

KIC 008686841

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})
008686841-01	OBS	No	375.188814	138.572571	833.6	78.409	11.8	19.5	0.97	6091	5.38	1.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686841-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_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.

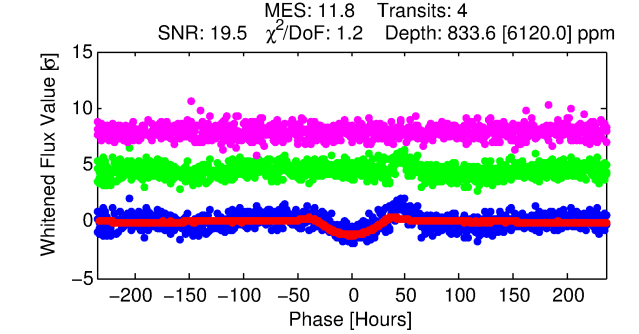
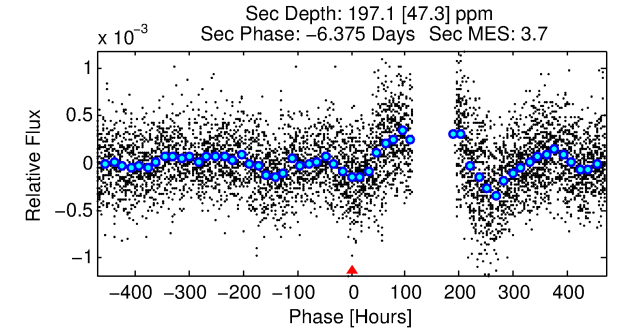
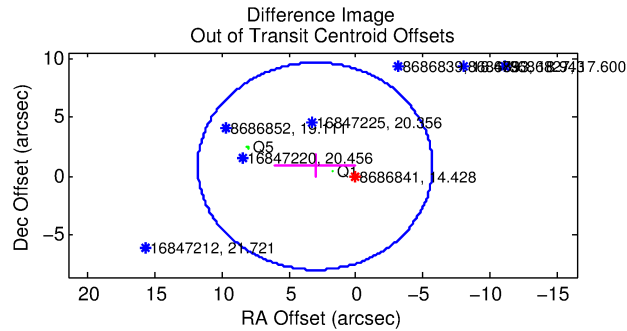
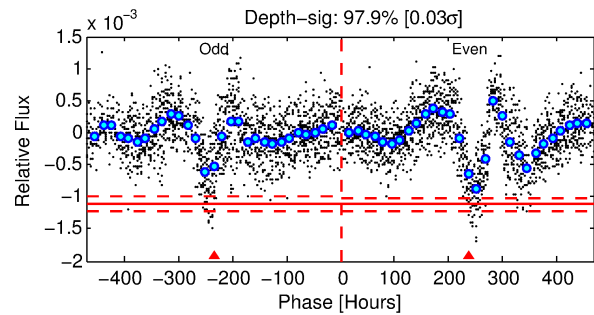
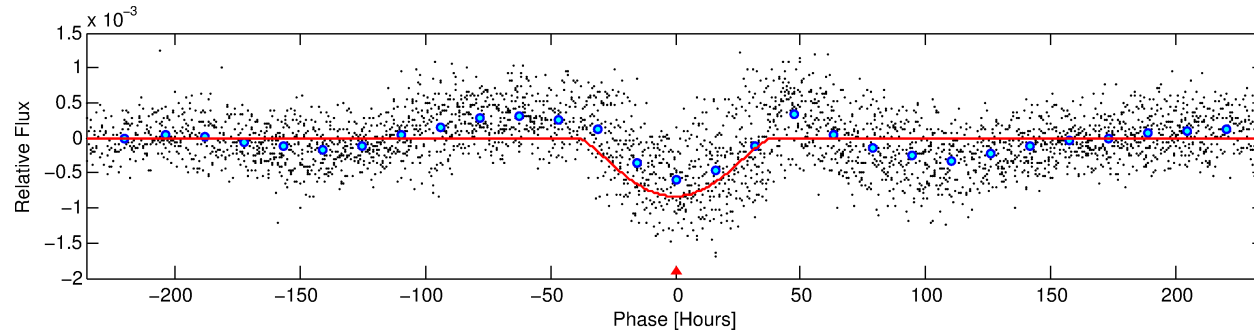
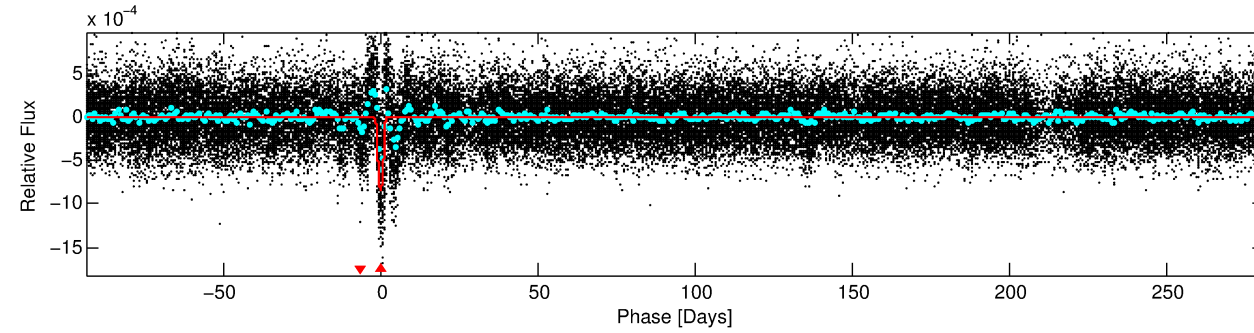
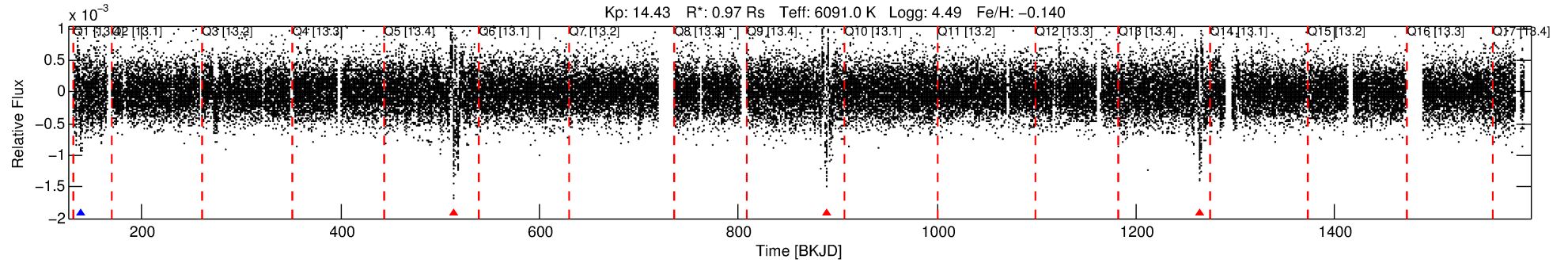
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686841-01

