

KIC 004073017

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})
004073017-01	OBS	7681.01	6.055537	131.596760	145.7	2.757	7.9	9.6	0.81	5352	1.16	120.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004073017-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

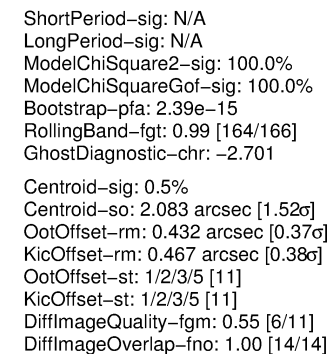
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

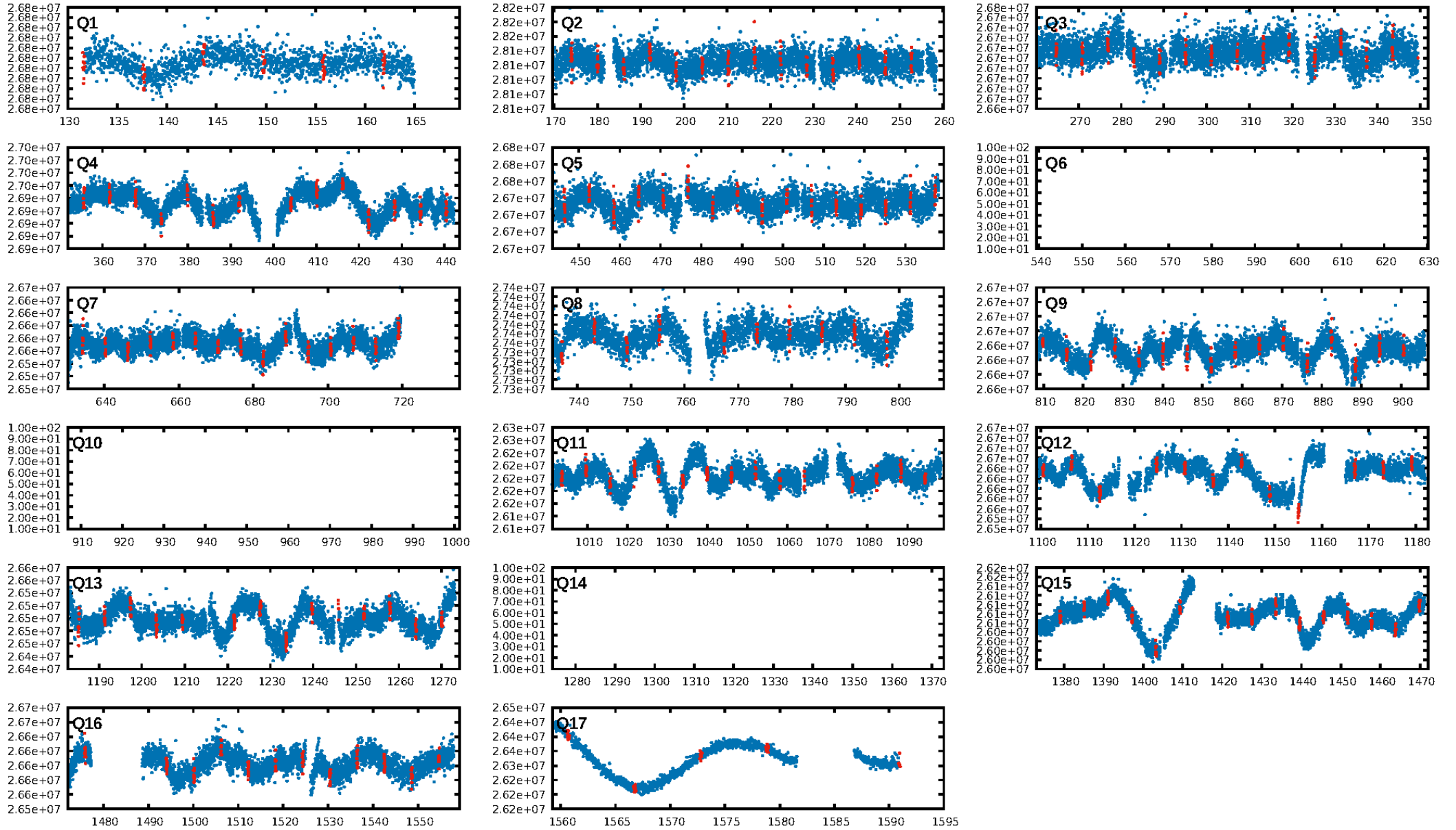
Ephemeris Match Information For 004073017-01

No Significant Match Found

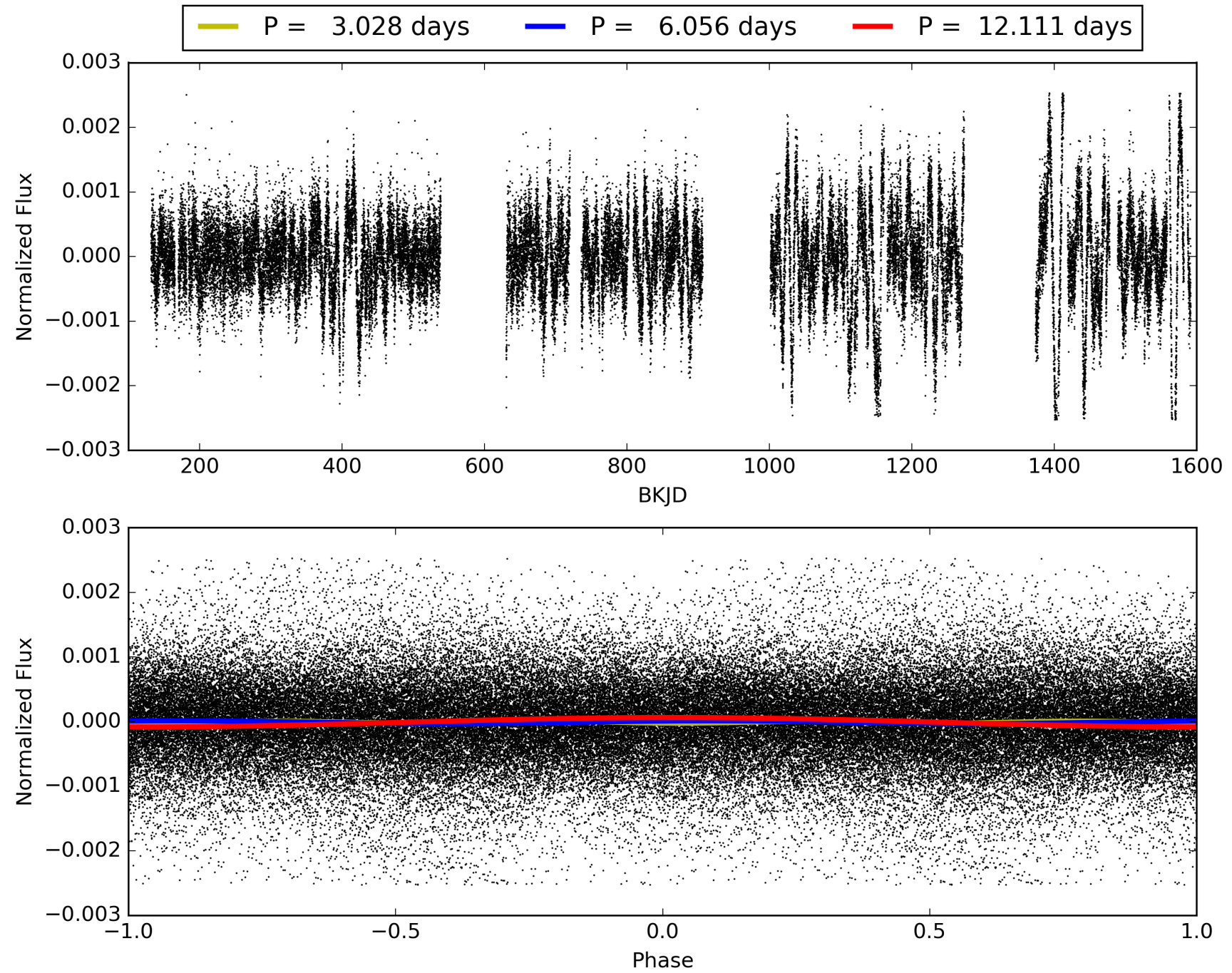
KIC: 4073017 Candidate: 1 of 1 Period: 6.056 d



