

KIC 004075096

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})
004075096-01	OBS	No	0.909410	132.175521	82.8	2.880	7.6	8.1	0.68	5378	0.73	1245.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075096-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

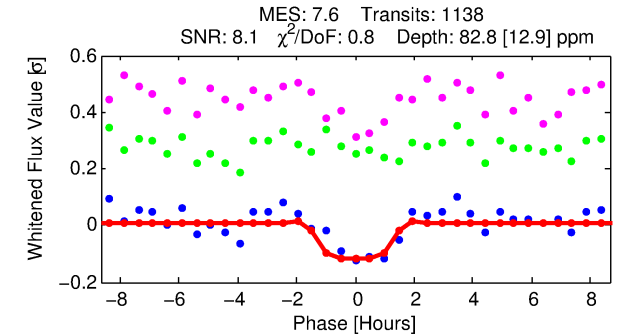
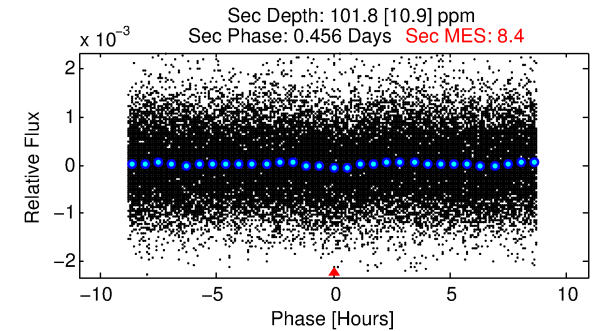
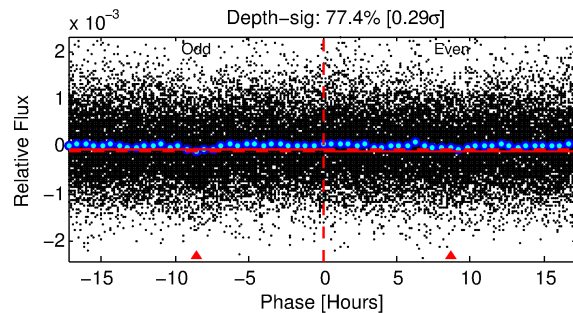
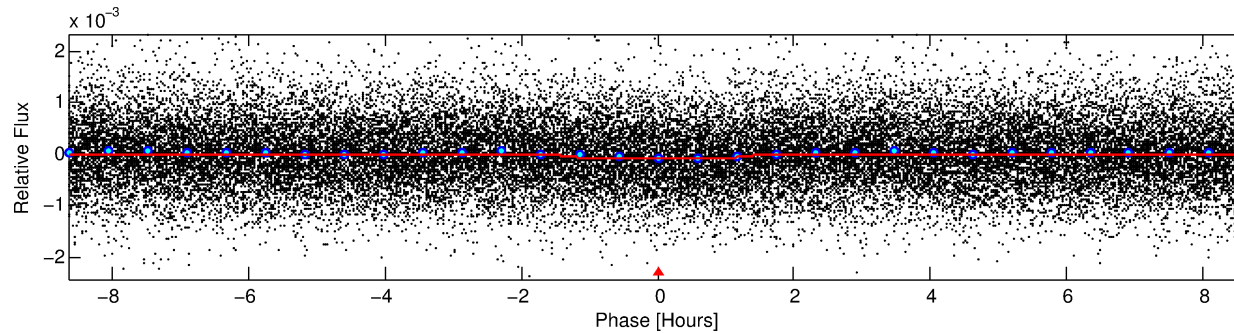
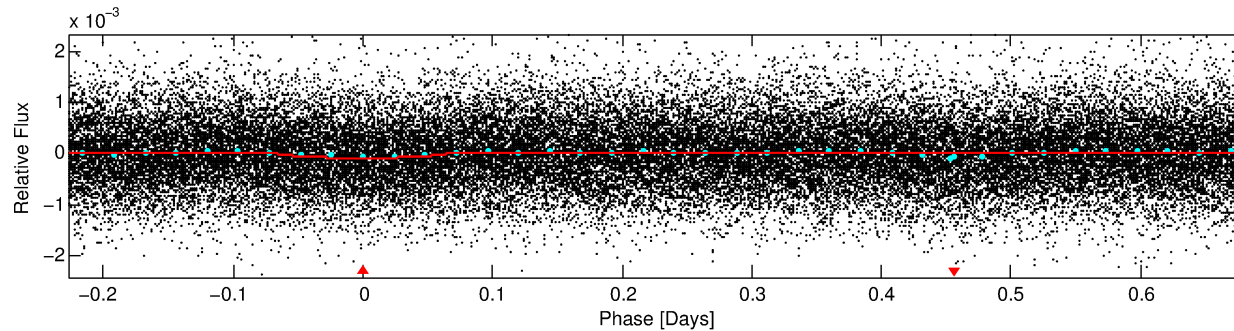
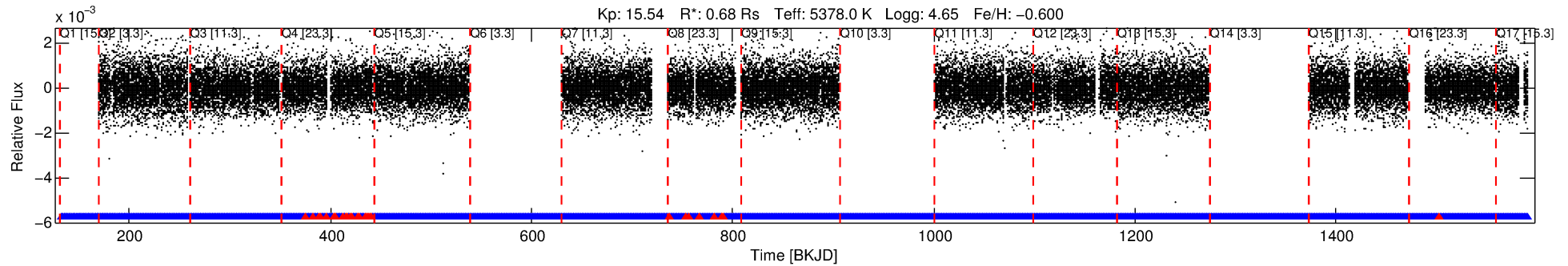
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004075096-01

No Significant Match Found

DV One-Page Summary

KIC: 4075096 Candidate: 1 of 1 Period: 0.909 d



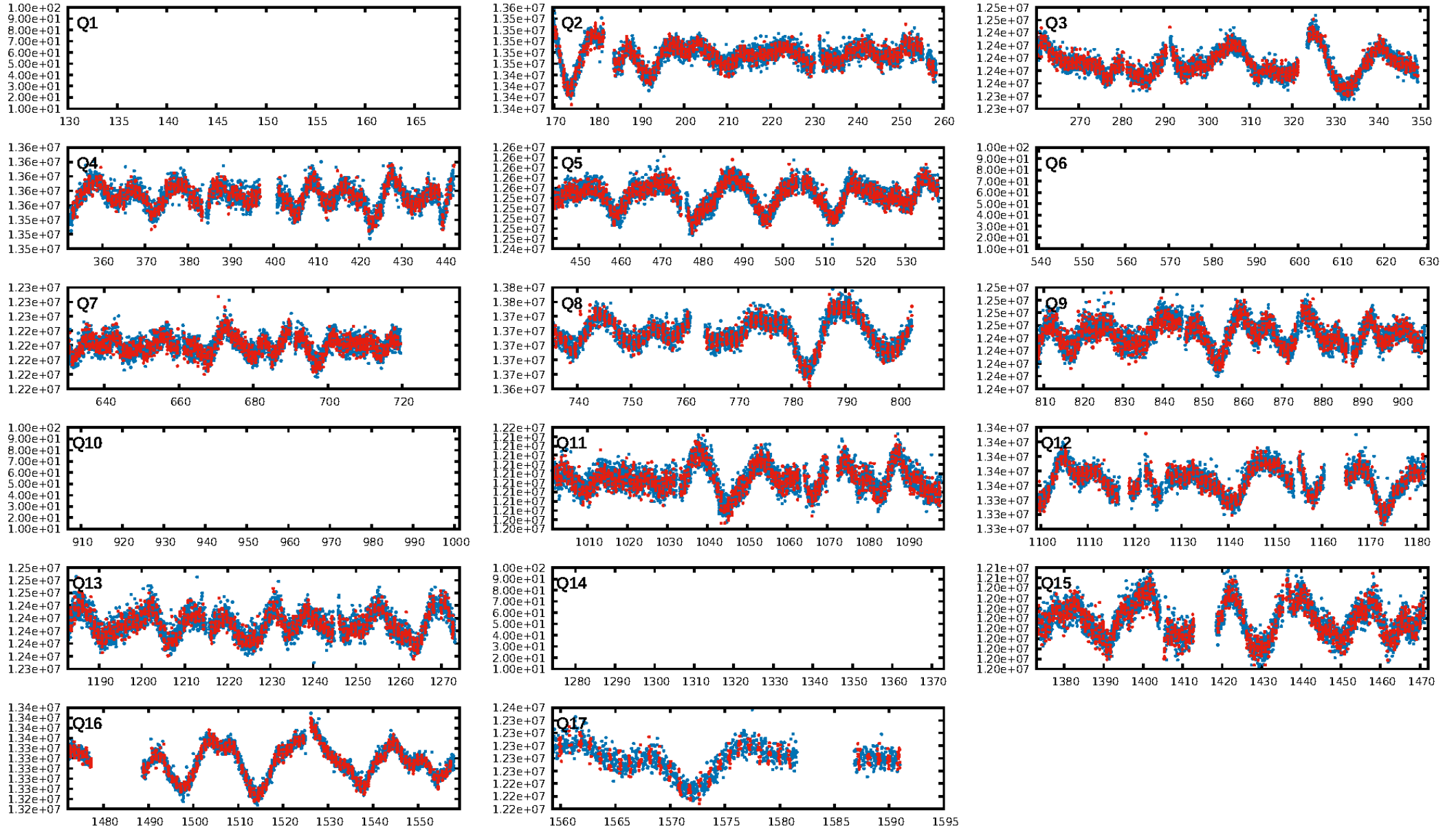
DV Fit Results:

