

KIC 004670217

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})
004670217-01	OBS	2560.01	18.121118	134.166925	541.5	4.797	13.3	14.4	0.77	4905	2.72	20.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004670217-01	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 004670217-01

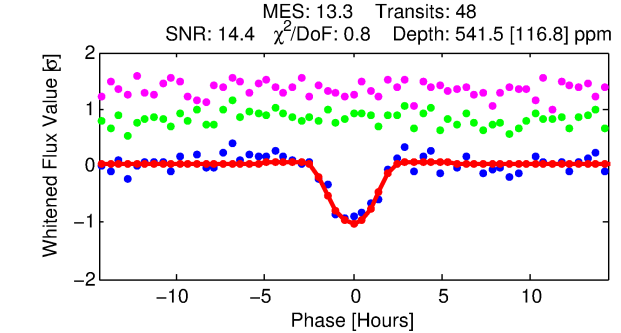
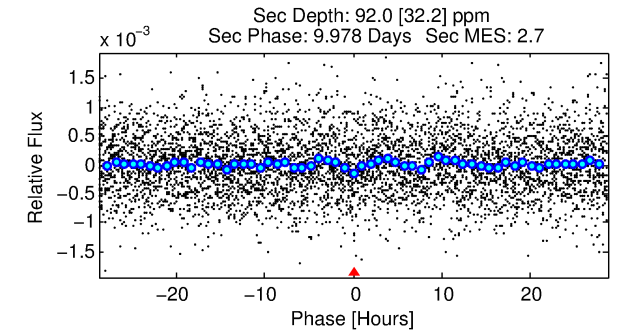
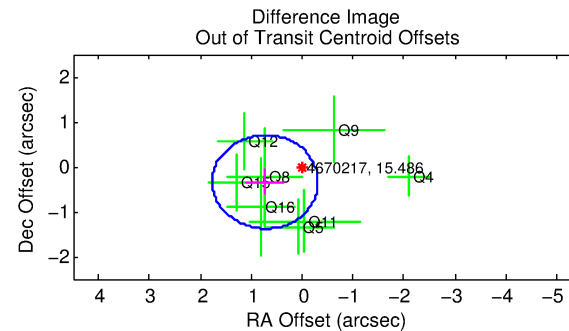
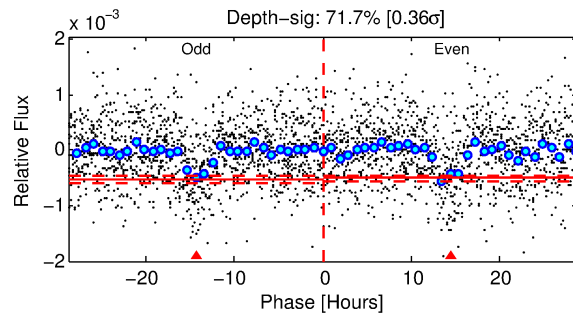
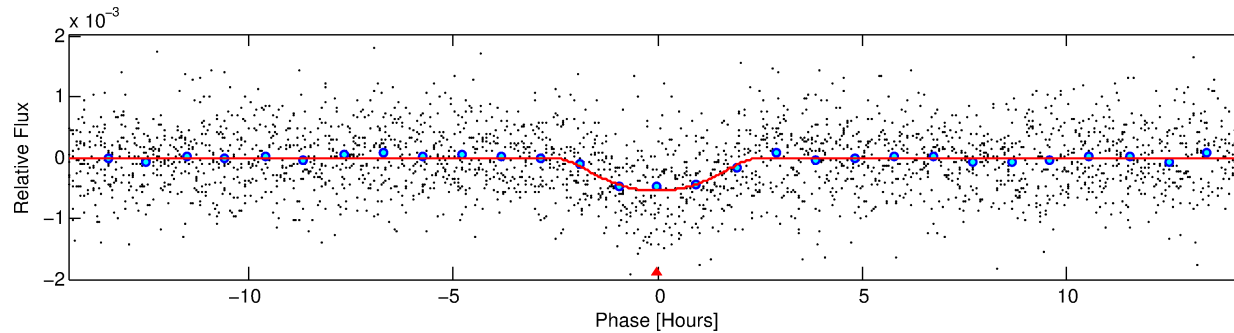
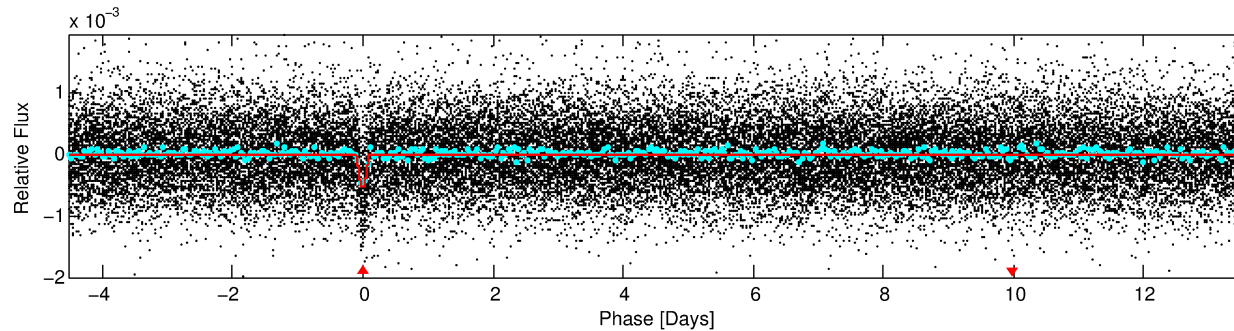
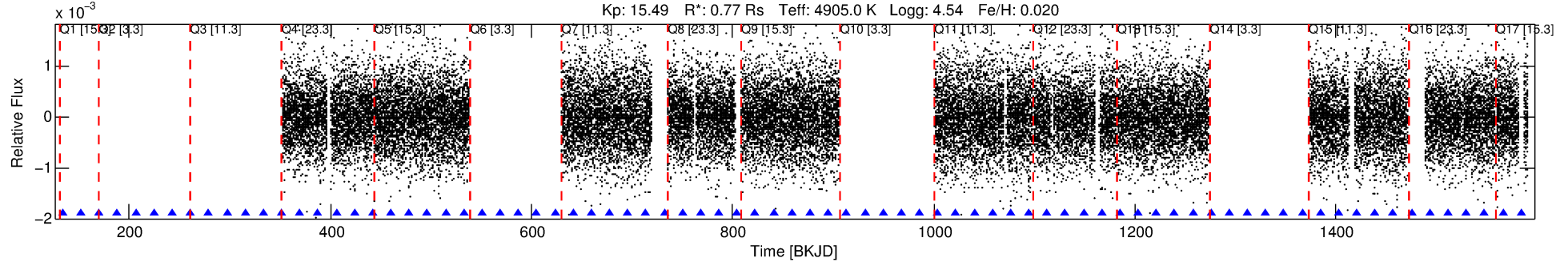
No Significant Match Found

DV One-Page Summary

KIC: 4670217 Candidate: 1 of 1 Period: 18.121 d

KOI: K02560.01 Corr: 0.957

Kp: 15.49 R*: 0.77 Rs Teff: 4905.0 K Logg: 4.54 Fe/H: 0.020



DV Fit Results:

Period = 18.12112 [0.00020] d
Epoch = 134.1669 [0.0100] BKJD
Rp/R* = 0.0322 [0.0176]
a/R* = 9.61 [2.92]
b = 0.98 [0.04]
Seff = 20.62 [4.00]
Teq = 543 [26] K
Rp = 2.72 [1.51] Re
a = 0.1227 [0.0105] AU
Ag = 103.06 [119.28] [0.86σ]
Teffp = 2677 [776] K [2.75σ]

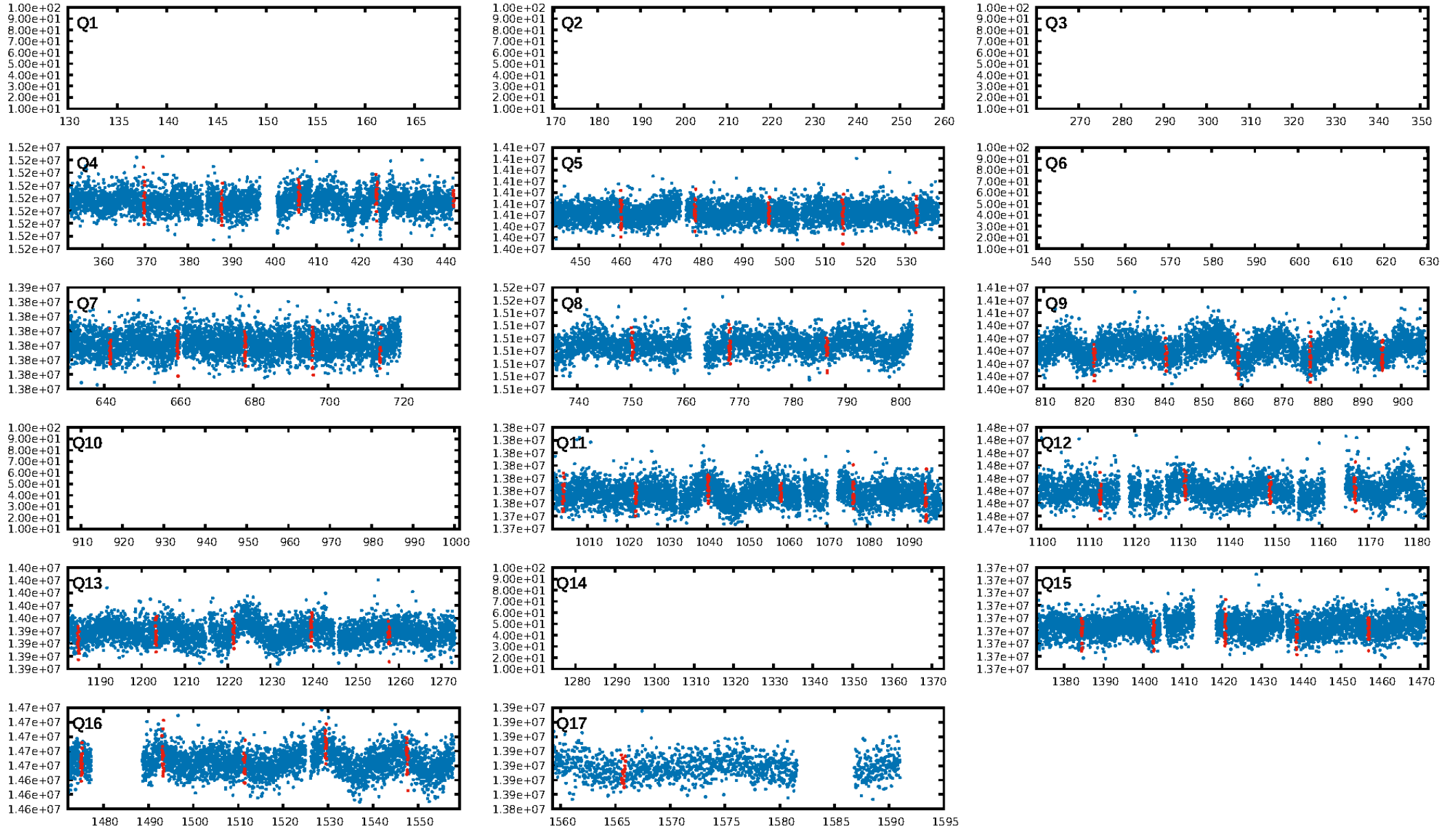
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.17e-39
RollingBand-fgt: 1.00 [47/47]
GhostDiagnostic-chr: 1.756
Centroid-sig: 0.5%
Centroid-so: 1.839 arcsec [1.71σ]
OotOffset-rm: 0.802 arcsec [2.31σ]
KicOffset-rm: 0.840 arcsec [2.27σ]
OotOffset-st: 0/2/4/2 [8]
KicOffset-st: 0/2/4/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 1.00 [11/11]

