

KIC 002984990

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})
002984990-01	OBS	7641.01	3.794338	132.134987	77.1	2.292	7.2	7.2	1.51	5455	1.56	866.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002984990-01	OBS	PC	0.98	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.

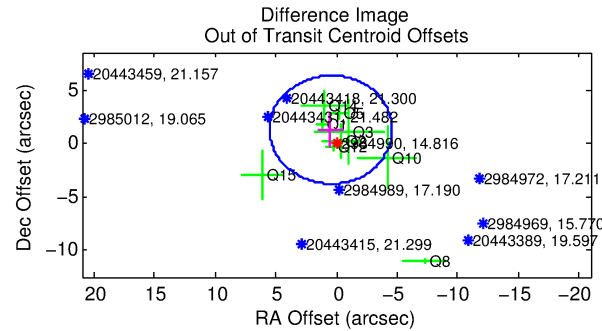
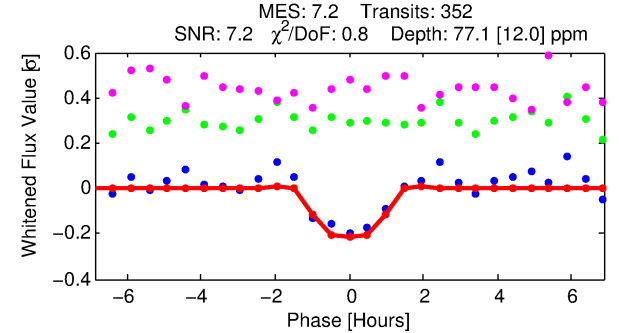
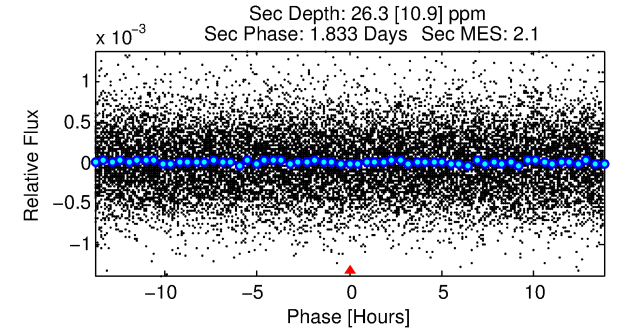
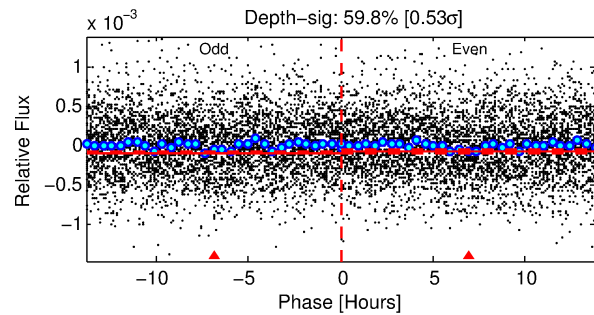
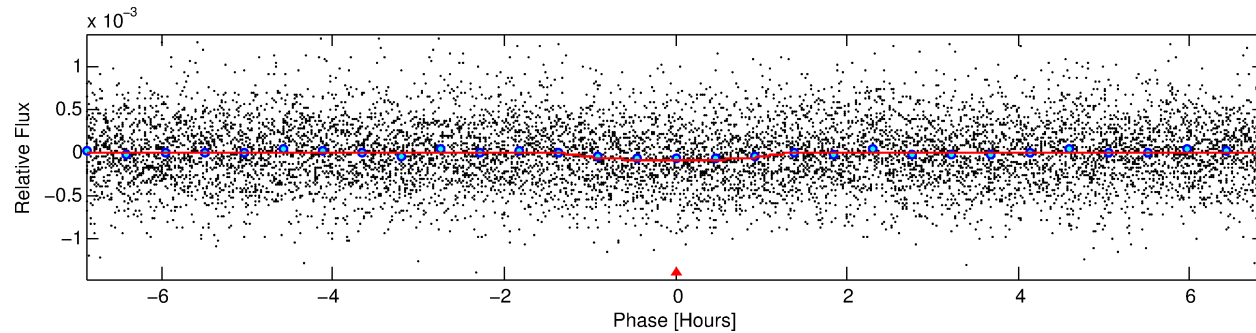
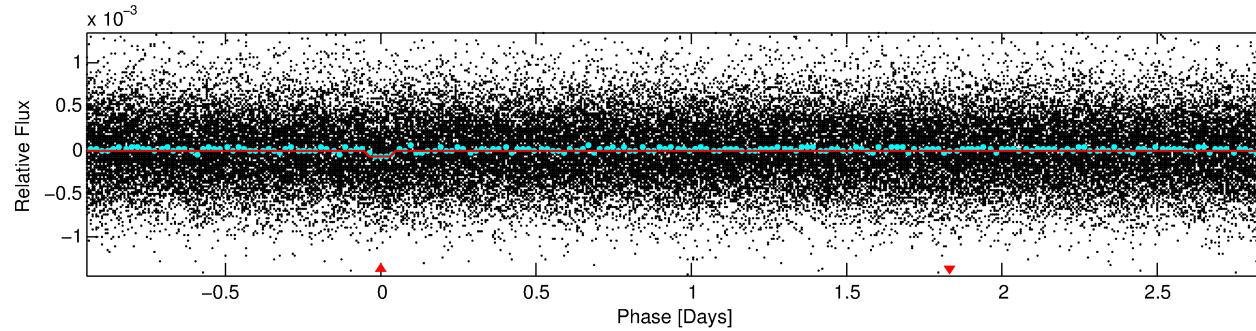
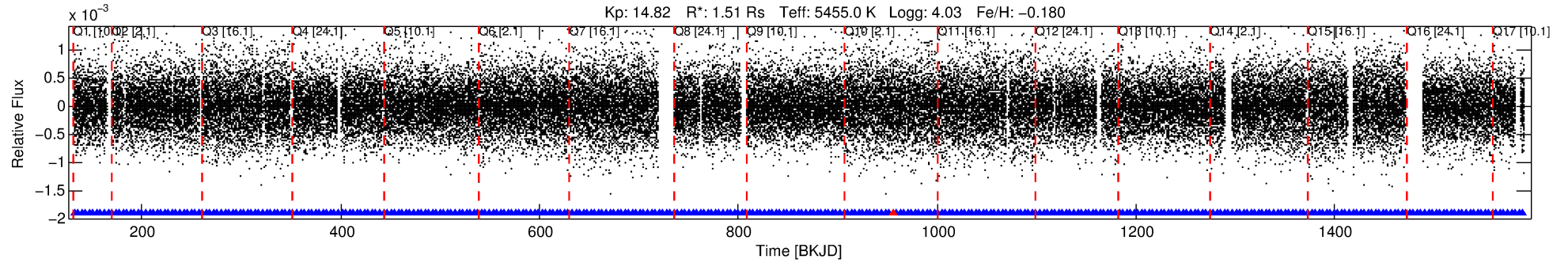
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002984990-01

No Significant Match Found

DV One-Page Summary

KIC: 2984990 Candidate: 1 of 1 Period: 3.794 d



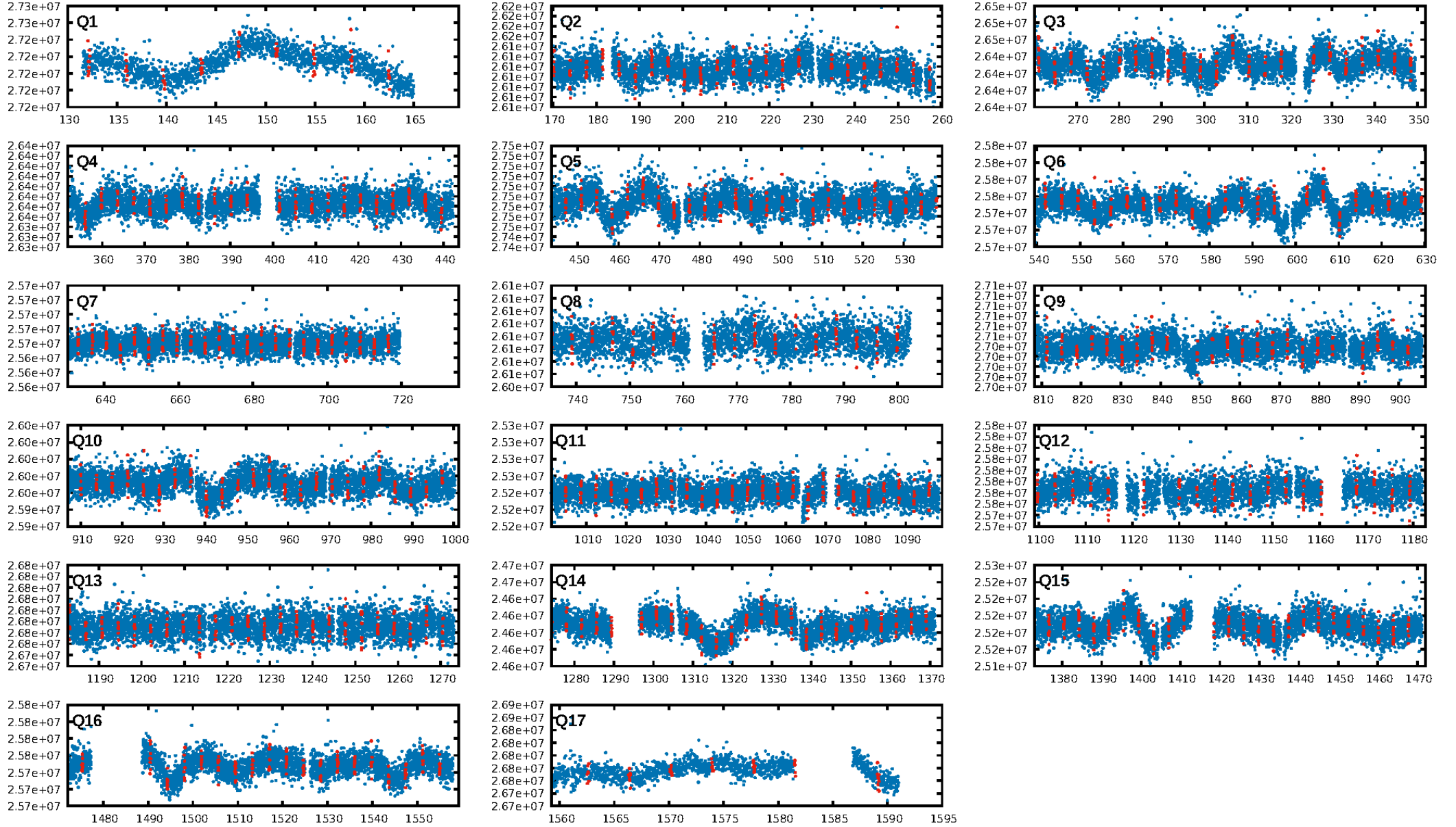
DV Fit Results:

Period = 3.79434 [0.00003] d
Epoch = 132.1350 [0.0060] BKJD
Rp/R* = 0.0095 [0.0102]
a/R* = 6.25 [29.08]
b = 0.88 [1.22]
Seff = 866.90 [771.56]
Teq = 1384 [308] K
Rp = 1.56 [1.81] Re
a = 0.0456 [0.0232] AU
Ag = 12.37 [29.10] [0.39 σ]
Teffp = 4012 [2193] K [1.19 σ]

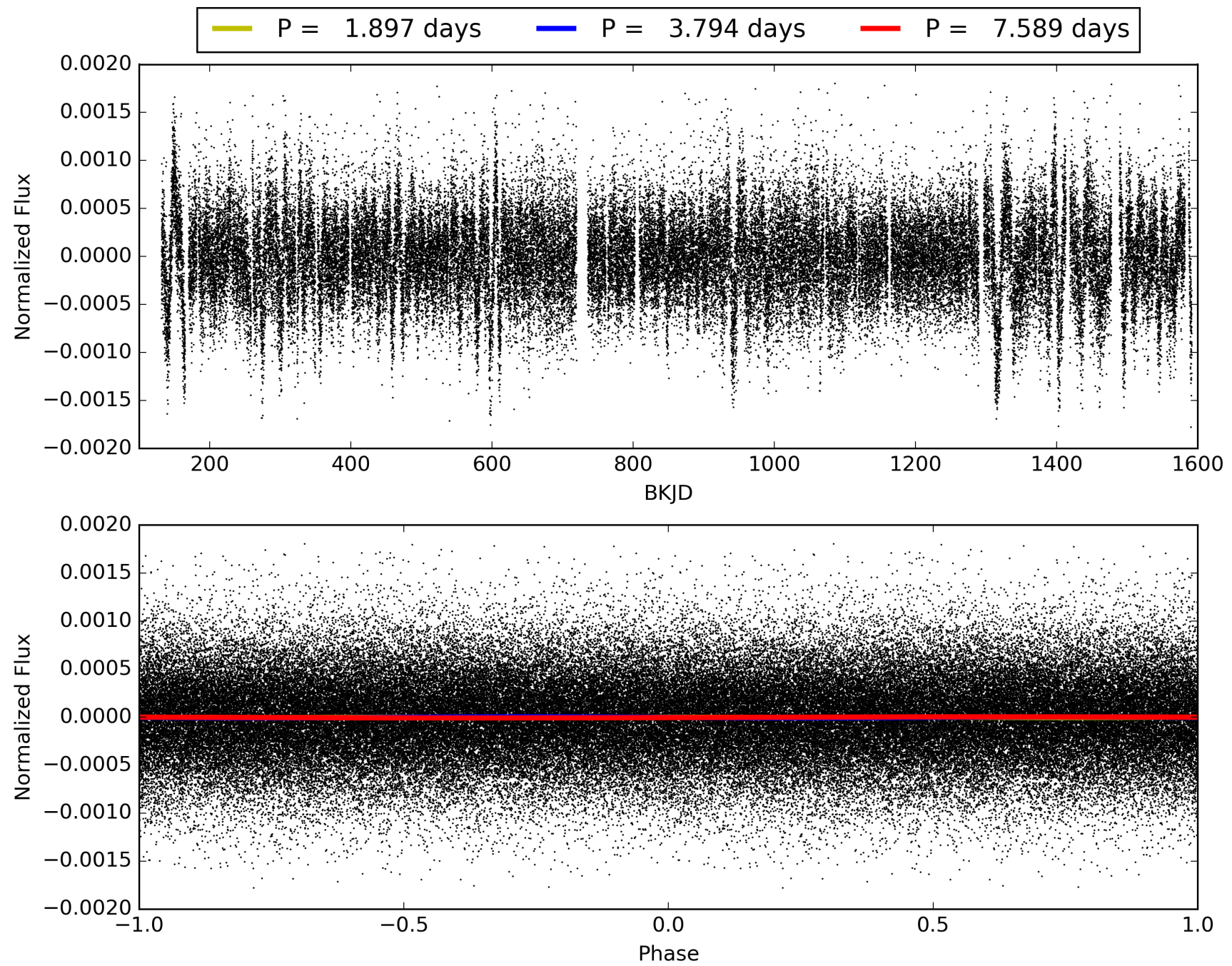
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.92e-13
RollingBand-fgt: 1.00 [335/336]
GhostDiagnostic-chr: -1.746
Centroid-sig: 24.2%
Centroid-so: 1.626 arcsec [0.88 σ]
OotOffset-rm: 1.345 arcsec [0.80 σ]
KicOffset-rm: 0.986 arcsec [0.58 σ]
OotOffset-st: 3/2/2 [9]
KicOffset-st: 3/2/2 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002984990-01, PDC Light Curves

