

KIC 008240296

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})
008240296-02	OBS	No	370.526511	234.410429	1233.6	15.113	8.4	8.8	0.78	5196	2.71	0.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008240296-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—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.

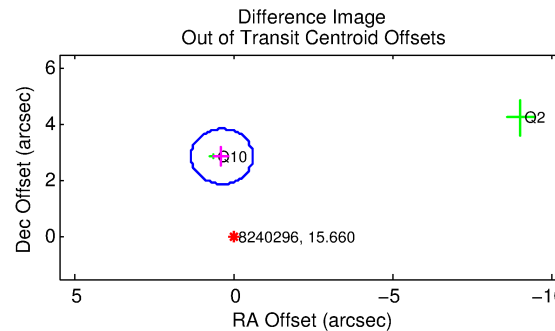
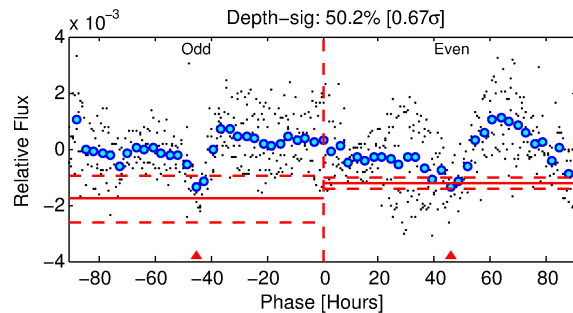
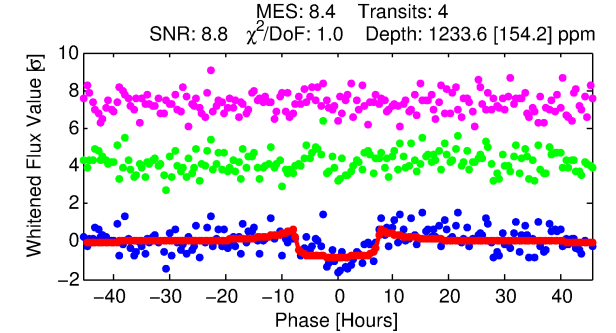
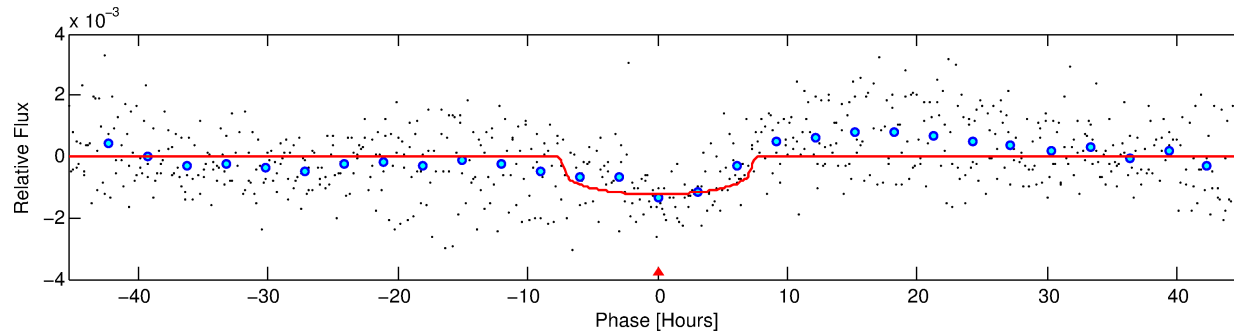
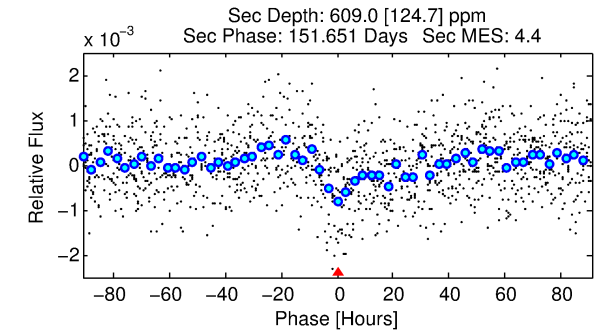
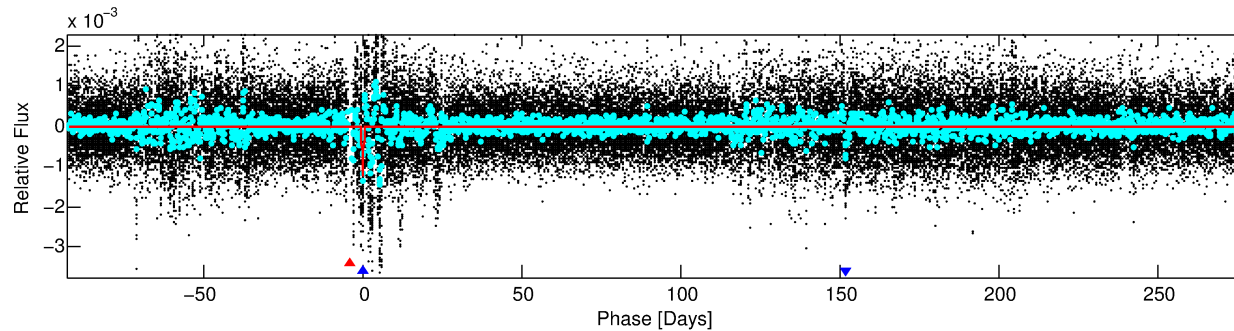
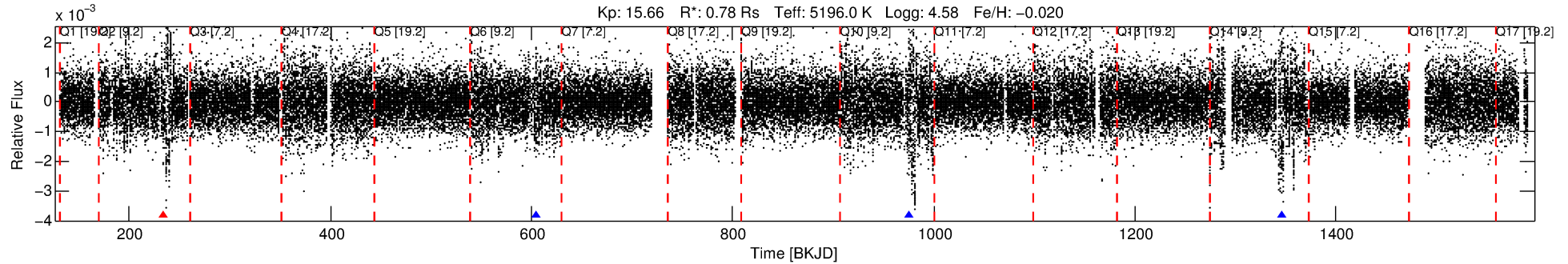
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008240296-02

No Significant Match Found

DV One-Page Summary

KIC: 8240296 Candidate: 2 of 2 Period: 370.527 d



DV Fit Results:

Period = 370.52651 [0.00805] d
Epoch = 234.4104 [0.0145] BKJD
Rp/R* = 0.0319 [0.0166]
a/R* = 181.38 [336.84]
b = 0.36 [4.60]
Seff = 0.44 [0.09]
Teq = 207 [11] K
Rp = 2.71 [1.46] Re
a = 0.9527 [0.1109] AU
Ag = 41282.88 [44294.78] [0.93σ]
Teffp = 4571 [1219] K [3.58σ]

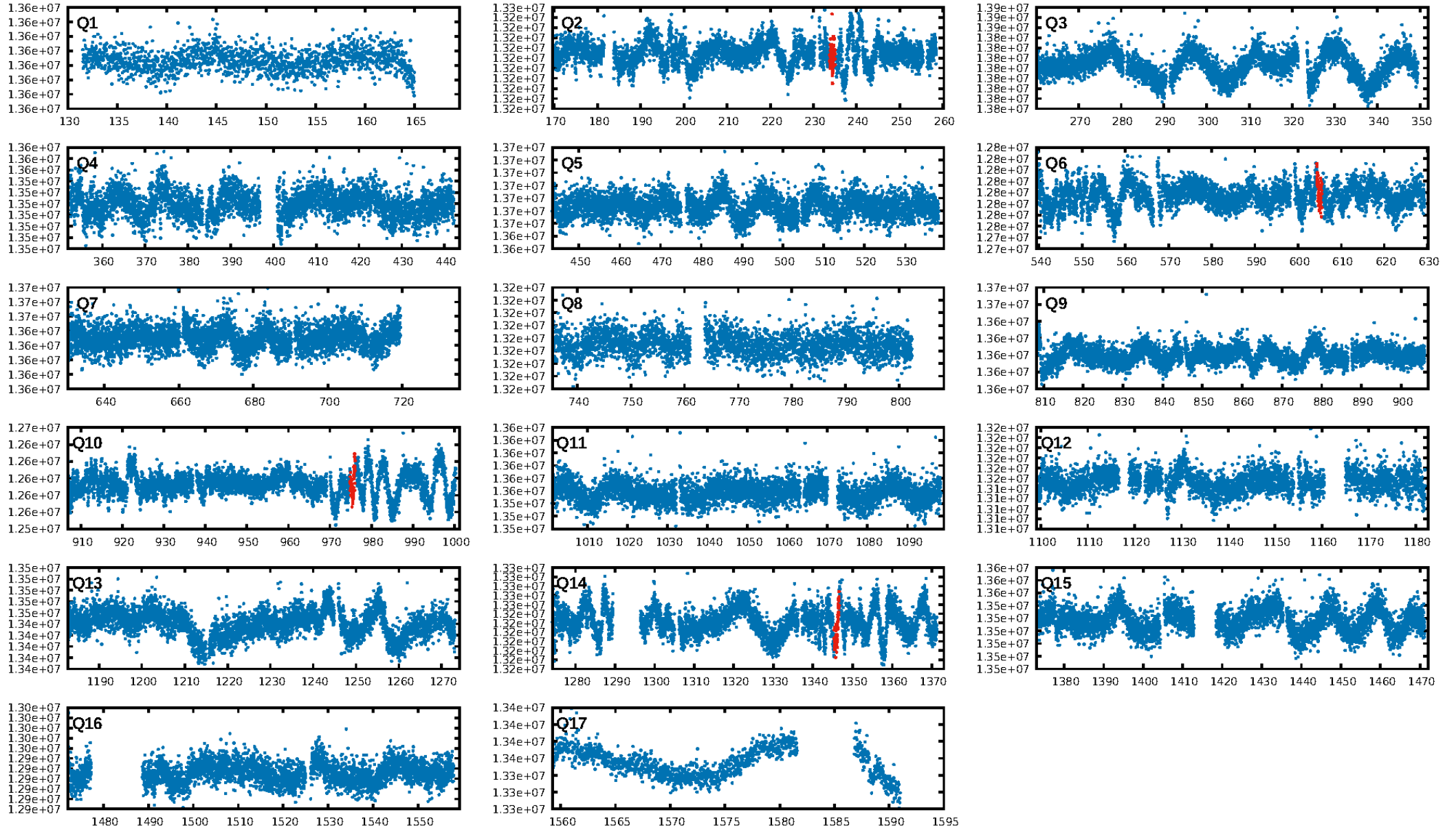
DV Diagnostic Results:

ShortPeriod-sig: 13.6% [0.17σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.18e-08
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 1.668
Centroid-sig: 0.0%
Centroid-so: 7.800 arcsec [3.28σ]
OotOffset-rm: 2.886 arcsec [8.83σ]
KicOffset-rm: 2.610 arcsec [6.75σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

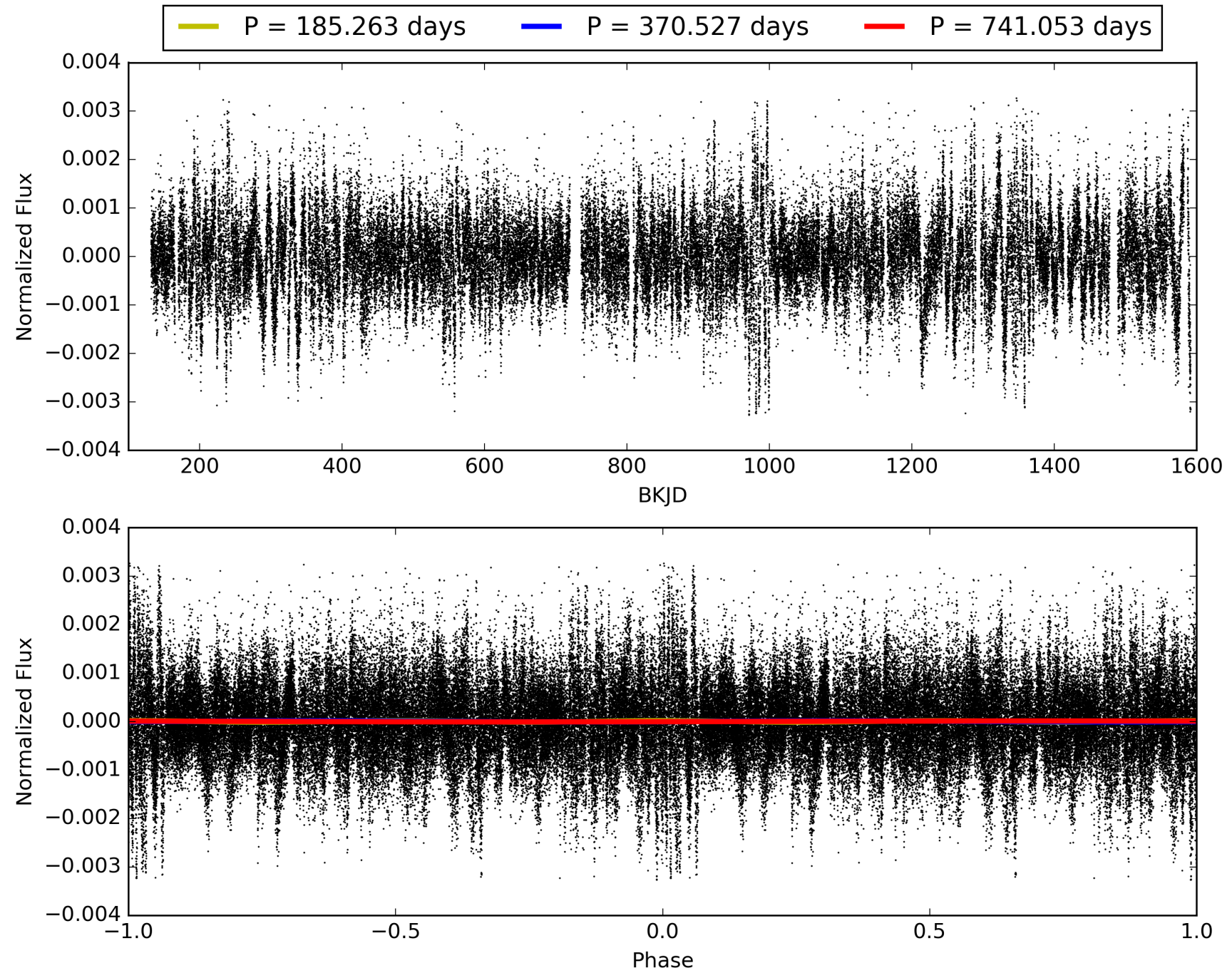
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:25:17 Z

