

KIC 009893496

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})
009893496-01	OBS	No	480.177287	577.031191	220.9	8.671	8.9	8.9	0.76	5126	1.14	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009893496-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

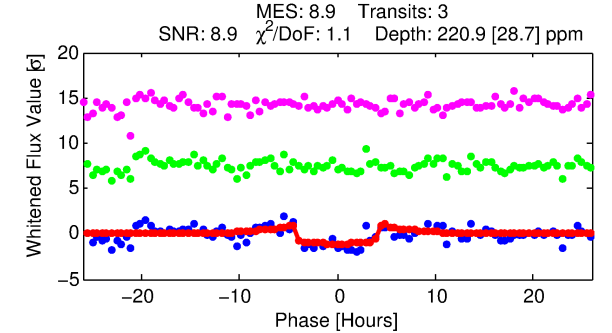
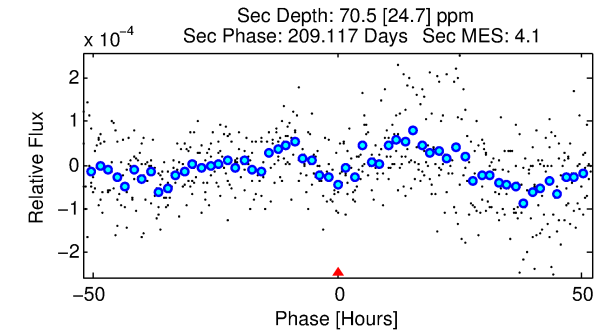
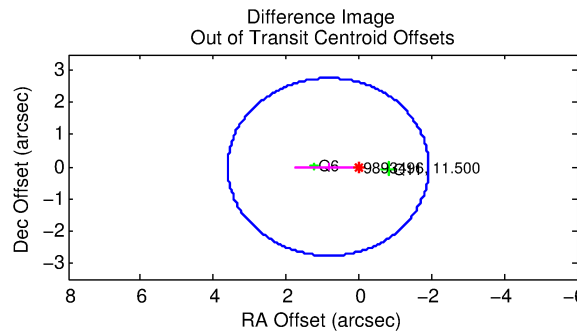
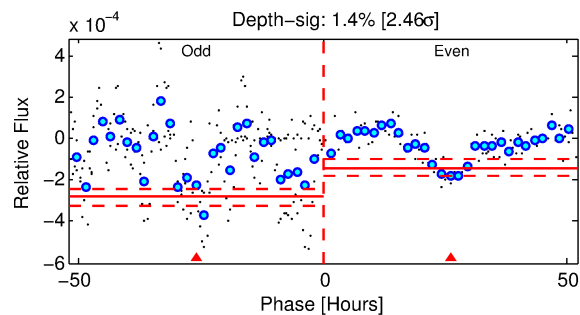
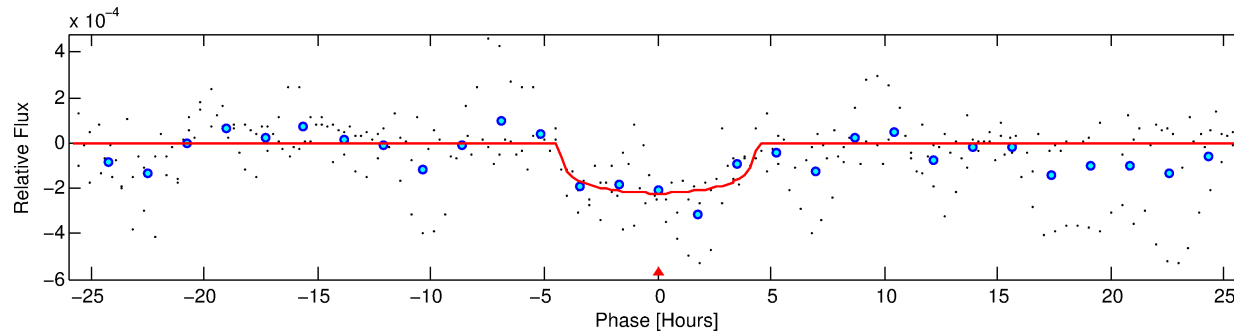
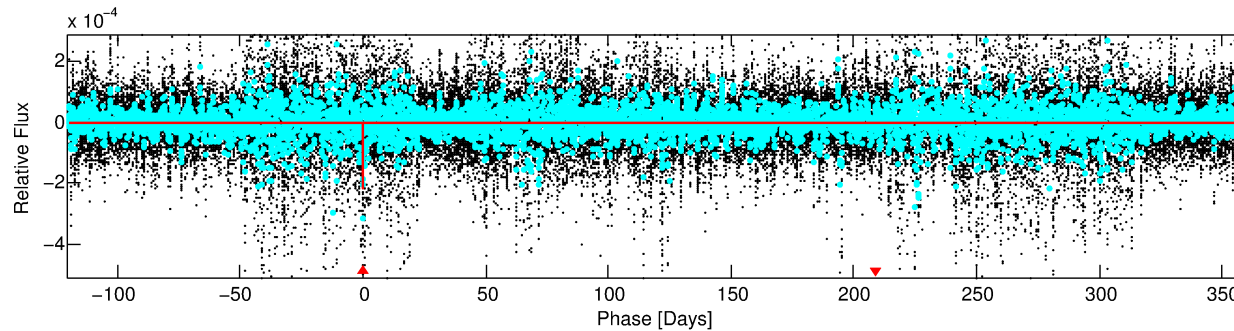
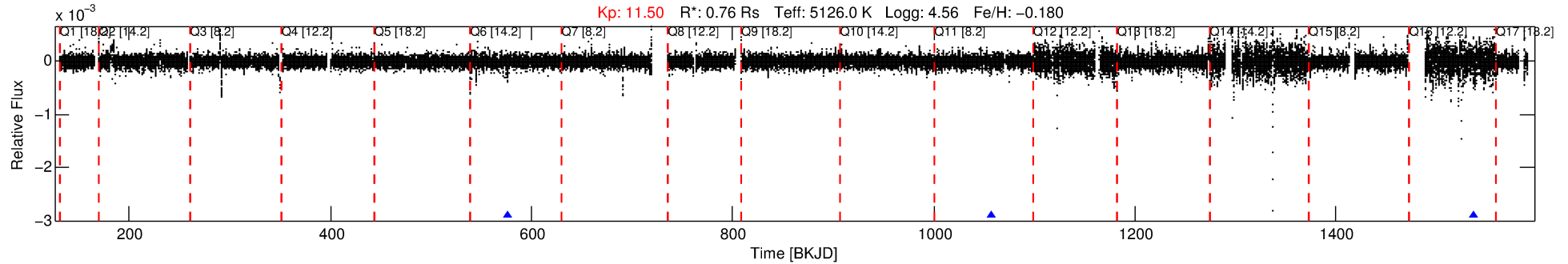
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009893496-01

No Significant Match Found

DV One-Page Summary

KIC: 9893496 Candidate: 1 of 1 Period: 480.177 d



DV Fit Results:

Period = 480.17729 [0.00675] d
Epoch = 577.0312 [0.0076] BKJD
Rp/R* = 0.0138 [0.0103]
a/R* = 374.13 [1022.17]
b = 0.50 [4.20]
Seff = 0.30 [0.05]
Teq = 188 [7] K
Rp = 1.14 [0.86] Re
a = 1.0944 [0.0904] AU
Ag = 35647.49 [55009.16] [0.65 σ]
Teff = 4004 [1544] K [2.47 σ]

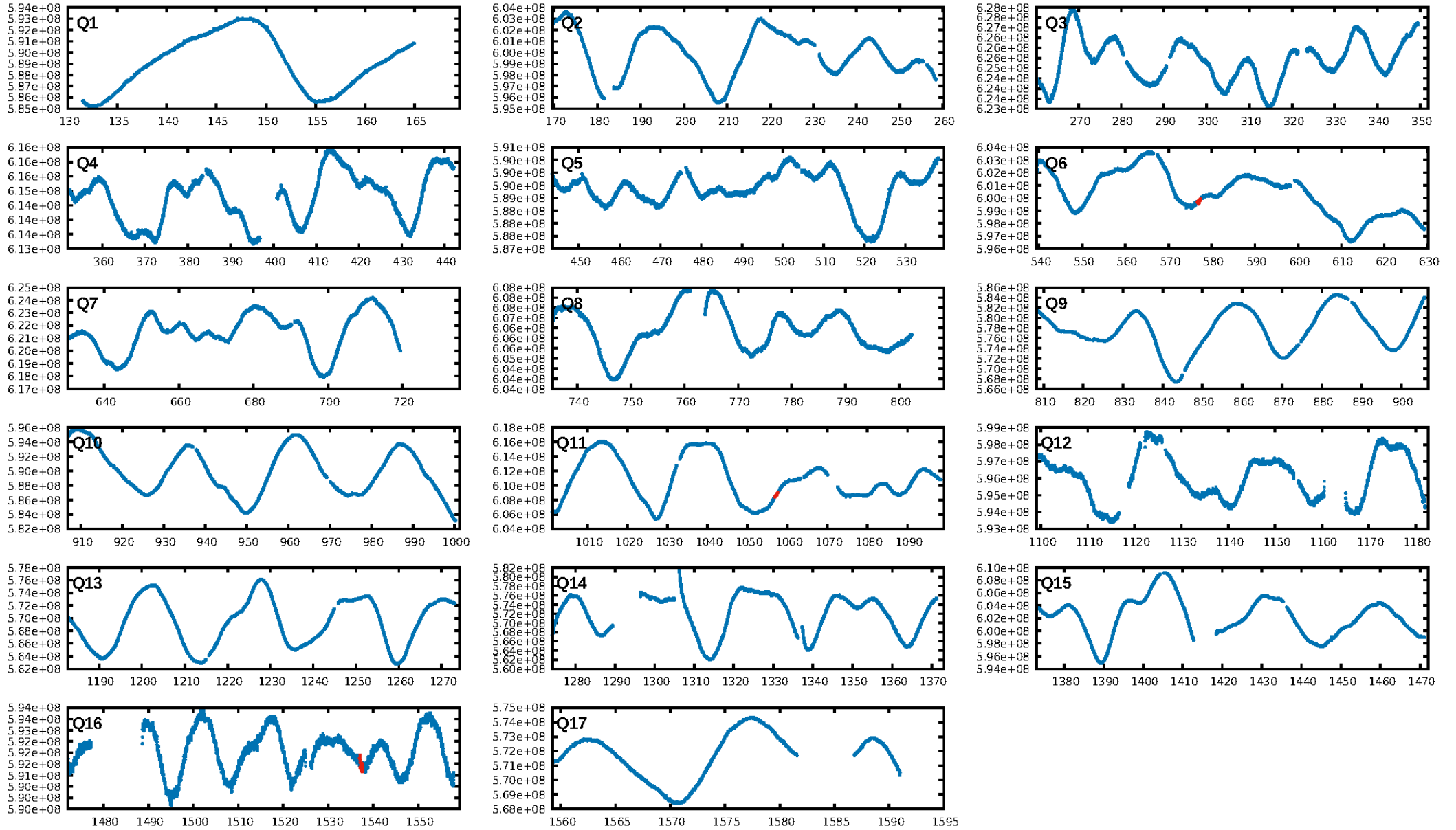
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 94.7%
Bootstrap-pfa: 2.38e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -9.091
Centroid-sig: 18.9%
Centroid-so: 1.133 arcsec [2.03 σ]
OotOffset-rm: 0.840 arcsec [0.91 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 1.399 arcsec [1.55 σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