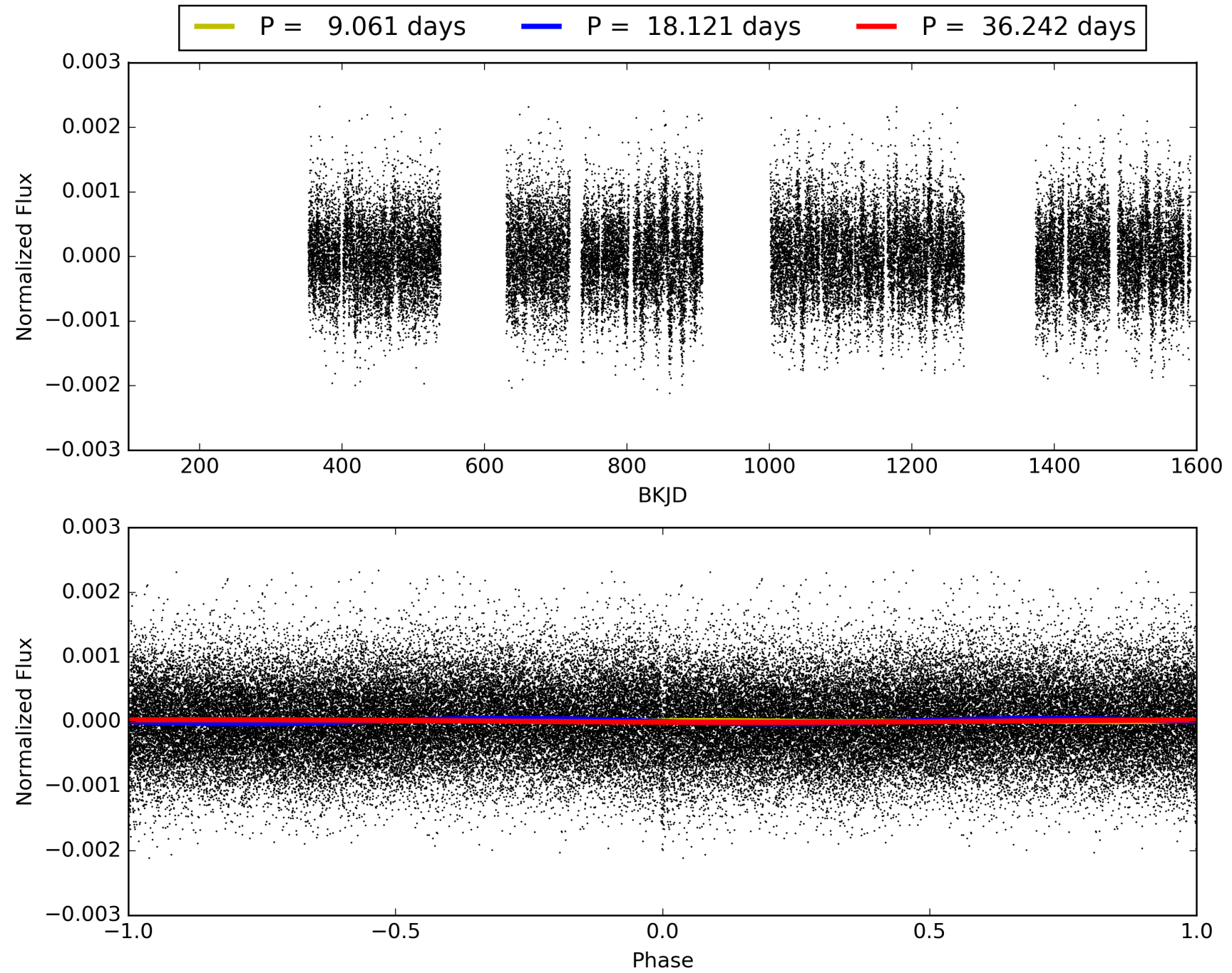
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:26:55 Z

