

KIC 012008872

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})
012008872-01	OBS	2729.01	14.887859	141.948090	256.8	5.862	27.5	29.1	1.12	6143	2.31	113.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012008872-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

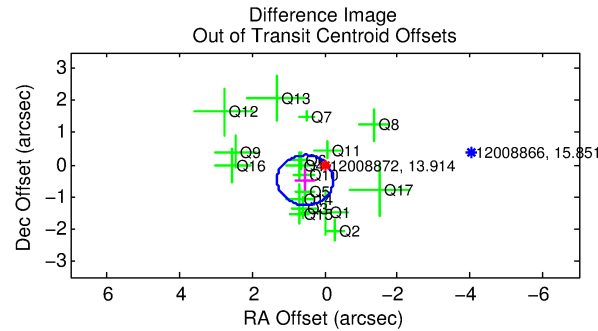
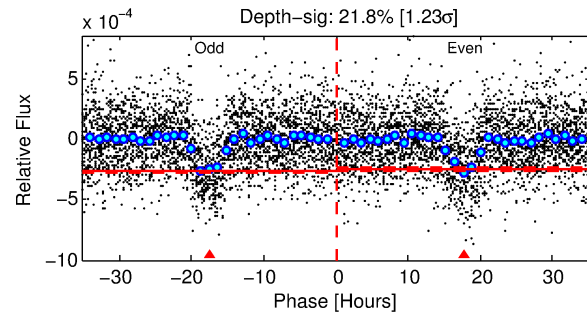
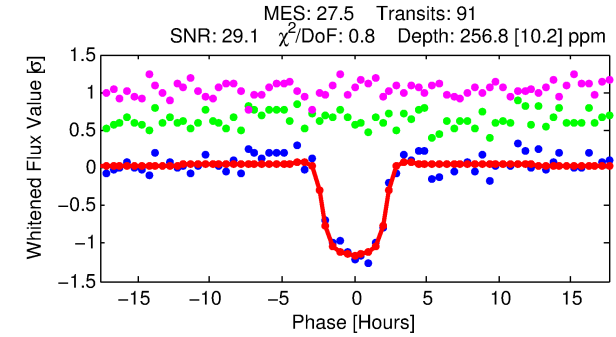
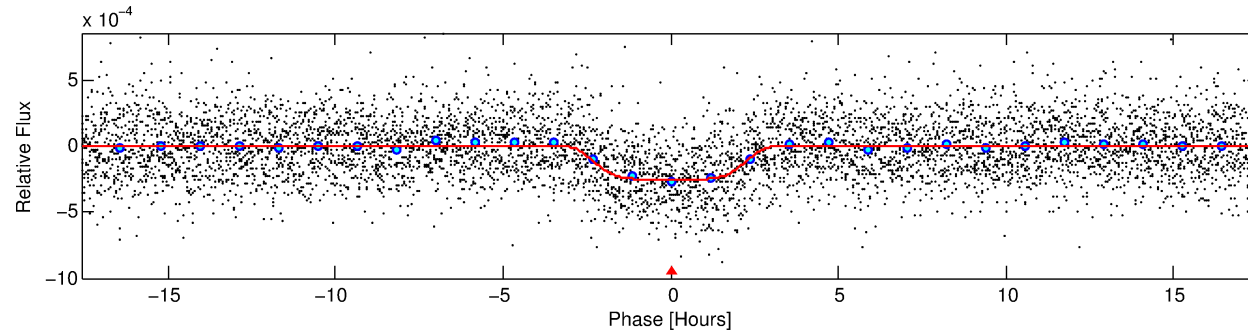
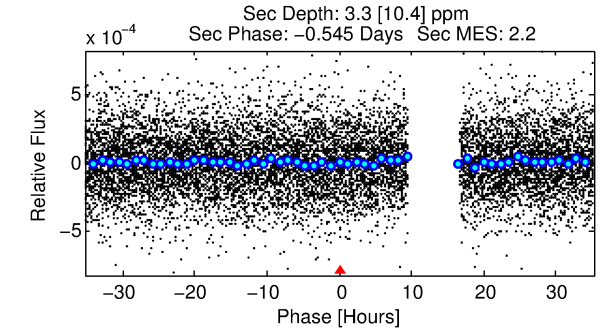
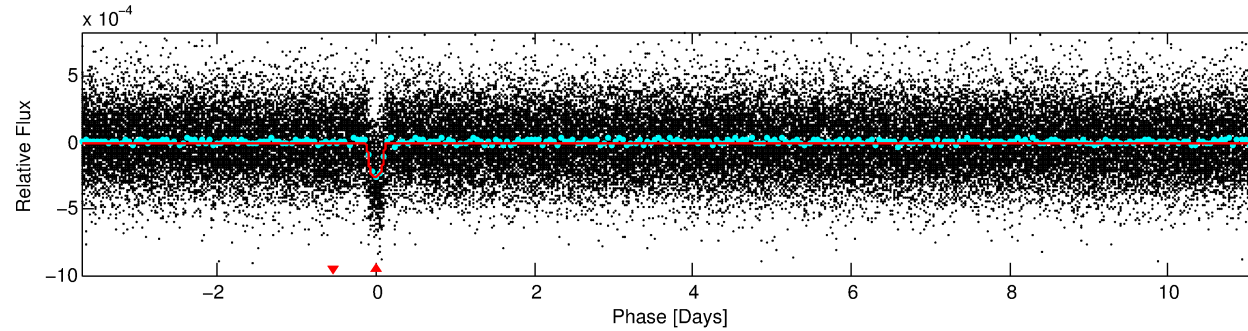
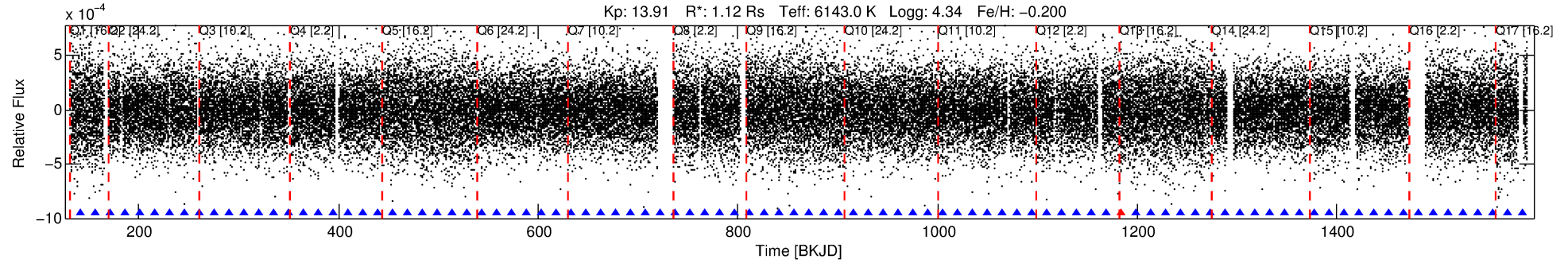
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012008872-01

No Significant Match Found

DV One-Page Summary

KIC: 12008872 Candidate: 1 of 1 Period: 14.888 d
KOI: K02729.01 Corr: 0.929



DV Fit Results:

Period = 14.88786 [0.00008] d
Epoch = 141.9481 [0.0047] BKJD
Rp/R* = 0.0190 [0.0006]
a/R* = 6.33 [0.68]
b = 0.97 [0.01]
Seff = 113.00 [43.99]
Teq = 831 [81] K
Rp = 2.31 [0.72] Re
a = 0.1186 [0.0303] AU
Ag = 4.72 [15.19] [0.25σ]
Teffp = 1895 [1515] K [0.70σ]

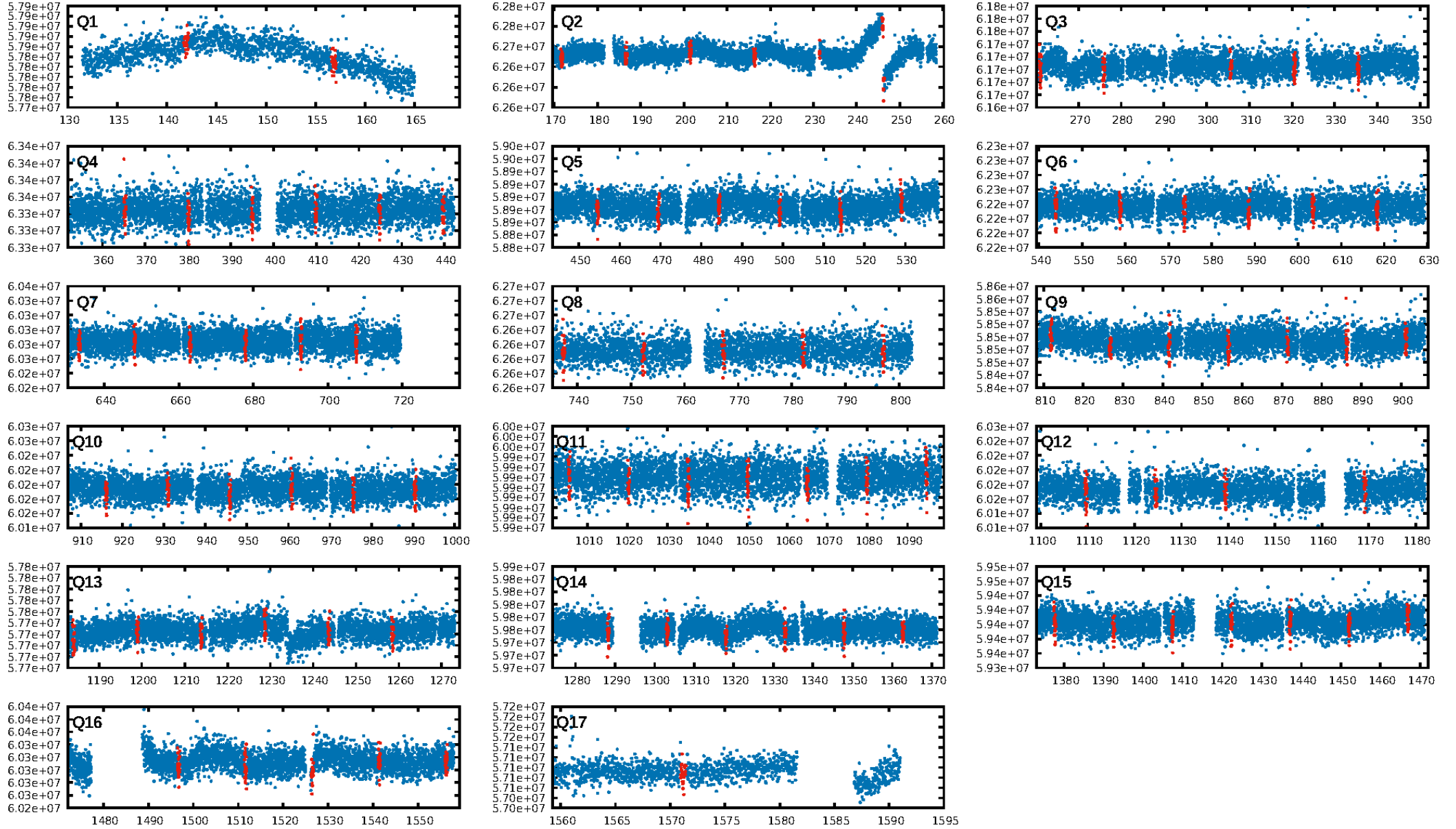
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.59e-158
RollingBand-fgt: 0.99 [87/88]
GhostDiagnostic-chr: 30.85
Centroid-sig: 37.5%
Centroid-so: 0.122 arcsec [0.29σ]
OotOffset-rm: 0.725 arcsec [2.80σ]
KicOffset-rm: 0.343 arcsec [1.31σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

