

KIC 008175131

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})
008175131-01	OBS	2139.01	4.271180	132.112811	864.9	3.222	34.3	32.3	0.67	4702	2.41	98.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008175131-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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 008175131-01

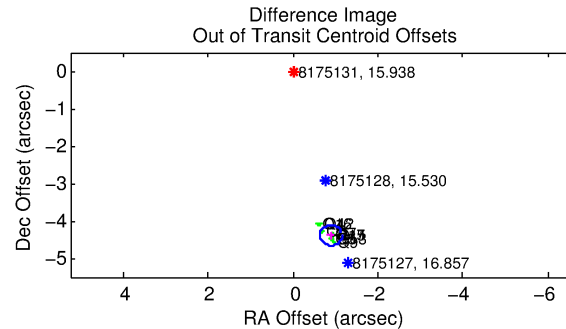
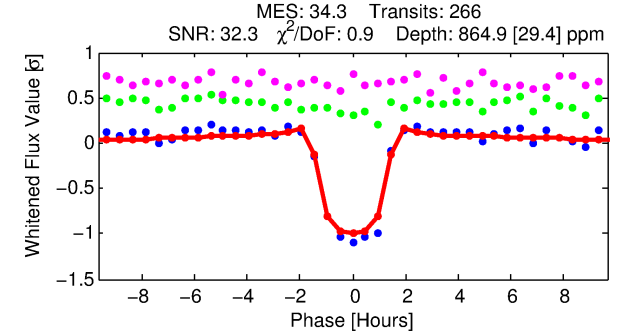
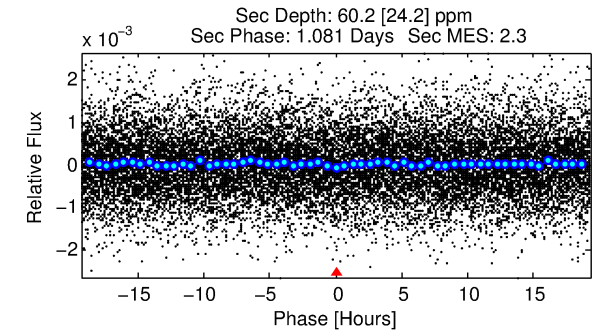
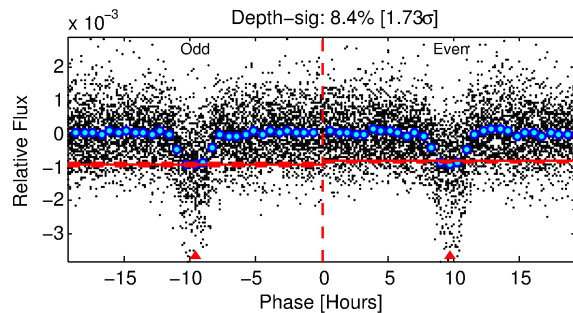
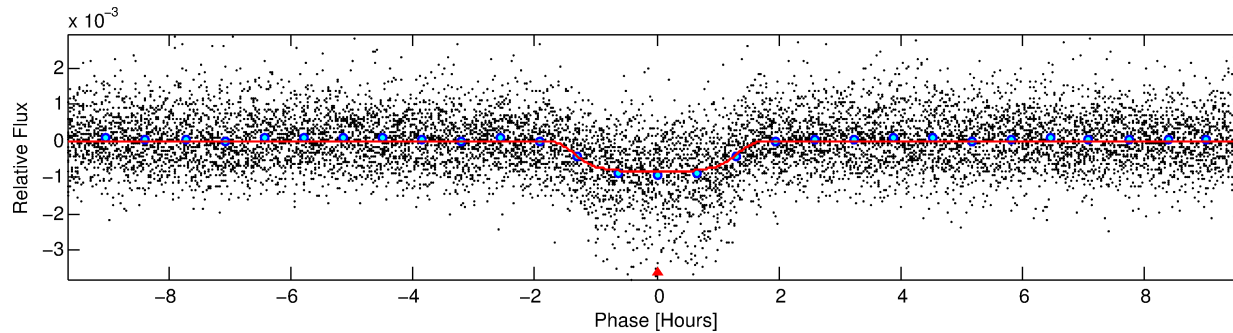
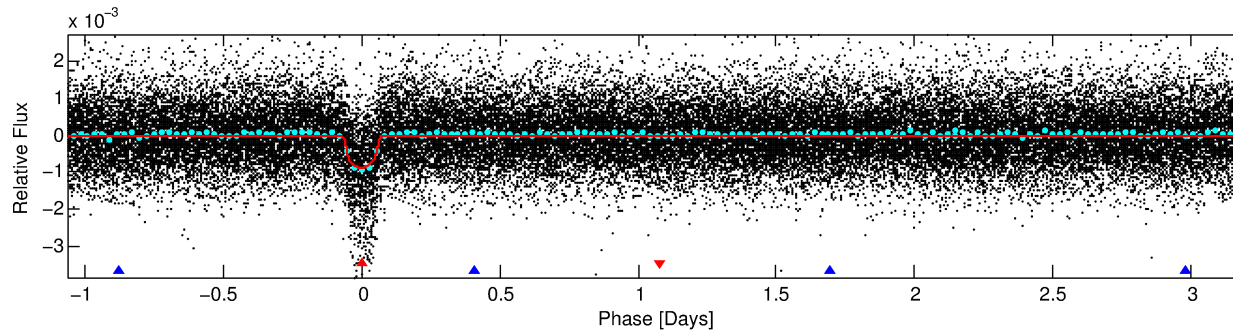
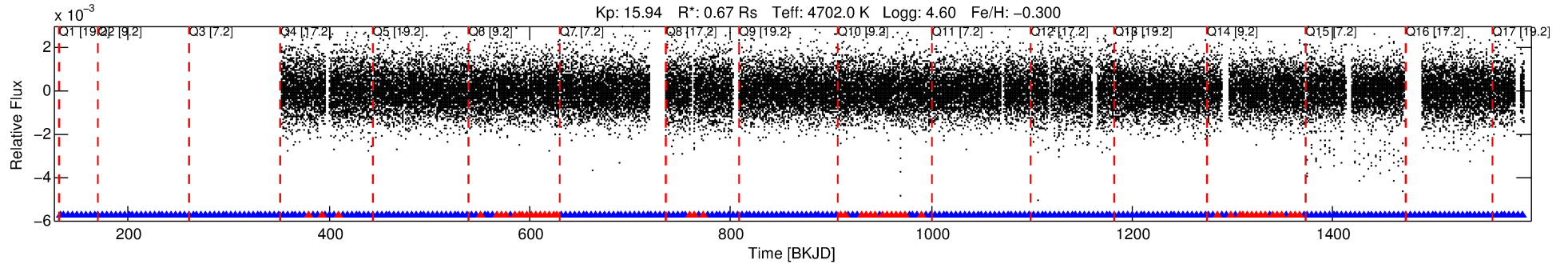
No Significant Match Found

DV One-Page Summary

KIC: 8175131 Candidate: 1 of 2 Period: 4.271 d

KOI: K02139.01 Corr: 0.951

Kp: 15.94 R*: 0.67 Rs Teff: 4702.0 K Logg: 4.60 Fe/H: -0.300



DV Fit Results:

Period = 4.27118 [0.00001] d
Epoch = 132.1128 [0.0018] BKJD
Rp/R* = 0.0330 [0.0026]
a/R* = 5.24 [1.43]
b = 0.90 [0.06]
Seff = 98.18 [18.09]
Teq = 803 [37] K
Rp = 2.41 [0.30] Re
a = 0.0447 [0.0036] AU
Ag = 11.40 [5.10] [2.04σ]
Teff = 2281 [259] K [5.64σ]

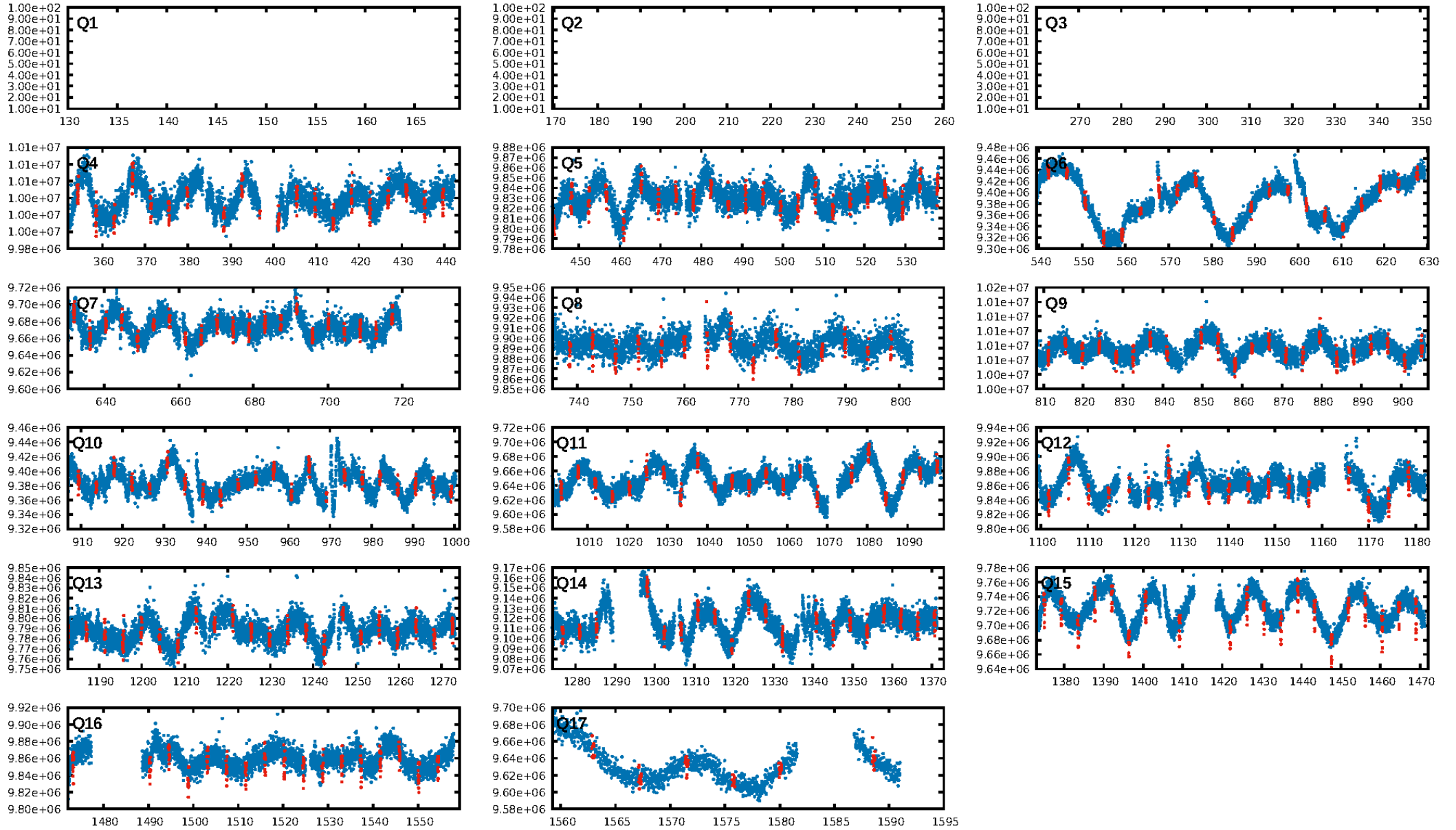
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [288.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.60e-243
RollingBand-fgt: 0.81 [211/260]
GhostDiagnostic-chr: -0.2198
Centroid-sig: 0.0%
Centroid-so: 16.015 arcsec [49.42σ]
OotOffset-rm: 4.484 arcsec [50.29σ]
KicOffset-rm: 5.400 arcsec [78.32σ]
OotOffset-st: 0/3/4/4 [11]
KicOffset-st: 0/3/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [14/14]

