

KIC 008873090

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})
008873090-01	OBS	2968.01	10.164321	136.430770	36.5	5.912	11.8	12.8	2.71	6133	1.90	881.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008873090-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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 008873090-01

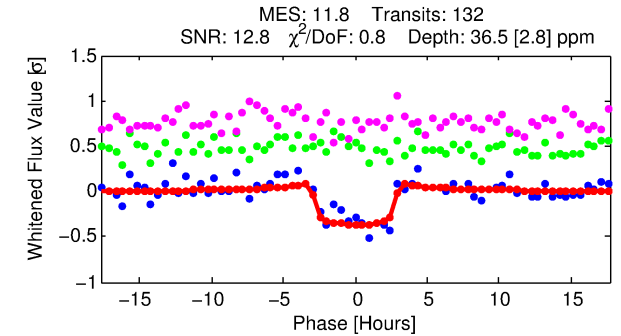
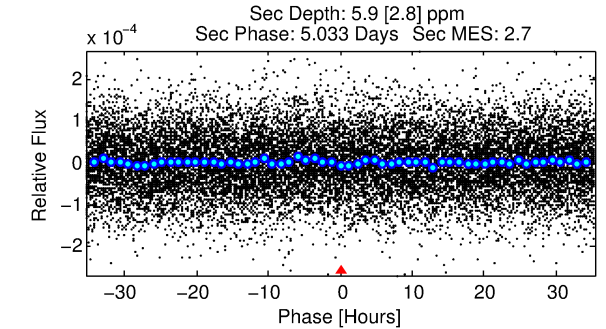
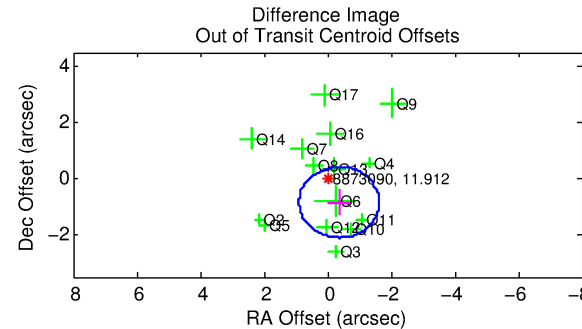
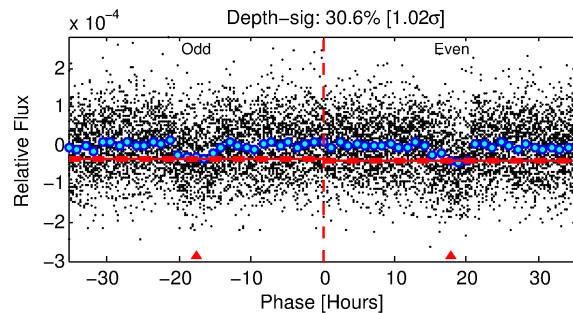
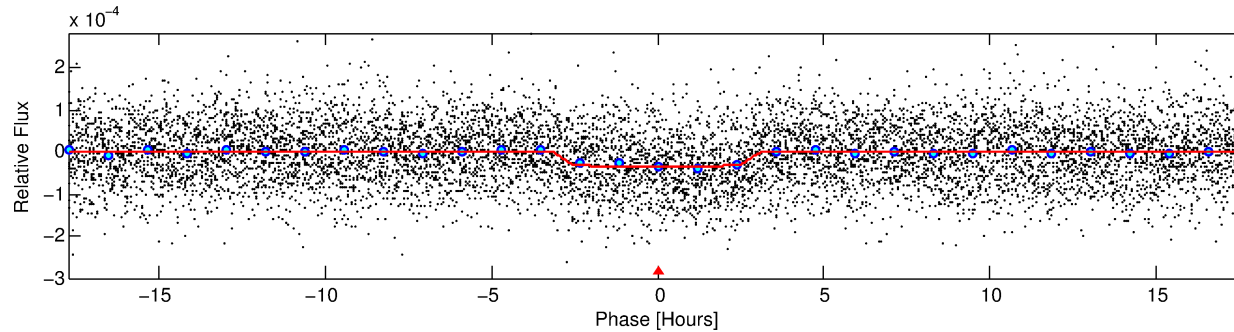
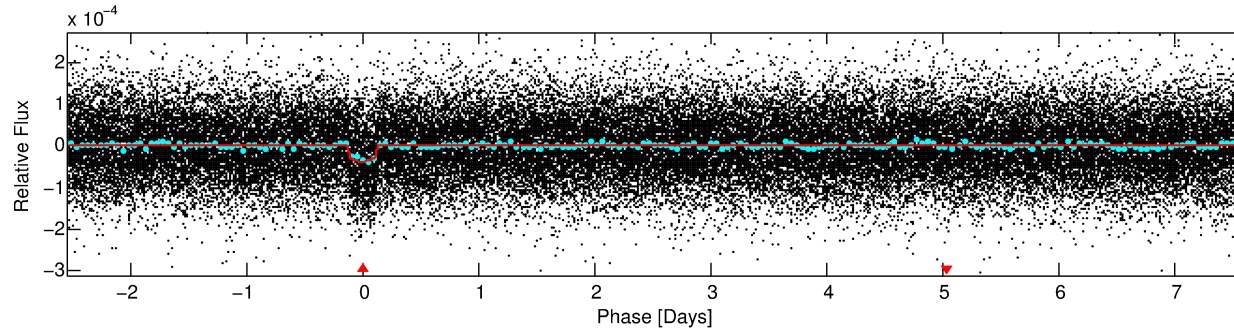
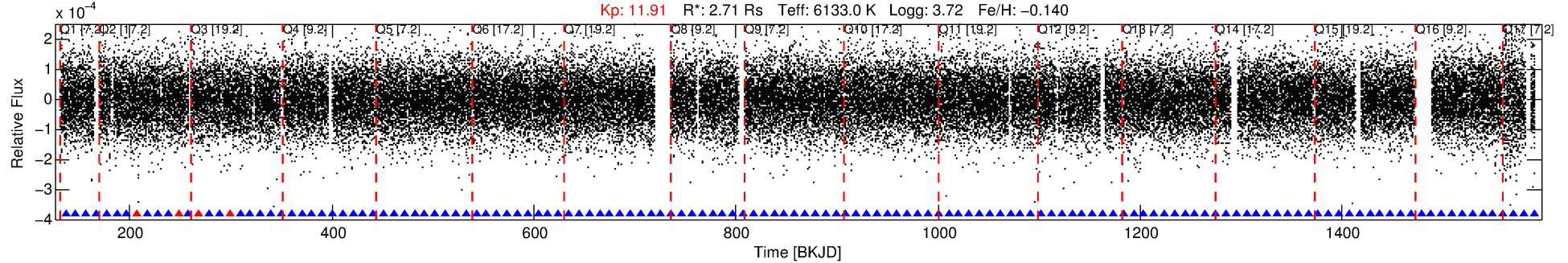
No Significant Match Found

DV One-Page Summary

KIC: 8873090 Candidate: 1 of 1 Period: 10.164 d

KOI: K02968.01 Corr: 0.992

Kp: 11.91 R*: 2.71 Rs Teff: 6133.0 K Logg: 3.72 Fe/H: -0.140



DV Fit Results:

Period = 10.16432 [0.00008] d
Epoch = 136.4308 [0.0062] BKJD
Rp/R* = 0.0064 [0.0014]
a/R* = 6.40 [7.39]
b = 0.88 [0.30]
Seff = 881.99 [359.74]
Teff = 1390 [142] K
Rp = 1.90 [0.71] Re
a = 0.1027 [0.0272] AU
Ag = 9.48 [7.25] [1.17σ]
Teffp = 3770 [621] K [3.74σ]

