

KIC 008160508

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})
008160508-01	OBS	No	342.837910	321.949999	1026.0	44.020	11.9	16.5	1.09	6338	6.60	1.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008160508-01	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.

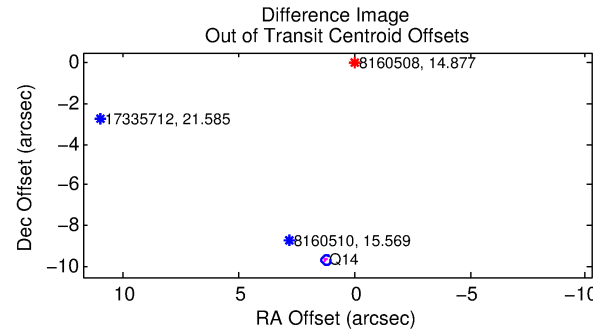
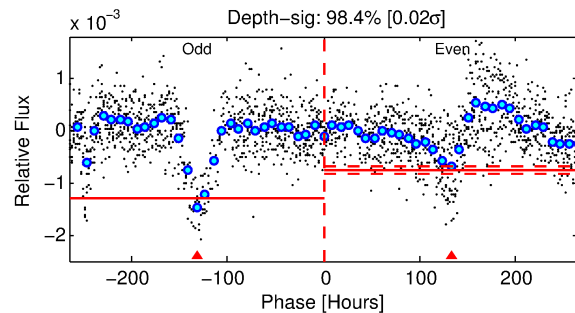
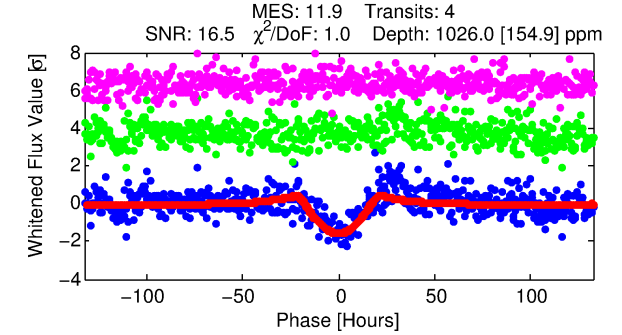
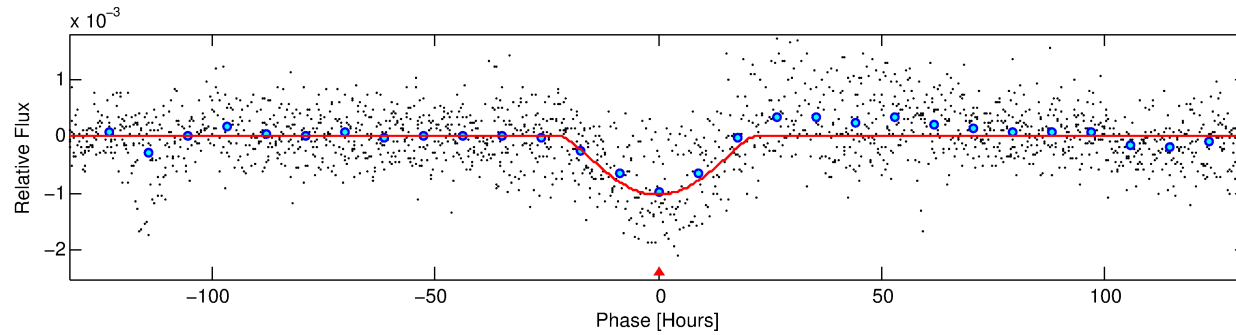
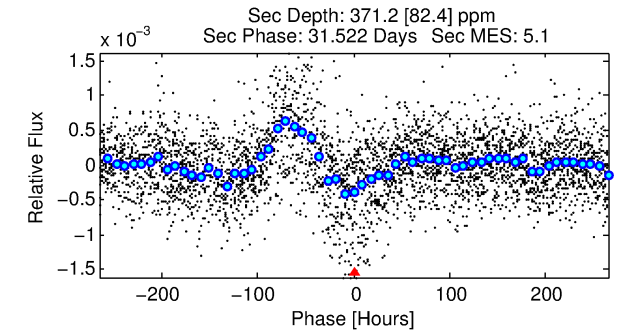
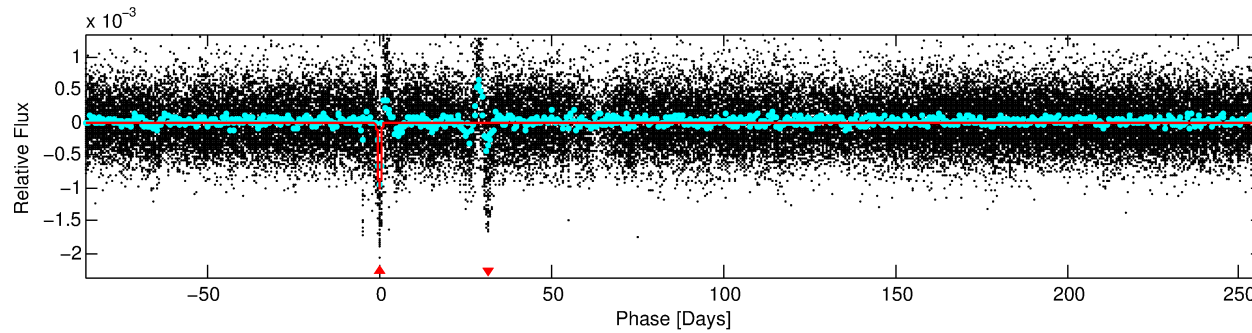
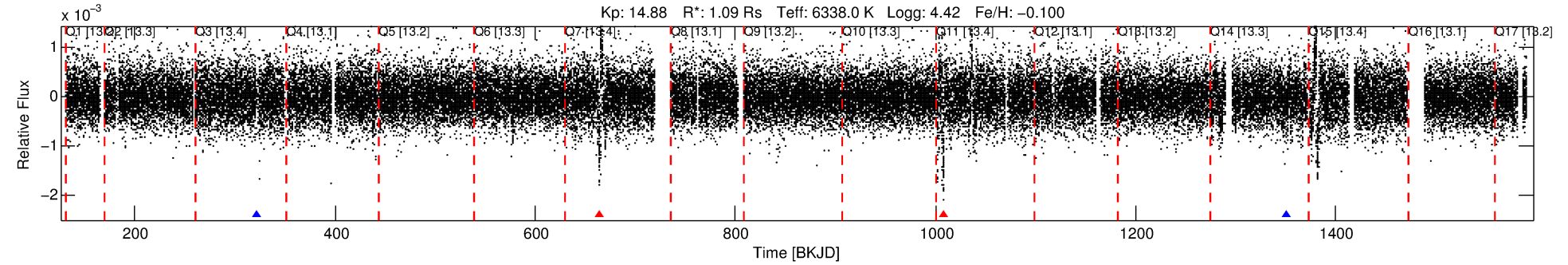
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008160508-01

