

KIC 011303815

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 _⊕)
011303815-01	OBS	2645.01	0.852880	132.308352	155.2	1.300	17.1	18.9	1.01	5387	1.53	2677.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011303815-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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 011303815-01

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
011303815-01	11303815	3744.01	11303811	1:1	10.0	1	2	15.77	15.27	81.29	Direct-PRF	0	1.18	0.37

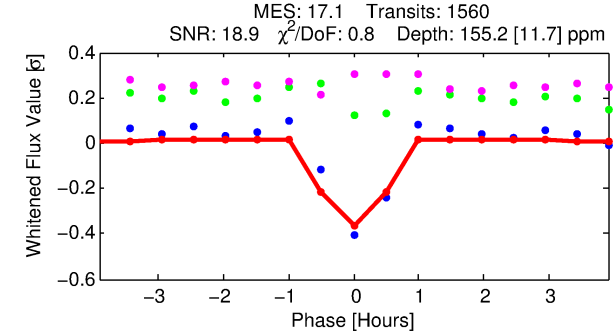
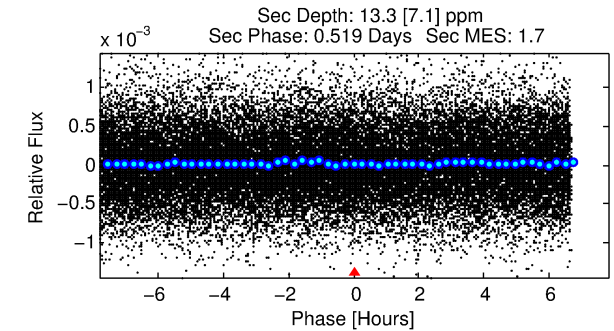
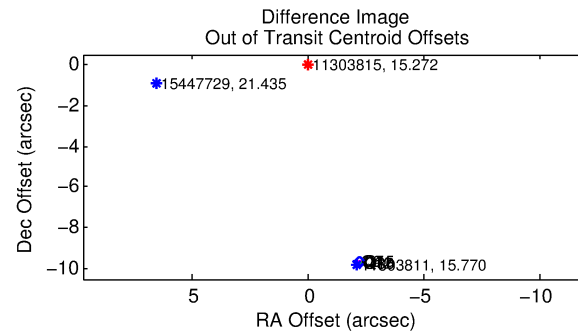
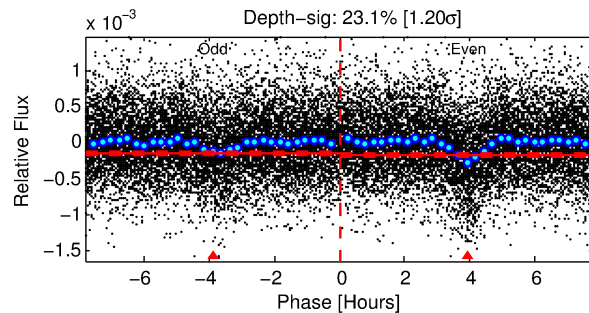
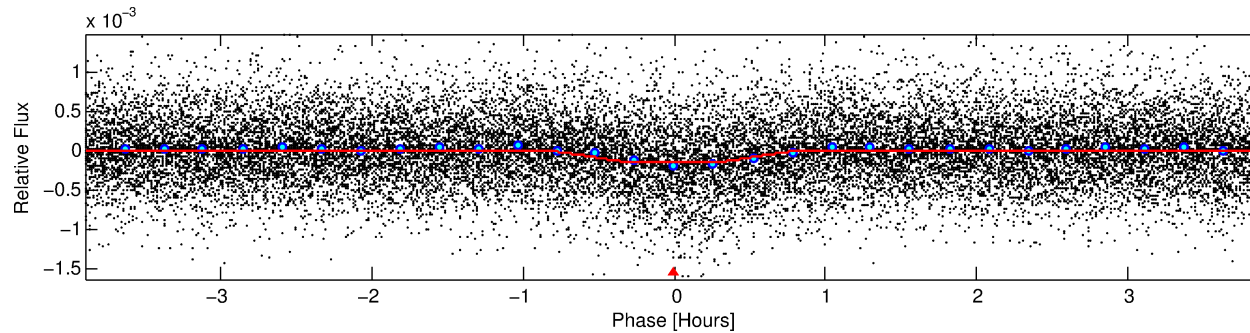
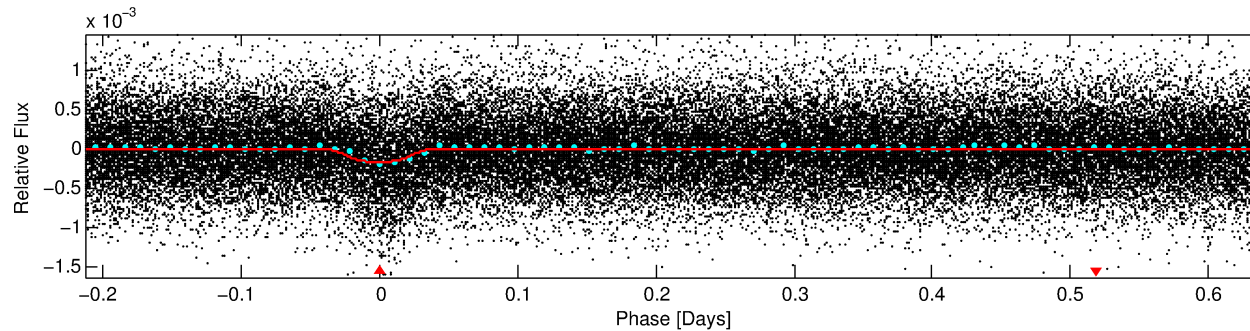
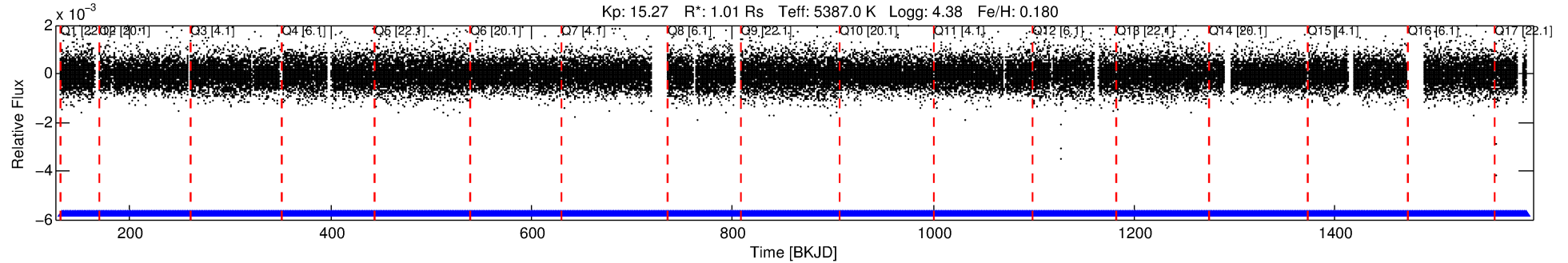
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period 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: 11303815 Candidate: 1 of 1 Period: 0.853 d

KOI: K02645 Corr: No Ephemeris Match

Kp: 15.27 R*: 1.01 Rs Teff: 5387.0 K Logg: 4.38 Fe/H: 0.180



DV Fit Results:

Period = 0.85288 [0.00001] d
Epoch = 132.3084 [0.0010] BKJD
Rp/R* = 0.0139 [0.0059]
a/R* = 2.49 [3.79]
b = 0.90 [0.38]
Seff = 2677.27 [986.32]
Teq = 1834 [169] K
Rp = 1.53 [0.78] Re
a = 0.0169 [0.0040] AU
Ag = 0.90 [0.95] [-0.11σ]
Teffp = 2760 [698] K [1.29σ]