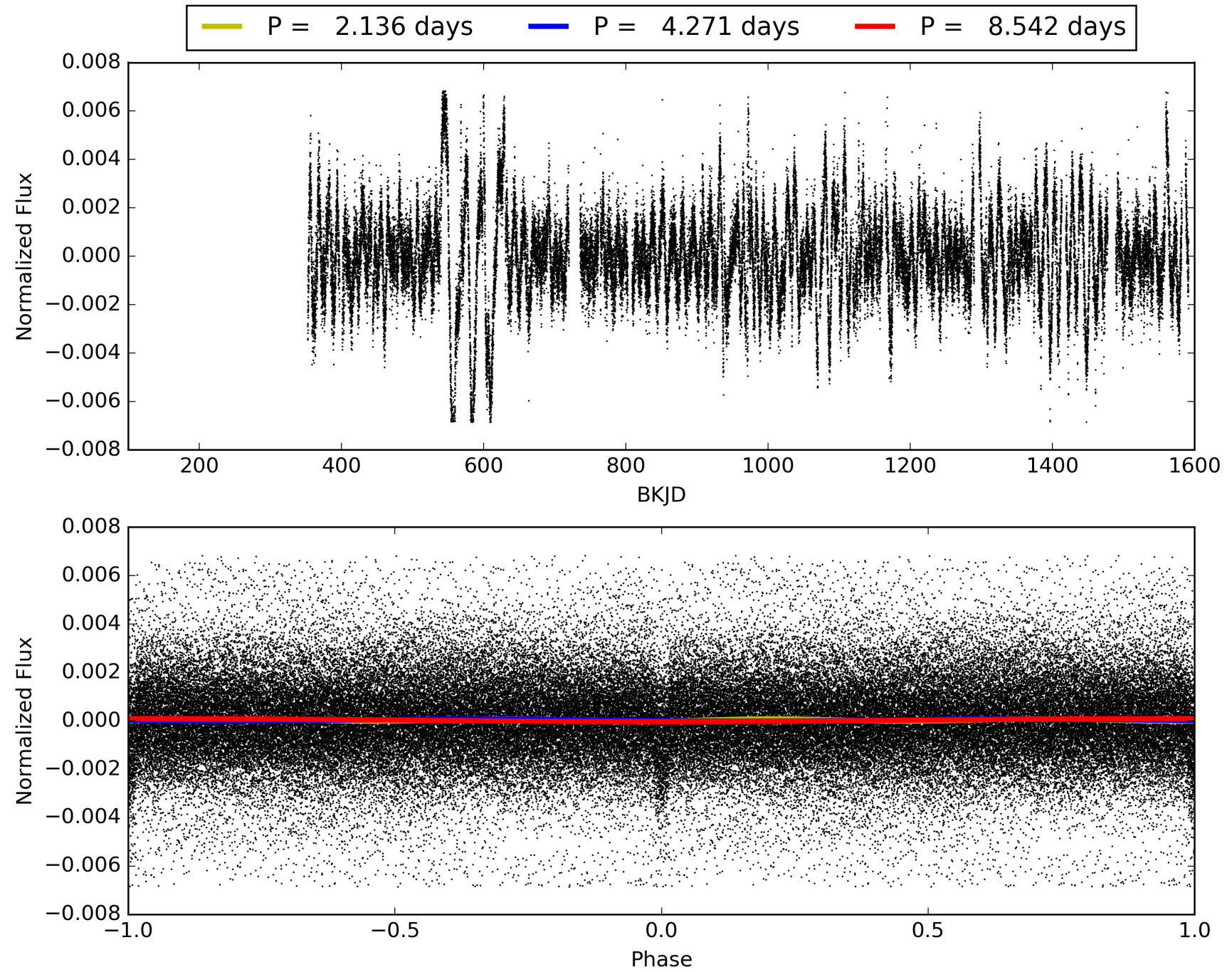
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:10:34 Z

