

KIC 003850331

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})
003850331-01	OBS	No	1.601774	132.875941	7.0	13.031	14.9	4.8	3.08	6762	0.82	18641.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003850331-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

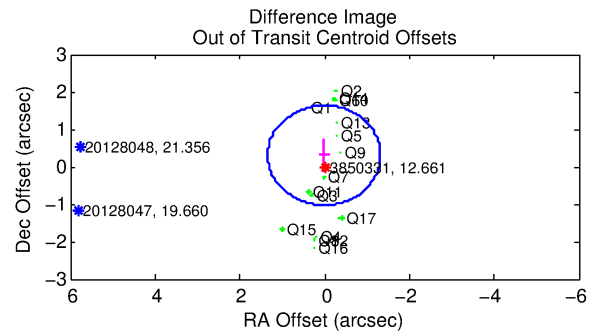
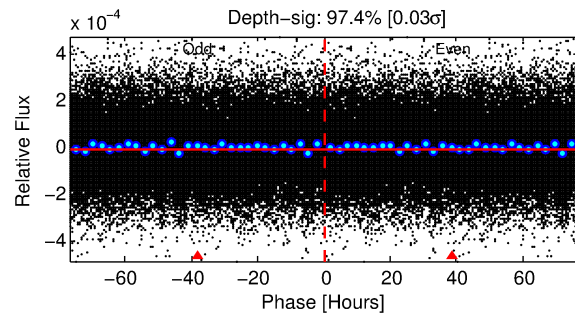
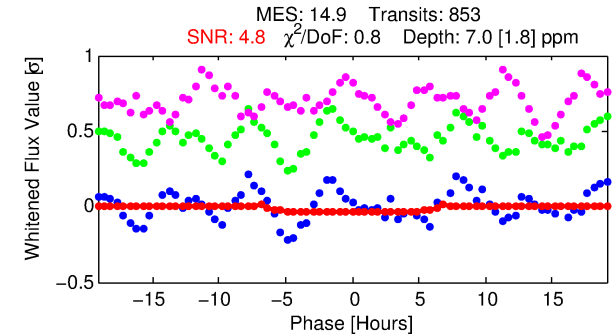
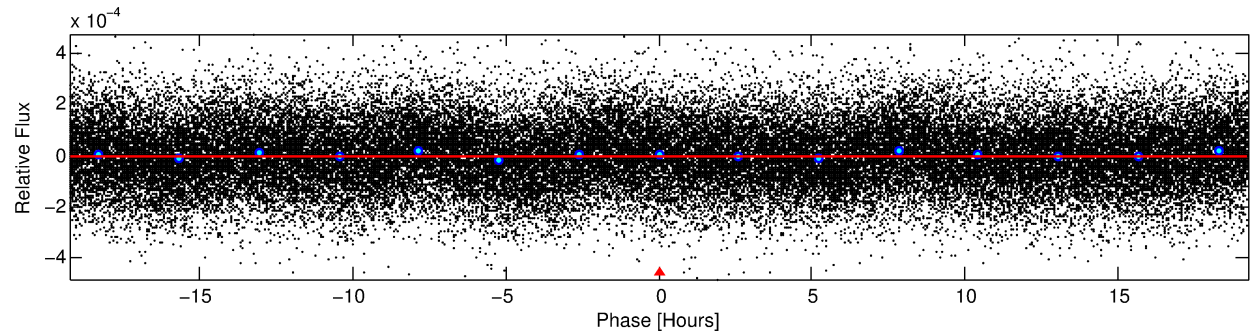
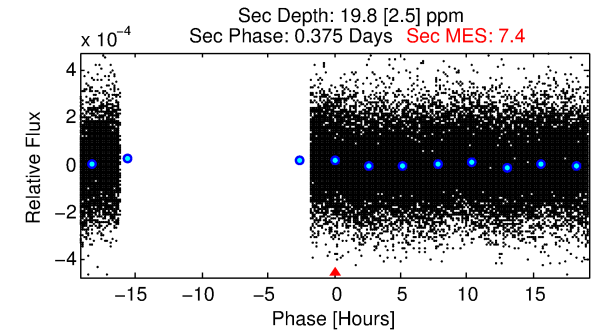
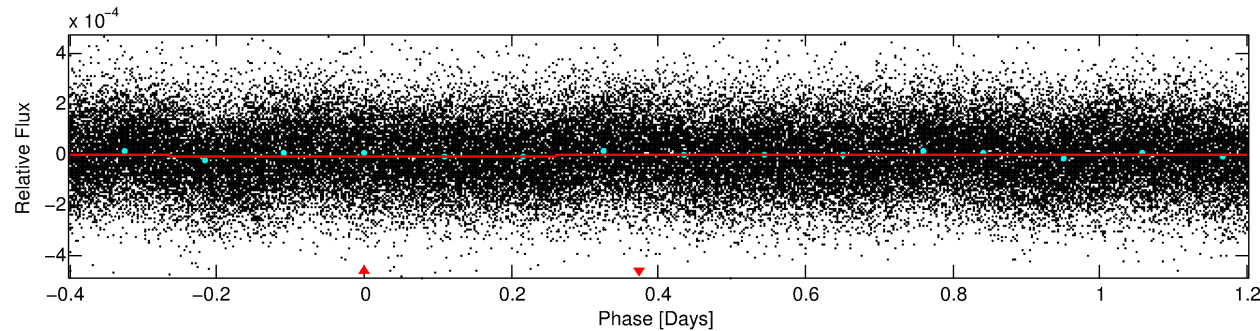
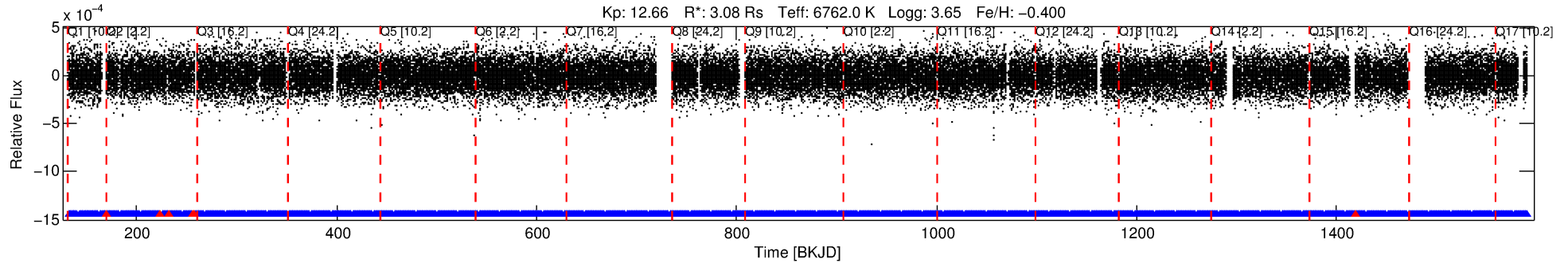
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003850331-01

No Significant Match Found

DV One-Page Summary

KIC: 3850331 Candidate: 1 of 1 Period: 1.602 d



DV Fit Results:

Period = 1.60177 [0.00006] d
Epoch = 132.8759 [0.0157] BKJD
Rp/R* = 0.0024 [0.0037]
a/R* = 1.14 [2.27]
b = 0.12 [66.94]
Seff = 18641.40 [10485.32]
Teq = 2980 [419] K
Rp = 0.82 [1.28] Re
a = 0.0308 [0.0106] AU
Ag = 15.37 [47.57] [0.30σ]
Teffp = 9121 [6953] K [0.88σ]