No Significant Match Found

DV One-Page Summary

KIC: 8160508 Candidate: 1 of 1 Period: 342.838 d



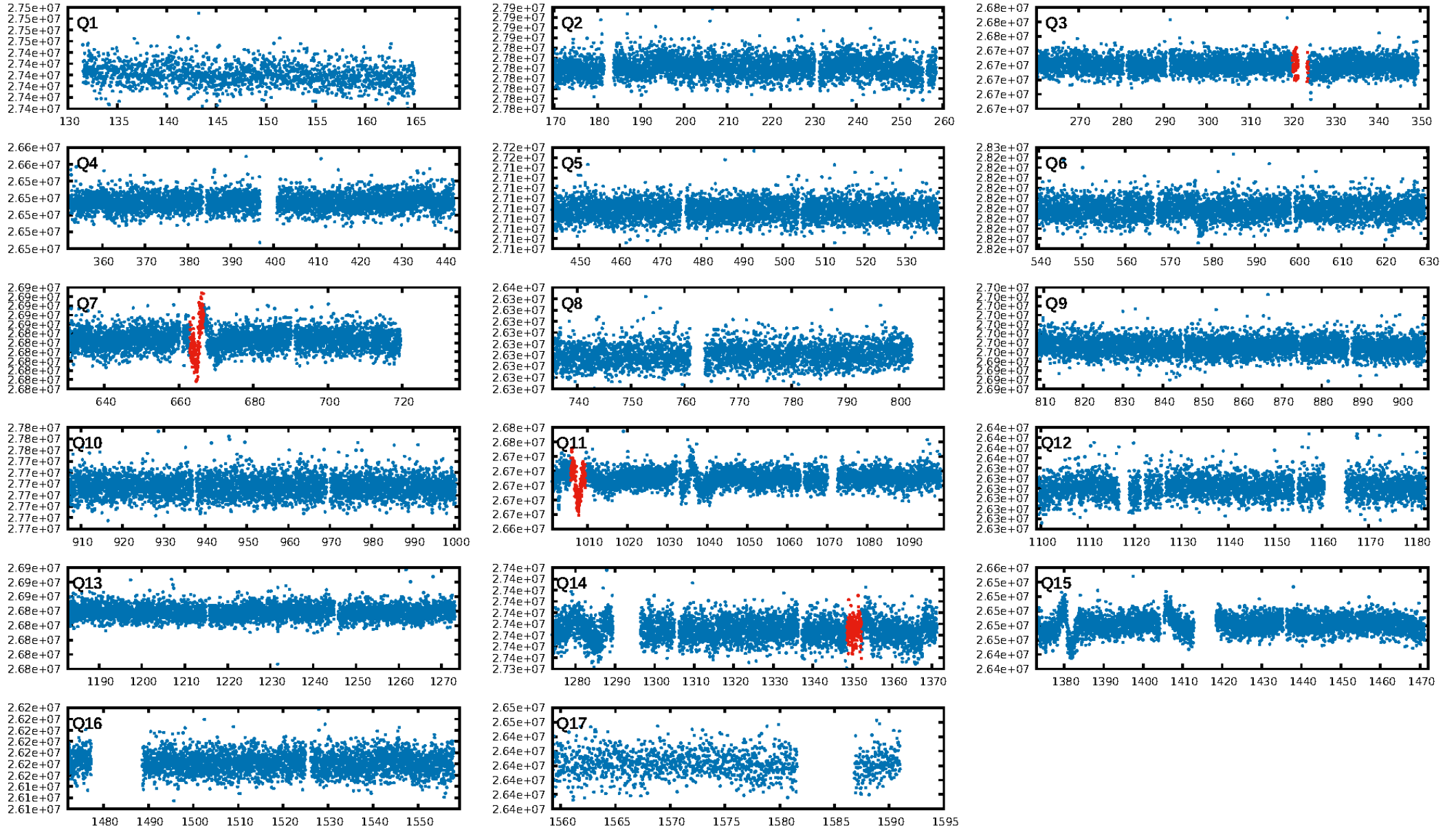
DV Fit Results:

Period = 342.83791 [0.02641] d
Epoch = 321.9500 [0.0496] BKJD
Rp/R* = 0.0554 [0.0895]
a/R* = 20.17 [7.73]
b = 1.00 [0.13]
Seff = 1.72 [0.71]
Teq = 292 [30] K
Rp = 6.60 [10.85] Re
a = 1.0007 [0.2684] AU
Ag = 4696.88 [15308.33] [0.31σ]
Teffp = 3737 [3025] K [1.14σ]

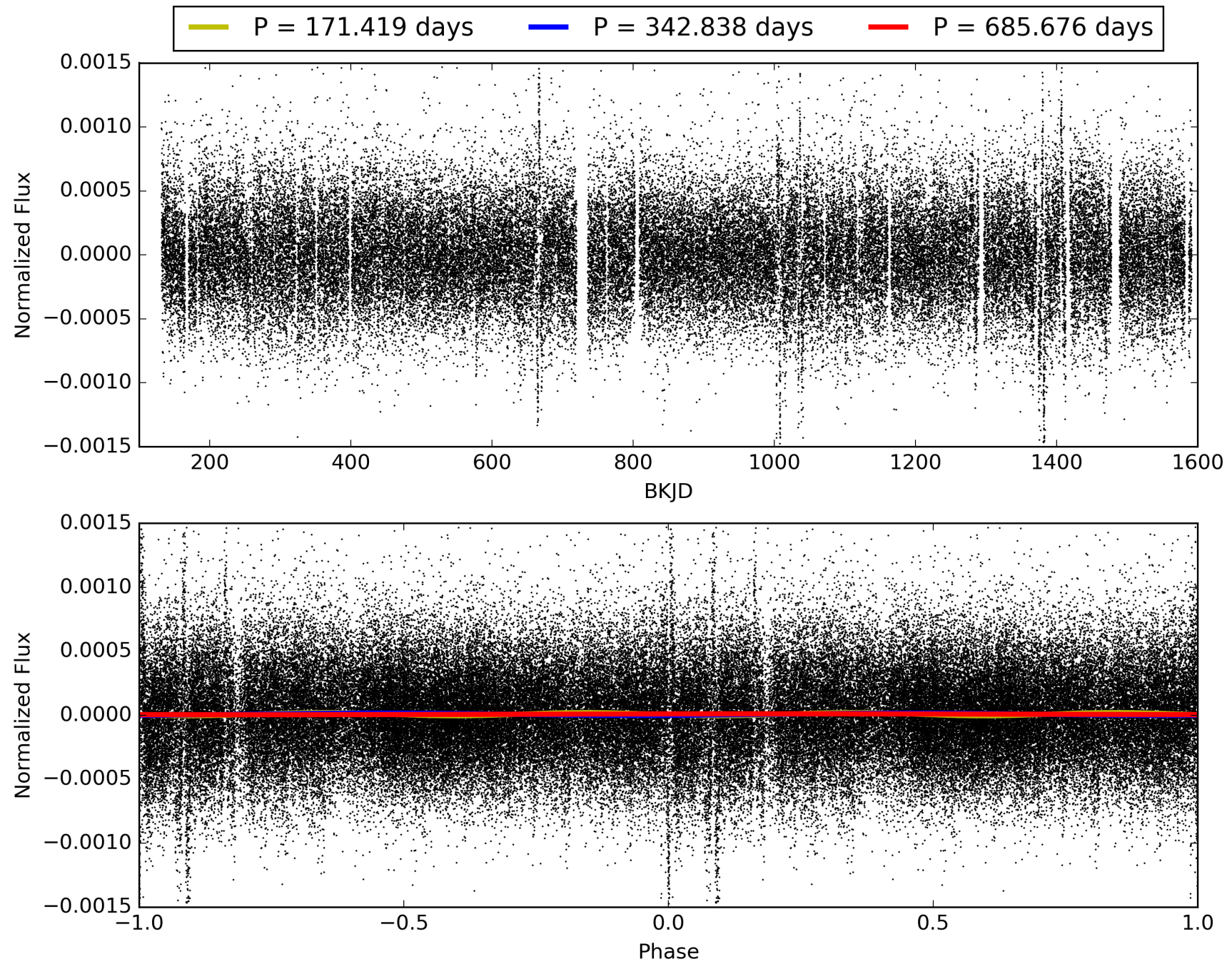
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.36e-21
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: -0.04358
Centroid-sig: 3.7%
Centroid-so: 0.225 arcsec [0.33σ]
OotOffset-rm: 9.752 arcsec [131.76σ]
KicOffset-rm: 9.786 arcsec [132.22σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 008160508-01, PDC Light Curves

