

KIC 007022573

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})
007022573-01	OBS	3112.01	2.118863	132.815244	231.8	1.008	9.5	9.8	0.80	5504	1.46	542.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007022573-01	OBS	PC	0.76	0	0	0	0	CENT_KIC_POS

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.

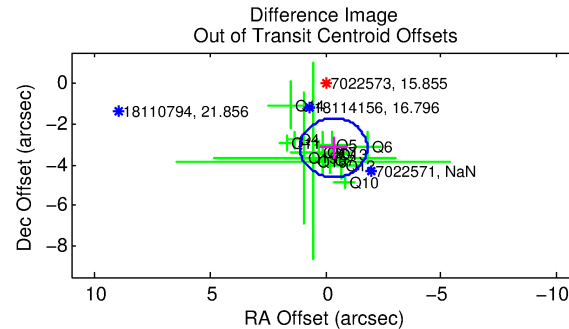
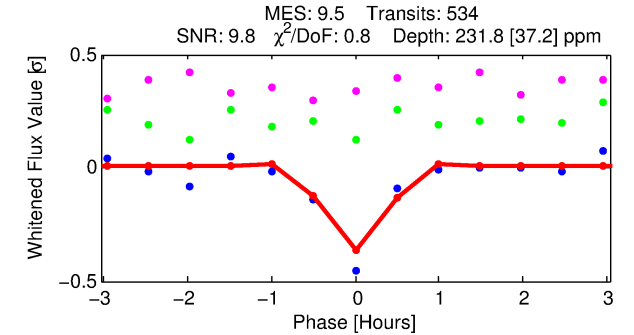
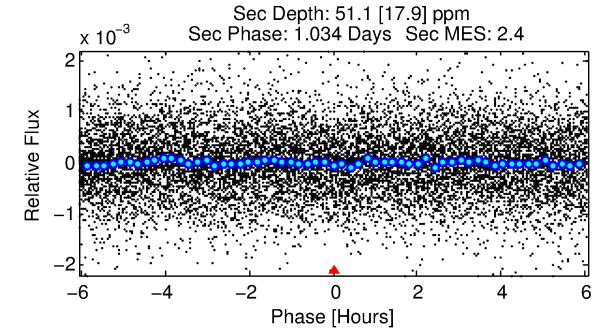
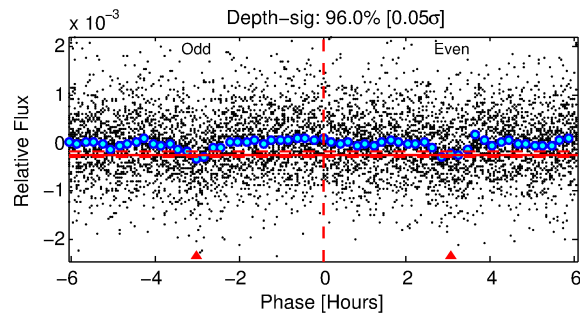
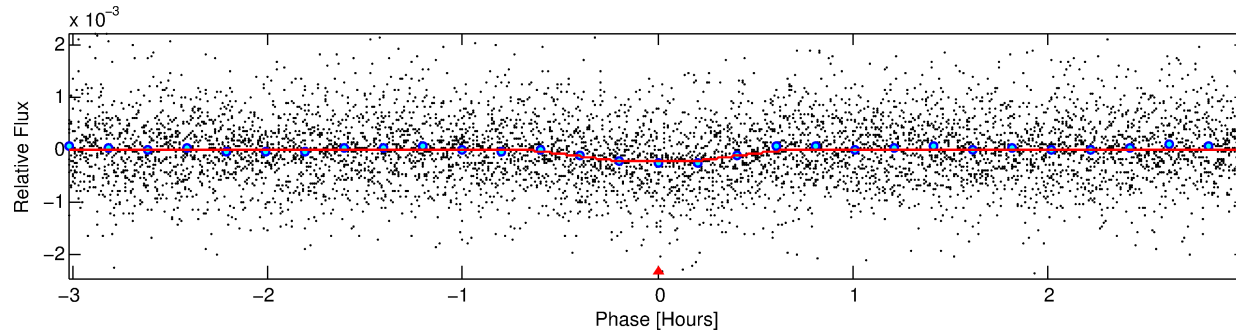
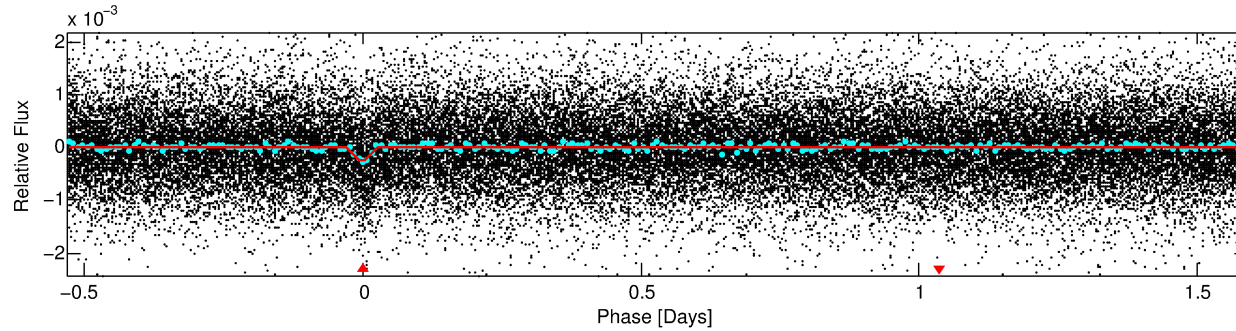
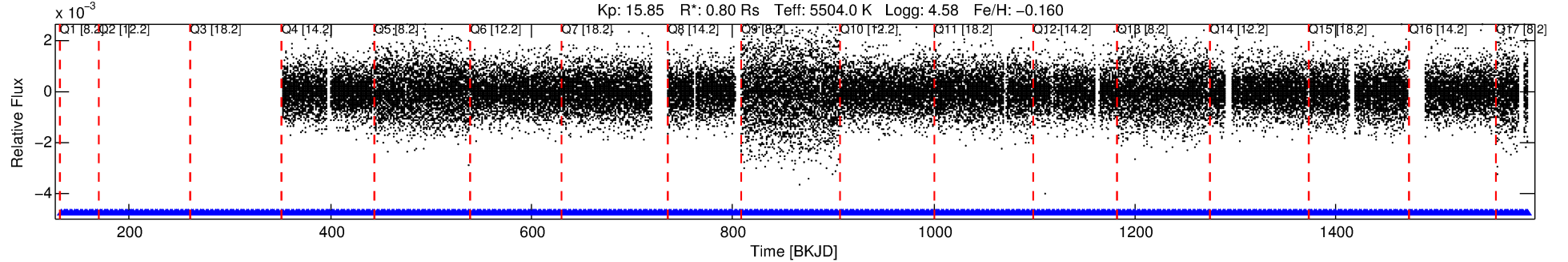
Ephemeris Match Information For 007022573-01

No Significant Match Found

DV One-Page Summary

KIC: 7022573 Candidate: 1 of 1 Period: 2.119 d
KOI: K03112.01 Corr: 0.776

Kp: 15.85 R*: 0.80 Rs Teff: 5504.0 K Logg: 4.58 Fe/H: -0.160



DV Fit Results:

Period = 2.11886 [0.00001] d
Epoch = 132.8152 [0.0018] BKJD
Rp/R* = 0.0169 [0.0137]
a/R* = 7.67 [27.45]
b = 0.90 [0.79]
Seff = 542.10 [165.91]
Teq = 1230 [94] K
Rp = 1.46 [1.24] Re
a = 0.0310 [0.0058] AU
Ag = 12.61 [21.30] [0.55σ]
Teffp = 3585 [1498] K [1.57σ]

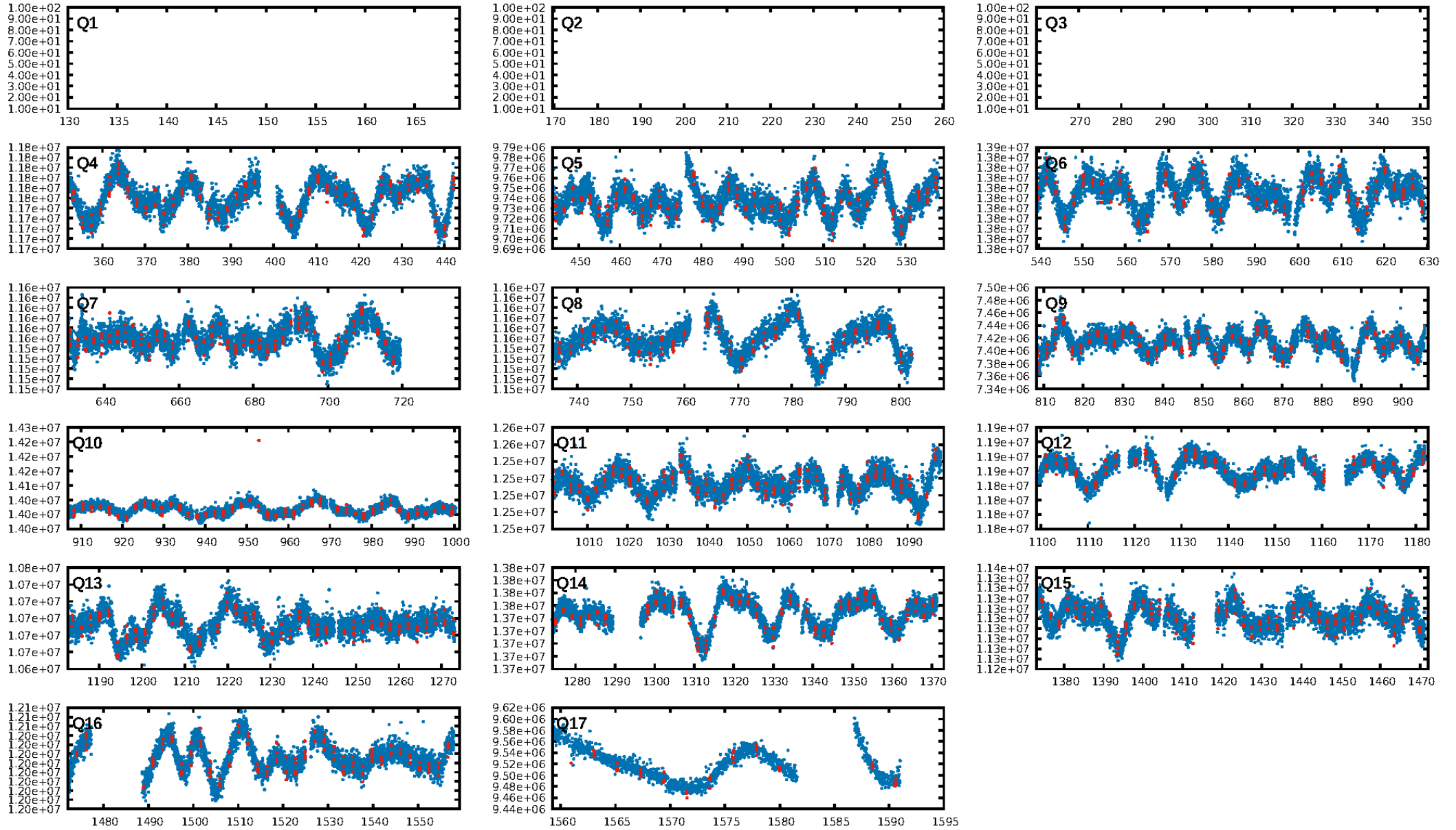
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.99e-21
RollingBand-fgt: 1.00 [522/522]
GhostDiagnostic-chr: 2.688
Centroid-sig: 1.7%
Centroid-so: 1.281 arcsec [2.34σ]
OotOffset-rm: 3.192 arcsec [6.61σ]
KicOffset-rm: 1.181 arcsec [2.22σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [14/14]