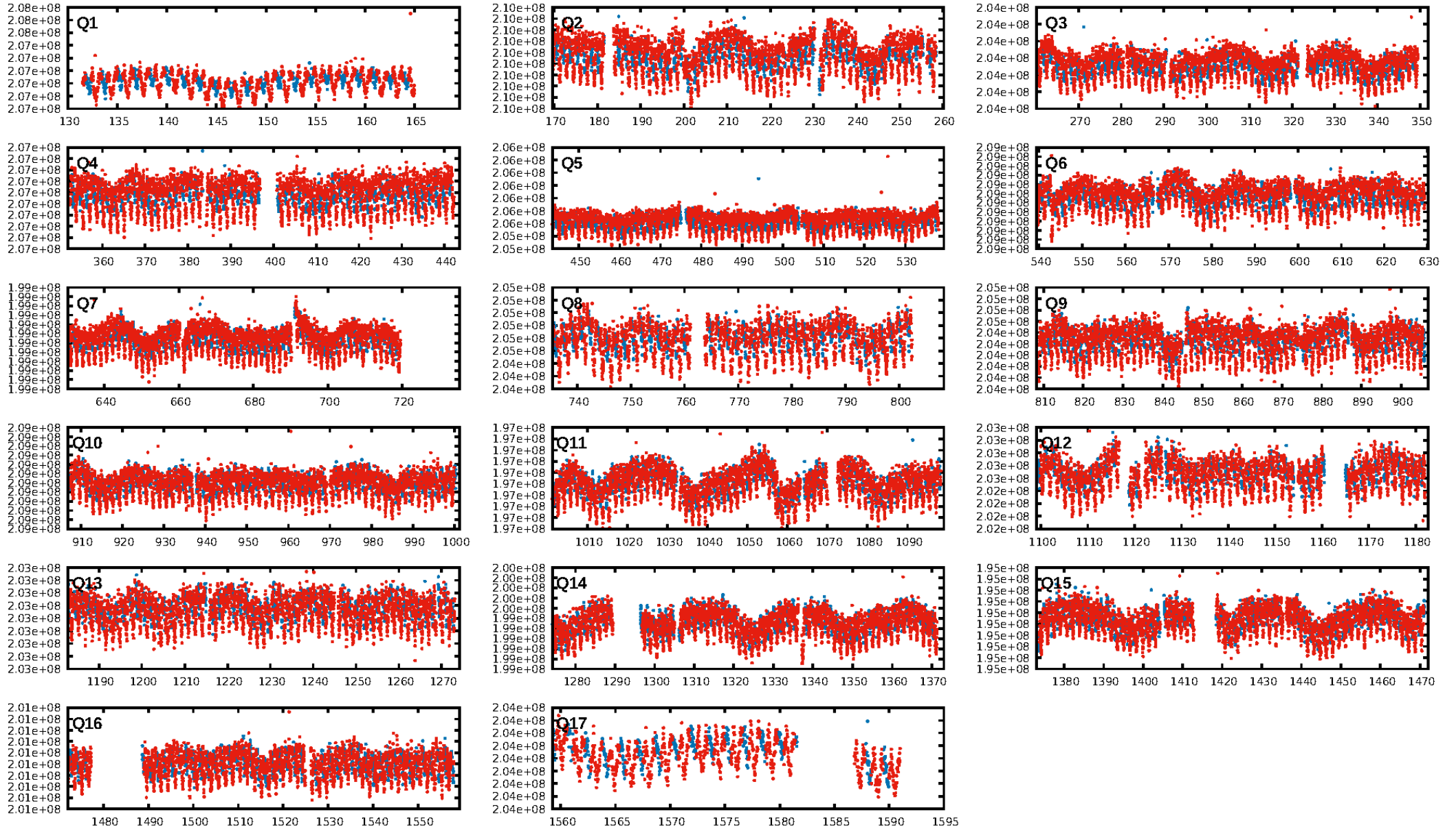
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [808/814]
GhostDiagnostic-chr: 0.3828
Centroid-sig: 0.0%
Centroid-so: 13.653 arcsec [5.70σ]
OotOffset-rm: 0.304 arcsec [0.69σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.250 arcsec [0.57σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

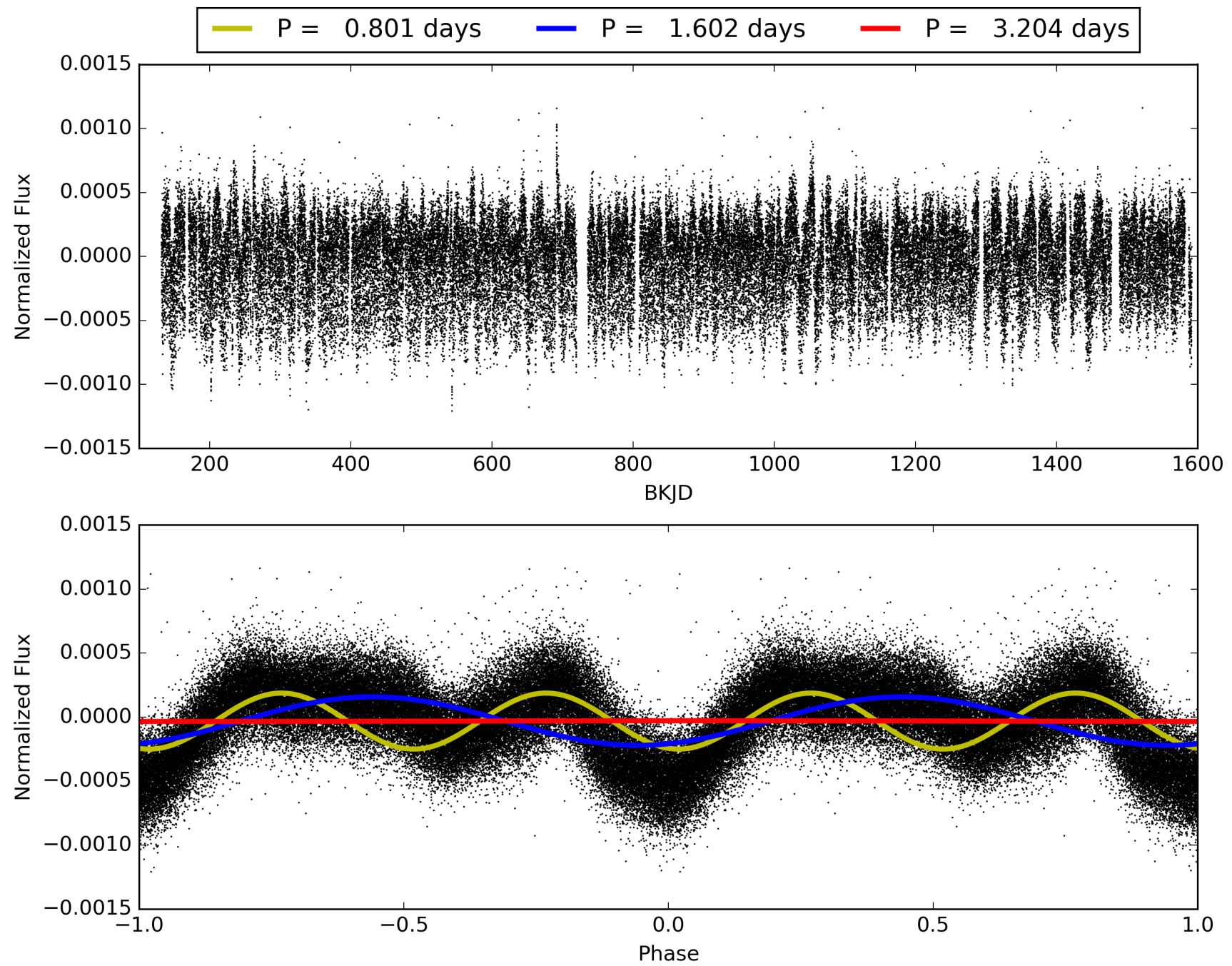
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:08:38 Z