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

TCE 008240296-02, PDC Light Curves

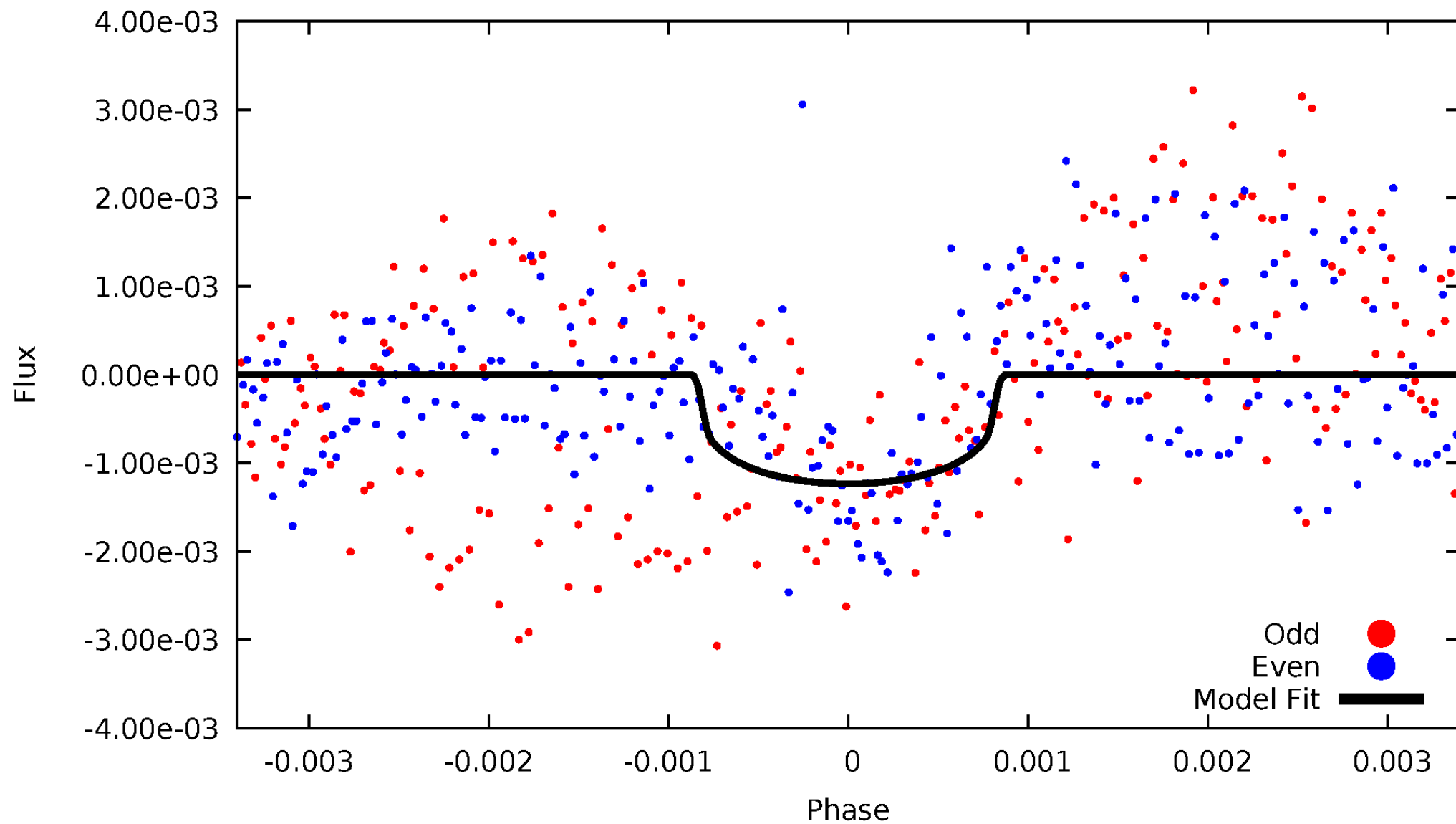


TCE 008240296-02



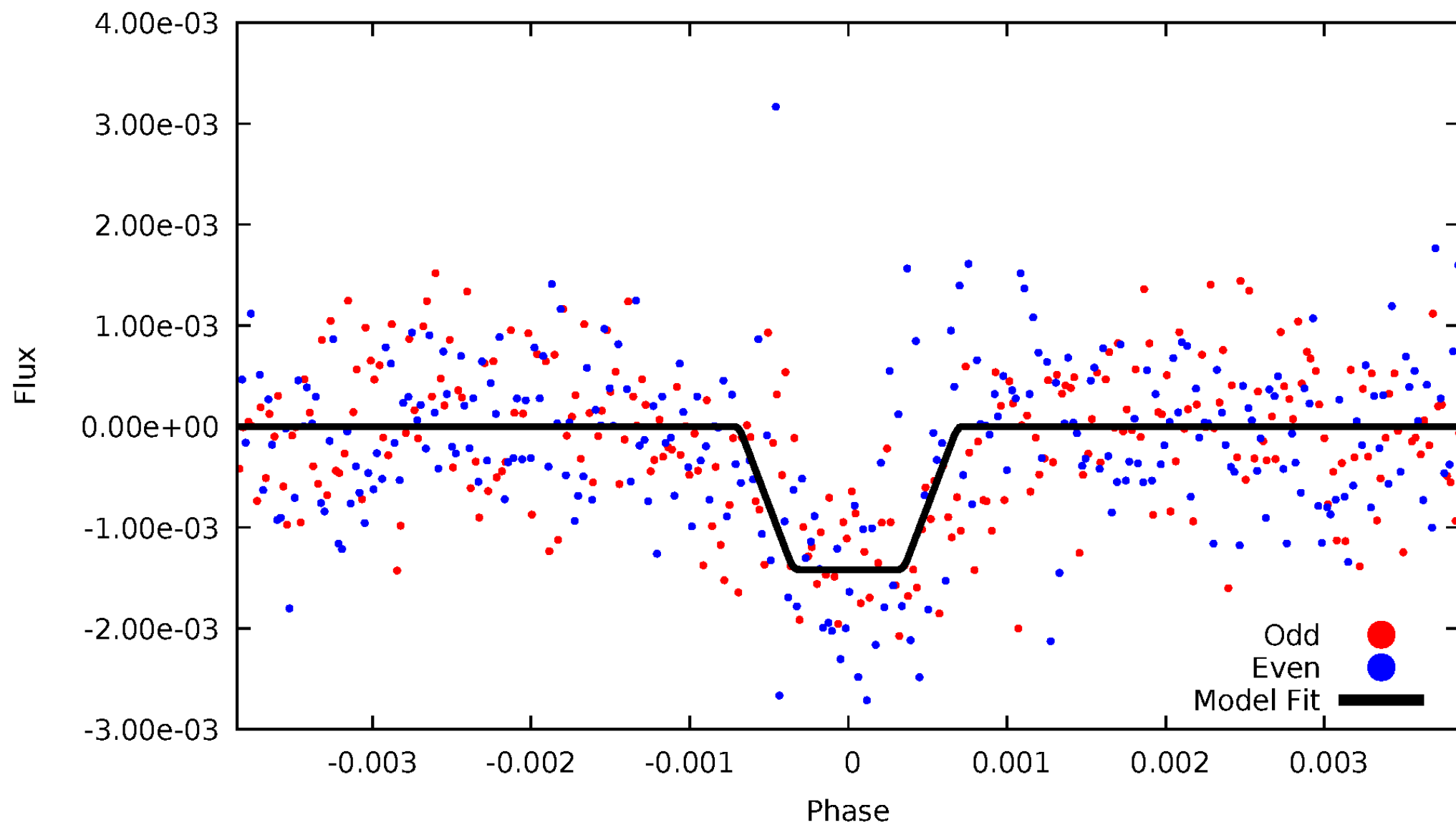
DV Odd/Even

TCE 008240296-02



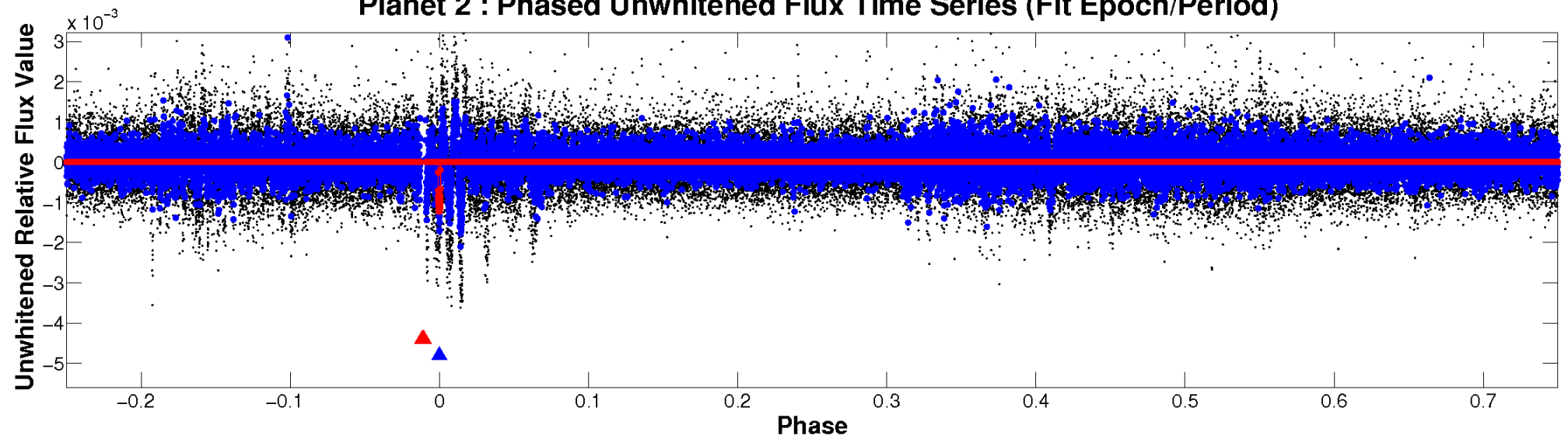
ALT Odd/Even

TCE 008240296-02

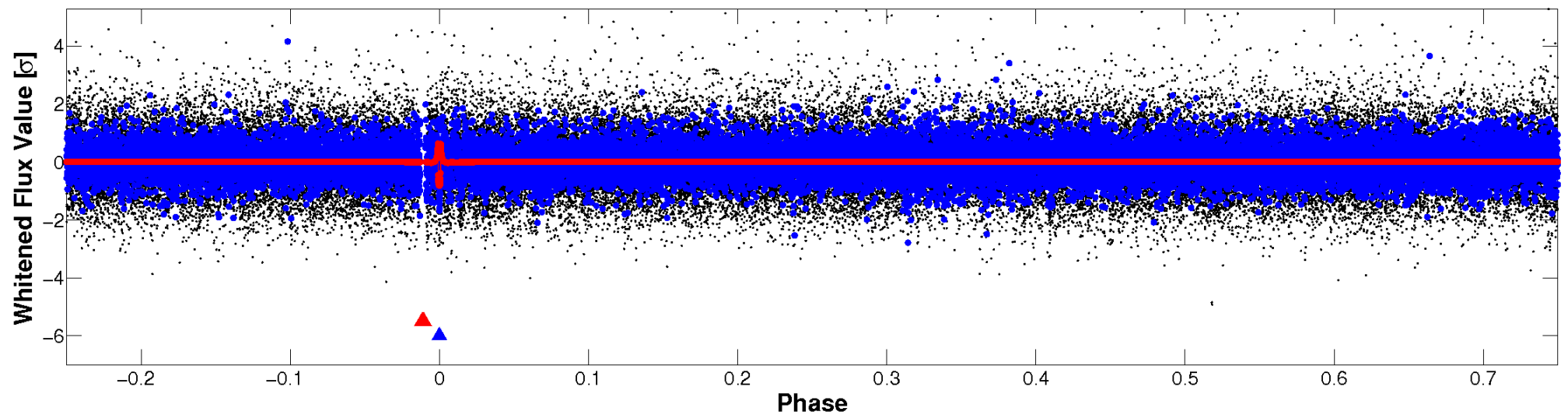


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