Period = 0.90941 [0.00001] d
Epoch = 132.1755 [0.0042] BKJD
Rp/R* = 0.0098 [0.0086]
a/R* = 1.48 [3.25]
b = 0.89 [0.97]
Seff = 1245.04 [259.10]
Teq = 1515 [79] K
Rp = 0.73 [0.64] Re
a = 0.0166 [0.0020] AU
Ag = 29.22 [51.21] [0.55 σ]
Teffp = 5445 [2380] K [1.65 σ]

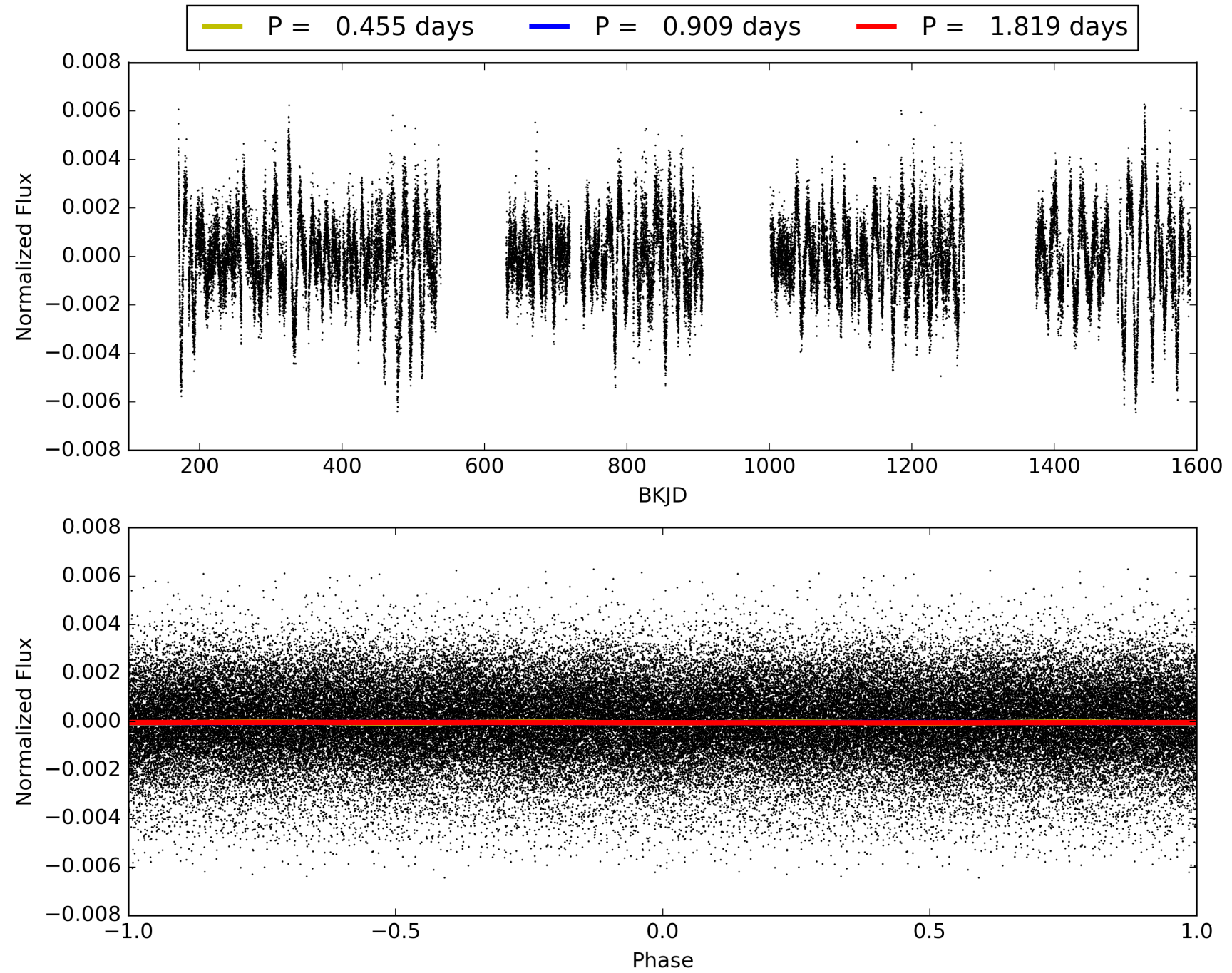
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.53e-14
RollingBand-fgt: 0.97 [1075/1109]
GhostDiagnostic-chr: -3.562
Centroid-sig: 36.6%
Centroid-so: 0.918 arcsec [0.60 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004075096-01, PDC Light Curves

