

KIC 008866137

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})
008866137-01	OBS	2074.01	33.417814	155.587233	1173.8	4.695	25.6	27.2	0.74	5136	3.16	9.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008866137-01	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 008866137-01

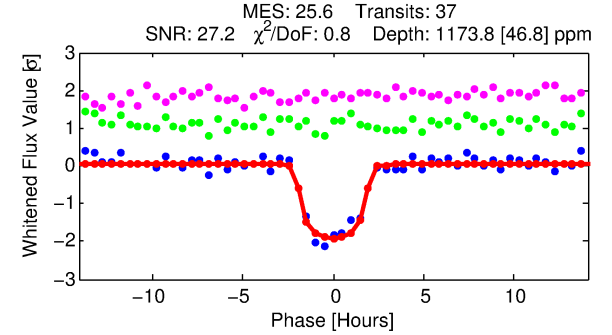
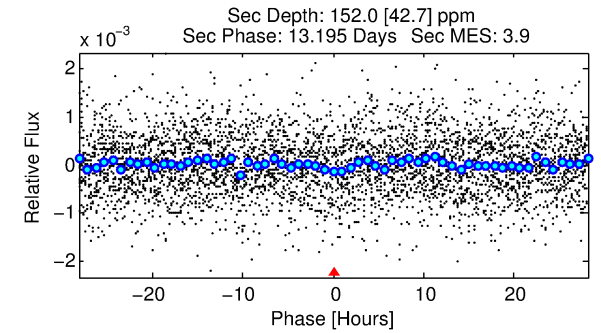
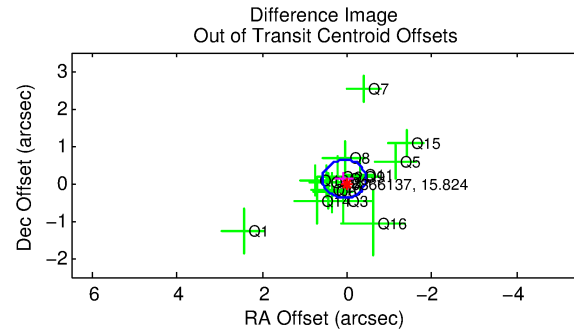
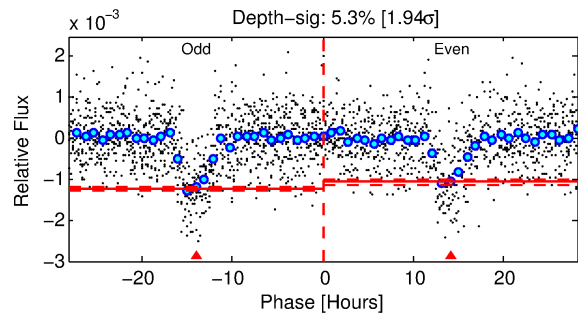
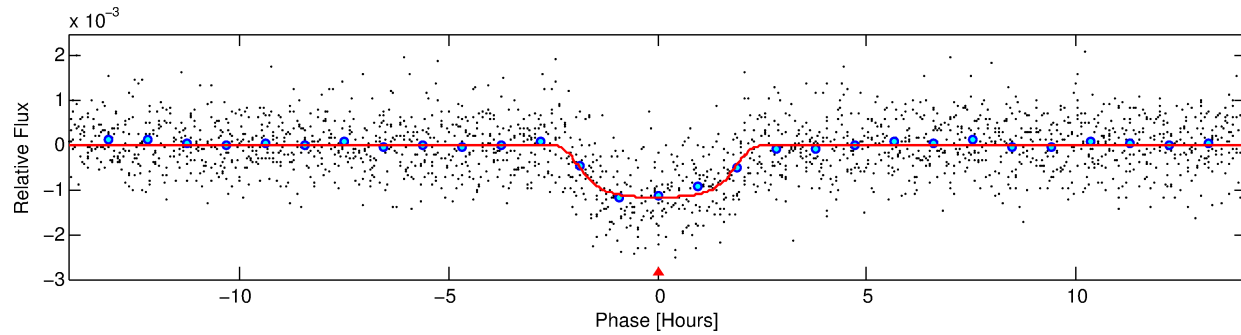
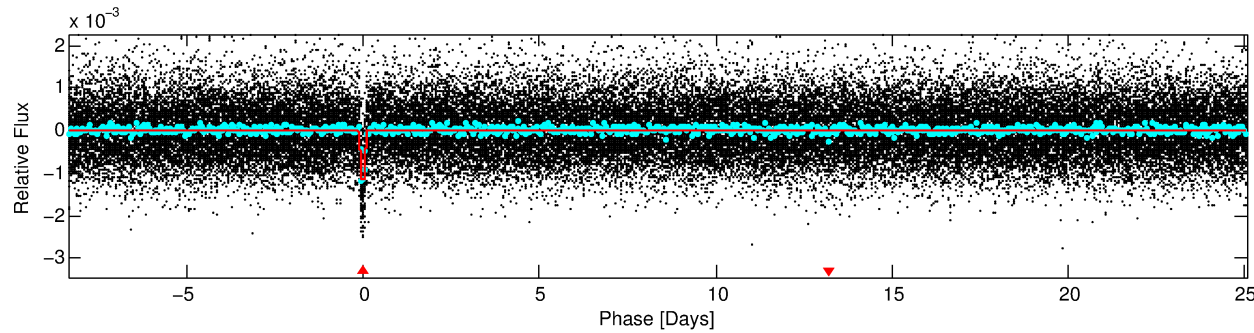
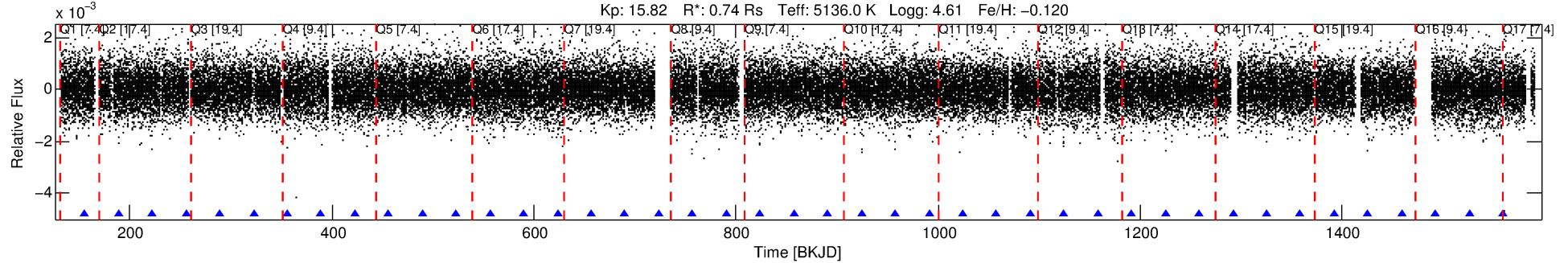
No Significant Match Found

DV One-Page Summary

KIC: 8866137 Candidate: 1 of 1 Period: 33.418 d

KOI: K02074.01 Corr: 0.984

Kp: 15.82 R*: 0.74 Rs Teff: 5136.0 K Logg: 4.61 Fe/H: -0.120



DV Fit Results:

Period = 33.41781 [0.00017] d
Epoch = 155.5872 [0.0041] BKJD
Rp/R* = 0.0389 [0.0019]
a/R* = 26.53 [4.20]
b = 0.92 [0.03]
Seff = 9.58 [1.81]
Teq = 449 [21] K
Rp = 3.16 [0.44] Re
a = 0.1898 [0.0198] AU
Ag = 302.15 [100.13] [3.01σ]
Teffp = 2891 [232] K [10.50σ]

