

KIC 012402804

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})
012402804-01	OBS	No	0.865577	132.213552	61.8	2.358	8.0	8.5	8.12	5079	7.65	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012402804-01	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.

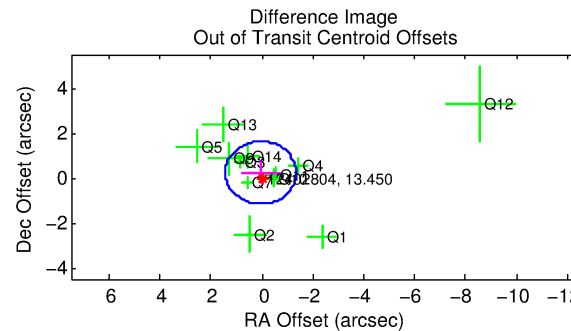
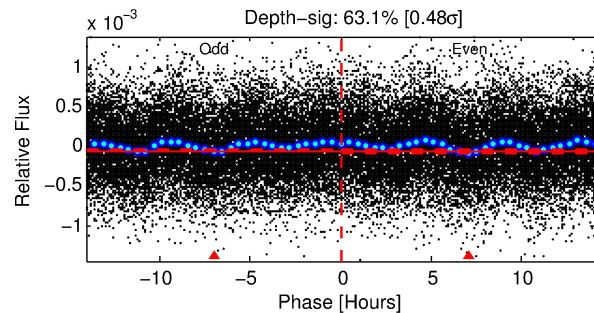
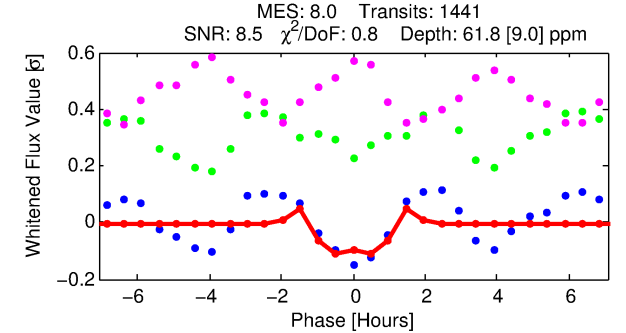
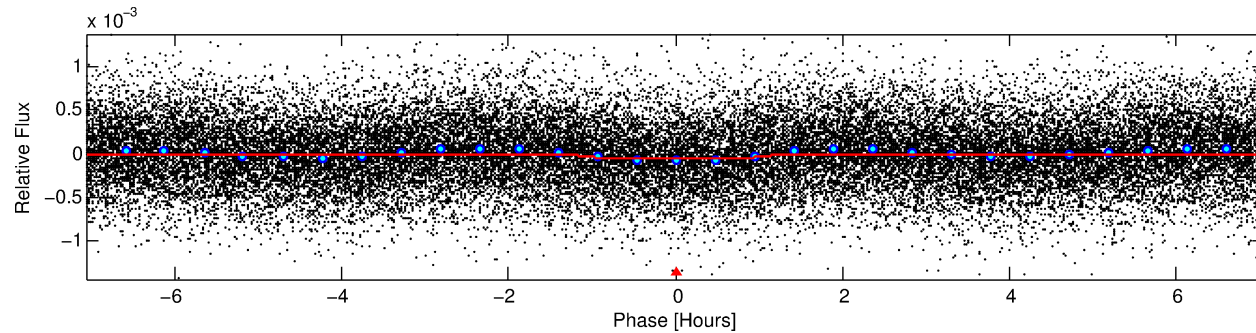
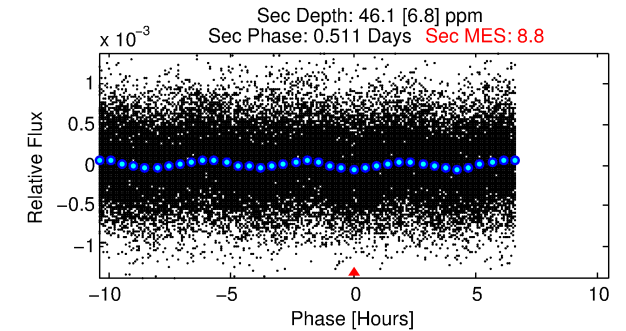
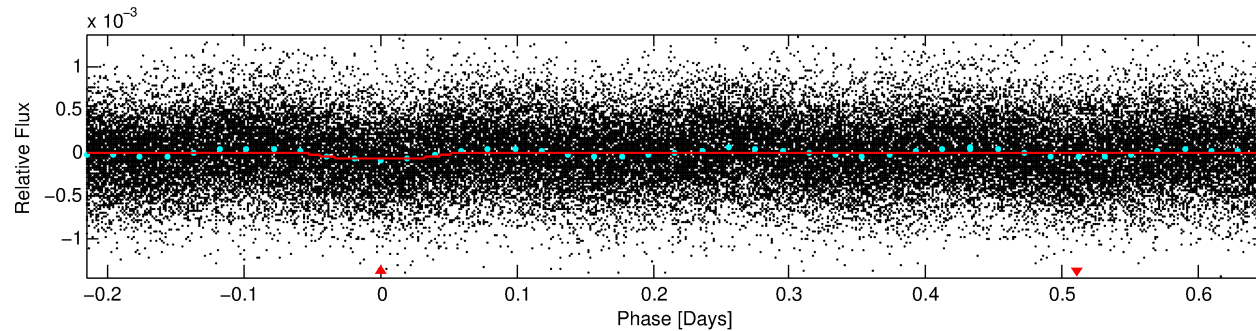
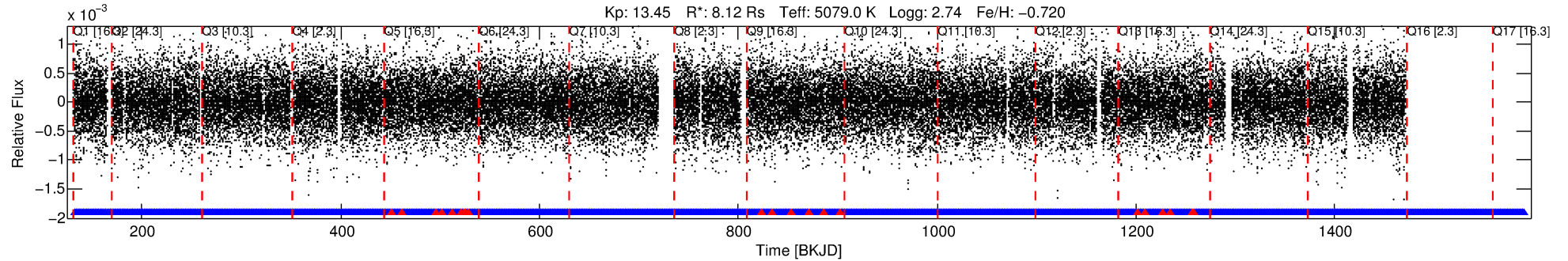
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012402804-01

No Significant Match Found

DV One-Page Summary

KIC: 12402804 Candidate: 1 of 1 Period: 0.866 d



DV Fit Results:

Period = 0.86558 [0.00001] d
Epoch = 132.2136 [0.0019] BKJD
Rp/R* = 0.0086 [0.0038]
a/R* = 1.59 [1.91]
b = 0.90 [0.43]
Seff = N/A
Teq = N/A
Rp = 7.65 [3.60] Re
a = N/A
Ag = N/A
Teffp = N/A

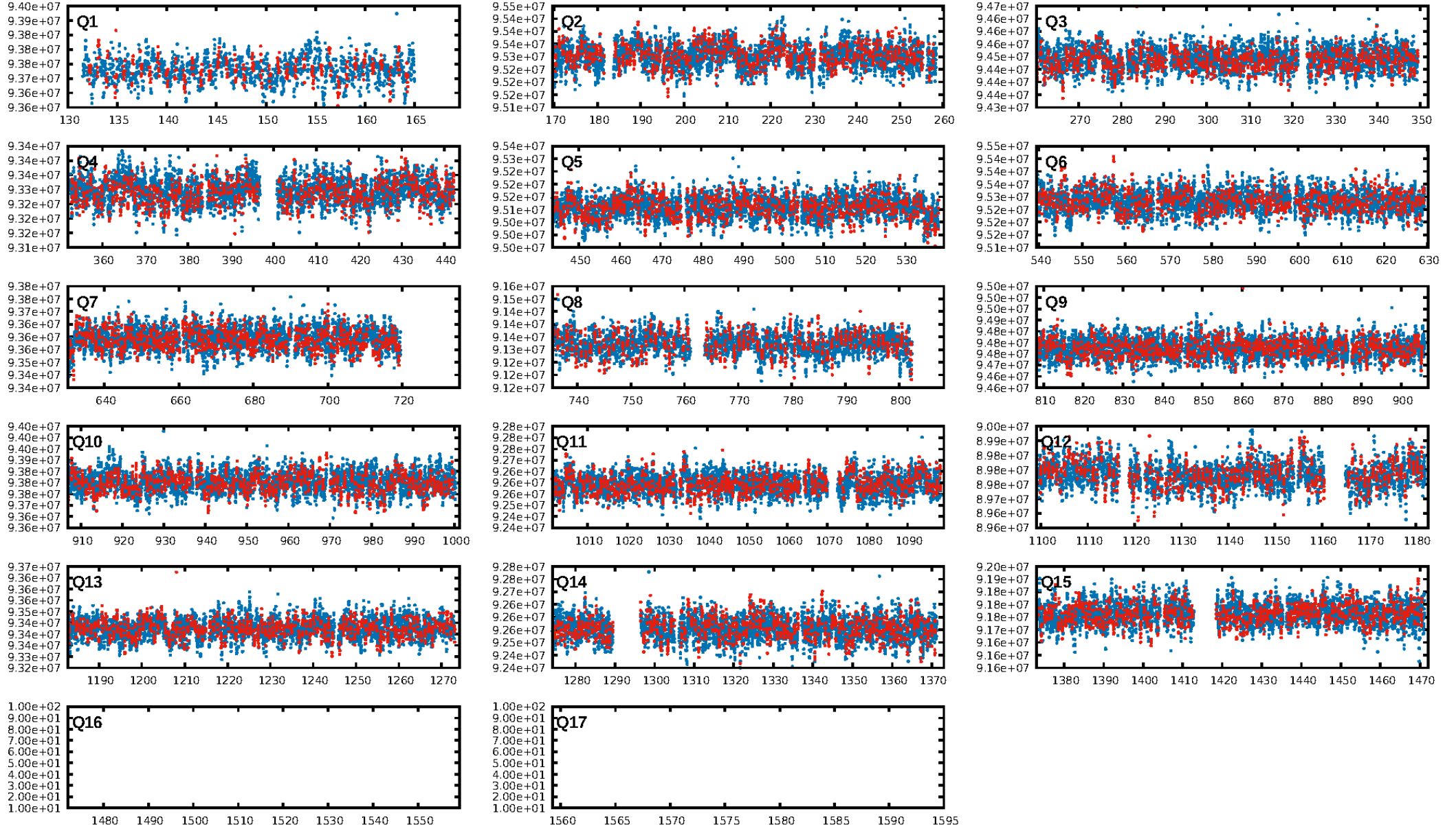
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.28e-12
RollingBand-fgt: 0.98 [1381/1403]
GhostDiagnostic-chr: 1.779
Centroid-sig: 0.5%
Centroid-so: 0.639 arcsec [1.09σ]
OotOffset-rm: 0.234 arcsec [0.50σ]
KicOffset-rm: 0.340 arcsec [0.75σ]
OotOffset-st: 3/3/2/4 [12]
KicOffset-st: 3/3/2/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [15/15]

