

KIC 008812106

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})
008812106-01	OBS	No	0.756428	132.147707	200.2	6.880	9.5	3.4	1.85	5611	2.65	13545.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008812106-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—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.

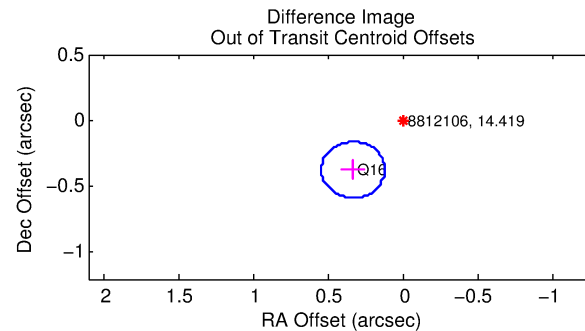
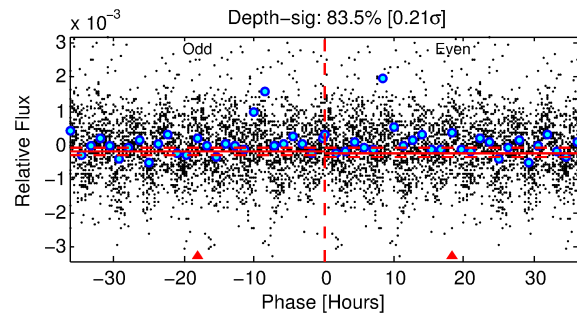
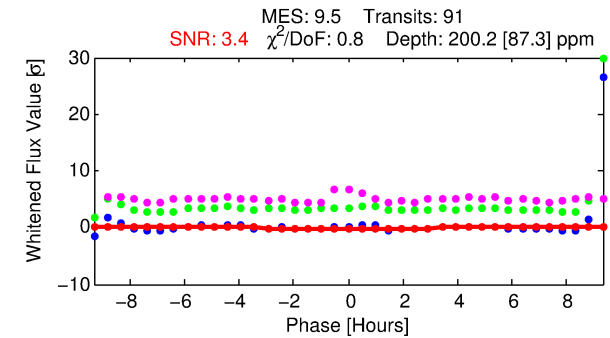
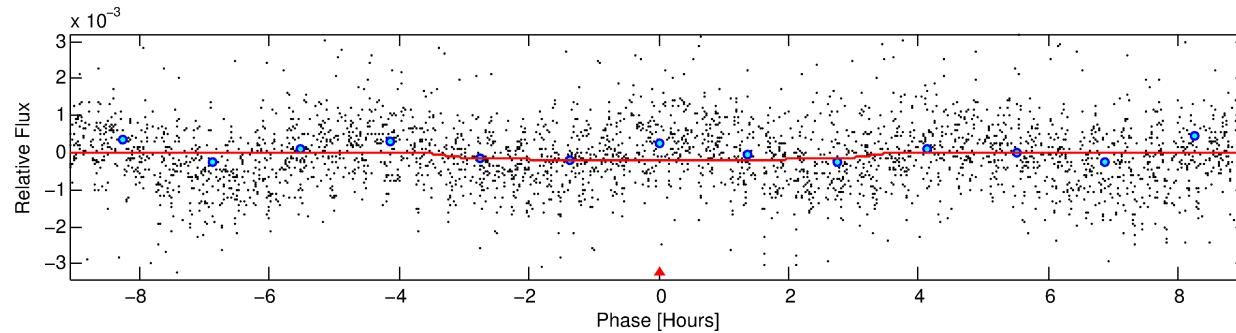
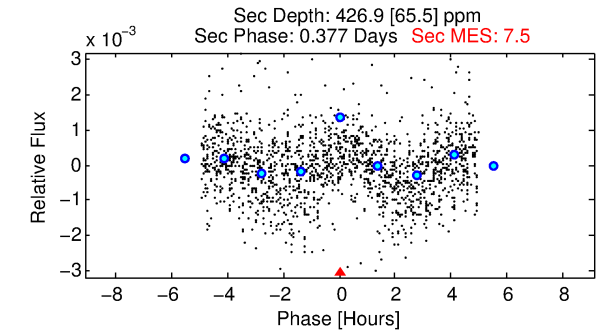
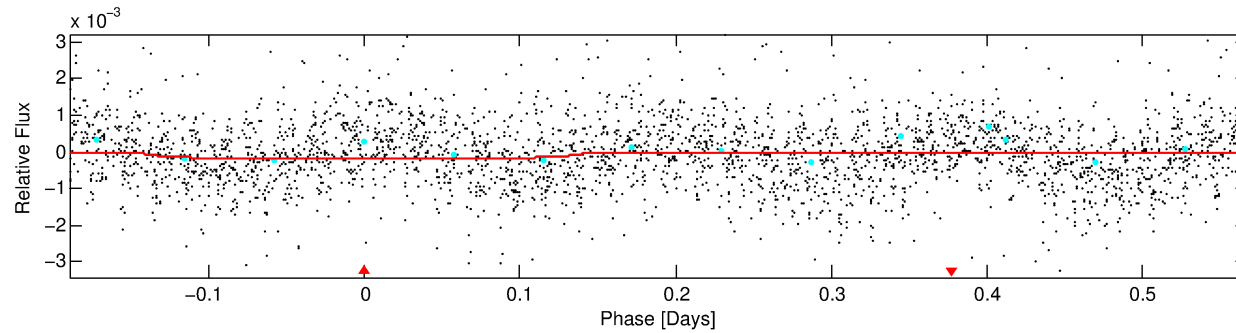
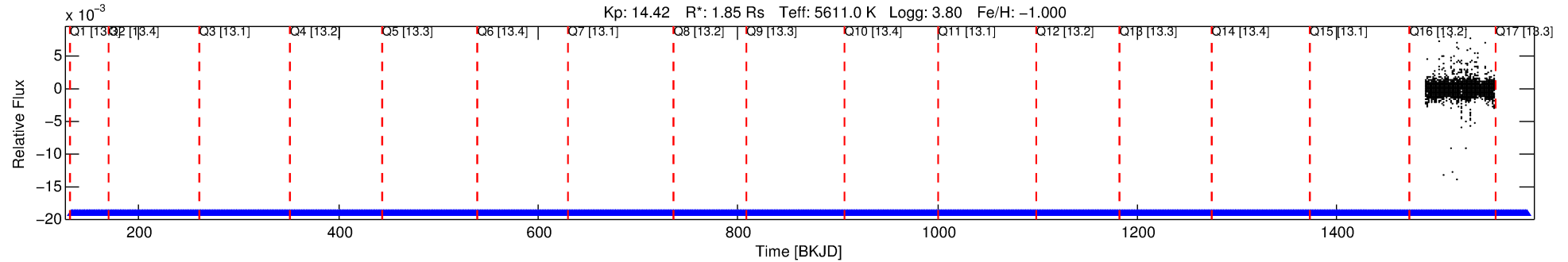
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008812106-01

No Significant Match Found

DV One-Page Summary

KIC: 8812106 Candidate: 1 of 1 Period: 0.756 d



DV Fit Results:

Period = 0.75643 [0.00003] d
Epoch = 132.1477 [0.0078] BKJD
Rp/R* = 0.0131 [0.0186]
a/R* = 1.08 [1.09]
b = 0.34 [18.28]
Seff = 13545.42 [17755.52]
Teq = 2751 [901] K
Rp = 2.65 [4.10] Re
a = 0.0150 [0.0111] AU
Ag = 7.53 [23.58] [0.28 σ]
Teffp = 7045 [5024] K [0.84 σ]

