

KIC 012508604

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})
012508604-01	OBS	No	0.812219	132.118777	23.5	3.857	8.9	7.2	1.22	6549	0.64	7769.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012508604-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

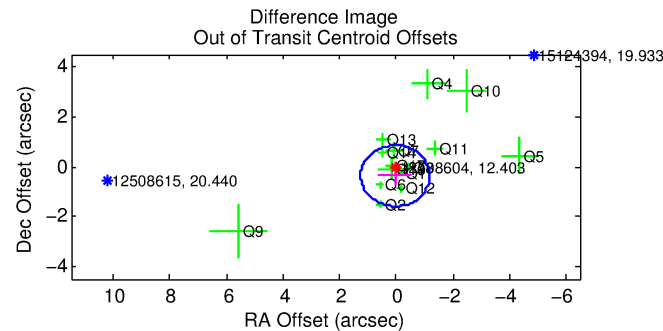
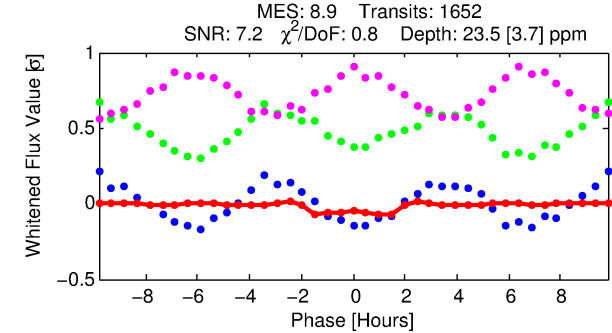
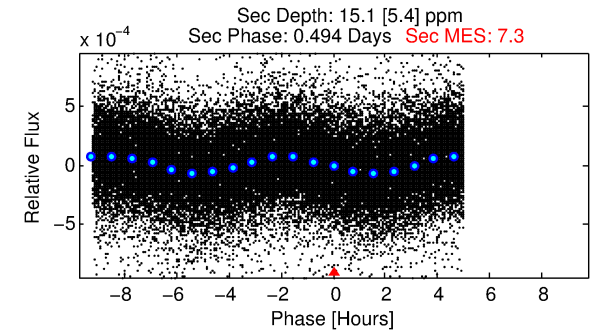
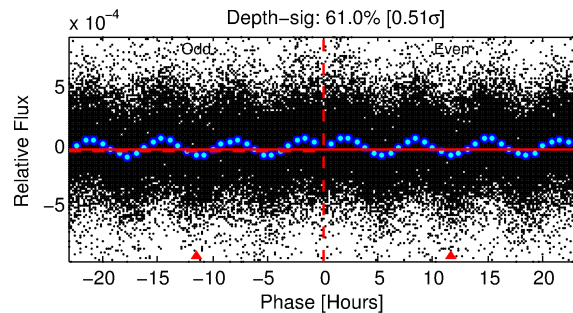
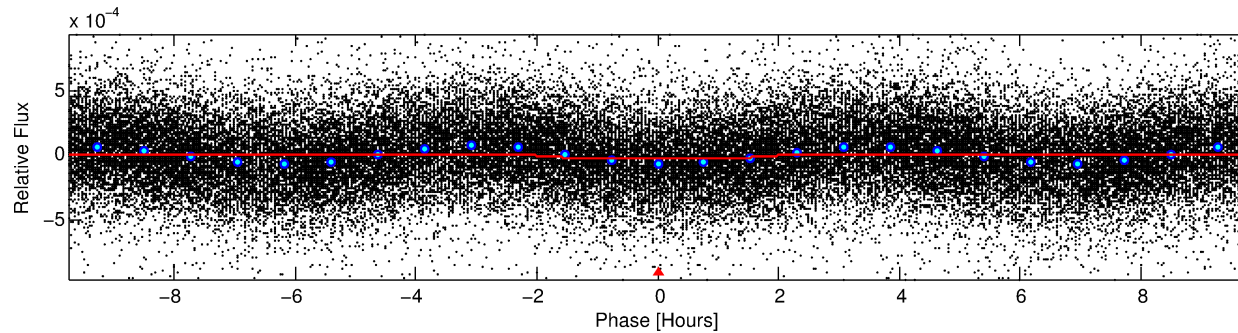
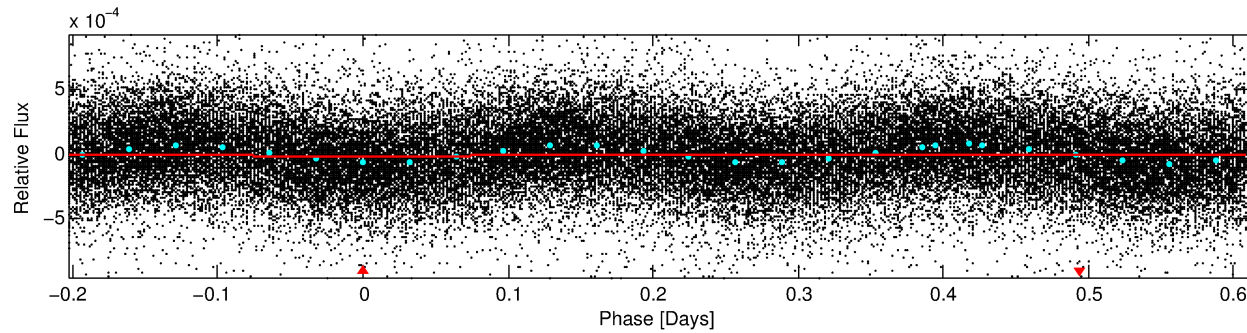
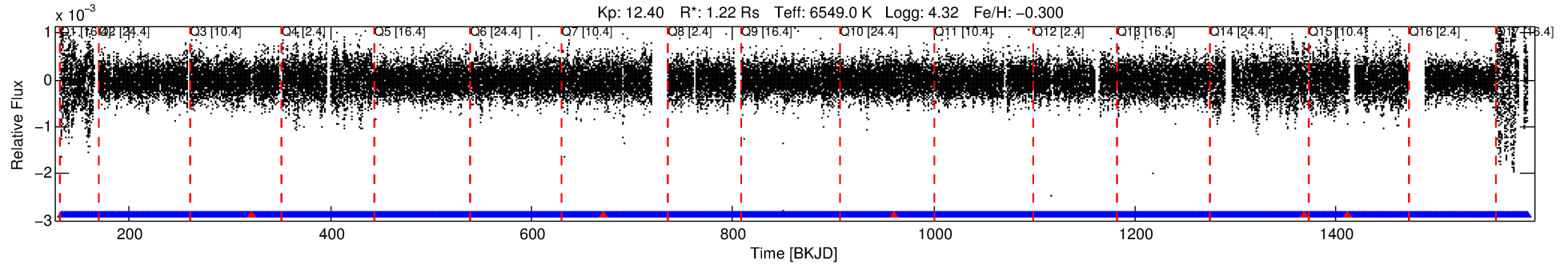
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012508604-01

No Significant Match Found

DV One-Page Summary

KIC: 12508604 Candidate: 1 of 1 Period: 0.812 d



DV Fit Results:

Period = 0.81222 [0.00001] d
Epoch = 132.1188 [0.0032] BKJD
Rp/R* = 0.0048 [0.0013]
a/R* = 1.39 [1.01]
b = 0.73 [0.96]
Seff = 7769.88 [3060.08]
Teq = 2394 [236] K
Rp = 0.64 [0.26] Re
a = 0.0177 [0.0045] AU
Ag = 6.41 [4.80] [1.13 σ]
Teffp = 5889 [993] K [3.43 σ]

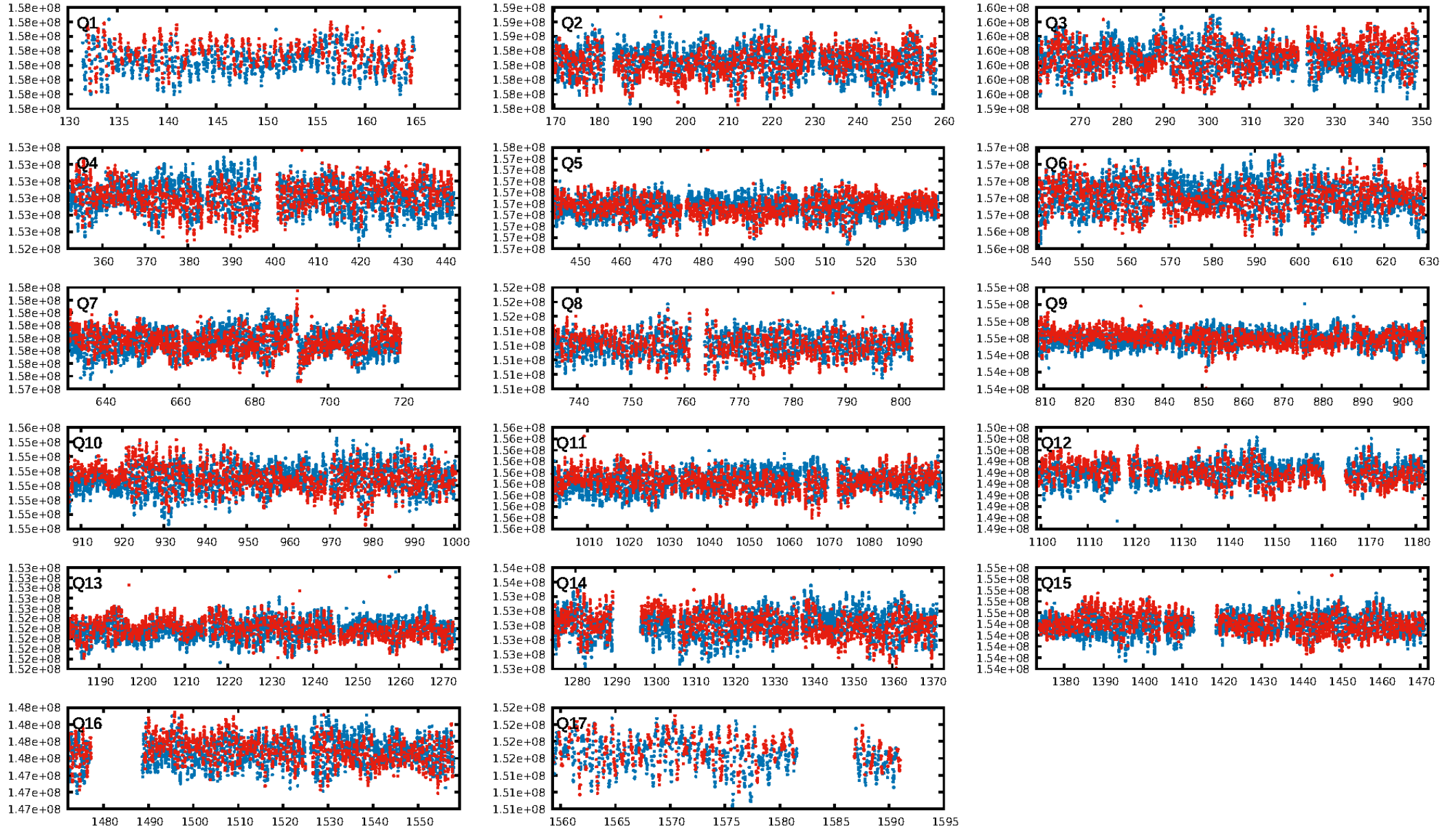
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.57e-20
RollingBand-fgt: 1.00 [1572/1577]
GhostDiagnostic-chr: 3.622
Centroid-sig: 9.9%
Centroid-so: 1.451 arcsec [1.30 σ]
OotOffset-rm: 0.368 arcsec [0.90 σ]
OotOffset-st: 4/2/4/5 [15]
KicOffset-rm: 0.437 arcsec [1.16 σ]
KicOffset-st: 4/2/4/5 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 1.00 [17/17]

