

KIC 009959494

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})
009959494-01	OBS	3205.01	1.332538	132.062034	18.5	3.828	19.9	20.3	1.08	6620	0.55	3362.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009959494-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HALO_GHOST—EPHEM_MATCH

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.

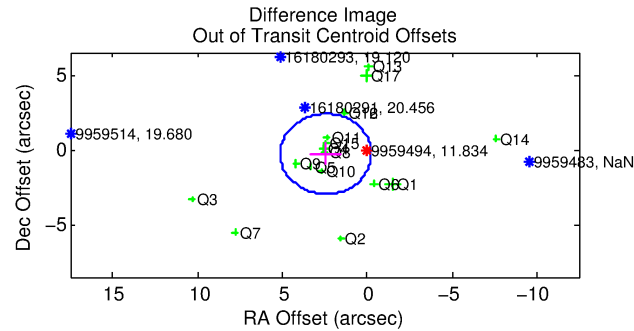
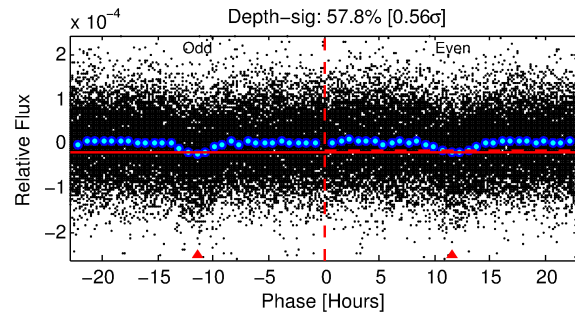
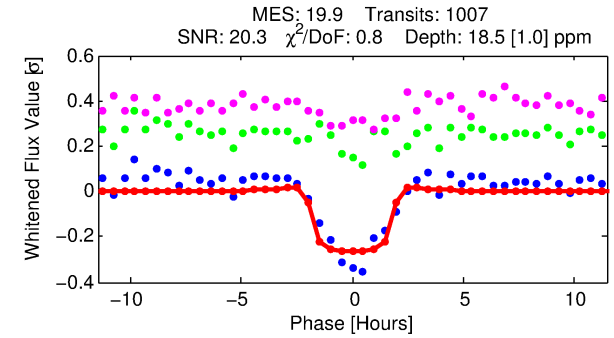
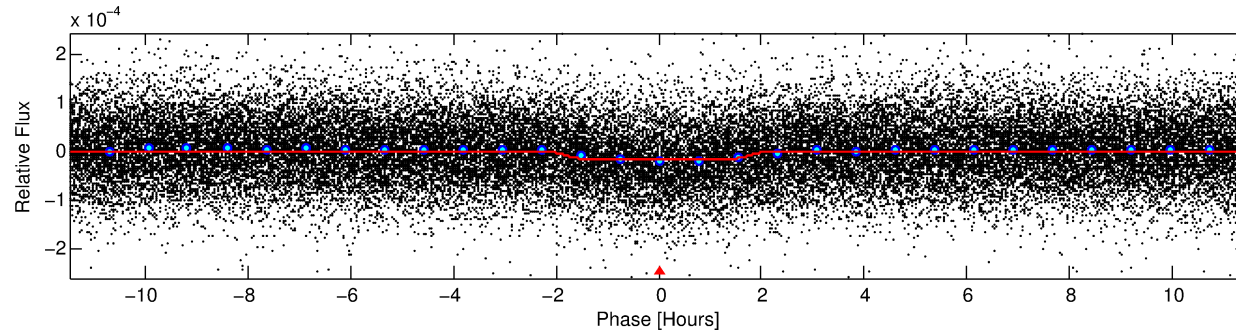
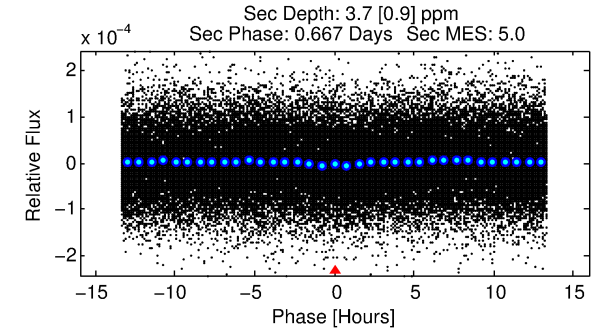
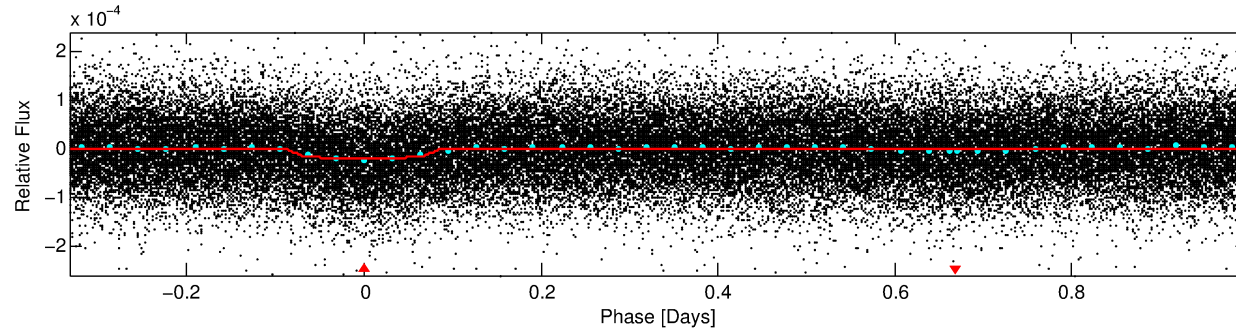
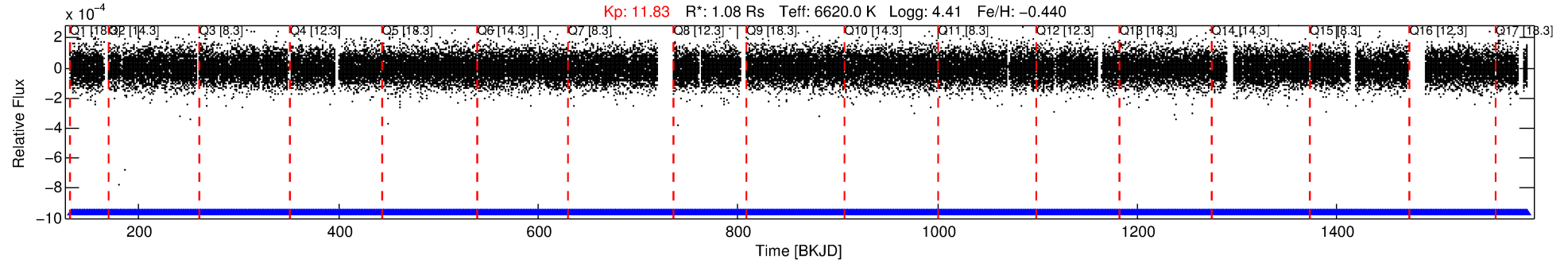
Ephemeris Match Information For 009959494-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009959494-01	9959494	BR-Cyg-pri	9899416	1:1	127.6	1	-32	10.03	11.84	37159.00	Direct-PRF	0	1.61	0.89

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9959494 Candidate: 1 of 1 Period: 1.333 d
KOI: K03205.01 Corr: 0.939



DV Fit Results:

Period = 1.33254 [0.00001] d
Epoch = 132.0620 [0.0022] BKJD
Rp/R* = 0.0046 [0.0008]
a/R* = 1.47 [0.86]
b = 0.91 [0.21]
Seff = 3362.31 [994.08]
Teq = 1942 [144] K
Rp = 0.55 [0.15] Re
a = 0.0245 [0.0044] AU
Ag = 4.08 [2.11] [1.46σ]
Teffp = 4268 [491] K [4.55σ]

