

KIC 004768756

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})
004768756-01	OBS	6451.01	2.404380	133.199563	20.1	5.434	10.2	10.8	0.77	5433	0.41	447.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004768756-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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.

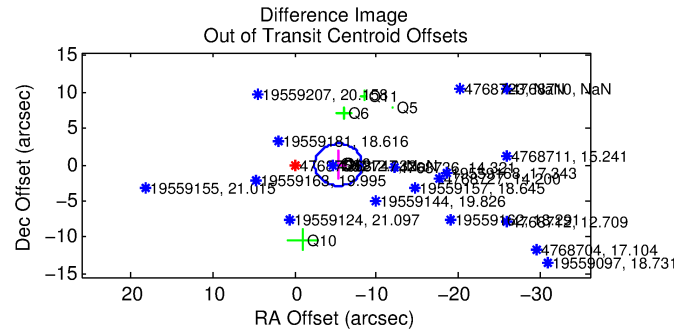
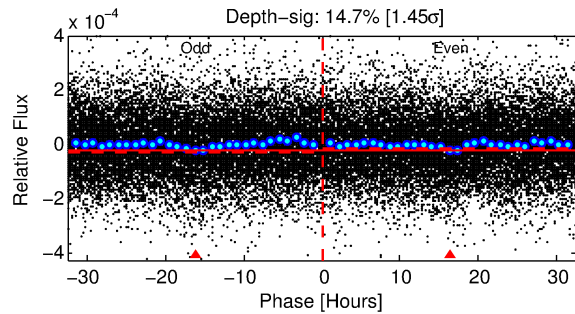
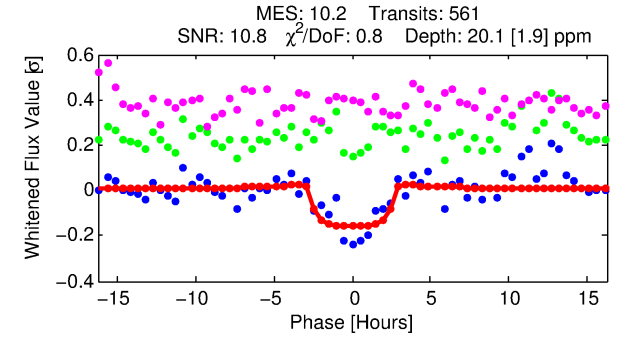
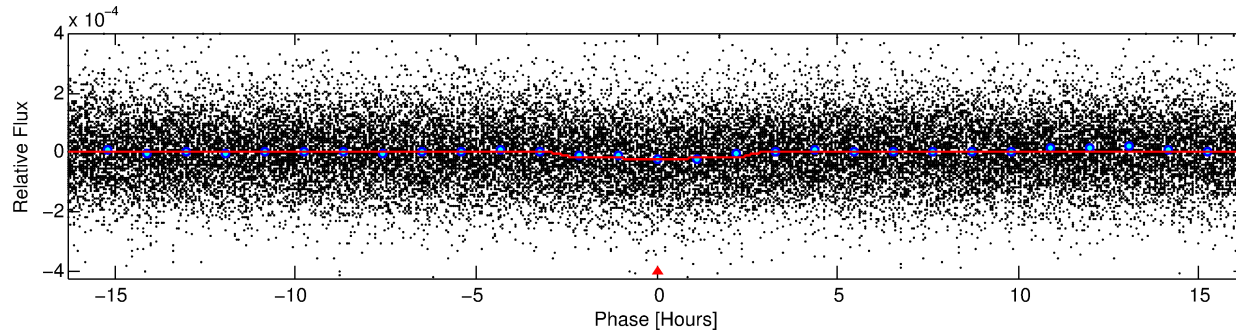
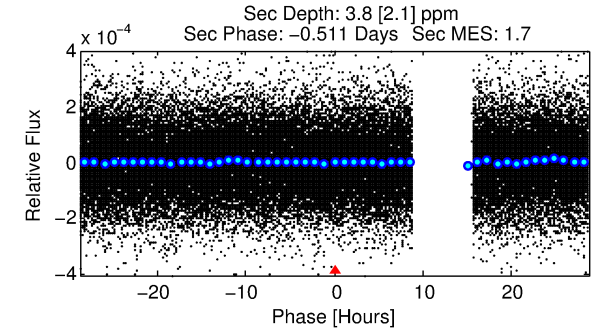
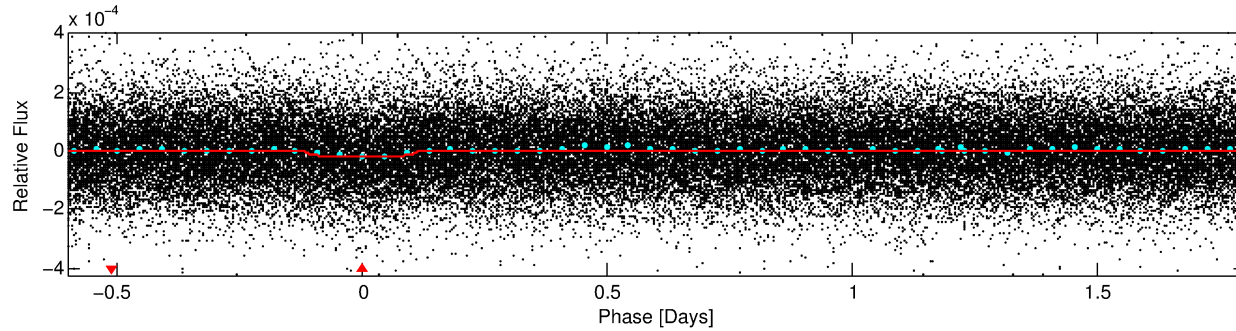
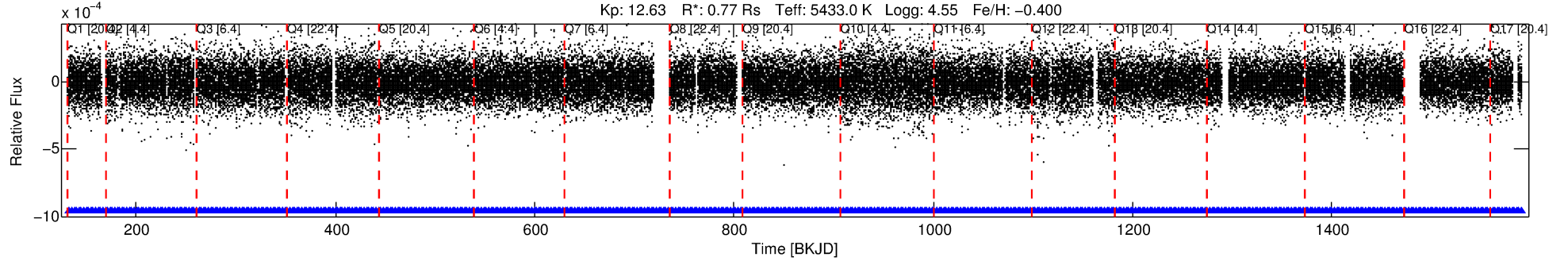
Ephemeris Match Information For 004768756-01

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
004768756-01	4768756	6134.01	5738698	1:1	8066.6	-2	11	11.94	12.63	16018.00	Cross-Talk	0	0.18	0.58

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: 4768756 Candidate: 1 of 1 Period: 2.404 d
KOI: K06451.01 Corr: 0.961



DV Fit Results:

Period = 2.40438 [0.00002] d
Epoch = 133.1996 [0.0056] BKJD
Rp/R* = 0.0049 [0.0016]
a/R* = 1.83 [1.91]
b = 0.89 [0.35]
Seff = 447.03 [51.30]
Teq = 1172 [34] K
Rp = 0.41 [0.13] Re
a = 0.0321 [0.0020] AU
Ag = 12.86 [11.06] [1.07σ]
Teffp = 3433 [736] K [3.07σ]

