

KIC 009475045

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})
009475045-01	OBS	No	1.172871	132.009499	14.4	10.424	7.4	5.1	1.12	6143	0.42	3039.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009475045-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

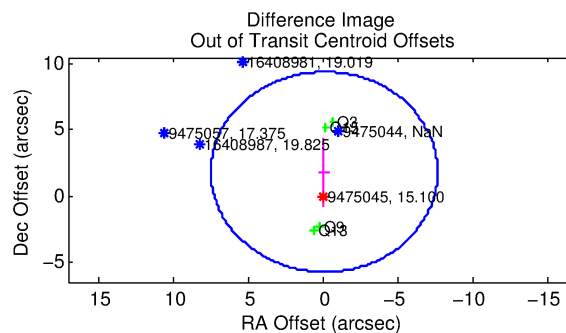
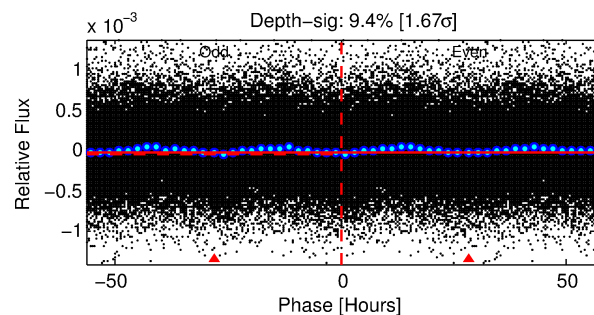
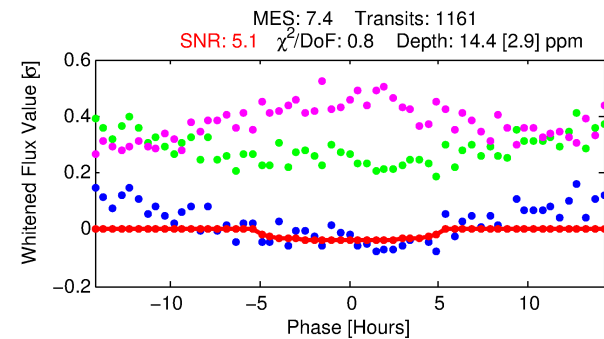
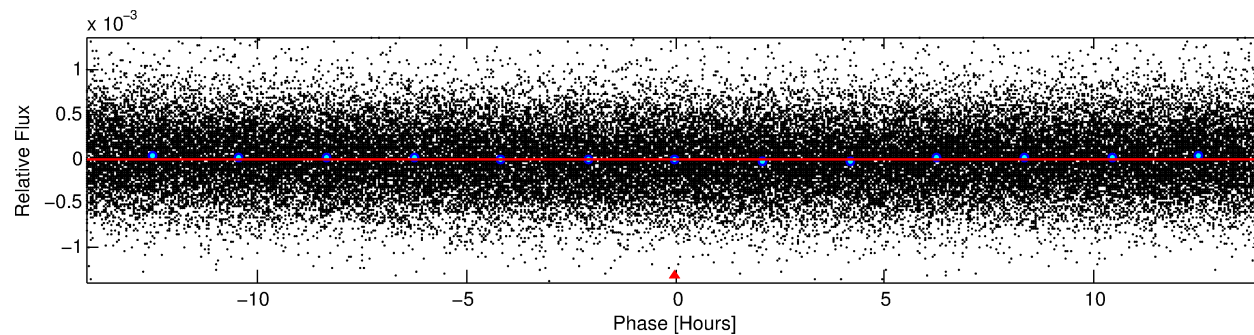
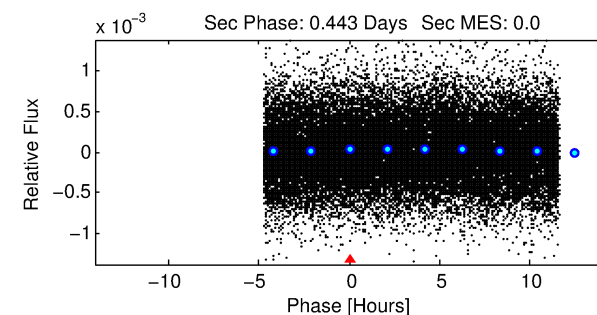
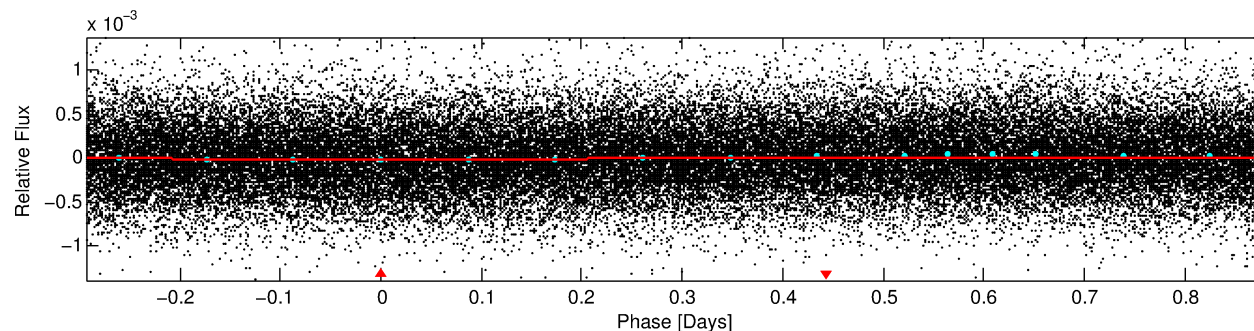
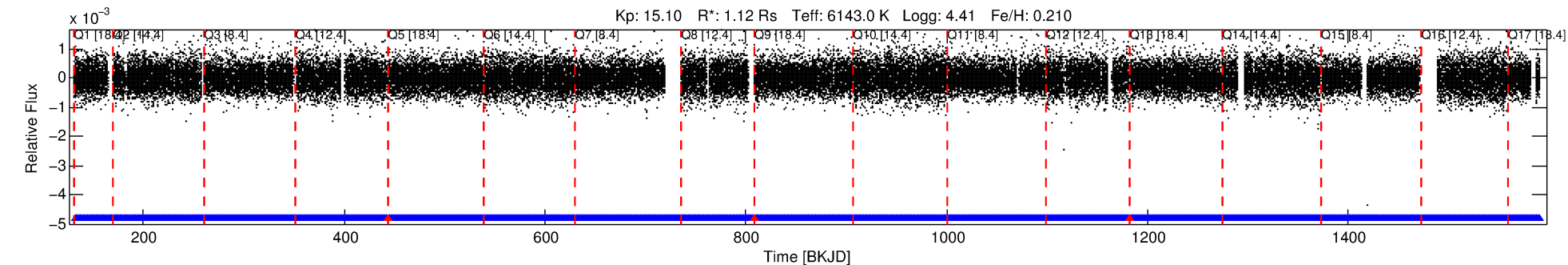
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009475045-01

No Significant Match Found

DV One-Page Summary

KIC: 9475045 Candidate: 1 of 1 Period: 1.173 d



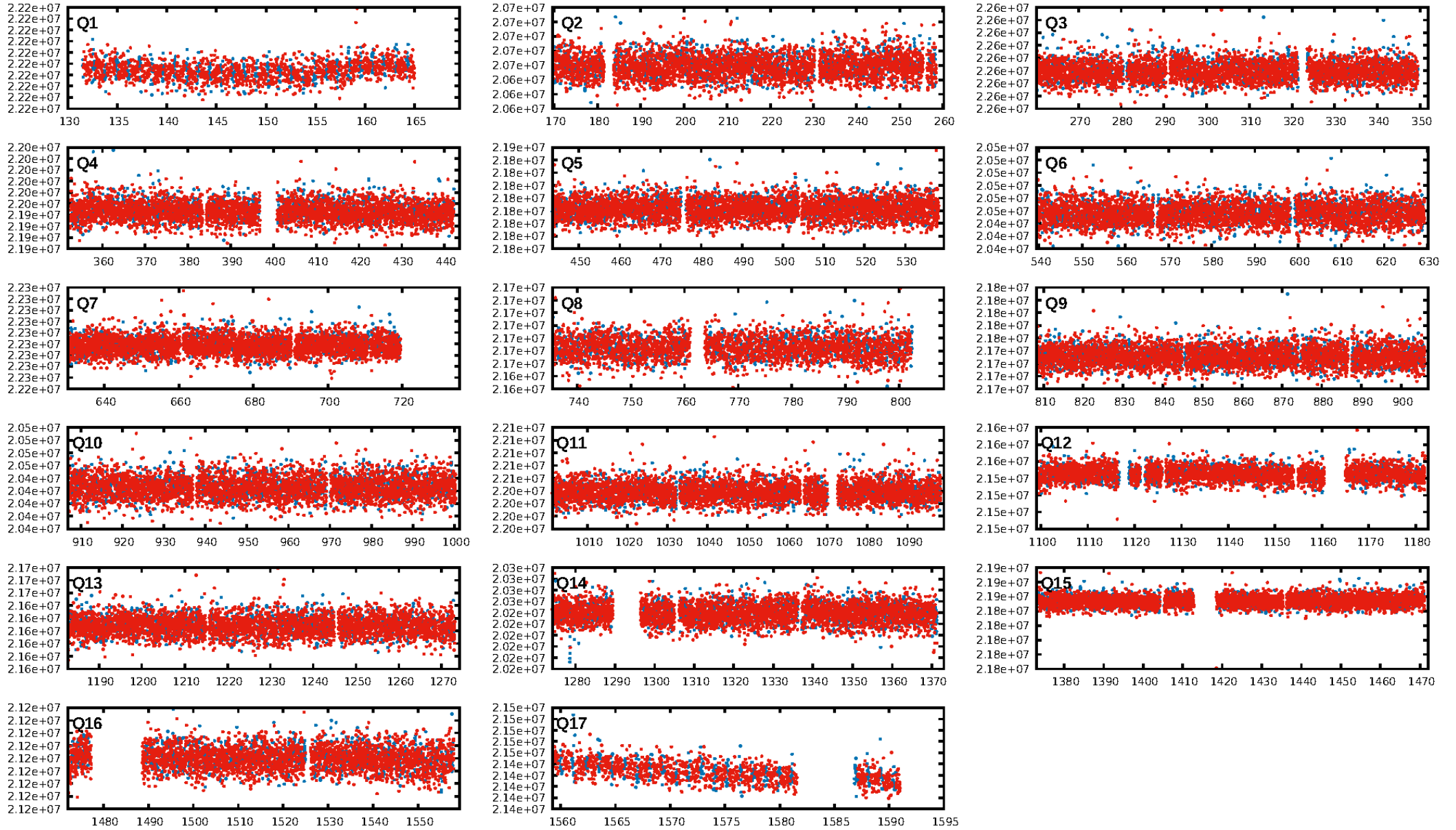
DV Fit Results:

Period = 1.17287 [0.00005] d
 Epoch = 132.0095 [0.0211] BKJD
 Rp/R* = 0.0035 [0.0095]
 a/R* = 1.09 [2.29]
 b = 0.02 [805.54]
 Seff = 3039.84 [1336.04]
 Teq = 1893 [208] K
 Rp = 0.43 [1.18] Re
 a = 0.0230 [0.0066] AU
 Ag = N/A
 Teffp = N/A