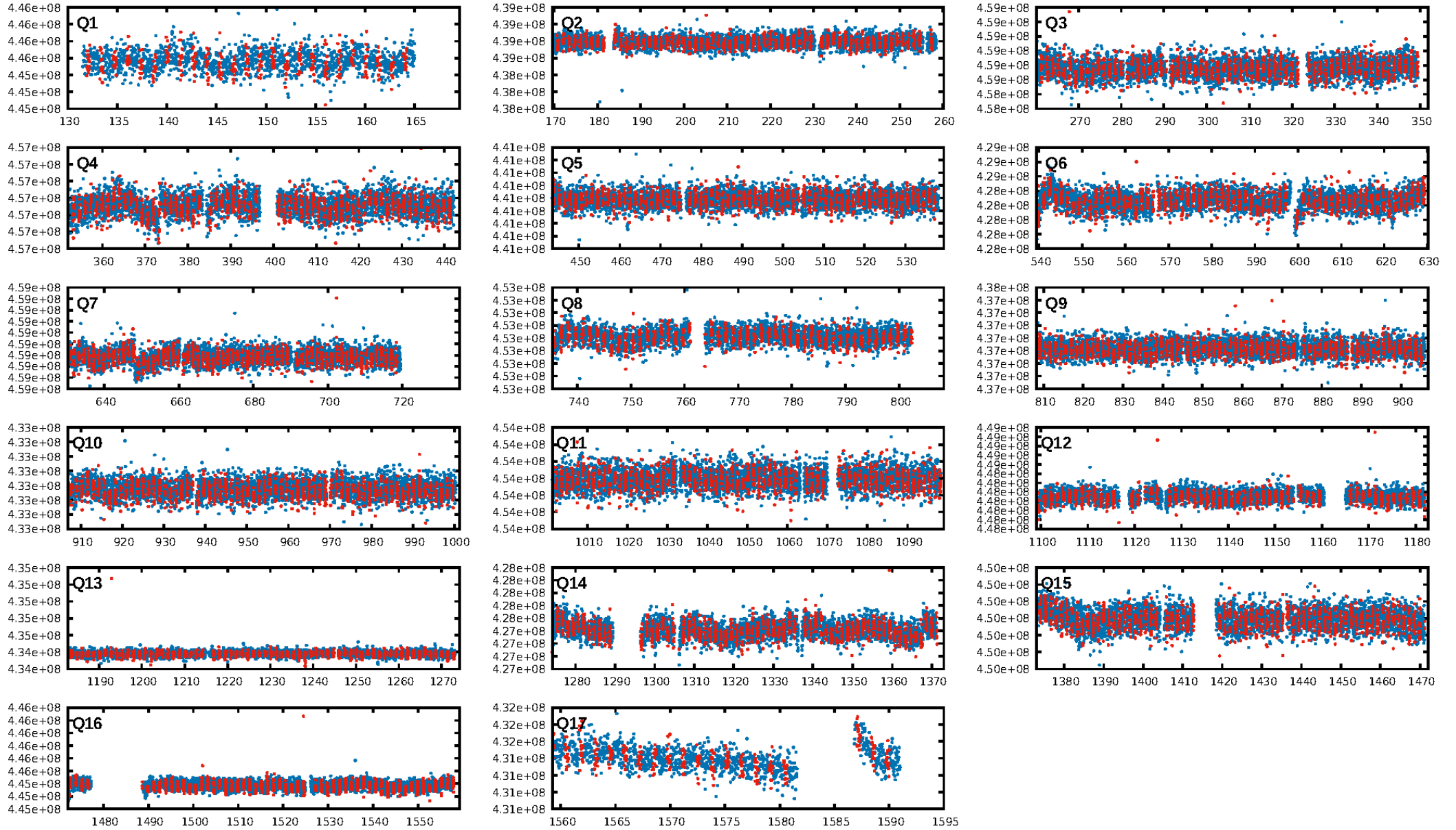
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.13e-72
RollingBand-fgt: 1.00 [962/962]
GhostDiagnostic-chr: -0.02291
Centroid-sig: 0.0%
Centroid-so: 2.017 arcsec [3.78σ]
OotOffset-rm: 2.452 arcsec [2.74σ]
KicOffset-rm: 2.587 arcsec [2.97σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

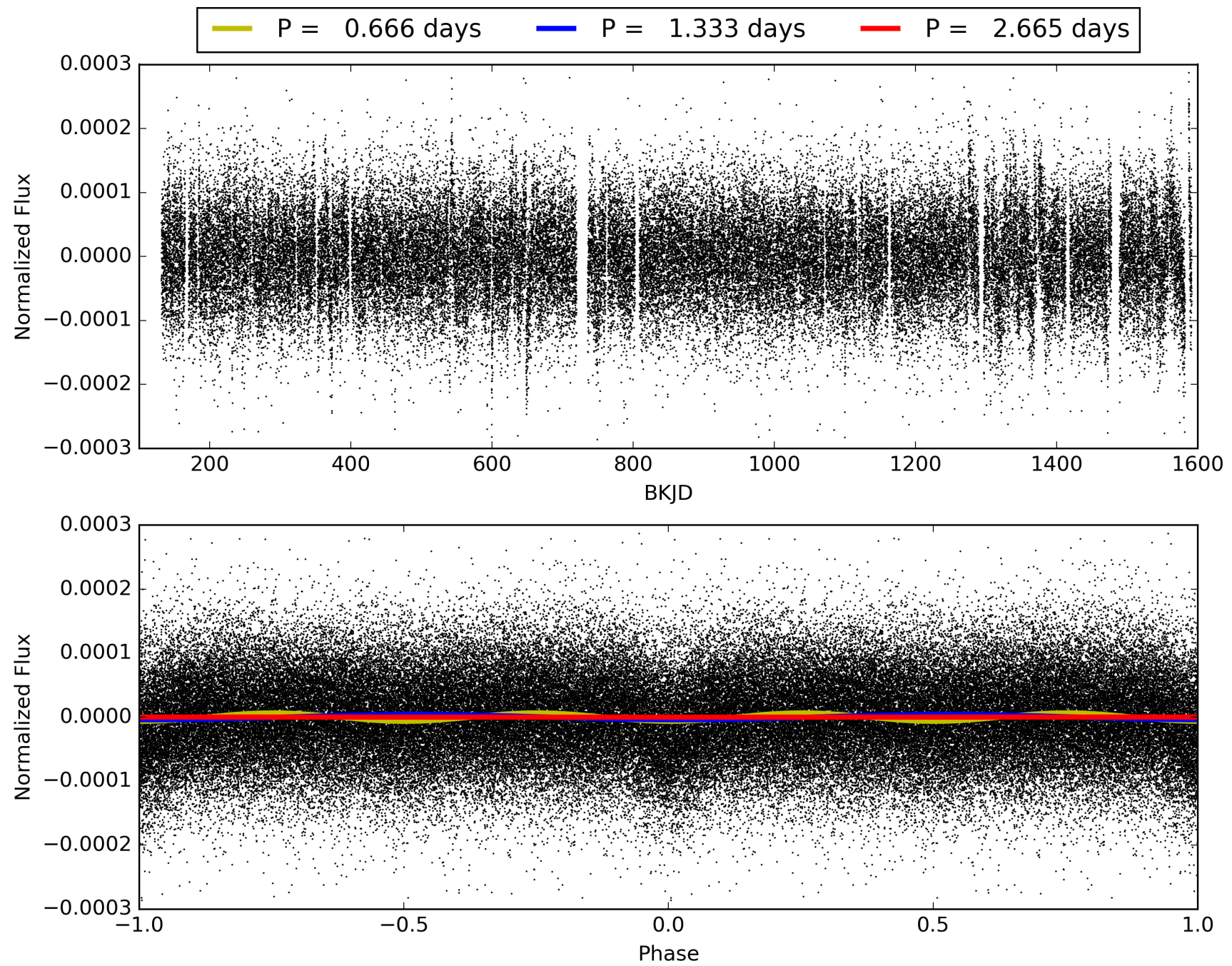
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:57:31 Z