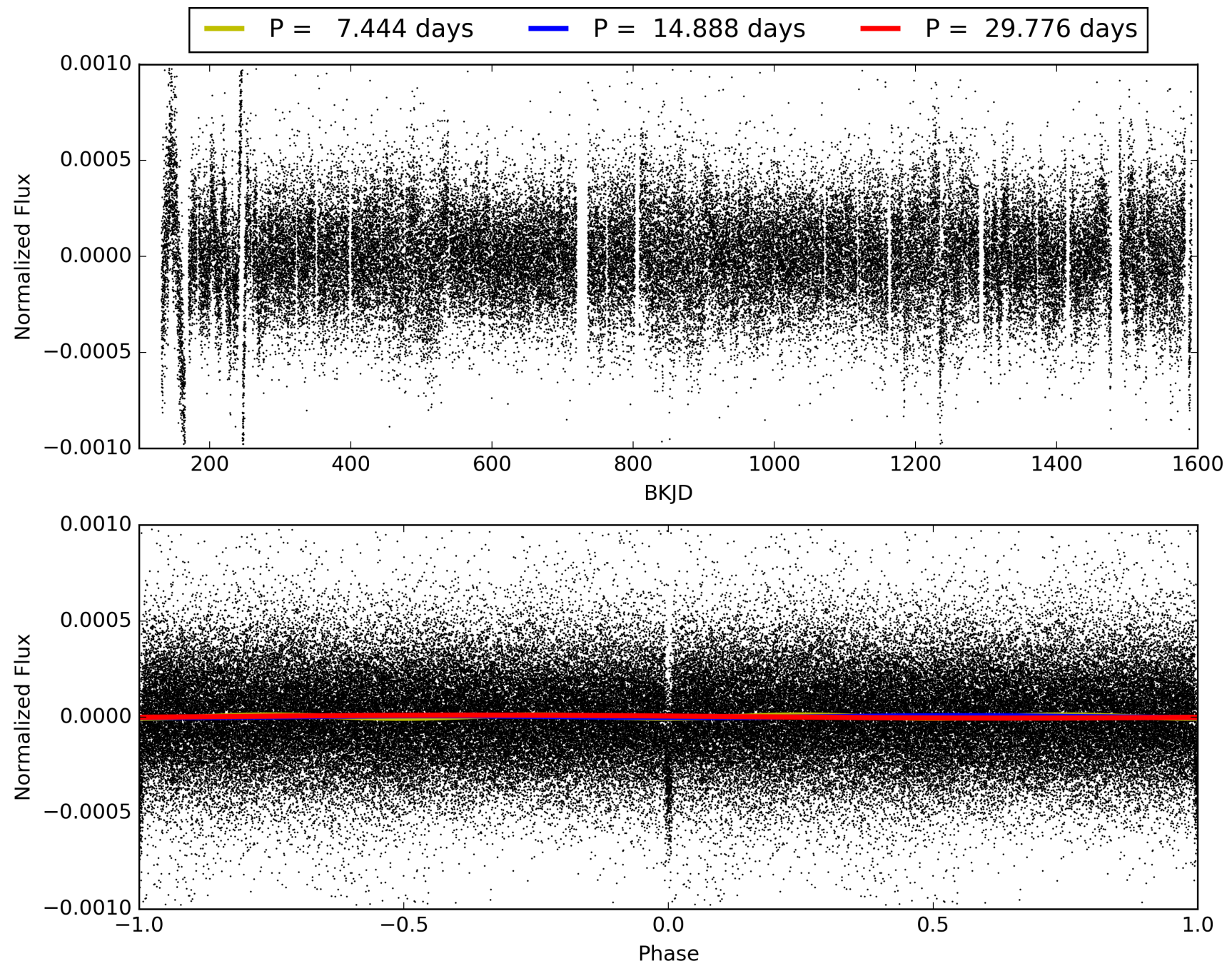
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:33:56 Z

