

KIC 008161715

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})
008161715-01	OBS	No	3.304682	134.744919	22.2	10.557	11.0	10.3	0.86	5959	0.42	458.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008161715-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

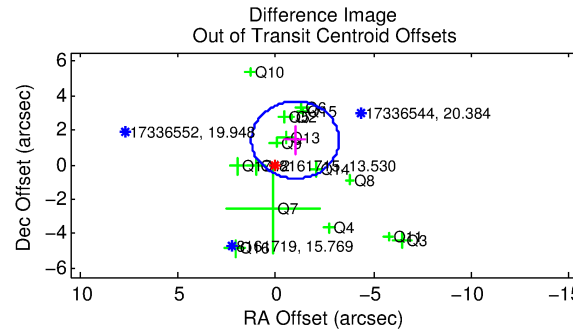
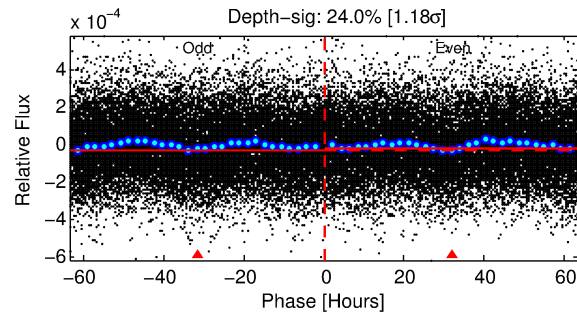
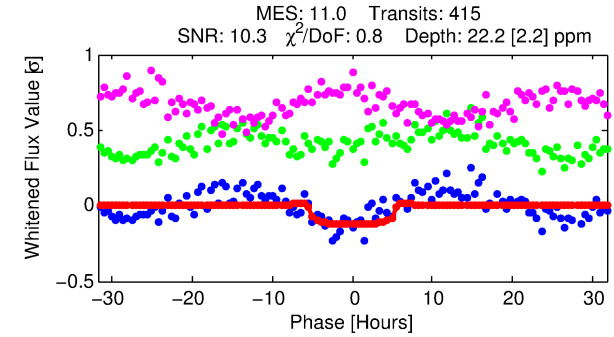
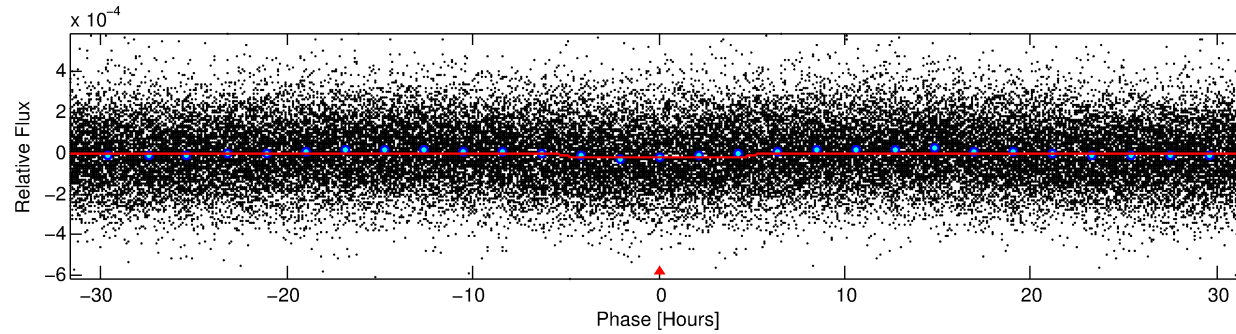
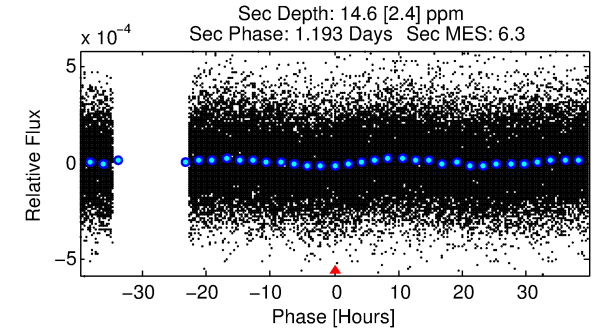
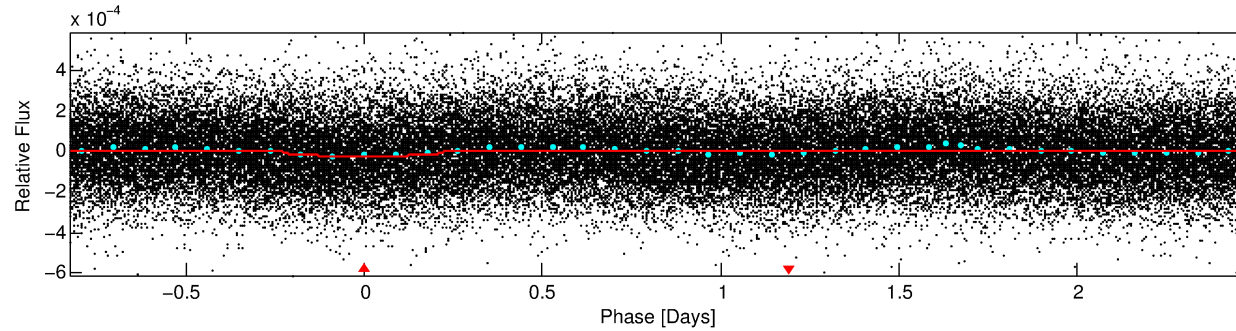
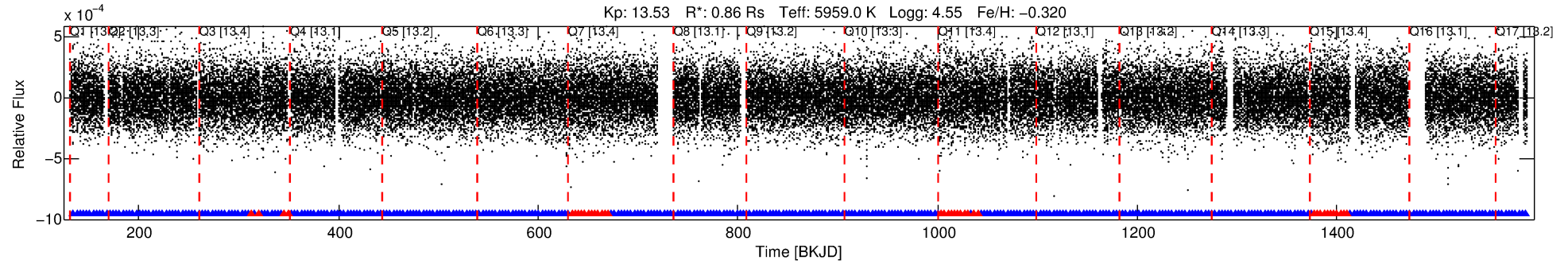
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008161715-01

No Significant Match Found

DV One-Page Summary

KIC: 8161715 Candidate: 1 of 1 Period: 3.305 d



DV Fit Results:

Period = 3.30468 [0.00005] d
Epoch = 134.7449 [0.0102] BKJD
Rp/R* = 0.0045 [0.0020]
a/R* = 2.15 [3.64]
b = 0.54 [2.83]
Seff = 458.58 [177.95]
Teq = 1180 [114] K
Rp = 0.42 [0.22] Re
a = 0.0426 [0.0107] AU
Ag = 83.37 [80.89] [1.02σ]
Teffp = 5513 [1247] K [3.46σ]

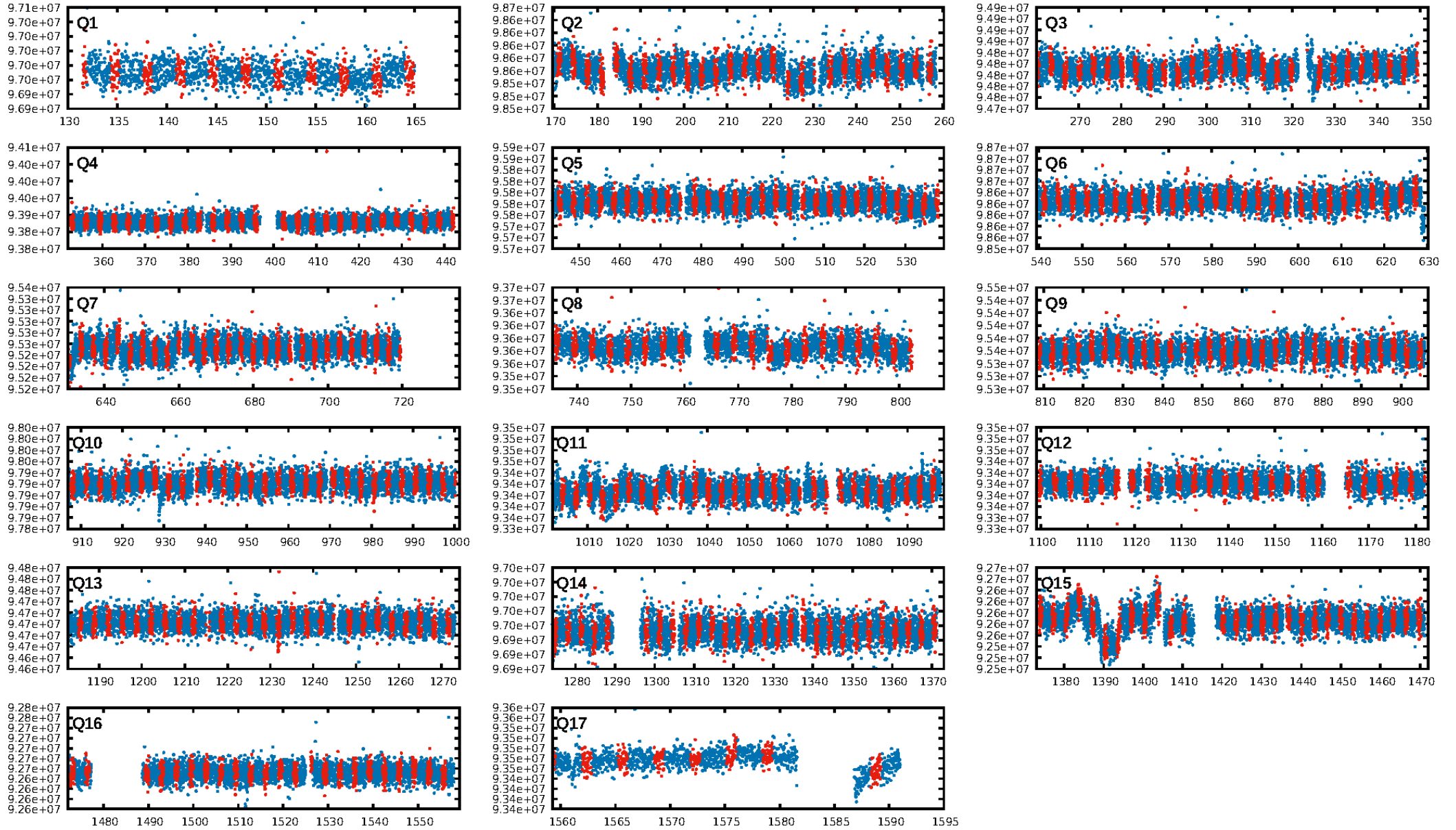
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.19e-29
RollingBand-fgt: 0.90 [358/396]
GhostDiagnostic-chr: 1.239
Centroid-sig: 35.1%
Centroid-so: 1.365 arcsec [1.06σ]
OotOffset-rm: 1.737 arcsec [2.34σ]
KicOffset-rm: 1.736 arcsec [2.28σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.25 [4/16]
DiffImageOverlap-fno: 1.00 [17/17]

