

KIC 008742887

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})
008742887-01	OBS	No	630.038508	238.438045	1041.3	5.186	7.4	6.6	0.76	5167	2.65	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008742887-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

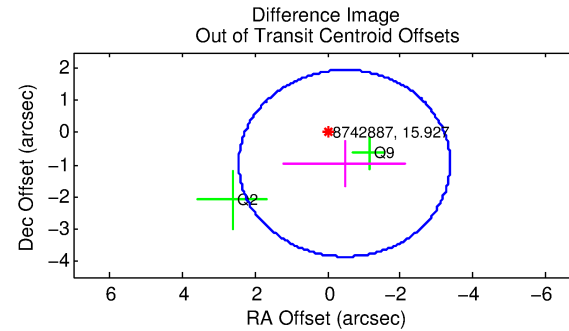
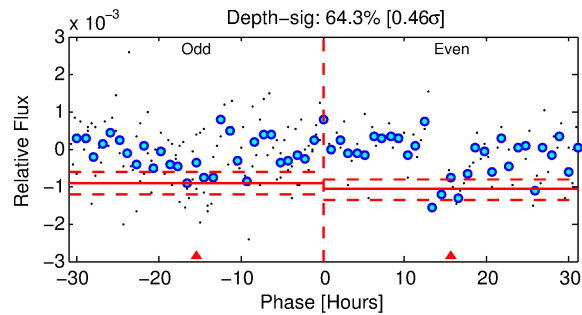
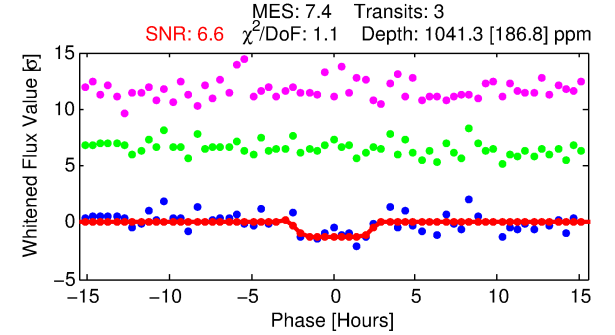
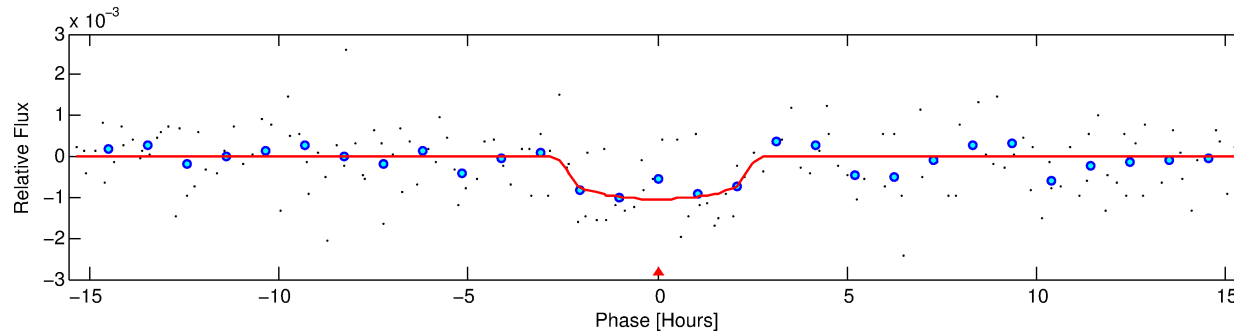
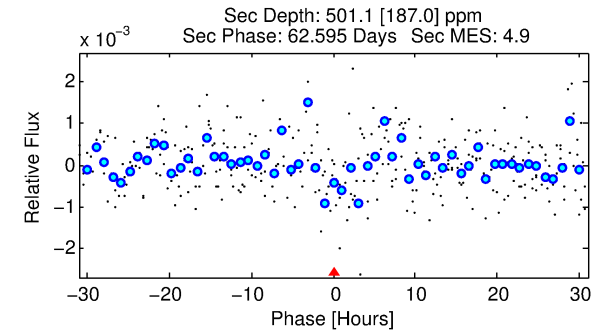
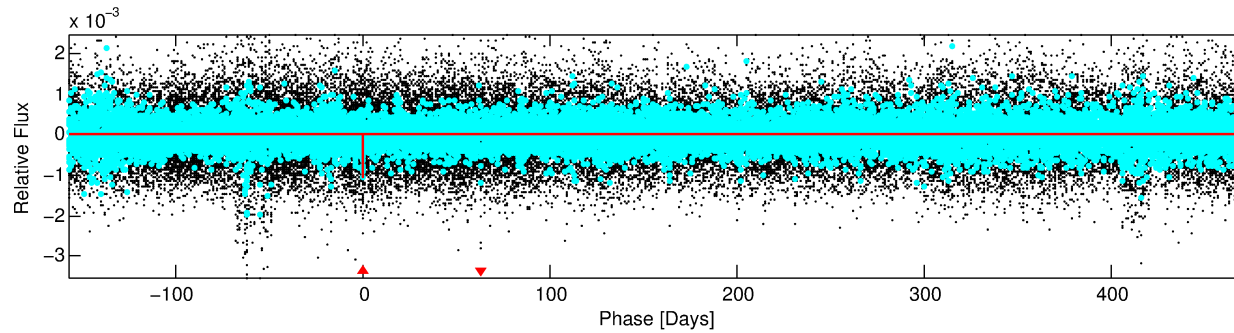
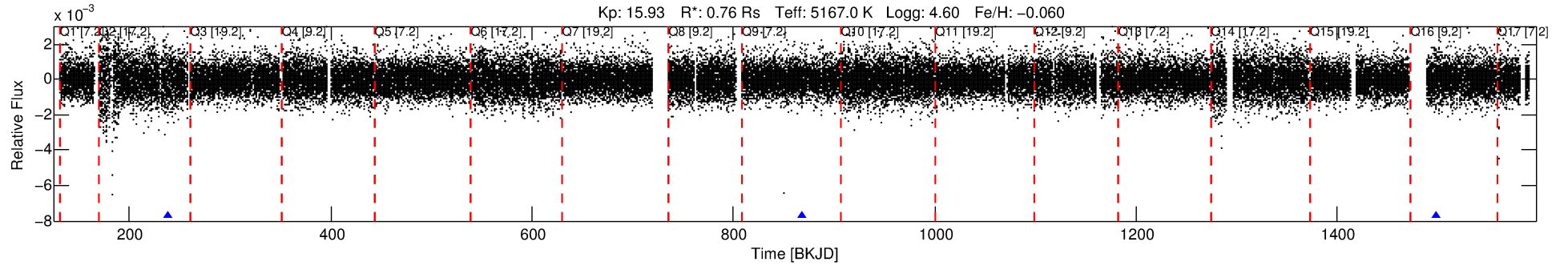
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008742887-01

No Significant Match Found

DV One-Page Summary

KIC: 8742887 Candidate: 1 of 1 Period: 630.039 d



DV Fit Results:

Period = 630.03851 [0.01423] d
Epoch = 238.4380 [0.0165] BKJD
Rp/R* = 0.0320 [0.0499]
a/R* = 668.98 [3827.44]
b = 0.74 [3.60]
Seff = 0.20 [0.04]
Teq = 170 [8] K
Rp = 2.65 [4.14] Re
a = 1.3562 [0.1461] AU
Ag = 72388.44 [227339.36] [0.32σ]
Teff = 4319 [3389] K [1.22σ]