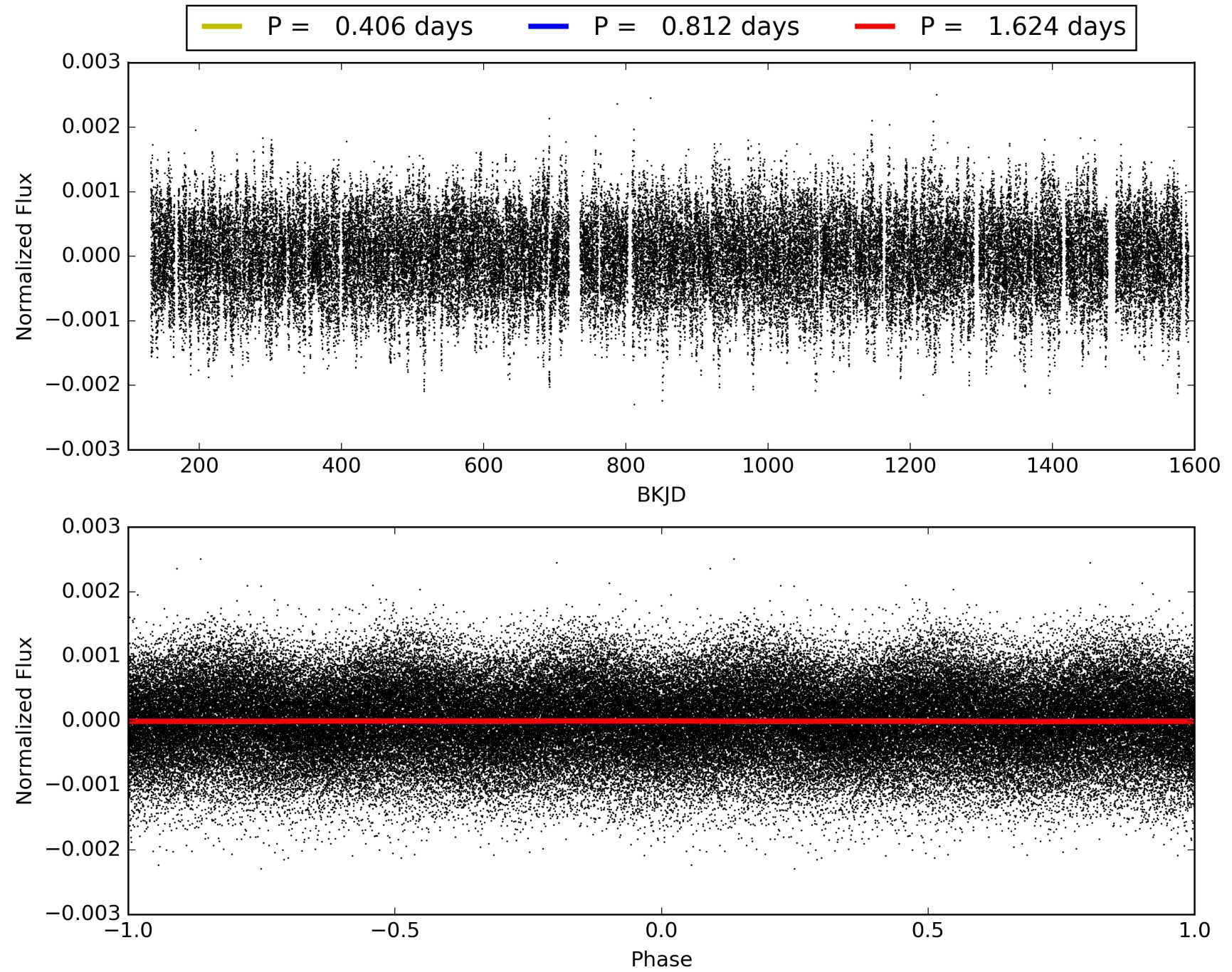
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:18:25 Z

