

KIC 009726982

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})
009726982-01	OBS	No	4.208505	134.549243	9.0	42.762	7.8	2.5	1.11	6446	0.34	673.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009726982-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_MEAS

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

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

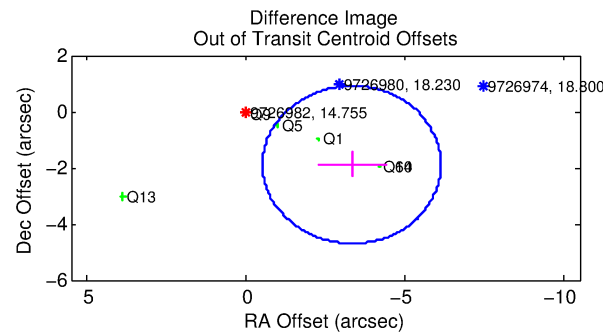
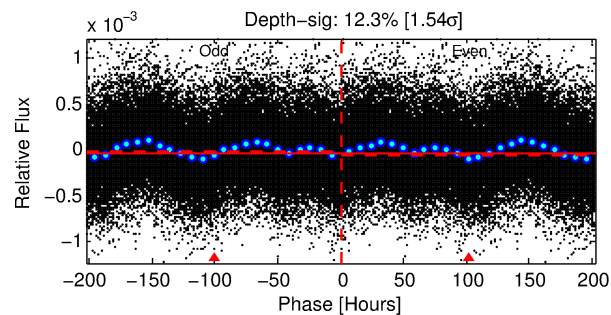
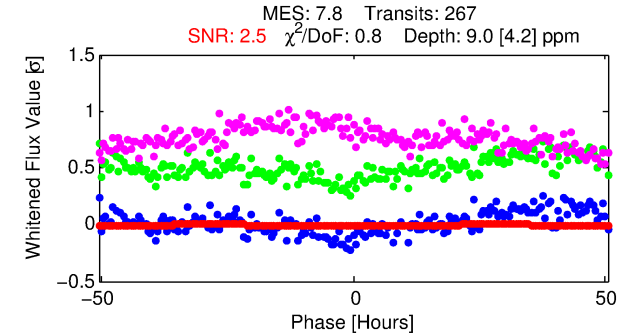
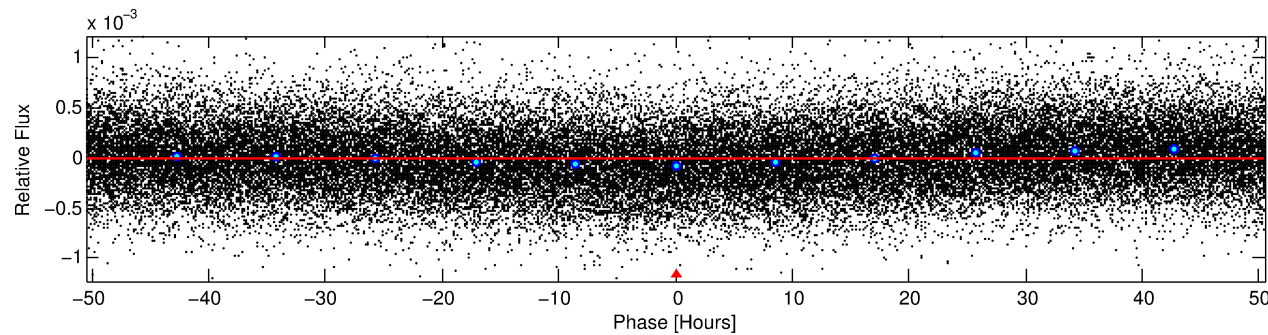
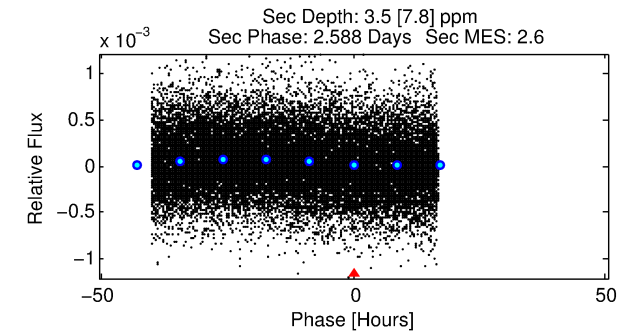
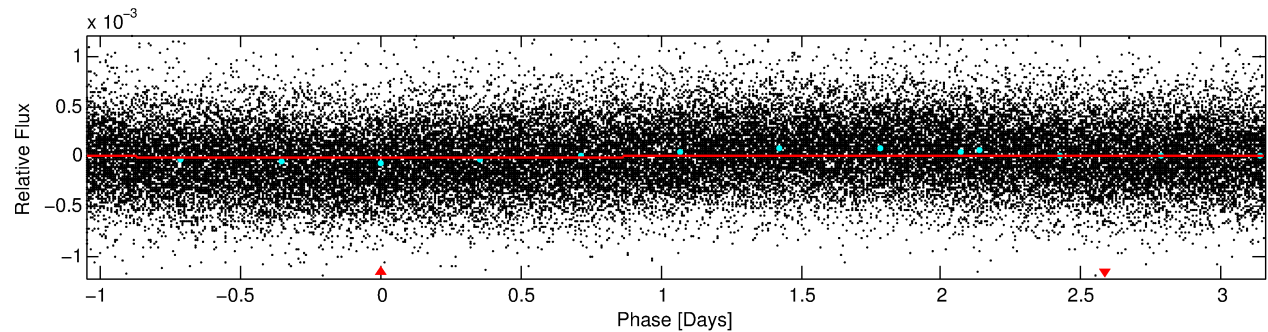
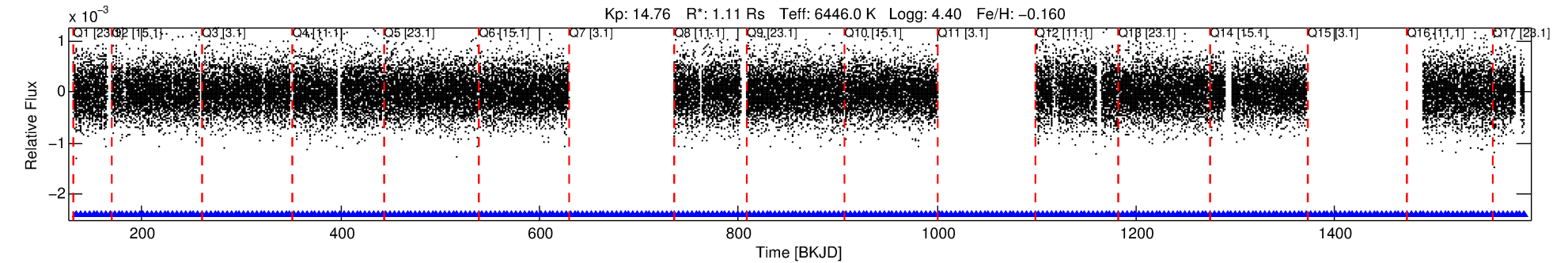
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009726982-01

No Significant Match Found

DV One-Page Summary

KIC: 9726982 Candidate: 1 of 1 Period: 4.209 d



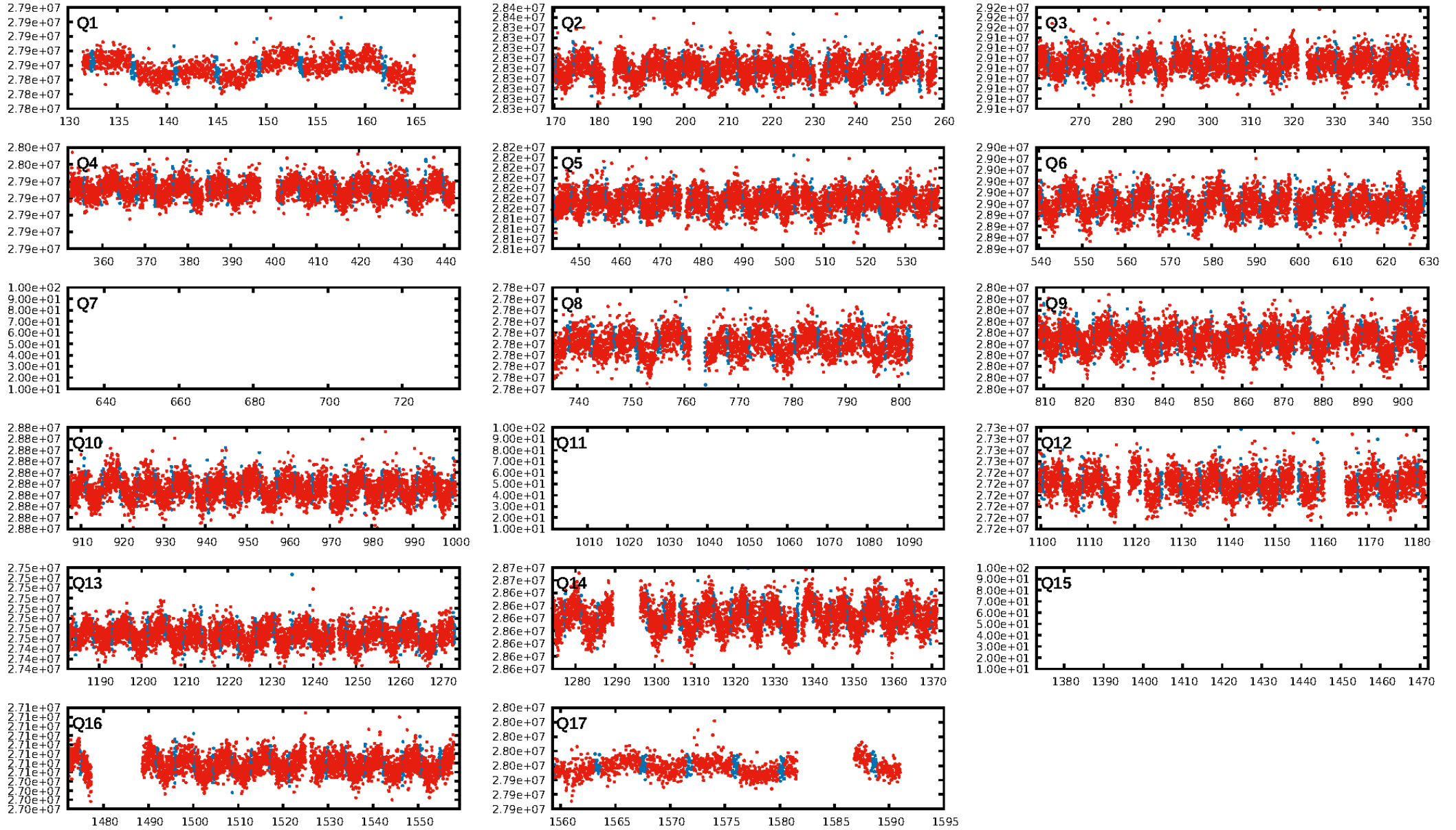
DV Fit Results:

Period = 4.20851 [0.00063] d
Epoch = 134.5492 [0.1014] BKJD
Rp/R* = 0.0028 [0.0076]
a/R* = 1.03 [0.93]
b = 0.02 [805.48]
Seff = 673.08 [239.32]
Teff = 1299 [115] K
Rp = 0.34 [0.93] Re
a = 0.0535 [0.0122] AU
Ag = 48.74 [289.32] [0.16σ]
Teffp = 5306 [7864] K [0.51σ]

