

KIC 012121664

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})
012121664-01	OBS	No	319.823337	134.406395	1671.7	5.998	15.1	8.5	0.81	5510	4.00	0.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012121664-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

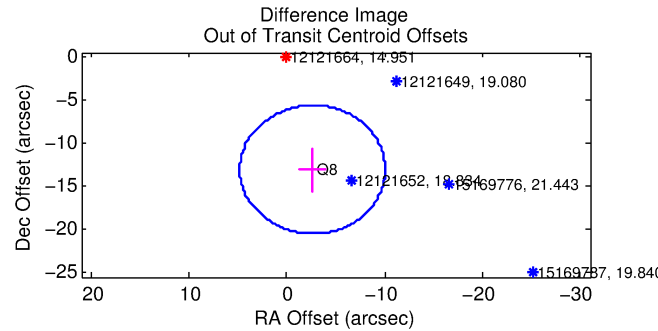
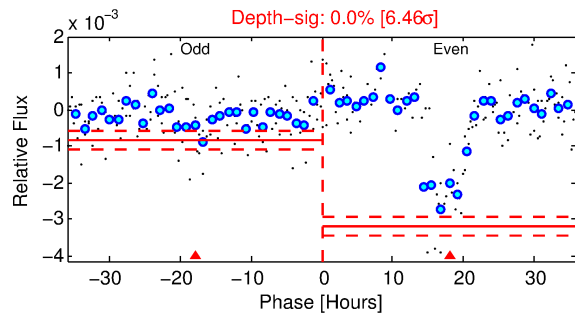
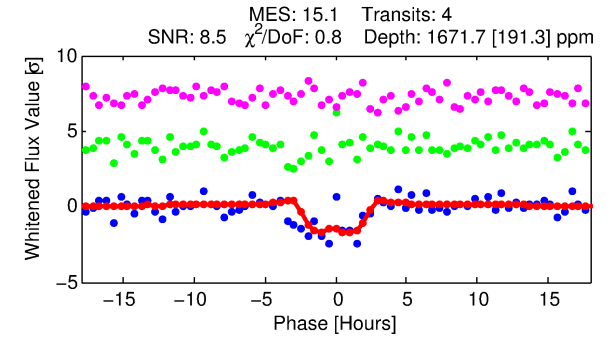
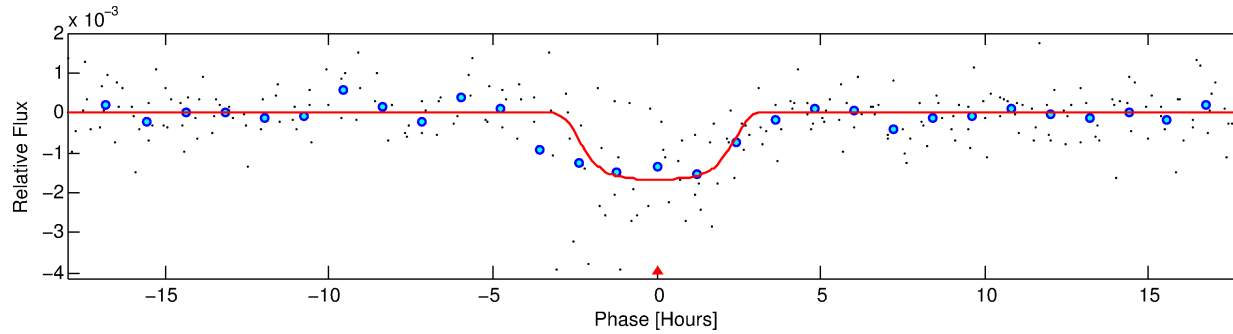
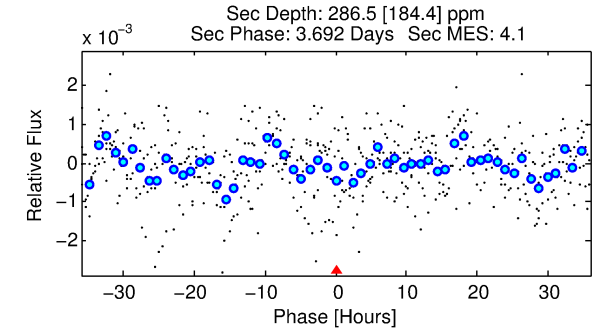
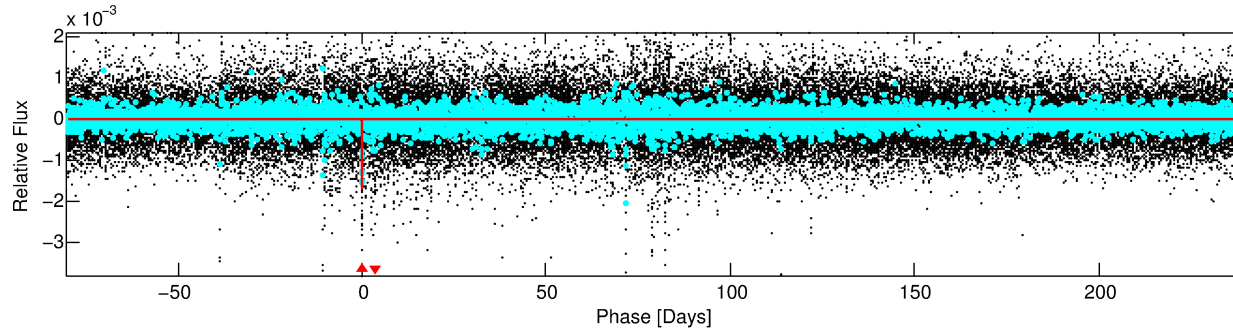
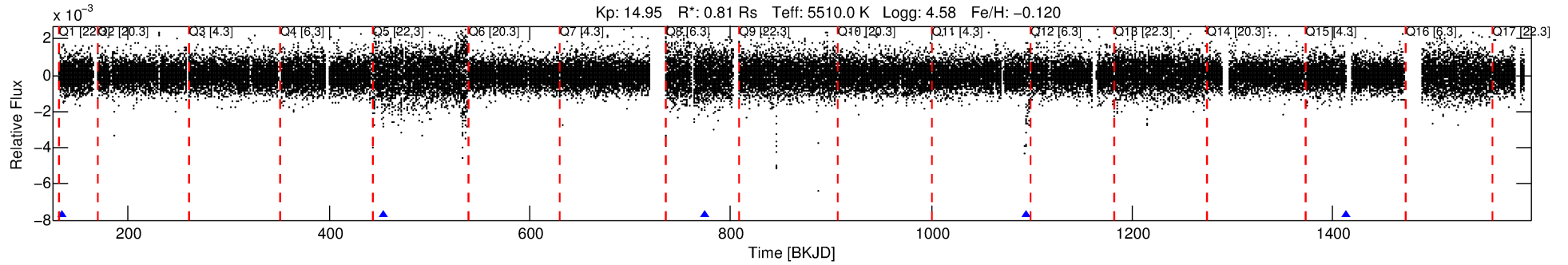
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012121664-01

No Significant Match Found

DV One-Page Summary

KIC: 12121664 Candidate: 1 of 1 Period: 319.823 d



DV Fit Results:

Period = 319.82334 [0.00432] d
Epoch = 134.4064 [0.0082] BKJD
Rp/R* = 0.0455 [0.0042]
a/R* = 208.72 [50.99]
b = 0.91 [0.05]
Seff = 0.69 [0.20]
Teq = 232 [17] K
Rp = 4.00 [0.89] Re
a = 0.8835 [0.1545] AU
Ag = 7671.36 [5509.74] [1.39σ]
Teff = 3362 [572] K [5.47σ]