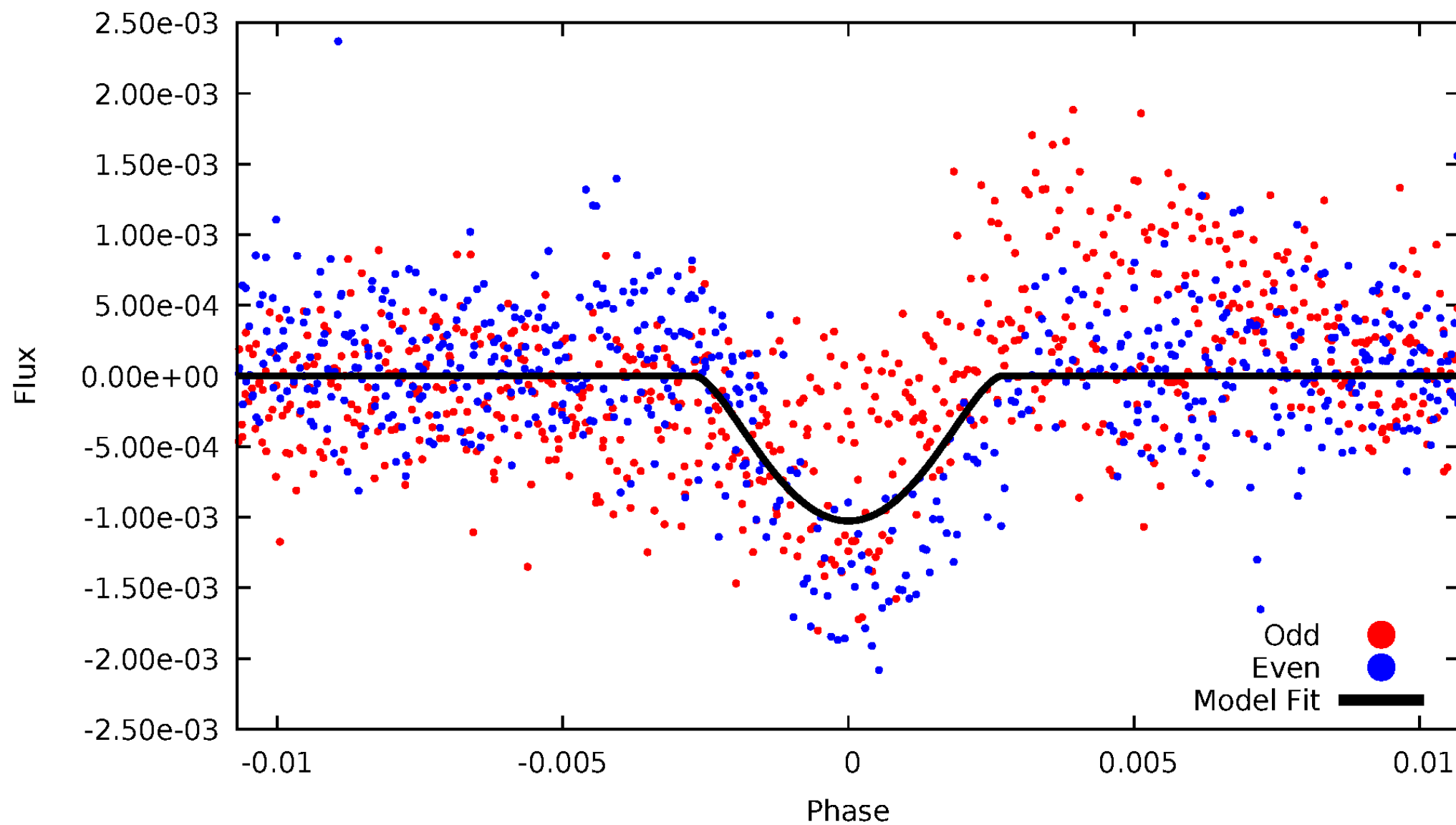


TCE 008160508-01



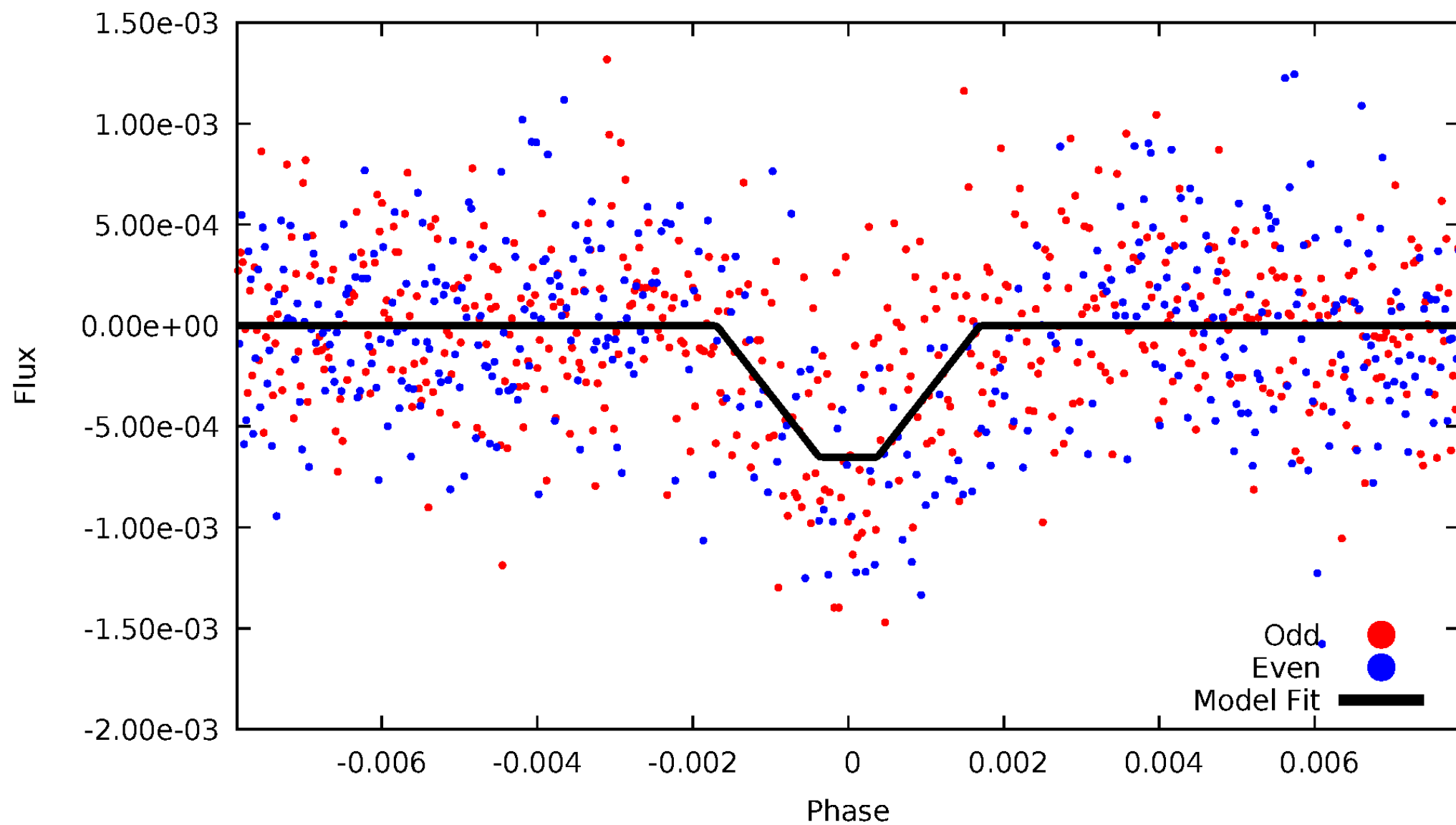
DV Odd/Even

TCE 008160508-01



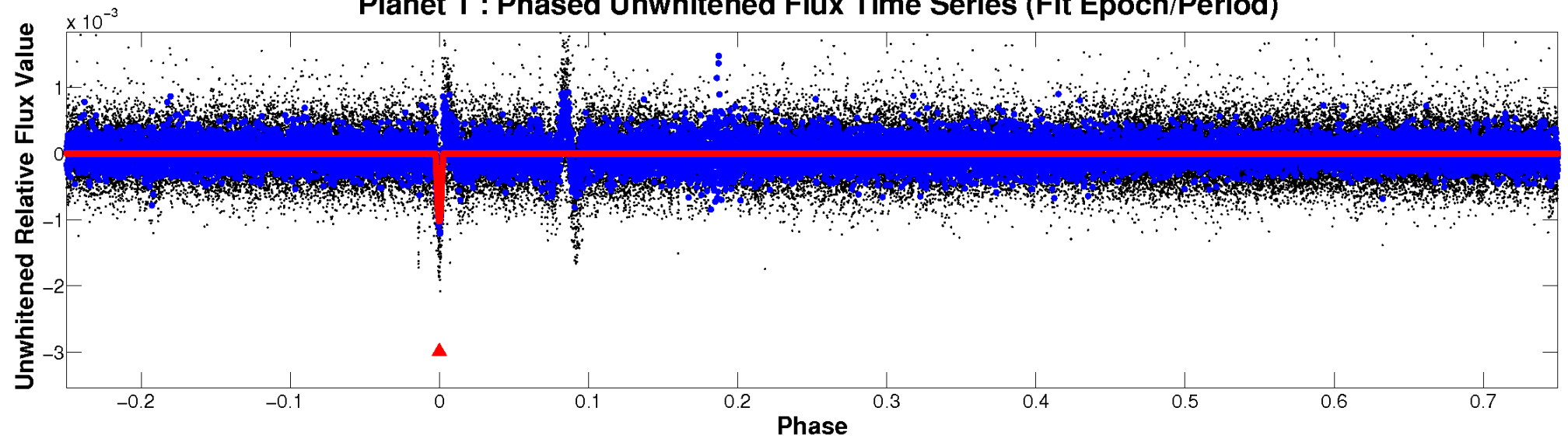
ALT Odd/Even

TCE 008160508-01

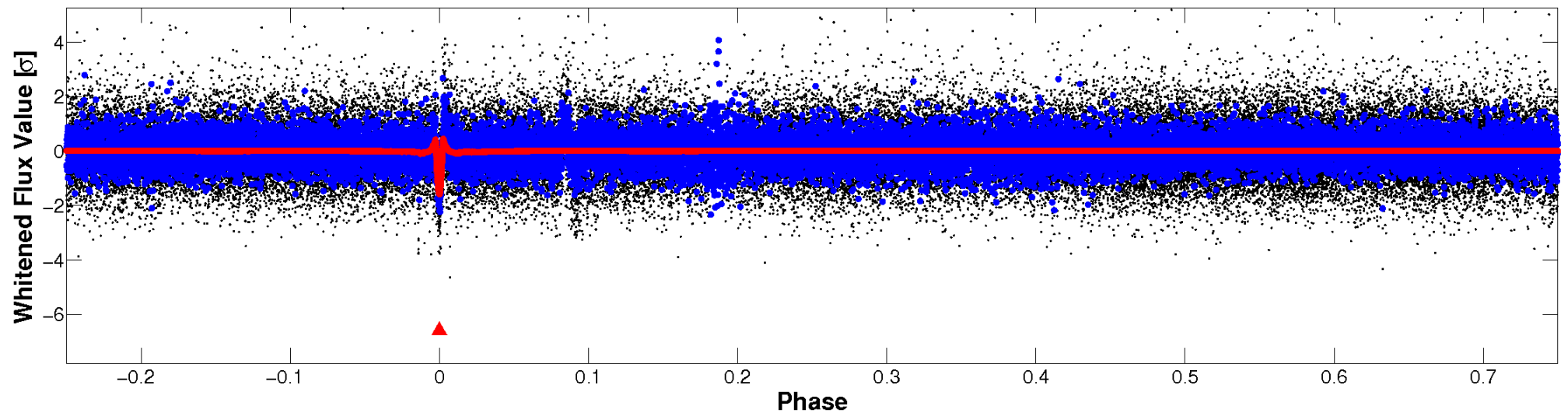


