

KIC 009950279

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})
009950279-01	OBS	No	360.158141	160.942124	2238.8	28.339	8.6	10.0	0.89	5956	5.49	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009950279-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS—EPHEM_MATCH

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.

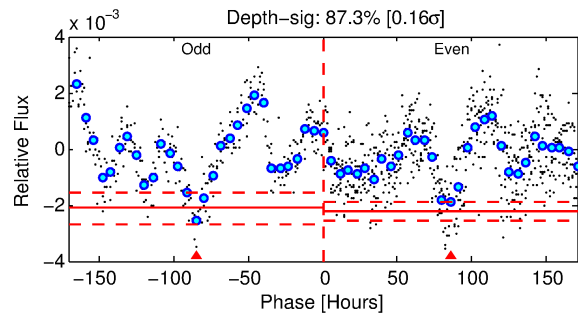
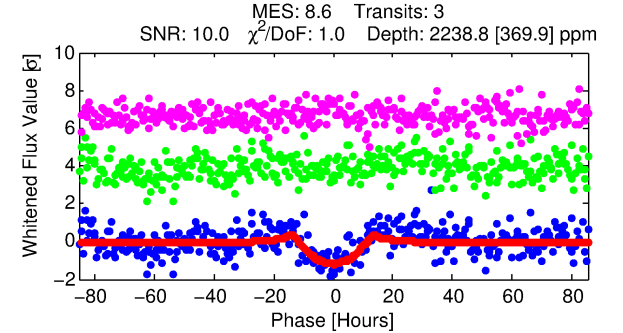
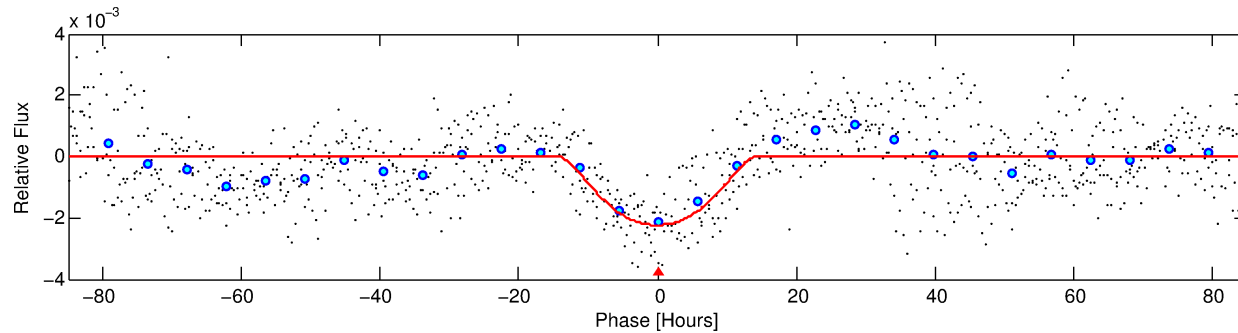
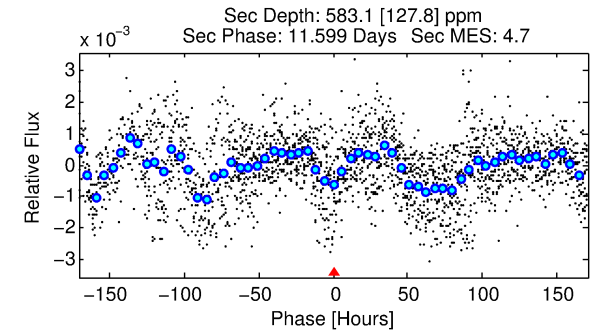
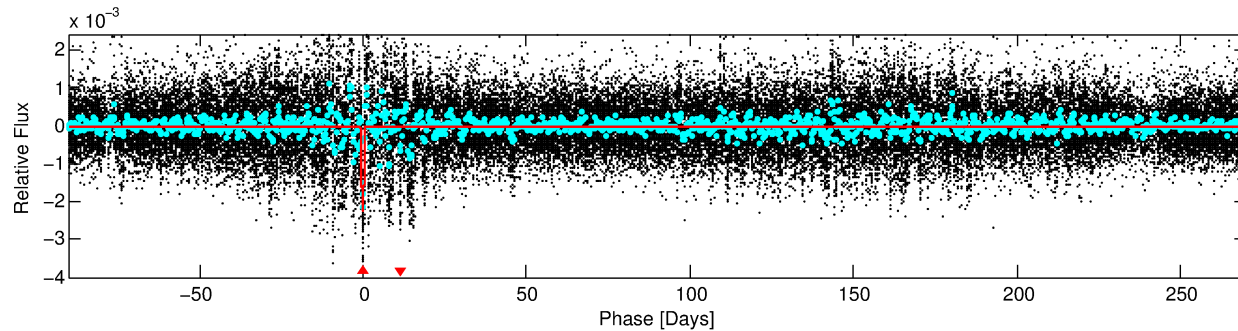
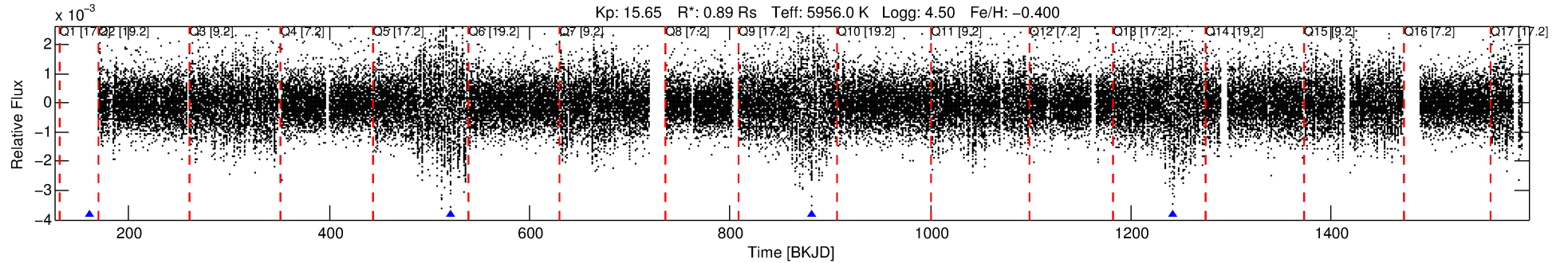
Ephemeris Match Information For 009950279-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009950279-01	9950279	009950201-02	9950201	1:1	138.2	-35	1	15.70	15.66	0.74	Col-Anomaly	1	1.68	2.62

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9950279 Candidate: 1 of 1 Period: 360.158 d



