

KIC 009163469

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})
009163469-01	OBS	No	1.477160	131.685970	17.5	13.316	7.3	9.3	1.25	6468	0.53	3167.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009163469-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—HALO_GHOST

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

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

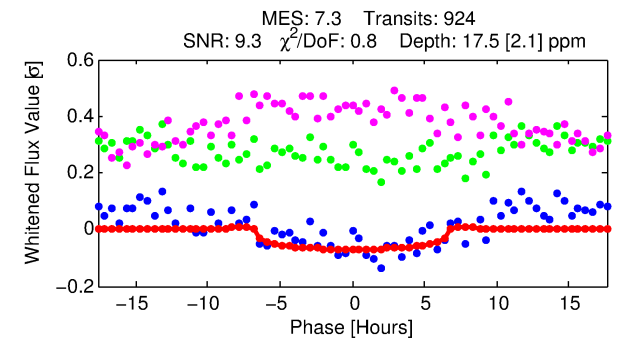
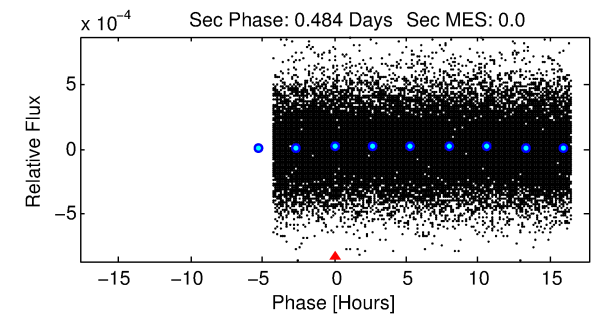
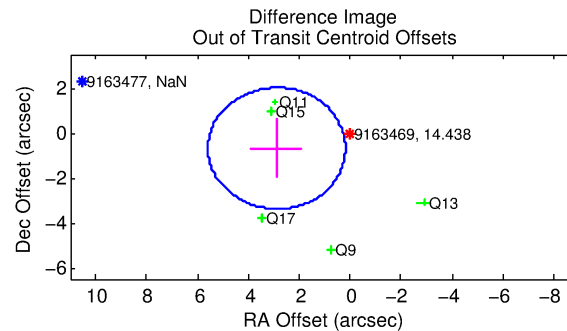
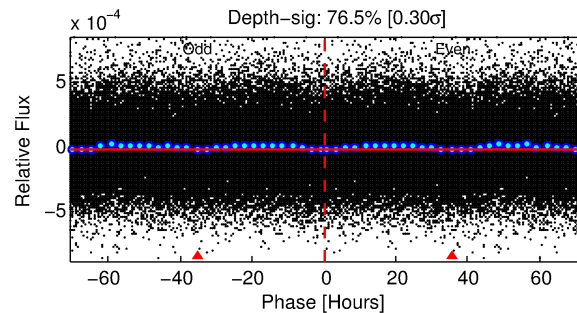
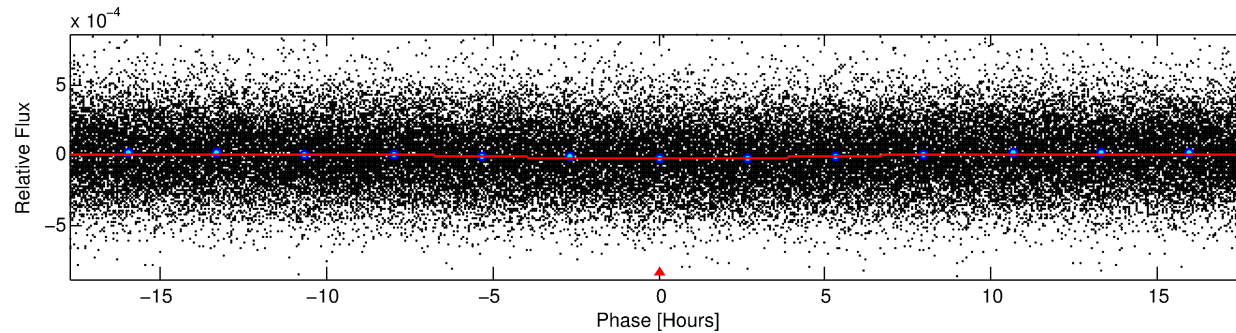
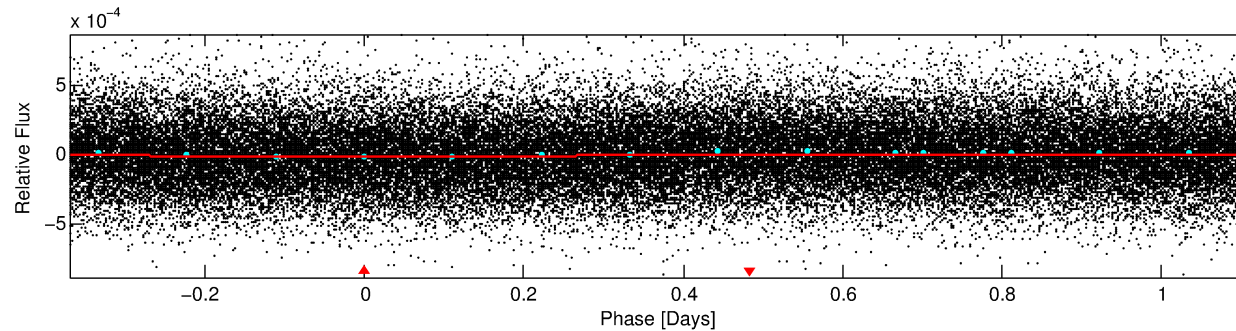
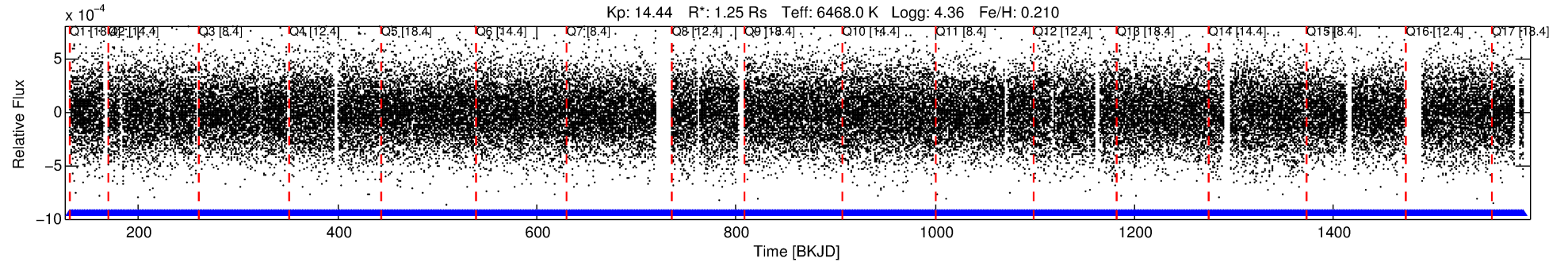
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009163469-01

No Significant Match Found

DV One-Page Summary

KIC: 9163469 Candidate: 1 of 1 Period: 1.477 d



DV Fit Results:

Period = 1.47716 [0.00004] d
Epoch = 131.6860 [0.0125] BKJD
Rp/R* = 0.0039 [0.0050]
a/R* = 1.08 [0.99]
b = 0.29 [20.65]
Seff = 3167.21 [1299.30]
Teq = 1913 [196] K
Rp = 0.53 [0.70] Re
a = 0.0278 [0.0073] AU
Ag = N/A
Teffp = N/A

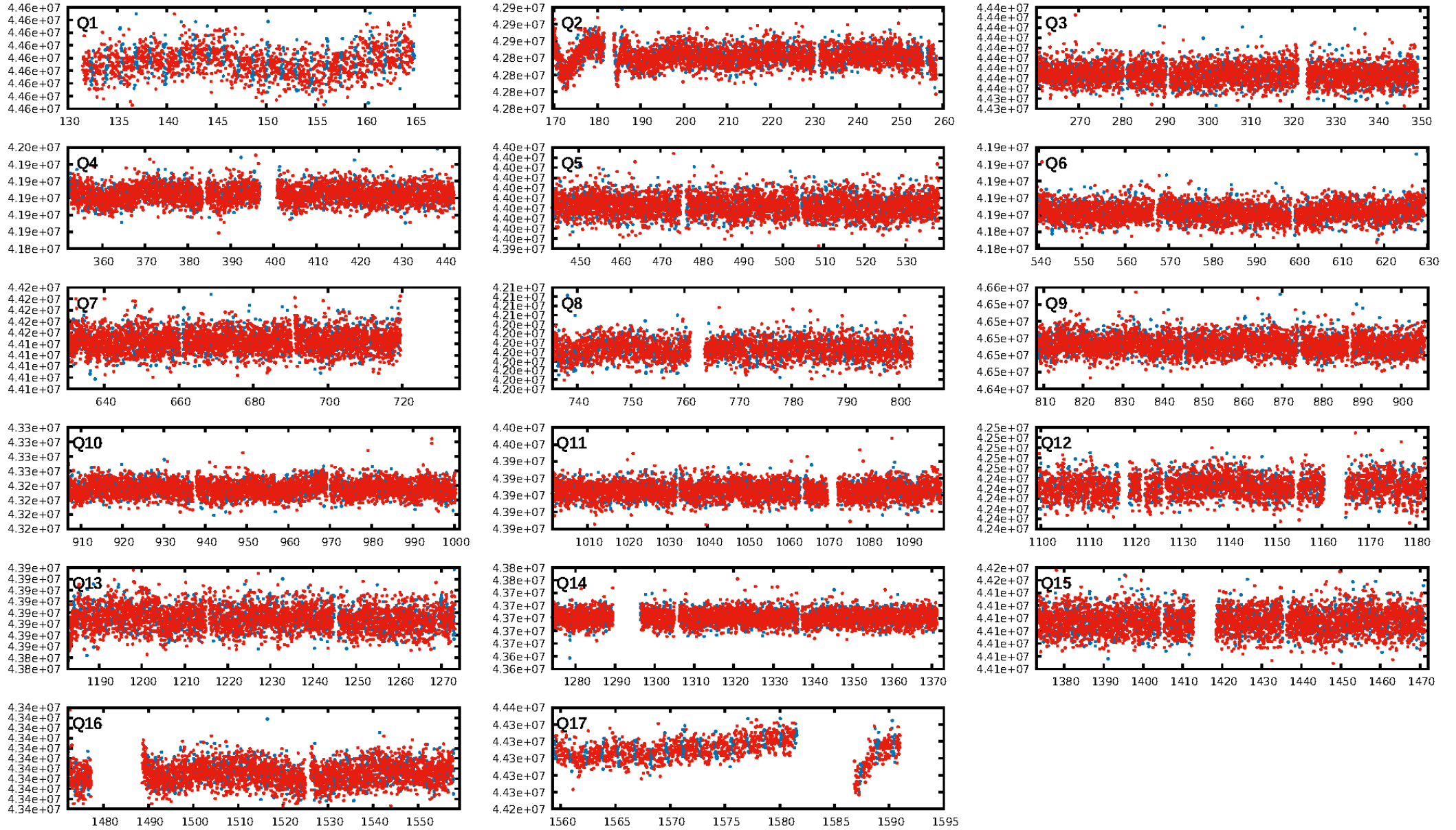
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [882/882]
GhostDiagnostic-chr: 0.1495
Centroid-sig: 0.7%
Centroid-so: 2.637 arcsec [1.89 σ]
OotOffset-rm: 2.963 arcsec [3.29 σ]
OotOffset-st: 0.2/0/3 [5]
KicOffset-rm: 2.724 arcsec [2.95 σ]
KicOffset-st: 0.2/0/3 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 1.00 [17/17]

