

KIC 004255006

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})
004255006-01	OBS	No	644.827983	154.987554	11822.0	16.333	15.3	12.9	1.79	6913	34.05	2.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004255006-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

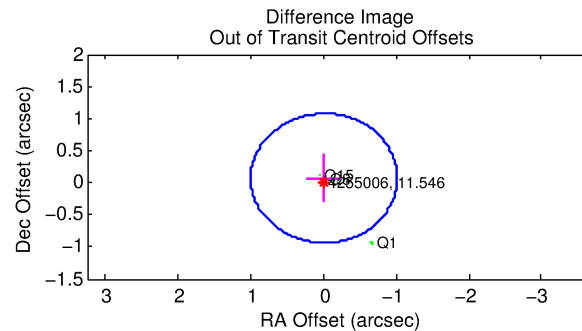
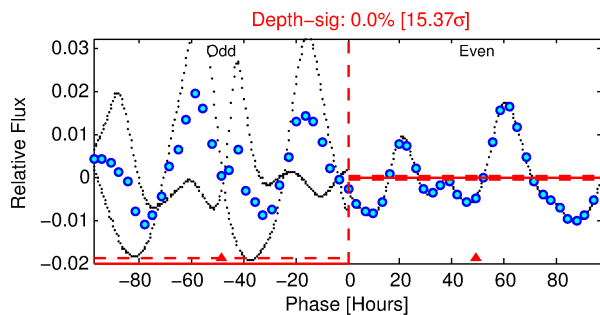
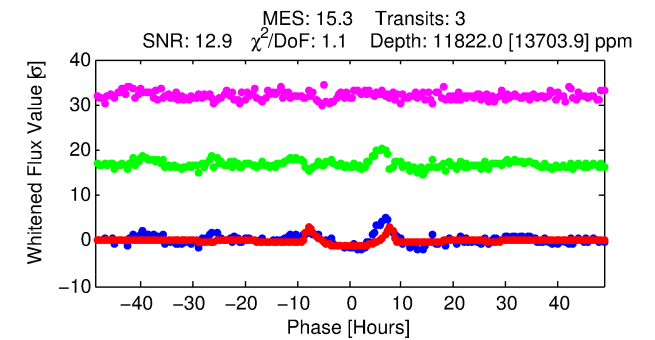
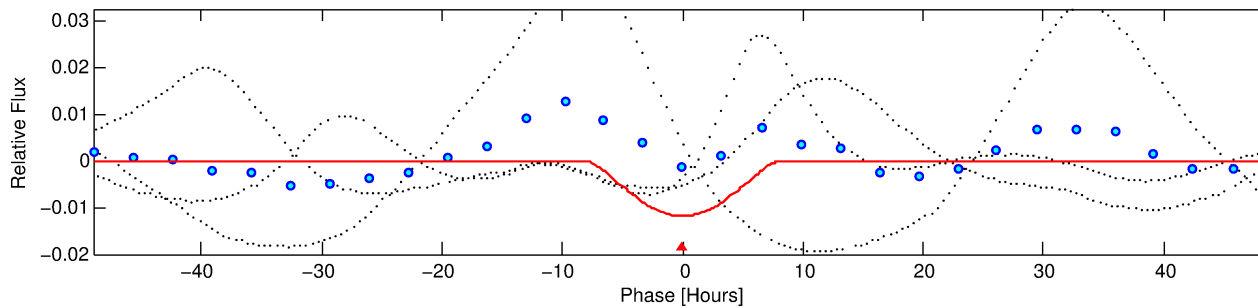
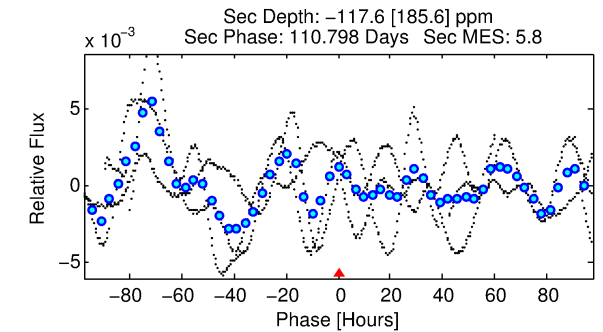
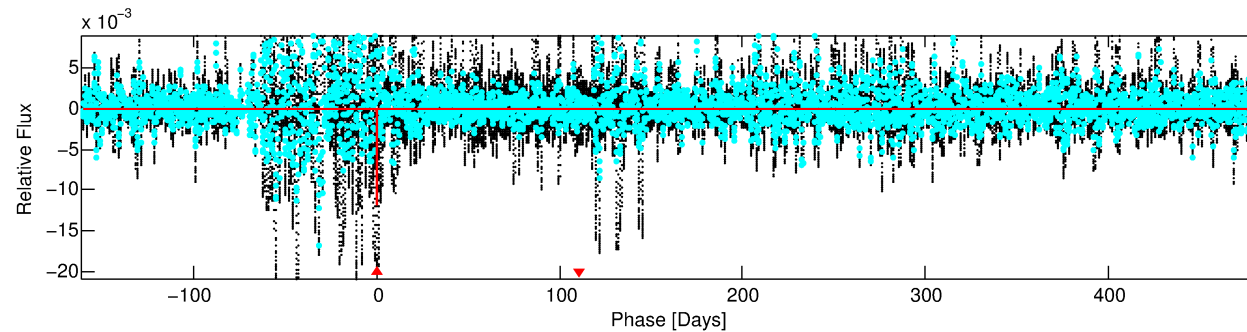
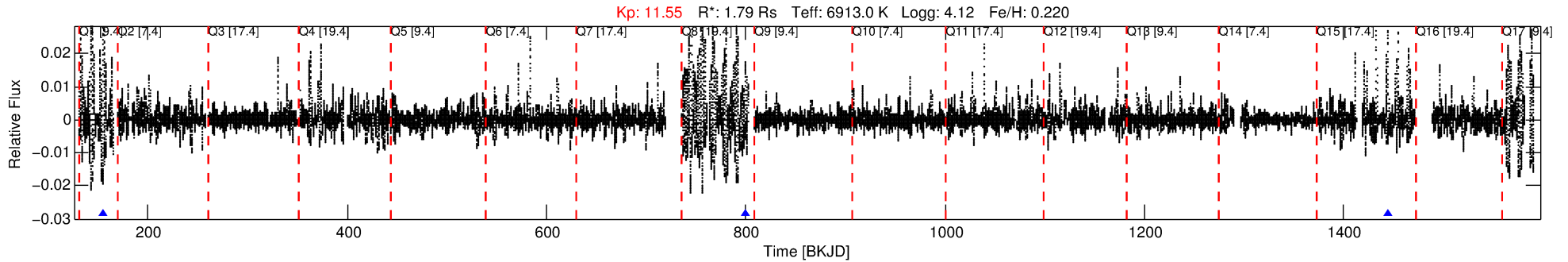
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004255006-01