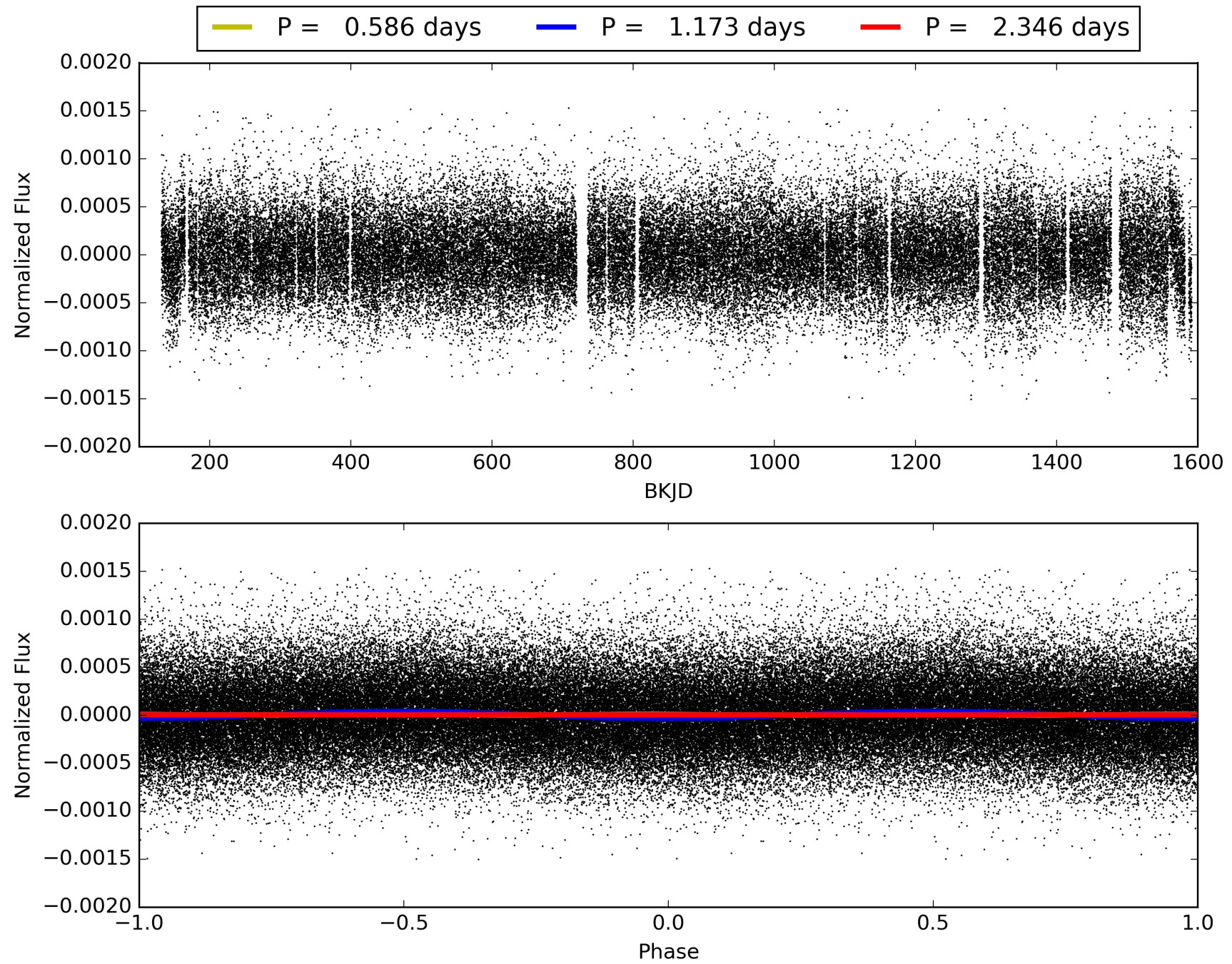
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: N/A
 RollingBand-fgt: 1.00 [1105/1108]
 GhostDiagnostic-chr: 0.174
 Centroid-sig: 0.0%
 Centroid-so: 17.642 arcsec [5.47σ]
 OutOffset-rm: 1.829 arcsec [0.72σ]
 KicOffset-rm: 1.803 arcsec [0.72σ]
 OutOffset-st: 0/2/0/2 [4]
 KicOffset-st: 0/2/0/2 [4]
 DiffImageQuality-fgm: 0.25 [1/4]
 DiffImageOverlap-fno: 1.00 [17/17]