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

TCE 012008872-01, PDC Light Curves

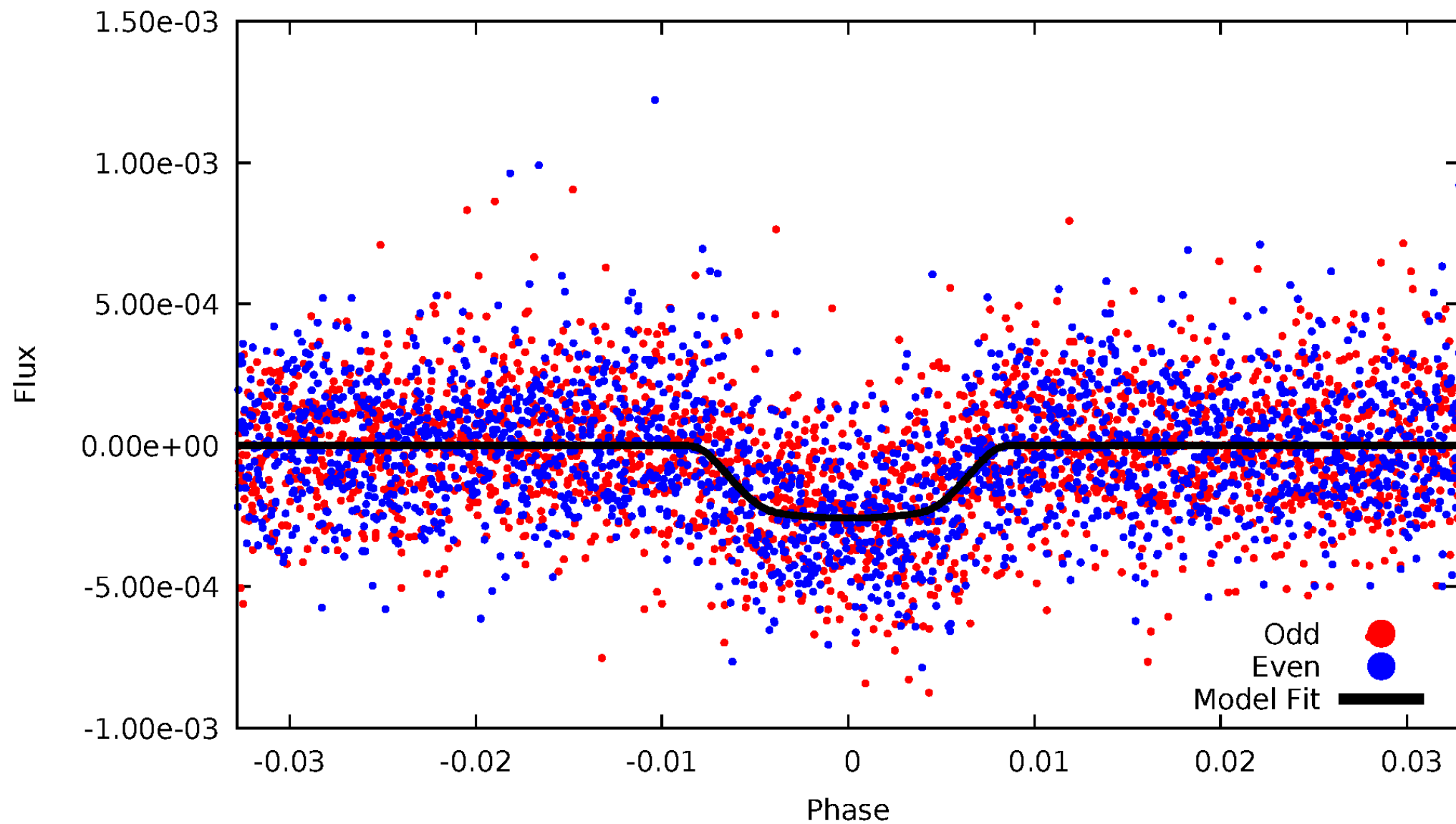


TCE 012008872-01



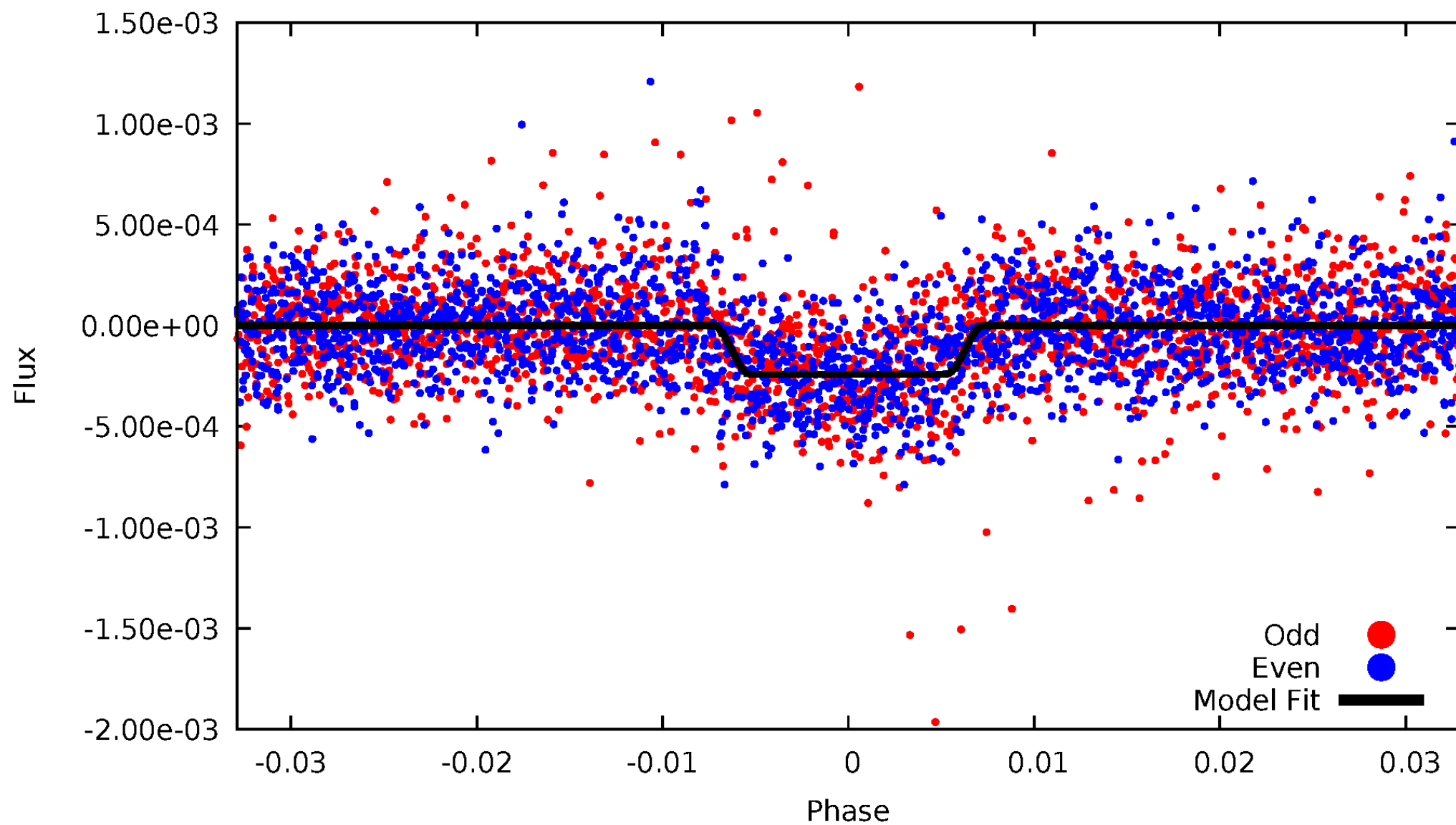
DV Odd/Even

TCE 012008872-01



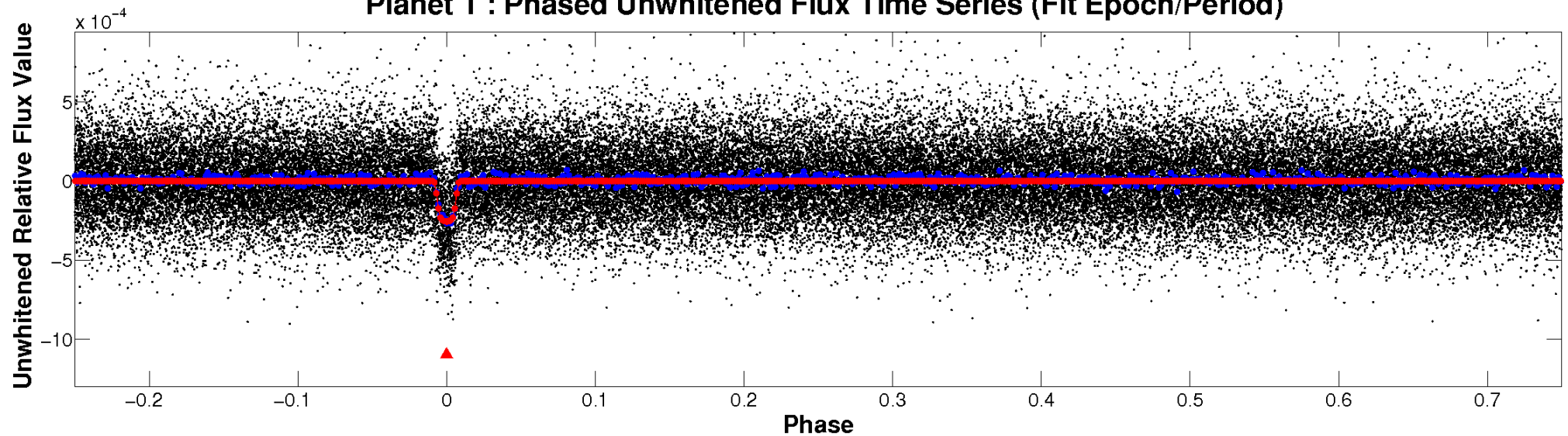
ALT Odd/Even

TCE 012008872-01

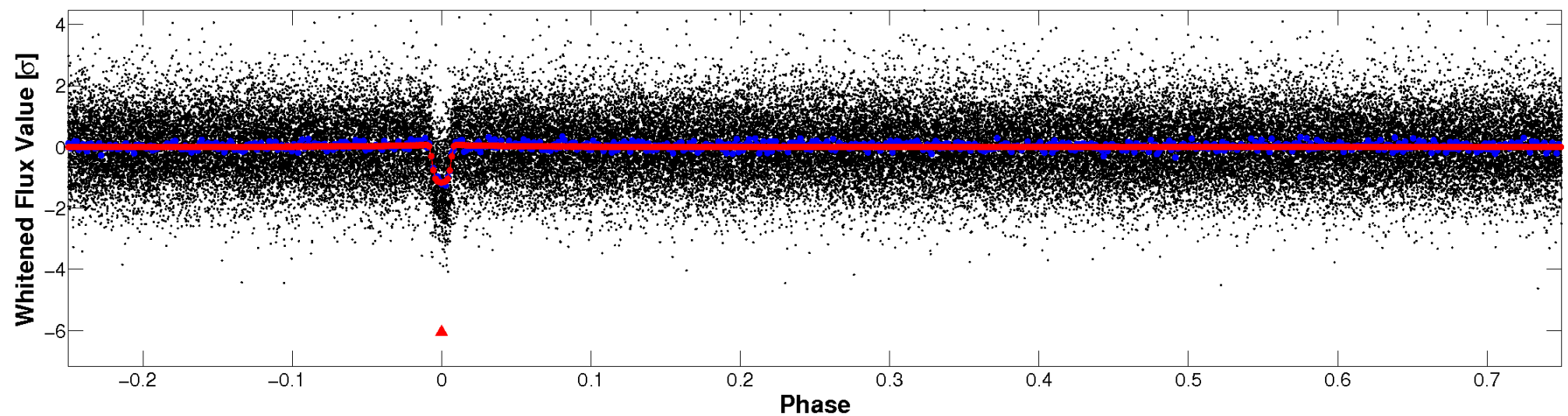


Non-Whitened Vs. Whitened Light Curve

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

