

KIC 005386403

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})
005386403-01	OBS	No	21.666207	144.546094	145.4	42.143	11.6	16.6	0.78	5857	1.88	34.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005386403-01	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.

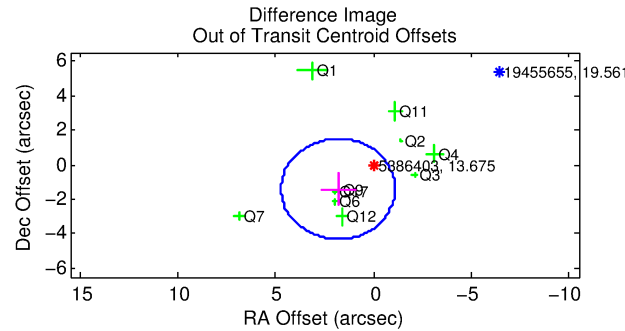
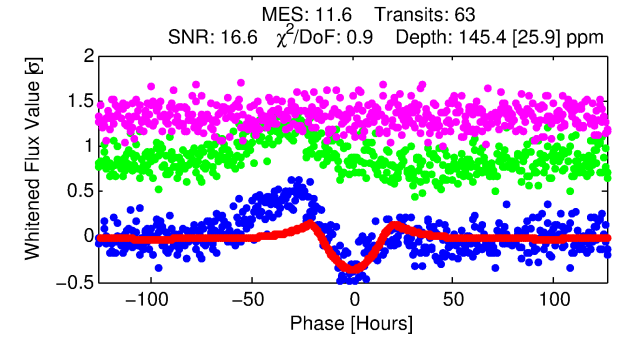
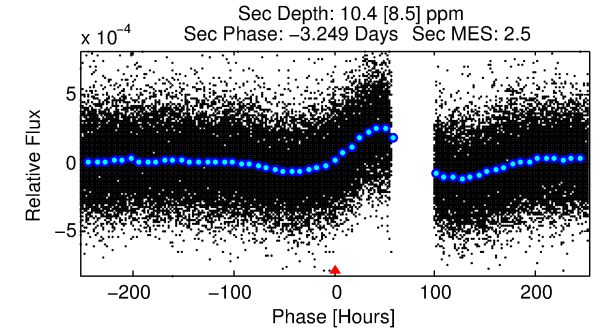
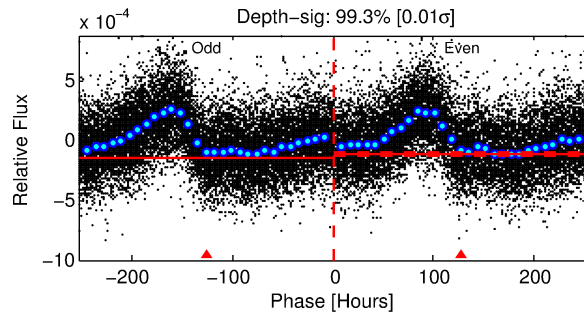
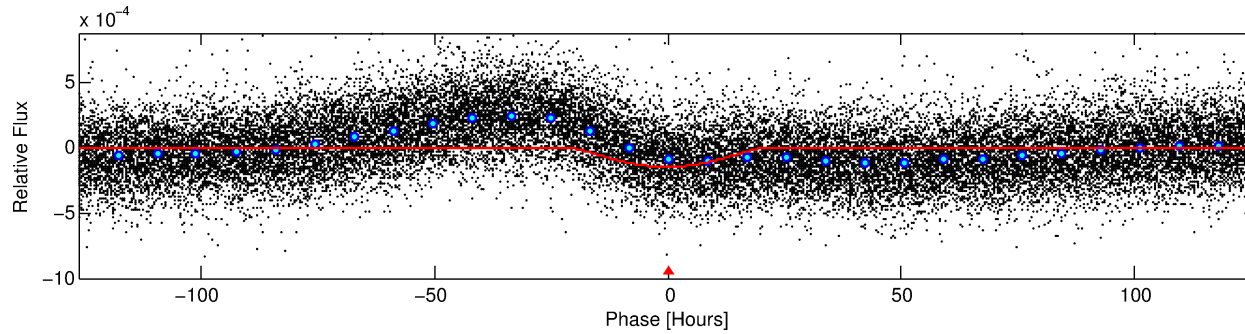
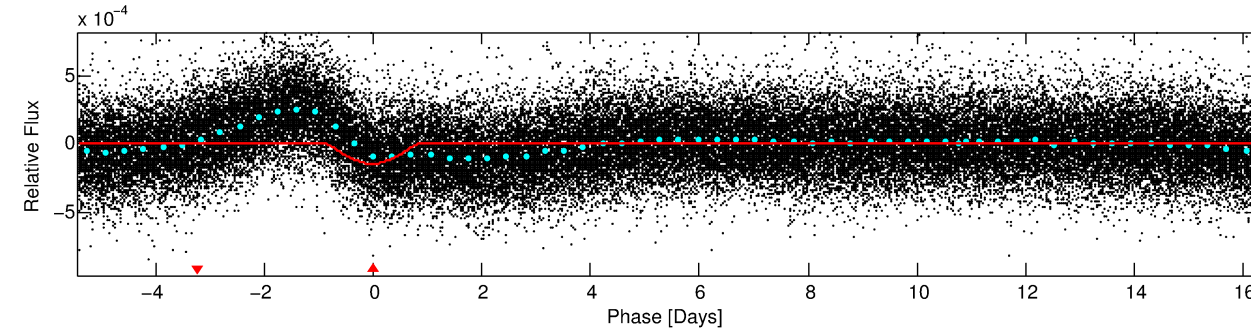
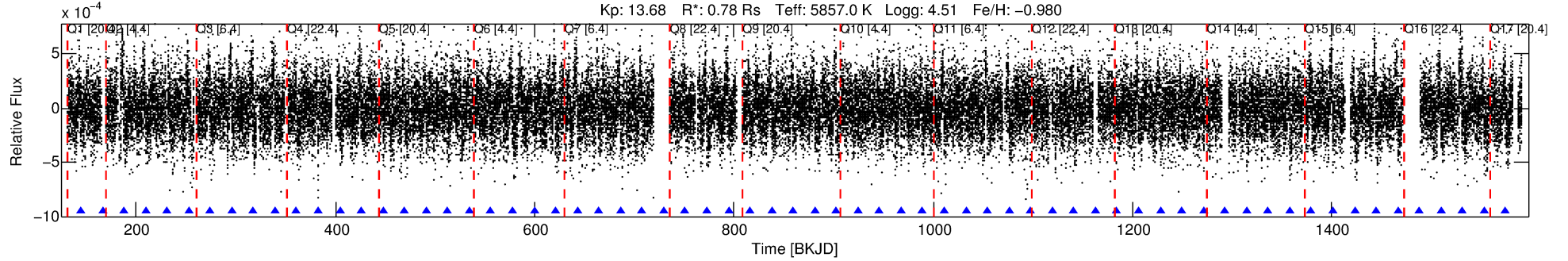
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005386403-01

No Significant Match Found

DV One-Page Summary

KIC: 5386403 Candidate: 1 of 1 Period: 21.666 d



DV Fit Results:

Period = 21.66621 [0.00119] d
Epoch = 144.5461 [0.0450] BKJD
Rp/R* = 0.0221 [0.0255]
a/R* = 1.31 [0.14]
b = 1.00 [0.04]
Seff = 34.32 [8.29]
Teq = 617 [37] K
Rp = 1.88 [2.19] Re
a = 0.1365 [0.0198] AU
Ag = 29.97 [73.51] [0.39 σ]
Teffp = 2233 [1365] K [1.18 σ]

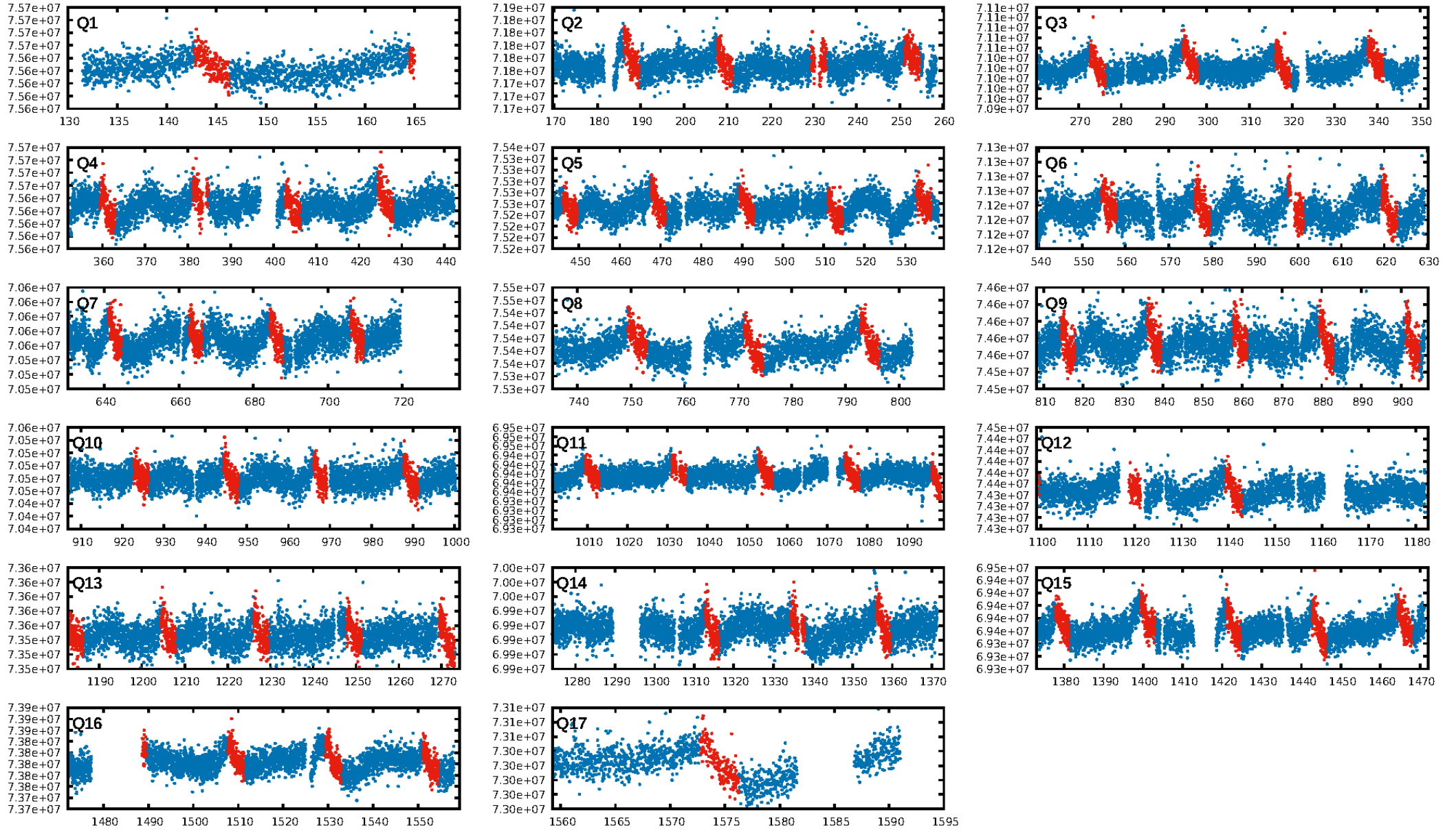
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.25e-30
RollingBand-fgt: 1.00 [61/61]
GhostDiagnostic-chr: 3.561
Centroid-sig: 2.3%
Centroid-so: 2.062 arcsec [2.85 σ]
OotOffset-rm: 2.296 arcsec [2.37 σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-rm: 2.243 arcsec [2.34 σ]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [16/16]