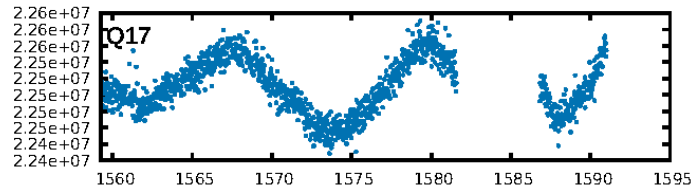
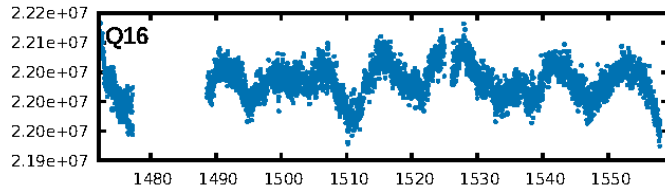
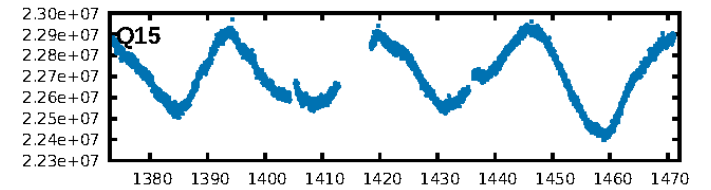
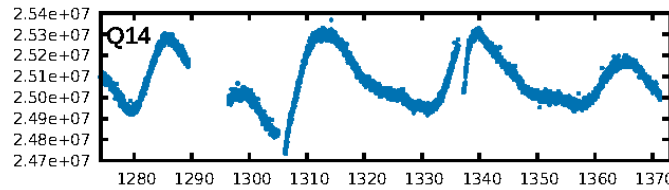
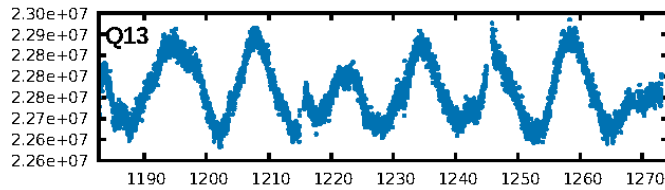
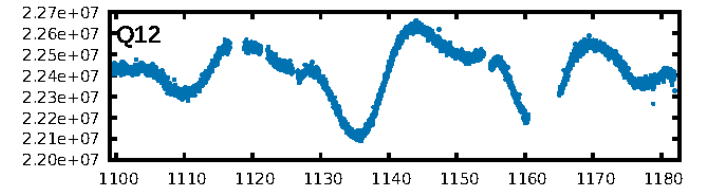
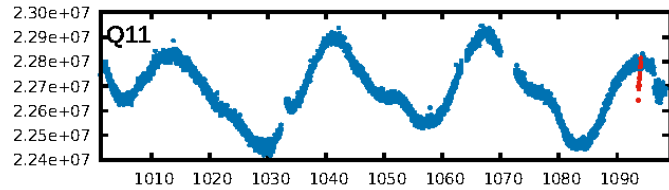
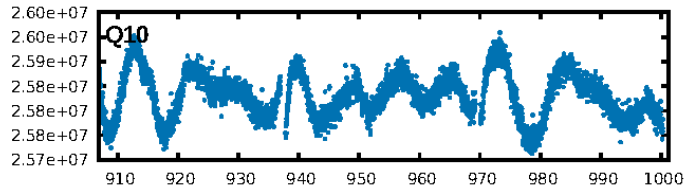
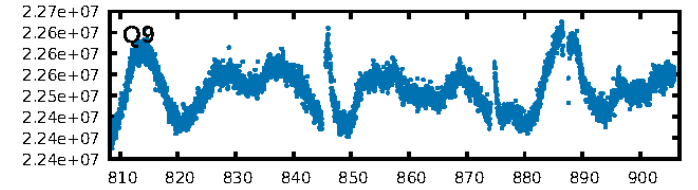
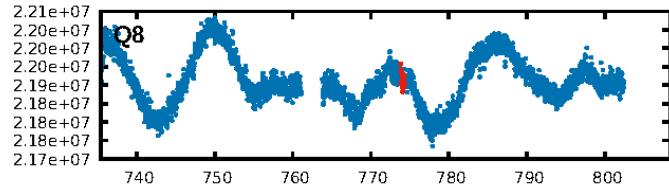
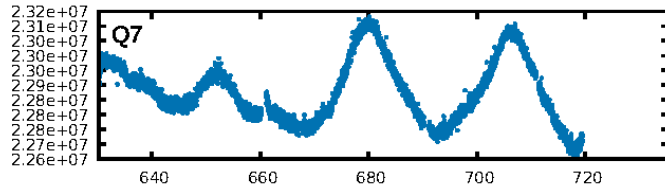
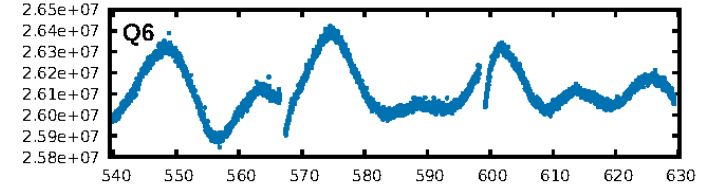
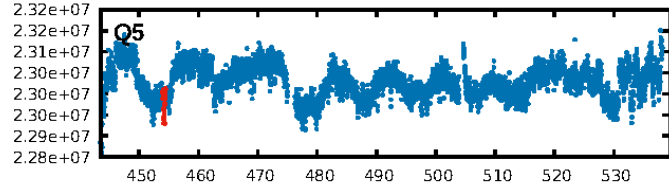
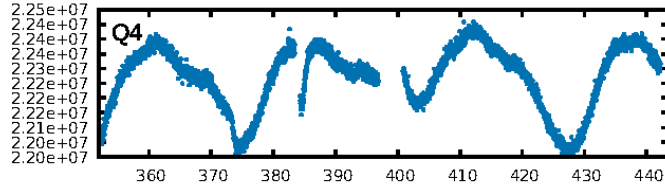
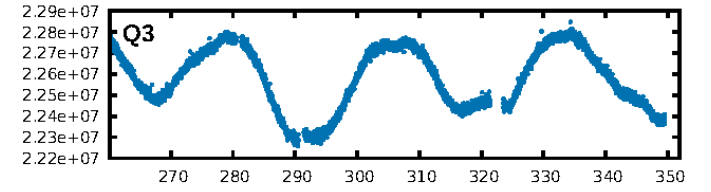
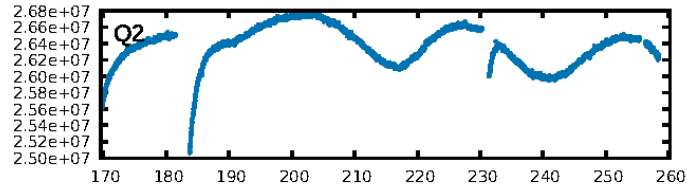
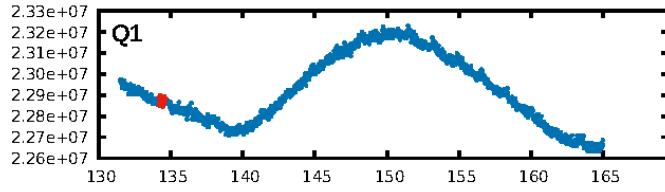
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGoF-sig: 98.9%
Bootstrap-pfa: 7.38e-30
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1628
Centroid-sig: 0.9%
Centroid-so: 5.396 arcsec [17.94σ]
OotOffset-rm: 13.327 arcsec [5.38σ]
KicOffset-rm: 4.091 arcsec [1.64σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

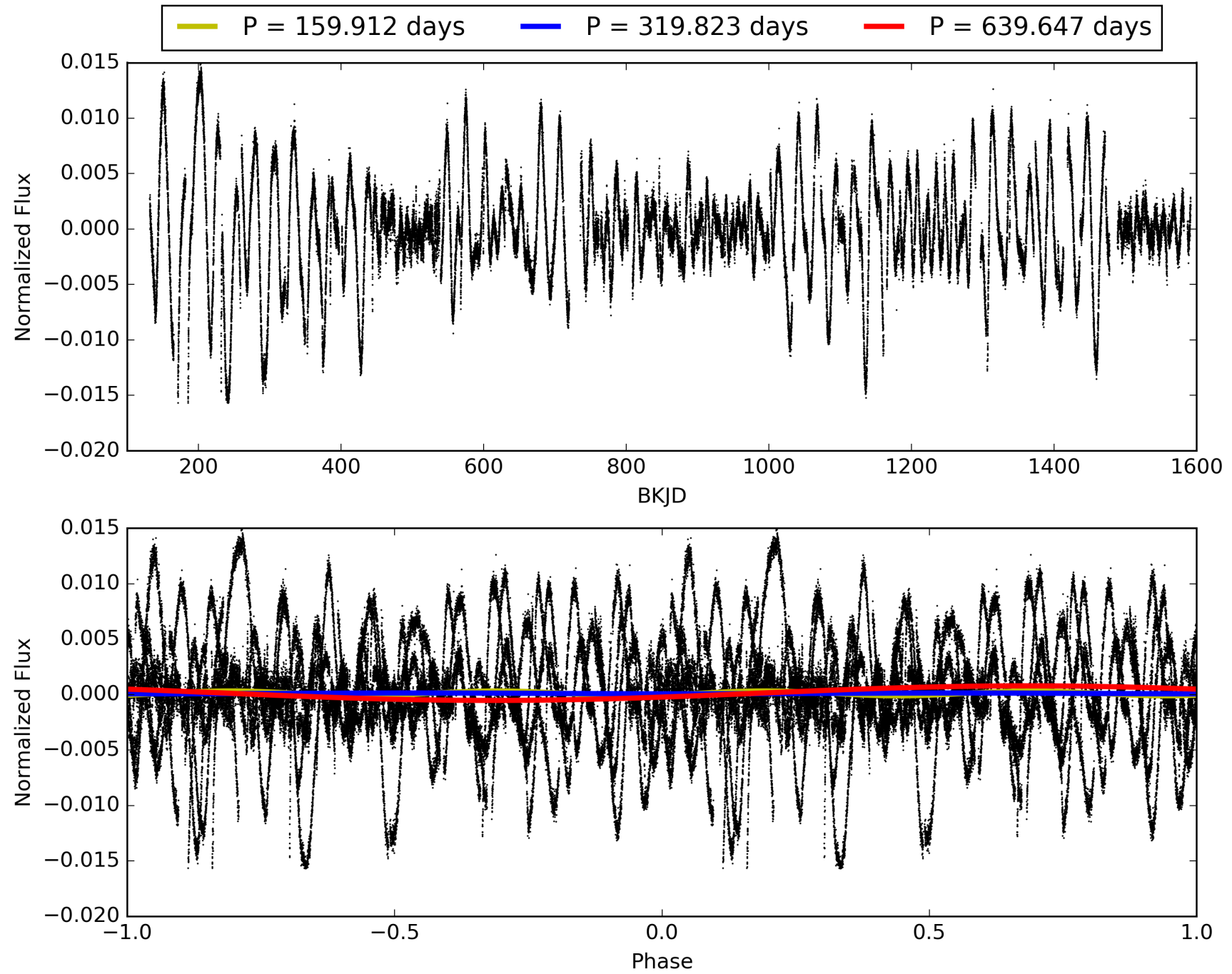
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:02:08 Z