TCE 004073017-01, PDC Light Curves

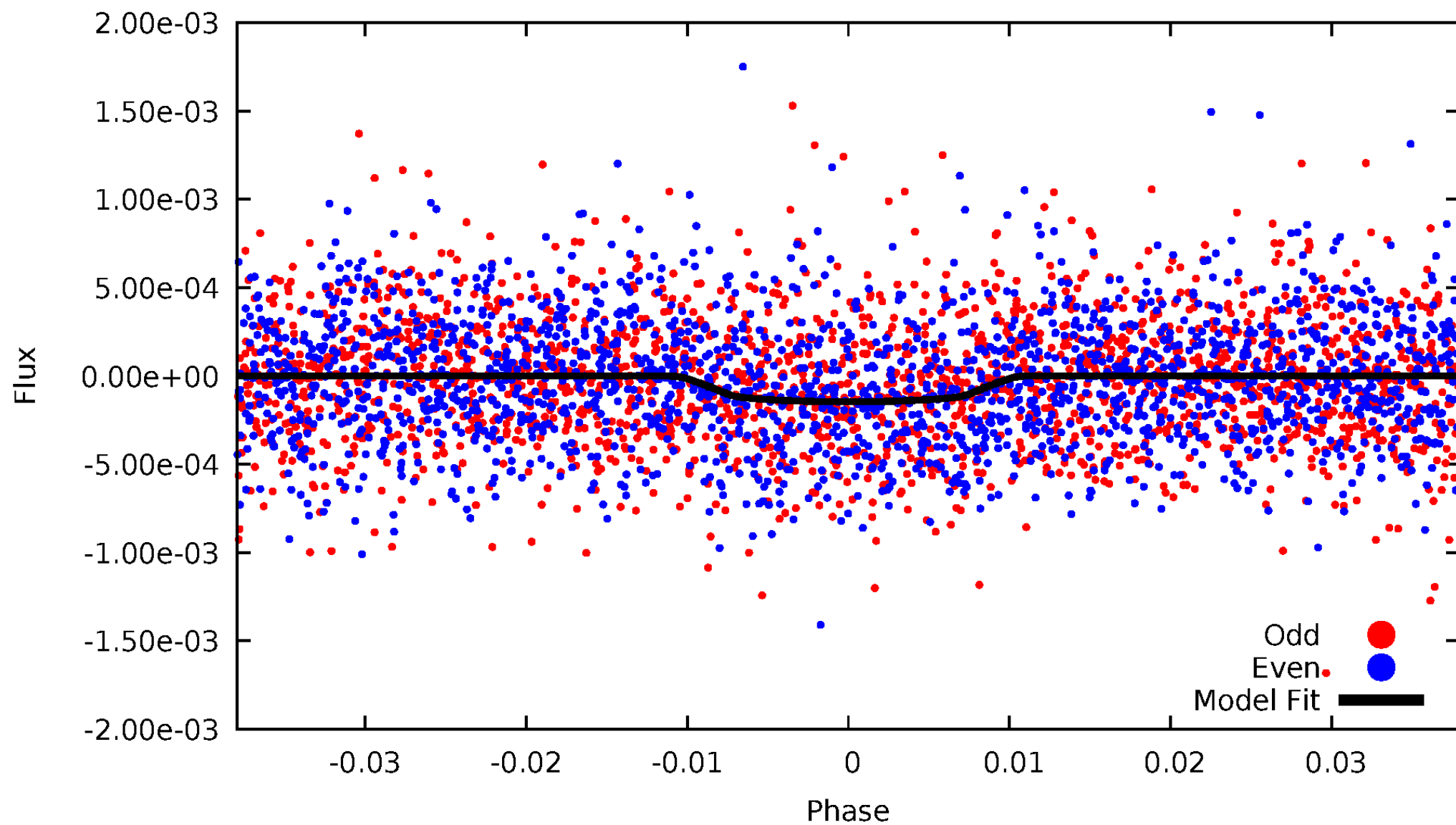


TCE 004073017-01



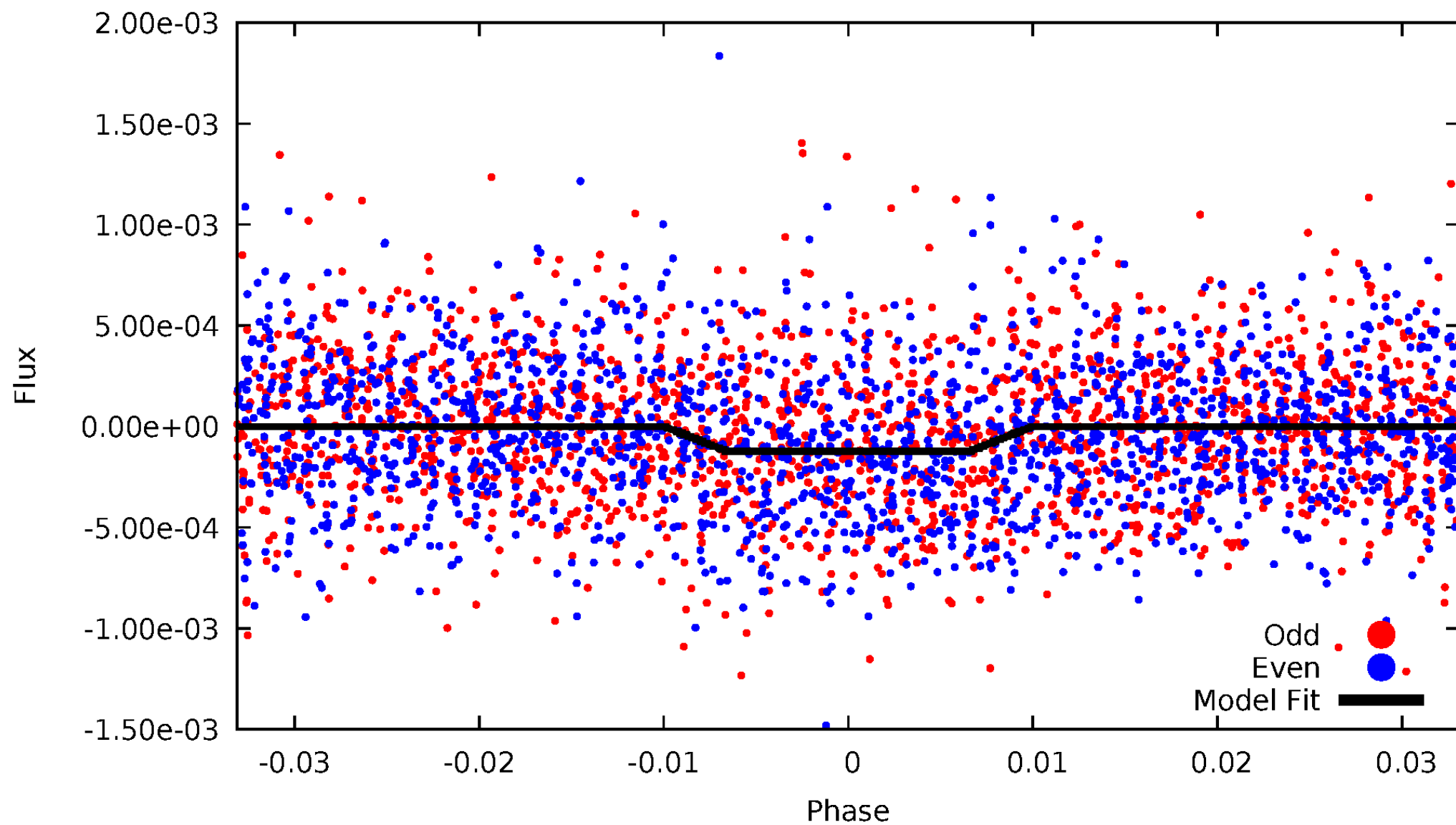
DV Odd/Even

TCE 004073017-01



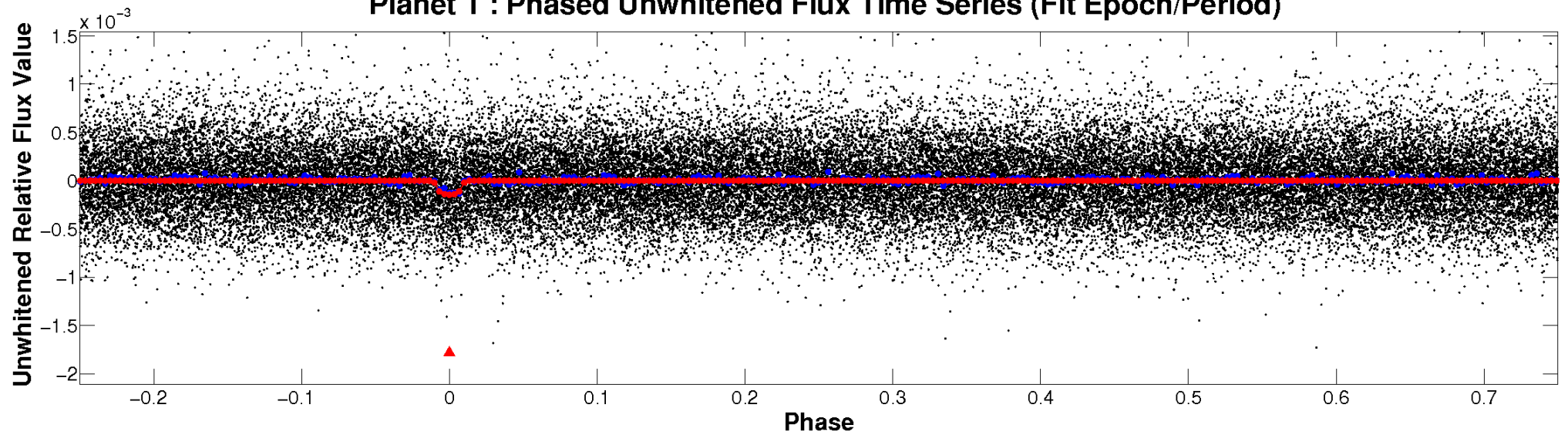
ALT Odd/Even

TCE 004073017-01

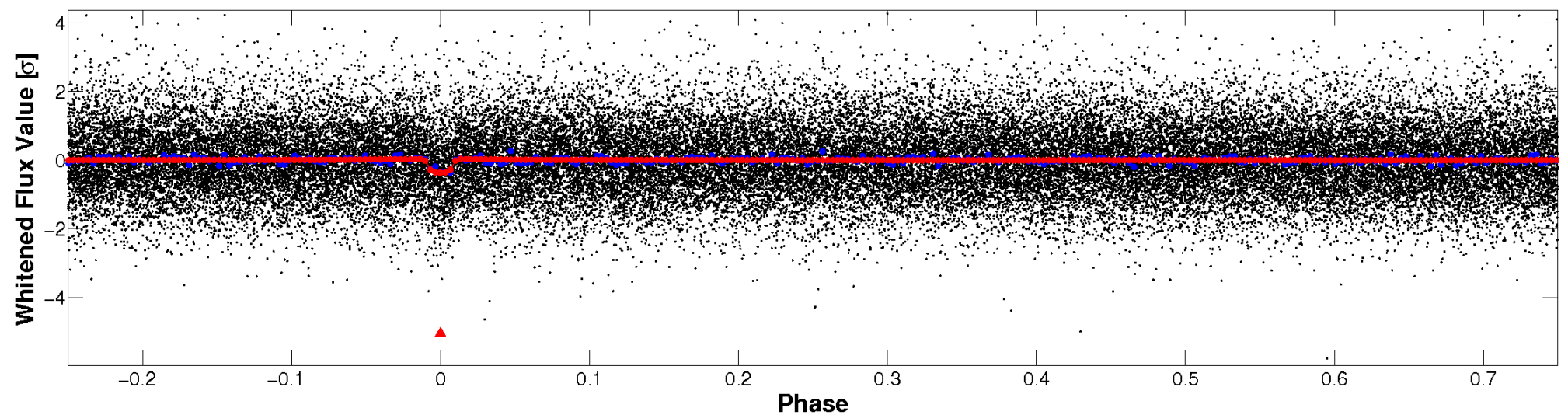


Non-Whitened Vs. Whitened Light Curve

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