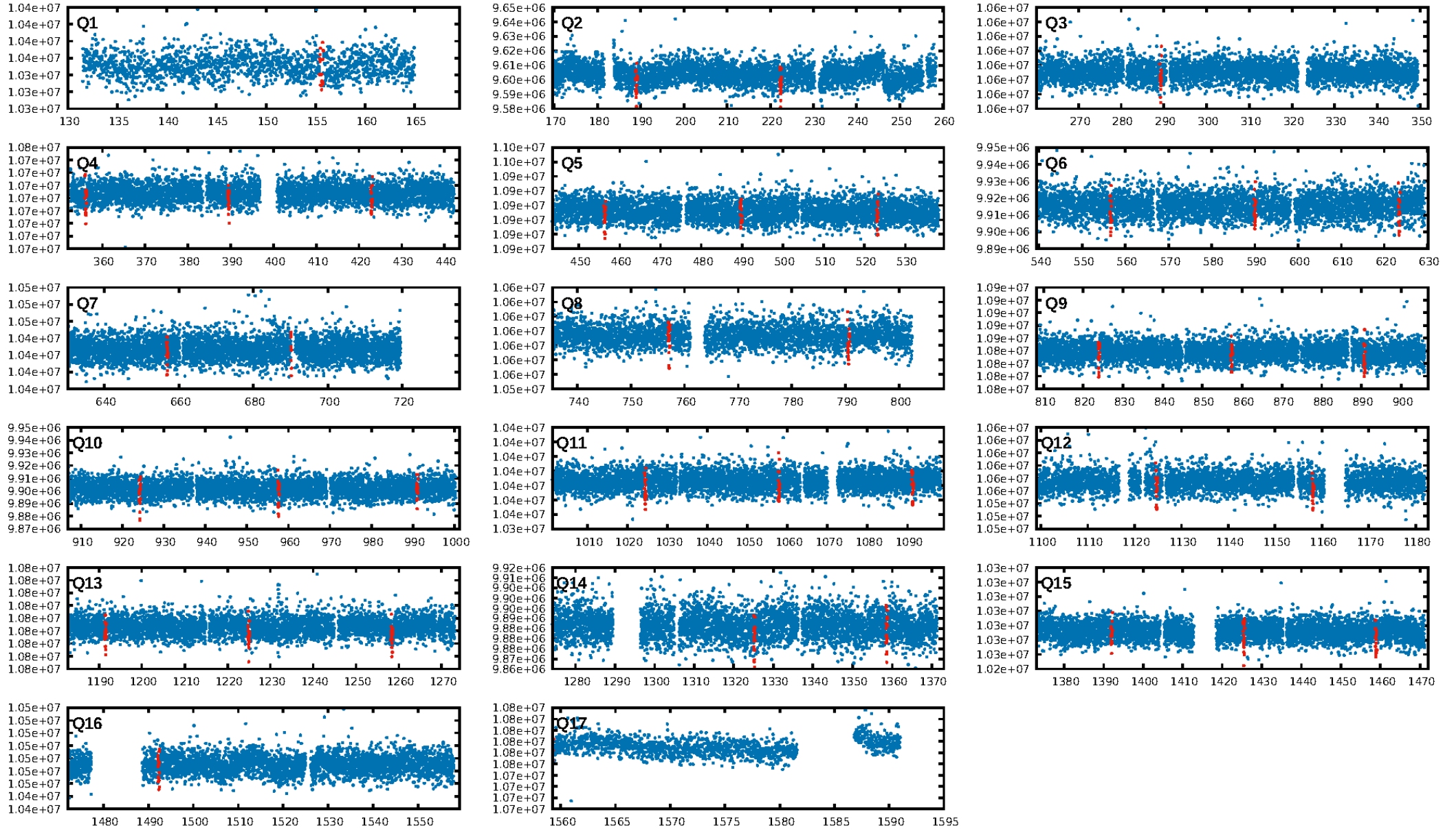
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.97e-137
RollingBand-fgt: 1.00 [36/36]
GhostDiagnostic-chr: 4.496
Centroid-sig: 96.0%
Centroid-so: 0.308 arcsec [0.55σ]
OotOffset-rm: 0.133 arcsec [0.78σ]
KicOffset-rm: 0.320 arcsec [1.42σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

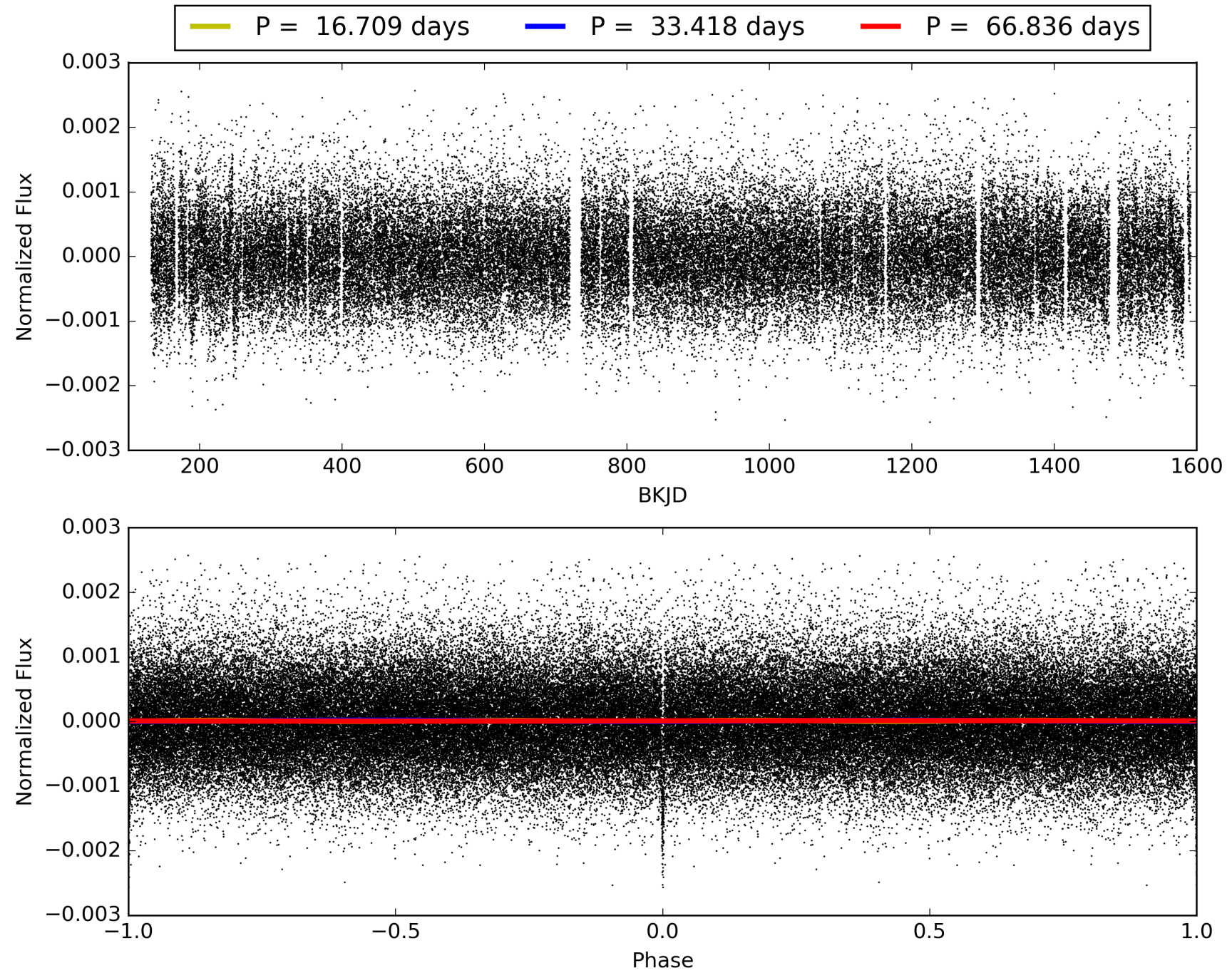
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:45:37 Z