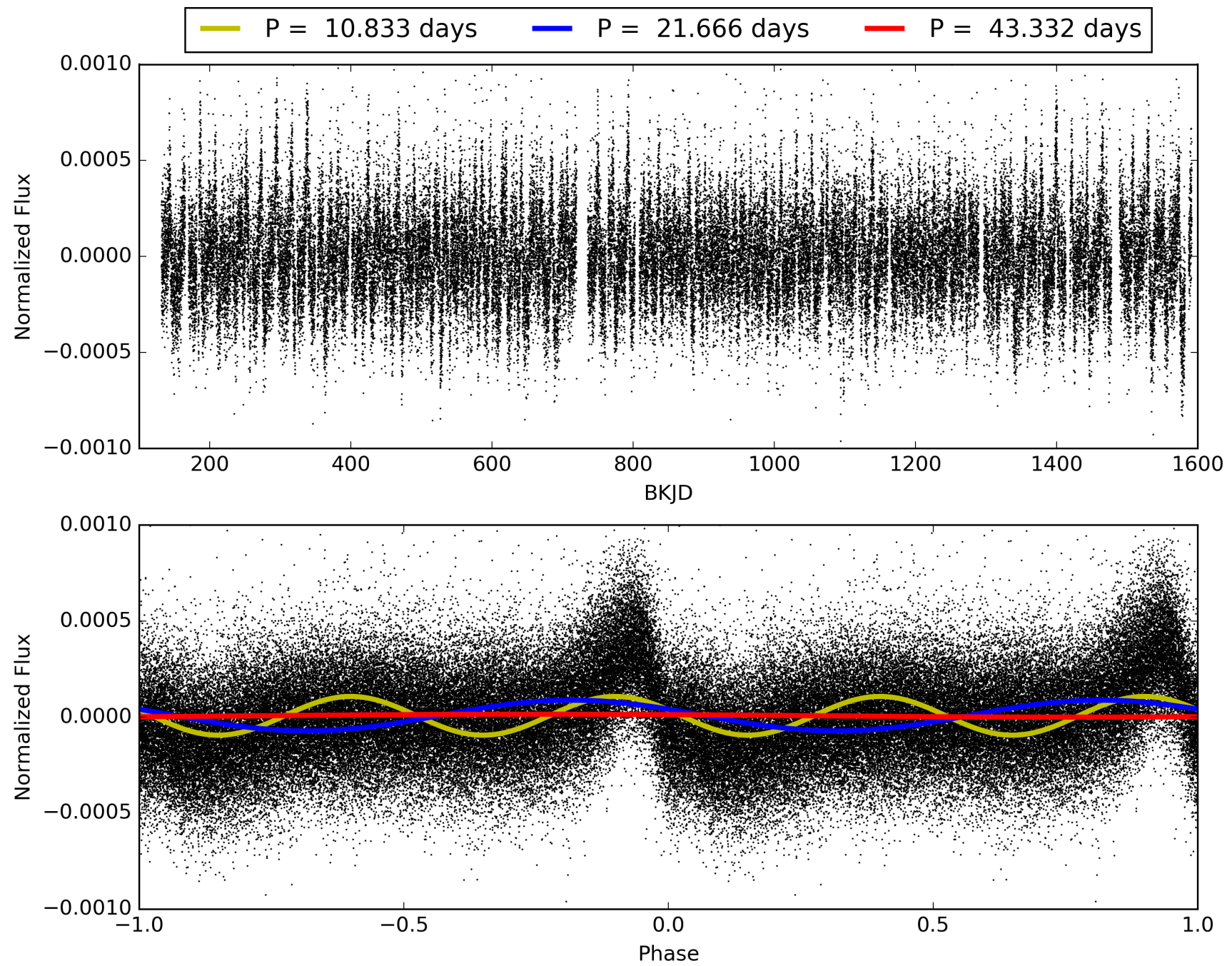
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:20:26 Z