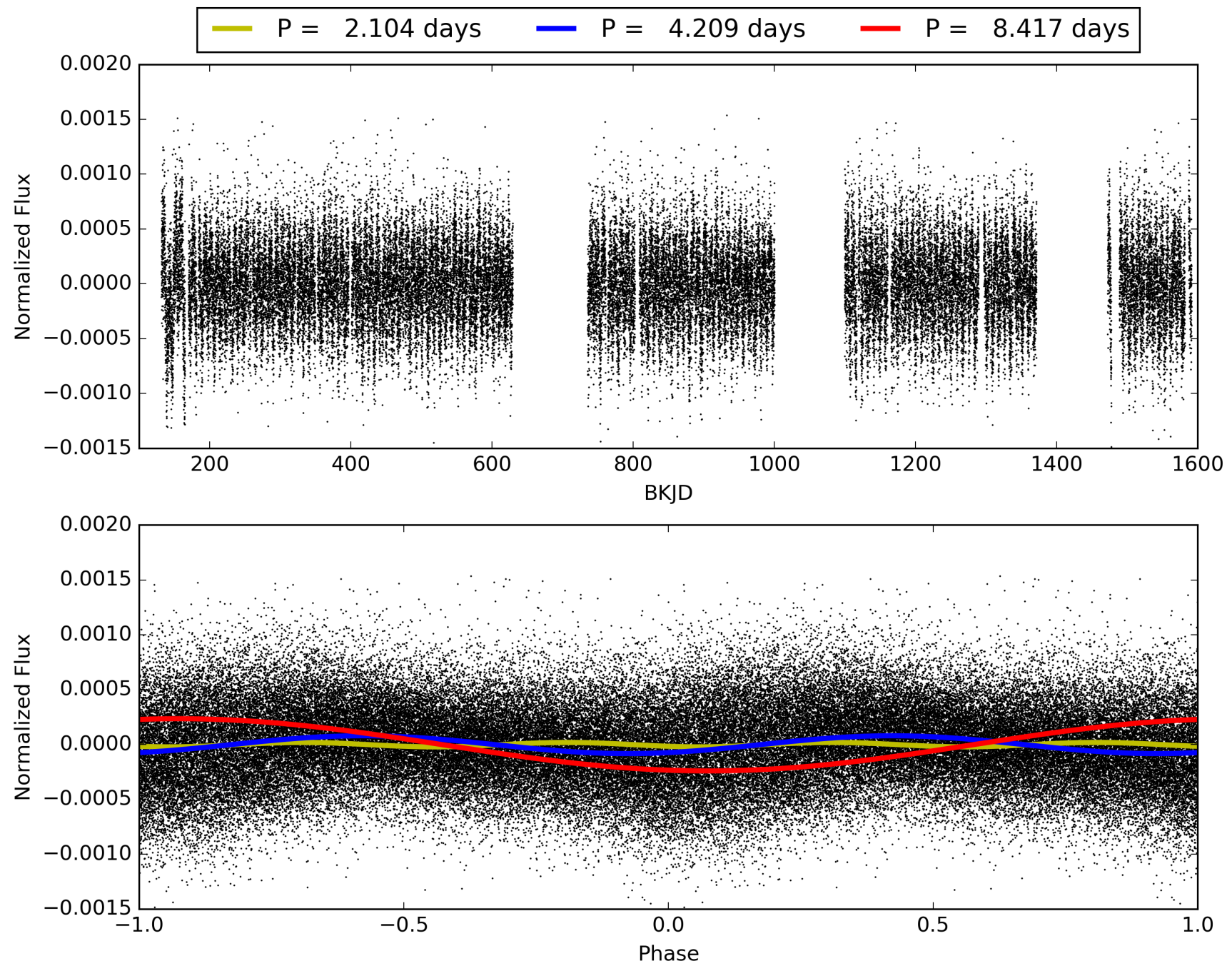
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [251/251]
GhostDiagnostic-chr: 2.176
Centroid-sig: 0.1%
Centroid-so: 7.857 arcsec [2.13σ]
OOTOffset-rm: 3.828 arcsec [4.09σ]
KicOffset-rm: 3.029 arcsec [2.74σ]
OOTOffset-st: 3/0/0/4 [7]
KicOffset-st: 3/0/0/4 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009726982-01, PDC Light Curves

