

KIC 004949214

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})
004949214-01	OBS	6481.01	0.921993	132.092898	2964.3	4.578	893.0	163.1	1.15	6484	7.74	5485.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004949214-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—SEASONAL_DEPTH_ALT—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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.

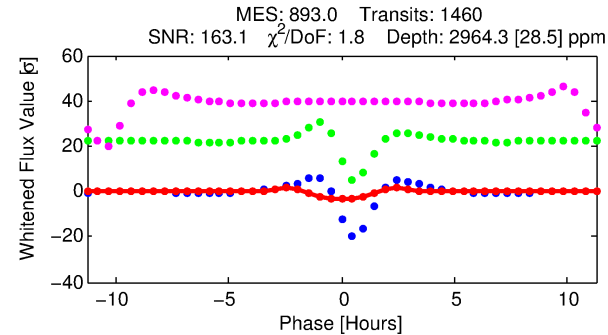
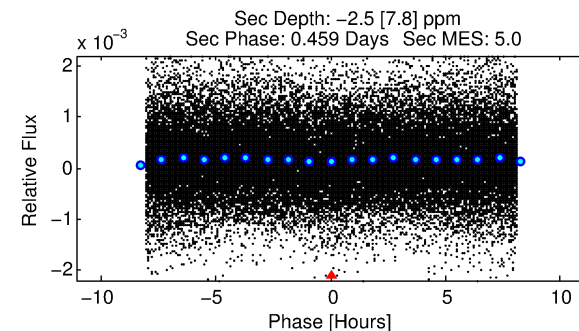
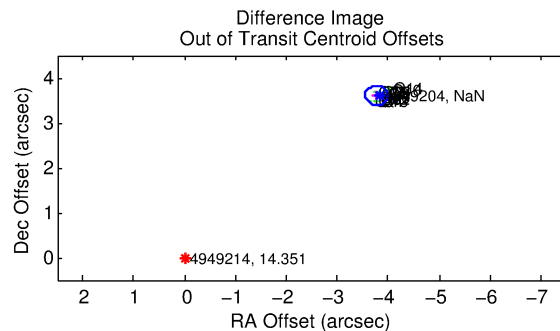
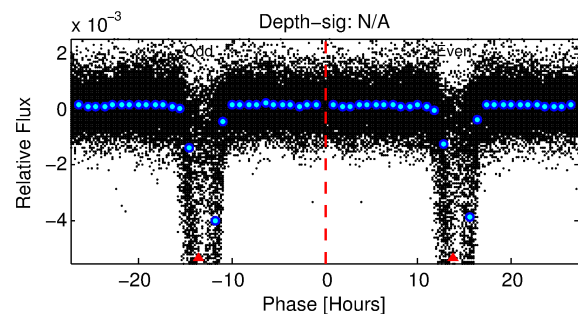
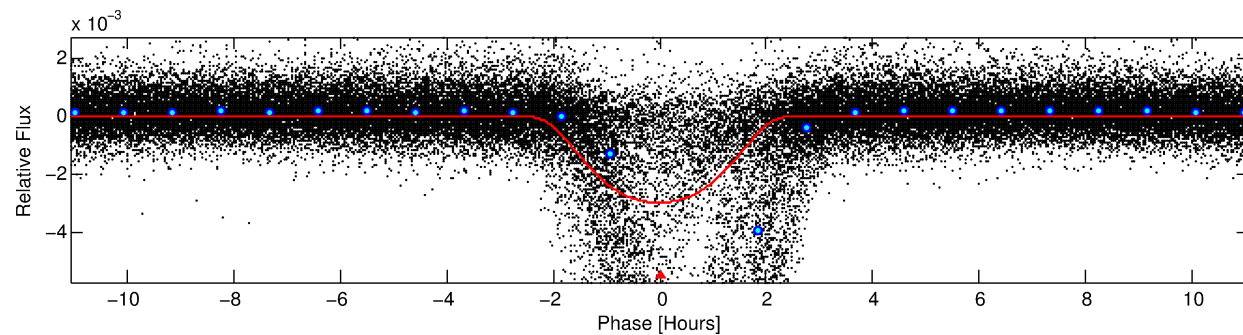
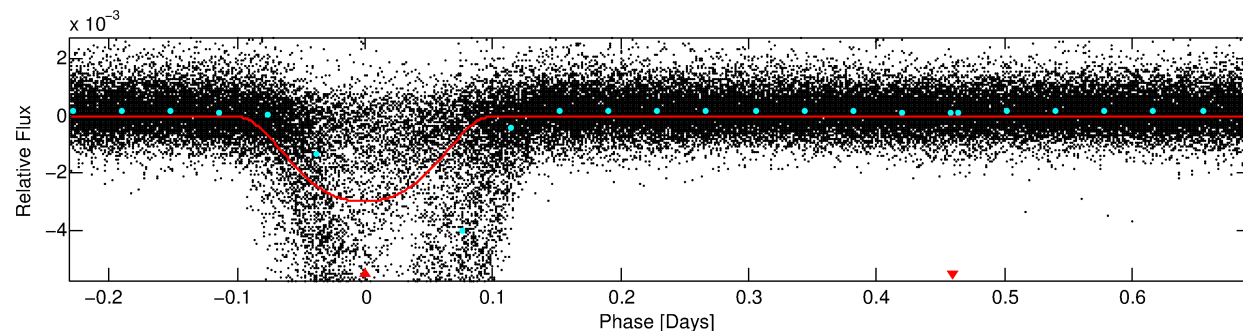
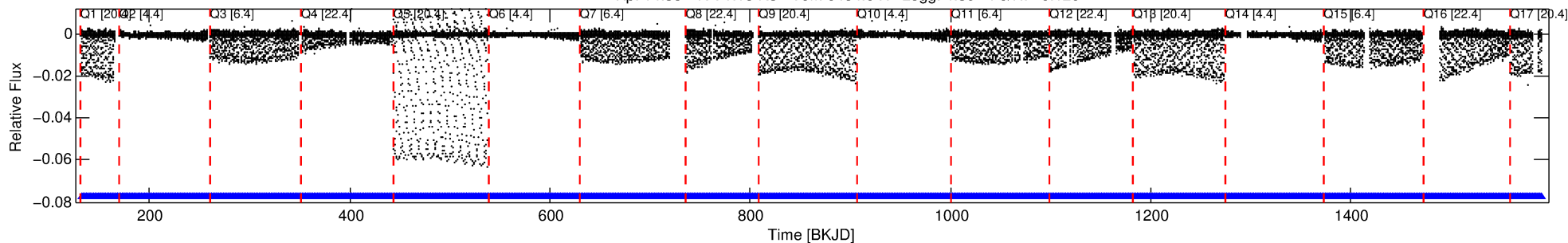
Ephemeris Match Information For 004949214-01

No Significant Match Found

DV One-Page Summary

KIC: 4949214 Candidate: 1 of 1 Period: 0.922 d
KOI: K06481.01 Corr: 0.905

Kp: 14.35 R*: 1.15 Rs Teff: 6484.0 K Logg: 4.39 Fe/H: -0.120



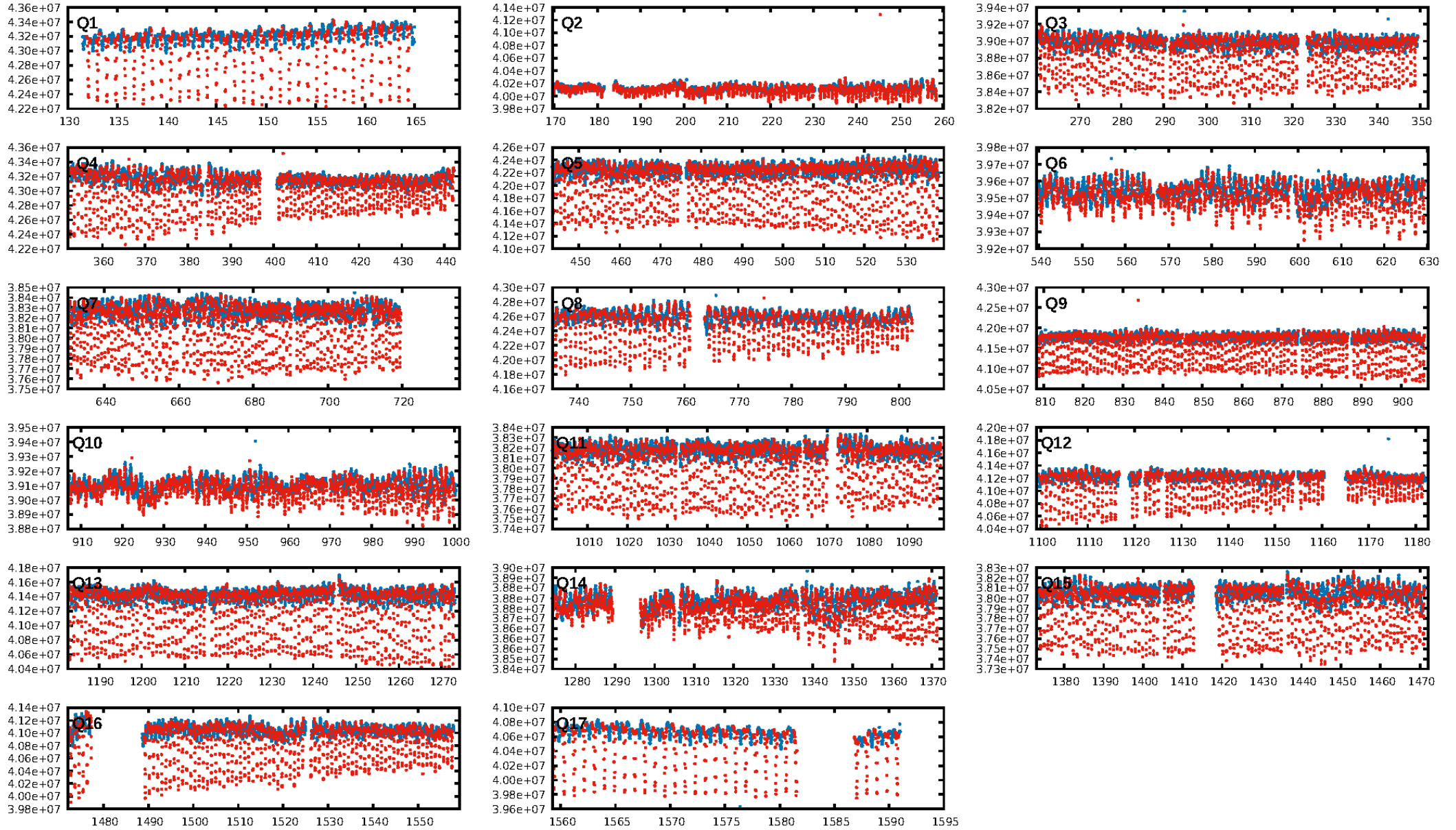
DV Fit Results:

Period = 0.92199 [0.00000] d
Epoch = 132.0929 [0.0002] BKJD
Rp/R* = 0.0616 [0.0004]
a/R* = 1.24 [0.00]
b = 0.94 [0.00]
Seff = 5485.07 [2002.19]
Teq = 2194 [200] K
Rp = 7.74 [2.32] Re
a = 0.0196 [0.0048] AU
Ag = N/A
Teffp = N/A

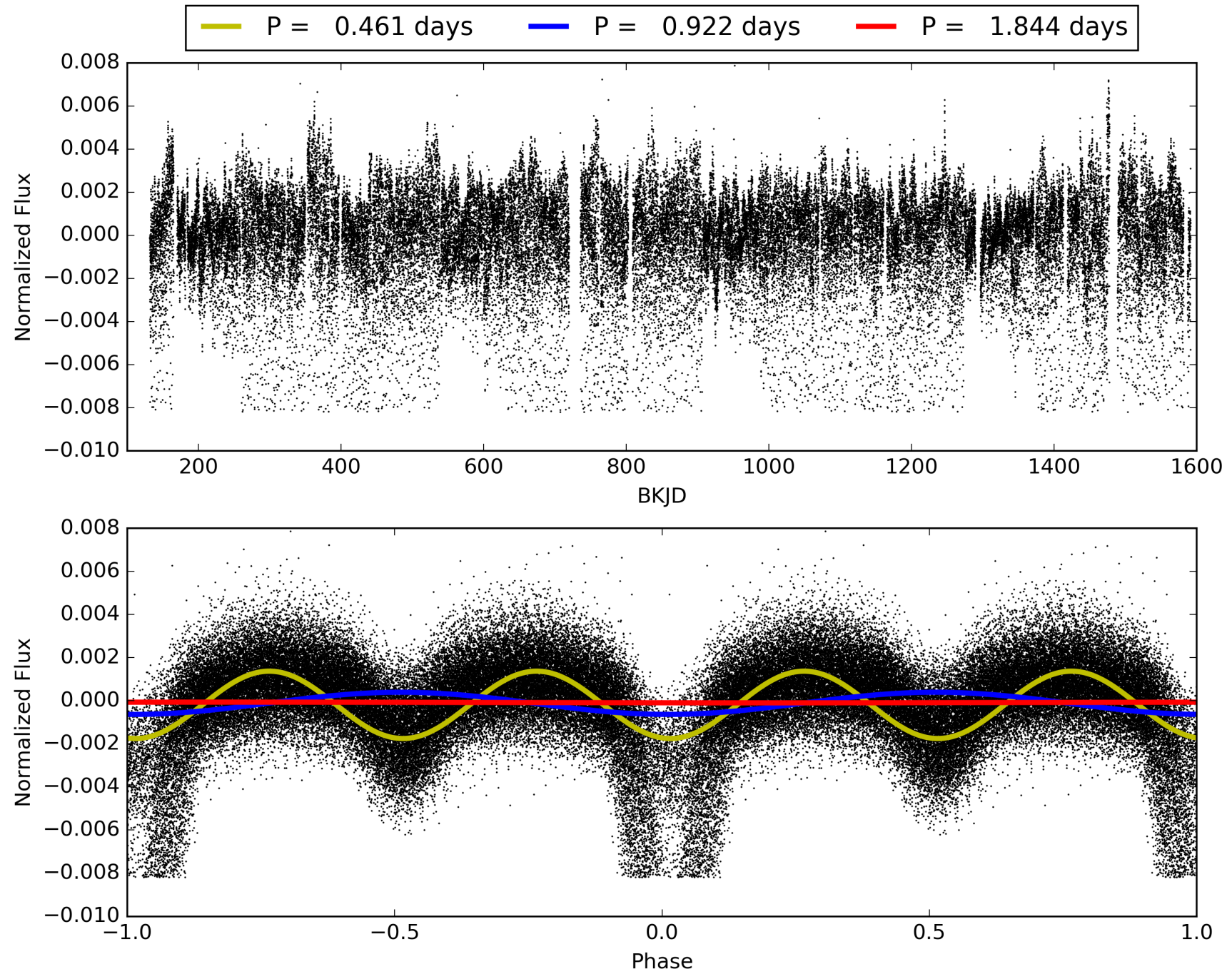
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1394/1394]
GhostDiagnostic-chr: 0.04938
Centroid-sig: 0.0%
Centroid-so: 29.851 arcsec [948.36σ]
OotOffset-rm: 5.216 arcsec [71.55σ]
KicOffset-rm: 5.245 arcsec [76.91σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004949214-01, PDC Light Curves

