

KIC 006442094

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})
006442094-01	OBS	No	557.920432	224.386756	591.9	8.653	7.8	6.6	0.76	5623	1.94	0.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006442094-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

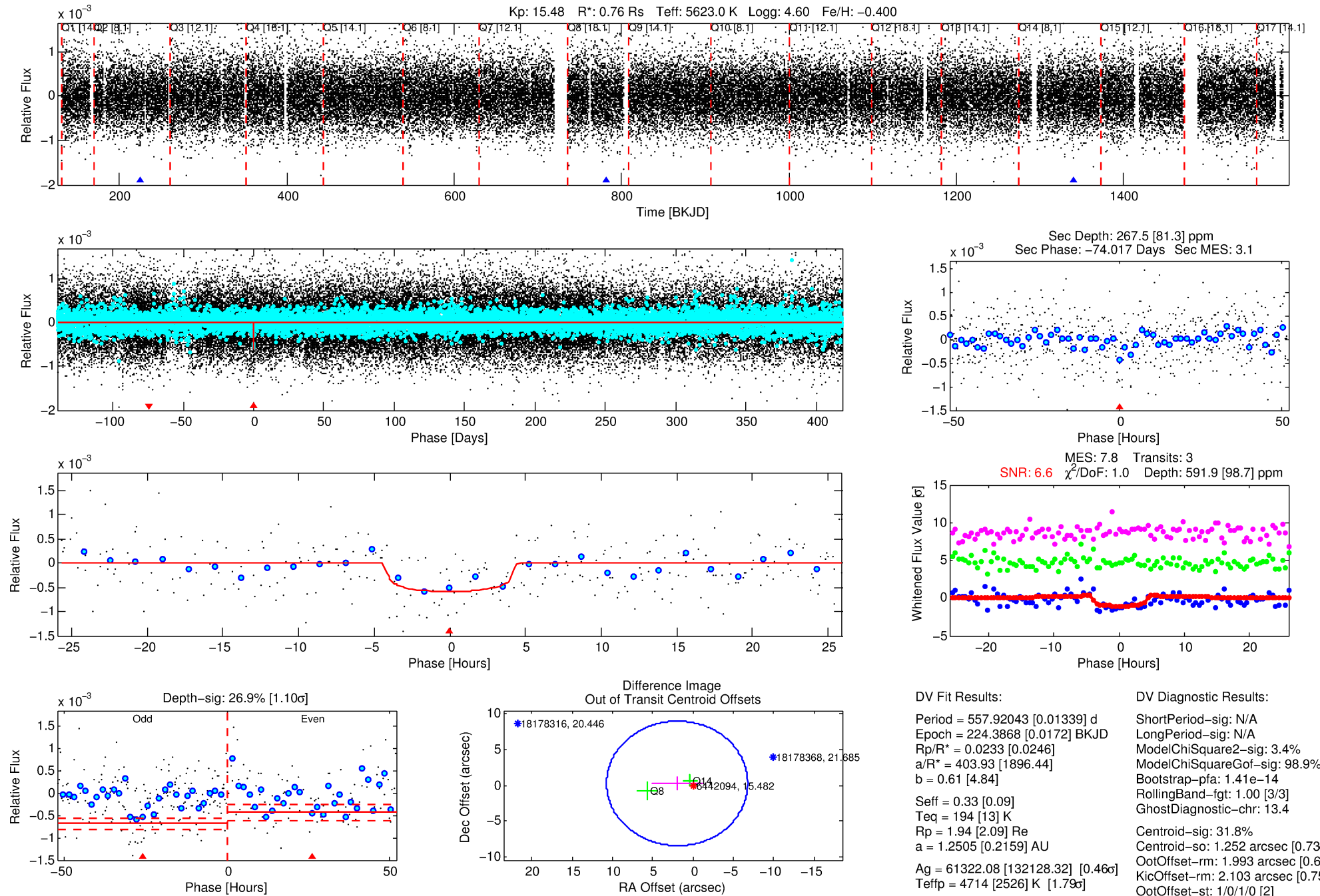
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006442094-01

No Significant Match Found

DV One-Page Summary

KIC: 6442094 Candidate: 1 of 1 Period: 557.920 d



DV Fit Results:

Period = 557.92043 [0.01339] d
Epoch = 224.3868 [0.0172] BKJD
Rp/R* = 0.0233 [0.0246]
a/R* = 403.93 [1896.44]
b = 0.61 [4.84]
Seff = 0.33 [0.09]
Teq = 194 [13] K
Rp = 1.94 [2.09] Re
a = 1.2505 [0.2159] AU
Ag = 61322.08 [132128.32] [0.46 σ]
Teffp = 4714 [2526] K [1.79 σ]

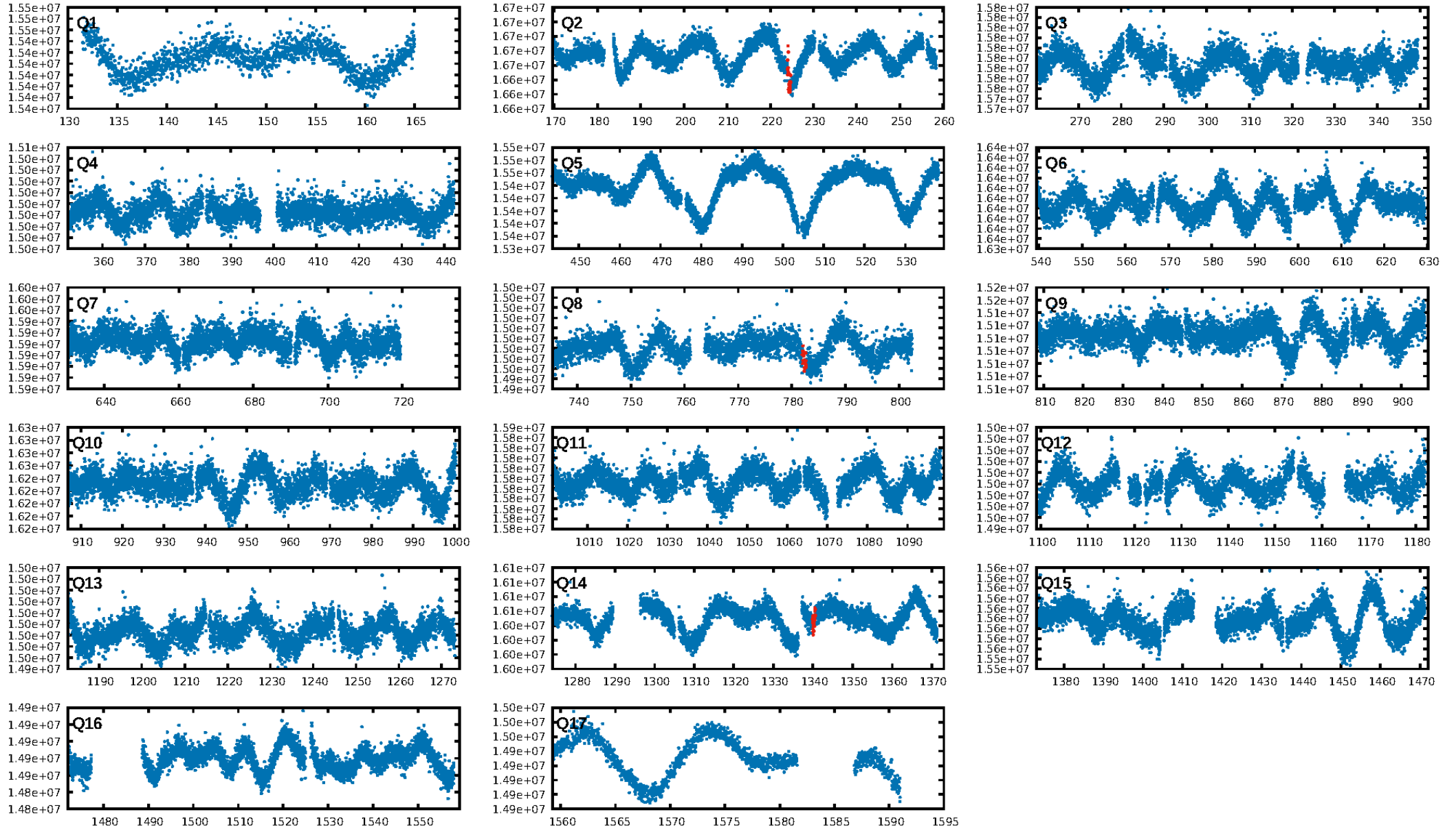
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 1.41e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 13.4
Centroid-sig: 31.8%
Centroid-so: 1.252 arcsec [0.73 σ]
OotOffset-rm: 1.993 arcsec [0.68 σ]
KicOffset-rm: 2.103 arcsec [0.75 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