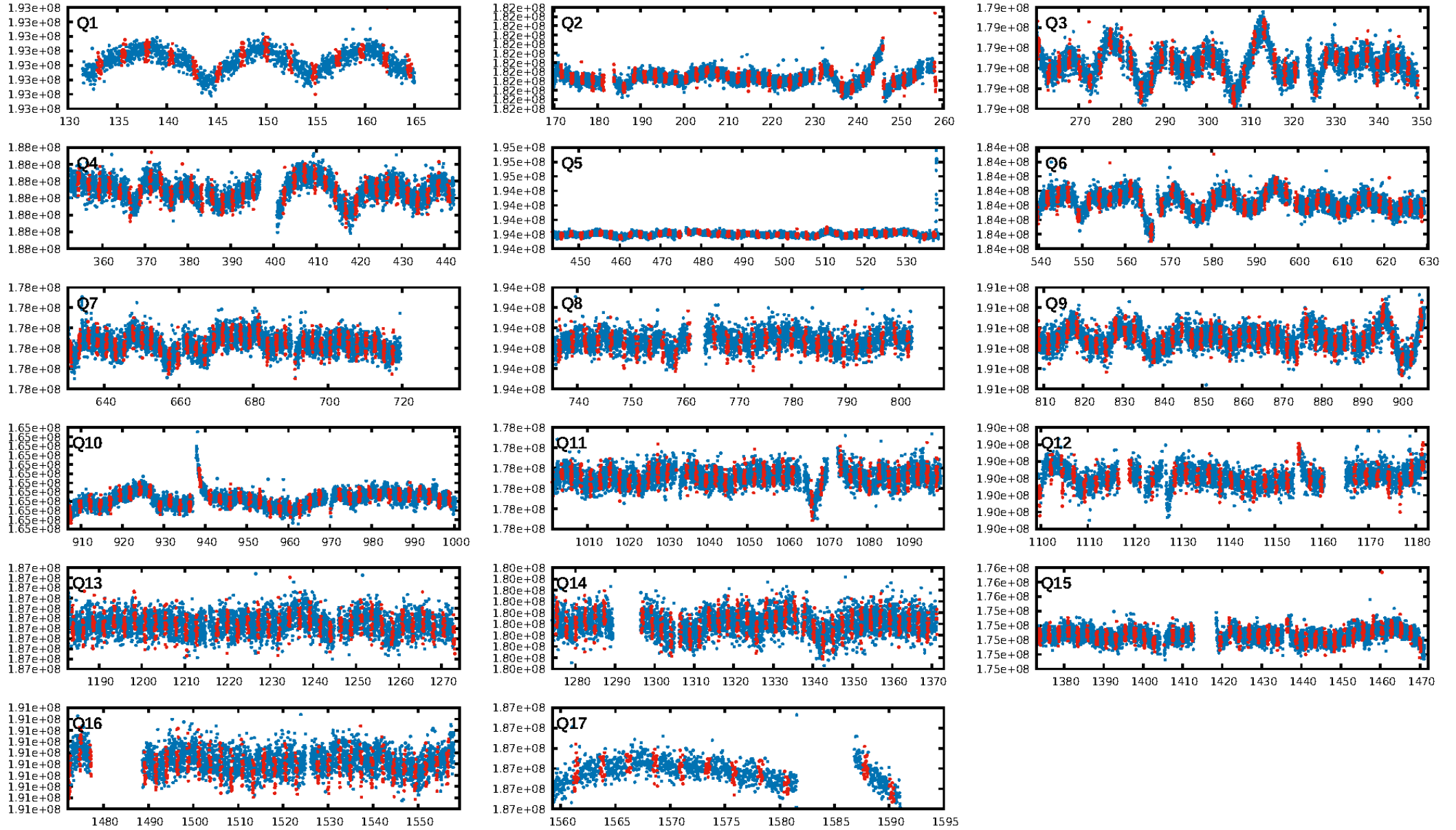
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.18e-21
RollingBand-fgt: 1.00 [536/536]
GhostDiagnostic-chr: 0.1884
Centroid-sig: 0.0%
Centroid-so: 13.067 arcsec [9.92σ]
OotOffset-rm: 5.306 arcsec [5.50σ]
KicOffset-rm: 5.546 arcsec [4.60σ]
OotOffset-st: 2/1/4/1 [8]
KicOffset-st: 2/1/4/1 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 1.00 [17/17]

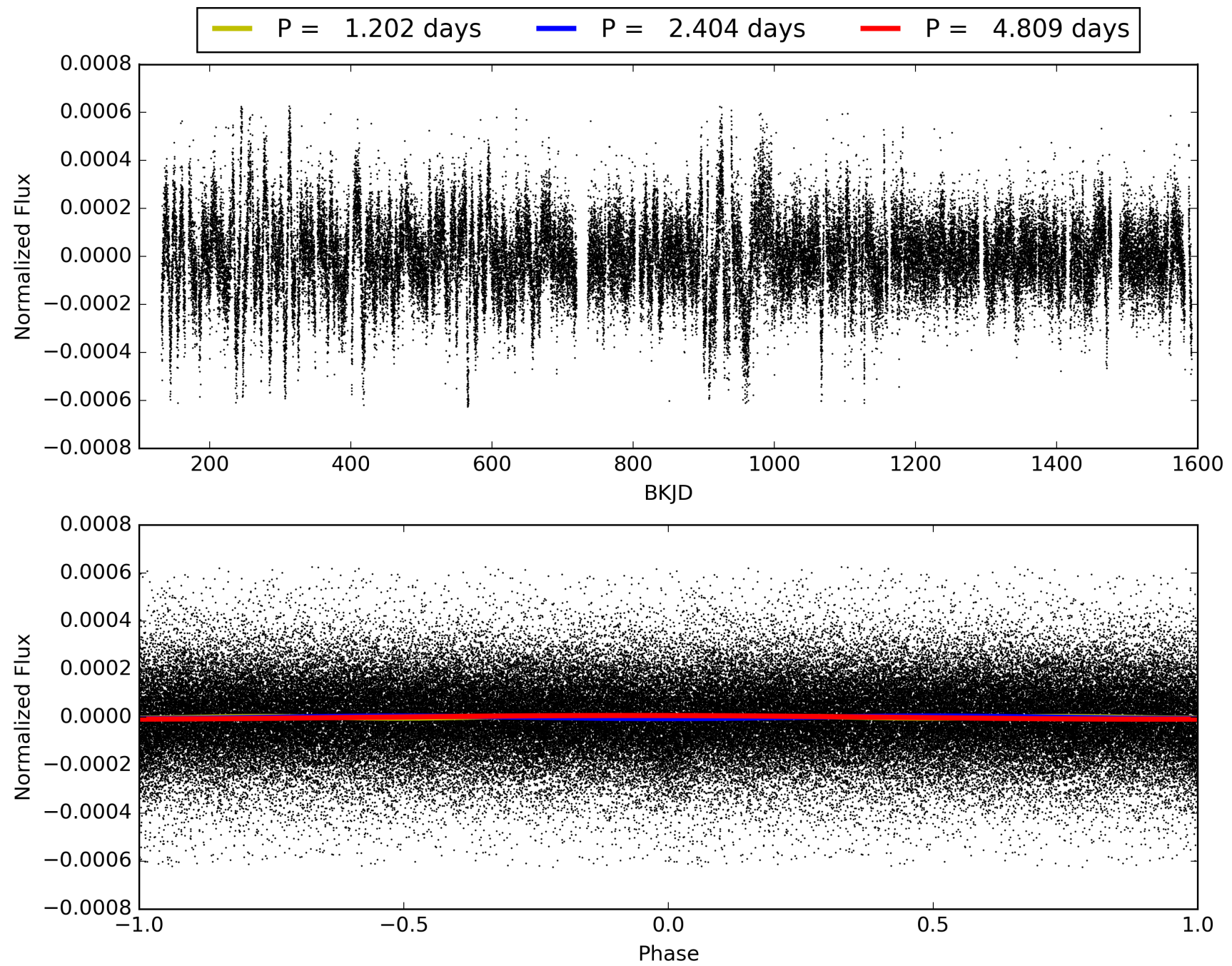
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:14:01 Z