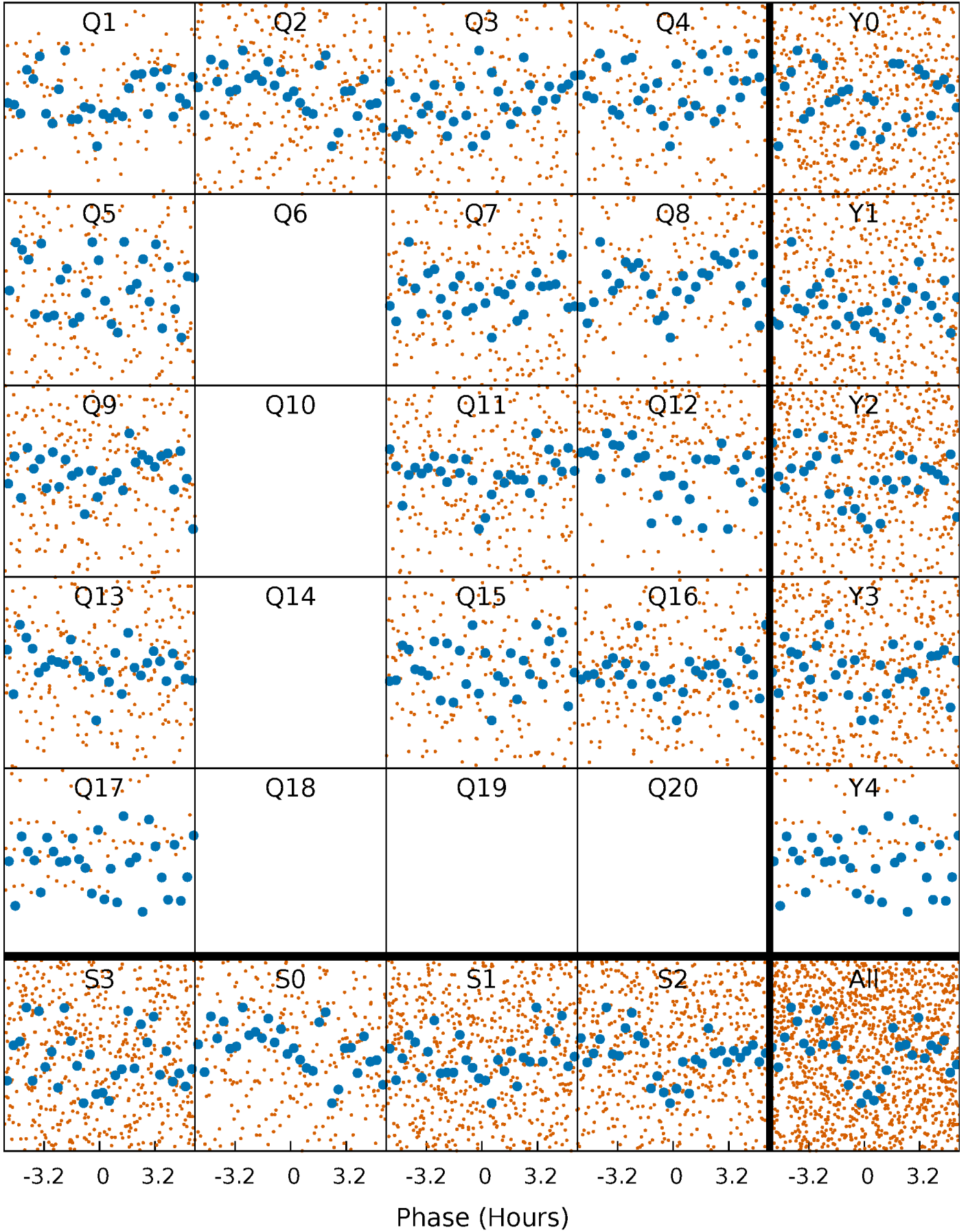


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



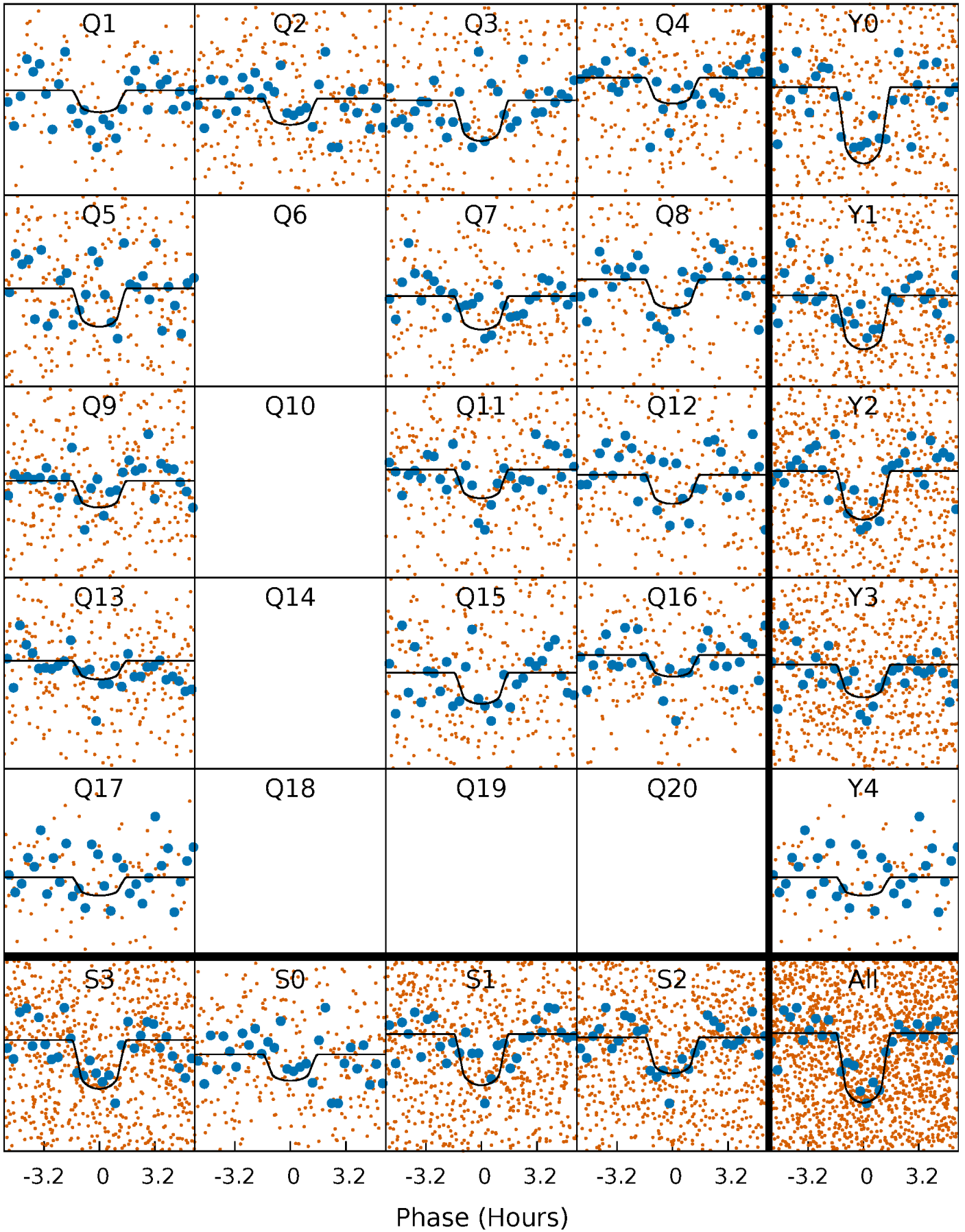
PDC Quarter-Phased Transit Curves

TCE 004073017-01 P= 6.055537 Days $T_0=131.596760$ (BKJD)



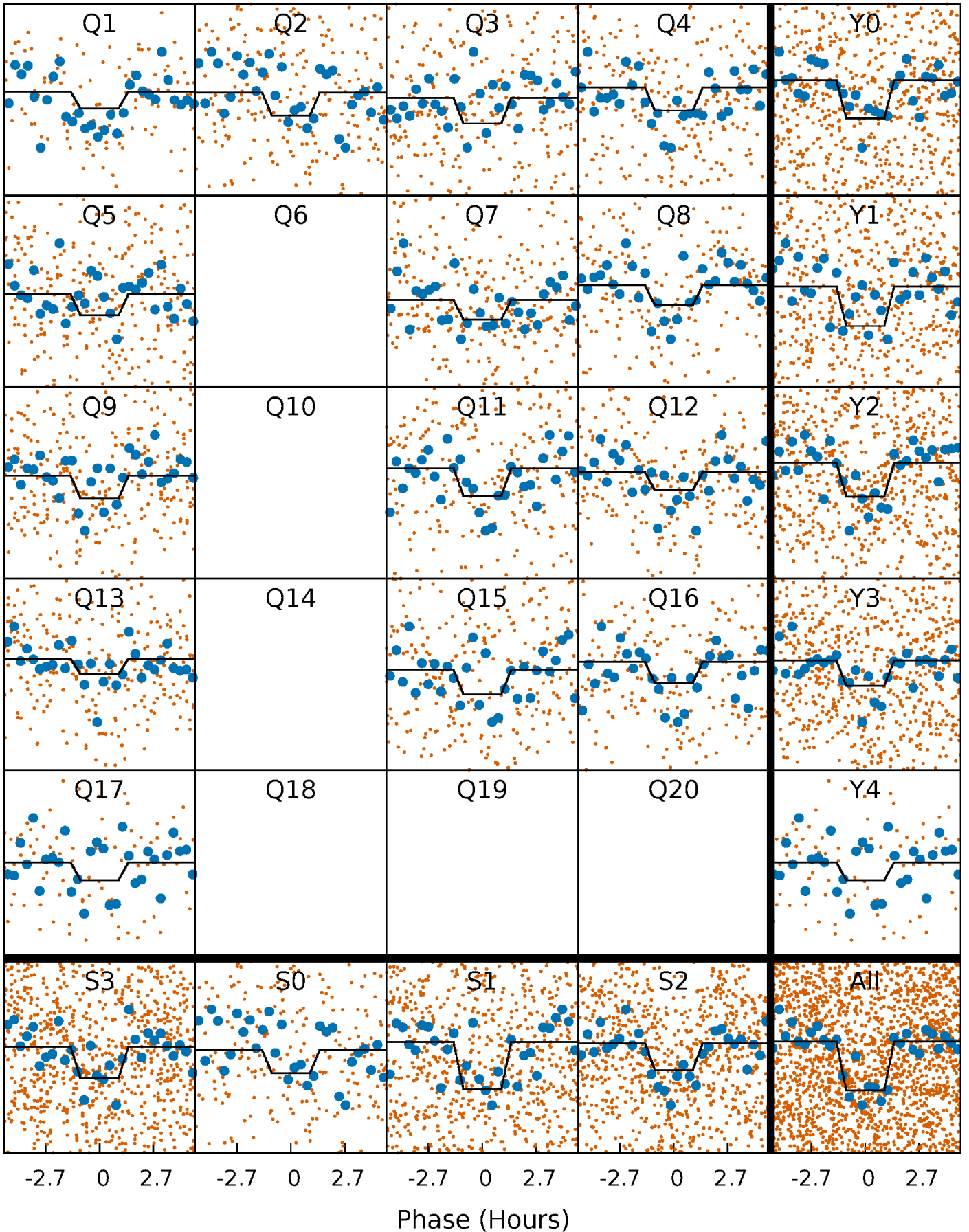
DV Quarter-Phased Transit Curves

TCE 004073017-01 P= 6.055537 Days $T_0=131.596760$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