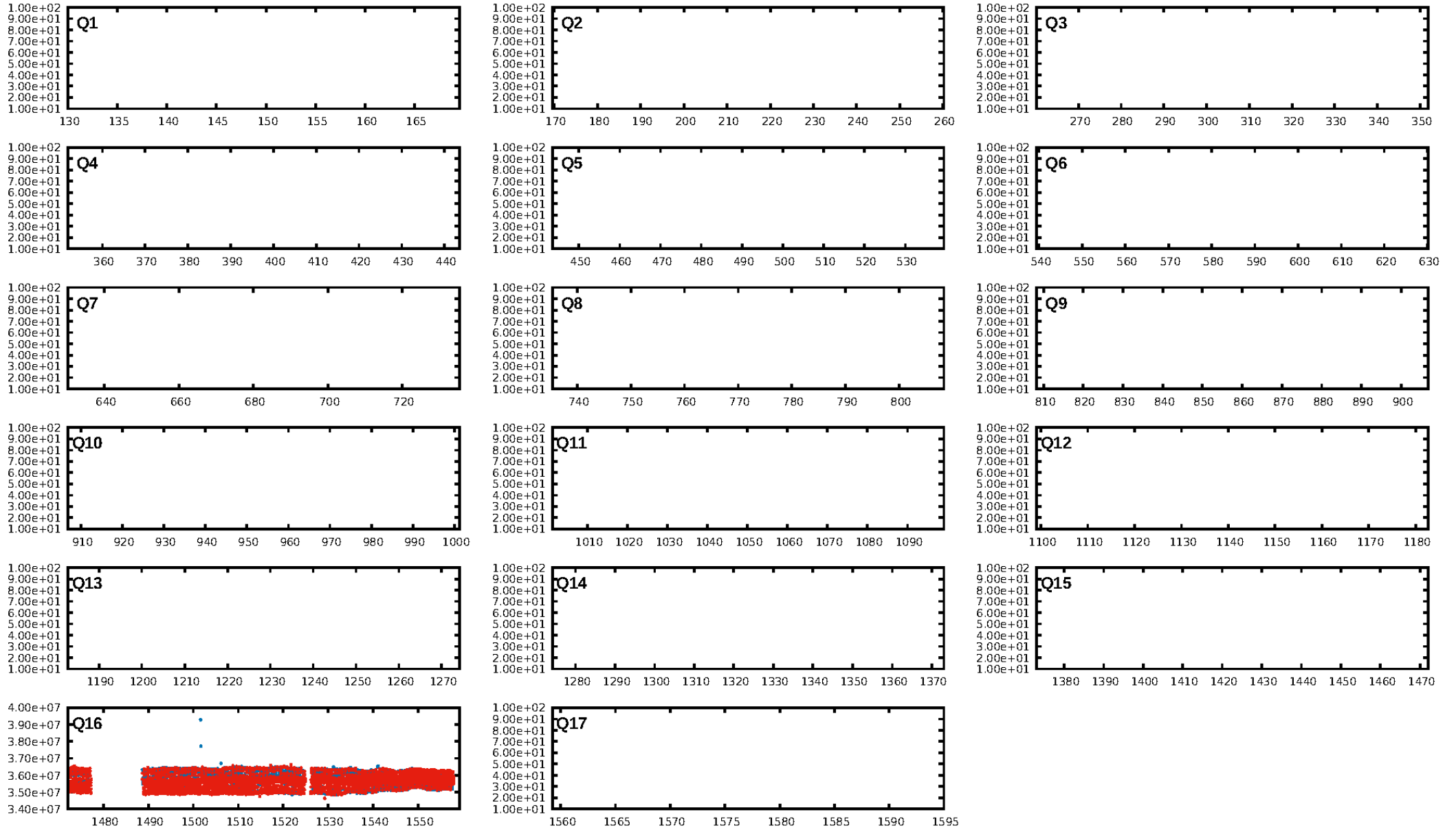
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [91/91]
GhostDiagnostic-chr: 0.1115
Centroid-sig: 28.6%
Centroid-so: 0.703 arcsec [0.92 σ]
OotOffset-rm: 0.500 arcsec [7.06 σ]
KicOffset-rm: 0.394 arcsec [5.56 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

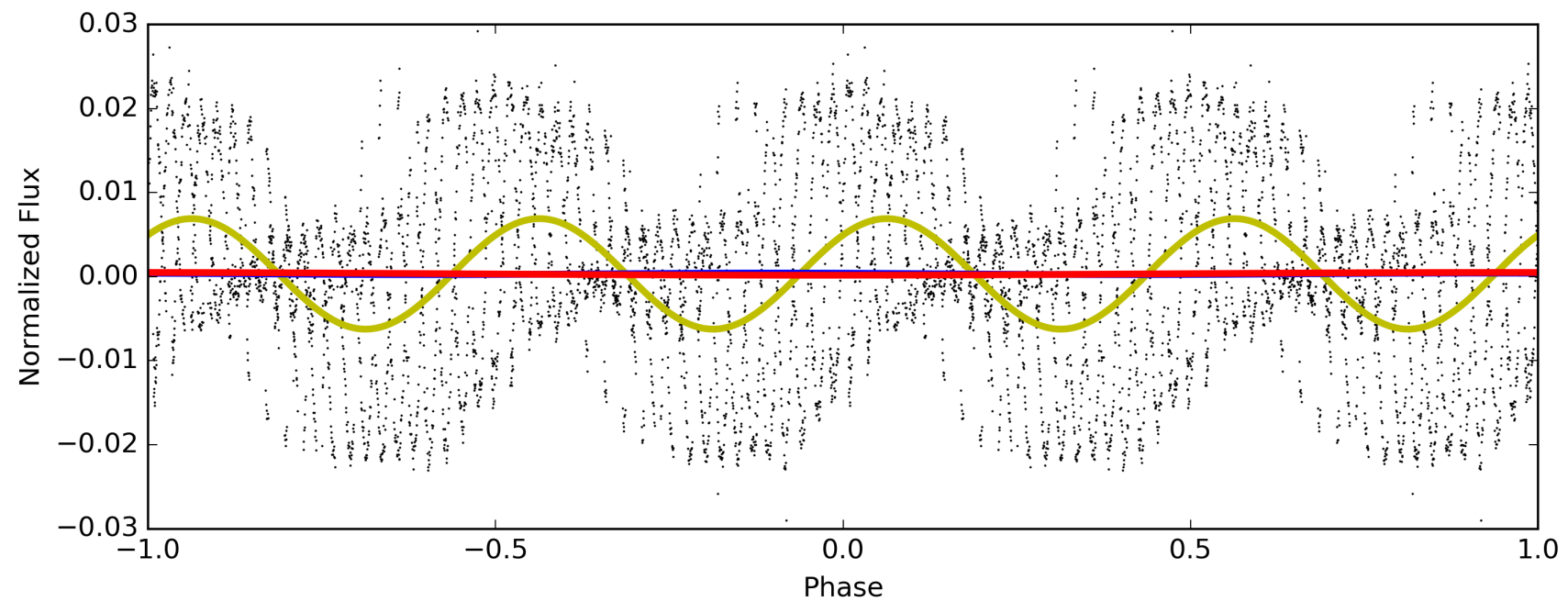
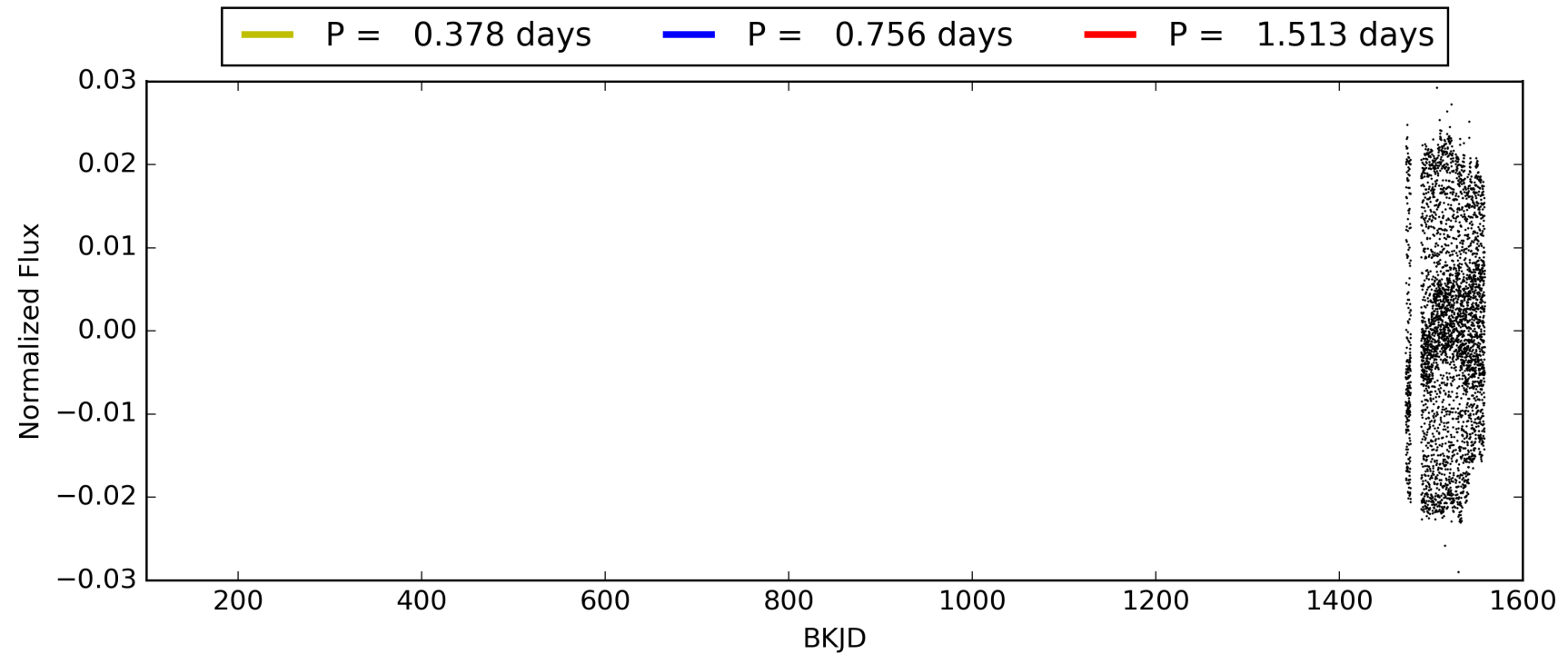
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:36:57 Z