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

TCE 004768756-01, PDC Light Curves

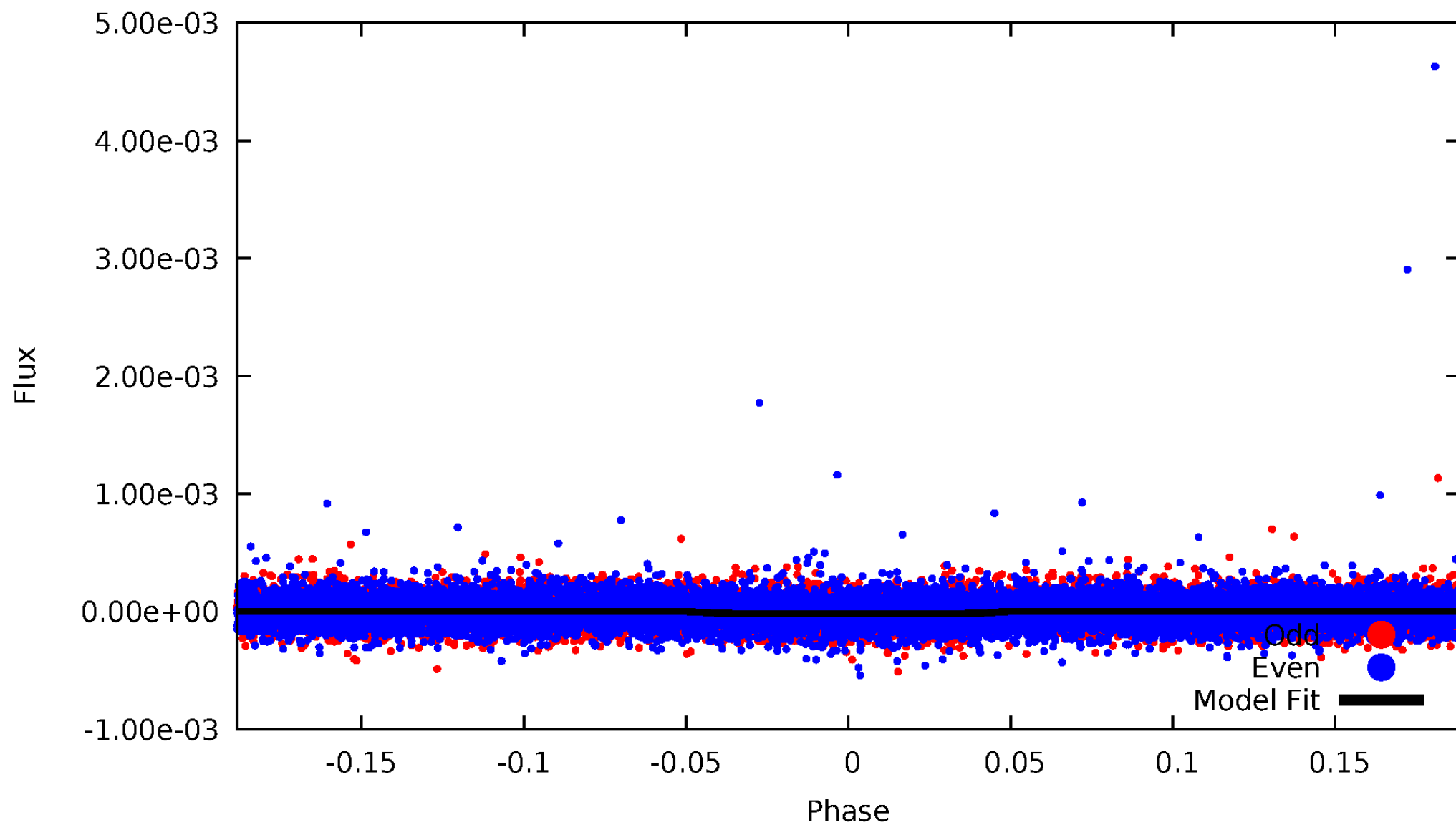


TCE 004768756-01



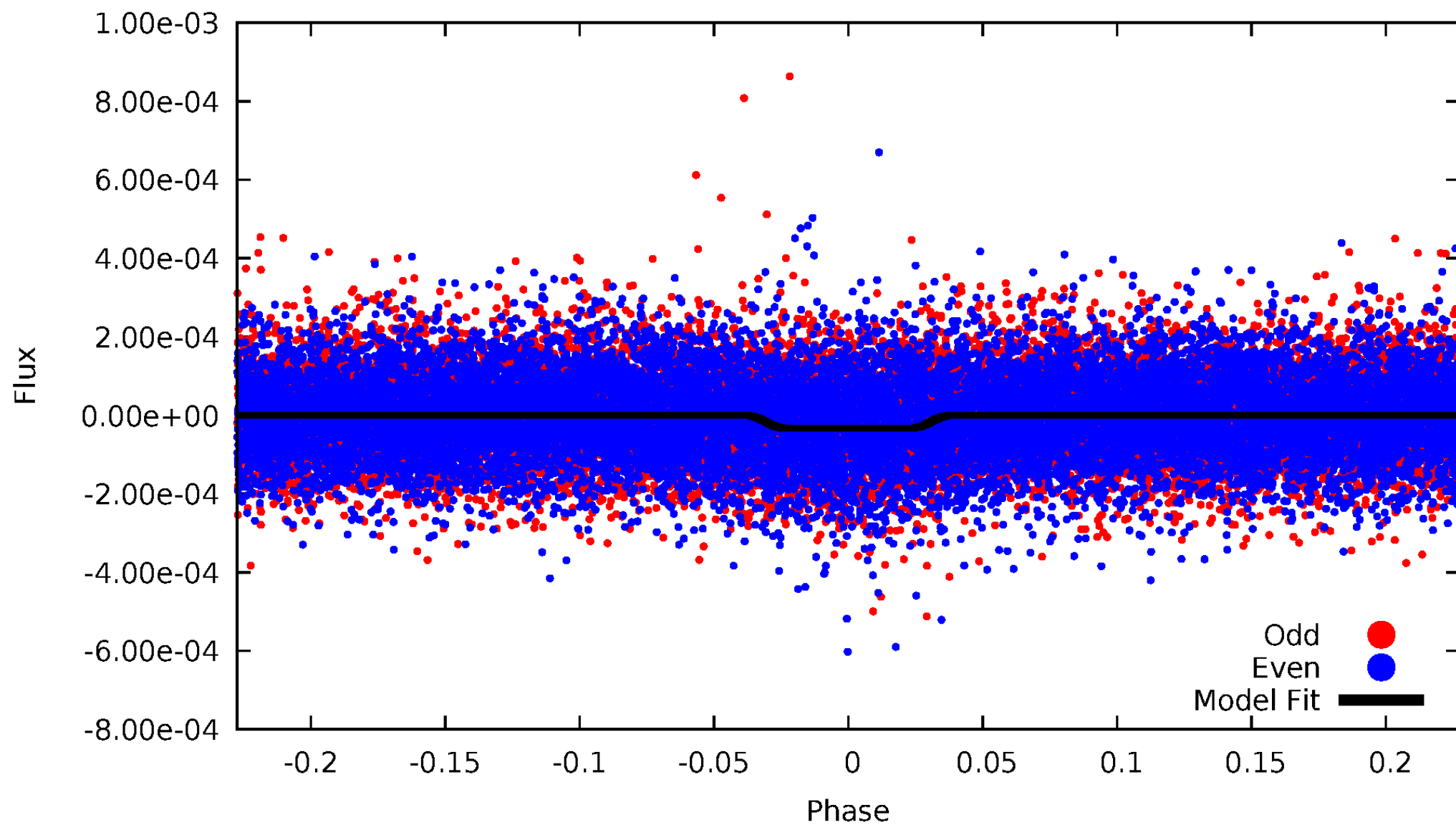
DV Odd/Even

TCE 004768756-01



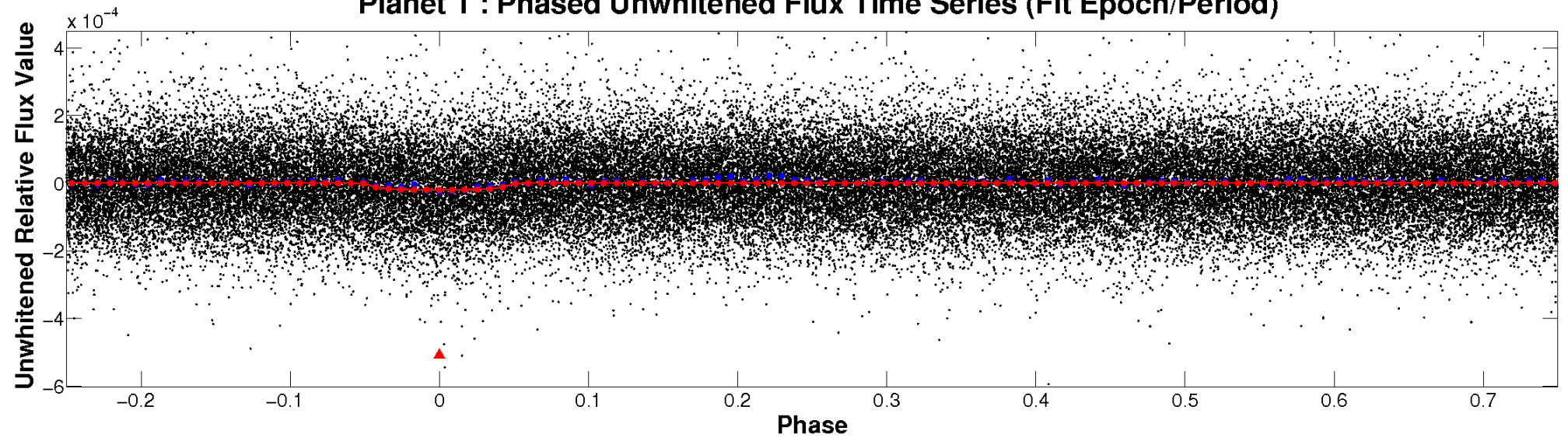
ALT Odd/Even

TCE 004768756-01

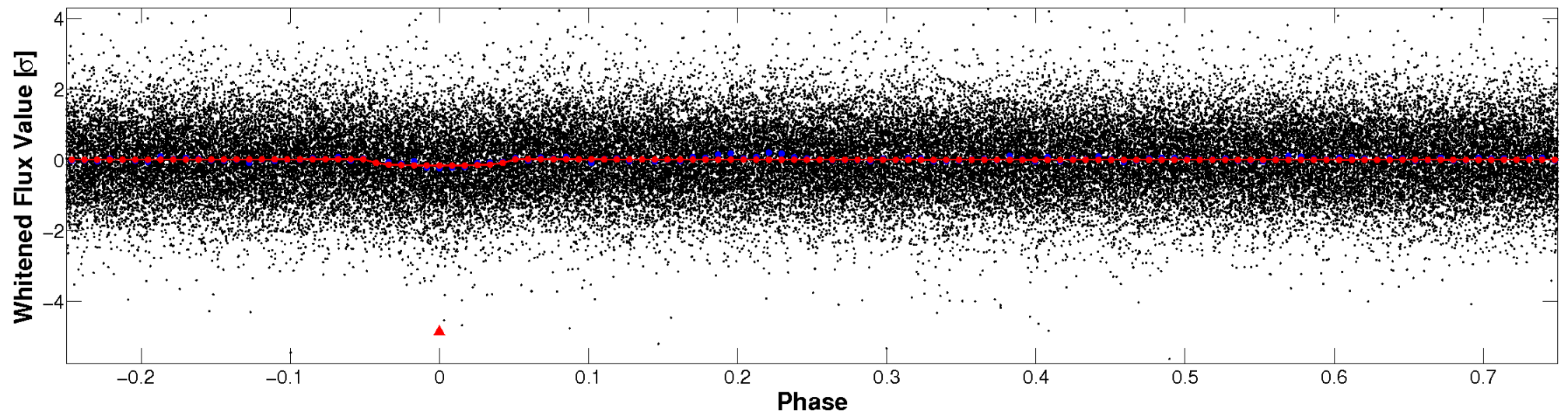


Non-Whitened Vs. Whitened Light Curve

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