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

TCE 003850331-01, PDC Light Curves

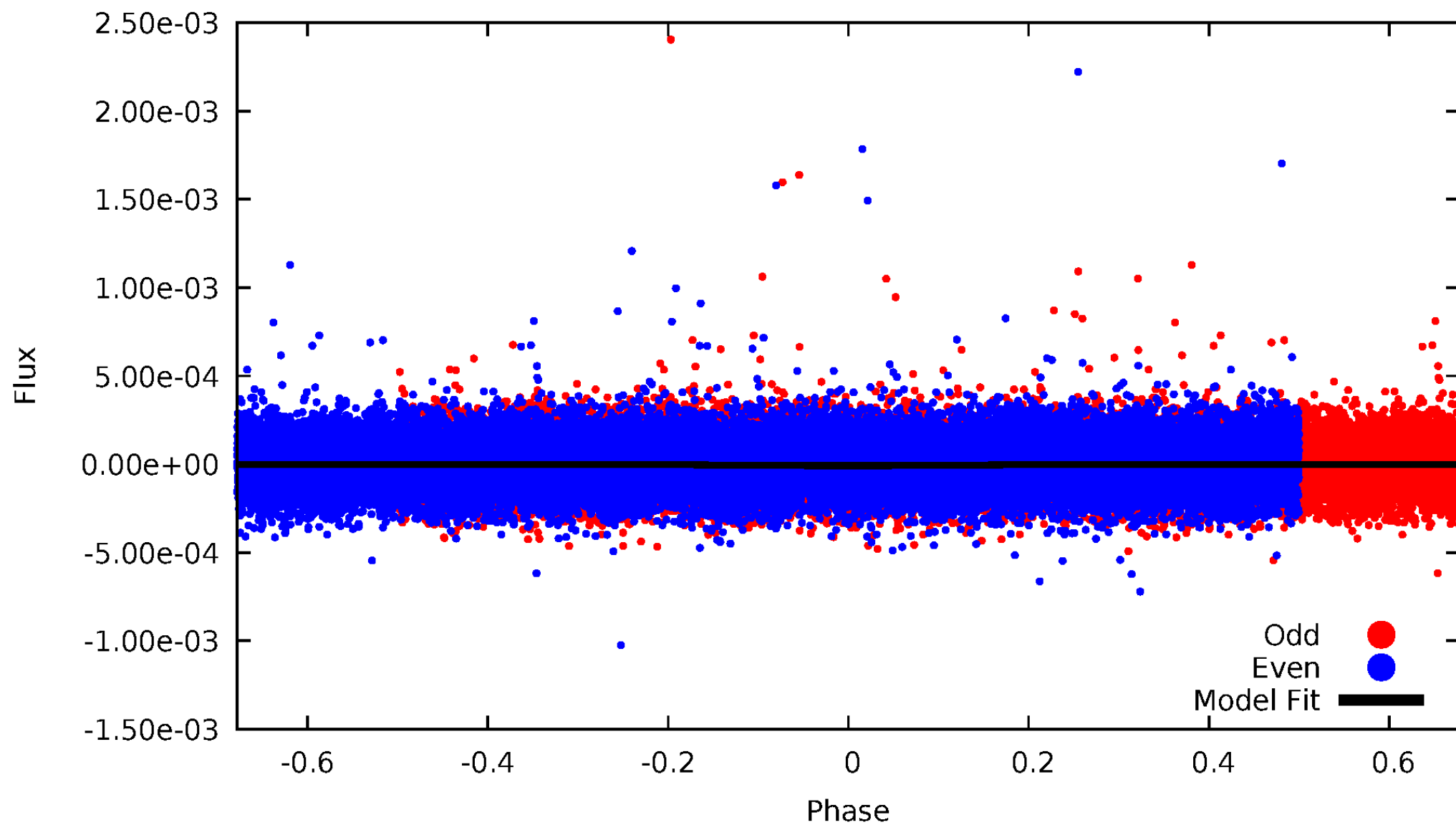


TCE 003850331-01



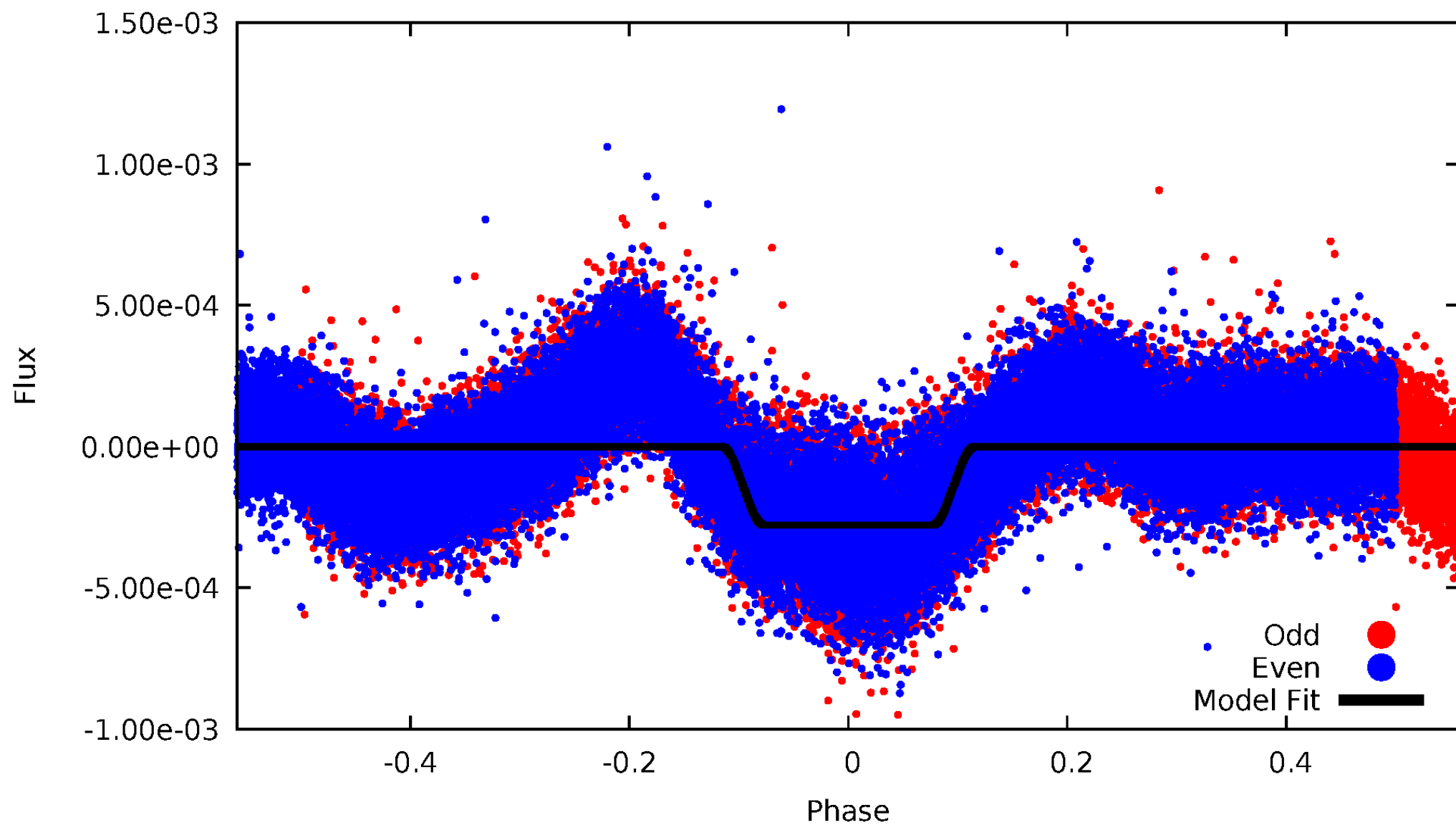
DV Odd/Even

TCE 003850331-01

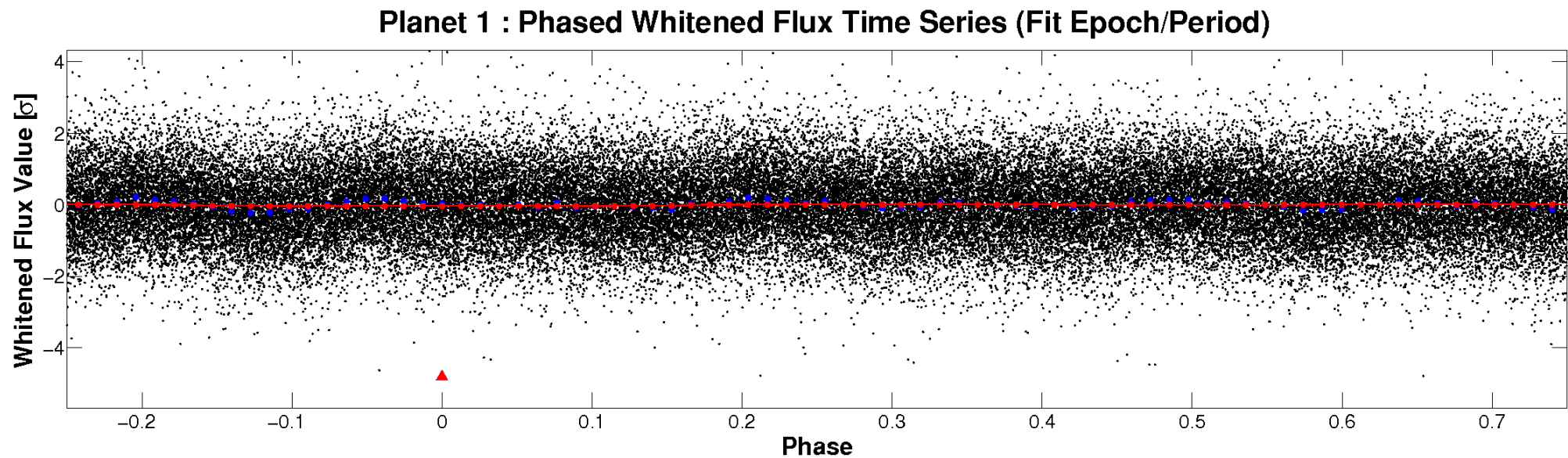
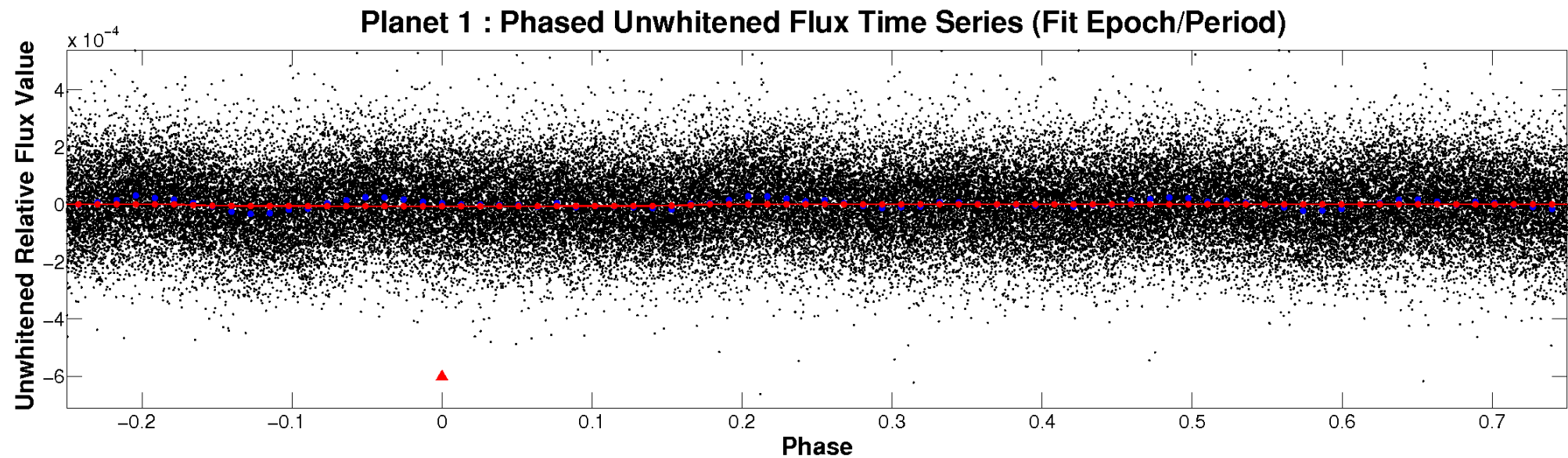


