

KIC 011520114

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})
011520114-01	OBS	5909.01	7.079874	131.608414	342.9	2.670	9.5	9.7	0.81	4808	1.97	70.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011520114-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

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

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

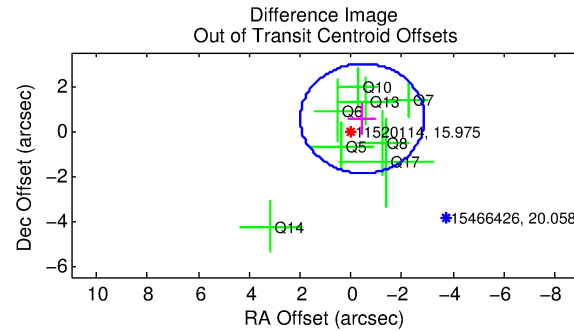
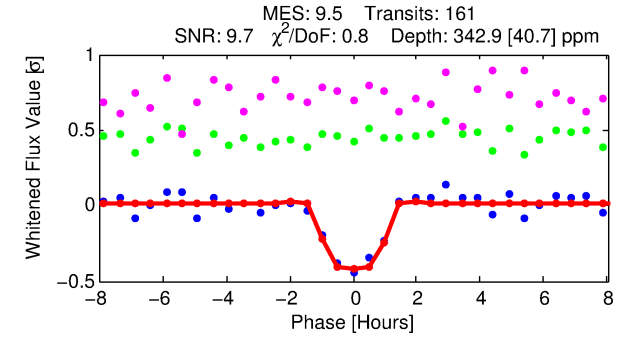
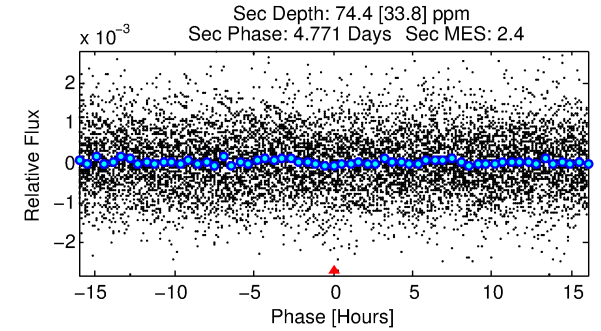
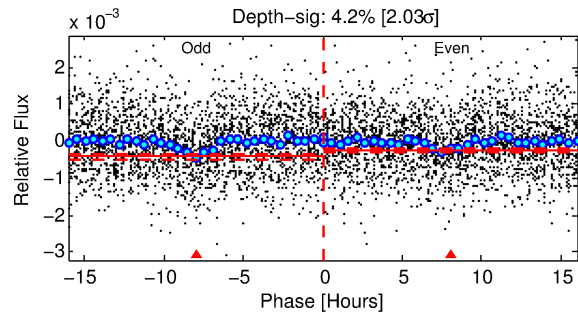
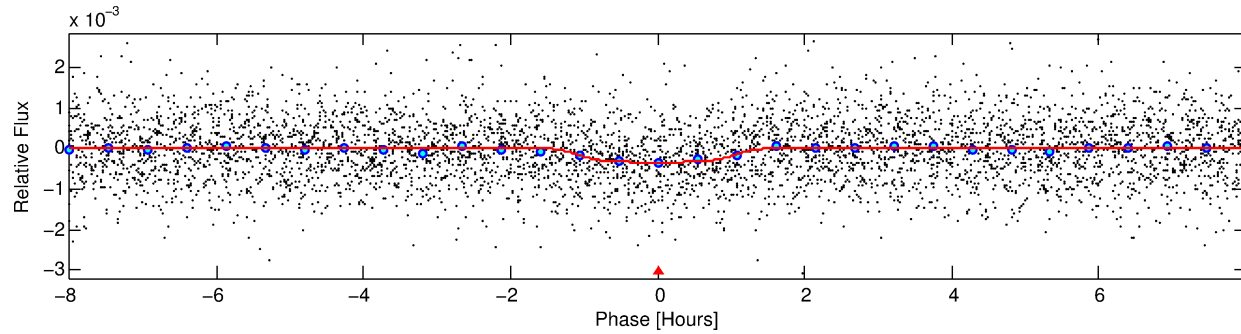
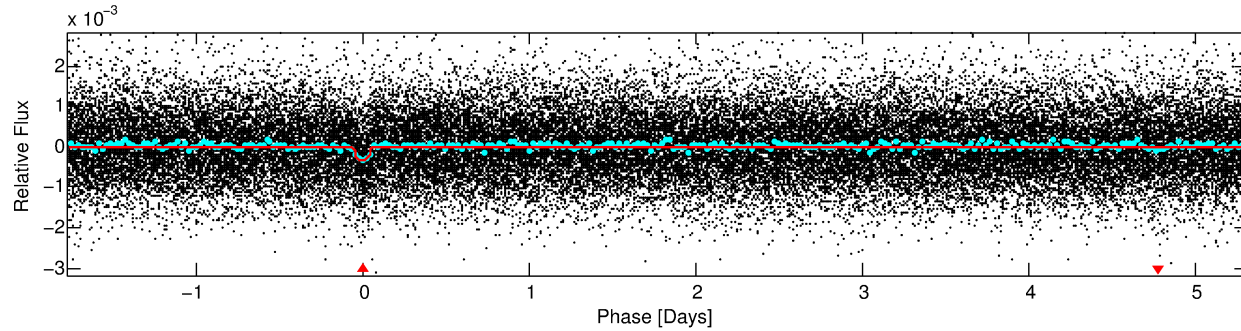
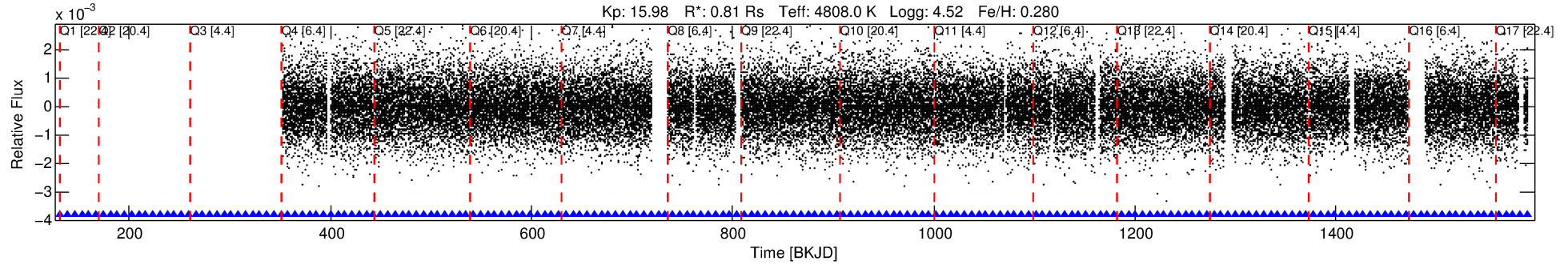
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011520114-01

No Significant Match Found

DV One-Page Summary

KIC: 11520114 Candidate: 1 of 1 Period: 7.080 d
KOI: K05909.01 Corr: 0.910



DV Fit Results:

Period = 7.07987 [0.00006] d
Epoch = 131.6084 [0.0069] BKJD
Rp/R* = 0.0224 [0.0052]
a/R* = 7.98 [6.96]
b = 0.94 [0.10]
Seff = 70.08 [13.87]
Teq = 738 [37] K
Rp = 1.97 [0.49] Re
a = 0.0666 [0.0059] AU
Ag = 46.86 [30.96] [1.48 σ]
Teffp = 2985 [494] K [4.54 σ]

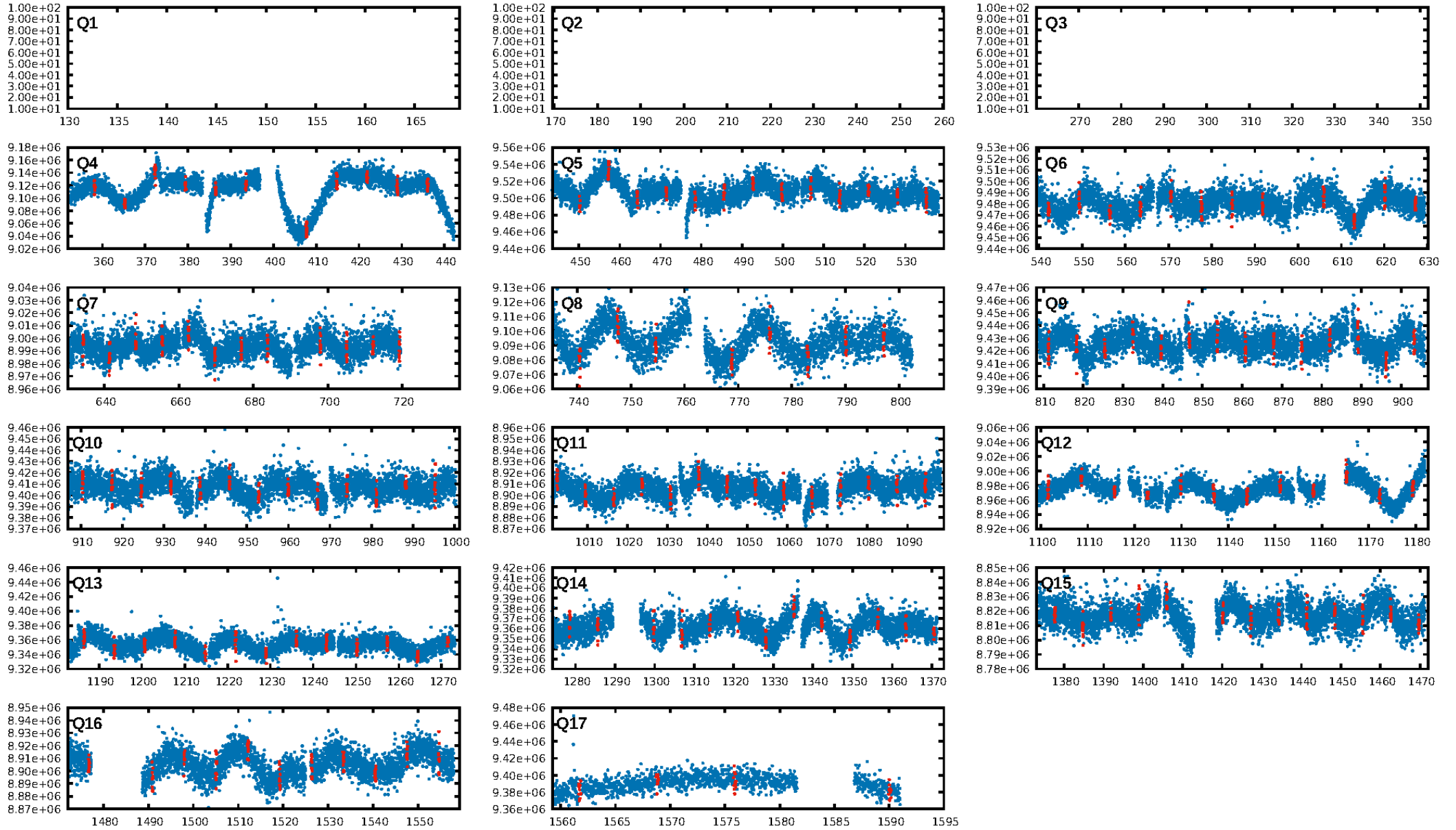
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.52e-21
RollingBand-fgt: 1.00 [157/157]
GhostDiagnostic-chr: 3.713
Centroid-sig: 0.6%
Centroid-so: 3.001 arcsec [2.03 σ]
OotOffset-rm: 0.709 arcsec [0.87 σ]
KicOffset-rm: 0.822 arcsec [0.92 σ]
OotOffset-st: 3/1/1/3 [8]
KicOffset-st: 3/1/1/3 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [14/14]