No Significant Match Found

DV One-Page Summary

KIC: 4255006 Candidate: 1 of 1 Period: 644.828 d



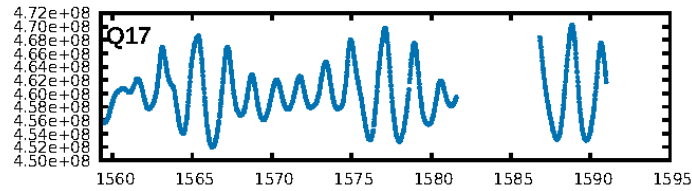
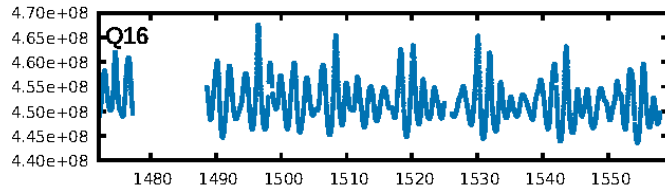
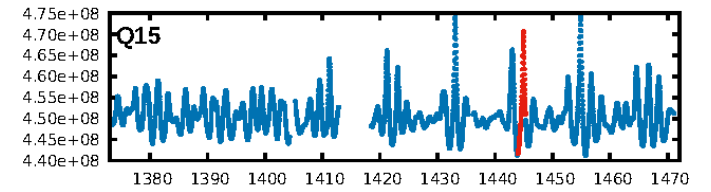
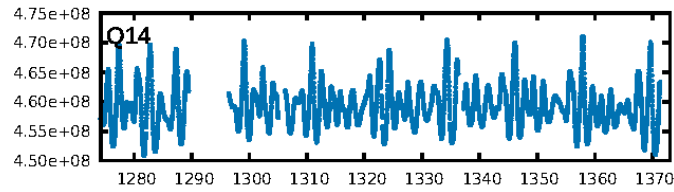
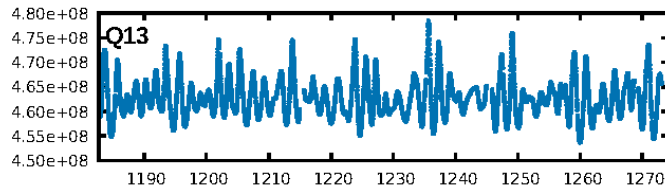
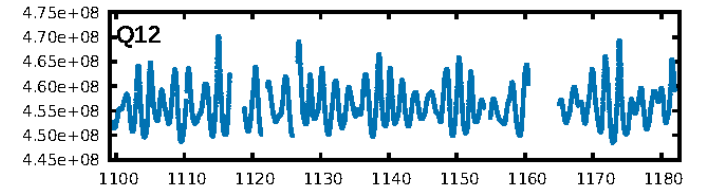
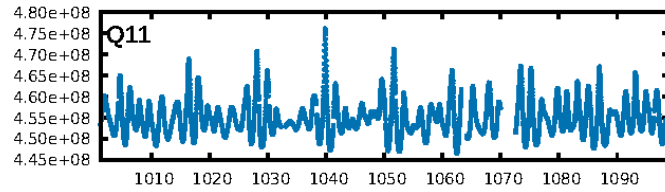
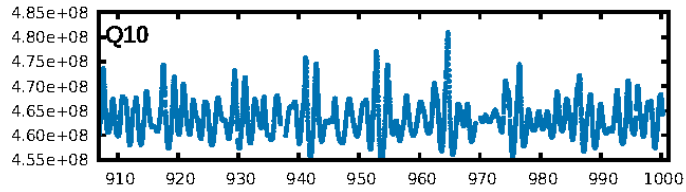
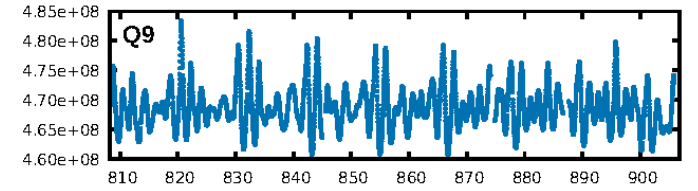
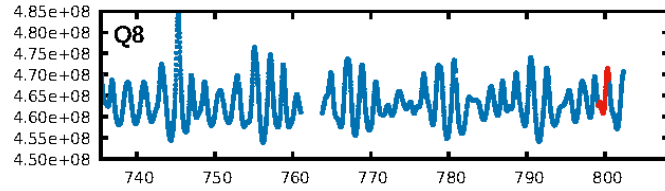
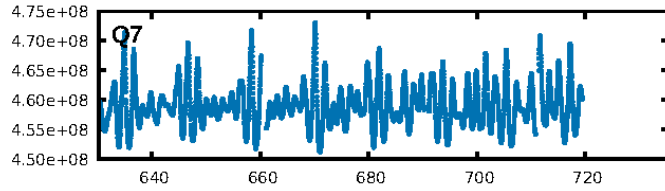
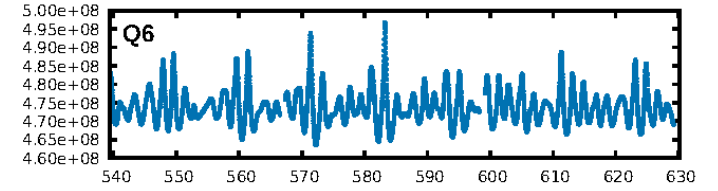
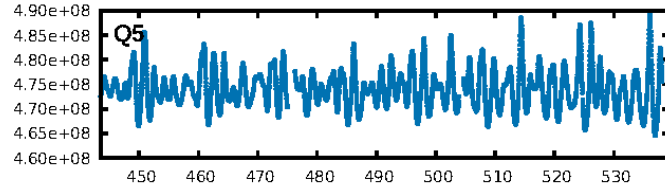
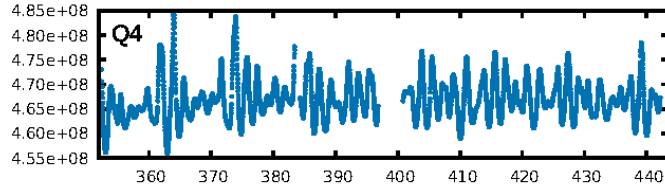
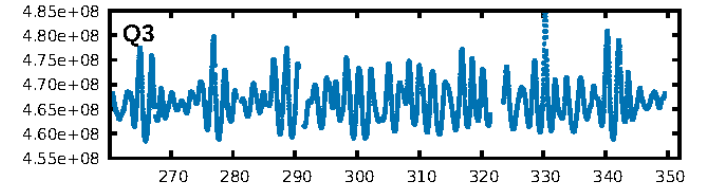
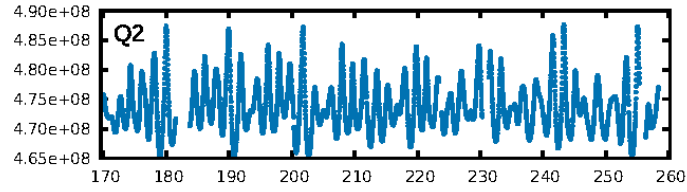
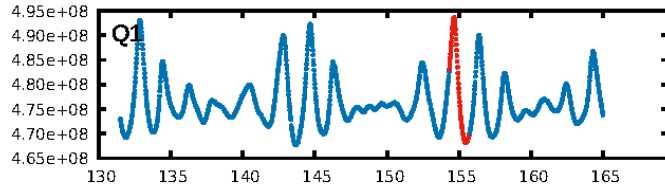
DV Fit Results:

Period = 644.82798 [0.00492] d
Epoch = 154.9876 [0.0055] BKJD
Rp/R* = 0.1743 [0.0821]
a/R* = 185.69 [9.54]
b = 1.00 [0.25]
Seff = 2.28 [0.93]
Teq = 314 [32] K
Rp = 34.05 [19.31] Re
a = 1.6939 [0.4357] AU
Ag = N/A
Teffp = N/A