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

TCE 005386403-01, PDC Light Curves

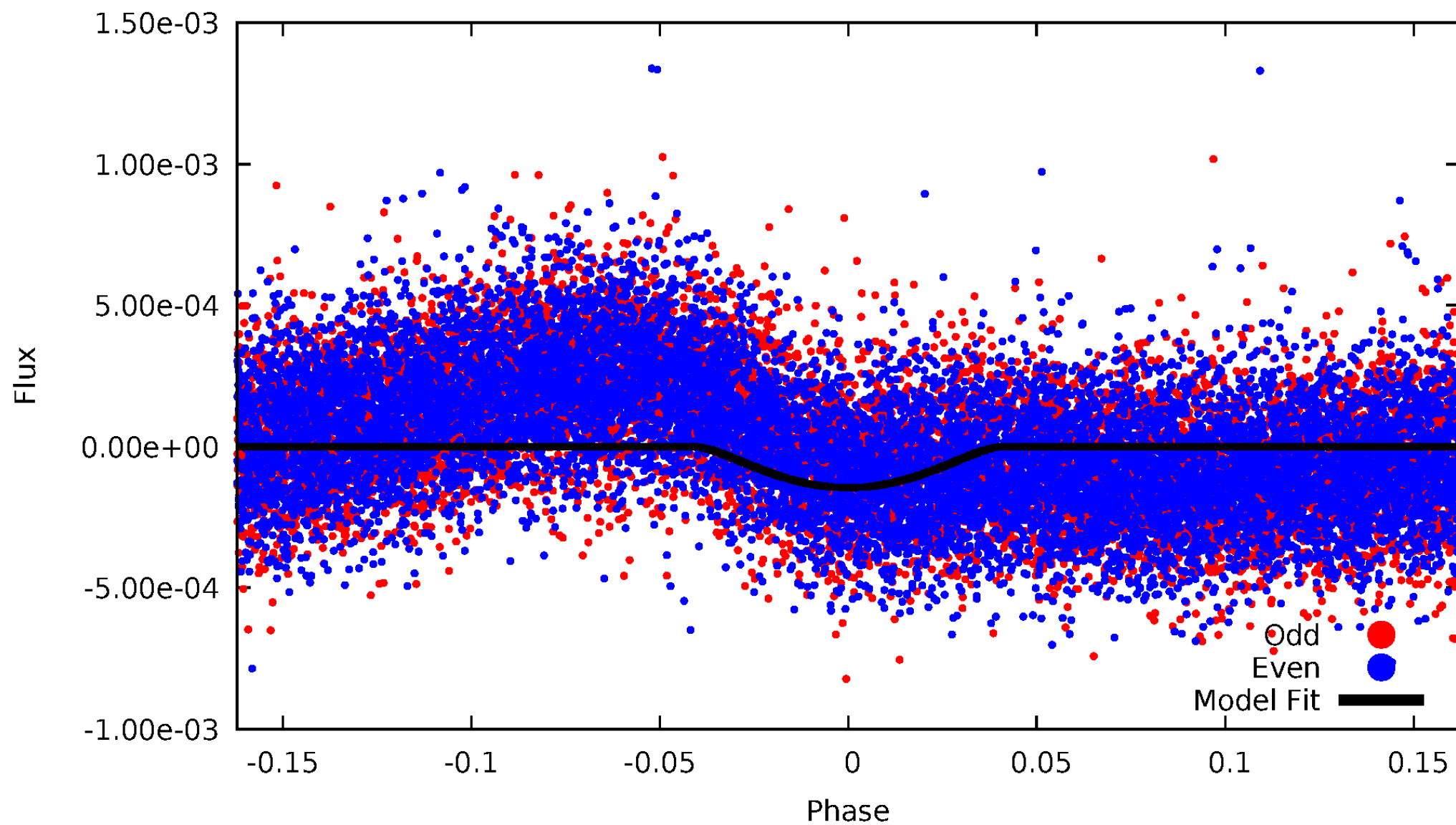


TCE 005386403-01



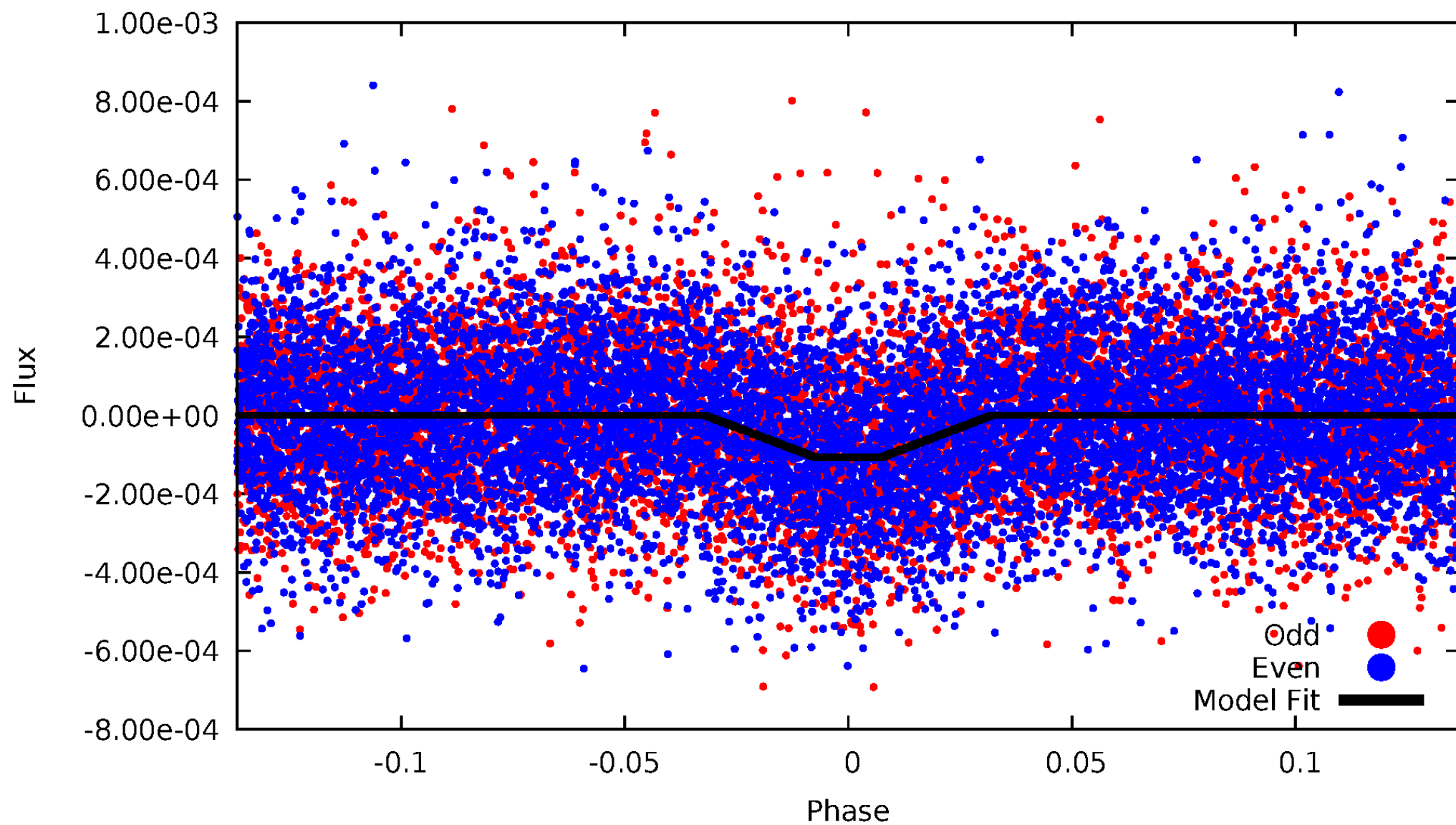
DV Odd/Even

TCE 005386403-01



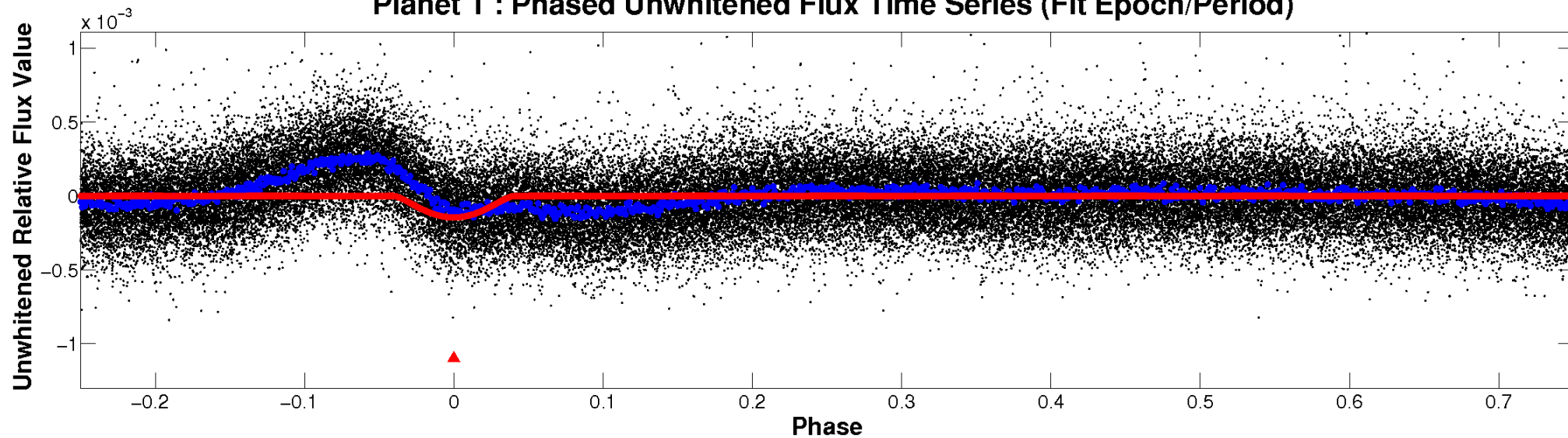
ALT Odd/Even

TCE 005386403-01

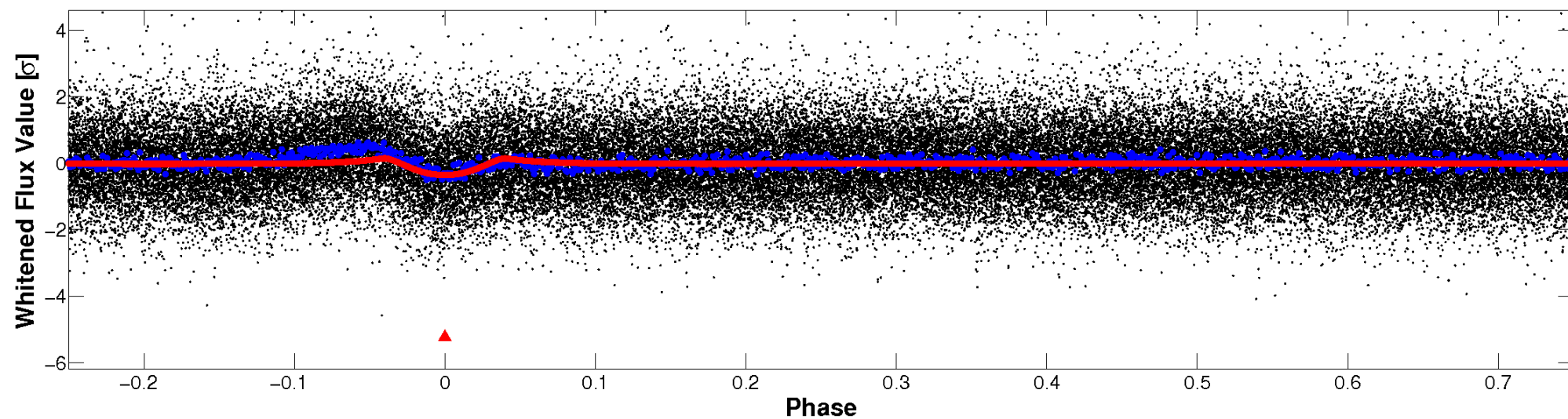


Non-Whitened Vs. Whitened Light Curve

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

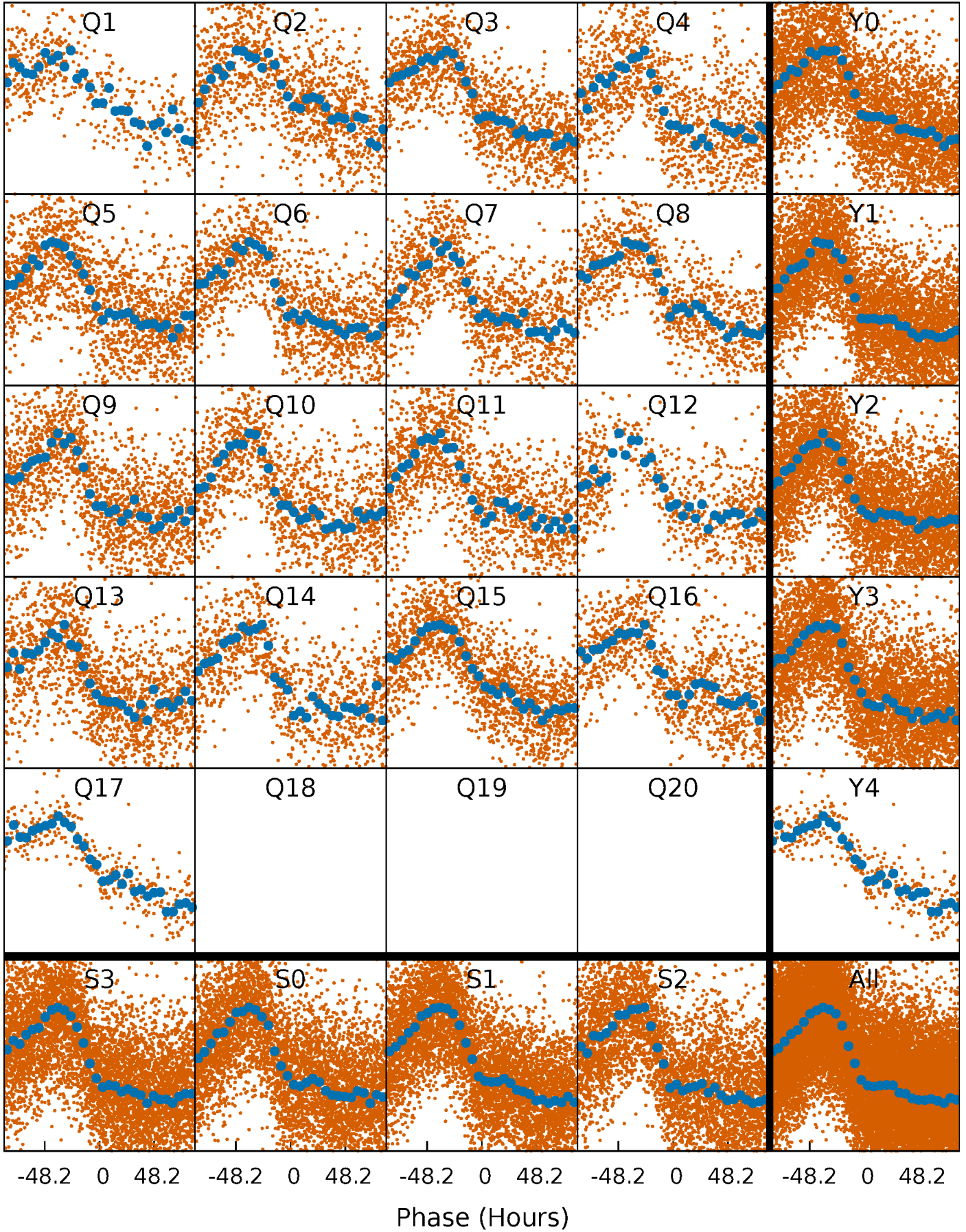