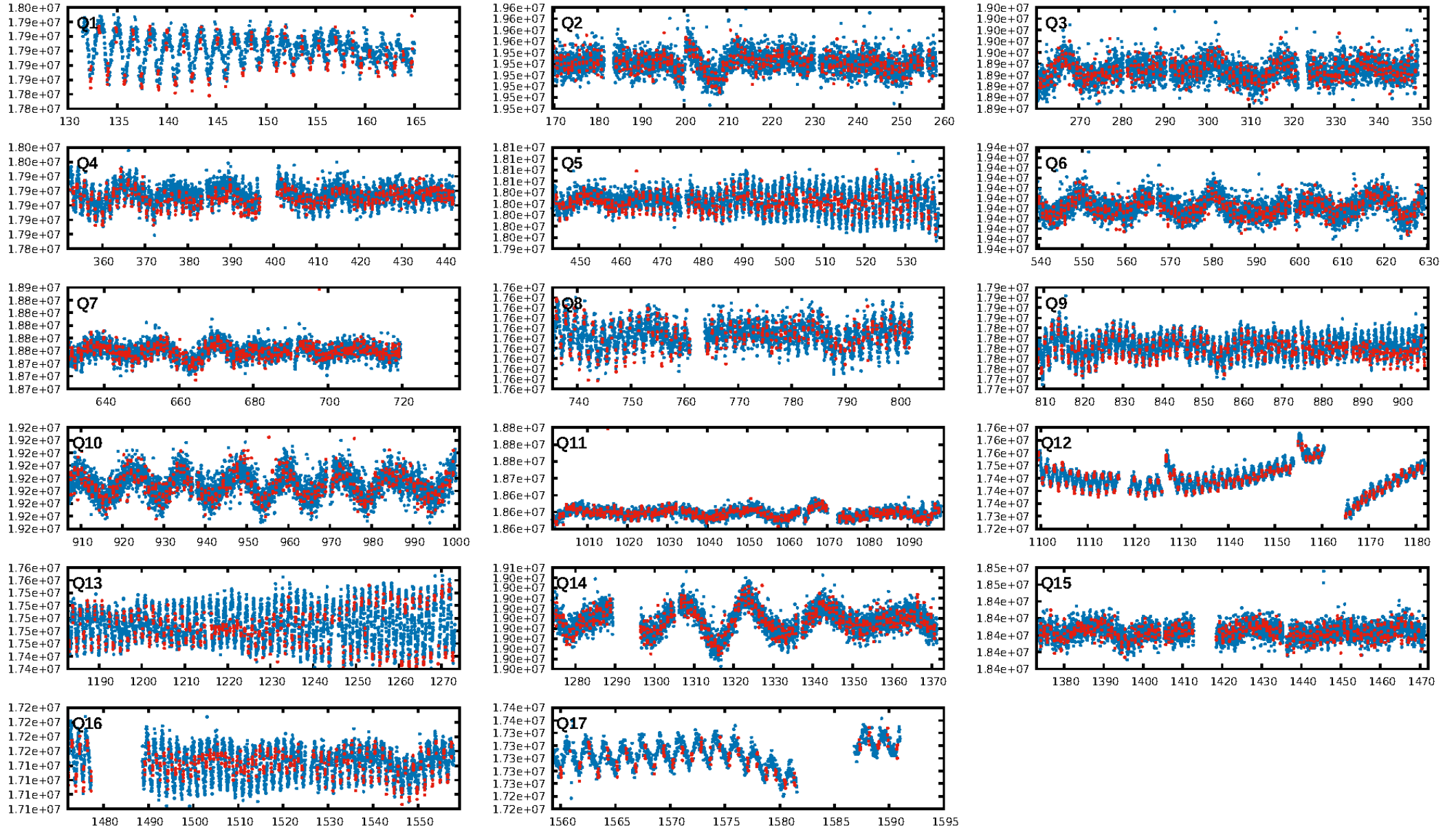
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.76e-62
RollingBand-fgt: 1.00 [1491/1491]
GhostDiagnostic-chr: -3.001
Centroid-sig: 0.0%
Centroid-so: 10.026 arcsec [10.07σ]
OotOffset-rm: 9.909 arcsec [144.07σ]
KicOffset-rm: 9.917 arcsec [144.79σ]
OotOffset-st: 0/4/4/0 [8]
KicOffset-st: 0/4/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

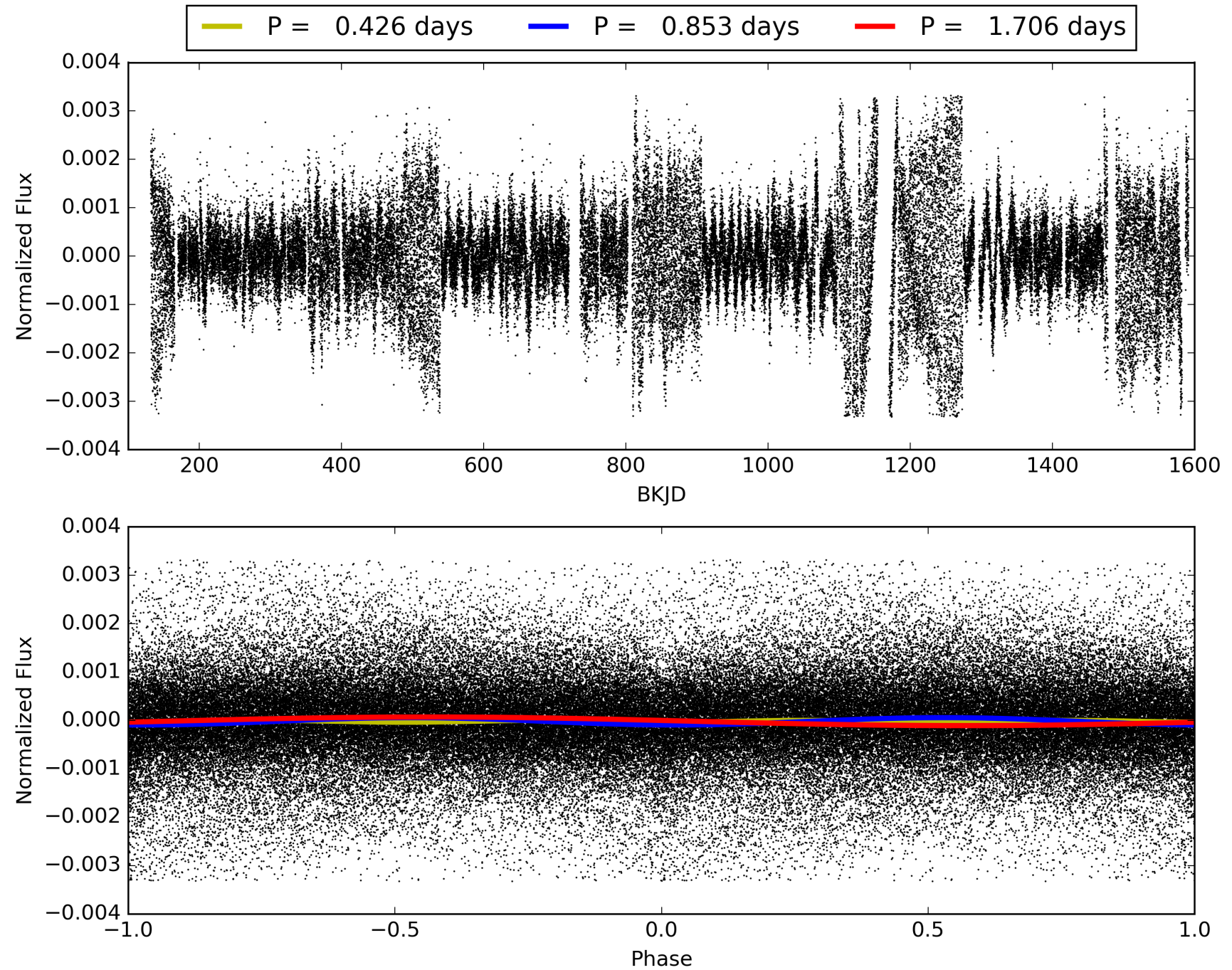
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:10:12 Z

