

KIC 009070898

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})
009070898-01	OBS	No	467.515603	169.615489	690.4	4.857	7.7	6.0	0.99	5632	3.40	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009070898-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

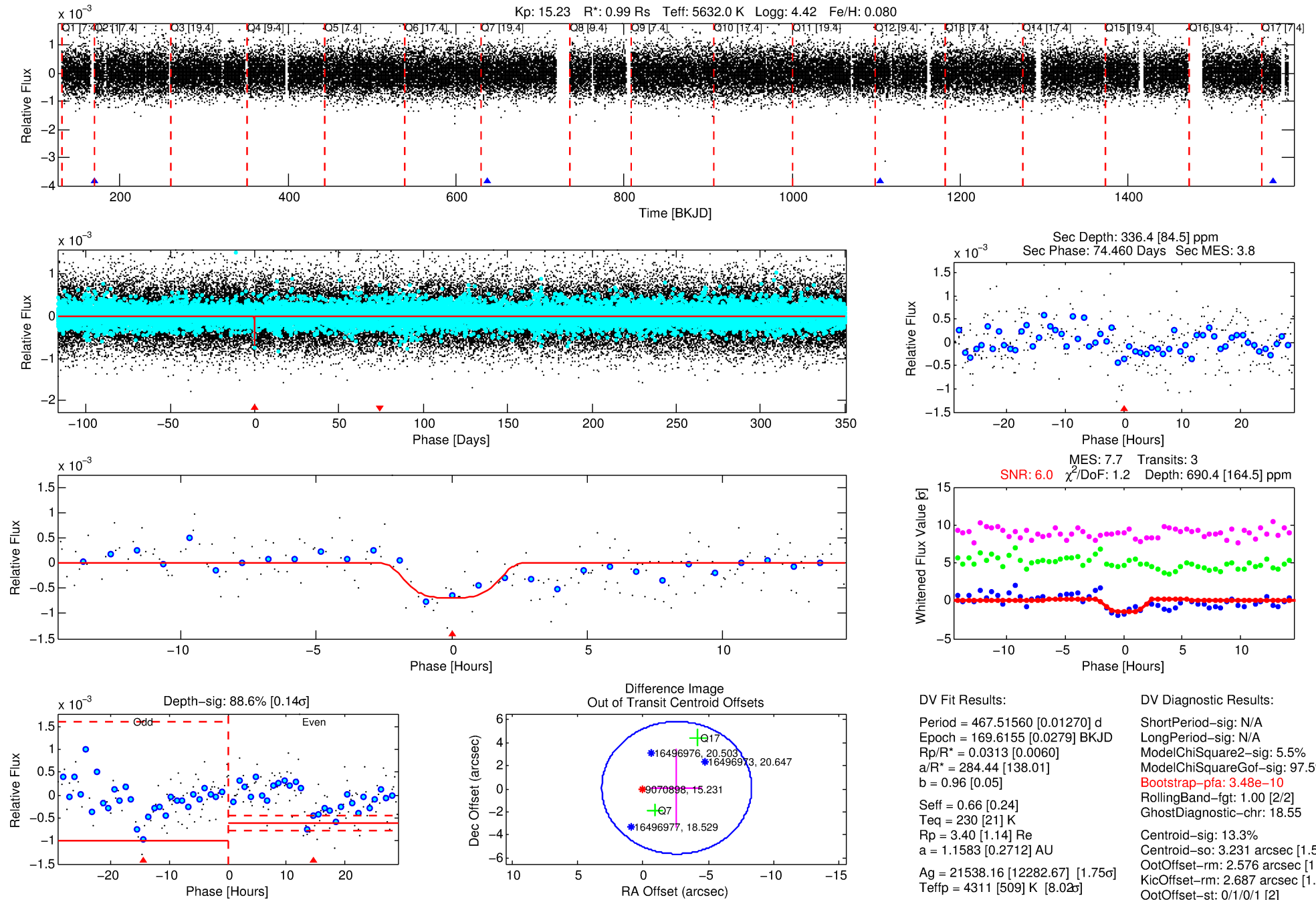
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009070898-01

No Significant Match Found

DV One-Page Summary

KIC: 9070898 Candidate: 1 of 1 Period: 467.516 d



DV Fit Results:

Period = 467.51560 [0.01270] d
Epoch = 169.6155 [0.0279] BKJD
Rp/R* = 0.0313 [0.0060]
a/R* = 284.44 [138.01]
b = 0.96 [0.05]
Seff = 0.66 [0.24]
Teq = 230 [21] K
Rp = 3.40 [1.14] Re
a = 1.1583 [0.2712] AU
Ag = 21538.16 [12282.67] [1.75 σ]
Teff = 4311 [509] K [8.02 σ]

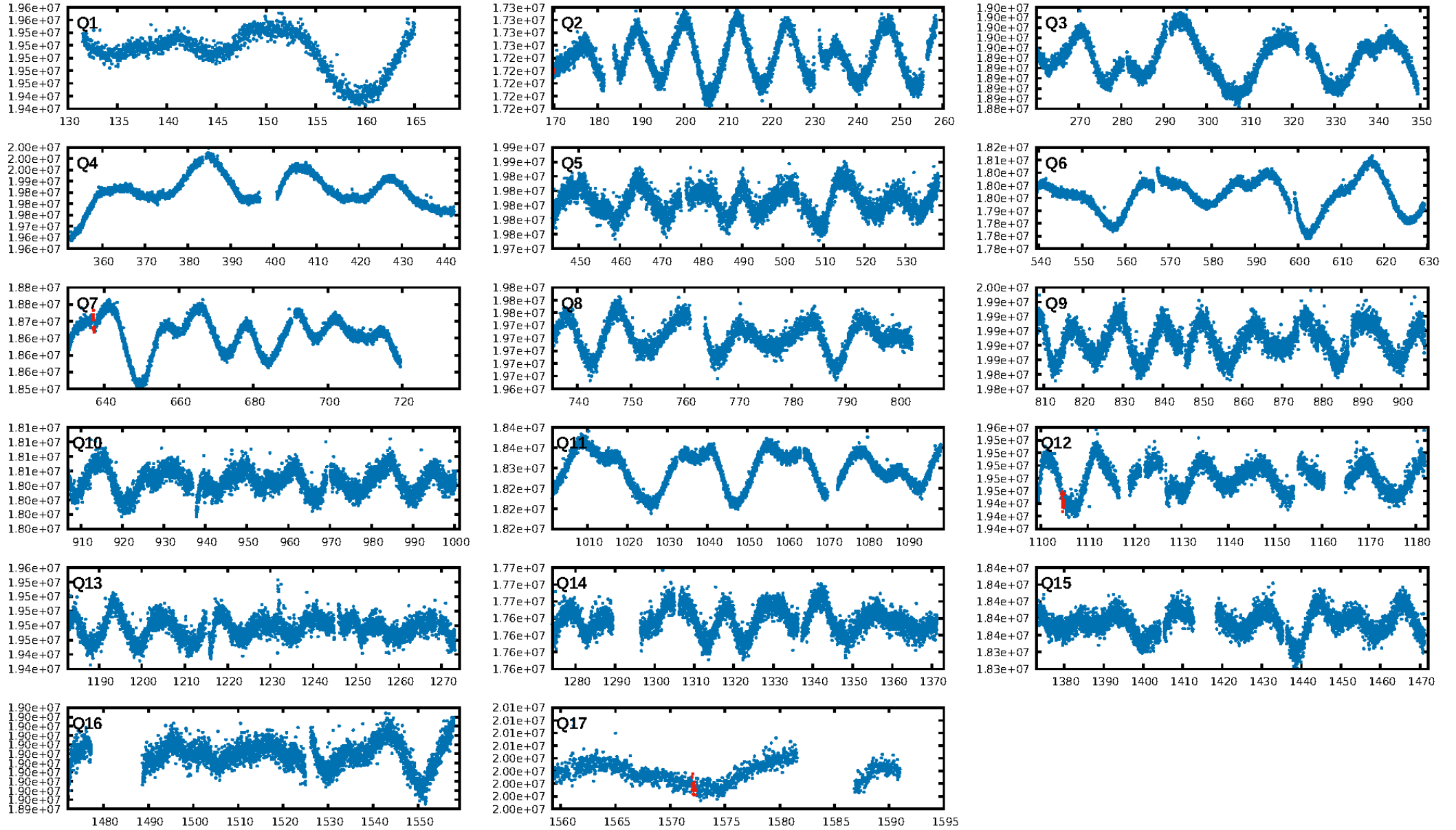
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.5%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 3.48e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 18.55
Centroid-sig: 13.3%
Centroid-so: 3.231 arcsec [1.53 σ]
OotOffset-rm: 2.576 arcsec [1.35 σ]
KicOffset-rm: 2.687 arcsec [1.45 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