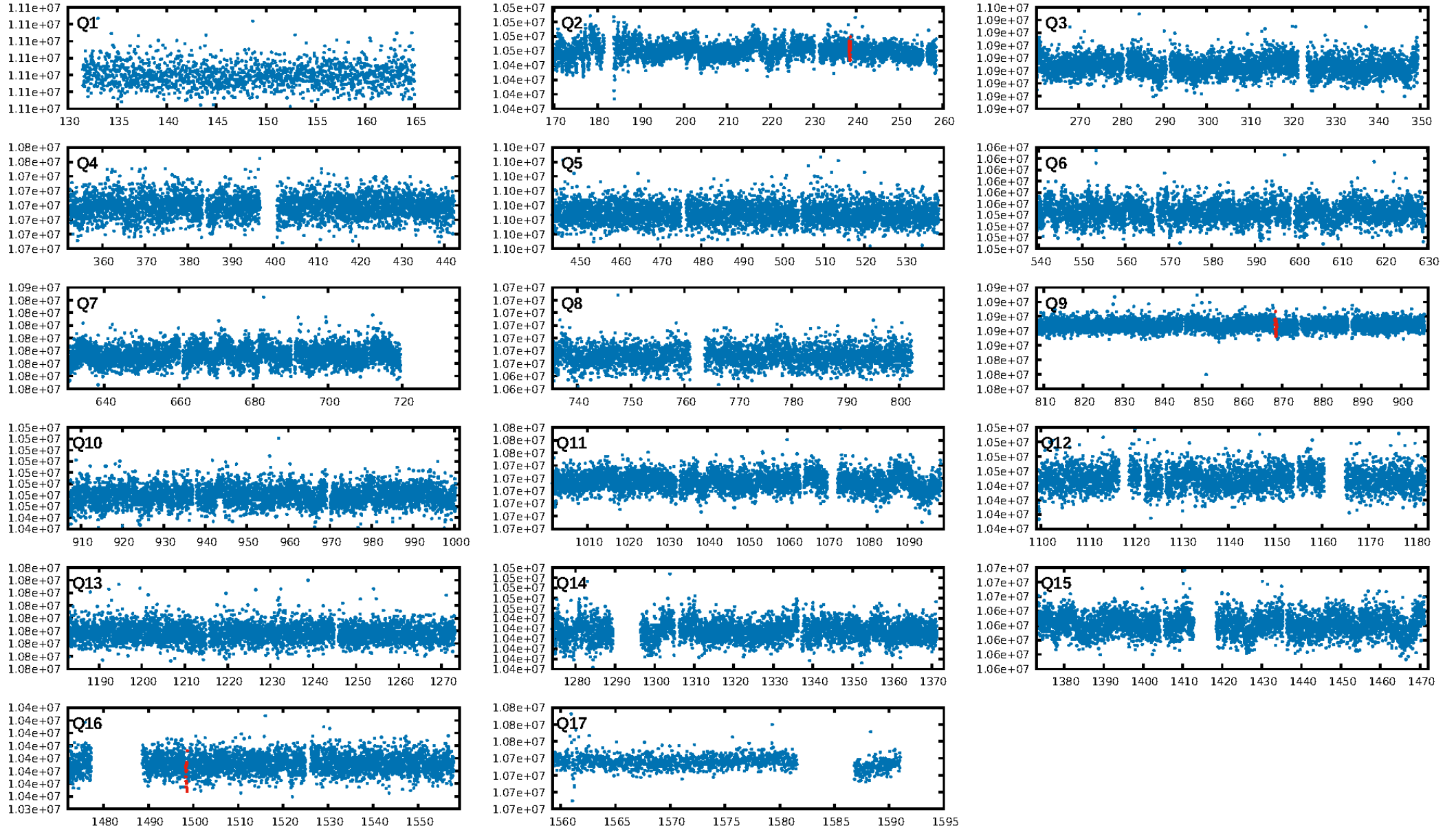
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.5%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: 1.08e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.164
Centroid-sig: 12.5%
Centroid-so: 2.002 arcsec [0.80σ]
OotOffset-rm: 1.069 arcsec [1.10σ]
KicOffset-rm: 0.784 arcsec [1.05σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

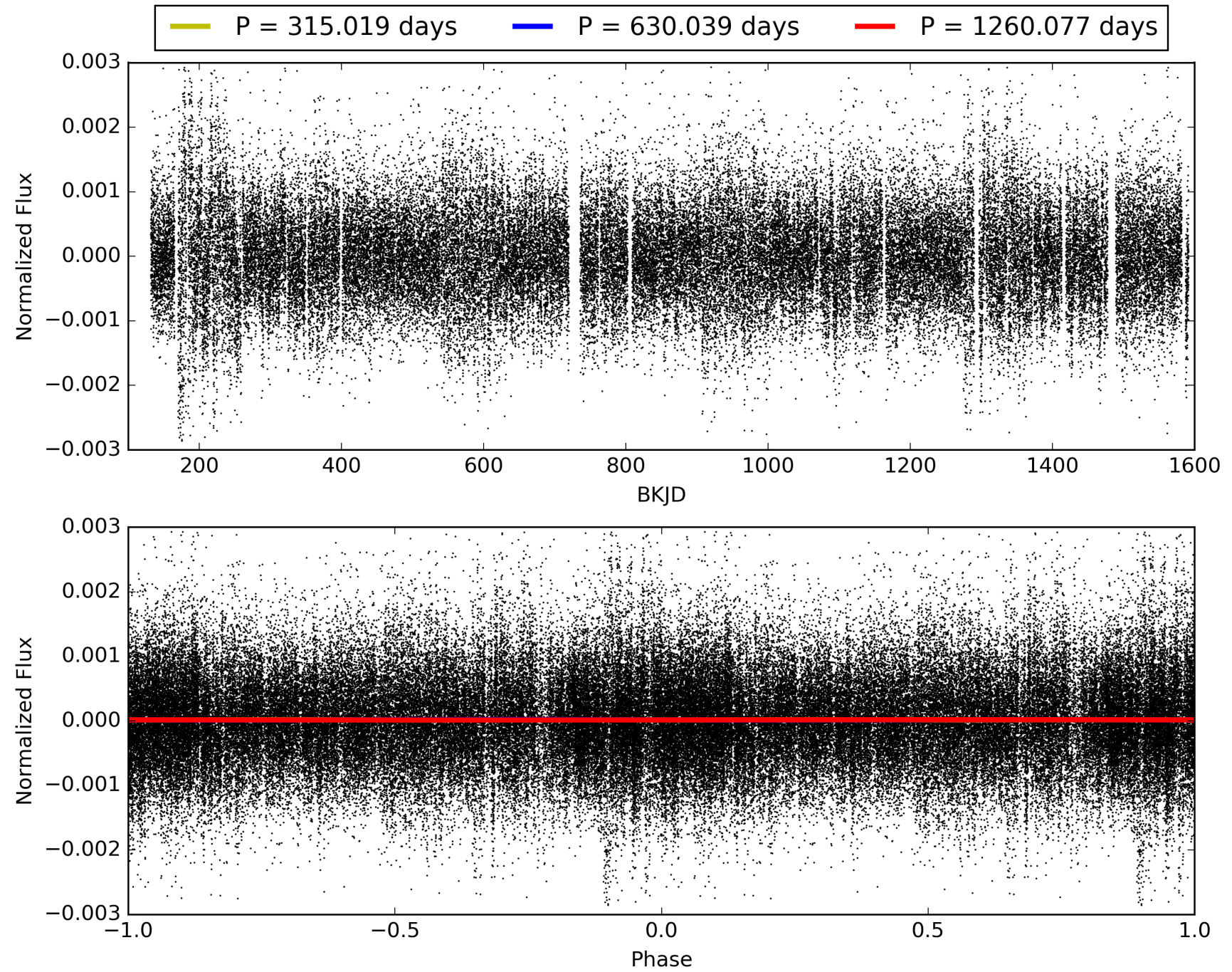
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:58:28 Z