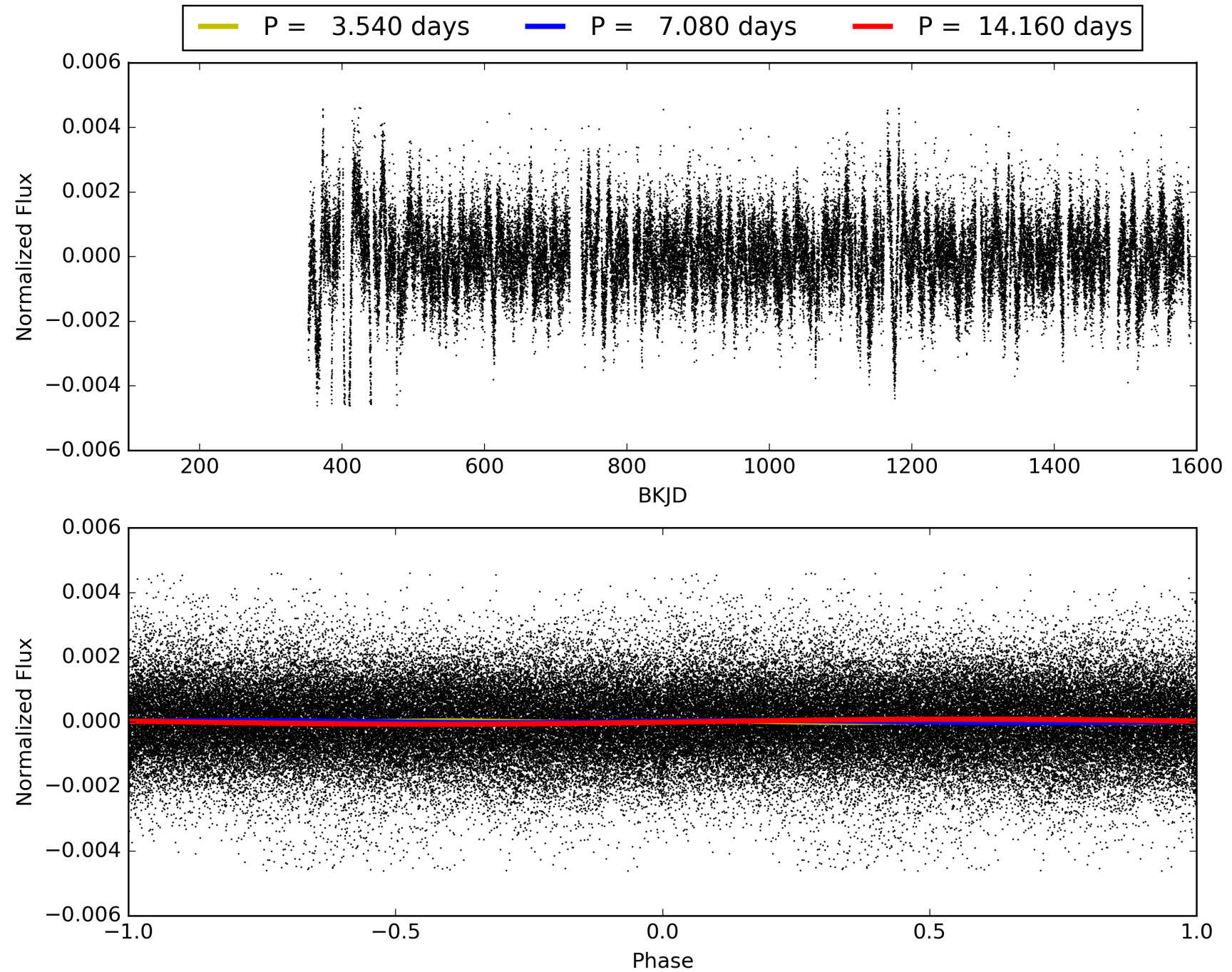
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:50:24 Z

