

KIC 010668665

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})
010668665-01	OBS	3986.01	9.608514	137.749997	546.8	3.585	17.0	18.3	1.16	6377	4.87	221.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010668665-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—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.

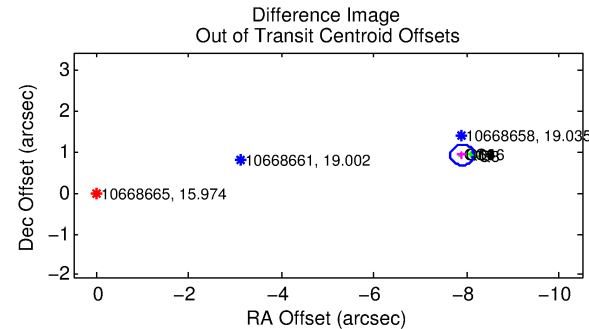
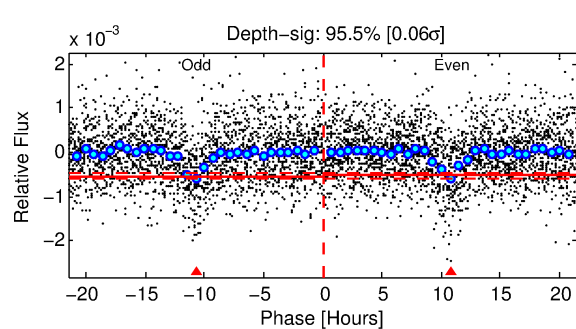
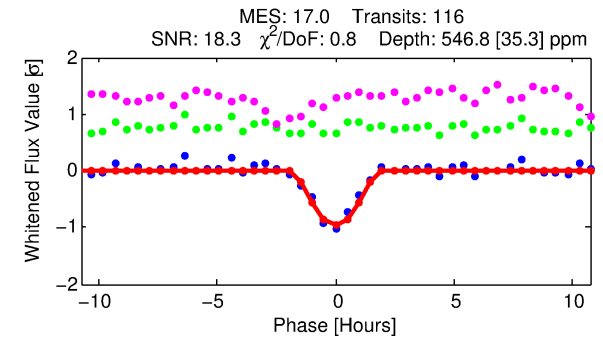
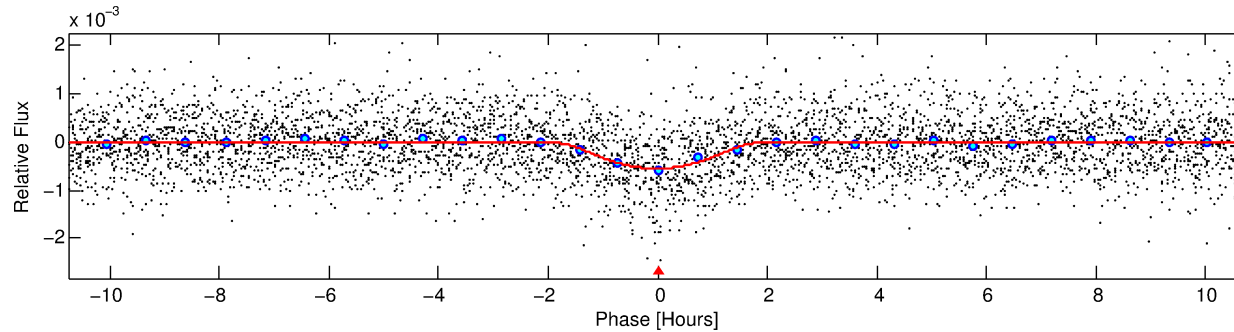
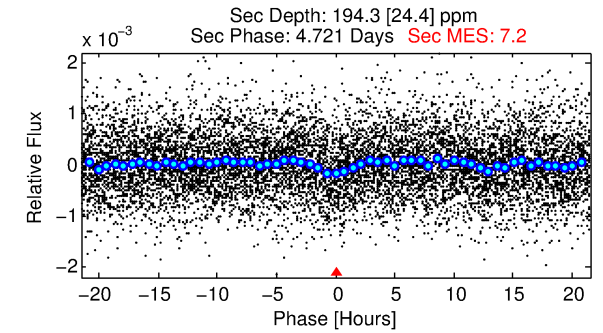
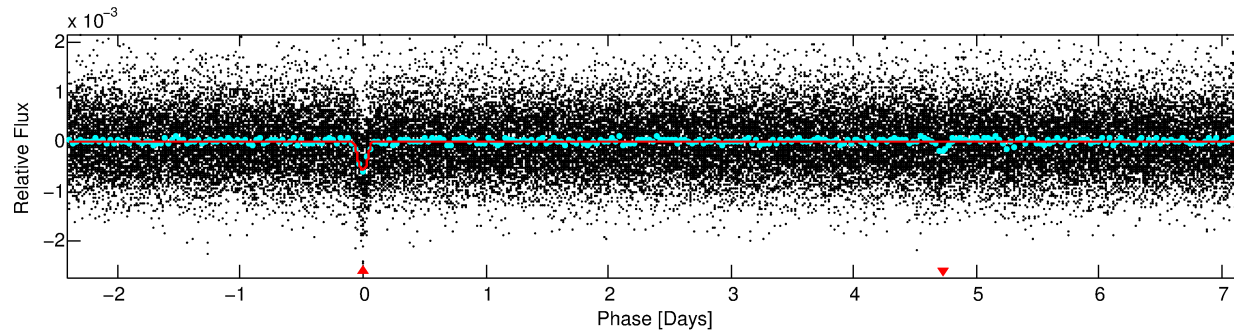
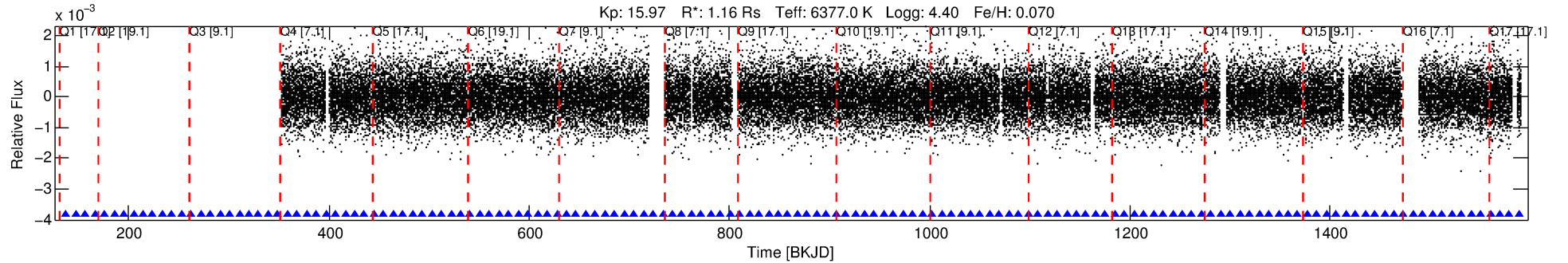
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010668665-01