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

TCE 008812106-01, PDC Light Curves

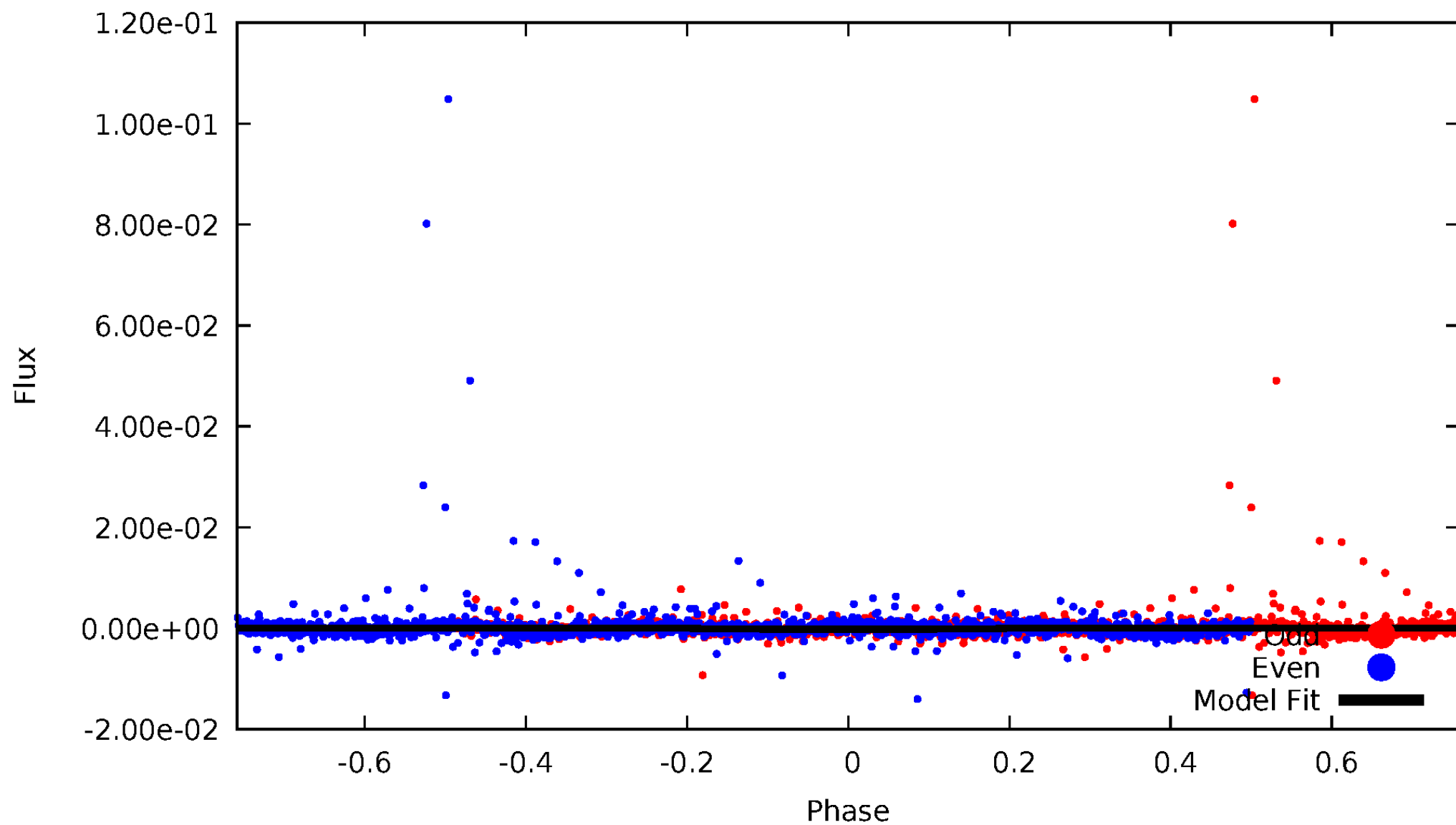


TCE 008812106-01



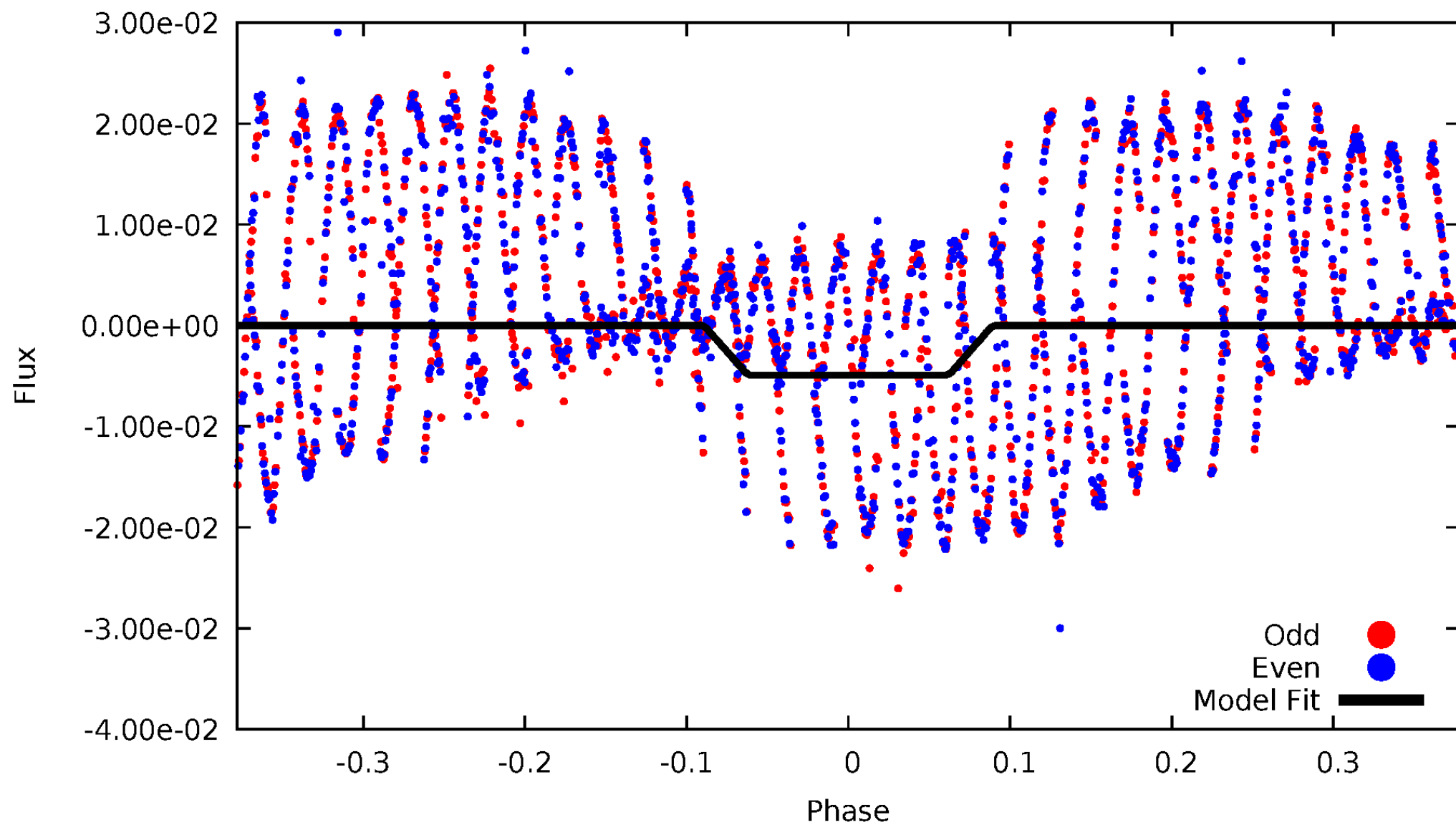
DV Odd/Even

TCE 008812106-01



