

KIC 009764965

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})
009764965-01	OBS	No	0.533840	131.956791	8.8	2.771	8.8	11.0	3.02	7464	1.04	96371.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009764965-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

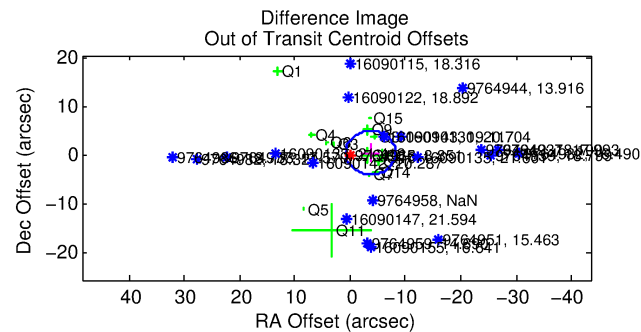
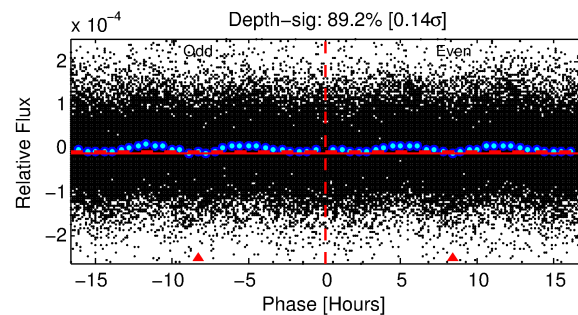
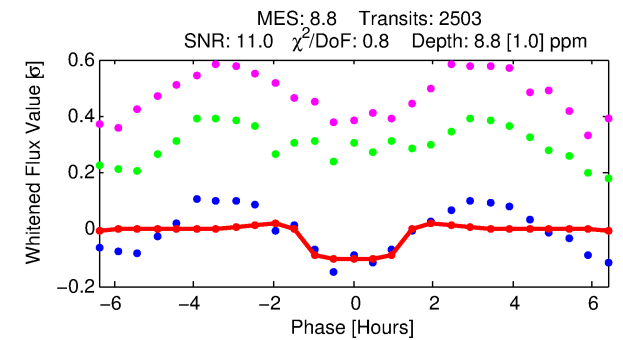
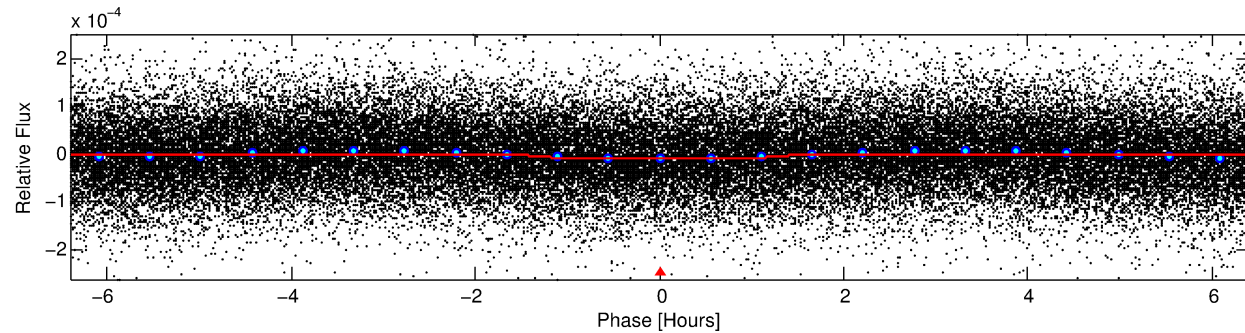
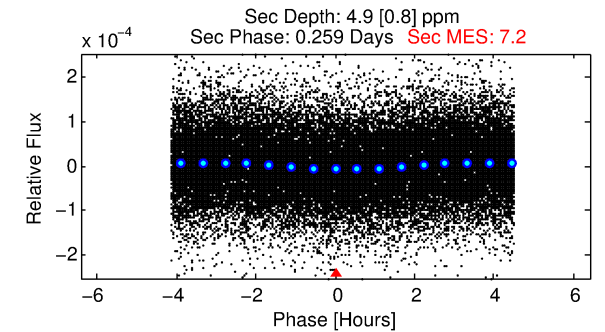
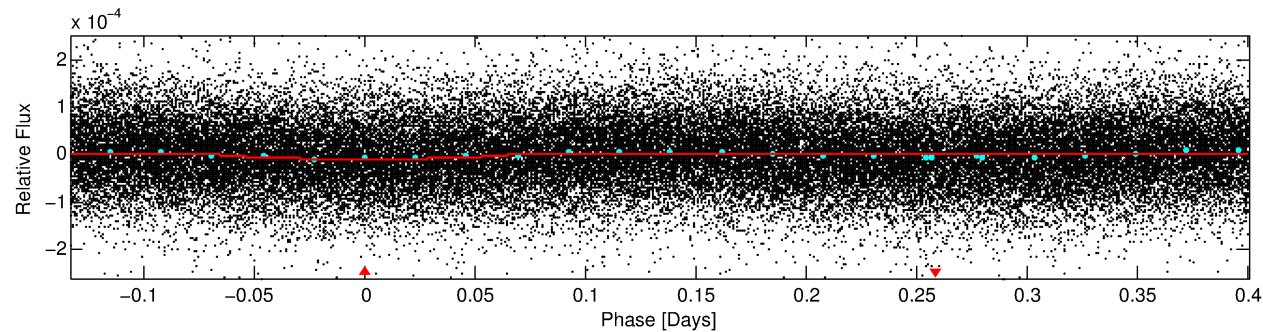
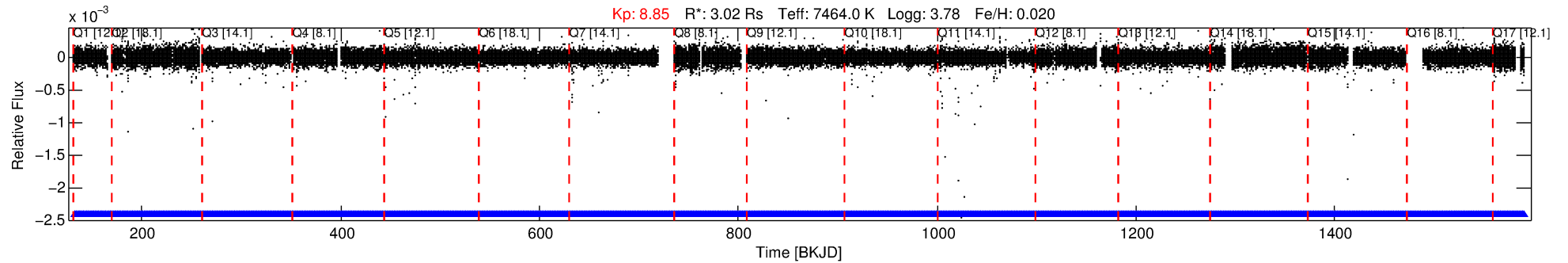
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009764965-01

No Significant Match Found

DV One-Page Summary

KIC: 9764965 Candidate: 1 of 1 Period: 0.534 d



DV Fit Results:

Period = 0.53384 [0.00001] d
Epoch = 131.9568 [0.0023] BKJD
Rp/R* = 0.0031 [0.0008]
a/R* = 1.14 [0.41]
b = 0.90 [0.33]
Seff = 96371.75 [34836.24]
Teff = 4493 [406] K
Rp = 1.04 [0.37] Re
a = 0.0162 [0.0038] AU
Ag = 0.66 [0.40] [-0.85σ]
Teffp = 6252 [800] K [1.96σ]