TCE 009475045-01, PDC Light Curves

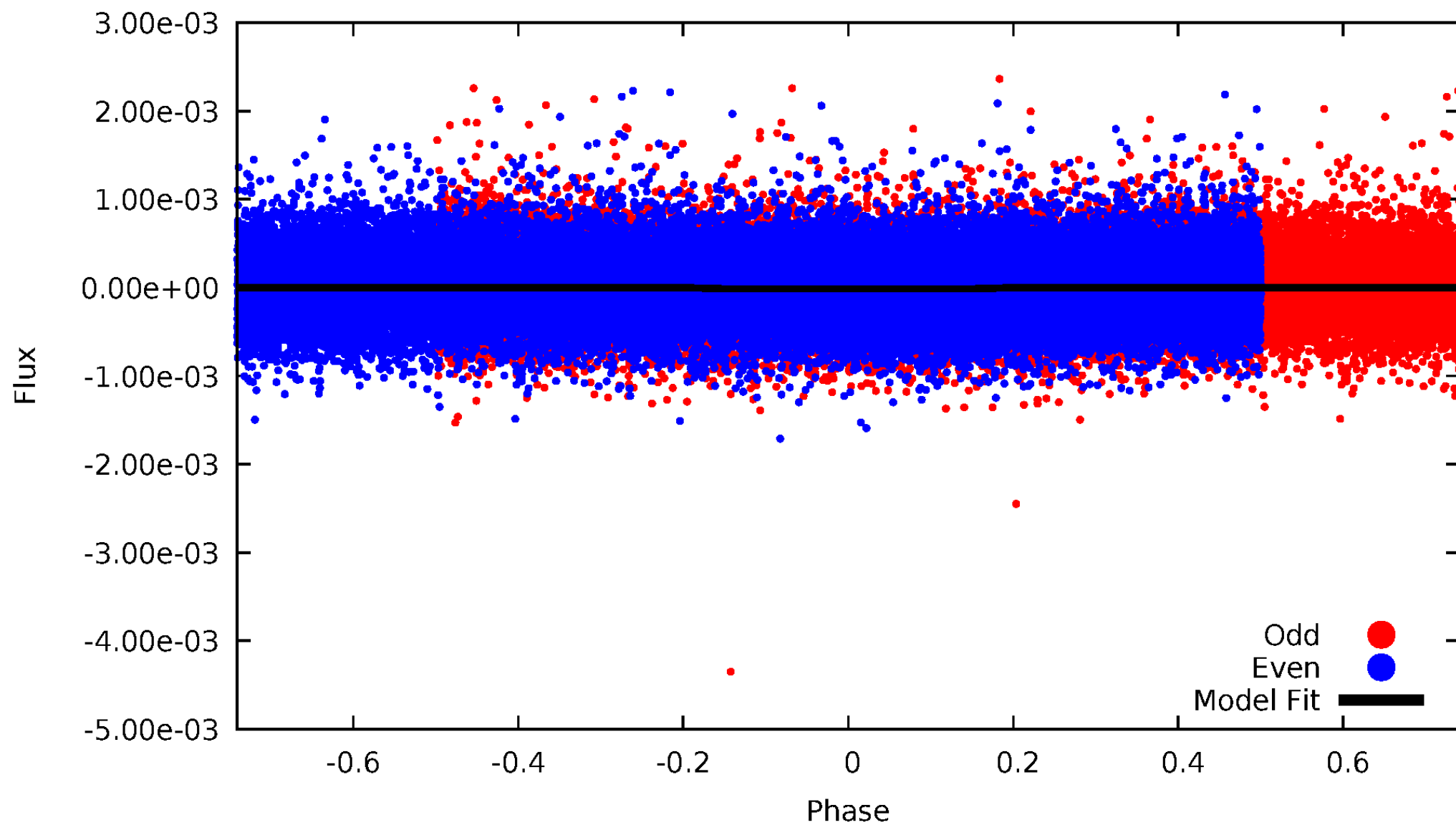


TCE 009475045-01



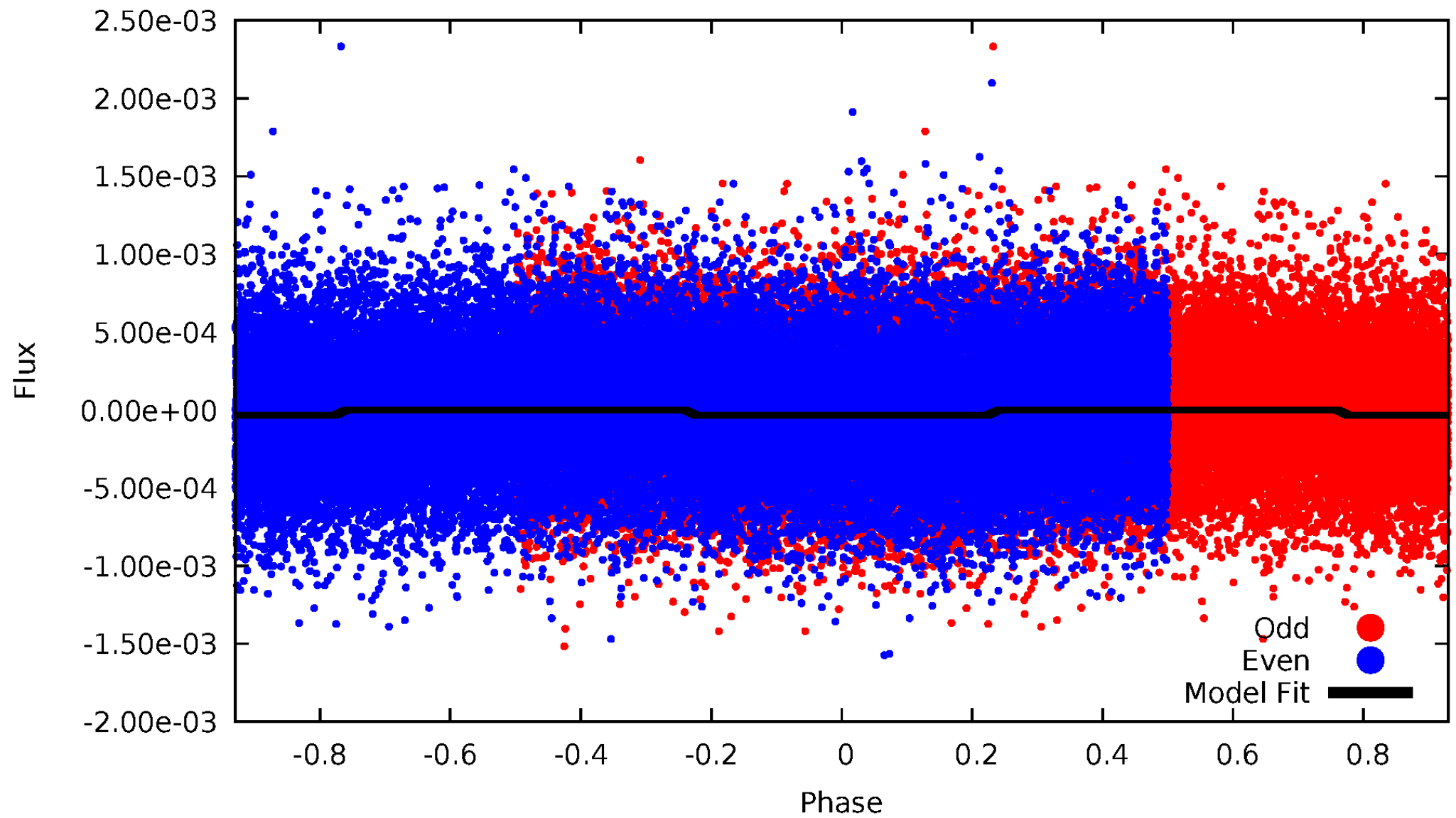
DV Odd/Even

TCE 009475045-01

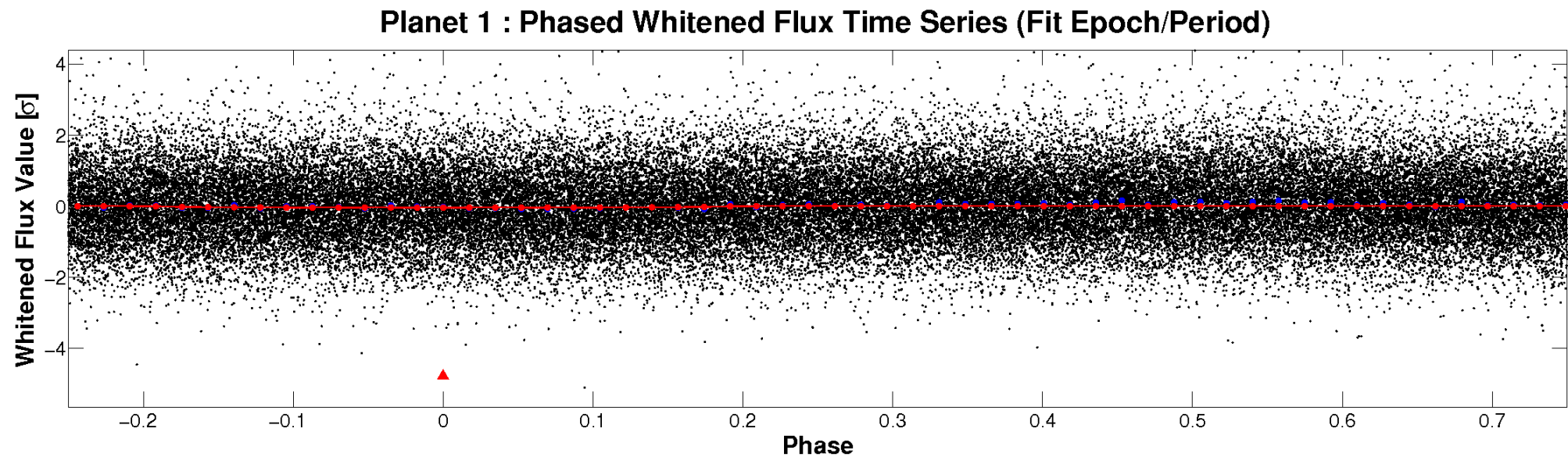
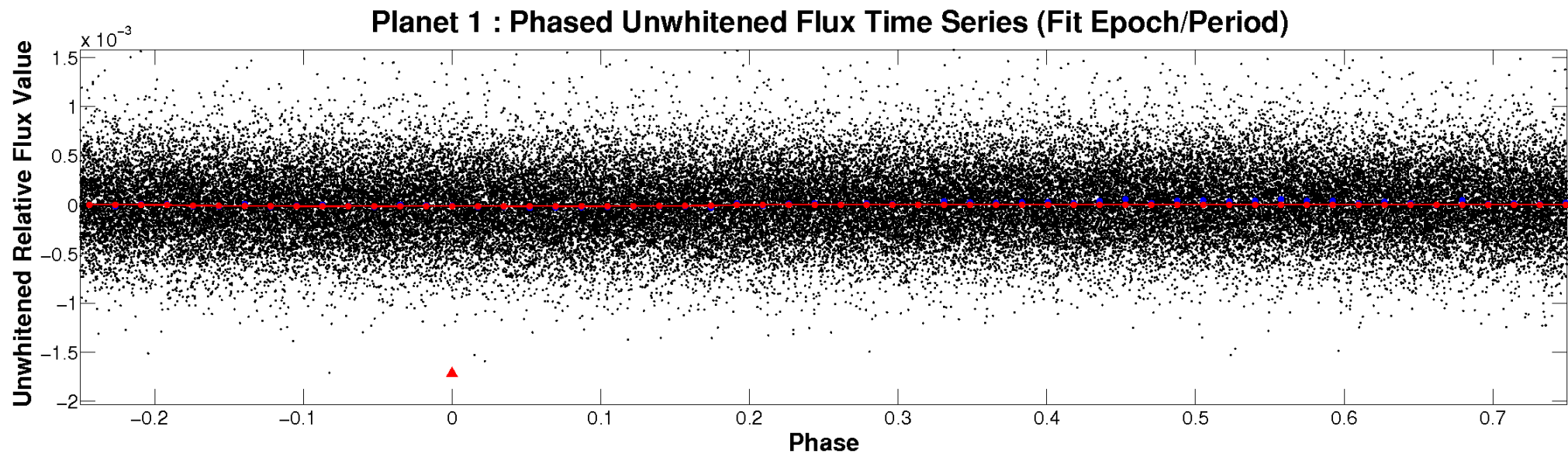


ALT Odd/Even

TCE 009475045-01

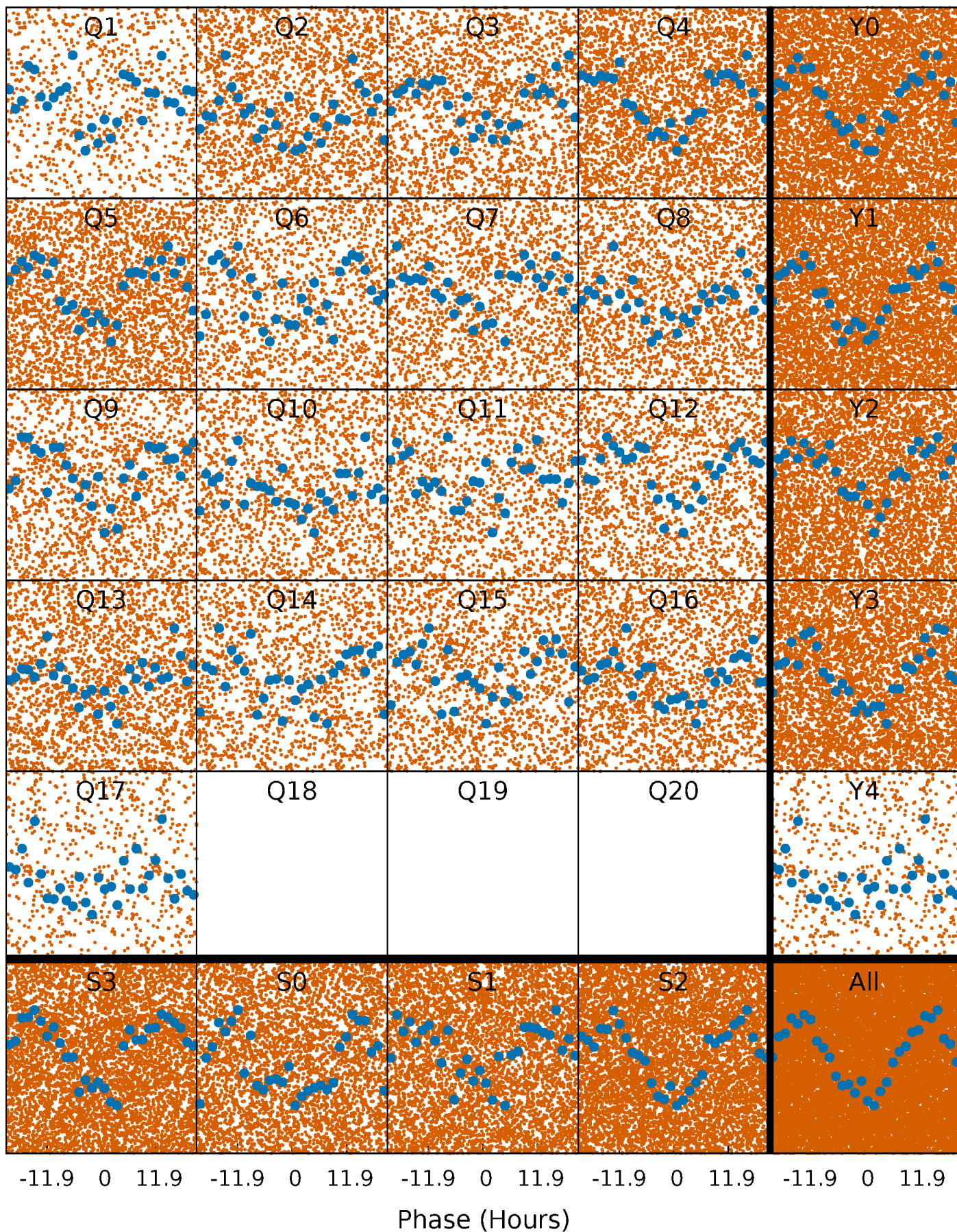


Non-Whitened Vs. Whitened Light Curve



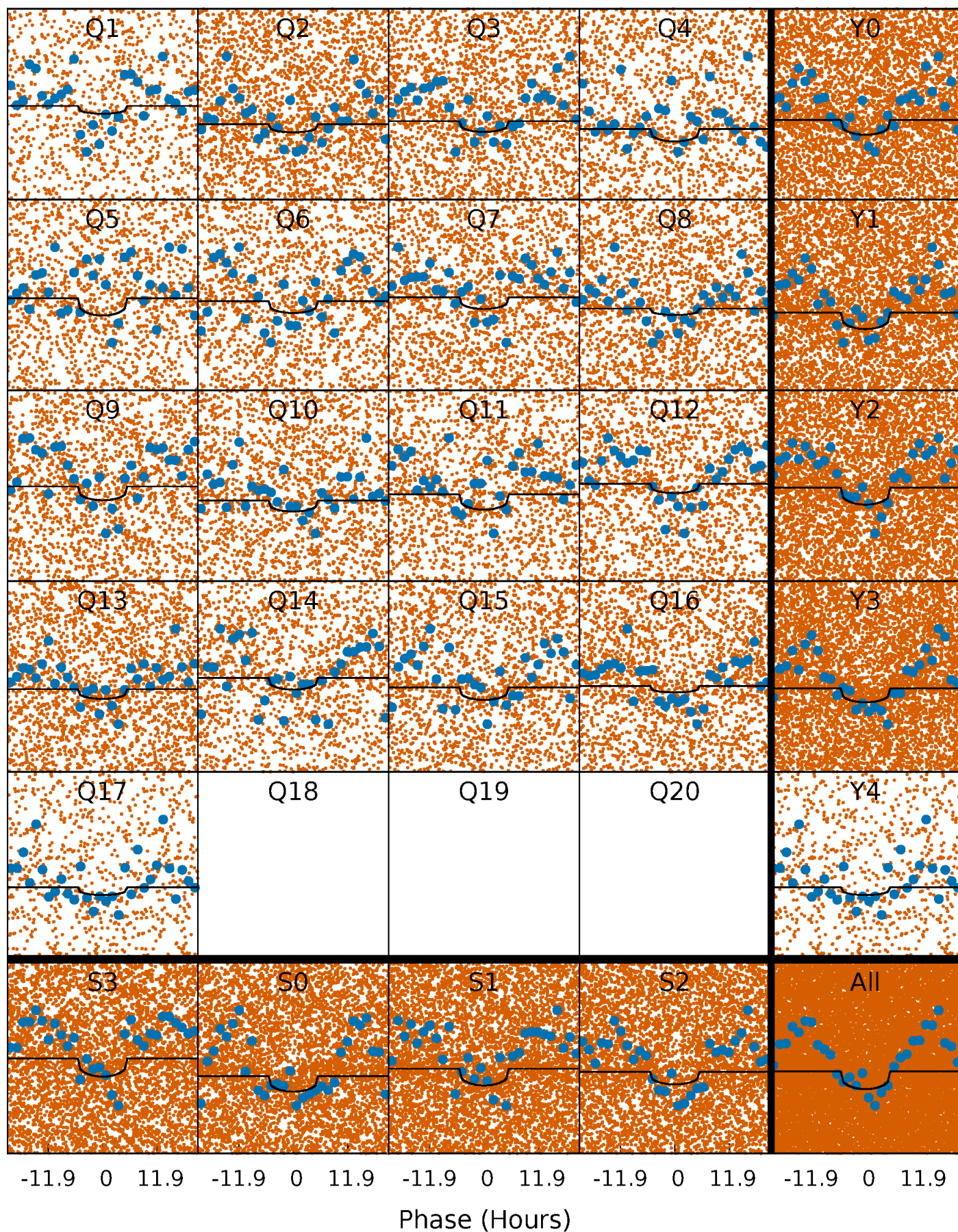
PDC Quarter-Phased Transit Curves

TCE 009475045-01 P= 1.172871 Days $T_0=132.009499$ (BKJD)