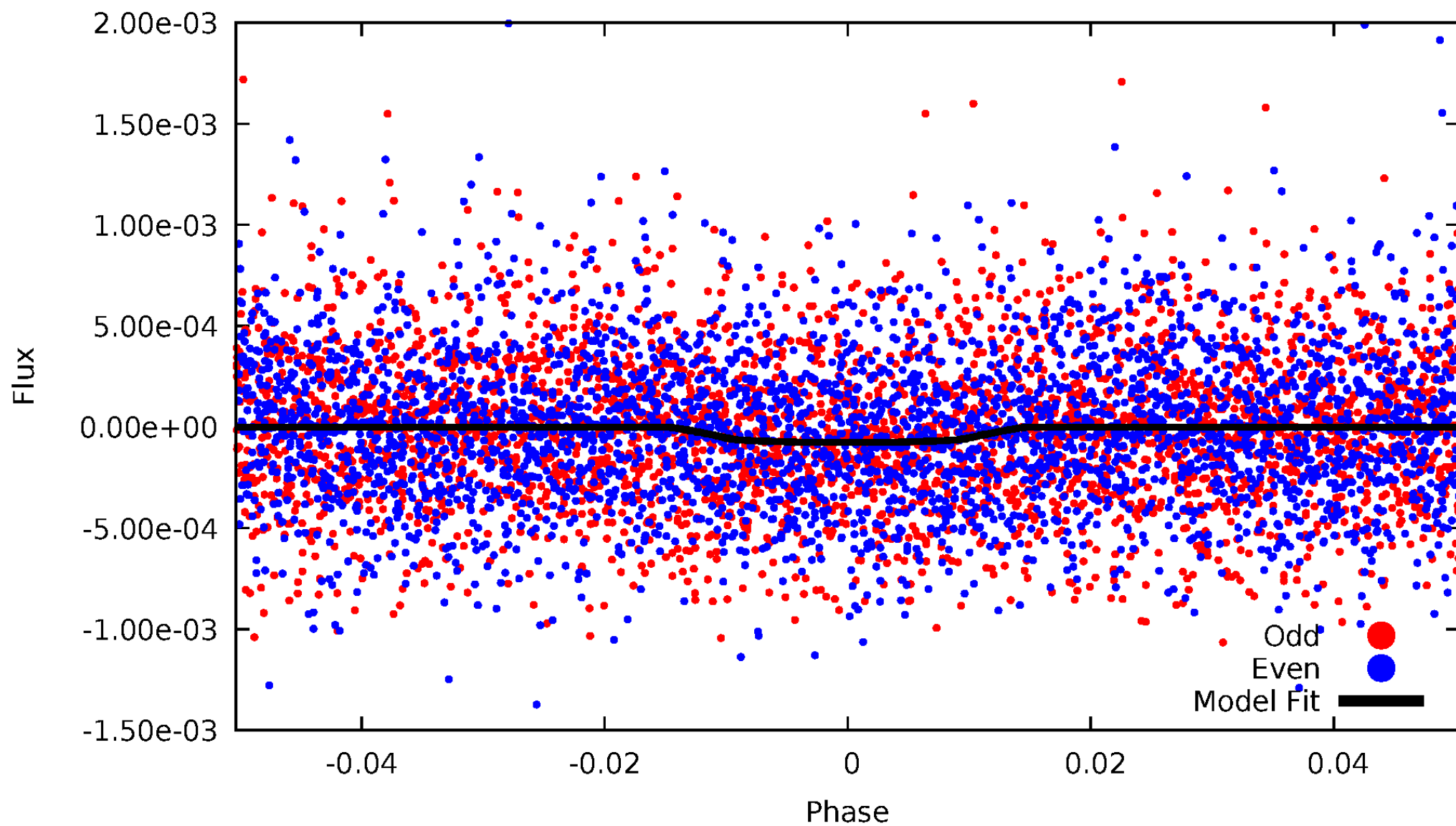


TCE 002984990-01



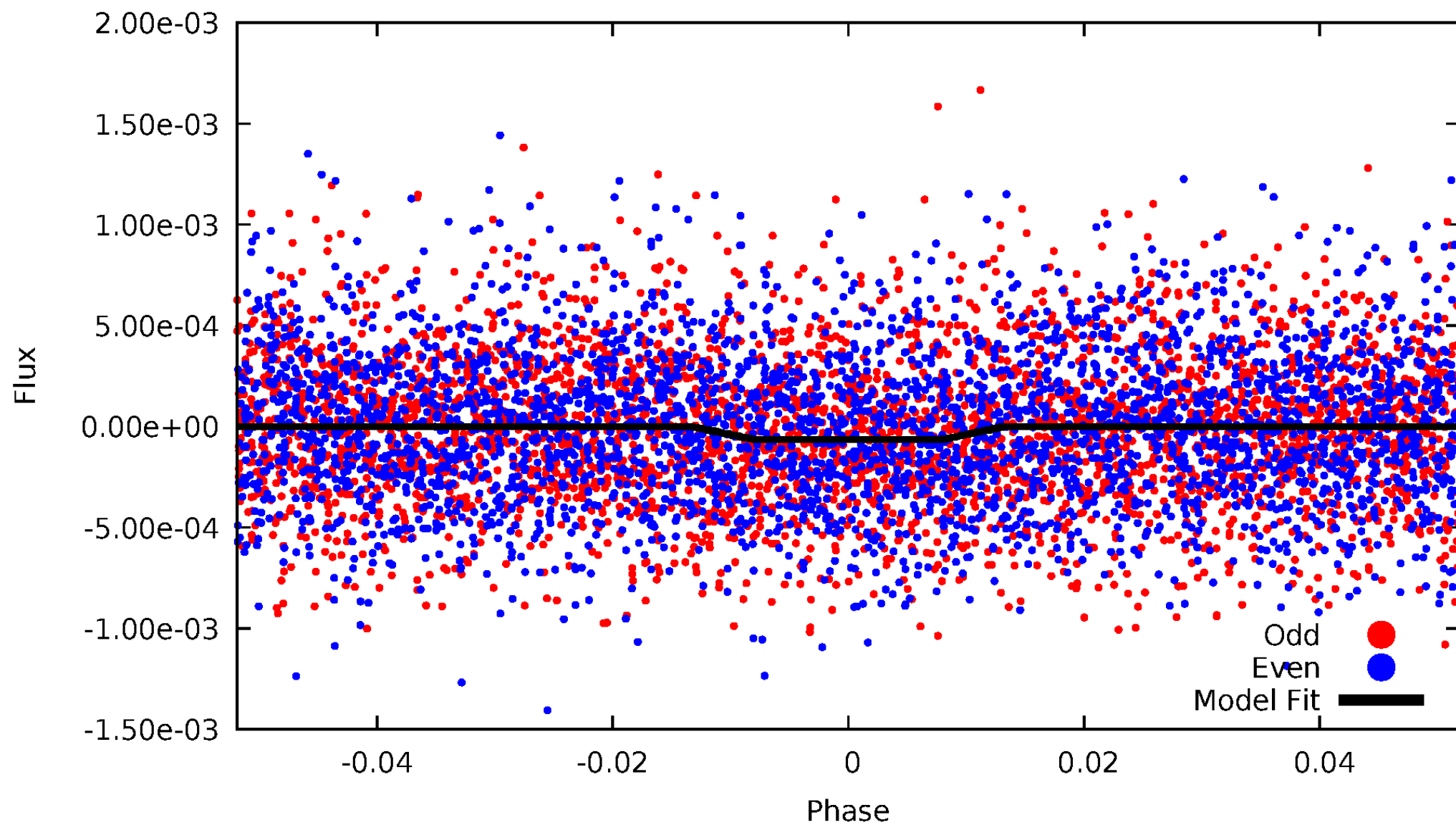
DV Odd/Even

TCE 002984990-01



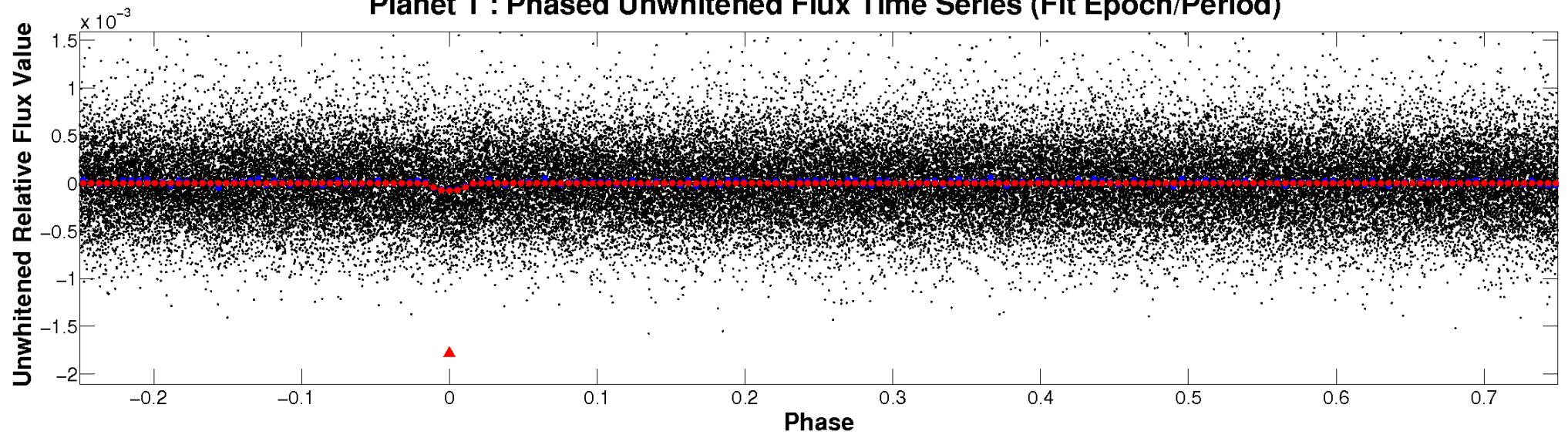
ALT Odd/Even

TCE 002984990-01

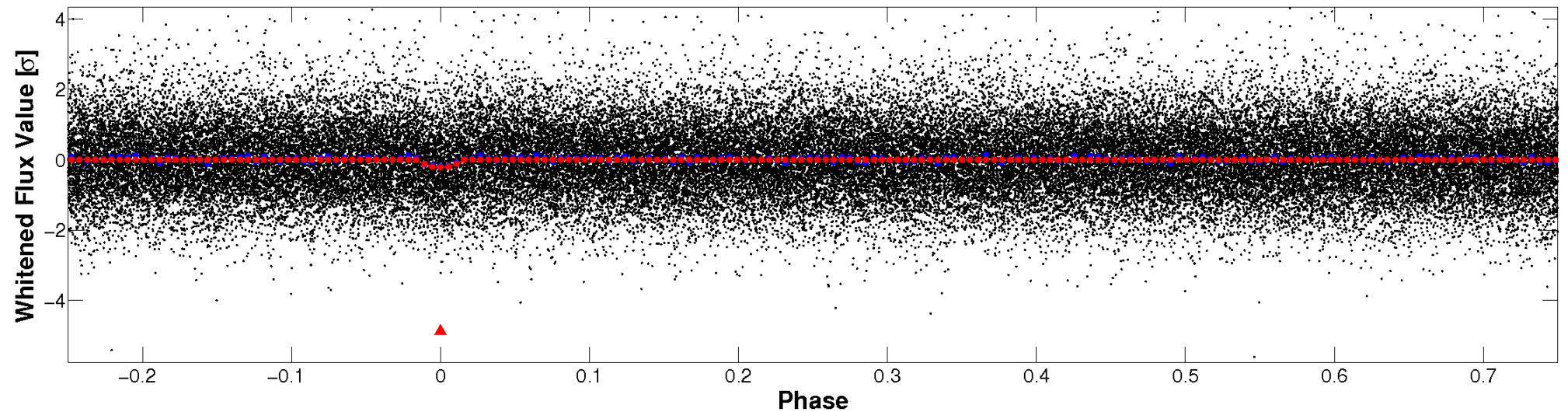


Non-Whitened Vs. Whitened Light Curve

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

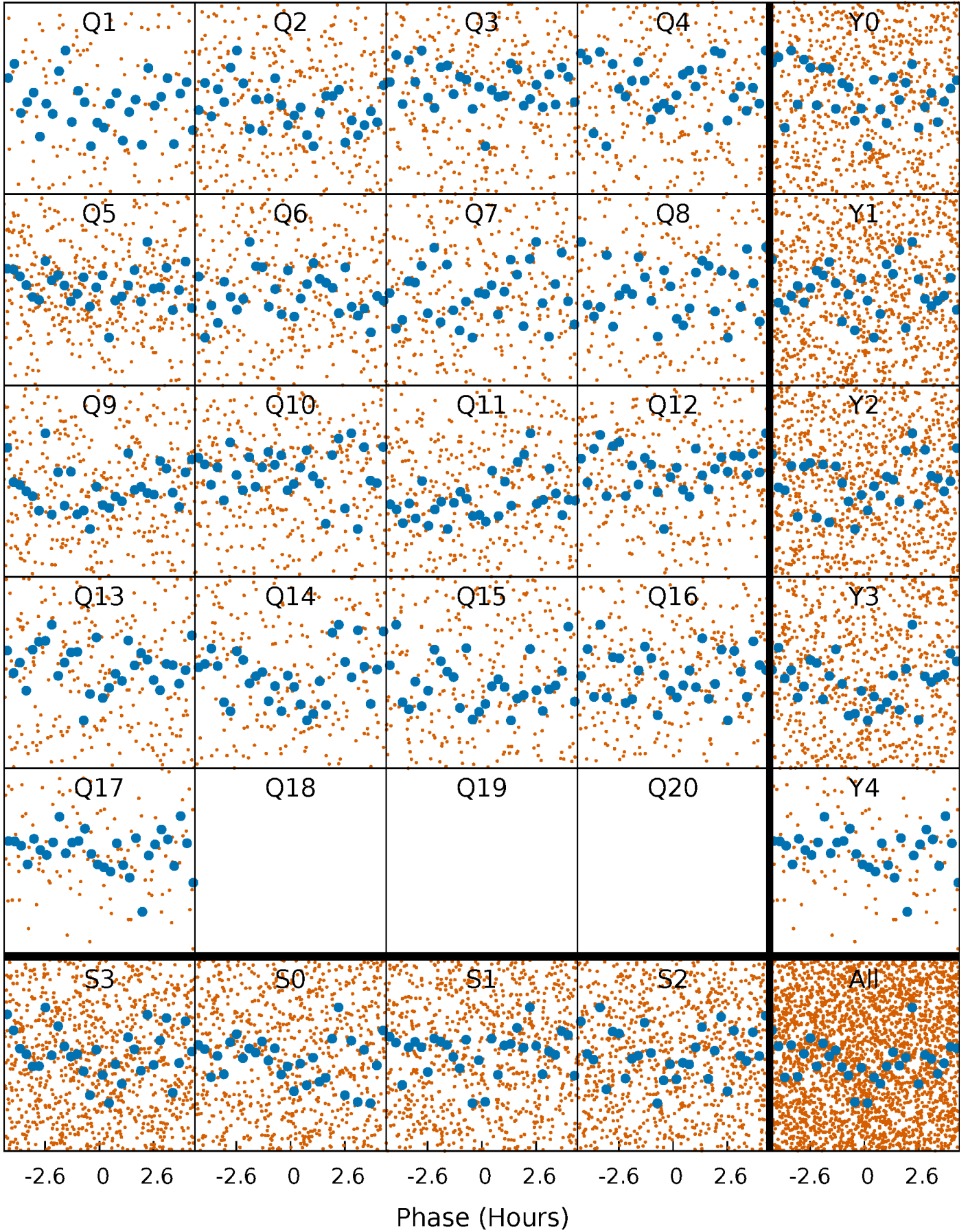