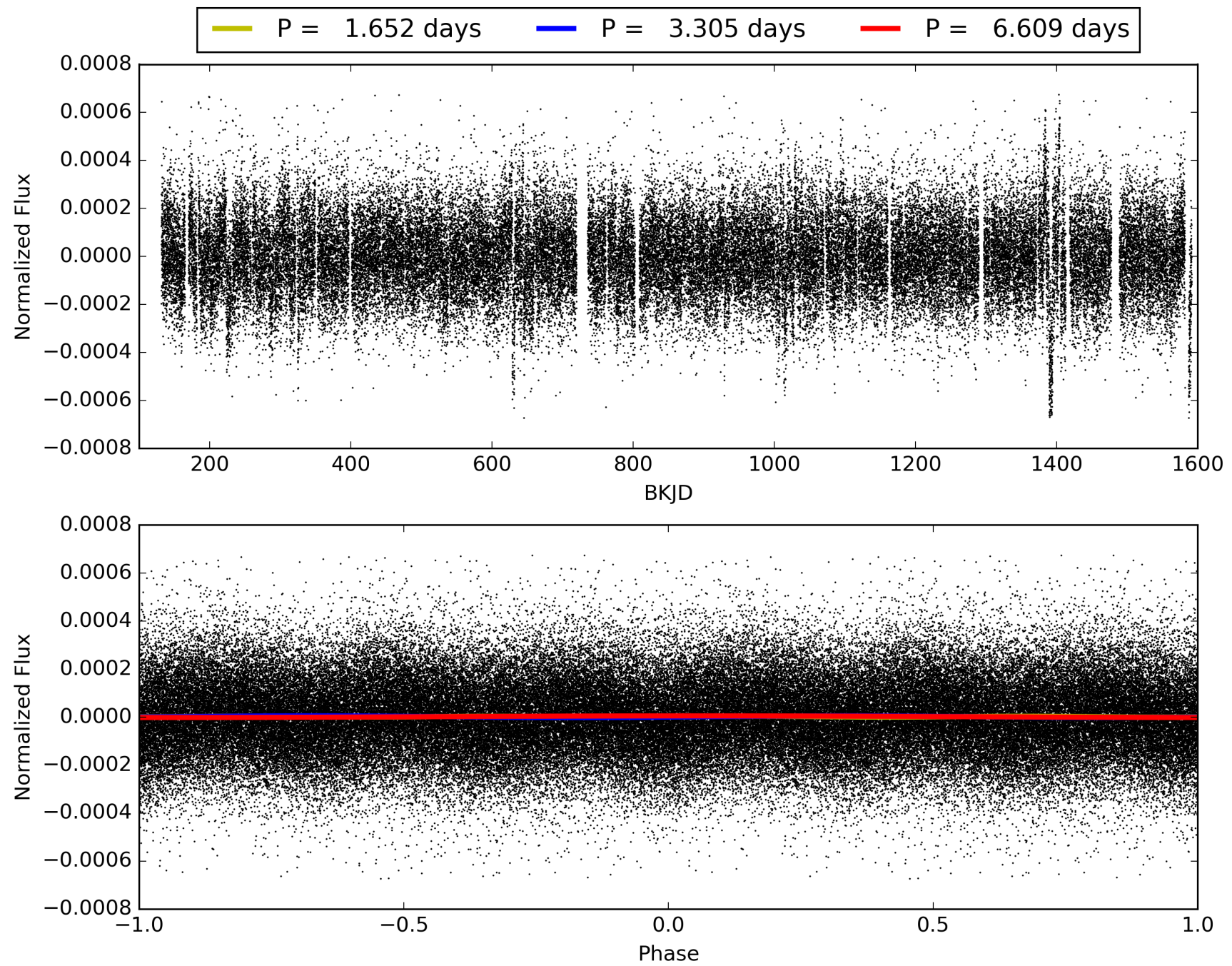
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:09:04 Z