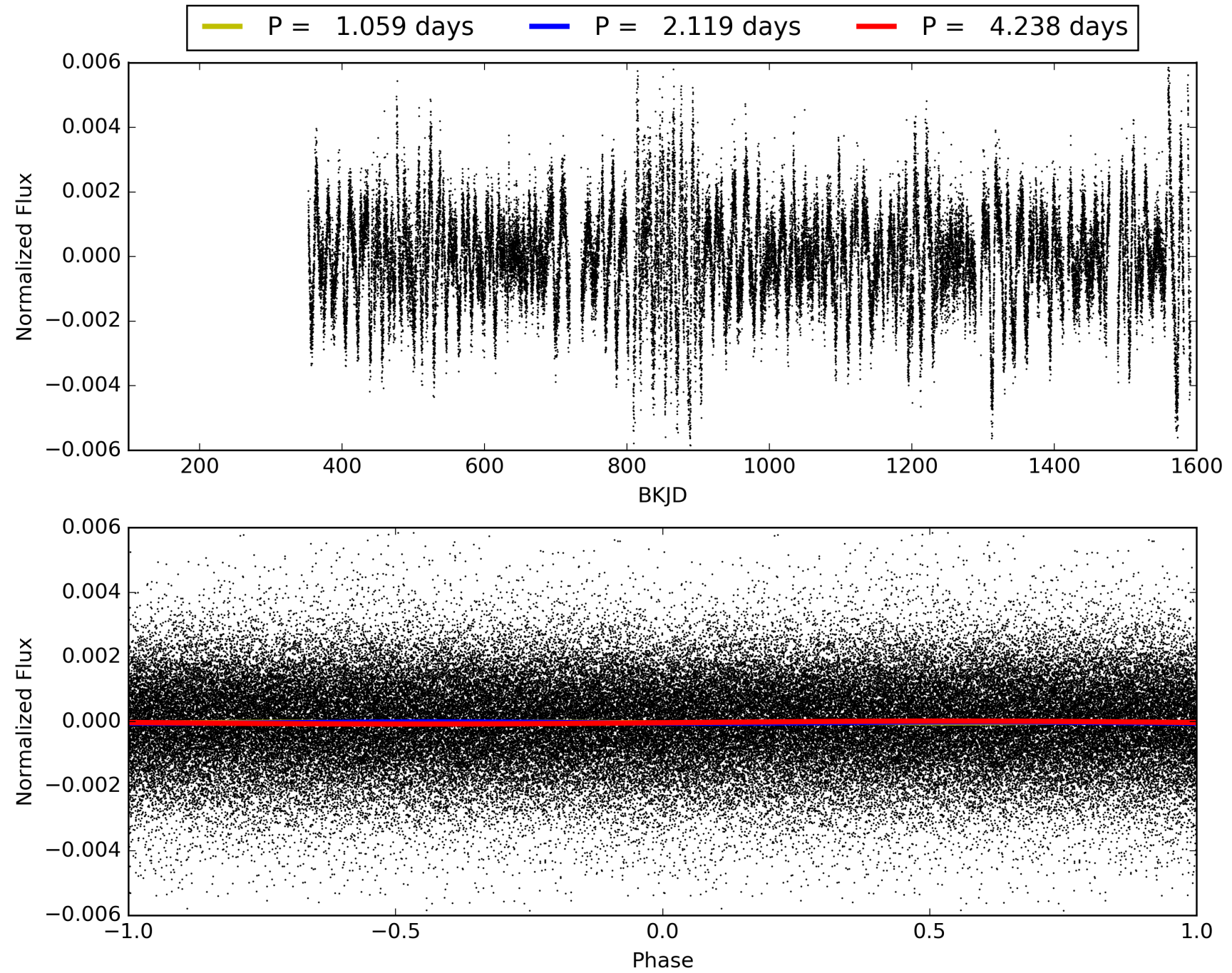
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:15:17 Z

