

KIC 008703506

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})
008703506-01	OBS	7907.01	352.711189	251.189385	1869.4	3.457	8.2	8.5	0.91	6112	4.86	1.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008703506-01	OBS	FP	0.02	0	1	0	0	MOD_SEC_DV—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.

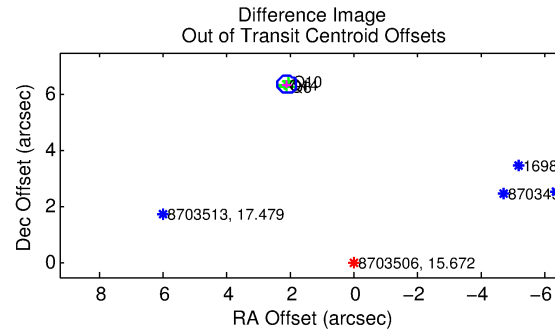
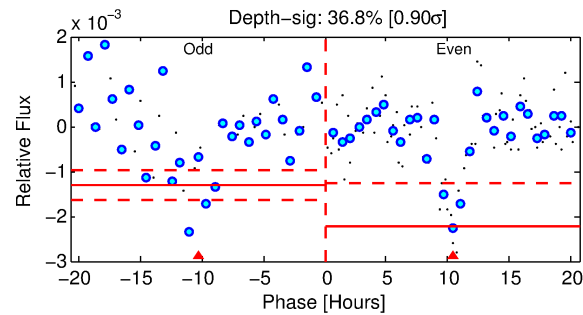
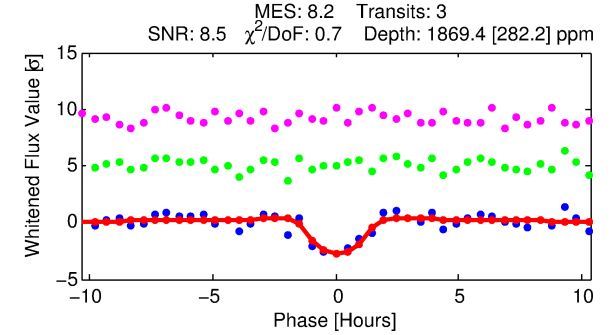
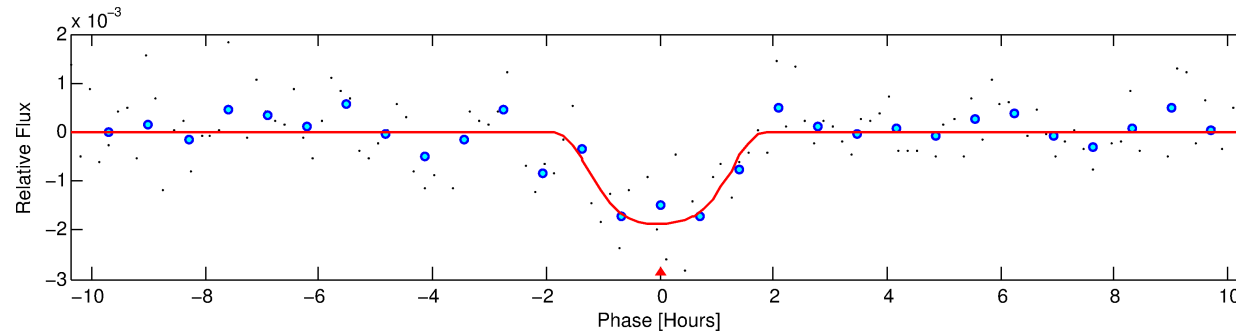
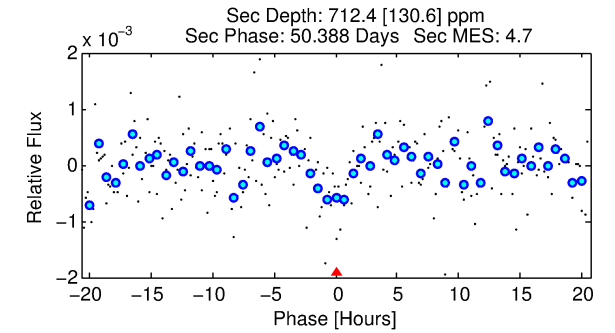
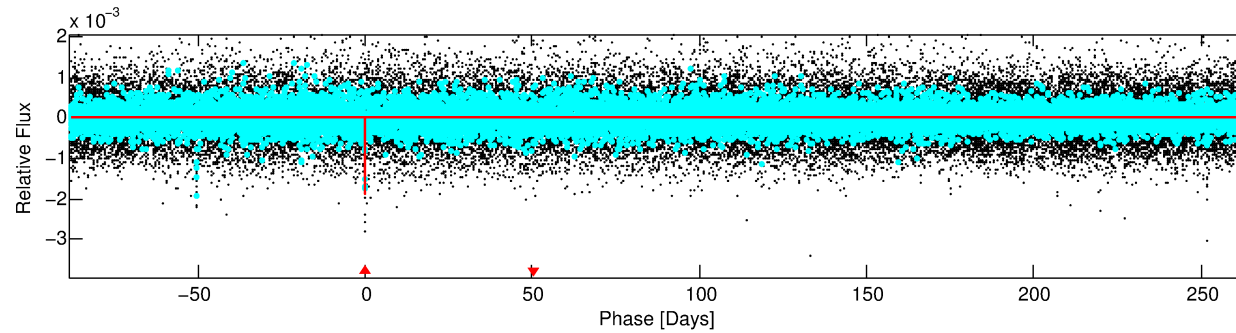
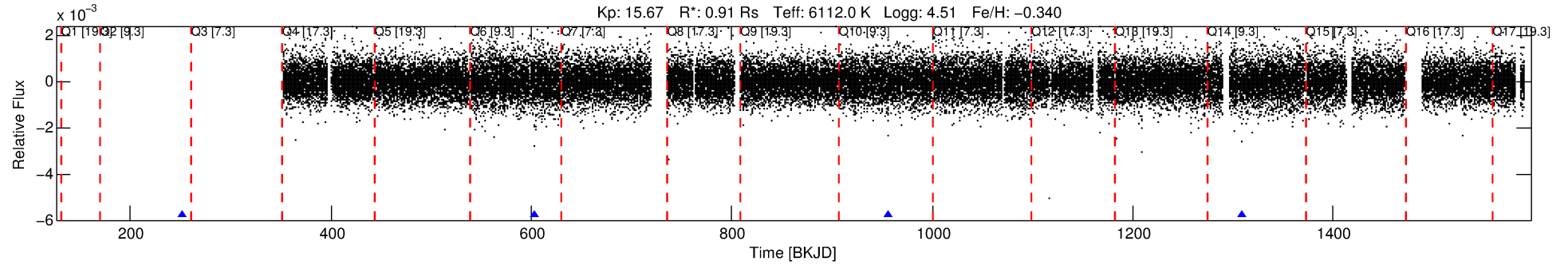
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008703506-01

No Significant Match Found

DV One-Page Summary

KIC: 8703506 Candidate: 1 of 1 Period: 352.711 d



DV Fit Results:

Period = 352.71119 [0.00522] d
Epoch = 251.1894 [0.0109] BKJD
Rp/R* = 0.0490 [0.0062]
a/R* = 361.09 [104.57]
b = 0.94 [0.04]
Seff = 1.09 [0.47]
Teq = 261 [28] K
Rp = 4.86 [1.65] Re
a = 0.9706 [0.2626] AU
Ag = 15646.59 [7932.00] [1.97σ]
Teff = 4510 [392] K [10.81σ]