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

TCE 011520114-01, PDC Light Curves

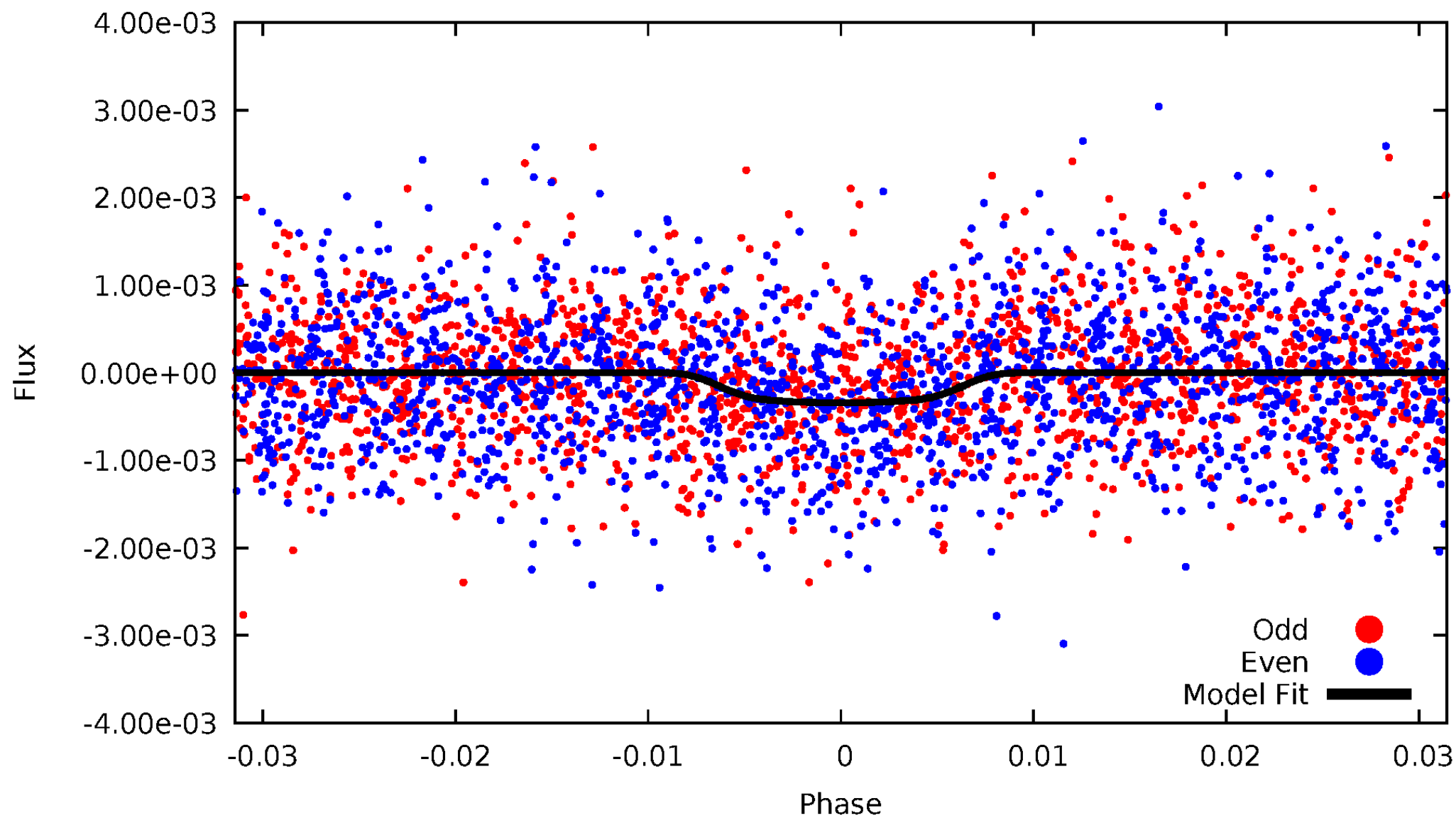


TCE 011520114-01



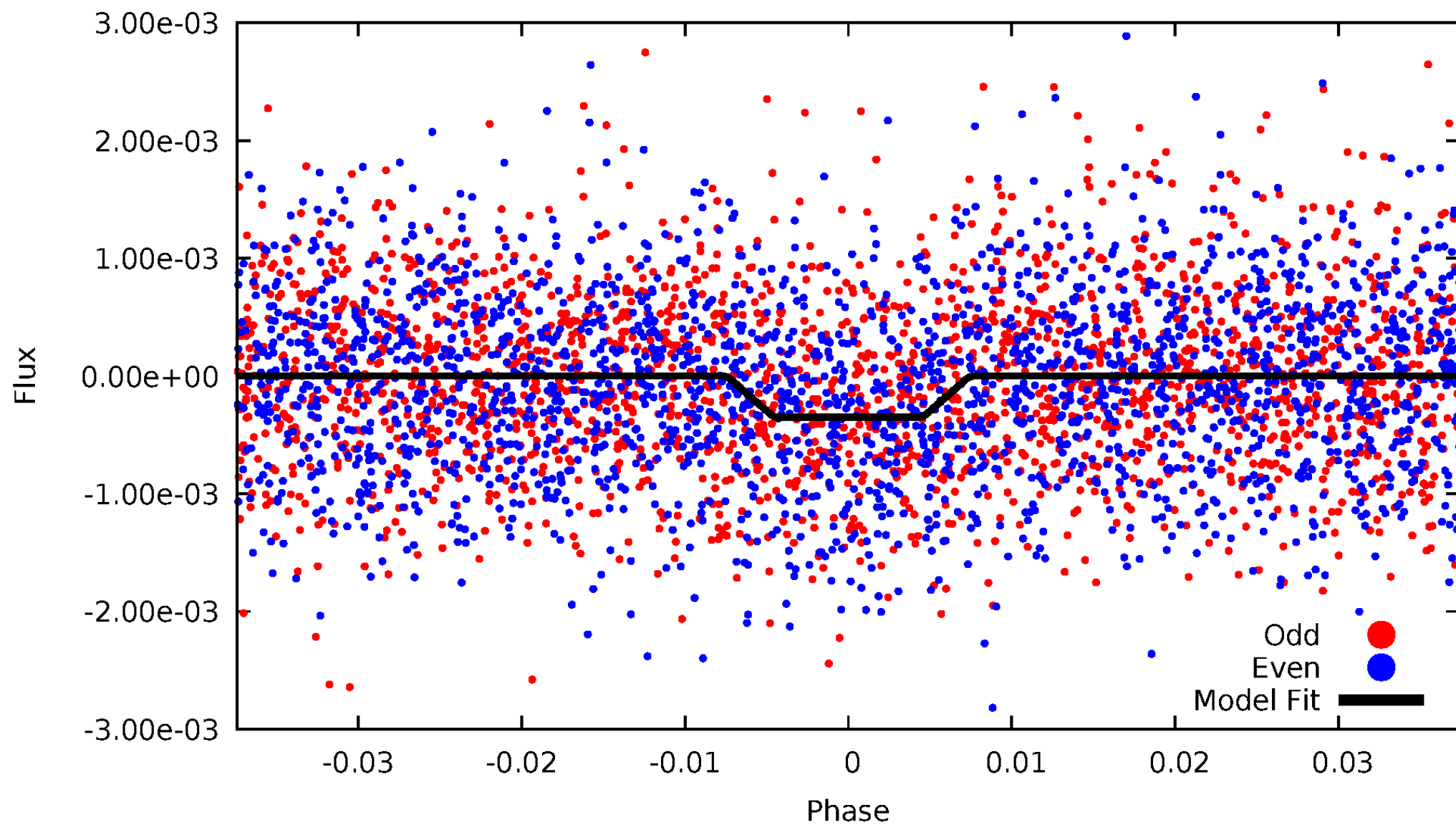
DV Odd/Even

TCE 011520114-01



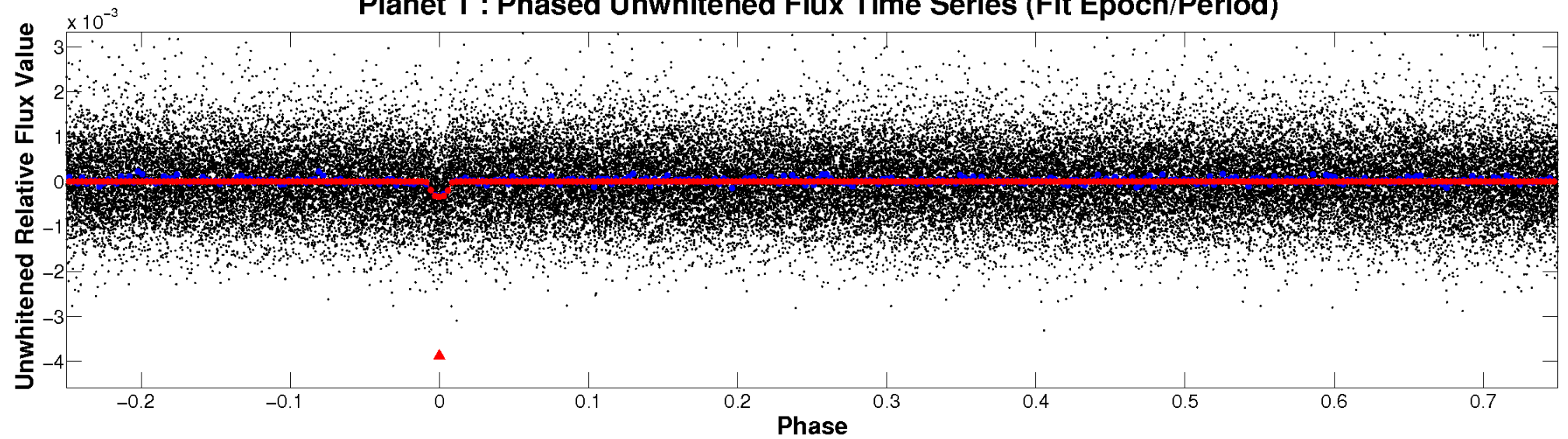
ALT Odd/Even

TCE 011520114-01

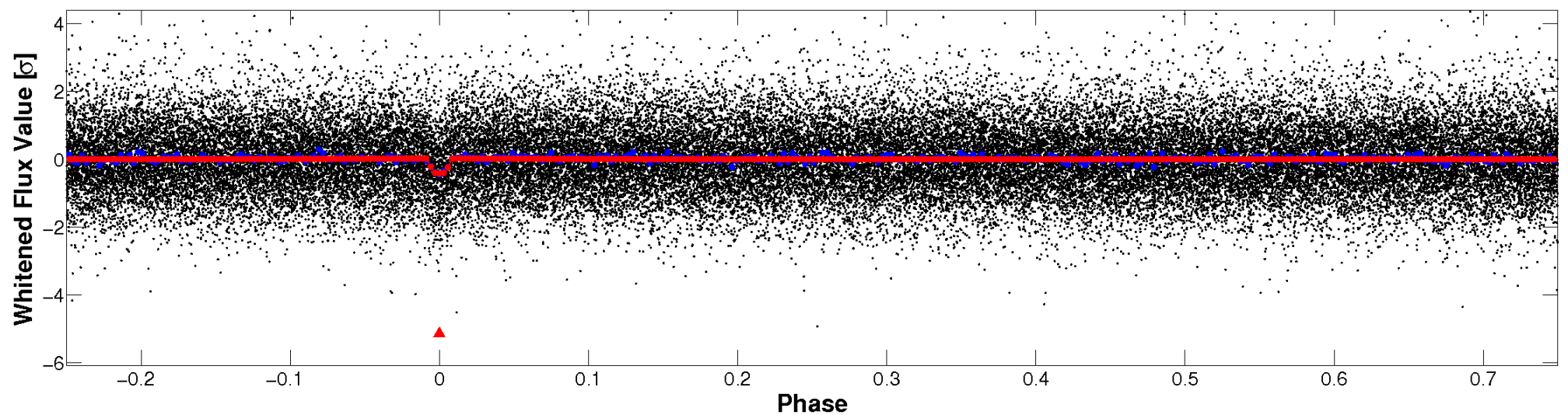


Non-Whitened Vs. Whitened Light Curve

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

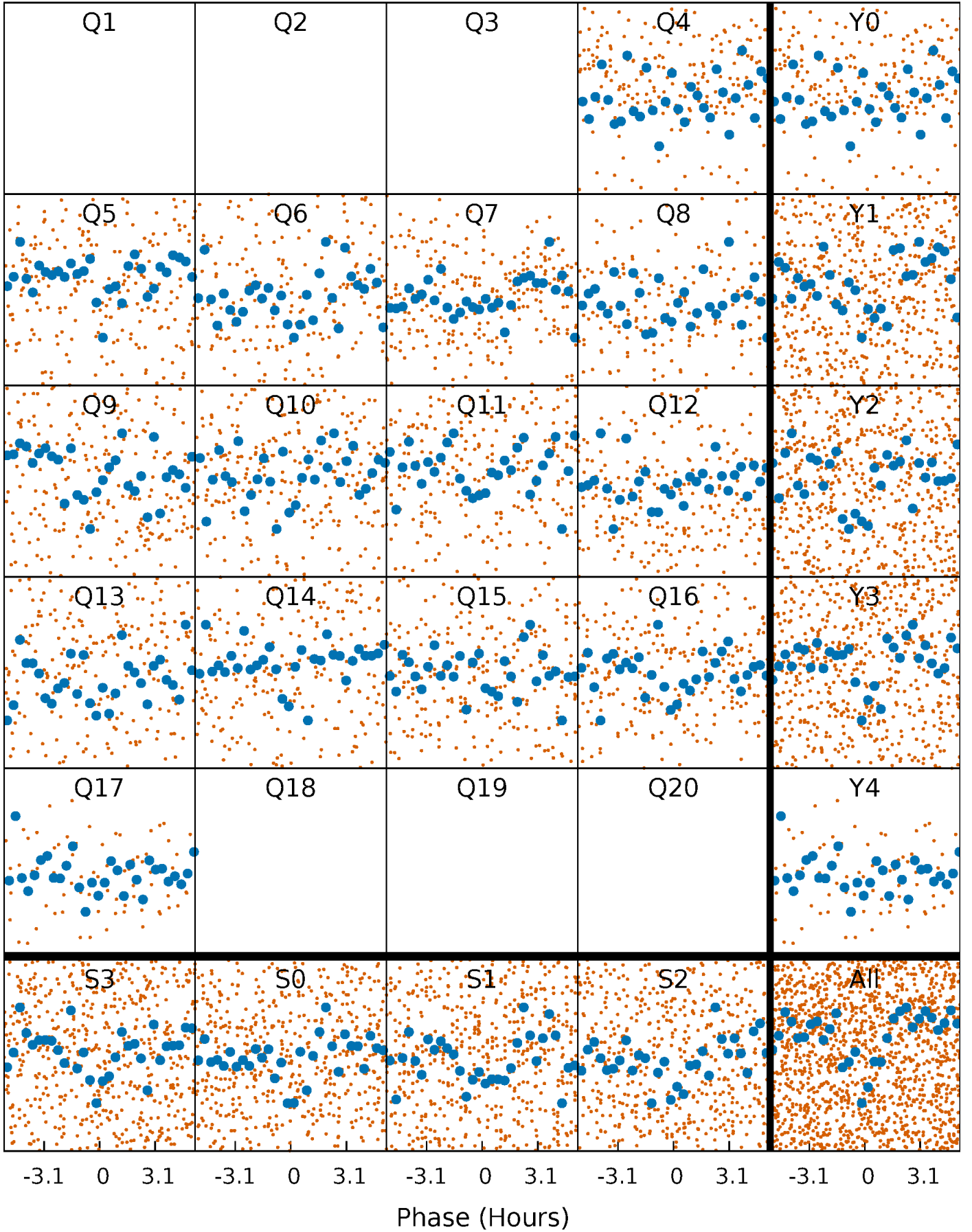


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



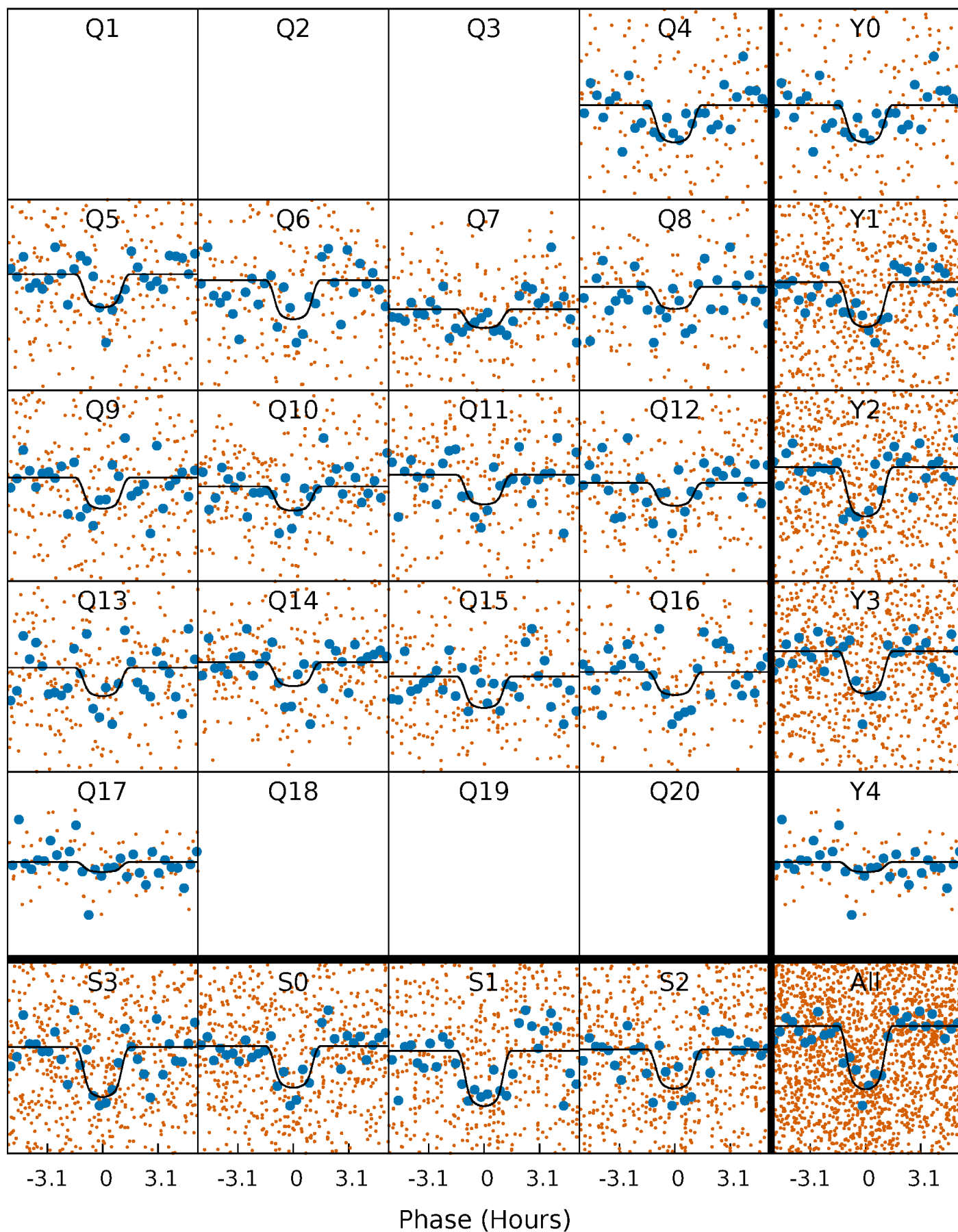
PDC Quarter-Phased Transit Curves

TCE 011520114-01 P= 7.079874 Days $T_0=131.608414$ (BKJD)