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

TCE 008866137-01, PDC Light Curves

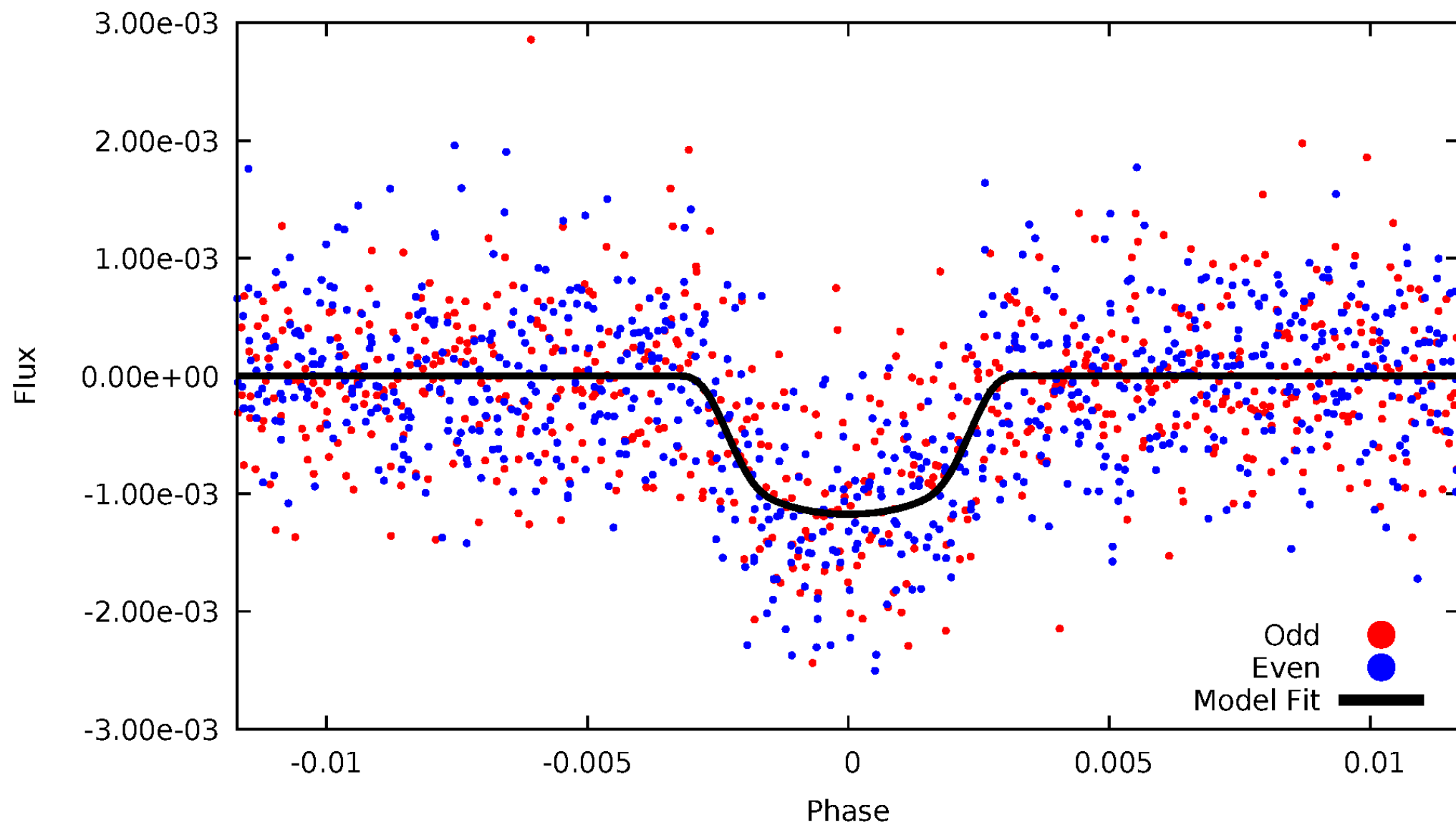


TCE 008866137-01



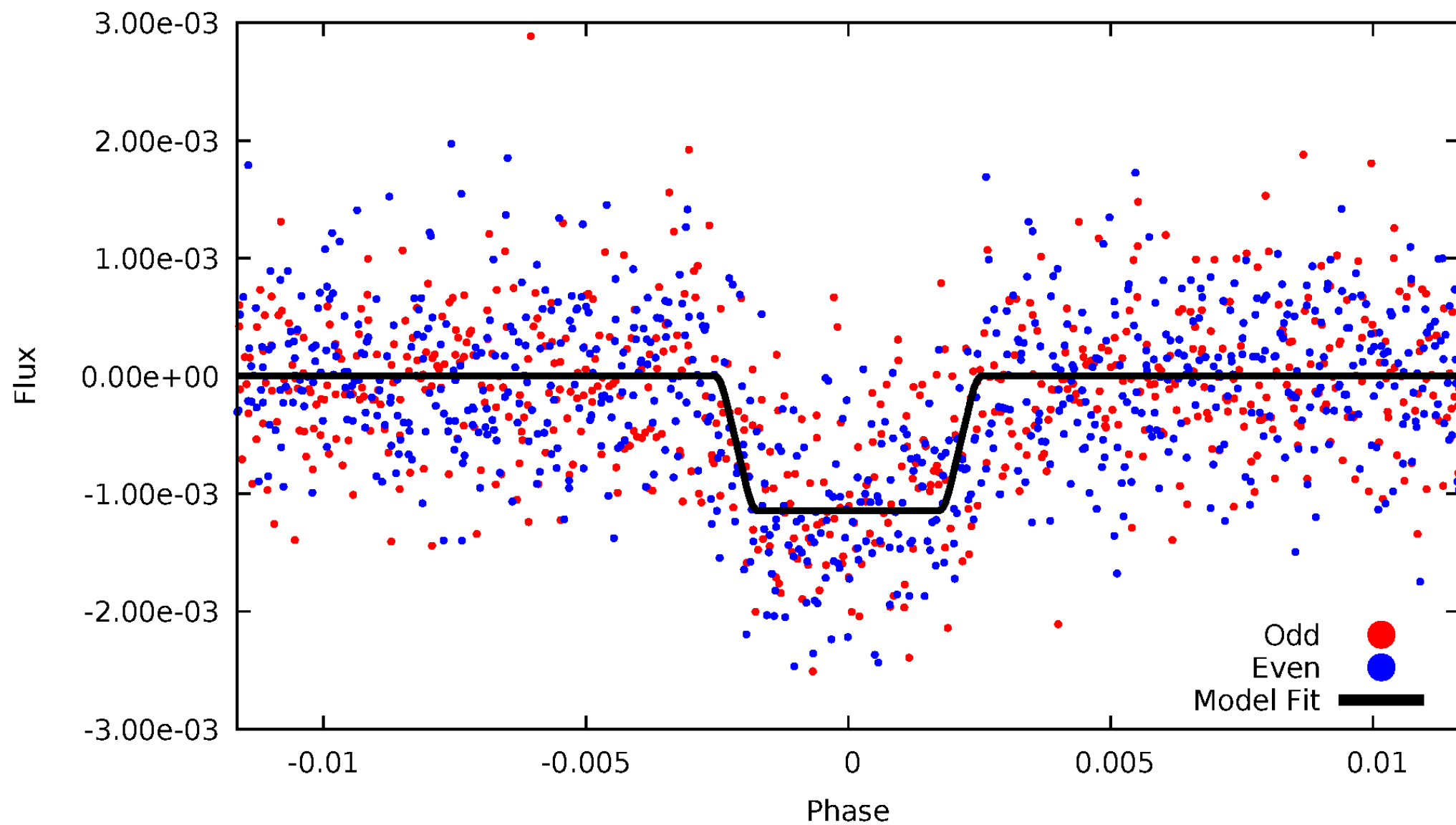
DV Odd/Even

TCE 008866137-01



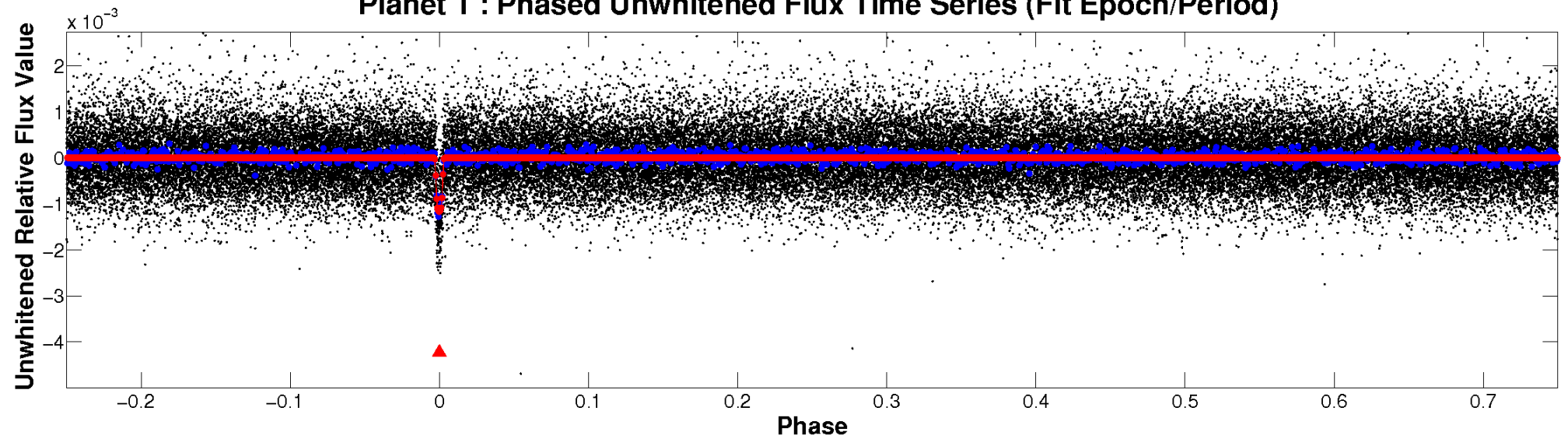
ALT Odd/Even

TCE 008866137-01

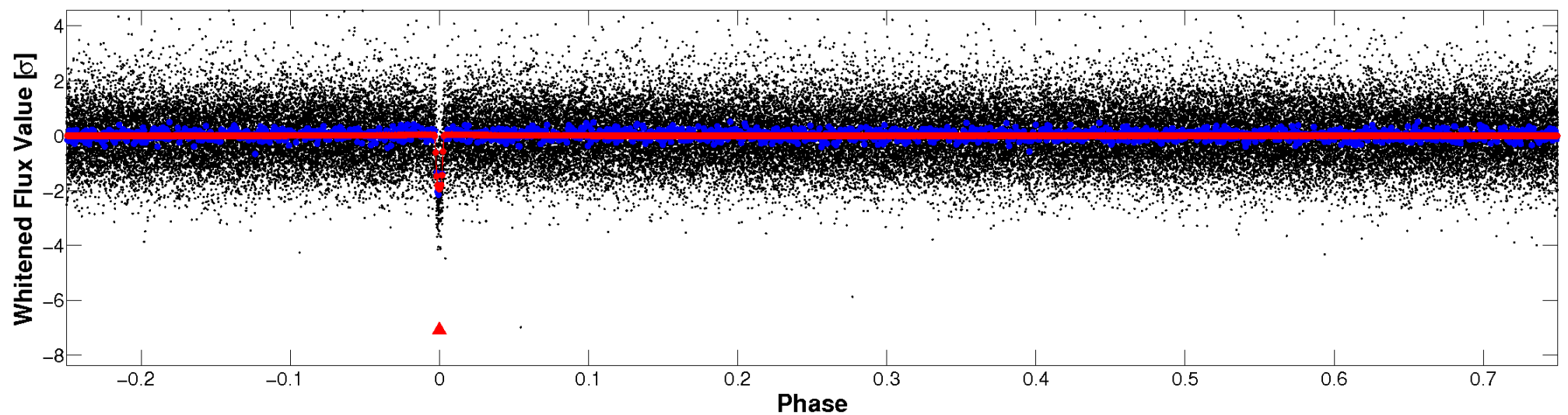


Non-Whitened Vs. Whitened Light Curve

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

