

KIC 008823833

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
008823833-01	OBS	3968.01	1.506450	133.010417	39.3	3.086	24.7	22.5	0.95	5607	0.71	1409.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008823833-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_ALT—CENT_KIC_POS—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.

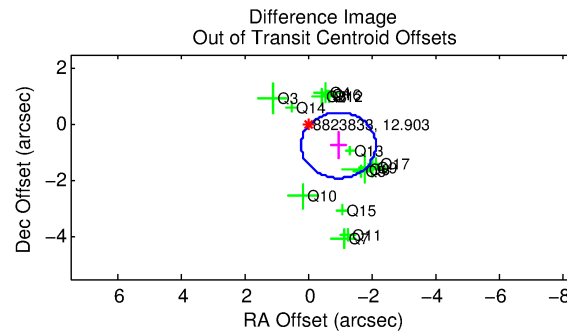
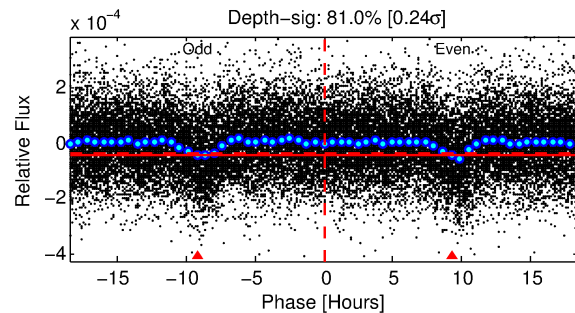
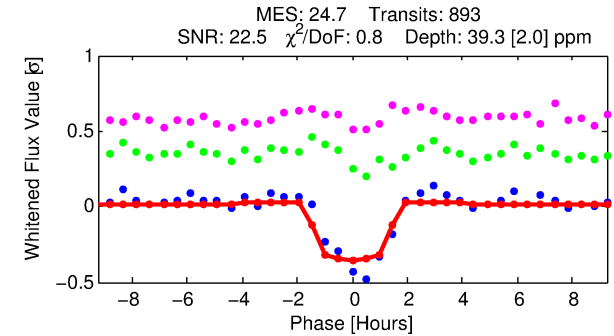
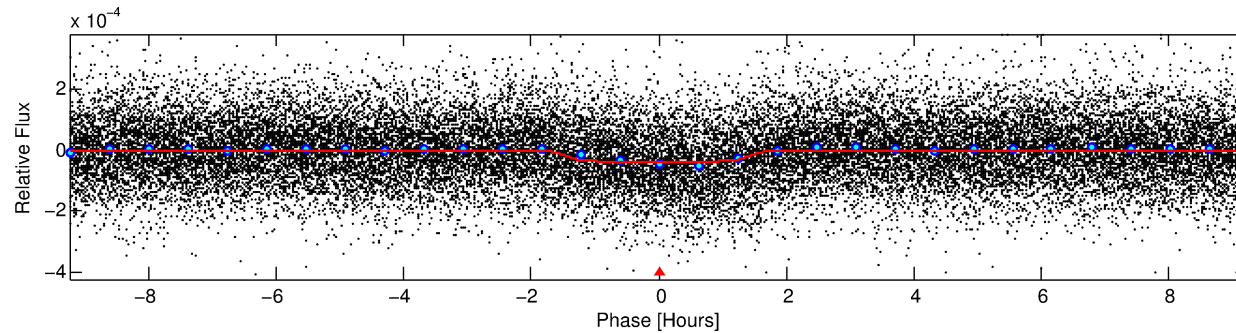
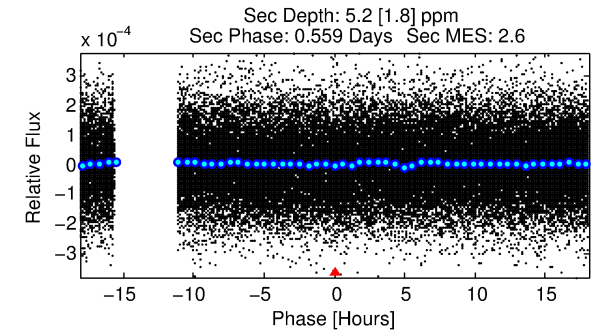
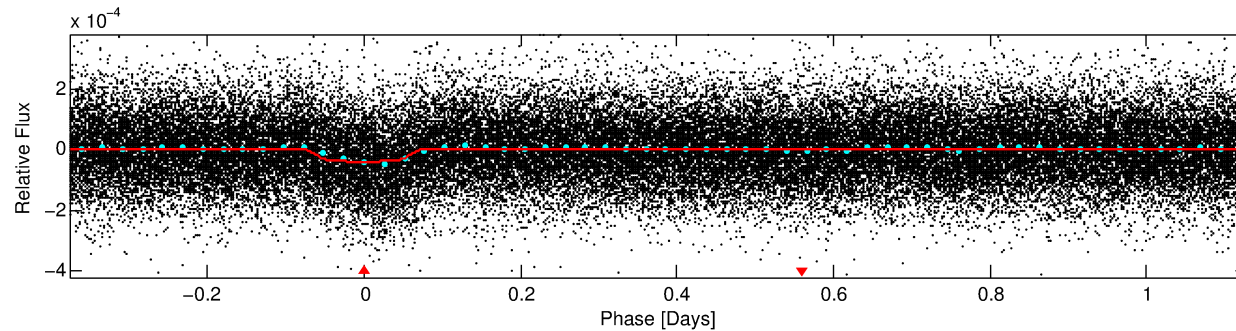
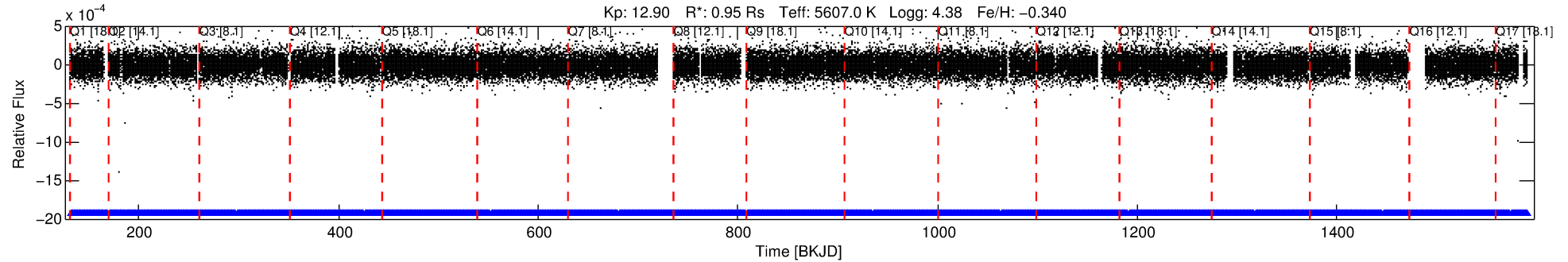
Ephemeris Match Information For 008823833-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
008823833-01	8823833	7096.01	8823397	1:1	487.8	123	0	13.25	12.90	12364.00	Col-Anomaly	0	2.84	1.19

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 8823833 Candidate: 1 of 1 Period: 1.506 d
KOI: K03968.01 Corr: 0.900



DV Fit Results:

Period = 1.50645 [0.00001] d
Epoch = 133.0104 [0.0018] BKJD
Rp/R* = 0.0068 [0.0018]
a/R* = 1.92 [1.84]
b = 0.90 [0.28]
Seff = 1409.56 [458.01]
Teq = 1562 [127] K
Rp = 0.71 [0.25] Re
a = 0.0238 [0.0047] AU
Ag = 3.25 [2.32] [0.97σ]
Teffp = 3243 [530] K [3.08σ]