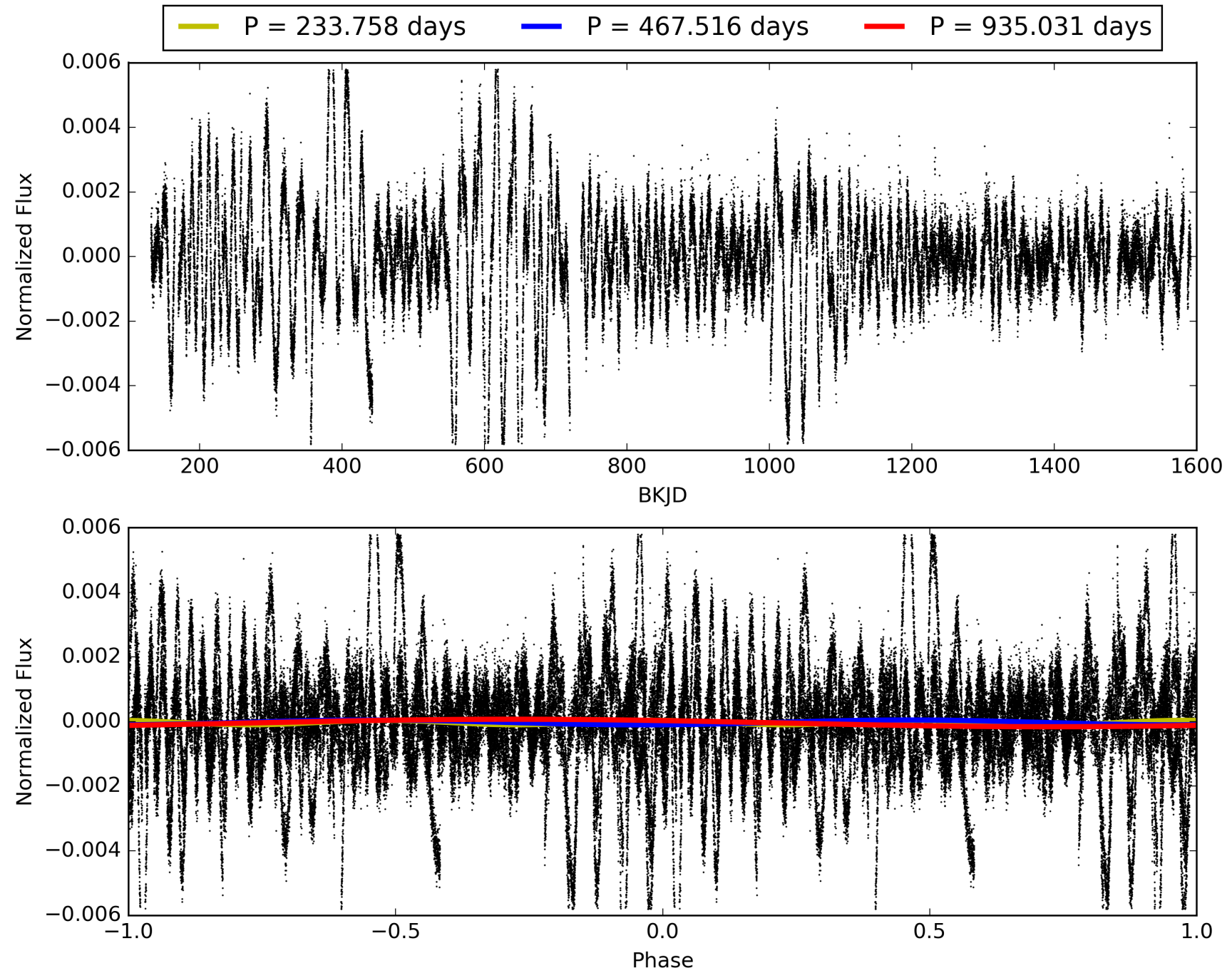
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:13:26 Z