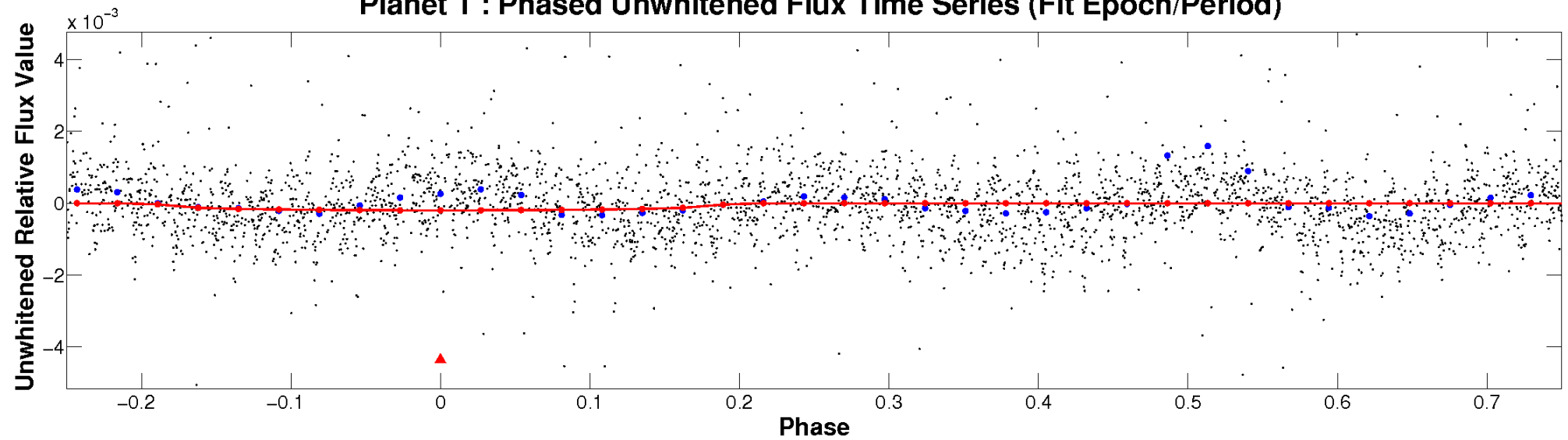
ALT Odd/Even

TCE 008812106-01

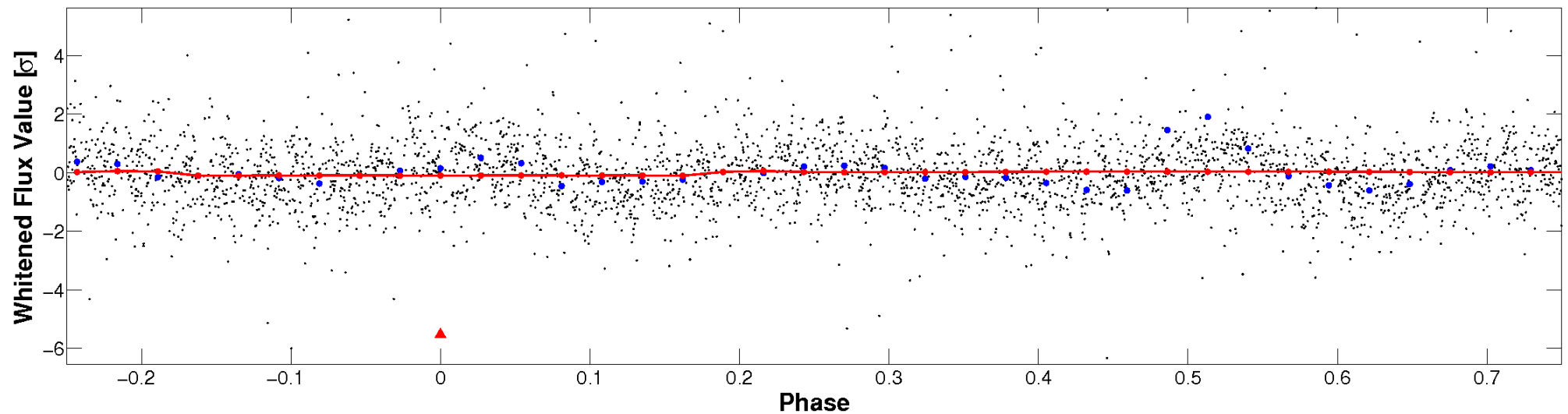


Non-Whitened Vs. Whitened Light Curve

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