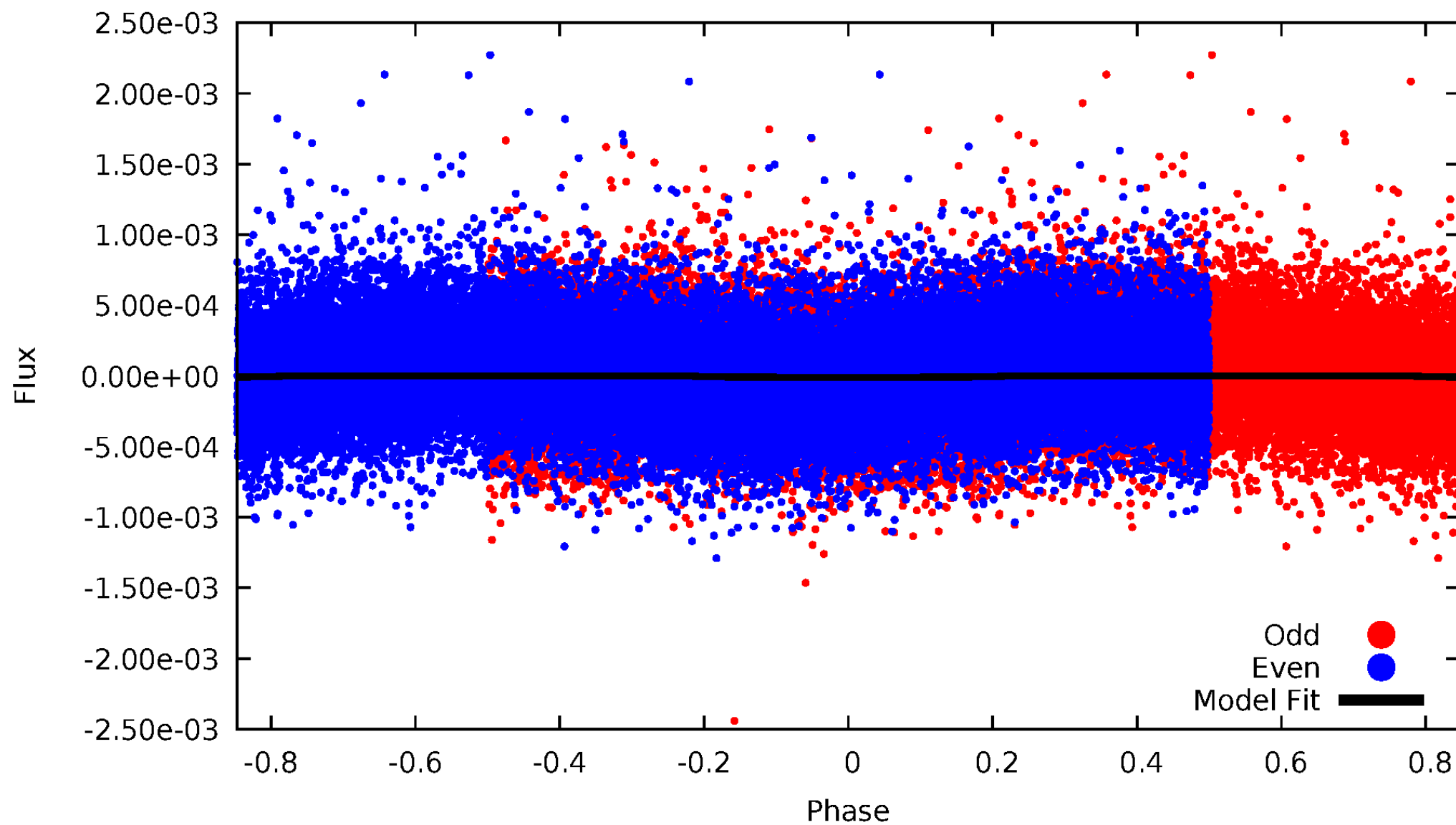


TCE 009726982-01



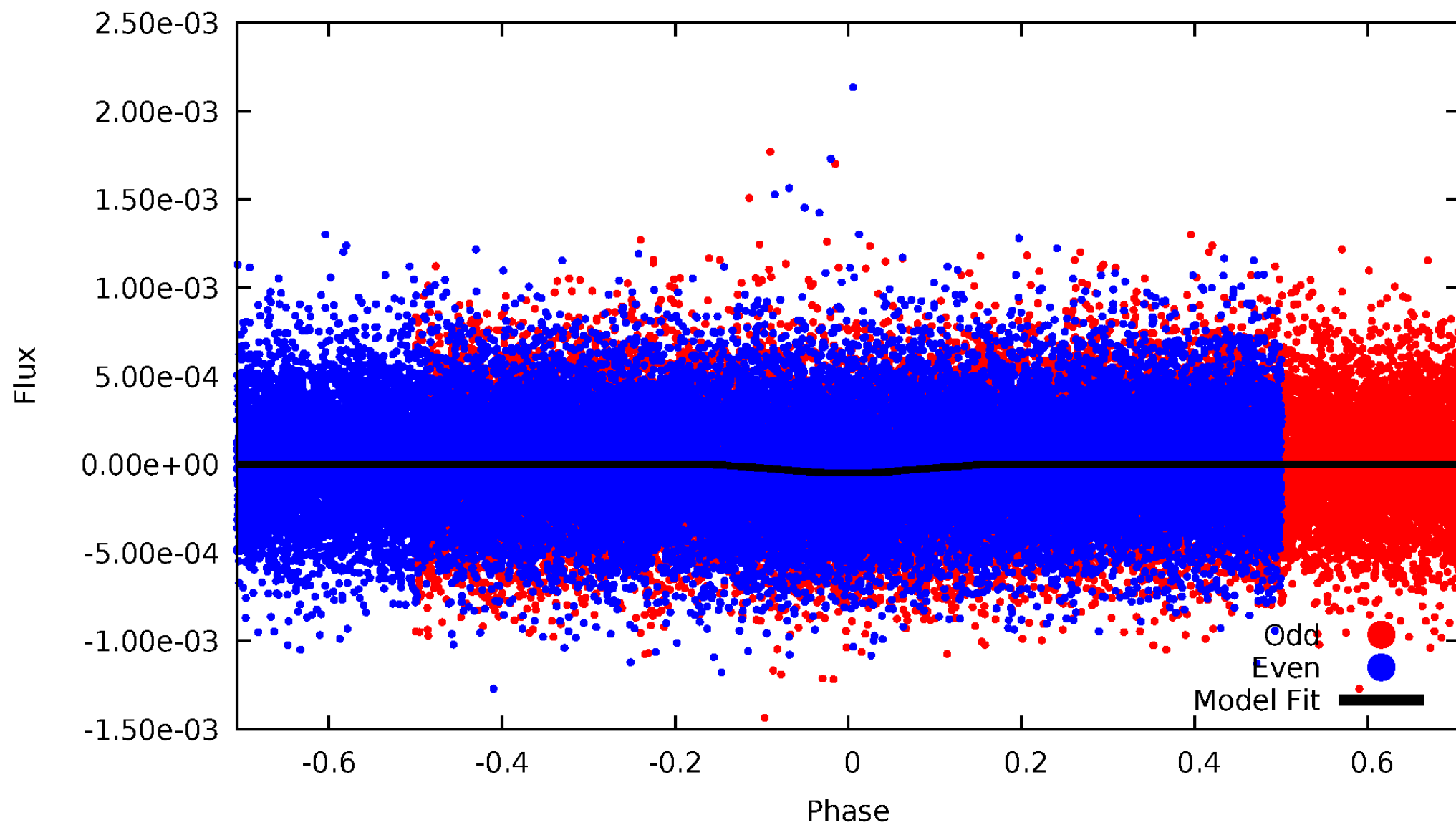
DV Odd/Even

TCE 009726982-01



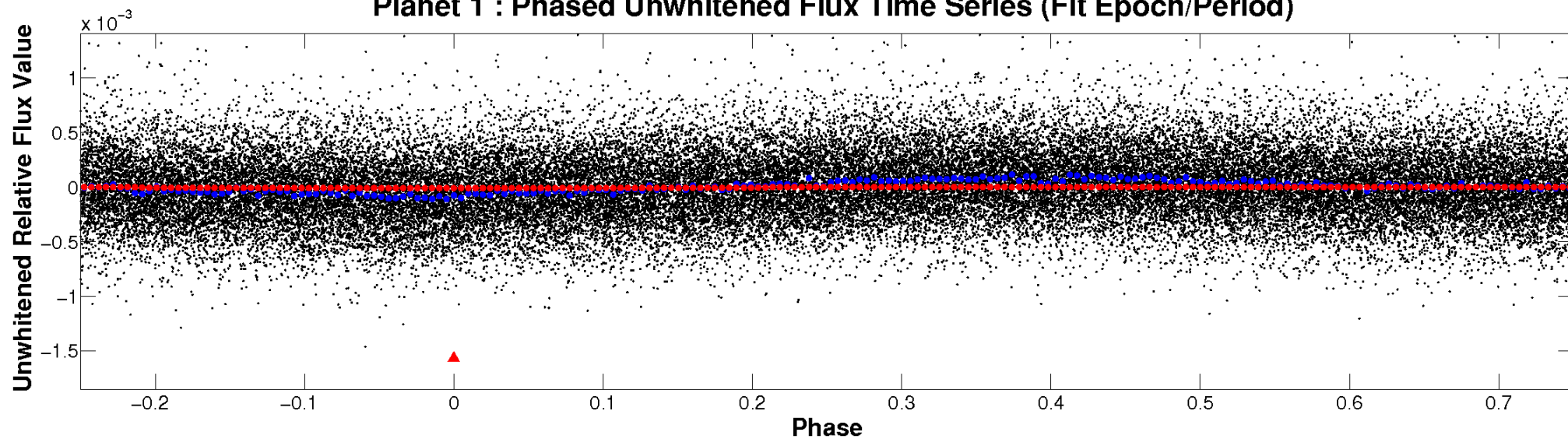
ALT Odd/Even

TCE 009726982-01

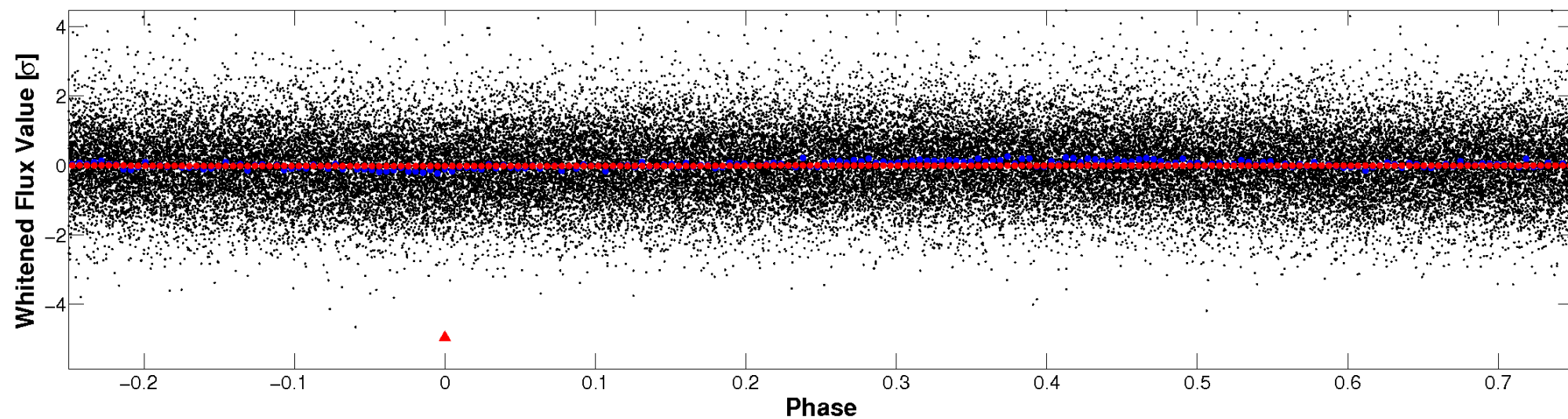


Non-Whitened Vs. Whitened Light Curve

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

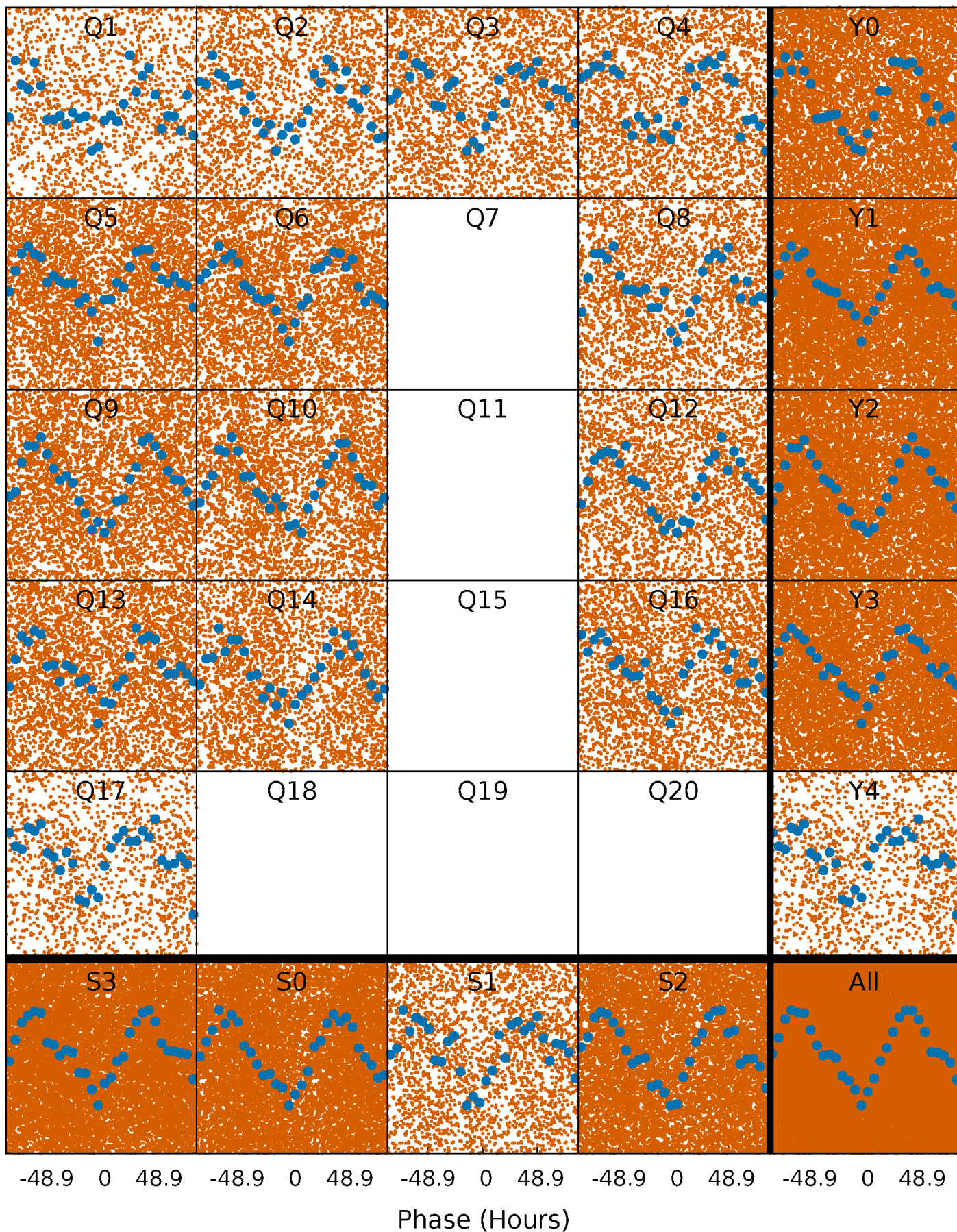


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



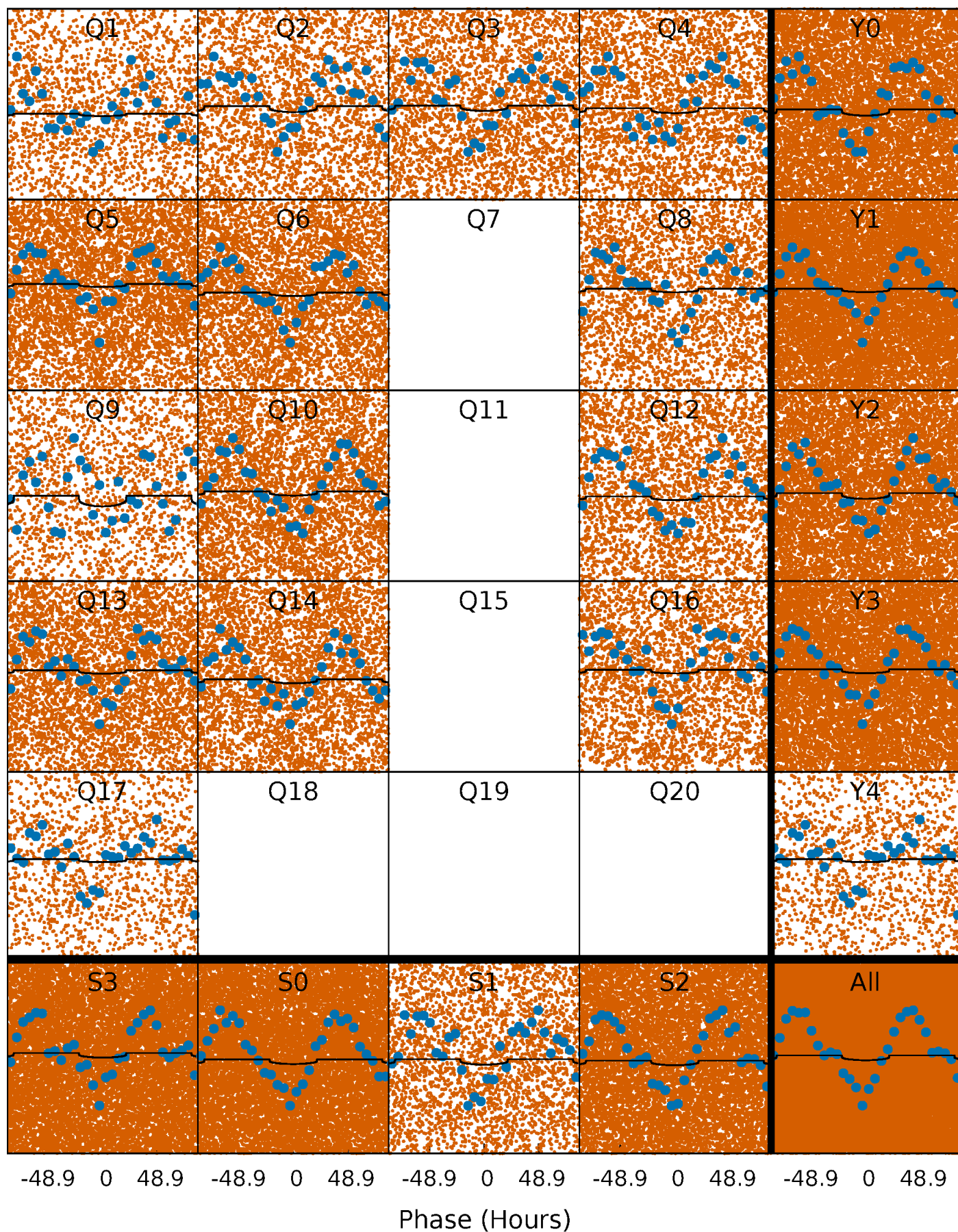
PDC Quarter-Phased Transit Curves

TCE 009726982-01 P= 4.208505 Days $T_0=134.549243$ (BKJD)