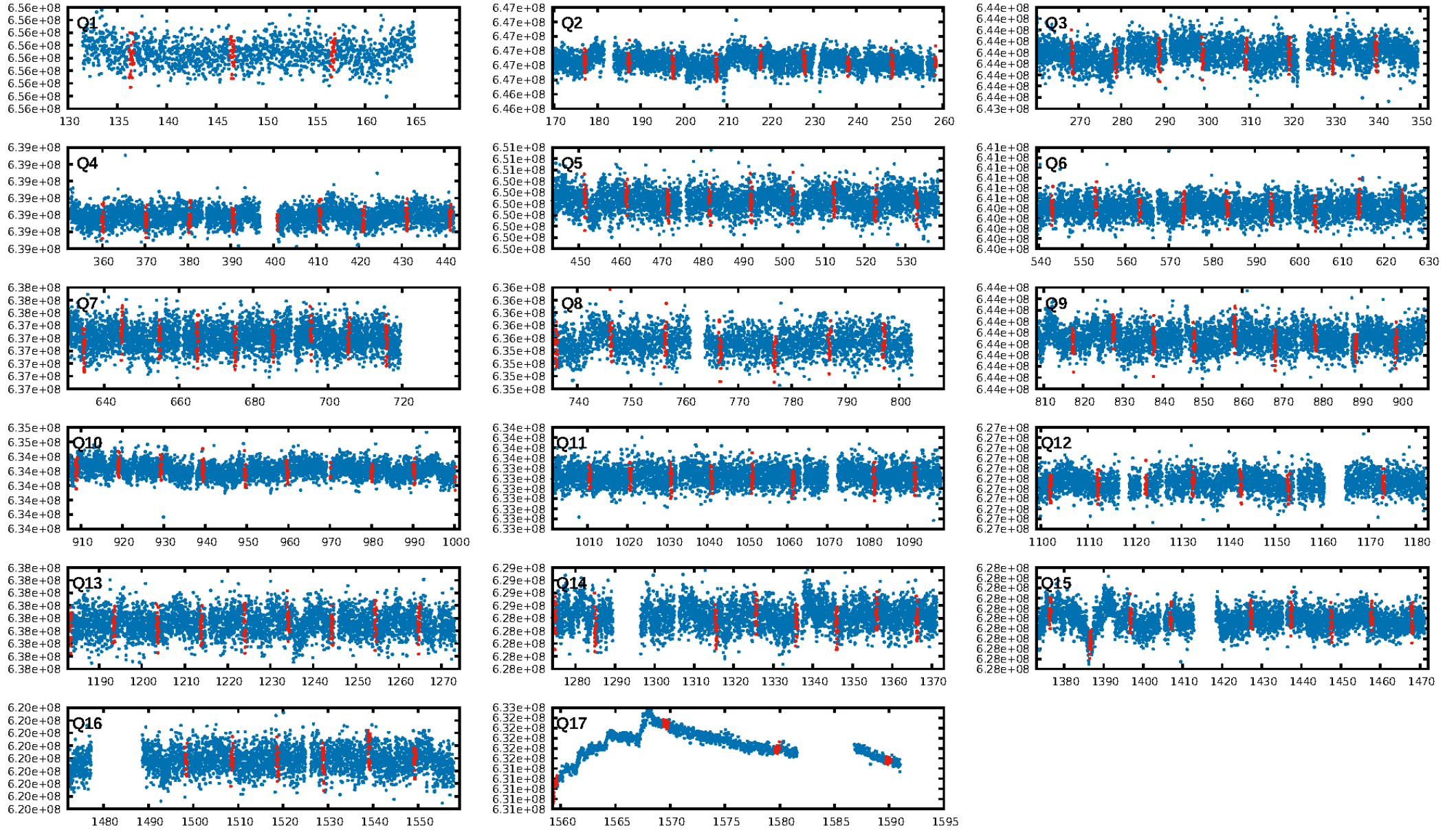
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.33e-30
RollingBand-fgt: 0.97 [121/125]
GhostDiagnostic-chr: 10.97
Centroid-sig: 0.9%
Centroid-so: 0.907 arcsec [1.78σ]
OotOffset-rm: 0.917 arcsec [2.19σ]
KicOffset-rm: 0.996 arcsec [2.43σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

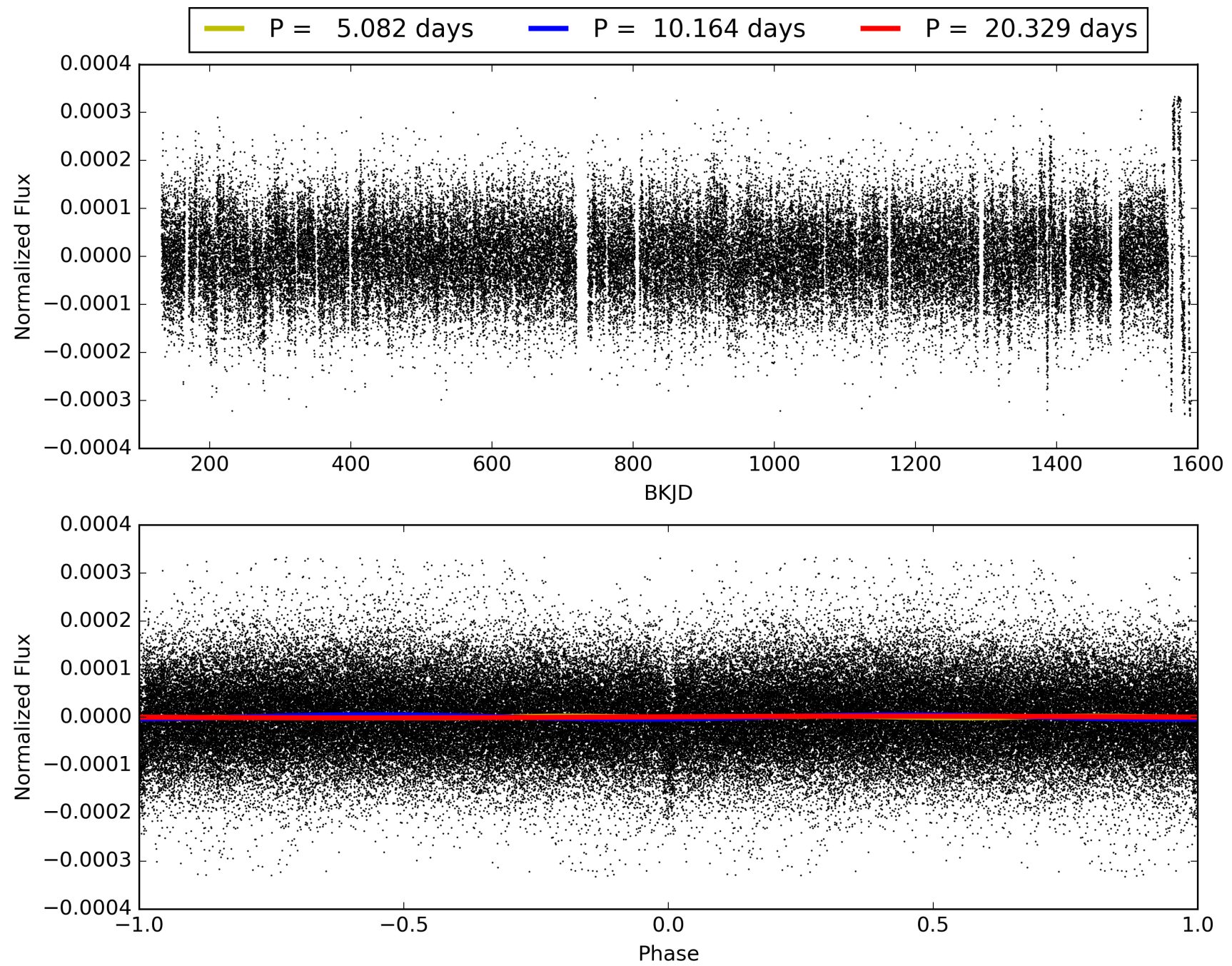
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:34:44 Z