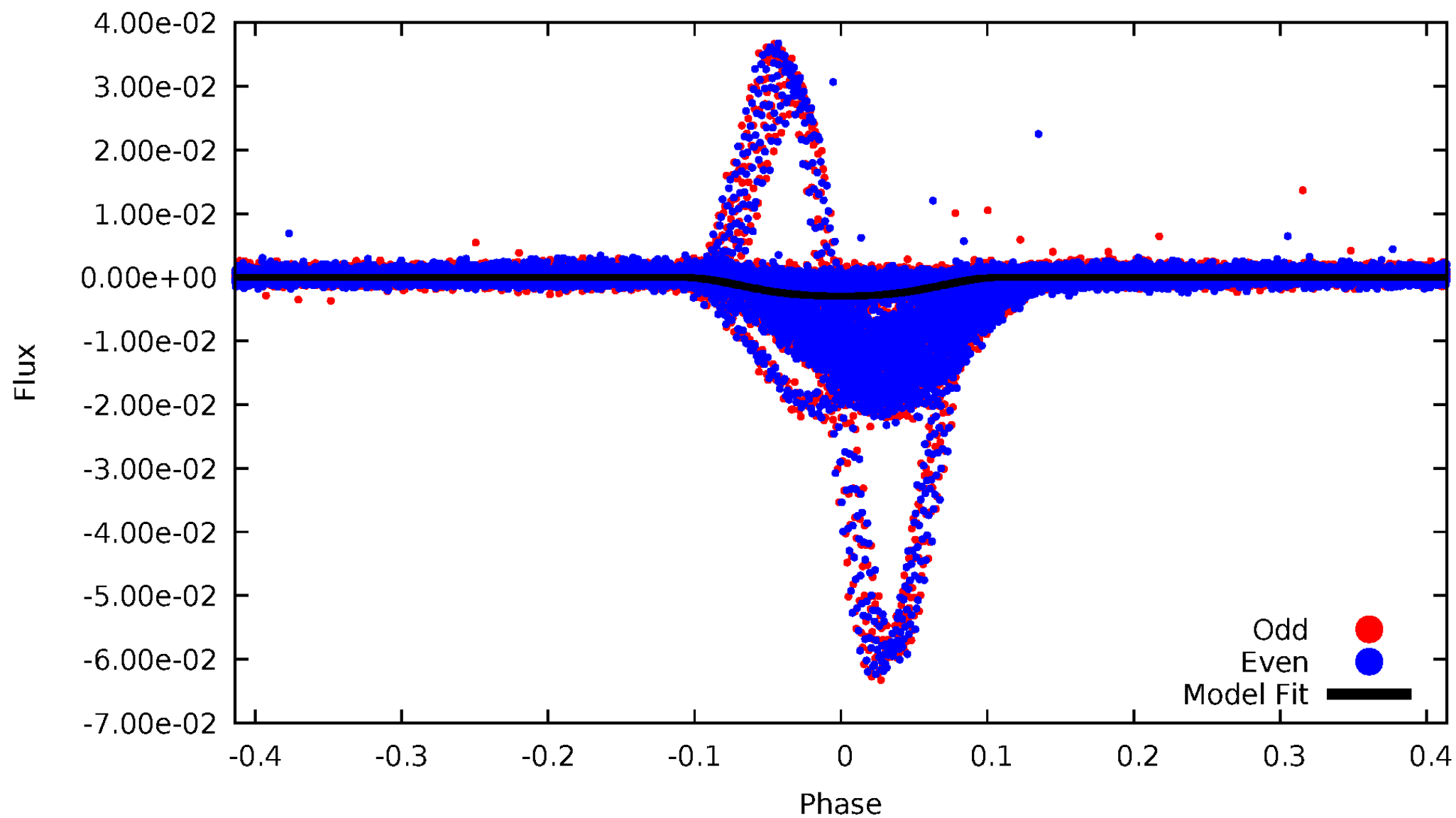


TCE 004949214-01



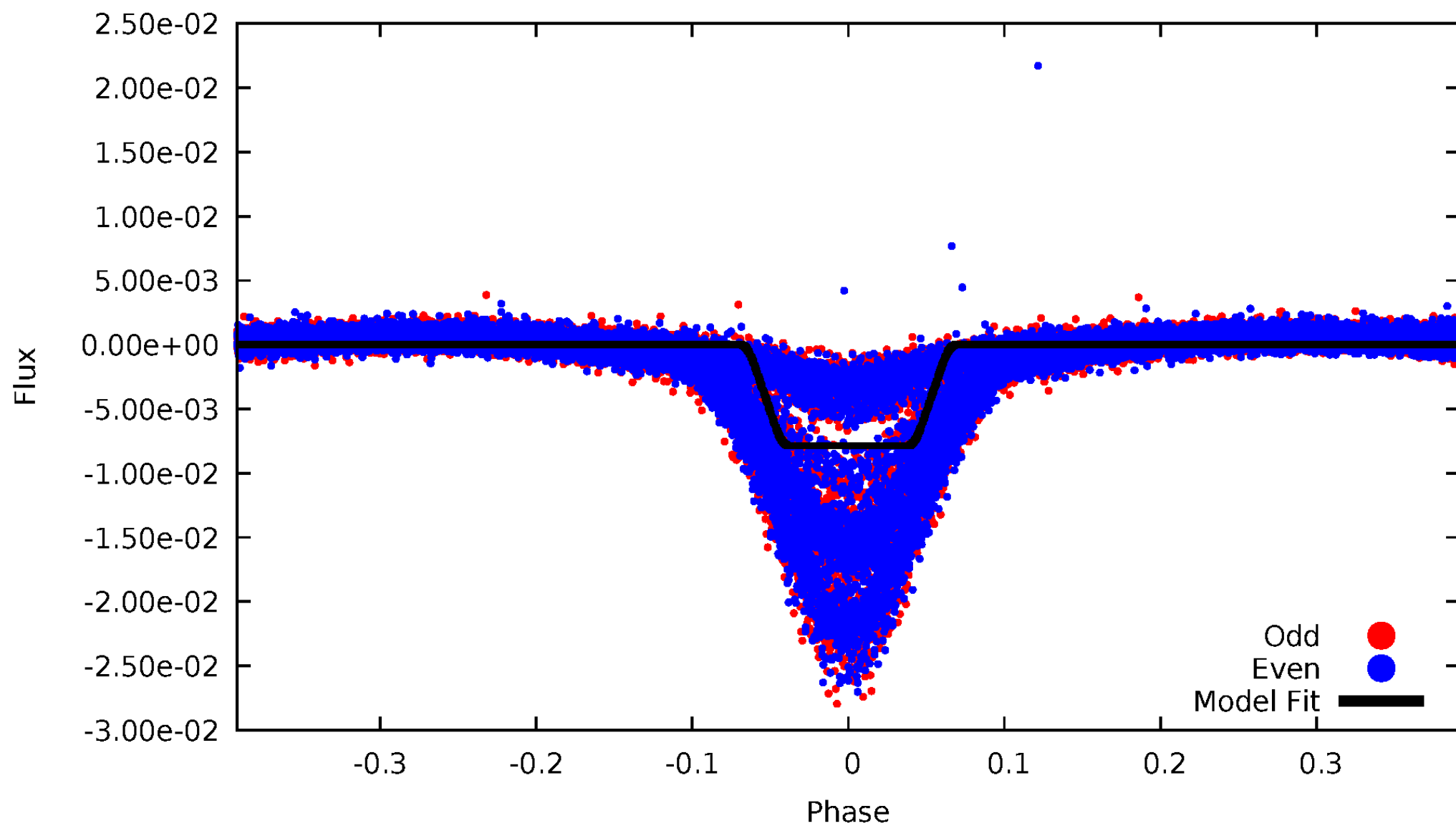
DV Odd/Even

TCE 004949214-01



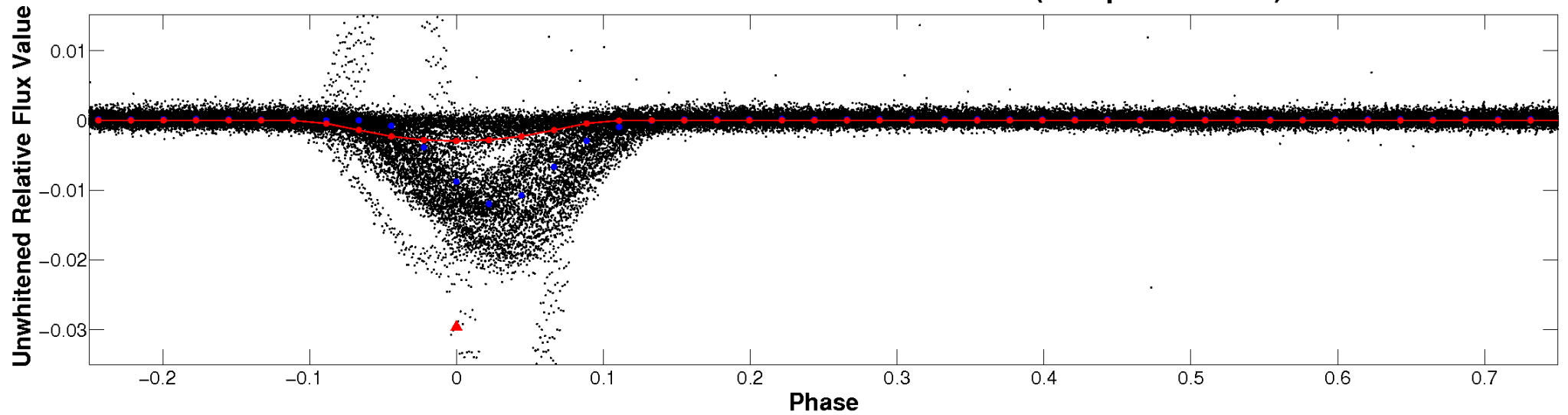
ALT Odd/Even

TCE 004949214-01

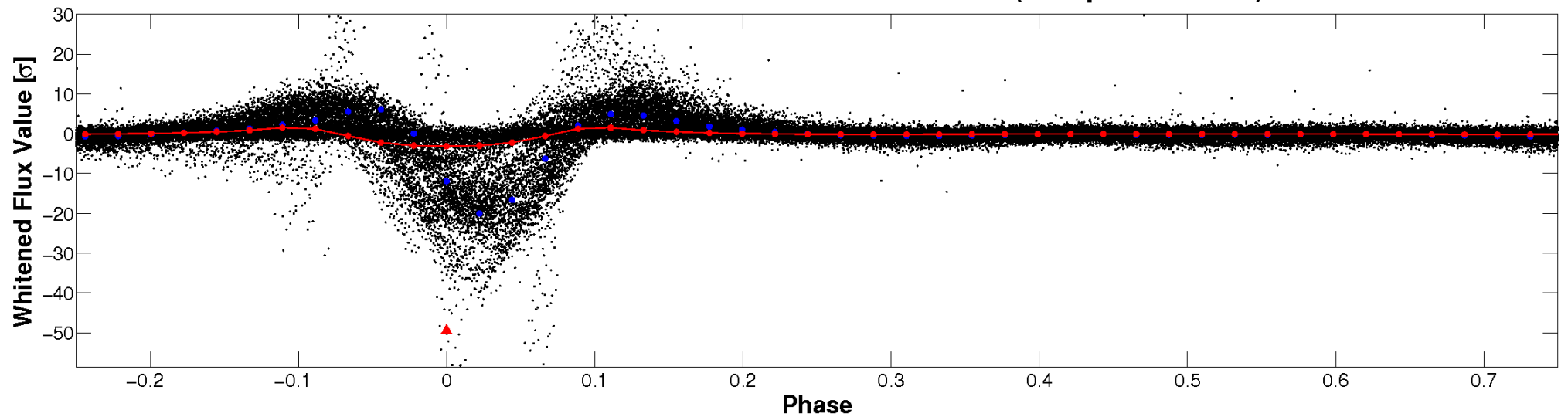


Non-Whitened Vs. Whitened Light Curve