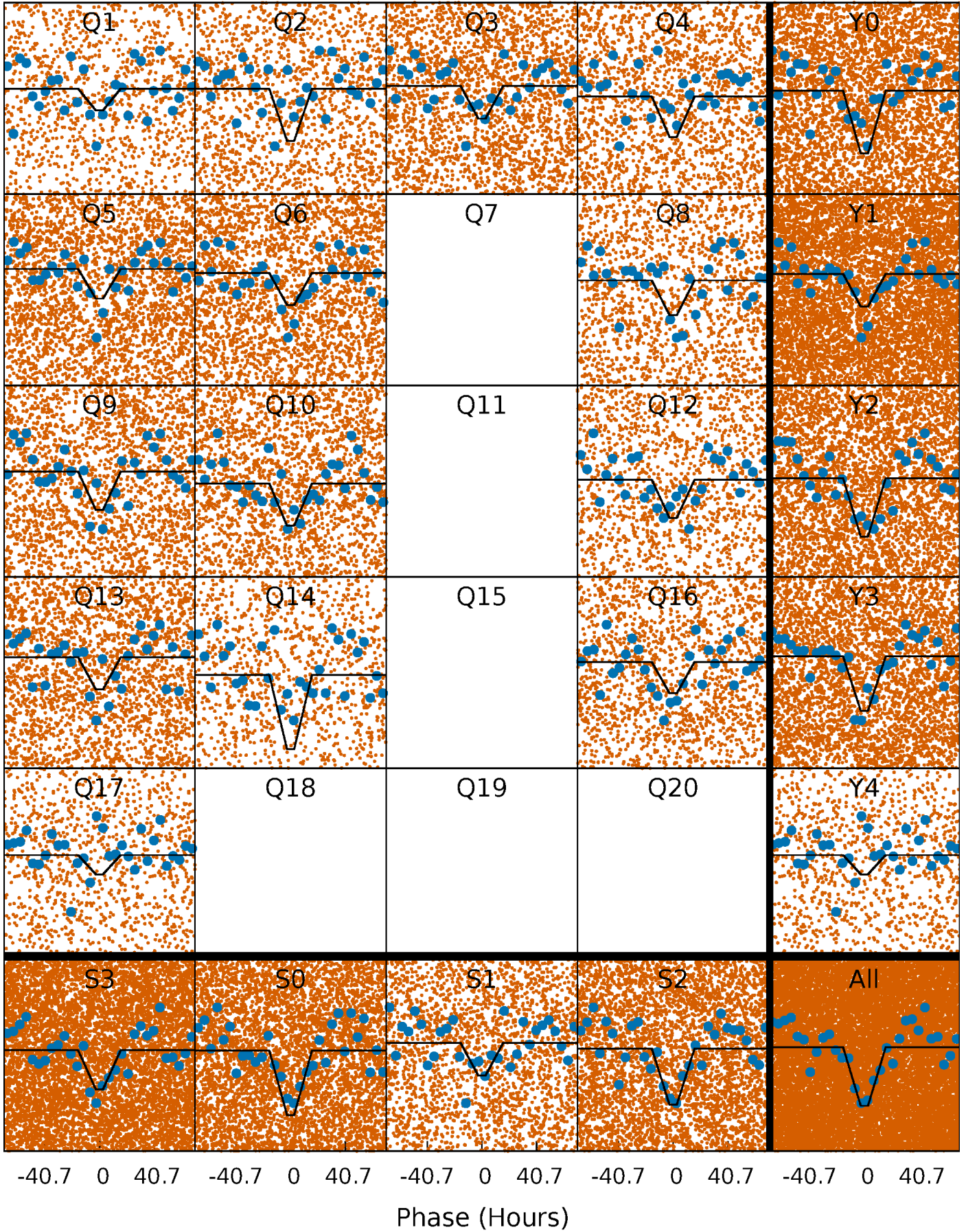
DV Quarter-Phased Transit Curves

TCE 009726982-01 P= 4.208505 Days $T_0=134.549243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

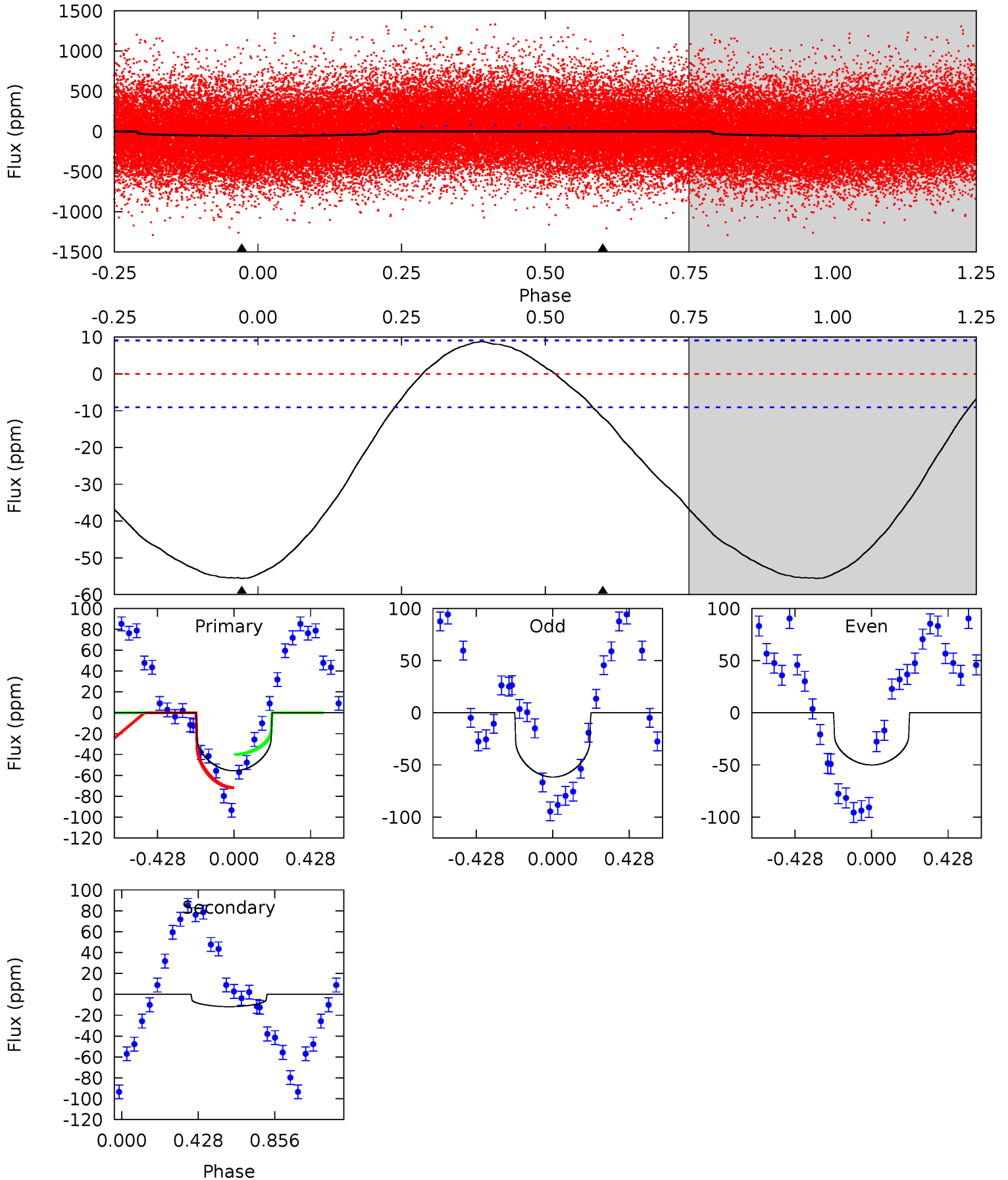
TCE 009726982-01 P= 4.209418 Days $T_0=134.395848$ (BKJD)



DV Model-Shift Uniqueness Test

009726982-01, P = 4.208505 Days, E = 130.340738 Days

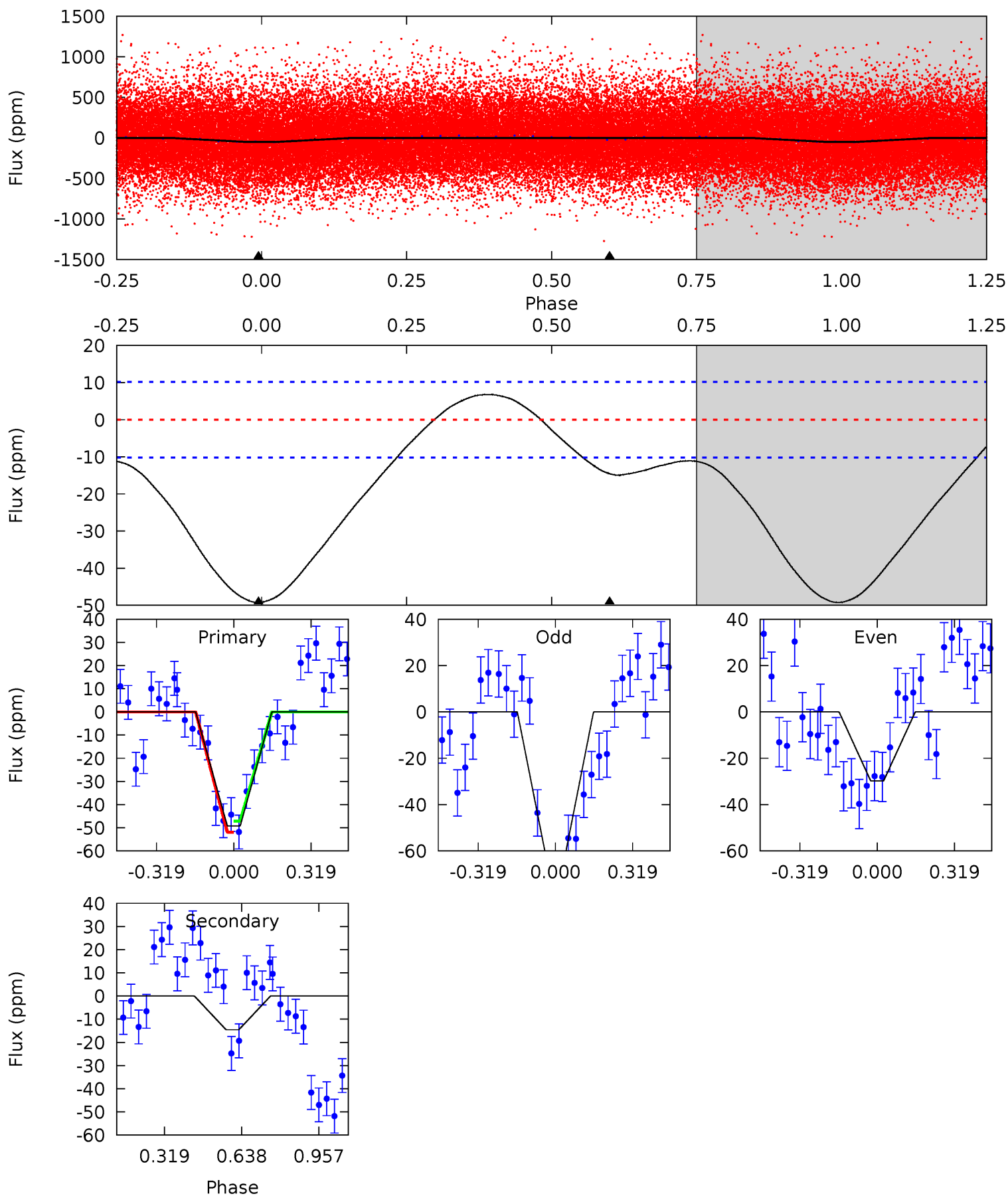
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	5.54	0	0	4.25	0.79	2.18	26.0	26.0	5.54	5.54	2.73	0.96	0.14	7.50