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

TCE 007022573-01, PDC Light Curves

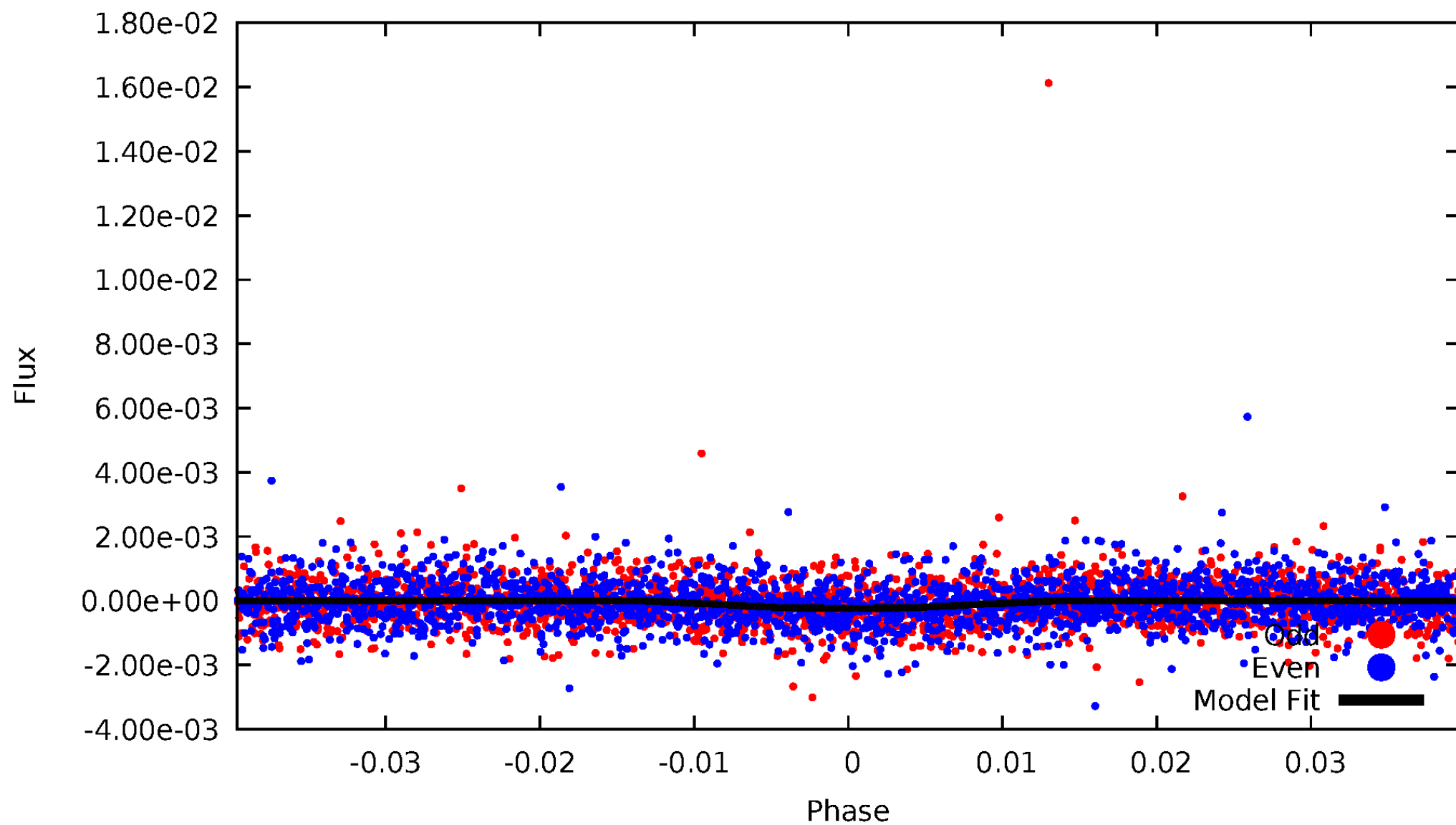


TCE 007022573-01



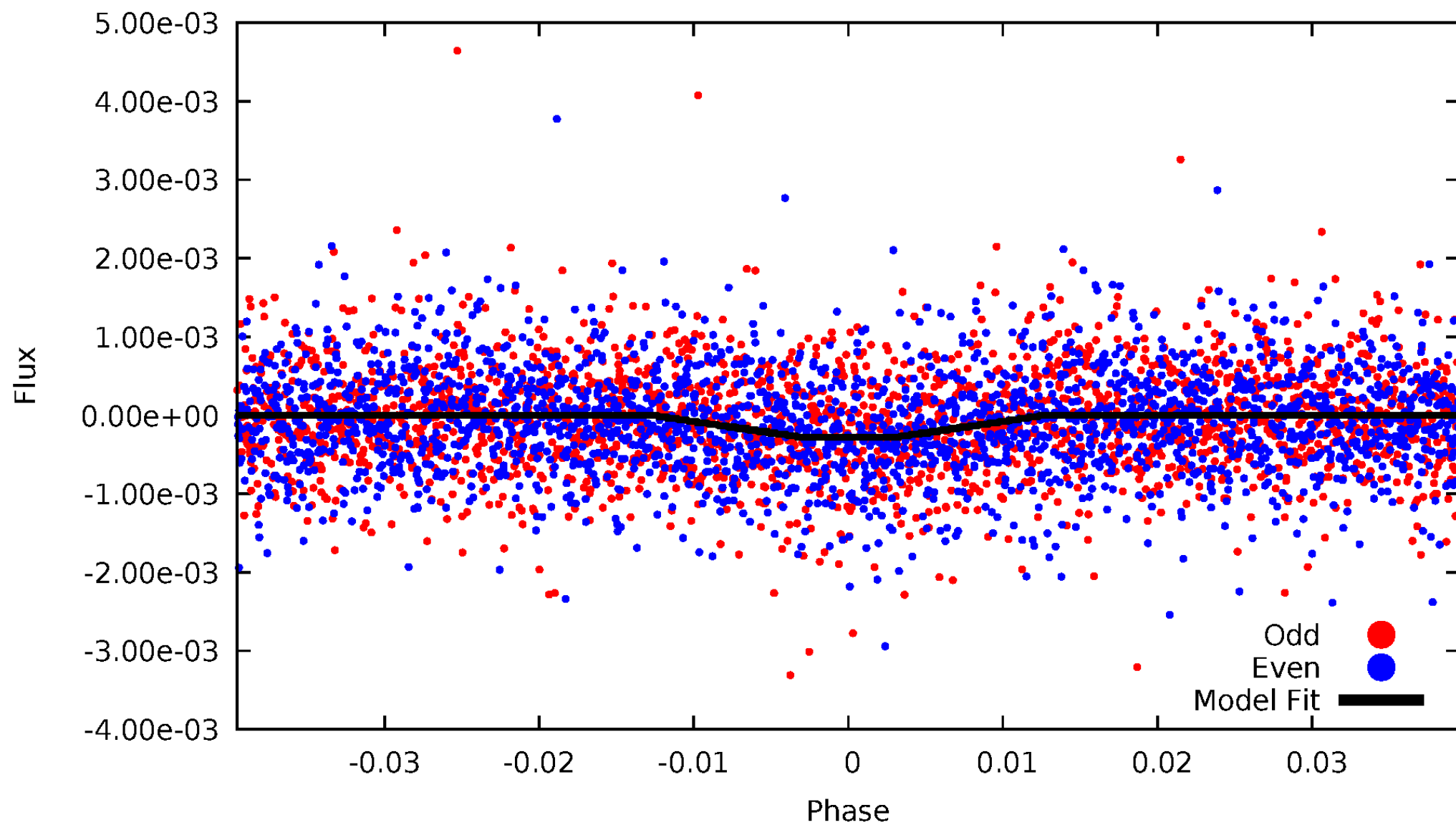
DV Odd/Even

TCE 007022573-01



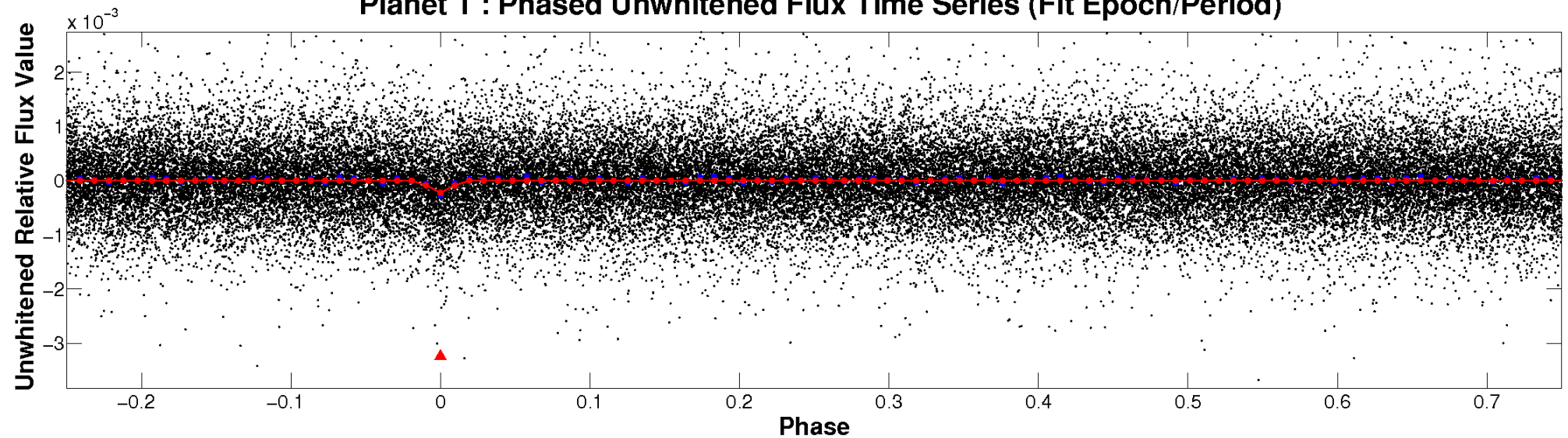
ALT Odd/Even

TCE 007022573-01

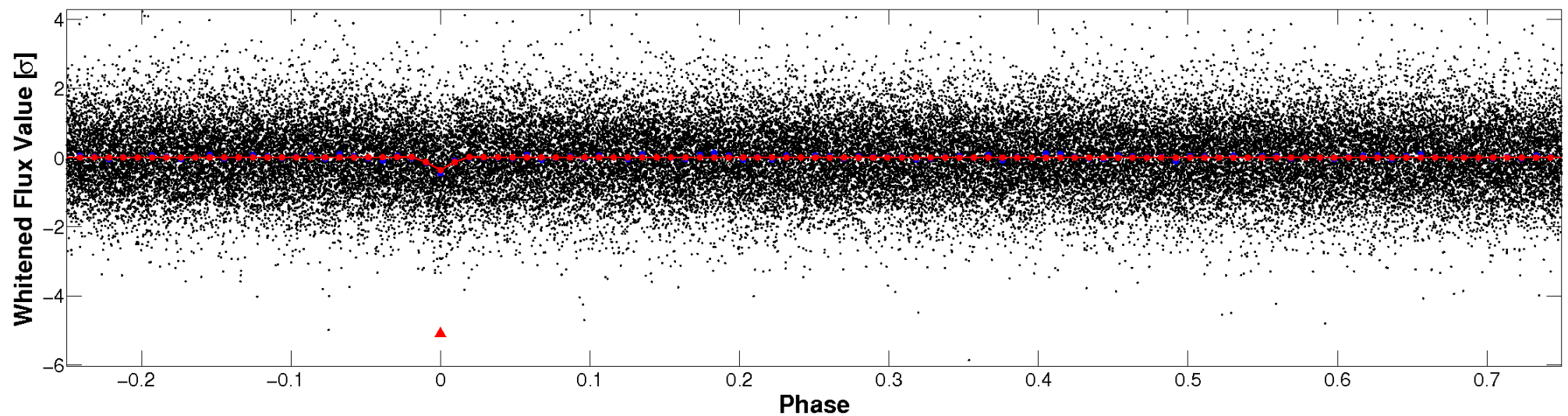


Non-Whitened Vs. Whitened Light Curve

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

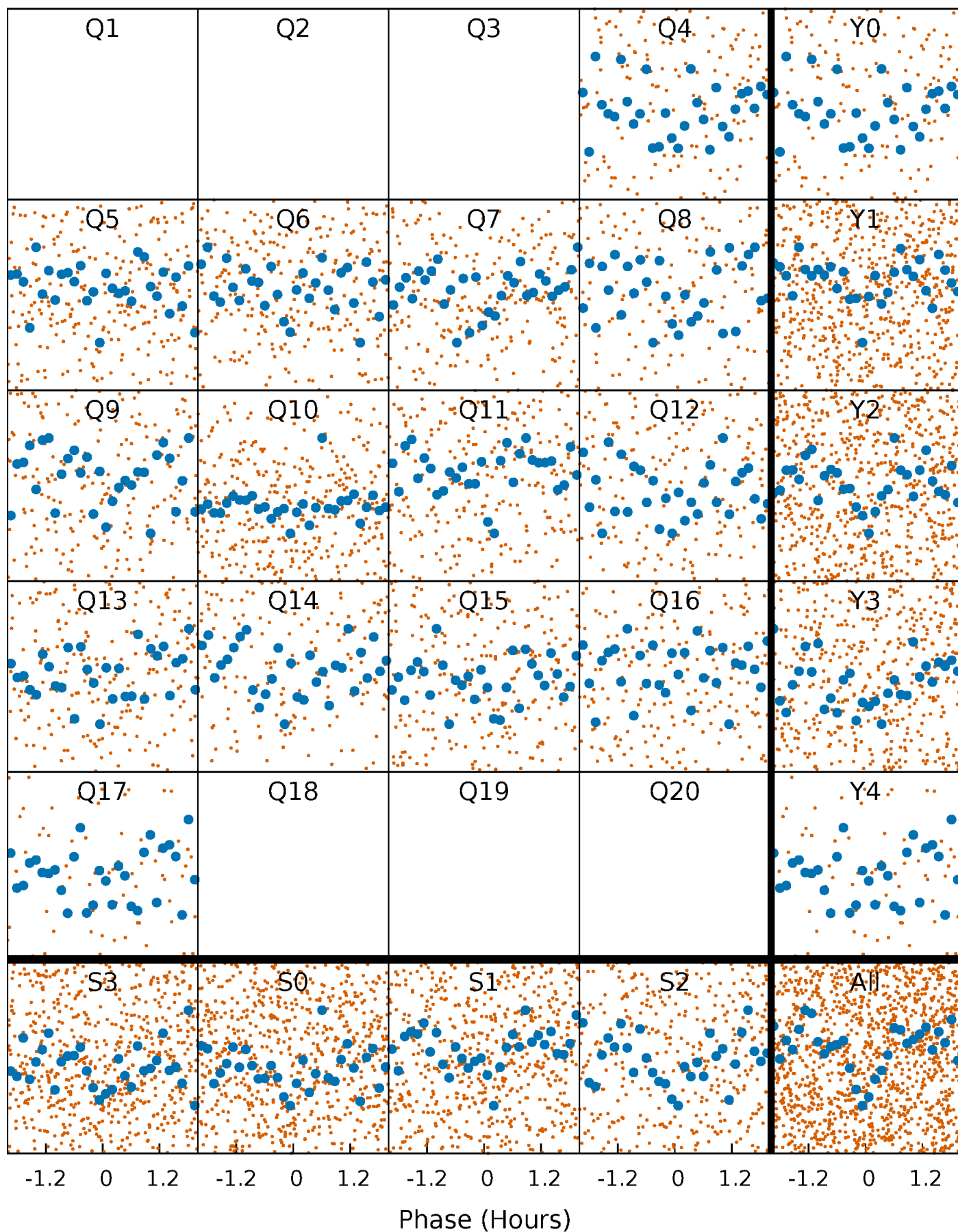


