

KIC 009350873

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})
009350873-01	OBS	No	1.088917	132.505586	31.0	3.663	7.8	7.6	1.07	6194	0.73	3177.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009350873-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

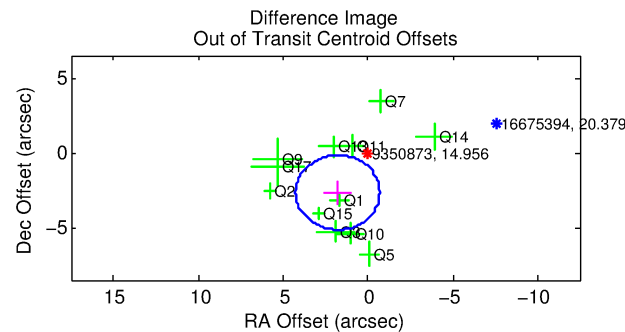
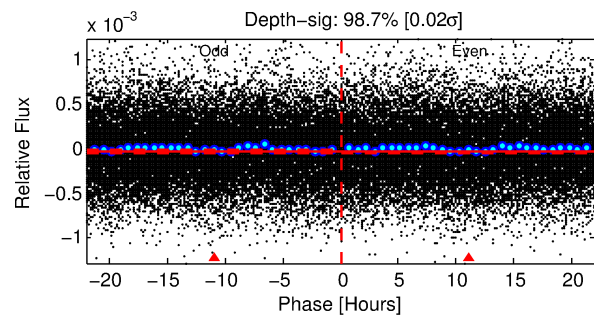
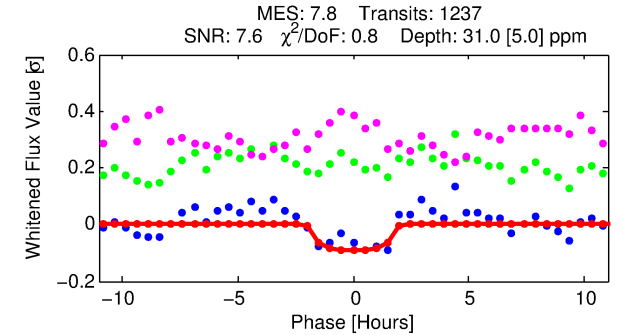
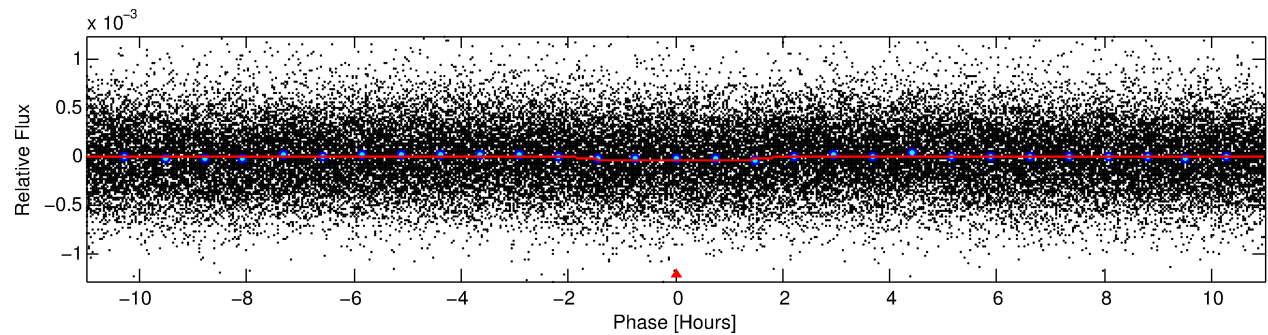
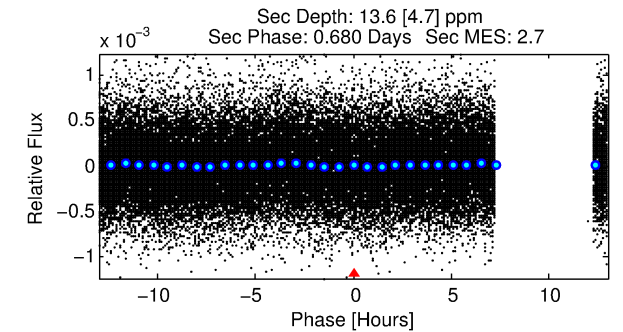
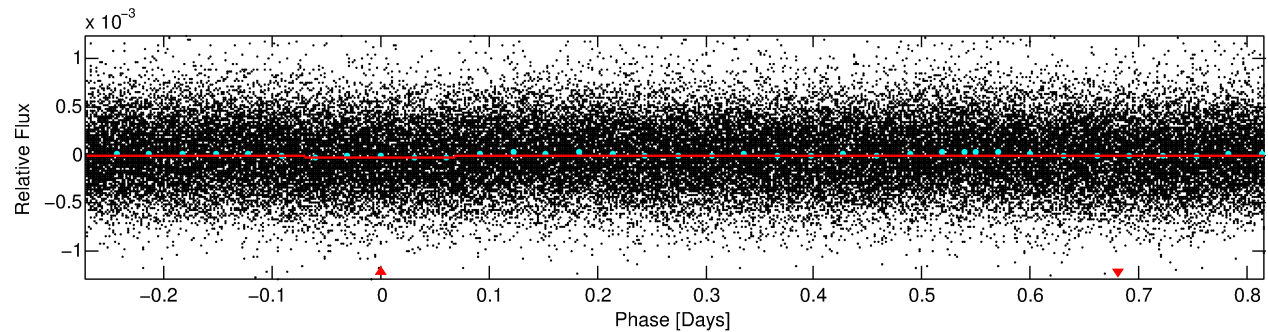
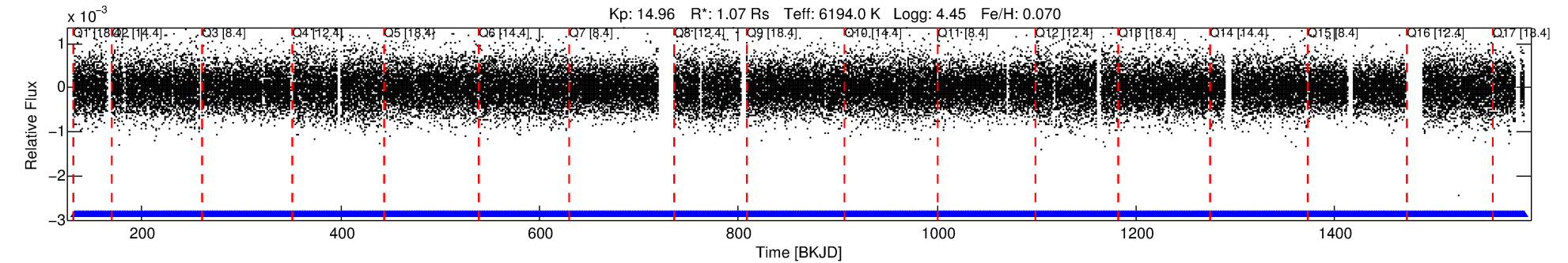
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009350873-01

No Significant Match Found

DV One-Page Summary

KIC: 9350873 Candidate: 1 of 1 Period: 1.089 d



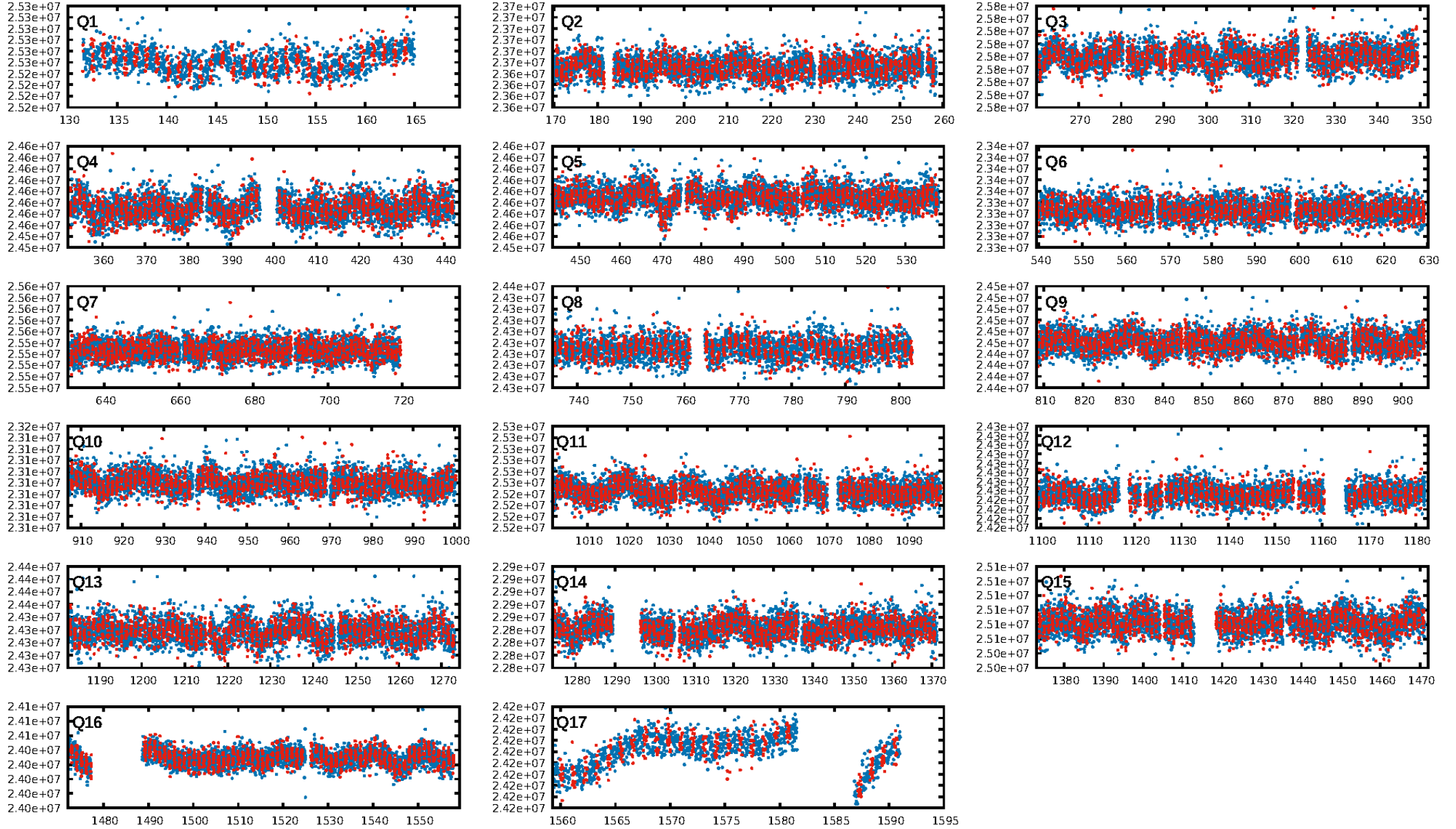
DV Fit Results:

Period = 1.08892 [0.00002] d
Epoch = 132.5056 [0.0061] BKJD
Rp/R* = 0.0062 [0.0041]
a/R* = 1.28 [1.79]
b = 0.94 [0.49]
Seff = 3177.64 [1238.51]
Teff = 1914 [187] K
Rp = 0.73 [0.52] Re
a = 0.0218 [0.0054] AU
Ag = 6.67 [9.34] [0.61 σ]
Teffp = 4757 [1619] K [1.74 σ]