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

TCE 004670217-01, PDC Light Curves

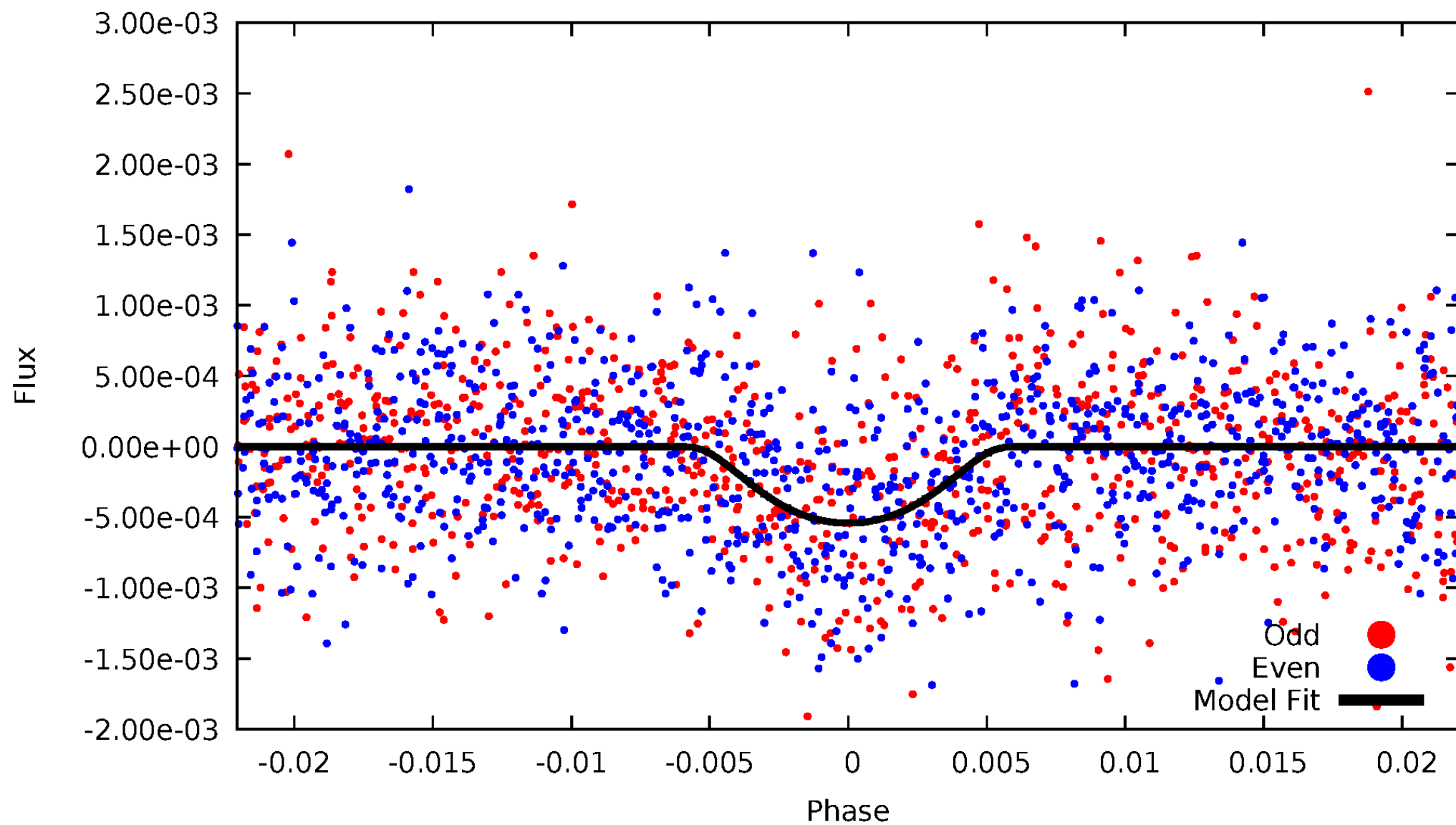


TCE 004670217-01



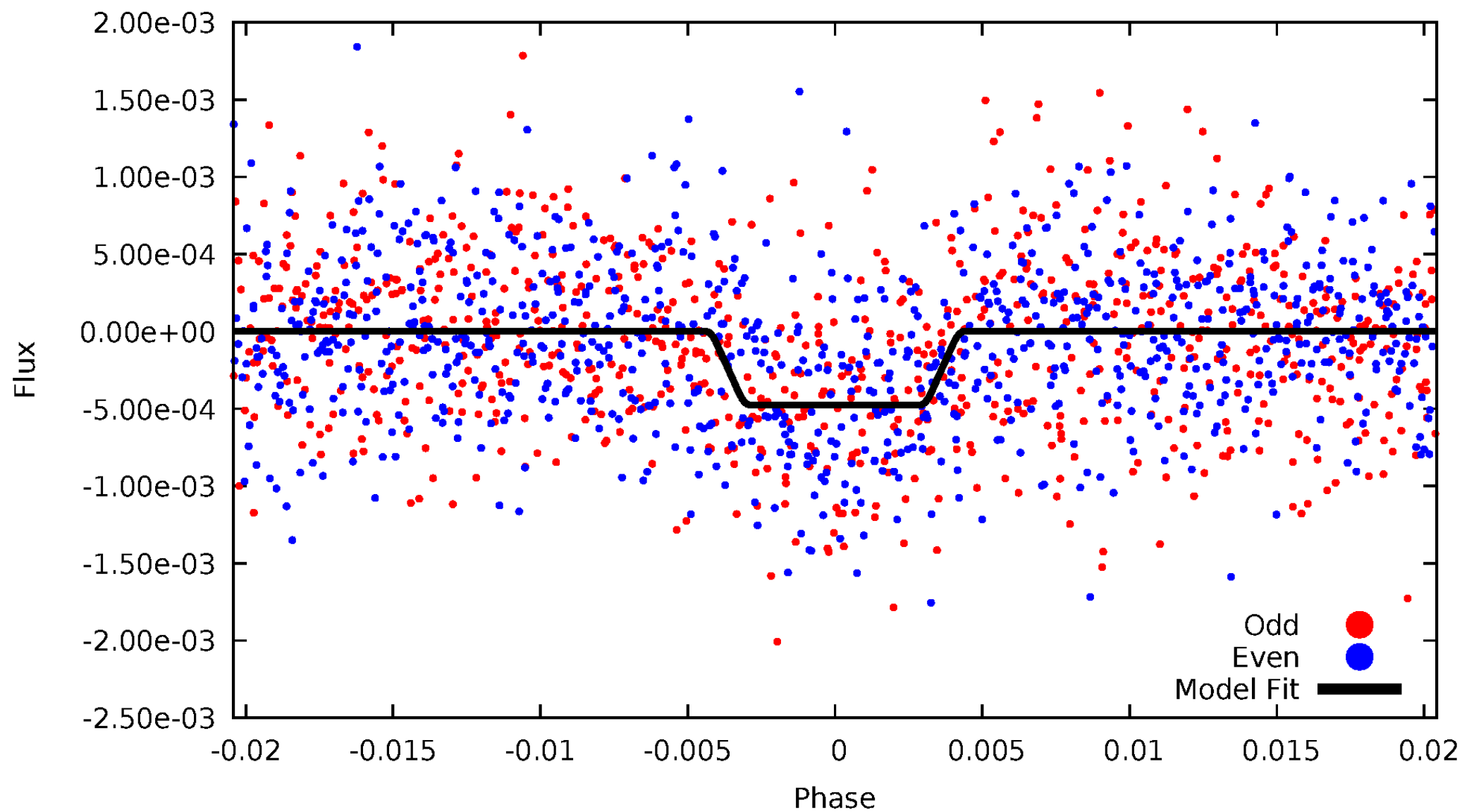
DV Odd/Even

TCE 004670217-01

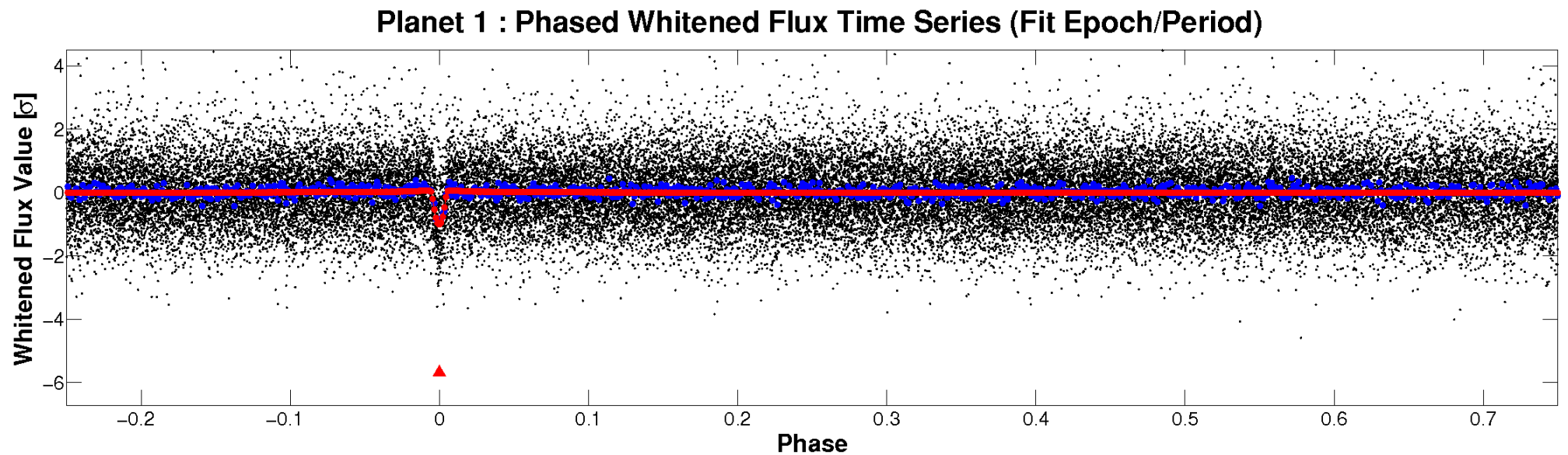
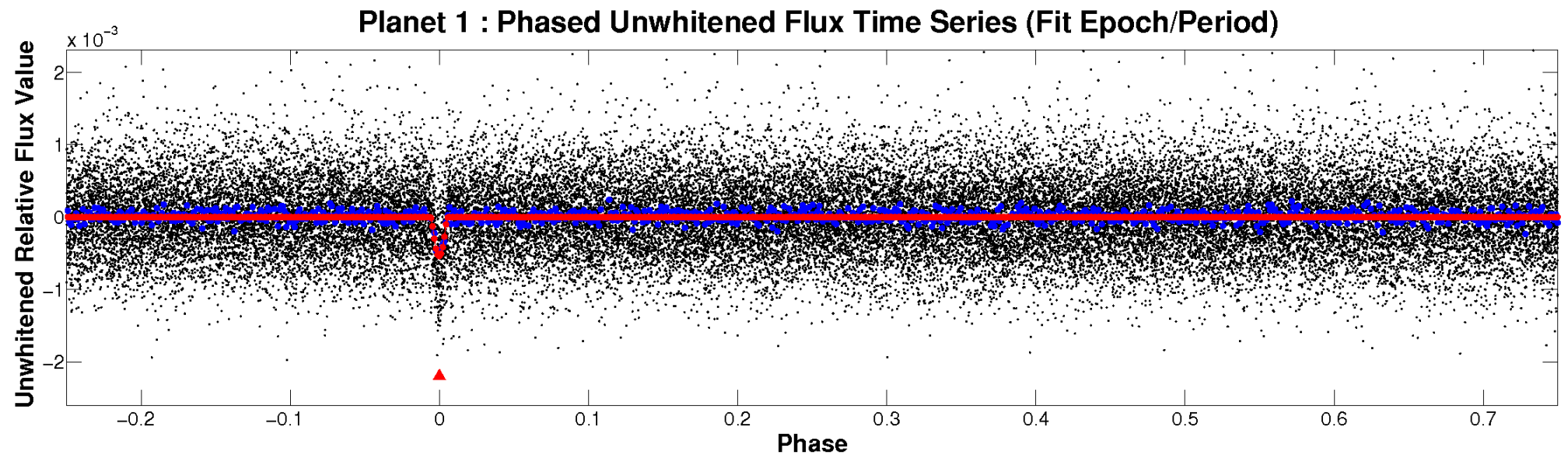