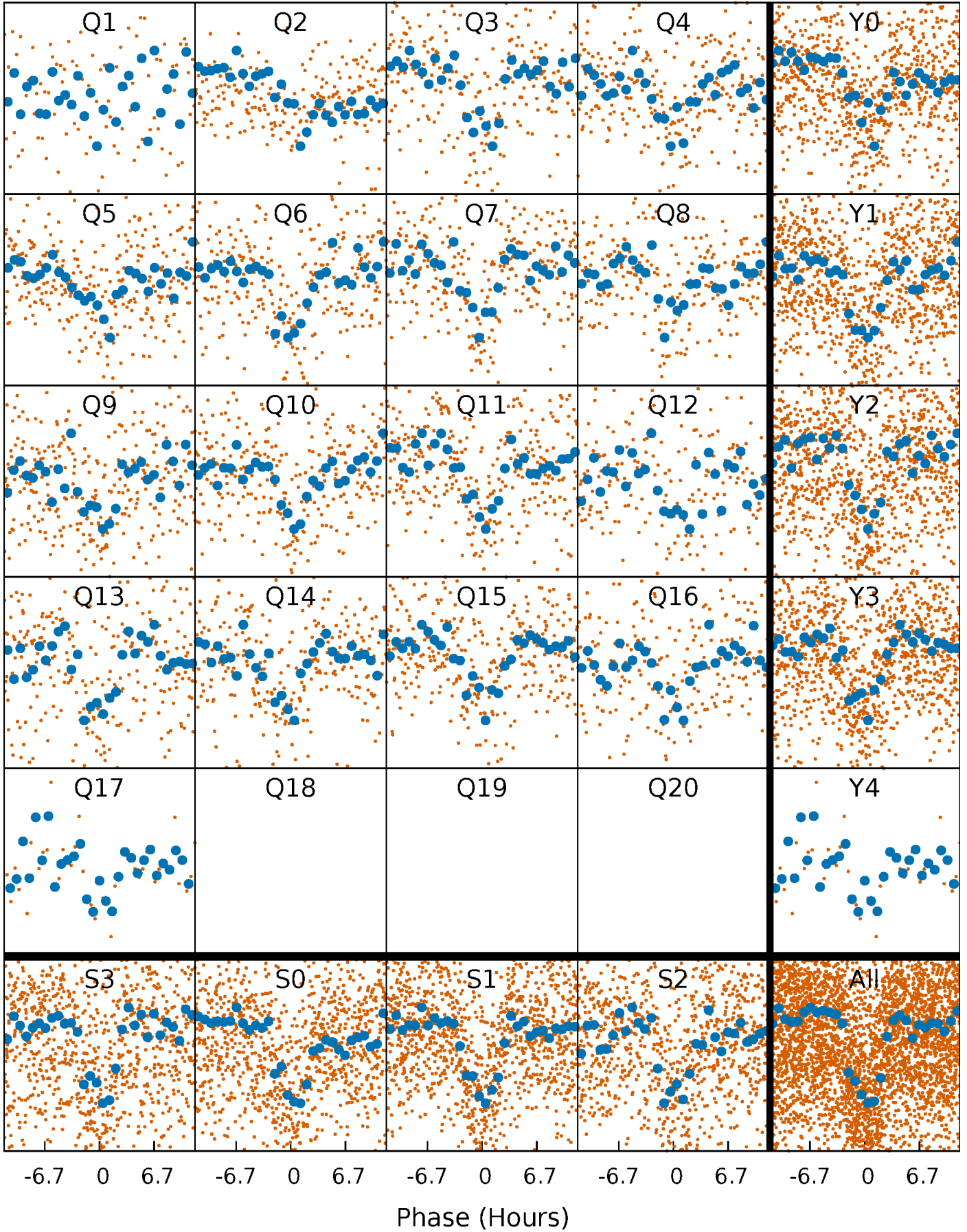


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



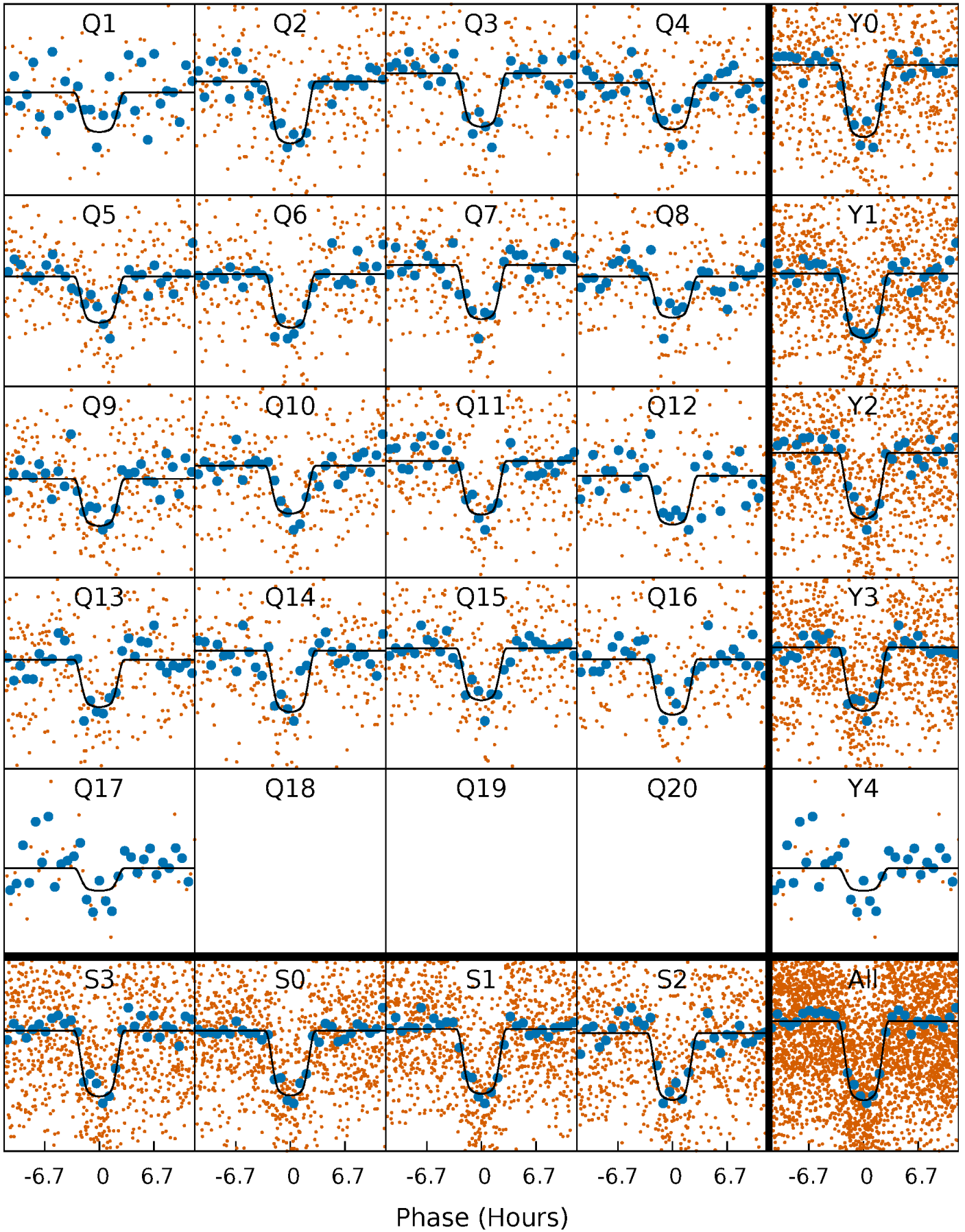
PDC Quarter-Phased Transit Curves

TCE 012008872-01 P= 14.887859 Days $T_0=141.948090$ (BKJD)



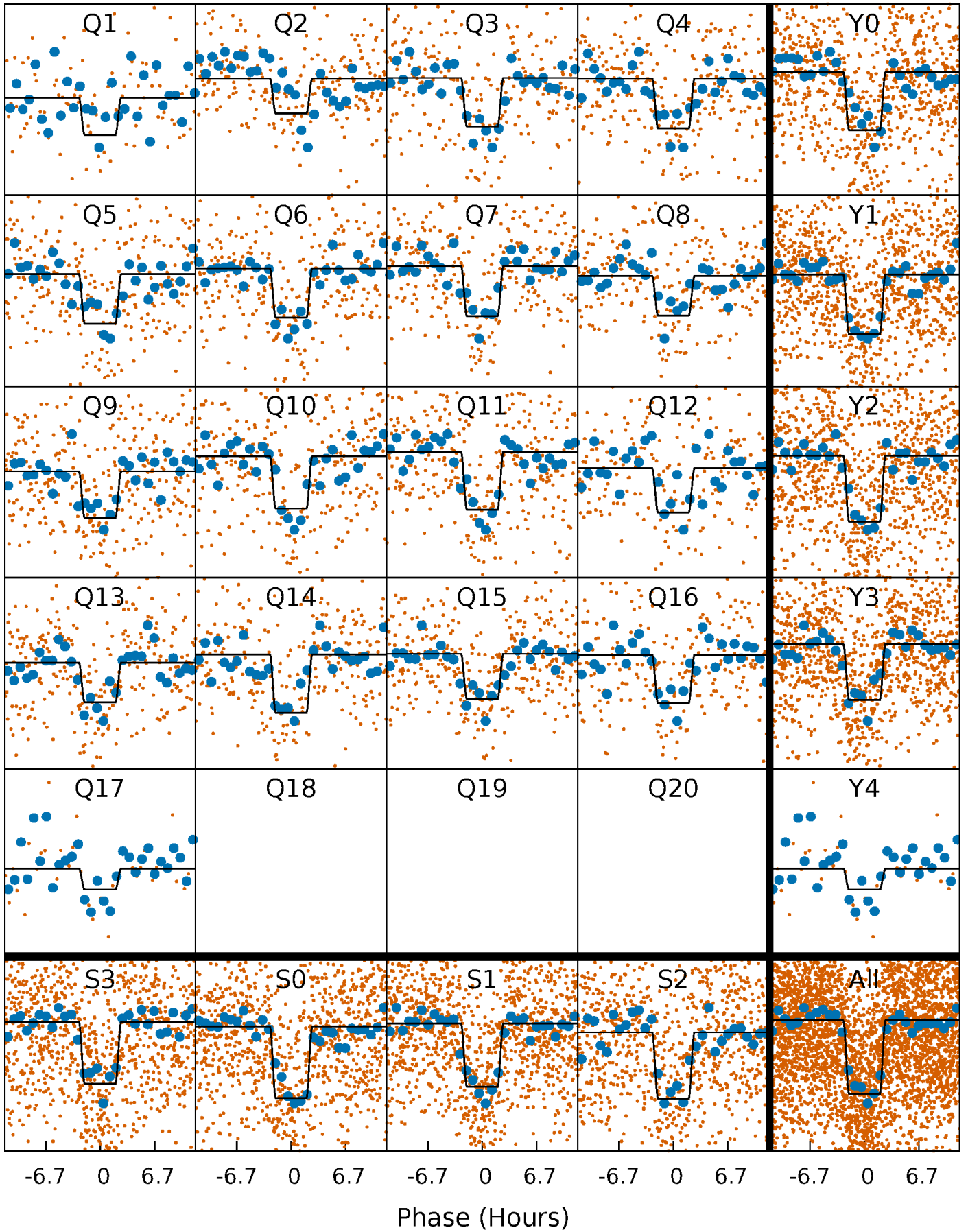
DV Quarter-Phased Transit Curves

TCE 012008872-01 P= 14.887859 Days $T_0=141.948090$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