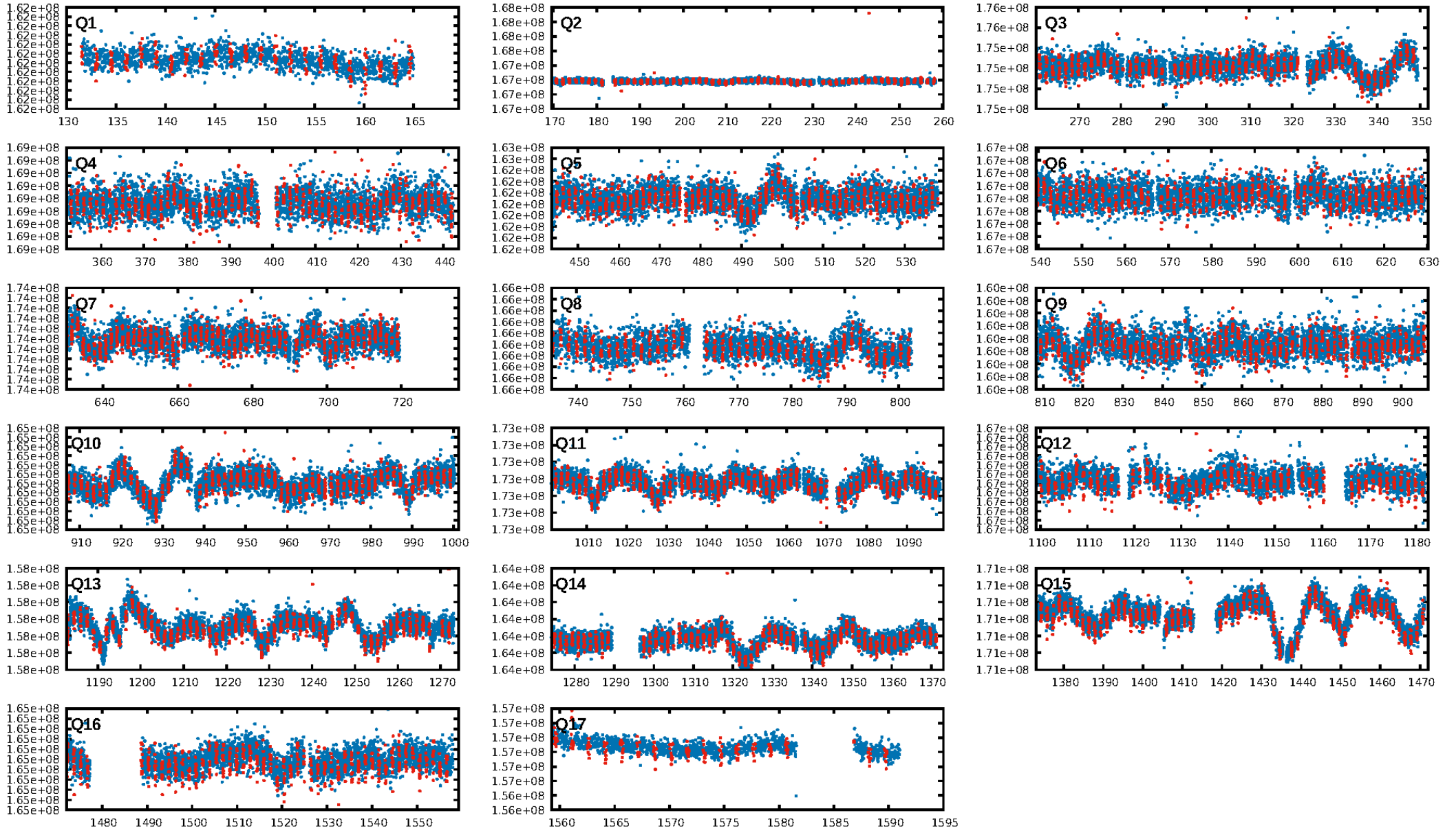
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.50e-125
RollingBand-fgt: 1.00 [853/853]
GhostDiagnostic-chr: 6.455
Centroid-sig: 0.0%
Centroid-so: 2.757 arcsec [5.43σ]
OotOffset-rm: 1.189 arcsec [3.04σ]
KicOffset-rm: 1.801 arcsec [4.50σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

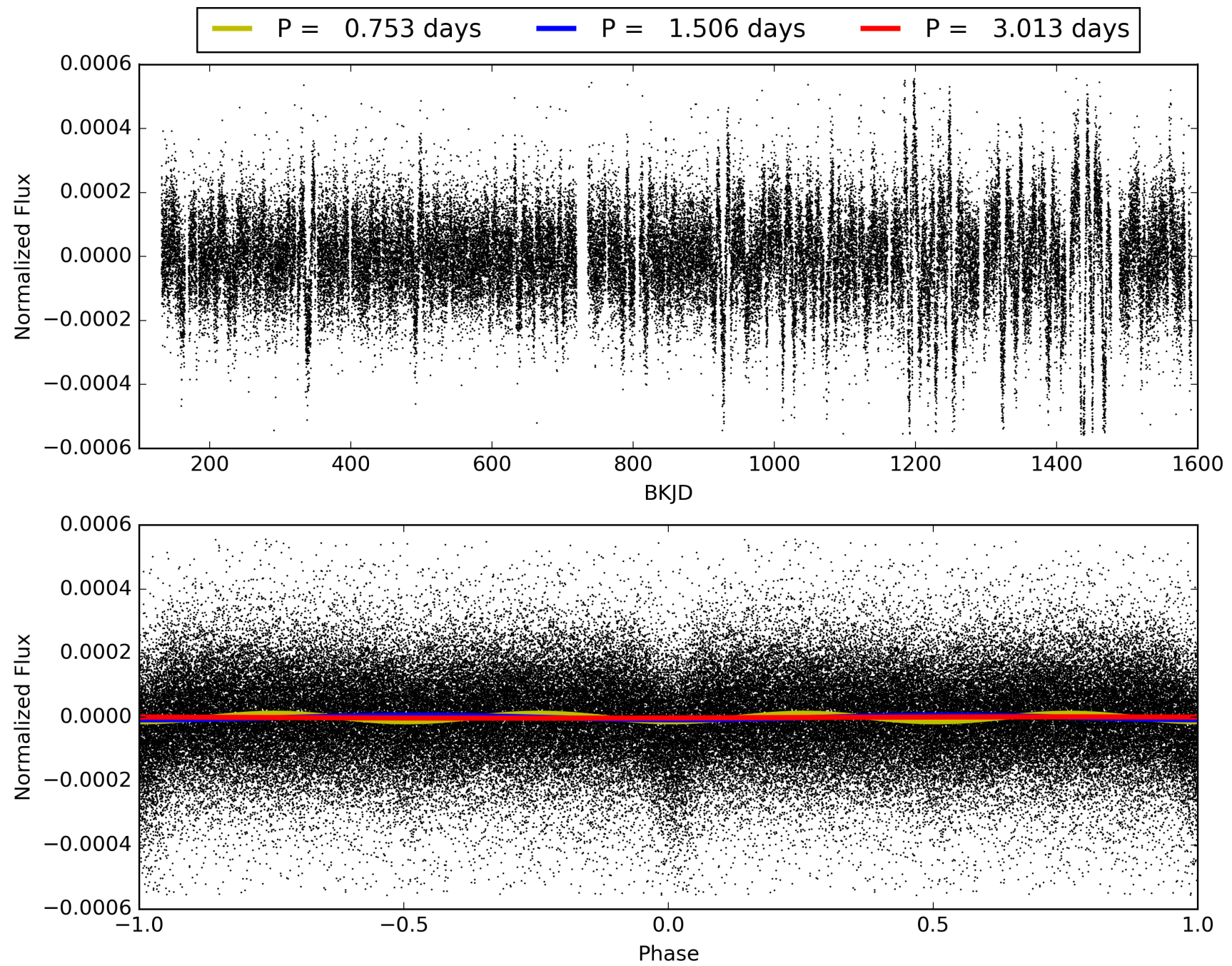
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:16:43 Z