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

TCE 008175131-01, PDC Light Curves

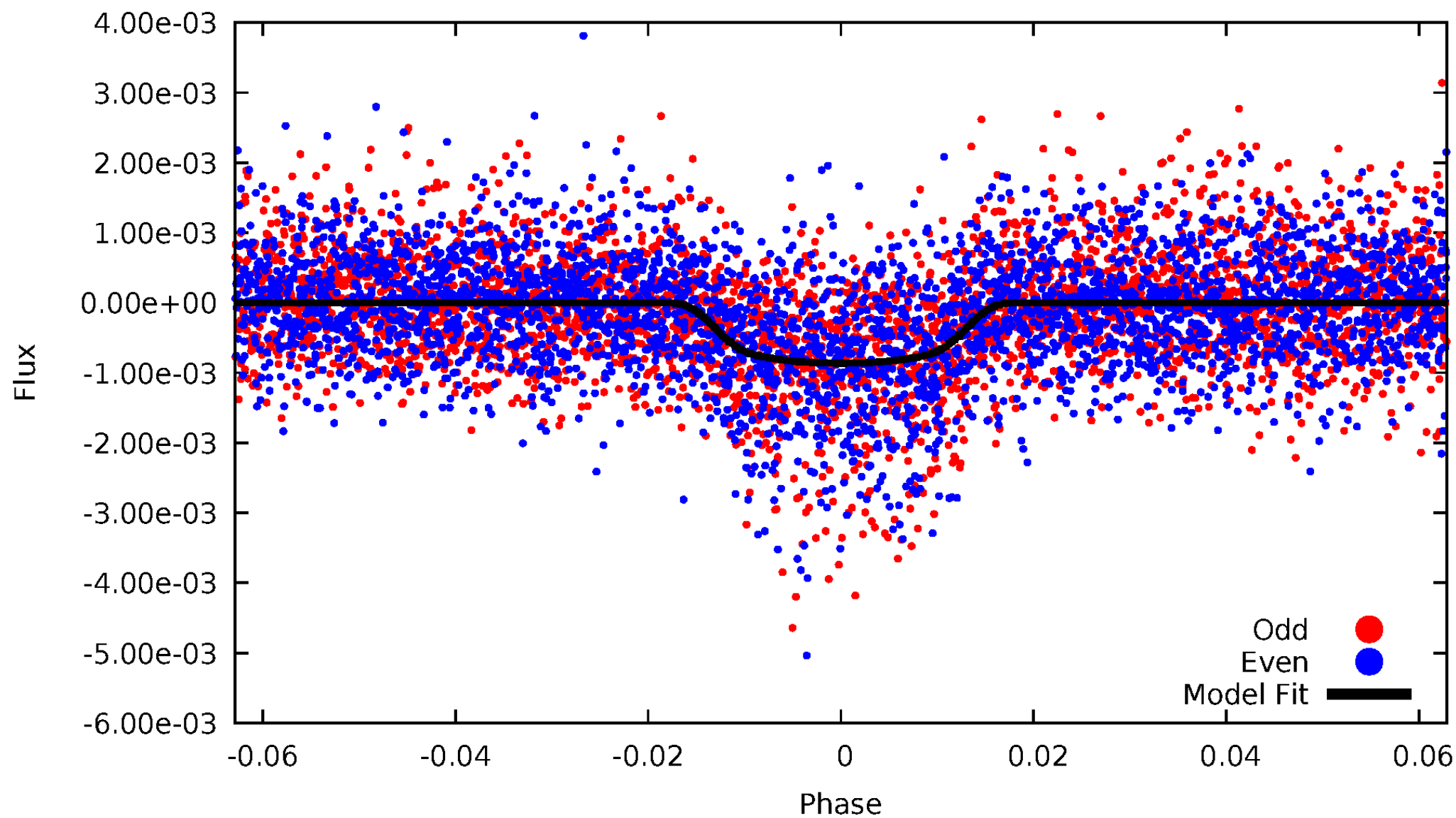


TCE 008175131-01



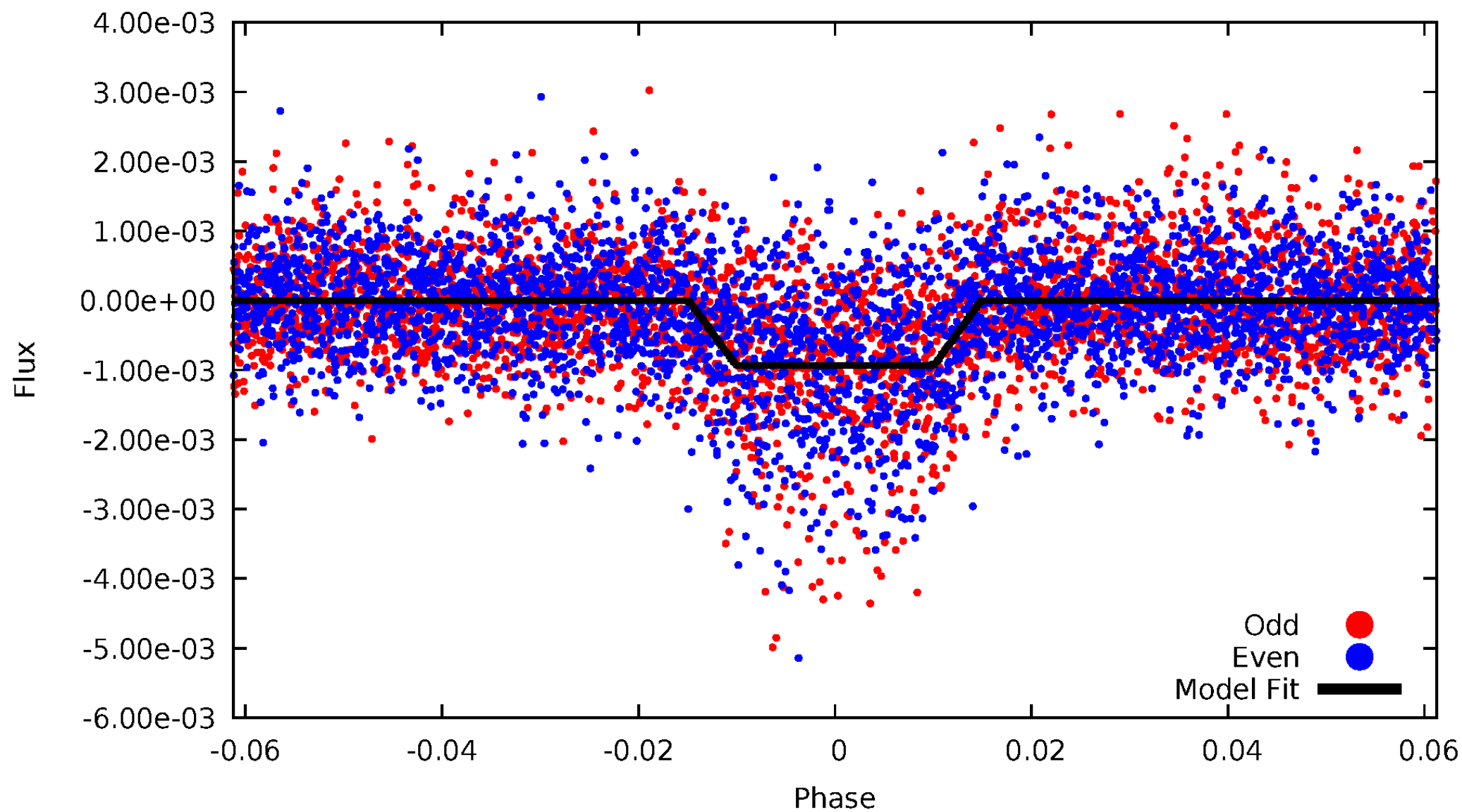
DV Odd/Even

TCE 008175131-01



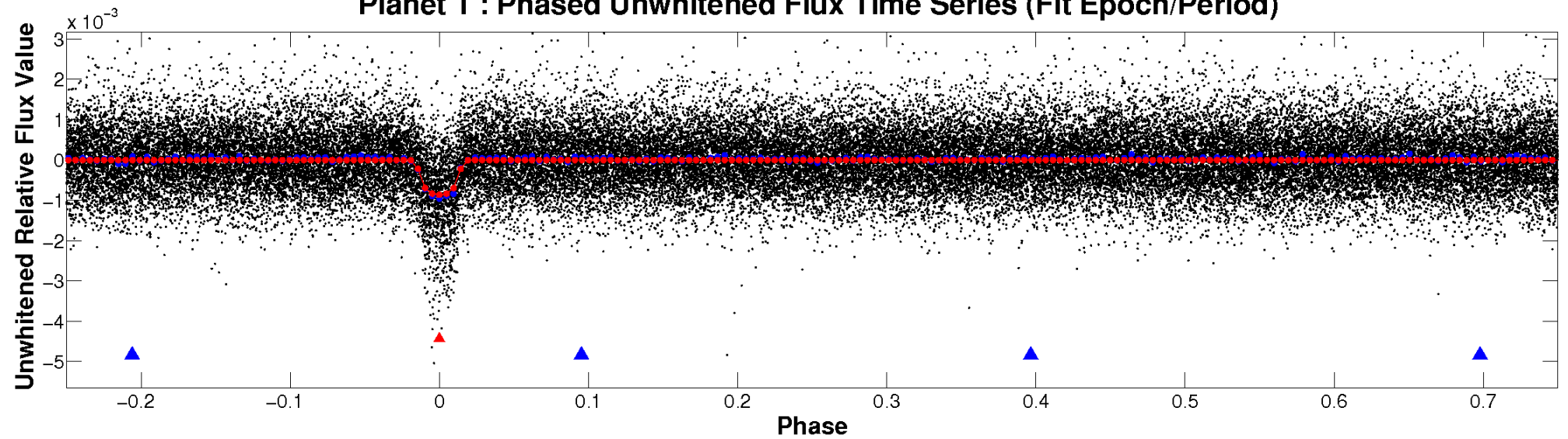
ALT Odd/Even

TCE 008175131-01

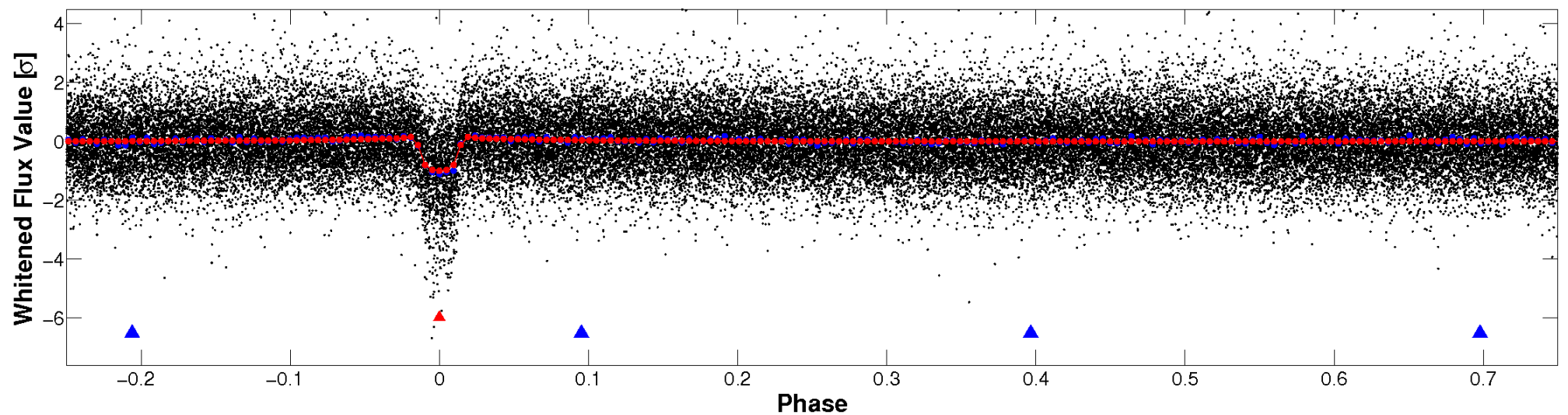


Non-Whitened Vs. Whitened Light Curve

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

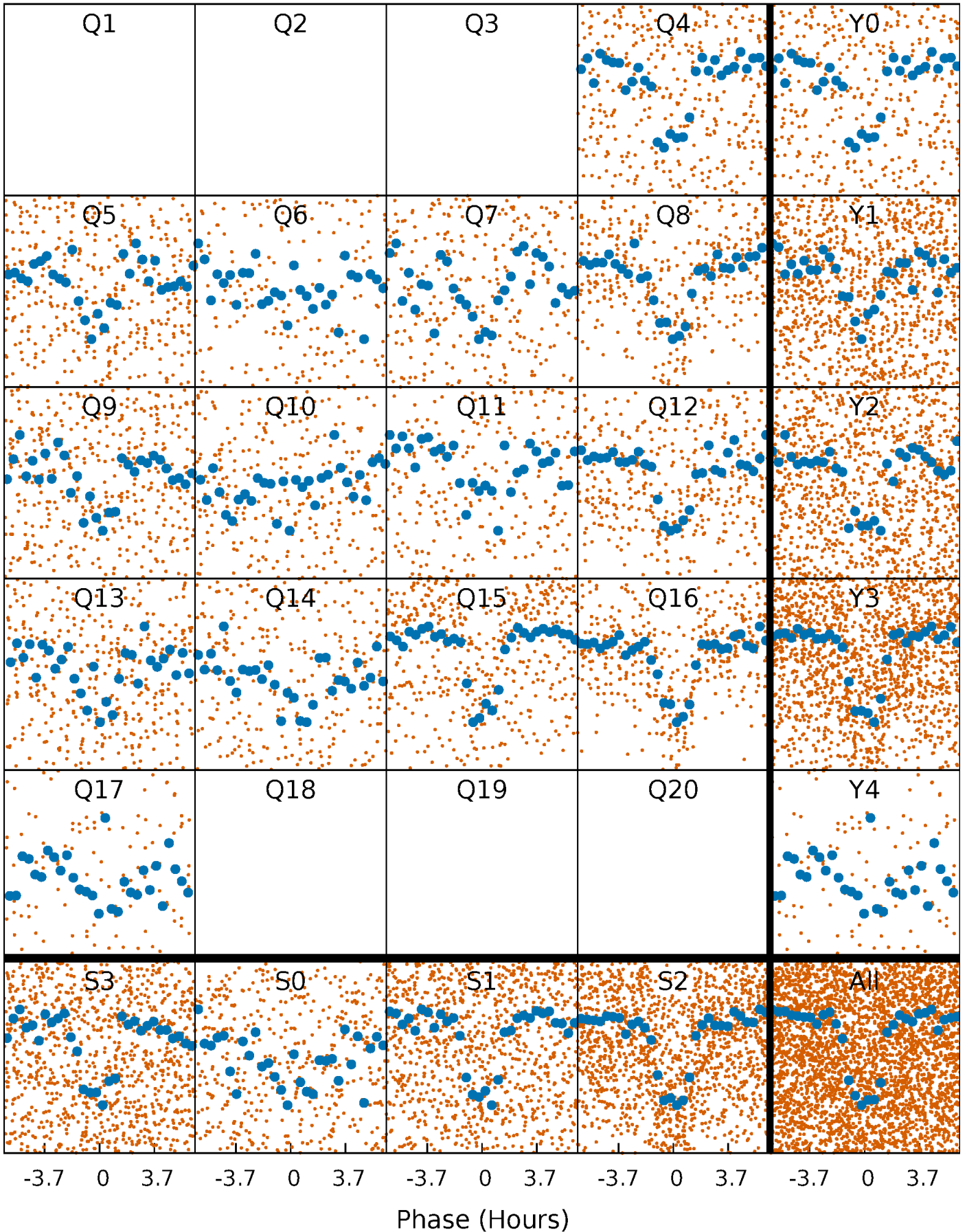


