

KIC 008838070

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})
008838070-01	OBS	No	43.379511	171.236032	478.9	18.091	28.0	30.7	1.43	6494	5.84	48.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008838070-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

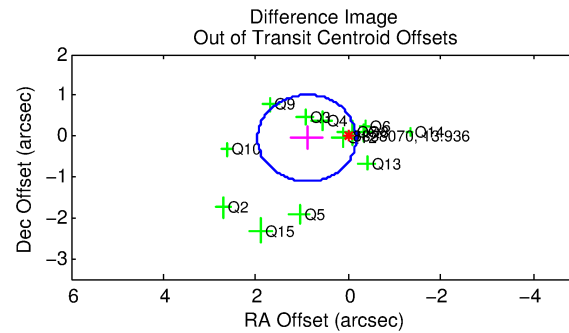
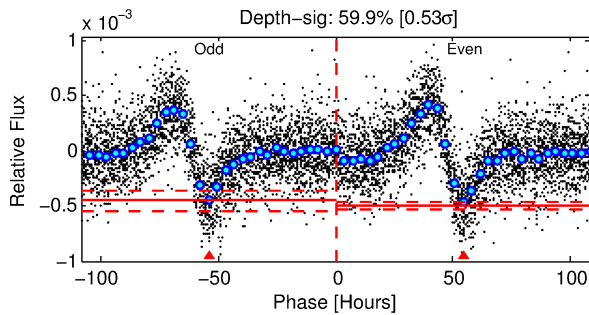
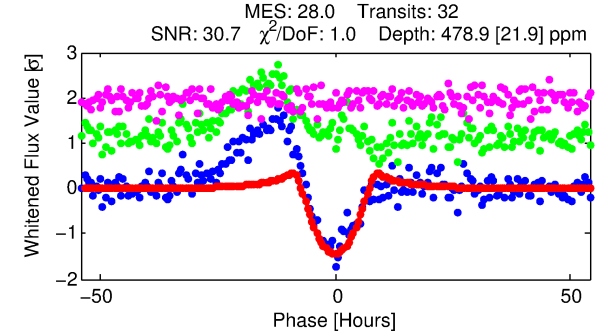
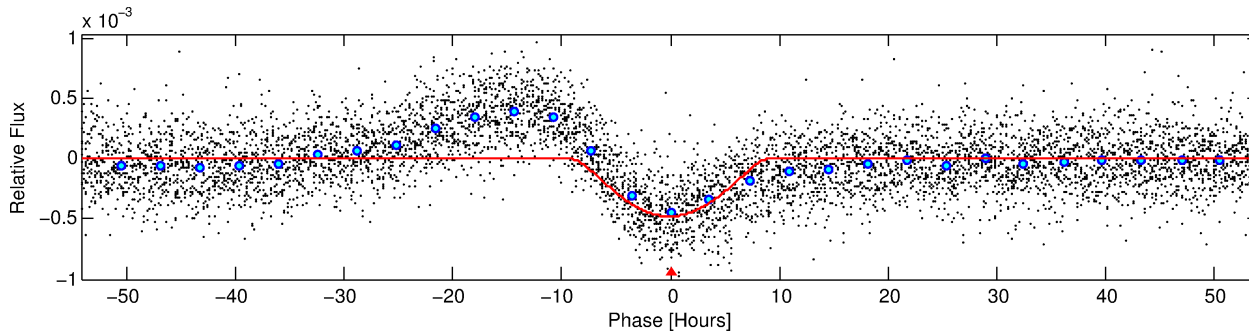
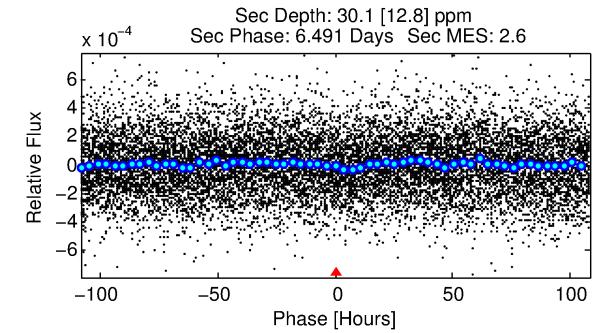
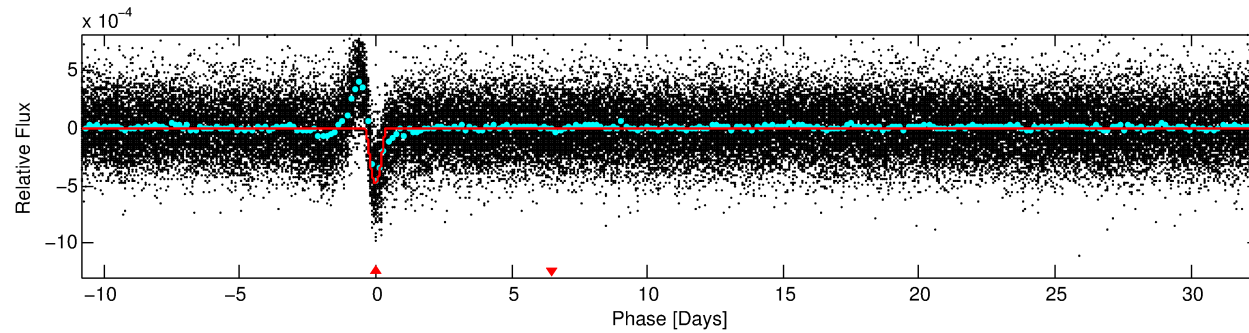
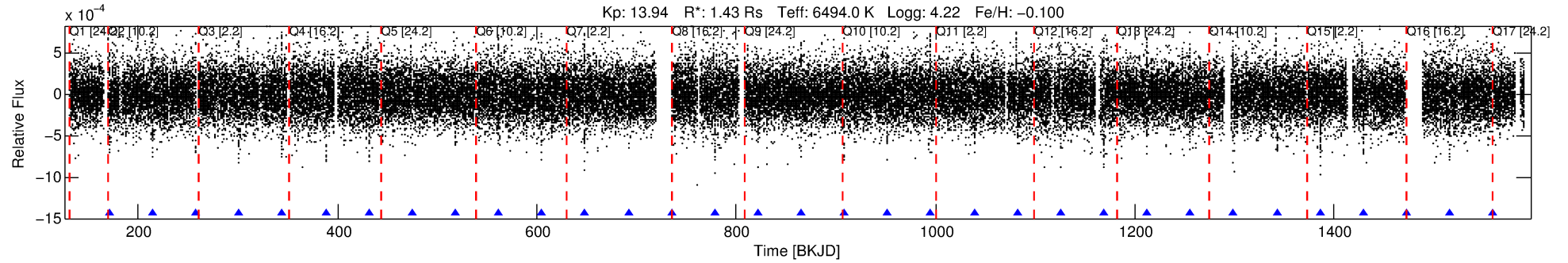
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008838070-01

No Significant Match Found

DV One-Page Summary

KIC: 8838070 Candidate: 1 of 1 Period: 43.380 d



DV Fit Results:

Period = 43.37951 [0.00068] d
Epoch = 171.2360 [0.0123] BKJD
Rp/R* = 0.0376 [0.0284]
a/R* = 5.28 [1.01]
b = 1.00 [0.04]
Seff = 48.28 [18.40]
Teff = 672 [64] K
Rp = 5.85 [4.77] Re
a = 0.2589 [0.0649] AU
Ag = 32.46 [52.25] [0.60 σ]
Teffp = 2481 [978] K [1.84 σ]