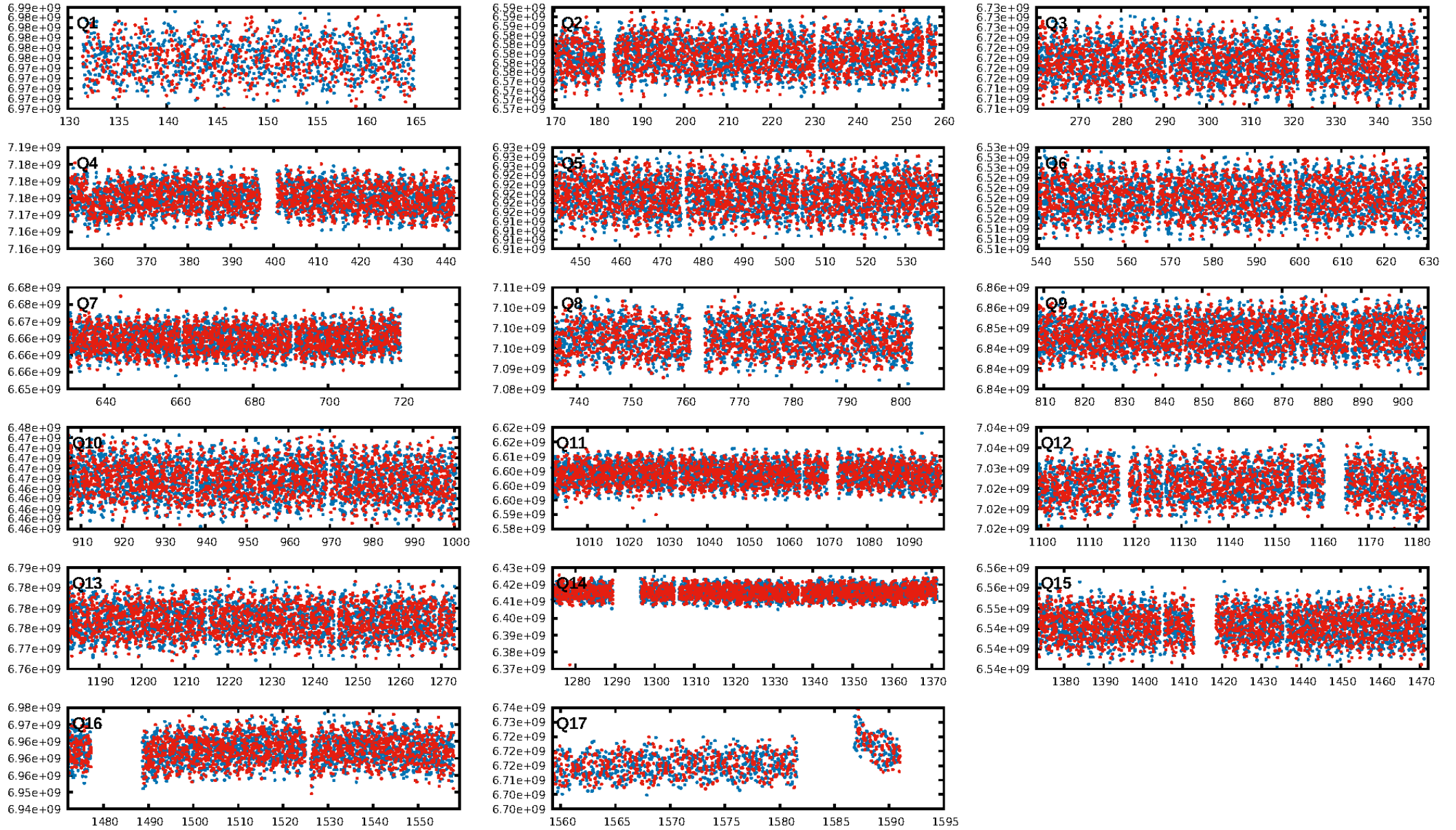
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.35e-11
RollingBand-fgt: 1.00 [2391/2391]
GhostDiagnostic-chr: N/A
Centroid-sig: 15.5%
Centroid-so: 1.628 arcsec [1.49σ]
OotOffset-rm: 3.733 arcsec [2.49σ]
KicOffset-rm: 1.104 arcsec [0.59σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.07 [1/15]
DiffImageOverlap-fno: 1.00 [17/17]

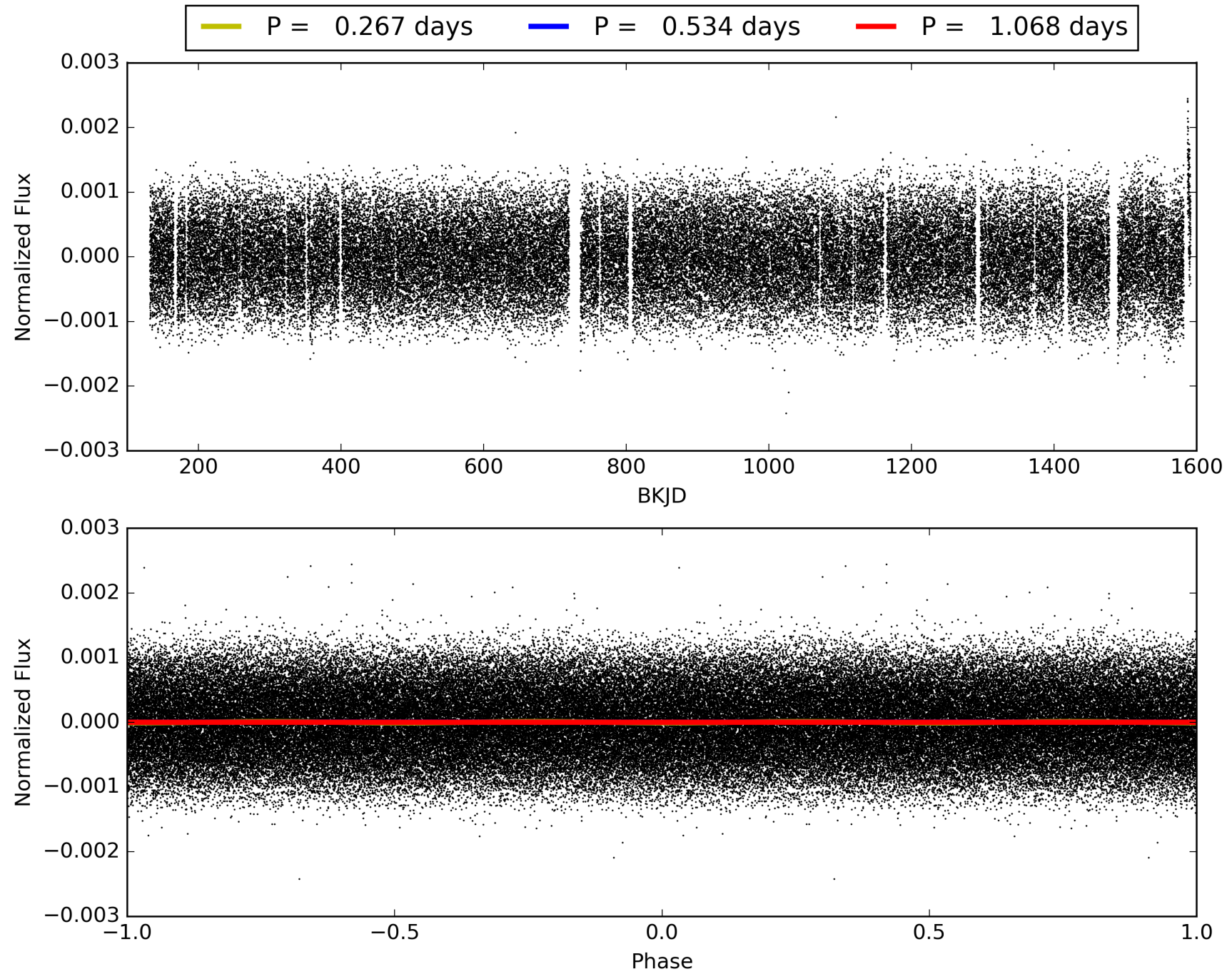
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:00:05 Z