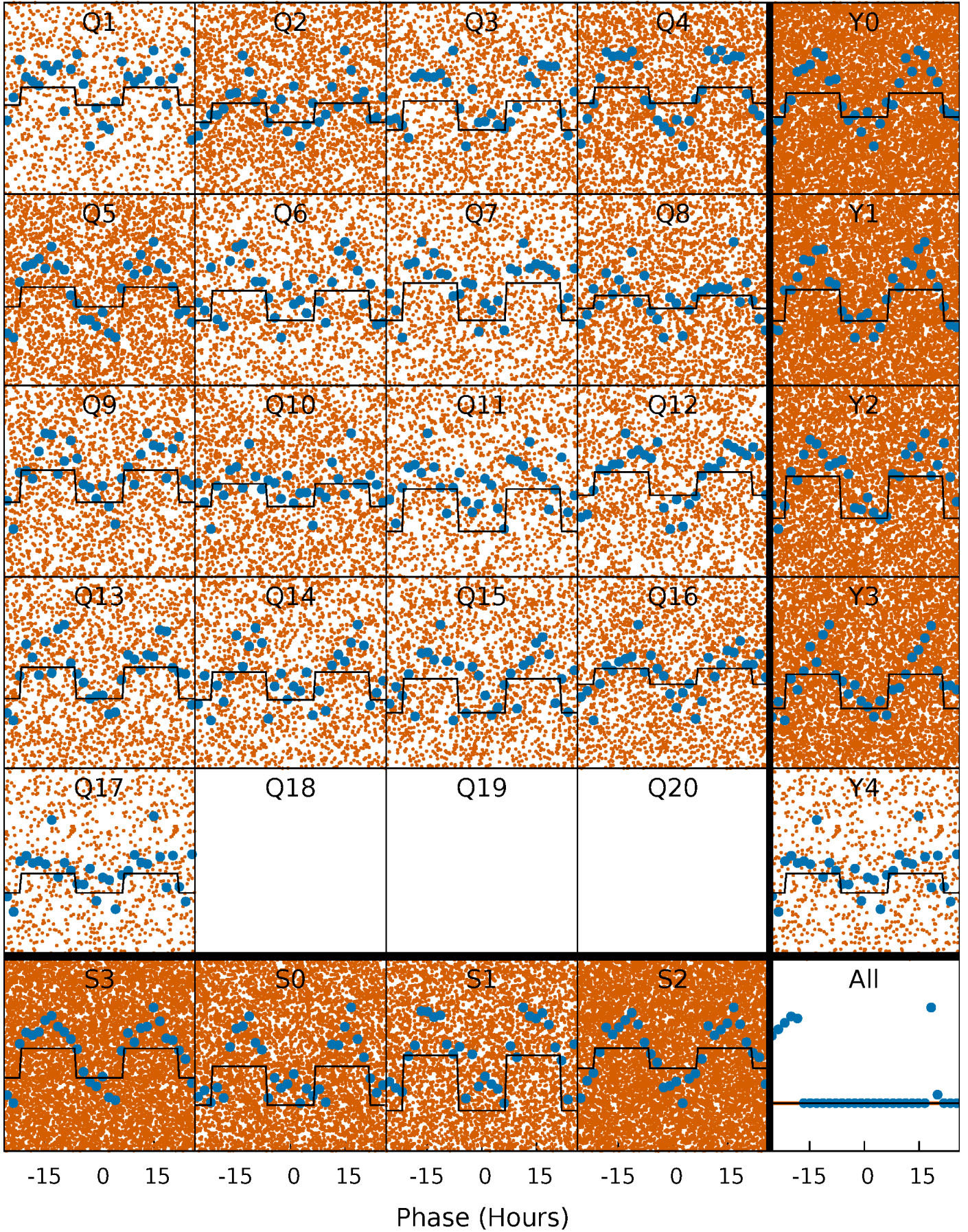
DV Quarter-Phased Transit Curves

TCE 009475045-01 P= 1.172871 Days $T_0=132.009499$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

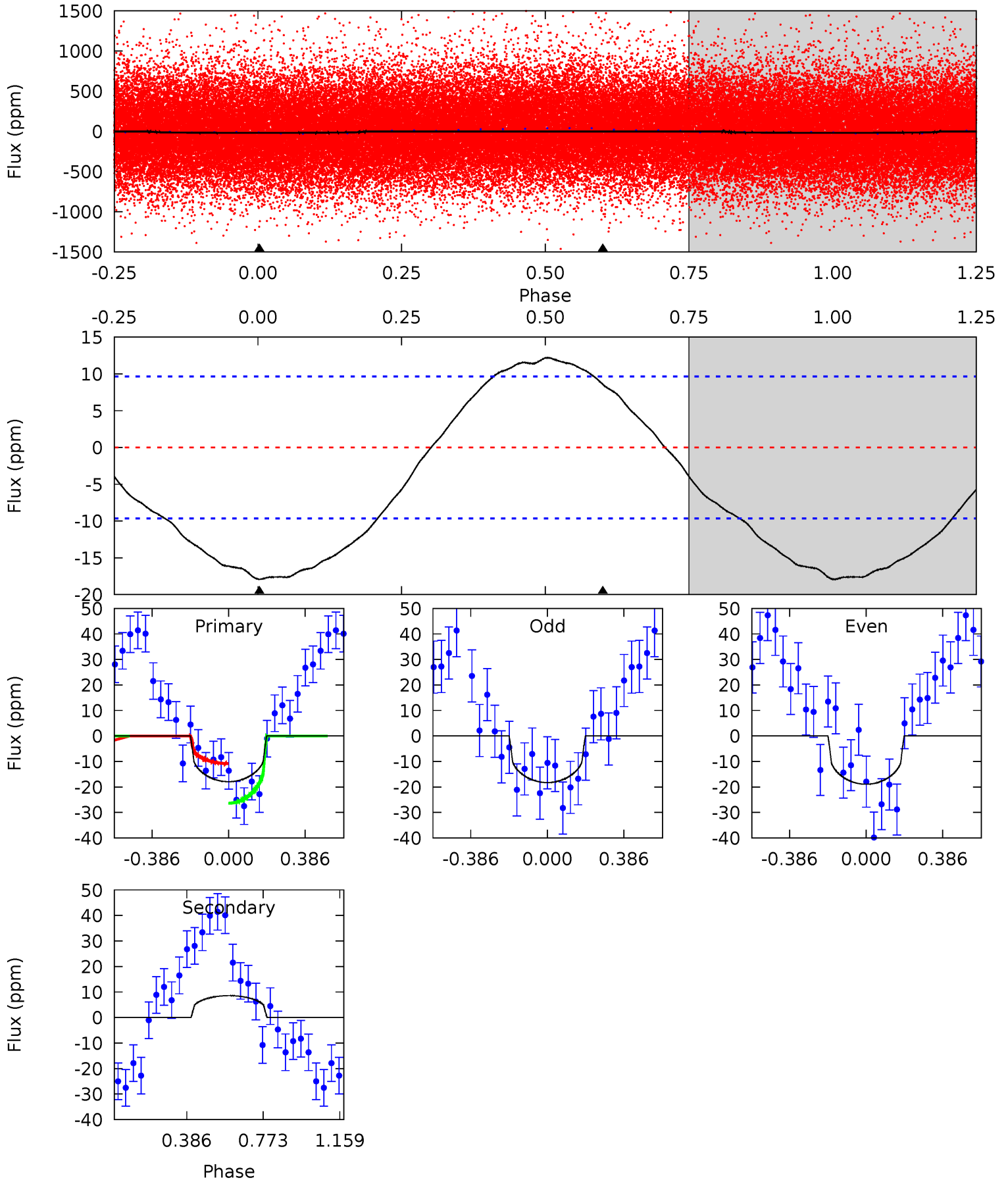
TCE 009475045-01 P= 1.172869 Days $T_0=131.951988$ (BKJD)



DV Model-Shift Uniqueness Test

009475045-01, P = 1.172871 Days, E = 130.836628 Days

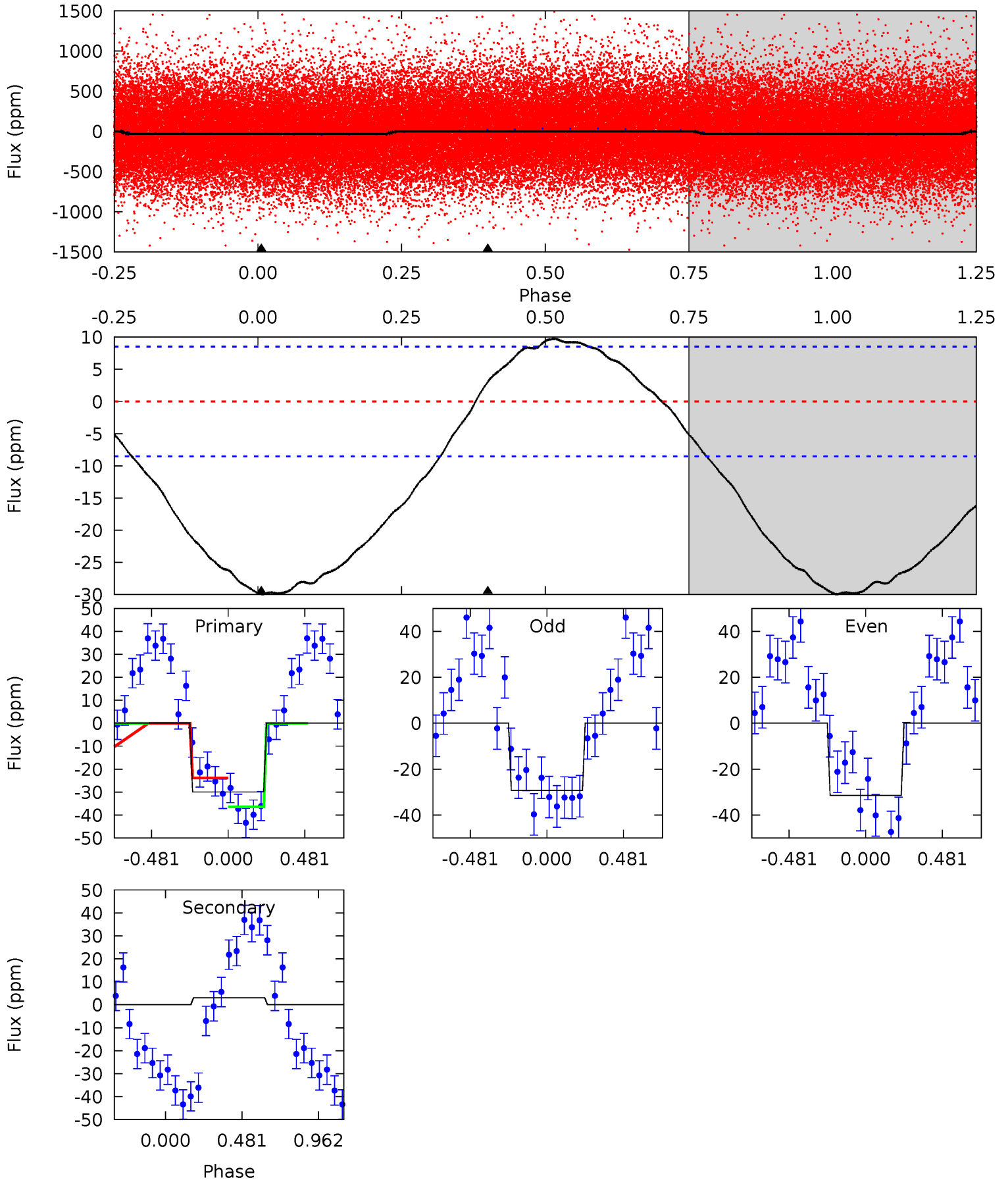
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.93	-3.80	0	0	4.27	0.87	1.35	7.93	7.93	-3.80	-3.80	0.14	1.11	0.40	3.42