ALT Odd/Even

TCE 004670217-01

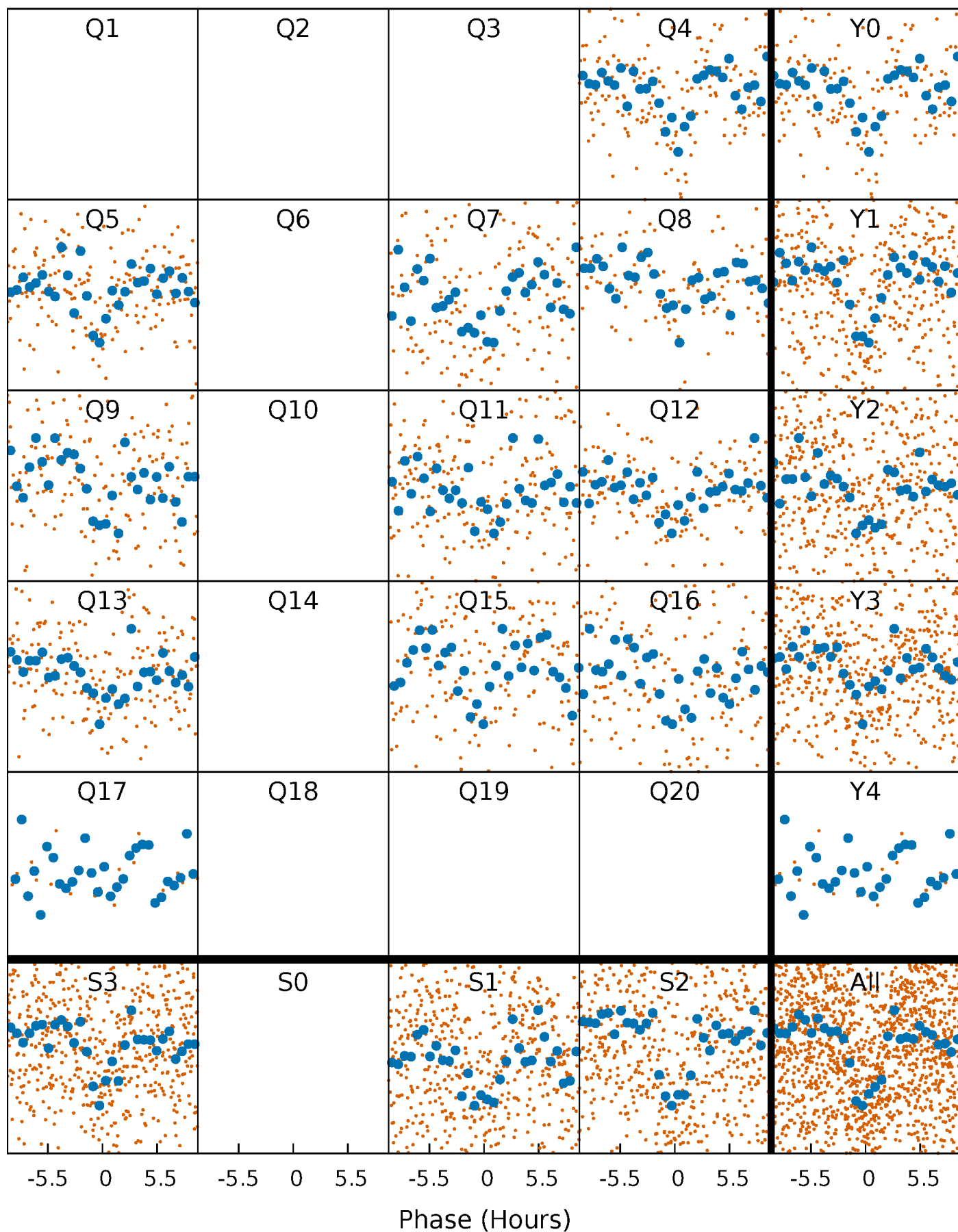


Non-Whitened Vs. Whitened Light Curve



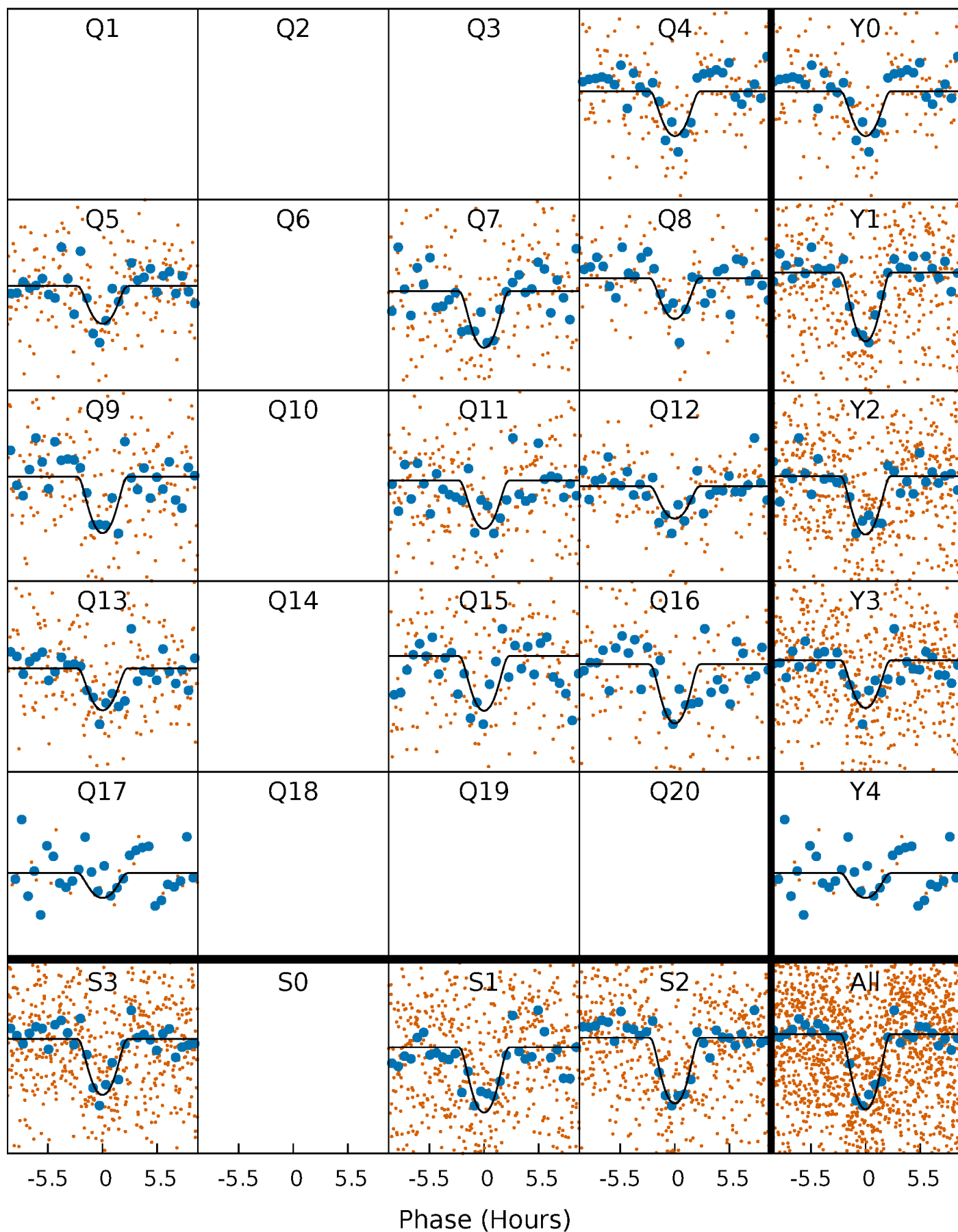
PDC Quarter-Phased Transit Curves

TCE 004670217-01 P= 18.121118 Days $T_0=134.166925$ (BKJD)



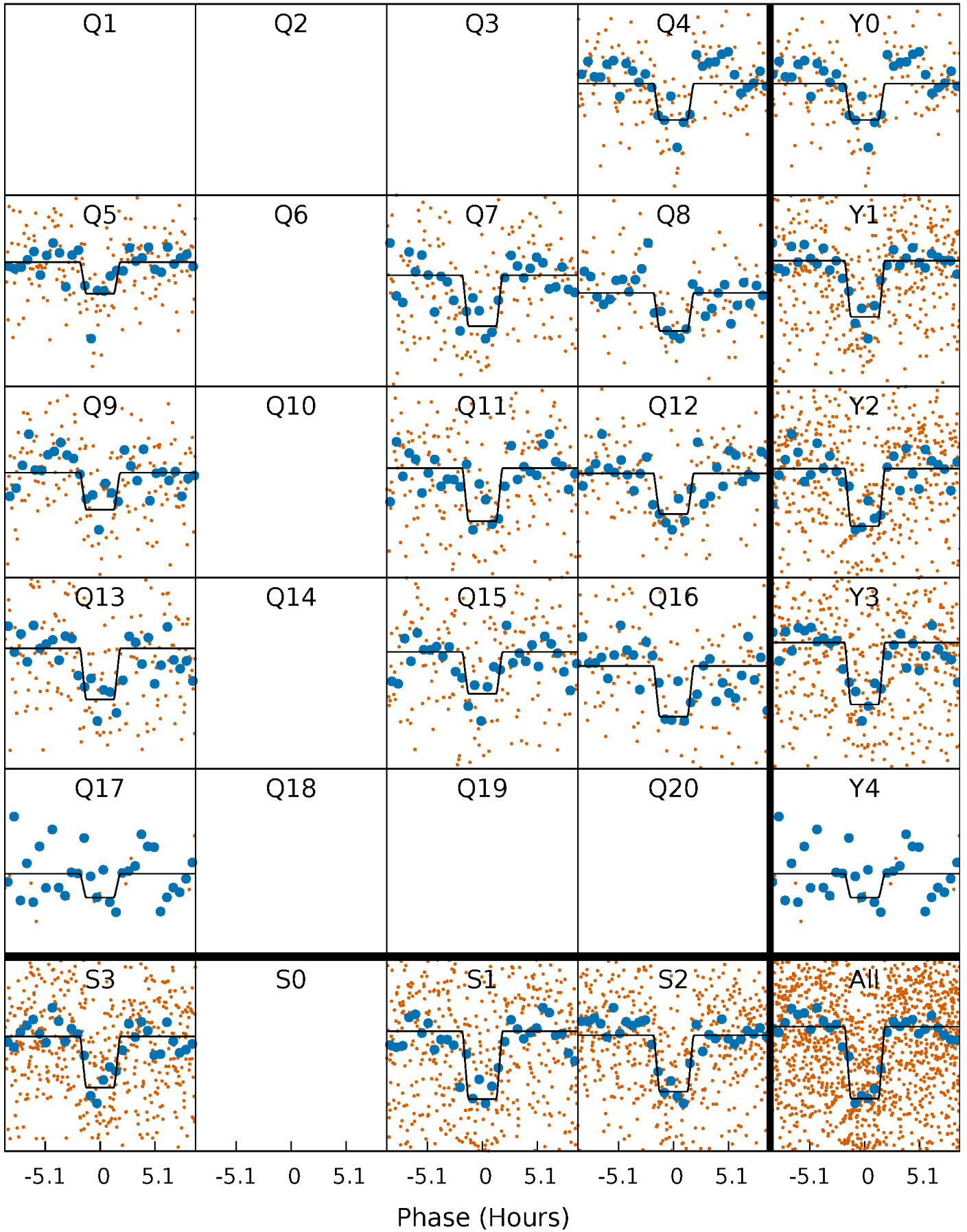
DV Quarter-Phased Transit Curves

TCE 004670217-01 P= 18.121118 Days $T_0=134.166925$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

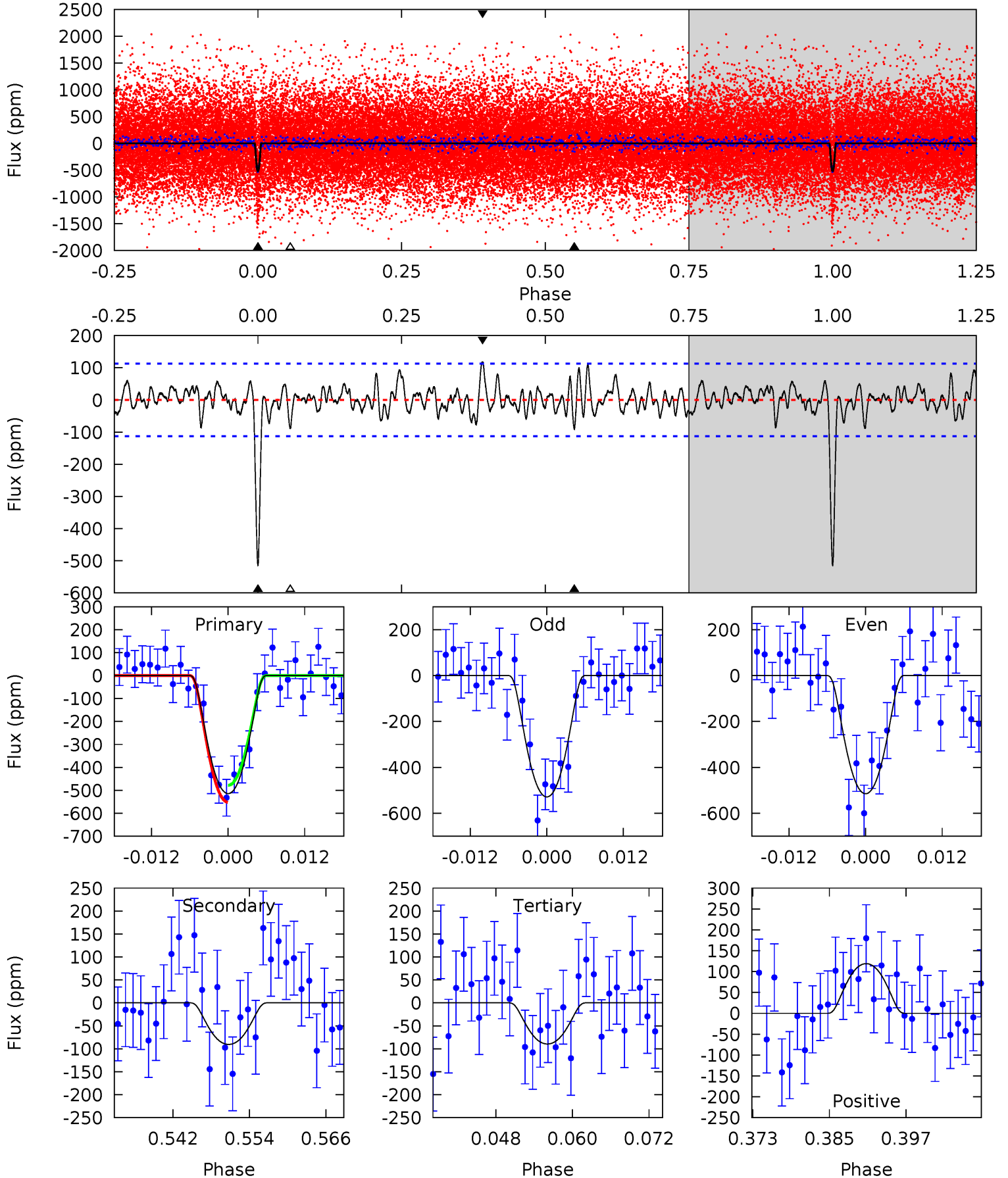
TCE 004670217-01 P= 18.120804 Days $T_0=134.182120$ (BKJD)