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

TCE 009764965-01, PDC Light Curves

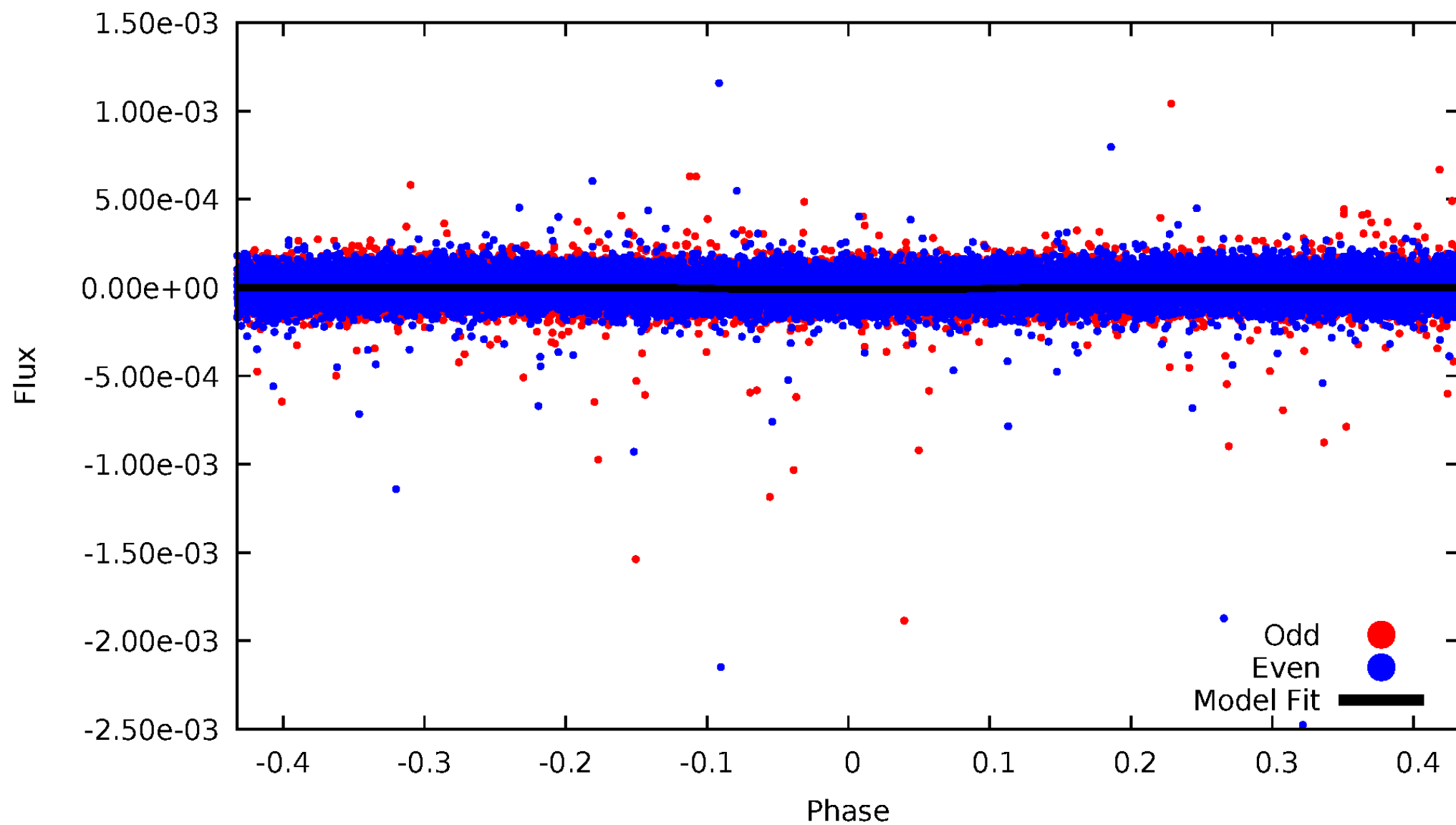


TCE 009764965-01



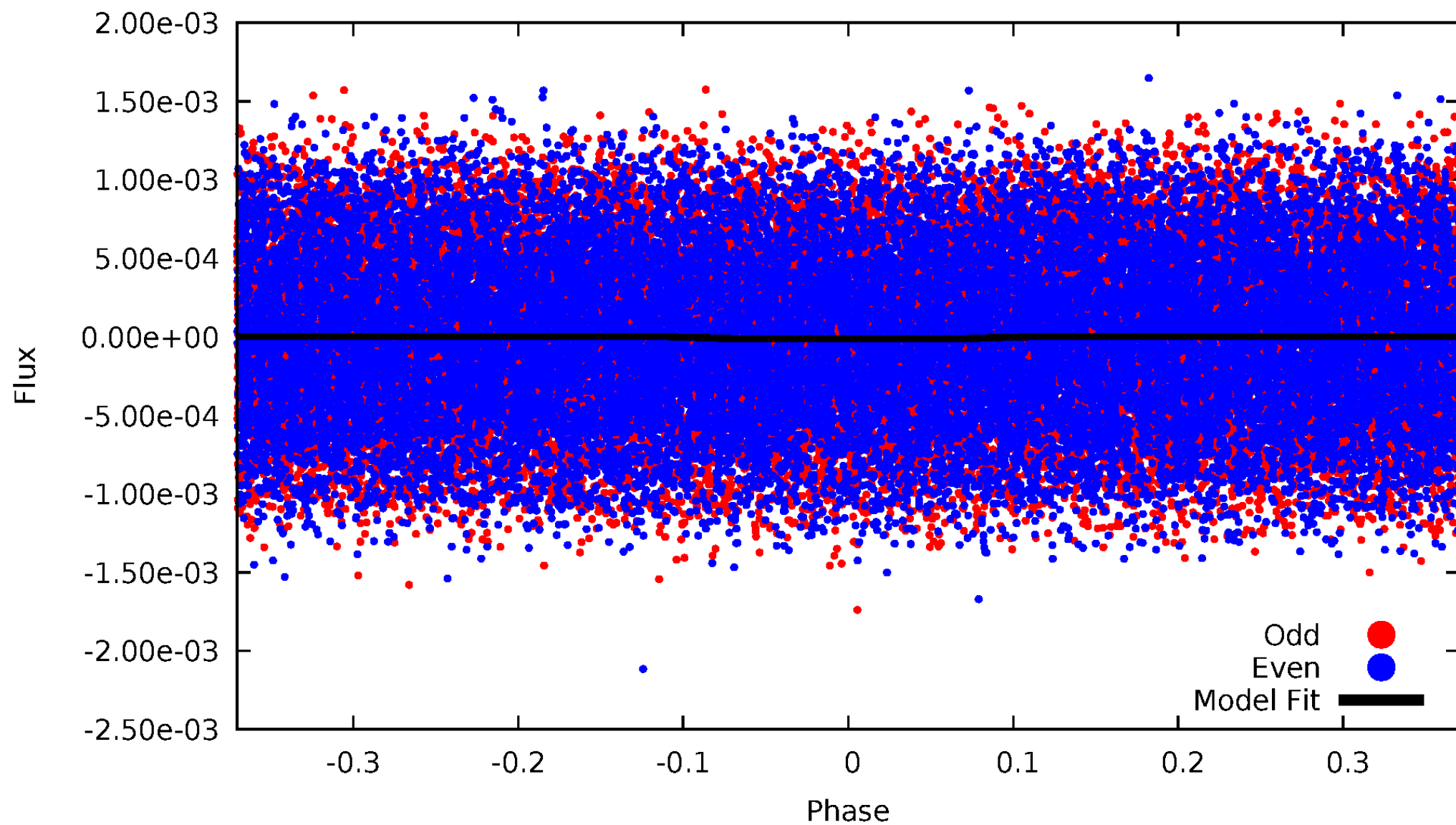
DV Odd/Even

TCE 009764965-01



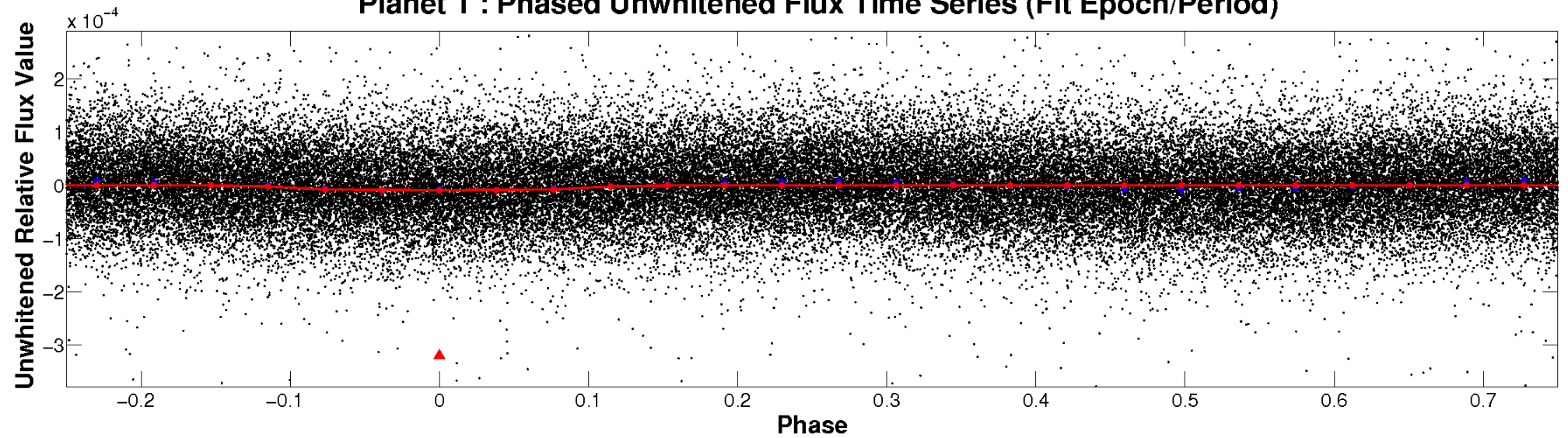
ALT Odd/Even

TCE 009764965-01

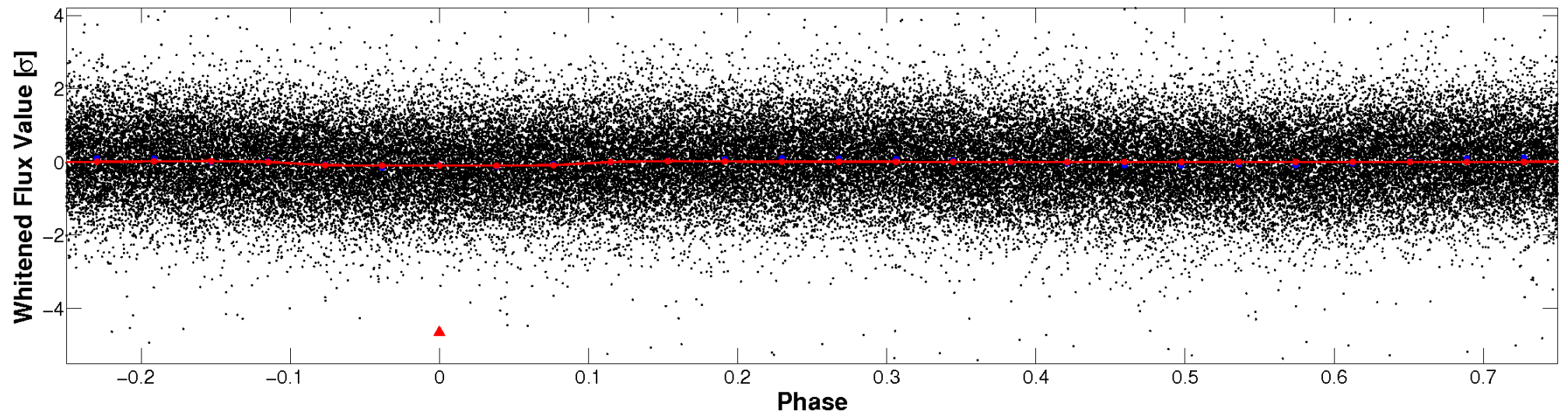


