

KIC 004863369

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})
004863369-01	OBS	6465.01	4.247497	132.054082	134.4	3.374	8.2	10.2	0.92	5807	1.24	320.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004863369-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

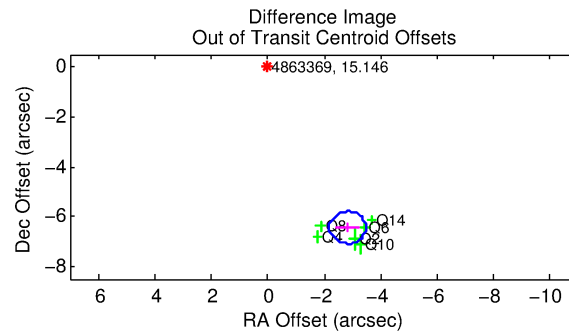
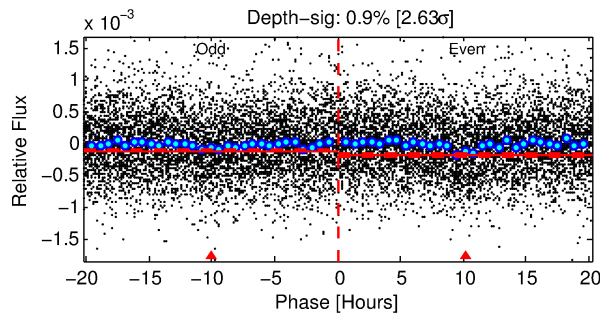
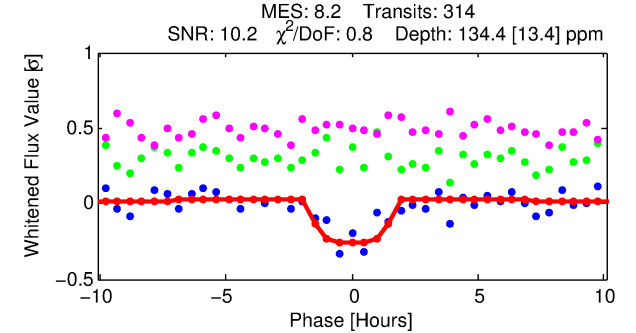
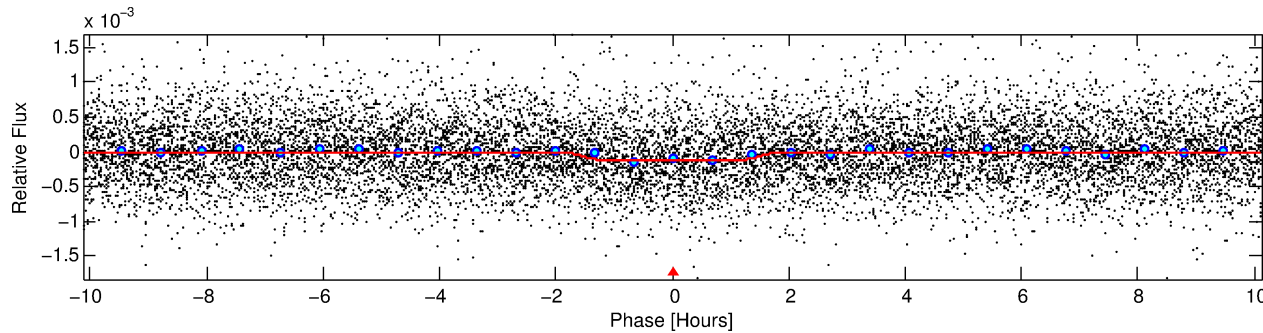
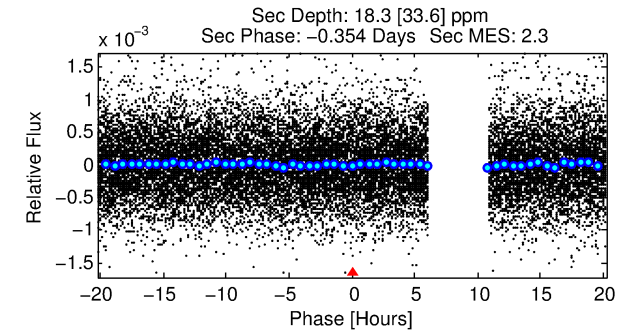
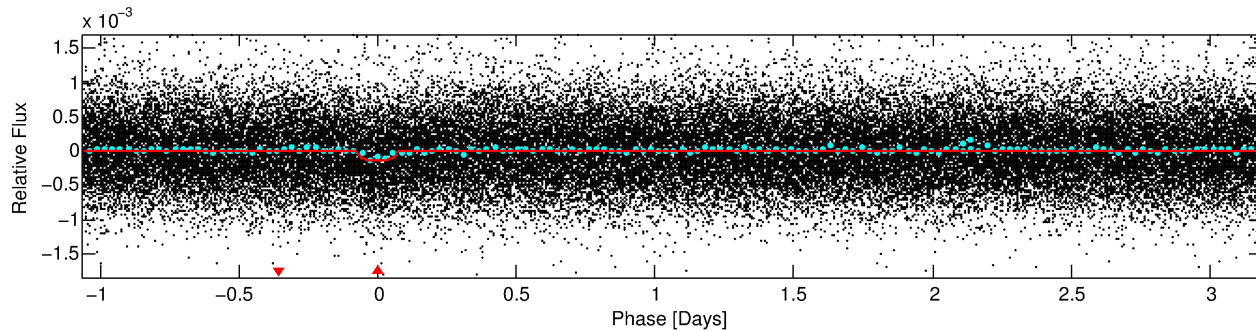
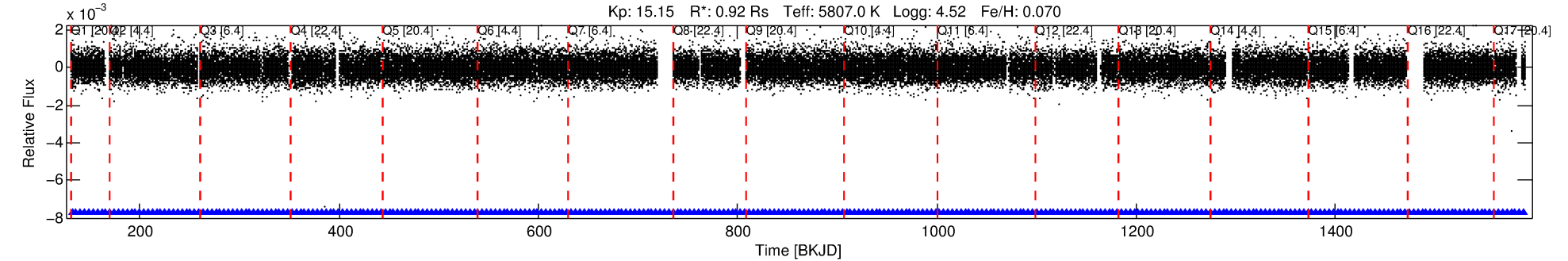
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004863369-01

No Significant Match Found

DV One-Page Summary

KIC: 4863369 Candidate: 1 of 1 Period: 4.247 d
KOI: K06465.01 Corr: 0.896



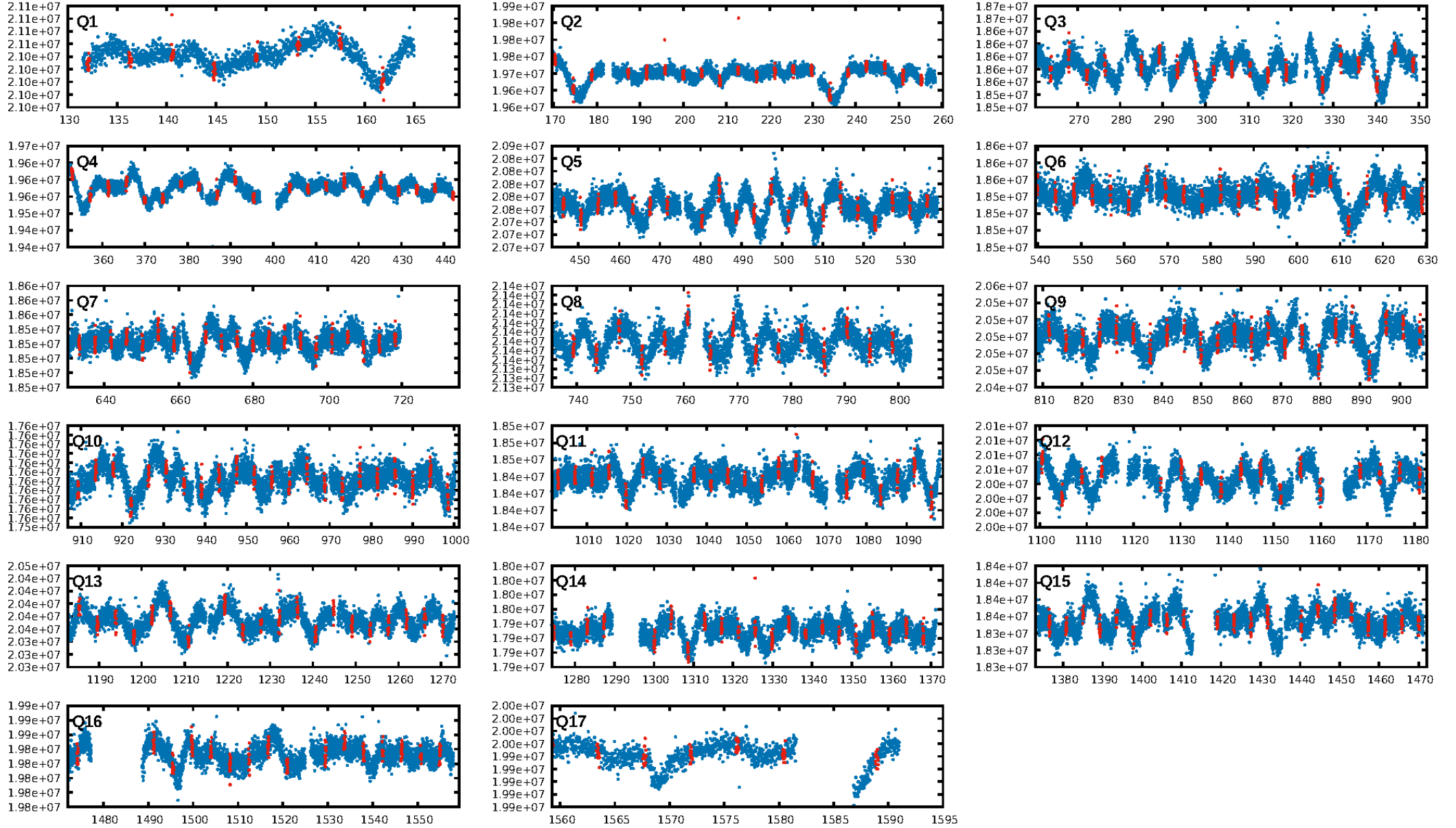
DV Fit Results:

Period = 4.24750 [0.00003] d
Epoch = 132.0541 [0.0050] BKJD
Rp/R* = 0.0124 [0.0078]
a/R* = 5.00 [14.31]
b = 0.87 [0.82]
Seff = 320.88 [111.57]
Teq = 1079 [94] K
Rp = 1.24 [0.85] Re
a = 0.0520 [0.0112] AU
Ag = 17.64 [39.70] [0.42σ]
Teffp = 3420 [1907] K [1.23σ]

