

KIC 010816278

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})
010816278-01	OBS	No	0.936079	131.742672	8.9	8.995	7.9	9.5	2.92	8128	1.09	56715.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010816278-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_UNCERTAIN

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

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

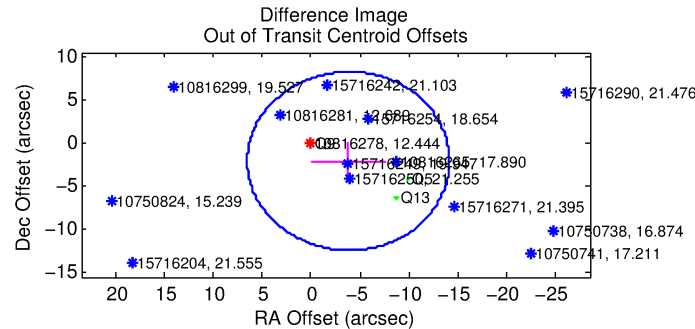
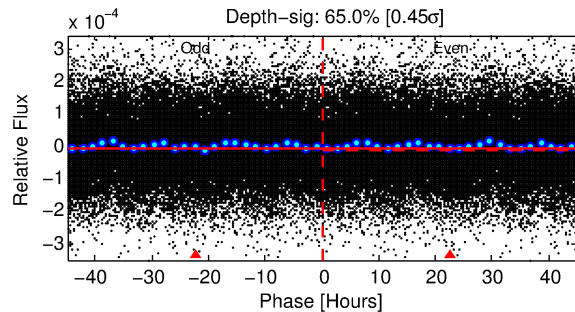
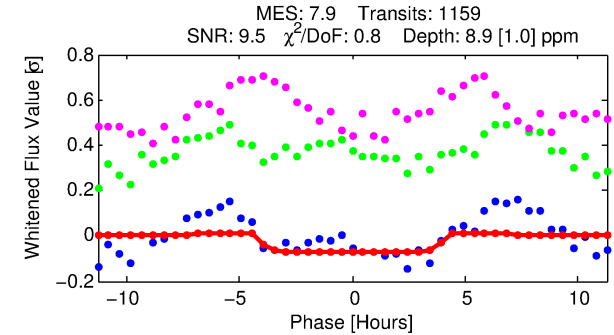
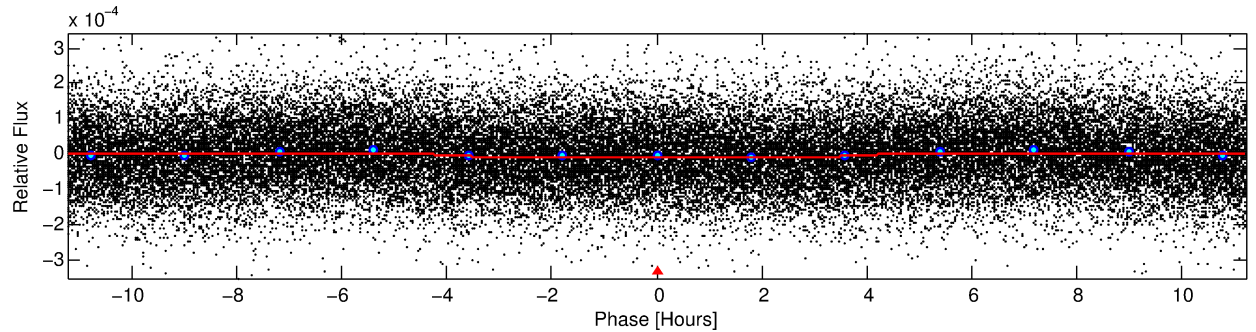
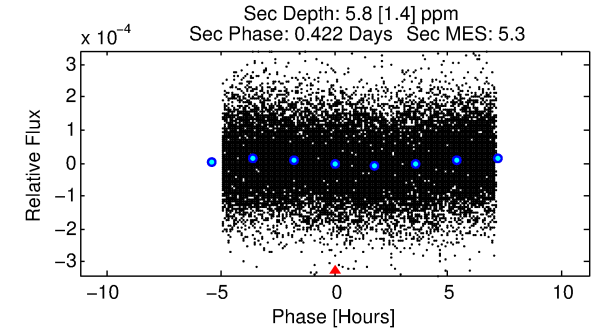
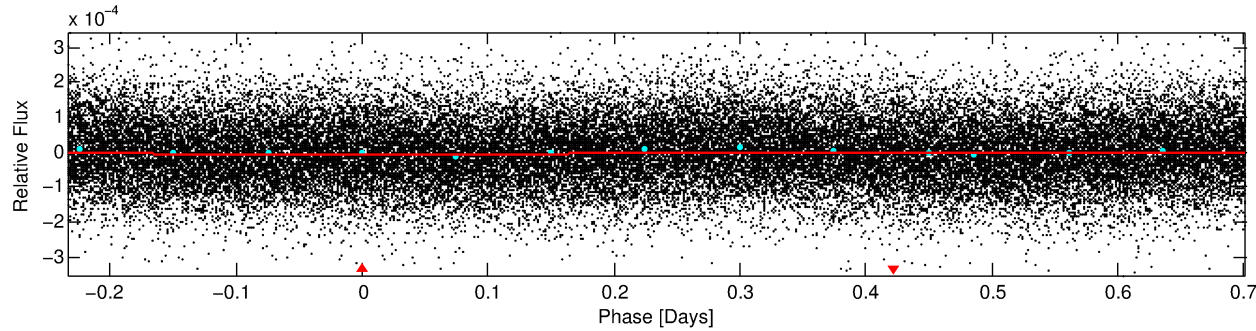
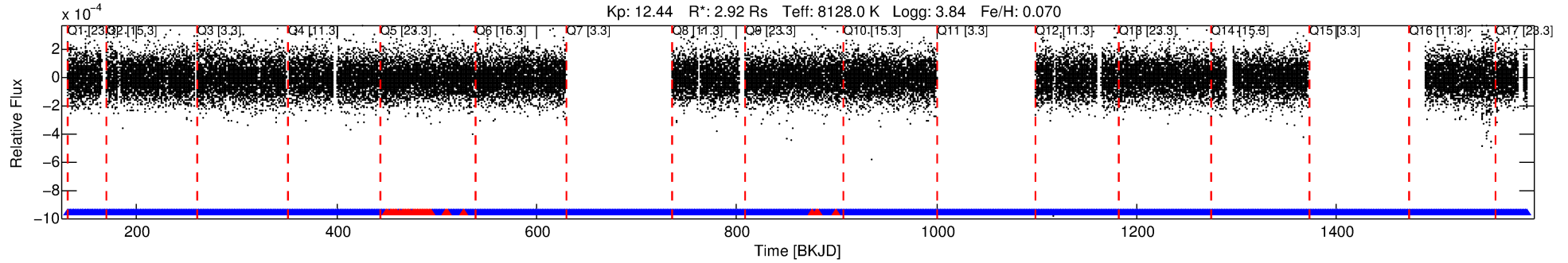
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010816278-01

No Significant Match Found

DV One-Page Summary

KIC: 10816278 Candidate: 1 of 1 Period: 0.936 d



DV Fit Results:

Period = 0.93608 [0.00002] d
Epoch = 131.7427 [0.0082] BKJD
Rp/R* = 0.0034 [0.0004]
a/R* = 1.01 [0.01]
b = 0.97 [0.05]
Seff = 56715.70 [33569.26]
Teq = 3935 [582] K
Rp = 1.09 [0.46] Re
a = 0.0242 [0.0088] AU
Ag = 1.57 [1.03] [0.55σ]
Teffp = 6813 [651] K [3.30σ]

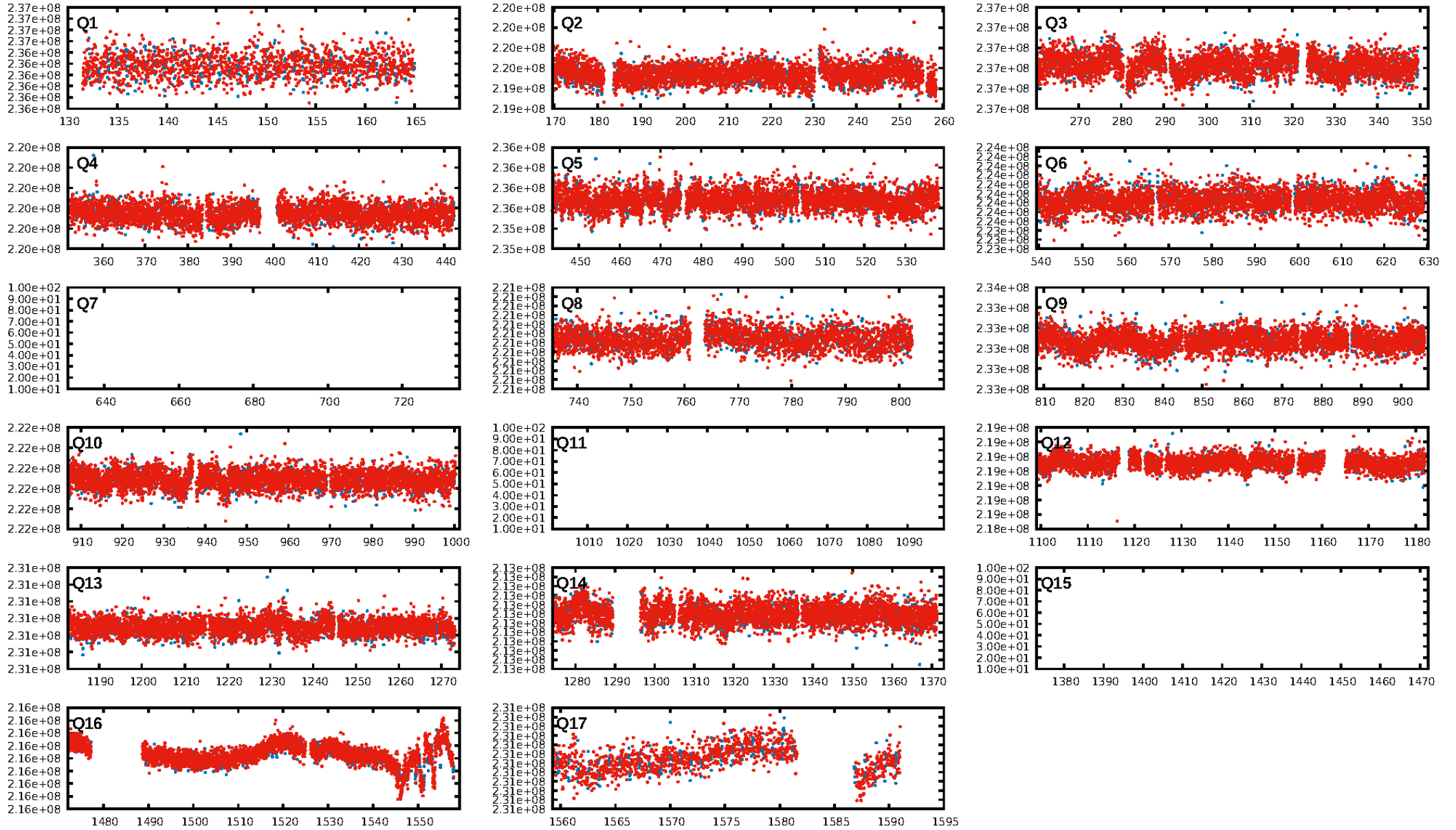
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [1046/1093]
GhostDiagnostic-chr: -16.58
Centroid-sig: 32.4%
Centroid-so: 1.024 arcsec [0.88σ]
OotOffset-rm: 4.343 arcsec [1.26σ]
KicOffset-rm: 4.450 arcsec [1.30σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [14/14]

