

KIC 008359398

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})
008359398-01	OBS	No	643.197612	244.802509	444.9	3.925	15.1	4.8	0.68	5276	1.56	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008359398-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—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.

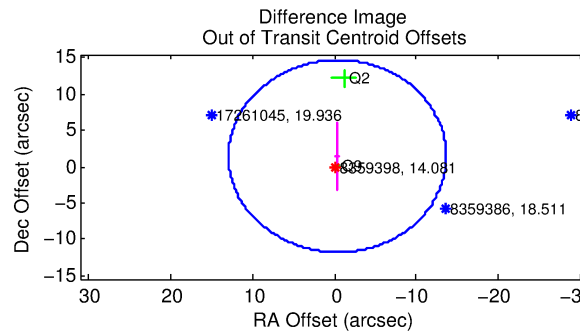
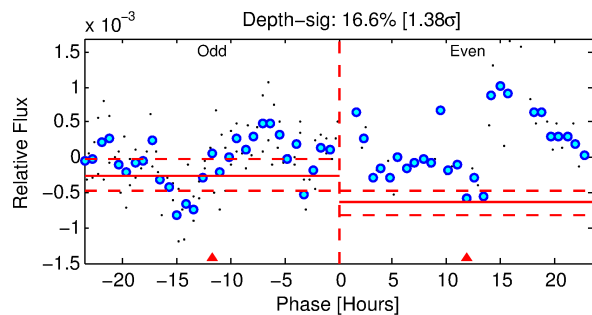
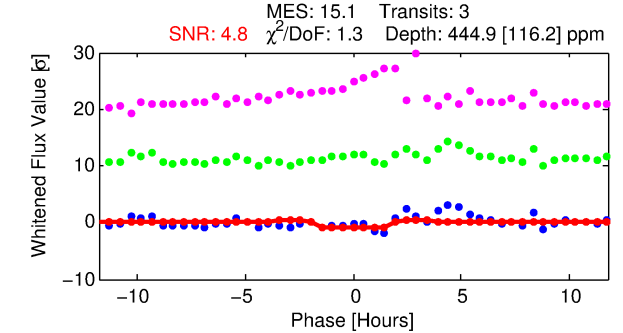
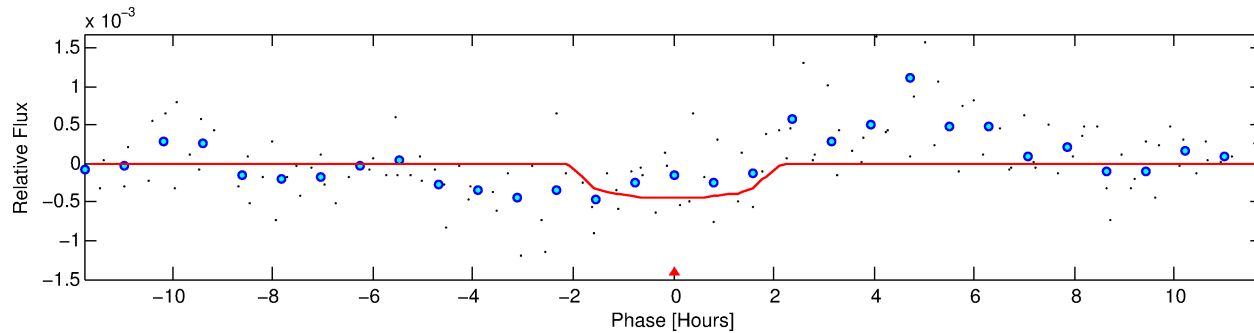
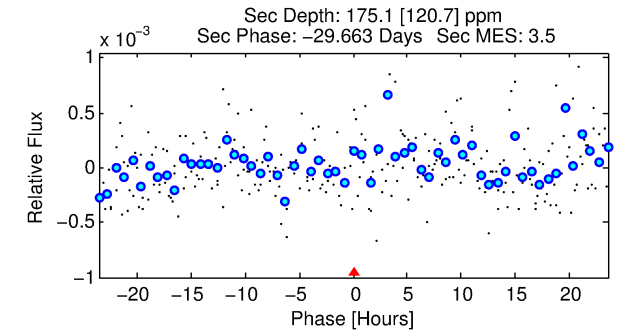
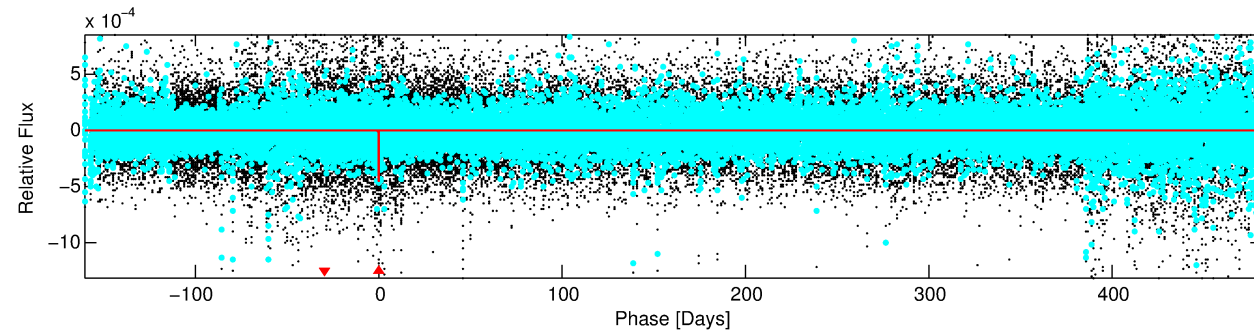
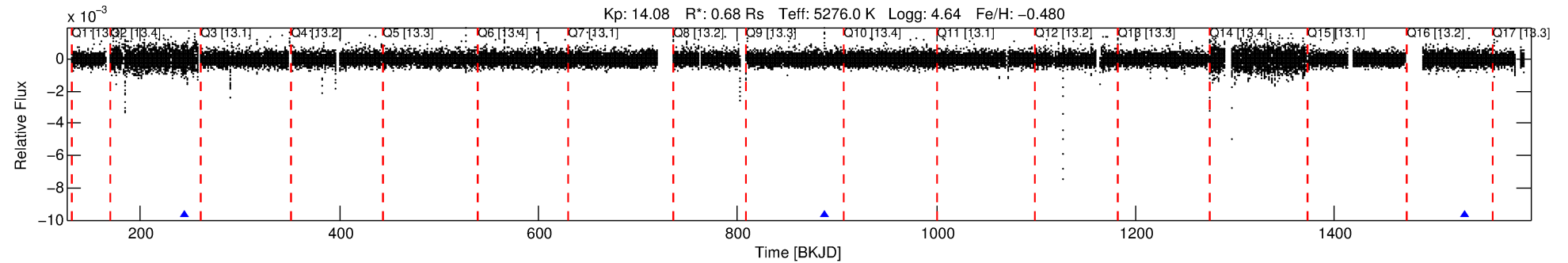
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008359398-01