No Significant Match Found

DV One-Page Summary

KIC: 10668665 Candidate: 1 of 1 Period: 9.609 d
KOI: K03986.01 Corr: 0.973



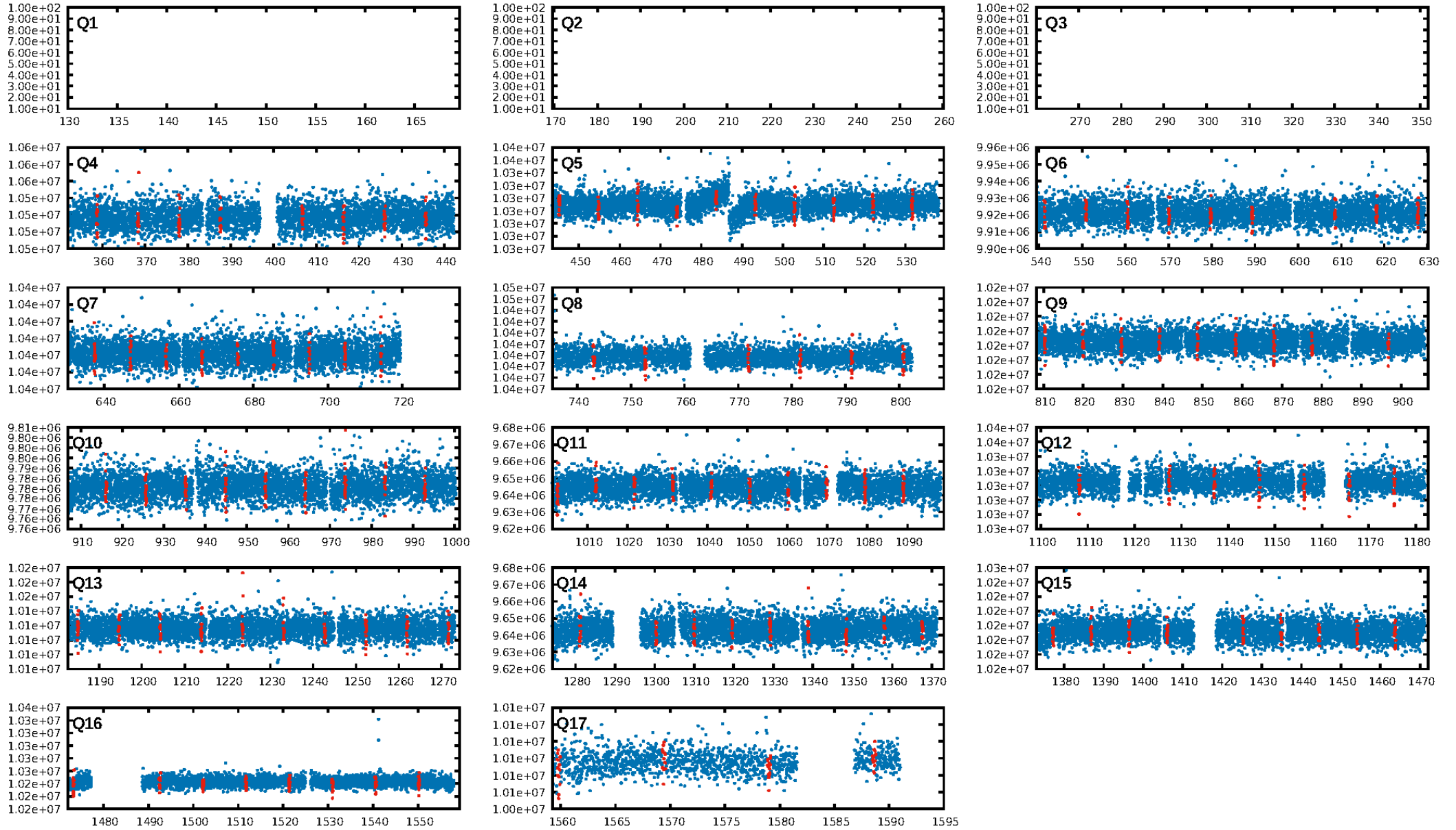
DV Fit Results:

Period = 9.60851 [0.00007] d
Epoch = 137.7500 [0.0062] BKJD
Rp/R* = 0.0386 [0.0729]
a/R* = 6.16 [3.22]
b = 1.00 [0.12]
Seff = 221.97 [88.99]
Teq = 984 [99] K
Rp = 4.87 [9.33] Re
a = 0.0946 [0.0238] AU
Ag = 40.31 [153.20] [0.26 σ]
Teff = 3834 [3630] K [0.78 σ]

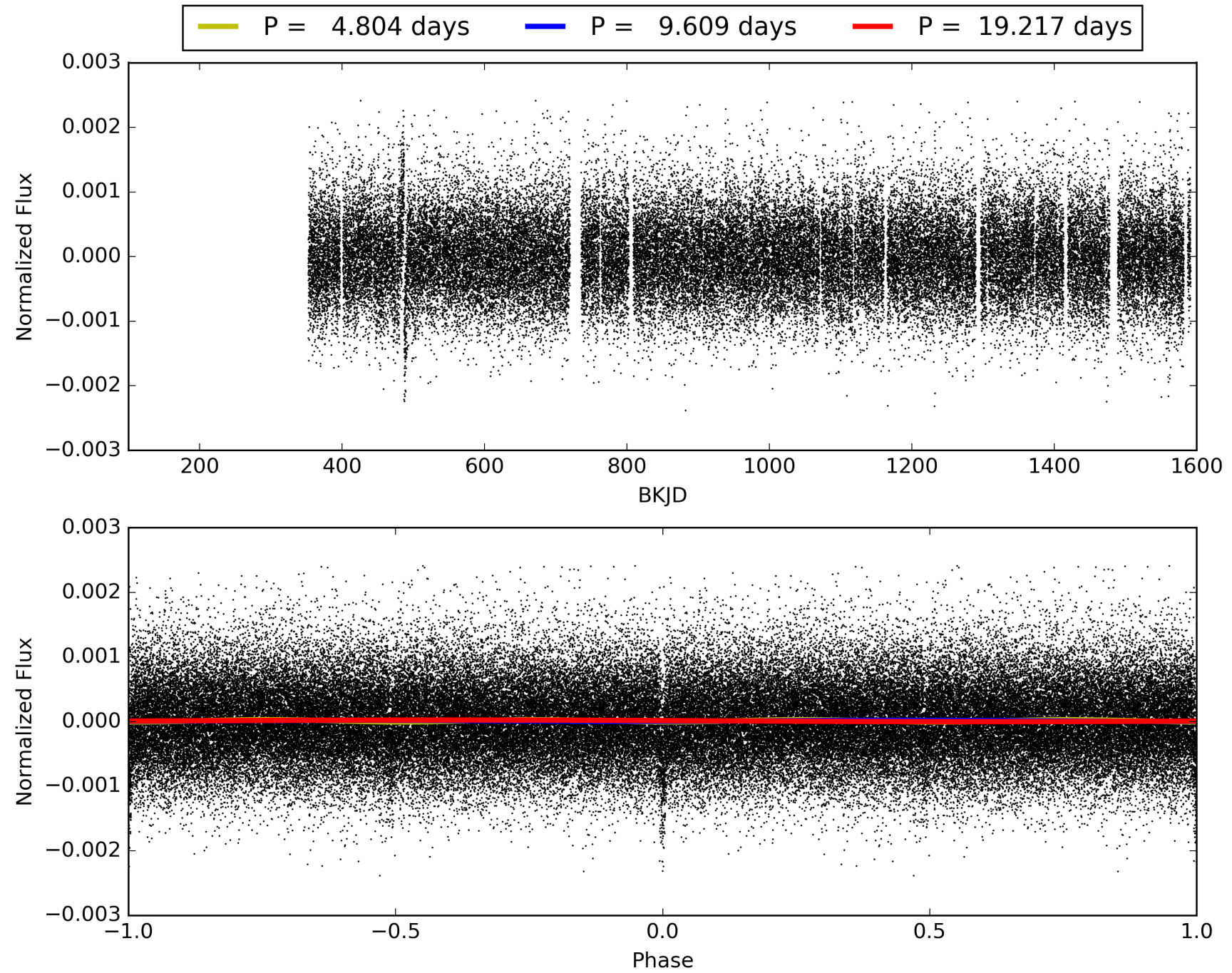
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.28e-64
RollingBand-fgt: 1.00 [112/112]
GhostDiagnostic-chr: -0.5546
Centroid-sig: 0.0%
Centroid-so: 84.429 arcsec [106.14 σ]
OotOffset-rm: 7.960 arcsec [94.85 σ]
KicOffset-rm: 8.035 arcsec [116.66 σ]
OotOffset-st: 3/0/3/0 [6]
KicOffset-st: 3/0/3/0 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010668665-01, PDC Light Curves