No Significant Match Found

DV One-Page Summary

KIC: 8686841 Candidate: 1 of 1 Period: 375.189 d



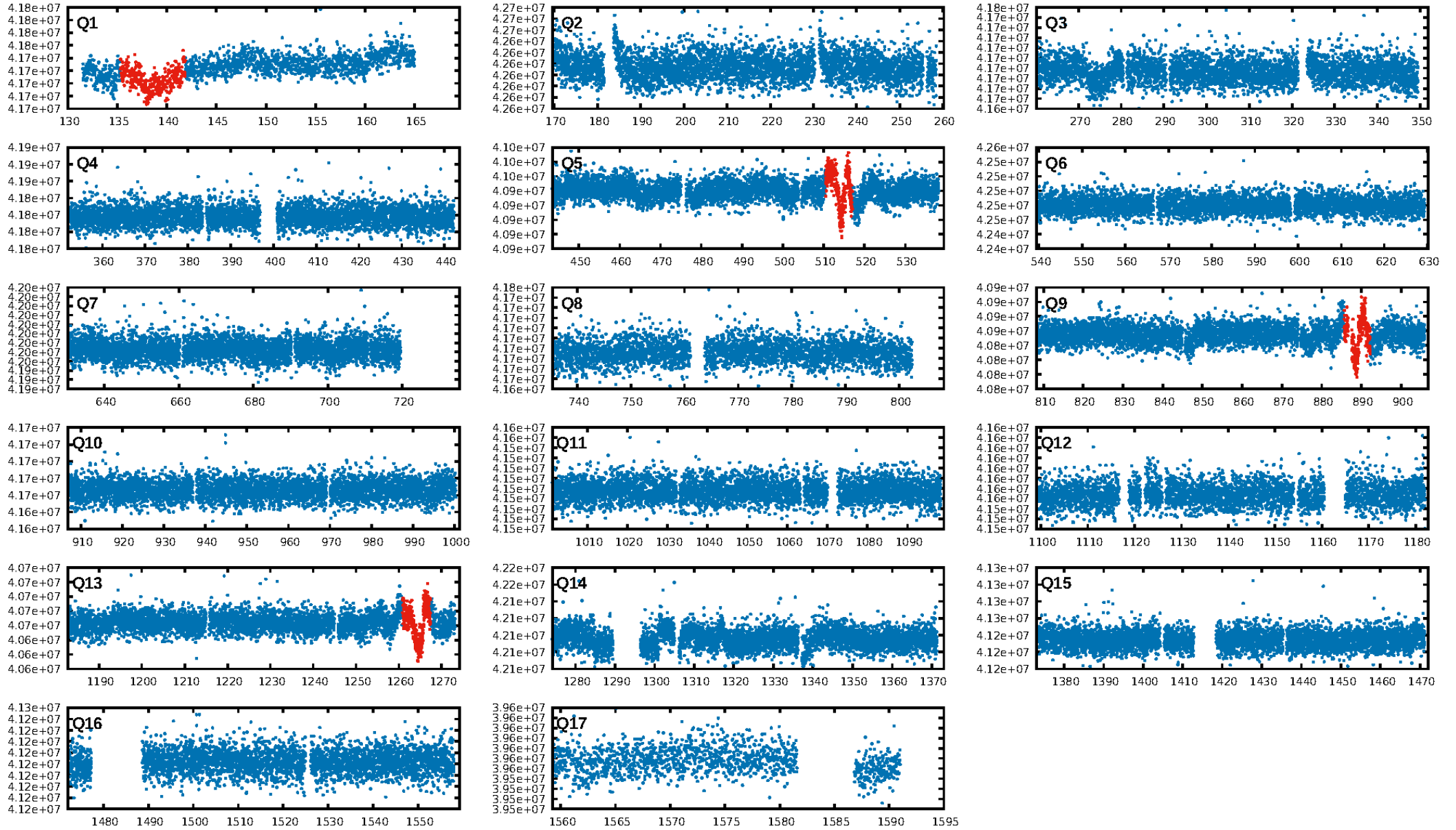
DV Fit Results:

Period = 375.18881 [0.04708] d
Epoch = 138.5726 [0.0975] BKJD
Rp/R* = 0.0510 [0.0662]
a/R* = 11.86 [3.70]
b = 1.00 [0.16]
Seff = 1.08 [0.46]
Teq = 260 [28] K
Rp = 5.38 [7.22] Re
a = 1.0339 [0.2920] AU
Ag = 4005.54 [10576.27] [0.38 σ]
Teff = 3196 [2087] K [1.41 σ]

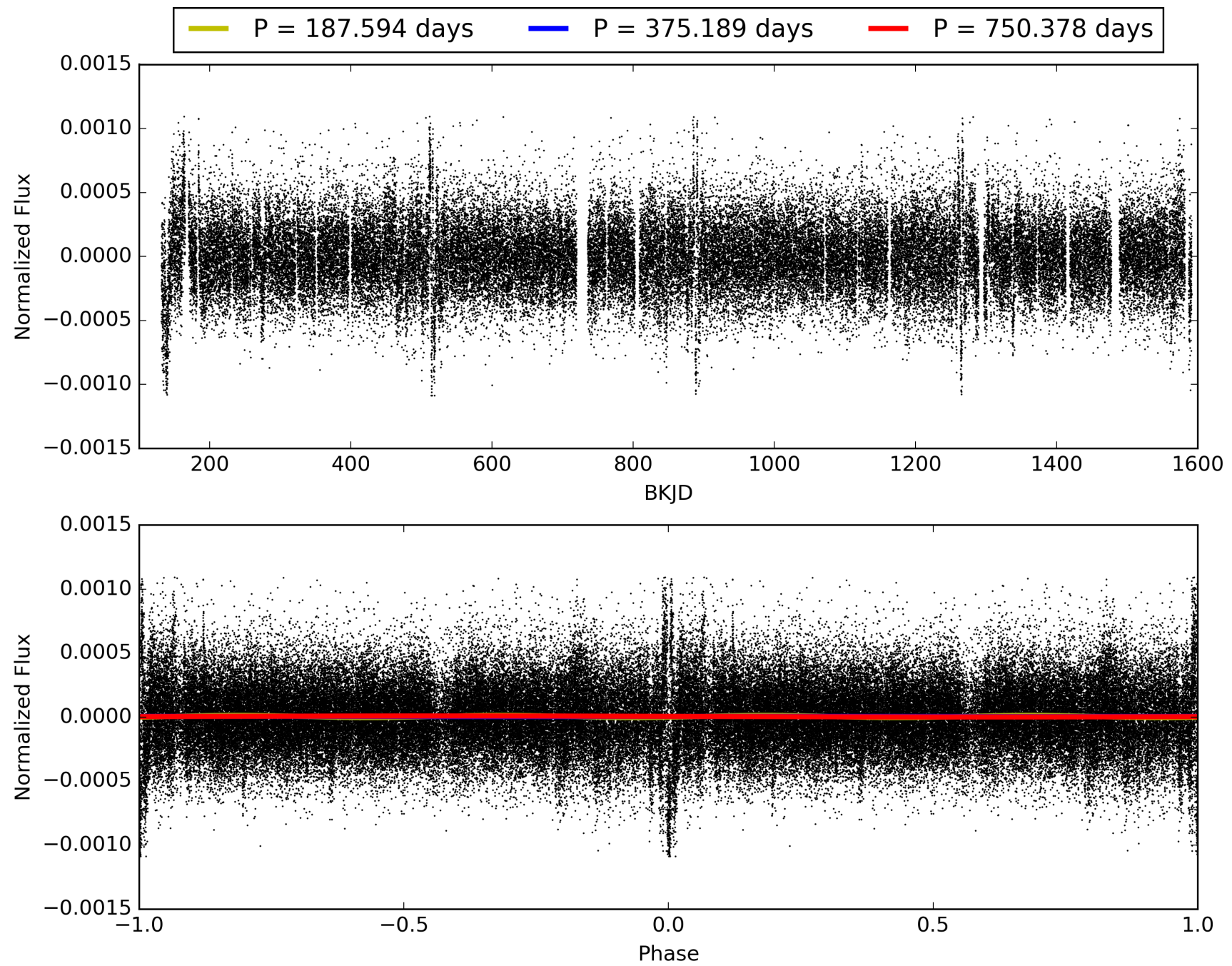
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 78.9%
Bootstrap-pfa: 9.57e-21
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 0.543
Centroid-sig: 0.6%
Centroid-so: 1.052 arcsec [2.33 σ]
OotOffset-rm: 3.158 arcsec [1.08 σ]
KicOffset-rm: 3.141 arcsec [1.07 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008686841-01, PDC Light Curves