No Significant Match Found

DV One-Page Summary

KIC: 8359398 Candidate: 1 of 1 Period: 643.198 d



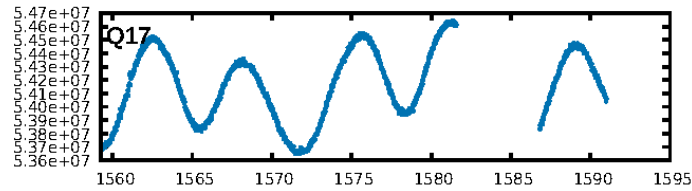
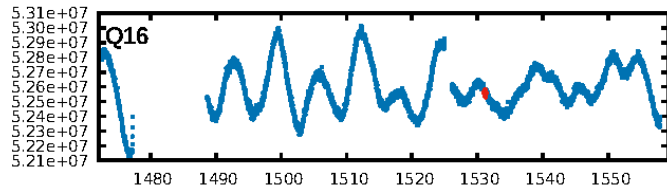
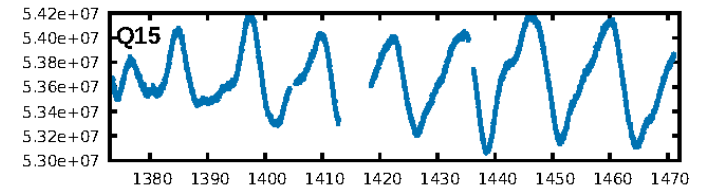
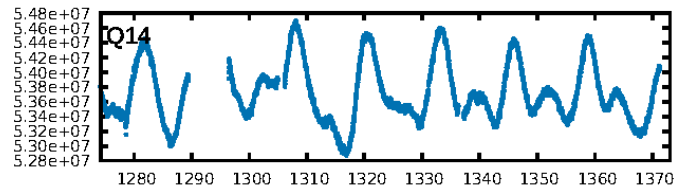
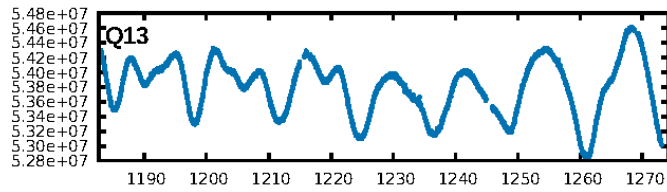
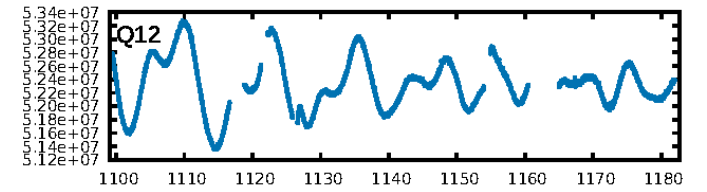
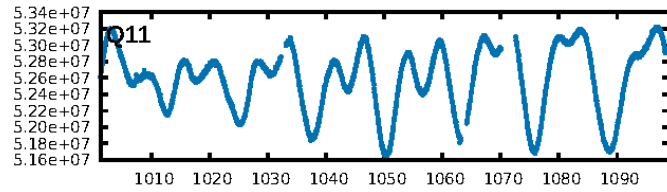
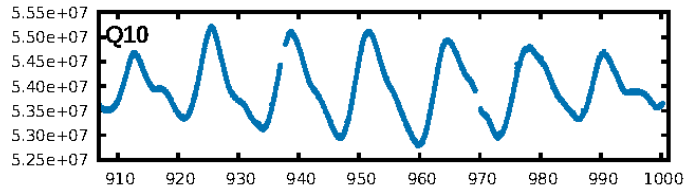
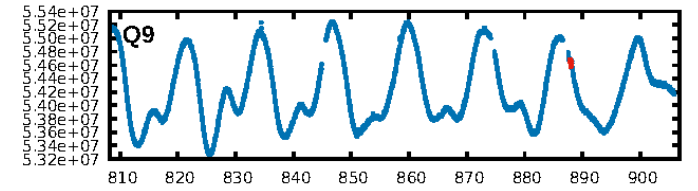
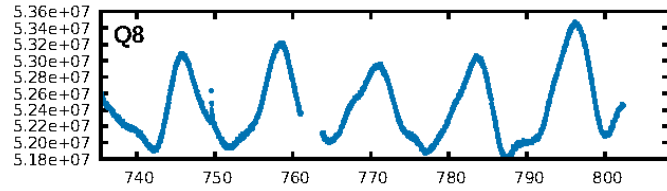
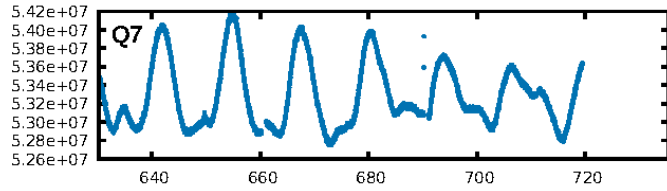
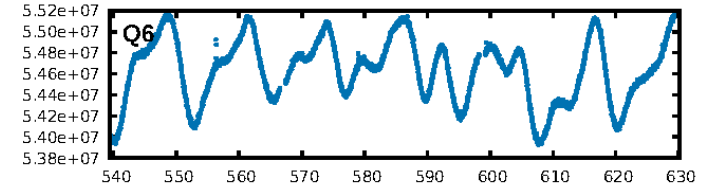
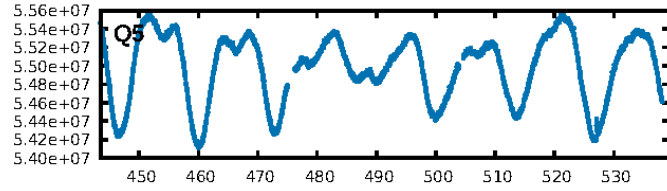
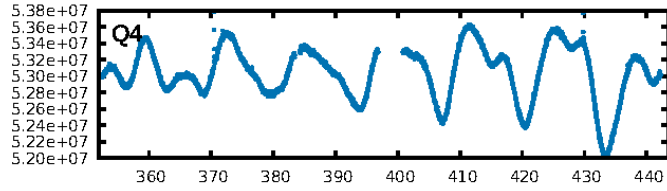
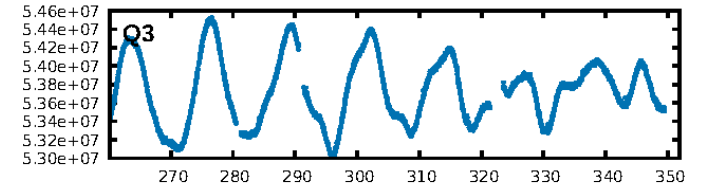
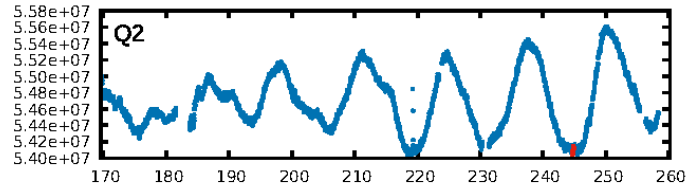
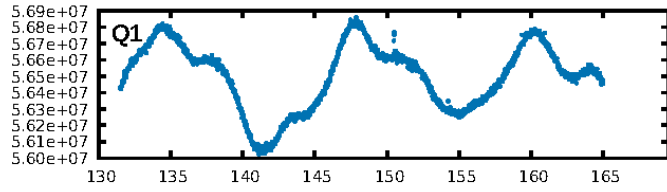
DV Fit Results:

Period = 643.19761 [0.01375] d
Epoch = 244.8025 [0.0175] BKJD
Rp/R* = 0.0209 [0.0378]
a/R* = 884.16 [6428.60]
b = 0.74 [4.57]
Seff = 0.18 [0.04]
Teq = 167 [9] K
Rp = 1.56 [2.82] Re
a = 1.3247 [0.1639] AU
Ag = 69790.41 [257134.35] [0.27σ]
Teffp = 4197 [3864] K [1.04σ]

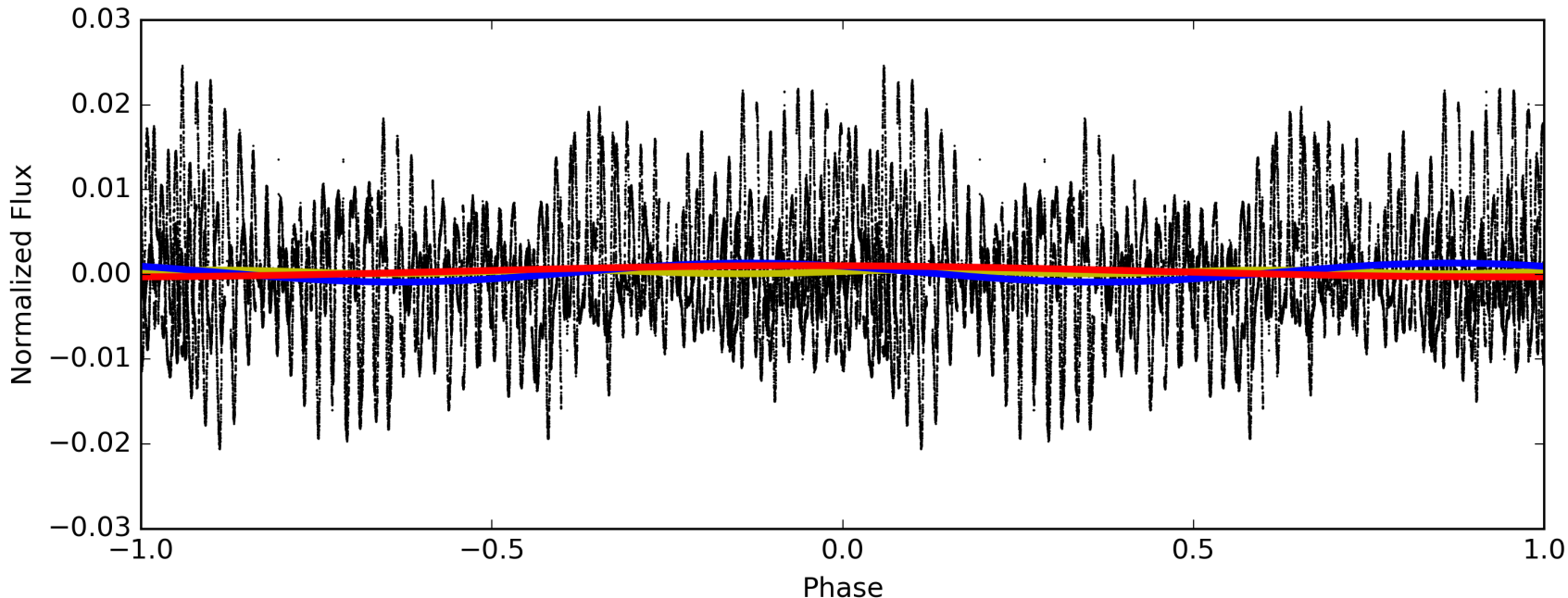
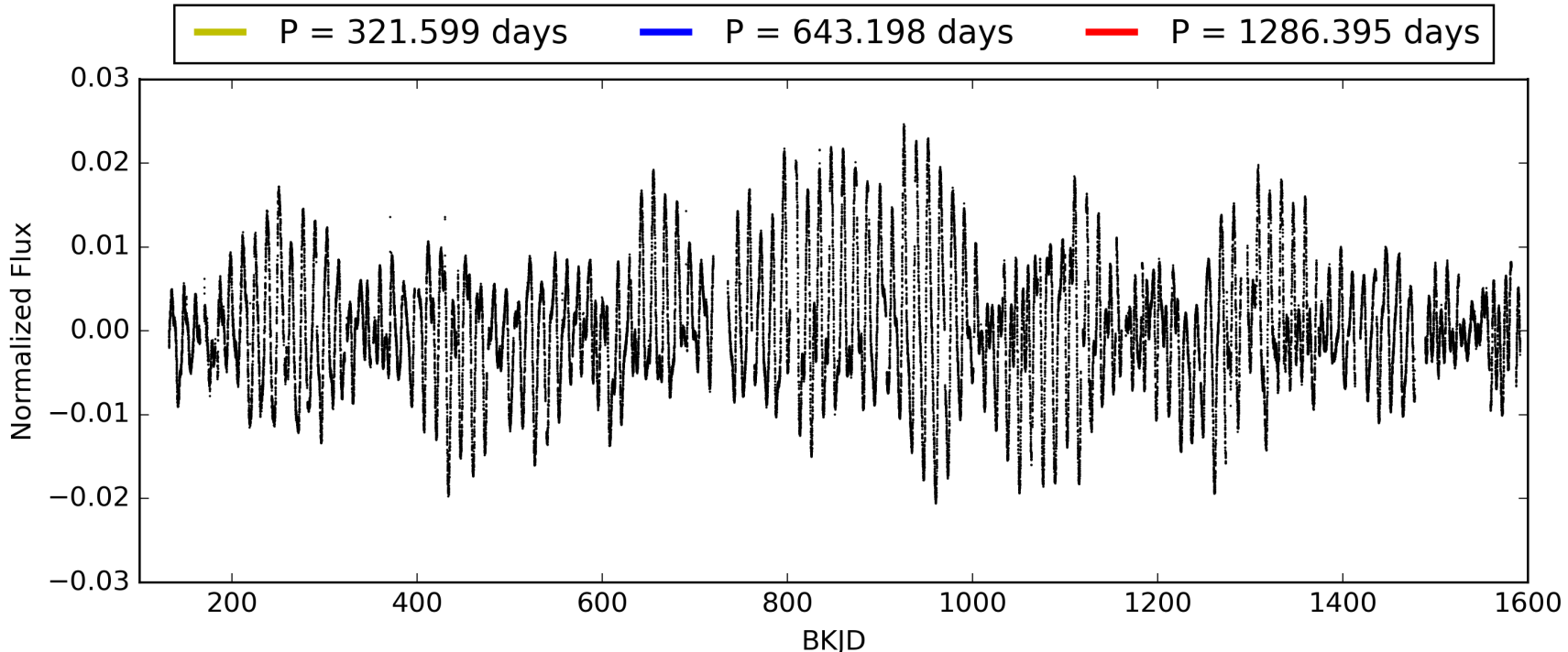
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.7%
ModelChiSquareGof-sig: 77.7%
Bootstrap-pfa: 1.70e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.081
Centroid-sig: 60.8%
Centroid-so: 1.483 arcsec [0.79σ]
OotOffset-rm: 1.493 arcsec [0.34σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 1.556 arcsec [0.34σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008359398-01, PDC Light Curves