Alt Model-Shift Uniqueness Test

009726982-01, P = 4.209418 Days, E = 130.186430 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	6.16	0	0	4.32	1.00	1.65	20.9	20.9	6.16	6.16	8.32	1.61	0.12	1.02



Stellar Parameters For KIC 009726982

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6446^{+161}_{-209}	$4.404^{+0.060}_{-0.180}$	$-0.160^{+0.250}_{-0.300}$	$1.115^{+0.305}_{-0.131}$	$1.150^{+0.152}_{-0.152}$	$1.166^{+0.377}_{-0.563}$
	+2%/-3%	+1%/-4%	+156%/-188%	+27%/-12%	+13%/-13%	+32%/-48%
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 009726982-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$0.82^{+0.75}_{-0.56}$	1847^{+110}_{-90}	4824^{+4055}_{-1090}	28^{+256}_{-21}
Alt.	-15 ± 2	$1.08^{+0.84}_{-0.71}$	1840^{+122}_{-86}	4488^{+2850}_{-886}	19^{+134}_{-13}

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

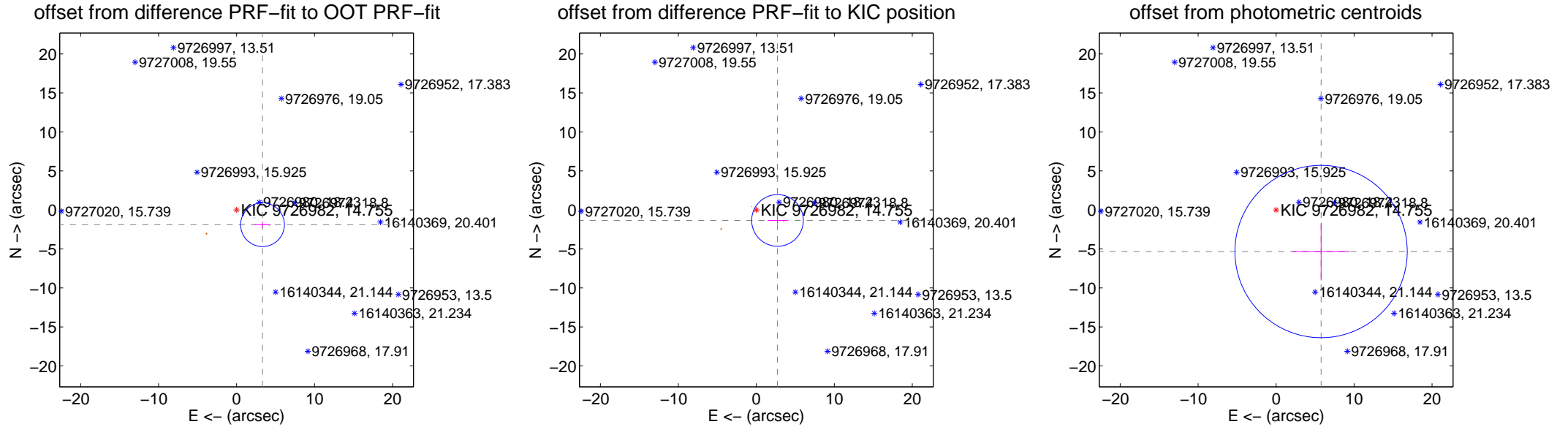
DV Centroid Data

Supplemental centroid analysis for 009726982-01. Kepler magnitude: 14.76. Transit SNR 2.50

There are 3 quarters with good PRF difference image offsets

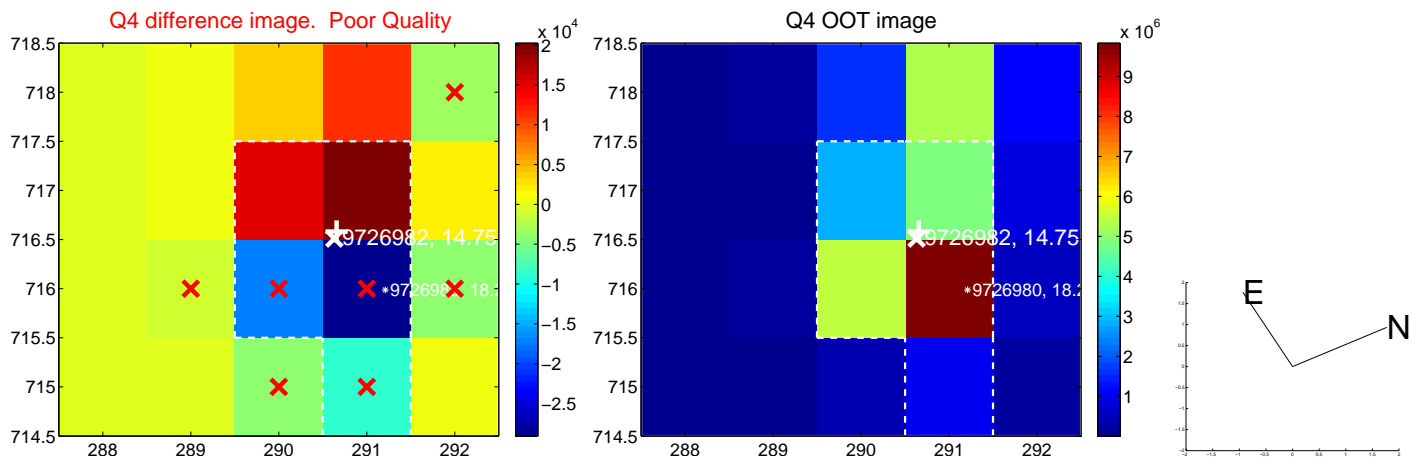
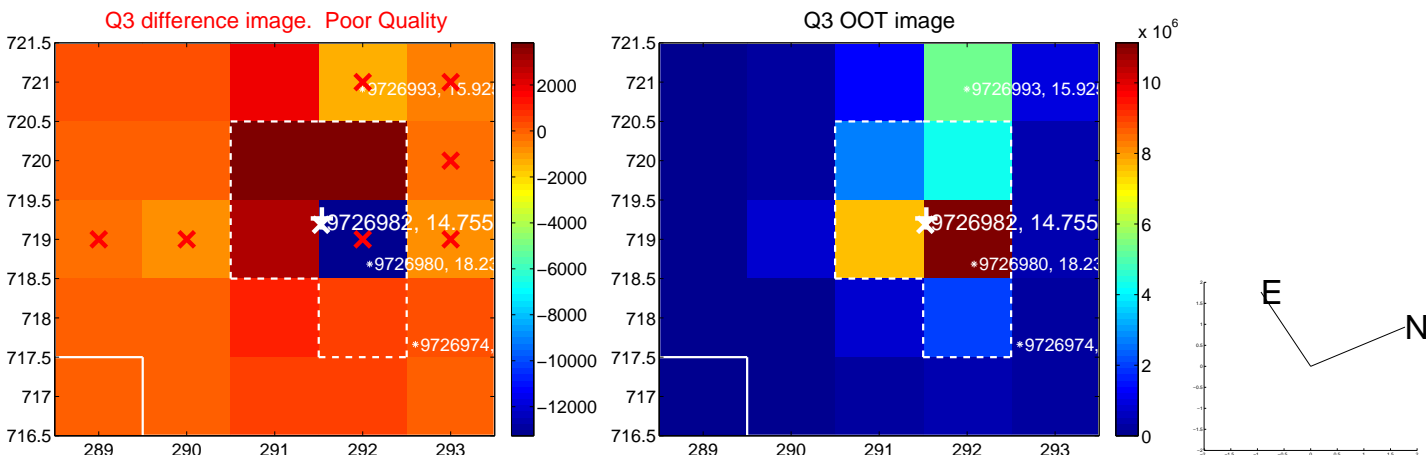
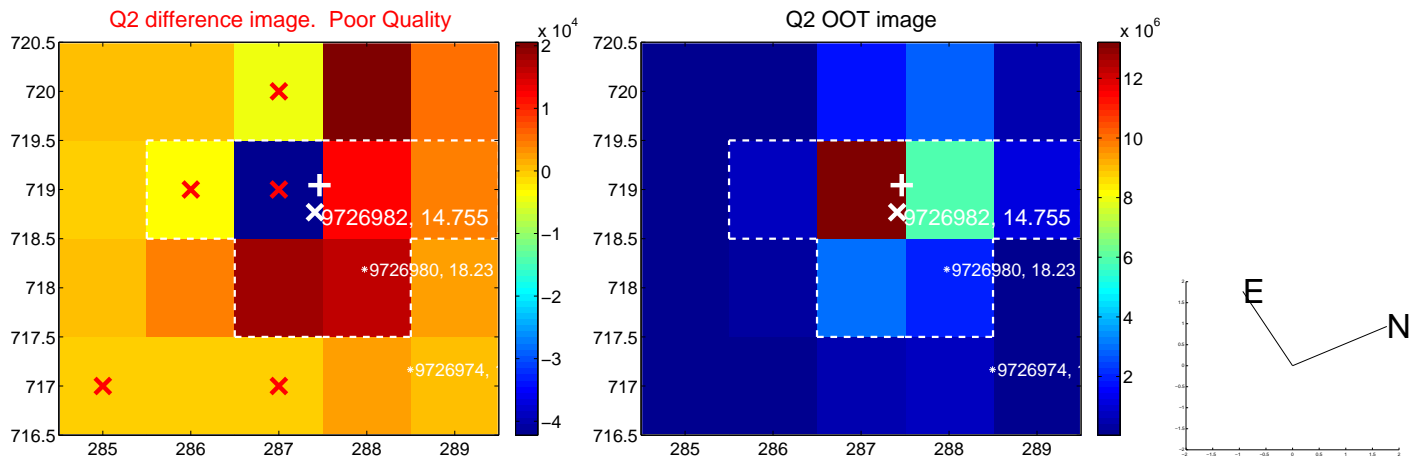
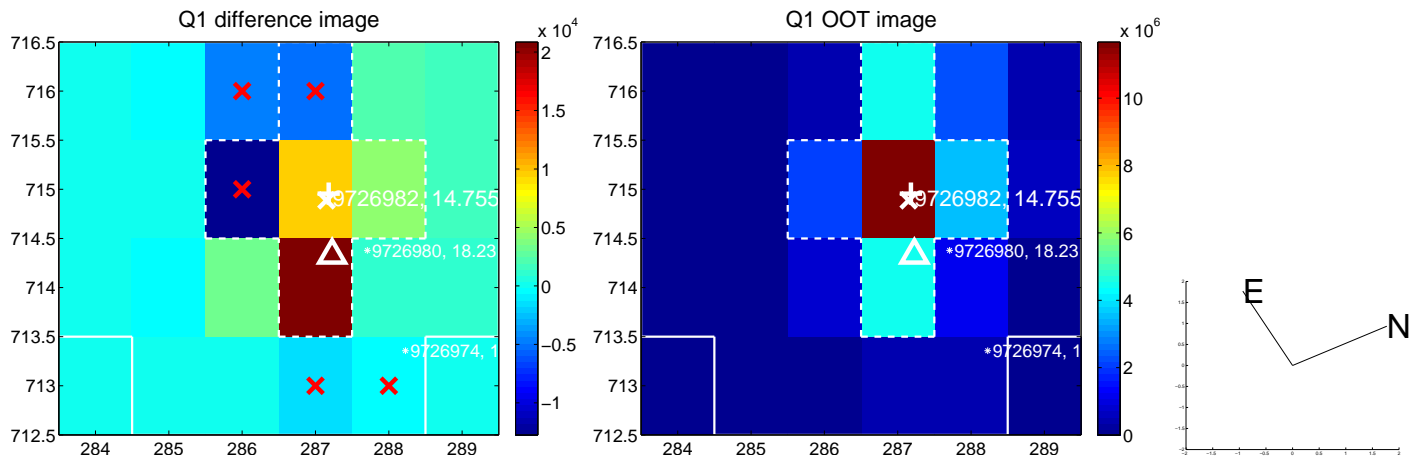
The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.828 ± 0.935	4.09	-3.327 ± 1.060	-1.894 ± 0.435
PRF-fit source offset from KIC position	3.029 ± 1.104	2.74	-2.712 ± 1.259	-1.348 ± 0.388
photometric centroid source offset	7.86 ± 3.68	2.13	-5.77 ± 3.66	-5.34 ± 3.71