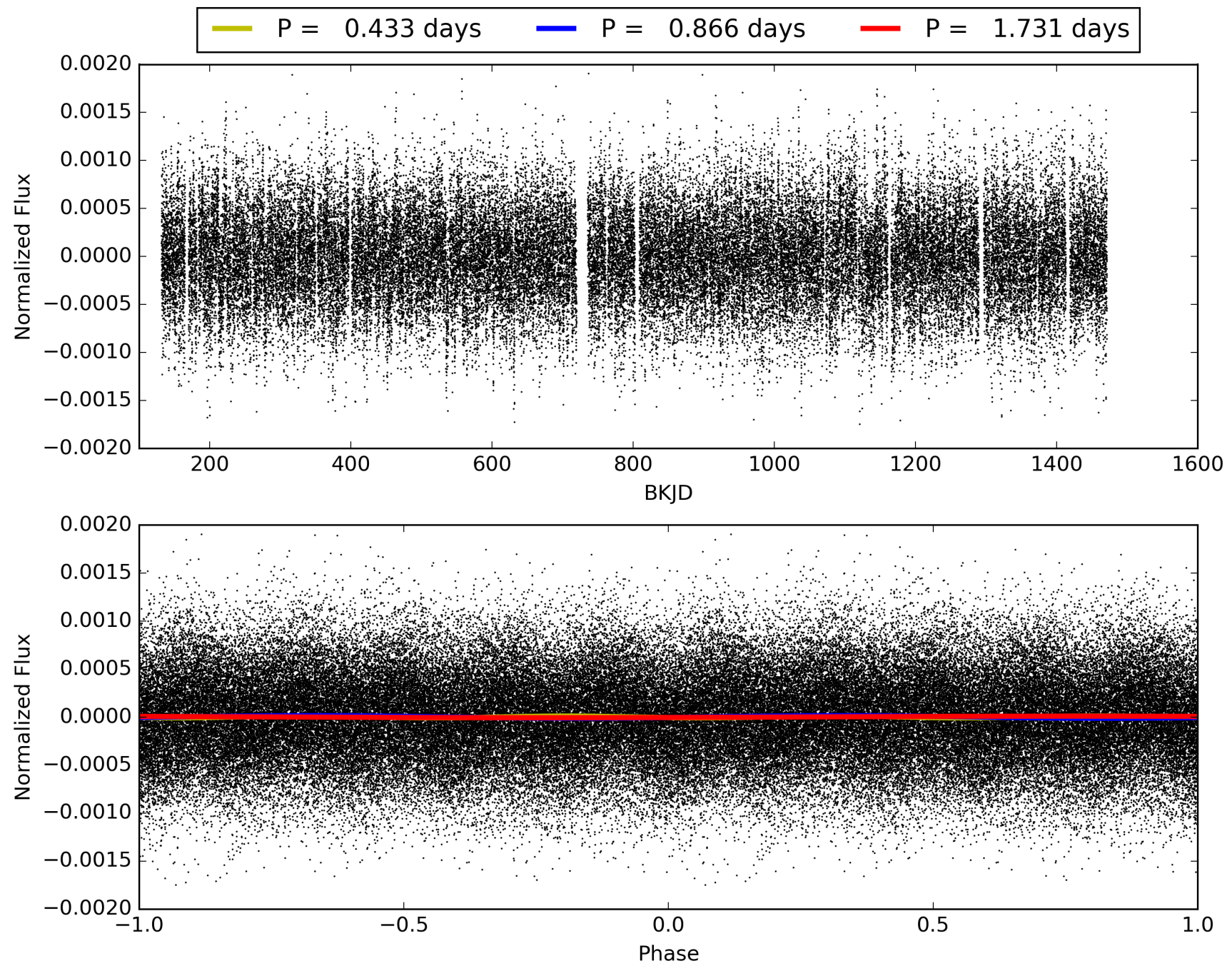
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:30:07 Z