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

TCE 008823833-01, PDC Light Curves

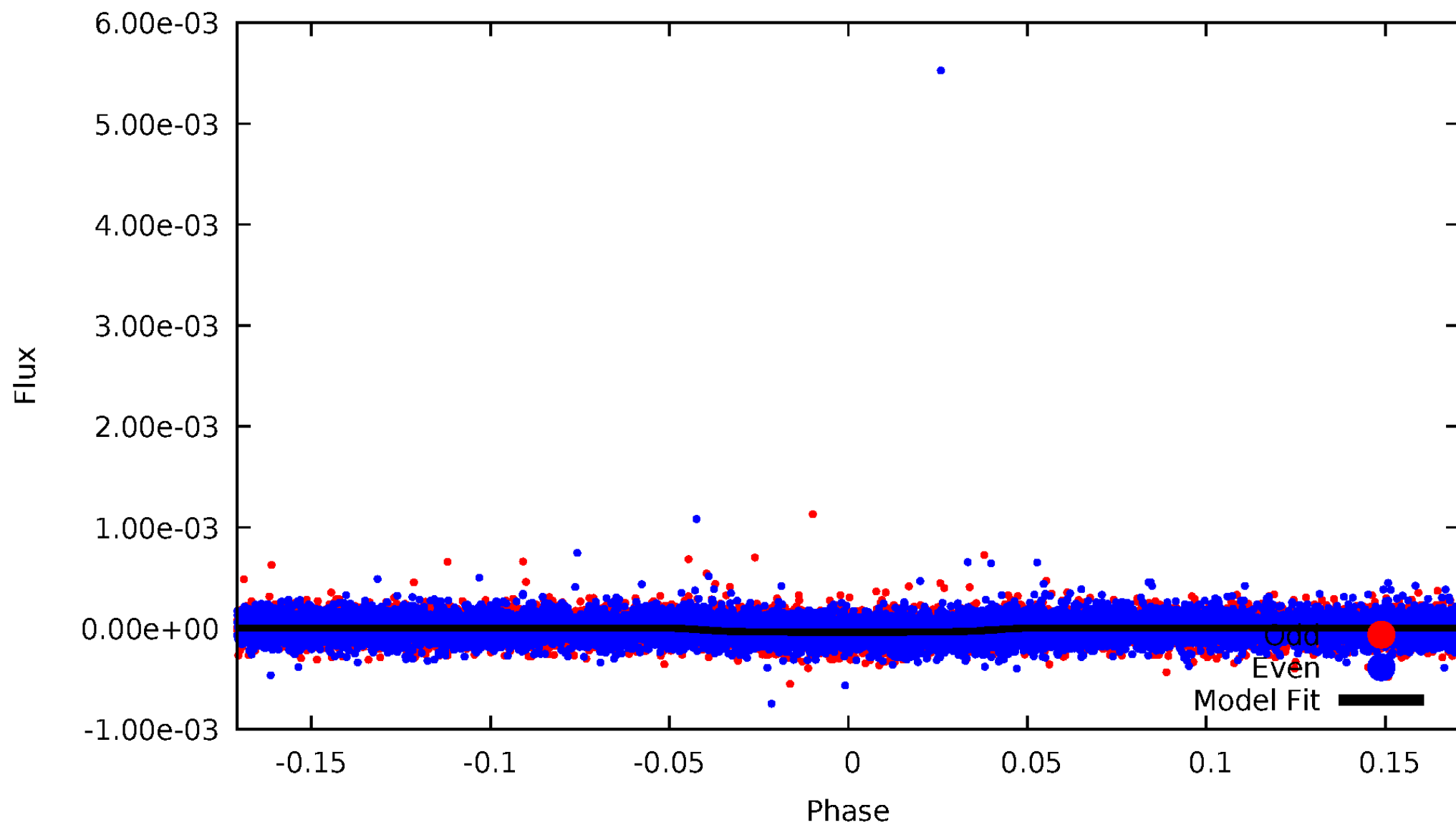


TCE 008823833-01



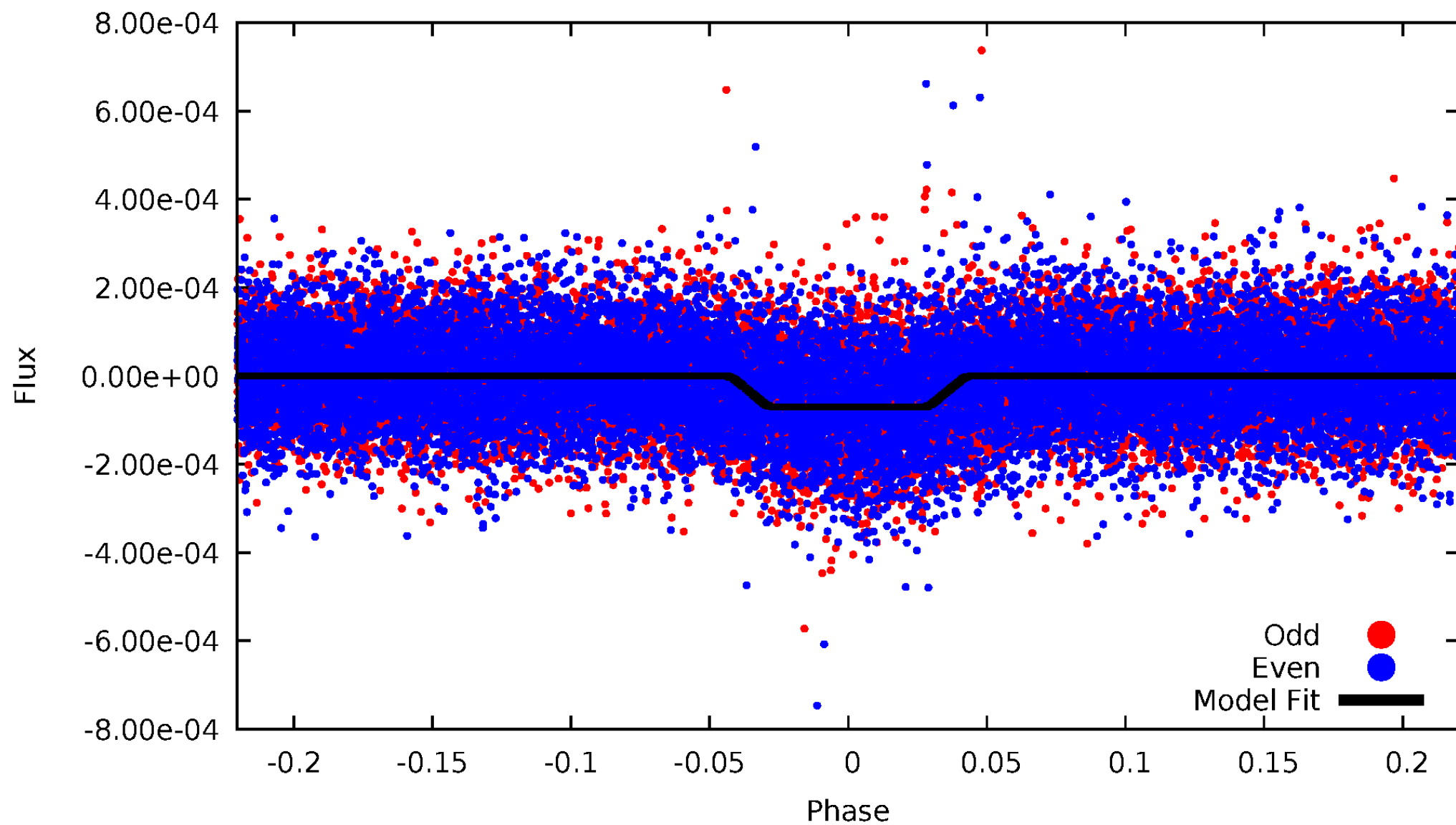
DV Odd/Even

TCE 008823833-01



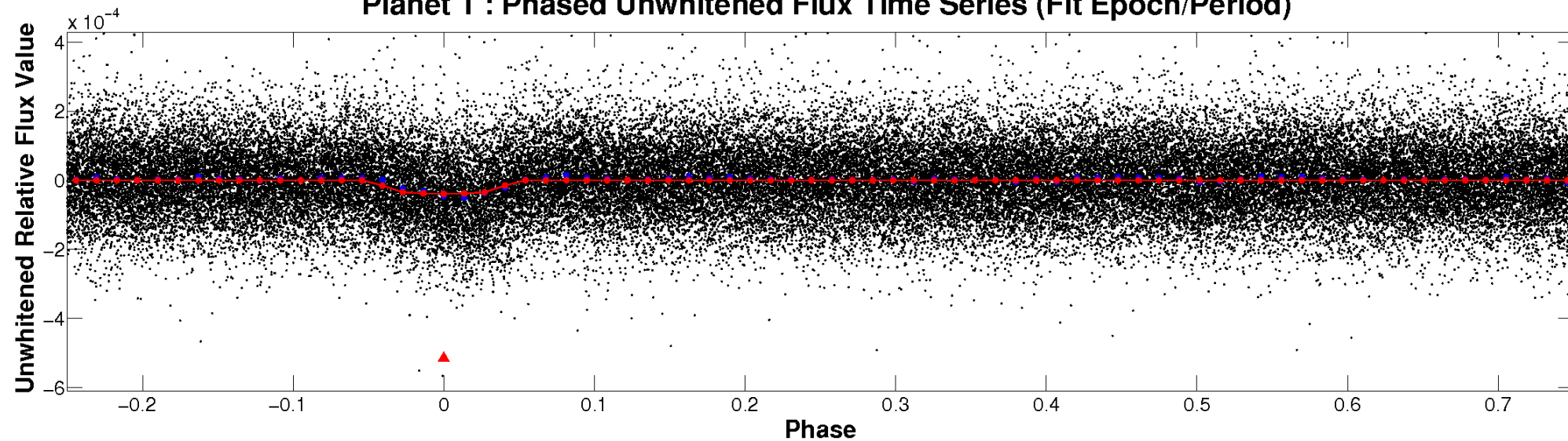
ALT Odd/Even

TCE 008823833-01

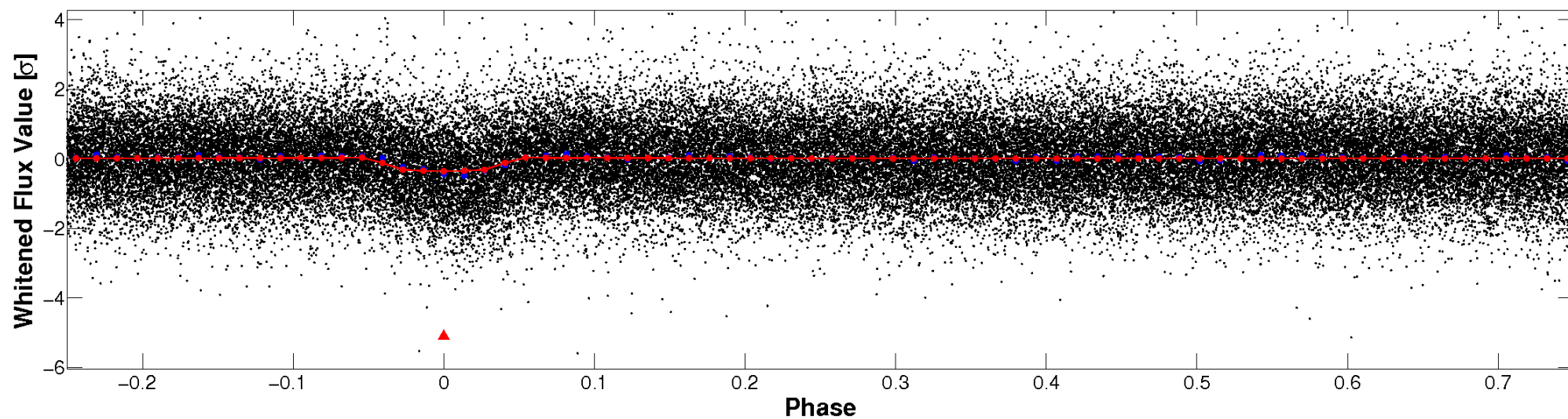