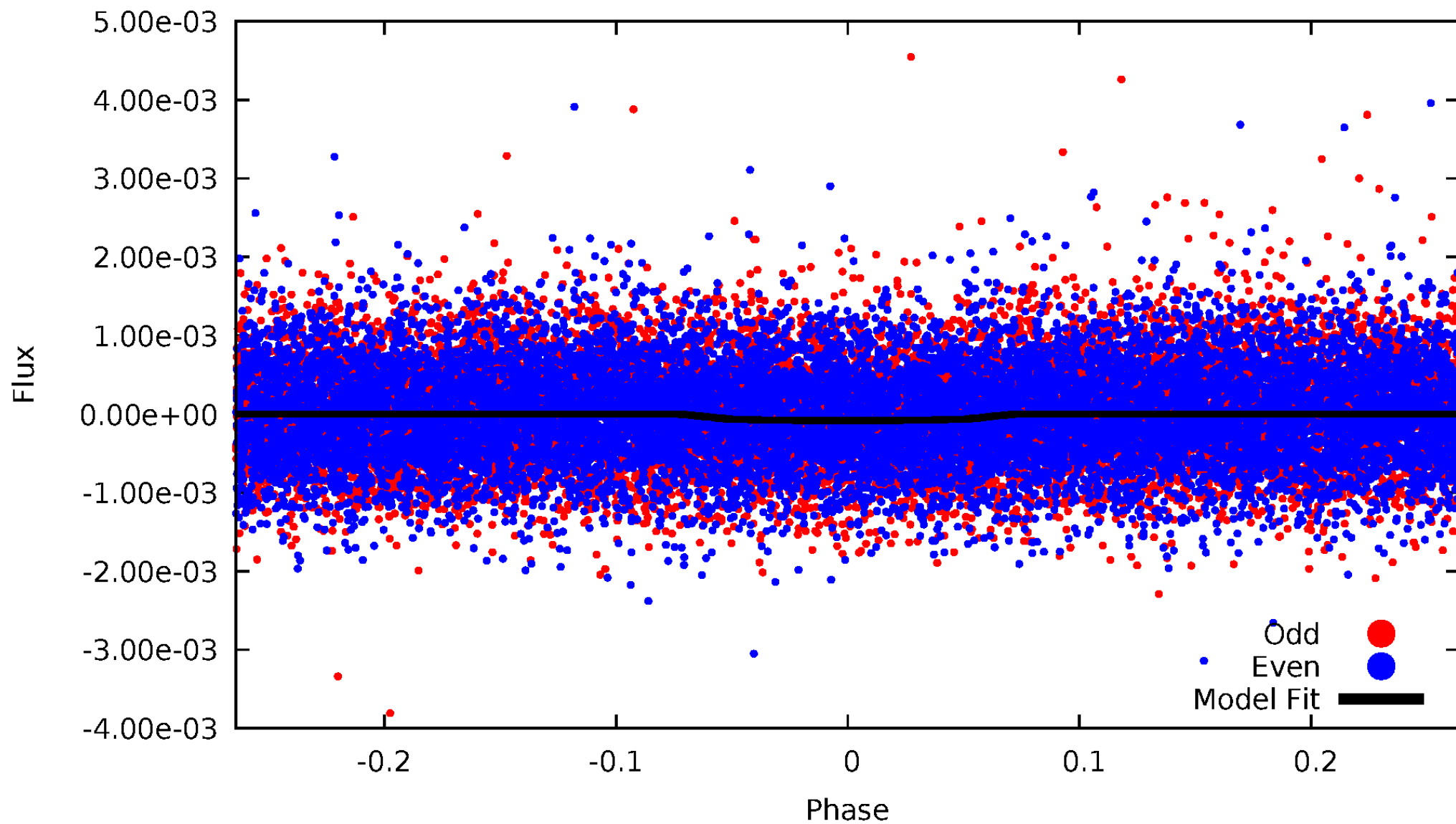


TCE 004075096-01



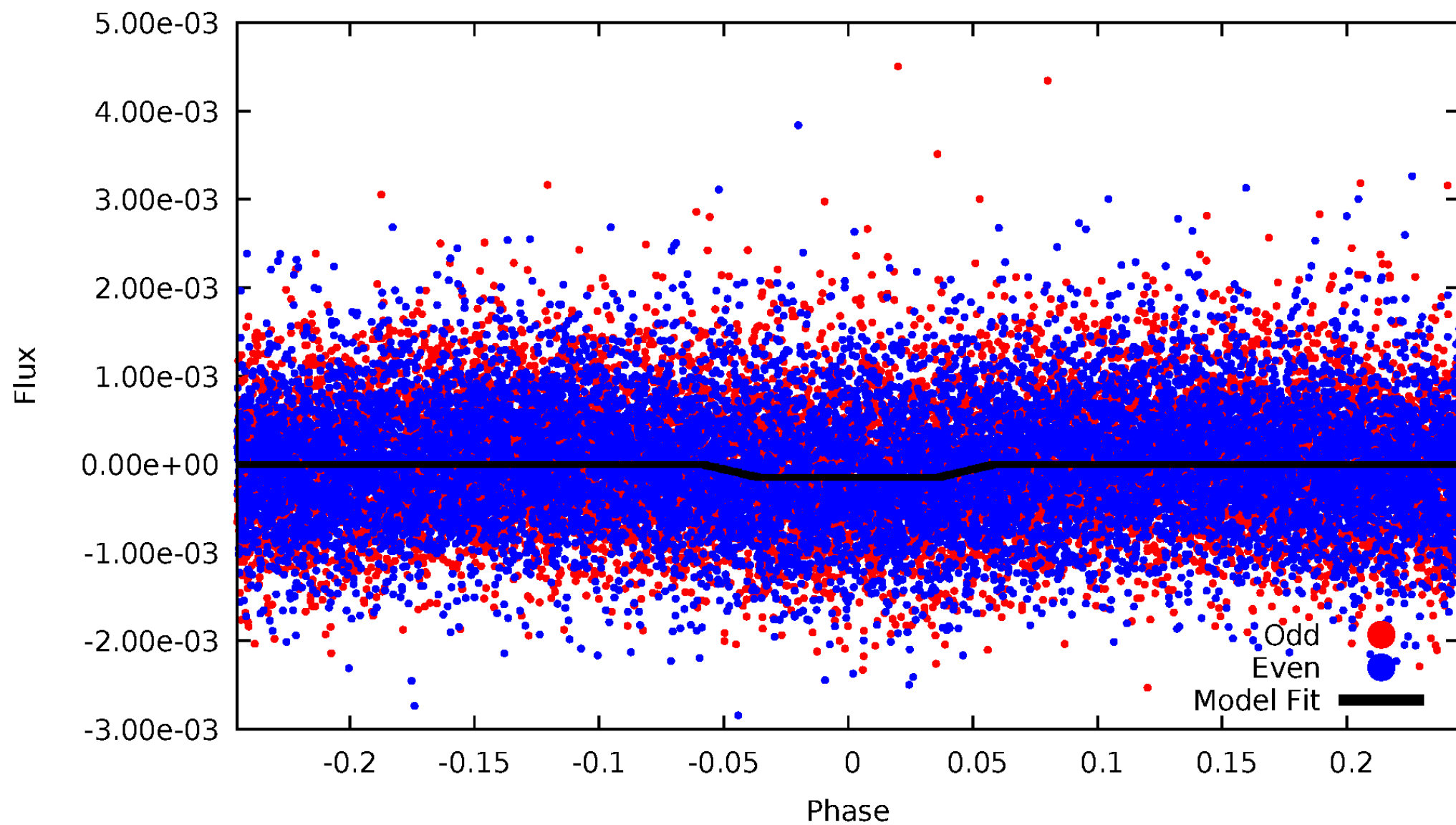
DV Odd/Even

TCE 004075096-01



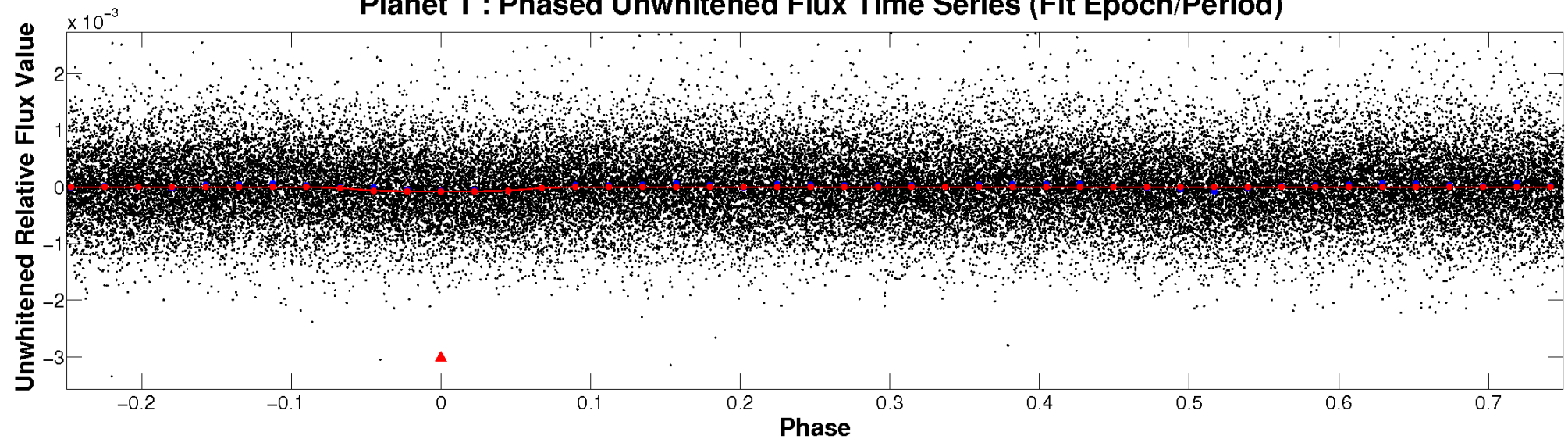
ALT Odd/Even

TCE 004075096-01

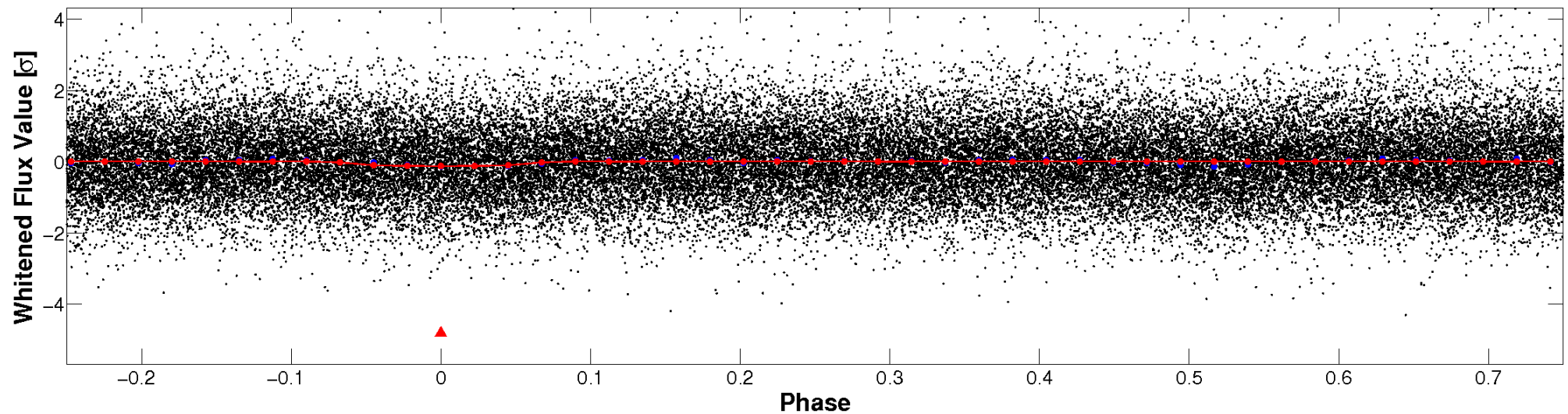


Non-Whitened Vs. Whitened Light Curve

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

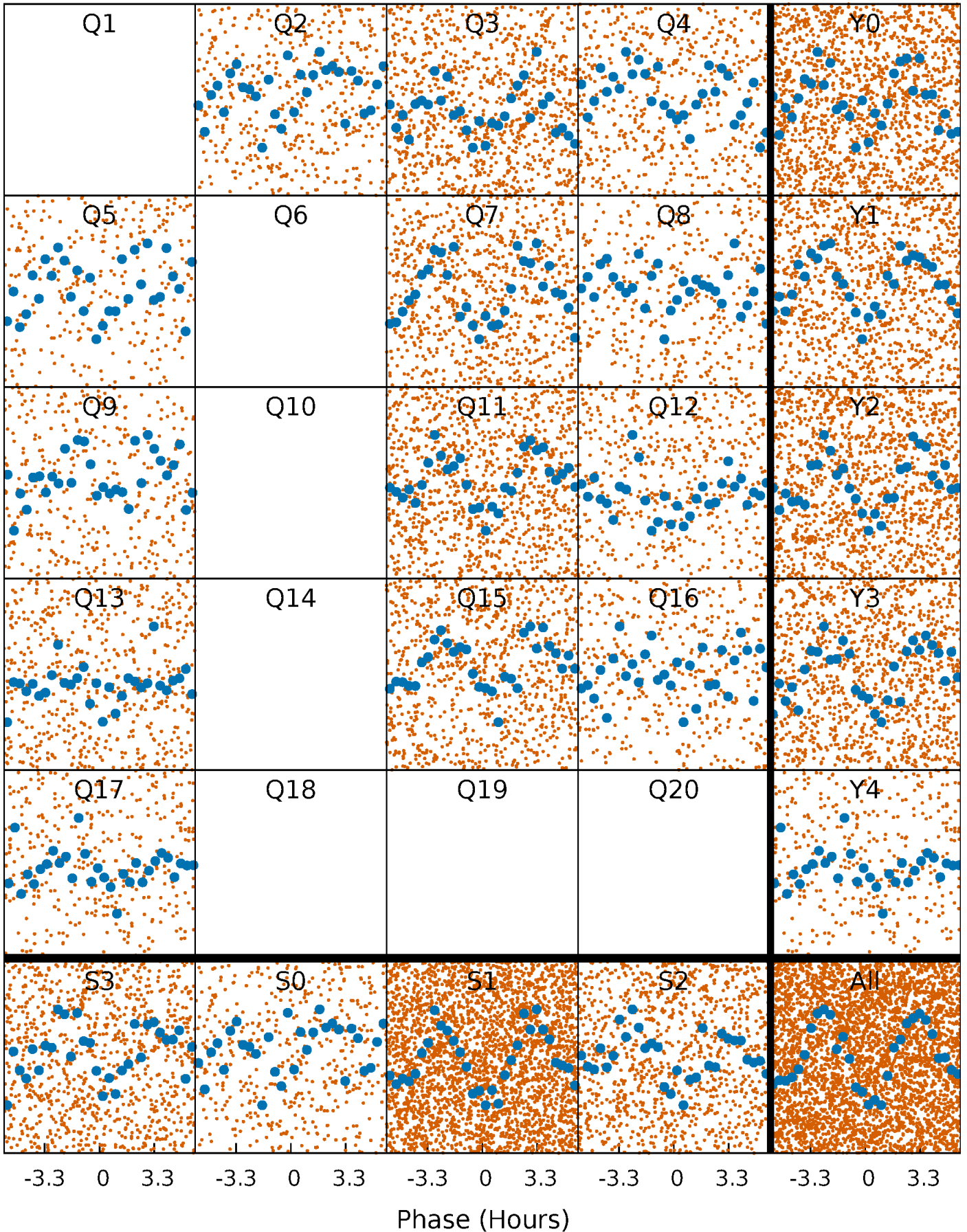