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



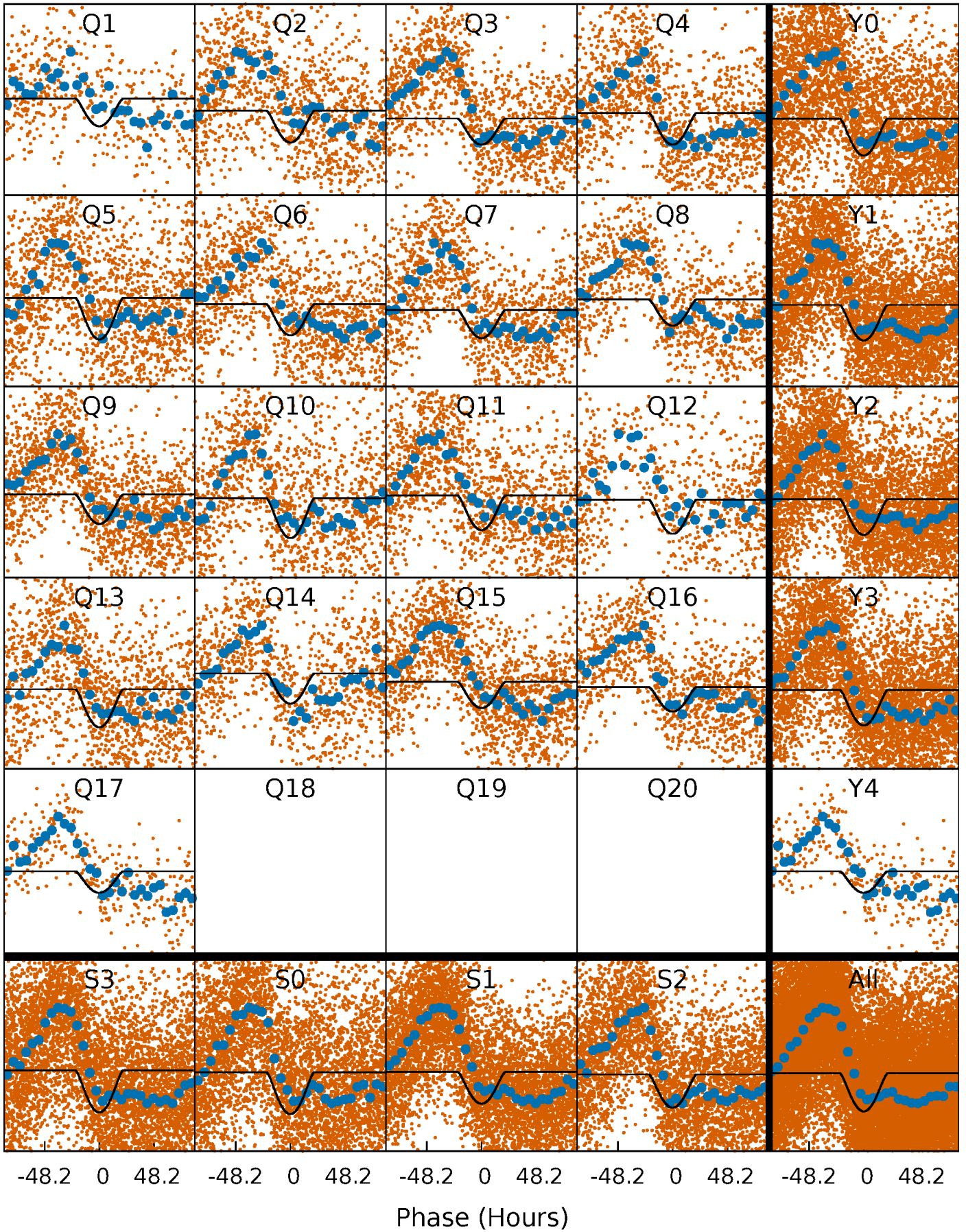
PDC Quarter-Phased Transit Curves

TCE 005386403-01 P= 21.666207 Days $T_0=144.546094$ (BKJD)



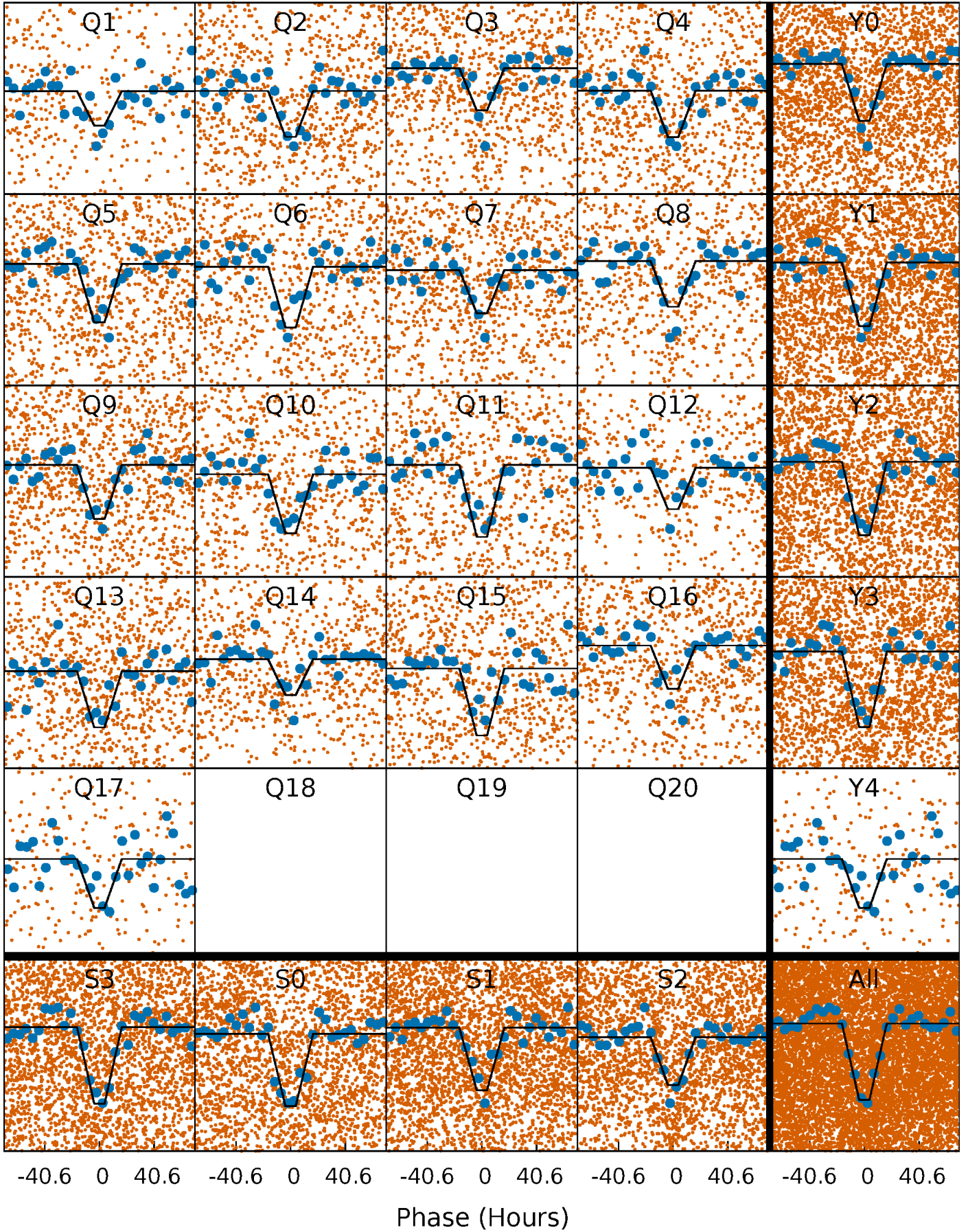
DV Quarter-Phased Transit Curves

TCE 005386403-01 P= 21.666207 Days $T_0=144.546094$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

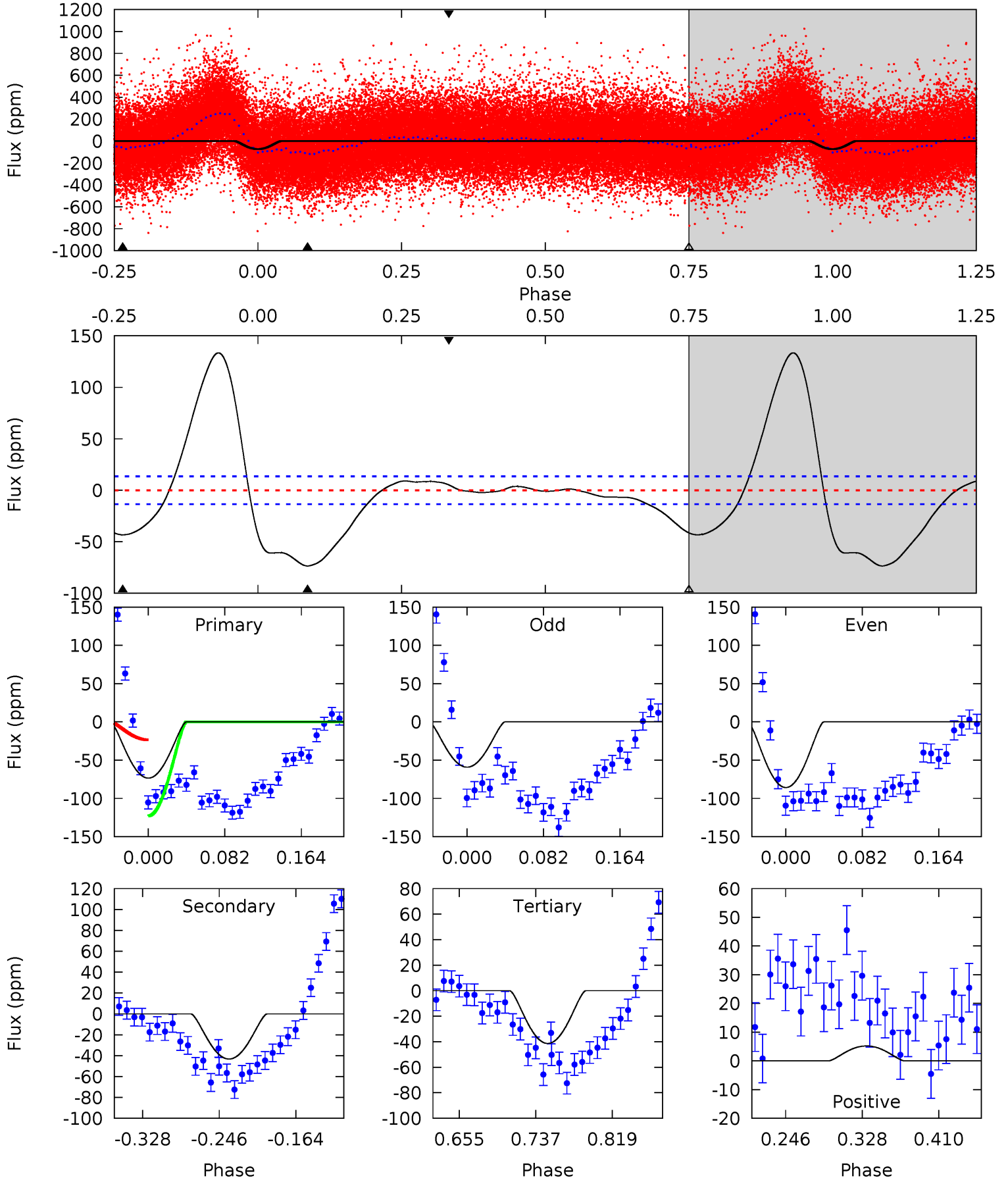
TCE 005386403-01 P= 21.668191 Days $T_0=144.390552$ (BKJD)