Non-Whitened Vs. Whitened Light Curve

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

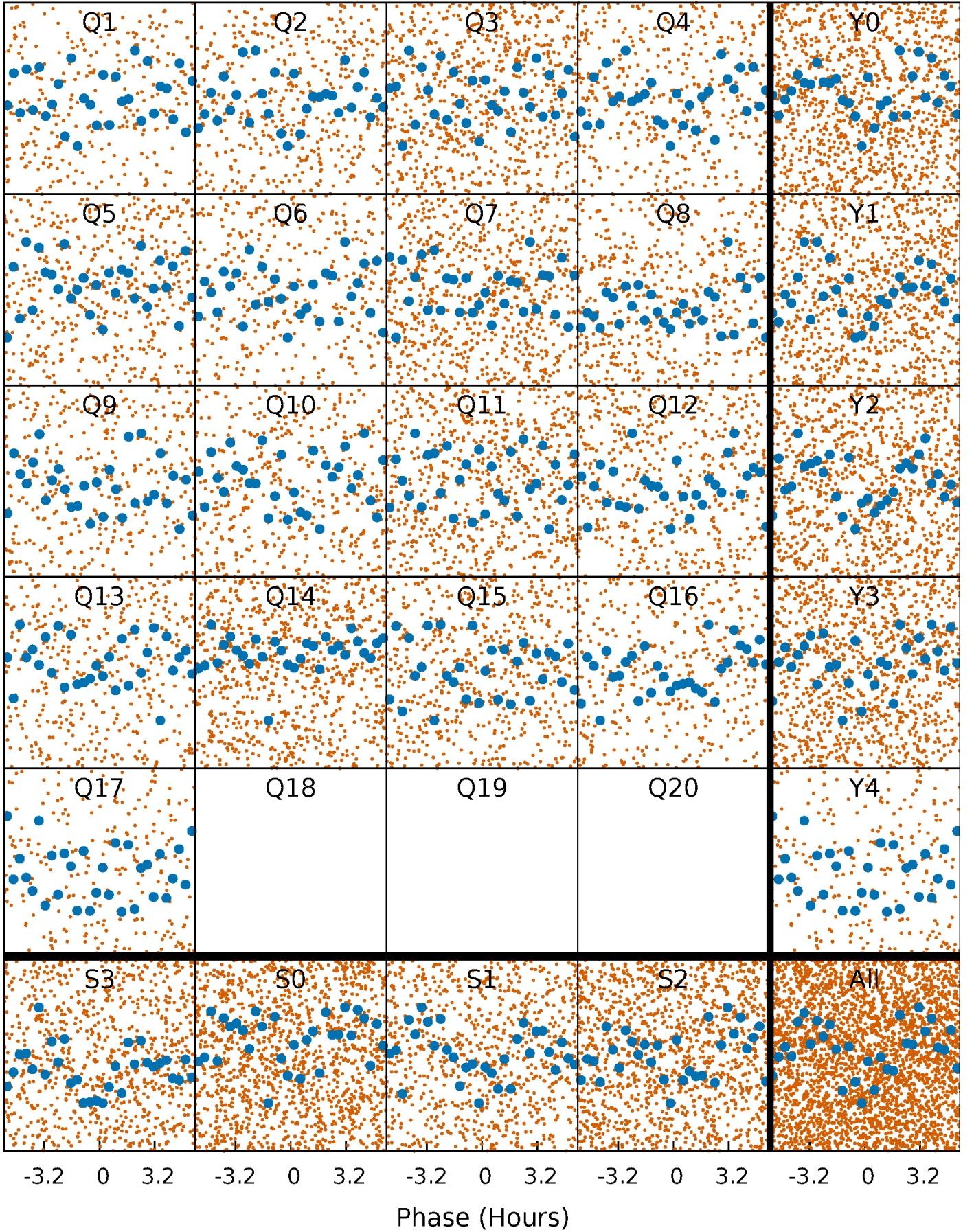


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



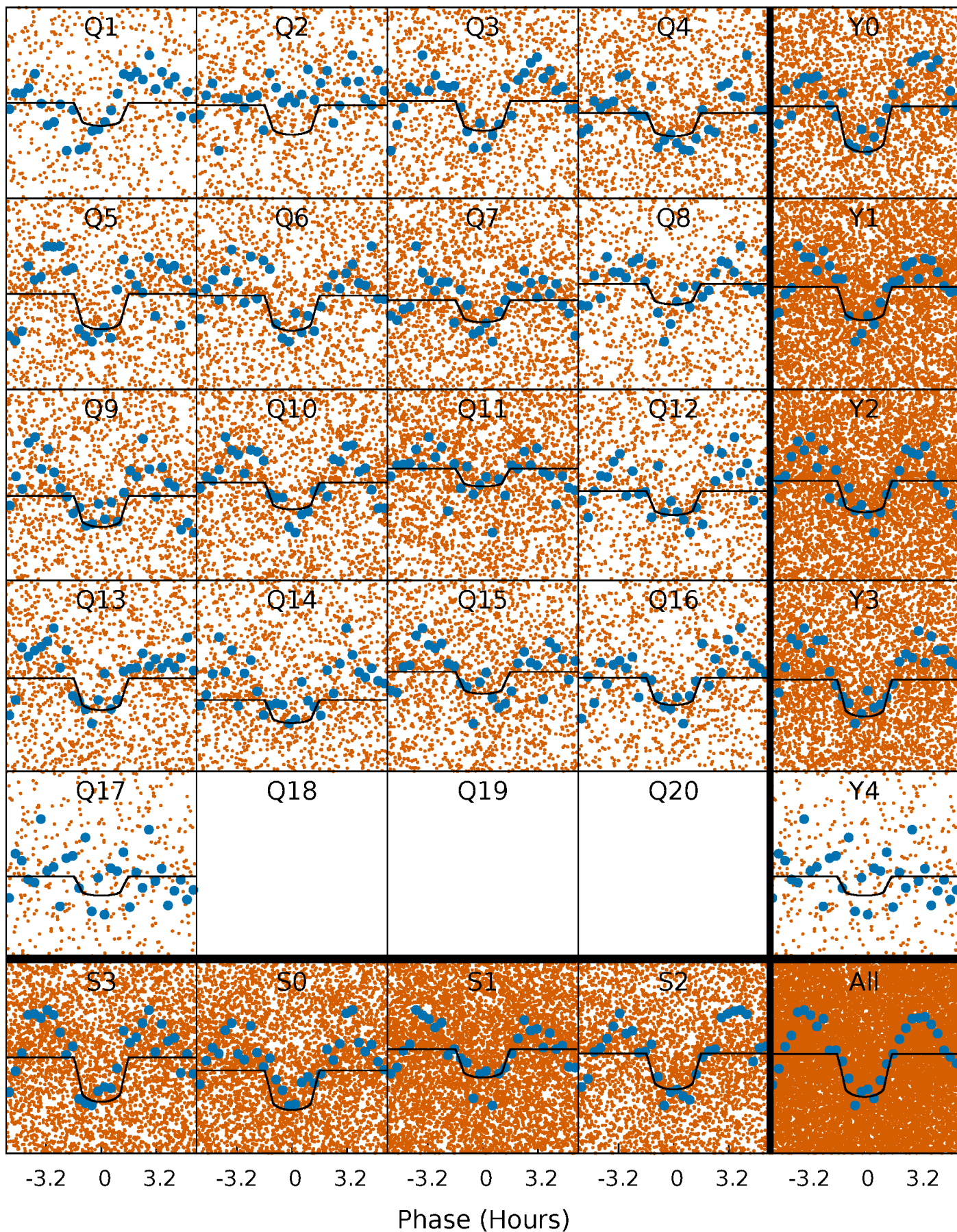
PDC Quarter-Phased Transit Curves

TCE 009764965-01 P= 0.533840 Days $T_0=131.956791$ (BKJD)