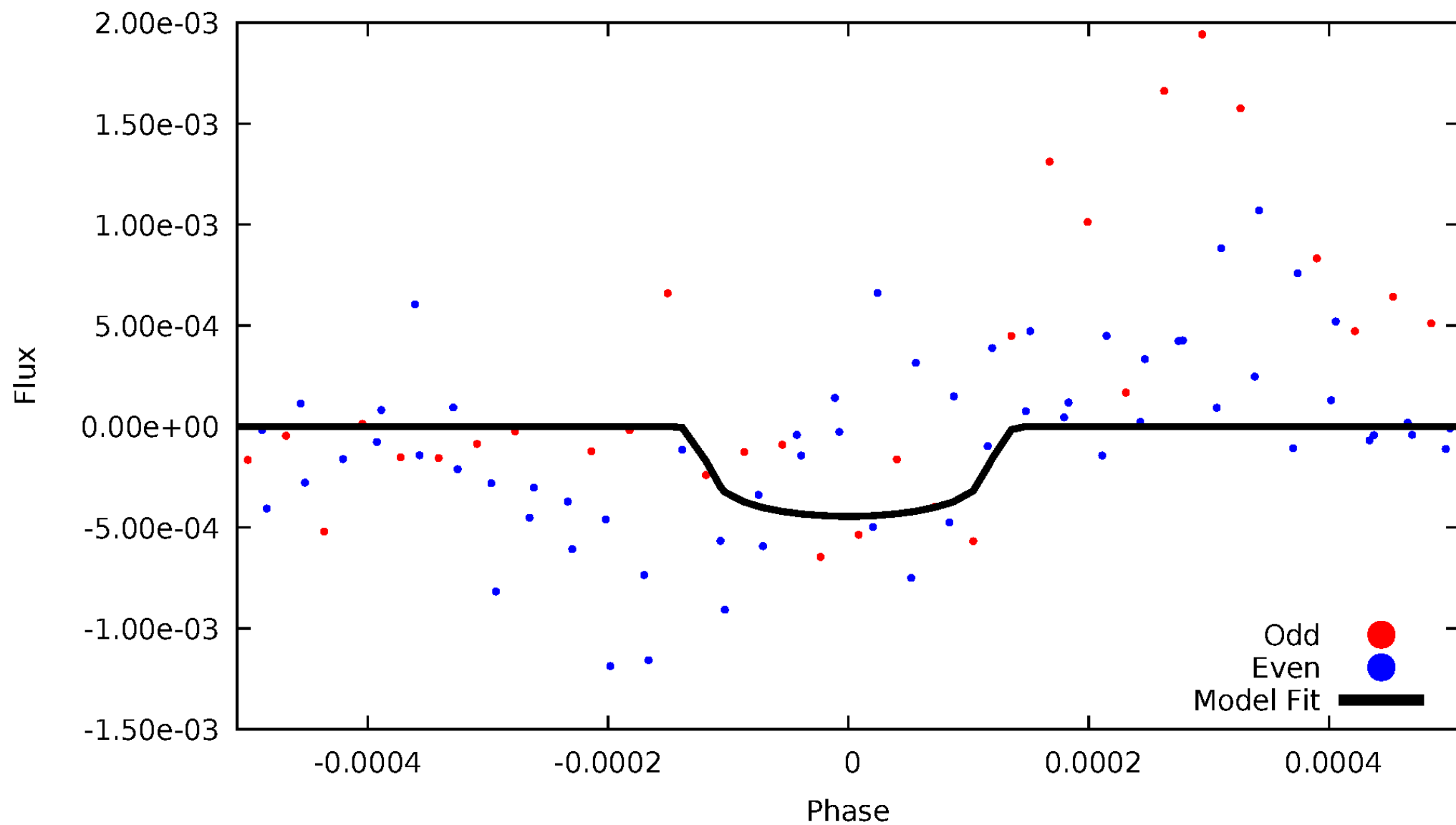


TCE 008359398-01



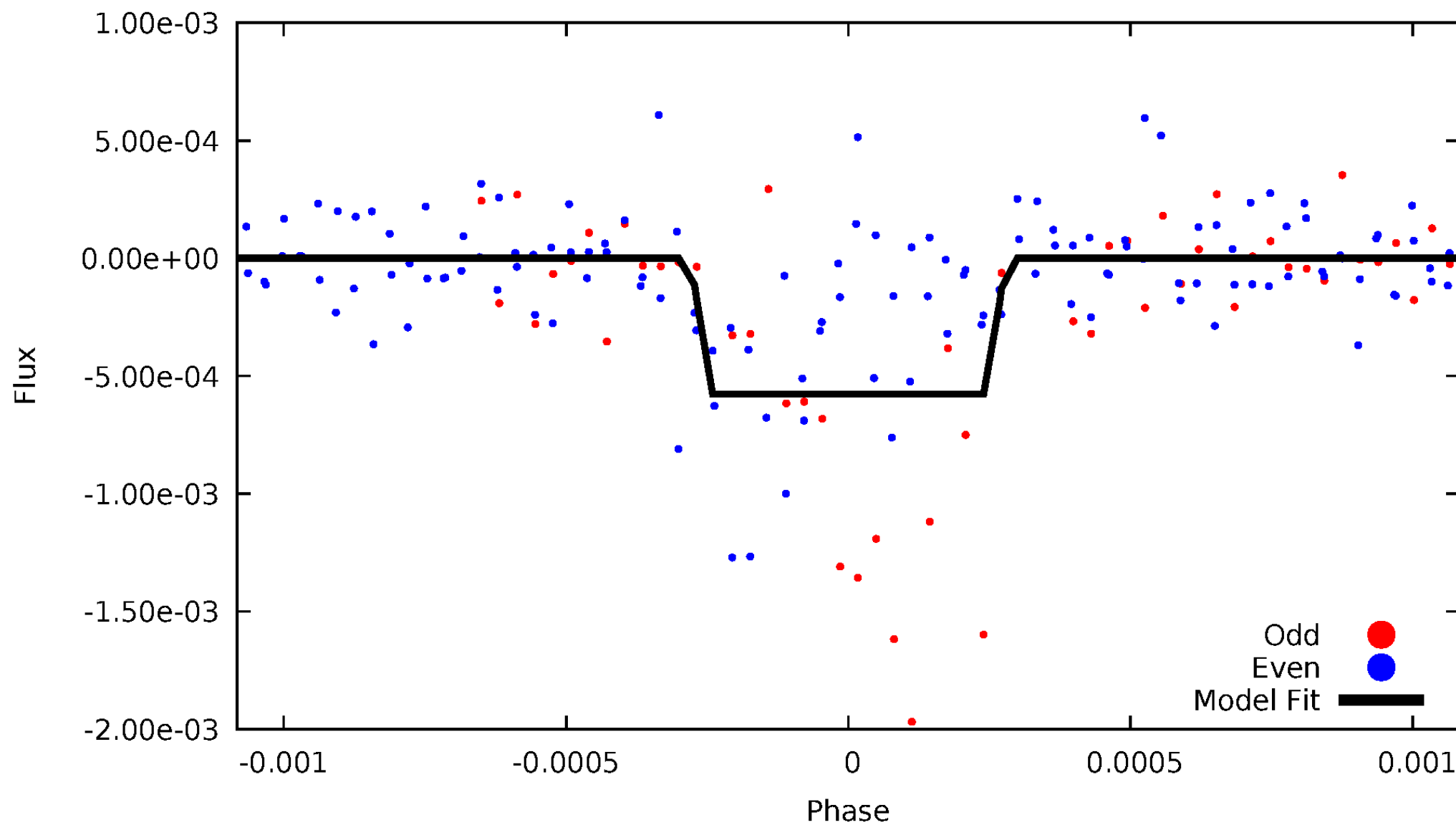
DV Odd/Even

TCE 008359398-01

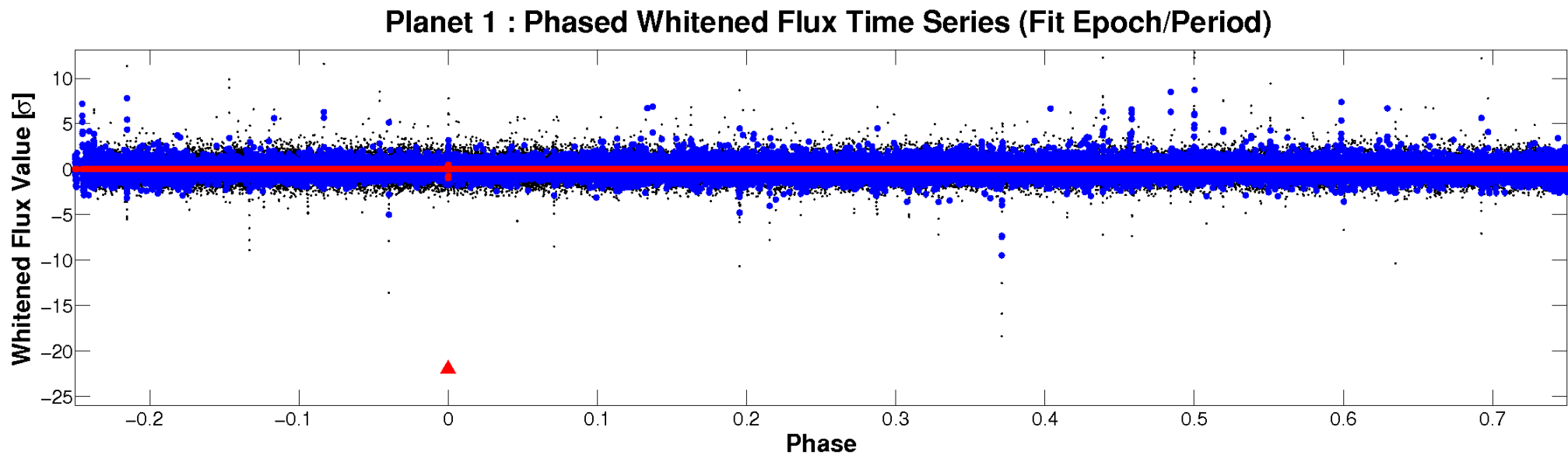
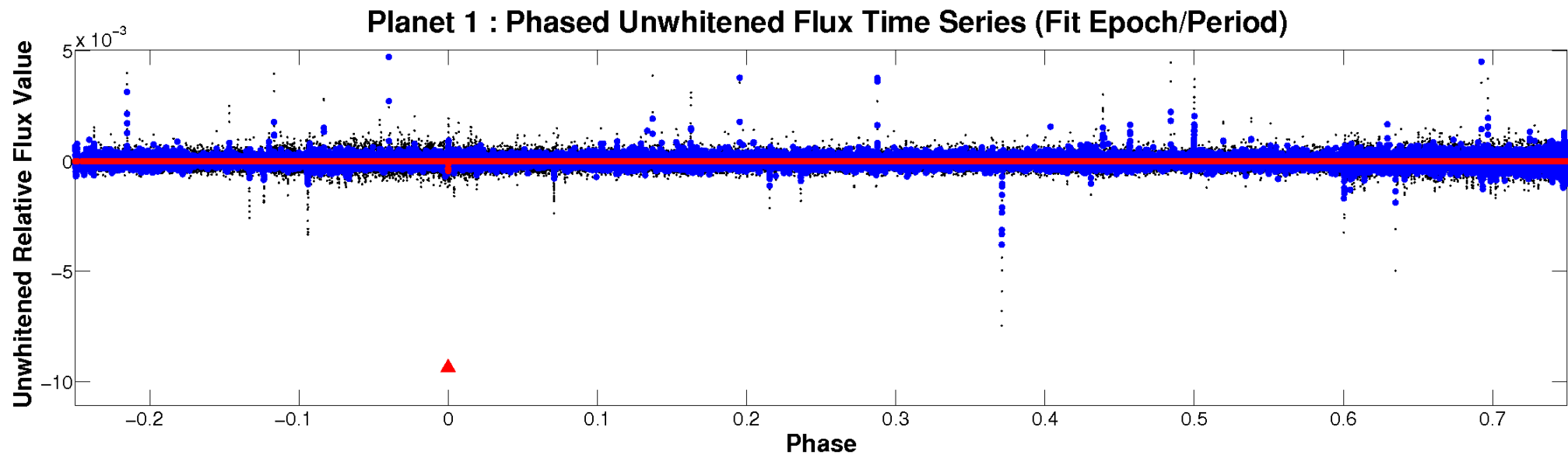