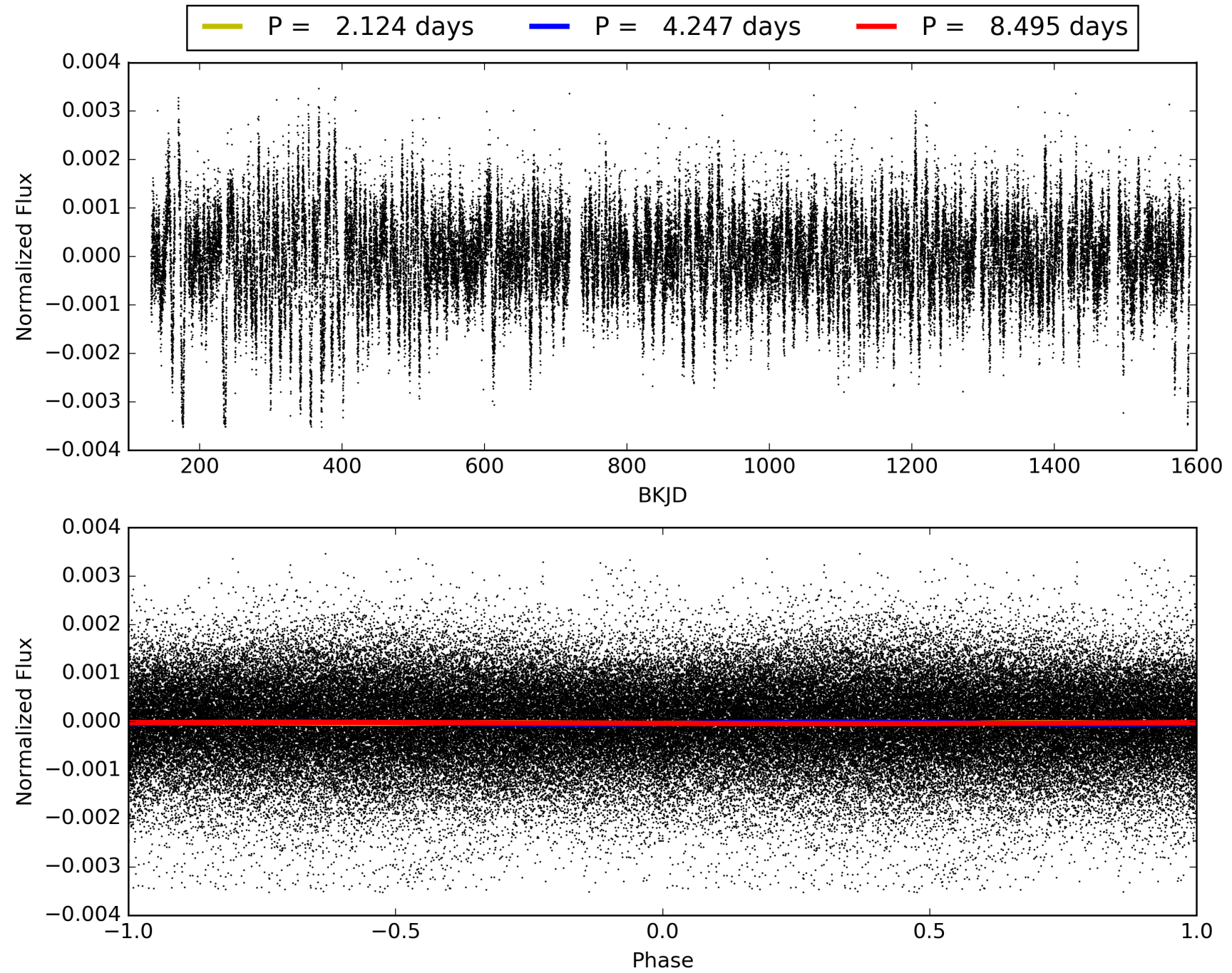
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.99e-16
RollingBand-fgt: 1.00 [299/299]
GhostDiagnostic-chr: -0.4692
Centroid-sig: 0.0%
Centroid-so: 56.431 arcsec [50.41σ]
OotOffset-rm: 7.033 arcsec [32.75σ]
KicOffset-rm: 6.846 arcsec [29.27σ]
OotOffset-st: 4/0/2/0 [6]
KicOffset-st: 4/0/2/0 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004863369-01, PDC Light Curves