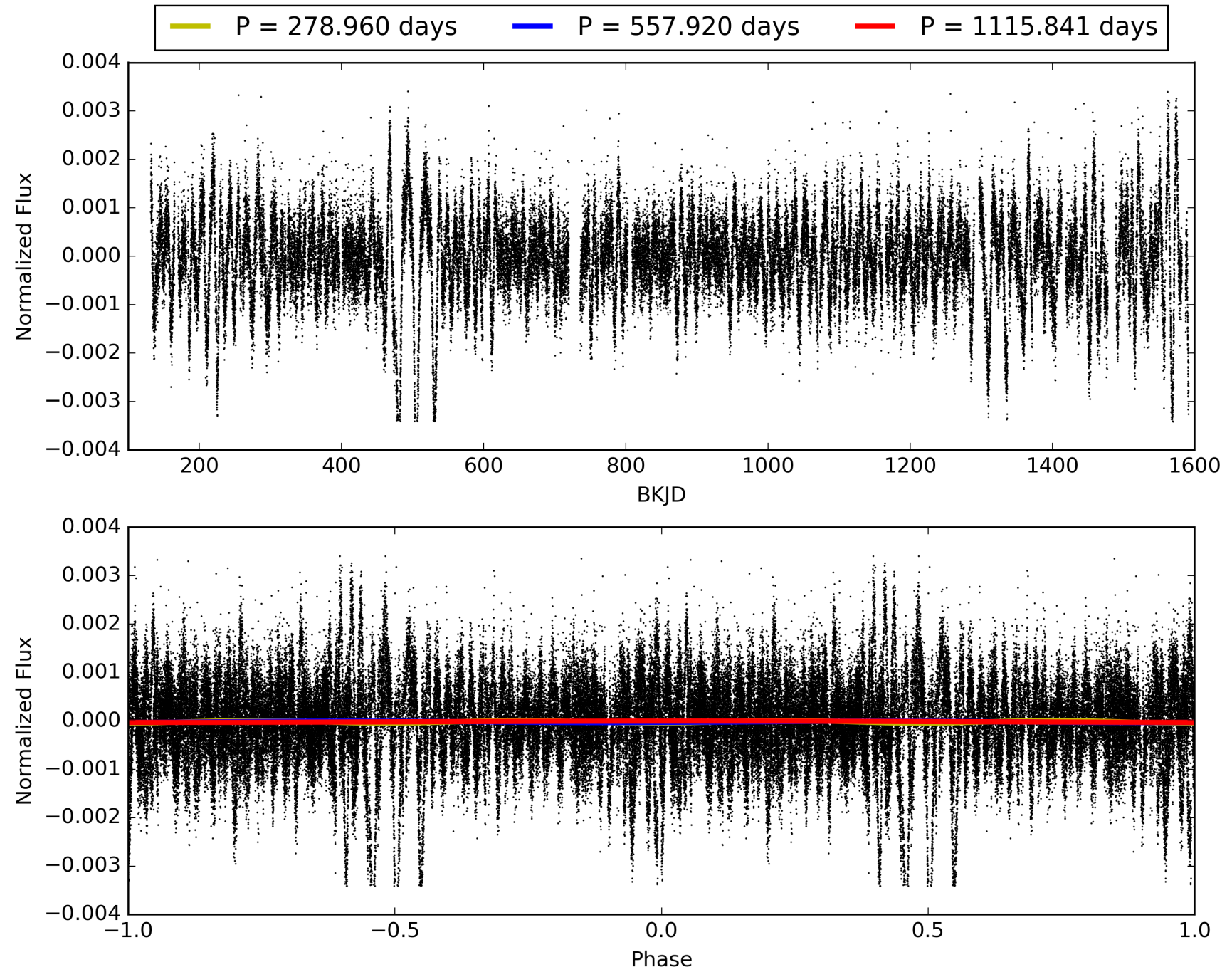
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:13:28 Z