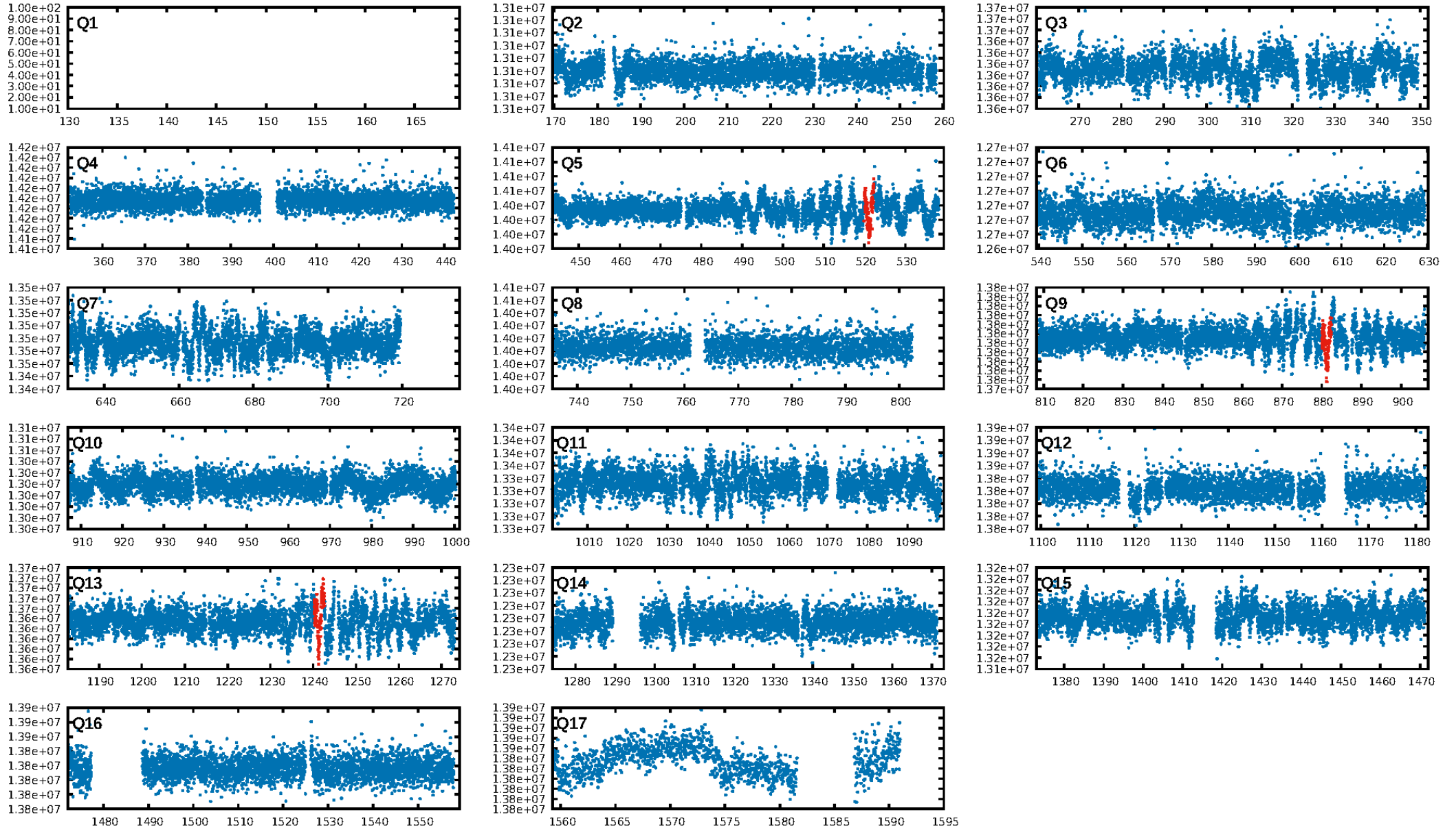
DV Fit Results:

Period = 360.15814 [0.03574] d
Epoch = 160.9421 [0.0746] BKJD
Rp/R* = 0.0569 [0.0182]
a/R* = 43.87 [8.38]
b = 0.96 [0.05]
Seff = 0.96 [0.36]
Teq = 253 [23] K
Rp = 5.49 [2.32] Re
a = 0.9579 [0.2271] AU
Ag = 9761.44 [7439.52] [1.31 σ]
Teffp = 3881 [666] K [5.44 σ]

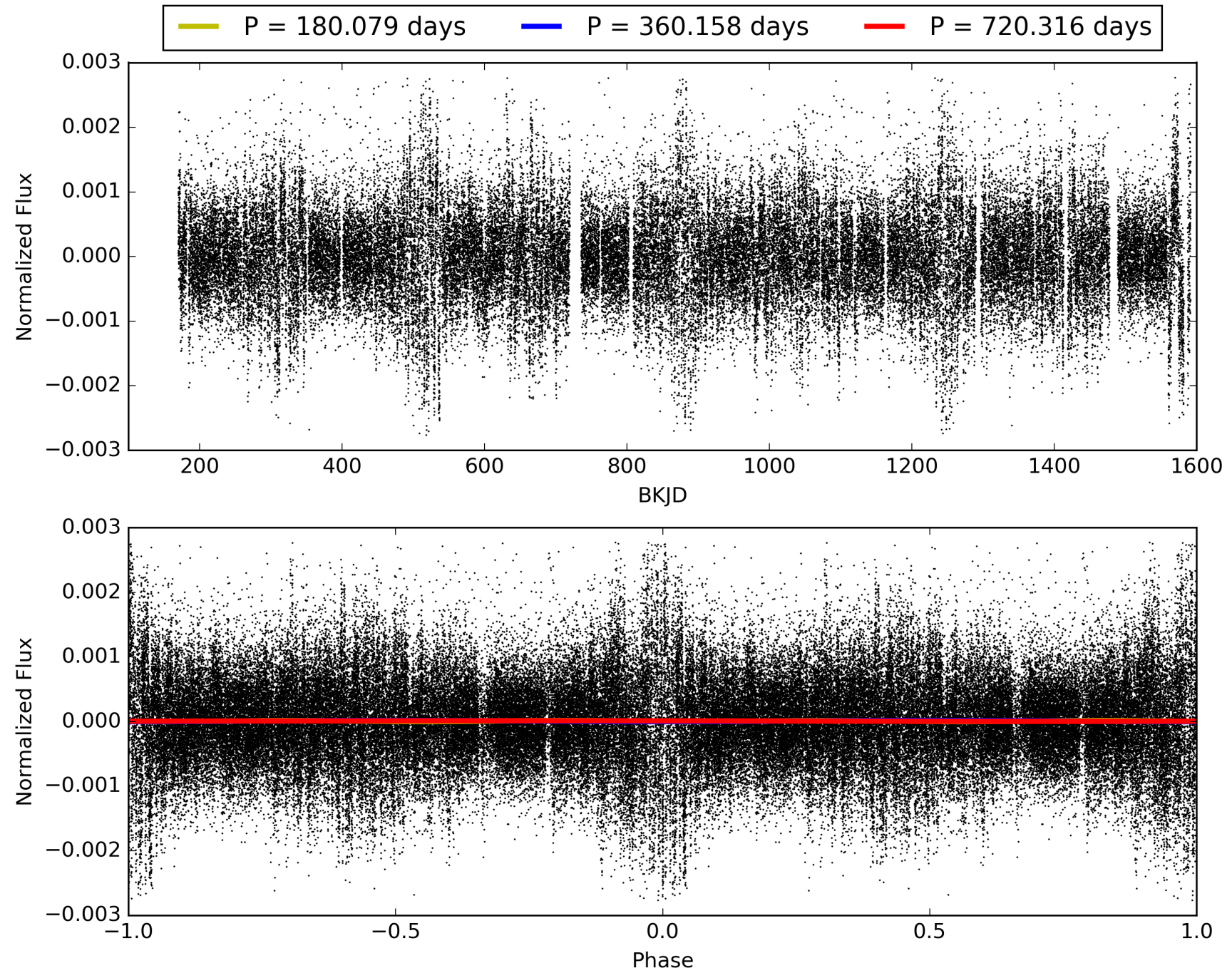
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.30e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.051
Centroid-sig: 0.1%
Centroid-so: 5.309 arcsec [2.96 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009950279-01, PDC Light Curves