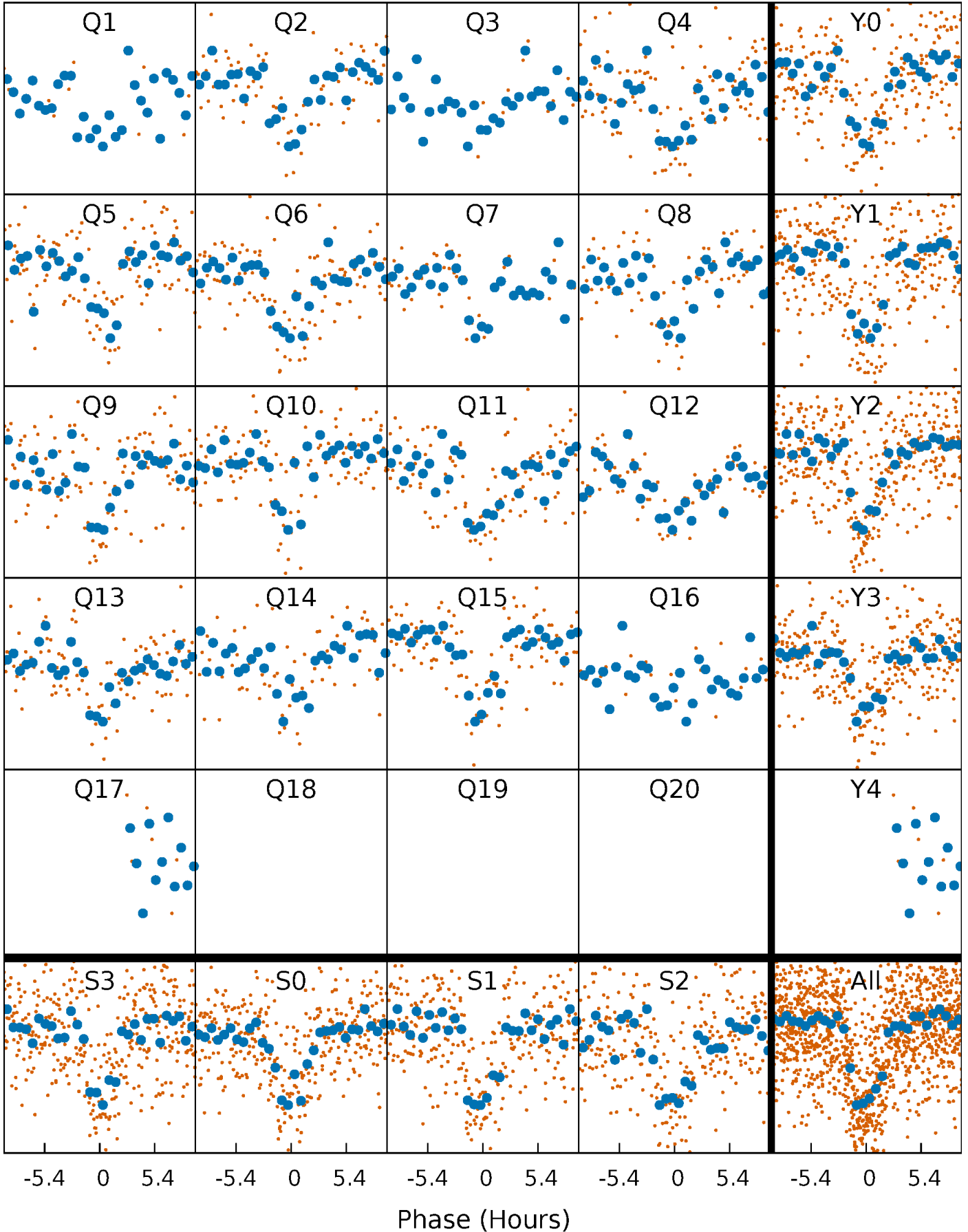


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



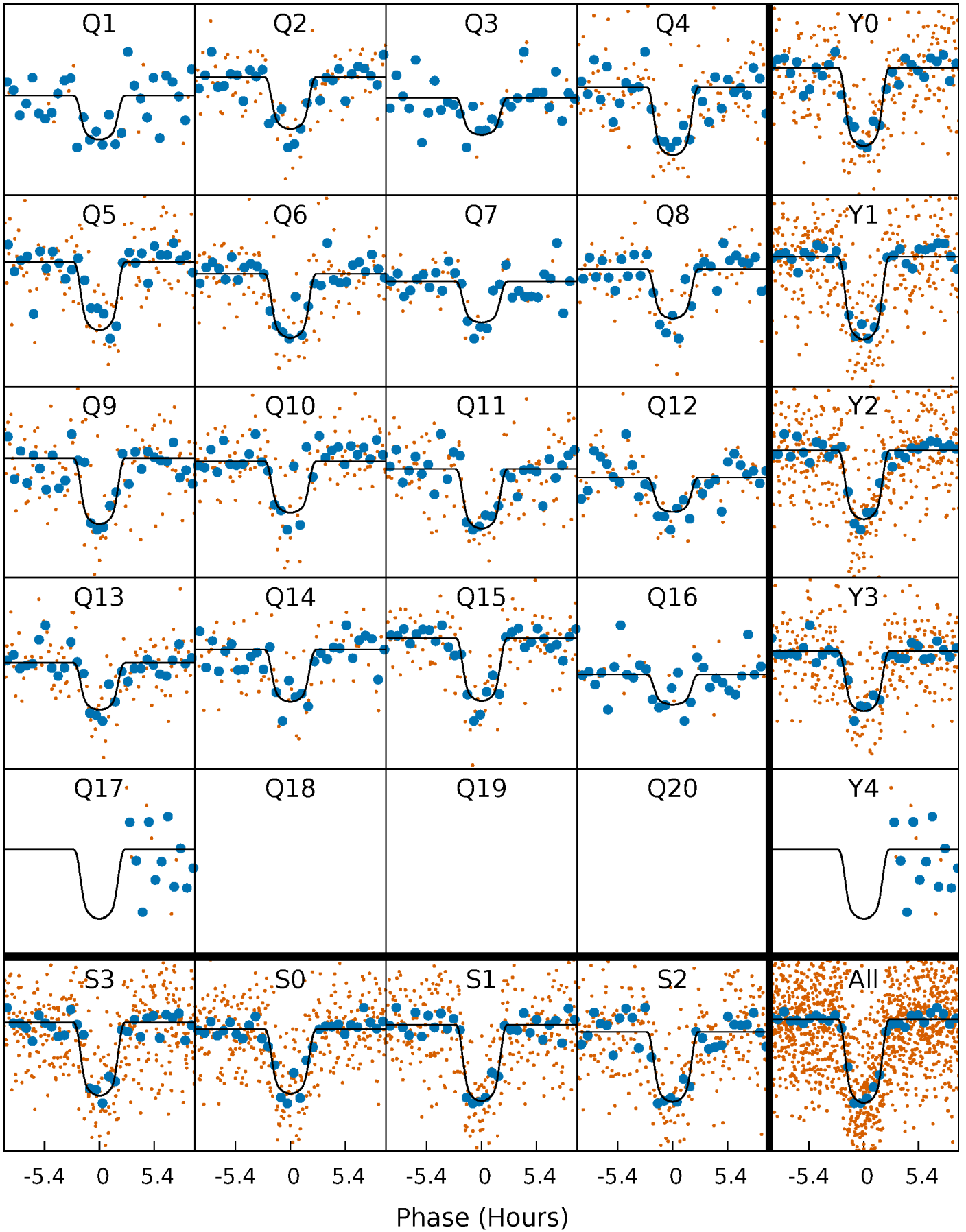
PDC Quarter-Phased Transit Curves

TCE 008866137-01 P= 33.417814 Days $T_0=155.587233$ (BKJD)



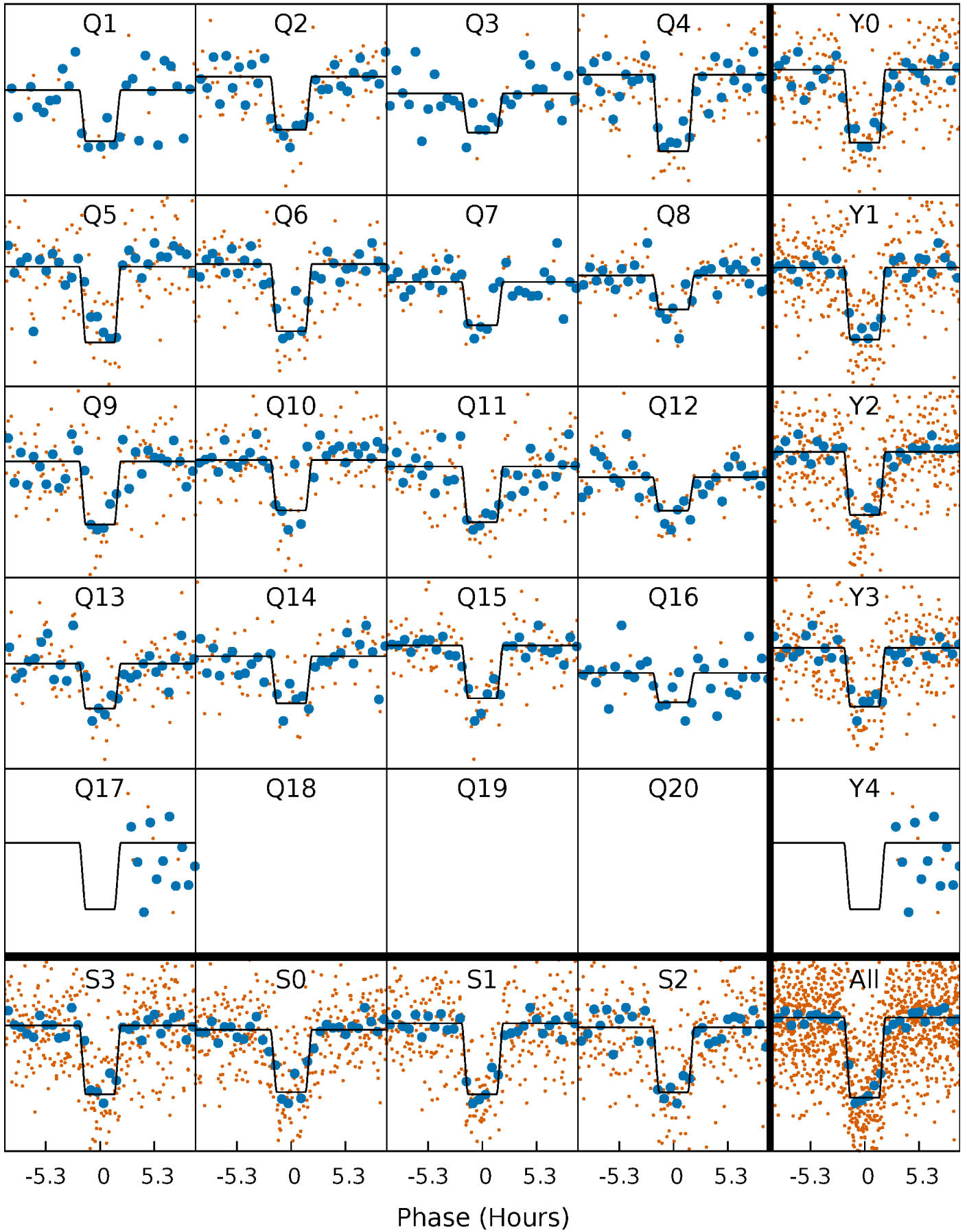
DV Quarter-Phased Transit Curves

TCE 008866137-01 P= 33.417814 Days $T_0=155.587233$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