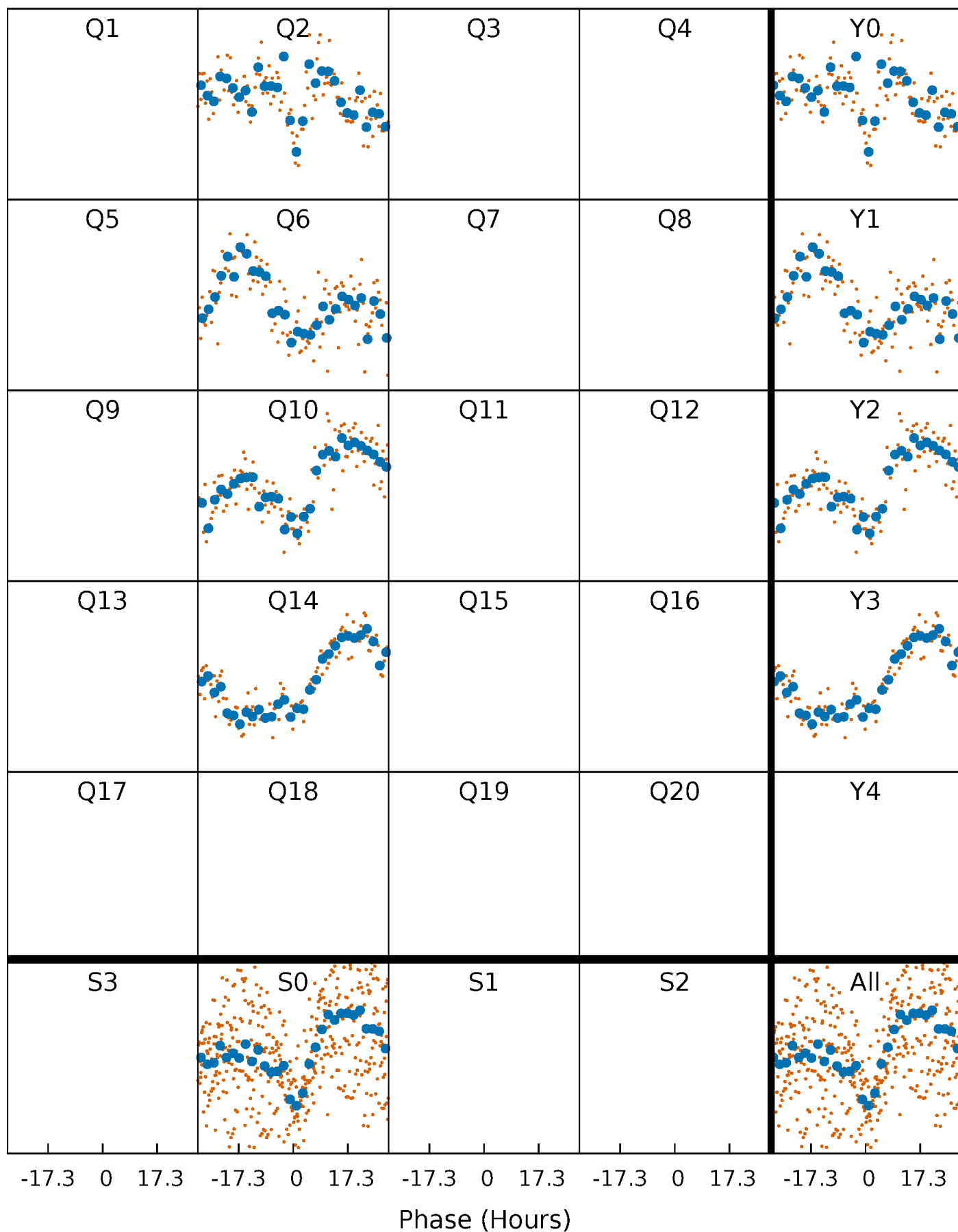


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



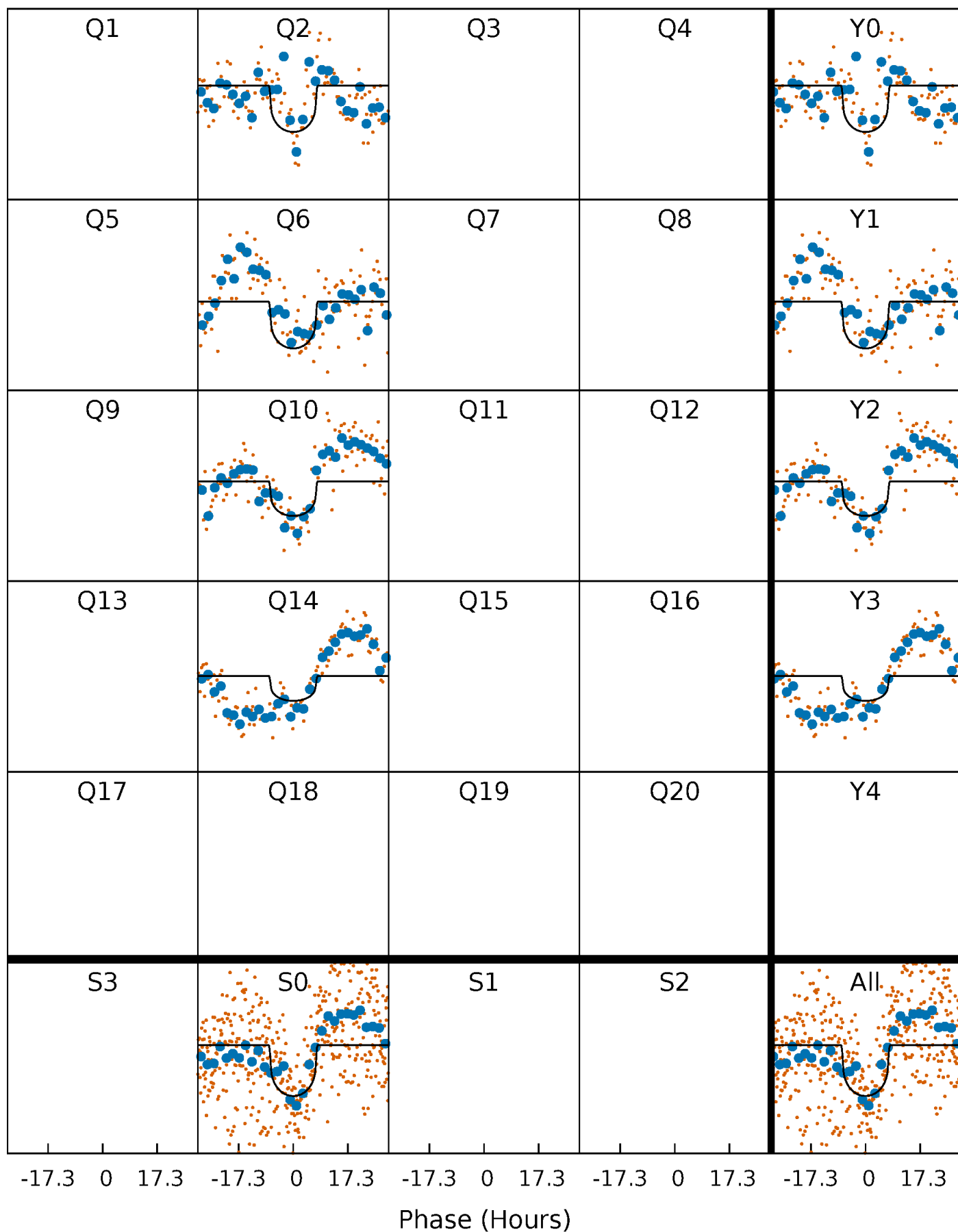
PDC Quarter-Phased Transit Curves

TCE 008240296-02 $P=370.526511$ Days $T_0=234.410429$ (BKJD)



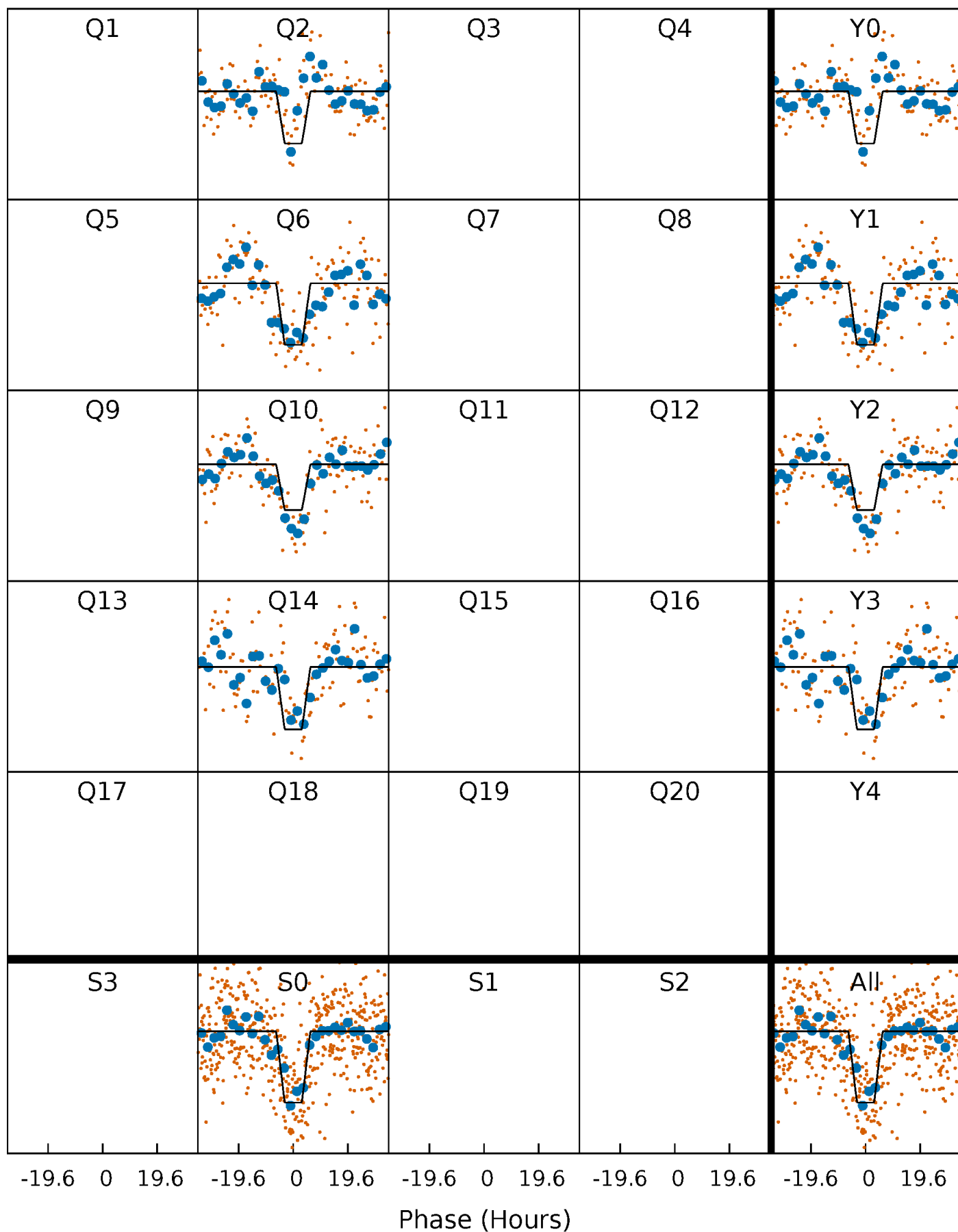
DV Quarter-Phased Transit Curves

TCE 008240296-02 P=370.526511 Days $T_0=234.410429$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