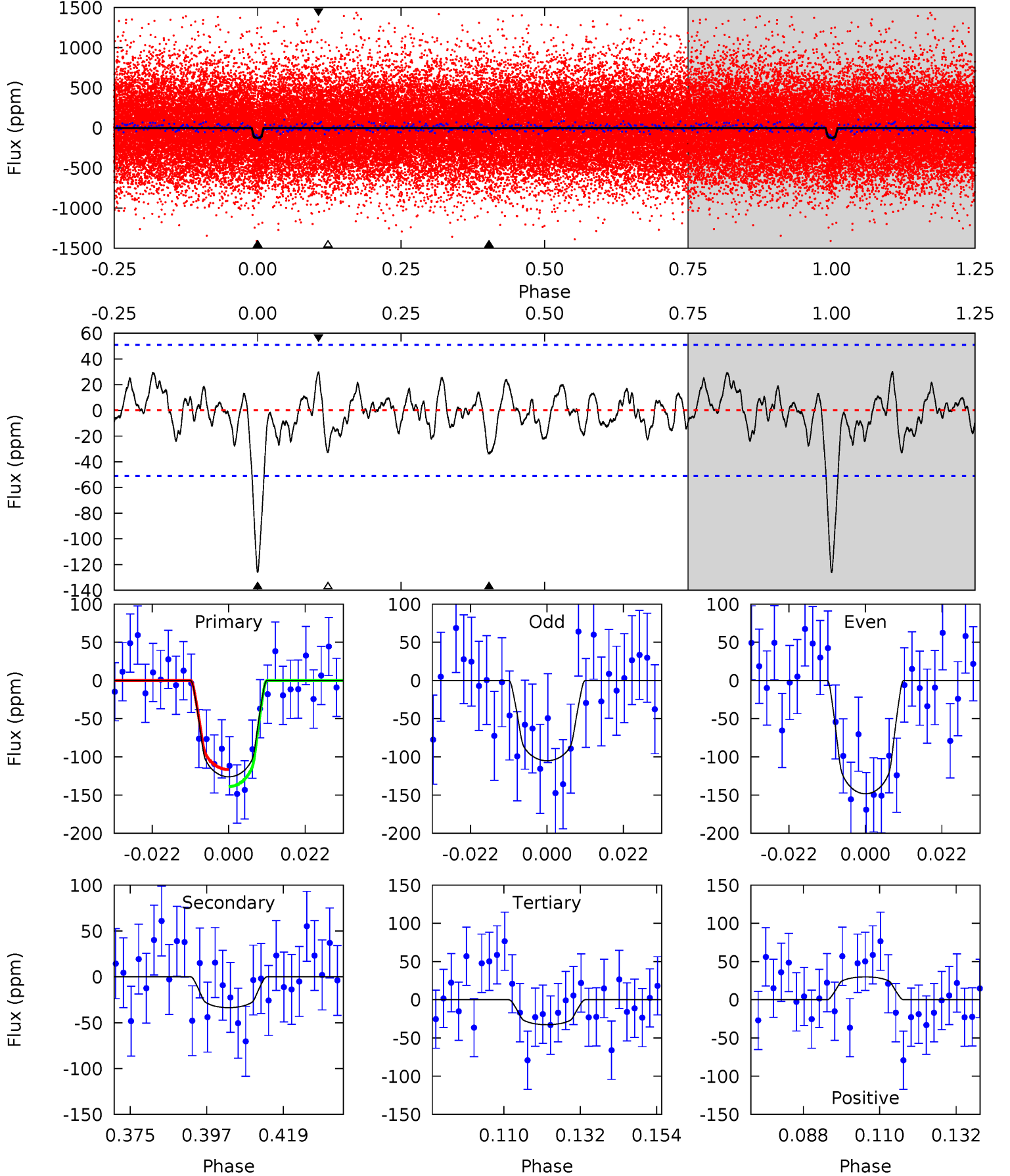
TCE 004073017-01 P= 6.055500 Days $T_0=131.599977$ (BKJD)



DV Model-Shift Uniqueness Test

004073017-01, P = 6.055537 Days, E = 125.541223 Days

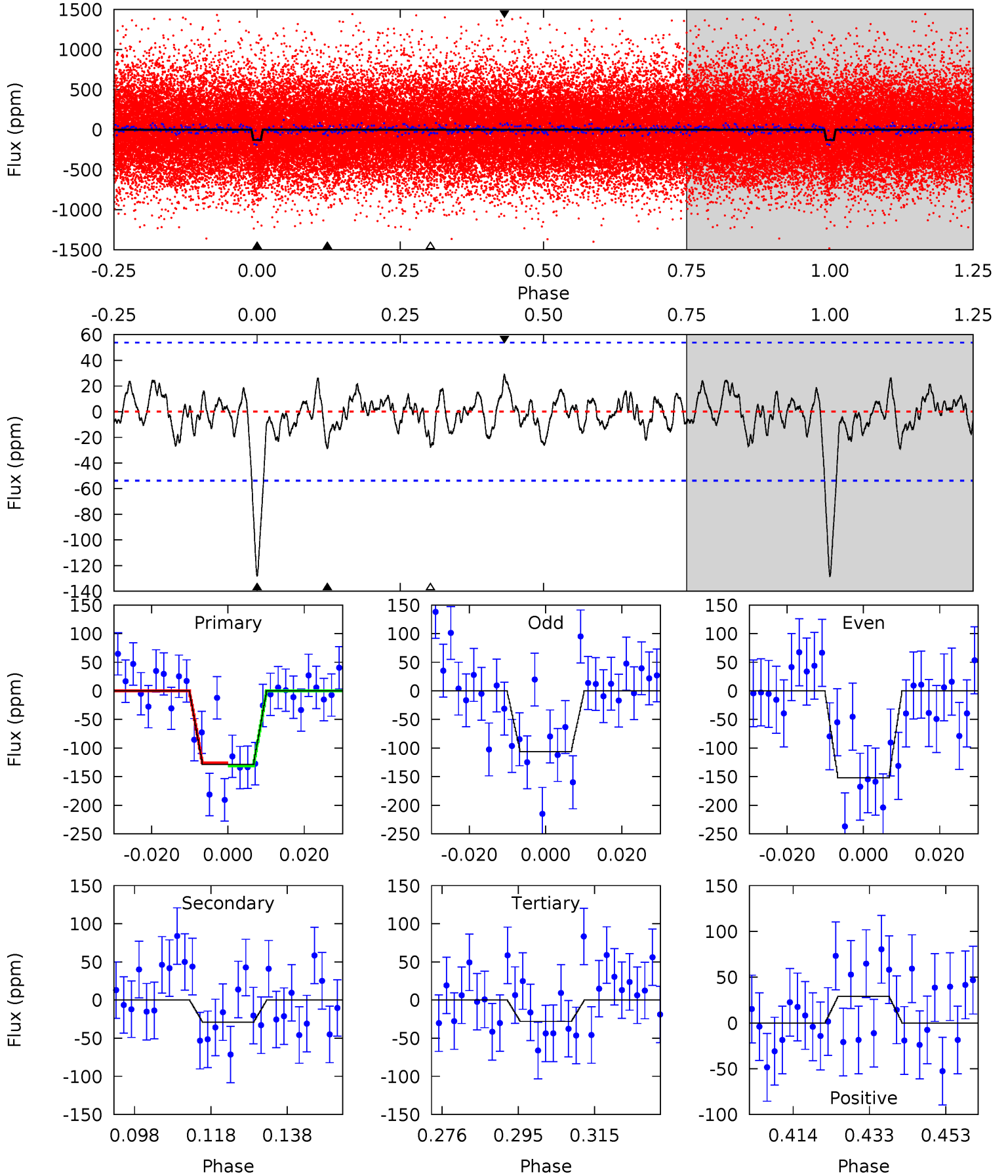
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	3.22	3.12	2.86	4.87	2.29	1.13	8.93	9.19	0.09	0.35	2.07	0.91	0.19	1.06



Alt Model-Shift Uniqueness Test

004073017-01, P = 6.055500 Days, E = 125.544477 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	2.65	2.55	2.64	4.89	2.33	0.99	9.13	9.05	0.10	0.02	2.09	0.95	0.18	0.24



Stellar Parameters For KIC 004073017

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5352^{+159}_{-159}	$4.585^{+0.024}_{-0.128}$	$0.070^{+0.300}_{-0.300}$	$0.805^{+0.149}_{-0.064}$	$0.919^{+0.058}_{-0.102}$	$2.481^{+0.328}_{-0.924}$
	+3%/-3%	+1%/-3%	+429%/-429%	+19%/-8%	+6%/-11%	+13%/-37%
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 004073017-01 / KOI 7681.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 10	$1.34^{+0.88}_{-0.74}$	1203^{+59}_{-46}	3685^{+1335}_{-551}	39^{+152}_{-25}
Alt.	-29 ± 11	$1.15^{+0.89}_{-0.70}$	1206^{+57}_{-51}	3768^{+1789}_{-628}	44^{+278}_{-31}