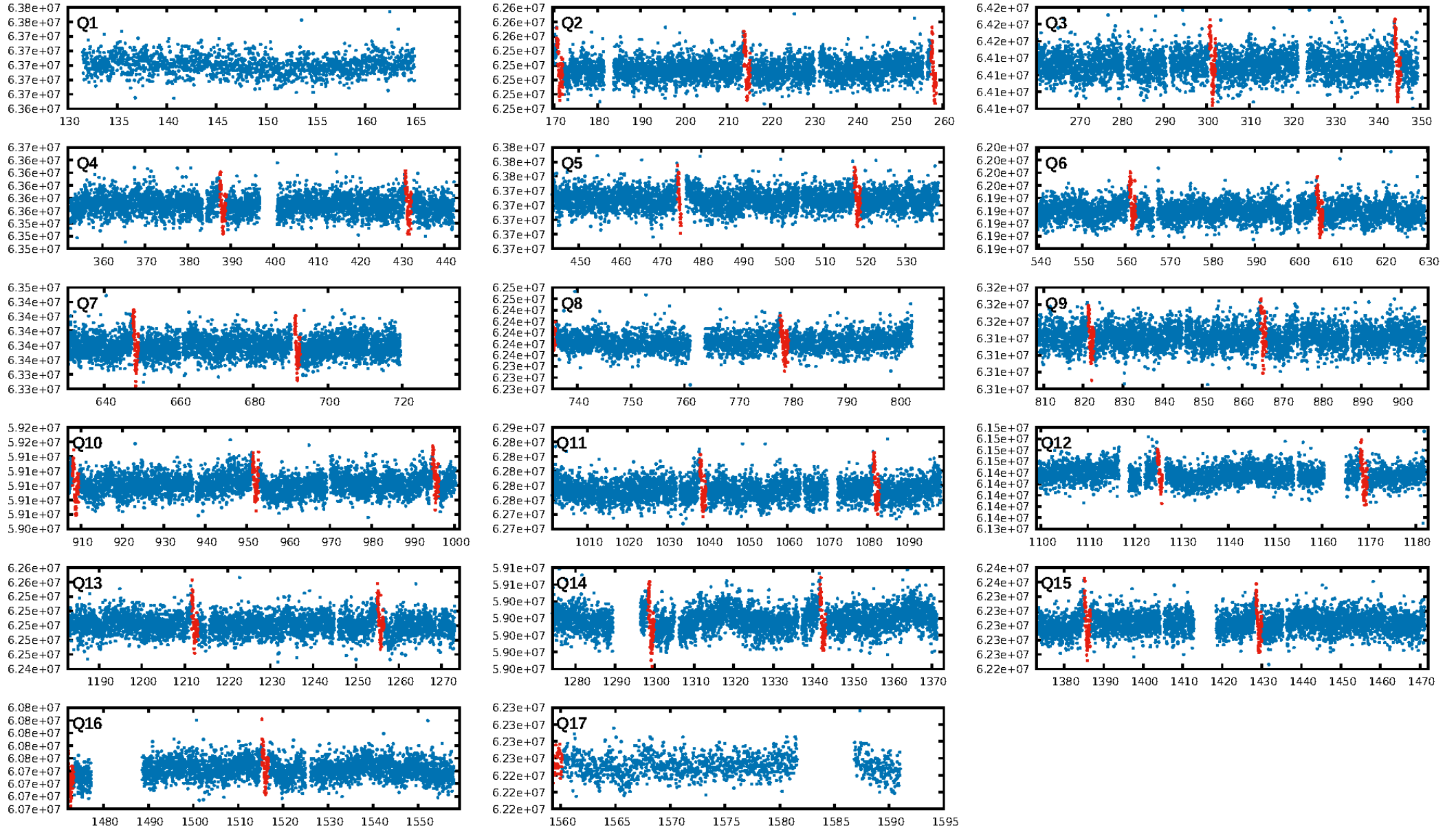
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 14.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.08e-146
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: 3.635
Centroid-sig: 0.3%
Centroid-so: 0.739 arcsec [2.05 σ]
OotOffset-rm: 0.903 arcsec [2.55 σ]
KicOffset-rm: 0.902 arcsec [2.38 σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [13/13]

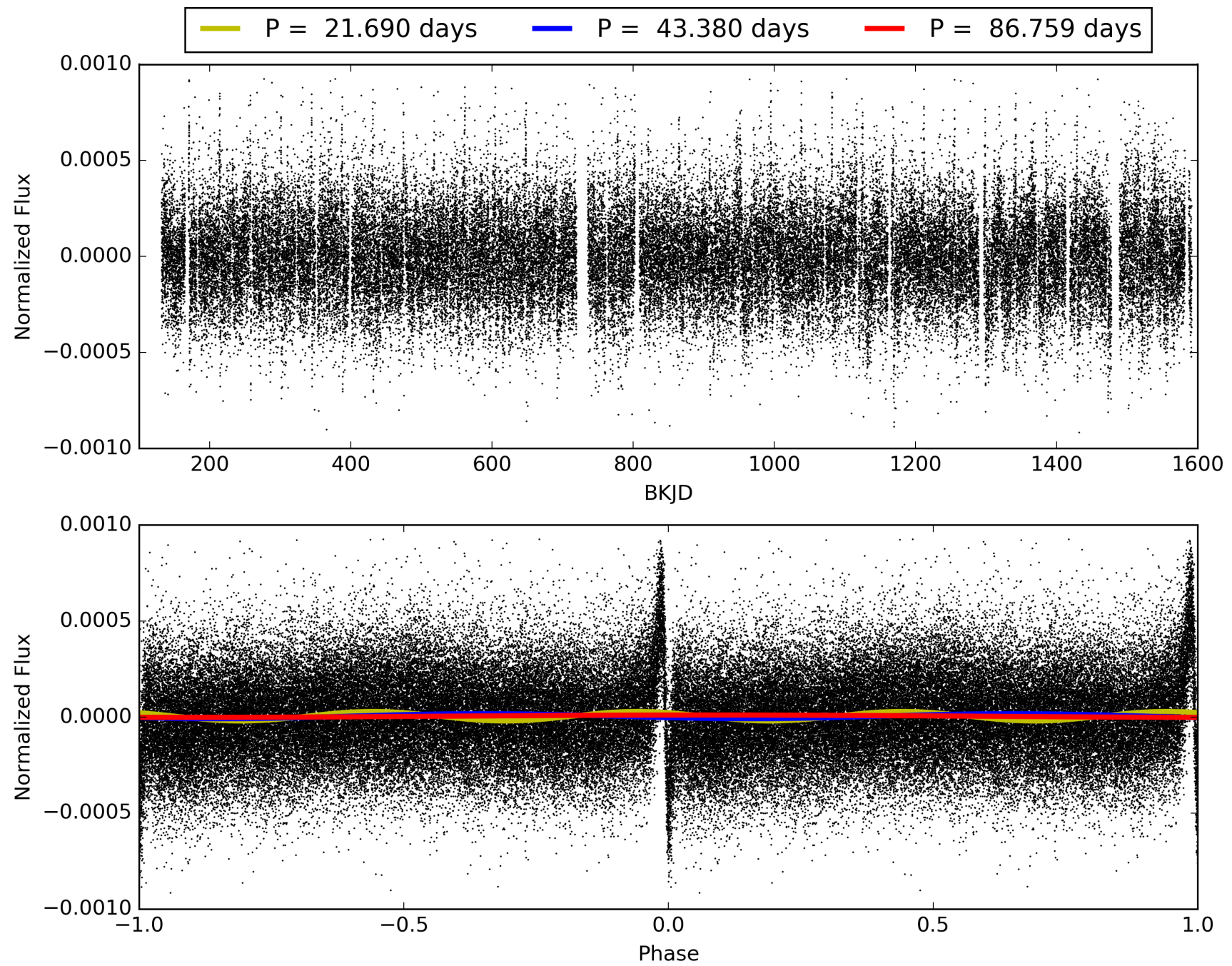
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:48:47 Z