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

TCE 009959494-01, PDC Light Curves

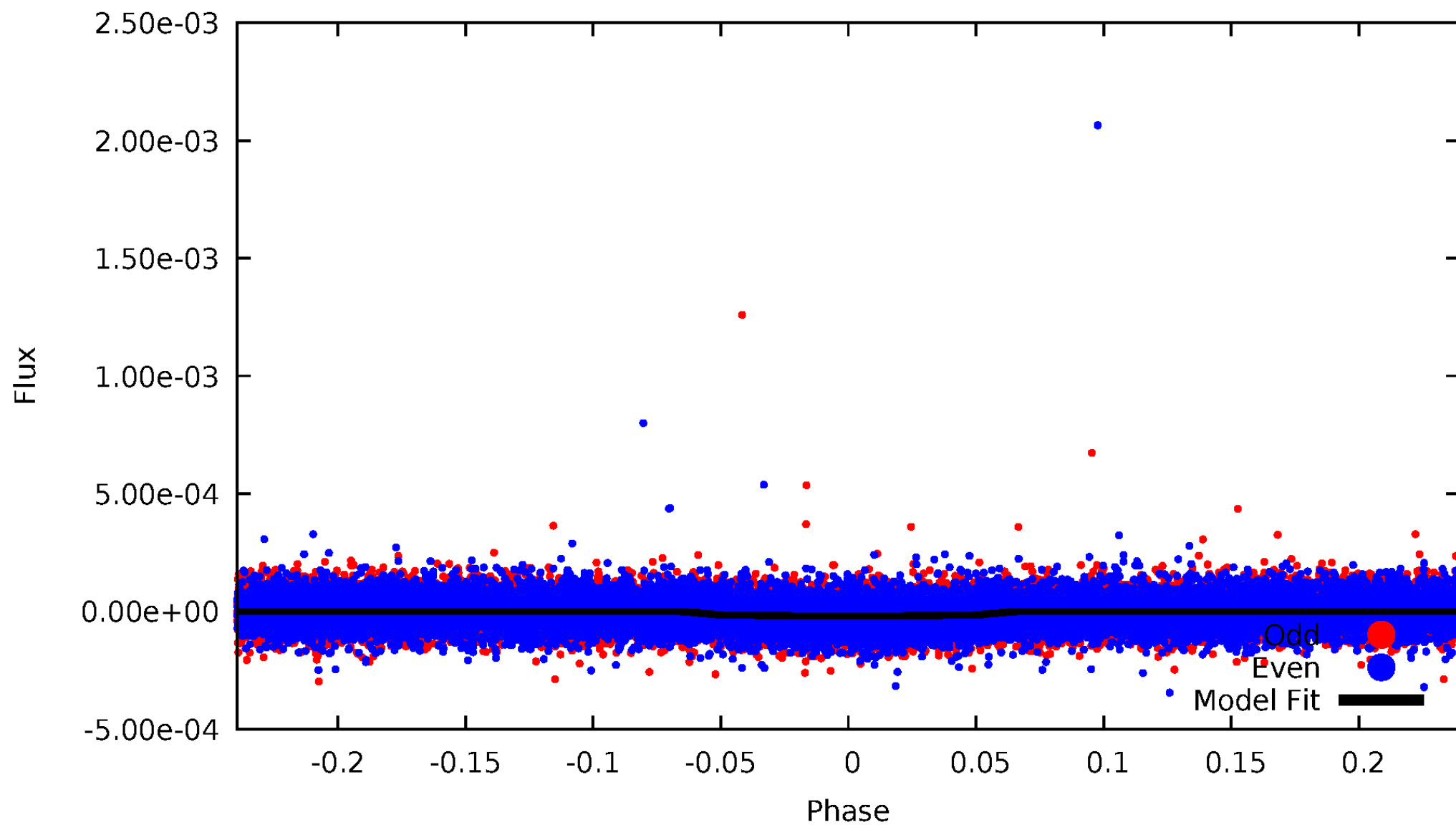


TCE 009959494-01



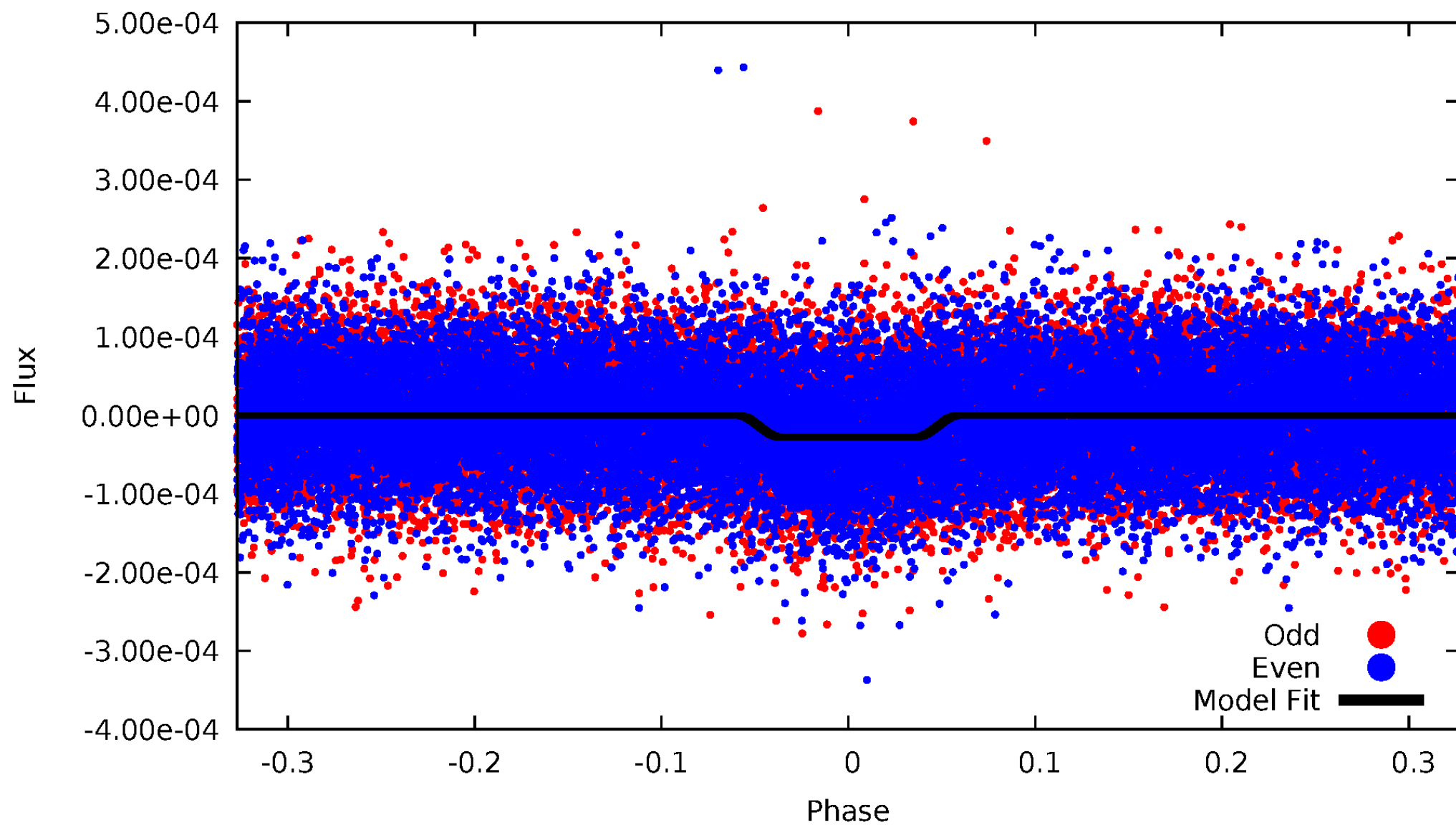
DV Odd/Even

TCE 009959494-01

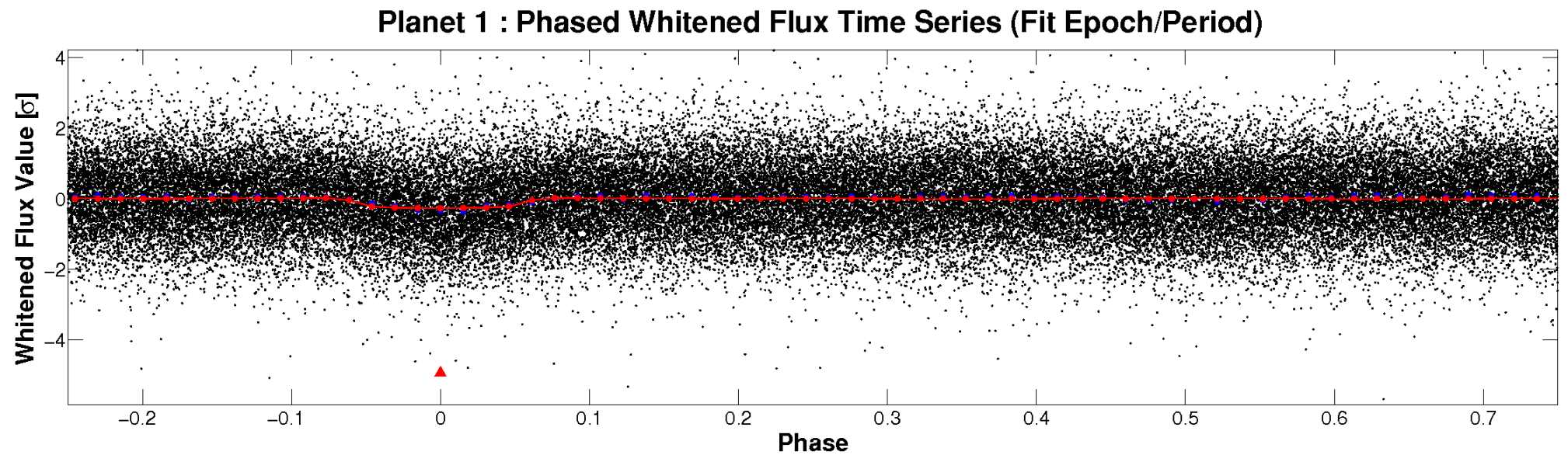
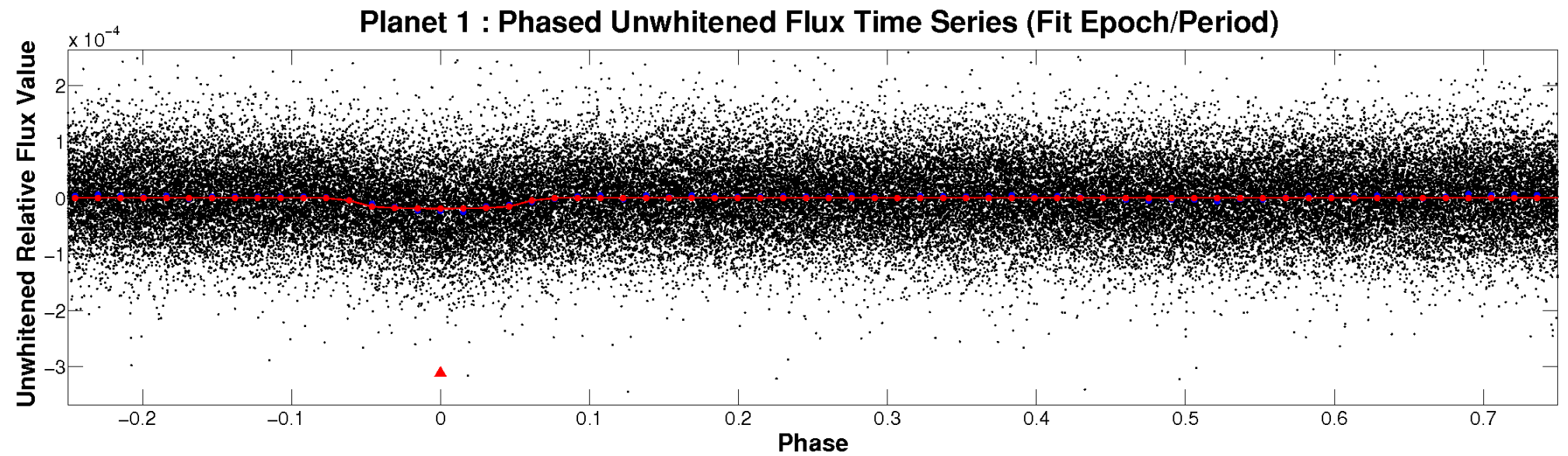