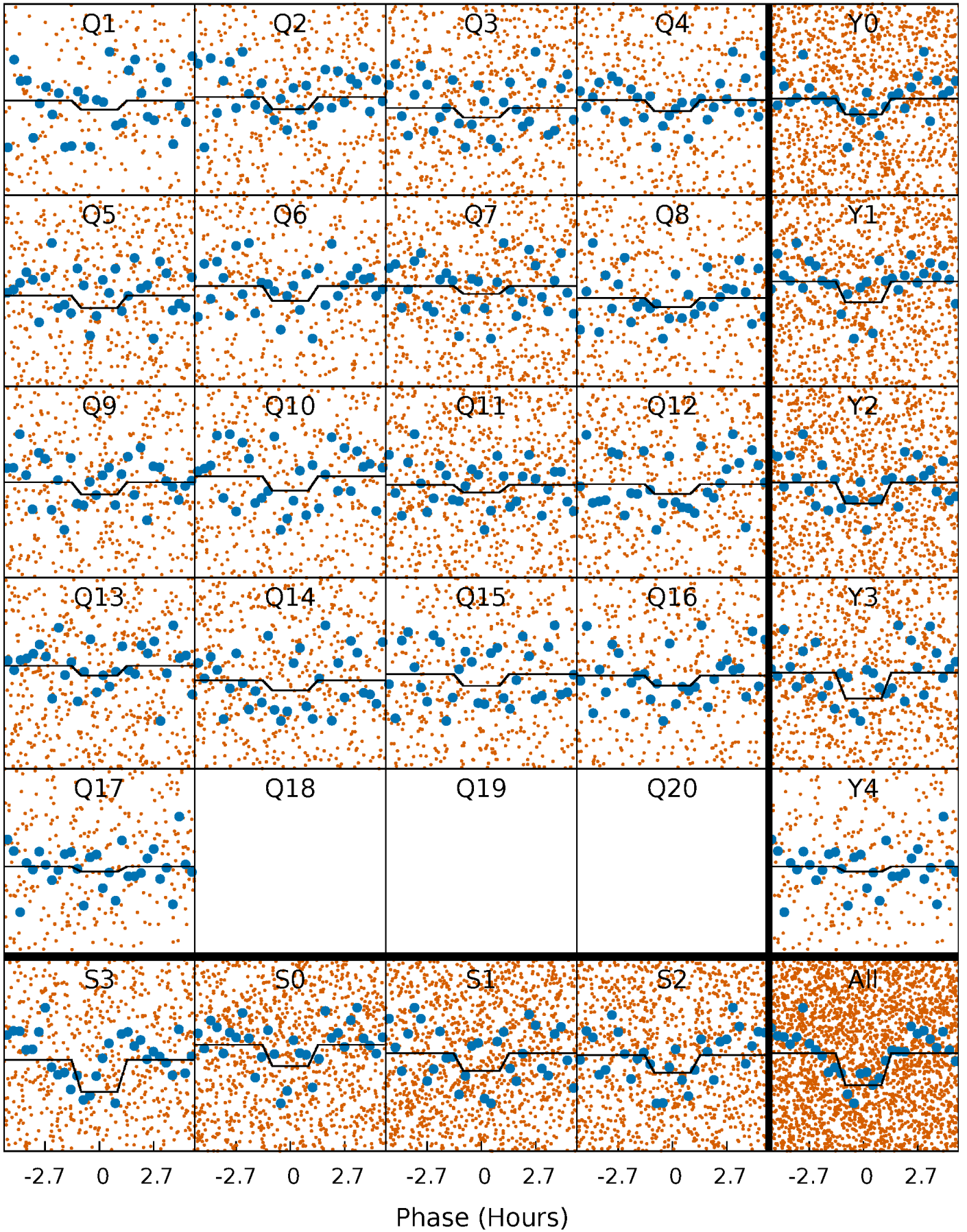
DV Quarter-Phased Transit Curves

TCE 009764965-01 P= 0.533840 Days $T_0=131.956791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

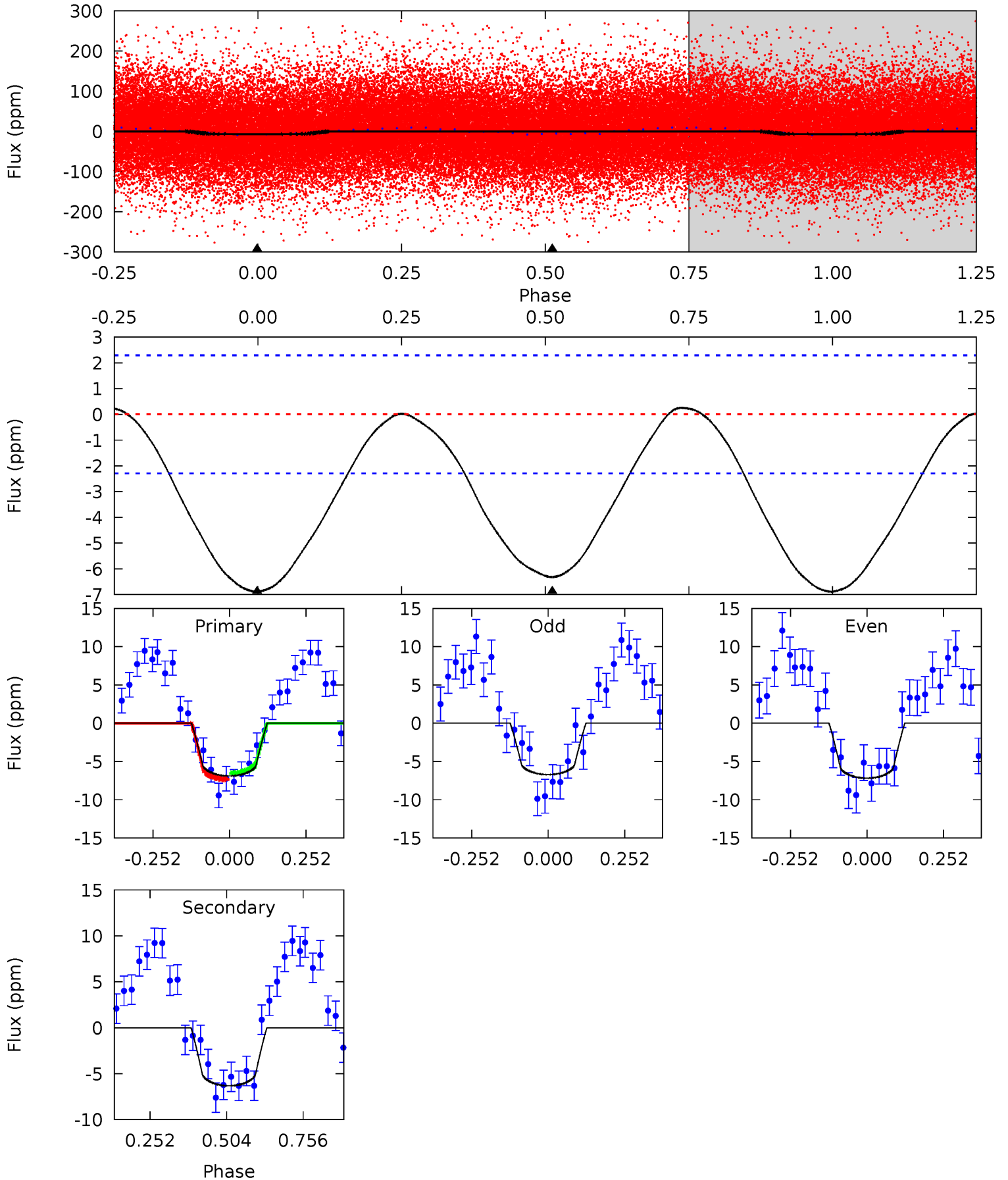
TCE 009764965-01 P= 0.533844 Days $T_0=131.968940$ (BKJD)