ALT Odd/Even

TCE 008359398-01

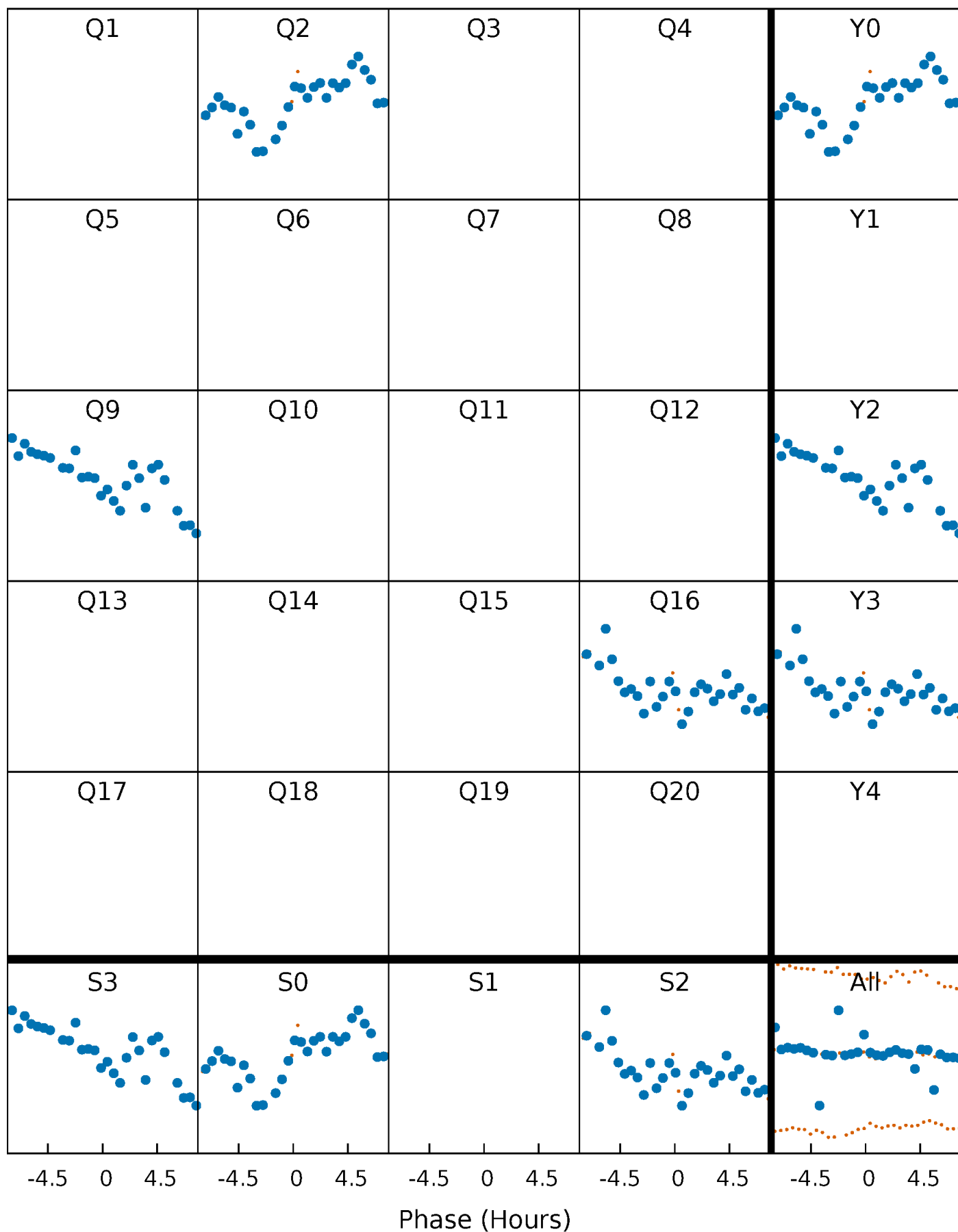


Non-Whitened Vs. Whitened Light Curve



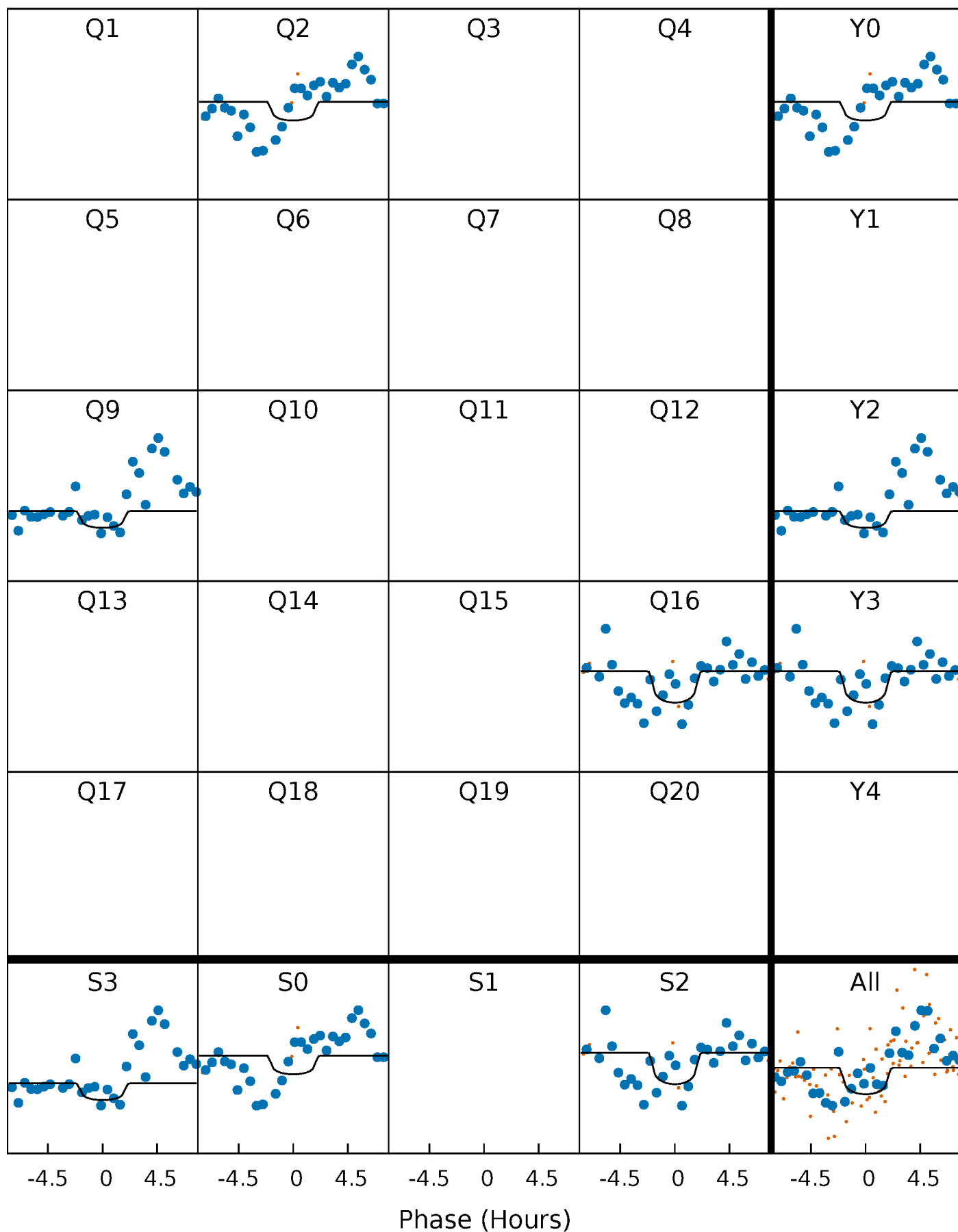
PDC Quarter-Phased Transit Curves

TCE 008359398-01 P=643.197612 Days $T_0=244.802509$ (BKJD)



