

KIC 010122012

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})
010122012-01	OBS	No	5.043232	133.758555	45.2	20.822	7.3	6.7	1.00	6394	0.82	445.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010122012-01	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.

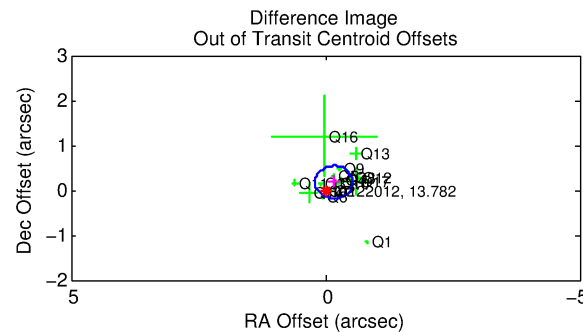
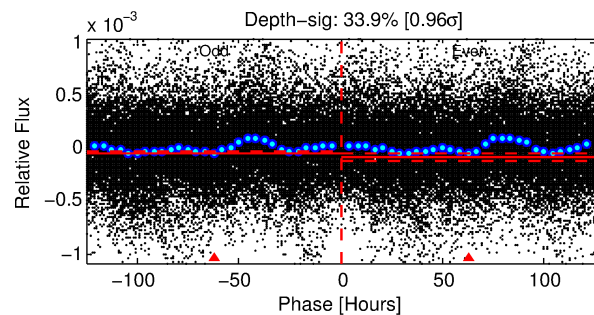
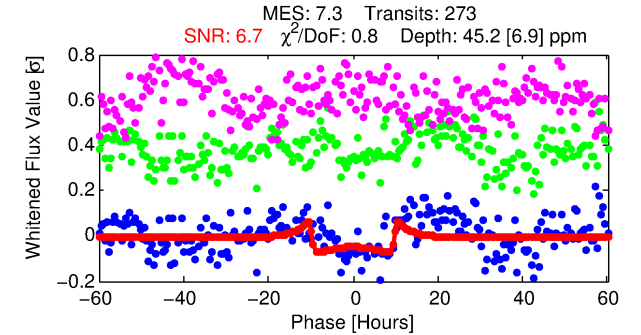
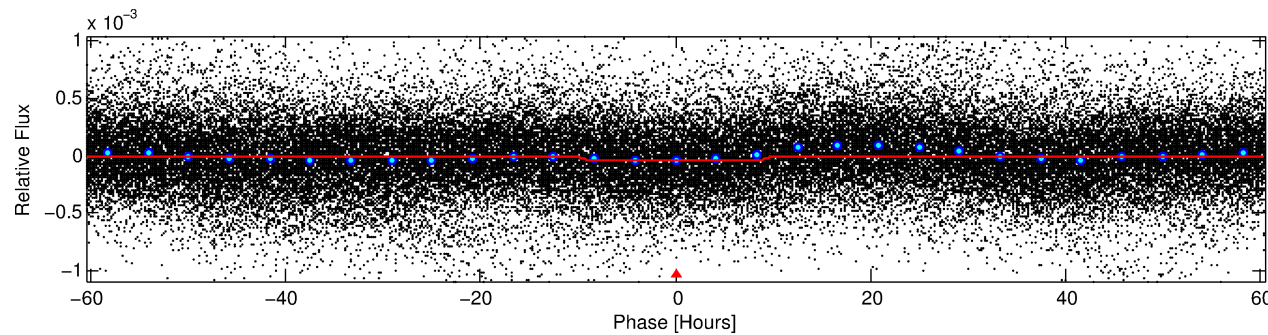
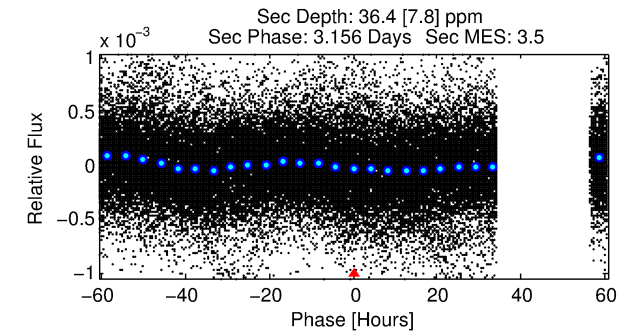
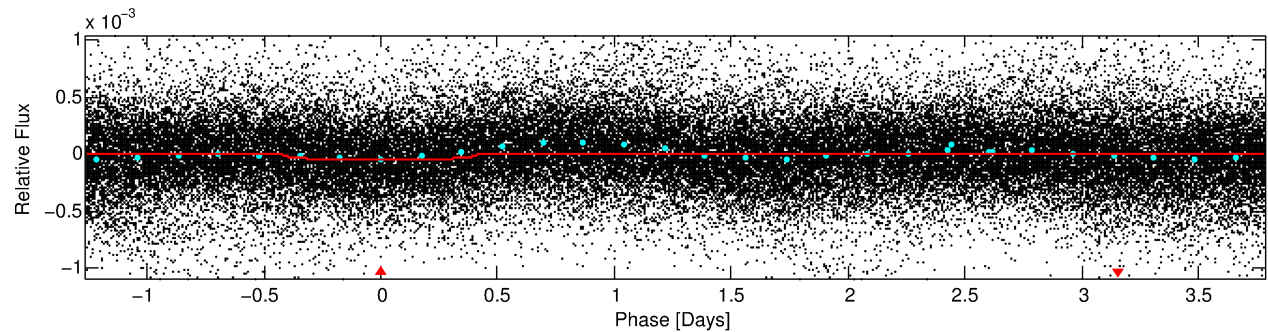
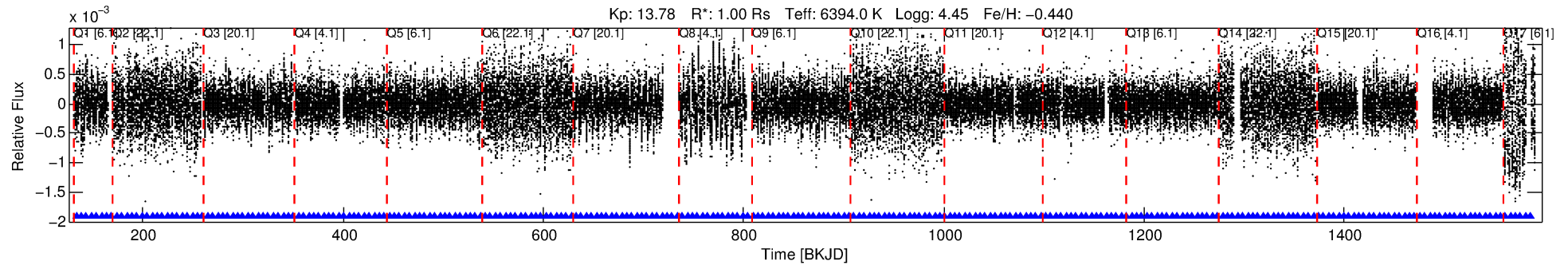
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010122012-01