Non-Whitened Vs. Whitened Light Curve

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

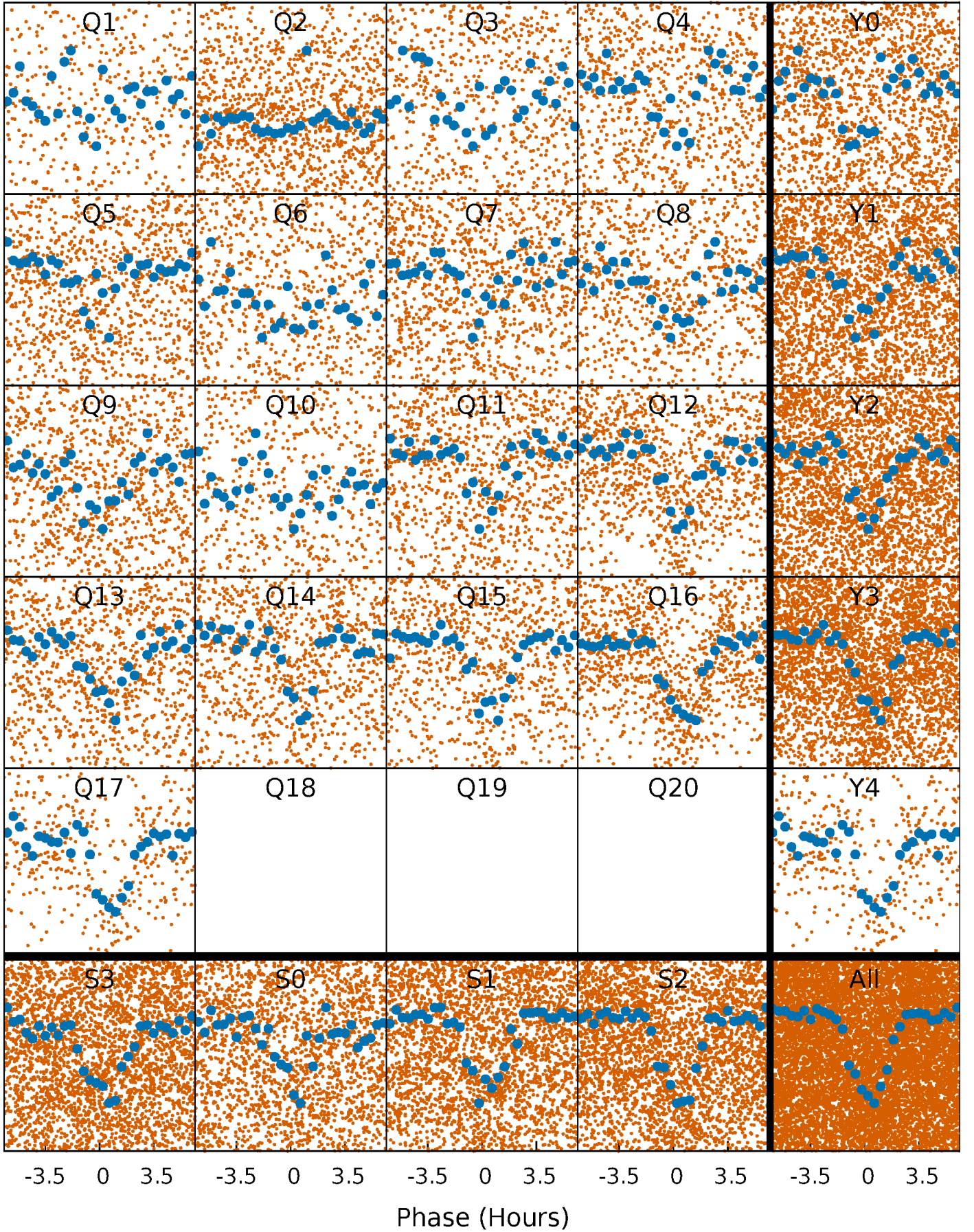


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



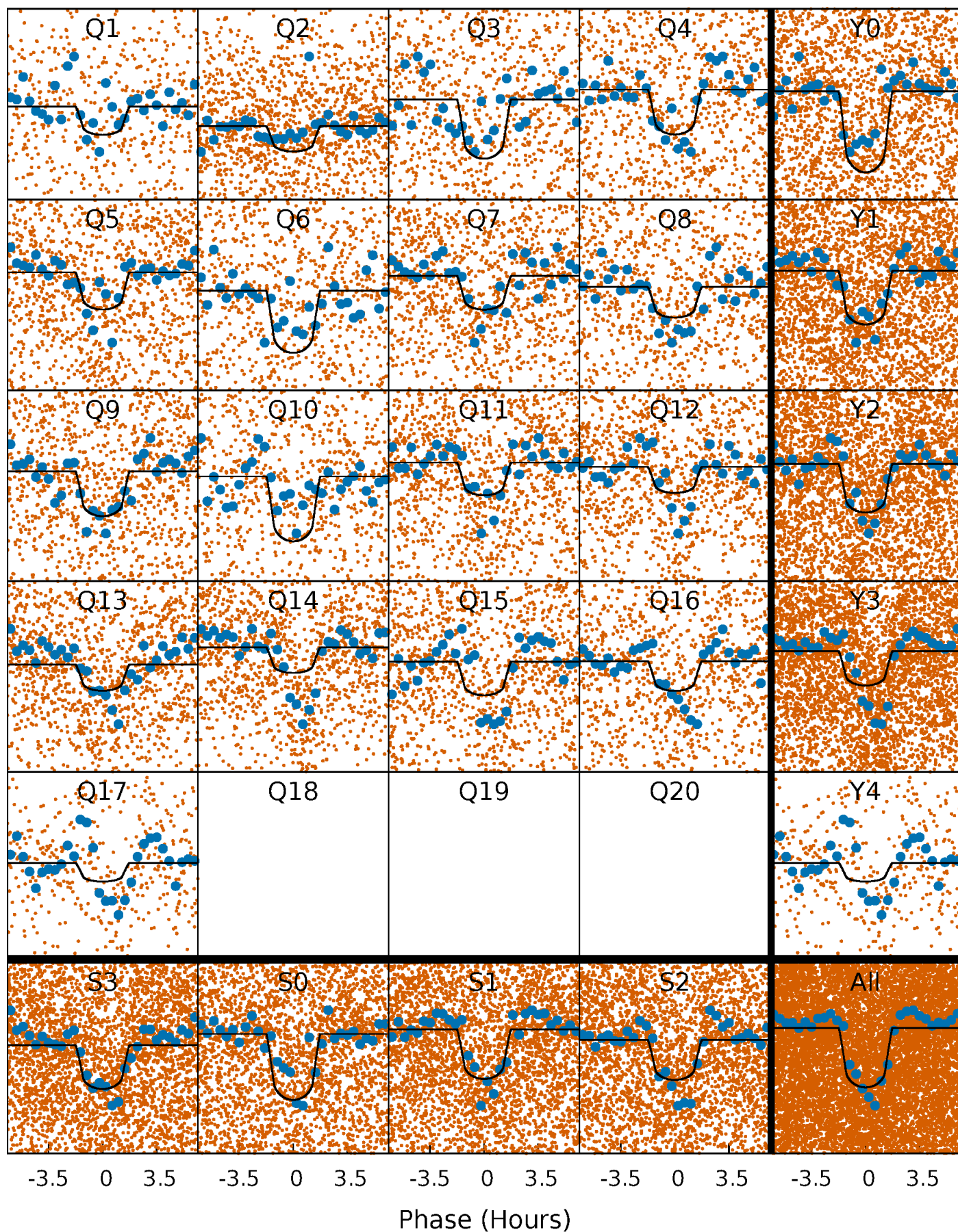
PDC Quarter-Phased Transit Curves

TCE 008823833-01 P= 1.506450 Days $T_0=133.010417$ (BKJD)