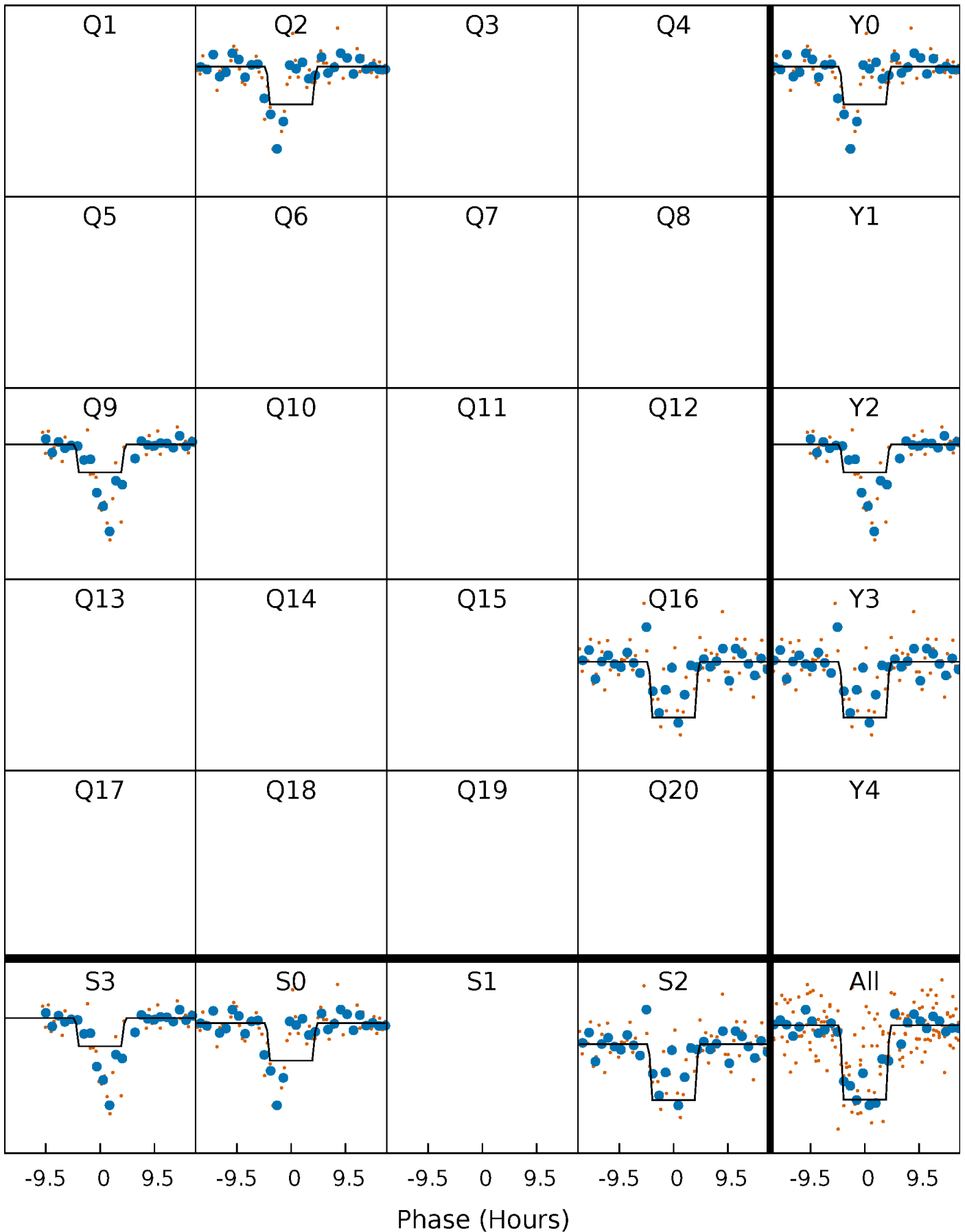
DV Quarter-Phased Transit Curves

TCE 008359398-01 P=643.197612 Days $T_0=244.802509$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

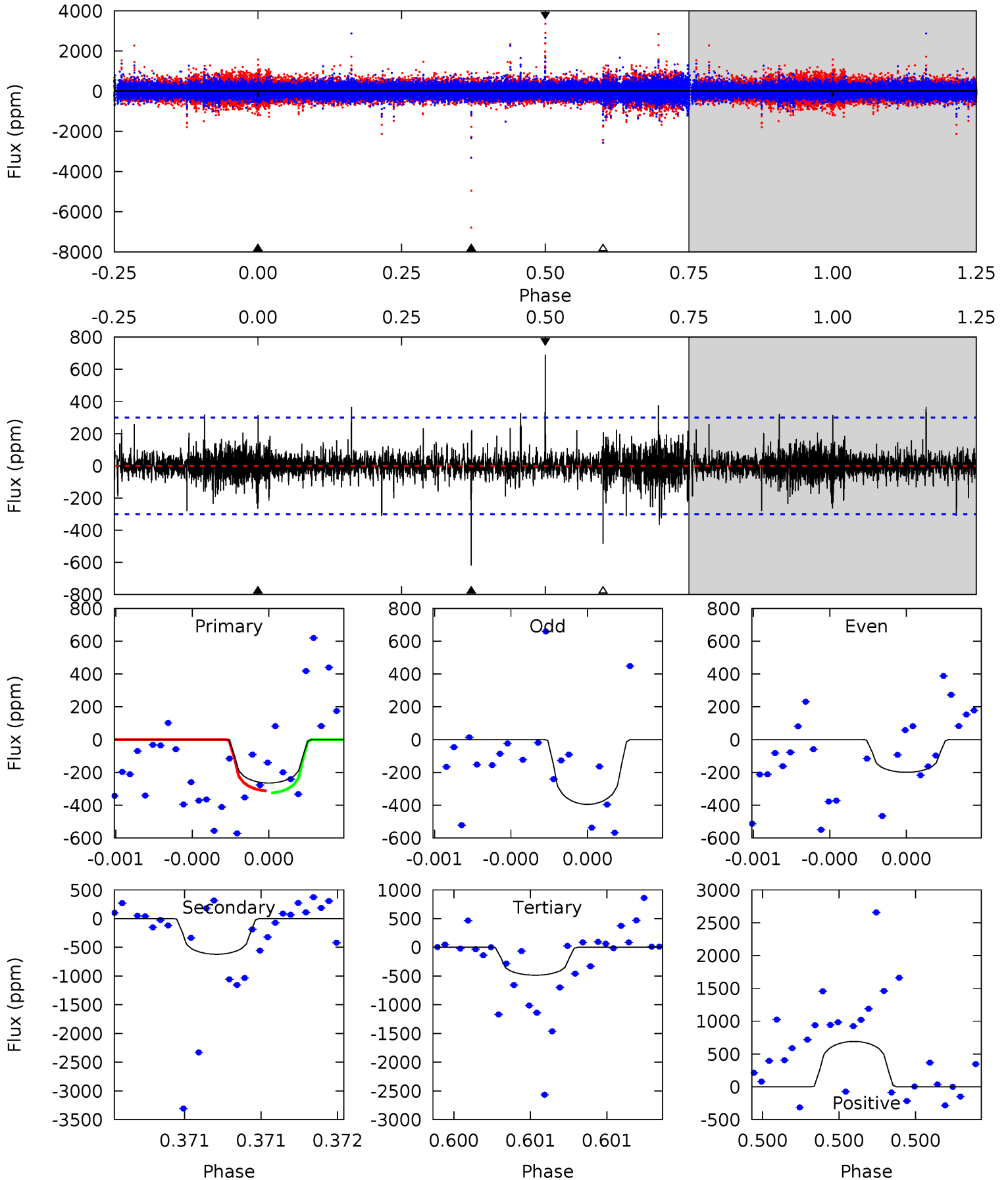
TCE 008359398-01 P=643.187168 Days $T_0=244.807404$ (BKJD)