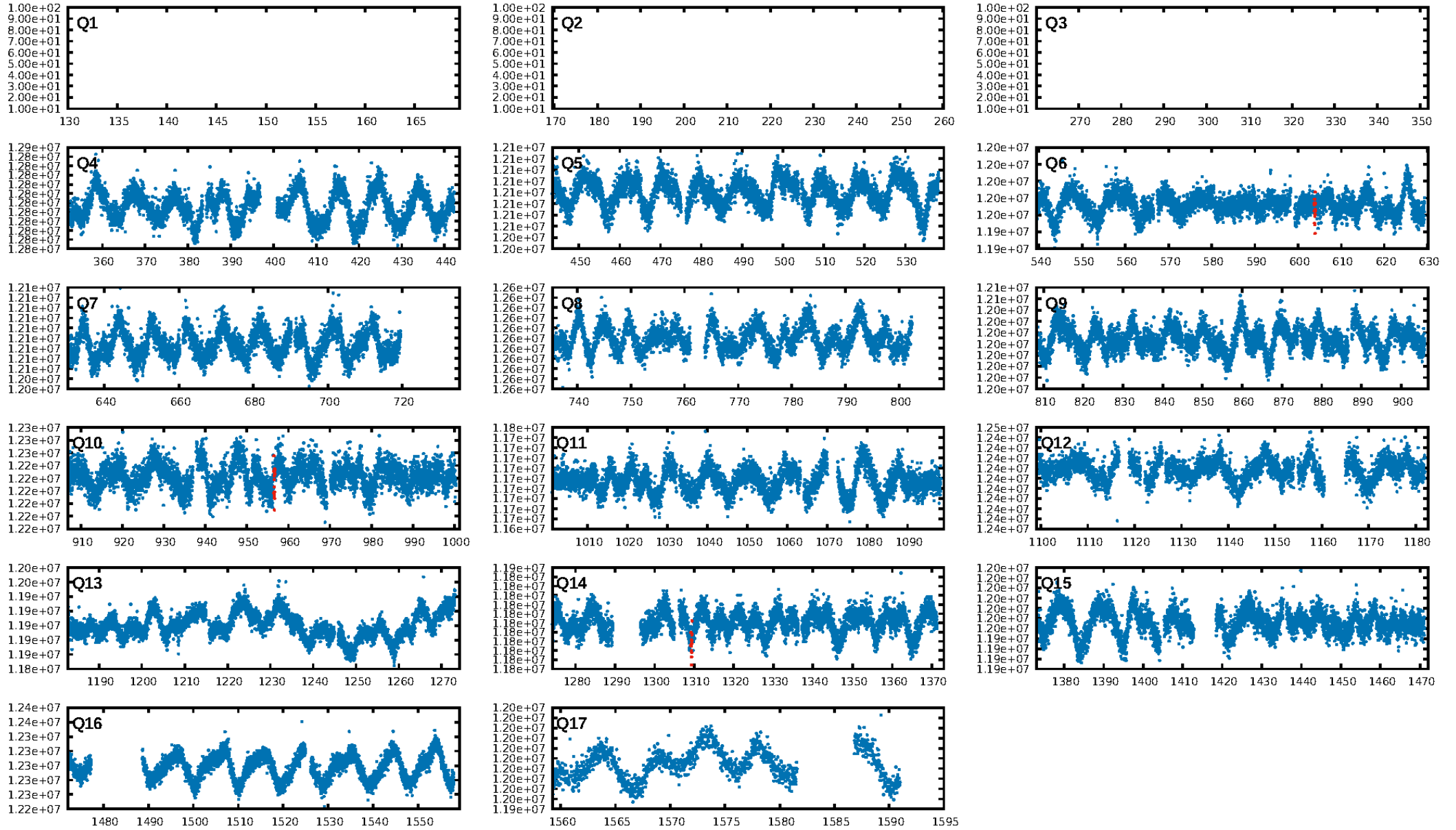
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.5%
ModelChiSquareGof-sig: 98.2%
Bootstrap-pfa: 6.70e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3159
Centroid-sig: 0.0%
Centroid-so: 4.929 arcsec [6.64σ]
OotOffset-rm: 6.693 arcsec [63.25σ]
KicOffset-rm: 5.825 arcsec [43.99σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

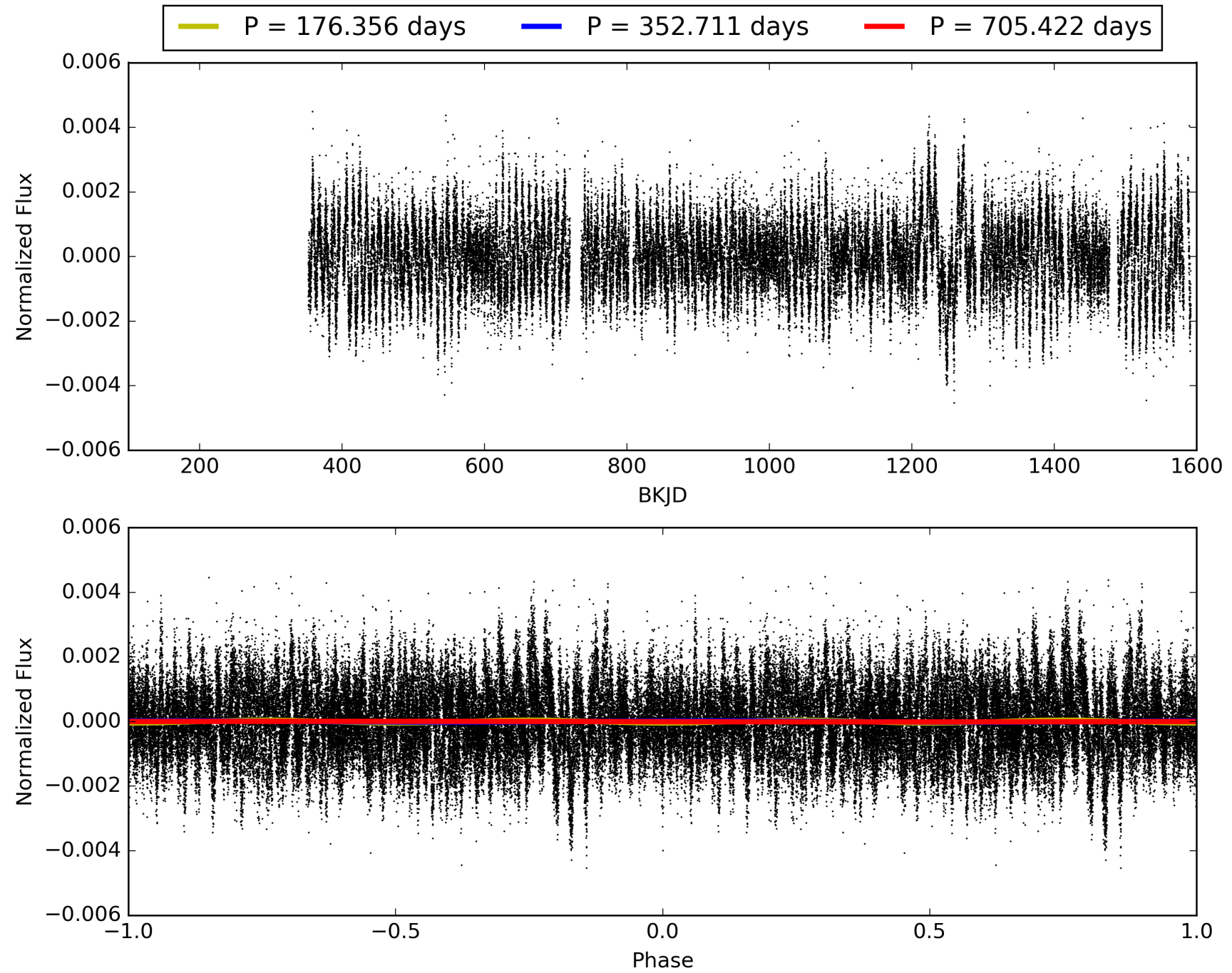
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:22:35 Z