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

TCE 011303815-01, PDC Light Curves

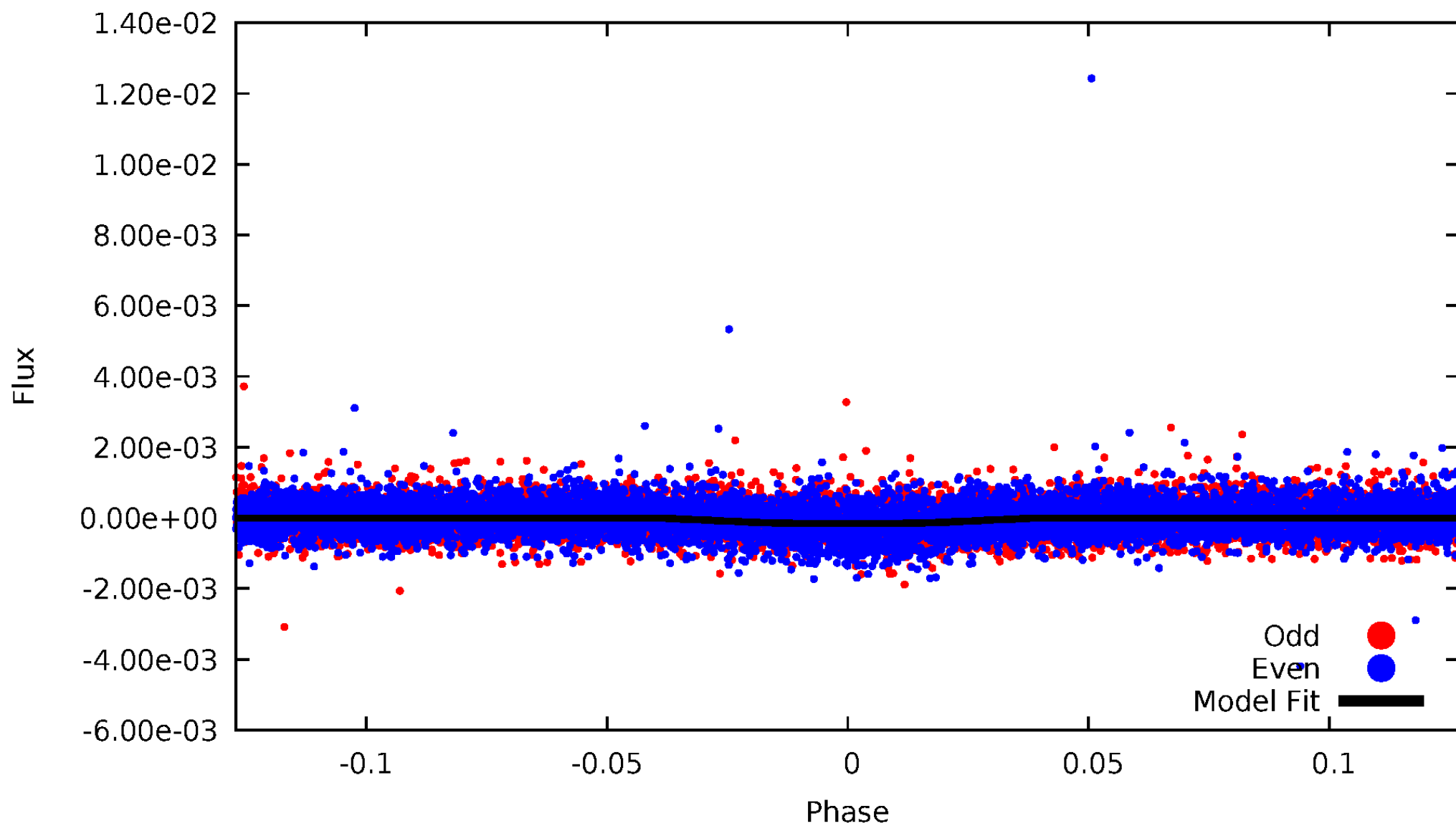


TCE 011303815-01



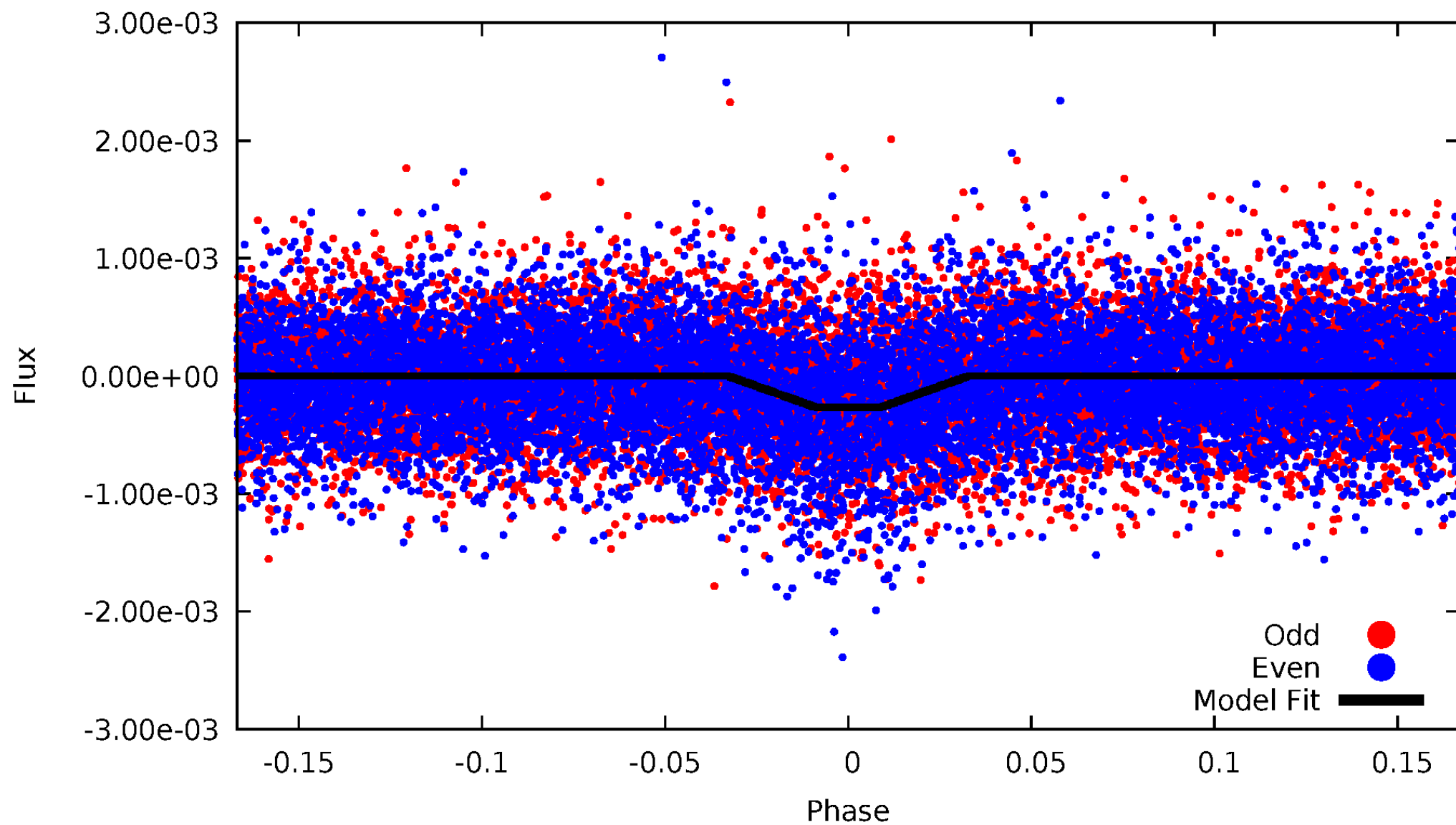
DV Odd/Even

TCE 011303815-01



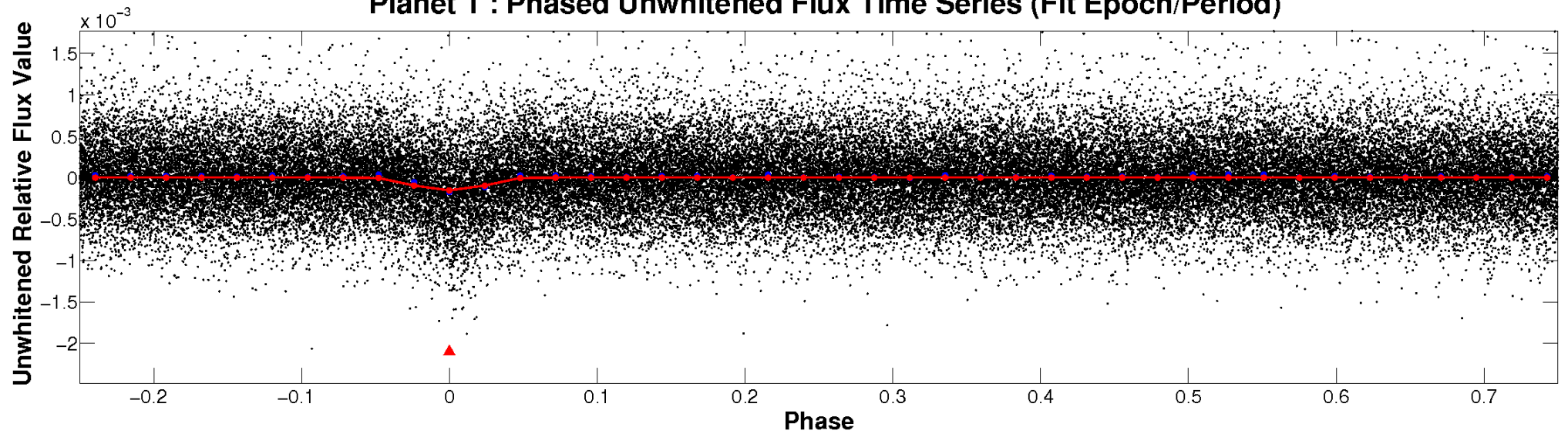
ALT Odd/Even

TCE 011303815-01

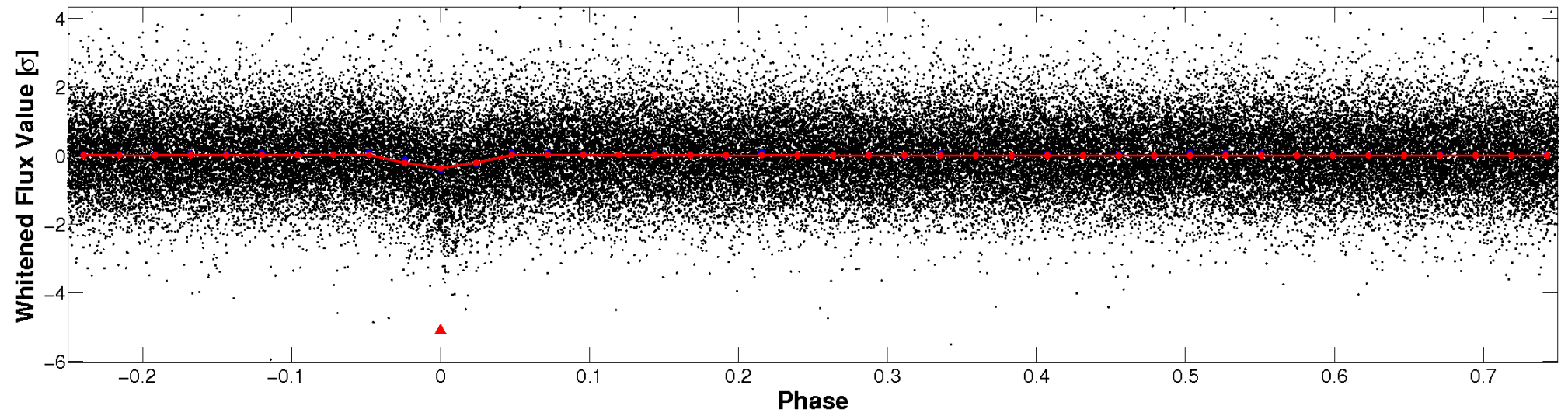