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

TCE 008742887-01, PDC Light Curves

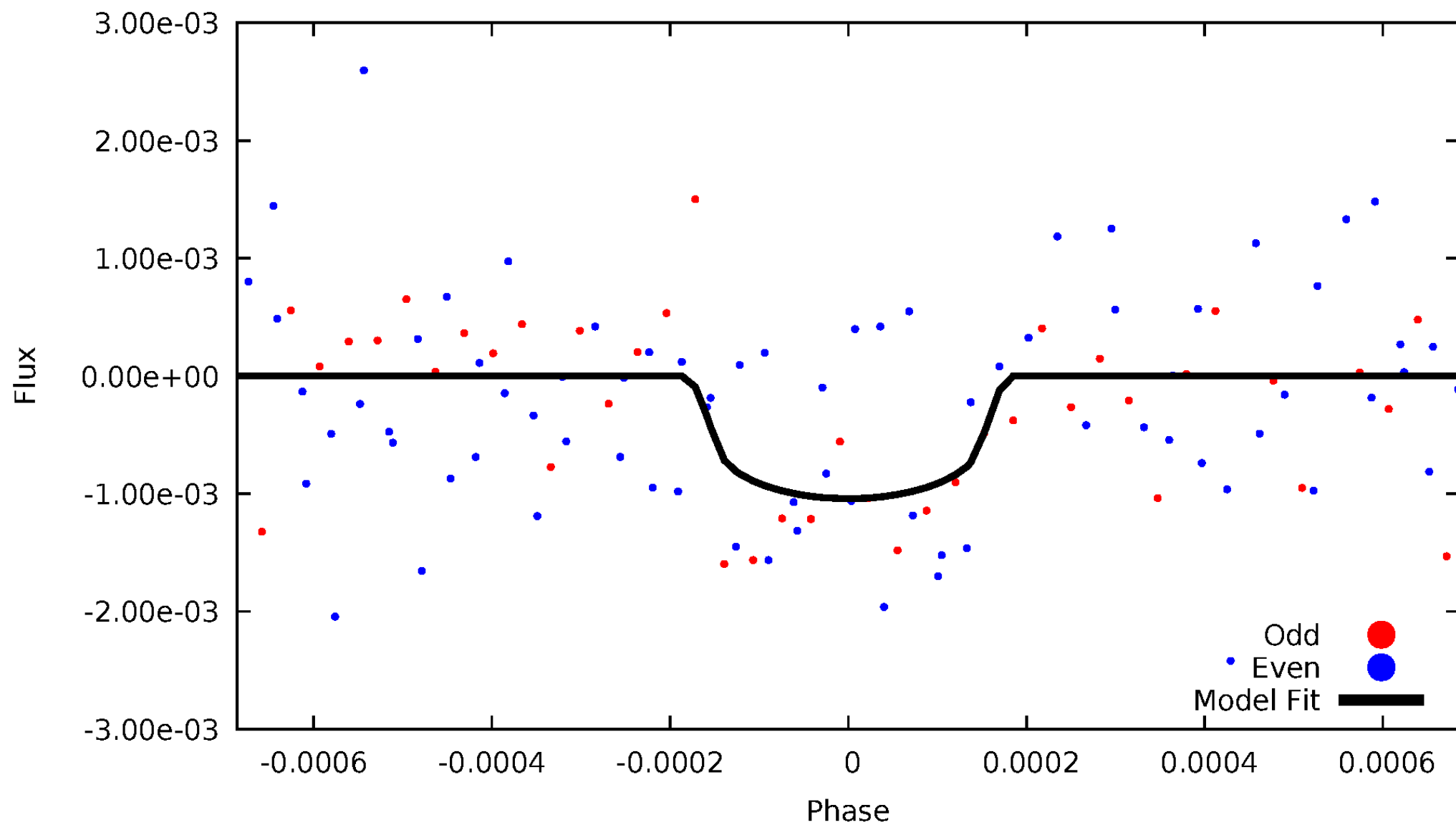


TCE 008742887-01



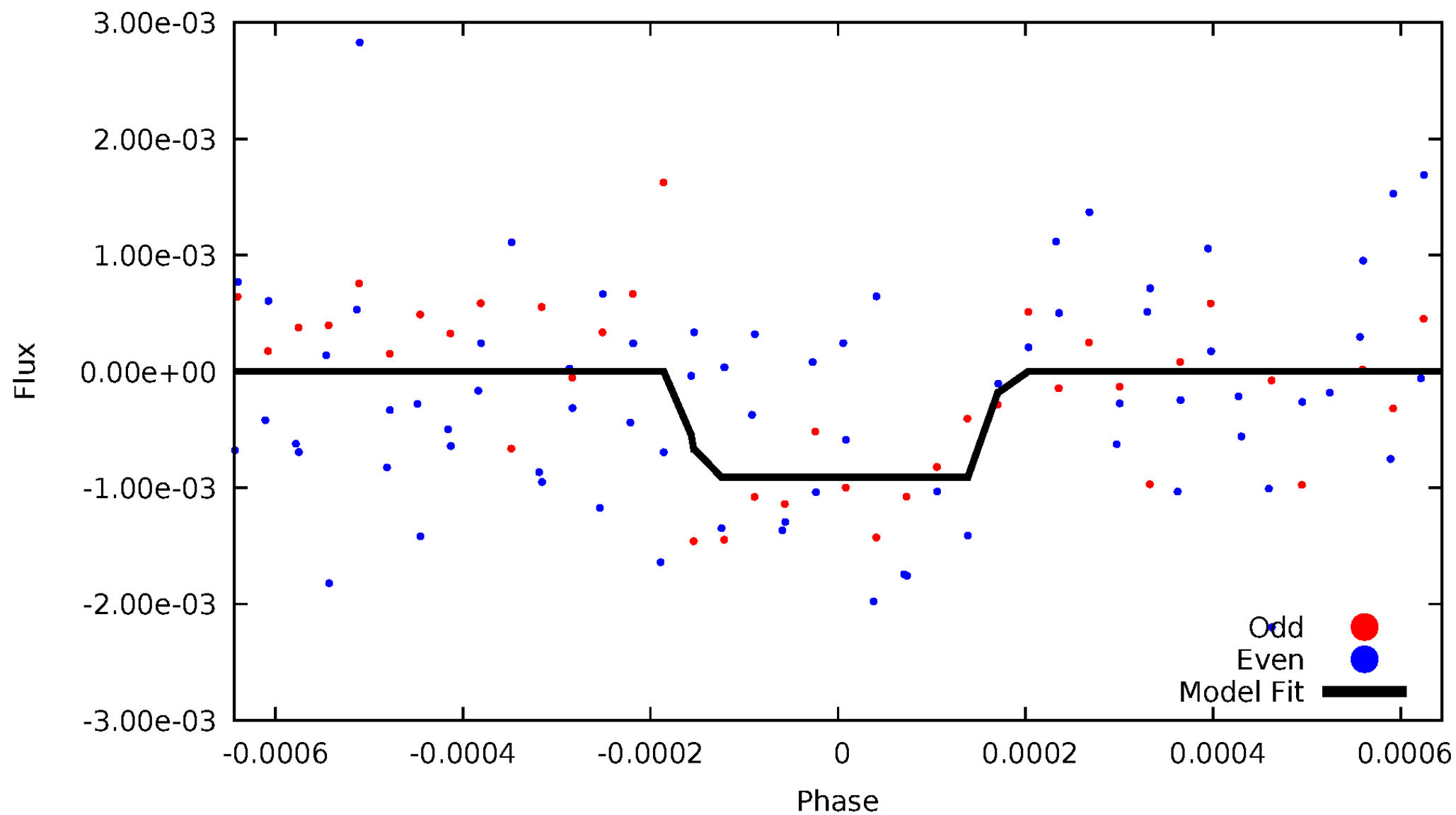
DV Odd/Even

TCE 008742887-01



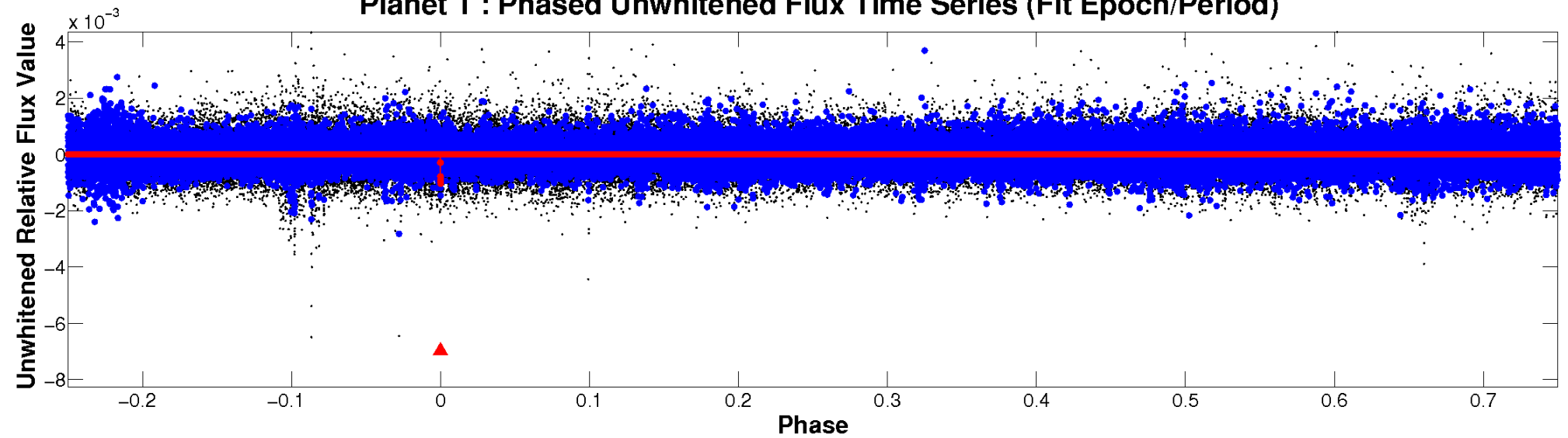
ALT Odd/Even