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

TCE 008703506-01, PDC Light Curves

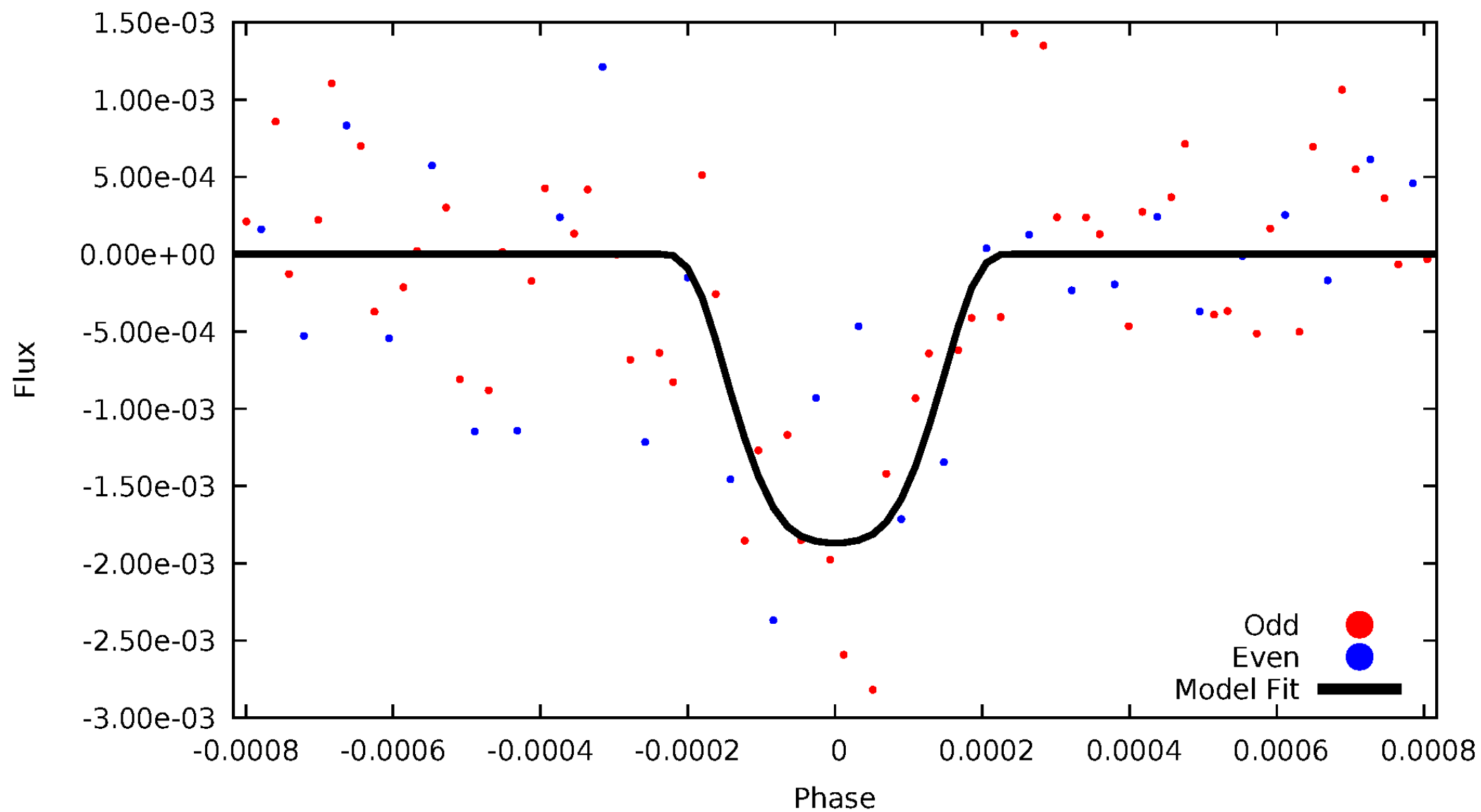


TCE 008703506-01



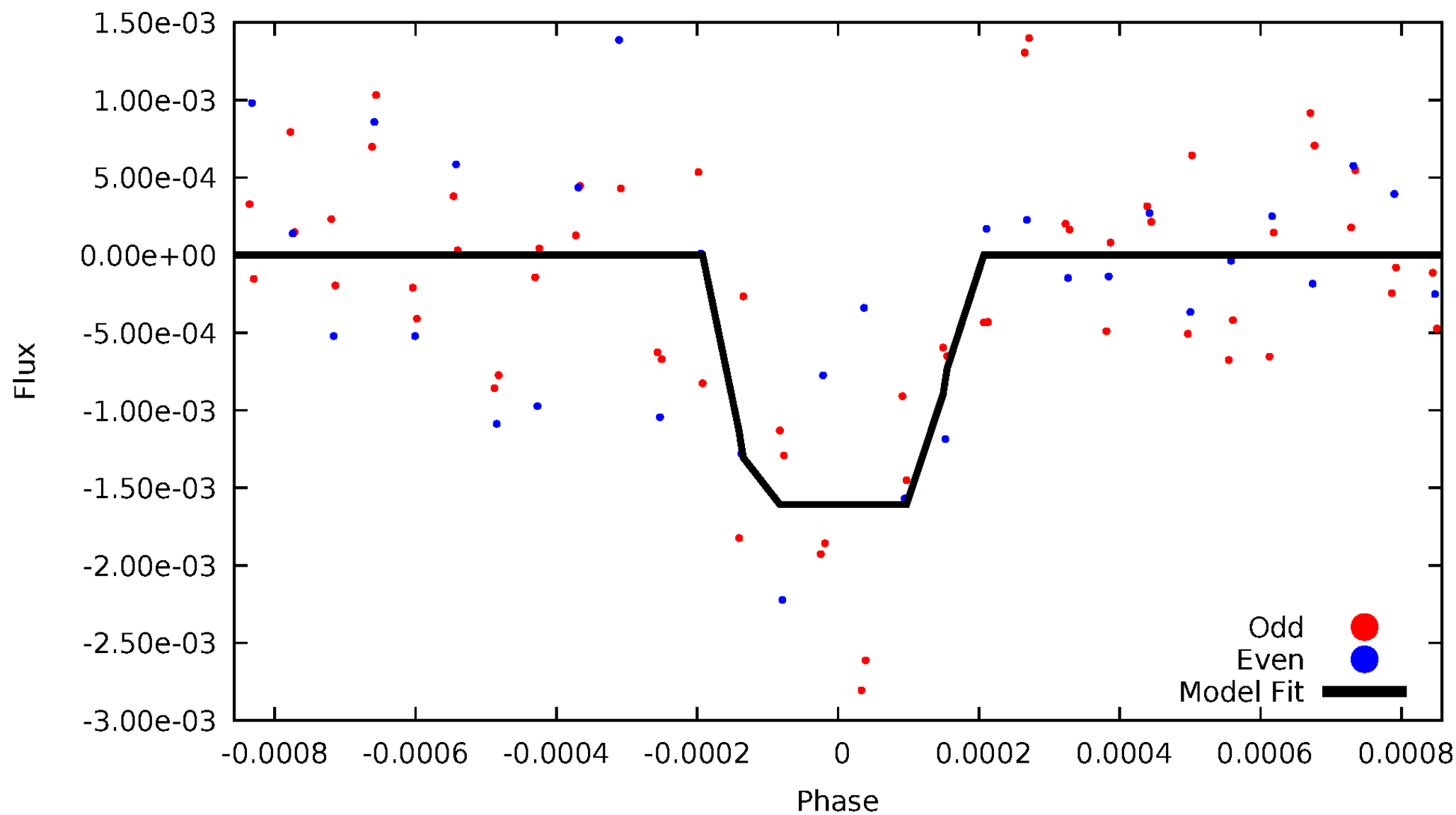
DV Odd/Even

TCE 008703506-01



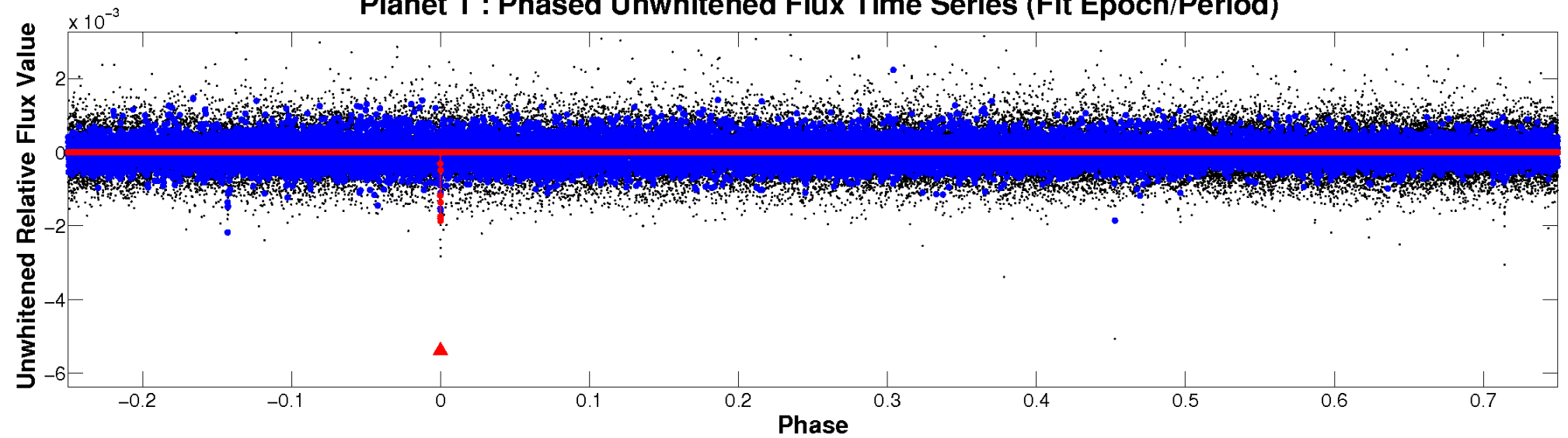
ALT Odd/Even

TCE 008703506-01

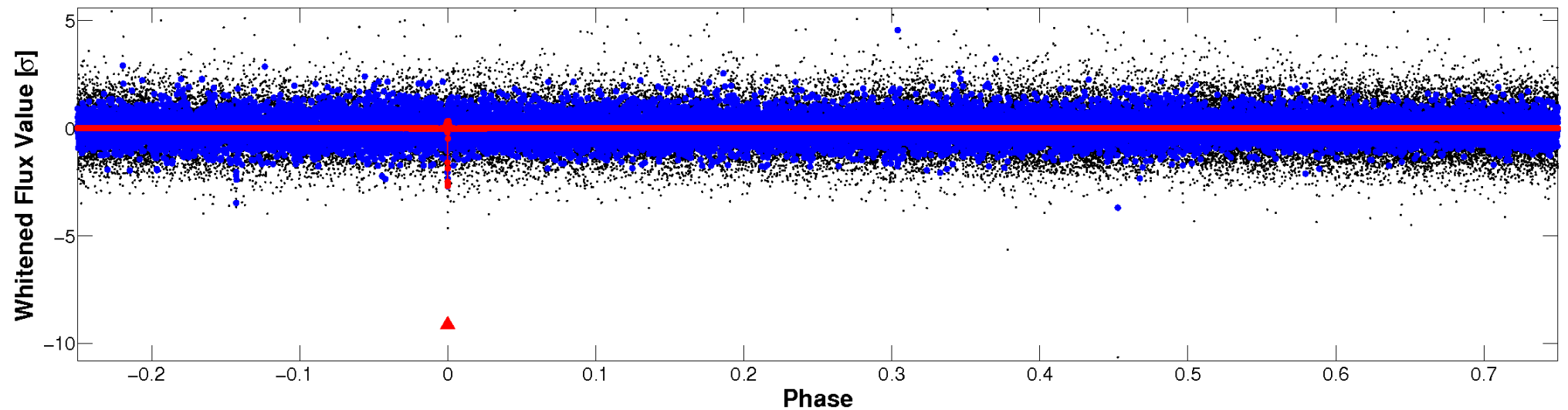