ALT Odd/Even

TCE 009959494-01

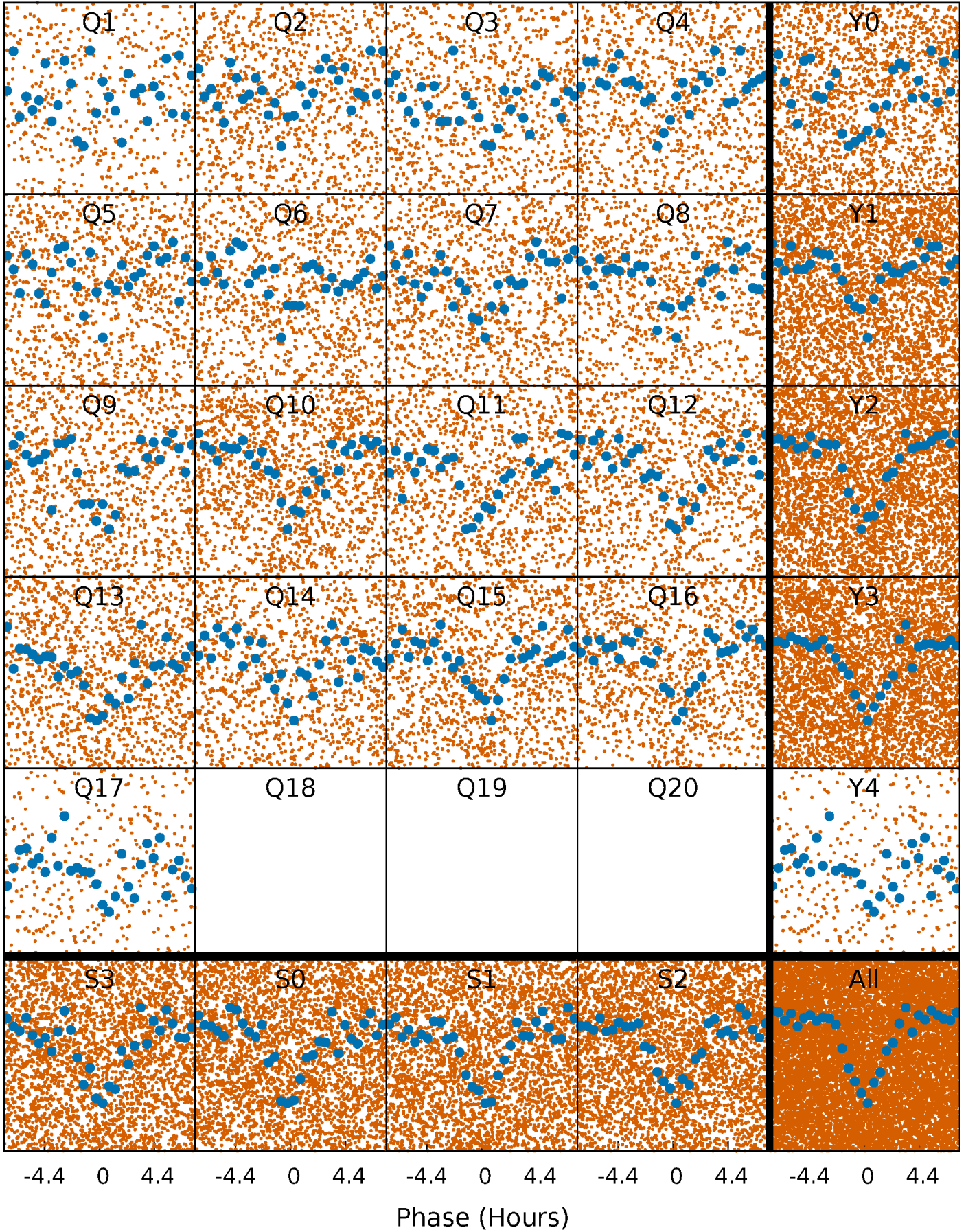


Non-Whitened Vs. Whitened Light Curve



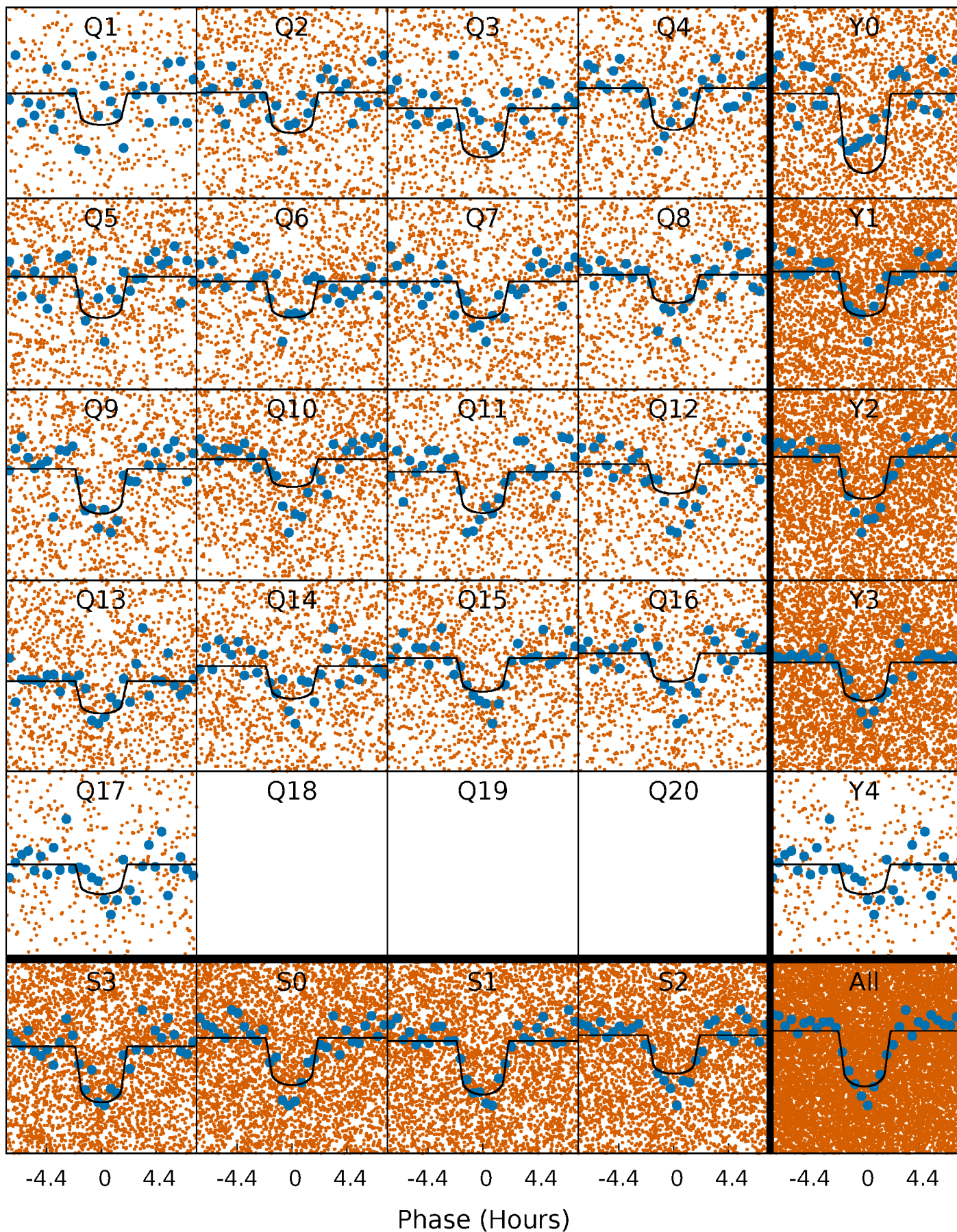
PDC Quarter-Phased Transit Curves

TCE 009959494-01 P= 1.332538 Days $T_0=132.062034$ (BKJD)