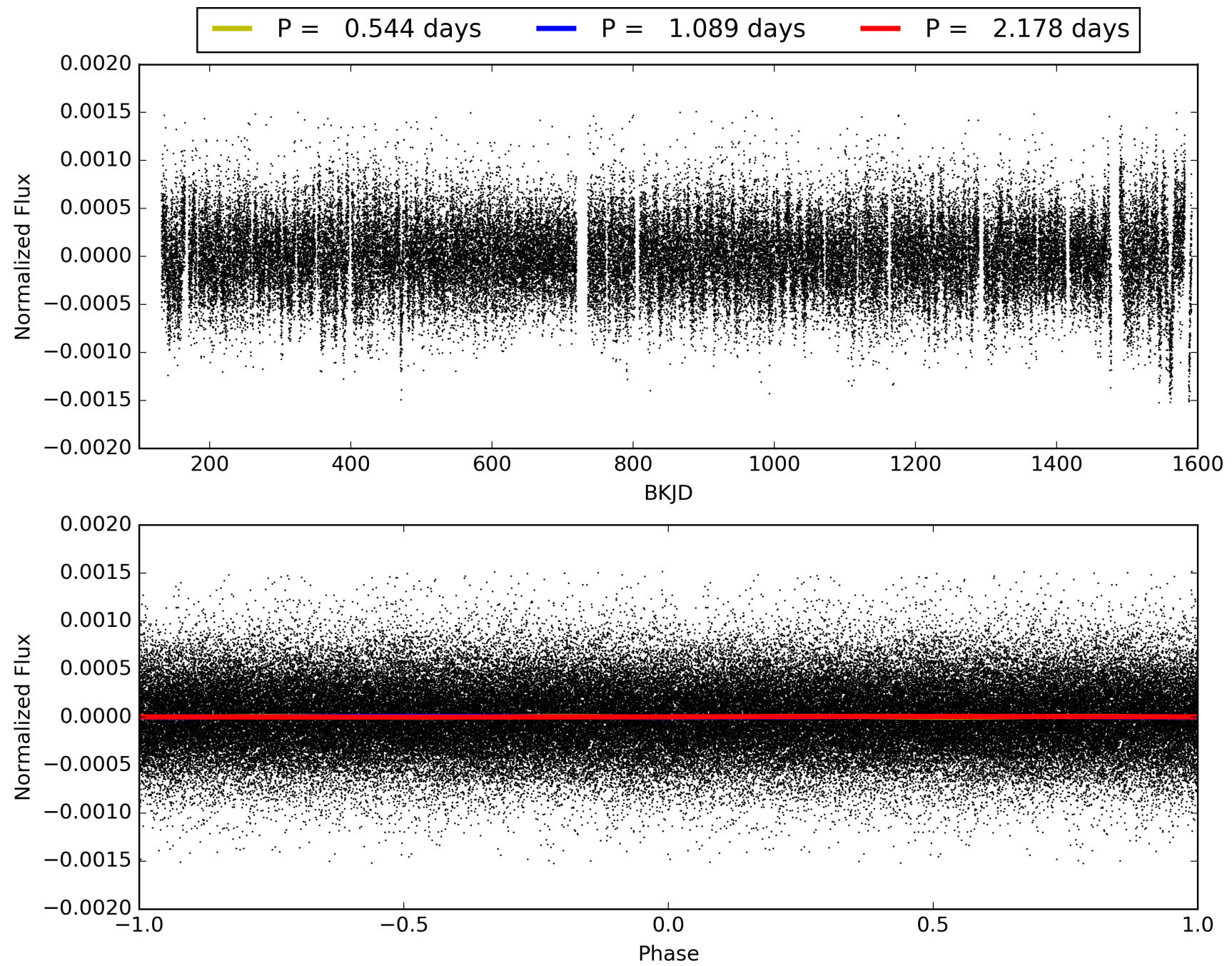
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.73e-15
RollingBand-fgt: 1.00 [1183/1183]
GhostDiagnostic-chr: 4.06
Centroid-sig: 1.7%
Centroid-so: 1.523 arcsec [0.89 σ]
OotOffset-rm: 3.202 arcsec [3.87 σ]
KicOffset-rm: 3.227 arcsec [3.89 σ]
OotOffset-st: 3/4/0/5 [12]
KicOffset-st: 3/4/0/5 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009350873-01, PDC Light Curves