TCE 008742887-01

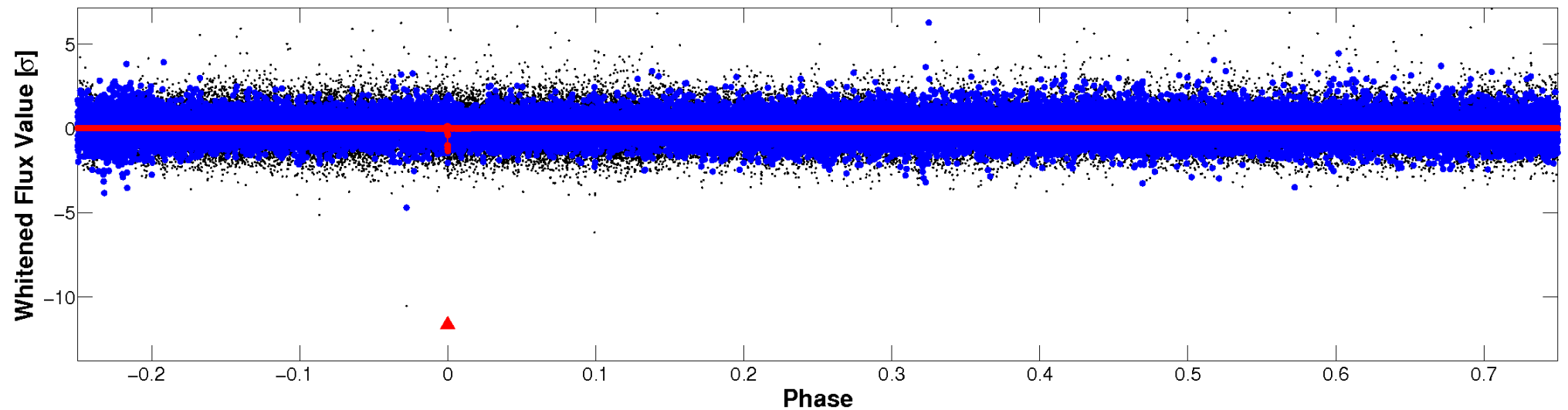


Non-Whitened Vs. Whitened Light Curve

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

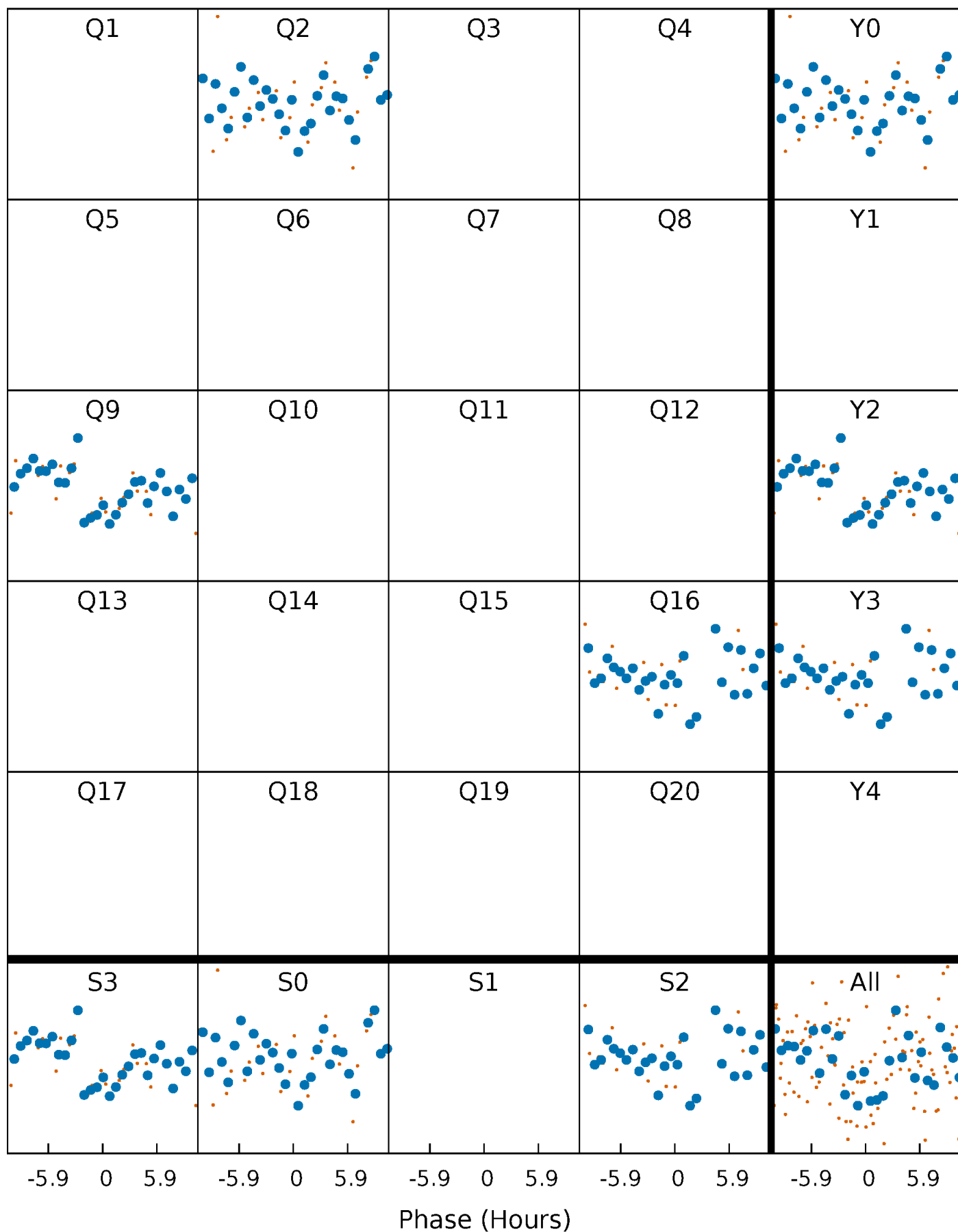


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



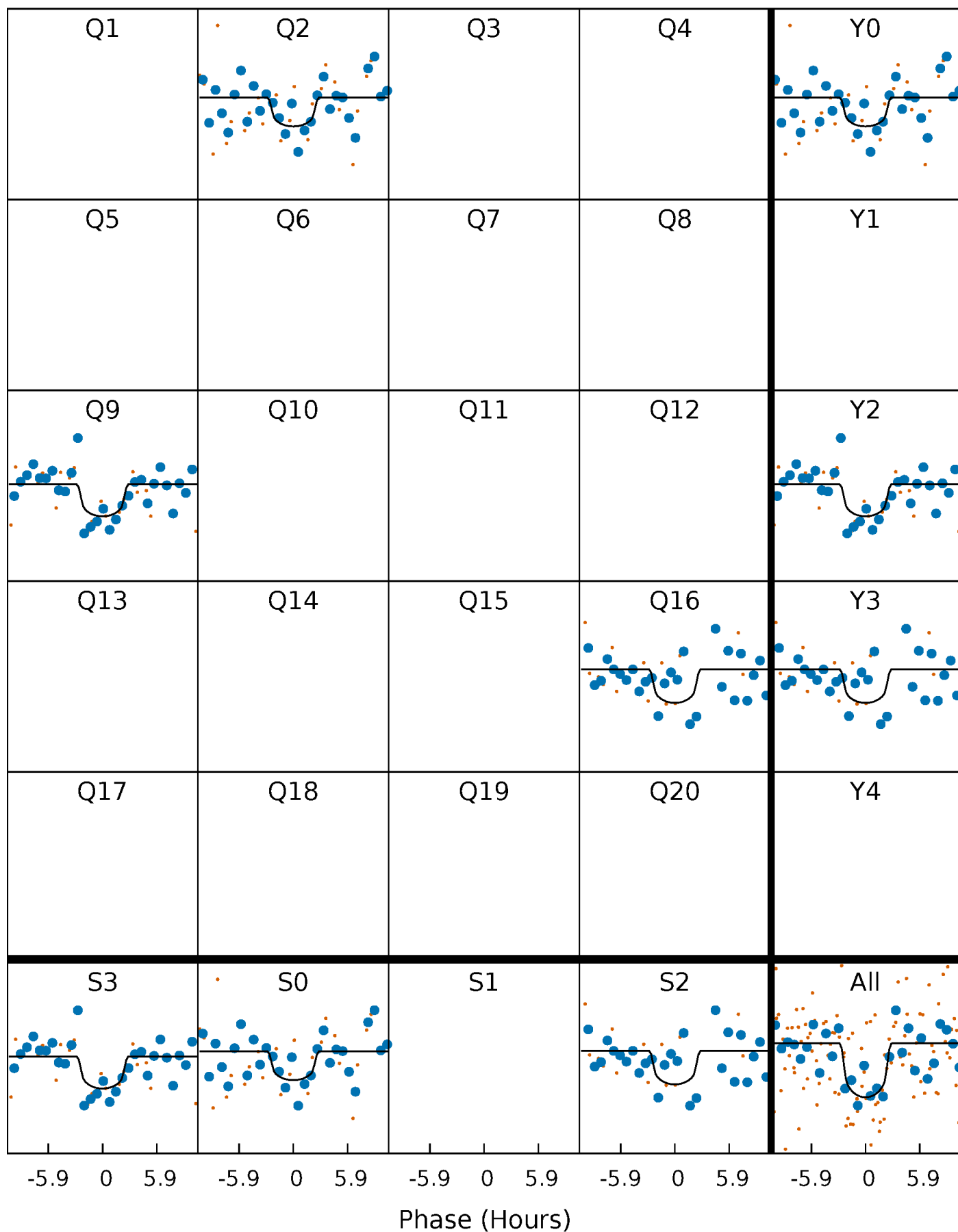