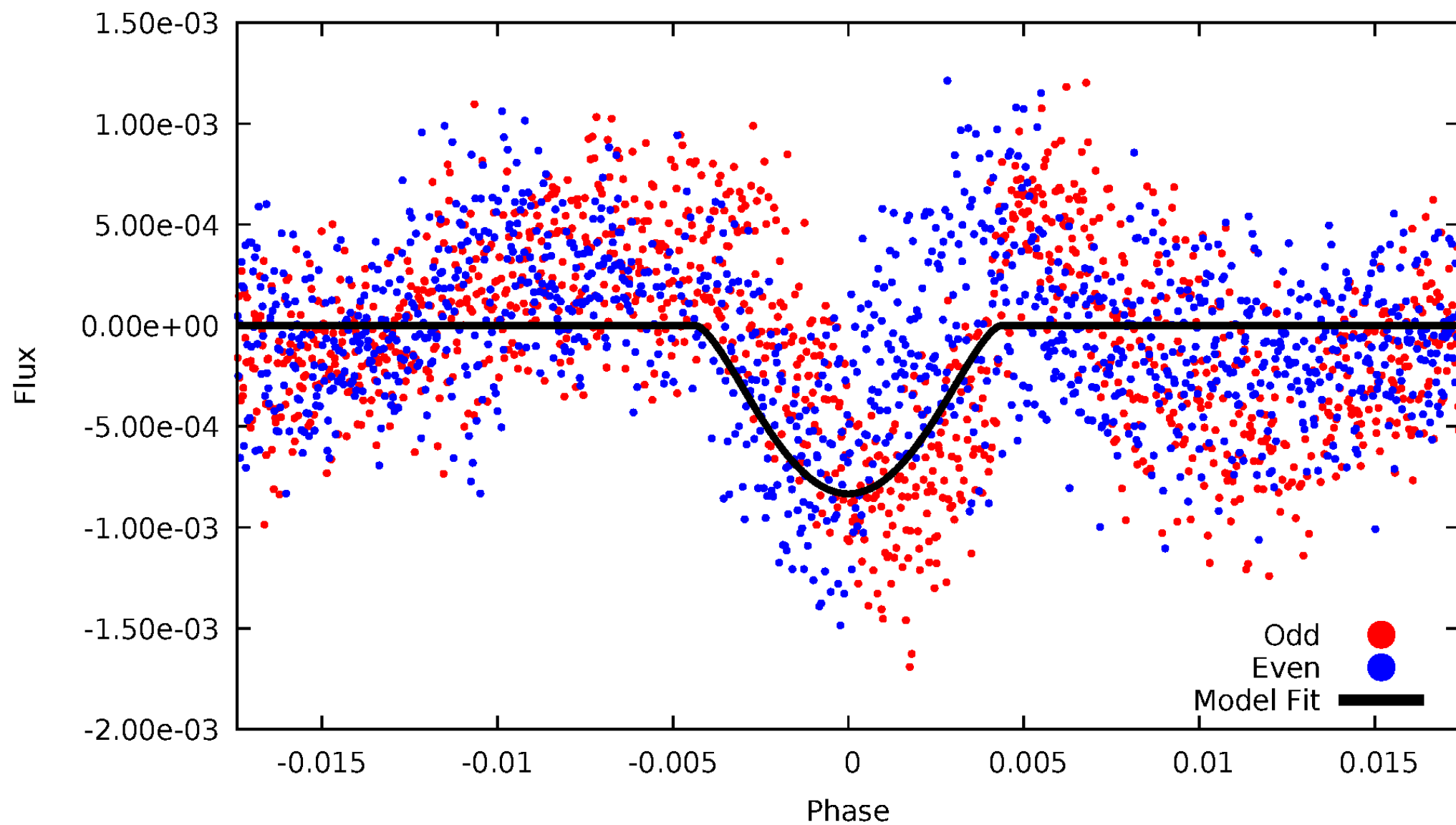


TCE 008686841-01



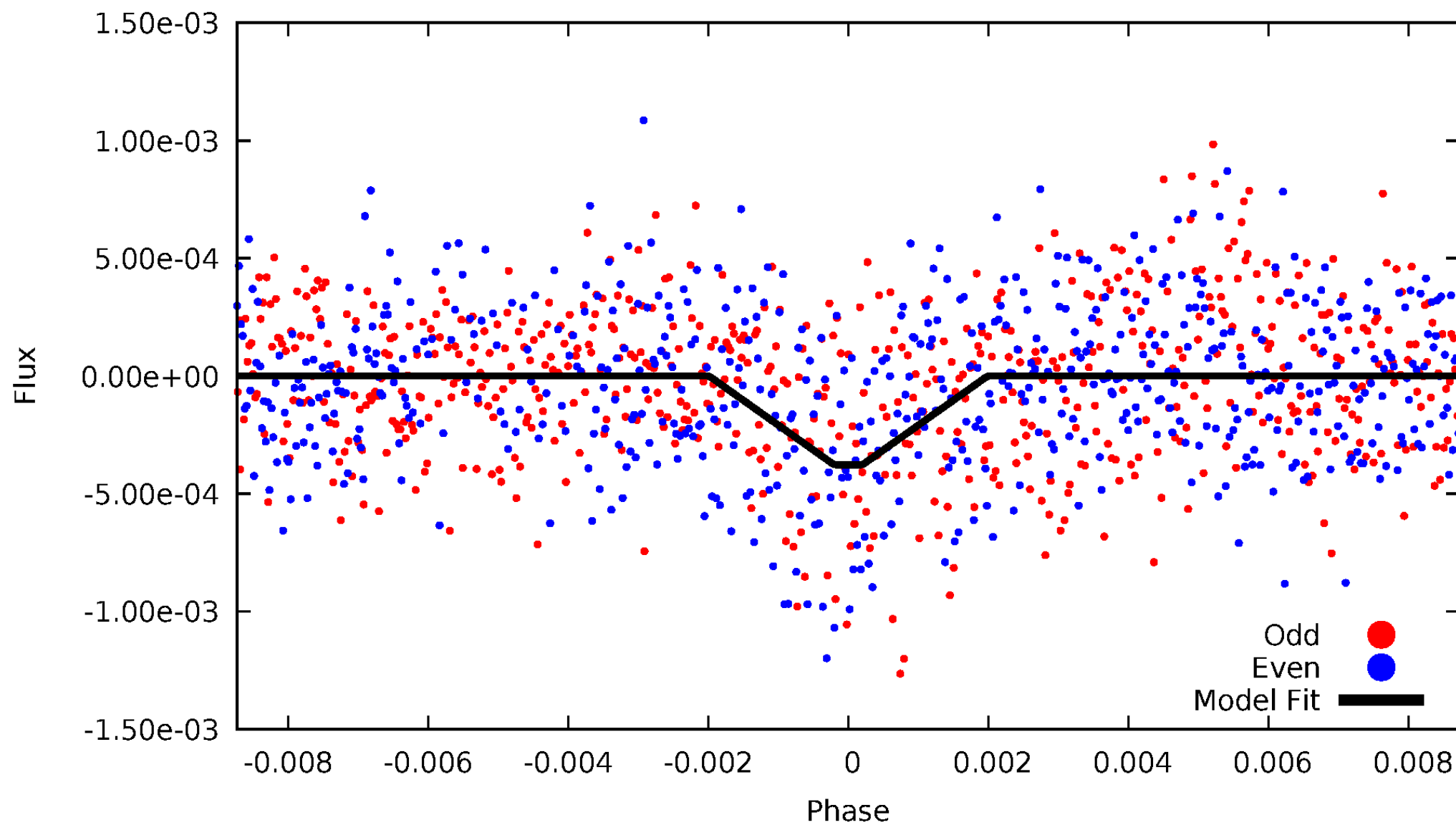
DV Odd/Even

TCE 008686841-01



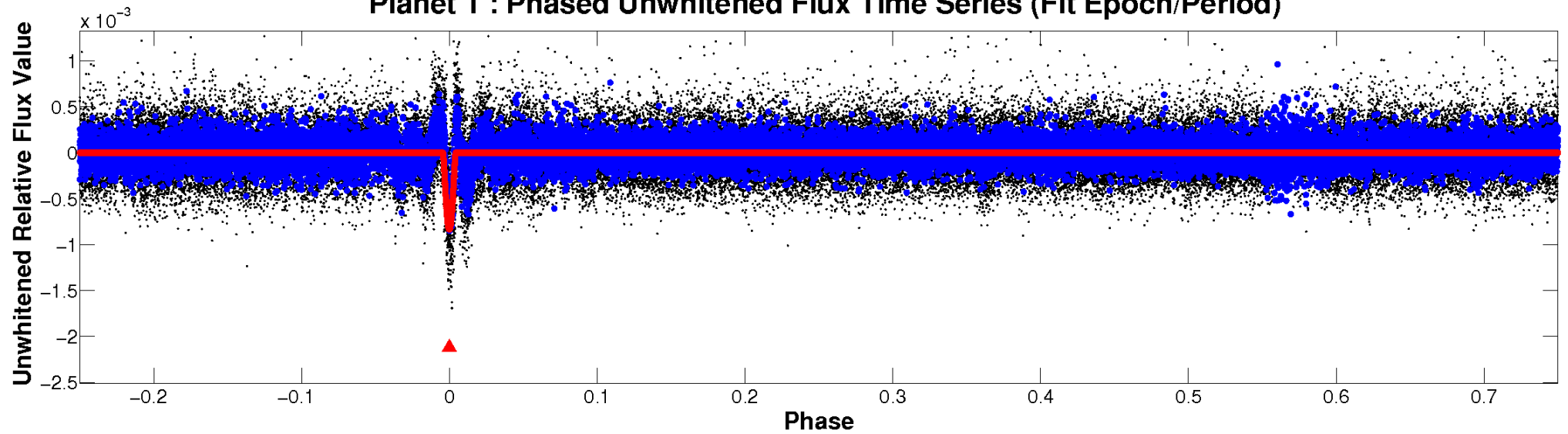
ALT Odd/Even