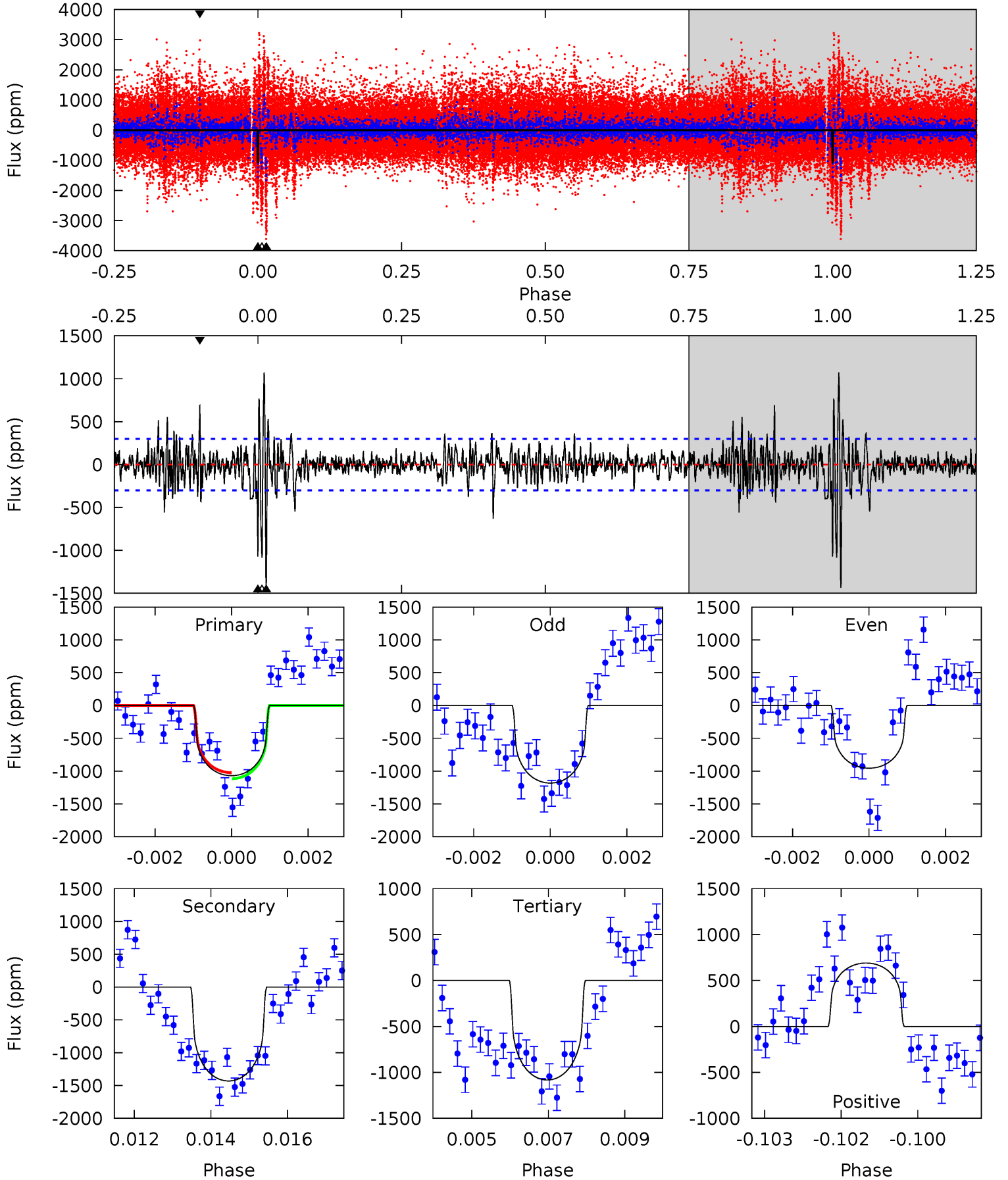
TCE 008240296-02 $P=370.508121$ Days $T_0=234.484933$ (BKJD)



DV Model-Shift Uniqueness Test

008240296-02, P = 370.526511 Days, E = 234.410429 Days

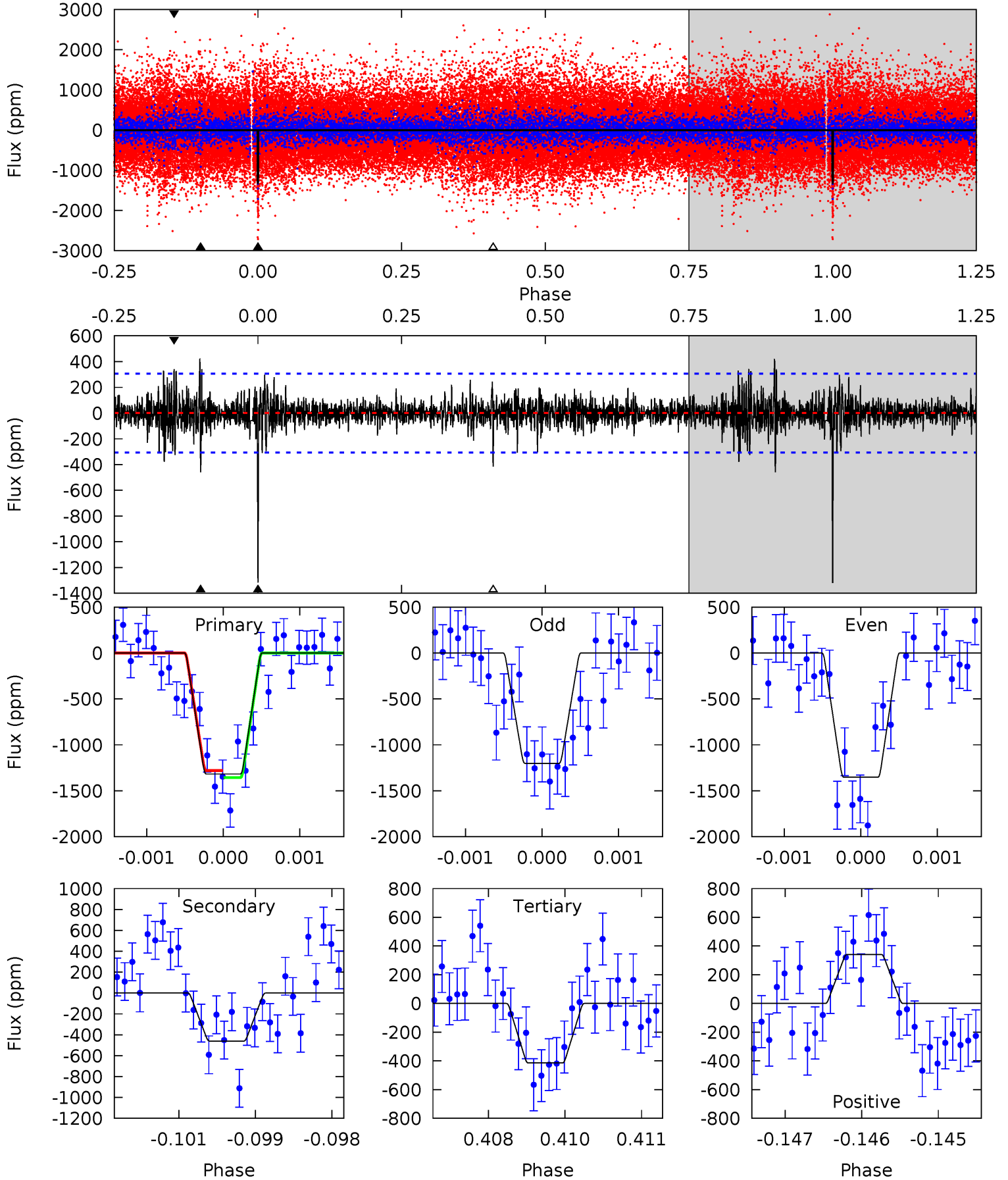
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	25.6	19.4	12.3	5.35	3.13	2.61	-0.23	6.79	6.22	13.2	2.03	1.00	0.43	0.83



Alt Model-Shift Uniqueness Test

008240296-02, P = 370.508121 Days, E = 234.484933 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	8.11	7.30	6.01	5.39	3.19	1.34	15.9	17.2	0.80	2.10	1.34	1.03	0.24	0.66



Stellar Parameters For KIC 008240296

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5196^{+155}_{-155}	$4.578^{+0.032}_{-0.091}$	$-0.020^{+0.300}_{-0.300}$	$0.780^{+0.109}_{-0.067}$	$0.840^{+0.069}_{-0.084}$	$2.493^{+0.461}_{-0.718}$
	+3%/-3%	+1%/-2%	+1500%/-1500%	+14%/-9%	+8%/-10%	+18%/-29%
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 008240296-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1431 ± 56	$2.87^{+1.54}_{-1.39}$	293^{+12}_{-11}	5538^{+2461}_{-905}	$86864^{+245129}_{-49522}$
Alt.	-460 ± 57	$3.25^{+1.43}_{-1.37}$	293^{+12}_{-11}	4135^{+1075}_{-483}	20966^{+48695}_{-10803}