ALT Odd/Even

TCE 003850331-01

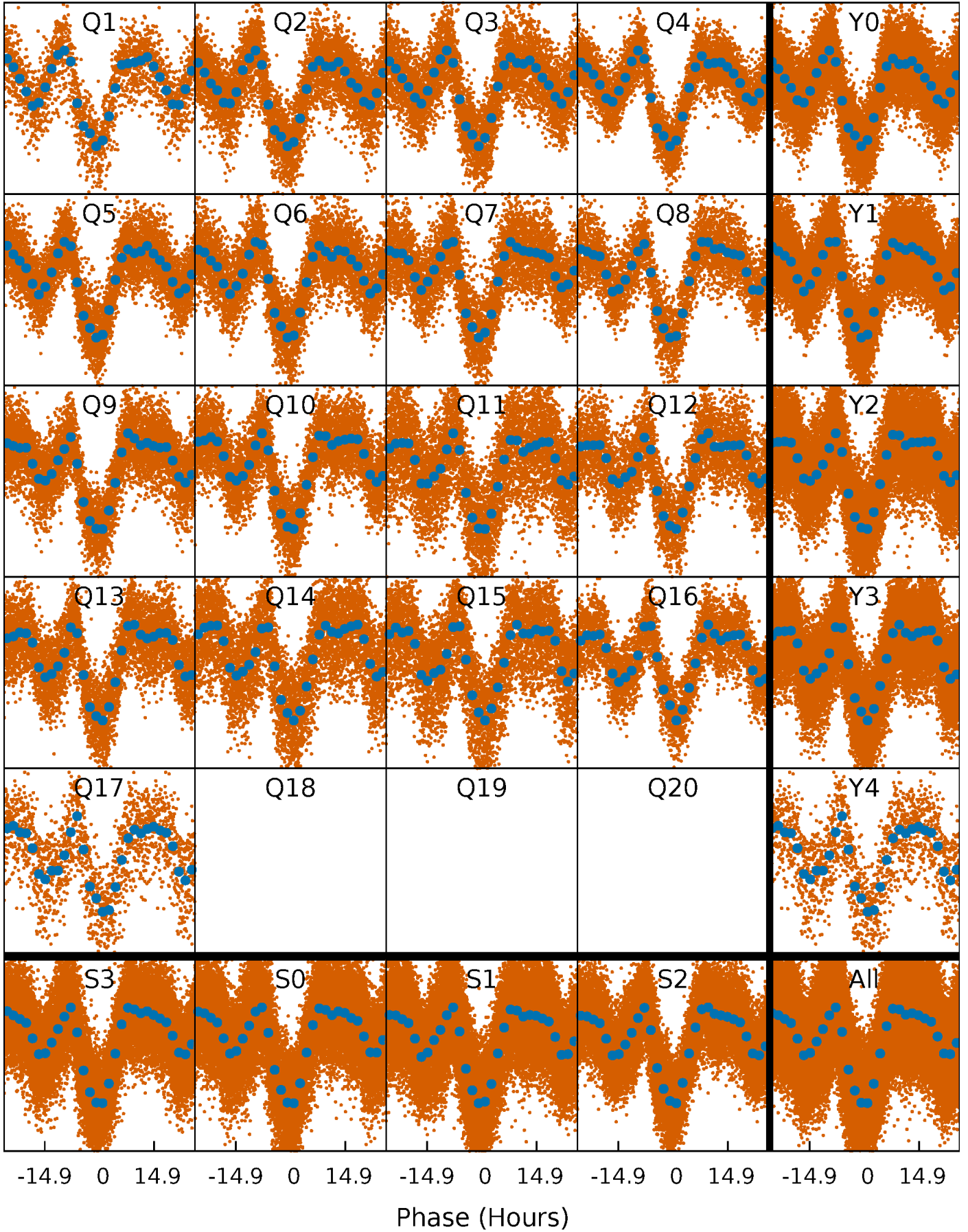


Non-Whitened Vs. Whitened Light Curve



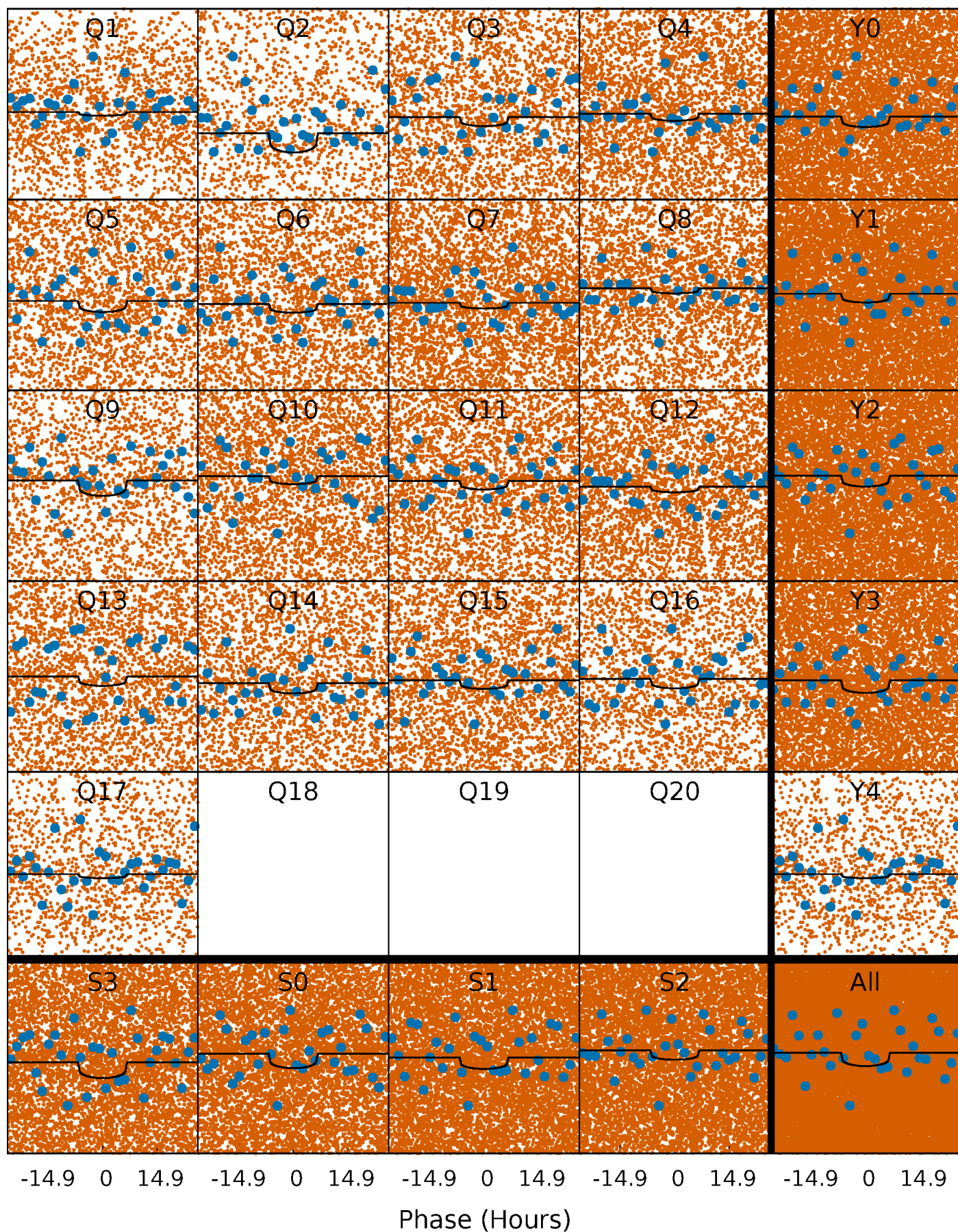
PDC Quarter-Phased Transit Curves

TCE 003850331-01 $P = 1.601774$ Days $T_0 = 132.875941$ (BKJD)



