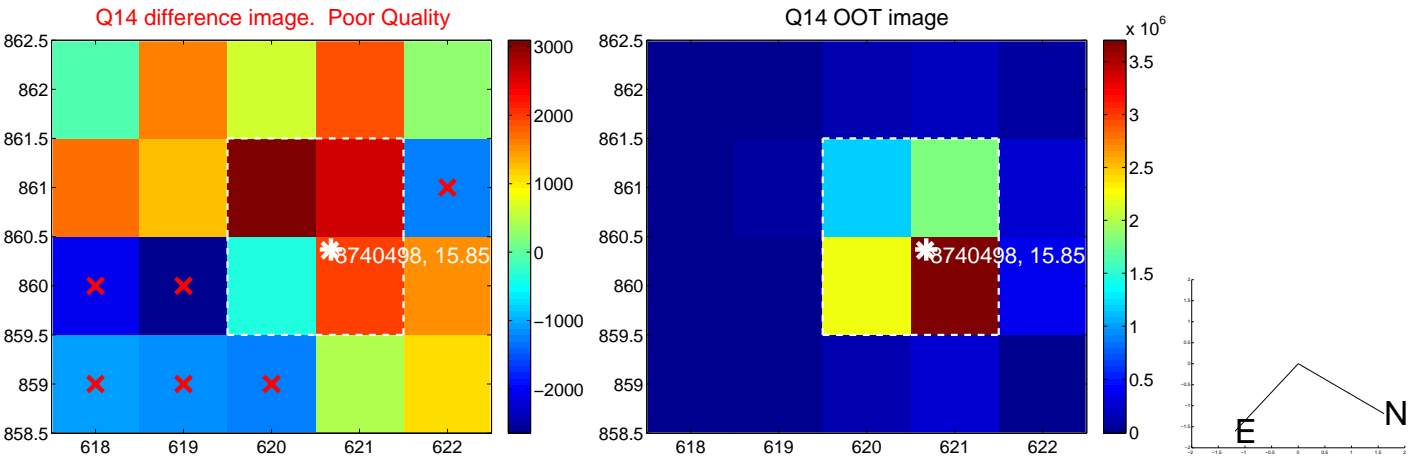
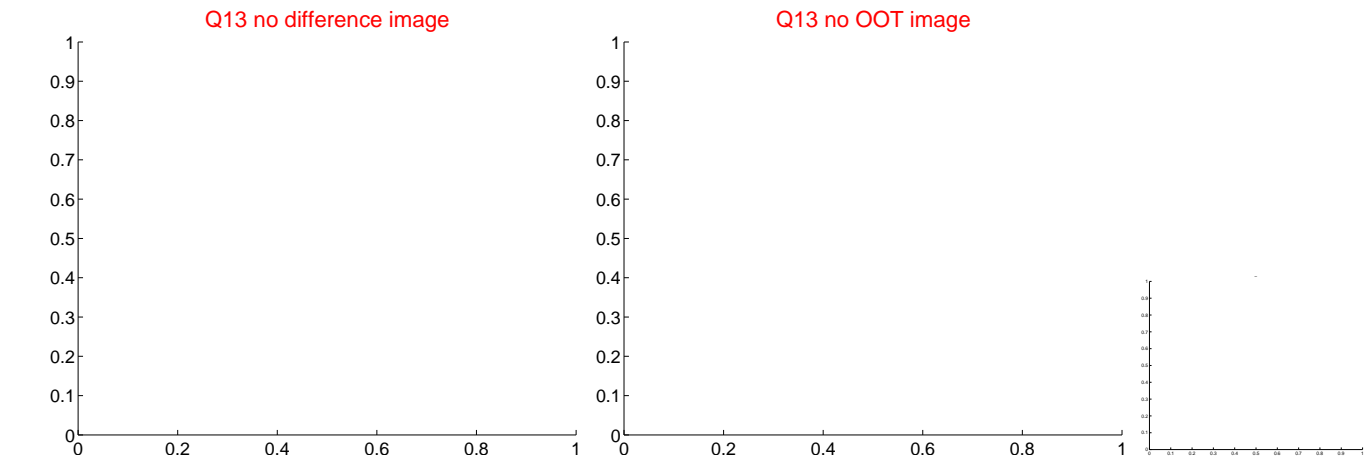
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