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

TCE 009070898-01, PDC Light Curves

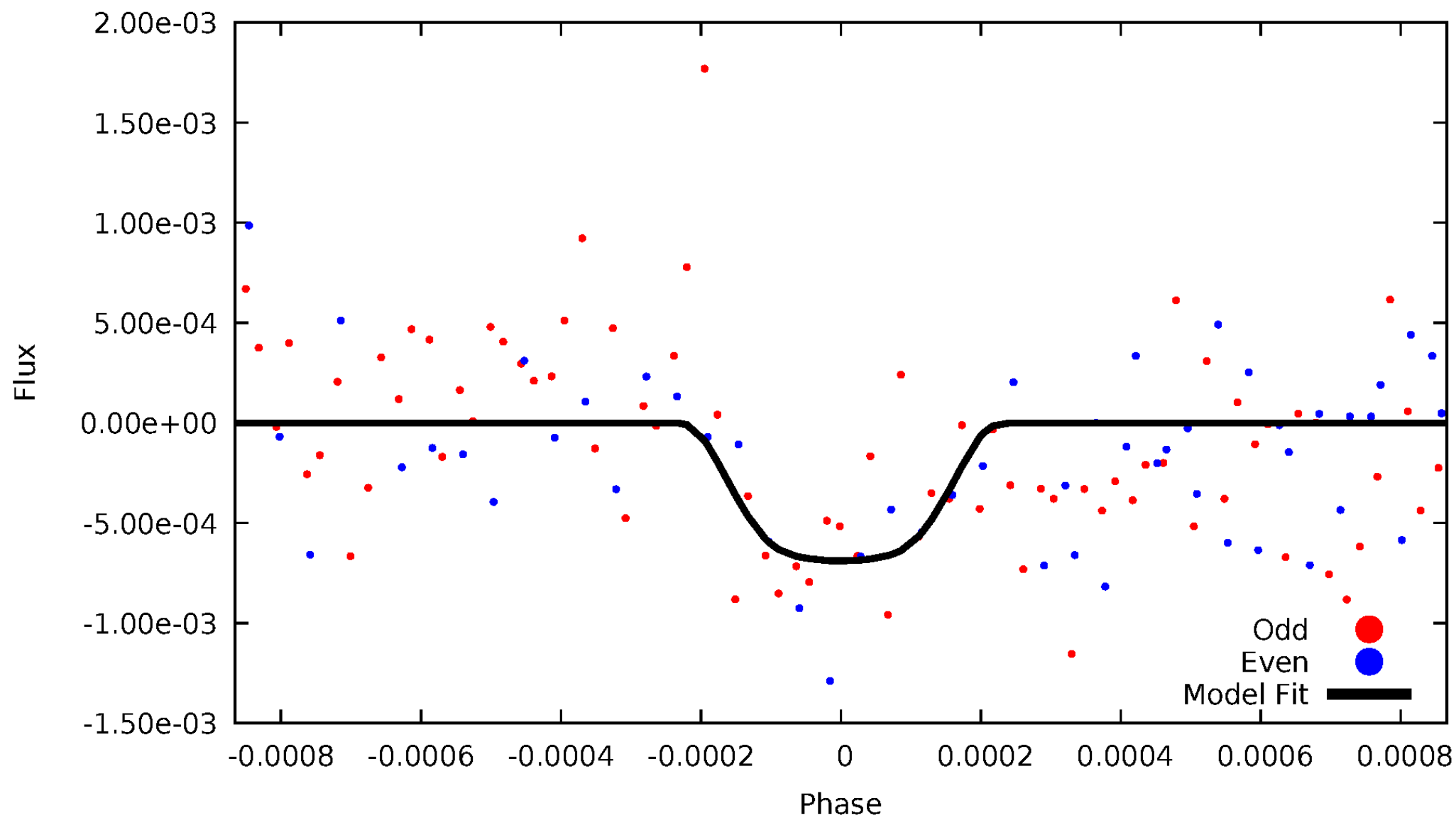


TCE 009070898-01



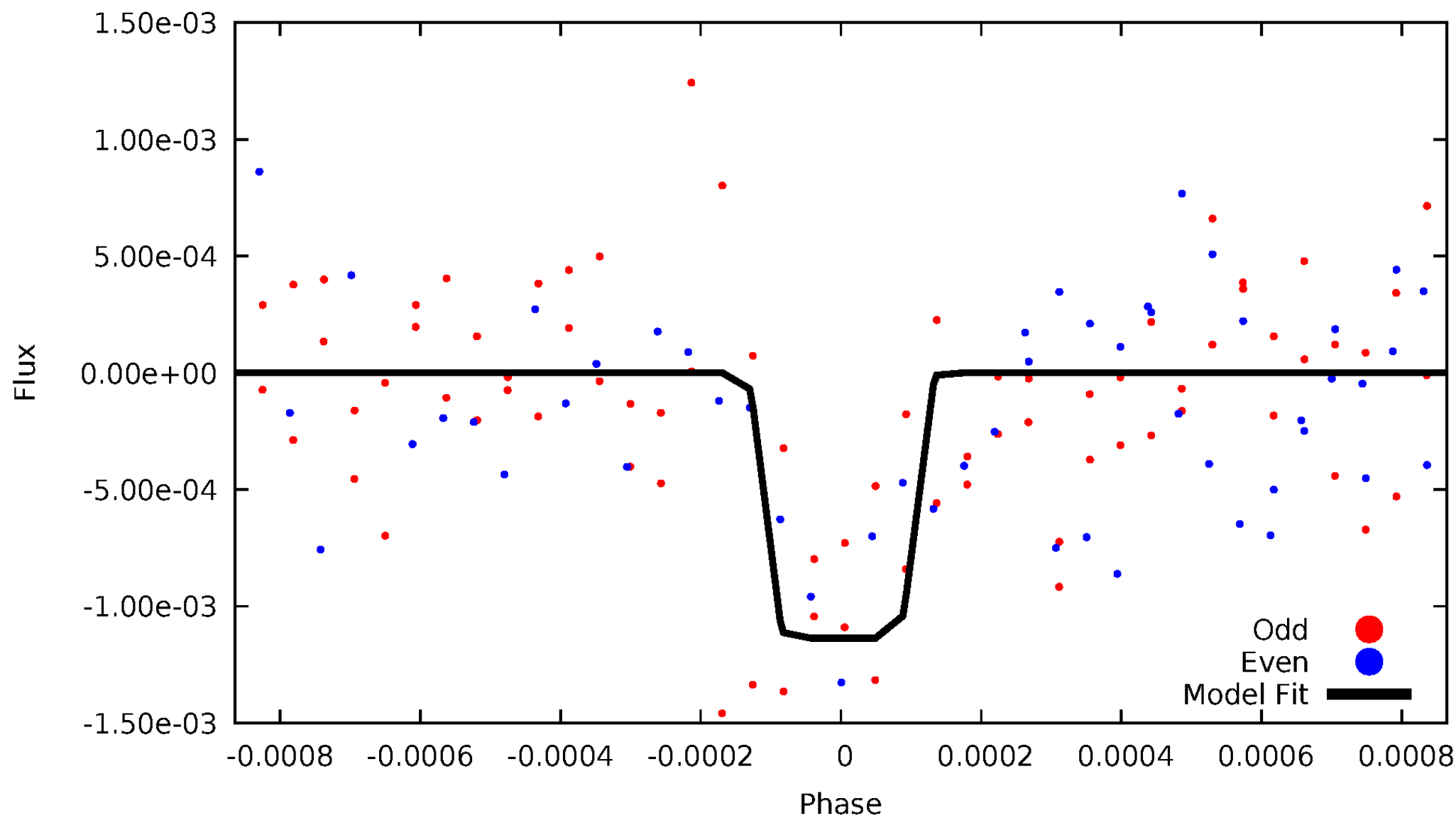
DV Odd/Even

TCE 009070898-01



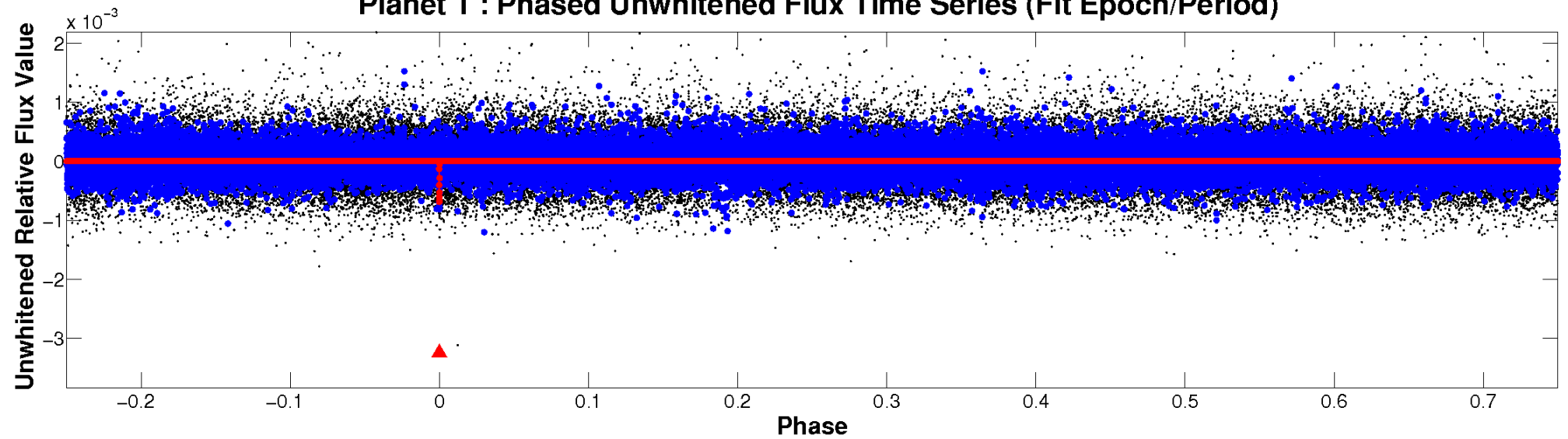
ALT Odd/Even

TCE 009070898-01