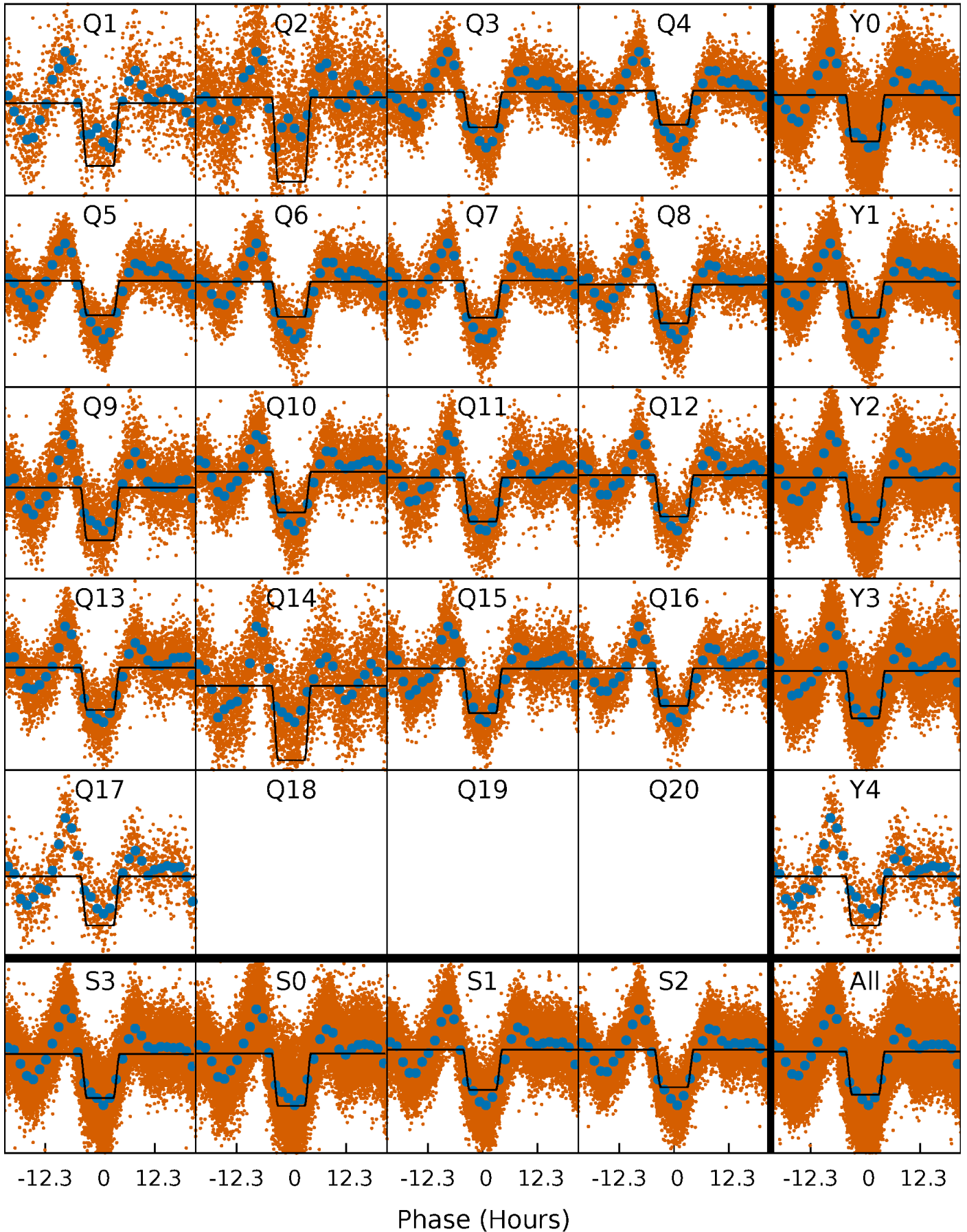
DV Quarter-Phased Transit Curves

TCE 003850331-01 P= 1.601774 Days $T_0=132.875941$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

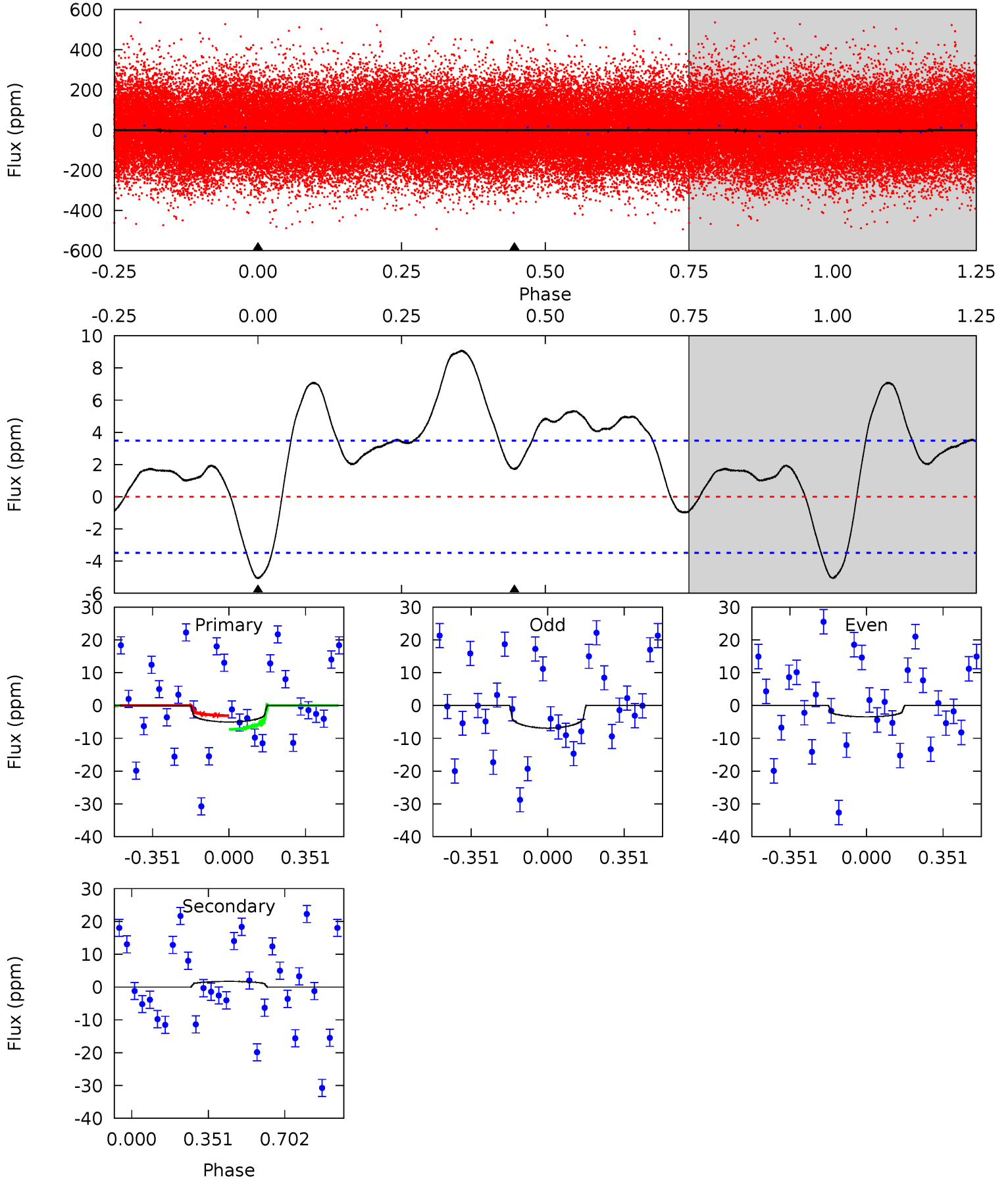
TCE 003850331-01 P= 1.601899 Days $T_0=132.806508$ (BKJD)