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

TCE 008873090-01, PDC Light Curves

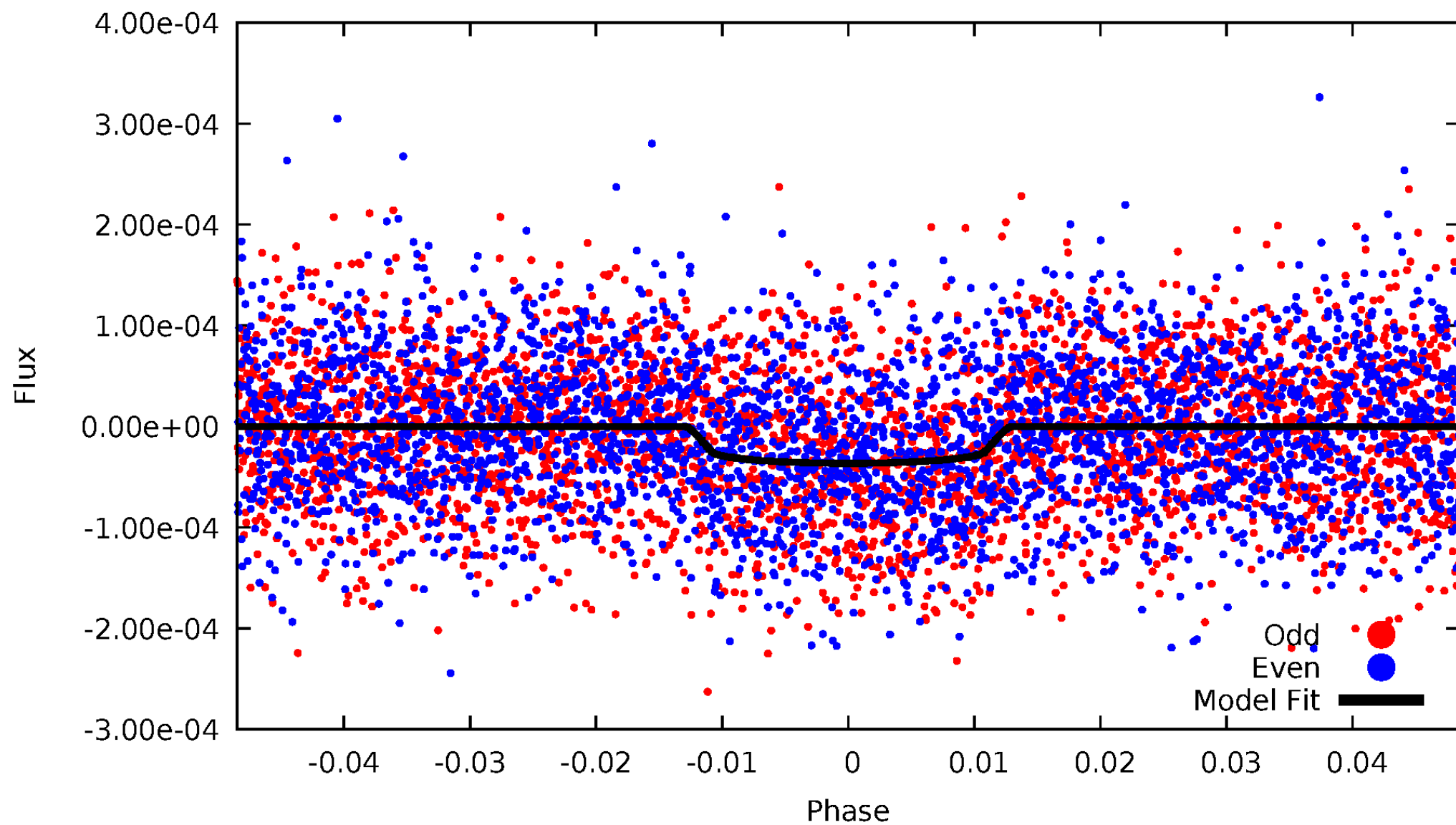


TCE 008873090-01



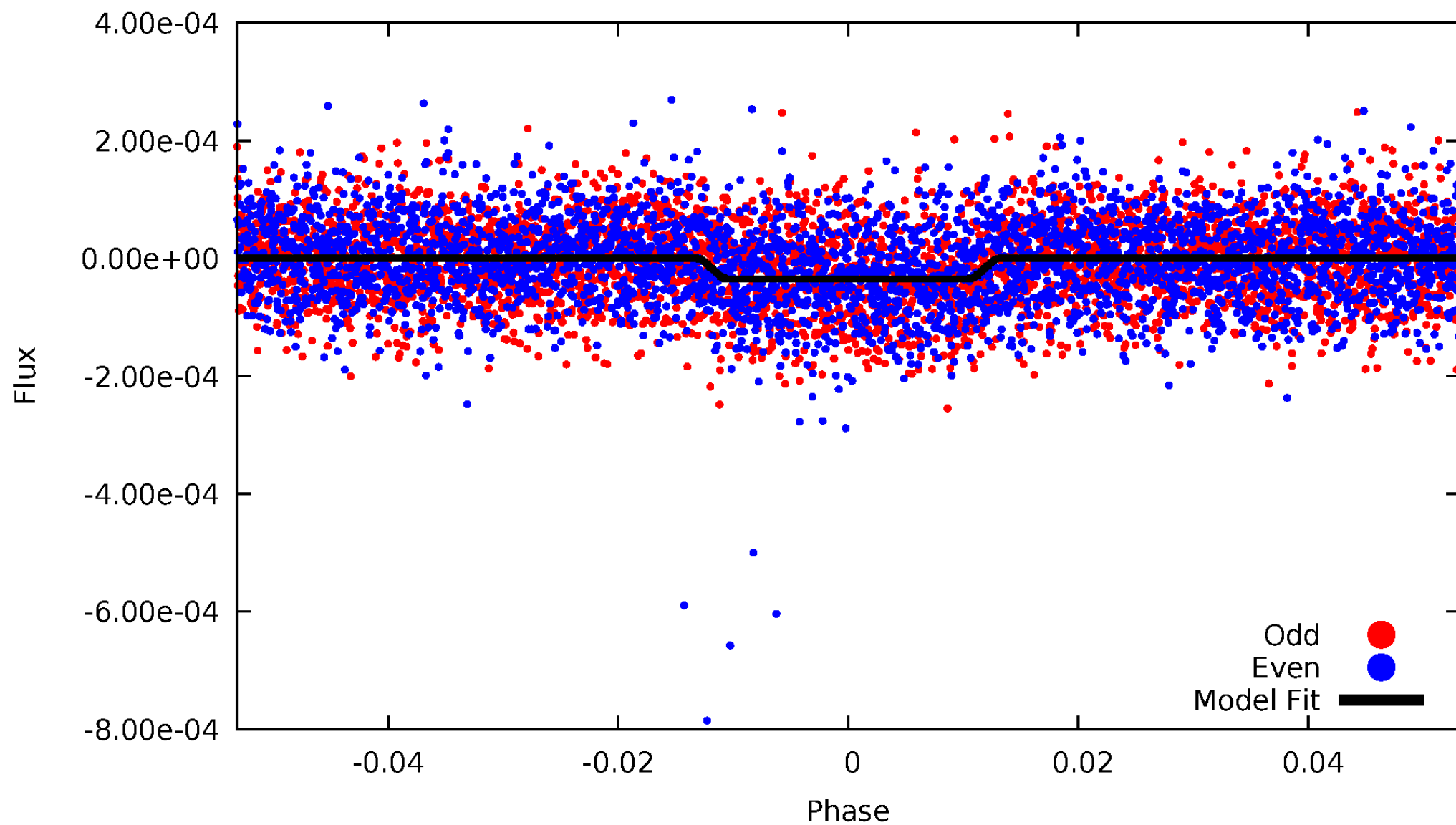
DV Odd/Even

TCE 008873090-01



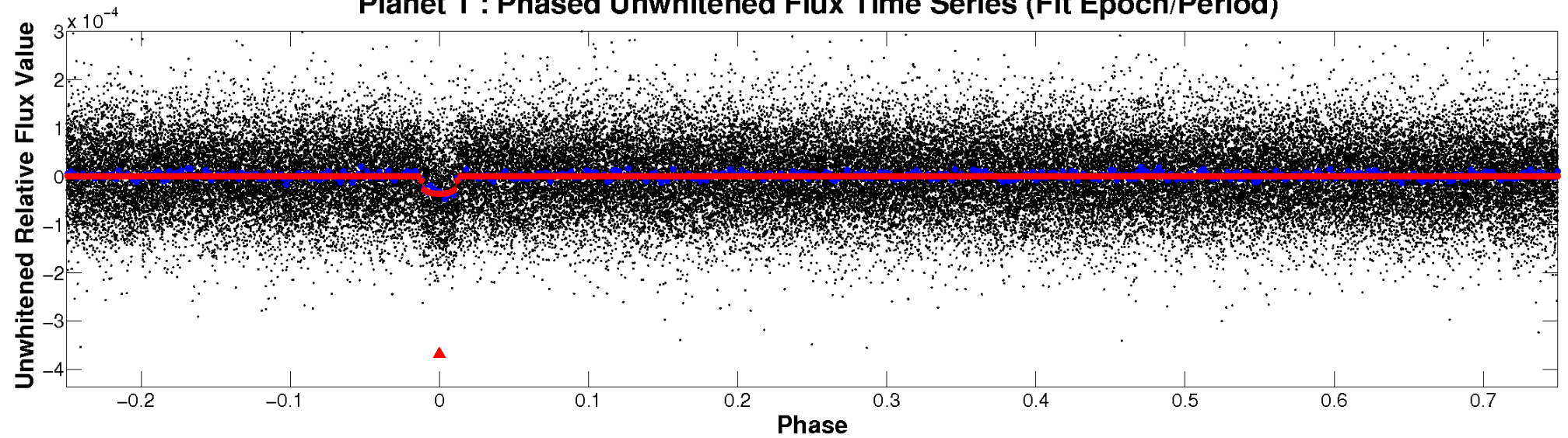
ALT Odd/Even

TCE 008873090-01

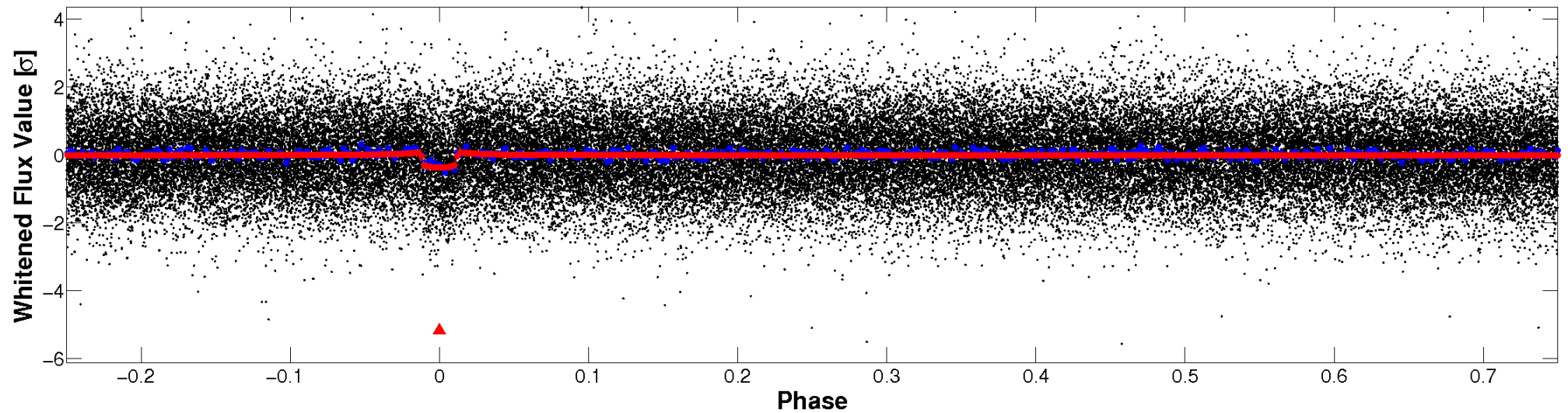