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

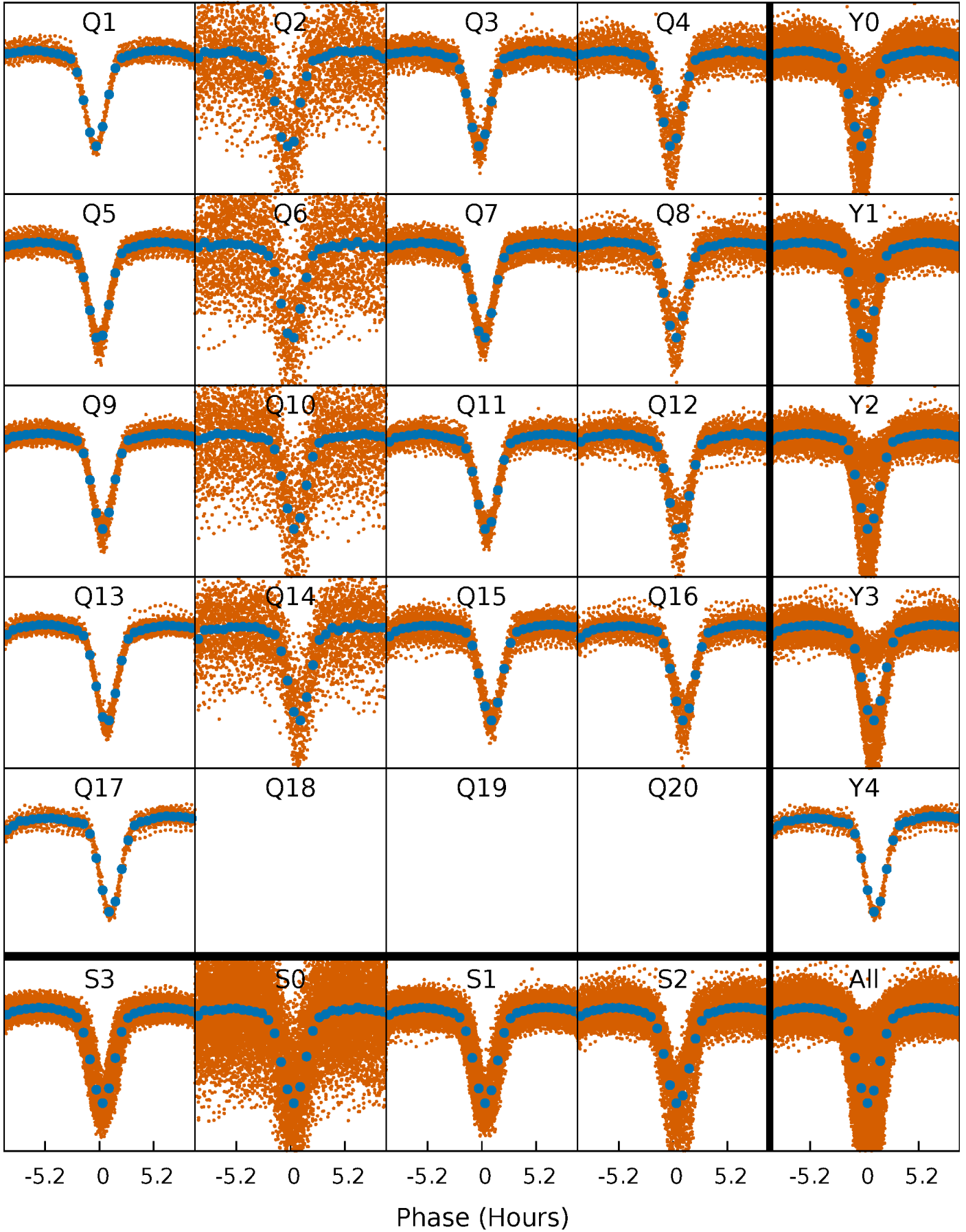


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



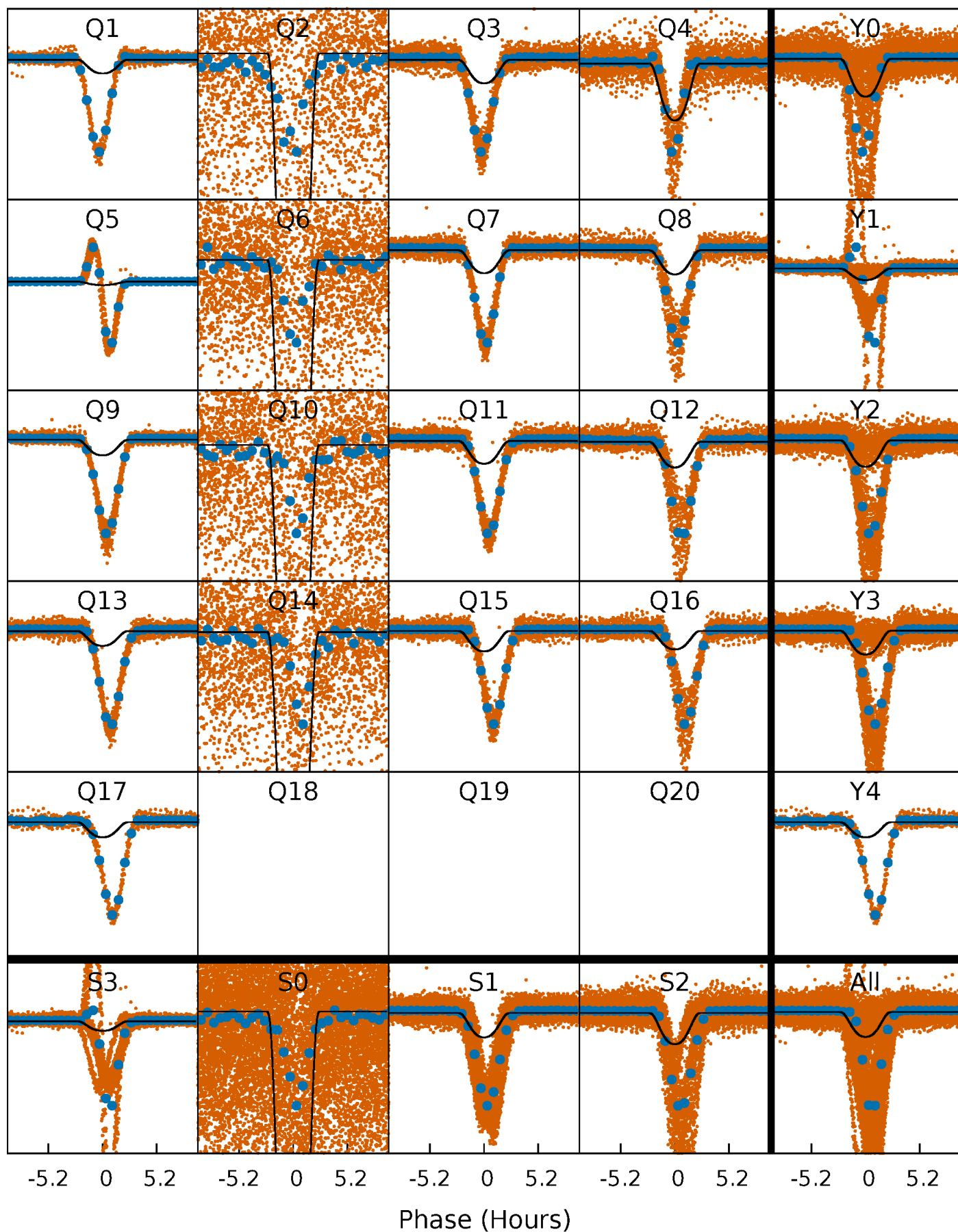
PDC Quarter-Phased Transit Curves

TCE 004949214-01 P= 0.921993 Days $T_0=132.092898$ (BKJD)



