

KIC 010383729

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 _⊕)
010383729-01	OBS	8004.01	0.734529	132.171326	21.7	2.467	11.9	9.6	1.01	6046	0.56	4454.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010383729-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_DV—MOD_SEC_ALT—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.

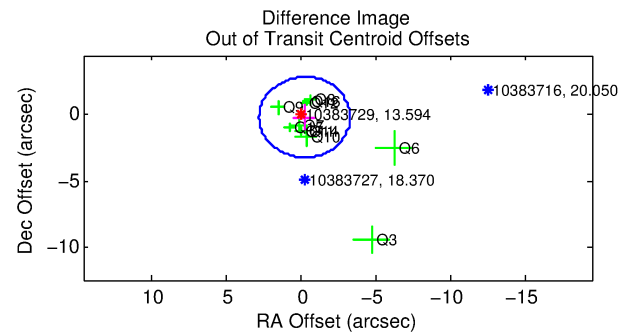
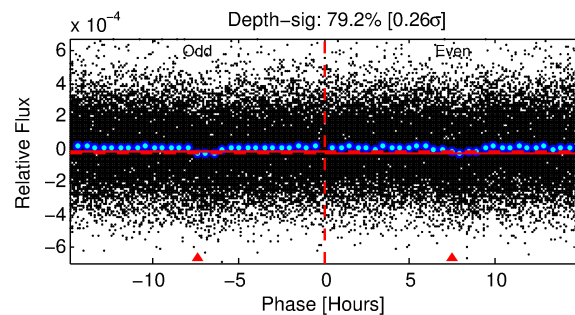
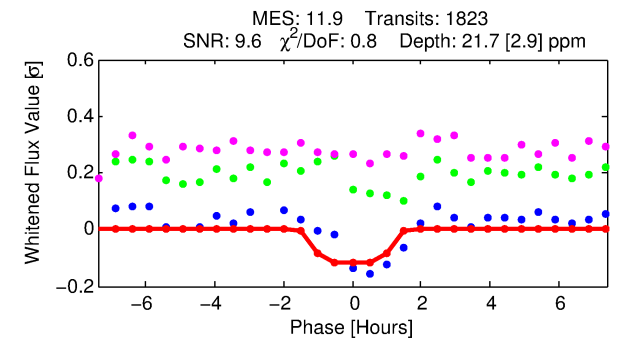
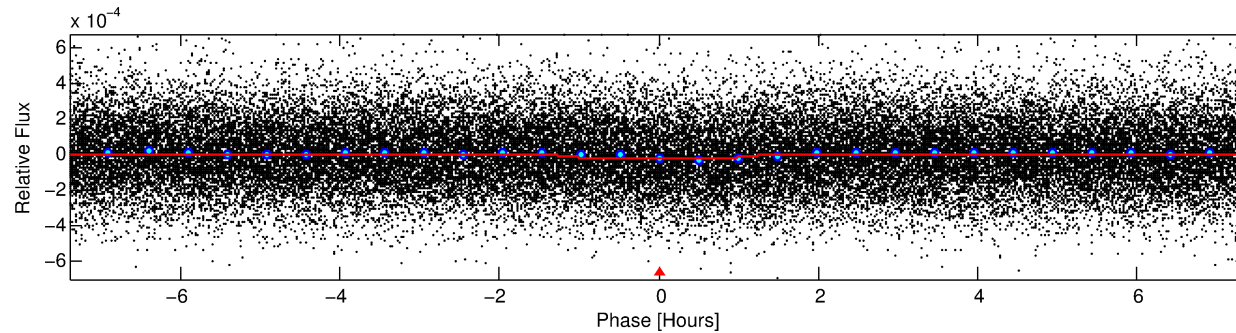
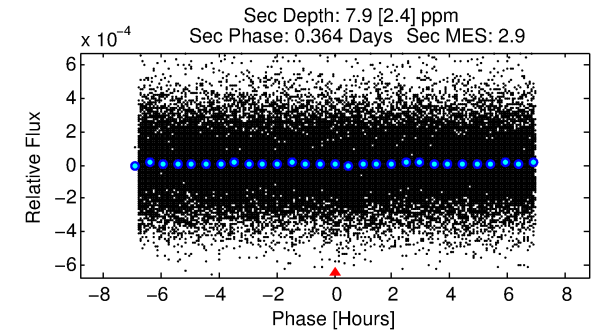
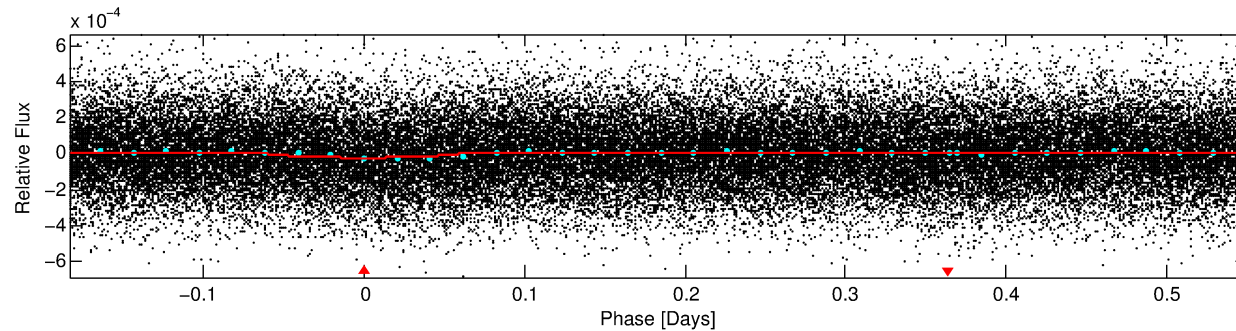
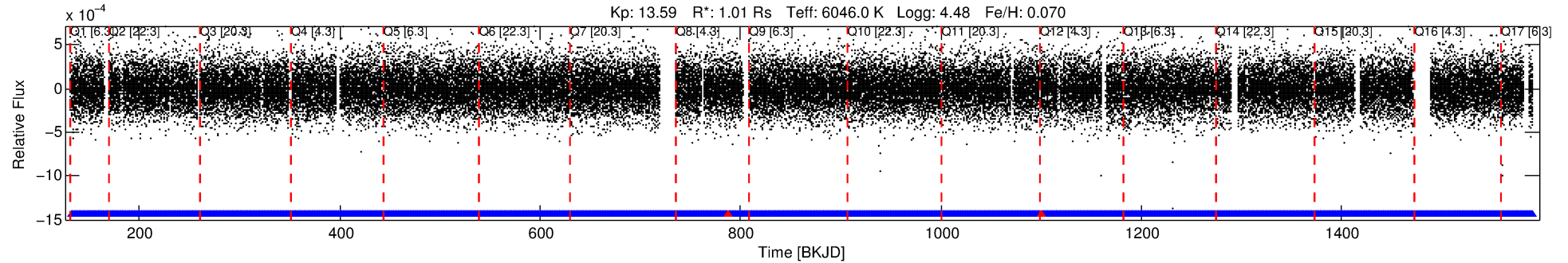
Ephemeris Match Information For 010383729-01

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
010383729-01	10383729	010383620-pri	10383620	1:1	245.6	61	-1	12.83	13.59	10577.00	Col-Anomaly	0	4.85	2.19

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: 10383729 Candidate: 1 of 1 Period: 0.735 d



DV Fit Results:

Period = 0.73453 [0.00001] d
Epoch = 132.1713 [0.0034] BKJD
Rp/R* = 0.0051 [0.0026]
a/R* = 1.37 [1.71]
b = 0.90 [0.55]
Seff = 4454.25 [1836.87]
Teq = 2083 [215] K
Rp = 0.56 [0.34] Re
a = 0.0165 [0.0044] AU
Ag = 3.82 [4.39] [0.64σ]
Teffp = 4504 [1224] K [1.95σ]

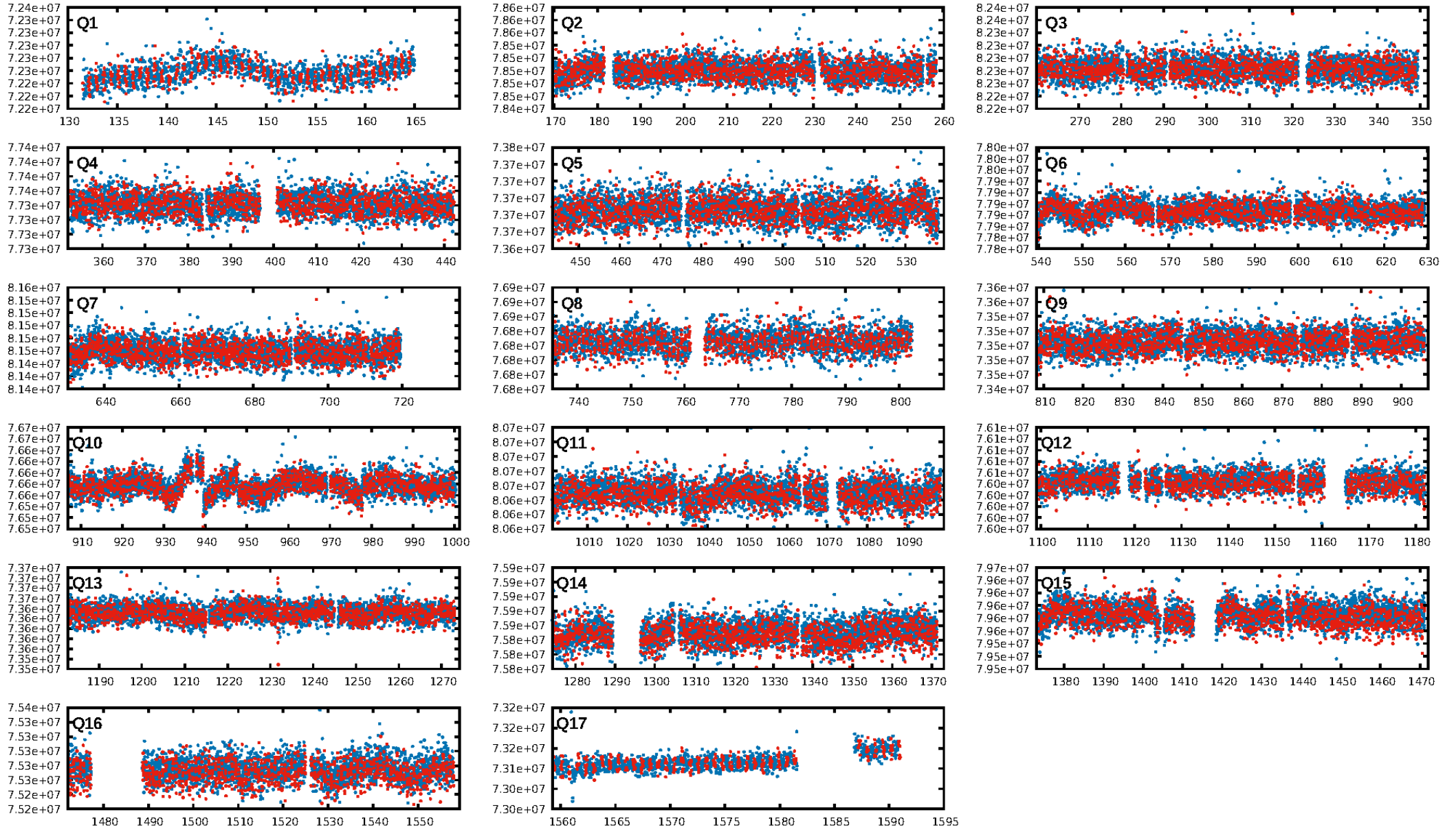
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.26e-32
RollingBand-fgt: 1.00 [1739/1741]
GhostDiagnostic-chr: -5.382
Centroid-sig: 23.6%
Centroid-so: 2.034 arcsec [1.23σ]
OotOffset-rm: 0.344 arcsec [0.34σ]
KicOffset-rm: 0.328 arcsec [0.37σ]
OotOffset-st: 3/4/3/1 [11]
KicOffset-st: 3/4/3/1 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [17/17]