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



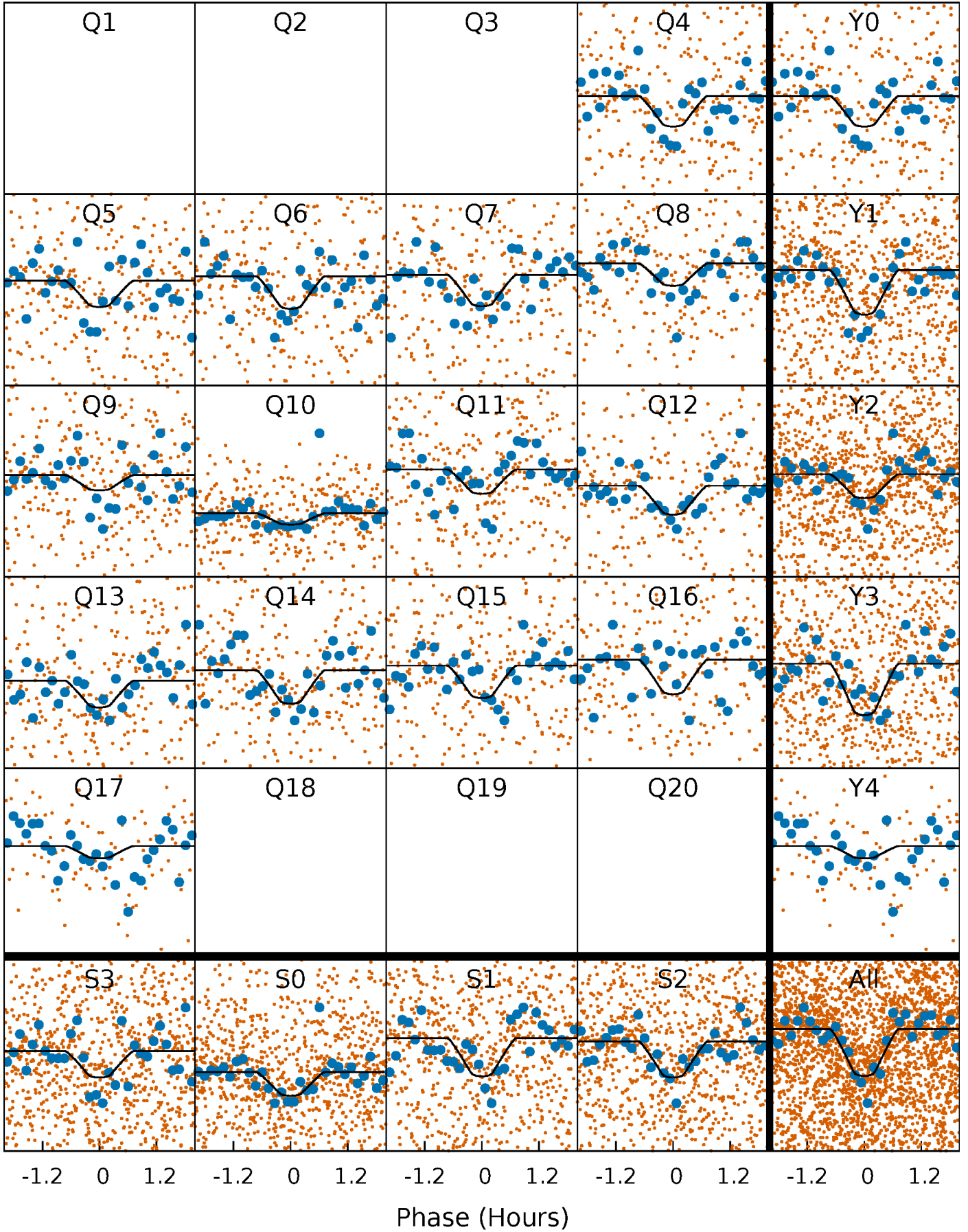
PDC Quarter-Phased Transit Curves

TCE 007022573-01 P= 2.118863 Days $T_0=132.815244$ (BKJD)



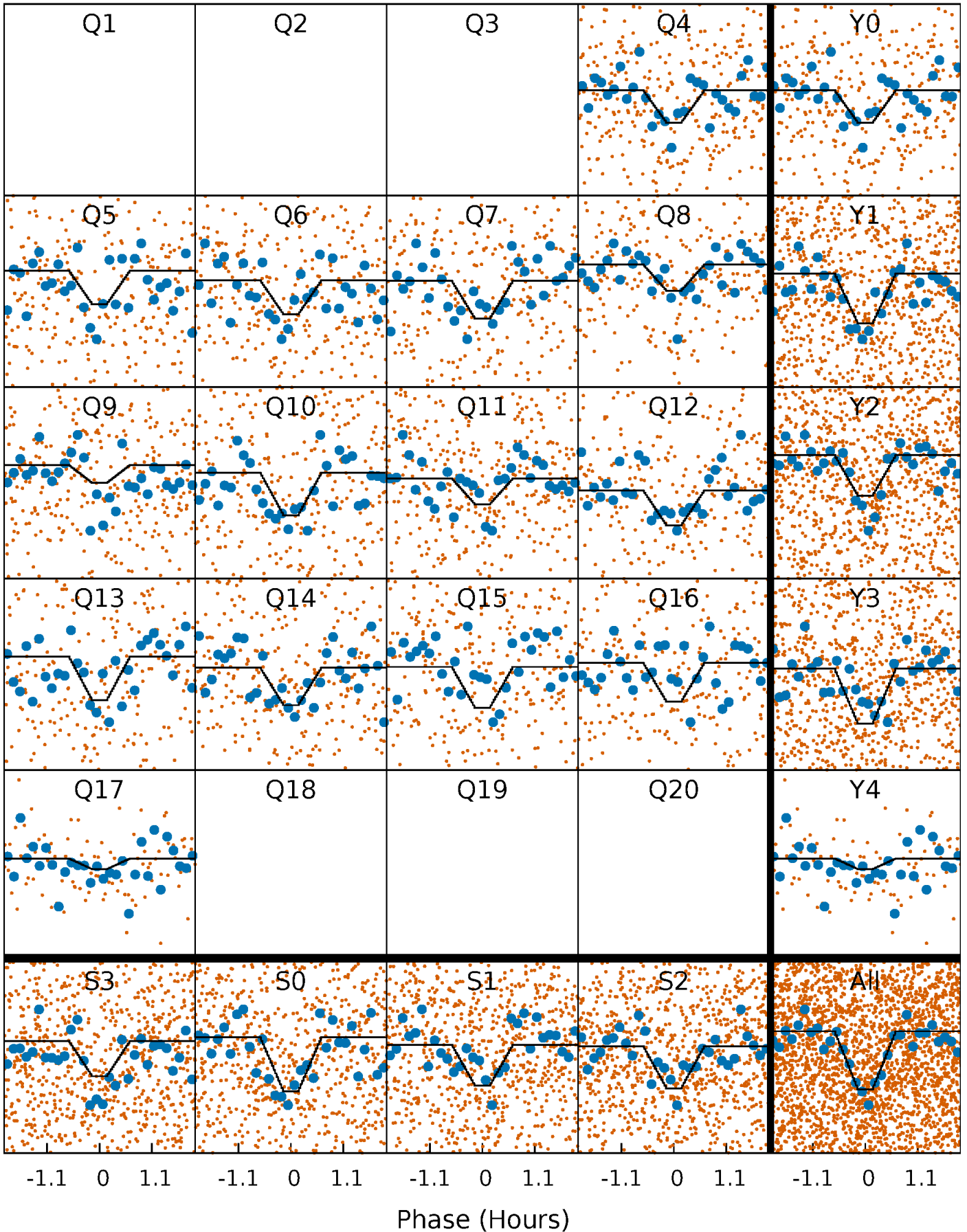
DV Quarter-Phased Transit Curves

TCE 007022573-01 P= 2.118863 Days $T_0=132.815244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

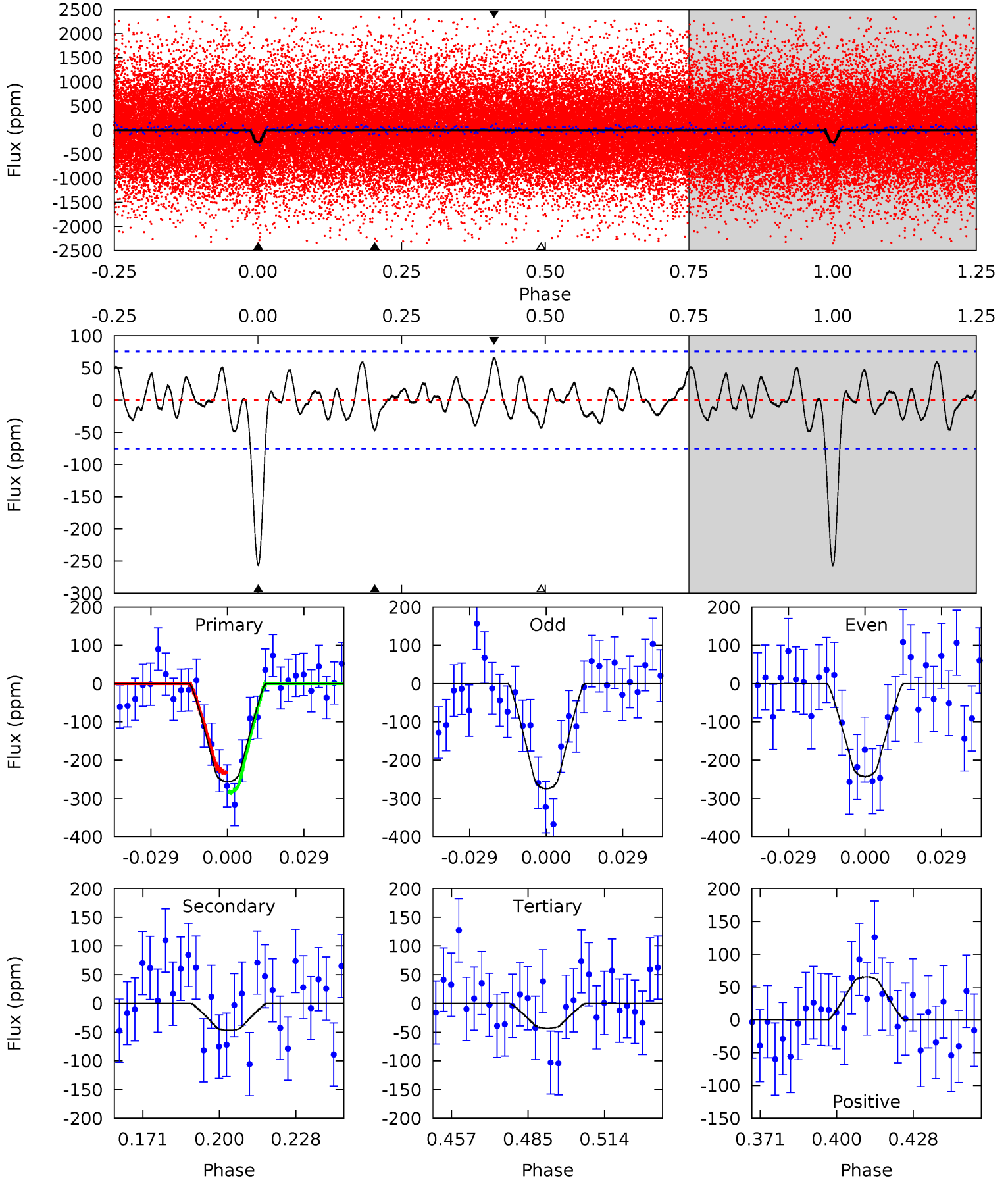
TCE 007022573-01 P= 2.118864 Days $T_0=132.815304$ (BKJD)