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

TCE 012508604-01, PDC Light Curves

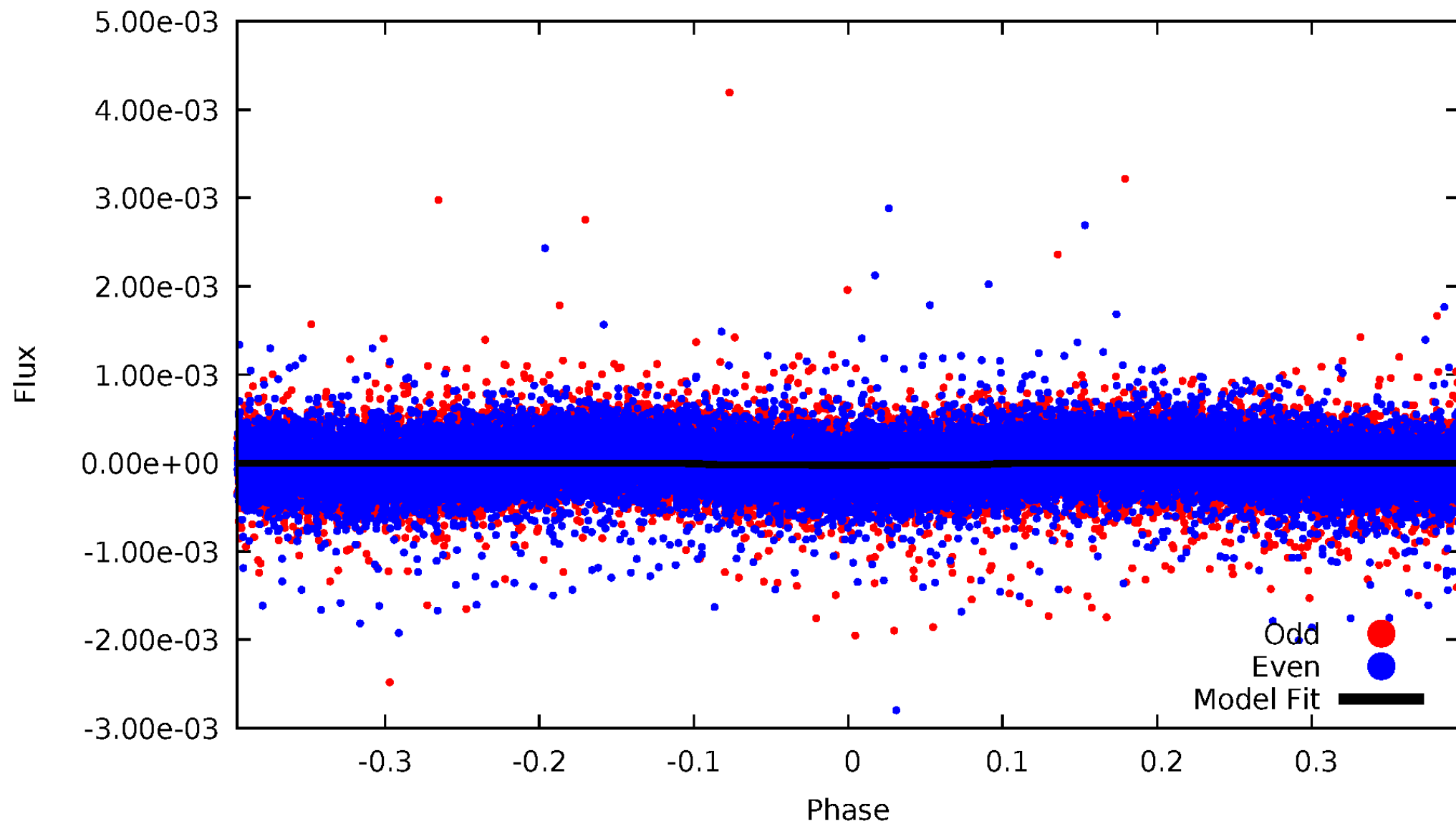


TCE 012508604-01



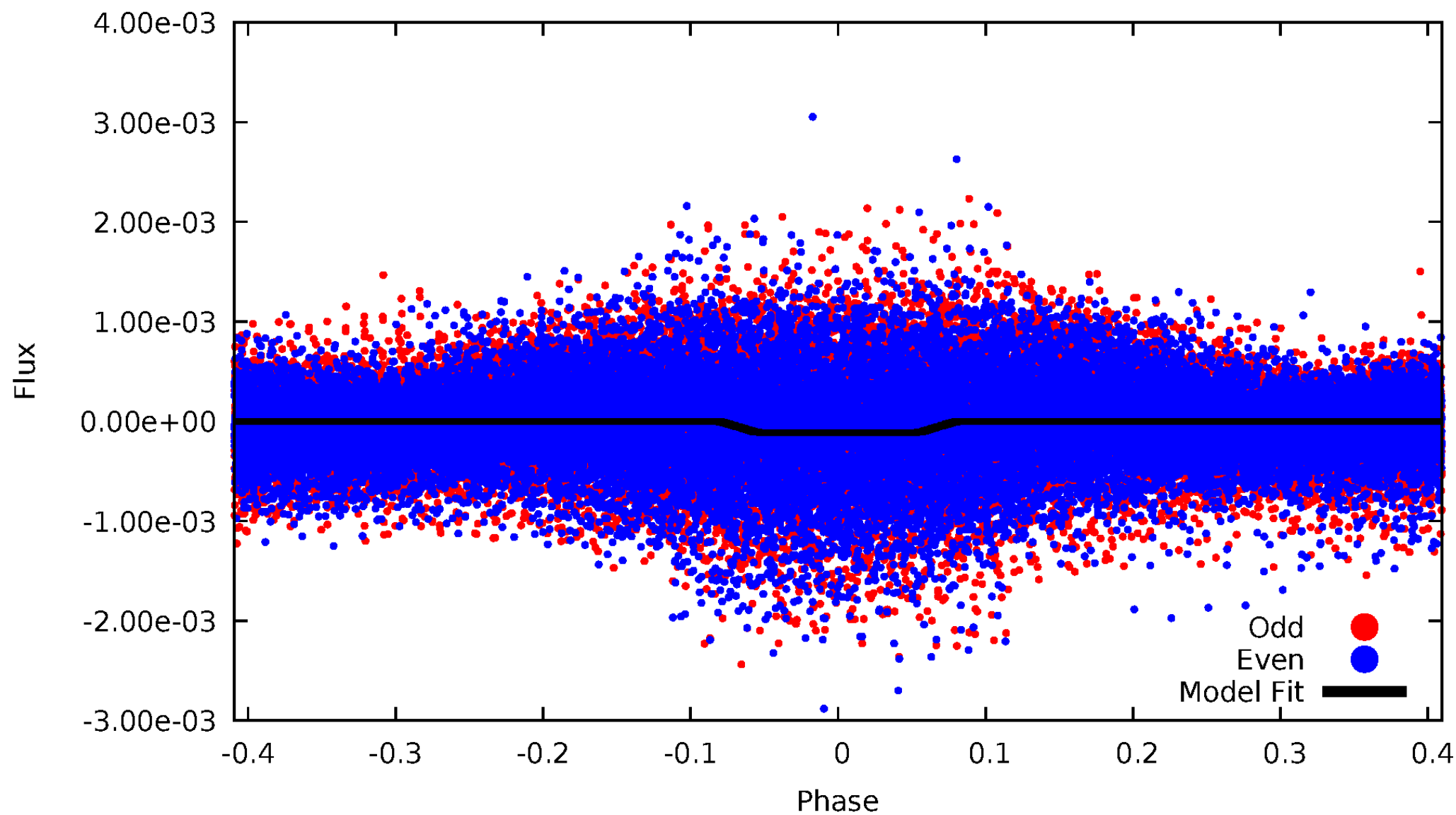
DV Odd/Even

TCE 012508604-01



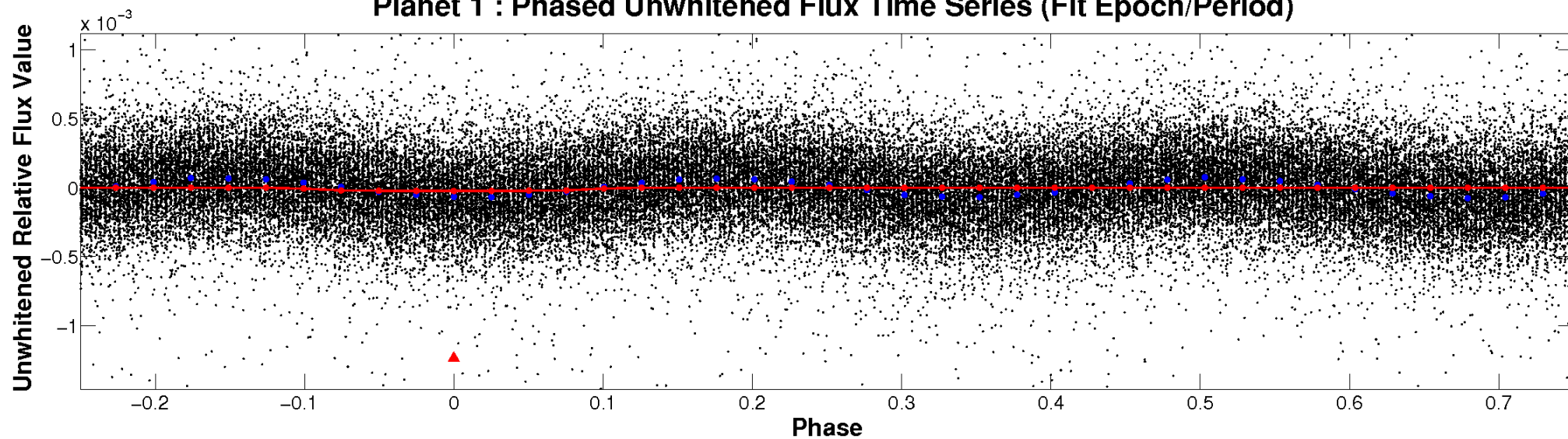
ALT Odd/Even

TCE 012508604-01

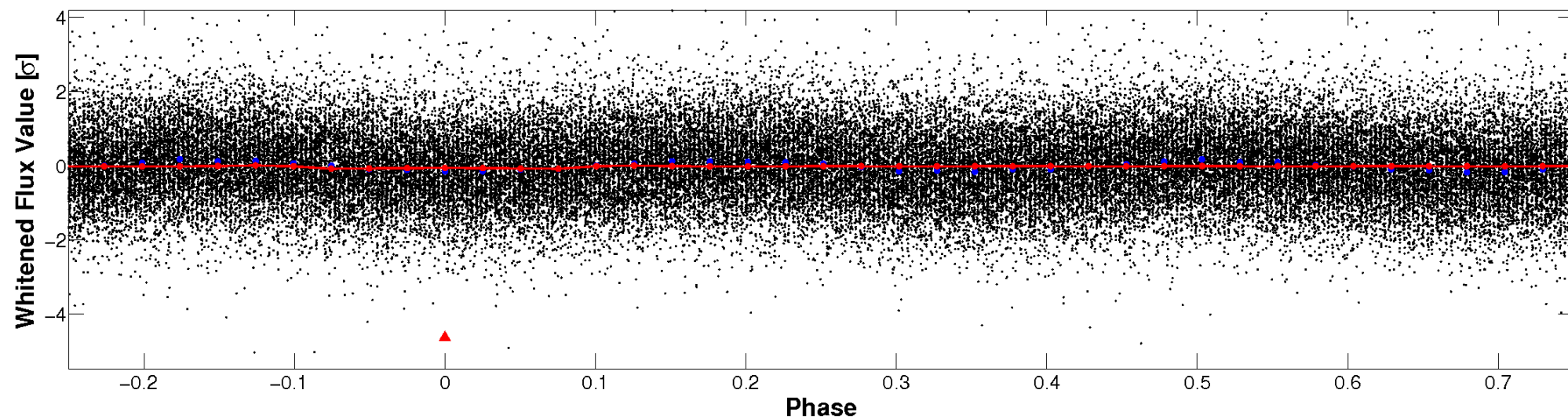


Non-Whitened Vs. Whitened Light Curve

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