DV Model-Shift Uniqueness Test

008359398-01, P = 643.197612 Days, E = 244.802509 Days

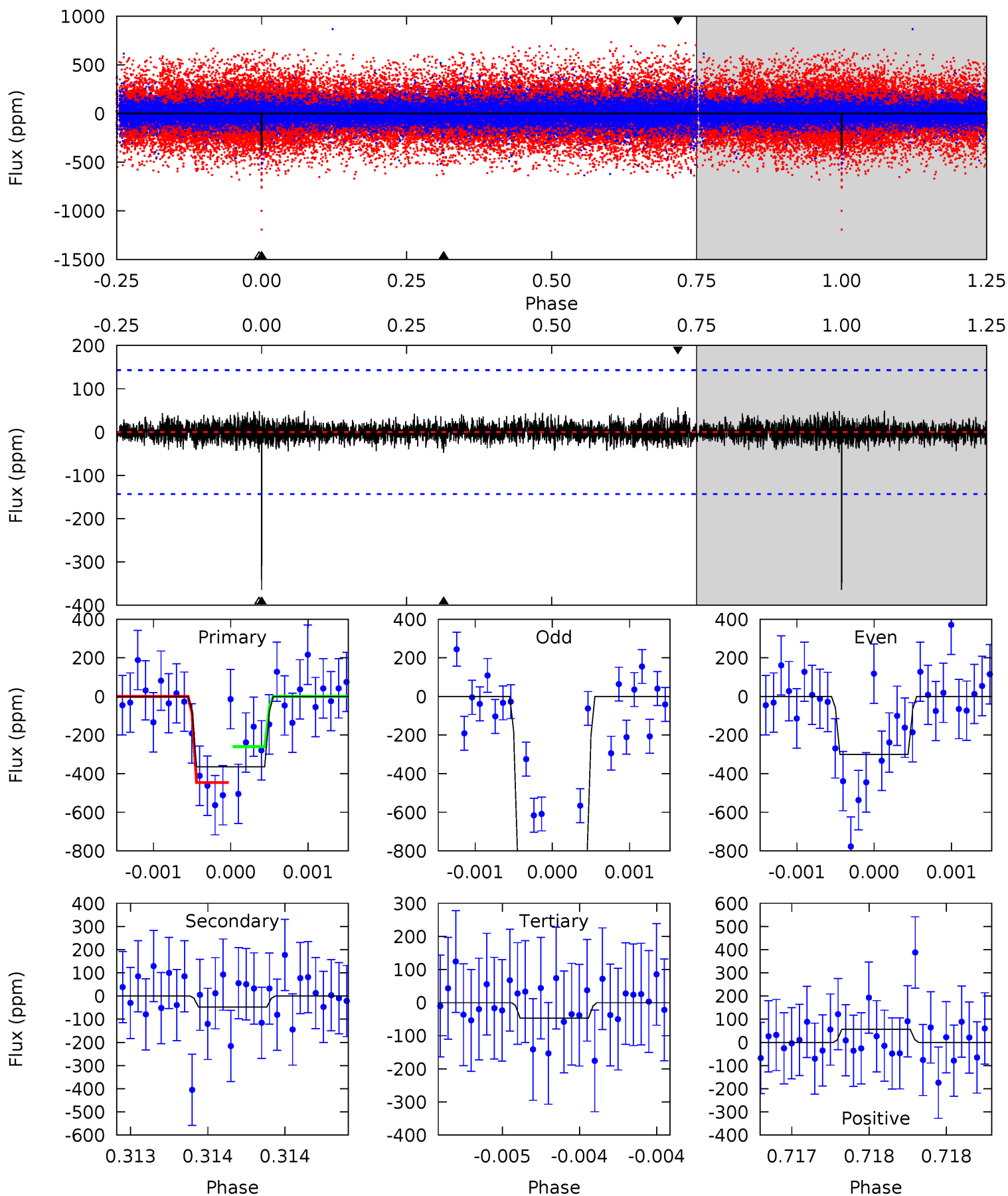
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.00	11.7	9.15	13.1	5.68	3.65	1.02	-4.15	-8.06	2.56	-1.34	1.73	0.71	0.53	0.12



Alt Model-Shift Uniqueness Test

008359398-01, P = 643.187168 Days, E = 244.807404 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	1.85	1.83	2.20	5.56	3.46	0.47	12.3	11.9	0.02	-0.35	12.7	1.44	0.13	0



Stellar Parameters For KIC 008359398

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5276^{+158}_{-142}	$4.645^{+0.030}_{-0.090}$	$-0.480^{+0.300}_{-0.300}$	$0.682^{+0.105}_{-0.049}$	$0.754^{+0.073}_{-0.073}$	$3.347^{+0.525}_{-0.965}$
	+3%/-3%	+1%/-2%	+62%/-62%	+15%/-7%	+10%/-10%	+16%/-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 008359398-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-620 ± 53	$2.57^{+2.40}_{-1.62}$	236^{+10}_{-8}	4654^{+2855}_{-996}	$91206^{+550285}_{-66902}$
Alt.	-48 ± 26	$2.95^{+2.44}_{-1.90}$	236^{+10}_{-8}	2859^{+1185}_{-467}	4527^{+39449}_{-3440}

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 $A_{obs} \gg 1.0$

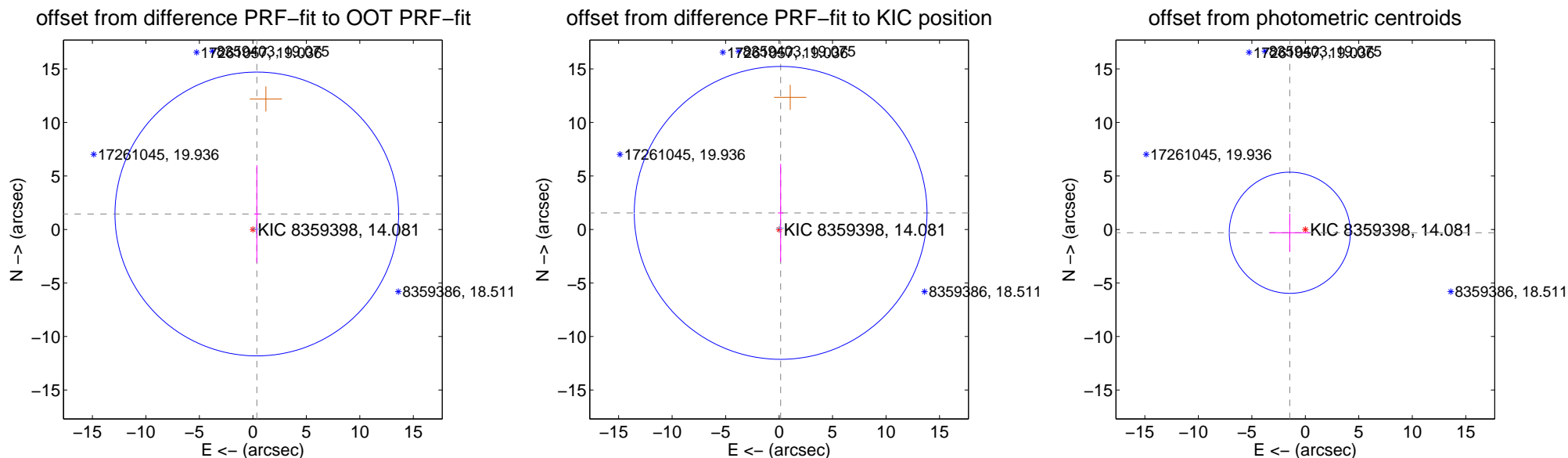
DV Centroid Data

Supplemental centroid analysis for 008359398-01. Kepler magnitude: 14.08. Transit SNR 4.76