PDC Quarter-Phased Transit Curves

TCE 008742887-01 P=630.038508 Days $T_0=238.438045$ (BKJD)



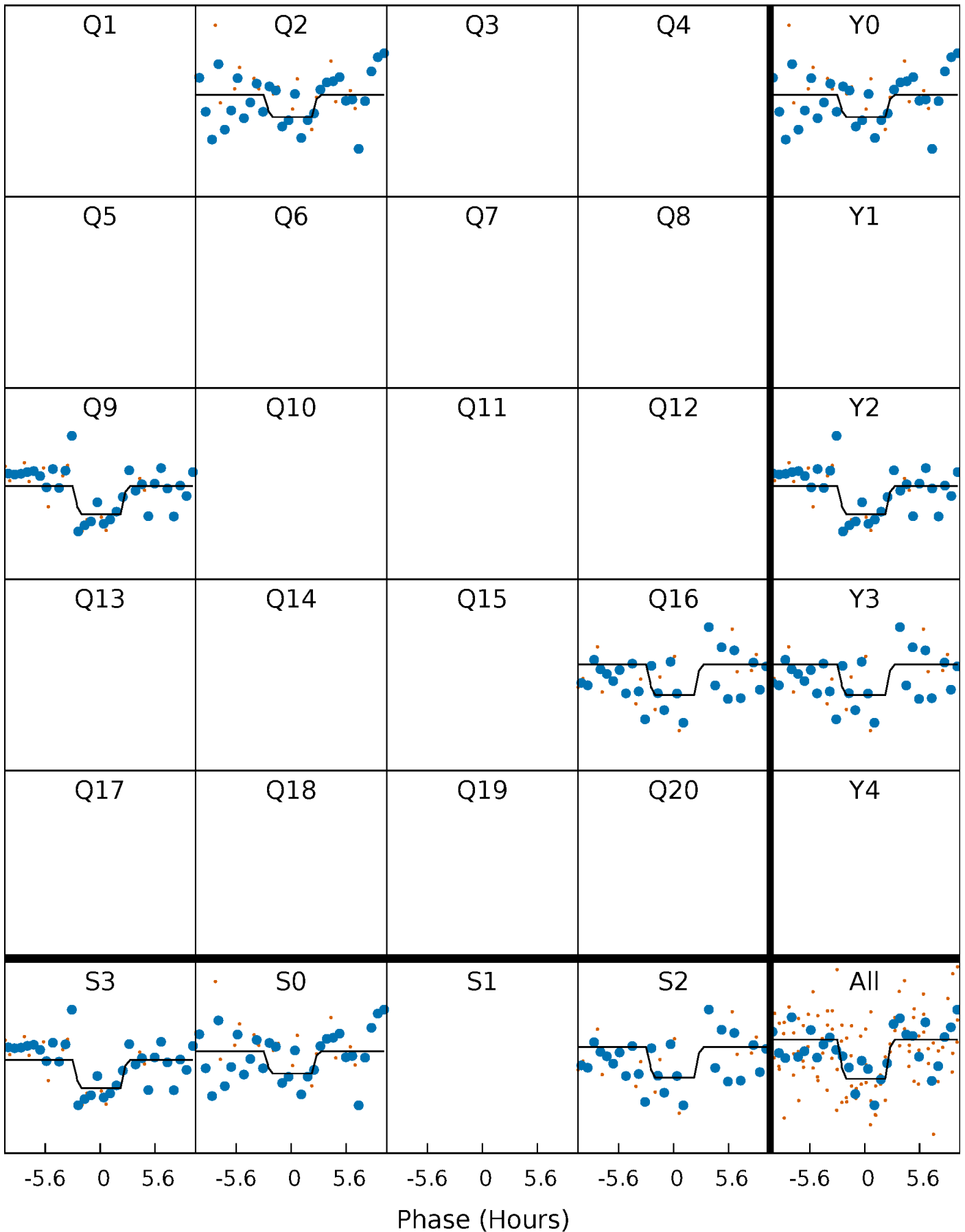
DV Quarter-Phased Transit Curves

TCE 008742887-01 P=630.038508 Days $T_0=238.438045$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