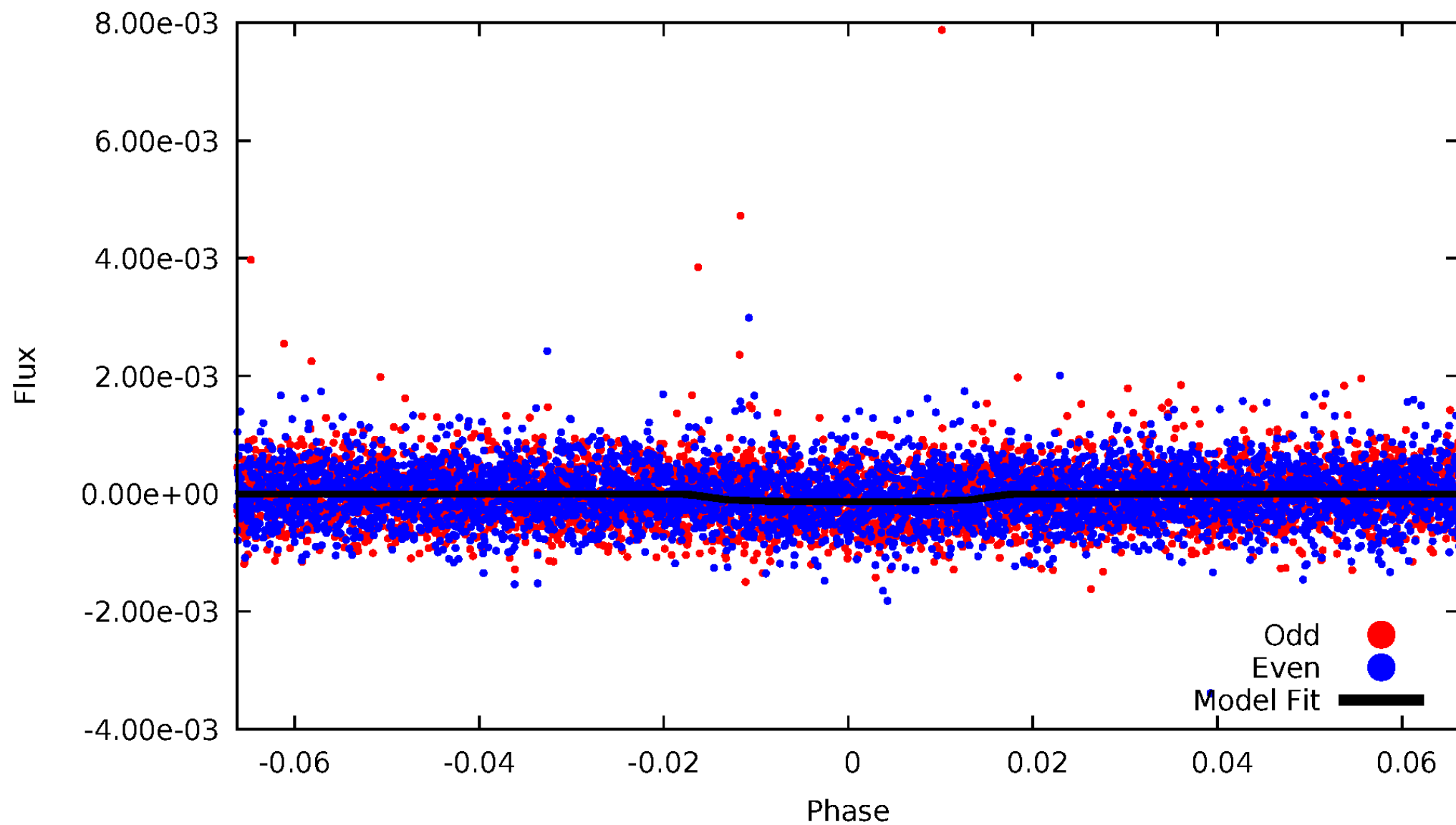


TCE 004863369-01



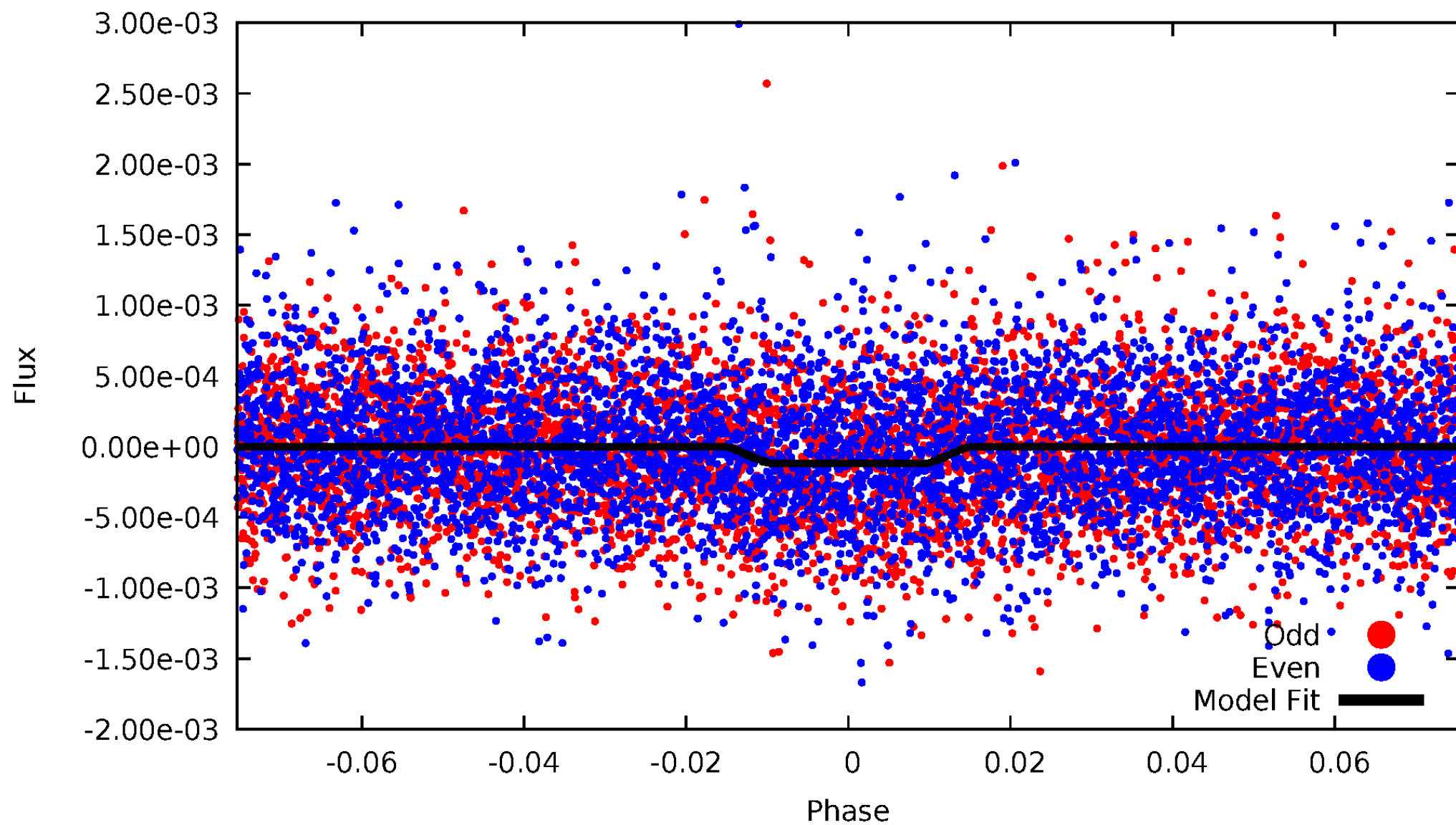
DV Odd/Even

TCE 004863369-01



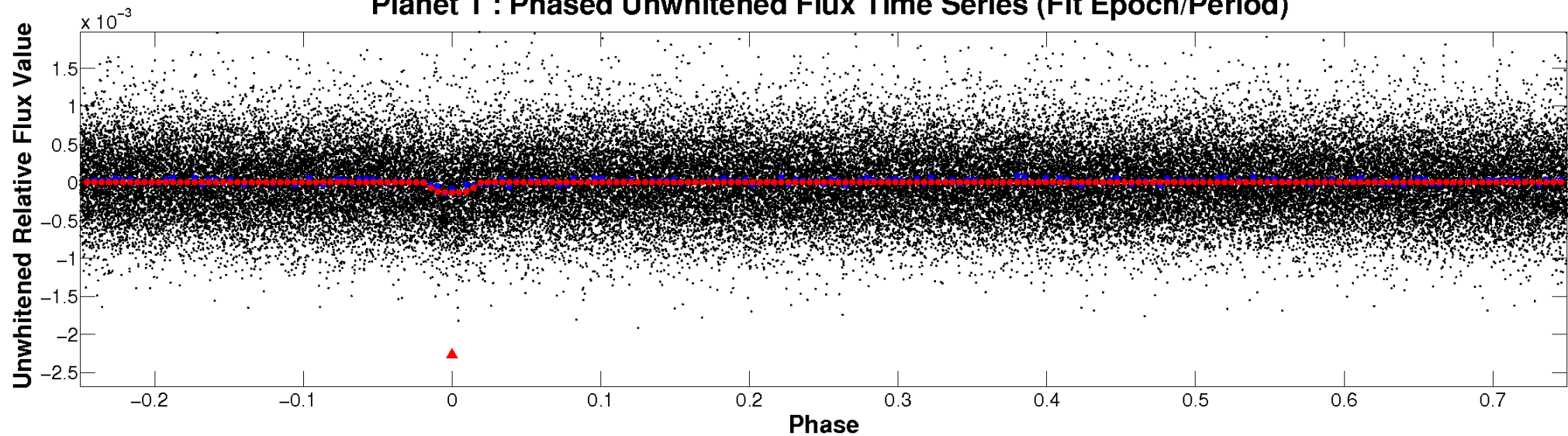
ALT Odd/Even

TCE 004863369-01

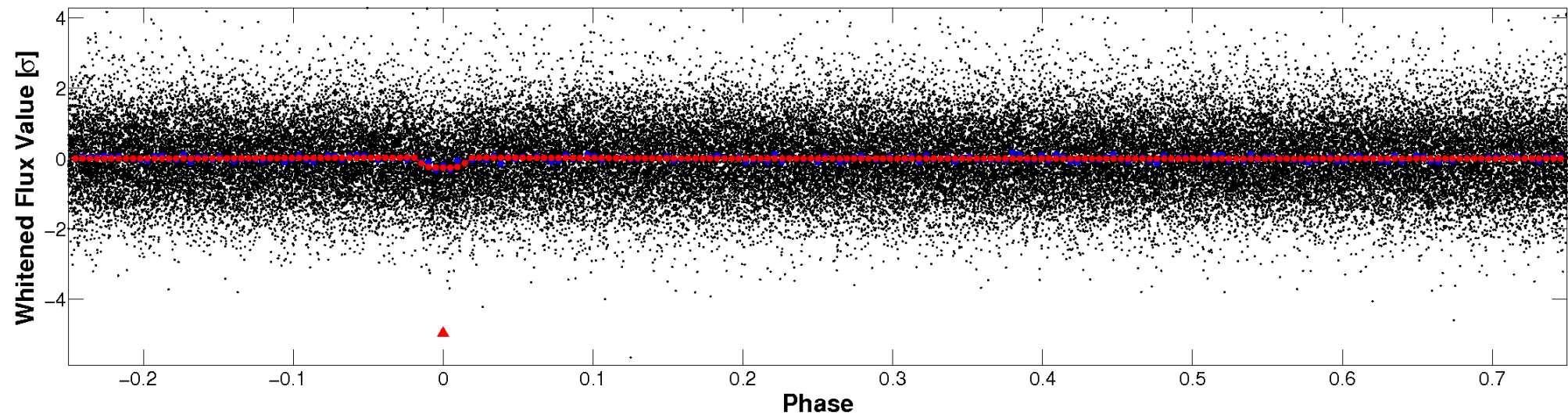


Non-Whitened Vs. Whitened Light Curve

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

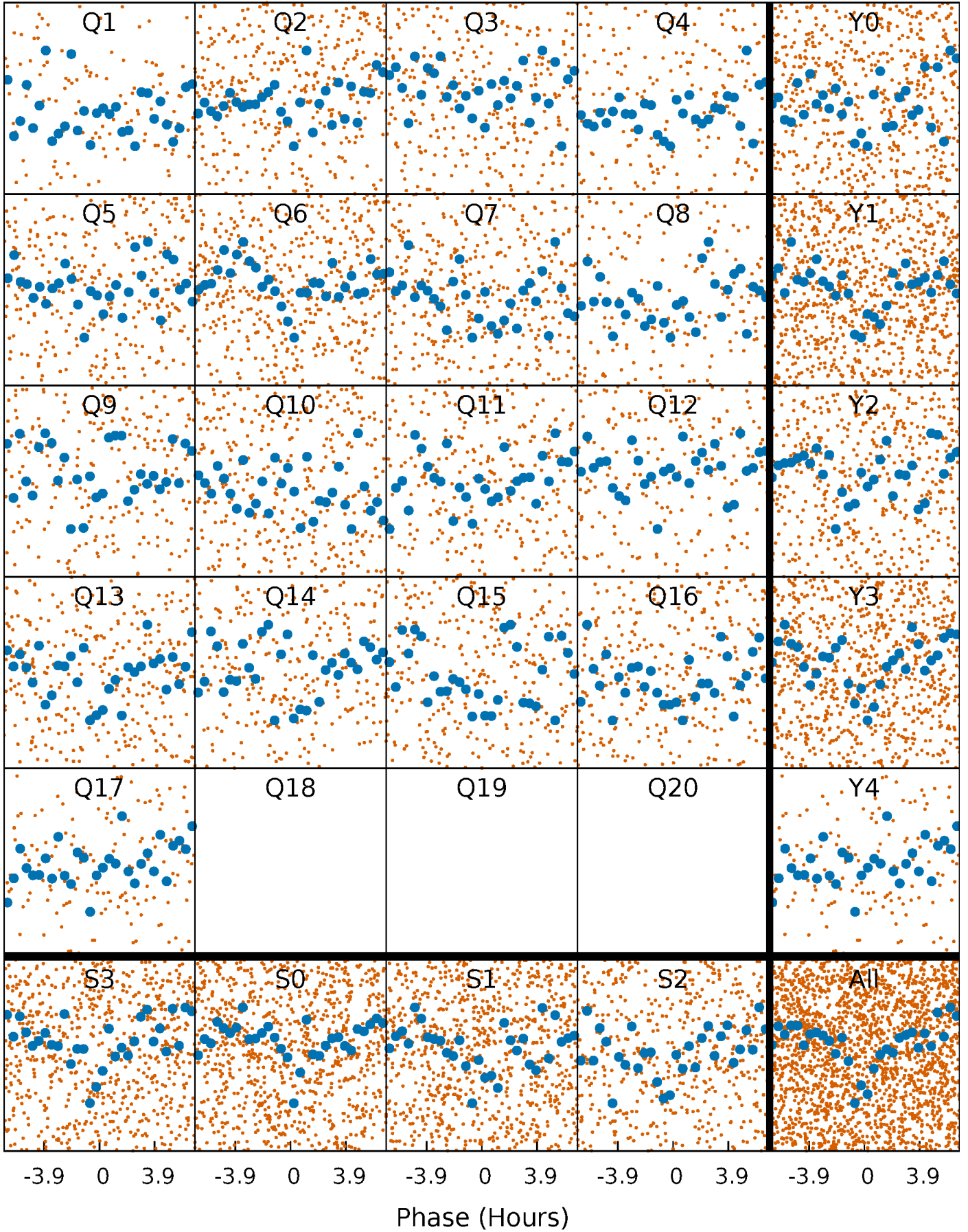


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



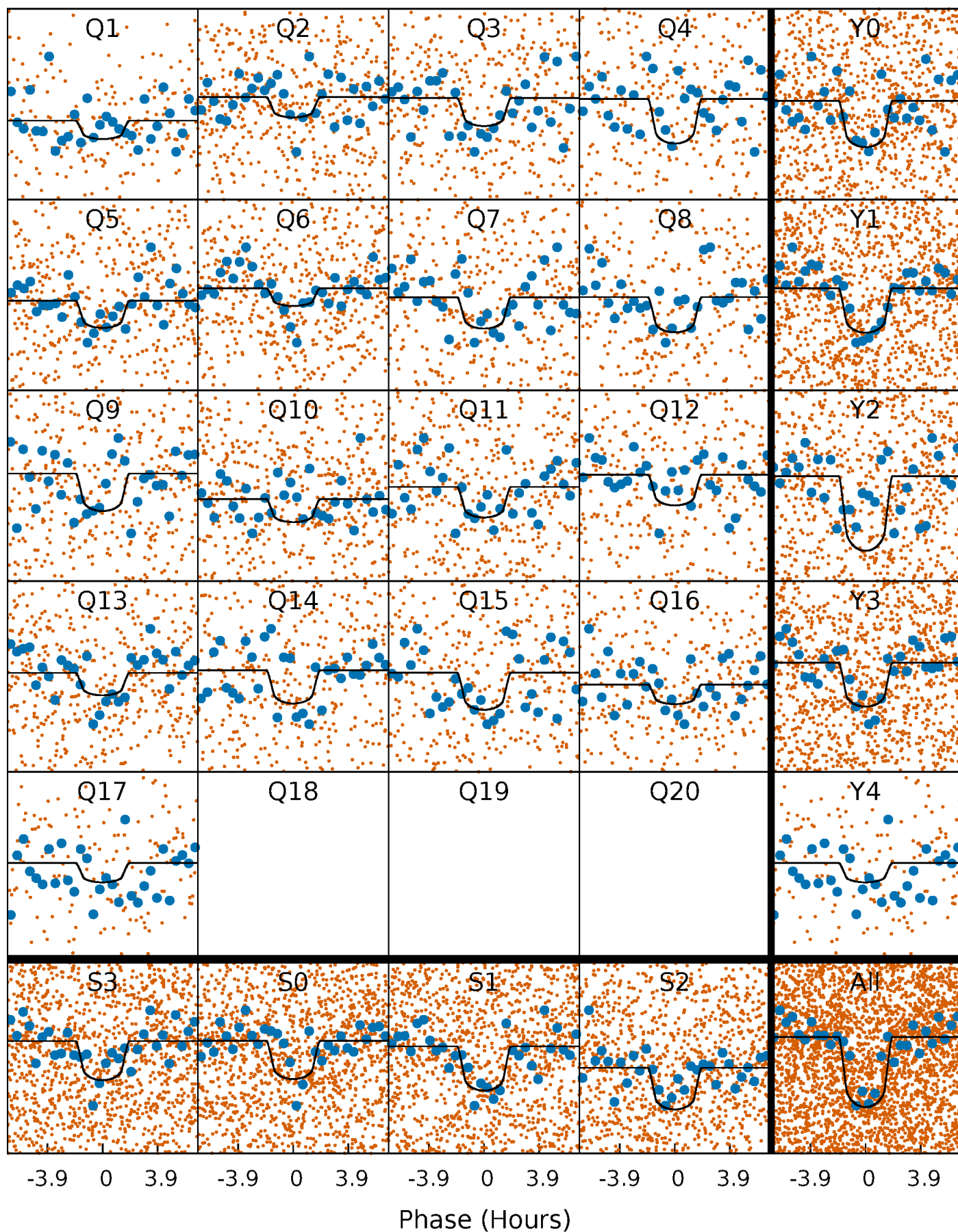
PDC Quarter-Phased Transit Curves

TCE 004863369-01 P= 4.247497 Days $T_0=132.054082$ (BKJD)