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

TCE 006442094-01, PDC Light Curves

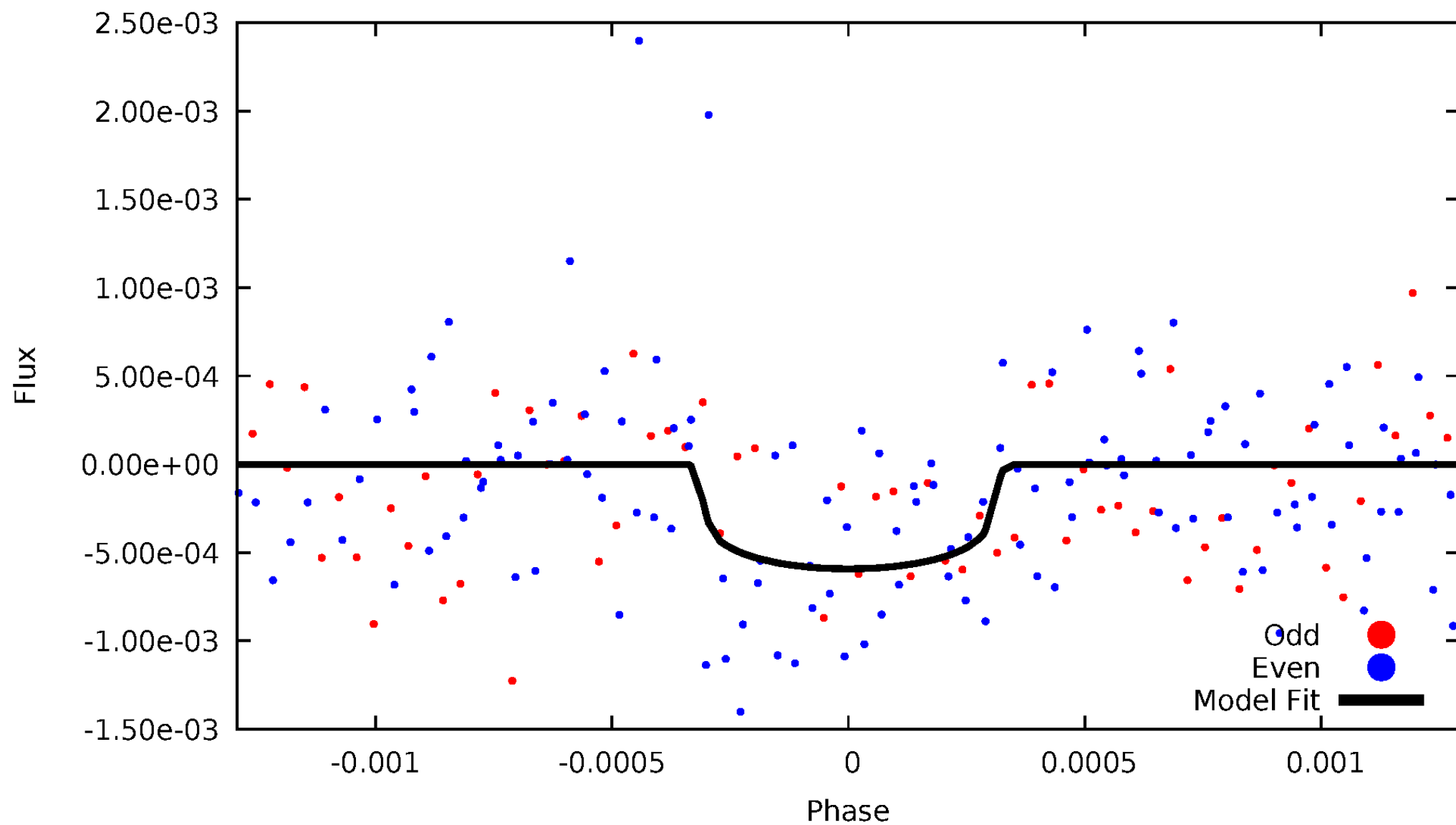


TCE 006442094-01