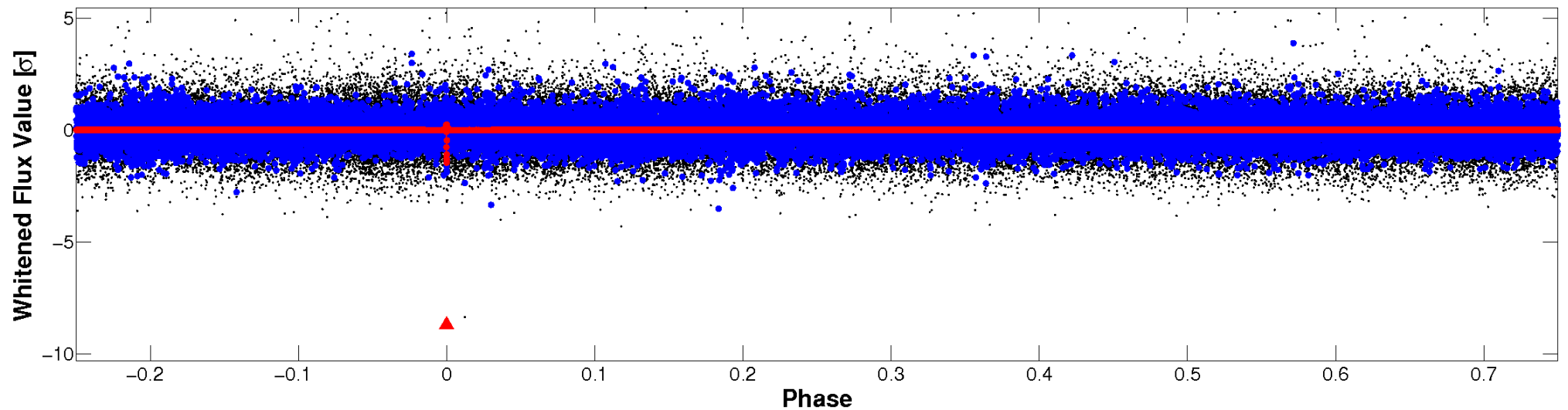


Non-Whitened Vs. Whitened Light Curve

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

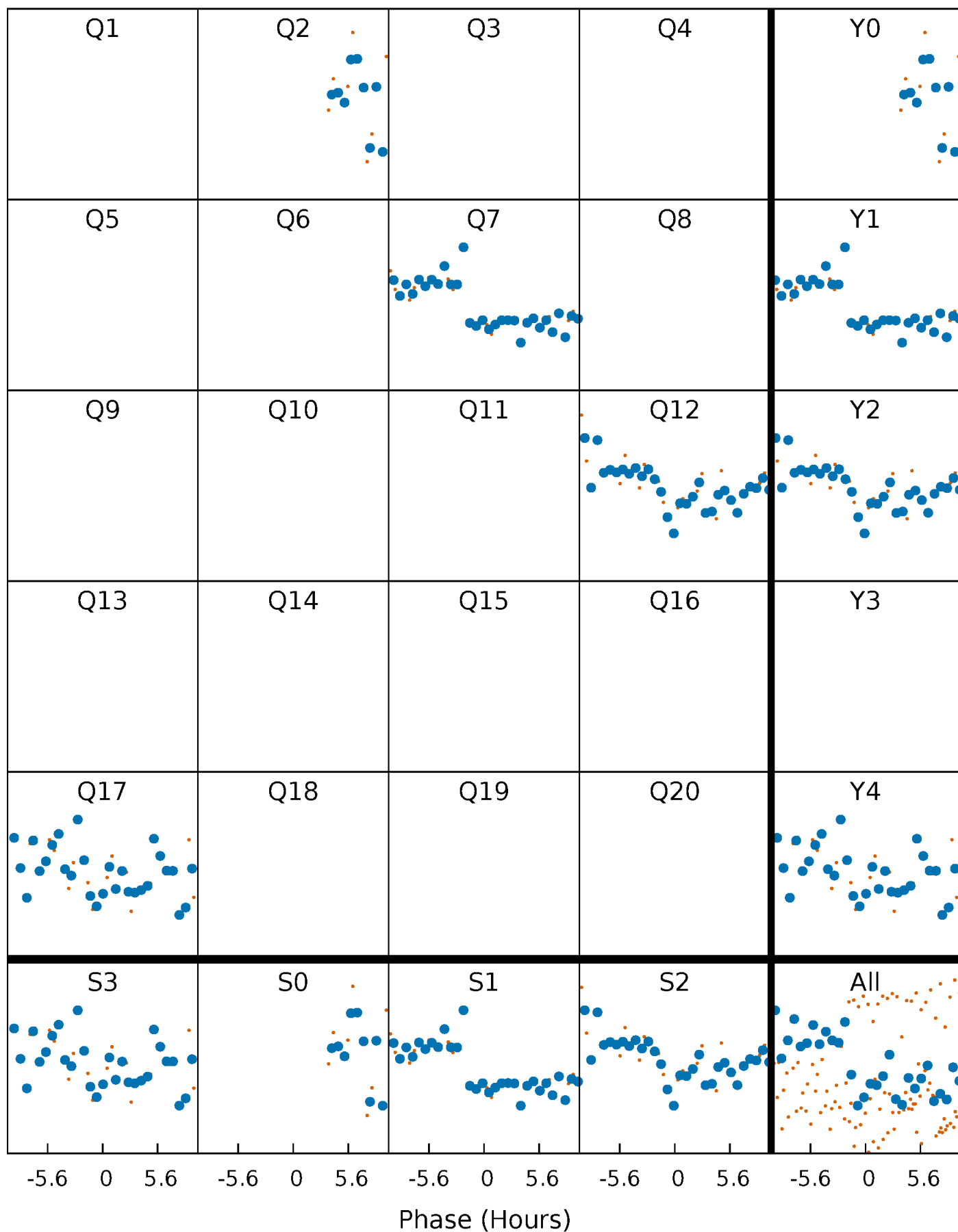


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



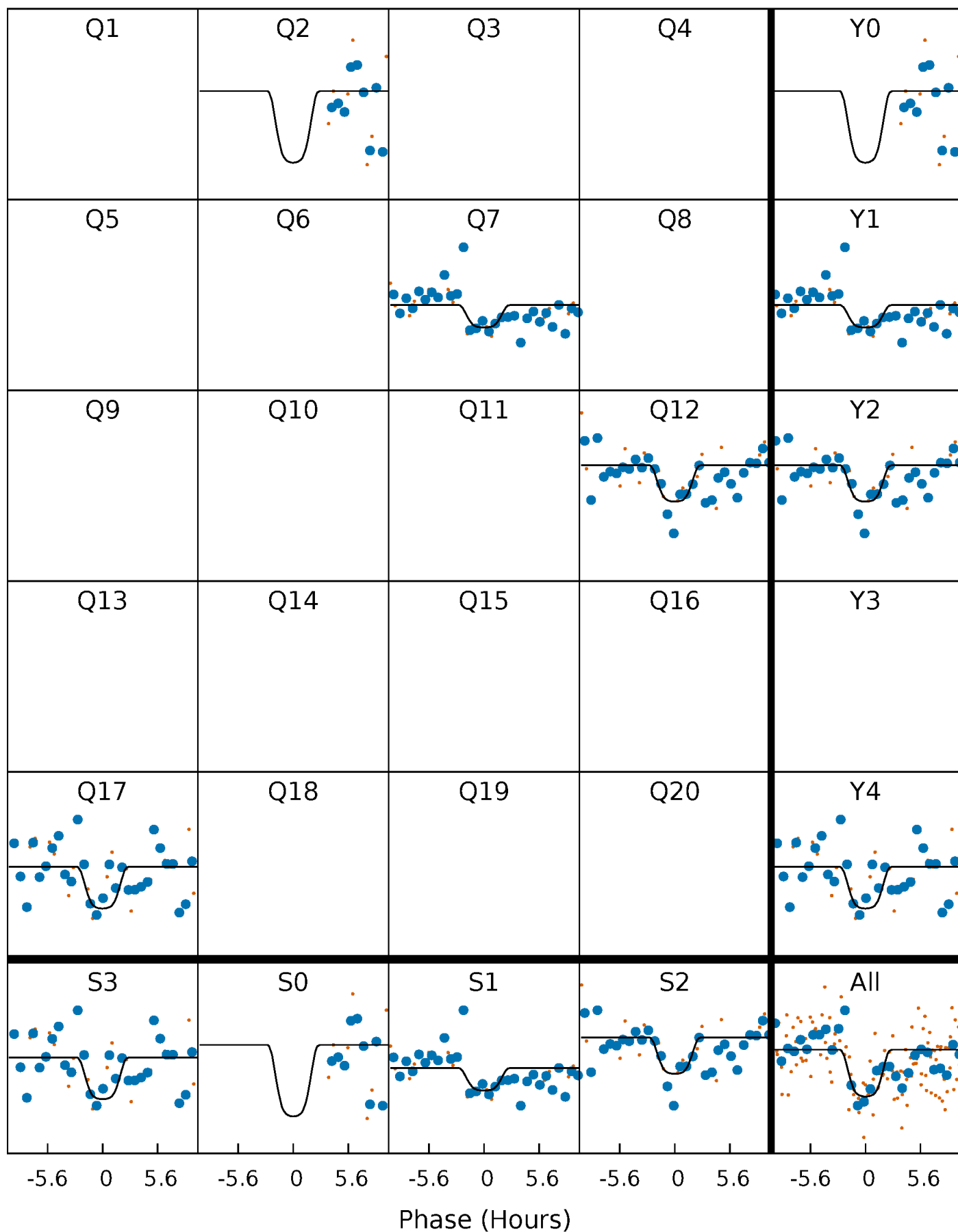
PDC Quarter-Phased Transit Curves