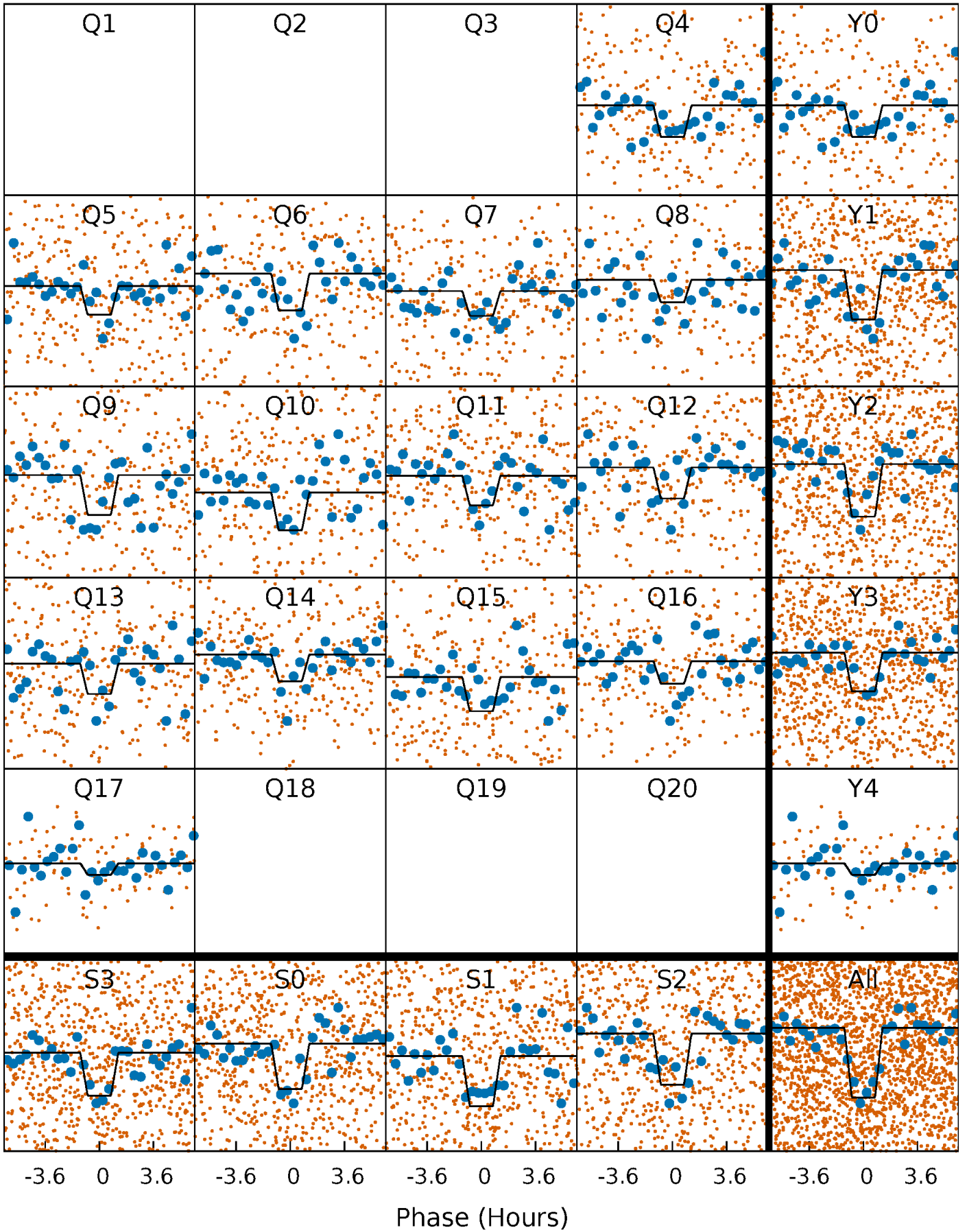
DV Quarter-Phased Transit Curves

TCE 011520114-01 P= 7.079874 Days $T_0=131.608414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

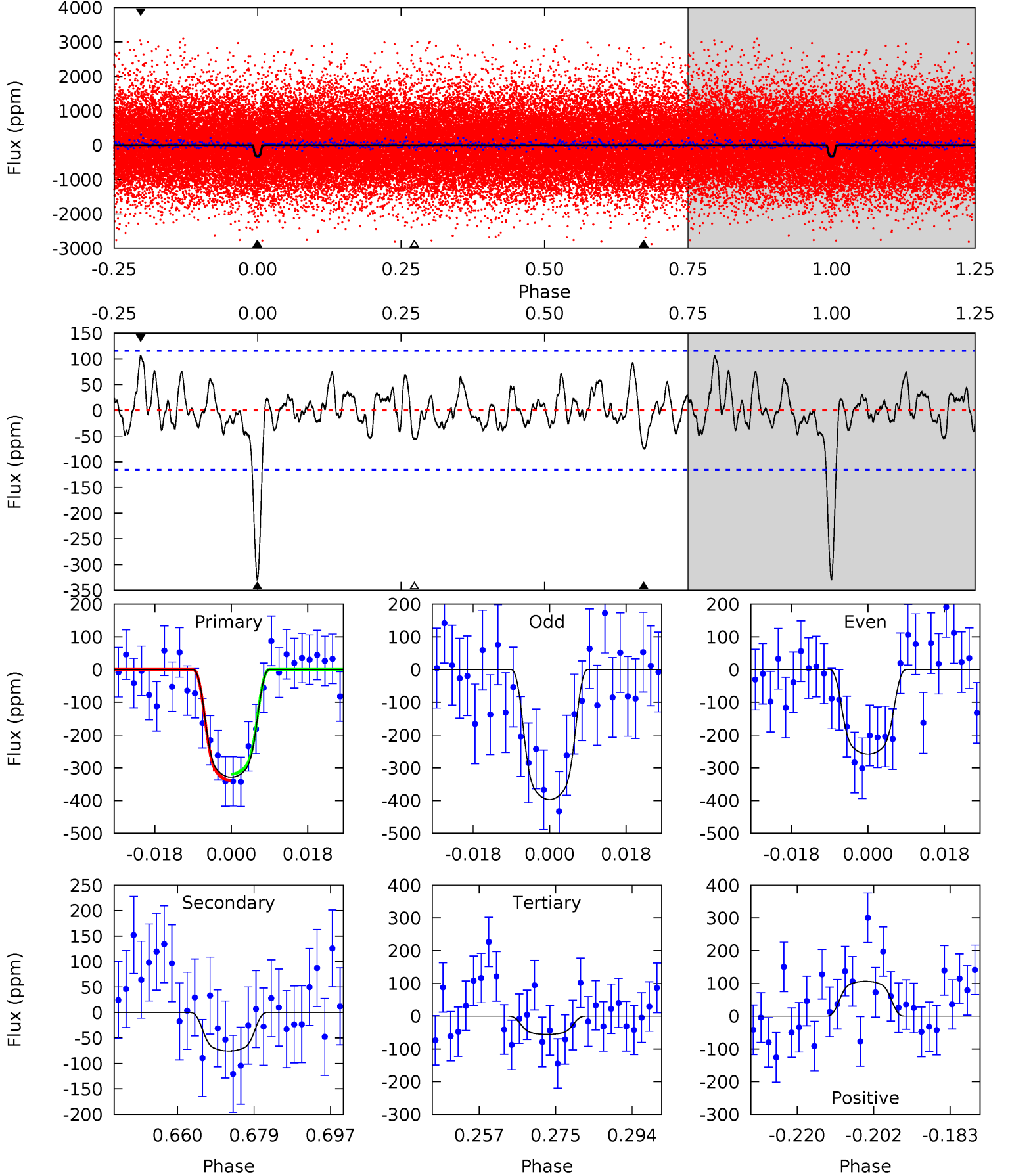
TCE 011520114-01 P= 7.079908 Days $T_0=131.601874$ (BKJD)



DV Model-Shift Uniqueness Test

011520114-01, P = 7.079874 Days, E = 131.608414 Days

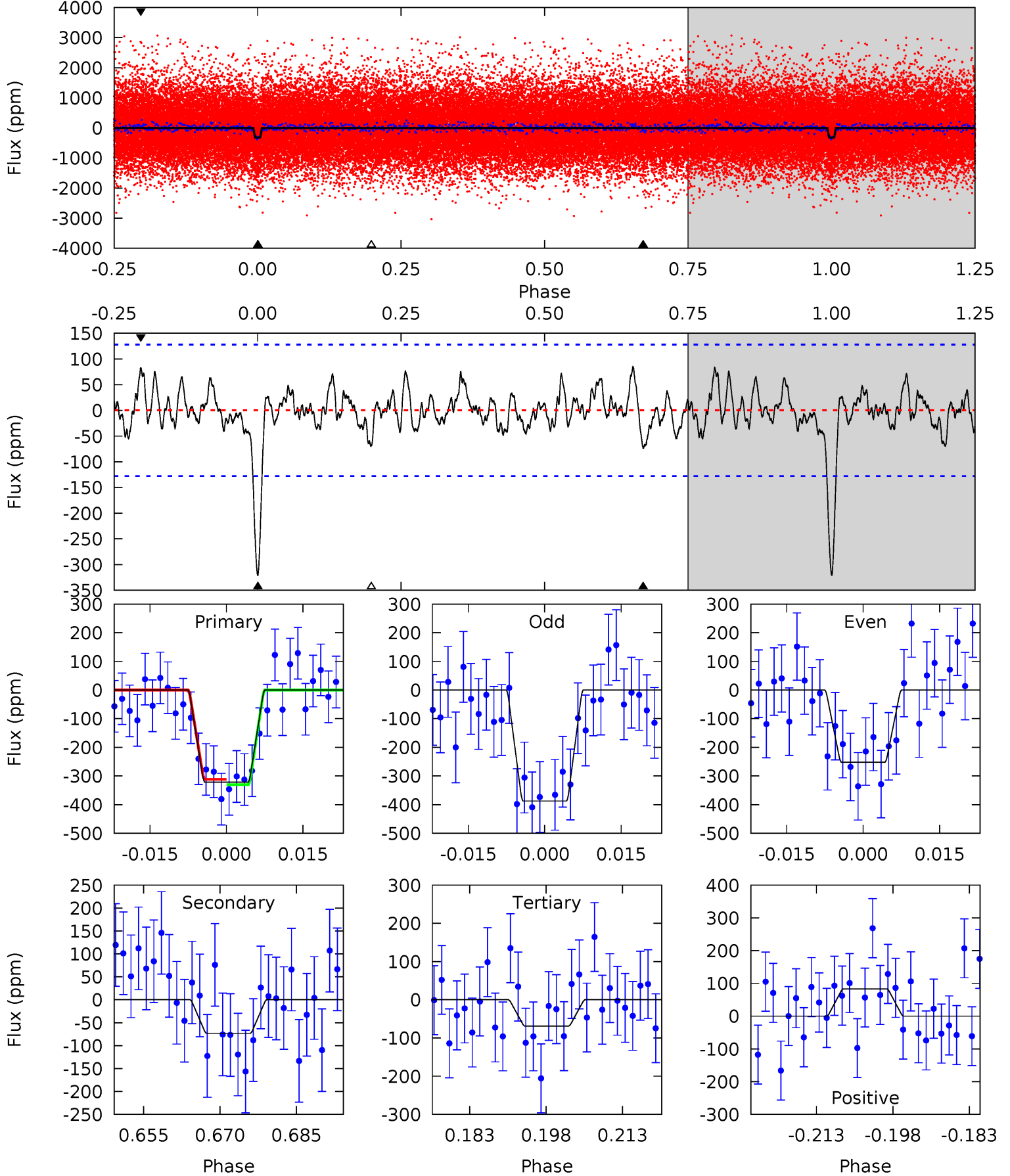
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	3.20	2.37	4.51	4.91	2.36	1.29	11.6	9.43	0.84	-1.31	2.95	1.03	0.24	0.41