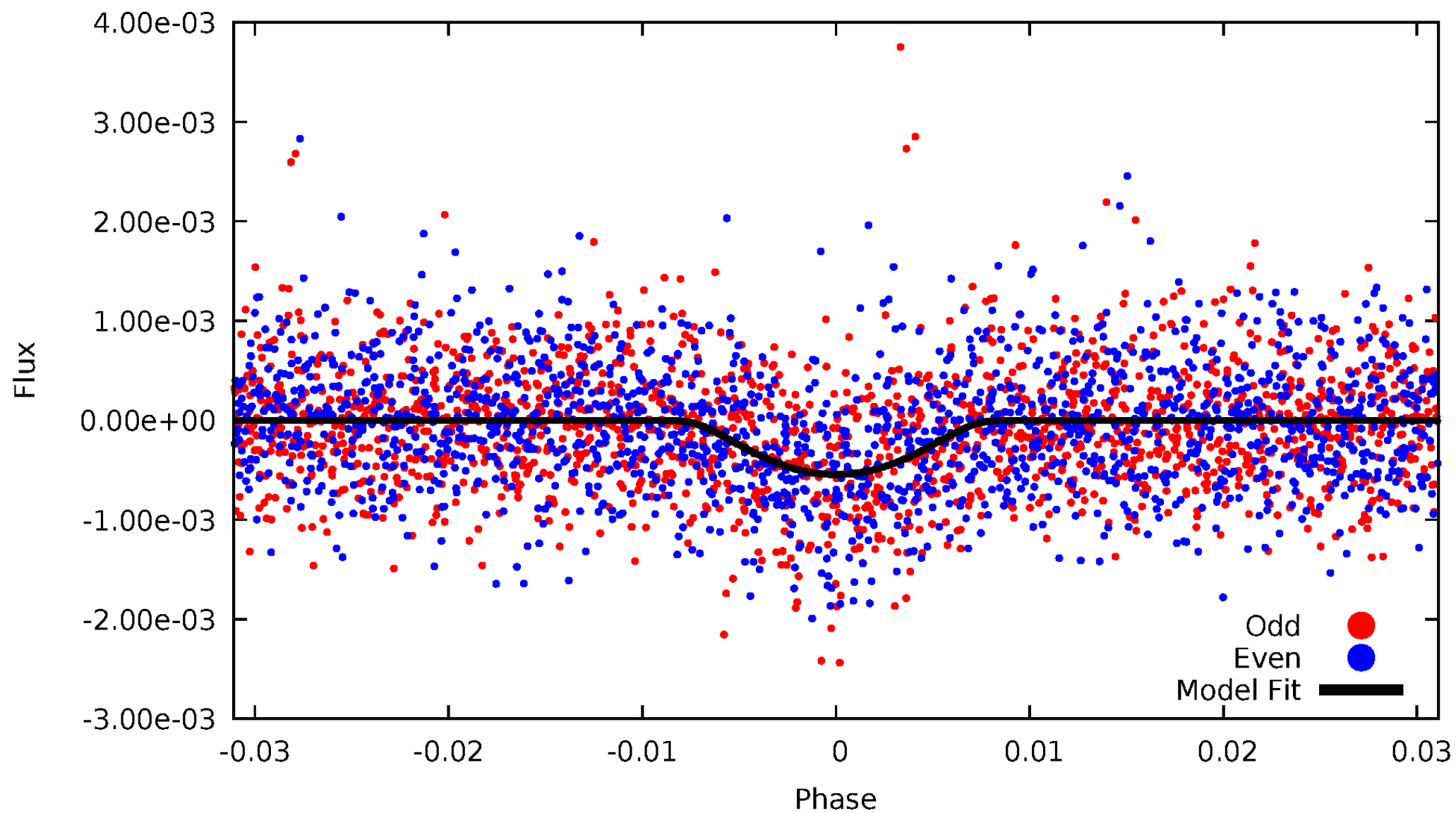


TCE 010668665-01



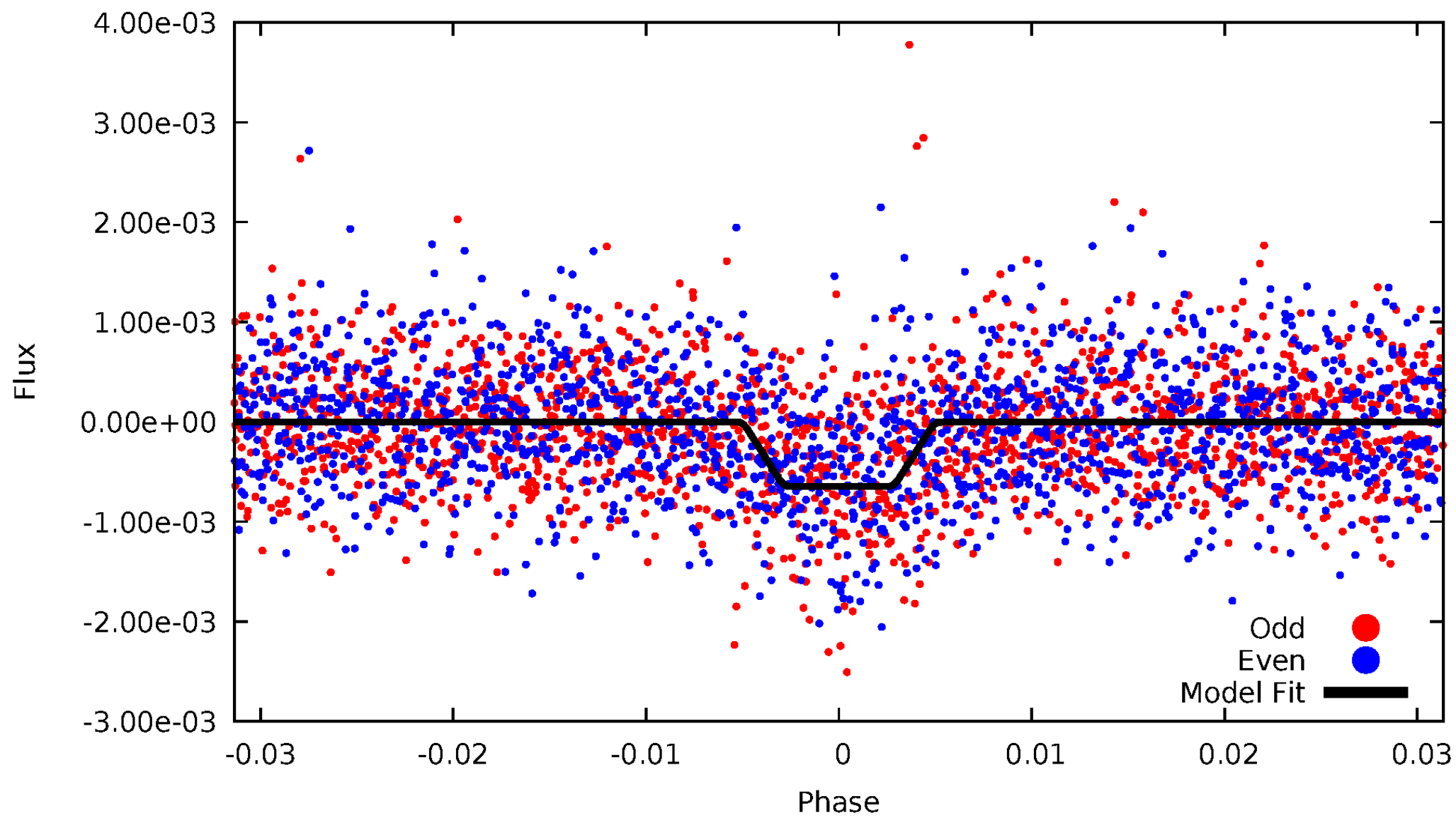
DV Odd/Even

TCE 010668665-01



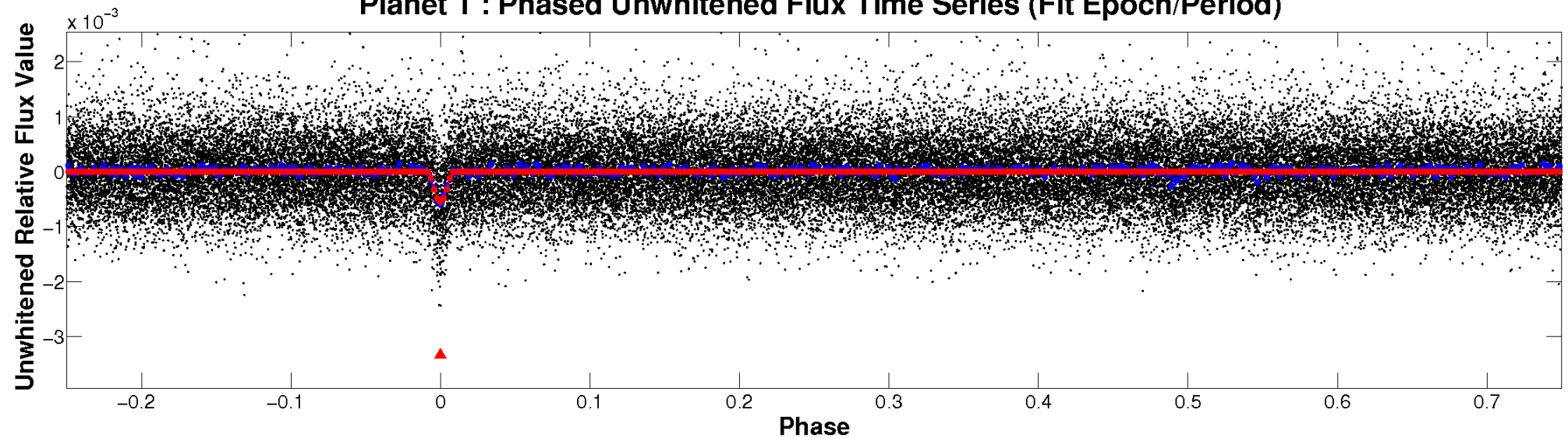
ALT Odd/Even

TCE 010668665-01

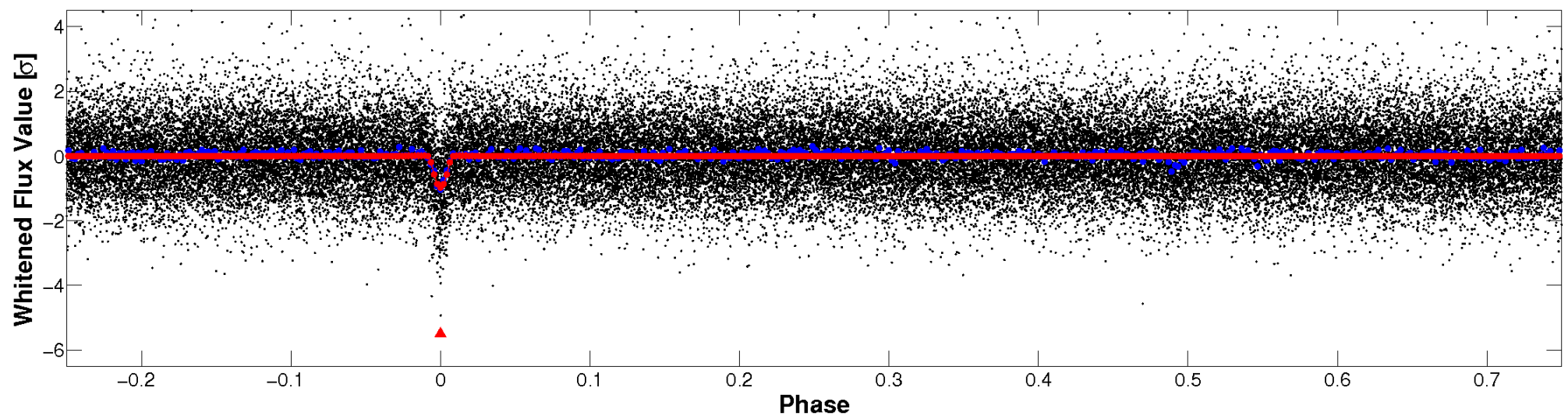


Non-Whitened Vs. Whitened Light Curve

