

KIC 010990961

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})
010990961-01	OBS	No	2.157028	132.897492	66.8	25.884	9.7	17.6	1.82	8105	1.96	8084.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010990961-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET

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

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

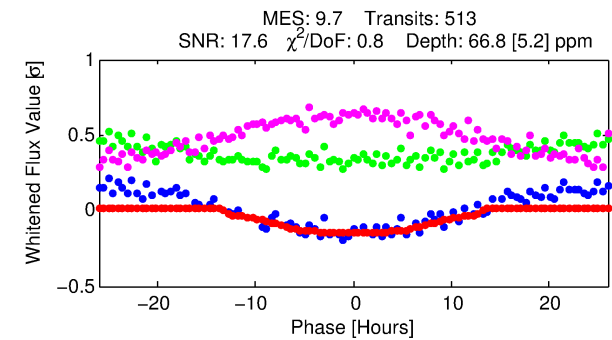
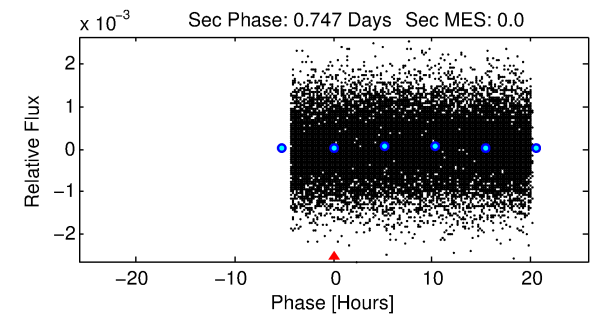
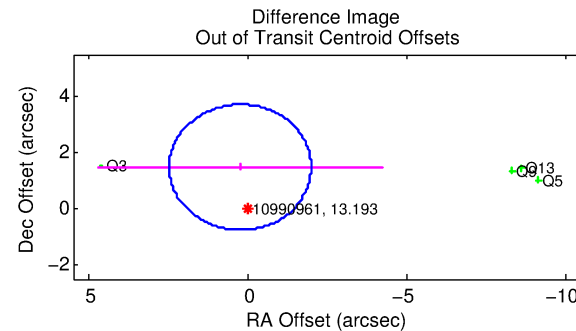
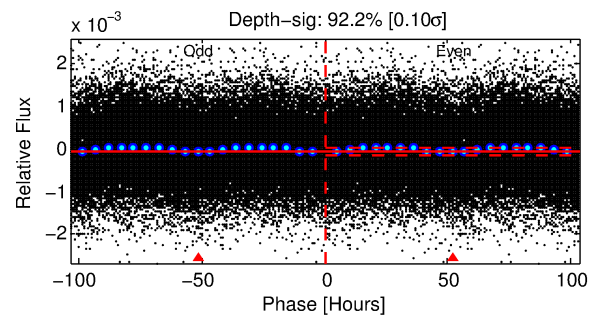
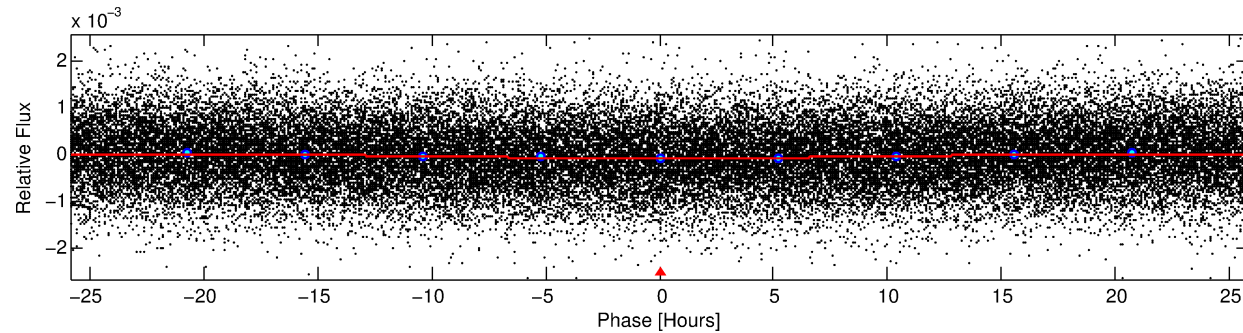
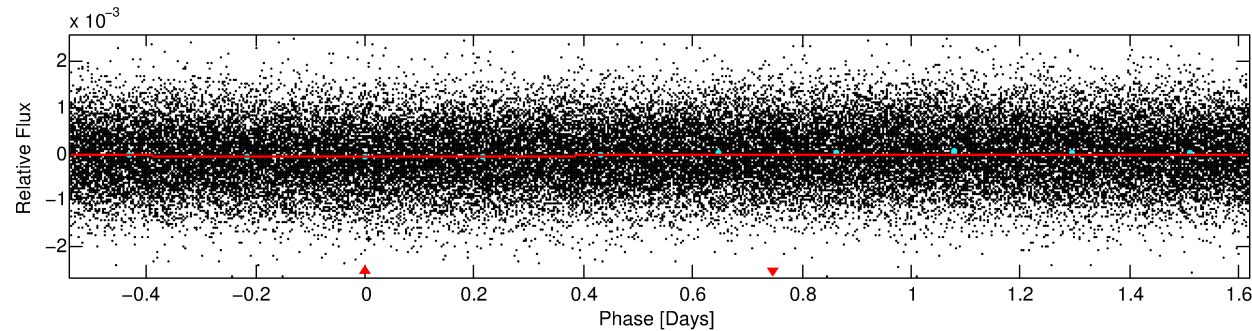
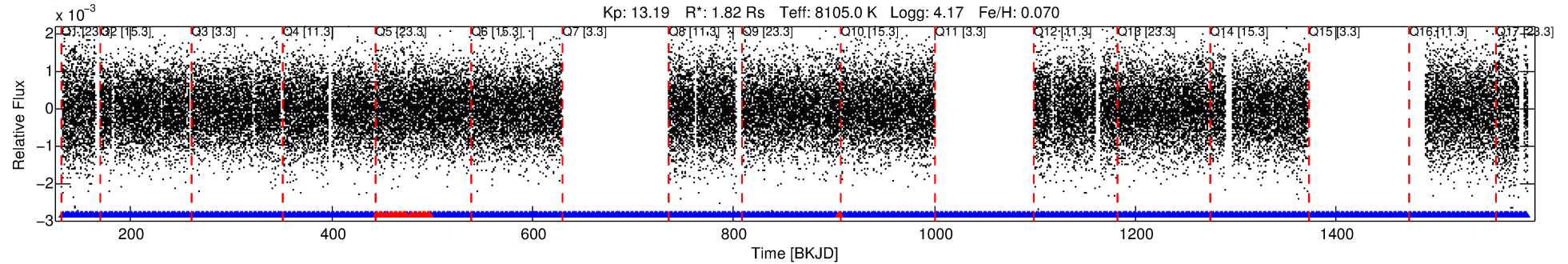
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010990961-01

No Significant Match Found

DV One-Page Summary

KIC: 10990961 Candidate: 1 of 1 Period: 2.157 d



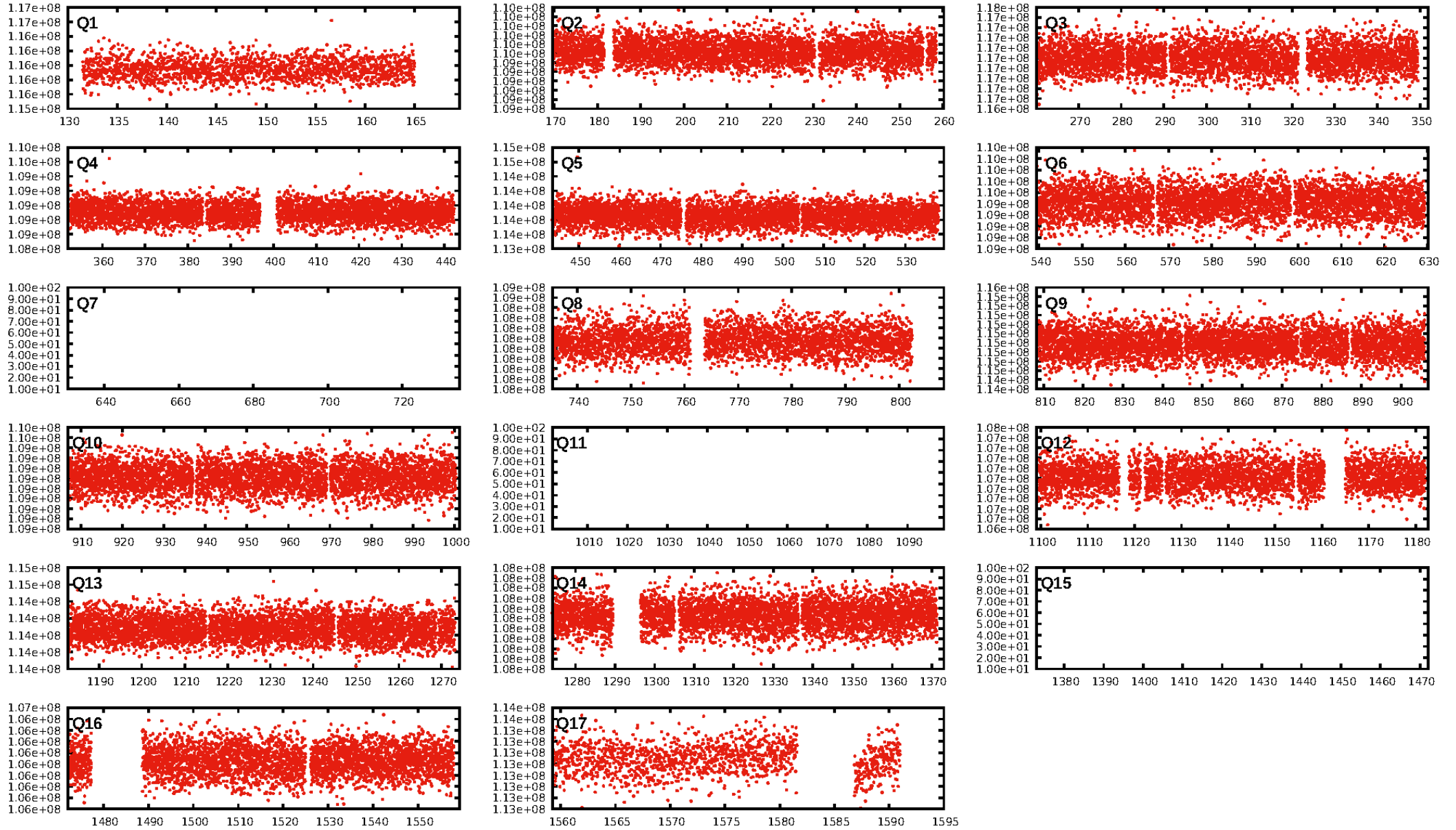
DV Fit Results:

Period = 2.15703 [0.00007] d
Epoch = 132.8975 [0.0204] BKJD
Rp/R* = 0.0099 [0.0006]
a/R* = 1.00 [0.00]
b = 0.98 [0.01]
Seff = 8084.79 [3018.51]
Teq = 2418 [226] K
Rp = 1.96 [0.56] Re
a = 0.0397 [0.0091] AU
Ag = N/A
Teffp = N/A

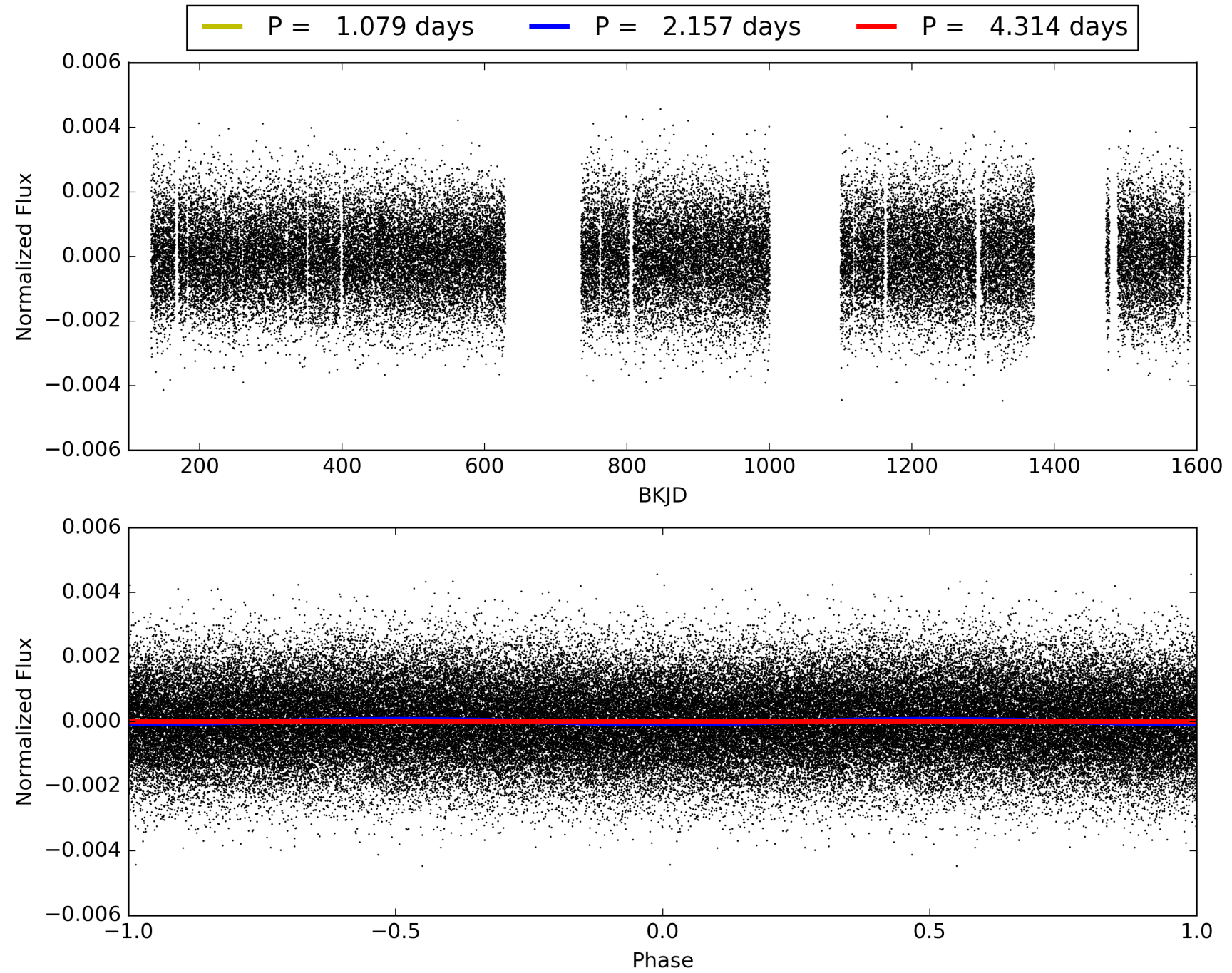
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [463/484]
GhostDiagnostic-chr: 2.442
Centroid-sig: 8.0%
Centroid-so: 0.204 arcsec [0.65 σ]
OotOffset-rm: 1.498 arcsec [2.01 σ]
KicOffset-rm: 1.381 arcsec [1.81 σ]
OotOffset-st: 0/1/0/3 [4]
KicOffset-st: 0/1/0/3 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010990961-01, PDC Light Curves