Non-Whitened Vs. Whitened Light Curve

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

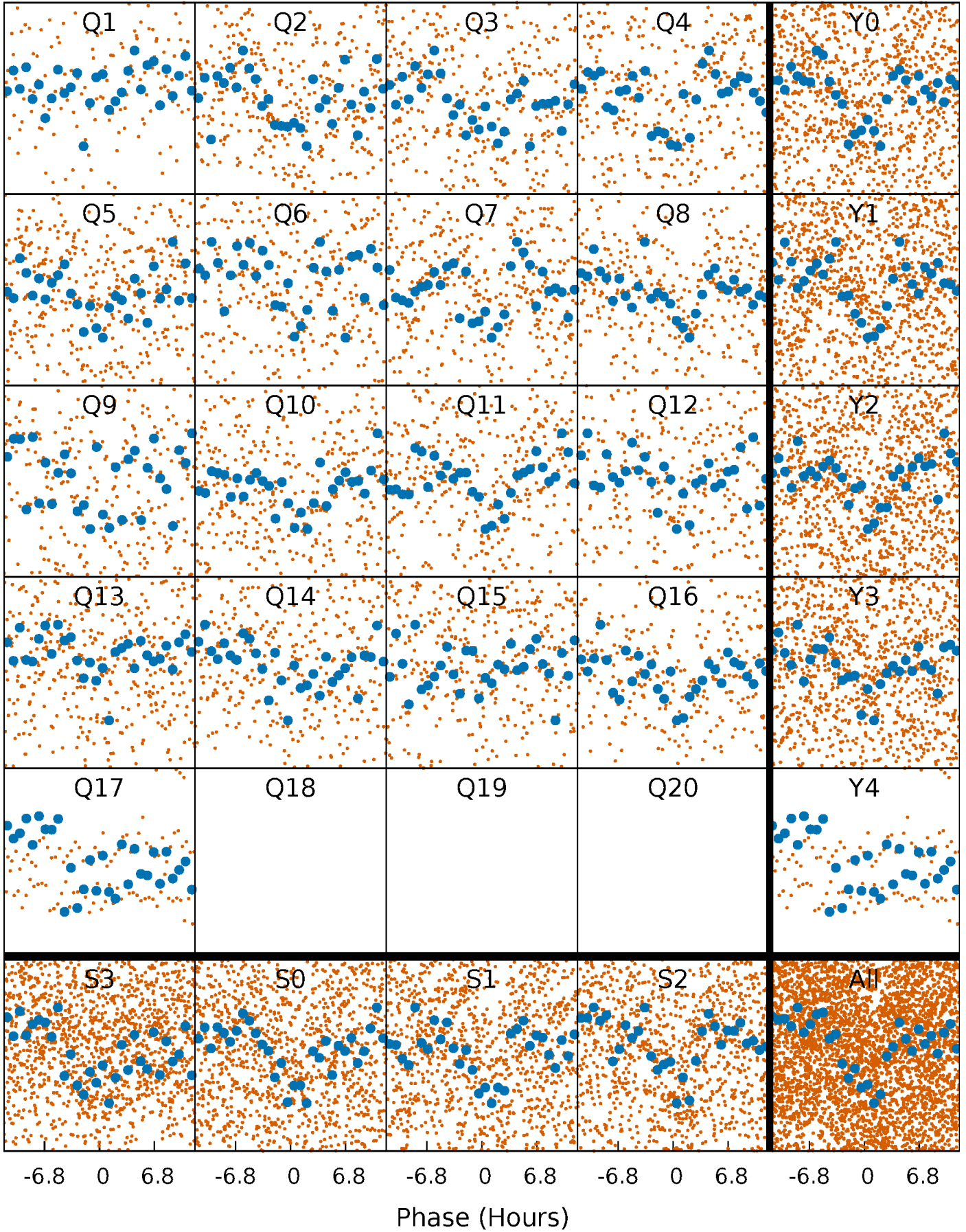


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



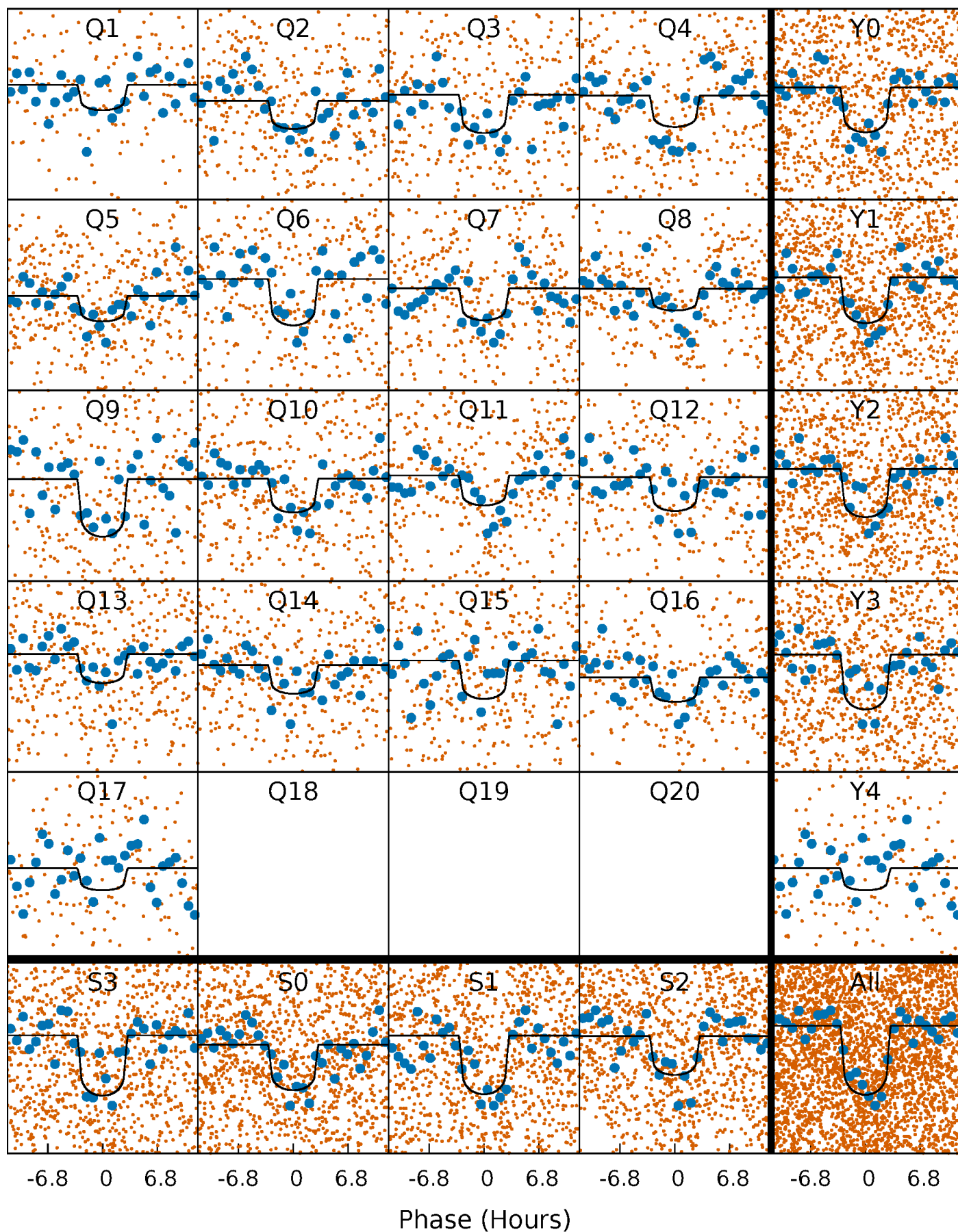
PDC Quarter-Phased Transit Curves

TCE 008873090-01 P= 10.164321 Days $T_0=136.430770$ (BKJD)