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

TCE 012121664-01, PDC Light Curves

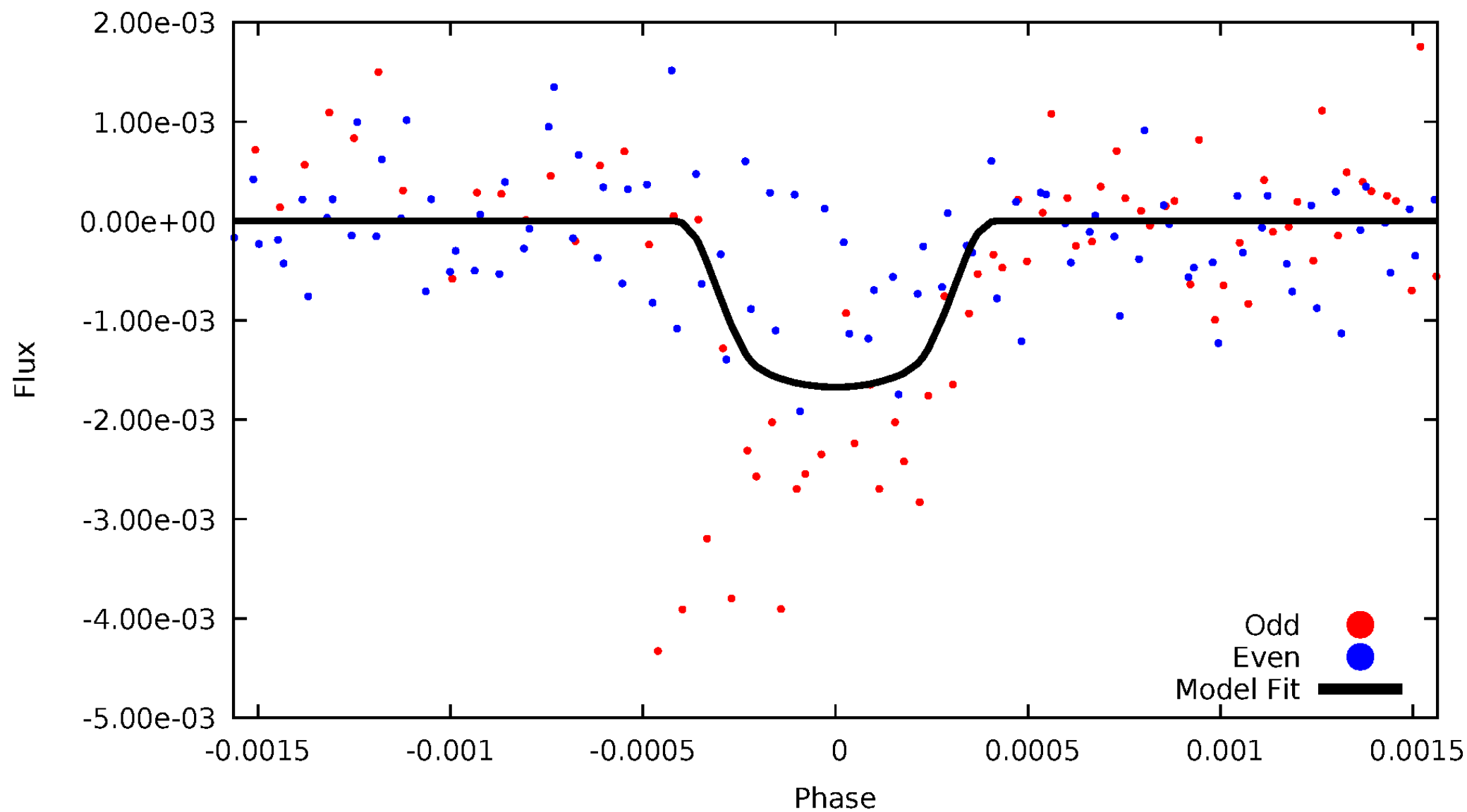


TCE 012121664-01



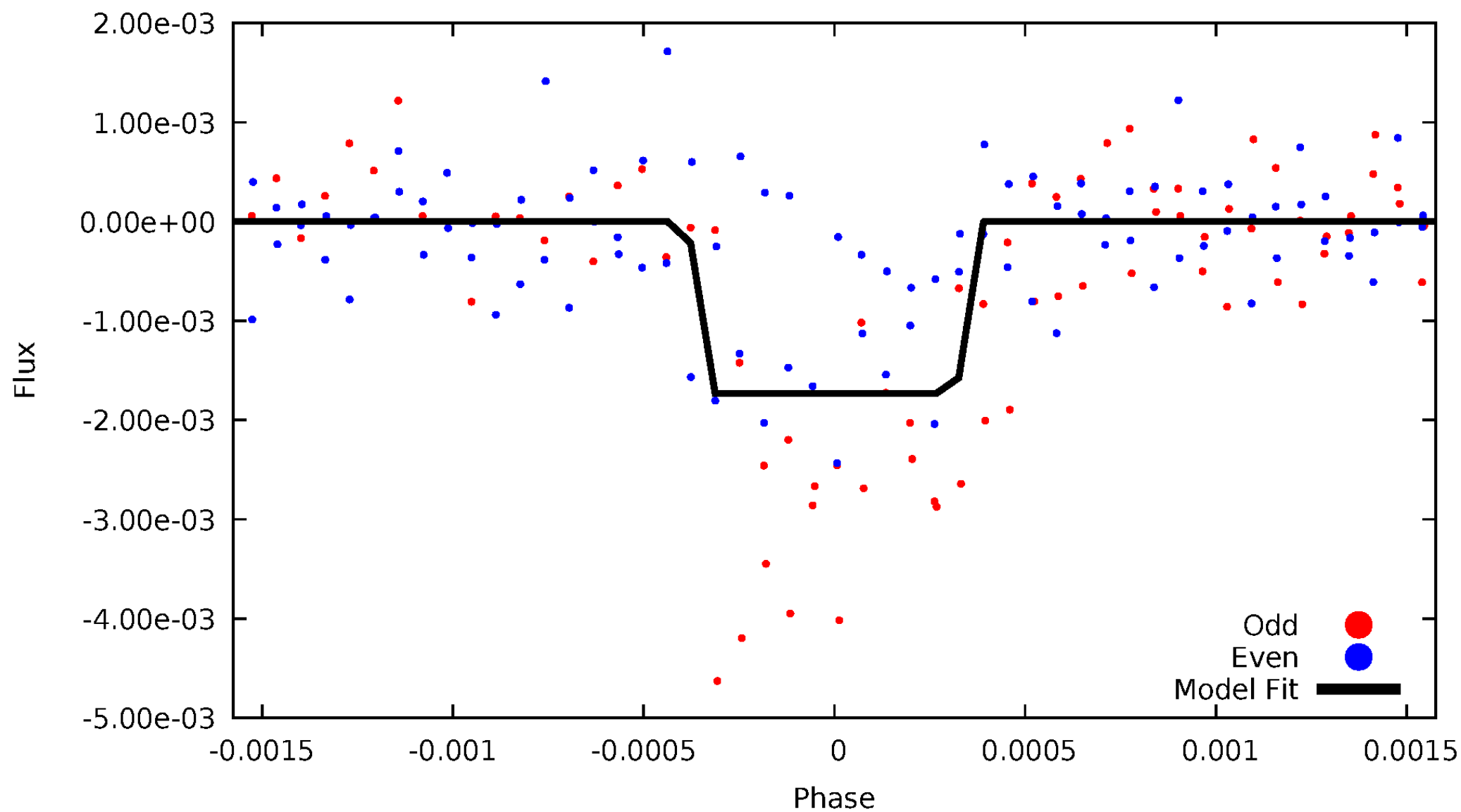
DV Odd/Even

TCE 012121664-01



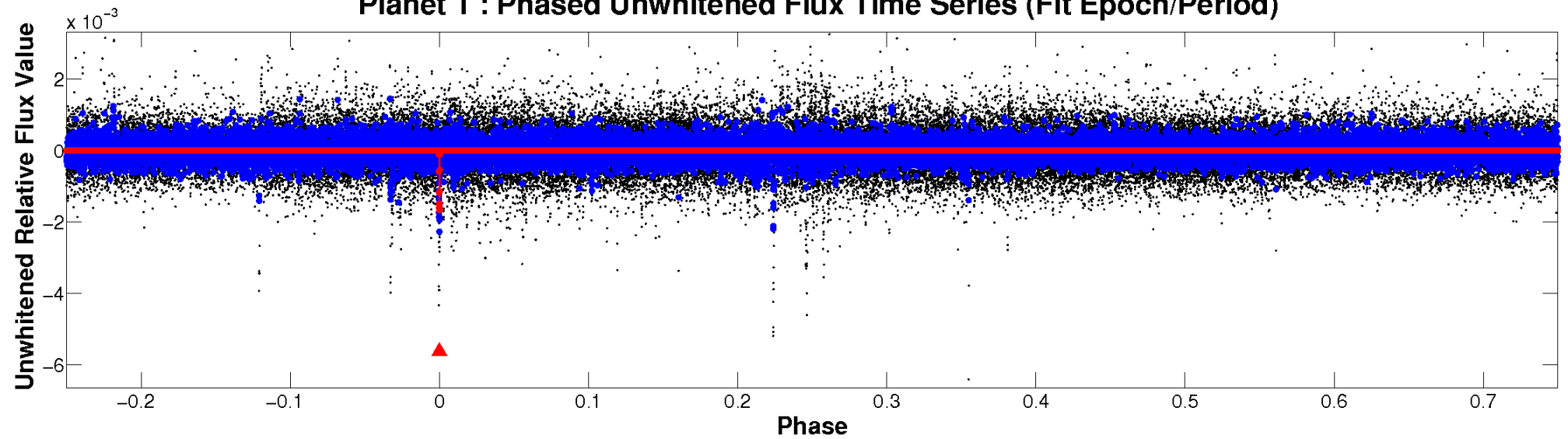
ALT Odd/Even

TCE 012121664-01