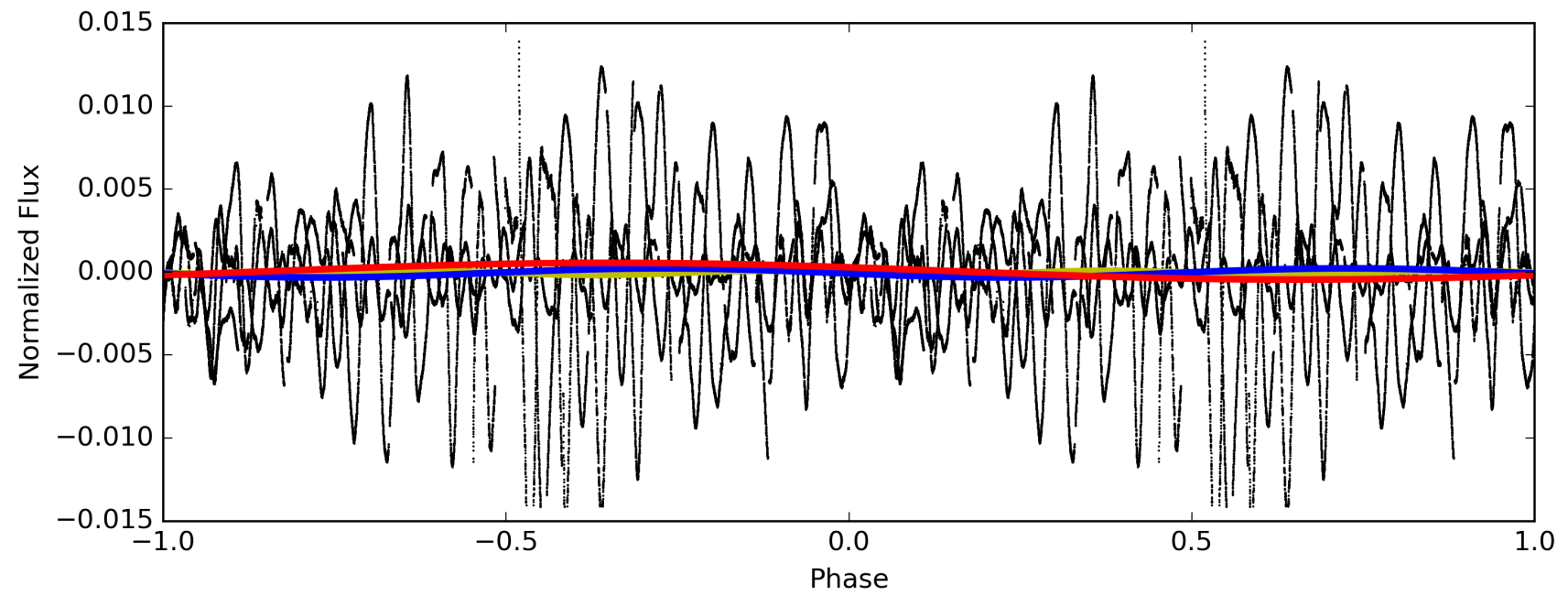
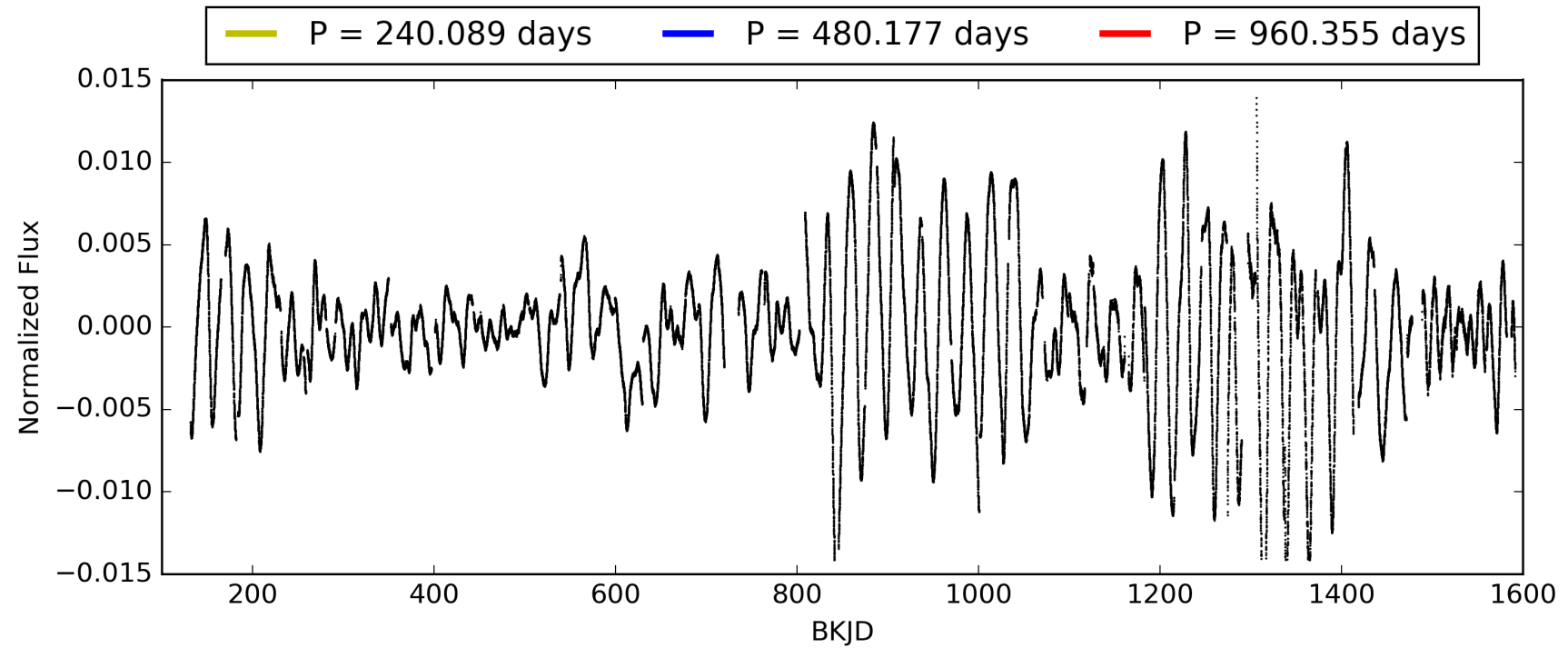
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:10:55 Z