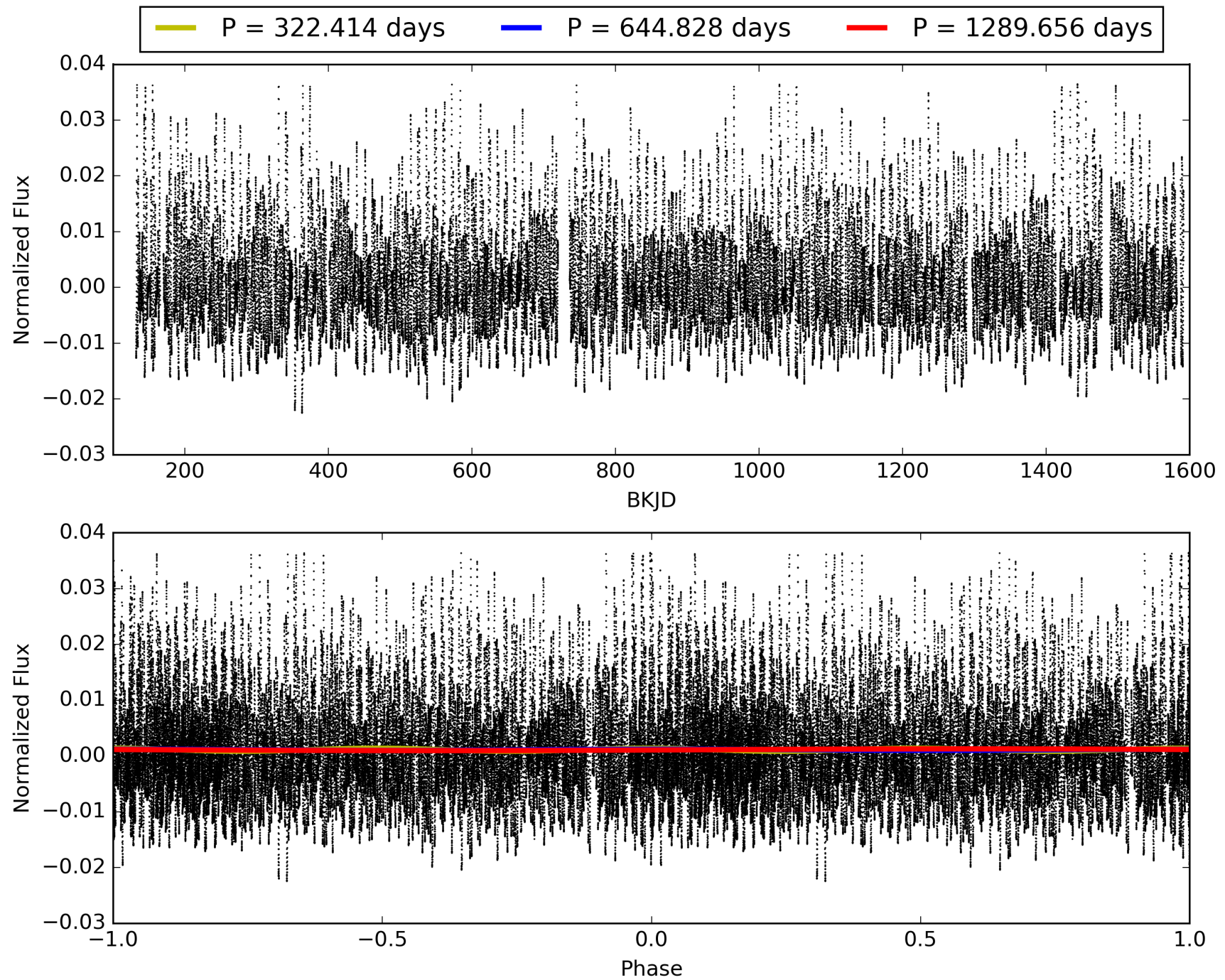
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 93.0%
Bootstrap-pfa: 1.12e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.1983
Centroid-sig: N/A
Centroid-so: 0.259 arcsec [7.39σ]
OotOffset-rm: 0.069 arcsec [0.21σ]
KicOffset-rm: 0.243 arcsec [0.79σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 004255006-01, PDC Light Curves