No Significant Match Found

DV One-Page Summary

KIC: 10122012 Candidate: 1 of 1 Period: 5.043 d



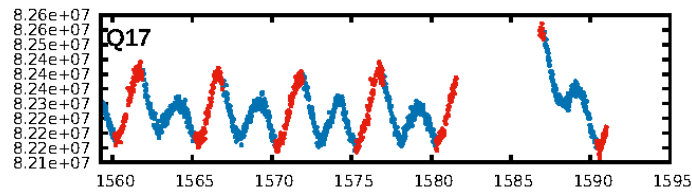
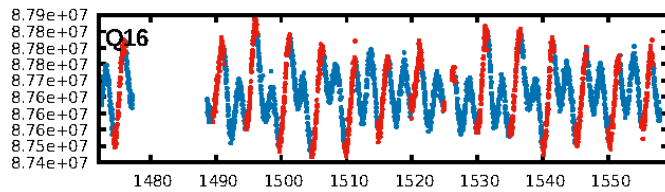
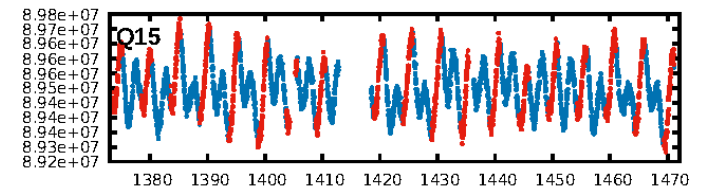
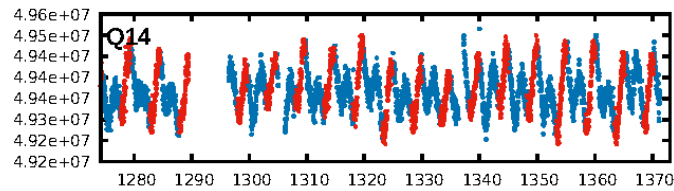
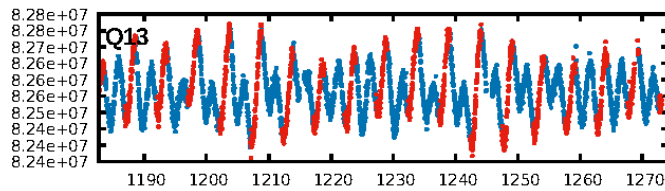
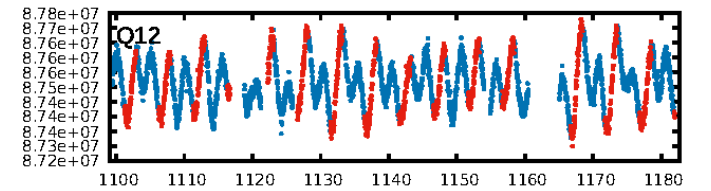
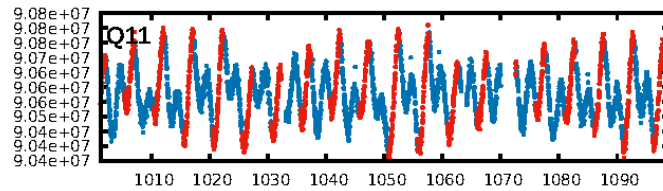
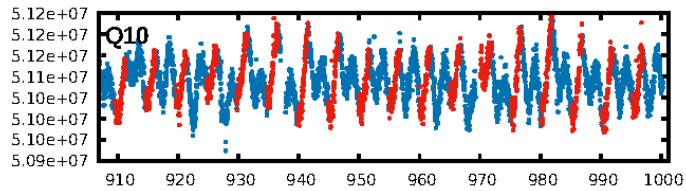
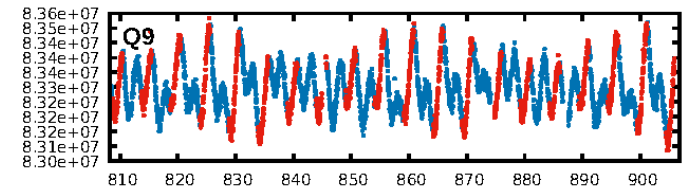
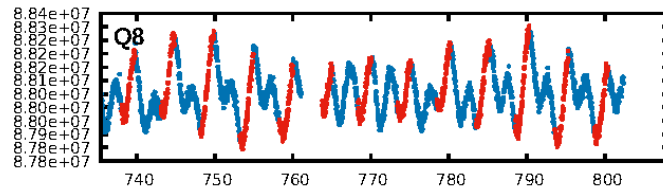
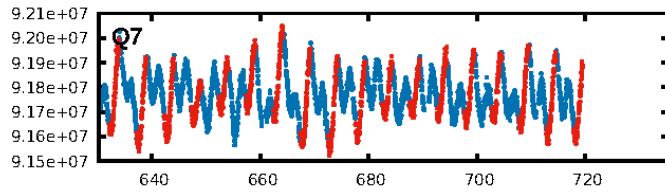
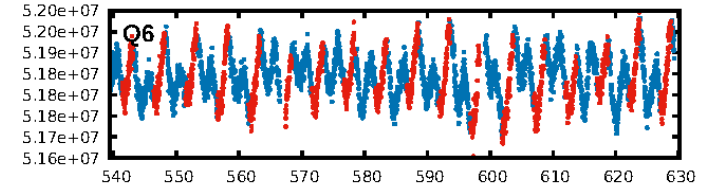
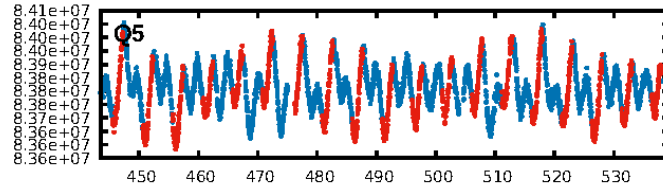
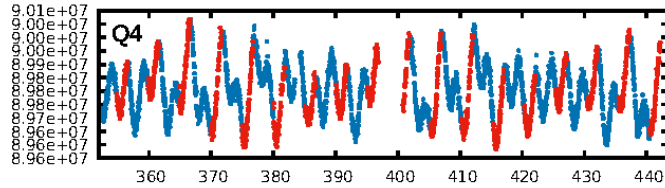
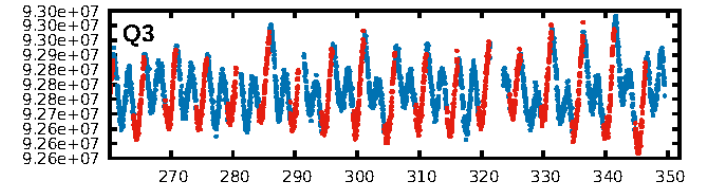
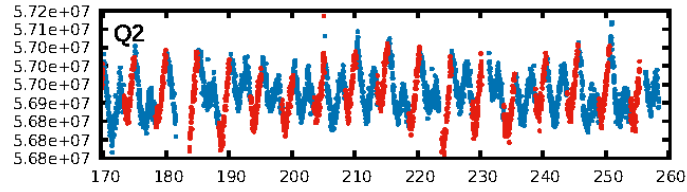
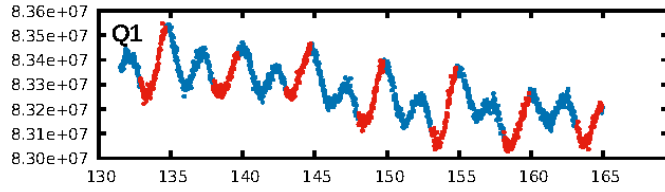
DV Fit Results:

Period = 5.04323 [0.00012] d
Epoch = 133.7586 [0.0188] BKJD
Rp/R* = 0.0076 [0.0007]
a/R* = 1.16 [0.09]
b = 0.95 [0.03]
Seff = 445.40 [184.70]
Teff = 1171 [121] K
Rp = 0.82 [0.27] Re
a = 0.0579 [0.0154] AU
Ag = 99.17 [47.74] [2.06 σ]
Teffp = 5715 [466] K [9.44 σ]

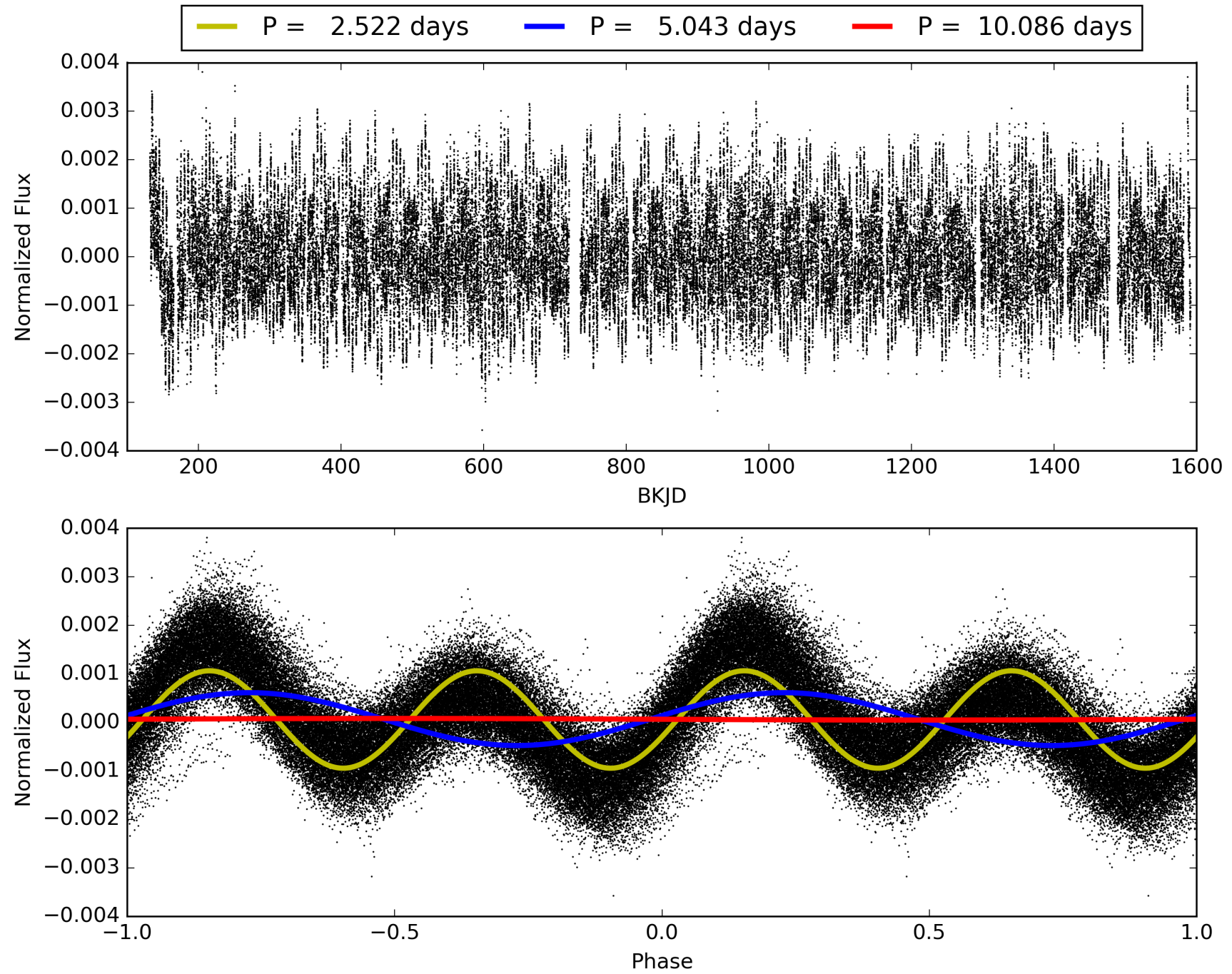
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.24e-12
RollingBand-fgt: 1.00 [260/260]
GhostDiagnostic-chr: 0.4657
Centroid-sig: 29.8%
Centroid-so: 1.166 arcsec [2.12 σ]
OotOffset-rm: 0.241 arcsec [1.98 σ]
KicOffset-rm: 0.484 arcsec [3.36 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010122012-01, PDC Light Curves