Alt Model-Shift Uniqueness Test

009475045-01, P = 1.172869 Days, E = 130.779119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	-1.52	0	0	4.22	0.71	1.35	14.9	14.9	-1.52	-1.52	0.53	0.97	0.25	3.10



Stellar Parameters For KIC 009475045

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6143^{+169}_{-253}	$4.410^{+0.058}_{-0.217}$	$0.210^{+0.200}_{-0.300}$	$1.125^{+0.396}_{-0.132}$	$1.186^{+0.147}_{-0.164}$	$1.175^{+0.352}_{-0.637}$
	+3%/-4%	+1%/-5%	+95%/-143%	+35%/-12%	+12%/-14%	+30%/-54%
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 009475045-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	9 ± 2	$1.04^{+1.13}_{-0.74}$	2687^{+205}_{-138}	-4058^{+655}_{-2809}	$-2.139^{+1.639}_{-25.863}$
Alt.	3 ± 2	$1.23^{+1.00}_{-0.79}$	2691^{+214}_{-145}	-3410^{+372}_{-1216}	$-0.513^{+0.414}_{-4.138}$

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

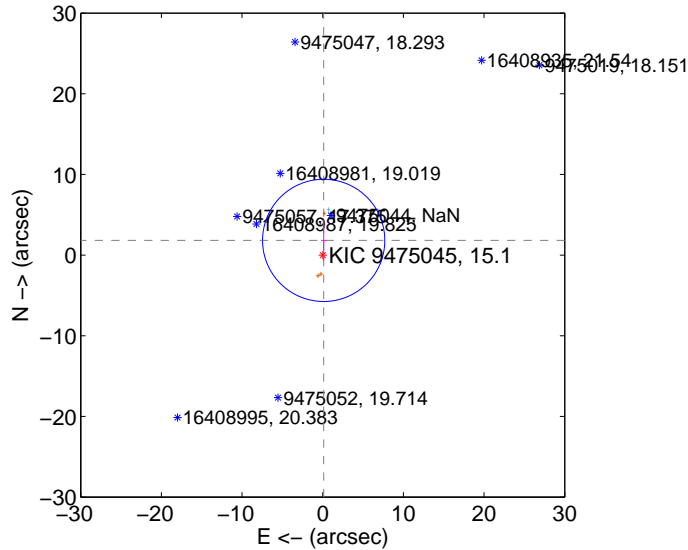
Supplemental centroid analysis for 009475045-01. Kepler magnitude: 15.10. Transit SNR 5.11

There are 1 quarters with good PRF difference image offsets

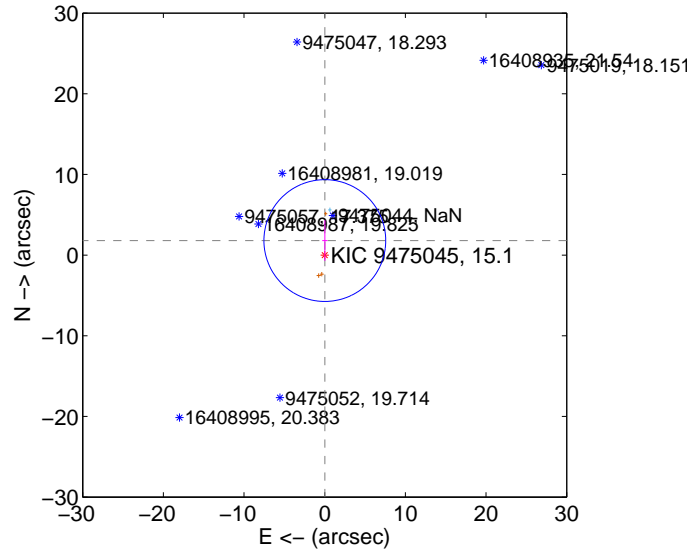
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.829 ± 2.525	0.72	-0.118 ± 0.310	1.825 ± 2.531
PRF-fit source offset from KIC position	1.803 ± 2.516	0.72	-0.016 ± 0.325	1.803 ± 2.517
photometric centroid source offset	17.64 ± 3.22	5.47	-6.83 ± 2.79	16.26 ± 3.30

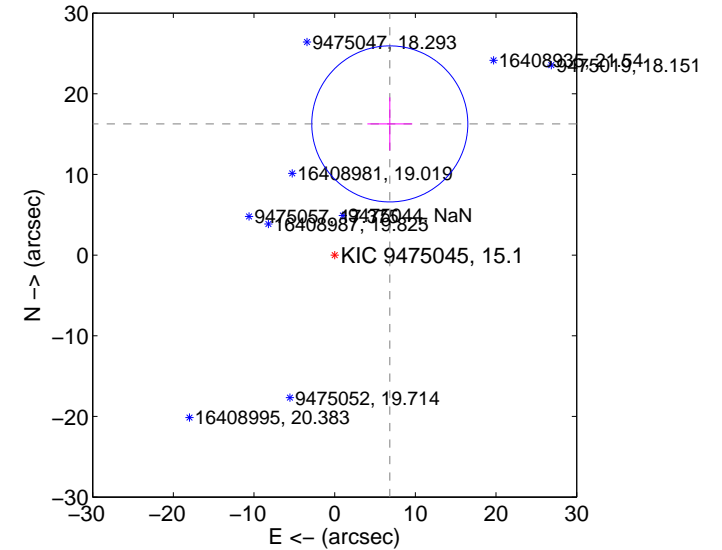
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

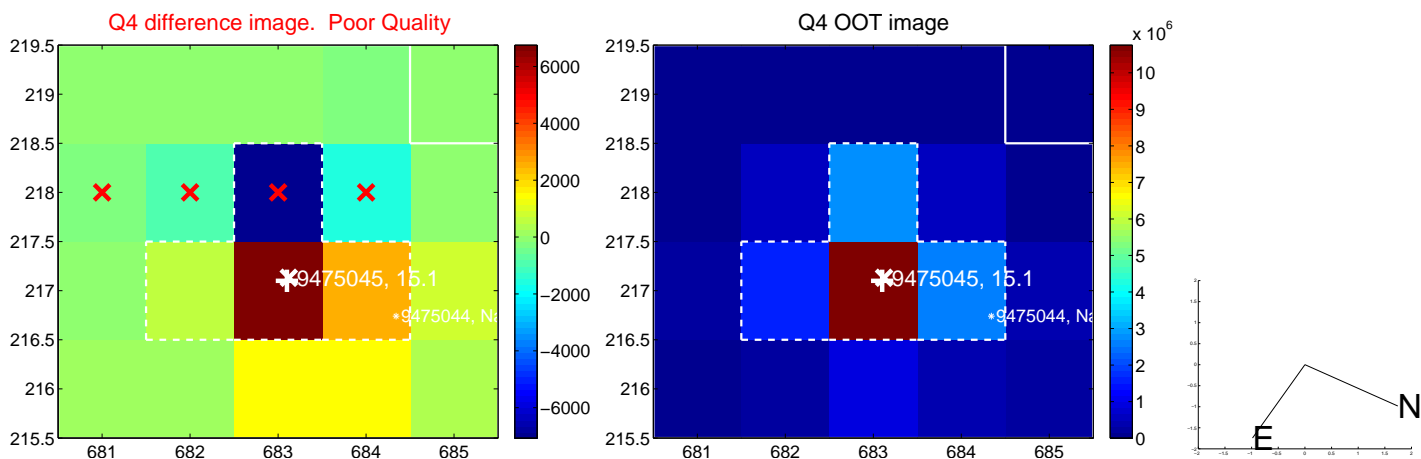
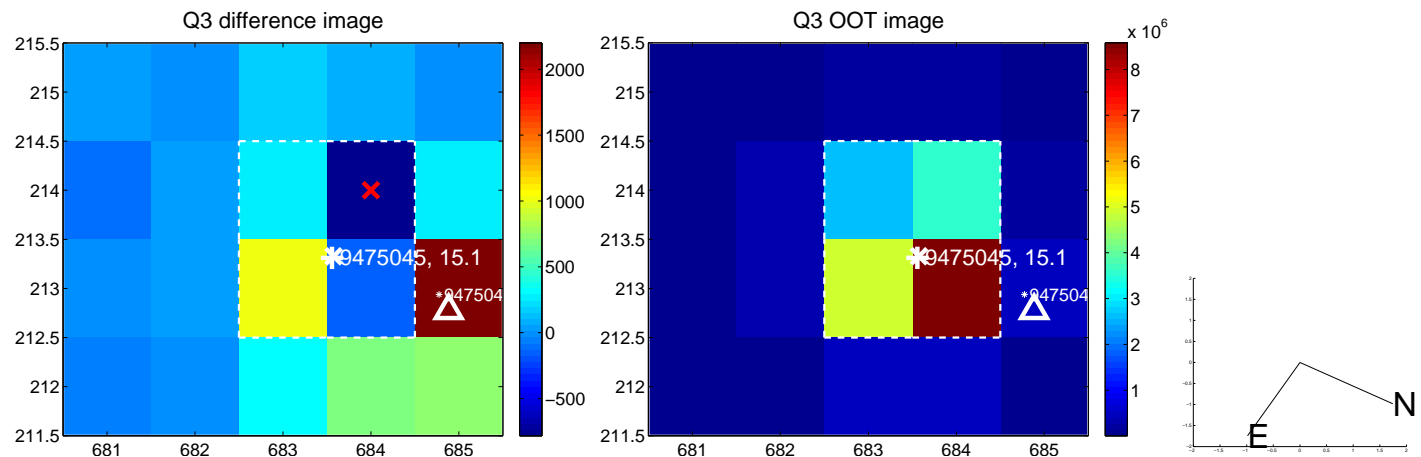
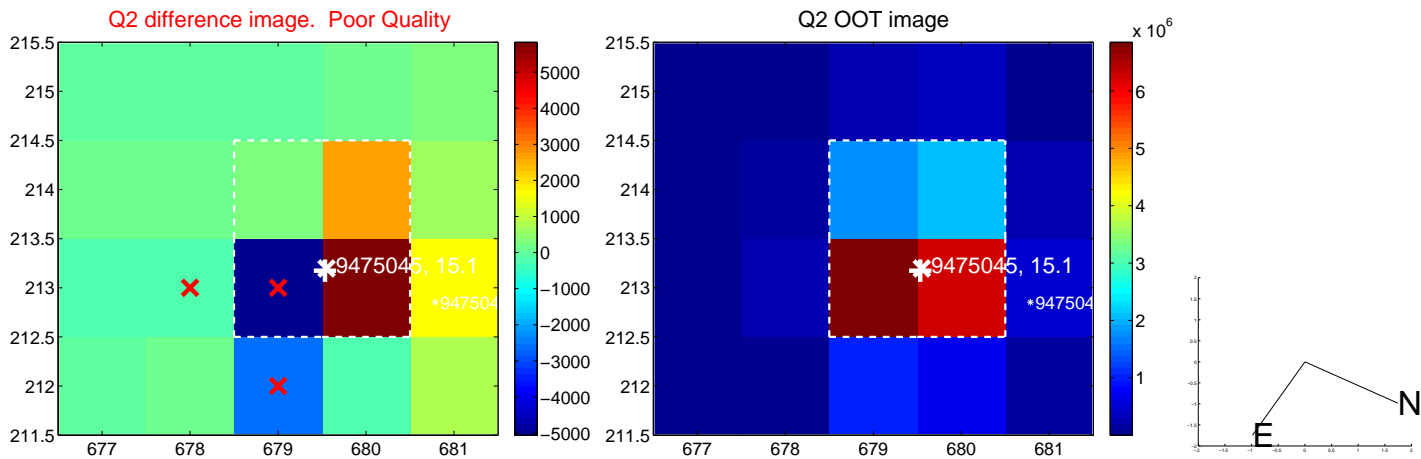
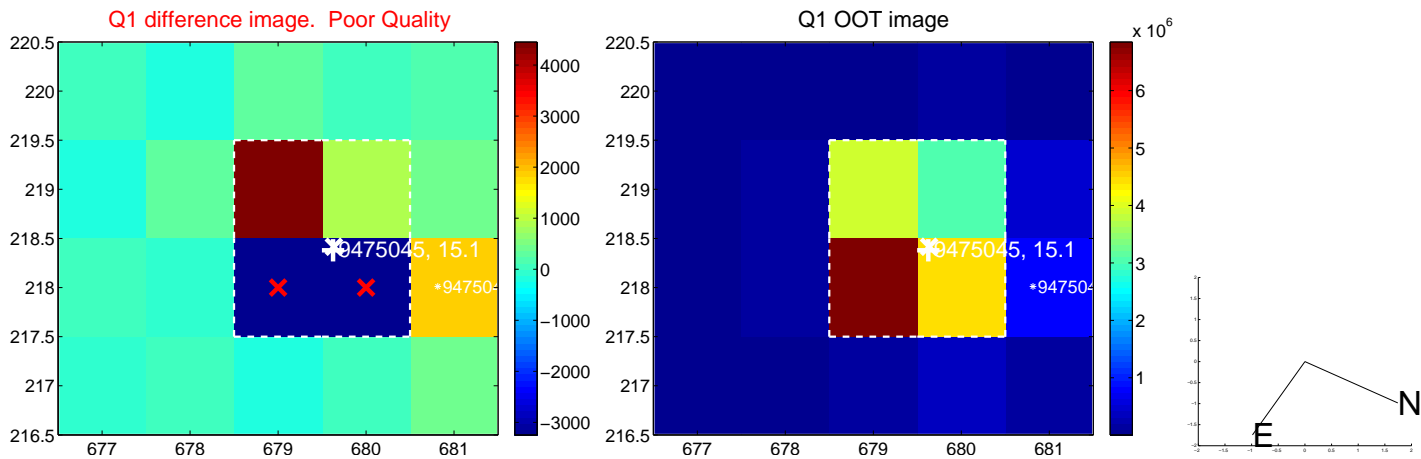