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

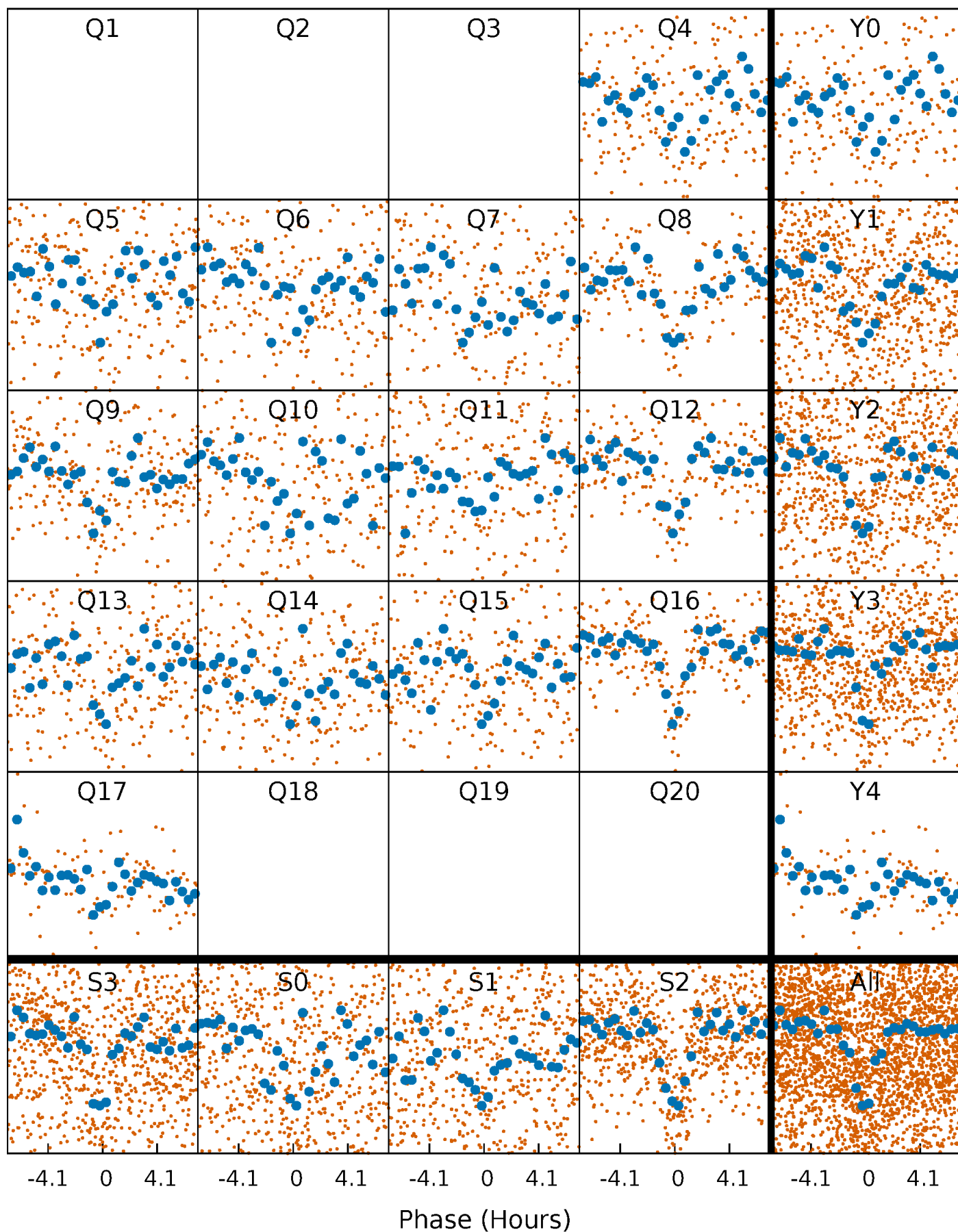


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



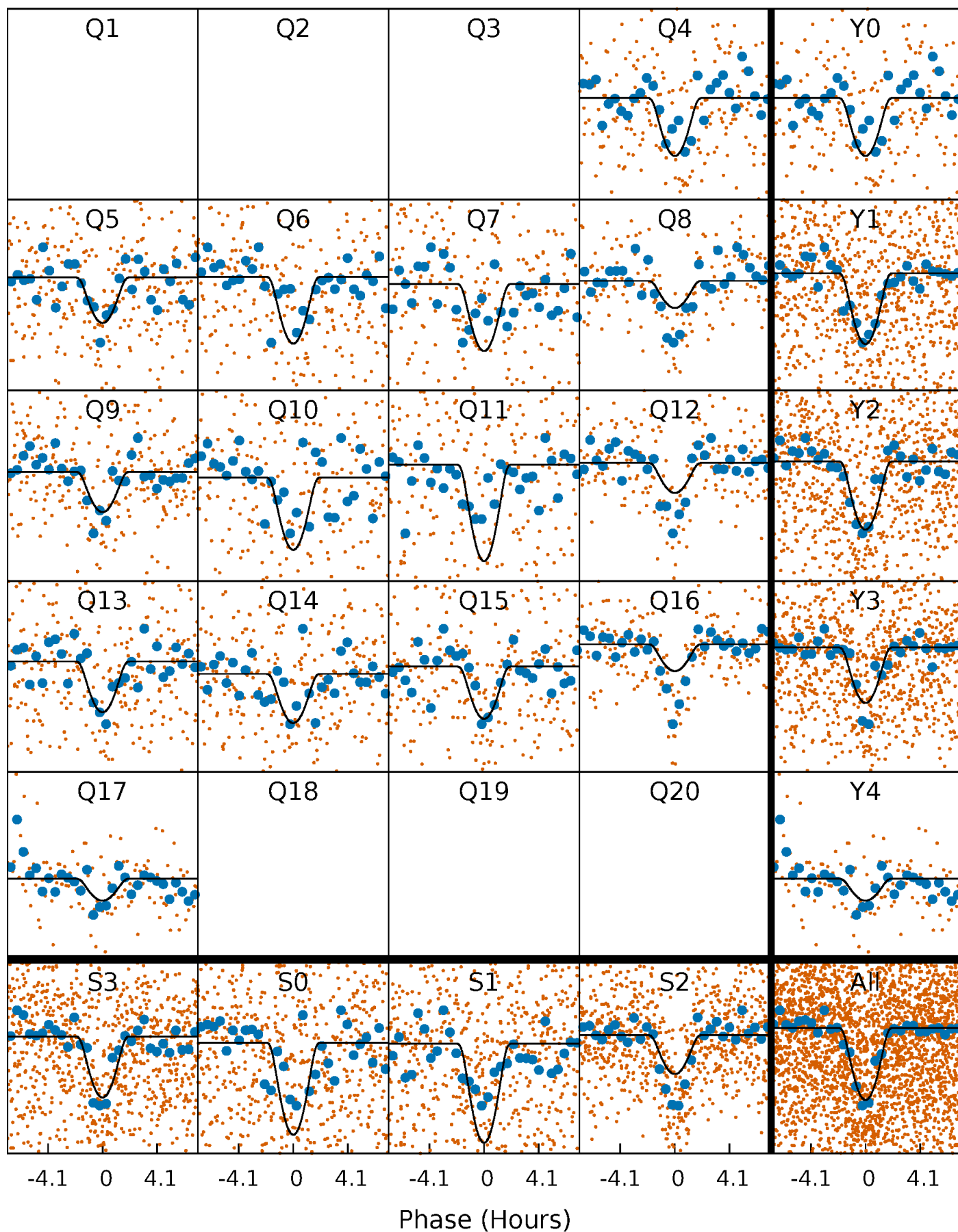
PDC Quarter-Phased Transit Curves

TCE 010668665-01 P= 9.608514 Days $T_0=137.749997$ (BKJD)