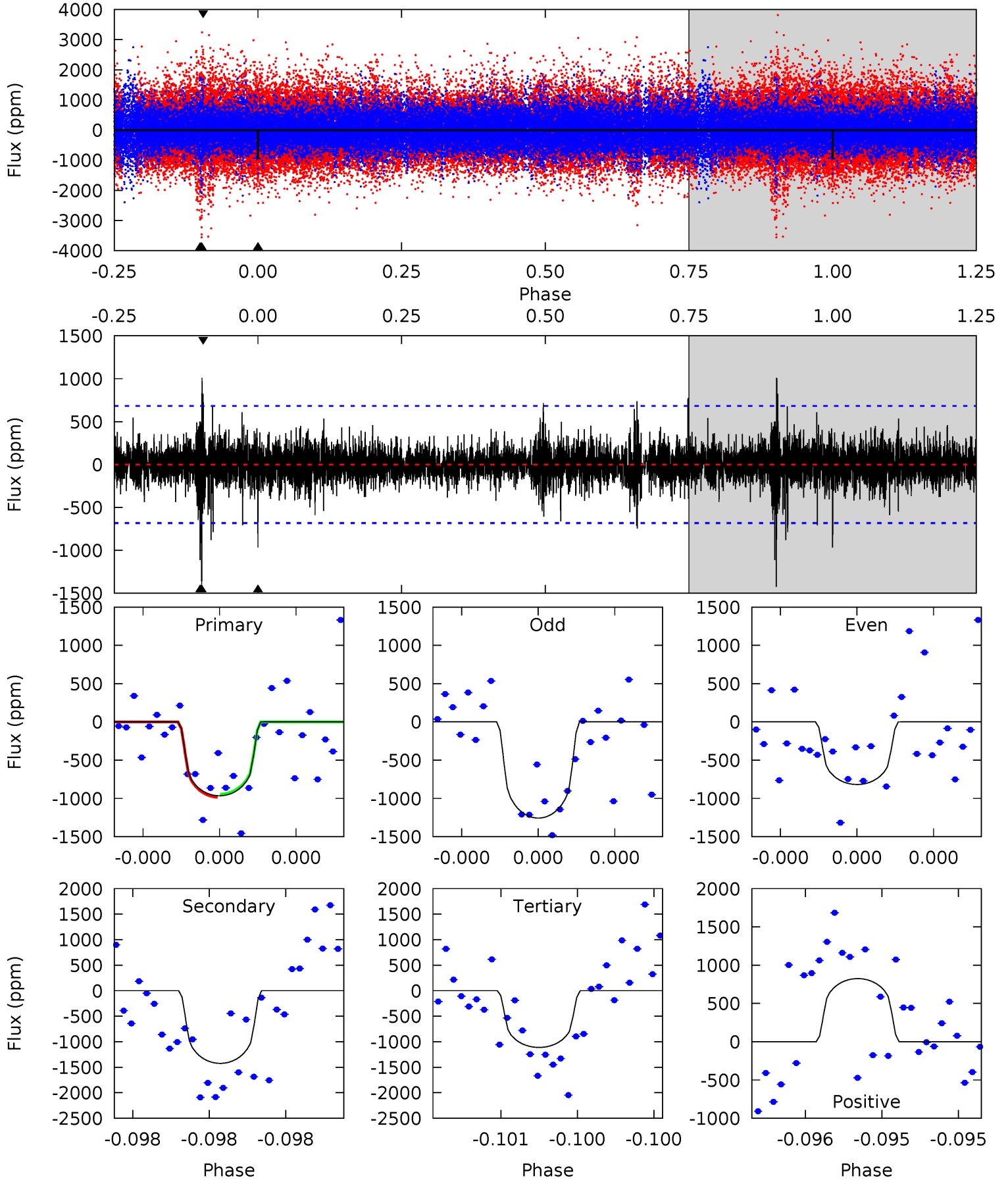
TCE 008742887-01 P=630.068823 Days $T_0=238.416962$ (BKJD)



DV Model-Shift Uniqueness Test

008742887-01, P = 630.038508 Days, E = 238.438045 Days

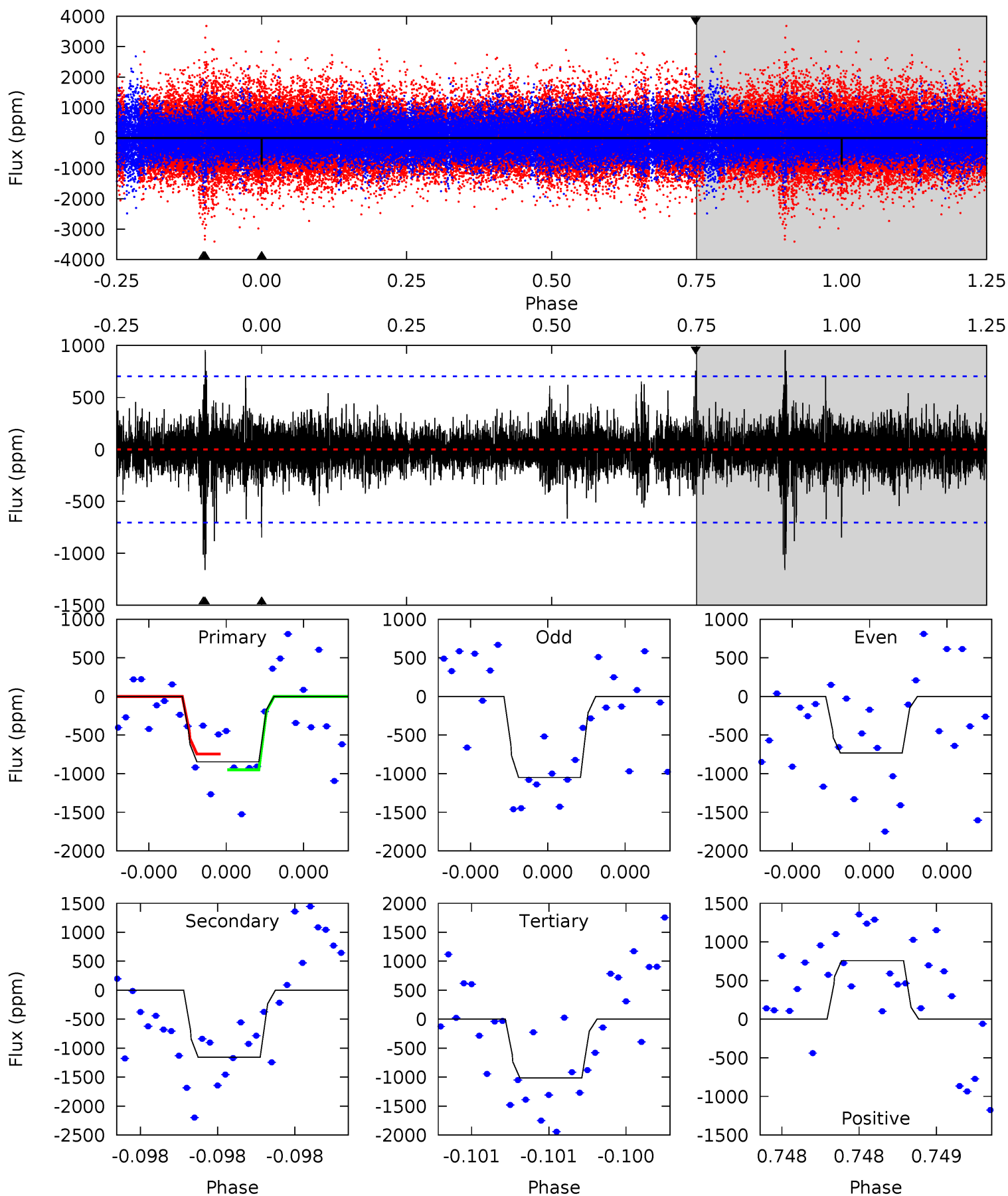
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.98	11.8	9.19	6.82	5.64	3.58	1.27	-1.21	1.16	2.58	4.96	1.73	0.97	0.42	0.16