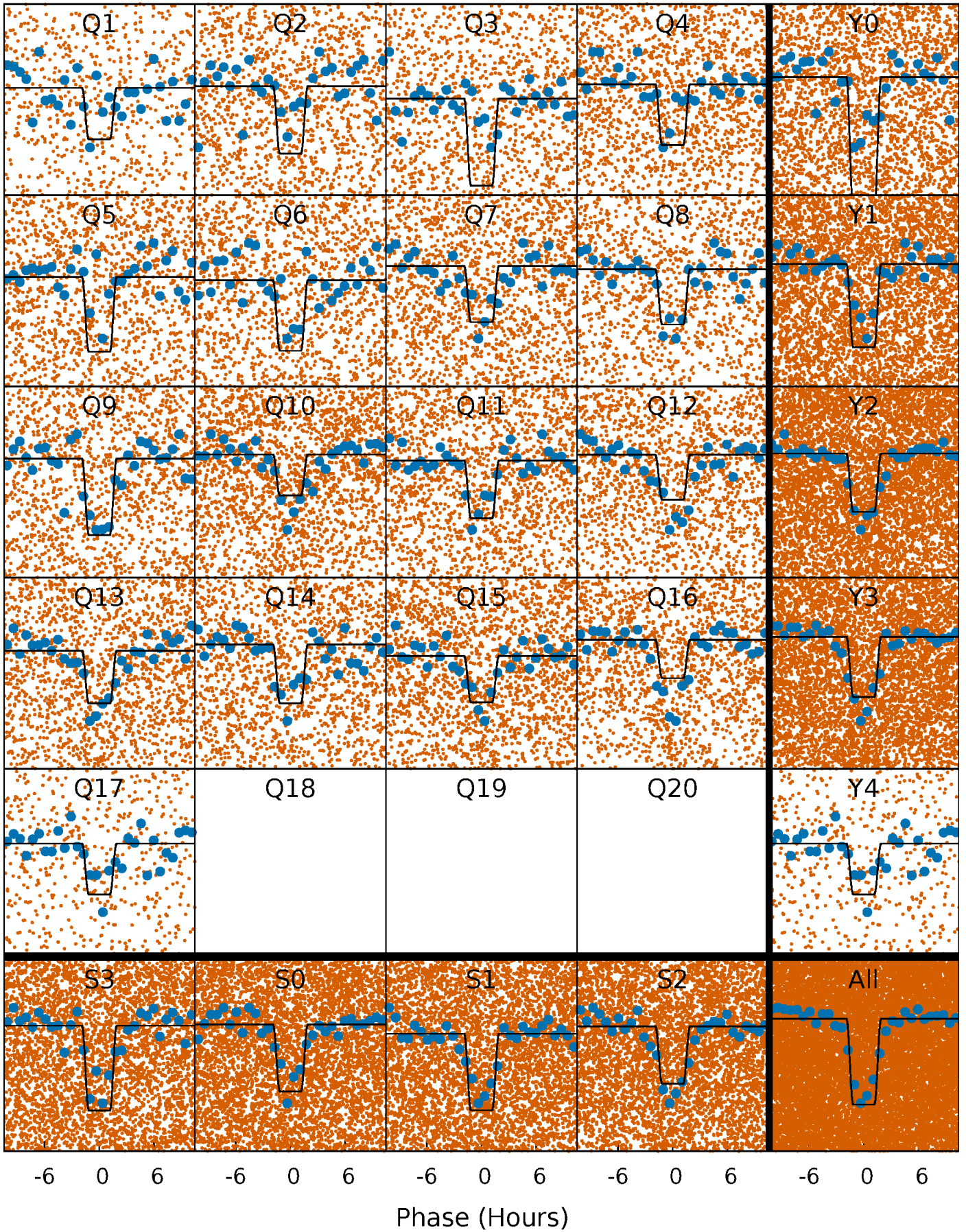
DV Quarter-Phased Transit Curves

TCE 009959494-01 P= 1.332538 Days $T_0=132.062034$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

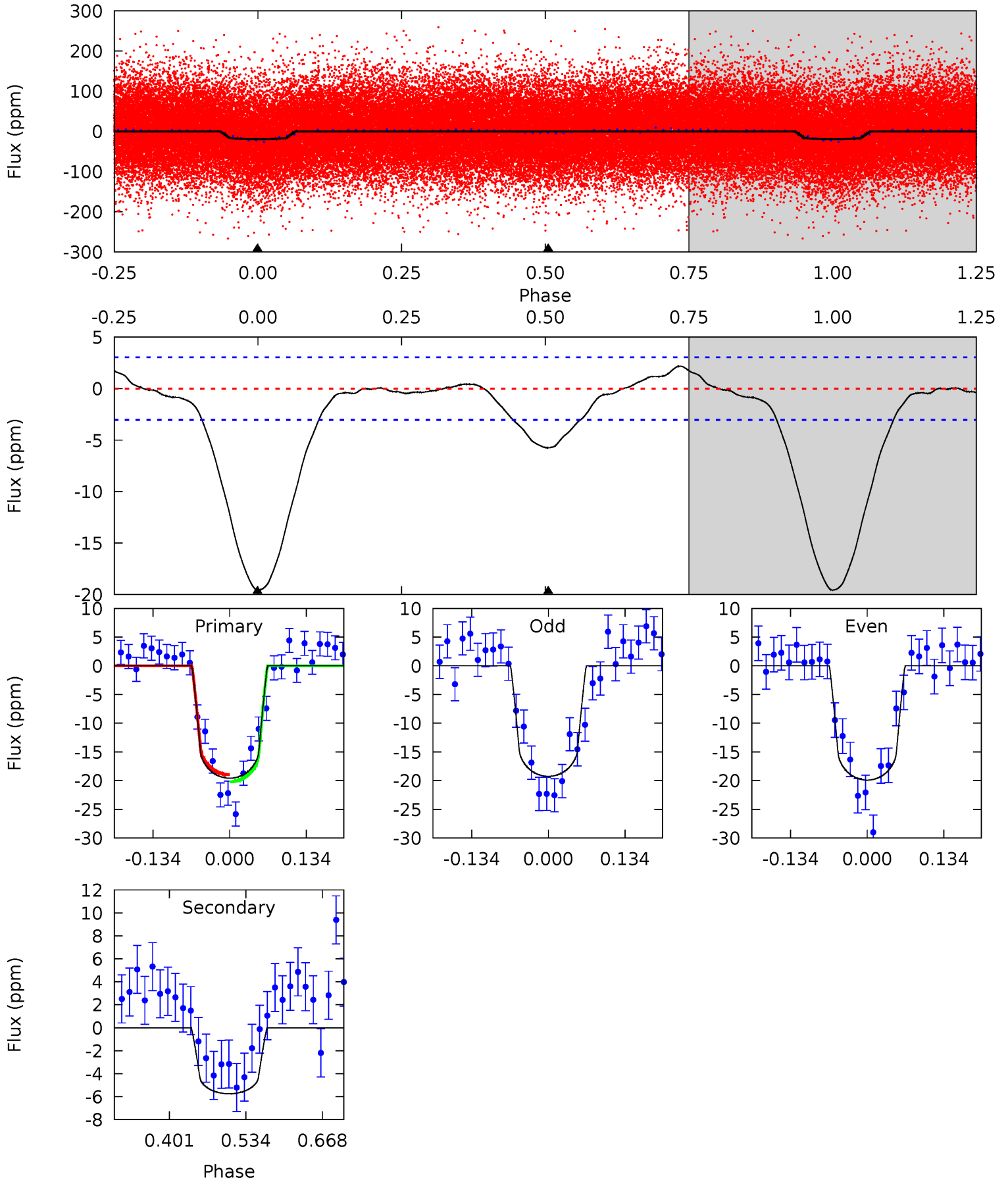
TCE 009959494-01 P= 1.332579 Days $T_0=132.038941$ (BKJD)