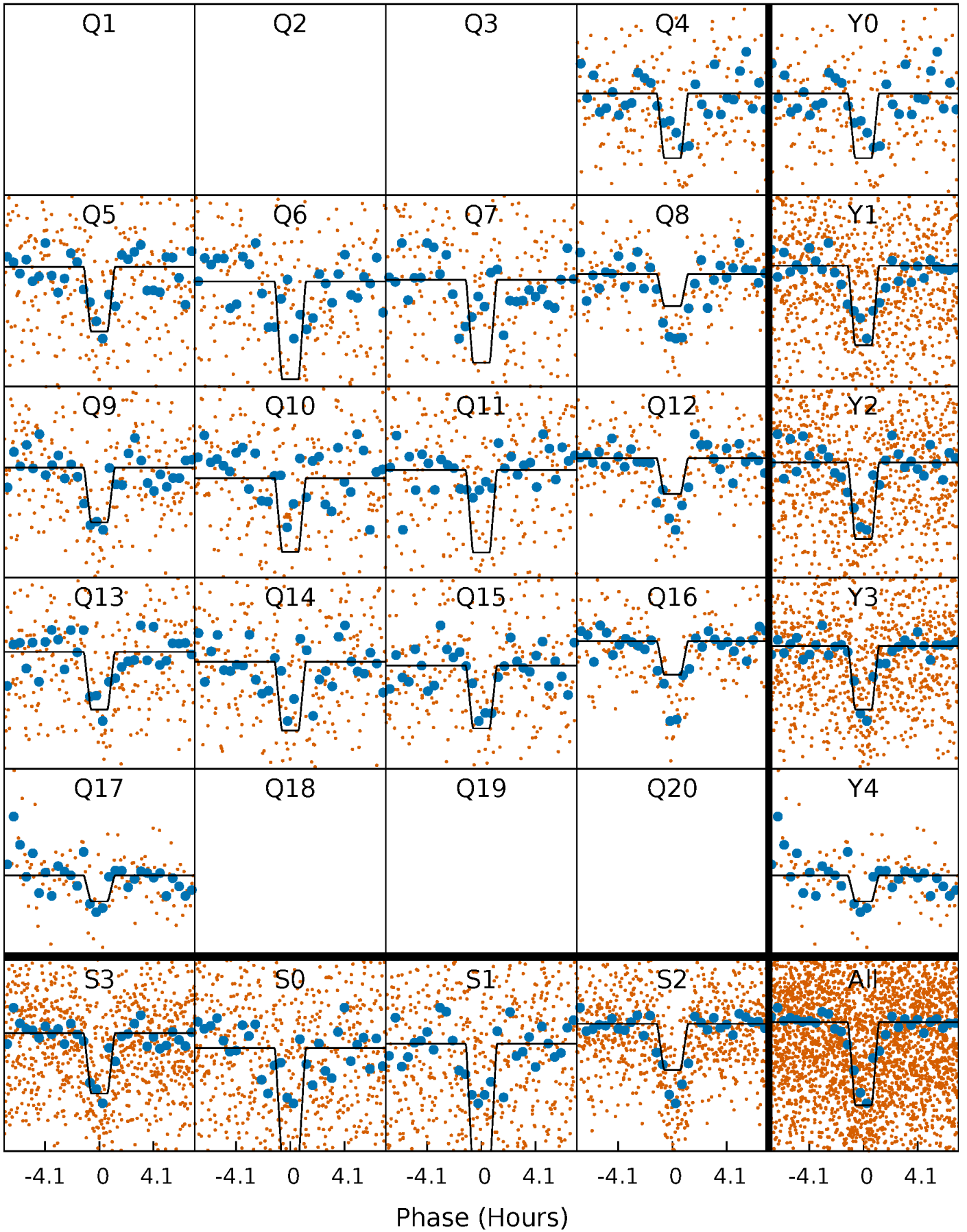
DV Quarter-Phased Transit Curves

TCE 010668665-01 P= 9.608514 Days $T_0=137.749997$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

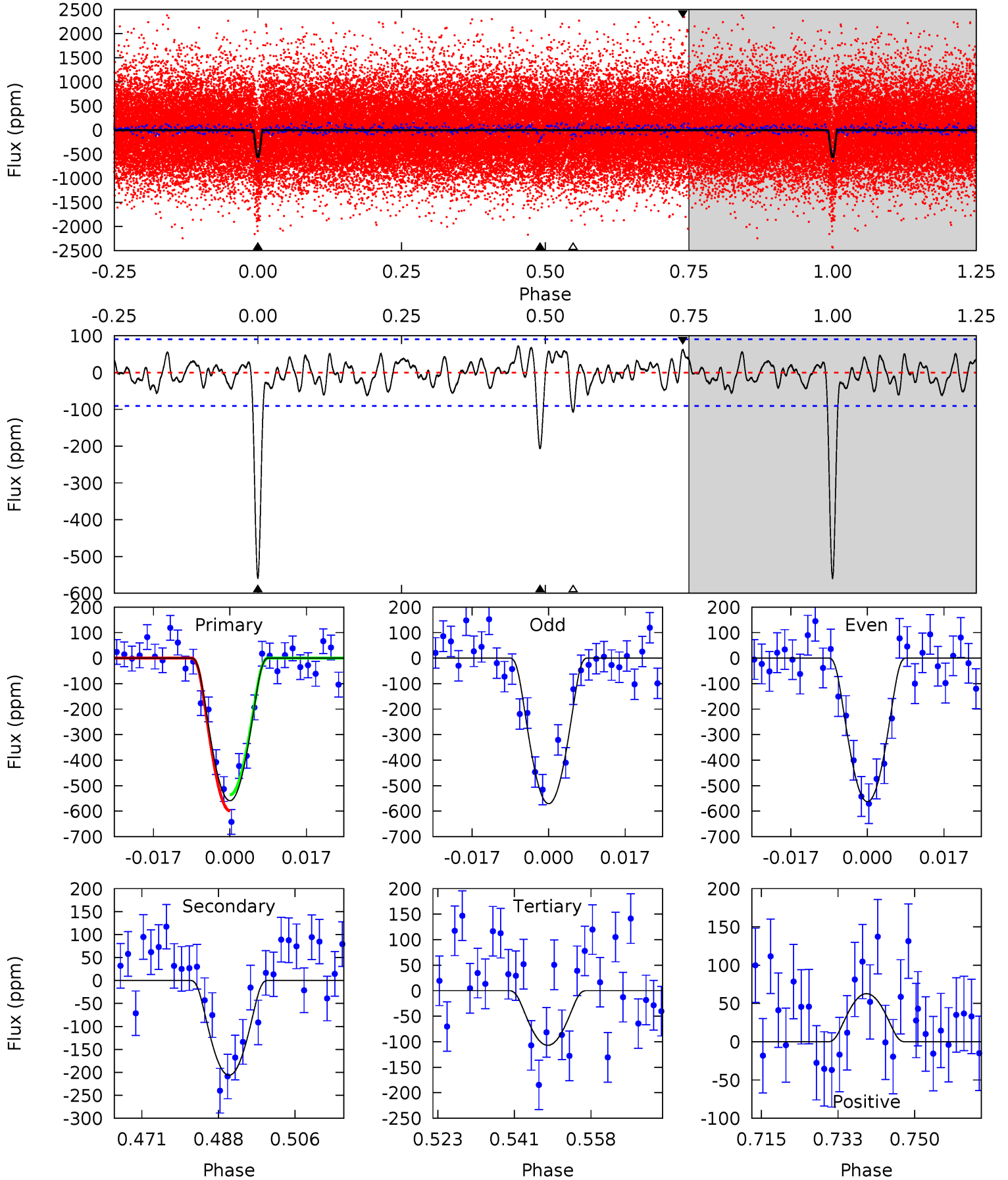
TCE 010668665-01 P= 9.608545 Days $T_0=137.743328$ (BKJD)