DV Model-Shift Uniqueness Test

009764965-01, P = 0.533840 Days, E = 131.422951 Days

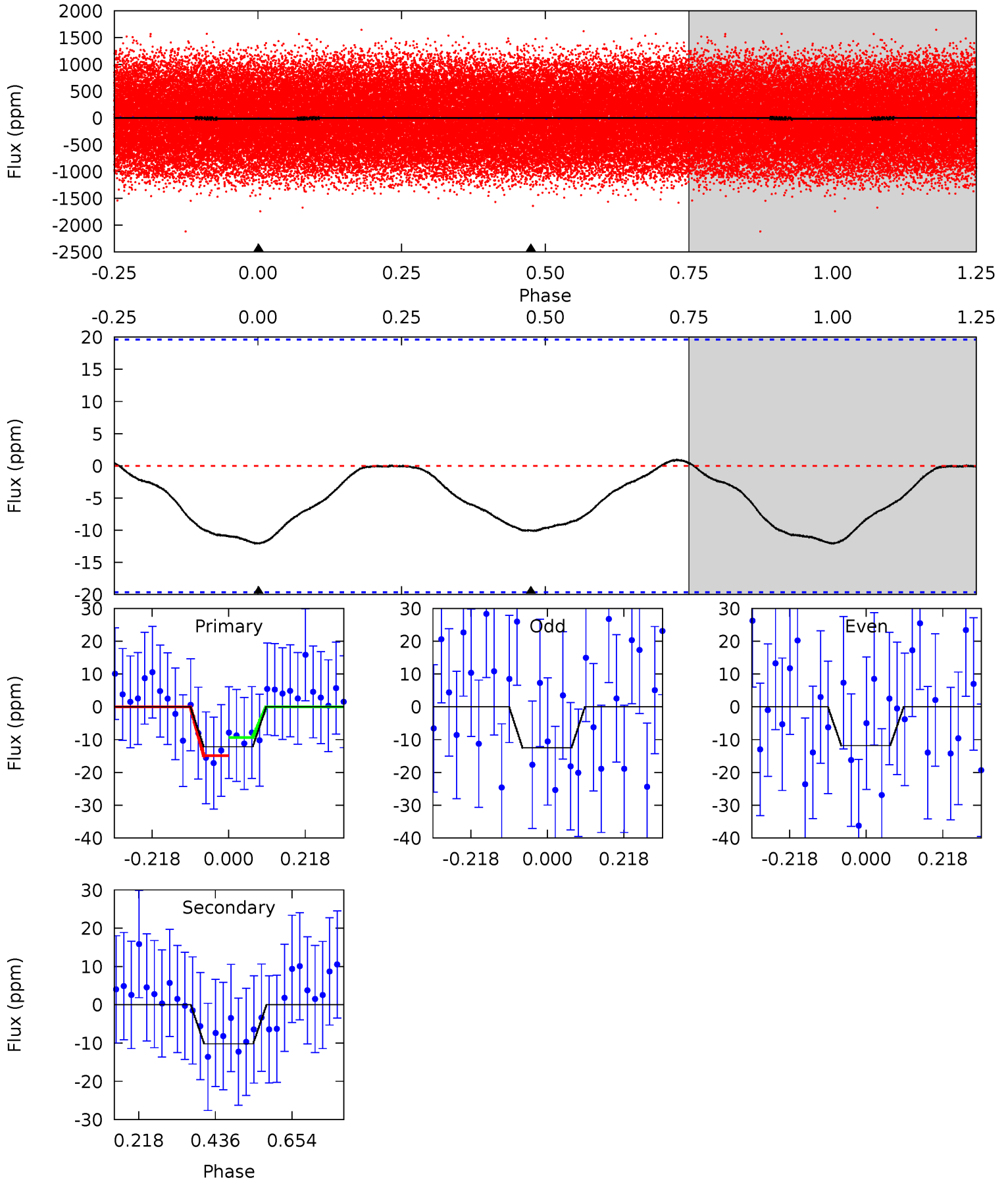
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	12.0	0	0	4.37	1.15	0.32	13.1	13.1	12.0	12.0	0.45	1.24	0.04	0.76



Alt Model-Shift Uniqueness Test

009764965-01, P = 0.533844 Days, E = 131.435096 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.73	2.29	0	0	4.40	1.23	0.14	2.73	2.73	2.29	2.29	0.08	1.01	0.08	0.62



Stellar Parameters For KIC 009764965

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7464^{+133}_{-163}	$3.778^{+0.196}_{-0.084}$	$0.020^{+0.150}_{-0.150}$	$3.017^{+0.272}_{-0.816}$	$1.989^{+0.042}_{-0.267}$	$0.102^{+0.123}_{-0.024}$
	+2%/-2%	+5%/-2%	+750%/-750%	+9%/-27%	+2%/-13%	+121%/-23%
Source	SPE4	SPE4	SPE4	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009764965-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$0.99^{+0.27}_{-0.26}$	6273^{+245}_{-417}	6016^{+1162}_{-1087}	$0.918^{+0.763}_{-0.365}$
Alt.	-10 ± 4	$1.10^{+0.27}_{-0.26}$	6250^{+258}_{-369}	6483^{+1653}_{-1526}	$1.164^{+1.071}_{-0.612}$

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 $A_{obs} \gg 1.0$

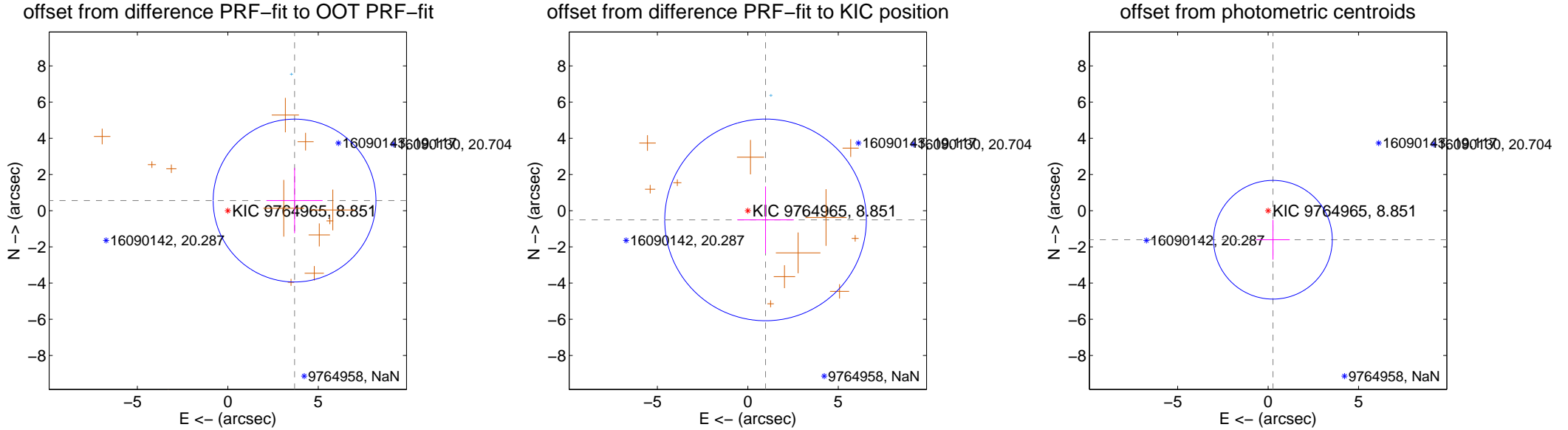
DV Centroid Data

Supplemental centroid analysis for 009764965-01. **Kepler magnitude: 8.85.** Transit SNR 10.96