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

TCE 012402804-01, PDC Light Curves

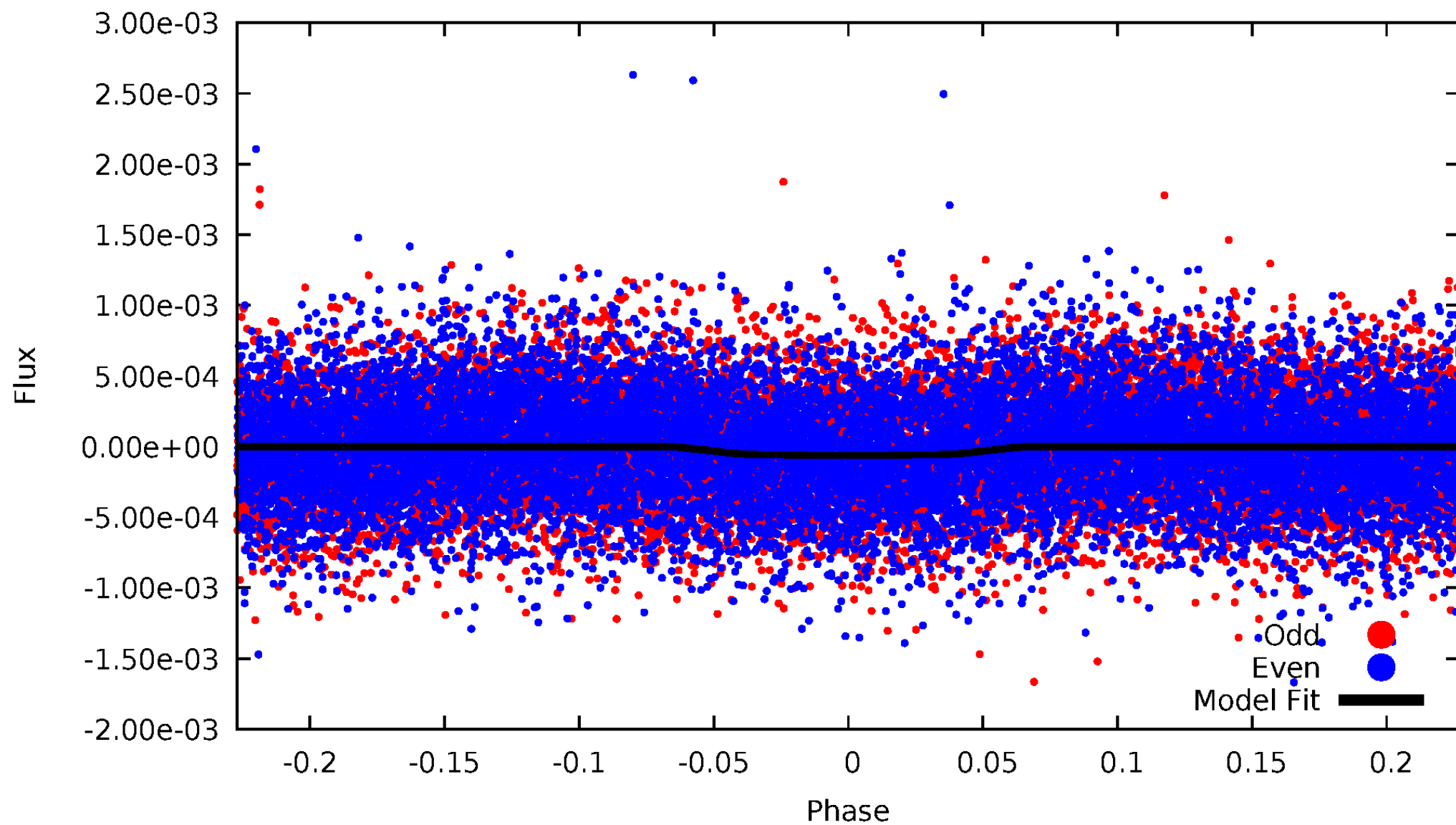


TCE 012402804-01



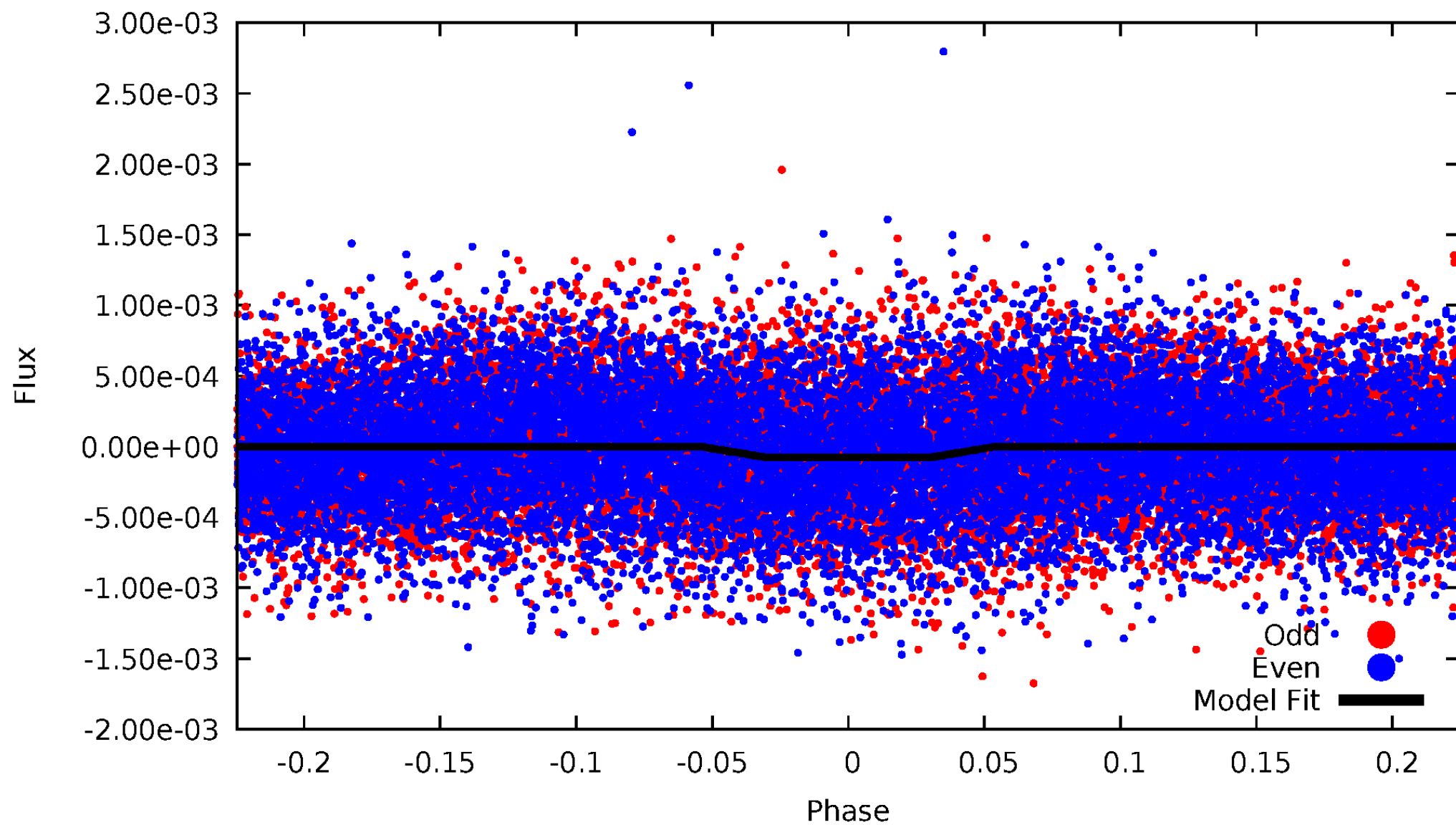
DV Odd/Even

TCE 012402804-01



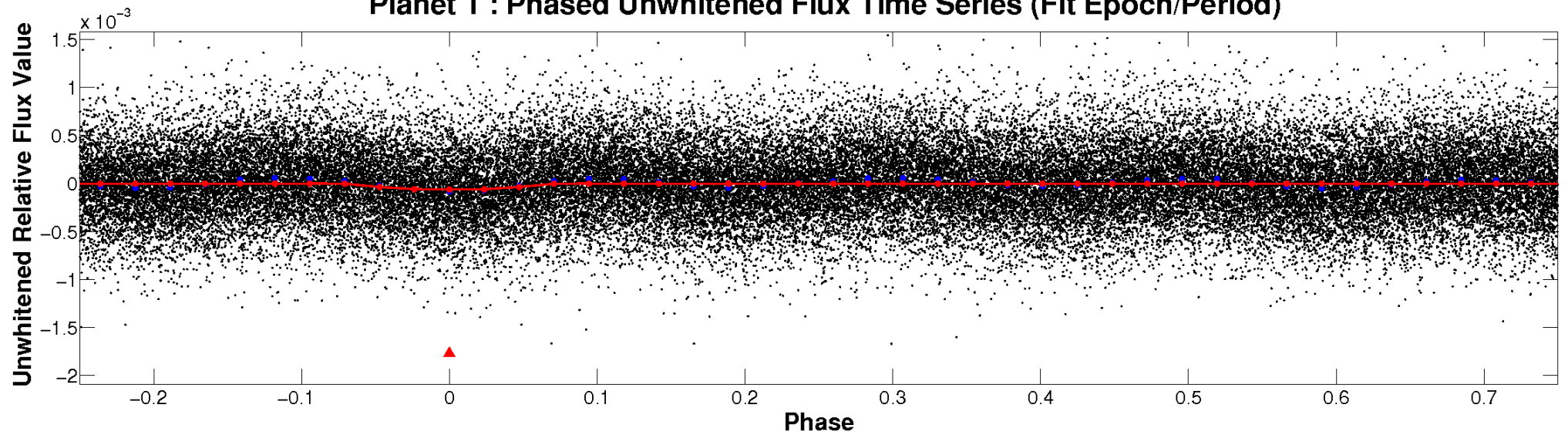
ALT Odd/Even

TCE 012402804-01

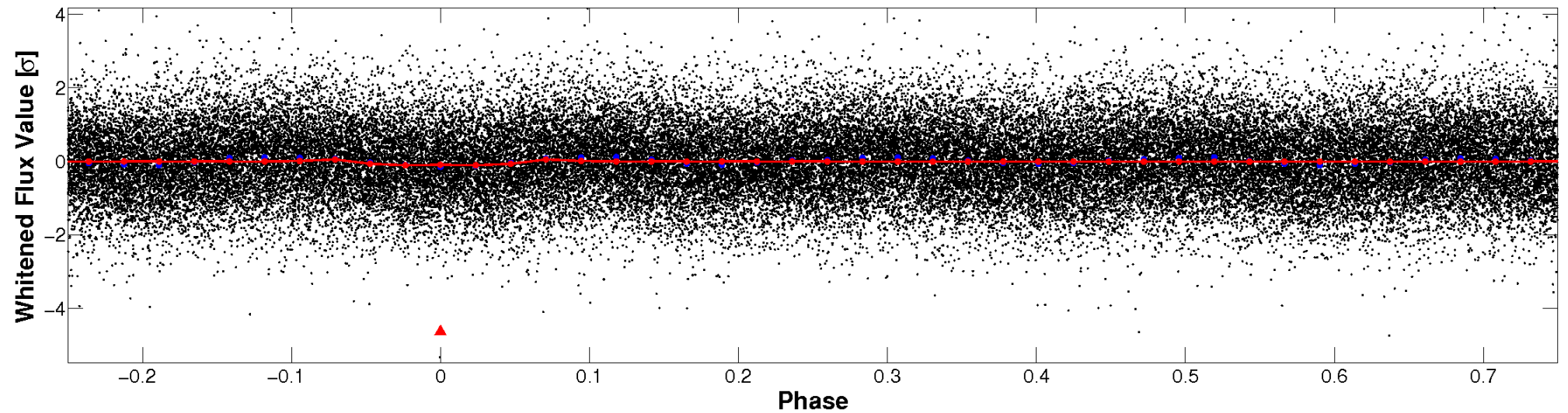


Non-Whitened Vs. Whitened Light Curve

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

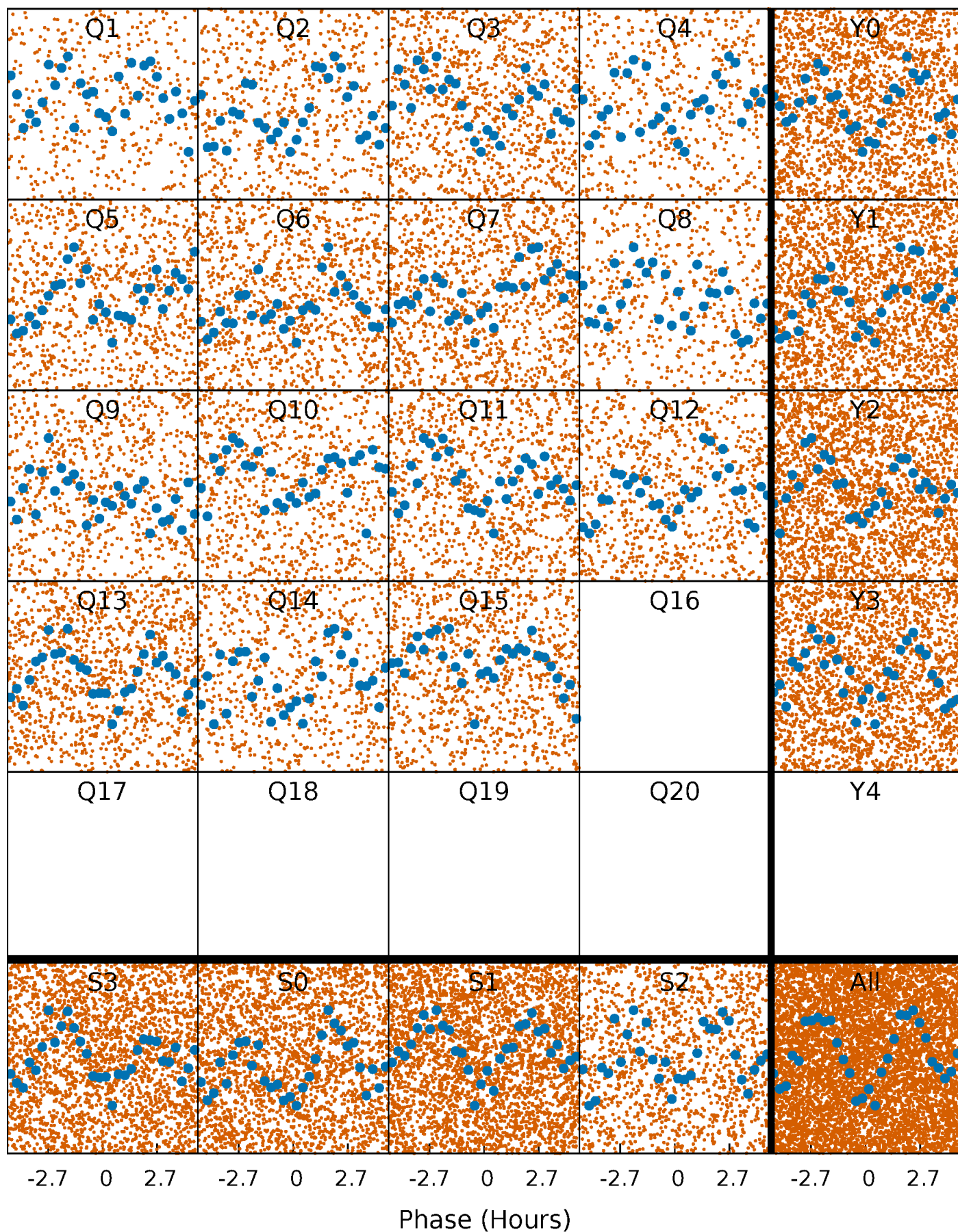