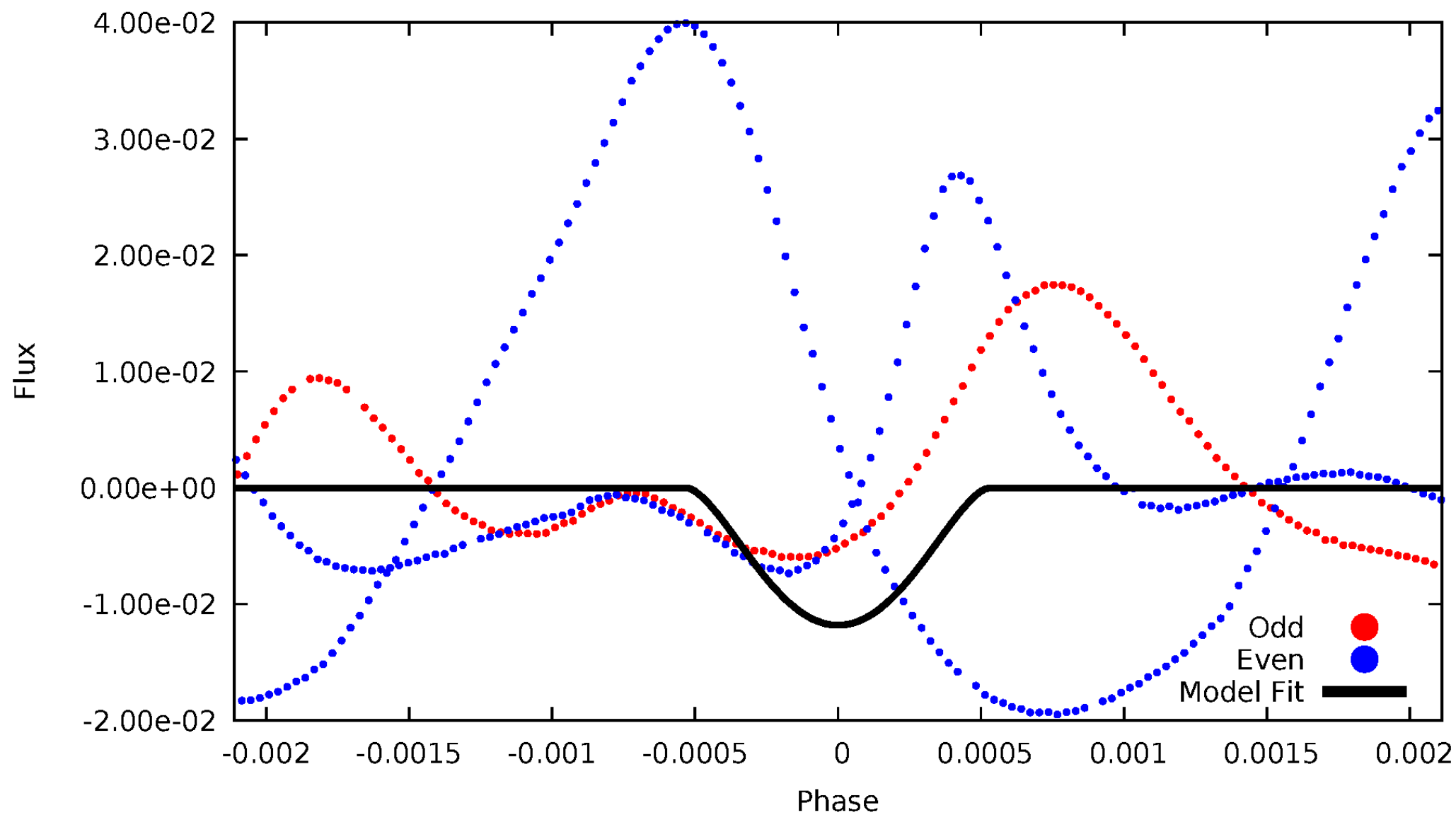


TCE 004255006-01



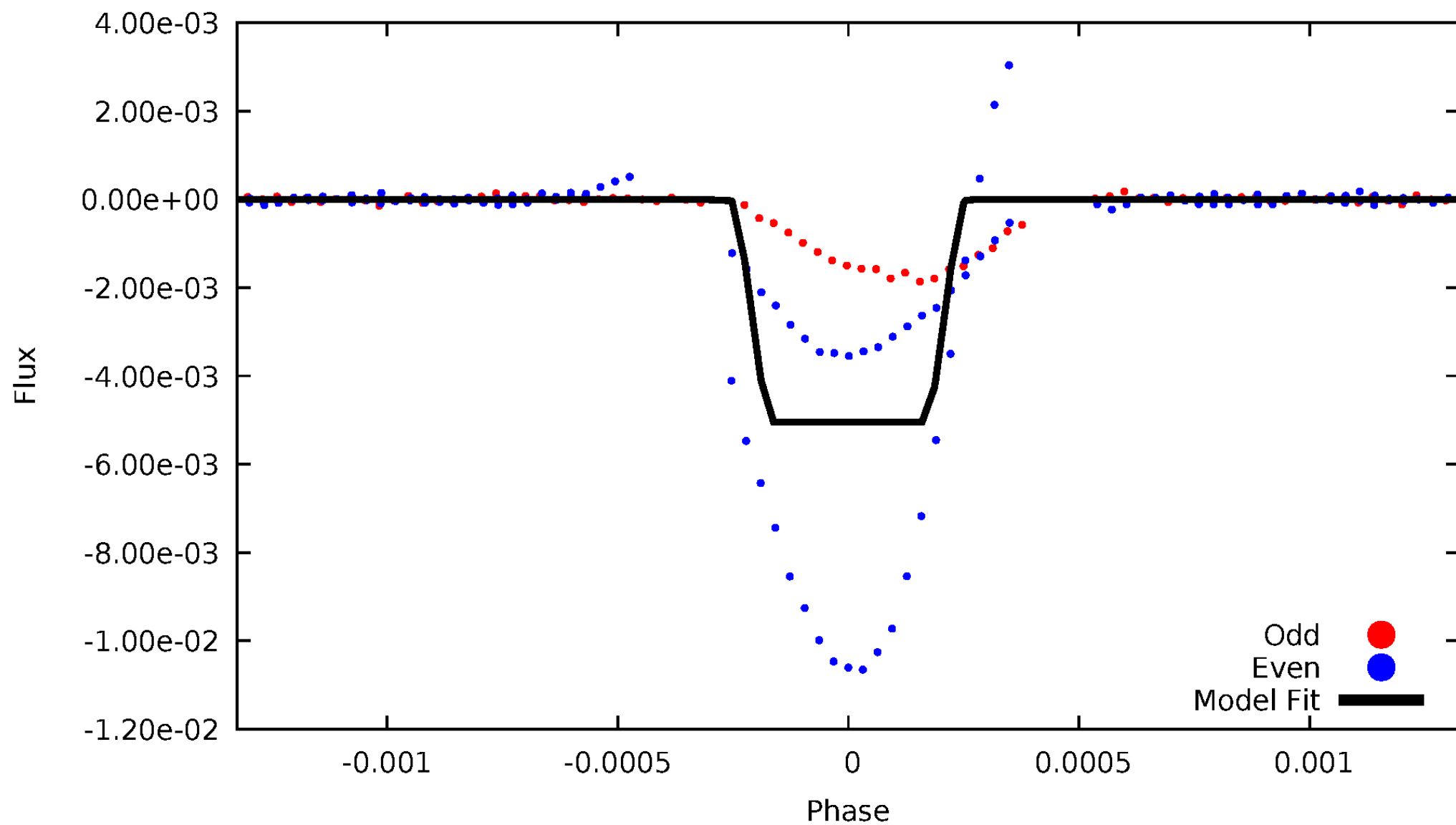
DV Odd/Even

TCE 004255006-01



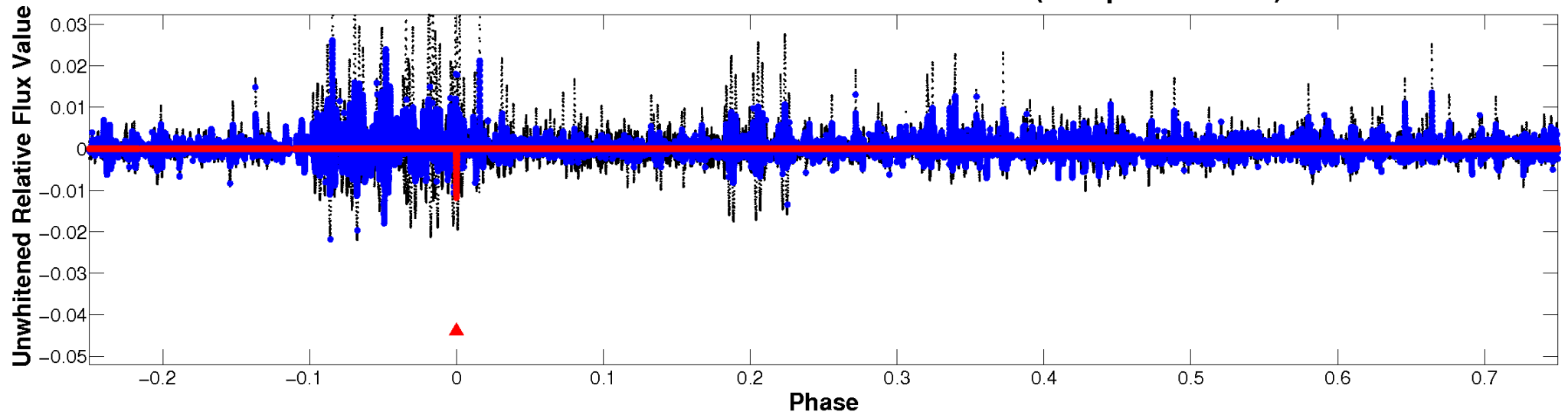
ALT Odd/Even

TCE 004255006-01

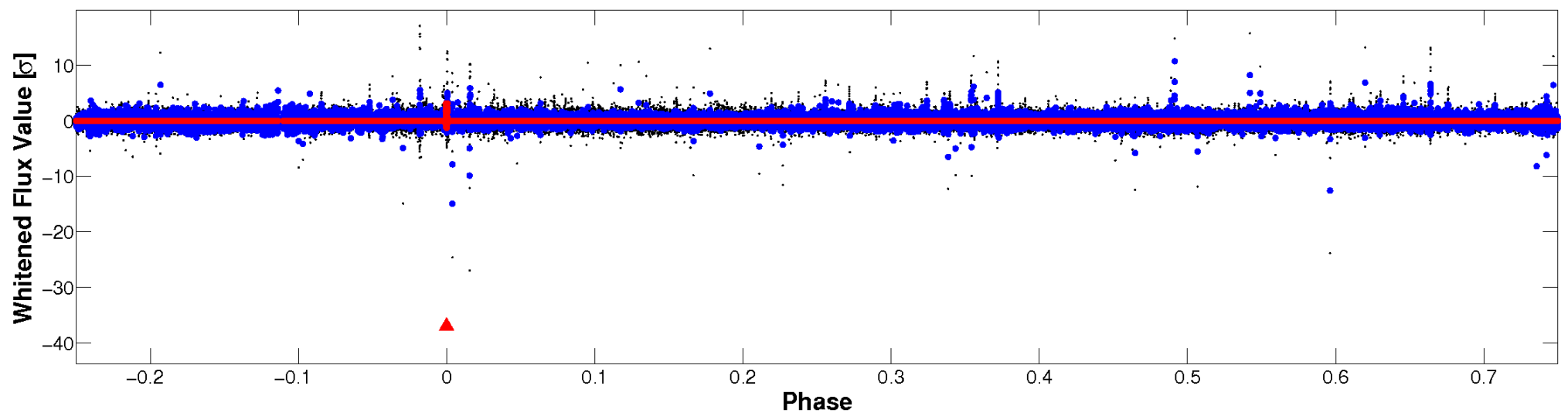


Non-Whitened Vs. Whitened Light Curve

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

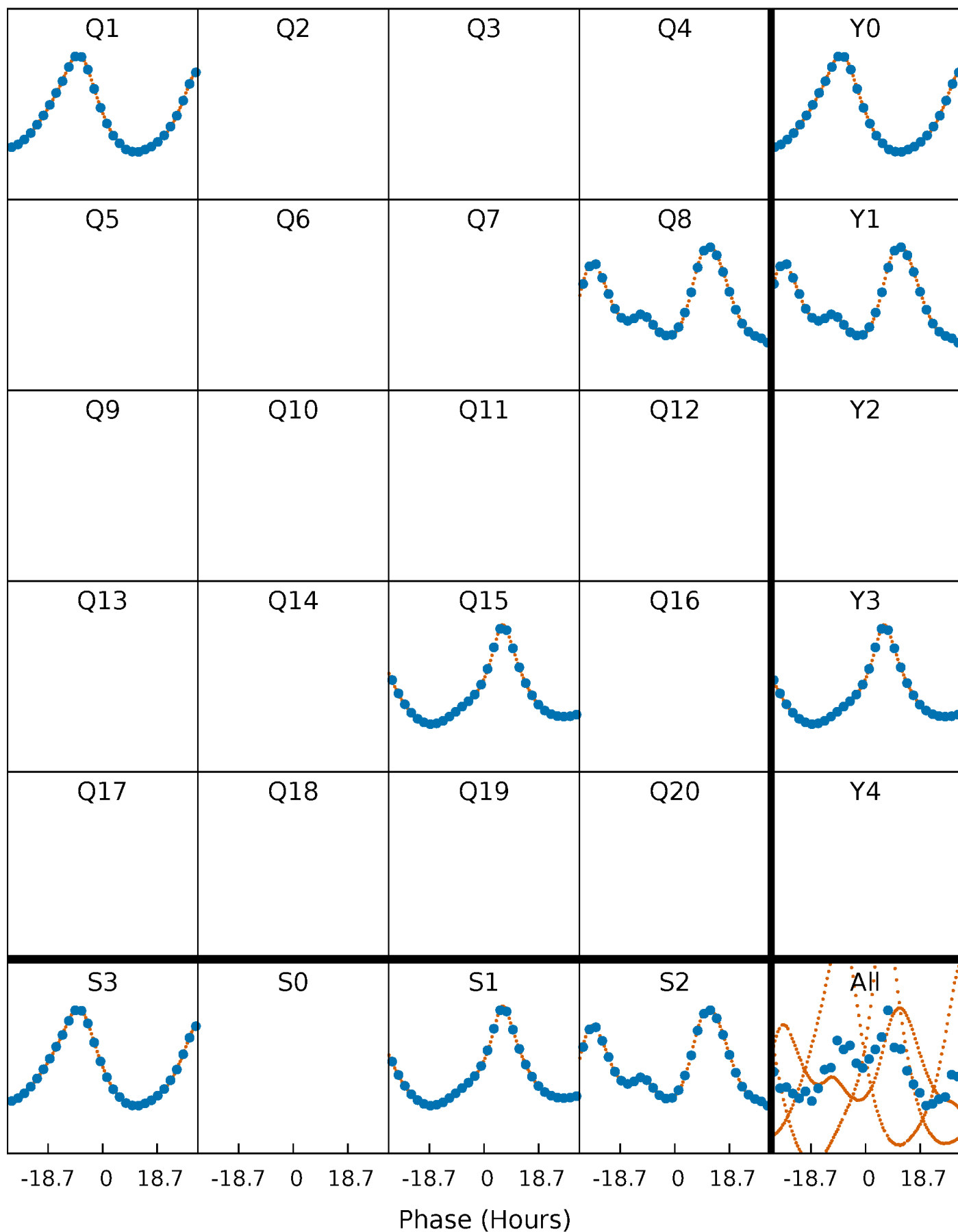