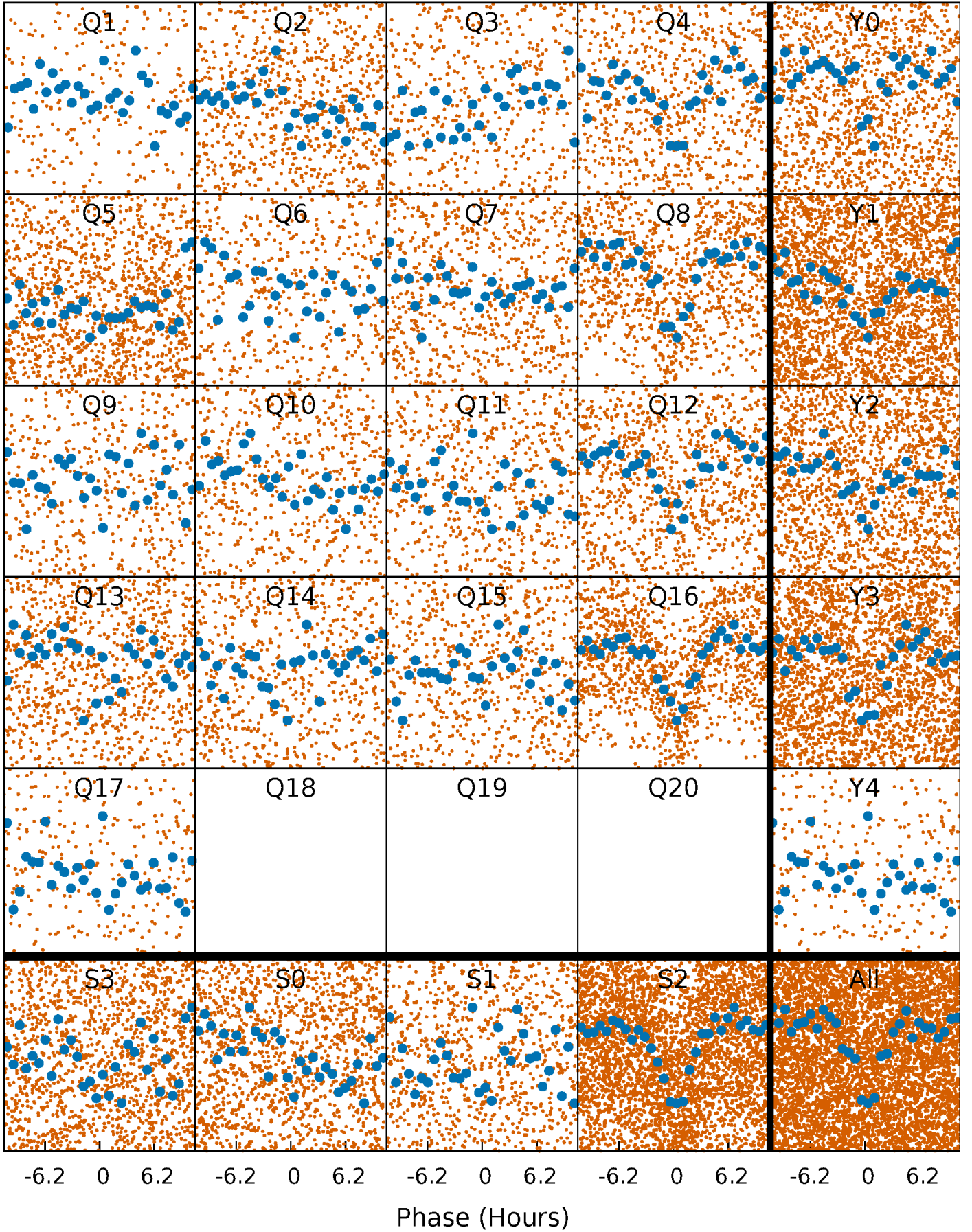


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



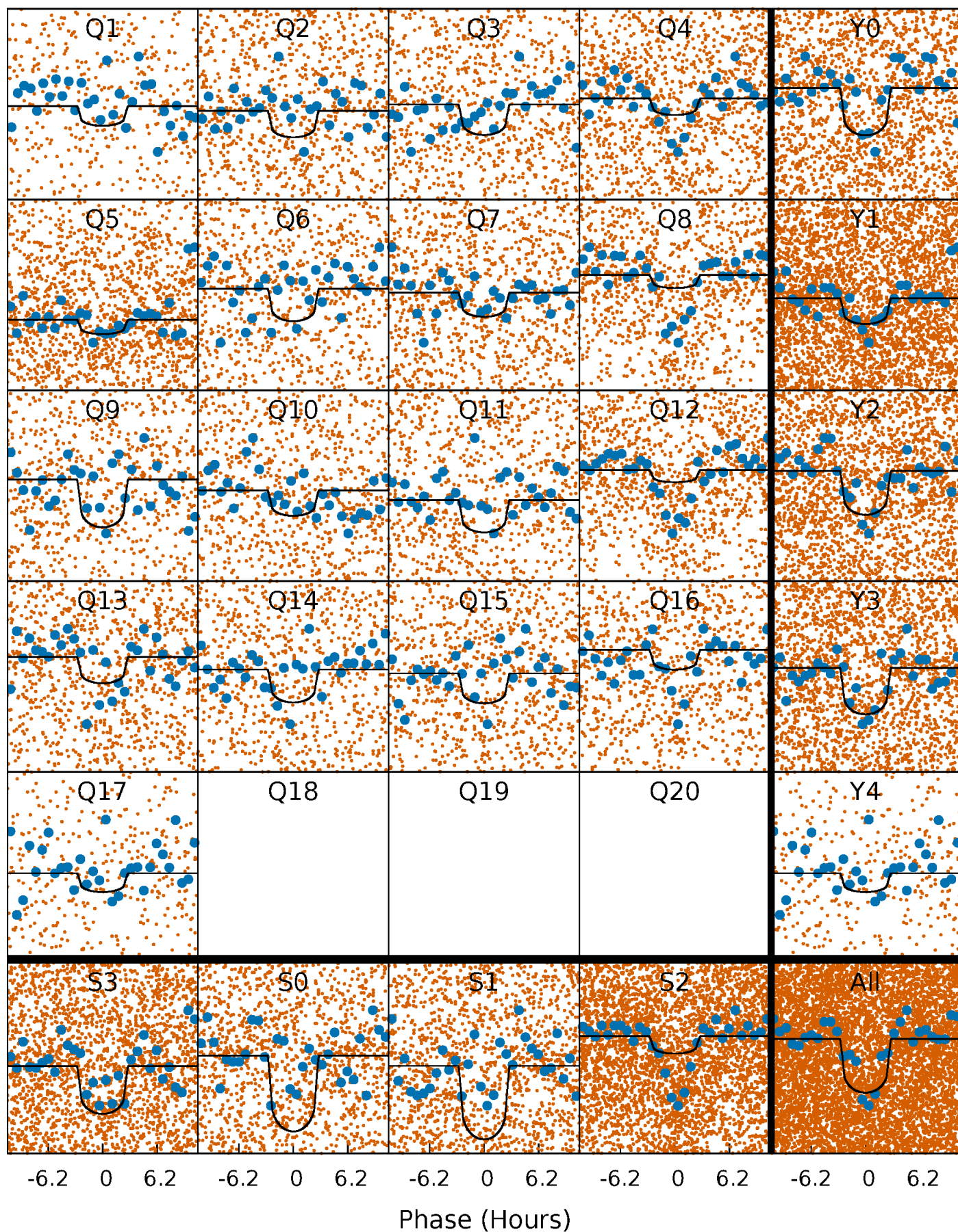
PDC Quarter-Phased Transit Curves

TCE 004768756-01 P= 2.404380 Days $T_0=133.199563$ (BKJD)



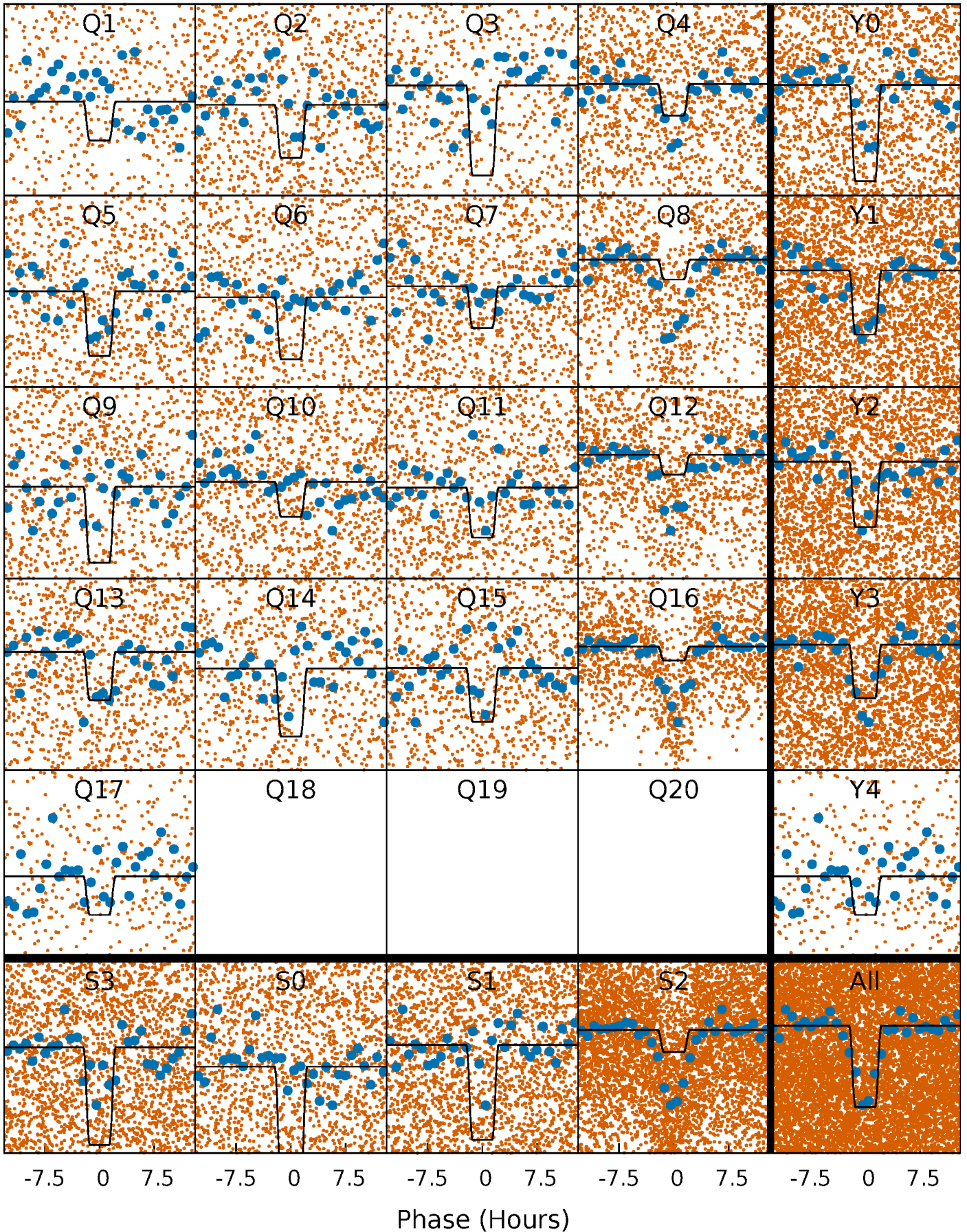
DV Quarter-Phased Transit Curves

TCE 004768756-01 P= 2.404380 Days $T_0=133.199563$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