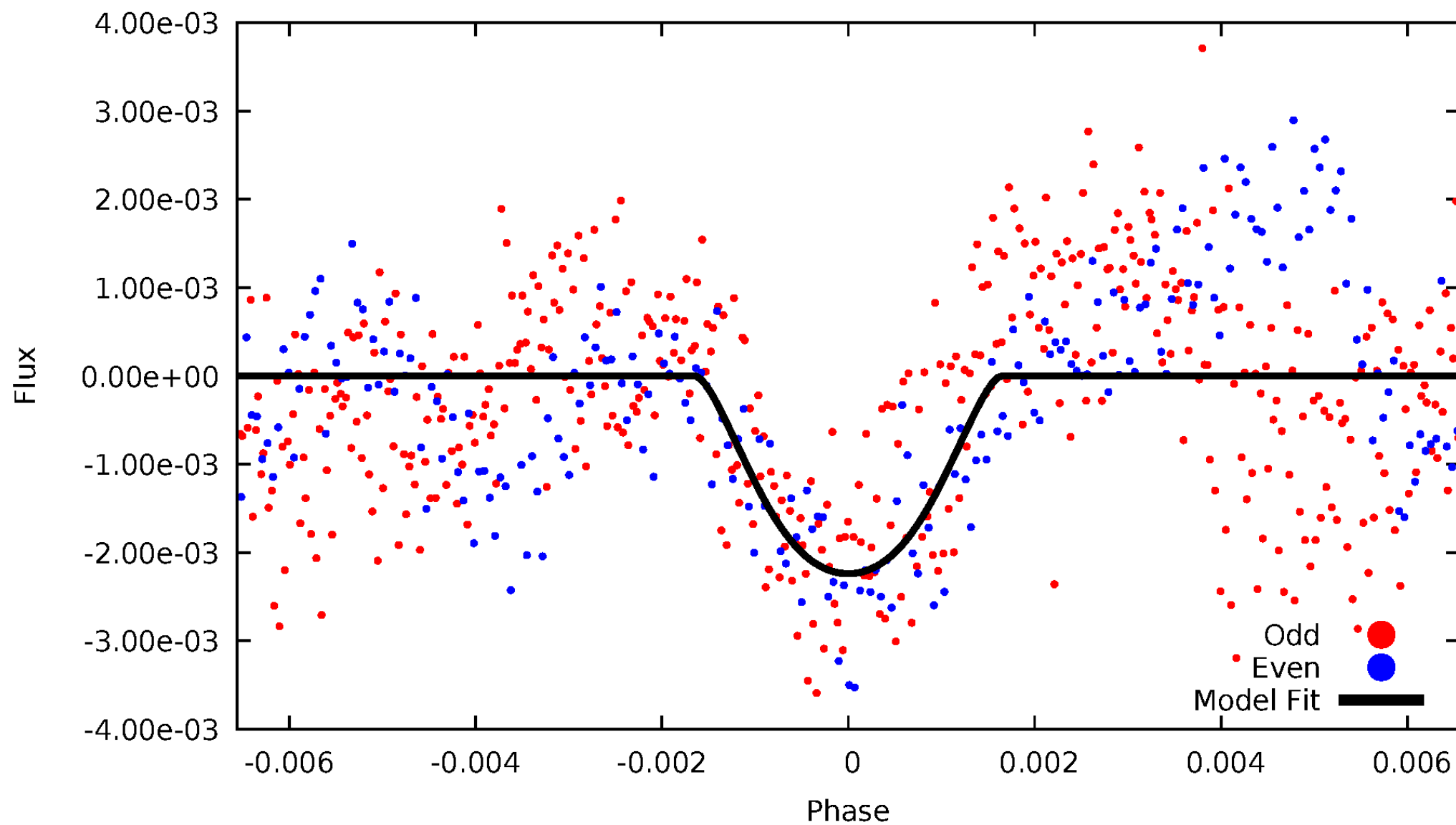


TCE 009950279-01



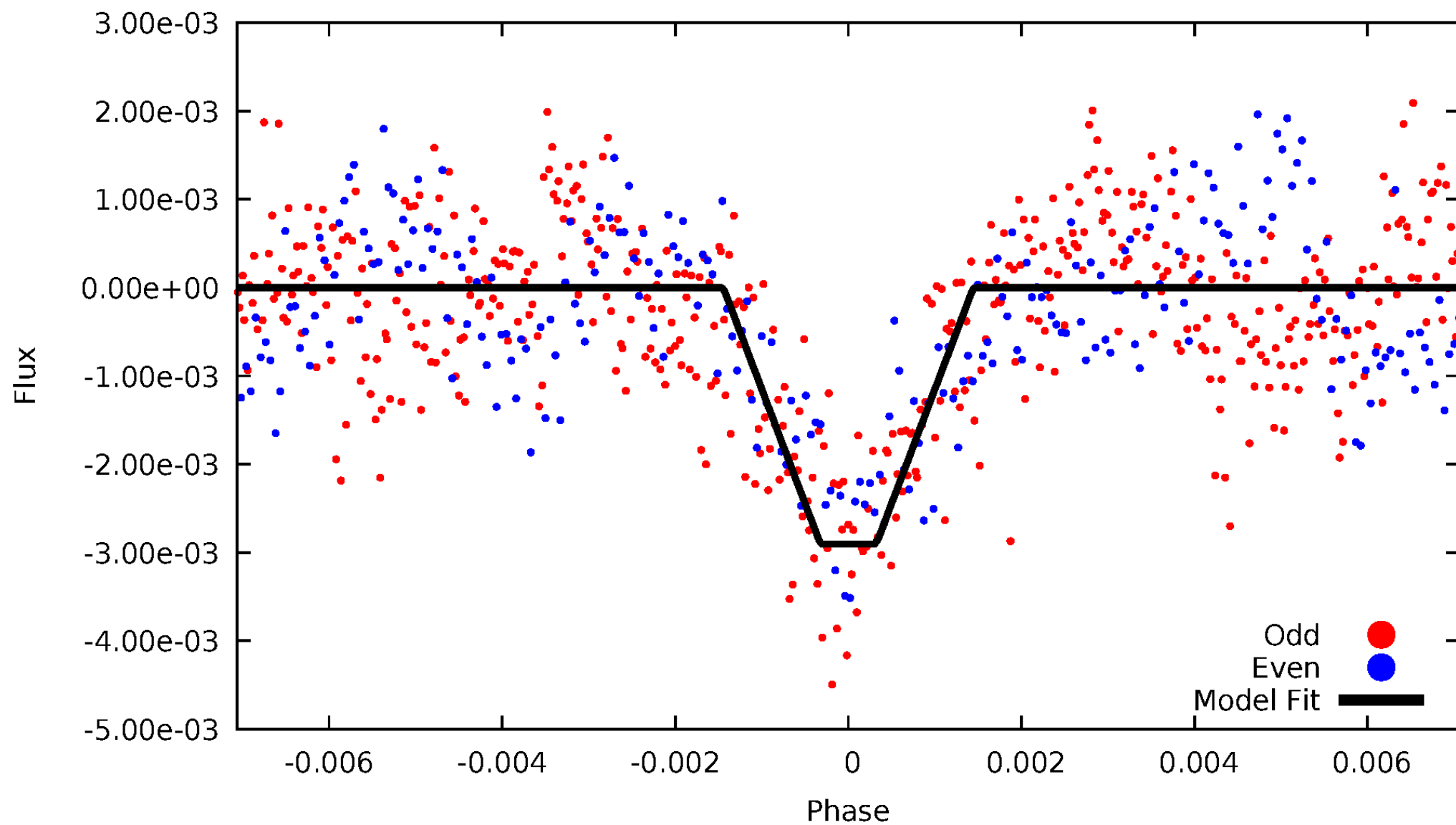
DV Odd/Even

TCE 009950279-01



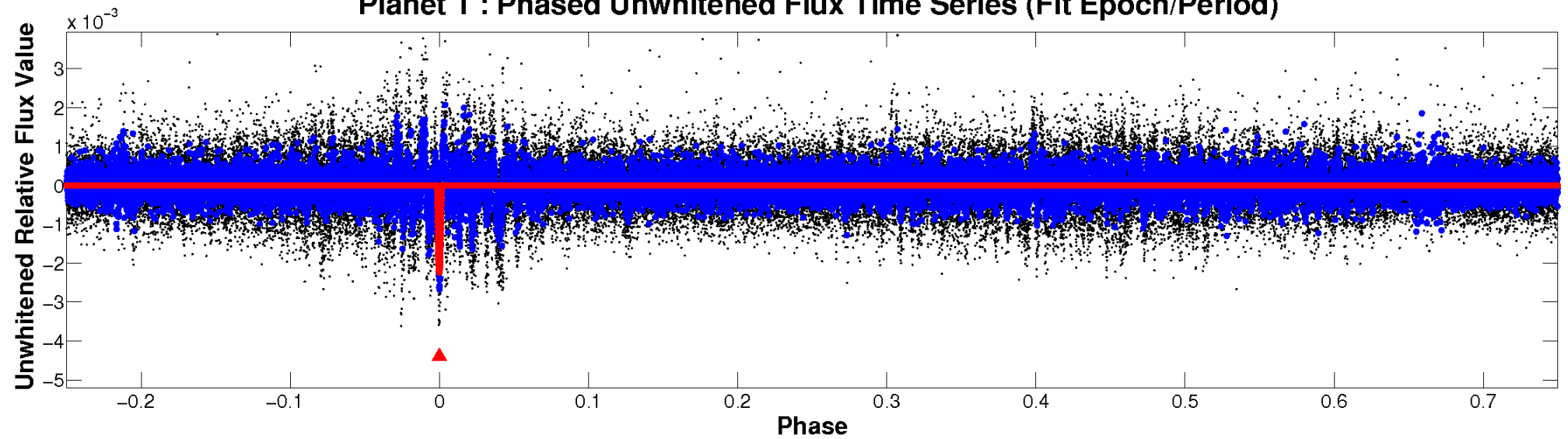
ALT Odd/Even