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



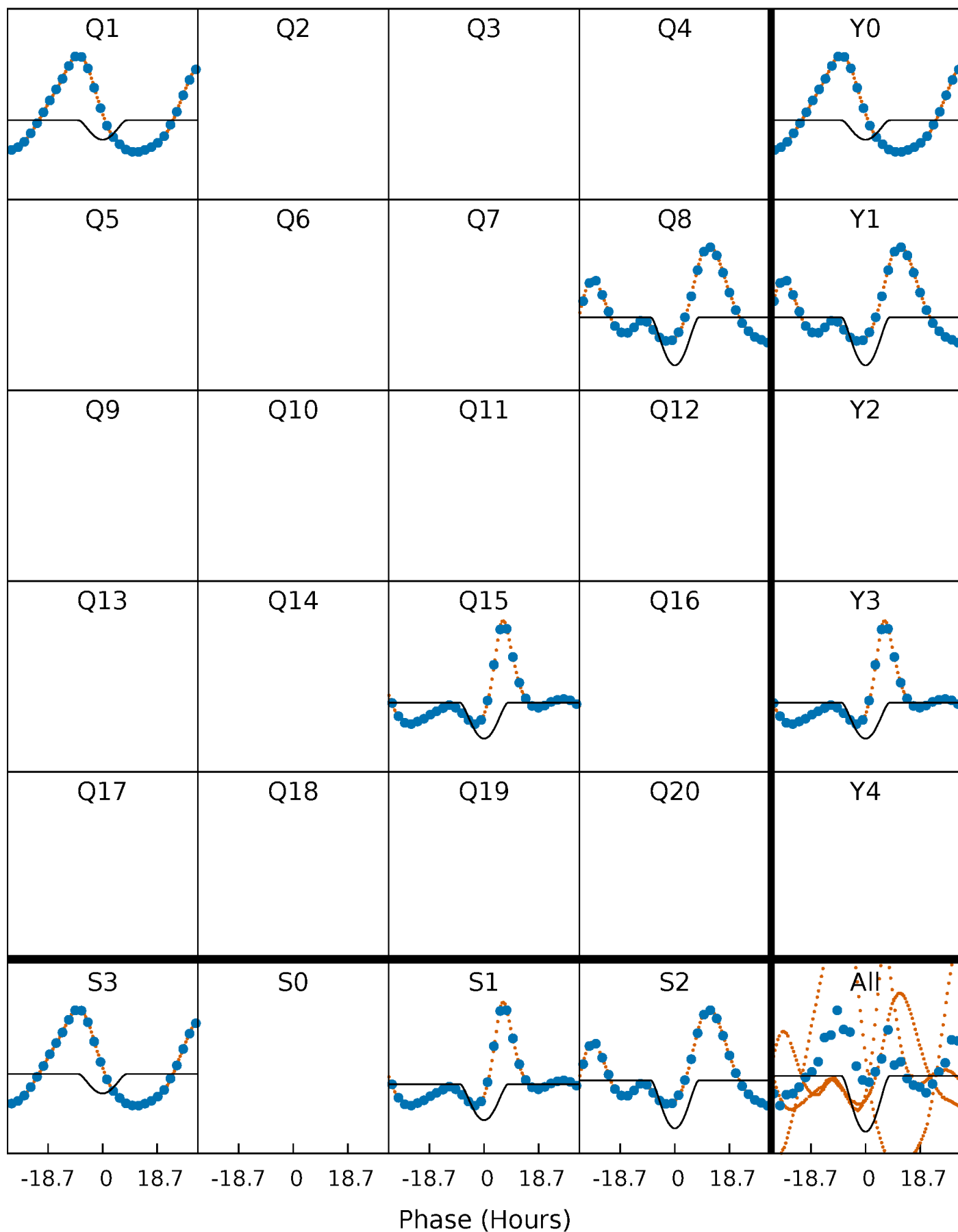
PDC Quarter-Phased Transit Curves

TCE 004255006-01 P=644.827983 Days $T_0=154.987554$ (BKJD)



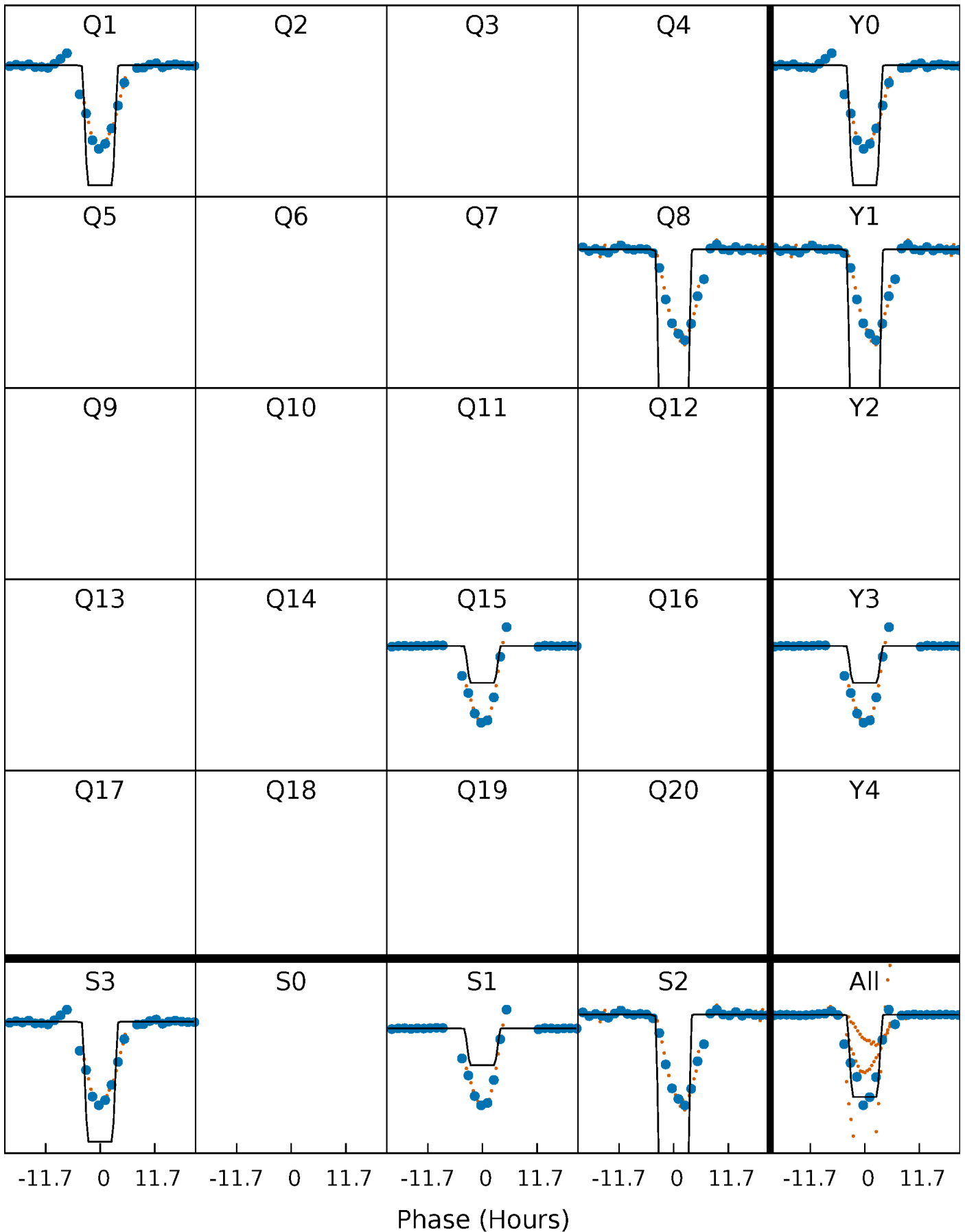
DV Quarter-Phased Transit Curves

TCE 004255006-01 P=644.827983 Days $T_0=154.987554$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