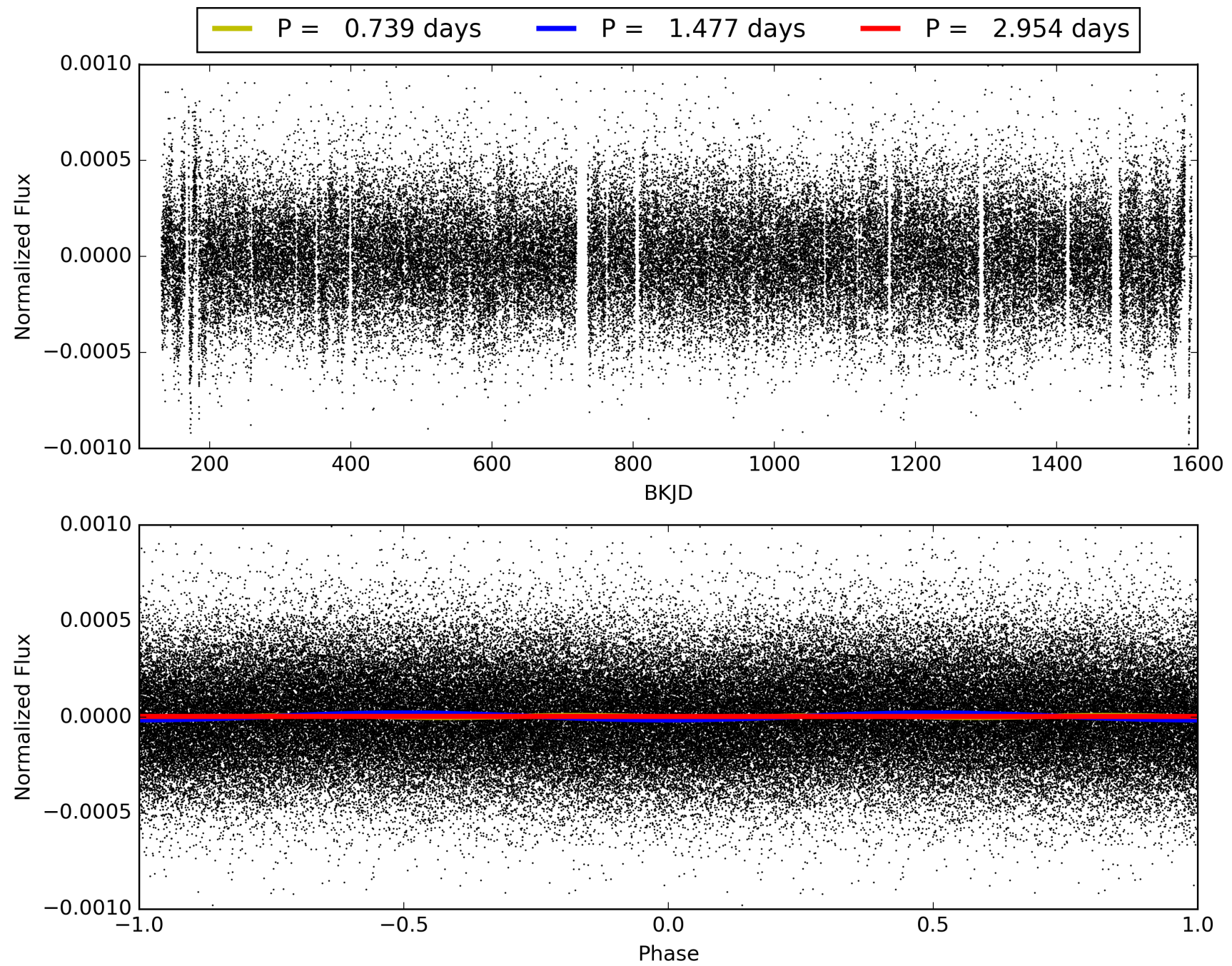
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:05:55 Z