TCE 009070898-01 P=467.515603 Days $T_0=169.615489$ (BKJD)



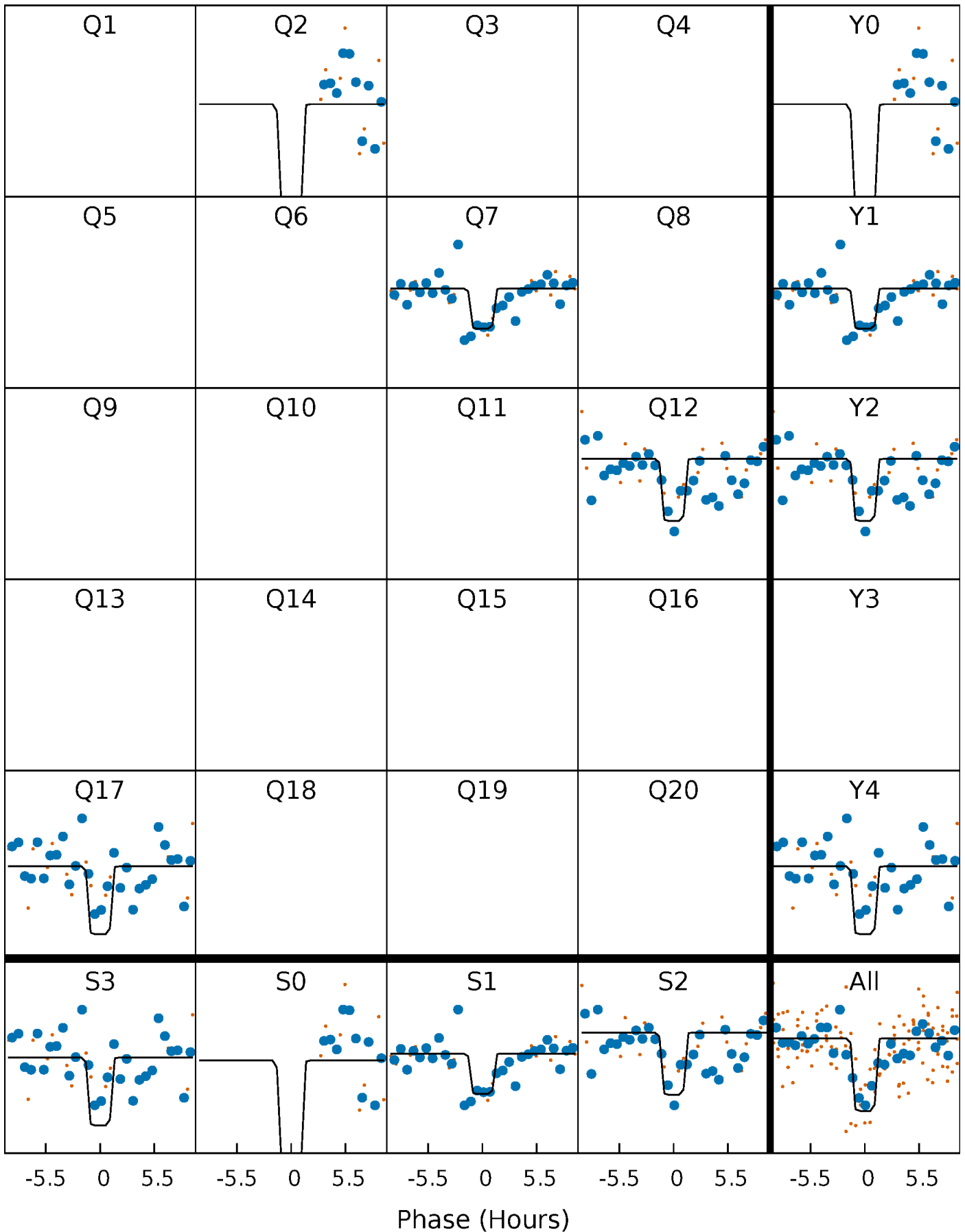
DV Quarter-Phased Transit Curves

TCE 009070898-01 P=467.515603 Days $T_0=169.615489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

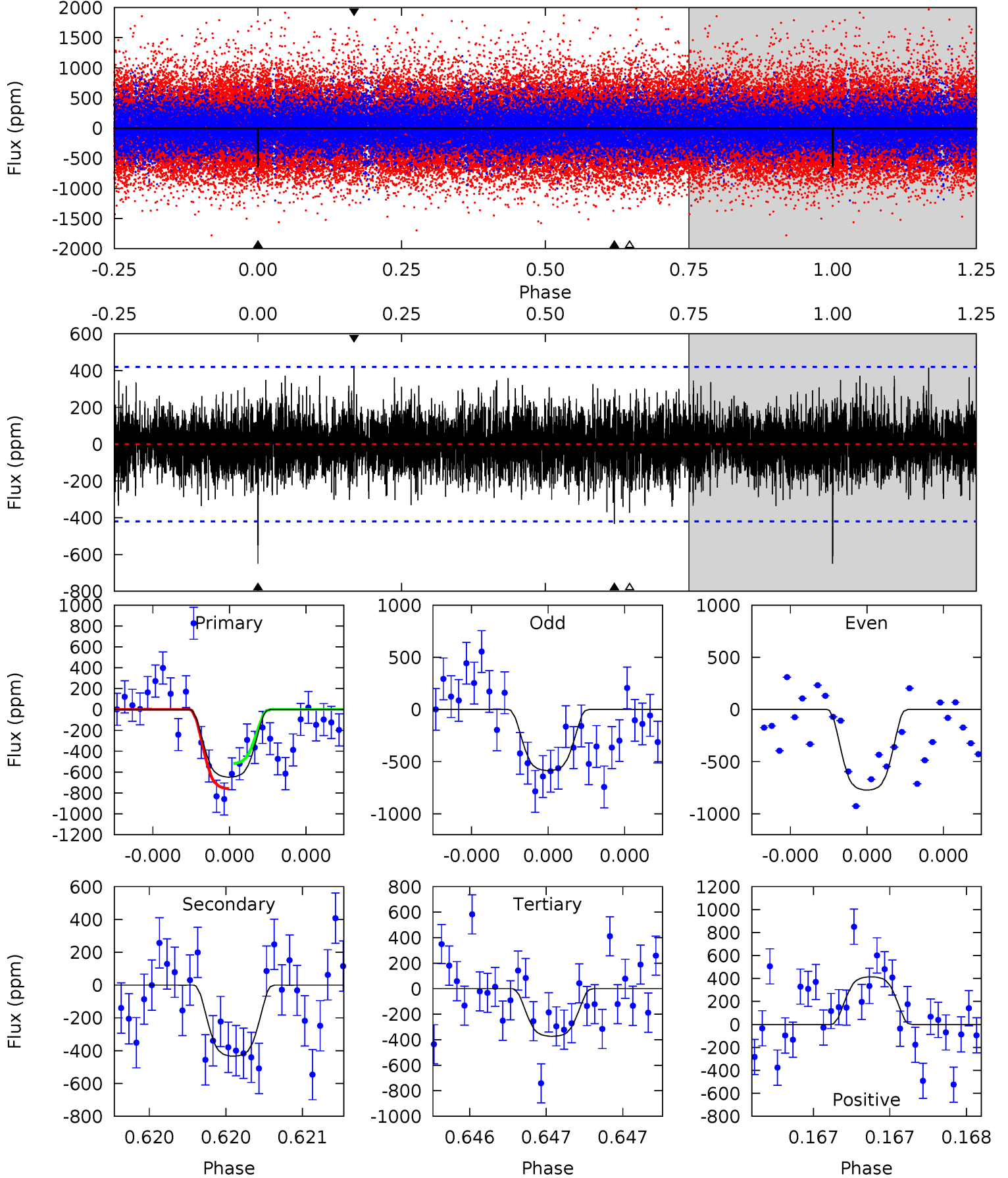
TCE 009070898-01 P=467.499419 Days $T_0=169.640212$ (BKJD)