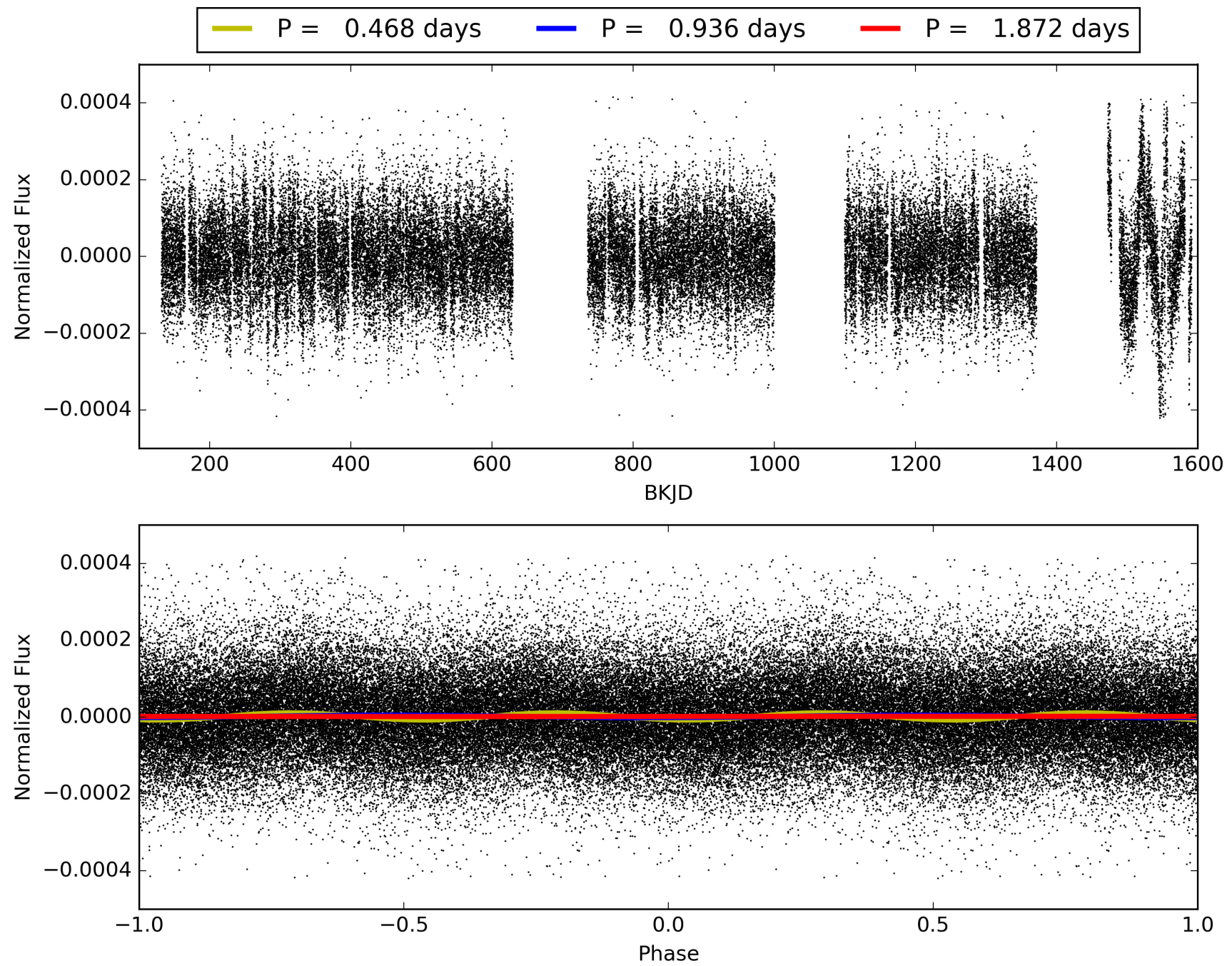
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:29:48 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010816278-01, PDC Light Curves