DV Model-Shift Uniqueness Test

007022573-01, P = 2.118863 Days, E = 132.815244 Days

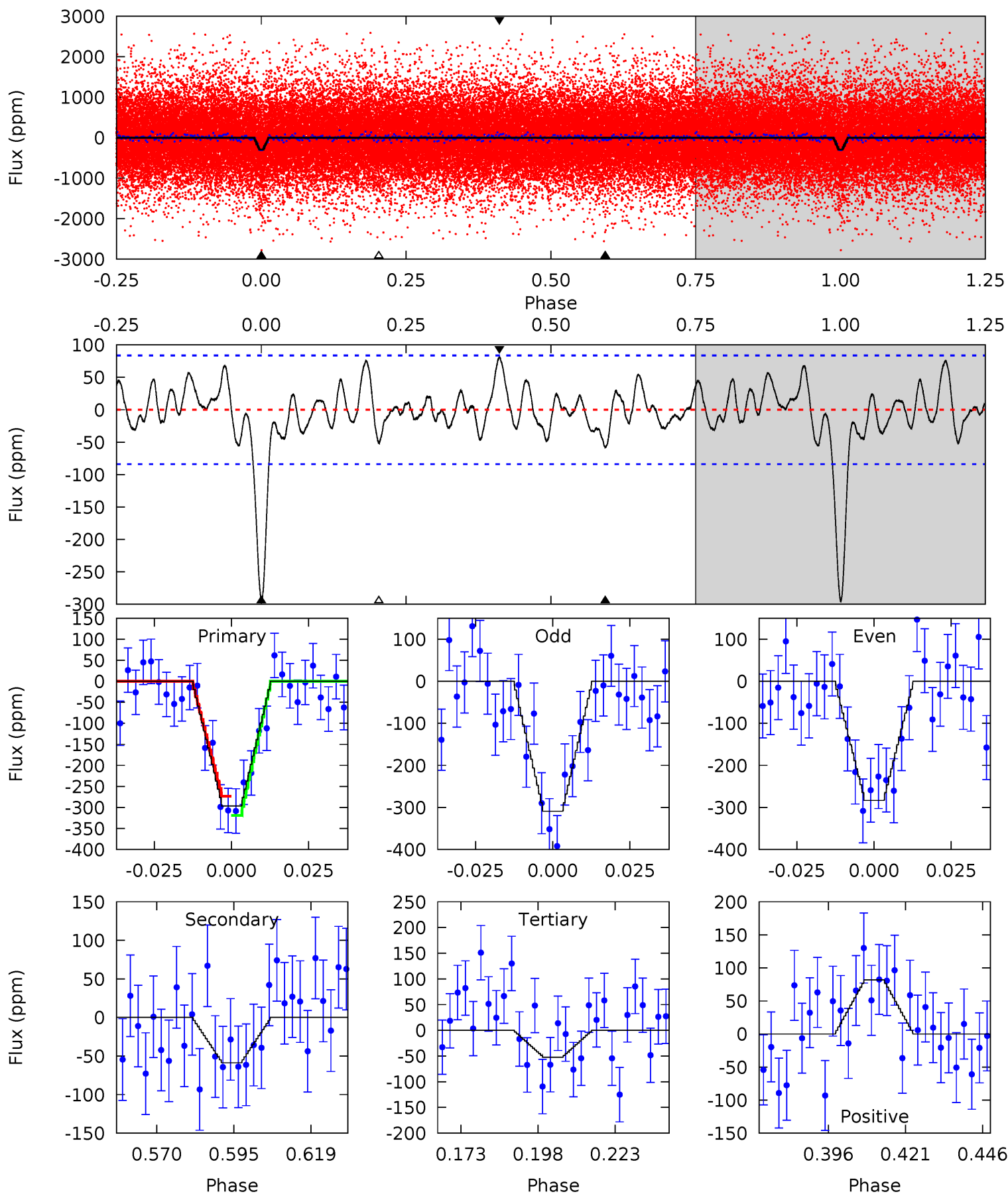
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	2.97	2.74	4.16	4.82	2.19	1.39	13.6	12.2	0.23	-1.19	1.03	0.99	0.20	1.68



Alt Model-Shift Uniqueness Test

007022573-01, P = 2.118864 Days, E = 132.815304 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	3.40	3.02	4.74	4.85	2.24	1.55	14.1	12.4	0.38	-1.34	0.75	1.07	0.22	1.31



Stellar Parameters For KIC 007022573

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5504^{+182}_{-182}	$4.583^{+0.038}_{-0.152}$	$-0.160^{+0.300}_{-0.300}$	$0.796^{+0.176}_{-0.075}$	$0.892^{+0.081}_{-0.112}$	$2.489^{+0.470}_{-1.059}$
	+3%/-3%	+1%/-3%	+188%/-188%	+22%/-9%	+9%/-13%	+19%/-43%
Source	KIC0	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 007022573-01 / KOI 3112.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-47 ± 16	$1.73^{+1.28}_{-1.01}$	1757^{+103}_{-83}	3628^{+1385}_{-616}	$8.117^{+36.986}_{-5.731}$
Alt.	-59 ± 17	$1.64^{+1.09}_{-0.99}$	1751^{+109}_{-79}	3900^{+1690}_{-688}	12^{+58}_{-8}

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

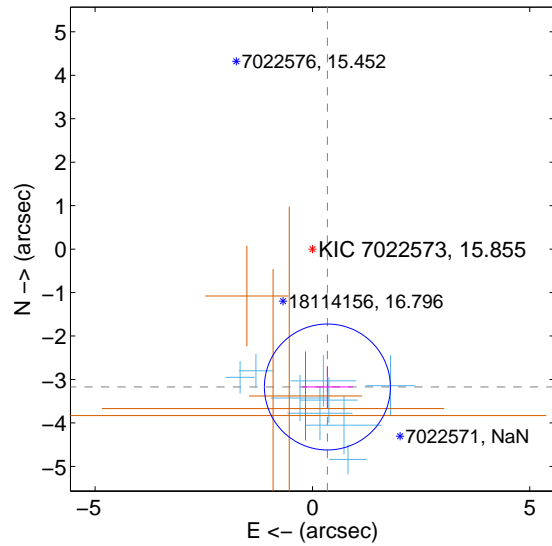
Supplemental centroid analysis for 007022573-01. Kepler magnitude: 15.86. Transit SNR 9.83

There are 9 quarters with good PRF difference image offsets

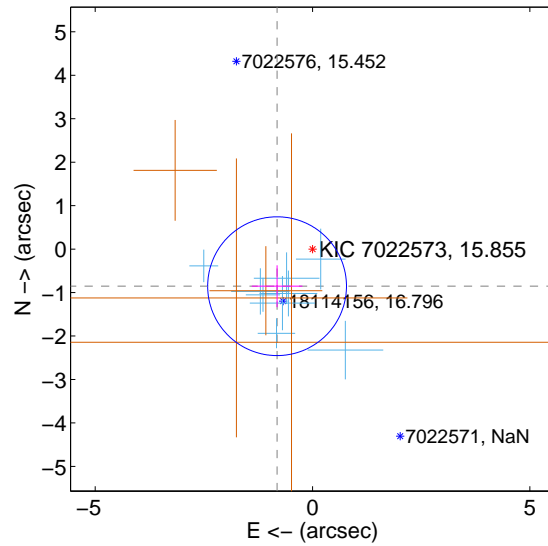
The OOT PRF centroid is offset from the target star catalog position by about 2.59 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.192 \pm 0.483	6.61	-0.344 \pm 0.583	-3.173 \pm 0.482
PRF-fit source offset from KIC position	1.181 \pm 0.532	2.22	0.816 \pm 0.583	-0.854 \pm 0.482
photometric centroid source offset	1.28 \pm 0.55	2.34	1.19 \pm 0.53	0.48 \pm 0.62

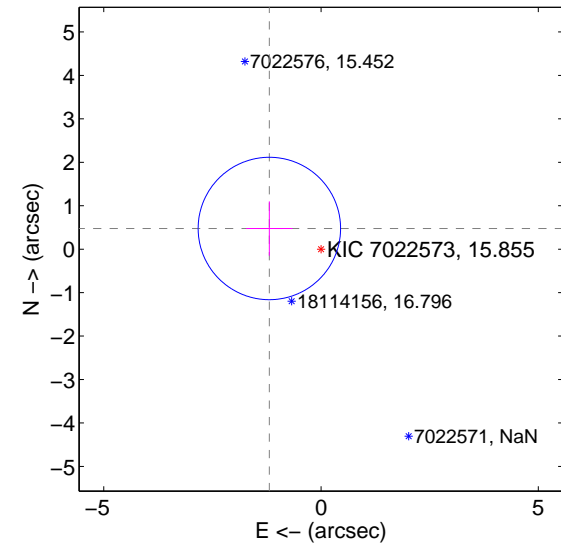
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