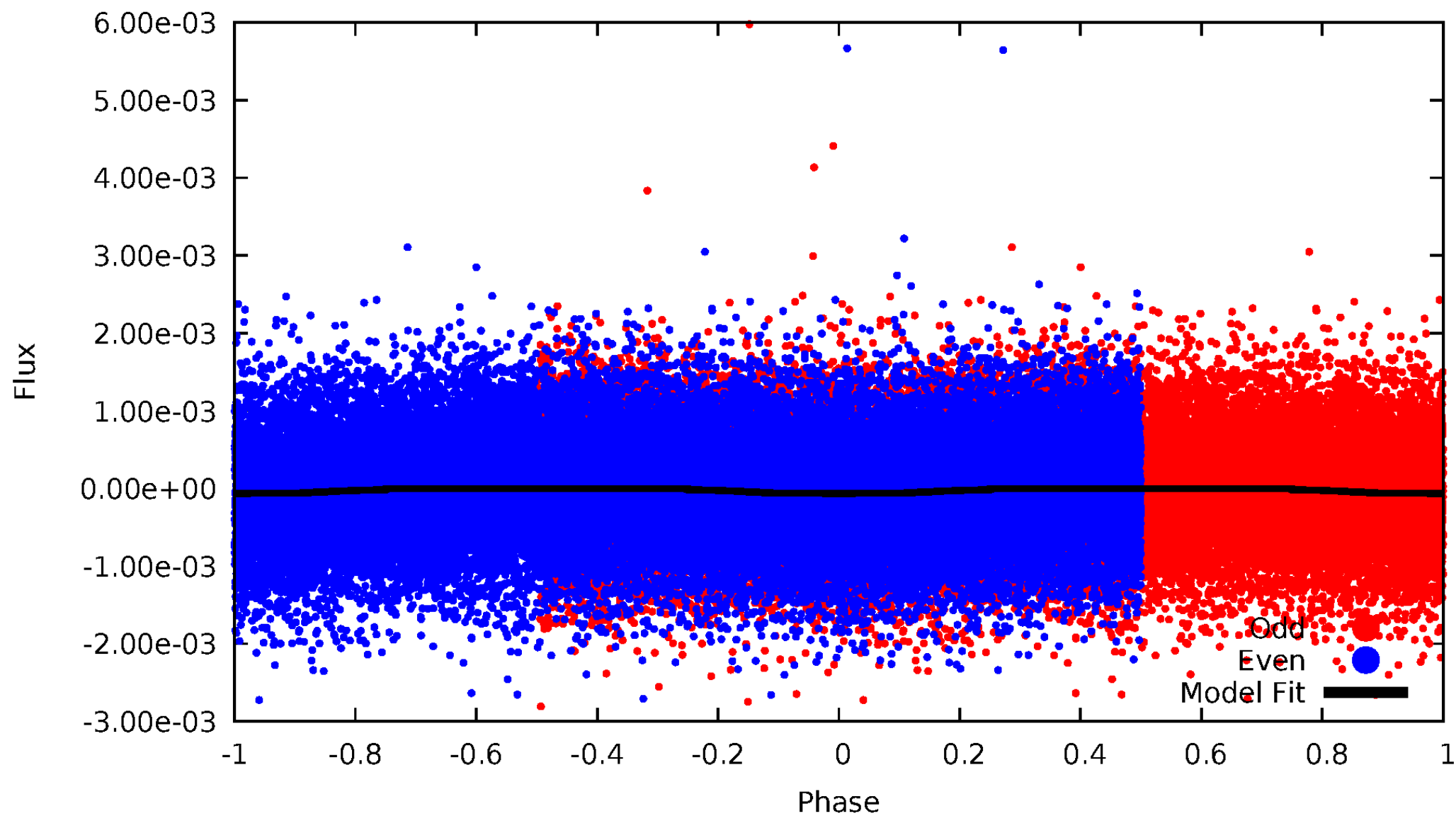


TCE 010990961-01



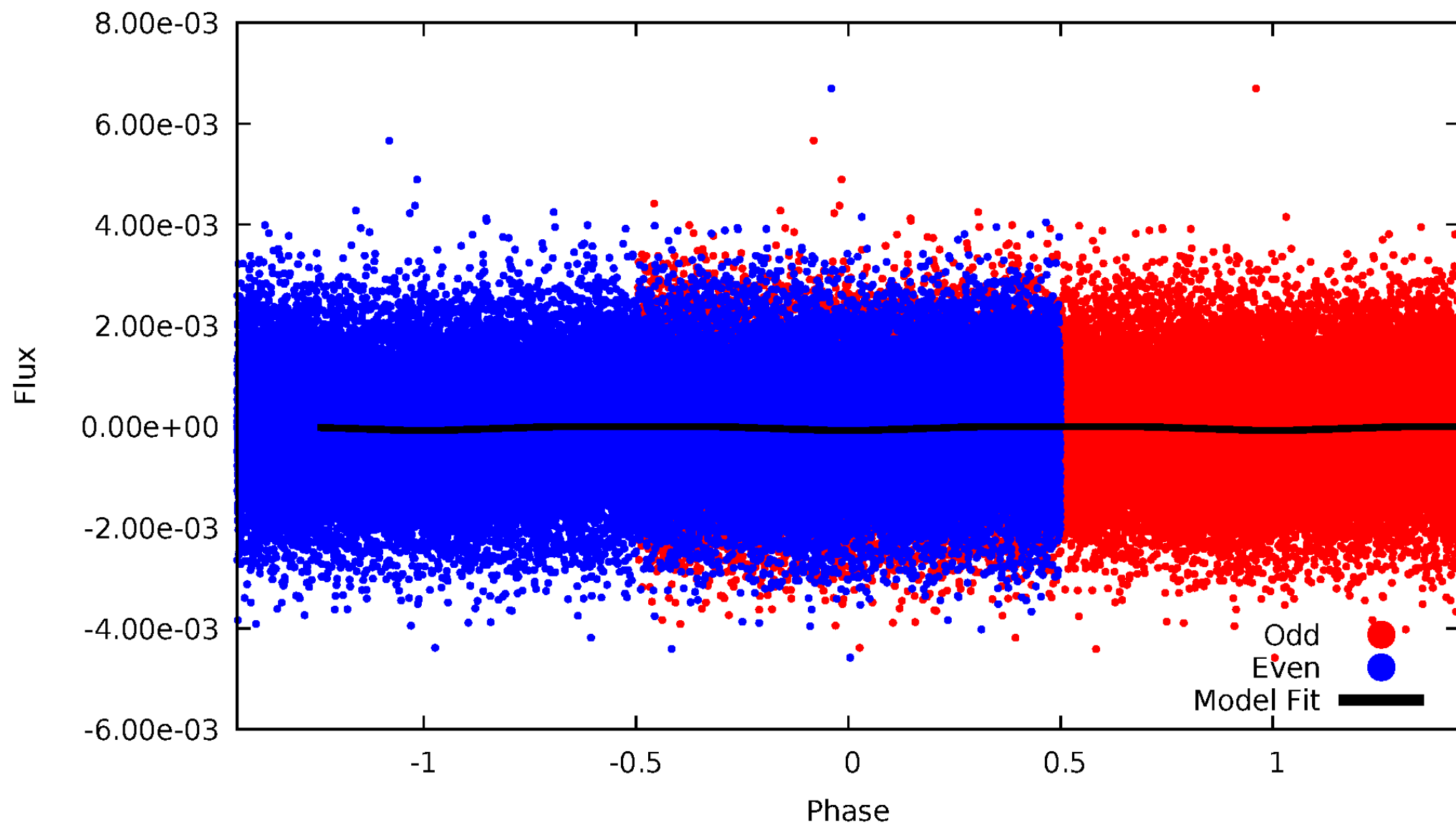
DV Odd/Even

TCE 010990961-01

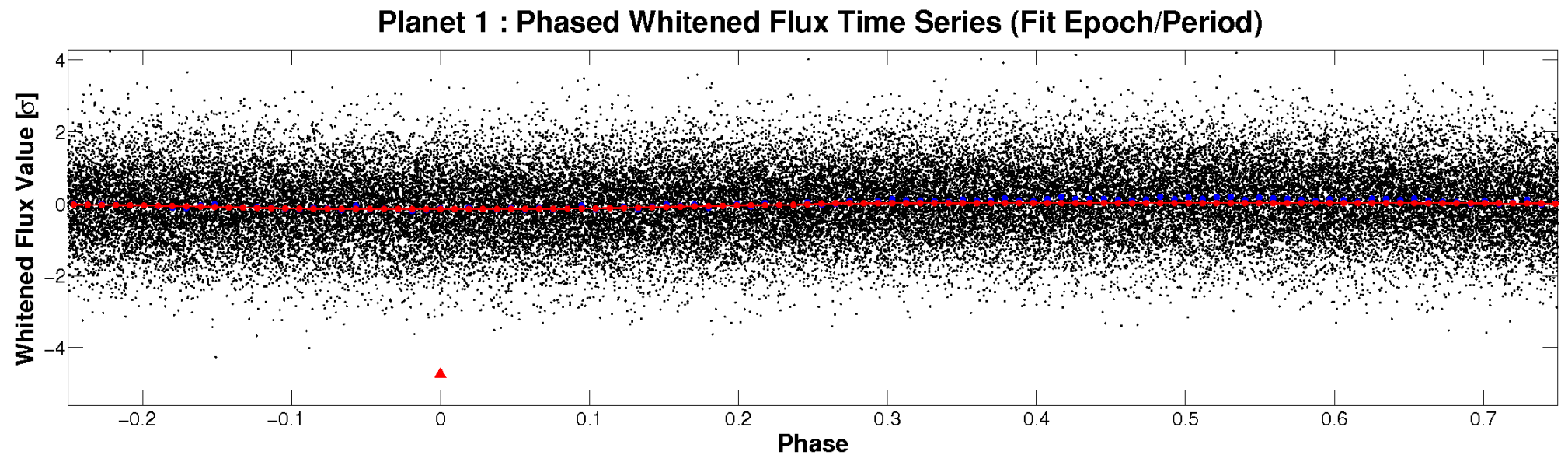
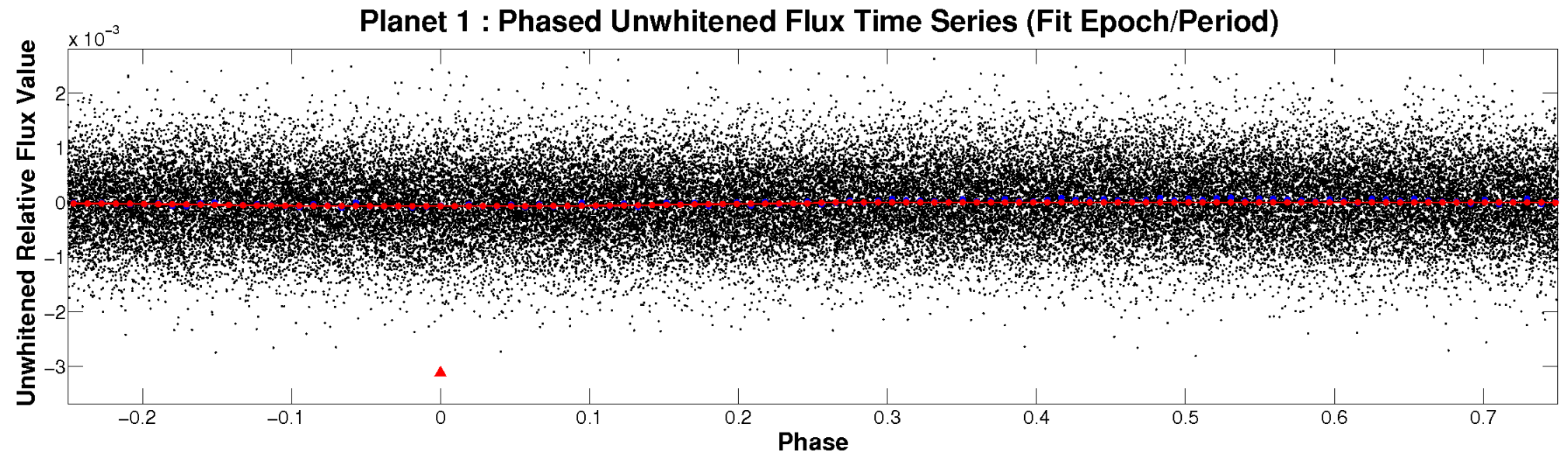