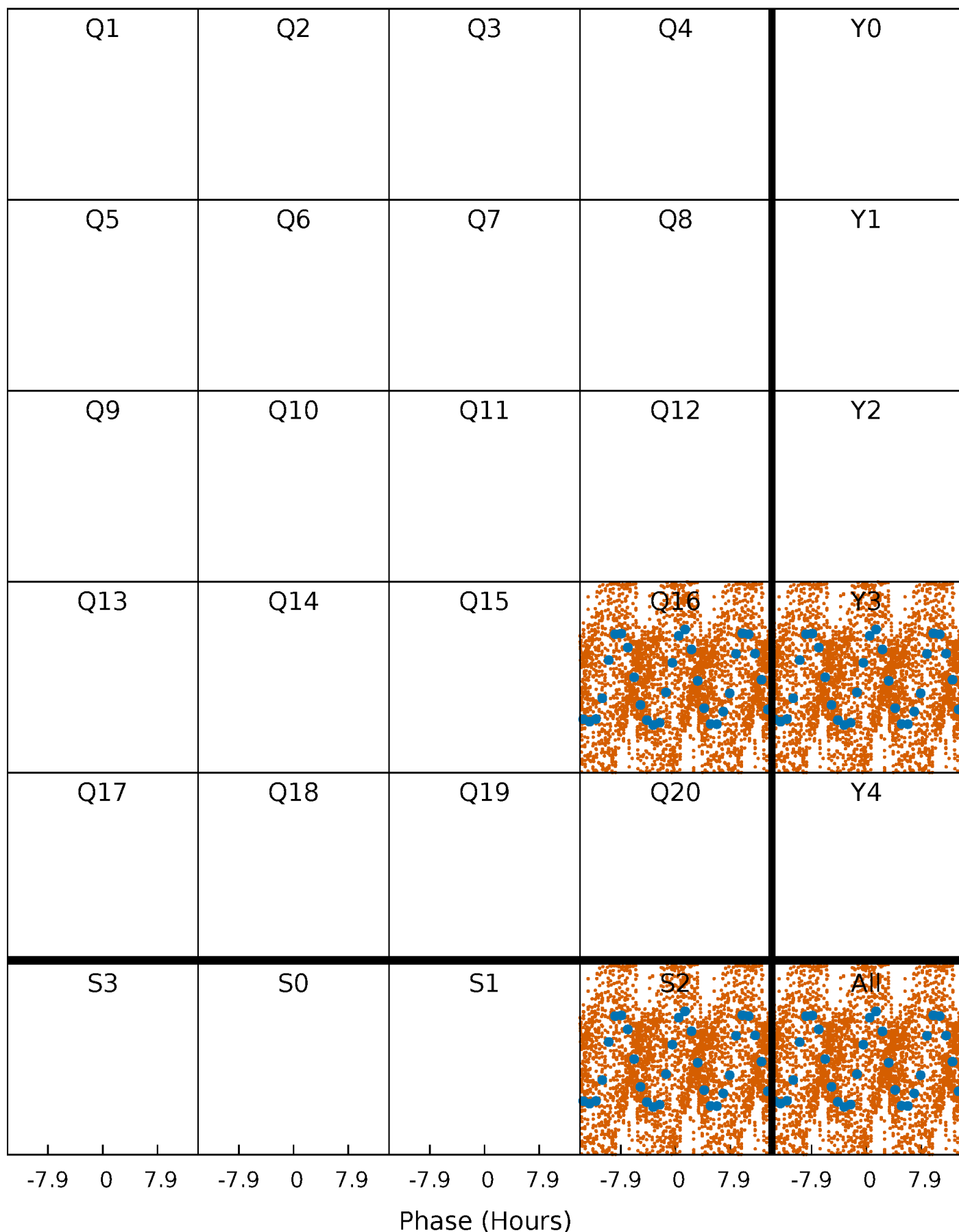


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



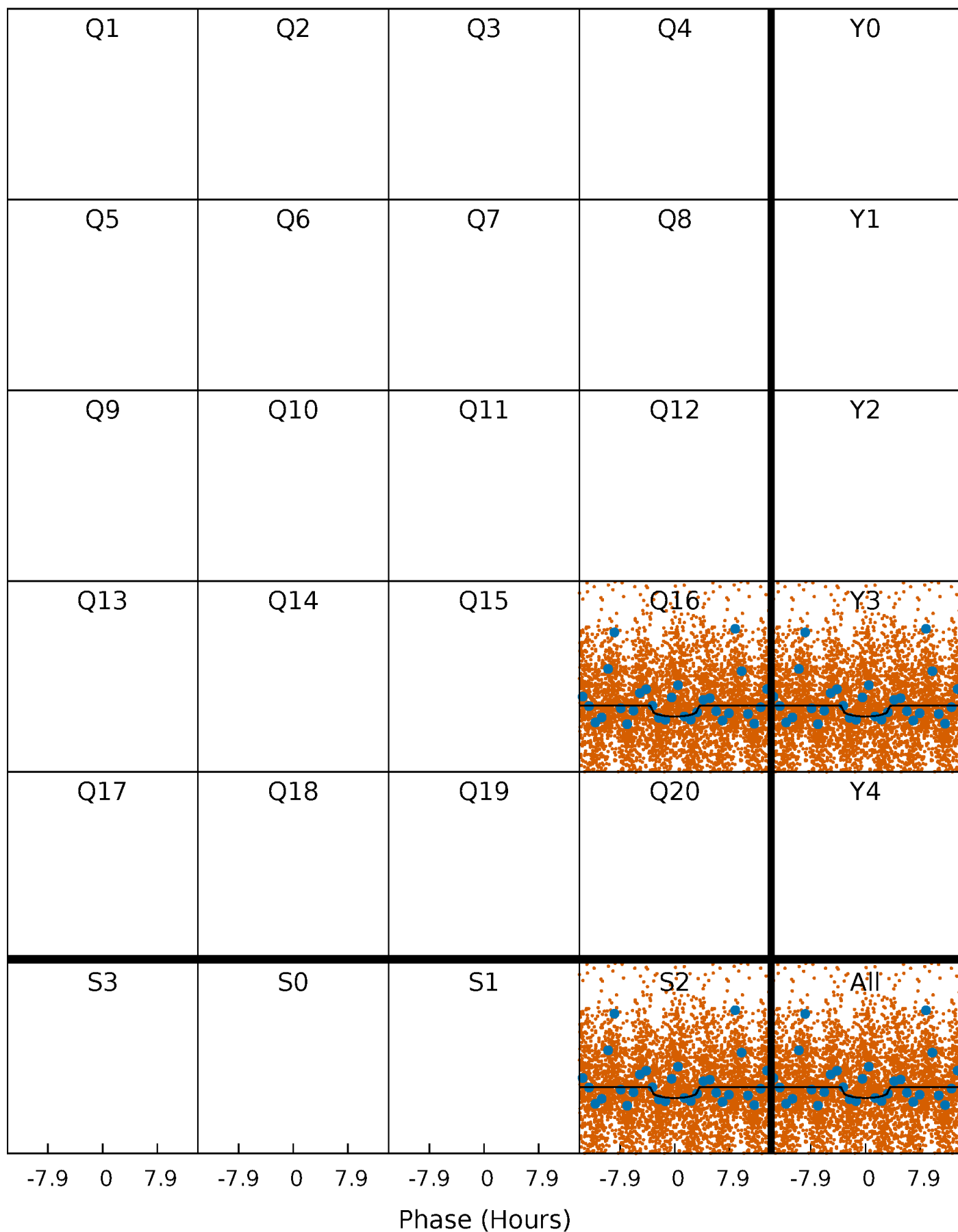
PDC Quarter-Phased Transit Curves

TCE 008812106-01 P= 0.756428 Days $T_0=132.147707$ (BKJD)