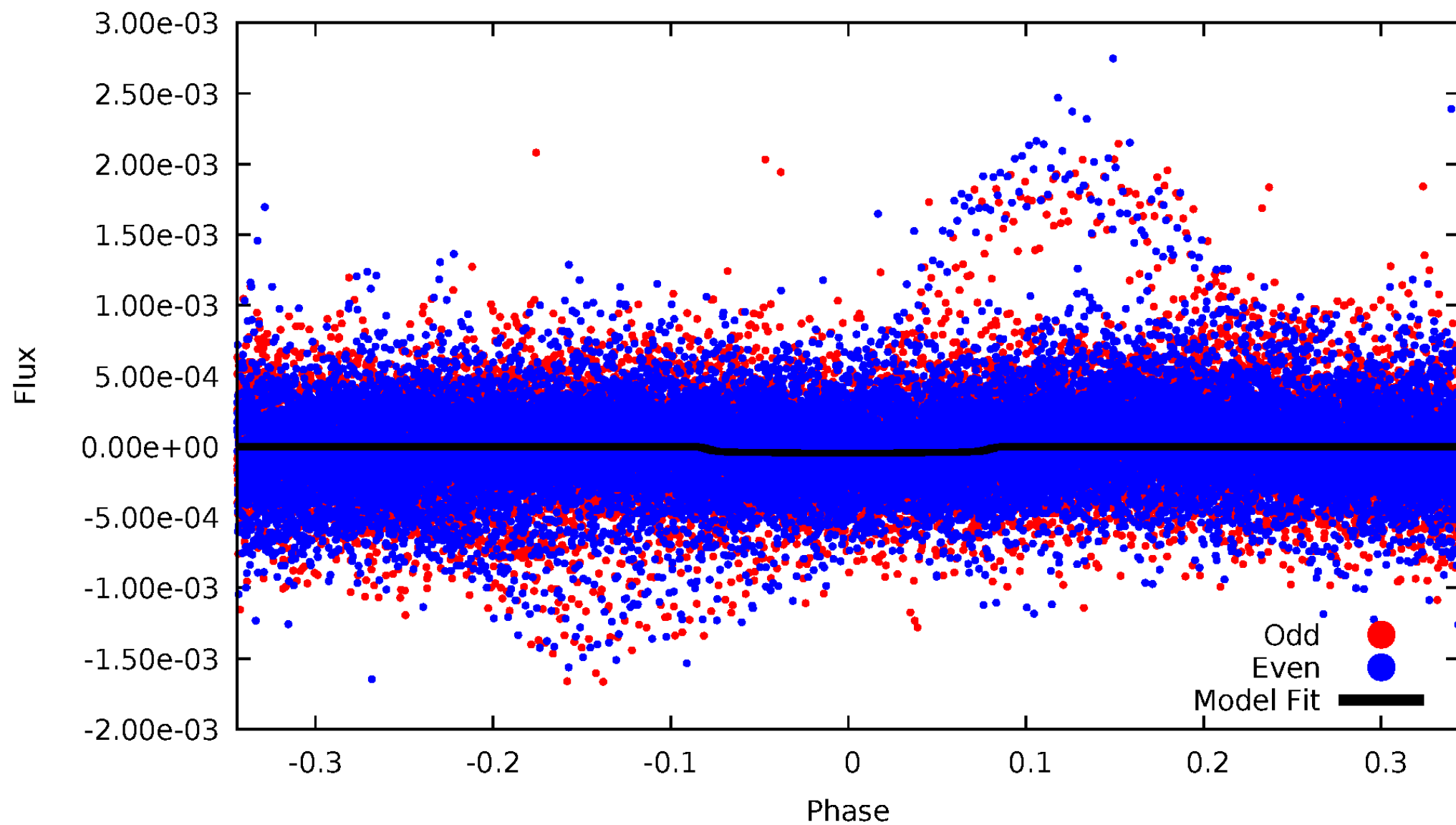


TCE 010122012-01



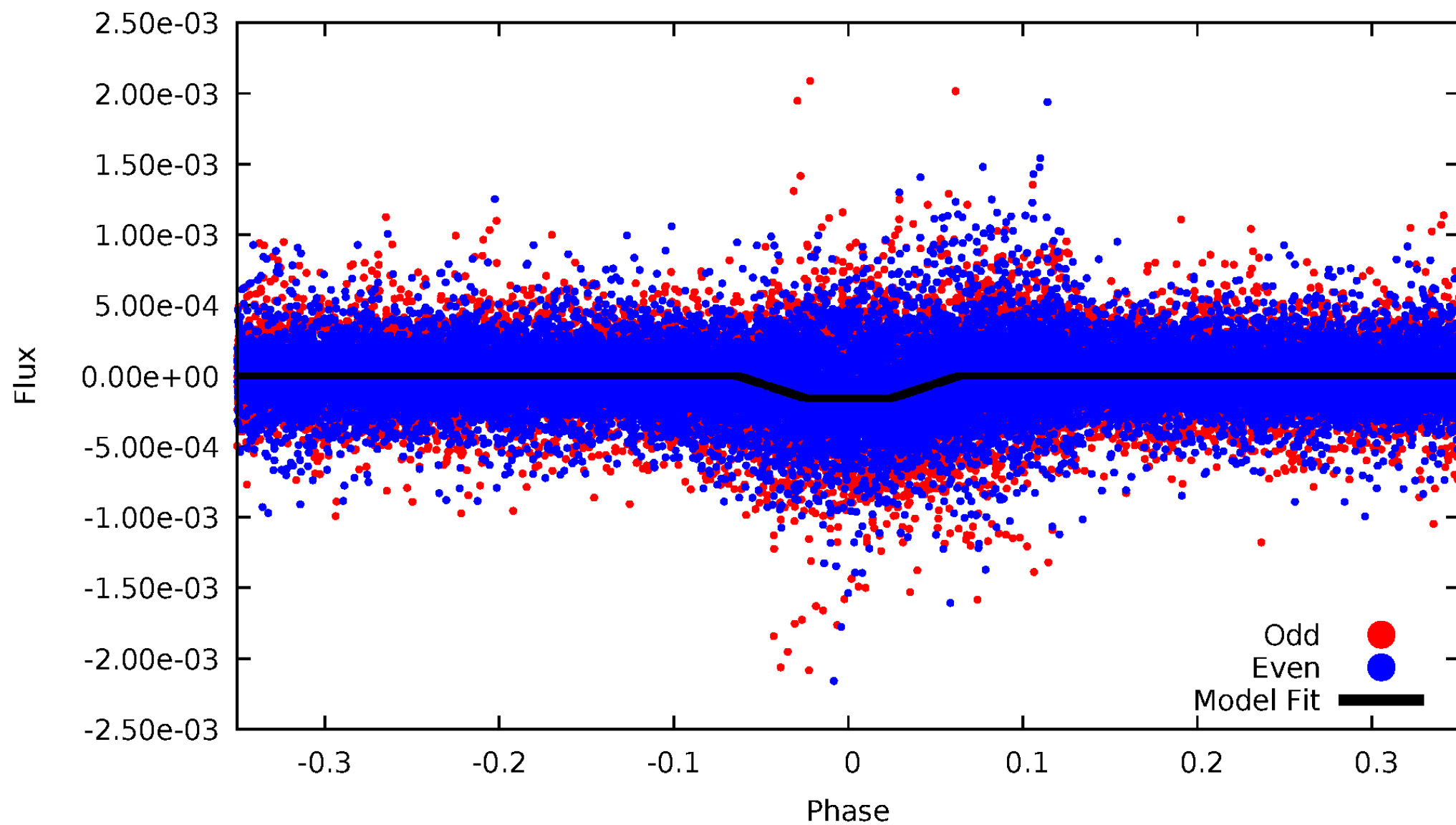
DV Odd/Even

TCE 010122012-01

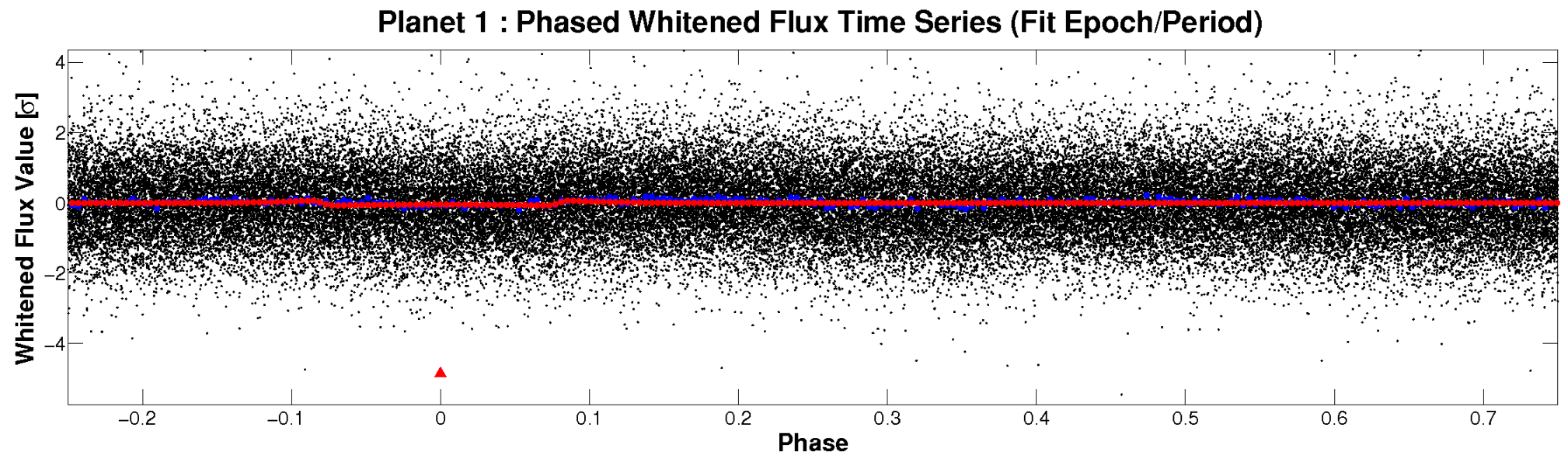
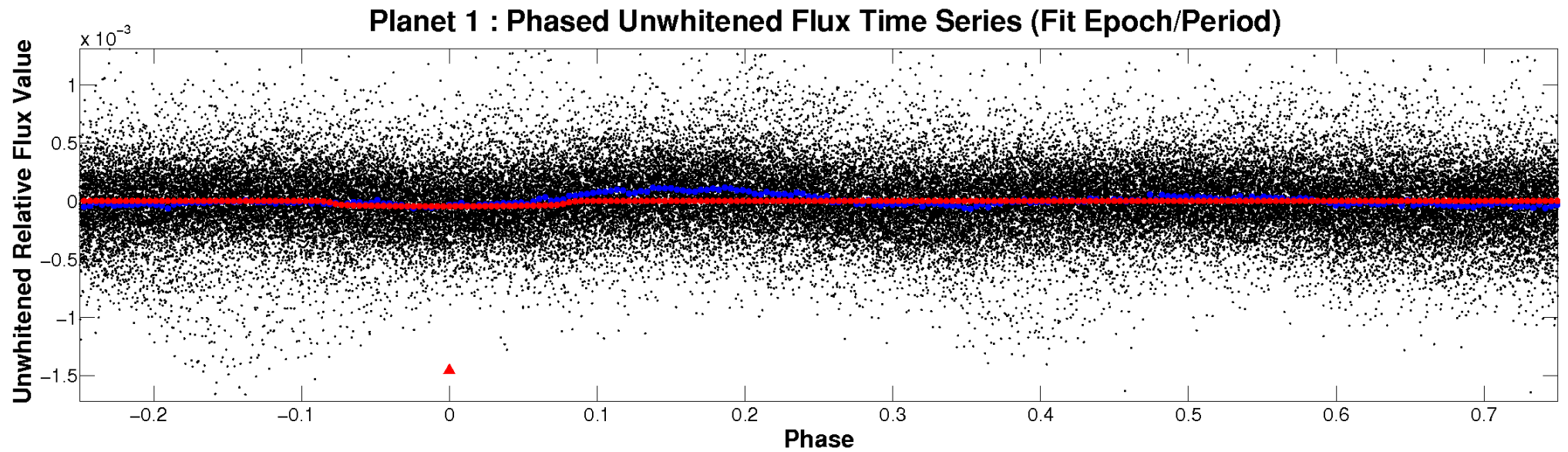