DV Model-Shift Uniqueness Test

004670217-01, $P = 18.121118$ Days, $E = 134.166925$ Days

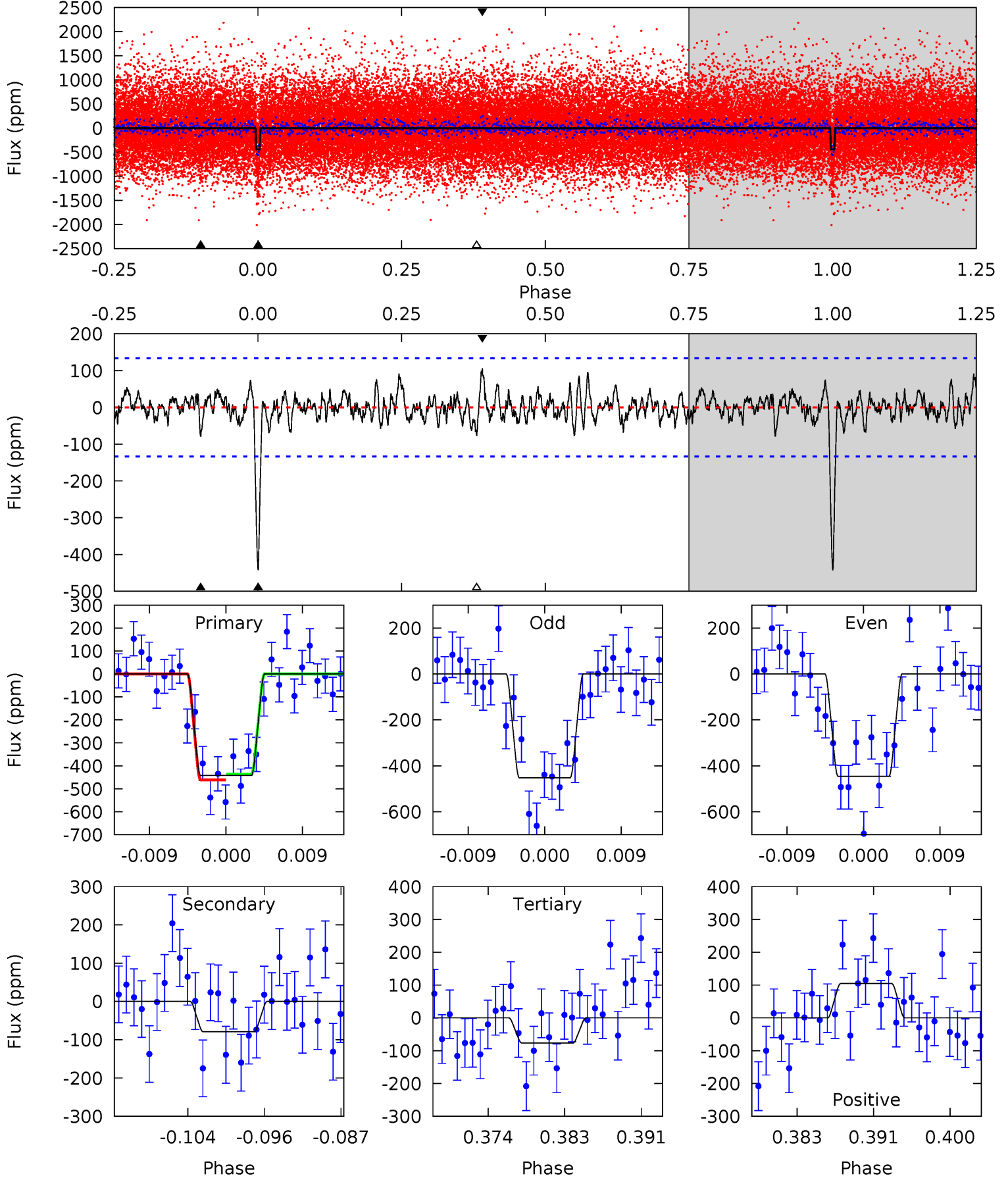
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	4.00	3.96	5.25	4.99	2.51	1.43	18.8	17.5	0.04	-1.26	0.30	0.98	0.19	1.63



Alt Model-Shift Uniqueness Test

004670217-01, P = 18.120804 Days, E = 134.182120 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	3.00	2.91	3.95	5.05	2.62	1.08	13.8	12.8	0.09	-0.95	0.11	0.98	0.19	0.46



Stellar Parameters For KIC 004670217

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4905^{+178}_{-178}	$4.536^{+0.072}_{-0.048}$	$0.020^{+0.250}_{-0.300}$	$0.774^{+0.062}_{-0.076}$	$0.750^{+0.081}_{-0.060}$	$2.279^{+0.723}_{-0.382}$
	+4%/-4%	+2%/-1%	+1250%/-1500%	+8%/-10%	+11%/-8%	+32%/-17%
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 004670217-01 / KOI 2560.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-91 ± 23	$2.77^{+1.44}_{-1.41}$	757^{+34}_{-33}	3181^{+813}_{-370}	100^{+297}_{-60}
Alt.	-79 ± 26	$1.99^{+1.36}_{-1.19}$	755^{+33}_{-34}	3446^{+1382}_{-516}	173^{+915}_{-118}

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

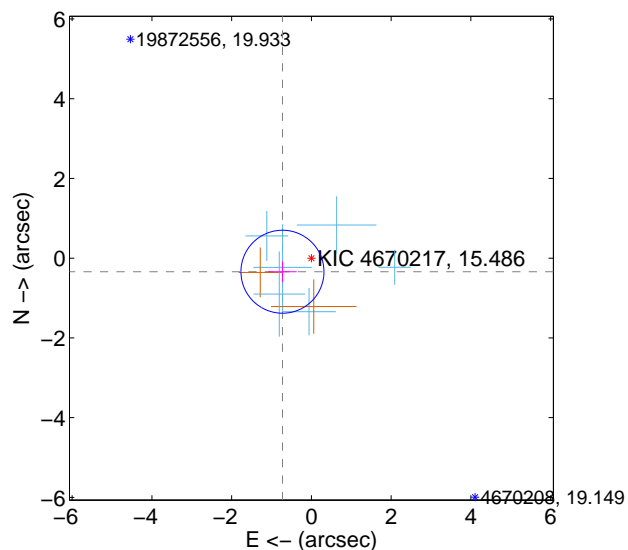
Supplemental centroid analysis for 004670217-01. Kepler magnitude: 15.49. Transit SNR 14.37

There are 6 quarters with good PRF difference image offsets

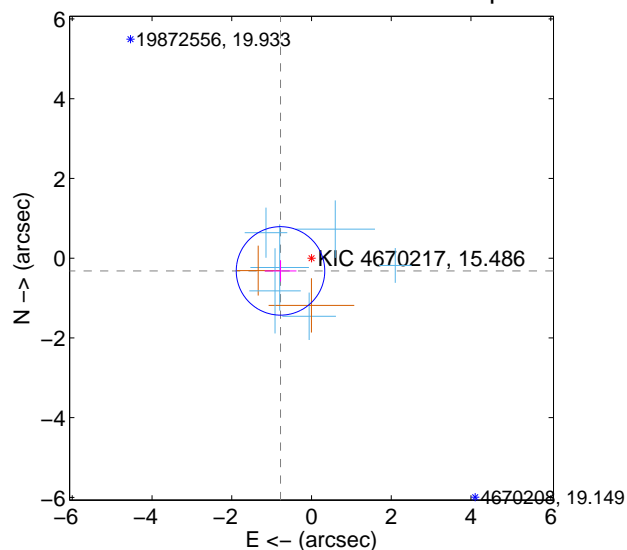
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.802 ± 0.347	2.31	0.726 ± 0.358	-0.340 ± 0.259
PRF-fit source offset from KIC position	0.840 ± 0.370	2.27	0.777 ± 0.400	-0.319 ± 0.269
photometric centroid source offset	1.84 ± 1.07	1.71	0.23 ± 1.13	1.82 ± 1.07

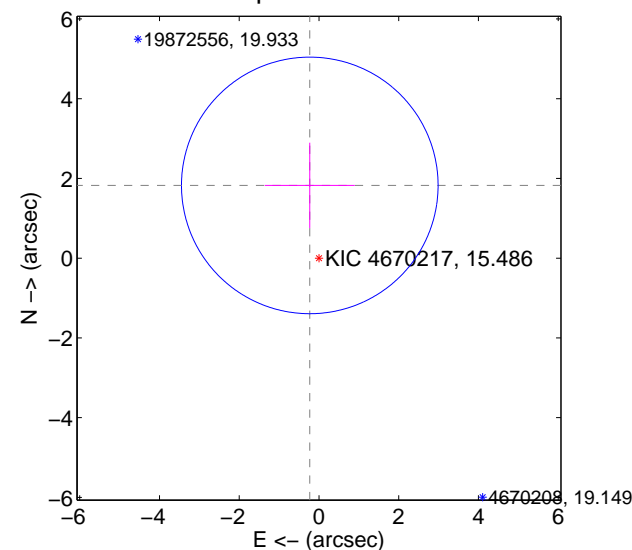
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