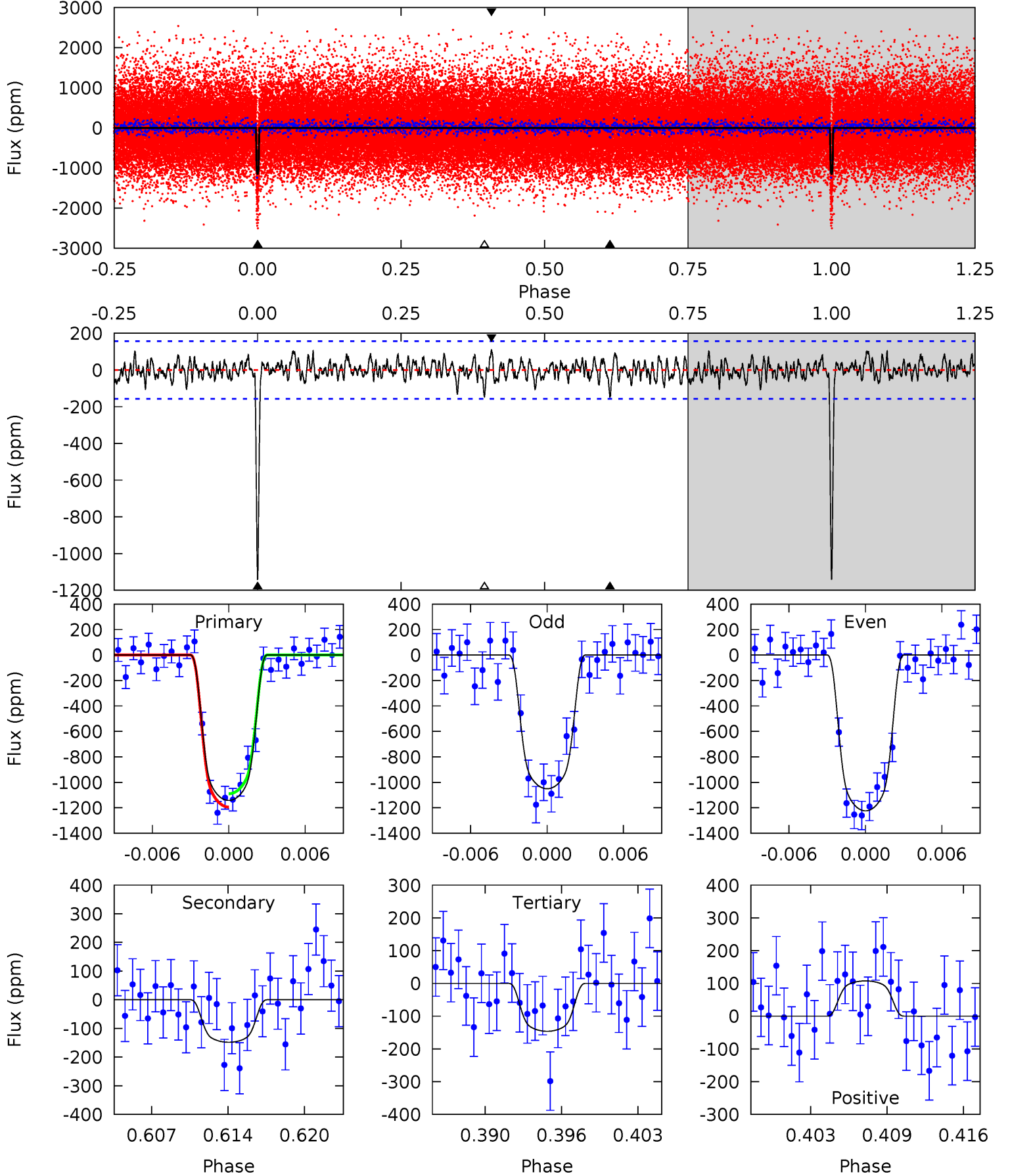
TCE 008866137-01 P= 33.417704 Days $T_0=155.589523$ (BKJD)



DV Model-Shift Uniqueness Test

008866137-01, P = 33.417814 Days, E = 122.169419 Days

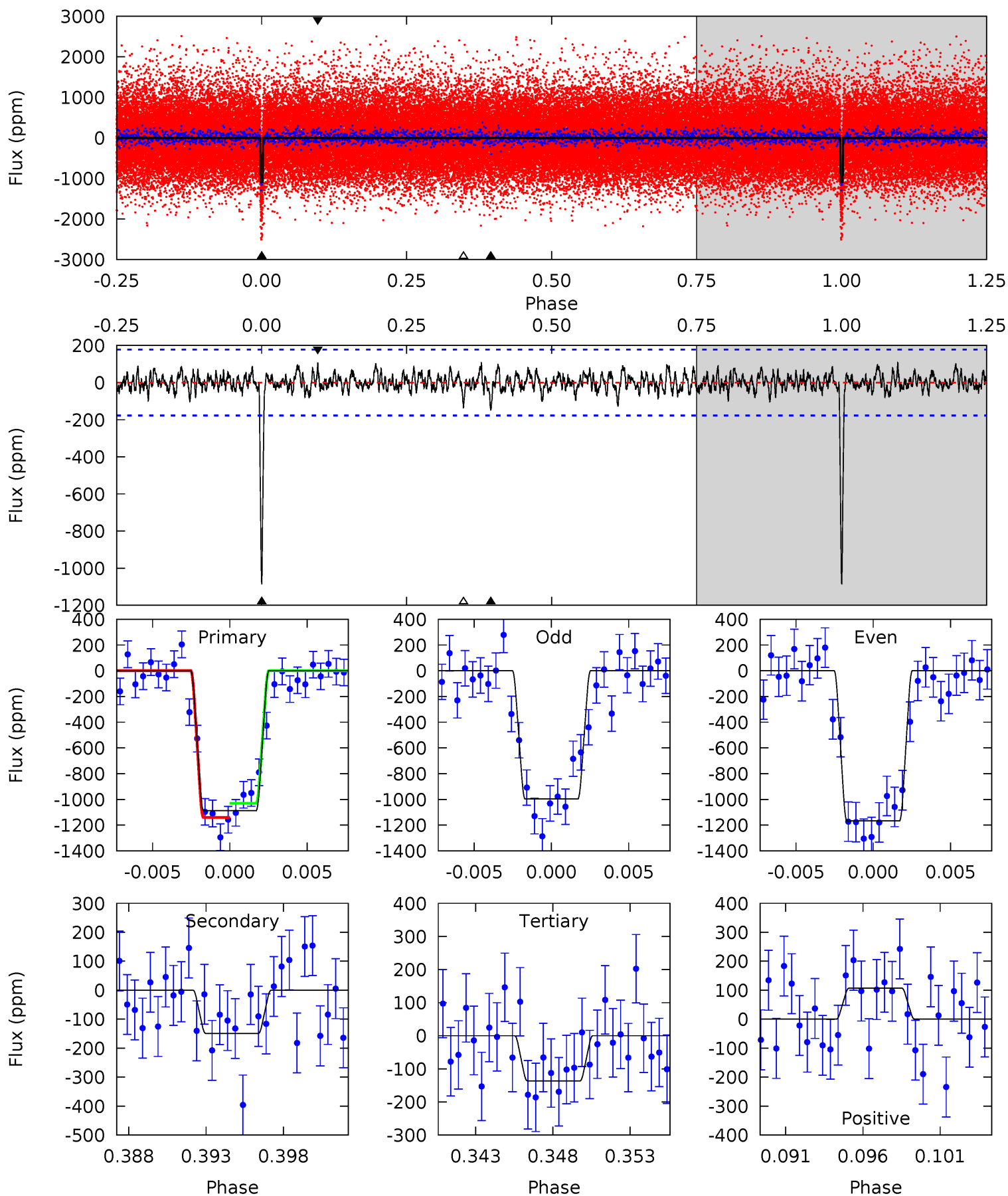
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.2	4.83	4.77	3.50	5.11	2.73	1.28	32.4	33.7	0.07	1.33	2.83	0.98	0.09	1.71



Alt Model-Shift Uniqueness Test

008866137-01, $P = 33.417704$ Days, $E = 122.171819$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.5	4.33	3.95	3.11	5.16	2.80	1.09	27.6	28.4	0.38	1.22	2.46	1.01	0.09	1.59