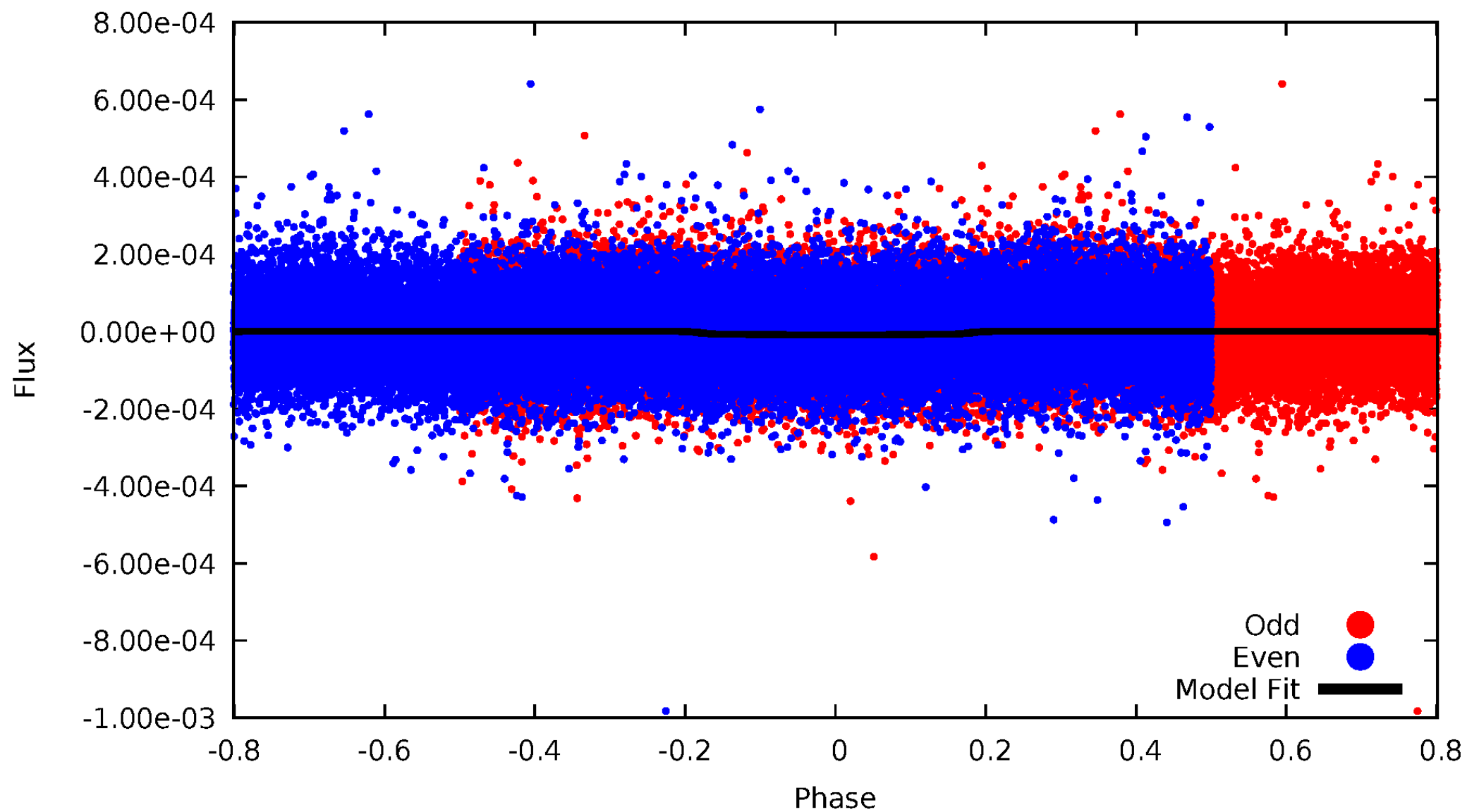


TCE 010816278-01



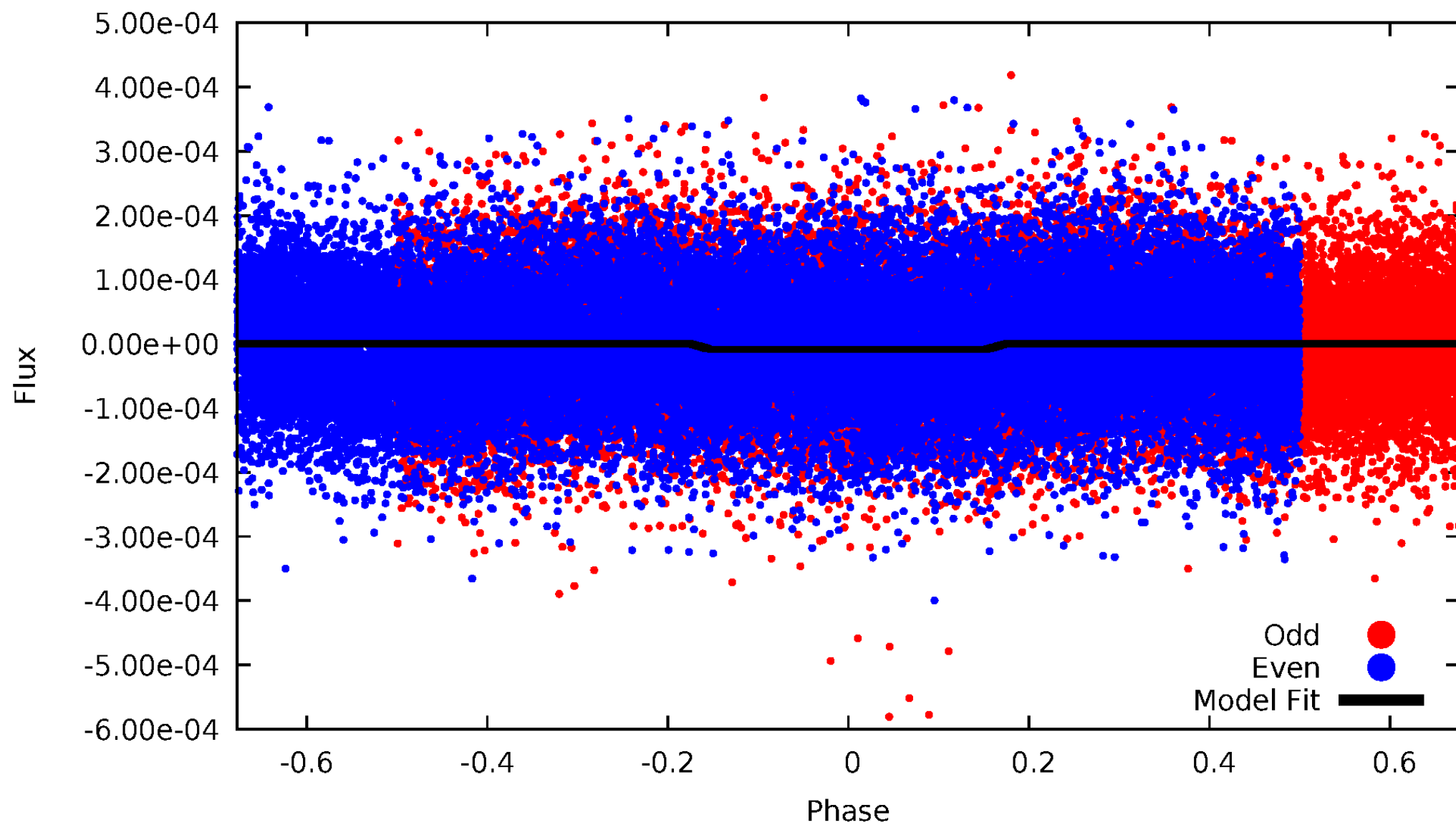
DV Odd/Even

TCE 010816278-01

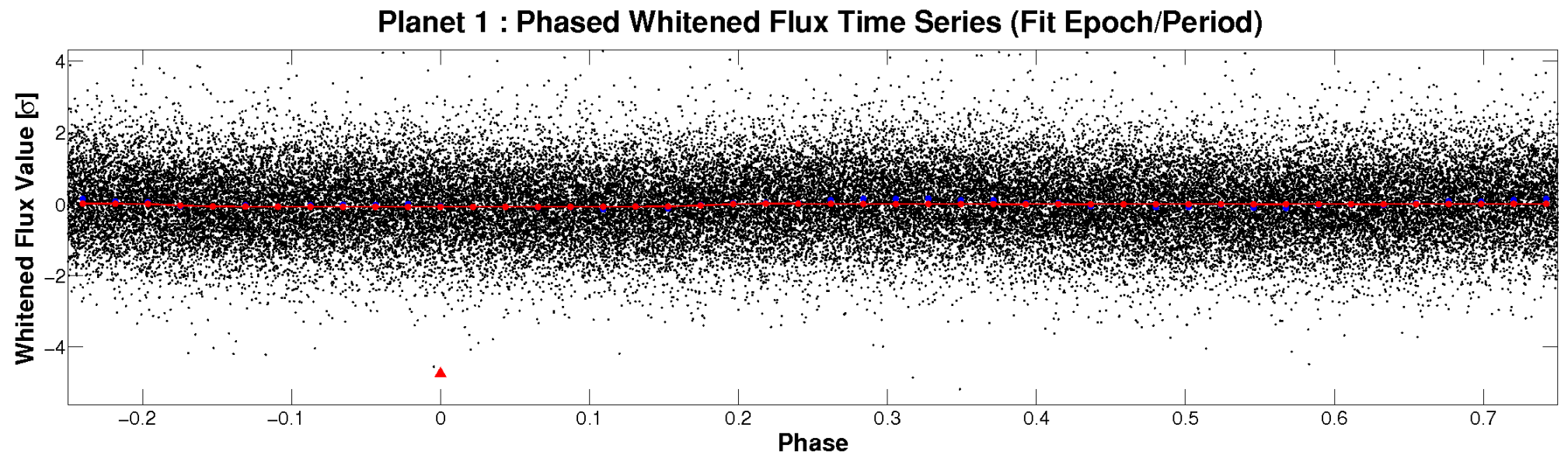
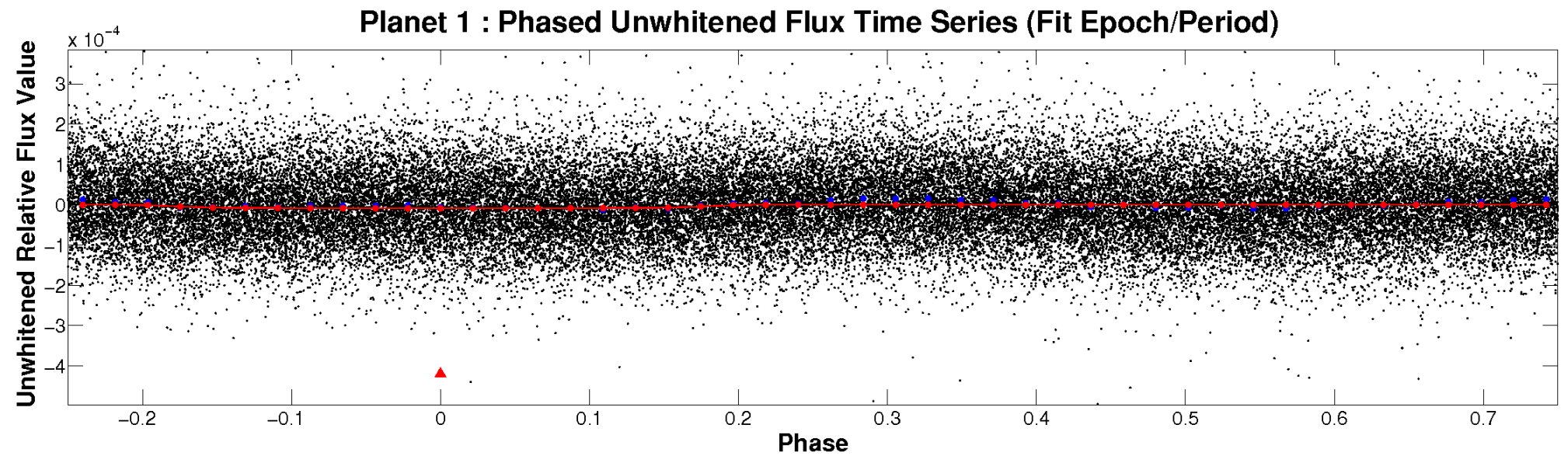