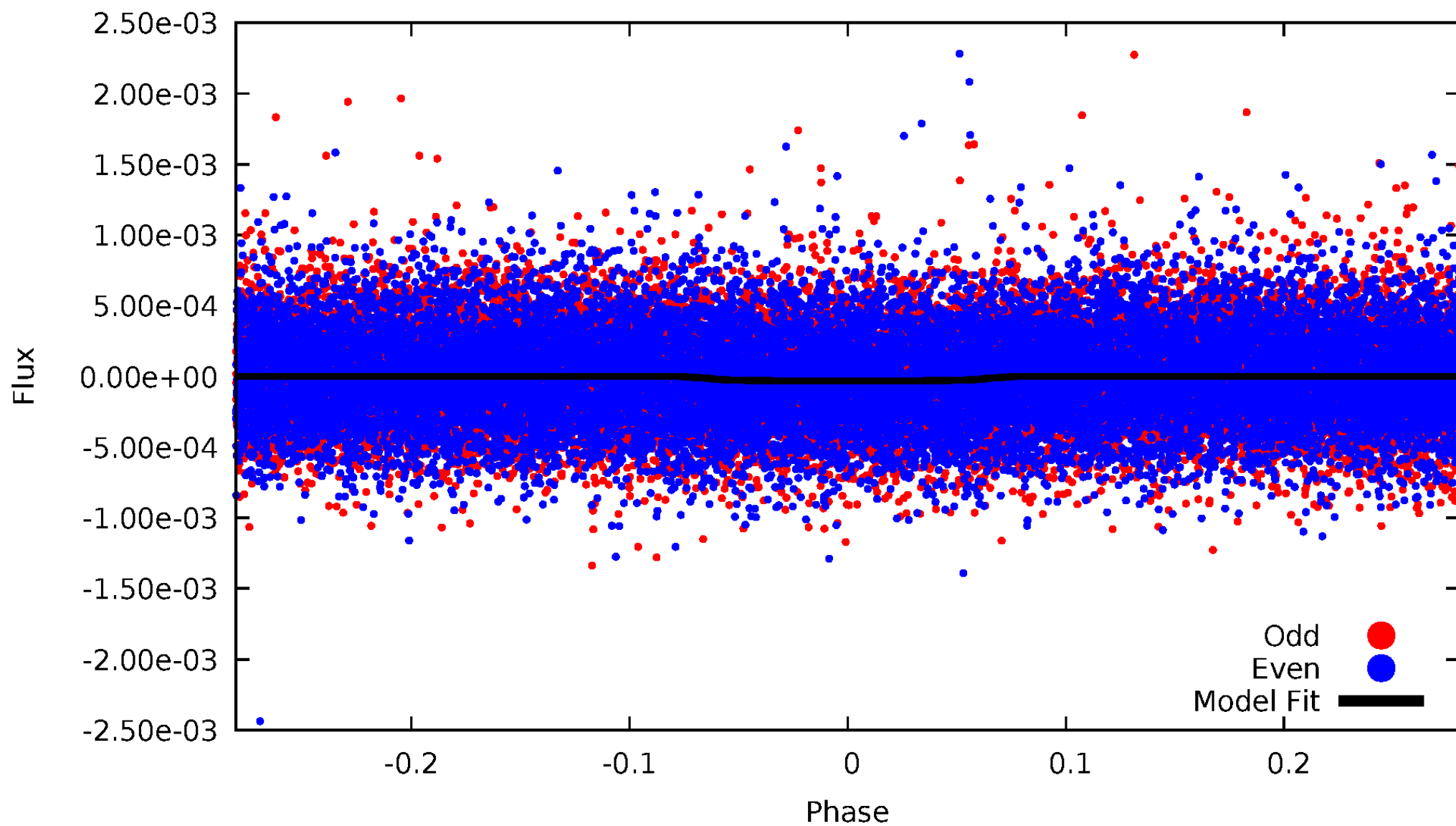


TCE 009350873-01



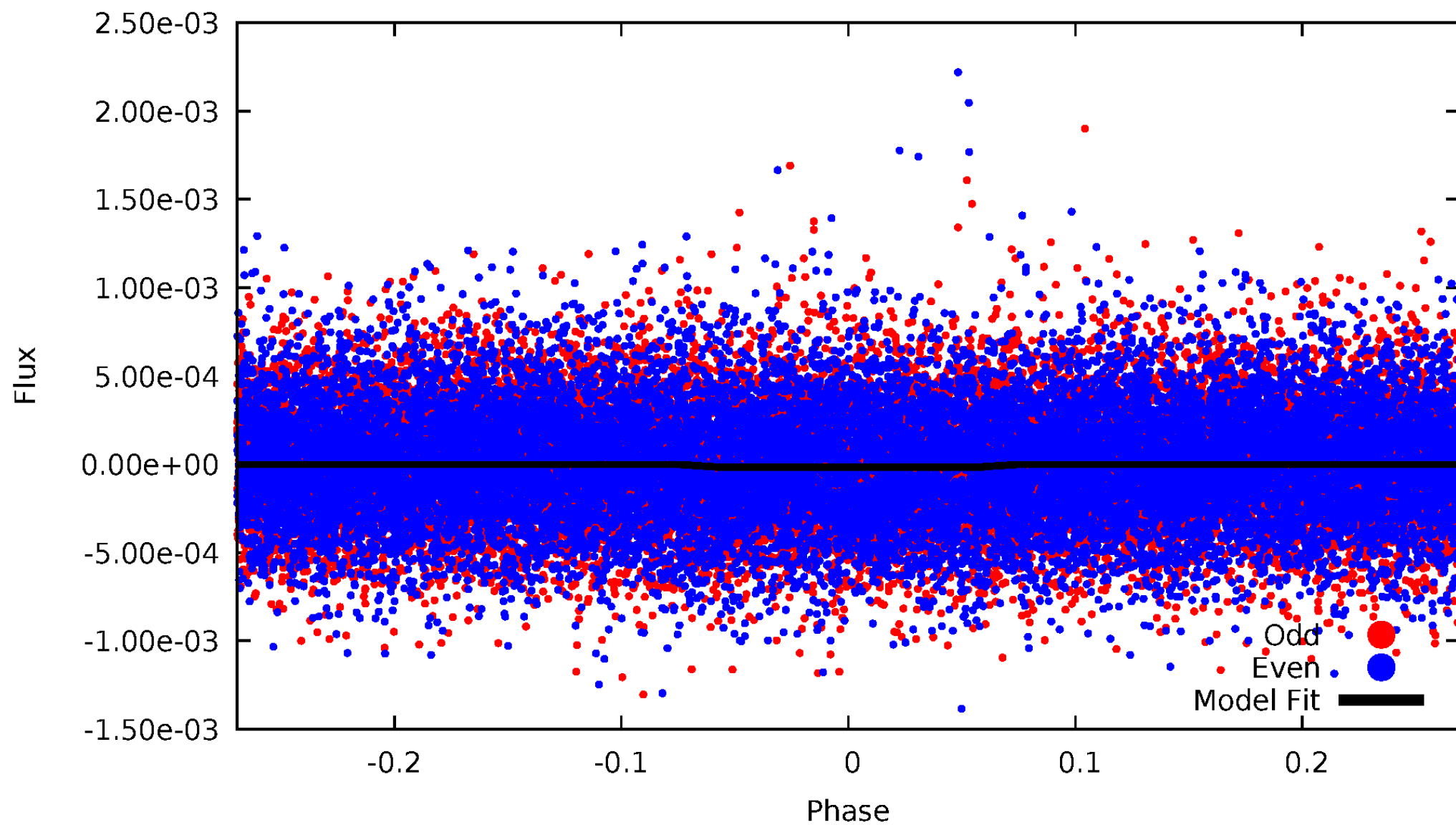
DV Odd/Even

TCE 009350873-01



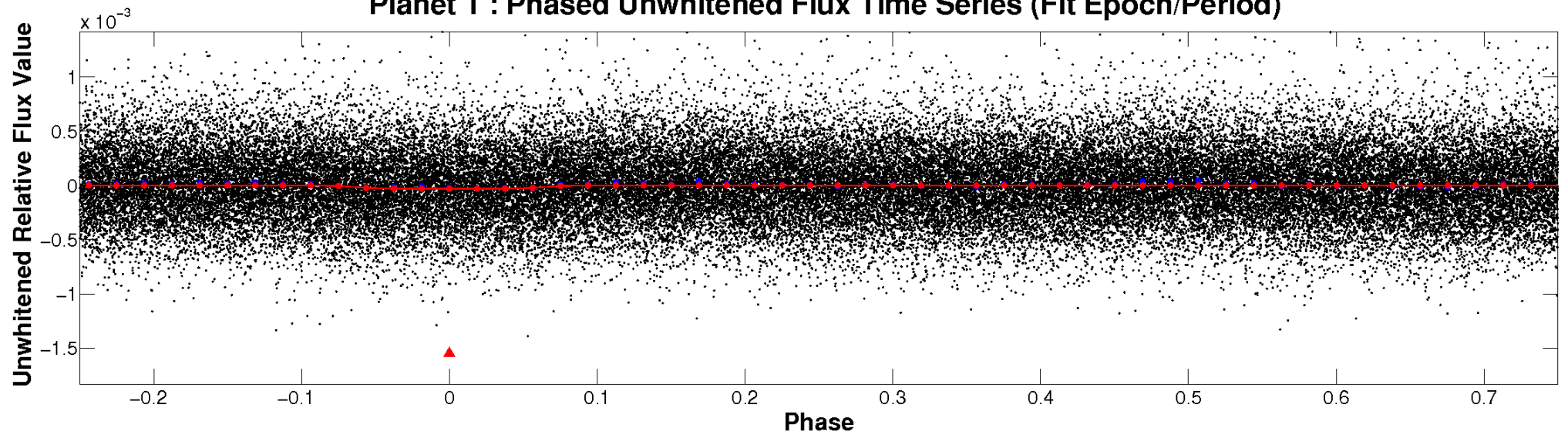
ALT Odd/Even

TCE 009350873-01

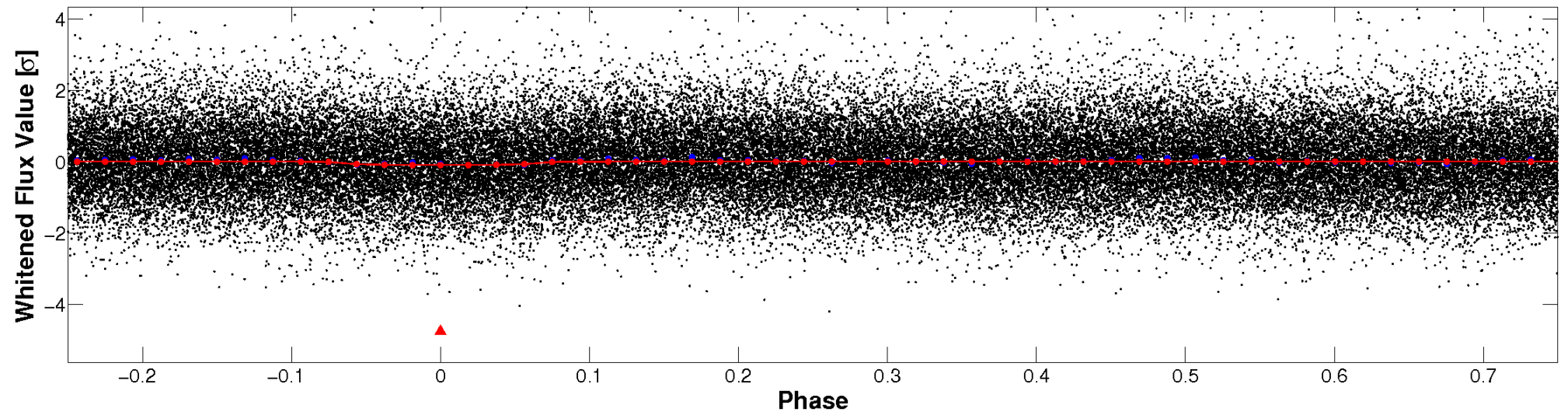


Non-Whitened Vs. Whitened Light Curve

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

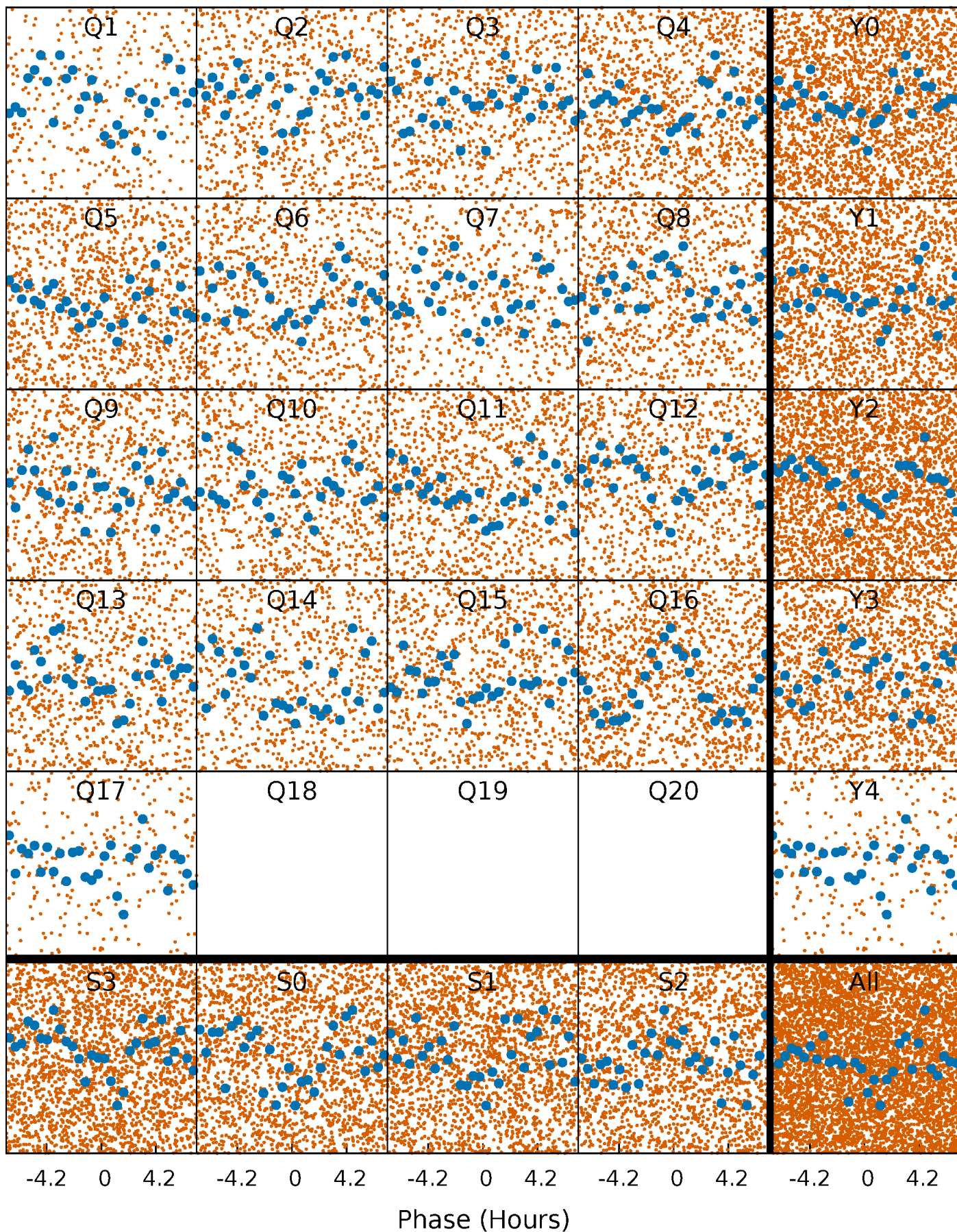


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



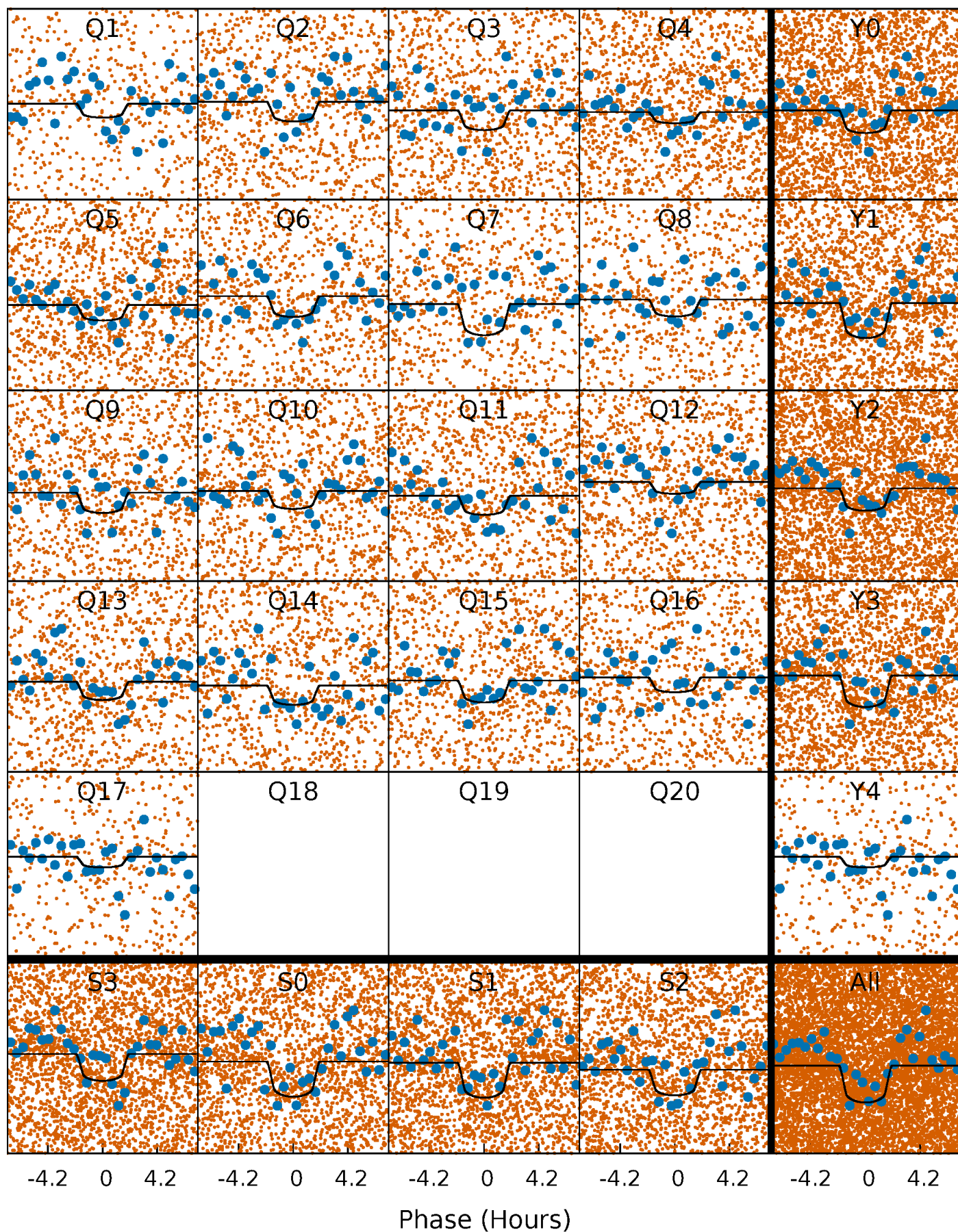
PDC Quarter-Phased Transit Curves

TCE 009350873-01 P= 1.088917 Days $T_0=132.505585$ (BKJD)