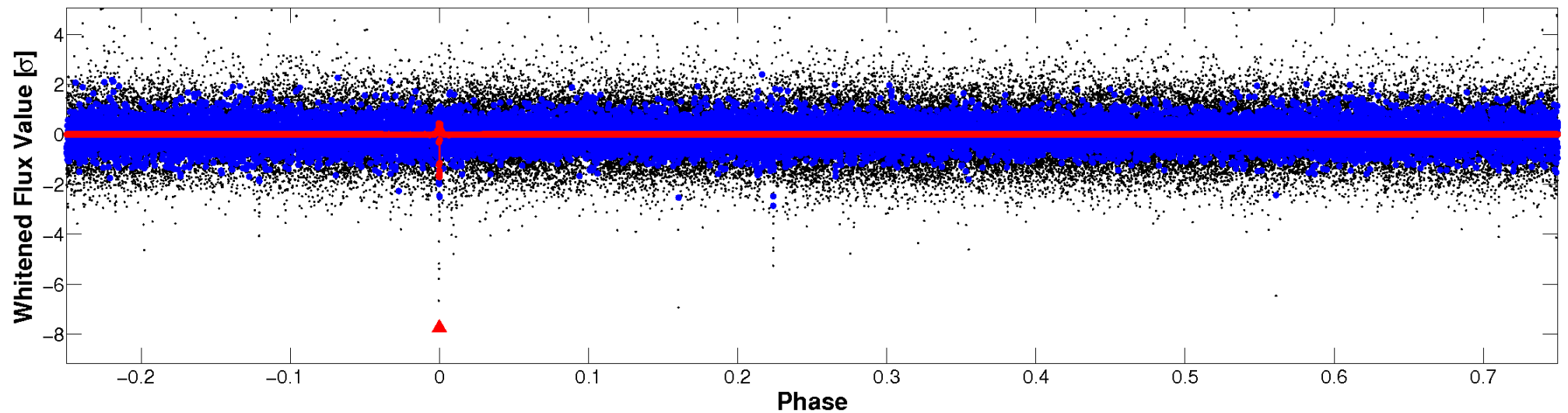


Non-Whitened Vs. Whitened Light Curve

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

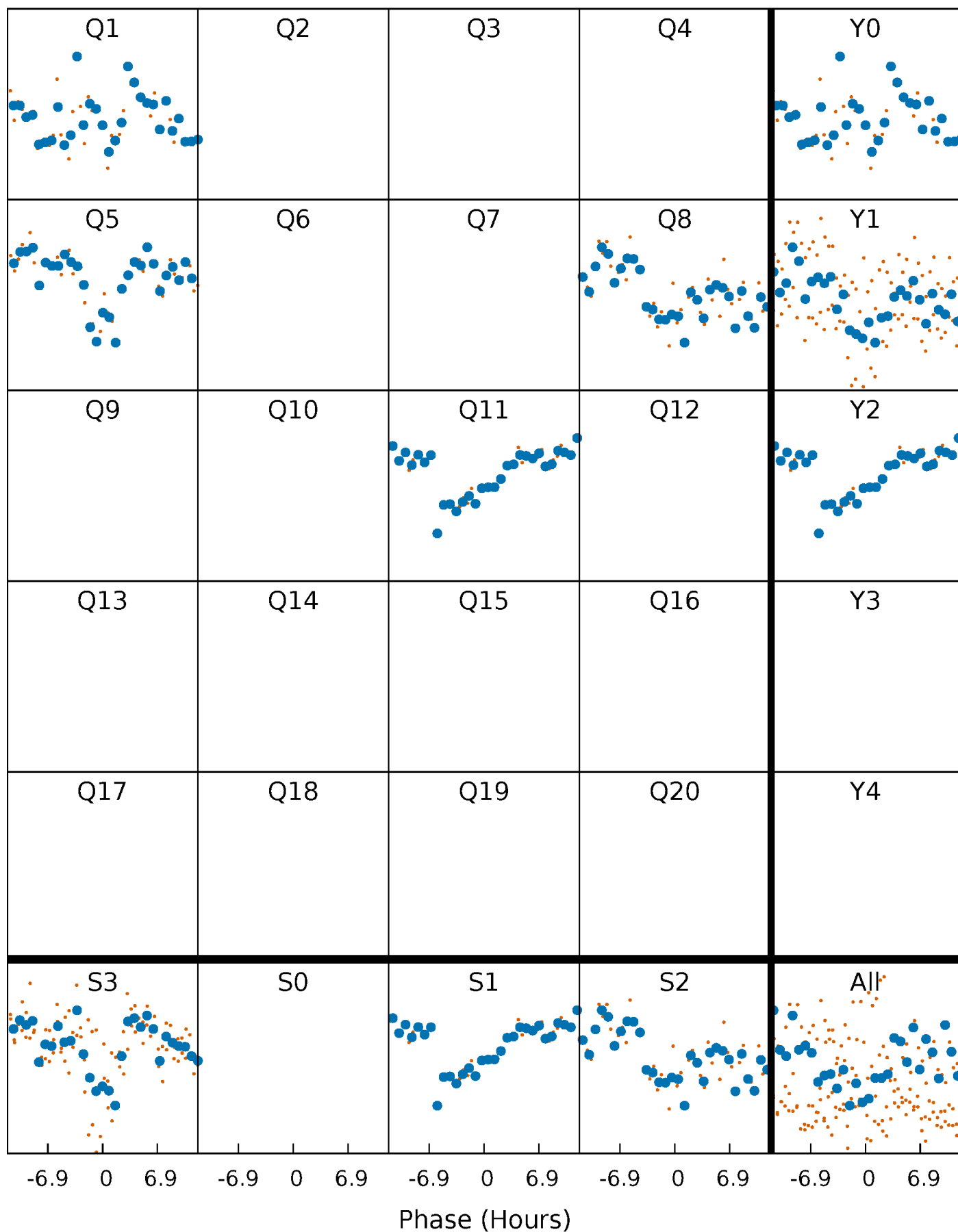


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



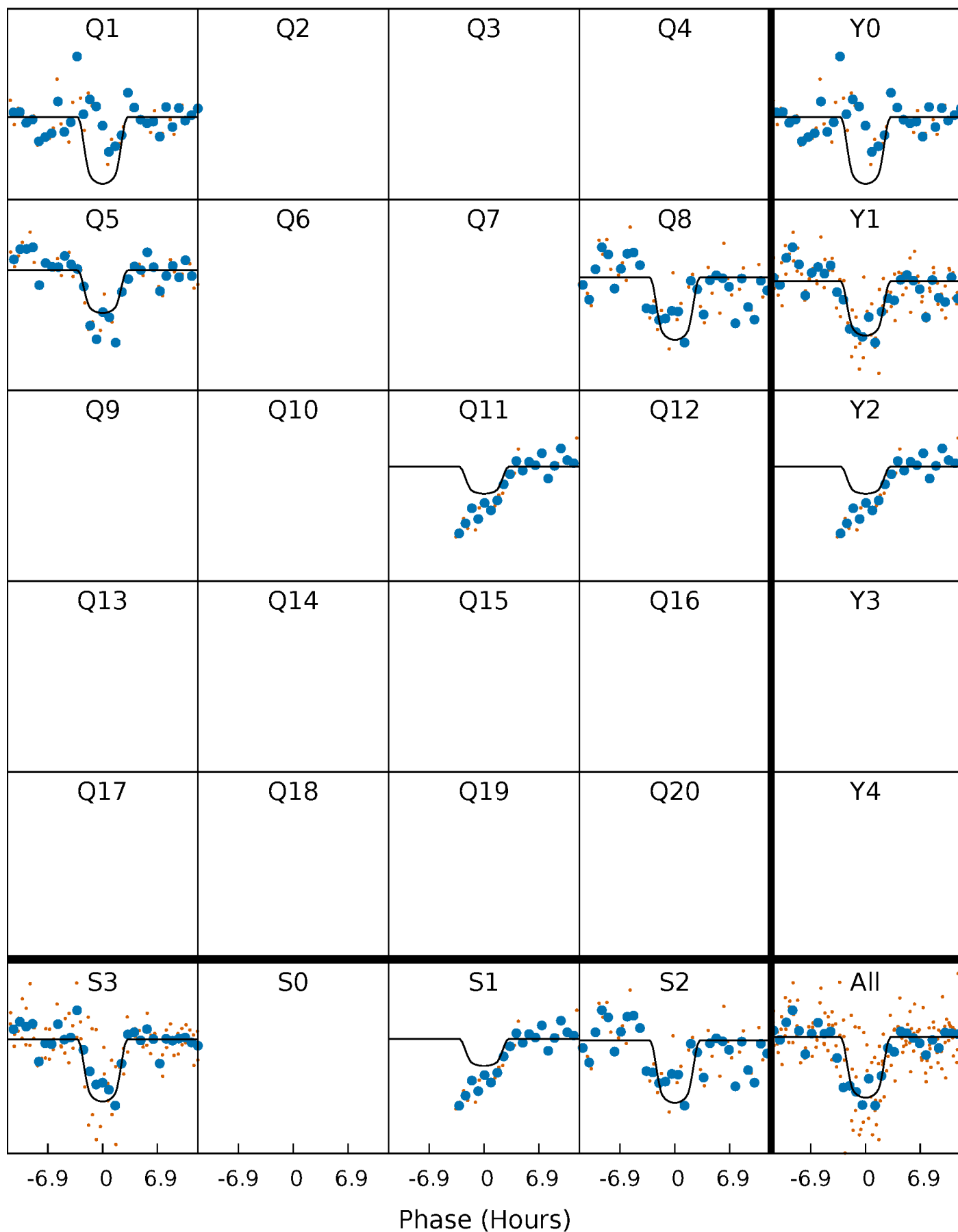
PDC Quarter-Phased Transit Curves