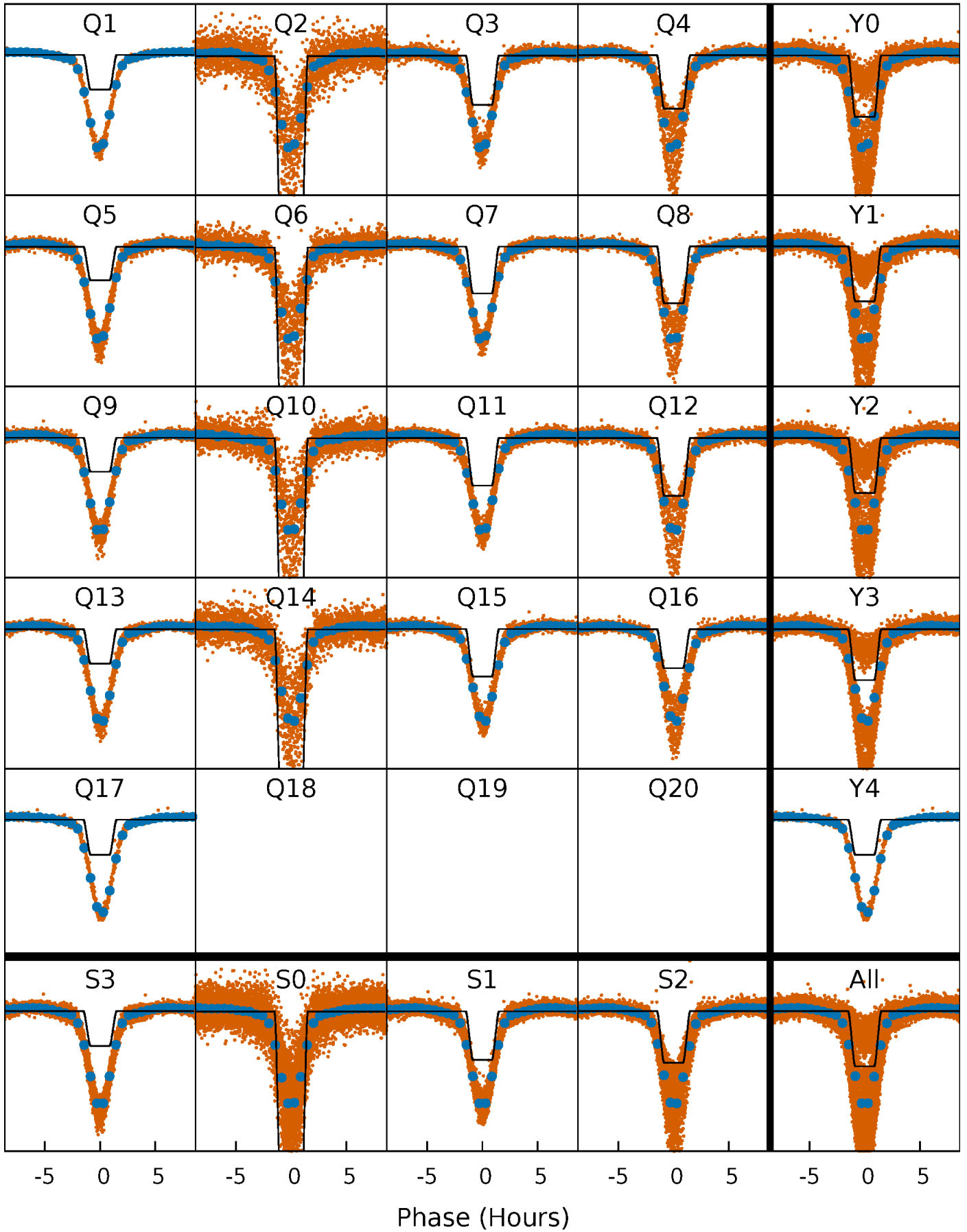
DV Quarter-Phased Transit Curves

TCE 004949214-01 P= 0.921993 Days $T_0=132.092898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

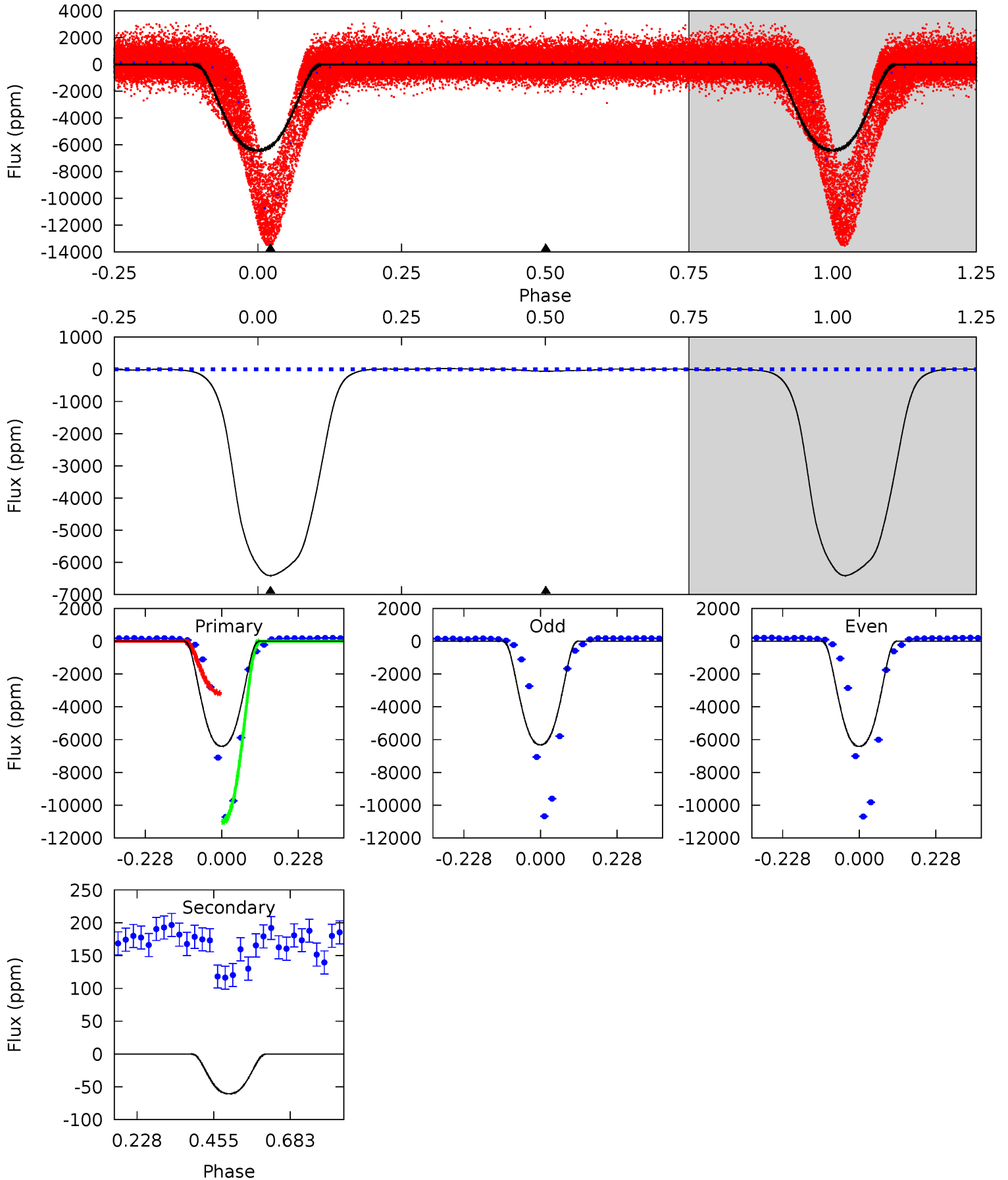
TCE 004949214-01 P= 0.922025 Days $T_0=132.080200$ (BKJD)



DV Model-Shift Uniqueness Test

004949214-01, P = 0.921993 Days, E = 131.170905 Days

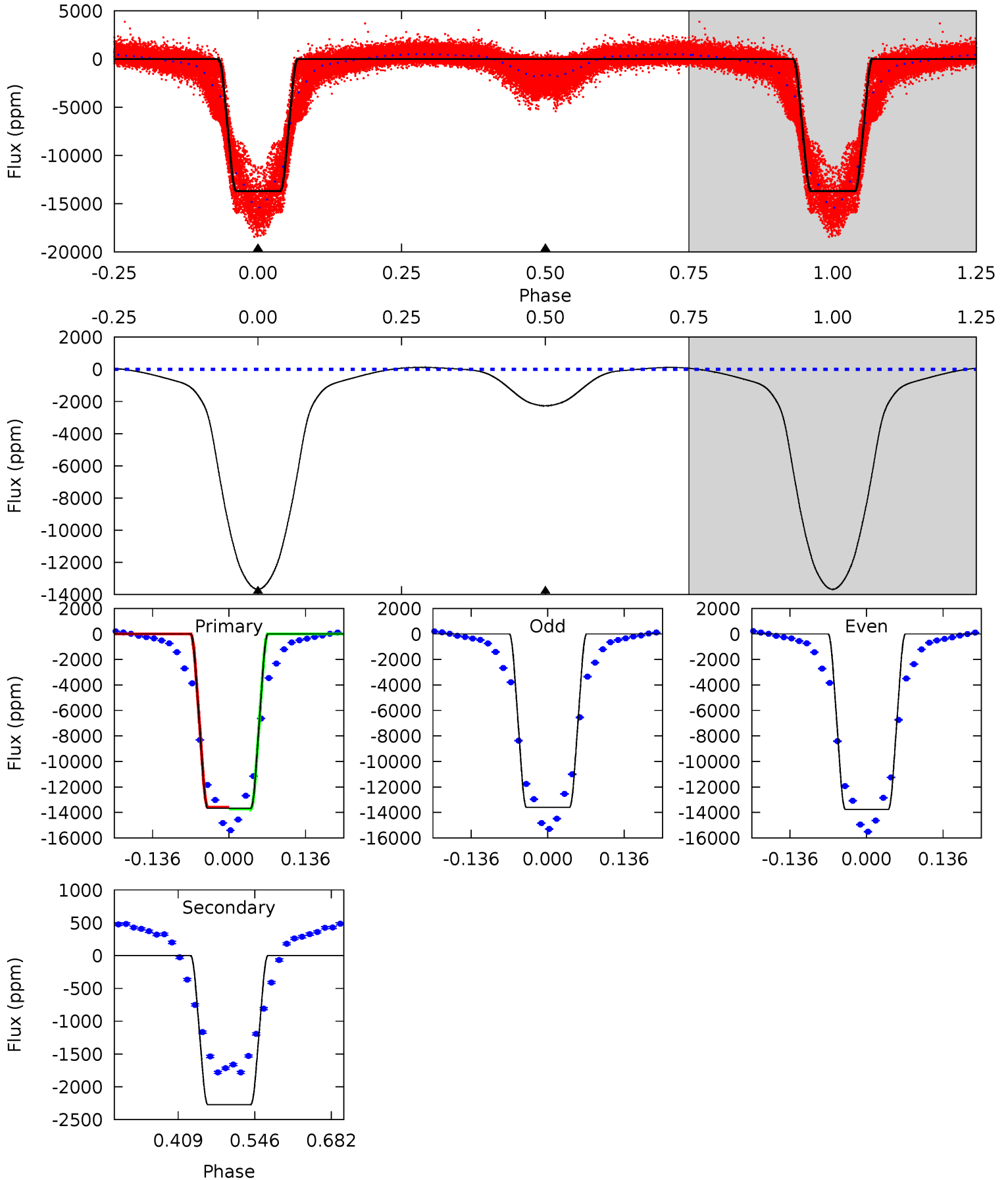
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
901.1	8.52	0	0	4.39	1.21	1.55	901.1	901.1	8.52	8.52	6.72	0.87	0.00	0