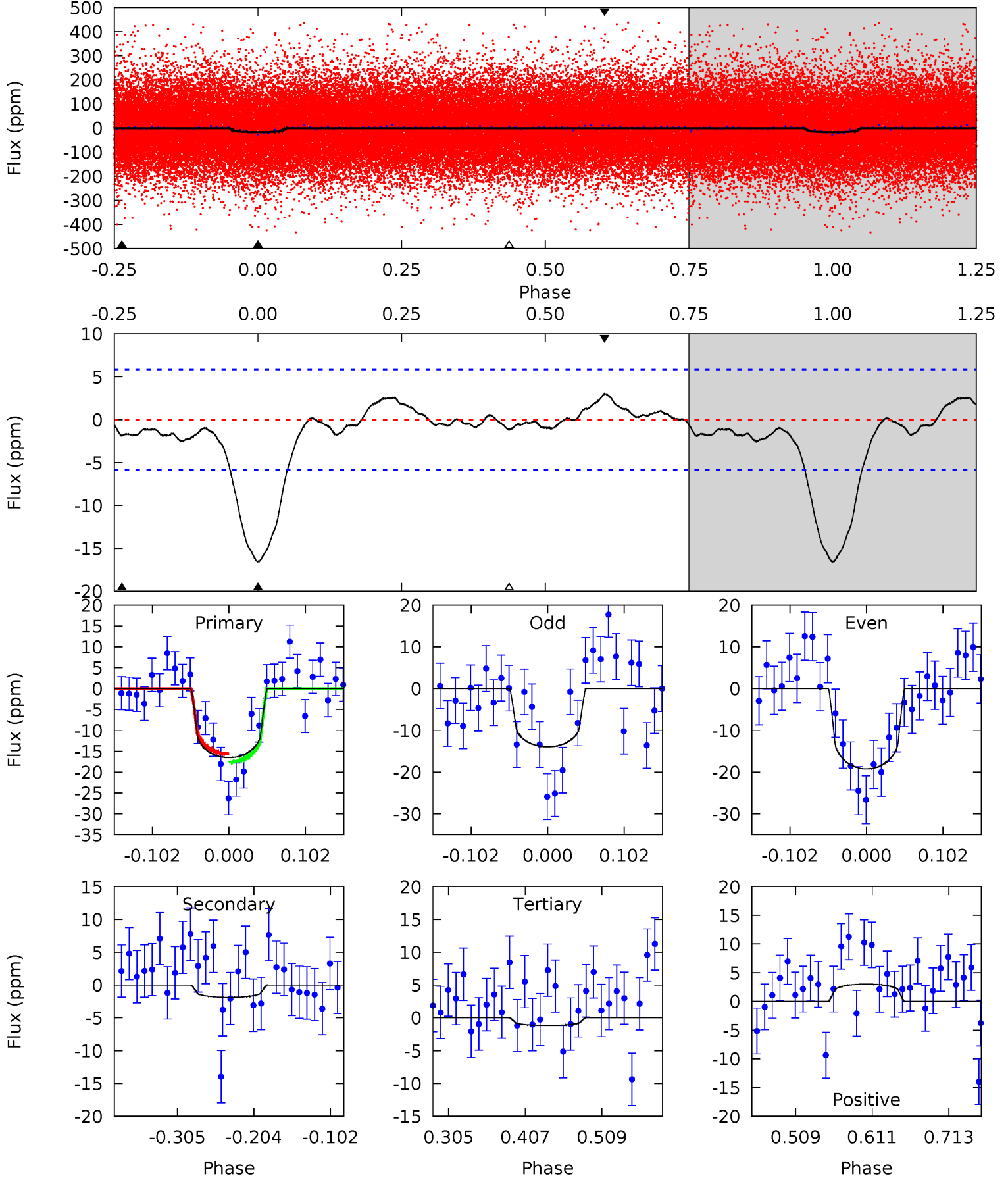
TCE 004768756-01 P= 2.404366 Days $T_0=133.214765$ (BKJD)



DV Model-Shift Uniqueness Test

004768756-01, P = 2.404380 Days, E = 130.795183 Days

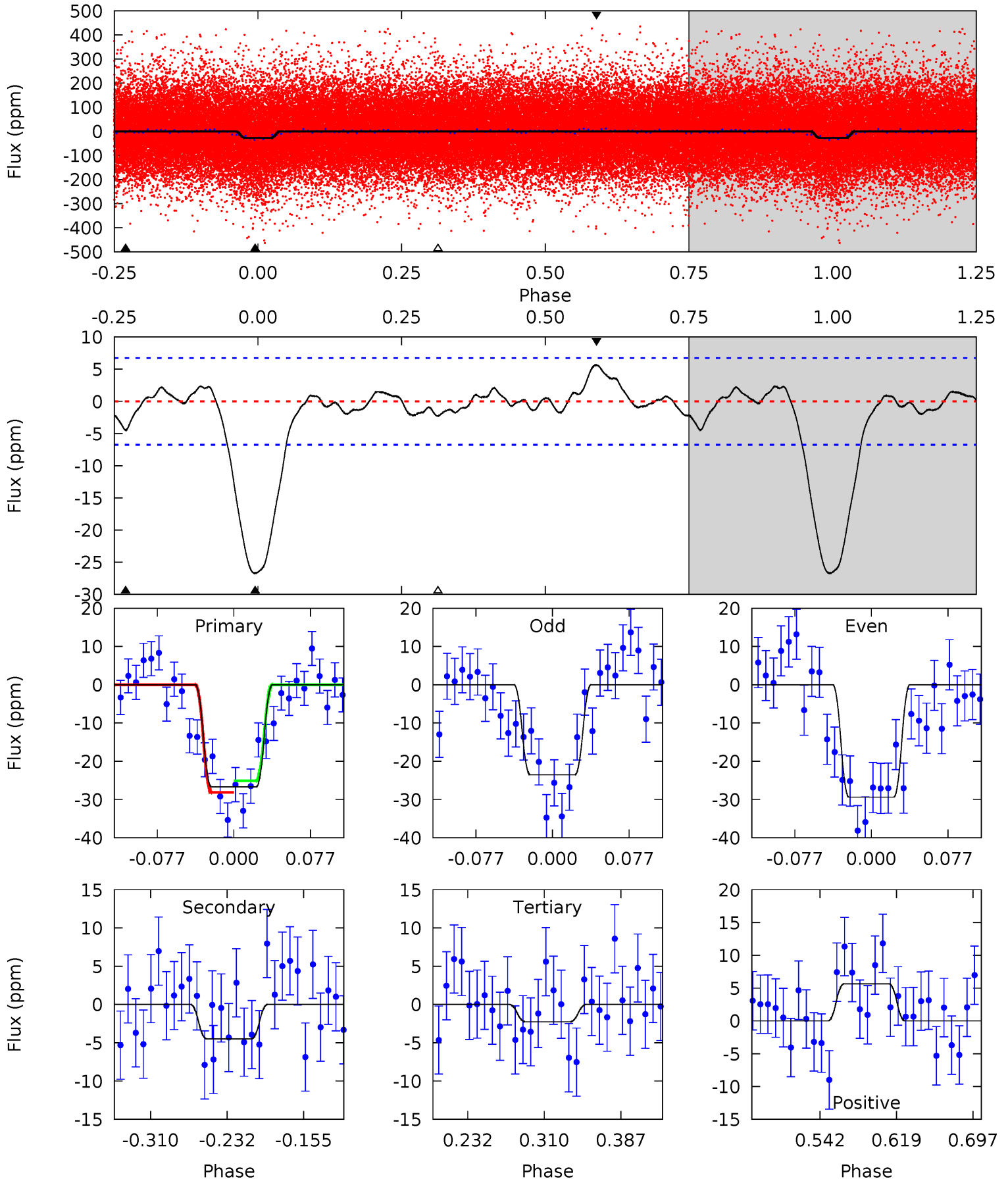
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	1.46	0.91	2.35	4.56	1.64	0.93	12.0	10.5	0.55	-0.90	2.06	1.09	0.15	0.78



Alt Model-Shift Uniqueness Test

004768756-01, P = 2.404366 Days, E = 130.810399 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	3.07	1.55	3.87	4.62	1.77	1.14	16.8	14.5	1.52	-0.80	2.01	1.19	0.17	1.03



Stellar Parameters For KIC 004768756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5433^{+75}_{-86}	$4.550^{+0.055}_{-0.055}$	$-0.400^{+0.150}_{-0.150}$	$0.769^{+0.052}_{-0.052}$	$0.766^{+0.051}_{-0.035}$	$2.371^{+0.528}_{-0.395}$
	+1%/-2%	+1%/-1%	+37%/-37%	+7%/-7%	+7%/-5%	+22%/-17%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004768756-01 / KOI 6451.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$0.41^{+0.13}_{-0.14}$	1639^{+35}_{-40}	3362^{+592}_{-557}	$6.462^{+9.713}_{-4.523}$
Alt.	-4 ± 1	$0.48^{+0.14}_{-0.13}$	1635^{+42}_{-39}	3675^{+446}_{-369}	11^{+10}_{-5}