ALT Odd/Even

TCE 010990961-01

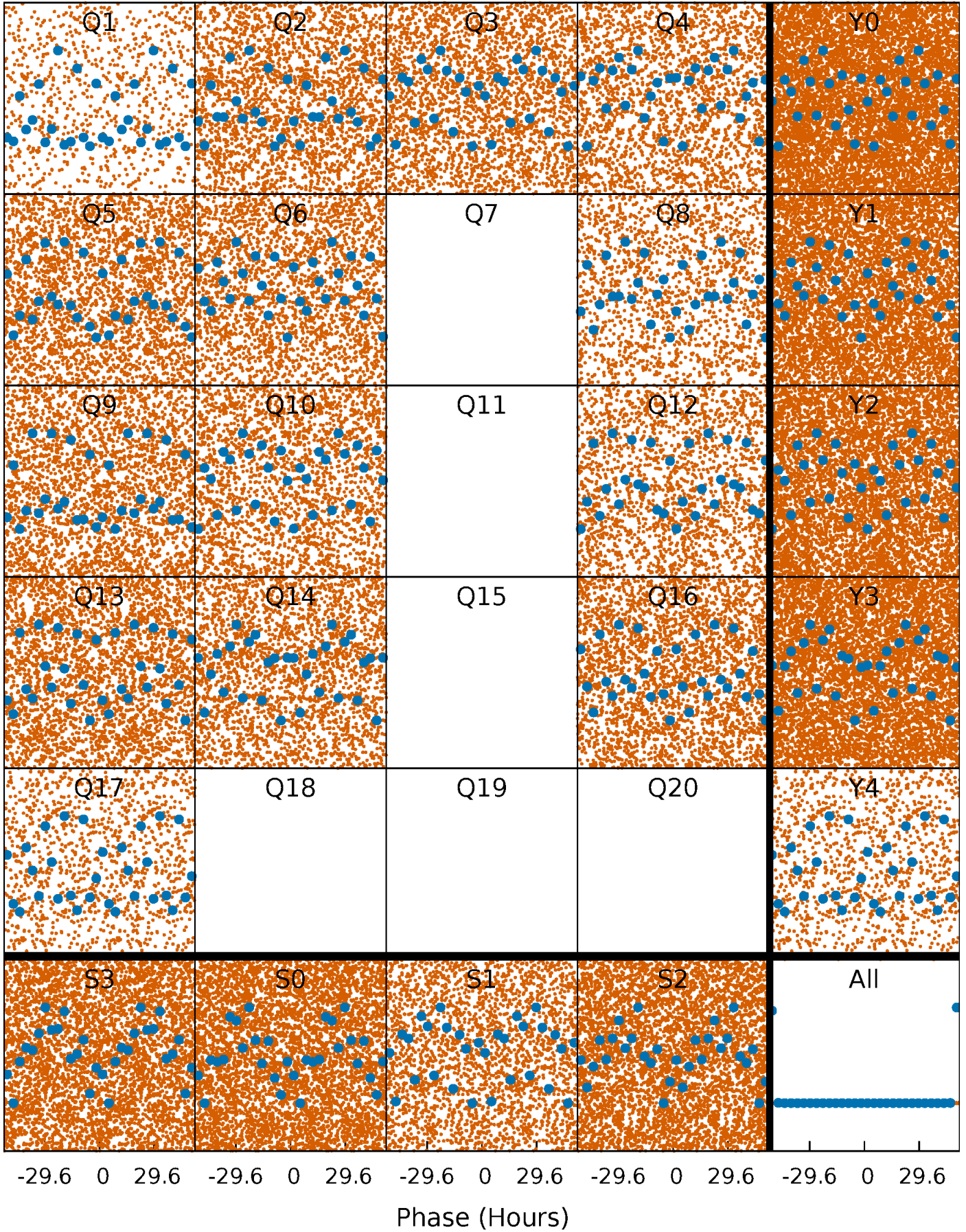


Non-Whitened Vs. Whitened Light Curve



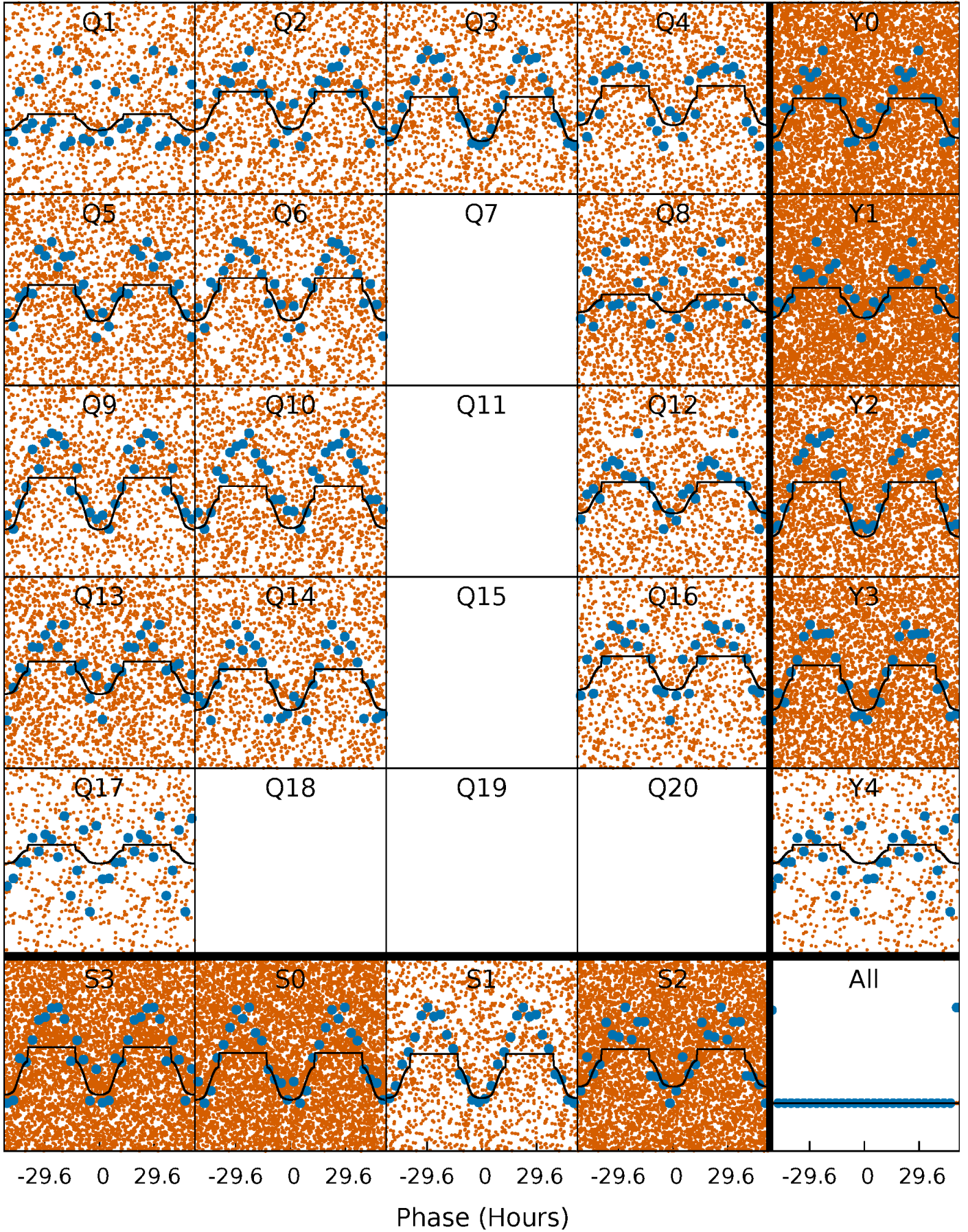
PDC Quarter-Phased Transit Curves

TCE 010990961-01 P= 2.157028 Days $T_0=132.897492$ (BKJD)



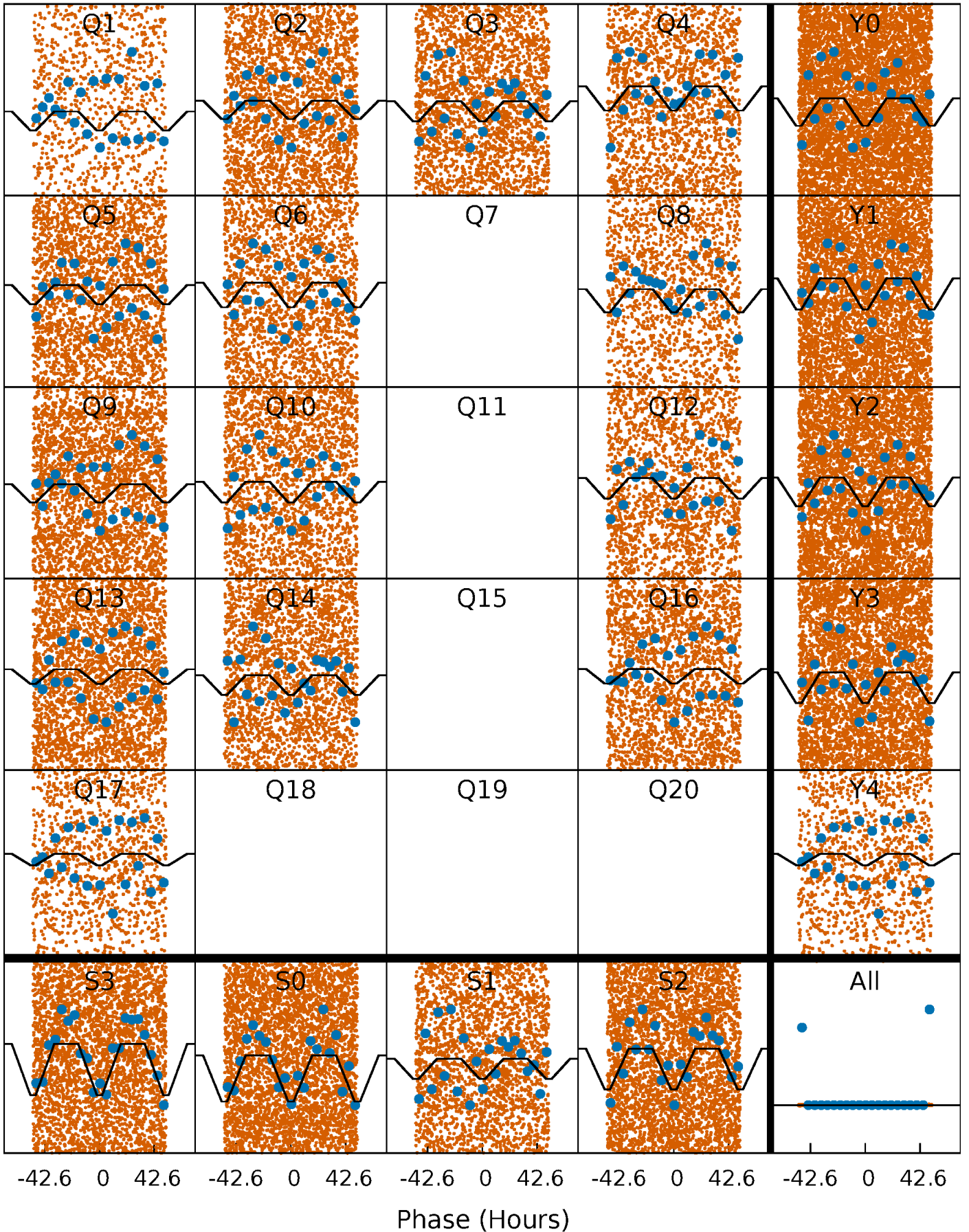
DV Quarter-Phased Transit Curves

TCE 010990961-01 P= 2.157028 Days $T_0=132.897492$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