Stellar Parameters For KIC 008866137

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5136^{+153}_{-138}	$4.607^{+0.033}_{-0.077}$	$-0.120^{+0.300}_{-0.300}$	$0.744^{+0.096}_{-0.059}$	$0.827^{+0.057}_{-0.098}$	$2.825^{+0.444}_{-0.767}$
	+3%/-3%	+1%/-2%	+250%/-250%	+13%/-8%	+7%/-12%	+16%/-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 008866137-01 / KOI 2074.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-148 ± 31	$3.21^{+0.27}_{-0.23}$	632^{+24}_{-20}	3366^{+137}_{-147}	281^{+79}_{-65}
Alt.	-149 ± 34	$2.78^{+0.22}_{-0.21}$	633^{+25}_{-21}	3532^{+164}_{-173}	376^{+111}_{-94}

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

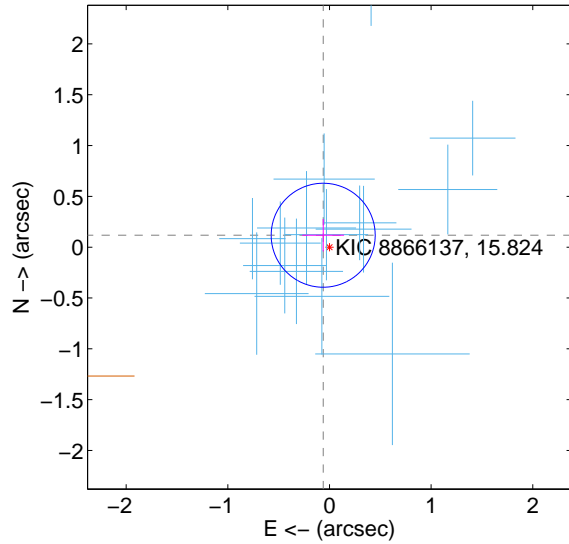
Supplemental centroid analysis for 008866137-01. Kepler magnitude: 15.82. Transit SNR 27.23

There are 15 quarters with good PRF difference image offsets

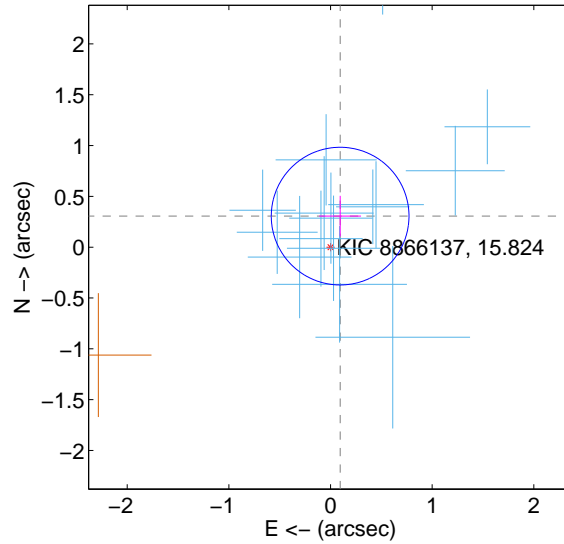
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.133 ± 0.171	0.78	0.062 ± 0.205	0.117 ± 0.160
PRF-fit source offset from KIC position	0.320 ± 0.226	1.42	-0.095 ± 0.205	0.306 ± 0.200
photometric centroid source offset	0.31 ± 0.56	0.55	-0.24 ± 0.55	0.20 ± 0.56

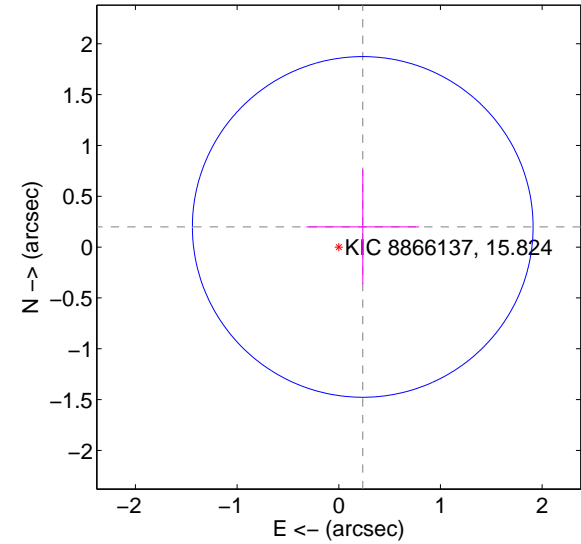
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

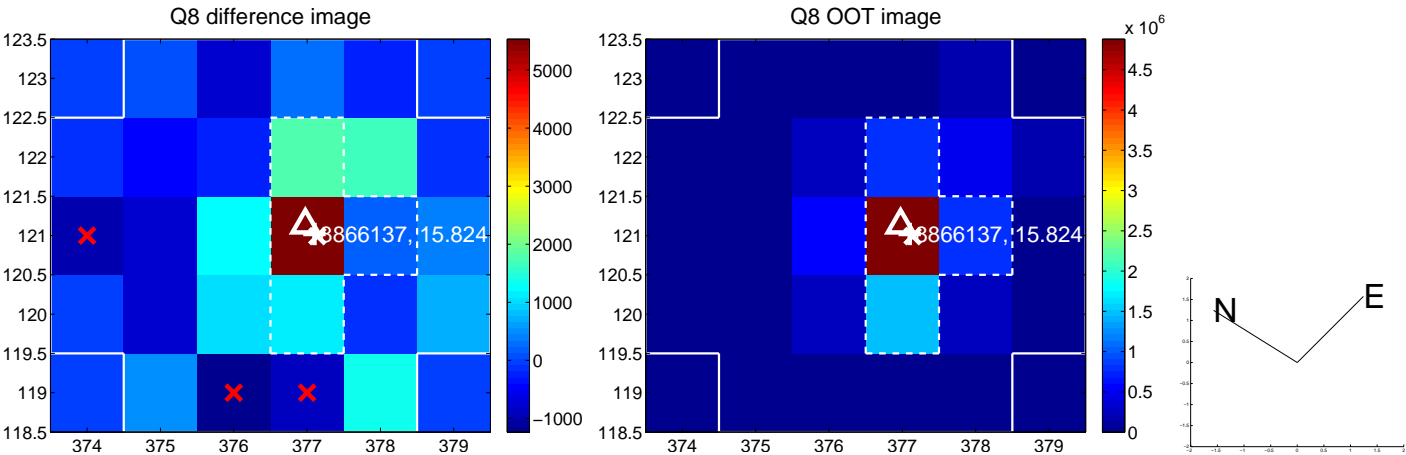
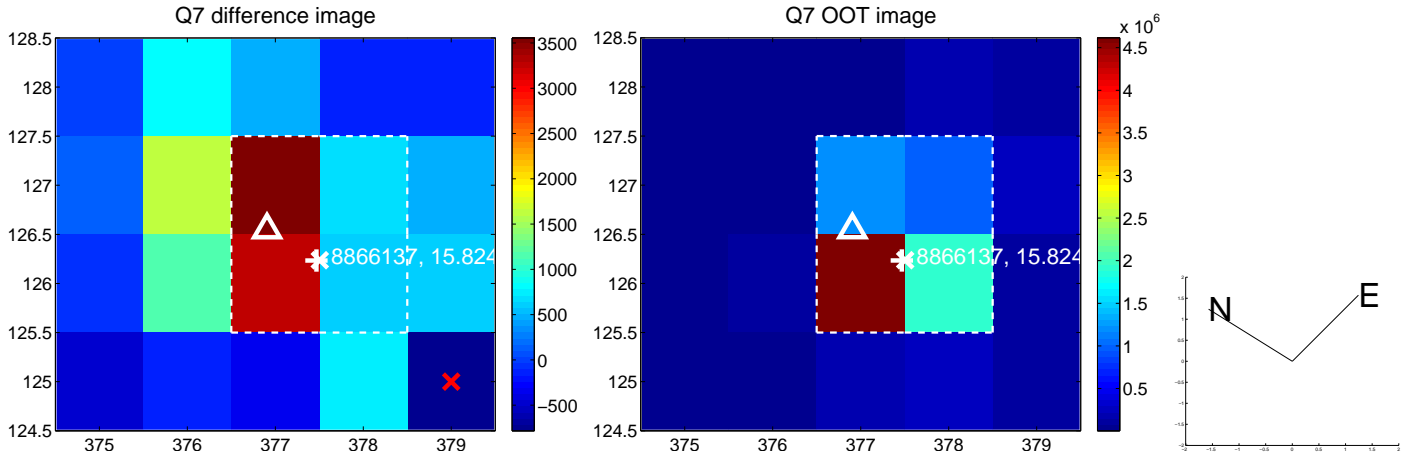
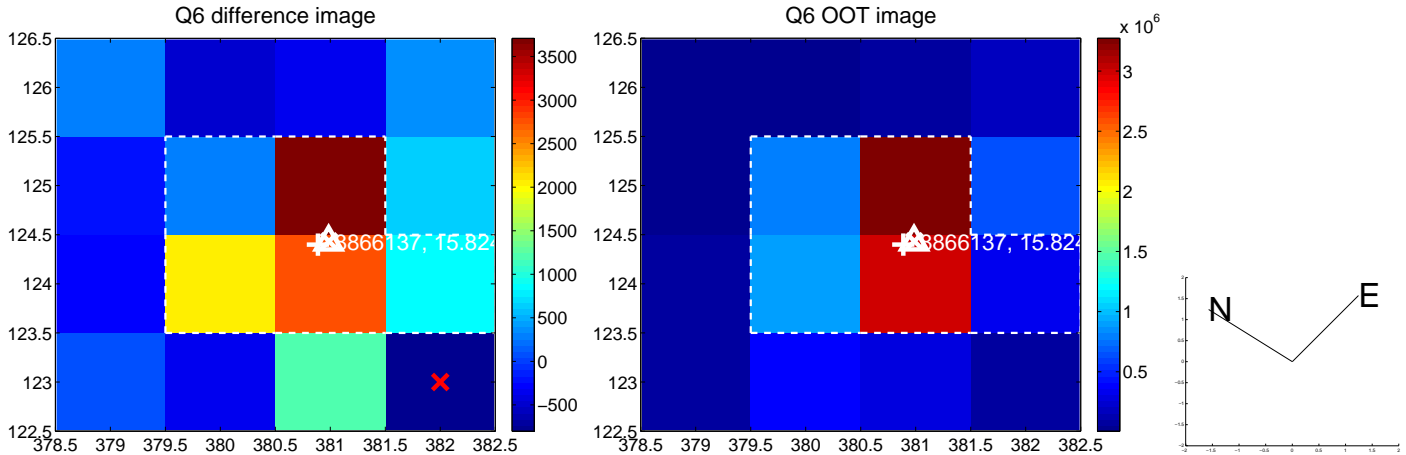
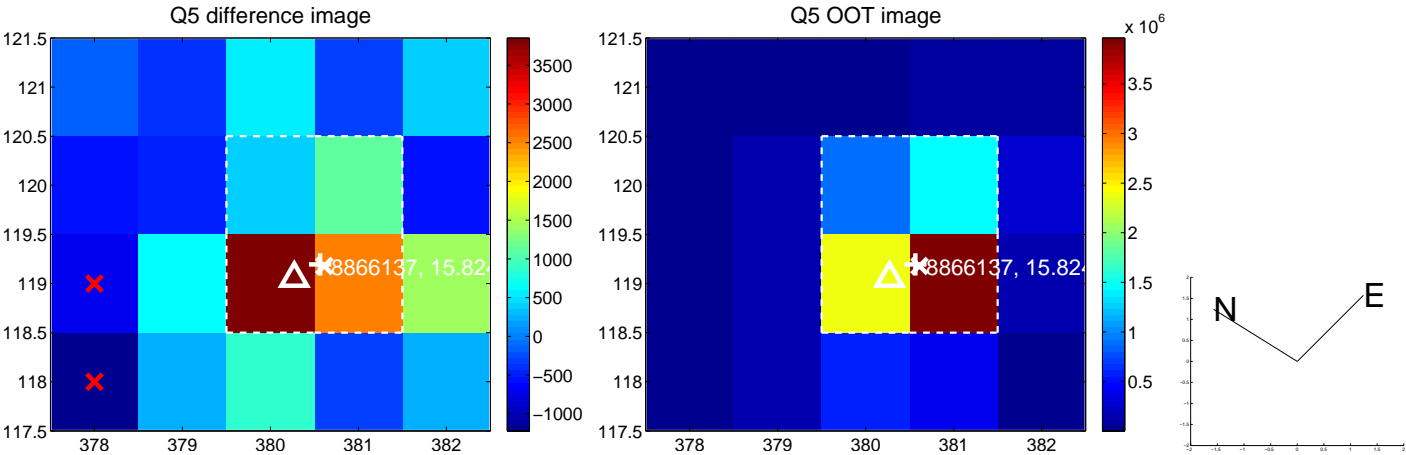