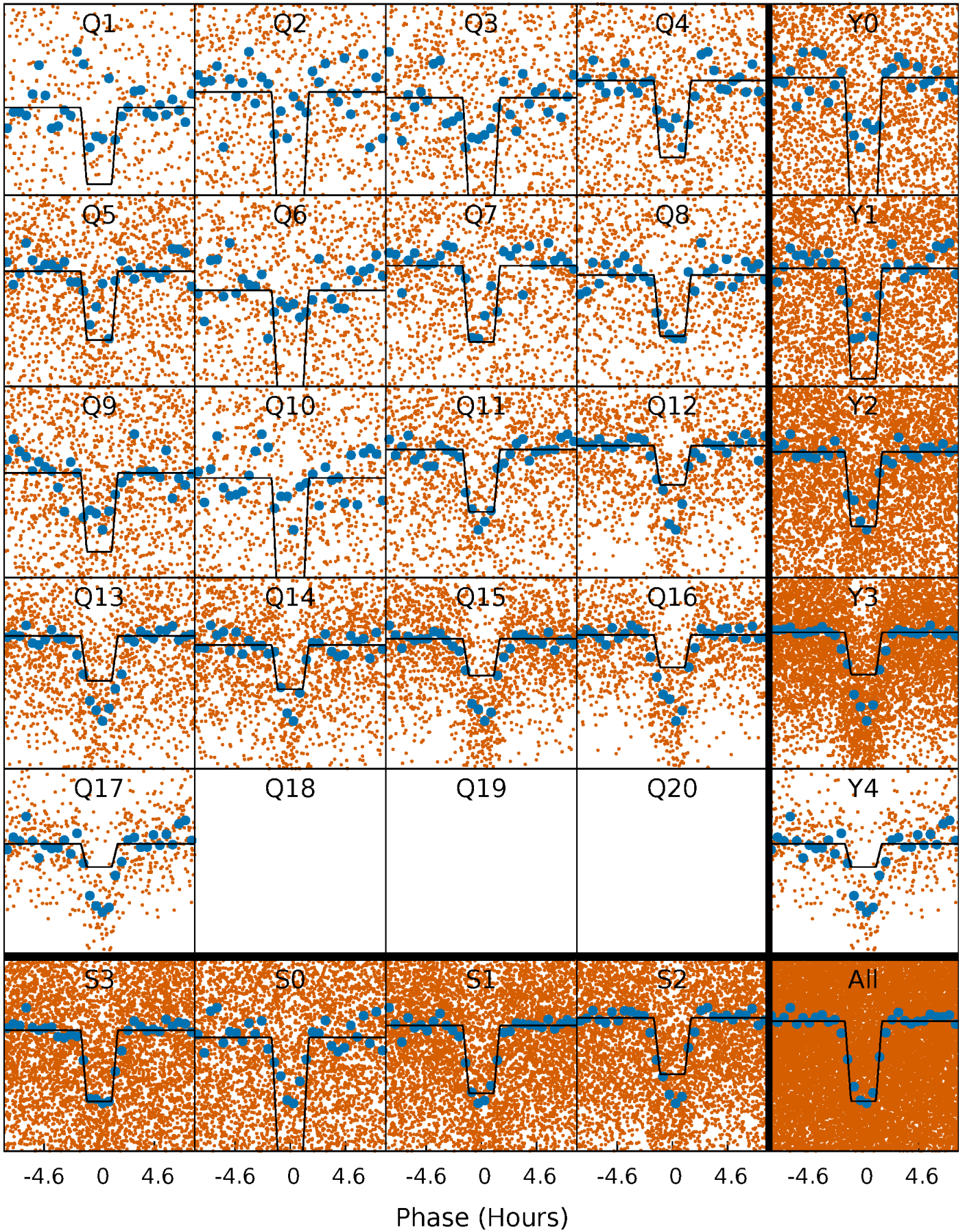
DV Quarter-Phased Transit Curves

TCE 008823833-01 P= 1.506450 Days $T_0=133.010417$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

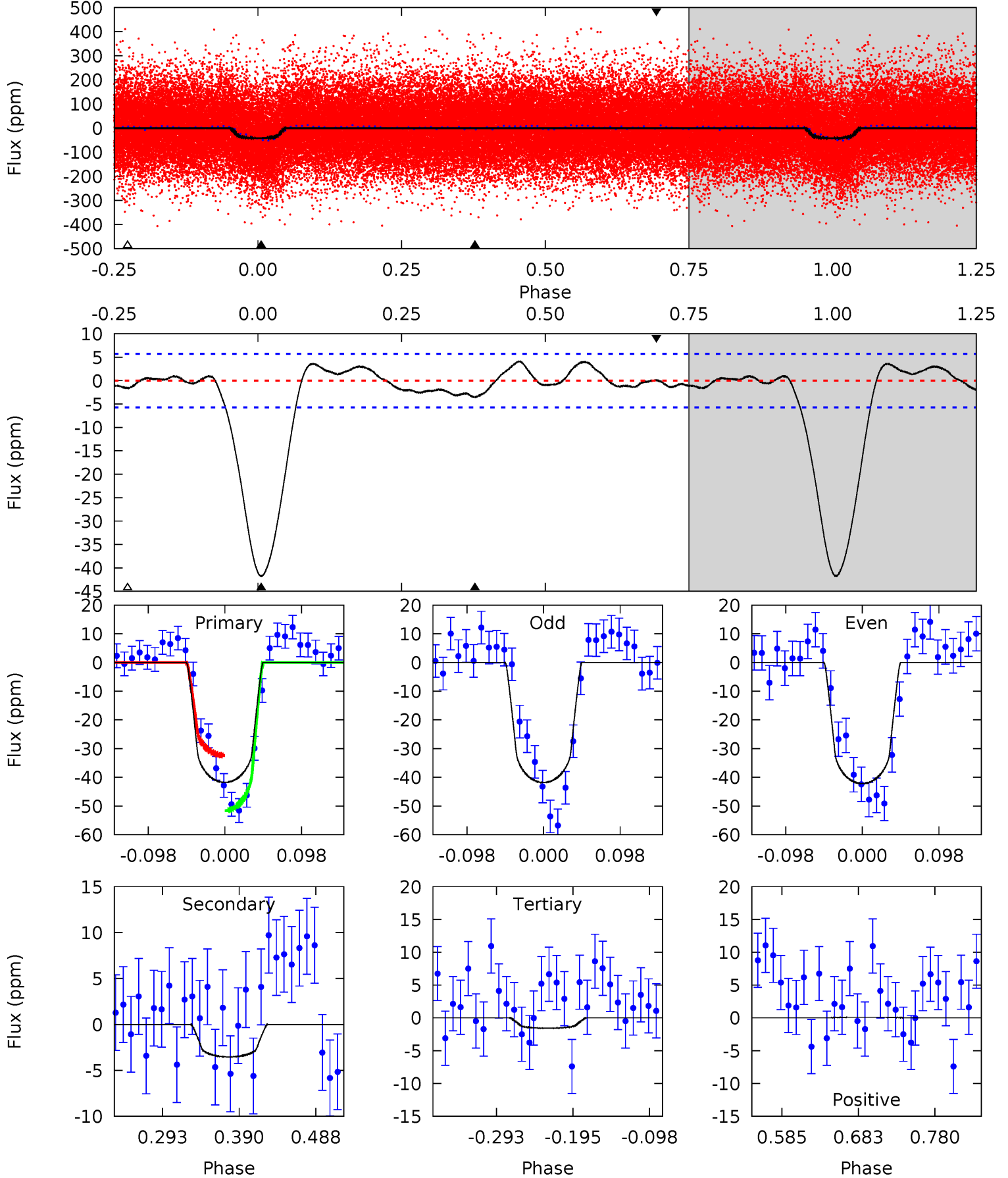
TCE 008823833-01 P= 1.506496 Days $T_0=132.993373$ (BKJD)



DV Model-Shift Uniqueness Test

008823833-01, P = 1.506450 Days, E = 131.503967 Days

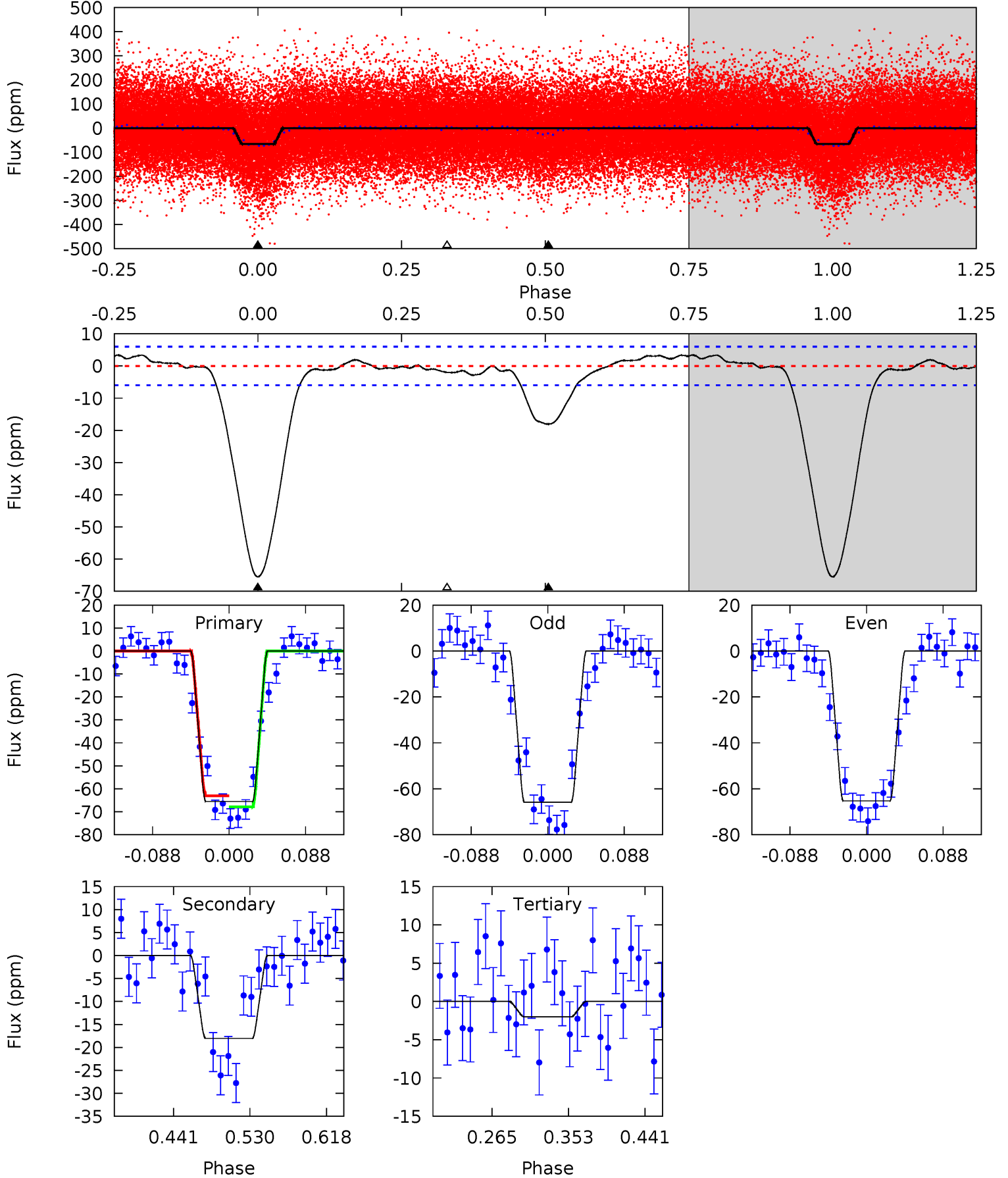
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	2.83	1.27	0.08	4.57	1.66	1.25	32.1	33.3	1.56	2.75	0.14	0.99	0.09	7.70