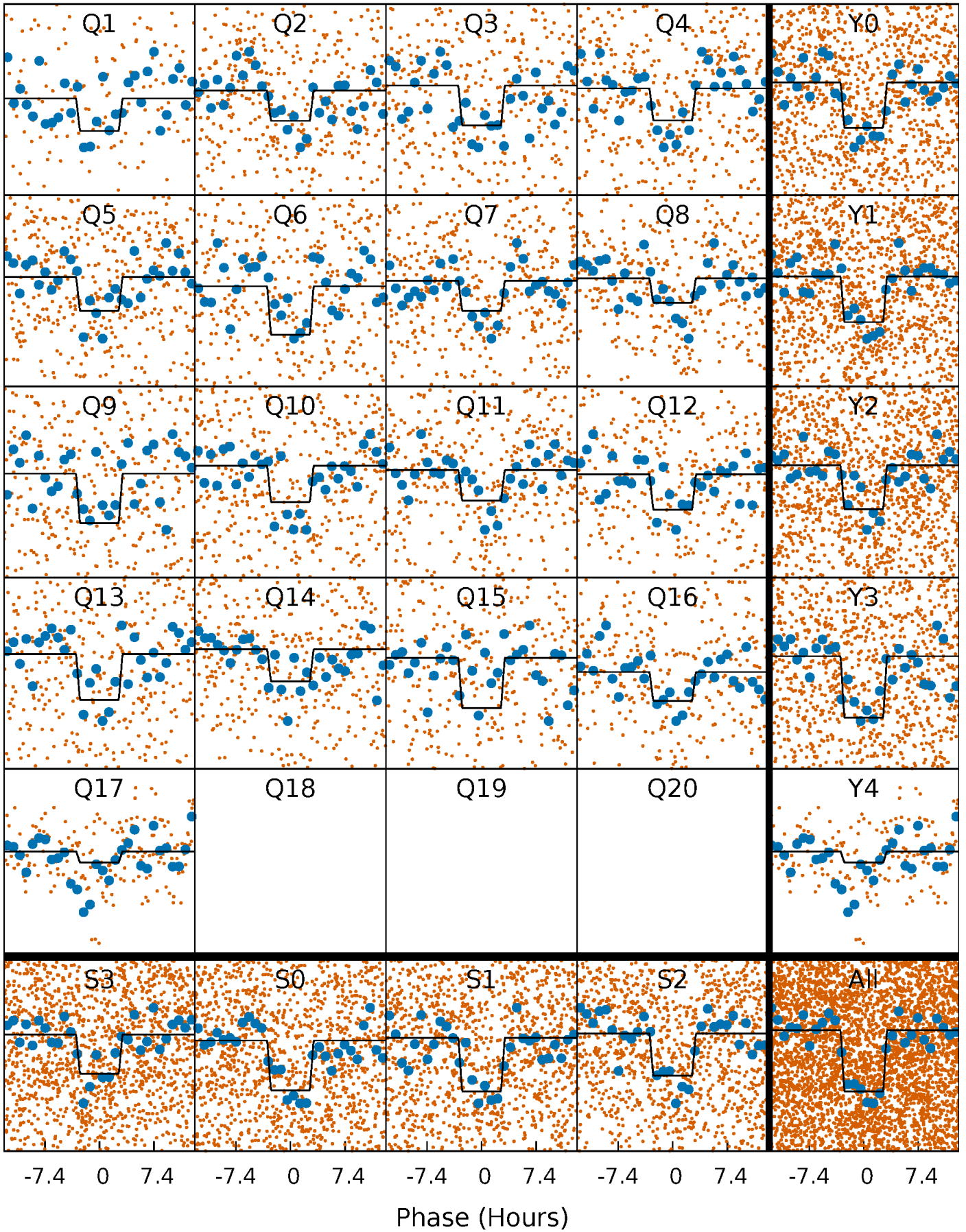
DV Quarter-Phased Transit Curves

TCE 008873090-01 P= 10.164321 Days $T_0=136.430770$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

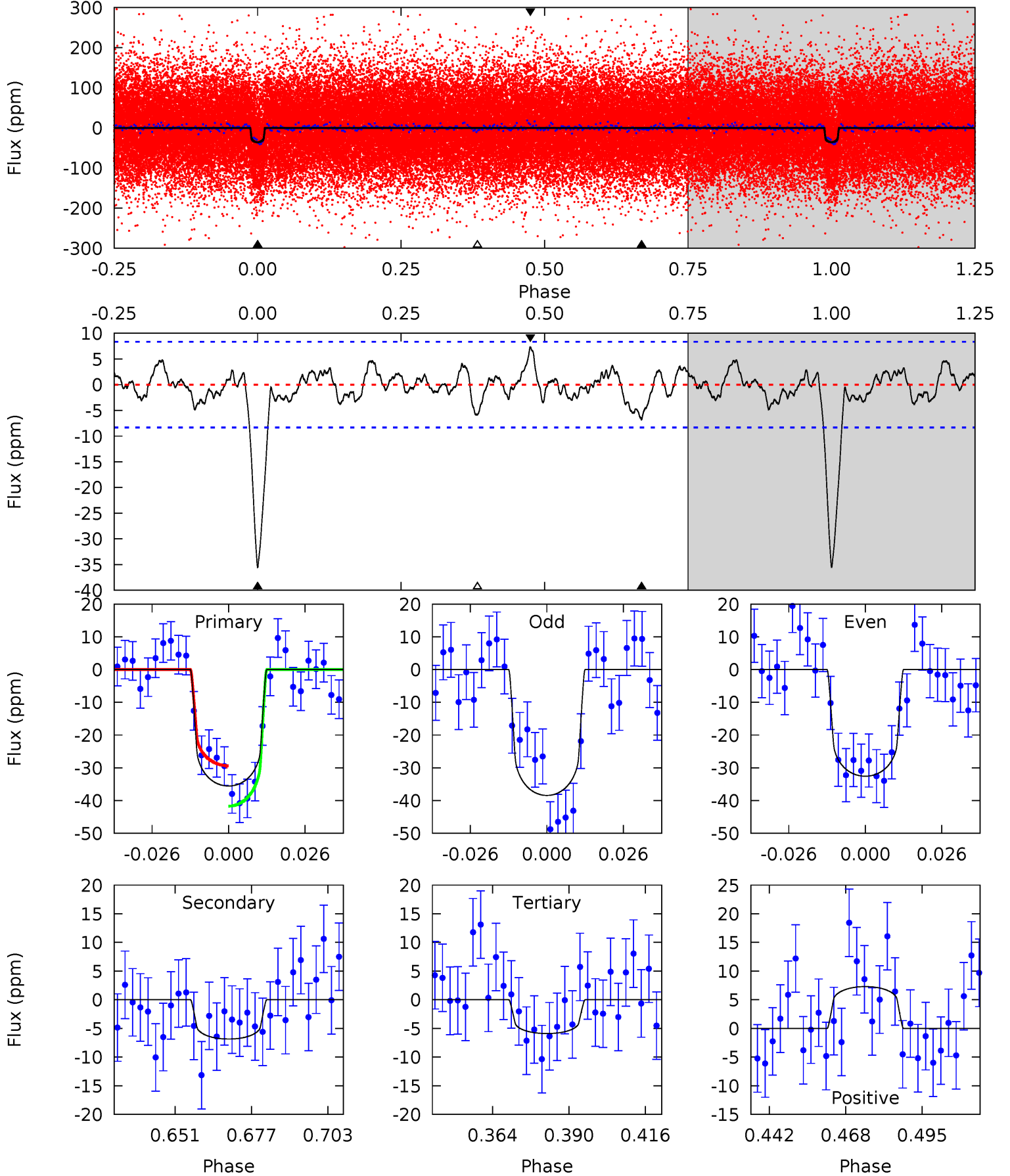
TCE 008873090-01 P= 10.164565 Days $T_0=136.414156$ (BKJD)



DV Model-Shift Uniqueness Test

008873090-01, P = 10.164321 Days, E = 126.266449 Days

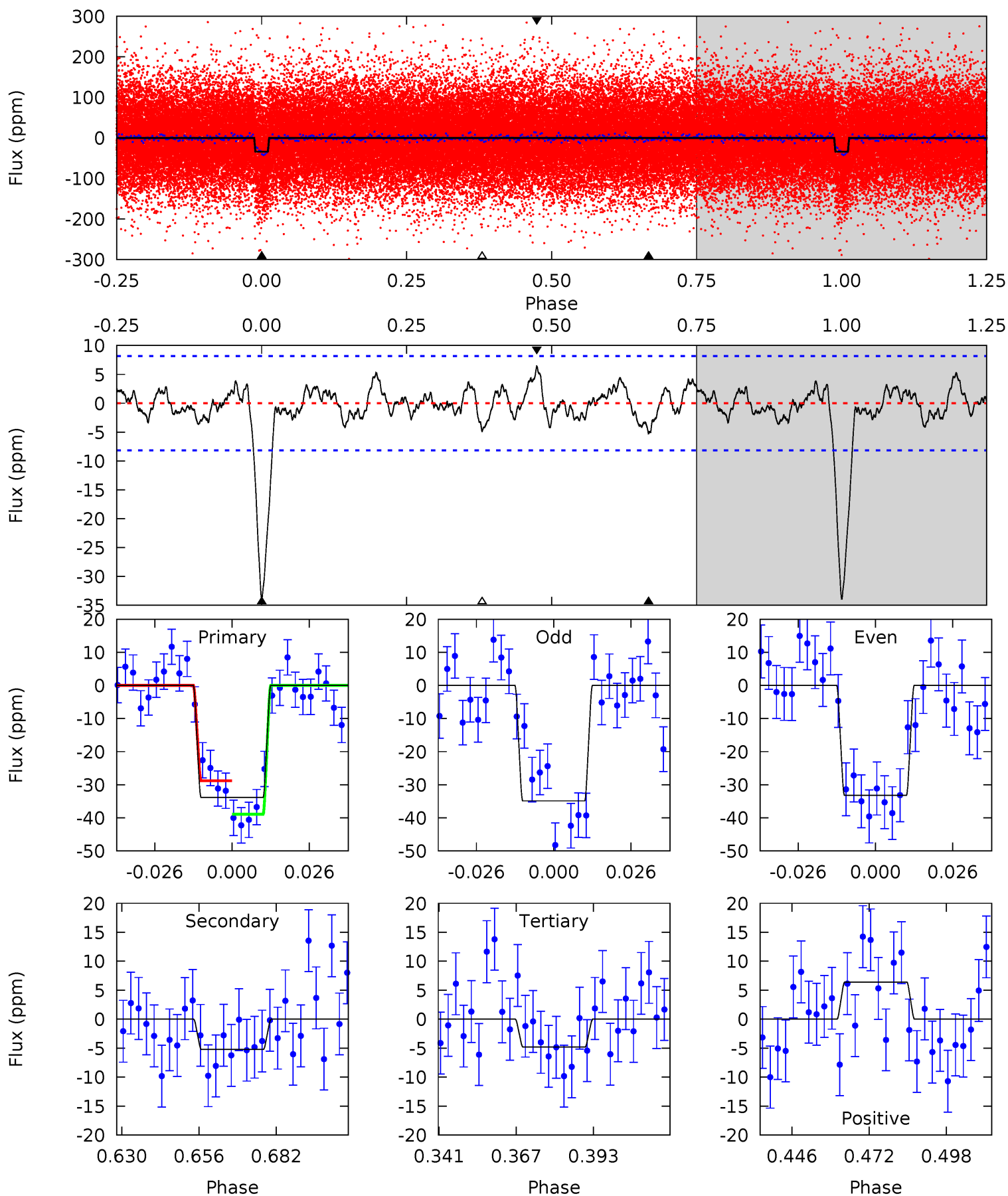
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	3.97	3.42	4.23	4.84	2.23	1.29	17.2	16.4	0.56	-0.26	1.71	1.02	0.17	3.58