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

TCE 009163469-01, PDC Light Curves

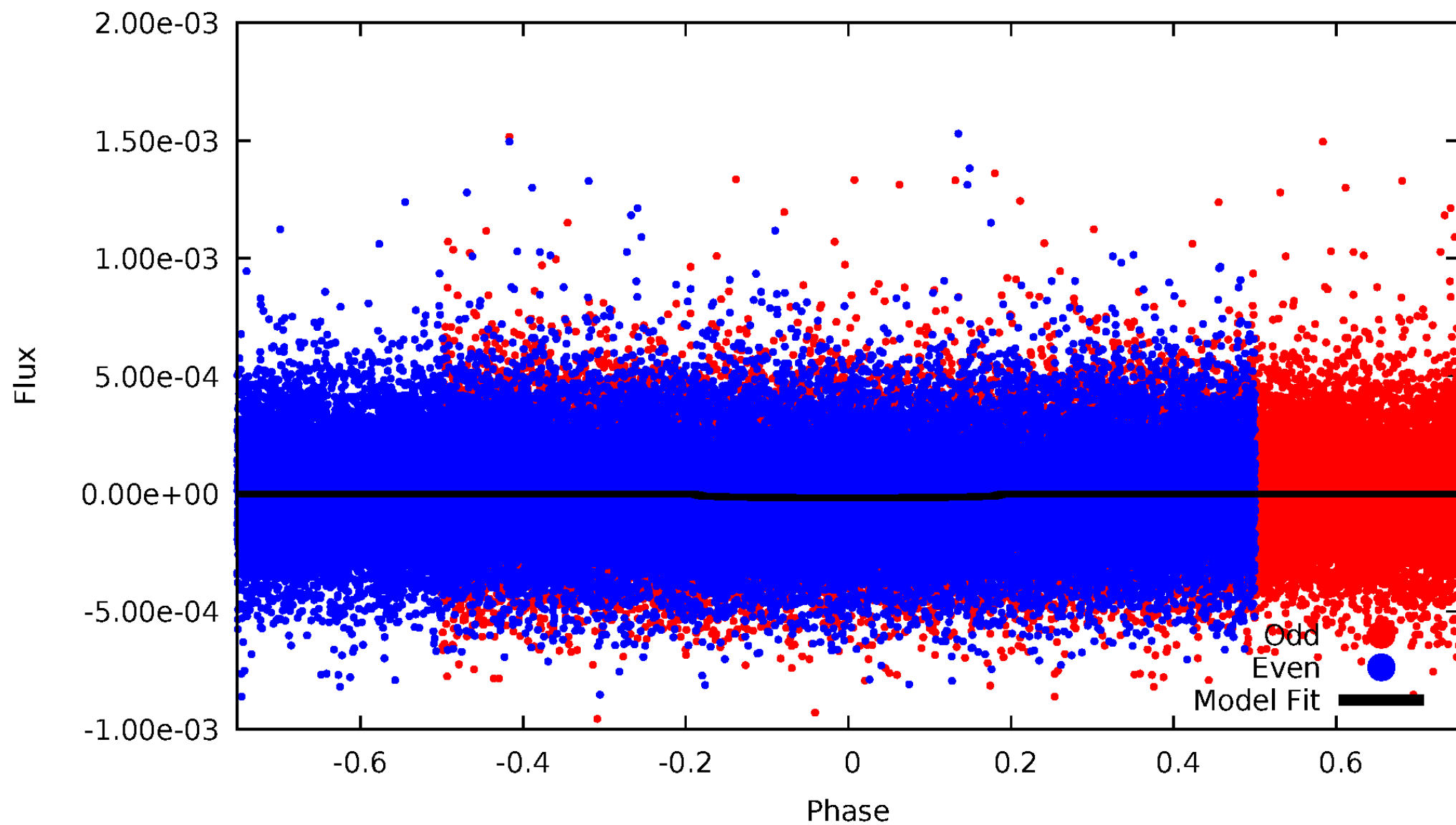


TCE 009163469-01



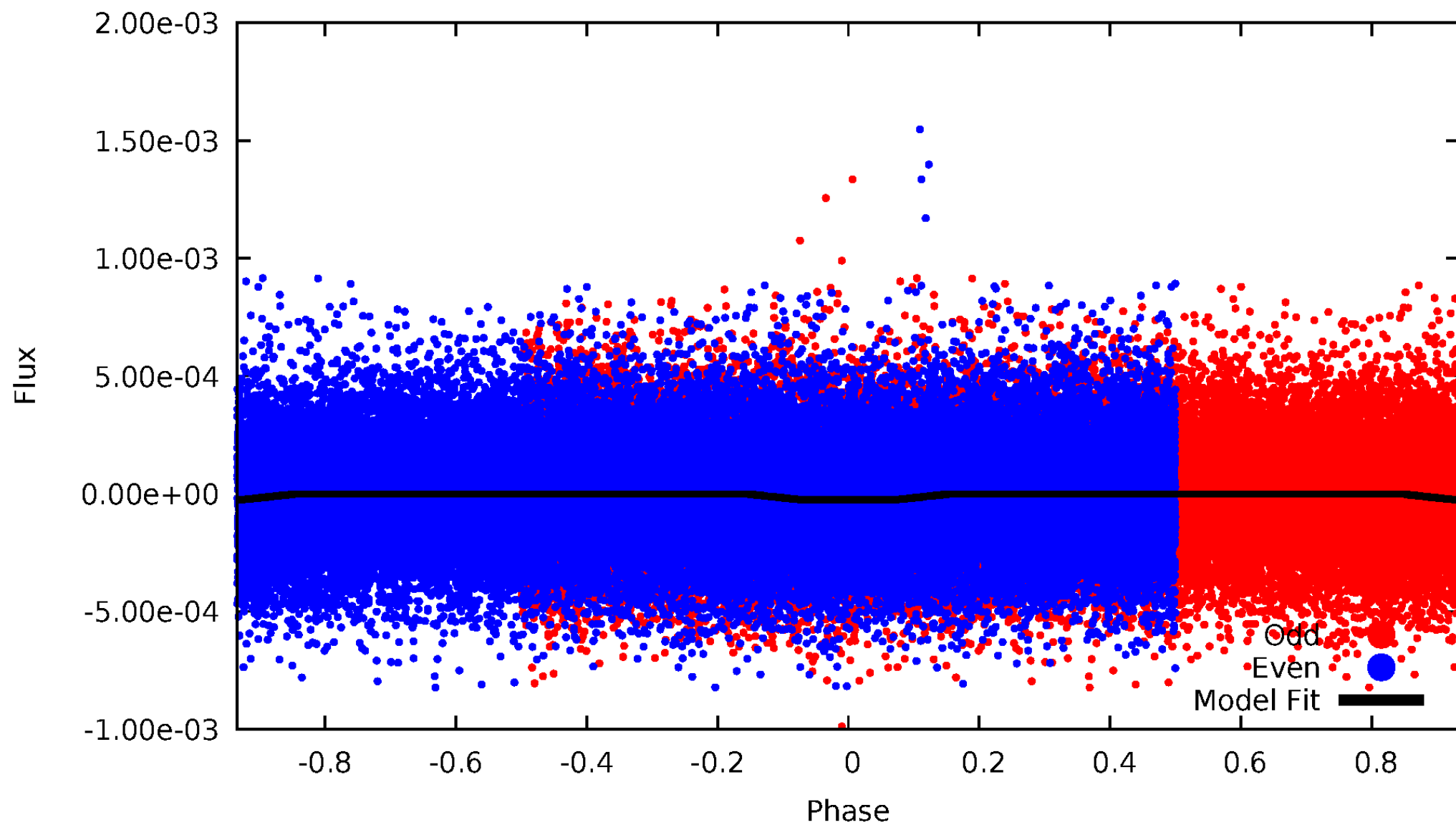
DV Odd/Even

TCE 009163469-01



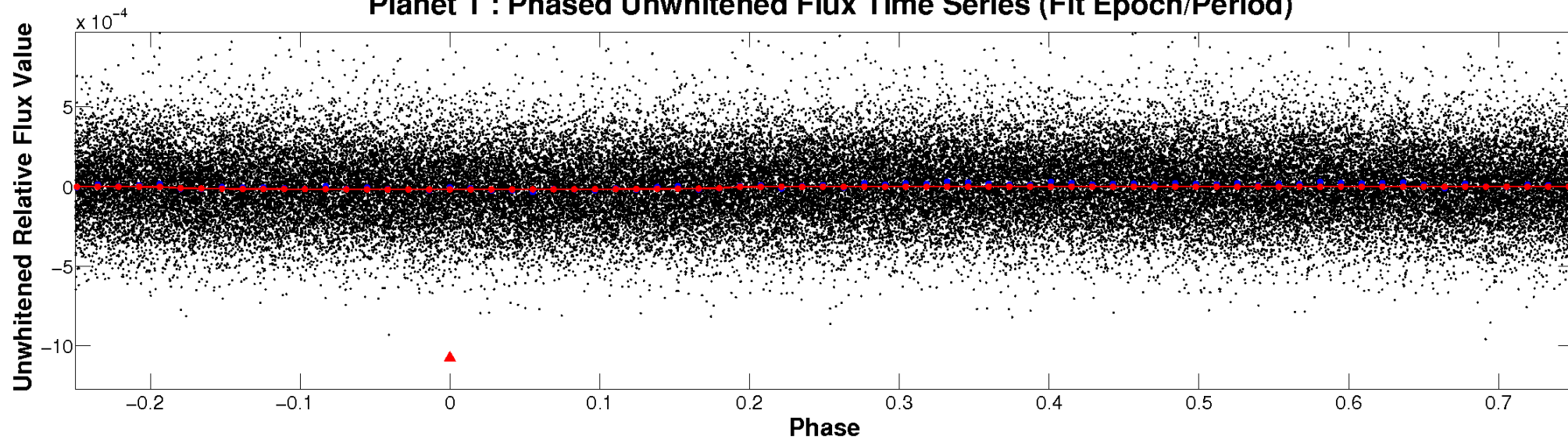
ALT Odd/Even

TCE 009163469-01

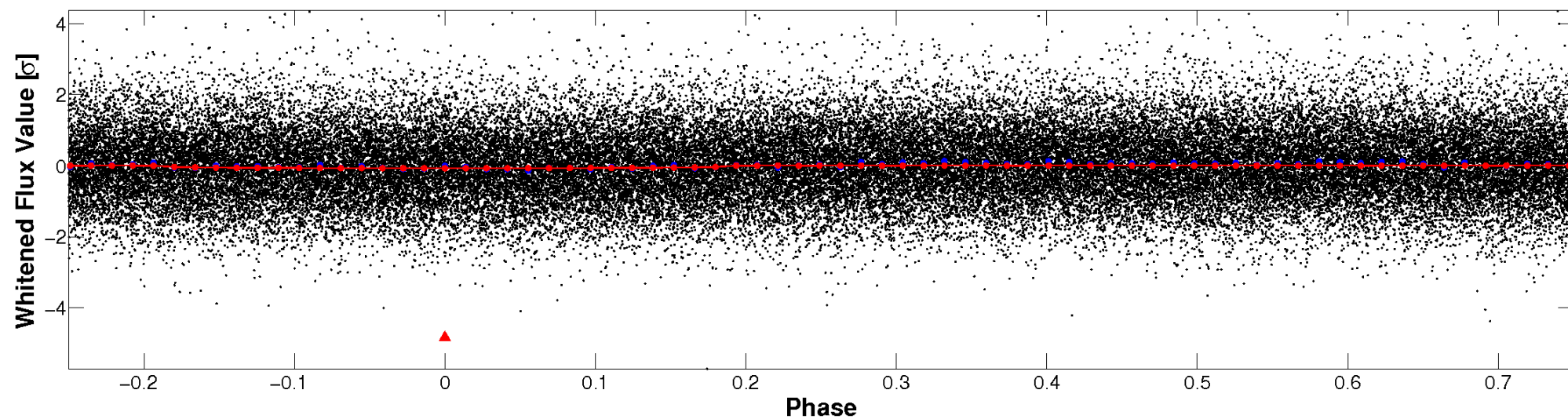


Non-Whitened Vs. Whitened Light Curve

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

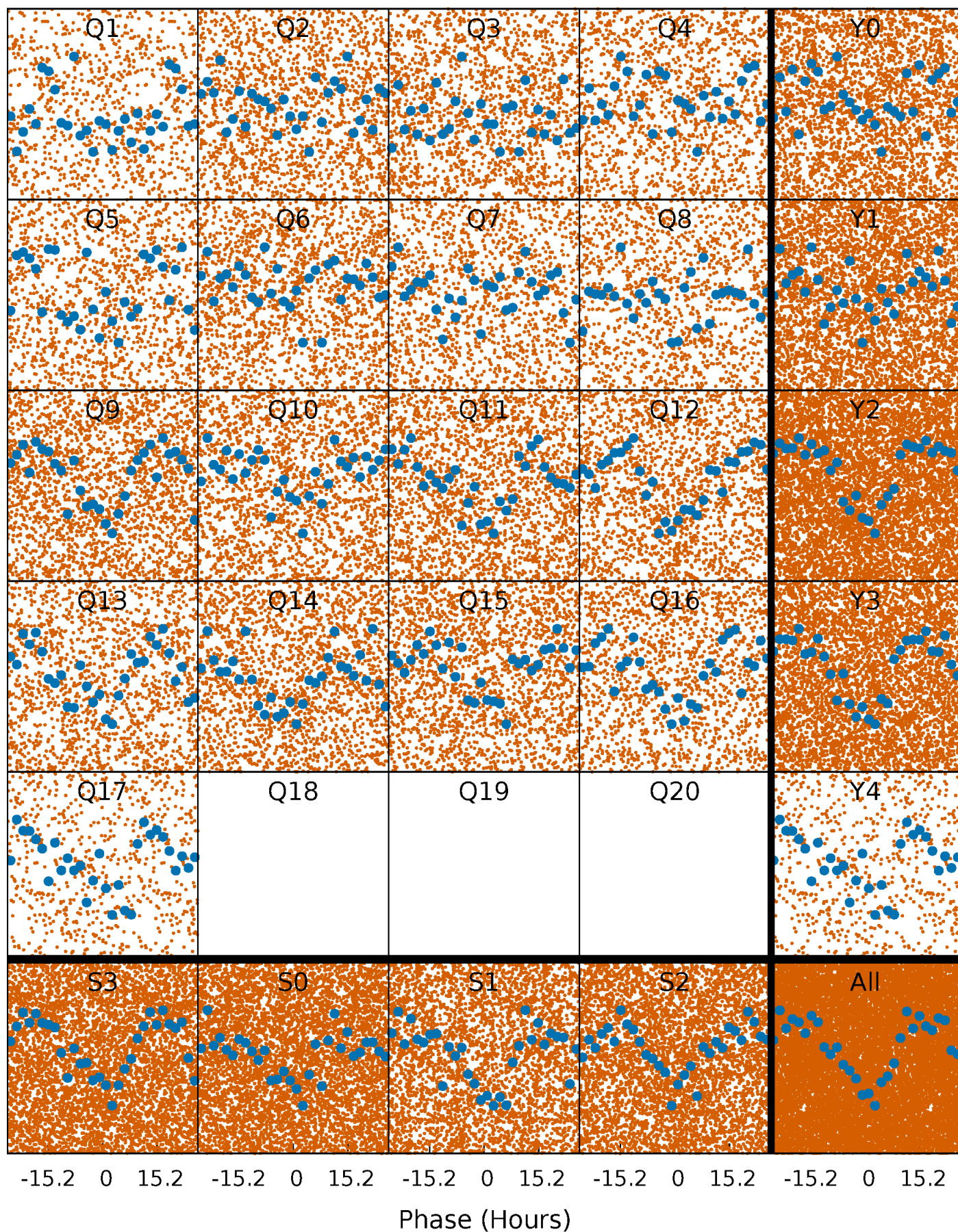


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



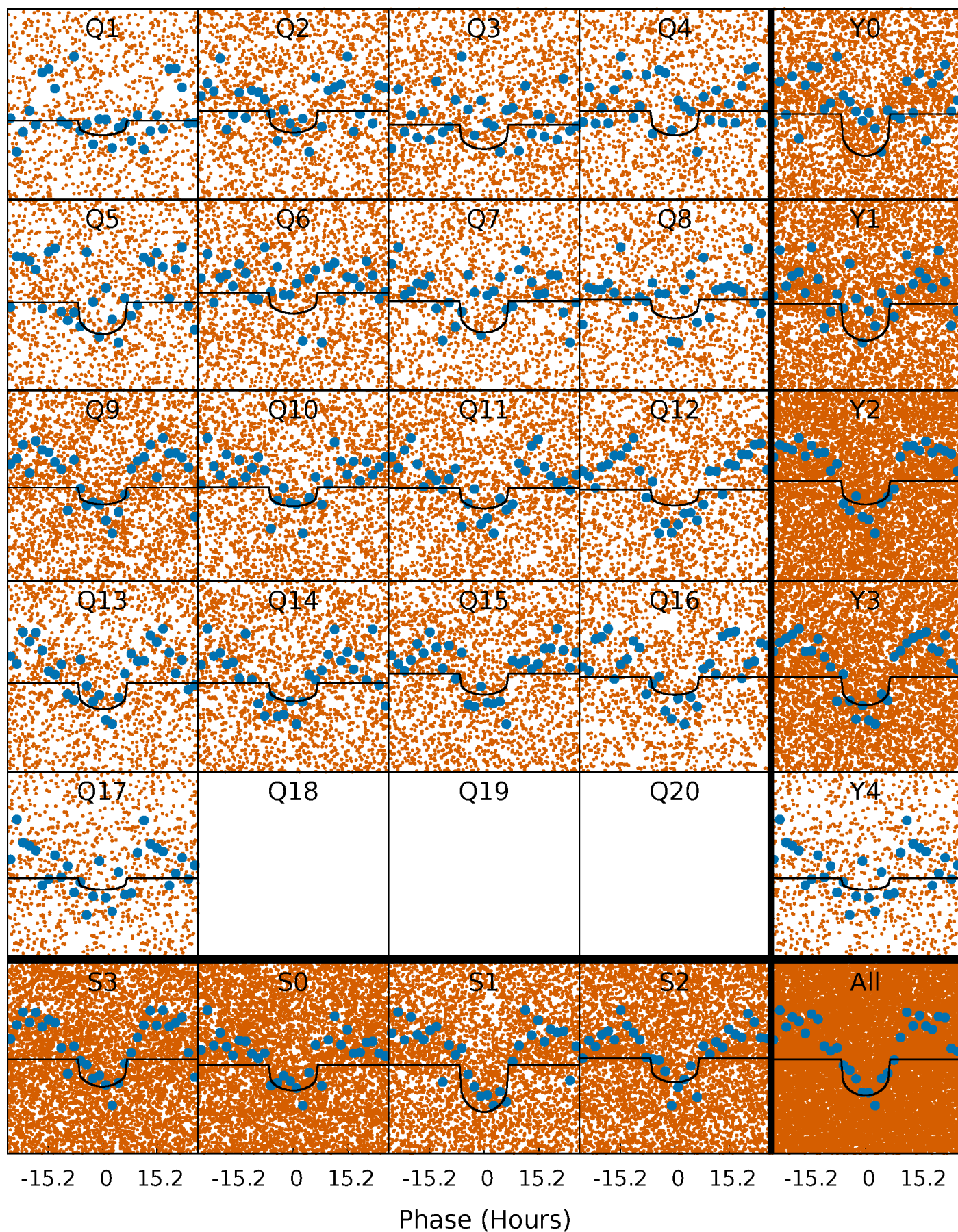
PDC Quarter-Phased Transit Curves

TCE 009163469-01 P= 1.477160 Days $T_0=131.685970$ (BKJD)