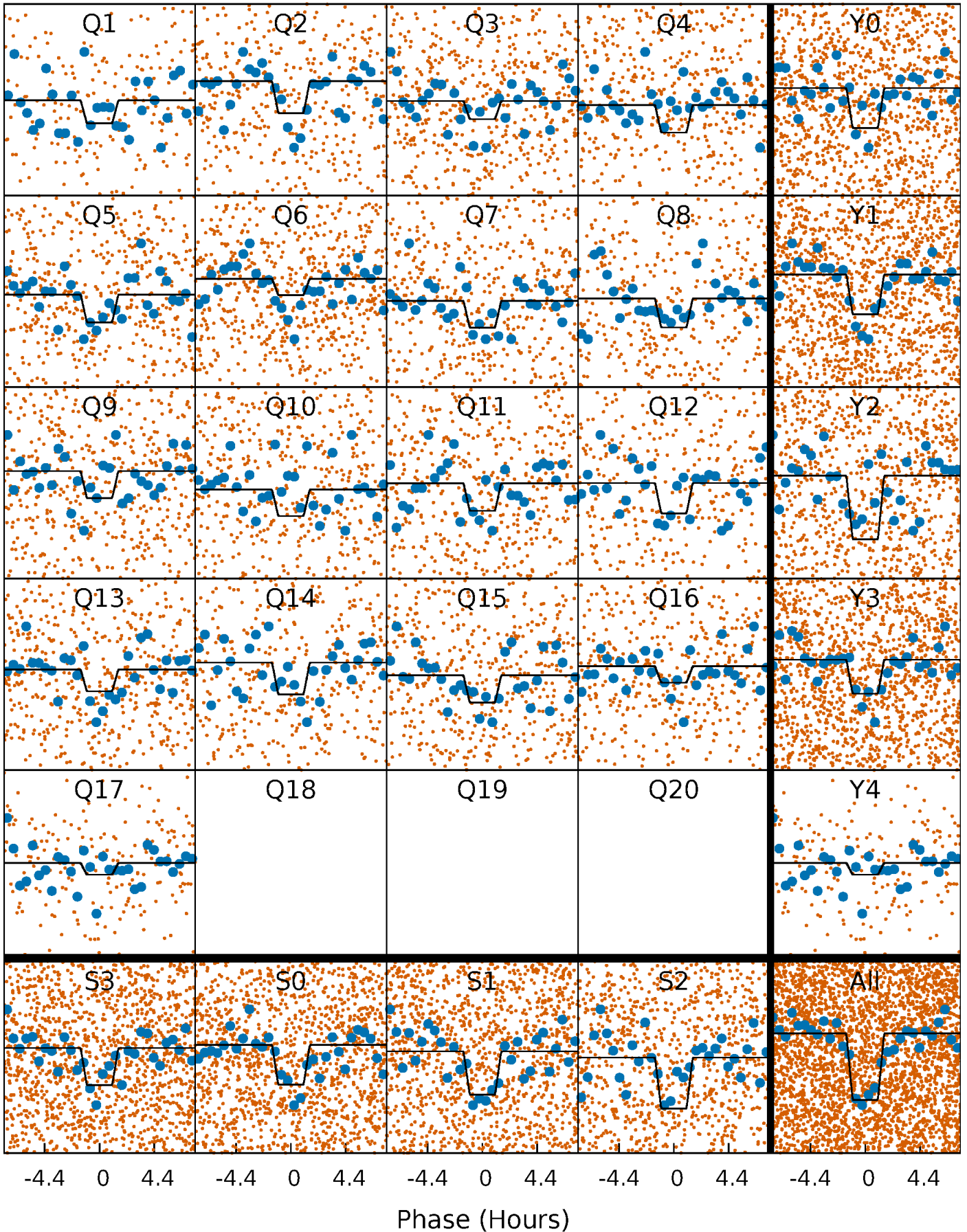
DV Quarter-Phased Transit Curves

TCE 004863369-01 P= 4.247497 Days $T_0=132.054082$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

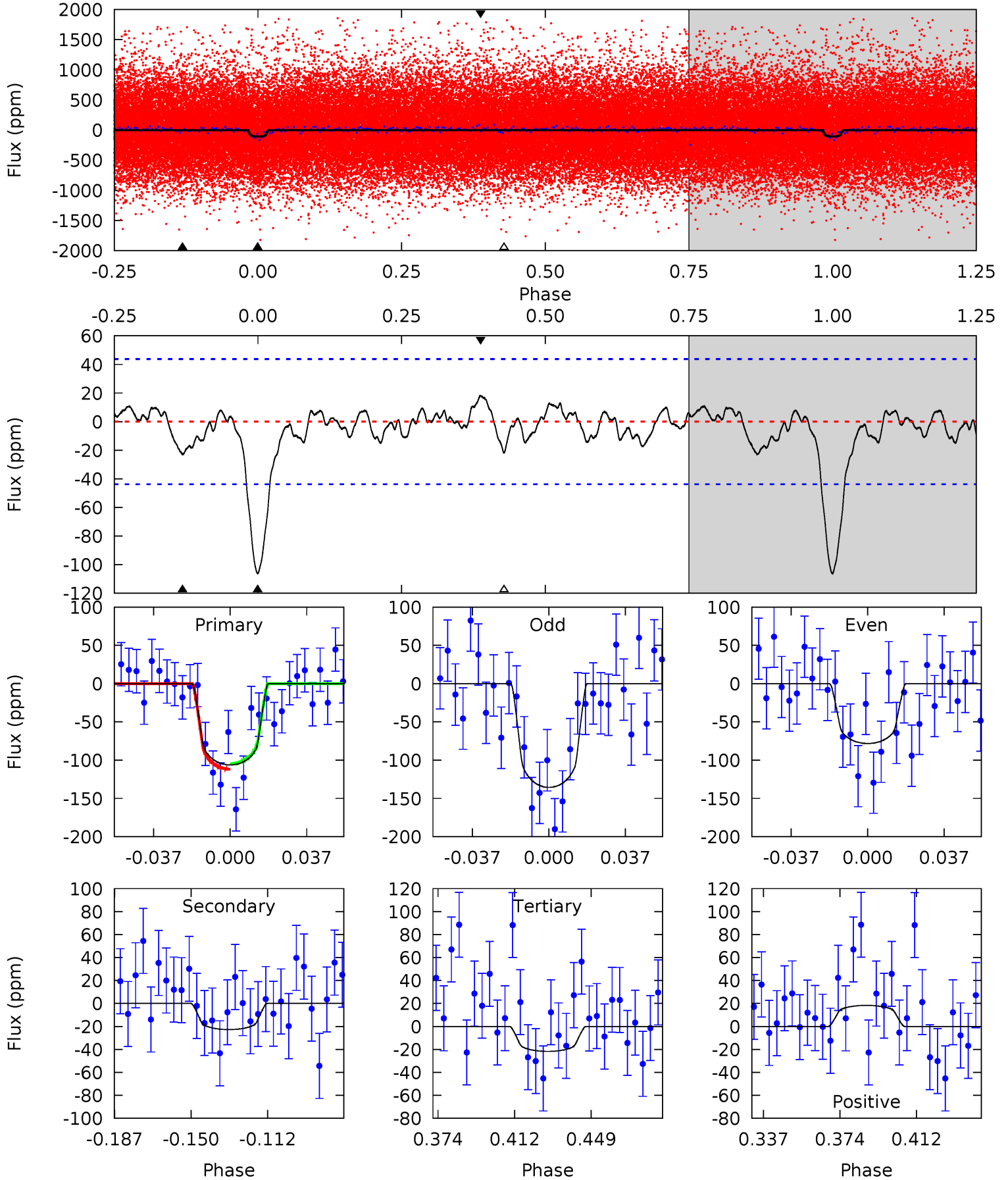
TCE 004863369-01 P= 4.247424 Days $T_0=132.065789$ (BKJD)



DV Model-Shift Uniqueness Test

004863369-01, P = 4.247497 Days, E = 127.806585 Days

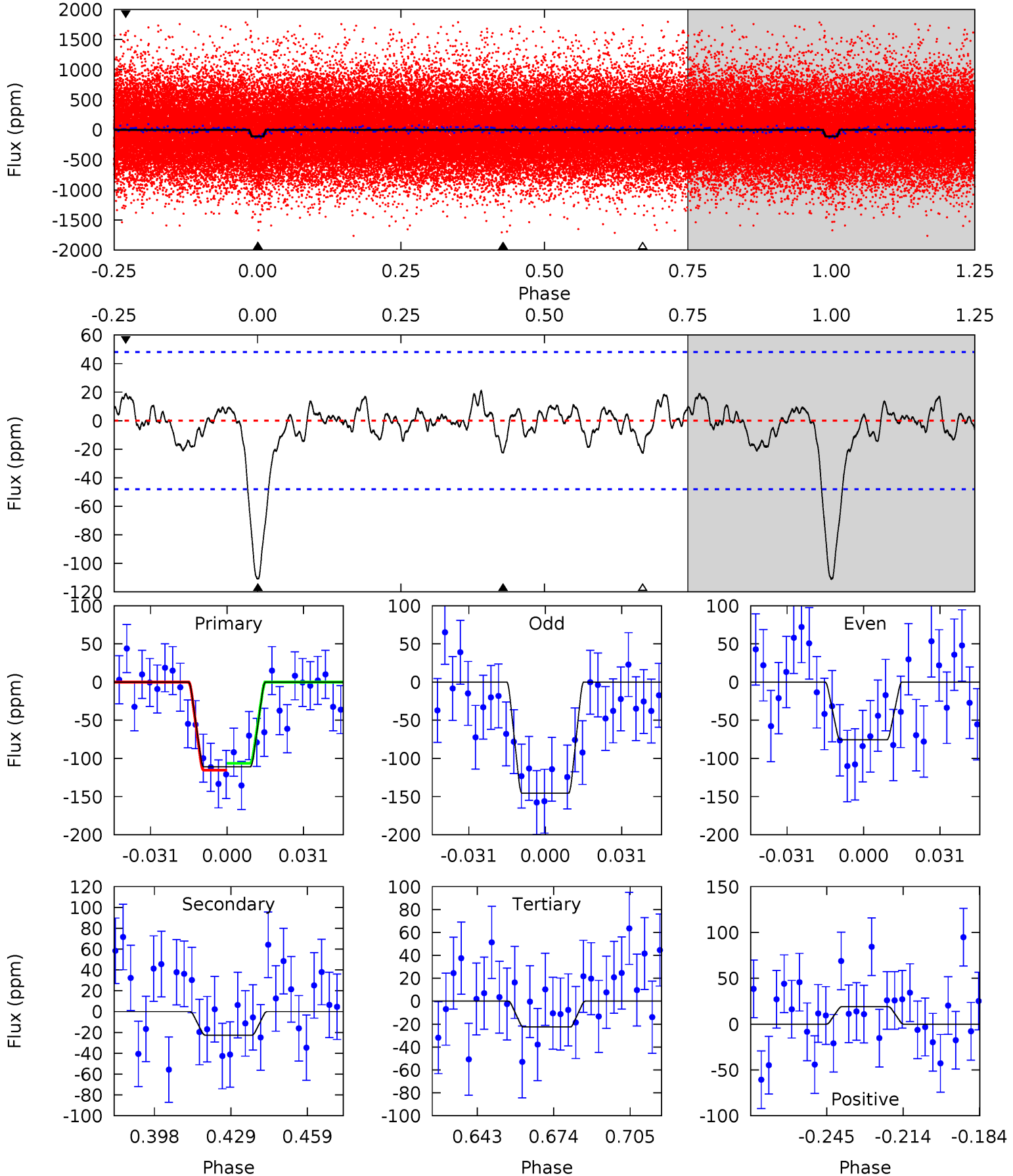
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	2.48	2.37	1.99	4.77	2.08	0.84	9.21	9.58	0.11	0.49	3.13	0.85	0.15	0.40