Alt Model-Shift Uniqueness Test

004949214-01, P = 0.922025 Days, E = 131.158175 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1548	257.1	0	0	4.50	1.49	30.0	1548	1548	257.1	257.1	8.67	0.89	0.01	8.16



Stellar Parameters For KIC 004949214

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6484^{+154}_{-212}	$4.386^{+0.060}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.153^{+0.345}_{-0.138}$	$1.178^{+0.164}_{-0.148}$	$1.084^{+0.349}_{-0.516}$
	+2%/-3%	+1%/-4%	+208%/-250%	+30%/-12%	+14%/-13%	+32%/-48%
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 004949214-01 / KOI 6481.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-61 ± 7	$7.82^{+1.31}_{-0.54}$	3105^{+206}_{-145}	-2698^{+207}_{-249}	$0.202^{+0.038}_{-0.050}$
Alt.	-2271 ± 9	$11.37^{+1.66}_{-0.92}$	3109^{+193}_{-142}	4766^{+96}_{-125}	$3.645^{+0.579}_{-0.739}$

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

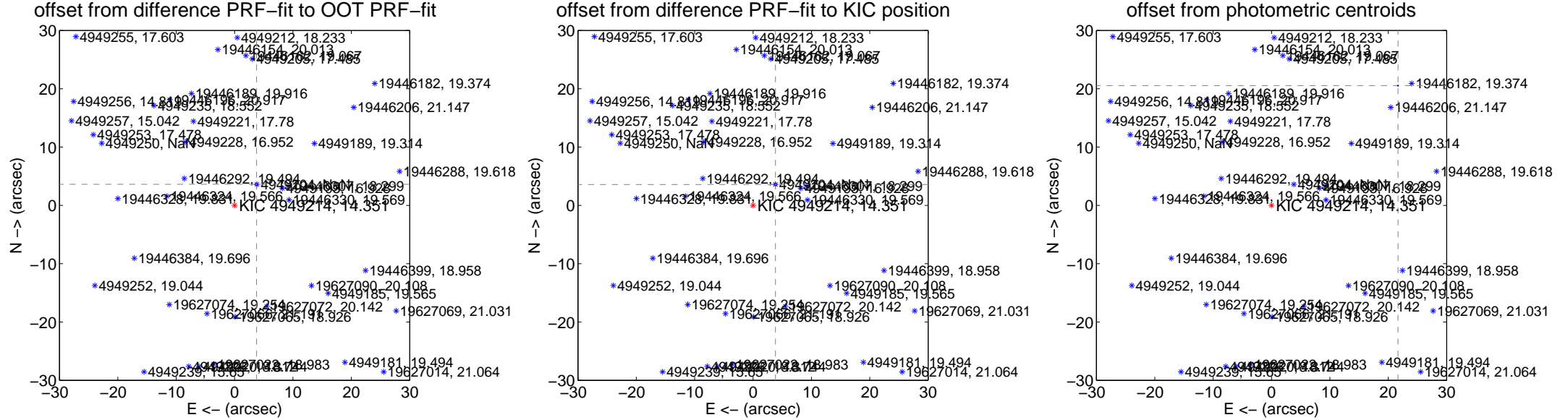
DV Centroid Data

Supplemental centroid analysis for 004949214-01. Kepler magnitude: 14.35. Transit SNR 163.06