TCE 012121664-01 P=319.823337 Days $T_0=134.406395$ (BKJD)



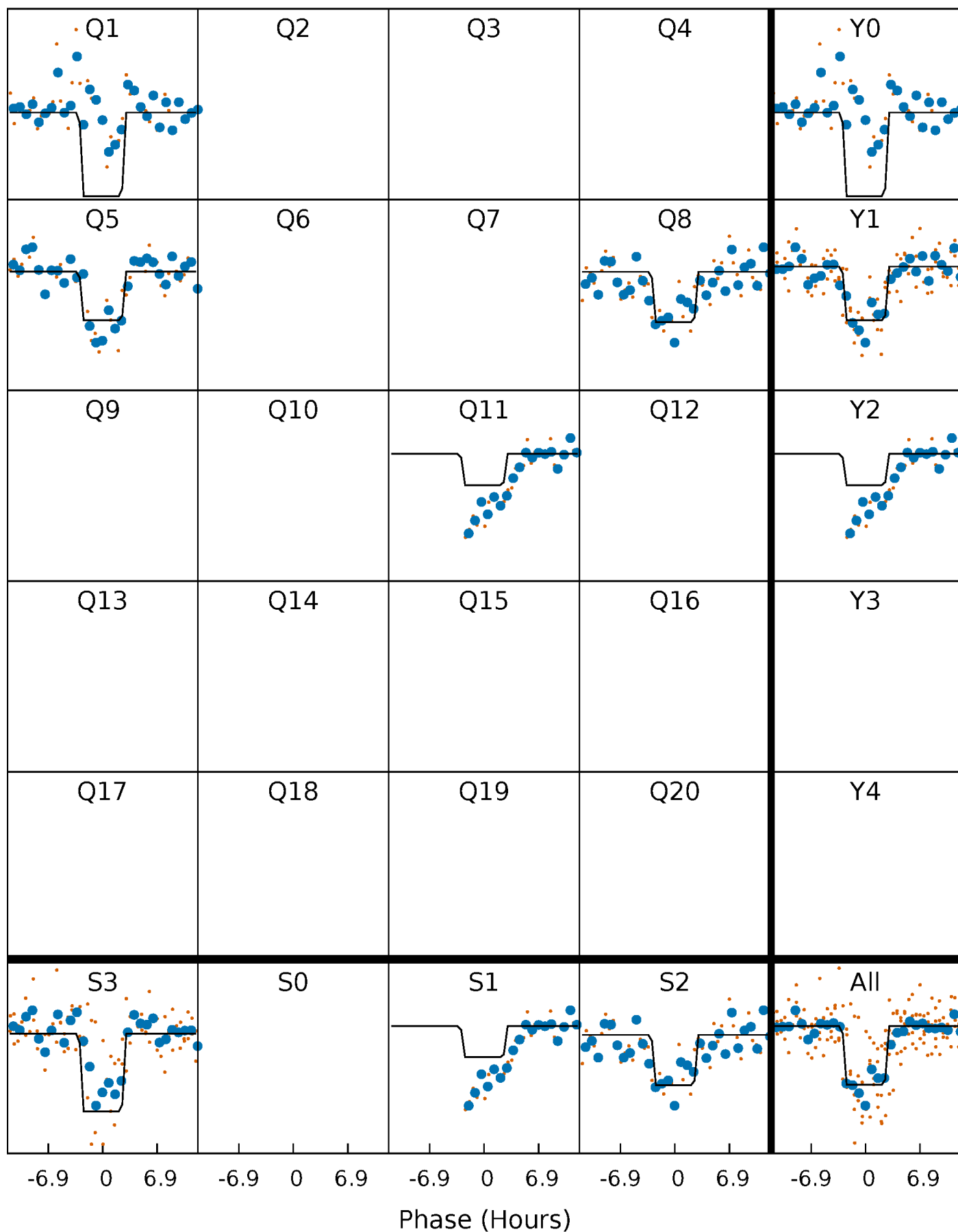
DV Quarter-Phased Transit Curves

TCE 012121664-01 P=319.823337 Days $T_0=134.406395$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

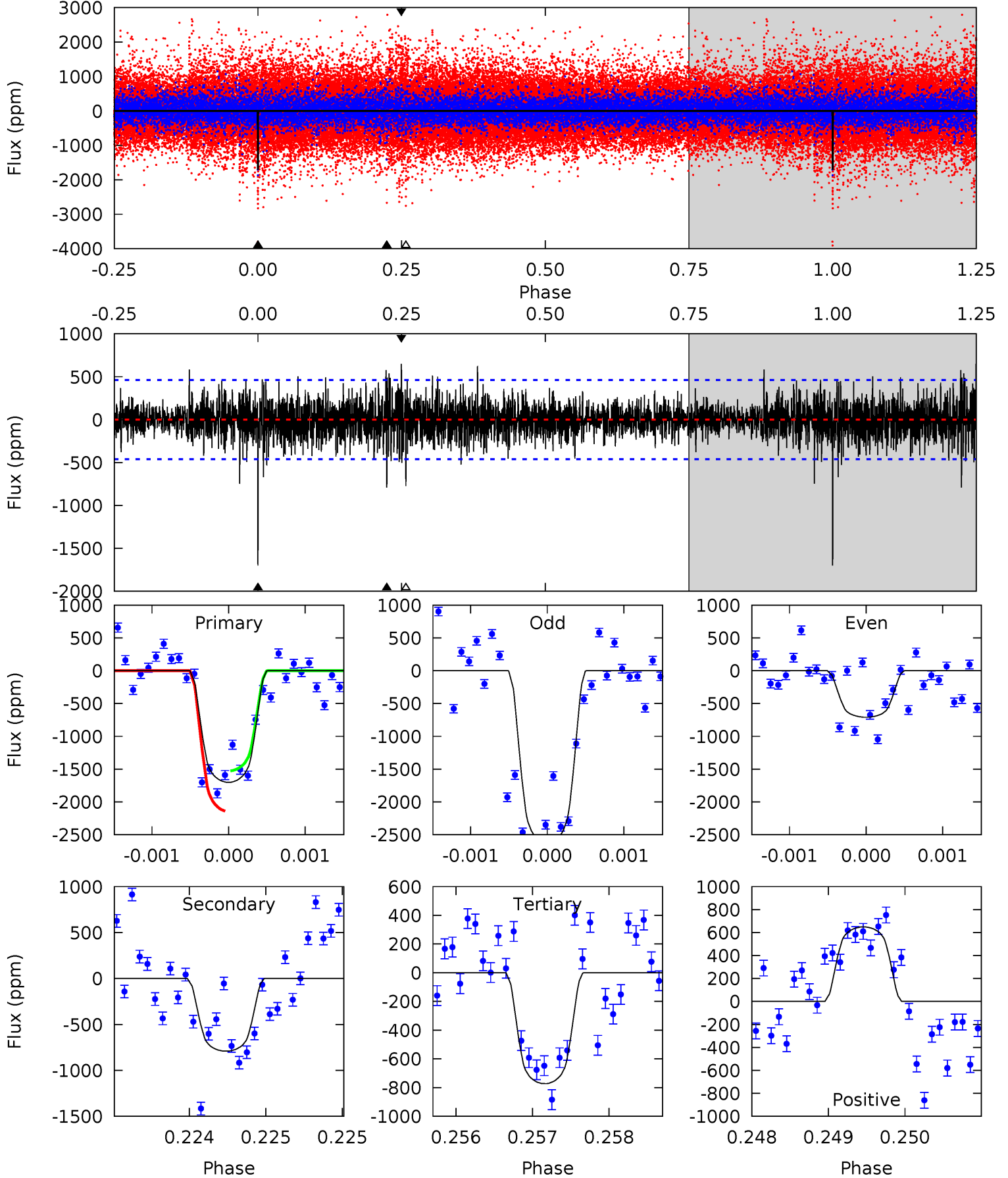
TCE 012121664-01 P=319.805648 Days $T_0=134.410216$ (BKJD)



