

KIC 006838050

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})
006838050-01	OBS	0512.01	6.510021	133.856377	599.2	3.417	40.5	44.7	1.15	5638	3.17	253.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006838050-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

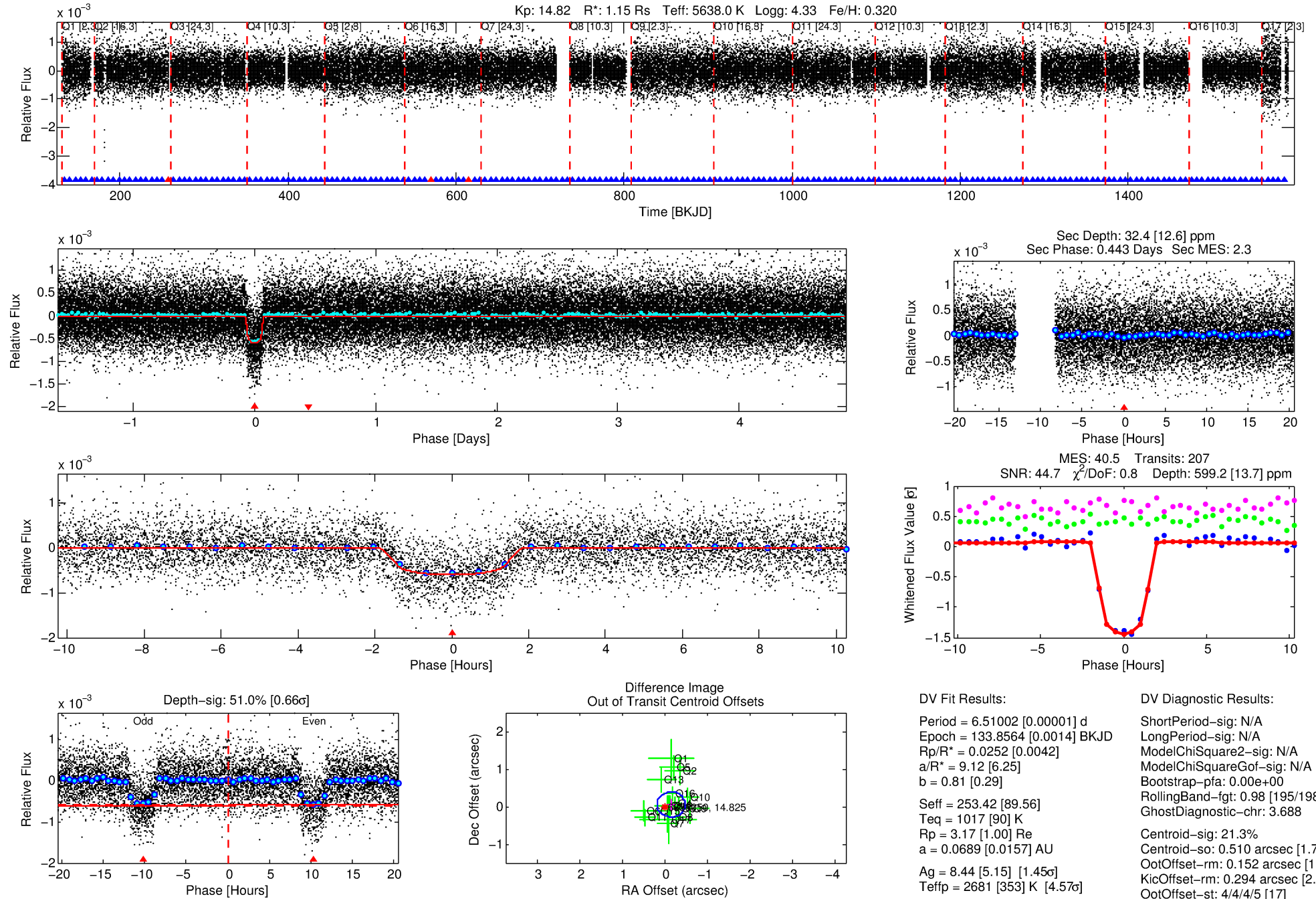
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006838050-01

No Significant Match Found

DV One-Page Summary

KIC: 6838050 Candidate: 1 of 1 Period: 6.510 d
KOI: K00512.01 Corr: 0.987



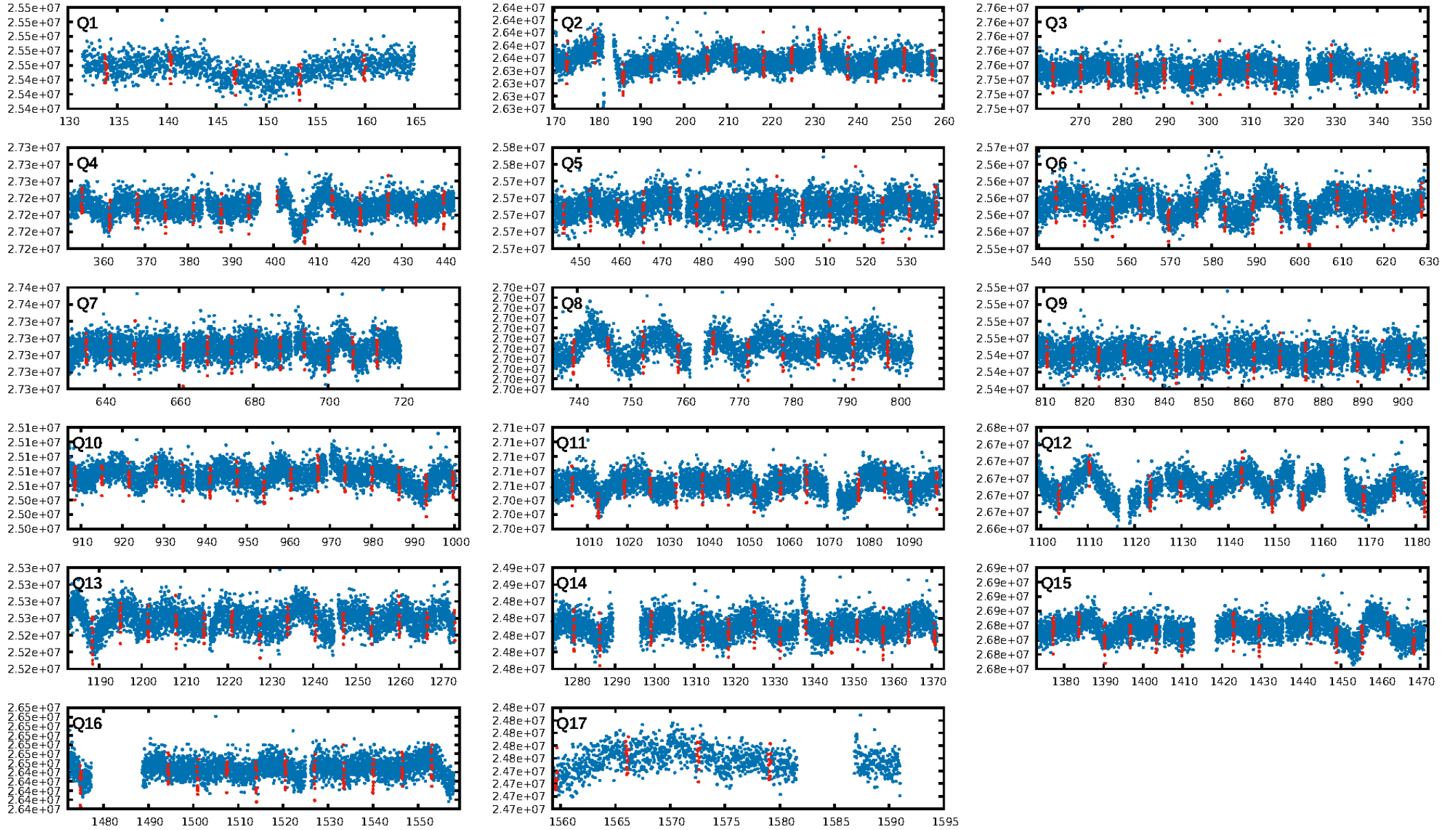
DV Fit Results:

Period = 6.51002 [0.00001] d
Epoch = 133.8564 [0.0014] BKJD
Rp/R* = 0.0252 [0.0042]
a/R* = 9.12 [6.25]
b = 0.81 [0.29]
Seff = 253.42 [89.56]
Teq = 1017 [90] K
Rp = 3.17 [1.00] Re
a = 0.0689 [0.0157] AU
Ag = 8.44 [5.15] [1.45 σ]
Teffp = 2681 [353] K [4.57 σ]

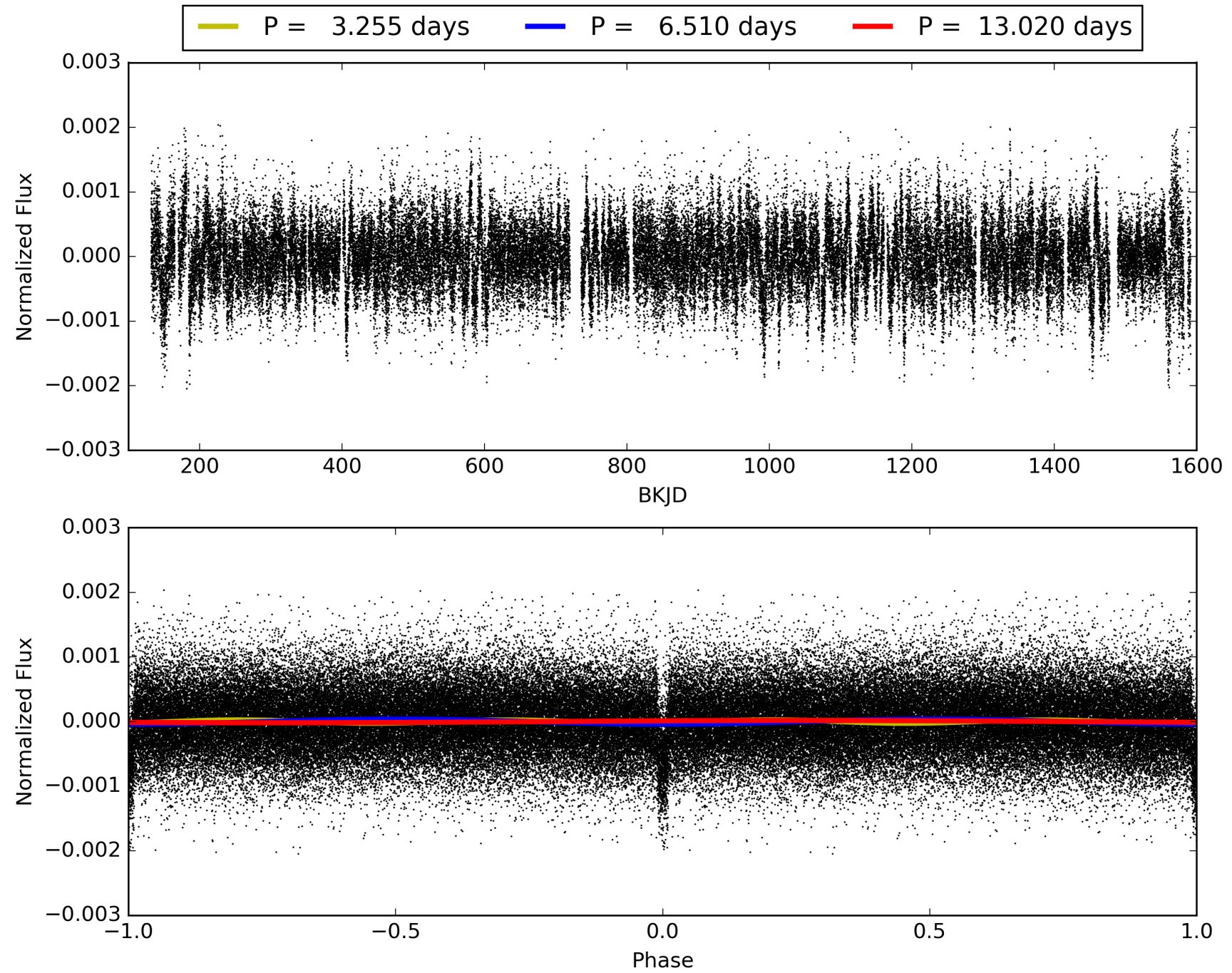
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [195/198]
GhostDiagnostic-chr: 3.688
Centroid-sig: 21.3%
Centroid-so: 0.510 arcsec [1.74 σ]
OotOffset-rm: 0.152 arcsec [1.37 σ]
KicOffset-rm: 0.294 arcsec [2.16 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006838050-01, PDC Light Curves