Non-Whitened Vs. Whitened Light Curve

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

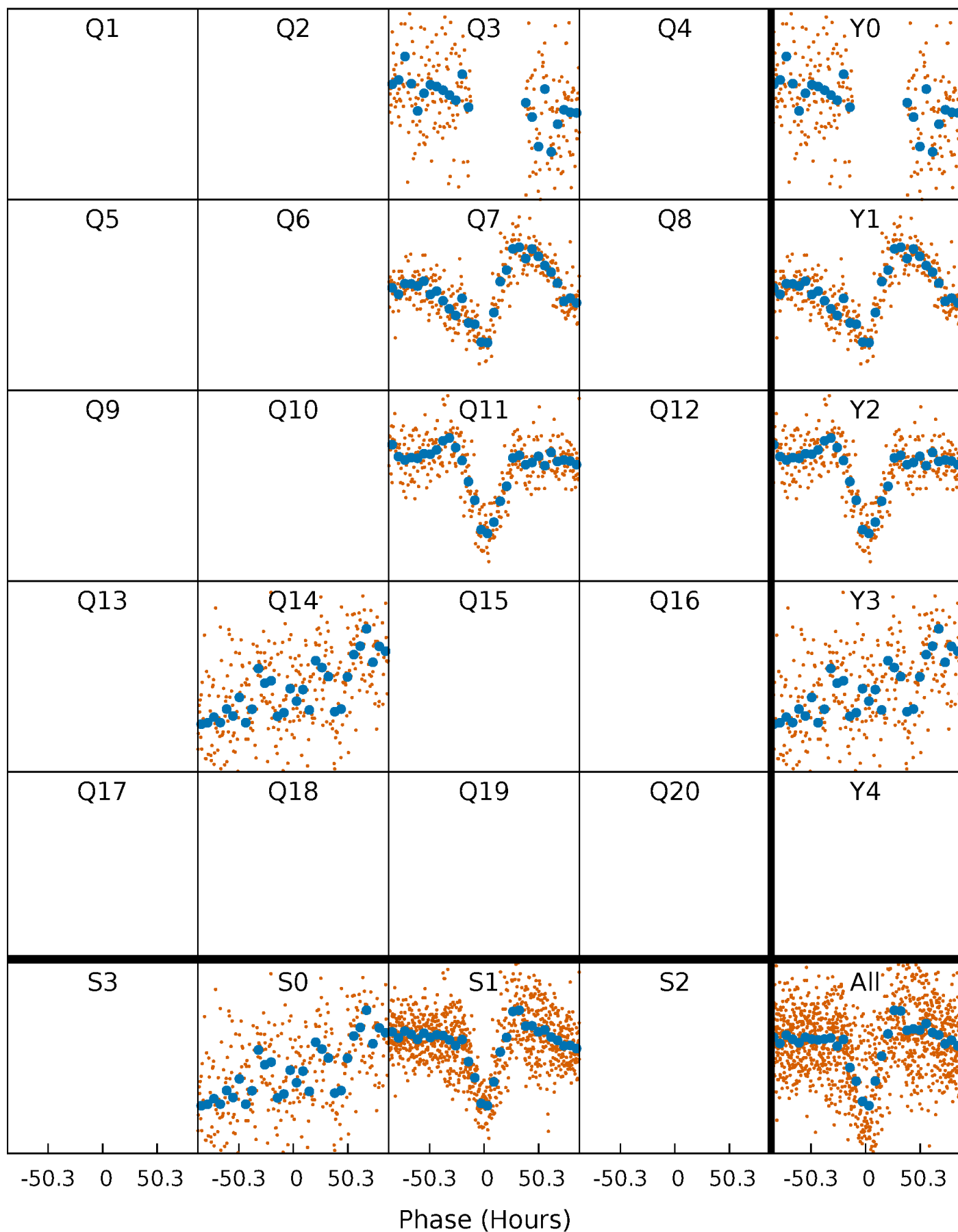


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



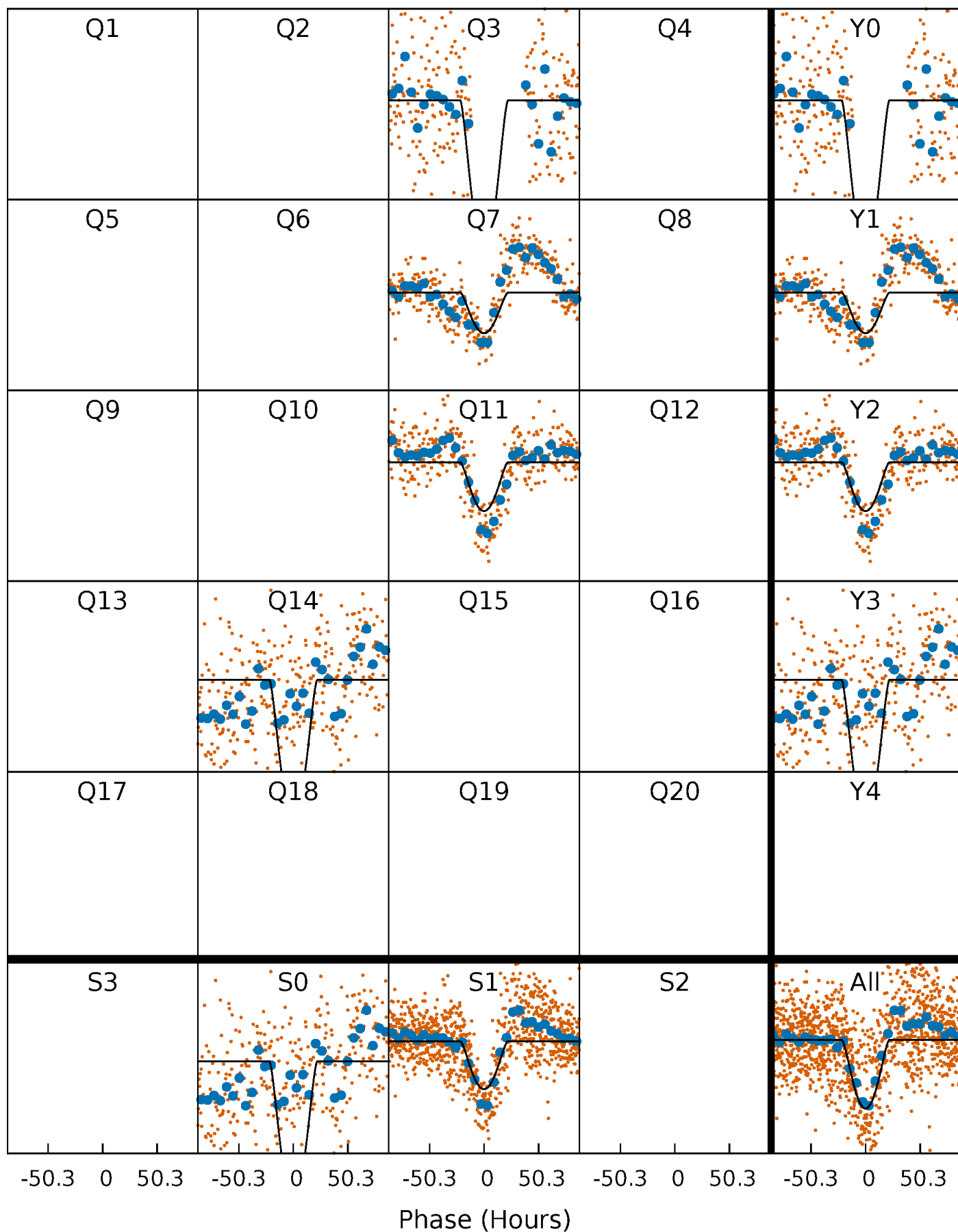
PDC Quarter-Phased Transit Curves