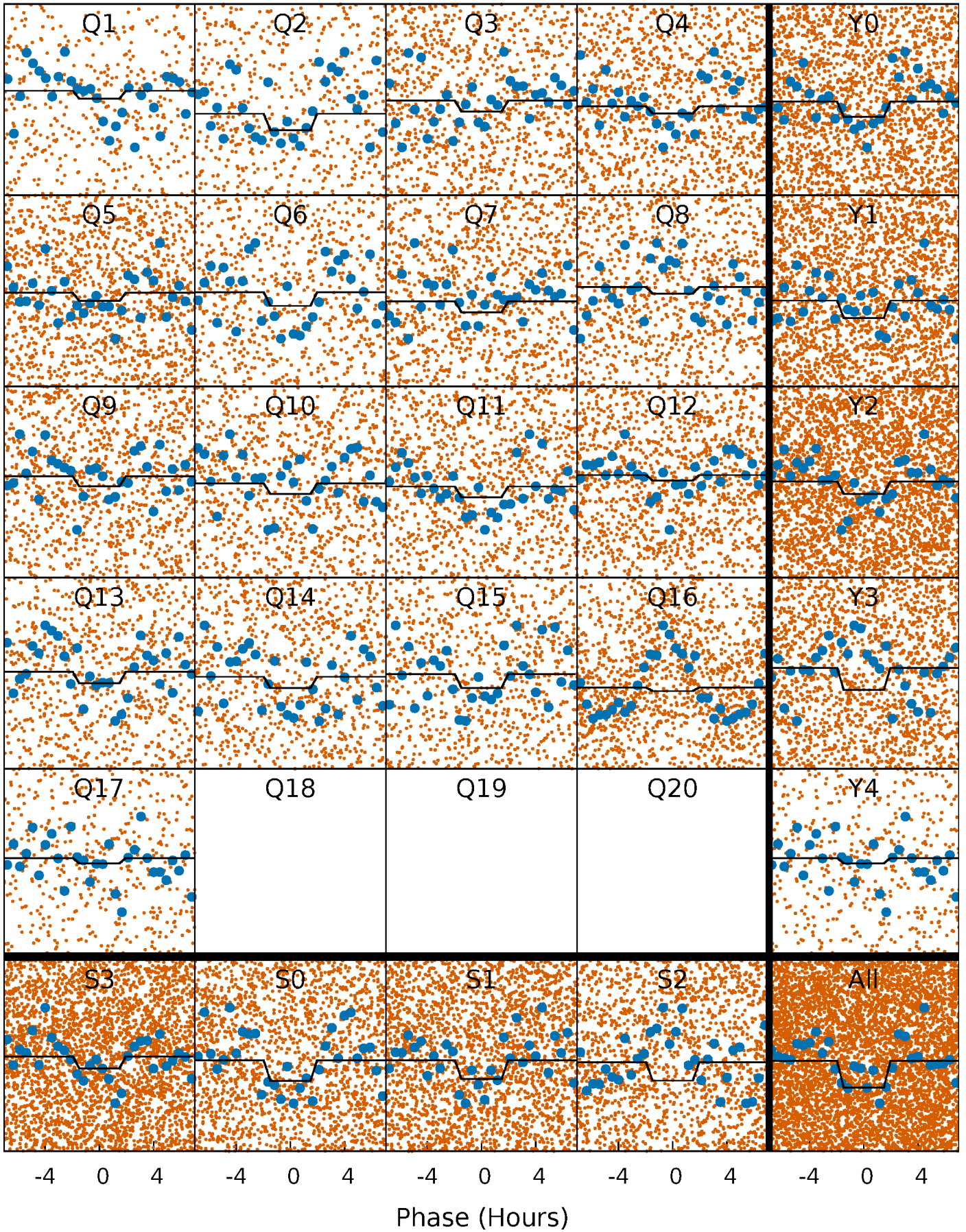
DV Quarter-Phased Transit Curves

TCE 009350873-01 P= 1.088917 Days $T_0=132.505585$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

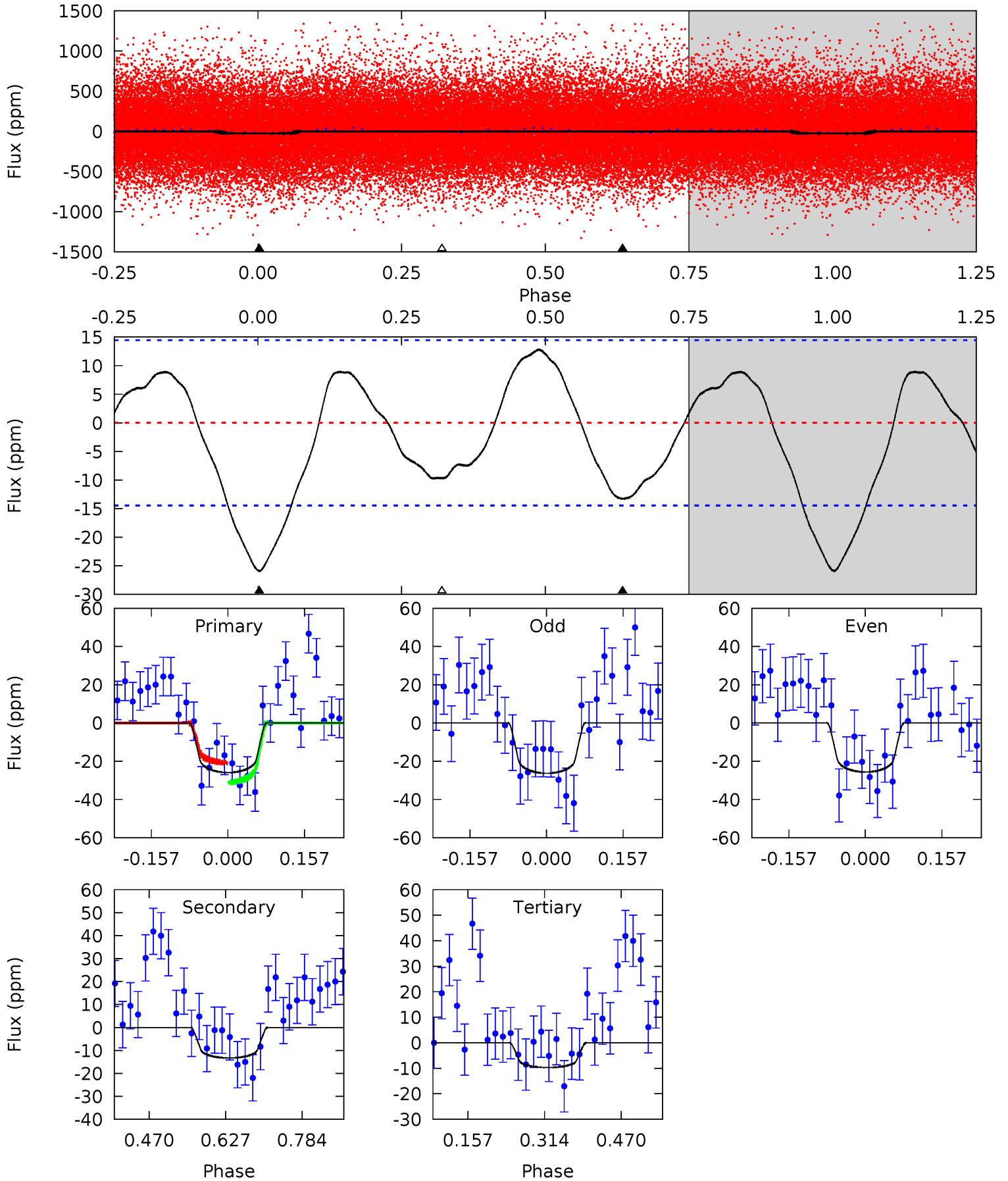
TCE 009350873-01 P= 1.088918 Days $T_0=132.508305$ (BKJD)



DV Model-Shift Uniqueness Test

009350873-01, P = 1.088917 Days, E = 131.416668 Days

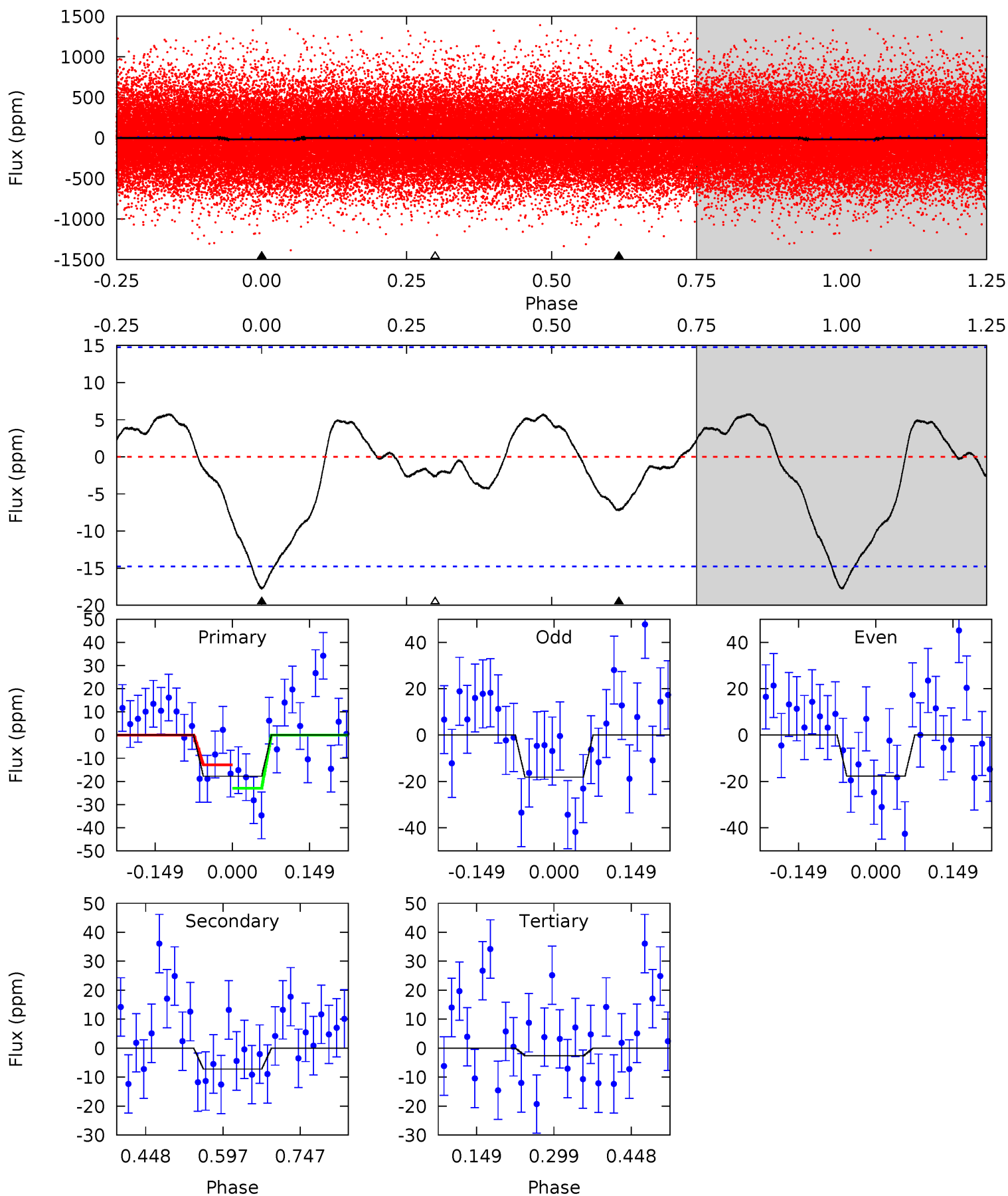
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.01	4.11	3.00	0	4.47	1.42	2.21	5.01	8.01	1.11	4.11	0.10	0.94	0.33	1.58