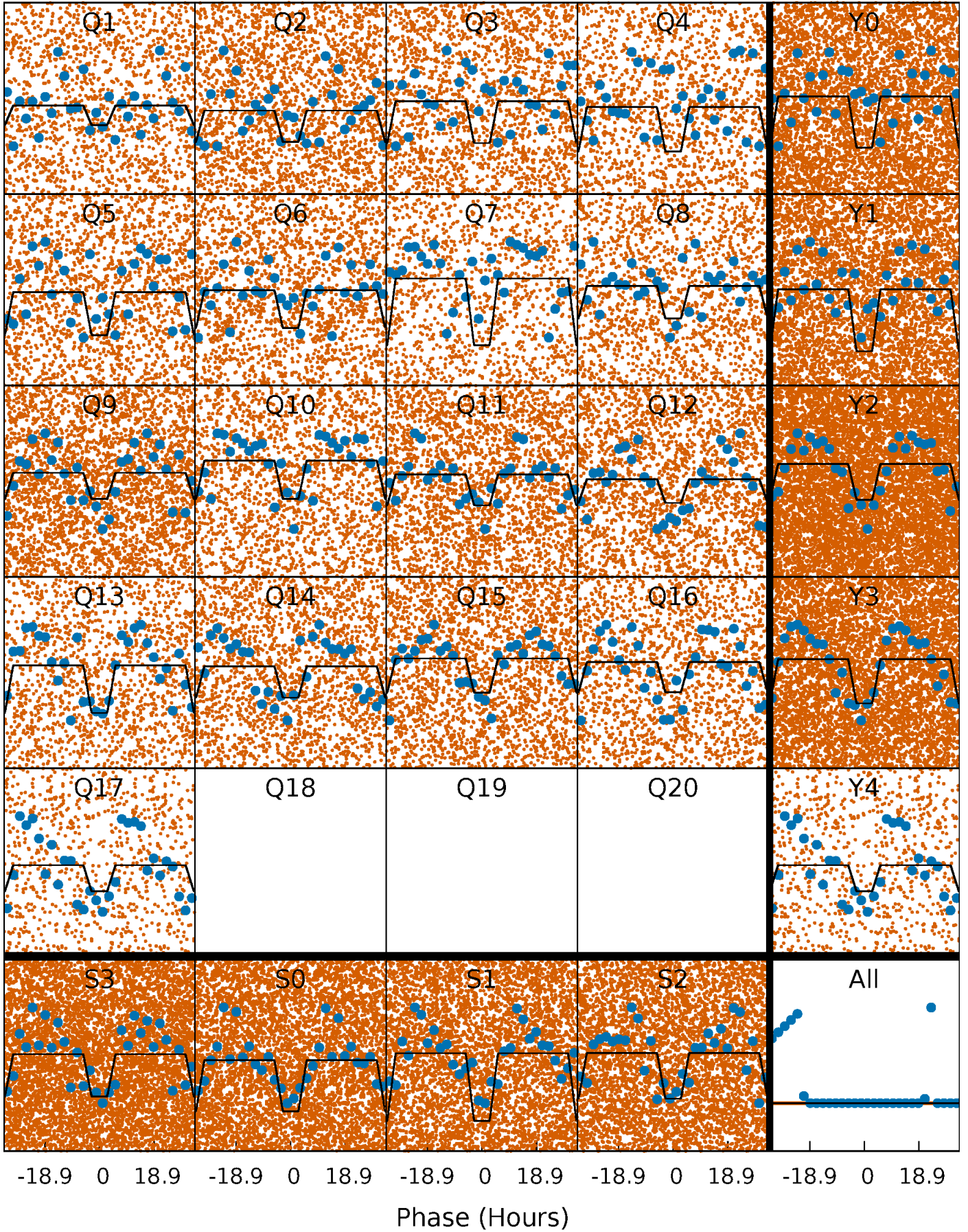
DV Quarter-Phased Transit Curves

TCE 009163469-01 P= 1.477160 Days $T_0=131.685970$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

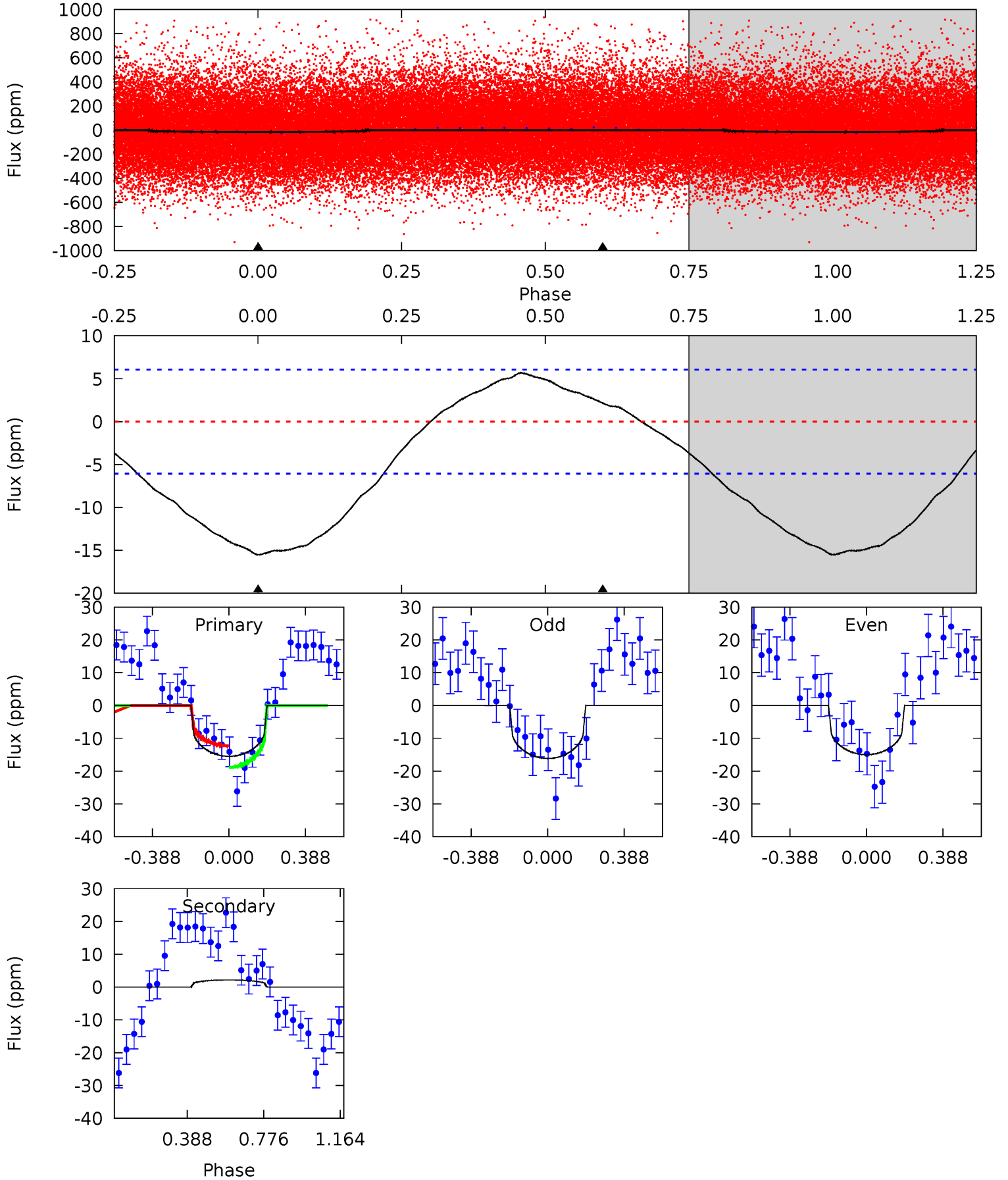
TCE 009163469-01 P= 1.477364 Days $T_0=131.605500$ (BKJD)



DV Model-Shift Uniqueness Test

009163469-01, P = 1.477160 Days, E = 130.208810 Days

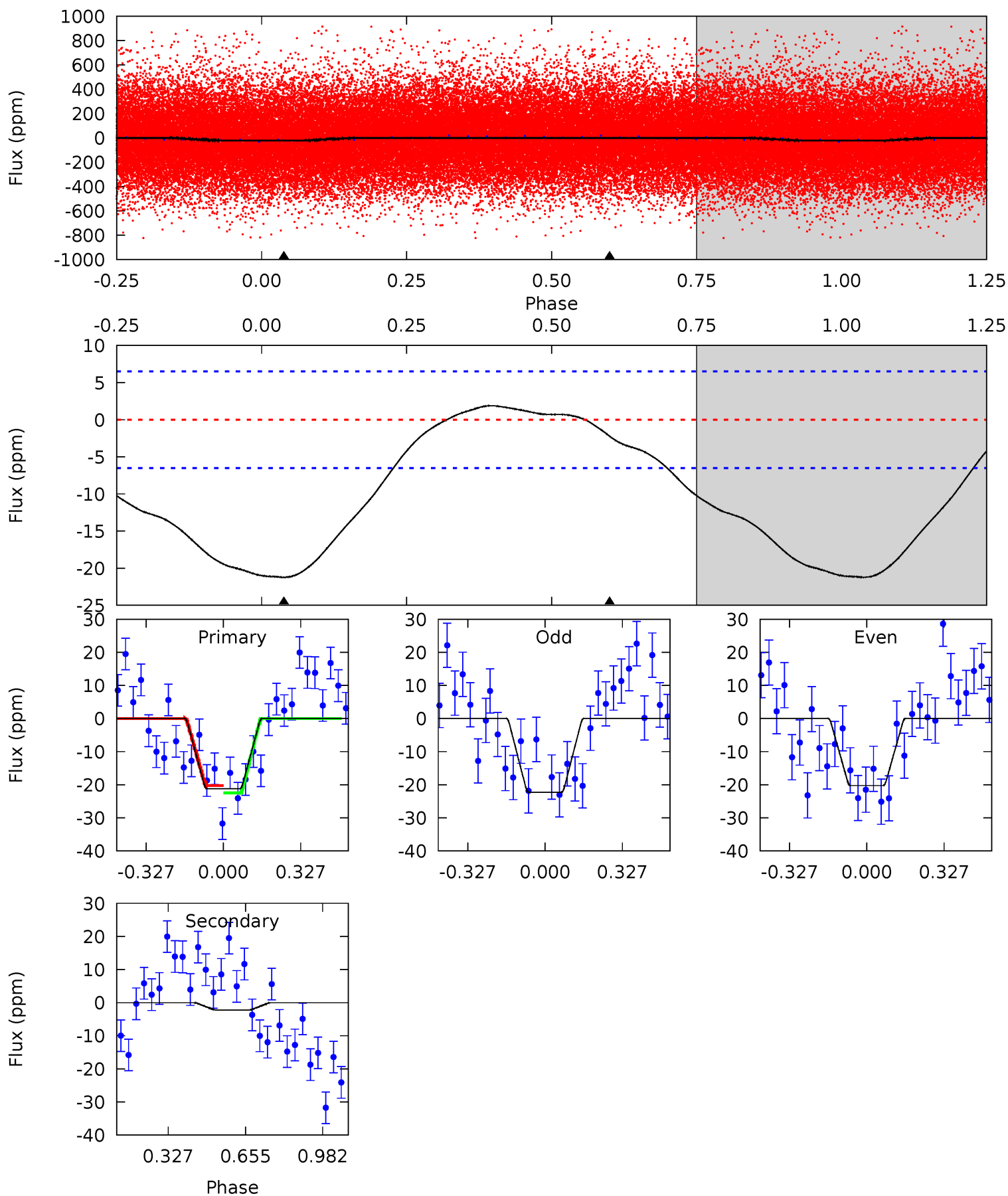
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	-1.53	0	0	4.27	0.86	1.21	10.9	10.9	-1.53	-1.53	0.41	0.91	0.27	2.33