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



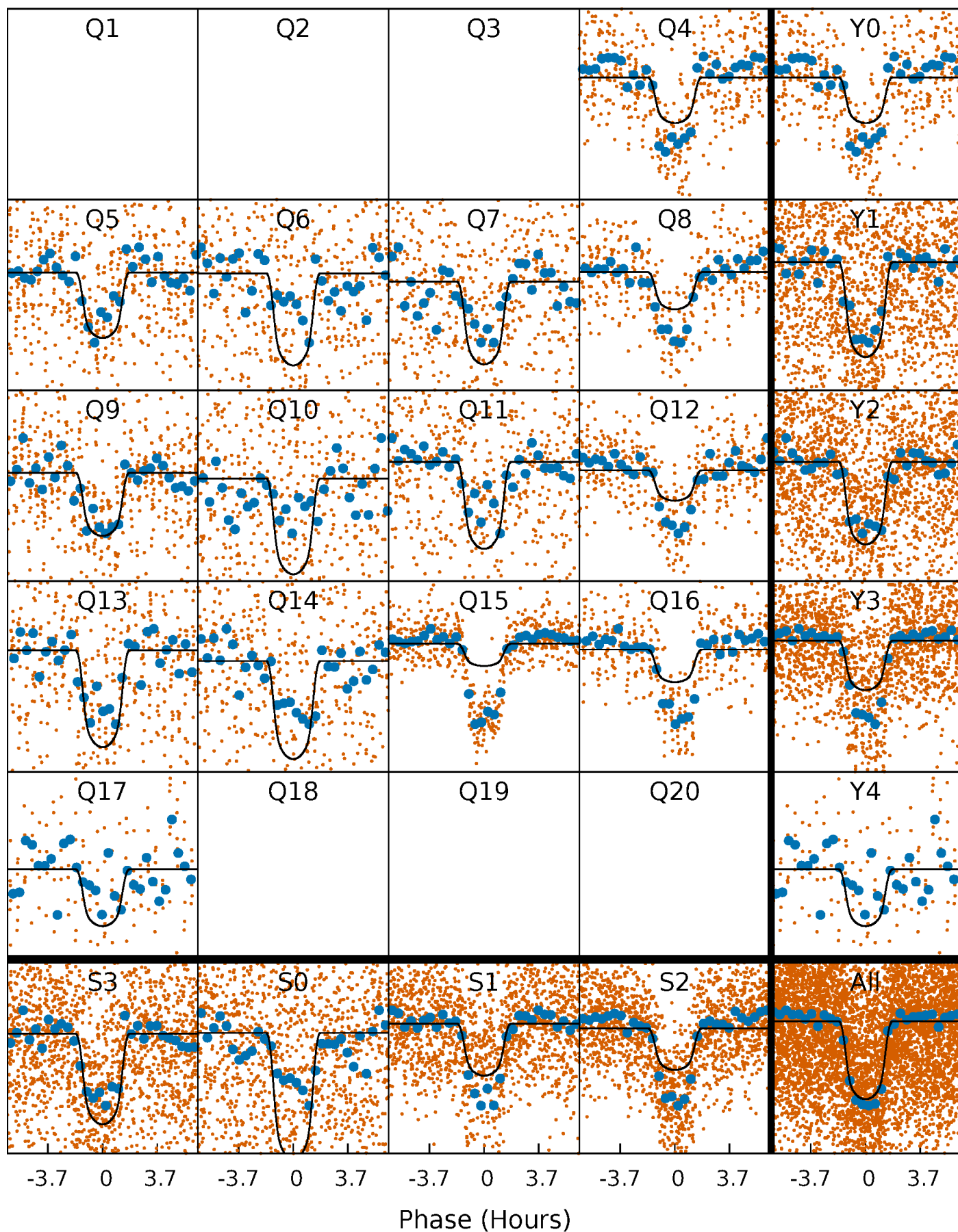
PDC Quarter-Phased Transit Curves

TCE 008175131-01 P= 4.271180 Days $T_0=132.112811$ (BKJD)



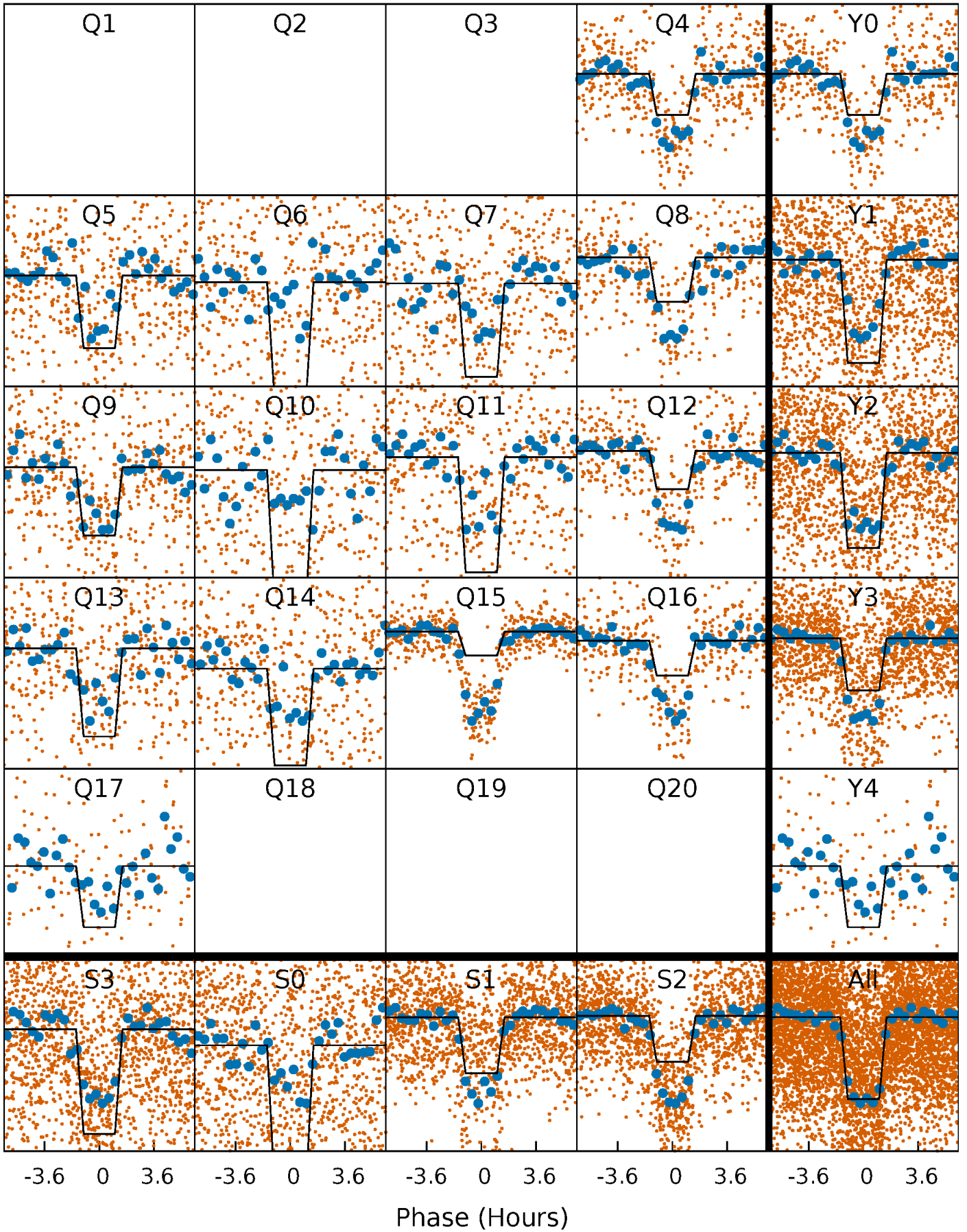
DV Quarter-Phased Transit Curves

TCE 008175131-01 P= 4.271180 Days $T_0=132.112811$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

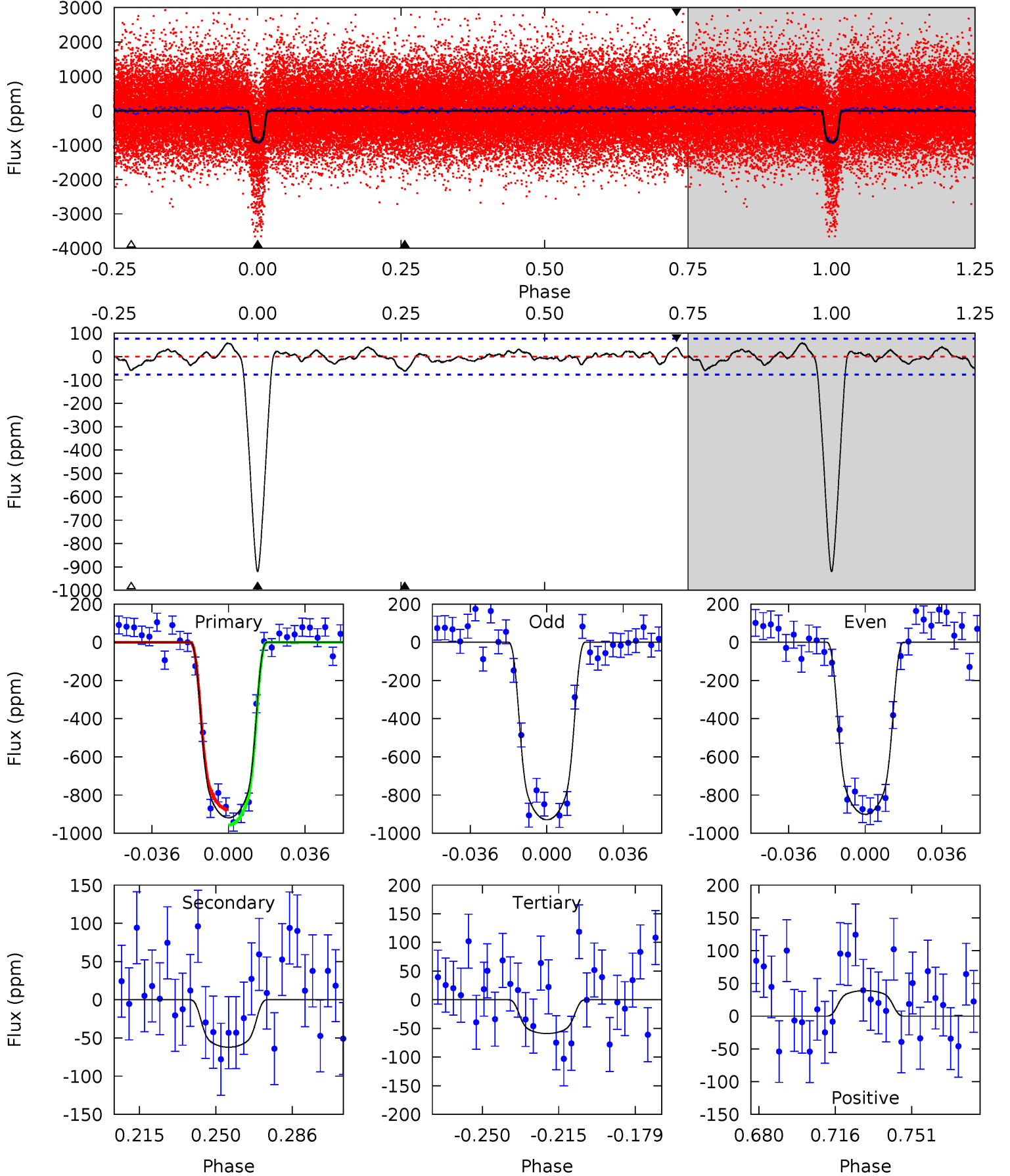
TCE 008175131-01 P= 4.271239 Days $T_0=132.100104$ (BKJD)