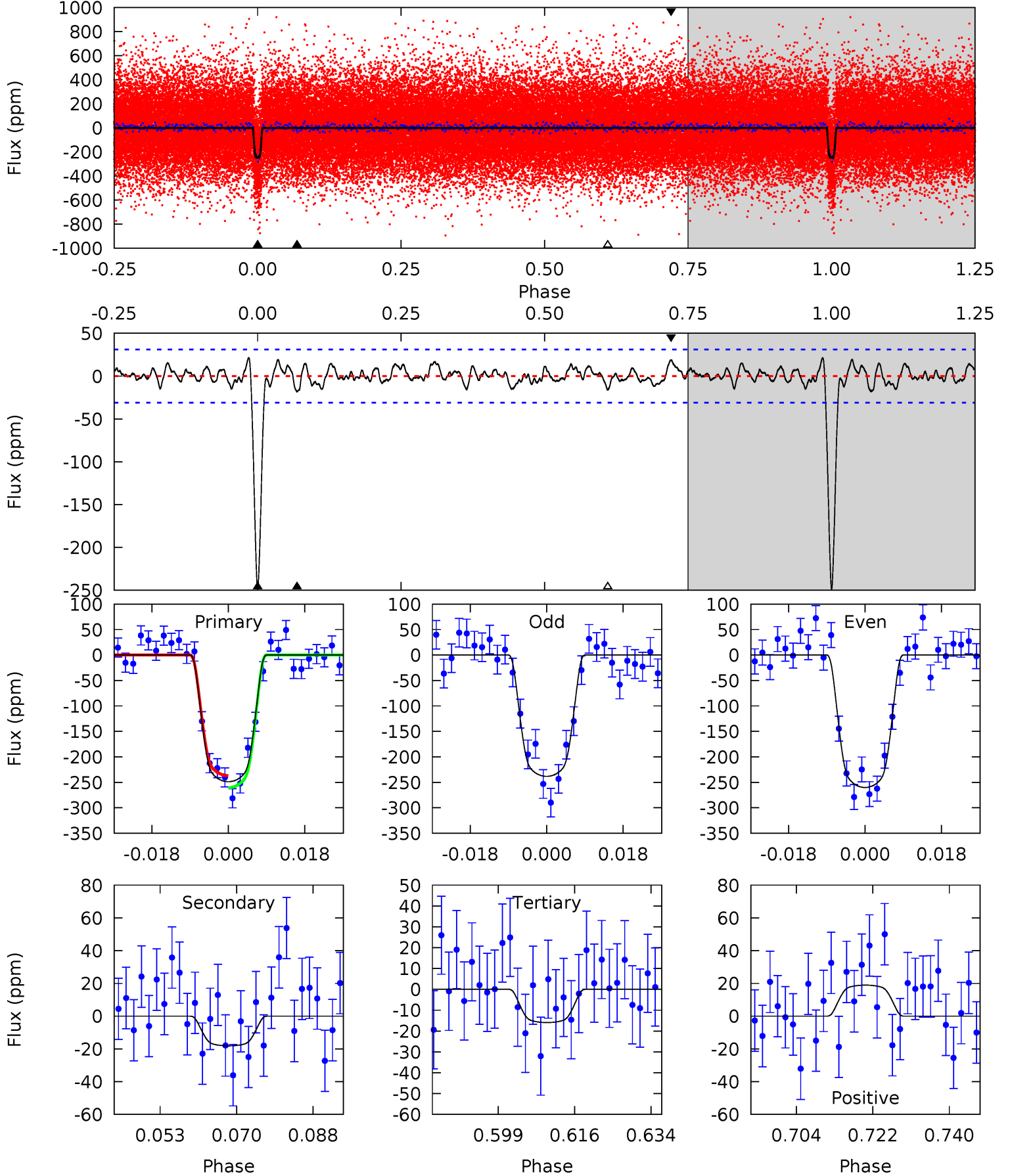
TCE 012008872-01 P= 14.888079 Days $T_0=141.941252$ (BKJD)



DV Model-Shift Uniqueness Test

012008872-01, $P = 14.887859$ Days, $E = 127.060231$ Days

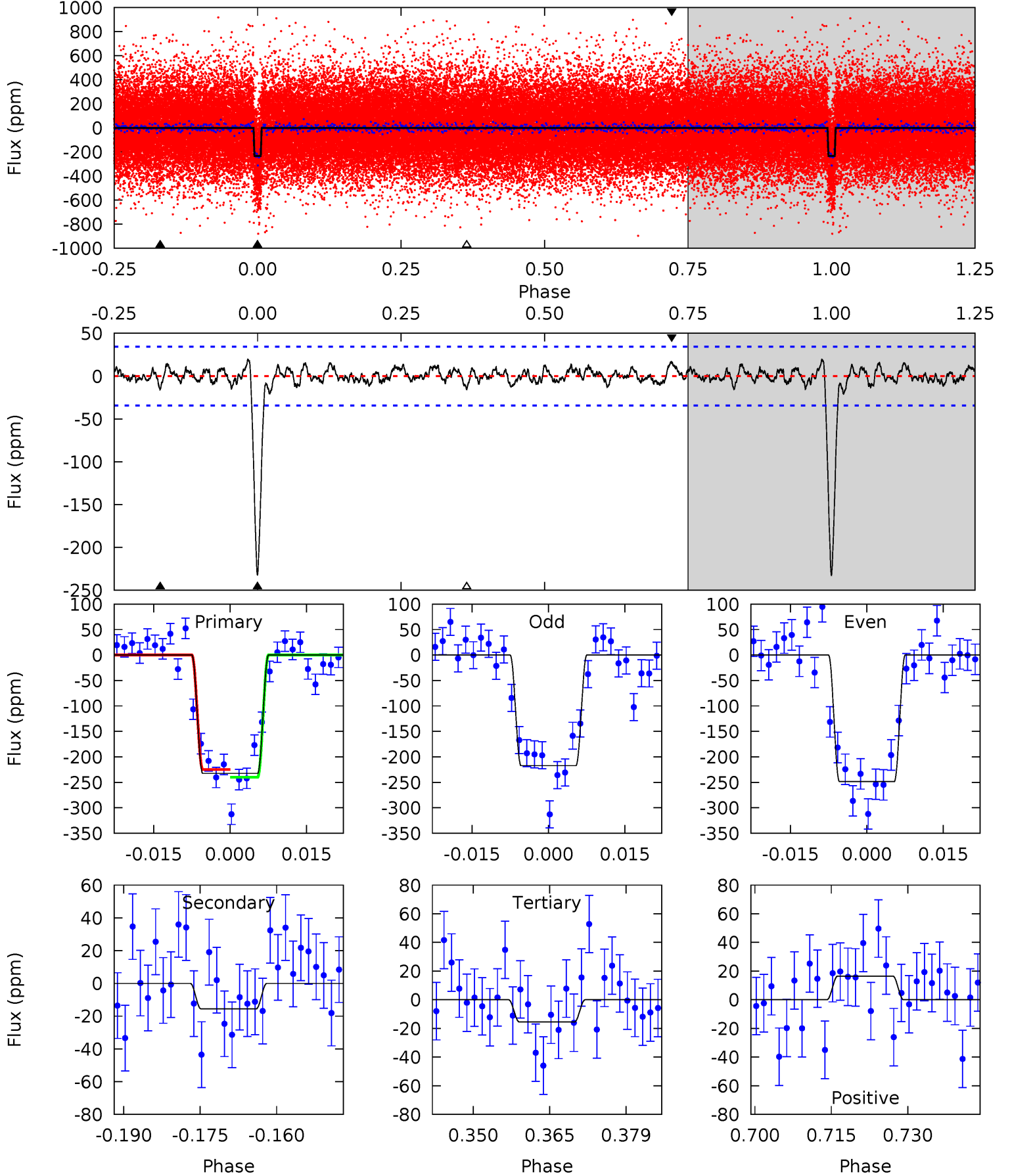
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.4	2.88	2.52	3.00	4.92	2.37	1.11	36.9	36.4	0.35	-0.12	1.73	0.98	0.08	1.88



Alt Model-Shift Uniqueness Test

012008872-01, P = 14.888079 Days, E = 127.053173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.5	2.25	2.24	2.39	4.95	2.44	0.92	31.2	31.1	0.01	-0.14	2.23	0.98	0.08	1.07



Stellar Parameters For KIC 012008872

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6143^{+164}_{-200}	$4.344^{+0.132}_{-0.198}$	$-0.200^{+0.250}_{-0.300}$	$1.116^{+0.344}_{-0.185}$	$1.001^{+0.166}_{-0.111}$	$1.015^{+0.619}_{-0.522}$
	+3%/-3%	+3%/-5%	+125%/-150%	+31%/-17%	+17%/-11%	+61%/-51%
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 012008872-01 / KOI 2729.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 6	$2.34^{+0.42}_{-0.26}$	1170^{+90}_{-76}	3411^{+186}_{-216}	24^{+12}_{-10}
Alt.	-16 ± 7	$1.93^{+0.32}_{-0.21}$	1171^{+89}_{-71}	3548^{+242}_{-336}	31^{+18}_{-14}

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

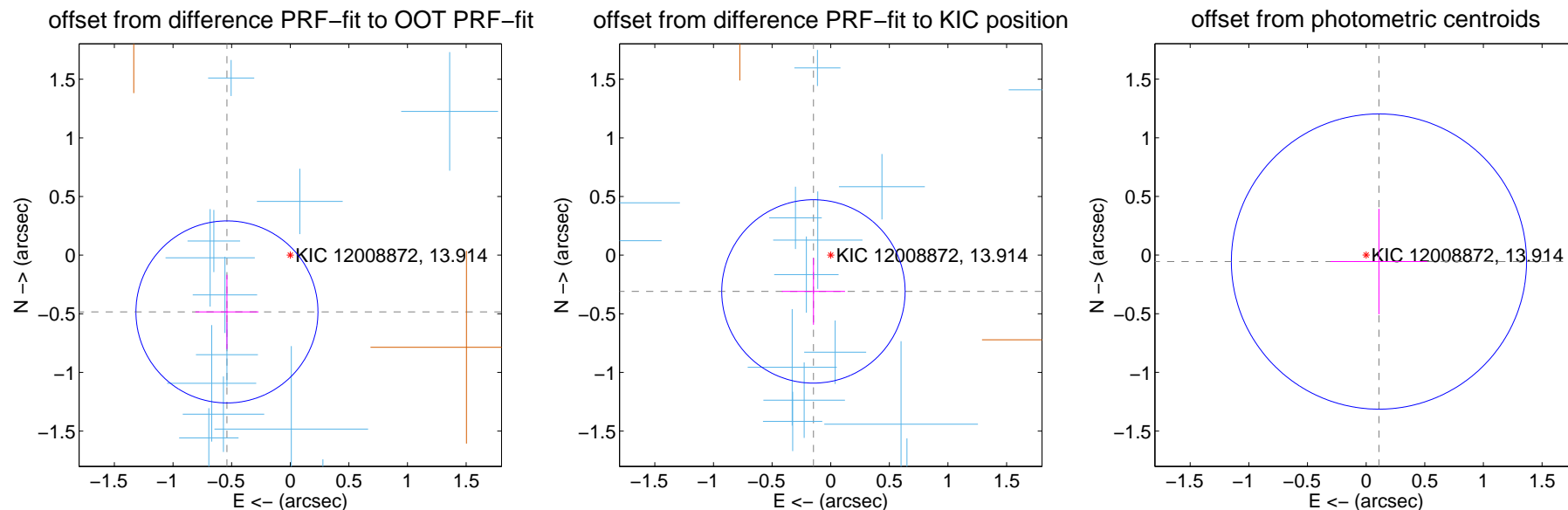
DV Centroid Data

Supplemental centroid analysis for 012008872-01. Kepler magnitude: 13.91. Transit SNR 29.08