Alt Model-Shift Uniqueness Test

009163469-01, P = 1.477364 Days, E = 130.128136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	1.47	0	0	4.31	0.98	0.80	14.0	14.0	1.47	1.47	0.66	1.10	0.08	0.73



Stellar Parameters For KIC 009163469

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.052}_{-0.208}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.388}_{-0.166}$	$1.313^{+0.167}_{-0.204}$	$0.948^{+0.263}_{-0.496}$
	+3%/-4%	+1%/-5%	+95%/-167%	+31%/-13%	+13%/-16%	+28%/-52%
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 009163469-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 1	$0.75^{+0.64}_{-0.50}$	2738^{+196}_{-144}	-3865^{+618}_{-1868}	$-1.443^{+1.166}_{-10.997}$
Alt.	-2 ± 2	$0.89^{+0.62}_{-0.57}$	2728^{+198}_{-139}	3323^{+1589}_{-5931}	$0.973^{+5.756}_{-0.787}$

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

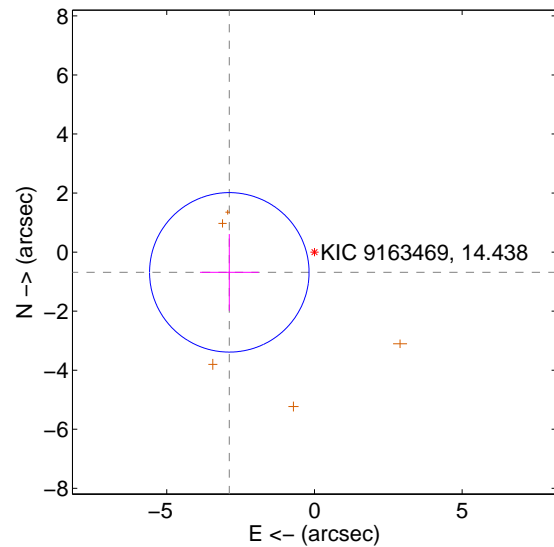
Supplemental centroid analysis for 009163469-01. Kepler magnitude: 14.44. Transit SNR 9.32

There are 0 quarters with good PRF difference image offsets

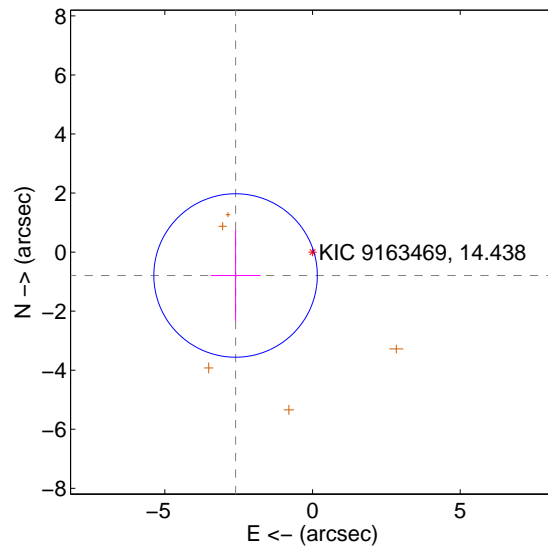
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.963 ± 0.900	3.29	2.883 ± 0.994	-0.686 ± 1.298
PRF-fit source offset from KIC position	2.724 ± 0.923	2.95	2.606 ± 0.842	-0.792 ± 1.546
photometric centroid source offset	2.64 ± 1.40	1.89	1.76 ± 1.33	1.96 ± 1.45

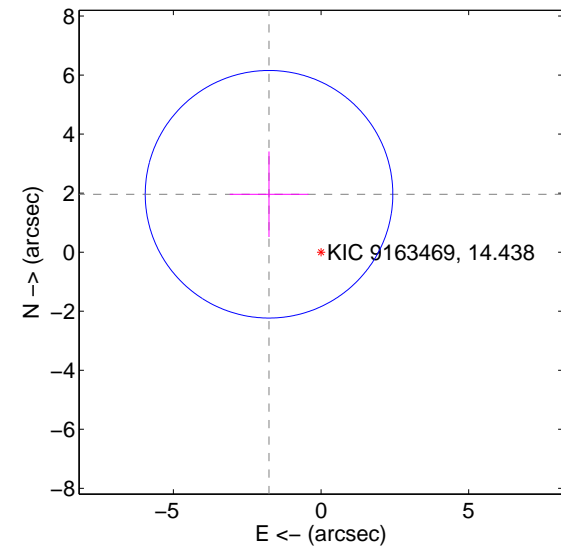
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

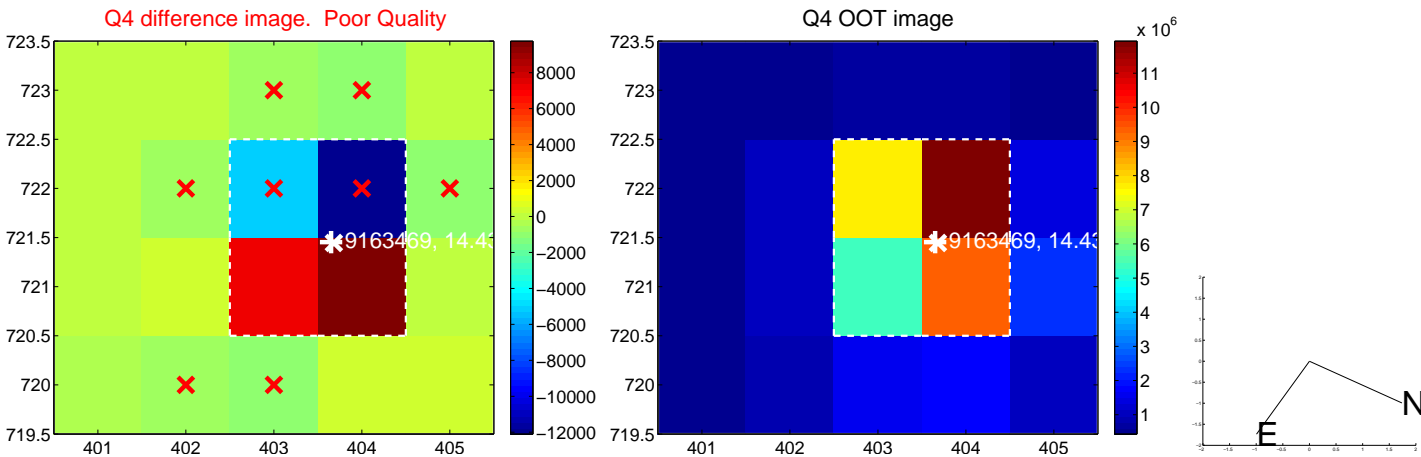
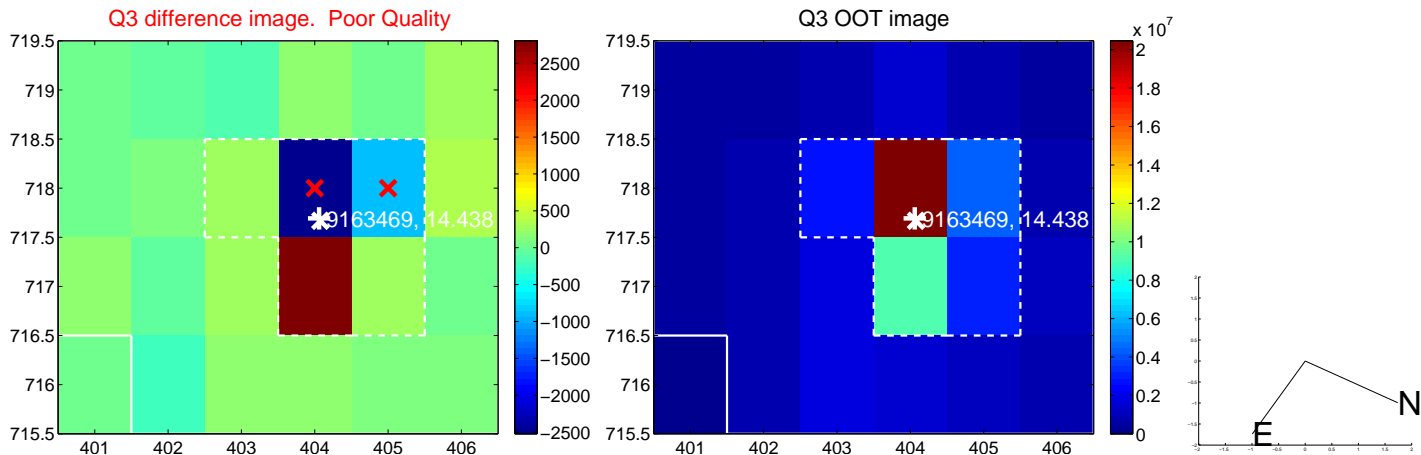
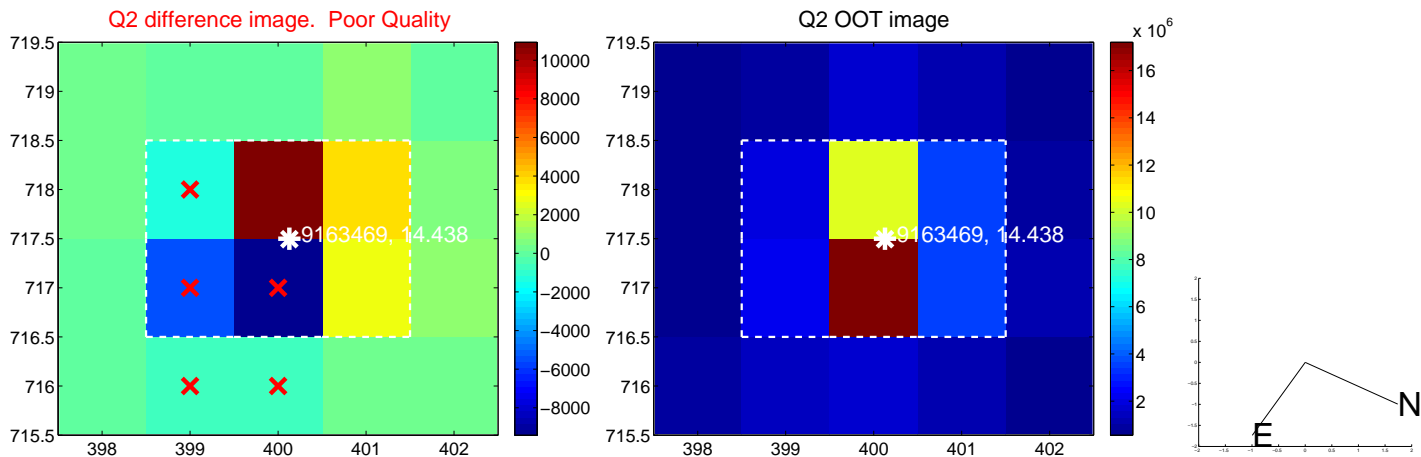
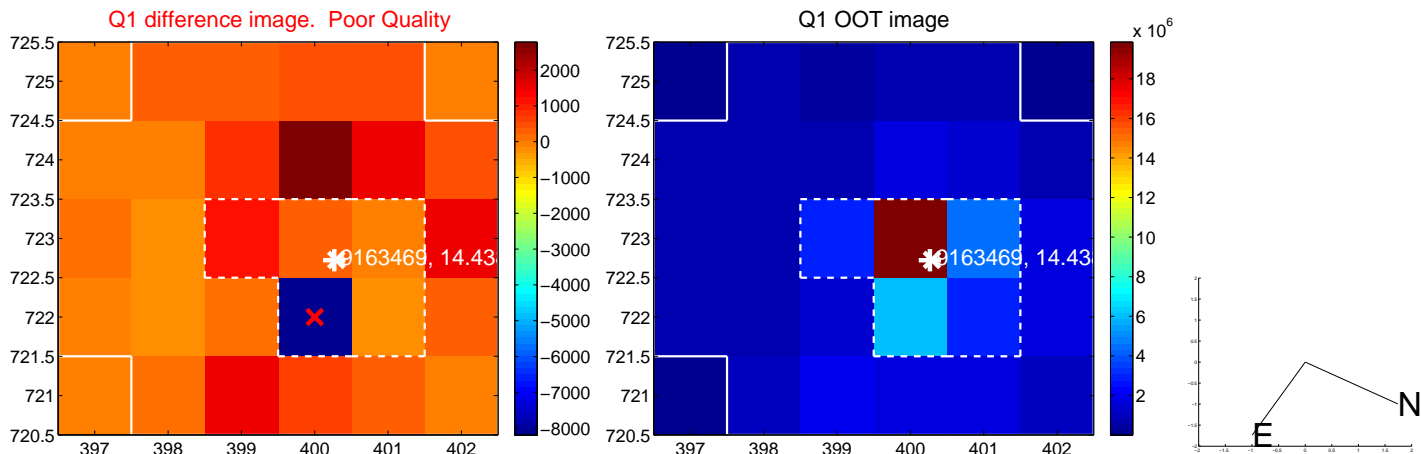