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



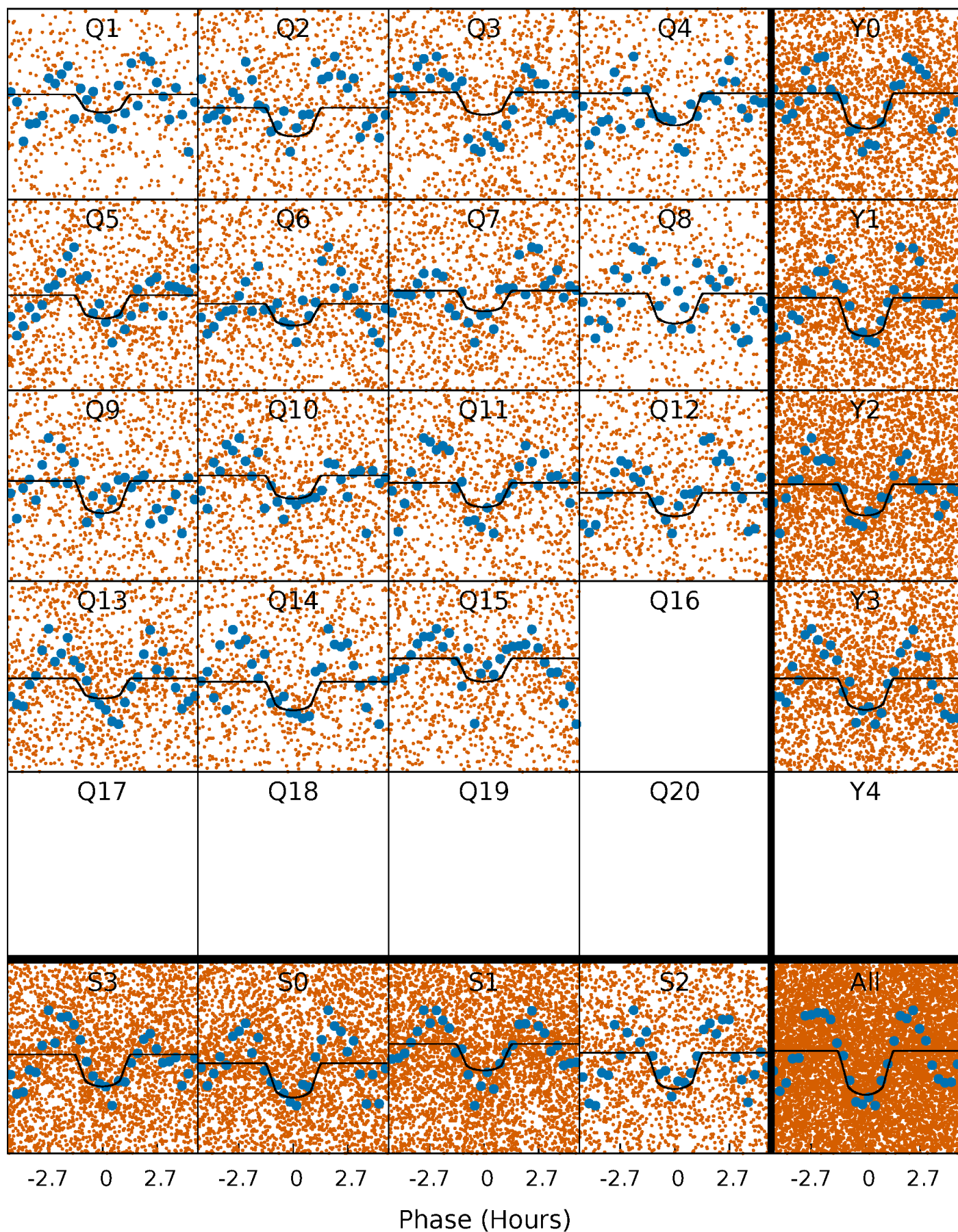
PDC Quarter-Phased Transit Curves

TCE 012402804-01 P= 0.865577 Days $T_0=132.213552$ (BKJD)



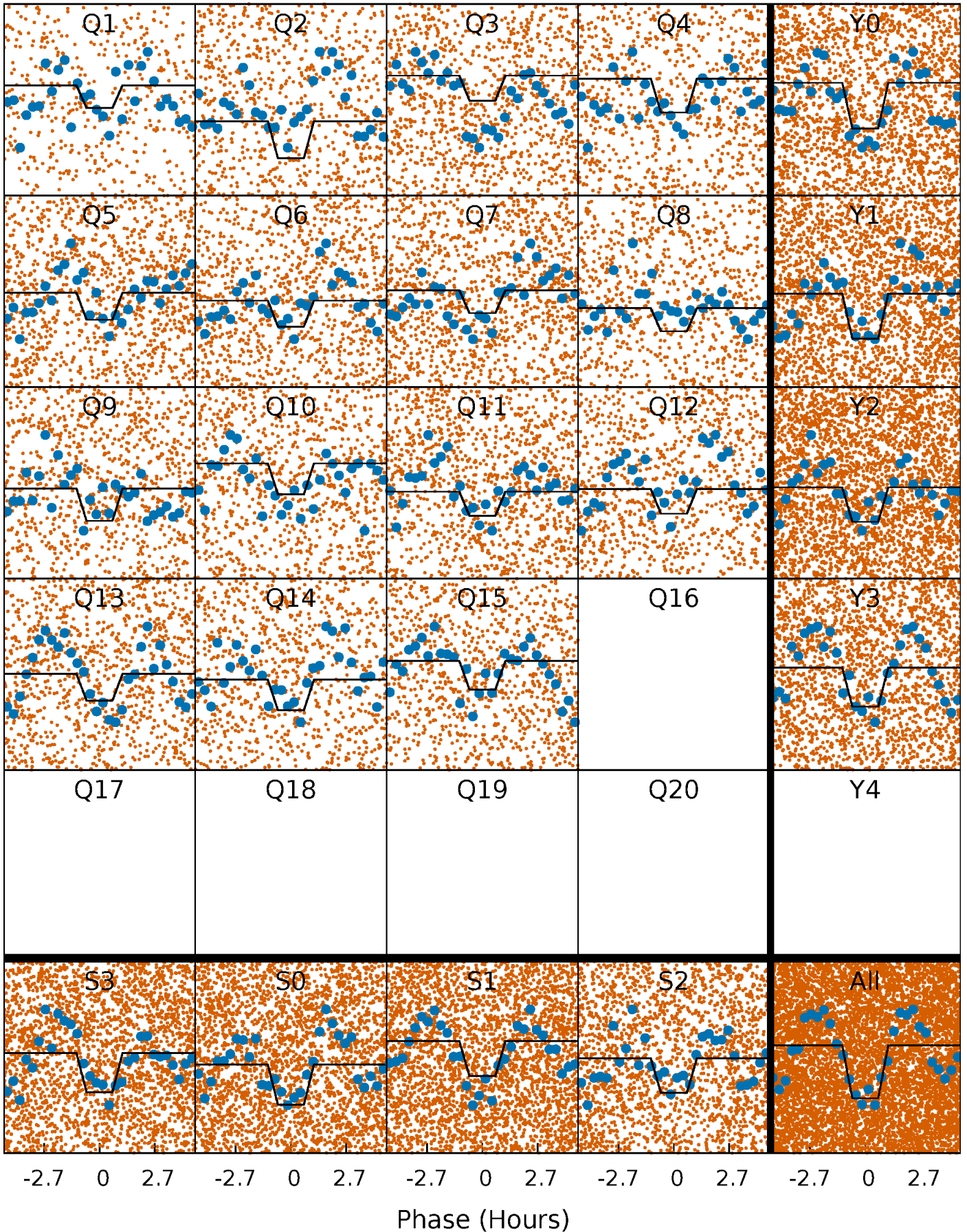
DV Quarter-Phased Transit Curves

TCE 012402804-01 P= 0.865577 Days $T_0=132.213552$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

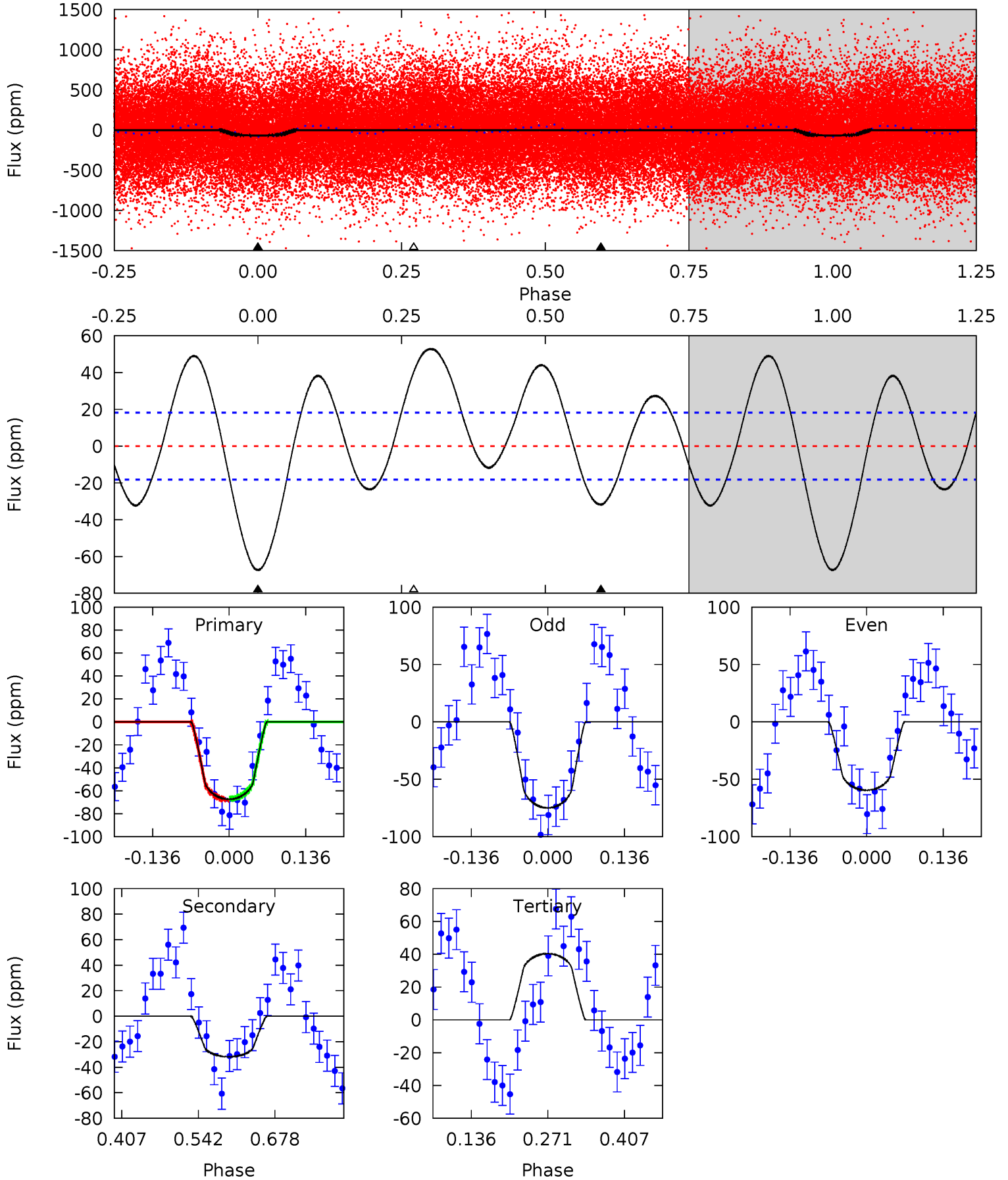
TCE 012402804-01 P= 0.865578 Days $T_0=132.212932$ (BKJD)