Alt Model-Shift Uniqueness Test

009350873-01, P = 1.088918 Days, E = 131.419387 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.38	2.19	0.80	0	4.48	1.44	0.95	4.58	5.38	1.38	2.19	0.08	0.87	0.24	1.53



Stellar Parameters For KIC 009350873

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6194^{+150}_{-236}	$4.445^{+0.052}_{-0.195}$	$0.070^{+0.200}_{-0.350}$	$1.069^{+0.317}_{-0.136}$	$1.161^{+0.138}_{-0.169}$	$1.340^{+0.371}_{-0.700}$
	+2%/-4%	+1%/-4%	+286%/-500%	+30%/-13%	+12%/-15%	+28%/-52%
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 009350873-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 3	$0.81^{+0.48}_{-0.42}$	2718^{+193}_{-129}	4663^{+1824}_{-853}	$5.048^{+15.483}_{-3.137}$
Alt.	-7 ± 3	$0.59^{+0.46}_{-0.36}$	2733^{+171}_{-138}	4494^{+2784}_{-1012}	$4.542^{+27.669}_{-3.310}$

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 $A_{obs} \gg 1.0$

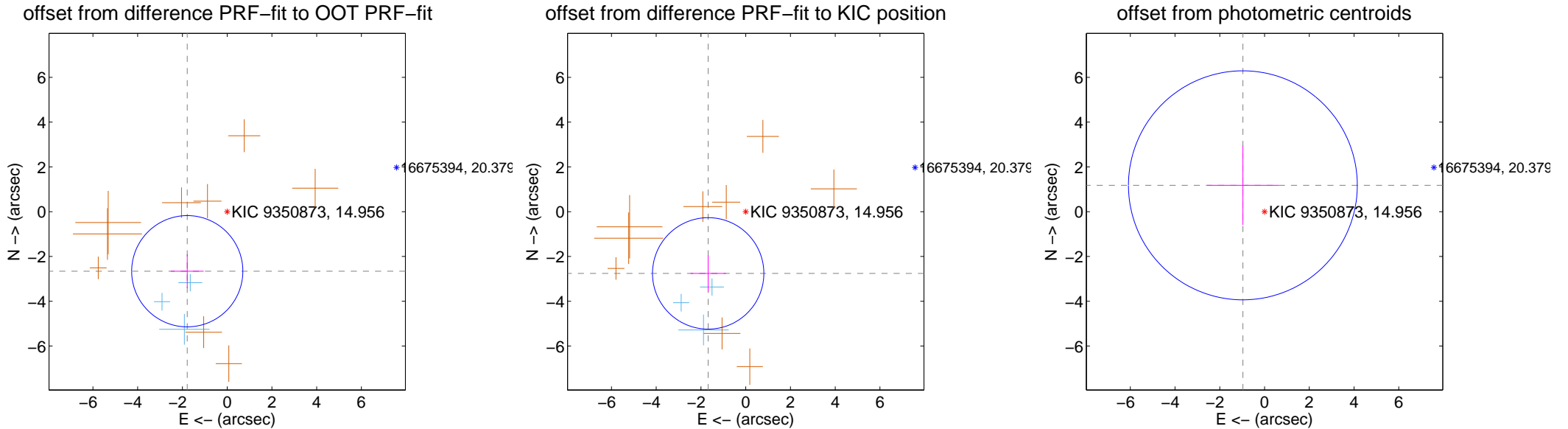
DV Centroid Data

Supplemental centroid analysis for 009350873-01. Kepler magnitude: 14.96. Transit SNR 7.64

There are 3 quarters with good PRF difference image offsets

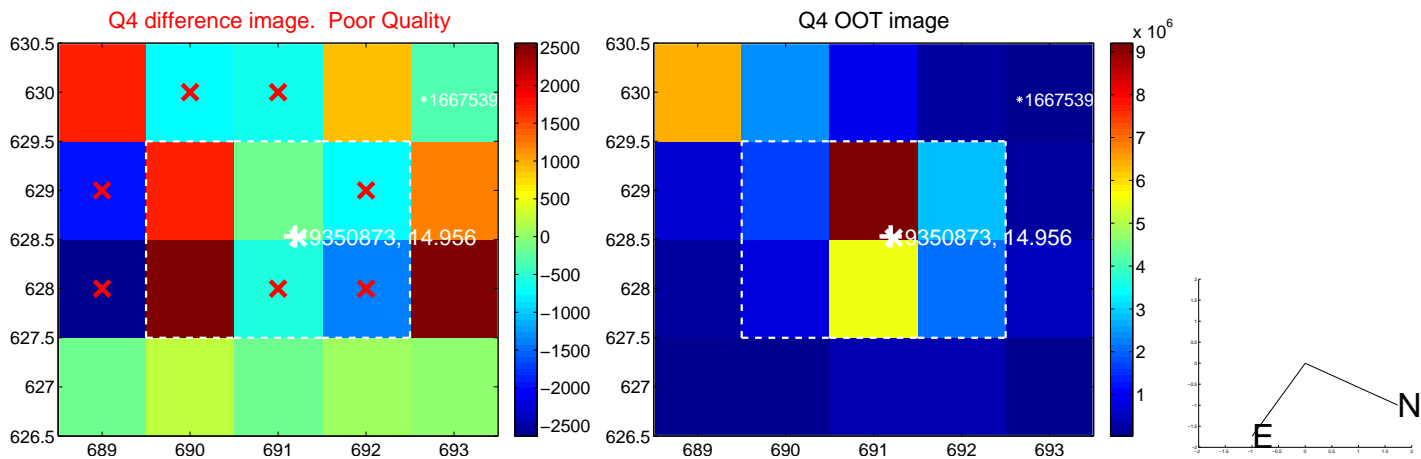
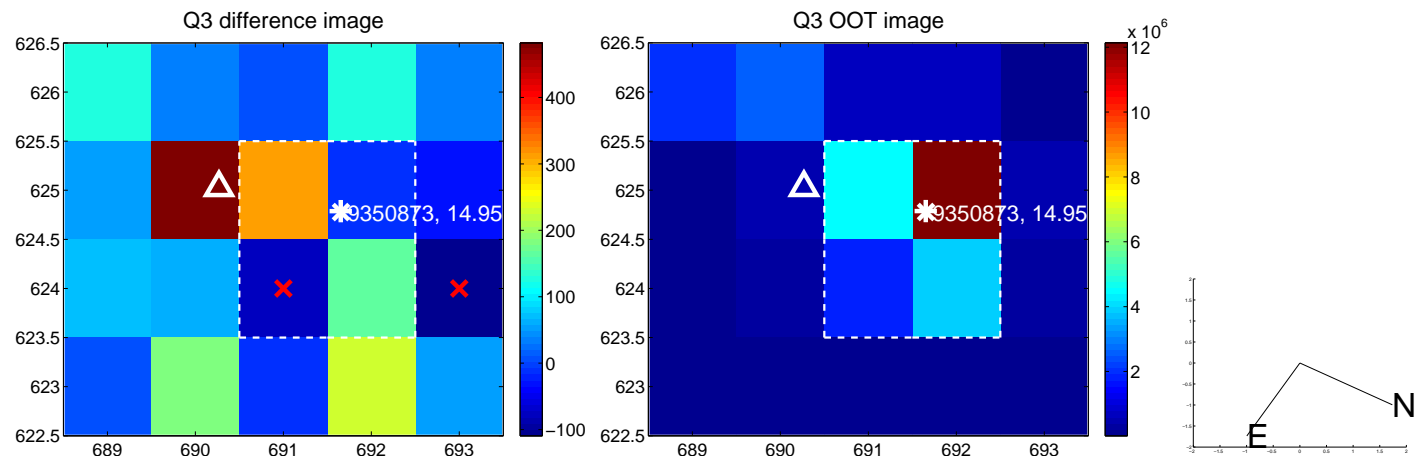
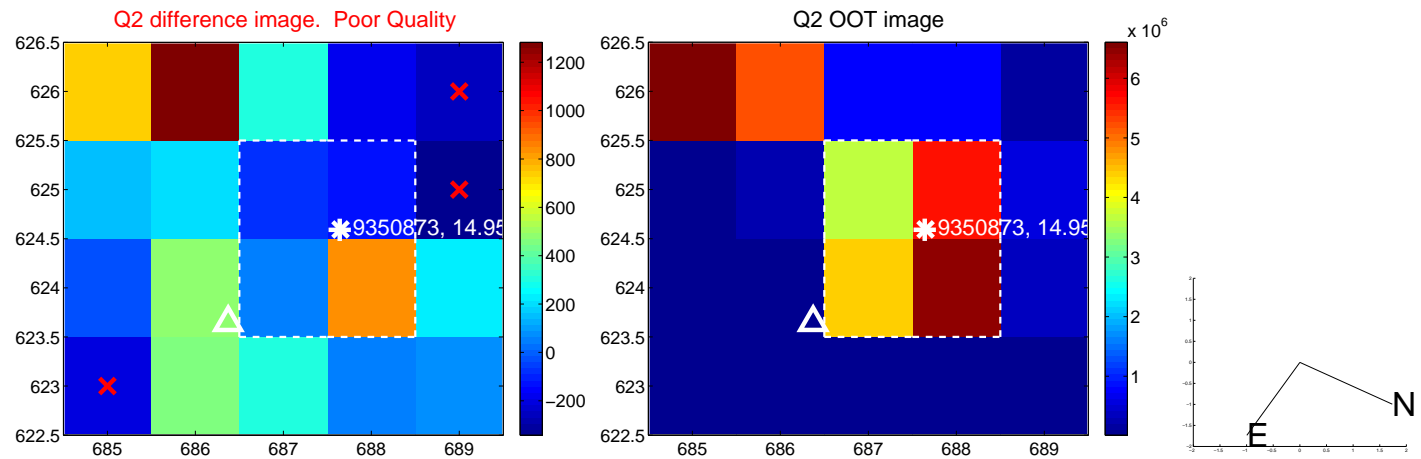
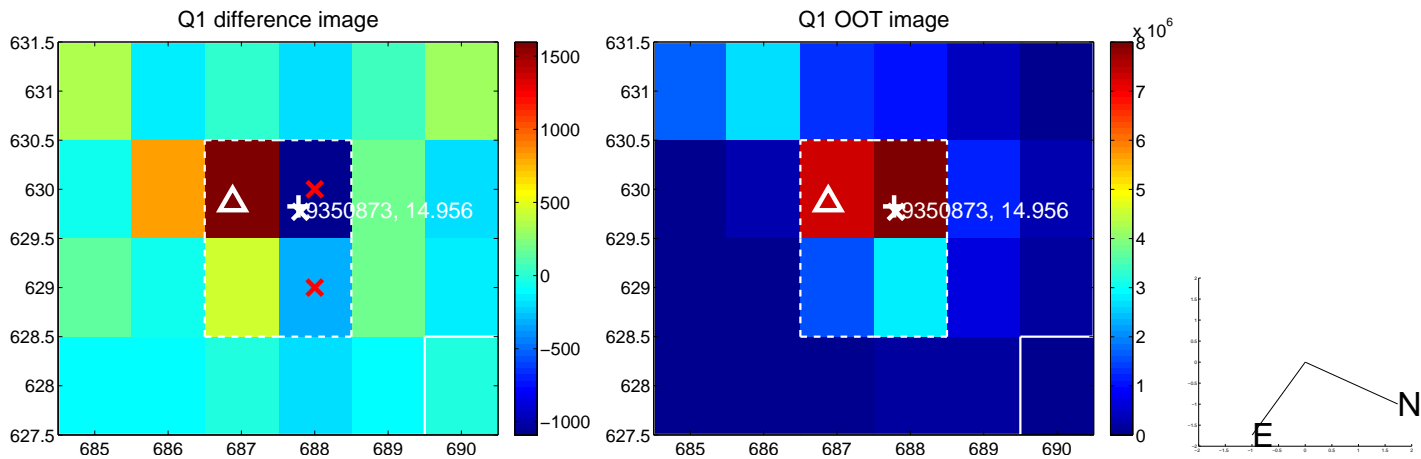
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.202 ± 0.828	3.87	1.784 ± 0.734	-2.660 ± 0.754
PRF-fit source offset from KIC position	3.227 ± 0.829	3.89	1.678 ± 0.794	-2.757 ± 0.814
photometric centroid source offset	1.52 ± 1.70	0.89	0.97 ± 1.61	1.18 ± 1.77