DV Model-Shift Uniqueness Test

008175131-01, P = 4.271180 Days, E = 132.112811 Days

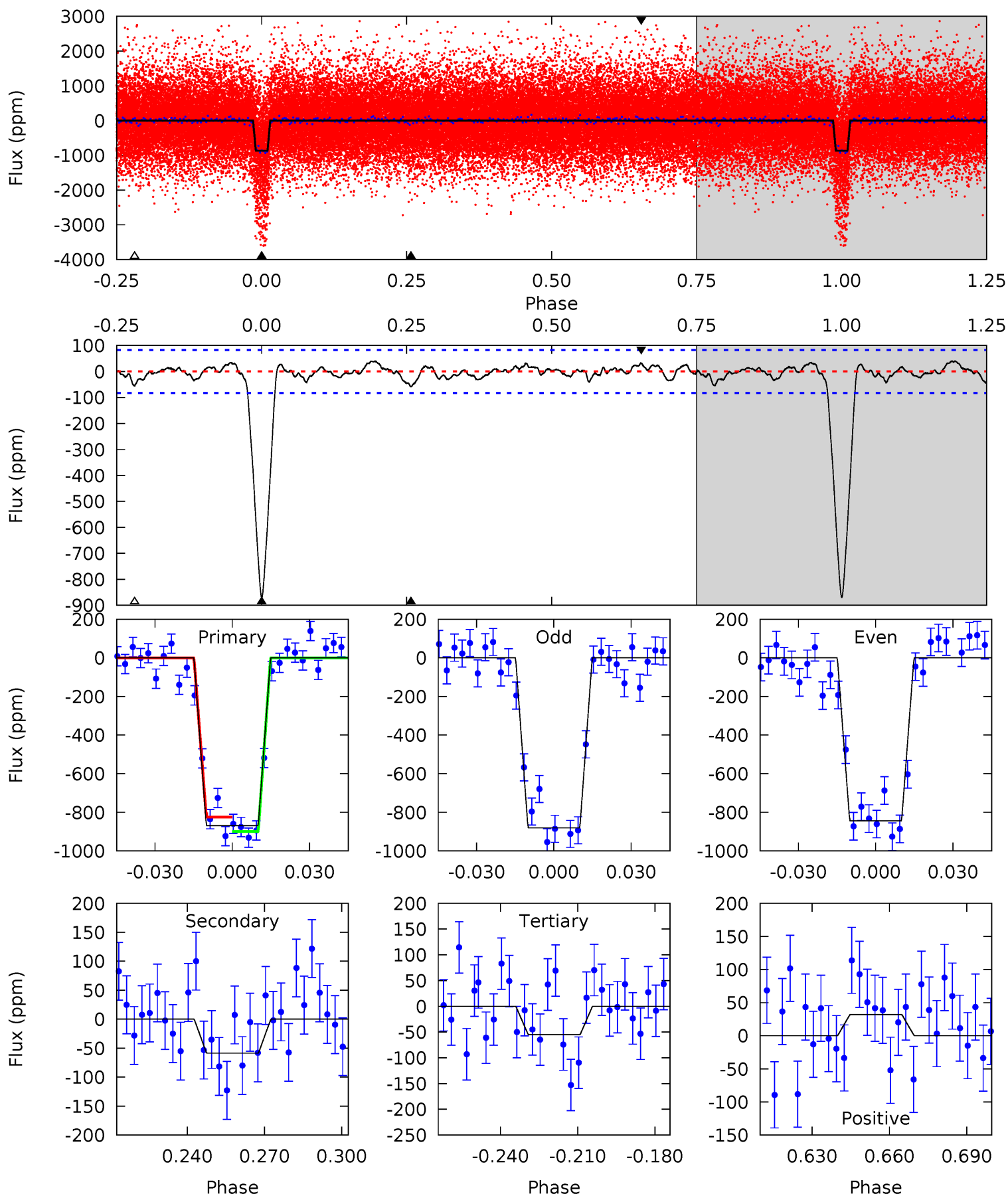
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.1	3.86	3.66	2.42	4.78	2.10	1.21	53.4	54.7	0.20	1.44	0.89	1.25	0.06	2.54



Alt Model-Shift Uniqueness Test

008175131-01, P = 4.271239 Days, E = 132.100104 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.6	3.41	3.20	1.86	4.81	2.17	1.02	47.4	48.8	0.21	1.55	1.05	1.30	0.04	2.18



Stellar Parameters For KIC 008175131

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4702^{+168}_{-168}	$4.602^{+0.063}_{-0.032}$	$-0.300^{+0.300}_{-0.300}$	$0.670^{+0.053}_{-0.065}$	$0.654^{+0.080}_{-0.046}$	$3.067^{+0.763}_{-0.423}$
	+4%/-4%	+1%/-1%	+100%/-100%	+8%/-10%	+12%/-7%	+25%/-14%
Source	KIC0	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 008175131-01 / KOI 2139.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-62 ± 16	$2.40^{+0.22}_{-0.23}$	1113^{+46}_{-44}	2913^{+154}_{-150}	12^{+4}_{-4}
Alt.	-59 ± 17	$2.22^{+0.22}_{-0.21}$	1116^{+42}_{-44}	2940^{+158}_{-150}	13^{+5}_{-4}

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

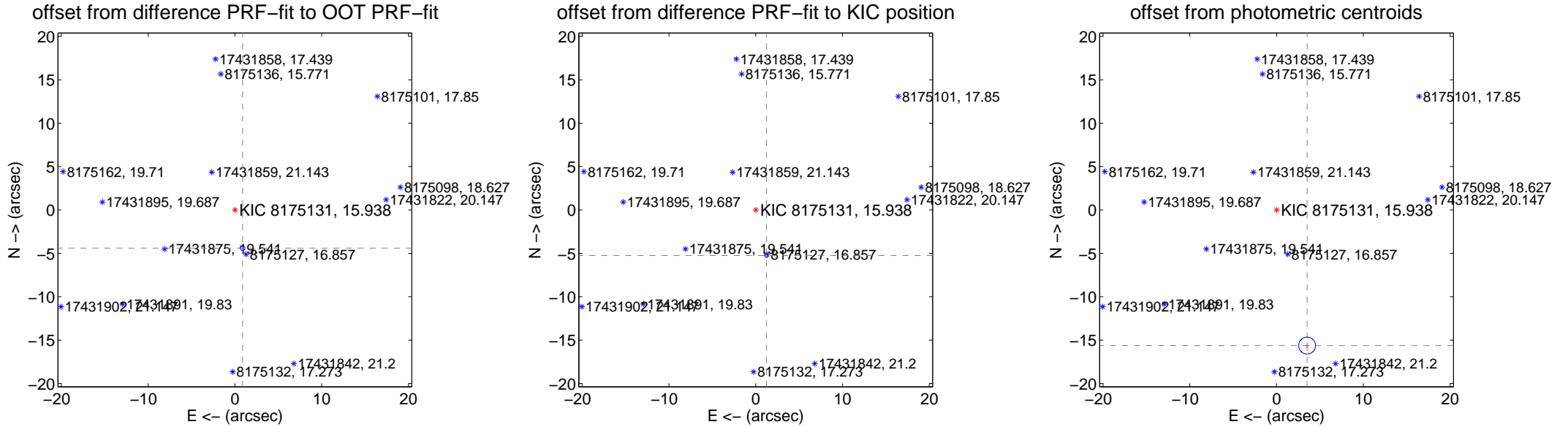
DV Centroid Data

Supplemental centroid analysis for 008175131-01. Kepler magnitude: 15.94. Transit SNR 32.27

There are 11 quarters with good PRF difference image offsets

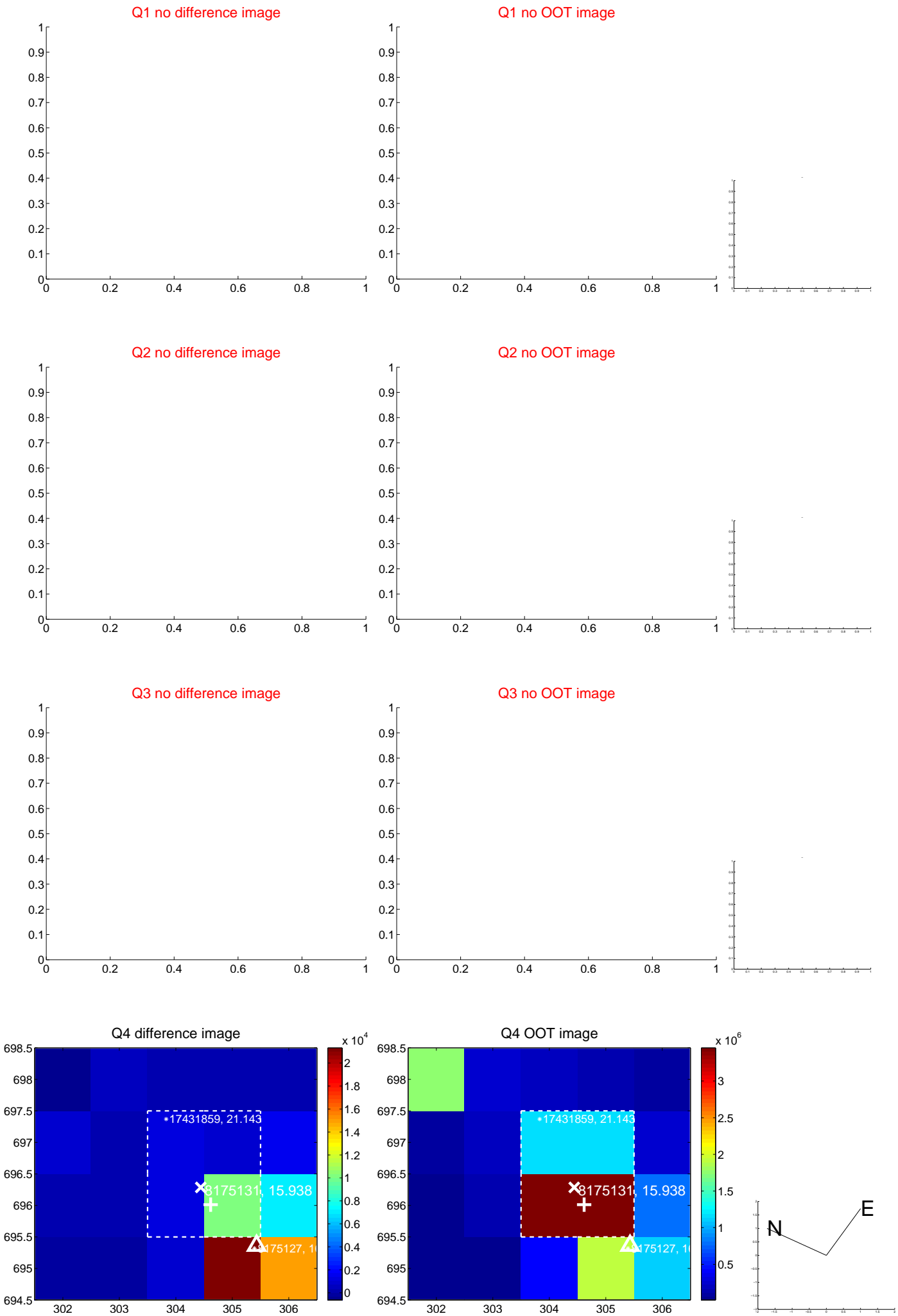
The direct PRF centroid is offset from the target star catalog position by about 0.84 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.484 ± 0.089	50.29	-0.889 ± 0.081	-4.395 ± 0.084
PRF-fit source offset from KIC position	5.400 ± 0.069	78.32	-1.238 ± 0.070	-5.256 ± 0.069
photometric centroid source offset	16.01 ± 0.32	49.42	-3.52 ± 0.25	-15.62 ± 0.33