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

TCE 008161715-01, PDC Light Curves

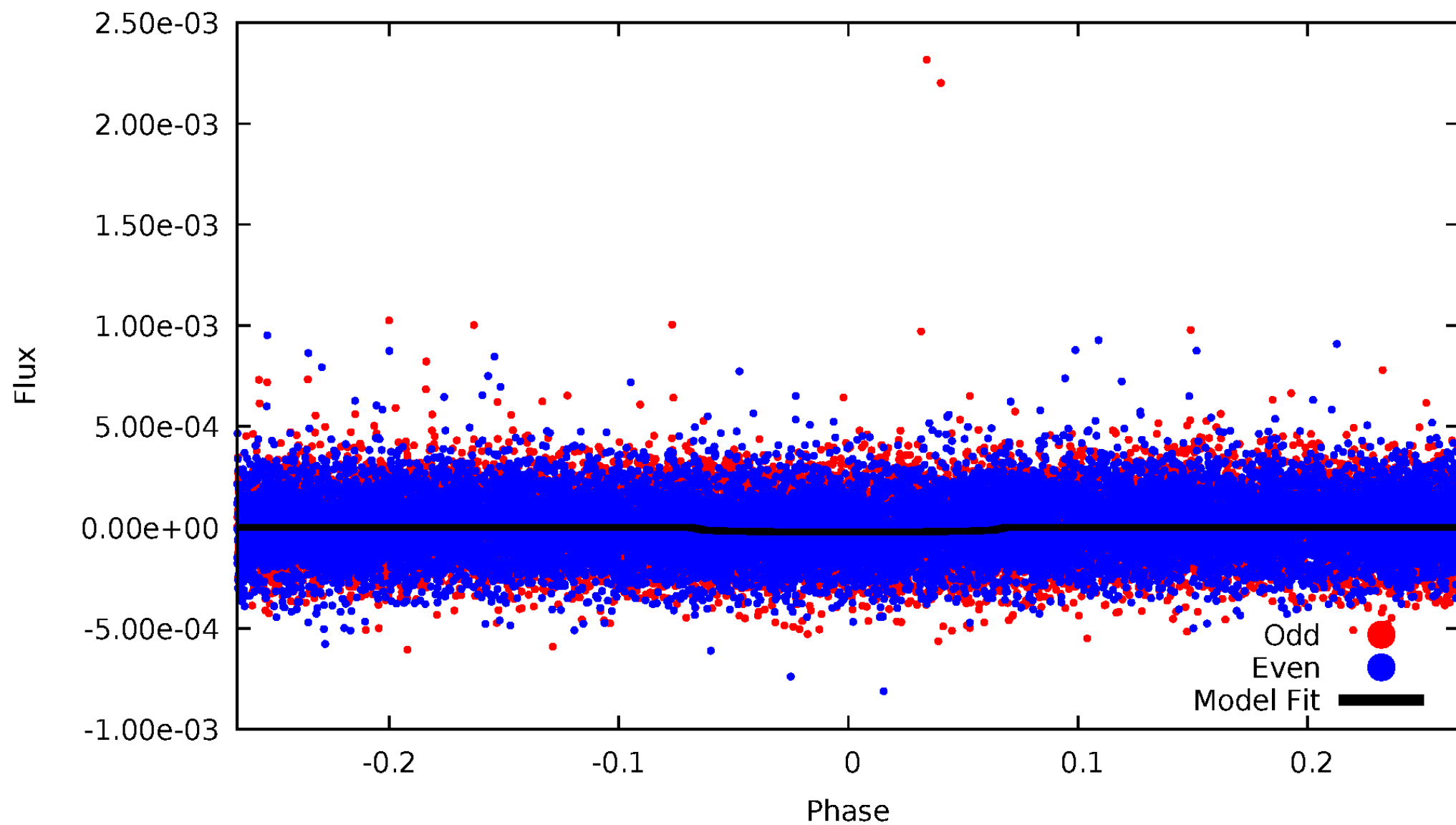


TCE 008161715-01



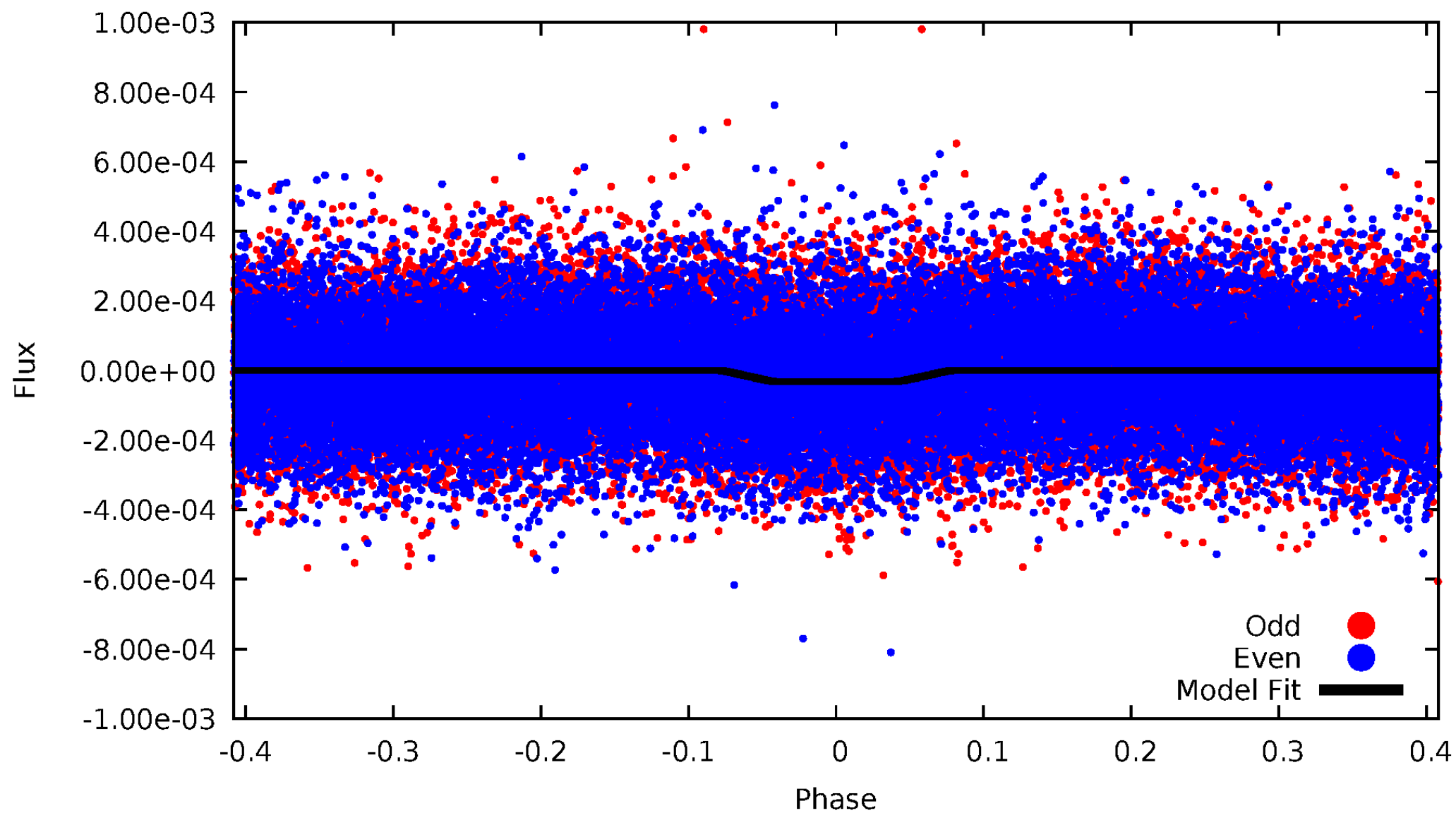
DV Odd/Even

TCE 008161715-01



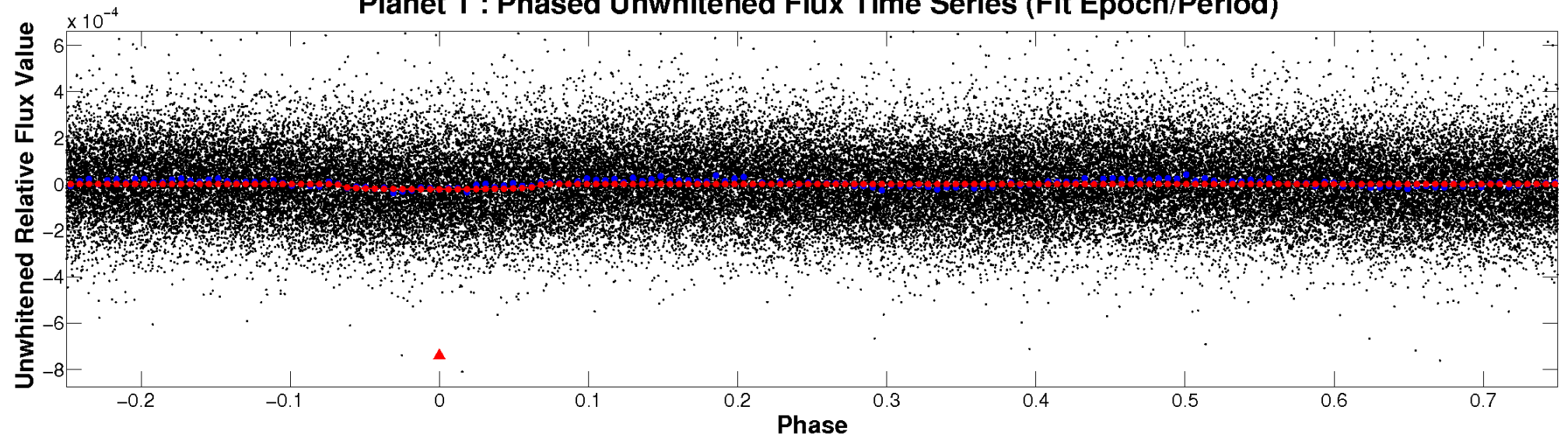
ALT Odd/Even

TCE 008161715-01

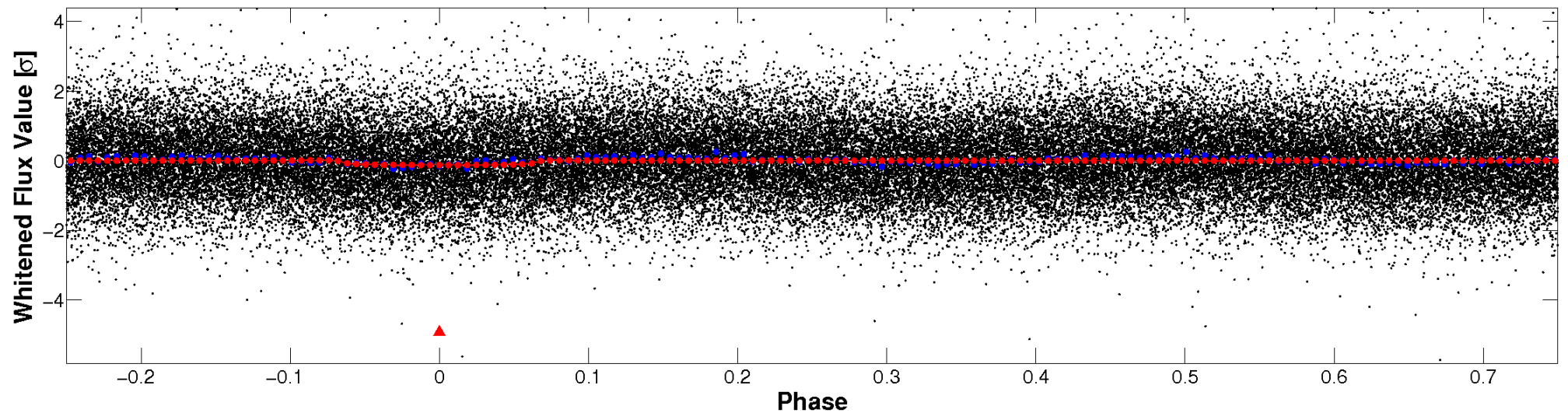


Non-Whitened Vs. Whitened Light Curve

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