Alt Model-Shift Uniqueness Test

008873090-01, P = 10.164565 Days, E = 126.249591 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	3.09	2.85	3.80	4.84	2.22	1.23	17.2	16.3	0.24	-0.71	0.49	1.06	0.16	3.00



Stellar Parameters For KIC 008873090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6133^{+134}_{-121}	$3.718^{+0.224}_{-0.096}$	$-0.140^{+0.200}_{-0.150}$	$2.710^{+0.409}_{-0.818}$	$1.401^{+0.150}_{-0.244}$	$0.099^{+0.136}_{-0.031}$
	+2%/-2%	+6%/-3%	+143%/-107%	+15%/-30%	+11%/-17%	+137%/-31%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 008873090-01 / KOI 2968.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$1.82^{+0.48}_{-0.46}$	1922^{+98}_{-134}	4164^{+478}_{-344}	12^{+10}_{-5}
Alt.	-5 ± 2	$1.67^{+0.51}_{-0.45}$	1928^{+96}_{-137}	4063^{+539}_{-413}	10^{+11}_{-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 $A_{\text{obs}} \gg 1.0$

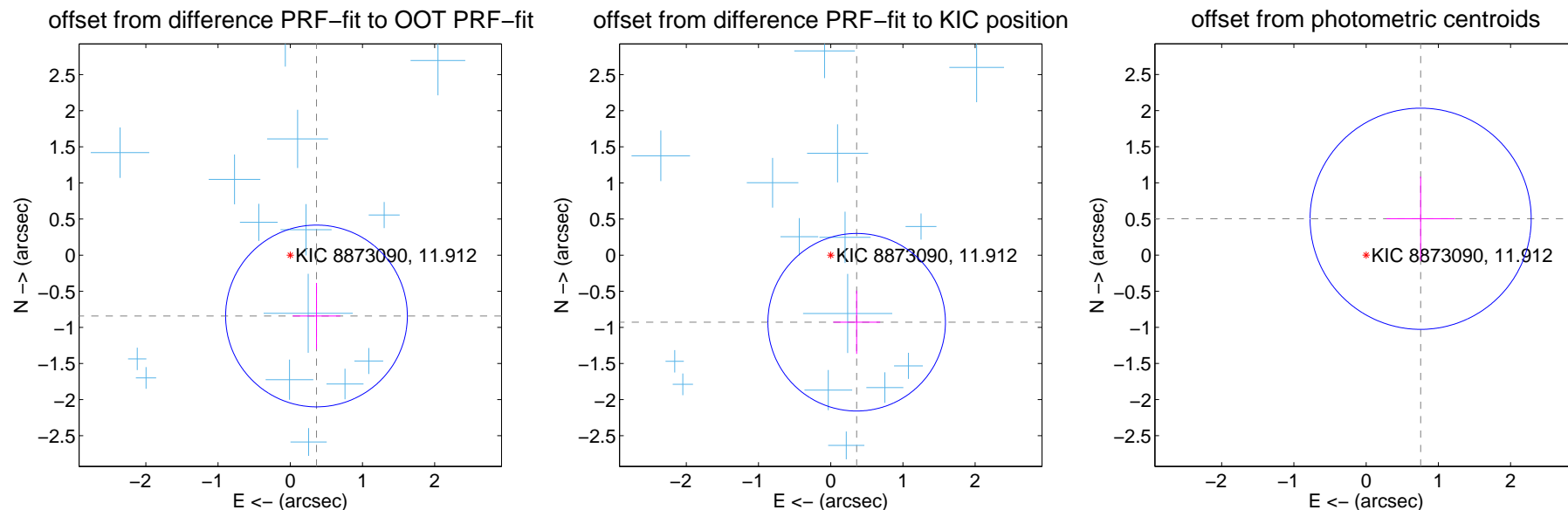
DV Centroid Data

Supplemental centroid analysis for 008873090-01. **Kepler magnitude: 11.91.** Transit SNR 12.79

There are 15 quarters with good PRF difference image offsets

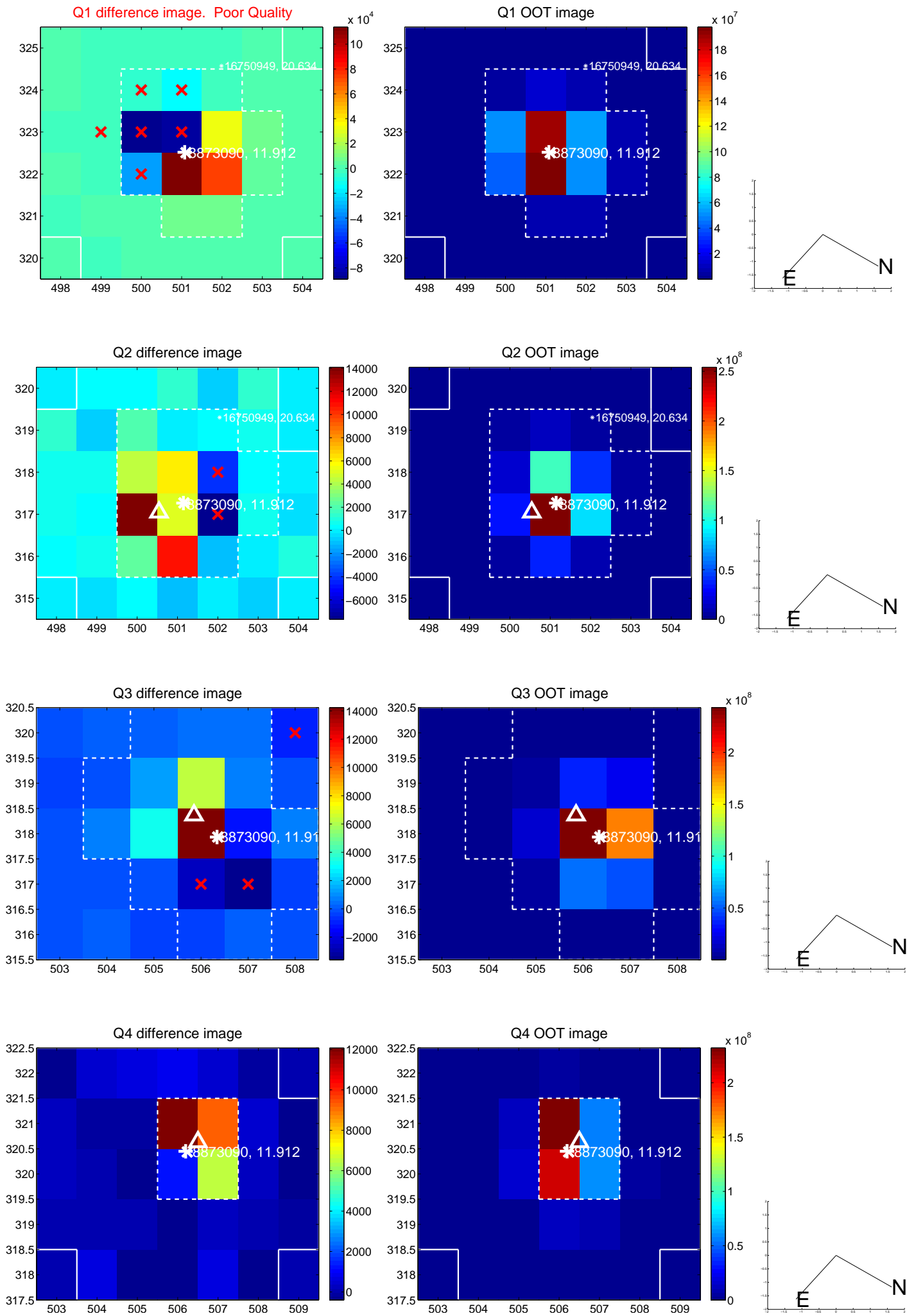
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.917 ± 0.419	2.19	-0.363 ± 0.330	-0.842 ± 0.458
PRF-fit source offset from KIC position	0.996 ± 0.410	2.43	-0.359 ± 0.325	-0.929 ± 0.439
photometric centroid source offset	0.91 ± 0.51	1.78	-0.75 ± 0.47	0.50 ± 0.58