ALT Odd/Even

TCE 010122012-01

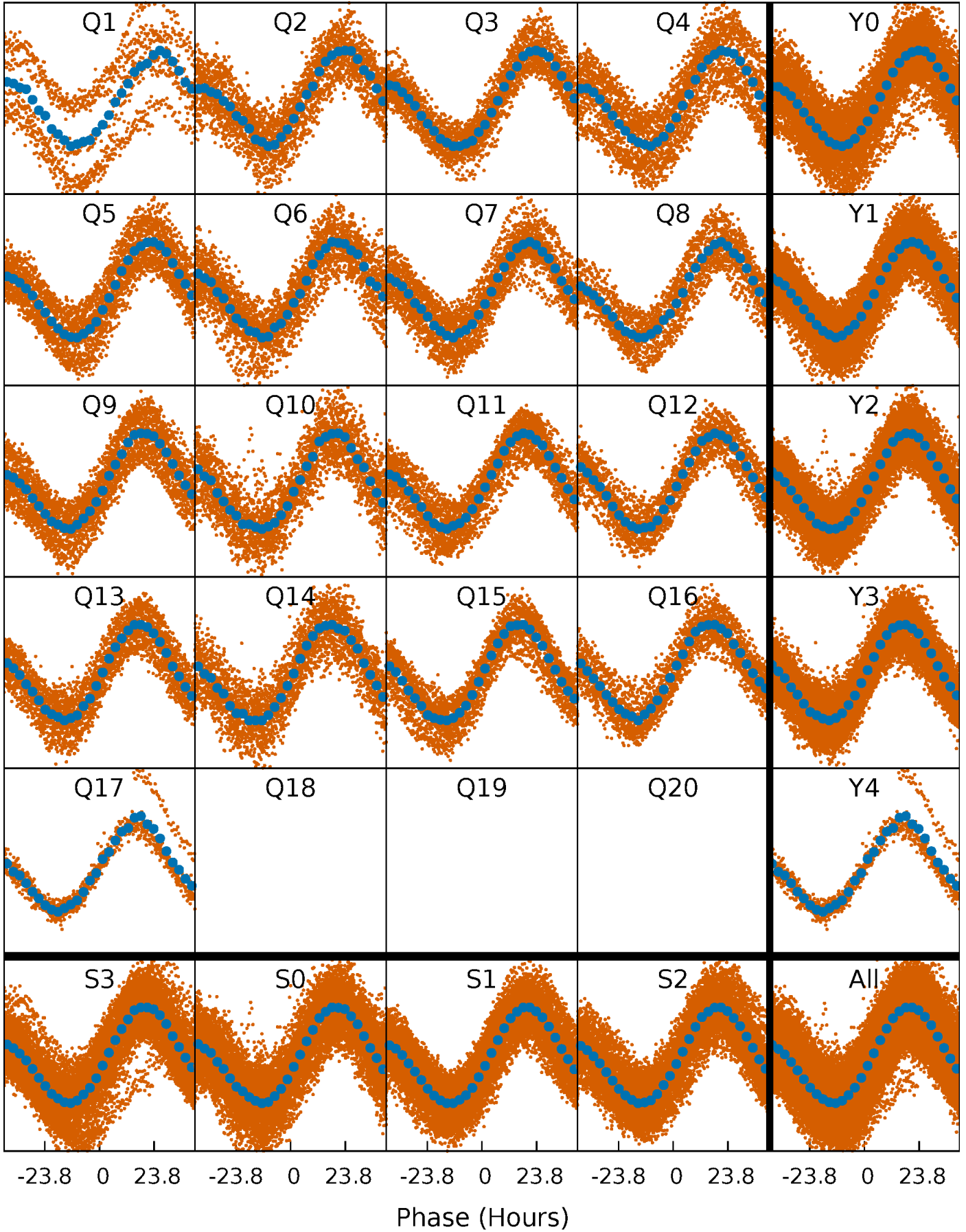


Non-Whitened Vs. Whitened Light Curve



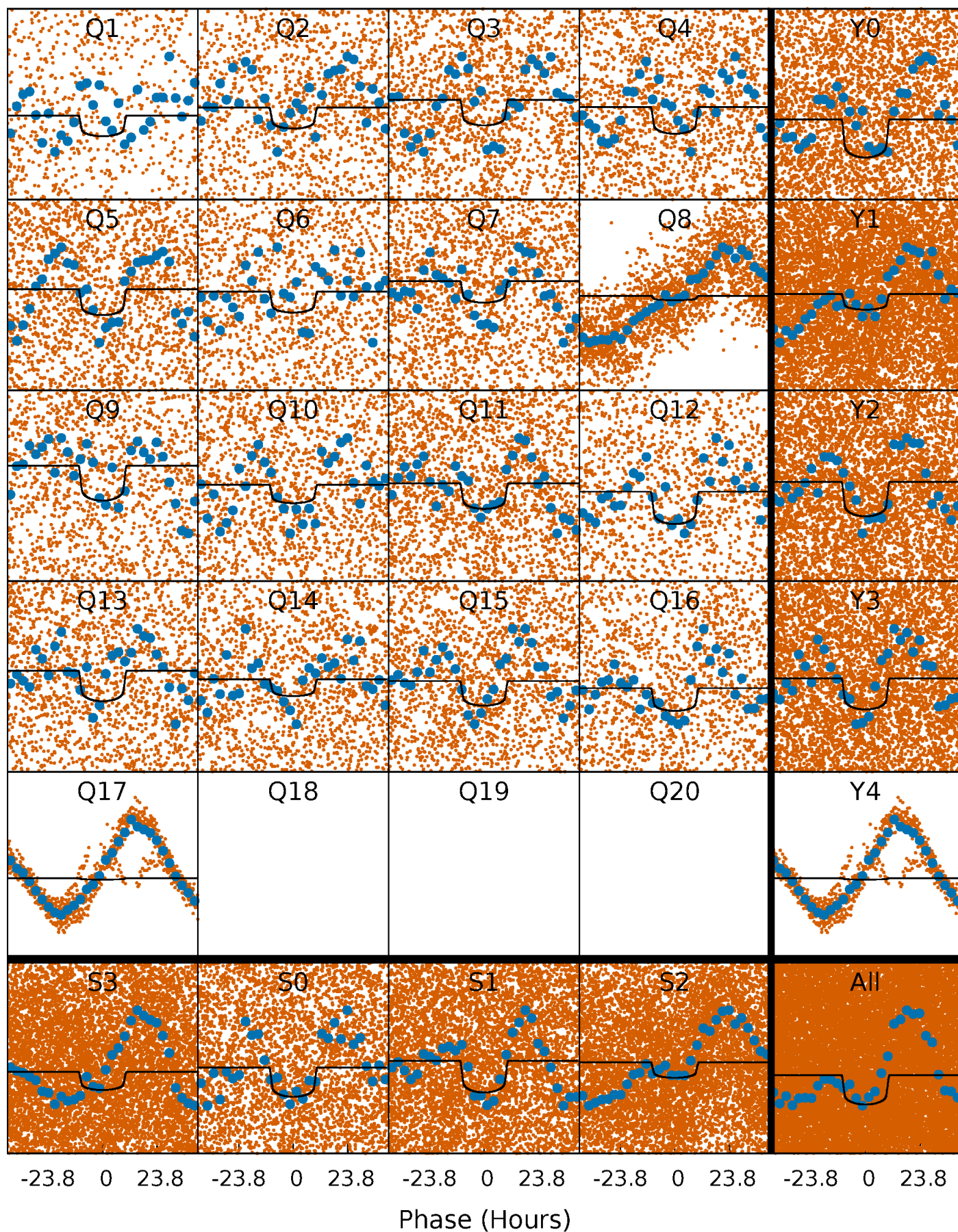
PDC Quarter-Phased Transit Curves

TCE 010122012-01 P= 5.043232 Days $T_0=133.758555$ (BKJD)