Non-Whitened Vs. Whitened Light Curve

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

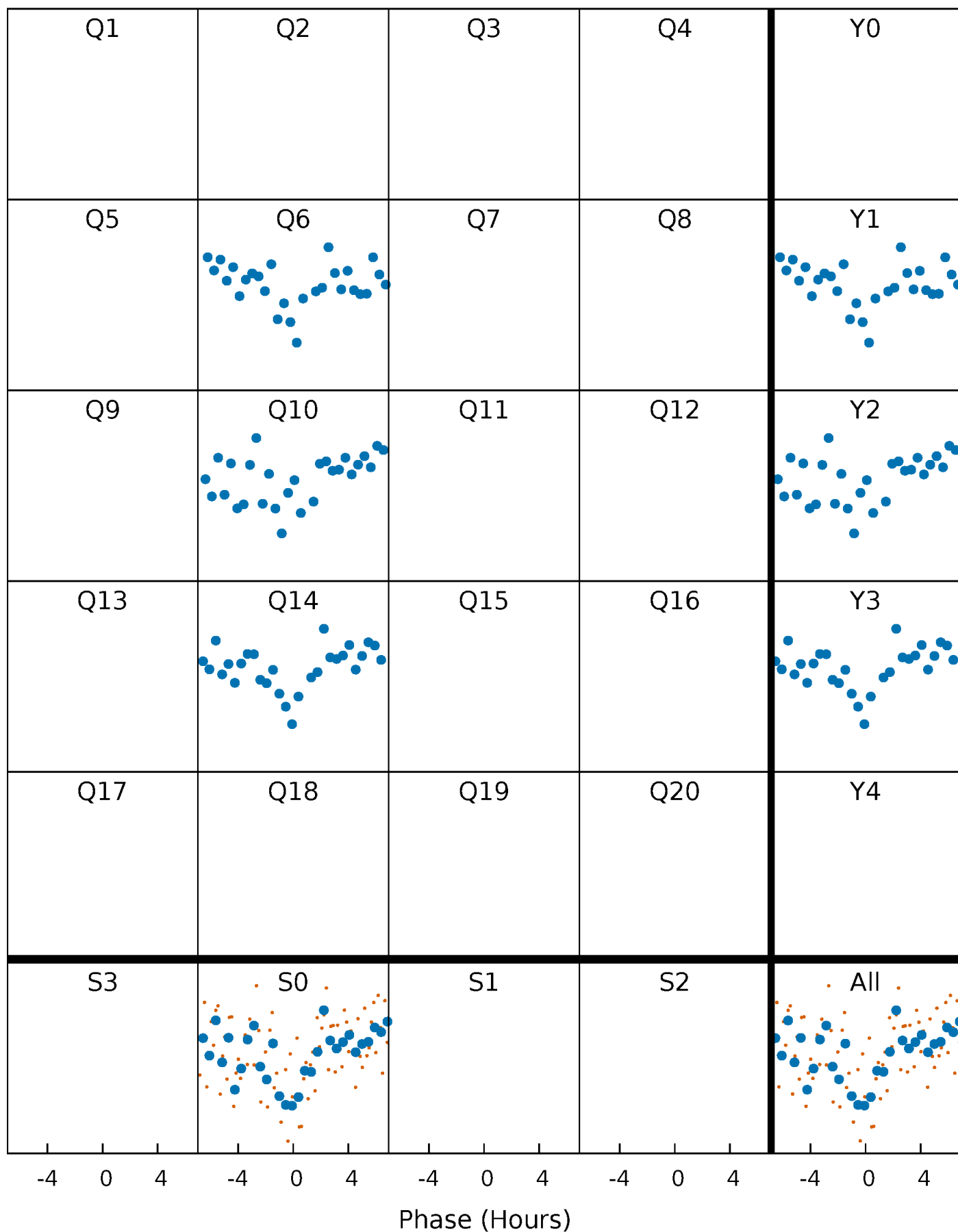


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



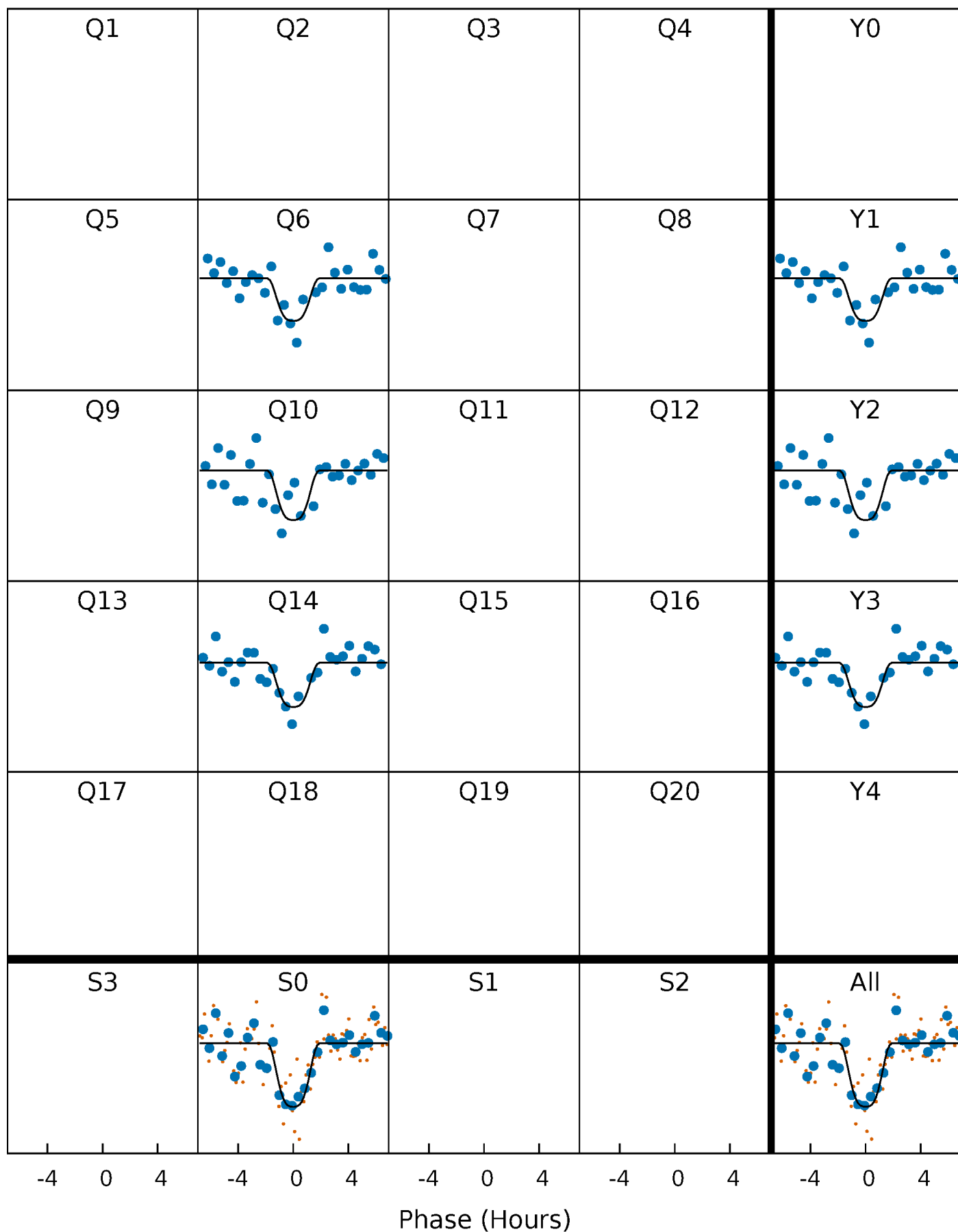
PDC Quarter-Phased Transit Curves

TCE 008703506-01 P=352.711189 Days $T_0=251.189385$ (BKJD)