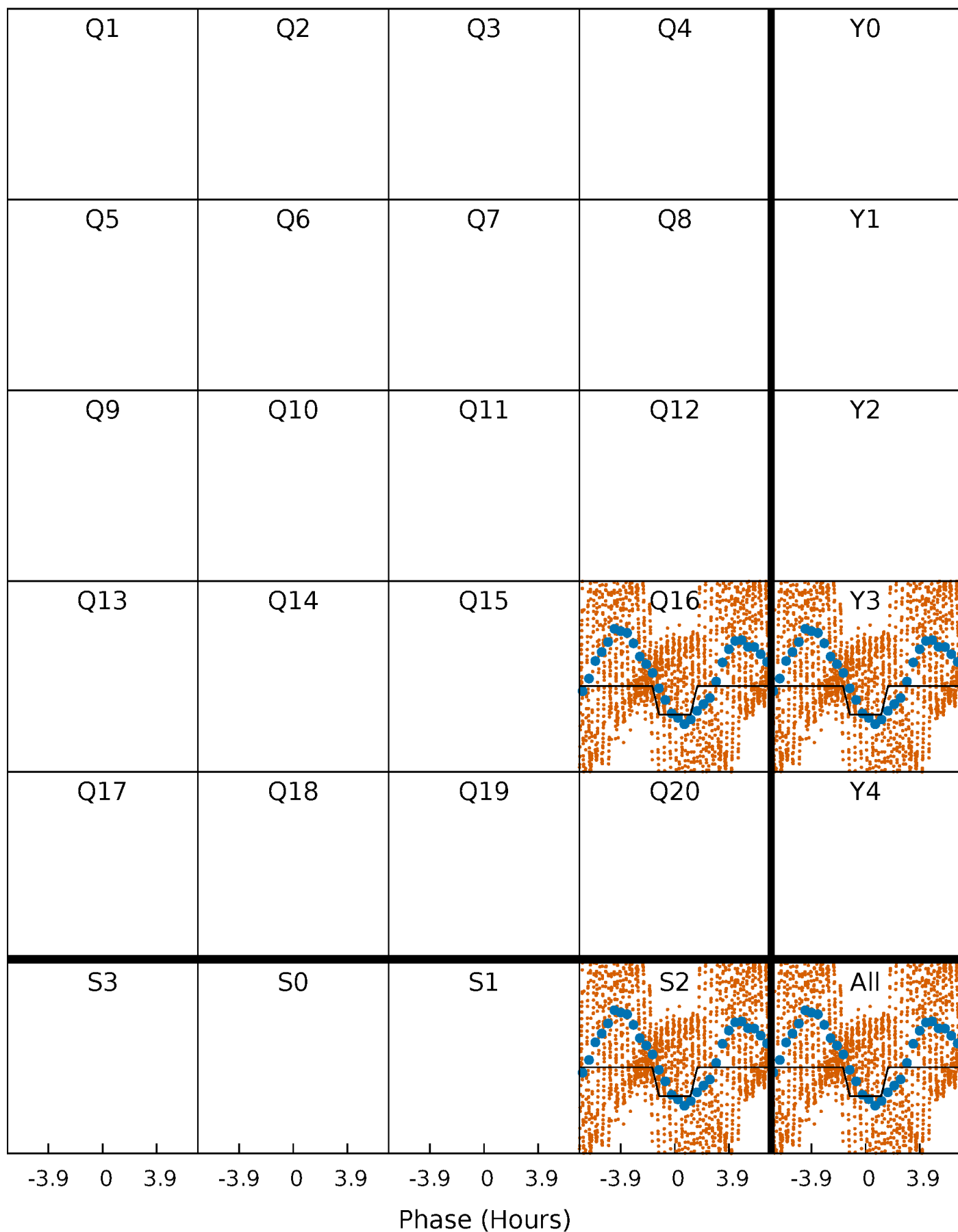
DV Quarter-Phased Transit Curves

TCE 008812106-01 P= 0.756428 Days $T_0=132.147707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

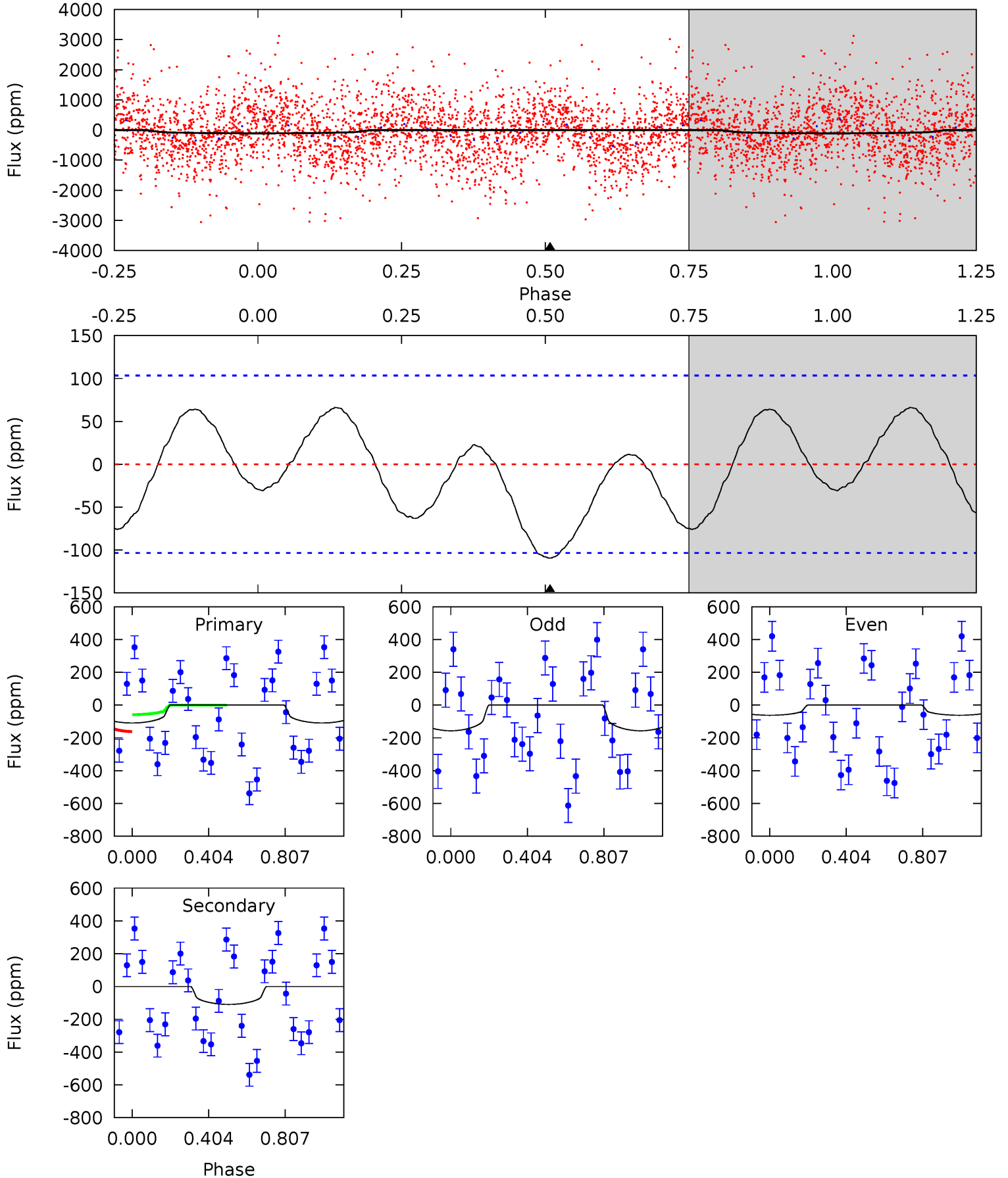
TCE 008812106-01 P= 0.756363 Days $T_0=132.107401$ (BKJD)