DV Model-Shift Uniqueness Test

009070898-01, P = 467.515603 Days, E = 169.615489 Days

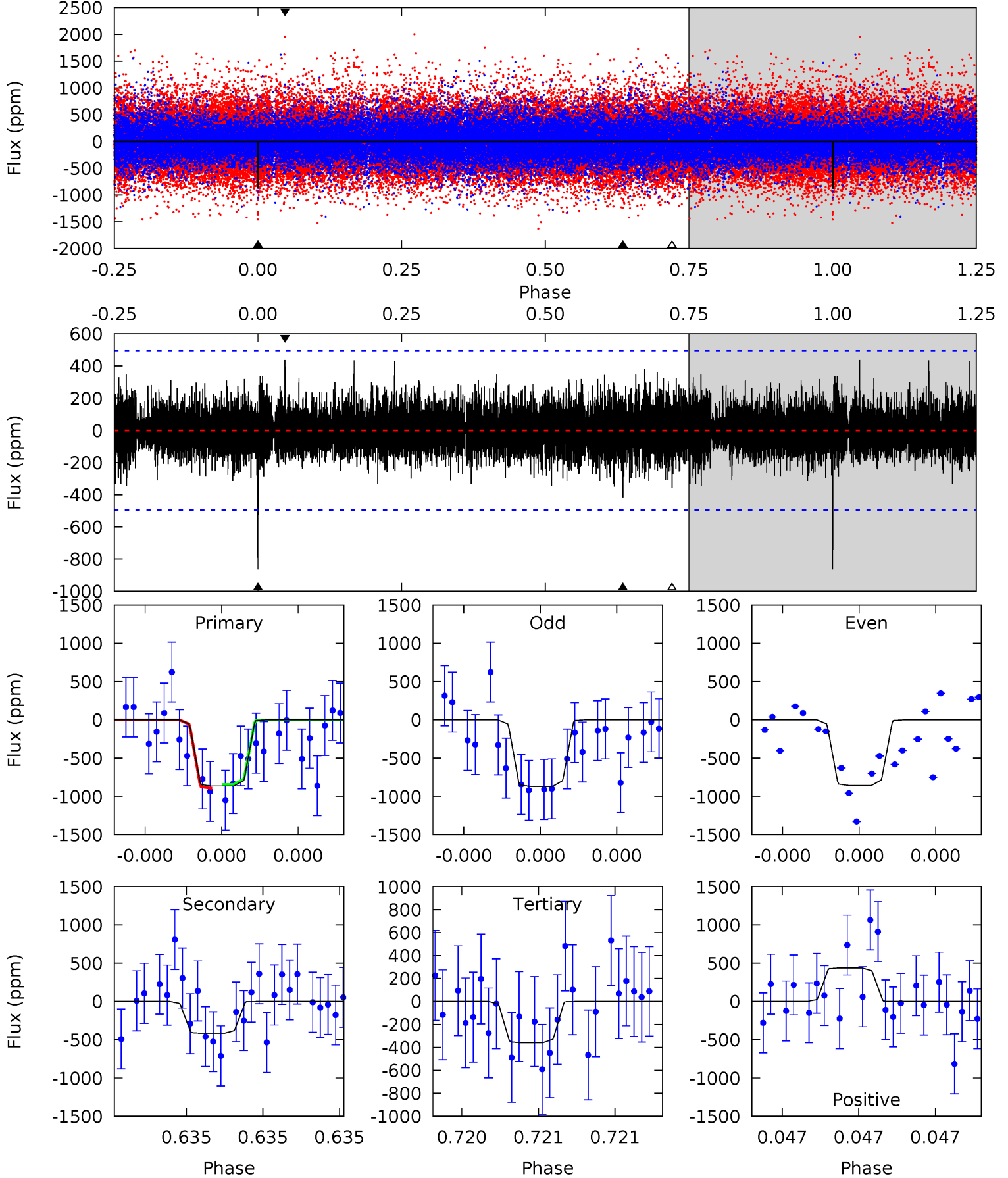
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	5.77	4.97	5.52	5.59	3.51	1.38	3.66	3.11	0.80	0.25	1.17	0.88	0.39	1.59



Alt Model-Shift Uniqueness Test

009070898-01, P = 467.499419 Days, E = 169.640212 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	4.77	4.12	5.01	5.66	3.61	1.07	5.79	4.90	0.64	-0.25	0.07	1.01	0.34	0.28



Stellar Parameters For KIC 009070898

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5632^{+154}_{-171}	$4.420^{+0.101}_{-0.188}$	$0.080^{+0.250}_{-0.300}$	$0.994^{+0.275}_{-0.137}$	$0.947^{+0.110}_{-0.090}$	$1.357^{+0.600}_{-0.672}$
	+3%/-3%	+2%/-4%	+312%/-375%	+28%/-14%	+12%/-10%	+44%/-50%
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 009070898-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-434 ± 75	$3.51^{+0.85}_{-0.78}$	324^{+24}_{-17}	4696^{+491}_{-359}	25682^{+17606}_{-9199}
Alt.	-415 ± 87	$3.75^{+0.82}_{-0.70}$	324^{+24}_{-16}	4531^{+402}_{-358}	21407^{+11900}_{-7756}