TCE 008686841-01

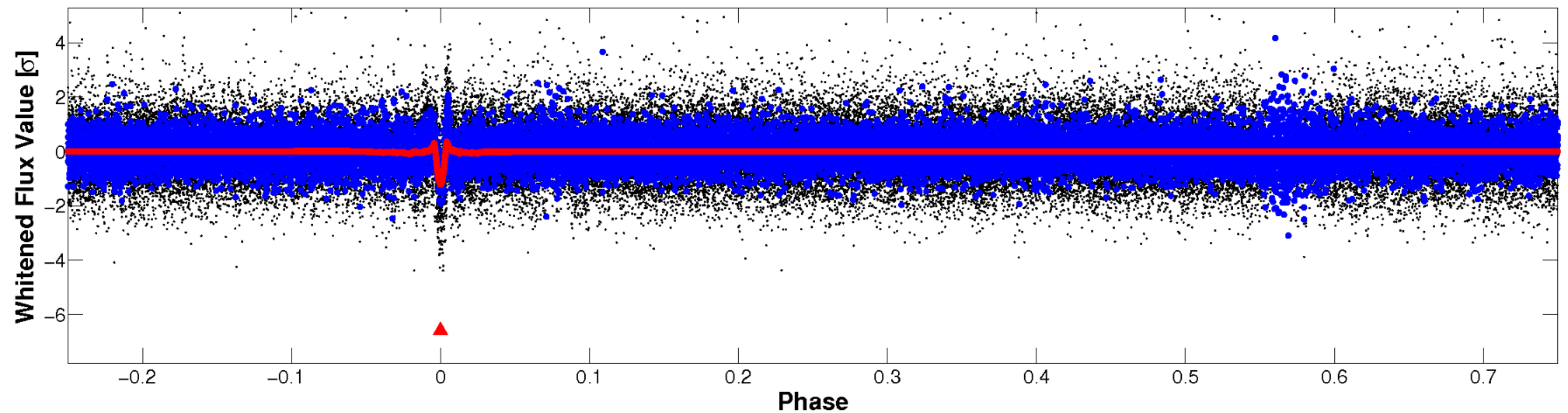


Non-Whitened Vs. Whitened Light Curve

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

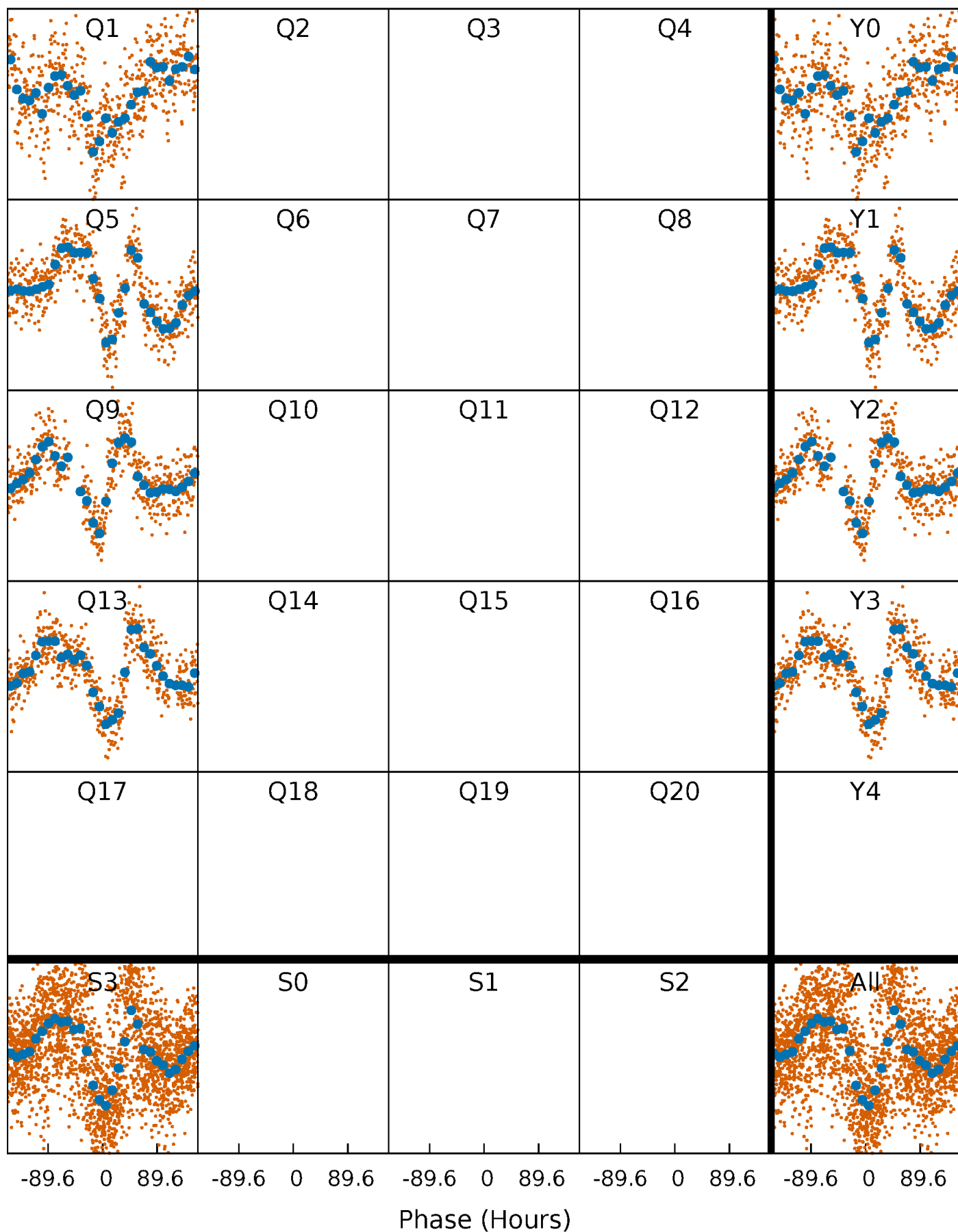