There are 17 quarters with good PRF difference image offsets

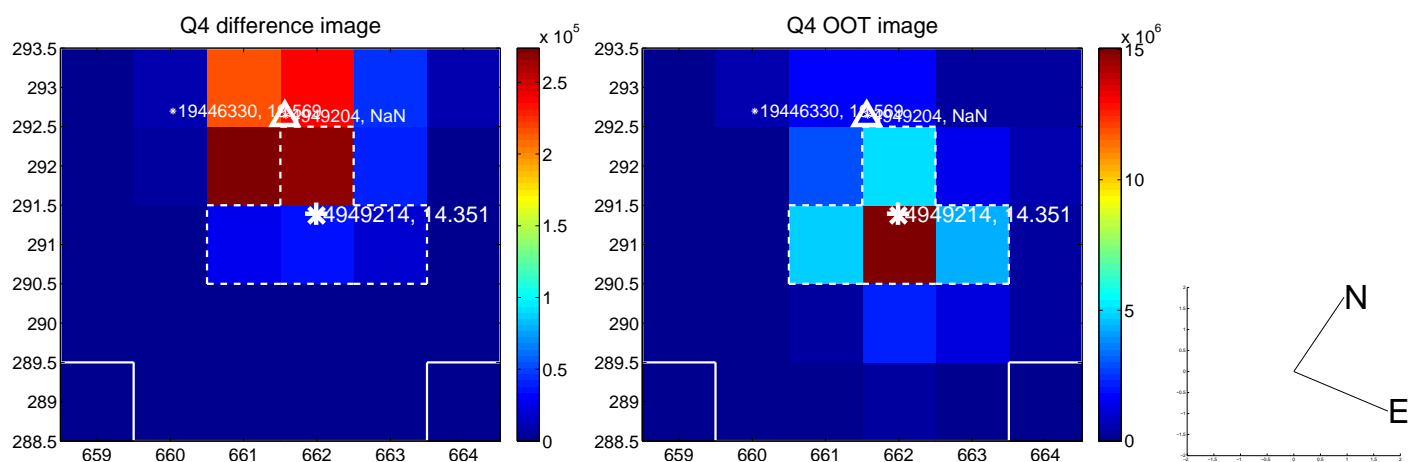
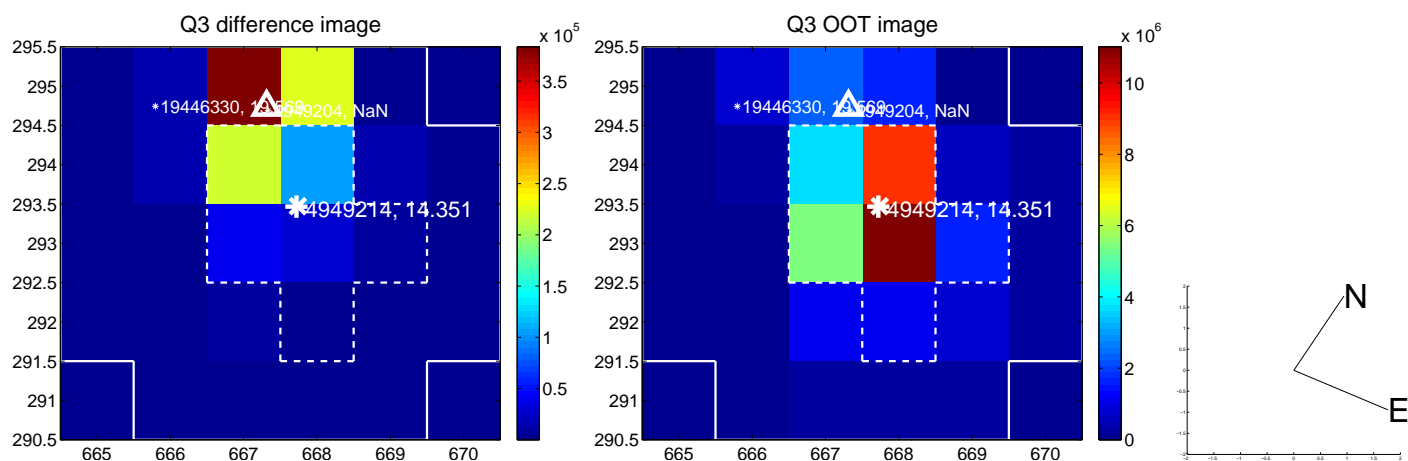
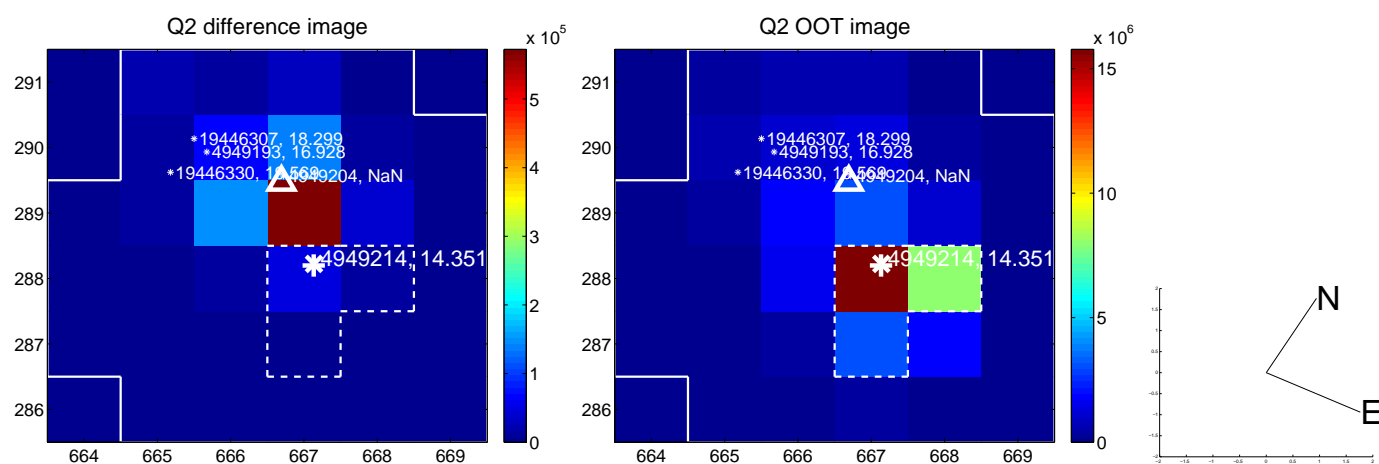
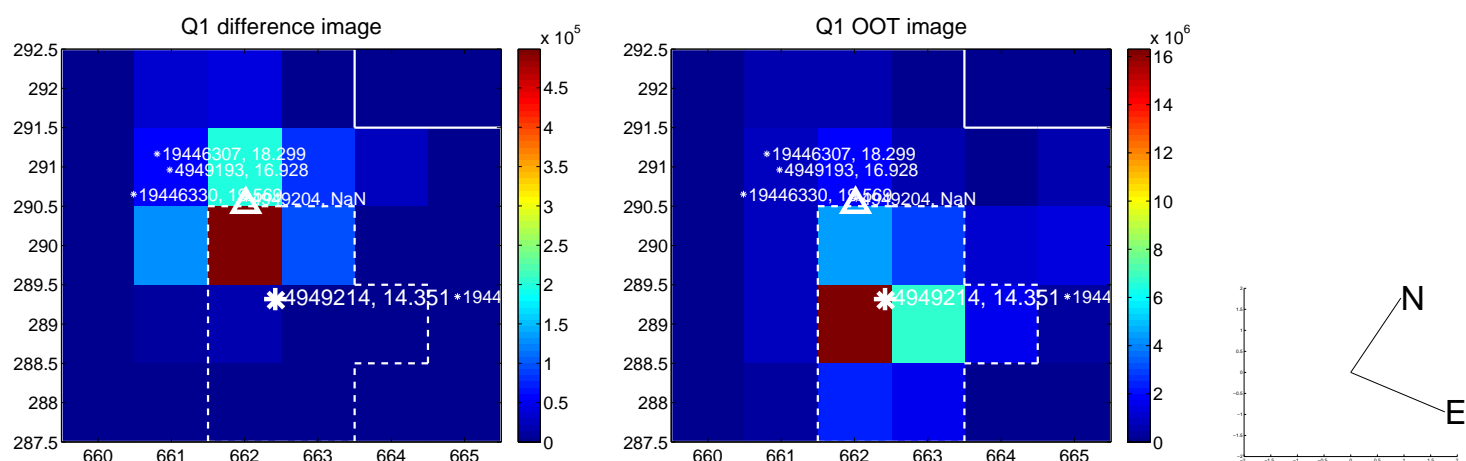
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.216 \pm 0.073	71.55	-3.765 \pm 0.071	3.610 \pm 0.070
PRF-fit source offset from KIC position	5.245 \pm 0.068	76.91	-3.836 \pm 0.068	3.577 \pm 0.068
photometric centroid source offset	29.85 \pm 0.03	948.37	-21.67 \pm 0.03	20.53 \pm 0.03