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



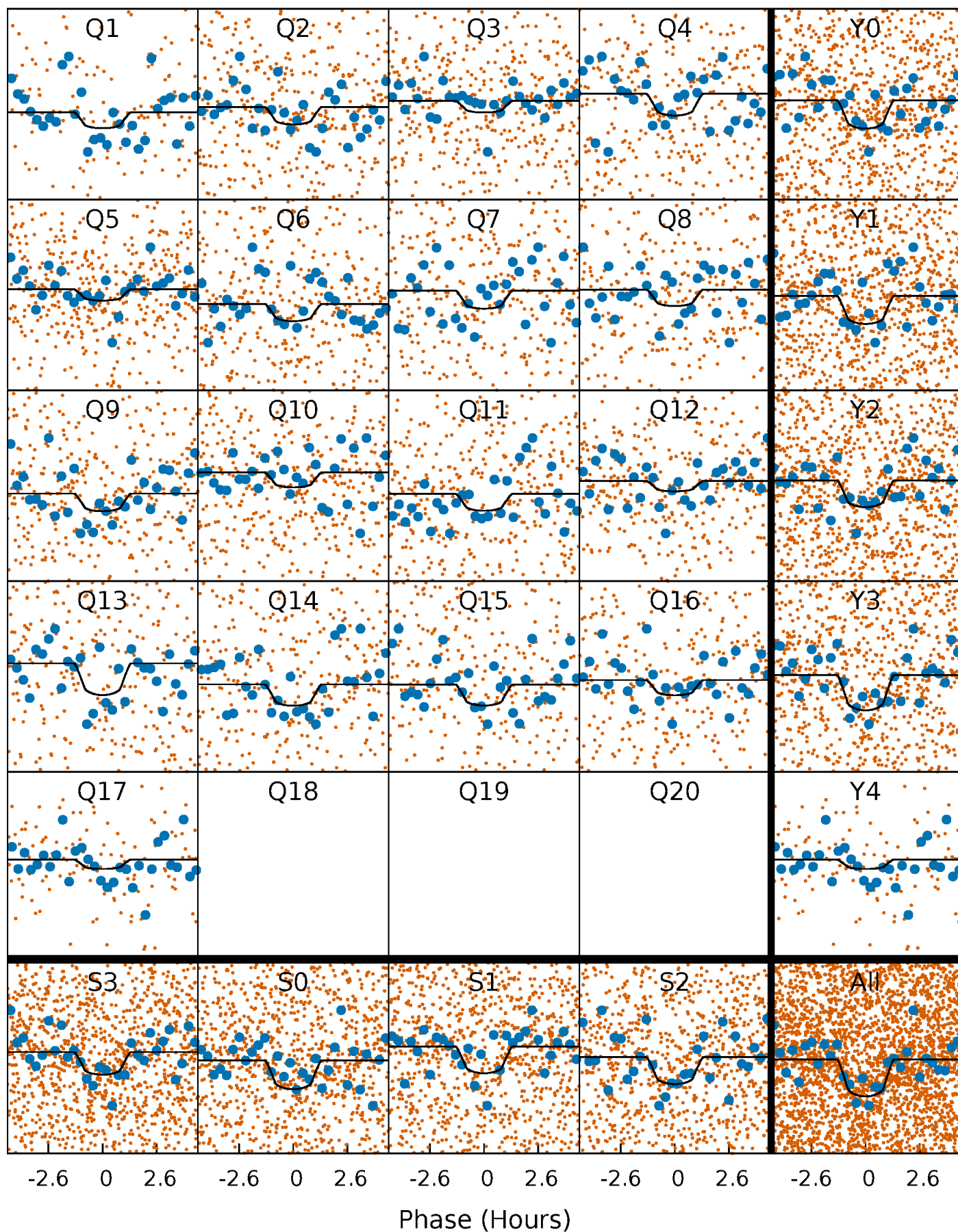
PDC Quarter-Phased Transit Curves

TCE 002984990-01 P= 3.794338 Days $T_0=132.134987$ (BKJD)



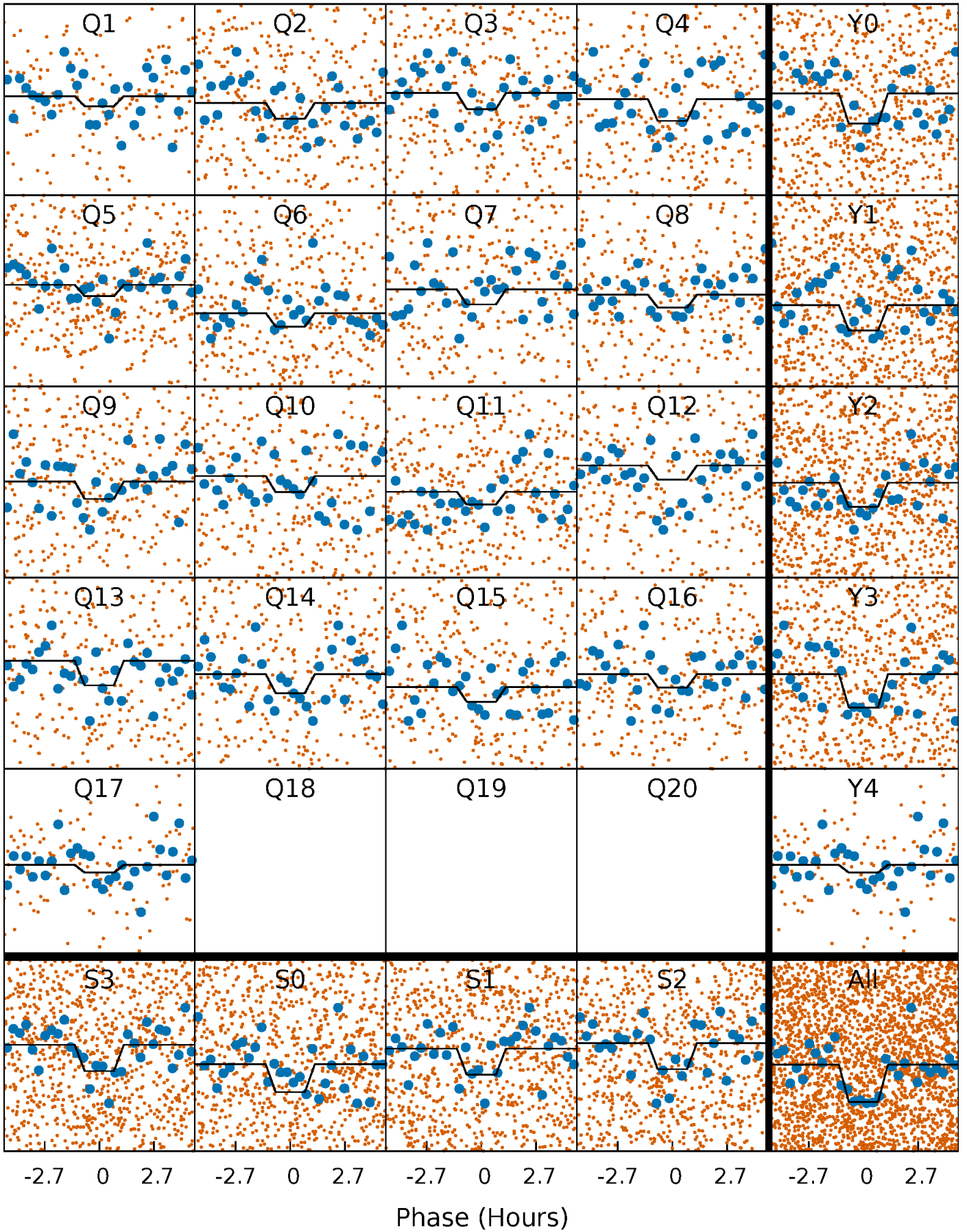
DV Quarter-Phased Transit Curves

TCE 002984990-01 P= 3.794338 Days $T_0=132.134987$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