TCE 009950279-01

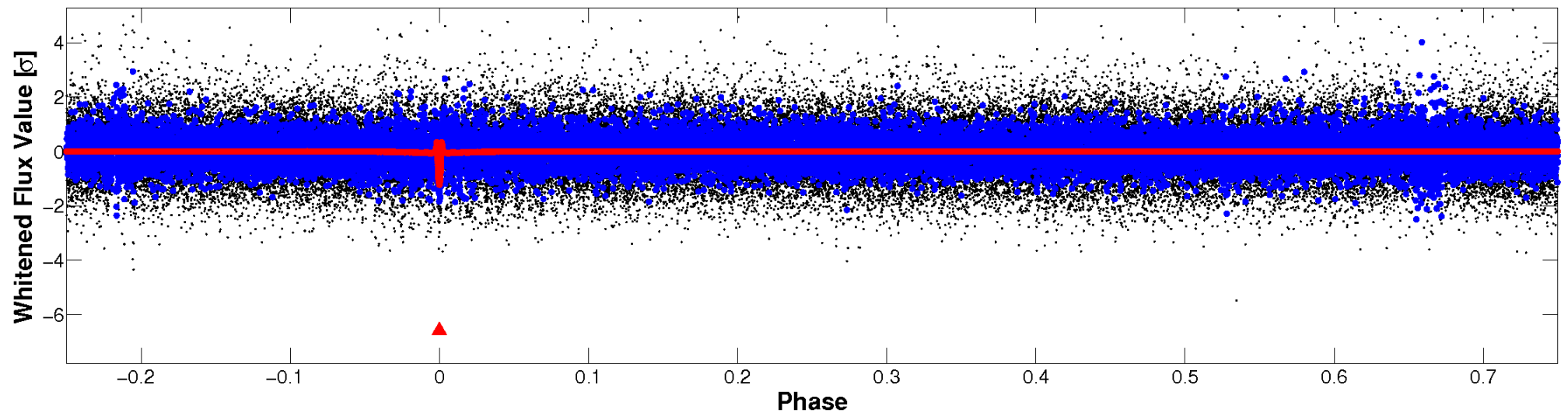


Non-Whitened Vs. Whitened Light Curve

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

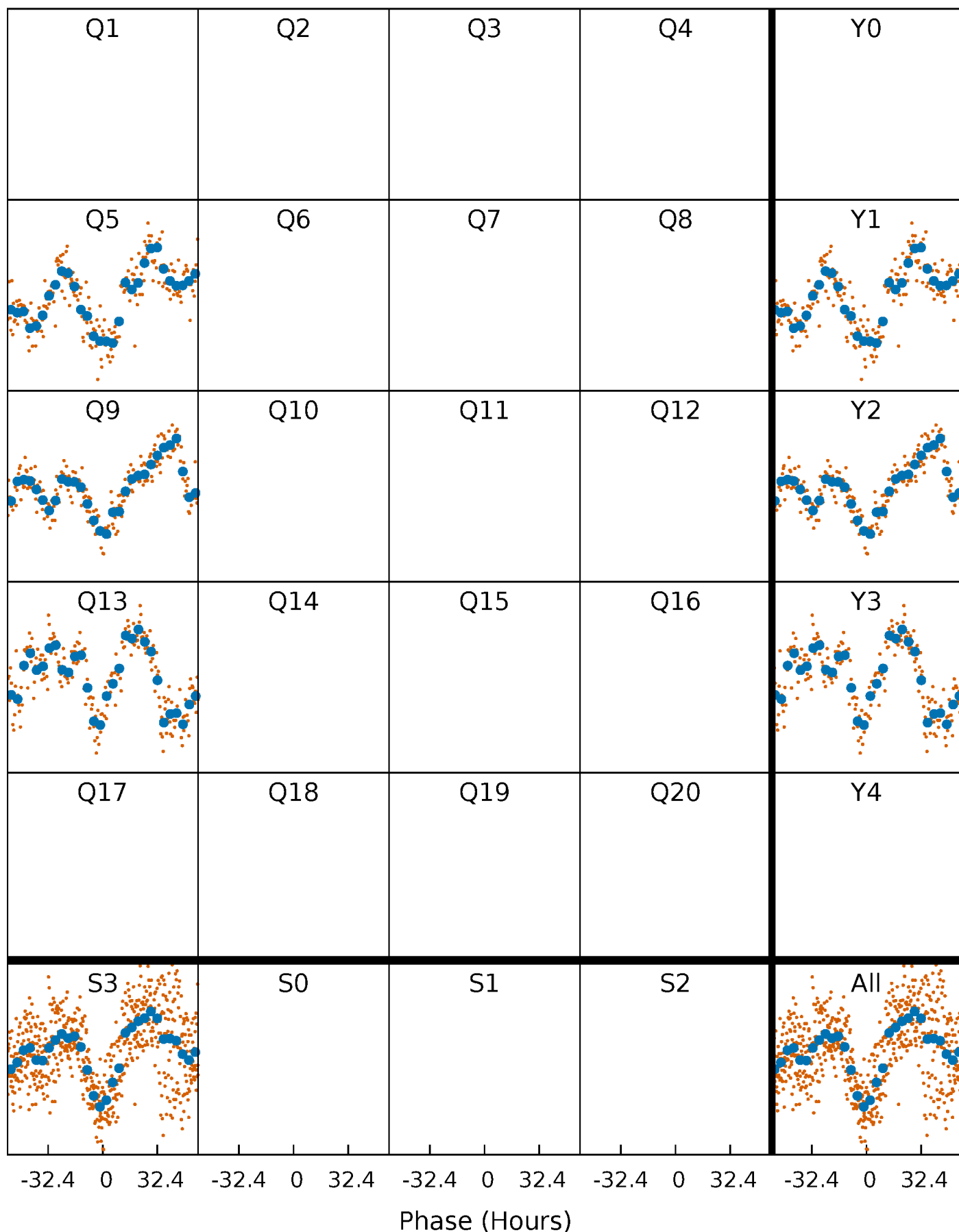