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

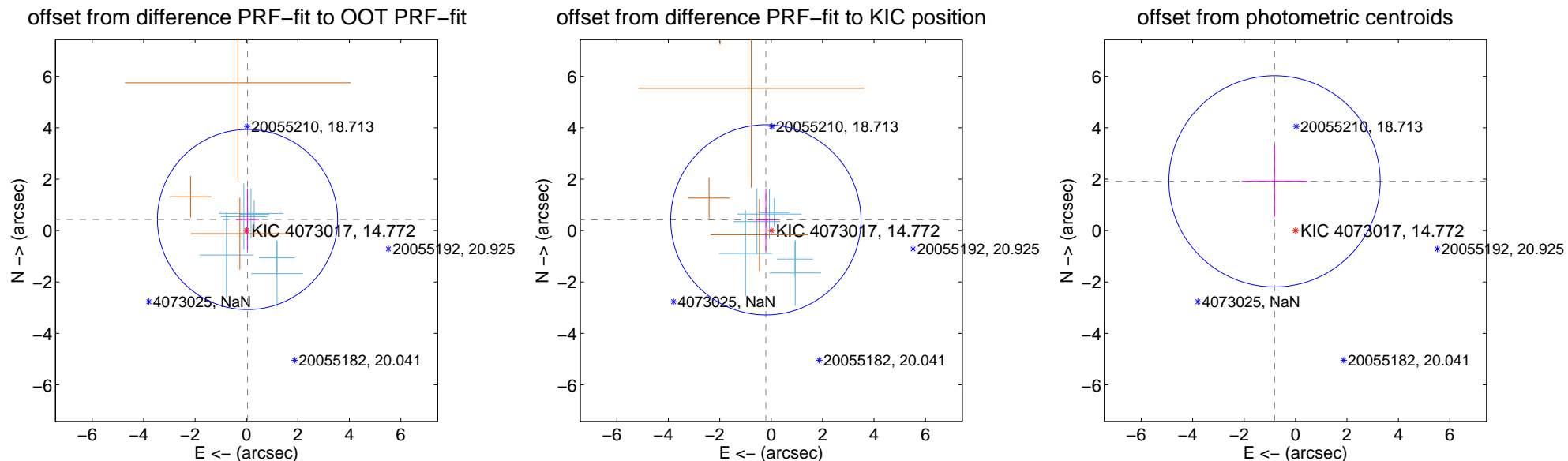
DV Centroid Data

Supplemental centroid analysis for 004073017-01. Kepler magnitude: 14.77. Transit SNR 9.56

There are 6 quarters with good PRF difference image offsets

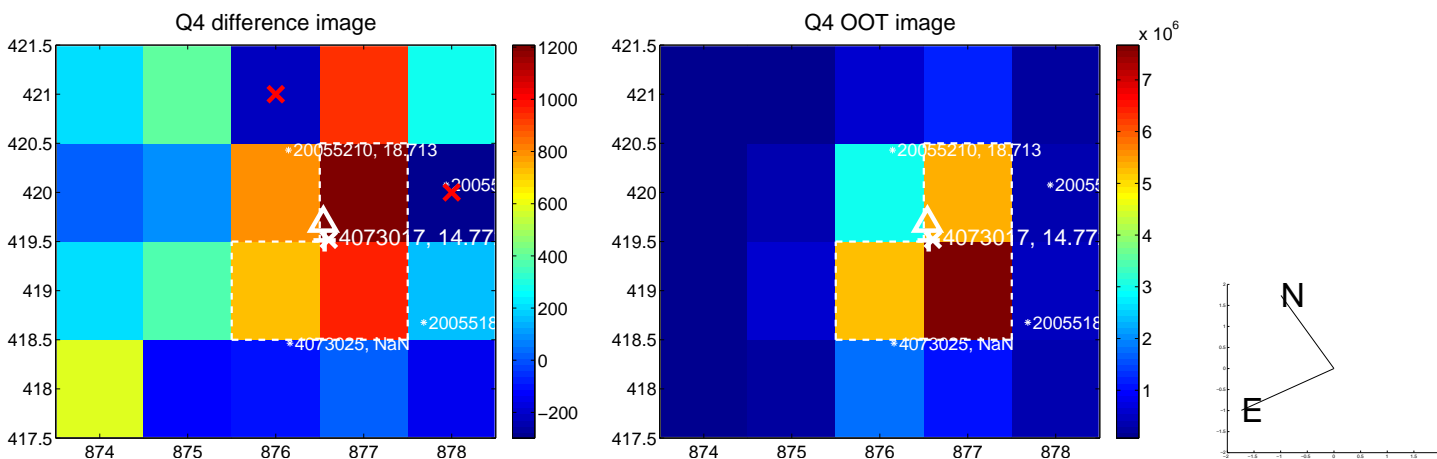
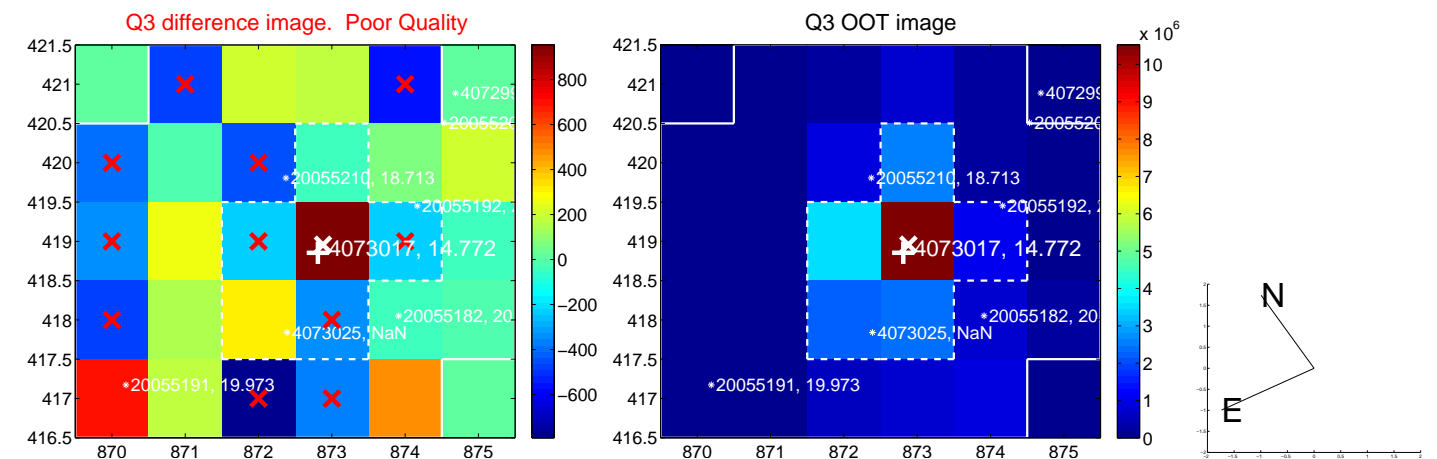
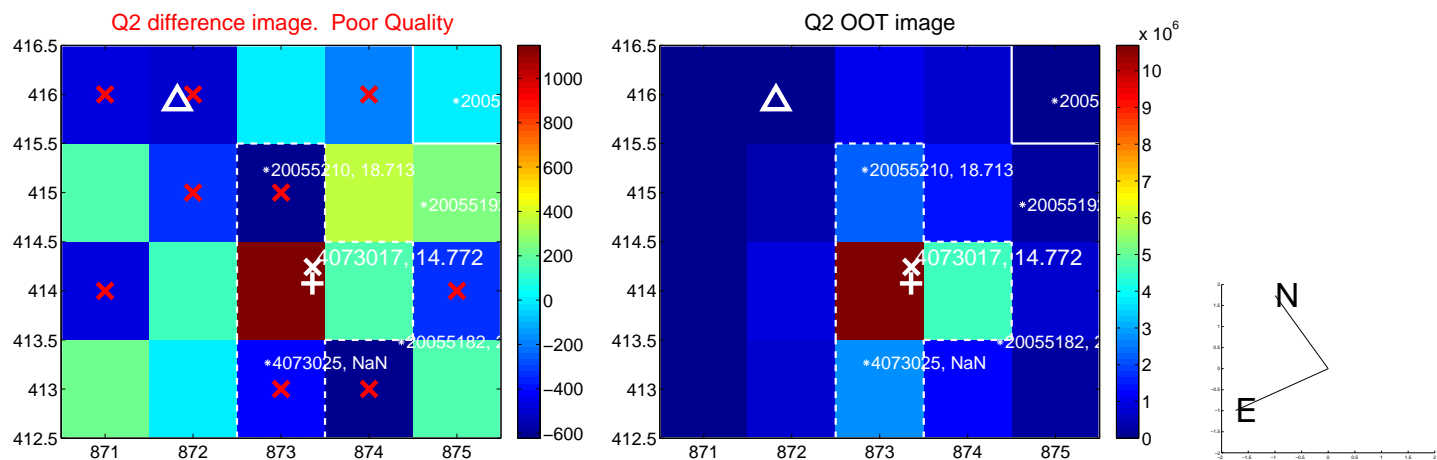
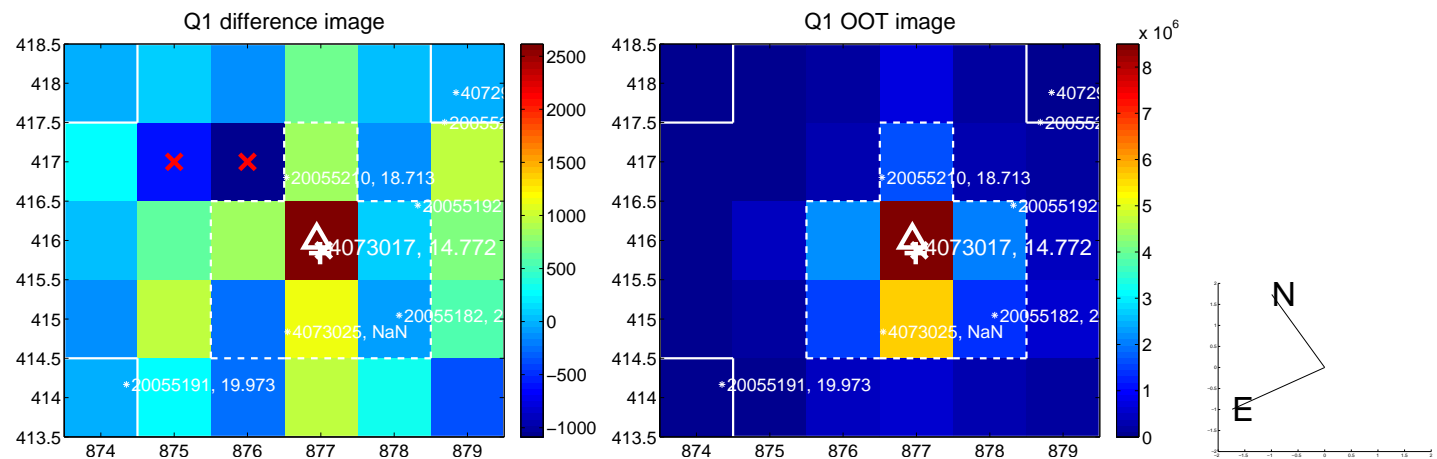
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.432 ± 1.167	0.37	-0.039 ± 0.444	0.430 ± 1.201
PRF-fit source offset from KIC position	0.467 ± 1.233	0.38	0.207 ± 0.409	0.418 ± 1.213
photometric centroid source offset	2.08 ± 1.37	1.52	0.82 ± 1.28	1.92 ± 1.38