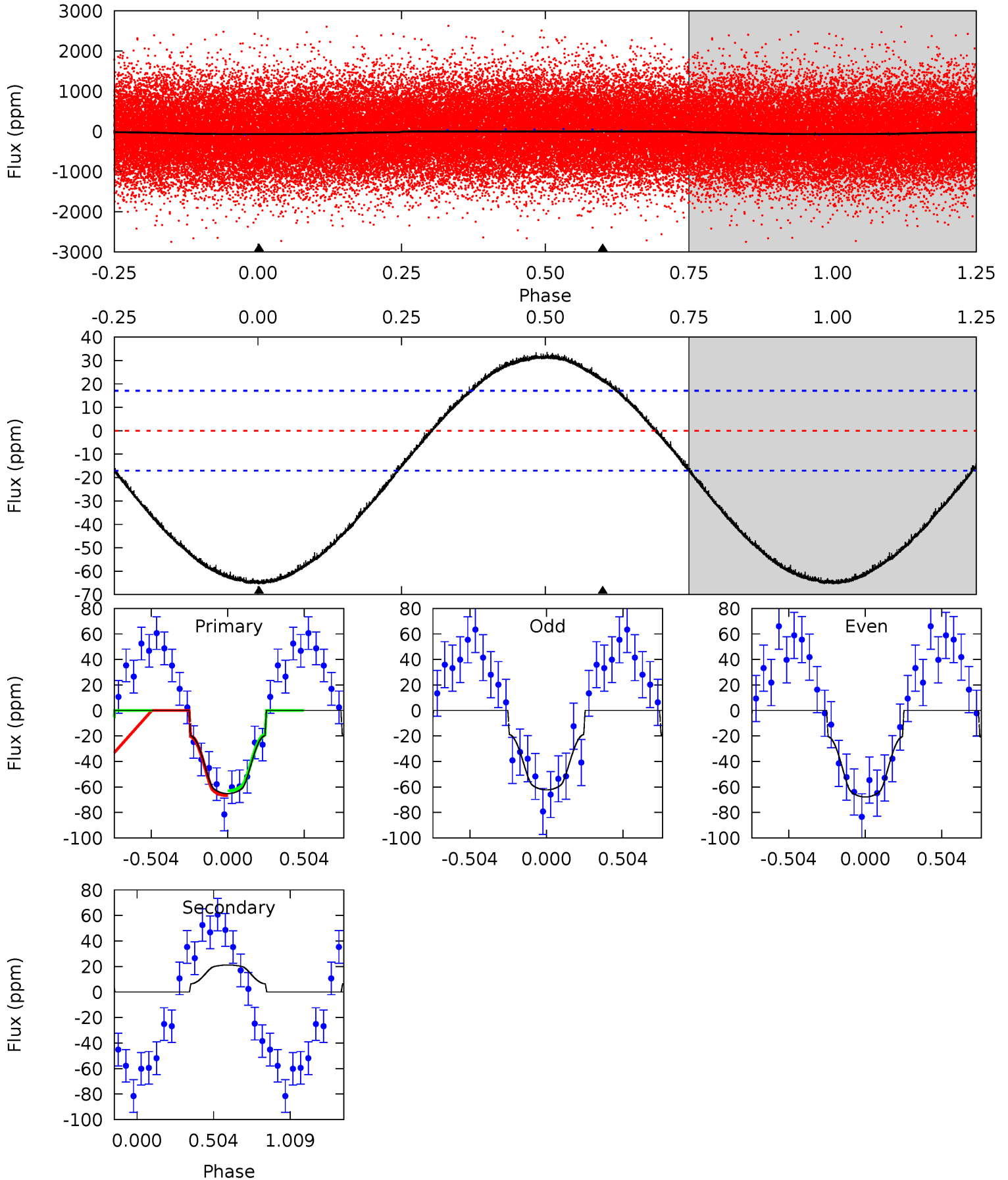
TCE 010990961-01 P= 2.156607 Days $T_0=133.058397$ (BKJD)



DV Model-Shift Uniqueness Test

010990961-01, P = 2.157028 Days, E = 130.740464 Days

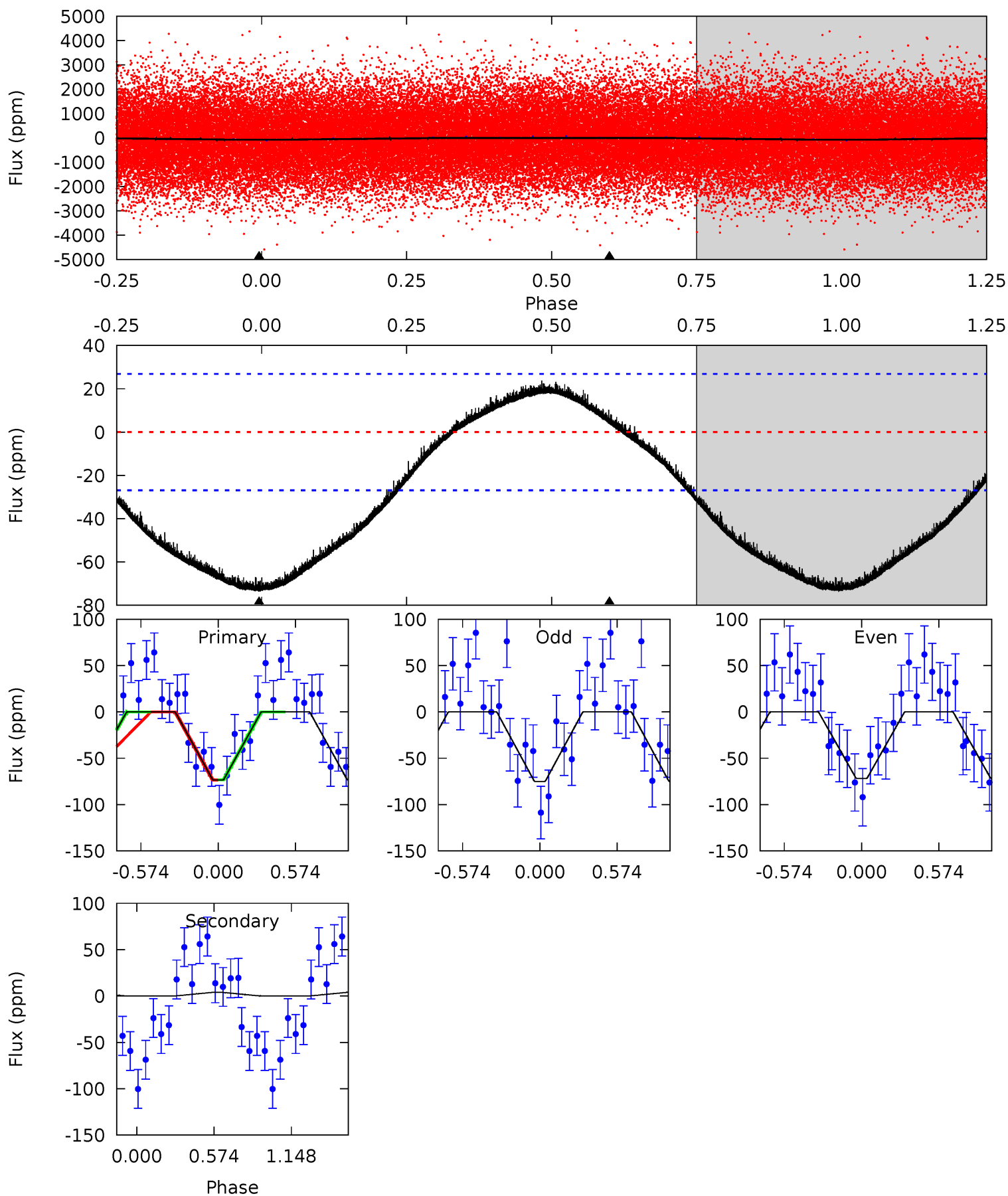
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	-5.22	0	0	4.21	0.67	2.04	16.1	16.1	-5.22	-5.22	0.68	1.45	0.34	0.45



Alt Model-Shift Uniqueness Test

010990961-01, P = 2.156607 Days, E = 130.901790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	-0.60	0	0	4.18	0.56	0.97	11.4	11.4	-0.60	-0.60	0.25	1.05	0.24	0.01



Stellar Parameters For KIC 010990961

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8105^{+225}_{-366}	$4.174^{+0.081}_{-0.175}$	$0.070^{+0.250}_{-0.450}$	$1.817^{+0.507}_{-0.312}$	$1.800^{+0.202}_{-0.278}$	$0.423^{+0.181}_{-0.205}$
	+3%/-5%	+2%/-4%	+357%/-643%	+28%/-17%	+11%/-15%	+43%/-49%
Source	KIC0	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 010990961-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	21 ± 4	$2.00^{+0.28}_{-0.21}$	3414^{+222}_{-194}	-5468^{+311}_{-308}	$-4.422^{+1.122}_{-1.516}$
Alt.	4 ± 6	$1.80^{+0.27}_{-0.22}$	3417^{+237}_{-219}	-4240^{+7529}_{-719}	$-1.091^{+1.713}_{-1.674}$