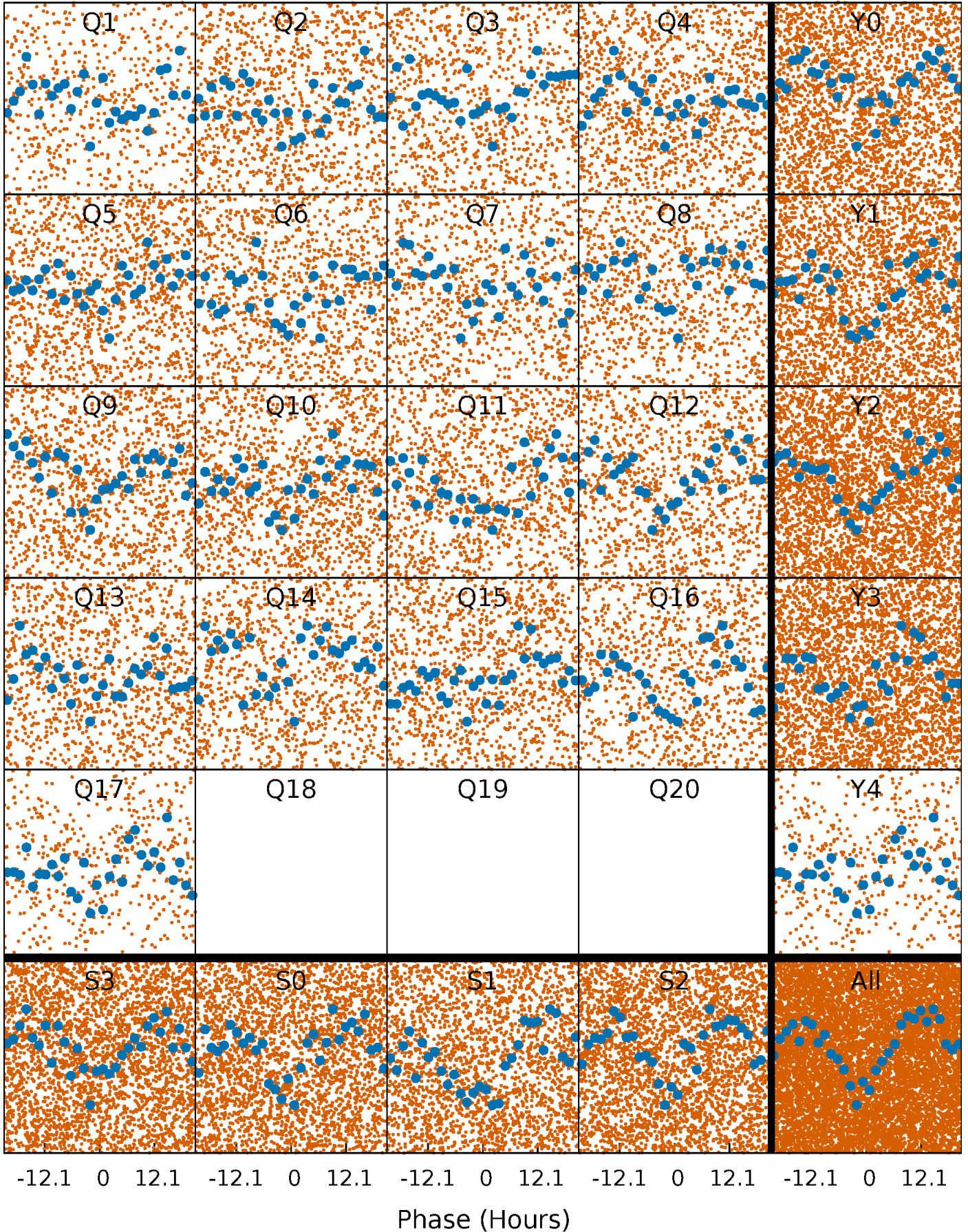


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



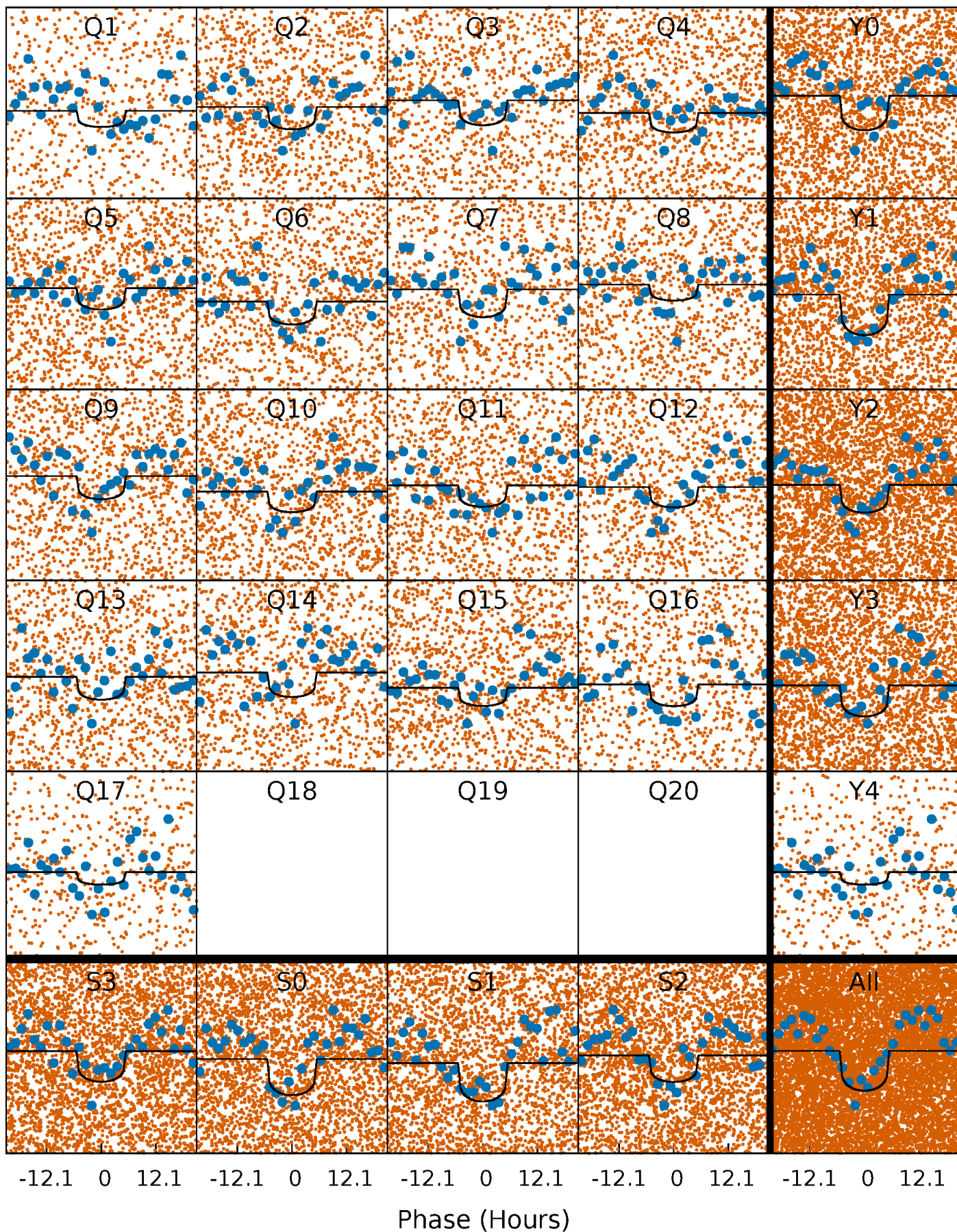
PDC Quarter-Phased Transit Curves

TCE 008161715-01 P= 3.304682 Days $T_0=134.744919$ (BKJD)



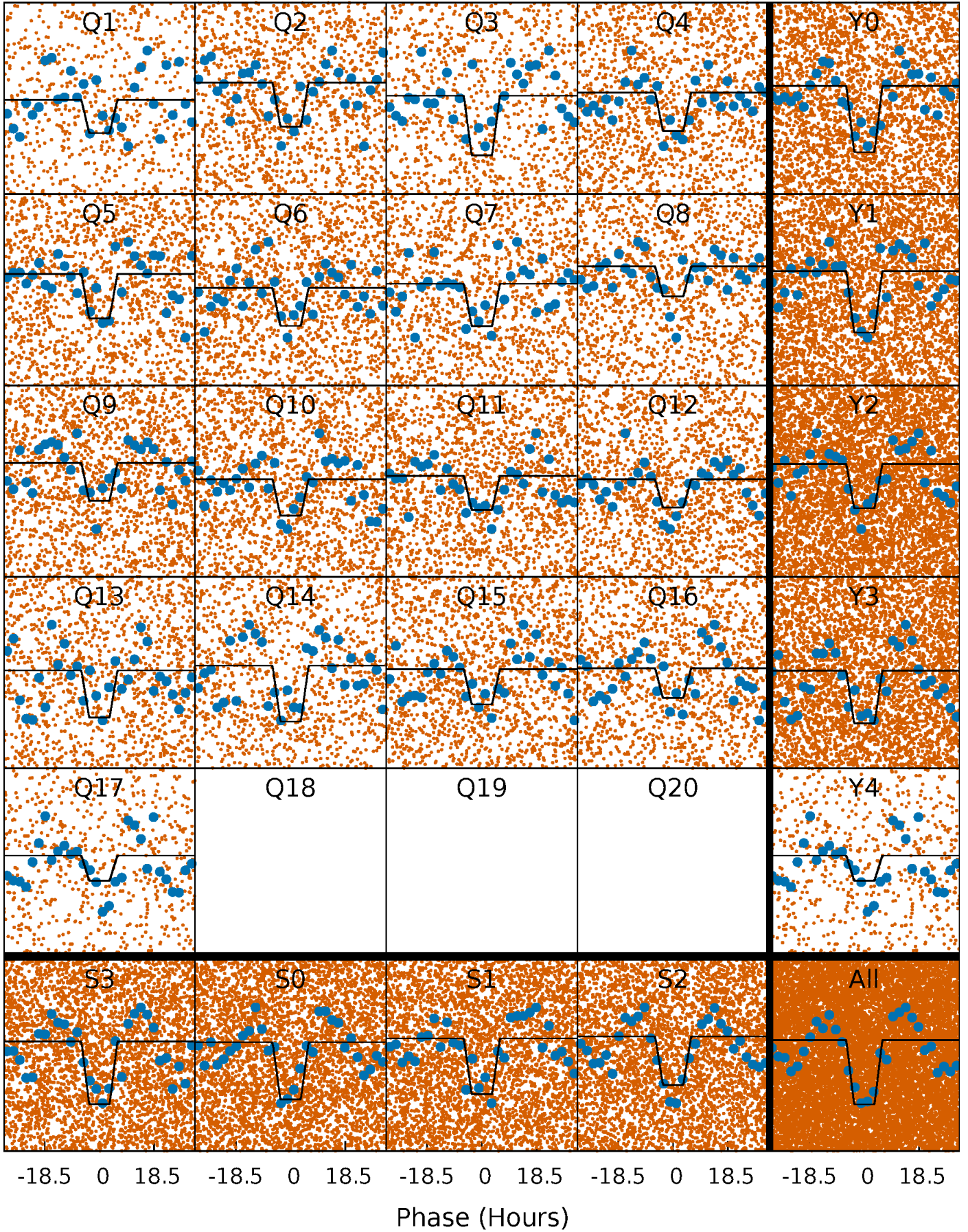
DV Quarter-Phased Transit Curves

TCE 008161715-01 P= 3.304682 Days $T_0=134.744919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