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



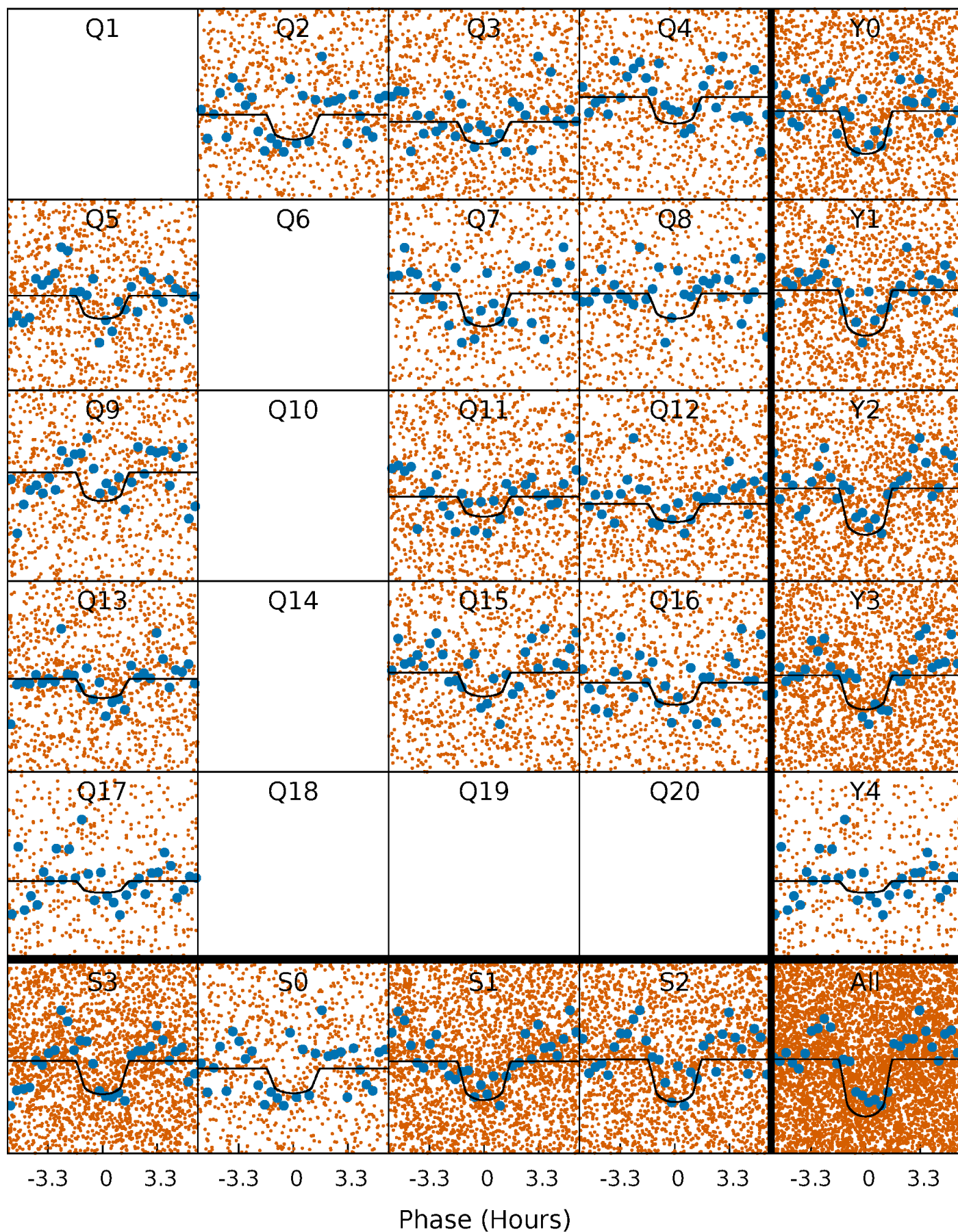
PDC Quarter-Phased Transit Curves

TCE 004075096-01 P= 0.909410 Days $T_0=132.175521$ (BKJD)



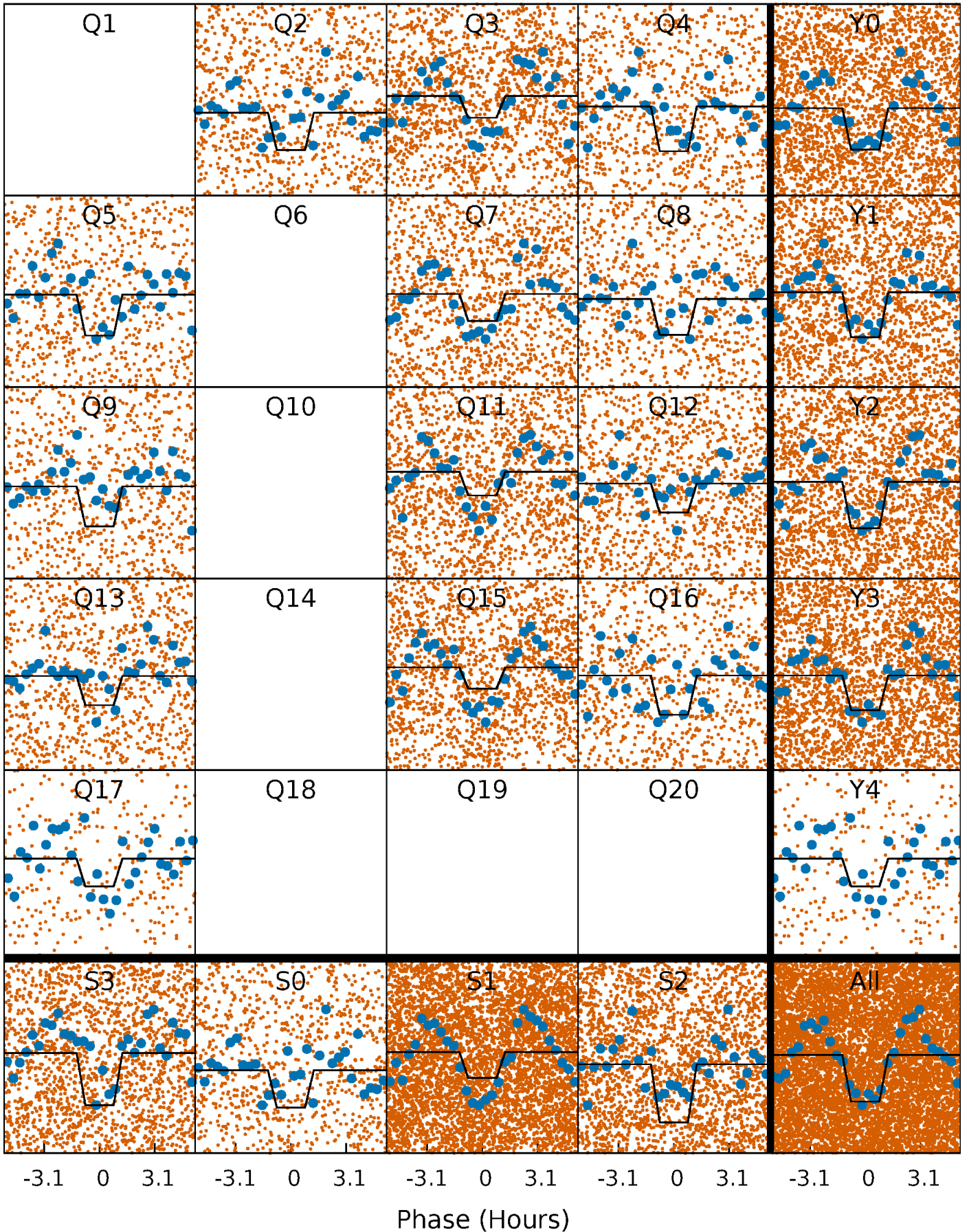
DV Quarter-Phased Transit Curves

TCE 004075096-01 P= 0.909410 Days $T_0=132.175521$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