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

TCE 008838070-01, PDC Light Curves

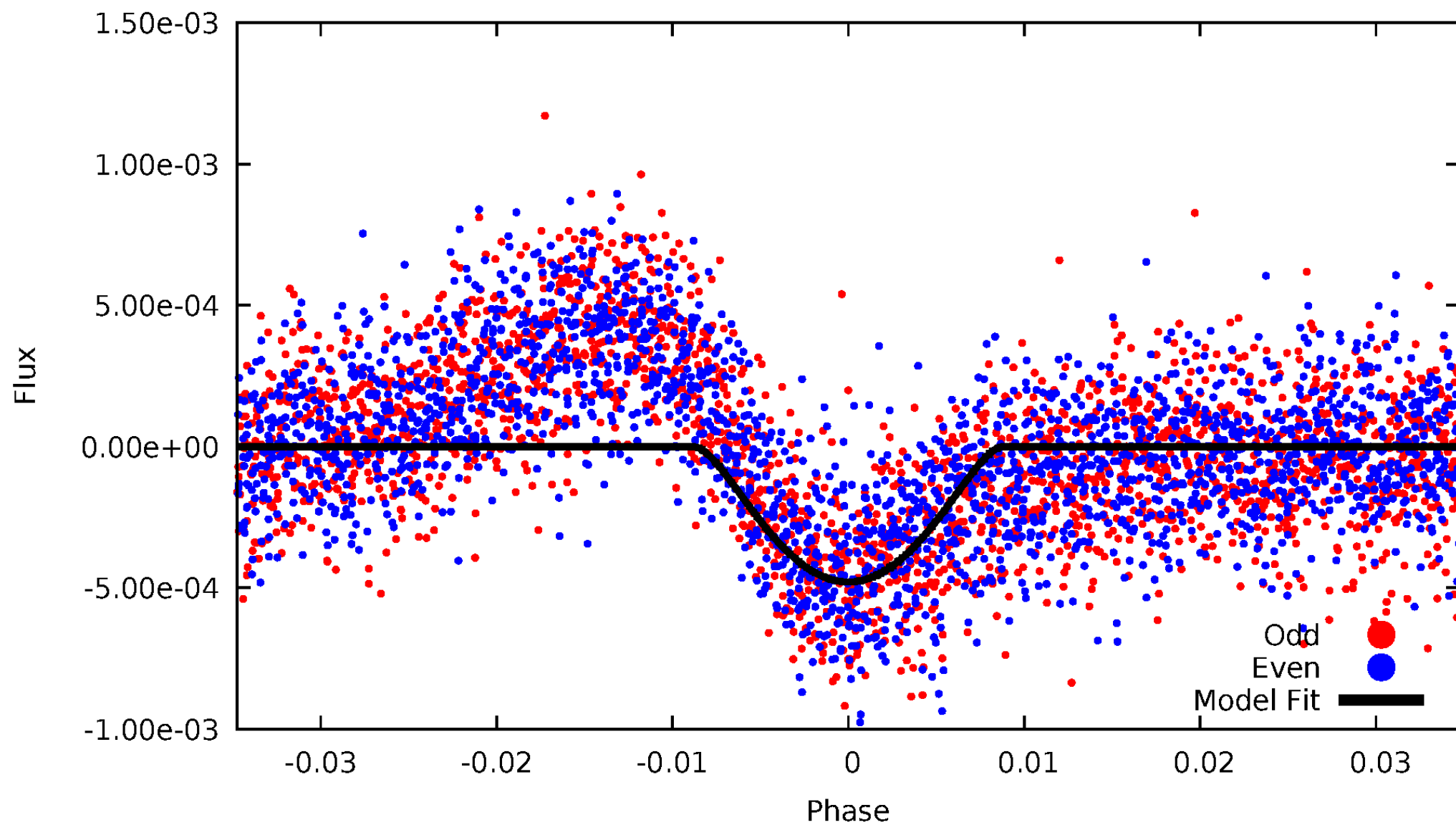


TCE 008838070-01



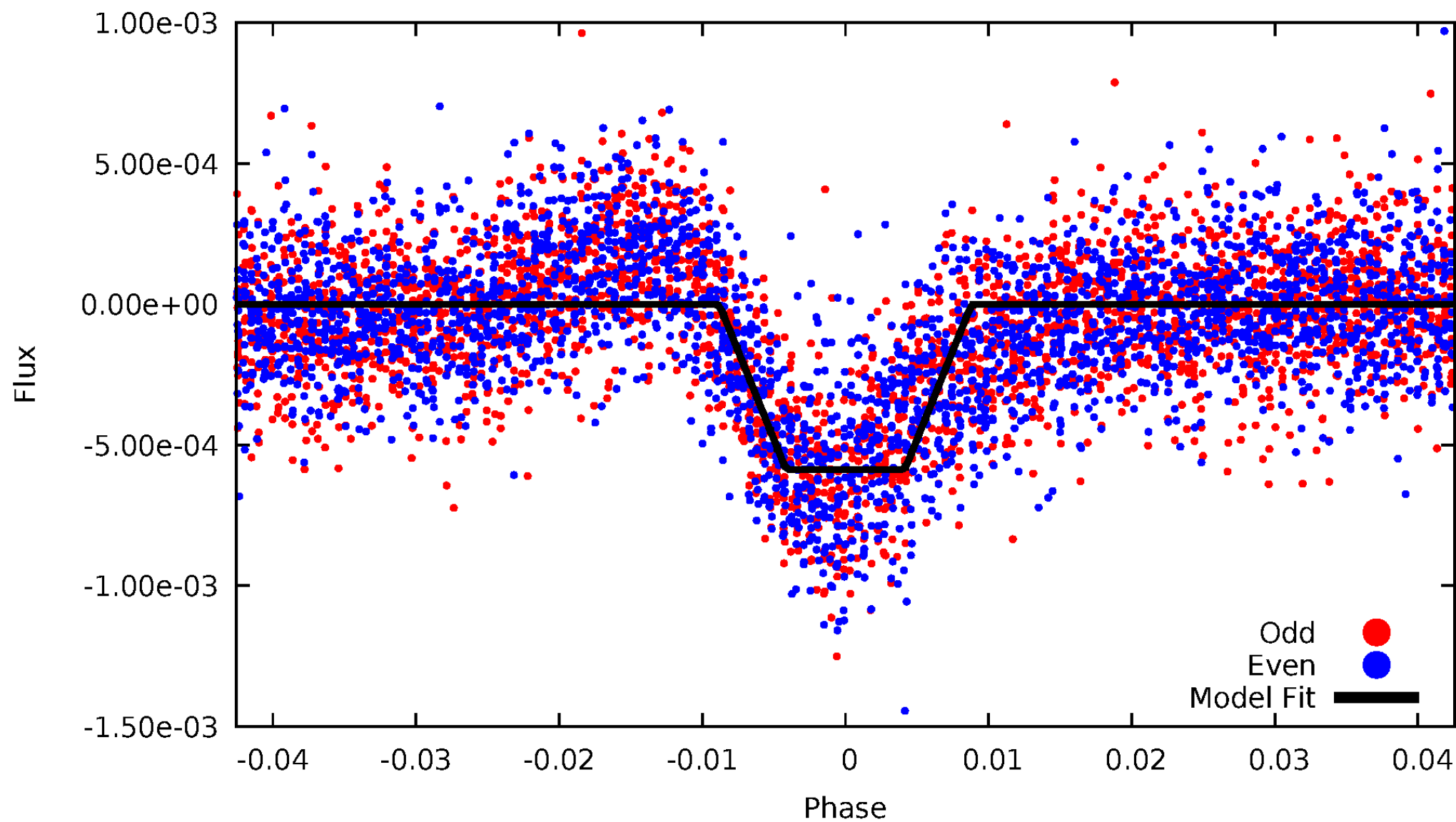
DV Odd/Even

TCE 008838070-01

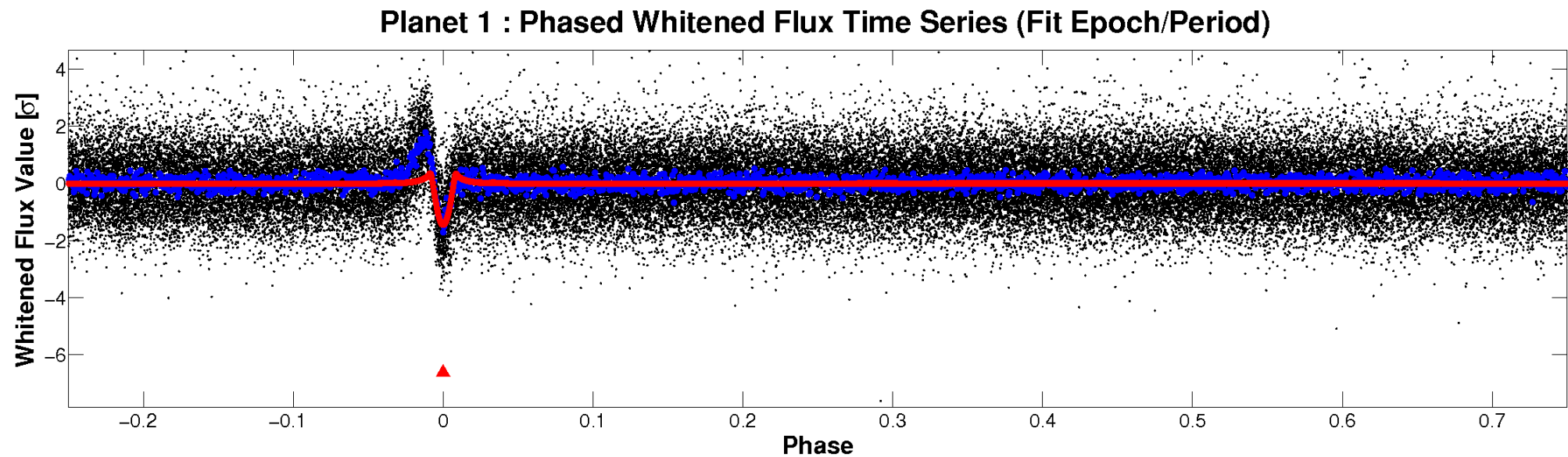
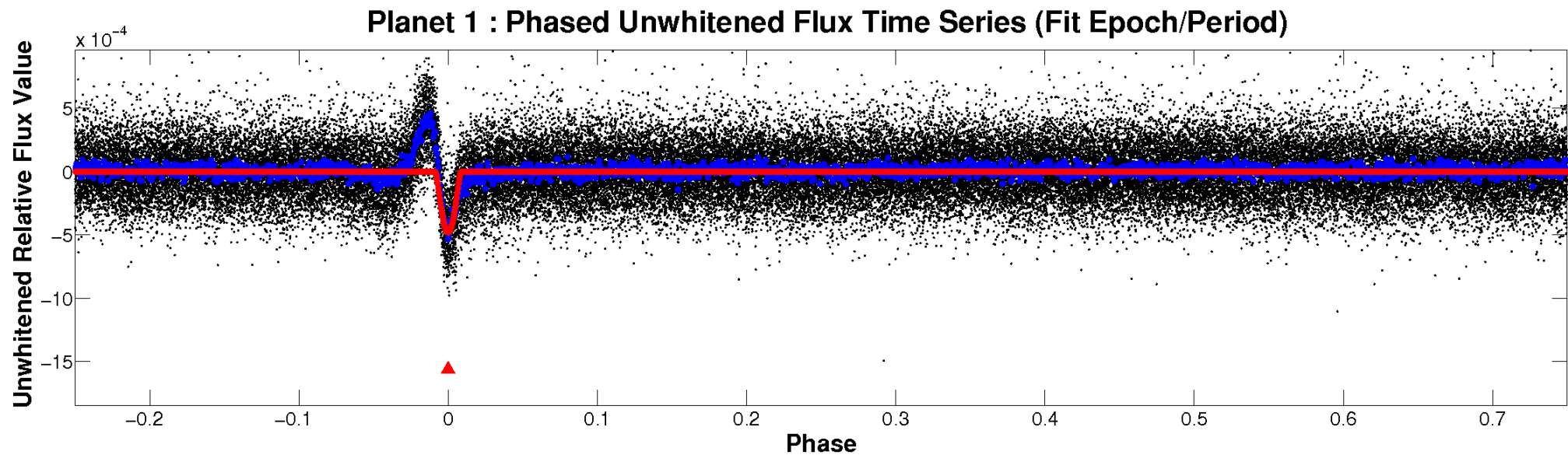