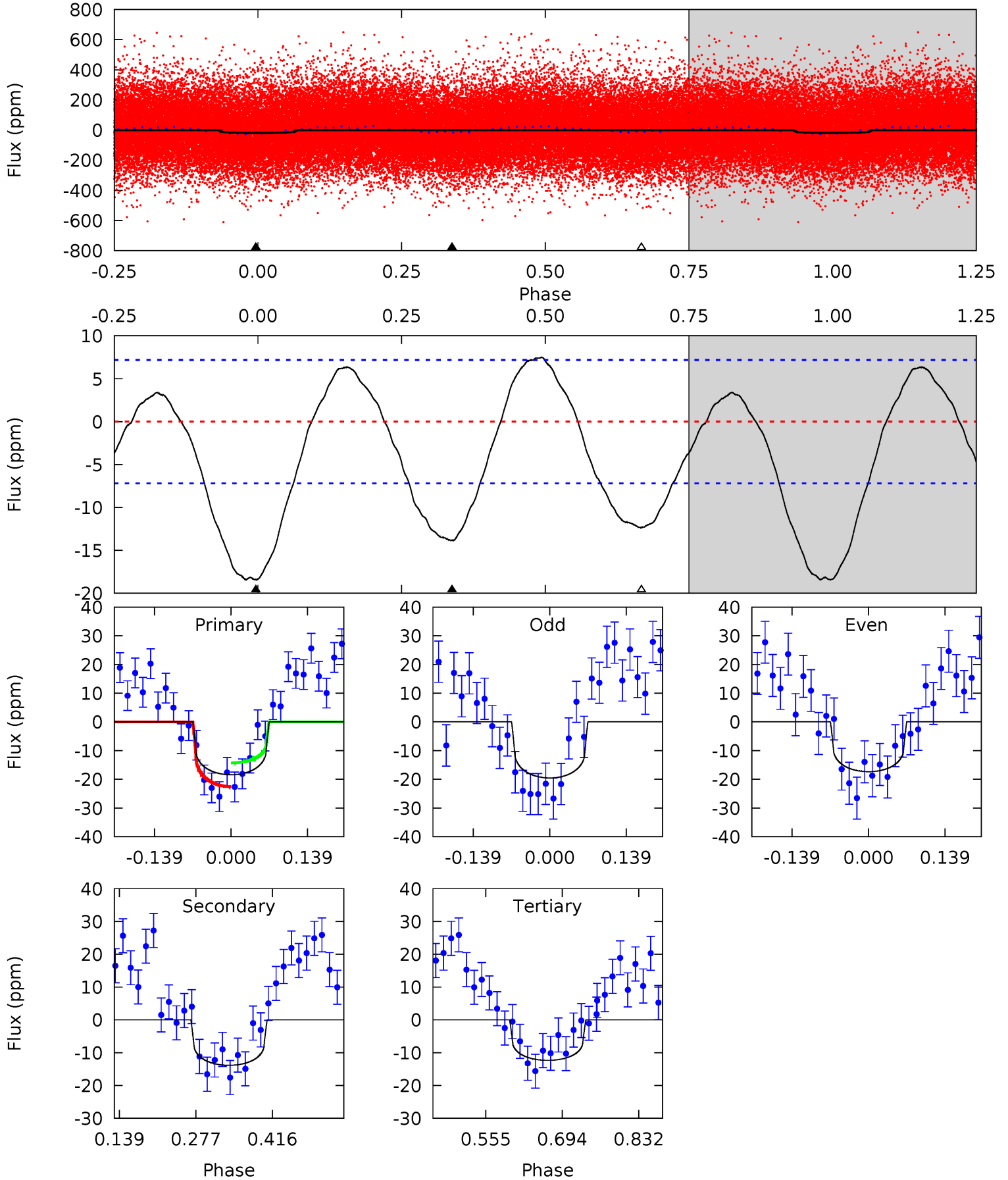
TCE 008161715-01 P= 3.304250 Days $T_0=134.801103$ (BKJD)



DV Model-Shift Uniqueness Test

008161715-01, P = 3.304682 Days, E = 131.440237 Days

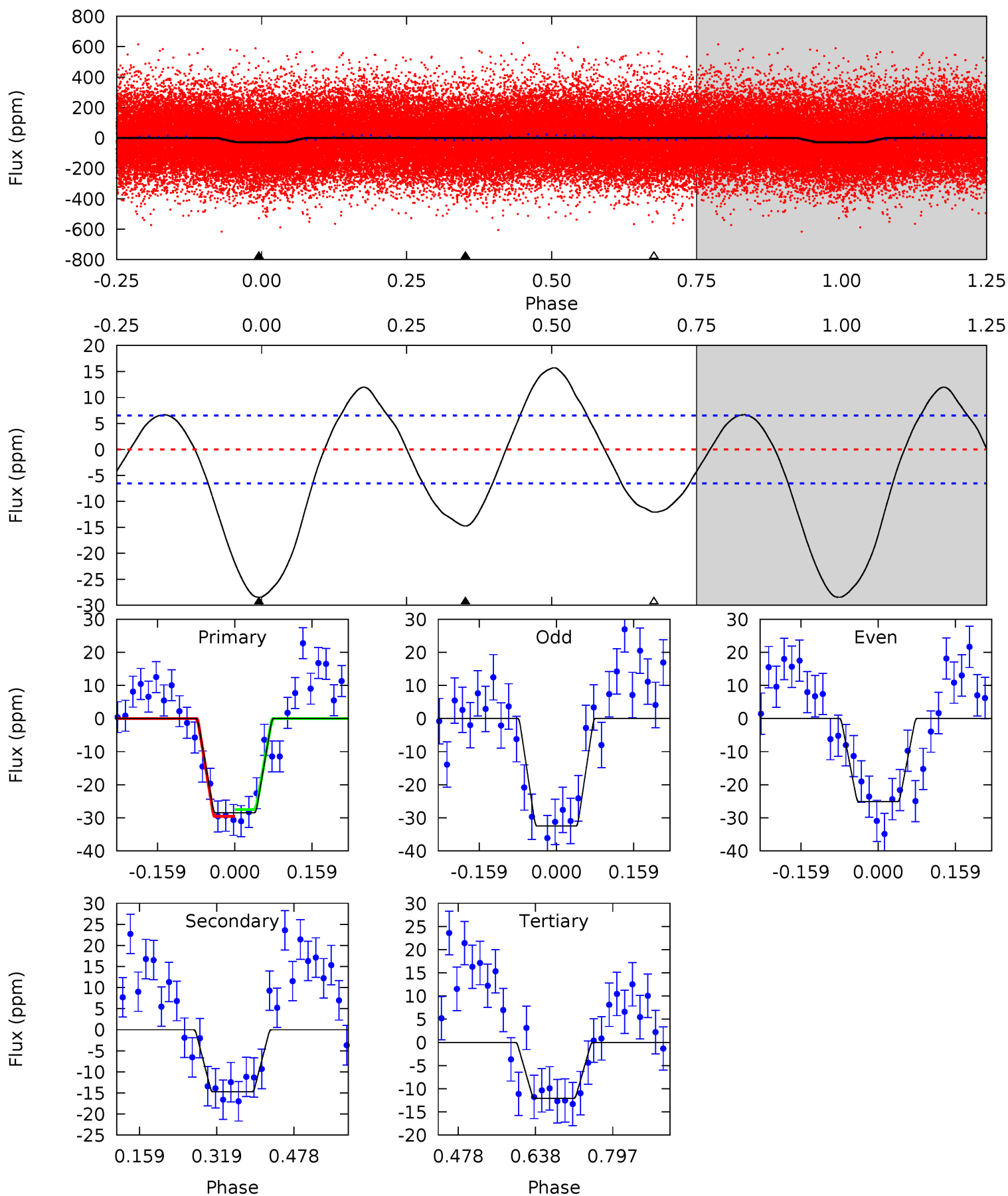
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	8.67	7.73	0	4.50	1.48	4.15	3.80	11.5	0.94	8.67	0.68	1.12	0.29	2.58



Alt Model-Shift Uniqueness Test

008161715-01, P = 3.304250 Days, E = 131.496853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	10.1	8.27	0	4.47	1.41	5.93	11.2	19.5	1.83	10.1	2.54	0.96	0.36	0.71



Stellar Parameters For KIC 008161715

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5959^{+142}_{-178}	$4.546^{+0.036}_{-0.204}$	$-0.320^{+0.300}_{-0.300}$	$0.859^{+0.252}_{-0.079}$	$0.948^{+0.109}_{-0.120}$	$2.104^{+0.408}_{-1.074}$
	+2%/-3%	+1%/-4%	+94%/-94%	+29%/-9%	+11%/-13%	+19%/-51%
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 008161715-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 2	$0.44^{+0.22}_{-0.19}$	1686^{+120}_{-76}	5478^{+1867}_{-835}	72^{+144}_{-40}
Alt.	-15 ± 1	$0.55^{+0.21}_{-0.20}$	1688^{+115}_{-74}	4979^{+1142}_{-583}	47^{+68}_{-22}