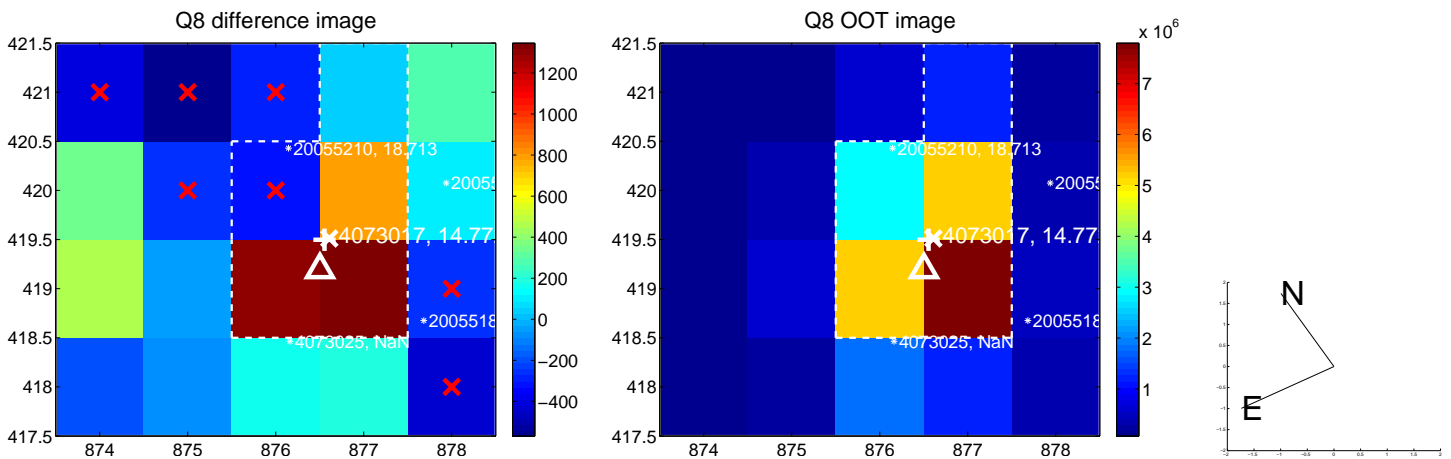
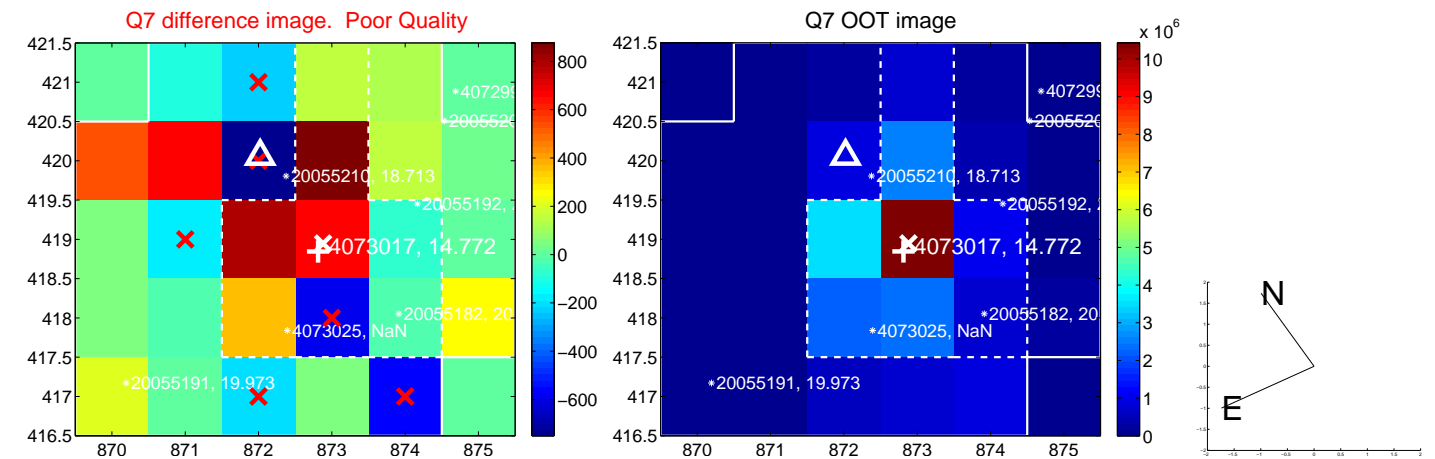
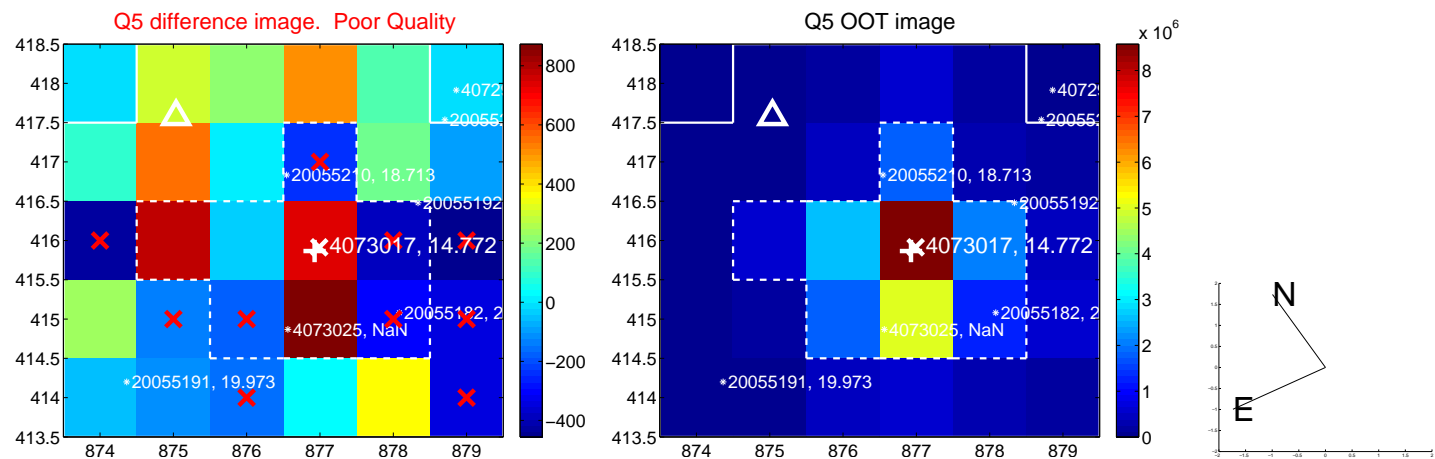