Non-Whitened Vs. Whitened Light Curve

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

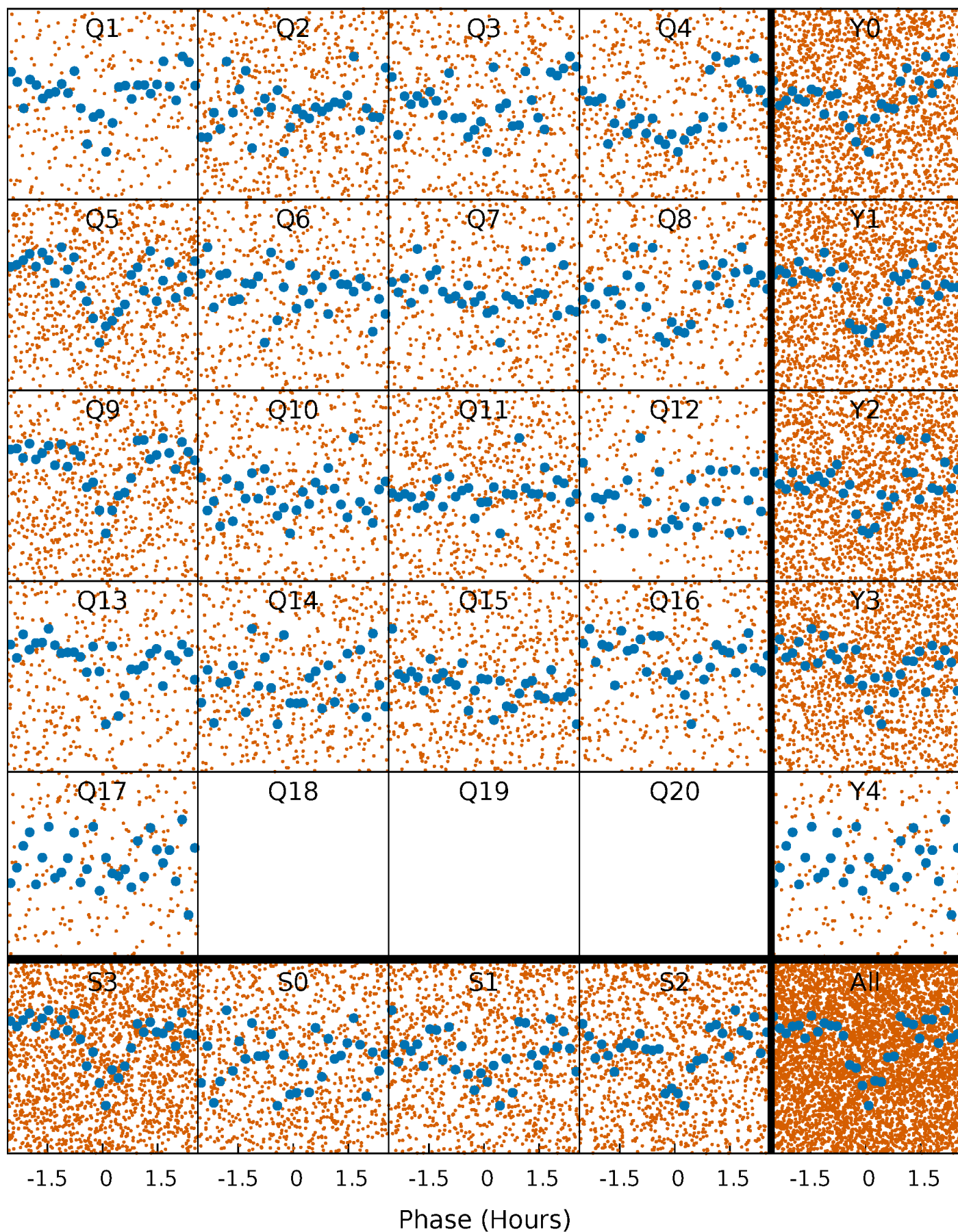


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



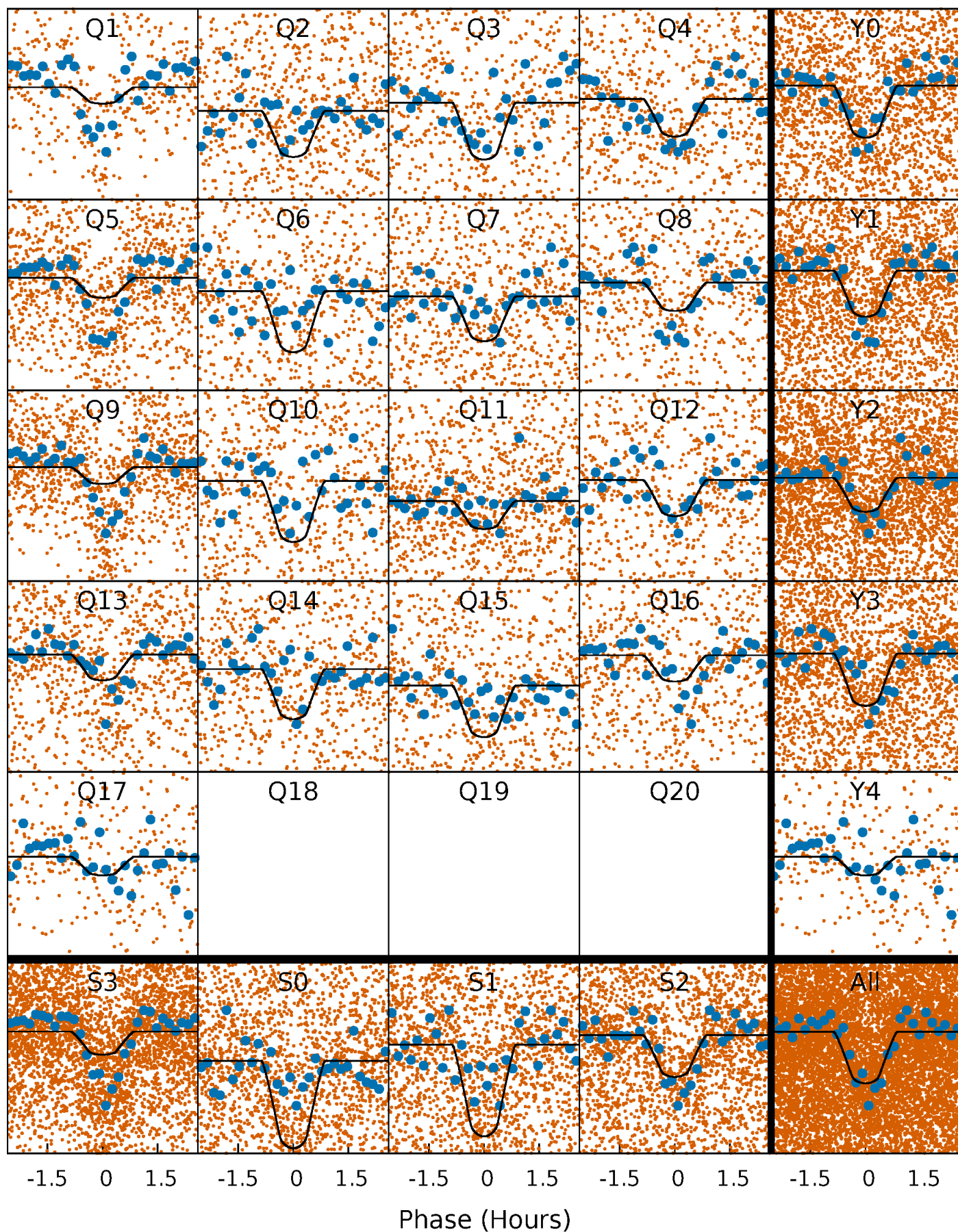
PDC Quarter-Phased Transit Curves

TCE 011303815-01 P= 0.852880 Days $T_0=132.308353$ (BKJD)