DV Model-Shift Uniqueness Test

009959494-01, P = 1.332538 Days, E = 130.729496 Days

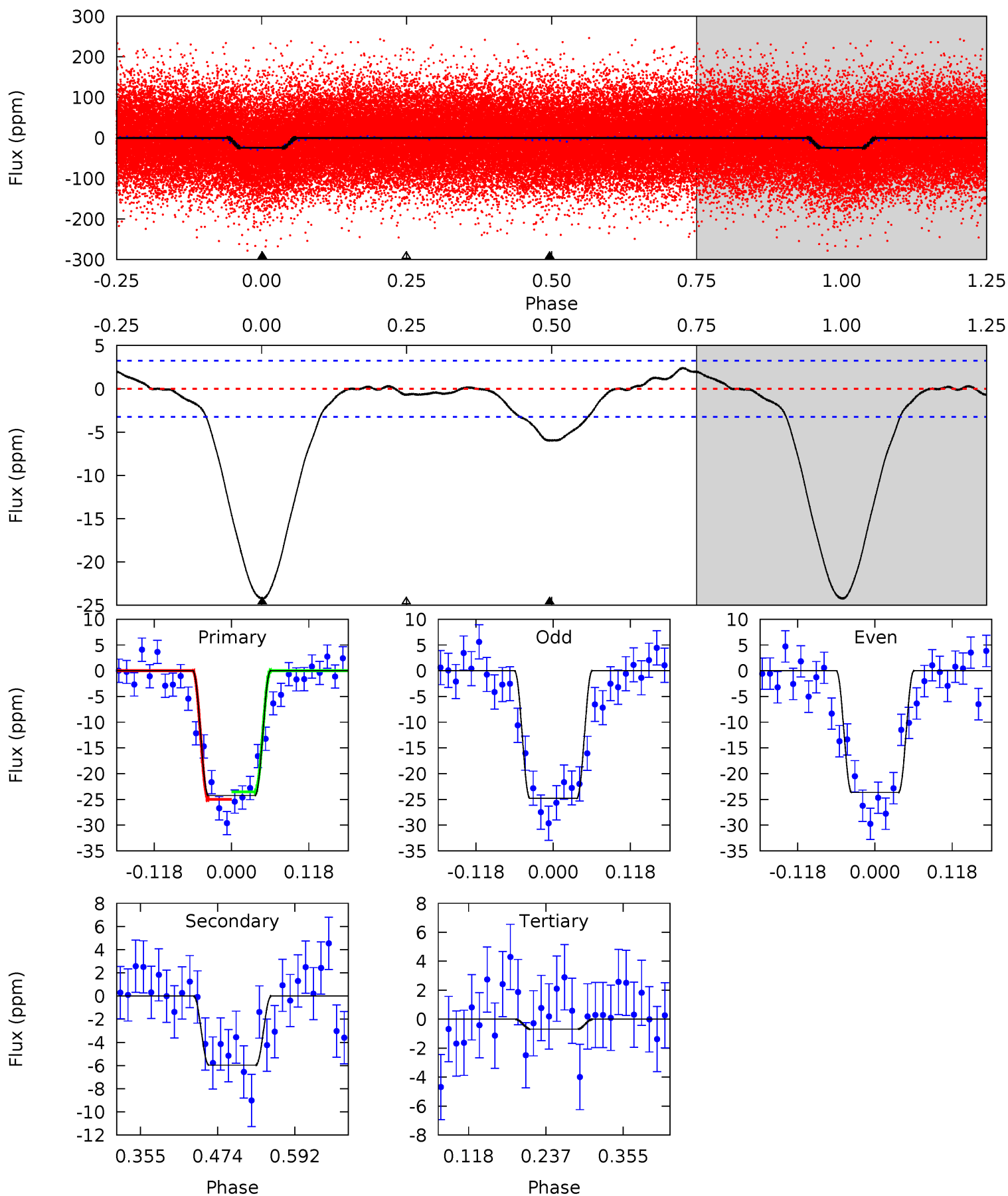
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	8.50	0	0	4.50	1.50	1.15	28.9	28.9	8.50	8.50	0.48	0.96	0.10	0.93



Alt Model-Shift Uniqueness Test

009959494-01, P = 1.332579 Days, E = 130.706362 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	8.32	0.96	0	4.53	1.56	1.23	32.8	33.8	7.36	8.32	0.81	0.98	0.09	1.01



Stellar Parameters For KIC 009959494

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6620^{+148}_{-214}	$4.411^{+0.063}_{-0.147}$	$-0.440^{+0.250}_{-0.350}$	$1.081^{+0.228}_{-0.123}$	$1.097^{+0.114}_{-0.140}$	$1.224^{+0.386}_{-0.516}$
	+2%/-3%	+1%/-3%	+57%/-80%	+21%/-11%	+10%/-13%	+31%/-42%
Source	PHO1	FLK73	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 009959494-01 / KOI 3205.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 1	$0.56^{+0.12}_{-0.11}$	2743^{+146}_{-122}	4788^{+494}_{-372}	$5.961^{+3.136}_{-2.047}$
Alt.	-6 ± 1	$0.64^{+0.13}_{-0.12}$	2737^{+154}_{-122}	4552^{+381}_{-319}	$4.623^{+2.373}_{-1.455}$

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

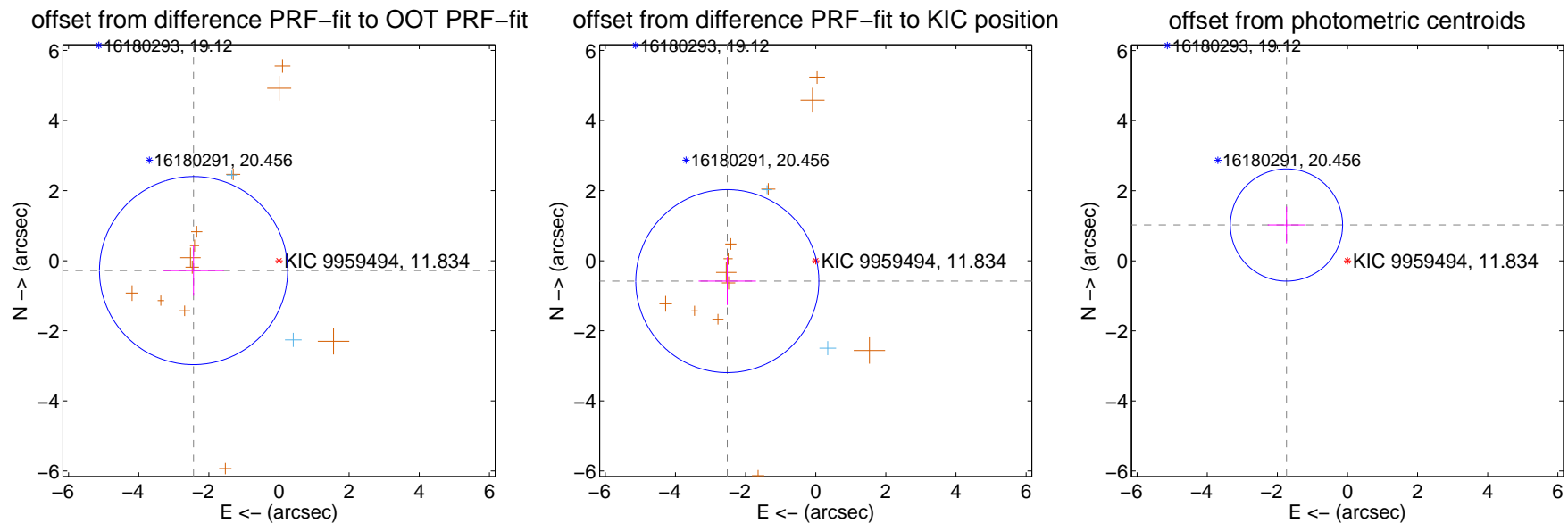
DV Centroid Data

Supplemental centroid analysis for 009959494-01. **Kepler magnitude: 11.83.** Transit SNR 20.35

There are 2 quarters with good PRF difference image offsets

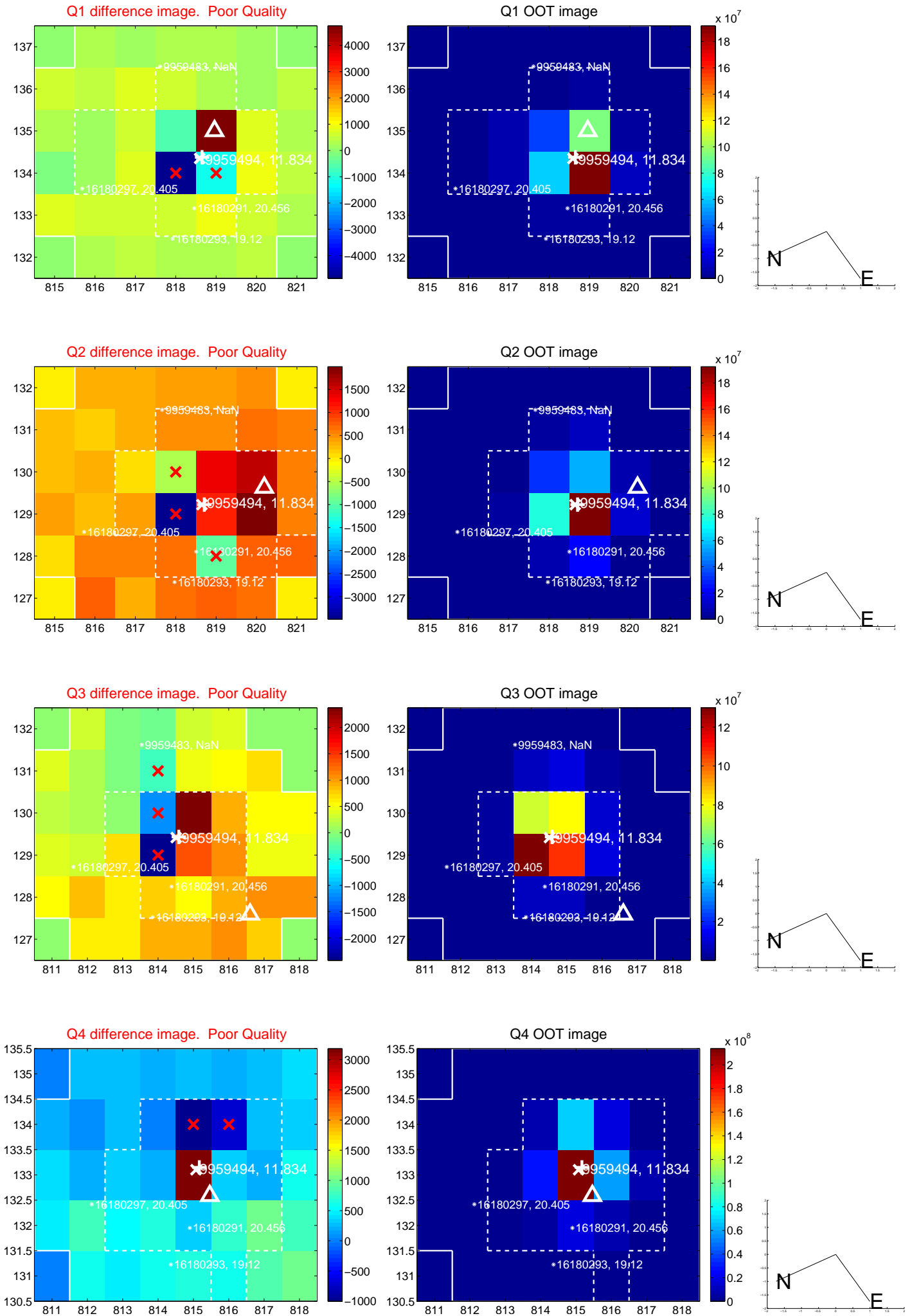
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.452 ± 0.894	2.74	2.436 ± 0.863	-0.282 ± 0.718
PRF-fit source offset from KIC position	2.587 ± 0.870	2.97	2.520 ± 0.816	-0.582 ± 0.682
photometric centroid source offset	2.02 ± 0.53	3.78	1.74 ± 0.54	1.02 ± 0.52