There are 1 quarters with good PRF difference image offsets

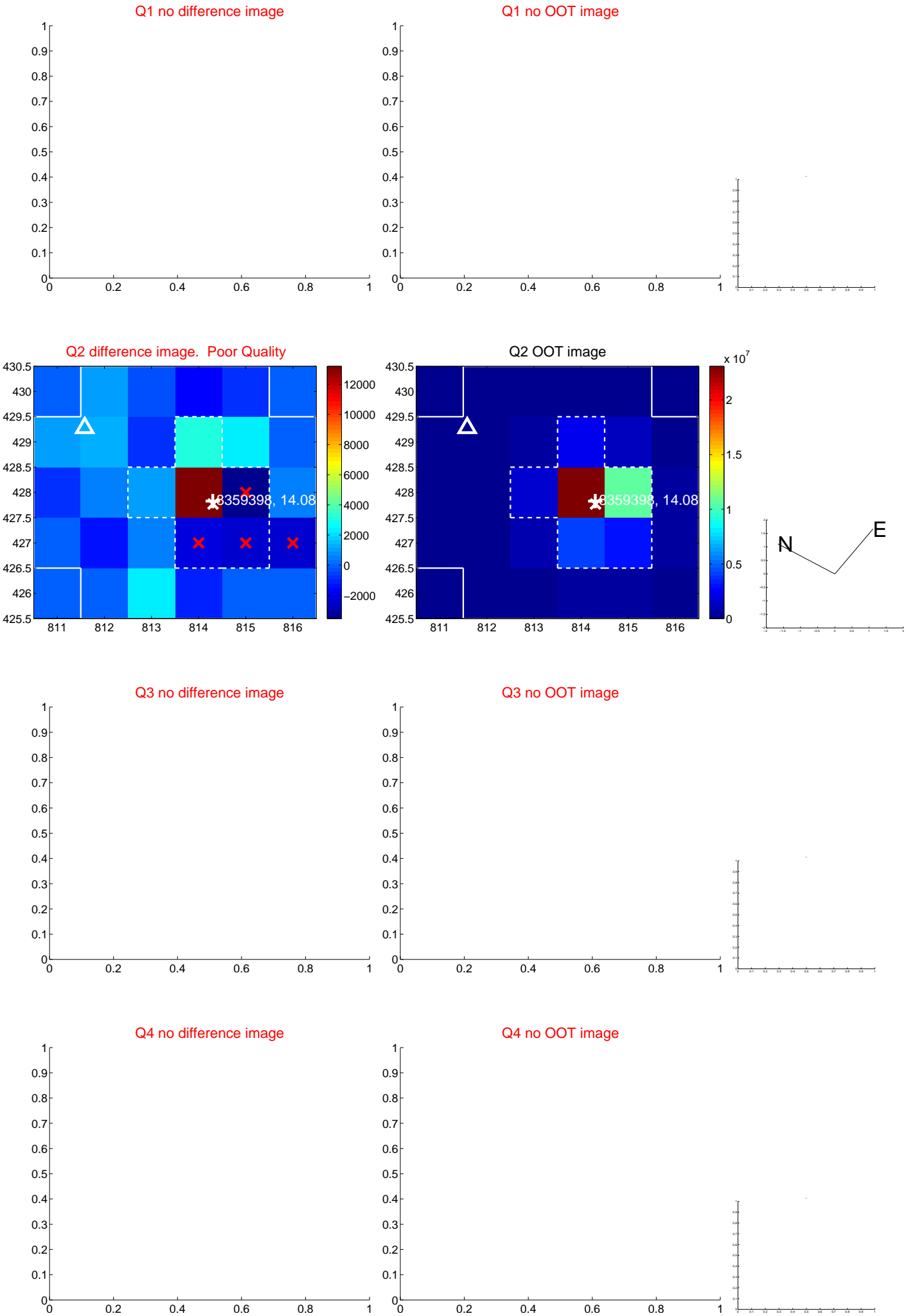
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.493 ± 4.420	0.34	-0.370 ± 0.247	1.447 ± 4.561
PRF-fit source offset from KIC position	1.556 ± 4.561	0.34	-0.146 ± 0.259	1.549 ± 4.581
photometric centroid source offset	1.48 ± 1.89	0.79	1.45 ± 1.89	-0.31 ± 1.79



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.

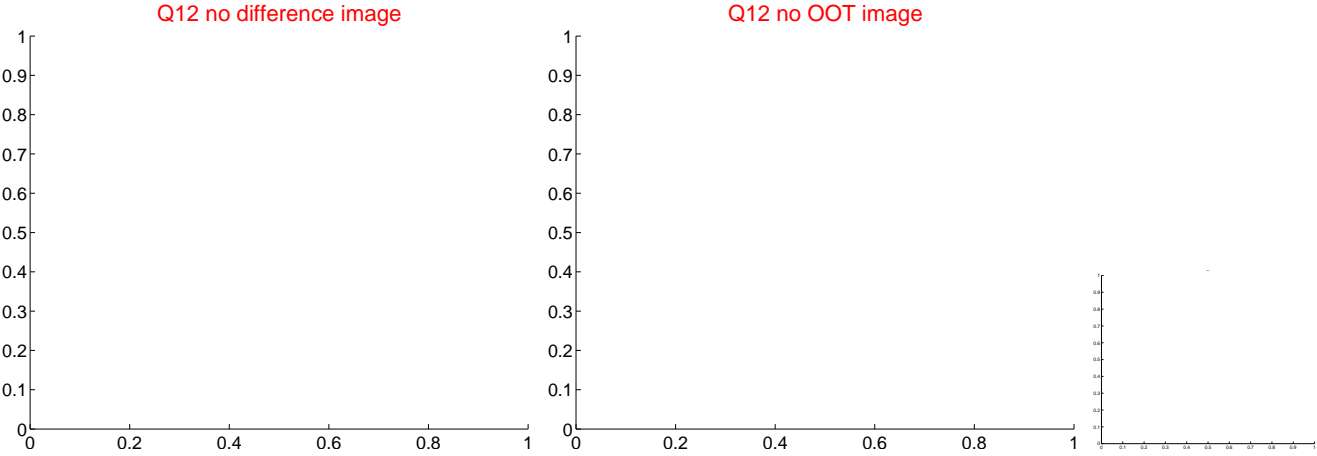
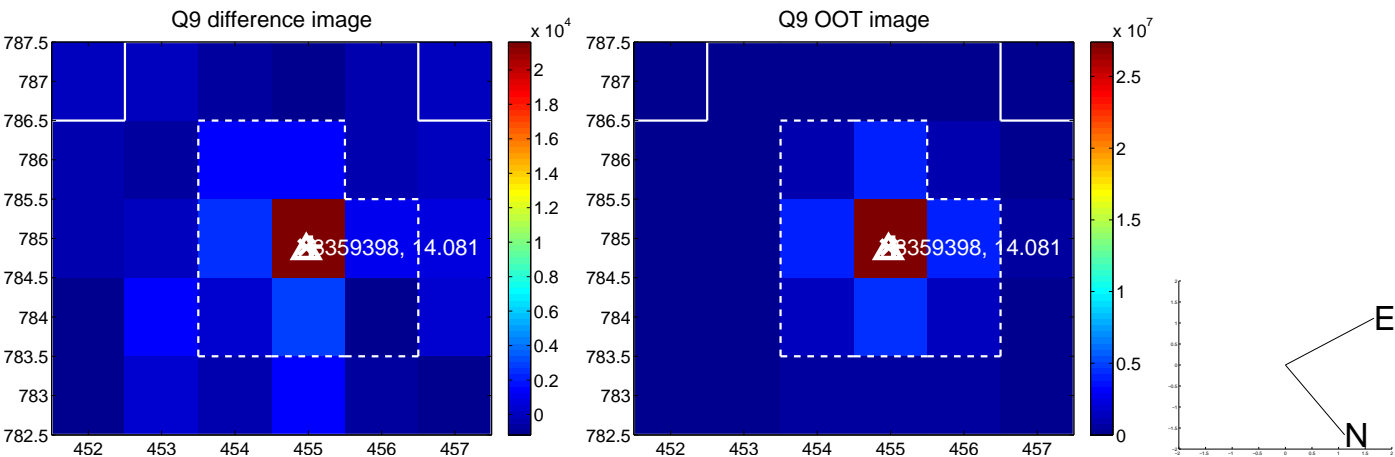
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