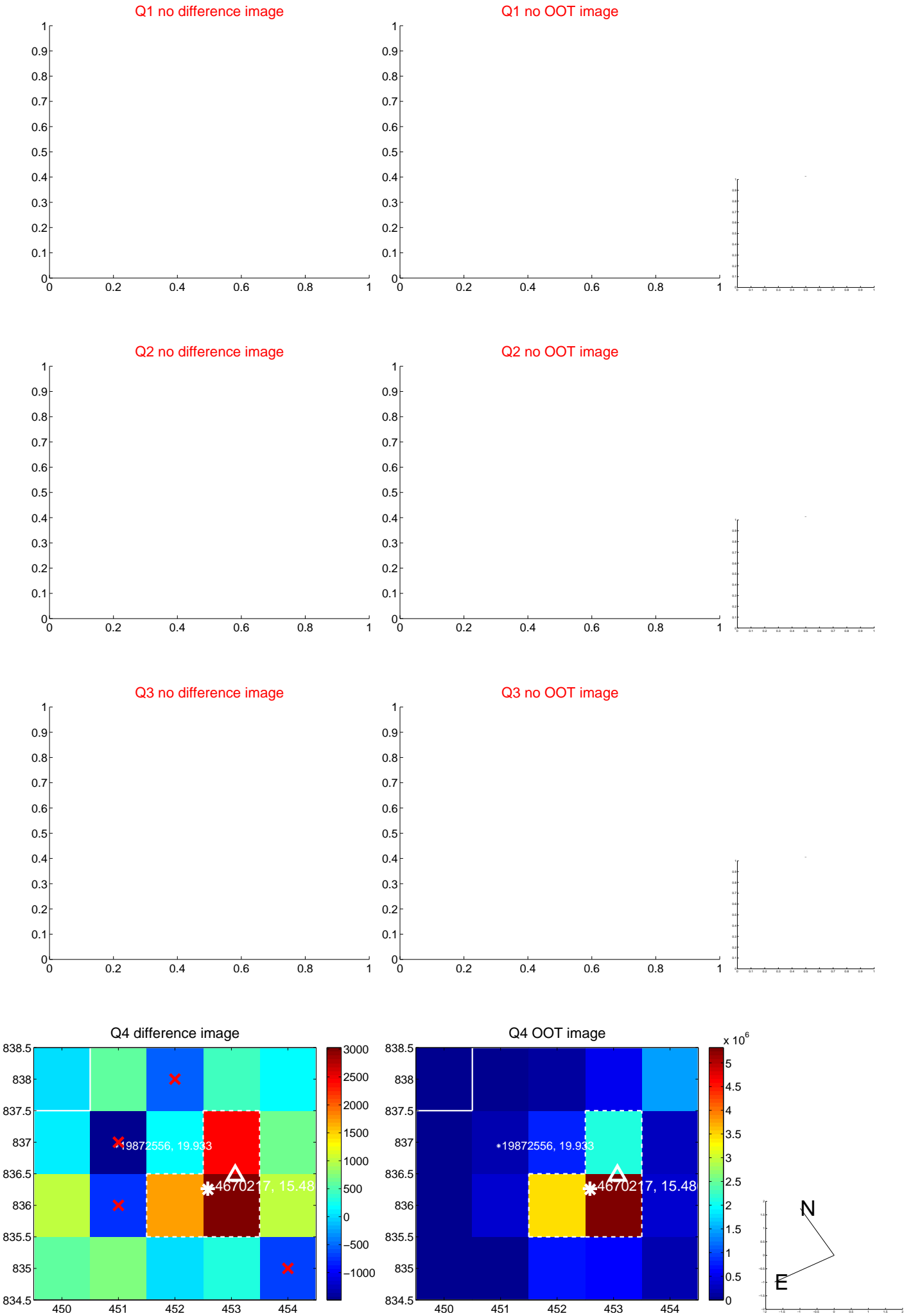


offset from photometric centroids

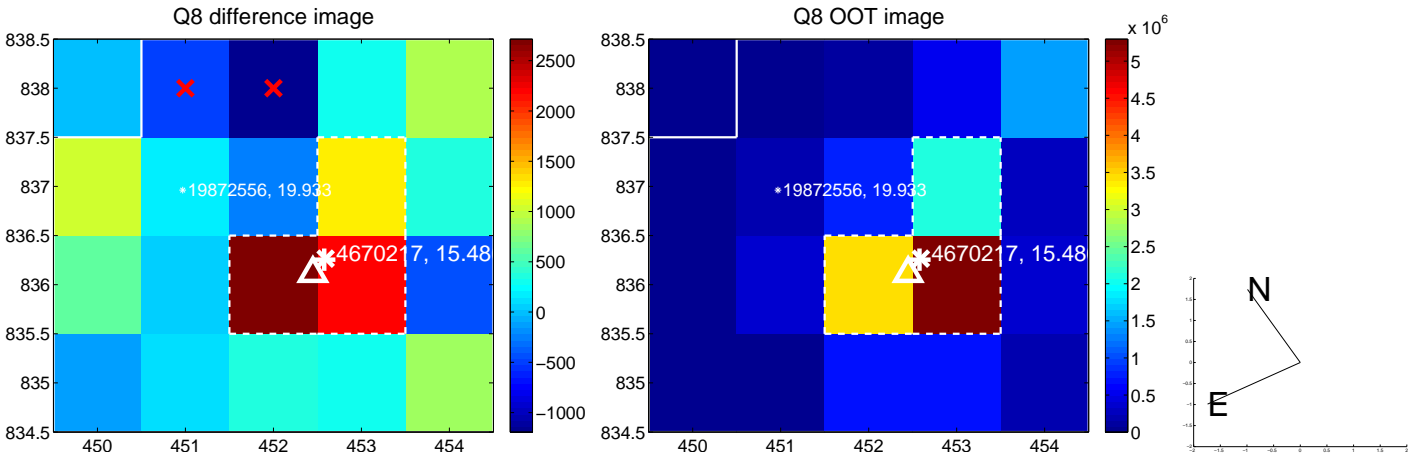
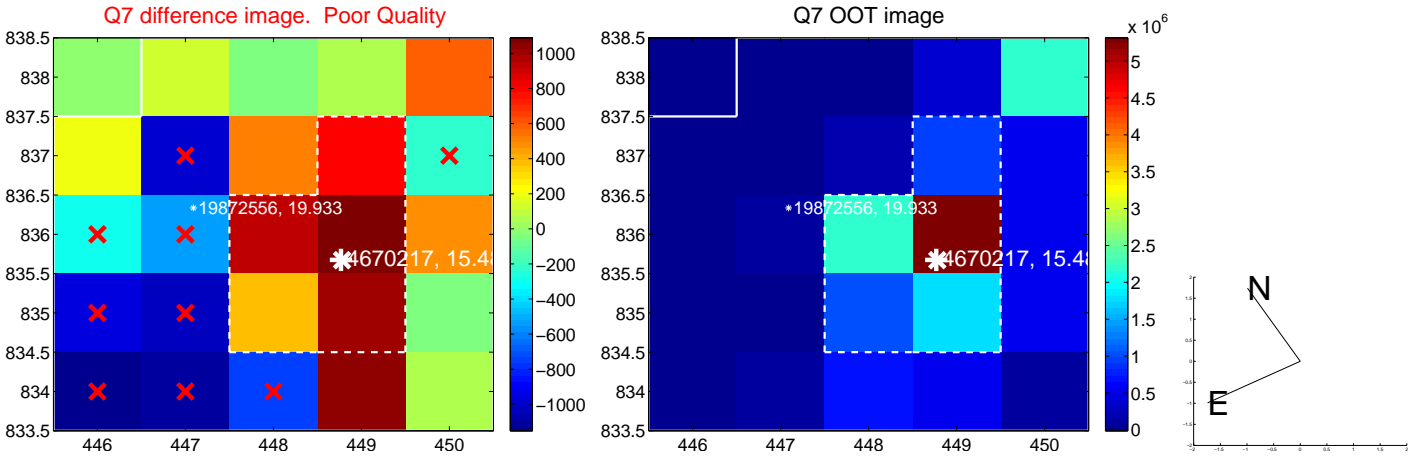
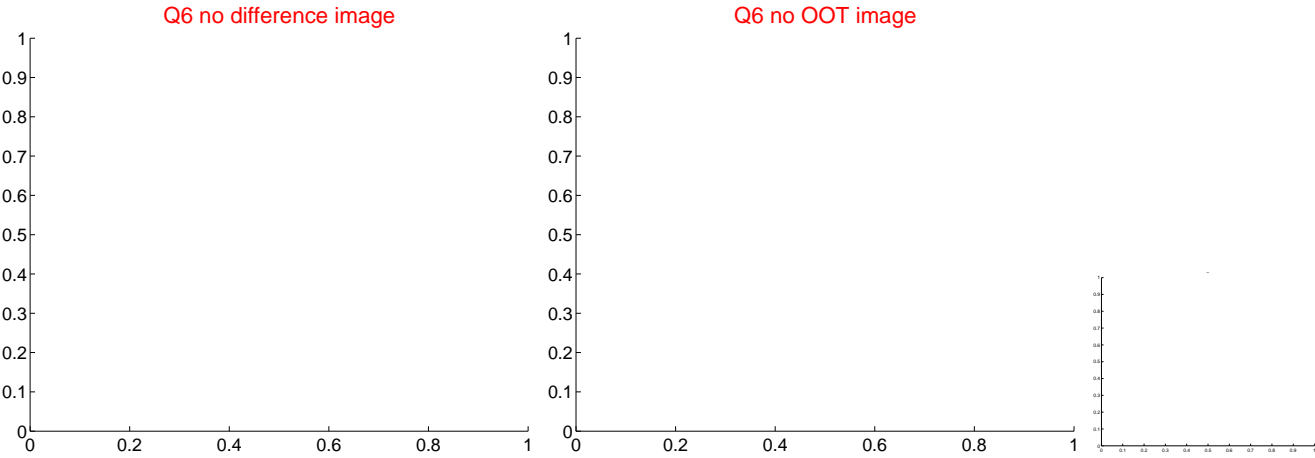
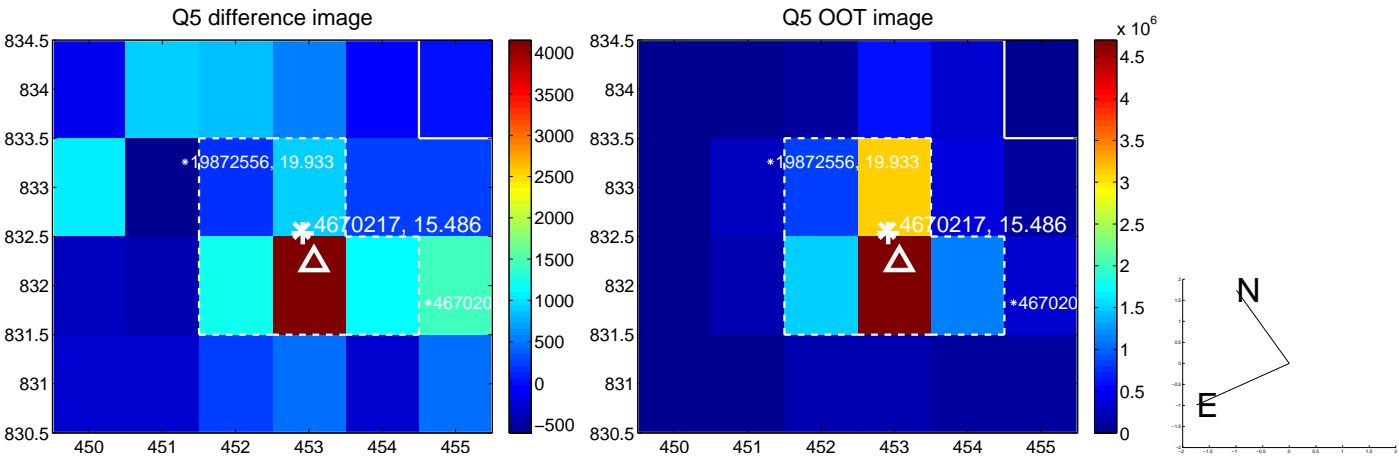