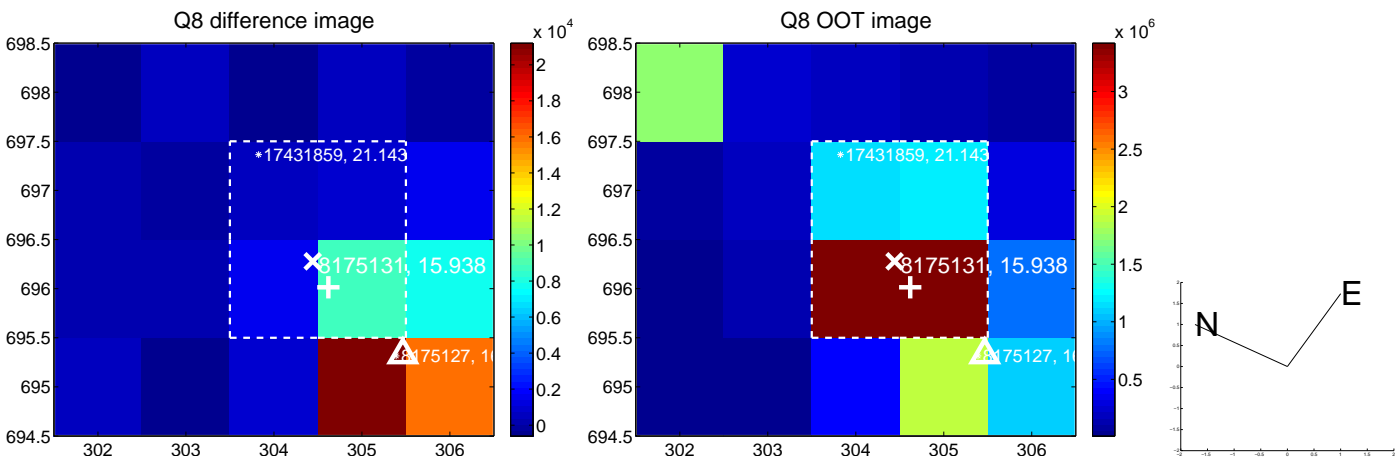
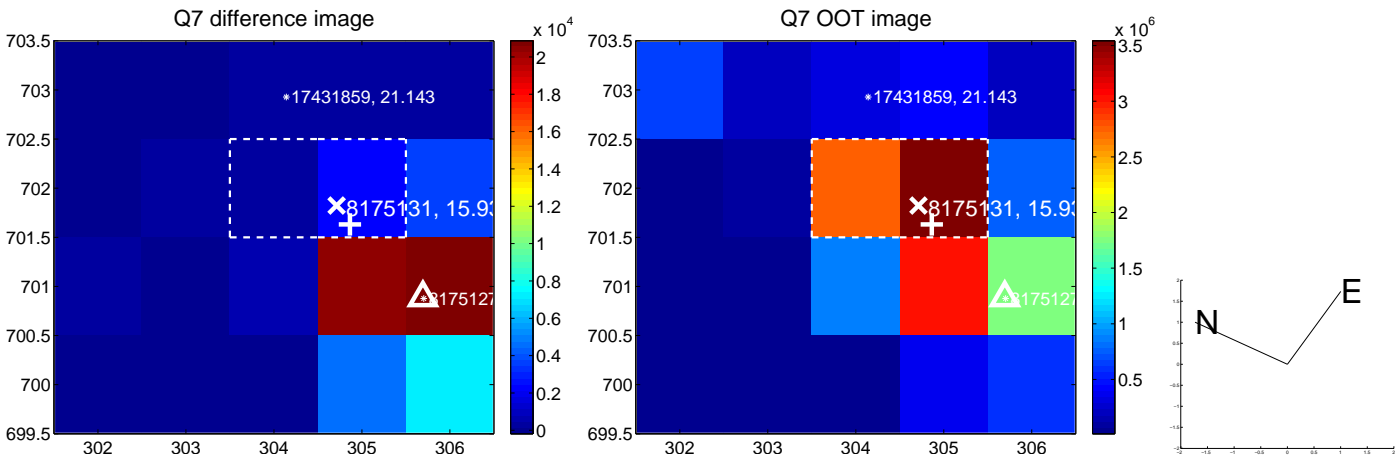
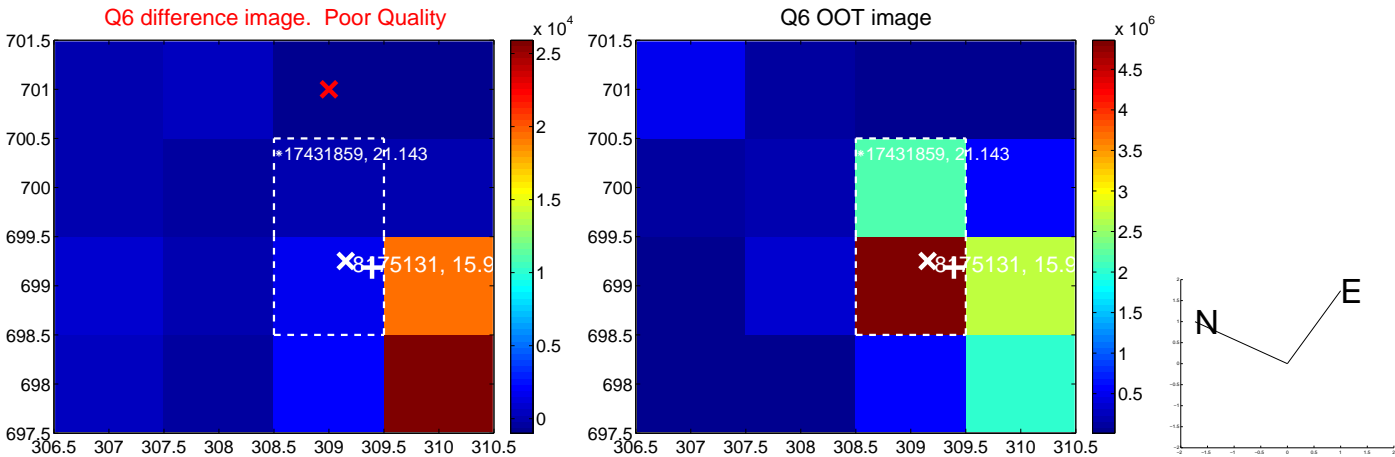
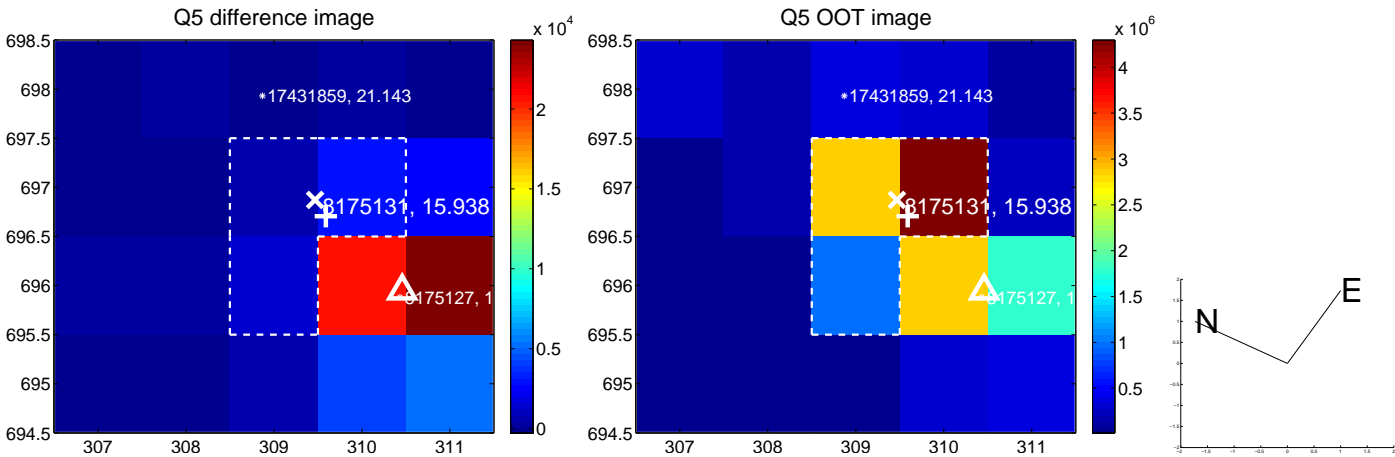