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

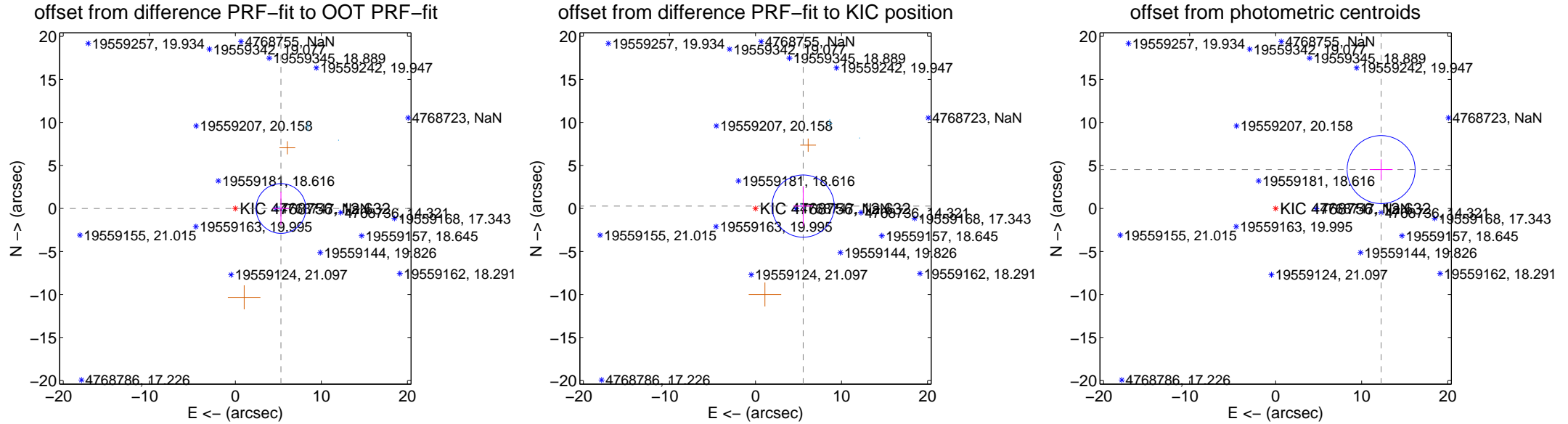
DV Centroid Data

Supplemental centroid analysis for 004768756-01. Kepler magnitude: 12.63. Transit SNR 10.80

There are 6 quarters with good PRF difference image offsets

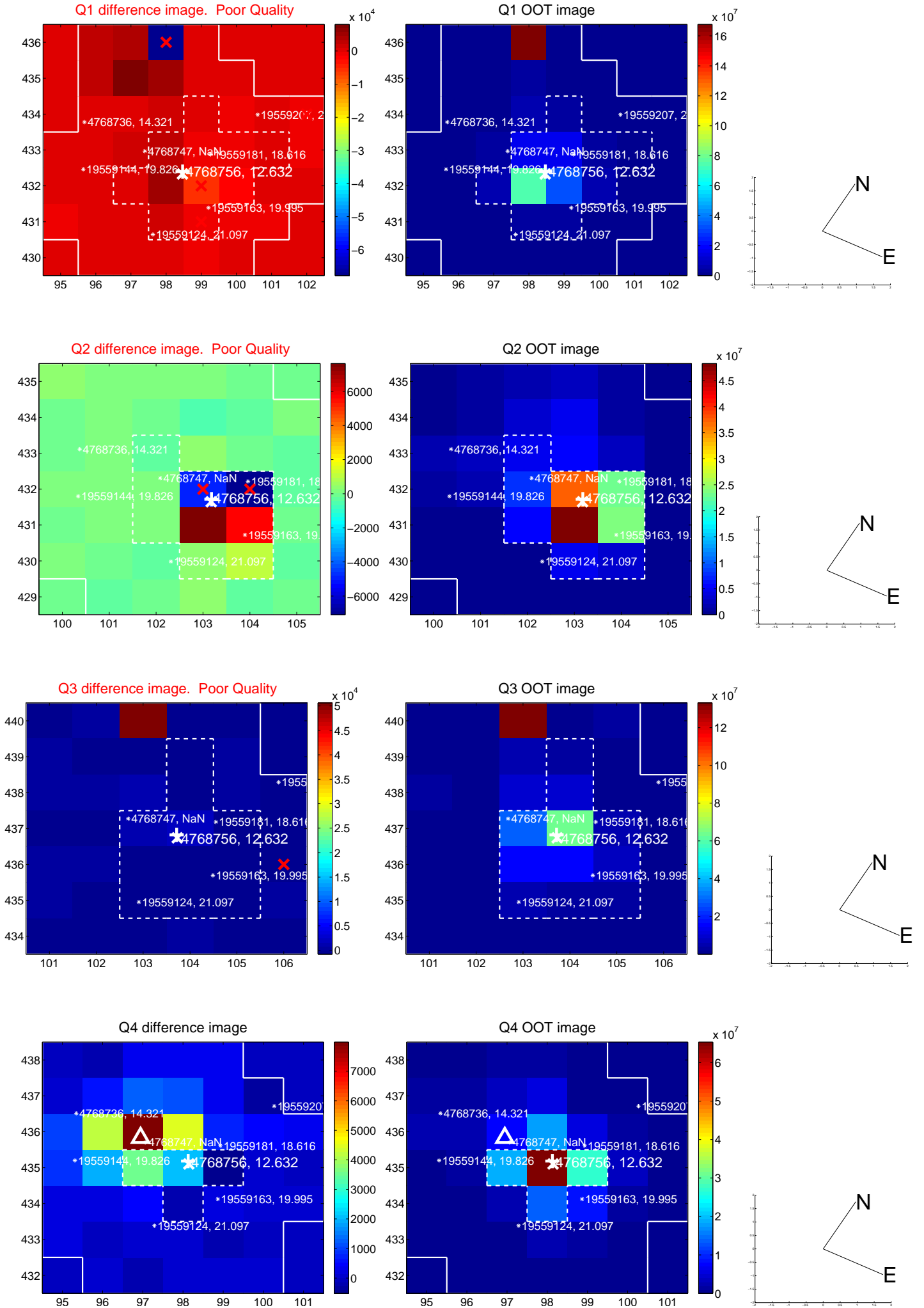
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.306 ± 0.964	5.50	-5.306 ± 0.966	-0.005 ± 1.949
PRF-fit source offset from KIC position	5.546 ± 1.206	4.60	-5.539 ± 1.108	0.272 ± 2.318
photometric centroid source offset	13.07 ± 1.32	9.92	-12.26 ± 1.33	4.52 ± 1.19