offset from photometric centroids

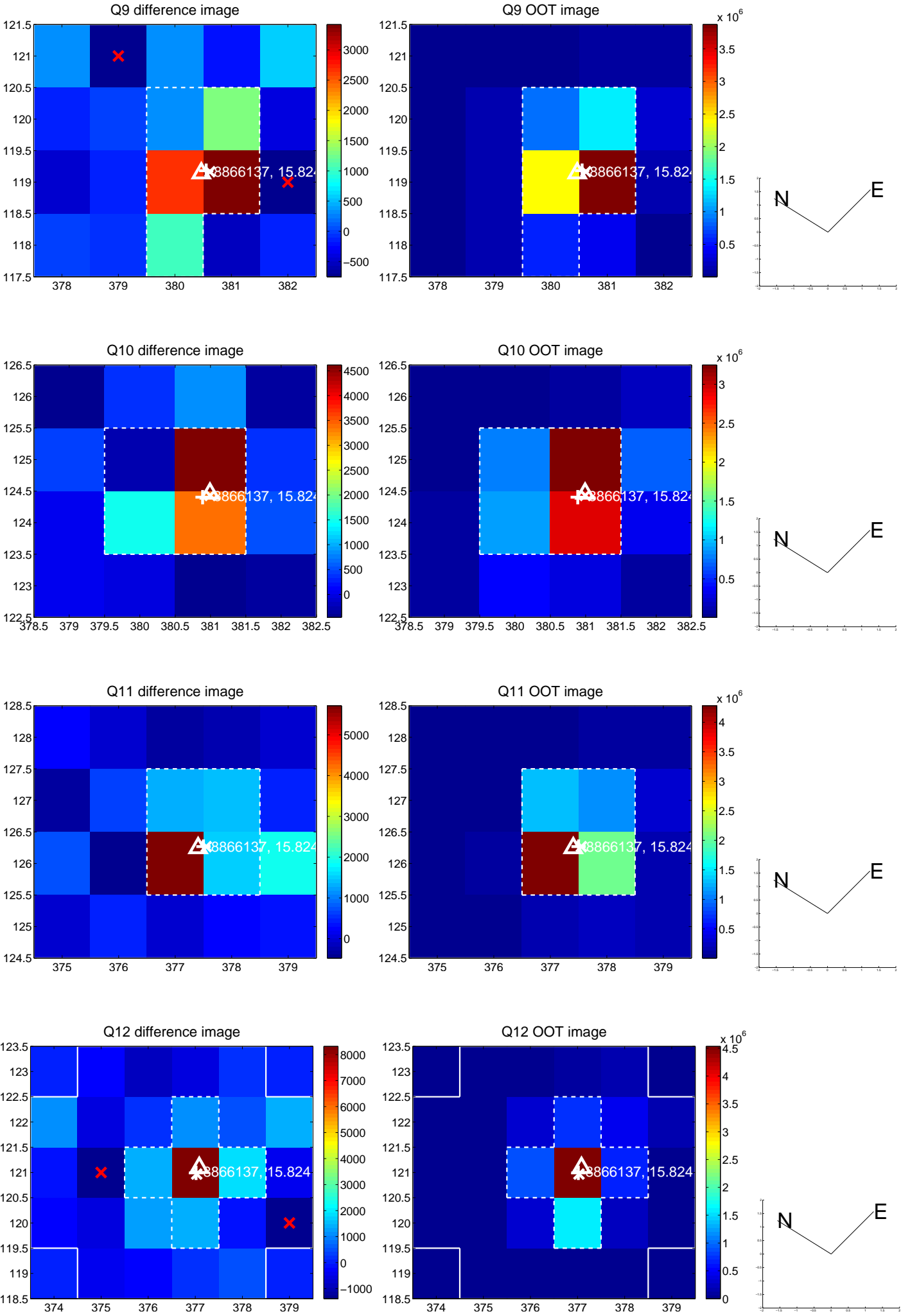


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

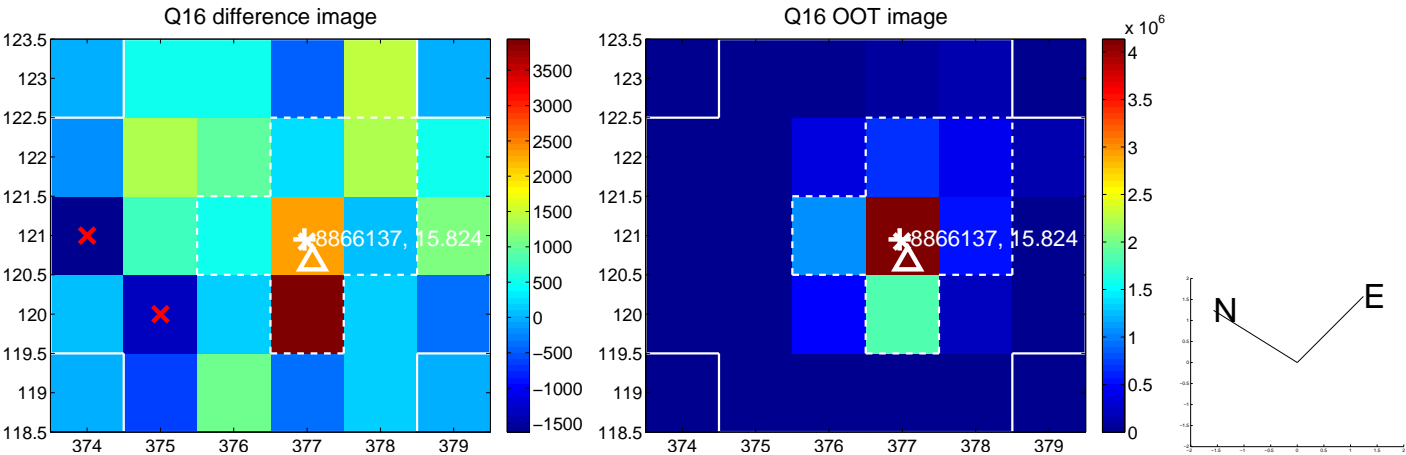
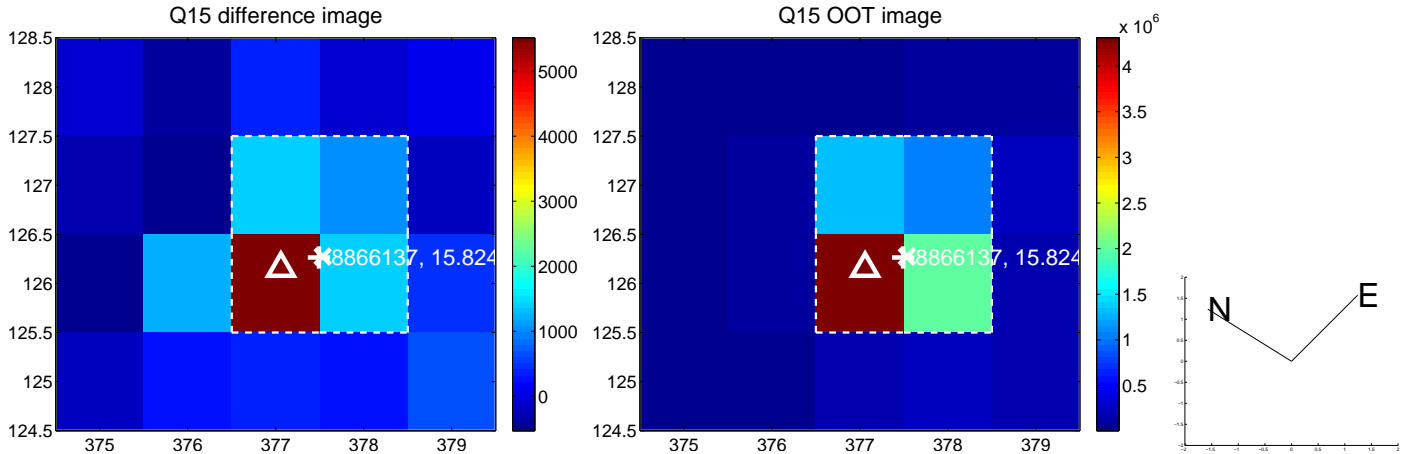