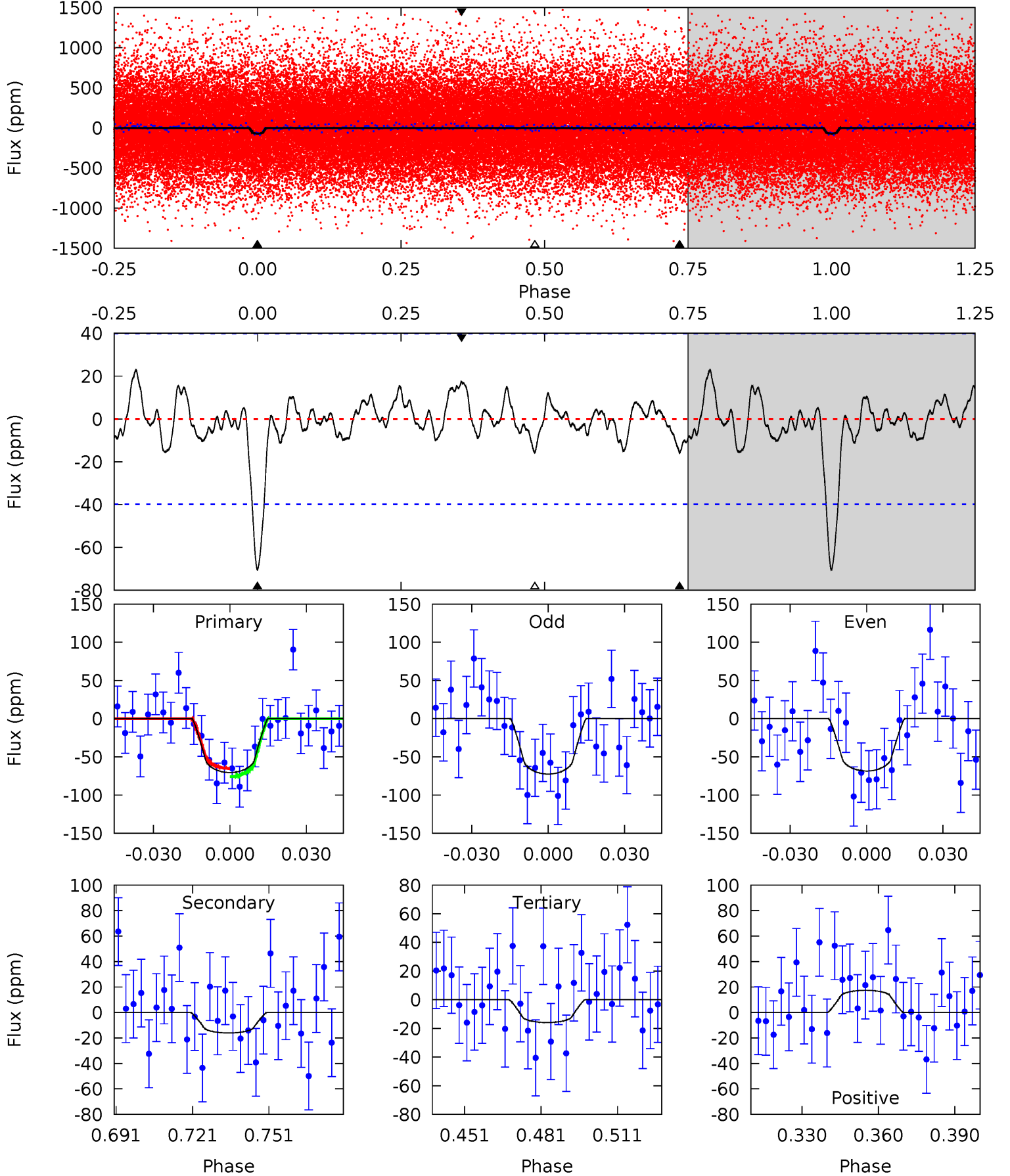
TCE 002984990-01 P= 3.794353 Days $T_0=132.130006$ (BKJD)



DV Model-Shift Uniqueness Test

002984990-01, P = 3.794338 Days, E = 128.340649 Days

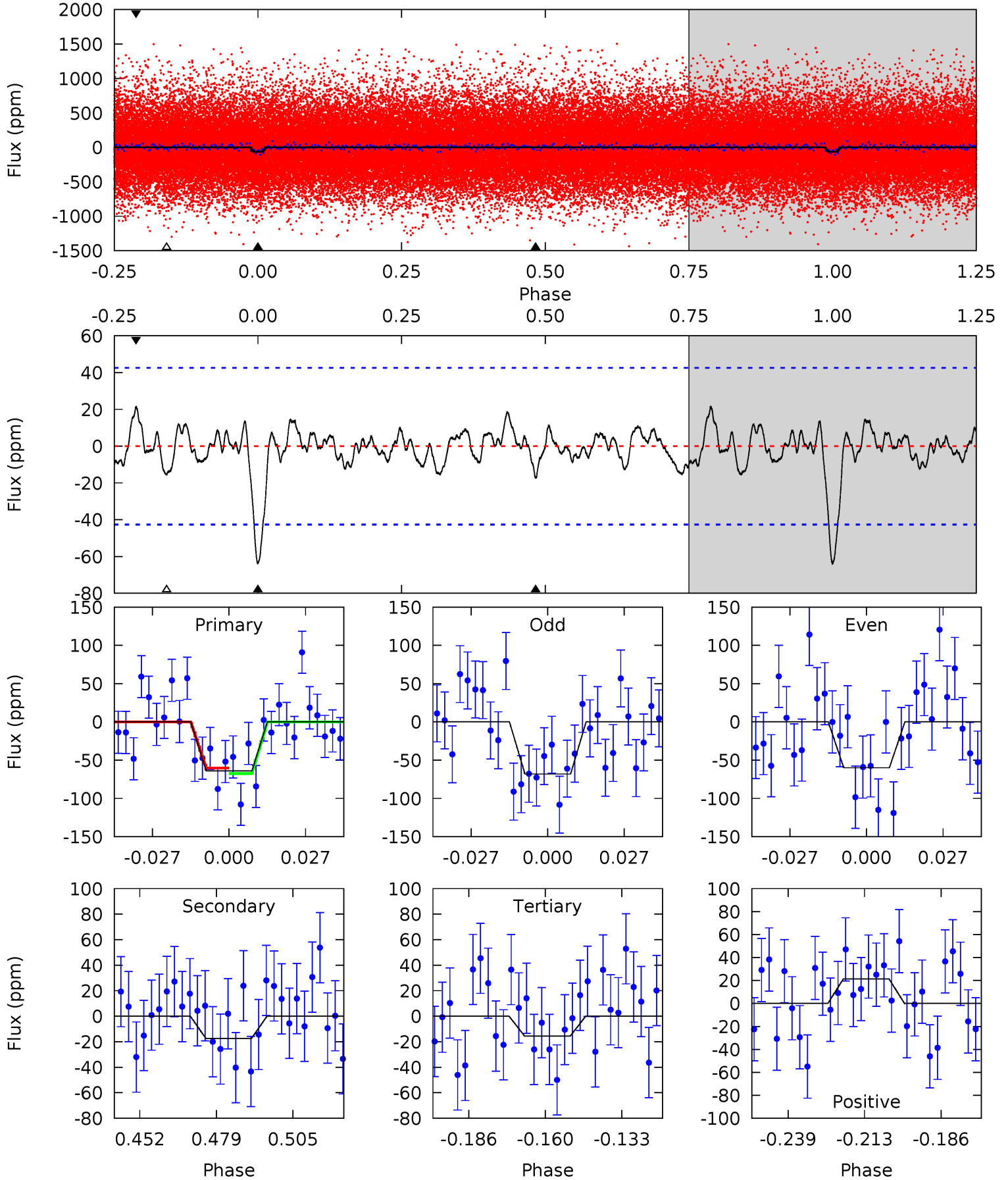
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.51	1.94	1.92	2.10	4.81	2.17	0.90	6.59	6.40	0.02	-0.17	0.24	1.01	0.25	0.64



Alt Model-Shift Uniqueness Test

002984990-01, P = 3.794353 Days, E = 128.335653 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.27	1.98	1.77	2.43	4.84	2.22	0.81	5.51	4.84	0.21	-0.46	0.47	0.95	0.25	0.40



Stellar Parameters For KIC 002984990

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5455^{+180}_{-147}	$4.025^{+0.540}_{-0.216}$	$-0.180^{+0.350}_{-0.250}$	$1.507^{+0.548}_{-0.669}$	$0.877^{+0.091}_{-0.101}$	$0.361^{+1.768}_{-0.188}$
	+3%/-3%	+13%/-5%	+194%/-139%	+36%/-44%	+10%/-12%	+489%/-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 002984990-01 / KOI 7641.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 8	$1.83^{+1.53}_{-1.19}$	1918^{+188}_{-233}	3520^{+1673}_{-703}	$5.088^{+38.138}_{-3.860}$
Alt.	-17 ± 9	$1.57^{+1.65}_{-1.01}$	1891^{+231}_{-259}	3676^{+1970}_{-770}	$7.018^{+45.829}_{-5.623}$