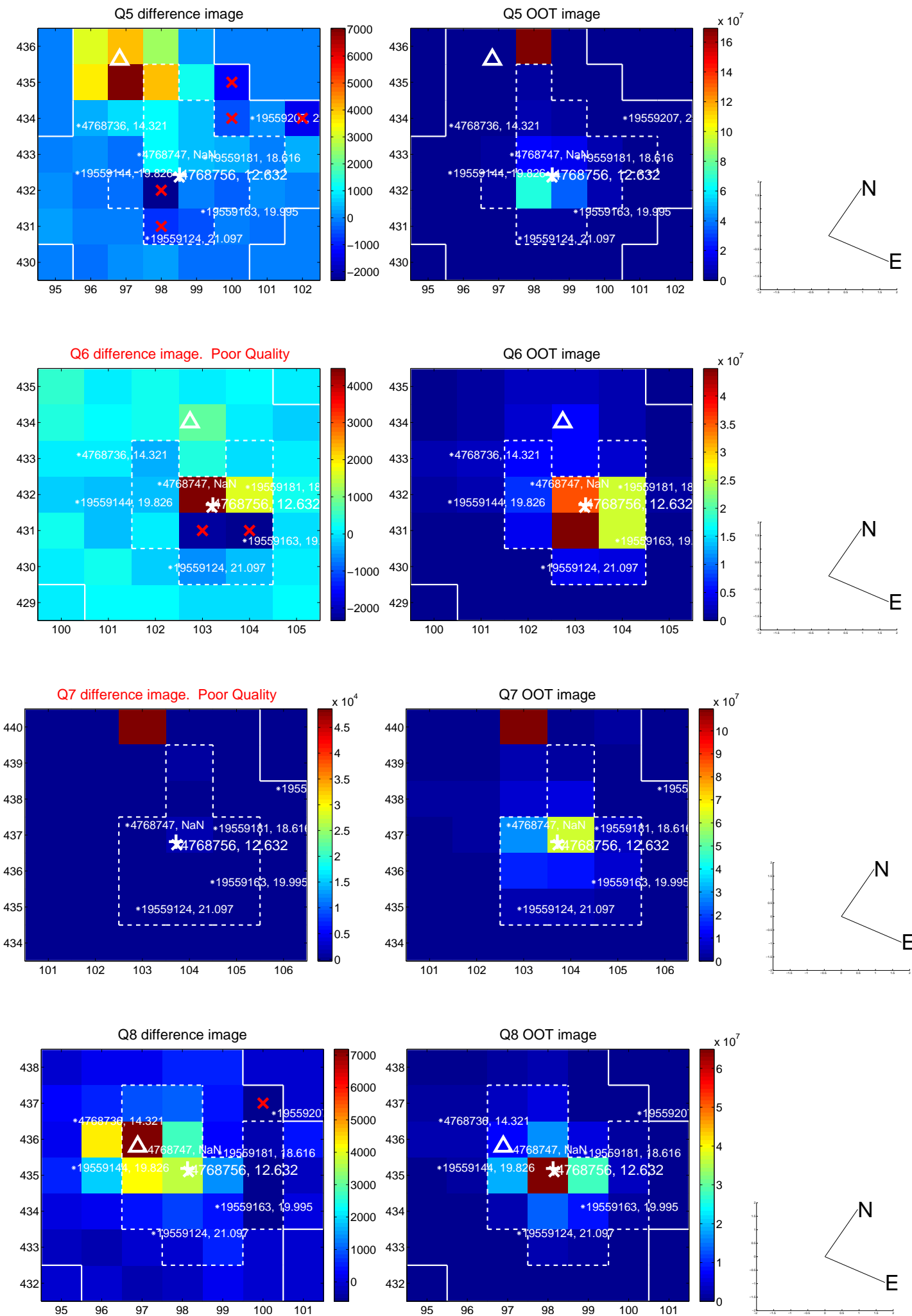


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

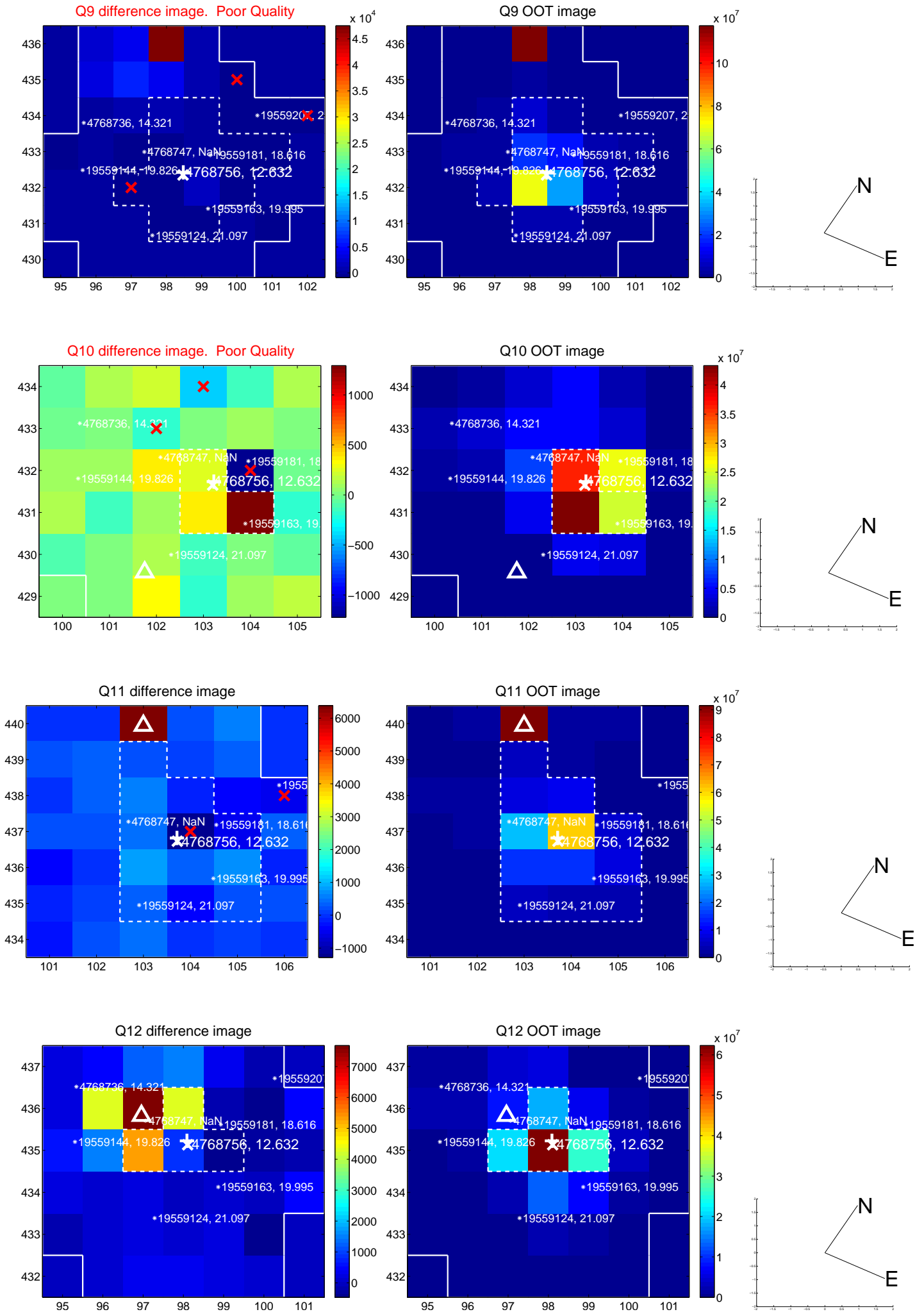
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



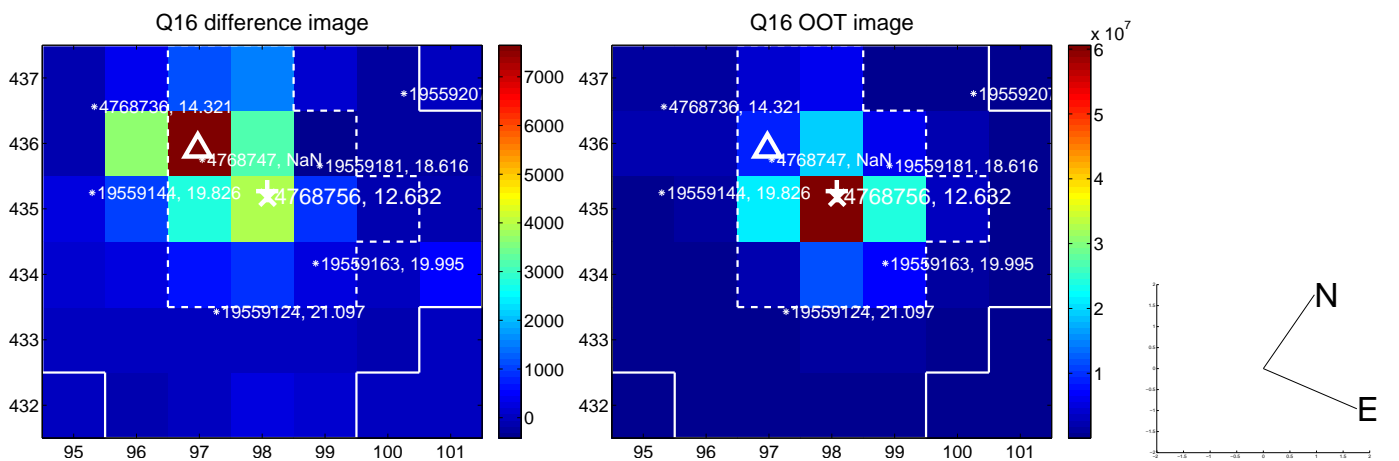
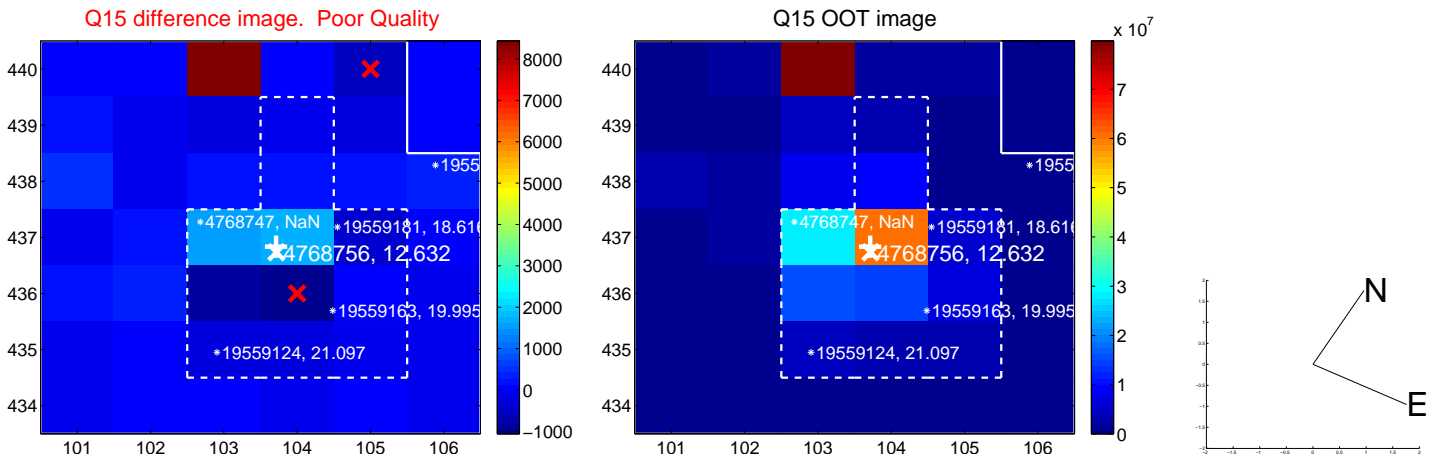
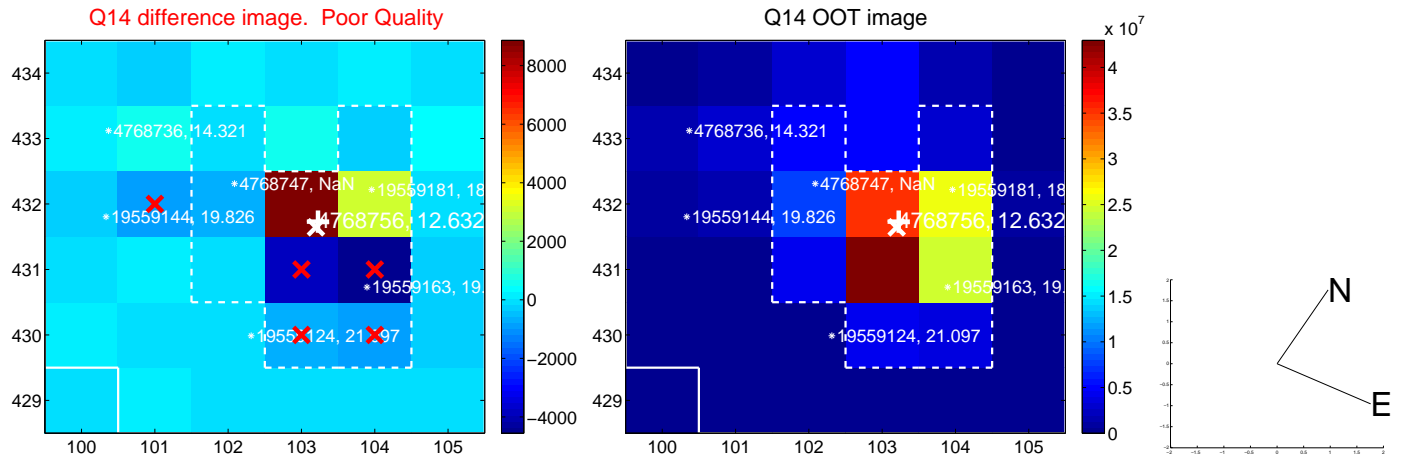
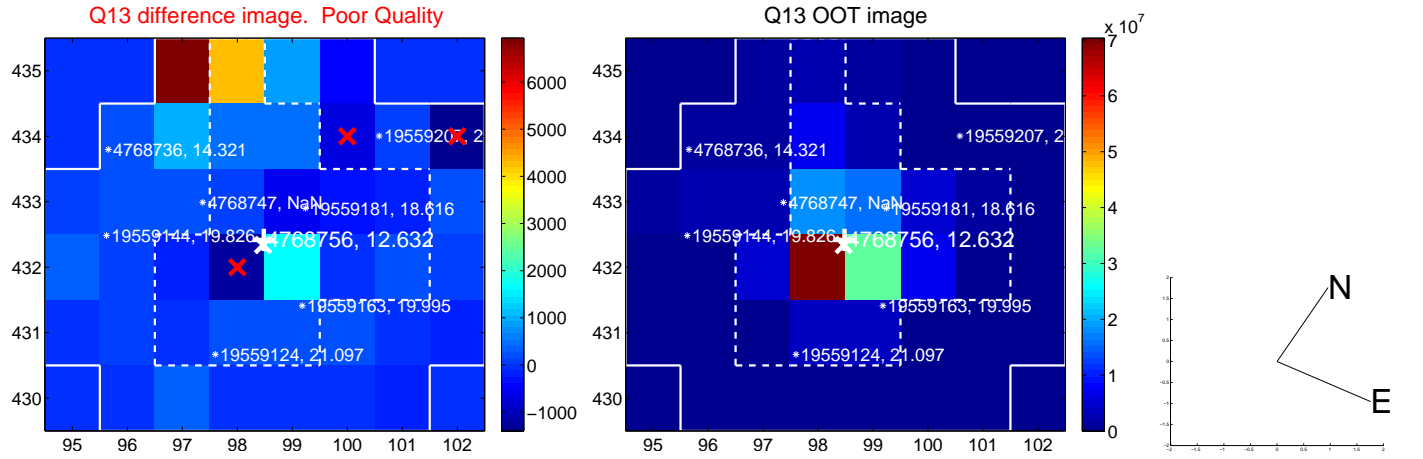
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