There are 14 quarters with good PRF difference image offsets

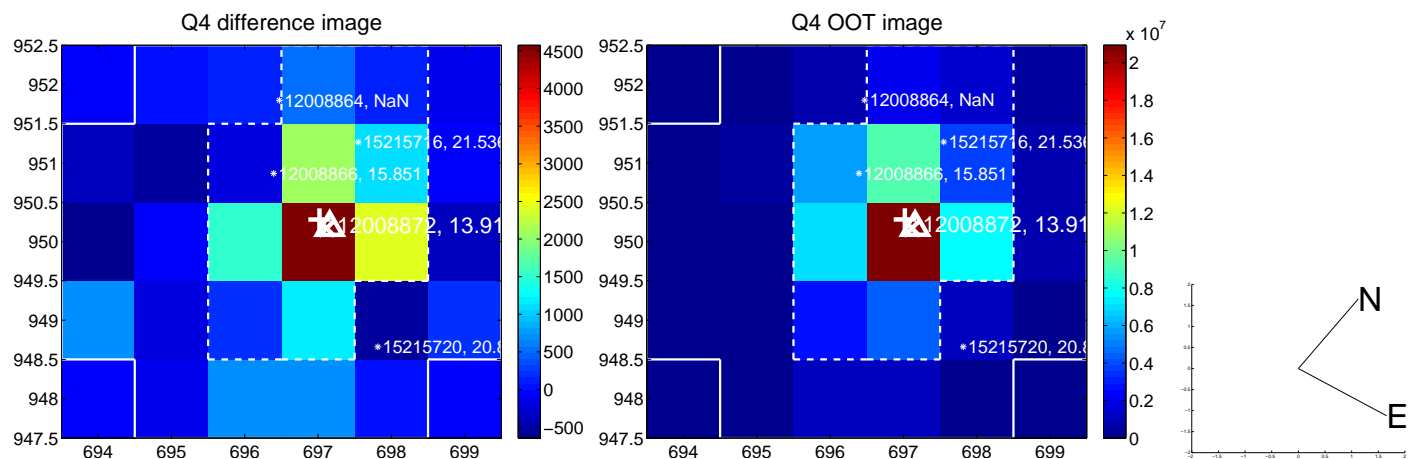
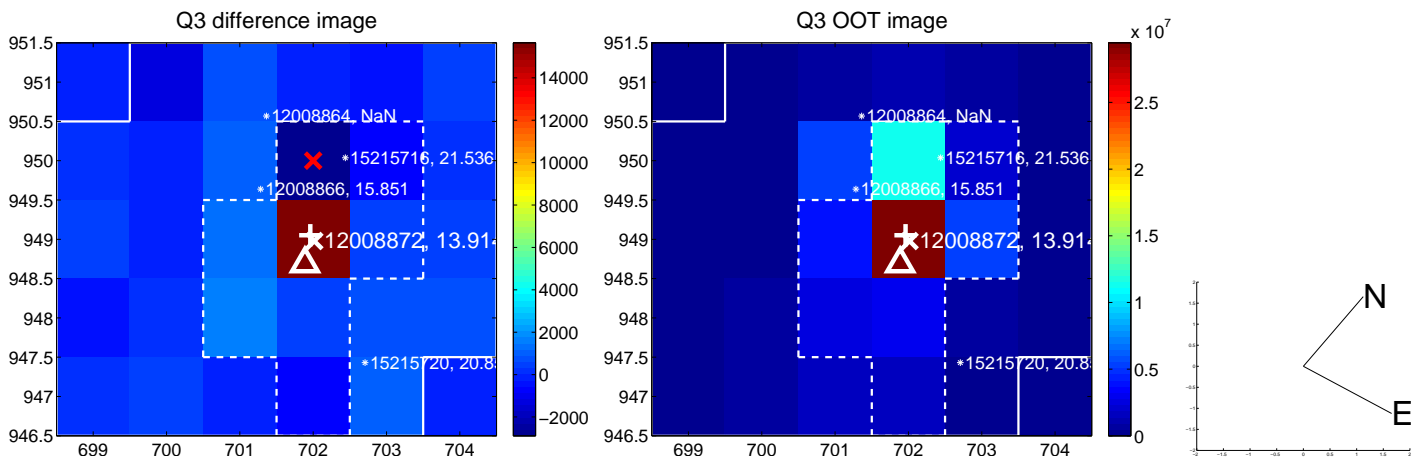
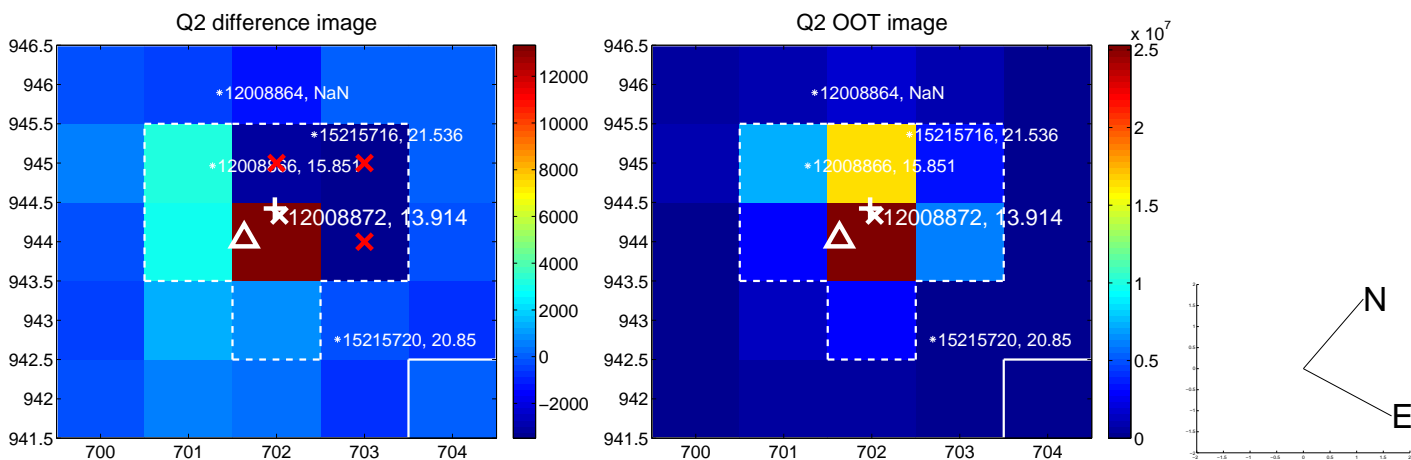
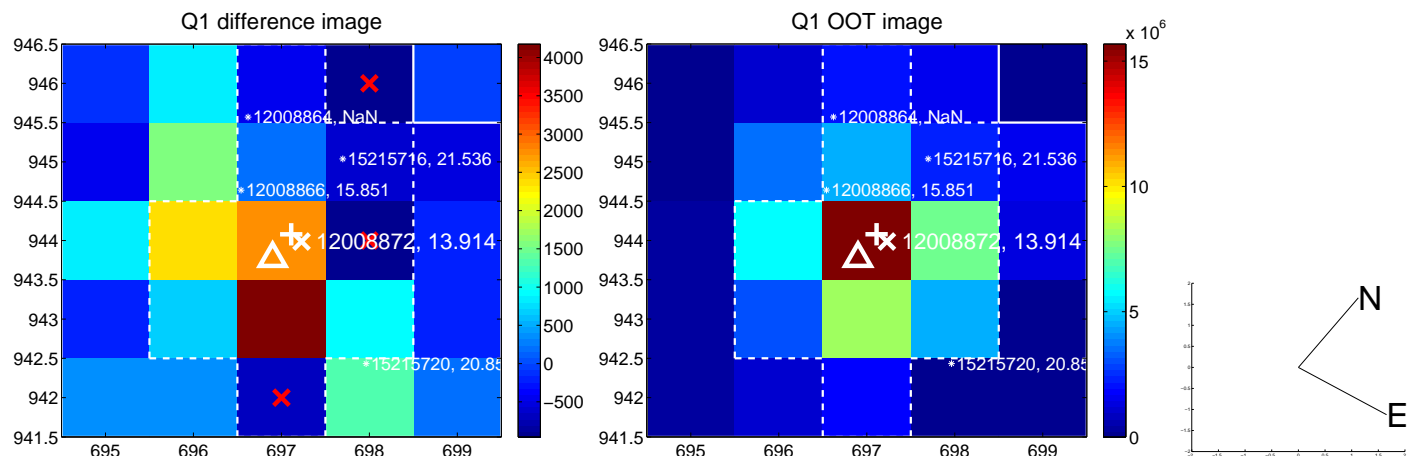
The direct PRF centroid is offset from the target star catalog position by about 0.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.725 ± 0.259	2.80	0.540 ± 0.270	-0.484 ± 0.317
PRF-fit source offset from KIC position	0.343 ± 0.261	1.31	0.147 ± 0.270	-0.309 ± 0.285
photometric centroid source offset	0.12 ± 0.42	0.29	-0.11 ± 0.41	-0.06 ± 0.45