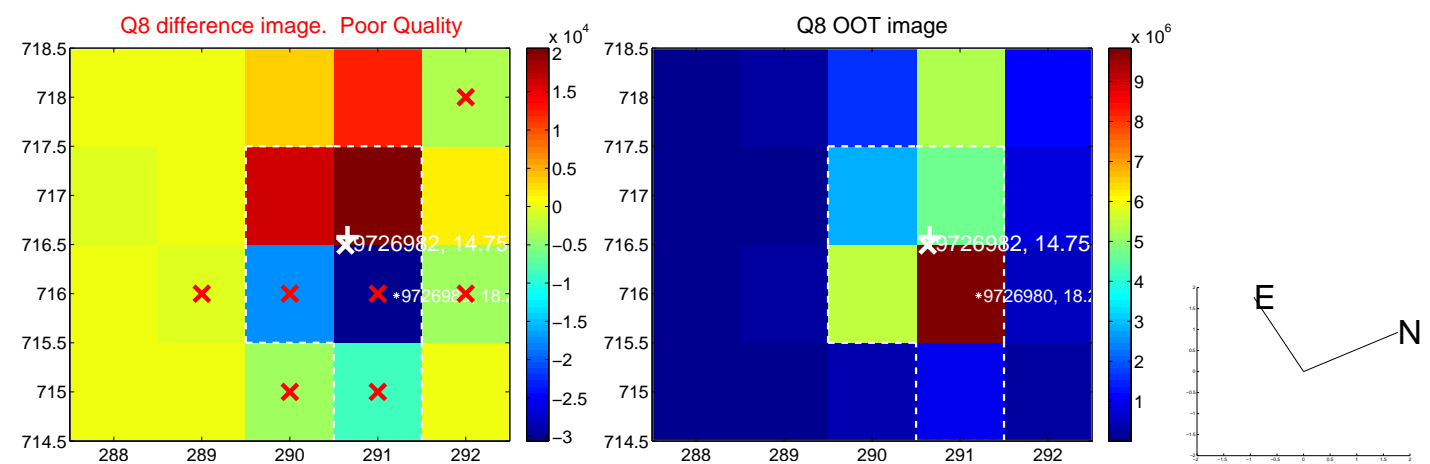
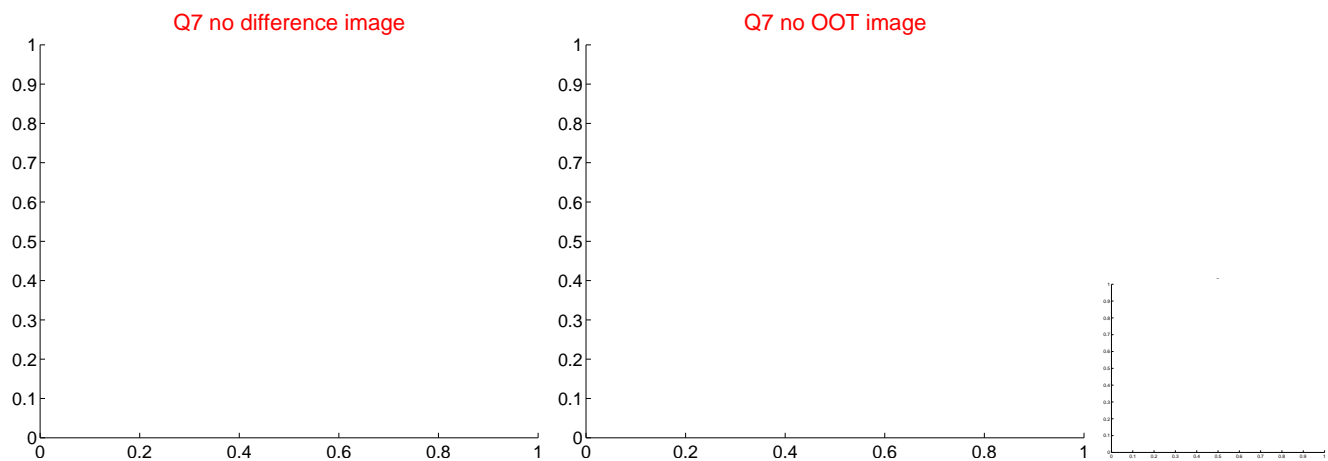
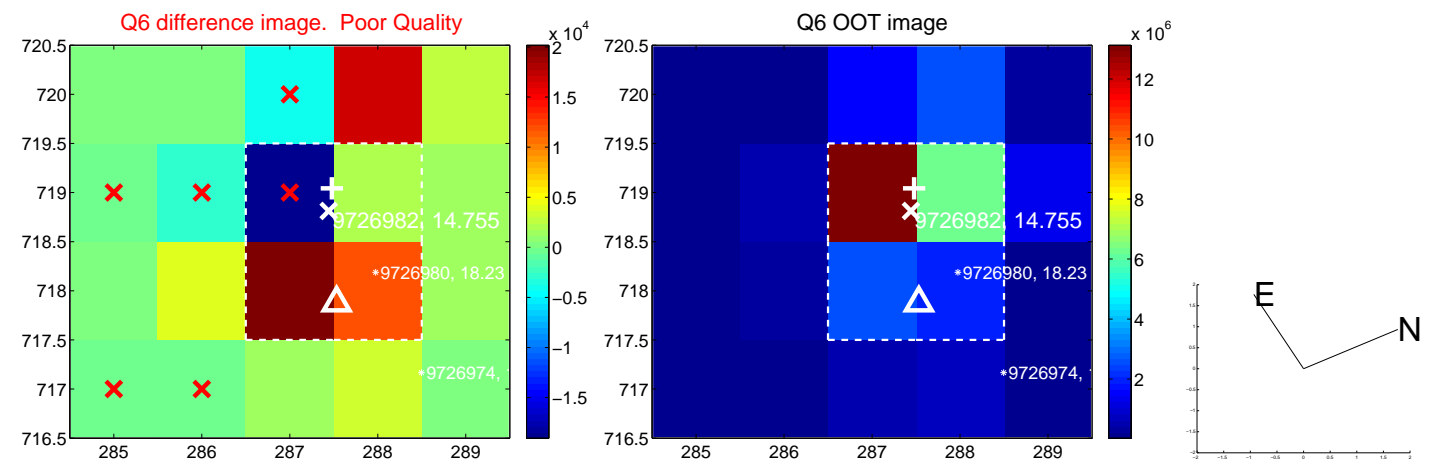
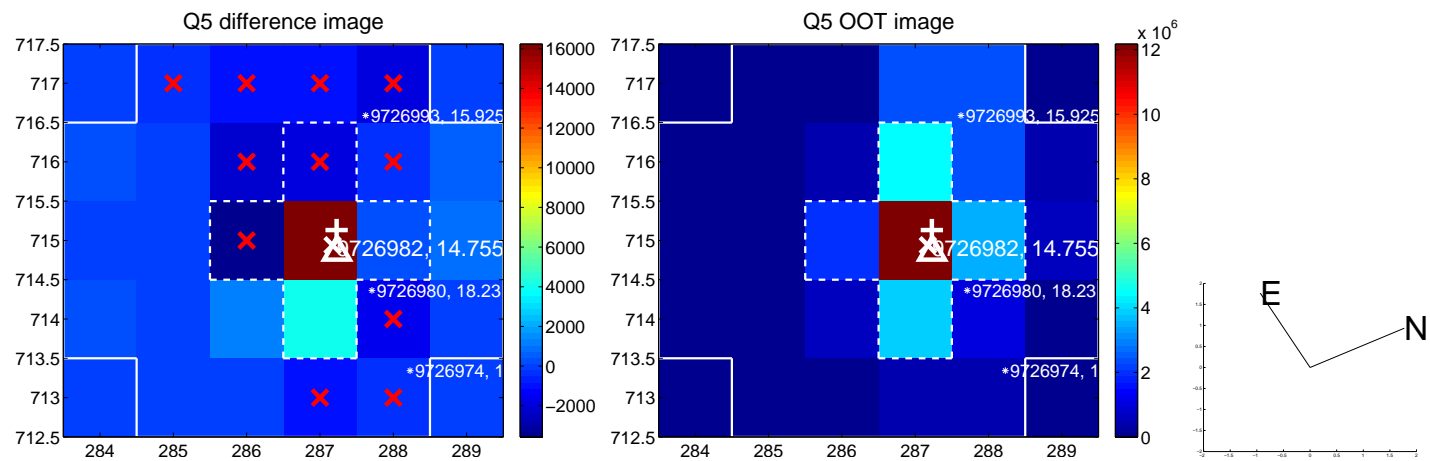