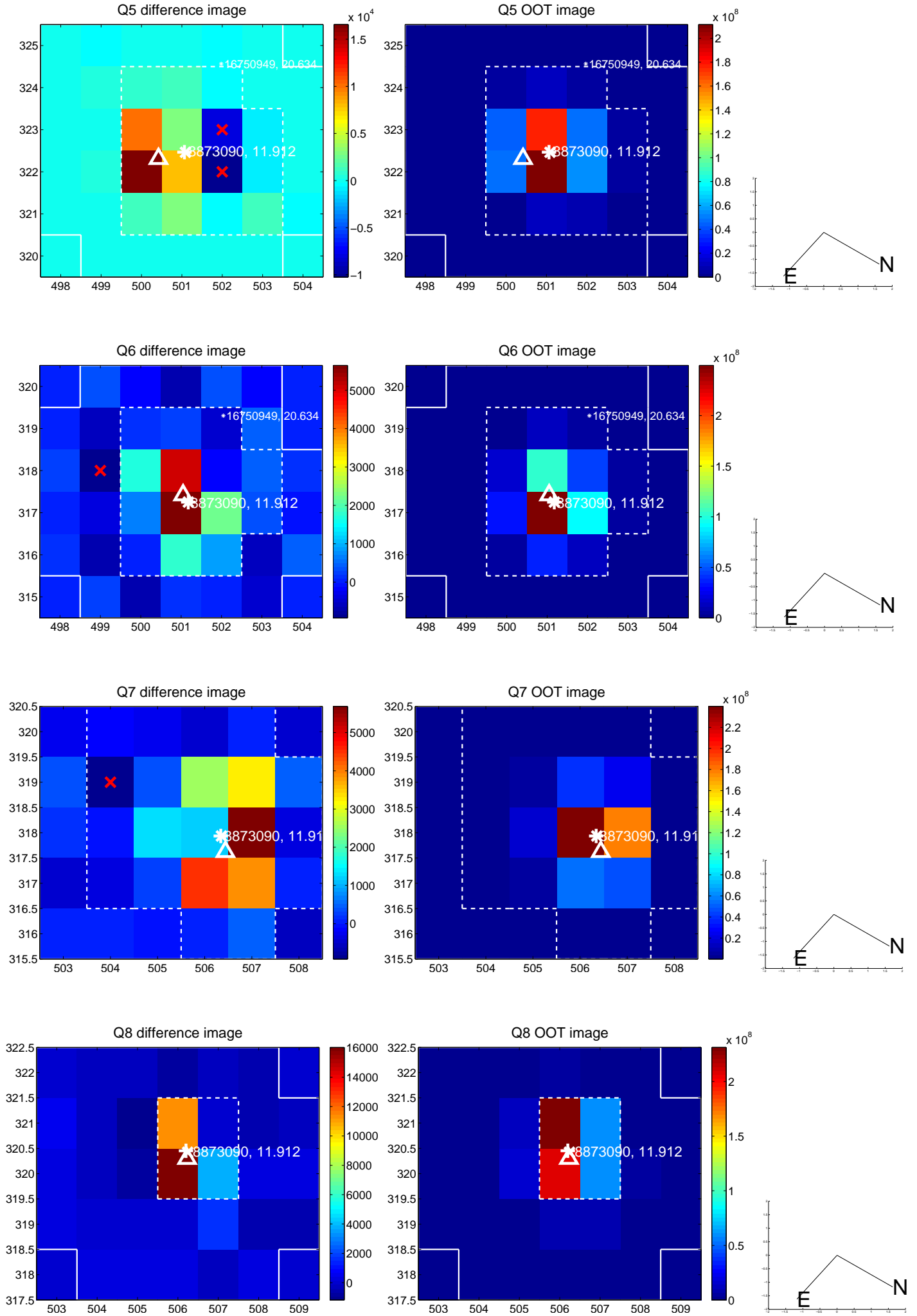


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

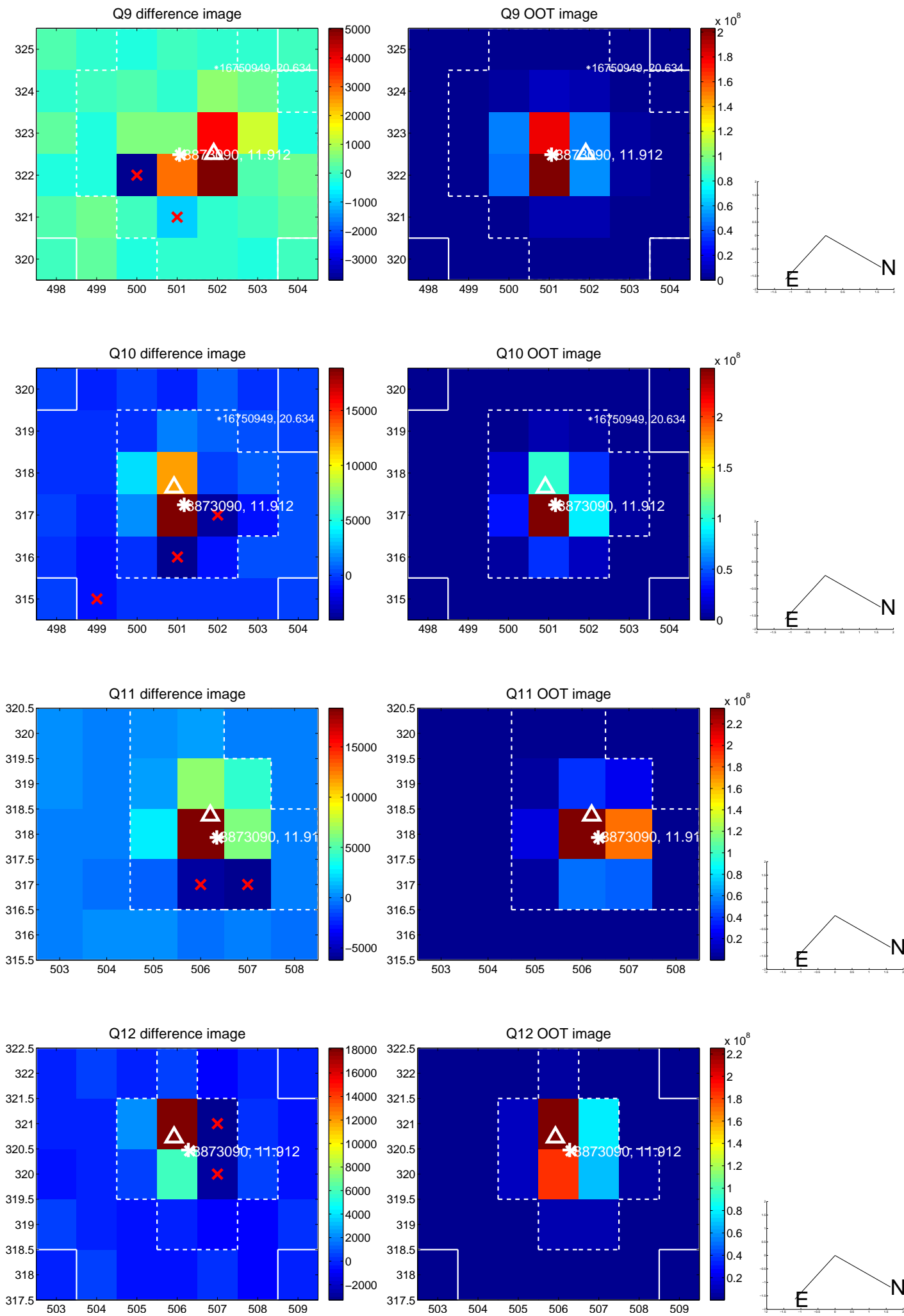
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