Alt Model-Shift Uniqueness Test

008823833-01, P = 1.506496 Days, E = 131.486877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.2	13.8	1.54	0	4.59	1.70	1.31	48.7	50.2	12.3	13.8	0.24	1.12	0.05	1.83



Stellar Parameters For KIC 008823833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5607^{+151}_{-151}	$4.381^{+0.176}_{-0.144}$	$-0.340^{+0.300}_{-0.250}$	$0.948^{+0.206}_{-0.169}$	$0.788^{+0.109}_{-0.059}$	$1.304^{+0.981}_{-0.558}$
	+3%/-3%	+4%/-3%	+88%/-74%	+22%/-18%	+14%/-7%	+75%/-43%
Source	PHO1	FLK73	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 008823833-01 / KOI 3968.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 1	$0.69^{+0.23}_{-0.20}$	2165^{+143}_{-131}	3353^{+489}_{-368}	$2.299^{+2.509}_{-1.178}$
Alt.	-18 ± 1	$0.85^{+0.23}_{-0.20}$	2178^{+147}_{-135}	4207^{+476}_{-304}	$7.707^{+5.436}_{-2.751}$

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 $A_{obs} \gg 1.0$

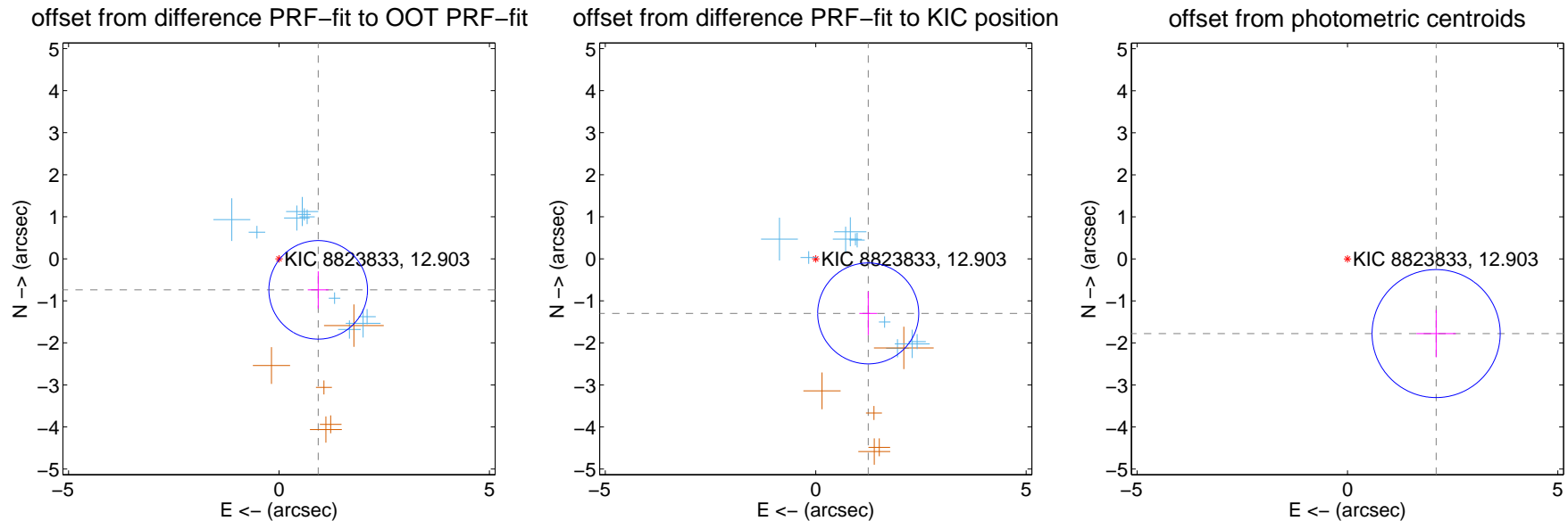
DV Centroid Data

Supplemental centroid analysis for 008823833-01. Kepler magnitude: 12.90. Transit SNR 22.53

There are 10 quarters with good PRF difference image offsets

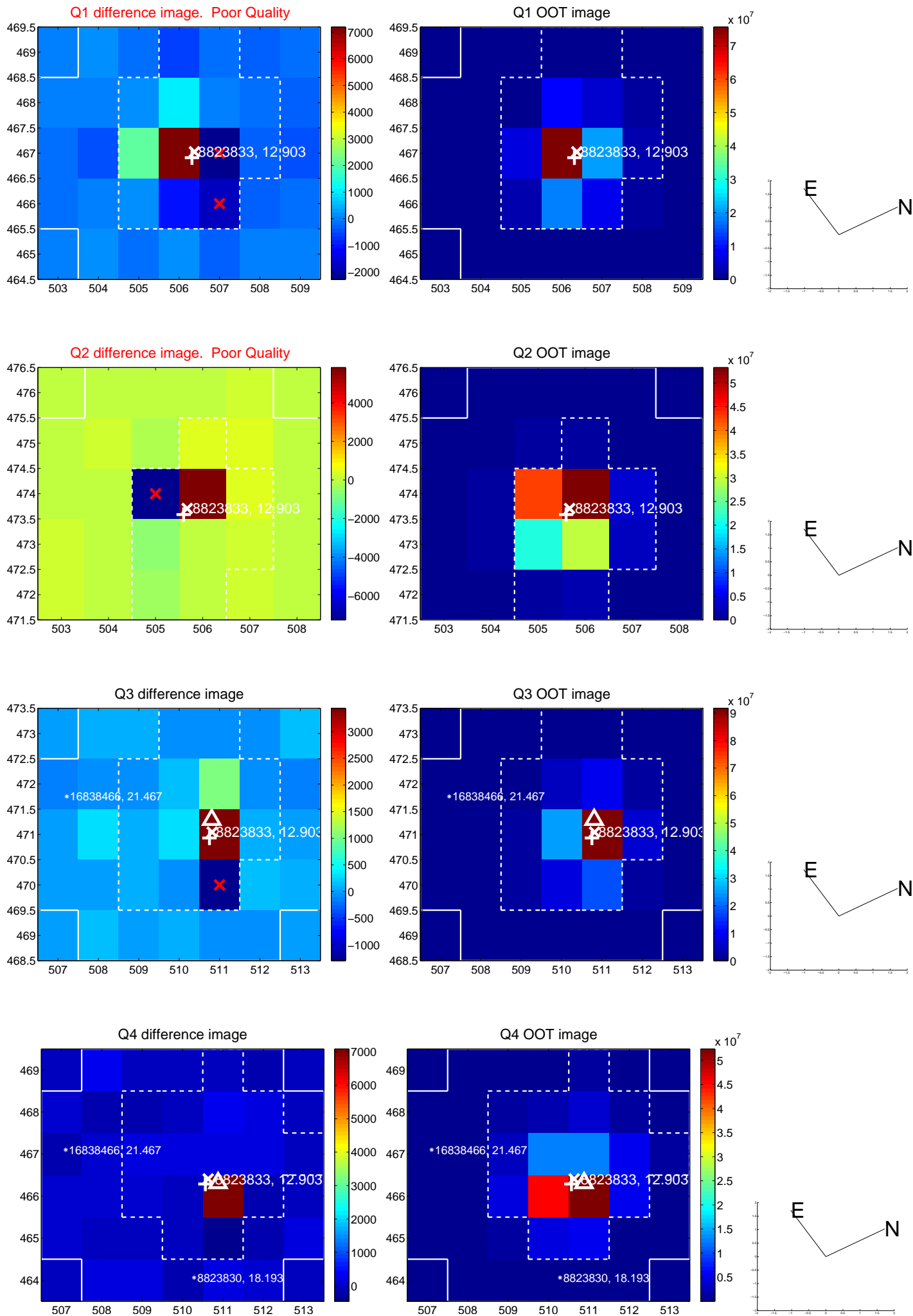
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.189 ± 0.391	3.04	-0.932 ± 0.246	-0.739 ± 0.440
PRF-fit source offset from KIC position	1.801 ± 0.400	4.50	-1.247 ± 0.212	-1.299 ± 0.516
photometric centroid source offset	2.76 ± 0.51	5.43	-2.11 ± 0.47	-1.78 ± 0.56