Alt Model-Shift Uniqueness Test

004863369-01, P = 4.247424 Days, E = 127.818365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	2.26	2.25	1.89	4.81	2.16	0.86	8.83	9.20	0.01	0.38	3.50	0.92	0.16	0.44



Stellar Parameters For KIC 004863369

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5807^{+157}_{-192}	$4.524^{+0.042}_{-0.179}$	$0.070^{+0.250}_{-0.350}$	$0.922^{+0.231}_{-0.093}$	$1.036^{+0.092}_{-0.139}$	$1.859^{+0.407}_{-0.826}$
	+3%/-3%	+1%/-4%	+357%/-500%	+25%/-10%	+9%/-13%	+22%/-44%
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 004863369-01 / KOI 6465.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 9	$1.32^{+0.87}_{-0.75}$	1541^{+101}_{-73}	3875^{+1505}_{-635}	17^{+78}_{-12}
Alt.	-23 ± 10	$1.19^{+0.80}_{-0.66}$	1538^{+100}_{-66}	4010^{+1774}_{-740}	21^{+110}_{-15}

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

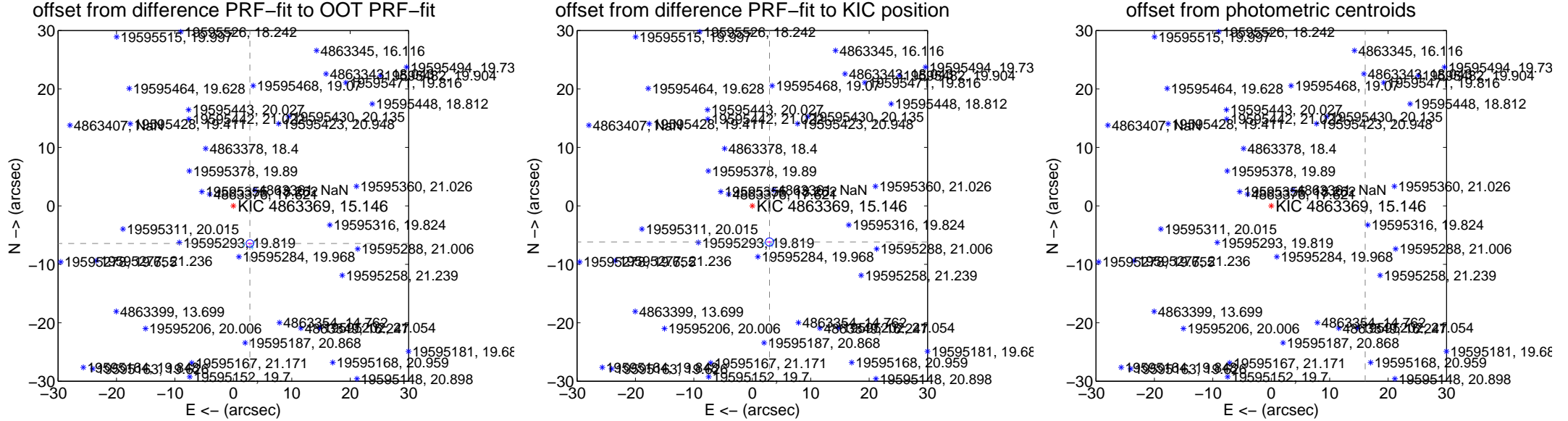
DV Centroid Data

Supplemental centroid analysis for 004863369-01. Kepler magnitude: 15.15. Transit SNR 10.18

There are 6 quarters with good PRF difference image offsets

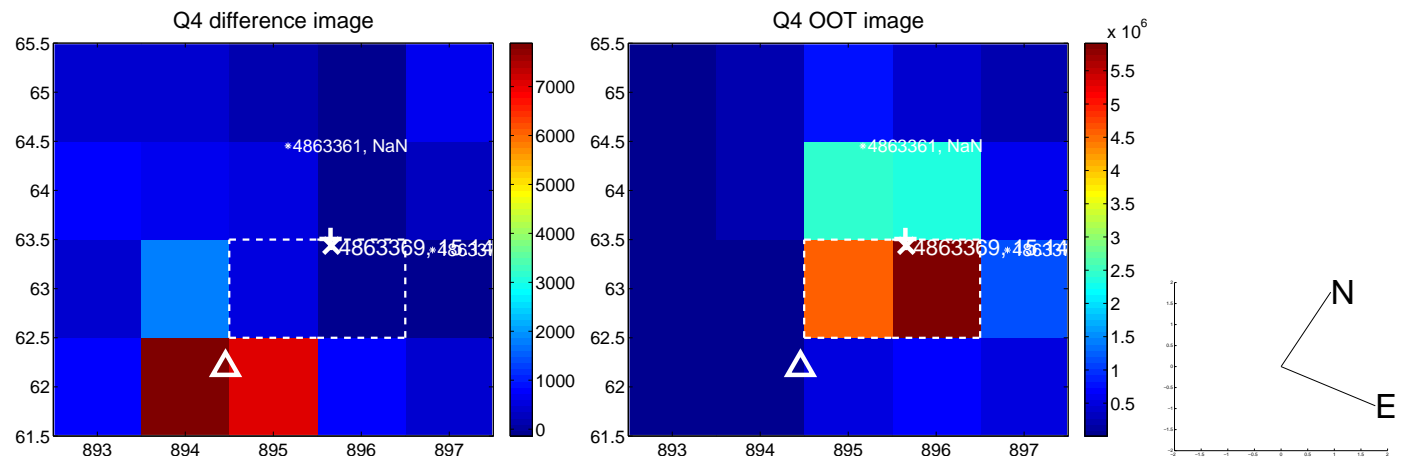
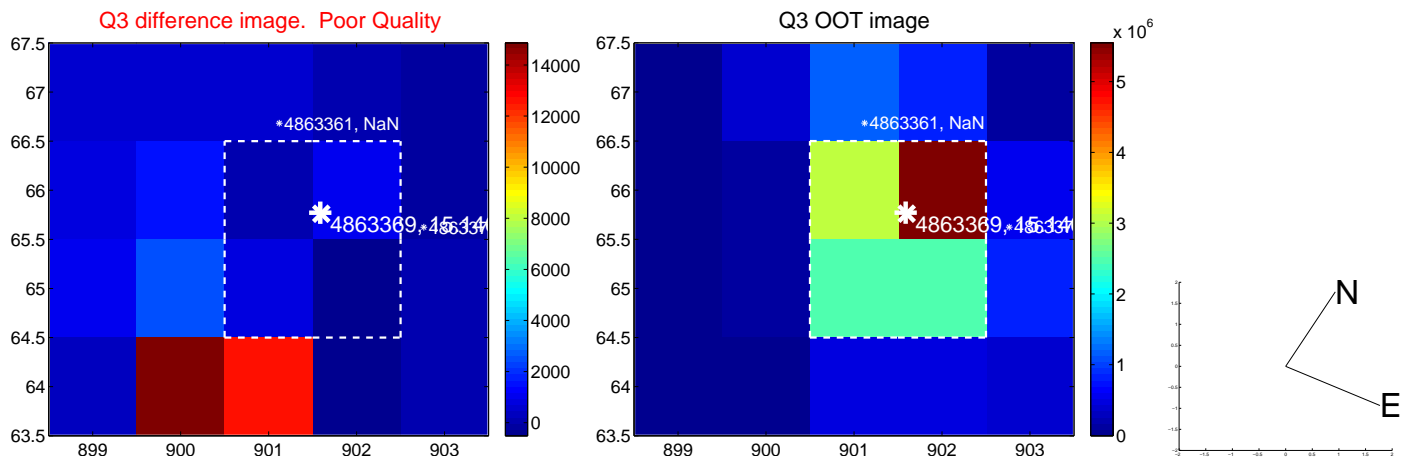
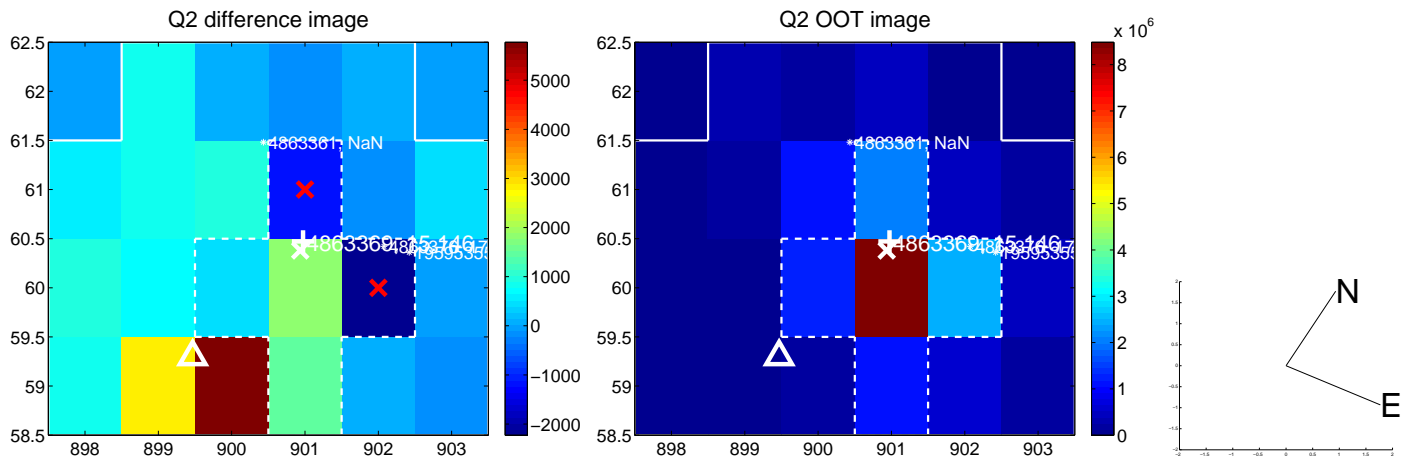
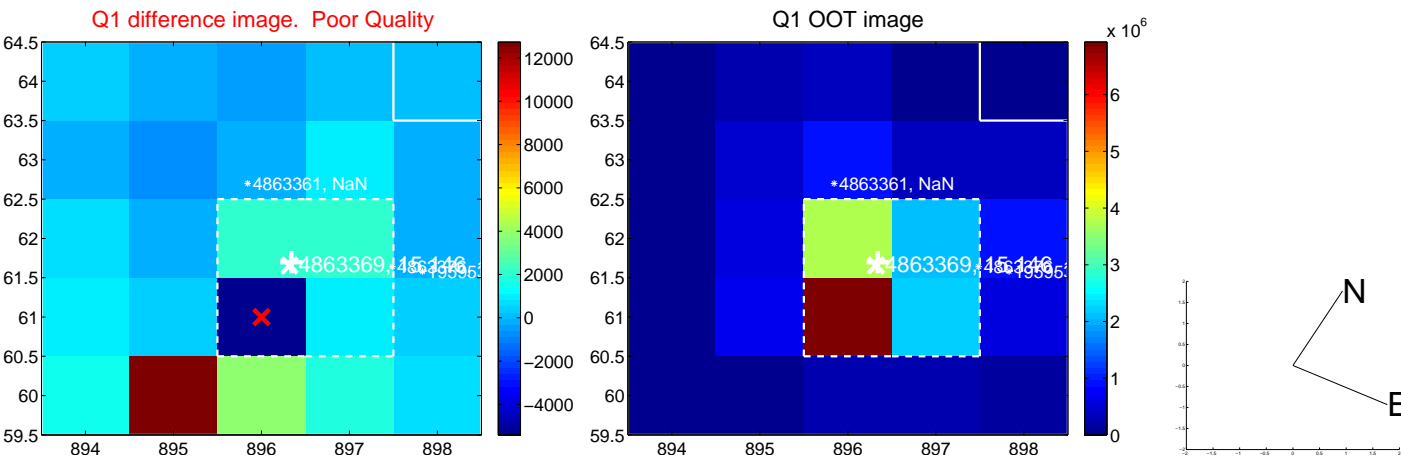
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.033 \pm 0.215	32.75	-2.830 \pm 0.398	-6.438 \pm 0.156
PRF-fit source offset from KIC position	6.846 \pm 0.234	29.27	-2.940 \pm 0.380	-6.183 \pm 0.185
photometric centroid source offset	56.43 \pm 1.12	50.41	-16.08 \pm 1.17	-54.09 \pm 1.11