TCE 008160508-01 P=342.837910 Days $T_0=321.949999$ (BKJD)



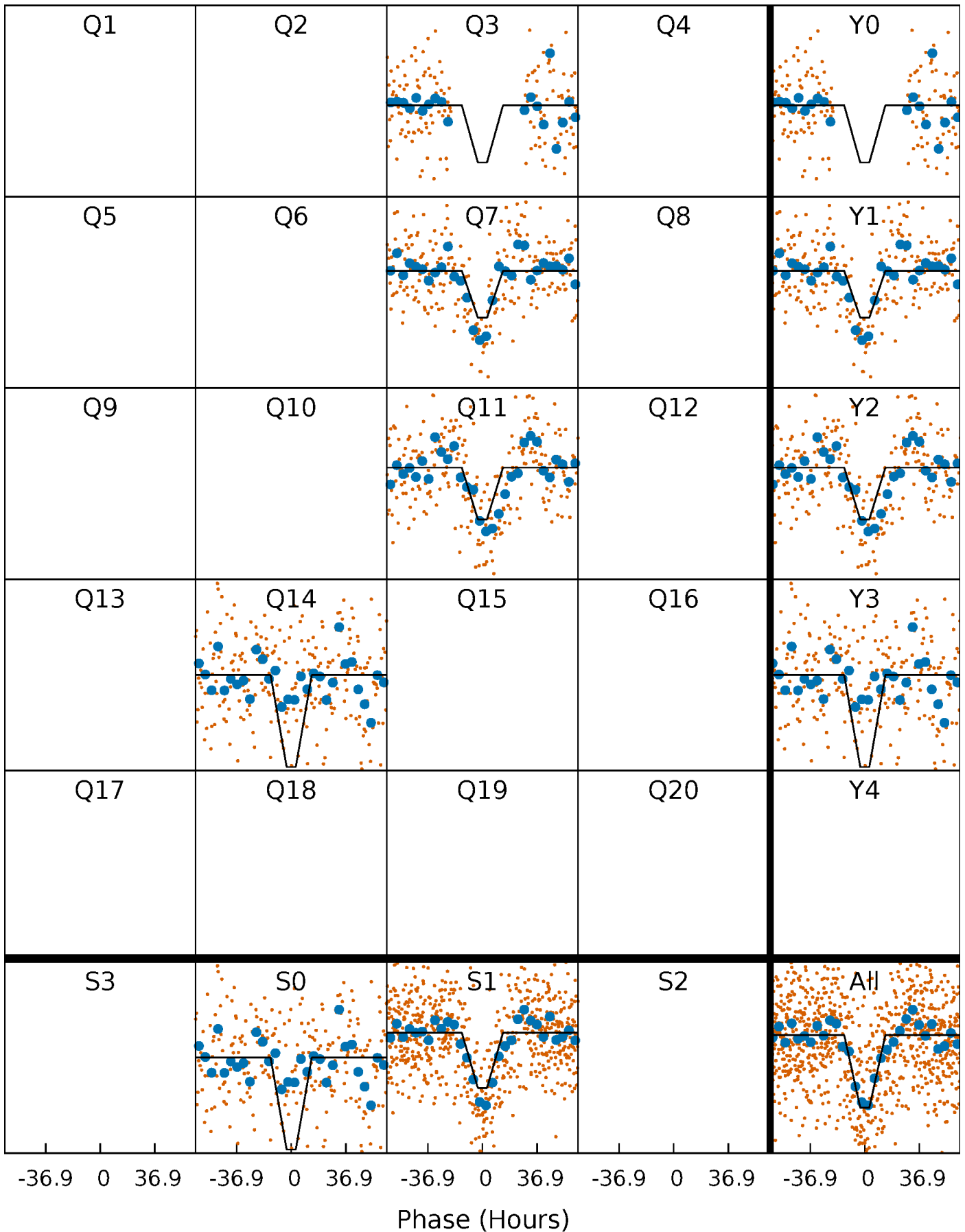
DV Quarter-Phased Transit Curves

TCE 008160508-01 P=342.837910 Days $T_0=321.949999$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