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

TCE 009893496-01, PDC Light Curves

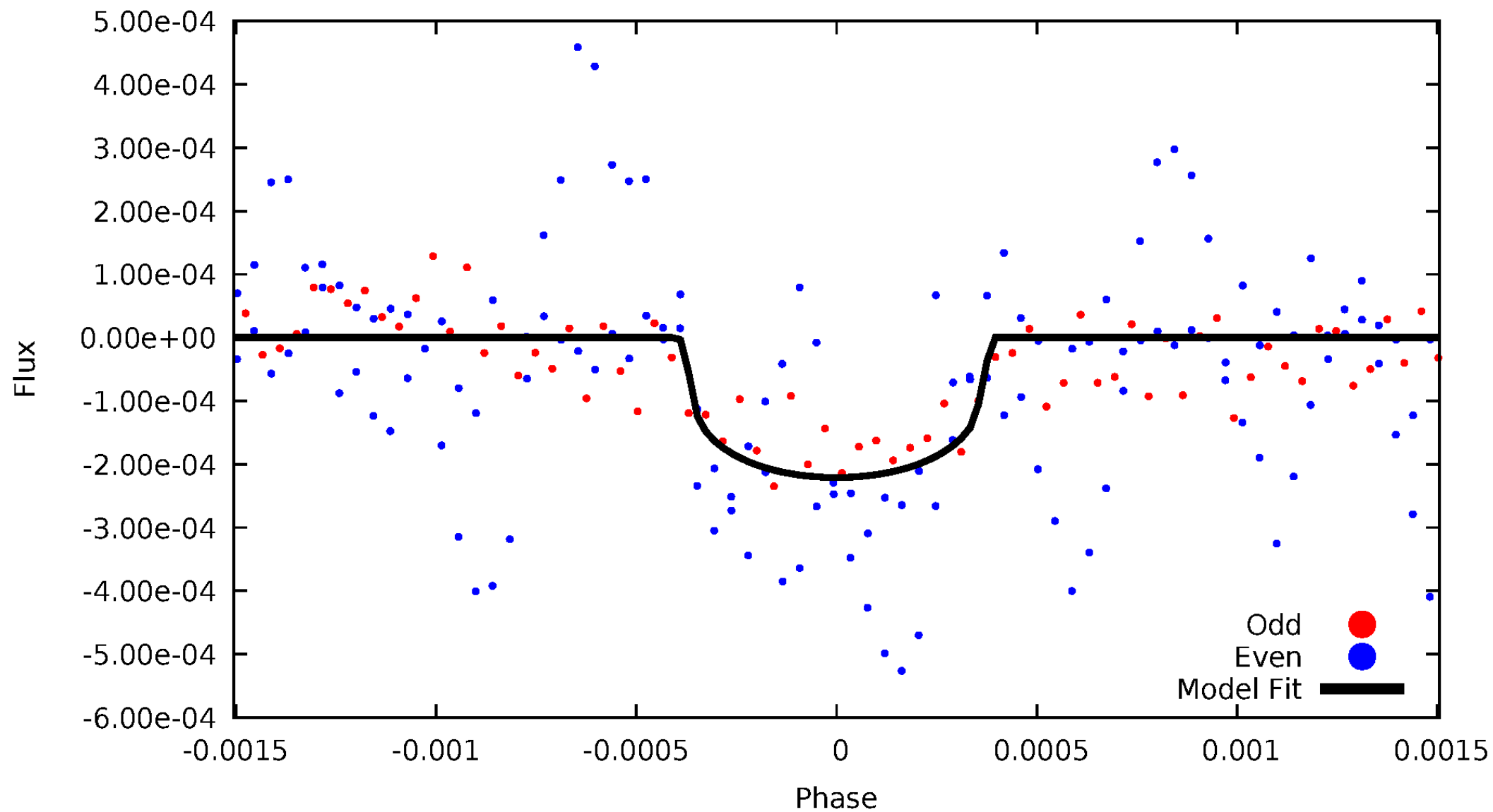


TCE 009893496-01



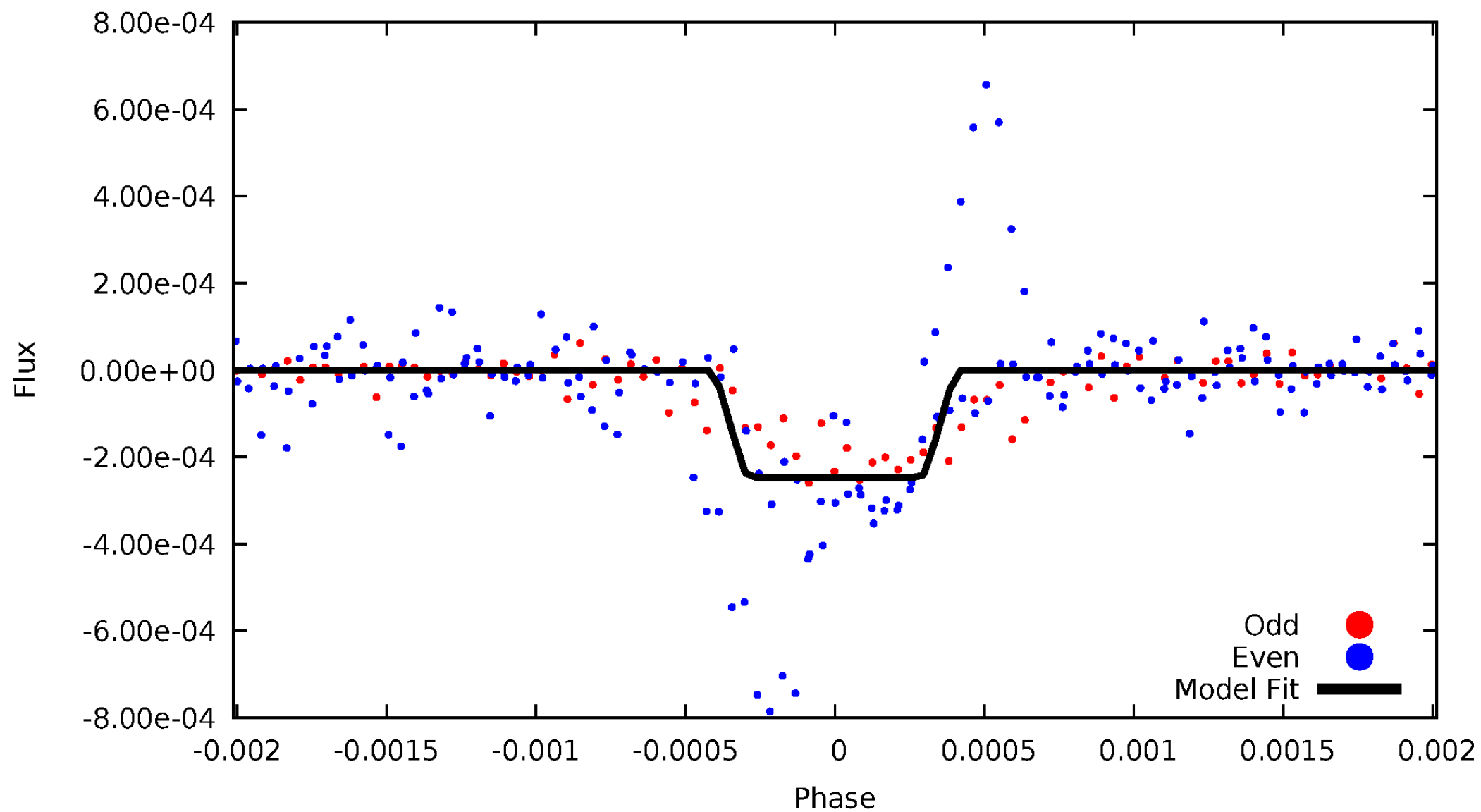
DV Odd/Even

TCE 009893496-01

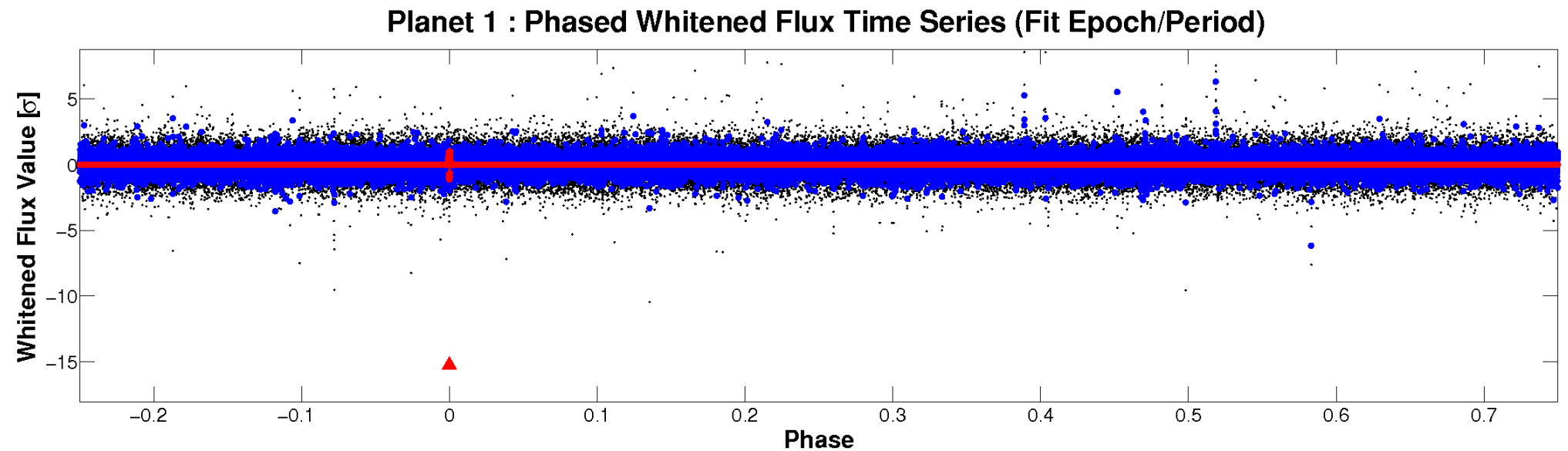
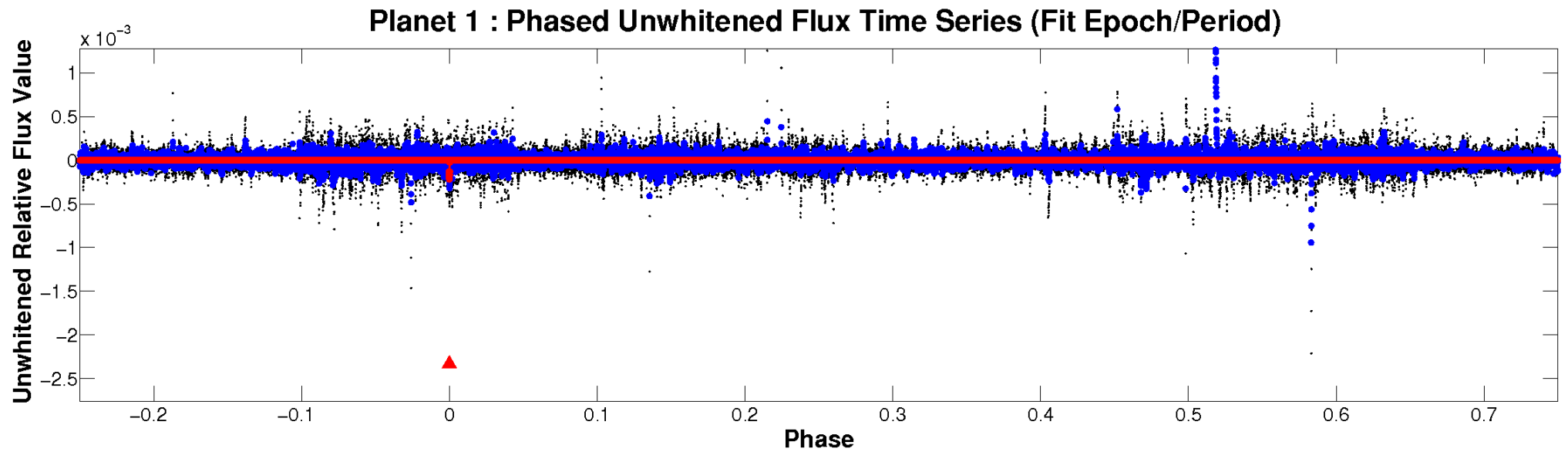