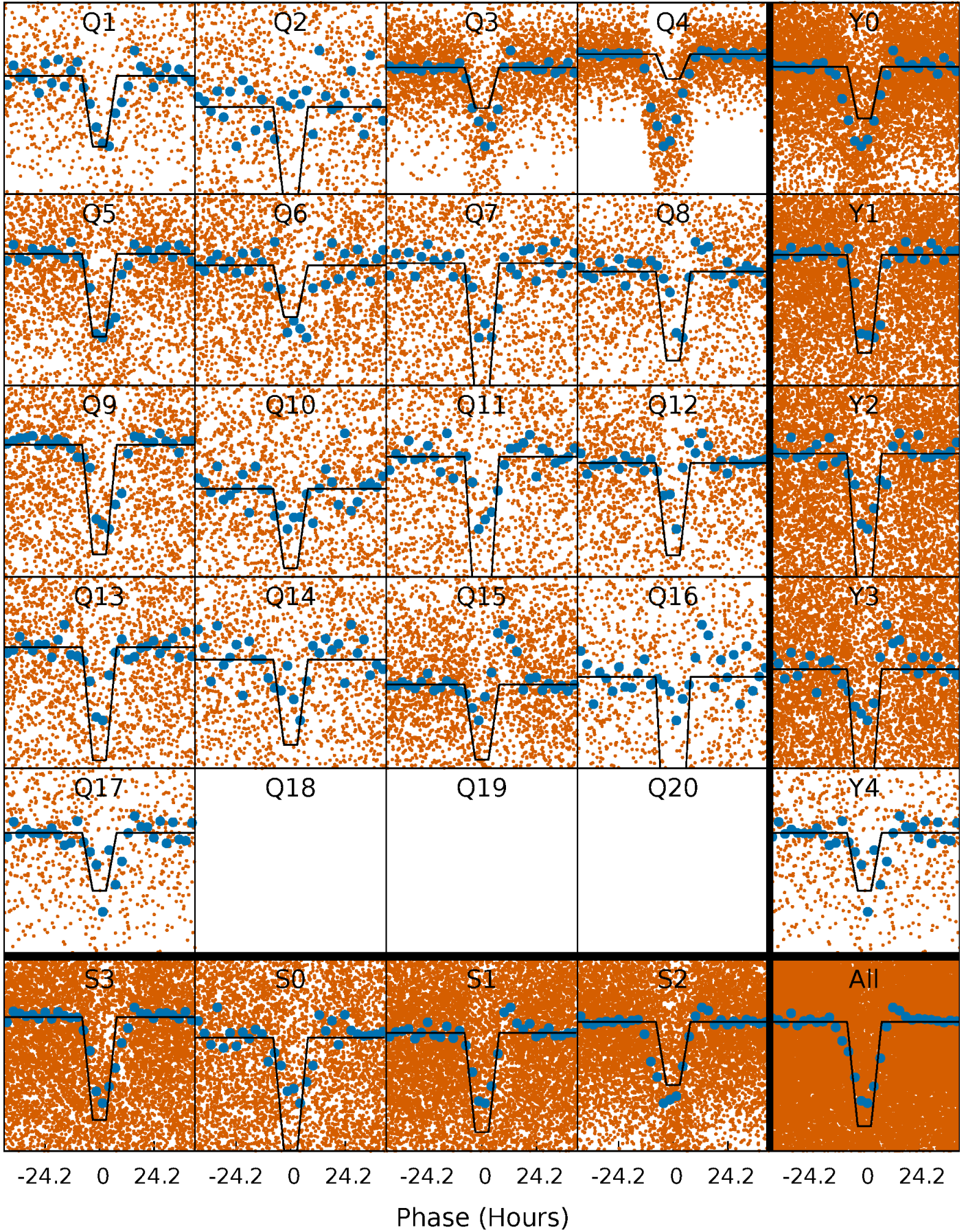
DV Quarter-Phased Transit Curves

TCE 010122012-01 P= 5.043232 Days $T_0=133.758555$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

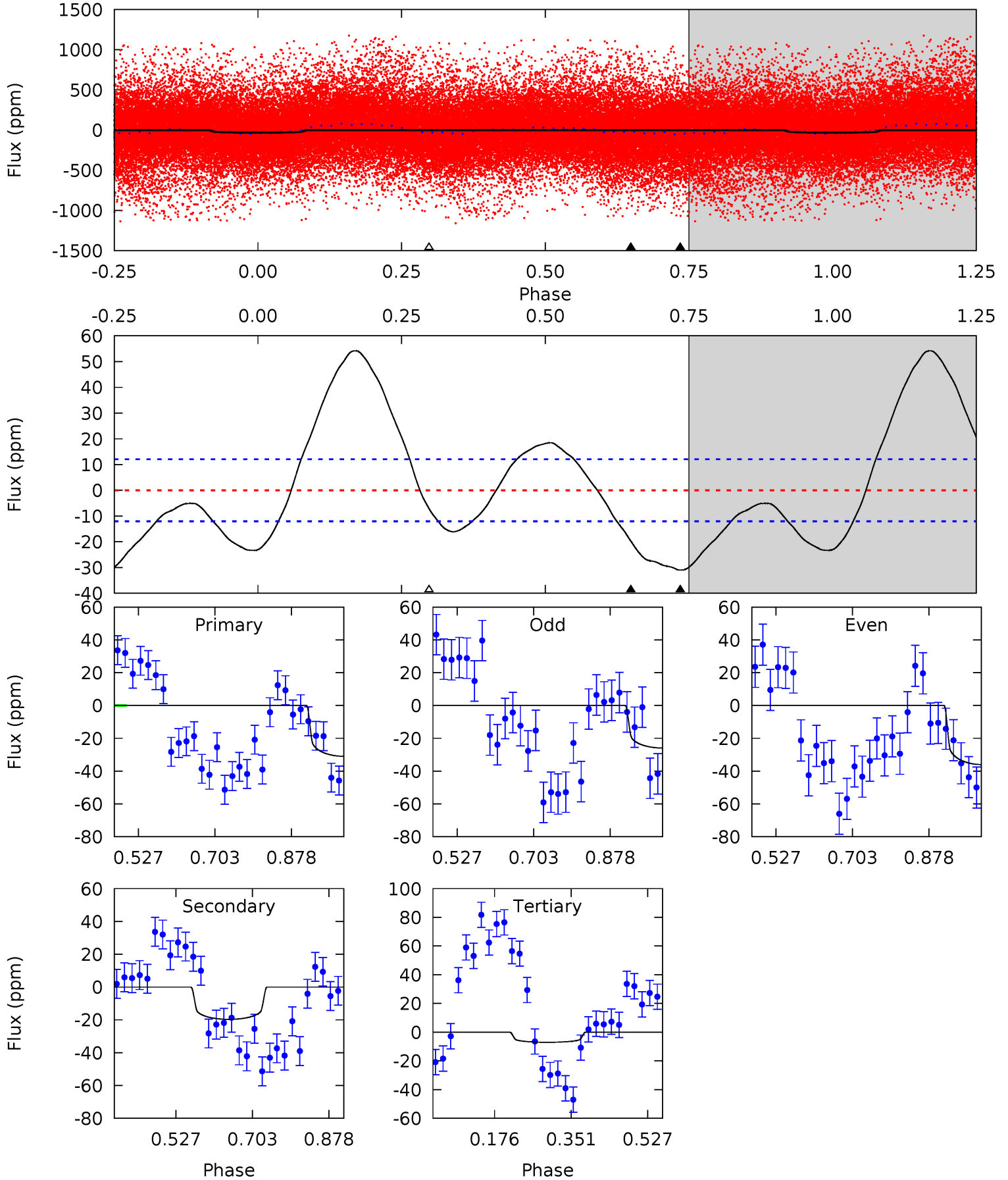
TCE 010122012-01 P= 5.042560 Days $T_0=133.784896$ (BKJD)



DV Model-Shift Uniqueness Test

010122012-01, P = 5.043232 Days, E = 128.715323 Days

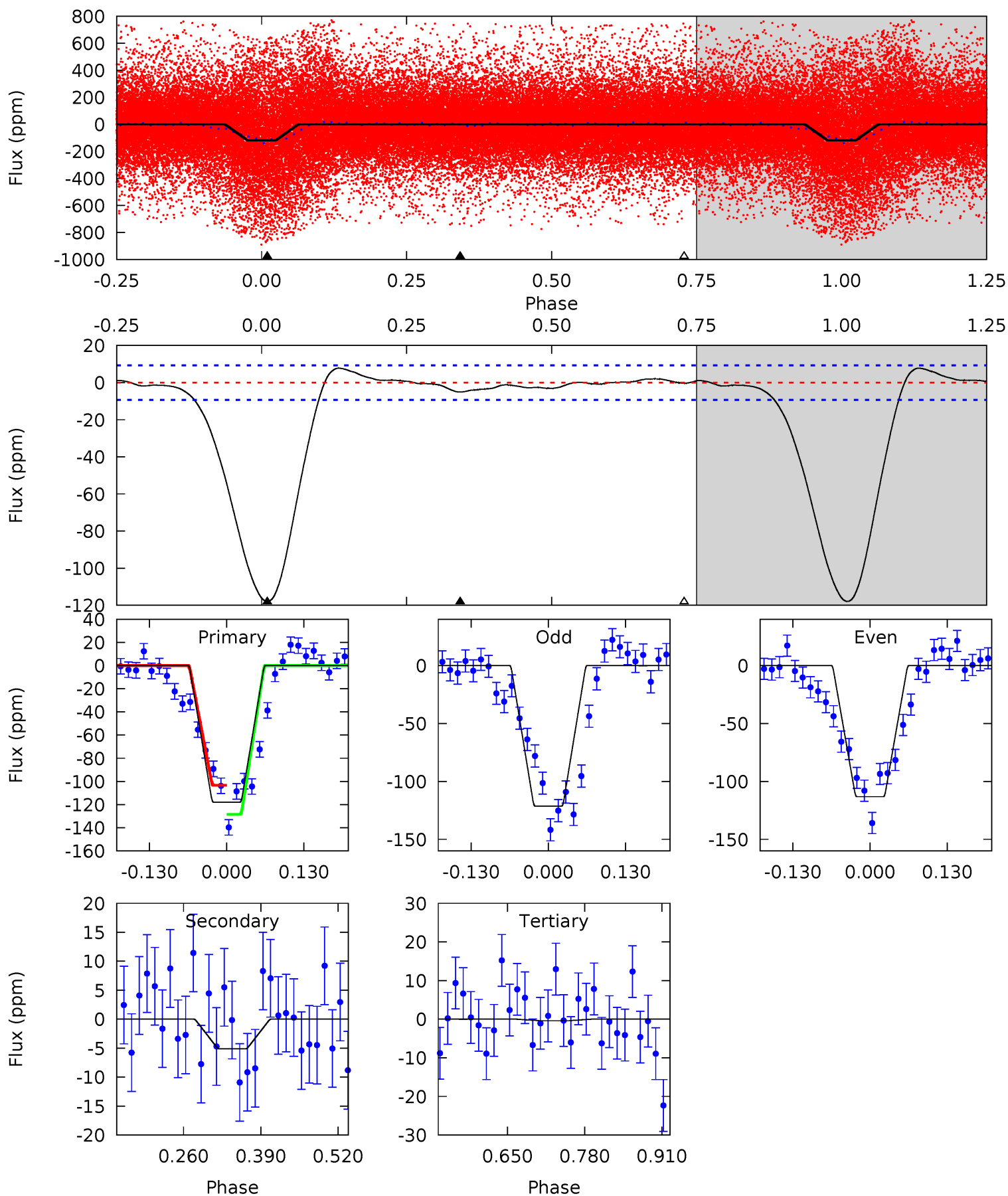
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.27	2.60	0	4.45	1.35	9.02	8.85	11.5	4.67	7.27	1.89	0.83	0.64	1.40