ALT Odd/Even

TCE 008838070-01

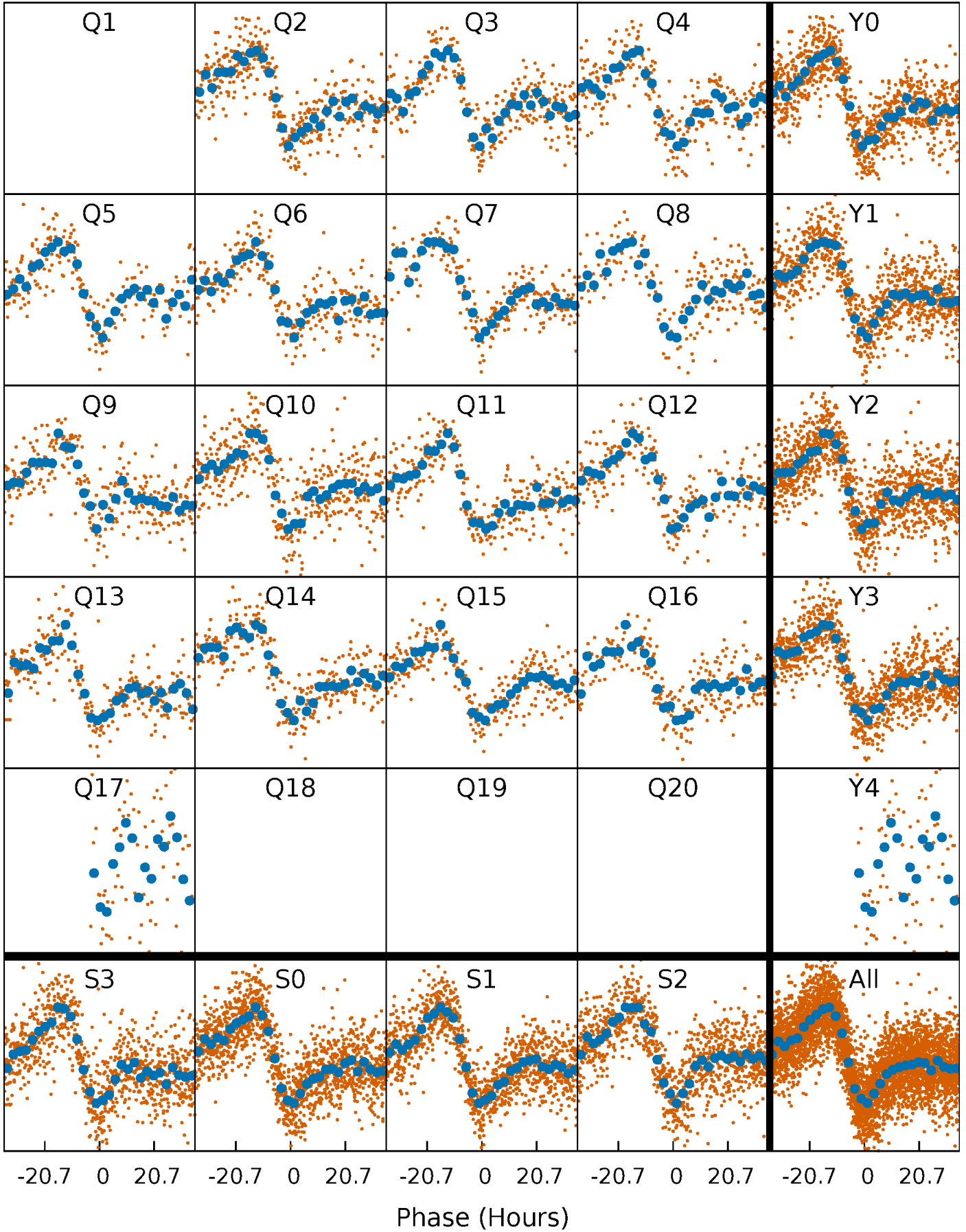


Non-Whitened Vs. Whitened Light Curve



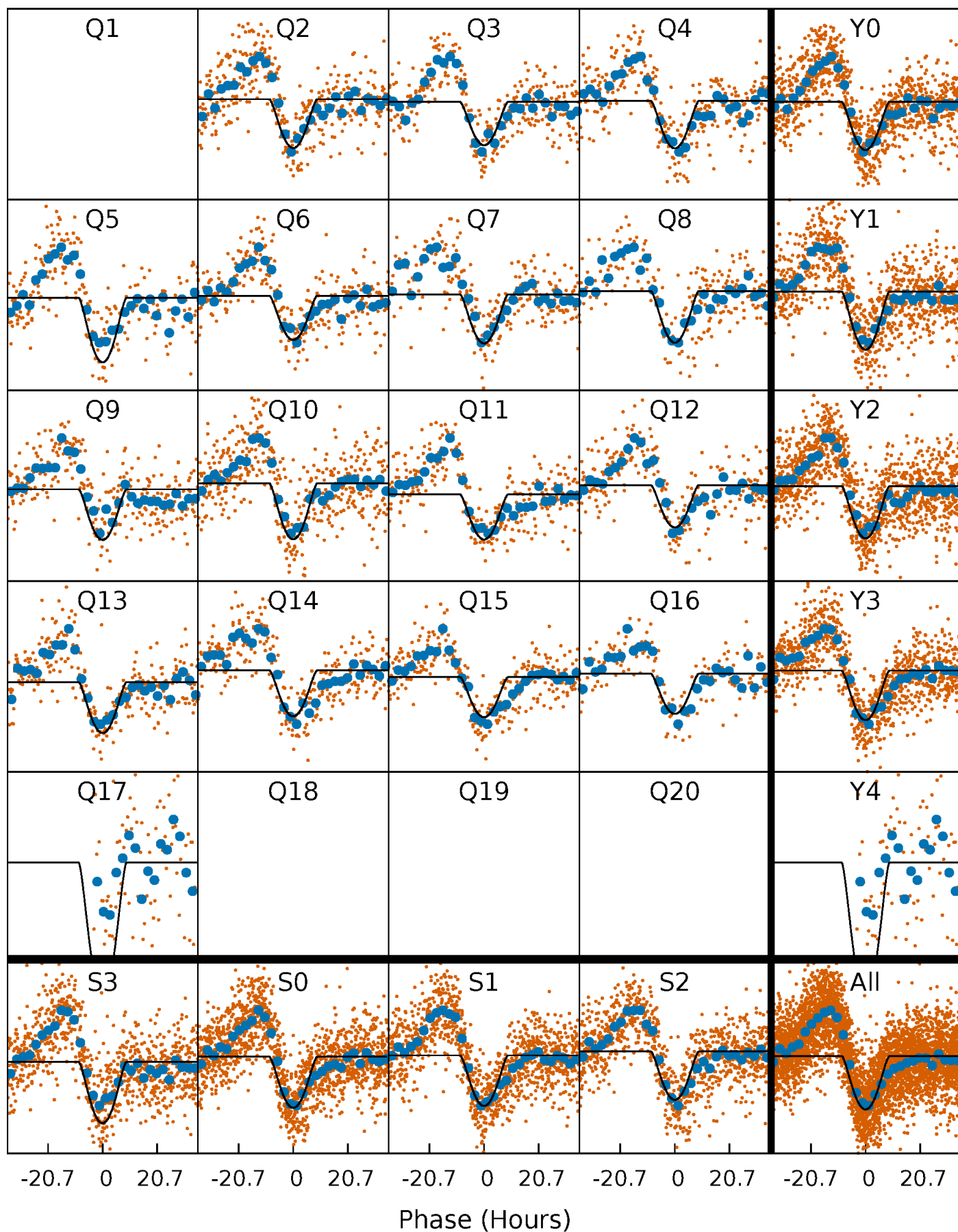
PDC Quarter-Phased Transit Curves

TCE 008838070-01 P= 43.379511 Days $T_0=171.236032$ (BKJD)