DV Model-Shift Uniqueness Test

008812106-01, P = 0.756428 Days, E = 132.147707 Days

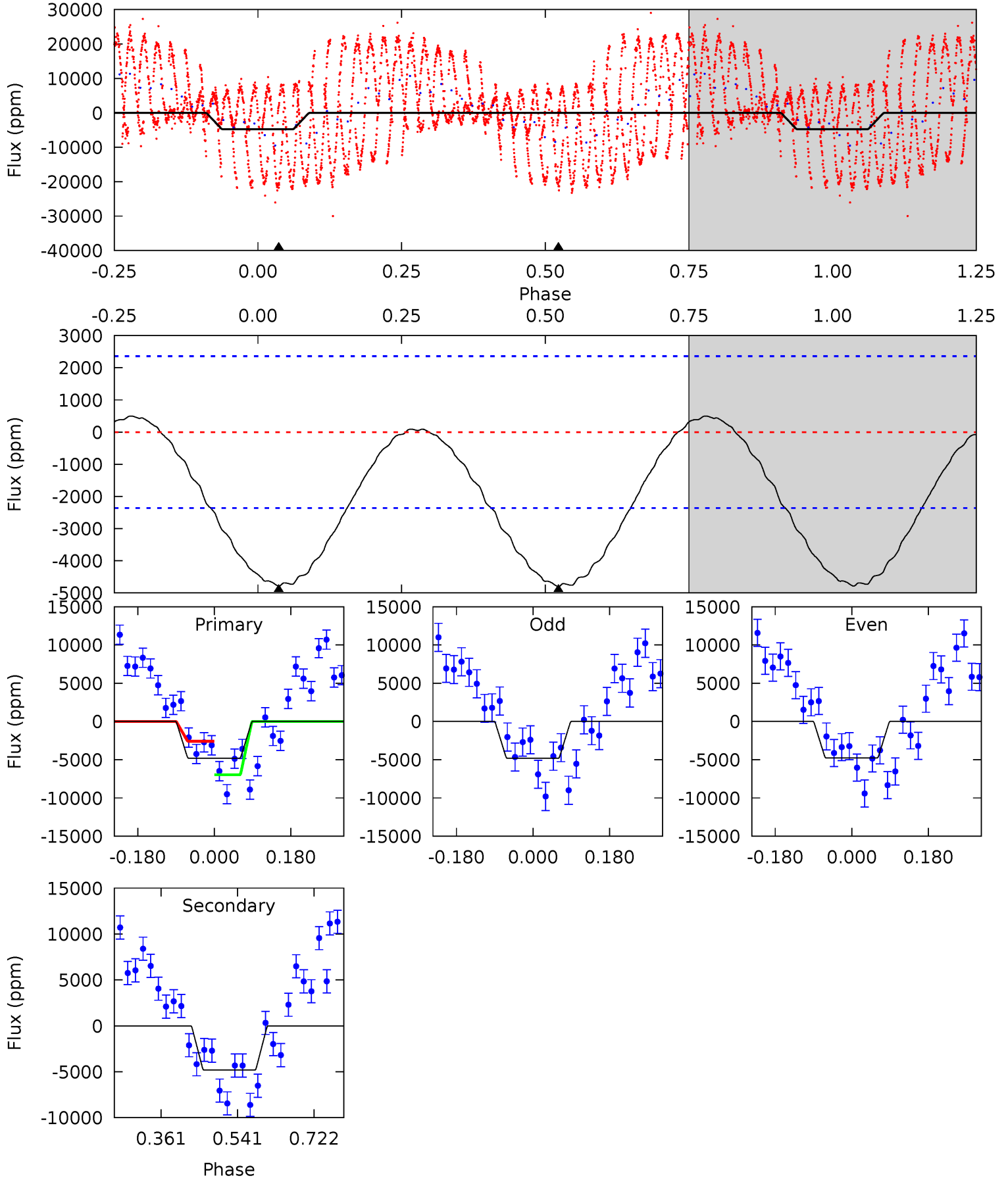
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.51	4.51	0	0	4.26	0.84	1.10	4.51	4.51	4.51	4.51	1.99	0.44	0.38	2.16



Alt Model-Shift Uniqueness Test

008812106-01, P = 0.756363 Days, E = 132.107401 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.00	9.04	0	0	4.44	1.34	0.59	9.00	9.00	9.04	9.04	0.04	2.15	0.09	4.94



Stellar Parameters For KIC 008812106

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5611^{+216}_{-196}	$3.798^{+0.805}_{-0.345}$	$-1.000^{+0.300}_{-0.300}$	$1.852^{+1.137}_{-1.137}$	$0.785^{+0.117}_{-0.106}$	$0.174^{+2.864}_{-0.118}$
	+4%/-3%	+21%/-9%	+30%/-30%	+61%/-61%	+15%/-14%	+1645%/-68%
Source	KIC0	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 008812106-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-109±24	$3.33^{+3.83}_{-2.26}$	3809^{+596}_{-678}	4231^{+3061}_{-6923}	$1.286^{+11.512}_{-1.022}$
Alt.	-4807±532	$13.54^{+6.76}_{-5.53}$	3803^{+650}_{-721}	5466^{+939}_{-703}	$3.439^{+6.025}_{-1.989}$

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

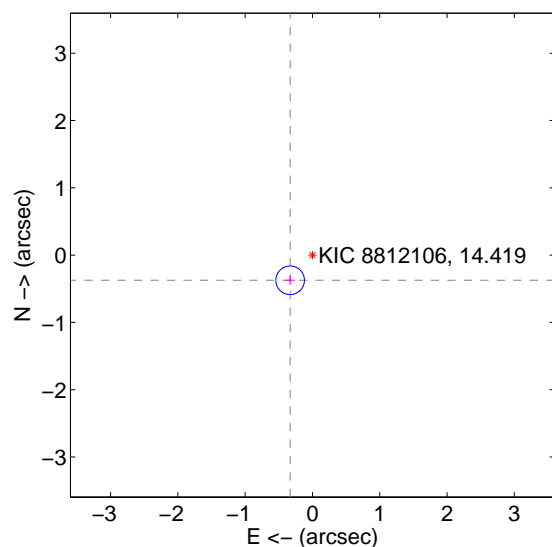
Supplemental centroid analysis for 008812106-01. Kepler magnitude: 14.42. Transit SNR 3.41

There are 0 quarters with good PRF difference image offsets

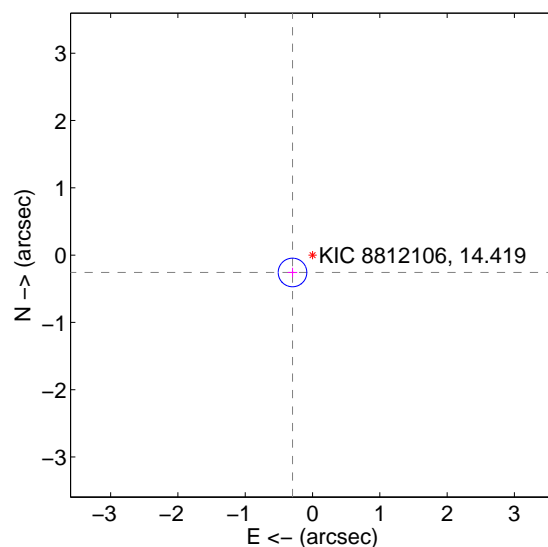
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.500 ± 0.071	7.06	0.331 ± 0.071	-0.374 ± 0.071
PRF-fit source offset from KIC position	0.394 ± 0.071	5.56	0.297 ± 0.071	-0.258 ± 0.071
photometric centroid source offset	0.70 ± 0.76	0.92	-0.65 ± 0.69	-0.26 ± 1.13