Alt Model-Shift Uniqueness Test

010122012-01, P = 5.042560 Days, E = 128.742336 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.1	2.47	0.19	0	4.51	1.51	1.17	56.9	57.1	2.28	2.47	1.97	1.18	0.06	6.14



Stellar Parameters For KIC 010122012

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6394^{+177}_{-244}	$4.447^{+0.070}_{-0.210}$	$-0.440^{+0.300}_{-0.350}$	$0.999^{+0.317}_{-0.127}$	$1.017^{+0.145}_{-0.132}$	$1.437^{+0.510}_{-0.765}$
	+3%/-4%	+2%/-5%	+68%/-80%	+32%/-13%	+14%/-13%	+36%/-53%
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 010122012-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 3	$0.86^{+0.15}_{-0.11}$	1669^{+116}_{-89}	4948^{+268}_{-263}	48^{+15}_{-13}
Alt.	-5 ± 2	$1.42^{+0.24}_{-0.16}$	1666^{+137}_{-89}	3229^{+219}_{-272}	$4.380^{+2.280}_{-1.926}$

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 $A_{\text{obs}} \gg 1.0$

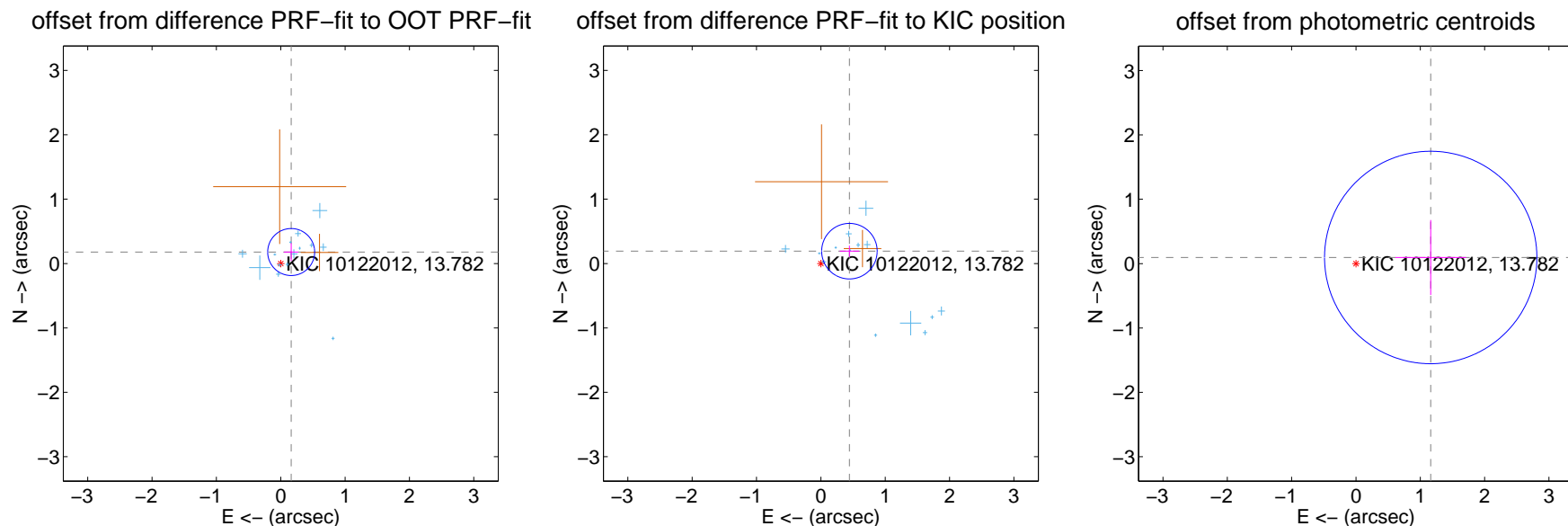
DV Centroid Data

Supplemental centroid analysis for 010122012-01. Kepler magnitude: 13.78. Transit SNR 6.73

There are 14 quarters with good PRF difference image offsets

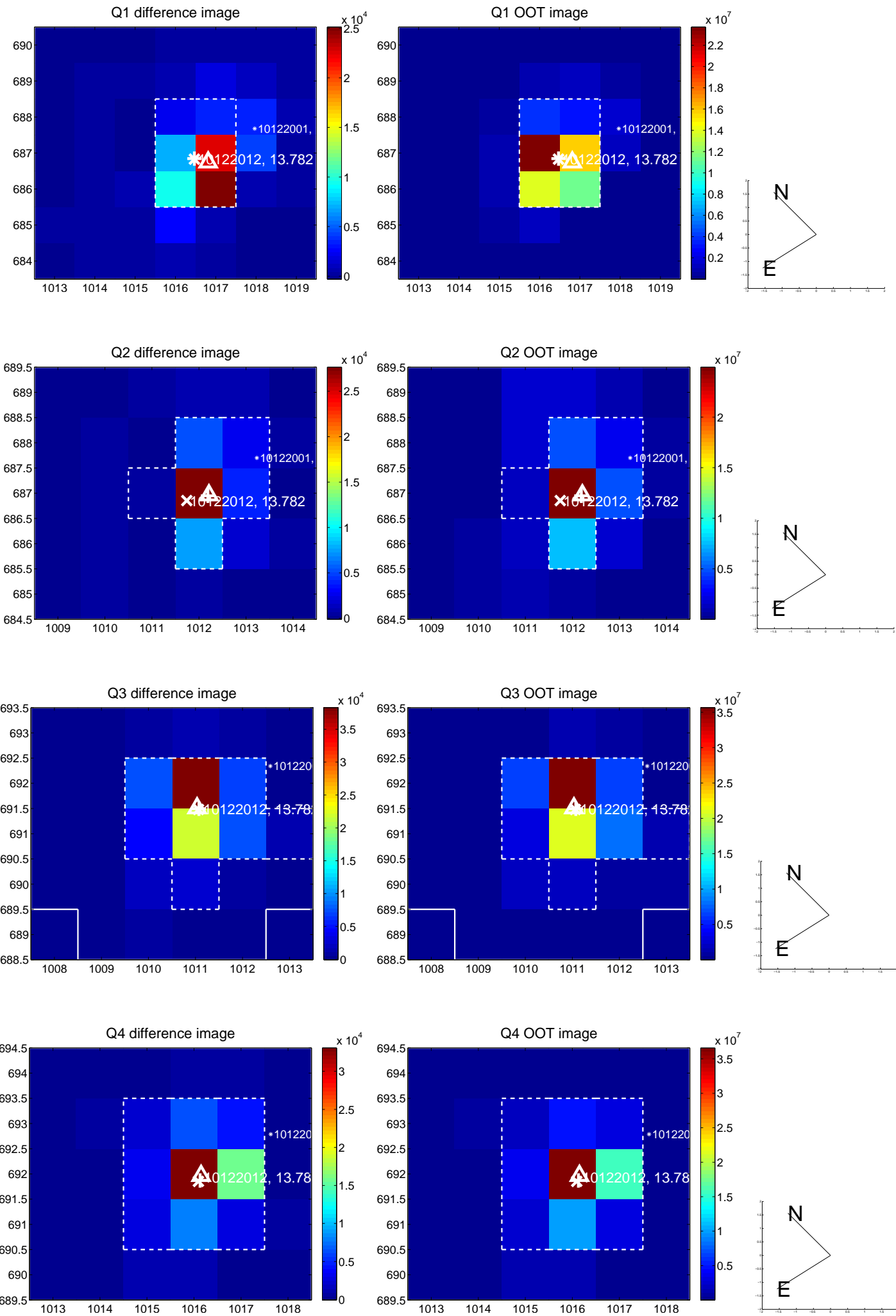
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.241 ± 0.122	1.98	-0.162 ± 0.114	0.179 ± 0.139
PRF-fit source offset from KIC position	0.484 ± 0.144	3.36	-0.444 ± 0.152	0.192 ± 0.087
photometric centroid source offset	1.17 ± 0.55	2.12	-1.16 ± 0.55	0.10 ± 0.58