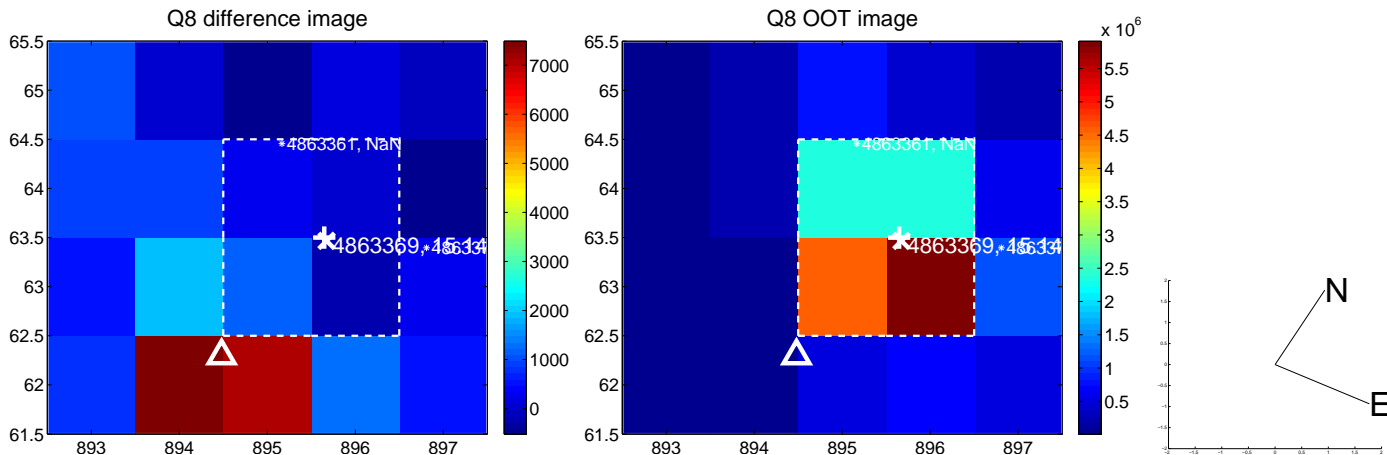
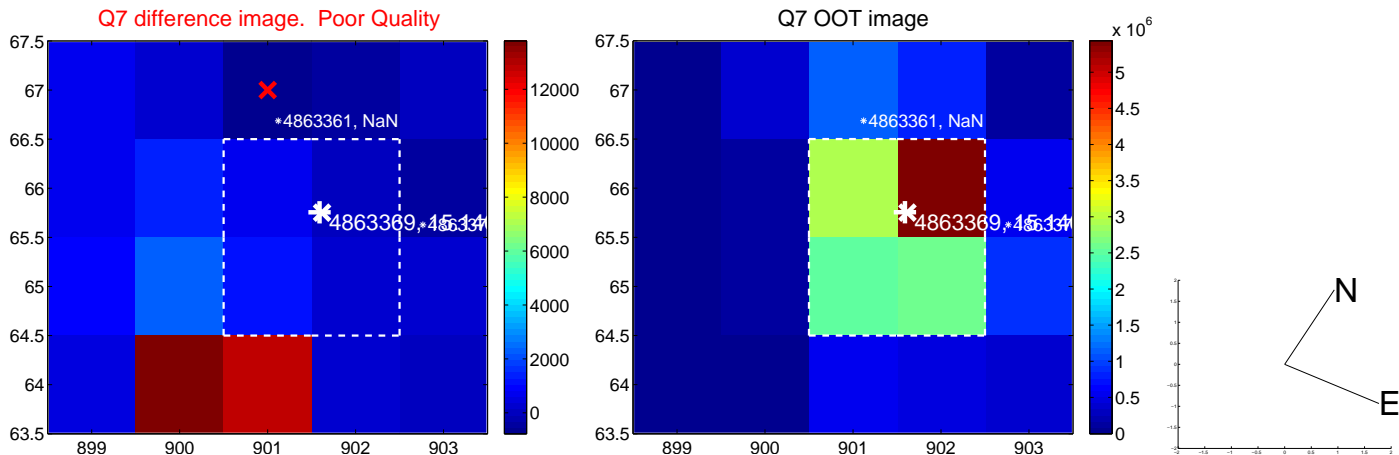
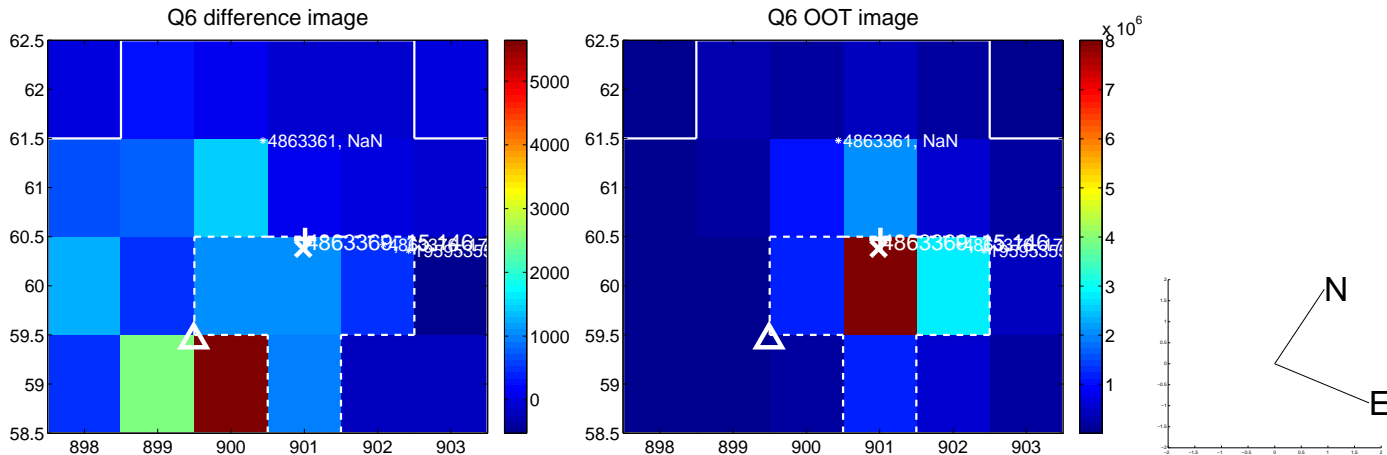
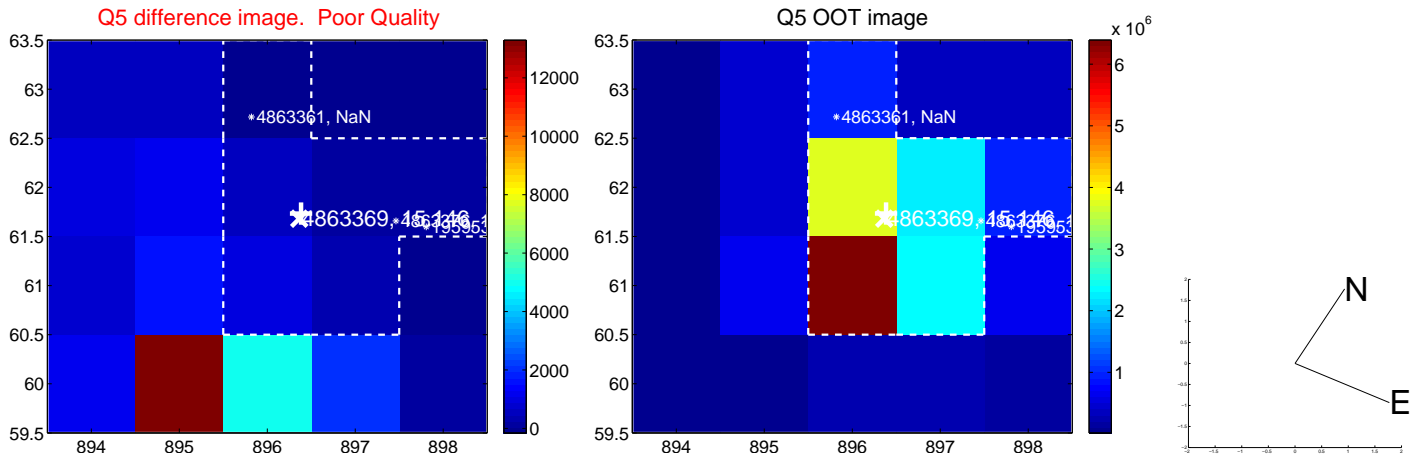