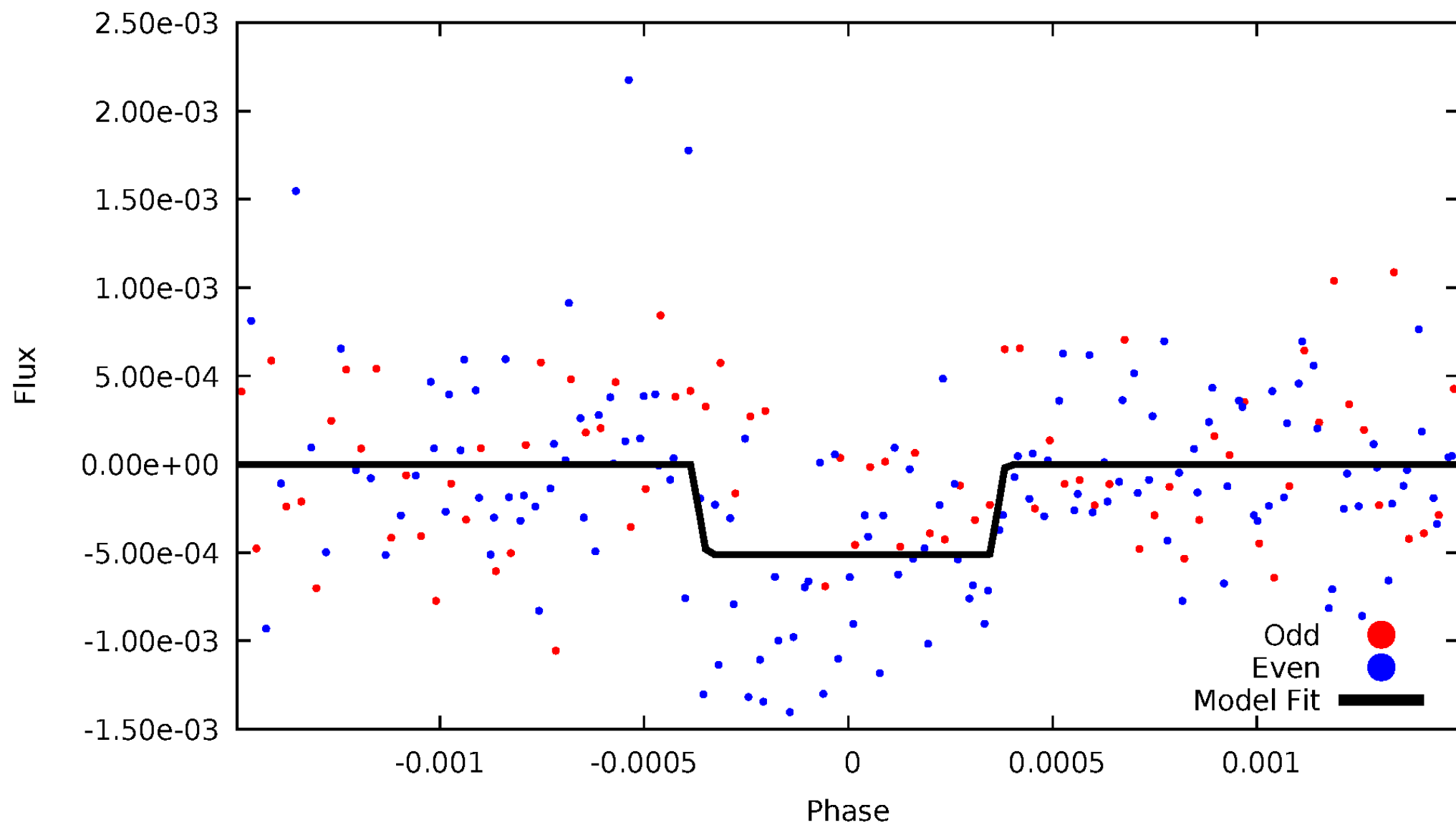
DV Odd/Even

TCE 006442094-01

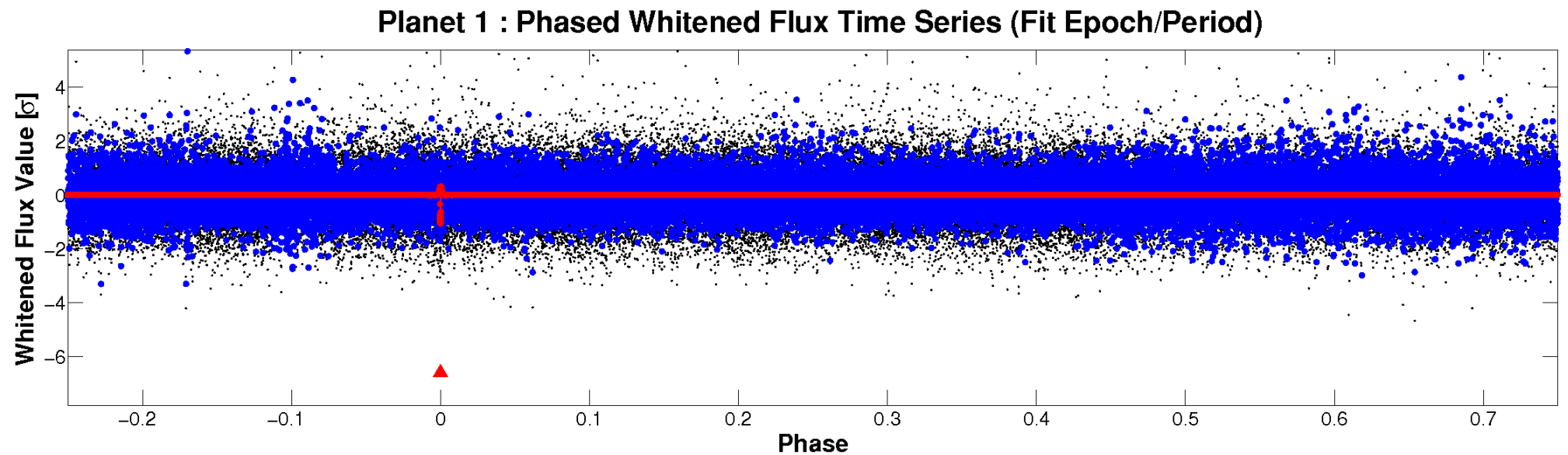
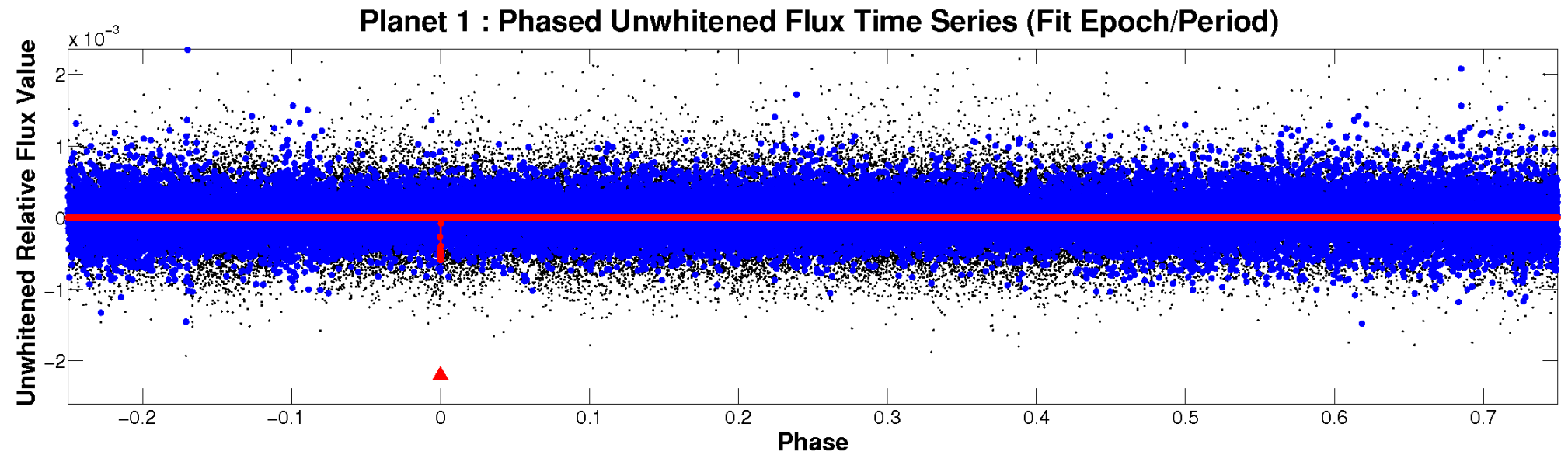