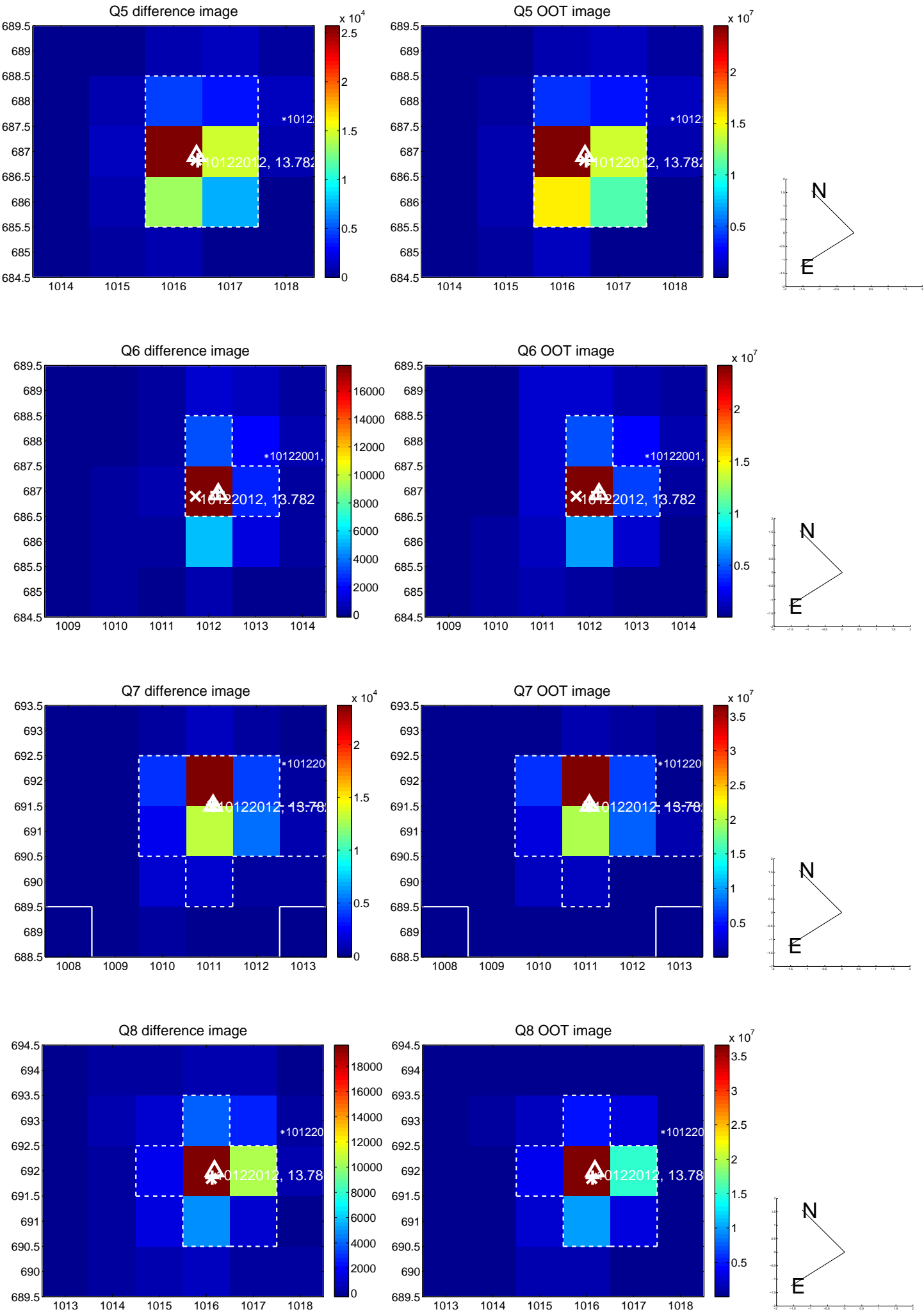


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

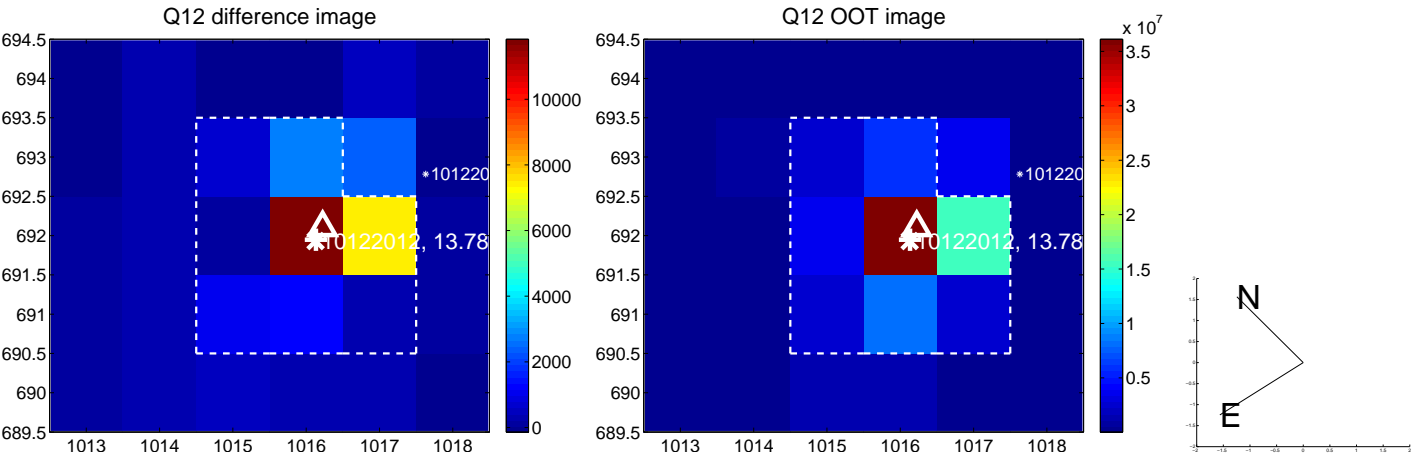
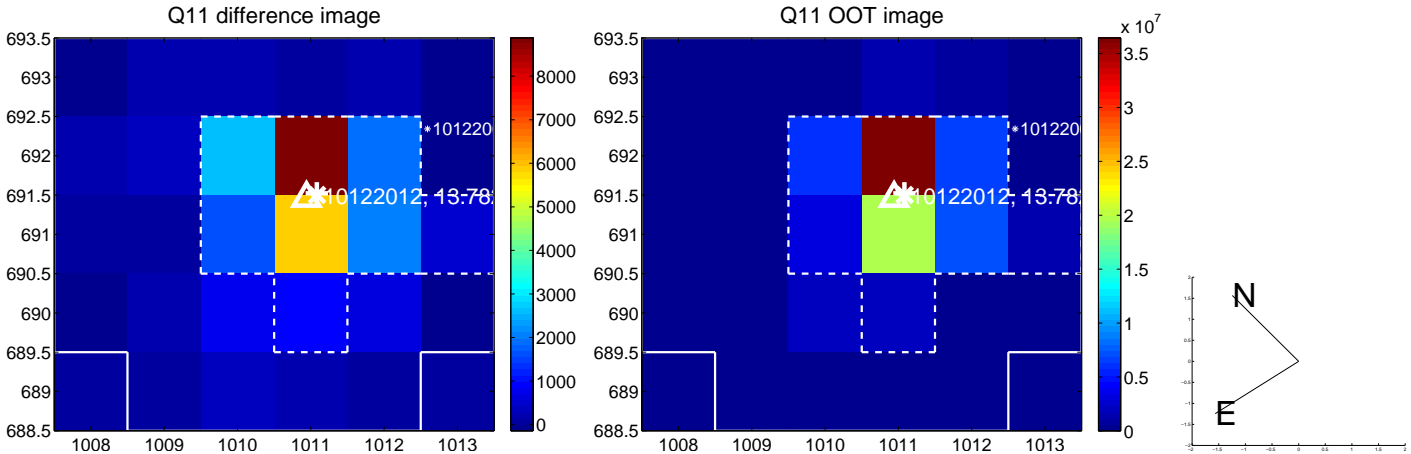
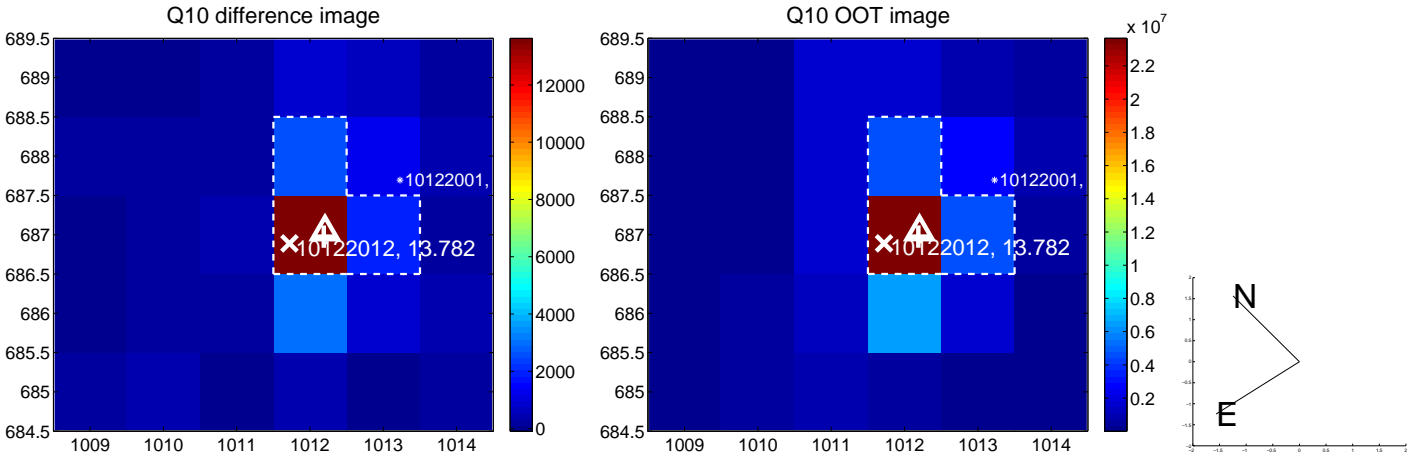
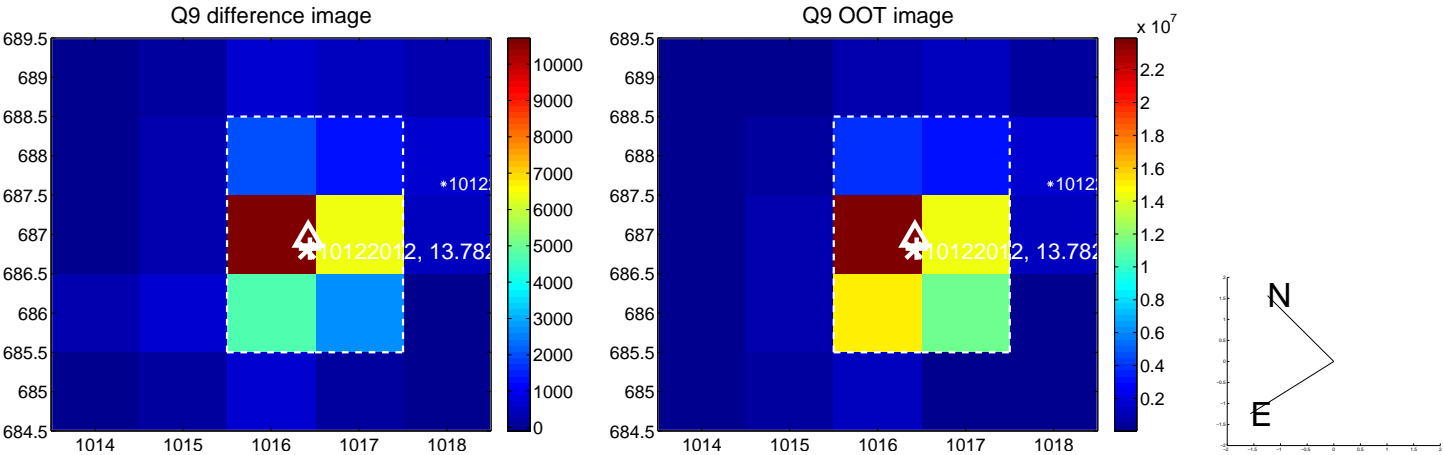
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