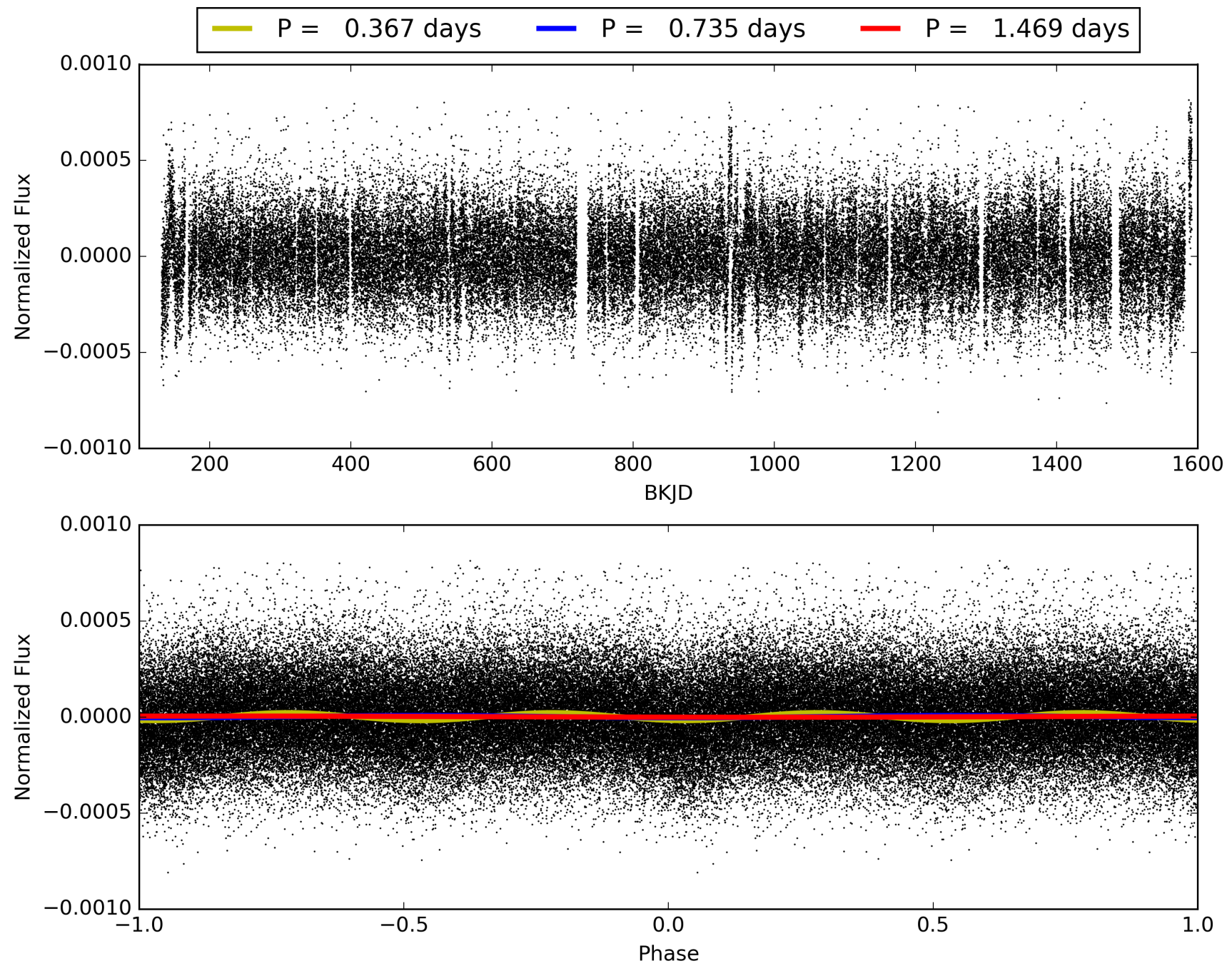
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:17:38 Z

