

KIC 008391086

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})
008391086-01	OBS	No	4.718439	135.535986	19.2	29.020	8.0	8.8	1.65	7292	0.77	1731.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008391086-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

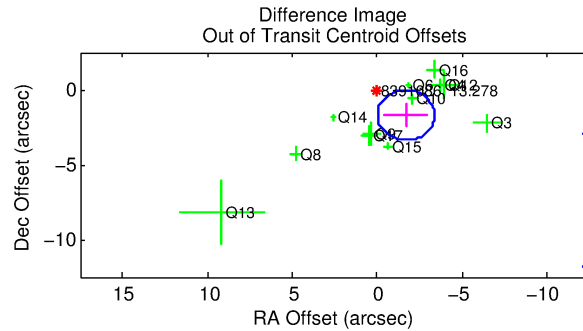
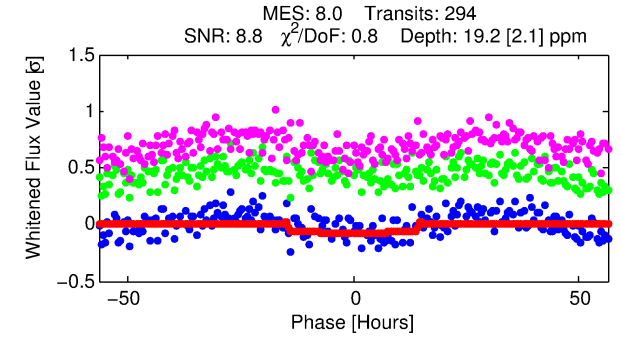
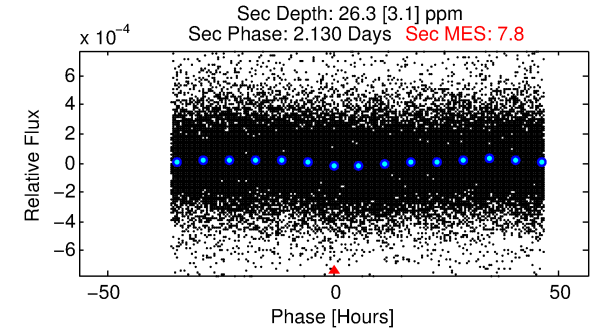
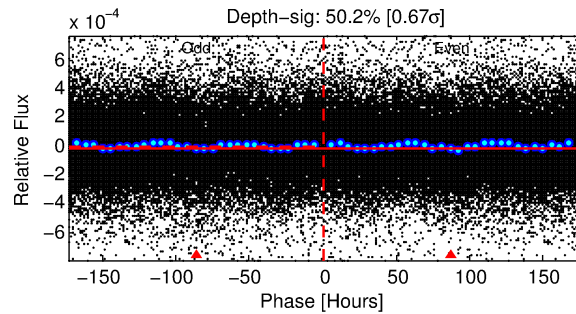
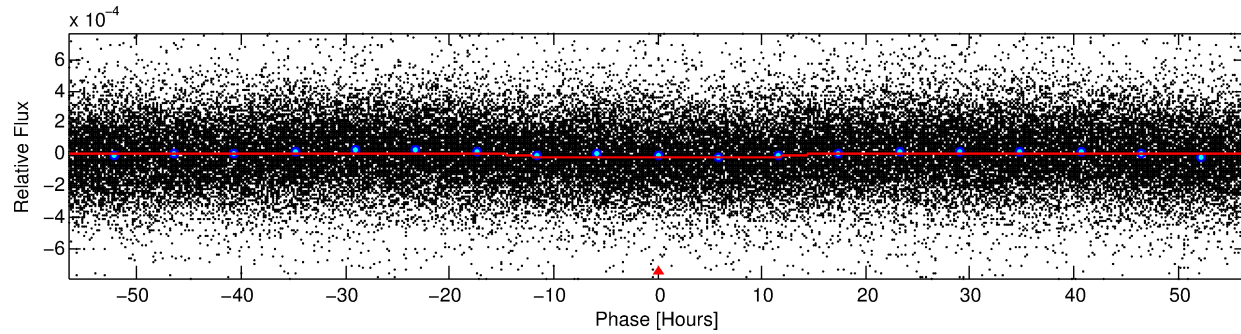
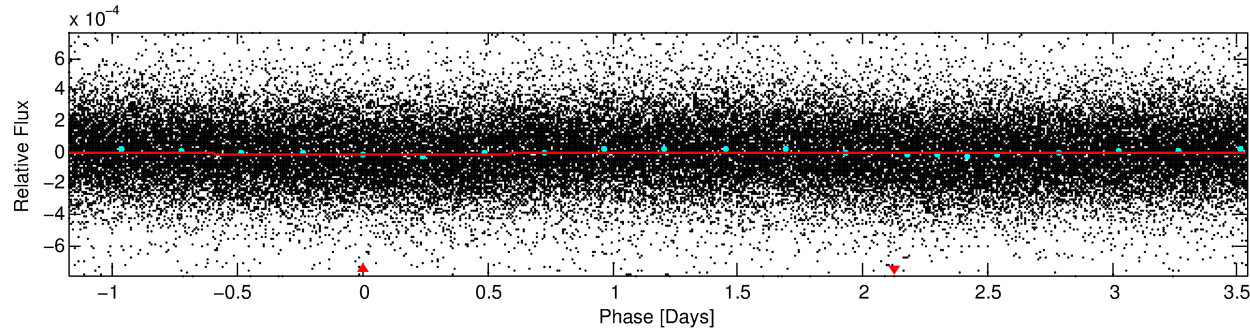
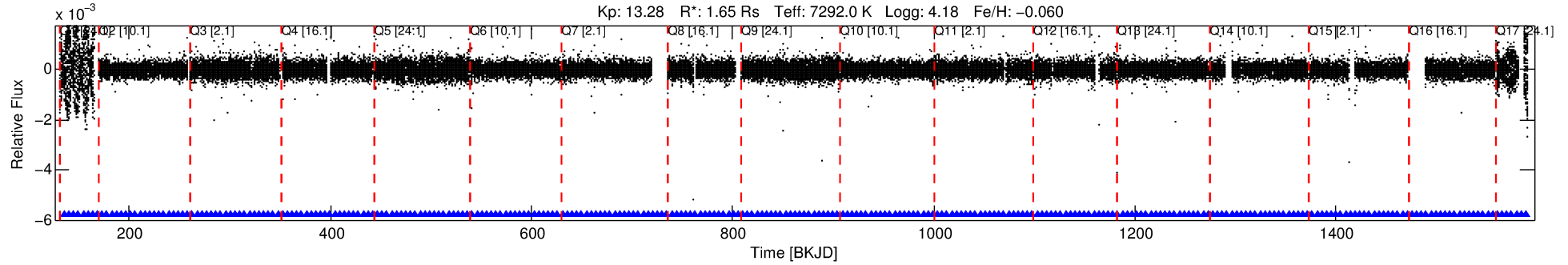
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008391086-01

No Significant Match Found

DV One-Page Summary

KIC: 8391086 Candidate: 1 of 1 Period: 4.718 d



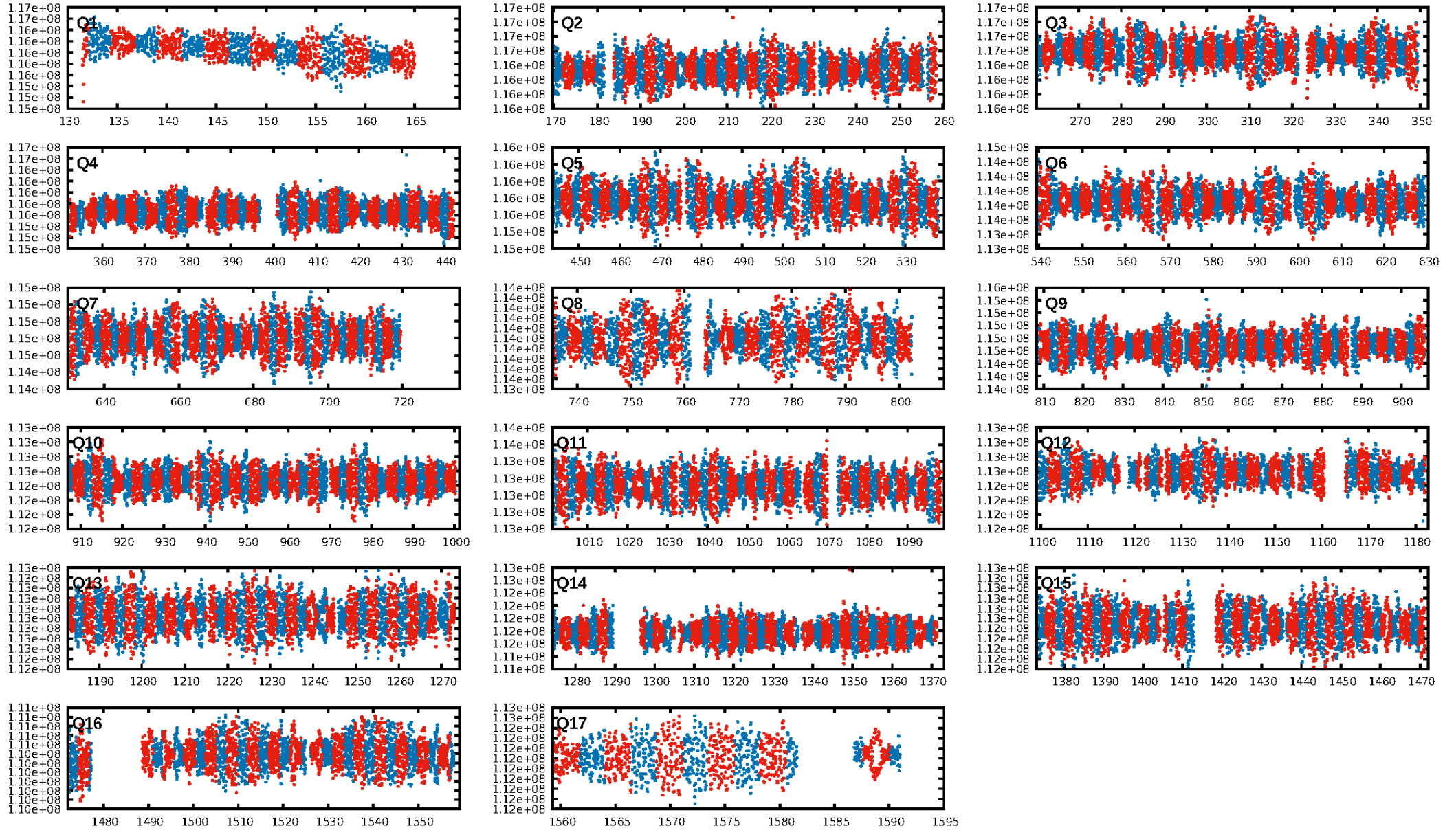
DV Fit Results:

Period = 4.71844 [0.00015] d
Epoch = 135.5360 [0.0223] BKJD
Rp/R* = 0.0043 [0.0016]
b = 0.71 [1.65]
Seff = 1731.19 [738.77]
Teq = 1645 [175] K
Rp = 0.77 [0.39] Re
a = 0.0630 [0.0172] AU
Ag = 95.90 [81.75] [1.16 σ]
Teffp = 7958 [1563] K [4.01 σ]

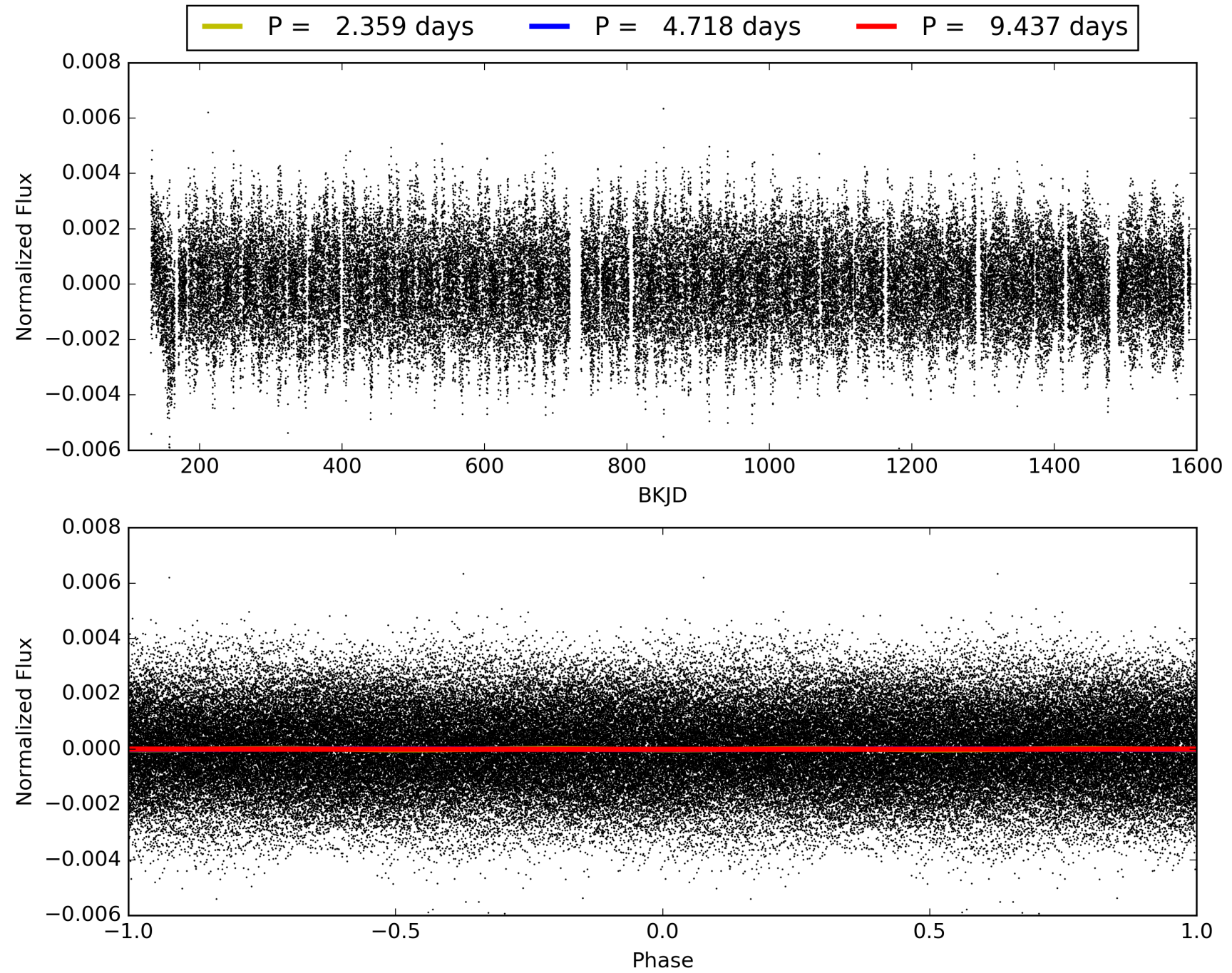
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.63e-18
RollingBand-fgt: 1.00 [281/281]
GhostDiagnostic-chr: 3.024
Centroid-sig: 30.0%
Centroid-so: 1.011 arcsec [0.92 σ]
OotOffset-rm: 2.409 arcsec [4.32 σ]
KicOffset-rm: 2.494 arcsec [5.19 σ]
OotOffset-st: 3/2/4/3 [12]
KicOffset-st: 3/2/4/3 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008391086-01, PDC Light Curves