DV Model-Shift Uniqueness Test

010668665-01, P = 9.608514 Days, E = 137.749997 Days

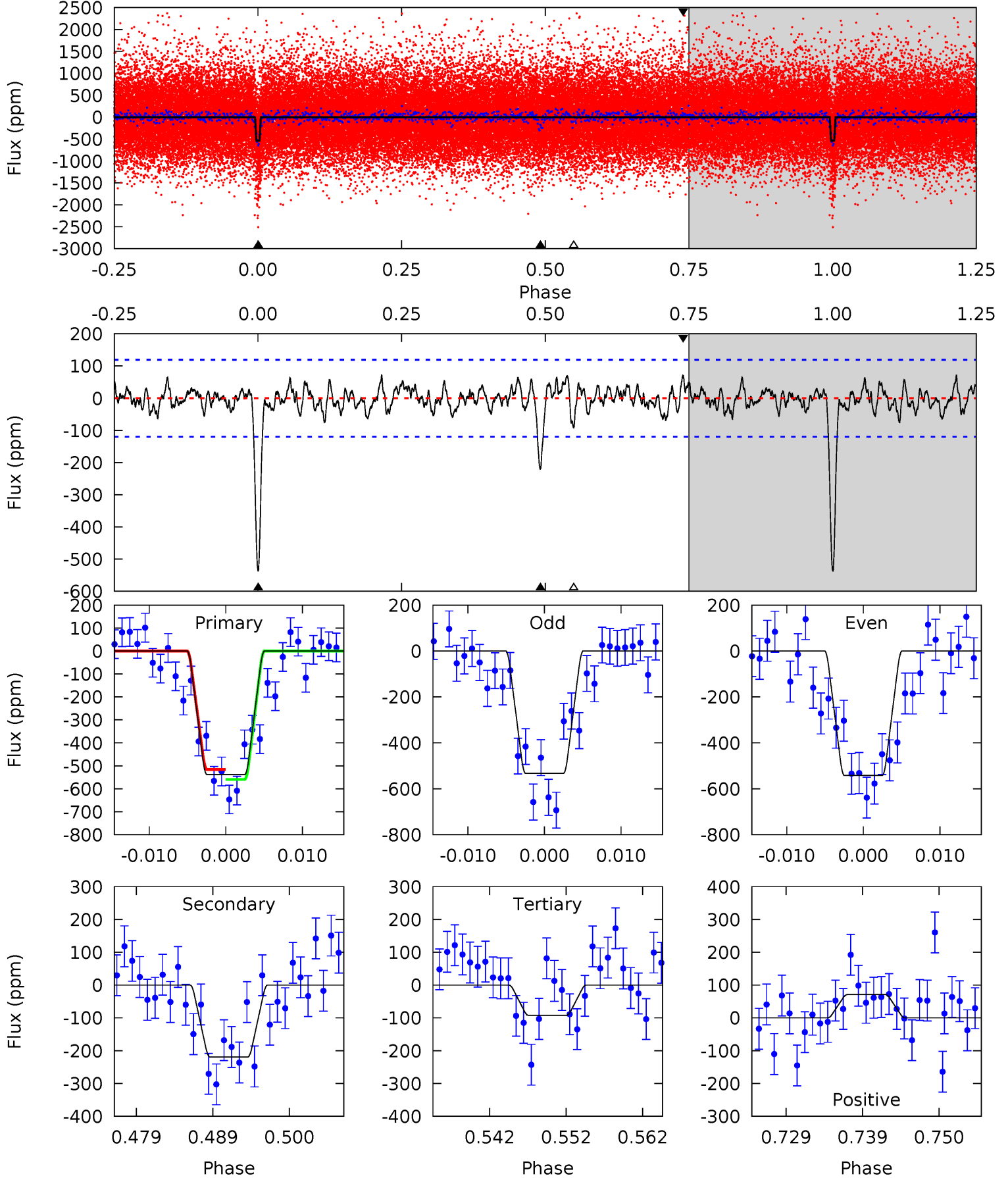
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	11.2	5.81	3.41	4.92	2.38	1.53	24.5	26.9	5.39	7.80	0.21	1.16	0.11	1.70



Alt Model-Shift Uniqueness Test

010668665-01, P = 9.608545 Days, E = 137.743328 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	9.20	3.88	2.98	5.02	2.56	1.19	18.7	19.6	5.32	6.21	0.19	1.10	0.12	0.91



Stellar Parameters For KIC 010668665

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6377^{+174}_{-261}	$4.398^{+0.062}_{-0.200}$	$0.070^{+0.250}_{-0.350}$	$1.158^{+0.346}_{-0.148}$	$1.225^{+0.152}_{-0.186}$	$1.110^{+0.316}_{-0.563}$
	+3%/-4%	+1%/-5%	+357%/-500%	+30%/-13%	+12%/-15%	+28%/-51%
Source	KIC0	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 010668665-01 / KOI 3986.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-206 ± 18	$8.78^{+7.95}_{-5.76}$	1403^{+98}_{-81}	3441^{+1718}_{-610}	13^{+97}_{-9}
Alt.	-219 ± 24	$8.56^{+7.81}_{-5.91}$	1403^{+96}_{-82}	3505^{+1912}_{-637}	15^{+124}_{-11}

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 $A_{obs} \gg 1.0$

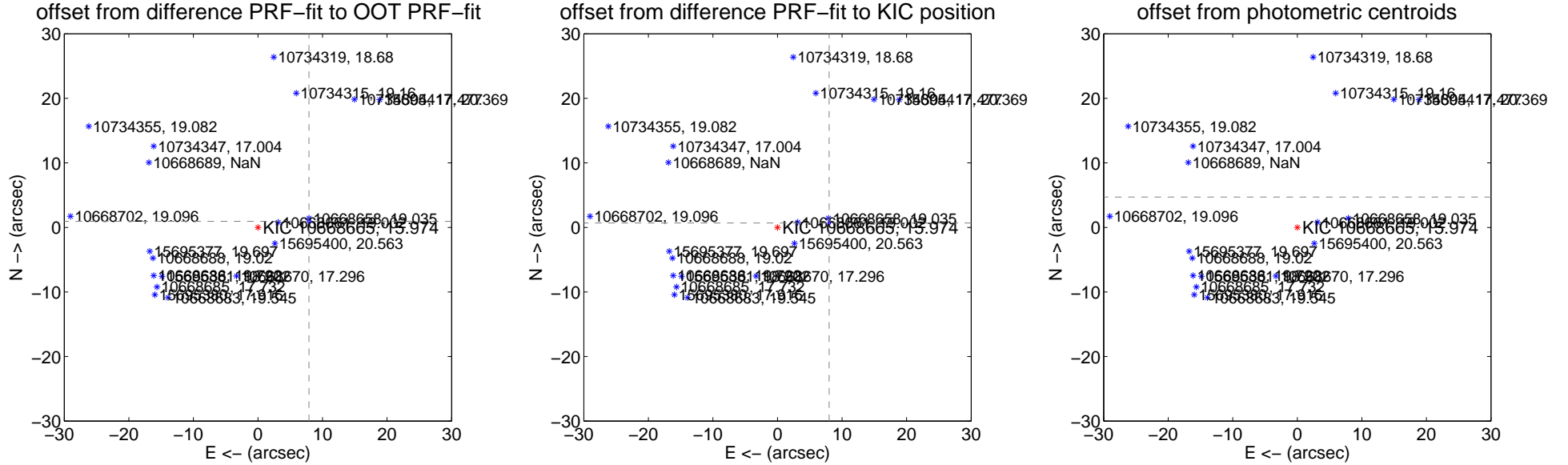
DV Centroid Data

Supplemental centroid analysis for 010668665-01. Kepler magnitude: 15.97. Transit SNR 18.27

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.960 \pm 0.084	94.85	-7.904 \pm 0.084	0.939 \pm 0.067
PRF-fit source offset from KIC position	8.035 \pm 0.069	116.66	-8.006 \pm 0.069	0.682 \pm 0.068
photometric centroid source offset	84.43 \pm 0.80	106.14	-84.30 \pm 0.80	4.70 \pm 0.74