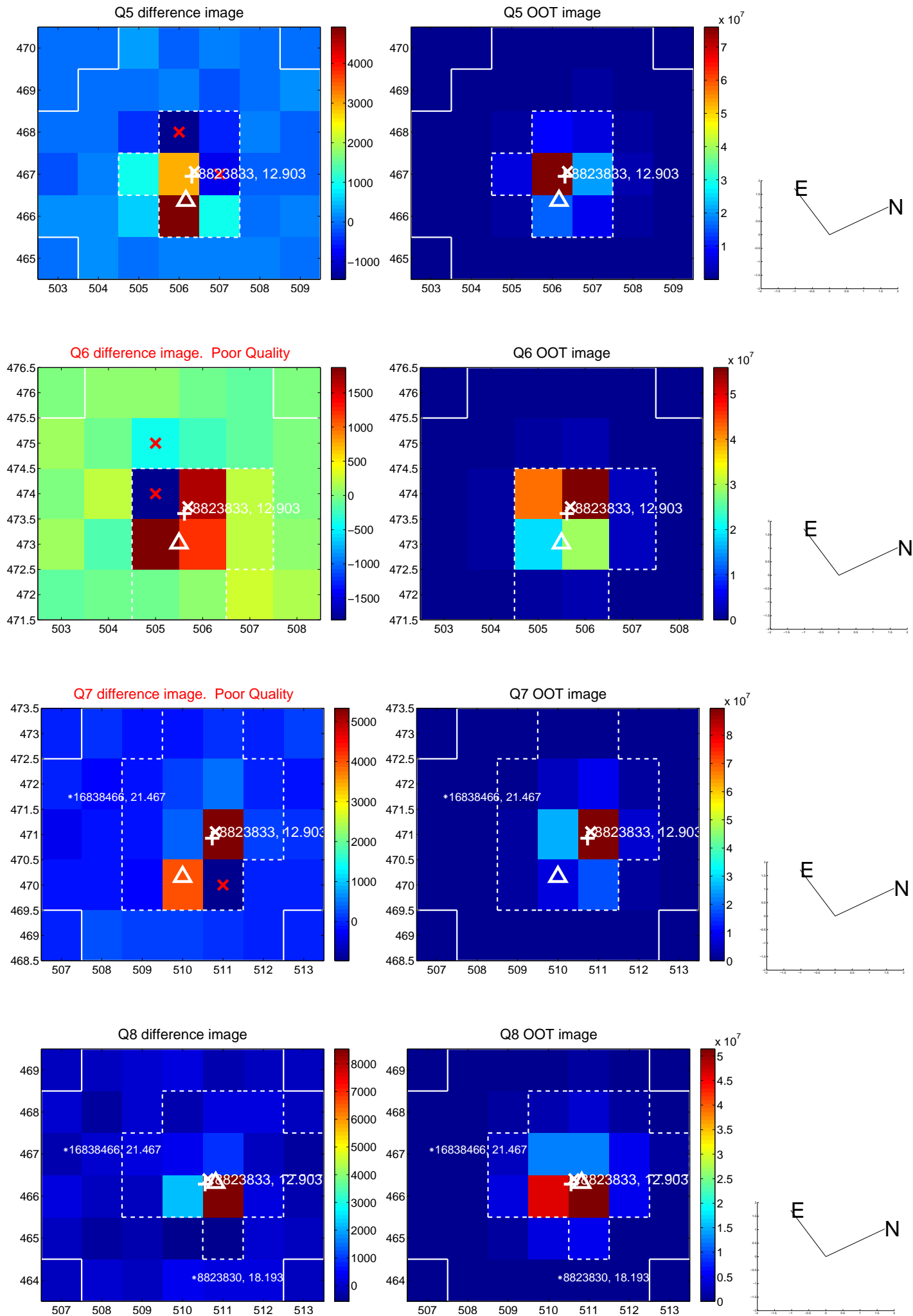


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

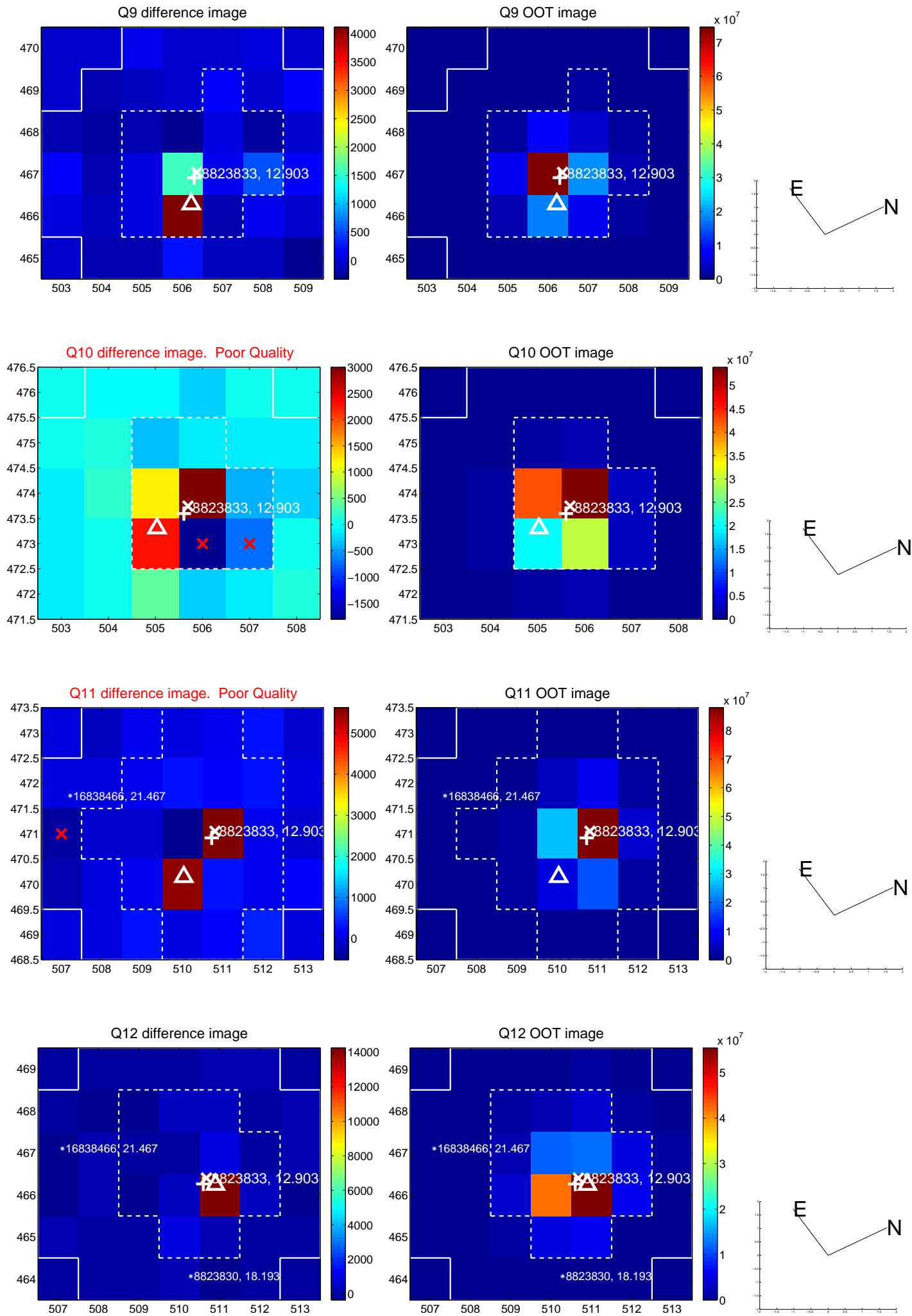
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