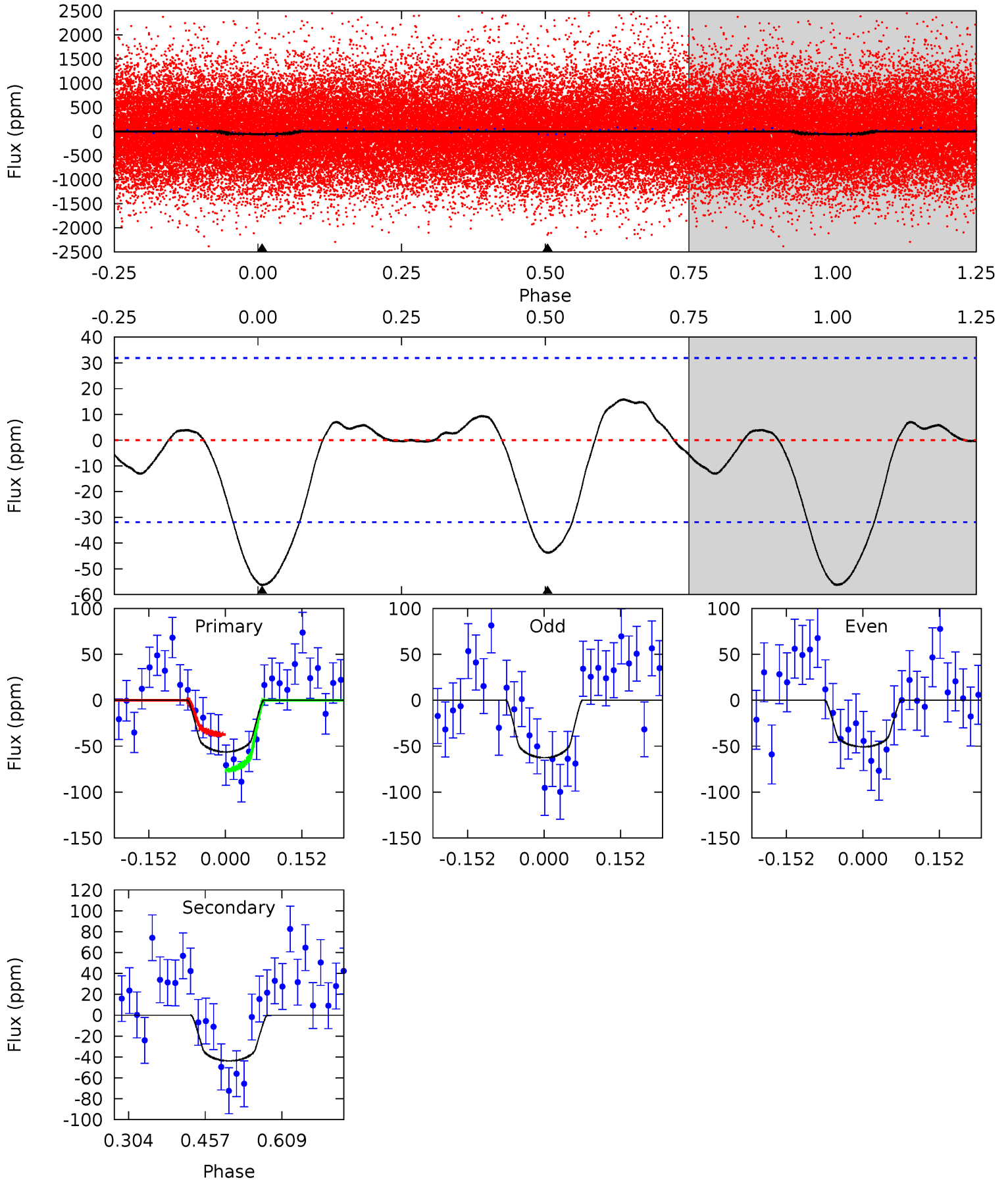
TCE 004075096-01 P= 0.909439 Days $T_0=132.165172$ (BKJD)



DV Model-Shift Uniqueness Test

004075096-01, P = 0.909410 Days, E = 132.175521 Days

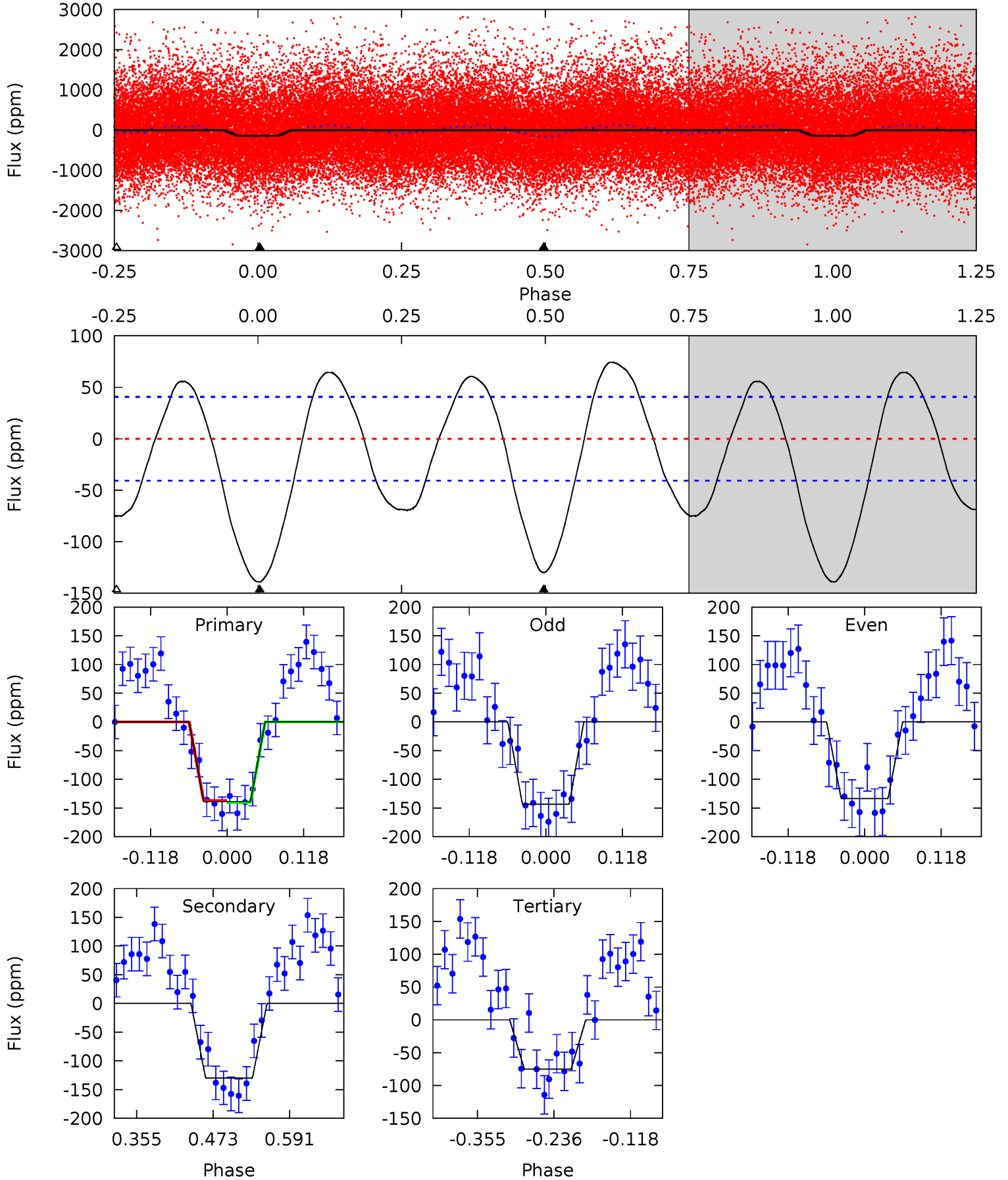
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	6.14	0	0	4.48	1.43	0.93	7.90	7.90	6.14	6.14	0.84	1.09	0.22	2.72



Alt Model-Shift Uniqueness Test

004075096-01, P = 0.909439 Days, E = 132.165172 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	14.5	8.37	0	4.53	1.56	5.59	7.12	15.5	6.11	14.5	0.54	0.81	0.35	0.17



Stellar Parameters For KIC 004075096

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5378^{+160}_{-160}	$4.646^{+0.030}_{-0.090}$	$-0.600^{+0.300}_{-0.300}$	$0.678^{+0.102}_{-0.048}$	$0.750^{+0.072}_{-0.072}$	$3.392^{+0.532}_{-0.979}$
	+3%/-3%	+1%/-2%	+50%/-50%	+15%/-7%	+10%/-10%	+16%/-29%
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 004075096-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-44 ± 7	$0.86^{+0.63}_{-0.48}$	2141^{+90}_{-82}	4261^{+1709}_{-753}	$8.767^{+35.055}_{-5.794}$
Alt.	-130 ± 9	$0.99^{+0.59}_{-0.57}$	2143^{+82}_{-80}	5056^{+2775}_{-894}	20^{+87}_{-12}

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

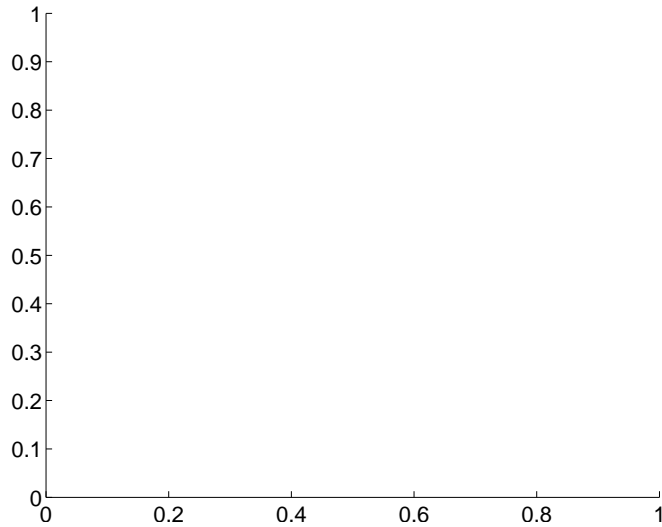
Supplemental centroid analysis for 004075096-01. Kepler magnitude: 15.54. Transit SNR 8.11

There are 0 quarters with good PRF difference image offsets

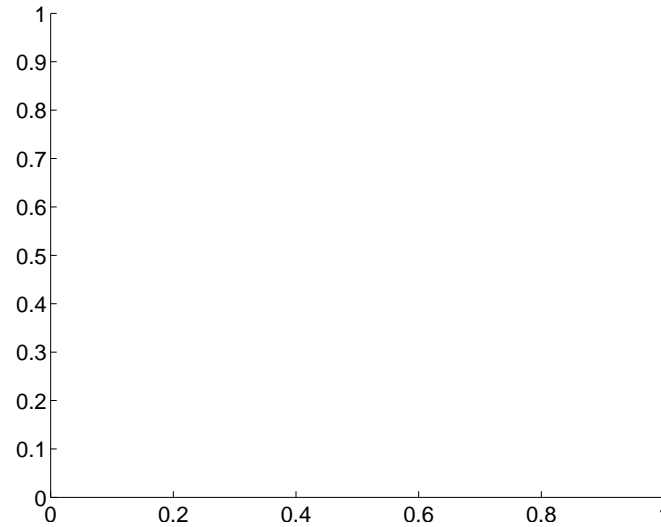
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.92 ± 1.54	0.60	-0.81 ± 1.54	-0.44 ± 1.52