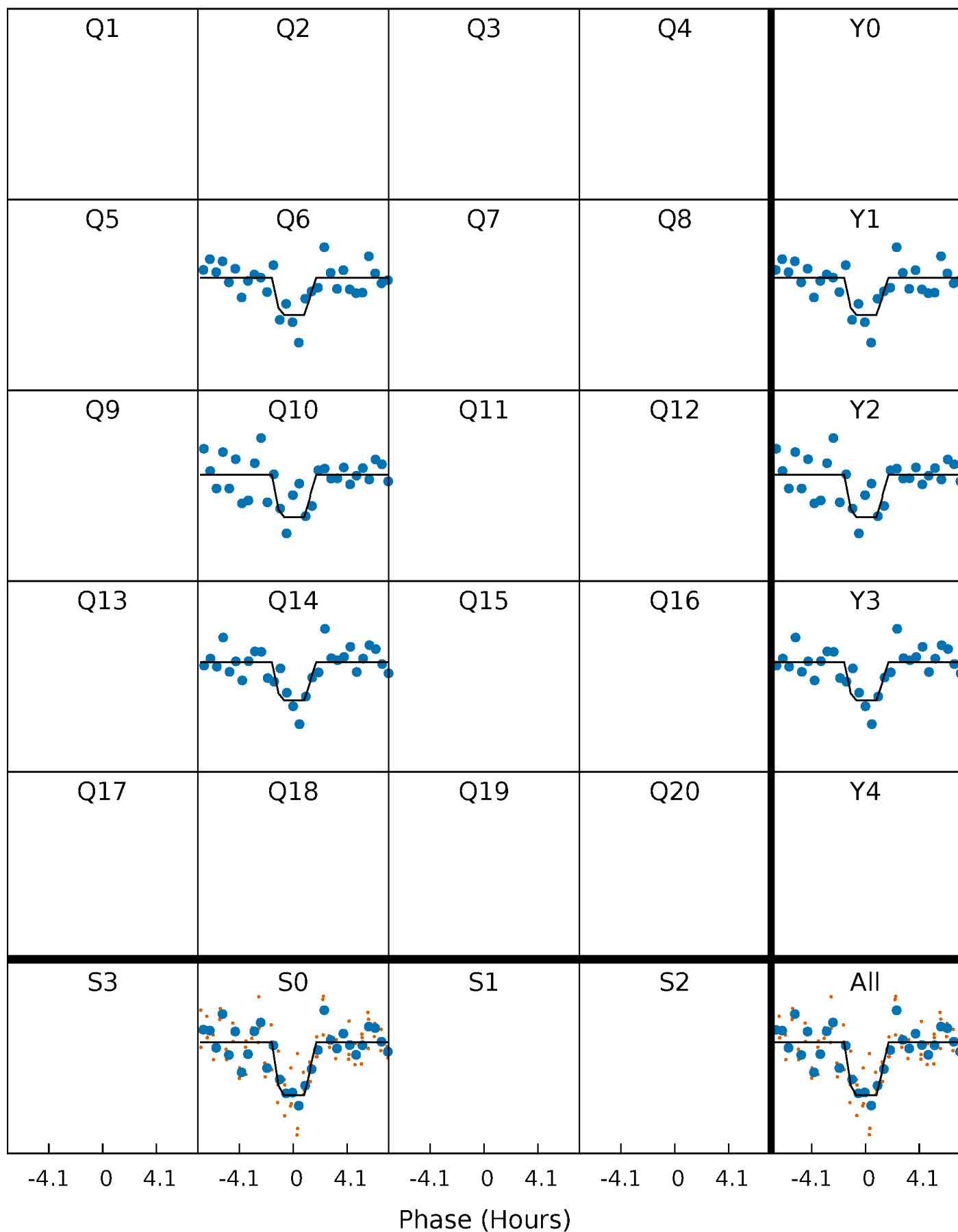
DV Quarter-Phased Transit Curves

TCE 008703506-01 P=352.711189 Days $T_0=251.189385$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

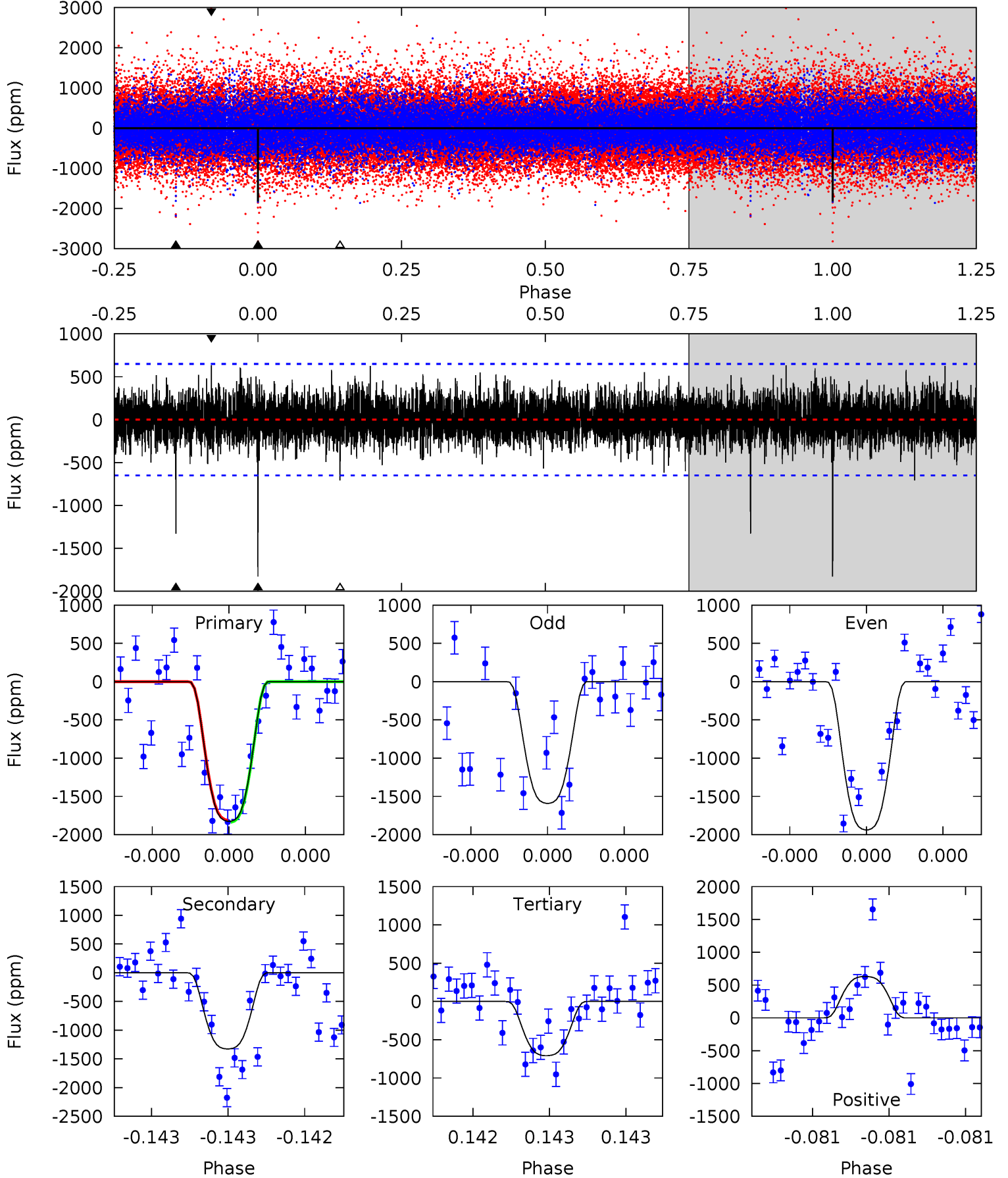
TCE 008703506-01 P=352.703184 Days $T_0=251.203711$ (BKJD)