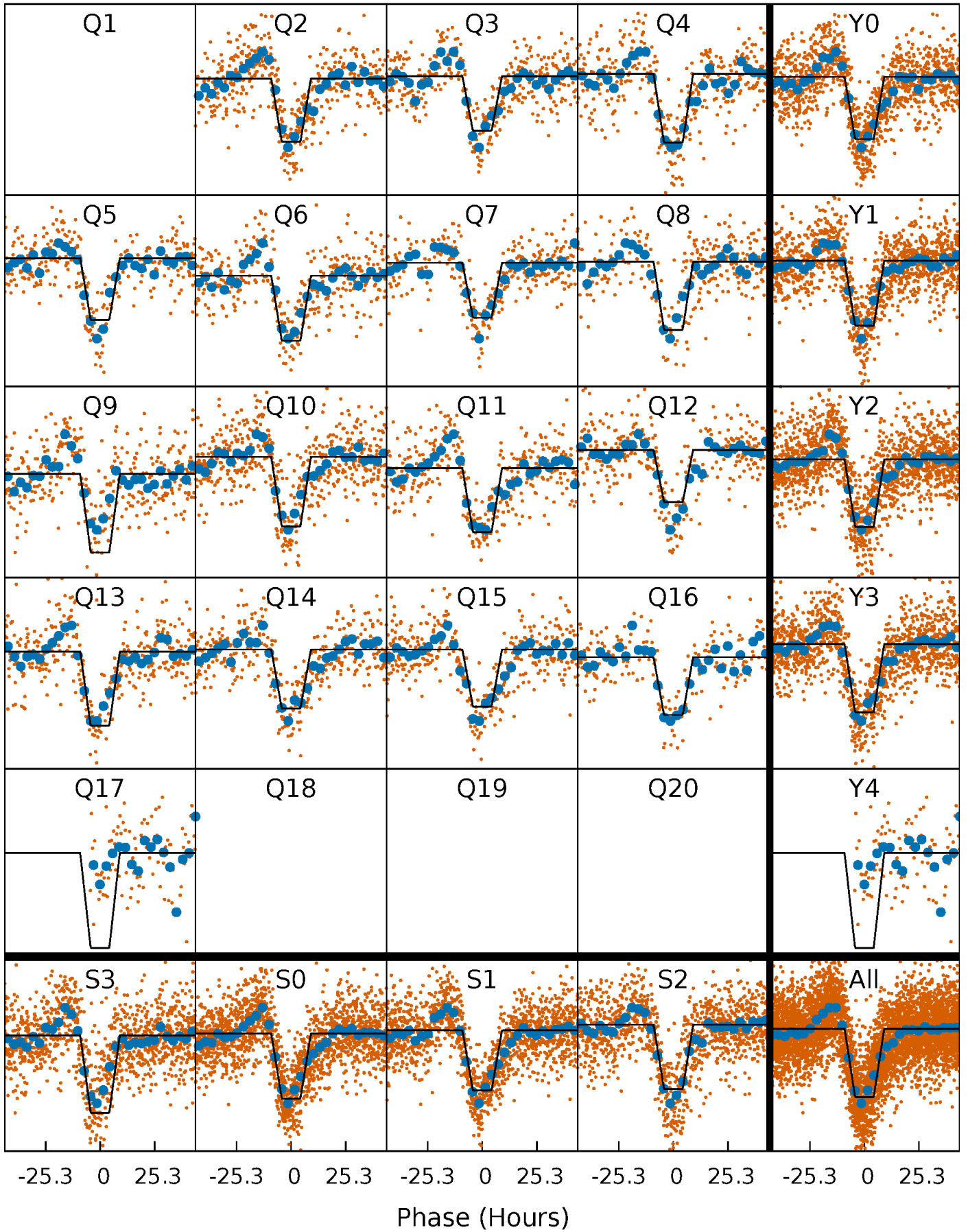
DV Quarter-Phased Transit Curves

TCE 008838070-01 P= 43.379511 Days $T_0=171.236032$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

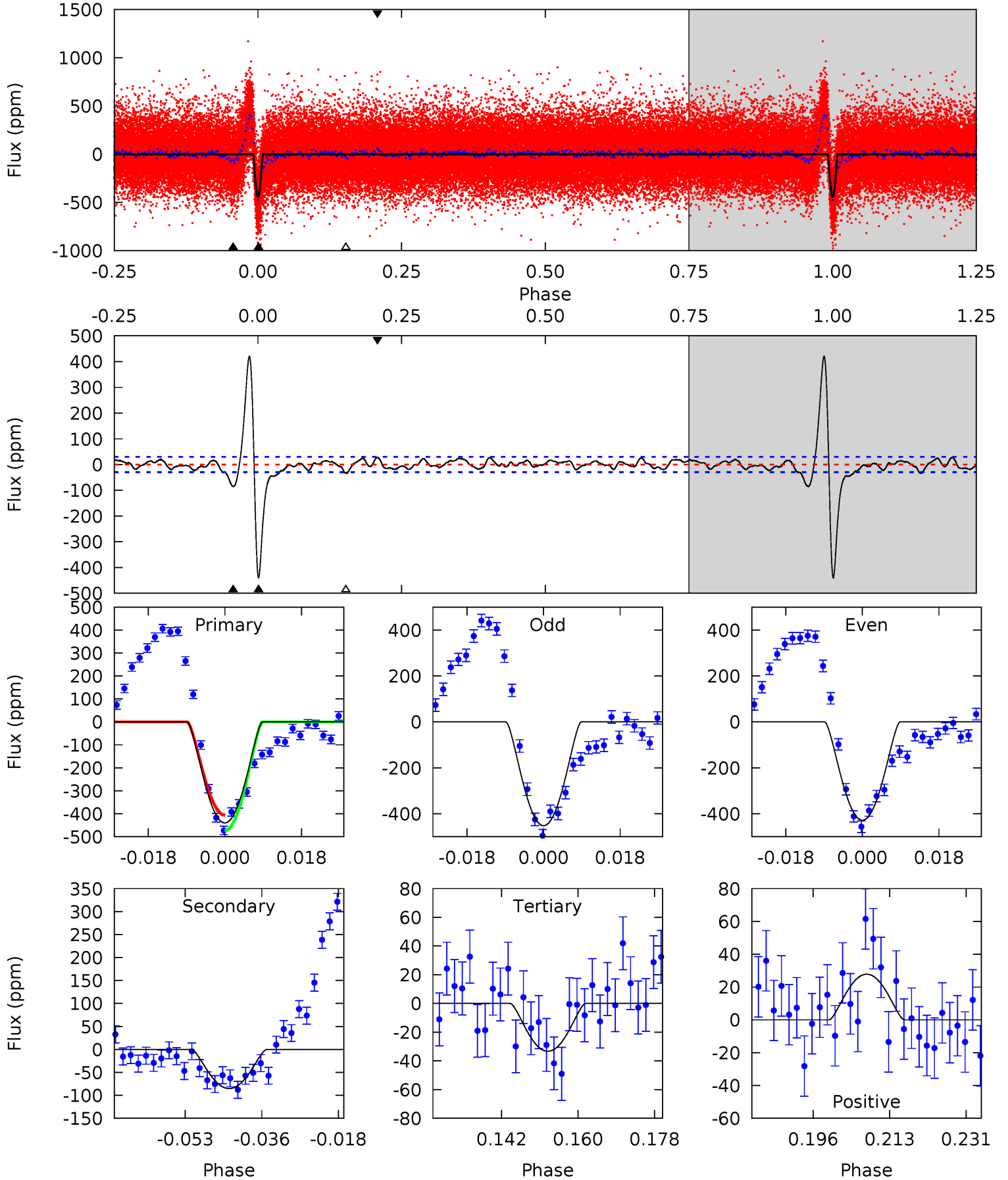
TCE 008838070-01 P= 43.380342 Days $T_0=171.260679$ (BKJD)



DV Model-Shift Uniqueness Test

008838070-01, P = 43.379511 Days, E = 127.856521 Days

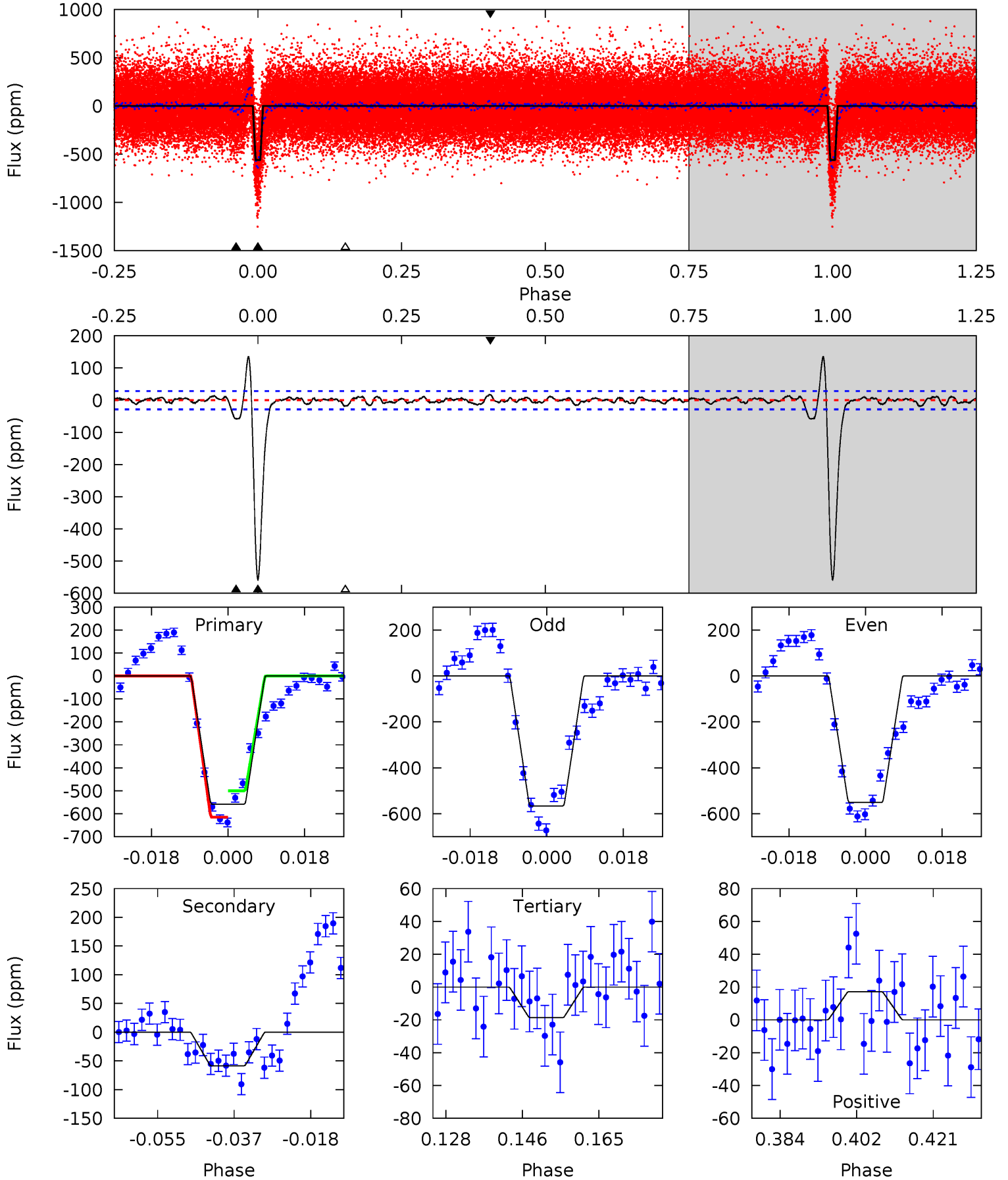
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.3	14.0	5.47	4.57	4.91	2.37	4.96	66.8	67.7	8.54	9.44	1.93	0.96	0.49	5.49