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

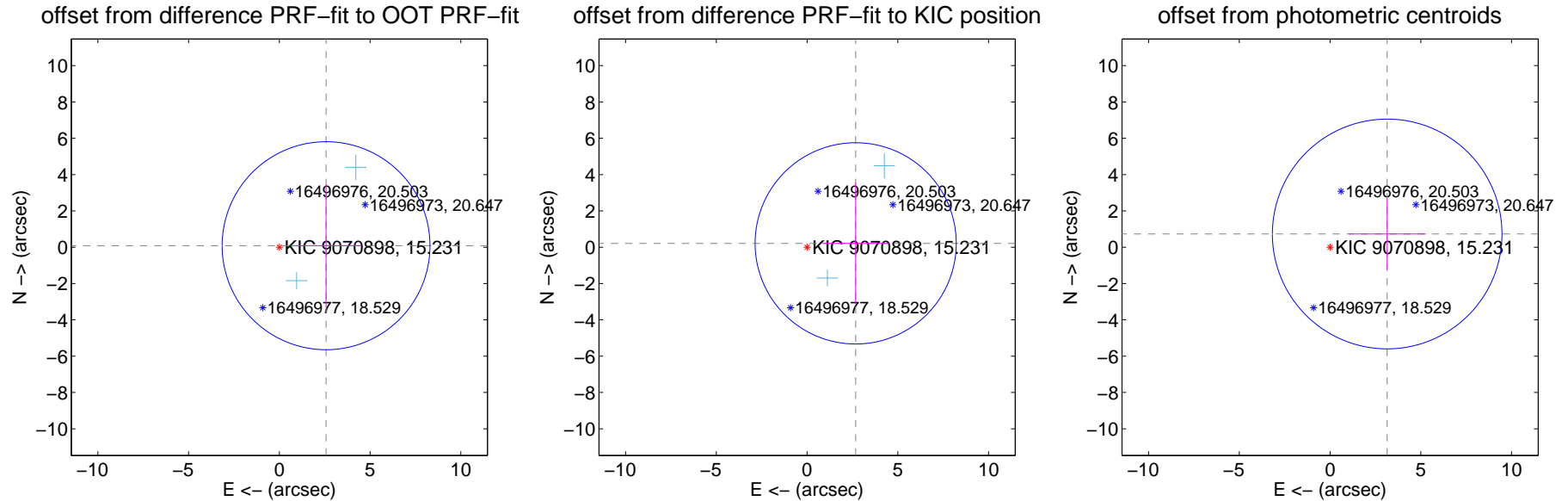
DV Centroid Data

Supplemental centroid analysis for 009070898-01. Kepler magnitude: 15.23. Transit SNR 5.97

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.576 ± 1.909	1.35	-2.574 ± 1.907	0.082 ± 3.371
PRF-fit source offset from KIC position	2.687 ± 1.847	1.45	-2.679 ± 1.834	0.211 ± 3.337
photometric centroid source offset	3.23 ± 2.11	1.53	-3.15 ± 2.12	0.73 ± 1.96

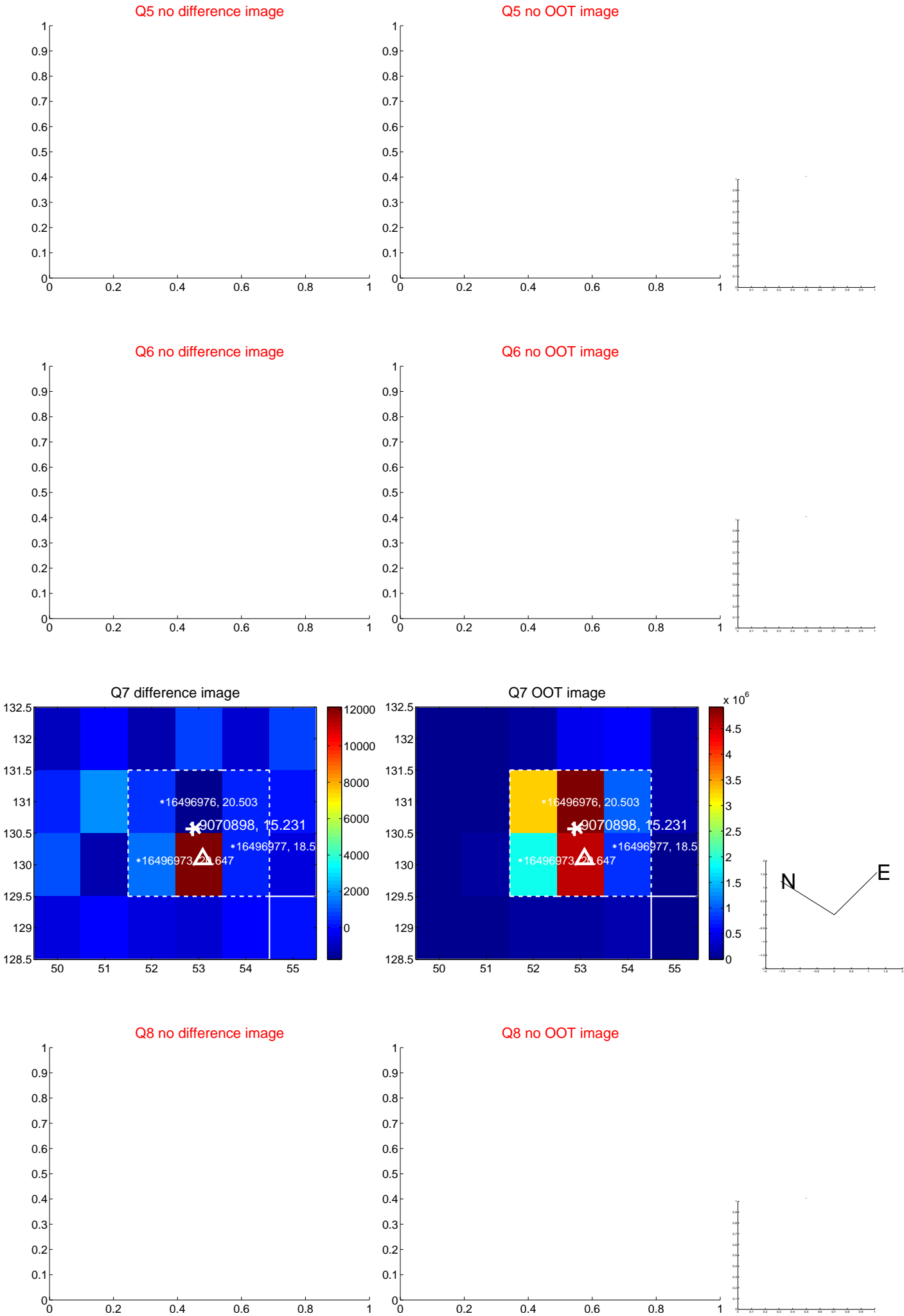


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

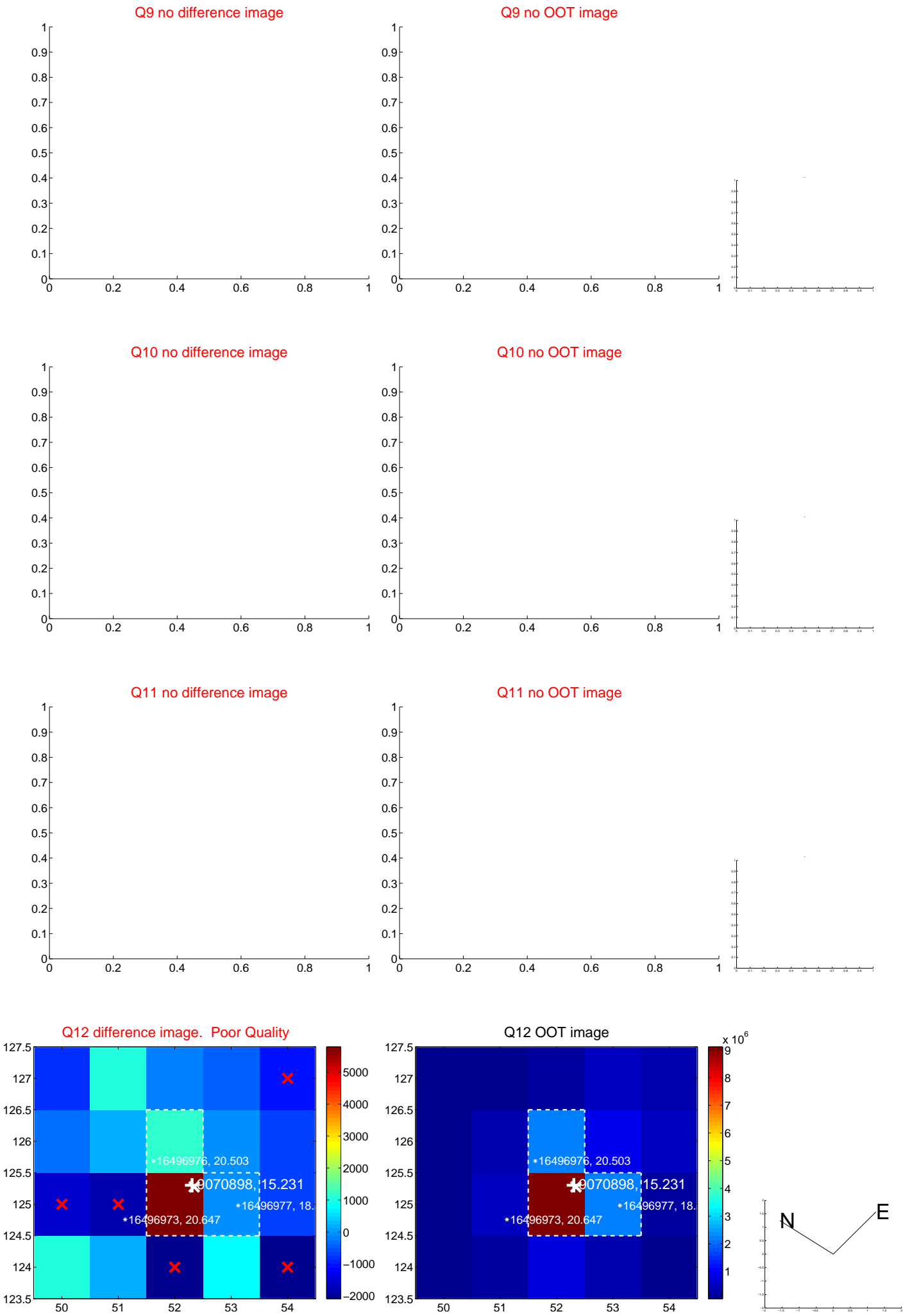
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