ALT Odd/Even

TCE 010816278-01

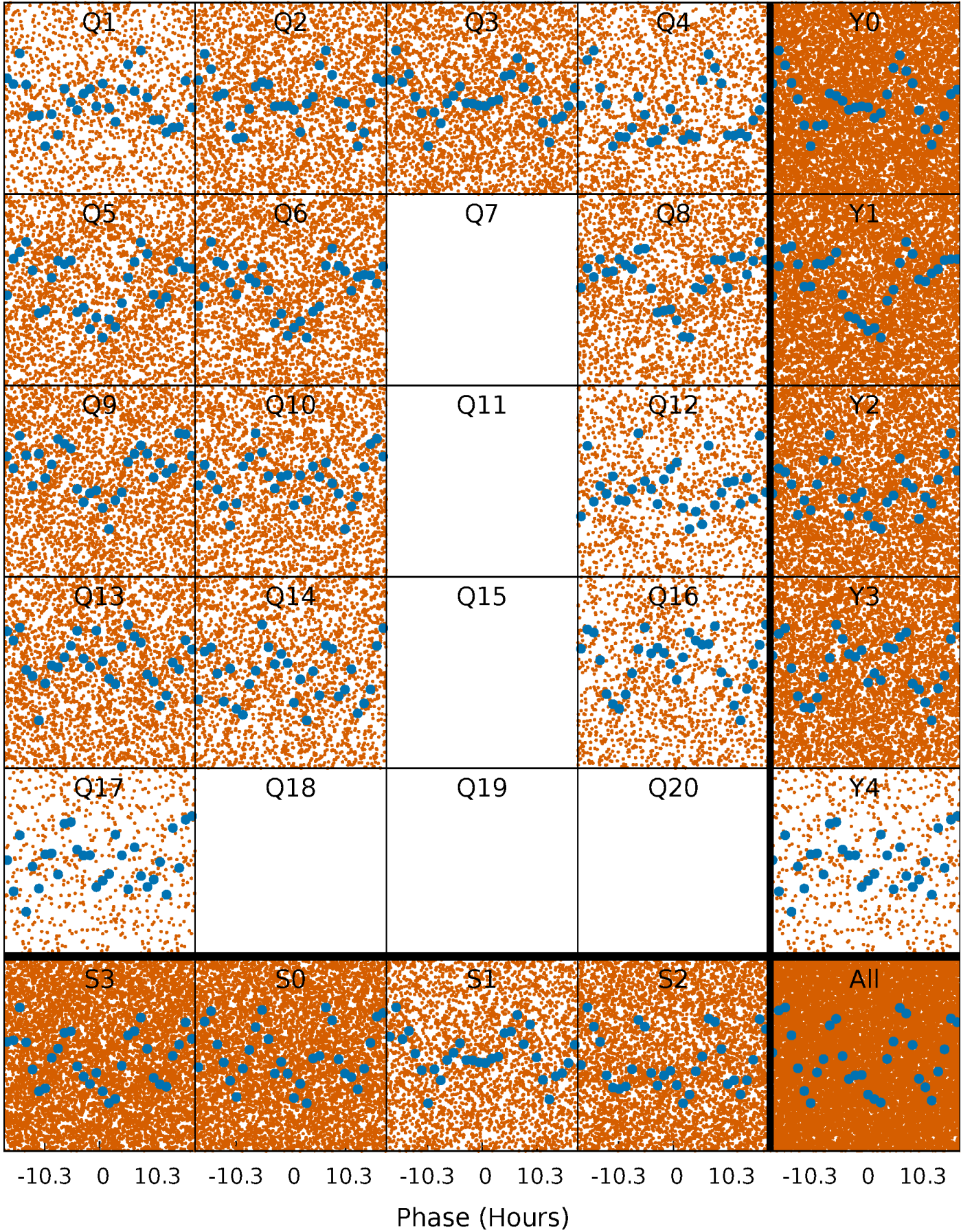


Non-Whitened Vs. Whitened Light Curve



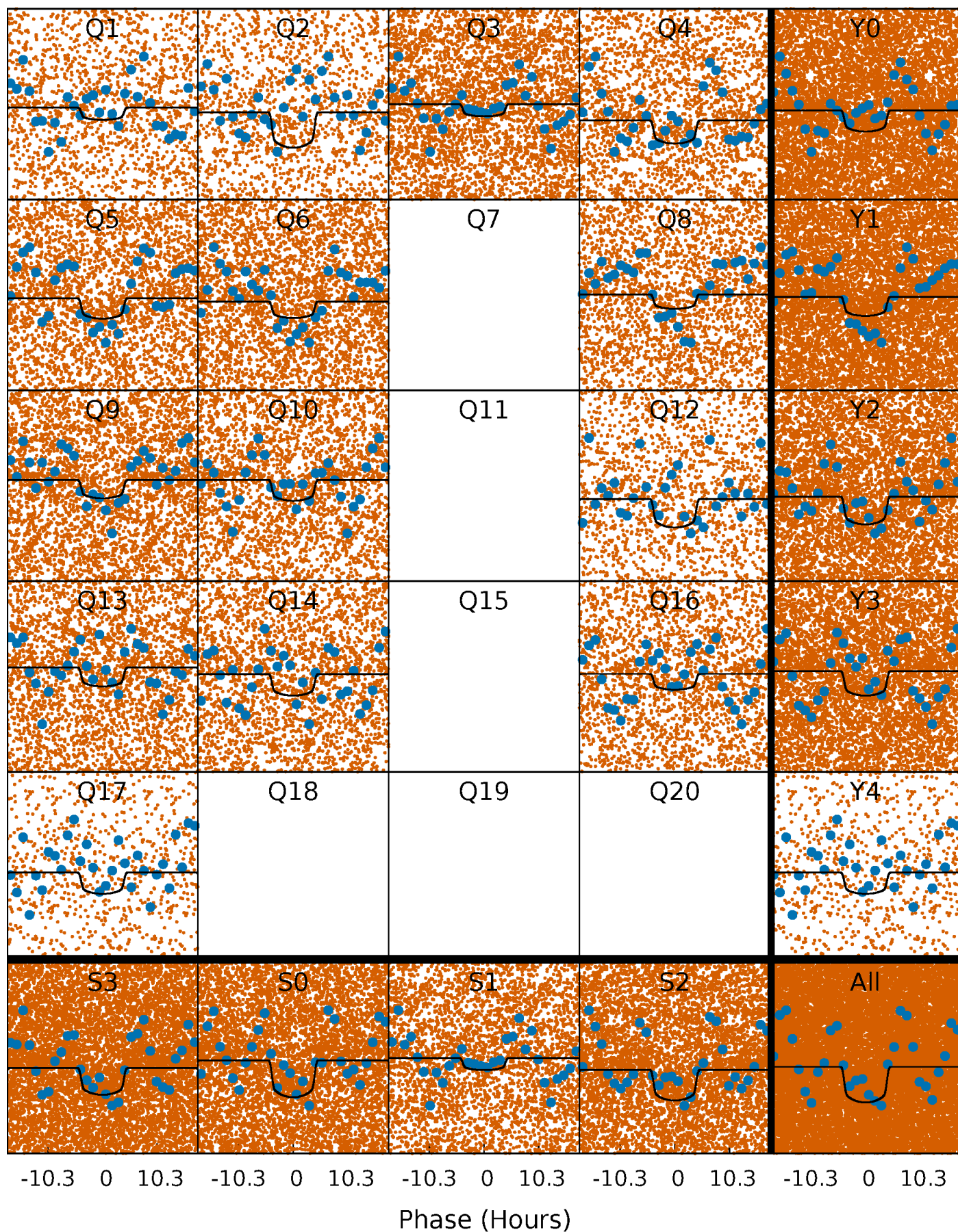
PDC Quarter-Phased Transit Curves

TCE 010816278-01 P= 0.936079 Days $T_0=131.742672$ (BKJD)



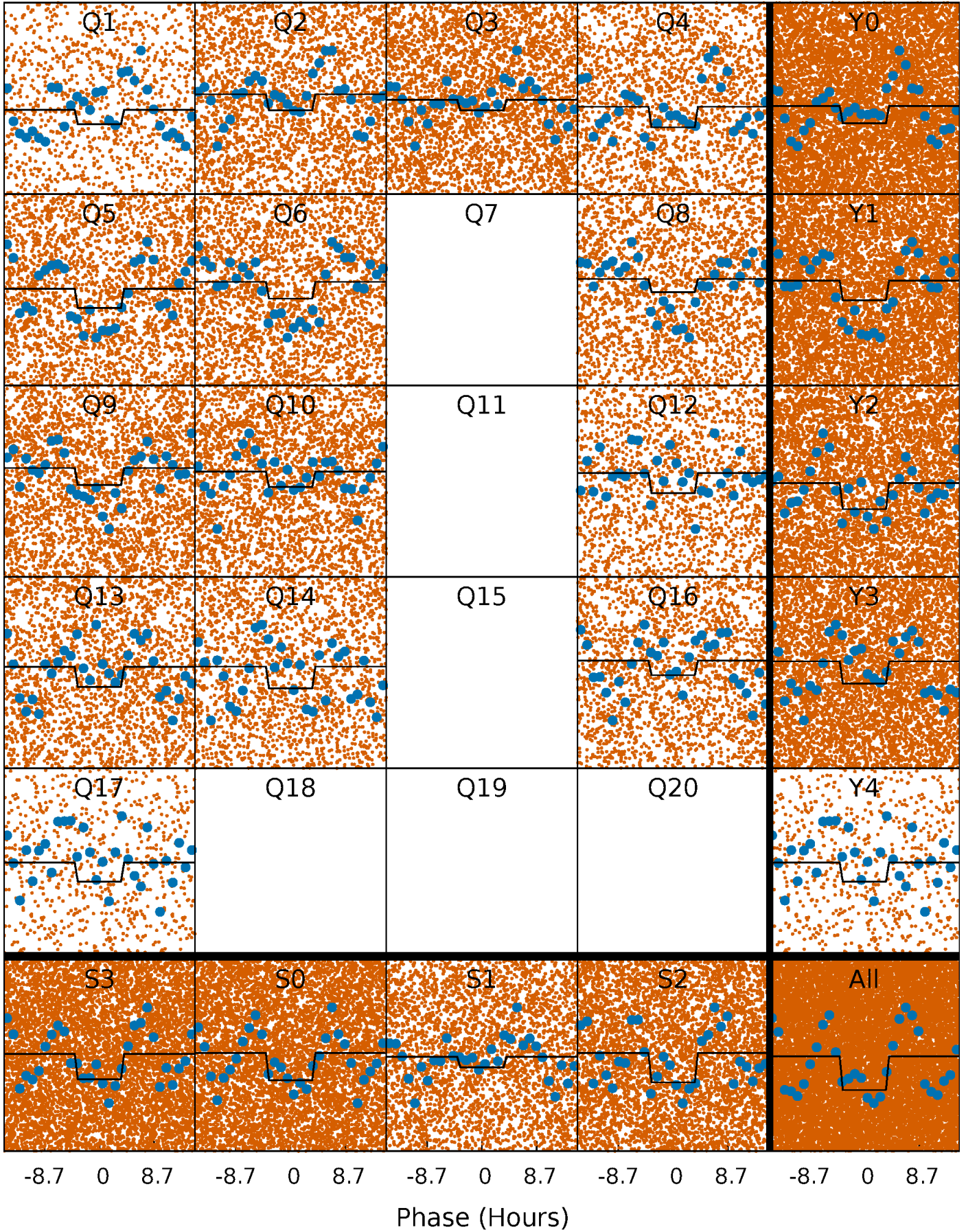
DV Quarter-Phased Transit Curves

TCE 010816278-01 P= 0.936079 Days $T_0=131.742672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

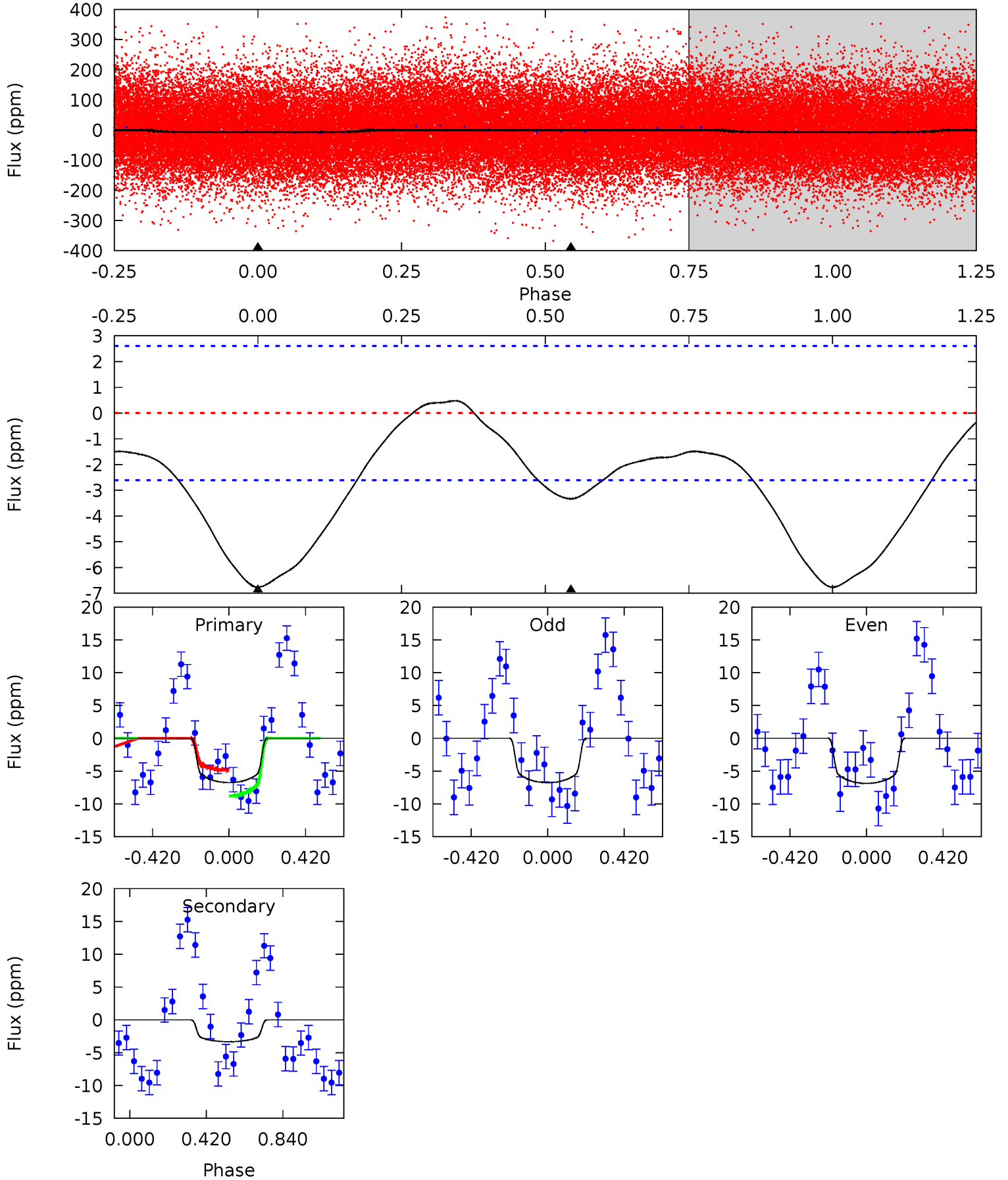
TCE 010816278-01 P= 0.936038 Days $T_0=131.783489$ (BKJD)