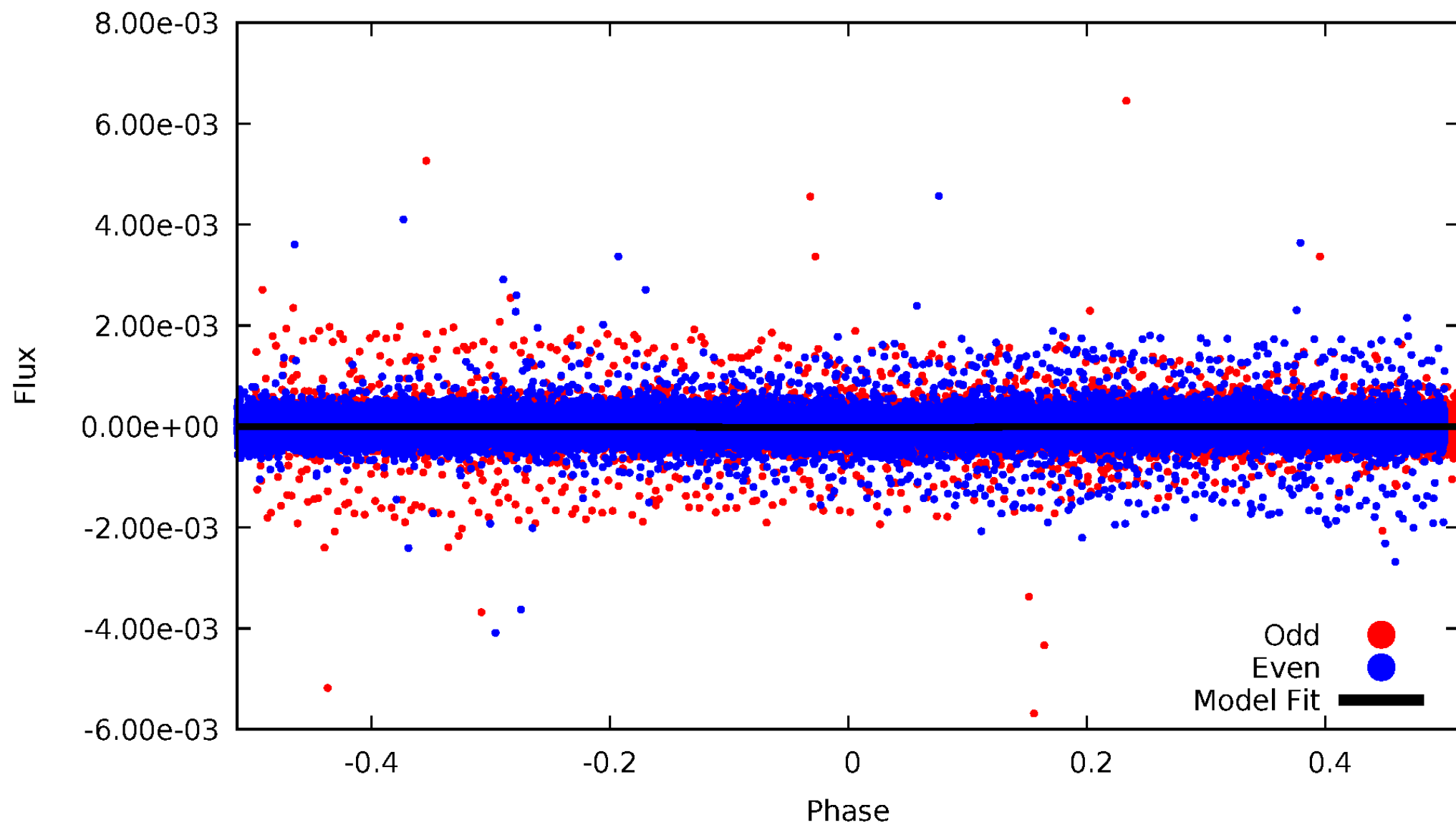


TCE 008391086-01



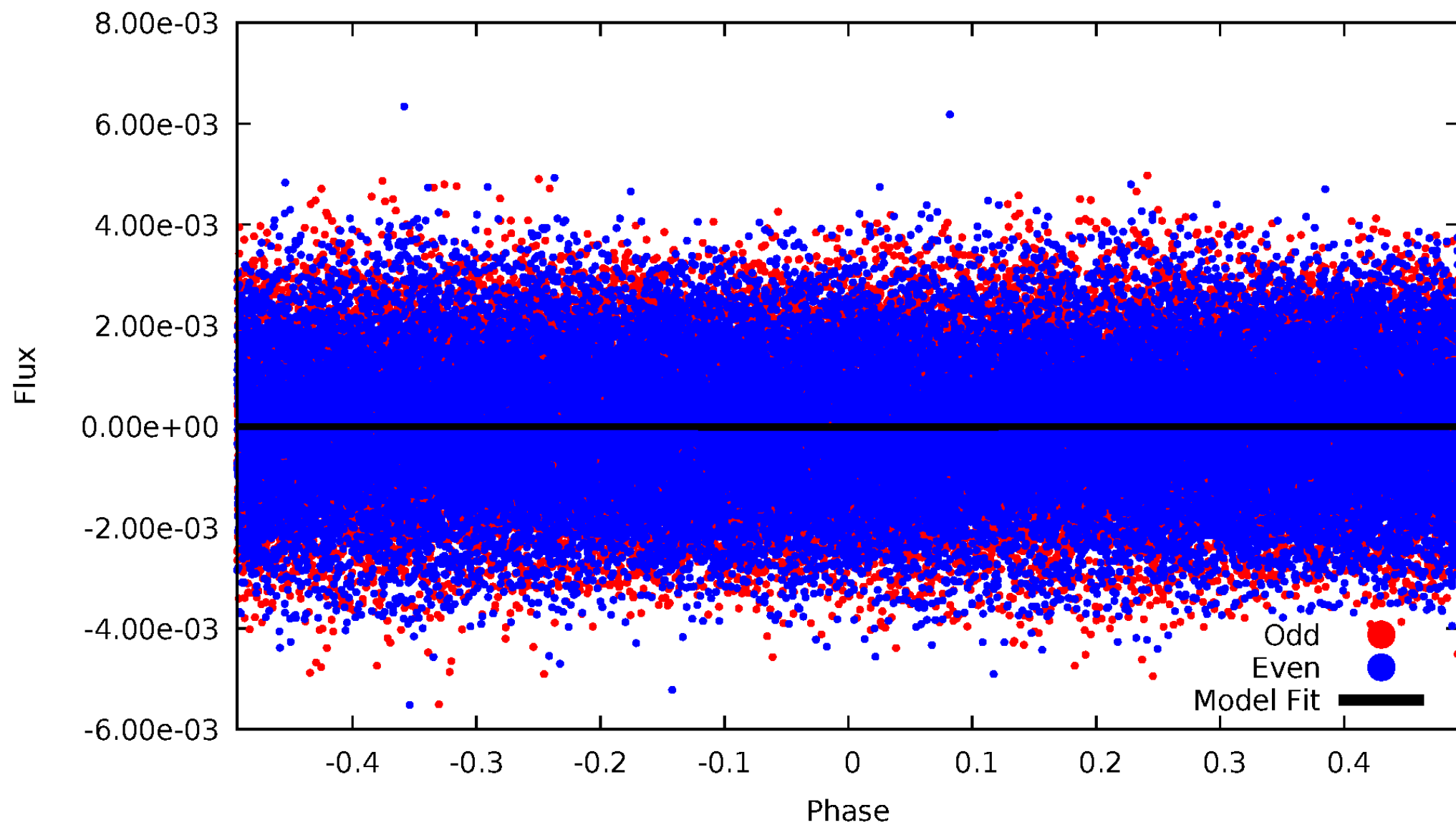
DV Odd/Even

TCE 008391086-01

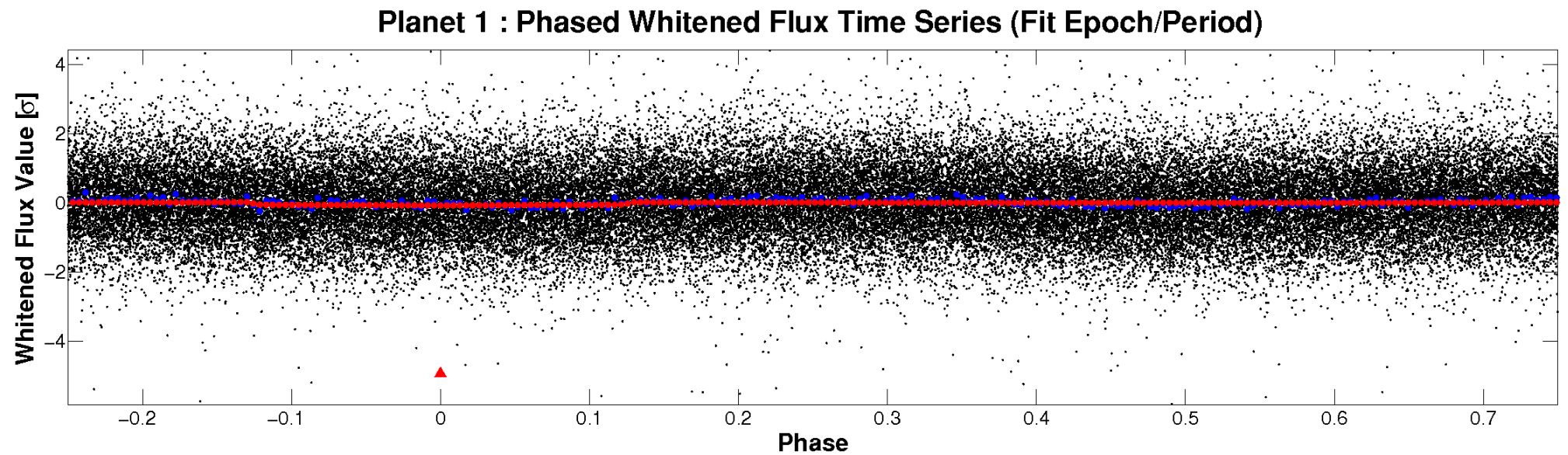
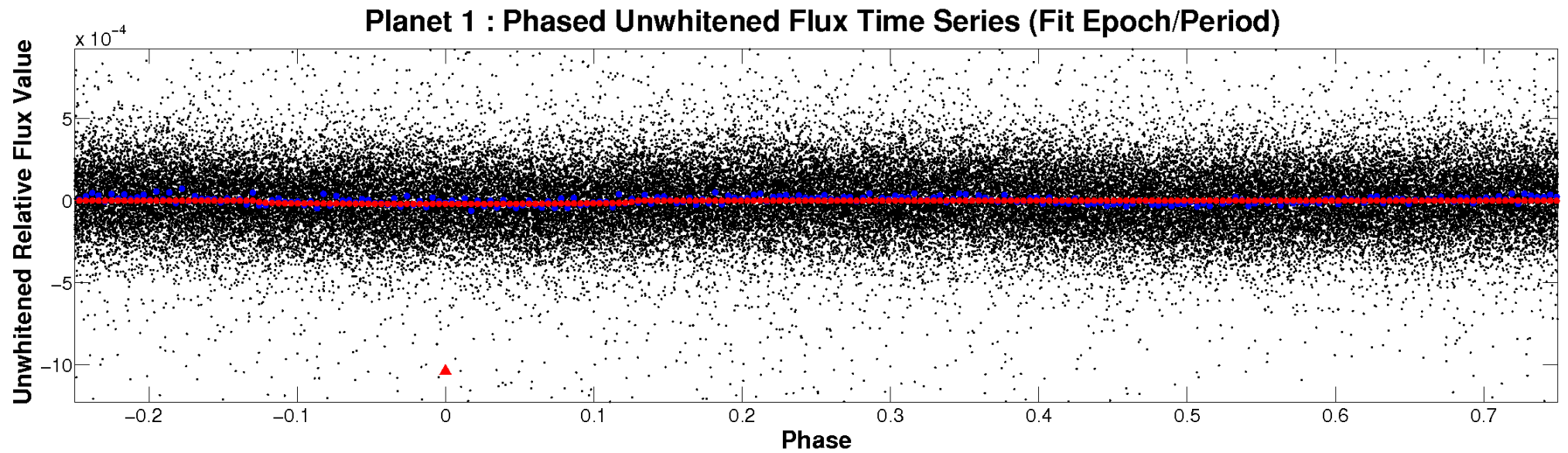