ALT Odd/Even

TCE 009893496-01

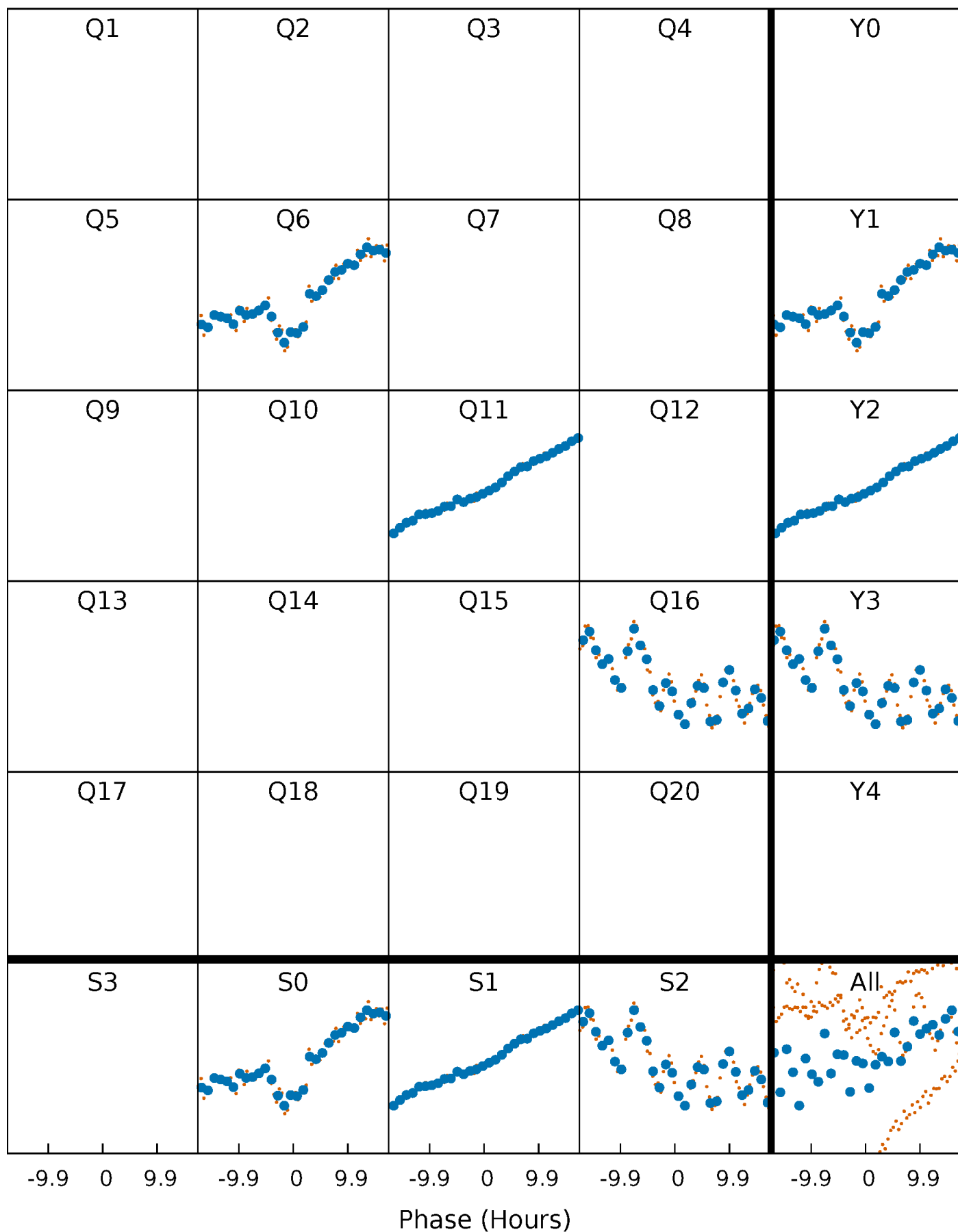


Non-Whitened Vs. Whitened Light Curve



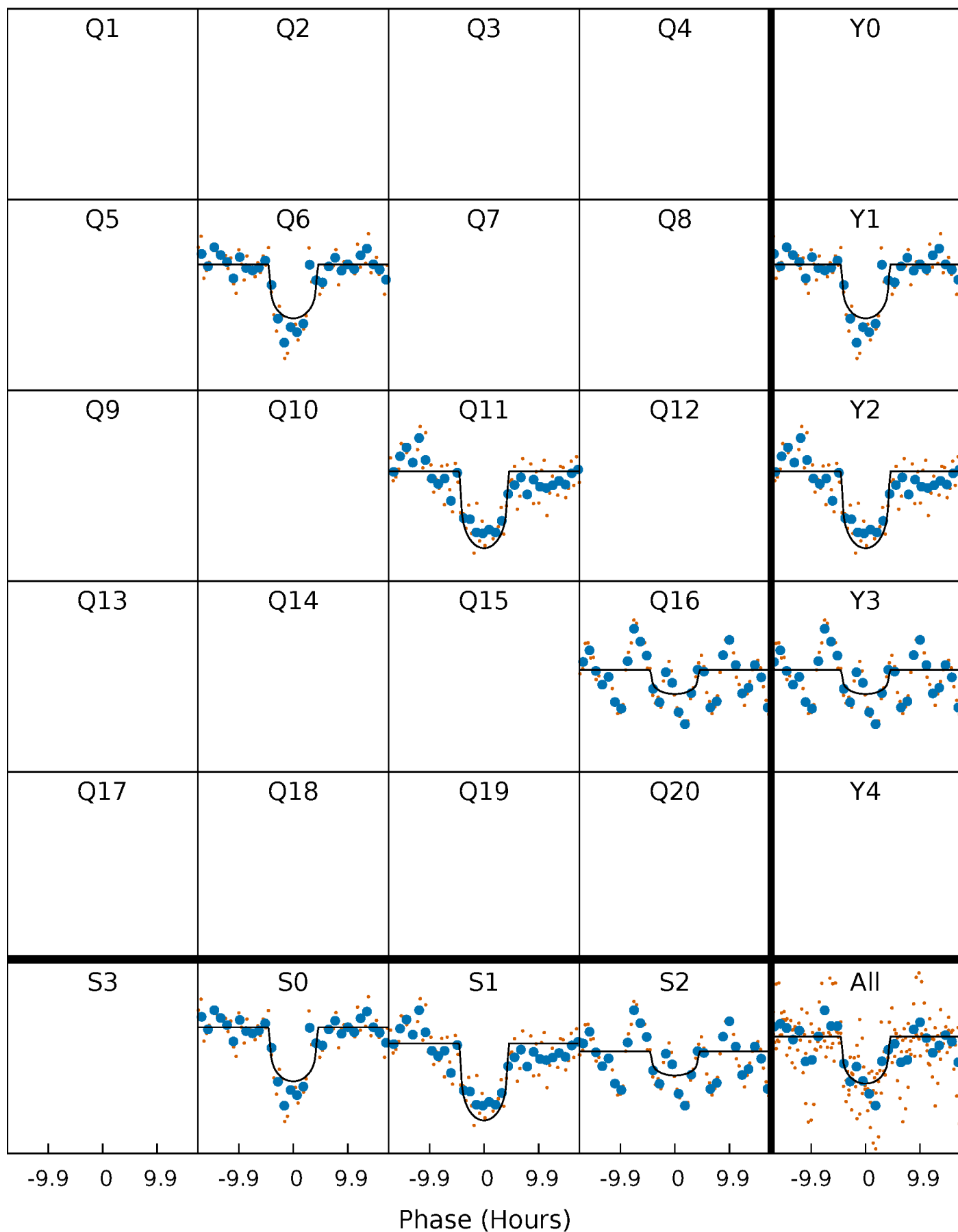
PDC Quarter-Phased Transit Curves

TCE 009893496-01 P=480.177287 Days $T_0=577.031191$ (BKJD)



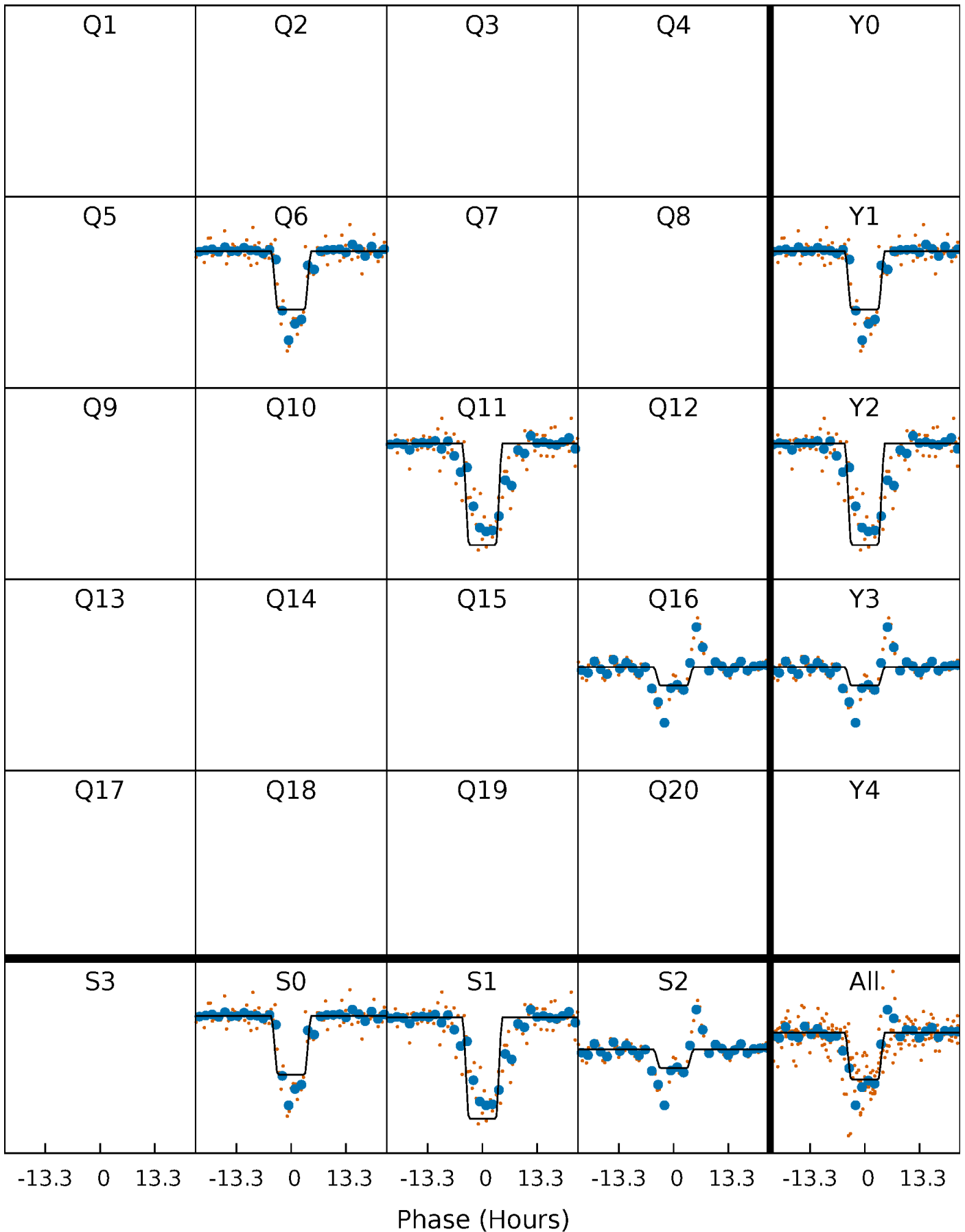
DV Quarter-Phased Transit Curves

TCE 009893496-01 P=480.177287 Days $T_0=577.031191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