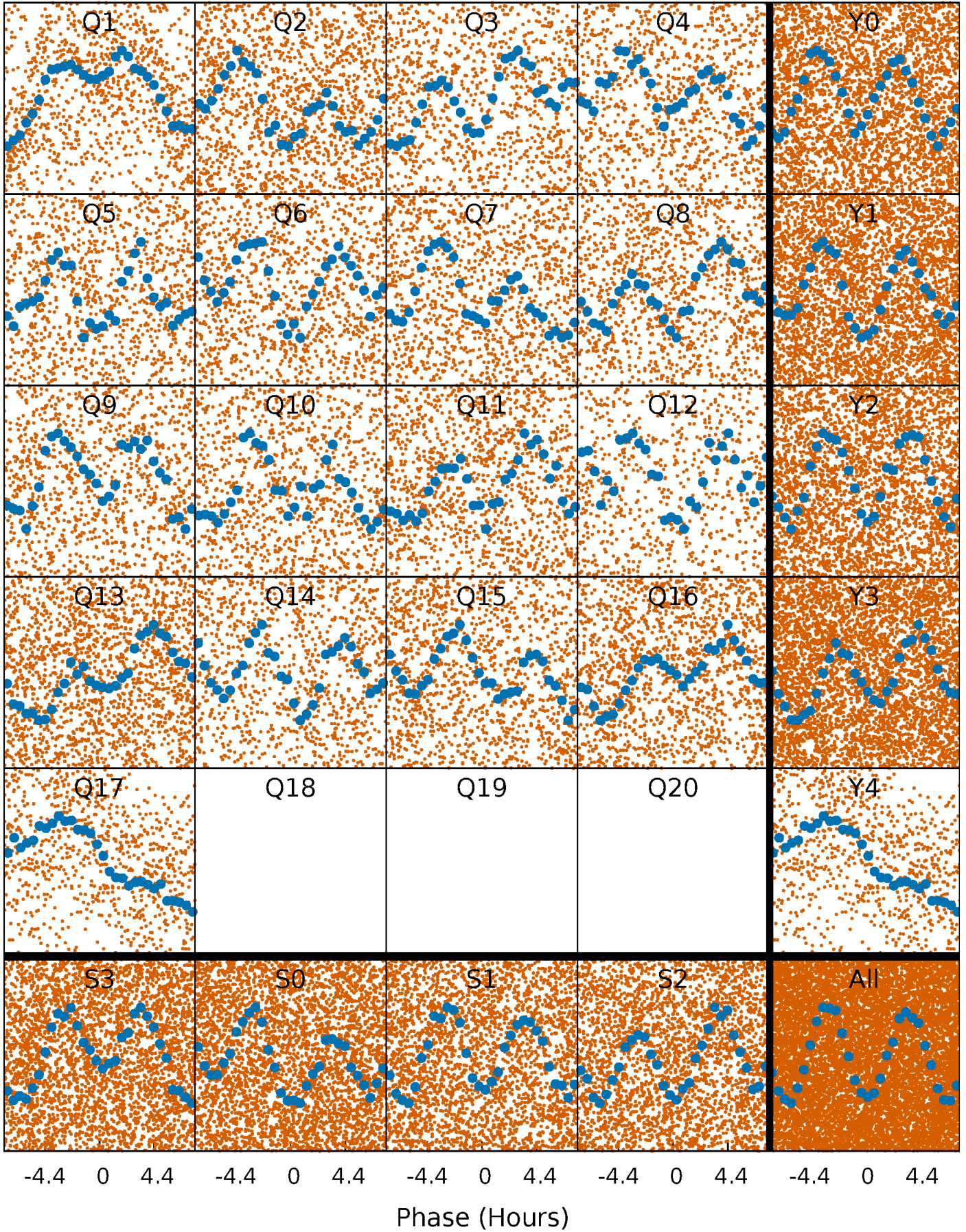


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



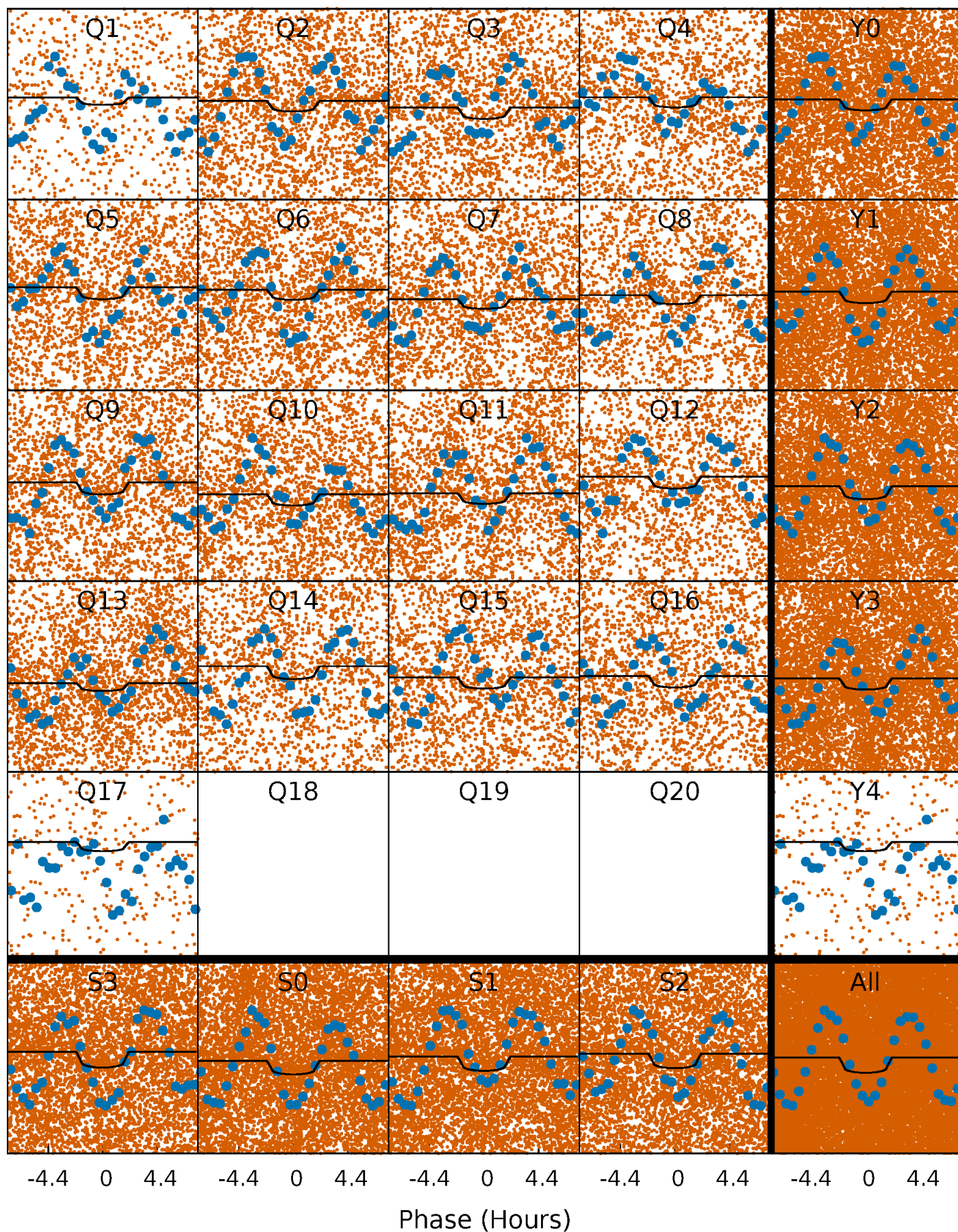
PDC Quarter-Phased Transit Curves

TCE 012508604-01 P= 0.812219 Days $T_0=132.118777$ (BKJD)



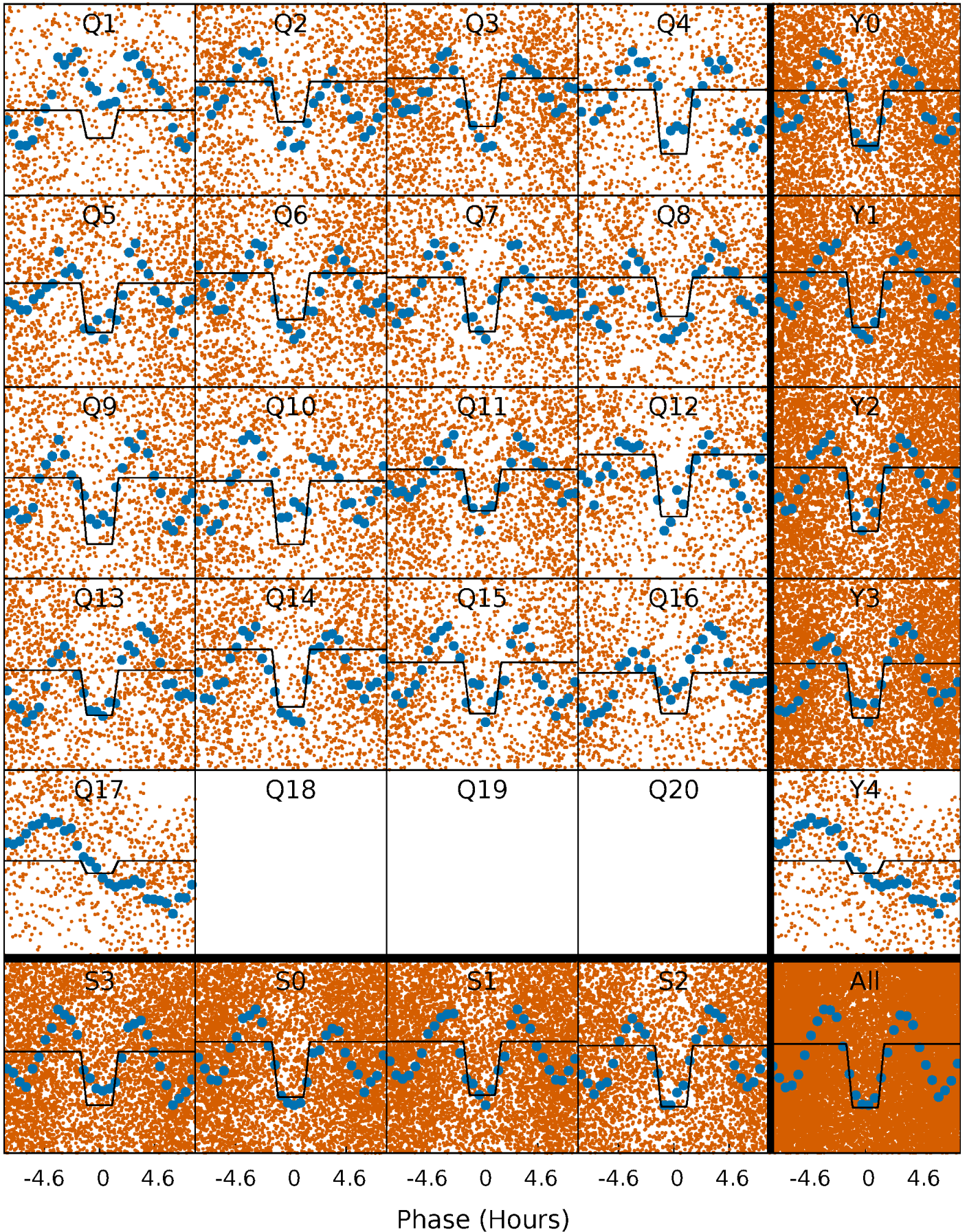
DV Quarter-Phased Transit Curves

TCE 012508604-01 P= 0.812219 Days $T_0=132.118777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