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

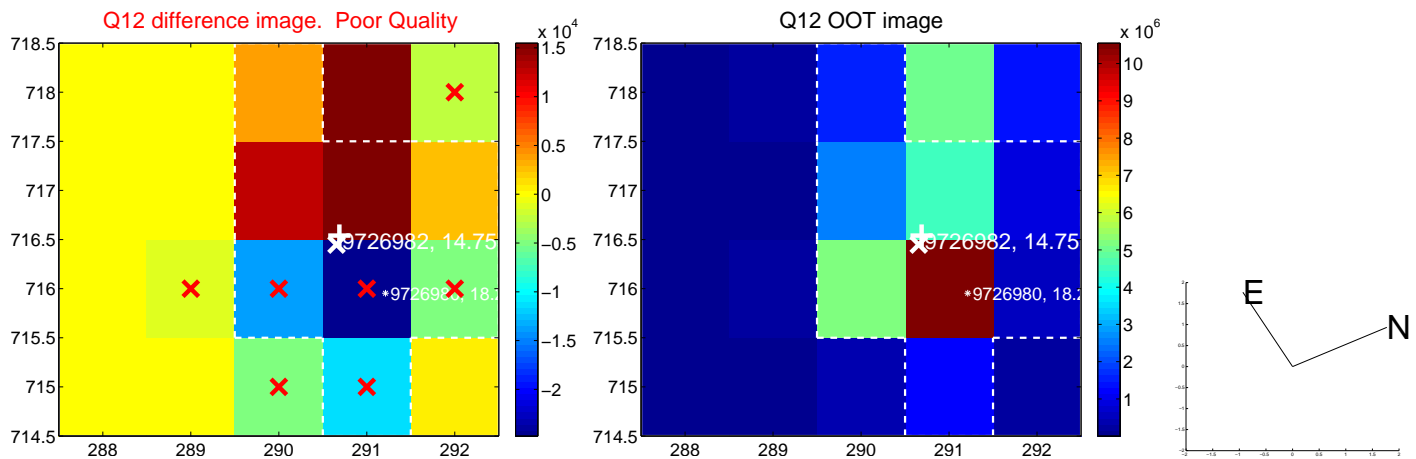
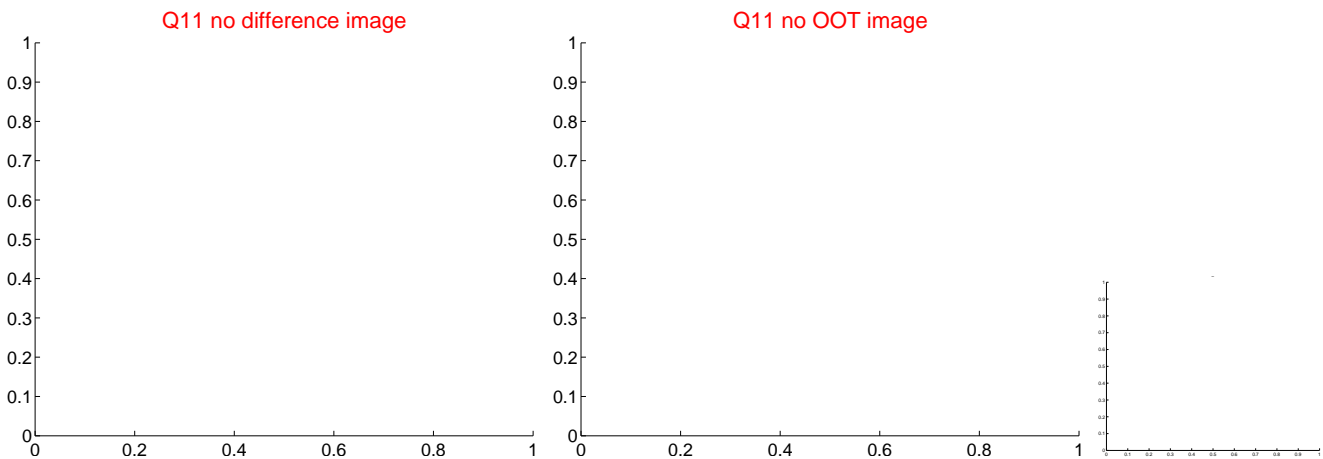
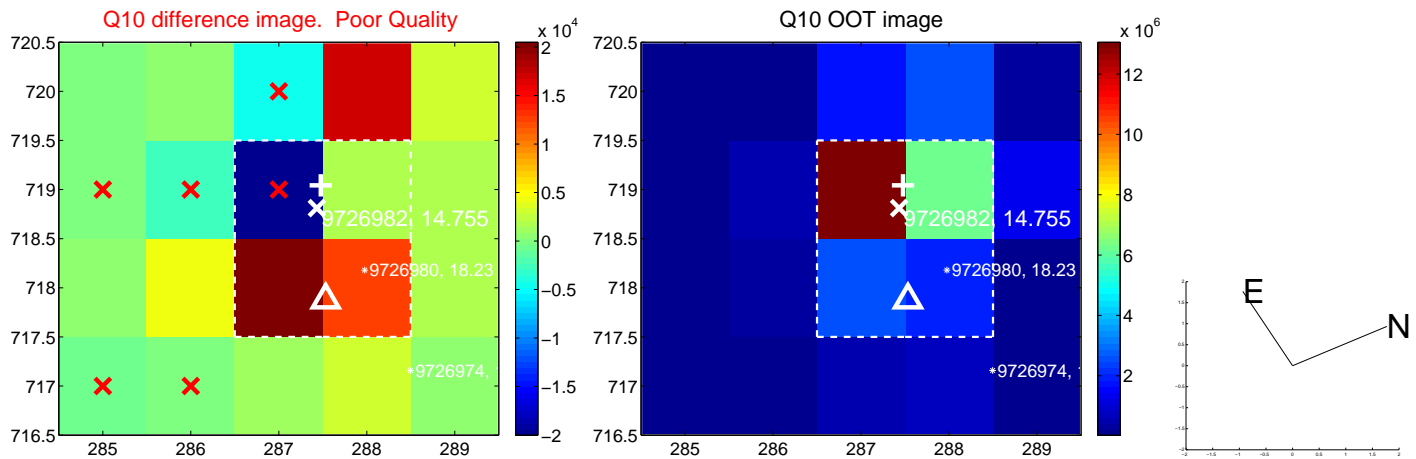
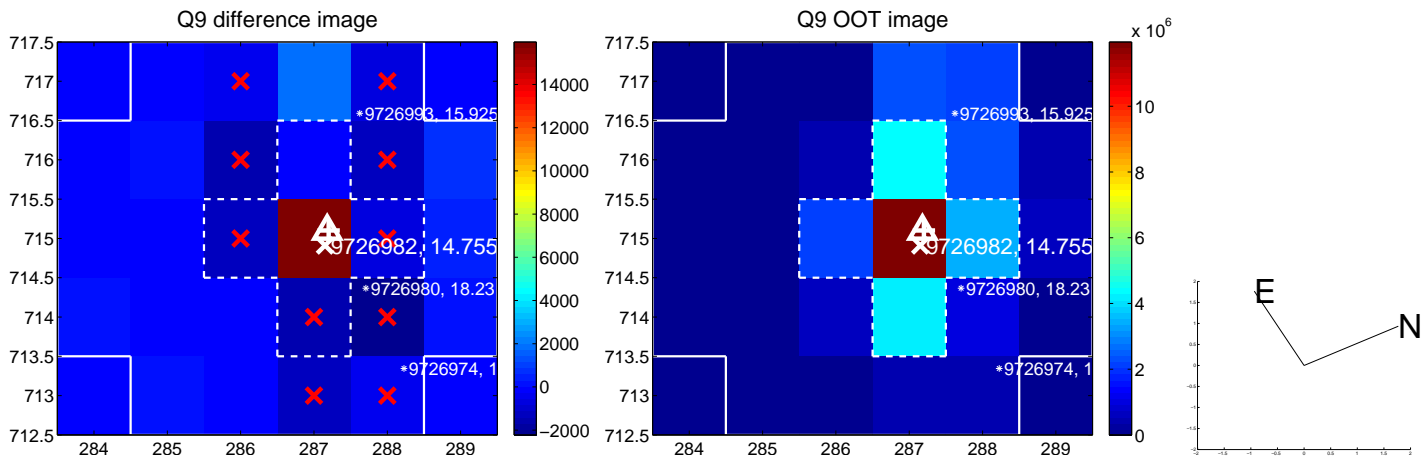
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