DV Model-Shift Uniqueness Test

012121664-01, P = 319.823337 Days, E = 134.406395 Days

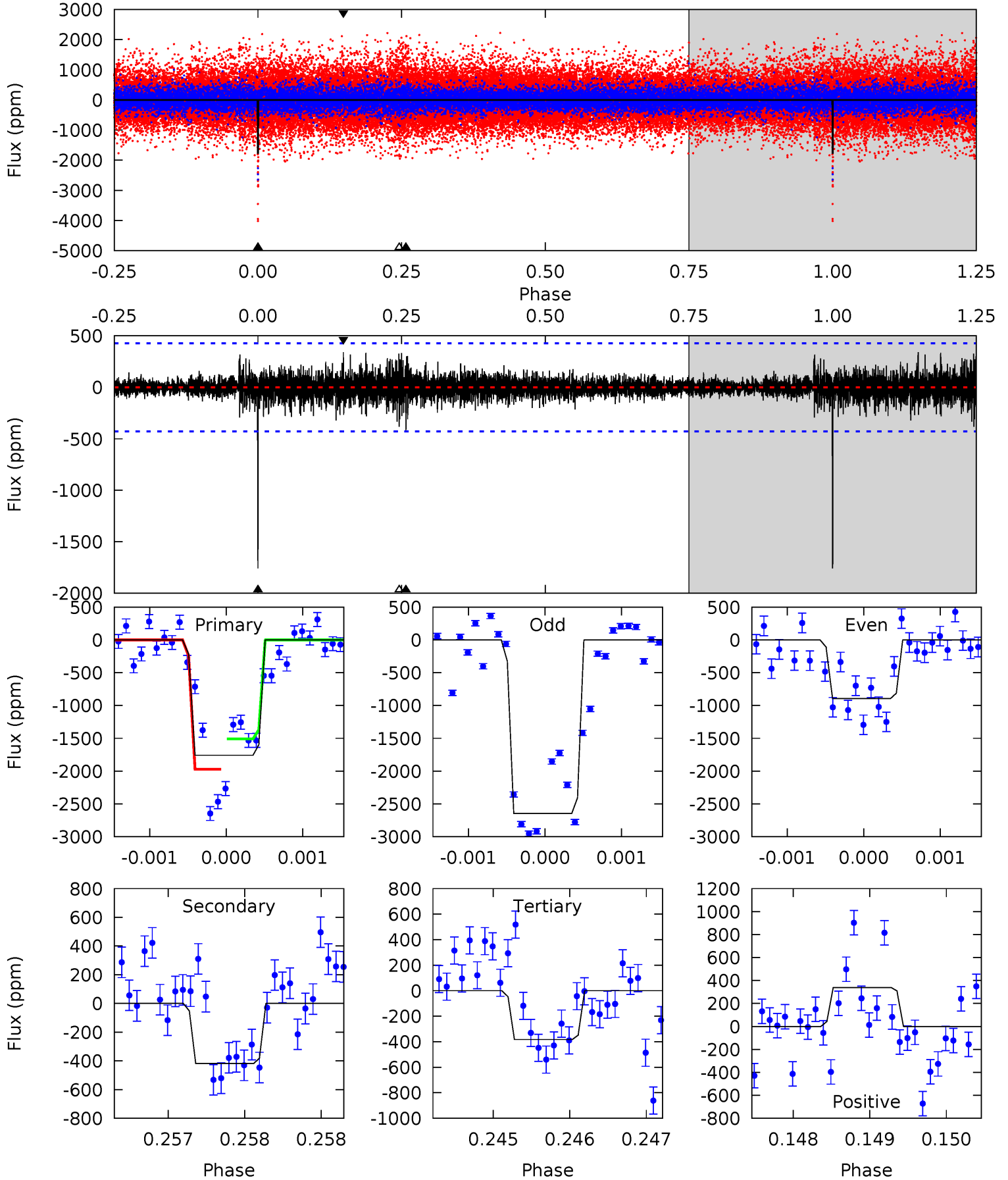
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	9.41	9.19	7.72	5.49	3.35	1.78	11.0	12.5	0.21	1.69	11.6	1.03	0.28	0



Alt Model-Shift Uniqueness Test

012121664-01, P = 319.805648 Days, E = 134.410216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	5.38	4.92	4.36	5.50	3.36	0.91	17.7	18.2	0.47	1.02	11.9	1.05	0.16	2.93



Stellar Parameters For KIC 012121664

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5510^{+166}_{-149}	$4.578^{+0.034}_{-0.144}$	$-0.120^{+0.300}_{-0.300}$	$0.807^{+0.164}_{-0.070}$	$0.904^{+0.083}_{-0.108}$	$2.424^{+0.462}_{-0.991}$
	+3%/-3%	+1%/-3%	+250%/-250%	+20%/-9%	+9%/-12%	+19%/-41%
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 012121664-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-791 ± 84	$4.17^{+0.54}_{-0.49}$	332^{+17}_{-13}	4506^{+229}_{-213}	19166^{+5587}_{-4394}
Alt.	-419 ± 78	$3.79^{+0.54}_{-0.48}$	332^{+16}_{-13}	4127^{+226}_{-203}	12176^{+4096}_{-3228}

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 $A_{\text{obs}} \gg 1.0$

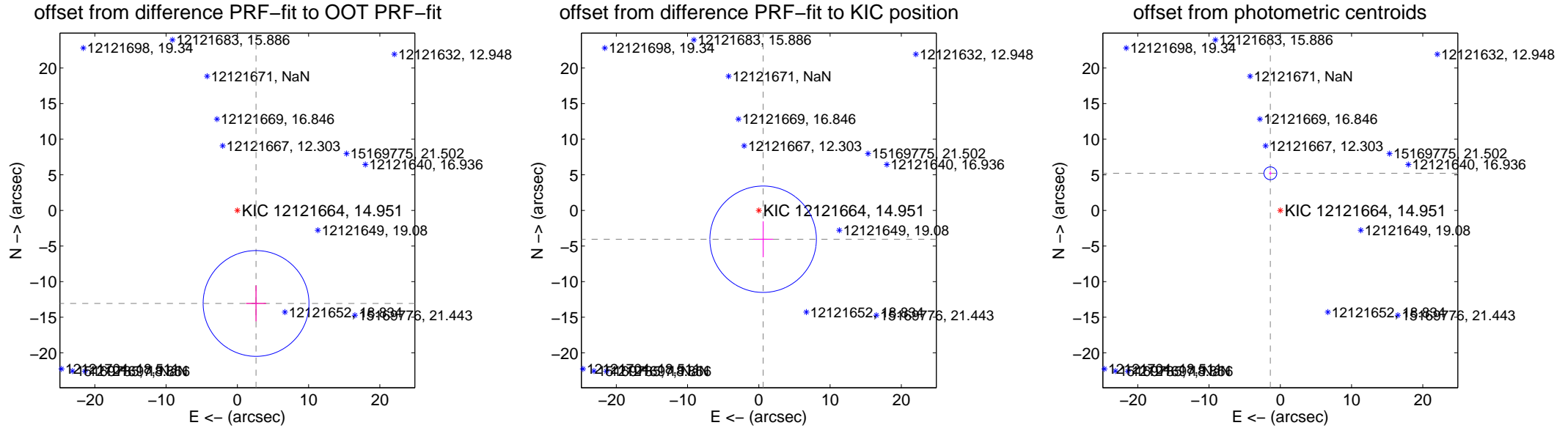
DV Centroid Data

Supplemental centroid analysis for 012121664-01. Kepler magnitude: 14.95. Transit SNR 8.53