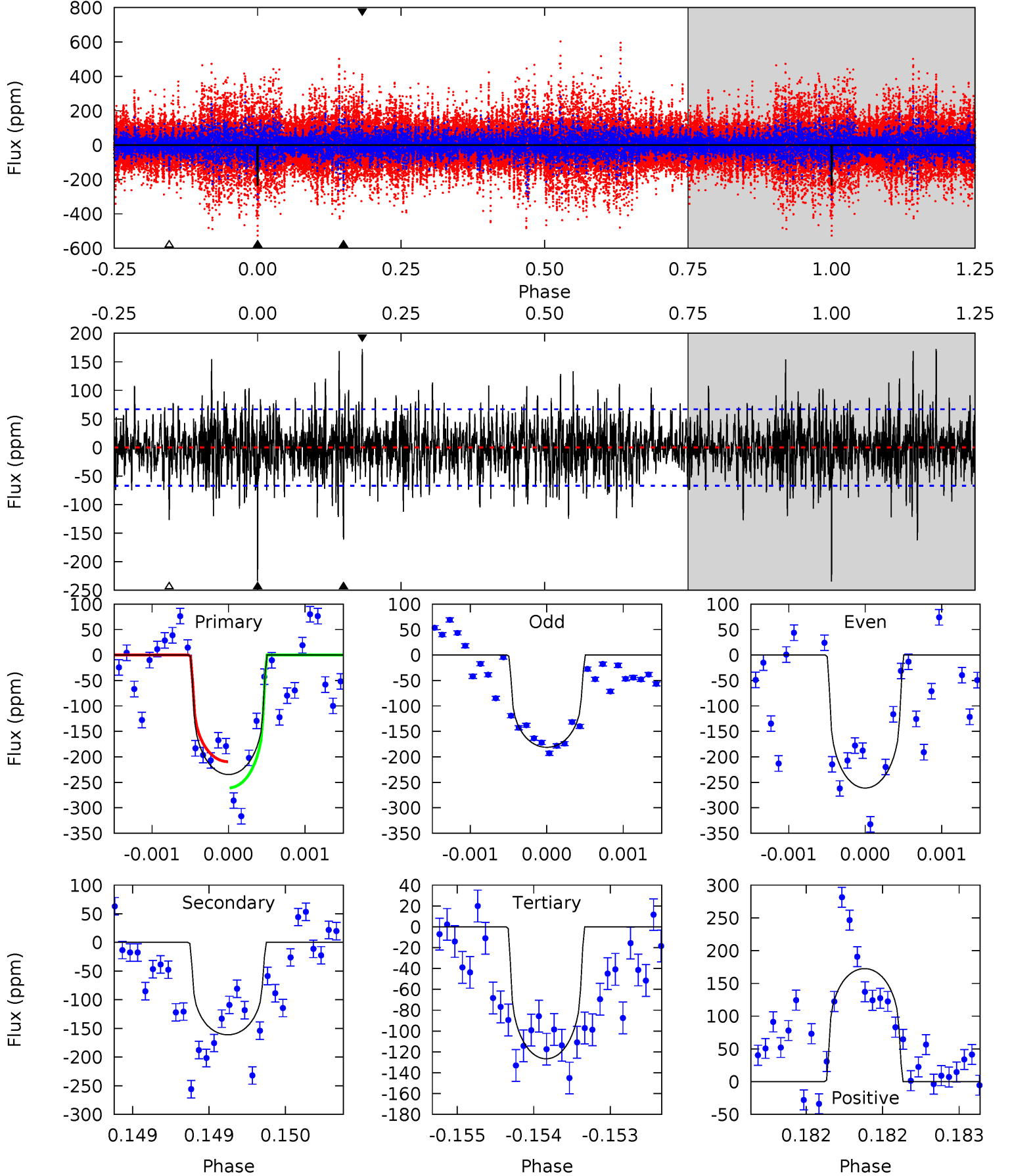
TCE 009893496-01 P=480.168226 Days $T_0=577.006963$ (BKJD)



DV Model-Shift Uniqueness Test

009893496-01, $P = 480.177287$ Days, $E = 96.853904$ Days

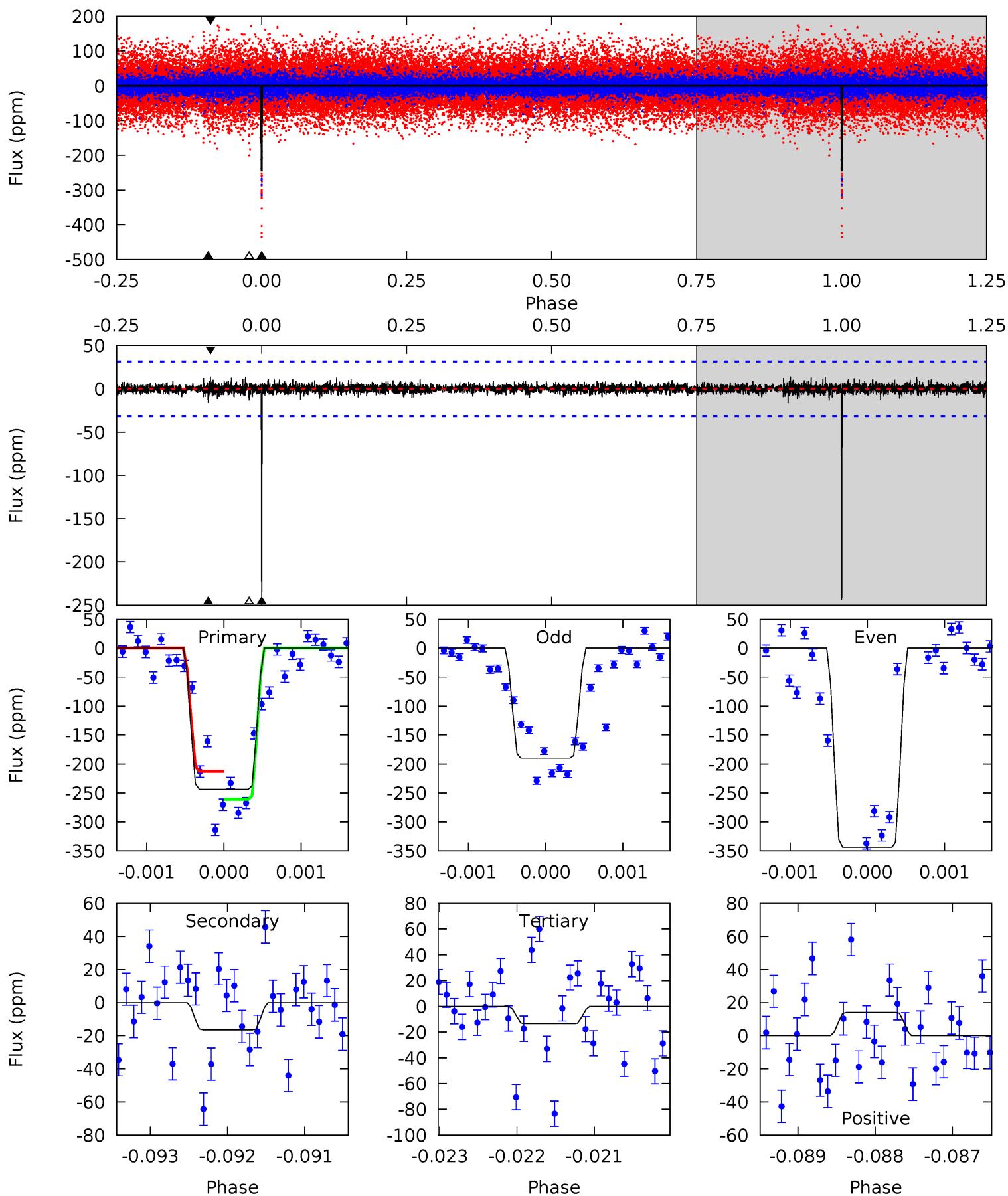
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	13.2	10.4	14.2	5.49	3.36	2.89	8.87	5.10	2.83	-0.94	2.84	0.95	0.42	2.12



Alt Model-Shift Uniqueness Test

009893496-01, $P = 480.168226$ Days, $E = 96.838737$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.4	2.86	2.34	2.44	5.49	3.35	0.49	40.0	39.9	0.52	0.42	14.2	1.09	0.05	4.04



Stellar Parameters For KIC 009893496

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5126^{+138}_{-138}	$4.556^{+0.055}_{-0.055}$	$-0.180^{+0.300}_{-0.300}$	$0.760^{+0.081}_{-0.066}$	$0.759^{+0.088}_{-0.059}$	$2.432^{+0.595}_{-0.478}$
	+3%/-3%	+1%/-1%	+167%/-167%	+11%/-9%	+12%/-8%	+24%/-20%
Source	PHO1	FLK73	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 009893496-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-161 ± 12	$1.22^{+0.85}_{-0.73}$	263^{+9}_{-9}	4833^{+2708}_{-900}	$71619^{+372870}_{-47378}$
Alt.	-16 ± 6	$1.38^{+0.85}_{-0.75}$	263^{+9}_{-9}	3093^{+924}_{-411}	5194^{+22466}_{-3343}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