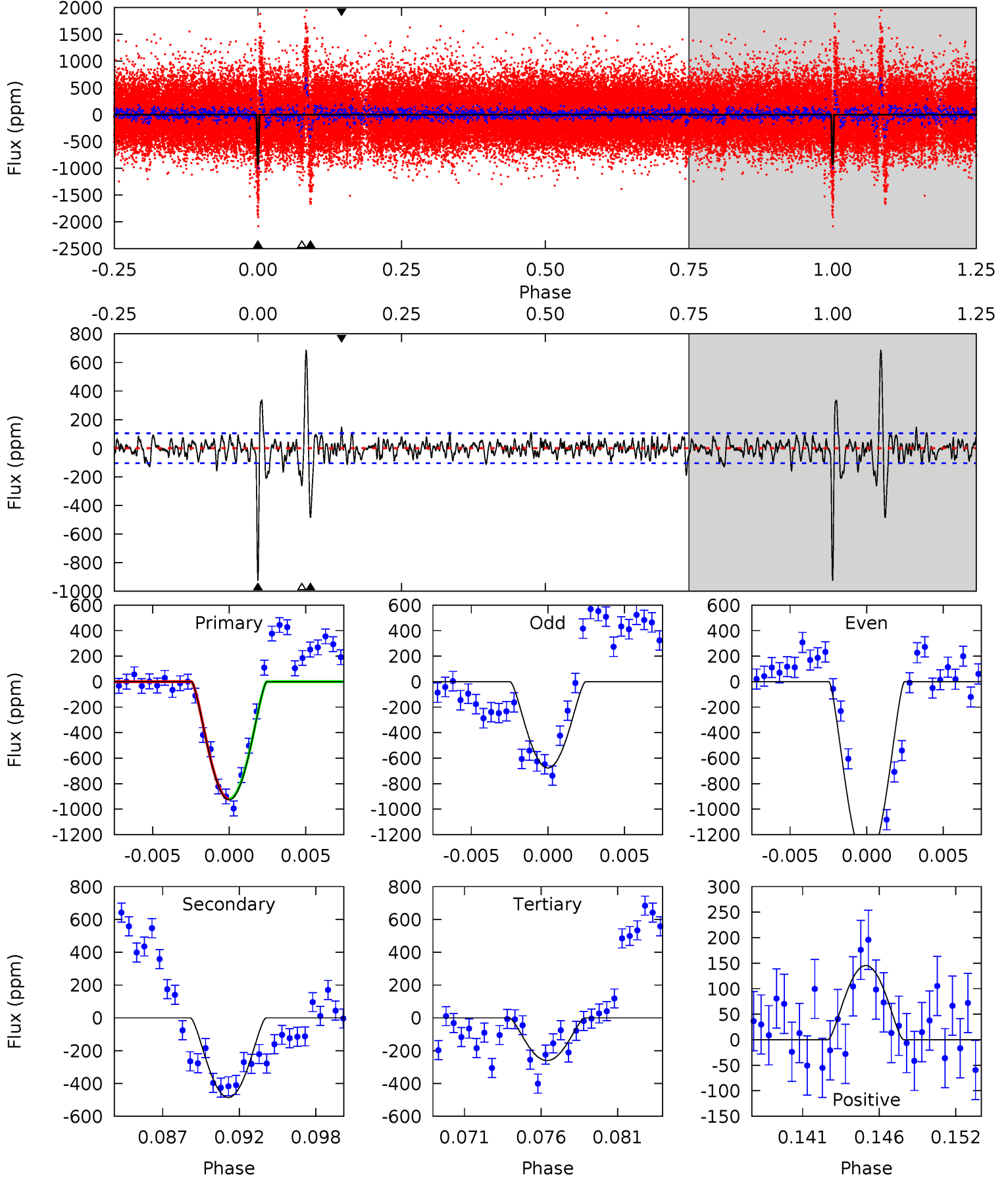
TCE 008160508-01 P=342.575445 Days $T_0=322.336632$ (BKJD)



DV Model-Shift Uniqueness Test

008160508-01, P = 342.837910 Days, E = 321.949999 Days

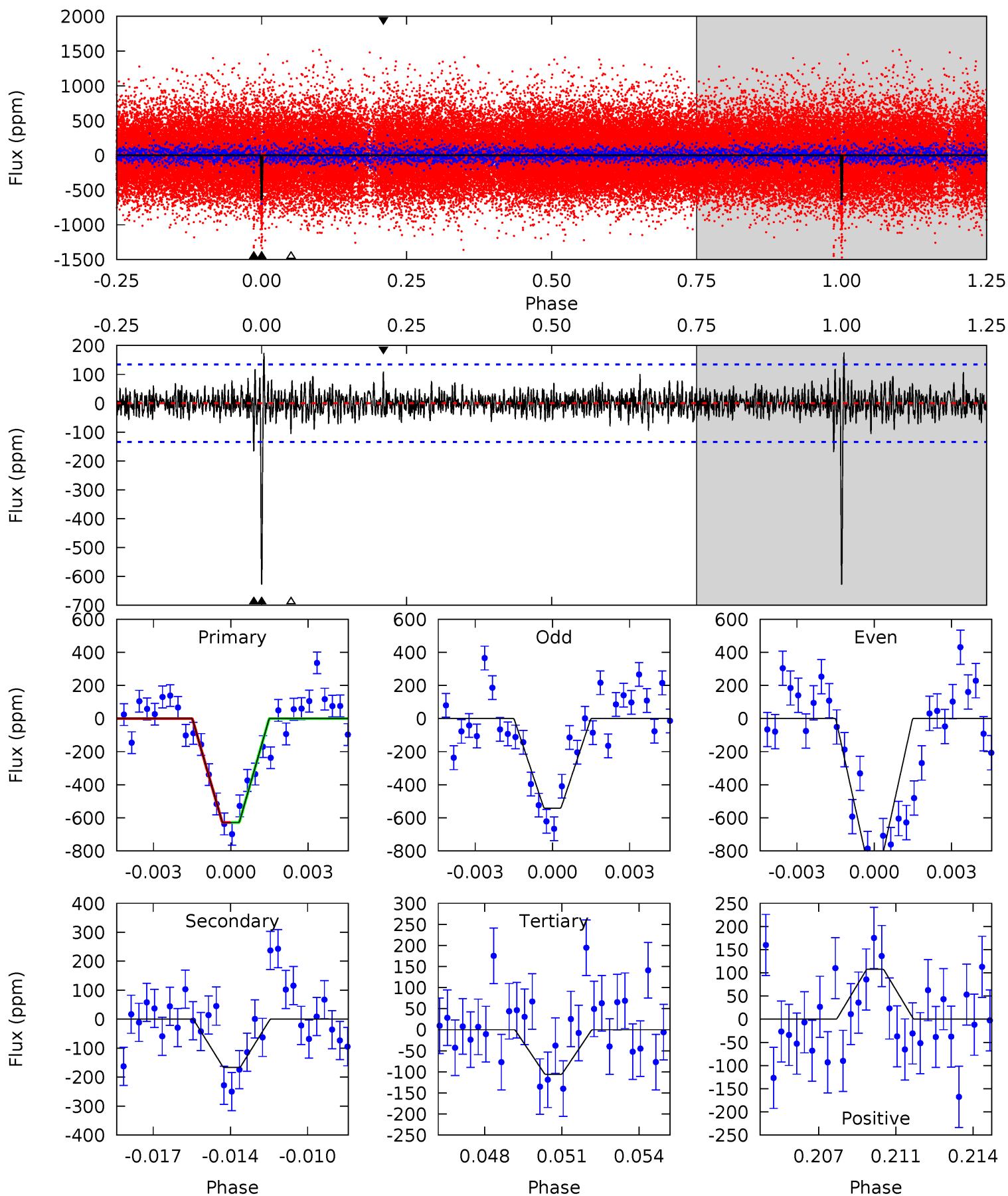
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.4	23.8	12.8	7.13	5.14	2.78	3.13	32.7	38.3	11.0	16.7	17.7	1.10	0.42	0.07