Alt Model-Shift Uniqueness Test

011520114-01, P = 7.079908 Days, E = 131.601874 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	2.83	2.67	3.21	4.95	2.43	1.11	9.75	9.20	0.16	-0.38	2.63	1.07	0.21	0.36



Stellar Parameters For KIC 011520114

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4808^{+172}_{-172}	$4.521^{+0.078}_{-0.045}$	$0.280^{+0.150}_{-0.300}$	$0.806^{+0.049}_{-0.080}$	$0.785^{+0.056}_{-0.056}$	$2.115^{+0.636}_{-0.301}$
	+4%/-4%	+2%/-1%	+54%/-107%	+6%/-10%	+7%/-7%	+30%/-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 011520114-01 / KOI 5909.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-76 ± 24	$1.94^{+0.47}_{-0.43}$	1024^{+43}_{-45}	3404^{+341}_{-276}	48^{+36}_{-20}
Alt.	-73 ± 26	$1.64^{+0.43}_{-0.48}$	1024^{+44}_{-42}	3596^{+469}_{-362}	67^{+69}_{-33}

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 $A_{obs} \gg 1.0$

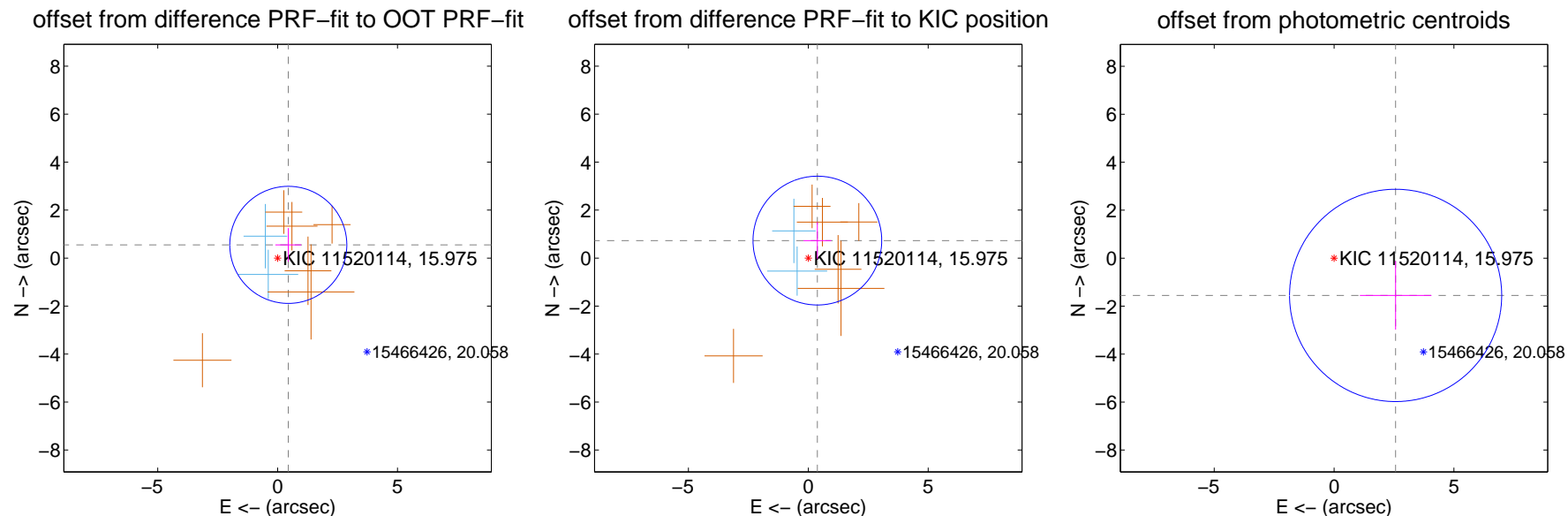
DV Centroid Data

Supplemental centroid analysis for 011520114-01. Kepler magnitude: 15.97. Transit SNR 9.71

There are 2 quarters with good PRF difference image offsets

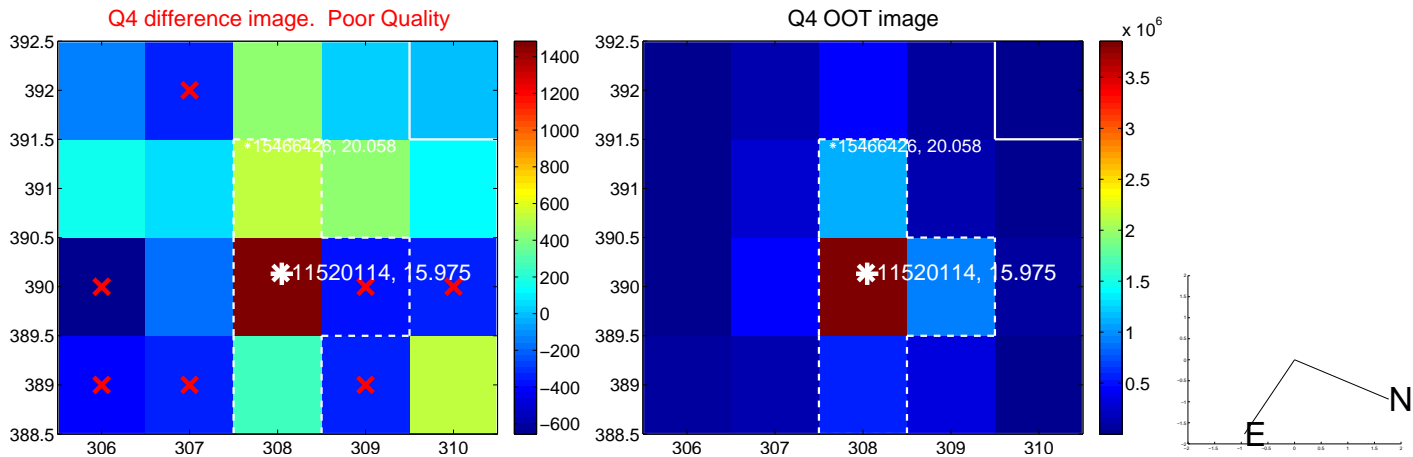
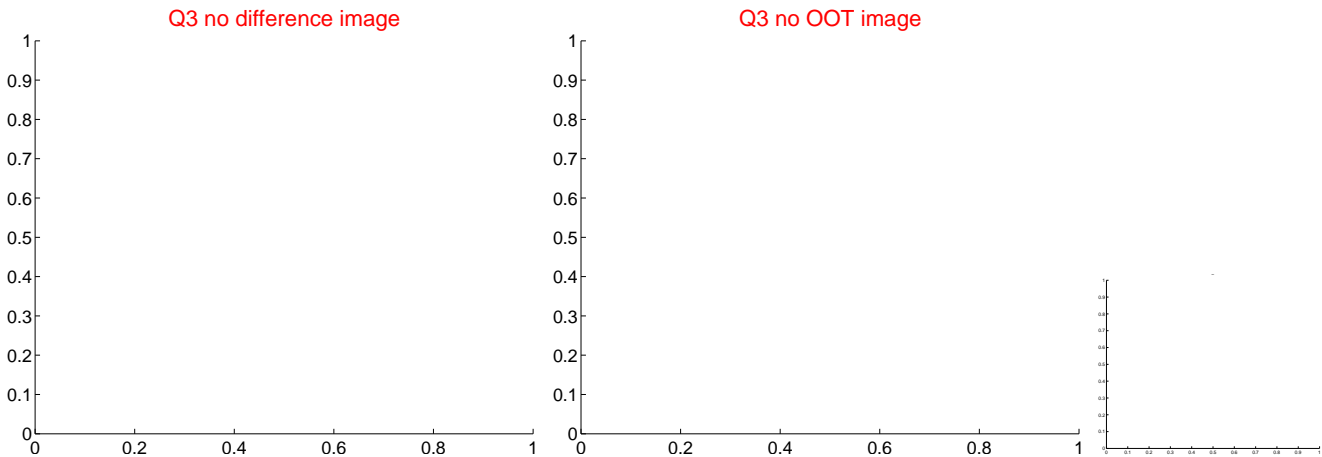
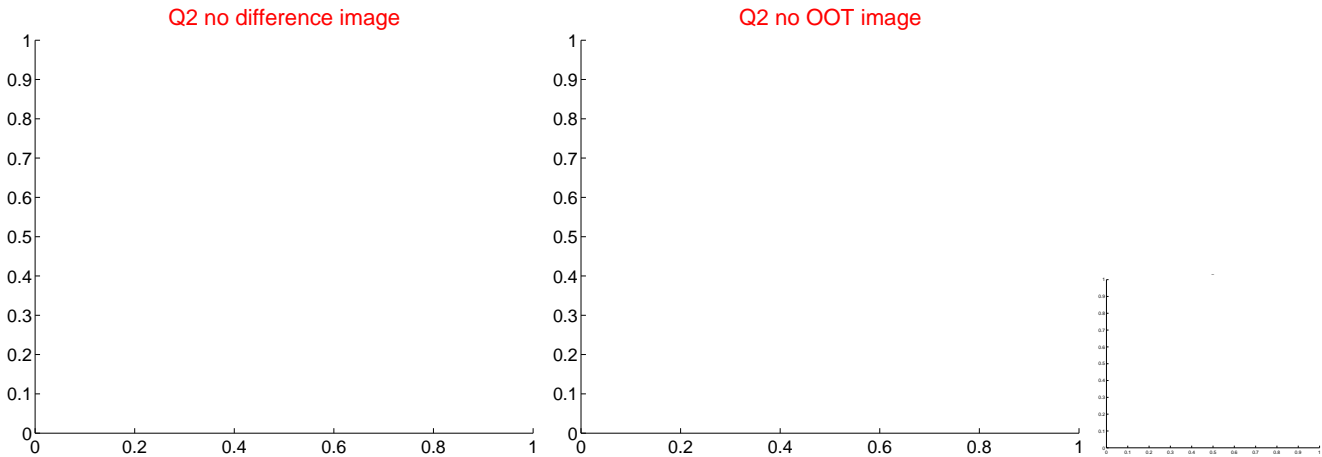
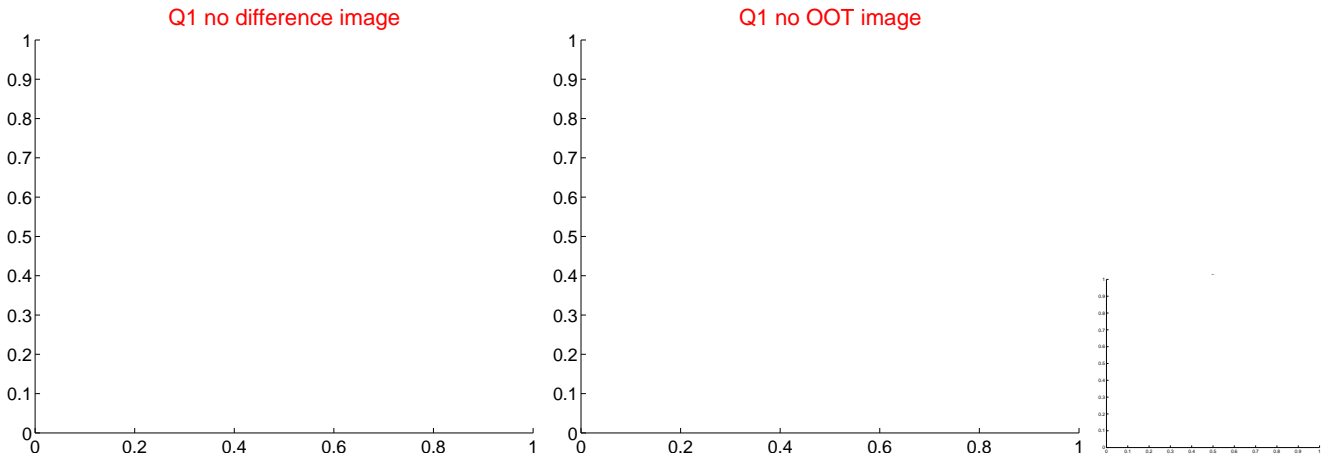
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.709 ± 0.813	0.87	-0.446 ± 0.540	0.551 ± 0.699
PRF-fit source offset from KIC position	0.822 ± 0.895	0.92	-0.378 ± 0.577	0.729 ± 0.771
photometric centroid source offset	3.00 ± 1.48	2.03	-2.57 ± 1.49	-1.55 ± 1.43