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

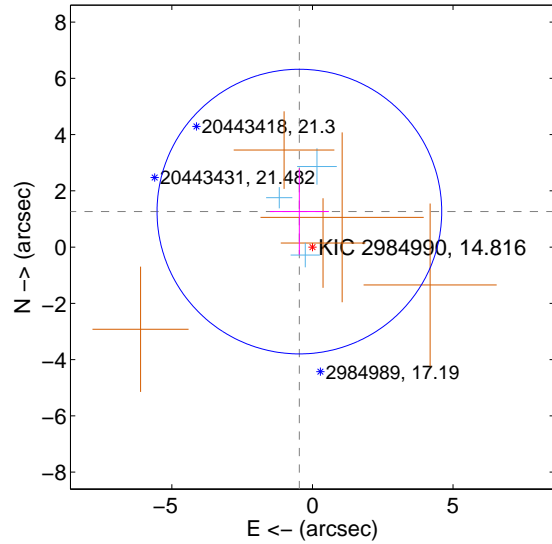
Supplemental centroid analysis for 002984990-01. Kepler magnitude: 14.82. Transit SNR 7.24

There are 3 quarters with good PRF difference image offsets

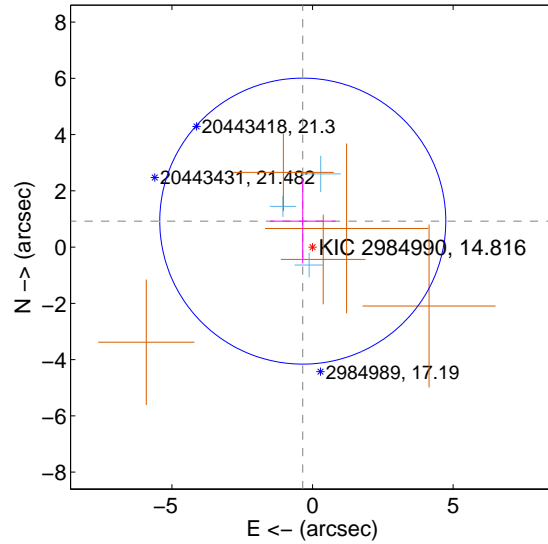
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.345 ± 1.687	0.80	0.464 ± 1.047	1.263 ± 1.529
PRF-fit source offset from KIC position	0.986 ± 1.695	0.58	0.347 ± 1.167	0.923 ± 1.504
photometric centroid source offset	1.63 ± 1.85	0.88	-1.31 ± 1.73	0.96 ± 2.05

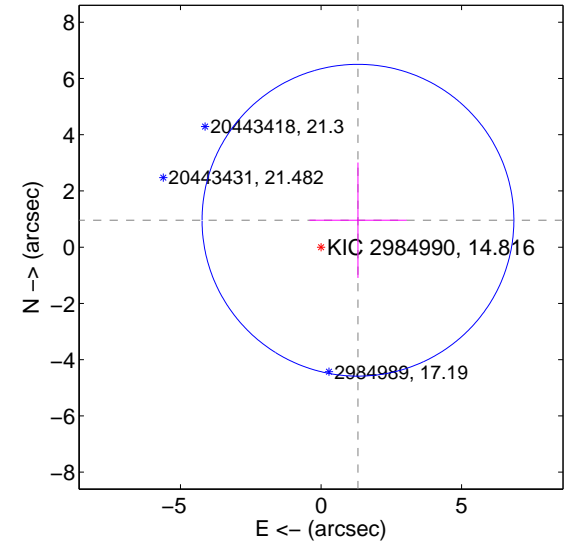
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