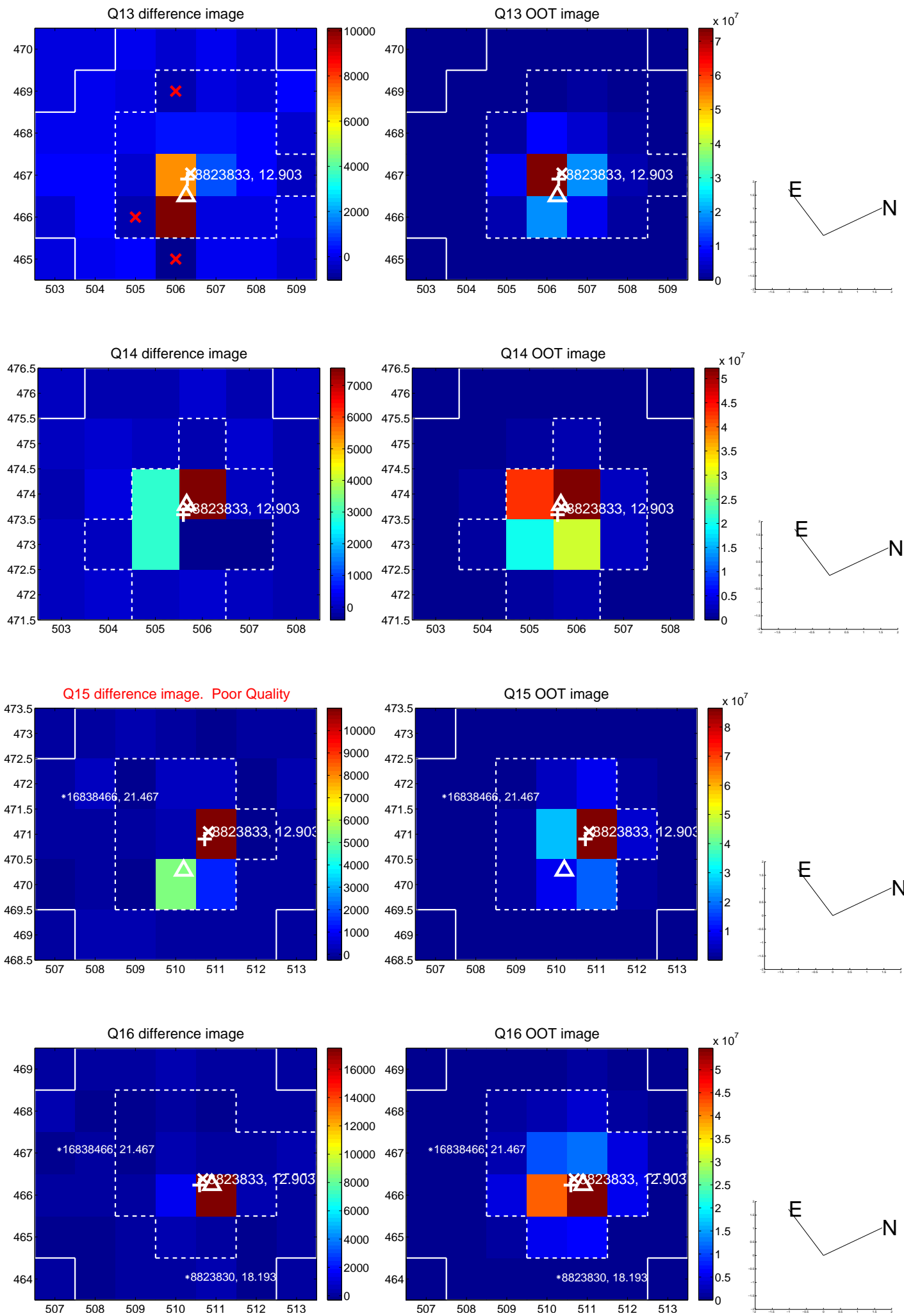
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



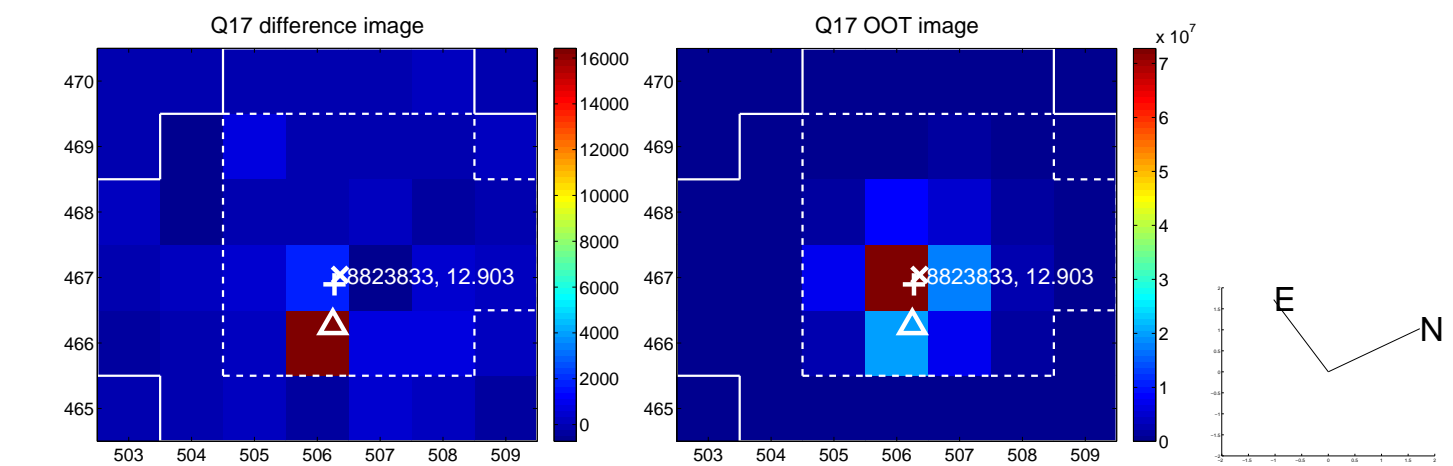
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



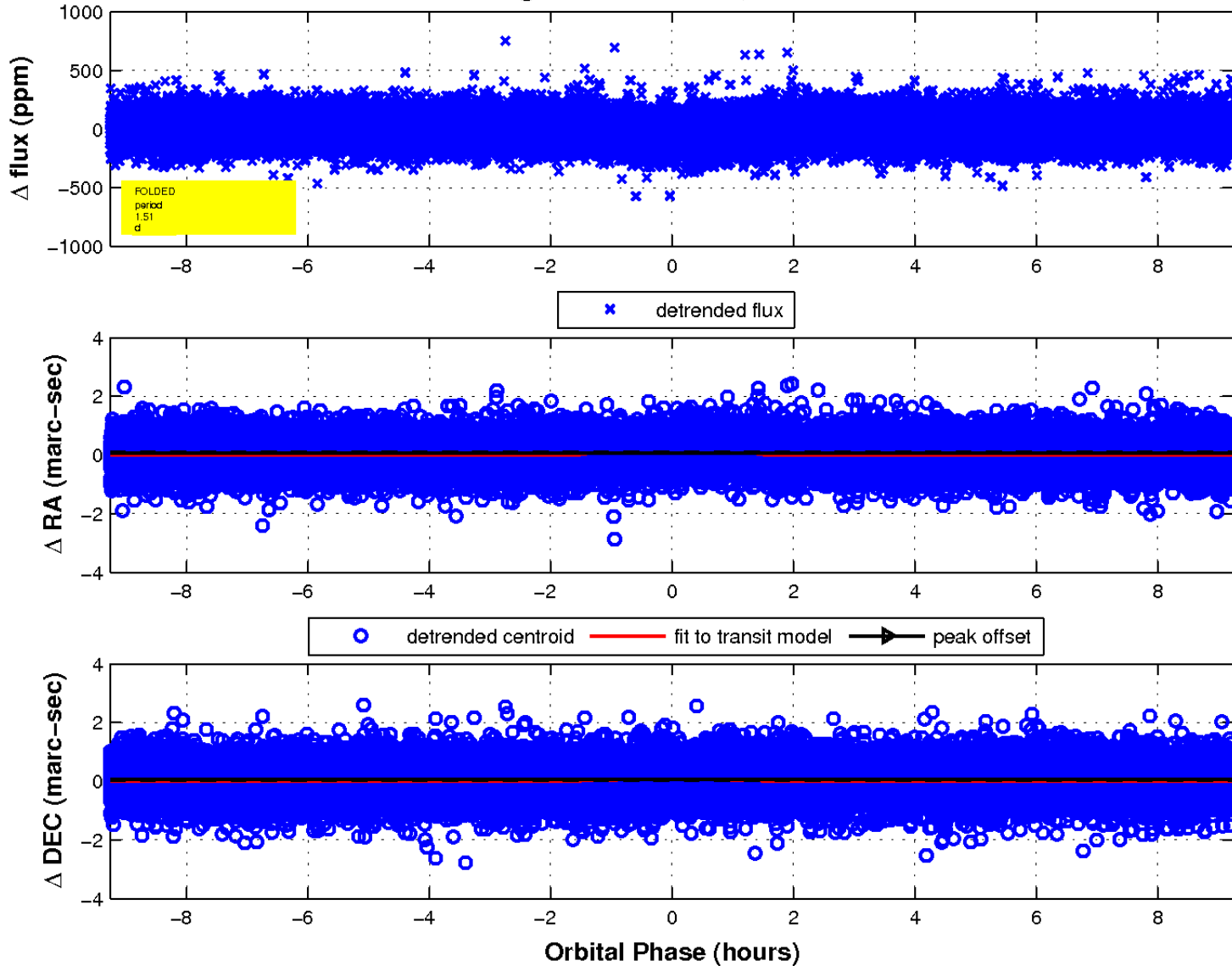
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