offset from photometric centroids

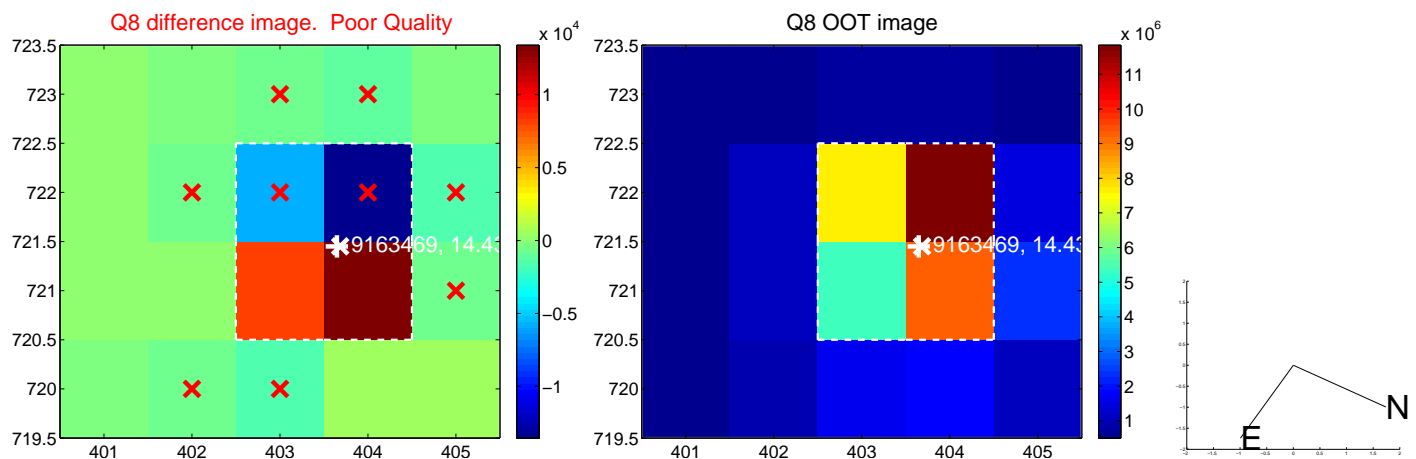
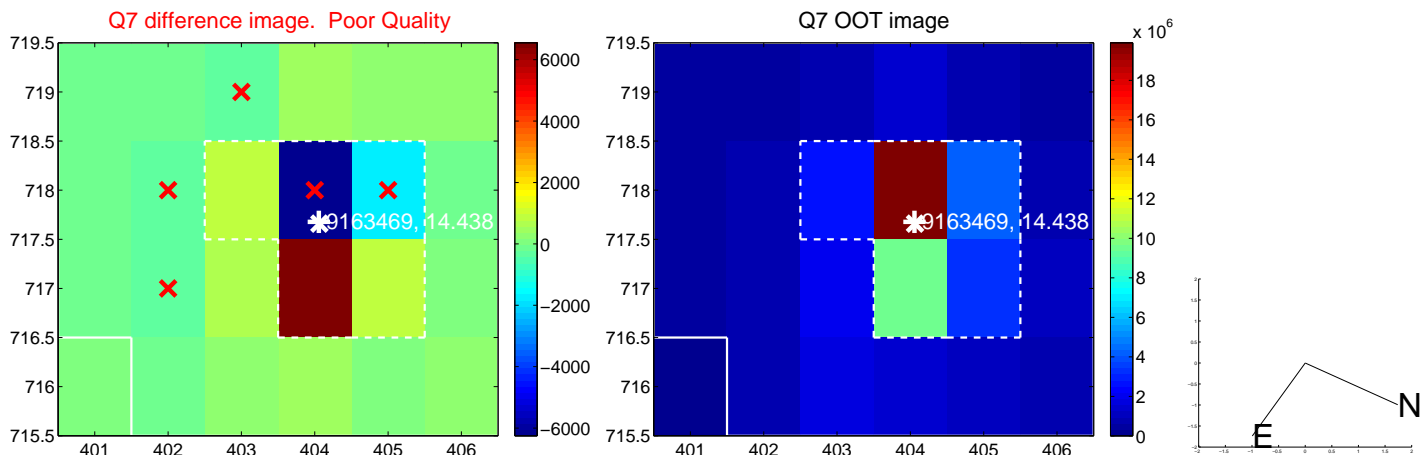
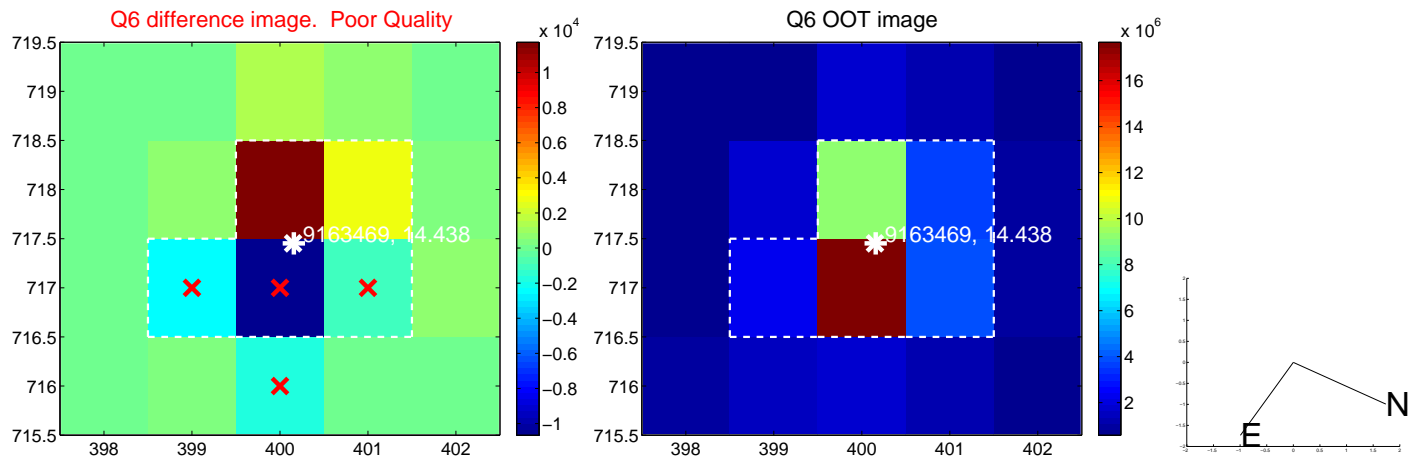
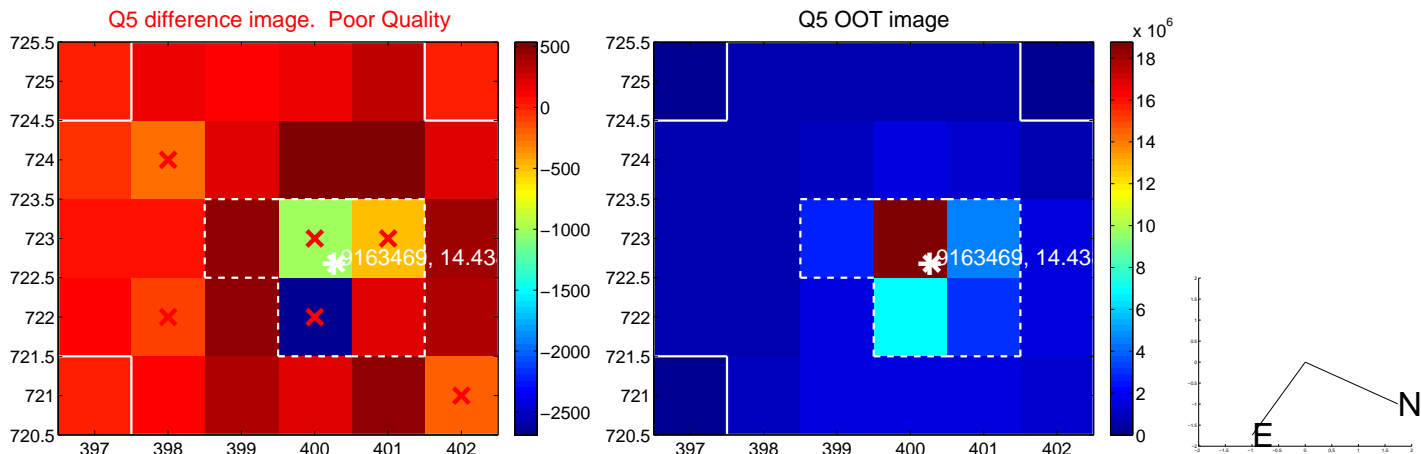