ALT Odd/Even

TCE 008391086-01

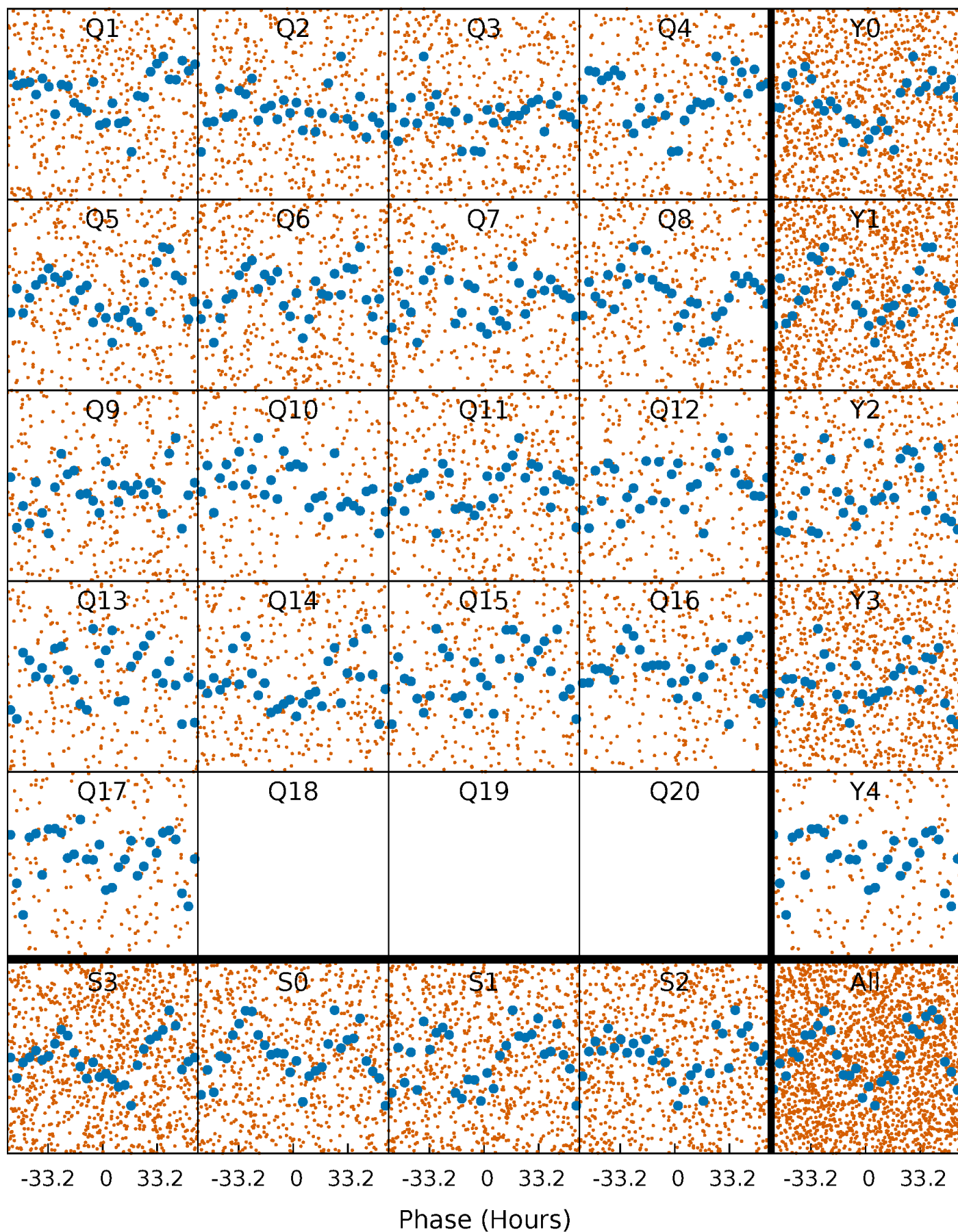


Non-Whitened Vs. Whitened Light Curve



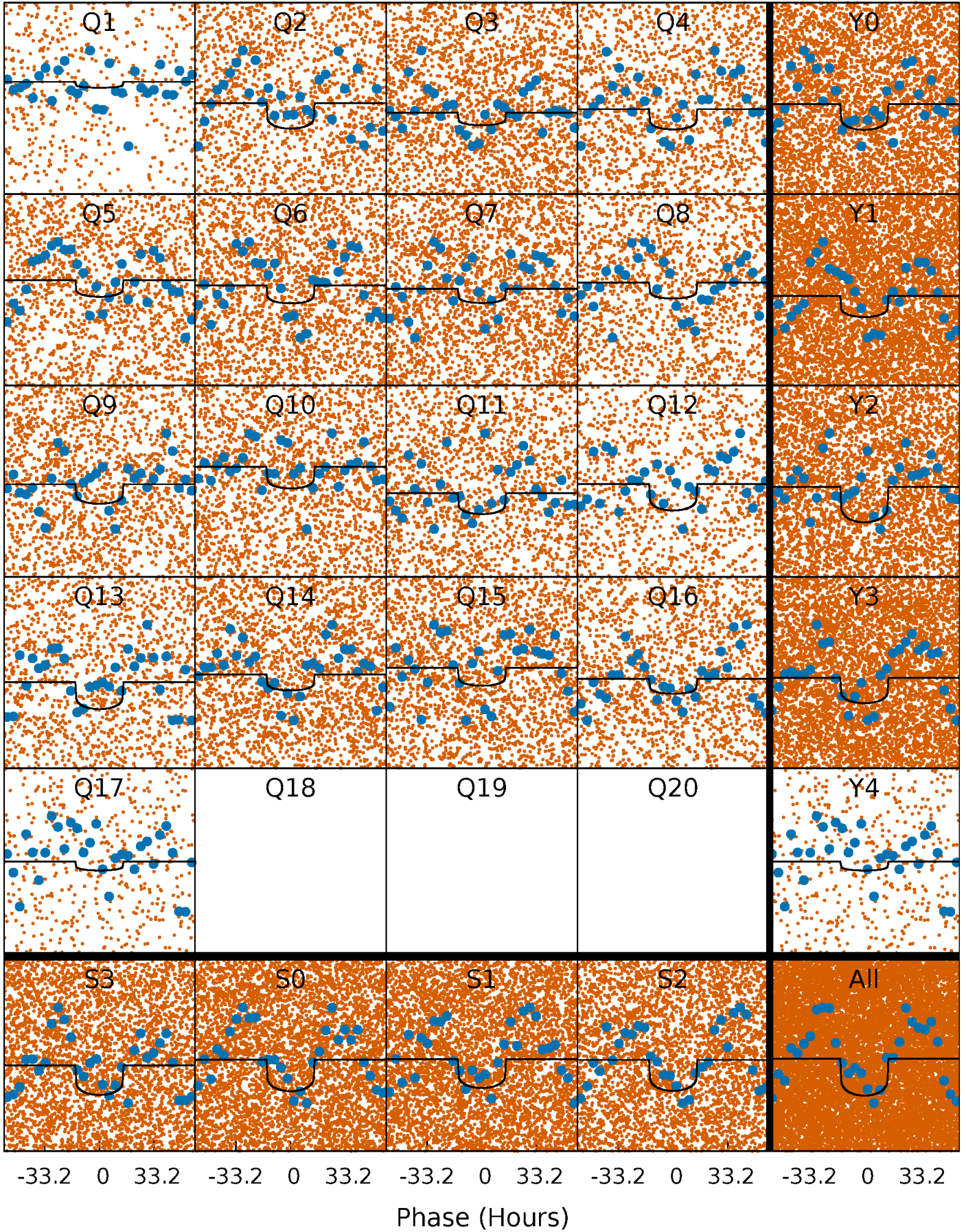
PDC Quarter-Phased Transit Curves

TCE 008391086-01 P= 4.718439 Days $T_0=135.535987$ (BKJD)



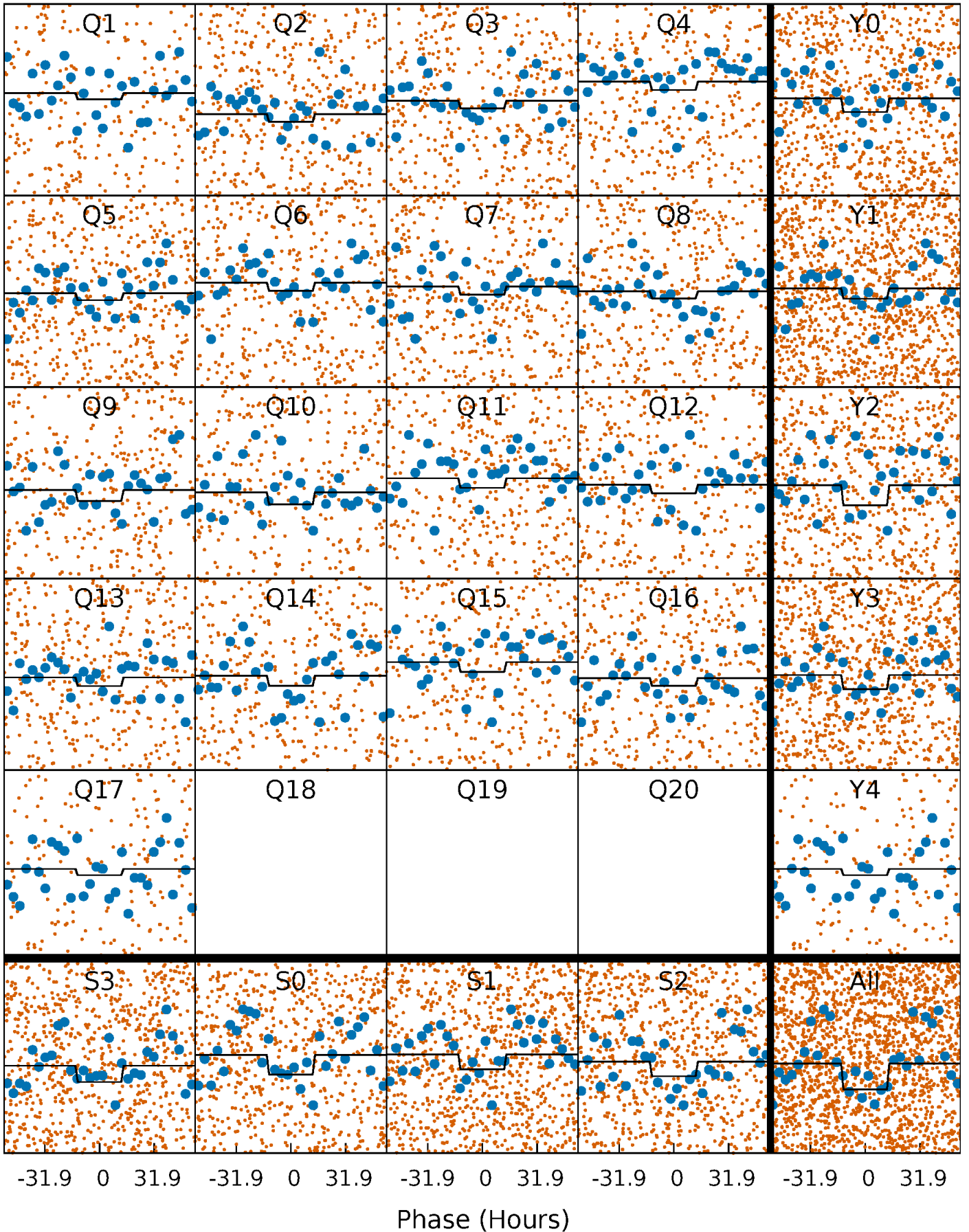
DV Quarter-Phased Transit Curves

TCE 008391086-01 P= 4.718439 Days $T_0=135.535987$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

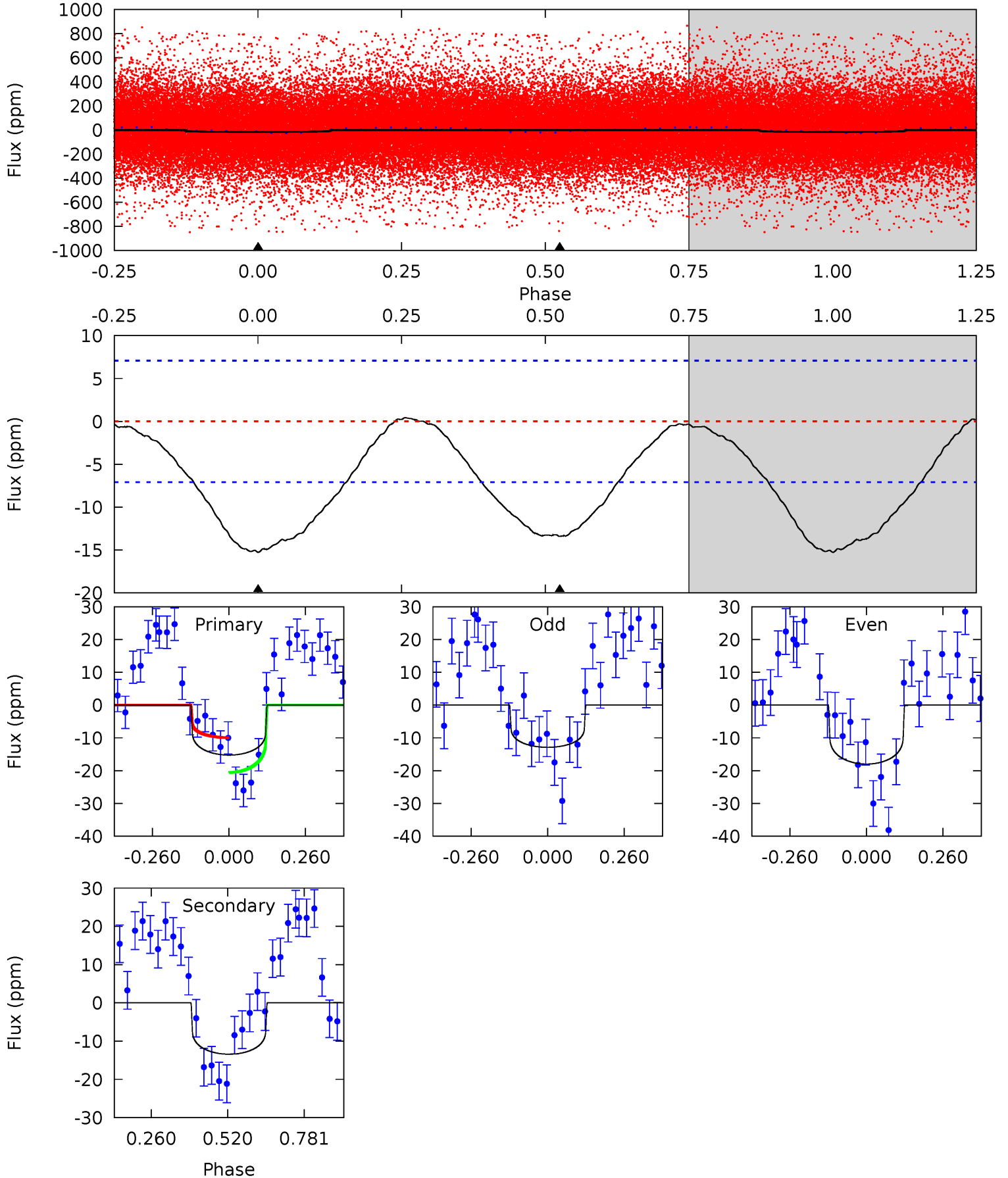
TCE 008391086-01 P= 4.718127 Days $T_0=135.512807$ (BKJD)