offset from photometric centroids

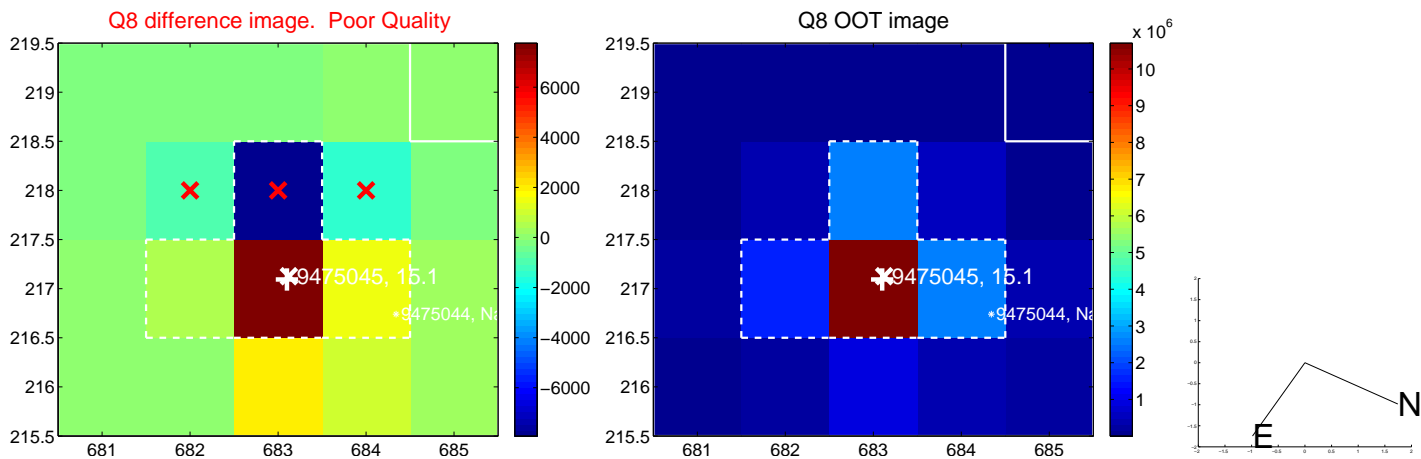
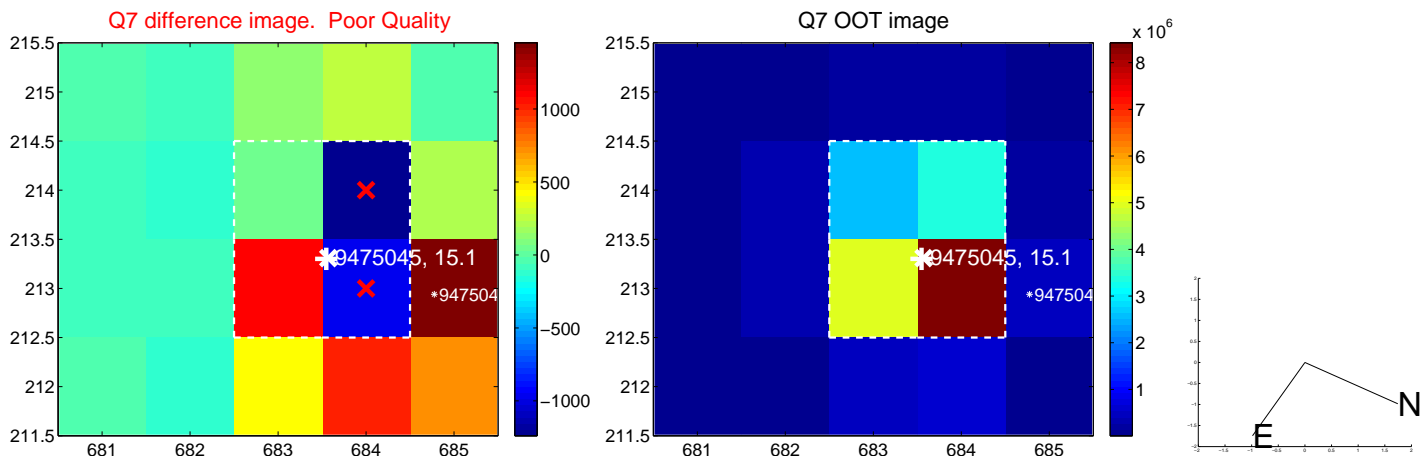
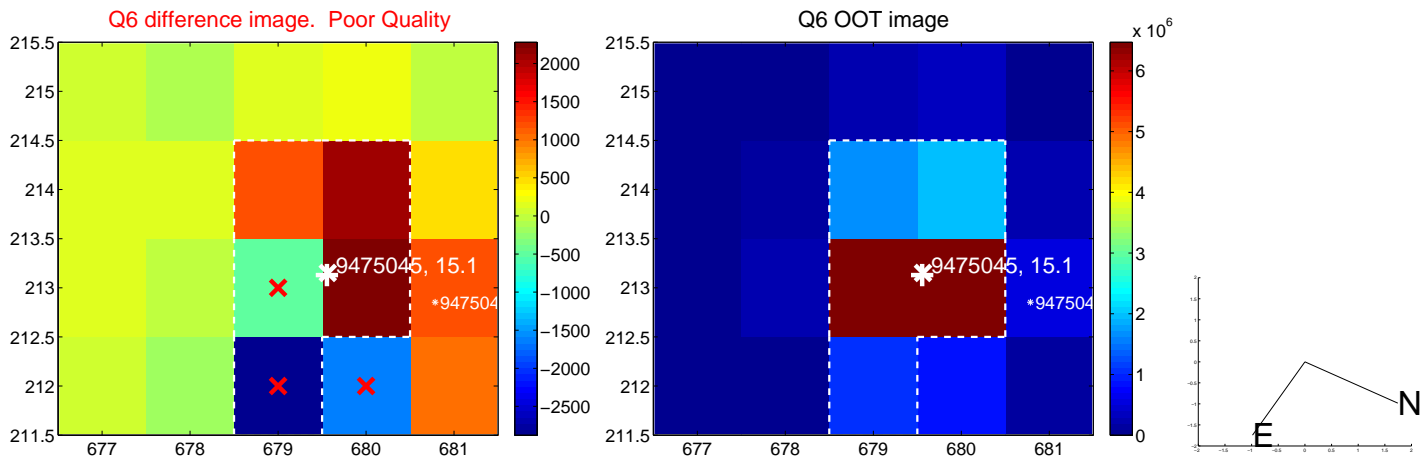
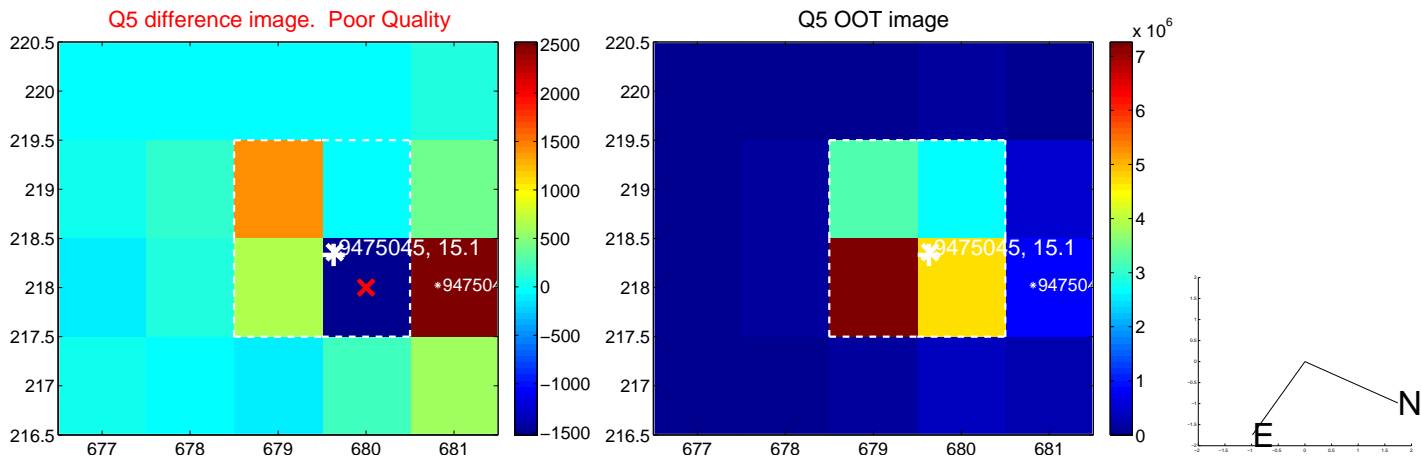