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

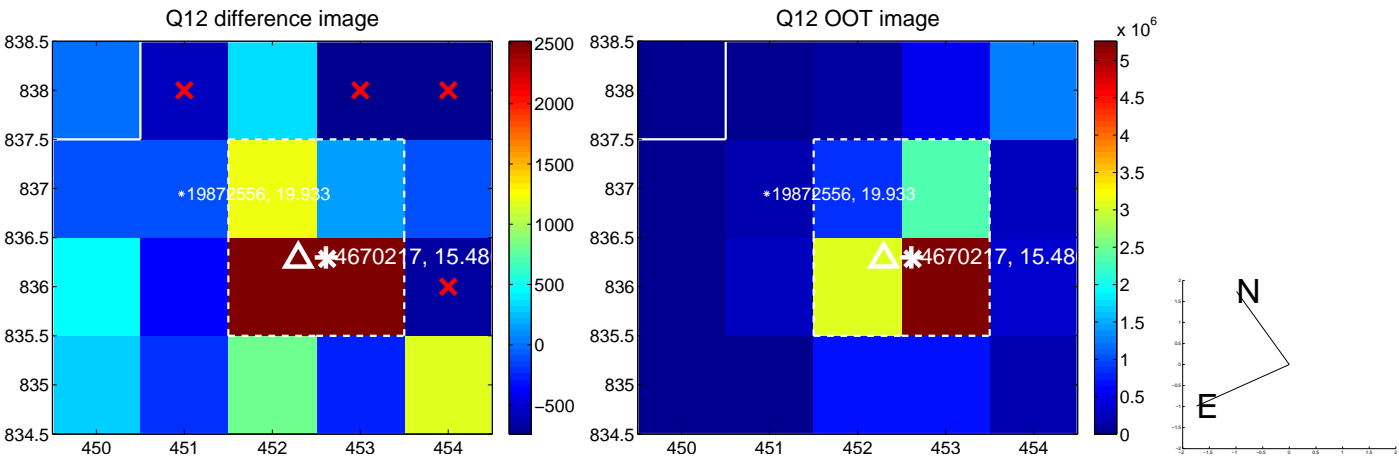
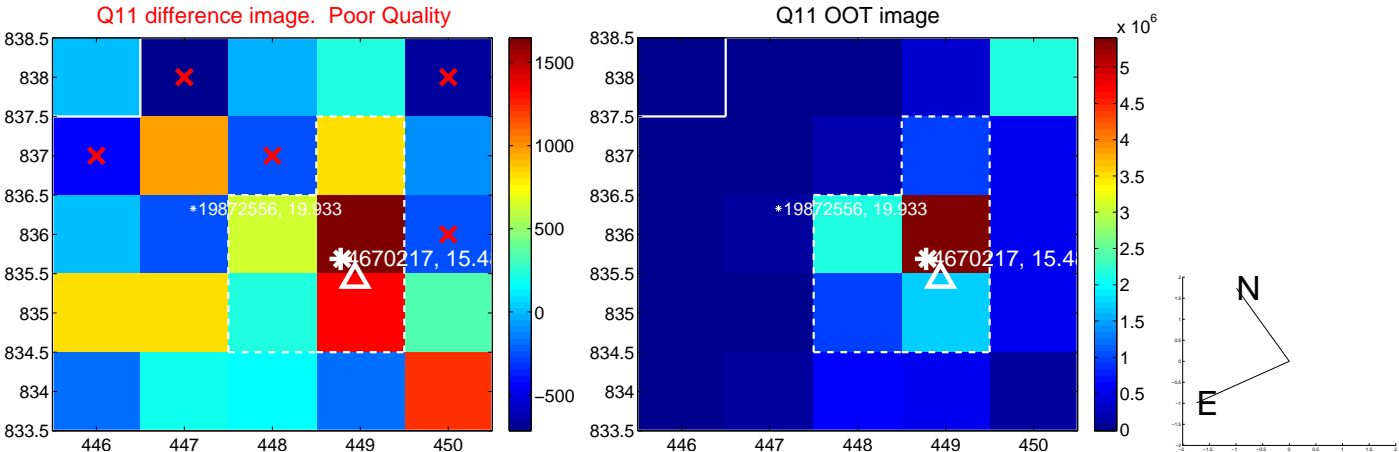
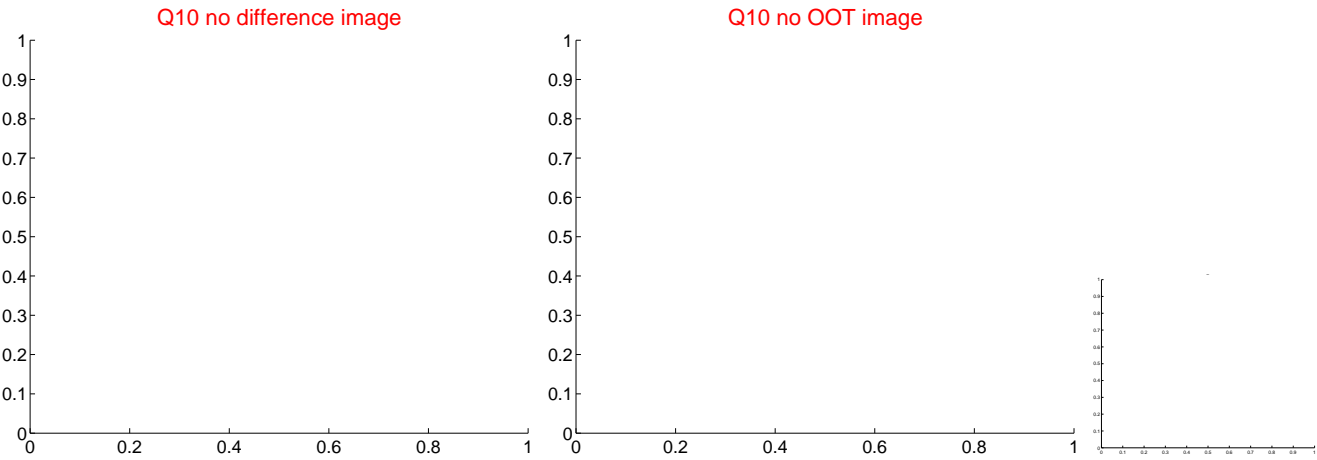
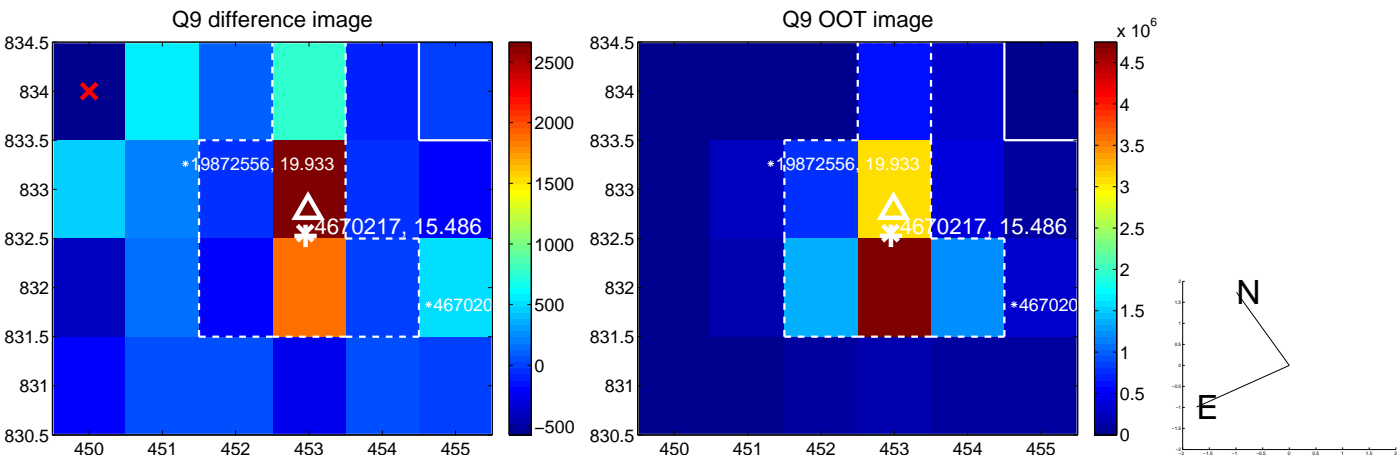
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