DV Model-Shift Uniqueness Test

008391086-01, P = 4.718439 Days, E = 130.817548 Days

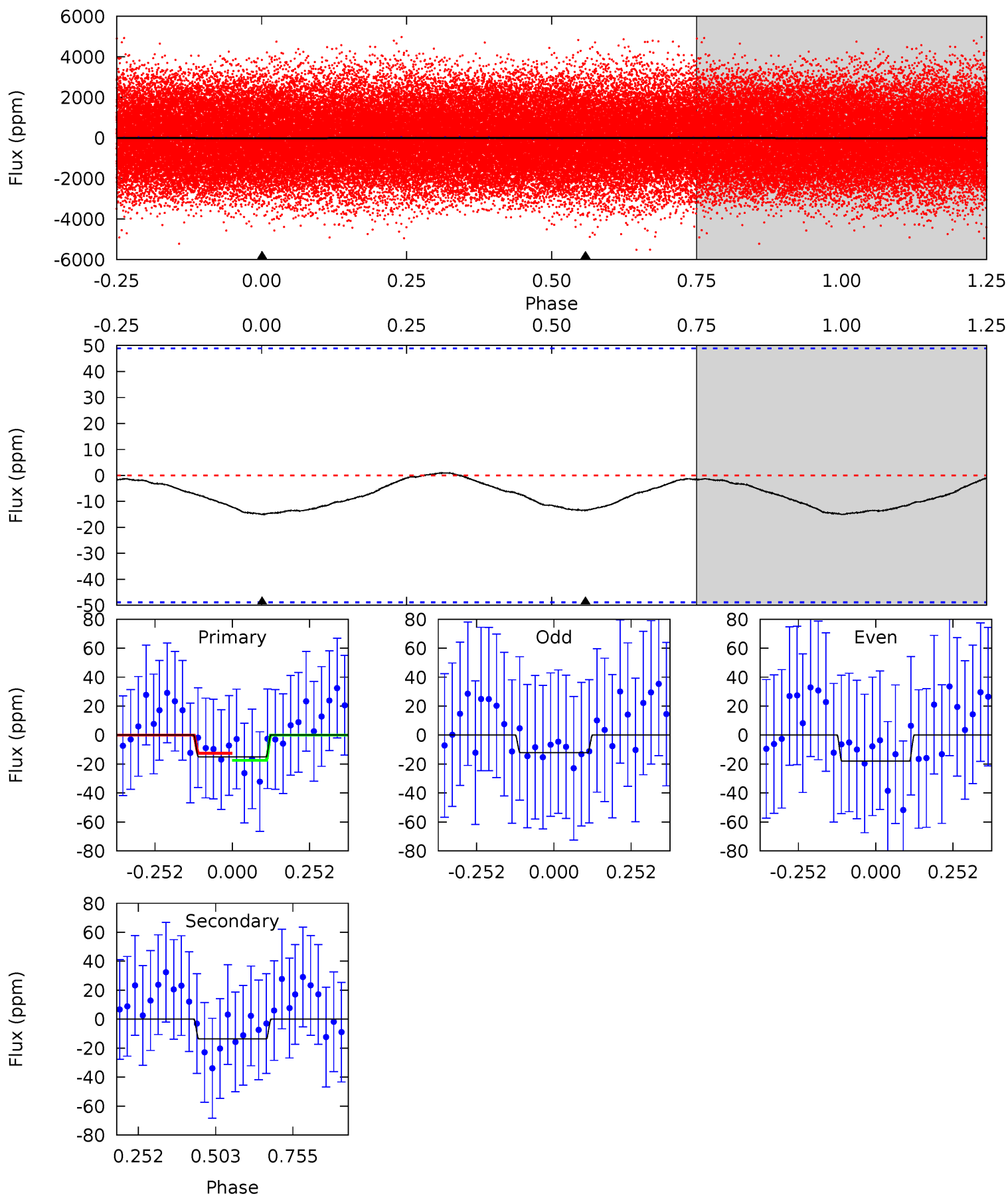
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.38	8.25	0	0	4.36	1.13	0.23	9.38	9.38	8.25	8.25	1.57	0.86	0.03	3.35



Alt Model-Shift Uniqueness Test

008391086-01, P = 4.718127 Days, E = 130.794680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.34	1.21	0	0	4.37	1.15	0.09	1.34	1.34	1.21	1.21	0.26	0.32	0.06	0.22



Stellar Parameters For KIC 008391086

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7292^{+232}_{-348}	$4.180^{+0.108}_{-0.201}$	$-0.060^{+0.200}_{-0.350}$	$1.647^{+0.555}_{-0.299}$	$1.498^{+0.234}_{-0.234}$	$0.472^{+0.283}_{-0.236}$
	+3%/-5%	+3%/-5%	+333%/-583%	+34%/-18%	+16%/-16%	+60%/-50%
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 008391086-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 2	$0.79^{+0.36}_{-0.29}$	2324^{+178}_{-150}	6651^{+2195}_{-1081}	47^{+72}_{-25}
Alt.	-14 ± 11	$0.70^{+0.34}_{-0.27}$	2319^{+191}_{-142}	6893^{+3208}_{-2587}	53^{+135}_{-46}

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

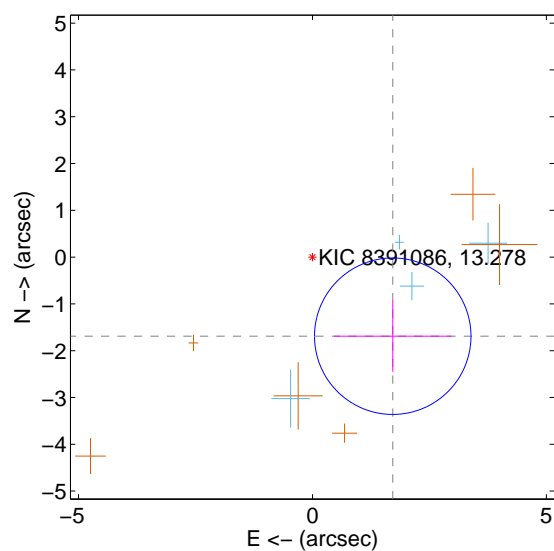
Supplemental centroid analysis for 008391086-01. Kepler magnitude: 13.28. Transit SNR 8.78

There are 4 quarters with good PRF difference image offsets

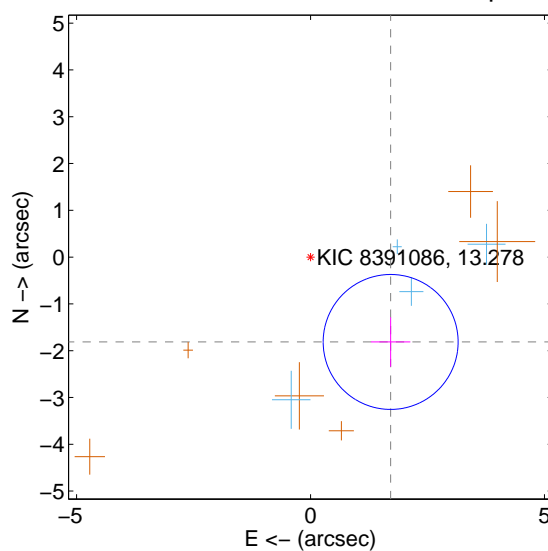
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.409 ± 0.557	4.32	-1.716 ± 1.256	-1.691 ± 0.760
PRF-fit source offset from KIC position	2.494 ± 0.481	5.19	-1.712 ± 0.422	-1.813 ± 0.527
photometric centroid source offset	1.01 ± 1.10	0.92	-0.73 ± 1.14	-0.70 ± 1.05

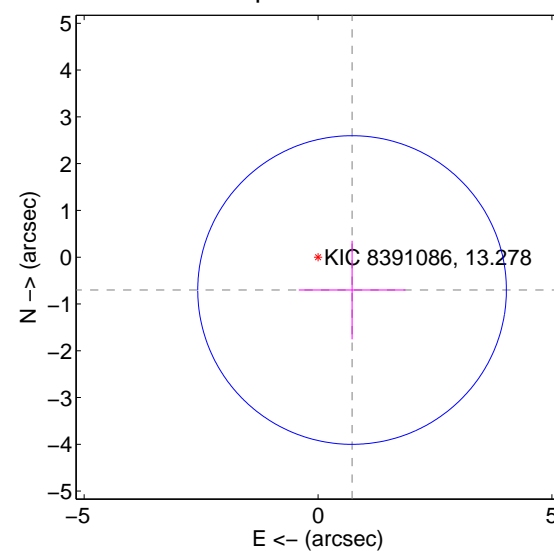
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