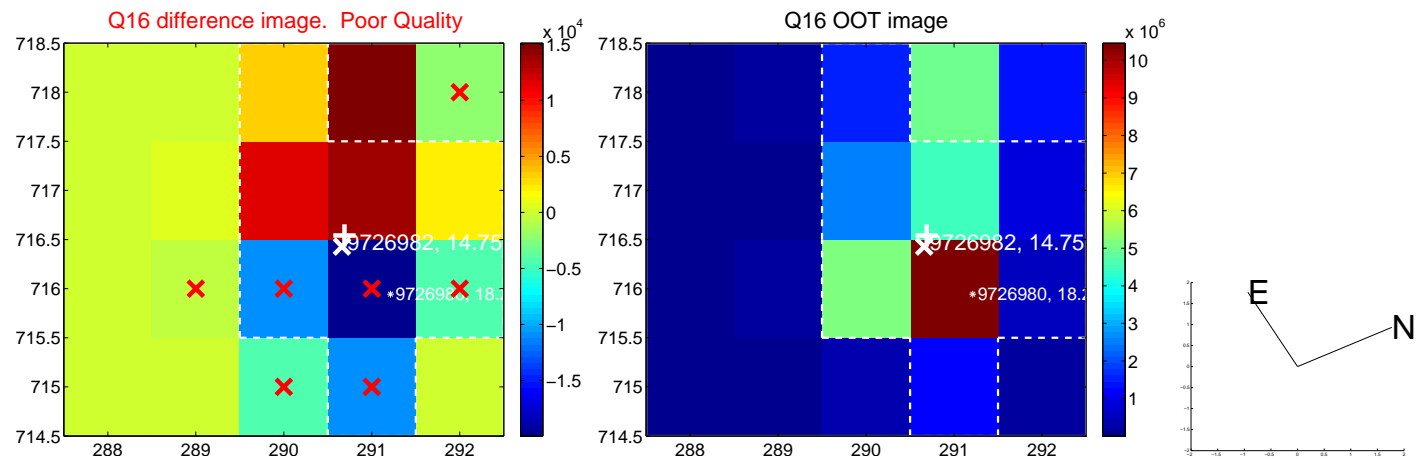
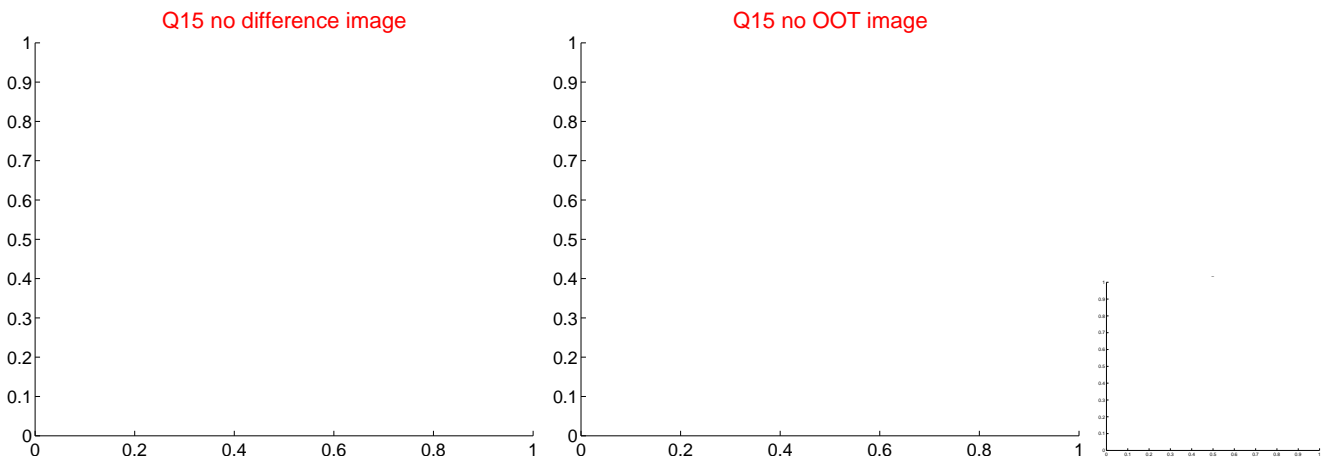
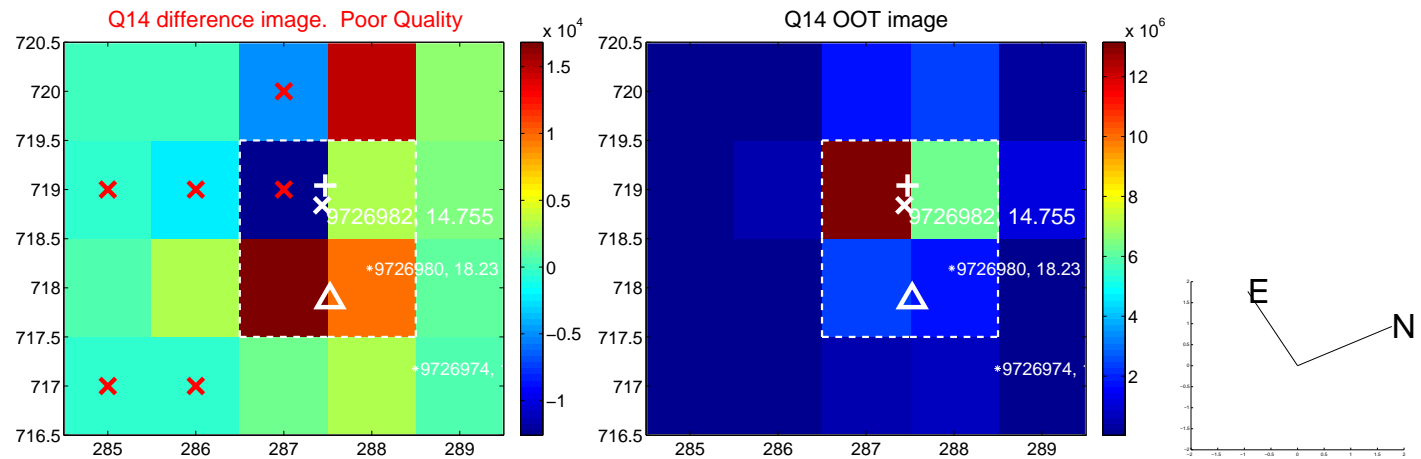
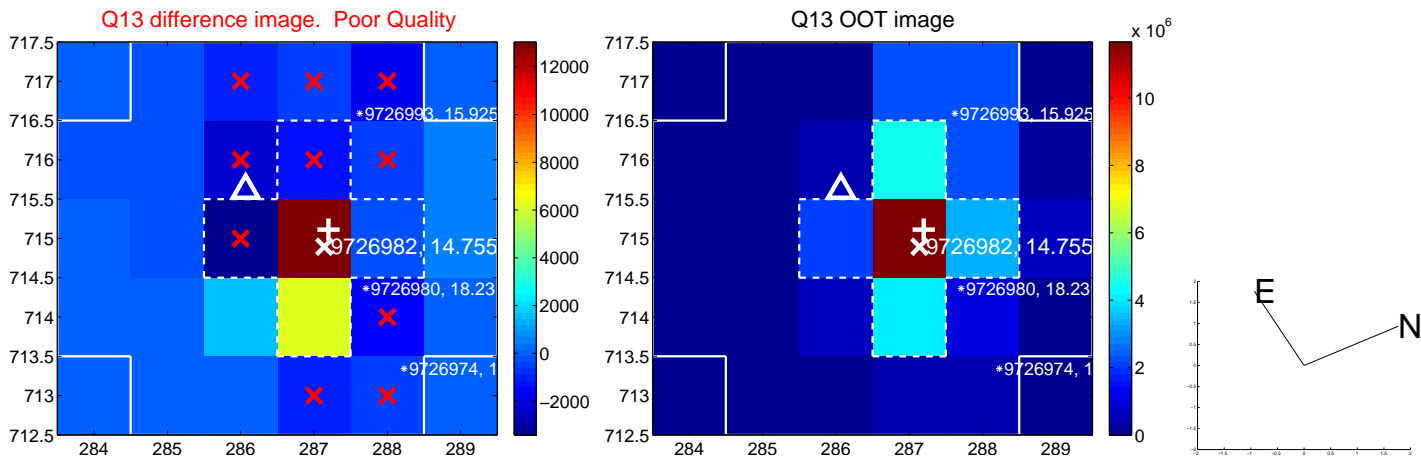
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



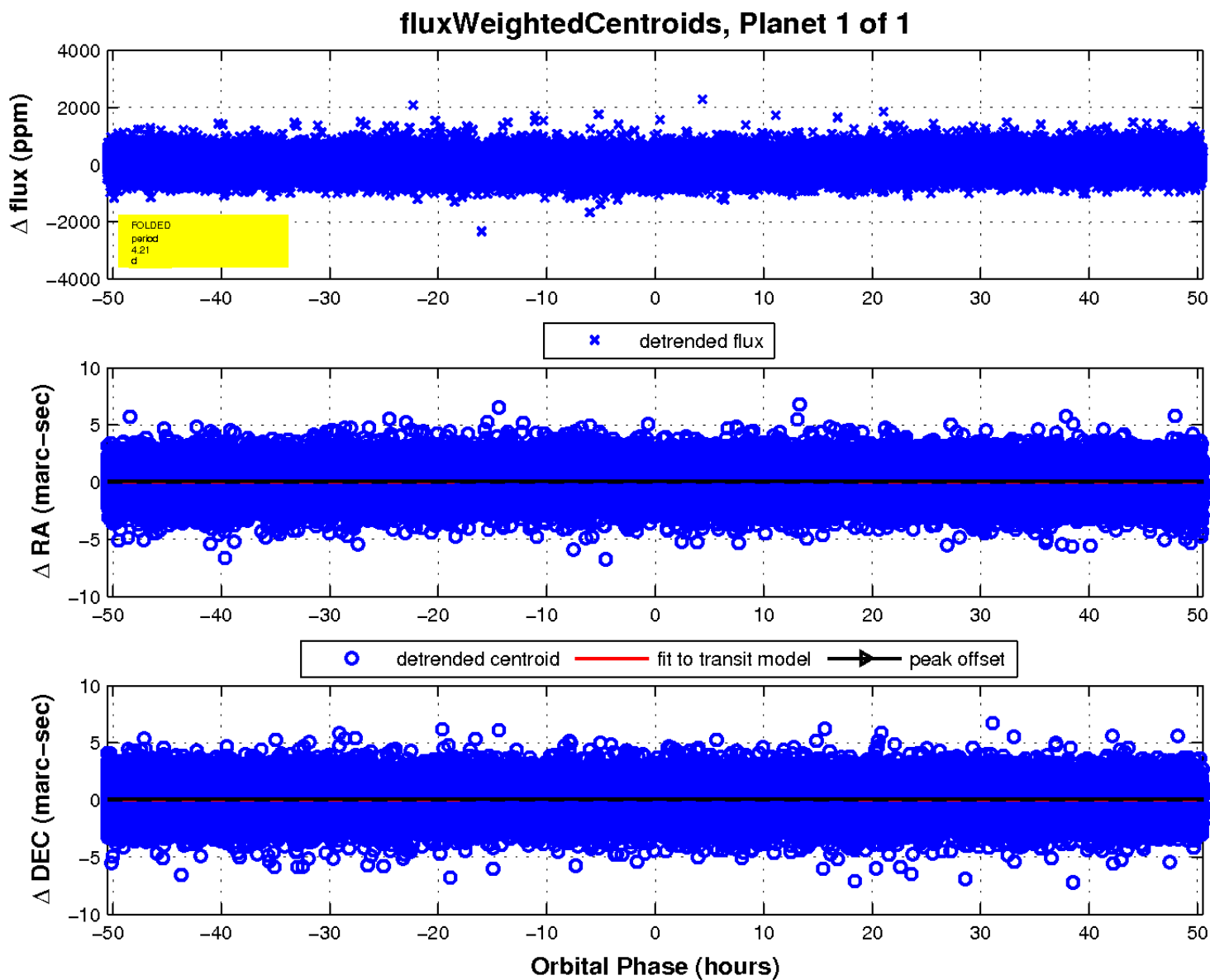
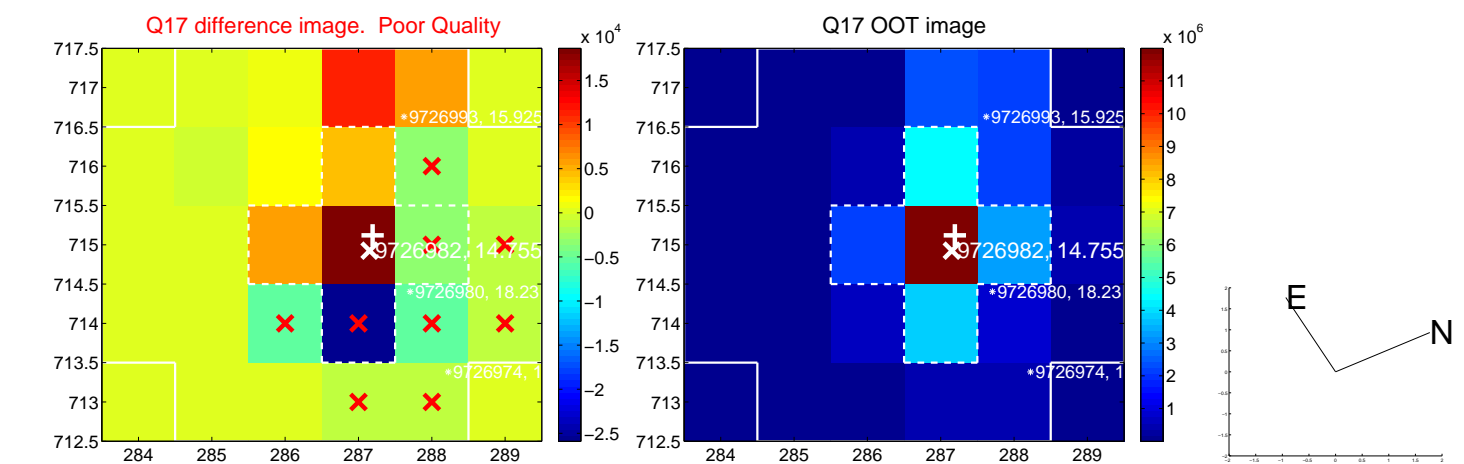
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