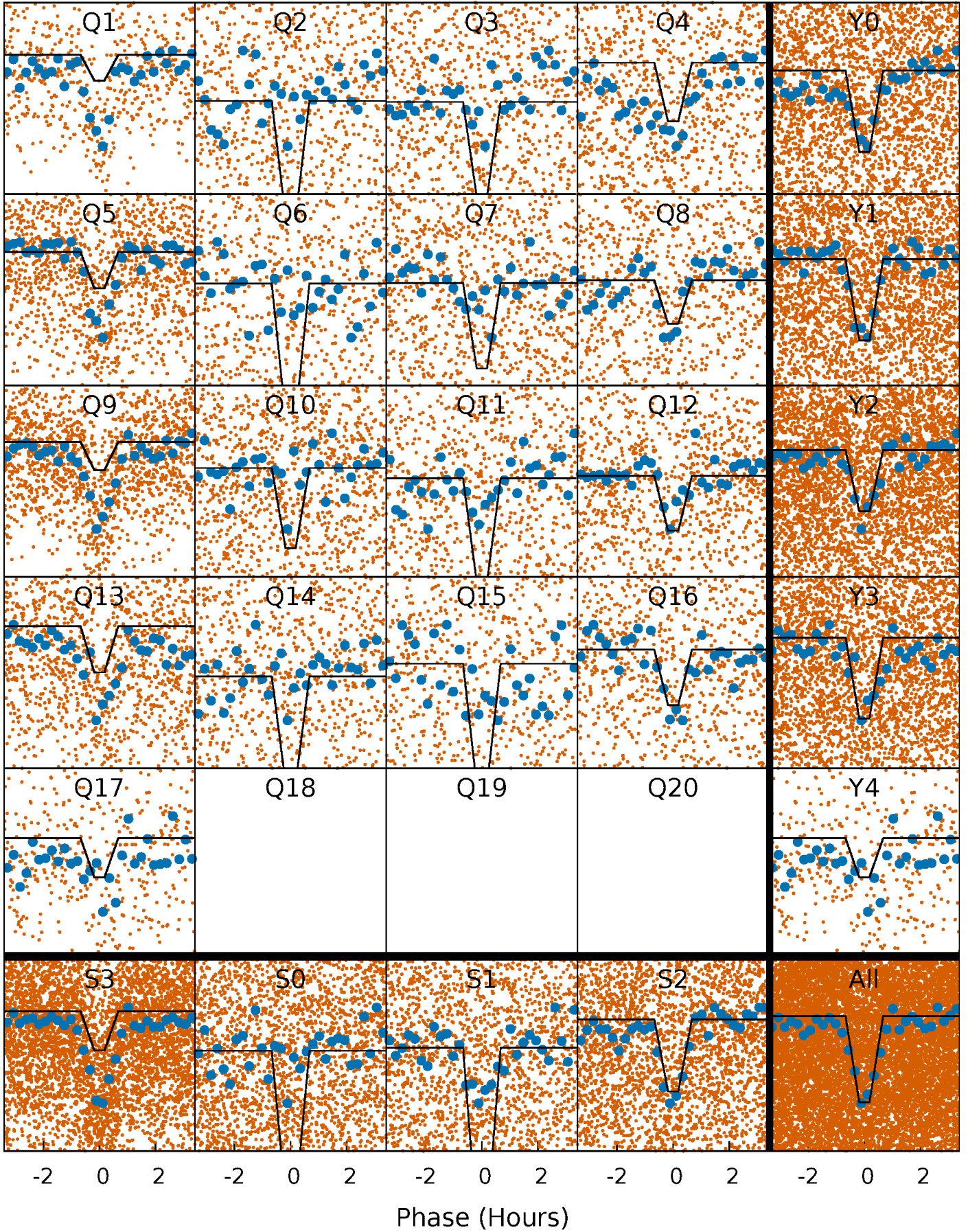
DV Quarter-Phased Transit Curves

TCE 011303815-01 P= 0.852880 Days $T_0=132.308353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

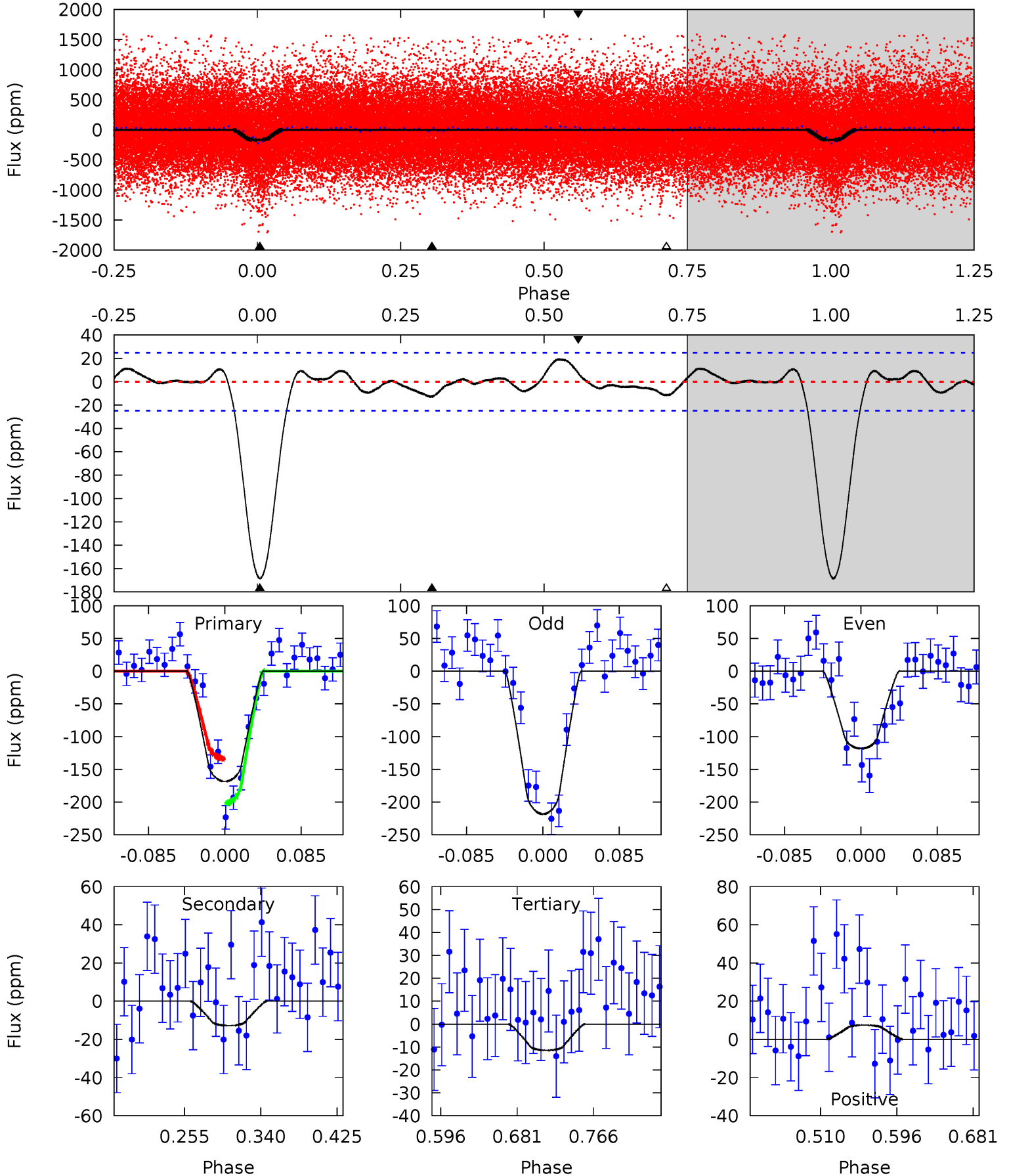
TCE 011303815-01 P= 0.852889 Days $T_0=132.305553$ (BKJD)



DV Model-Shift Uniqueness Test

011303815-01, P = 0.852880 Days, E = 131.455473 Days

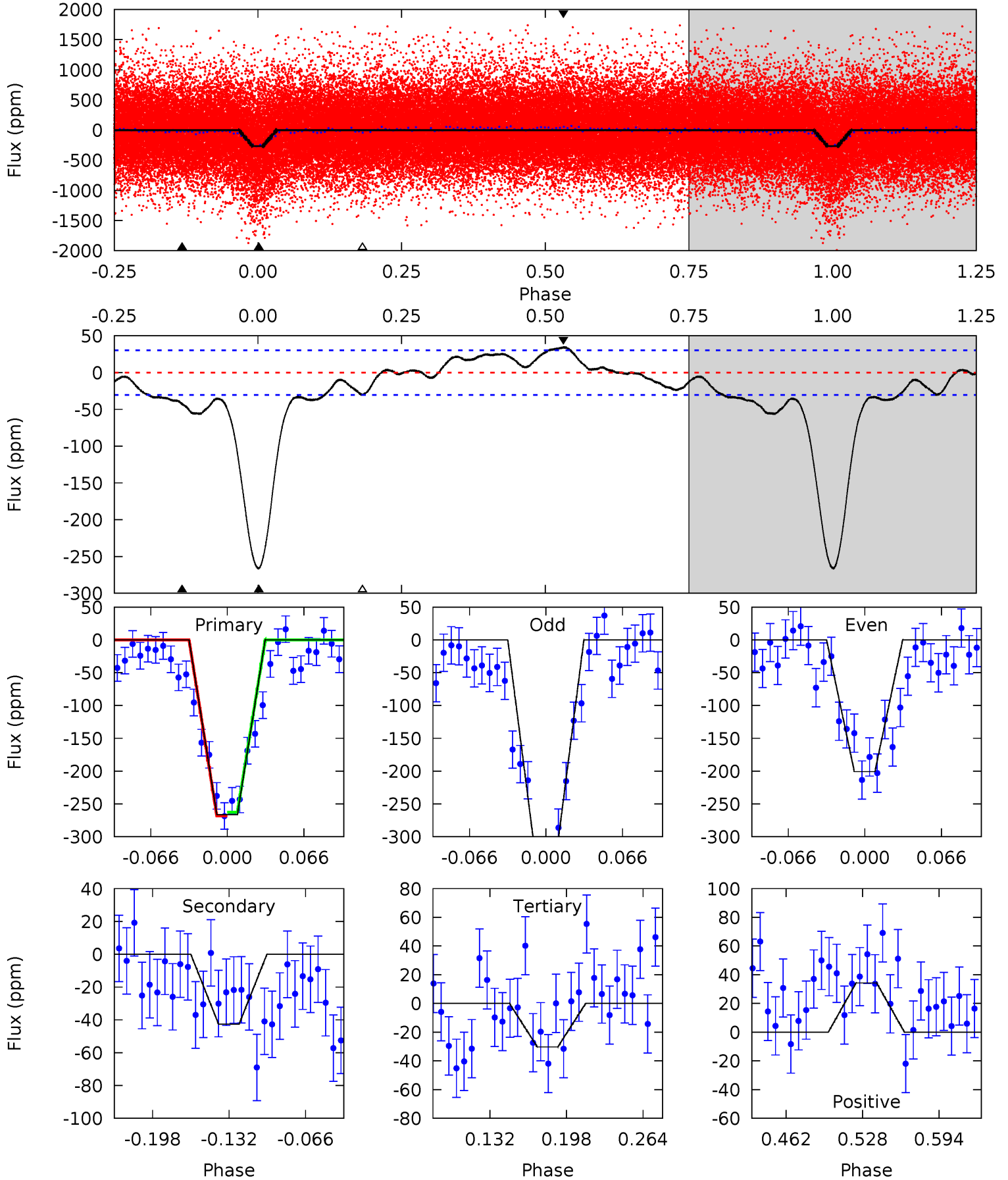
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	2.38	2.13	1.38	4.60	1.72	1.27	29.1	29.9	0.25	1.00	9.30	1.07	0.10	6.33