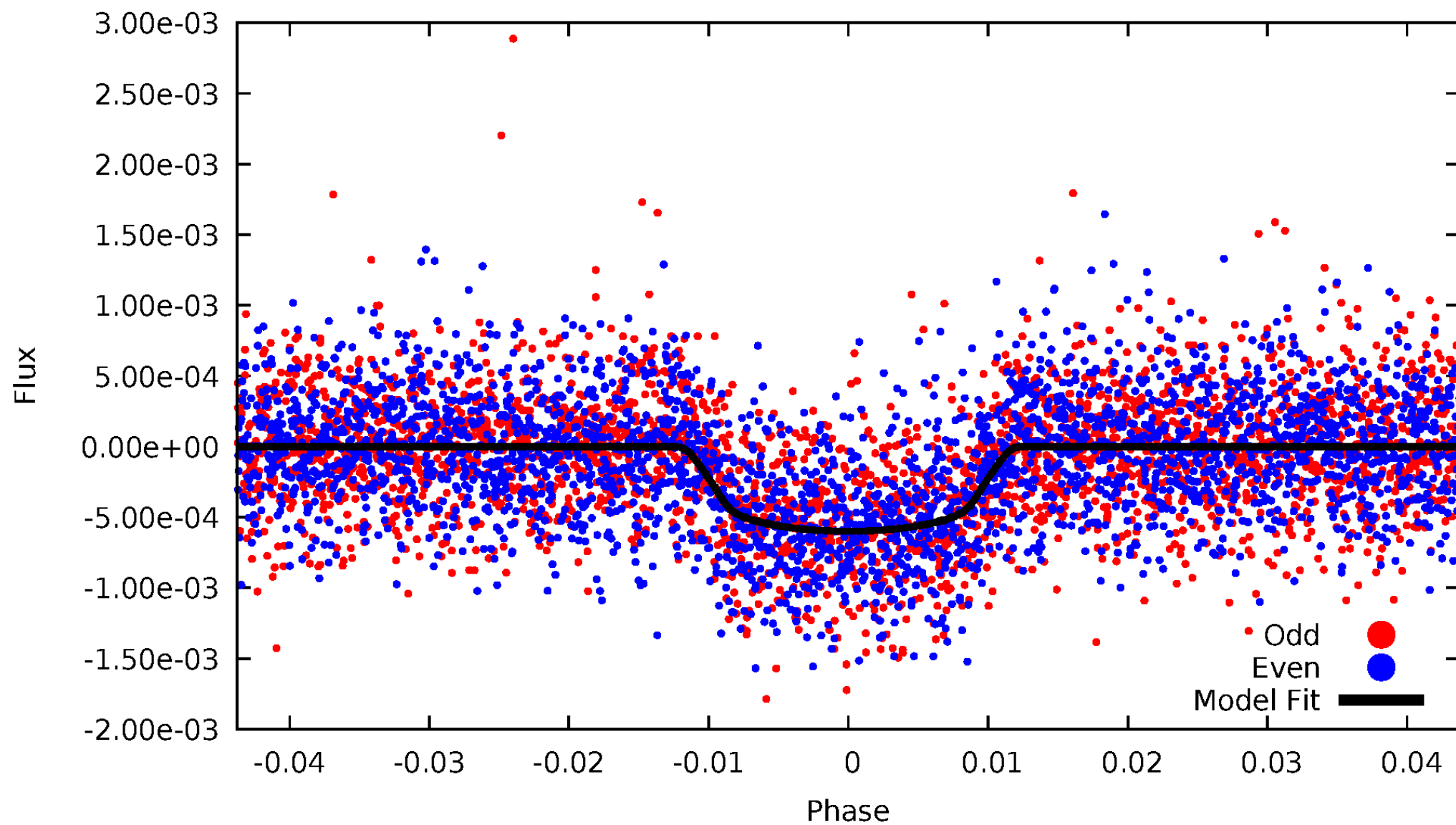


TCE 006838050-01



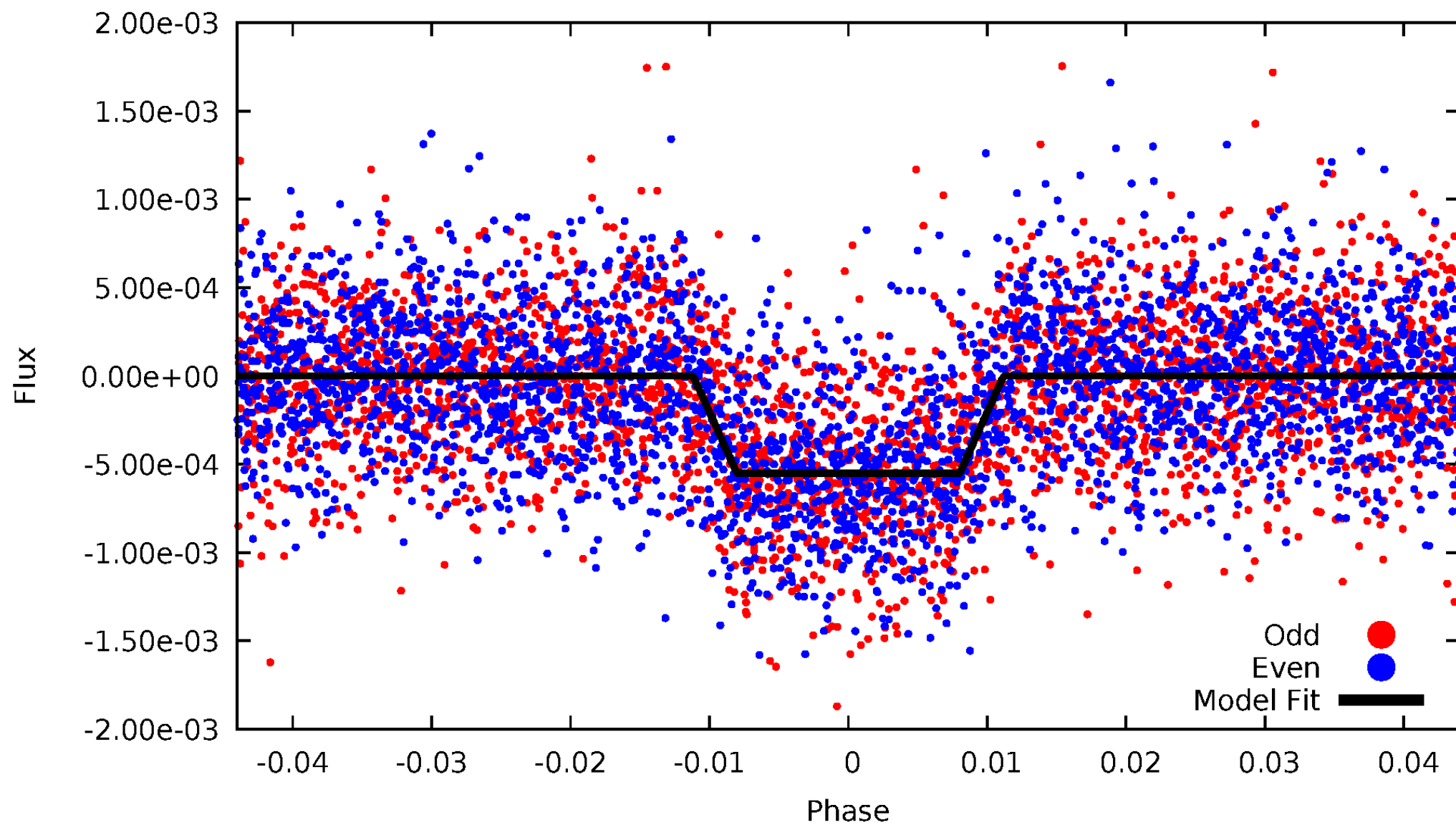
DV Odd/Even

TCE 006838050-01

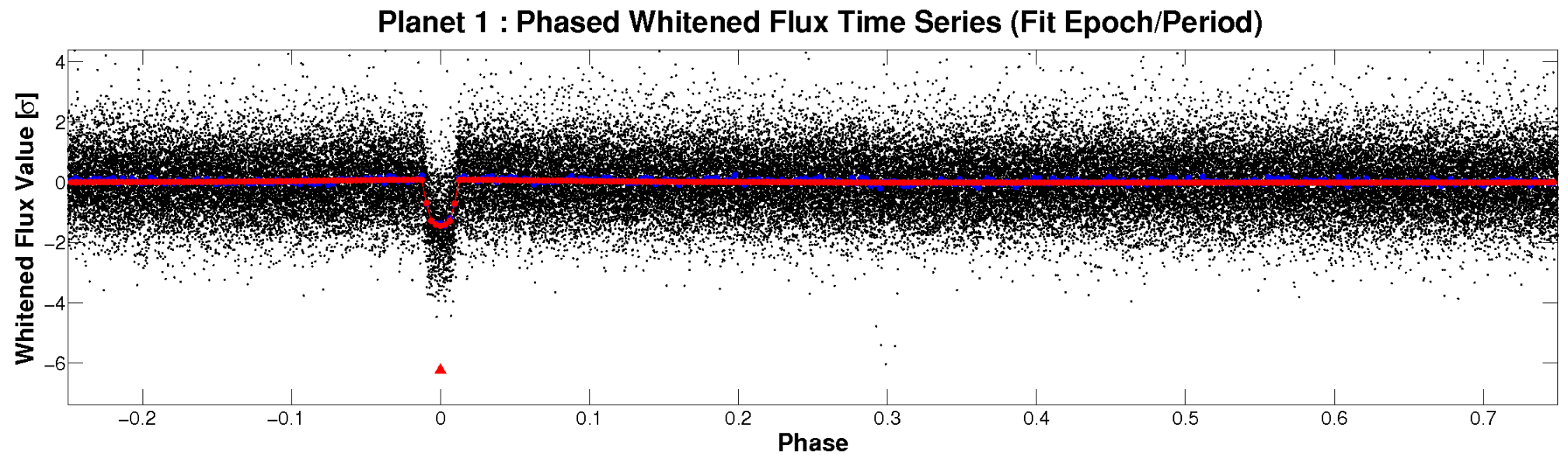
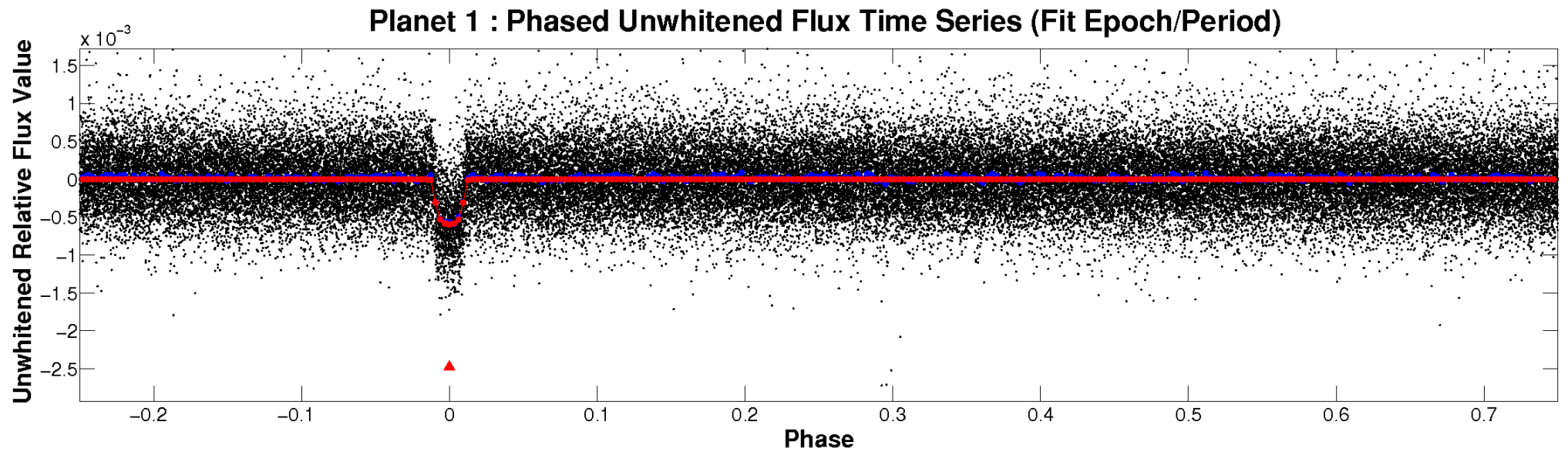