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

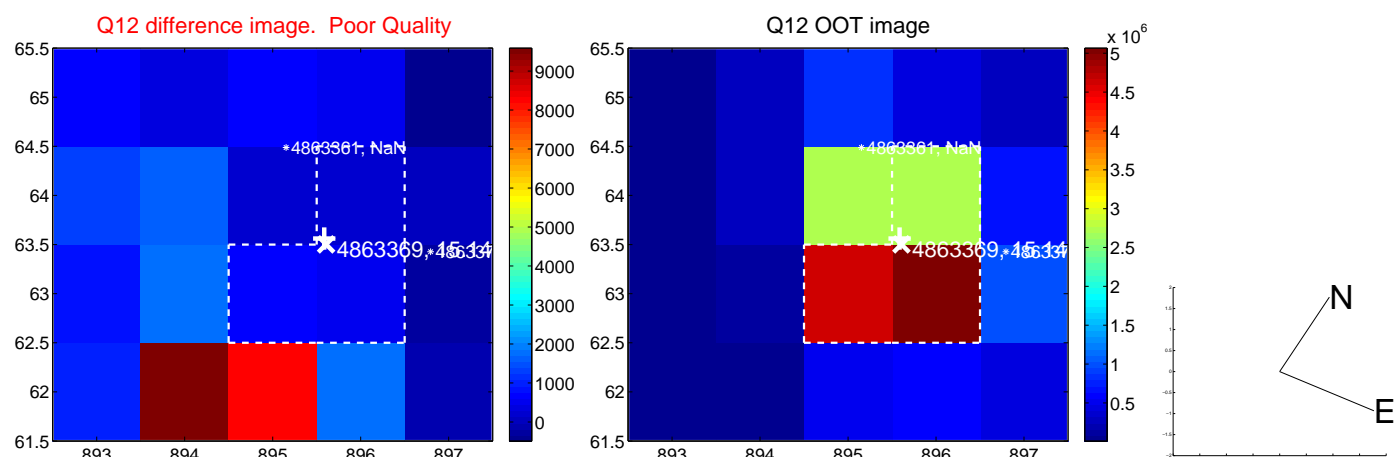
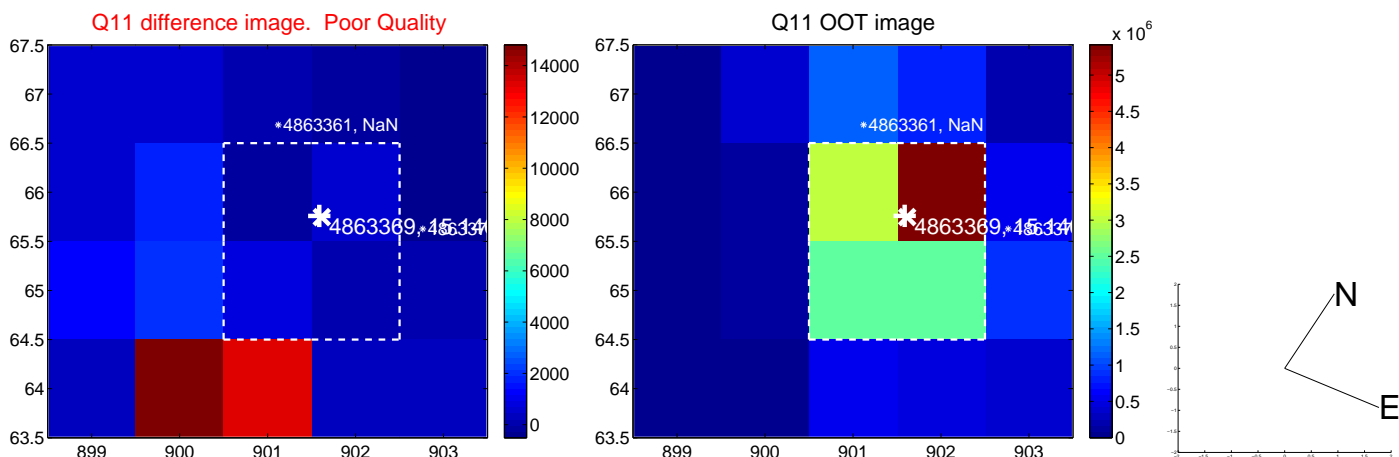
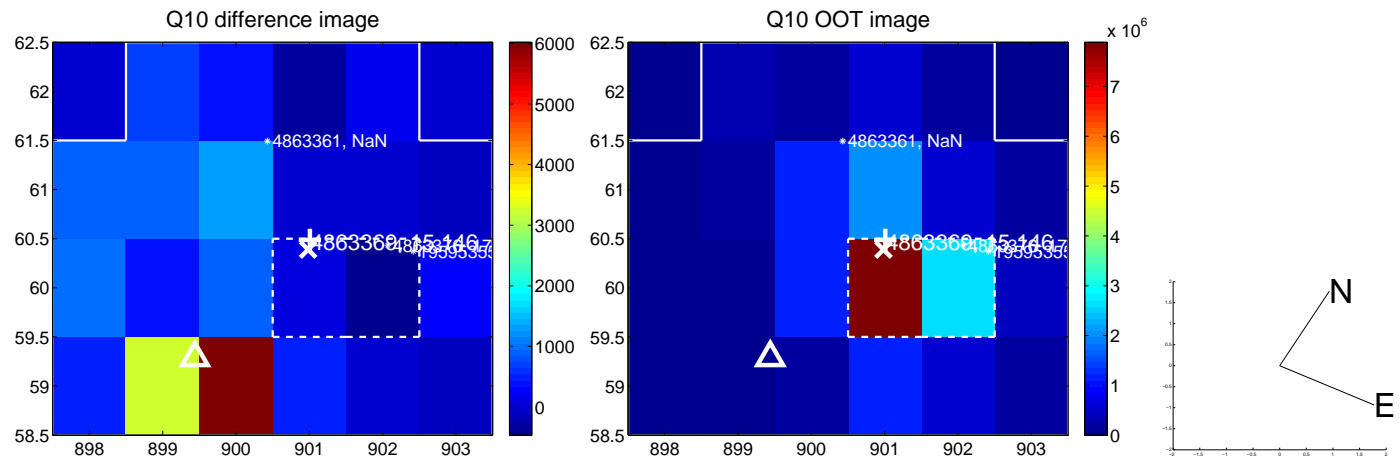
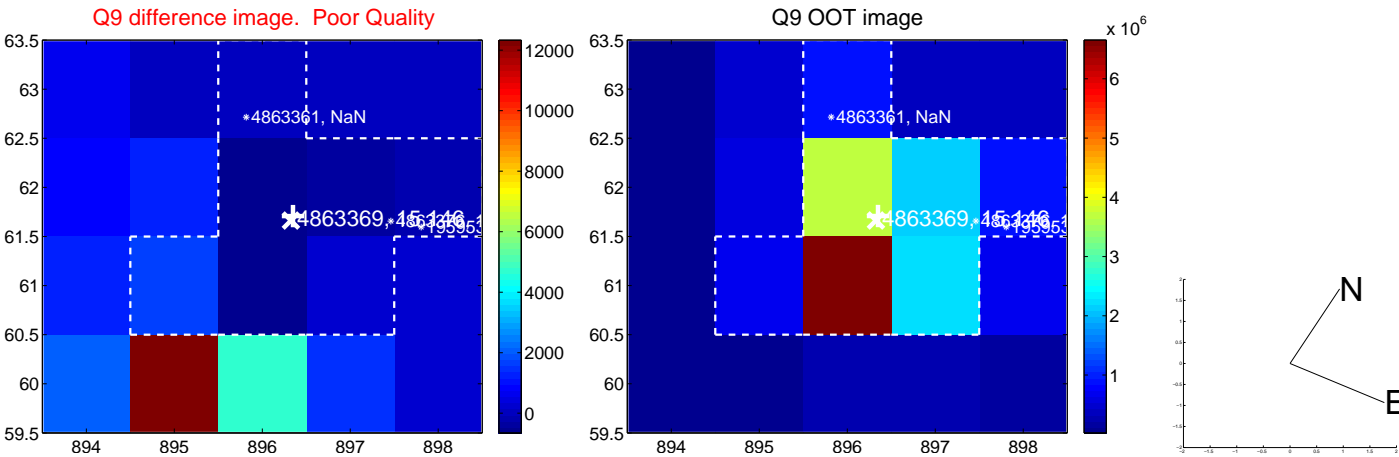
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