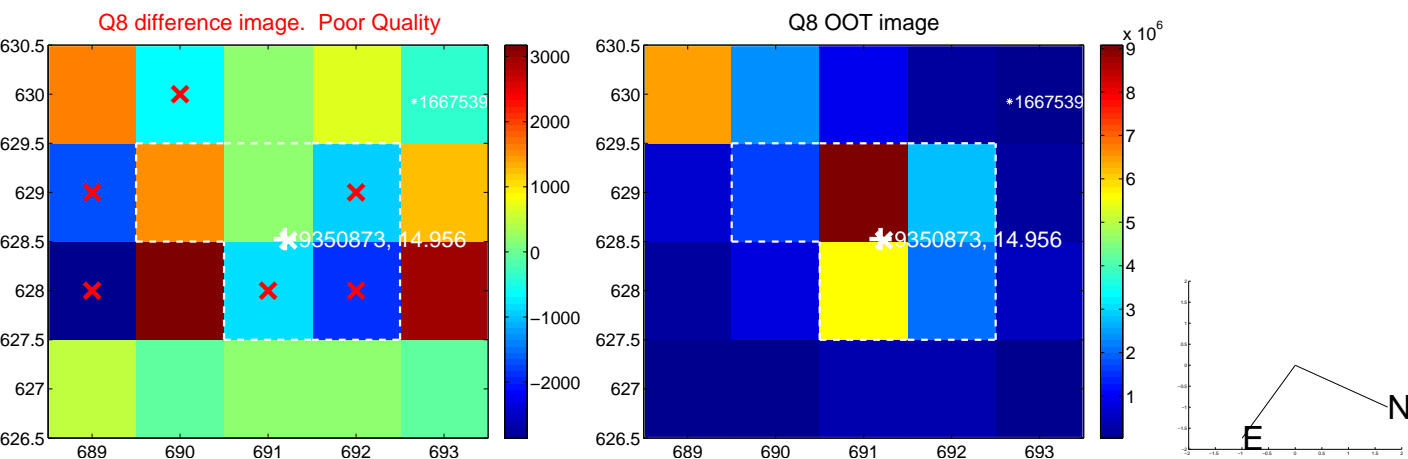
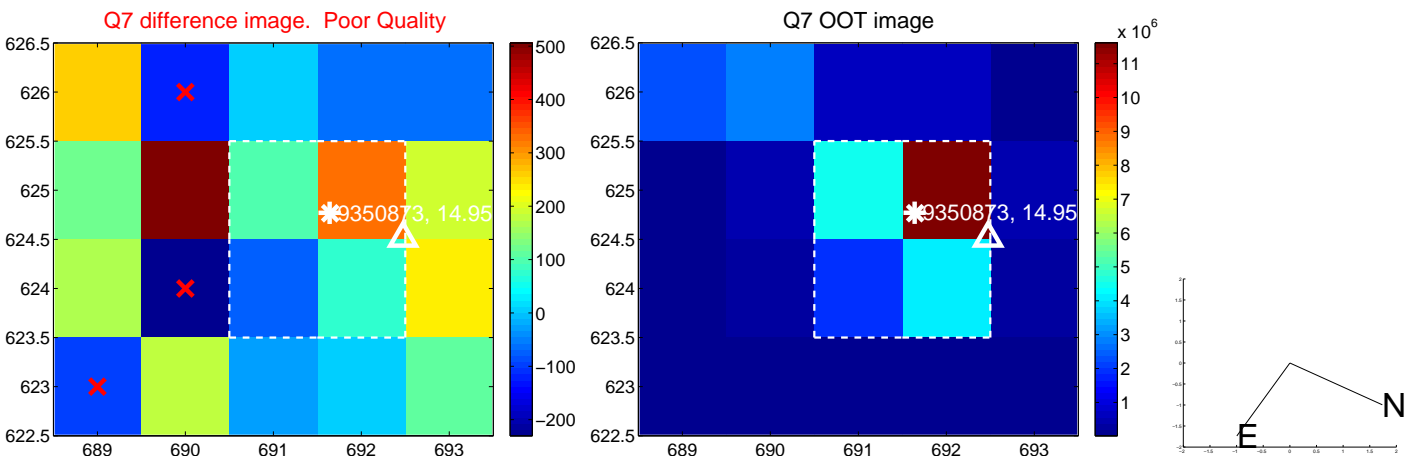
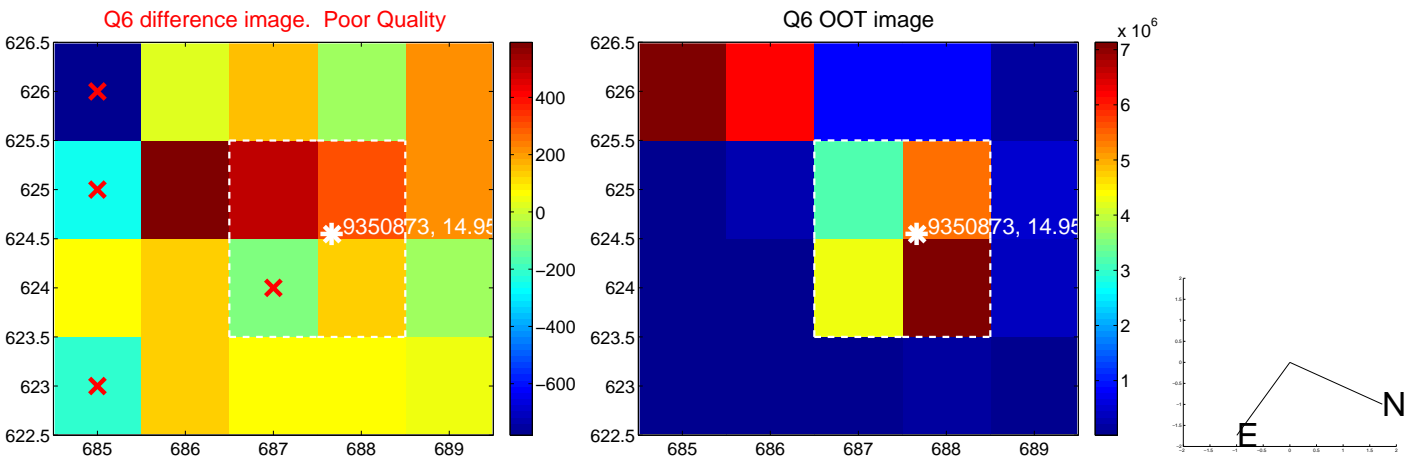
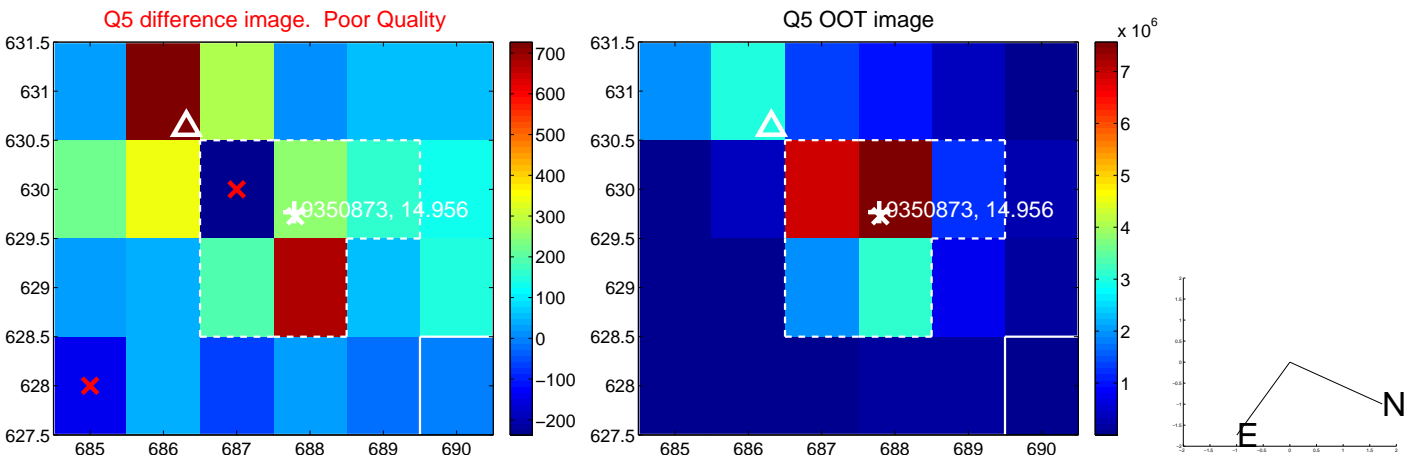