Alt Model-Shift Uniqueness Test

008838070-01, P = 43.380342 Days, E = 127.880337 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
96.7	10.2	3.23	2.98	4.91	2.36	1.38	93.5	93.8	6.92	7.17	1.30	0.94	0.19	9.96



Stellar Parameters For KIC 008838070

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6494^{+155}_{-233}	$4.220^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.425^{+0.439}_{-0.293}$	$1.229^{+0.188}_{-0.188}$	$0.599^{+0.464}_{-0.299}$
	+2%/-4%	+4%/-4%	+250%/-300%	+31%/-21%	+15%/-15%	+77%/-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 008838070-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-85 ± 6	$6.44^{+4.54}_{-4.20}$	937^{+69}_{-60}	3530^{+1585}_{-528}	77^{+536}_{-50}
Alt.	-59 ± 6	$4.91^{+4.32}_{-3.25}$	940^{+72}_{-61}	3655^{+1854}_{-649}	88^{+693}_{-63}

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 $A_{obs} \gg 1.0$

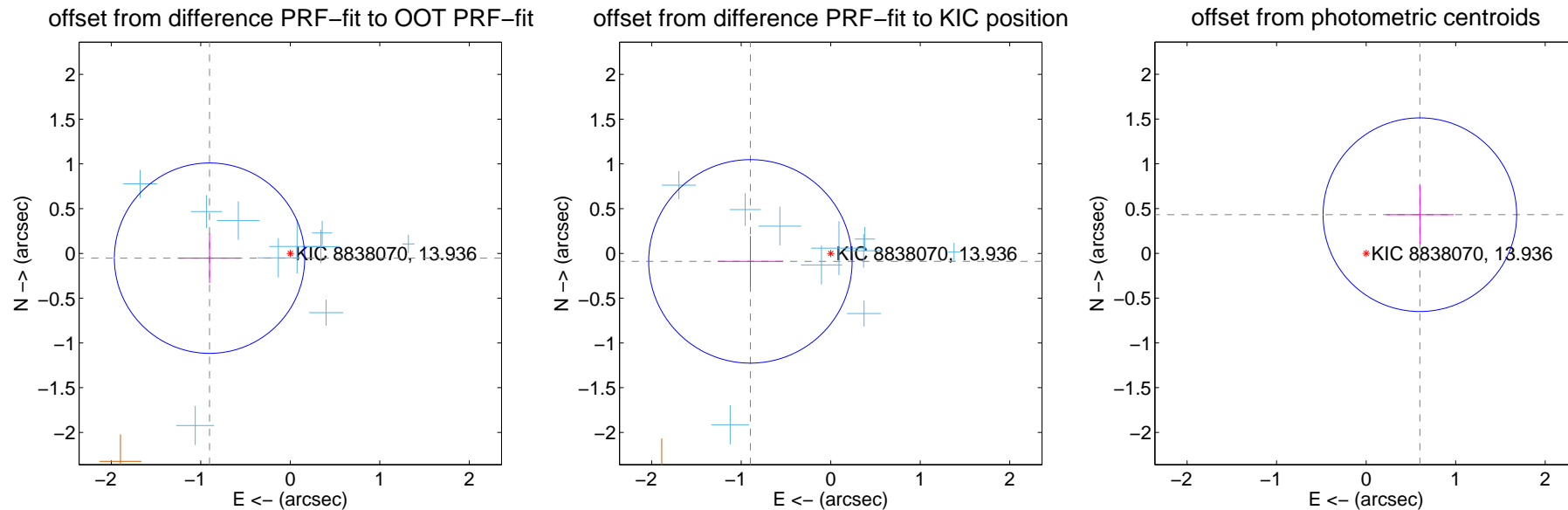
DV Centroid Data

Supplemental centroid analysis for 008838070-01. Kepler magnitude: 13.94. Transit SNR 30.72

There are 12 quarters with good PRF difference image offsets

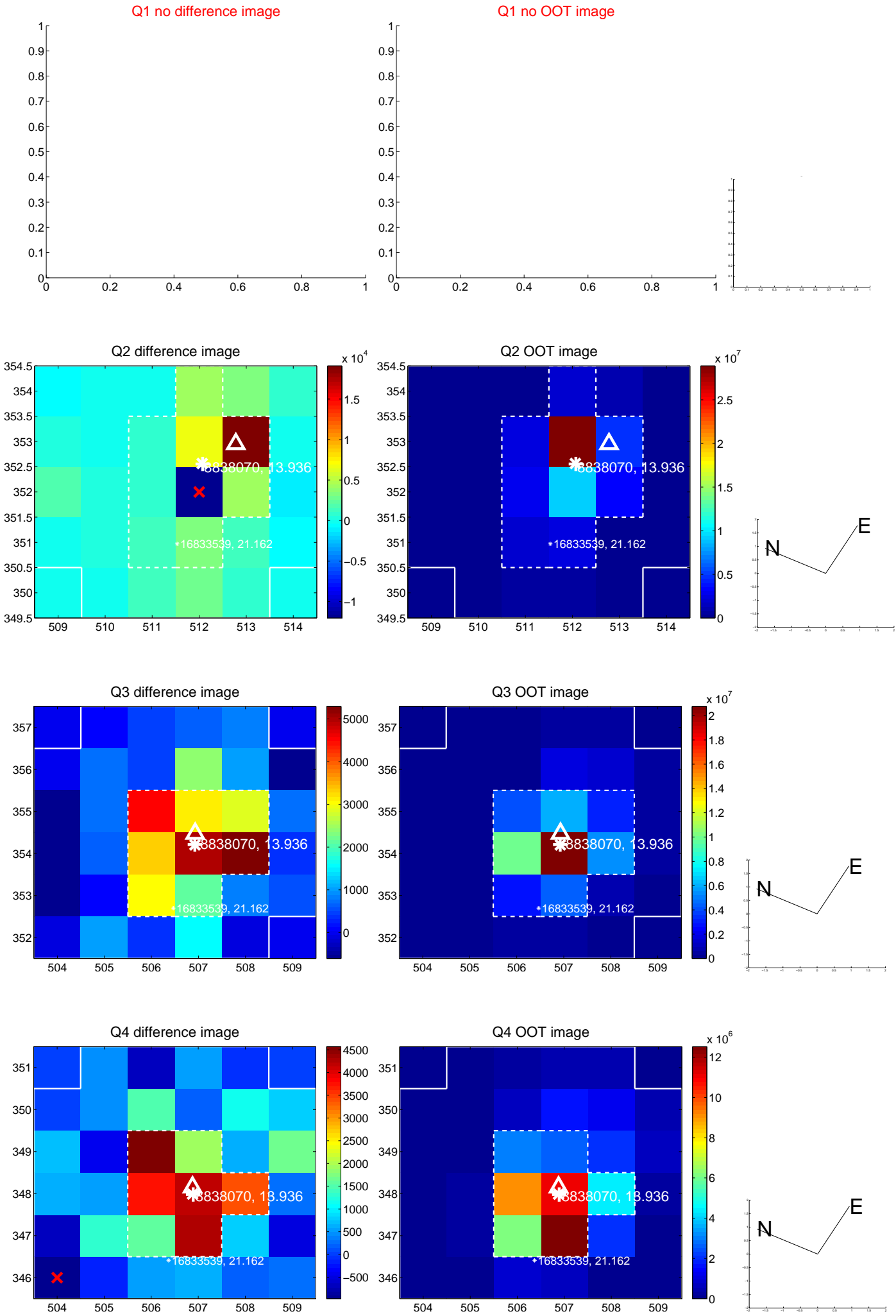
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.903 ± 0.354	2.55	0.902 ± 0.347	-0.053 ± 0.279
PRF-fit source offset from KIC position	0.902 ± 0.379	2.38	0.897 ± 0.366	-0.089 ± 0.284
photometric centroid source offset	0.74 ± 0.36	2.05	-0.60 ± 0.38	0.43 ± 0.33