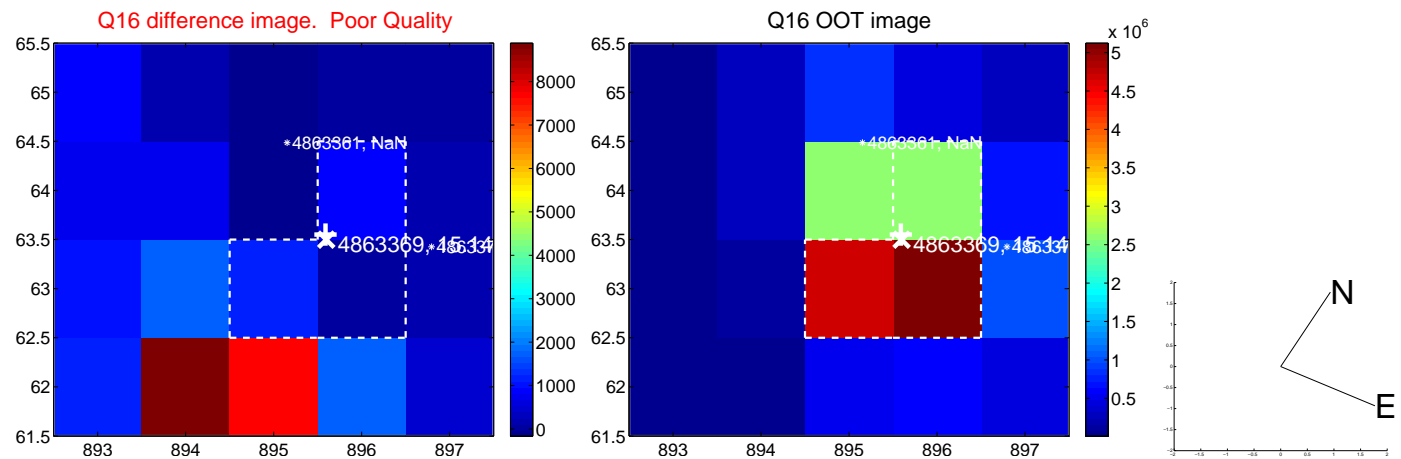
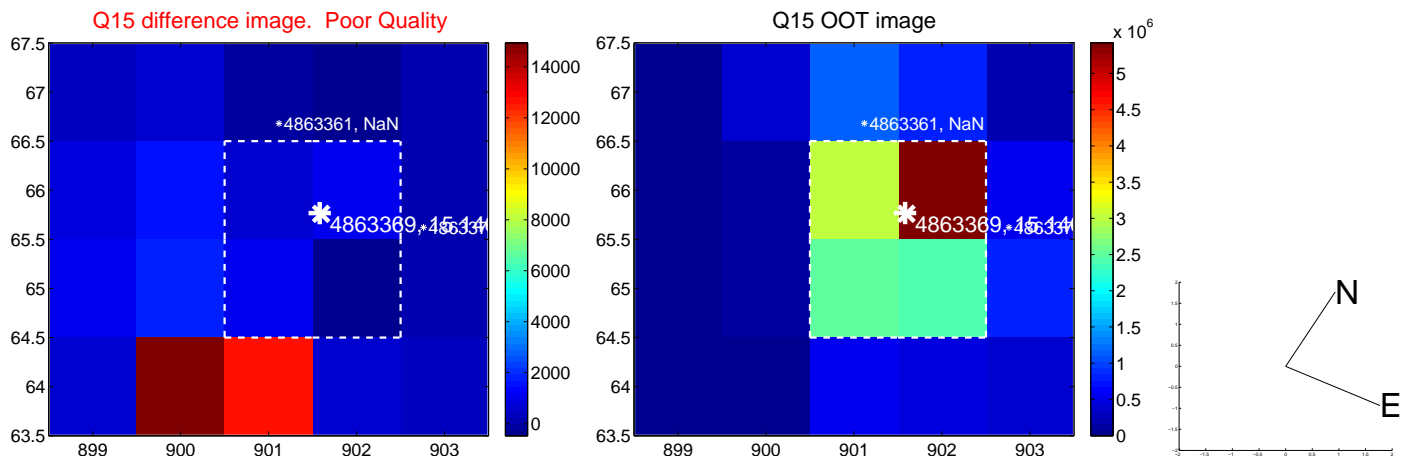
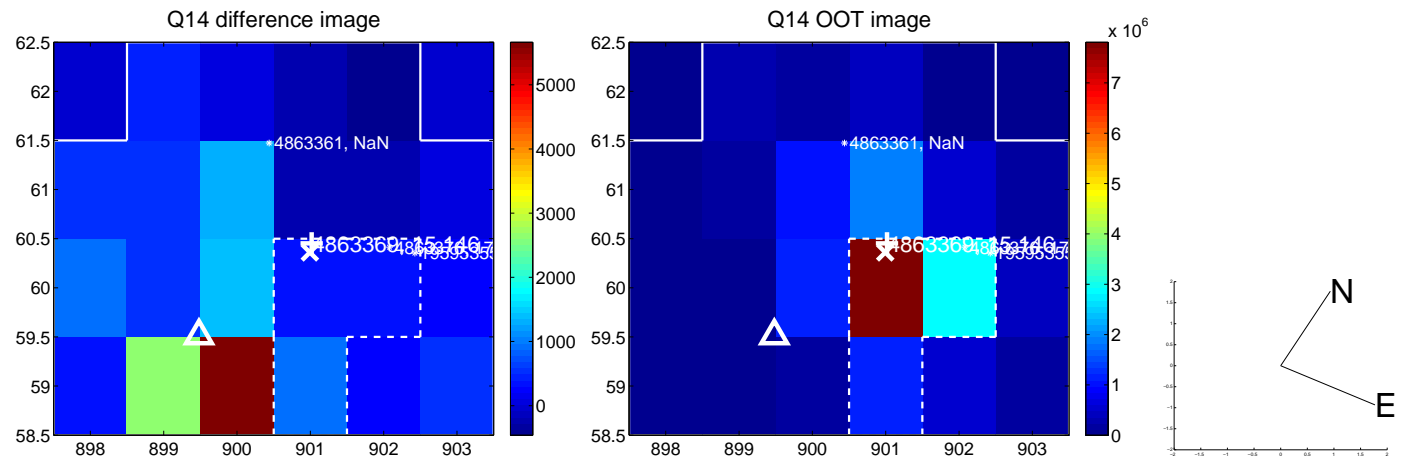
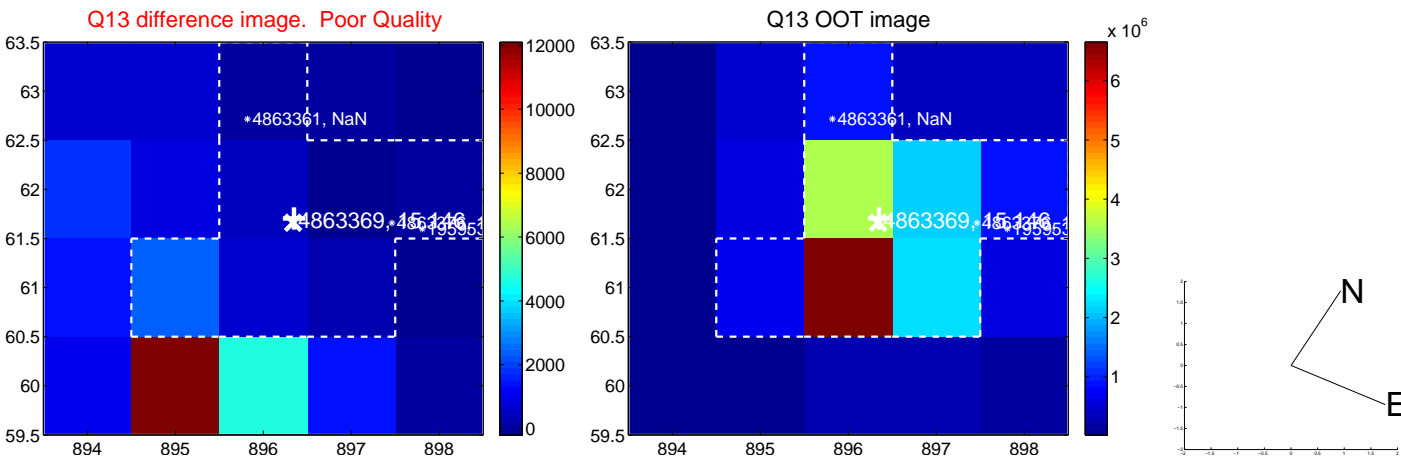
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



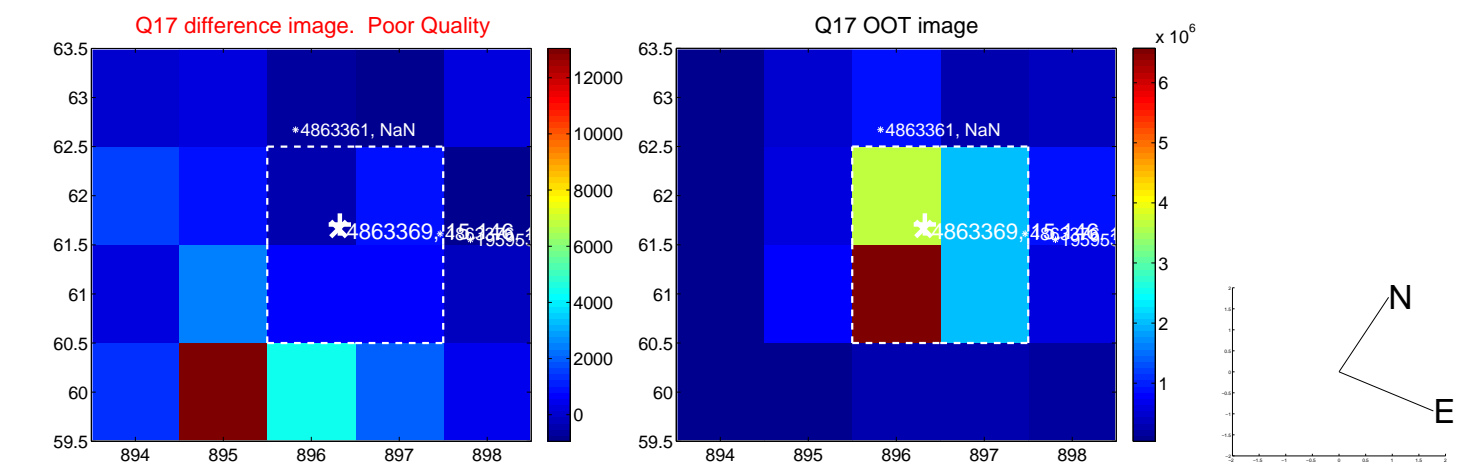
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



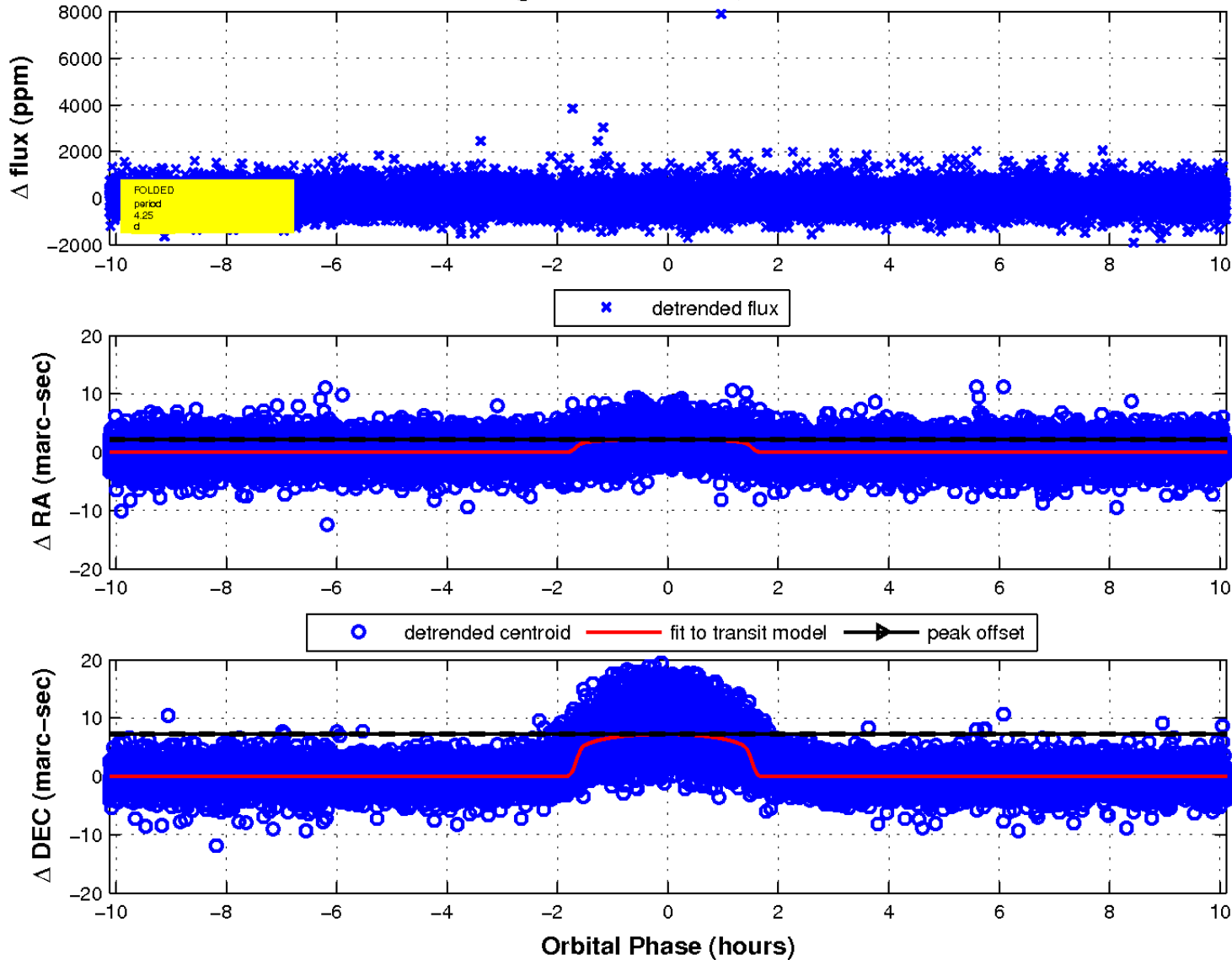
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