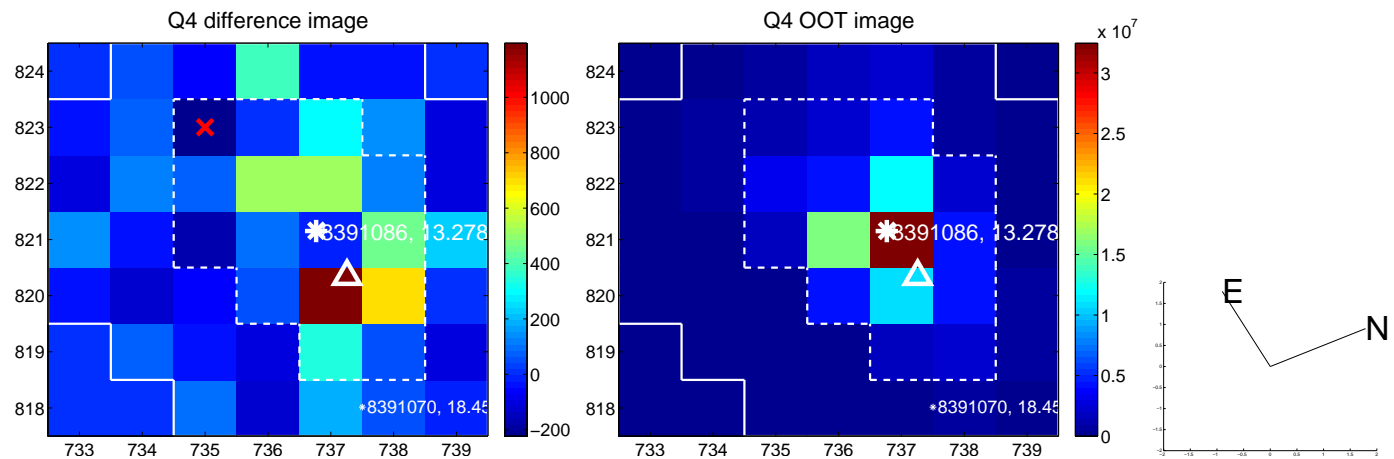
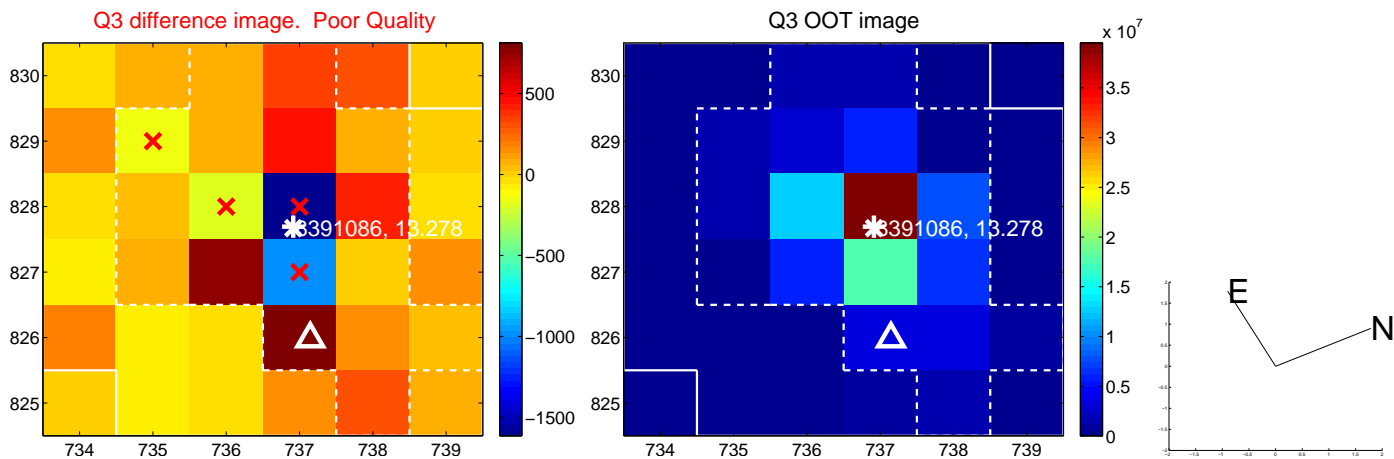
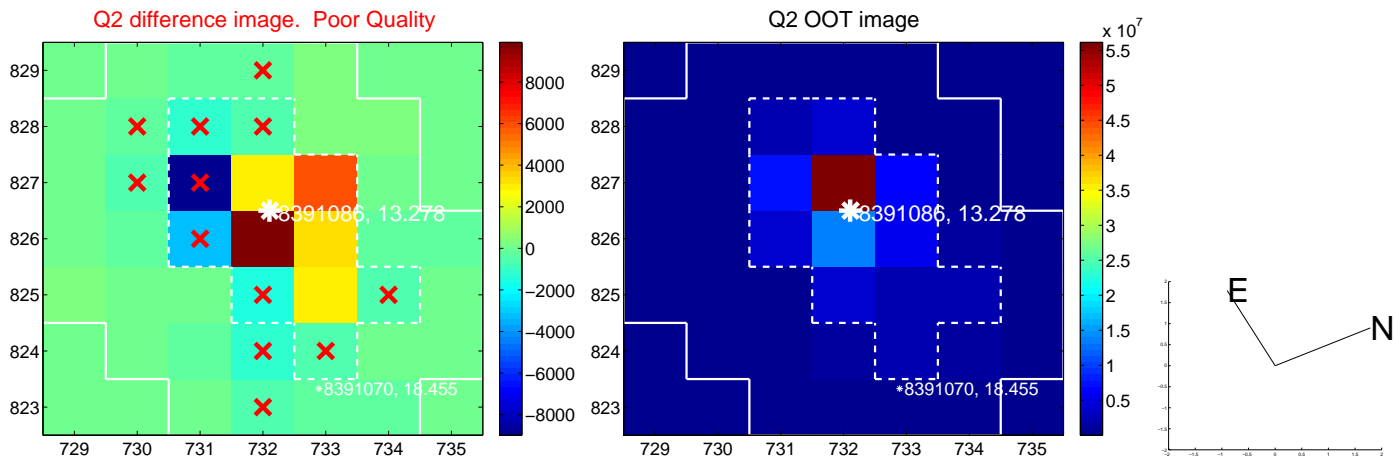
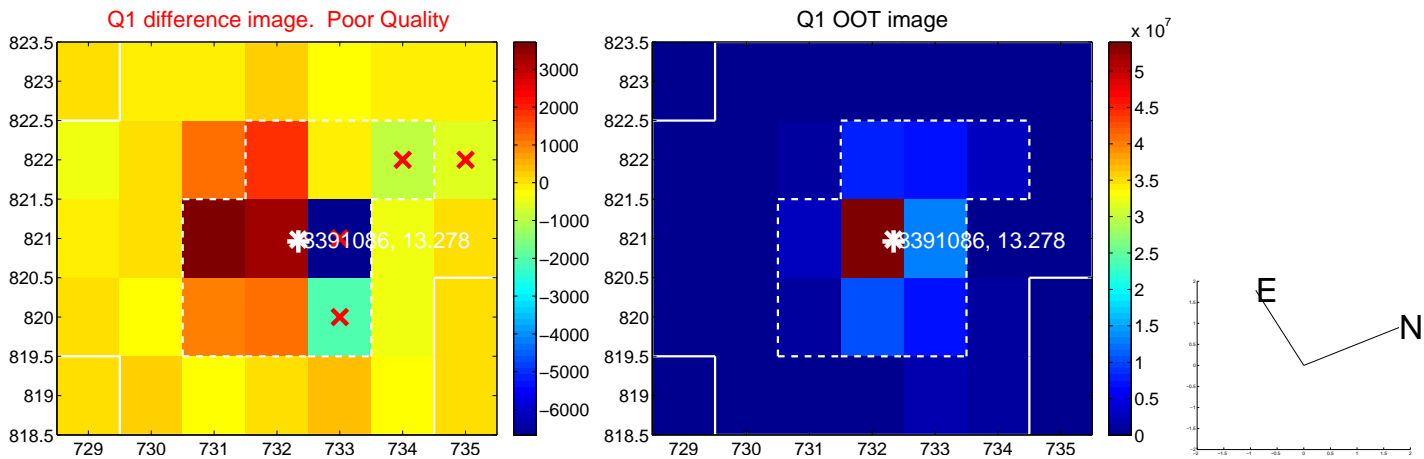