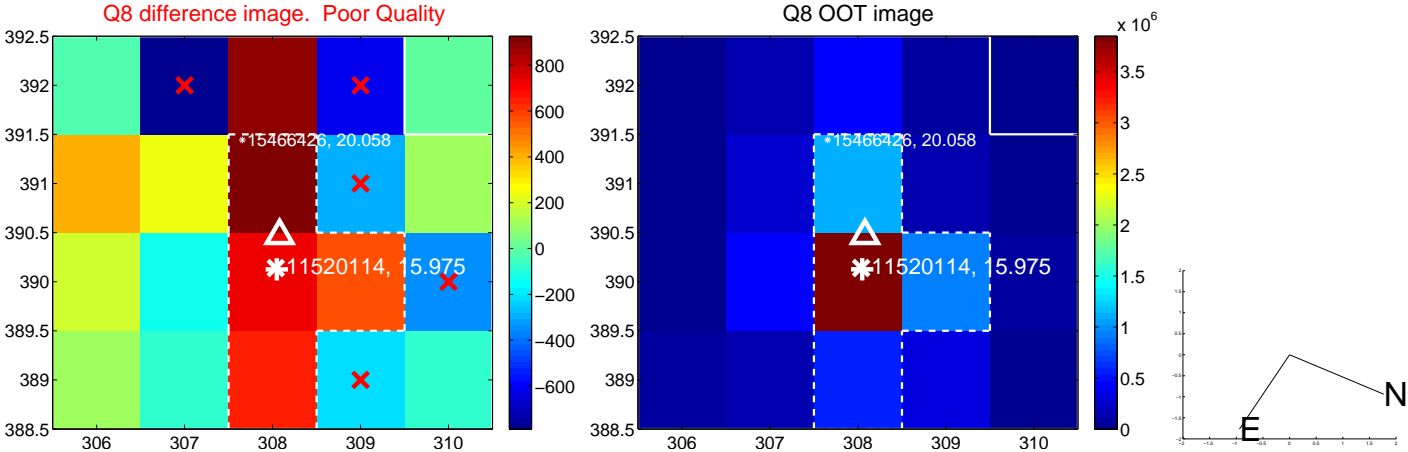
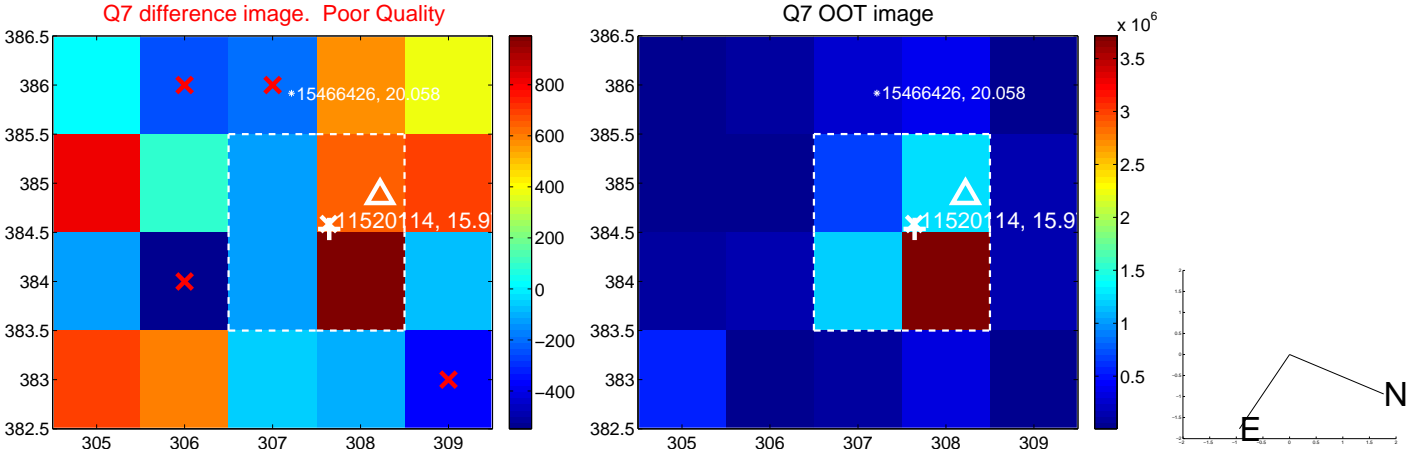
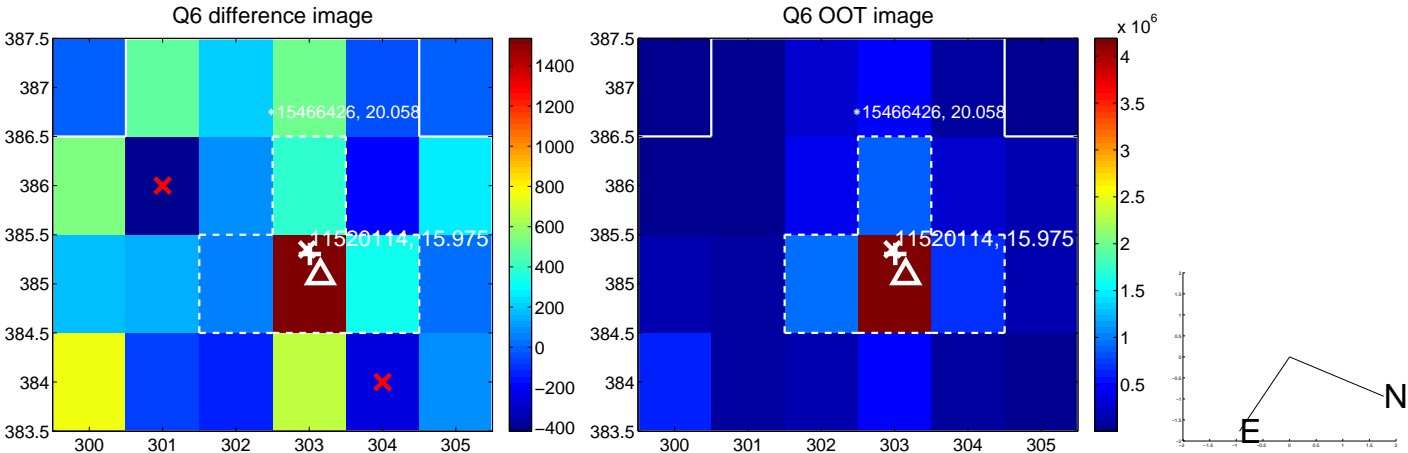
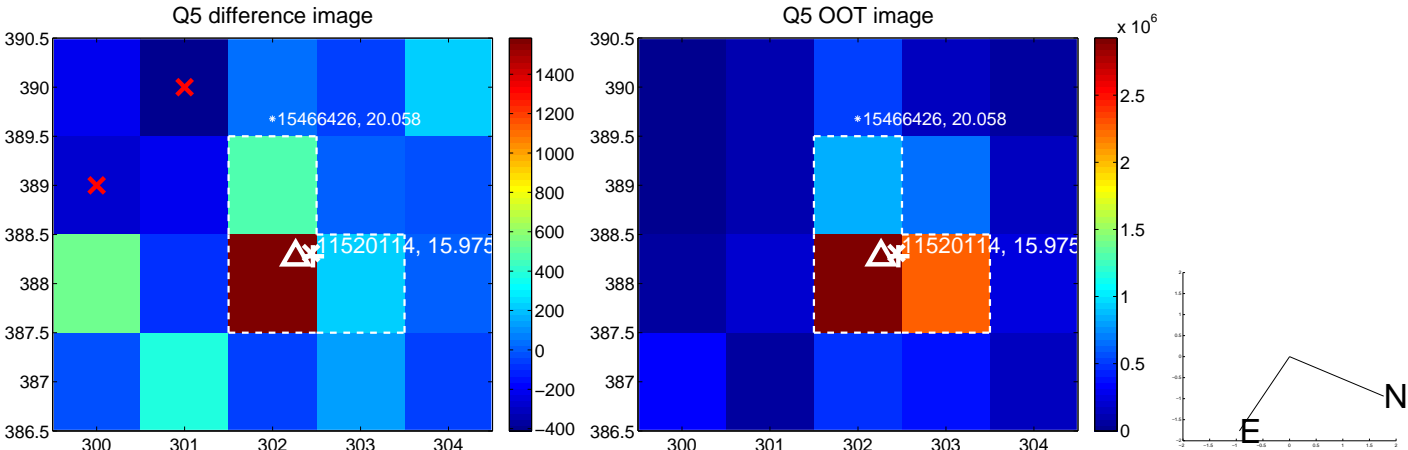