DV Model-Shift Uniqueness Test

008703506-01, P = 352.711189 Days, E = 251.189385 Days

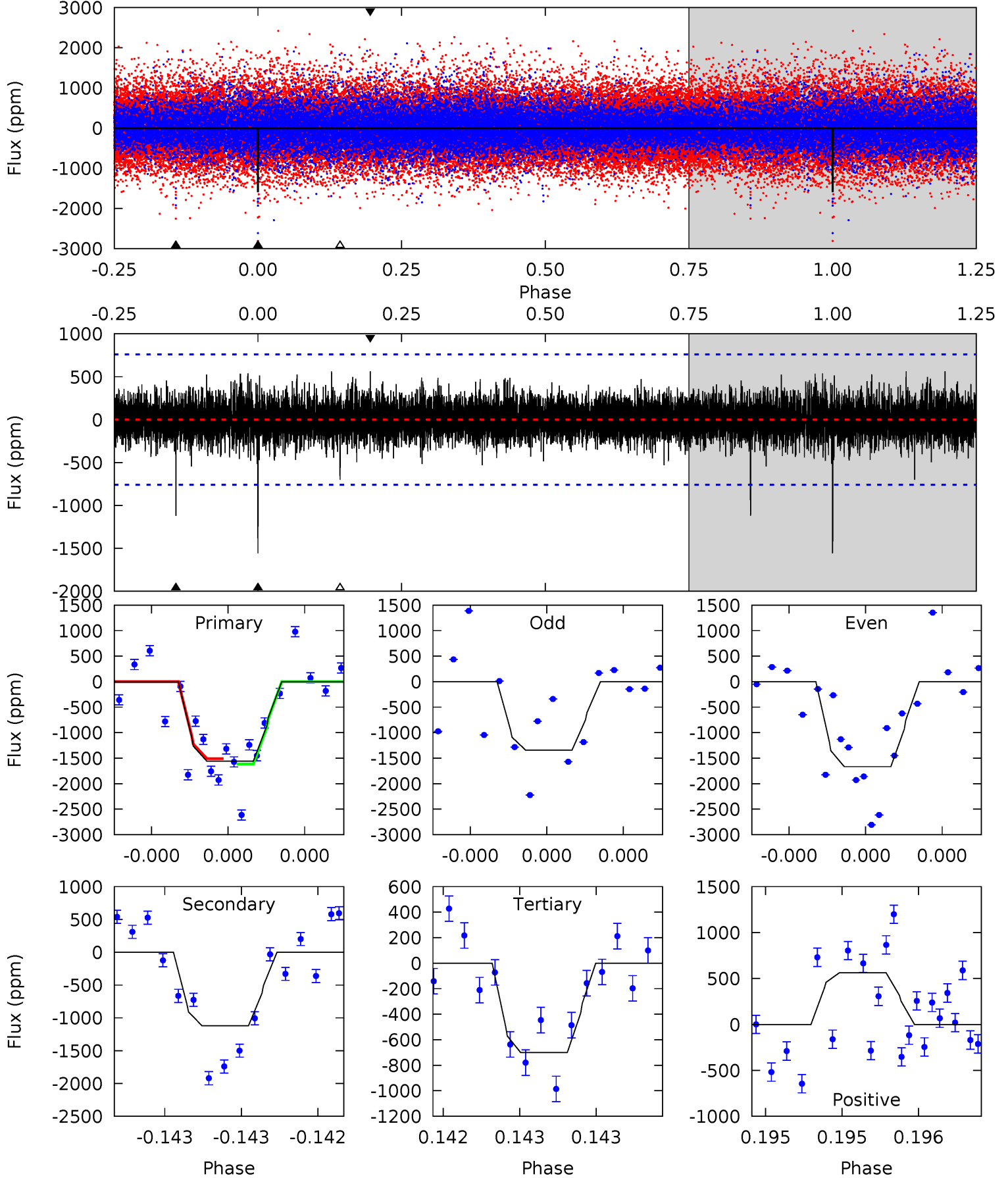
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	11.4	6.10	5.43	5.59	3.51	1.37	9.63	10.3	5.33	6.01	1.46	0.98	0.26	0.12



Alt Model-Shift Uniqueness Test

008703506-01, P = 352.703184 Days, E = 251.203711 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	8.36	5.23	4.20	5.66	3.62	1.04	6.39	7.42	3.12	4.15	1.21	0.98	0.27	0.38



Stellar Parameters For KIC 008703506

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6112^{+192}_{-234}	$4.513^{+0.052}_{-0.221}$	$-0.340^{+0.300}_{-0.300}$	$0.908^{+0.287}_{-0.096}$	$0.981^{+0.128}_{-0.128}$	$1.844^{+0.400}_{-1.009}$
	+3%/-4%	+1%/-5%	+88%/-88%	+32%/-11%	+13%/-13%	+22%/-55%
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 008703506-01 / KOI 7907.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1327 ± 116	$5.10^{+0.99}_{-0.76}$	374^{+29}_{-21}	5301^{+397}_{-321}	25755^{+9537}_{-7439}
Alt.	-1119 ± 134	$4.27^{+0.88}_{-0.78}$	373^{+29}_{-22}	5550^{+473}_{-402}	31078^{+15356}_{-9805}

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

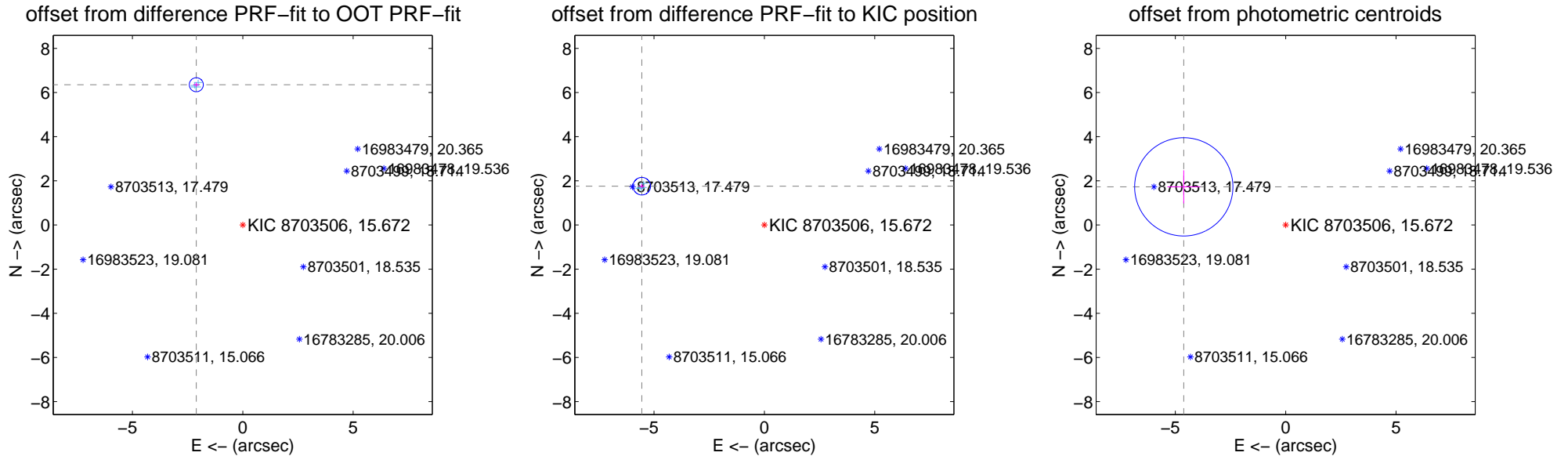
DV Centroid Data

Supplemental centroid analysis for 008703506-01. Kepler magnitude: 15.67. Transit SNR 8.50

There are 3 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.81 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.693 ± 0.106	63.25	2.105 ± 0.135	6.353 ± 0.102
PRF-fit source offset from KIC position	5.825 ± 0.132	43.99	5.553 ± 0.135	1.758 ± 0.102
photometric centroid source offset	4.93 ± 0.74	6.64	4.62 ± 0.74	1.73 ± 0.75