offset from photometric centroids

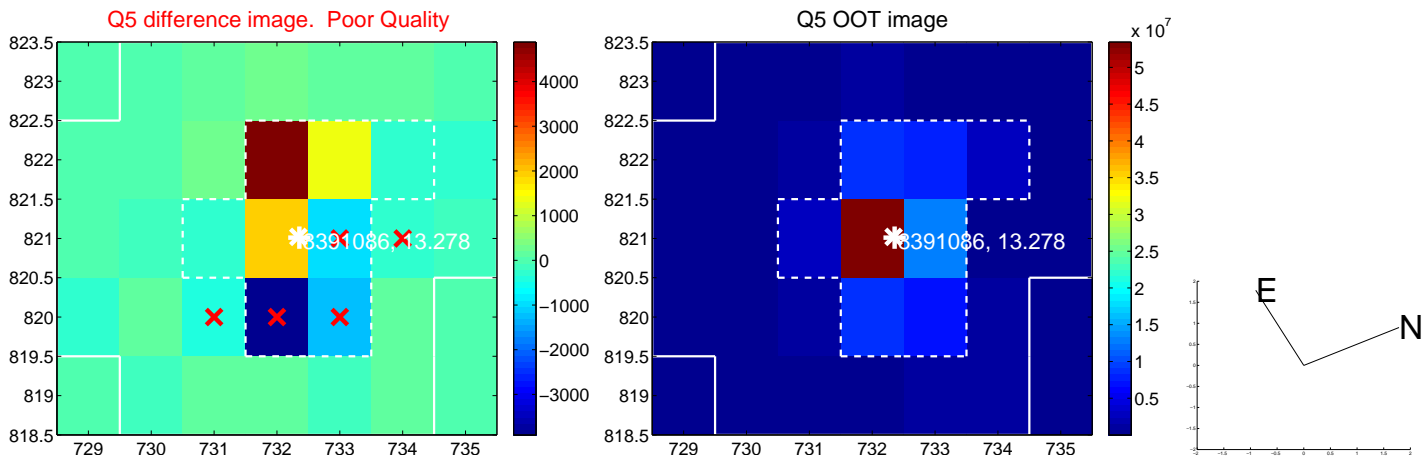


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

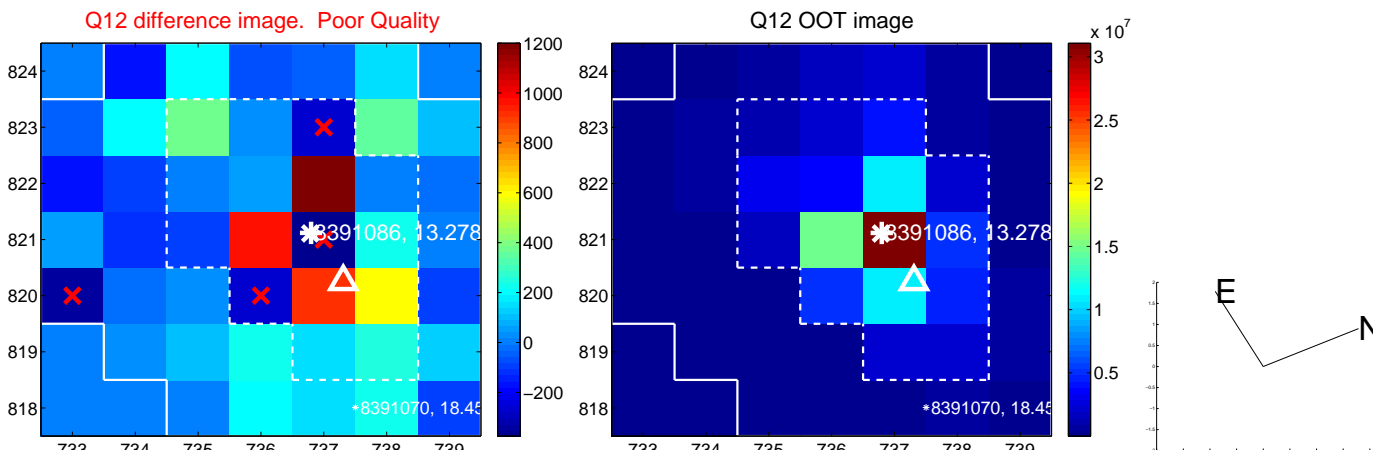
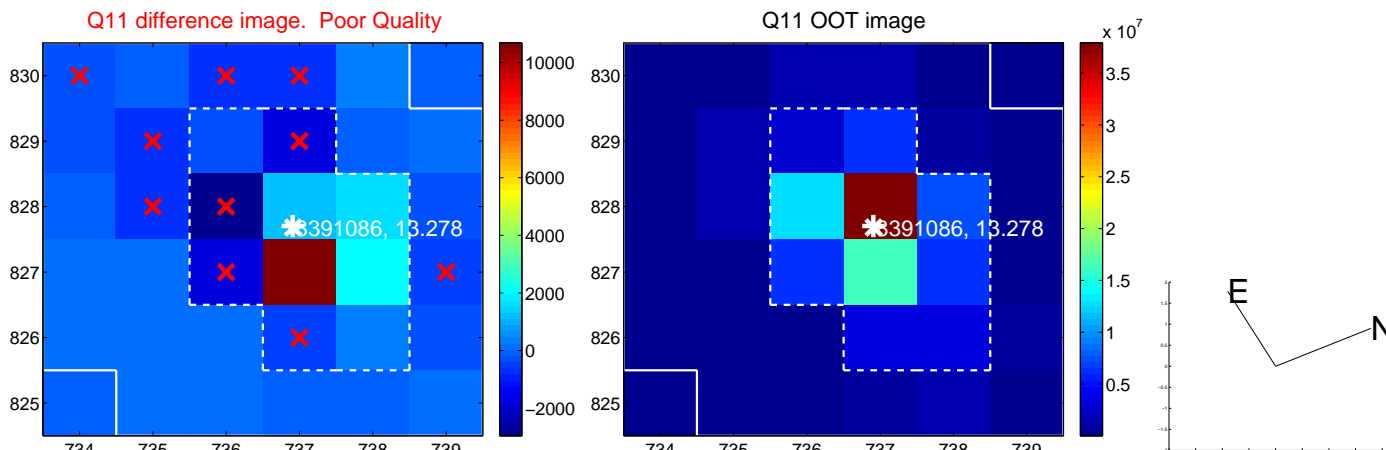
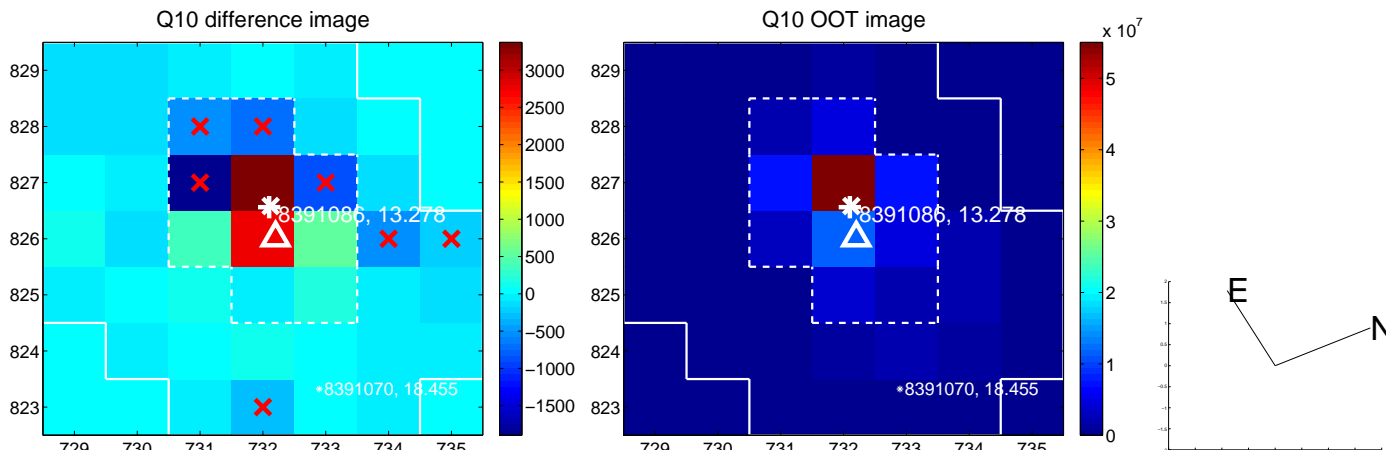
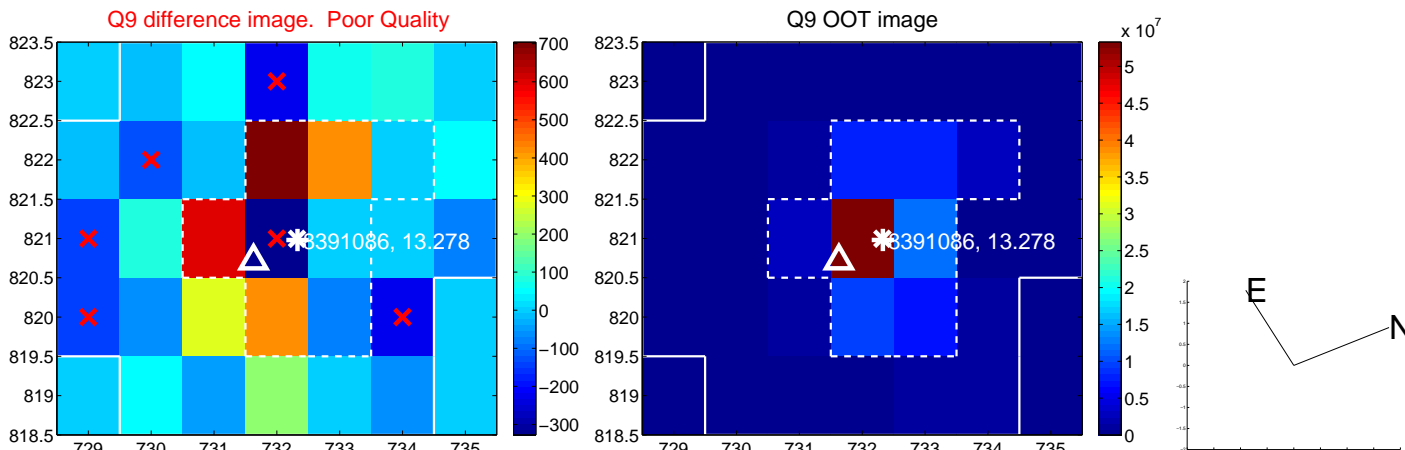
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