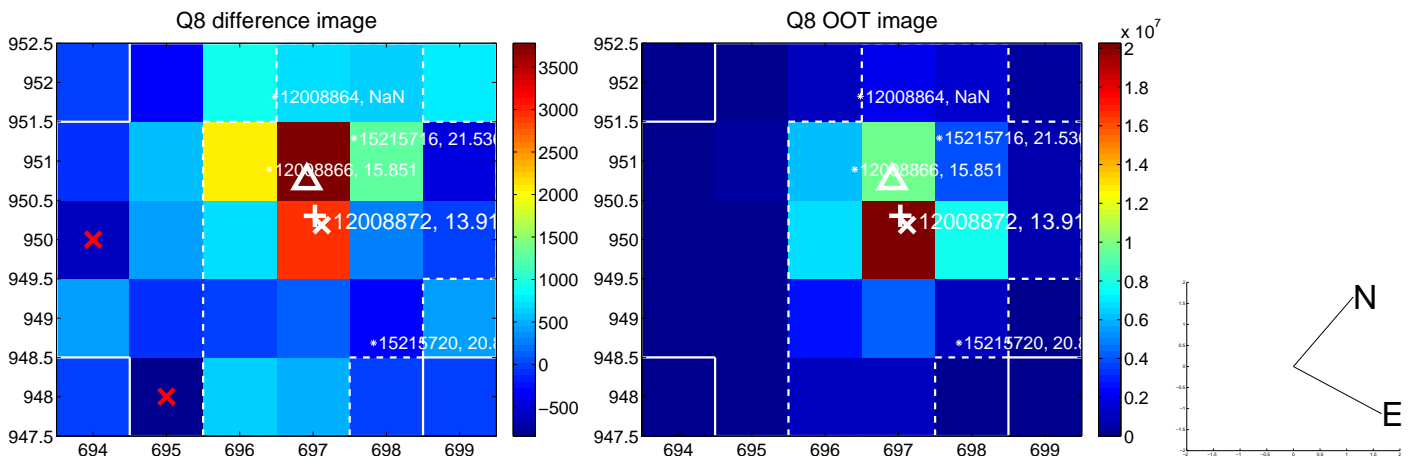
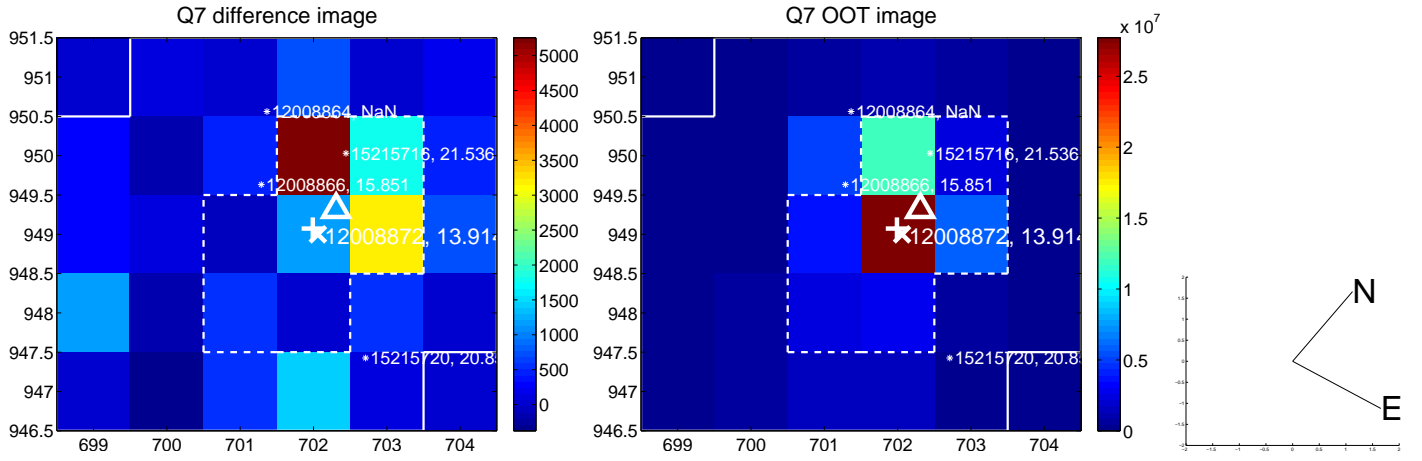
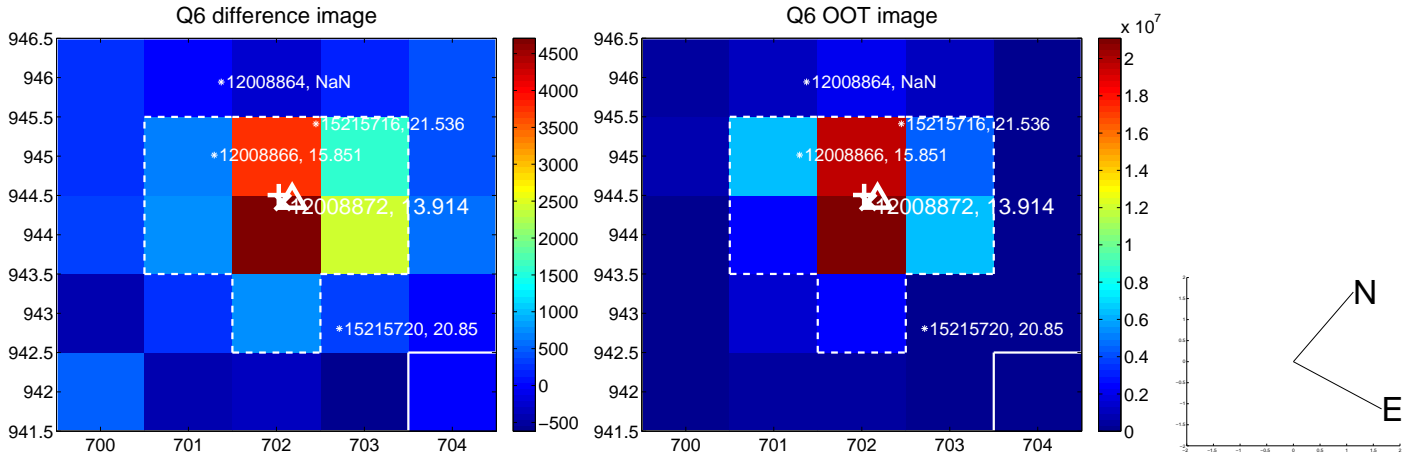
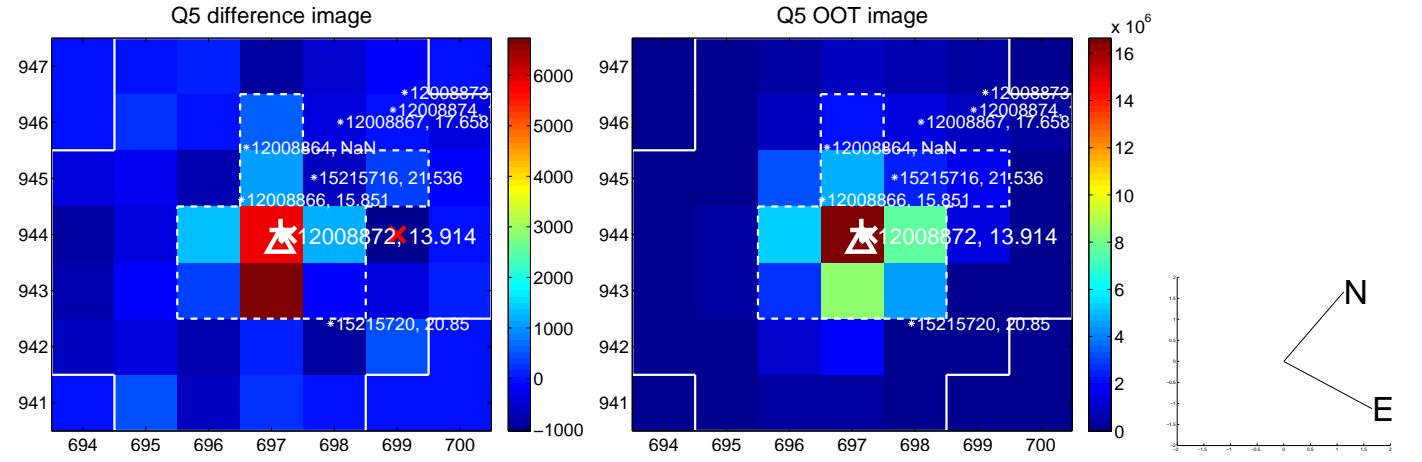


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

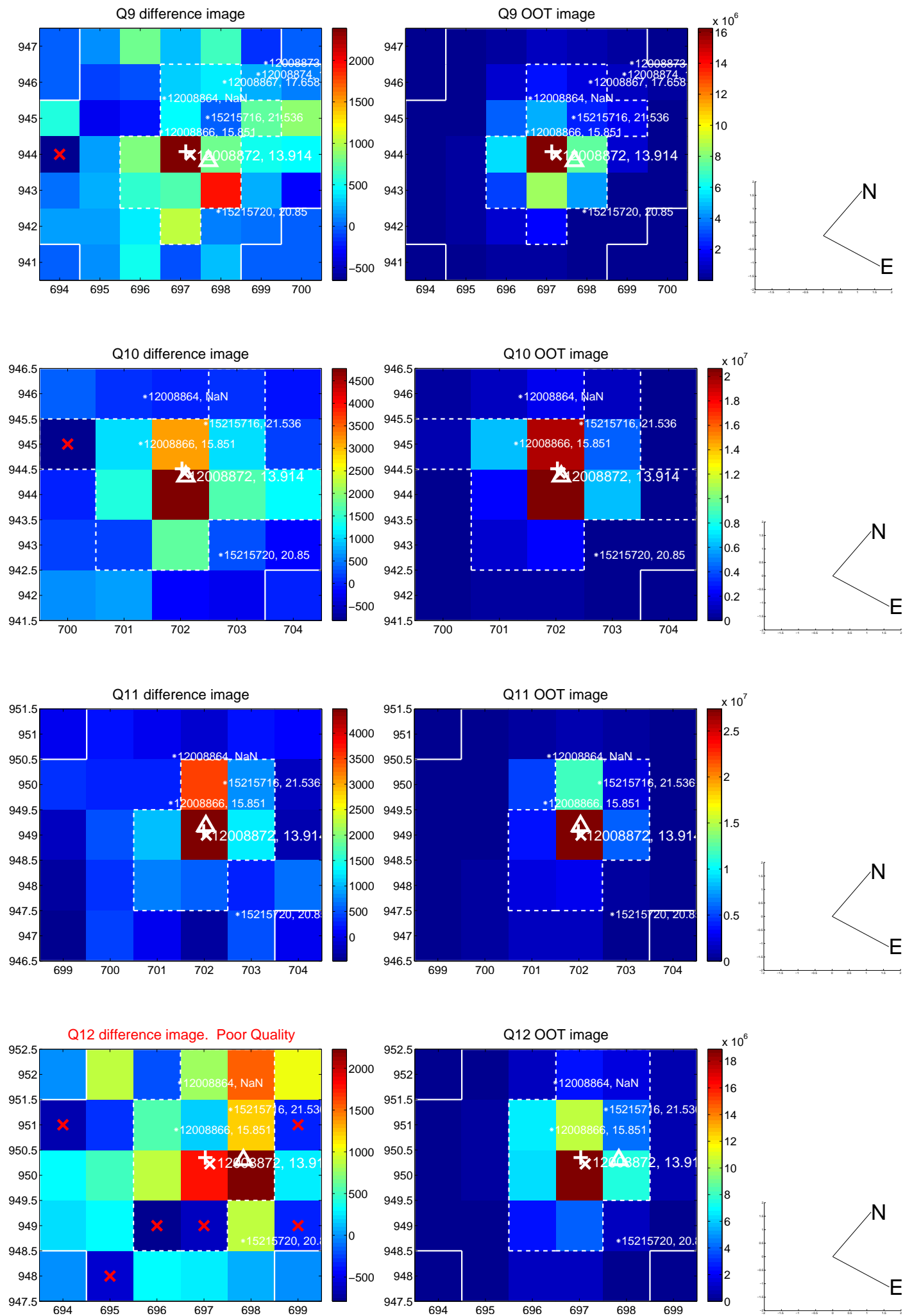
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