DV Model-Shift Uniqueness Test

010816278-01, P = 0.936079 Days, E = 130.806593 Days

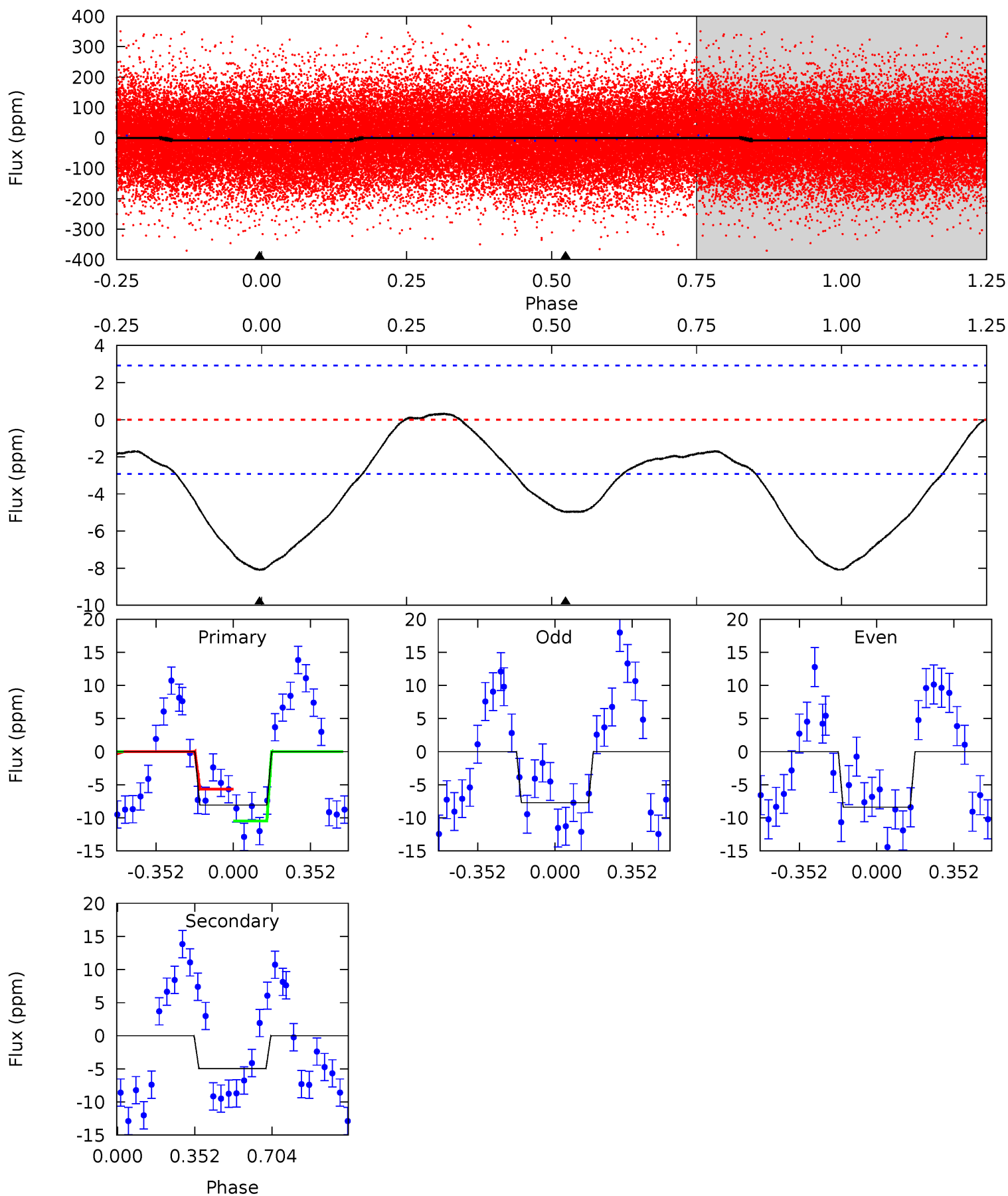
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	5.43	0	0	4.25	0.81	0.87	11.0	11.0	5.43	5.43	0.09	0.94	0.07	3.22



Alt Model-Shift Uniqueness Test

010816278-01, P = 0.936038 Days, E = 130.847451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	7.30	0	0	4.29	0.93	1.17	11.9	11.9	7.30	7.30	0.50	0.99	0.04	3.52



Stellar Parameters For KIC 010816278

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8128^{+225}_{-367}	$3.843^{+0.323}_{-0.108}$	$0.070^{+0.250}_{-0.450}$	$2.917^{+0.632}_{-1.173}$	$2.160^{+0.316}_{-0.587}$	$0.123^{+0.298}_{-0.040}$
	+3%/-5%	+8%/-3%	+357%/-643%	+22%/-40%	+15%/-27%	+243%/-33%
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 010816278-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 1	$1.02^{+0.21}_{-0.24}$	5311^{+421}_{-537}	5298^{+575}_{-523}	$1.015^{+0.703}_{-0.330}$
Alt.	-5 ± 1	$0.87^{+0.21}_{-0.19}$	5336^{+384}_{-534}	6571^{+751}_{-610}	$2.096^{+1.243}_{-0.689}$

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

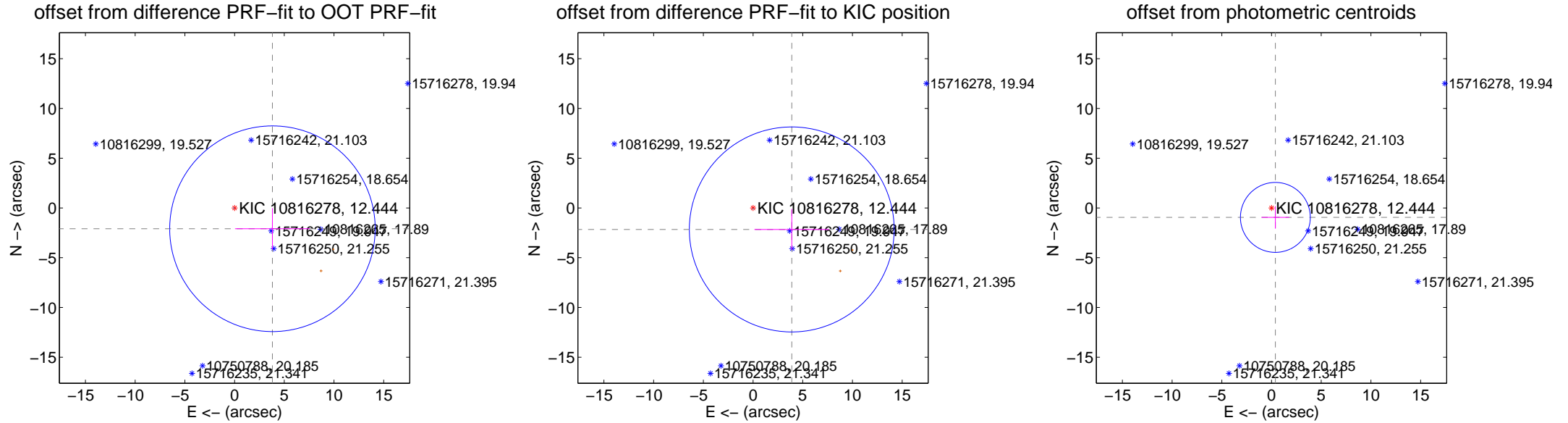
DV Centroid Data

Supplemental centroid analysis for 010816278-01. Kepler magnitude: 12.44. Transit SNR 9.49