DV Model-Shift Uniqueness Test

012402804-01, P = 0.865577 Days, E = 131.347975 Days

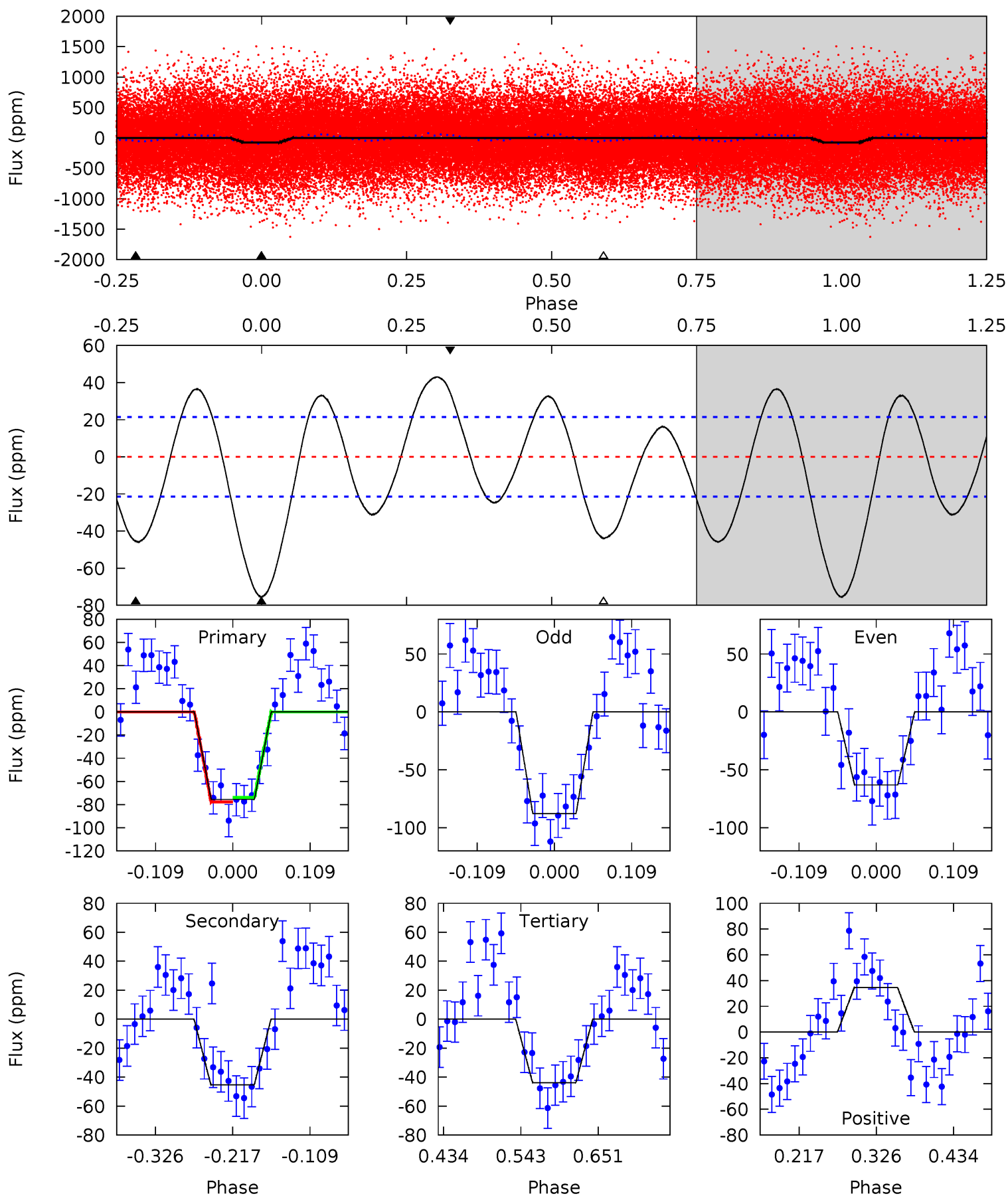
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	7.86	-9.96	0	4.50	1.49	6.07	26.6	16.6	17.8	7.86	1.90	1.05	0.44	0.13



Alt Model-Shift Uniqueness Test

012402804-01, P = 0.865578 Days, E = 131.347354 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	9.65	9.33	7.35	4.55	1.60	5.10	6.71	8.69	0.32	2.29	2.62	0.94	0.36	0.41



Stellar Parameters For KIC 012402804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5079^{+92}_{-113}	$2.742^{+0.030}_{-0.030}$	$-0.720^{+0.200}_{-0.250}$	$8.125^{+0.767}_{-1.246}$	$1.330^{+0.254}_{-0.380}$	$0.003^{+0.001}_{-0.000}$
	+2%/-2%	+1%/-1%	+28%/-35%	+9%/-15%	+19%/-29%	+21%/-11%
Source	PHO1	AST9	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 012402804-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 4	$7.67^{+3.56}_{-3.19}$	6378^{+175}_{-190}	-4687^{+8151}_{-315}	$0.111^{+0.222}_{-0.058}$
Alt.	-45 ± 5	$7.73^{+3.49}_{-3.36}$	6384^{+171}_{-179}	-4398^{+9224}_{-495}	$0.162^{+0.344}_{-0.085}$

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

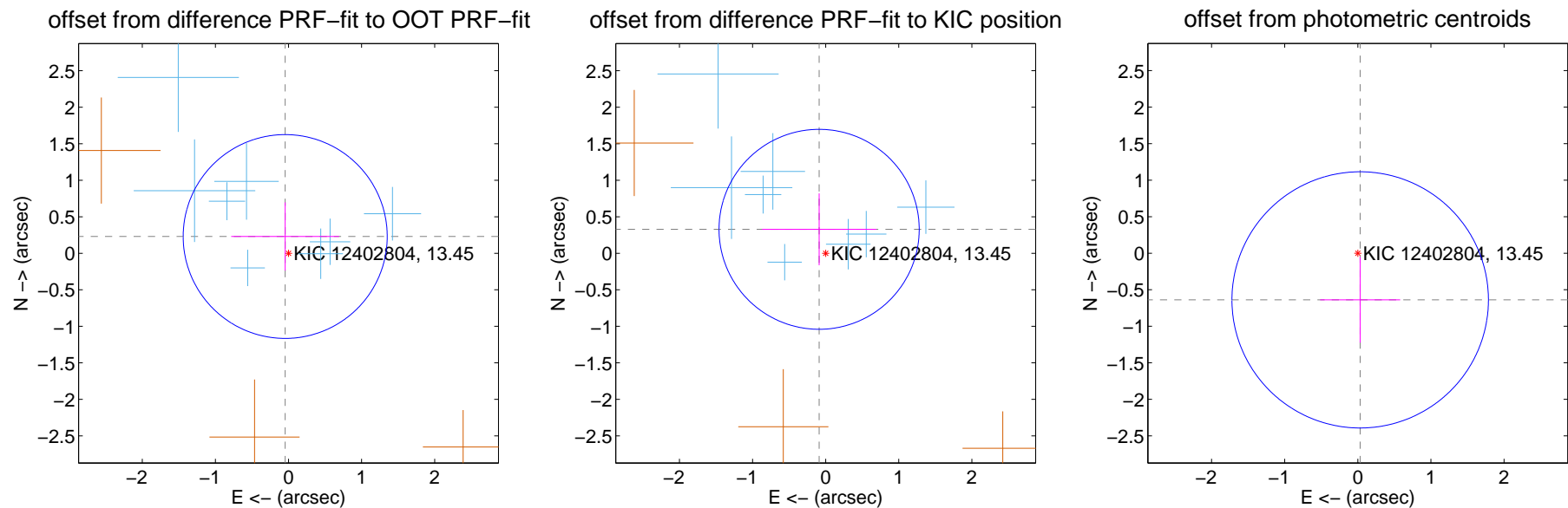
DV Centroid Data

Supplemental centroid analysis for 012402804-01. Kepler magnitude: 13.45. Transit SNR 8.53