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 $A_{obs} \gg 1.0$

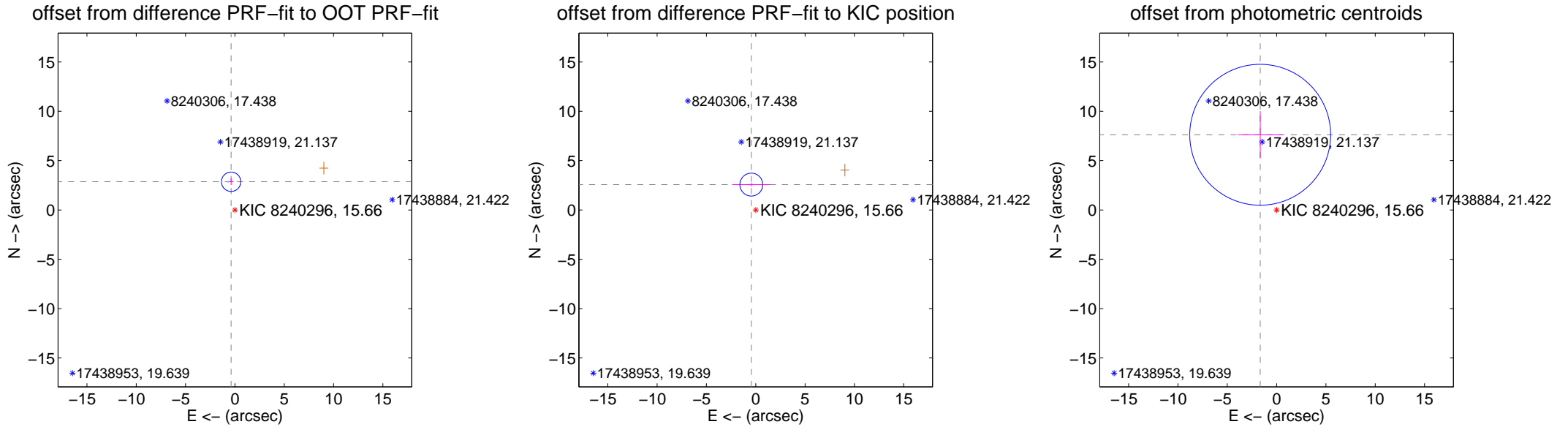
DV Centroid Data

Supplemental centroid analysis for 008240296-02. Kepler magnitude: 15.66. Transit SNR 8.77

There are 1 quarters with good PRF difference image offsets

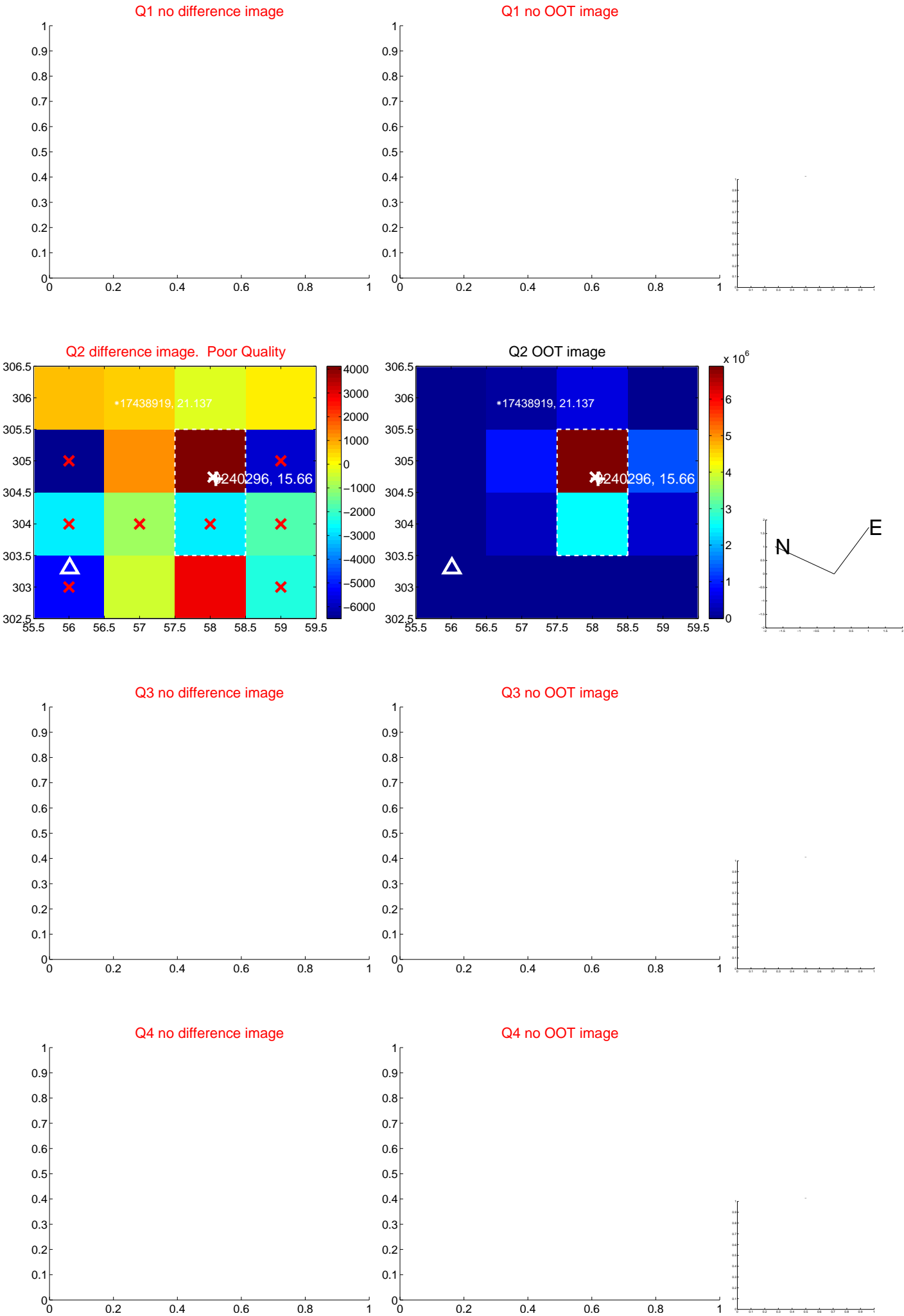
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.886 ± 0.327	8.83	0.385 ± 0.236	2.860 ± 0.328
PRF-fit source offset from KIC position	2.610 ± 0.387	6.75	0.450 ± 1.950	2.571 ± 0.195
photometric centroid source offset	7.80 ± 2.38	3.28	1.66 ± 2.27	7.62 ± 2.39