ALT Odd/Even

TCE 006442094-01

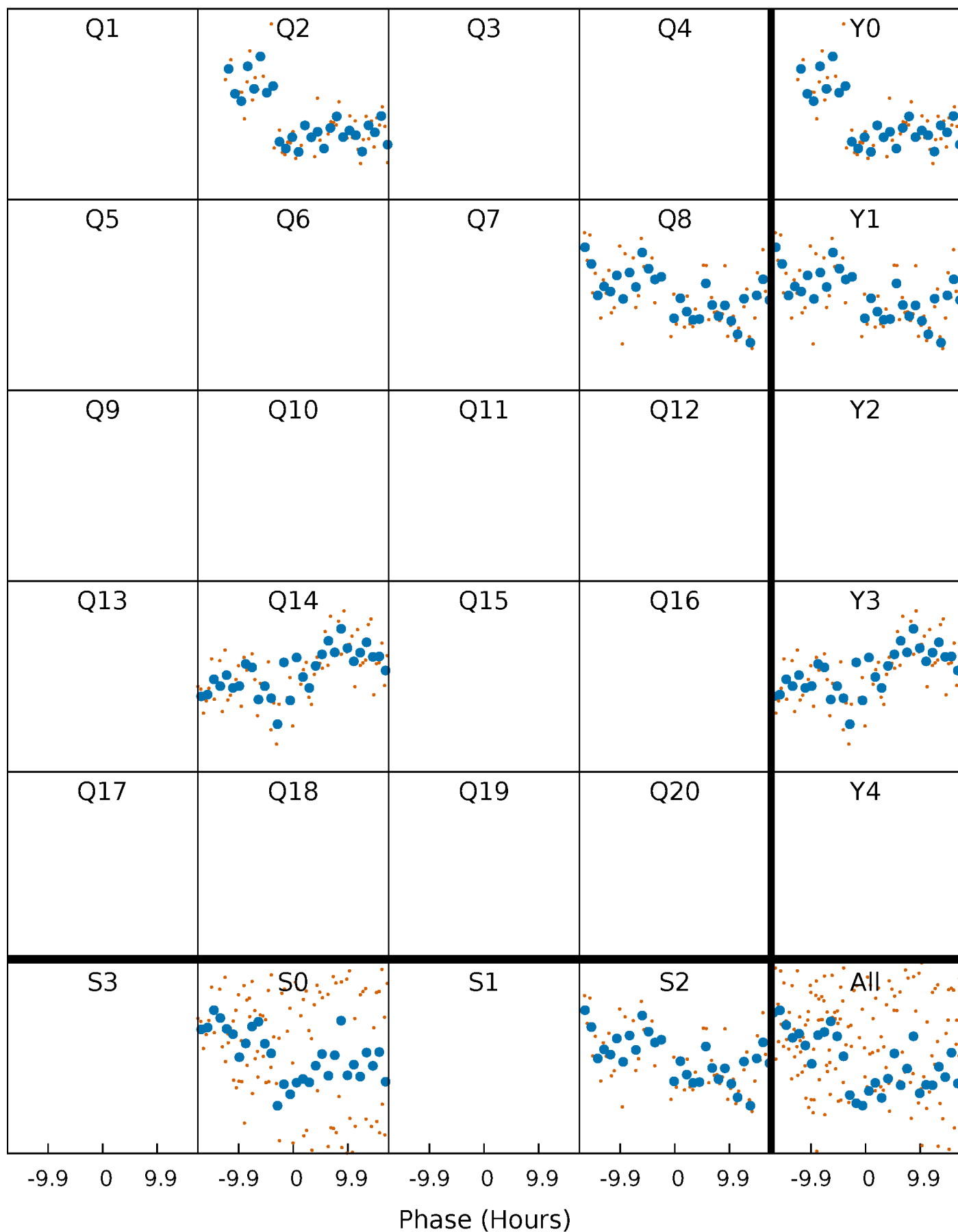


Non-Whitened Vs. Whitened Light Curve



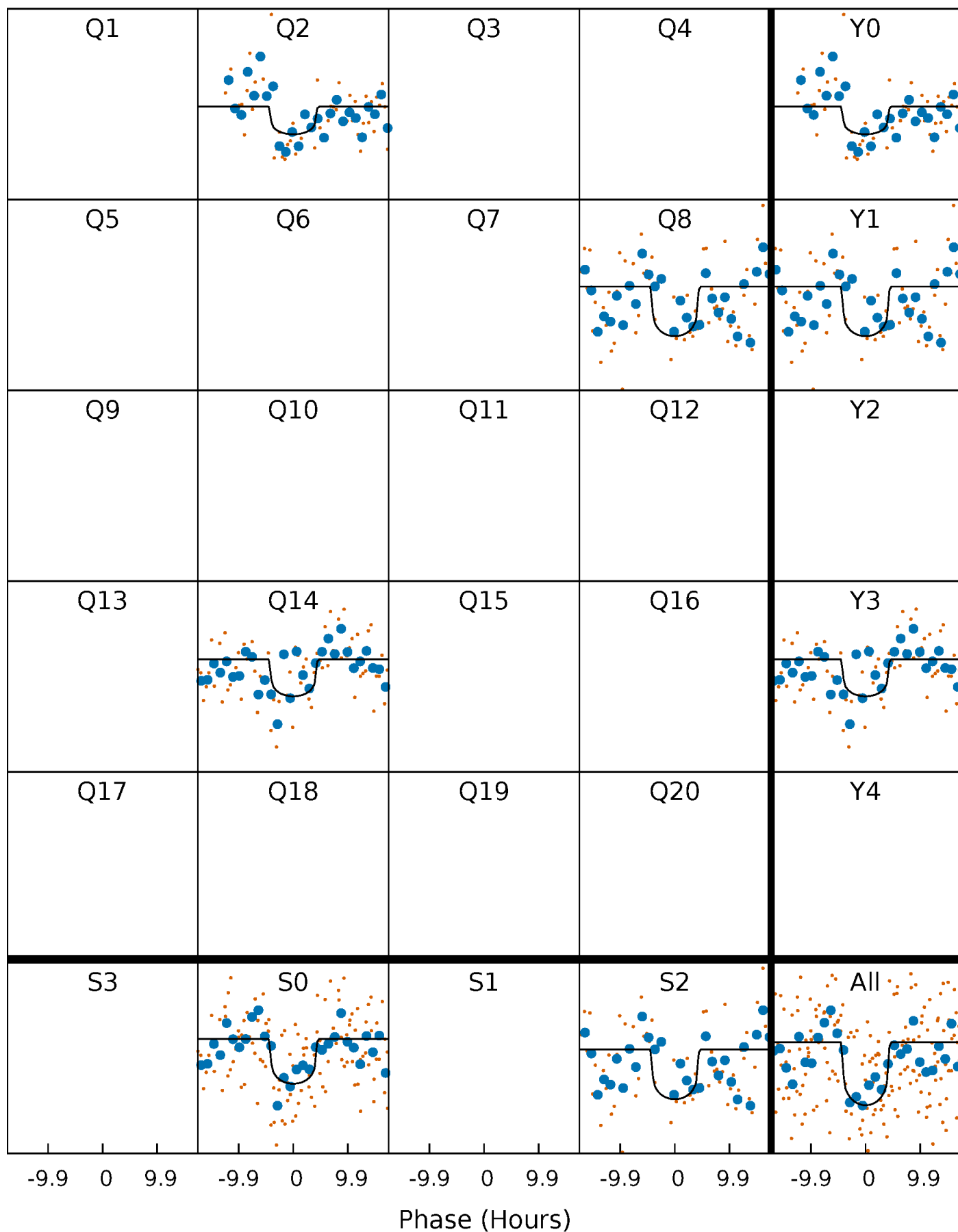
PDC Quarter-Phased Transit Curves

TCE 006442094-01 P=557.920432 Days $T_0=224.386756$ (BKJD)



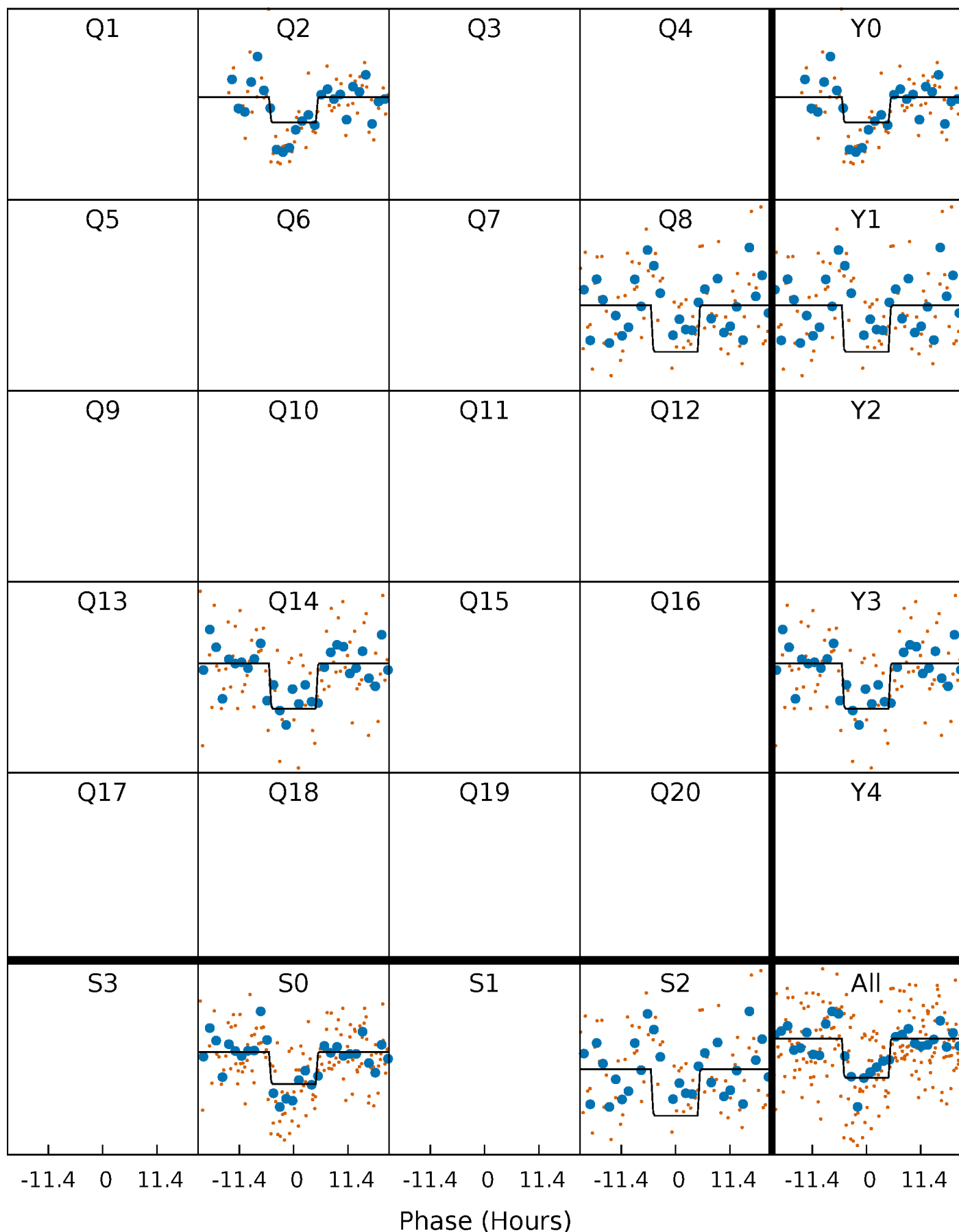
DV Quarter-Phased Transit Curves

TCE 006442094-01 P=557.920432 Days $T_0=224.386756$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