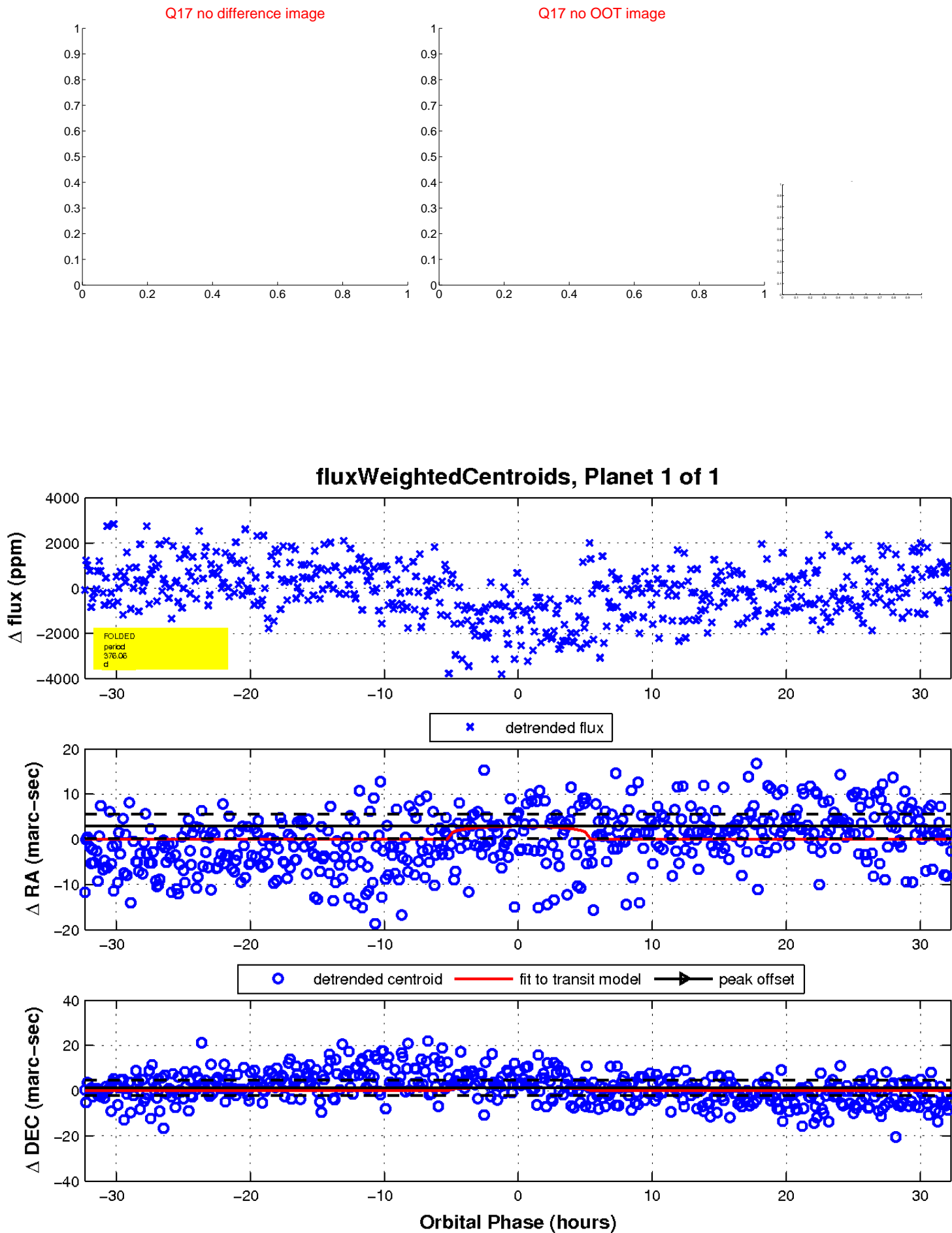
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UKIRT Image

Declination