Alt Model-Shift Uniqueness Test

011303815-01, P = 0.852889 Days, E = 131.452664 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.8	6.52	4.64	5.25	4.65	1.84	2.90	36.1	35.5	1.88	1.27	9.96	1.22	0.11	0.44



Stellar Parameters For KIC 011303815

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5387^{+180}_{-147}	$4.380^{+0.153}_{-0.187}$	$0.180^{+0.200}_{-0.300}$	$1.009^{+0.285}_{-0.175}$	$0.890^{+0.090}_{-0.065}$	$1.221^{+0.758}_{-0.595}$
	+3%/-3%	+3%/-4%	+111%/-167%	+28%/-17%	+10%/-7%	+62%/-49%
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 011303815-01 / KOI 2645.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 5	$1.56^{+0.73}_{-0.64}$	2578^{+192}_{-155}	3059^{+744}_{-1033}	$0.798^{+1.637}_{-0.481}$
Alt.	-43 ± 7	$1.80^{+0.72}_{-0.69}$	2570^{+197}_{-159}	3695^{+737}_{-460}	$2.082^{+3.365}_{-1.081}$

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 $A_{obs} \gg 1.0$

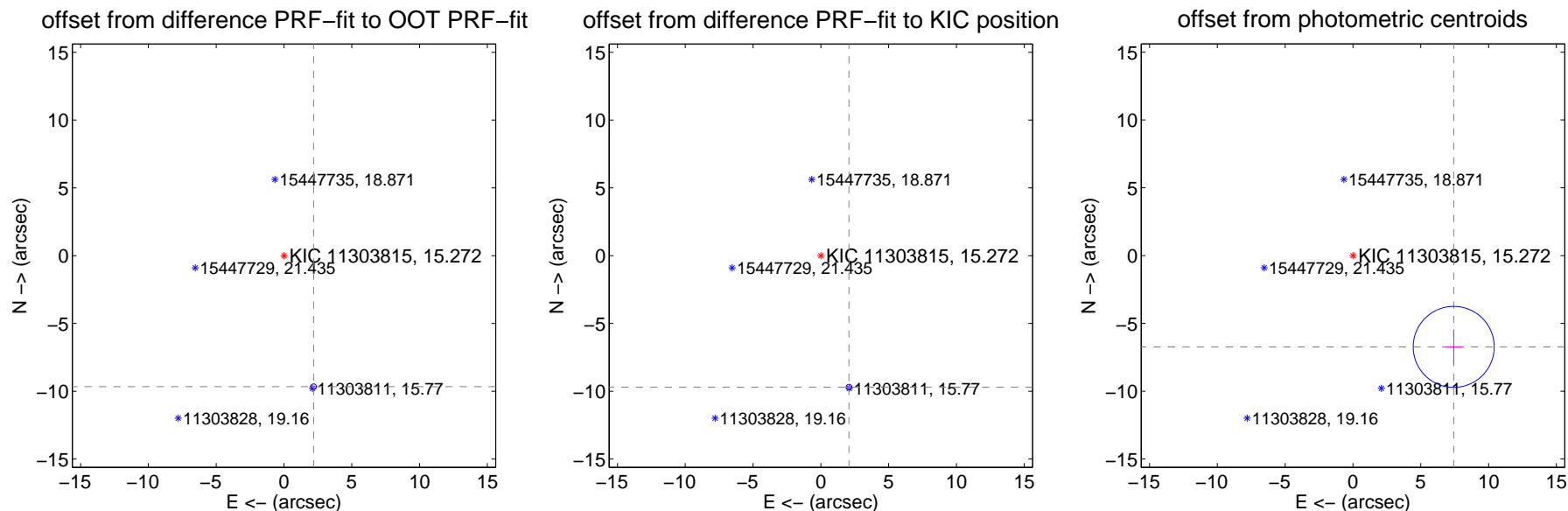
DV Centroid Data

Supplemental centroid analysis for 011303815-01. Kepler magnitude: 15.27. Transit SNR 18.88

There are 8 quarters with good PRF difference image offsets

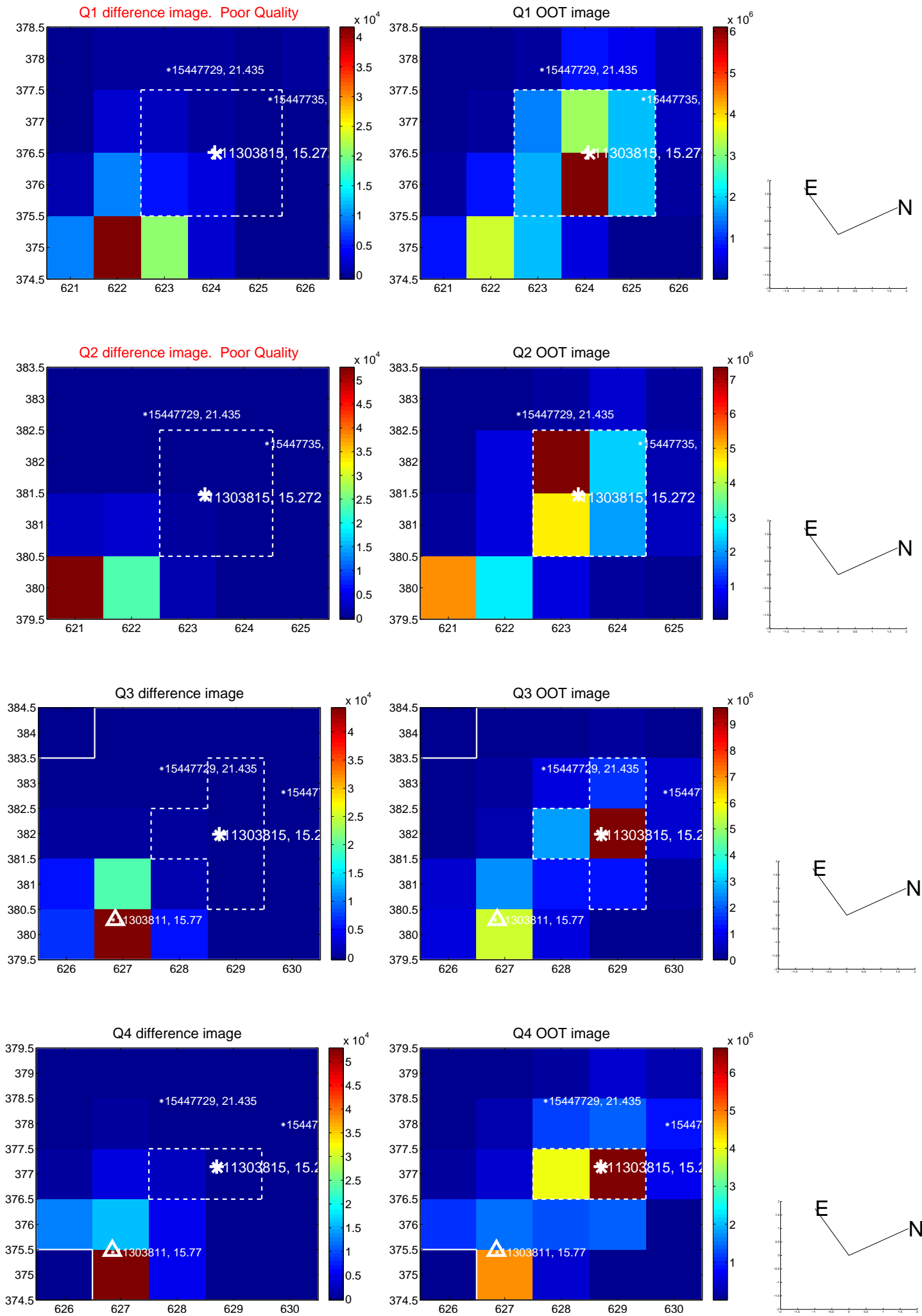
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.909 ± 0.069	144.07	-2.183 ± 0.070	-9.666 ± 0.069
PRF-fit source offset from KIC position	9.917 ± 0.068	144.79	-2.074 ± 0.068	-9.698 ± 0.068
photometric centroid source offset	10.03 ± 1.00	10.07	-7.43 ± 0.67	-6.73 ± 1.29