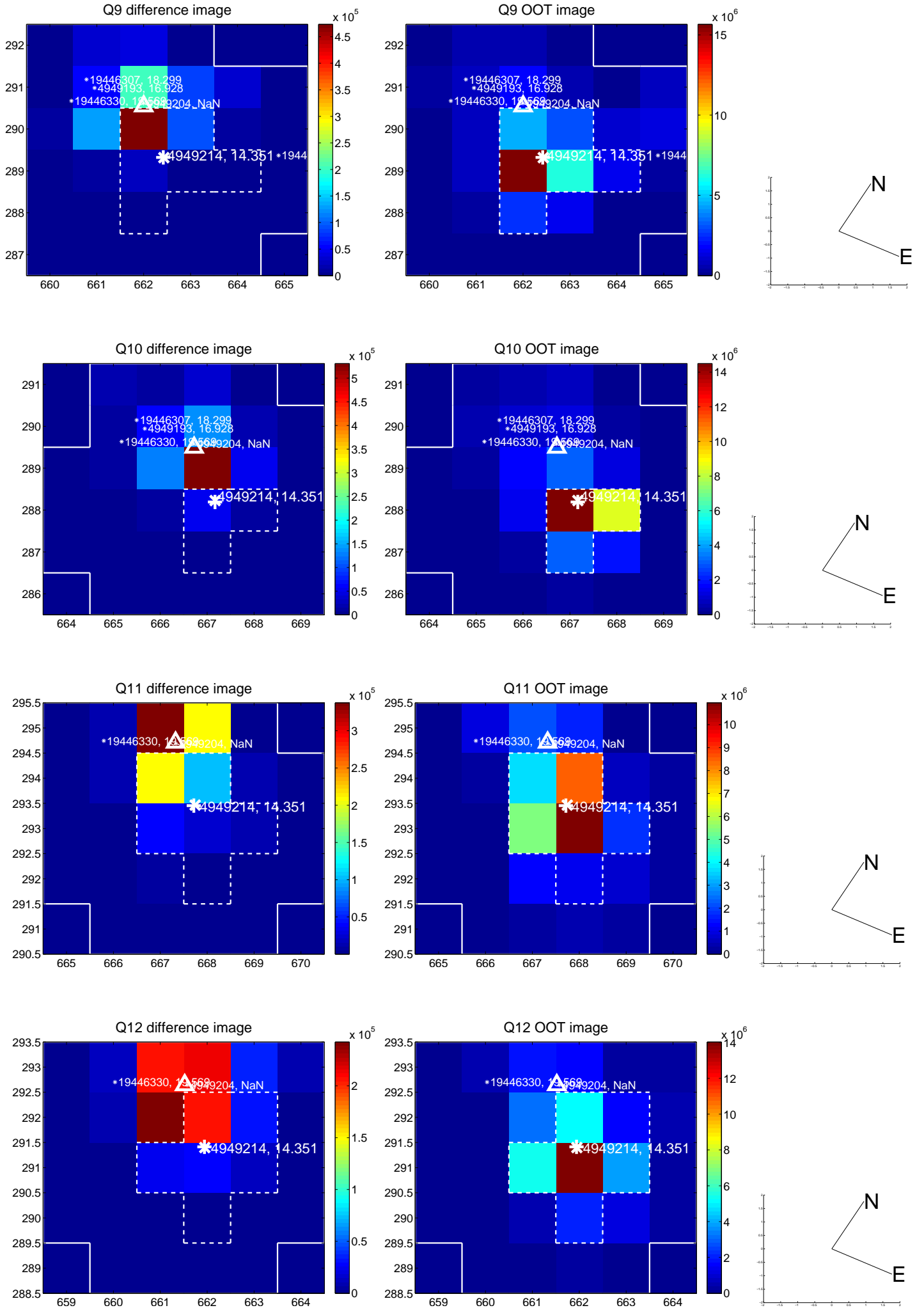


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

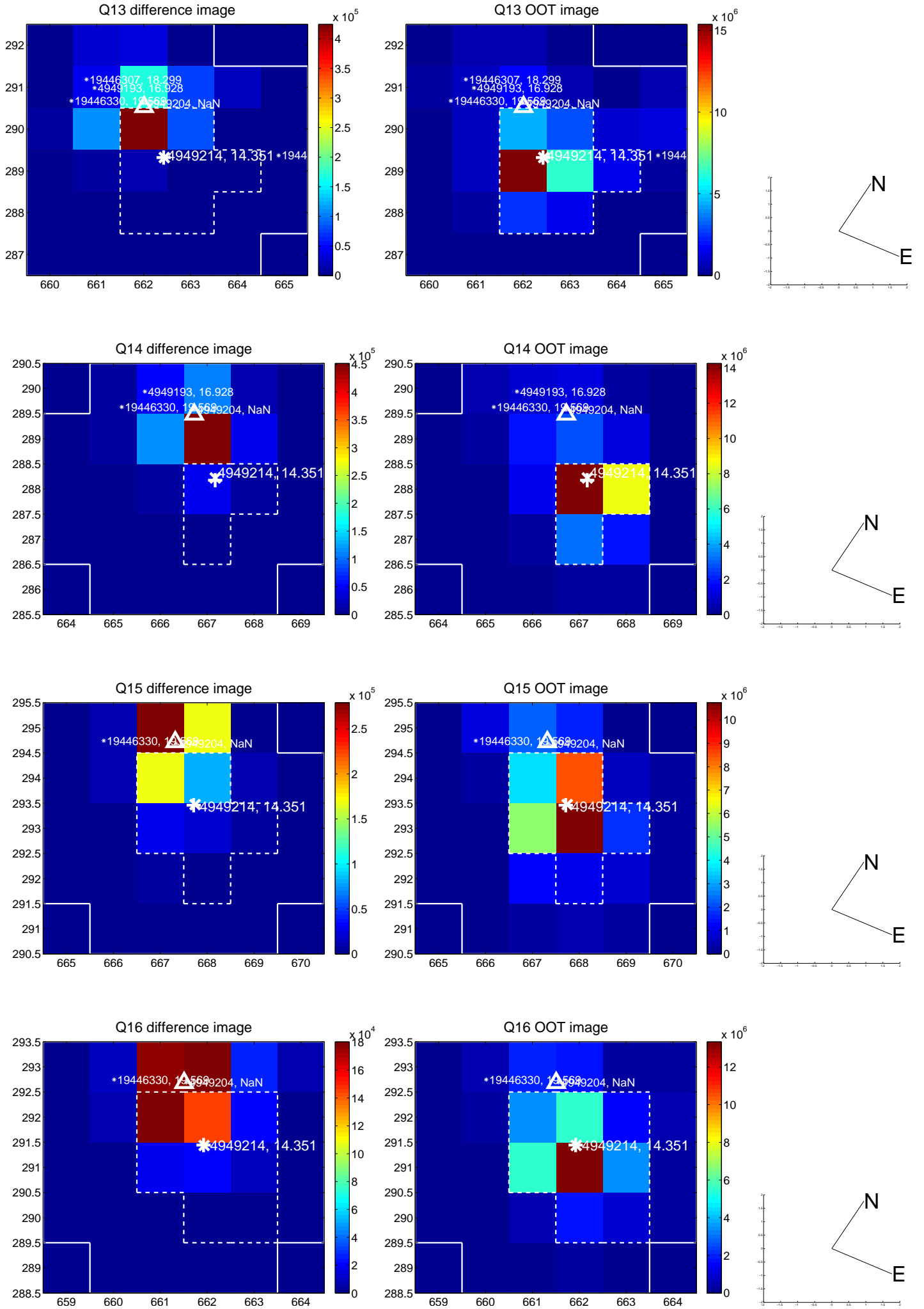
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



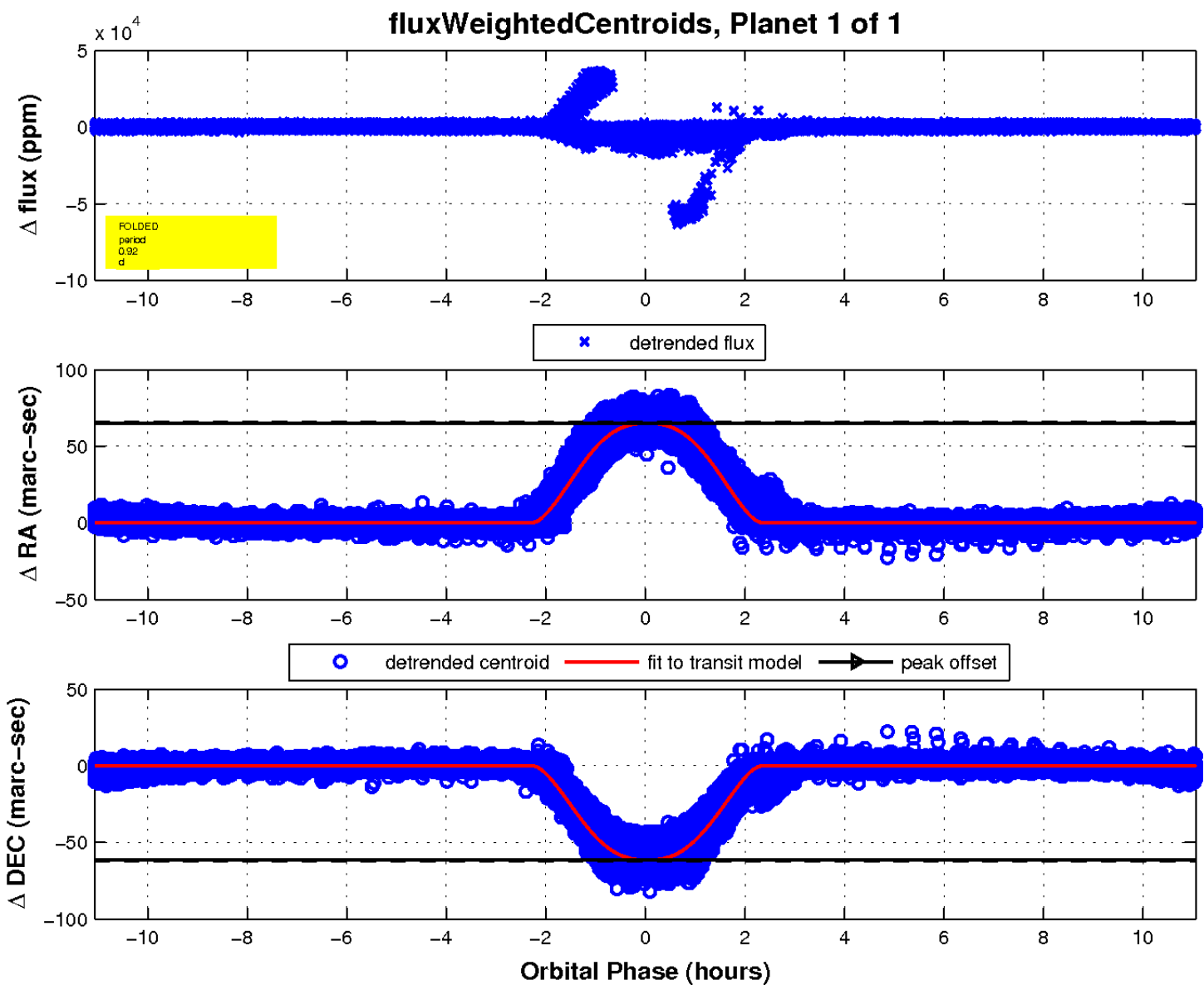
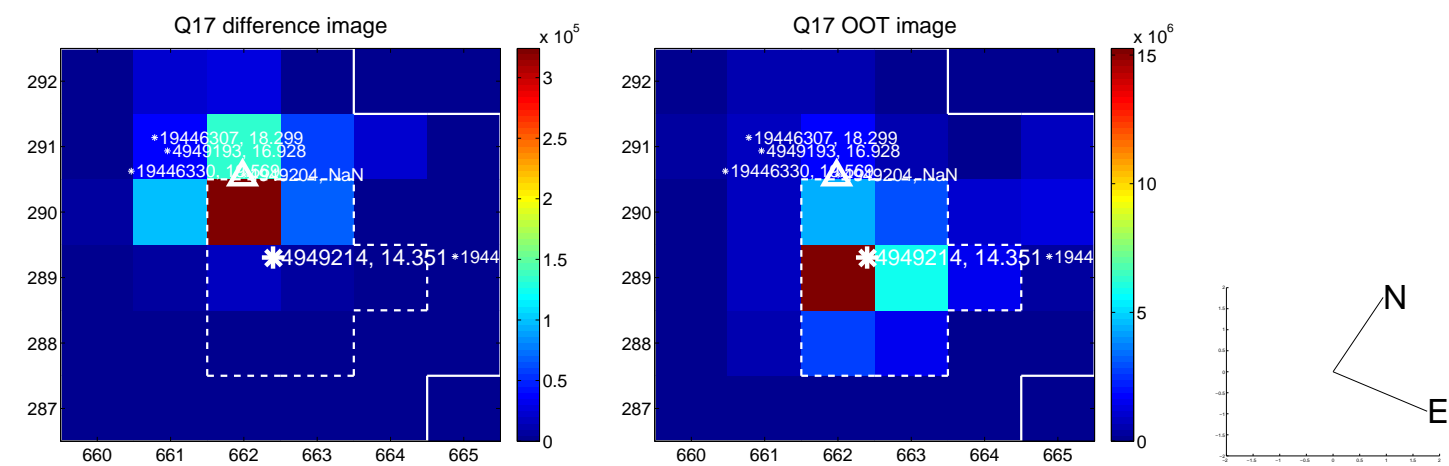
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