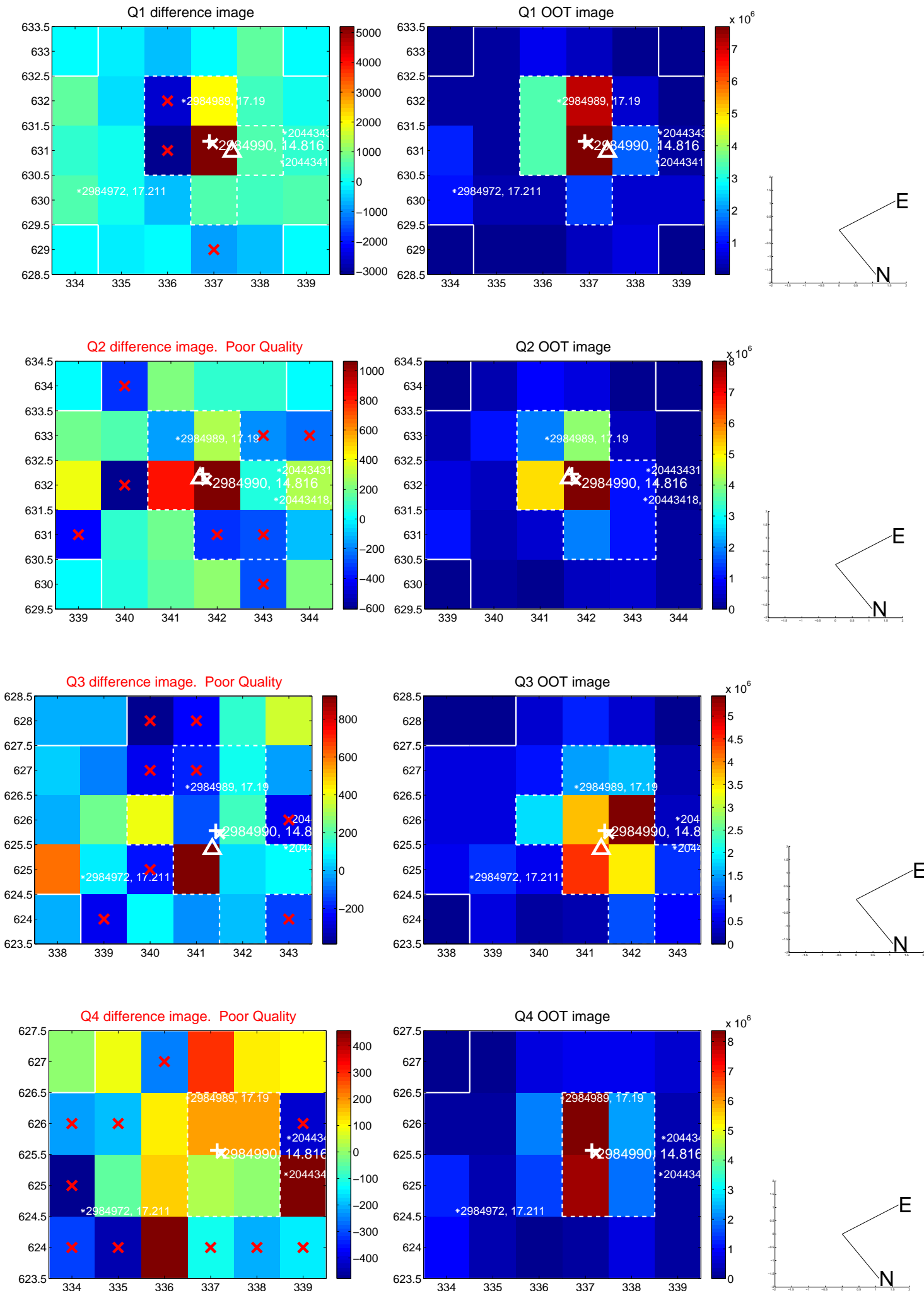


offset from photometric centroids

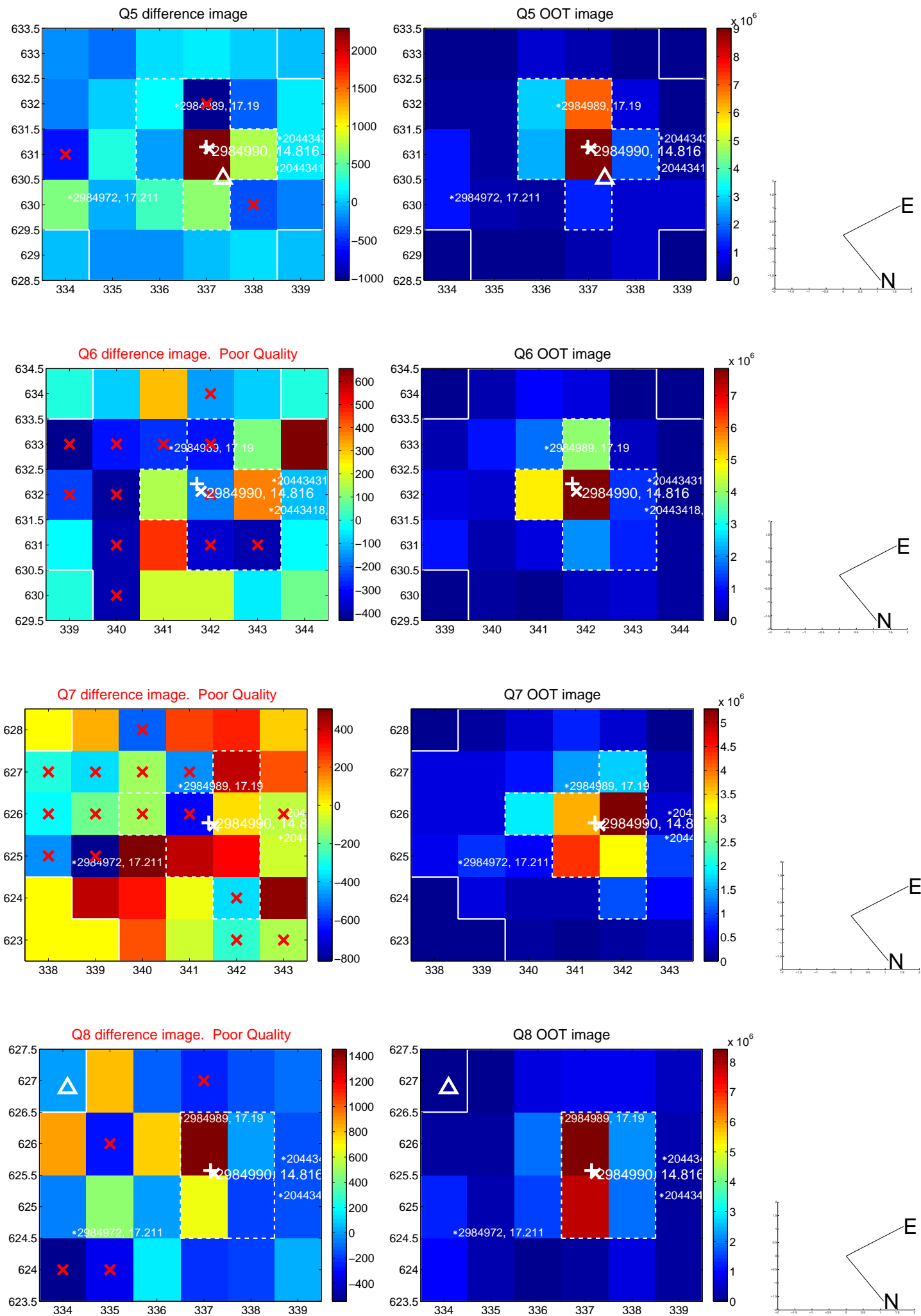


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

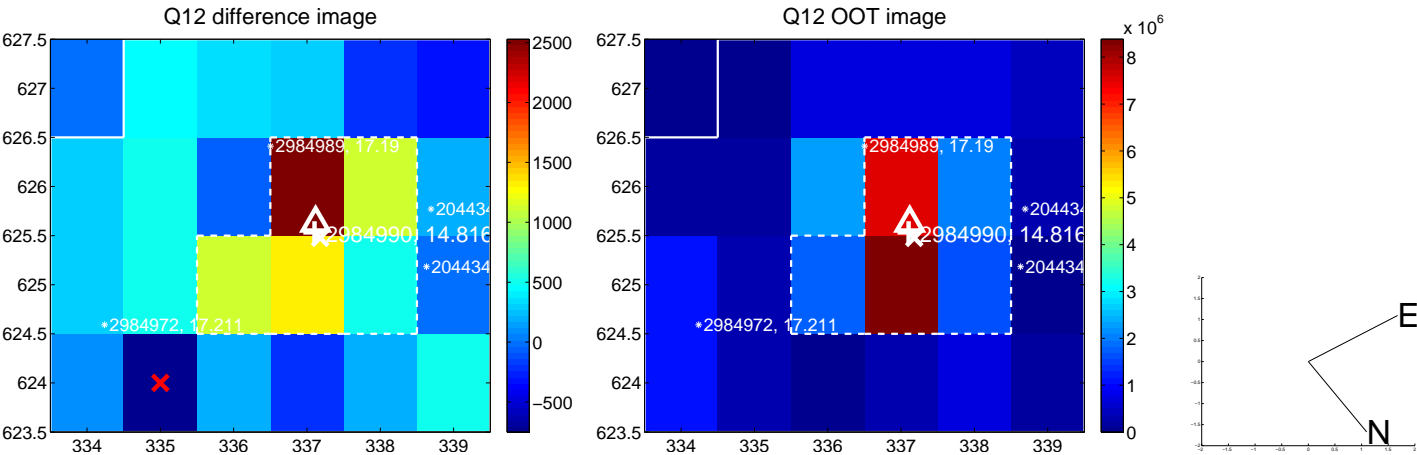
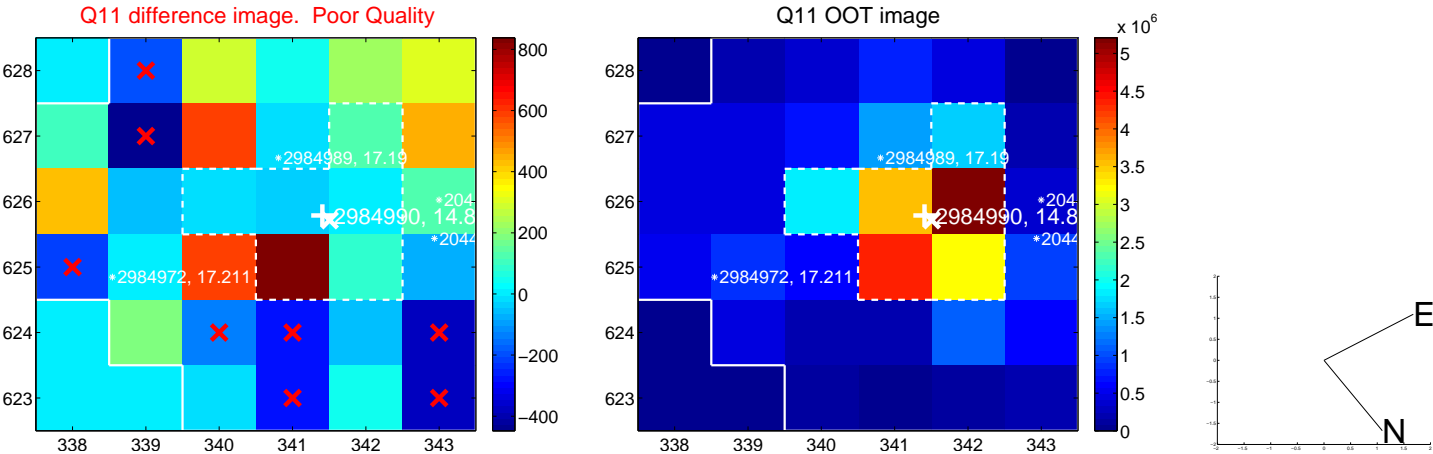
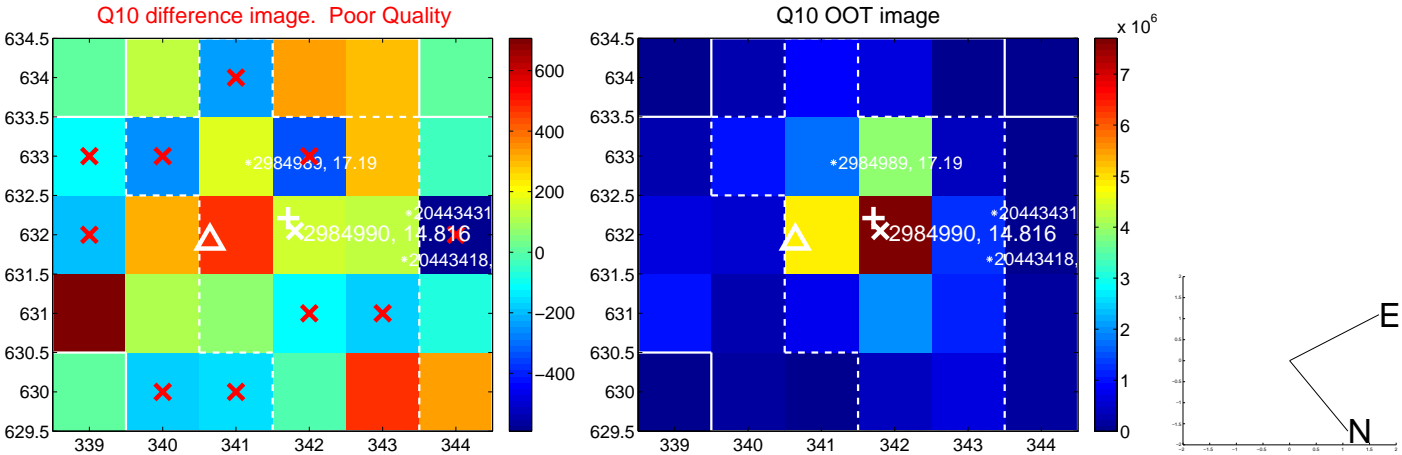
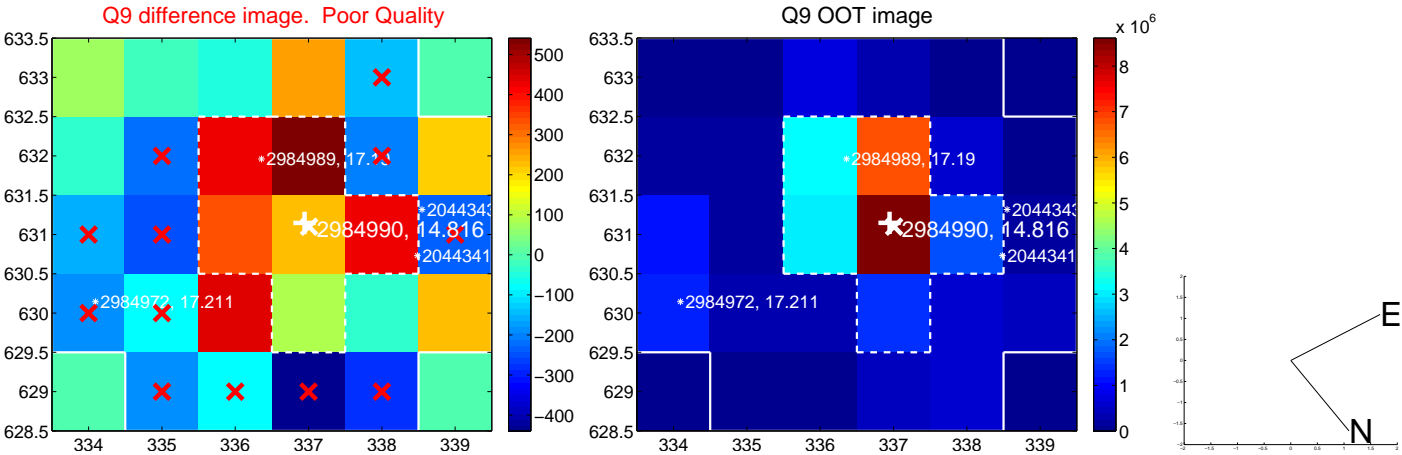
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