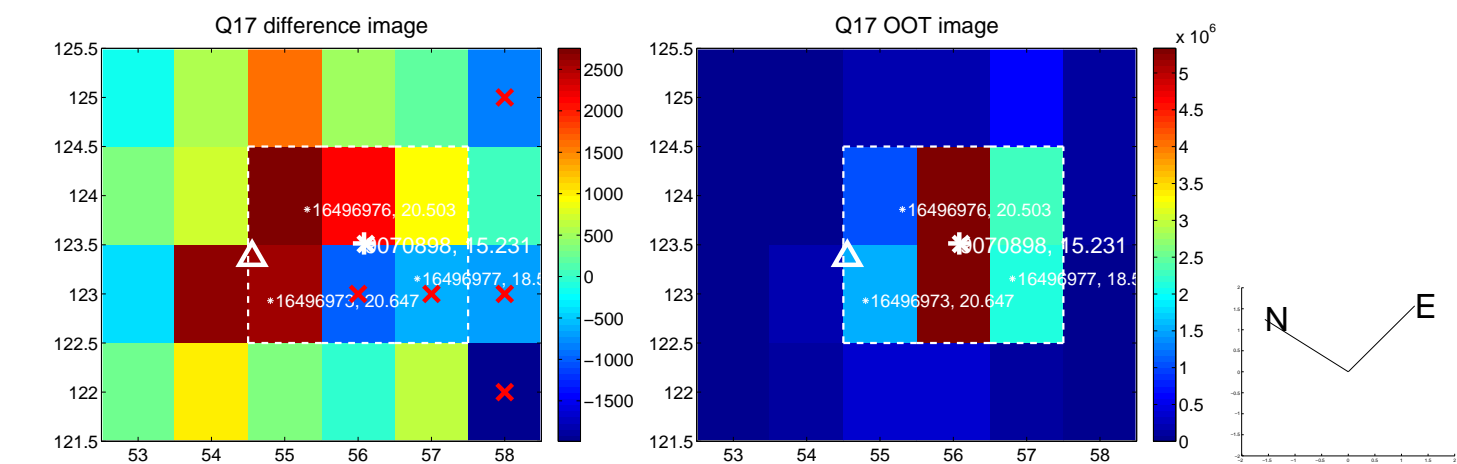
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



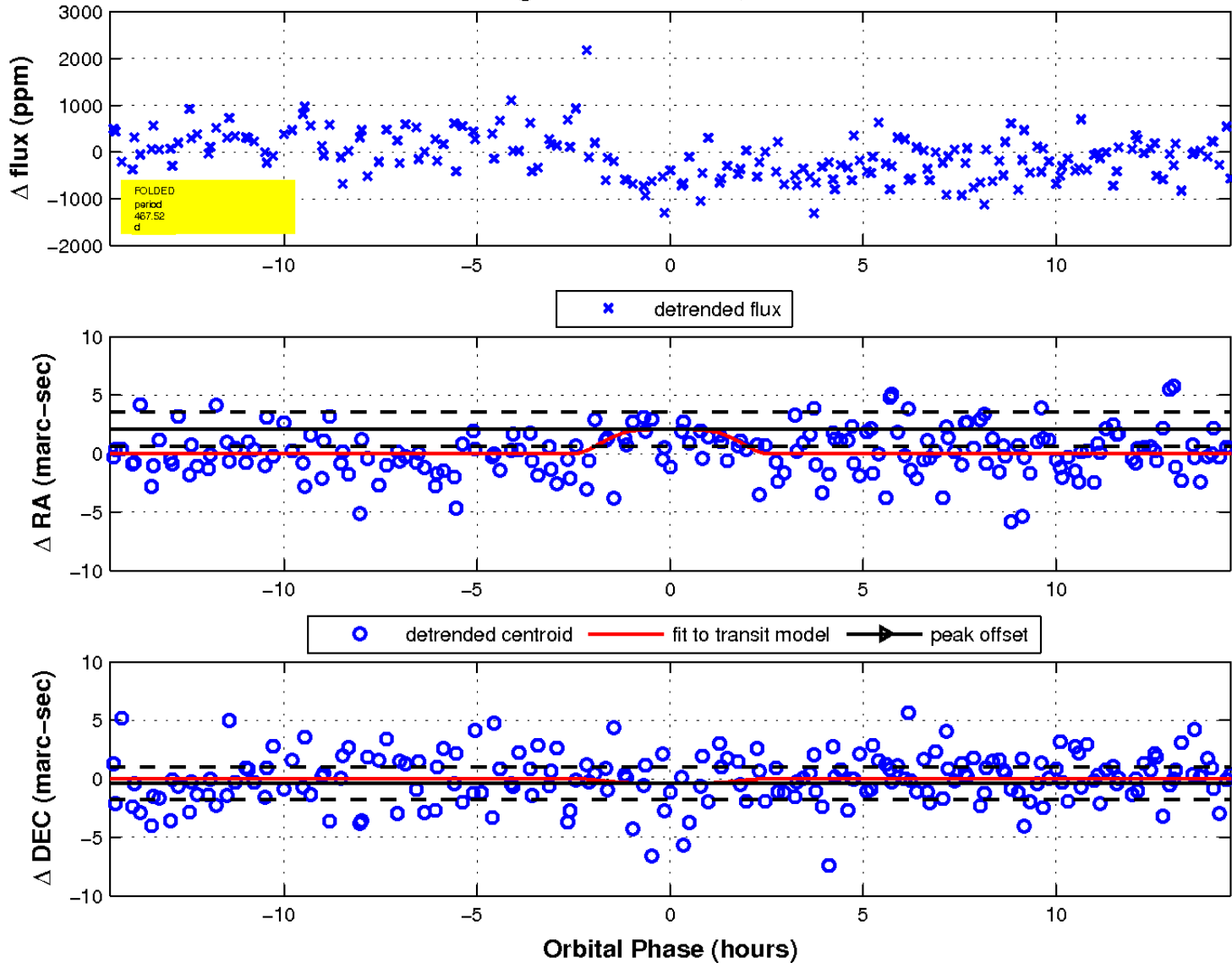
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