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



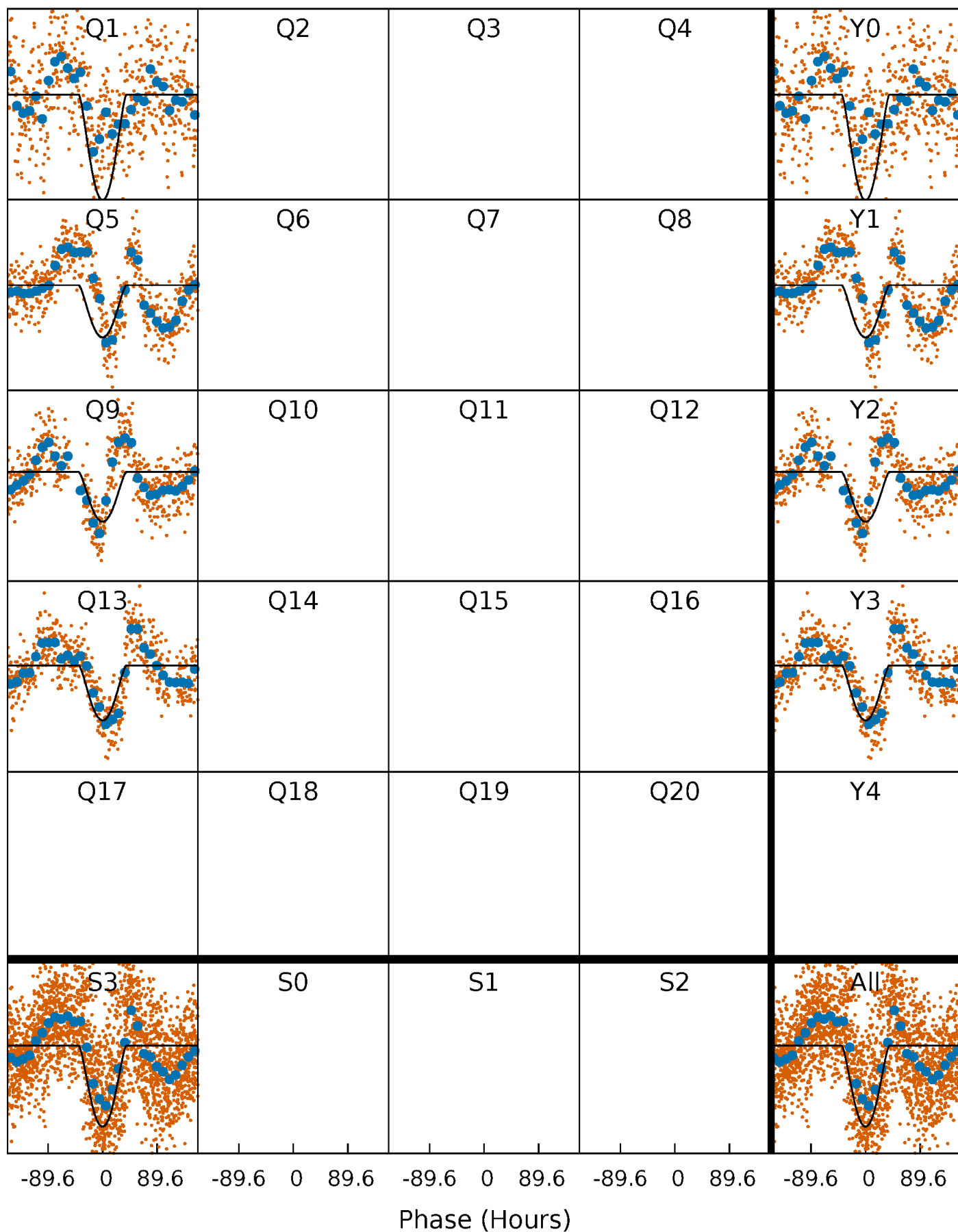
PDC Quarter-Phased Transit Curves

TCE 008686841-01 P=375.188814 Days $T_0=138.572571$ (BKJD)