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



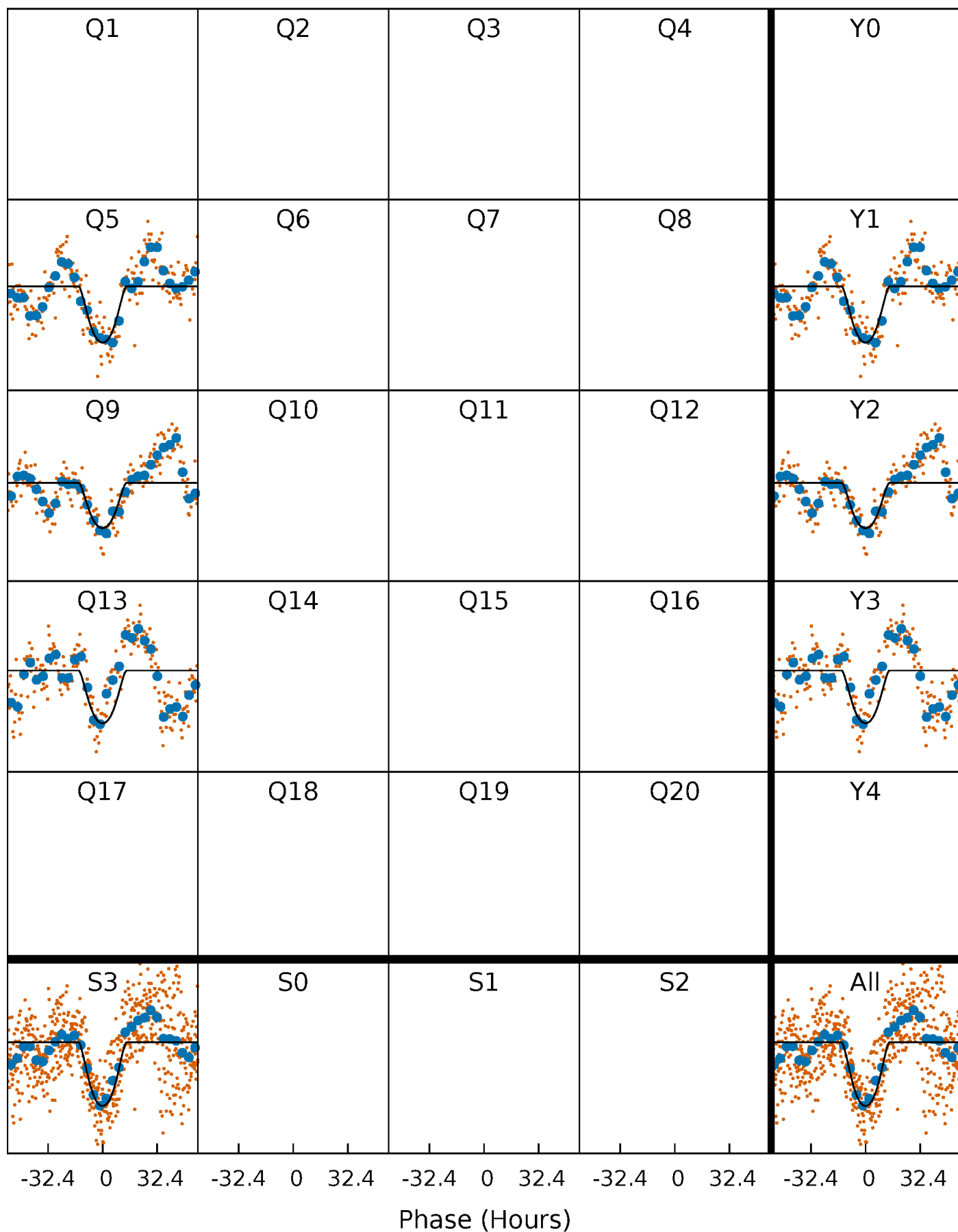
PDC Quarter-Phased Transit Curves

TCE 009950279-01 P=360.158141 Days $T_0=160.942124$ (BKJD)