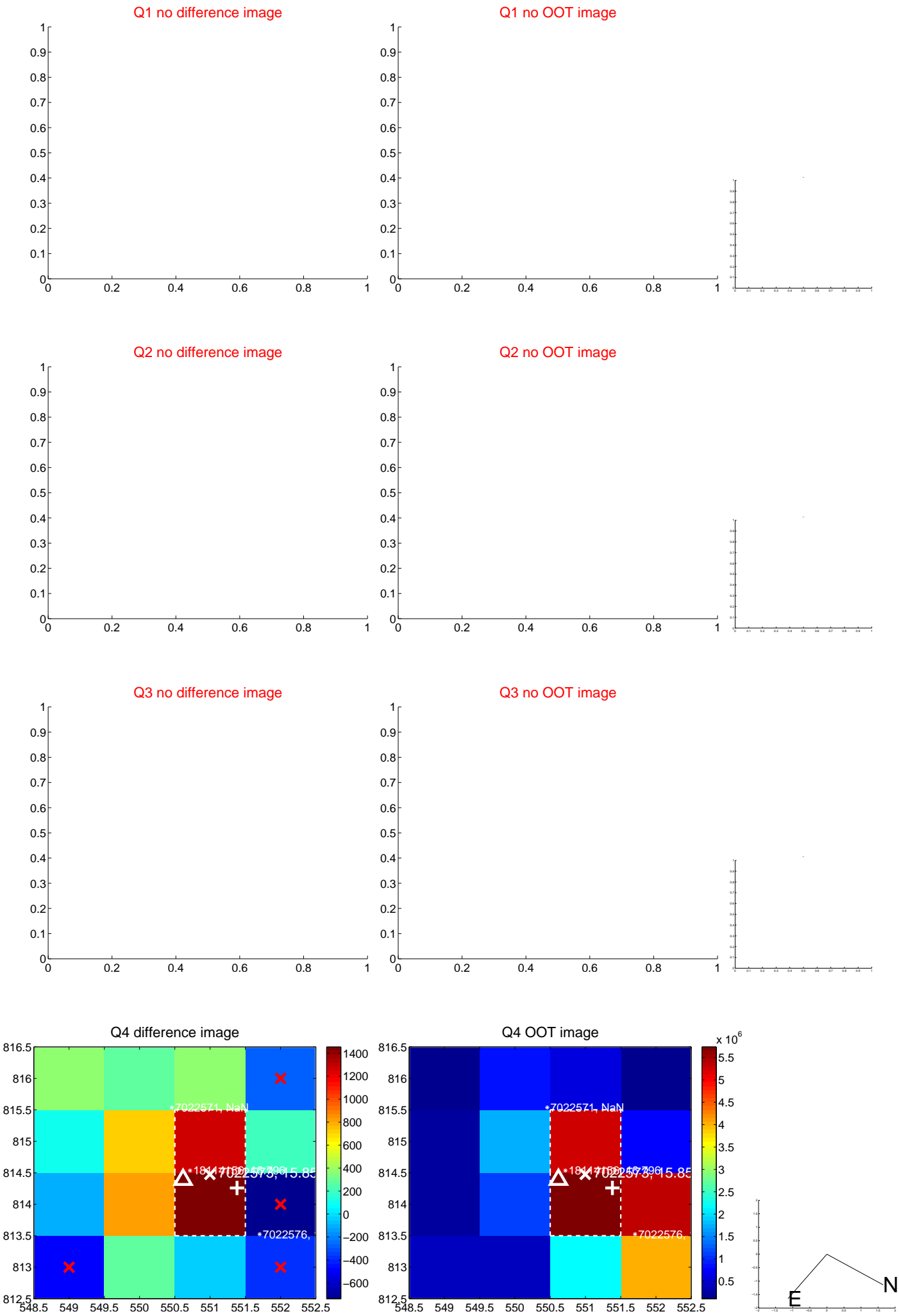


offset from photometric centroids

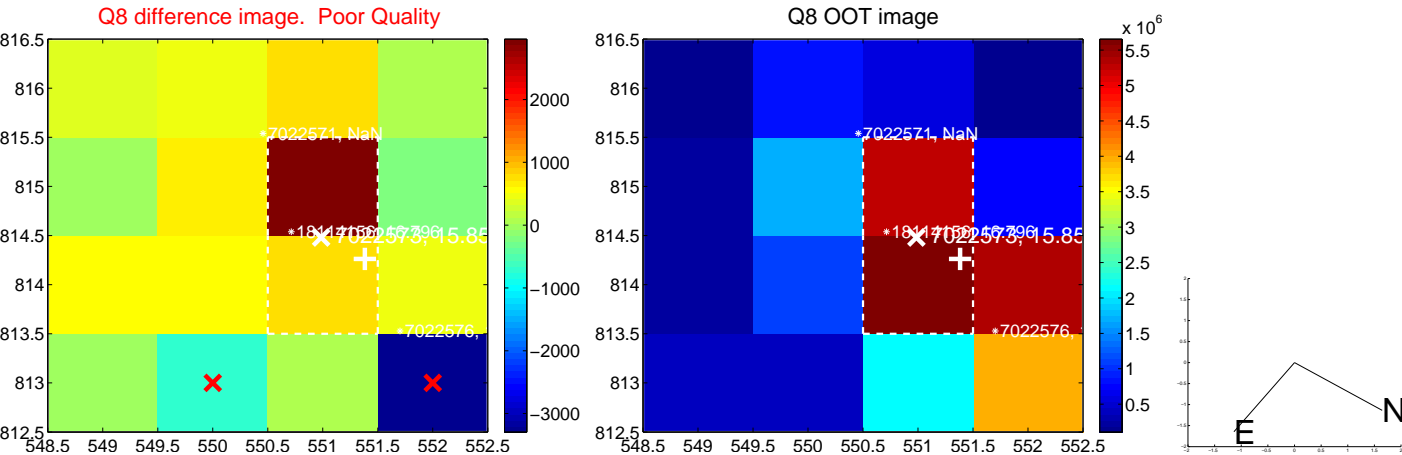
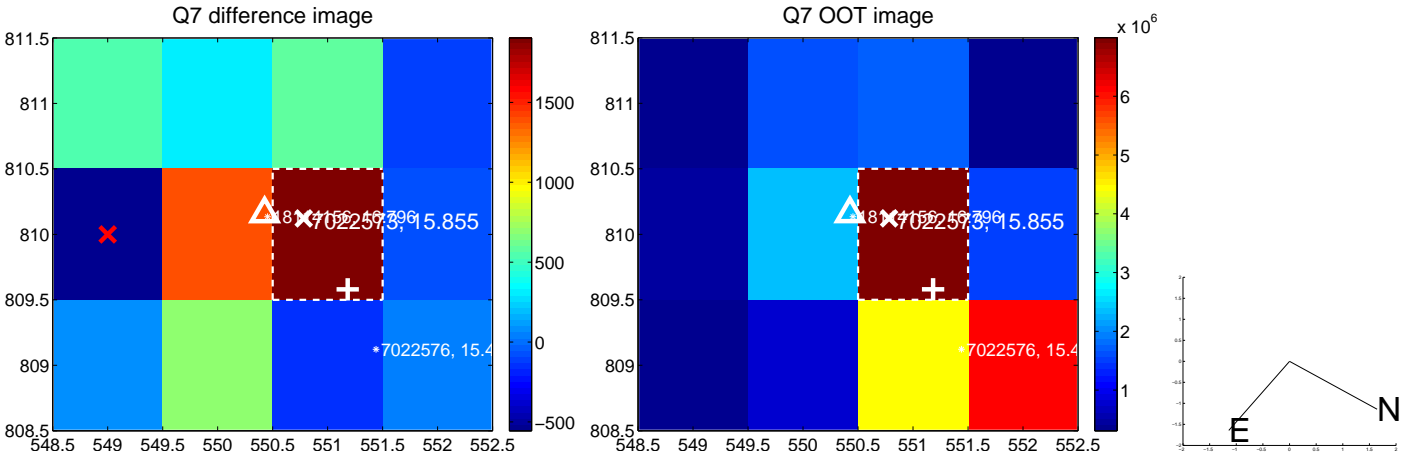
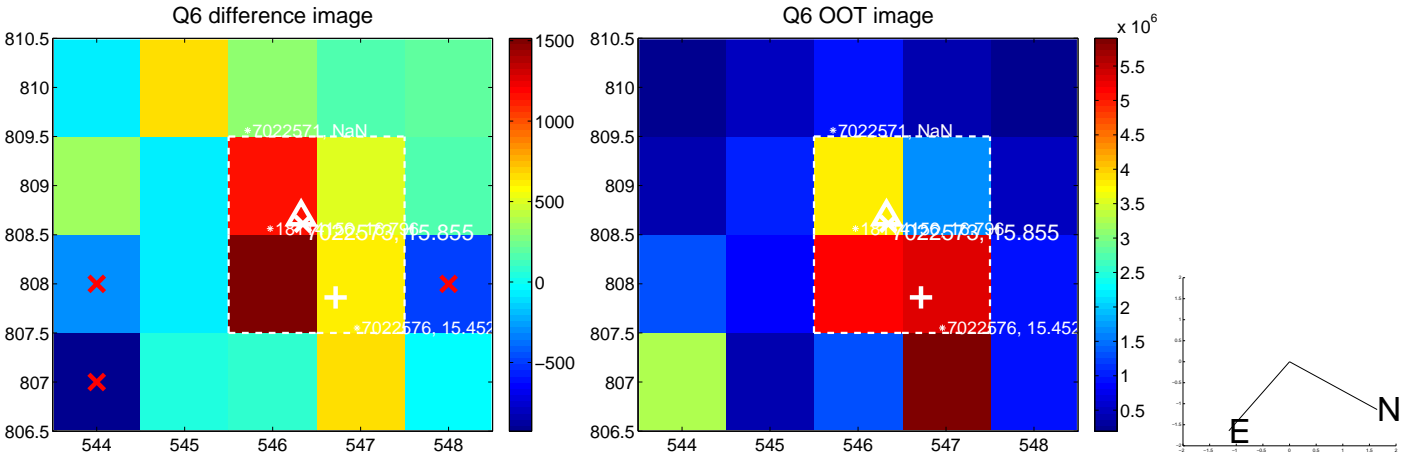
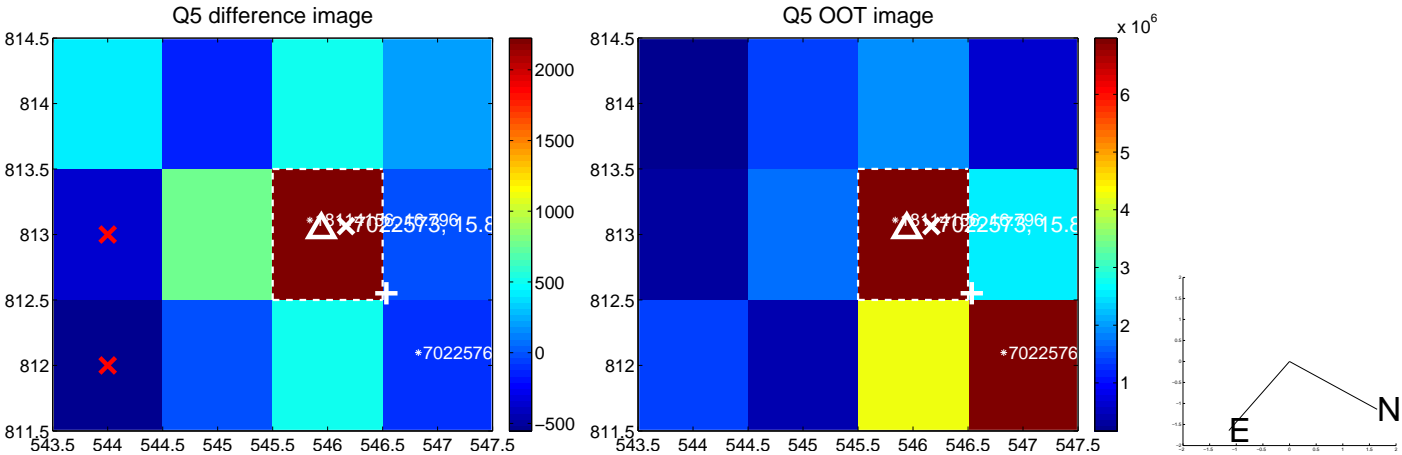