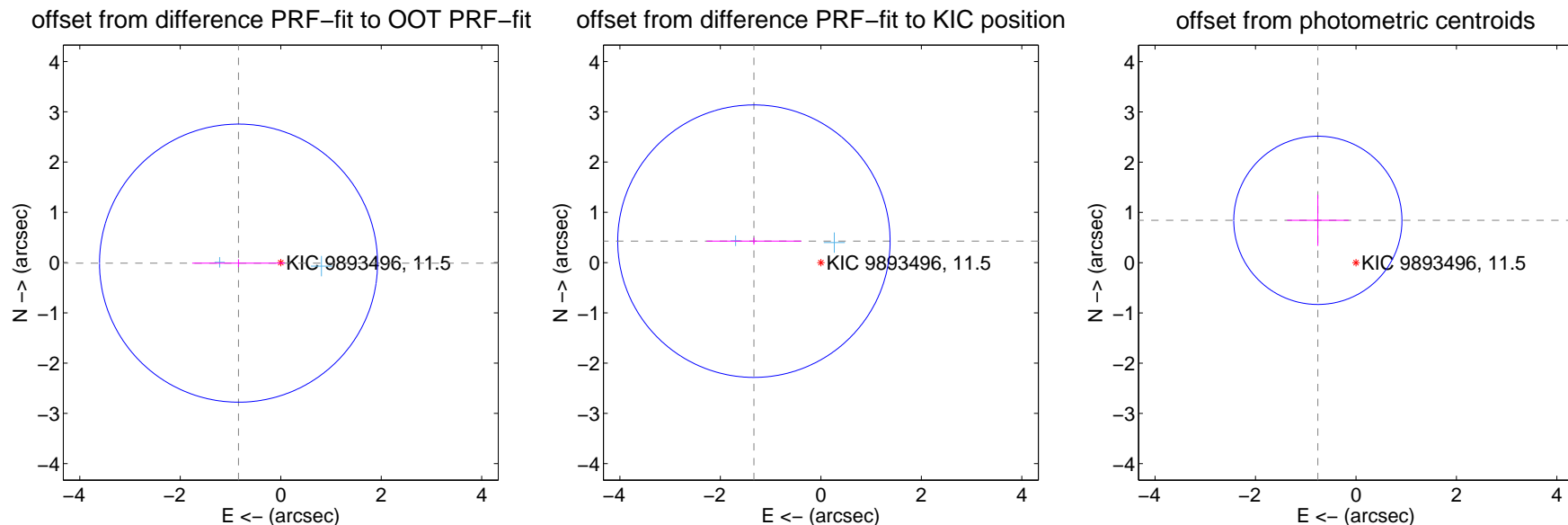
DV Centroid Data

Supplemental centroid analysis for 009893496-01. **Kepler magnitude: 11.50.** Transit SNR 8.93

There are 2 quarters with good PRF difference image offsets

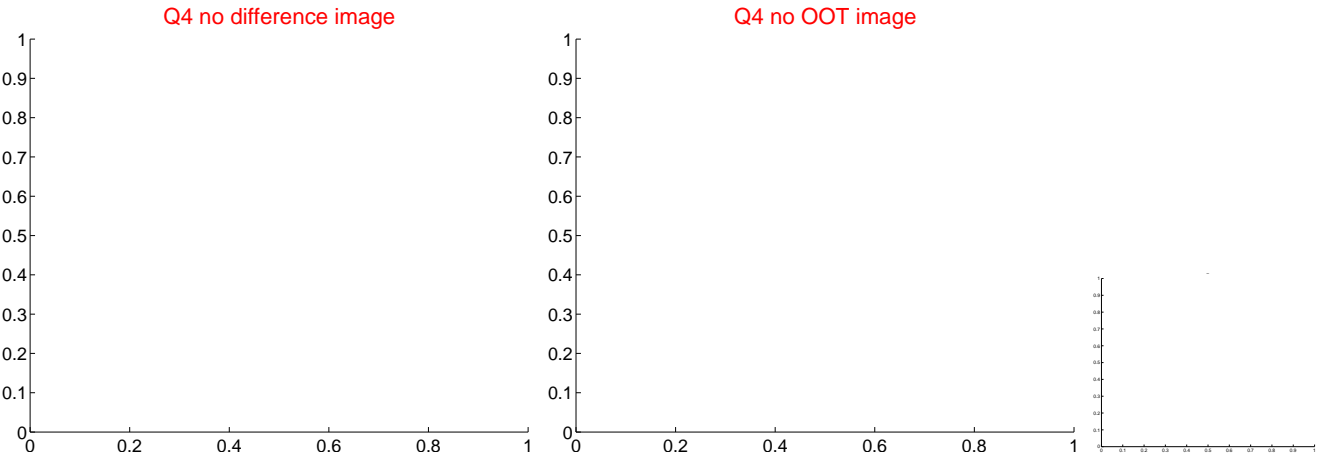
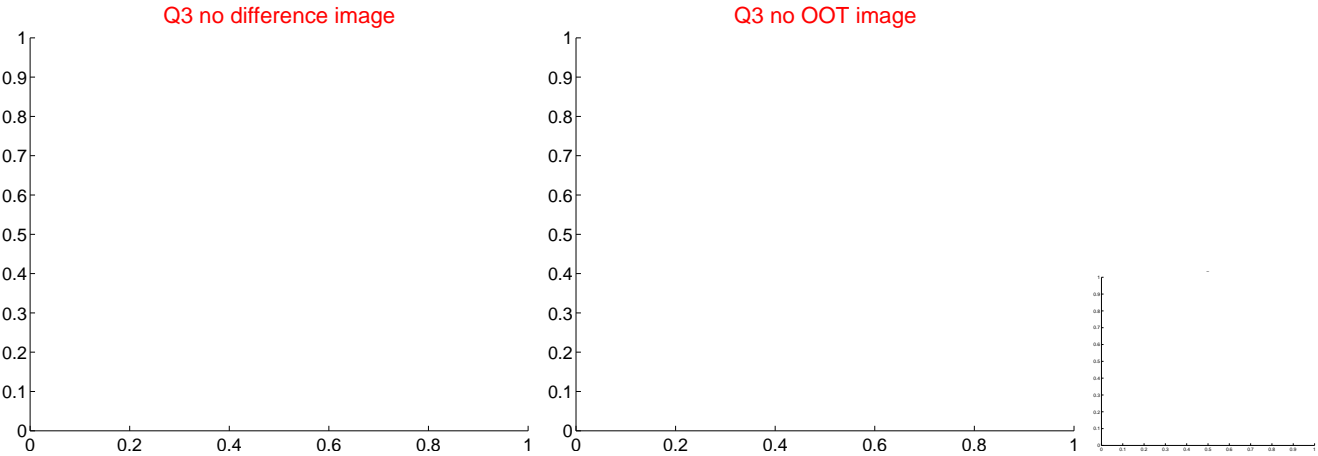
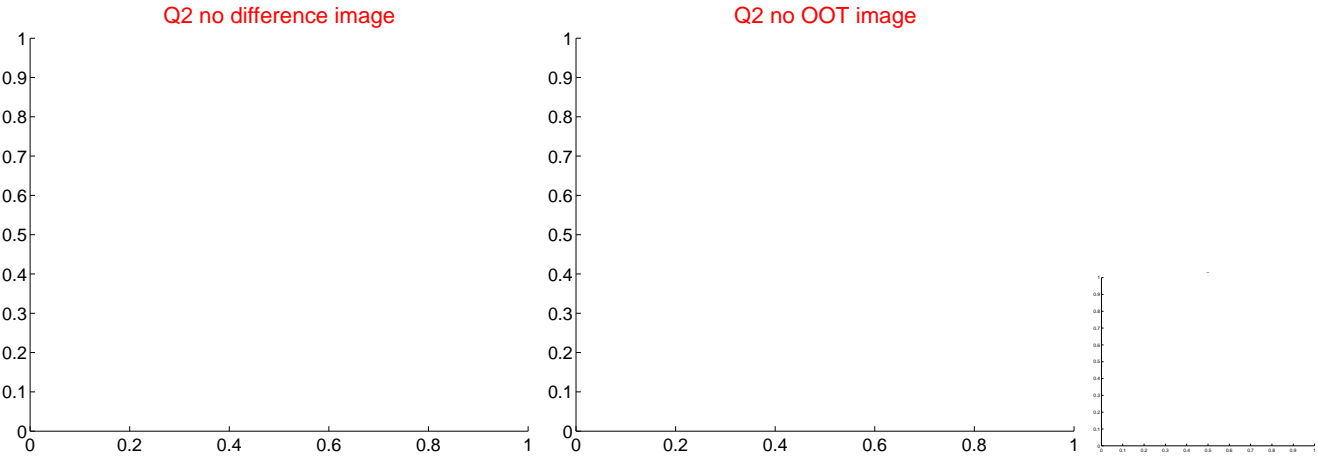
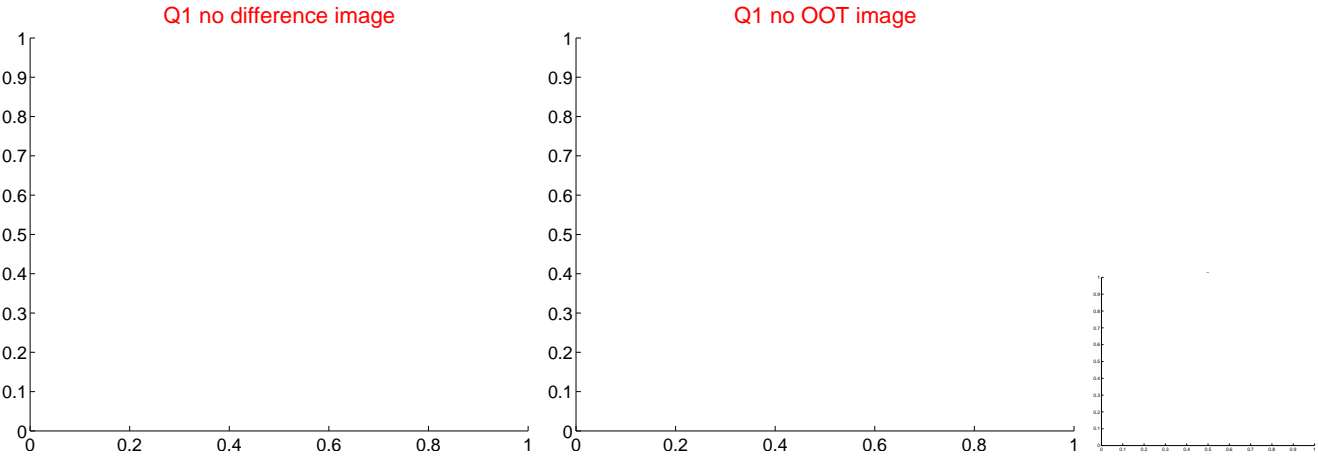
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.840 ± 0.922	0.91	0.840 ± 0.922	-0.011 ± 0.076
PRF-fit source offset from KIC position	1.399 ± 0.903	1.55	1.333 ± 0.943	0.426 ± 0.069
photometric centroid source offset	1.13 ± 0.56	2.03	0.76 ± 0.61	0.84 ± 0.51