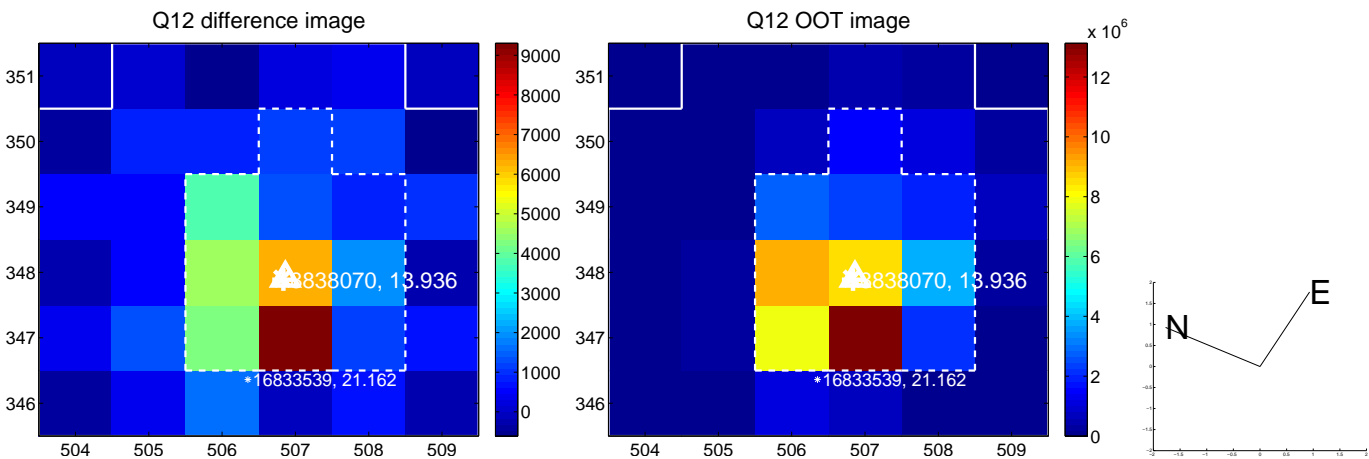
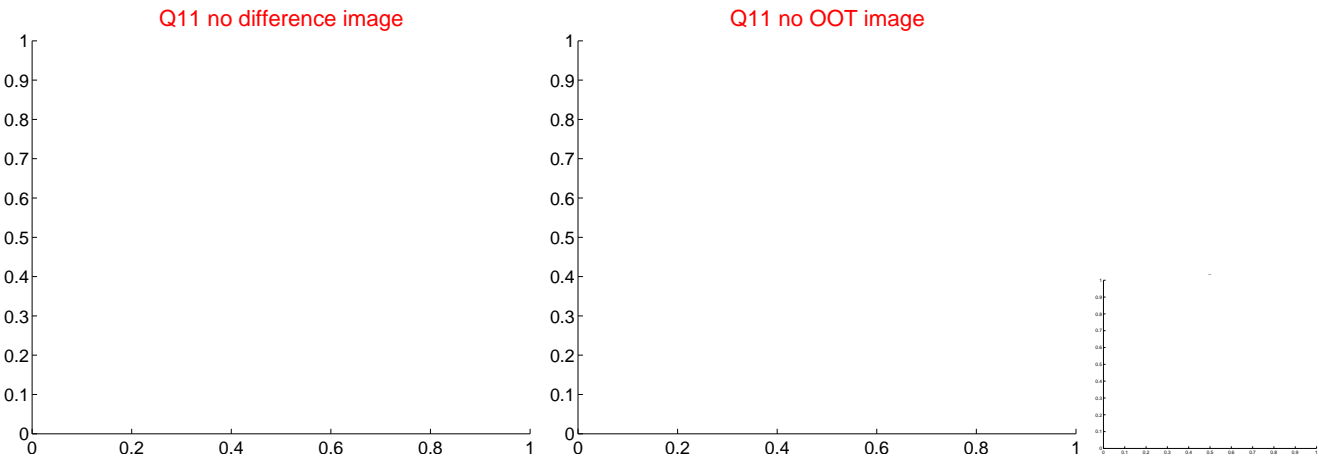
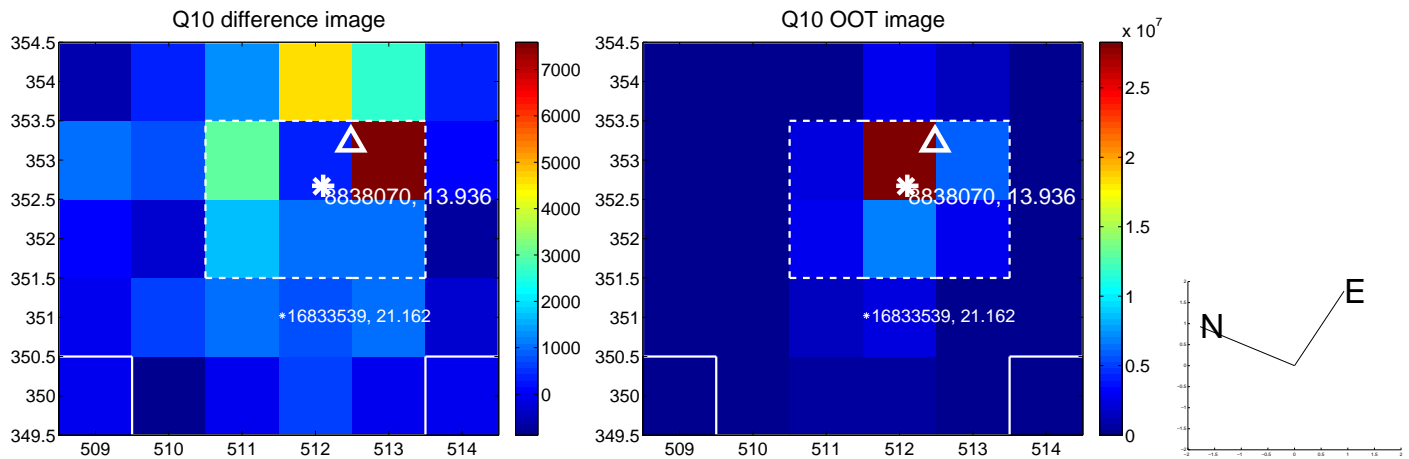
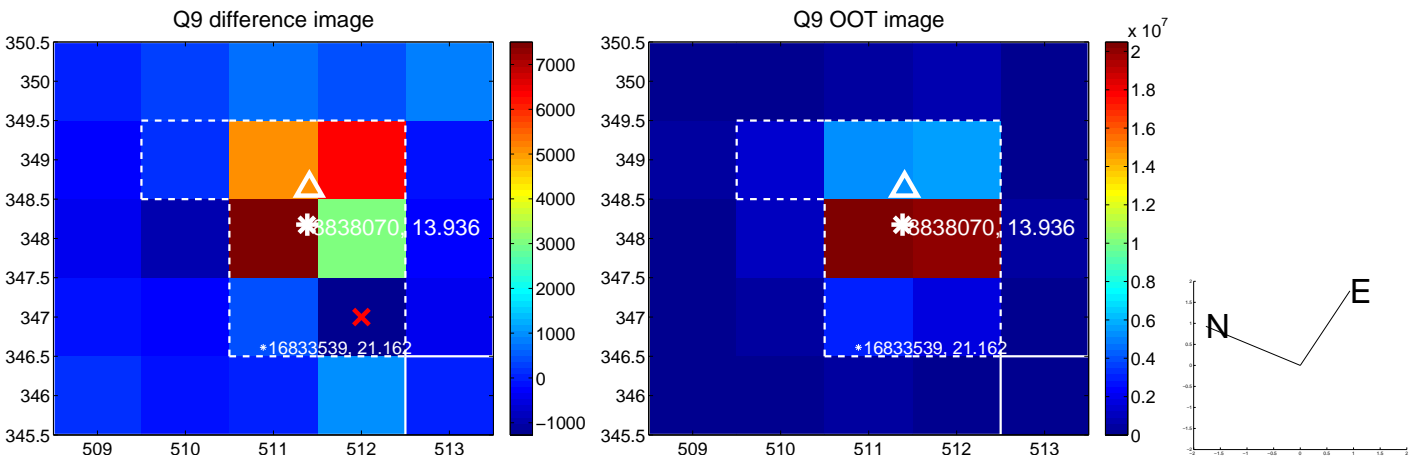