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

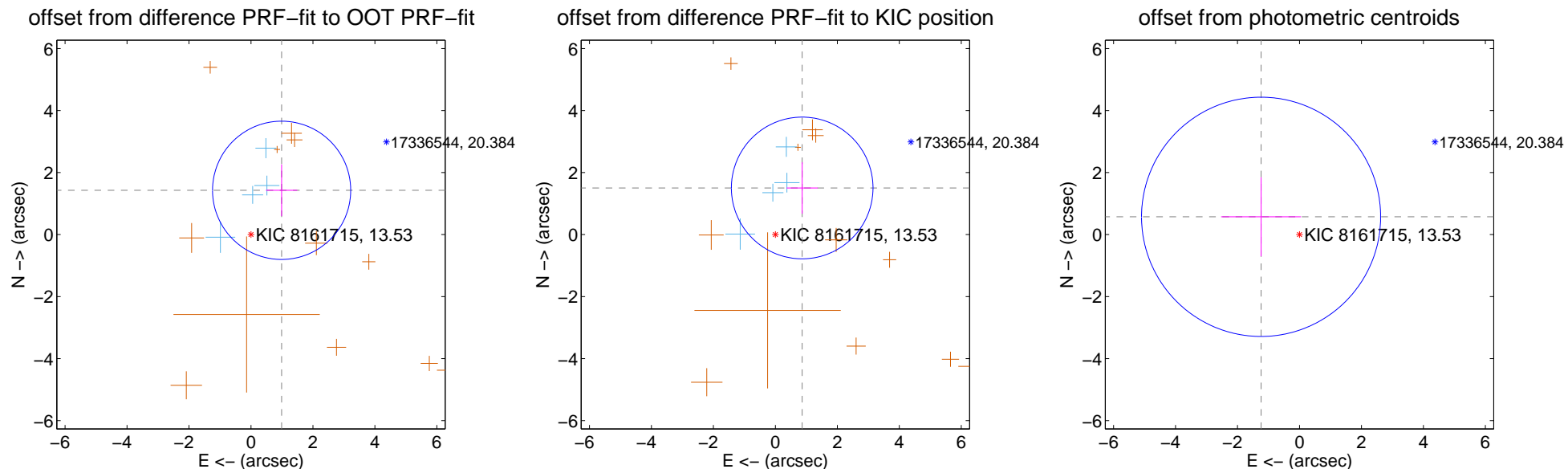
DV Centroid Data

Supplemental centroid analysis for 008161715-01. Kepler magnitude: 13.53. Transit SNR 10.26

There are 4 quarters with good PRF difference image offsets

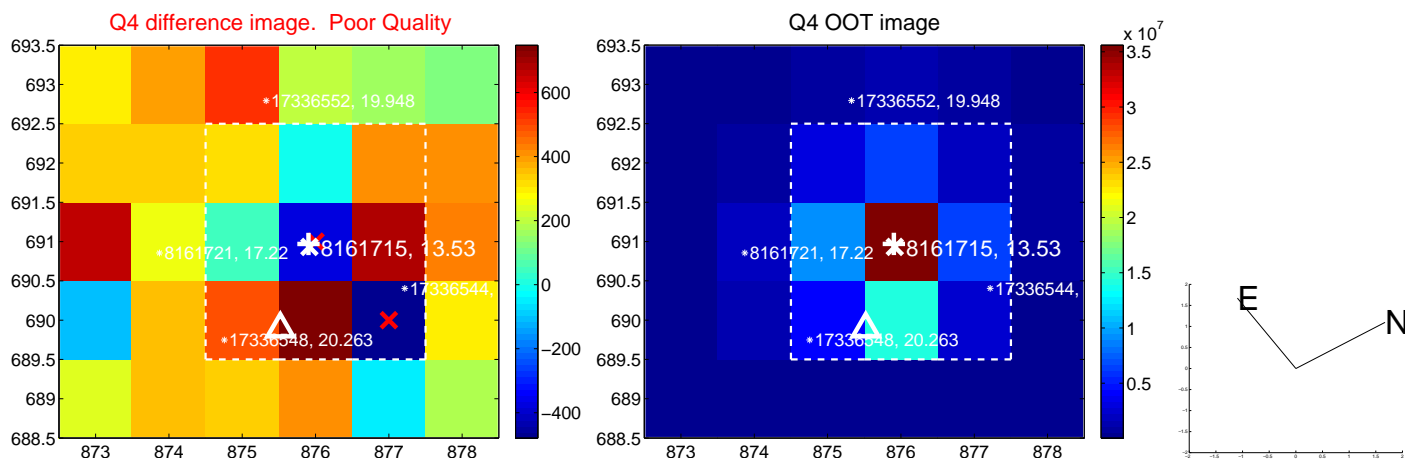
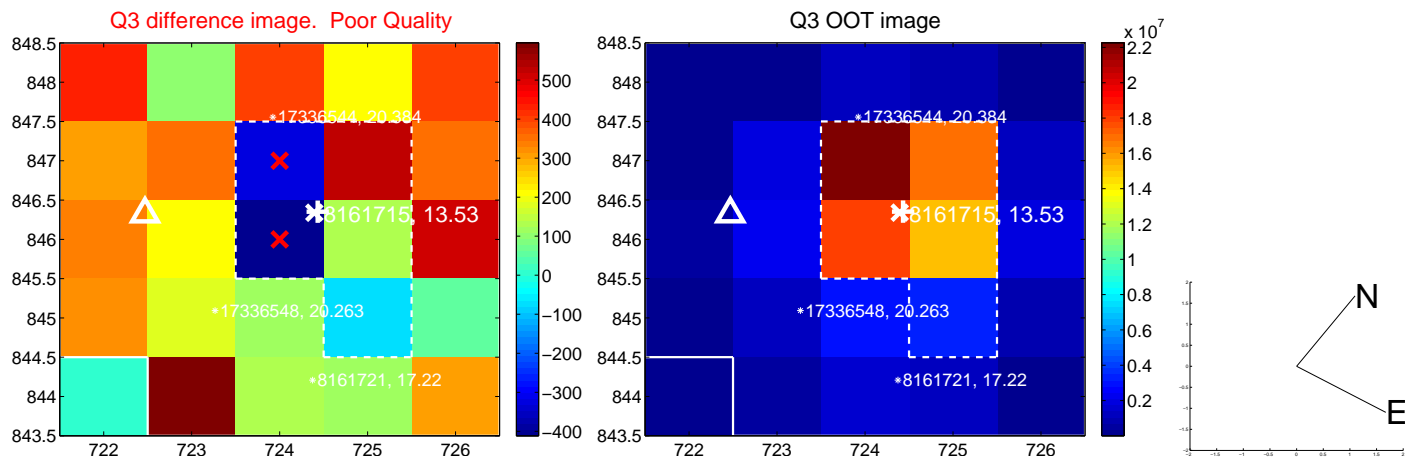
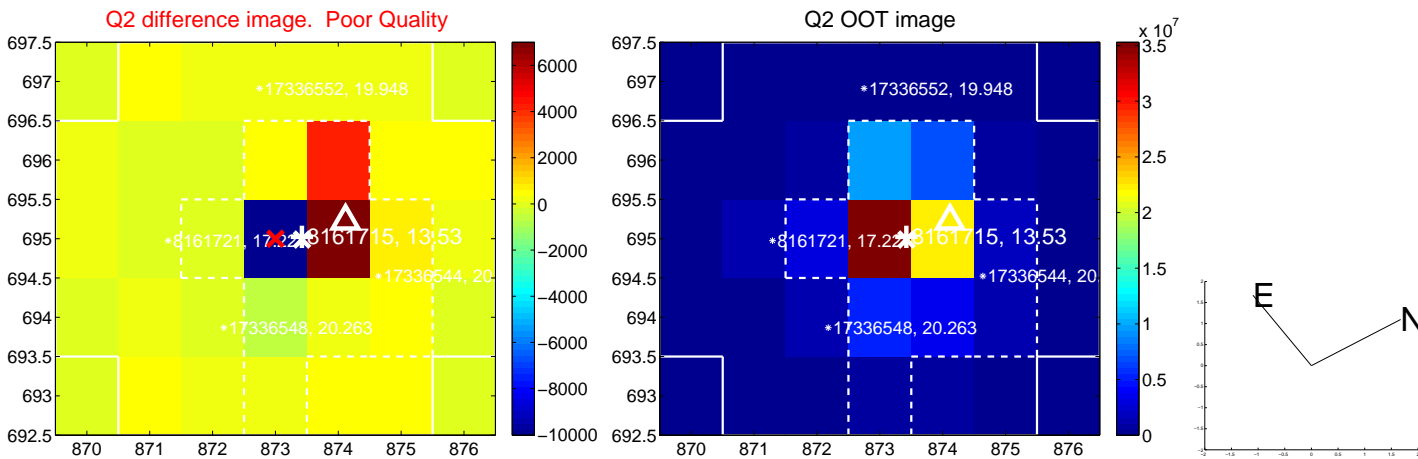
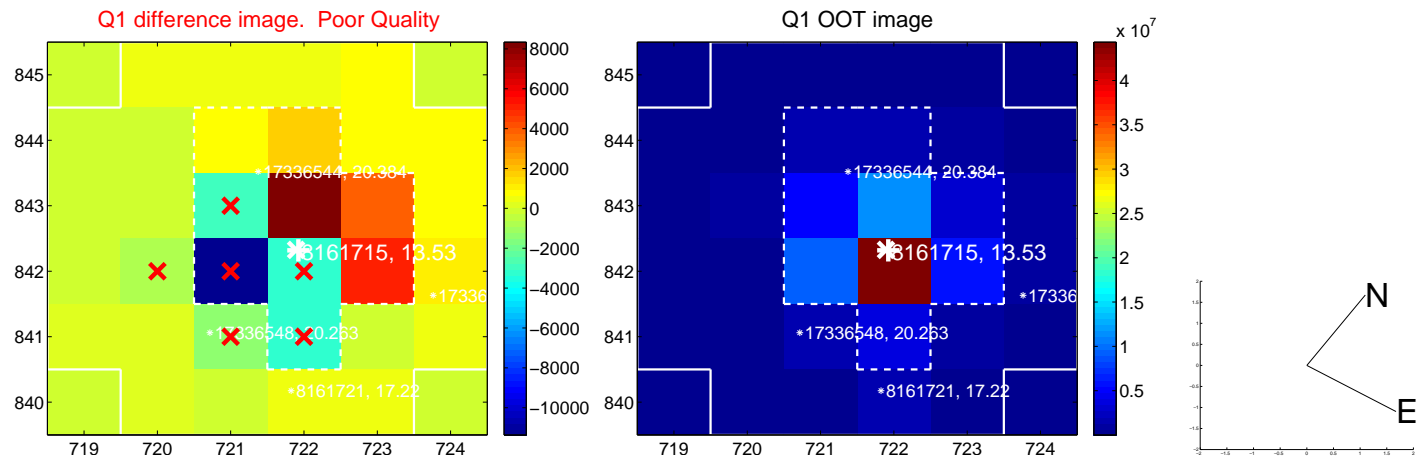
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.737 ± 0.743	2.34	-0.990 ± 0.503	1.428 ± 0.834
PRF-fit source offset from KIC position	1.736 ± 0.762	2.28	-0.866 ± 0.504	1.504 ± 0.830
photometric centroid source offset	1.37 ± 1.29	1.06	1.24 ± 1.29	0.57 ± 1.28