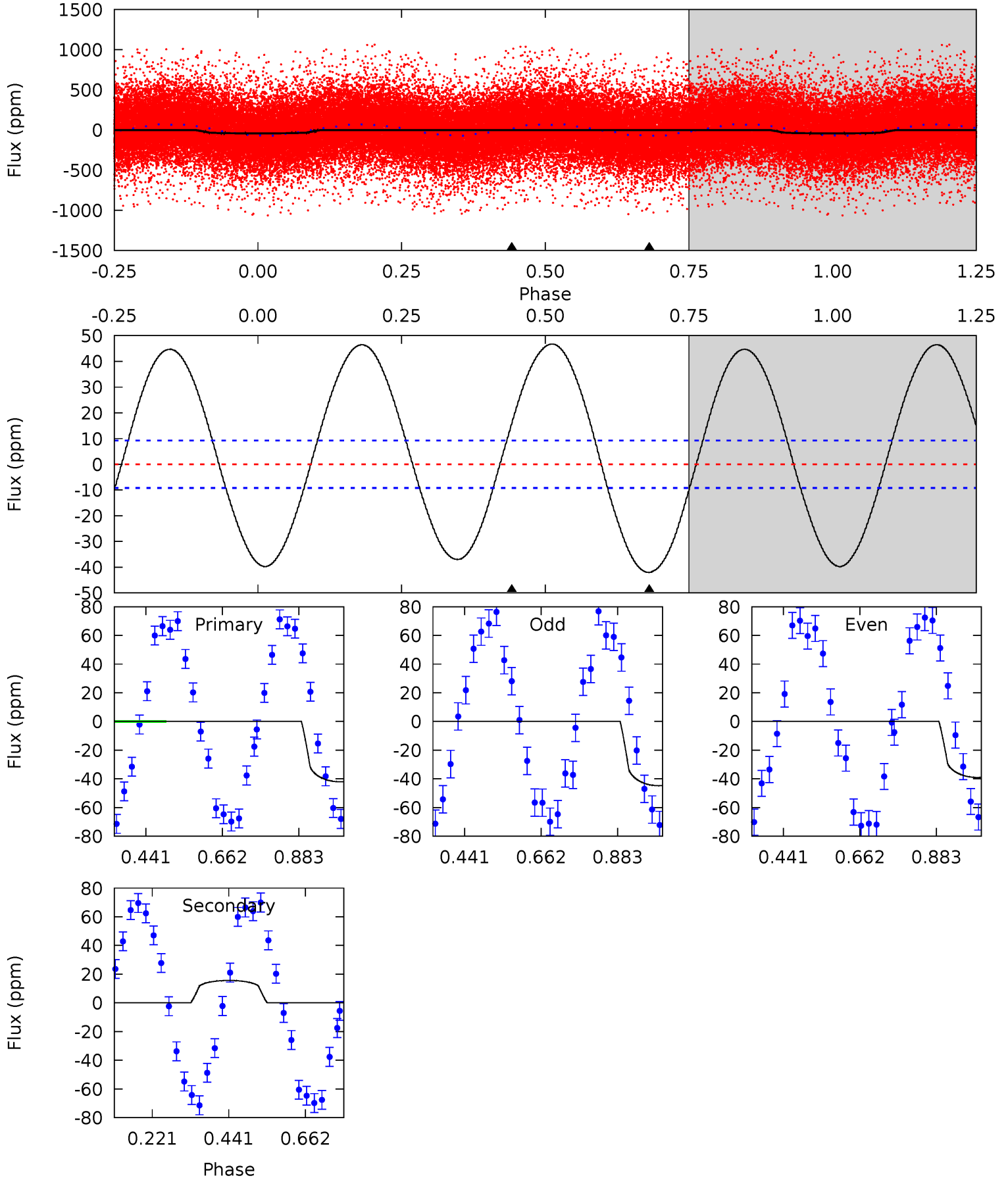
TCE 012508604-01 P= 0.812272 Days $T_0=132.084132$ (BKJD)



DV Model-Shift Uniqueness Test

012508604-01, P = 0.812219 Days, E = 131.306558 Days

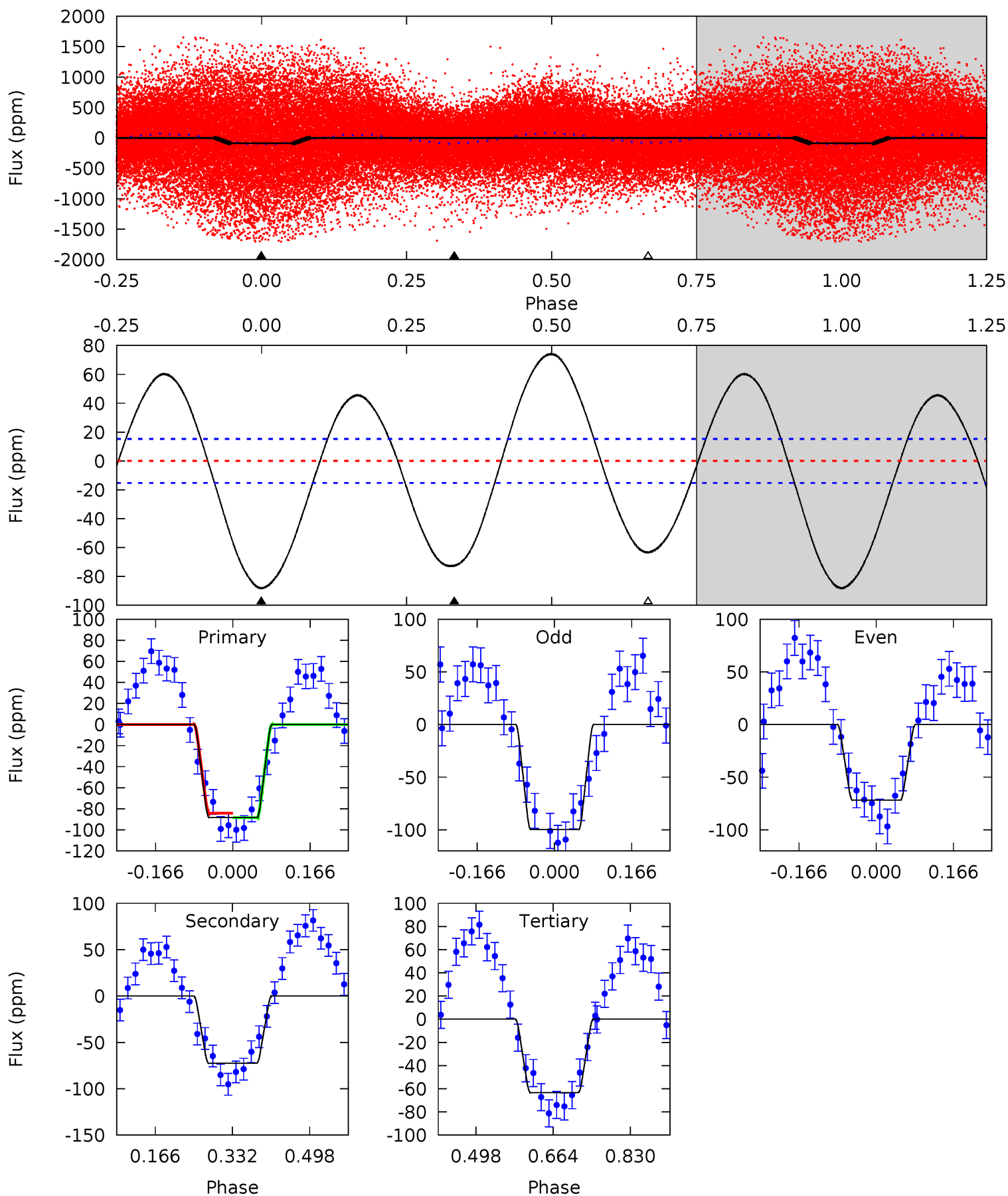
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	-7.44	0	0	4.40	1.22	14.6	20.0	20.0	-7.44	-7.44	1.36	0.98	0.53	4.68



Alt Model-Shift Uniqueness Test

012508604-01, P = 0.812272 Days, E = 131.271860 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	21.3	18.6	0	4.46	1.39	13.5	7.29	25.9	2.70	21.3	3.49	1.43	0.46	0.47



Stellar Parameters For KIC 012508604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6549^{+185}_{-254}	$4.318^{+0.105}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.215^{+0.371}_{-0.200}$	$1.120^{+0.173}_{-0.139}$	$0.878^{+0.424}_{-0.460}$
	+3%/-4%	+2%/-5%	+83%/-100%	+31%/-16%	+15%/-12%	+48%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012508604-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	16 ± 2	$0.65^{+0.21}_{-0.20}$	3388^{+257}_{-213}	-6026^{+681}_{-1132}	$-6.177^{+2.548}_{-6.704}$
Alt.	-73 ± 3	$1.45^{+0.30}_{-0.25}$	3377^{+262}_{-206}	5785^{+425}_{-396}	$5.904^{+2.541}_{-1.709}$

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 $A_{obs} \gg 1.0$

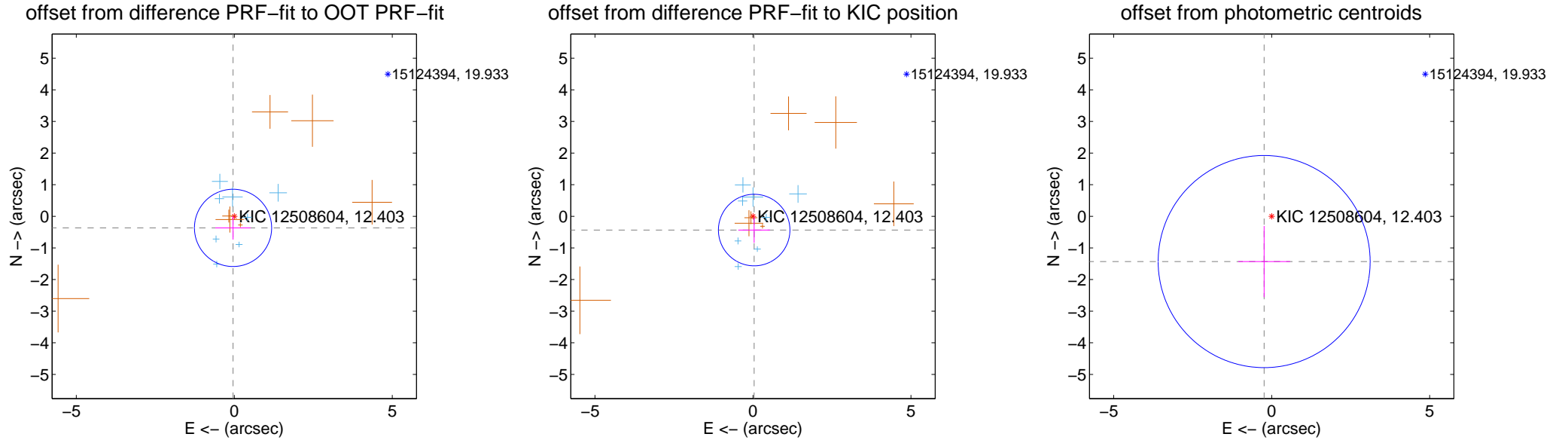
DV Centroid Data

Supplemental centroid analysis for 012508604-01. Kepler magnitude: 12.40. Transit SNR 7.18