Alt Model-Shift Uniqueness Test

008742887-01, P = 630.068823 Days, E = 238.416962 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.79	9.30	8.13	6.08	5.65	3.59	1.15	-1.33	0.71	1.17	3.22	1.26	0.96	0.45	0.82



Stellar Parameters For KIC 008742887

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5167^{+154}_{-138}	$4.603^{+0.030}_{-0.084}$	$-0.060^{+0.300}_{-0.300}$	$0.757^{+0.098}_{-0.057}$	$0.849^{+0.059}_{-0.097}$	$2.758^{+0.407}_{-0.757}$
	+3%/-3%	+1%/-2%	+500%/-500%	+13%/-8%	+7%/-11%	+15%/-27%
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 008742887-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1424 ± 121	$4.11^{+3.70}_{-2.74}$	241^{+9}_{-8}	4655^{+3334}_{-957}	$84352^{+693702}_{-60625}$
Alt.	-1159 ± 125	$3.93^{+3.41}_{-2.51}$	241^{+10}_{-9}	4568^{+2773}_{-929}	$74855^{+523427}_{-53109}$

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

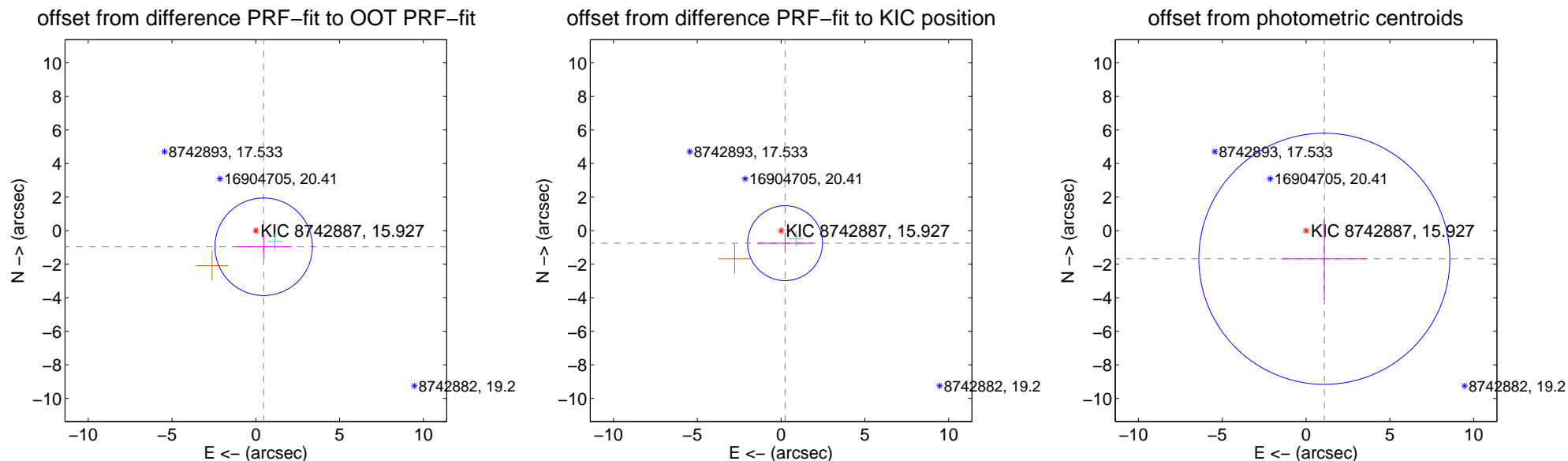
DV Centroid Data

Supplemental centroid analysis for 008742887-01. Kepler magnitude: 15.93. Transit SNR 6.60

There are 1 quarters with good PRF difference image offsets

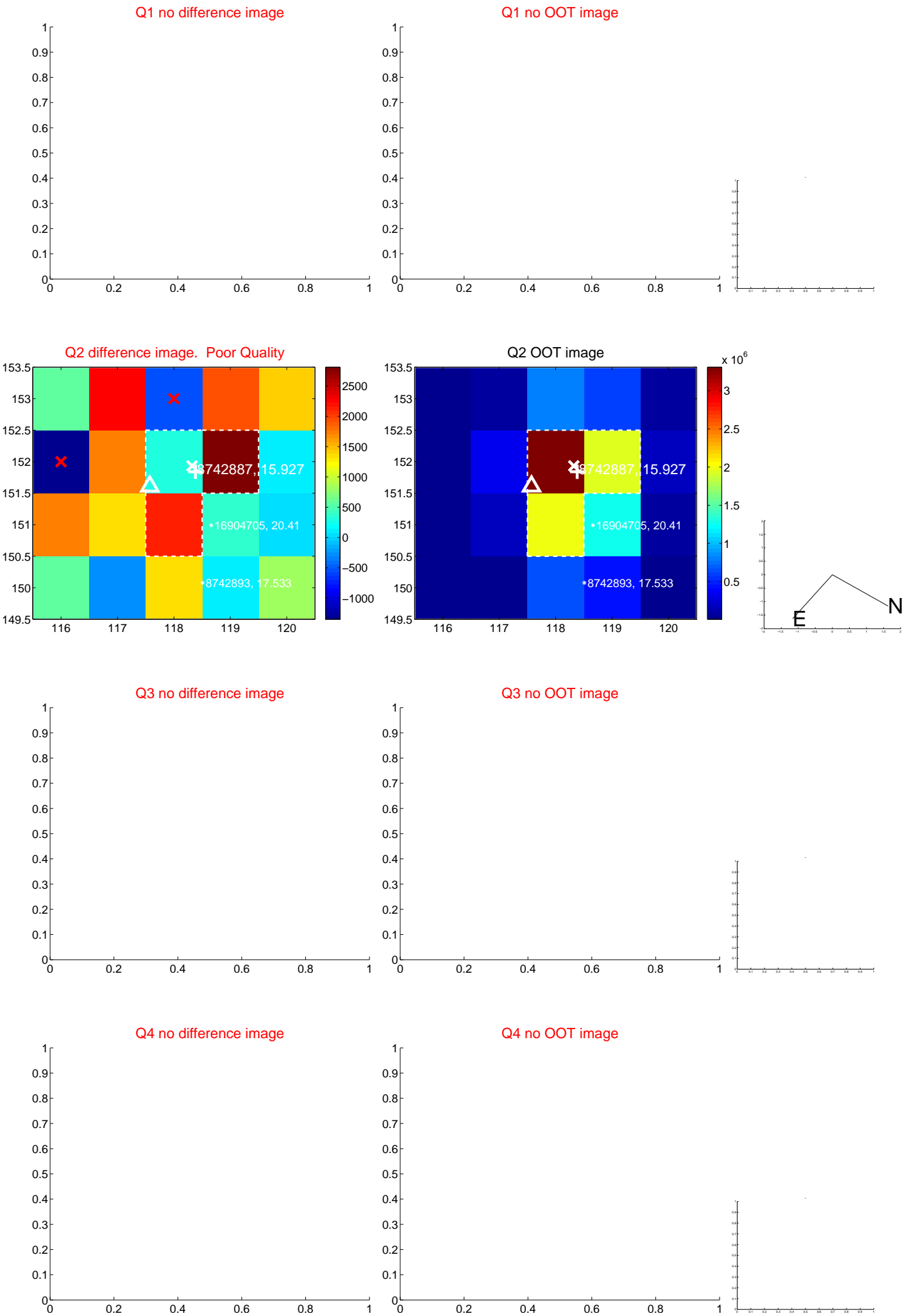
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.069 ± 0.969	1.10	-0.468 ± 1.678	-0.961 ± 0.702
PRF-fit source offset from KIC position	0.784 ± 0.745	1.05	-0.238 ± 1.640	-0.747 ± 0.582
photometric centroid source offset	2.00 ± 2.50	0.80	-1.09 ± 2.56	-1.68 ± 2.47