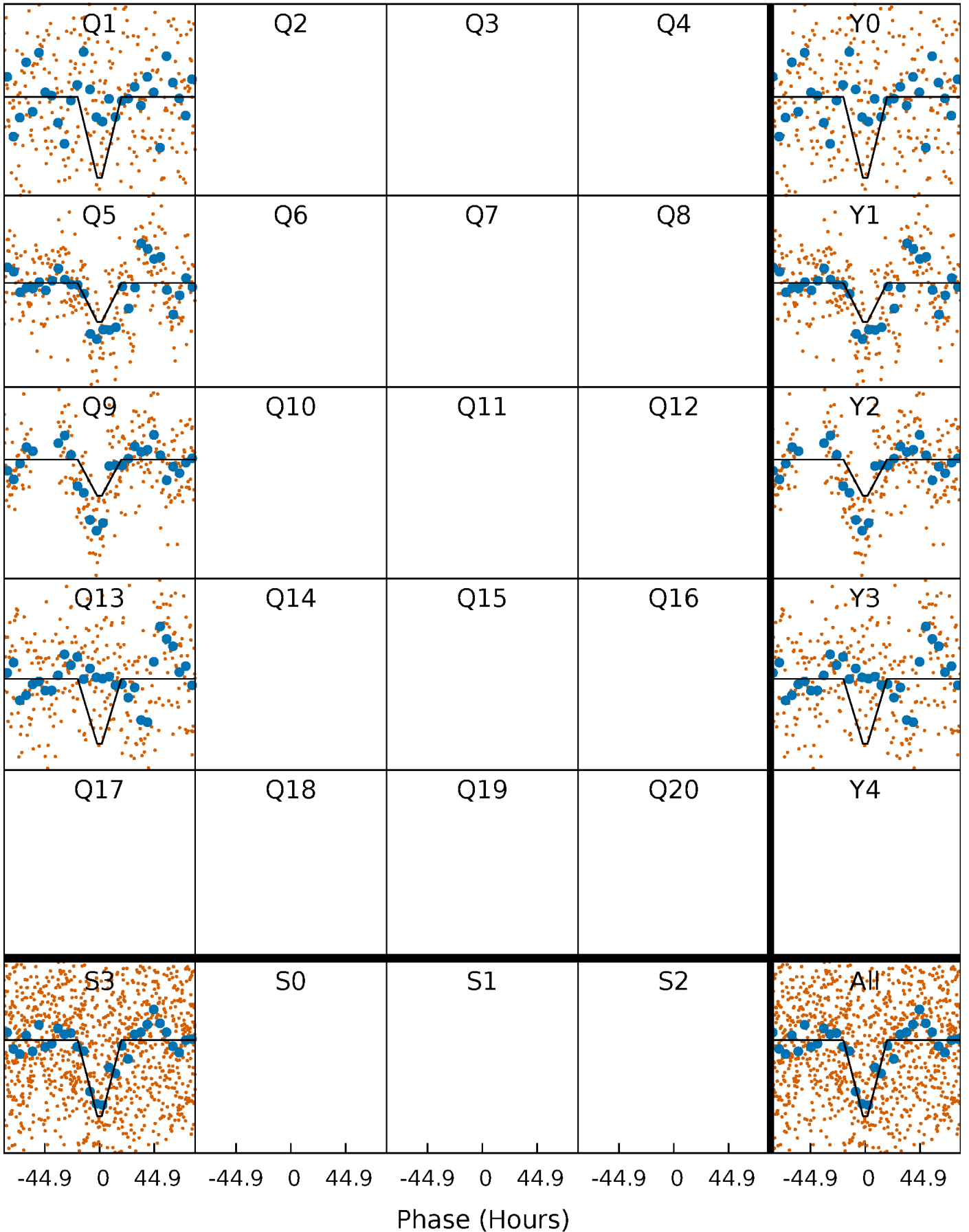
DV Quarter-Phased Transit Curves

TCE 008686841-01 $P=375.188814$ Days $T_0=138.572571$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

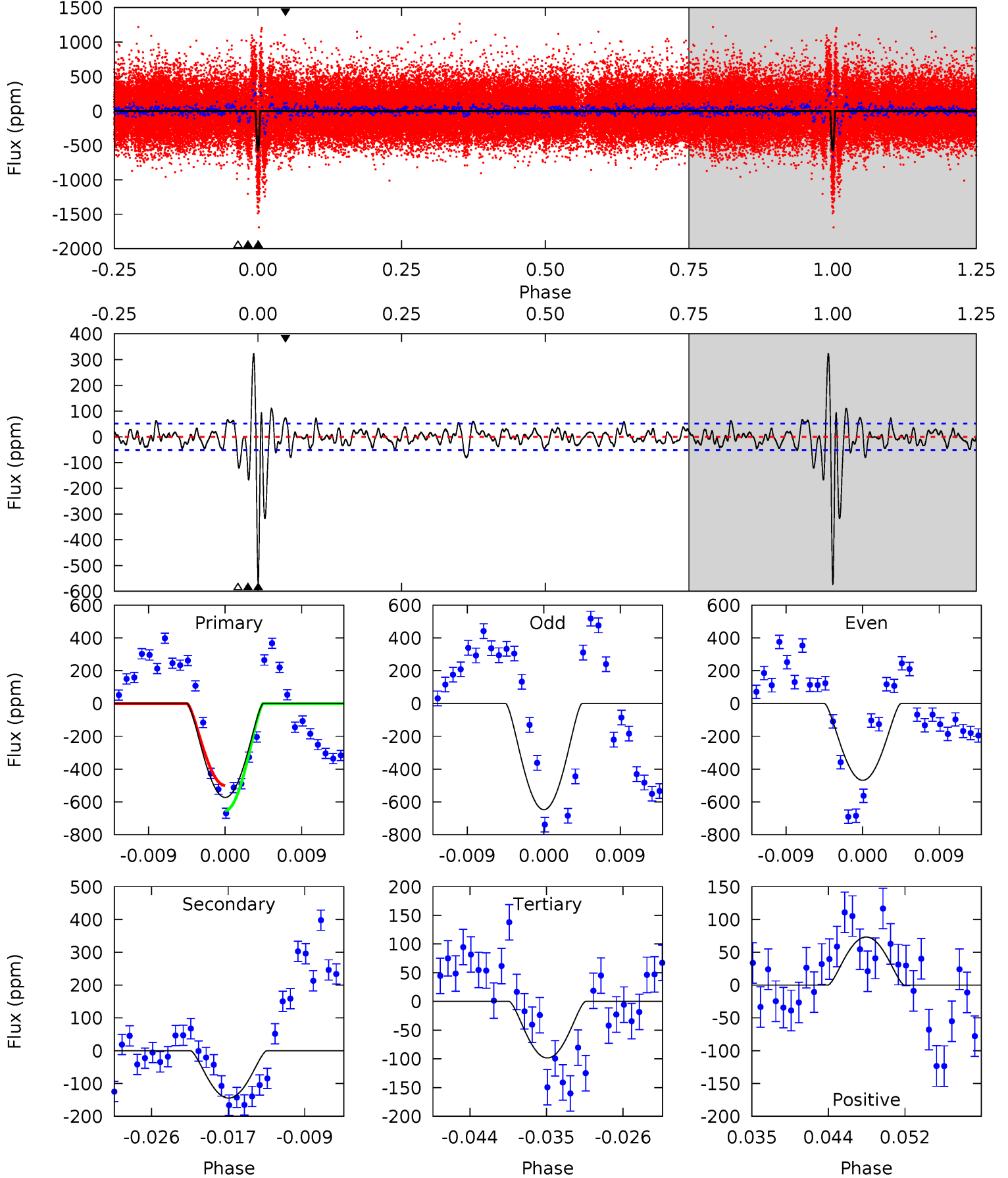
TCE 008686841-01 P=374.840036 Days $T_0=139.299796$ (BKJD)