DV Model-Shift Uniqueness Test

003850331-01, P = 1.601774 Days, E = 131.274167 Days

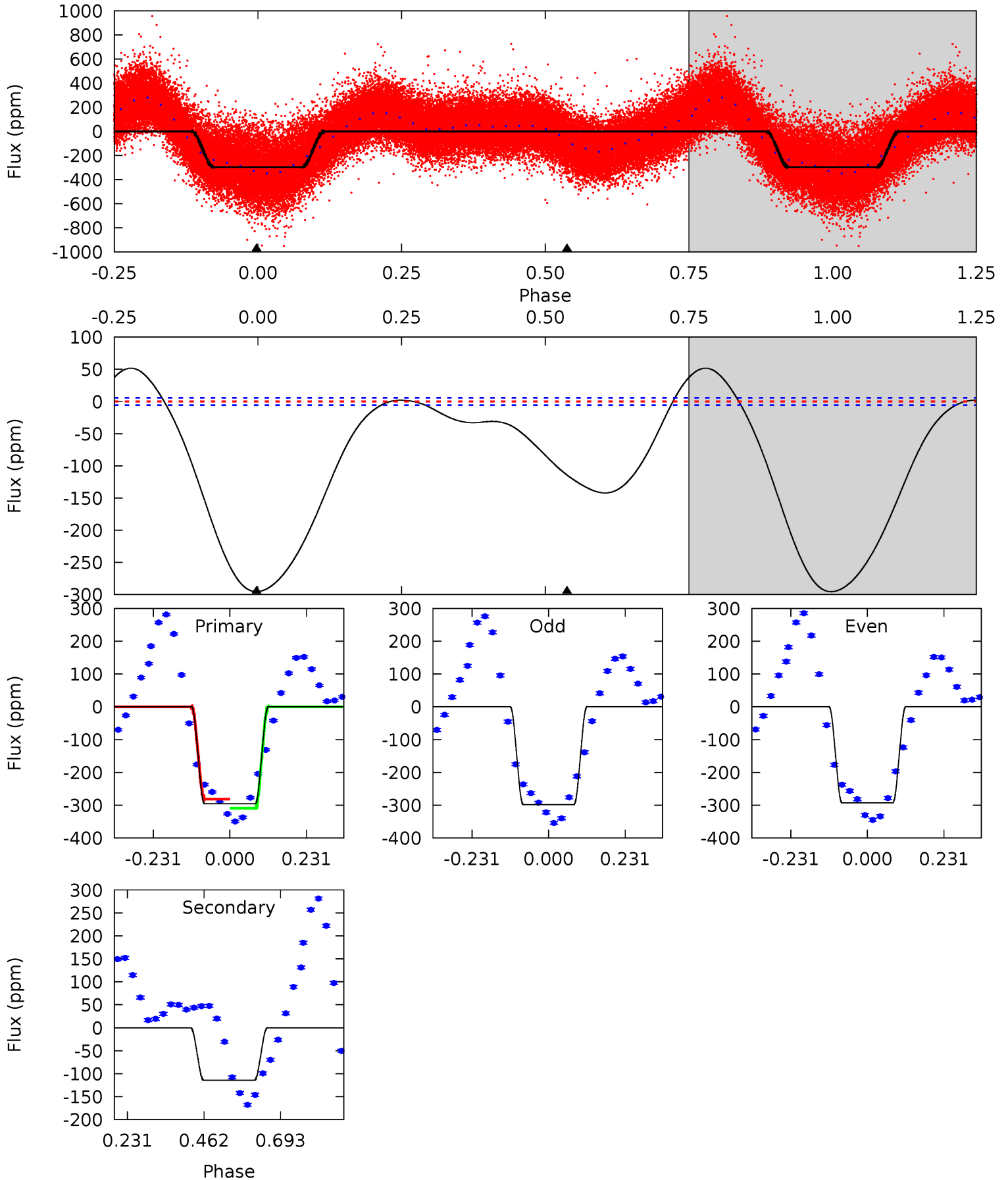
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.21	-2.12	0	0	4.29	0.93	2.18	6.21	6.21	-2.12	-2.12	2.11	0.85	0.64	2.60



Alt Model-Shift Uniqueness Test

003850331-01, P = 1.601899 Days, E = 131.204609 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
221.8	85.7	0	0	4.39	1.20	12.8	221.8	221.8	85.7	85.7	1.89	0.94	0.15	9.15



Stellar Parameters For KIC 003850331

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6762^{+182}_{-222}	$3.645^{+0.320}_{-0.080}$	$-0.400^{+0.350}_{-0.250}$	$3.077^{+0.476}_{-1.110}$	$1.525^{+0.246}_{-0.301}$	$0.074^{+0.176}_{-0.019}$
	+3%/-3%	+9%/-2%	+87%/-62%	+15%/-36%	+16%/-20%	+239%/-26%
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 003850331-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 1	$1.15^{+0.98}_{-0.75}$	4069^{+249}_{-382}	-4513^{+536}_{-2359}	$-0.617^{+0.461}_{-4.771}$
Alt.	-114 ± 1	$5.28^{+1.50}_{-1.40}$	4041^{+251}_{-377}	5229^{+733}_{-528}	$2.189^{+1.824}_{-0.837}$

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 $A_{obs} \gg 1.0$

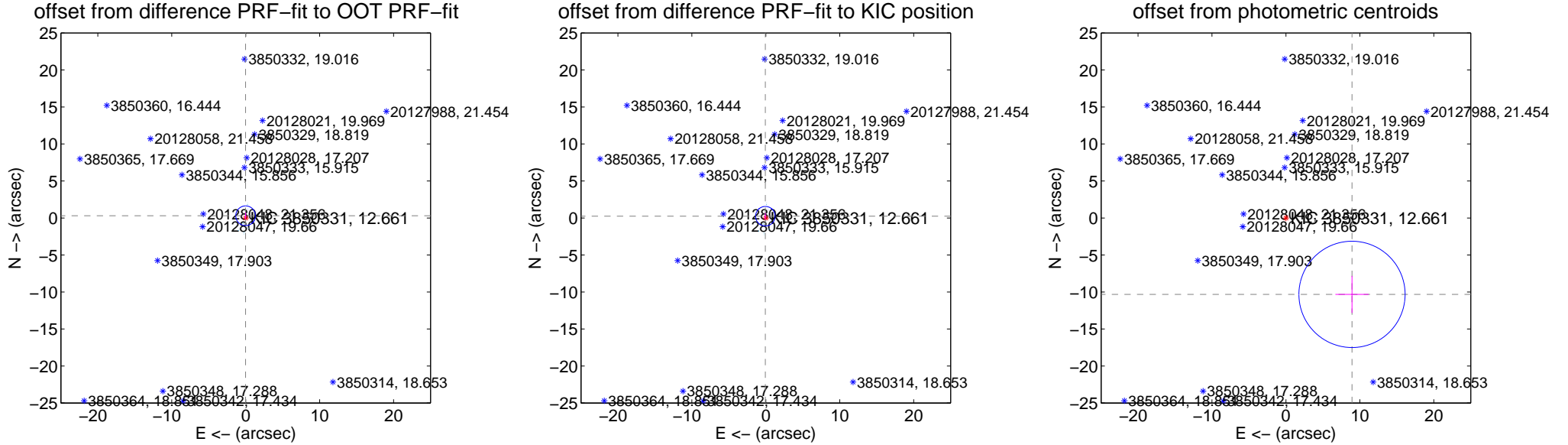
DV Centroid Data

Supplemental centroid analysis for 003850331-01. Kepler magnitude: 12.66. Transit SNR 4.83

There are 17 quarters with good PRF difference image offsets

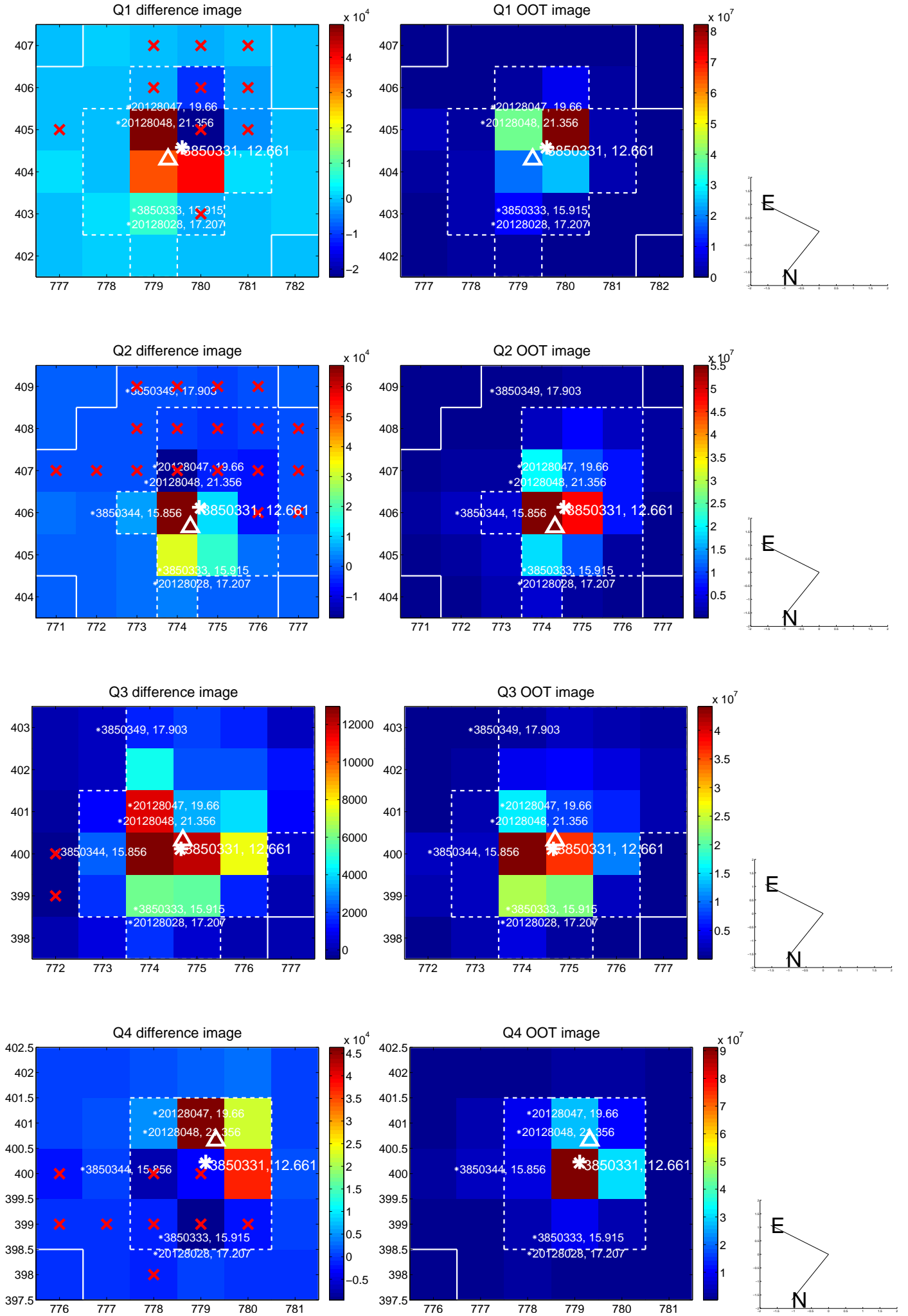
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.304 ± 0.444	0.69	0.013 ± 0.101	0.304 ± 0.444
PRF-fit source offset from KIC position	0.250 ± 0.439	0.57	0.061 ± 0.096	0.242 ± 0.452
photometric centroid source offset	13.65 ± 2.39	5.70	-8.94 ± 2.25	-10.32 ± 2.49