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

TCE 010383729-01, PDC Light Curves

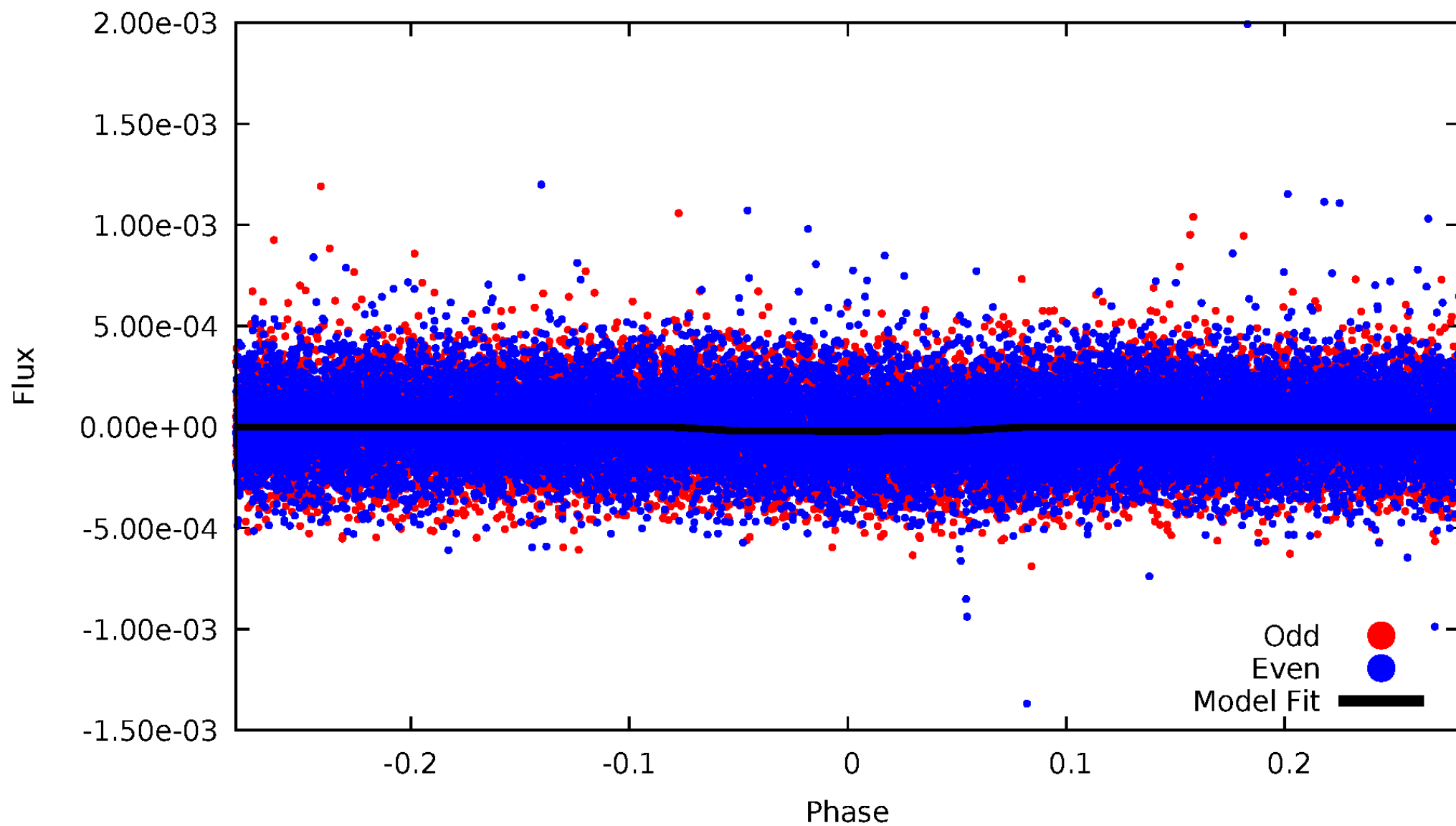


TCE 010383729-01



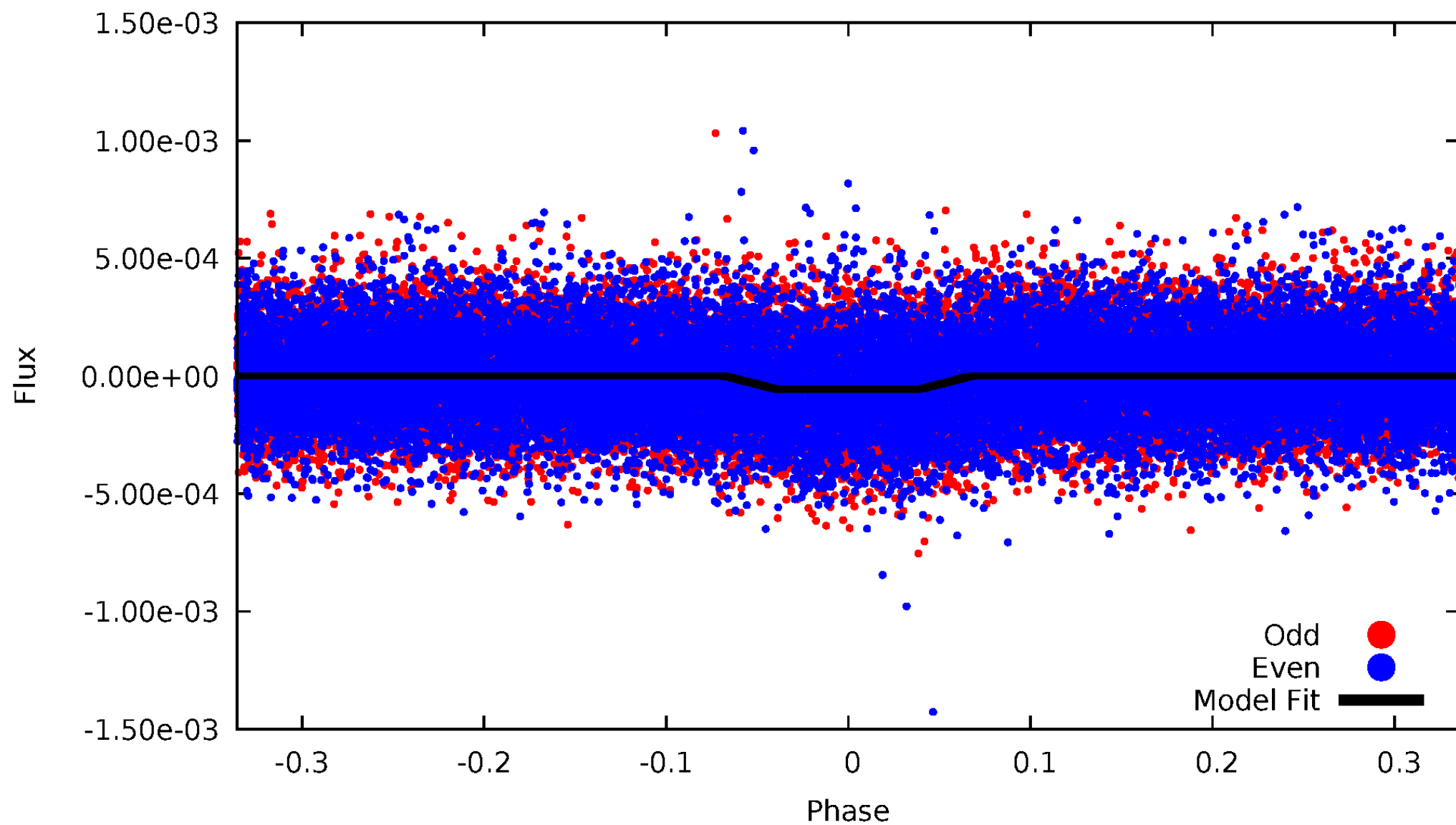
DV Odd/Even

TCE 010383729-01



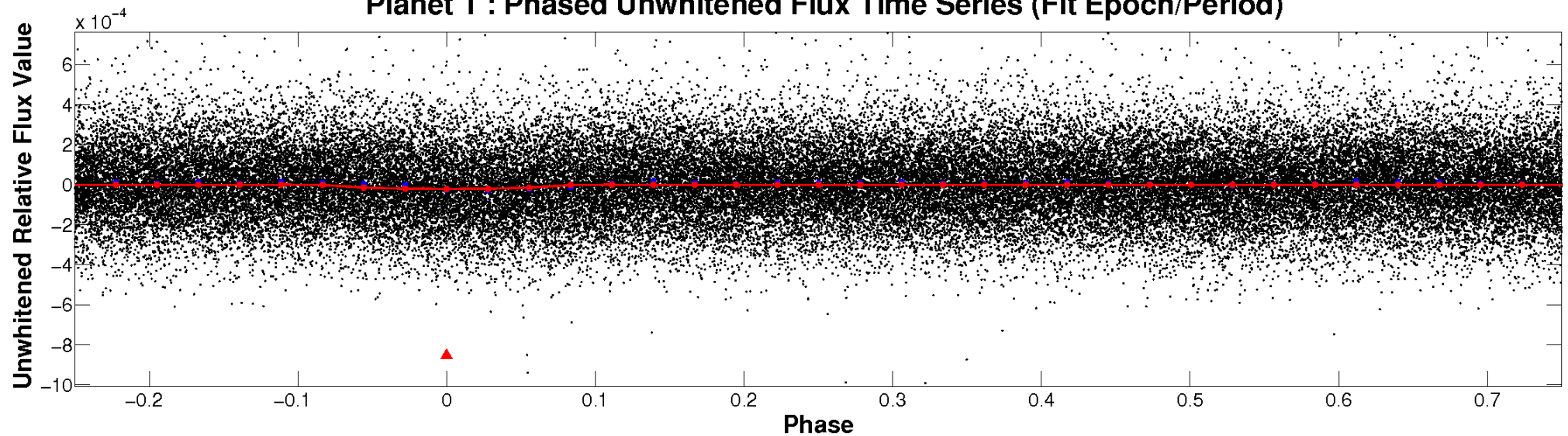
ALT Odd/Even

TCE 010383729-01

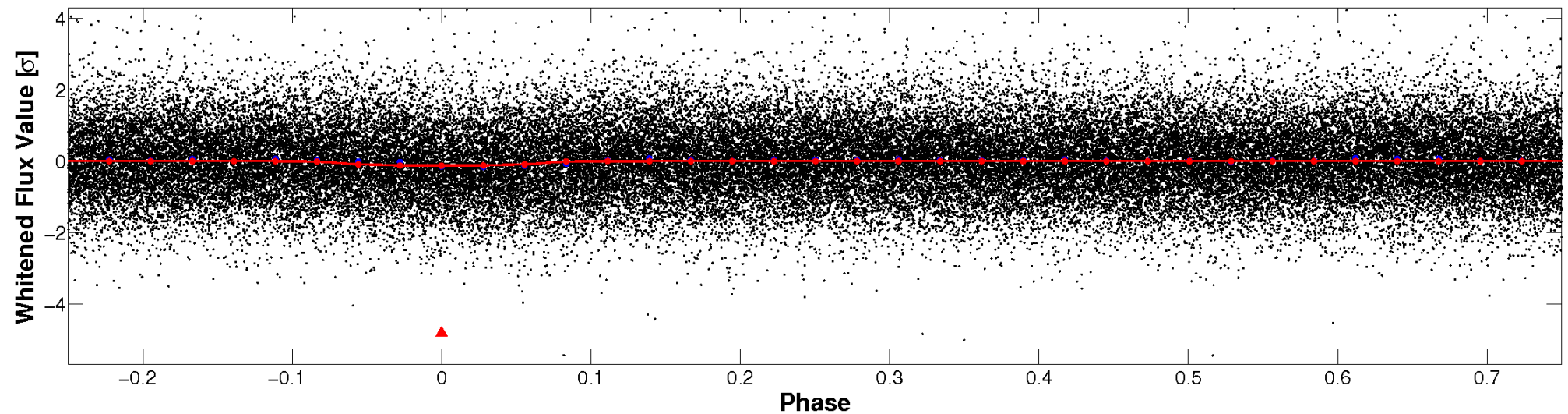


Non-Whitened Vs. Whitened Light Curve

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