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

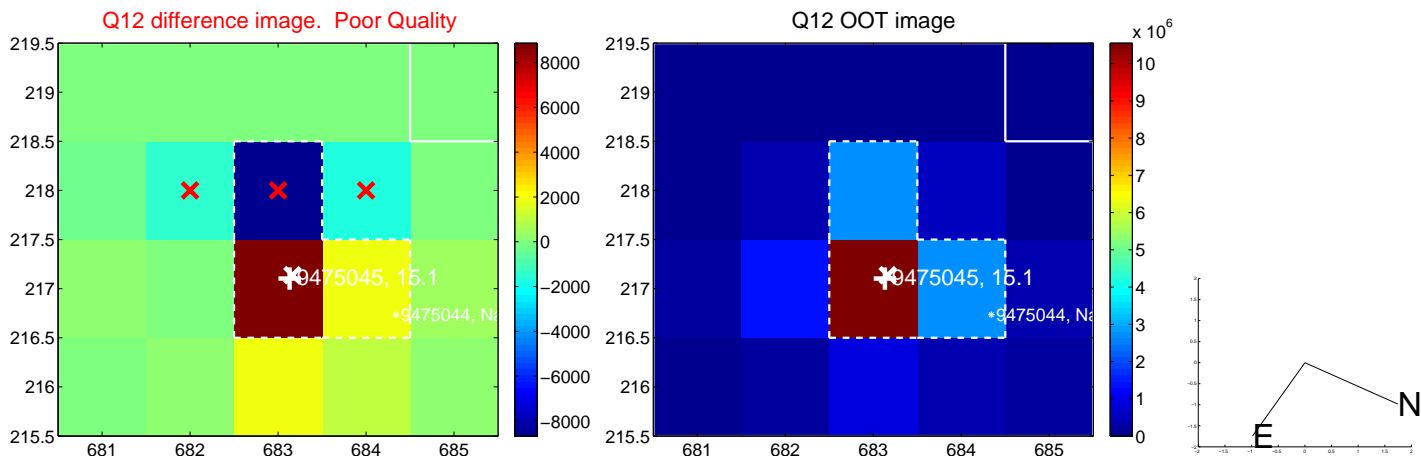
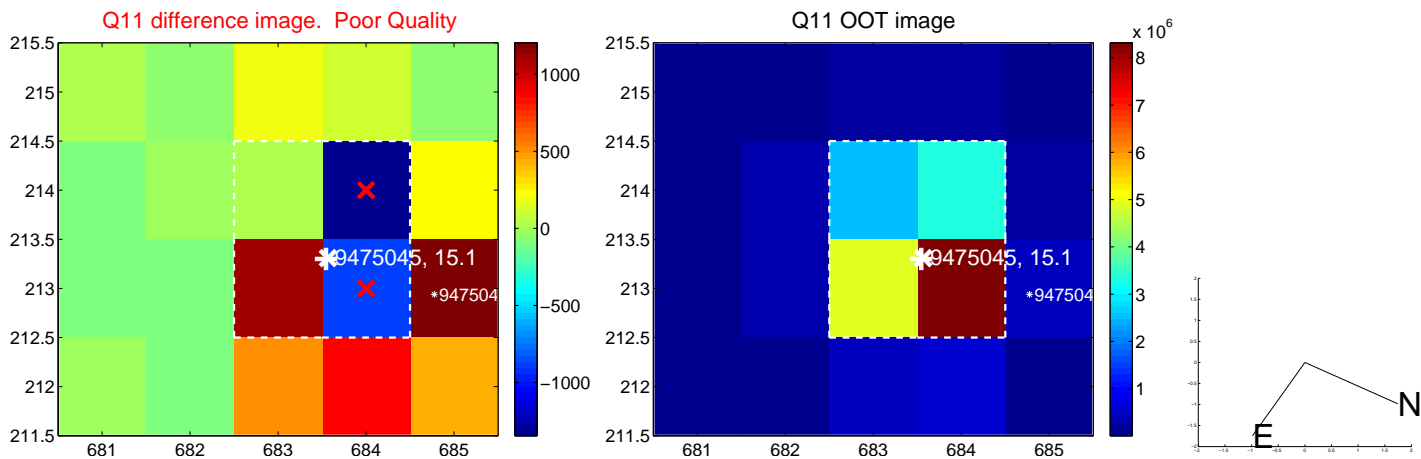
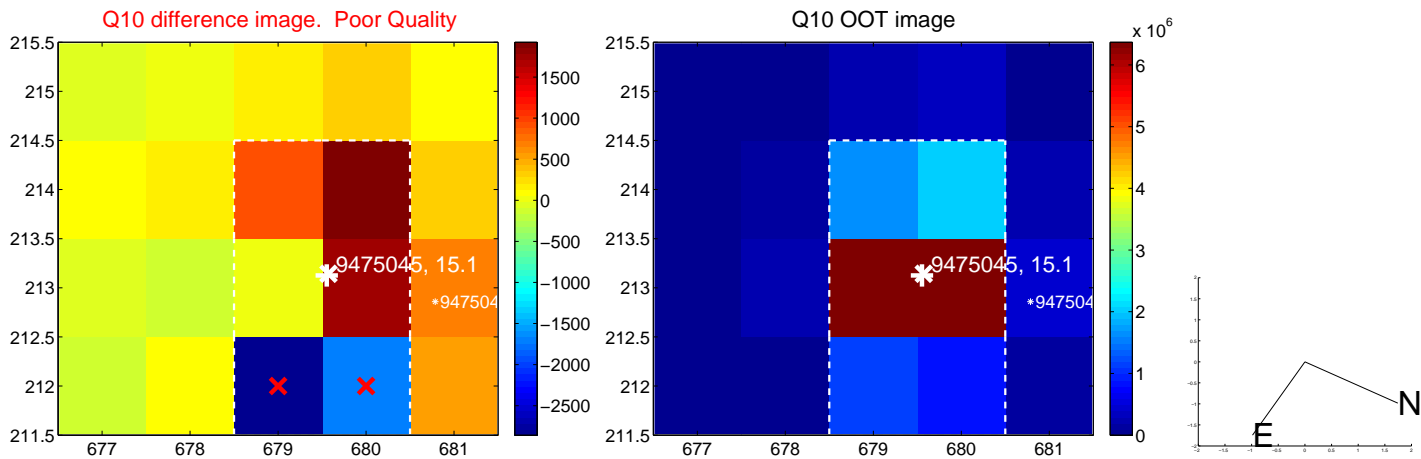
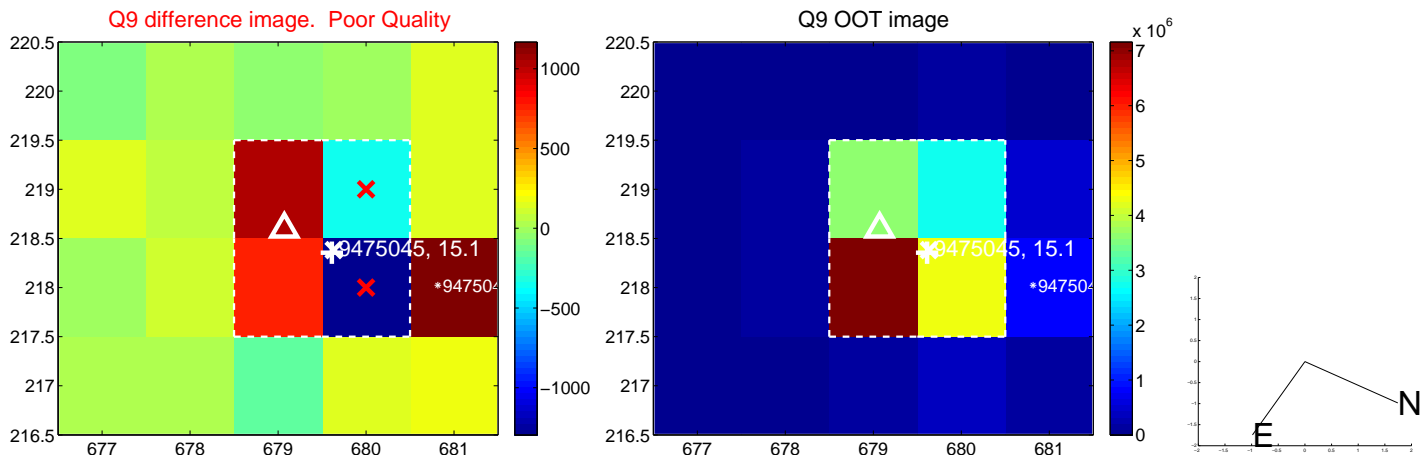
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