Alt Model-Shift Uniqueness Test

008160508-01, P = 342.575445 Days, E = 322.336632 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	6.47	4.12	4.19	5.23	2.93	1.14	20.4	20.3	2.35	2.28	5.19	0.78	0.22	0.00



Stellar Parameters For KIC 008160508

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6338^{+173}_{-211}	$4.418^{+0.054}_{-0.216}$	$-0.100^{+0.250}_{-0.300}$	$1.091^{+0.345}_{-0.123}$	$1.137^{+0.157}_{-0.157}$	$1.233^{+0.358}_{-0.661}$
	+3%/-3%	+1%/-5%	+250%/-300%	+32%/-11%	+14%/-14%	+29%/-54%
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 008160508-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-485 ± 20	$11.12^{+10.41}_{-7.05}$	418^{+30}_{-21}	3571^{+1762}_{-597}	2125^{+13415}_{-1545}
Alt.	-166 ± 26	$9.06^{+9.00}_{-6.14}$	416^{+33}_{-20}	3229^{+1550}_{-549}	1072^{+9431}_{-802}

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 $A_{obs} \gg 1.0$

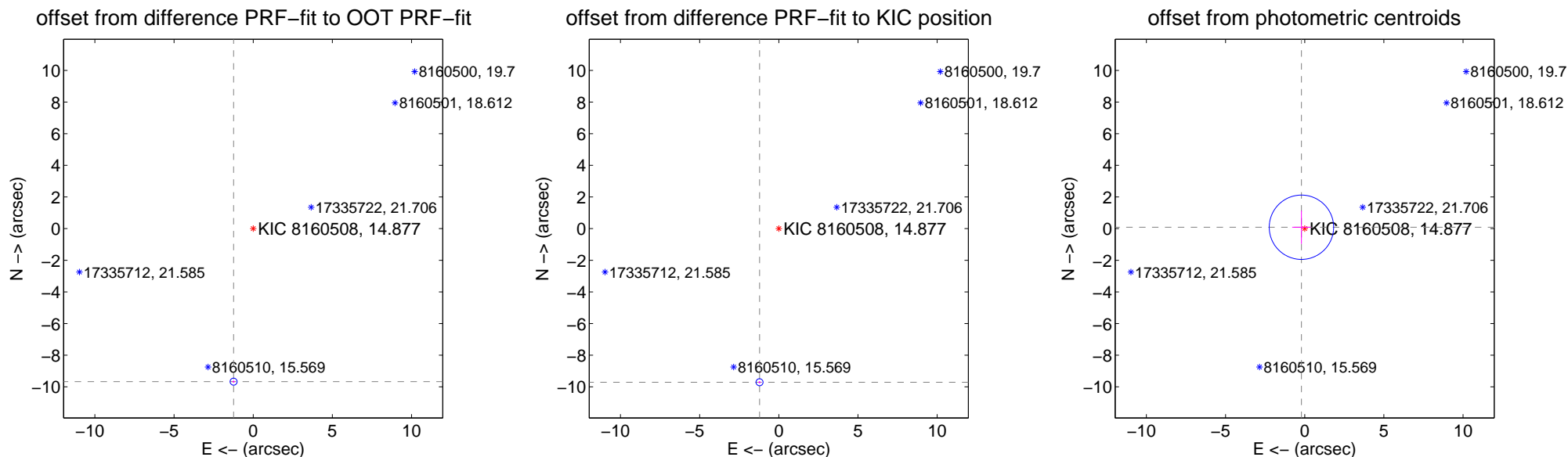
DV Centroid Data

Supplemental centroid analysis for 008160508-01. Kepler magnitude: 14.88. Transit SNR 16.48

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.752 \pm 0.074	131.76	1.238 \pm 0.077	-9.673 \pm 0.074
PRF-fit source offset from KIC position	9.786 \pm 0.074	132.22	1.218 \pm 0.077	-9.710 \pm 0.074
photometric centroid source offset	0.22 \pm 0.68	0.33	0.21 \pm 0.59	0.09 \pm 1.05



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.