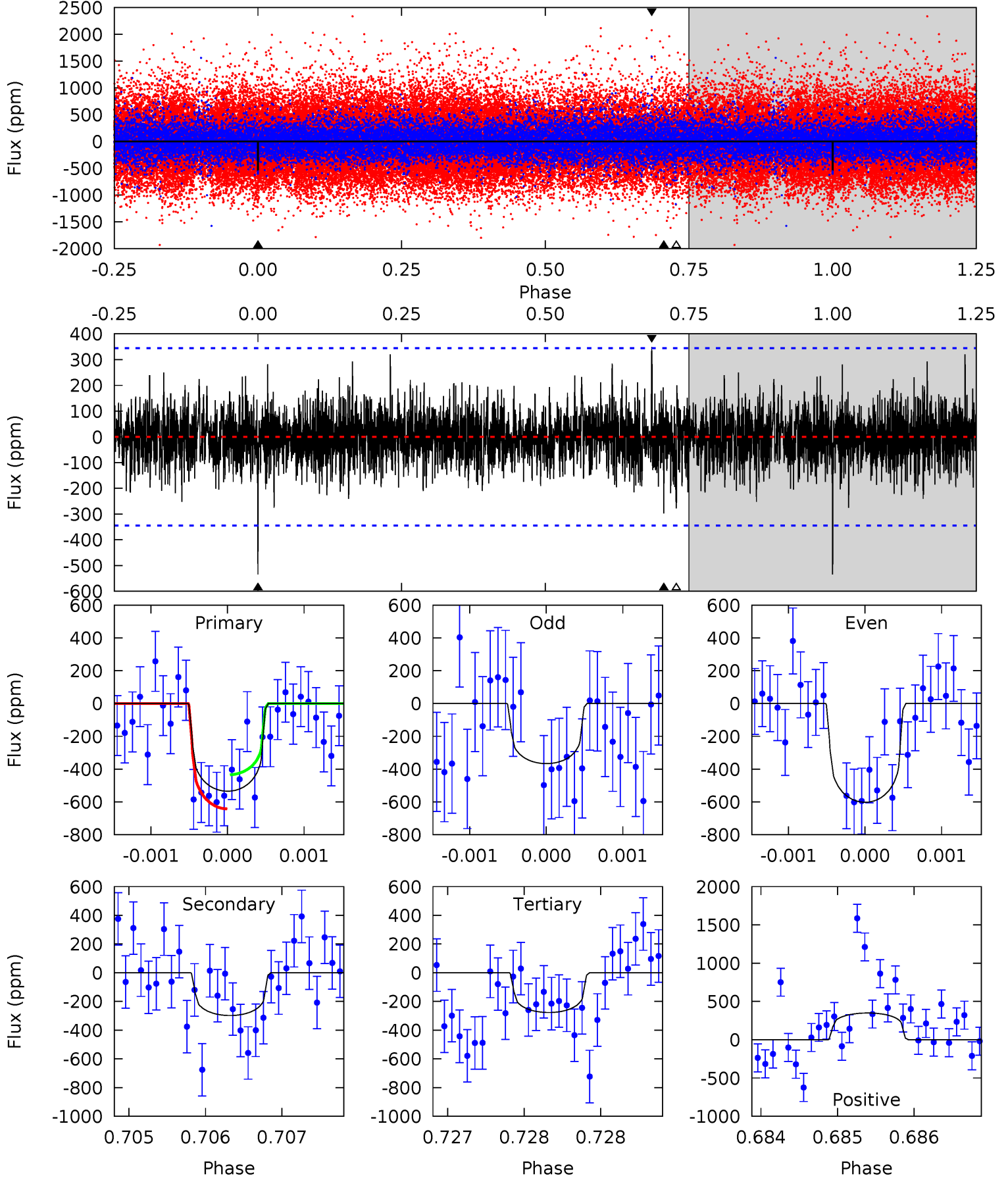
TCE 006442094-01 P=557.870244 Days $T_0=224.439768$ (BKJD)



DV Model-Shift Uniqueness Test

006442094-01, P = 557.920432 Days, E = 224.386756 Days

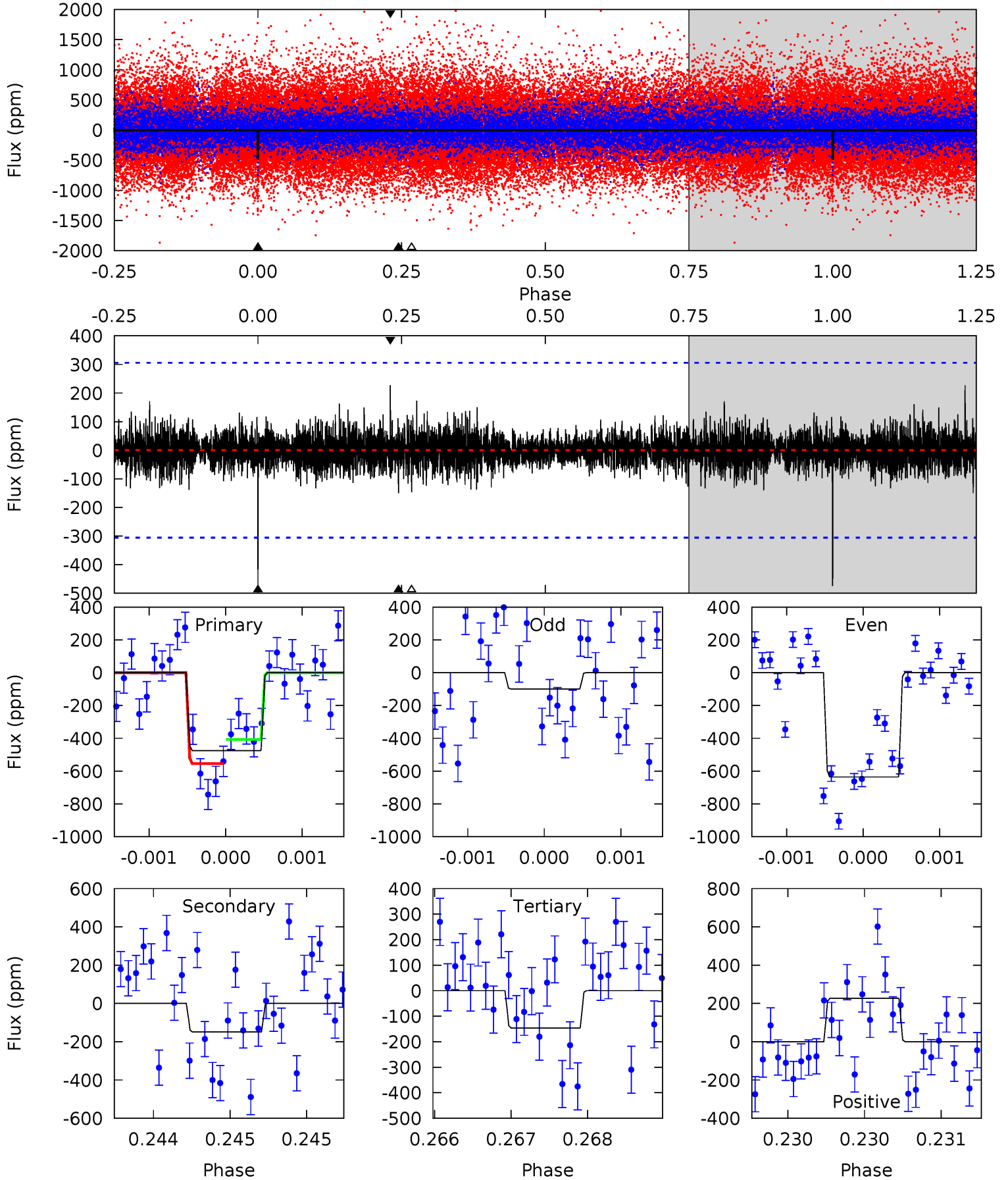
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	4.78	4.44	5.60	5.52	3.41	1.21	4.13	2.98	0.33	-0.82	1.76	1.11	0.40	1.67



Alt Model-Shift Uniqueness Test

006442094-01, P = 557.870244 Days, E = 224.439768 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	2.68	2.64	4.08	5.50	3.37	0.70	5.91	4.46	0.04	-1.40	4.44	0.99	0.32	1.32