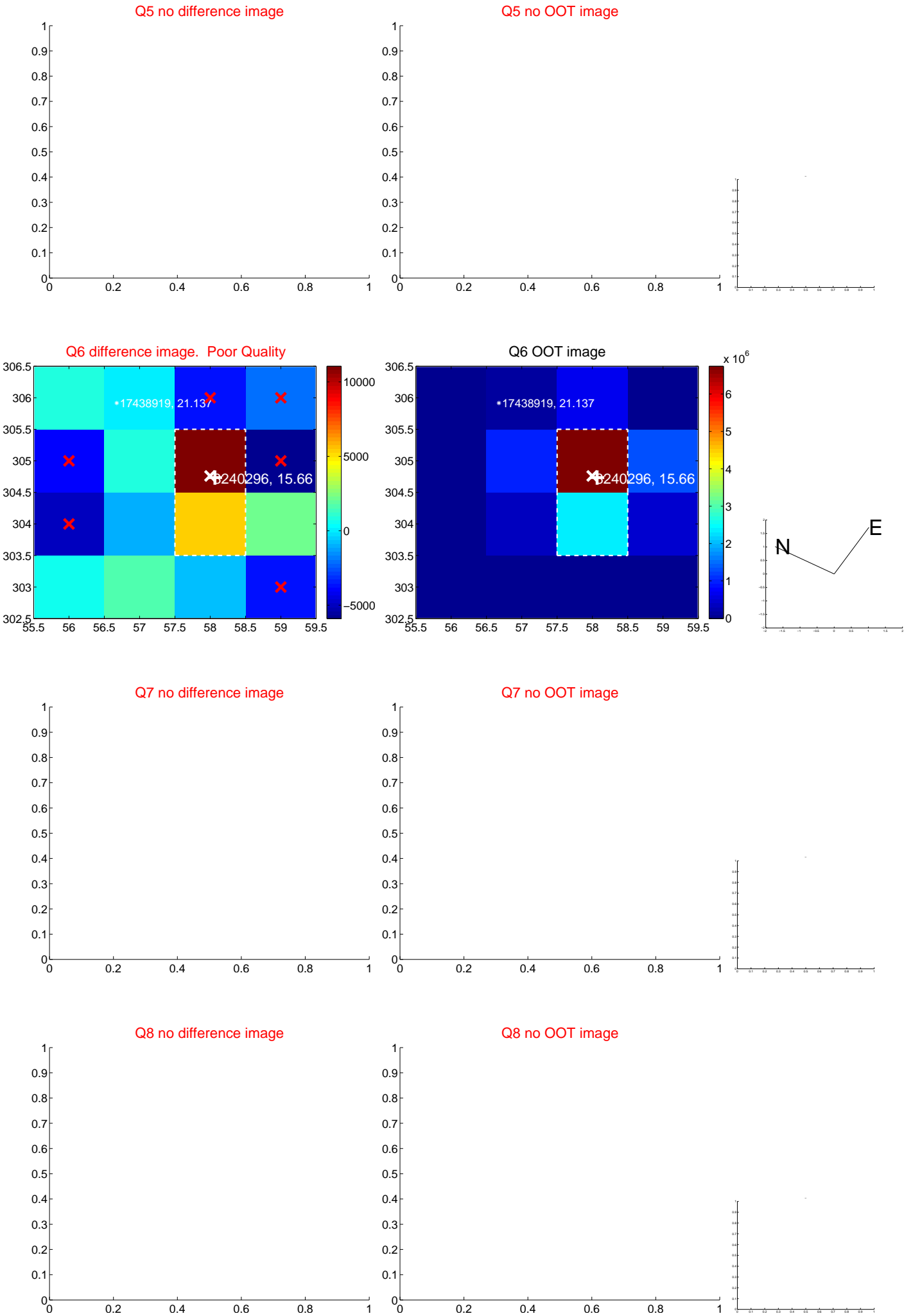


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

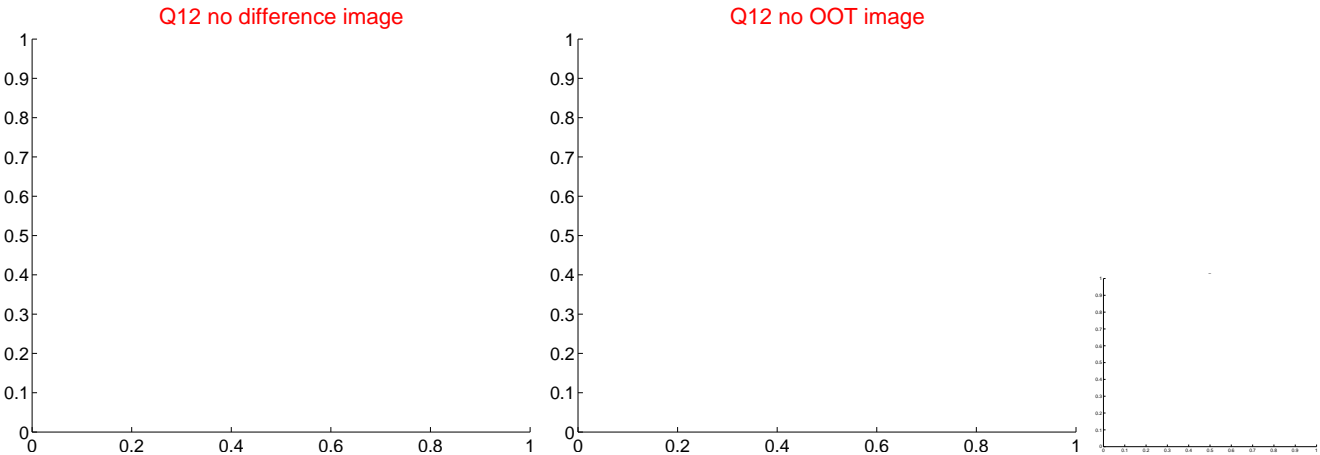
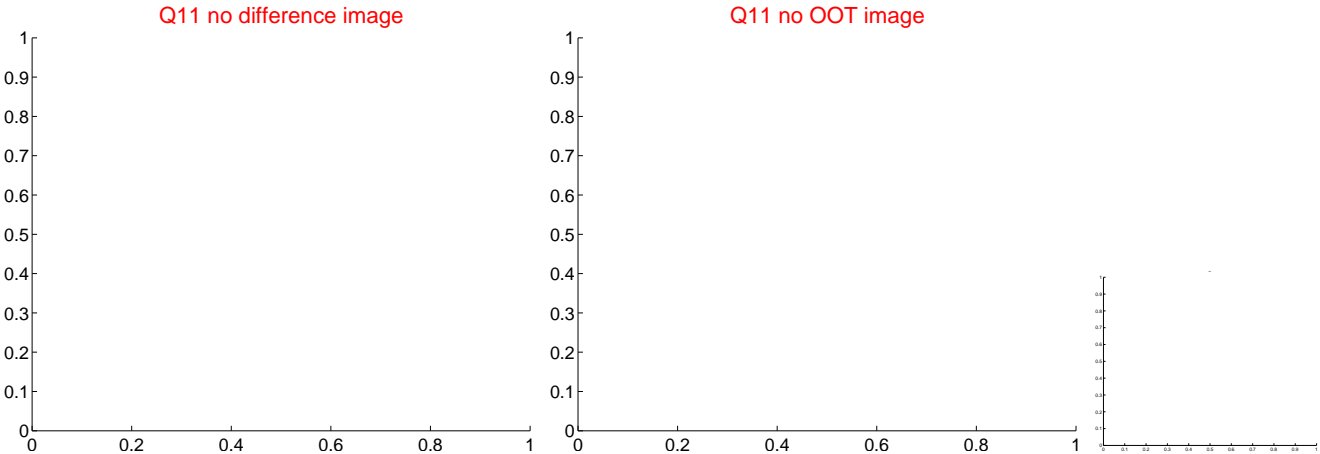
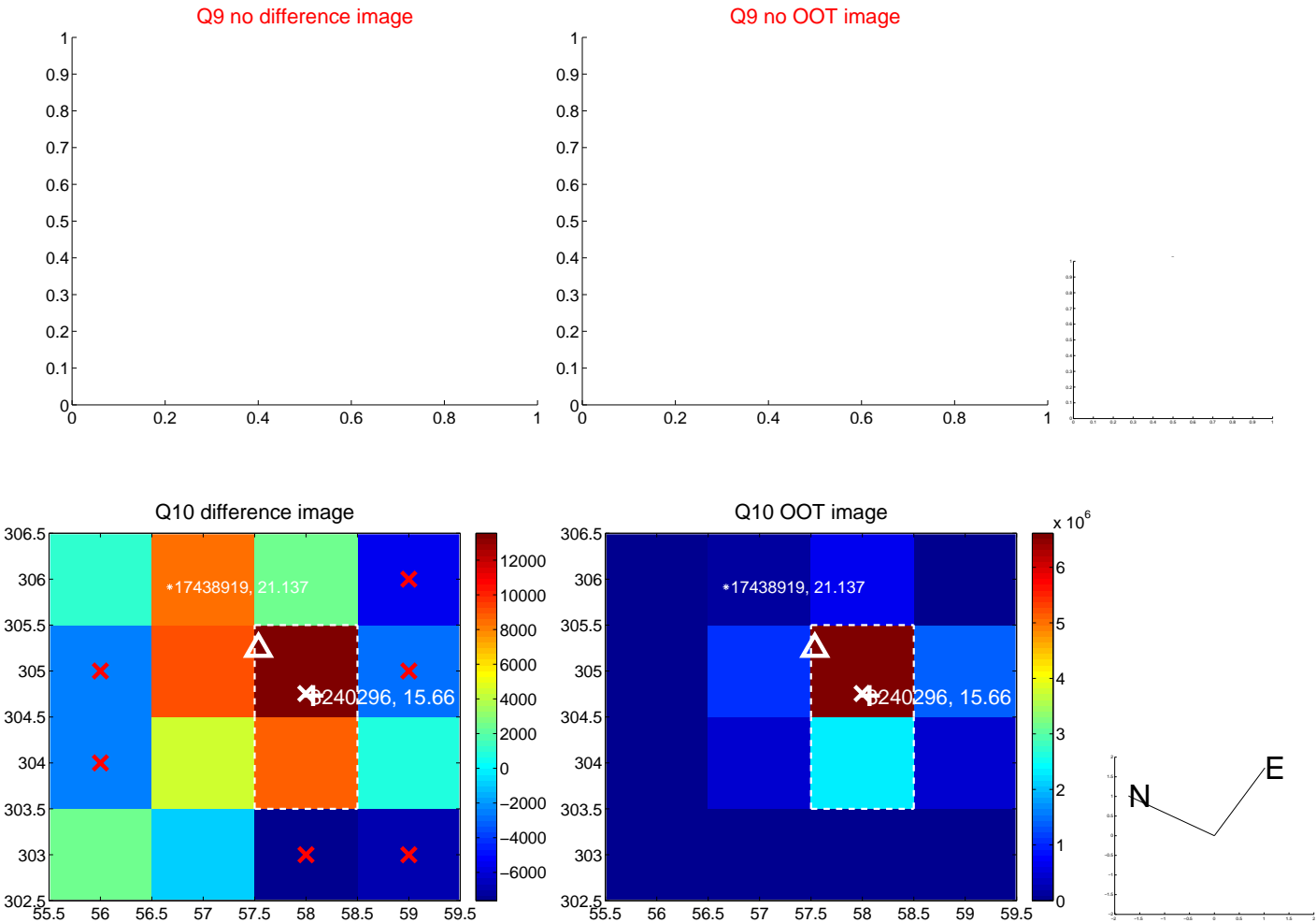
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