There are 0 quarters with good PRF difference image offsets

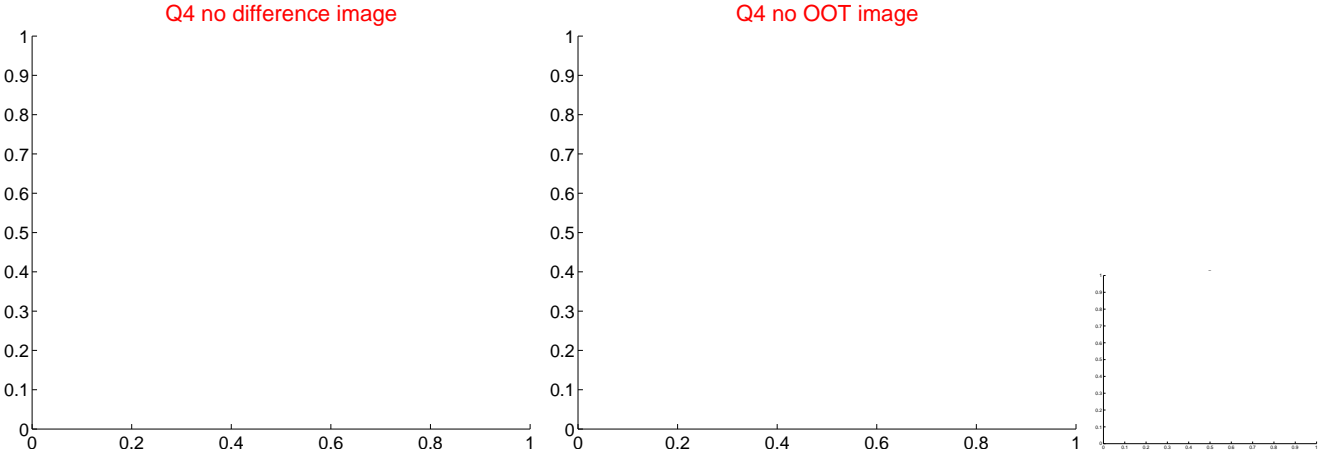
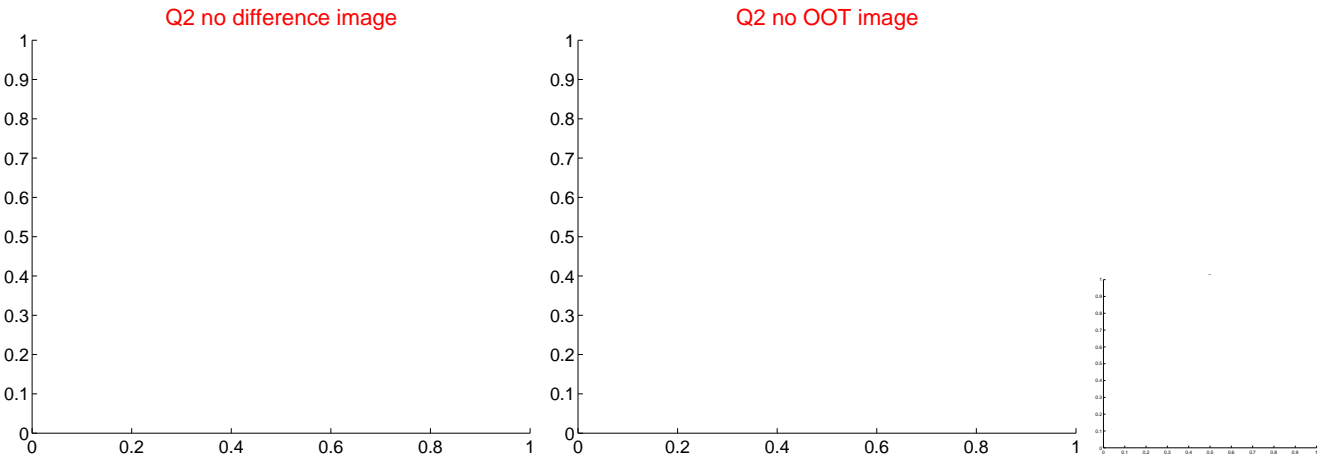
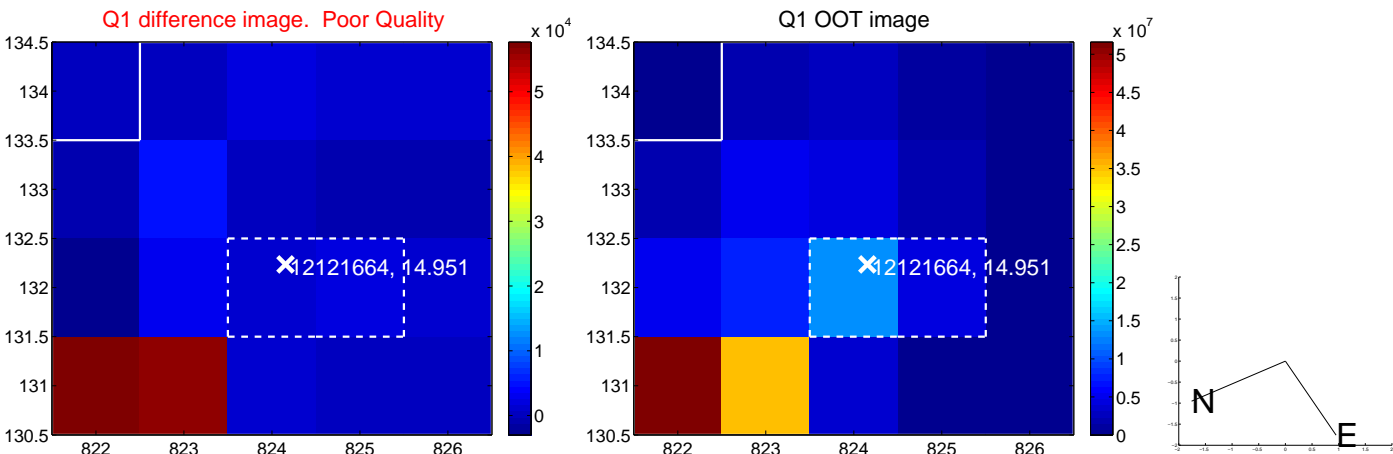
The OOT PRF centroid is offset from the target star catalog position by about 9.24 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	13.327 \pm 2.475	5.38	-2.626 \pm 1.401	-13.066 \pm 2.509
PRF-fit source offset from KIC position	4.091 \pm 2.490	1.64	-0.607 \pm 1.401	-4.045 \pm 2.509
photometric centroid source offset	5.40 \pm 0.30	17.94	1.39 \pm 0.20	5.21 \pm 0.31