ALT Odd/Even

TCE 006838050-01

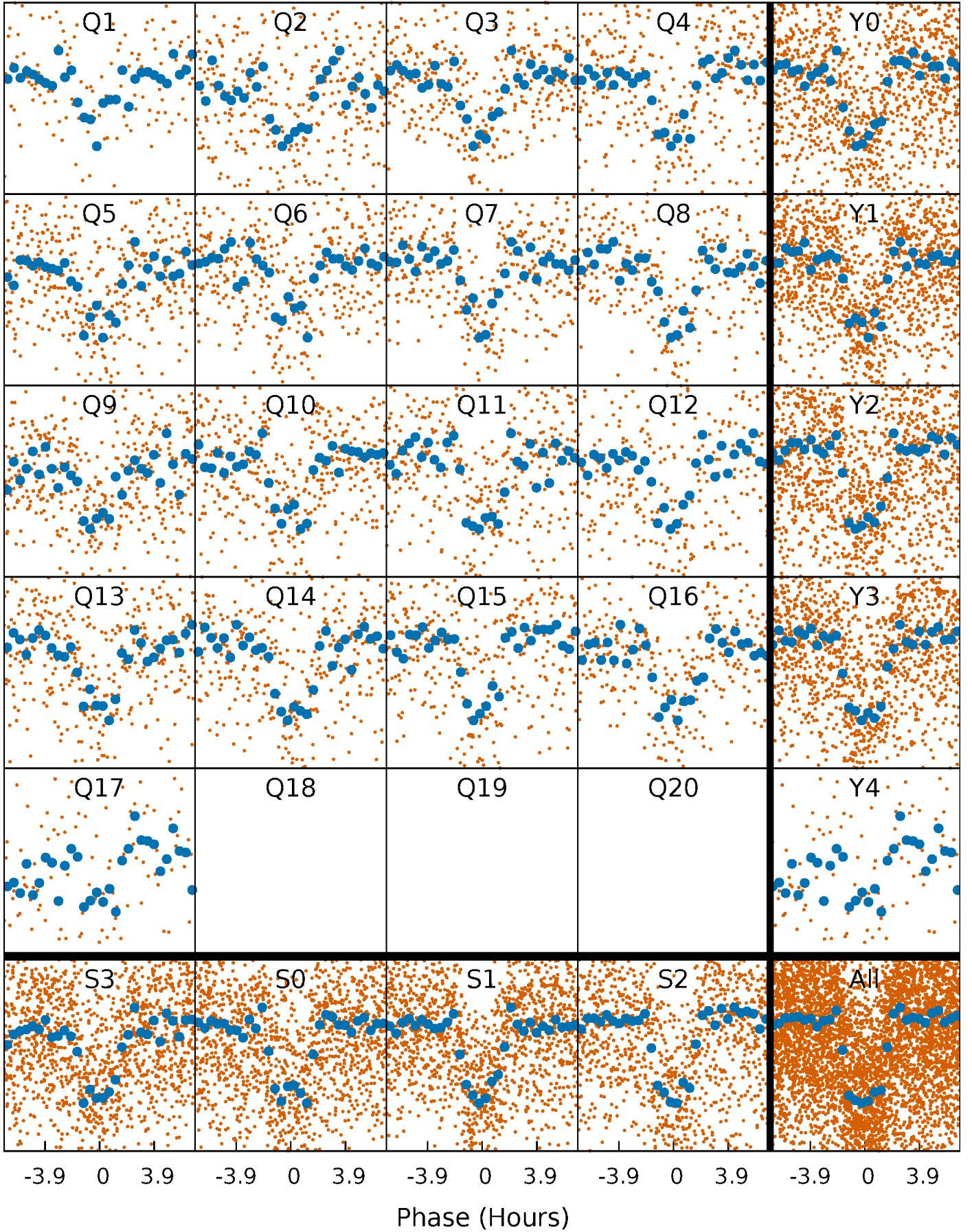


Non-Whitened Vs. Whitened Light Curve



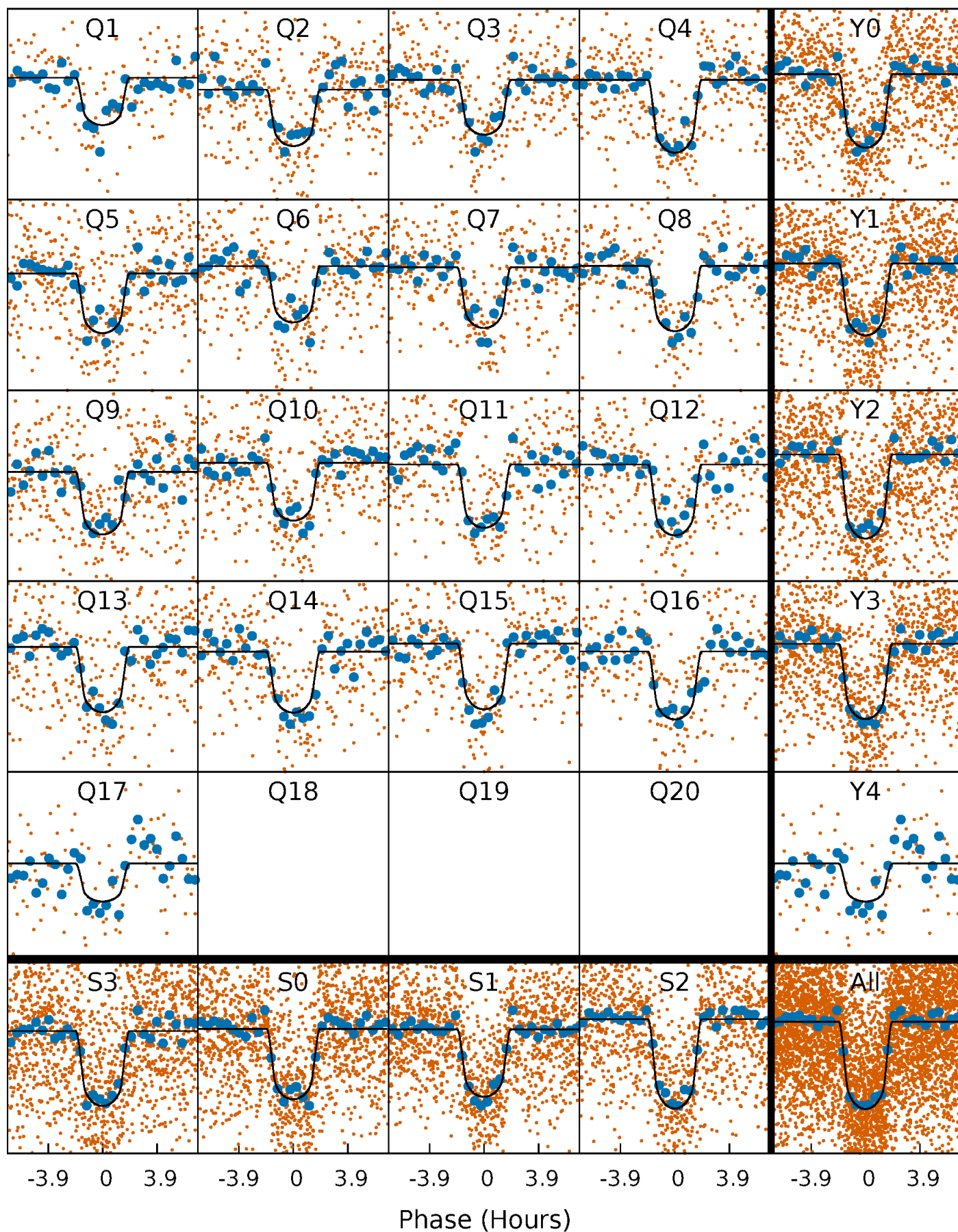
PDC Quarter-Phased Transit Curves

TCE 006838050-01 P= 6.510021 Days $T_0=133.856377$ (BKJD)