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

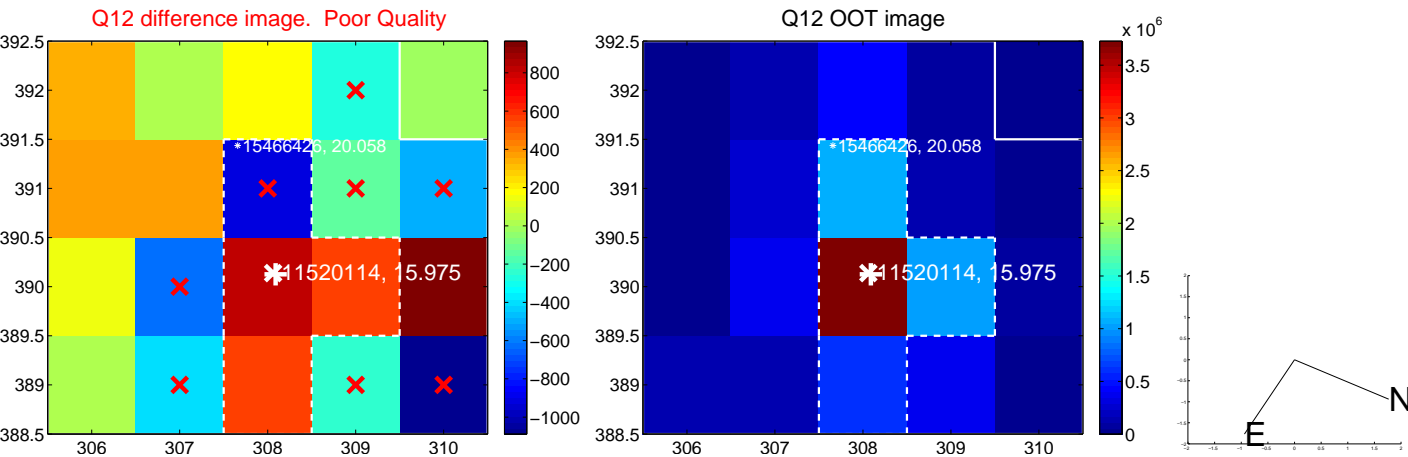
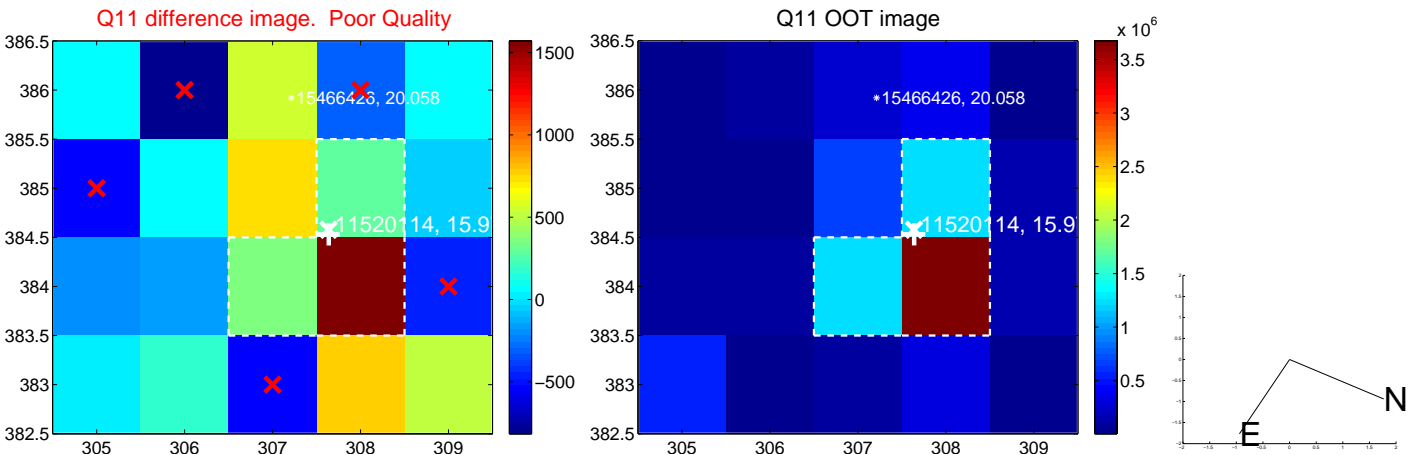
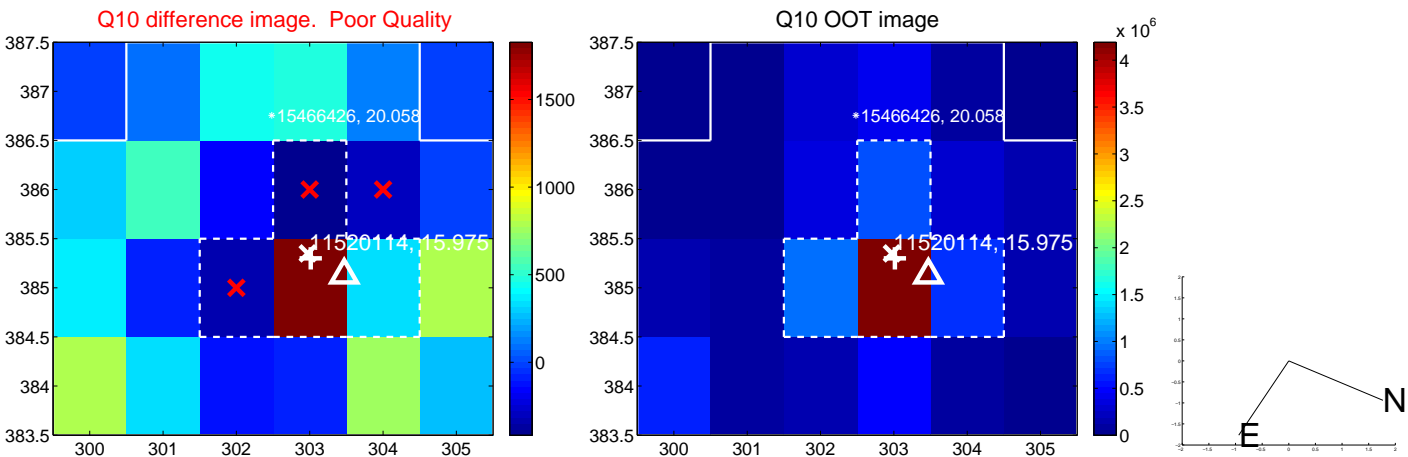
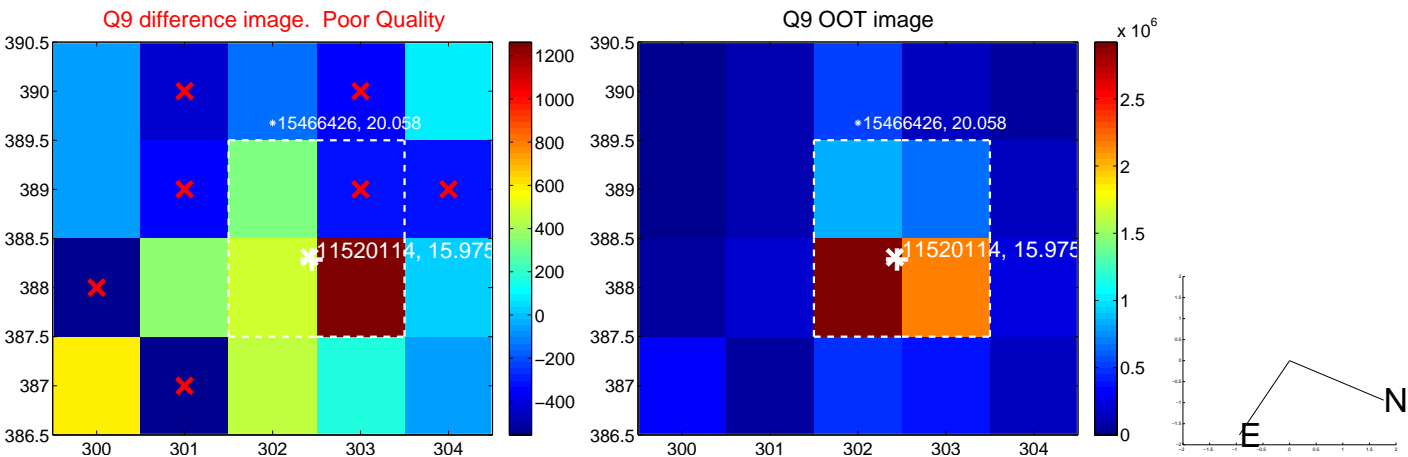
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