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

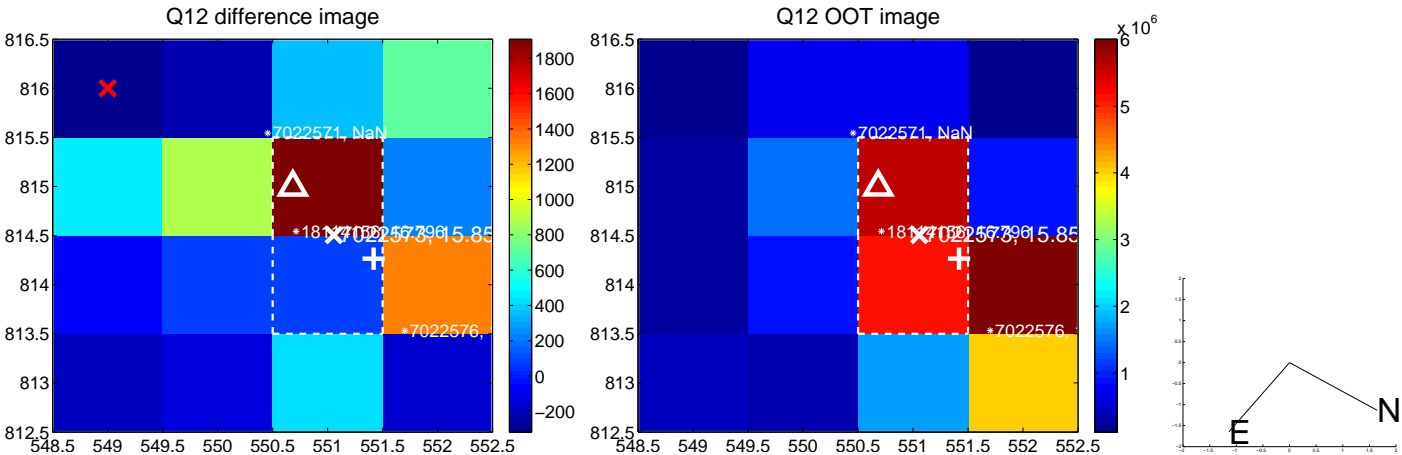
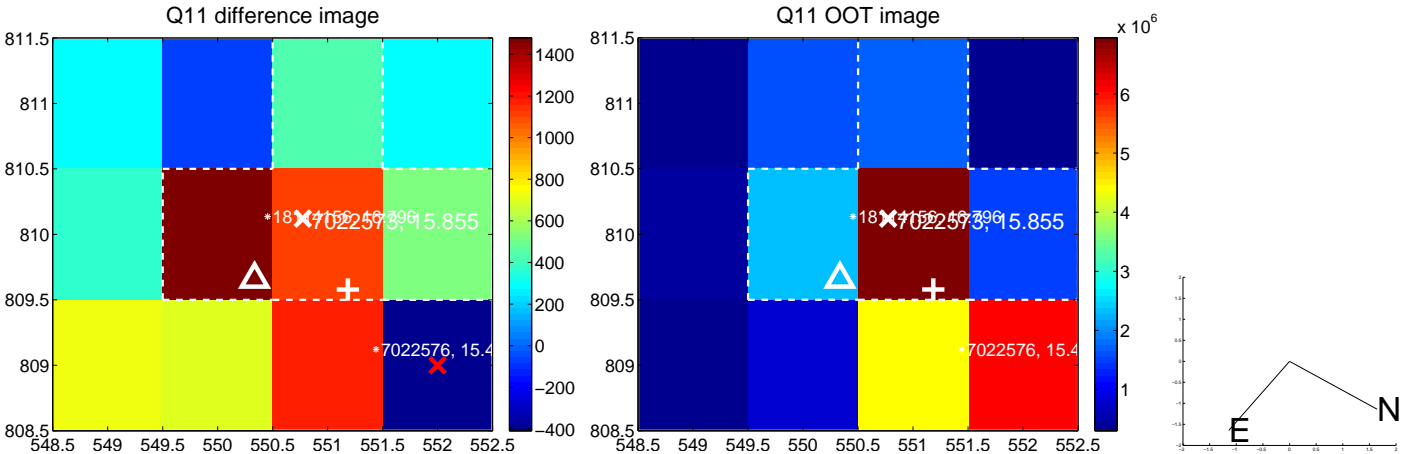
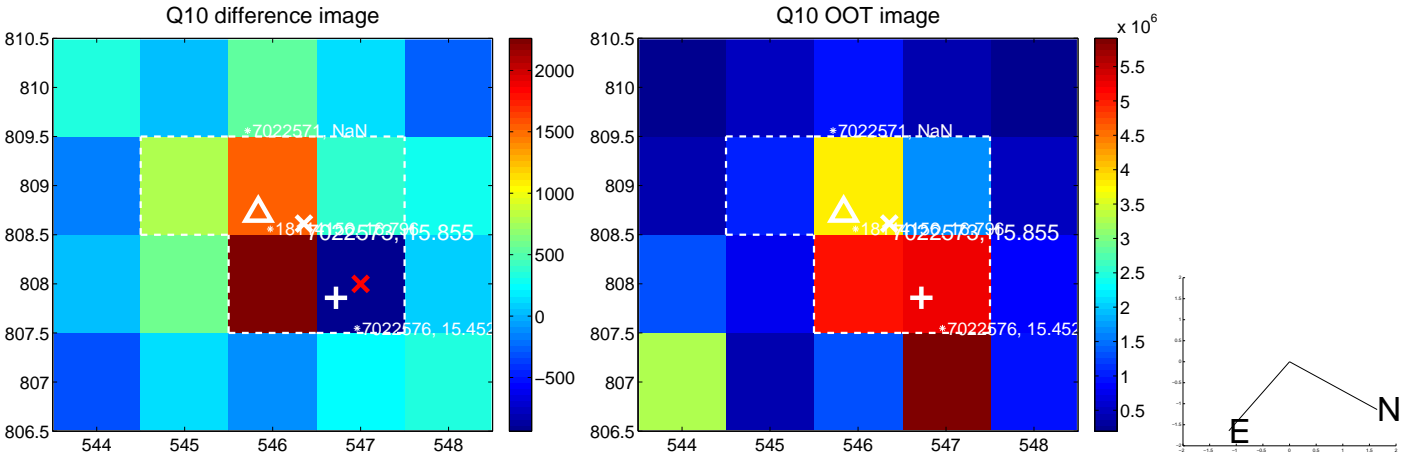
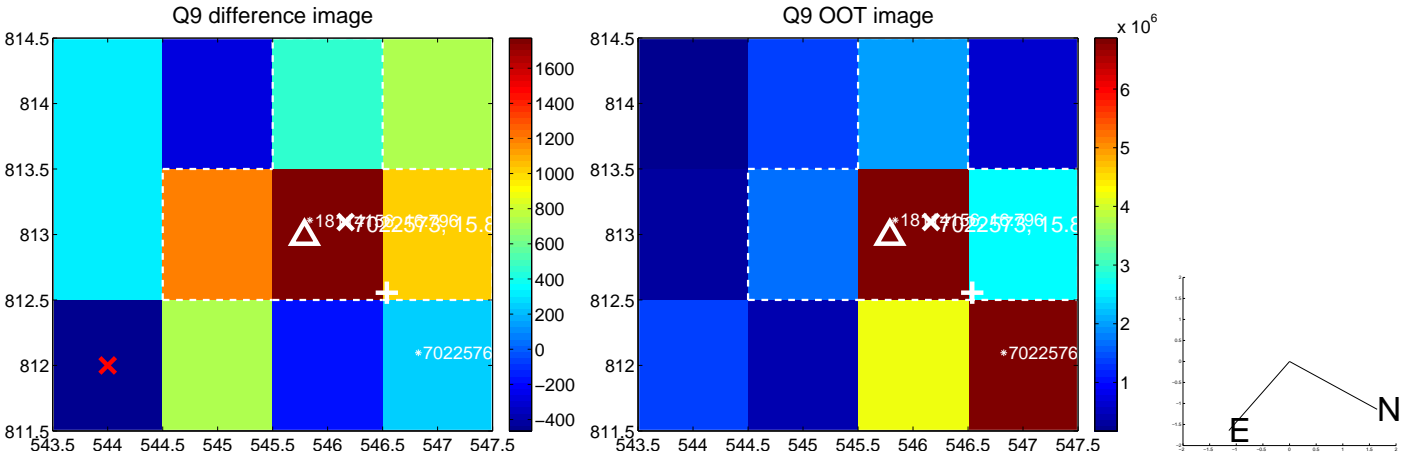
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