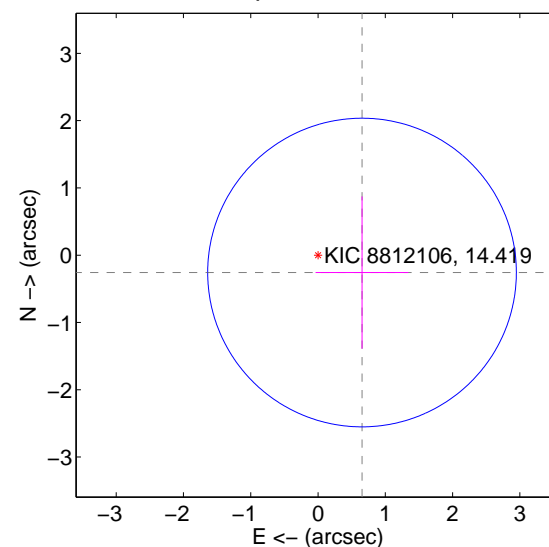
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.



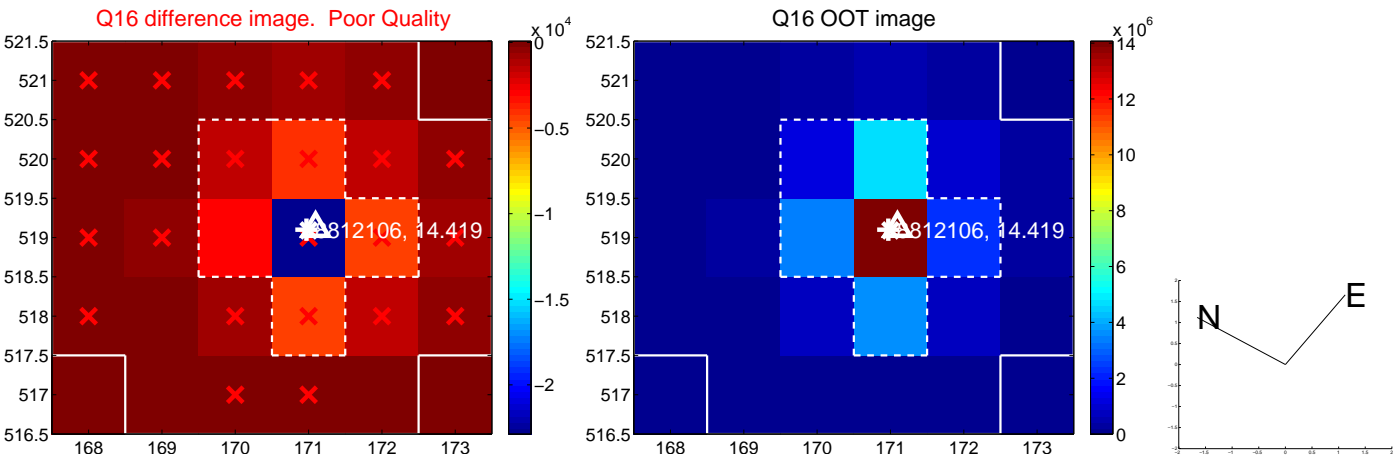
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



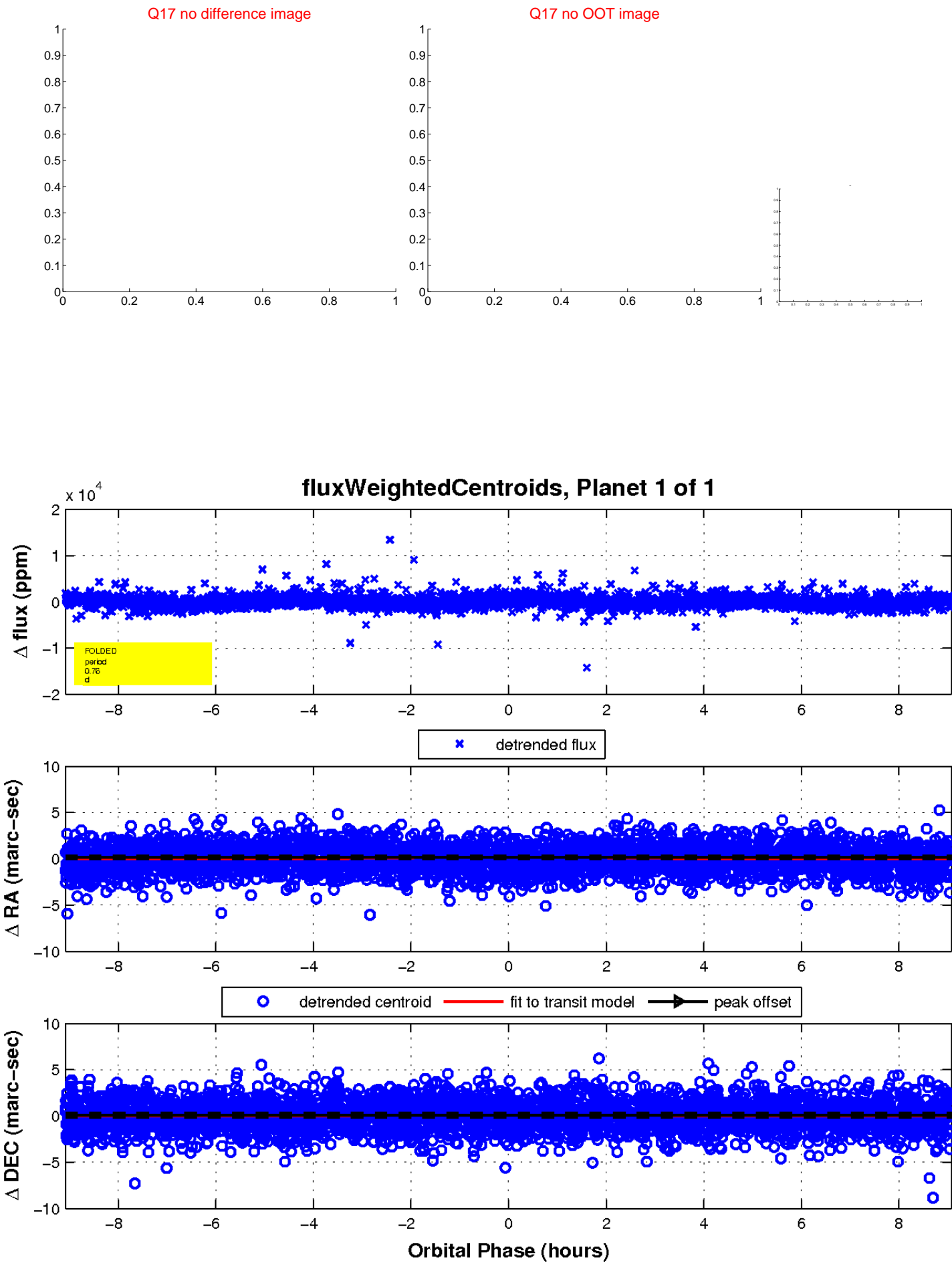
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