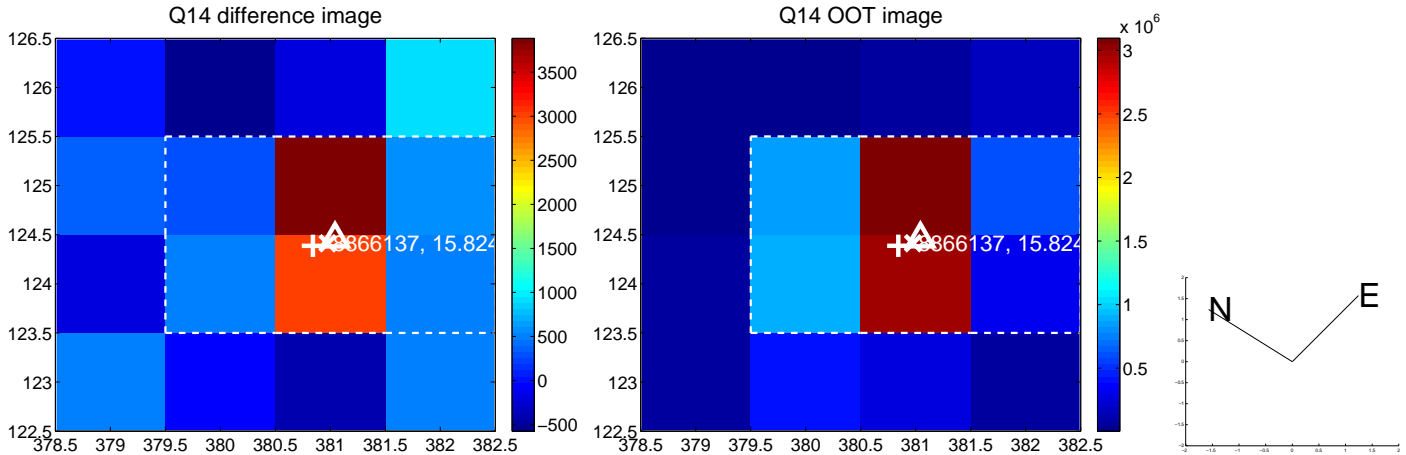
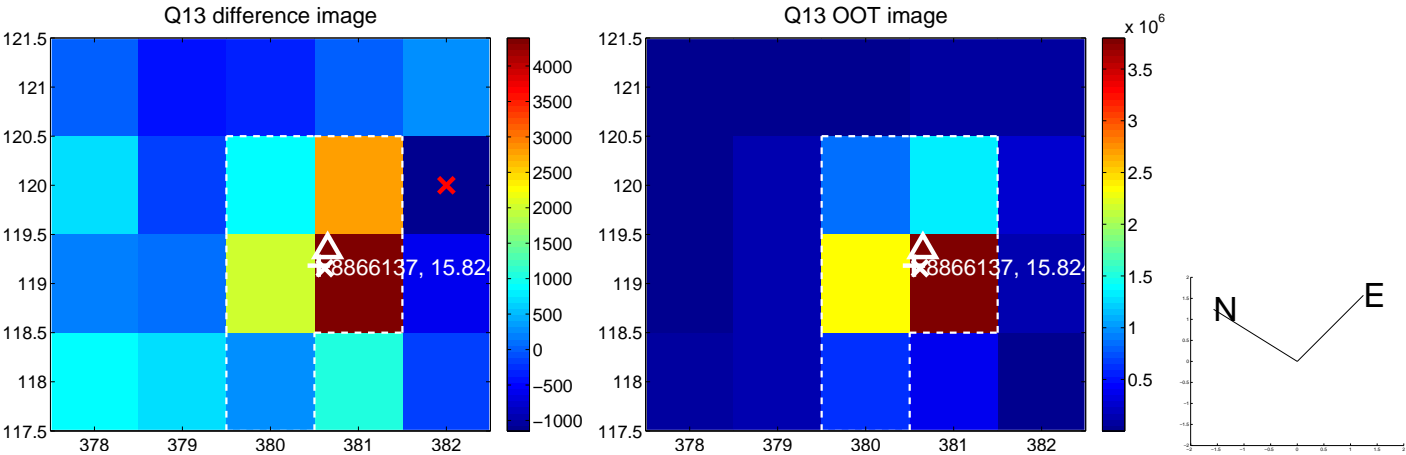
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



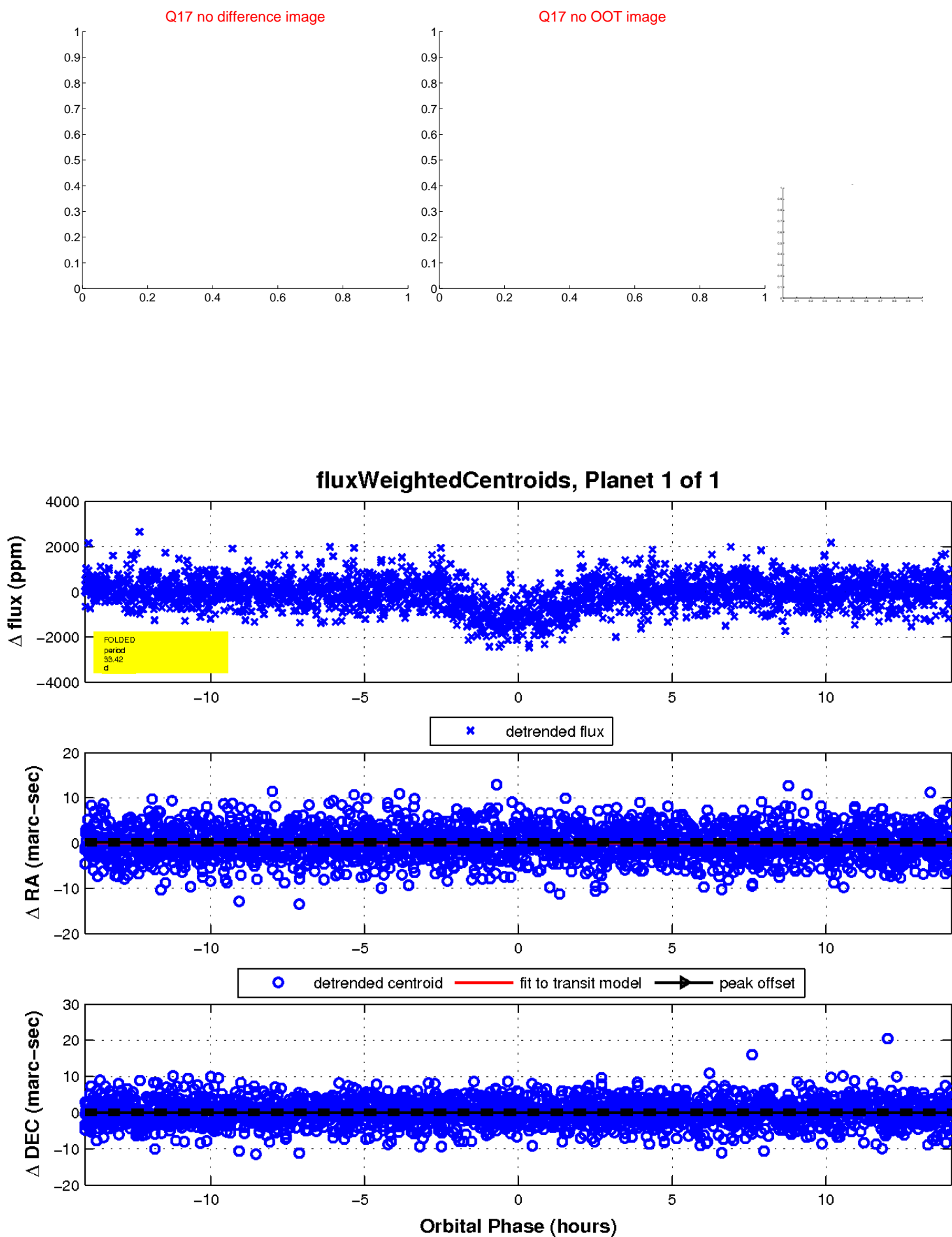
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