There are 1 quarters with good PRF difference image offsets

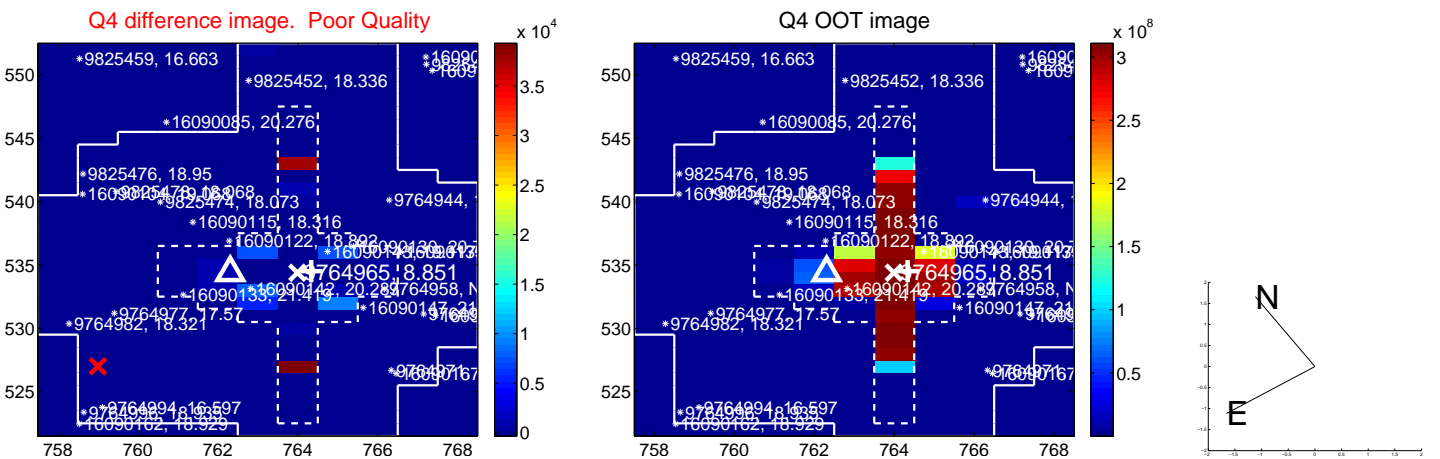
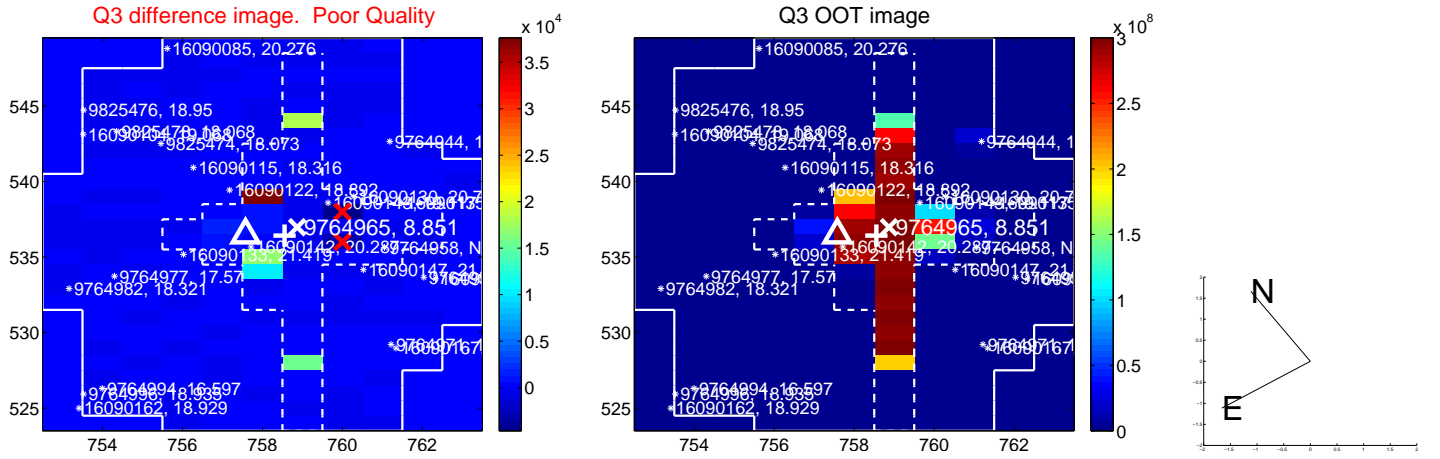
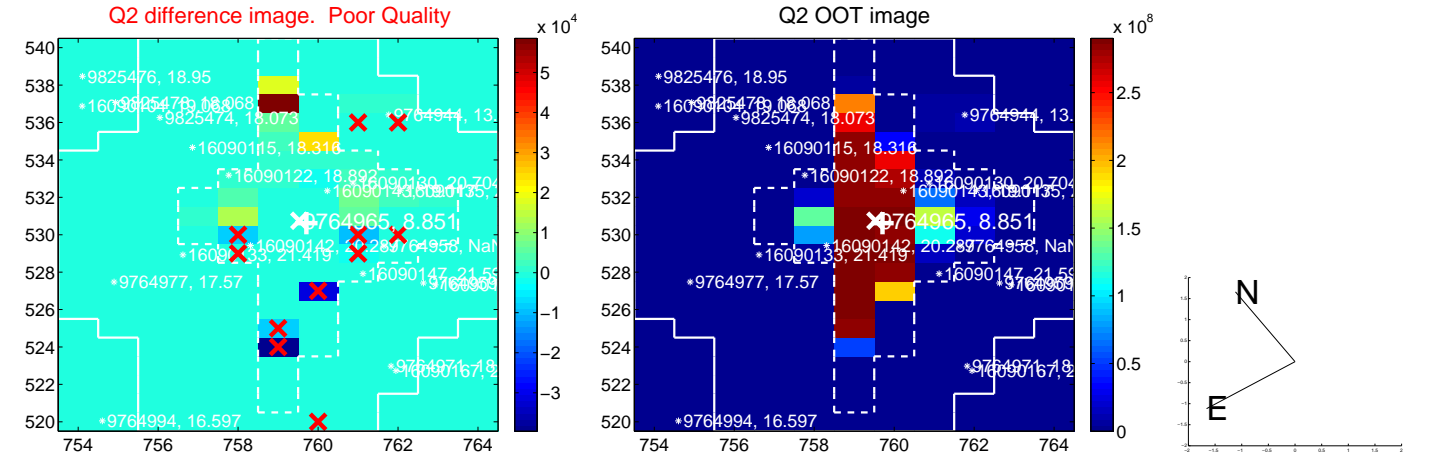
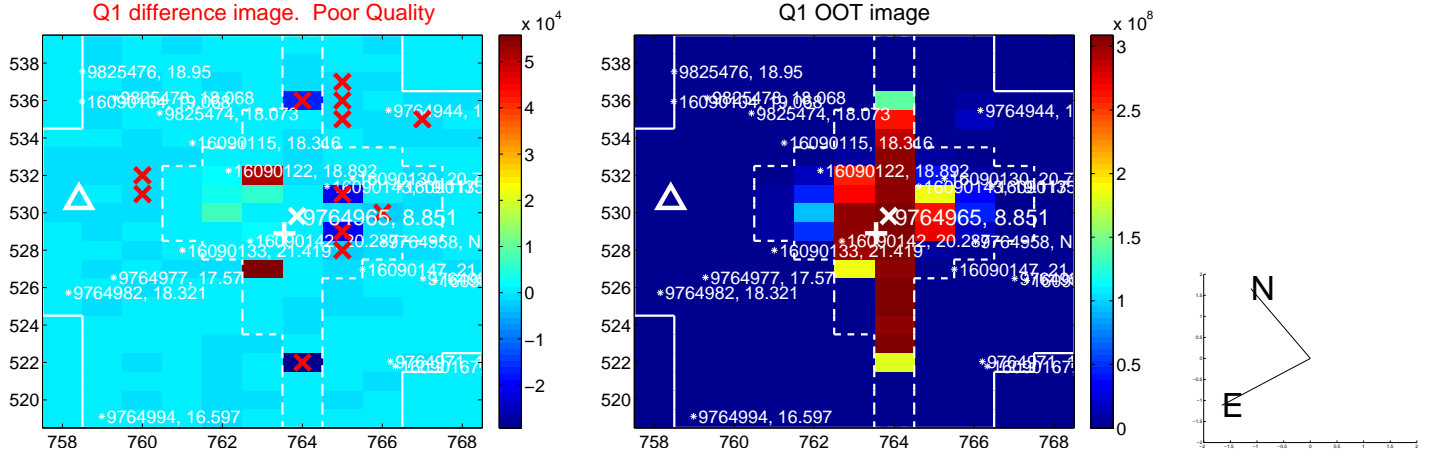
The OOT PRF centroid is offset from the target star catalog position by about 3.81 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.733 ± 1.500	2.49	-3.690 ± 1.550	0.560 ± 1.803
PRF-fit source offset from KIC position	1.104 ± 1.857	0.59	-0.980 ± 1.561	-0.509 ± 1.850
photometric centroid source offset	1.63 ± 1.09	1.49	-0.27 ± 0.93	-1.61 ± 1.10