DV Model-Shift Uniqueness Test

005386403-01, P = 21.666207 Days, E = 122.879887 Days

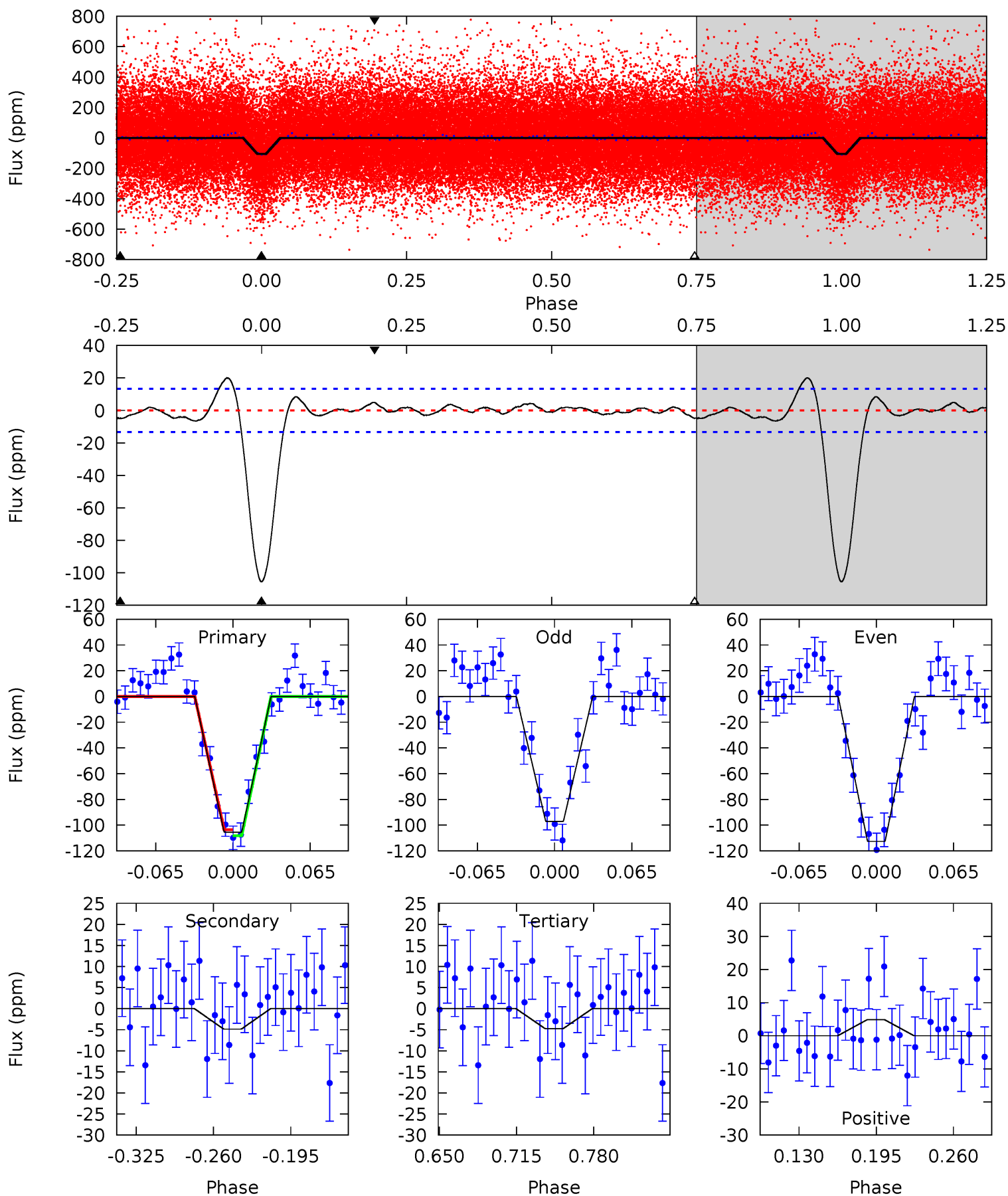
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	14.7	14.1	1.77	4.61	1.74	13.1	10.9	23.2	0.64	12.9	4.53	1.26	0.64	17.3



Alt Model-Shift Uniqueness Test

005386403-01, P = 21.668191 Days, E = 122.722361 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.0	1.71	1.68	1.70	4.65	1.85	1.08	35.4	35.3	0.03	0.01	2.70	1.00	0.16	0.80



Stellar Parameters For KIC 005386403

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5857^{+157}_{-157}	$4.514^{+0.110}_{-0.121}$	$-0.980^{+0.300}_{-0.300}$	$0.779^{+0.130}_{-0.087}$	$0.724^{+0.074}_{-0.032}$	$2.153^{+0.904}_{-0.749}$
	+3%/-3%	+2%/-3%	+31%/-31%	+17%/-11%	+10%/-4%	+42%/-35%
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 005386403-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-43 ± 3	$2.50^{+2.00}_{-1.54}$	860^{+41}_{-40}	3313^{+1230}_{-497}	71^{+403}_{-49}
Alt.	-5 ± 3	$1.83^{+1.77}_{-1.33}$	861^{+44}_{-33}	2576^{+1265}_{-491}	12^{+156}_{-10}

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

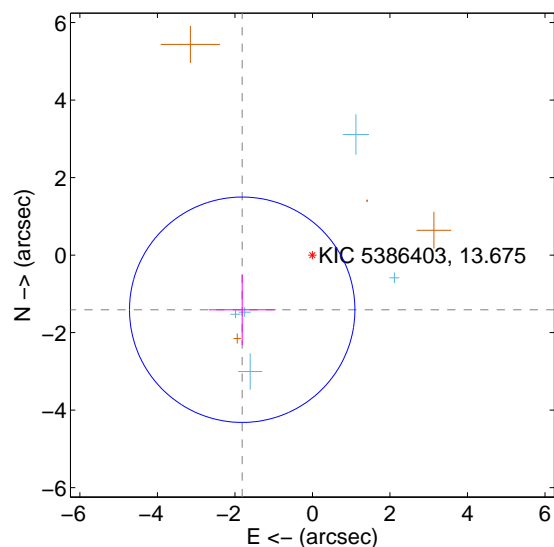
Supplemental centroid analysis for 005386403-01. Kepler magnitude: 13.68. Transit SNR 16.55

There are 5 quarters with good PRF difference image offsets

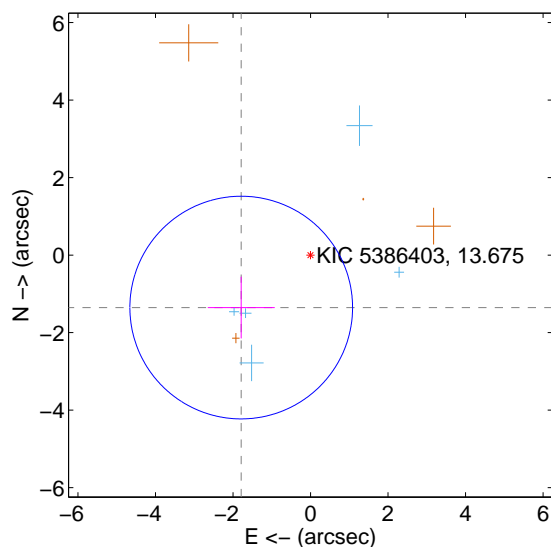
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.296 ± 0.969	2.37	1.812 ± 0.864	-1.410 ± 0.908
PRF-fit source offset from KIC position	2.243 ± 0.958	2.34	1.788 ± 0.864	-1.354 ± 0.798
photometric centroid source offset	2.06 ± 0.72	2.85	-2.03 ± 0.72	0.35 ± 0.86

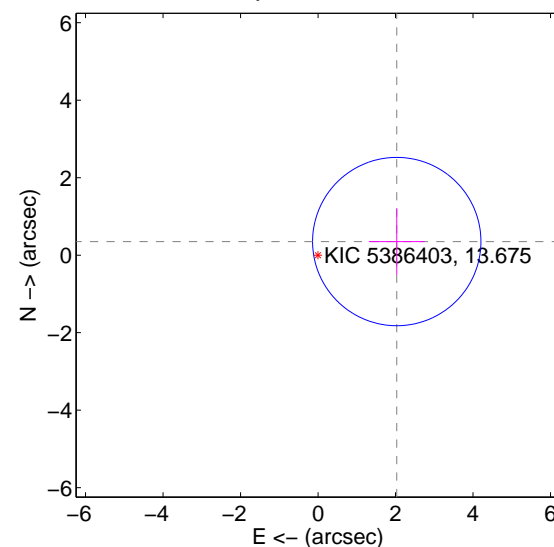
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