There are 8 quarters with good PRF difference image offsets

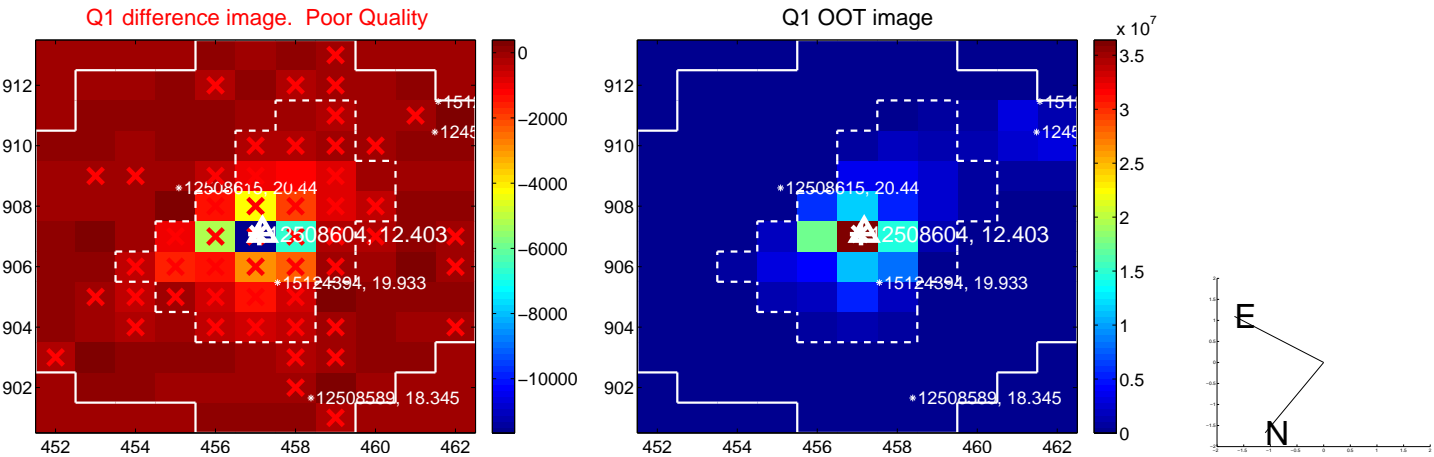
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.368 ± 0.407	0.90	0.040 ± 0.559	-0.366 ± 0.369
PRF-fit source offset from KIC position	0.437 ± 0.377	1.16	-0.038 ± 0.502	-0.435 ± 0.403
photometric centroid source offset	1.45 ± 1.12	1.30	0.24 ± 0.82	-1.43 ± 1.13