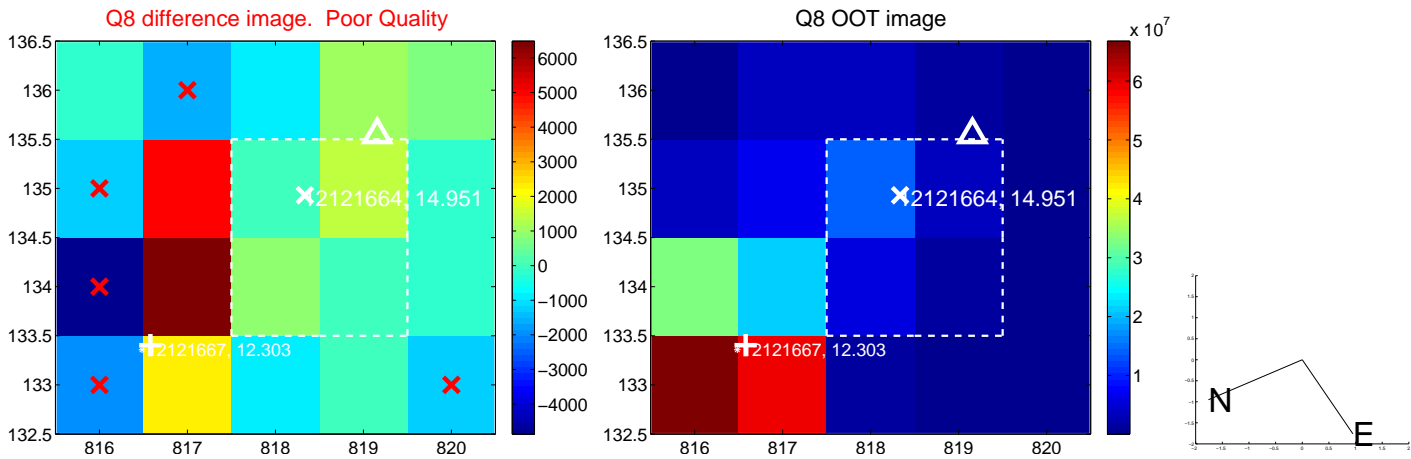
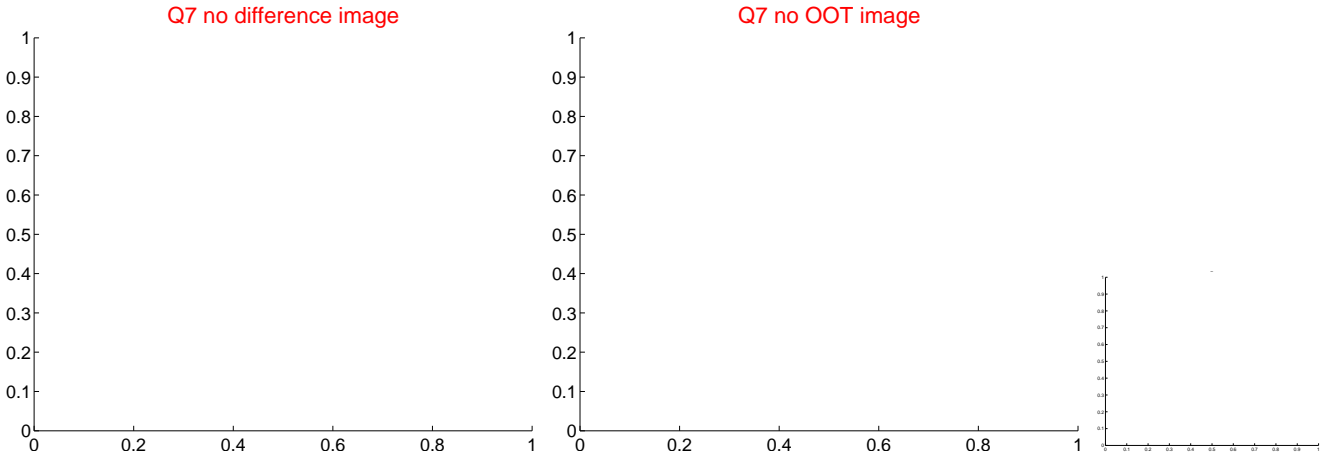
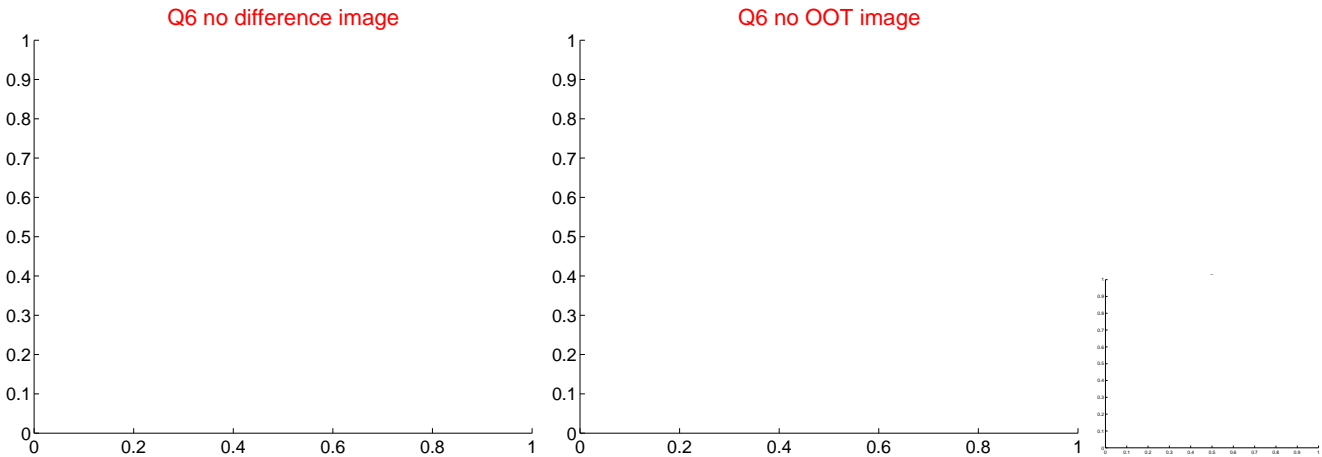
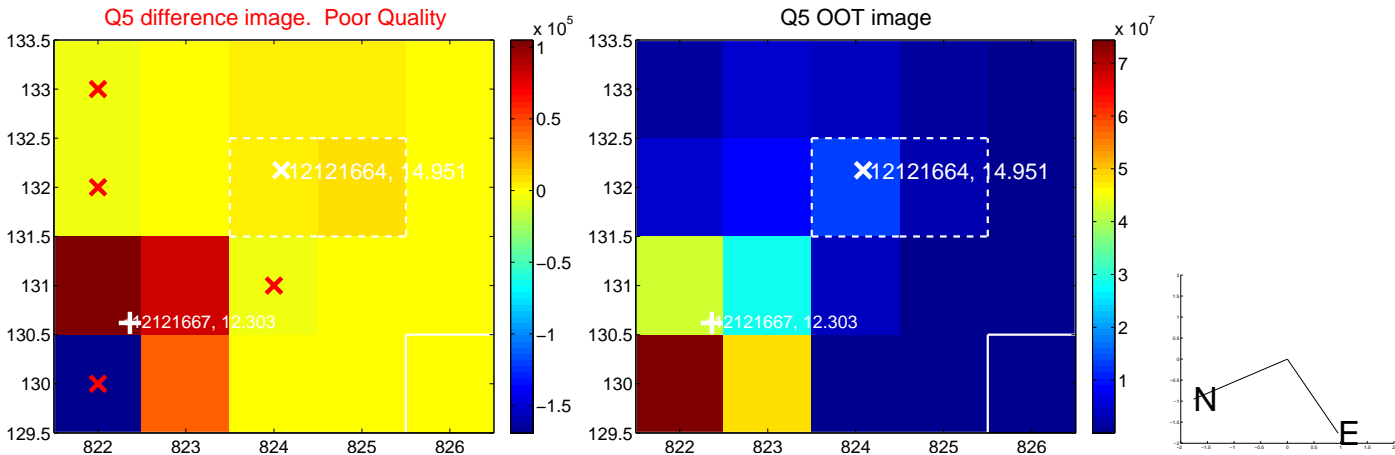


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



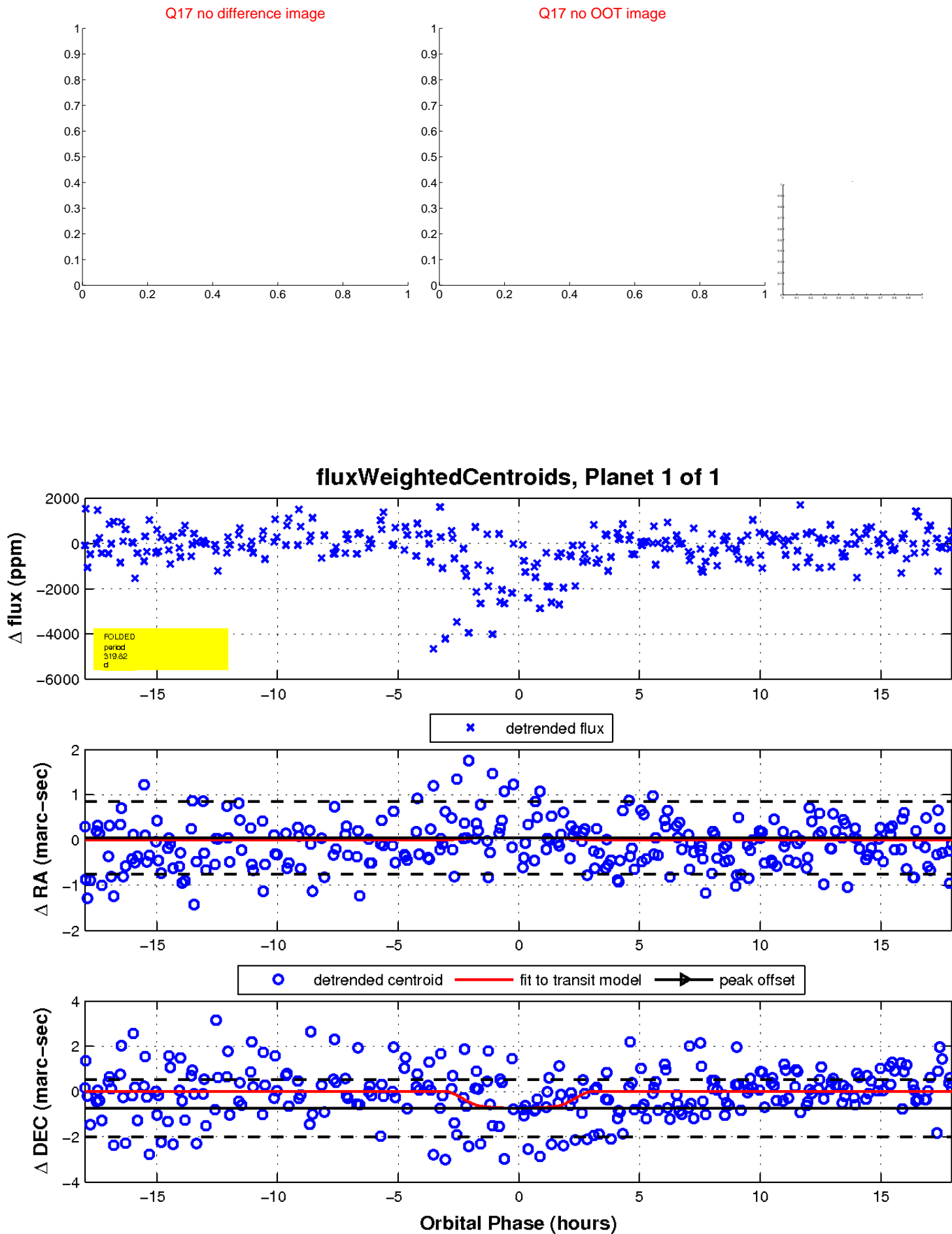
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