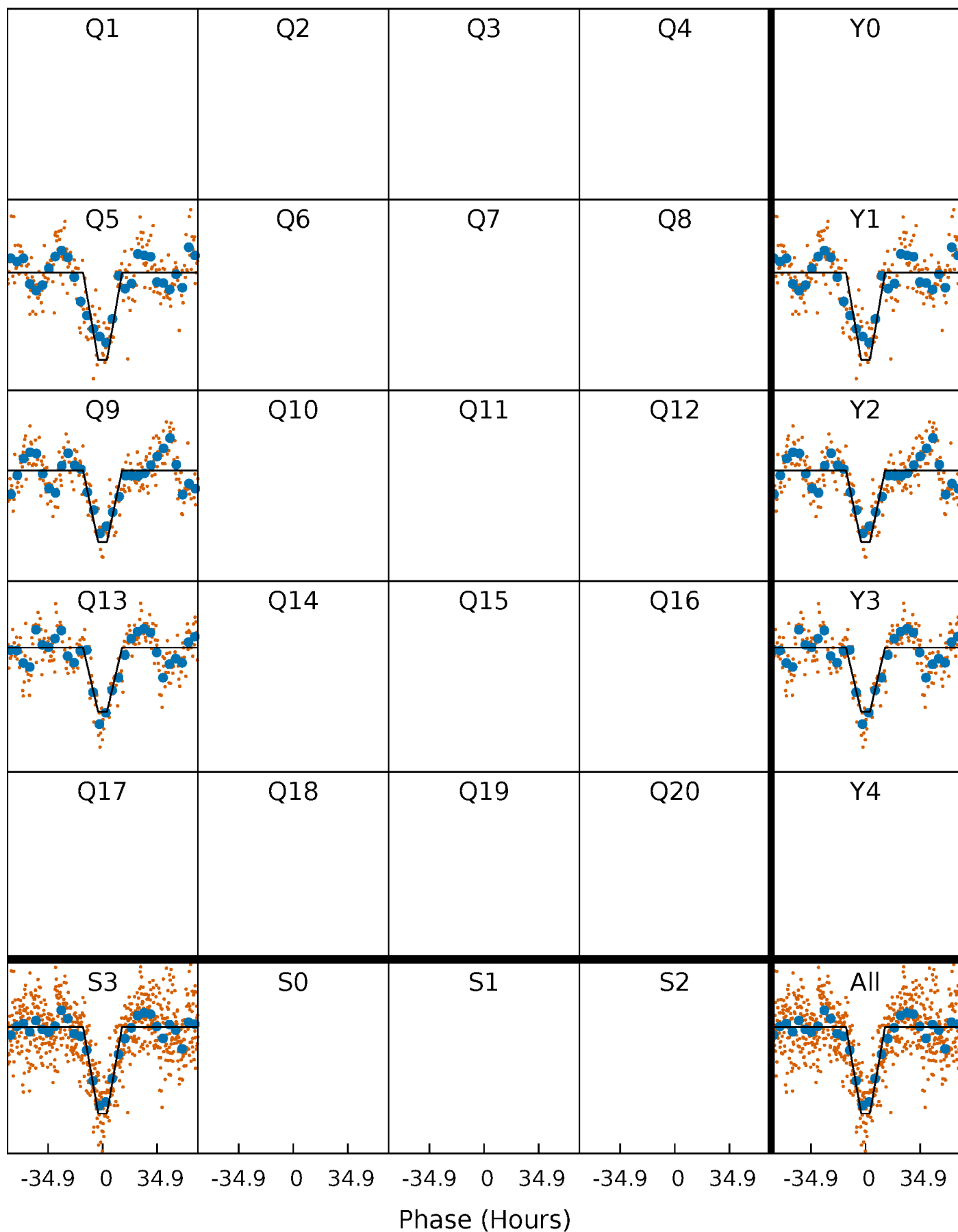
DV Quarter-Phased Transit Curves

TCE 009950279-01 $P=360.158141$ Days $T_0=160.942124$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

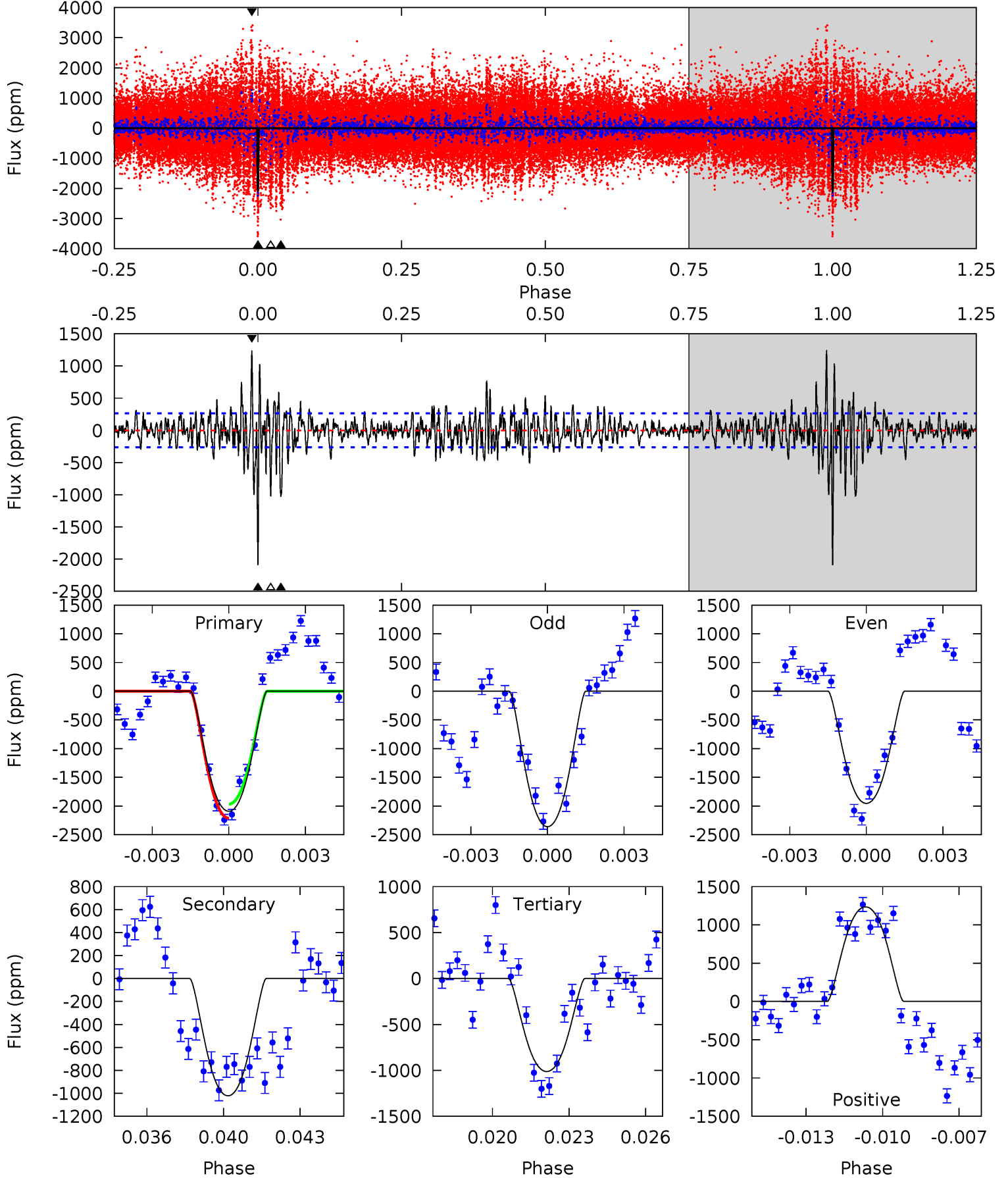
TCE 009950279-01 P=360.052950 Days $T_0=161.169242$ (BKJD)