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

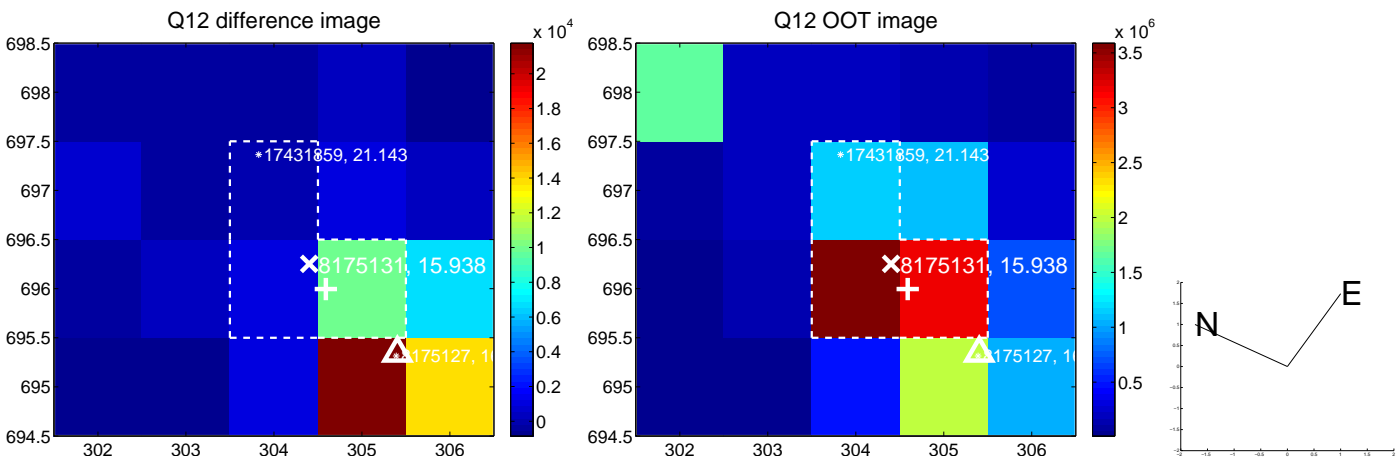
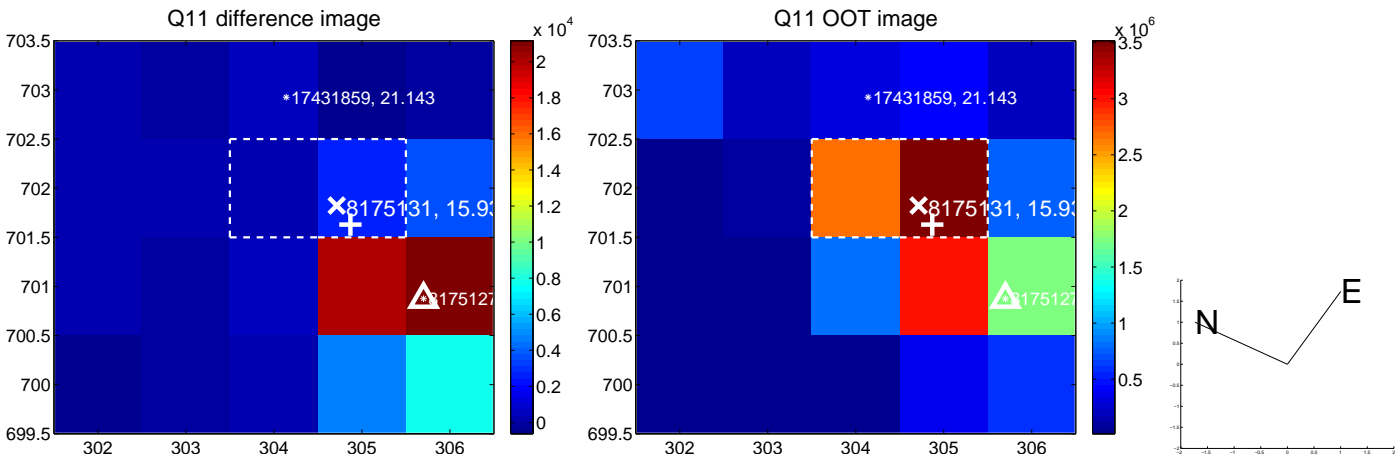
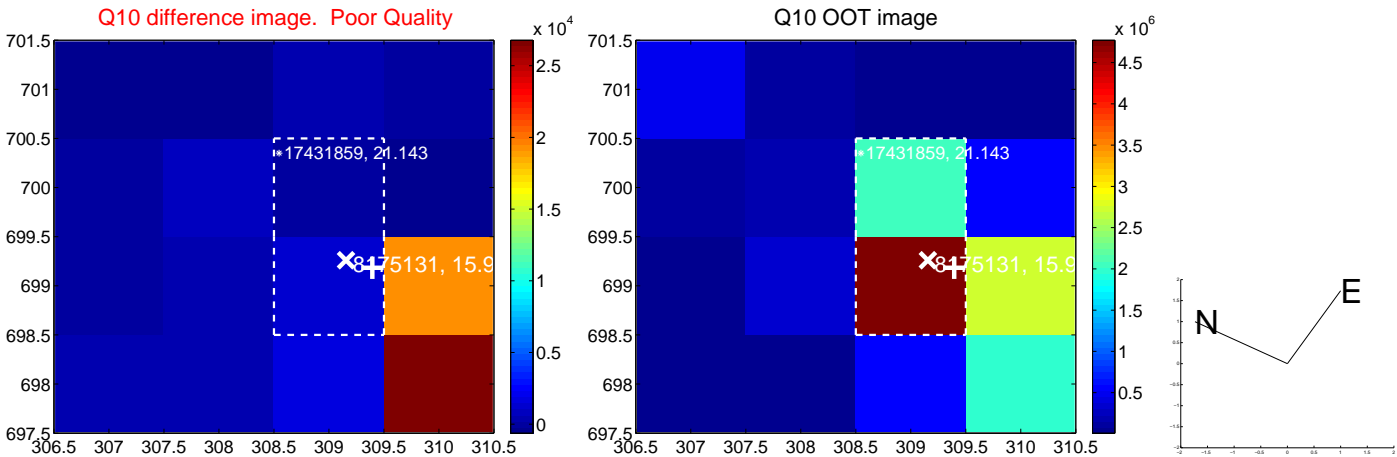
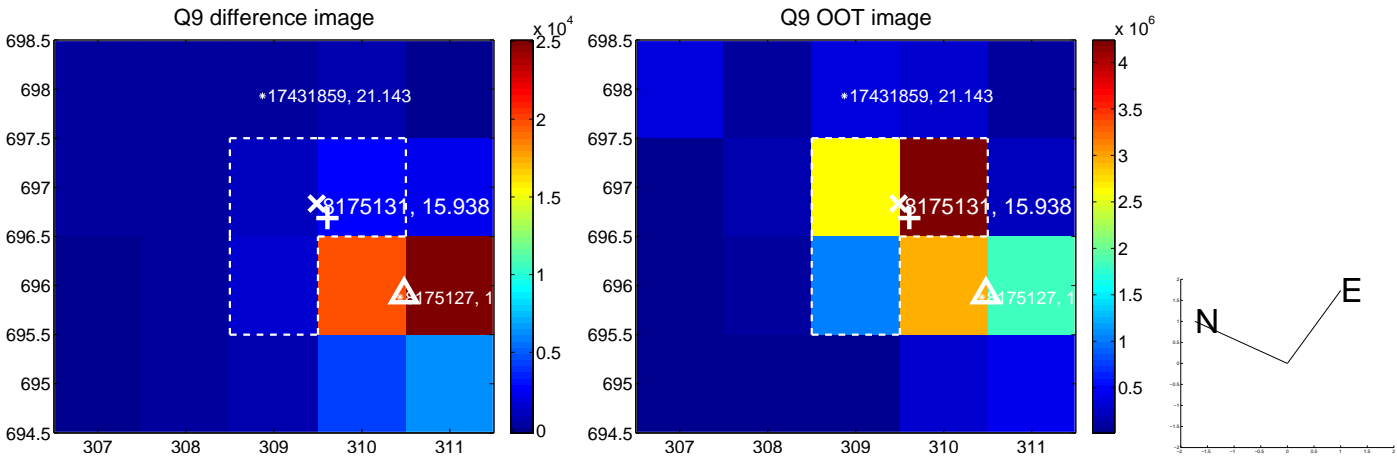
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