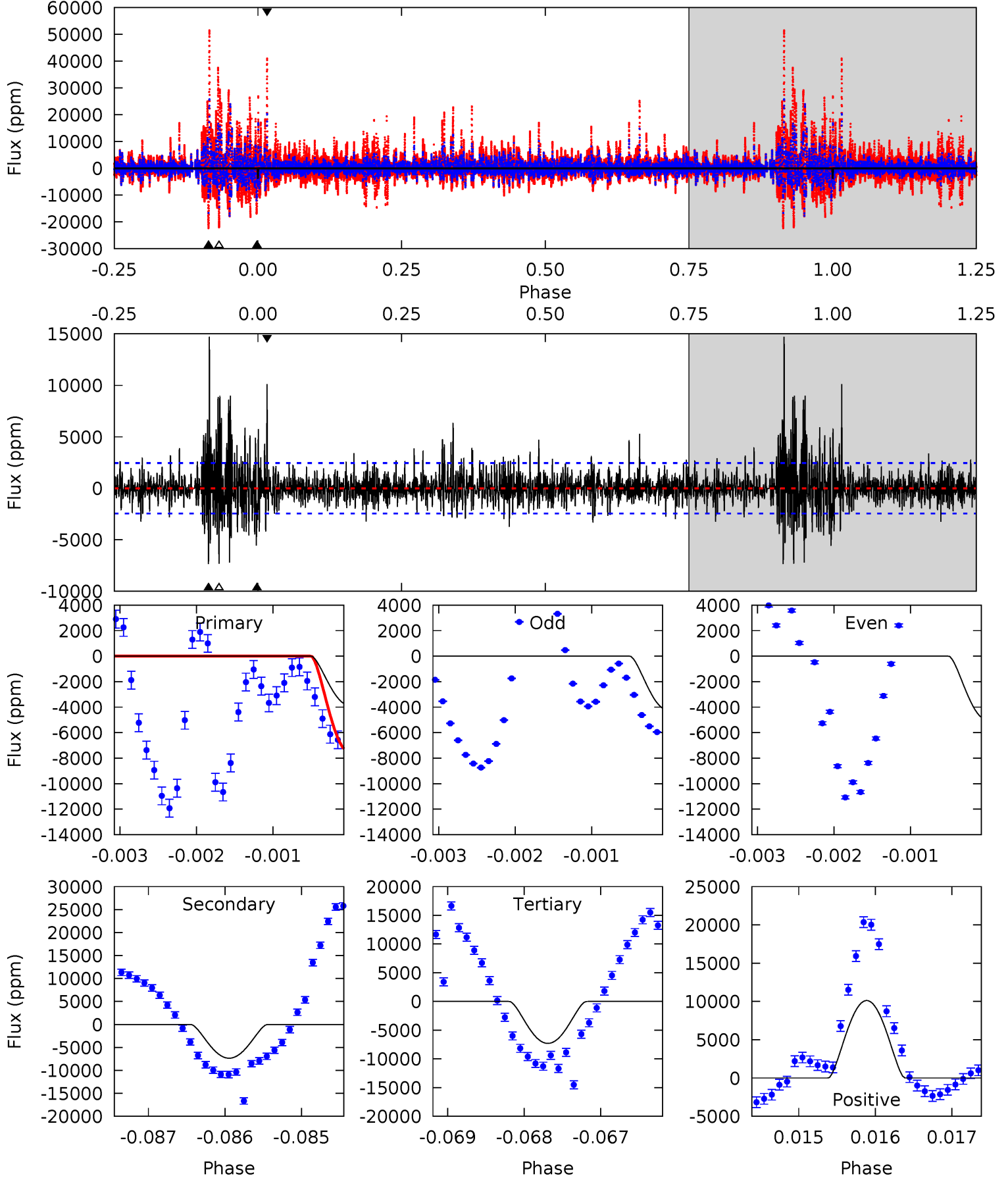
TCE 004255006-01 P=644.862720 Days $T_0=154.950243$ (BKJD)



DV Model-Shift Uniqueness Test

004255006-01, P = 644.827983 Days, E = 154.987554 Days

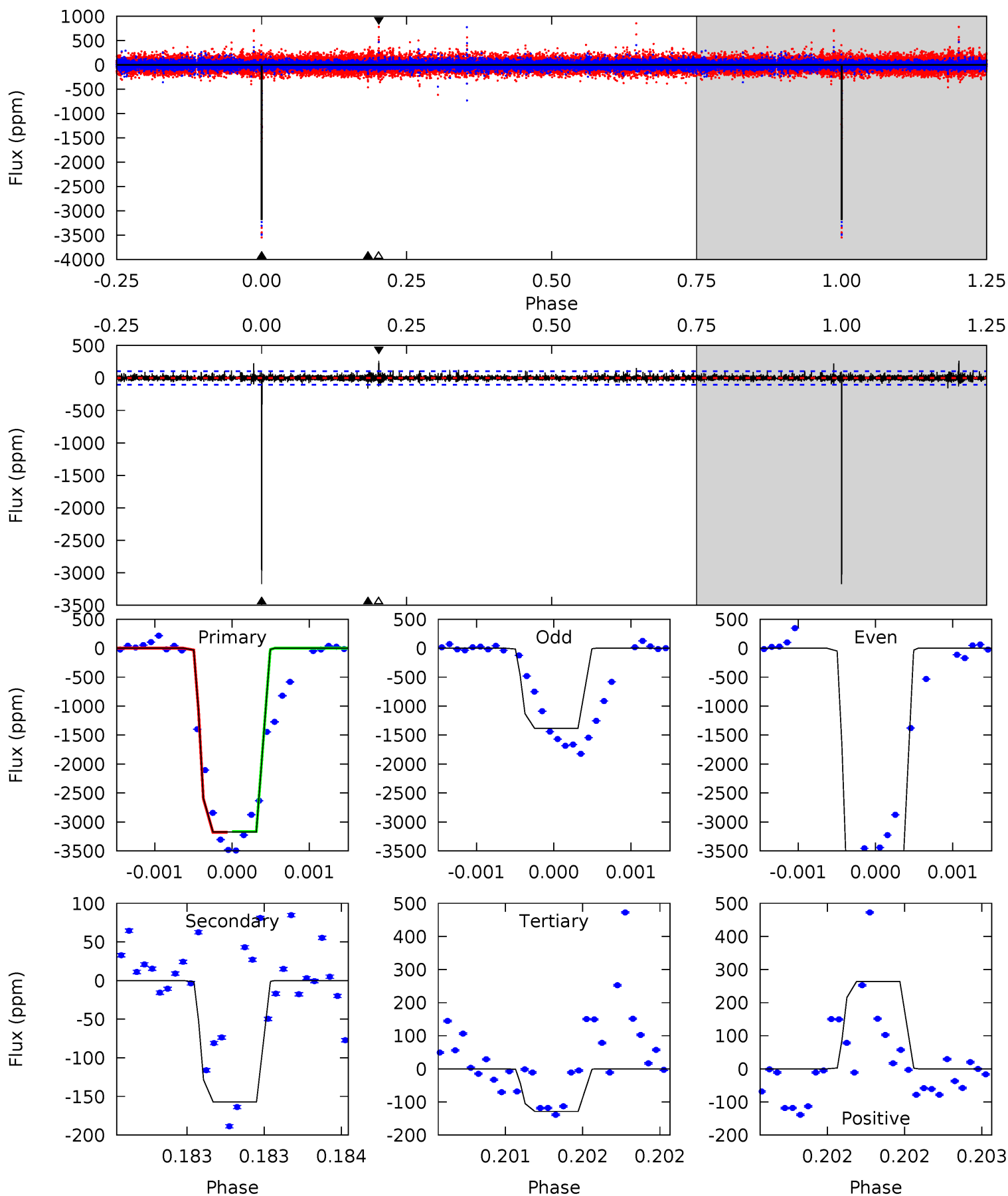
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	16.3	16.2	22.4	5.44	3.27	3.24	-7.65	-13.9	0.12	-6.14	0.79	1.20	0.67	6.85