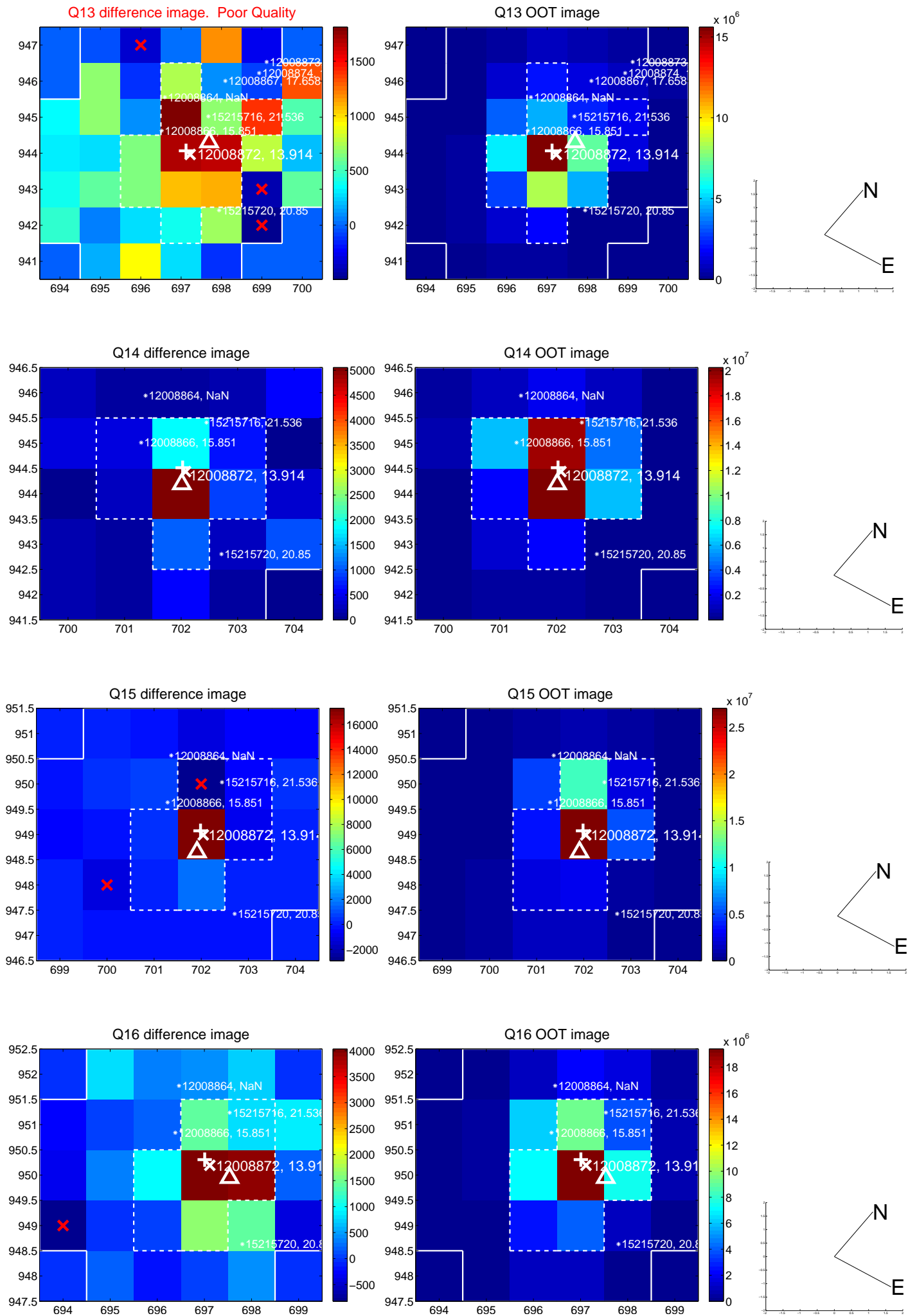
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



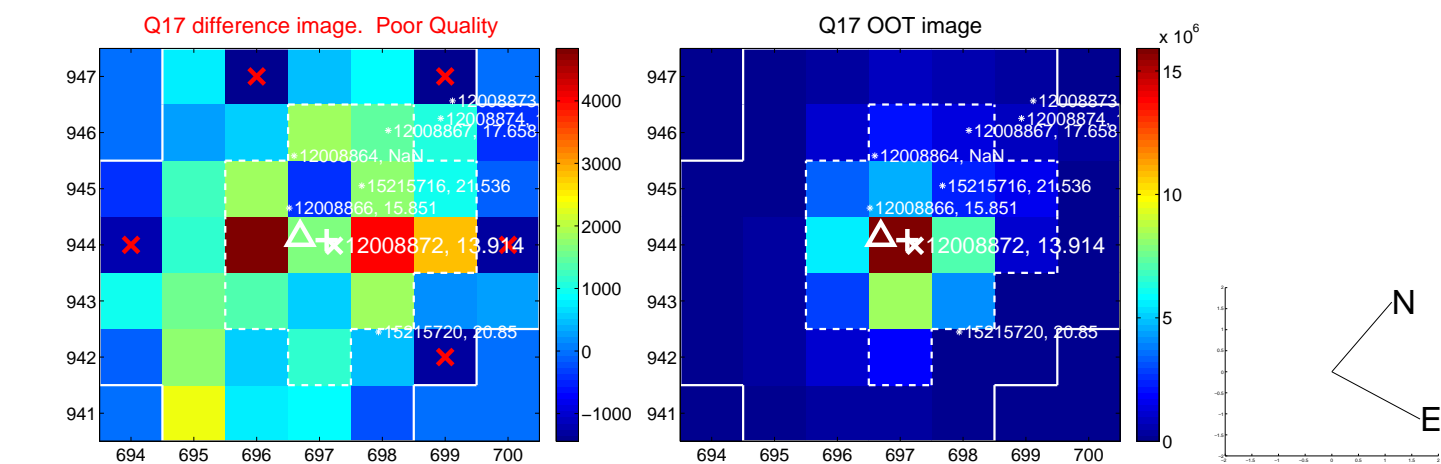
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



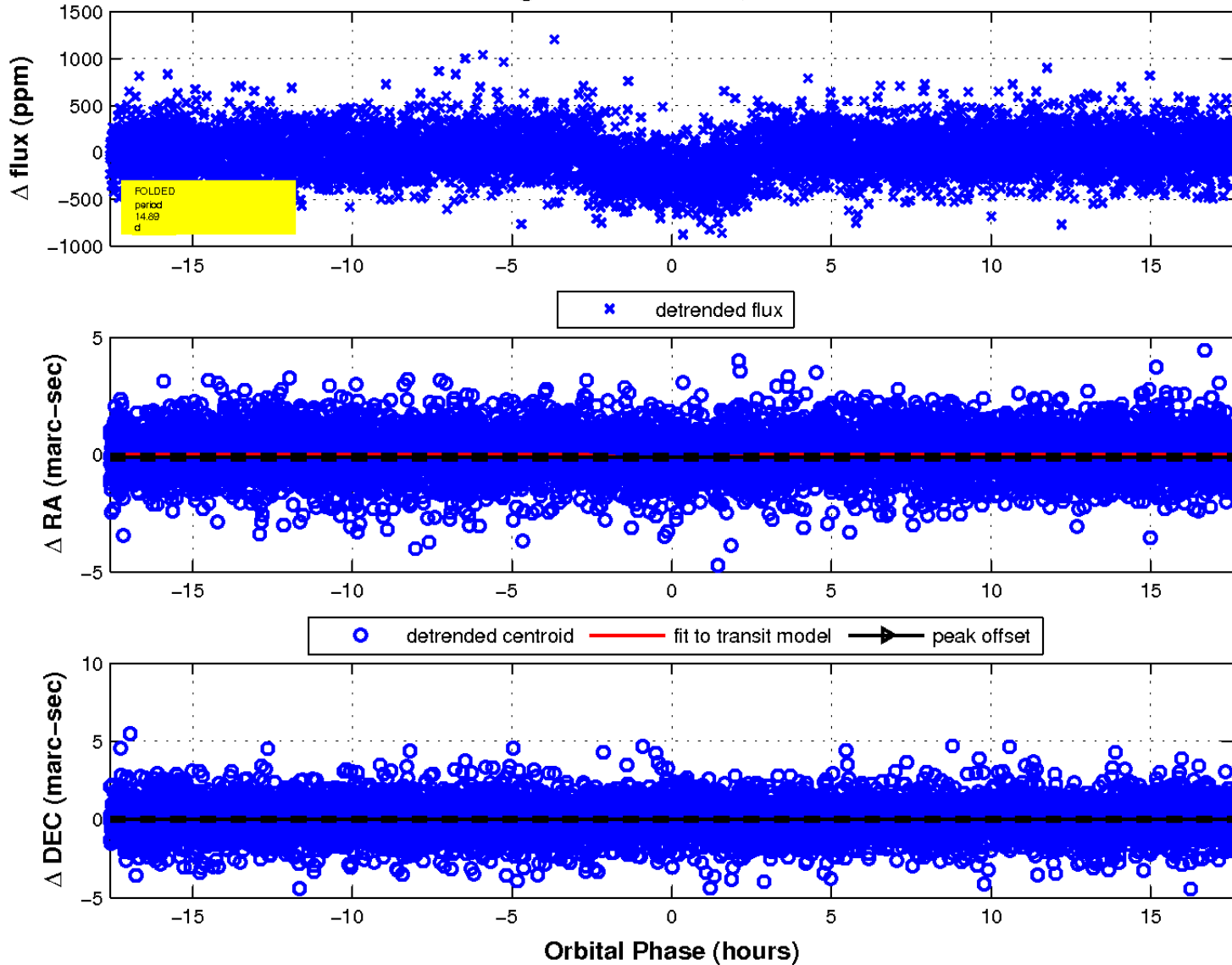
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