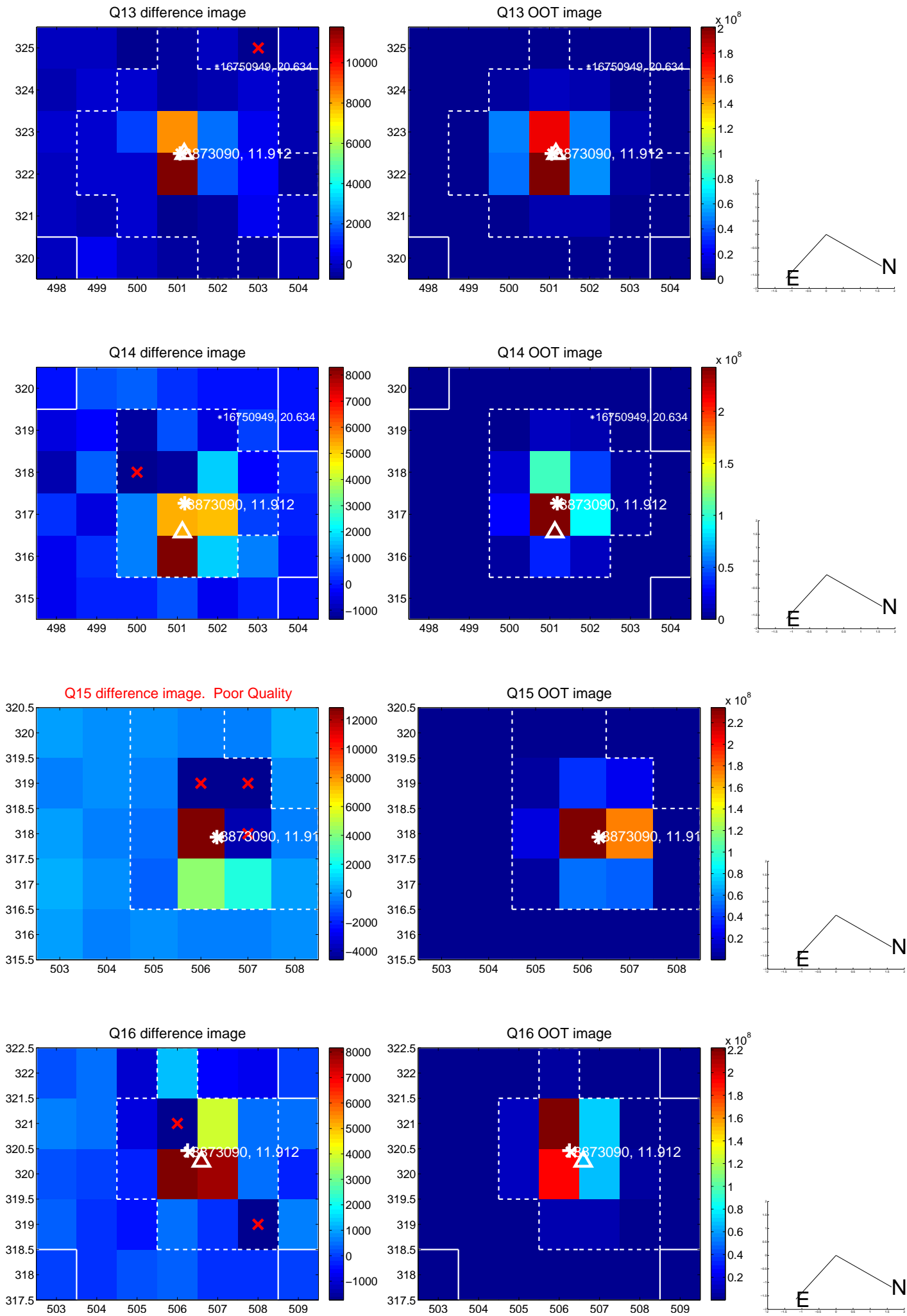
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



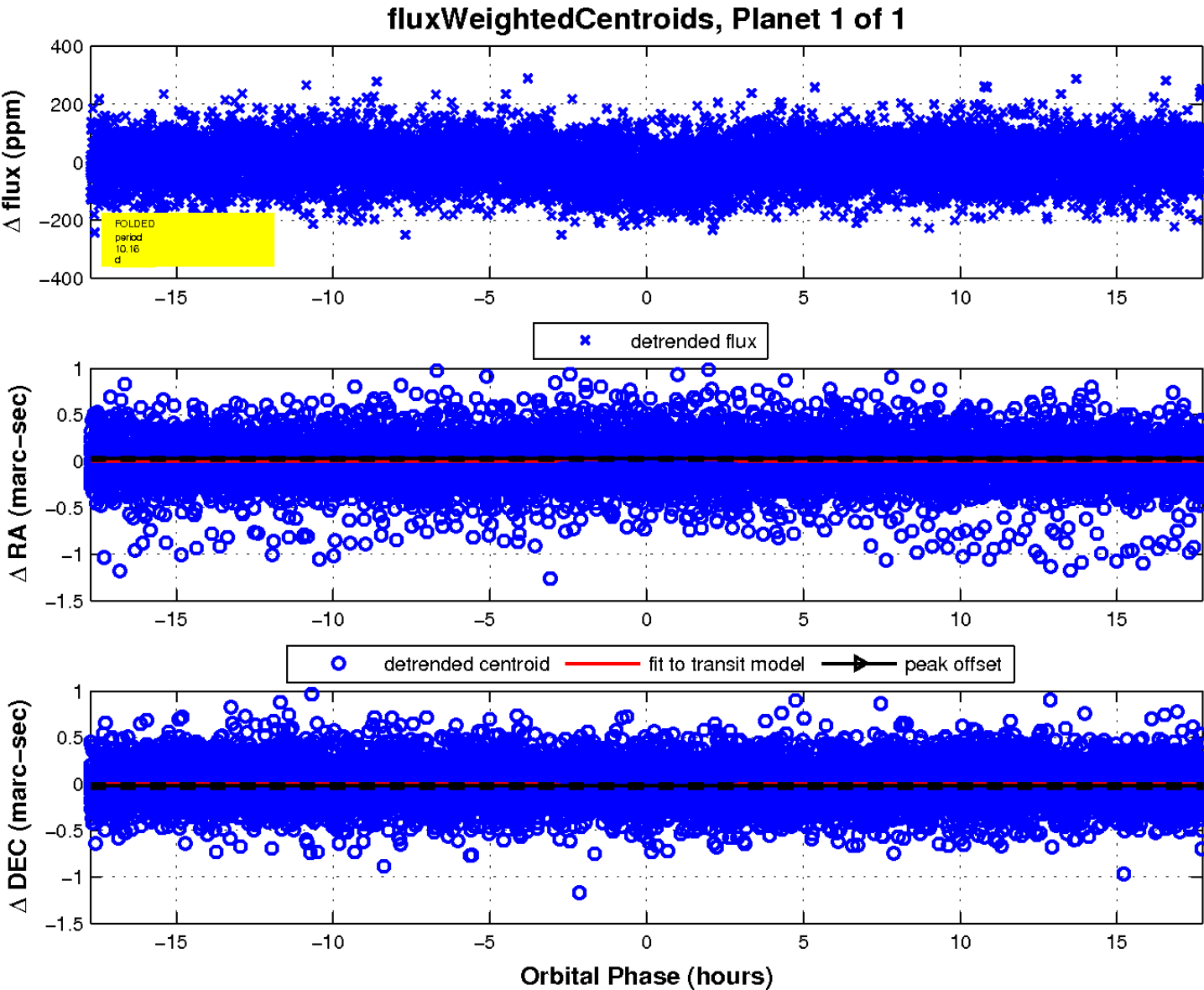
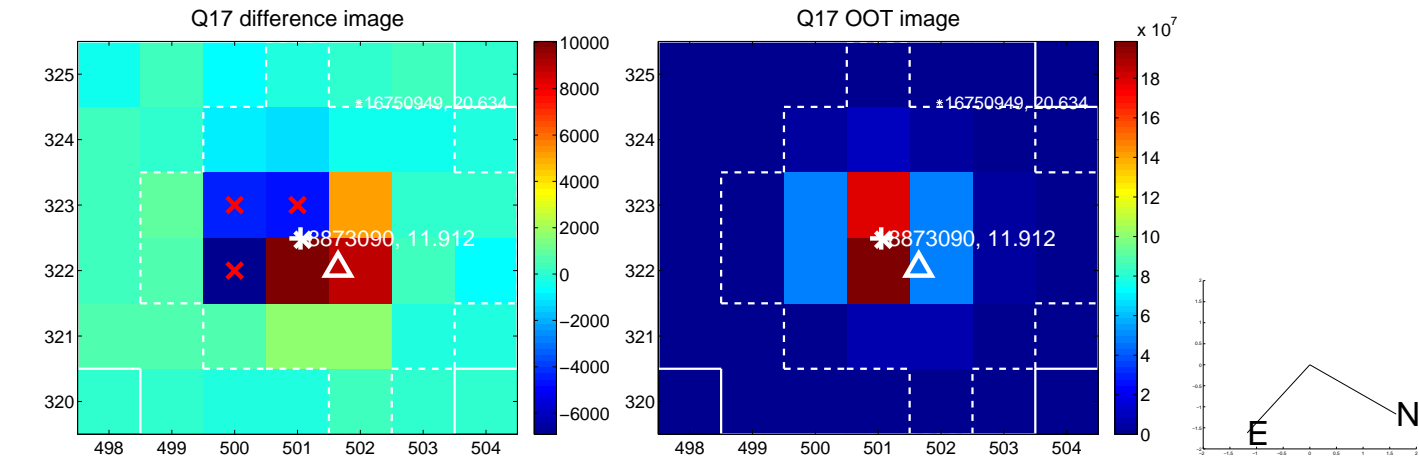
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