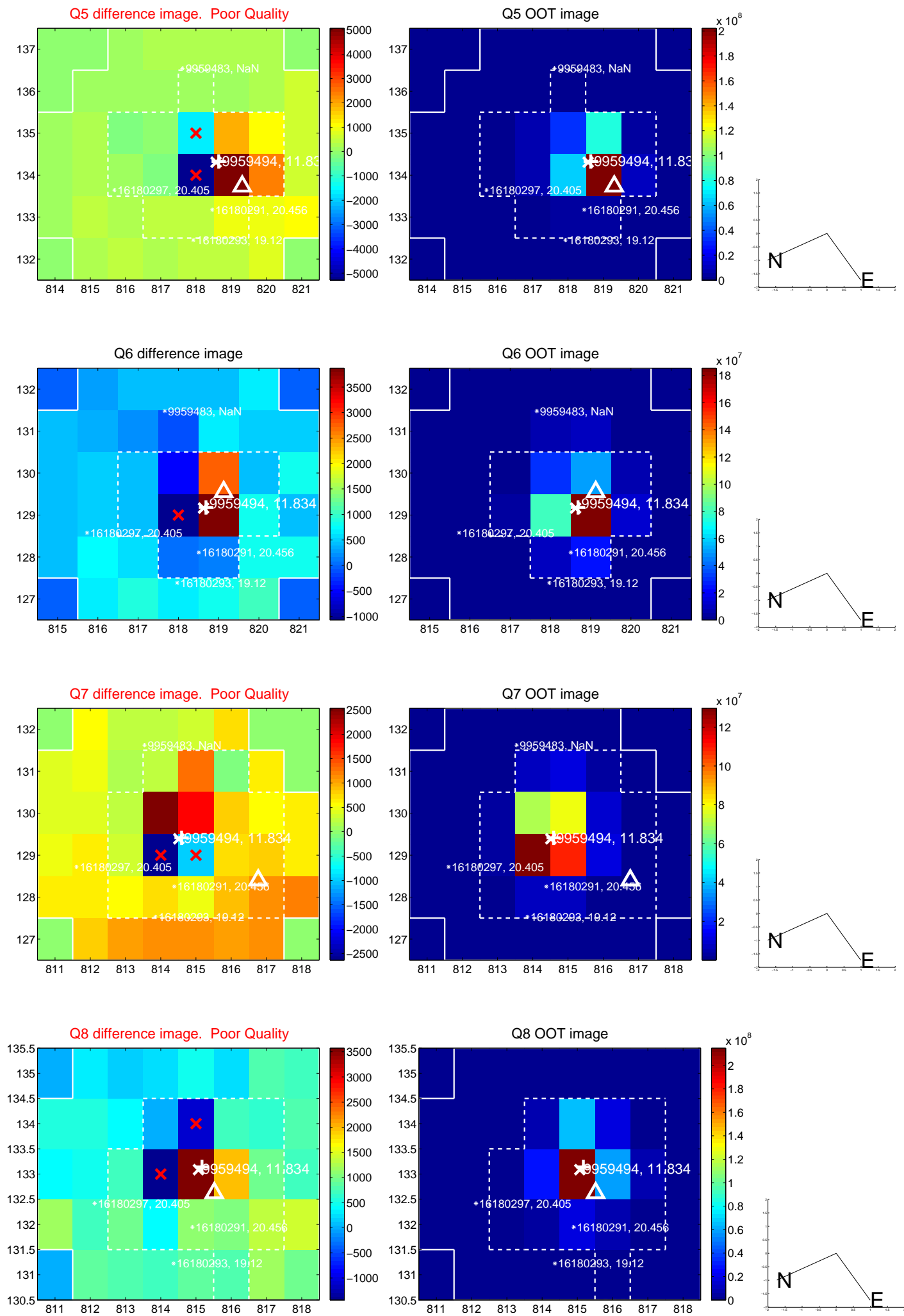


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

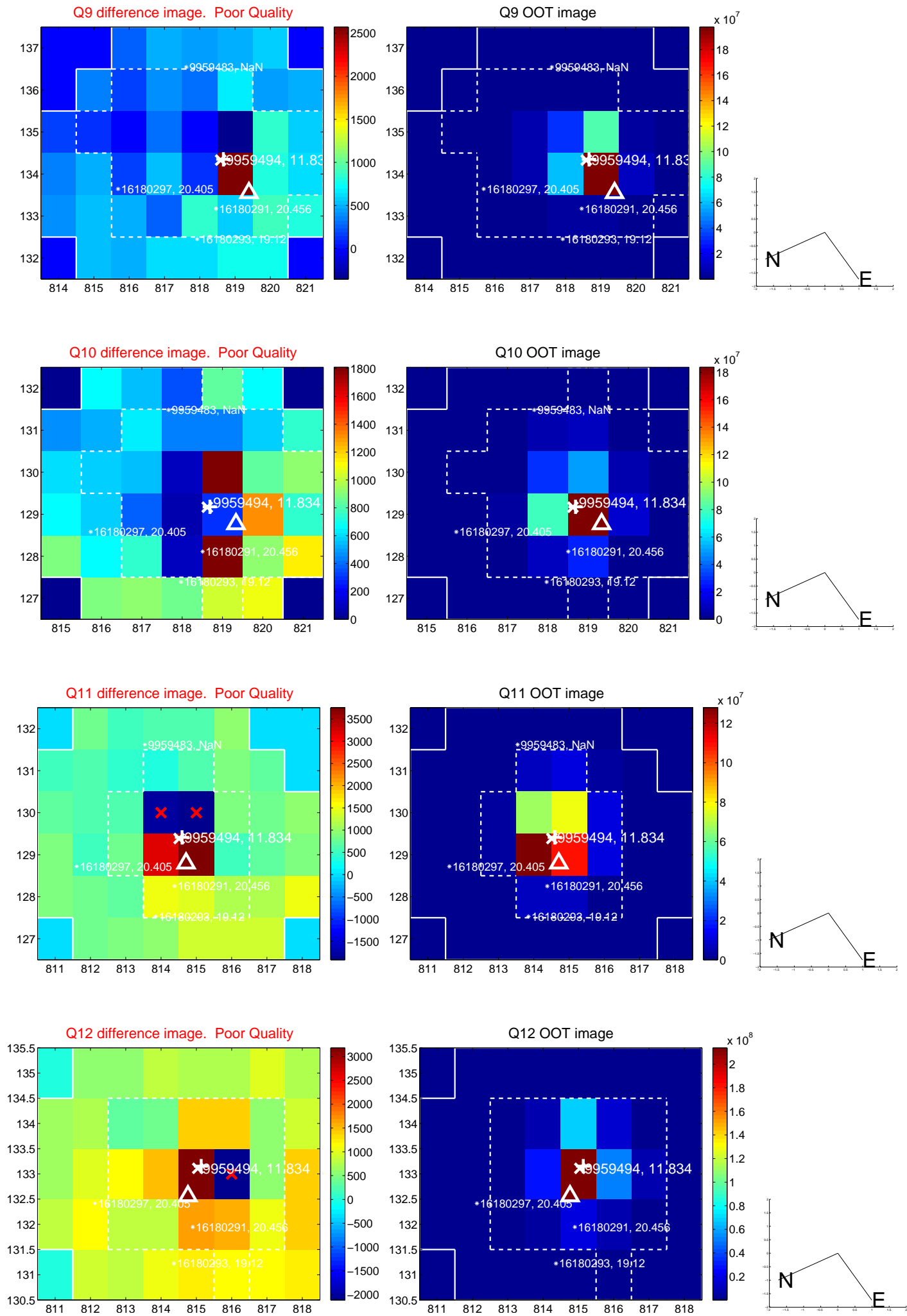
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