Alt Model-Shift Uniqueness Test

004255006-01, P = 644.862720 Days, E = 154.950243 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
171.2	8.49	6.94	14.2	5.57	3.48	1.07	164.2	156.9	1.54	-5.76	114.8	1.46	0.08	0



Stellar Parameters For KIC 004255006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6913^{+192}_{-312}	$4.125^{+0.128}_{-0.192}$	$0.220^{+0.150}_{-0.350}$	$1.790^{+0.566}_{-0.378}$	$1.560^{+0.208}_{-0.254}$	$0.383^{+0.254}_{-0.207}$
	+3%/-5%	+3%/-5%	+68%/-159%	+32%/-21%	+13%/-16%	+66%/-54%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004255006-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7353 ± 451	$35.23^{+17.45}_{-16.41}$	440^{+35}_{-31}	4909^{+1462}_{-715}	9188^{+23942}_{-4977}
Alt.	-157 ± 19	$17.69^{+15.45}_{-11.14}$	439^{+36}_{-28}	3158^{+1219}_{-484}	780^{+4857}_{-559}

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 $A_{obs} \gg 1.0$

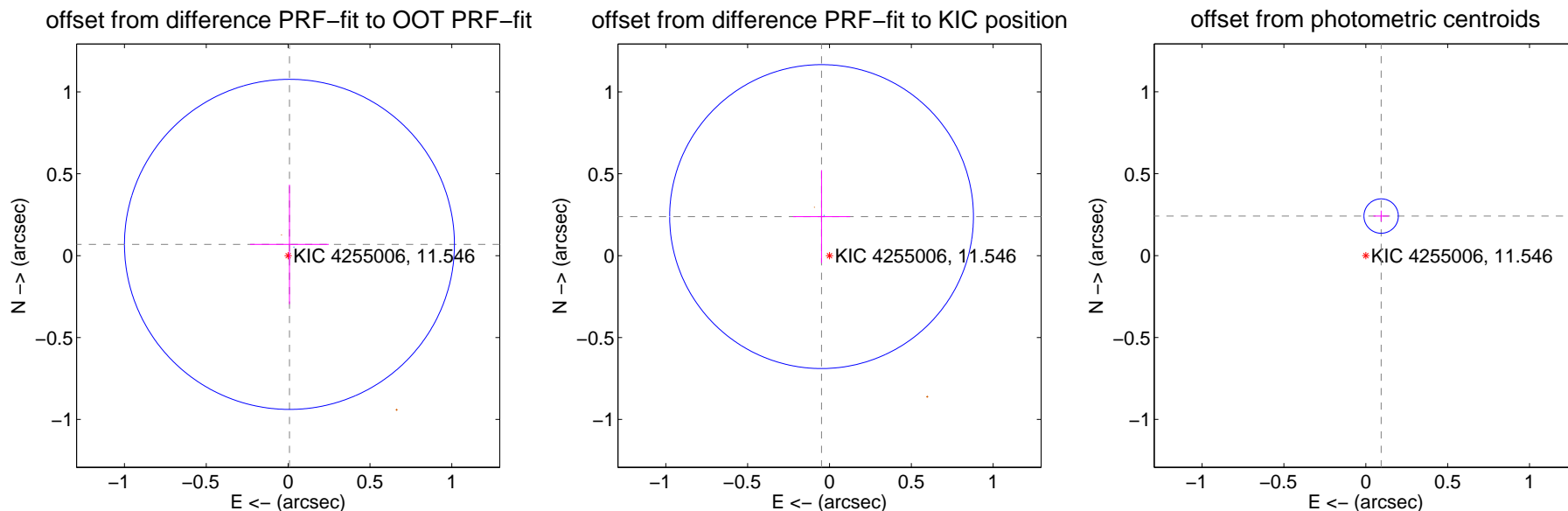
DV Centroid Data

Supplemental centroid analysis for 004255006-01. **Kepler magnitude: 11.55.** Transit SNR 12.93

There are 1 quarters with good PRF difference image offsets

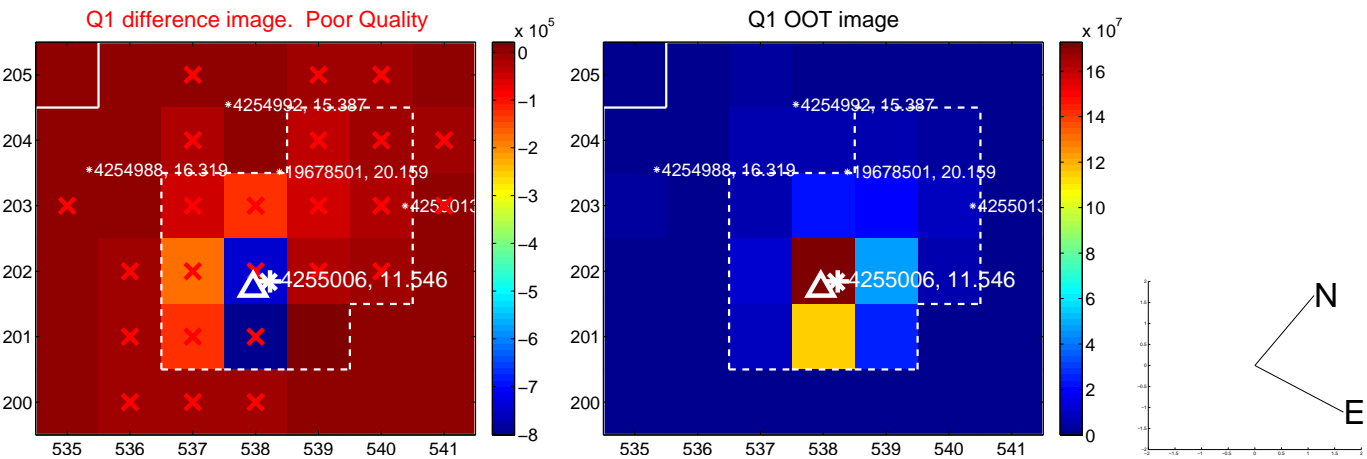
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.069 ± 0.336	0.21	-0.008 ± 0.240	0.069 ± 0.365
PRF-fit source offset from KIC position	0.243 ± 0.309	0.79	0.048 ± 0.175	0.238 ± 0.283
photometric centroid source offset	0.26 ± 0.04	7.39	-0.09 ± 0.05	0.24 ± 0.03