There are 1 quarters with good PRF difference image offsets

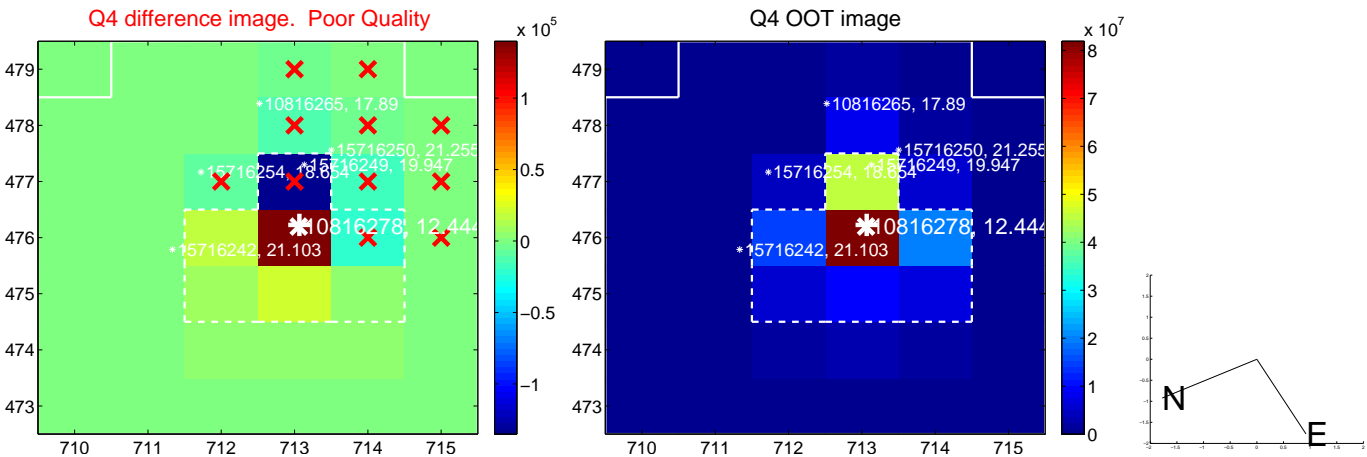
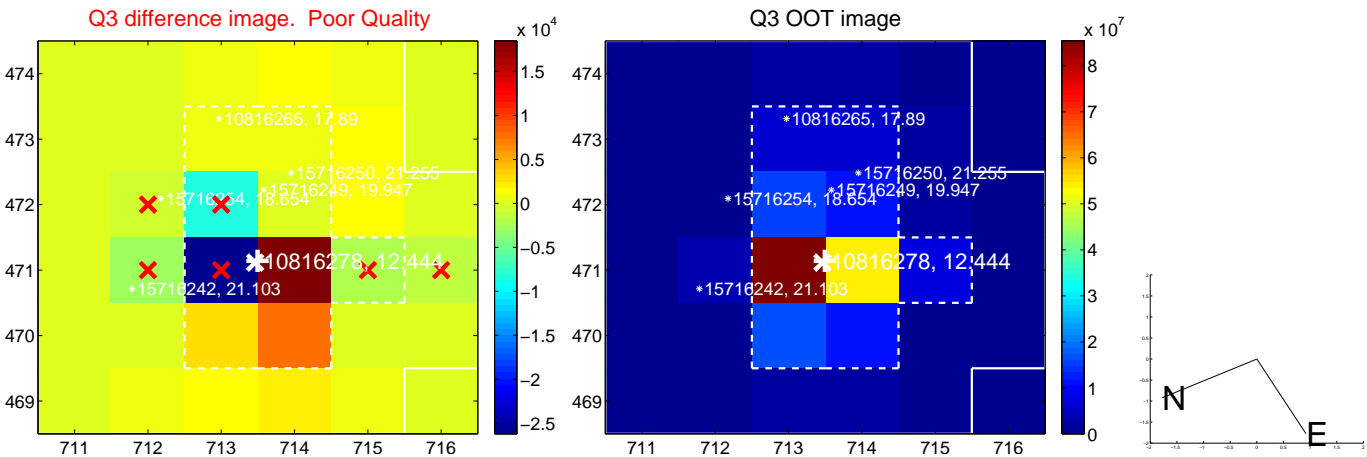
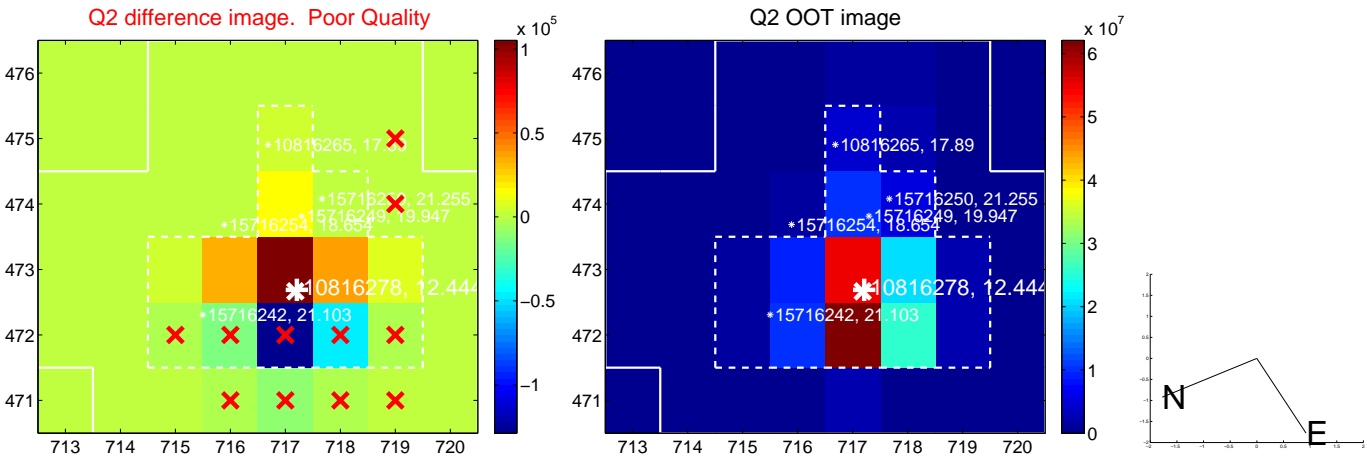
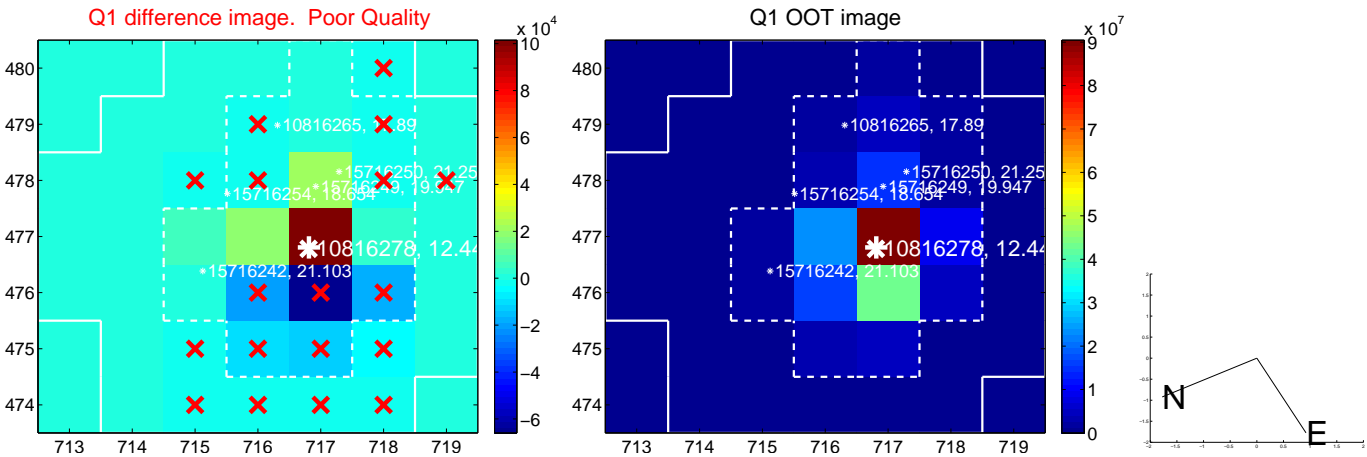
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.343 ± 3.444	1.26	-3.807 ± 3.761	-2.089 ± 2.067
PRF-fit source offset from KIC position	4.450 ± 3.432	1.30	-3.892 ± 3.755	-2.159 ± 2.057
photometric centroid source offset	1.02 ± 1.17	0.88	-0.39 ± 1.40	-0.95 ± 1.13

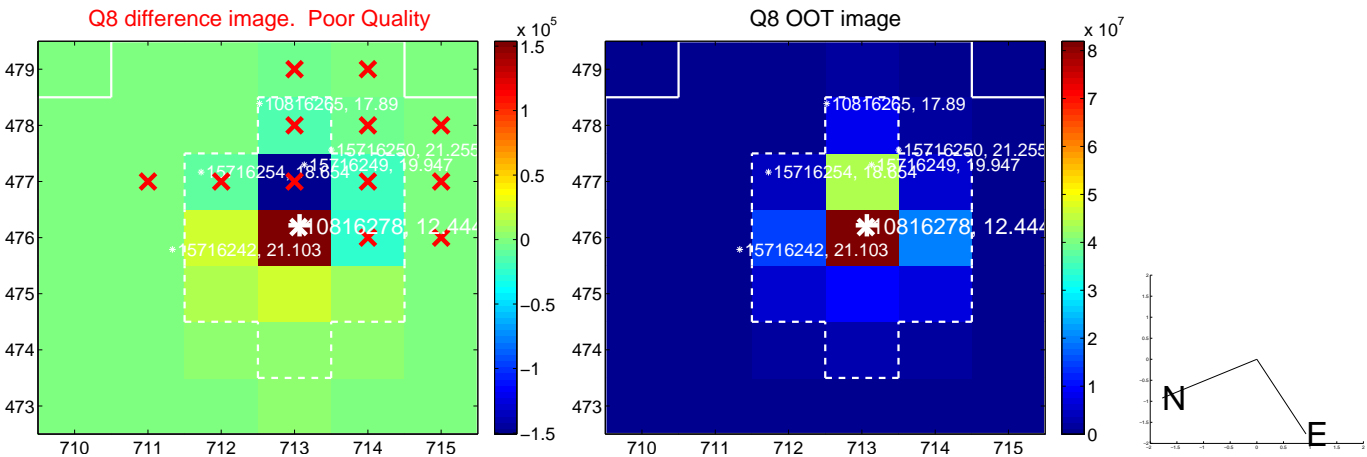
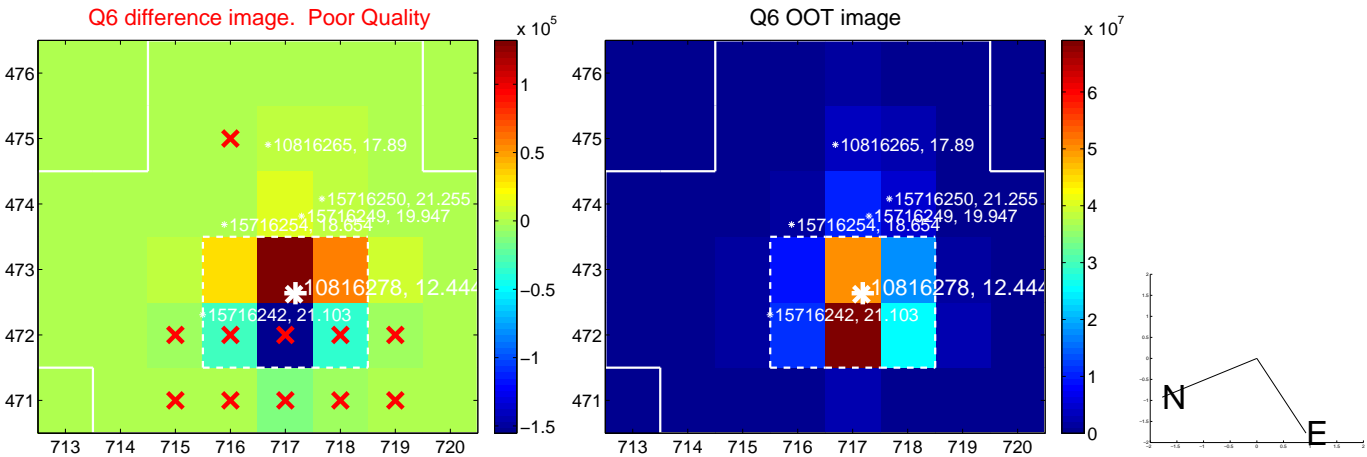
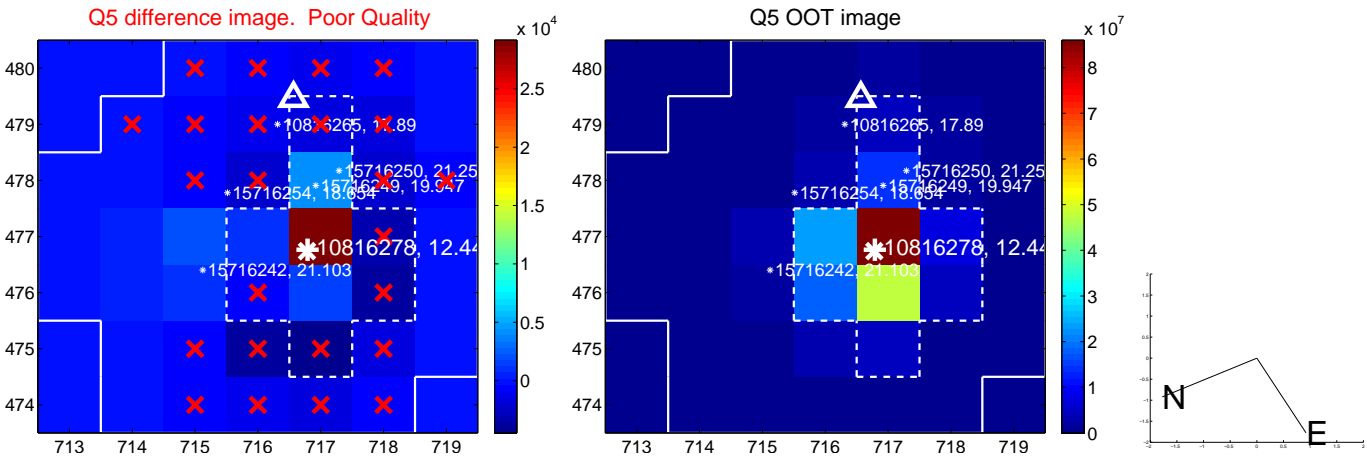