Stellar Parameters For KIC 006442094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5623^{+152}_{-169}	$4.596^{+0.036}_{-0.135}$	$-0.400^{+0.300}_{-0.300}$	$0.763^{+0.158}_{-0.056}$	$0.853^{+0.080}_{-0.097}$	$2.704^{+0.492}_{-1.068}$
	+3%/-3%	+1%/-3%	+75%/-75%	+21%/-7%	+9%/-11%	+18%/-39%
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 006442094-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-298 ± 62	$2.42^{+1.86}_{-1.58}$	275^{+13}_{-11}	4570^{+2827}_{-922}	$42415^{+293423}_{-29497}$
Alt.	-149 ± 56	$2.44^{+1.75}_{-1.59}$	275^{+14}_{-12}	3989^{+2106}_{-758}	$21032^{+142894}_{-15040}$

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 $A_{obs} \gg 1.0$

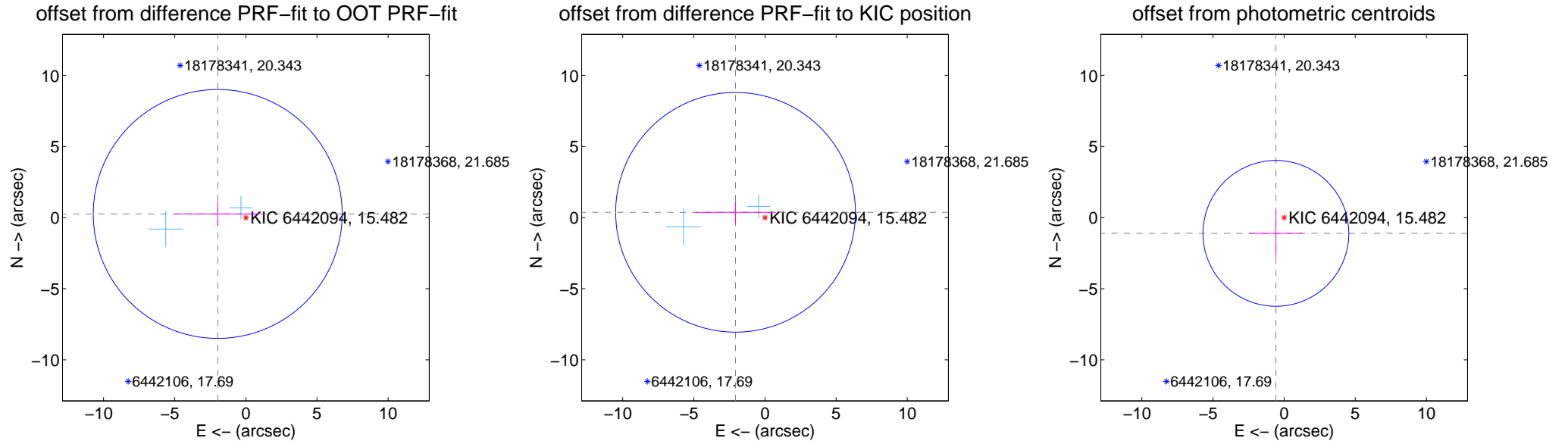
DV Centroid Data

Supplemental centroid analysis for 006442094-01. Kepler magnitude: 15.48. Transit SNR 6.59

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.993 ± 2.916	0.68	1.976 ± 3.053	0.256 ± 0.869
PRF-fit source offset from KIC position	2.103 ± 2.808	0.75	2.070 ± 2.850	0.372 ± 0.767
photometric centroid source offset	1.25 ± 1.71	0.73	0.58 ± 1.90	-1.11 ± 1.65