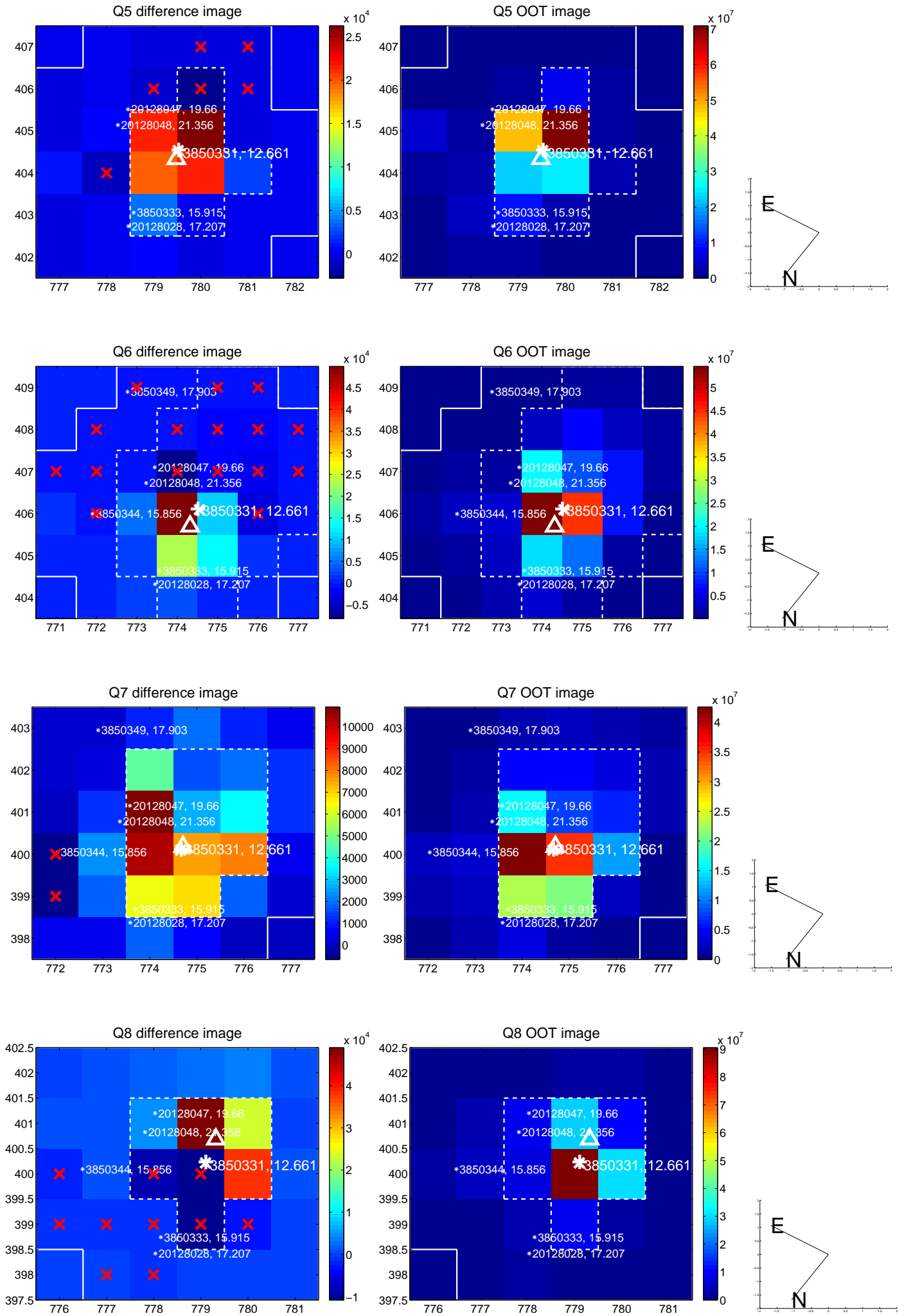


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

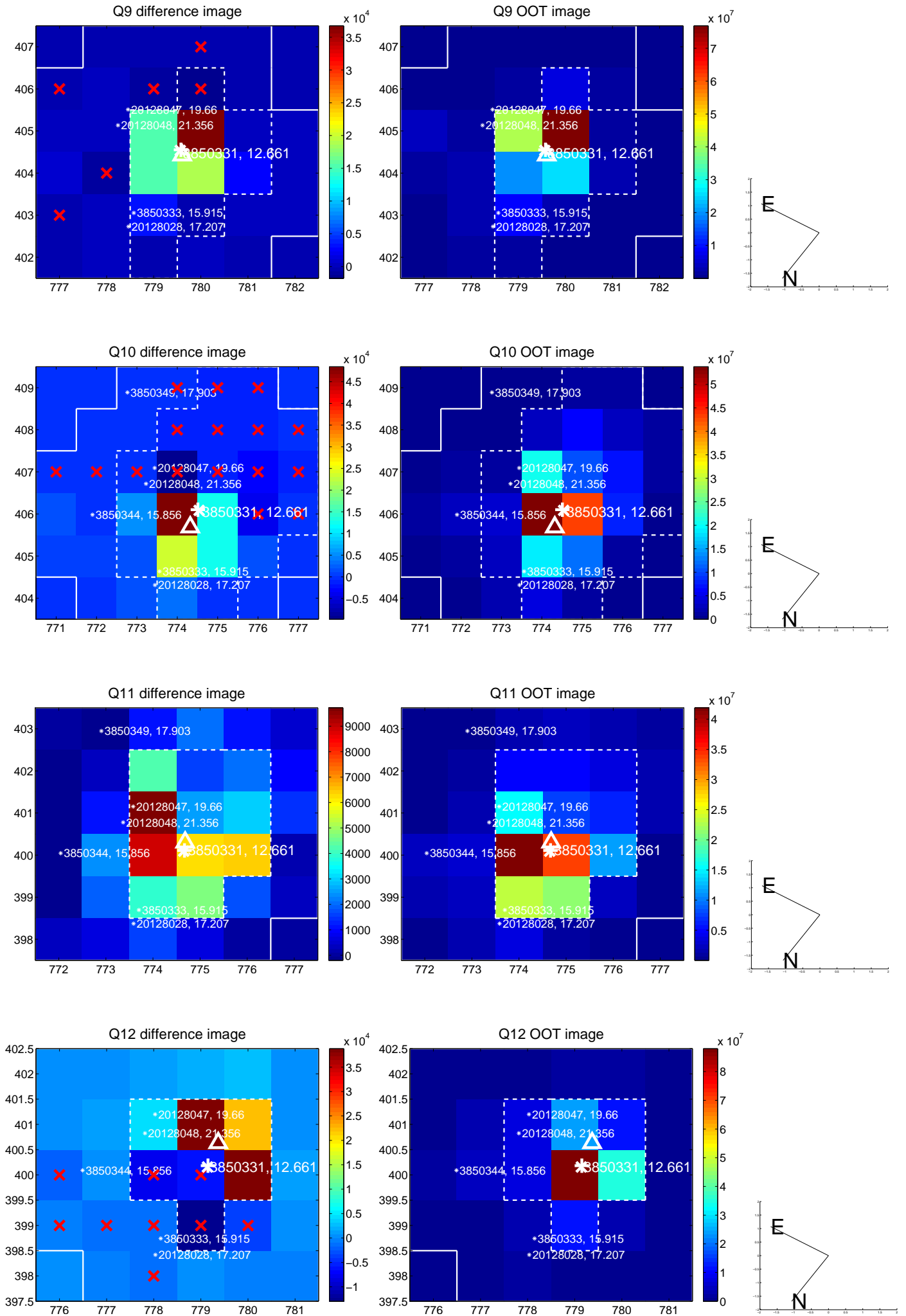
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