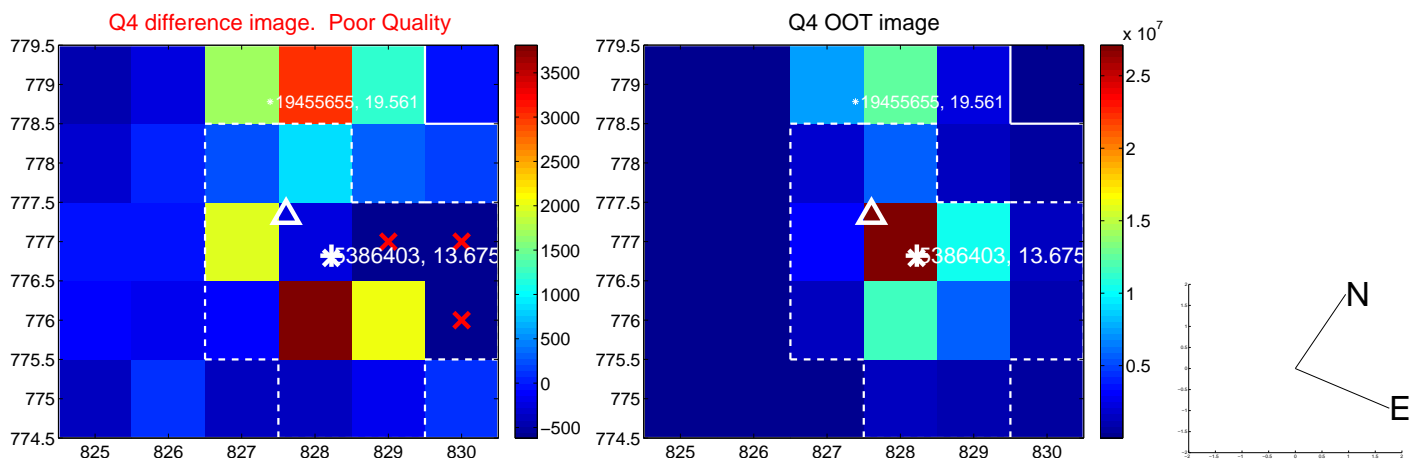
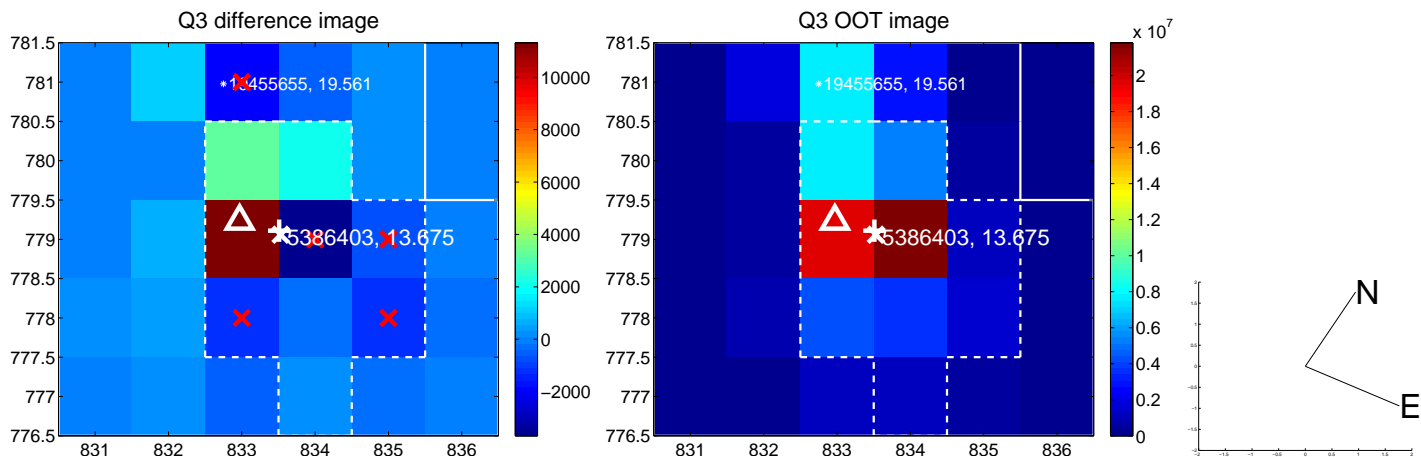
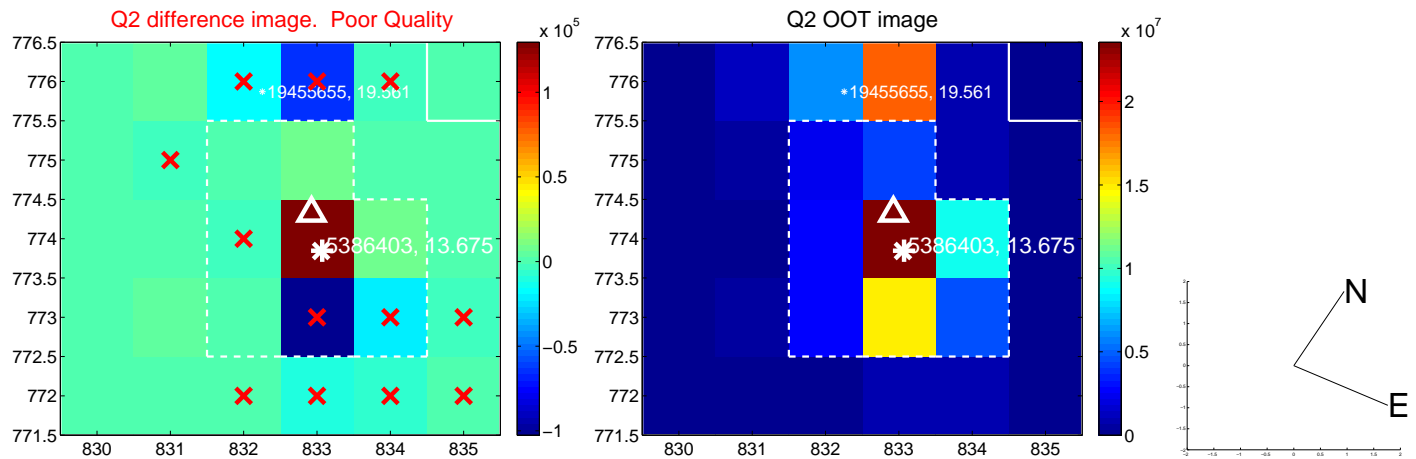
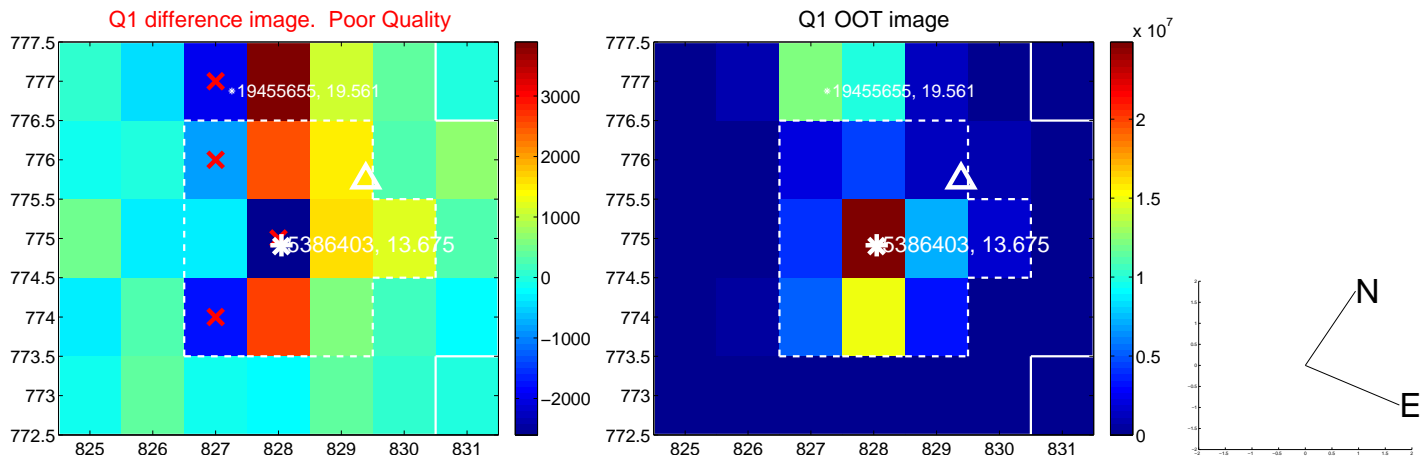


offset from photometric centroids

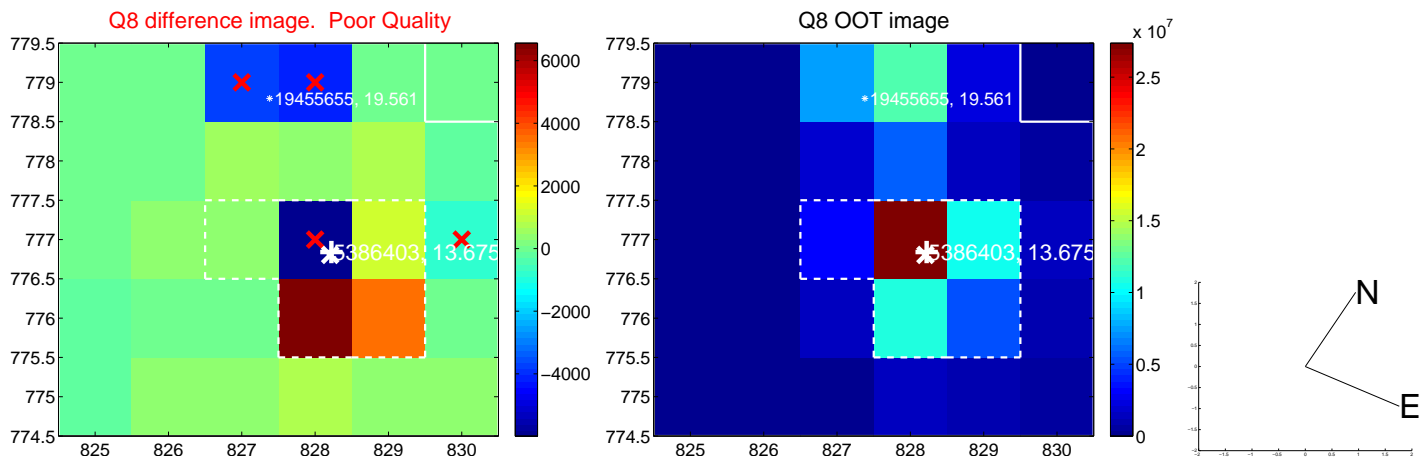
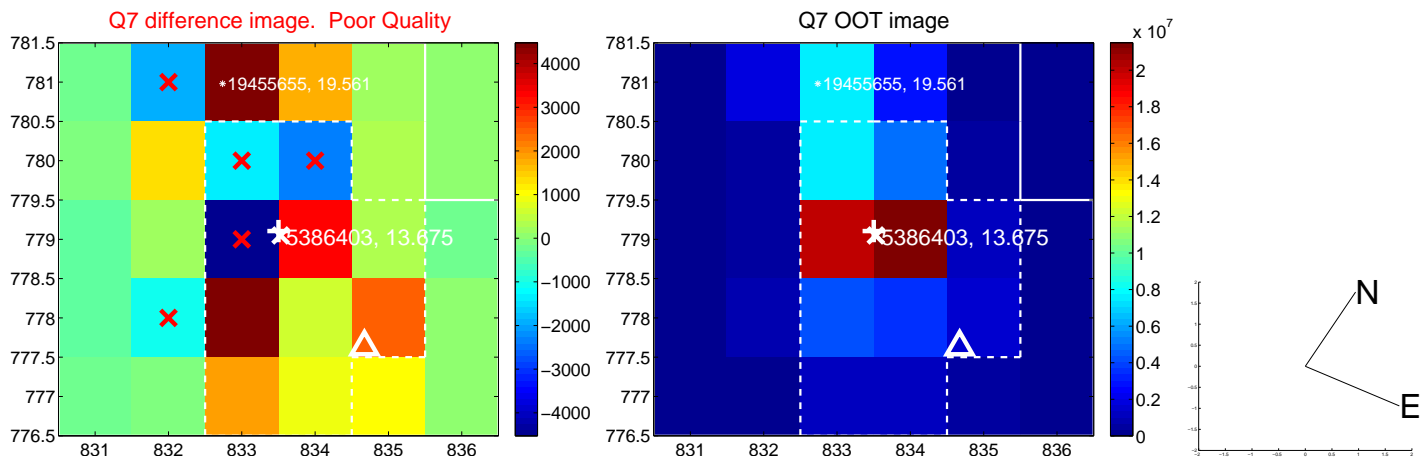
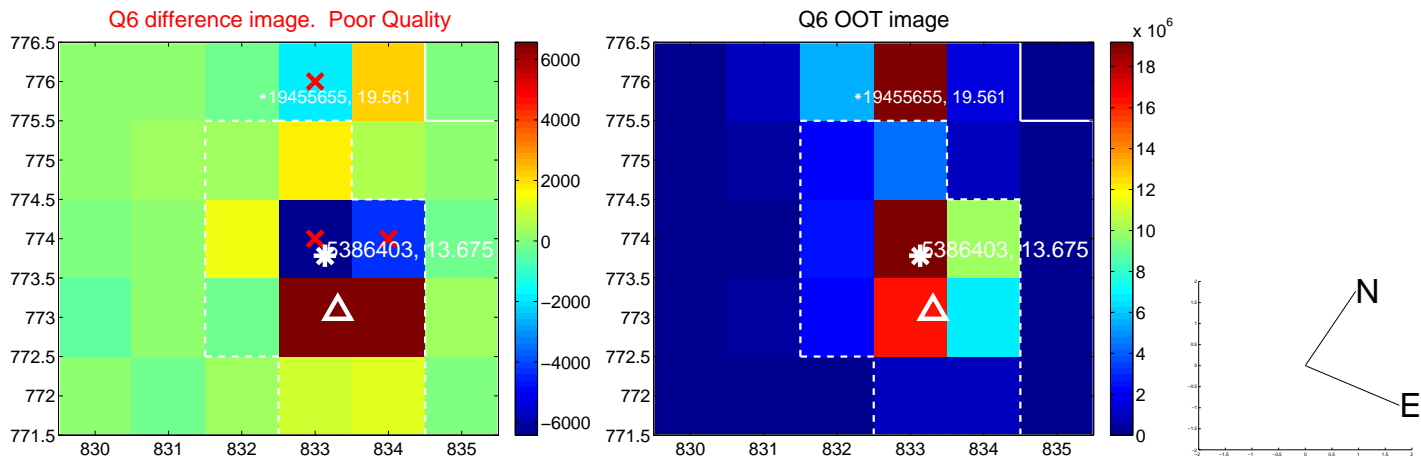
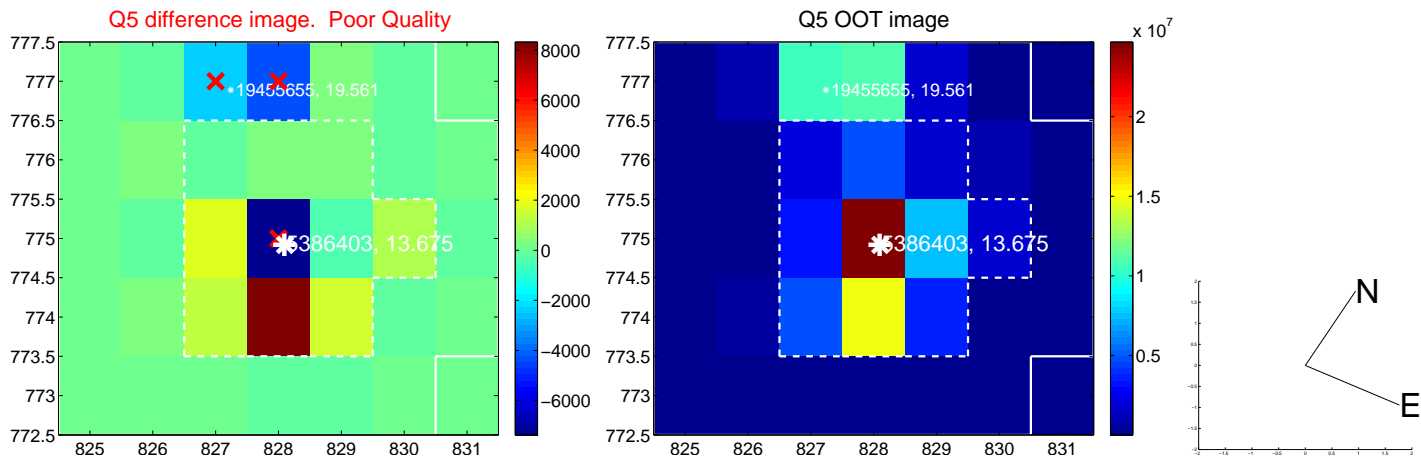