There are 8 quarters with good PRF difference image offsets

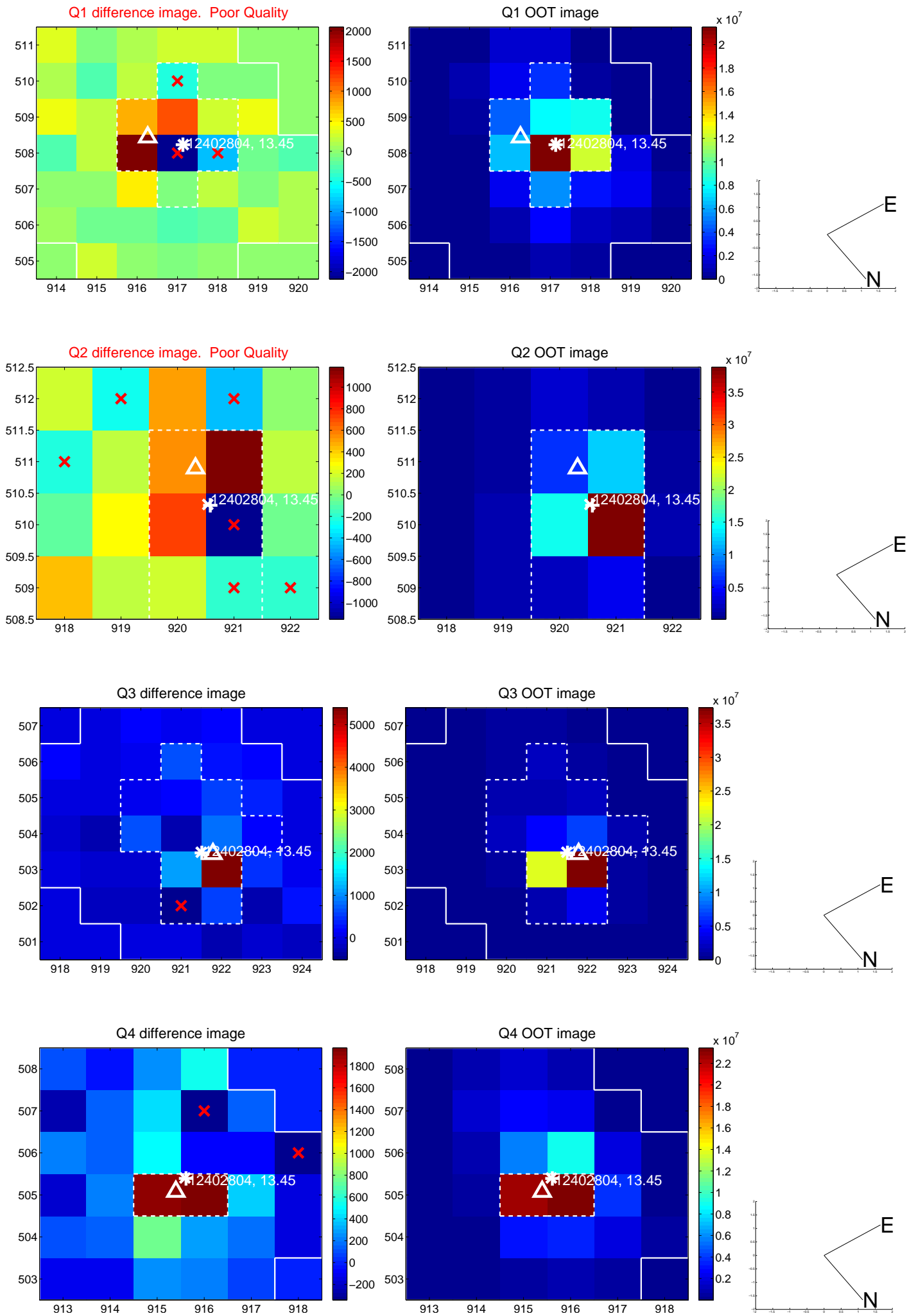
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.234 ± 0.465	0.50	0.045 ± 0.738	0.230 ± 0.466
PRF-fit source offset from KIC position	0.340 ± 0.456	0.75	0.090 ± 0.780	0.328 ± 0.492
photometric centroid source offset	0.64 ± 0.58	1.09	-0.03 ± 0.55	-0.64 ± 0.58

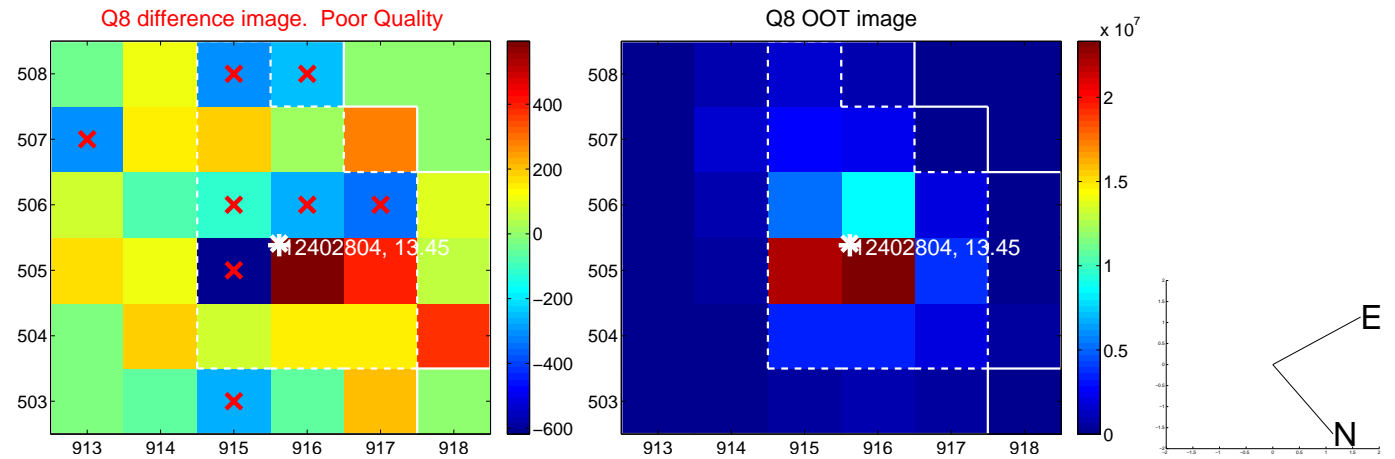
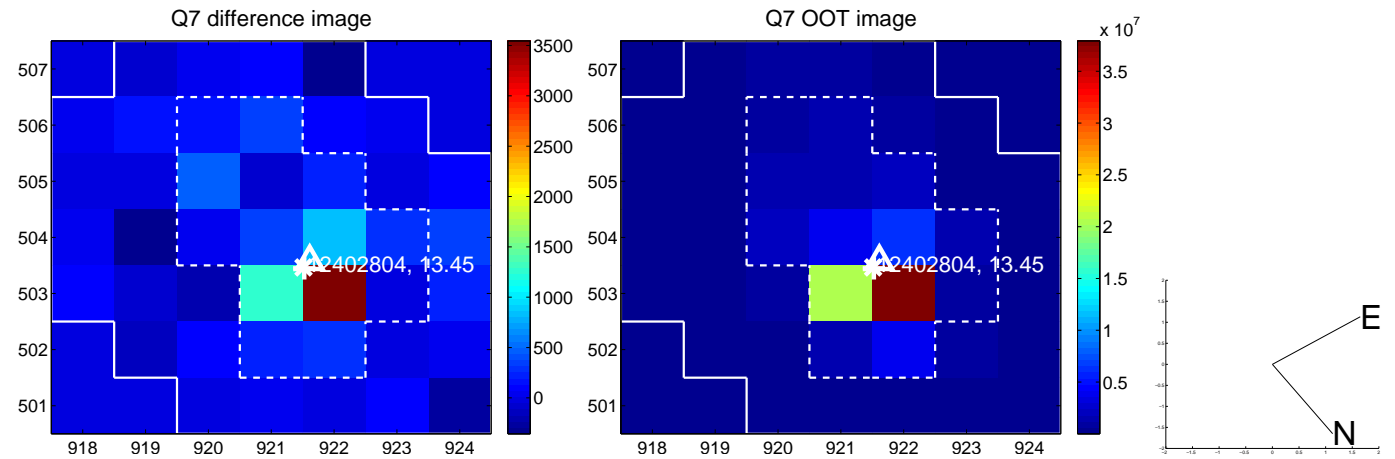
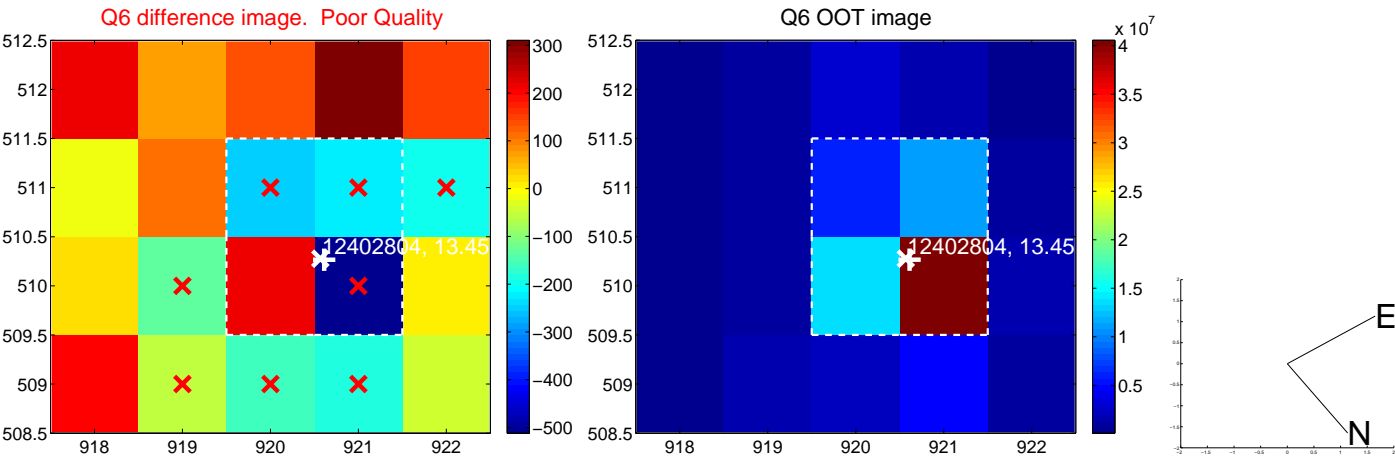
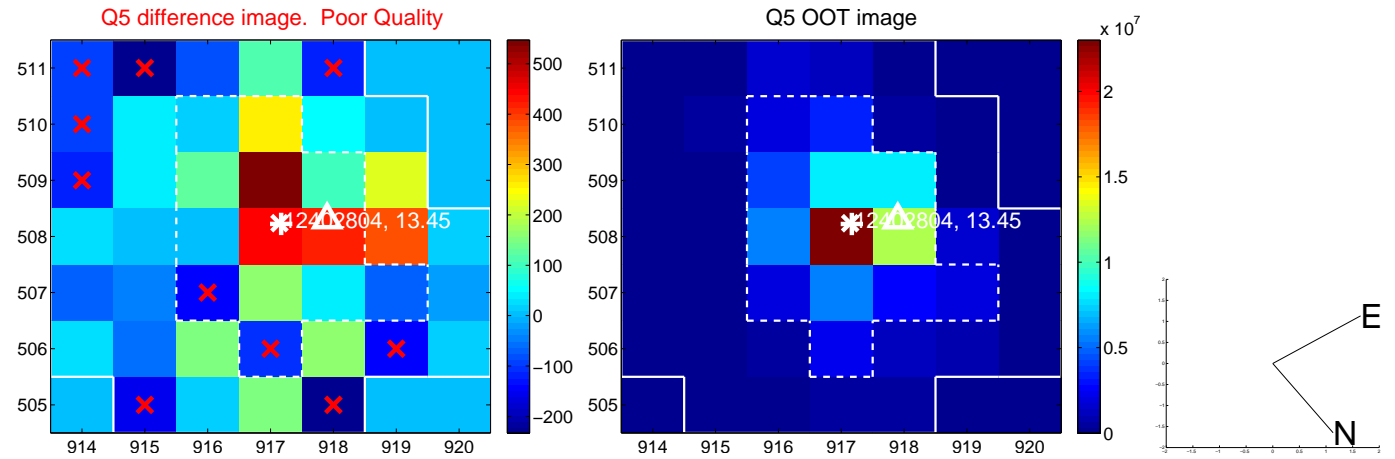