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

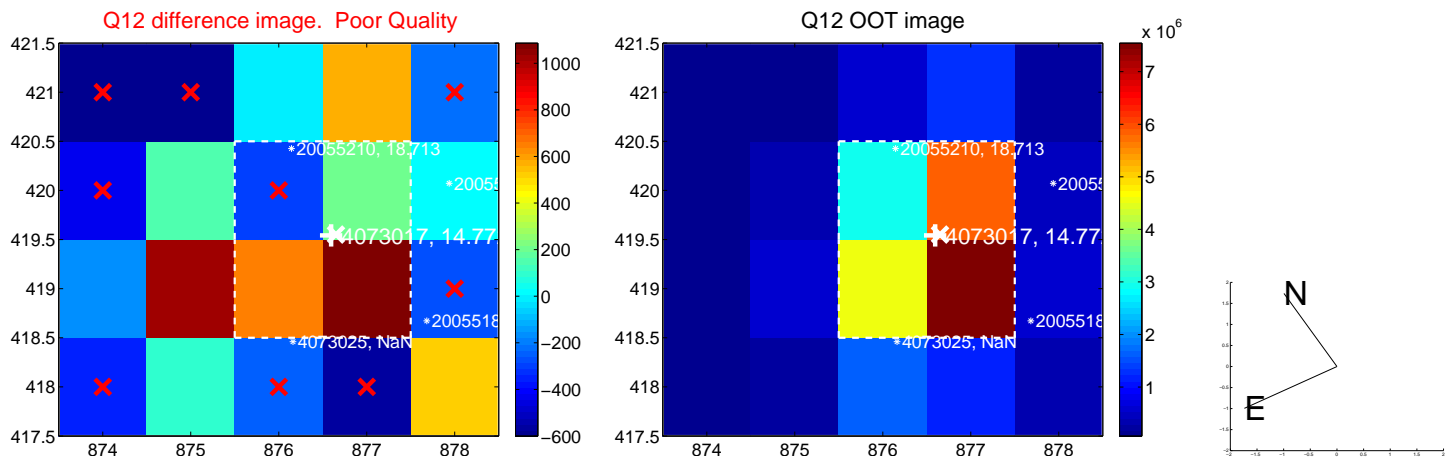
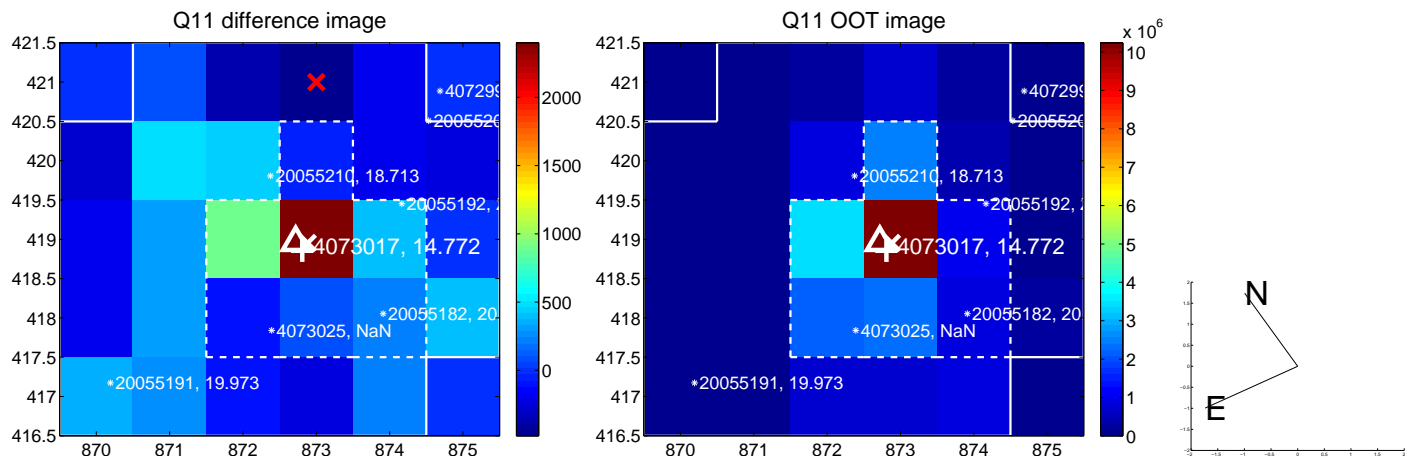
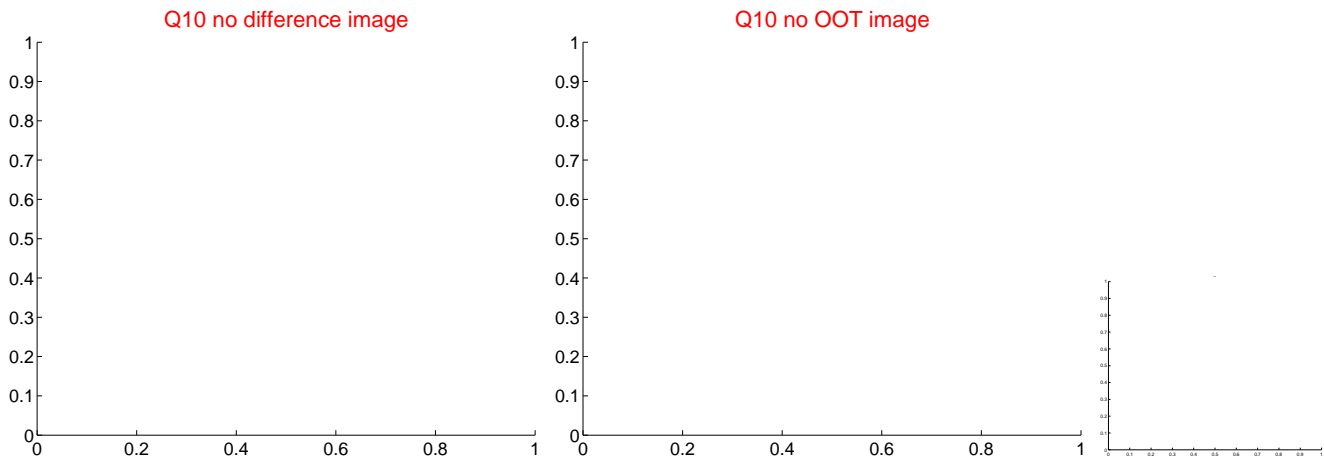
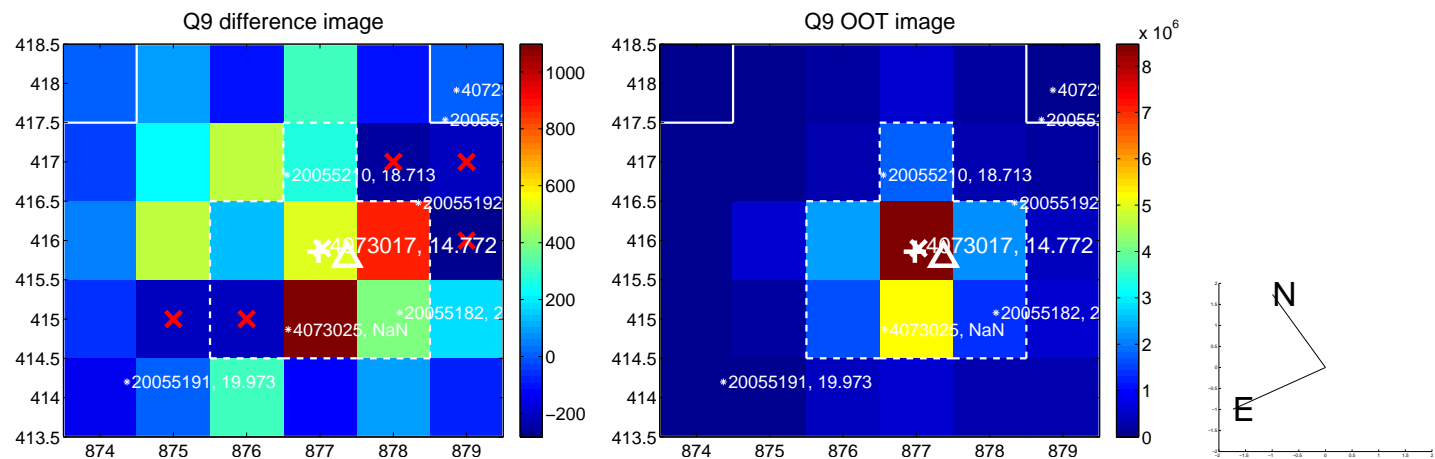
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