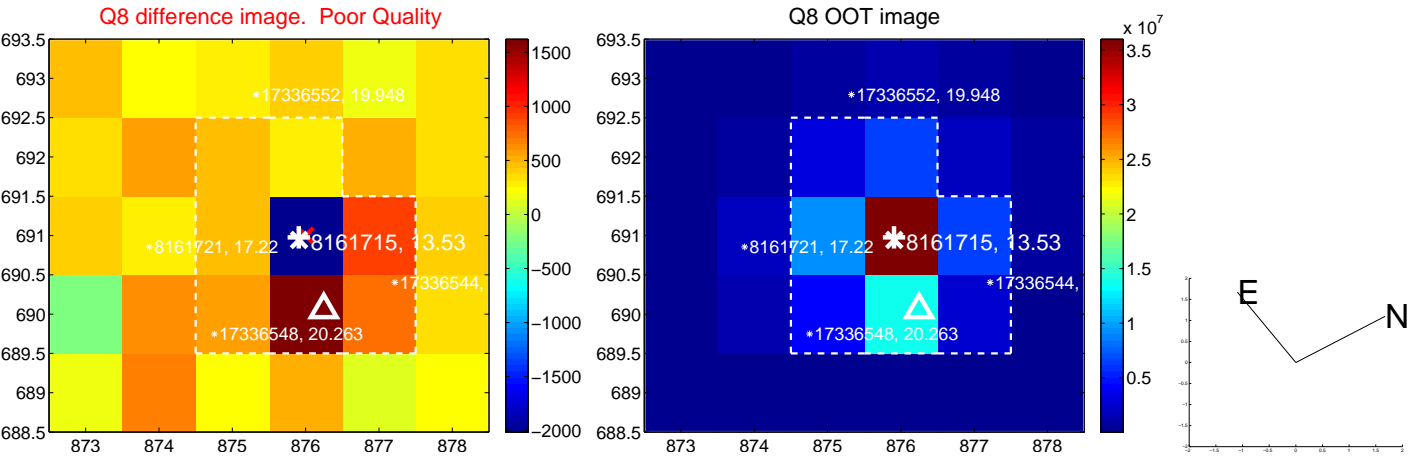
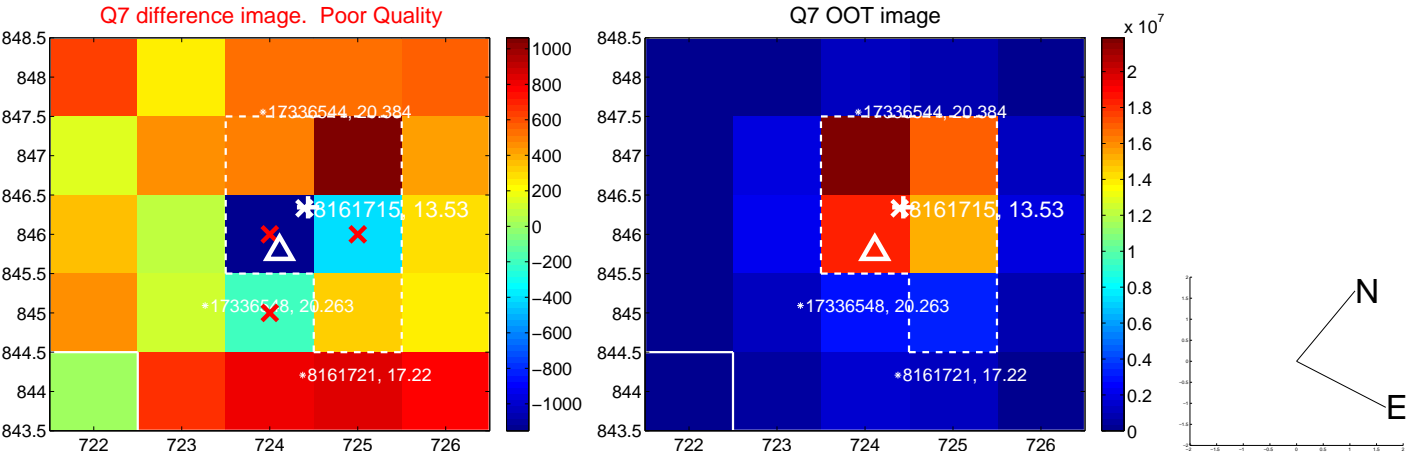
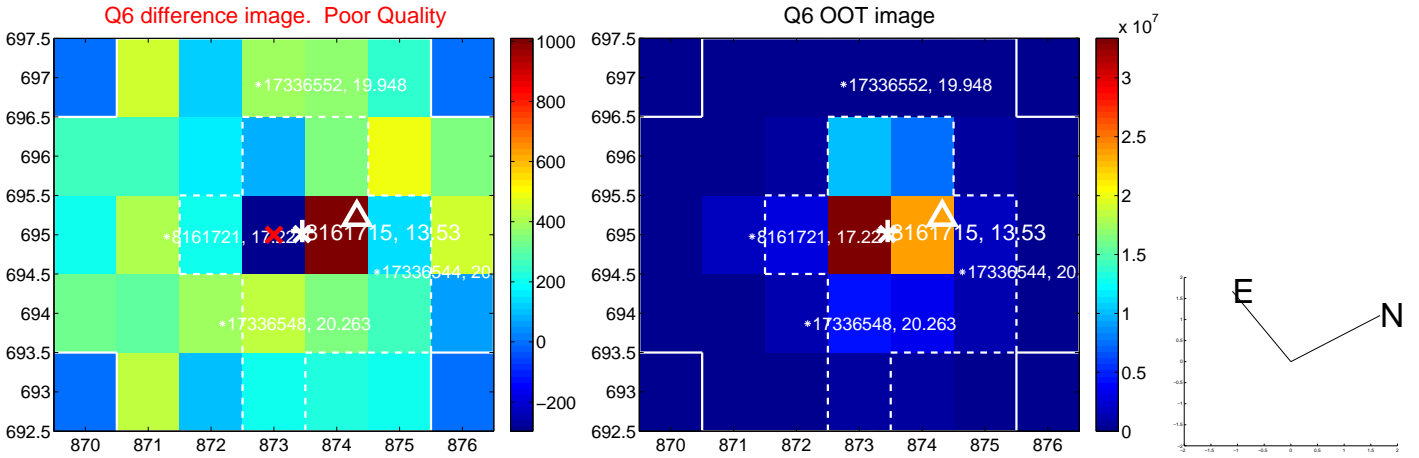
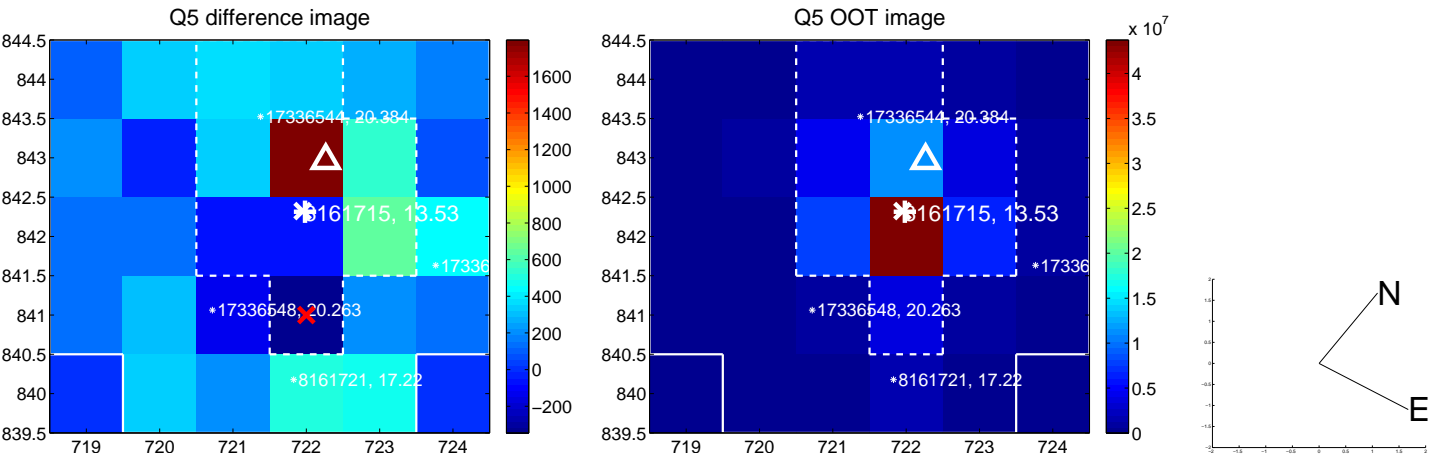