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

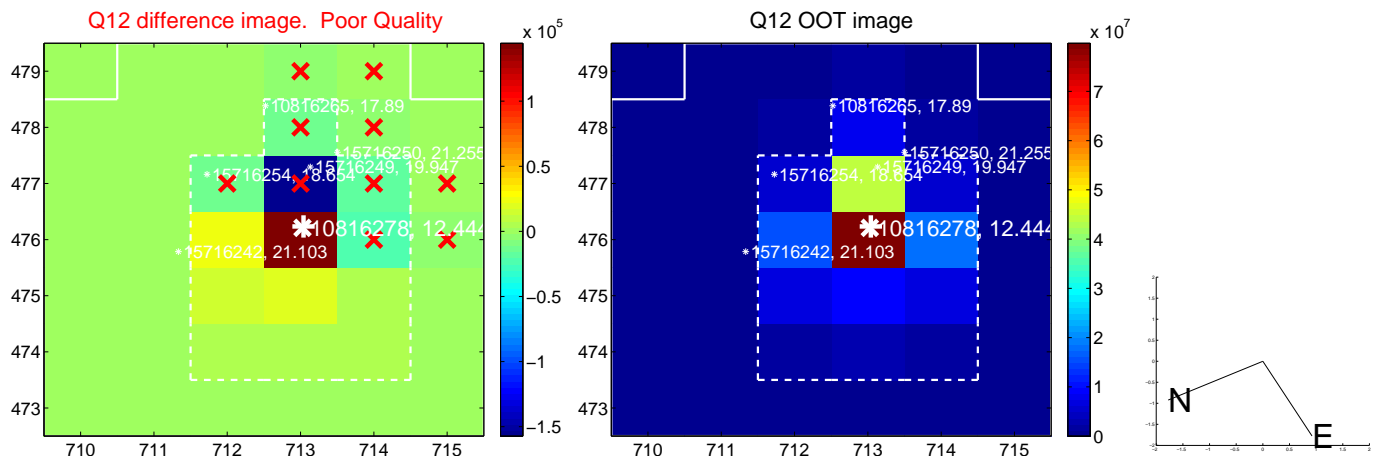
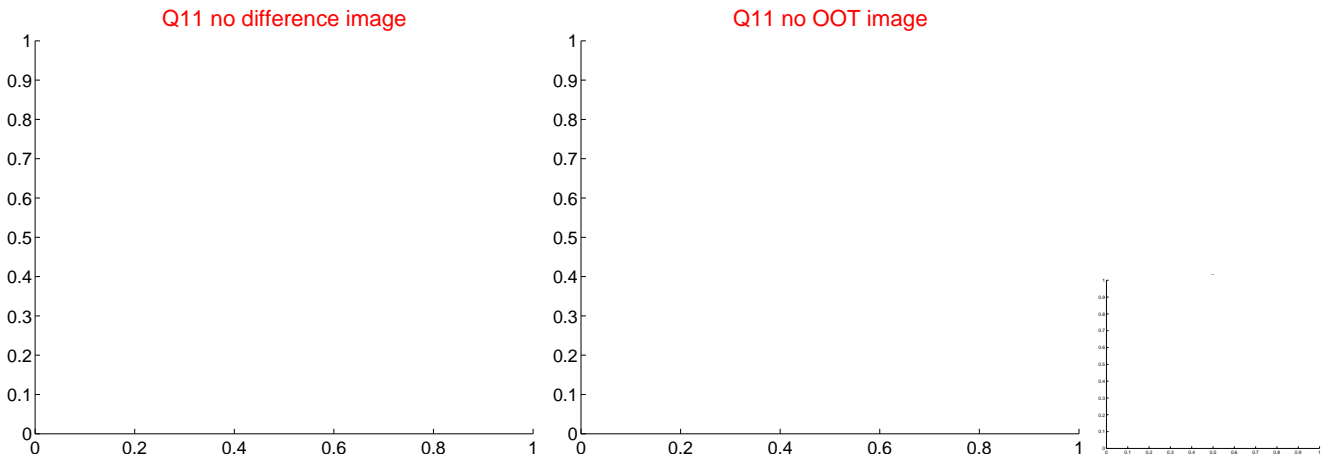
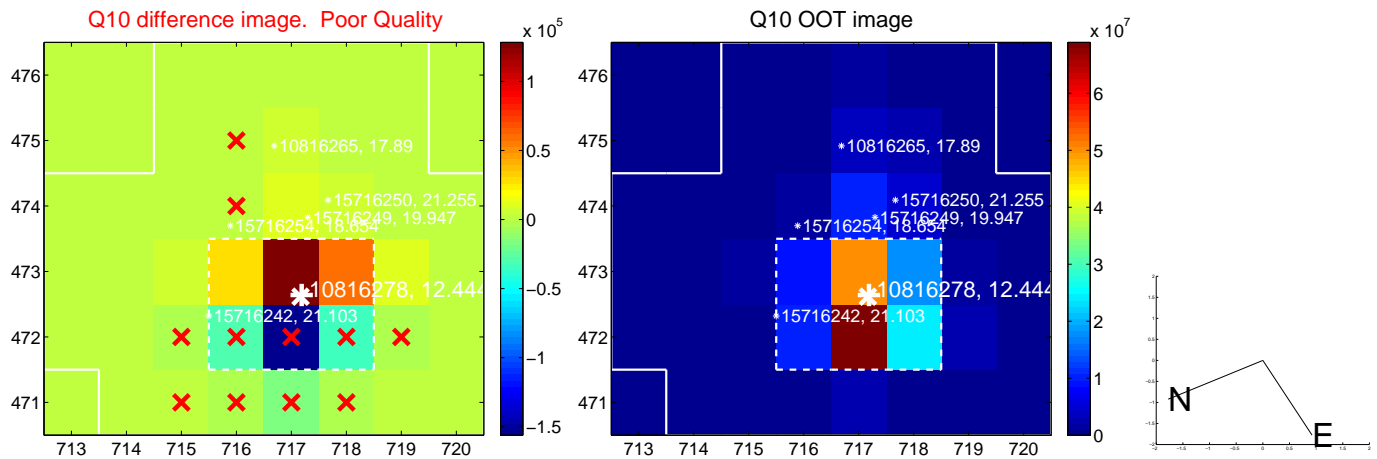
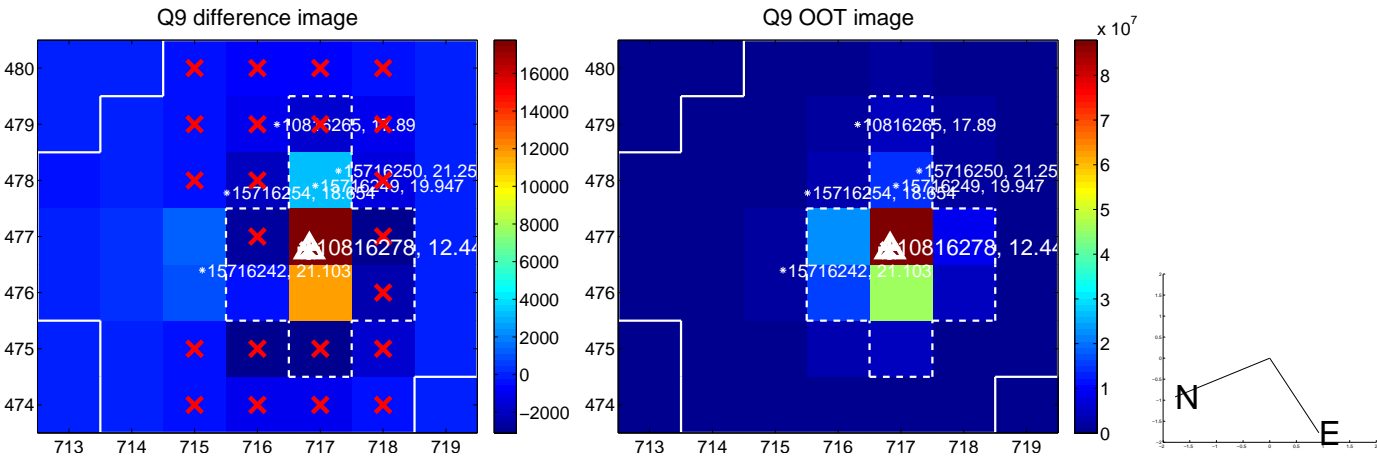
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