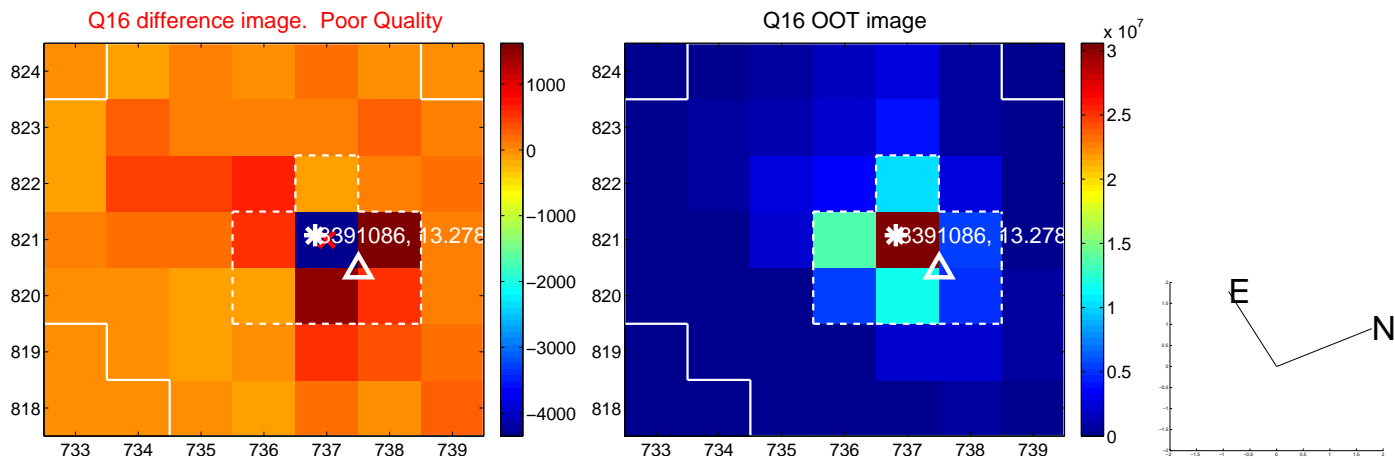
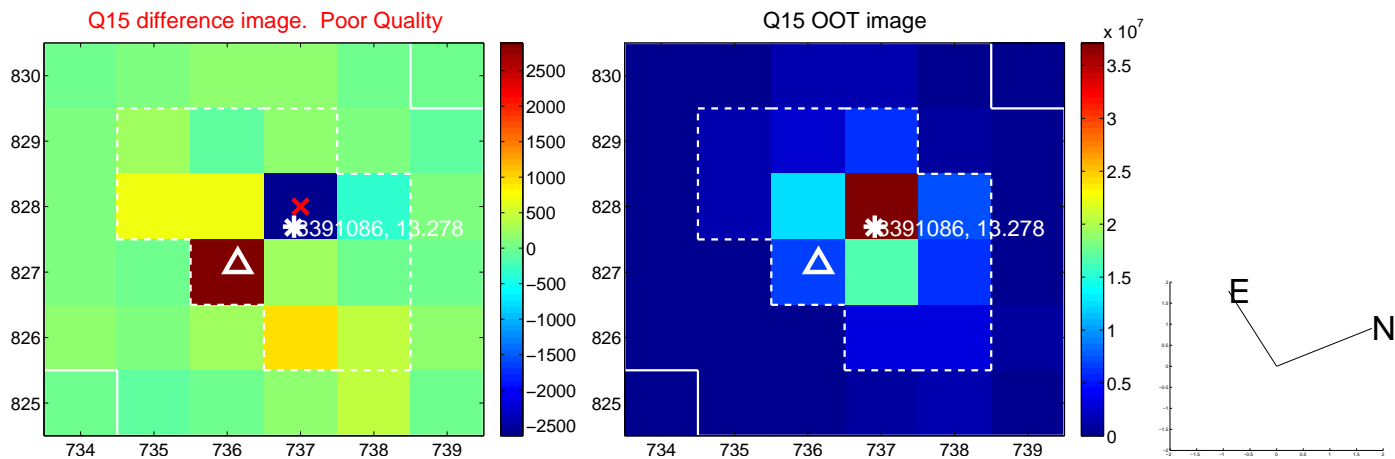
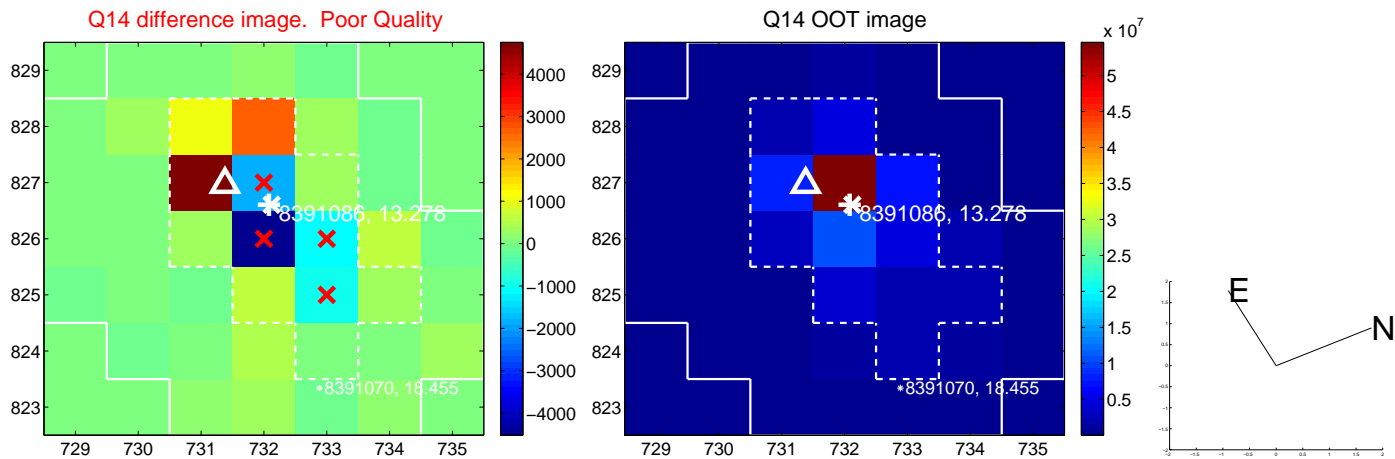
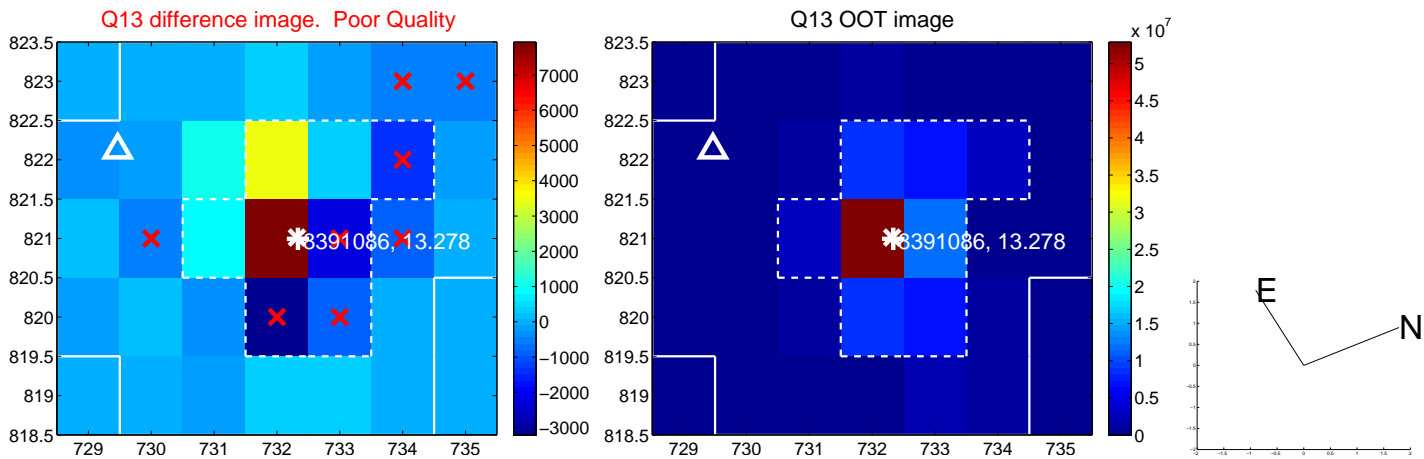
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



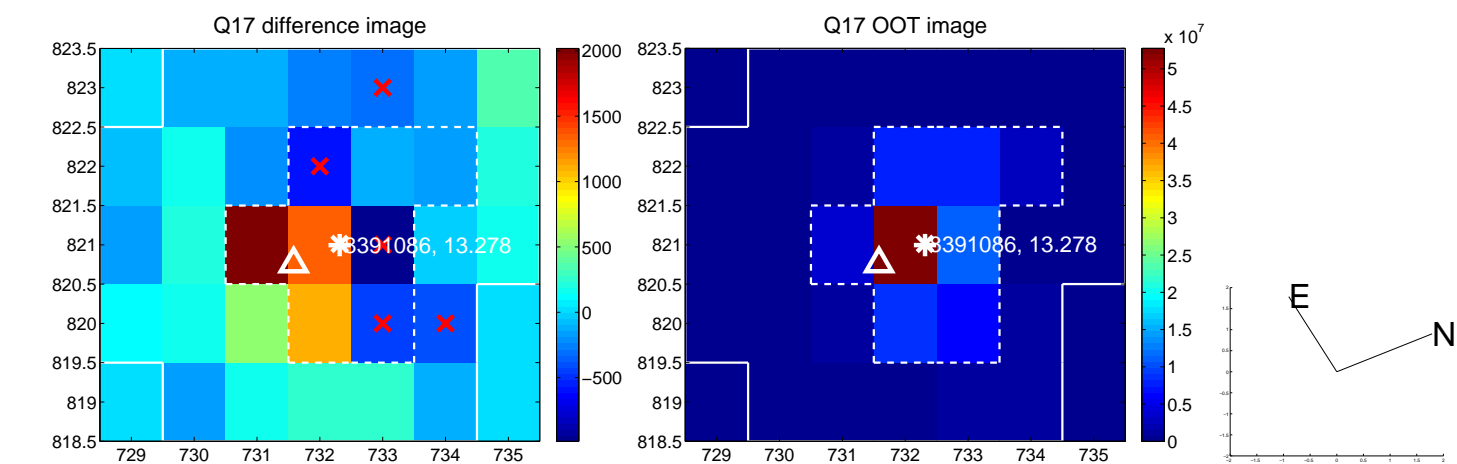
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



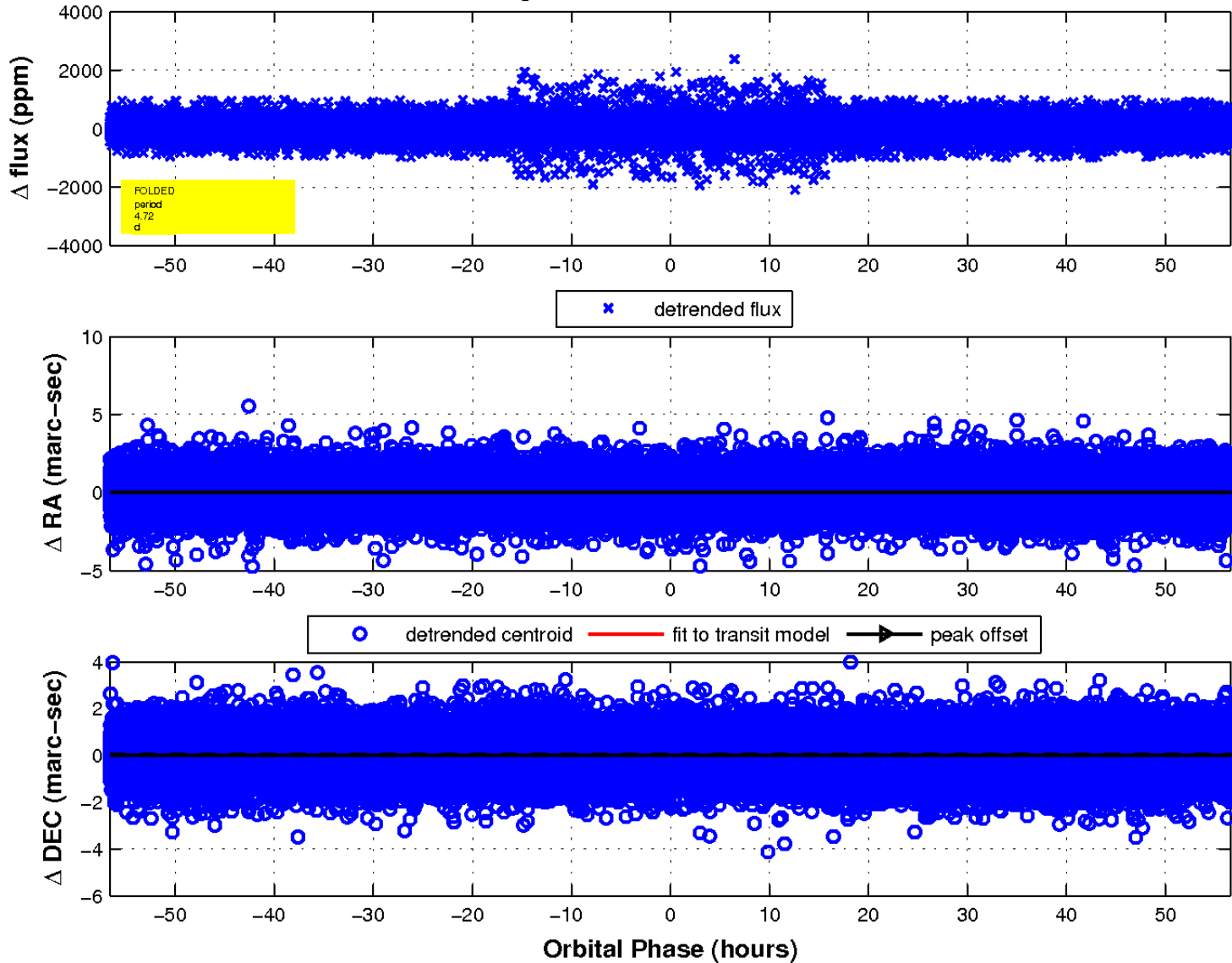
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