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

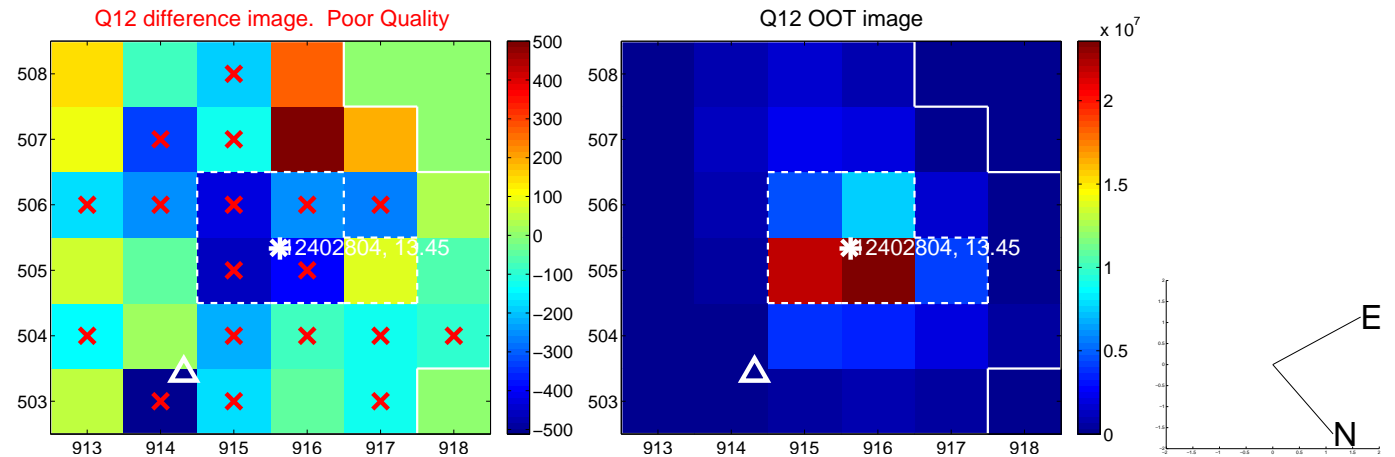
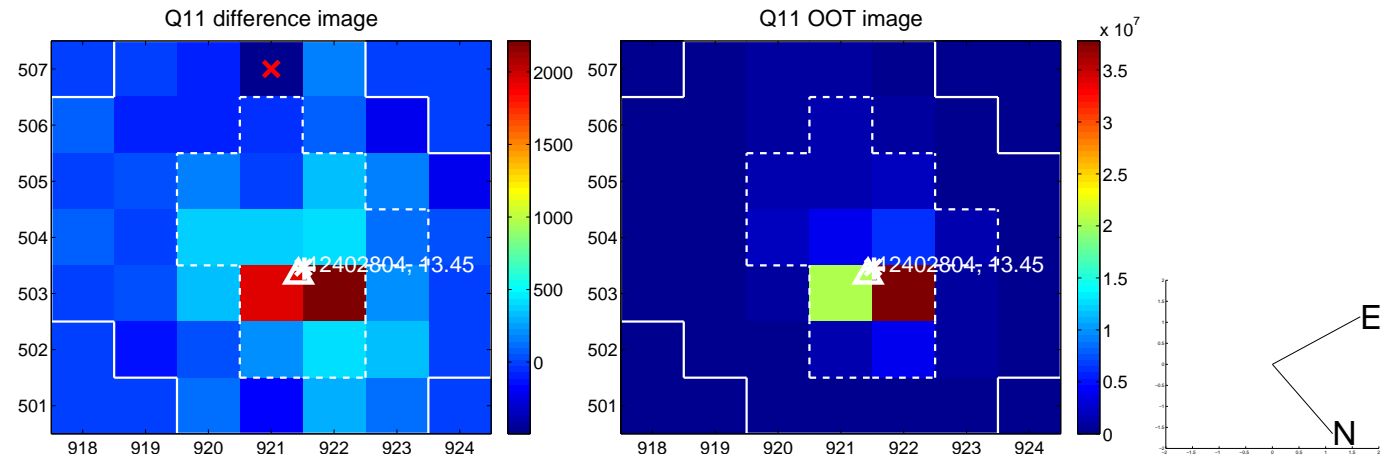
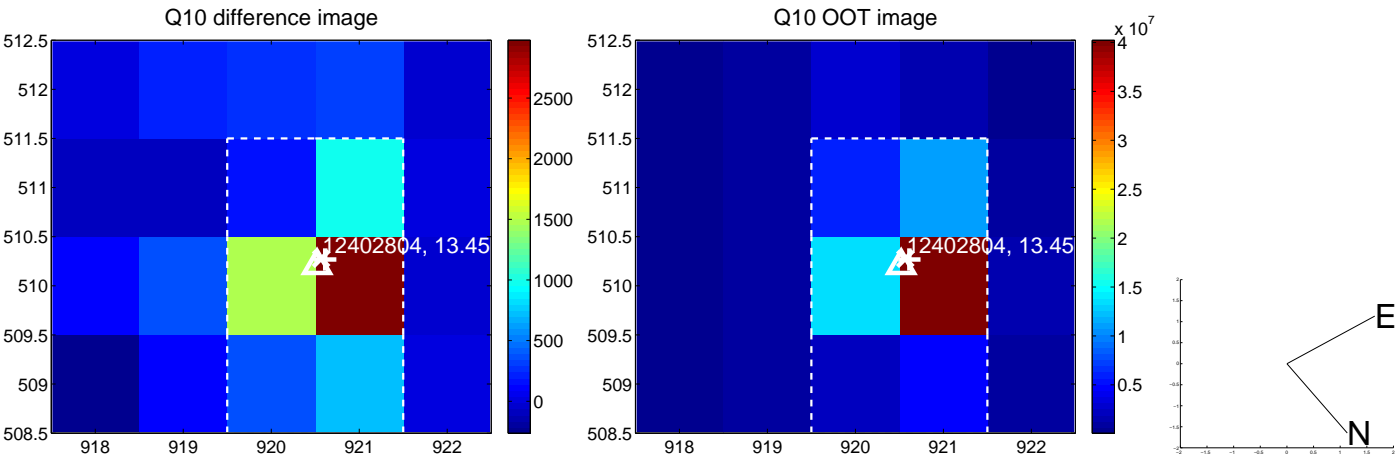
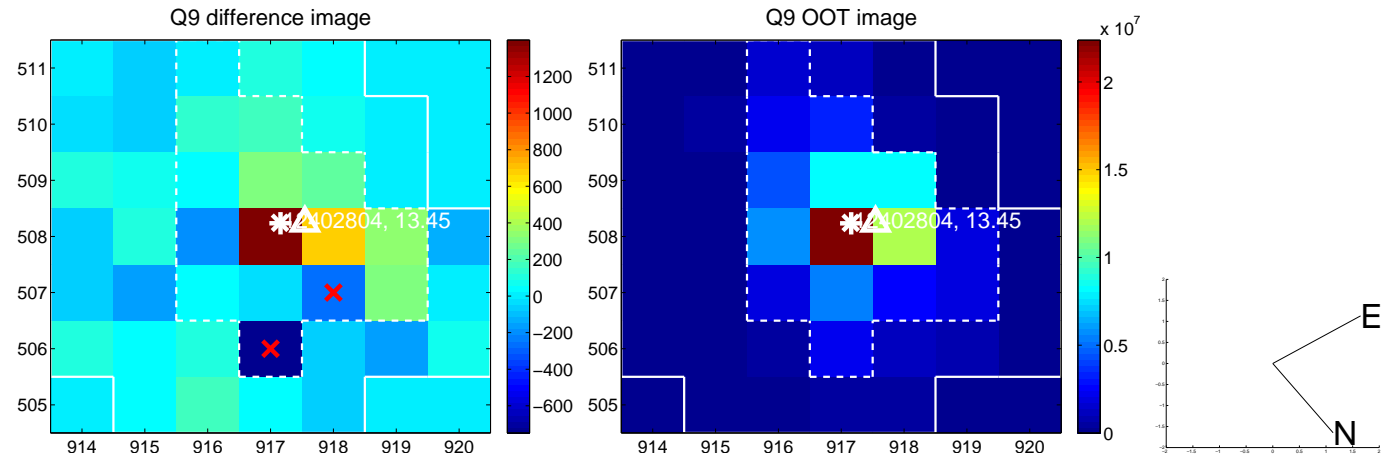
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