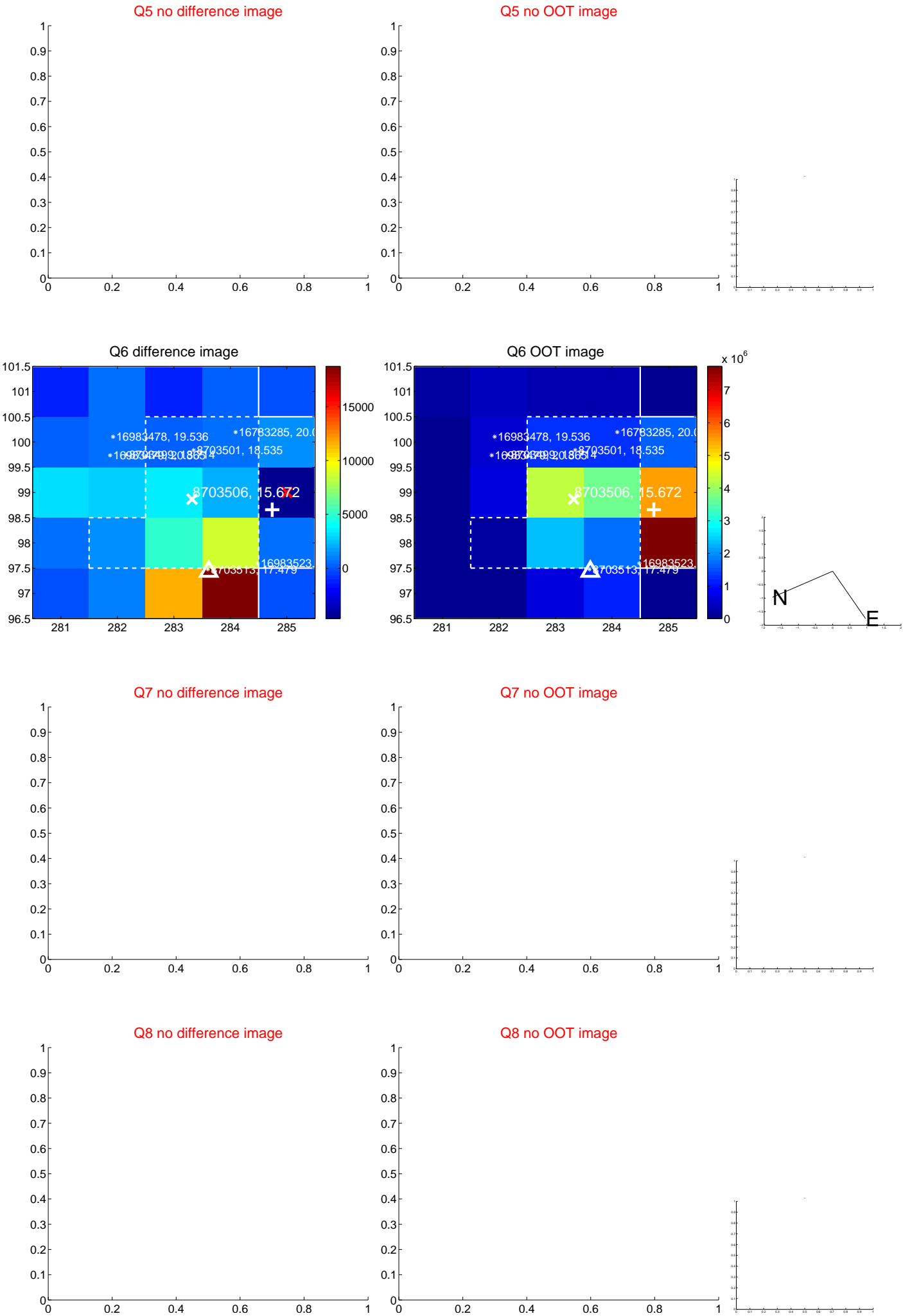


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

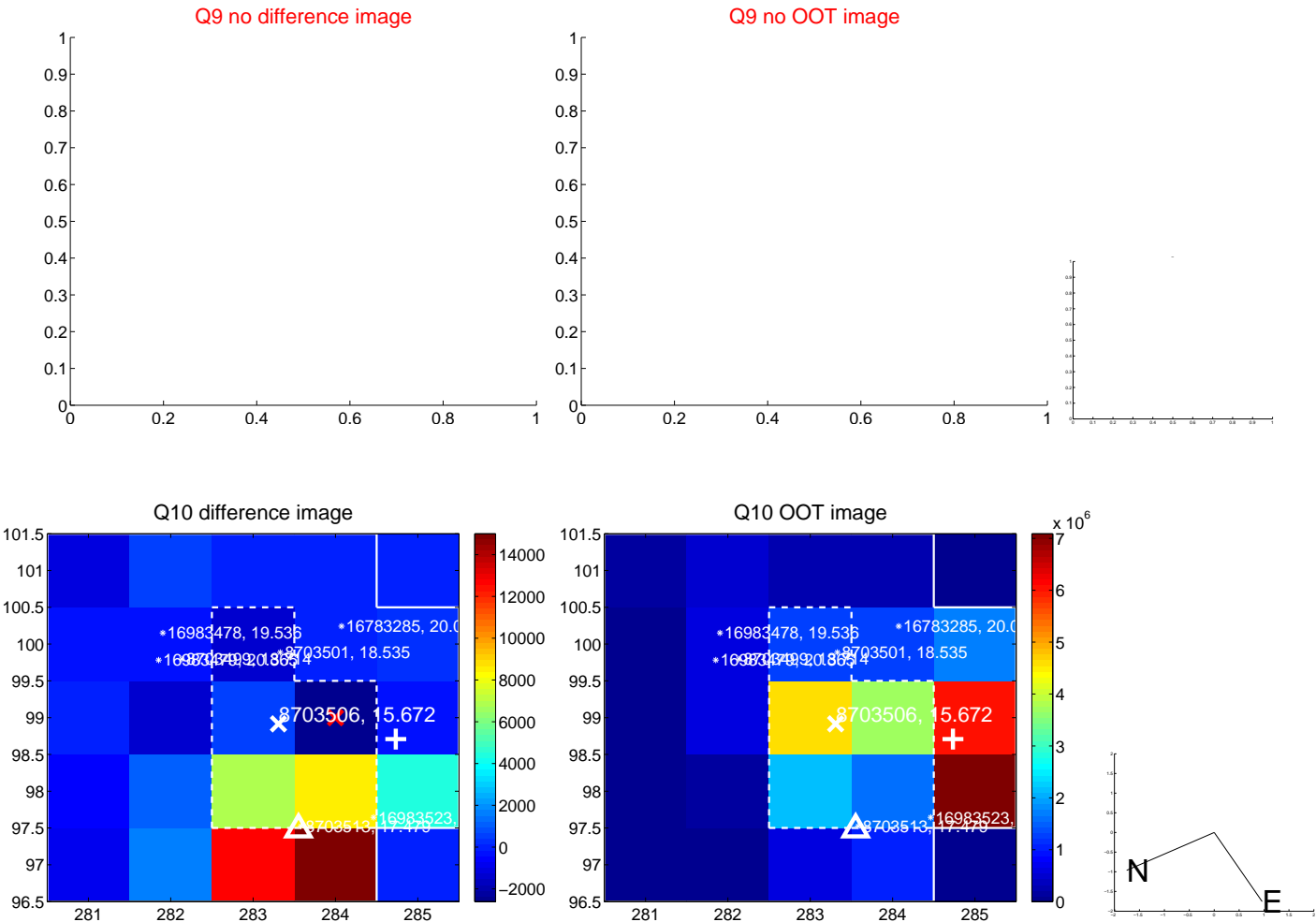
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