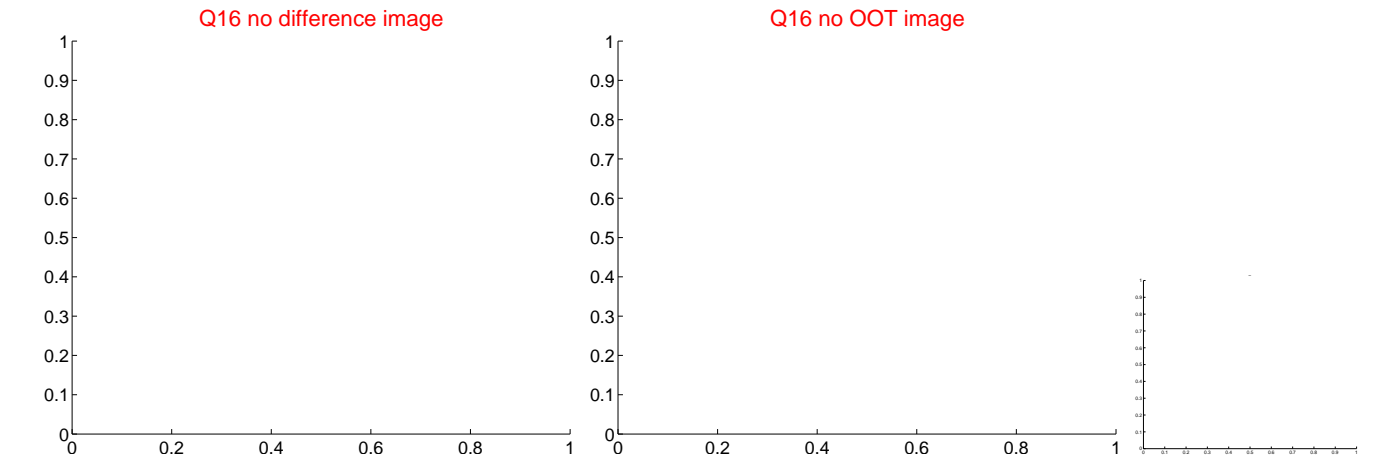
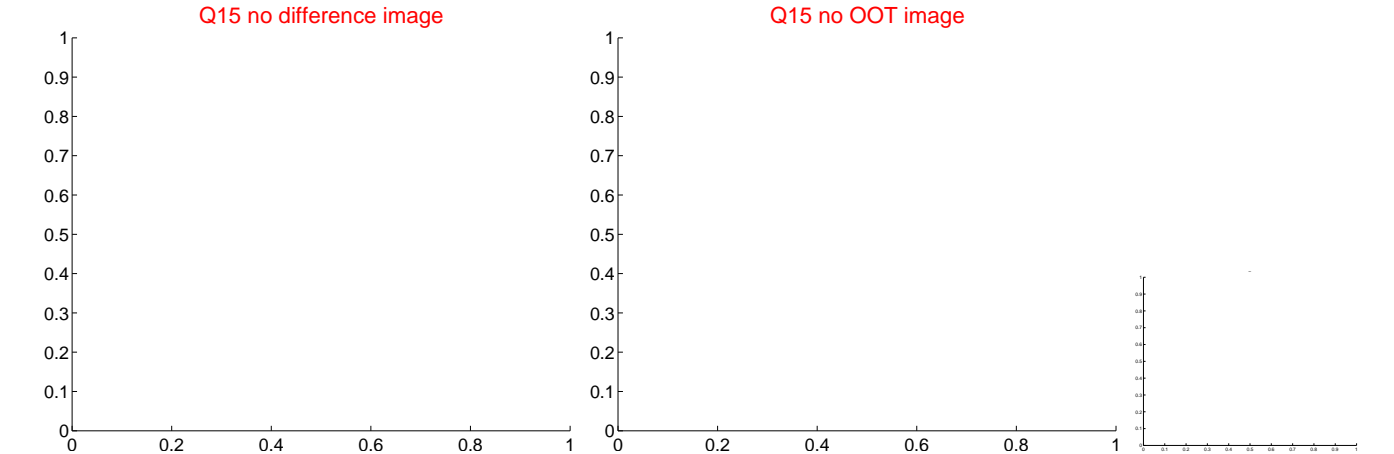
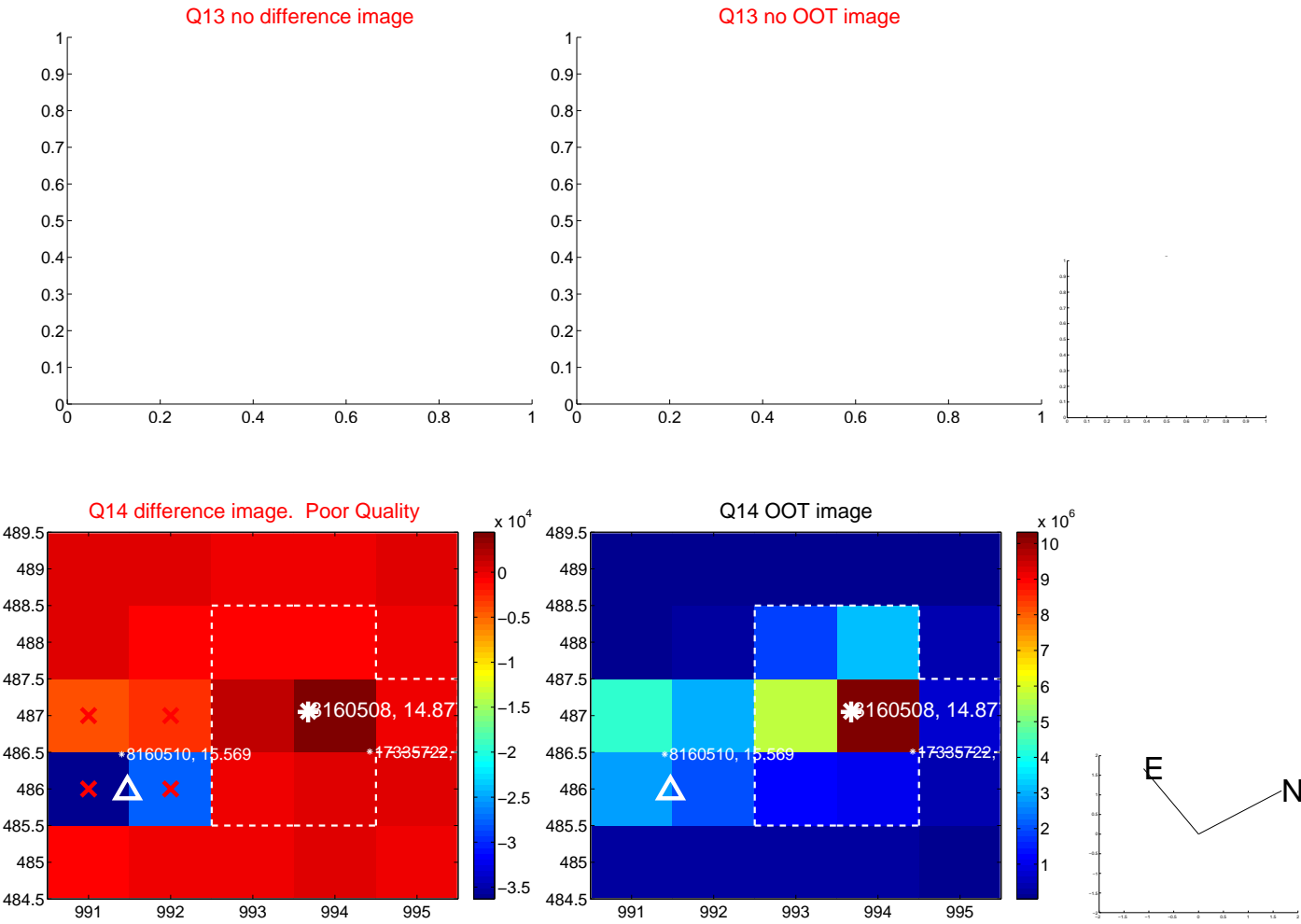
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



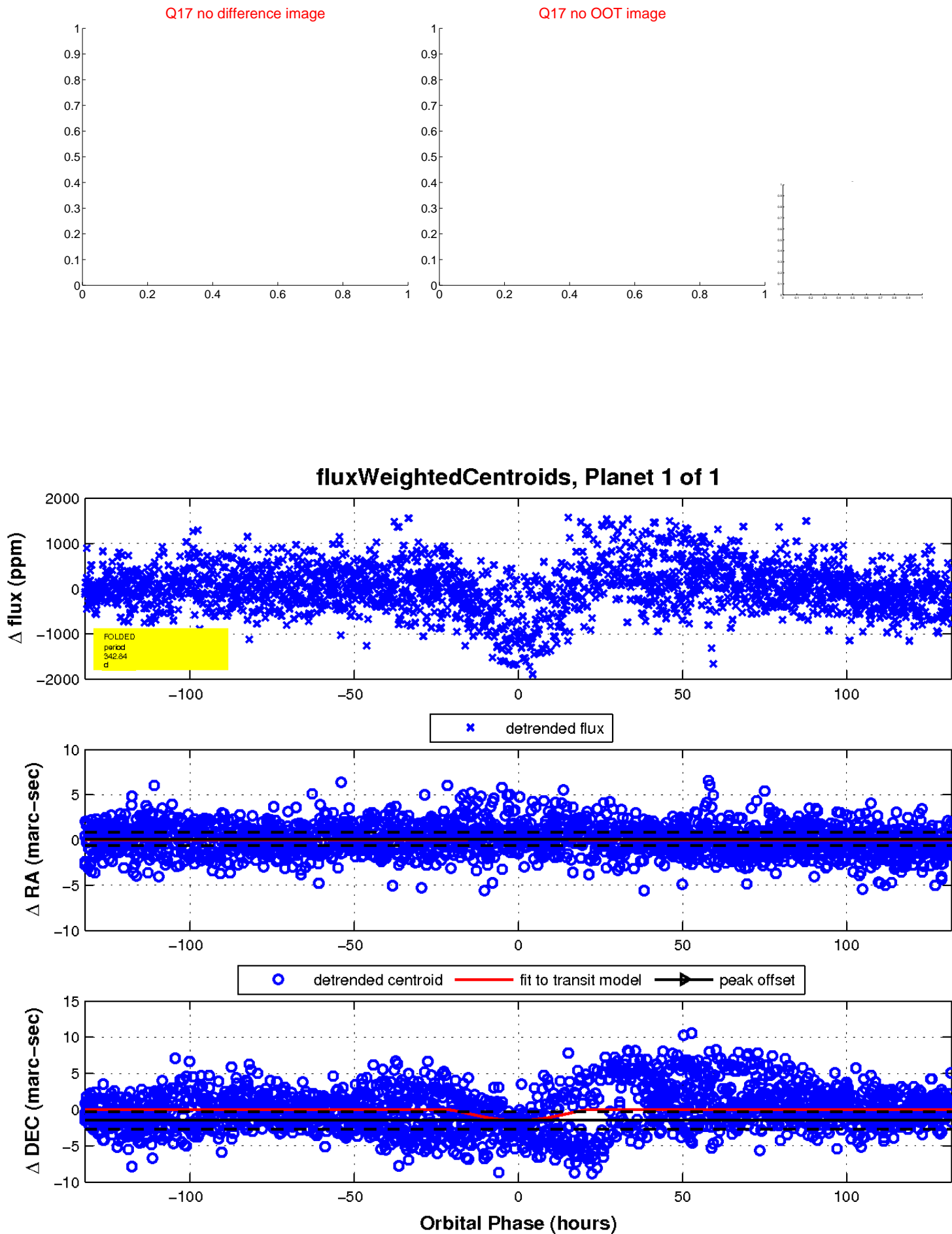
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UKIRT Image

Declination