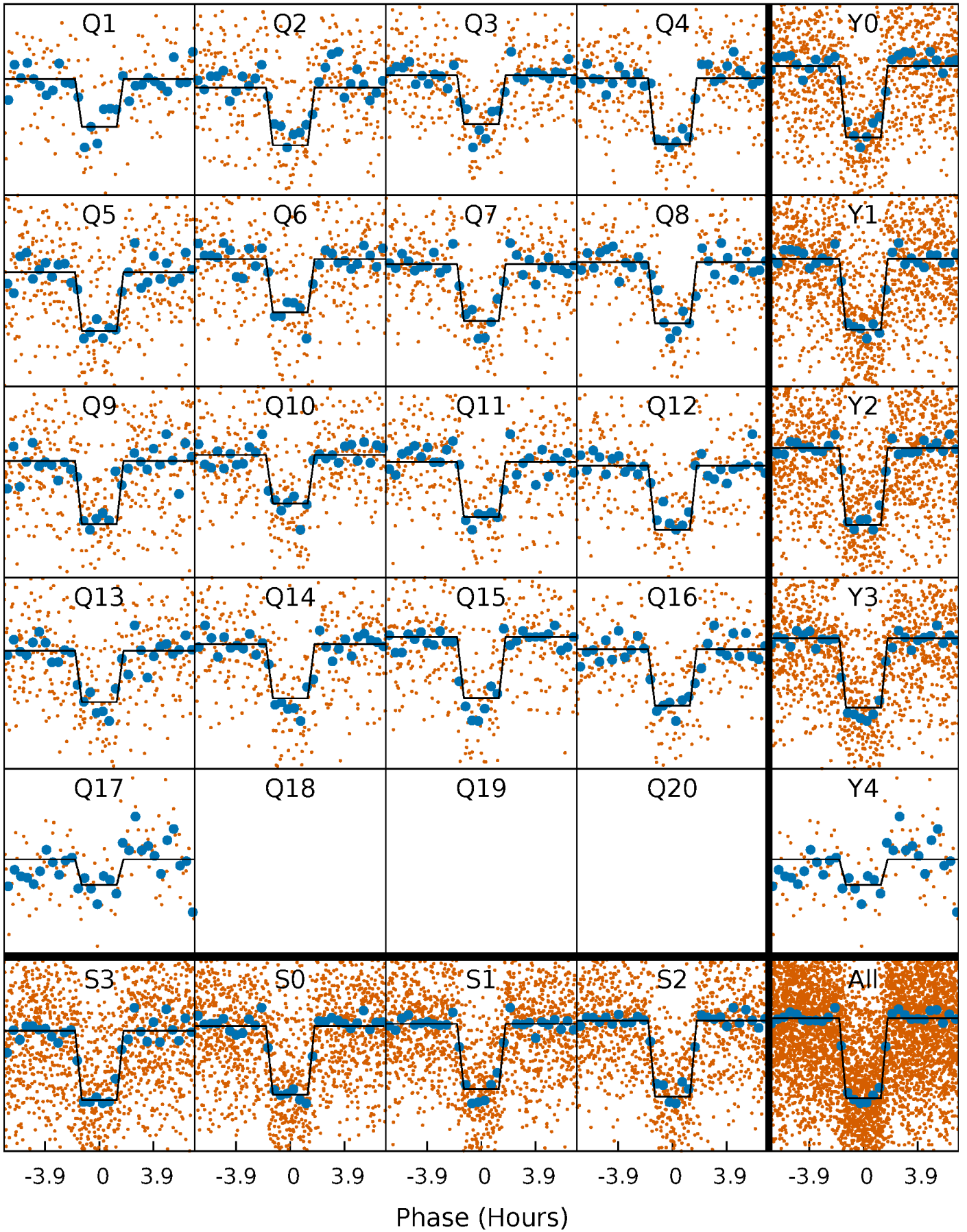
DV Quarter-Phased Transit Curves

TCE 006838050-01 P= 6.510021 Days $T_0=133.856377$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

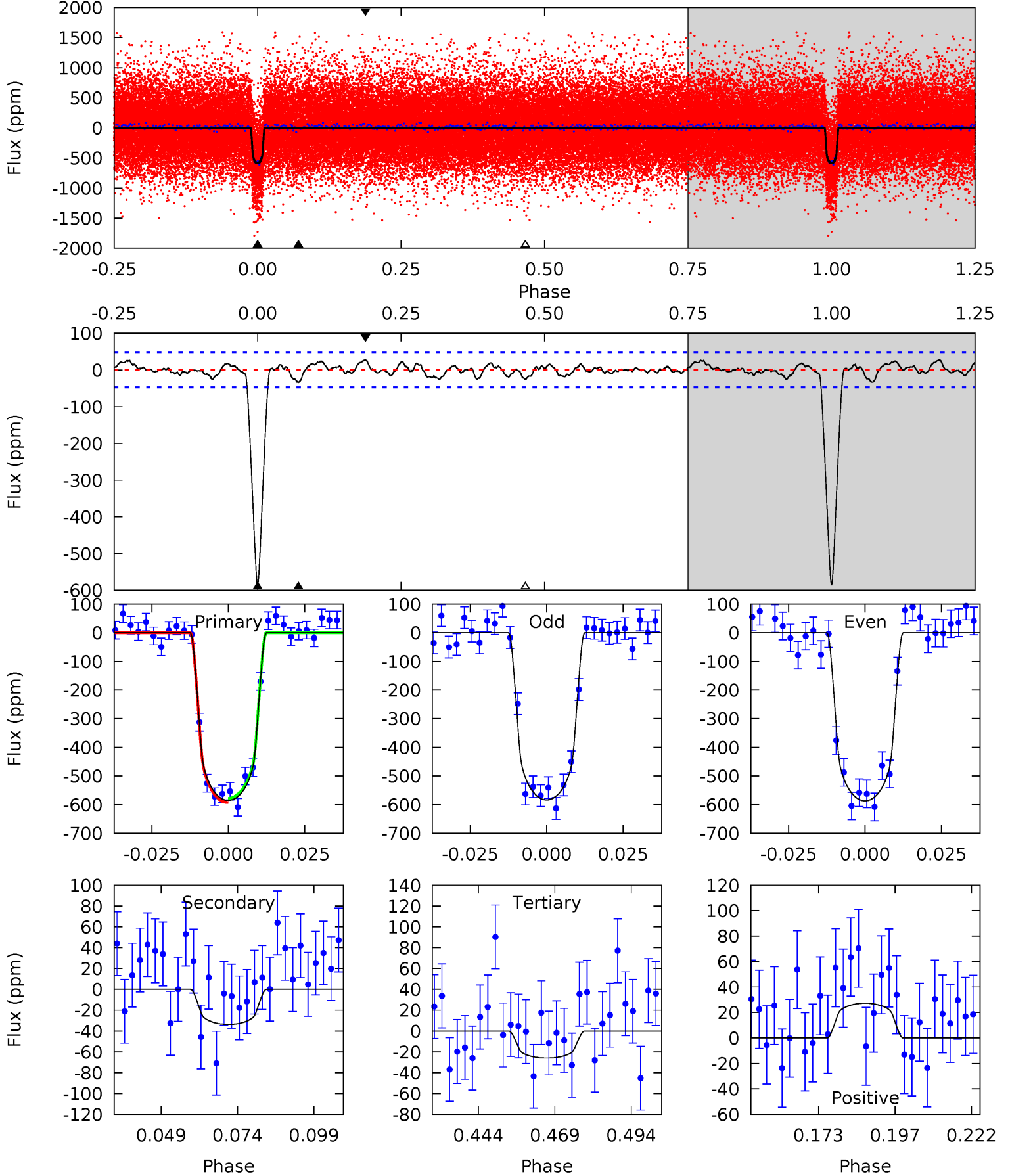
TCE 006838050-01 P= 6.510059 Days $T_0=133.852474$ (BKJD)