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.

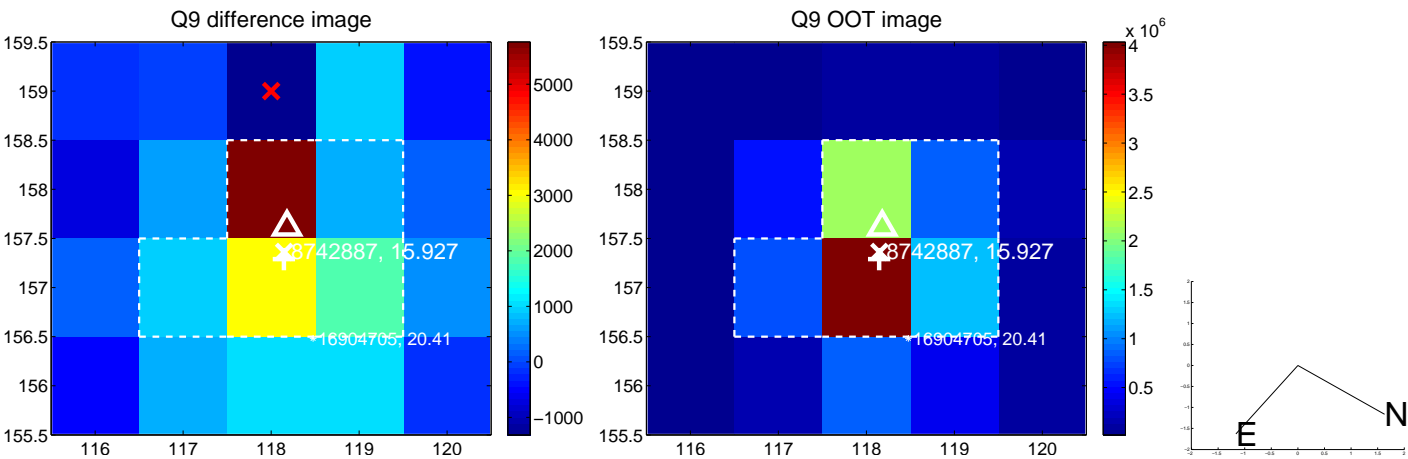
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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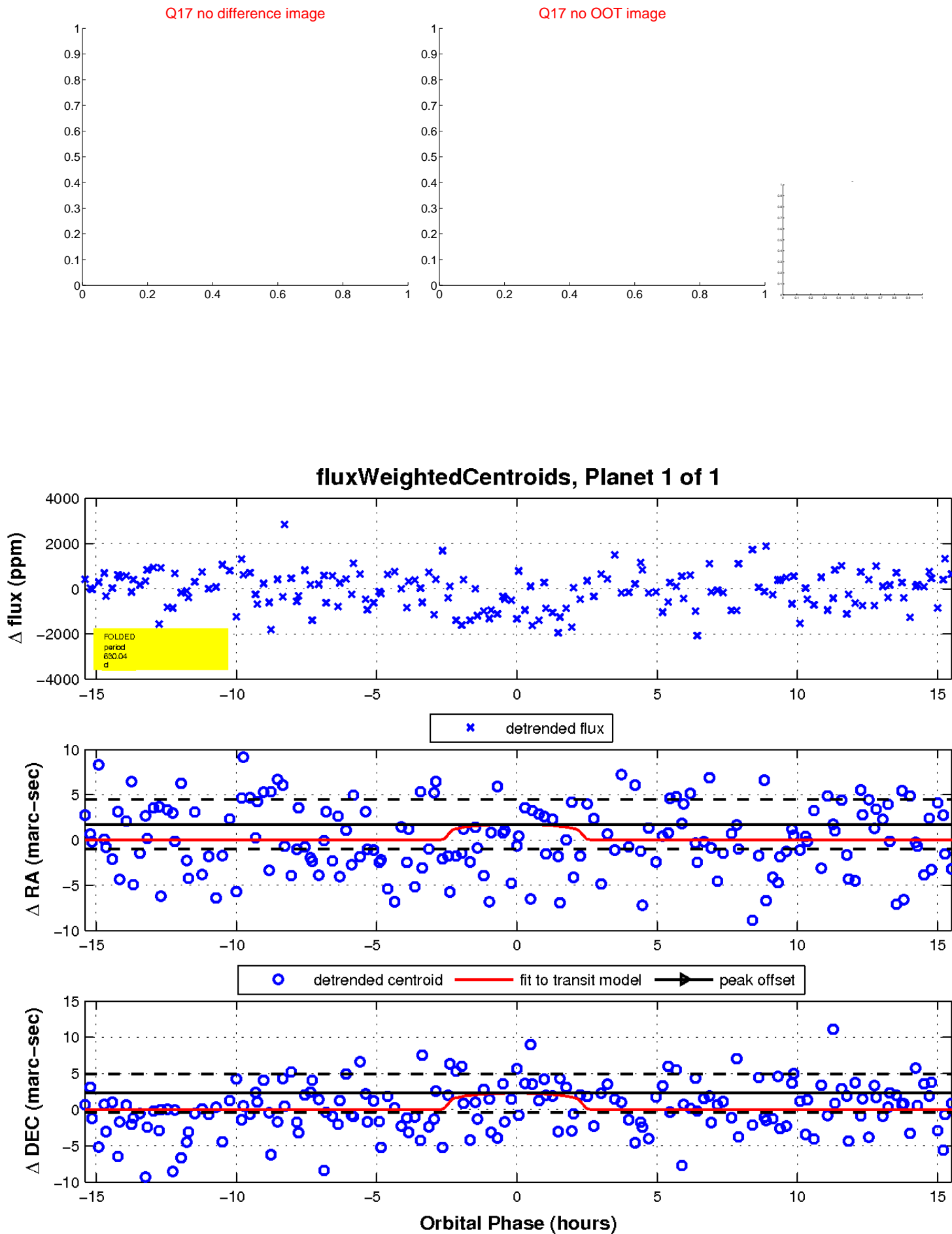
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