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

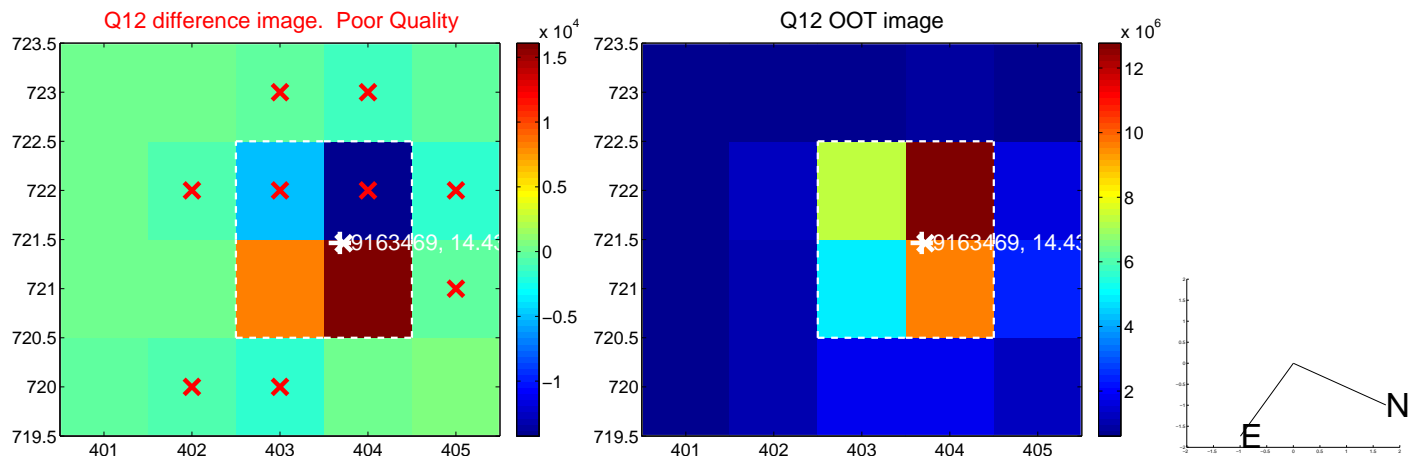
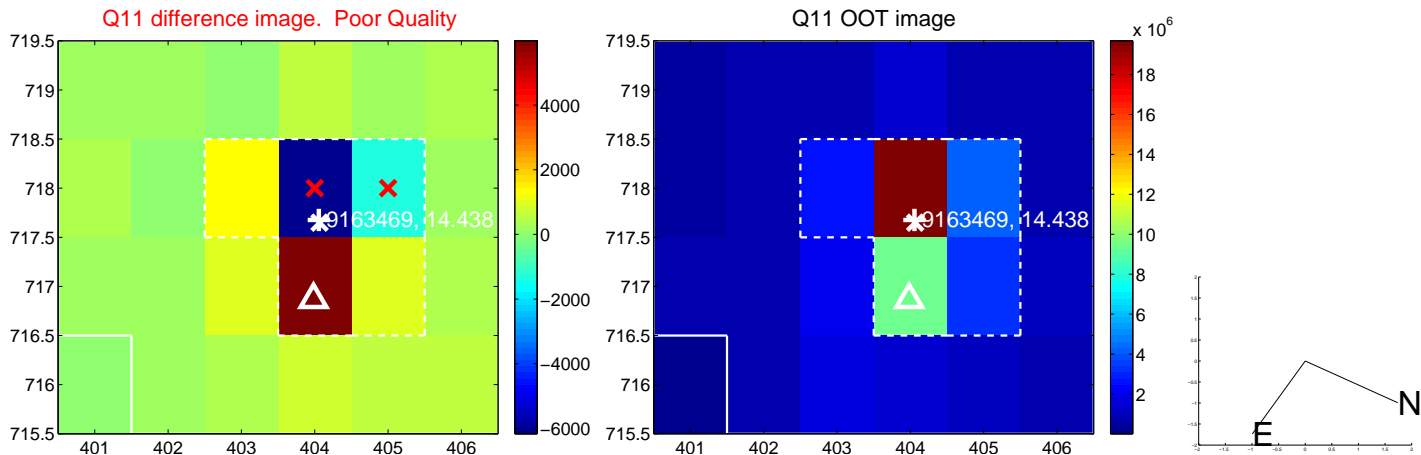
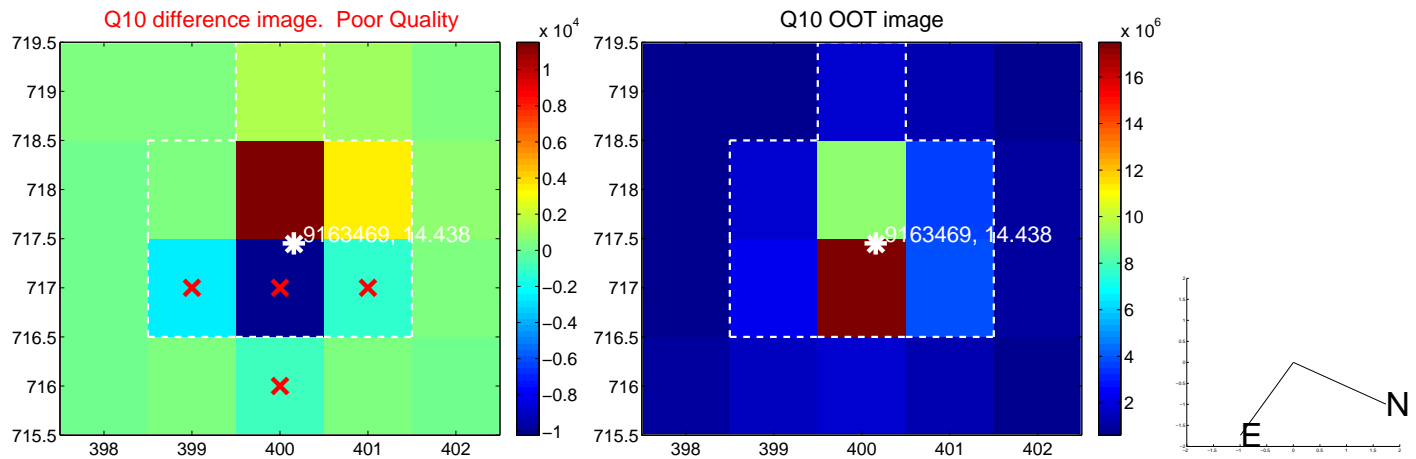
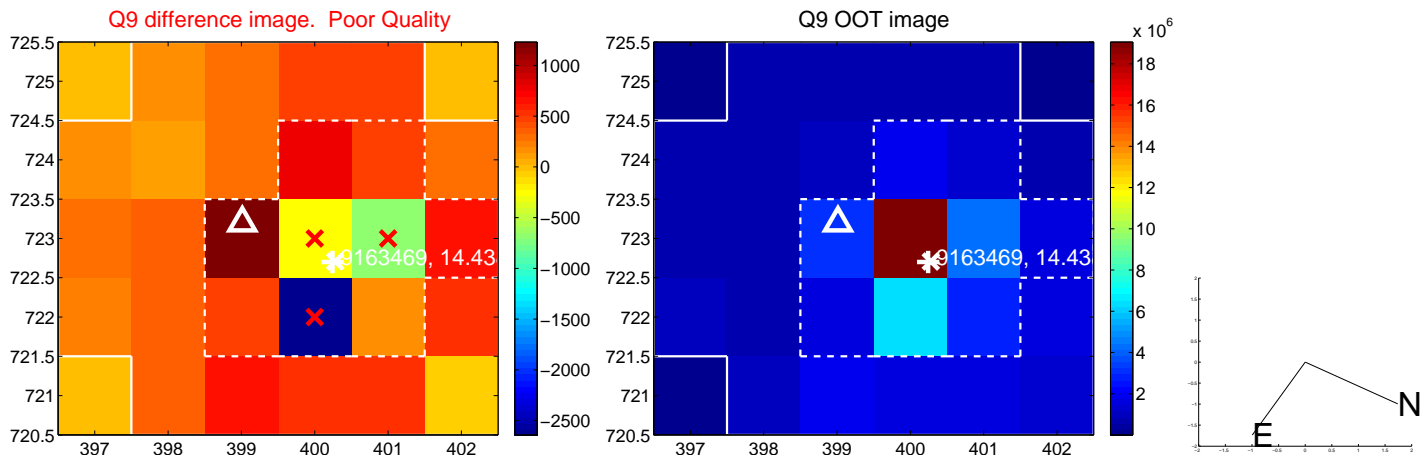
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