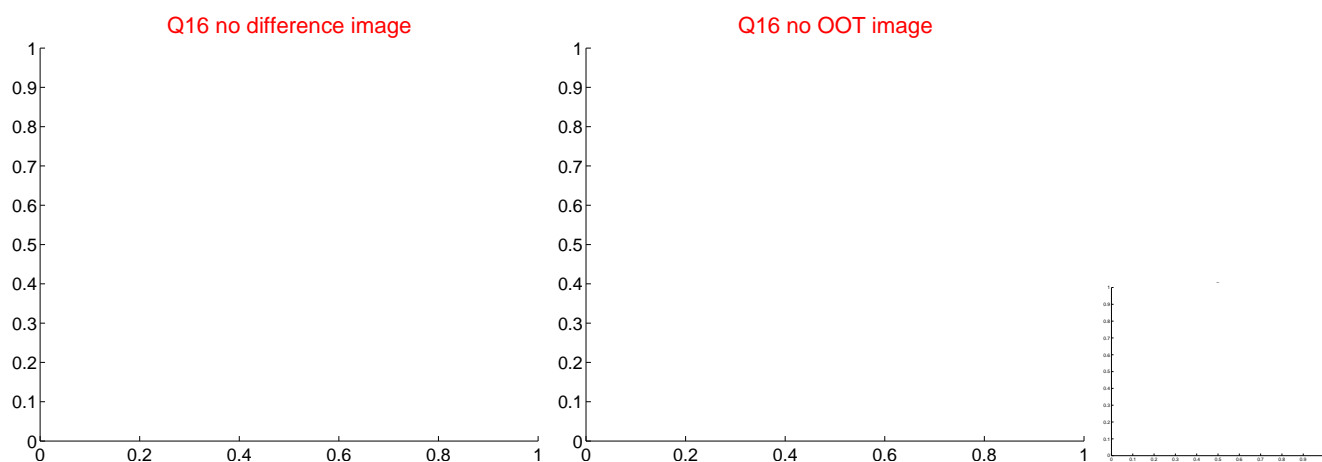
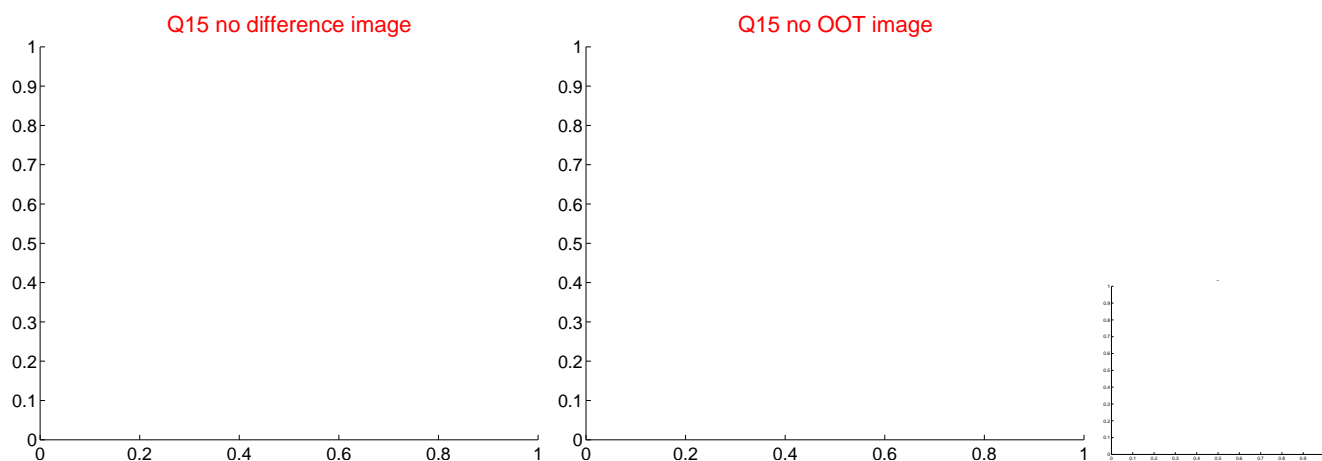
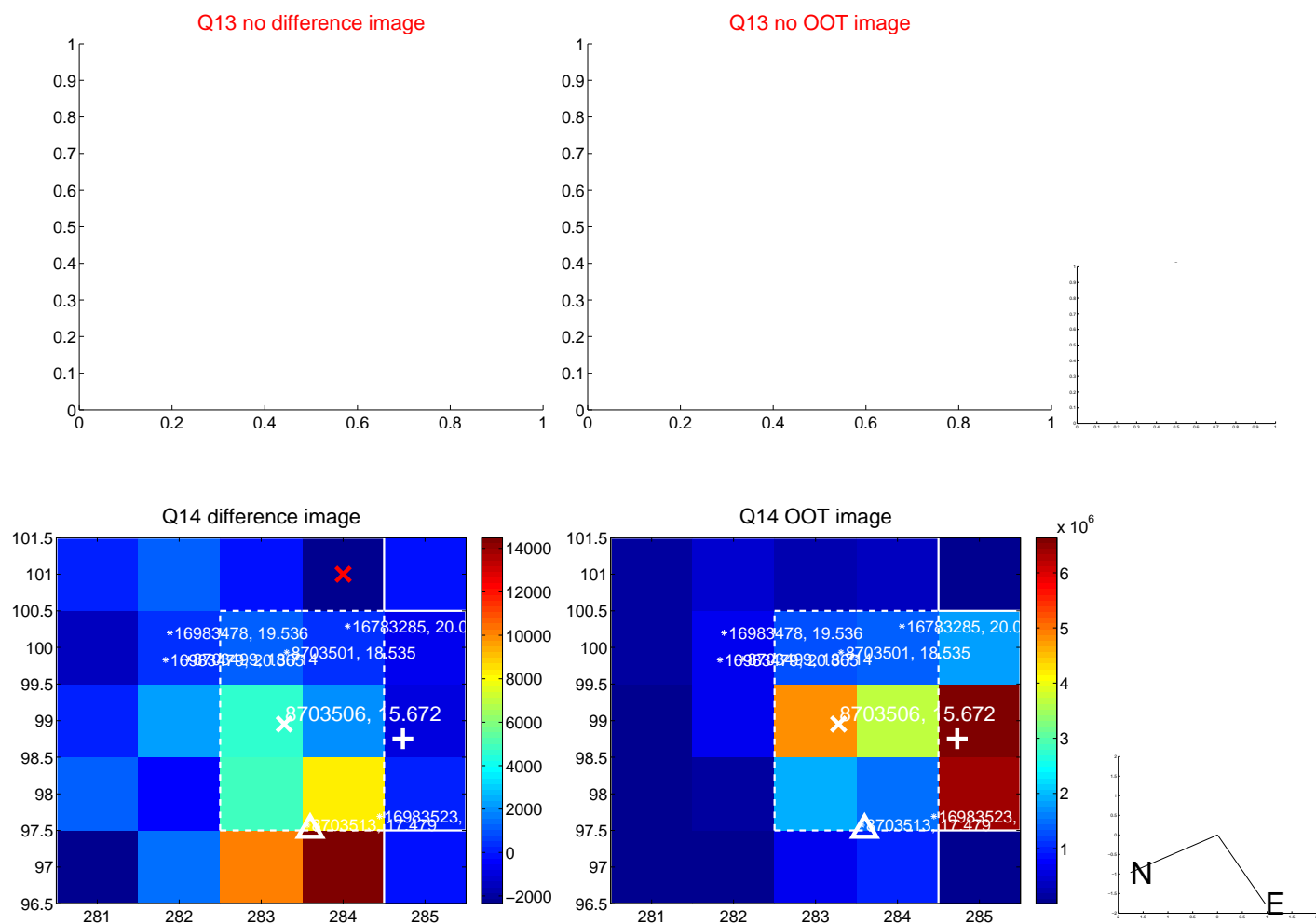
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



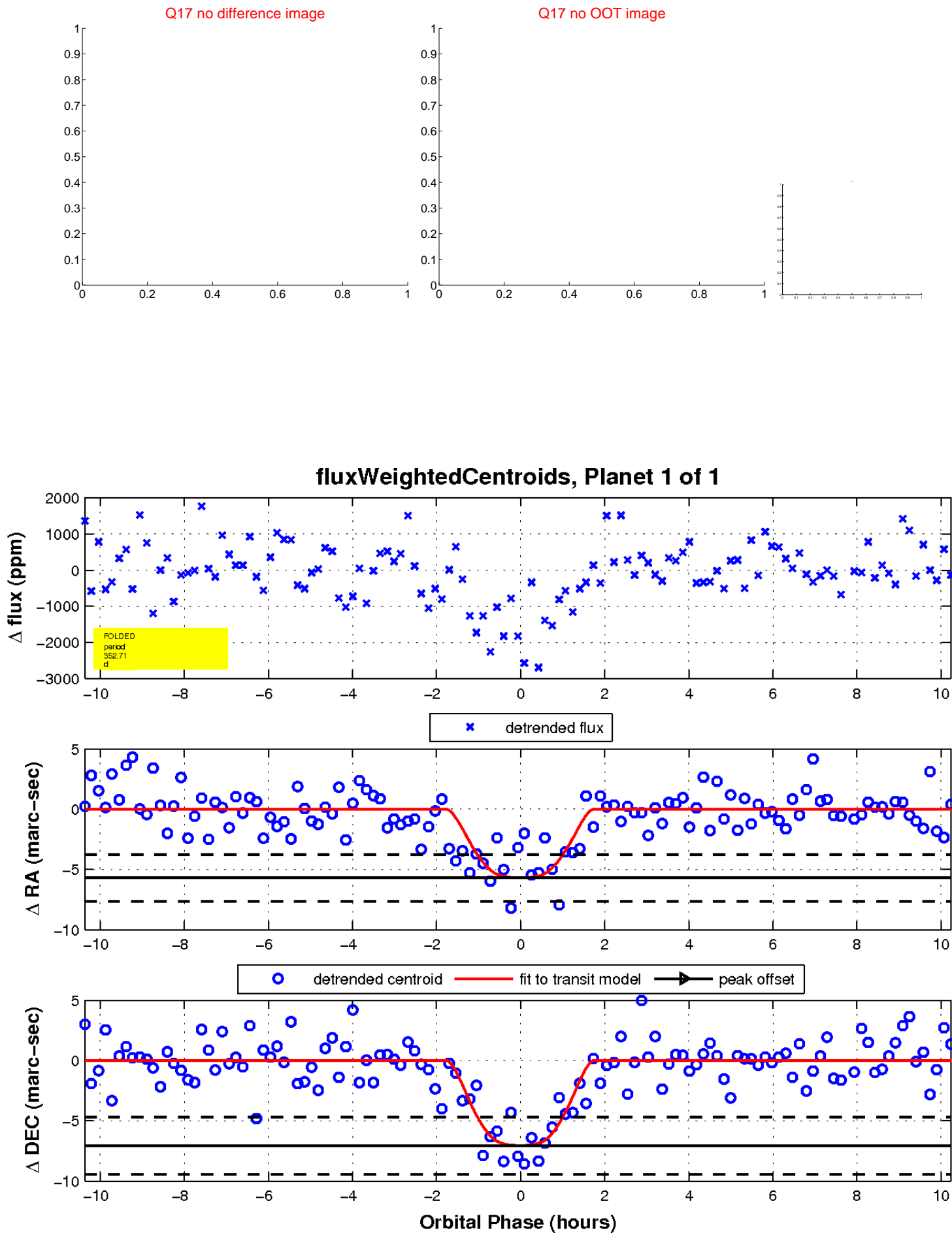
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