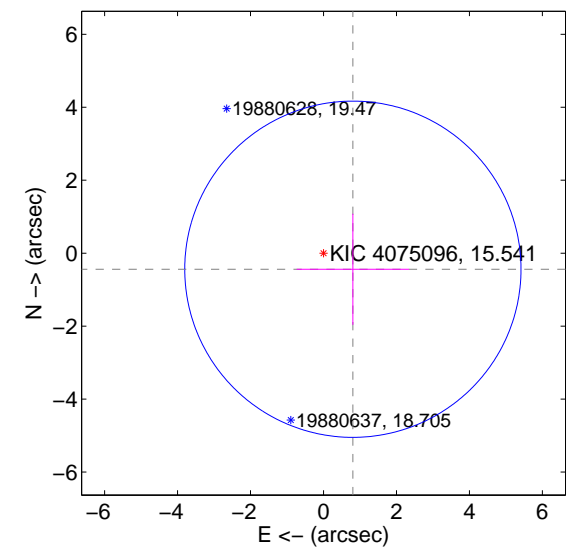
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

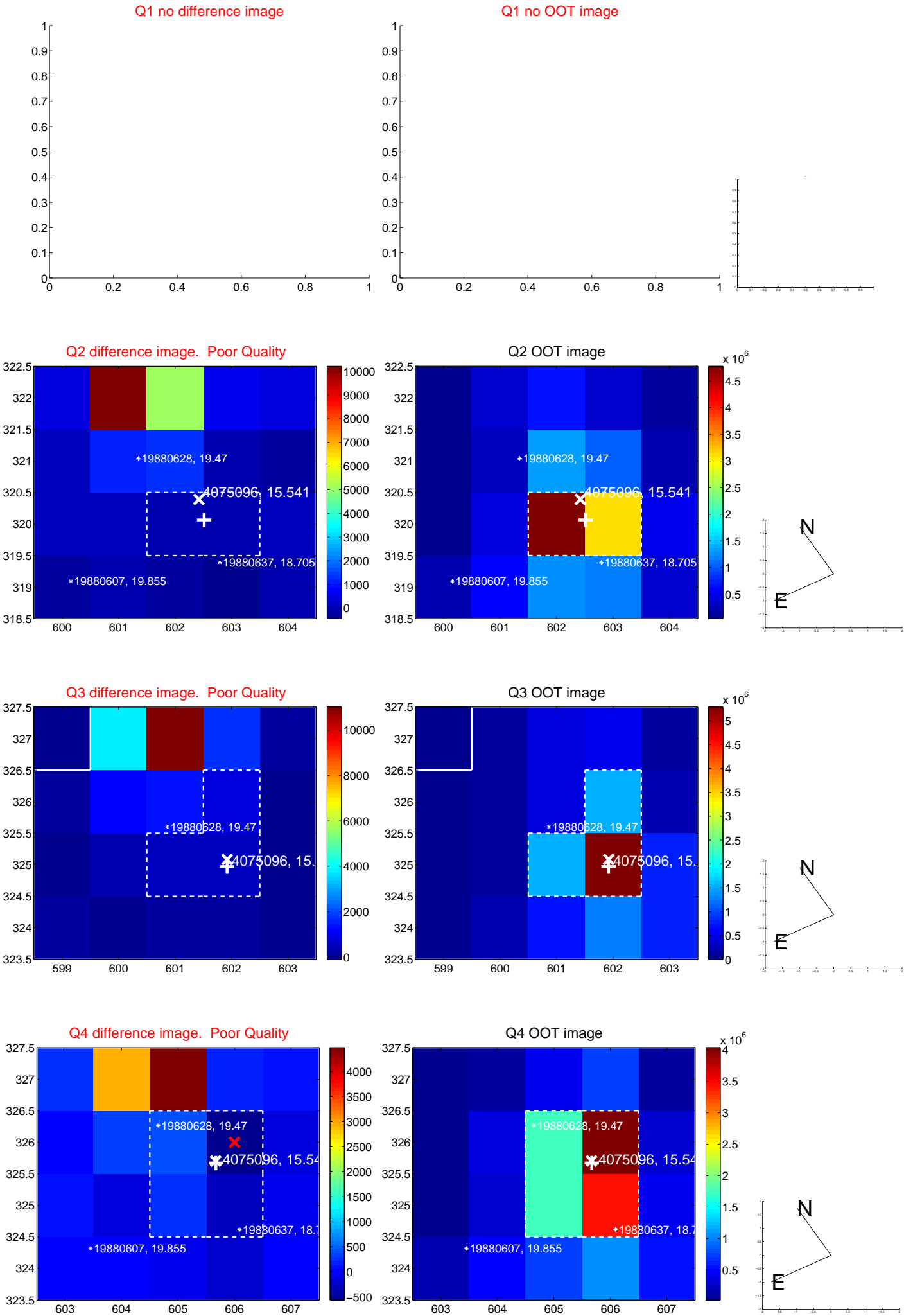


offset from photometric centroids

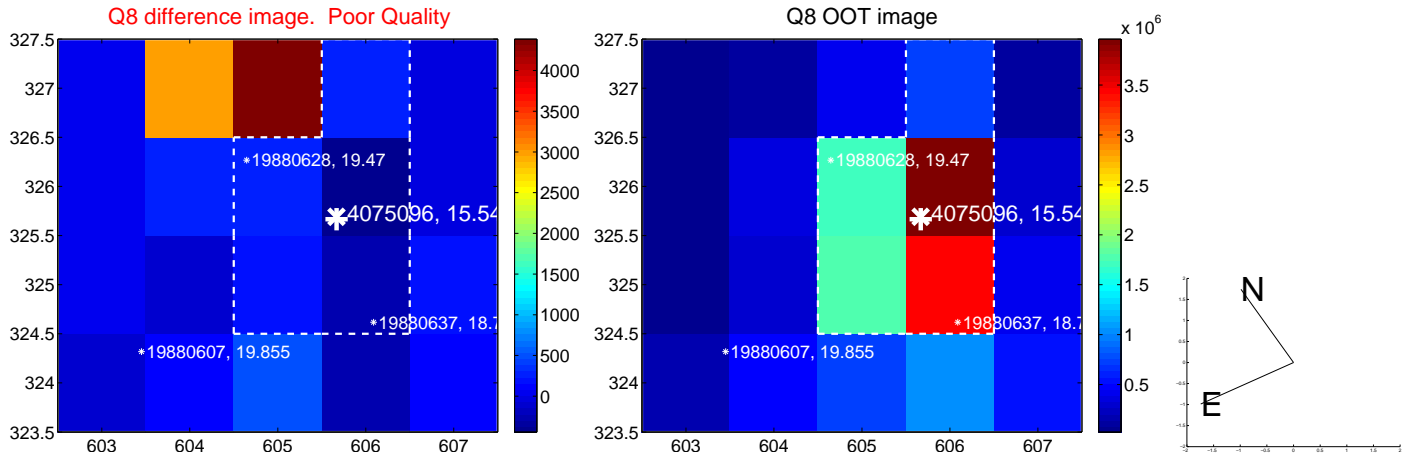
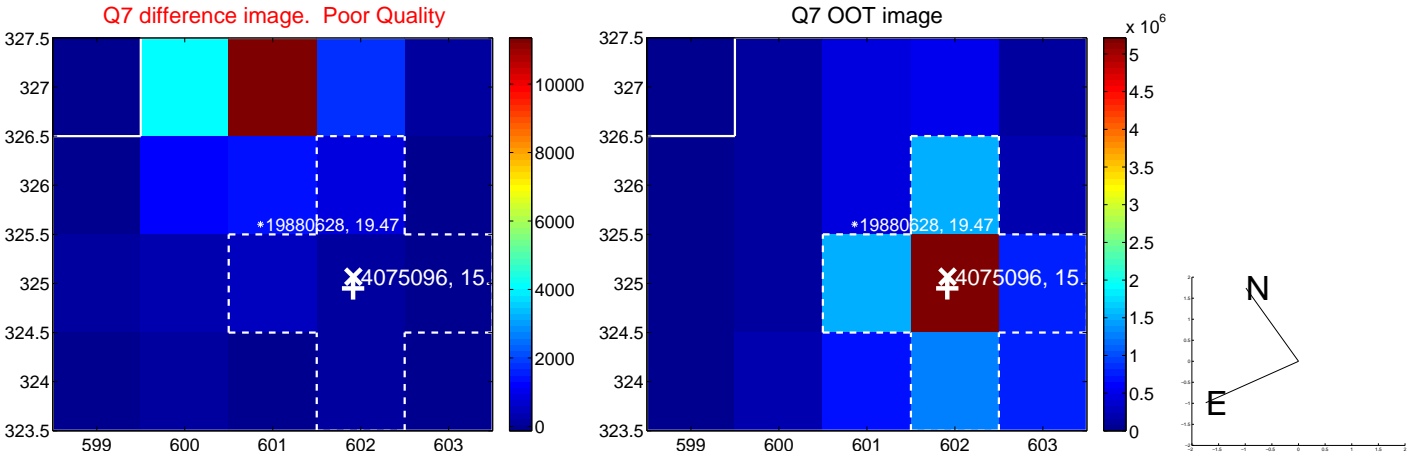
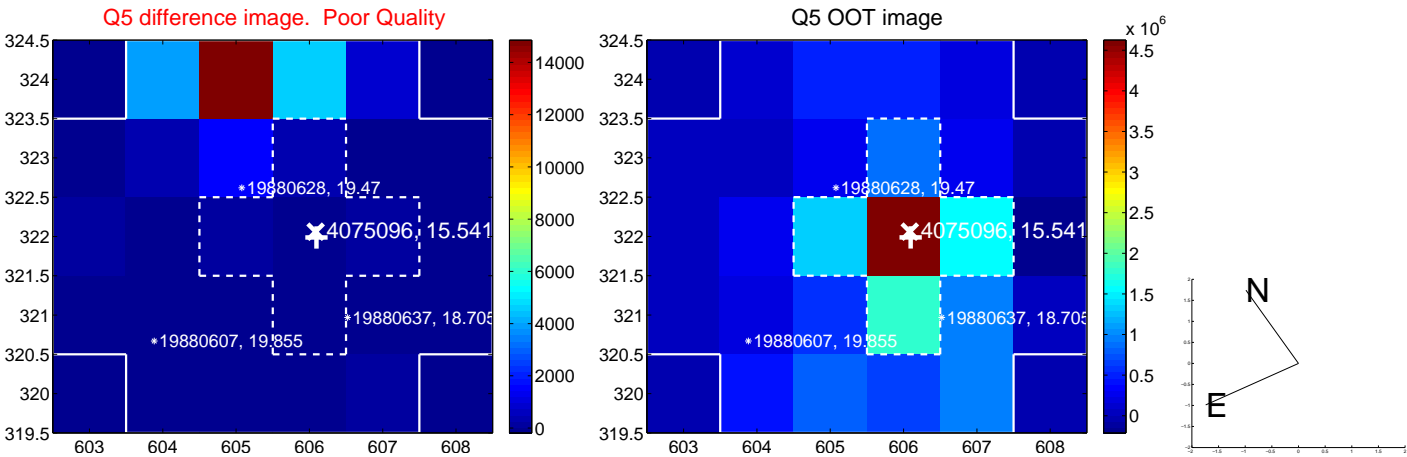