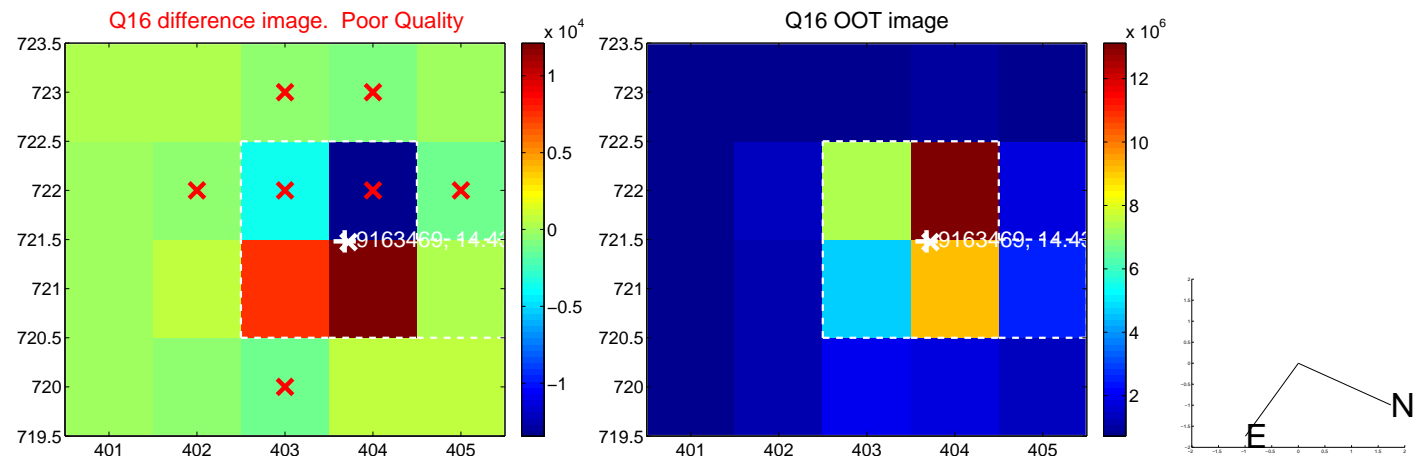
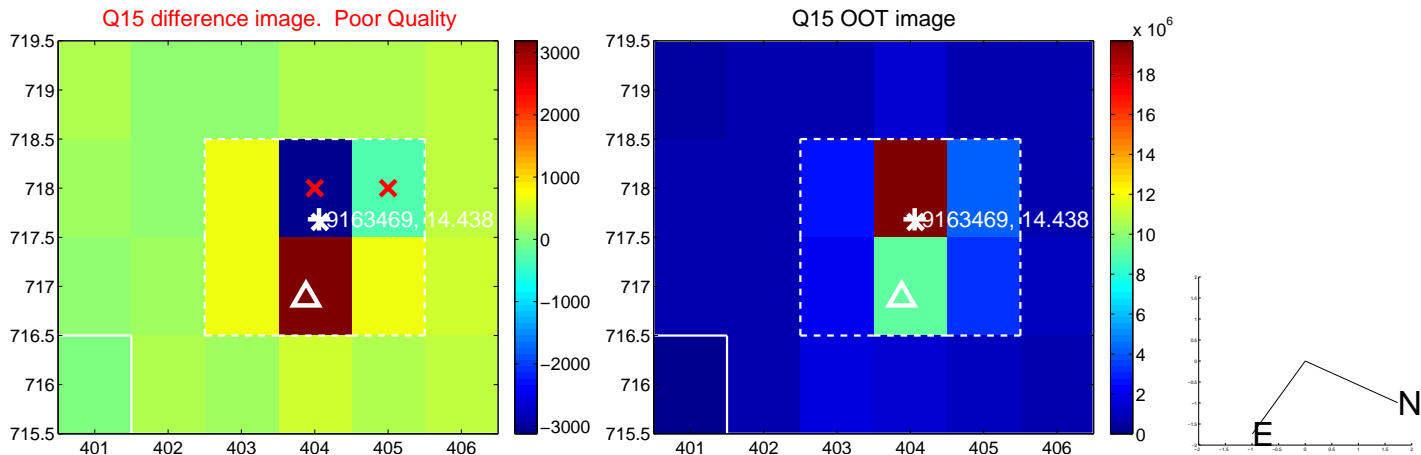
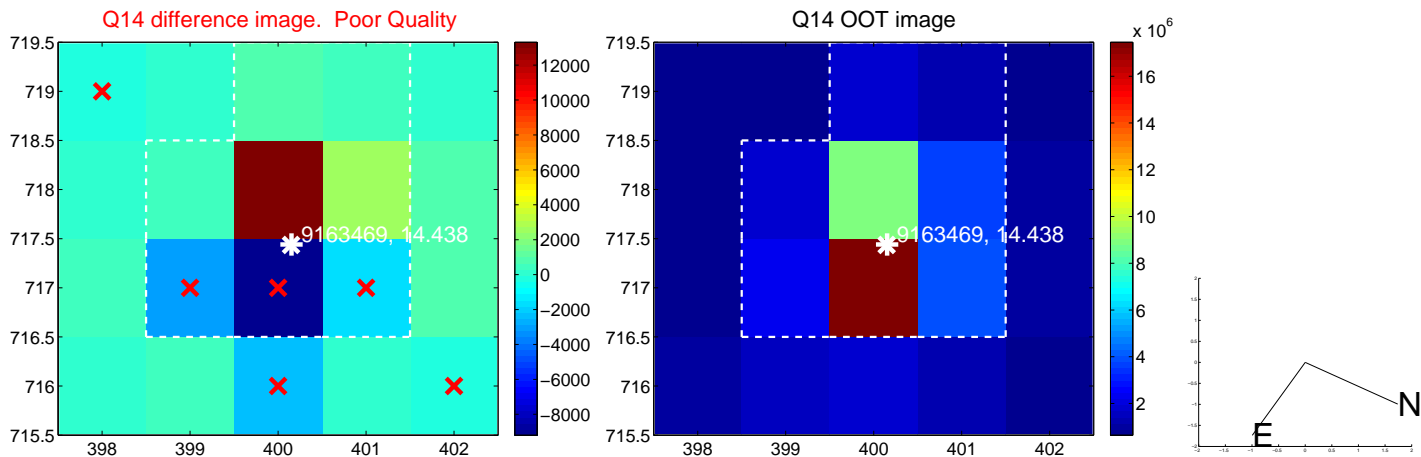
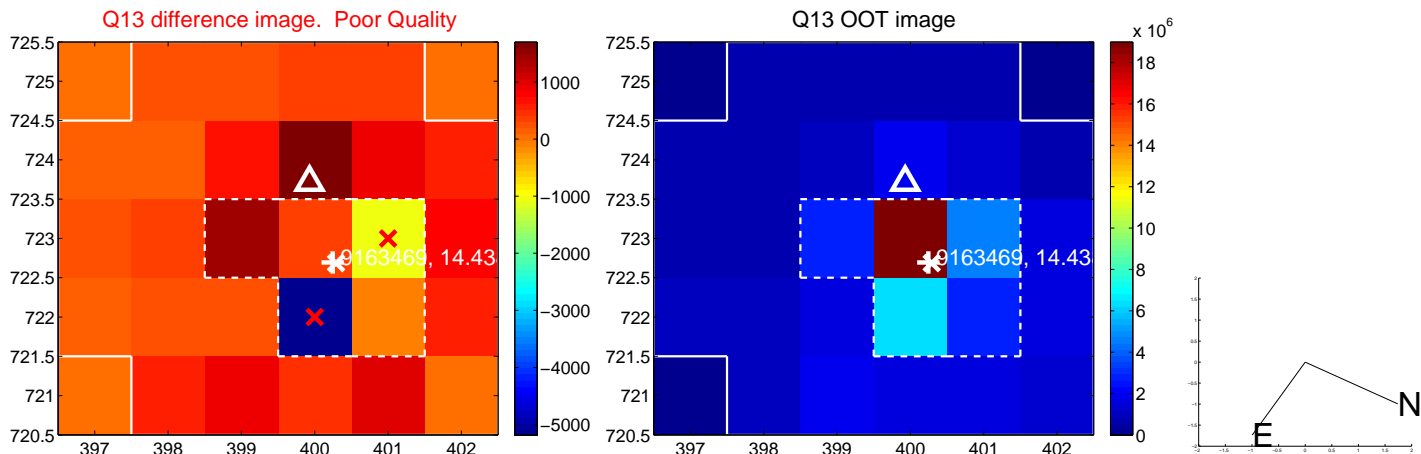
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



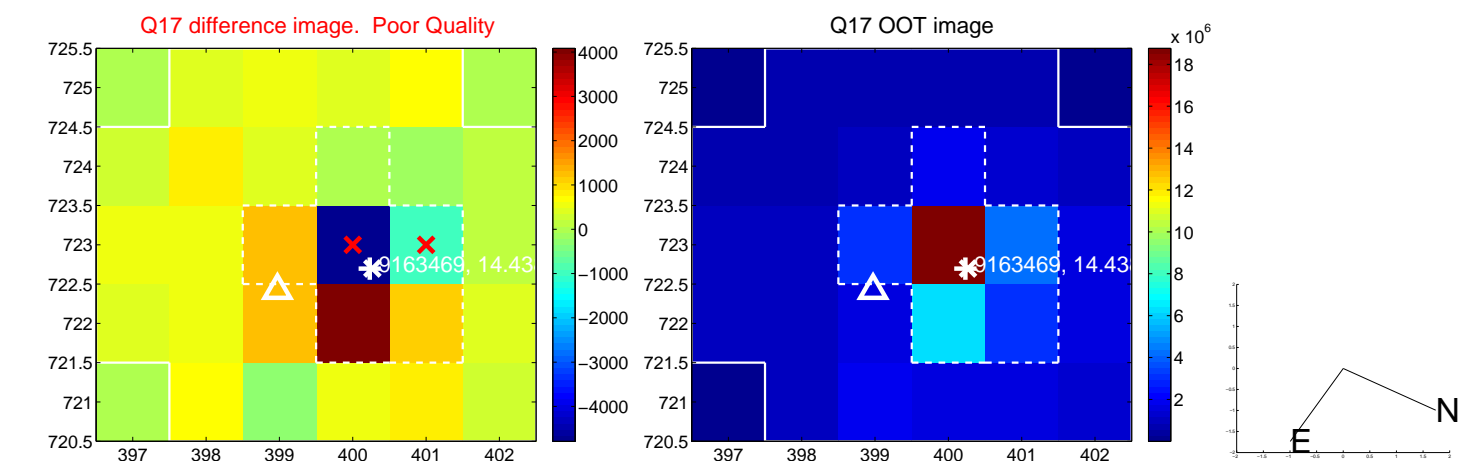
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



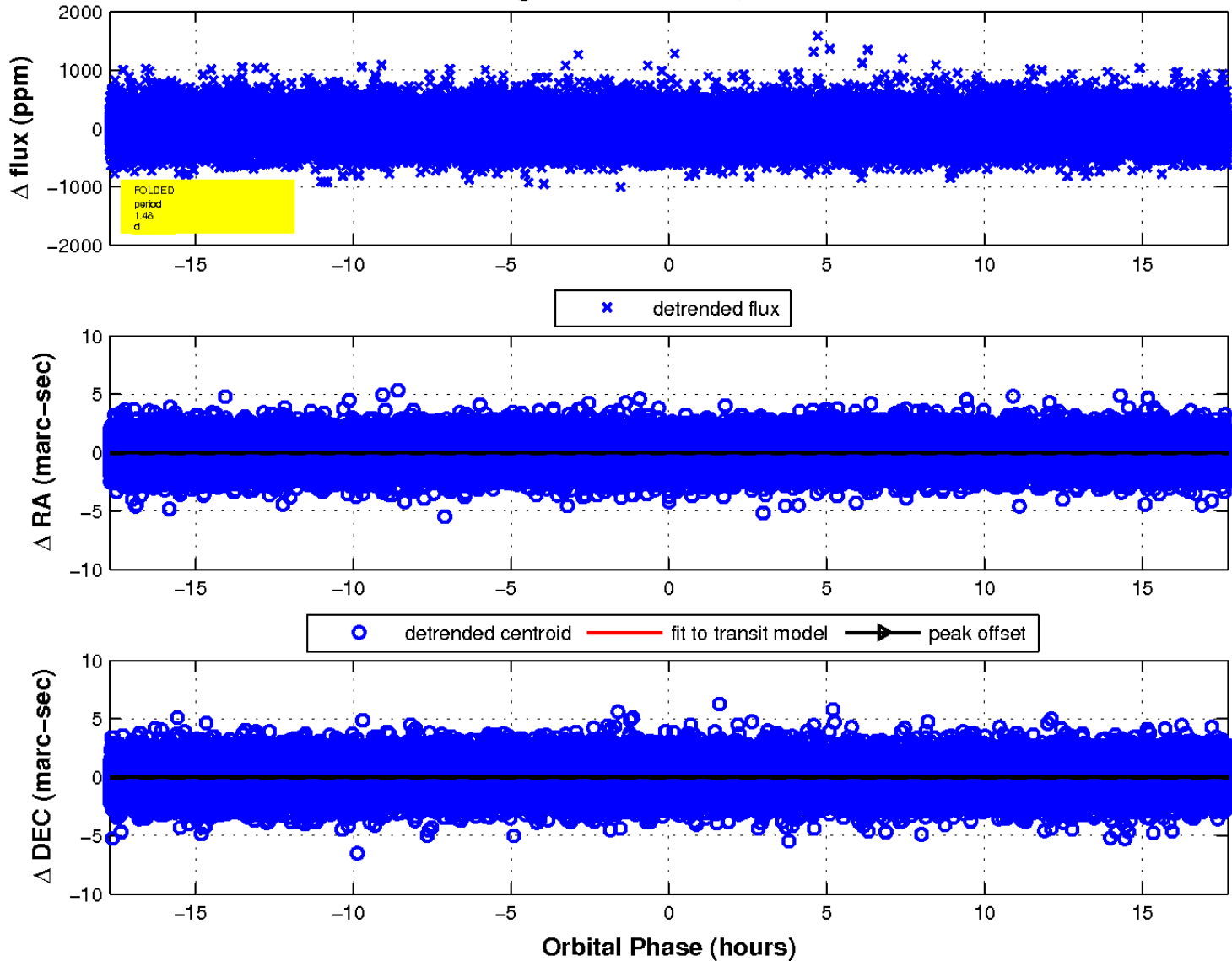
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