DV Model-Shift Uniqueness Test

006838050-01, P = 6.510021 Days, E = 127.346356 Days

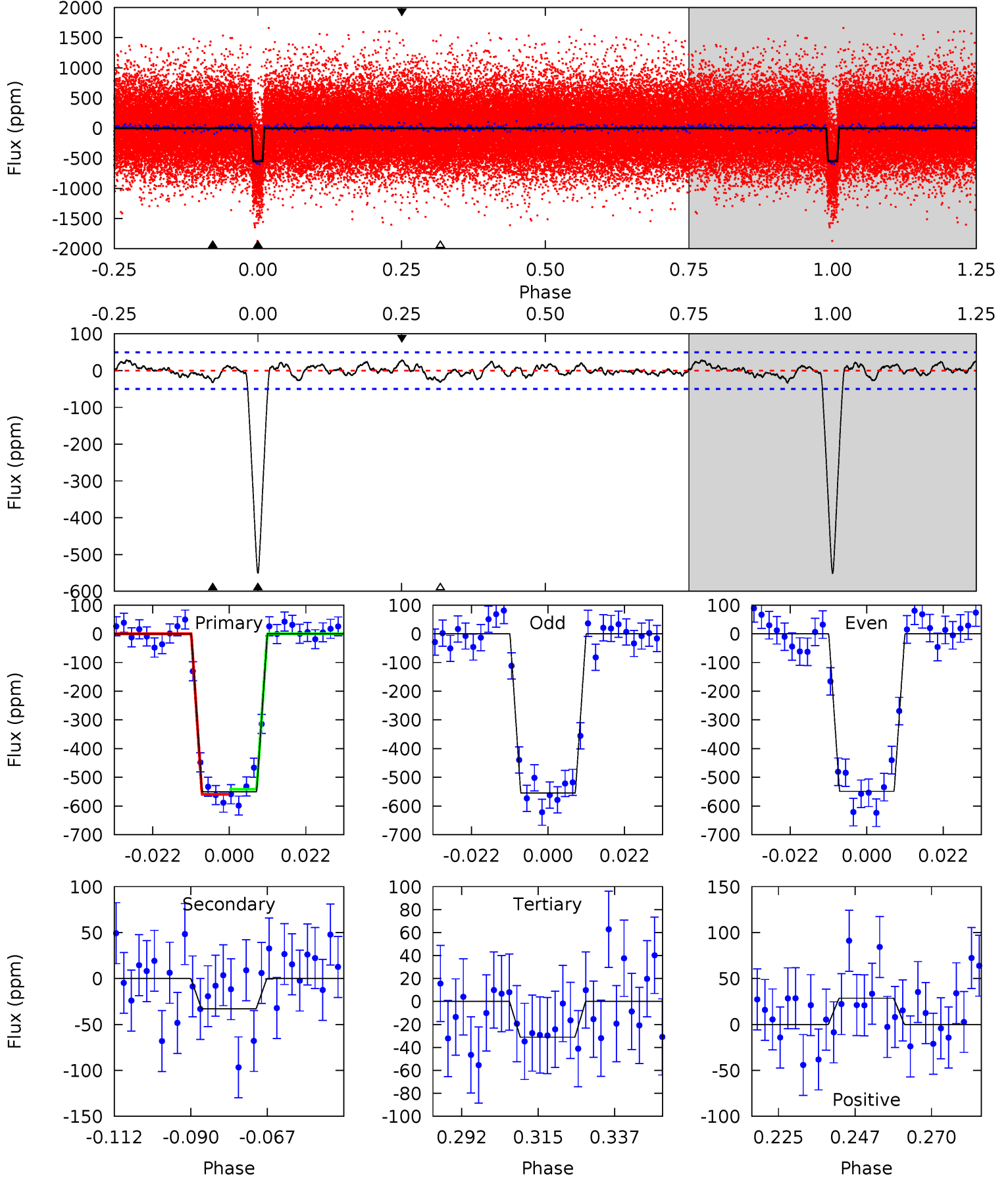
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.2	3.47	2.67	2.80	4.85	2.25	1.13	57.5	57.4	0.80	0.67	0.17	0.98	0.04	0.76



Alt Model-Shift Uniqueness Test

006838050-01, P = 6.510059 Days, E = 127.342415 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.0	3.23	3.05	2.79	4.87	2.28	1.13	50.9	51.2	0.18	0.44	0.26	0.98	0.05	0.88



Stellar Parameters For KIC 006838050

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5638^{+154}_{-171}	$4.327^{+0.149}_{-0.182}$	$0.320^{+0.100}_{-0.300}$	$1.153^{+0.310}_{-0.207}$	$1.029^{+0.100}_{-0.111}$	$0.944^{+0.670}_{-0.453}$
	+3%/-3%	+3%/-4%	+31%/-94%	+27%/-18%	+10%/-11%	+71%/-48%
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 006838050-01 / KOI 0512.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 10	$3.18^{+0.73}_{-0.61}$	1423^{+107}_{-83}	3240^{+235}_{-206}	$8.520^{+5.606}_{-3.457}$
Alt.	-33 ± 10	$2.98^{+0.68}_{-0.63}$	1432^{+101}_{-86}	3299^{+269}_{-234}	$9.389^{+6.371}_{-3.978}$

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

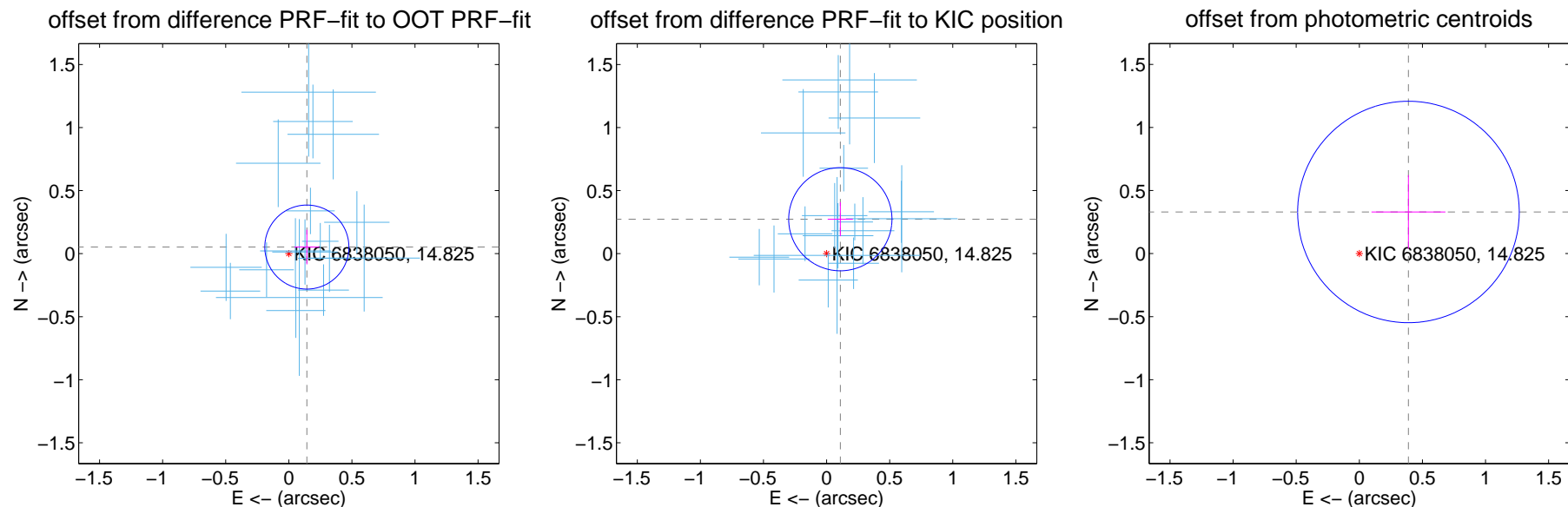
DV Centroid Data

Supplemental centroid analysis for 006838050-01. Kepler magnitude: 14.82. Transit SNR 44.73