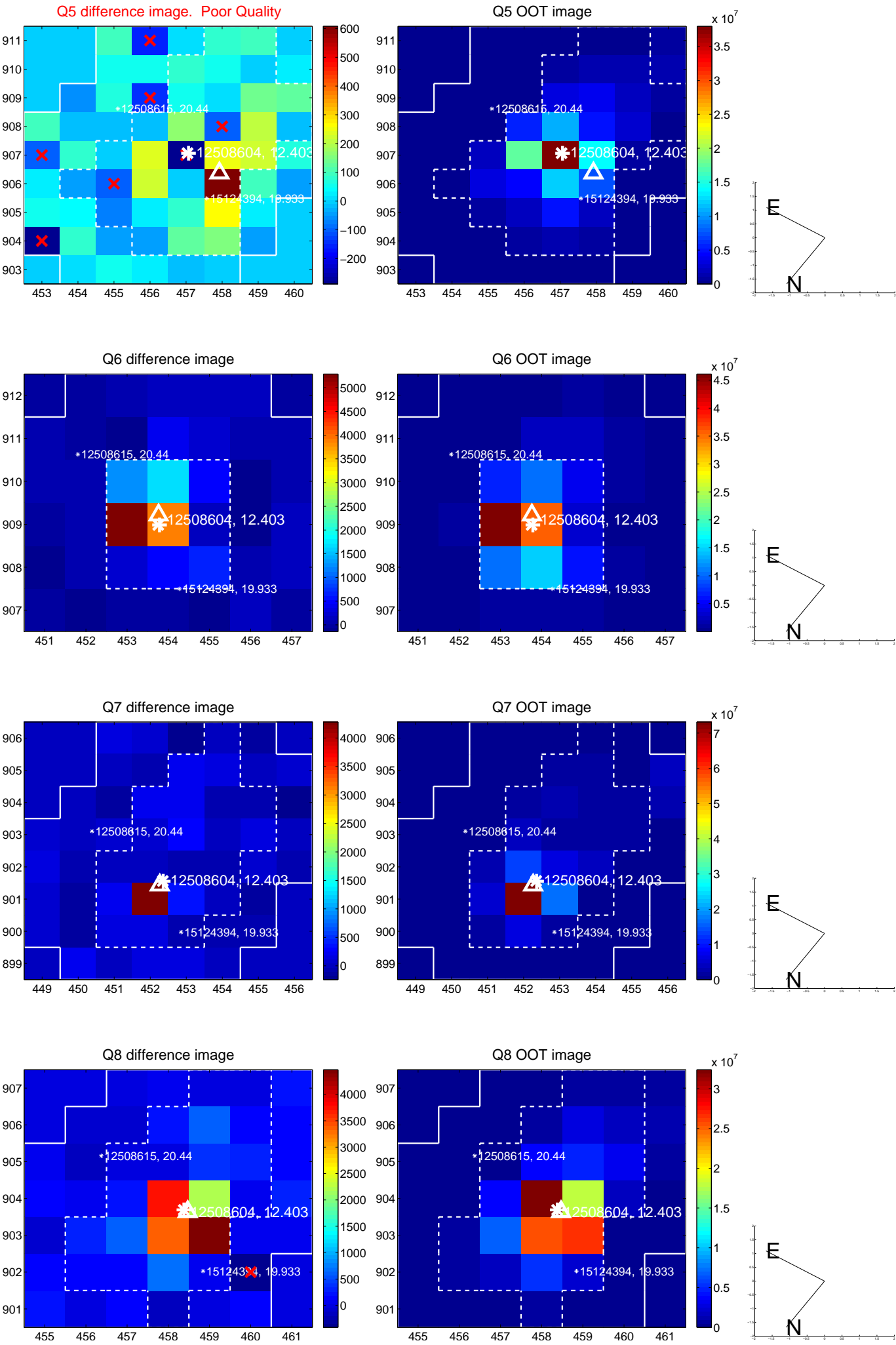


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

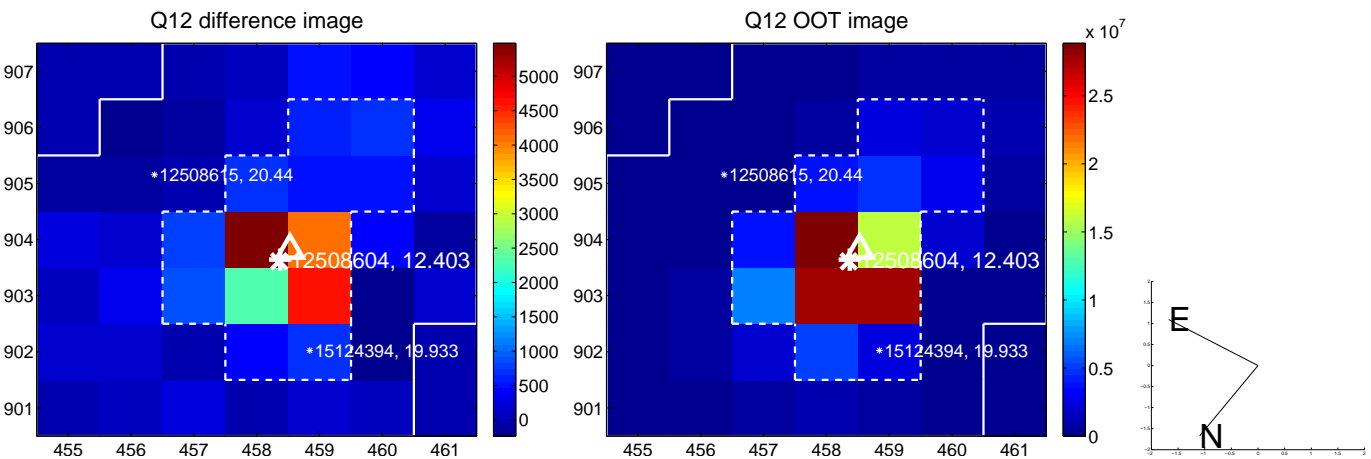
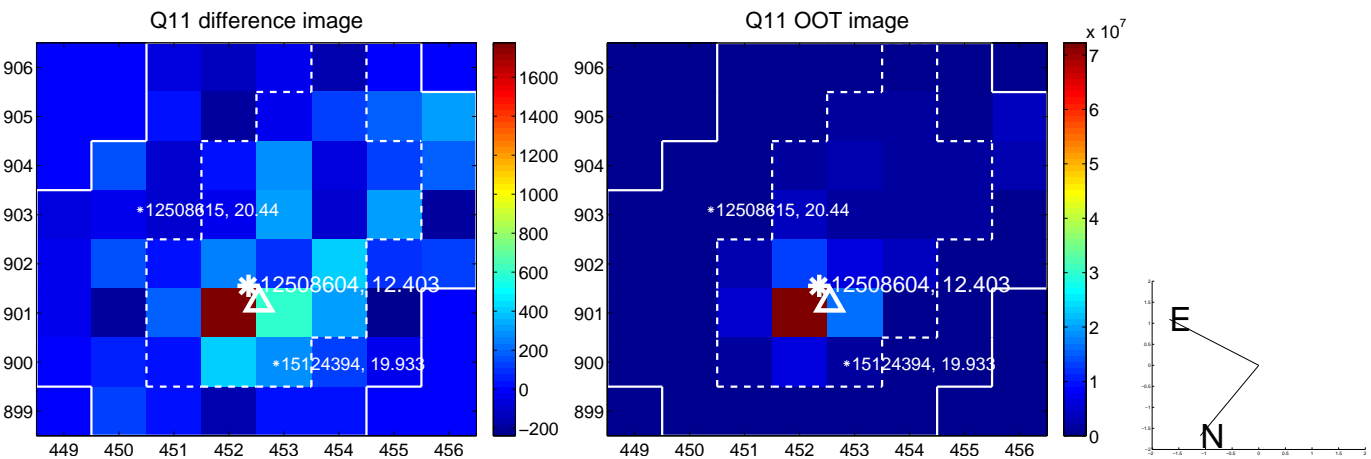
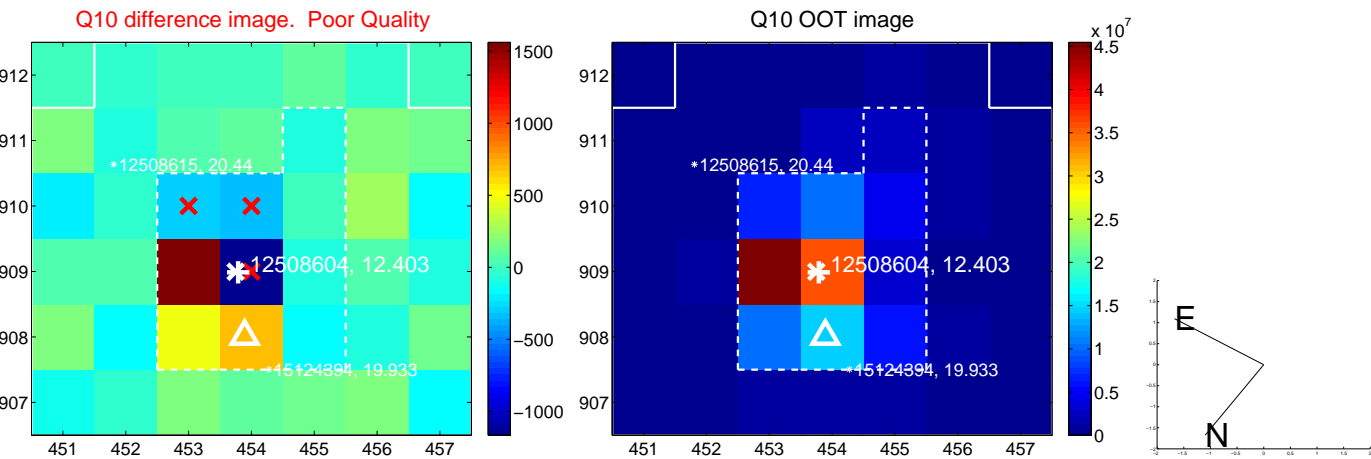
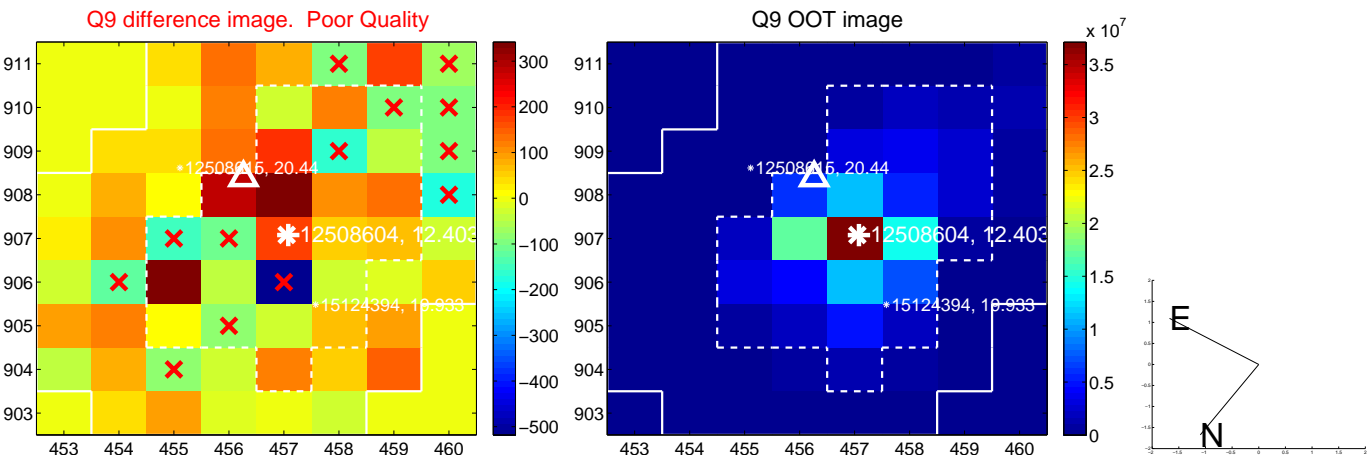
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



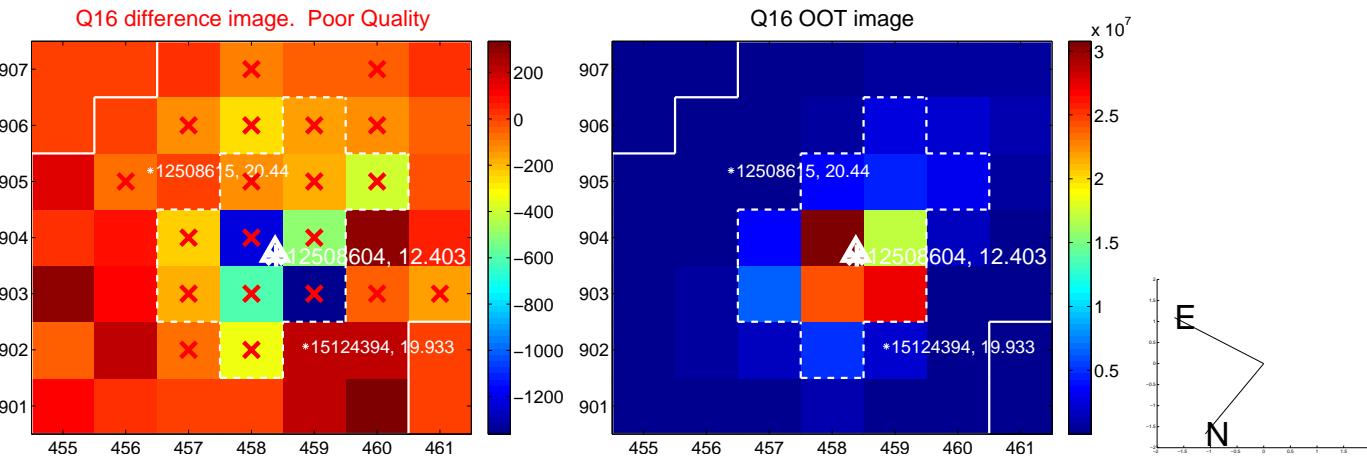
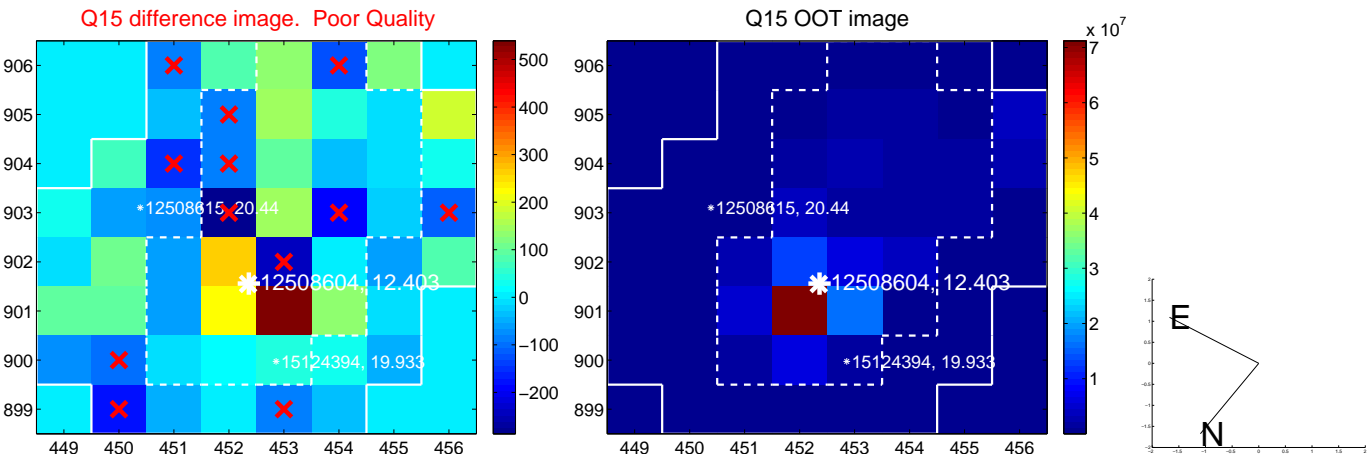
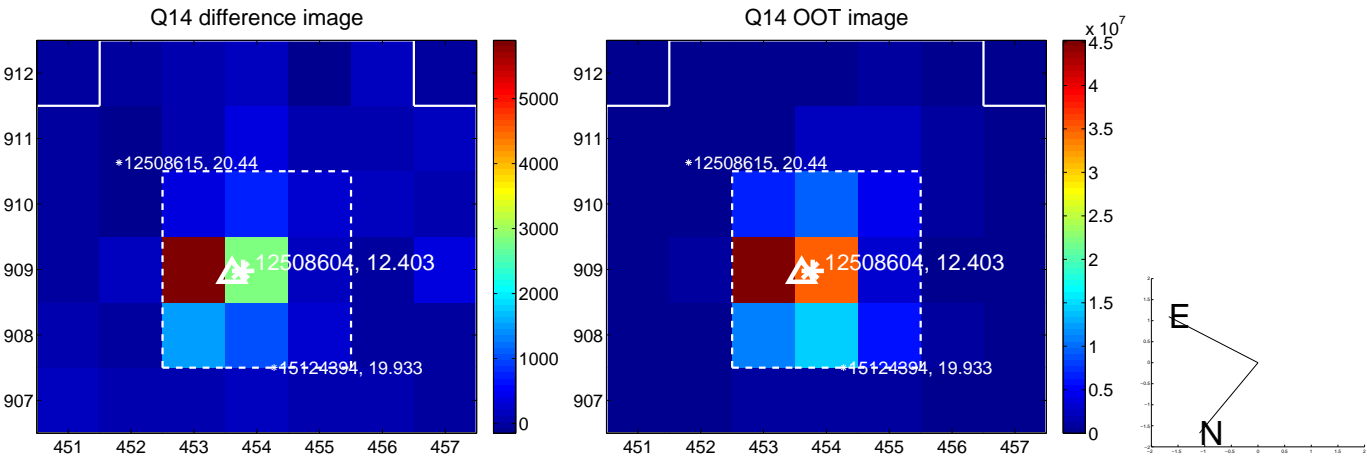
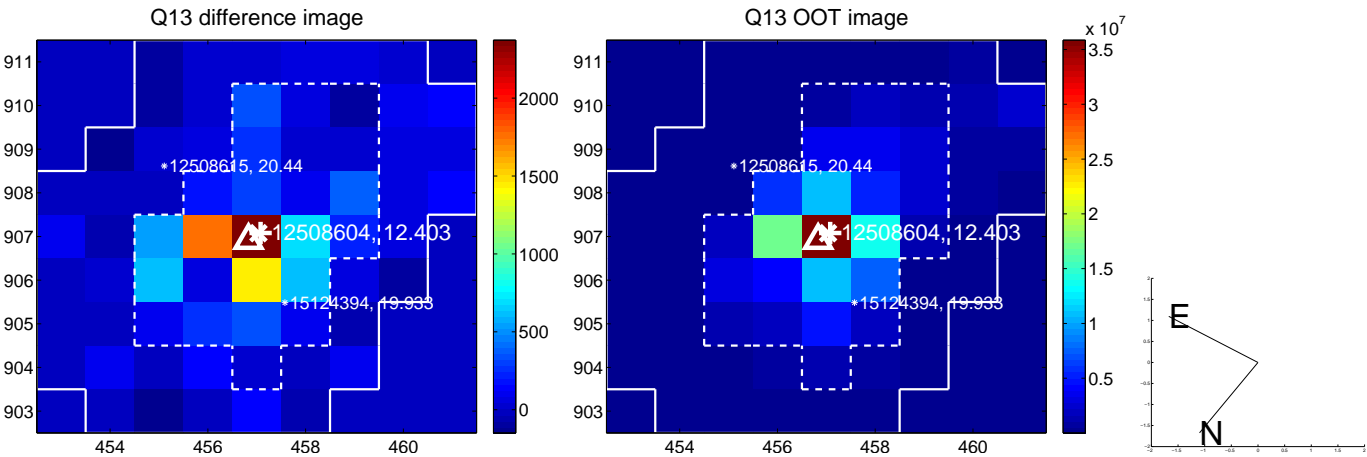
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