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



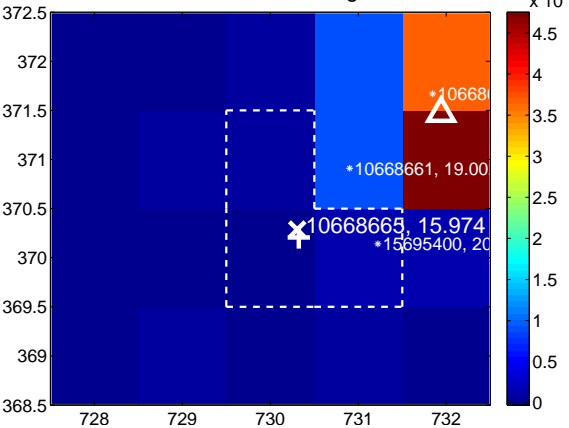
Q3 no difference image



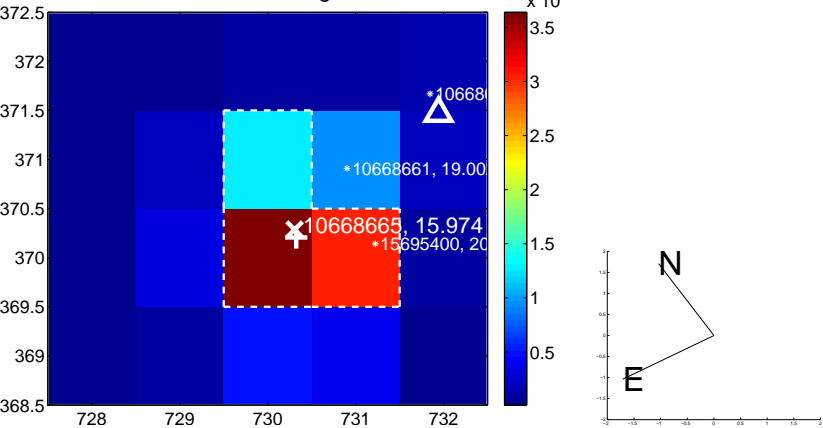
Q3 no OOT image



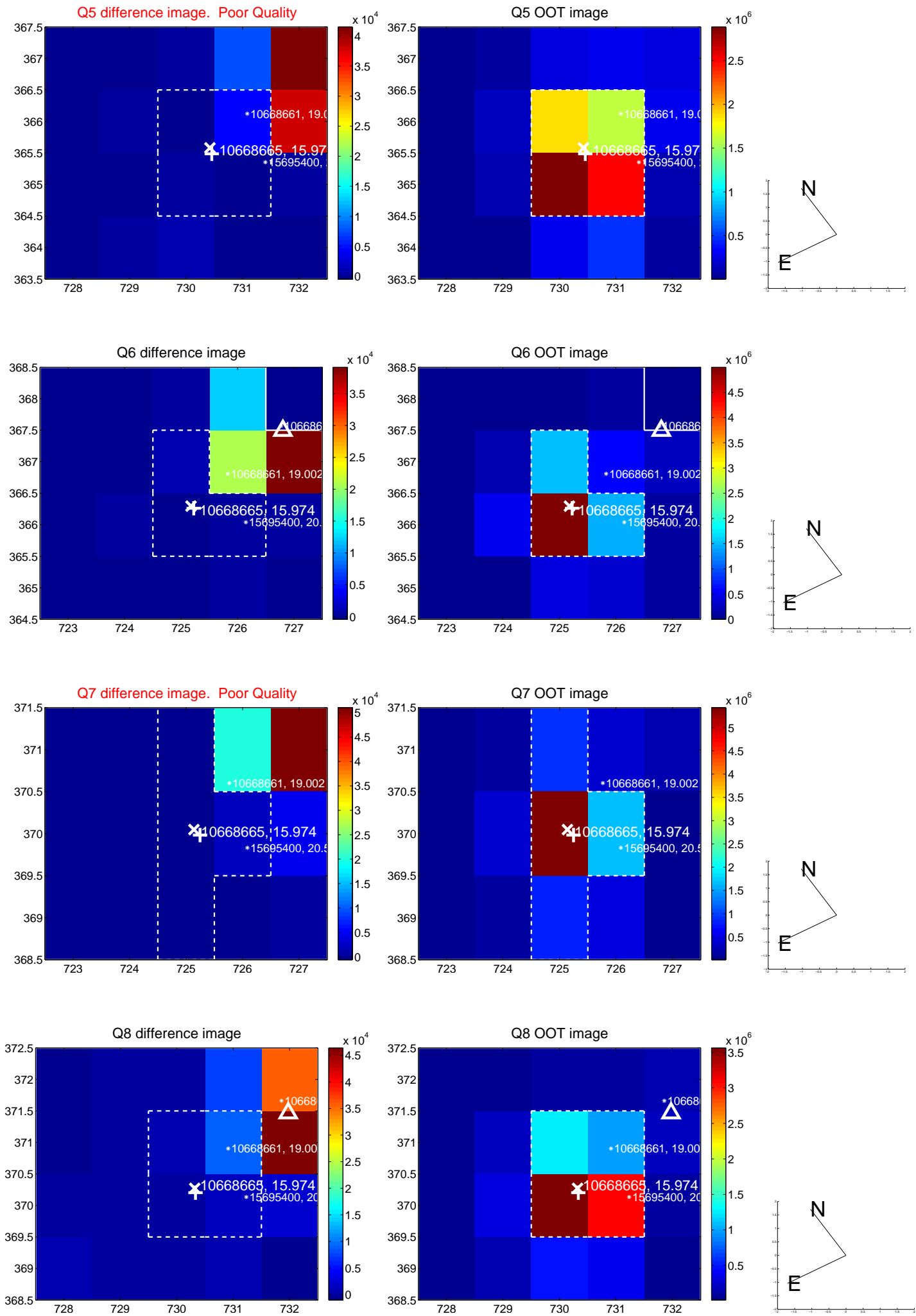
Q4 difference image



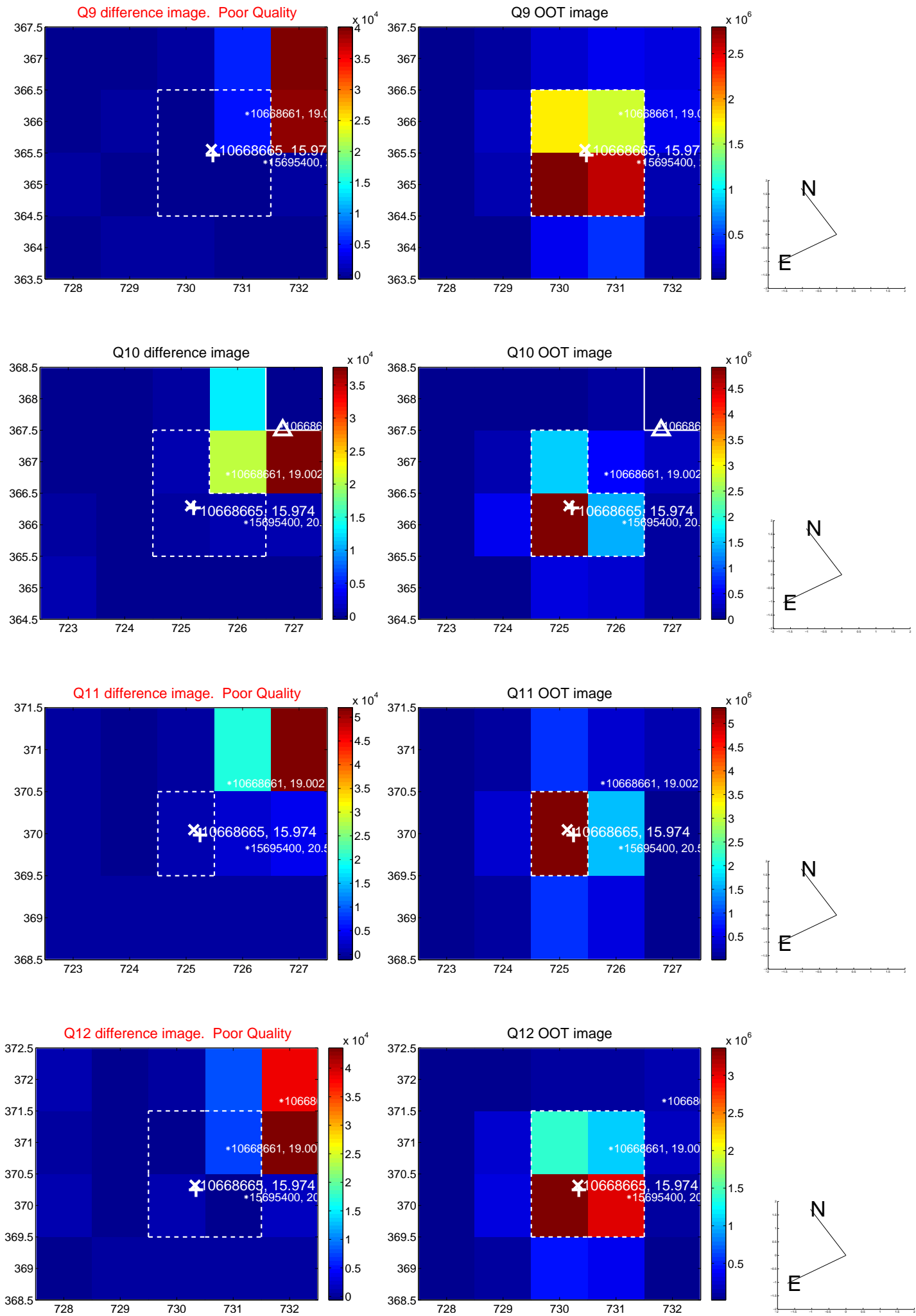
Q4 OOT image