There are 17 quarters with good PRF difference image offsets

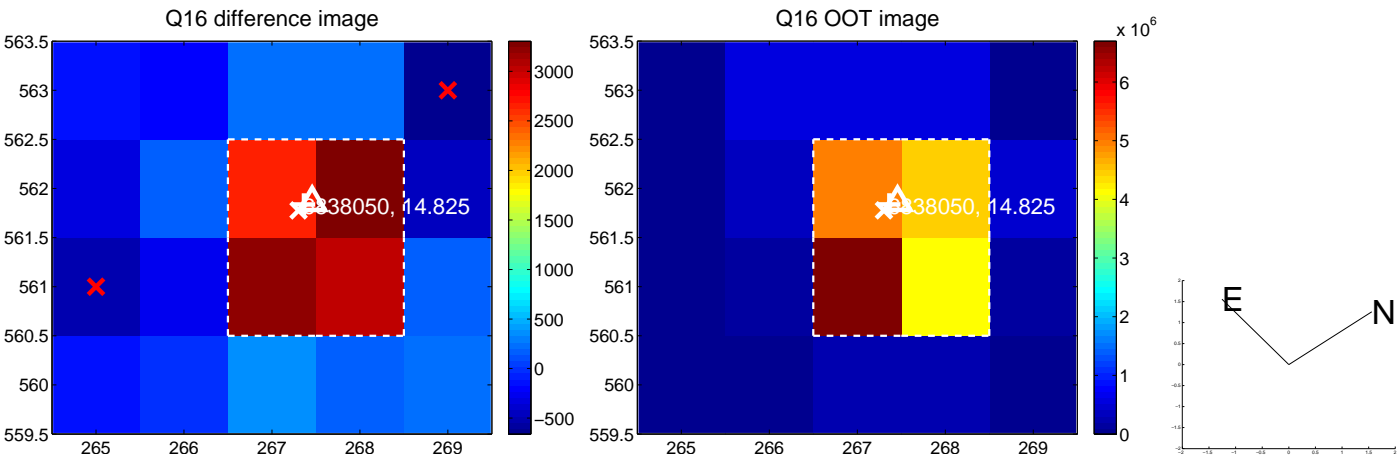
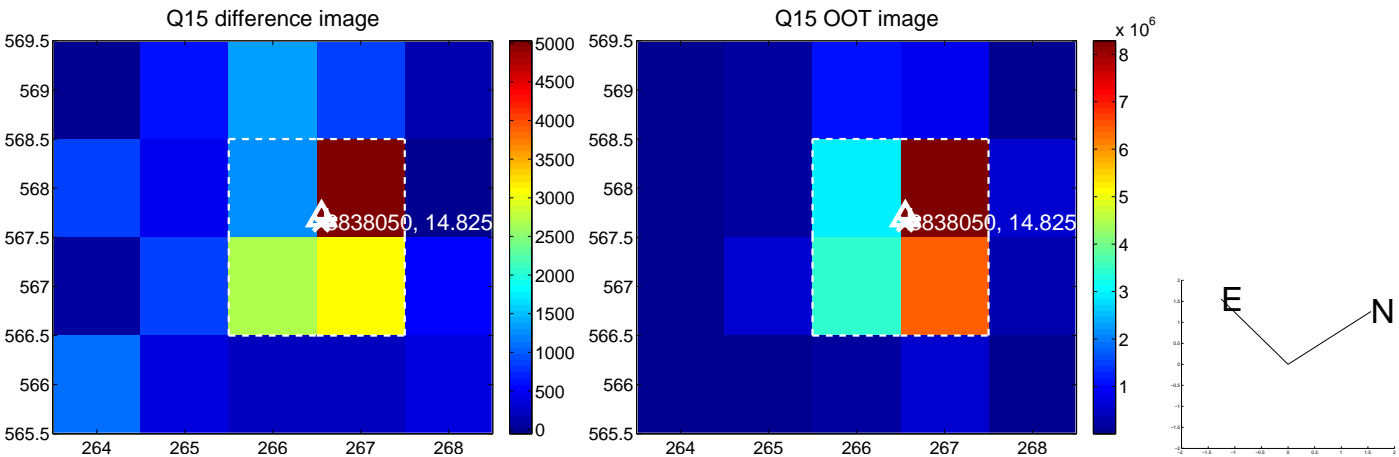
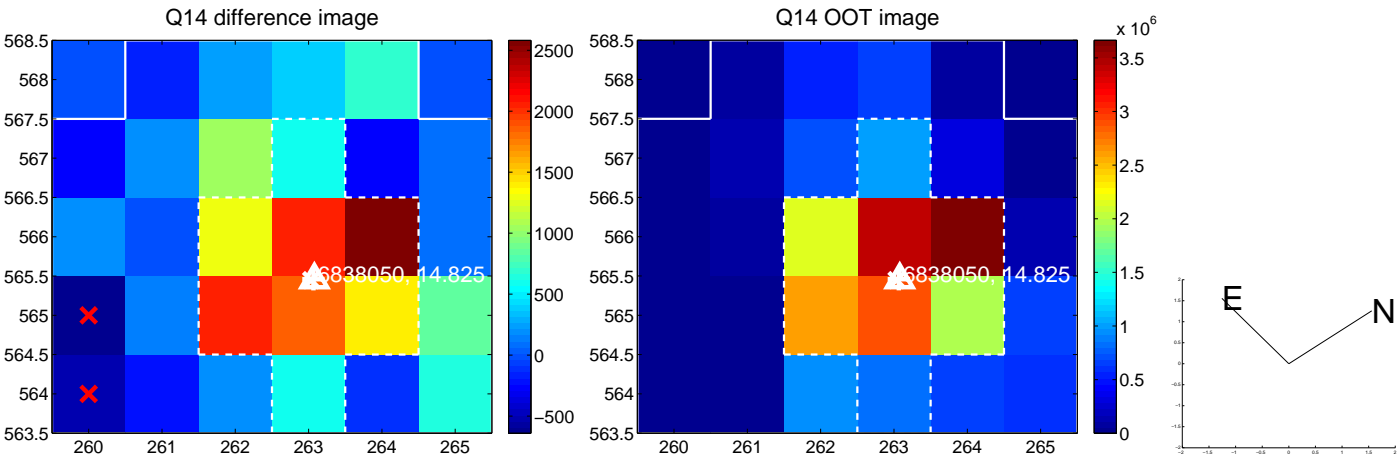
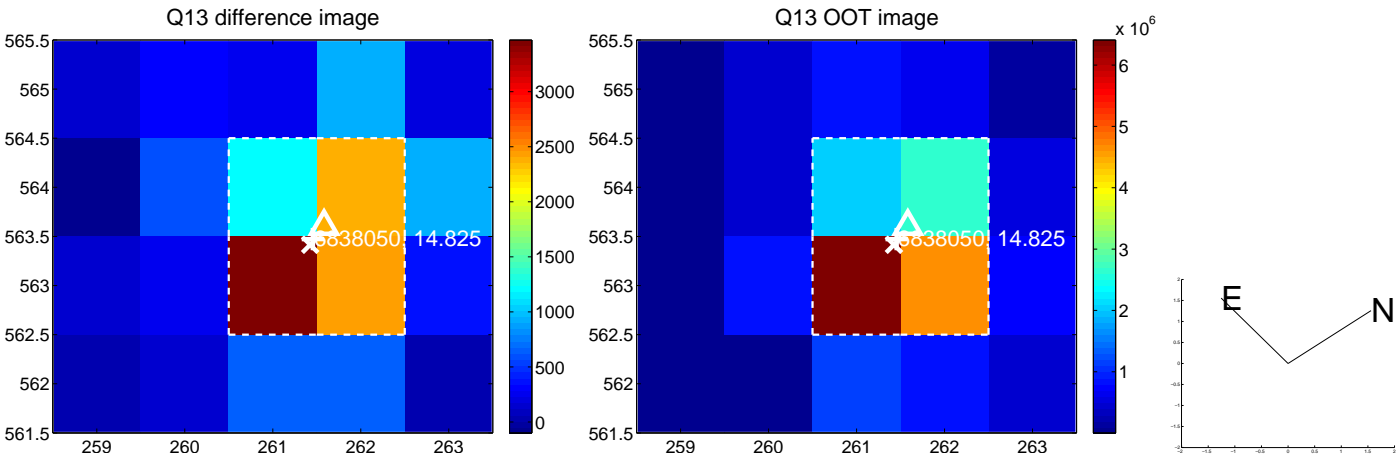
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.152 ± 0.111	1.37	-0.143 ± 0.098	0.052 ± 0.137
PRF-fit source offset from KIC position	0.294 ± 0.136	2.16	-0.109 ± 0.100	0.273 ± 0.135
photometric centroid source offset	0.51 ± 0.29	1.74	-0.39 ± 0.29	0.33 ± 0.29