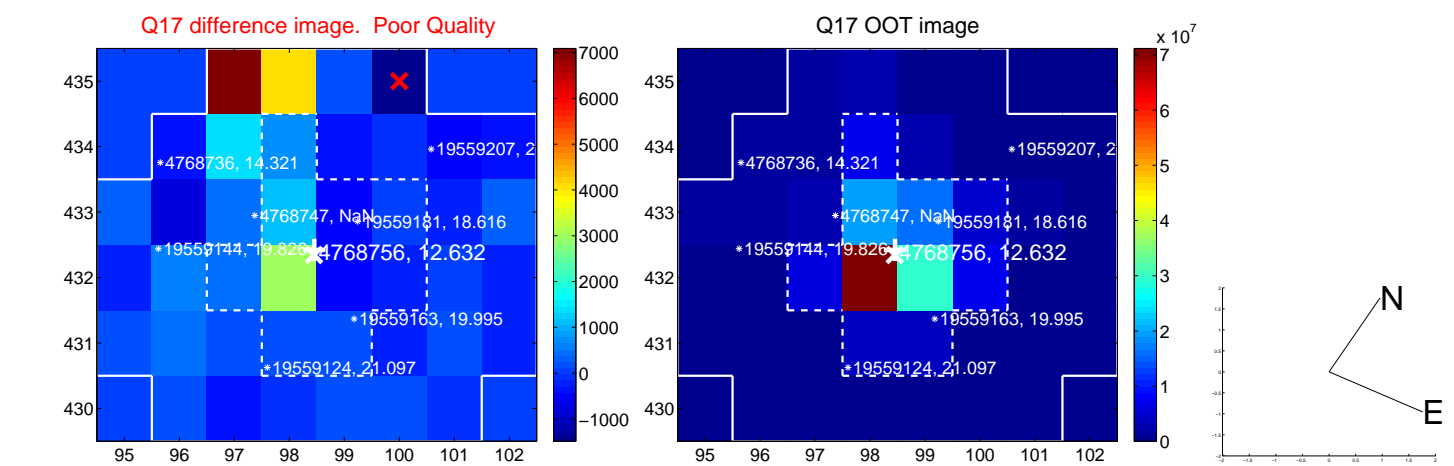
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



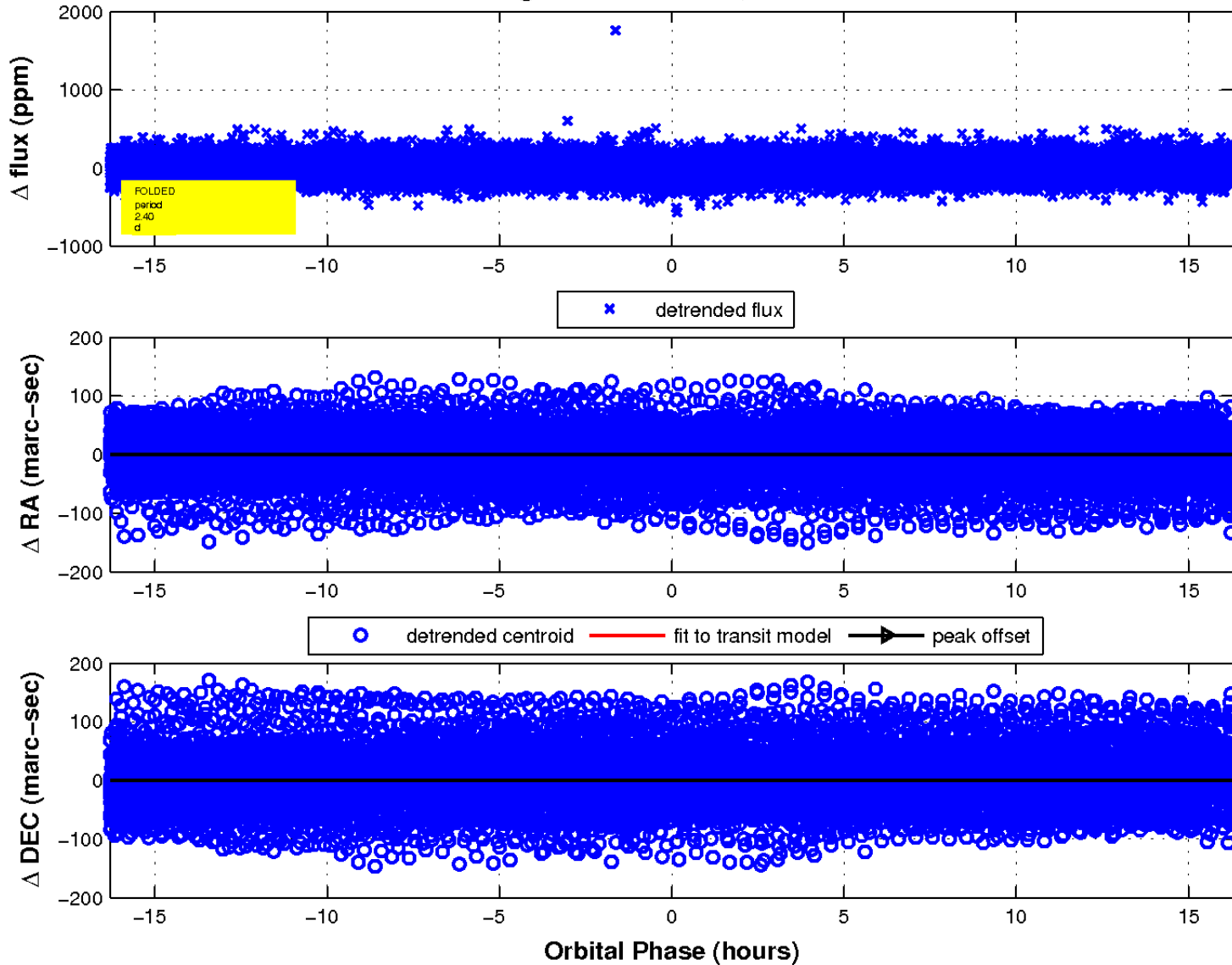
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