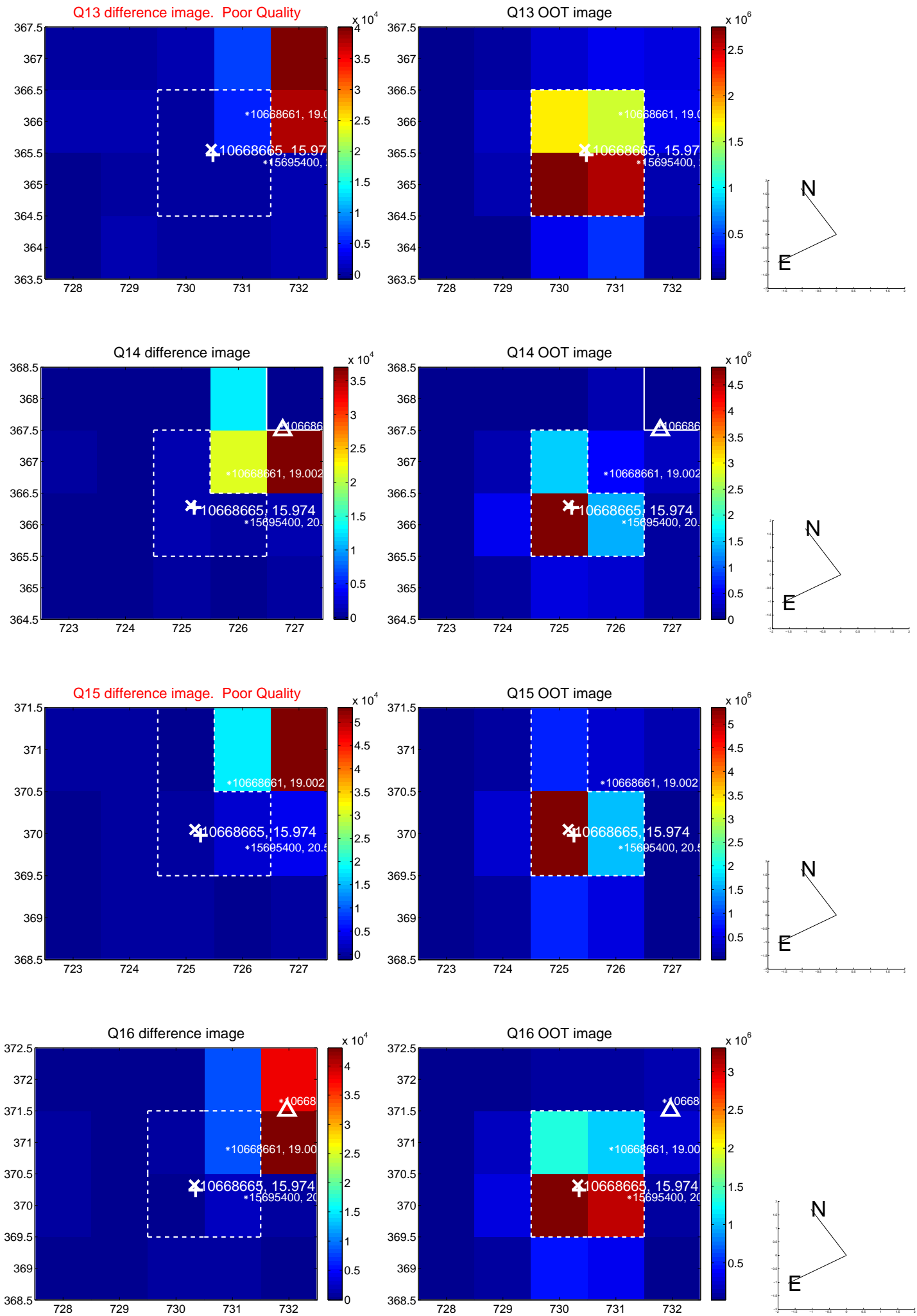
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



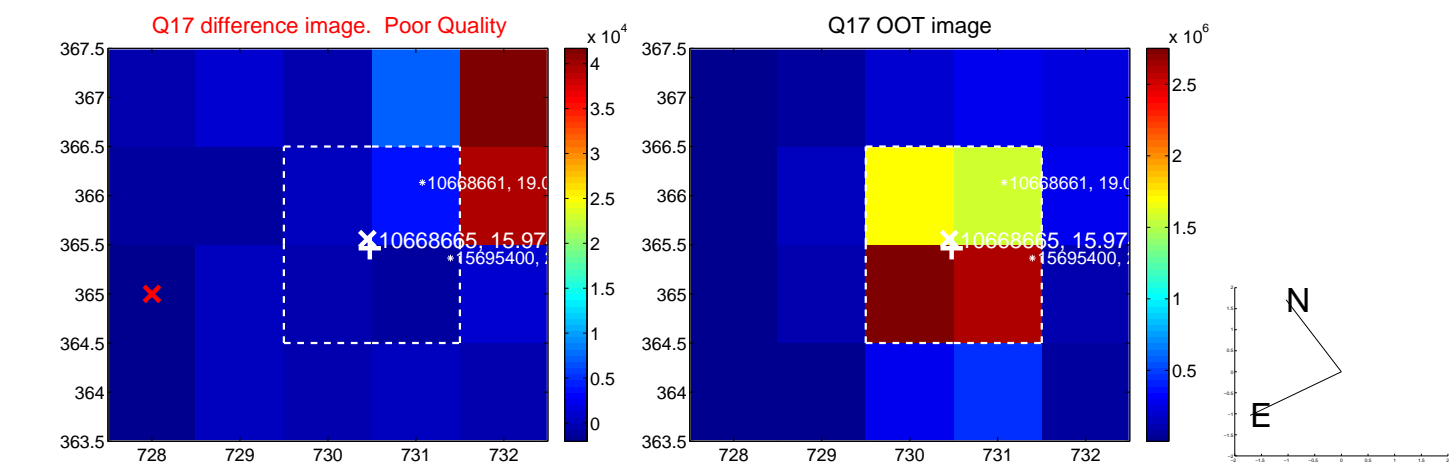
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



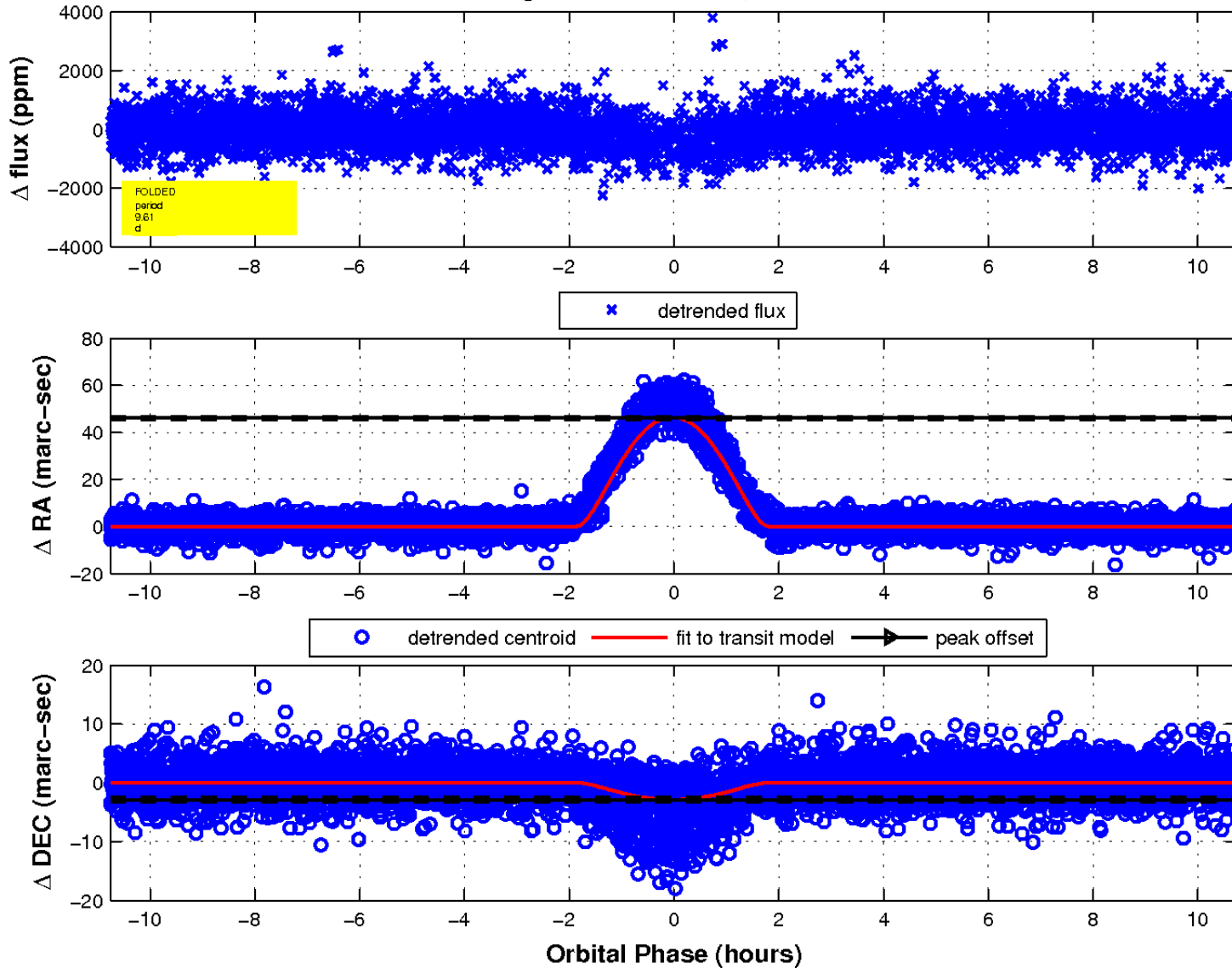
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