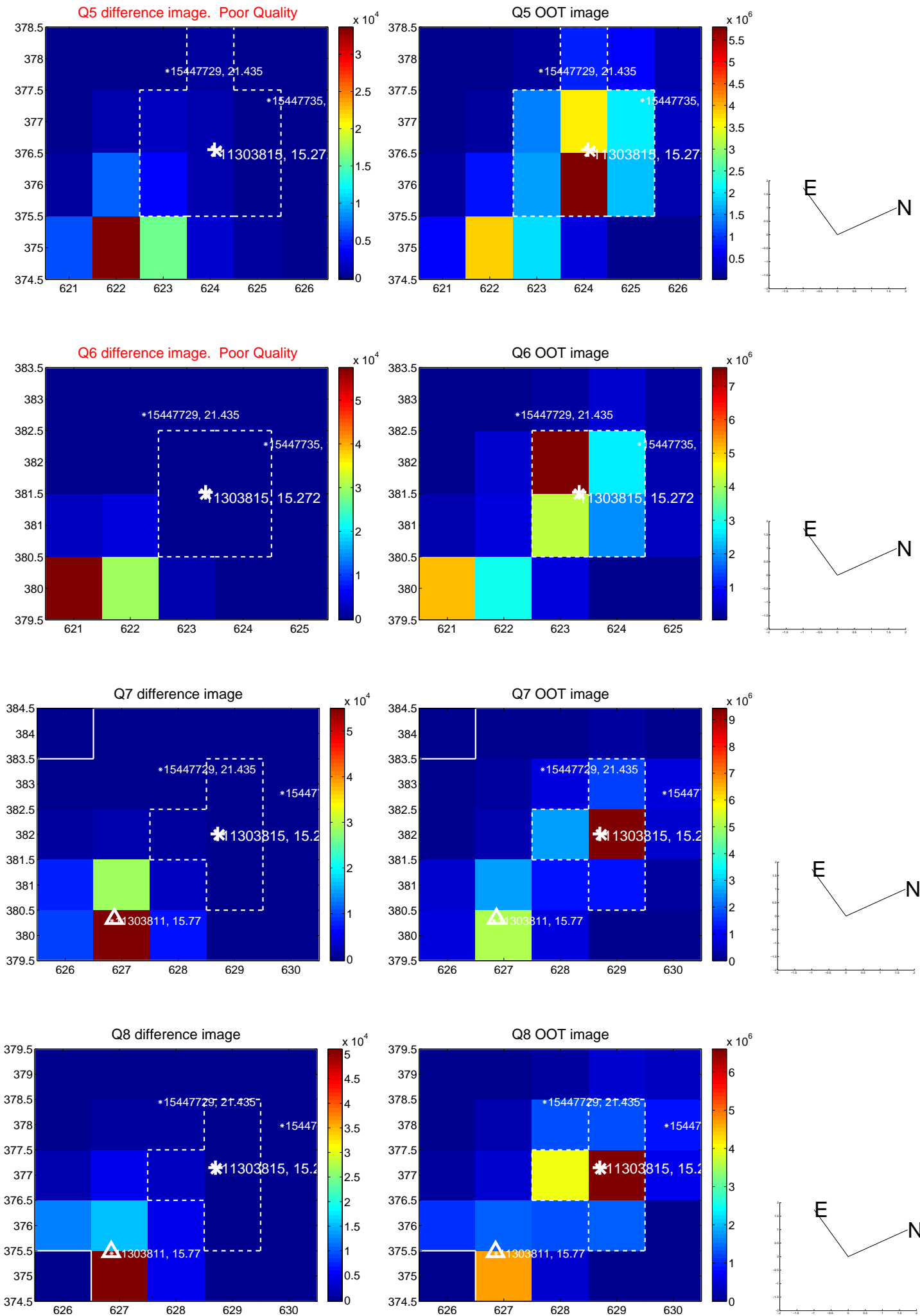


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

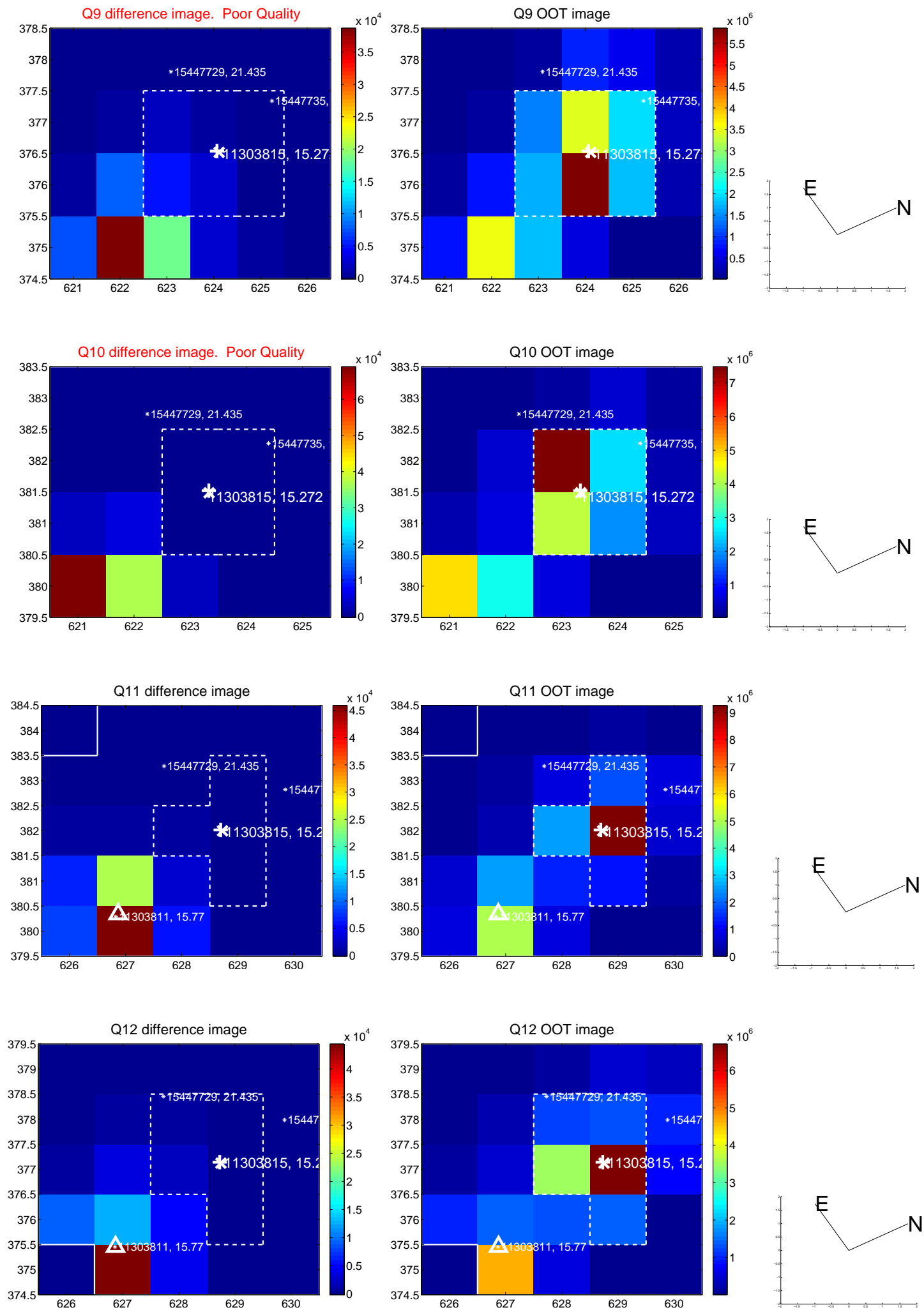
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