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

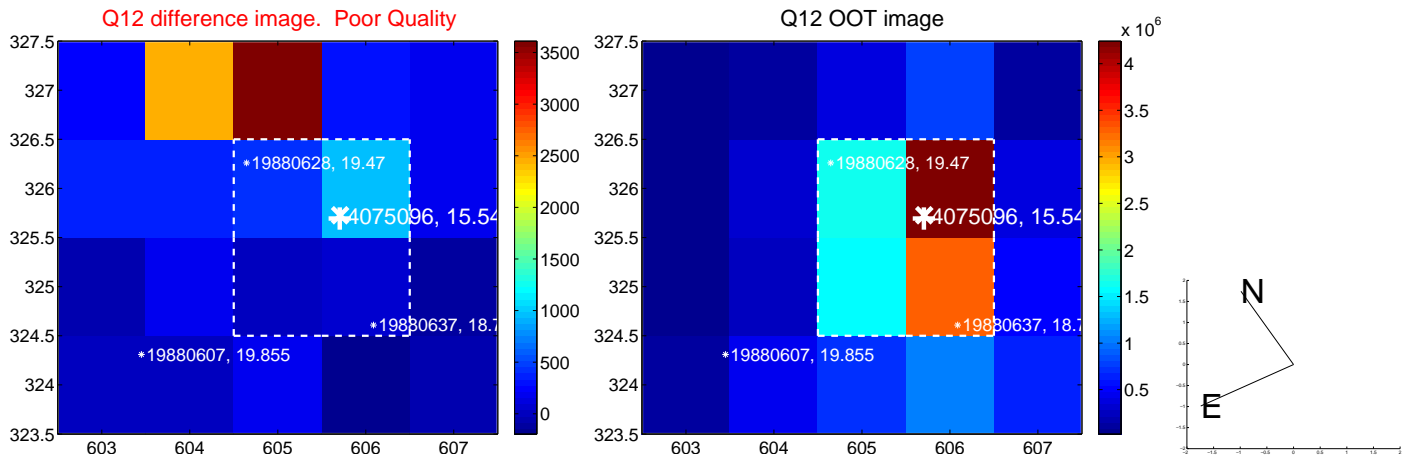
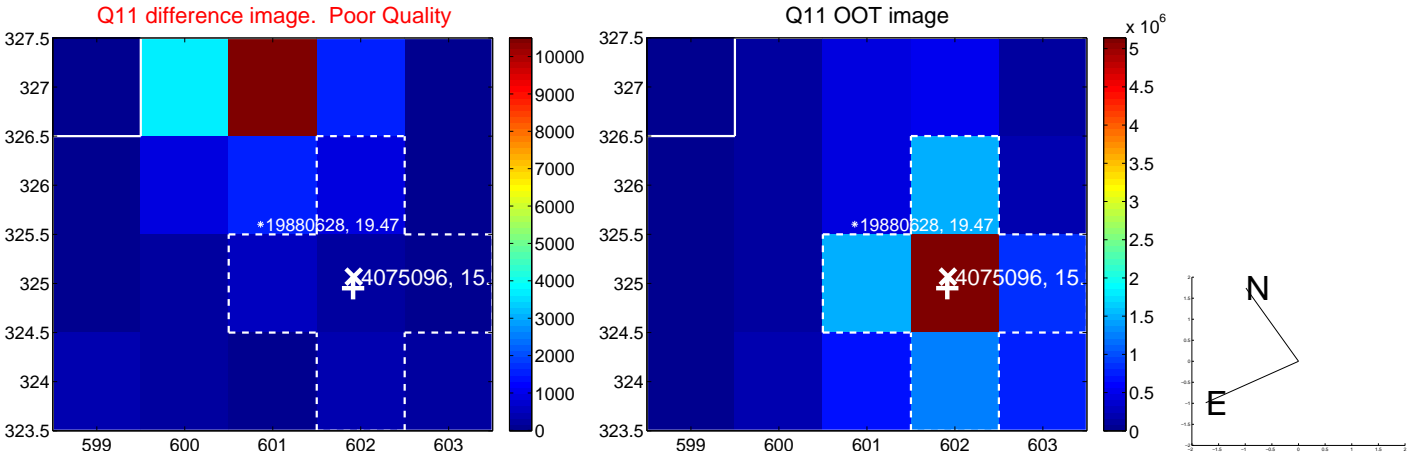
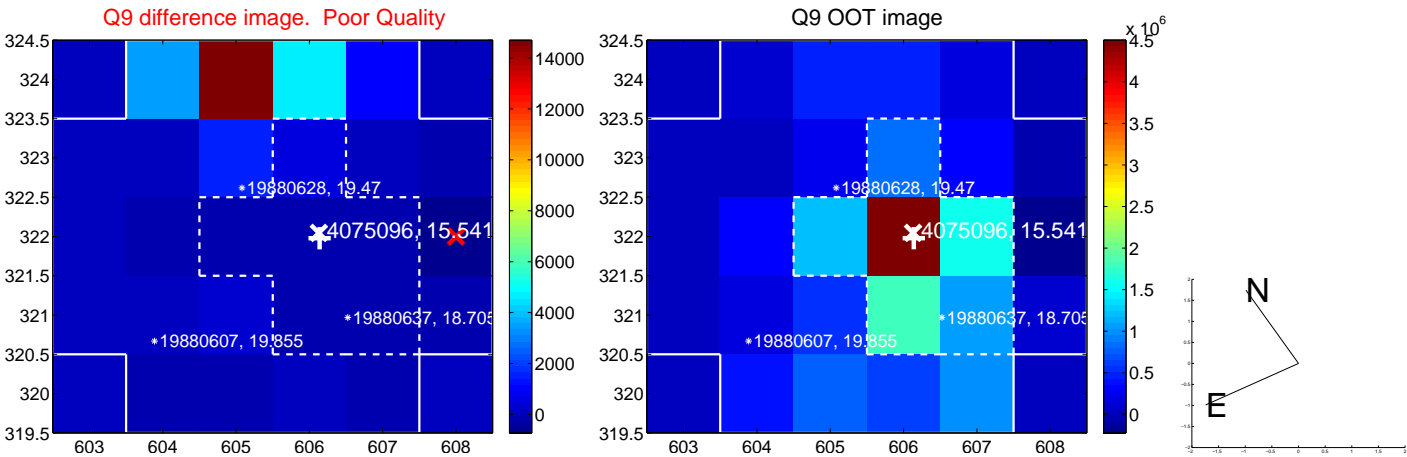
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