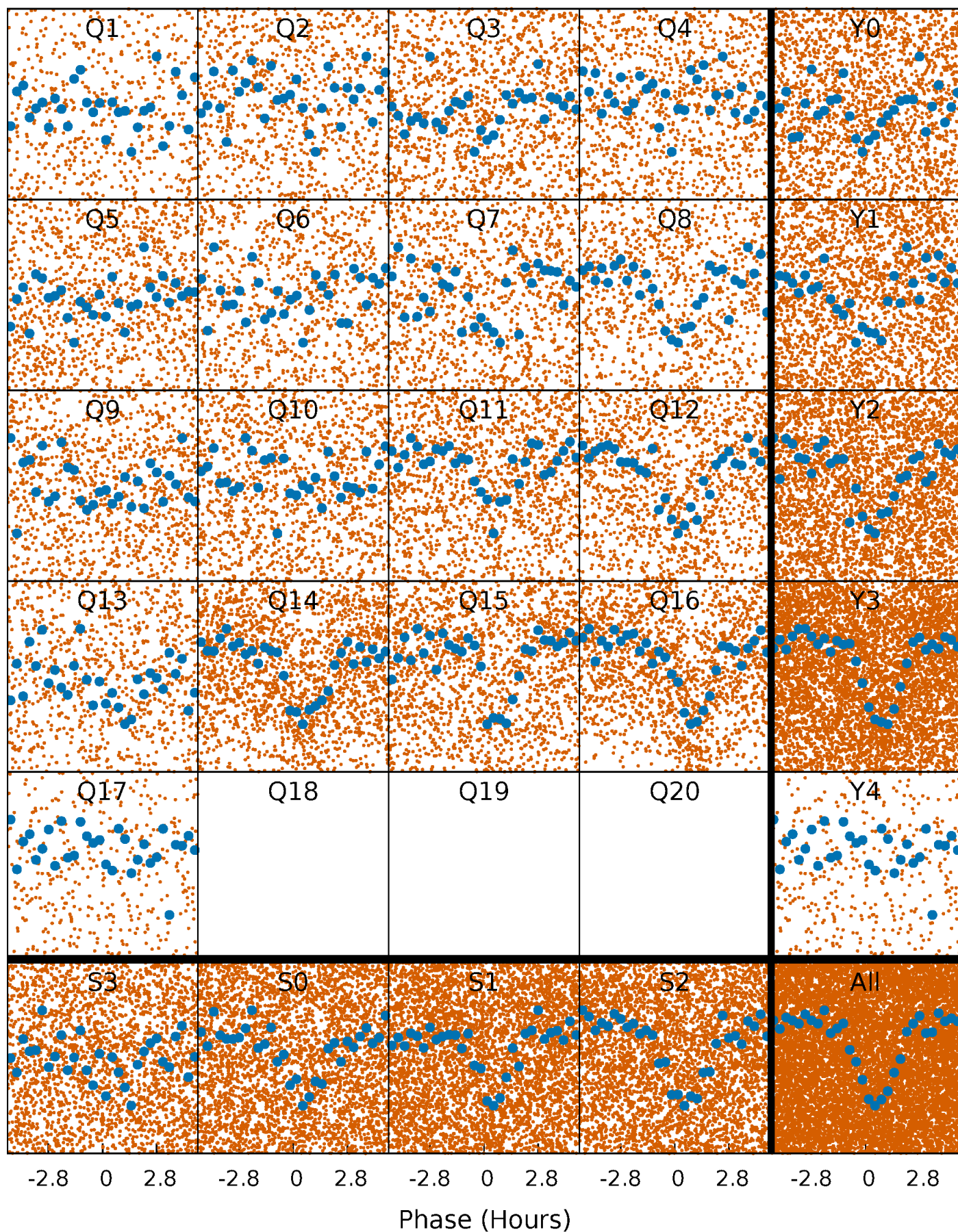


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



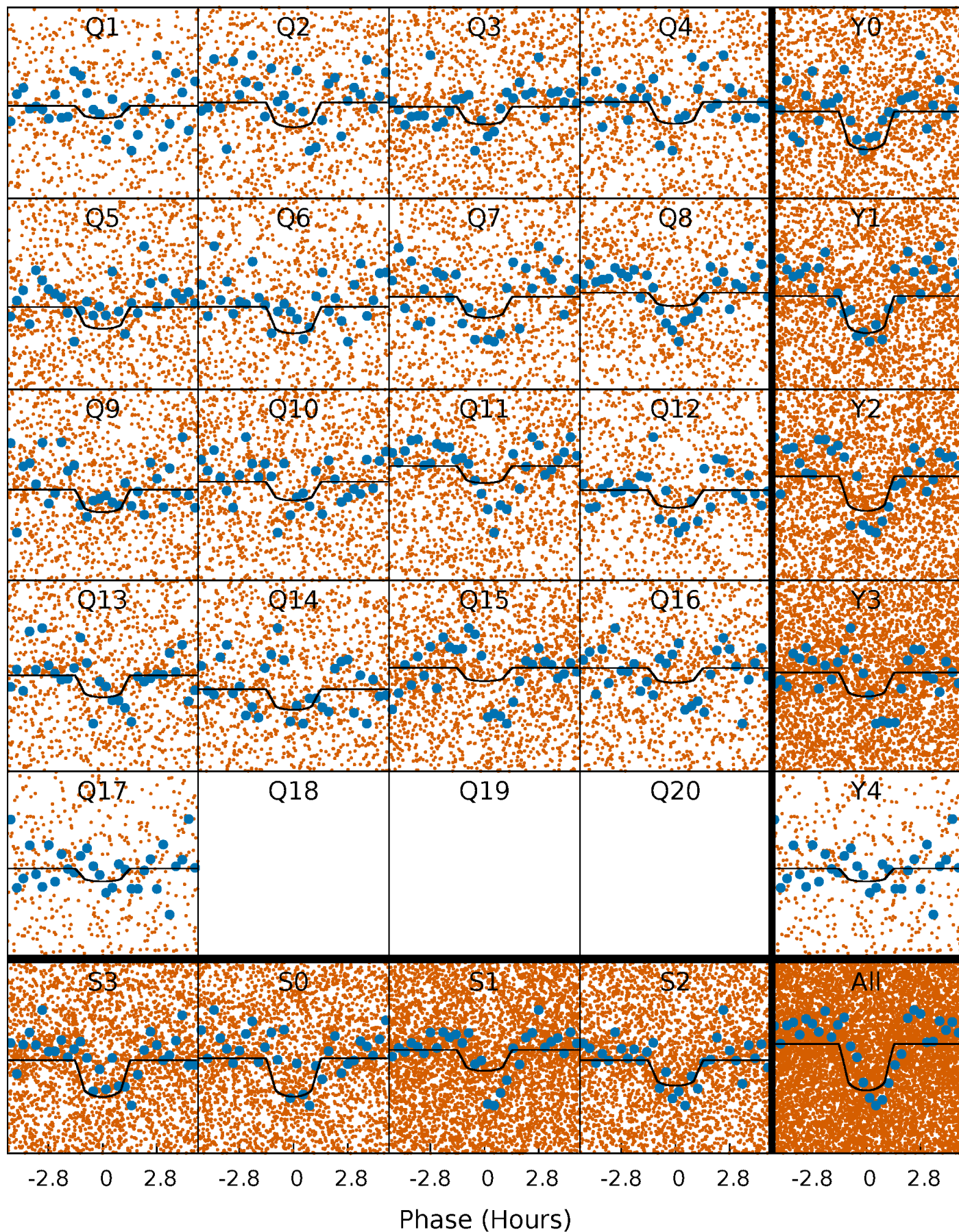
PDC Quarter-Phased Transit Curves

TCE 010383729-01 P= 0.734529 Days $T_0=132.171326$ (BKJD)



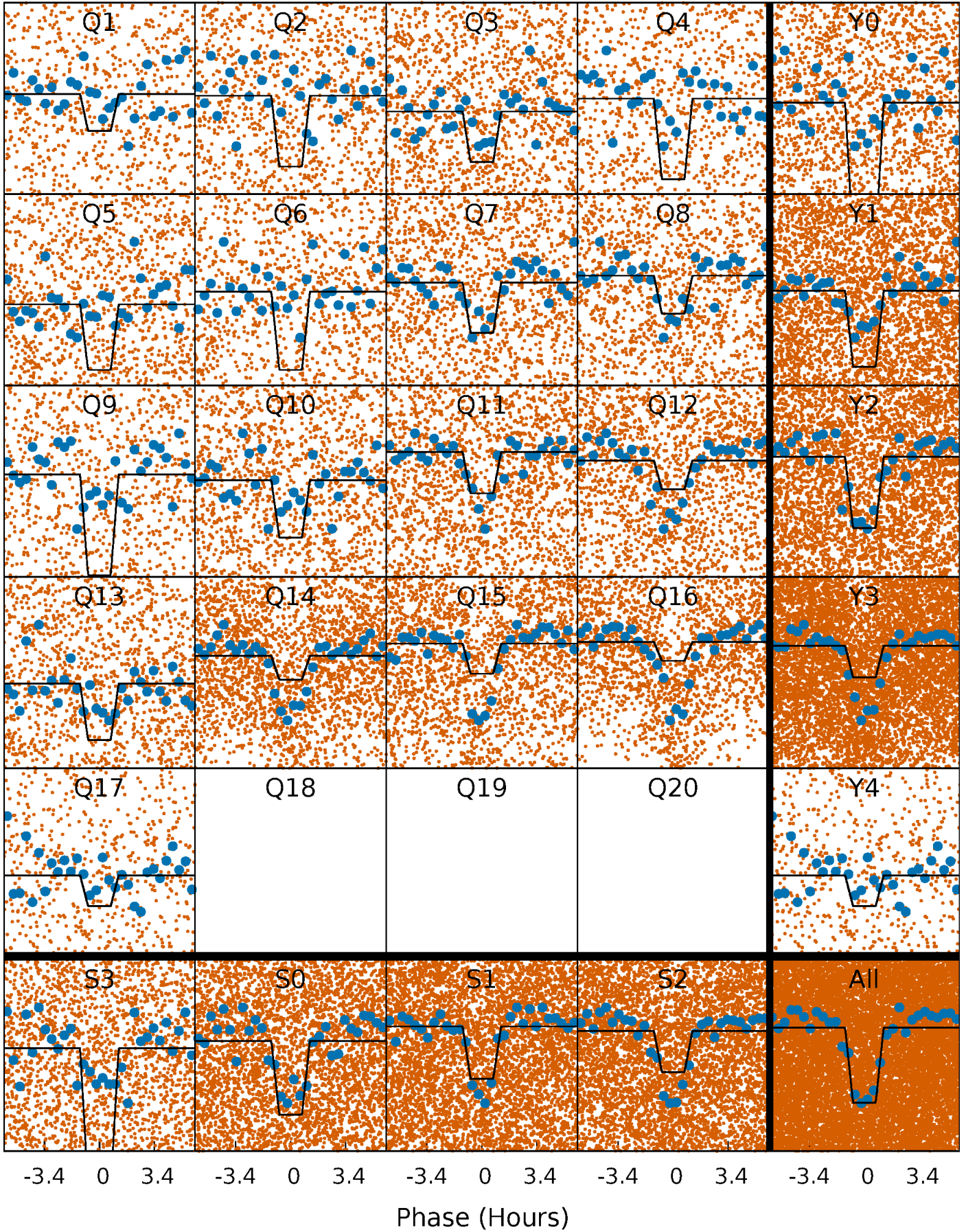
DV Quarter-Phased Transit Curves

TCE 010383729-01 P= 0.734529 Days $T_0=132.171326$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