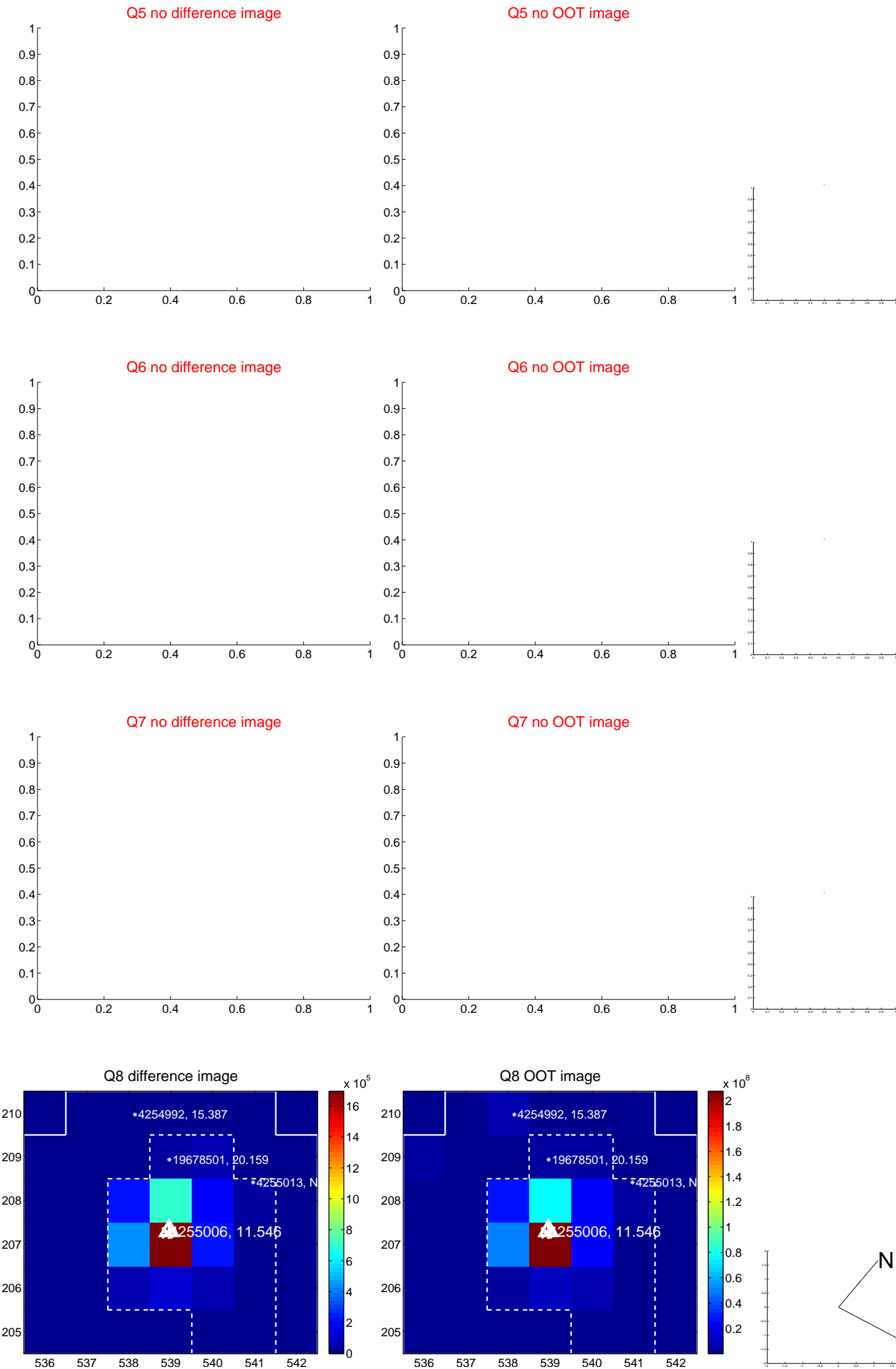


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



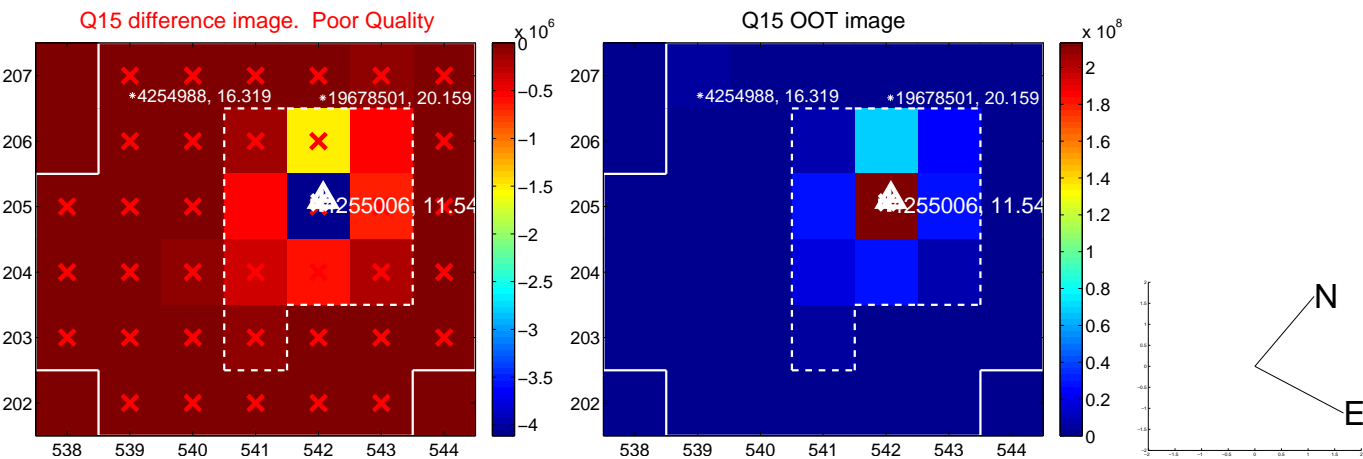
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



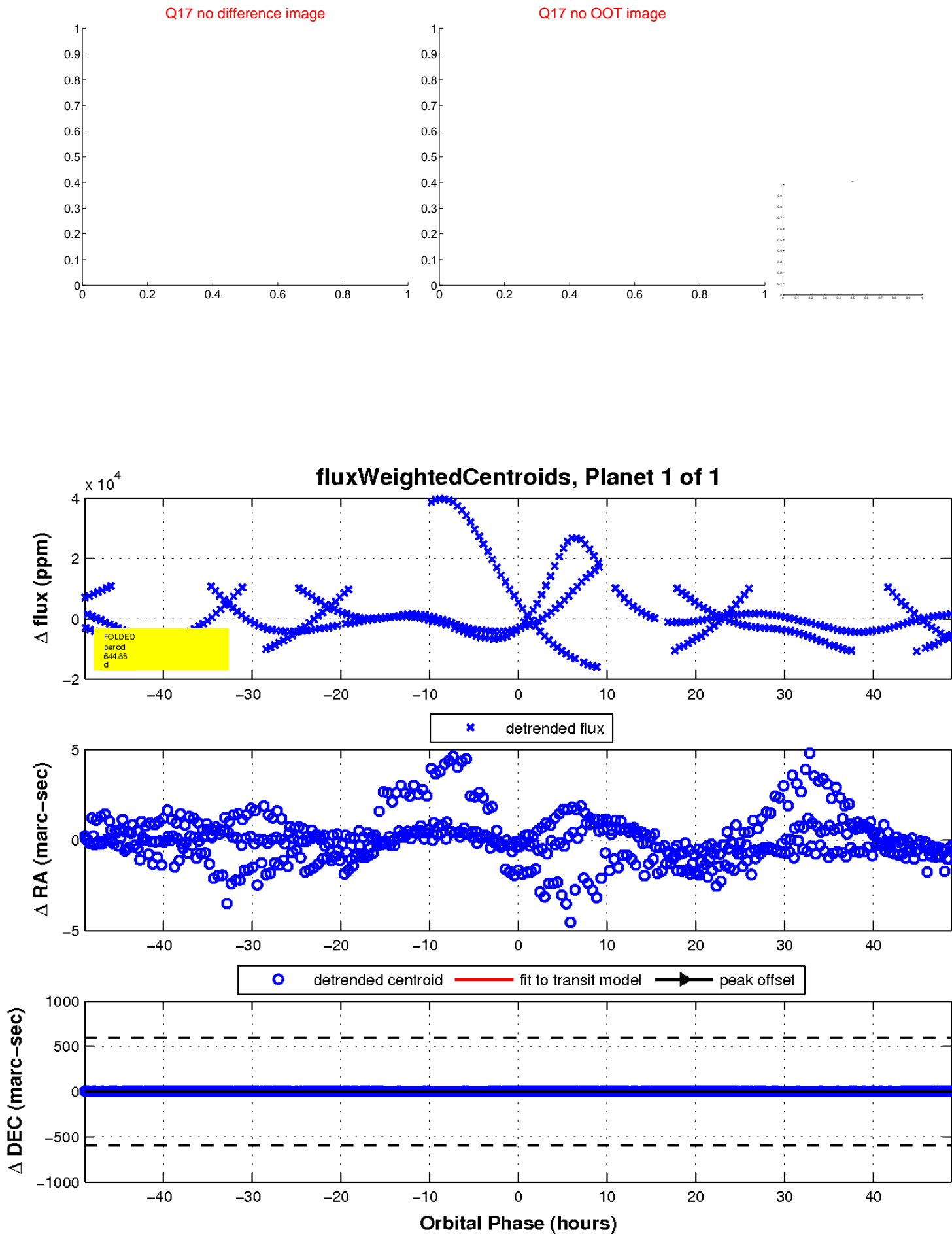
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