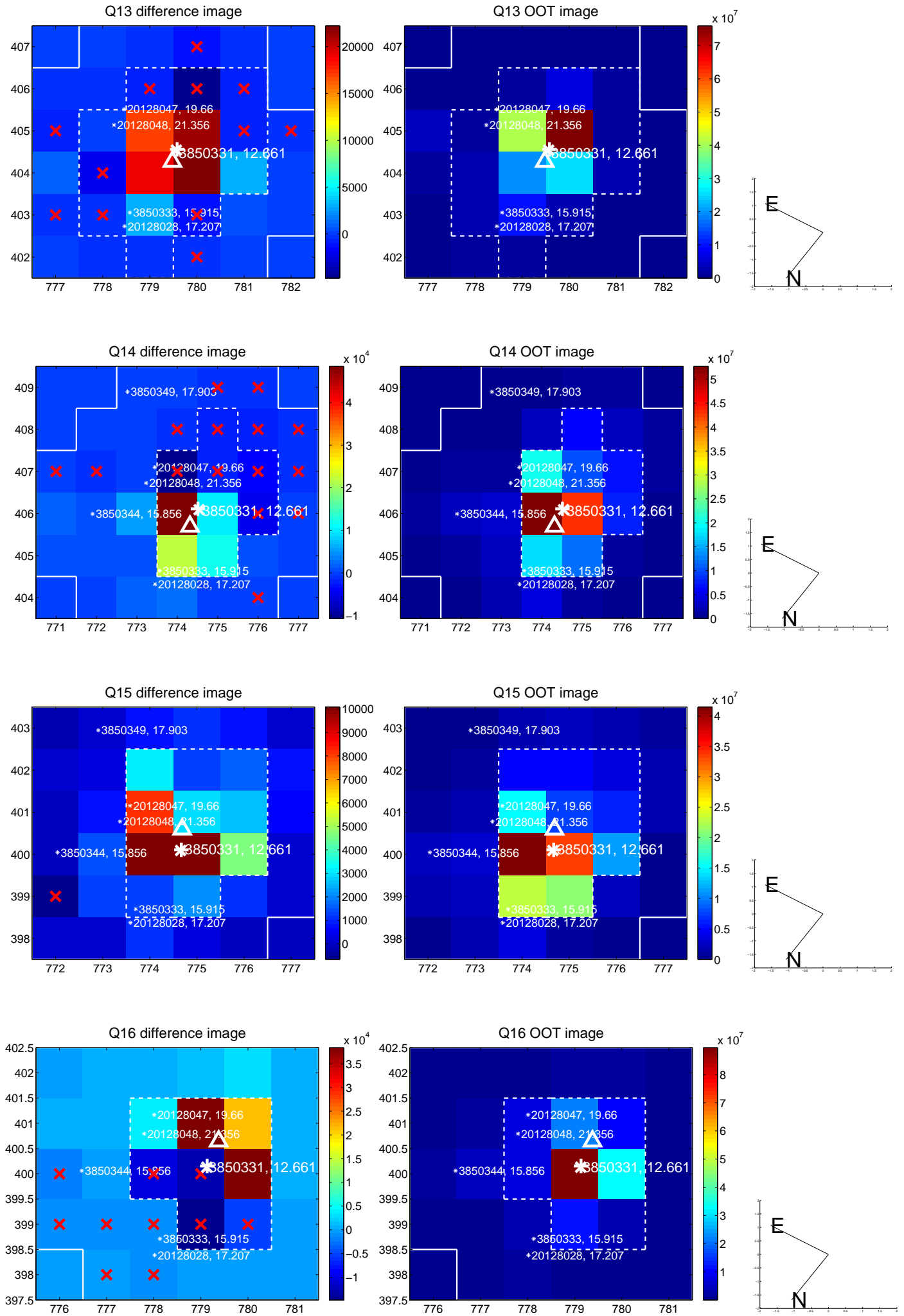
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



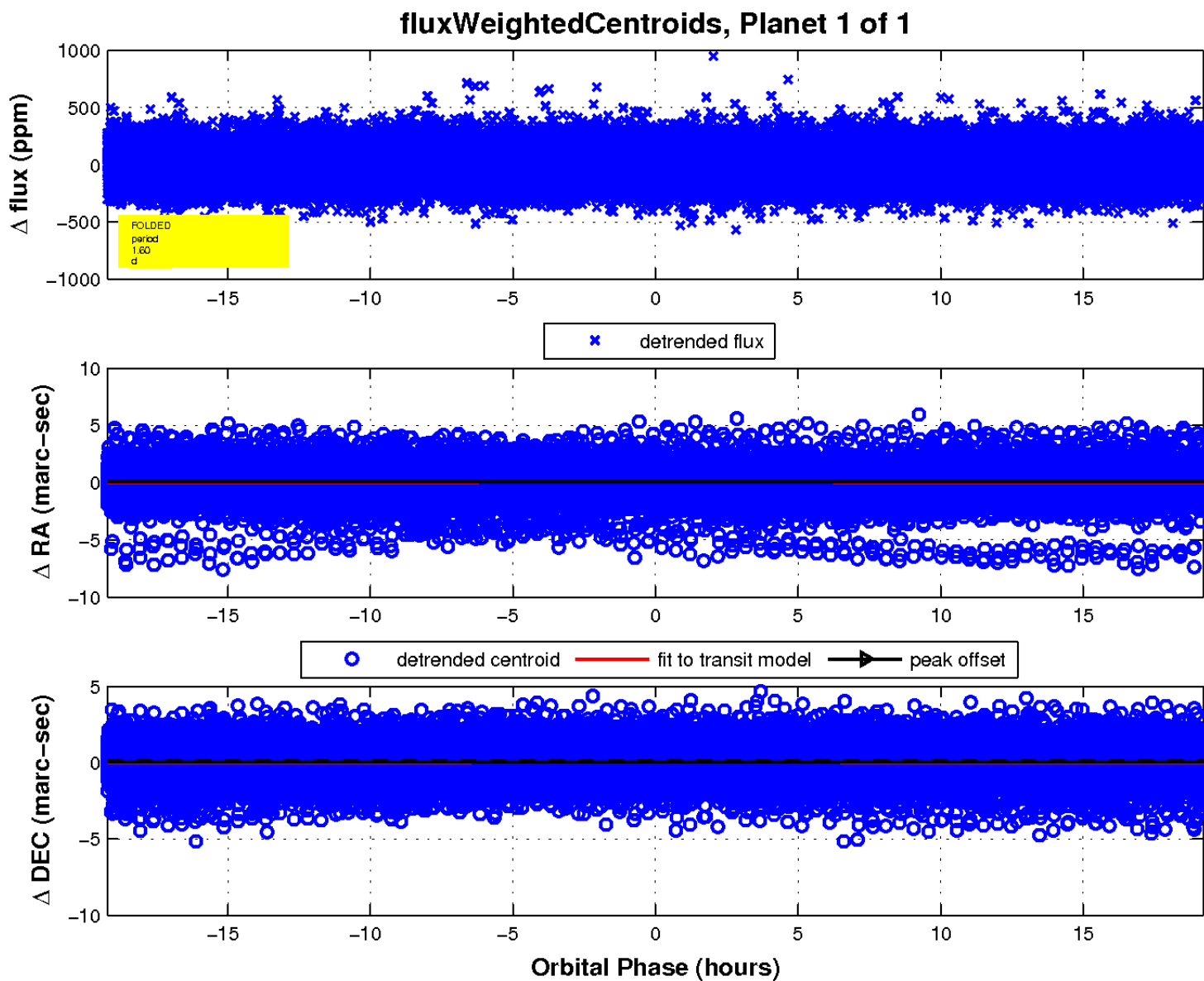
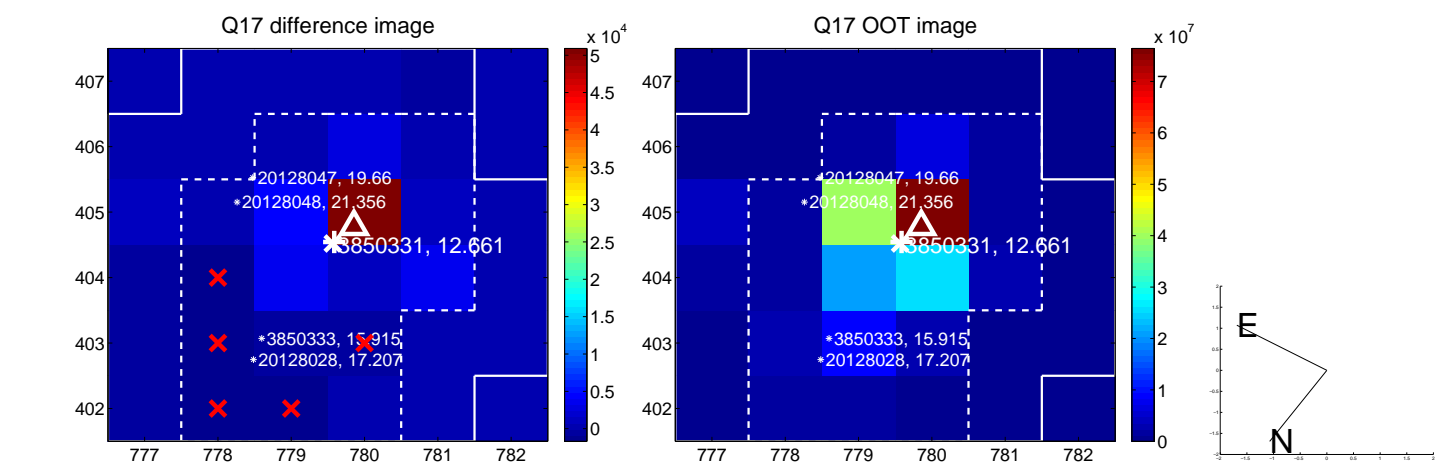
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