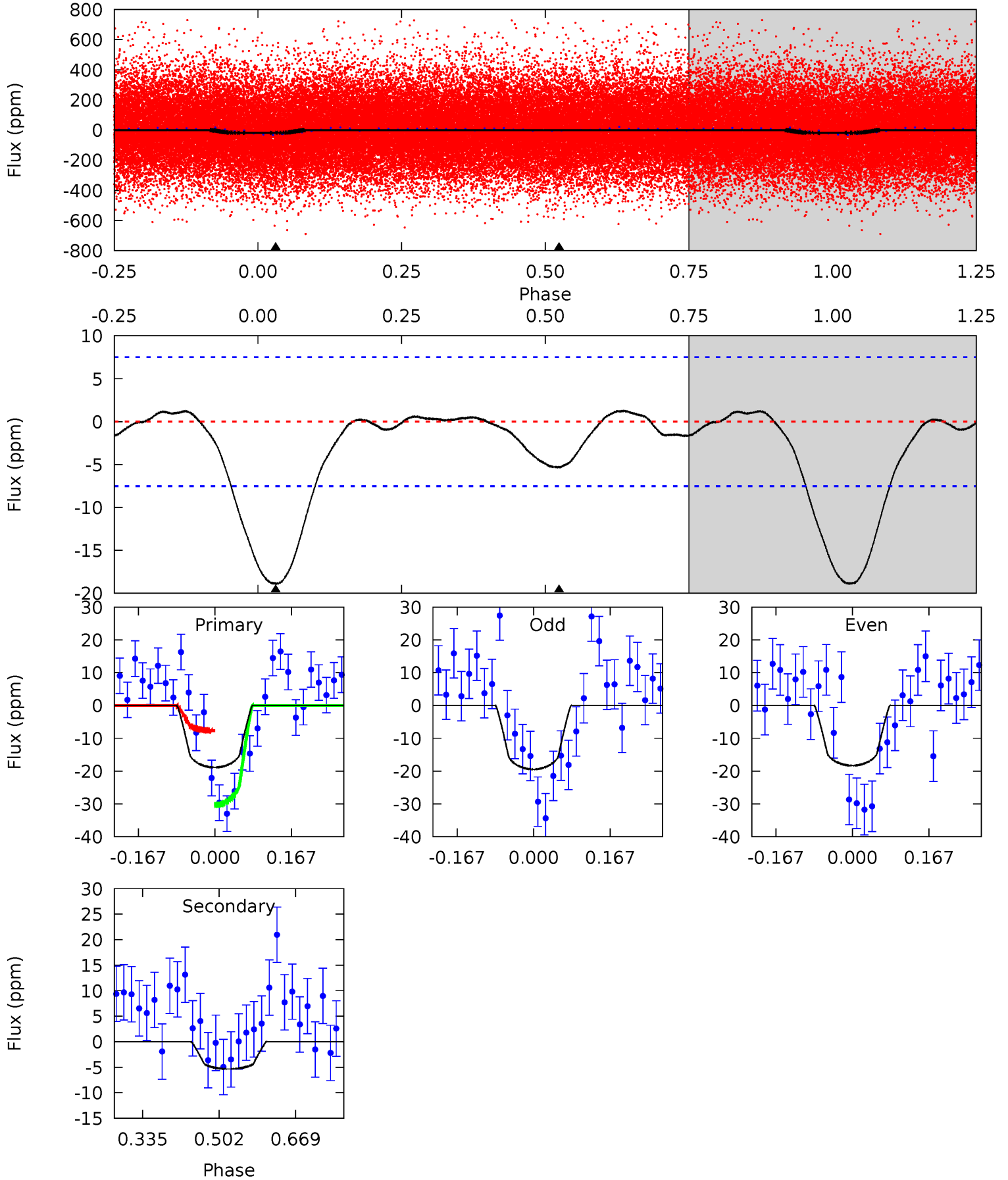
TCE 010383729-01 P= 0.734552 Days $T_0=132.162055$ (BKJD)



DV Model-Shift Uniqueness Test

010383729-01, P = 0.734529 Days, E = 131.436797 Days

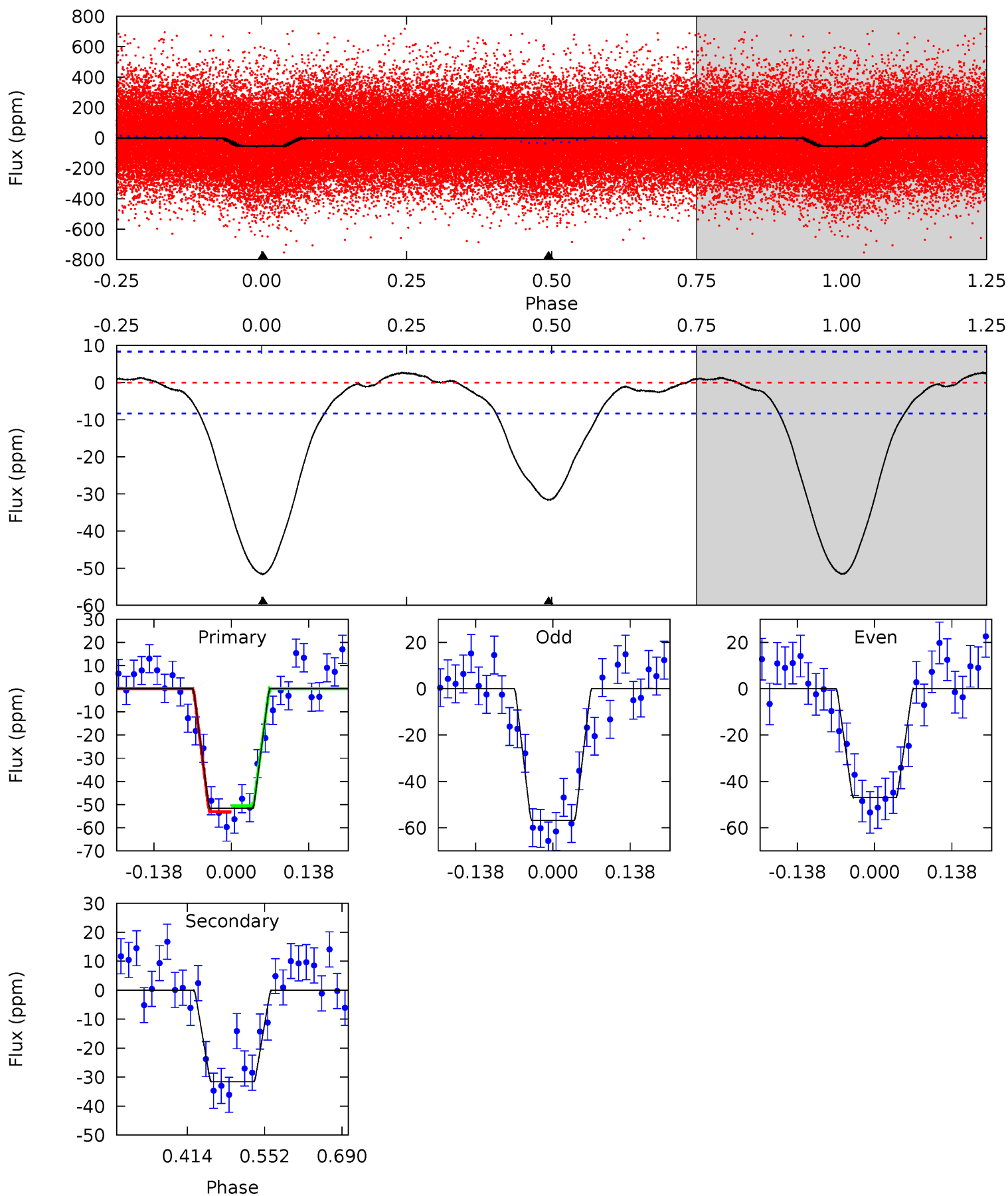
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	3.16	0	0	4.46	1.38	0.51	11.2	11.2	3.16	3.16	0.33	0.85	0.06	6.74



Alt Model-Shift Uniqueness Test

010383729-01, P = 0.734552 Days, E = 131.427503 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.8	17.0	0	0	4.50	1.48	0.80	27.8	27.8	17.0	17.0	2.65	1.12	0.05	0.67



Stellar Parameters For KIC 010383729

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+169}_{-190}	$4.478^{+0.054}_{-0.216}$	$0.070^{+0.200}_{-0.350}$	$1.007^{+0.318}_{-0.106}$	$1.111^{+0.130}_{-0.159}$	$1.532^{+0.334}_{-0.798}$
	+3%/-3%	+1%/-5%	+286%/-500%	+32%/-11%	+12%/-14%	+22%/-52%
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 010383729-01 / KOI 8004.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 2	$0.63^{+0.32}_{-0.32}$	2983^{+230}_{-157}	4072^{+1514}_{-722}	$2.011^{+6.379}_{-1.226}$
Alt.	-32 ± 2	$0.86^{+0.34}_{-0.29}$	2962^{+242}_{-140}	5196^{+1213}_{-669}	$6.190^{+7.890}_{-2.932}$

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 $A_{obs} \gg 1.0$

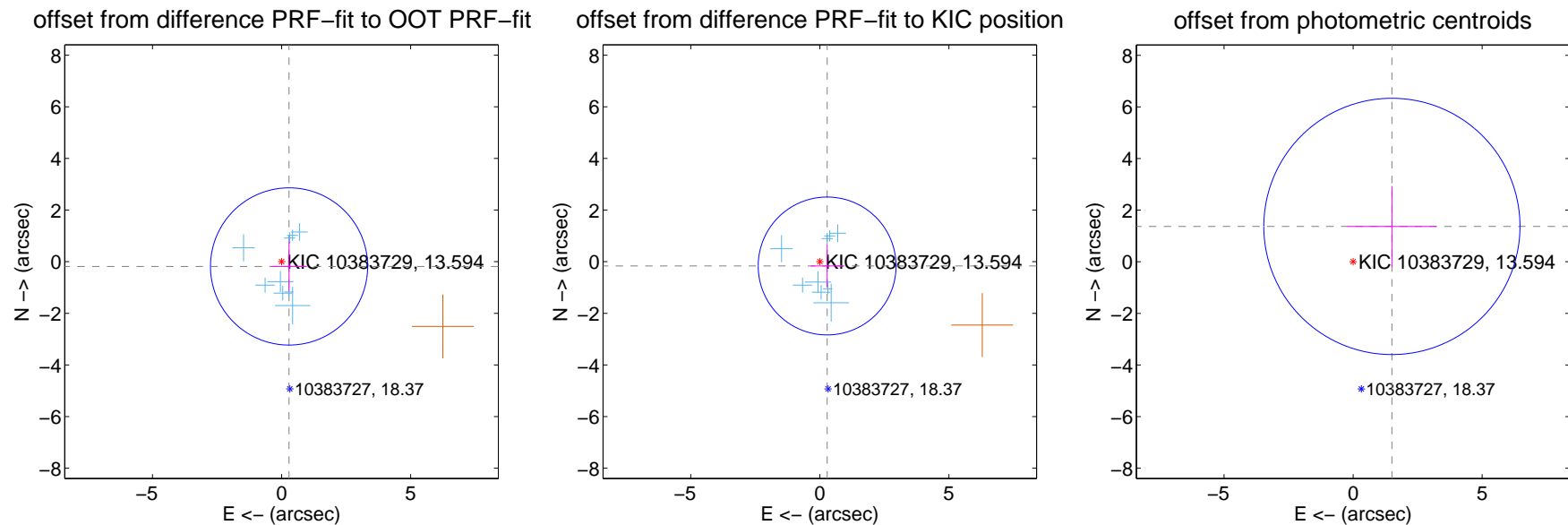
DV Centroid Data

Supplemental centroid analysis for 010383729-01. Kepler magnitude: 13.59. Transit SNR 9.65