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

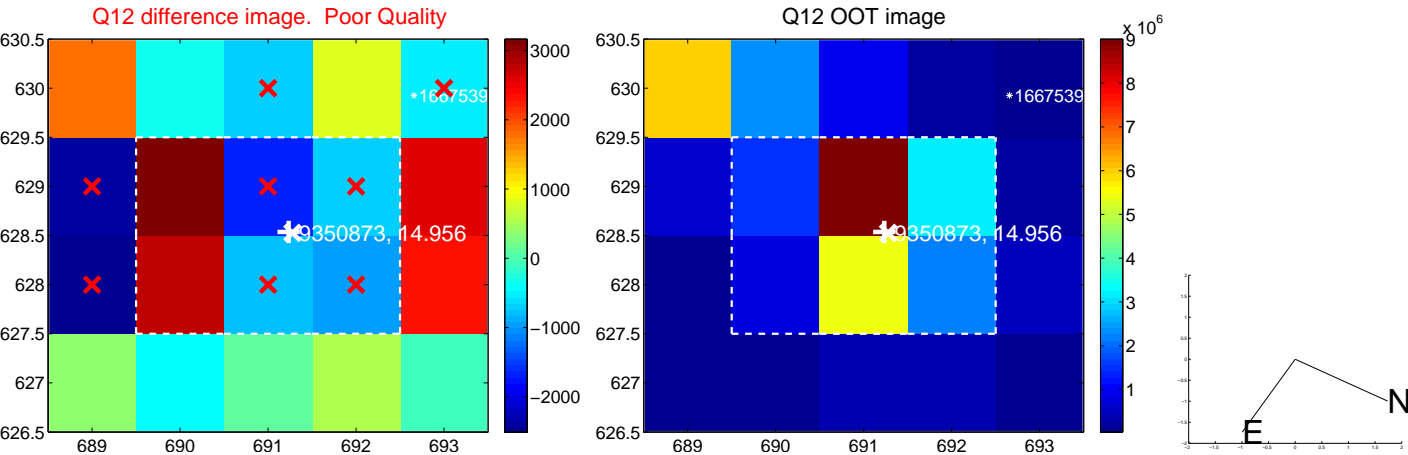
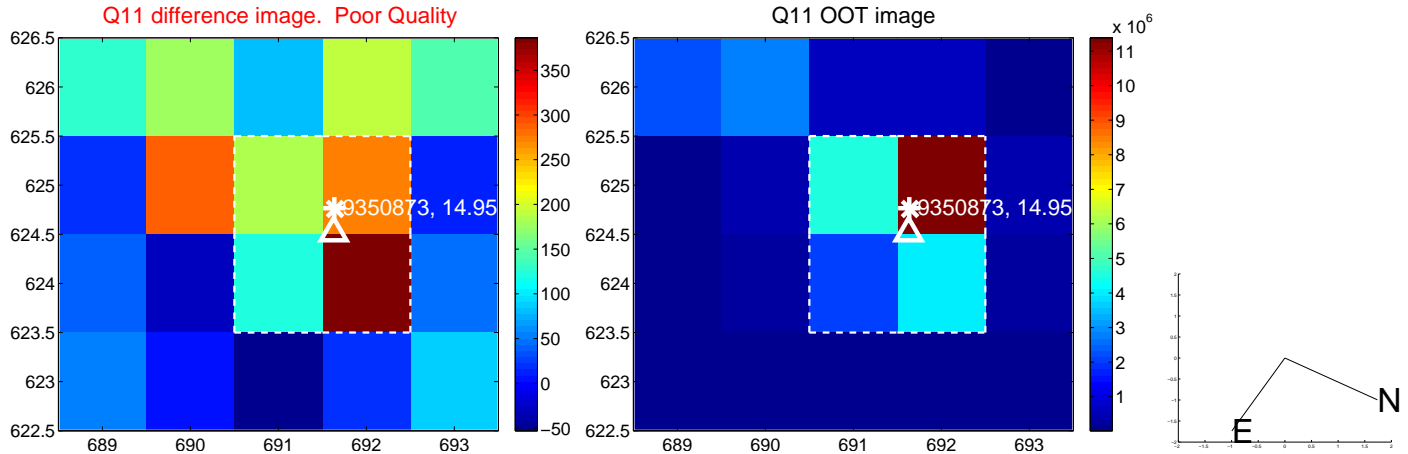
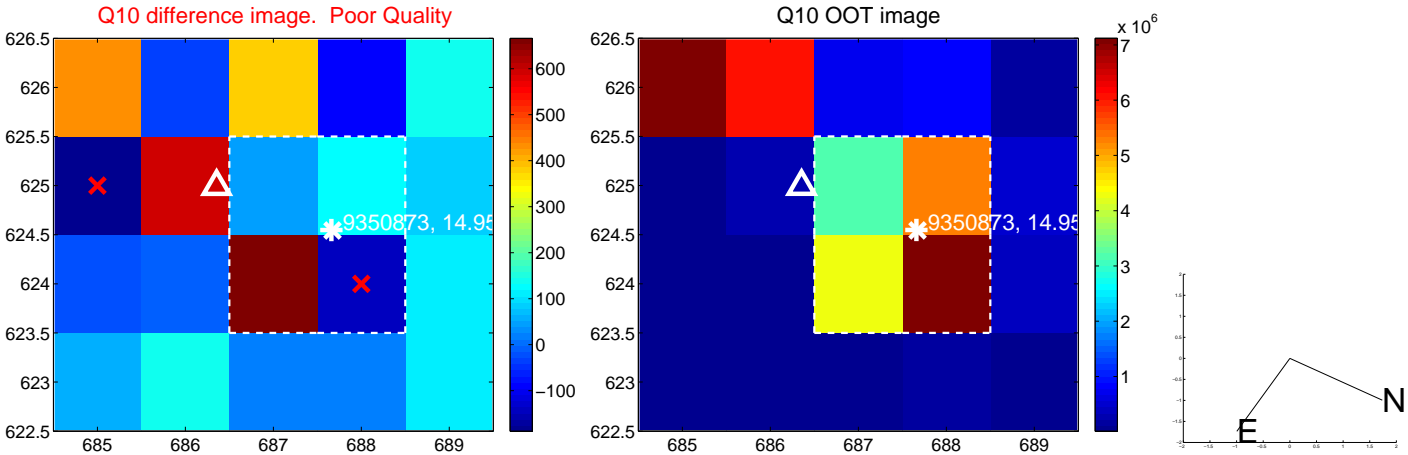
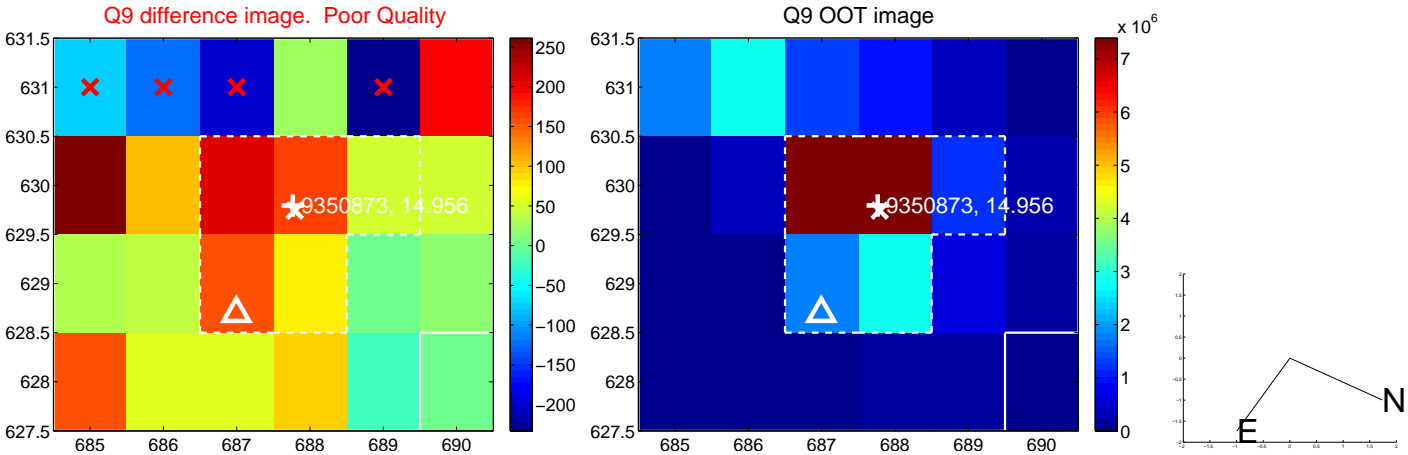
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