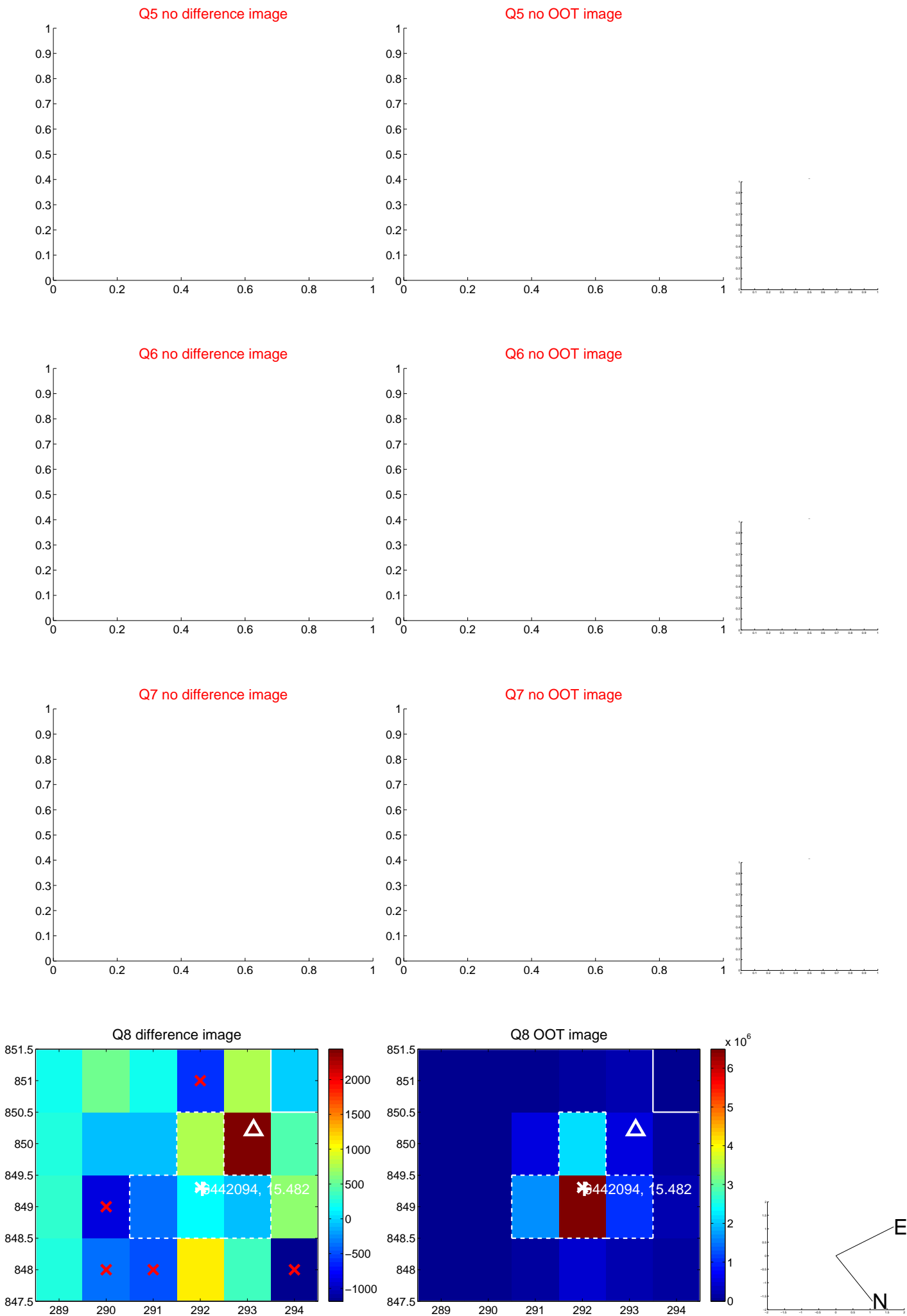


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



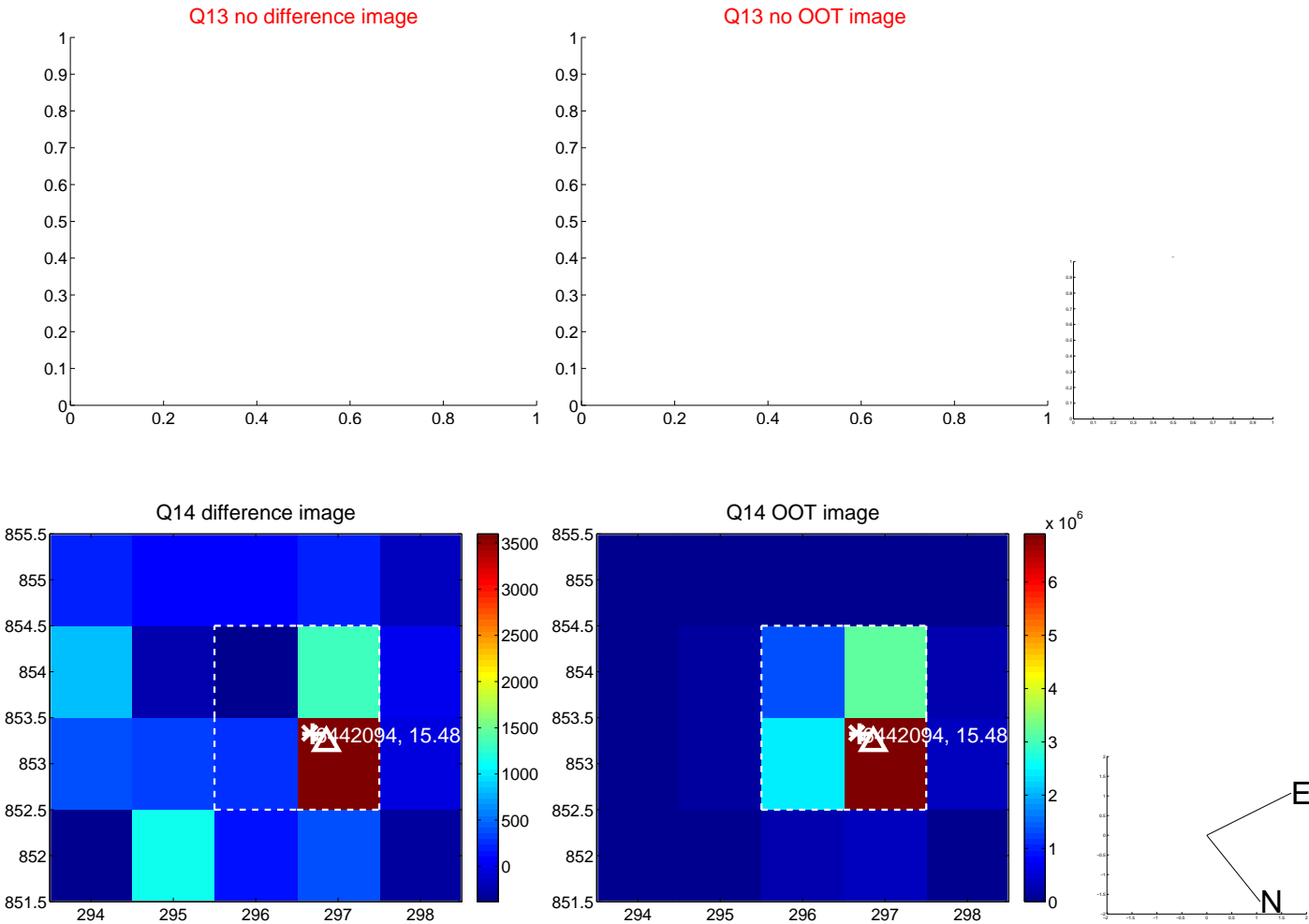
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



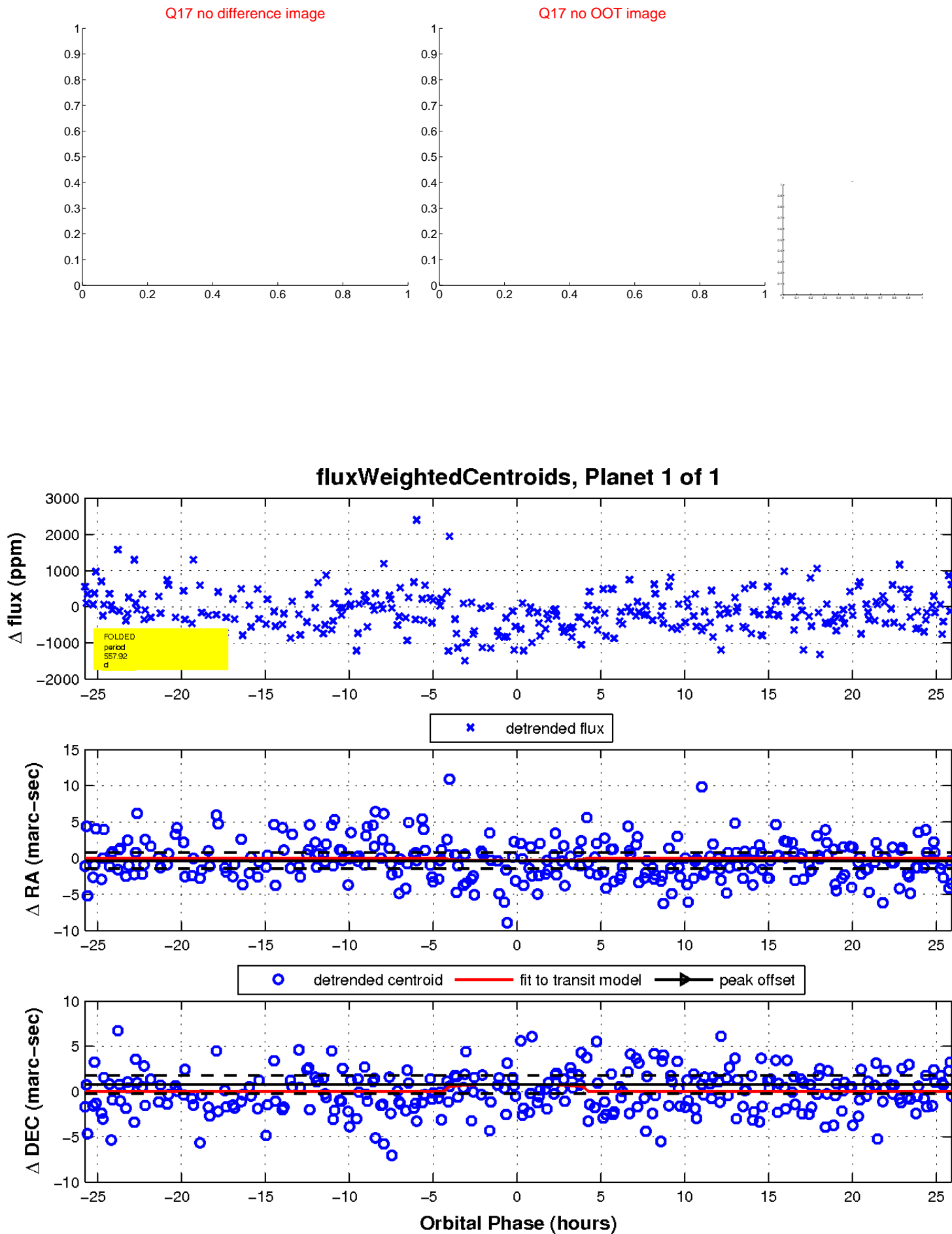
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