There are 9 quarters with good PRF difference image offsets

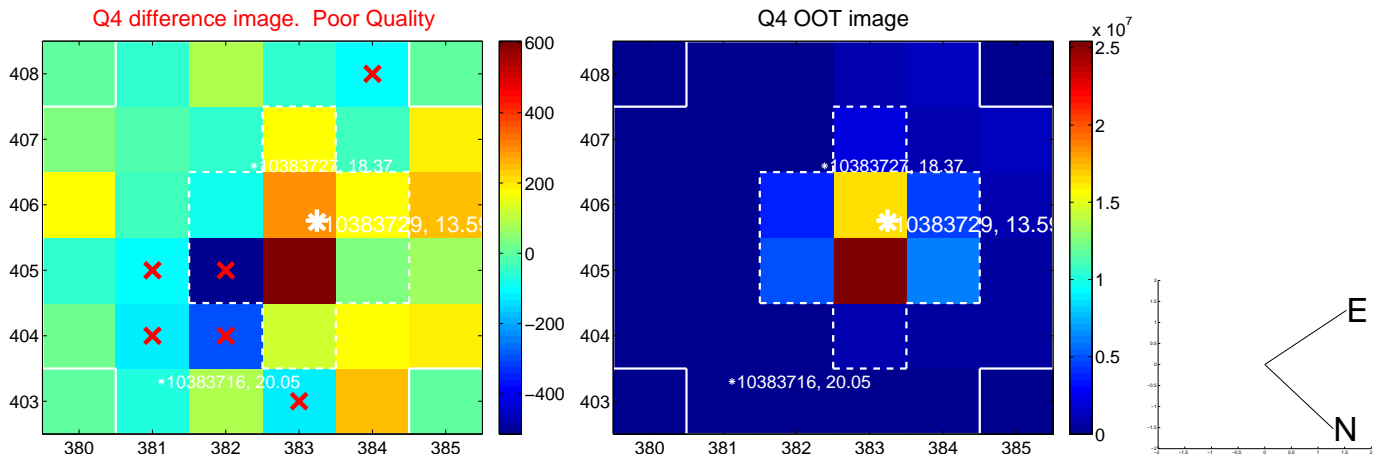
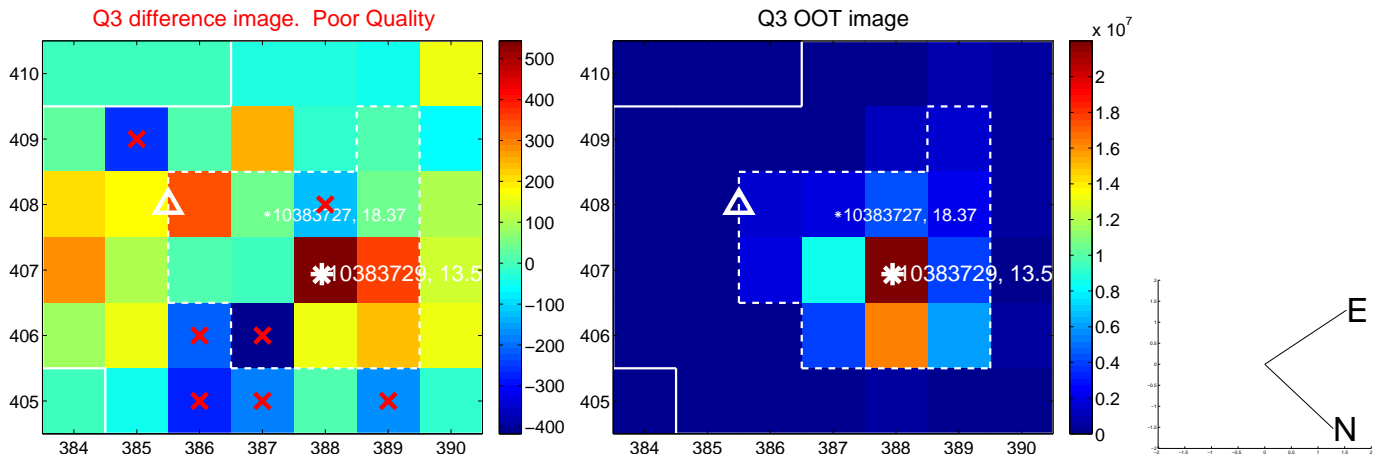
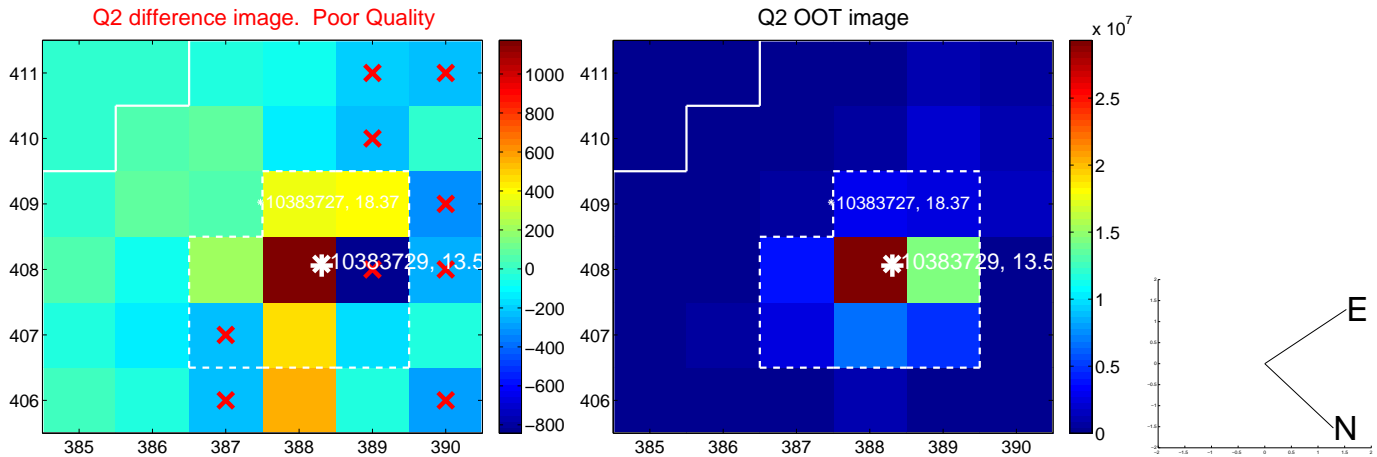
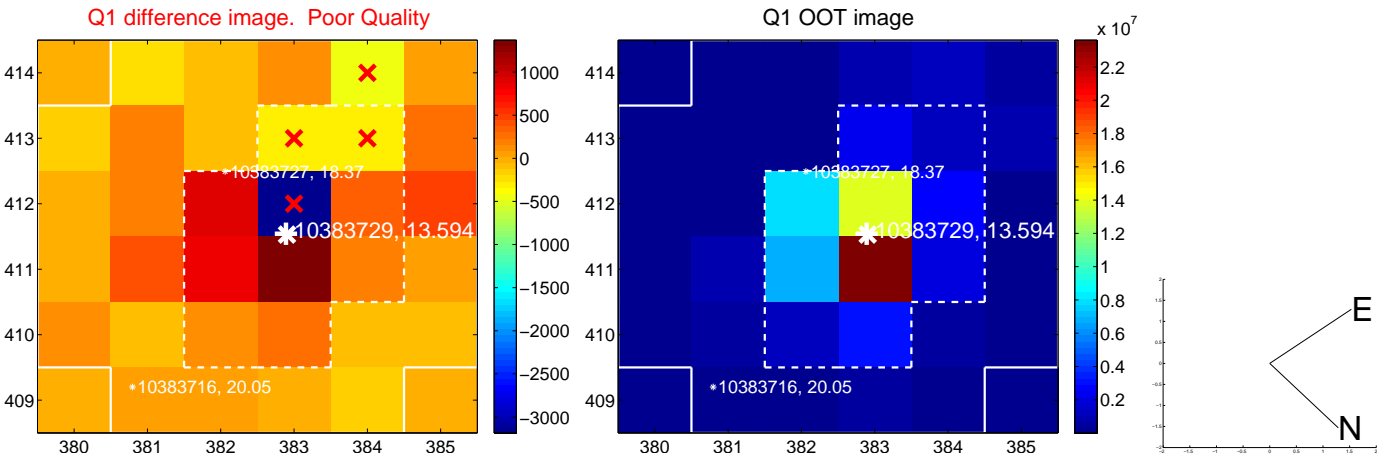
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.344 ± 1.015	0.34	-0.290 ± 0.688	-0.184 ± 0.958
PRF-fit source offset from KIC position	0.328 ± 0.890	0.37	-0.282 ± 0.634	-0.166 ± 0.840
photometric centroid source offset	2.03 ± 1.65	1.23	-1.50 ± 1.73	1.37 ± 1.57