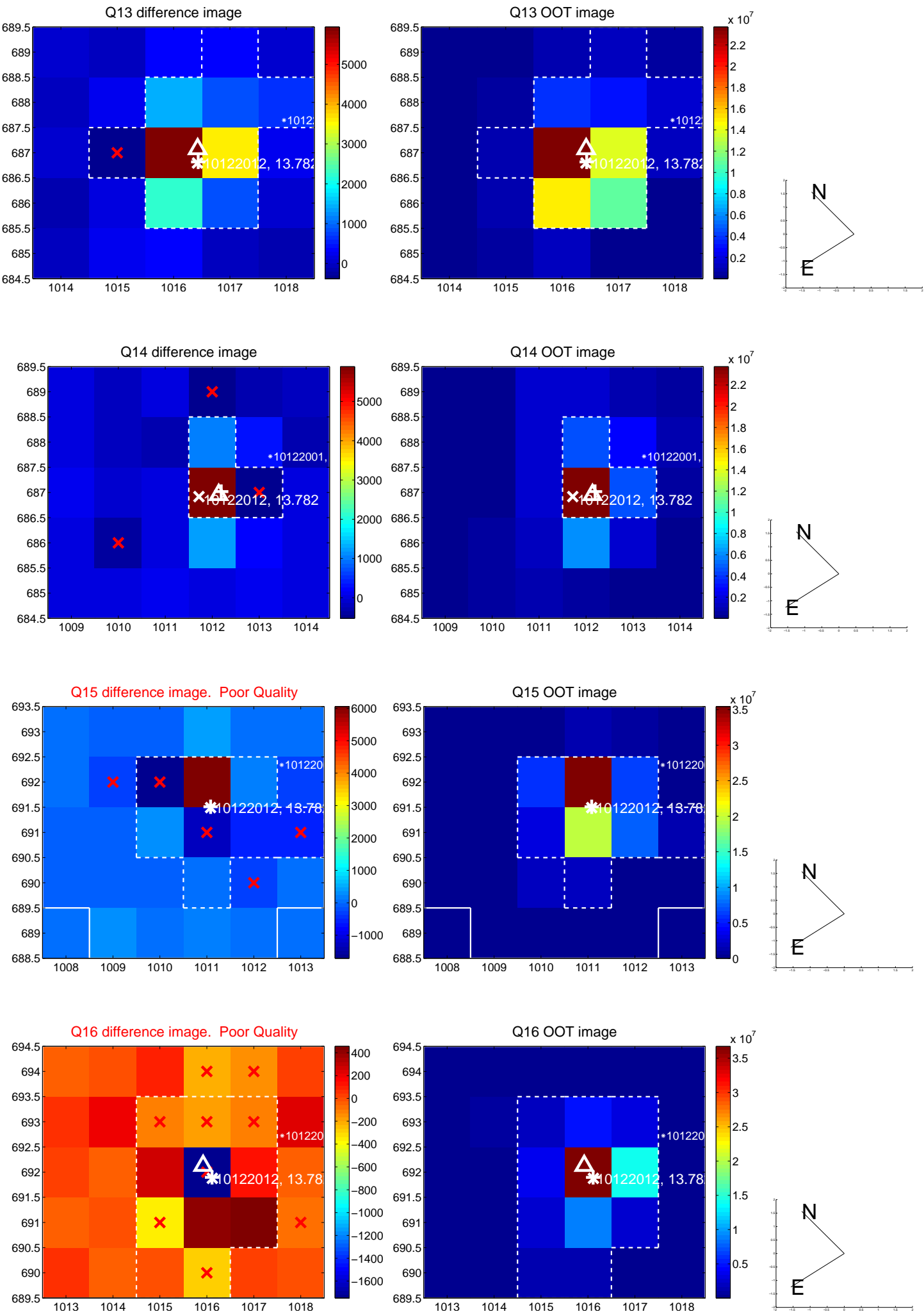
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



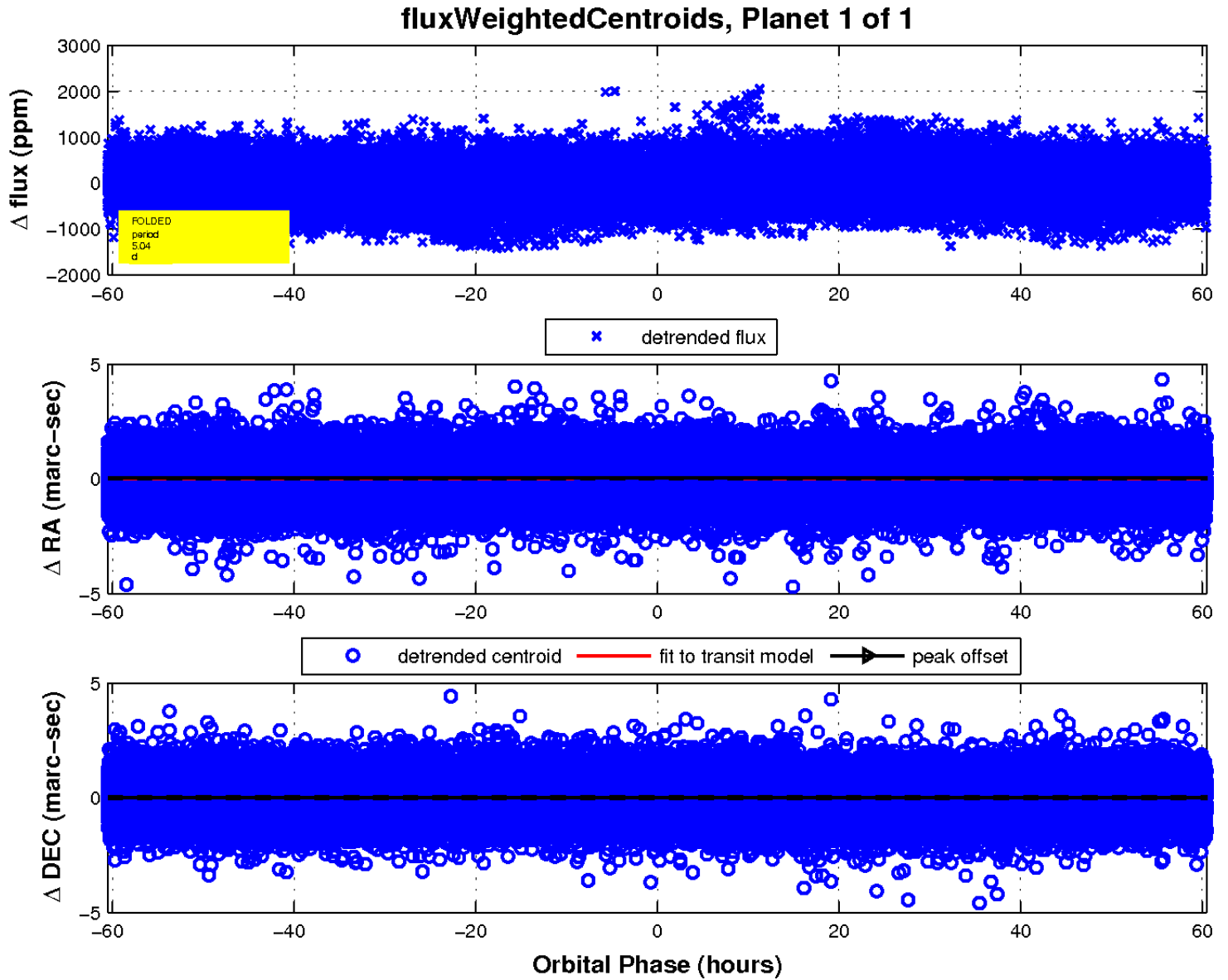
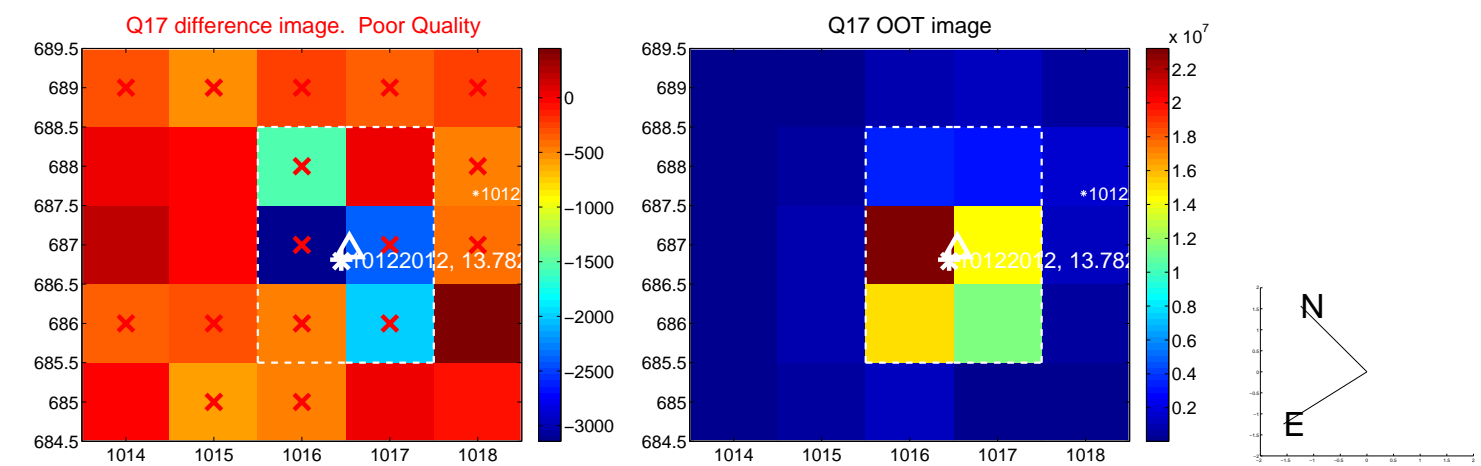
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