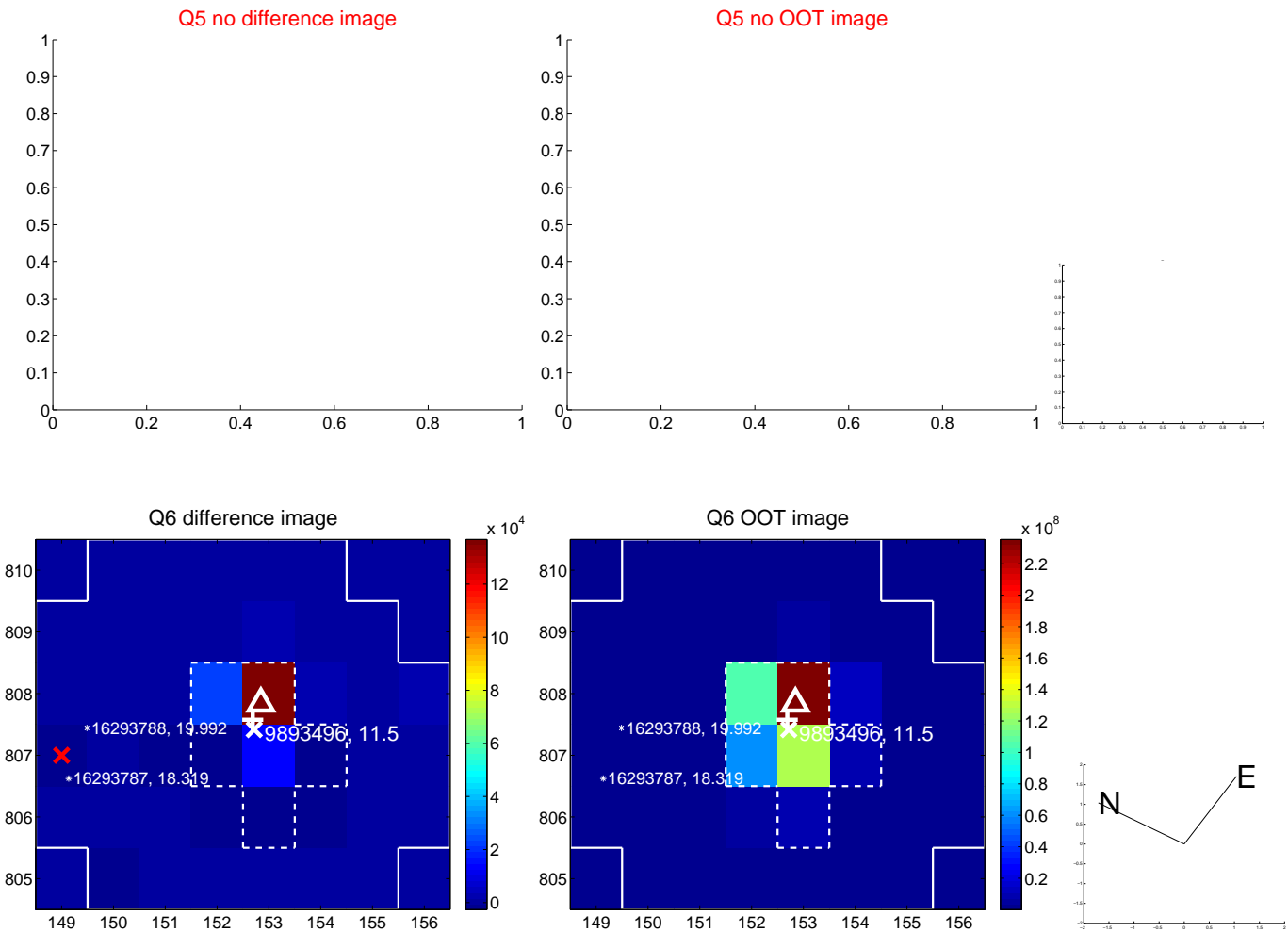


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

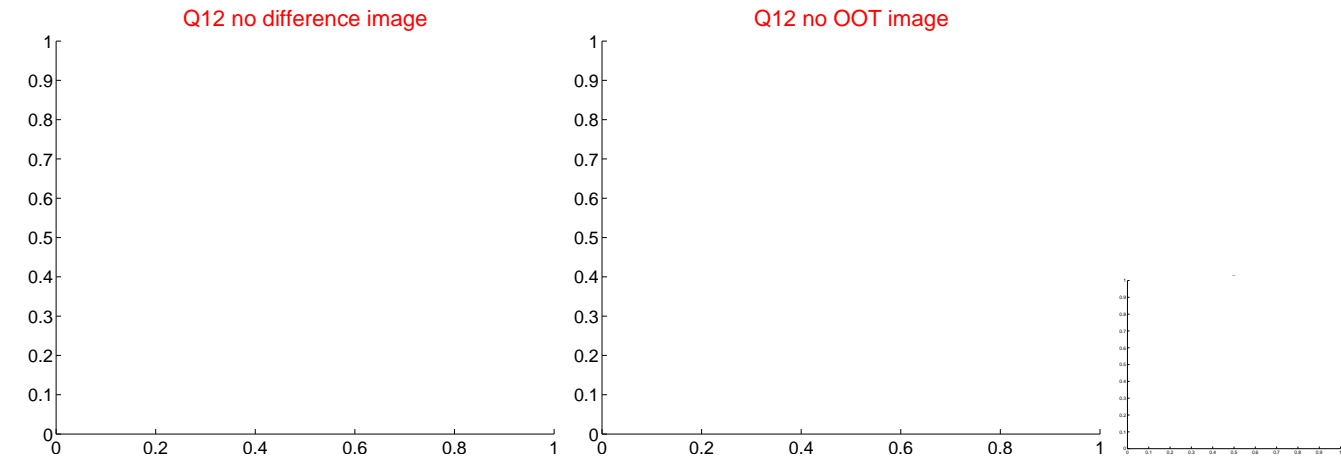
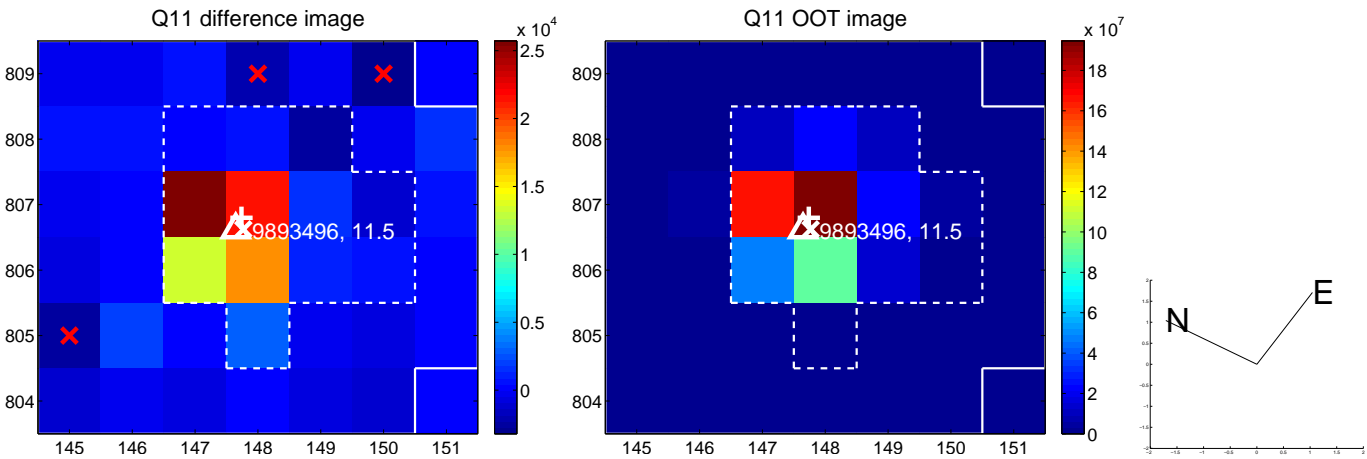
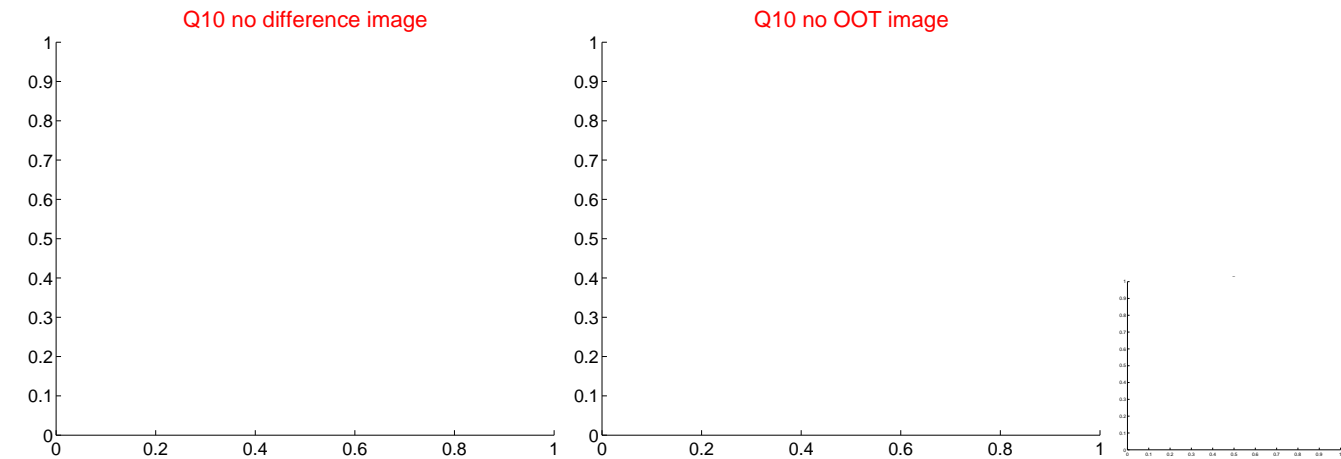
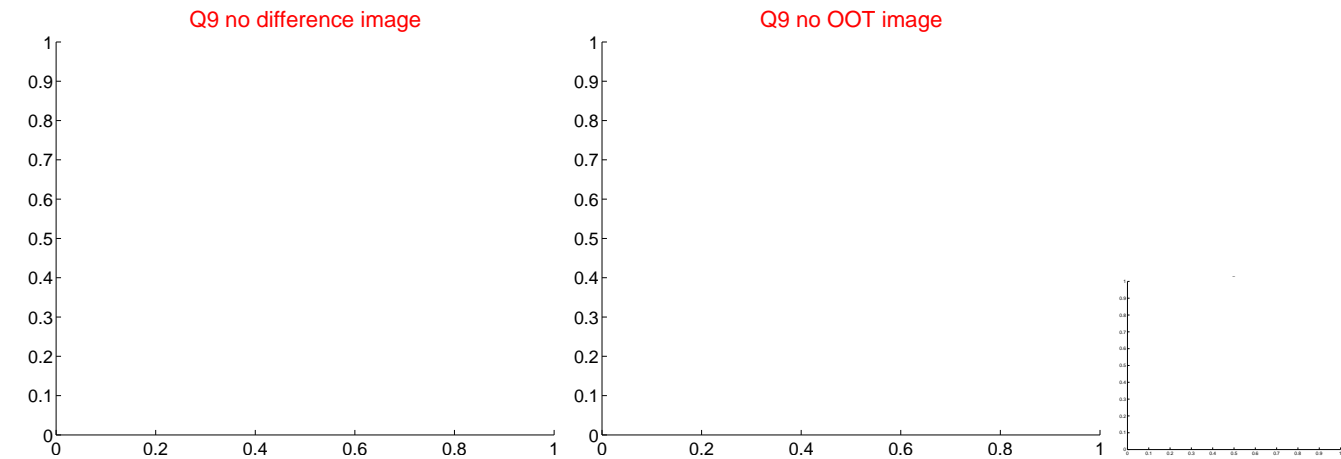
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