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 $A_{obs} \gg 1.0$

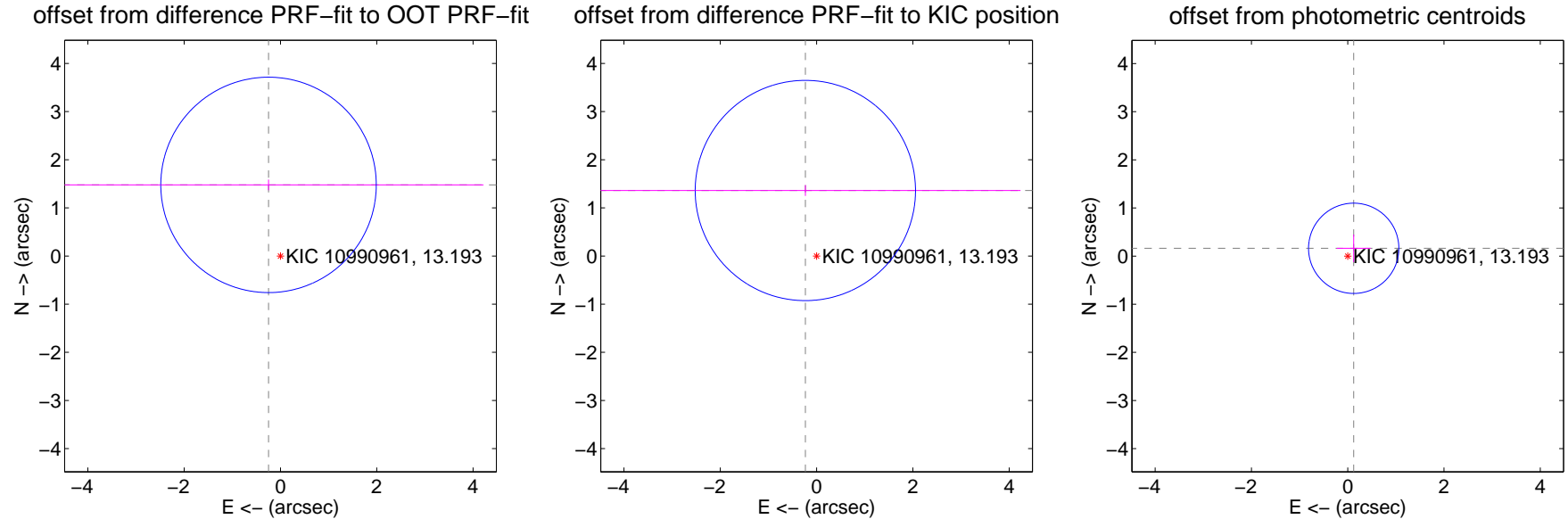
DV Centroid Data

Supplemental centroid analysis for 010990961-01. Kepler magnitude: 13.19. Transit SNR 17.58

There are 0 quarters with good PRF difference image offsets

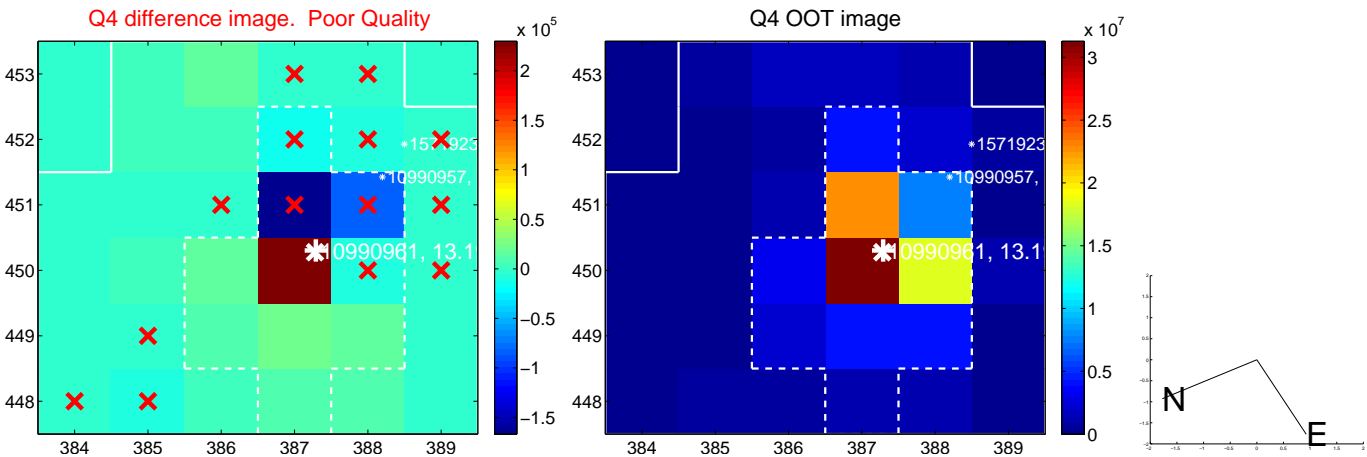
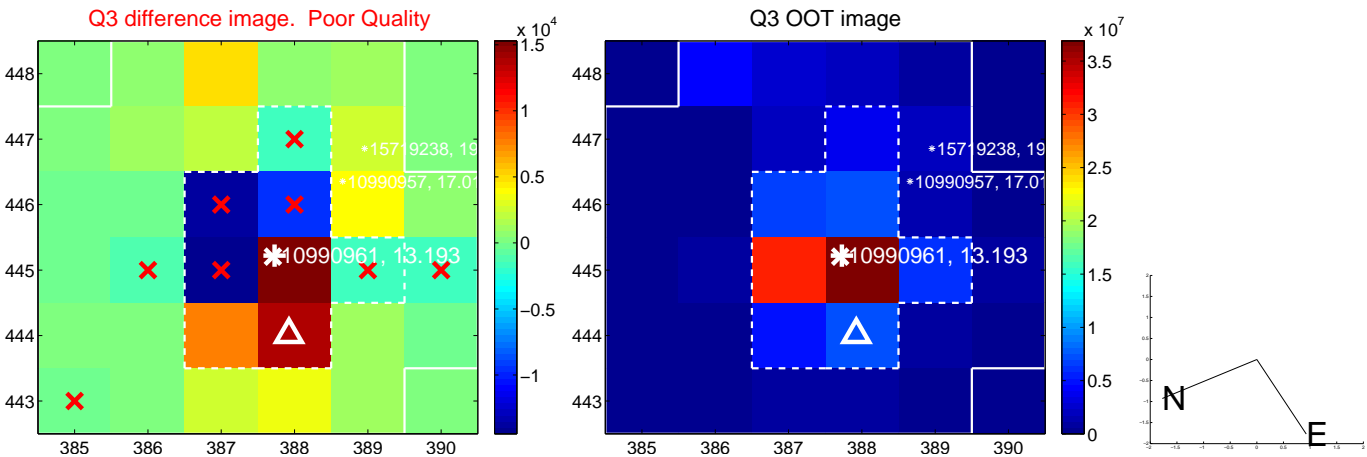
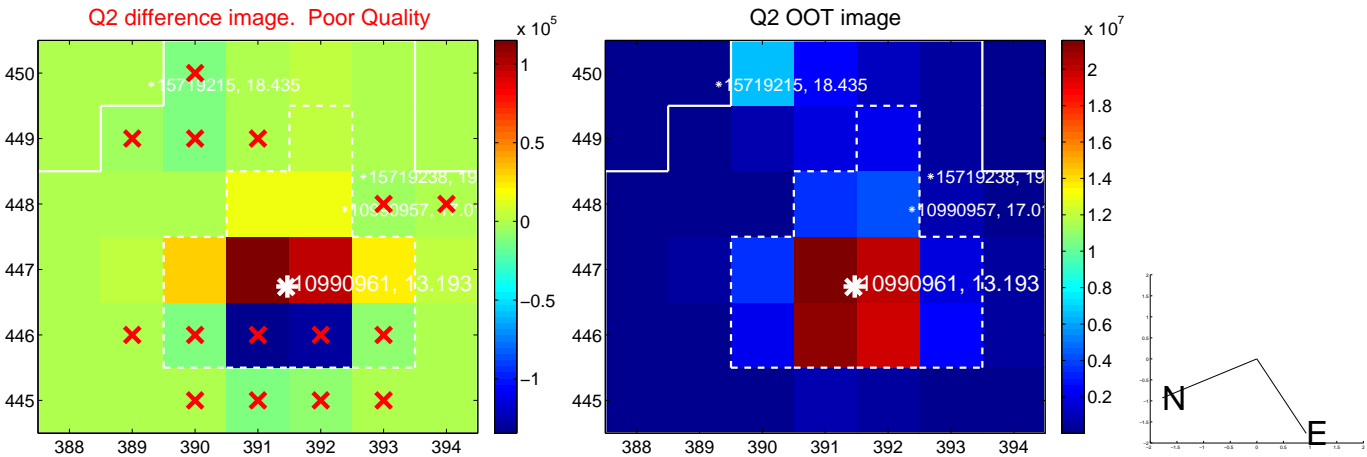
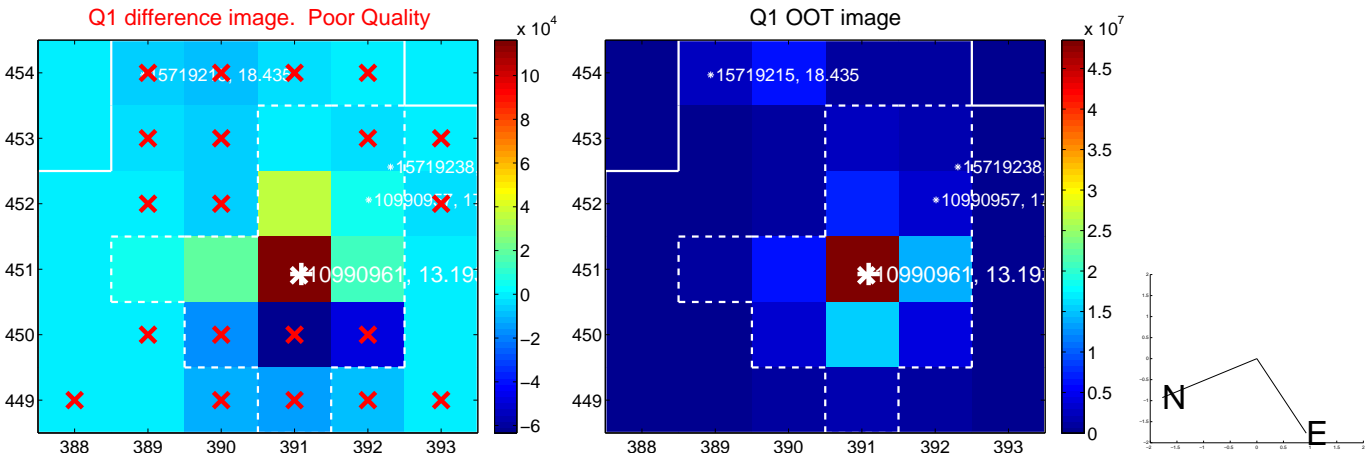
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.498 ± 0.746	2.01	0.248 ± 4.463	1.477 ± 0.109
PRF-fit source offset from KIC position	1.381 ± 0.762	1.81	0.233 ± 4.468	1.361 ± 0.112
photometric centroid source offset	0.20 ± 0.31	0.65	-0.12 ± 0.35	0.16 ± 0.29