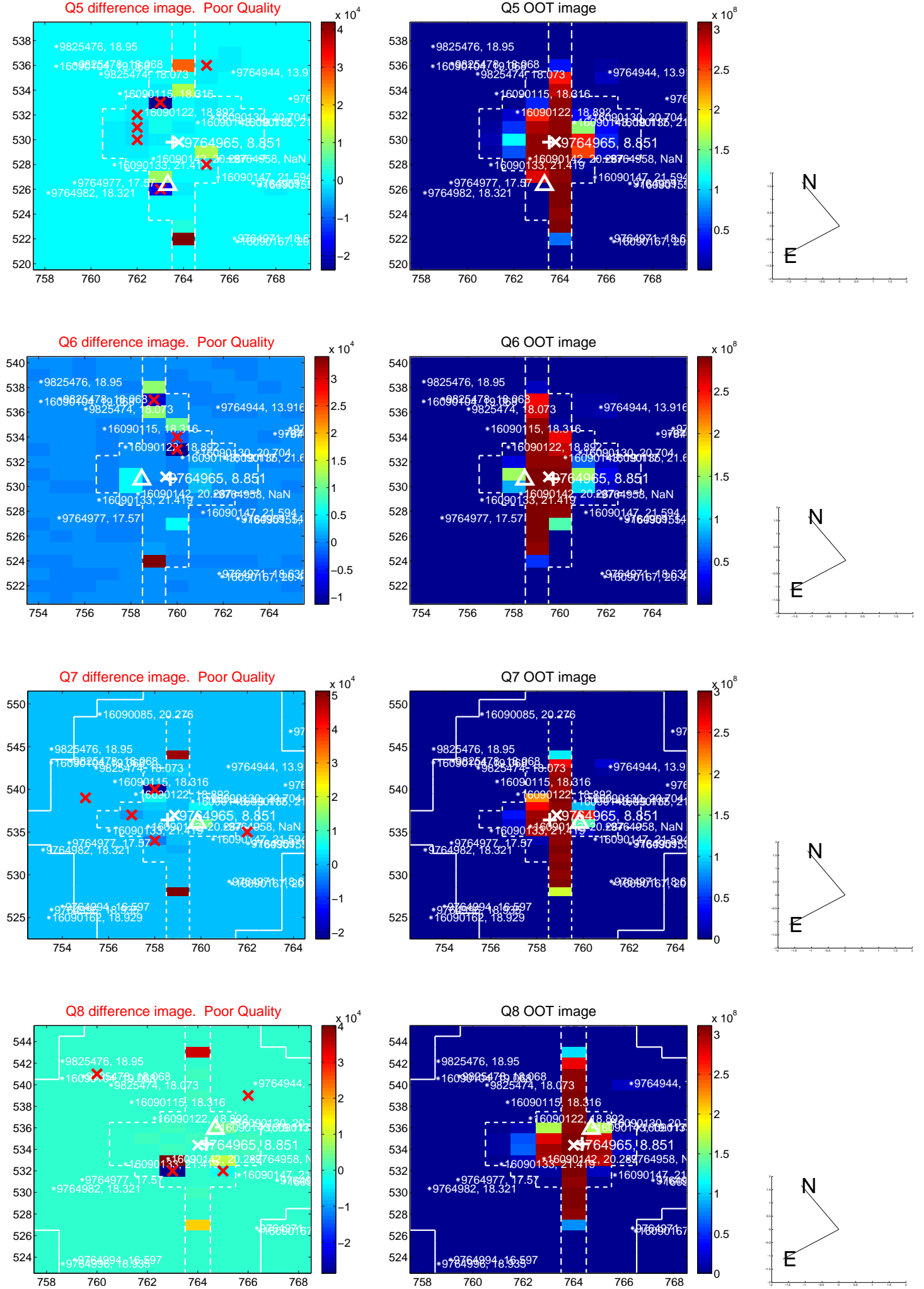


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

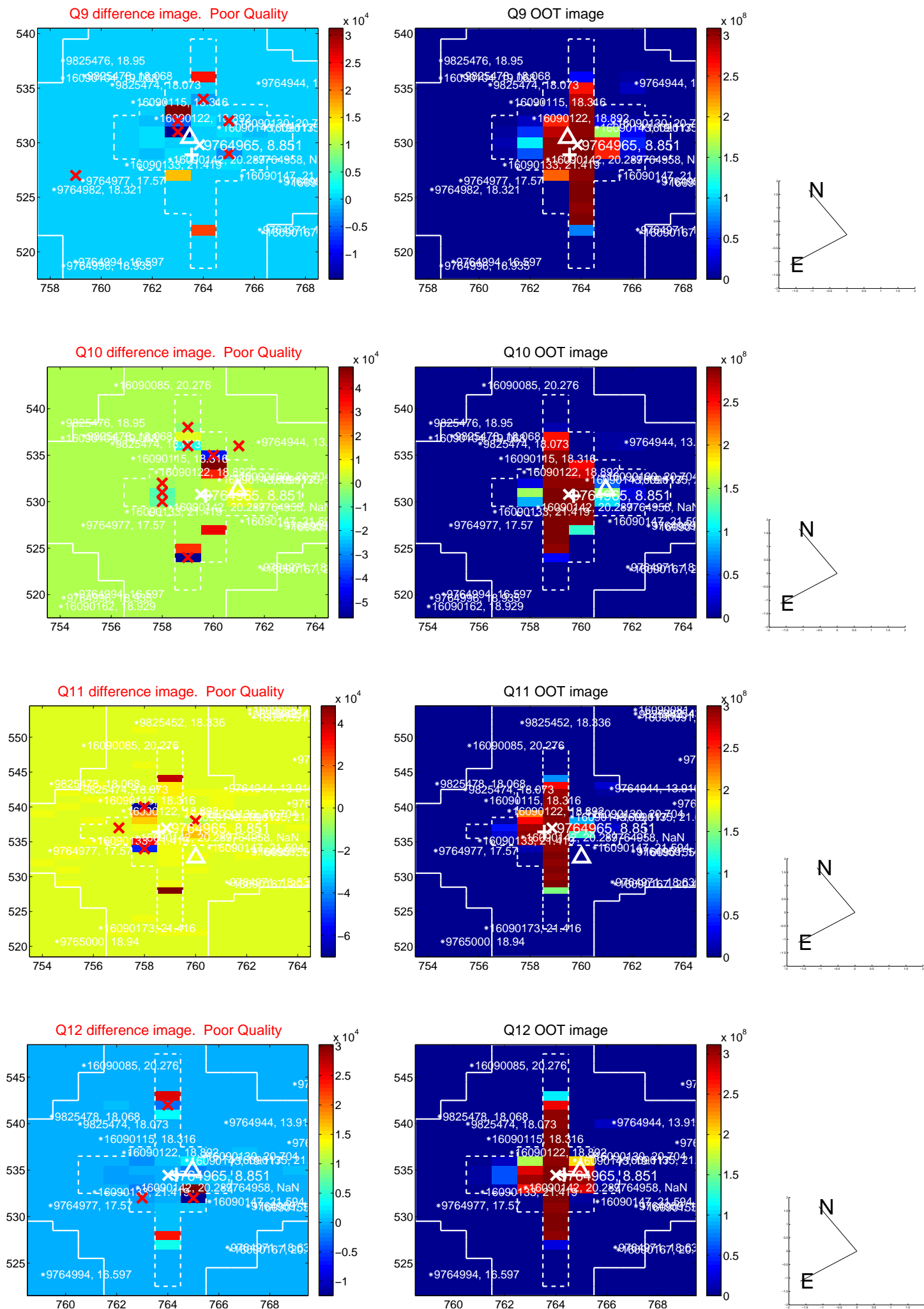
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



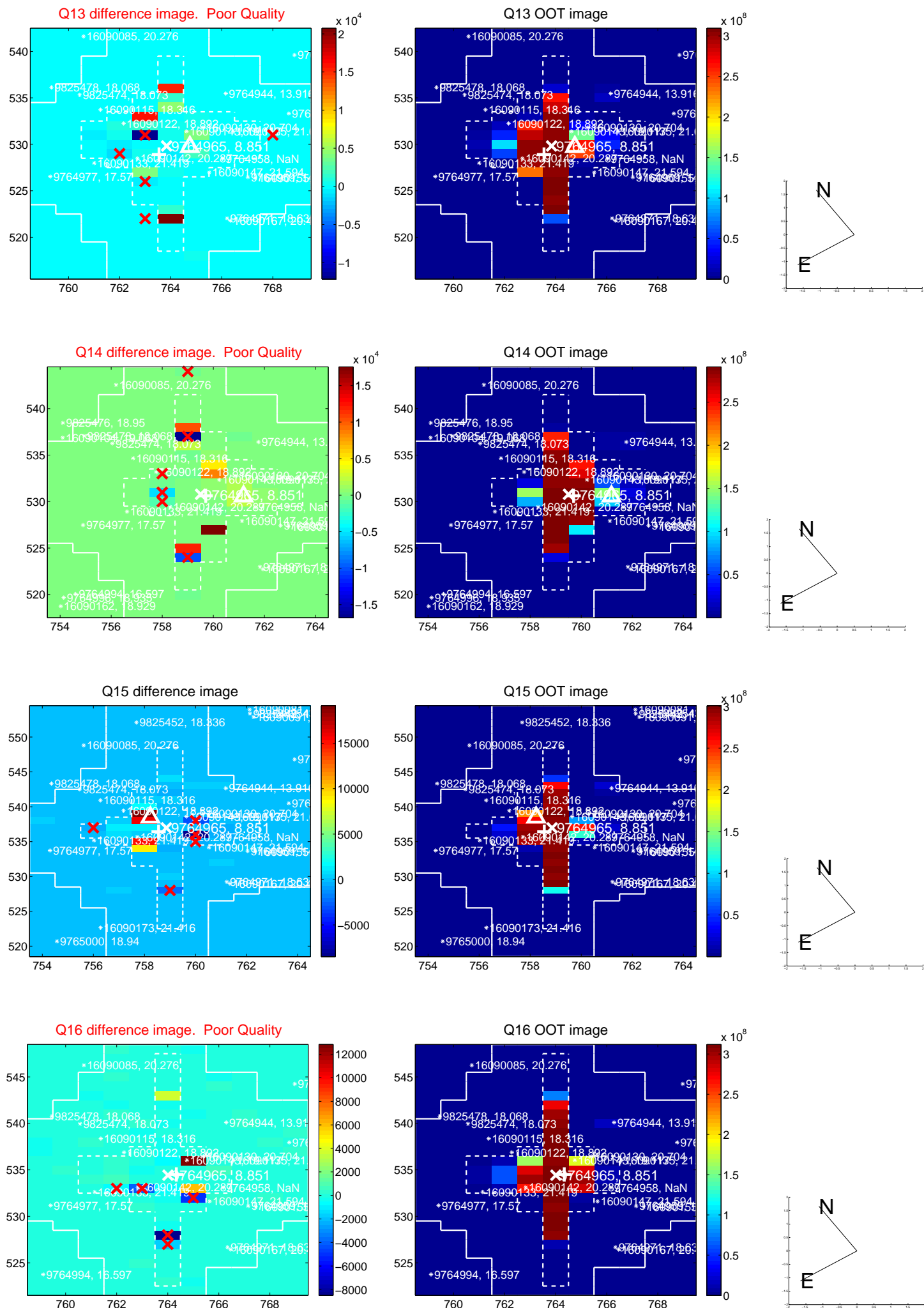
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