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

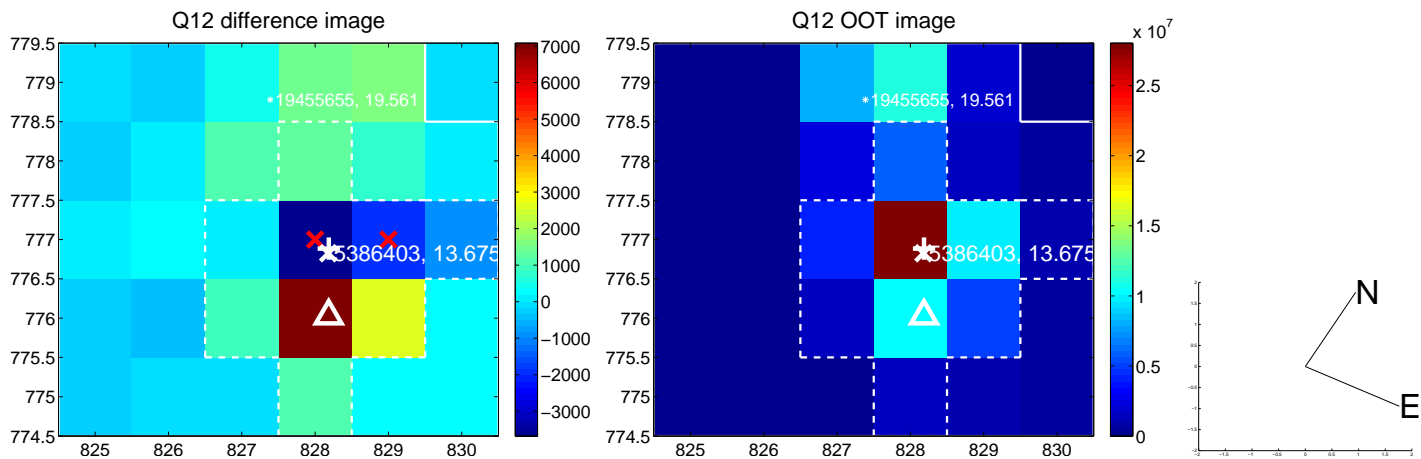
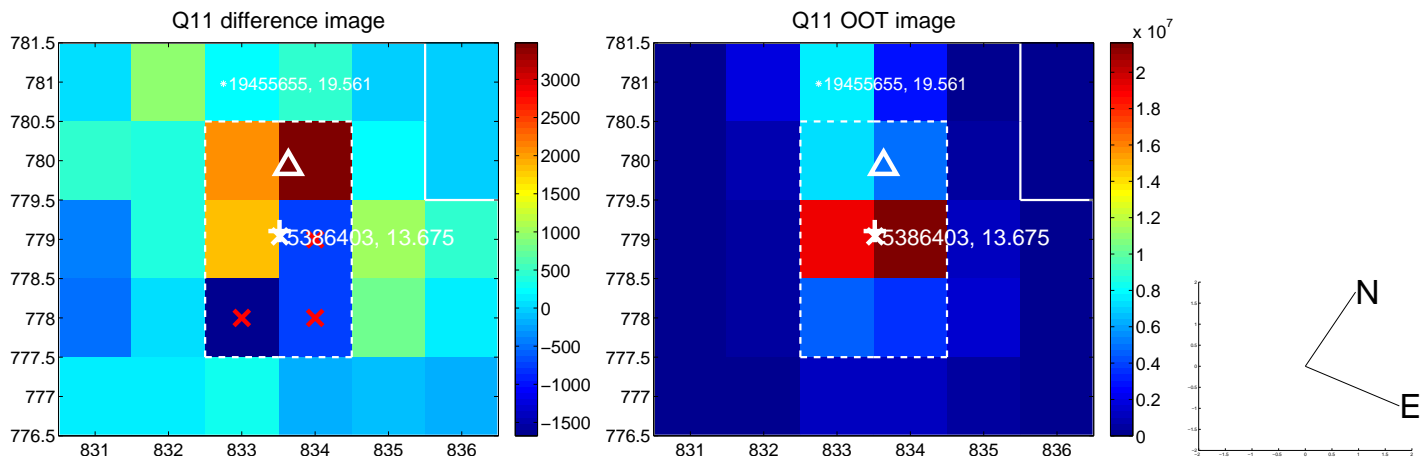
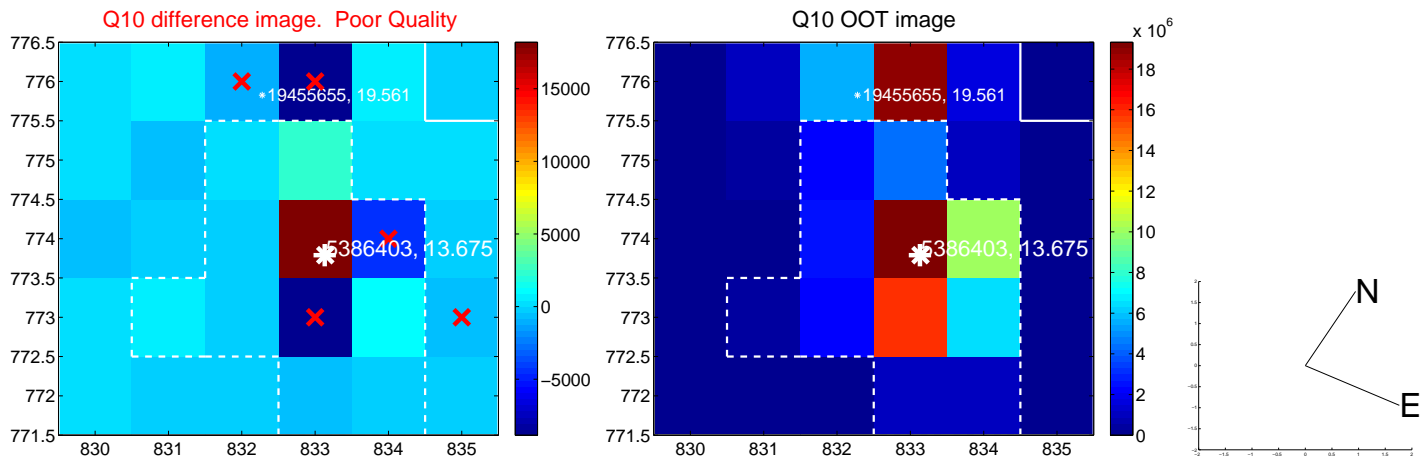
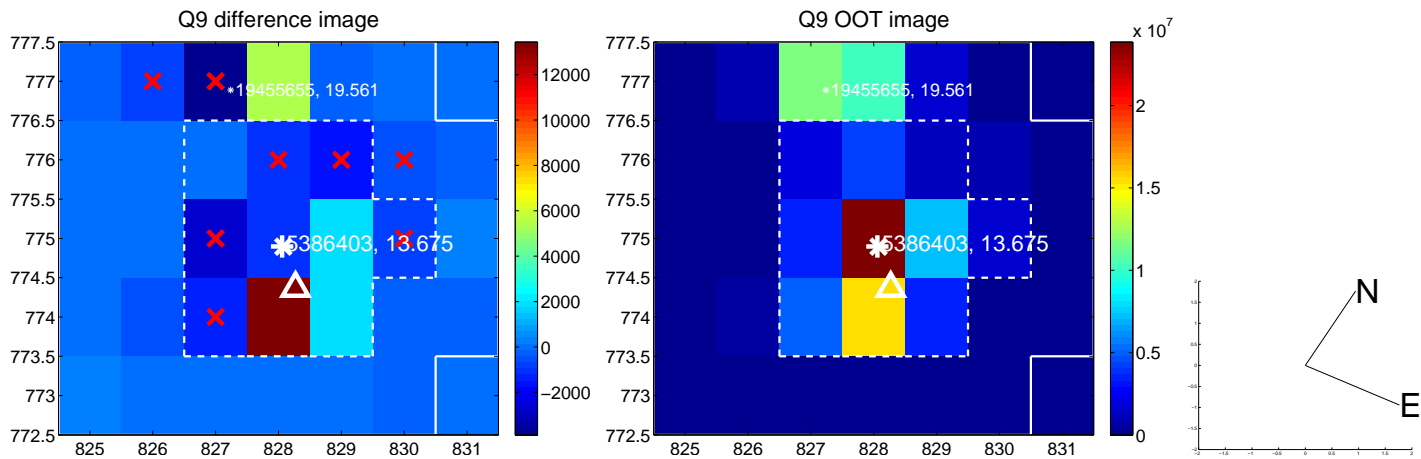
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