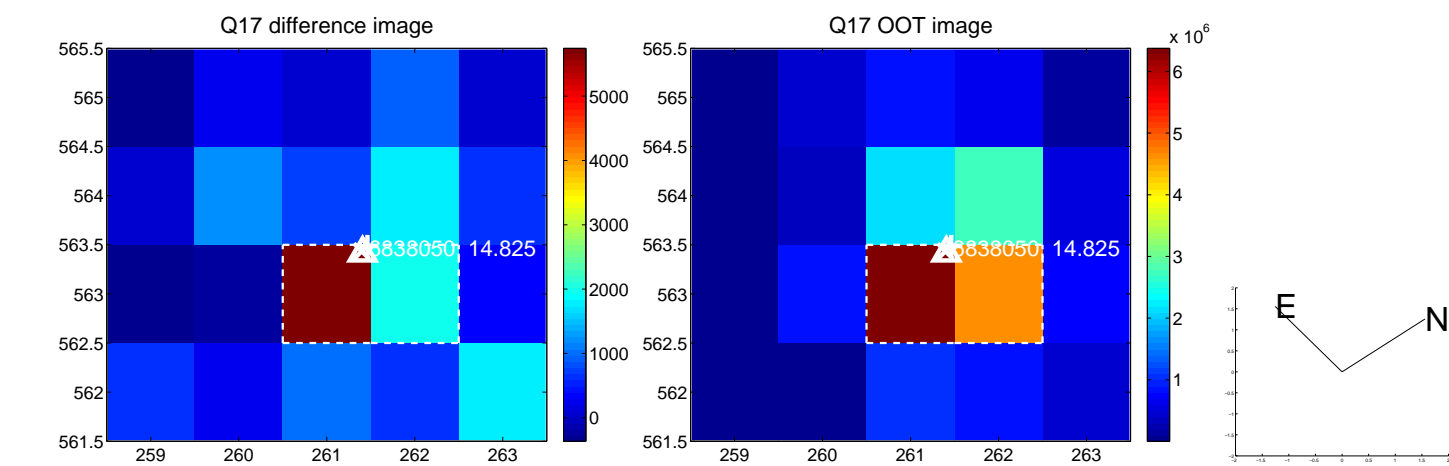


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

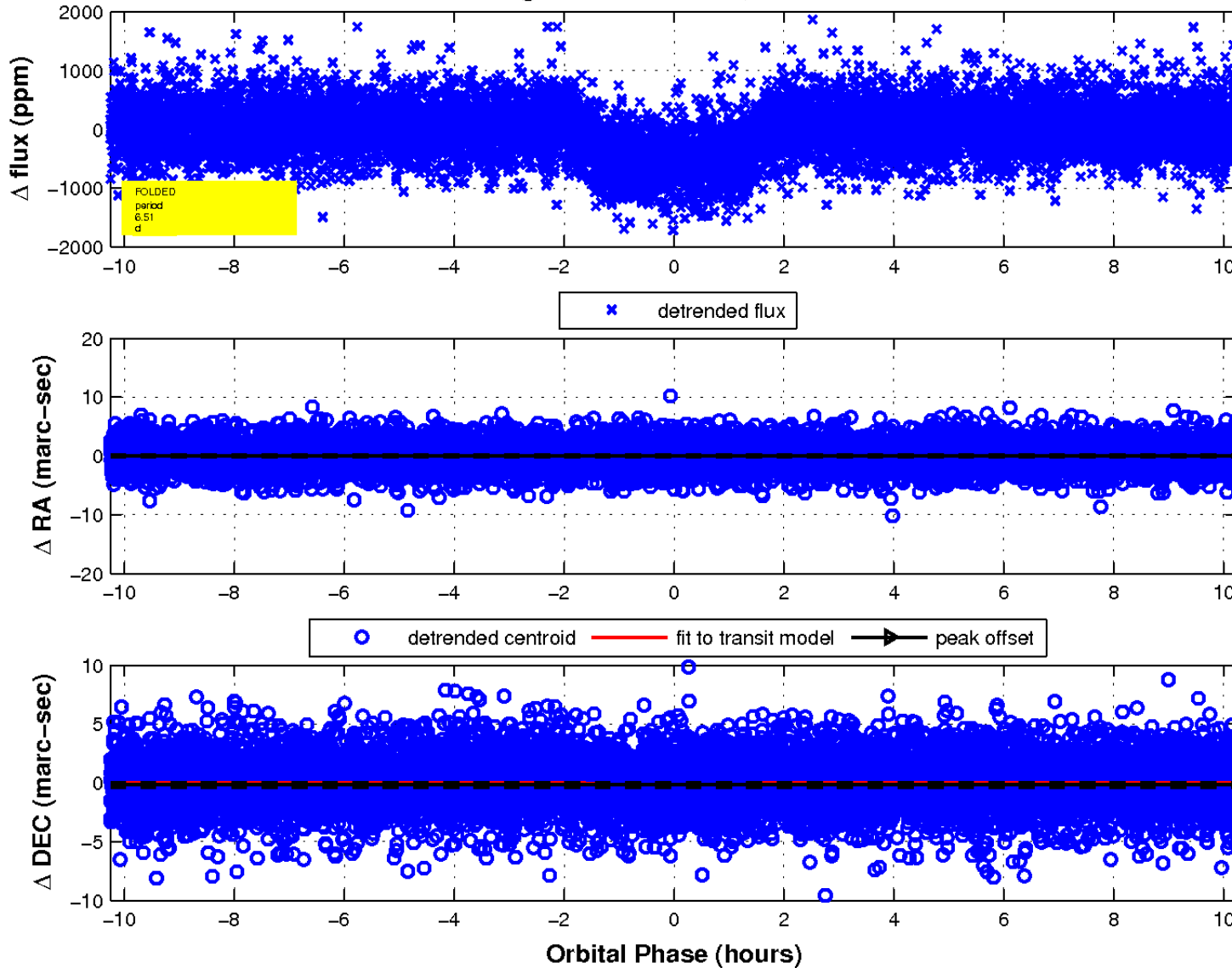
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