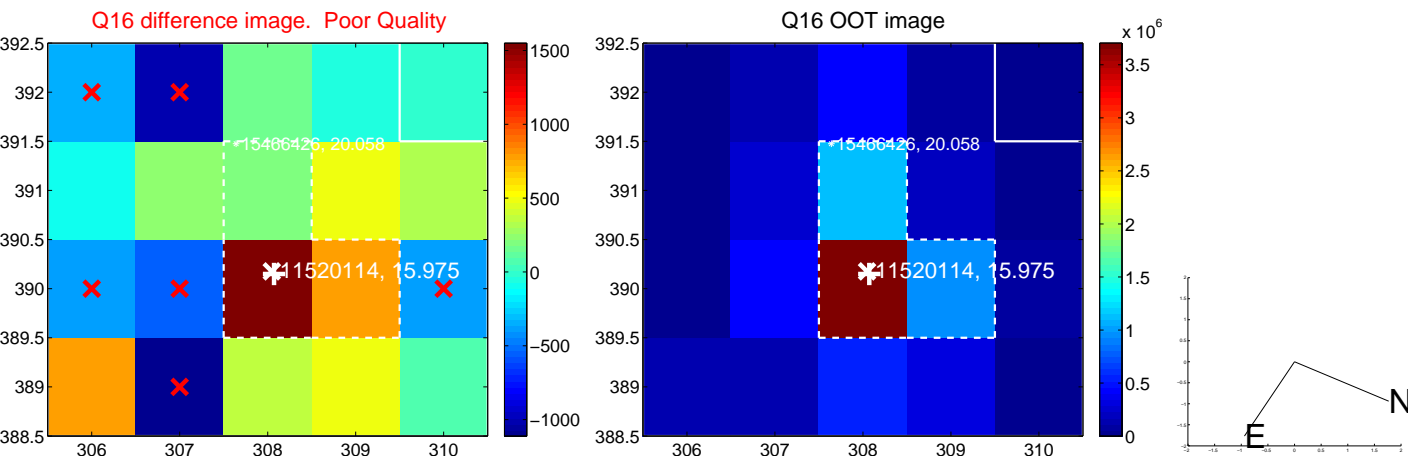
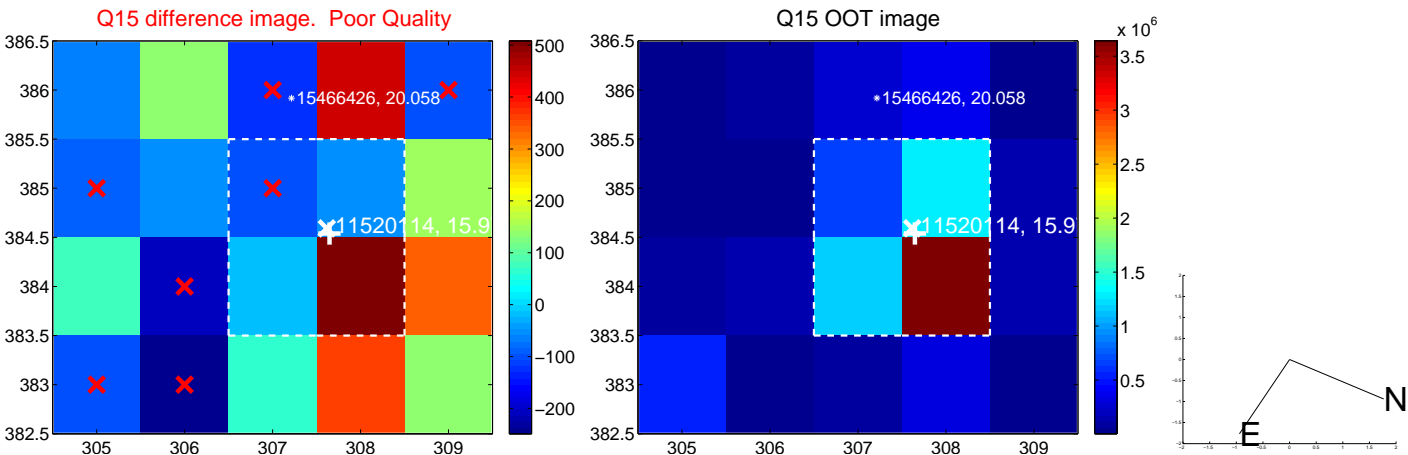
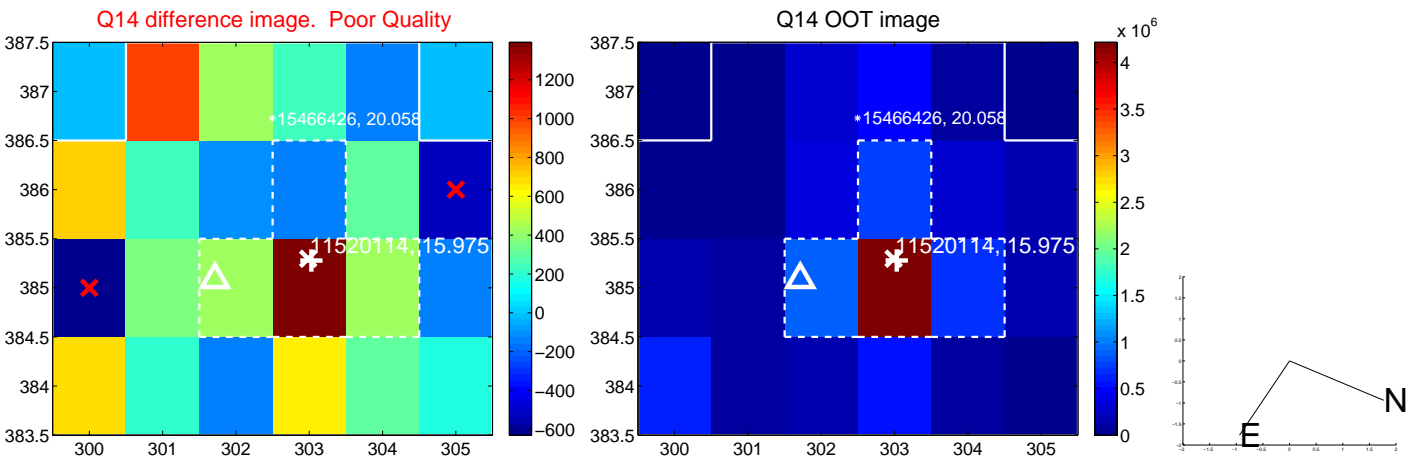
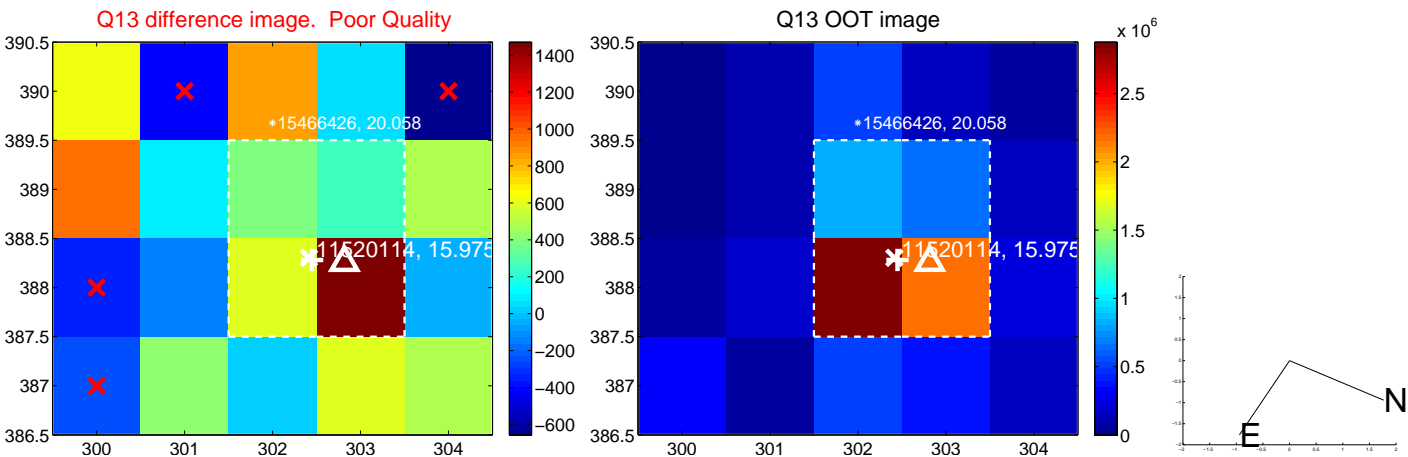
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



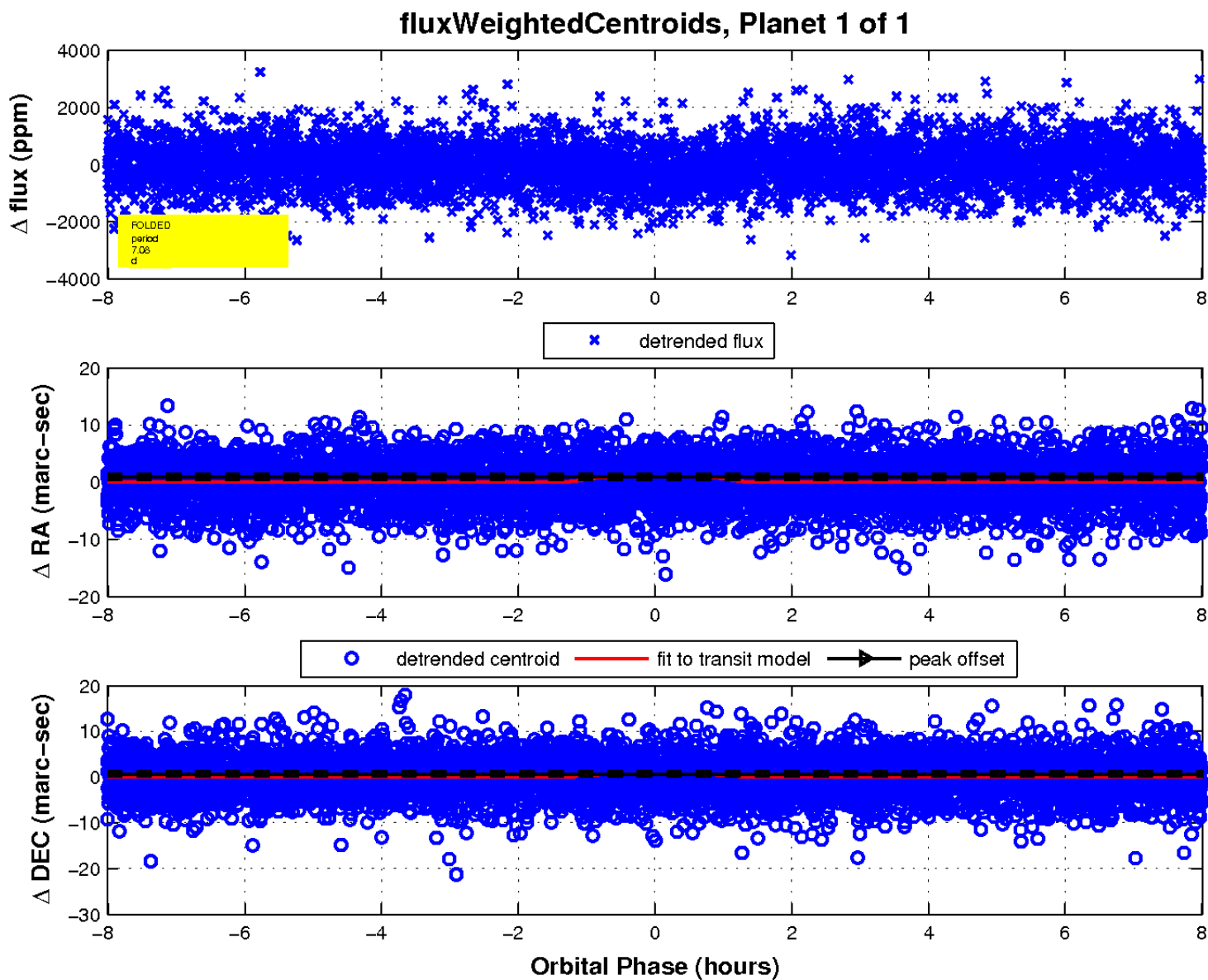
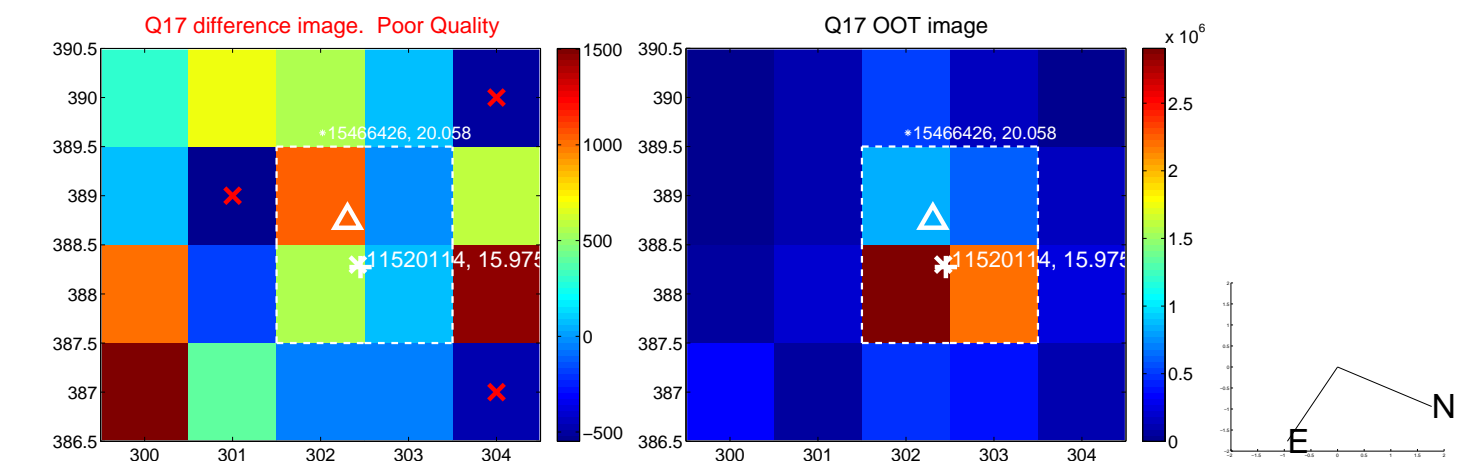
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