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

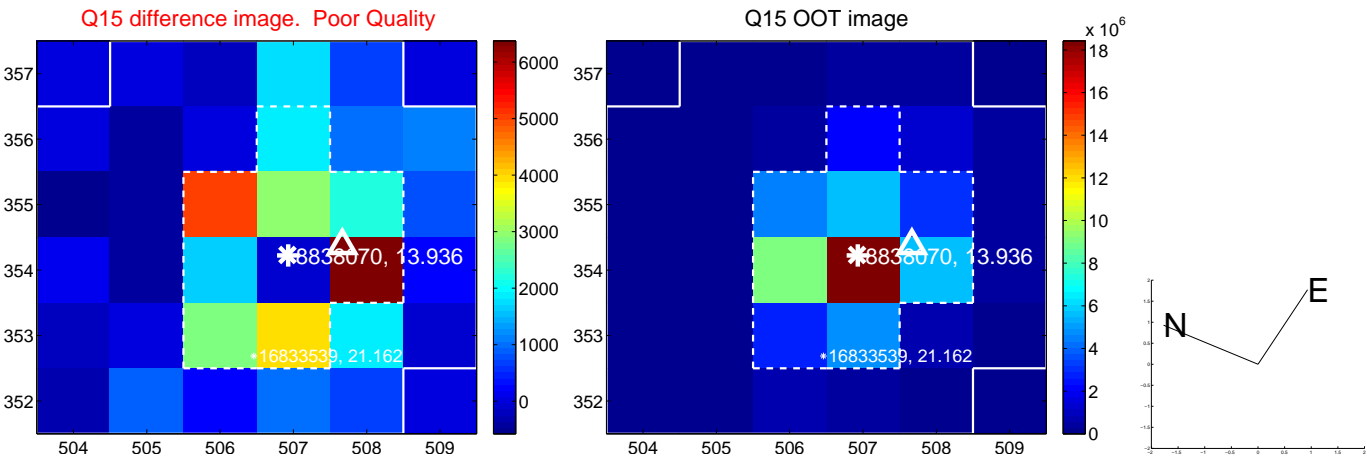
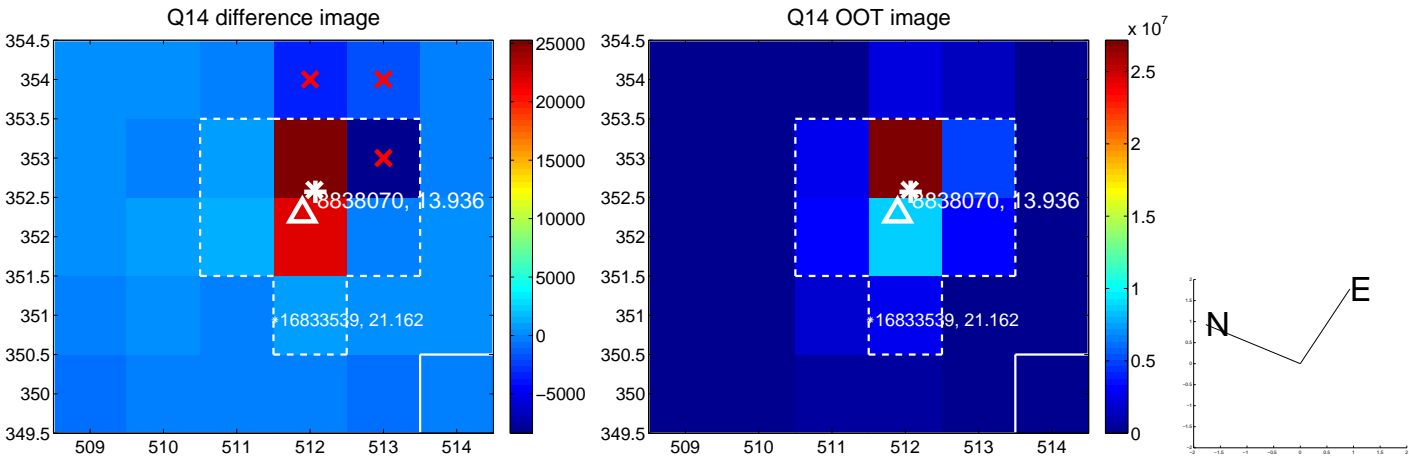
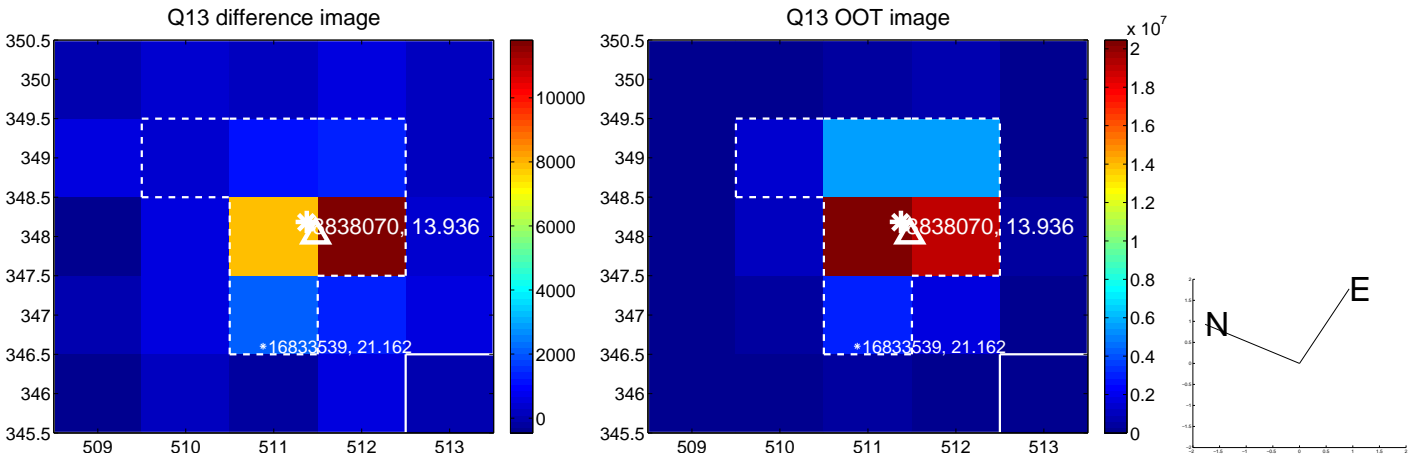
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



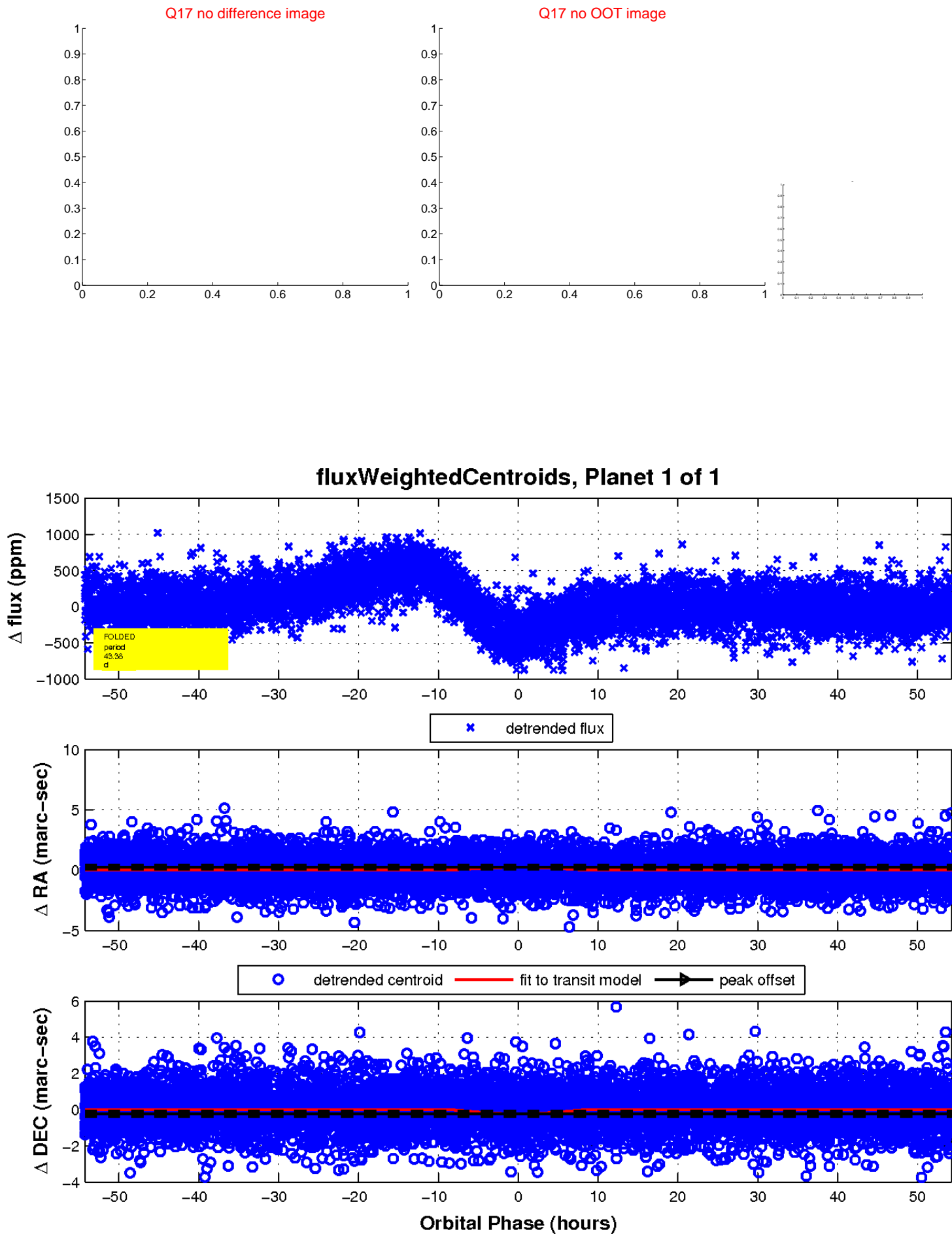
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