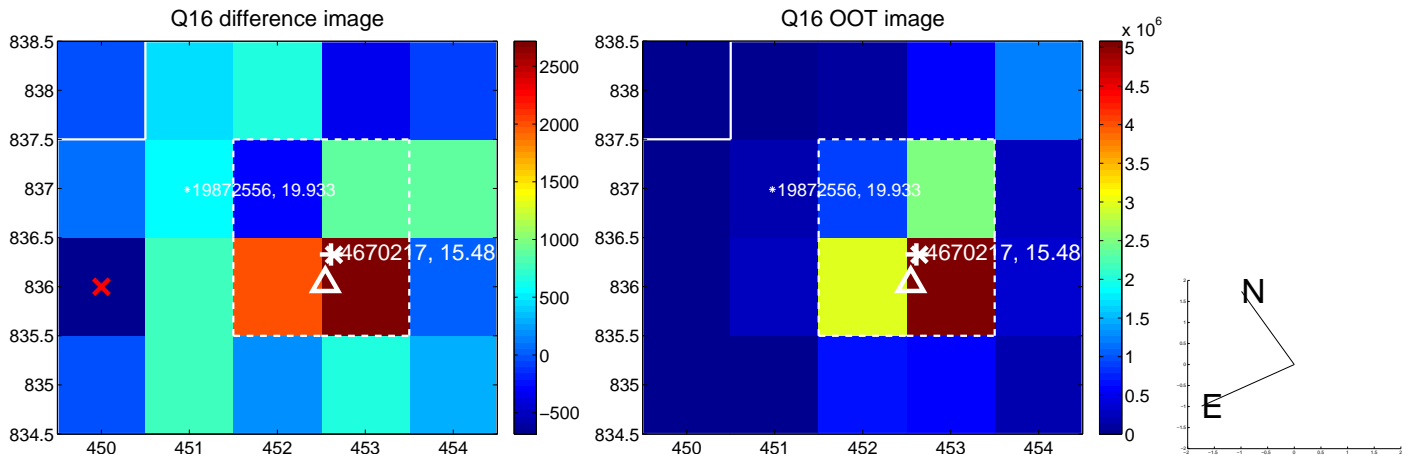
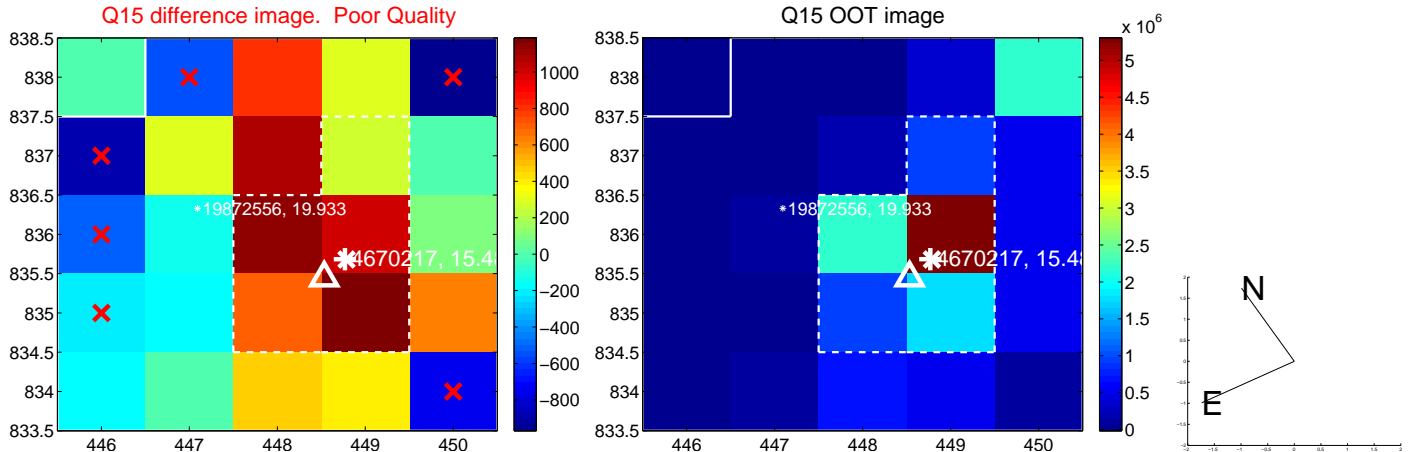
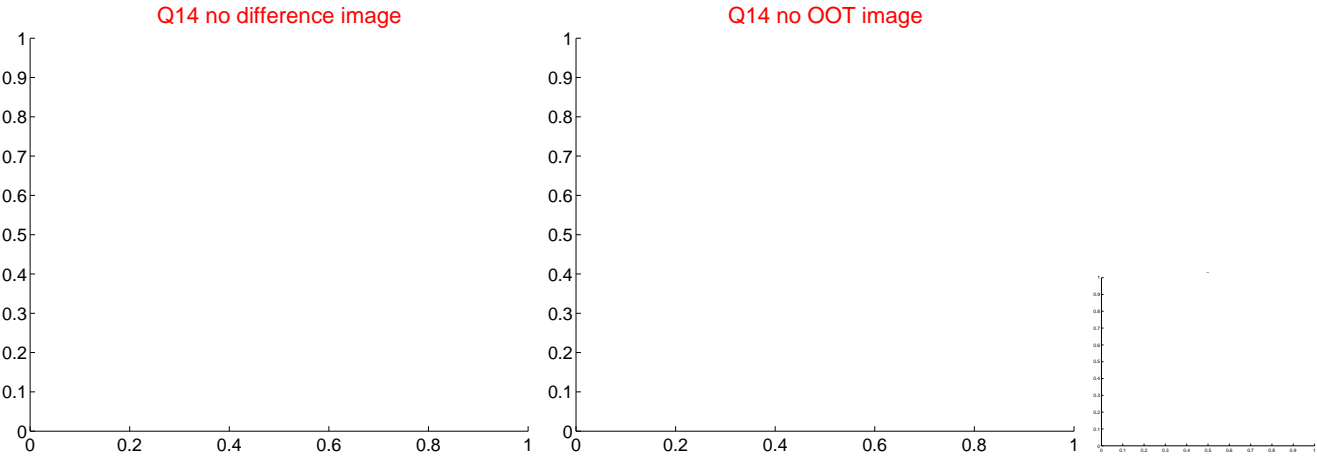
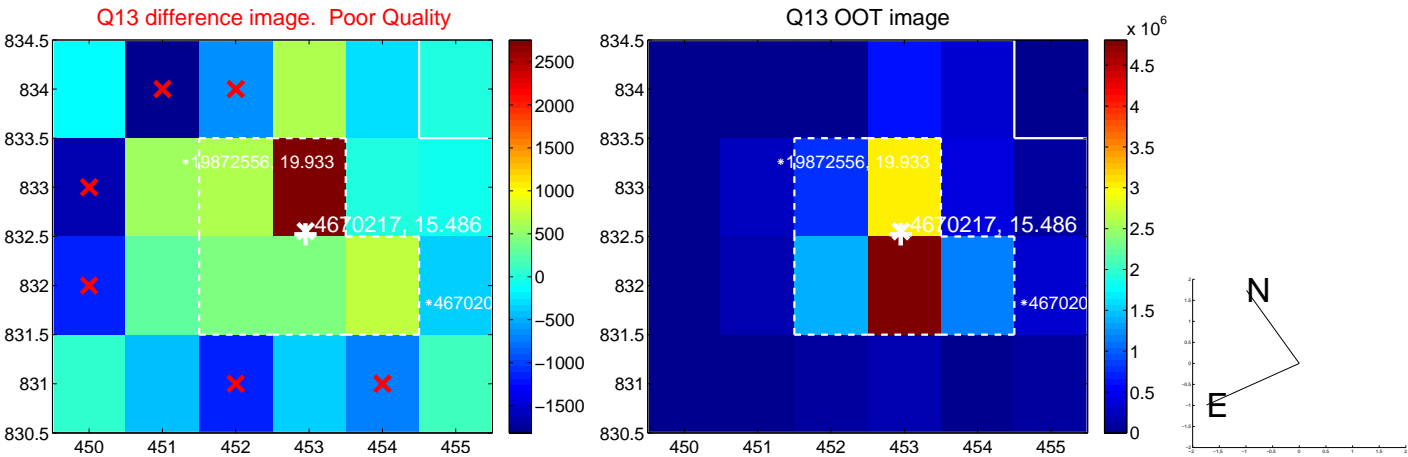
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



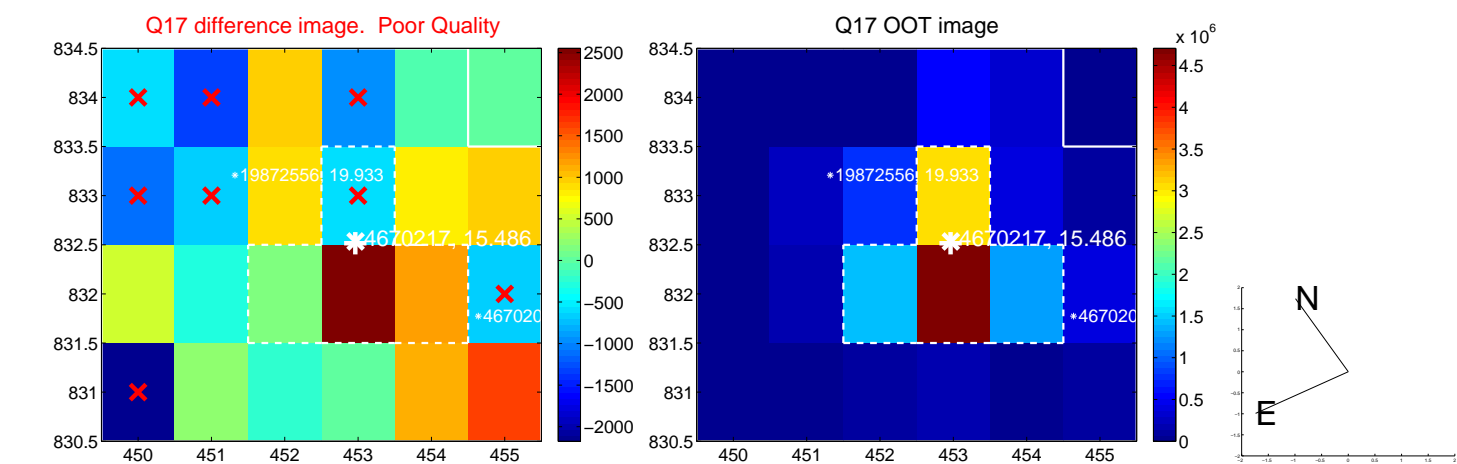
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



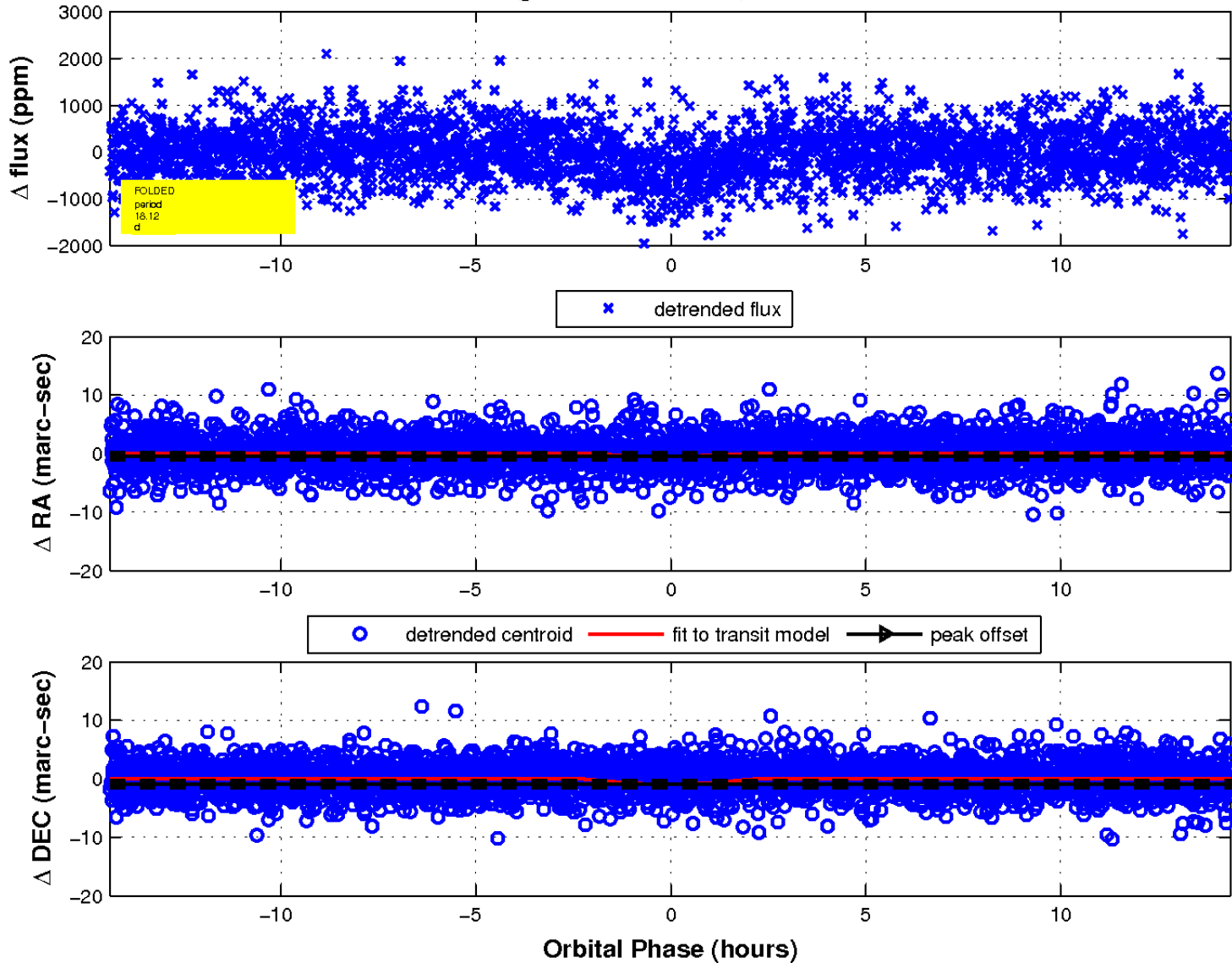
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