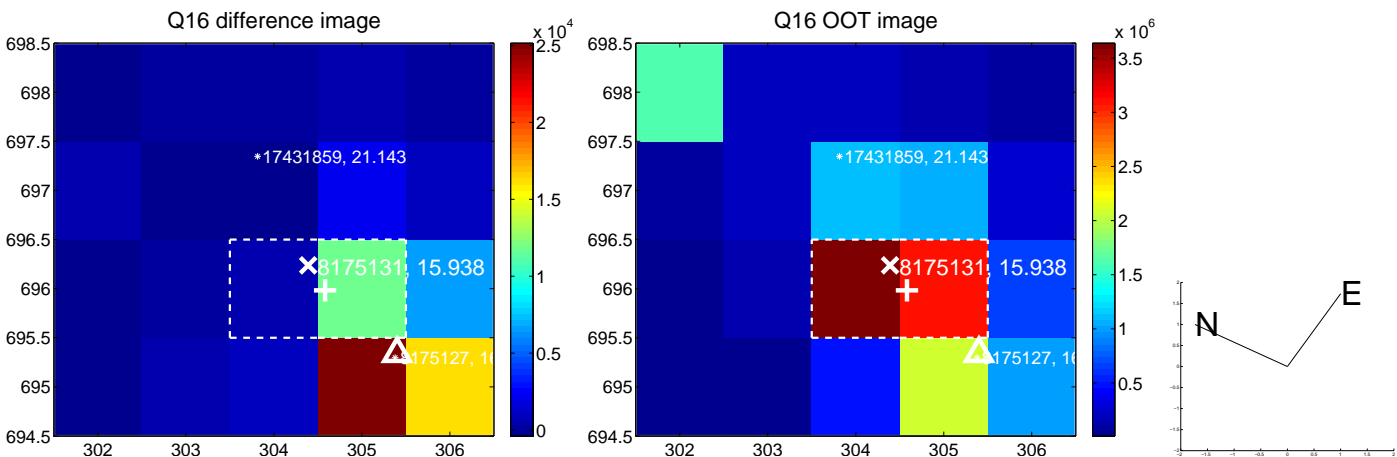
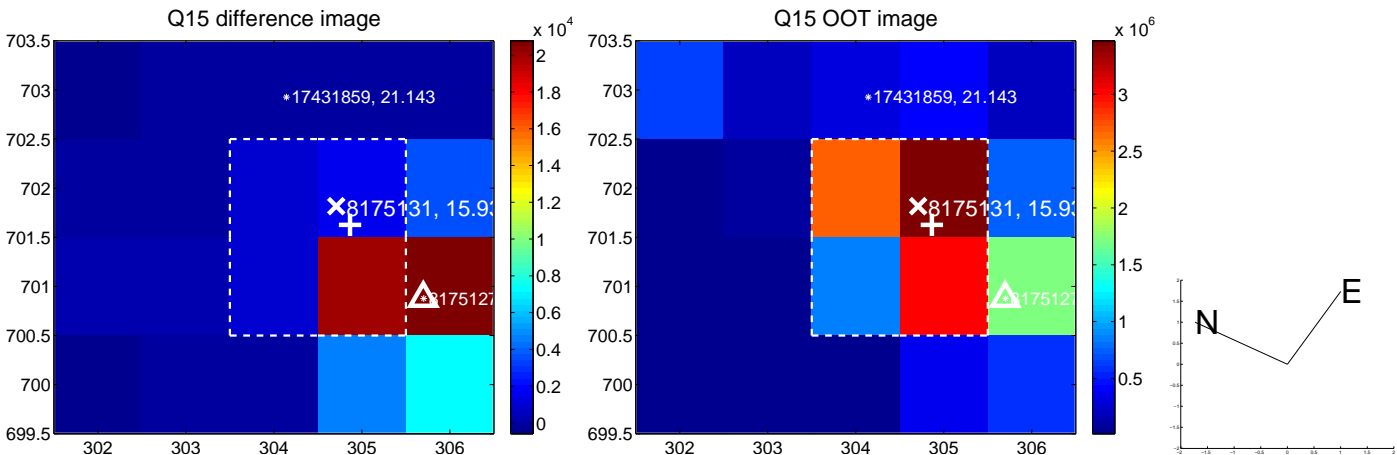
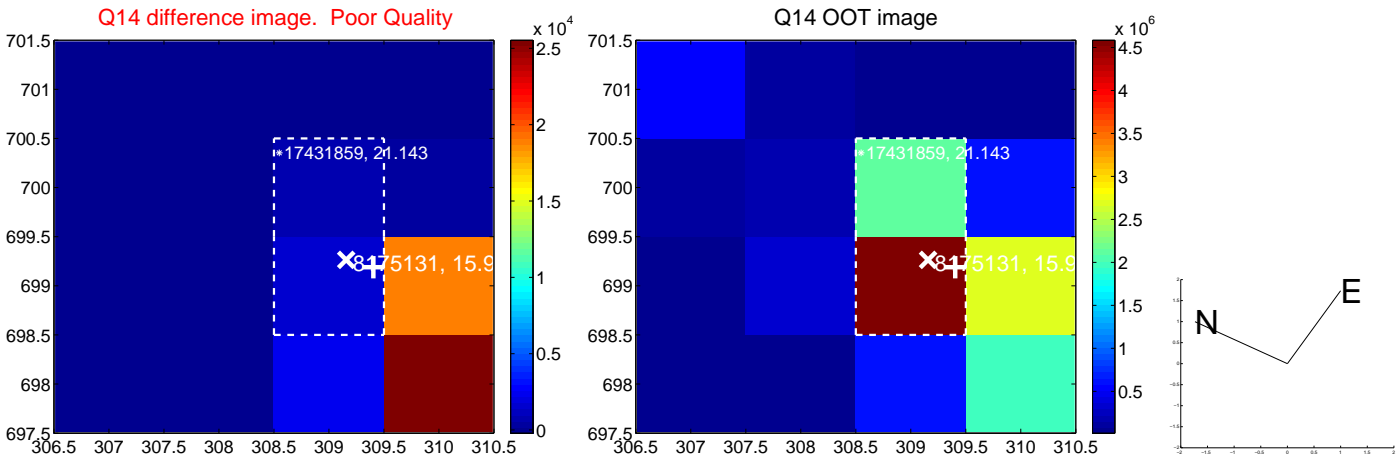
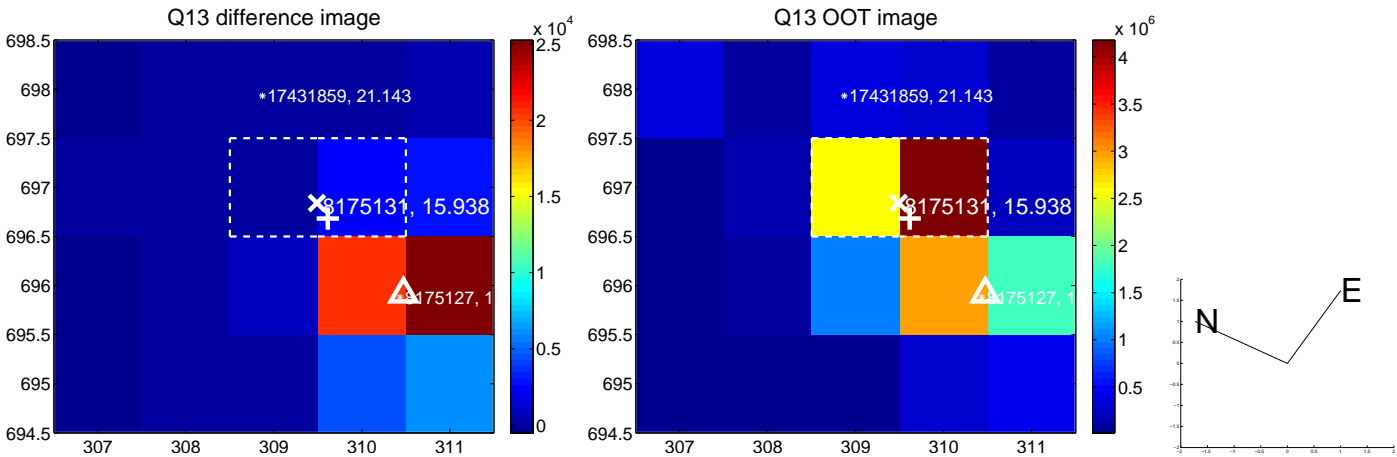
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



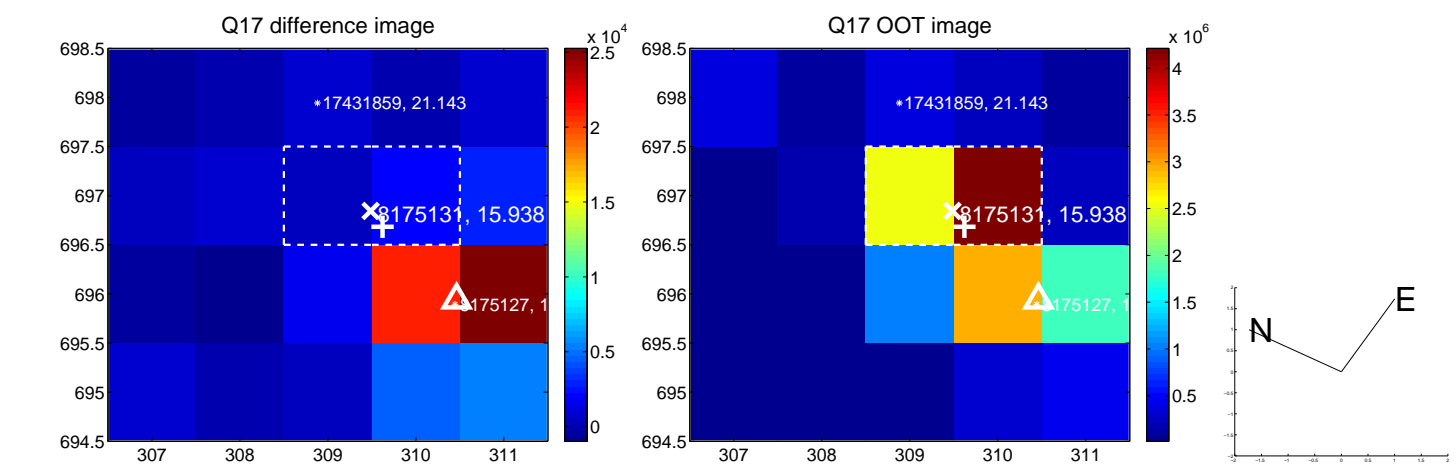
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



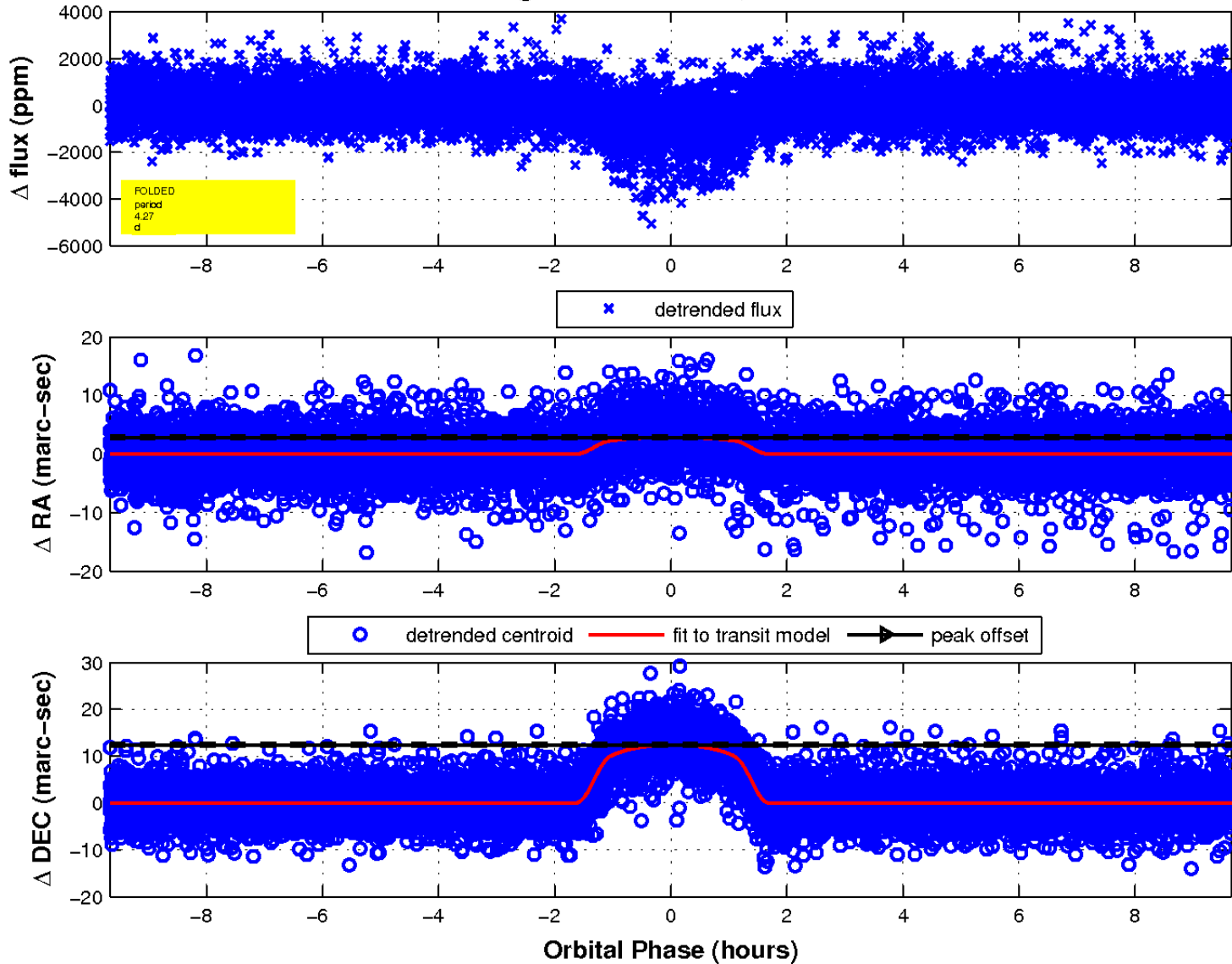
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination