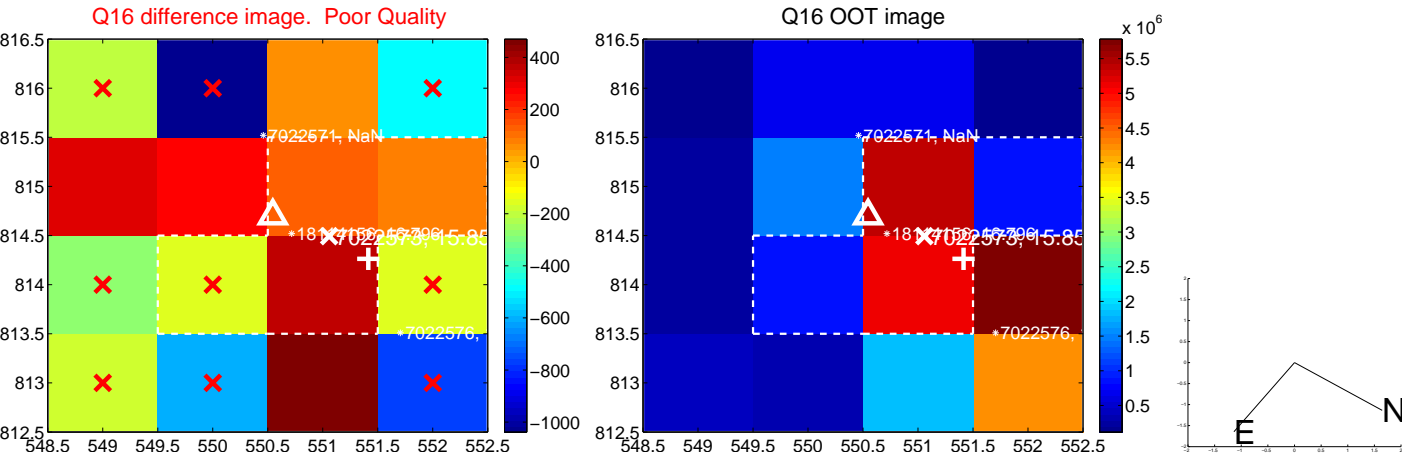
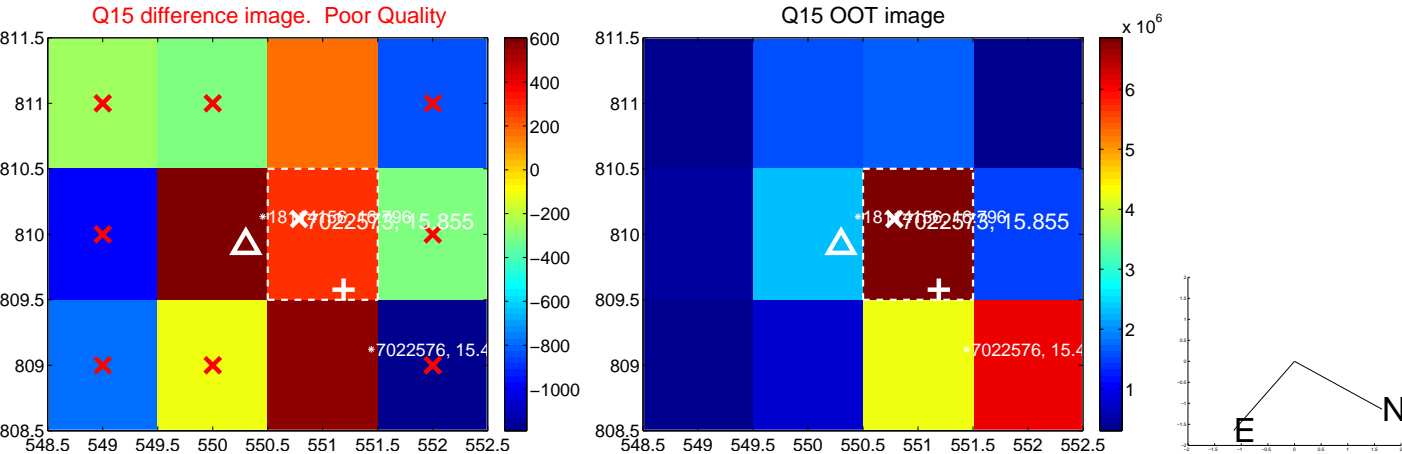
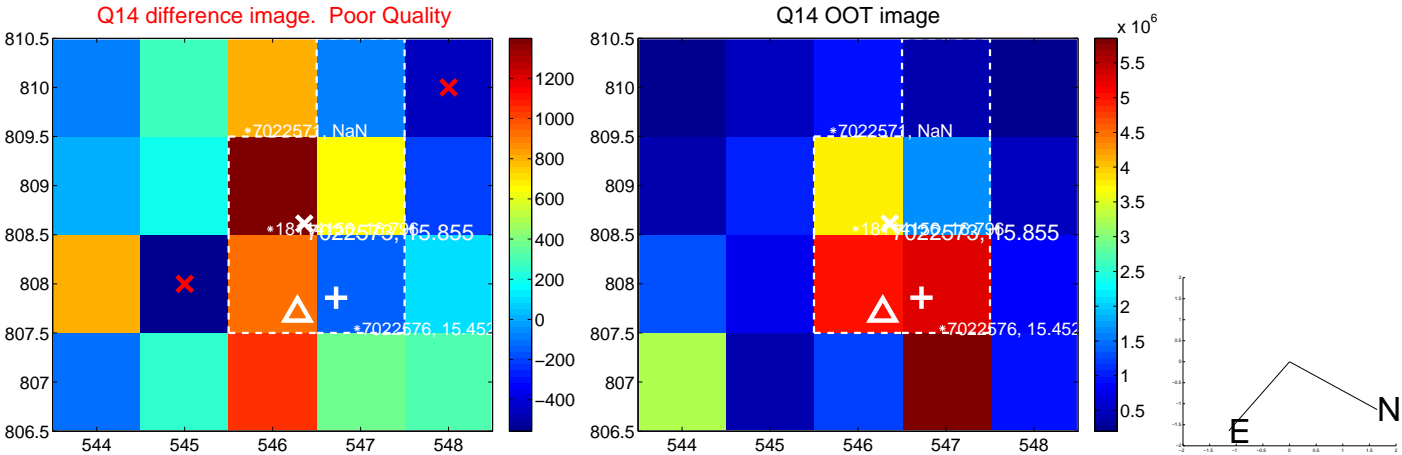
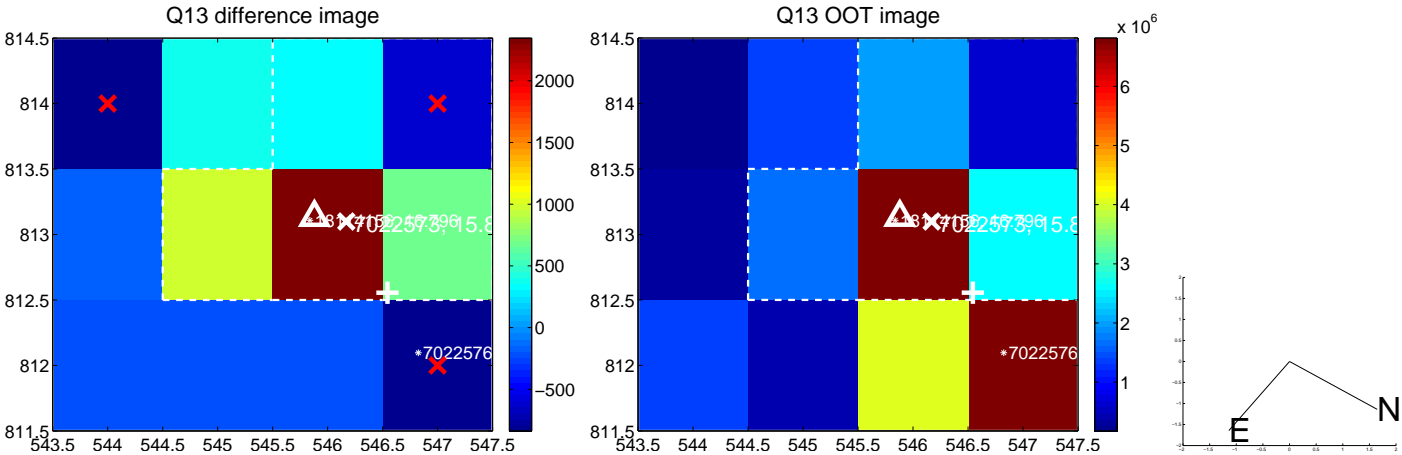
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



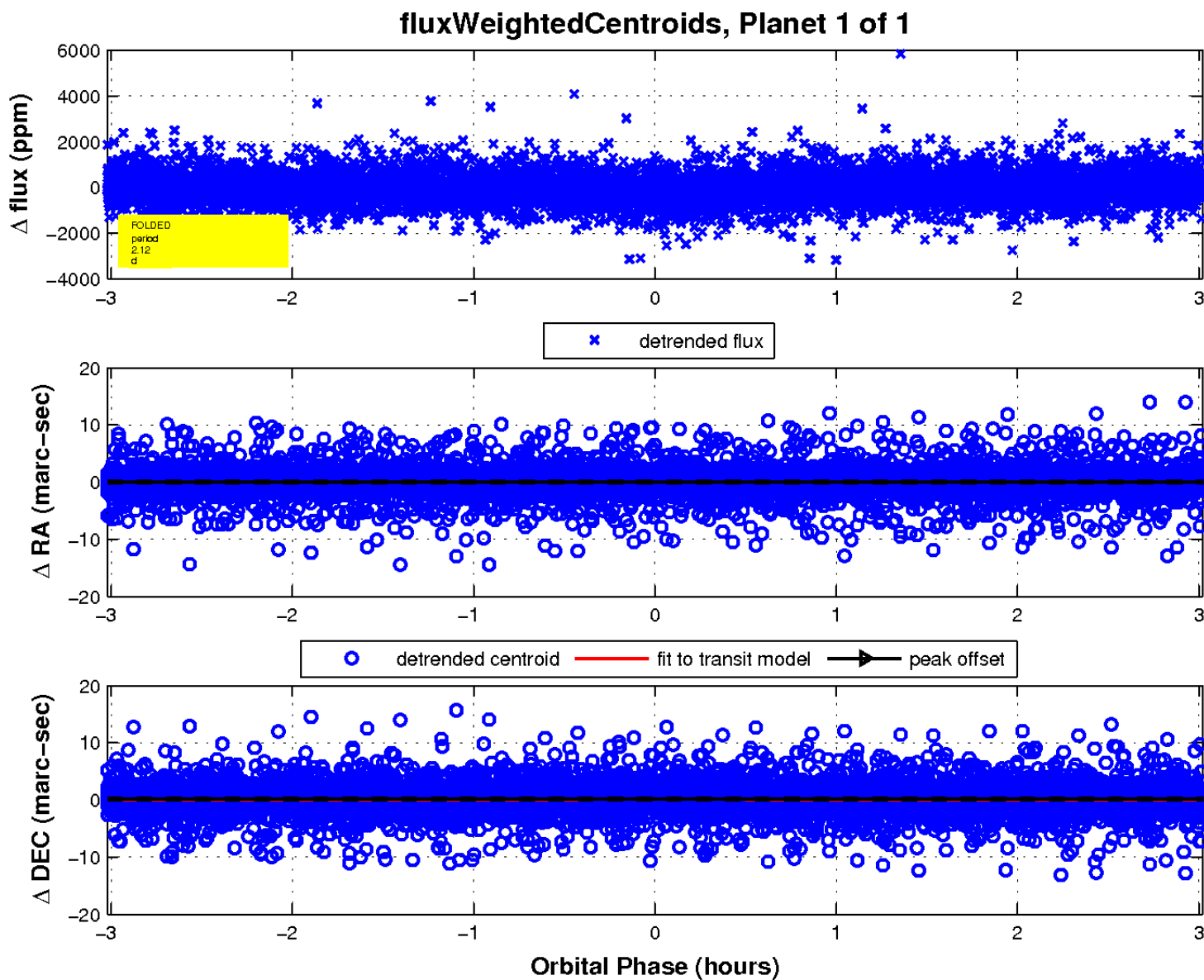
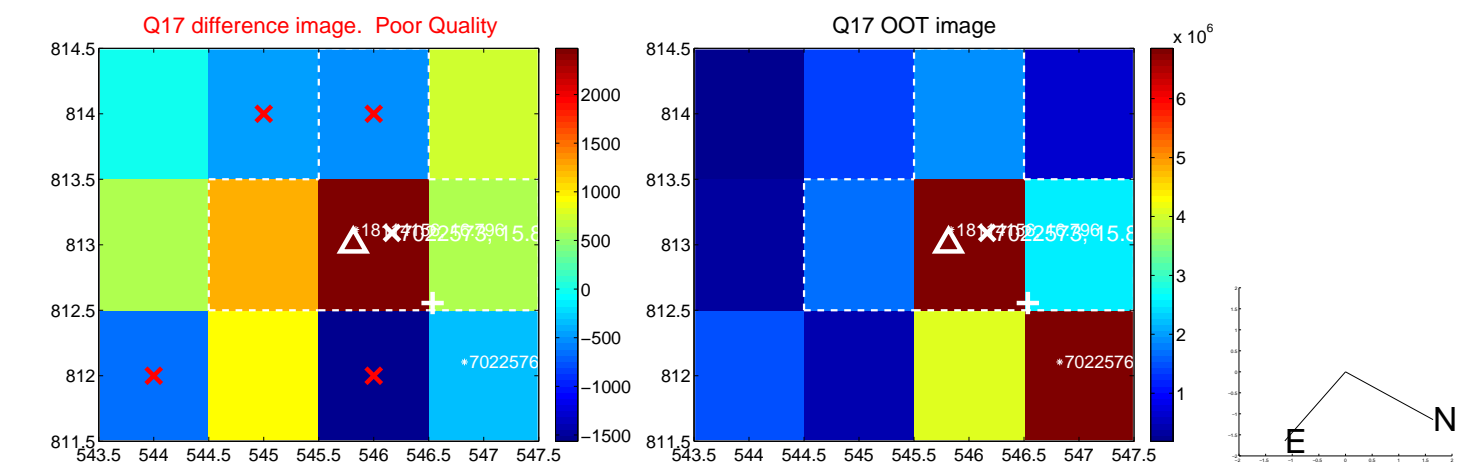
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