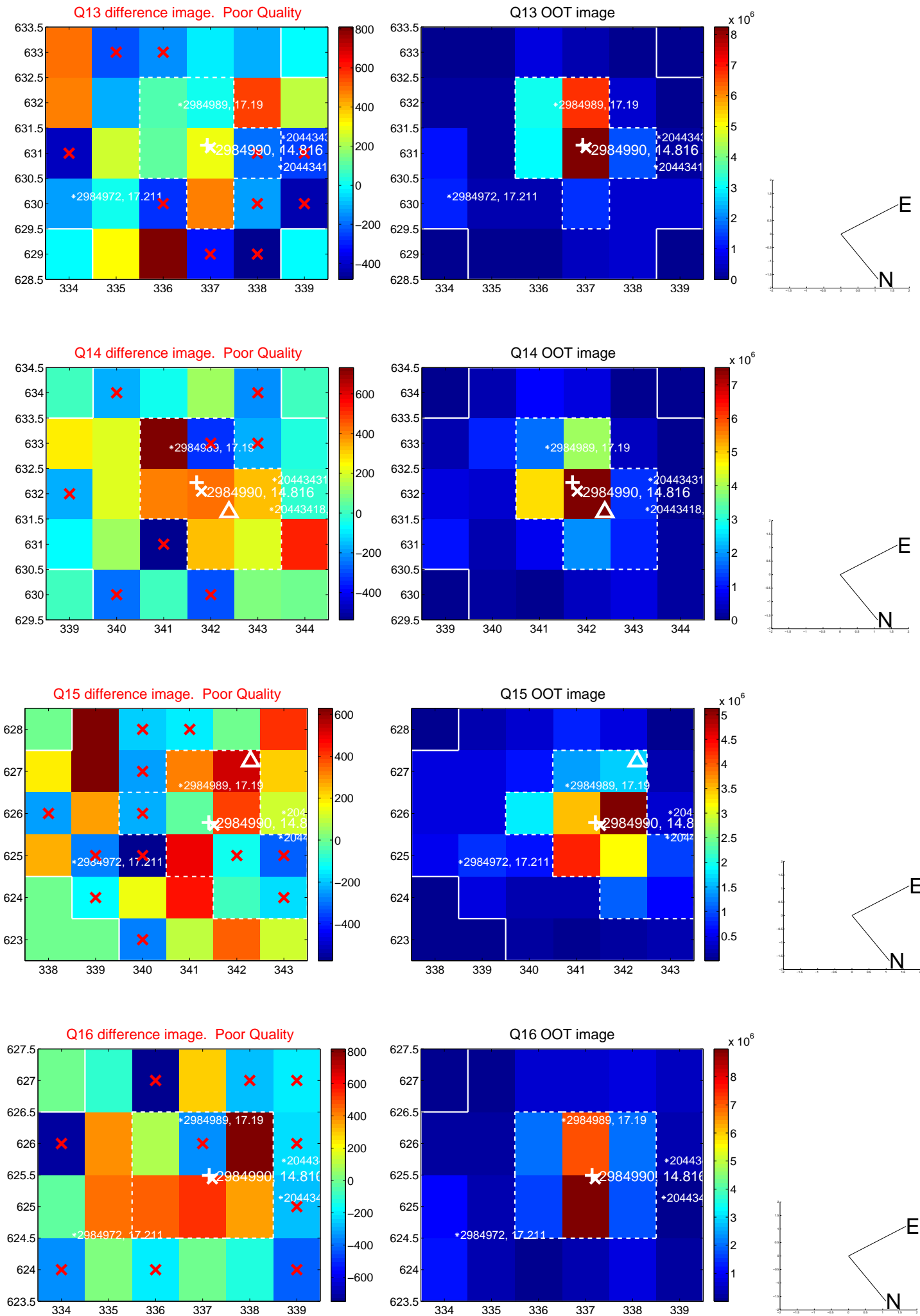
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



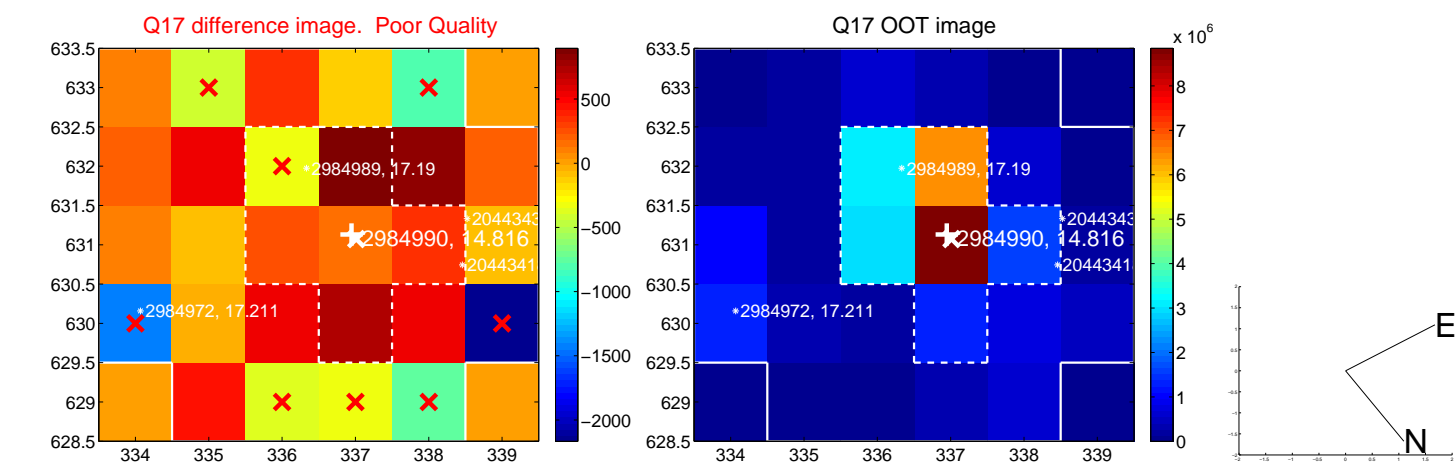
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



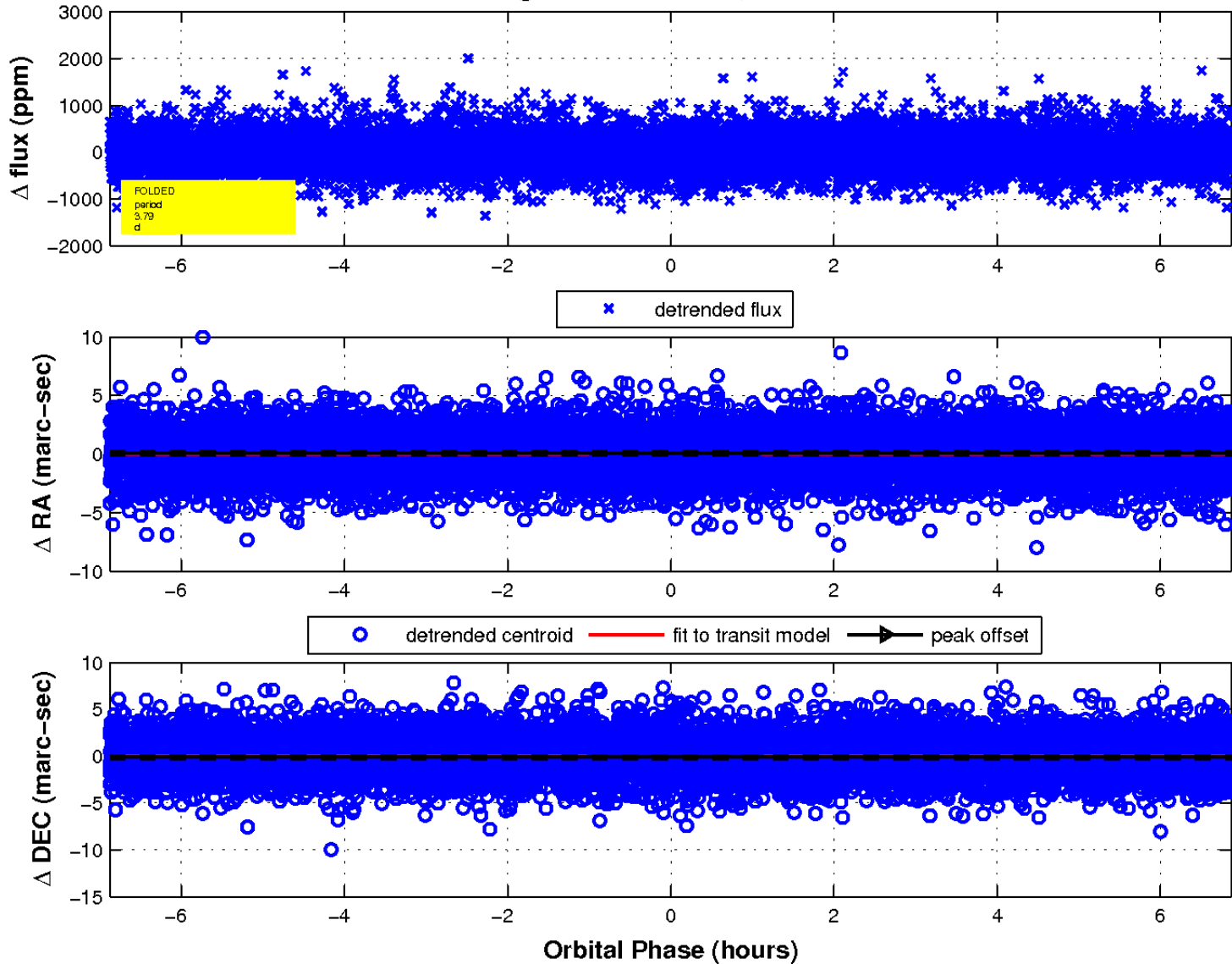
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