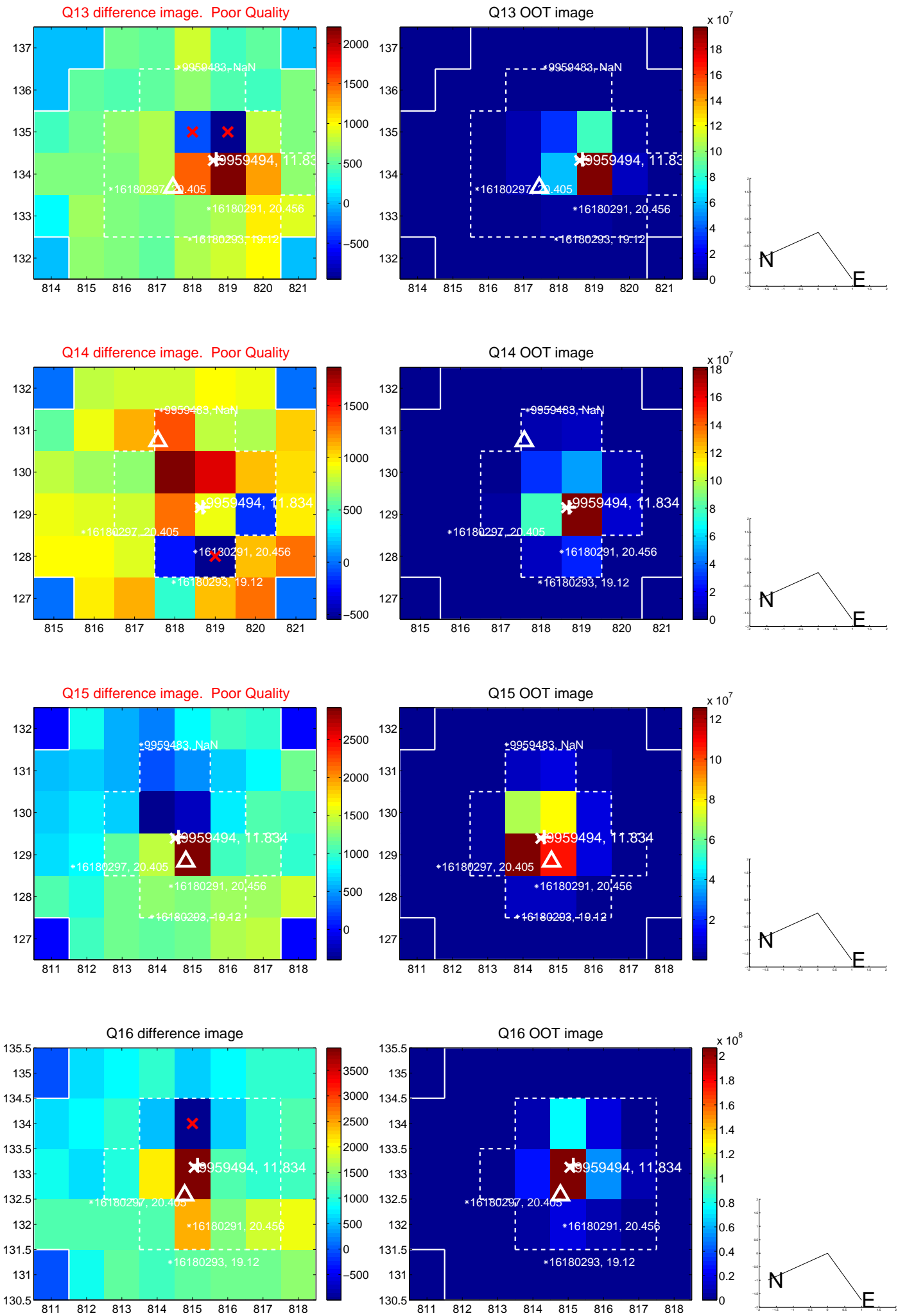
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



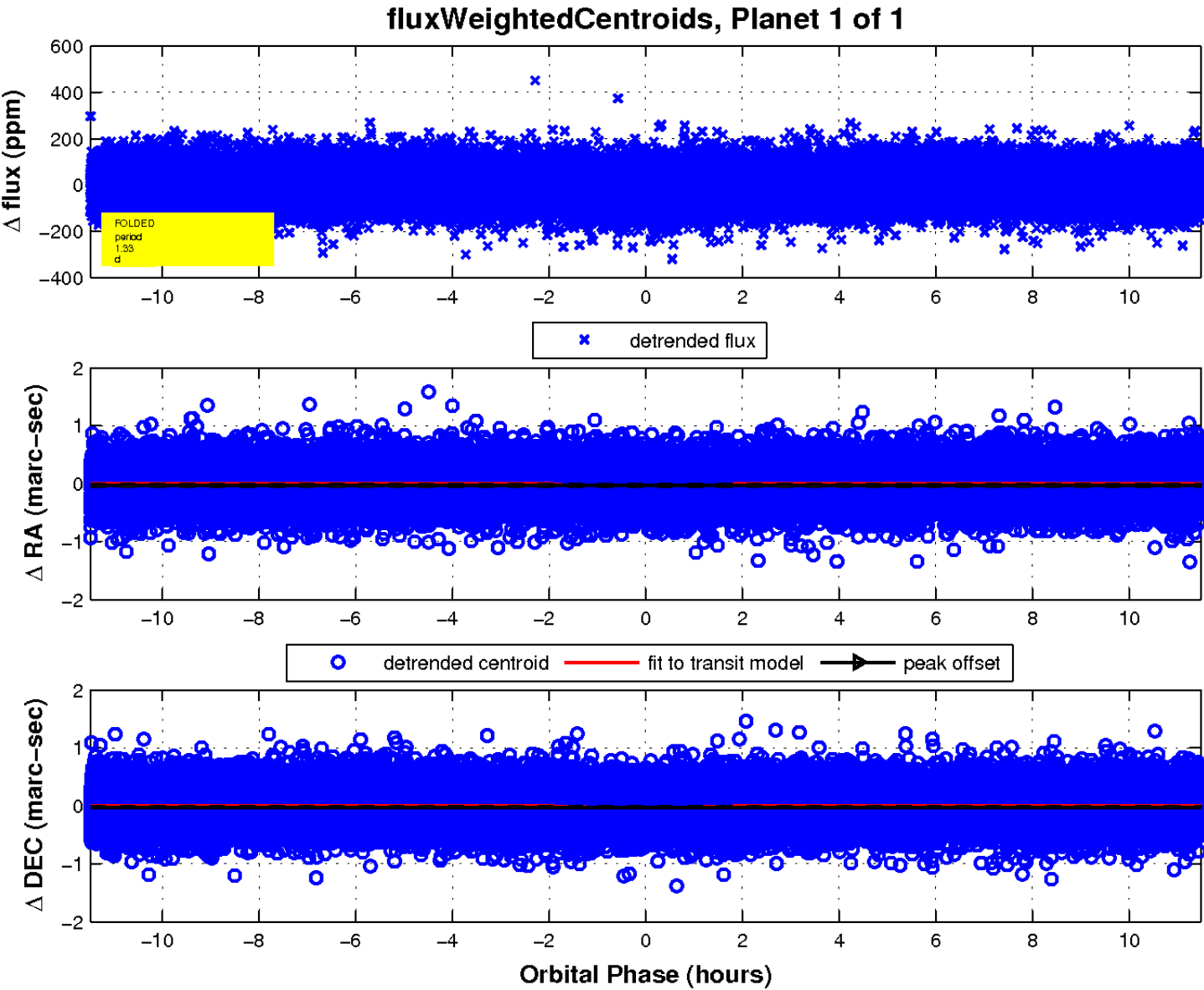
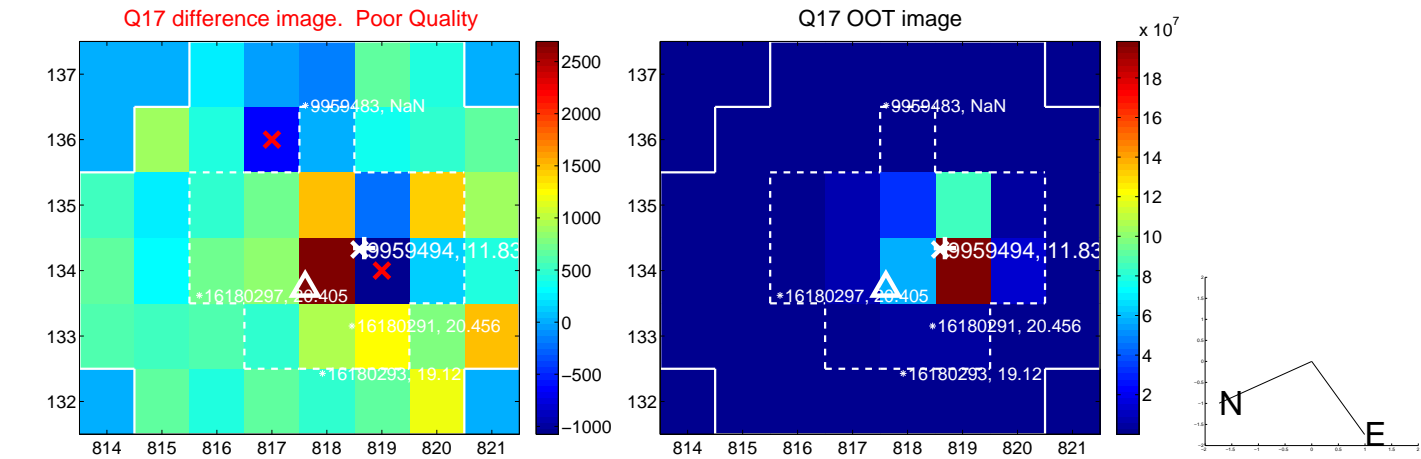
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