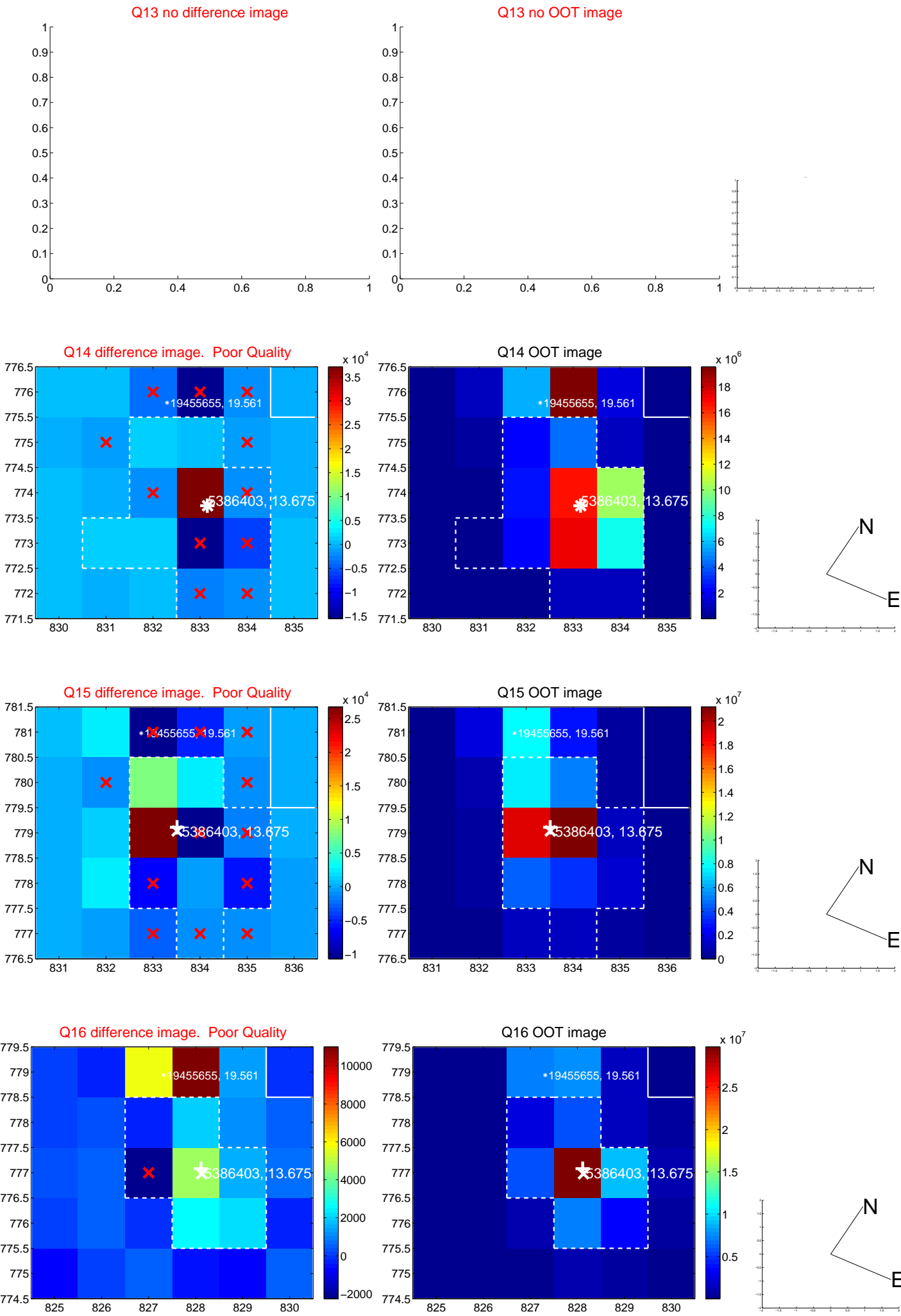
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



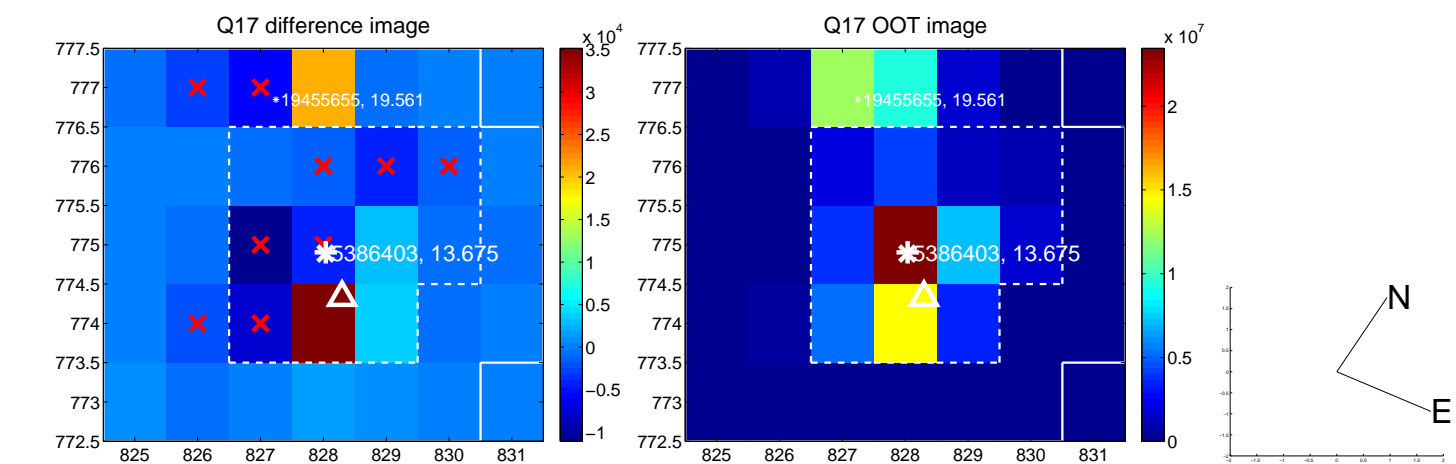
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



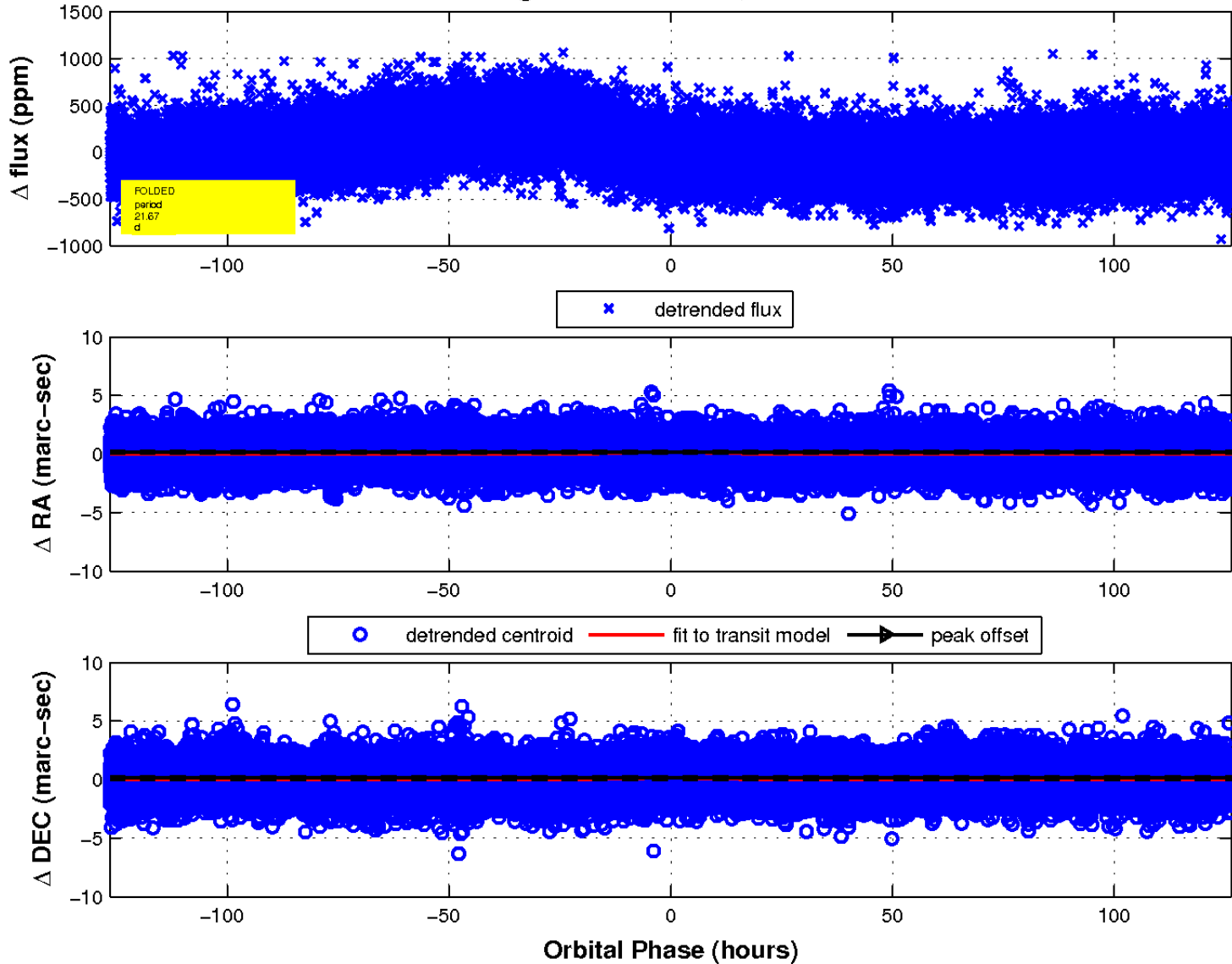
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