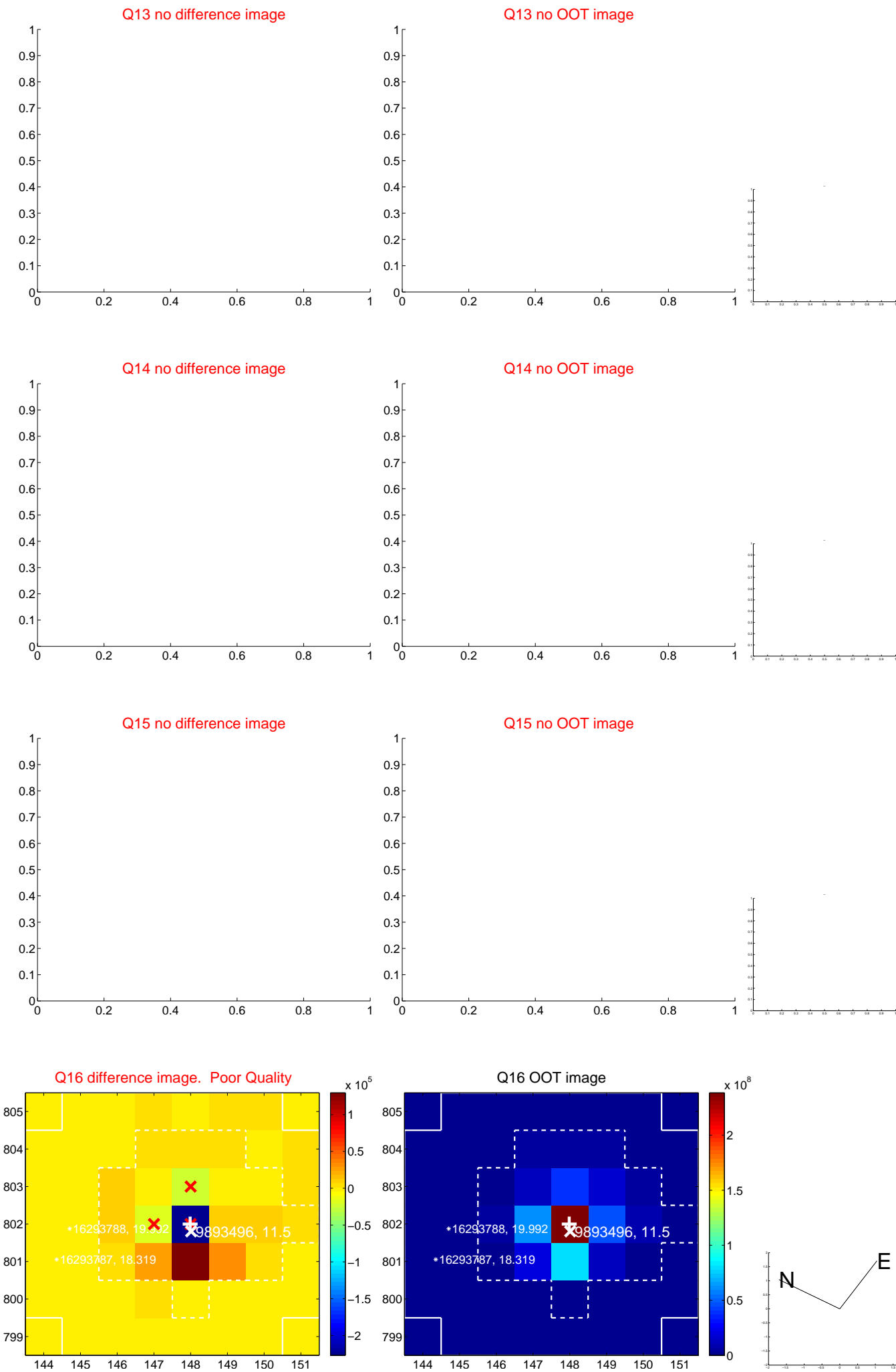
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



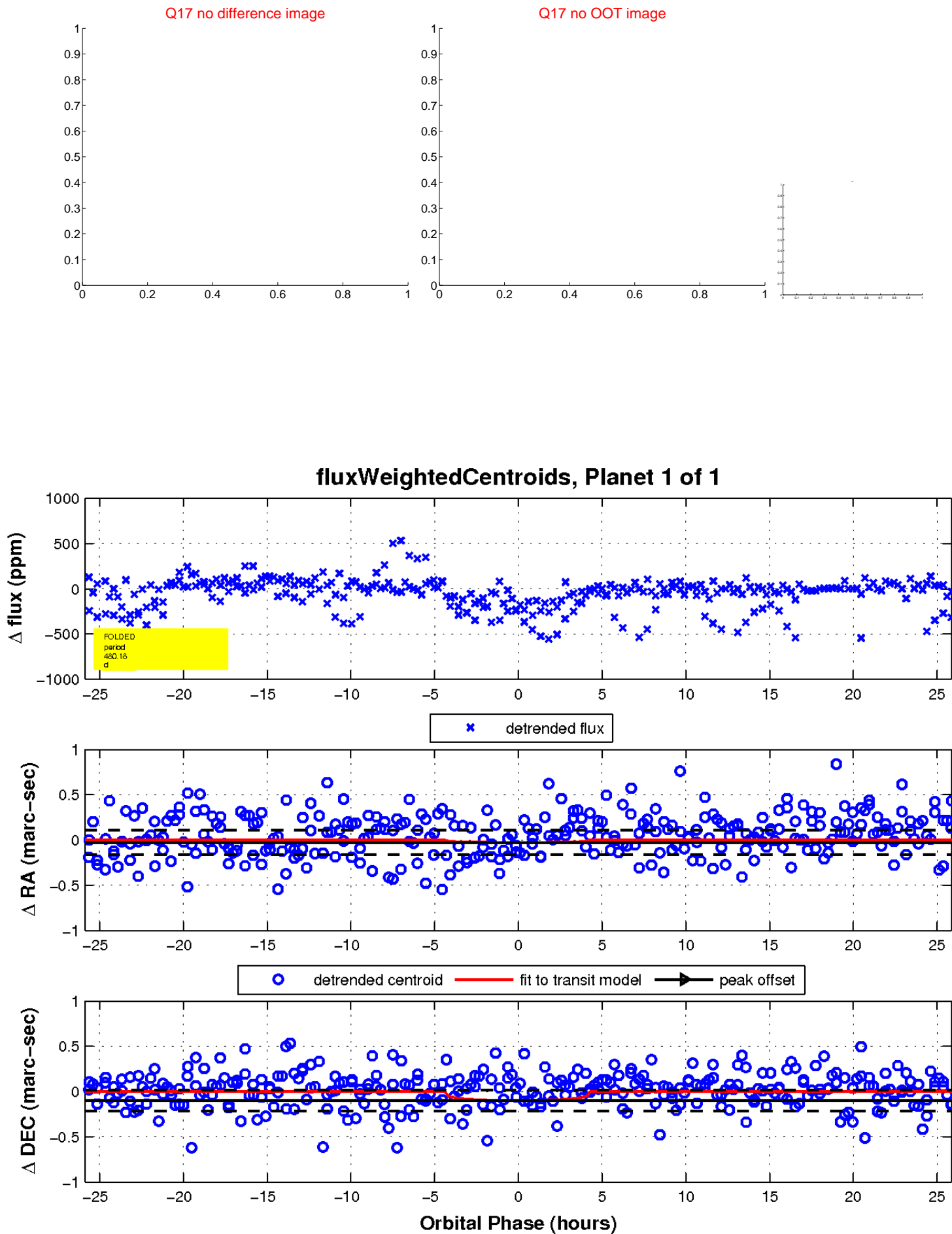
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