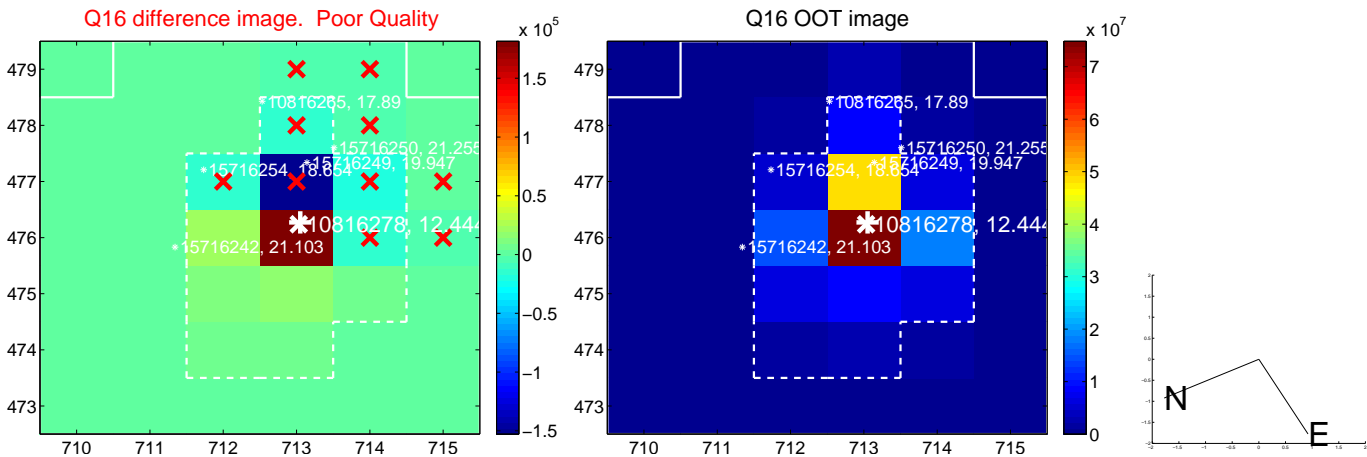
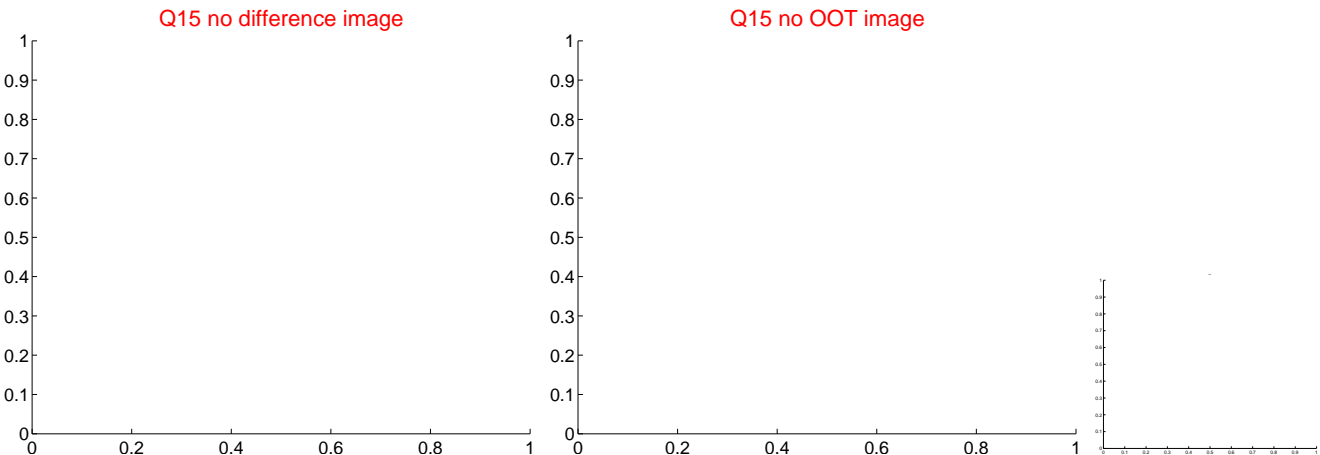
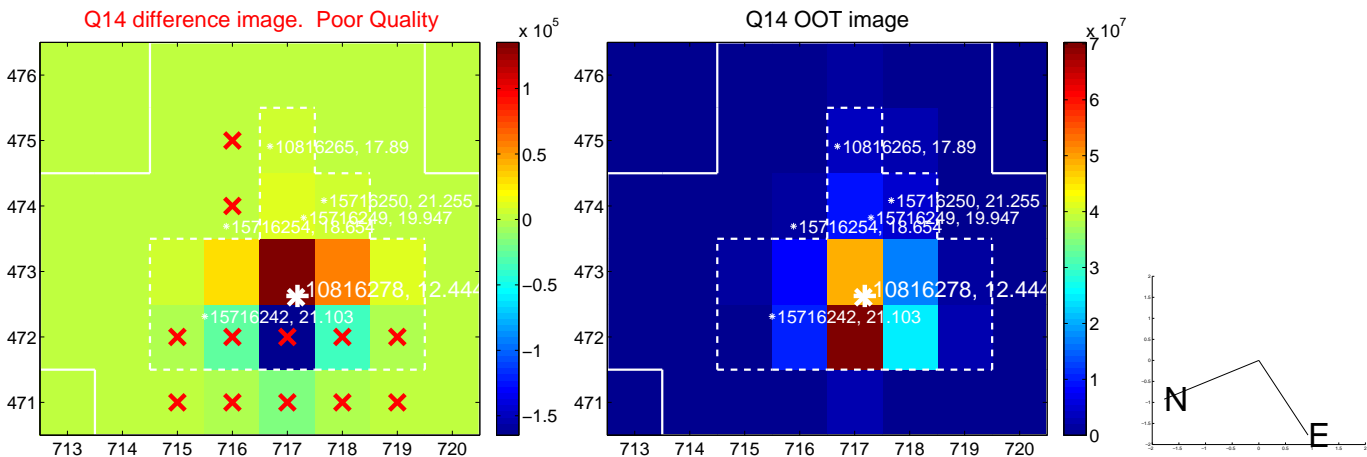
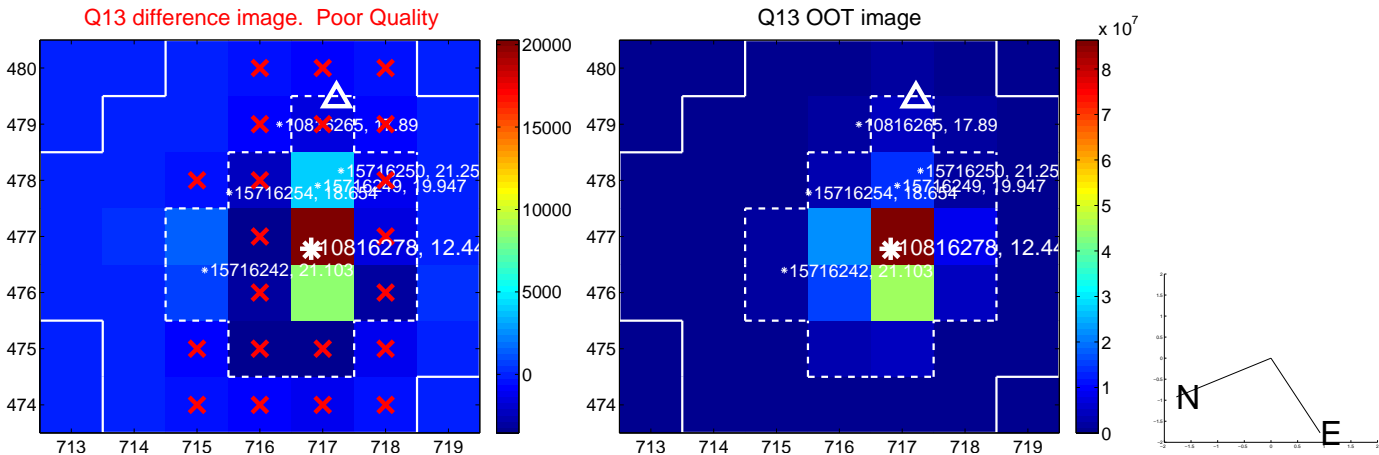
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



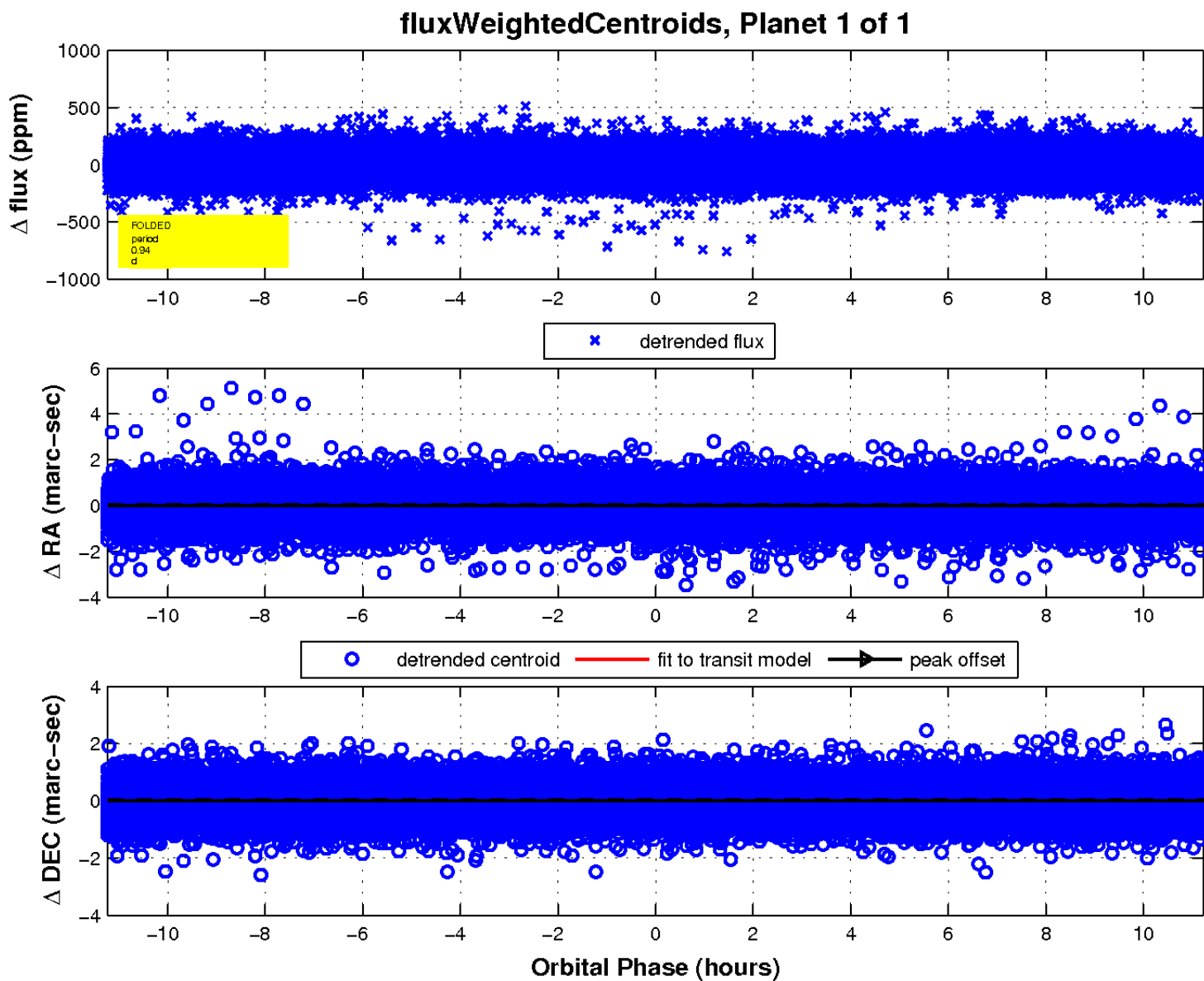
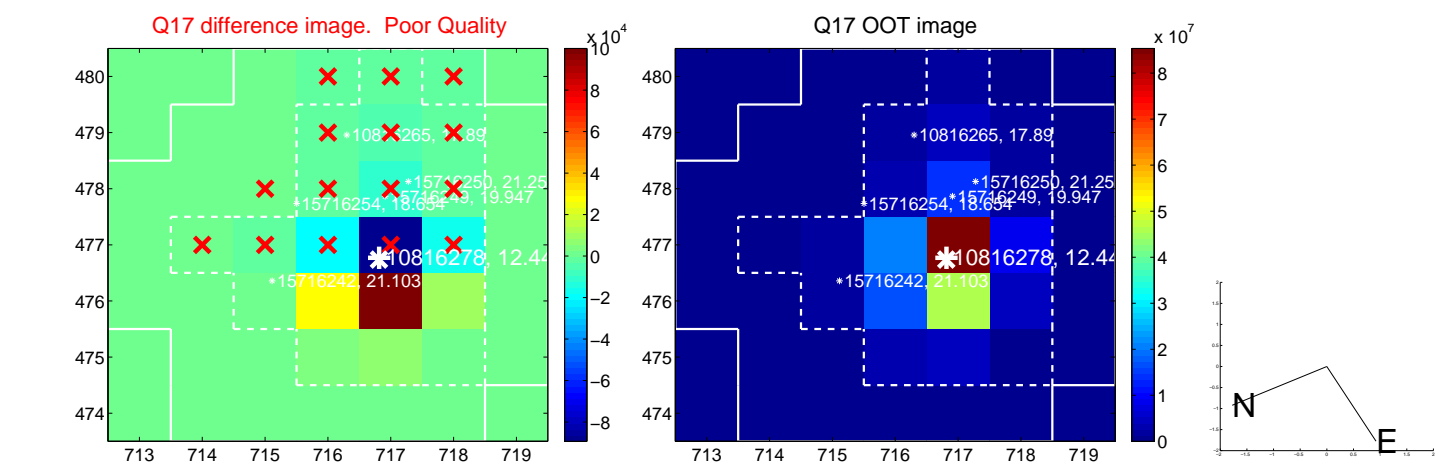
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