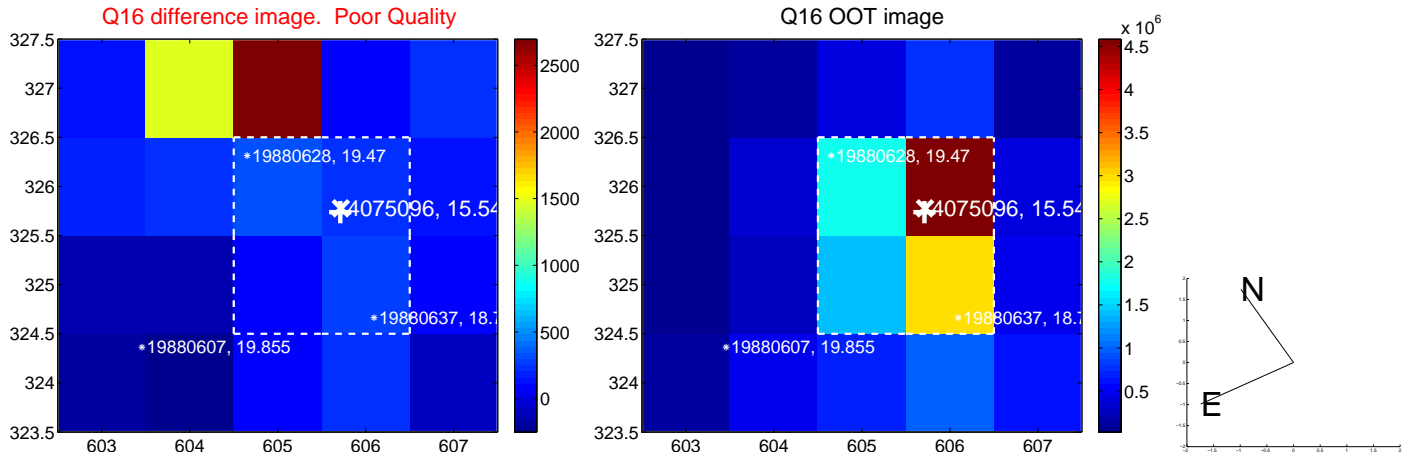
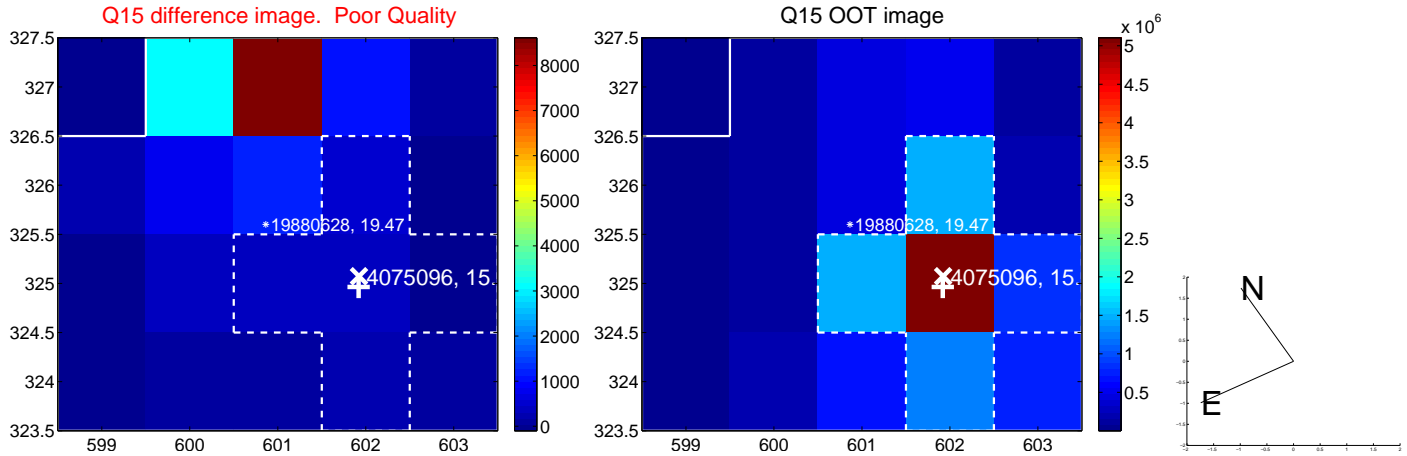
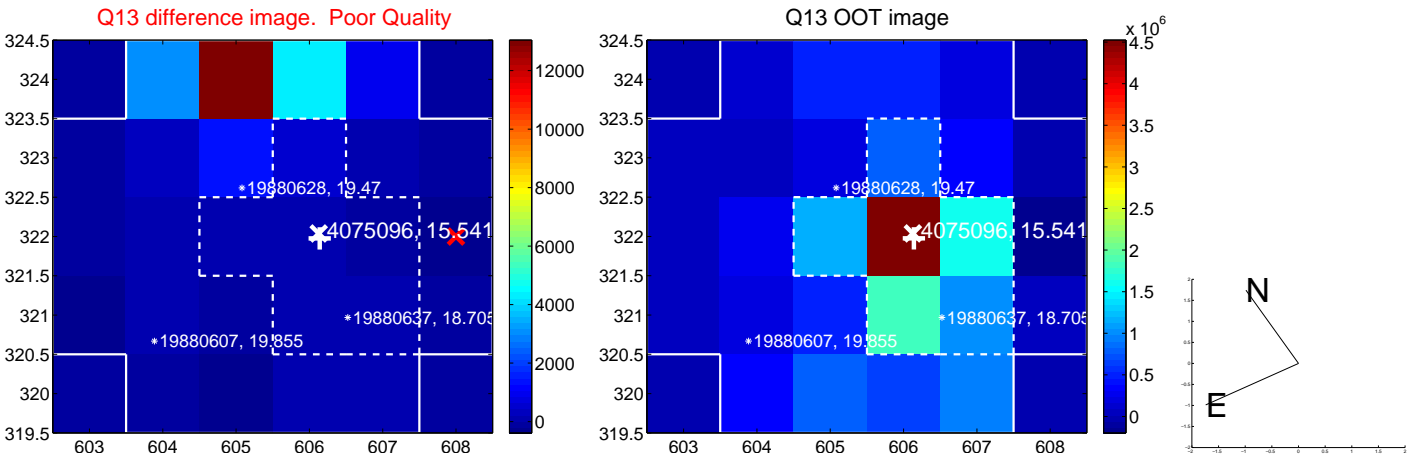
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



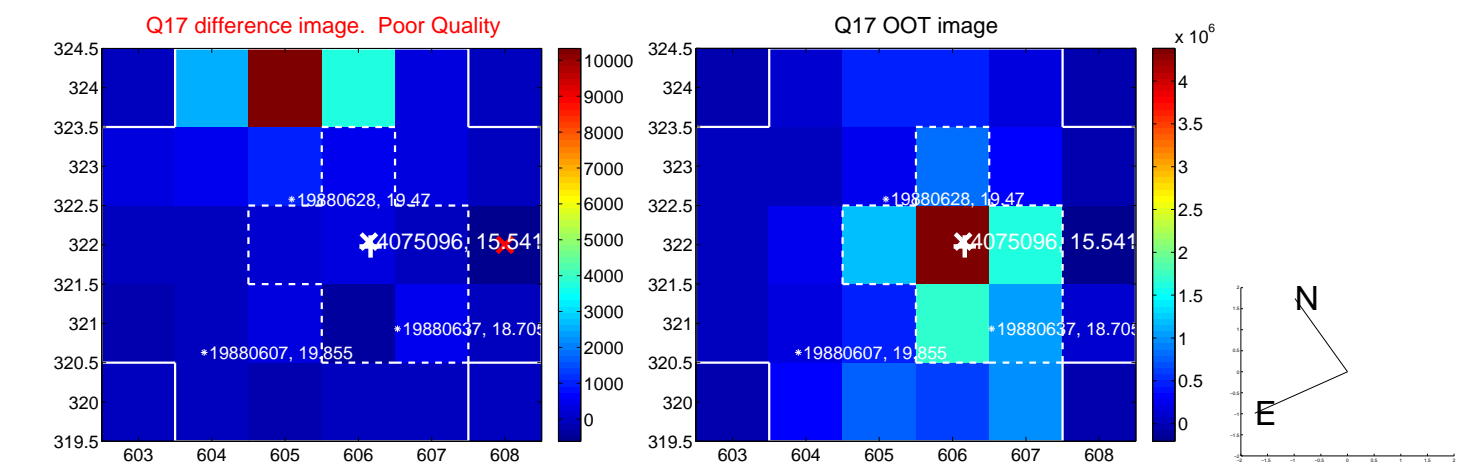
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



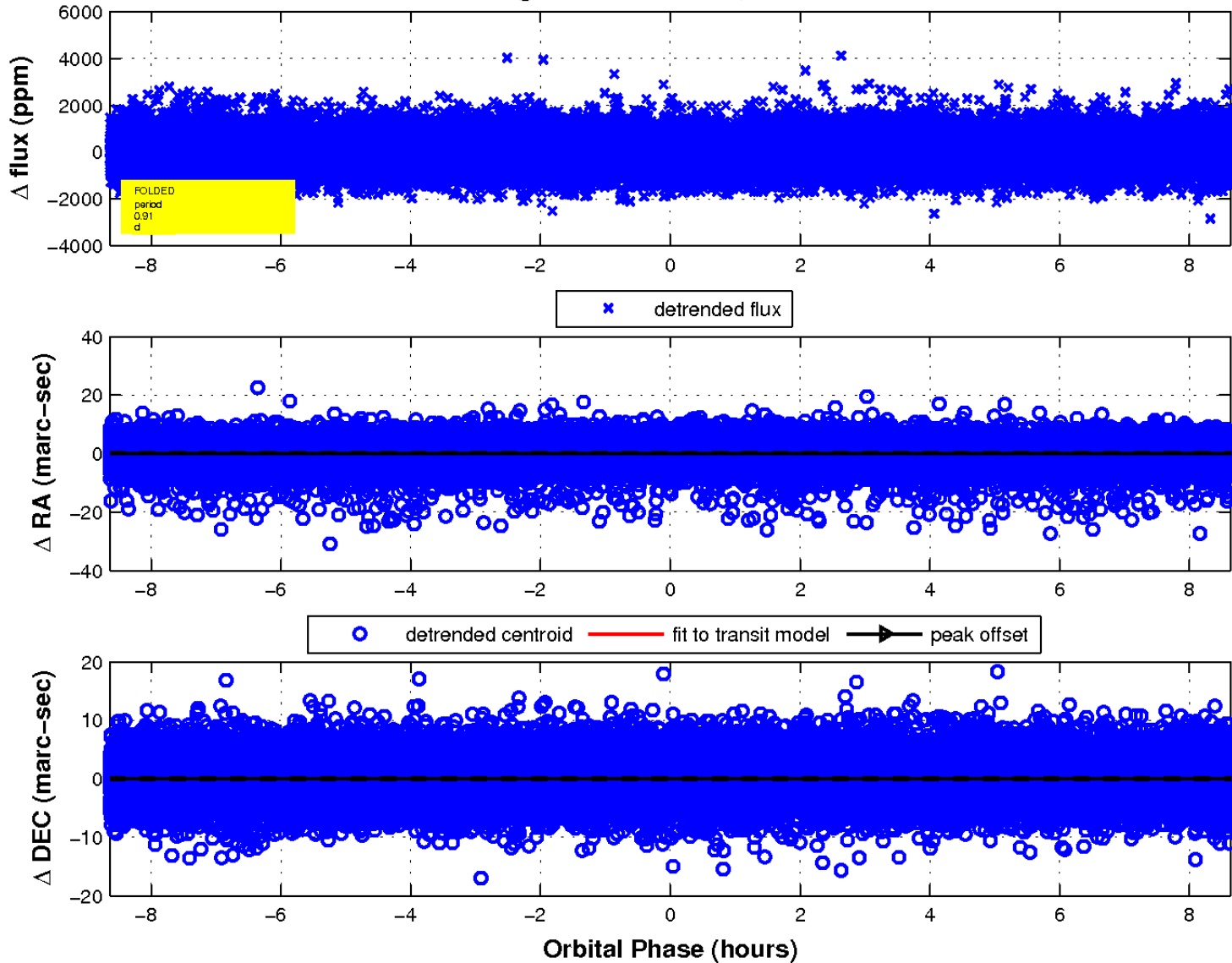
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