DV Model-Shift Uniqueness Test

009950279-01, P = 360.158141 Days, E = 160.942124 Days

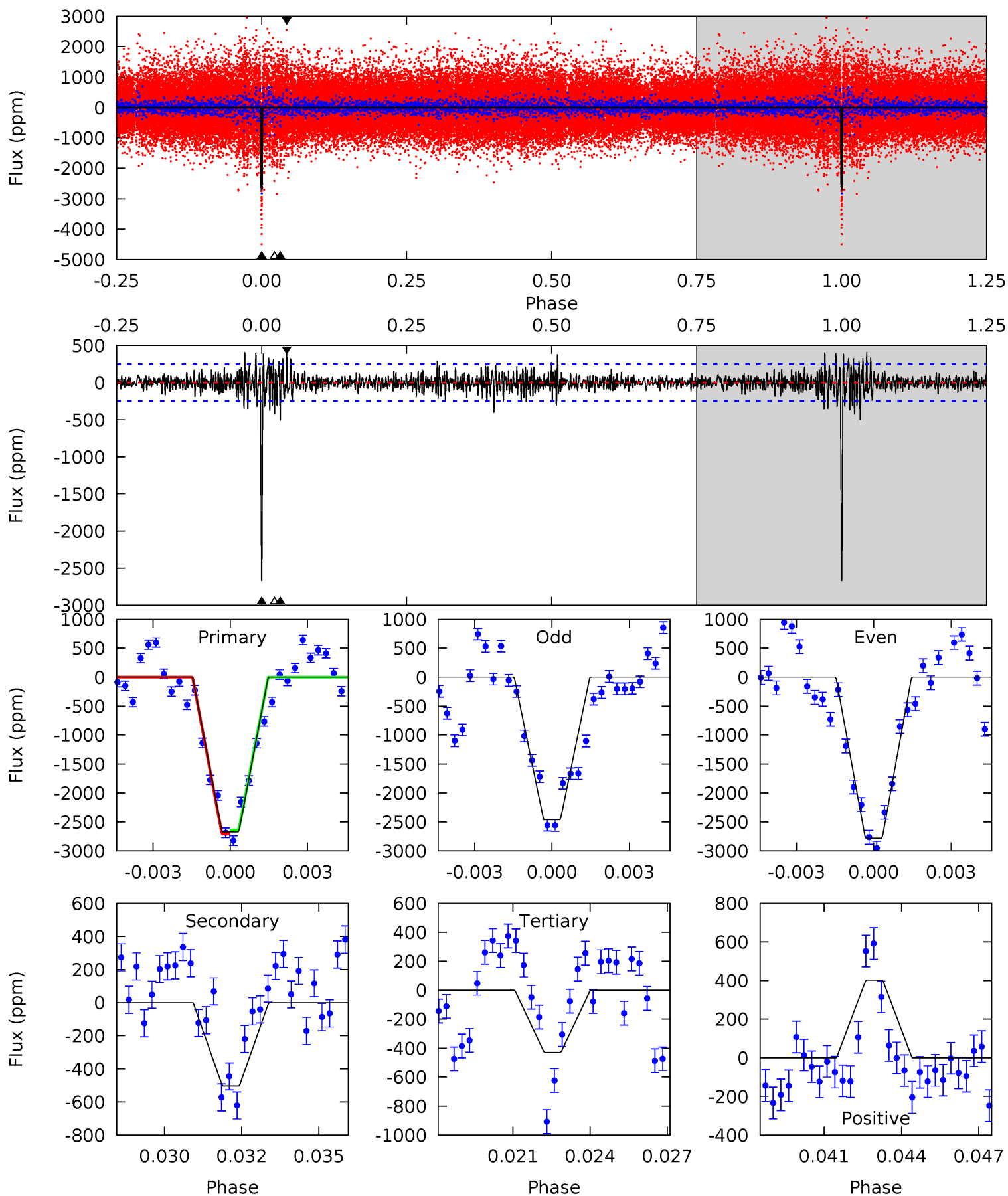
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.5	20.3	20.1	24.5	5.23	2.94	3.82	21.4	17.0	0.18	-4.24	3.83	0.89	0.37	2.41



Alt Model-Shift Uniqueness Test

009950279-01, P = 360.052950 Days, E = 161.169242 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.6	10.7	9.07	8.52	5.26	2.97	1.82	47.5	48.1	1.61	2.16	3.22	1.09	0.13	0.70



Stellar Parameters For KIC 009950279

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5956^{+178}_{-178}	$4.500^{+0.065}_{-0.195}$	$-0.400^{+0.300}_{-0.300}$	$0.885^{+0.244}_{-0.087}$	$0.903^{+0.110}_{-0.100}$	$1.835^{+0.598}_{-0.883}$
	+3%/-3%	+1%/-4%	+75%/-75%	+28%/-10%	+12%/-11%	+33%/-48%
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 009950279-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1022 ± 50	$5.62^{+2.19}_{-1.91}$	360^{+23}_{-19}	4676^{+851}_{-532}	16068^{+20493}_{-7567}
Alt.	-504 ± 47	$5.38^{+1.89}_{-1.83}$	359^{+25}_{-18}	4146^{+718}_{-417}	8661^{+11517}_{-4030}

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

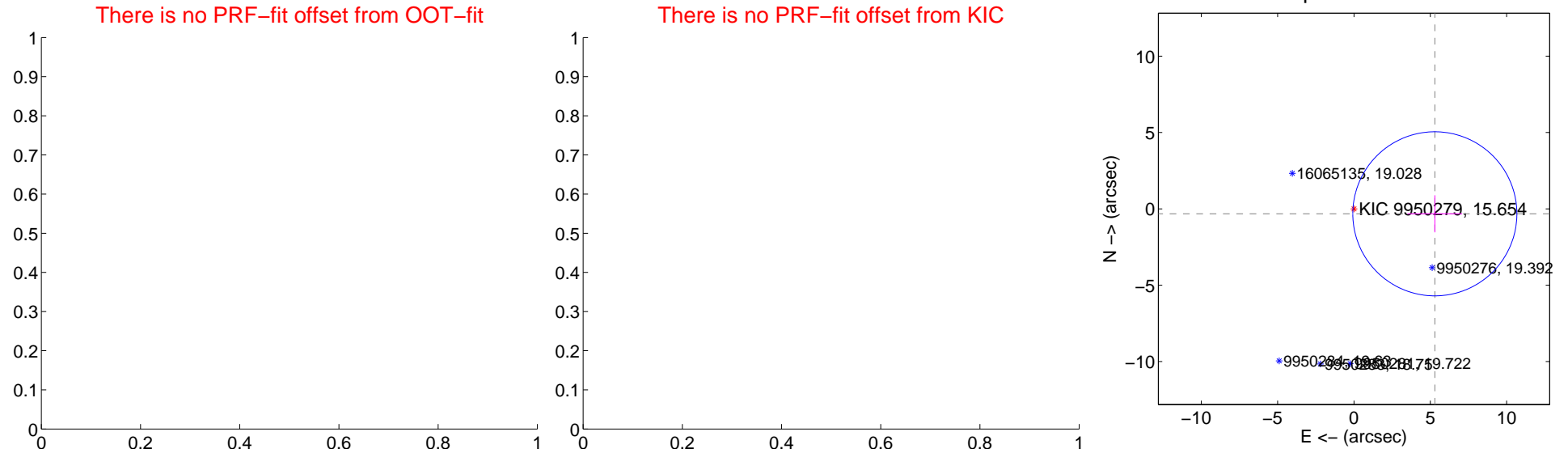
DV Centroid Data

Supplemental centroid analysis for 009950279-01. Kepler magnitude: 15.65. Transit SNR 10.02

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	5.31 ± 1.79	2.96	-5.30 ± 1.79	-0.33 ± 1.21