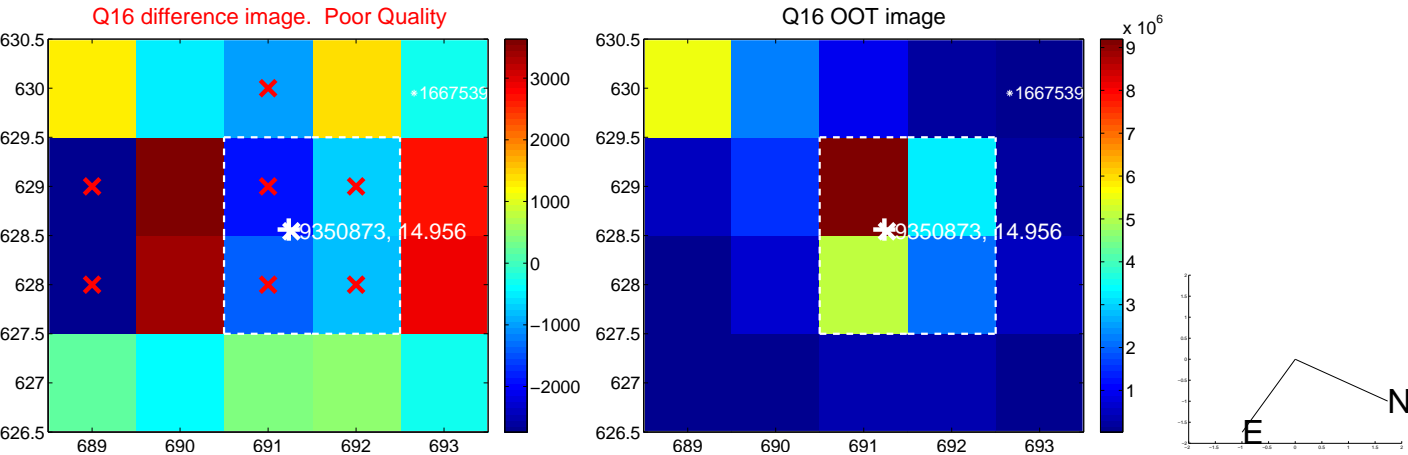
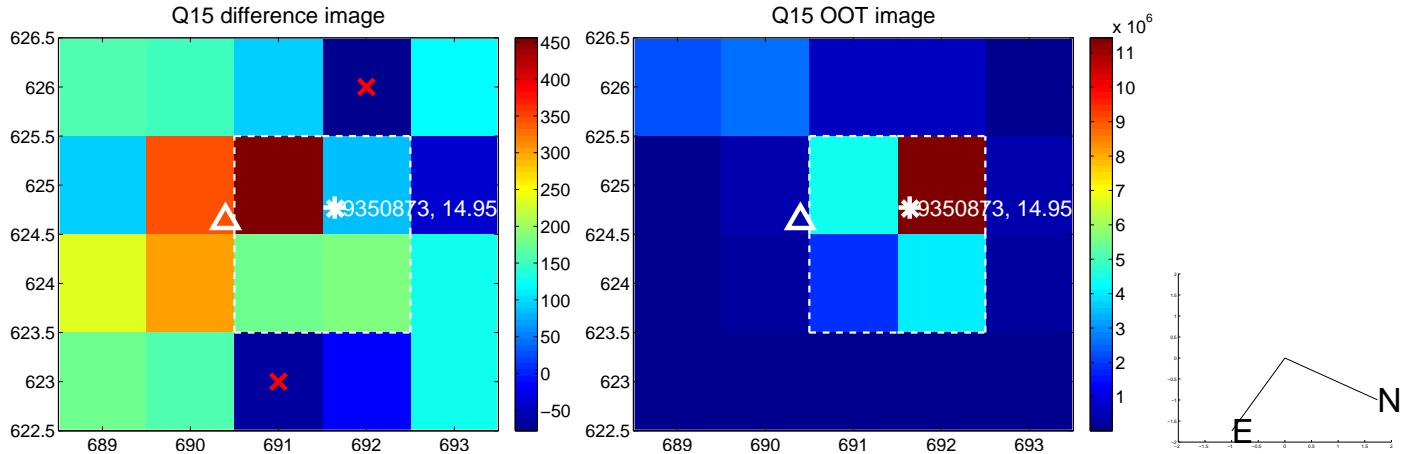
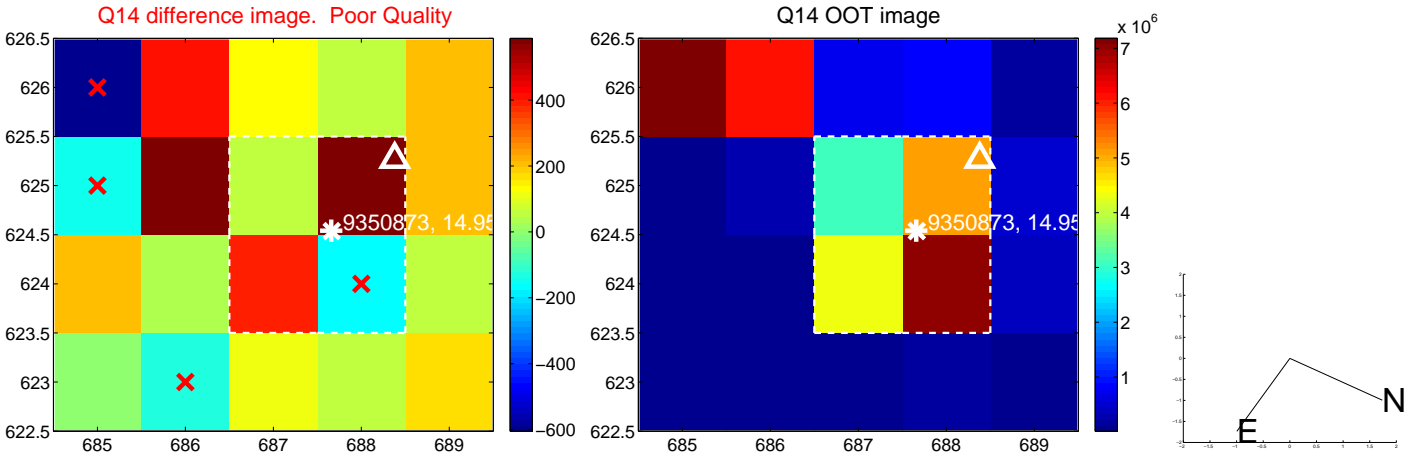
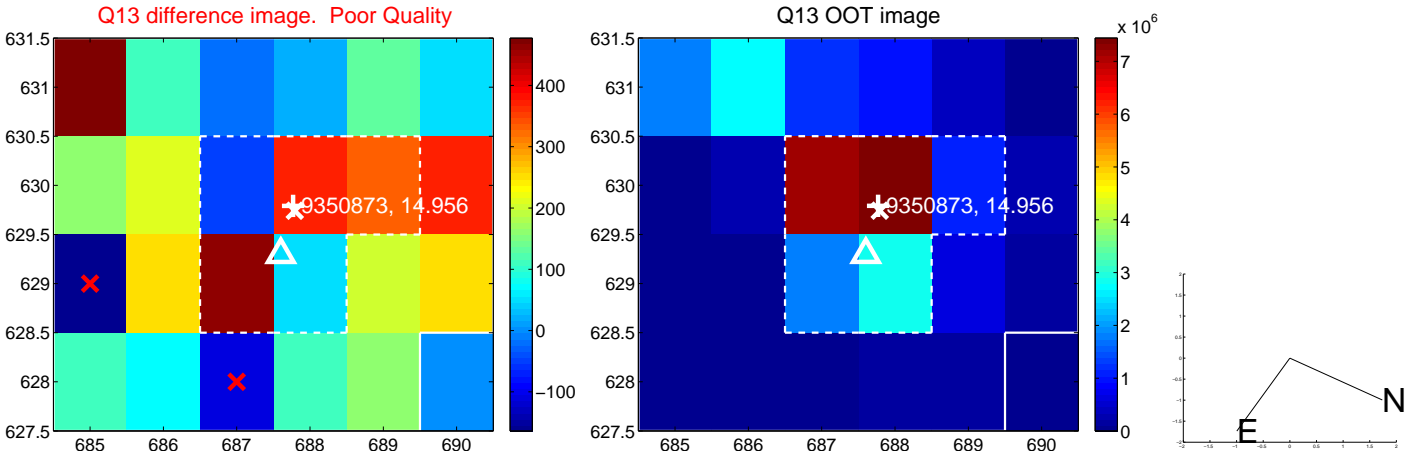
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



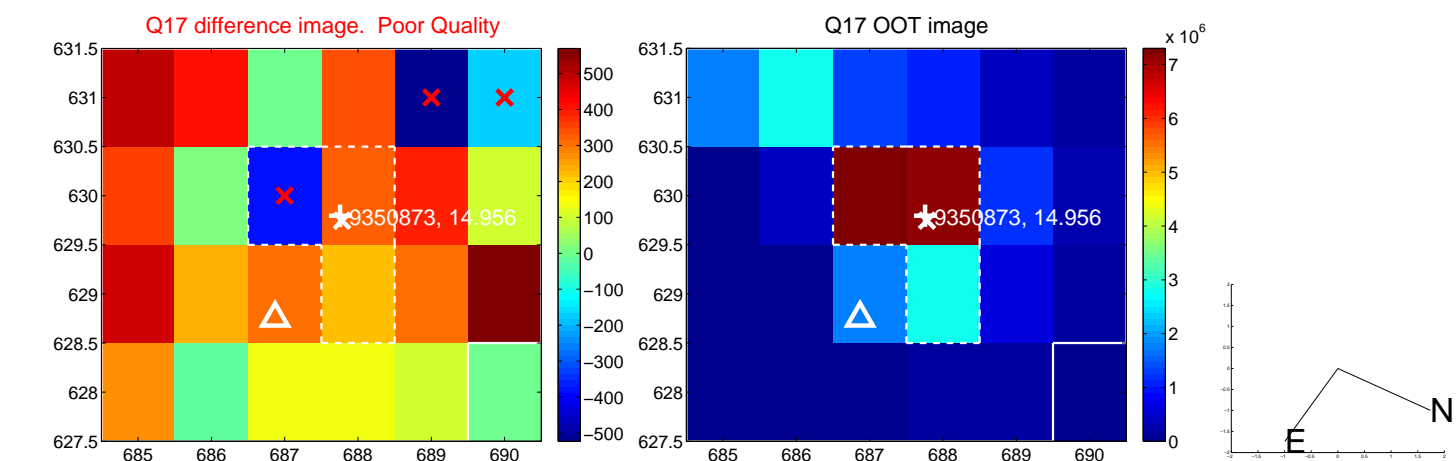
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



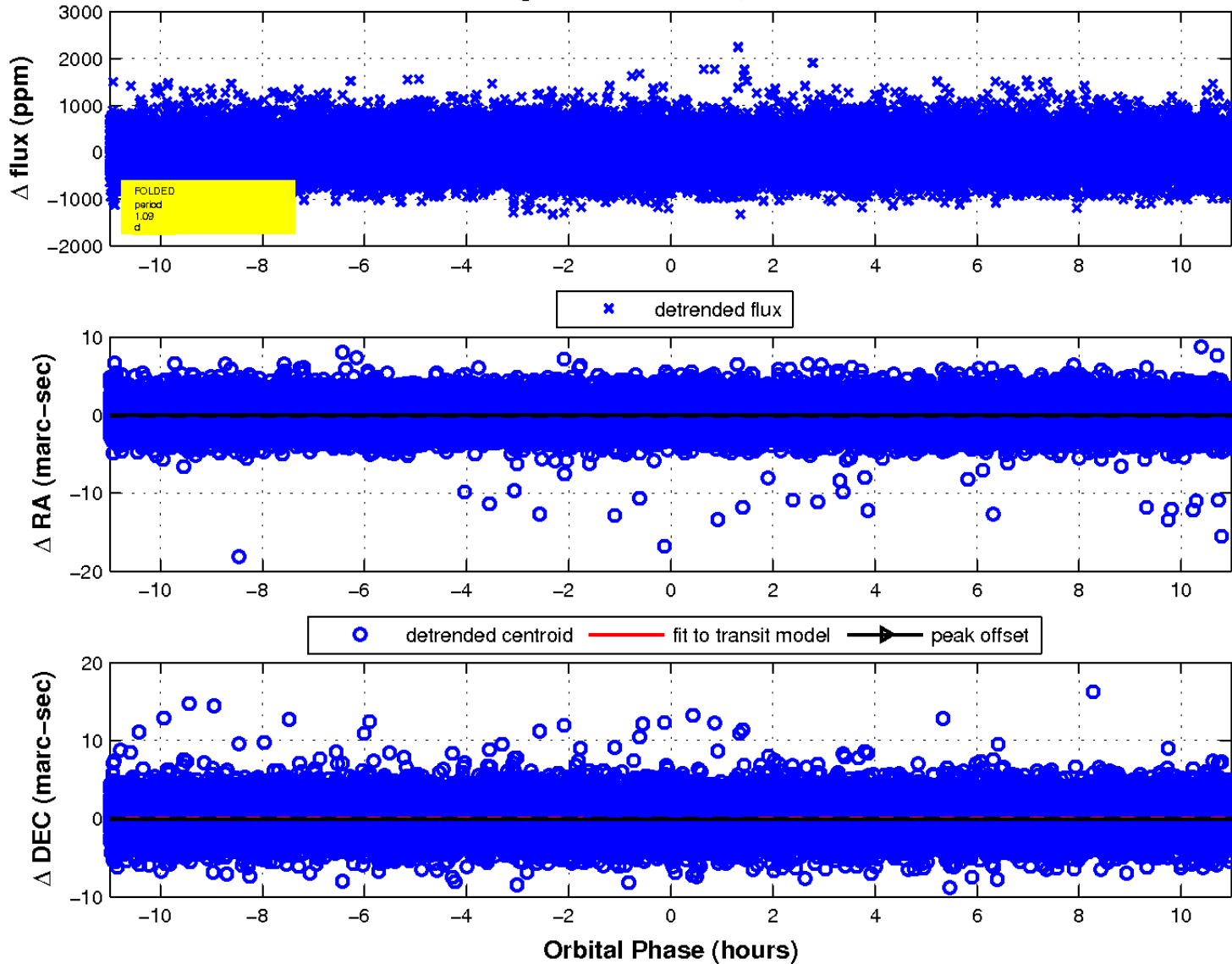
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