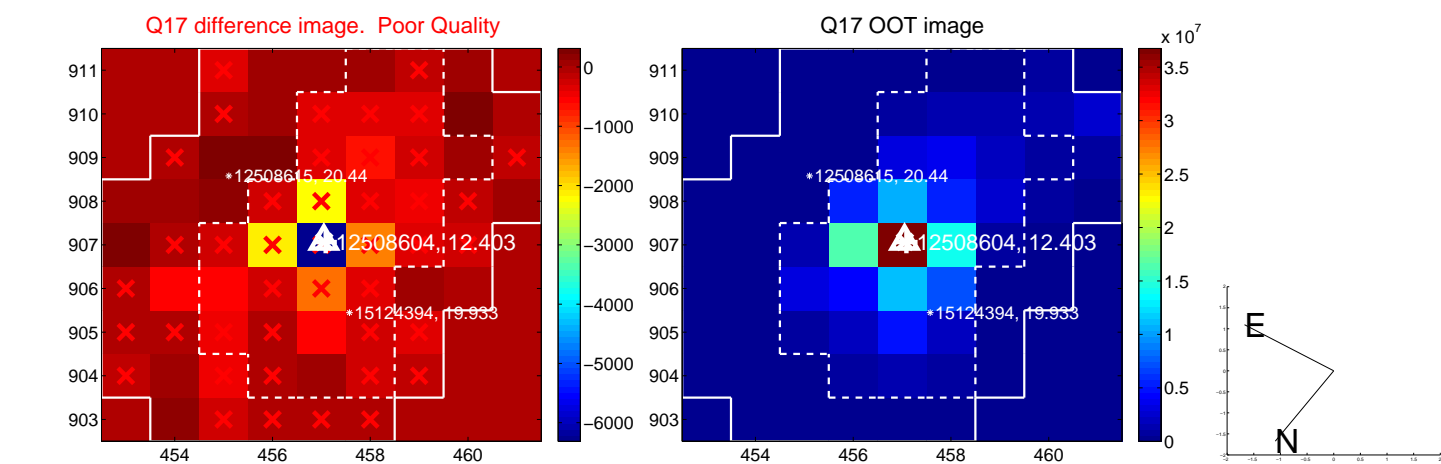
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



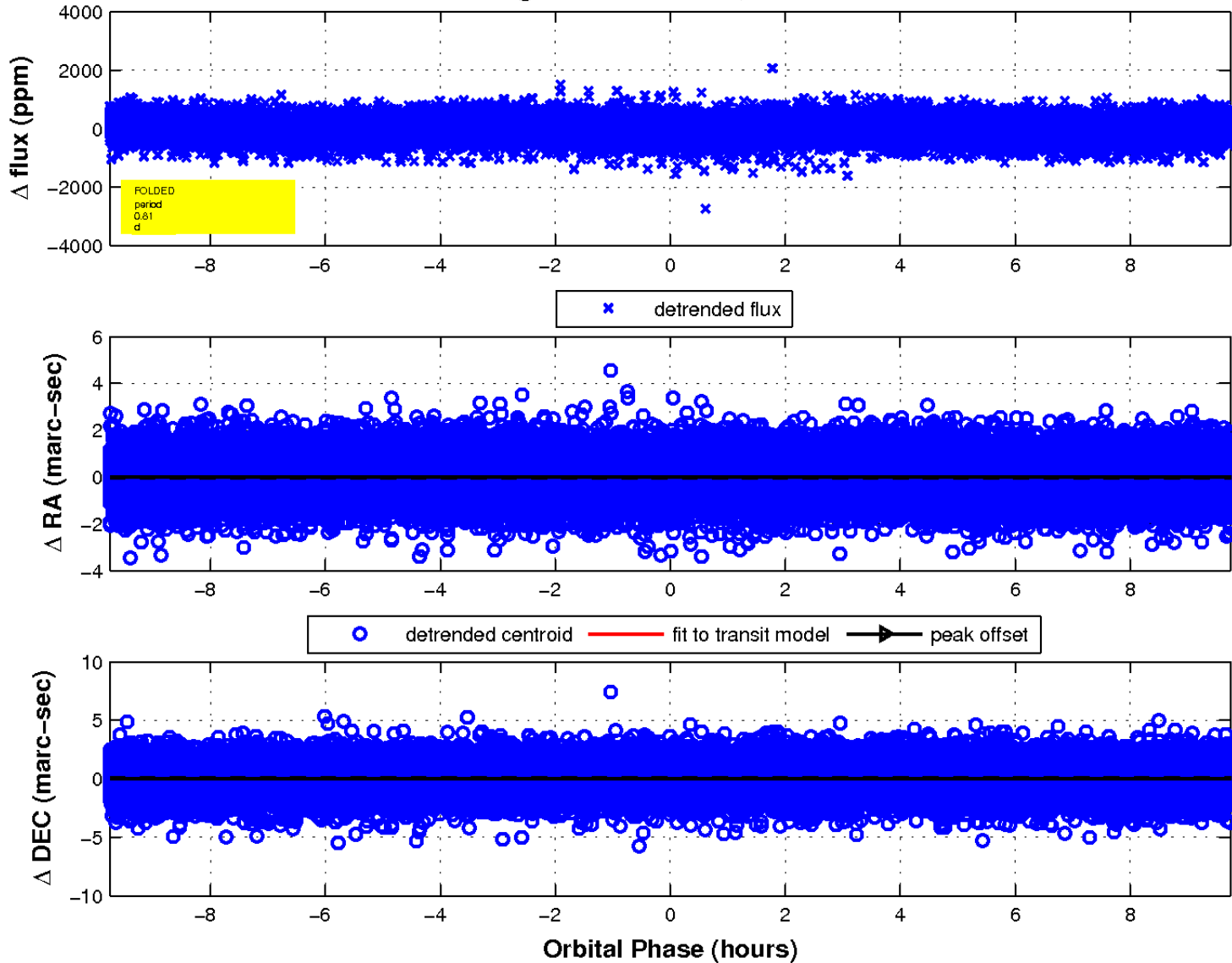
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