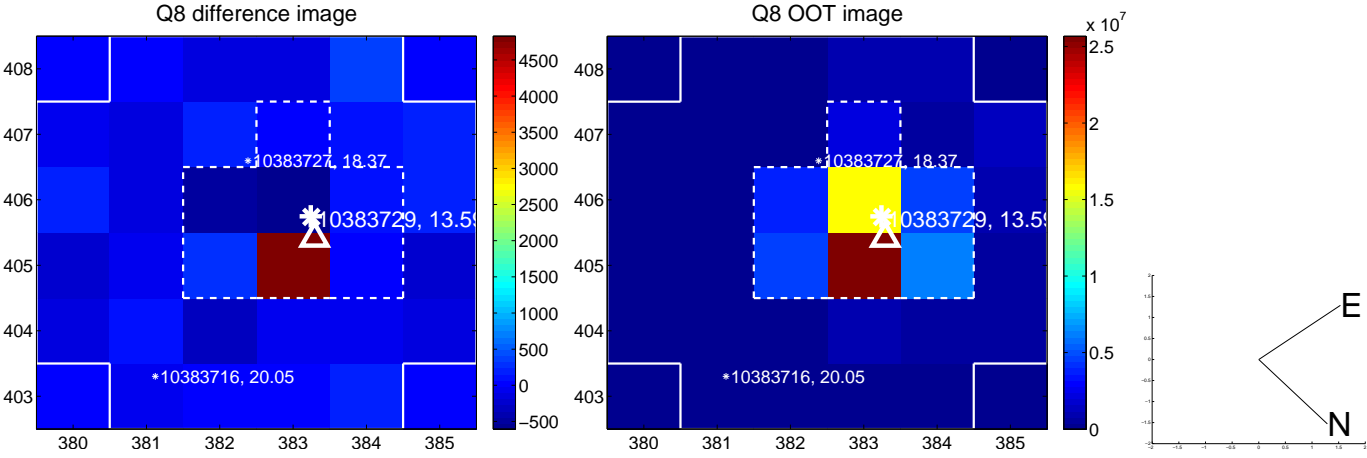
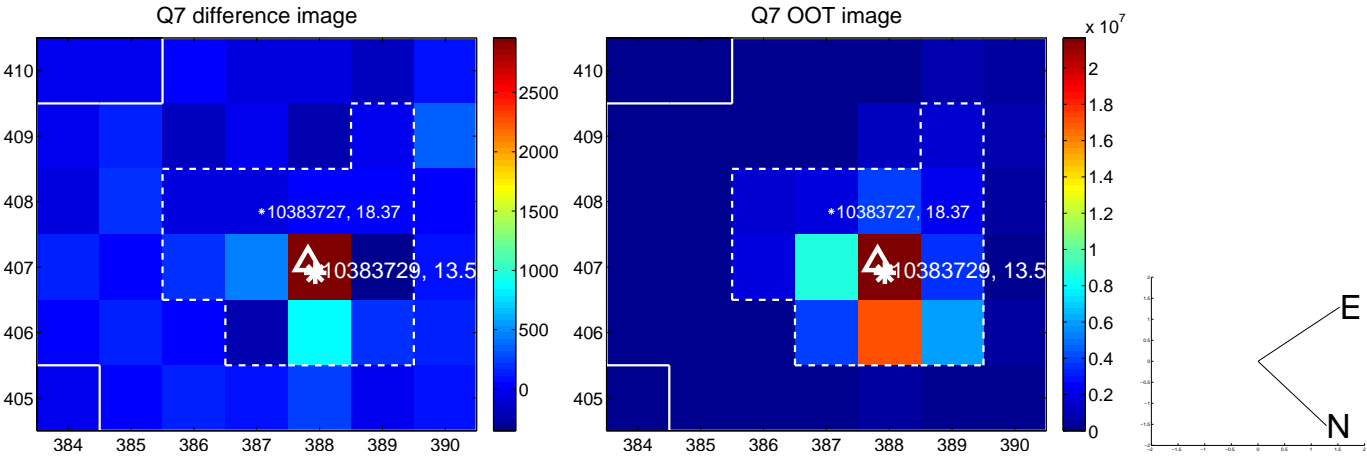
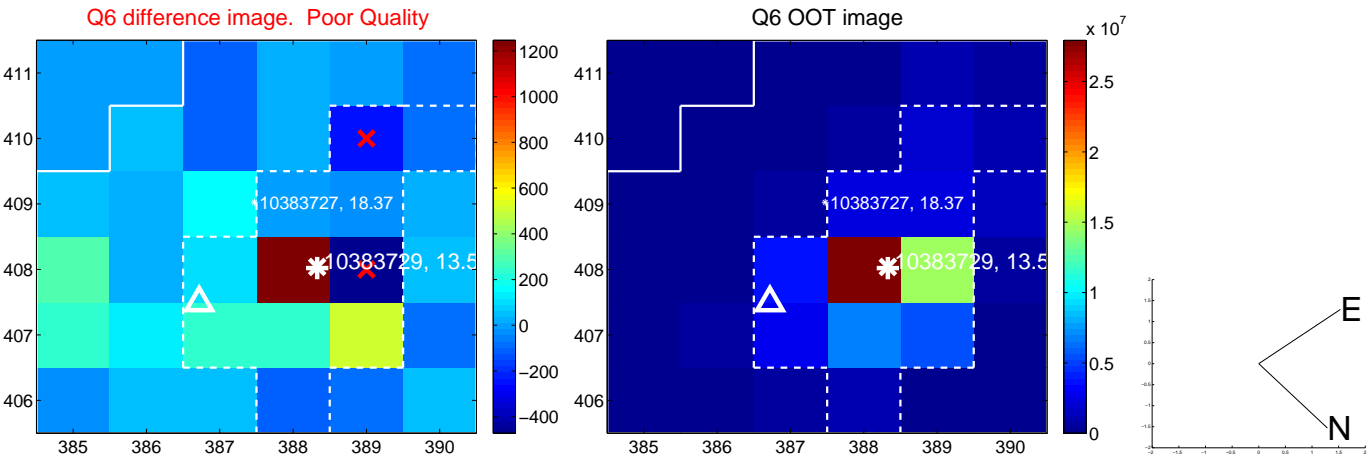
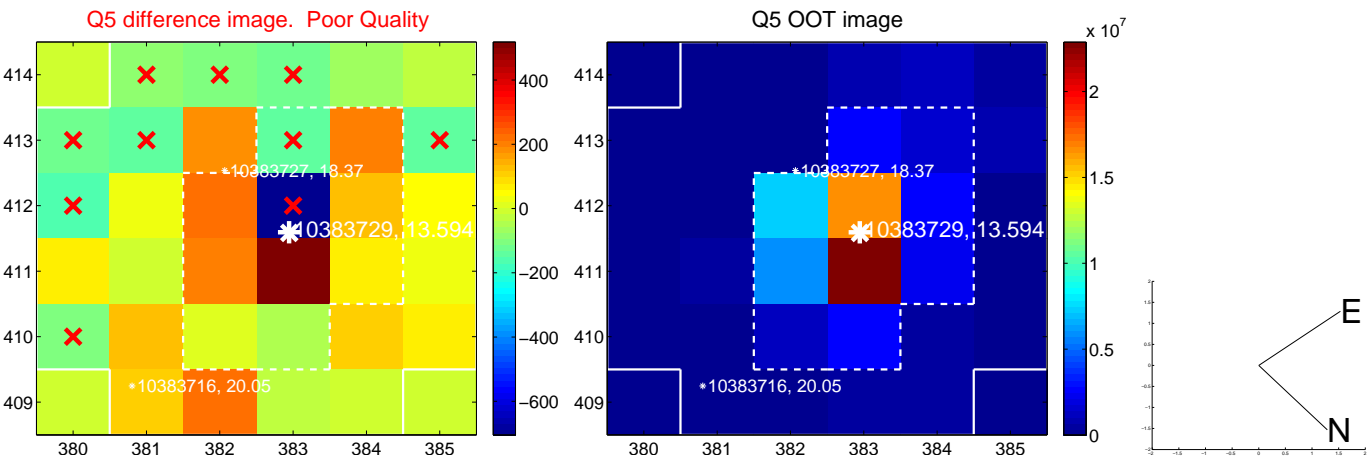


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

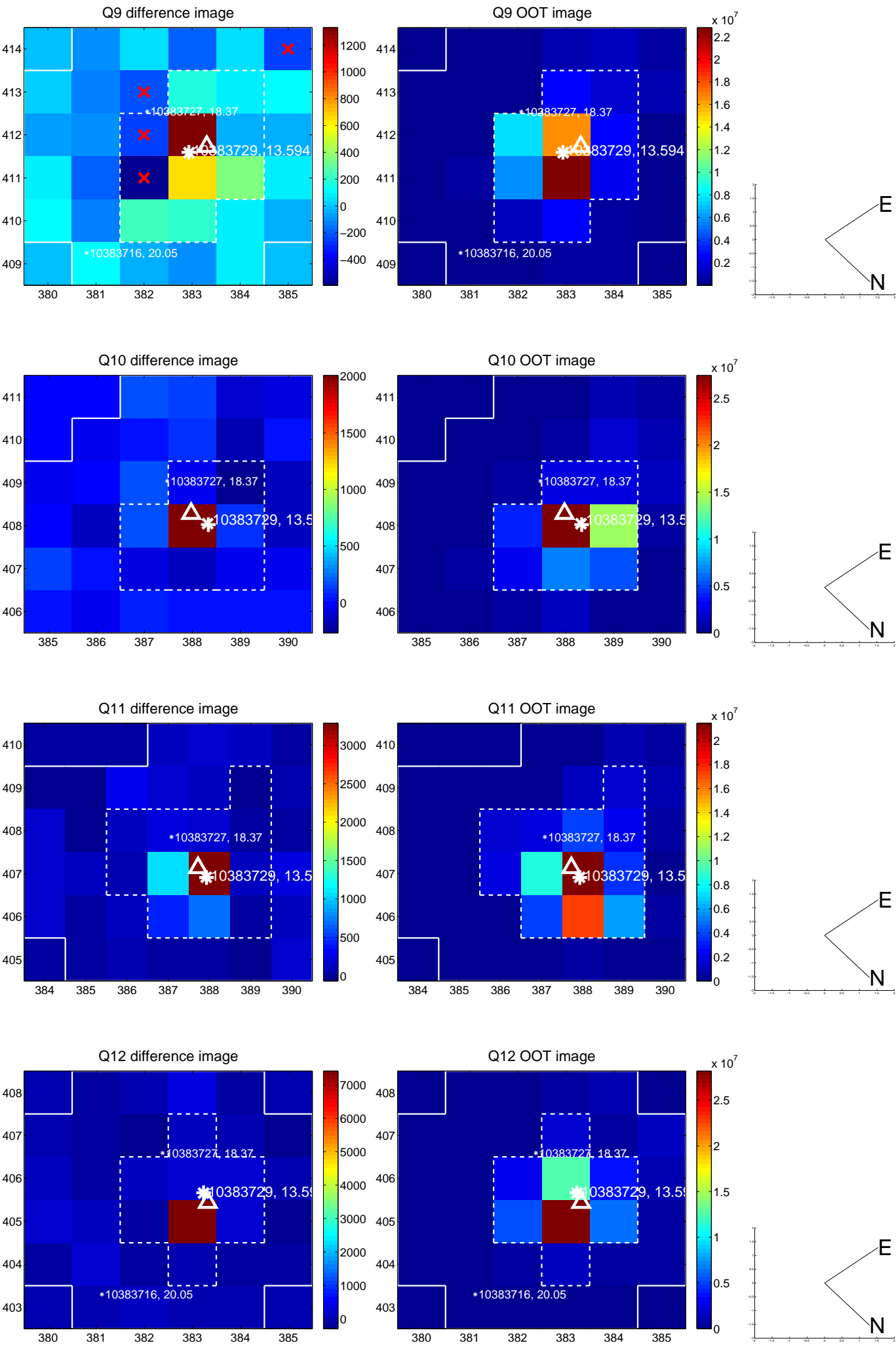
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