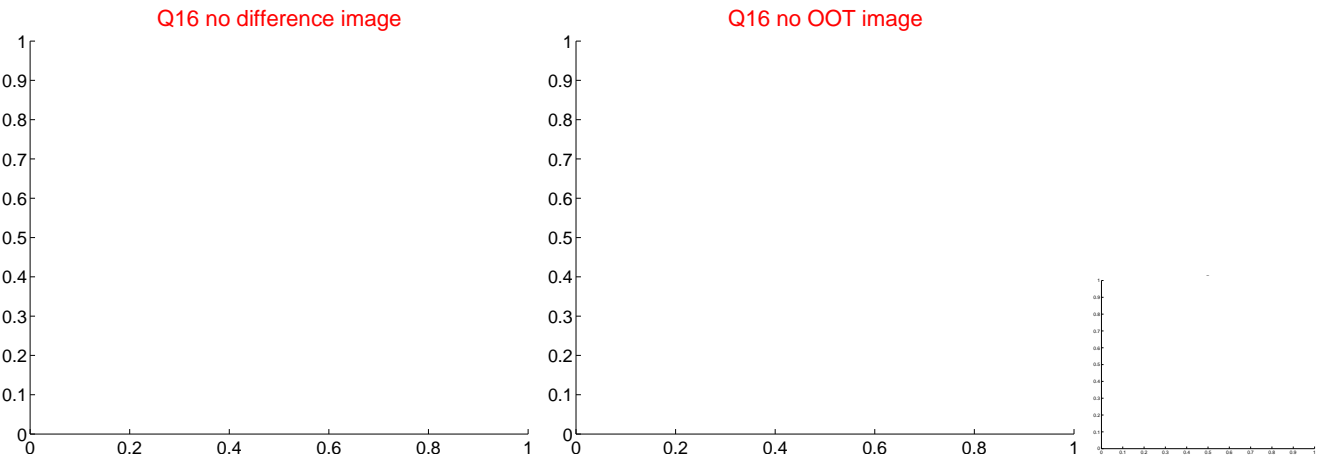
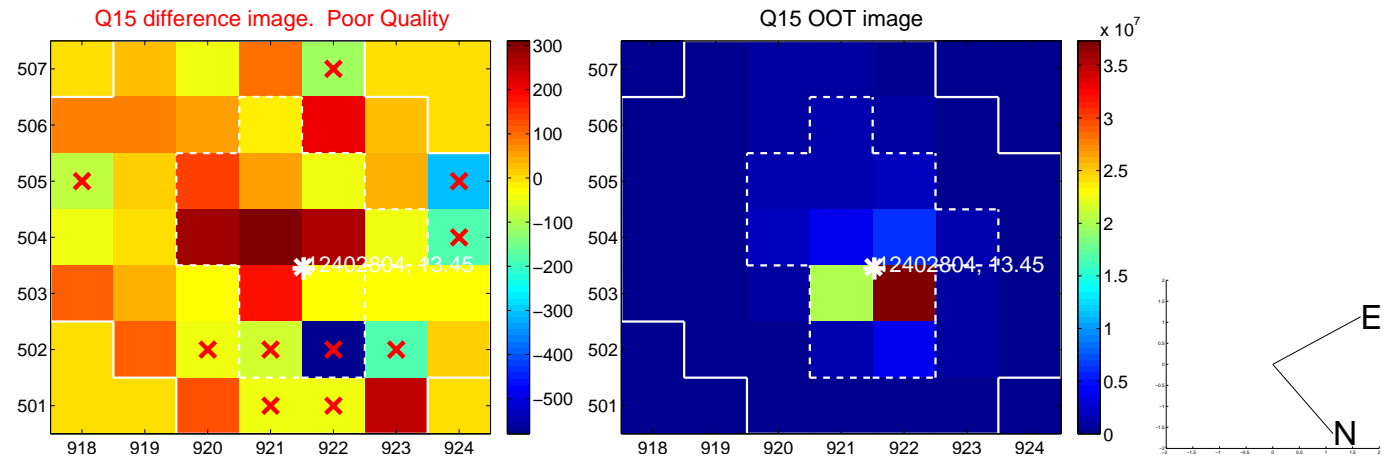
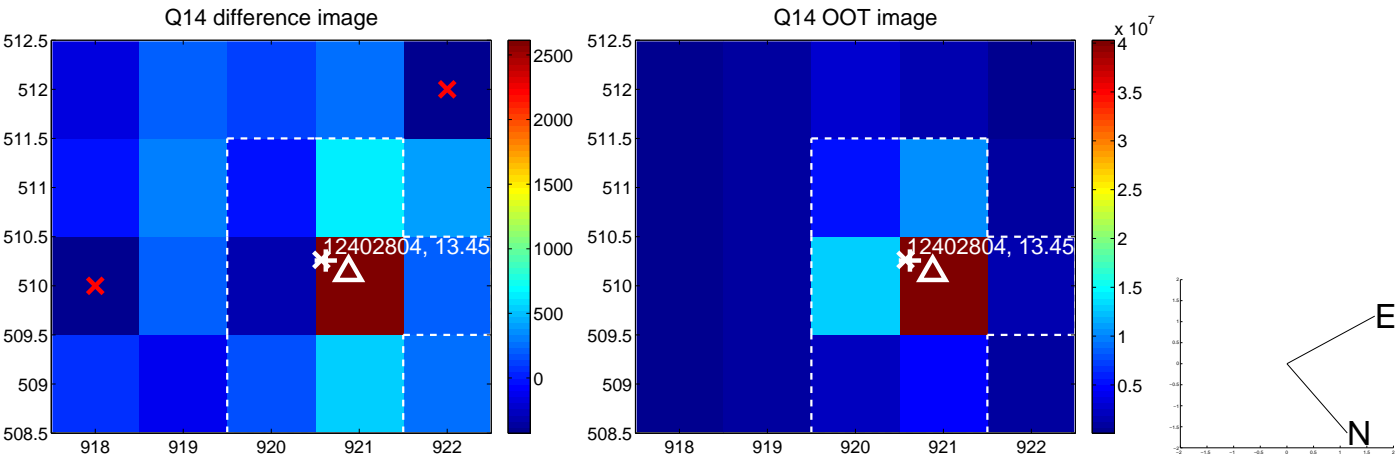
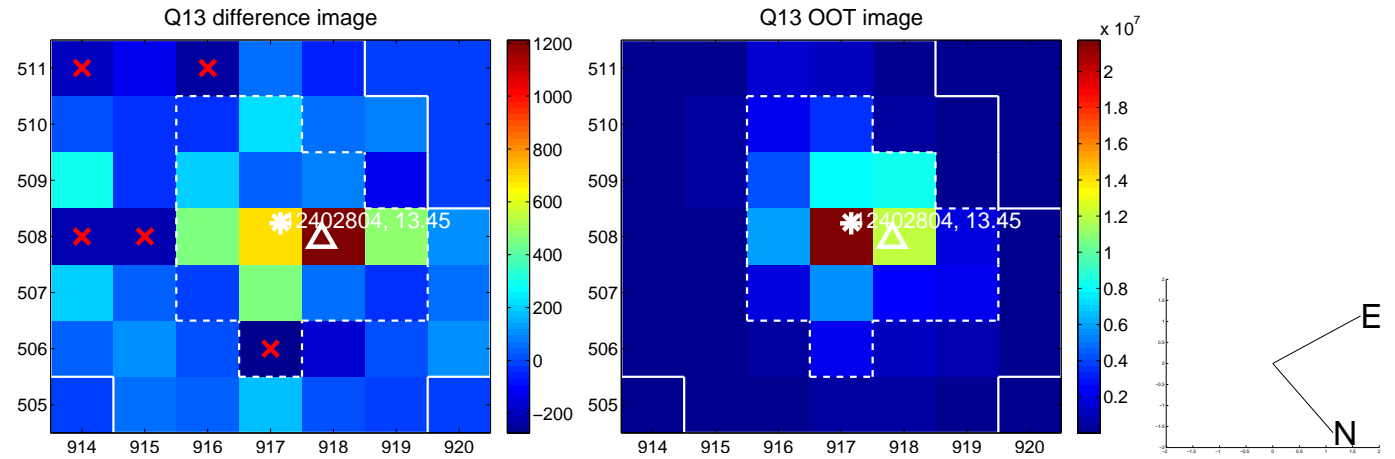
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



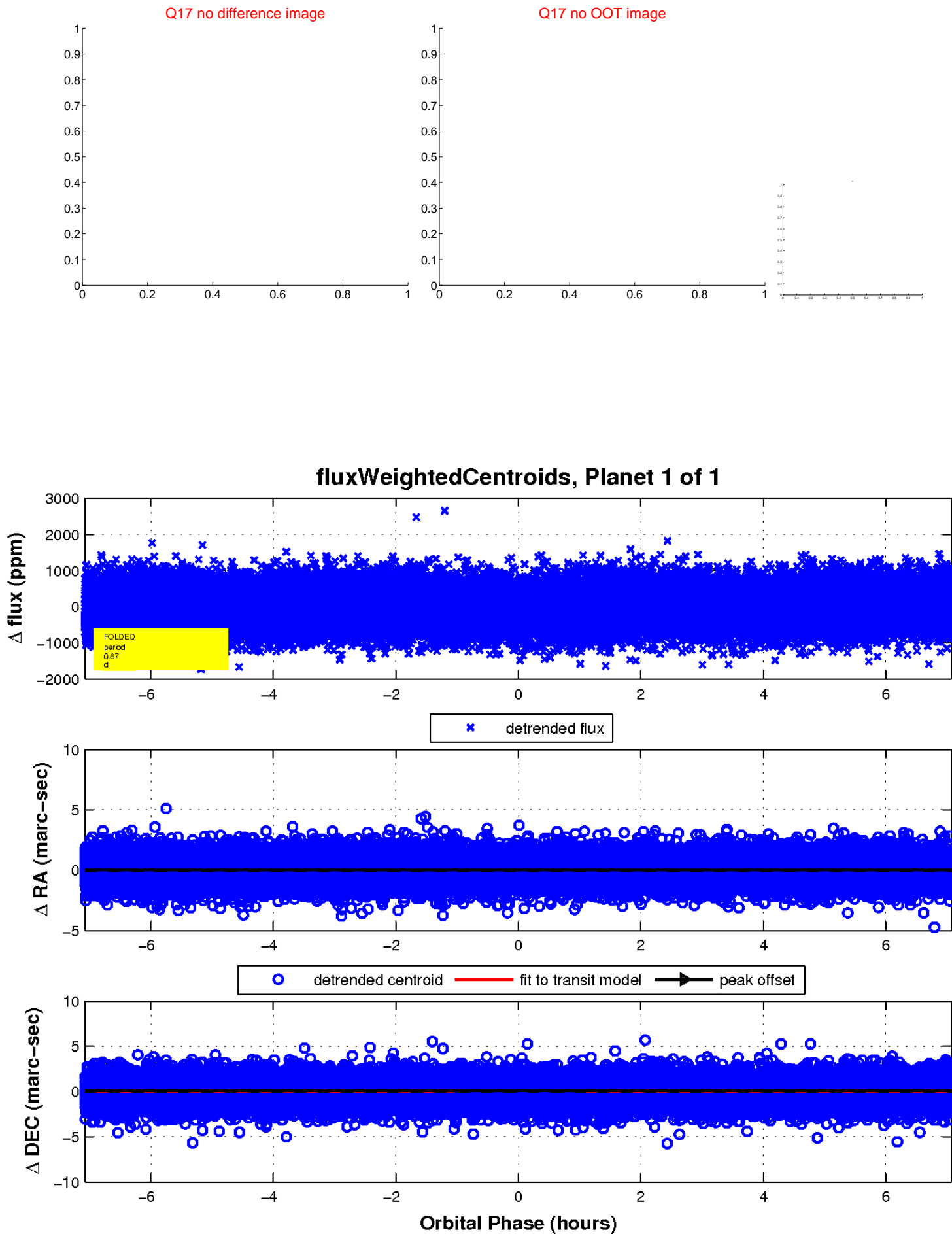
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