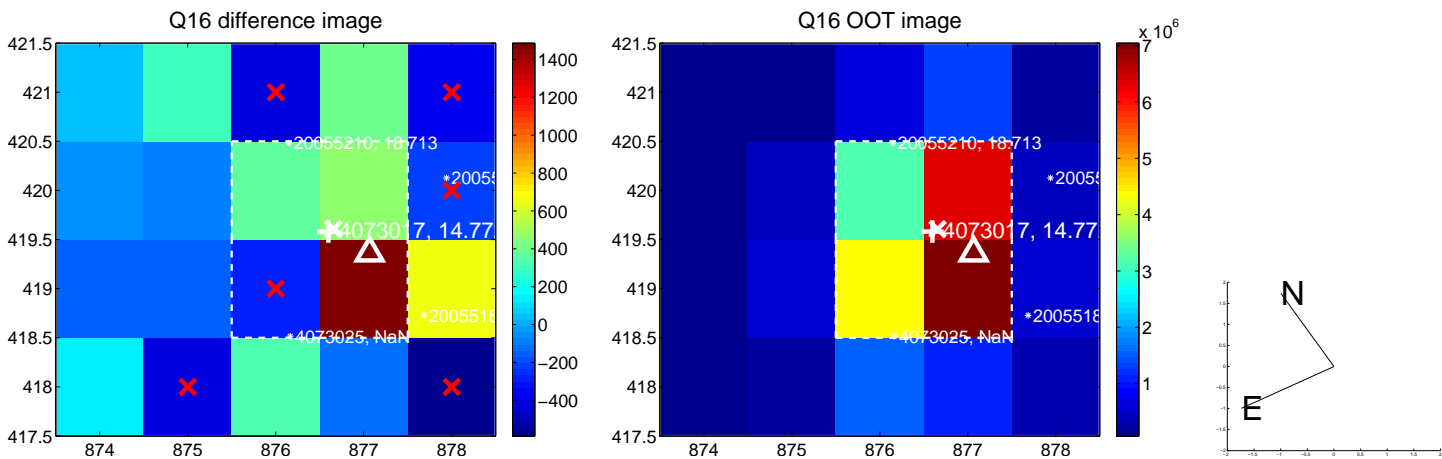
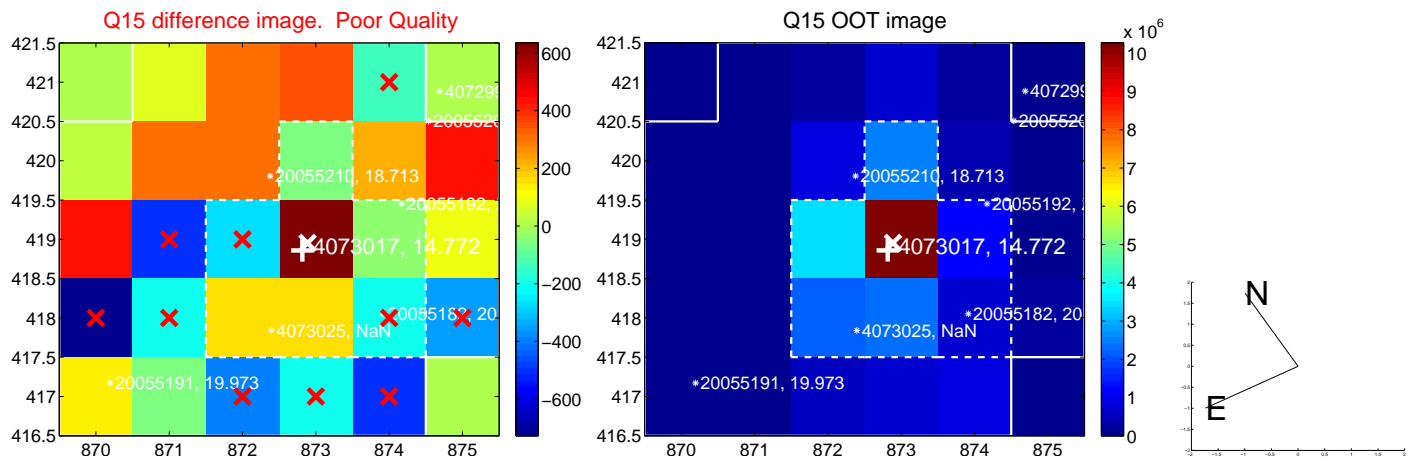
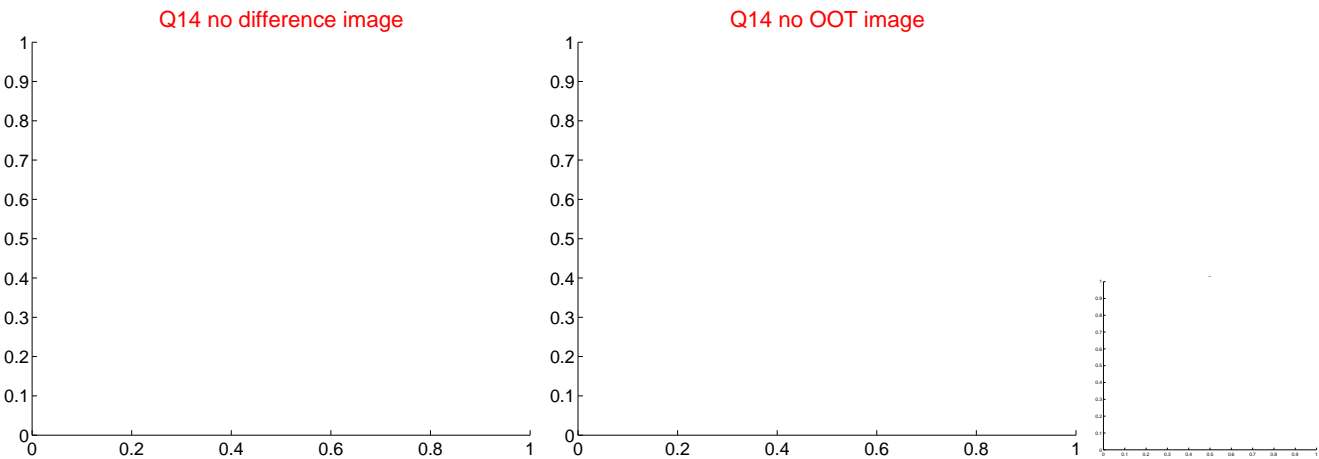
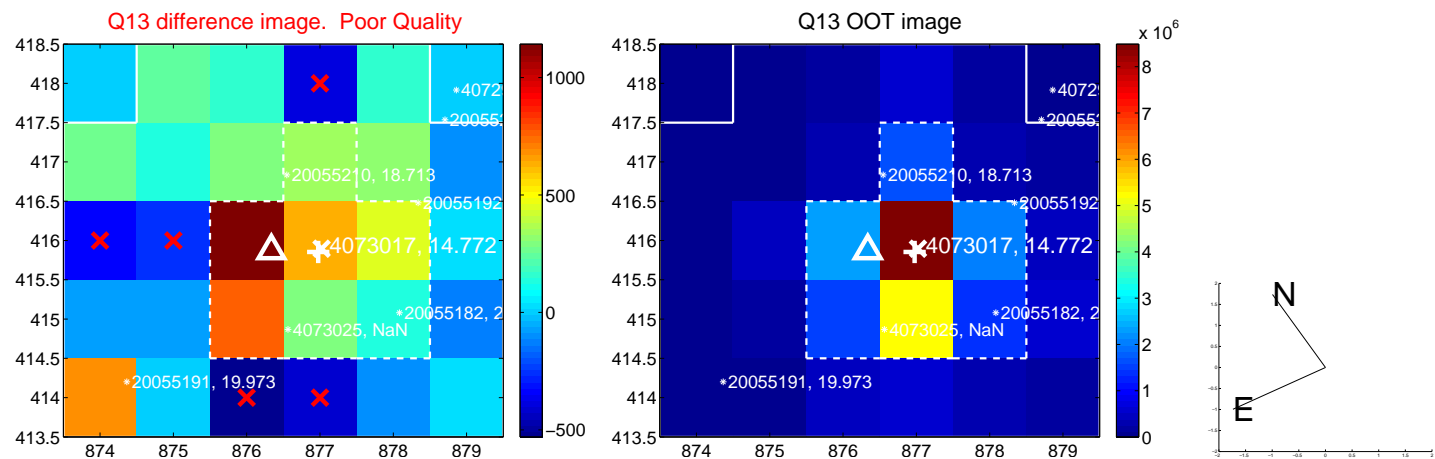
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



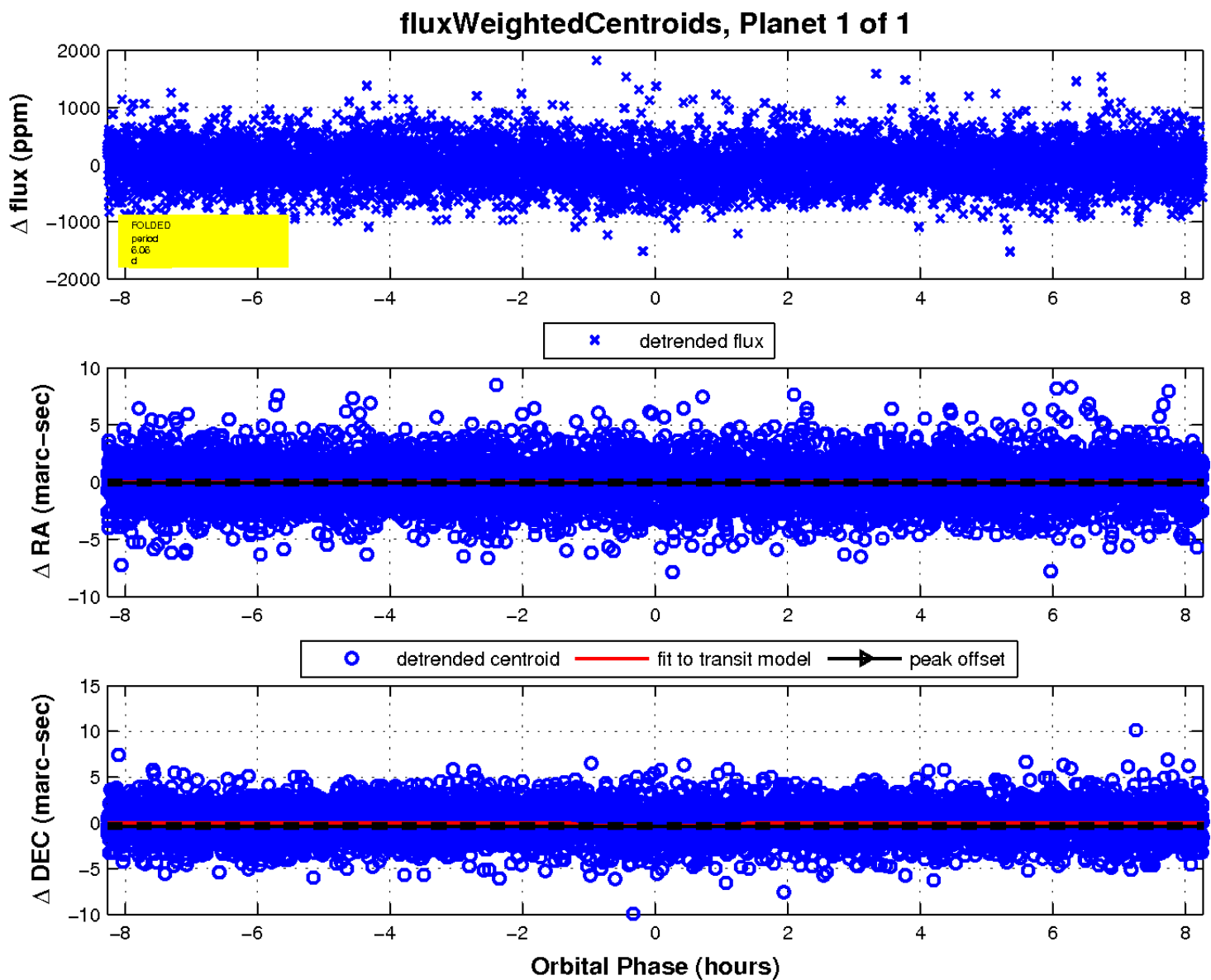
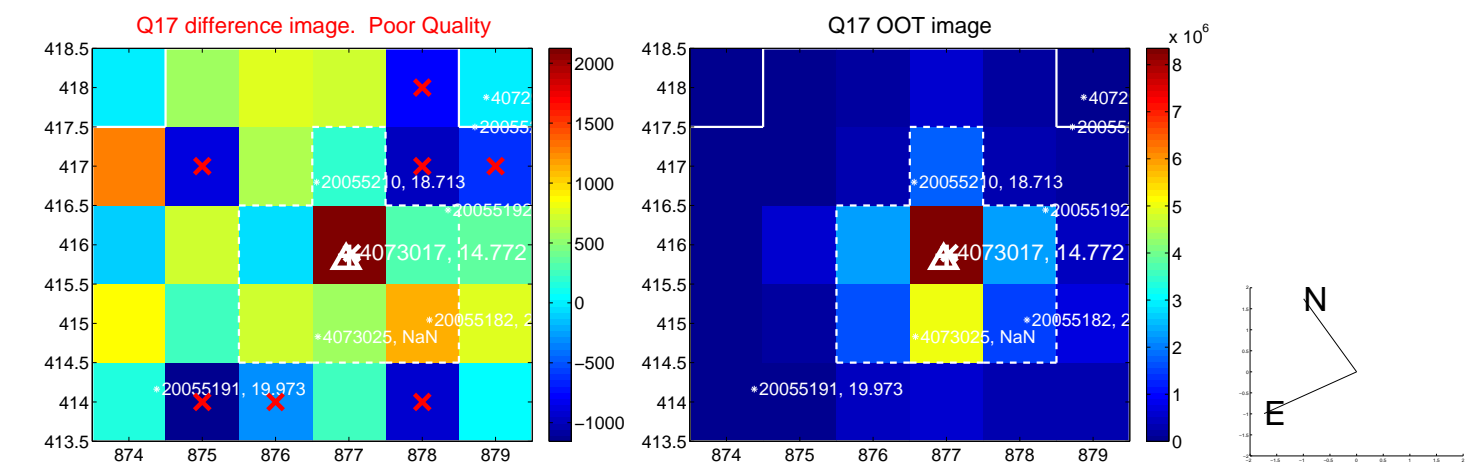
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