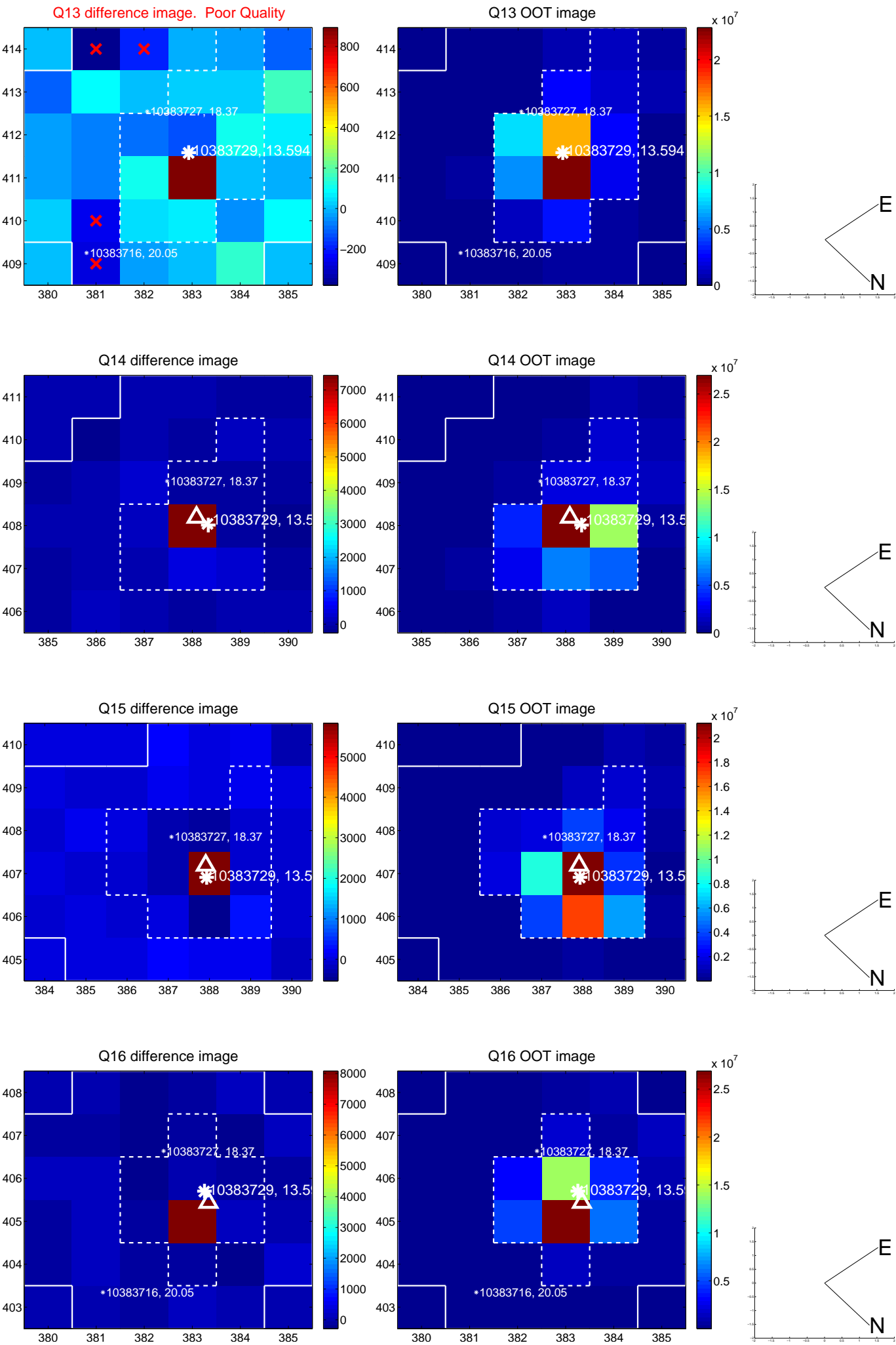
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



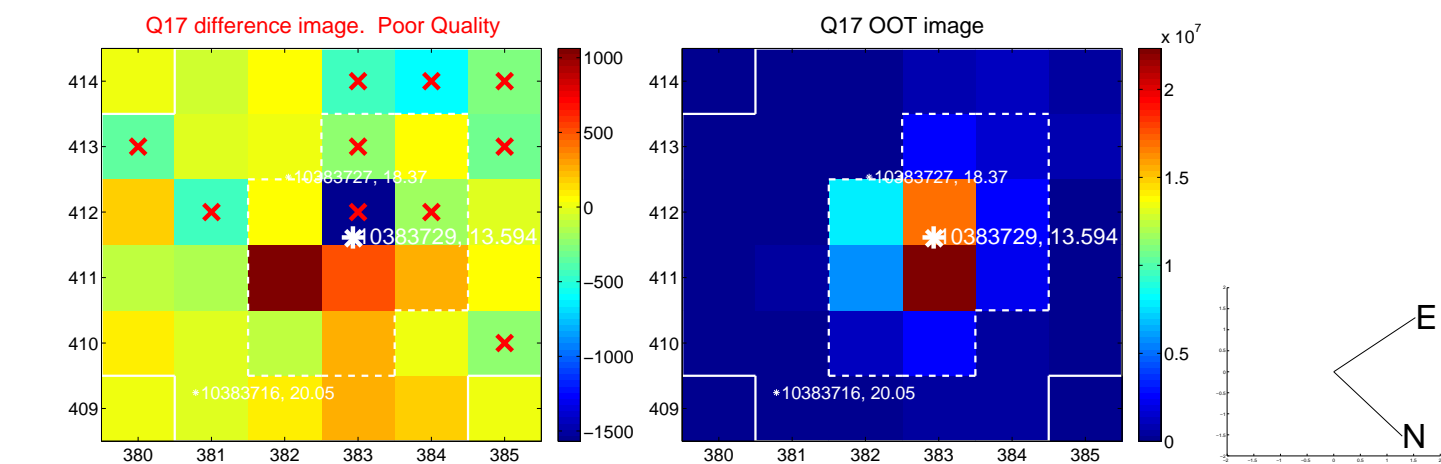
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



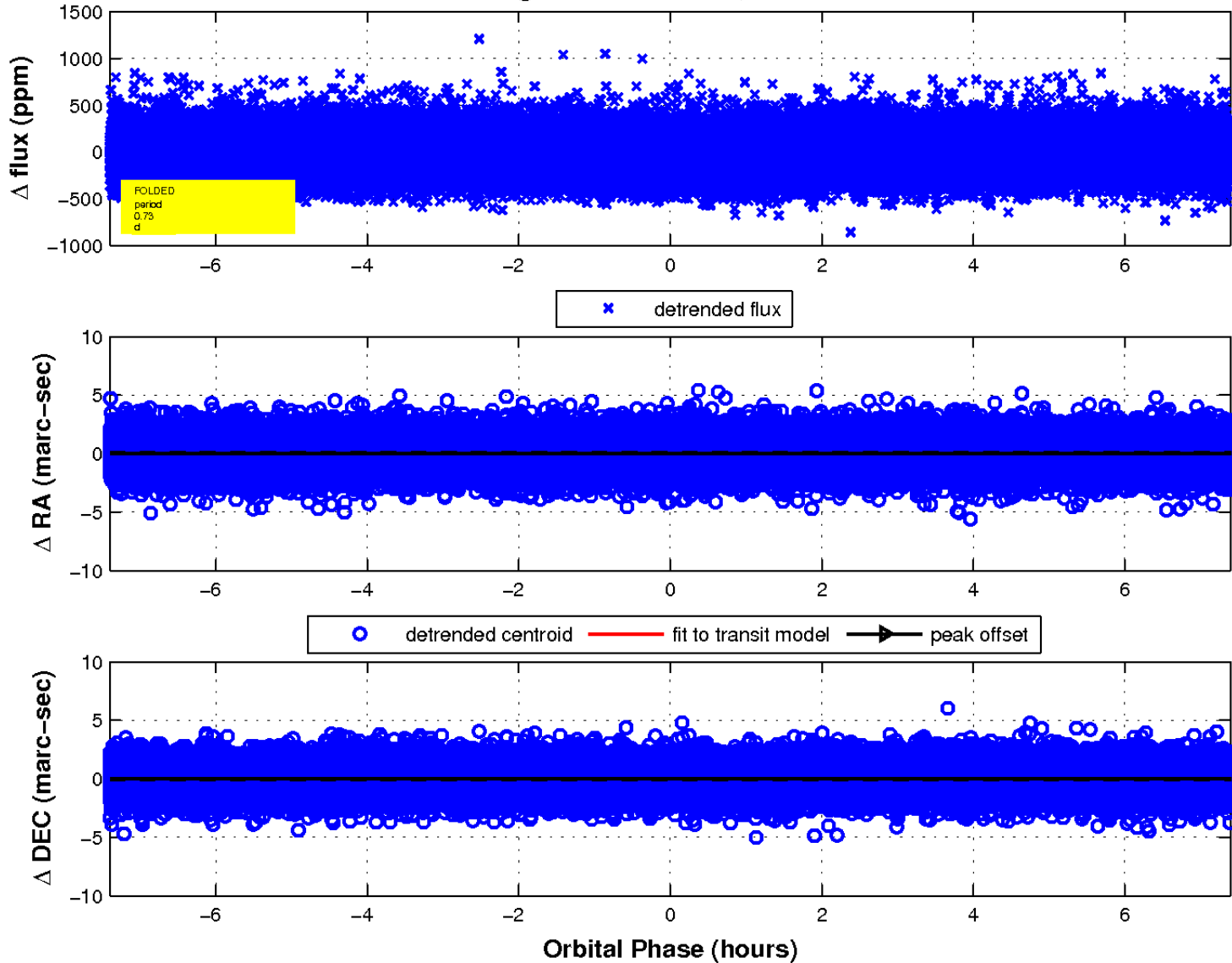
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