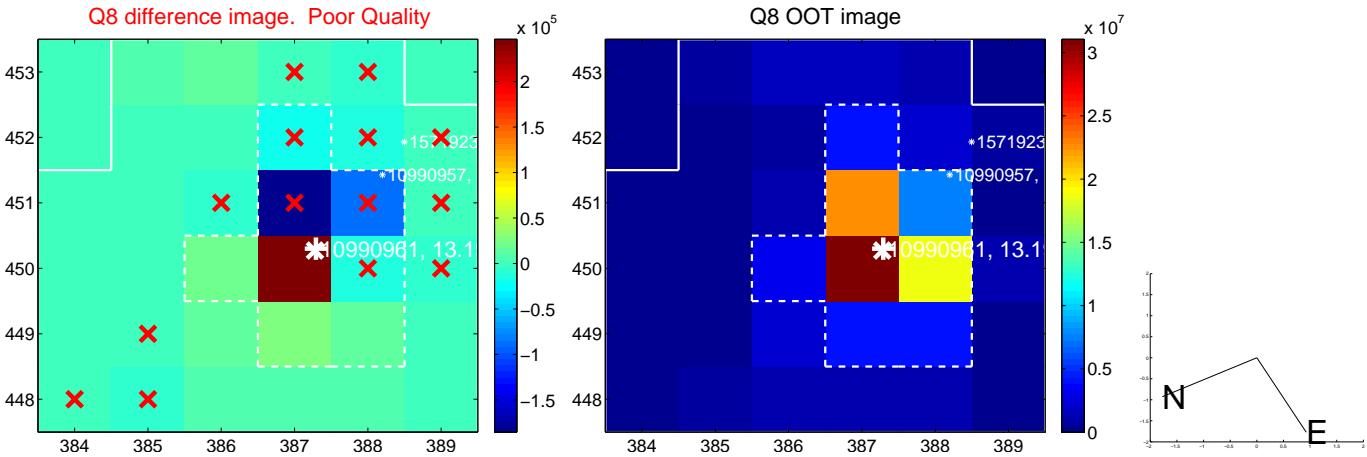
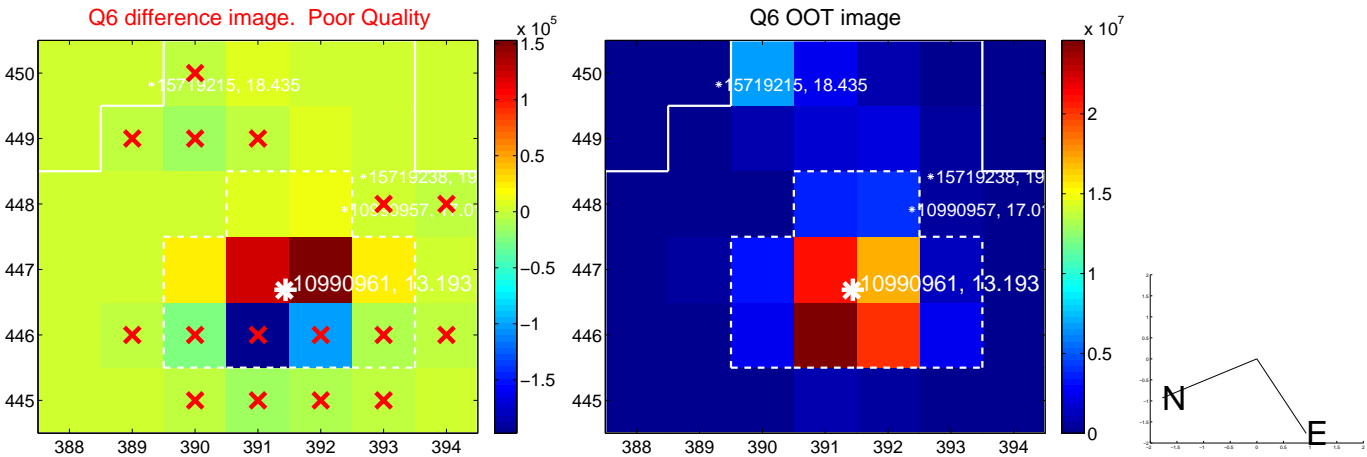
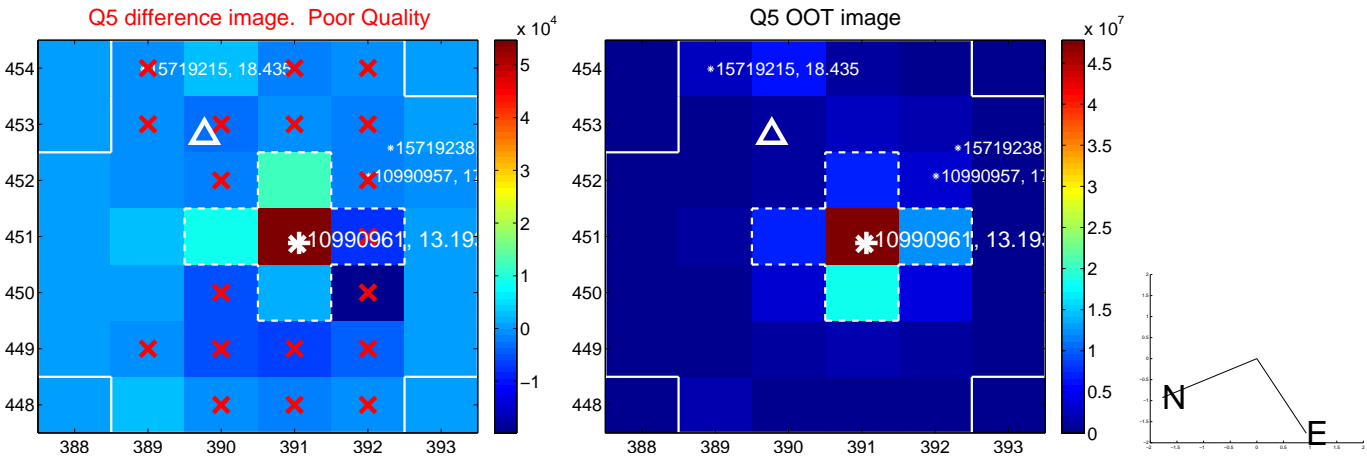