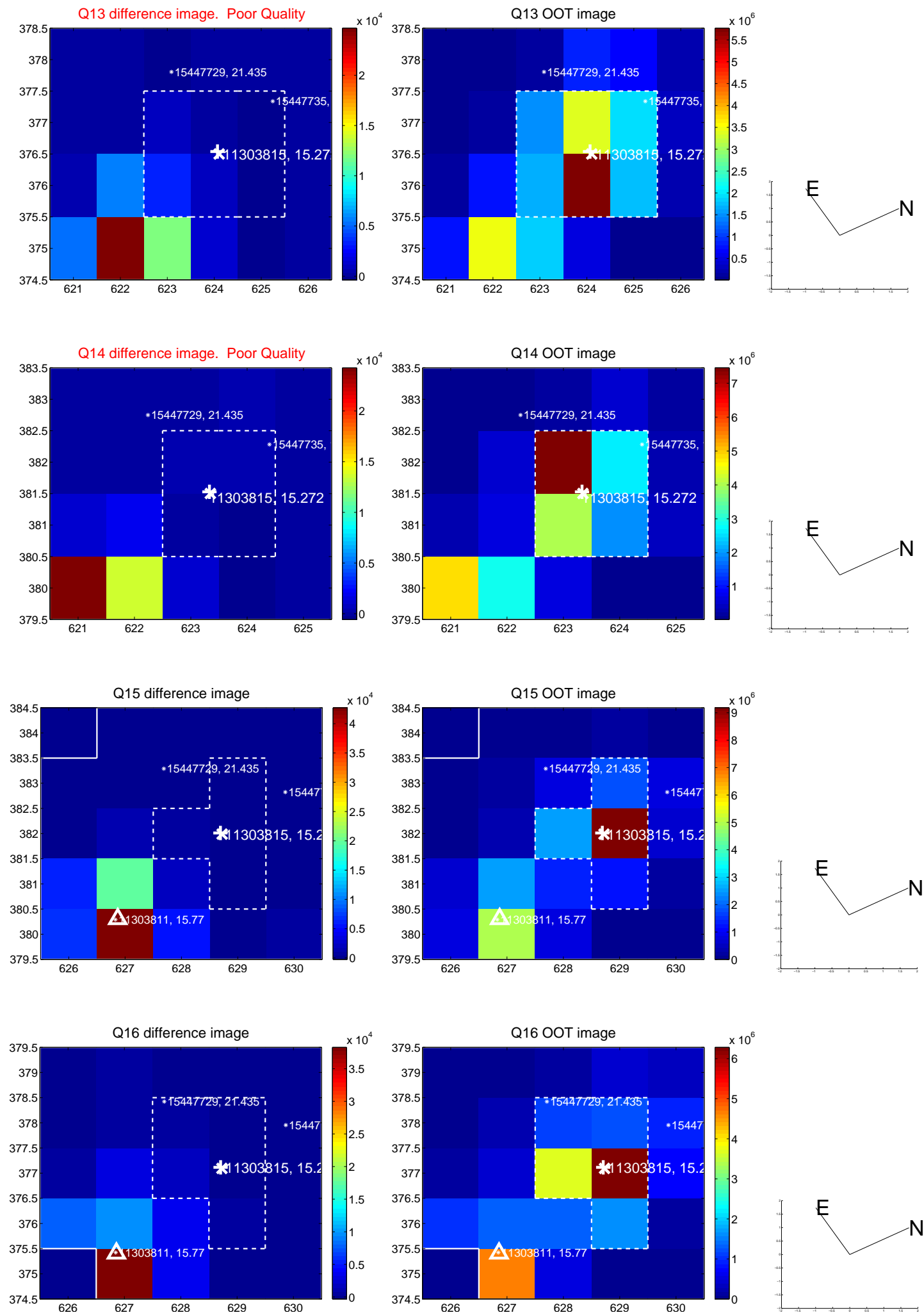
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



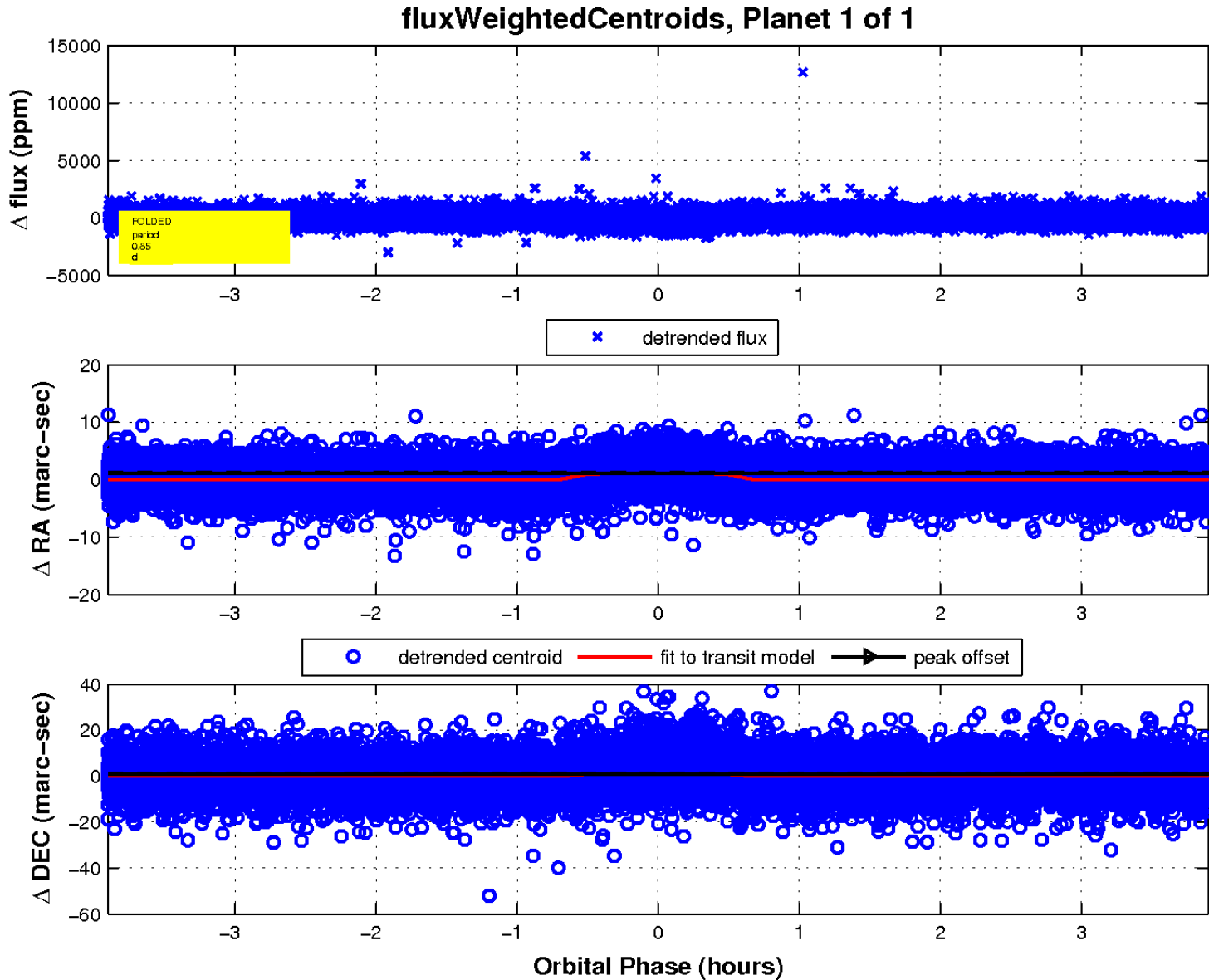
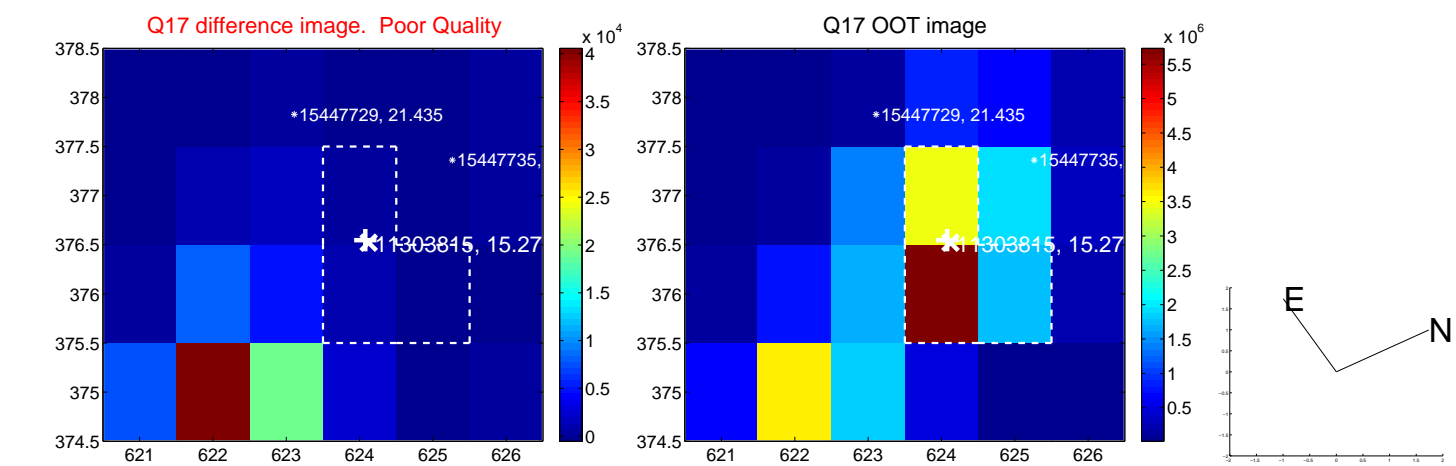
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