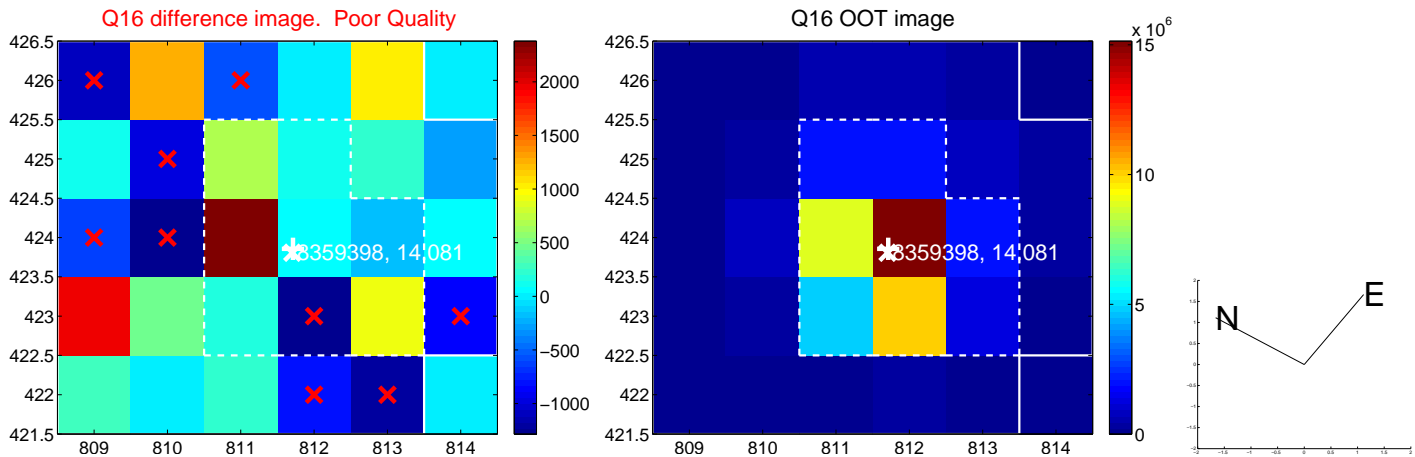
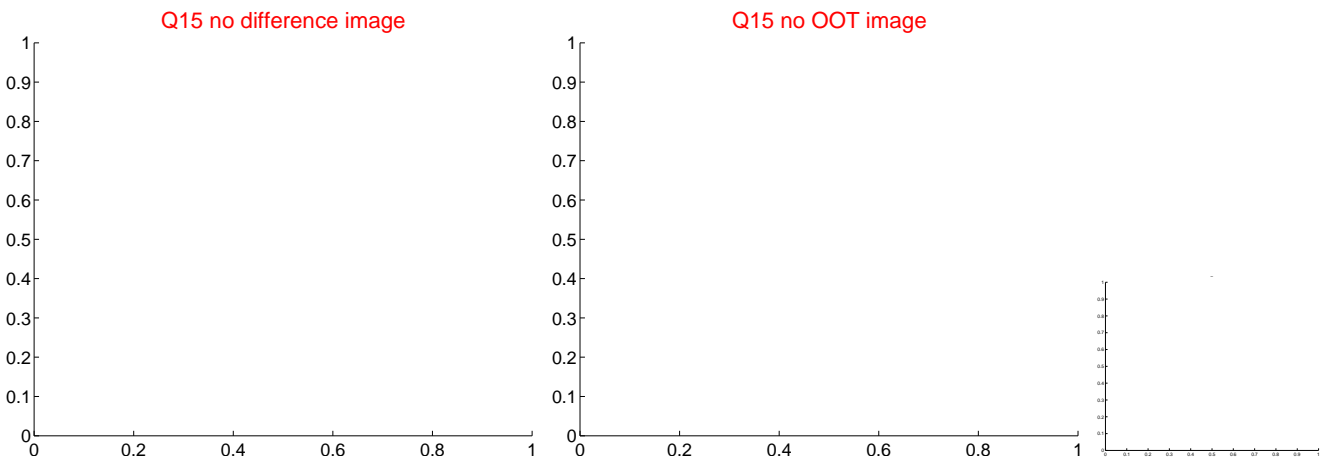
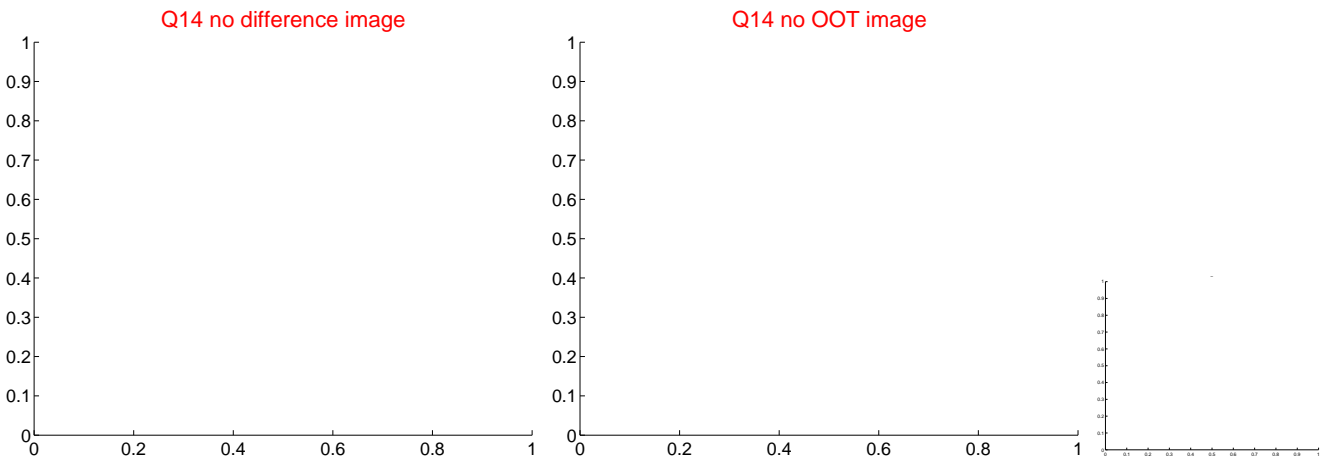
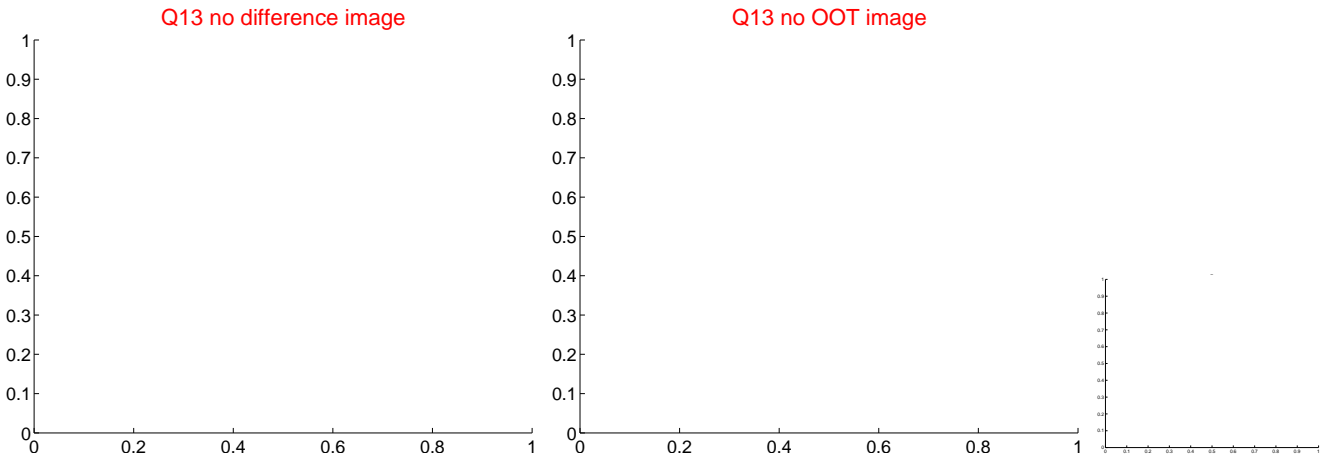
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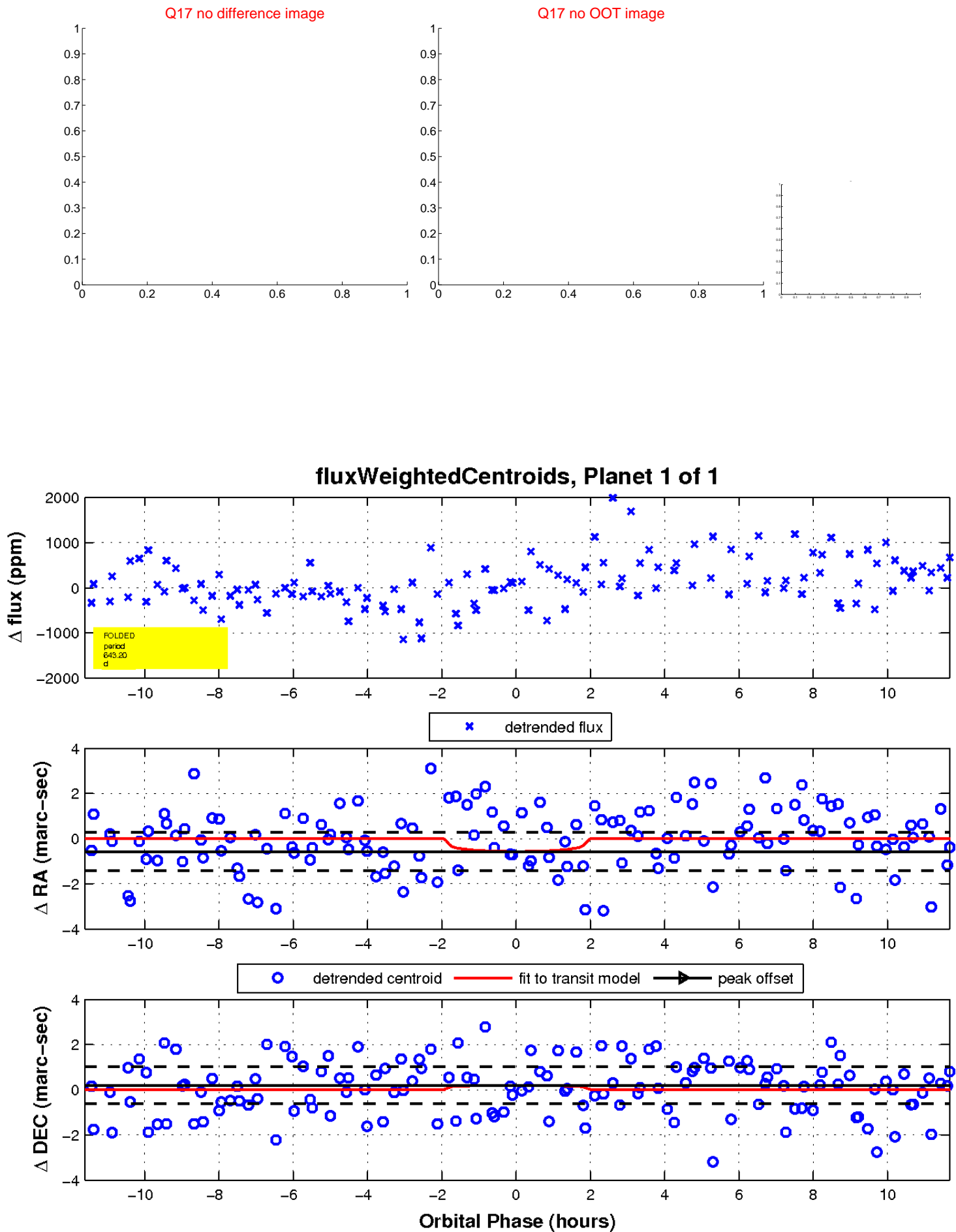
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