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

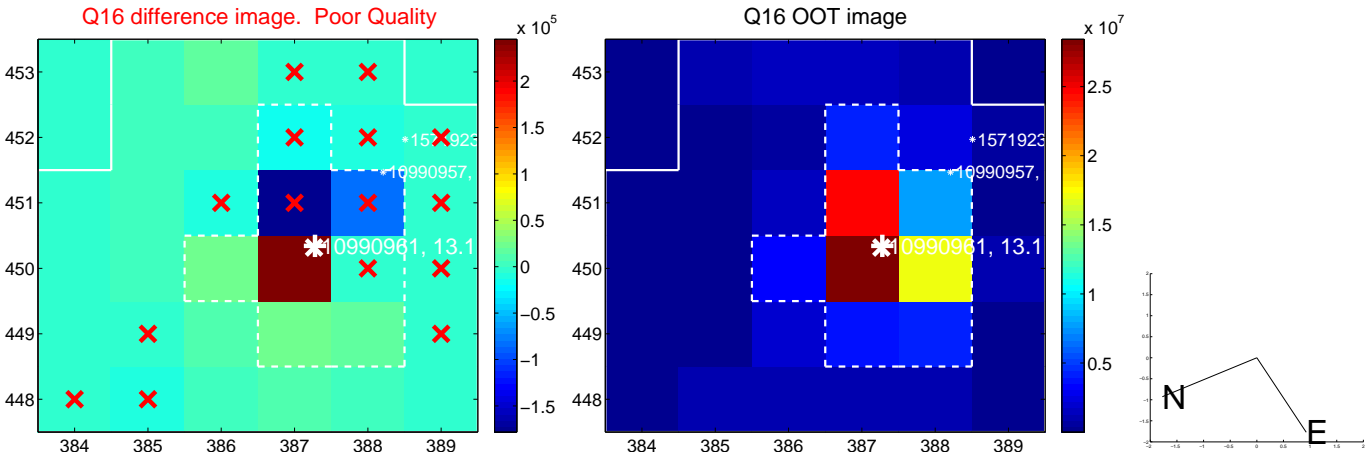
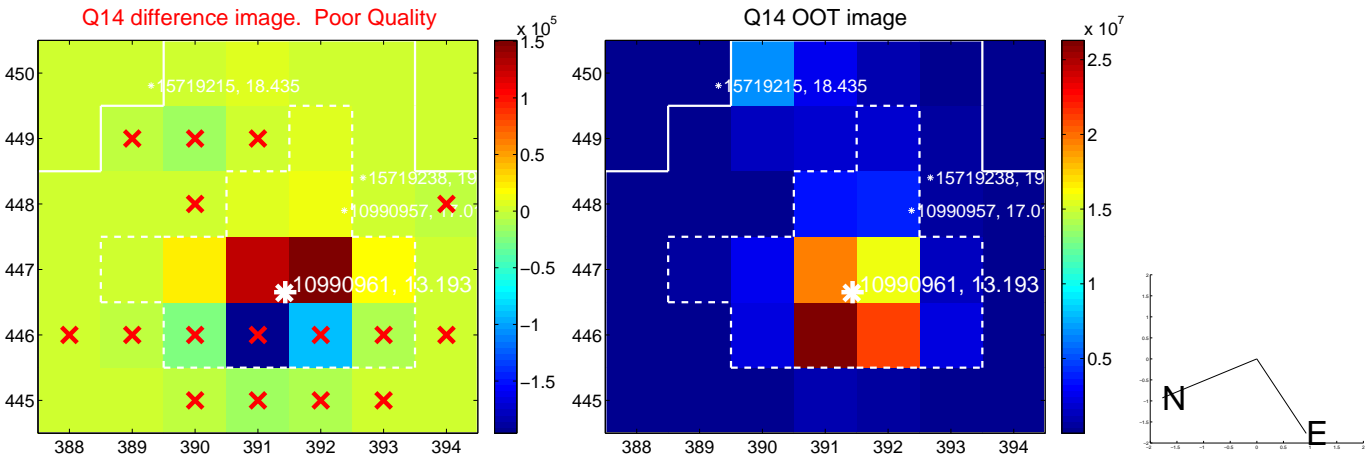
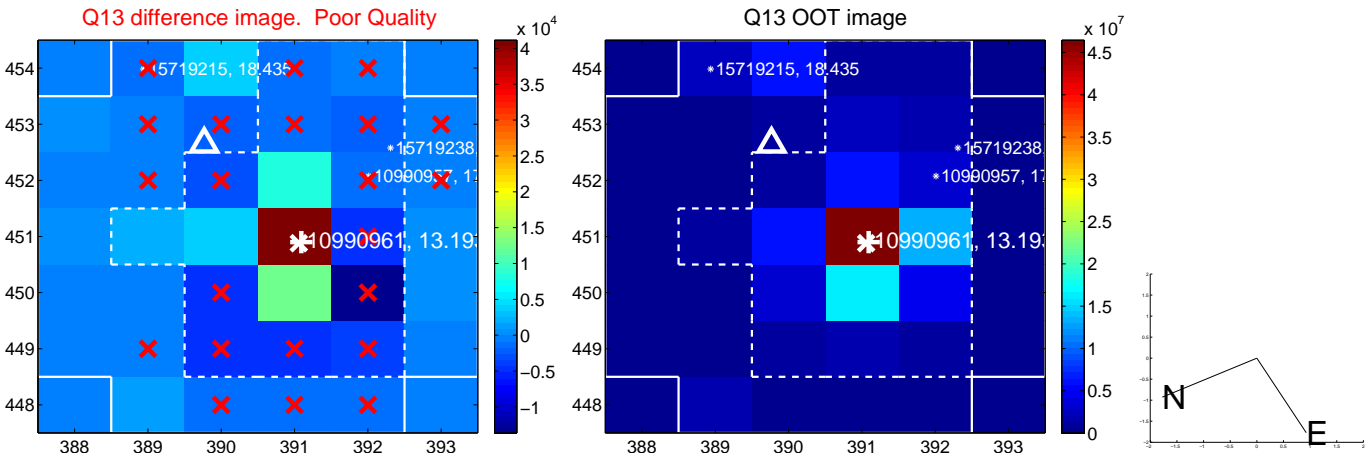
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



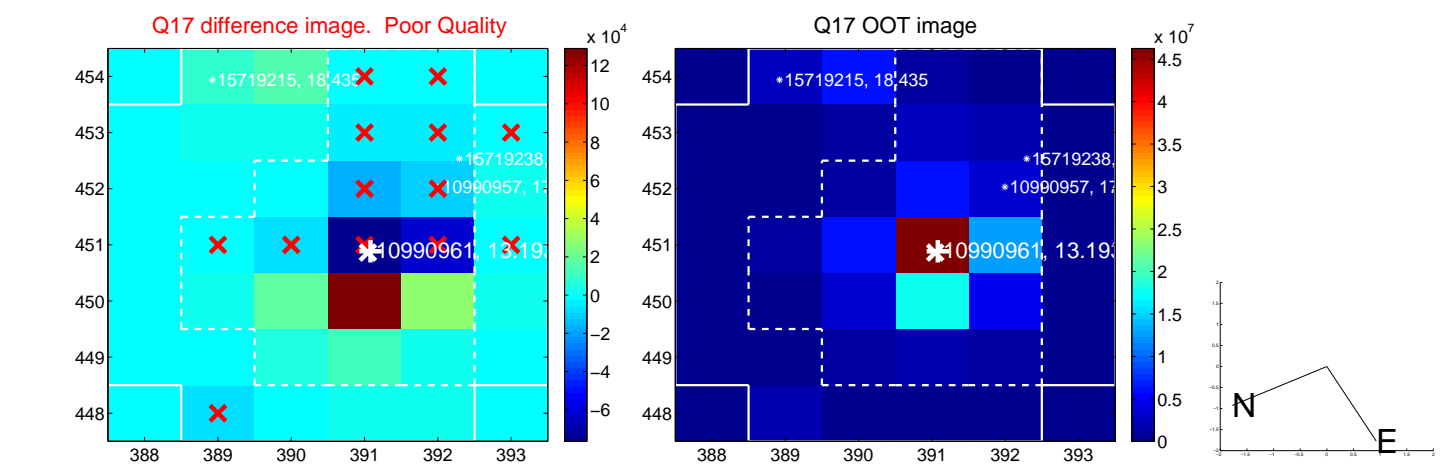
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



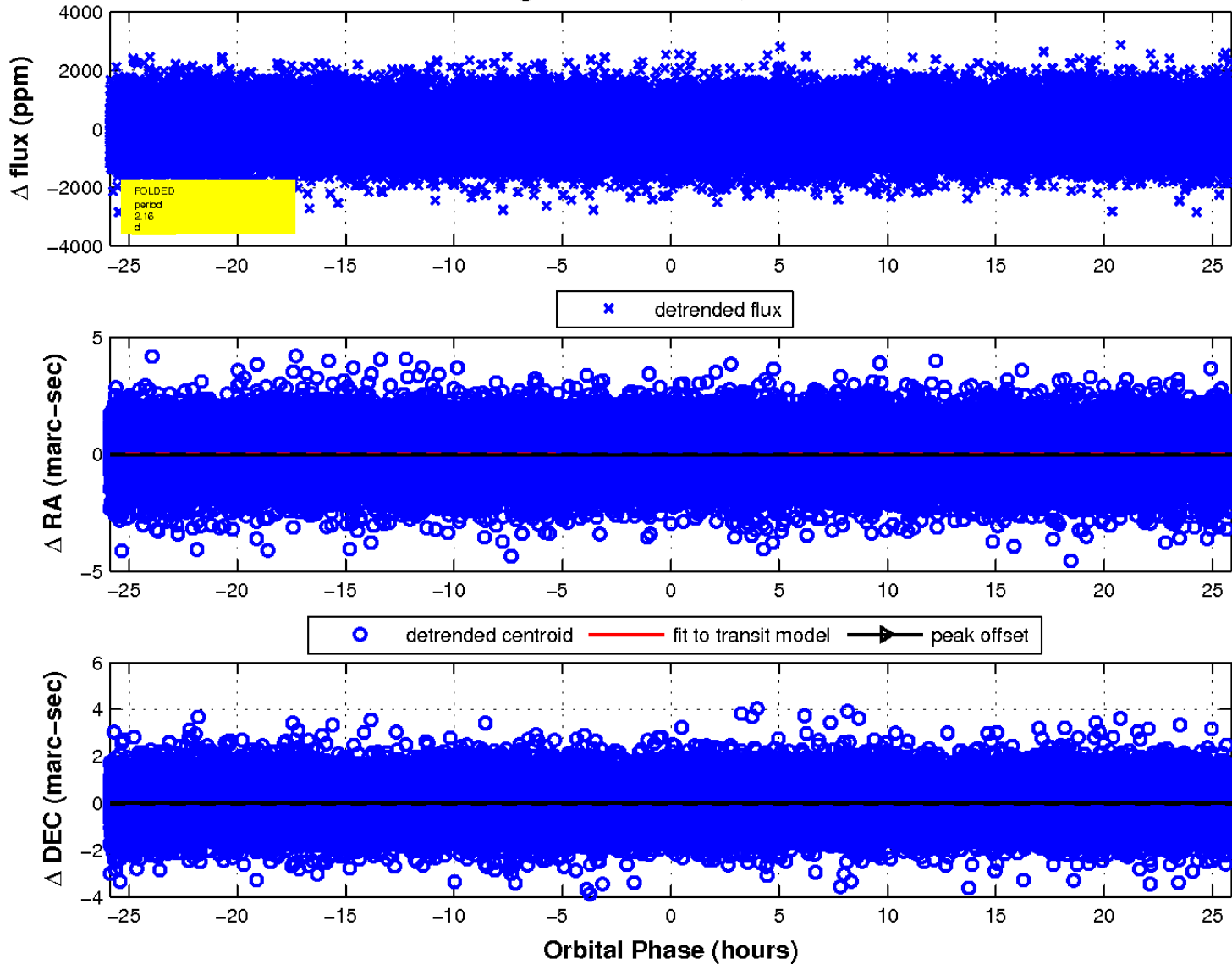
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