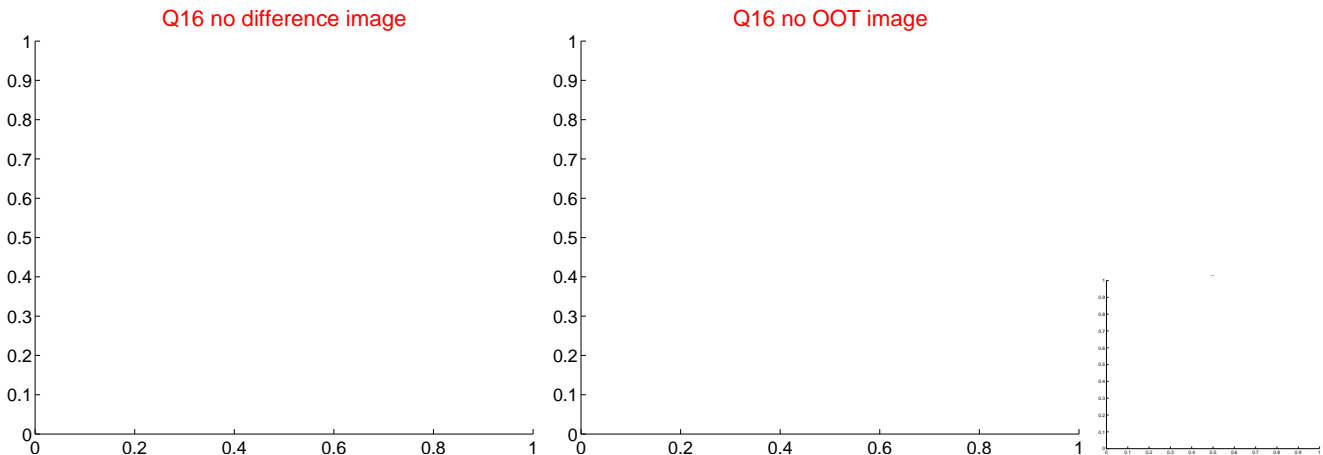
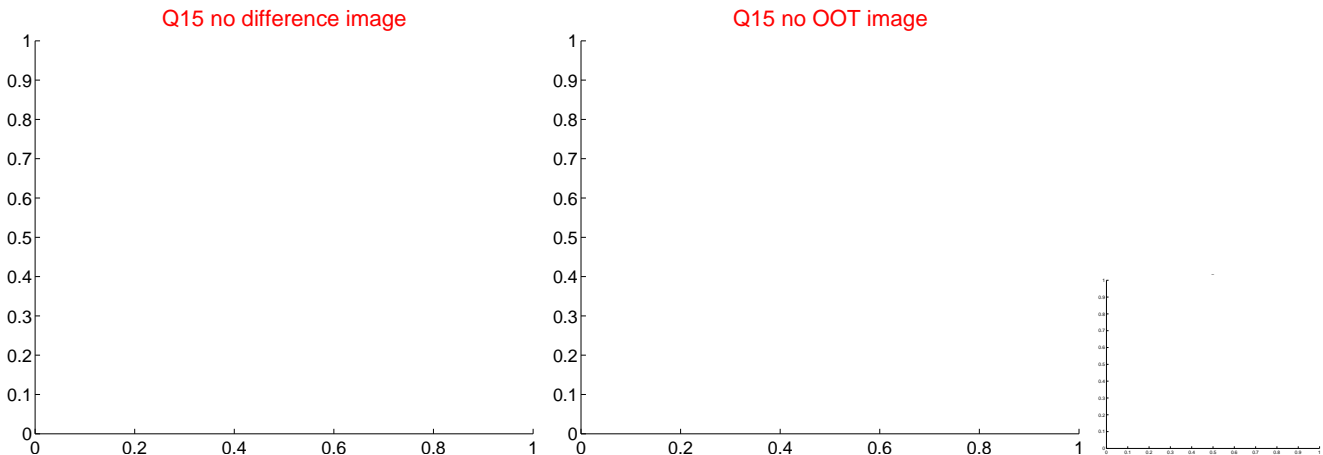
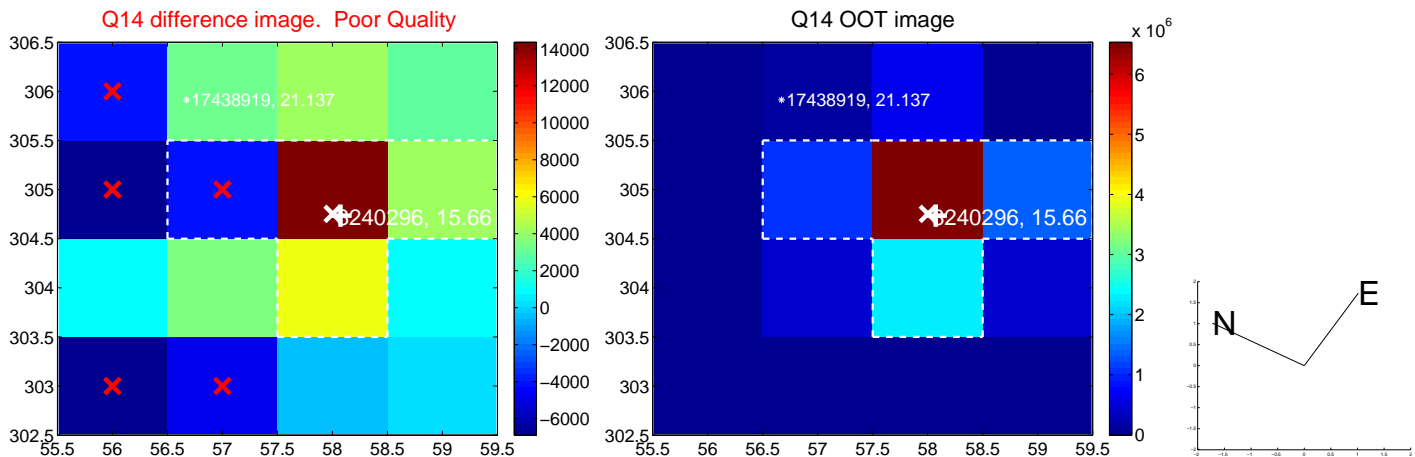
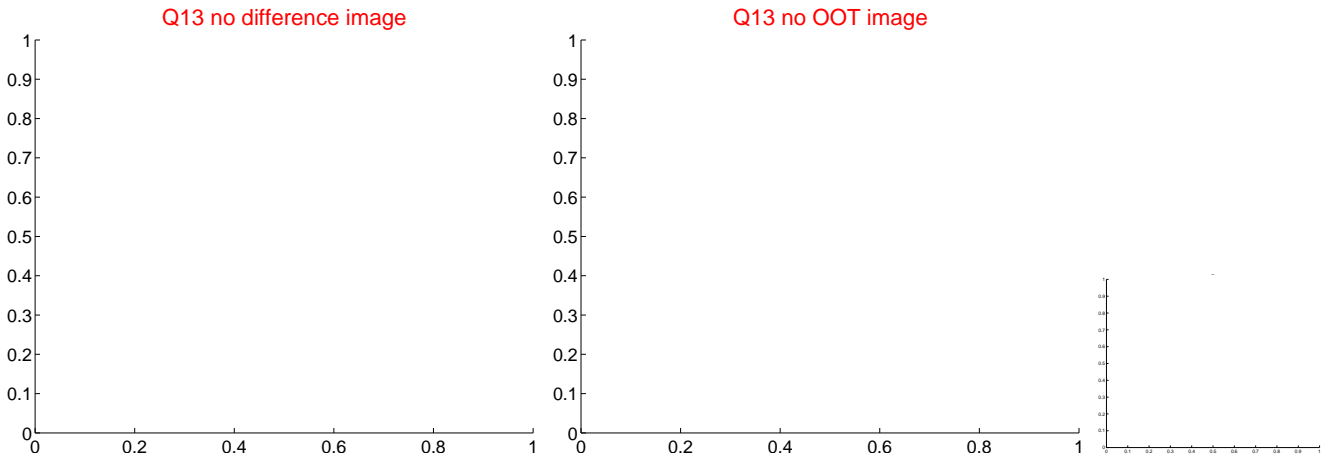
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



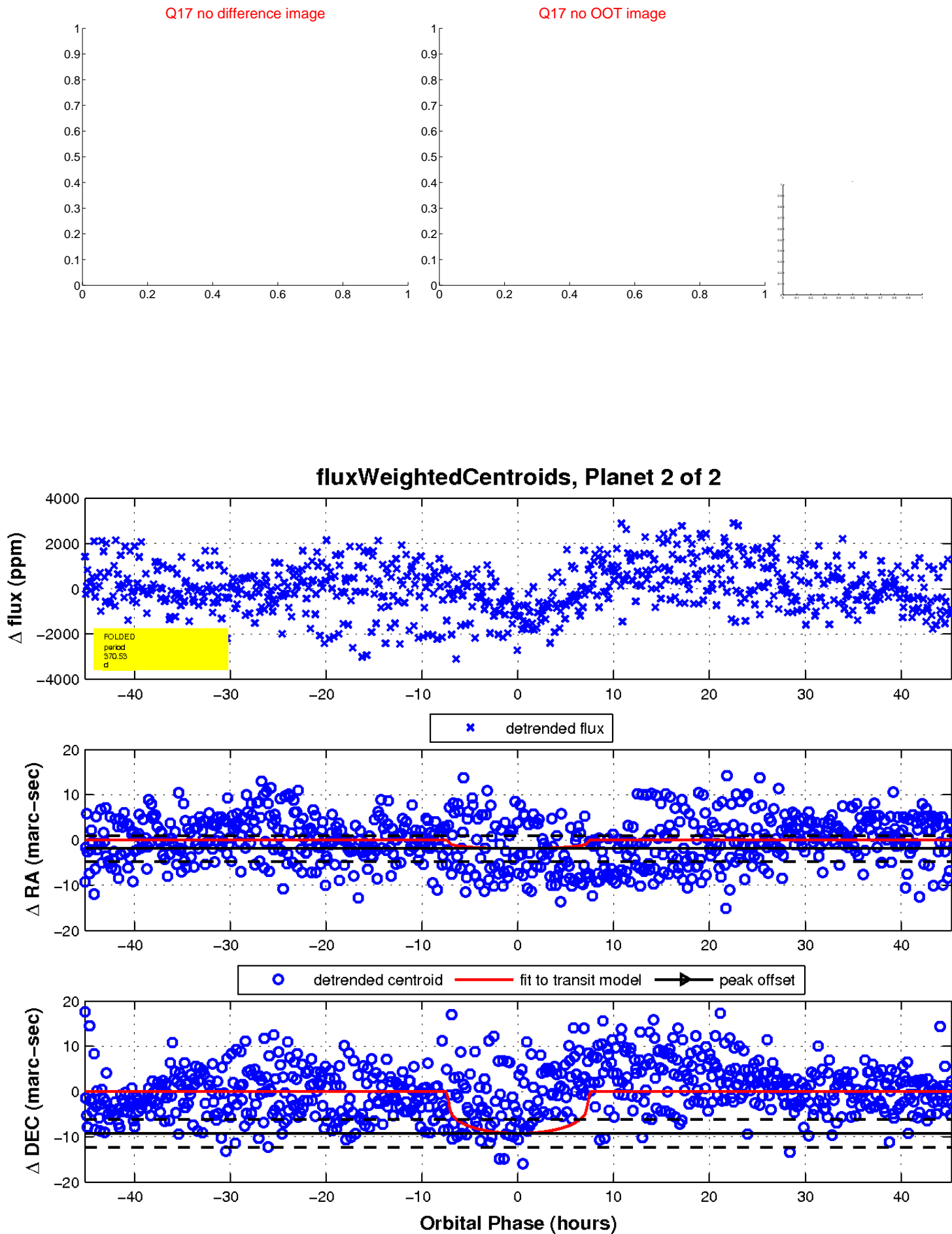
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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UKIRT Image

Declination