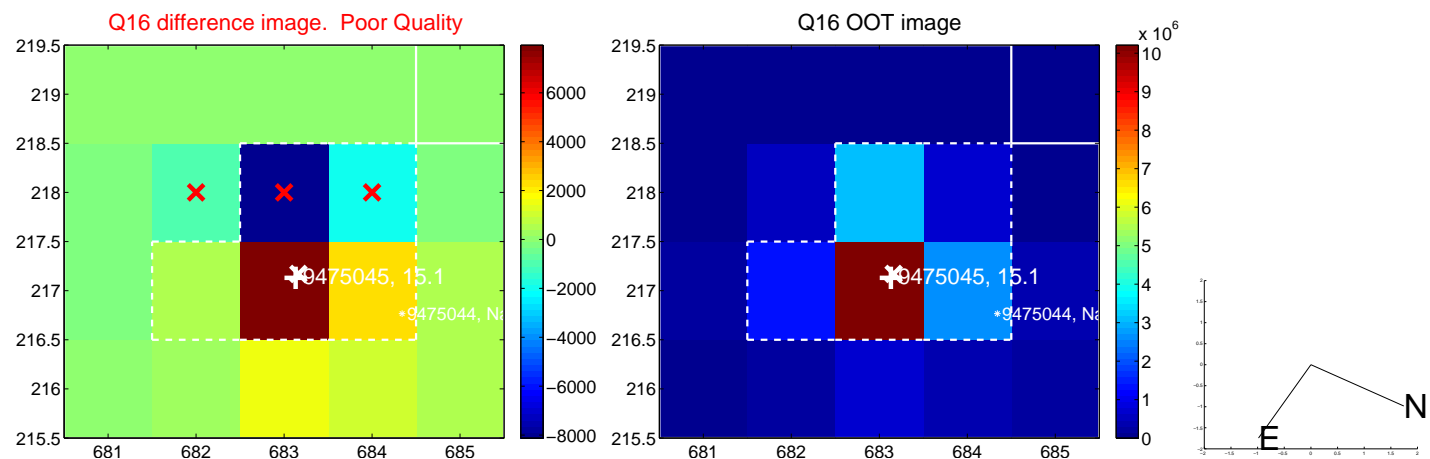
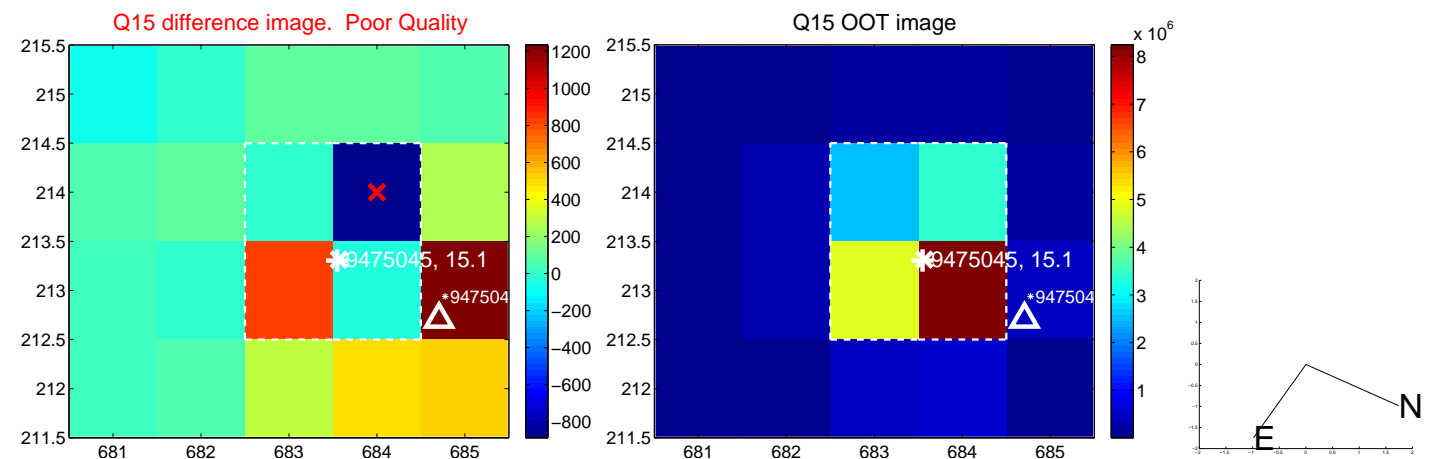
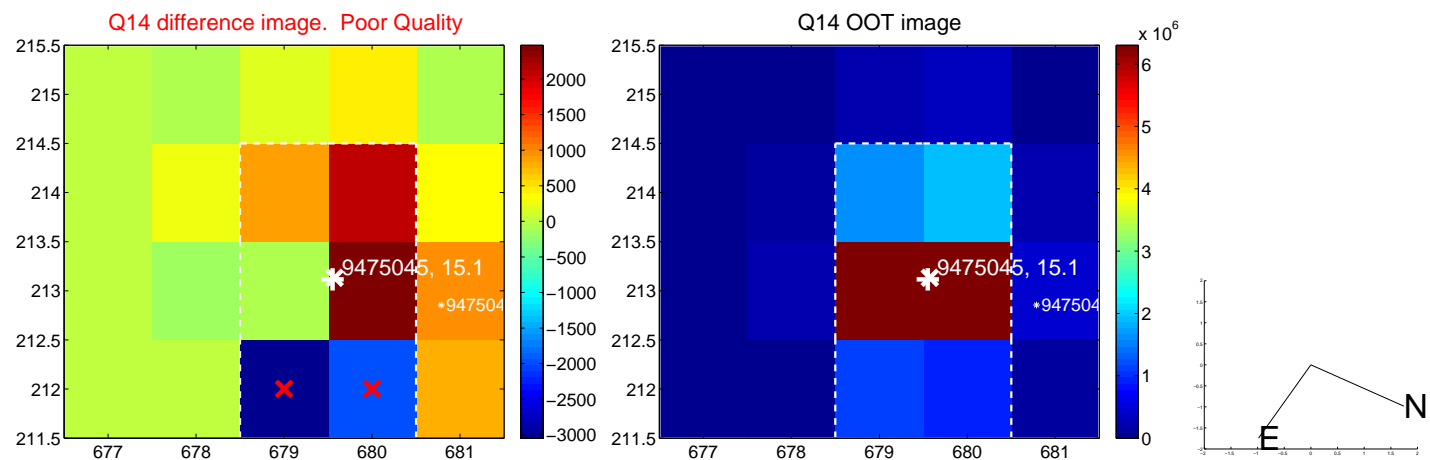
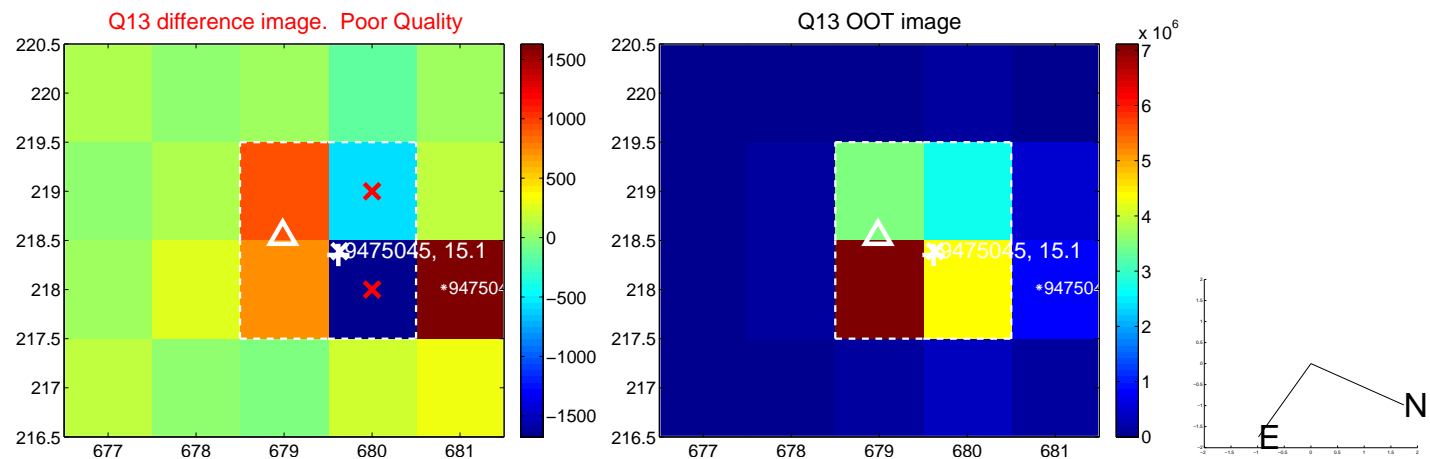
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



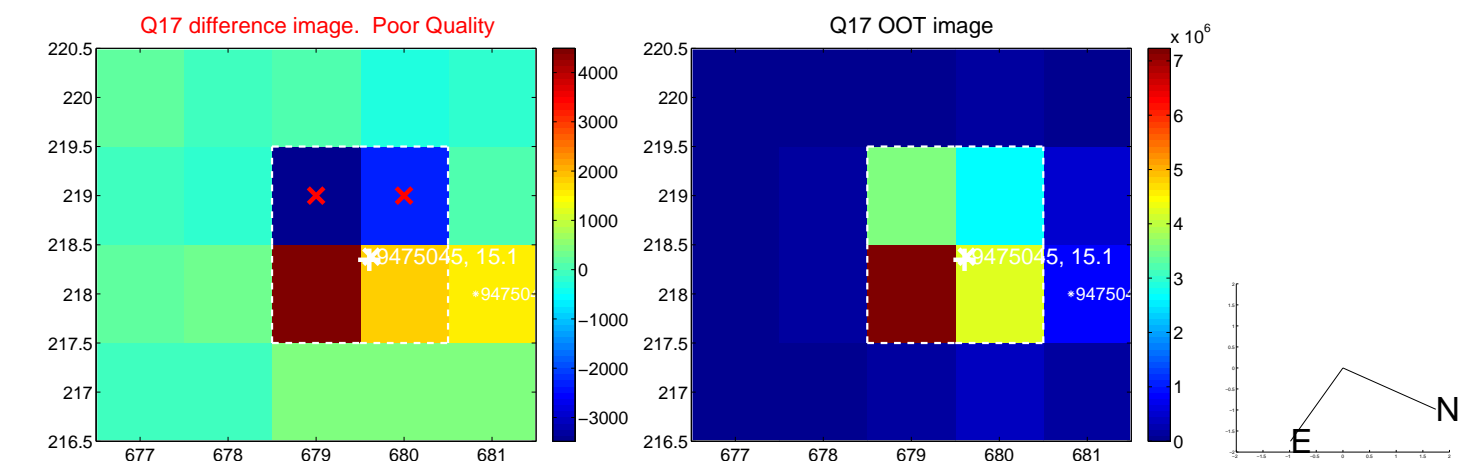
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



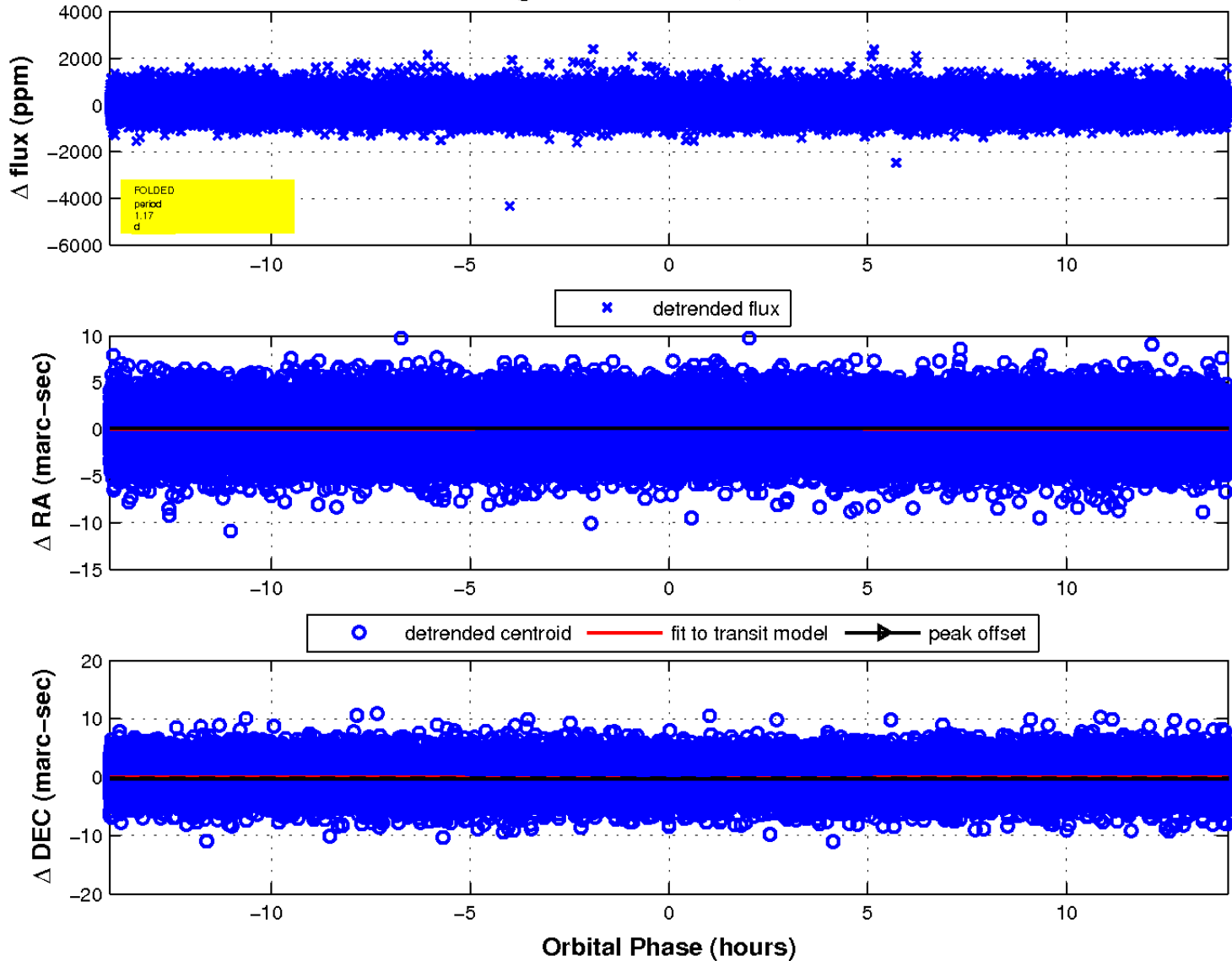
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