DV Model-Shift Uniqueness Test

008686841-01, P = 375.188814 Days, E = 138.572571 Days

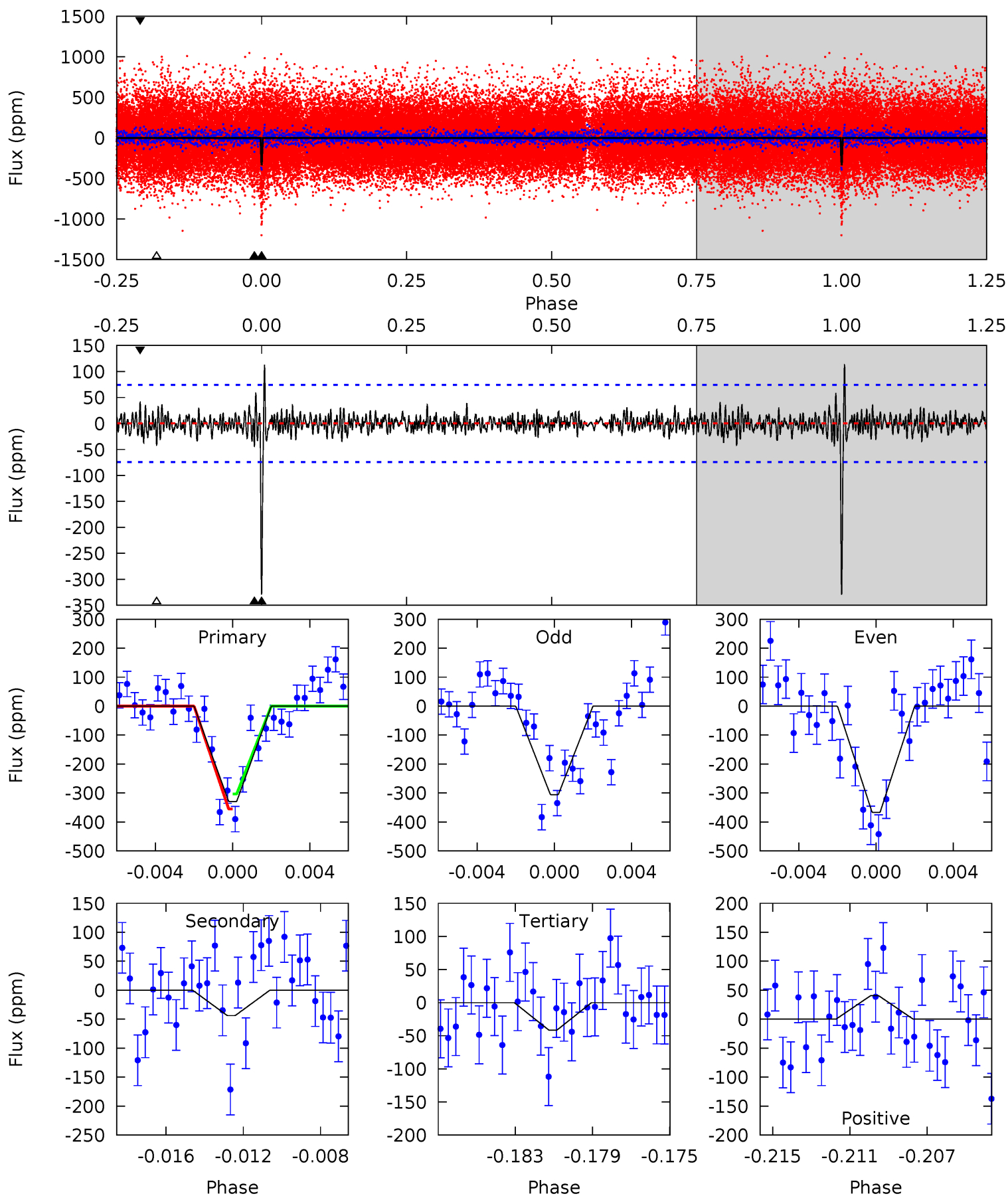
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.5	14.3	9.73	7.22	5.05	2.62	3.64	46.8	49.3	4.54	7.04	8.86	1.05	0.36	7.49



Alt Model-Shift Uniqueness Test

008686841-01, $P = 374.840036$ Days, $E = 139.299796$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	3.07	2.91	2.85	5.20	2.88	0.91	20.2	20.2	0.15	0.22	2.16	0.99	0.26	1.82



Stellar Parameters For KIC 008686841

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6091^{+163}_{-199}	$4.487^{+0.056}_{-0.224}$	$-0.140^{+0.250}_{-0.350}$	$0.967^{+0.325}_{-0.101}$	$1.045^{+0.140}_{-0.140}$	$1.627^{+0.461}_{-0.889}$
	+3%/-3%	+1%/-5%	+179%/-250%	+34%/-10%	+13%/-13%	+28%/-55%
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 008686841-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-145 ± 10	$7.64^{+6.24}_{-5.10}$	372^{+28}_{-19}	3174^{+1469}_{-499}	1482^{+10961}_{-1053}
Alt.	-44 ± 14	$6.02^{+5.72}_{-4.34}$	371^{+29}_{-18}	2849^{+1360}_{-478}	663^{+7333}_{-506}

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 $A_{obs} \gg 1.0$

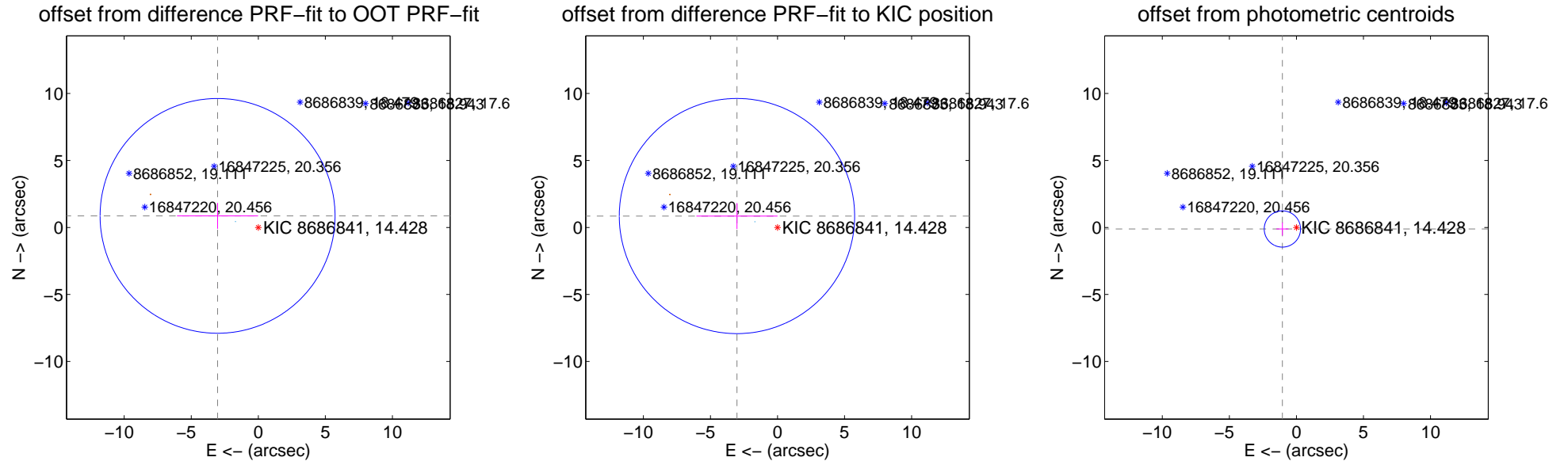
DV Centroid Data

Supplemental centroid analysis for 008686841-01. Kepler magnitude: 14.43. Transit SNR 19.49