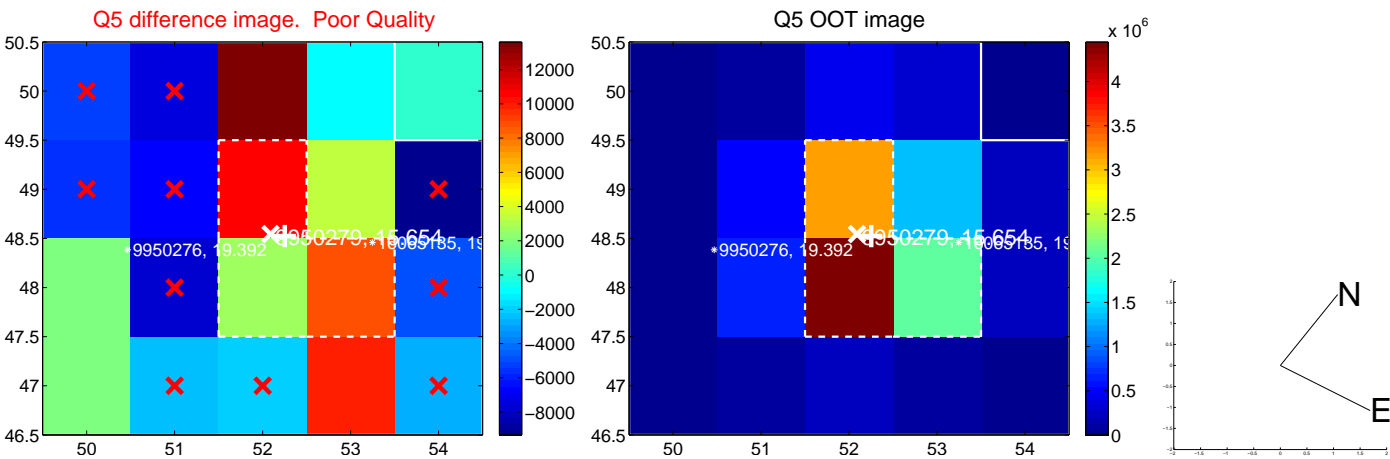


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

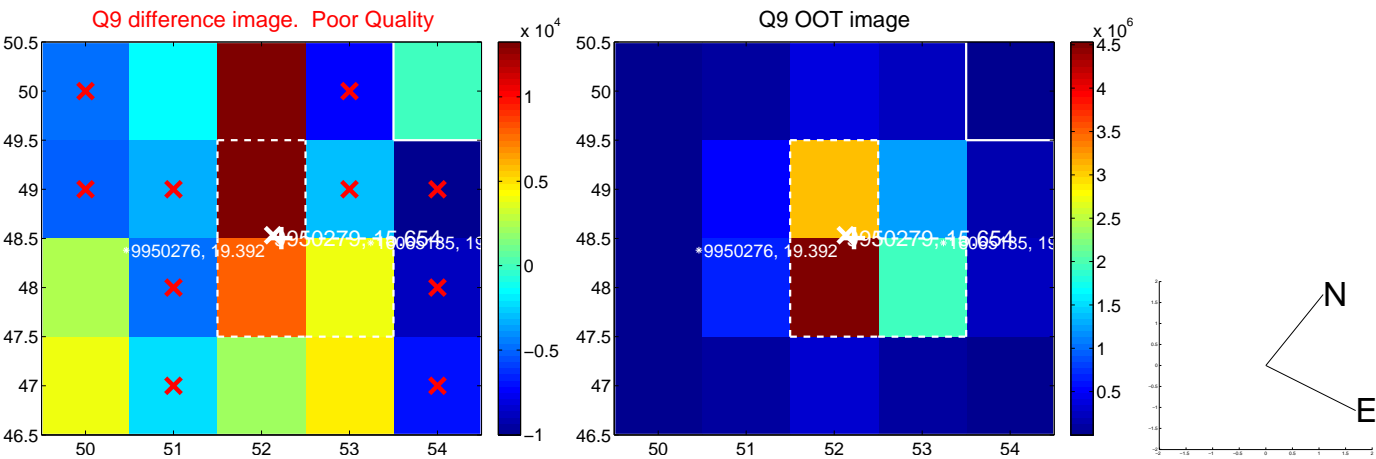
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



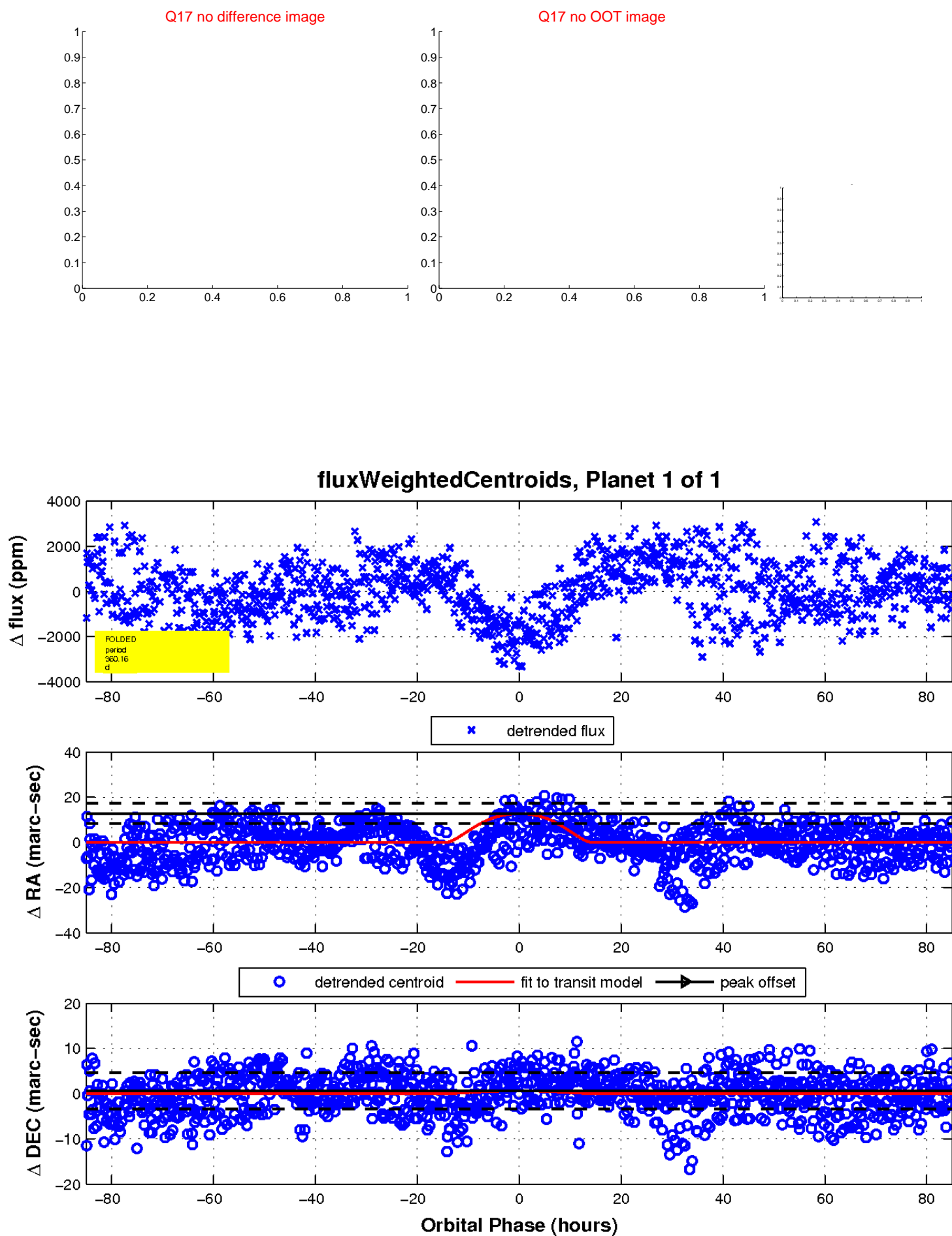
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