There are 1 quarters with good PRF difference image offsets

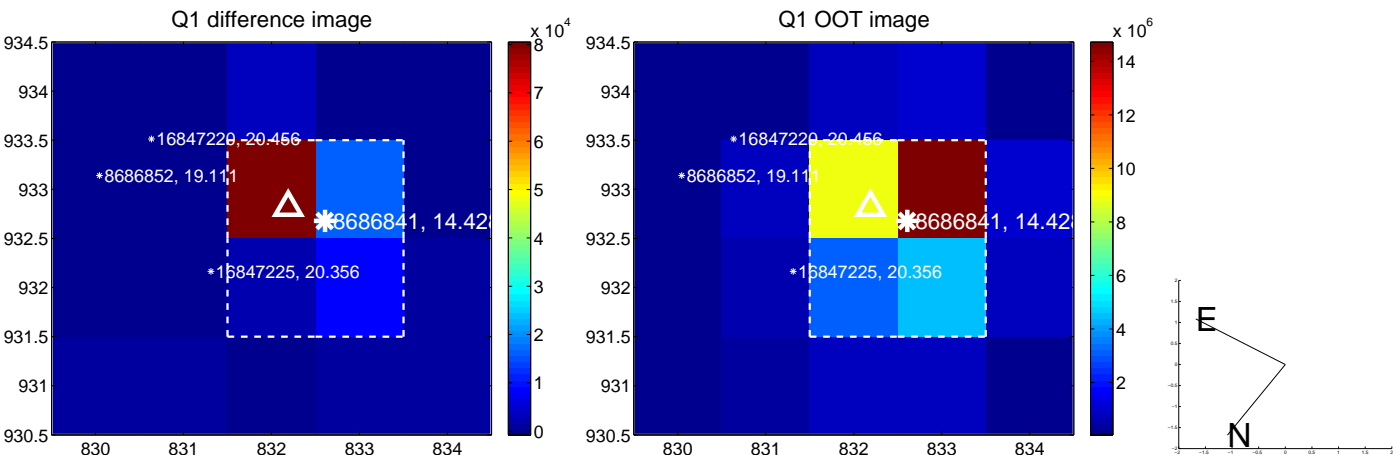
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.158 ± 2.920	1.08	3.038 ± 3.023	0.864 ± 0.965
PRF-fit source offset from KIC position	3.141 ± 2.925	1.07	3.024 ± 3.026	0.852 ± 0.967
photometric centroid source offset	1.05 ± 0.45	2.33	1.05 ± 0.45	-0.11 ± 0.49

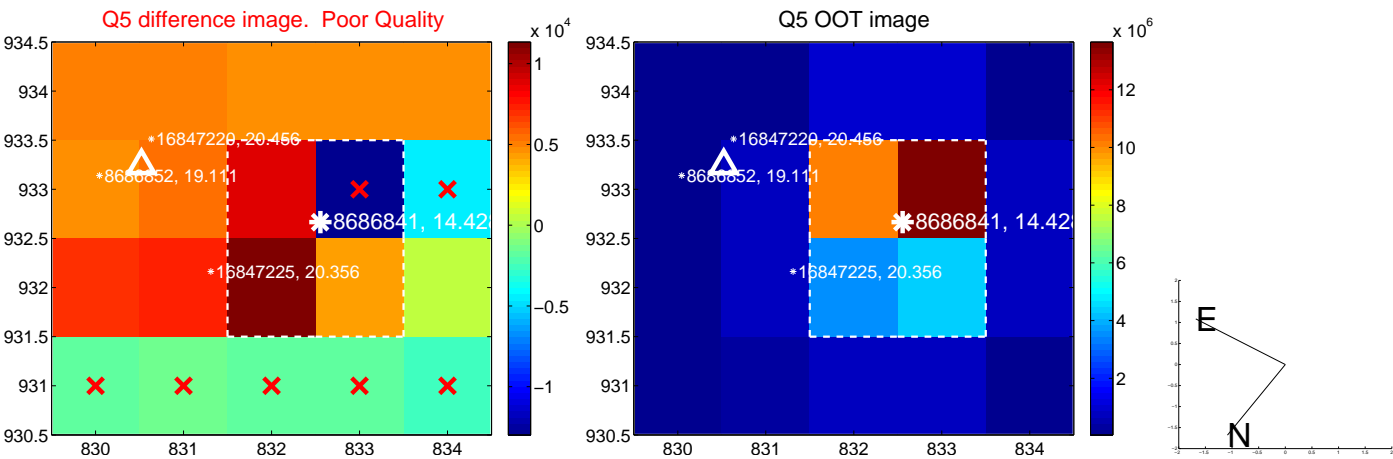


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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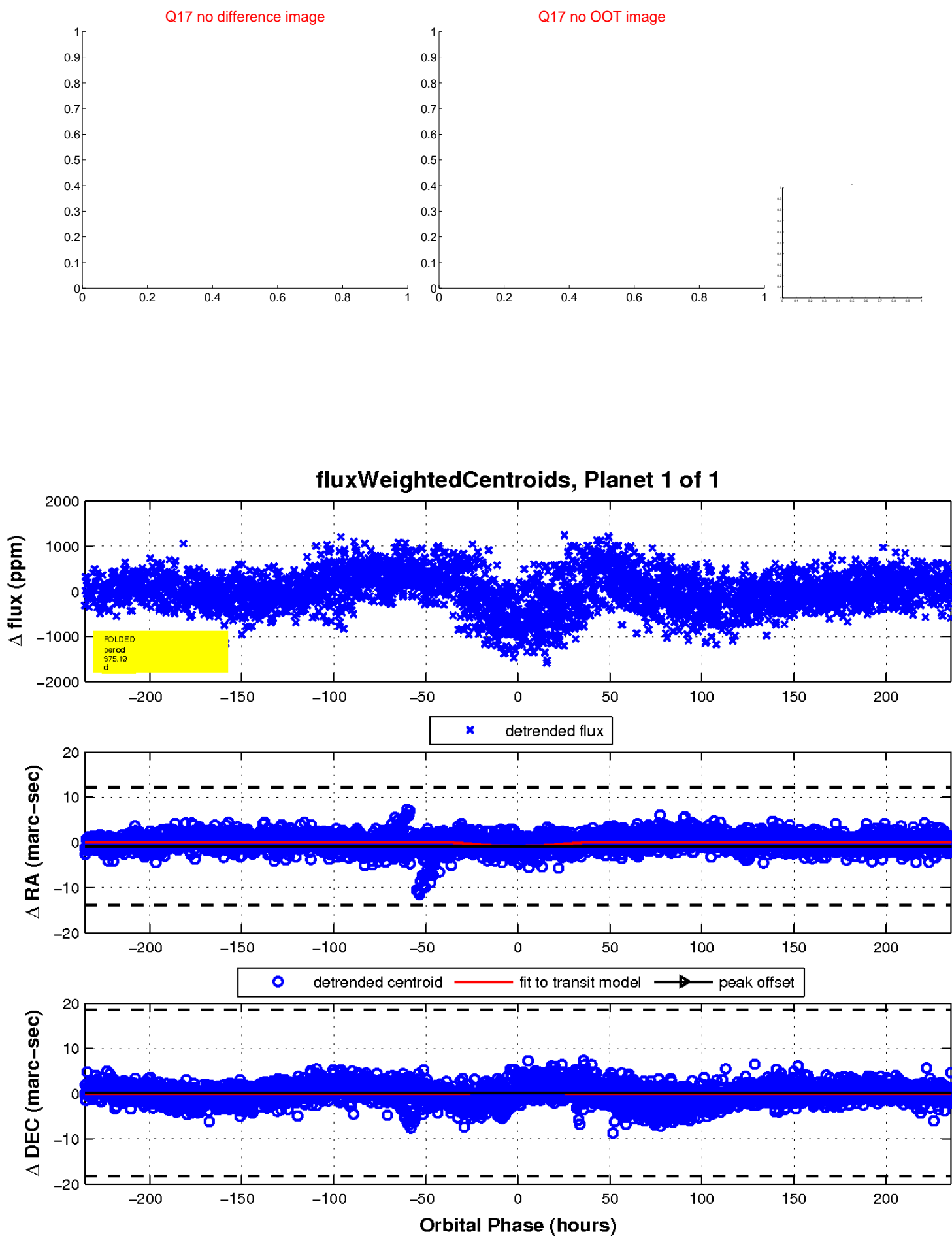
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UKIRT Image

Declination