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

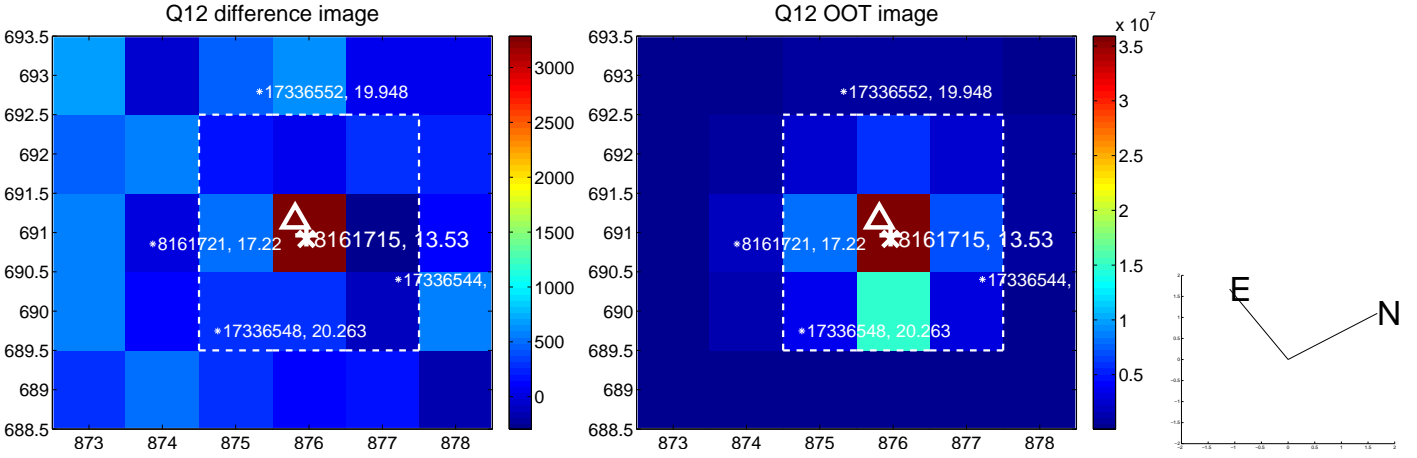
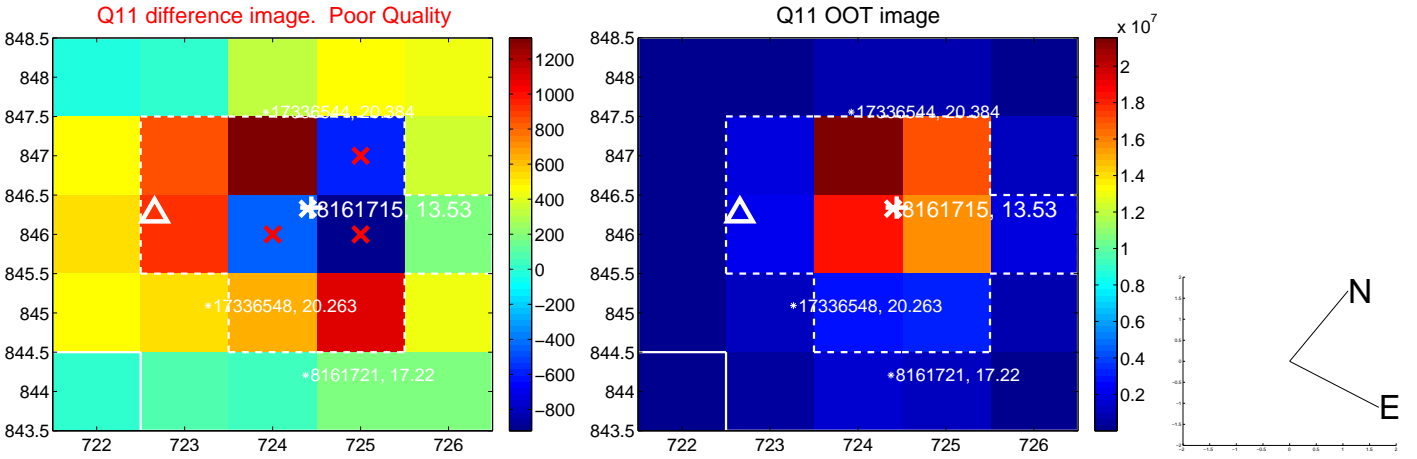
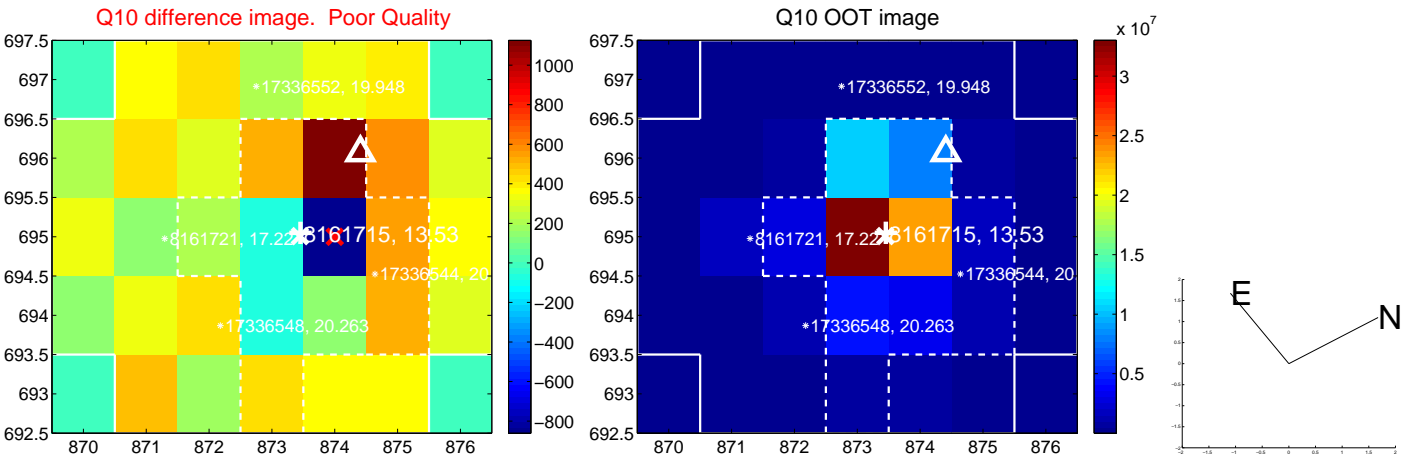
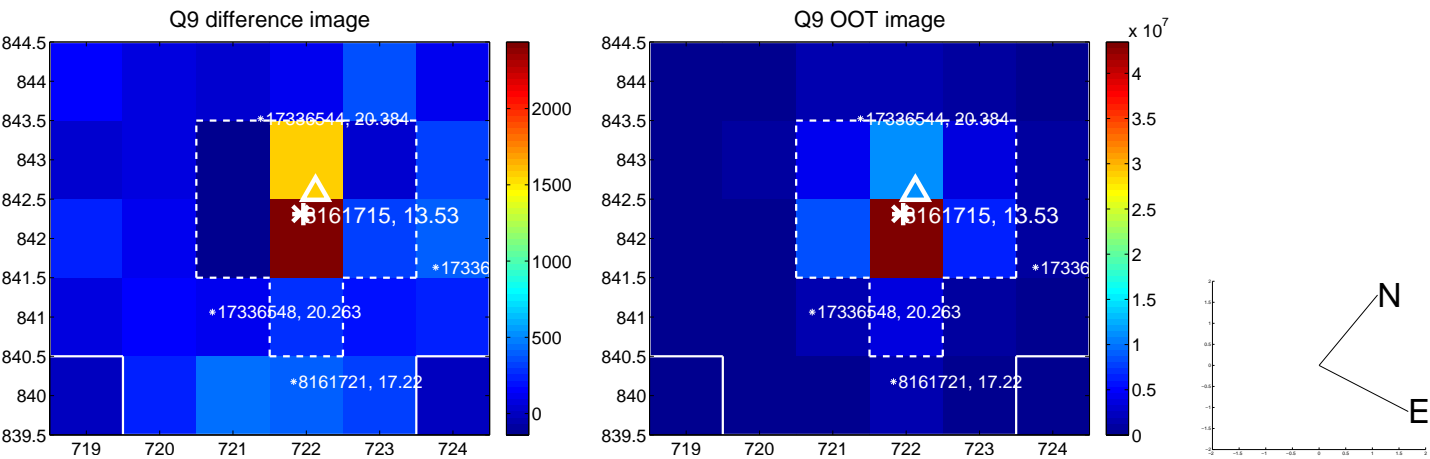
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



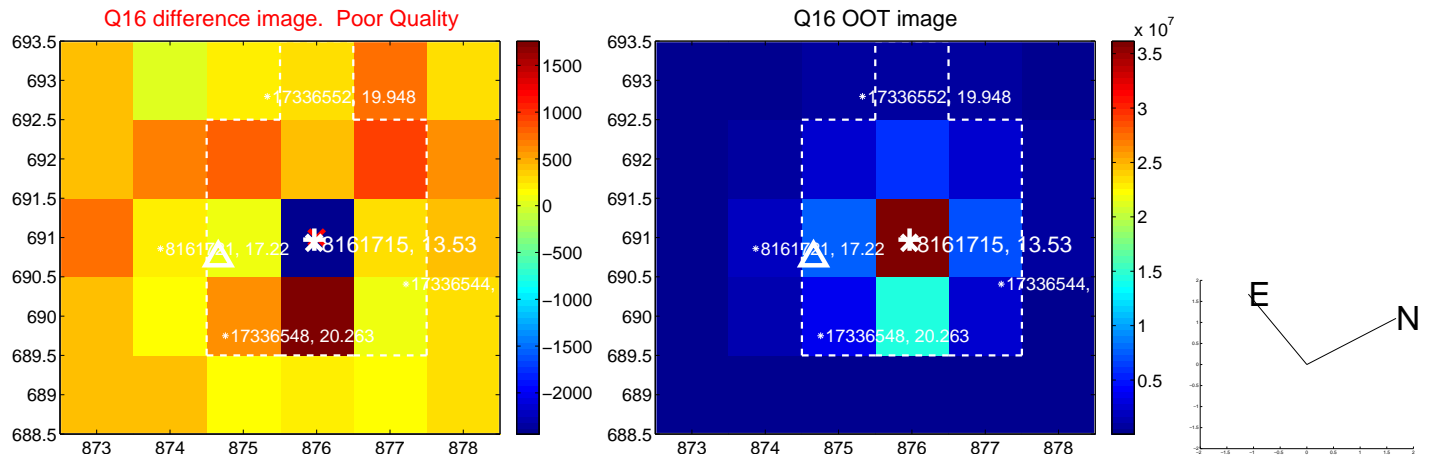
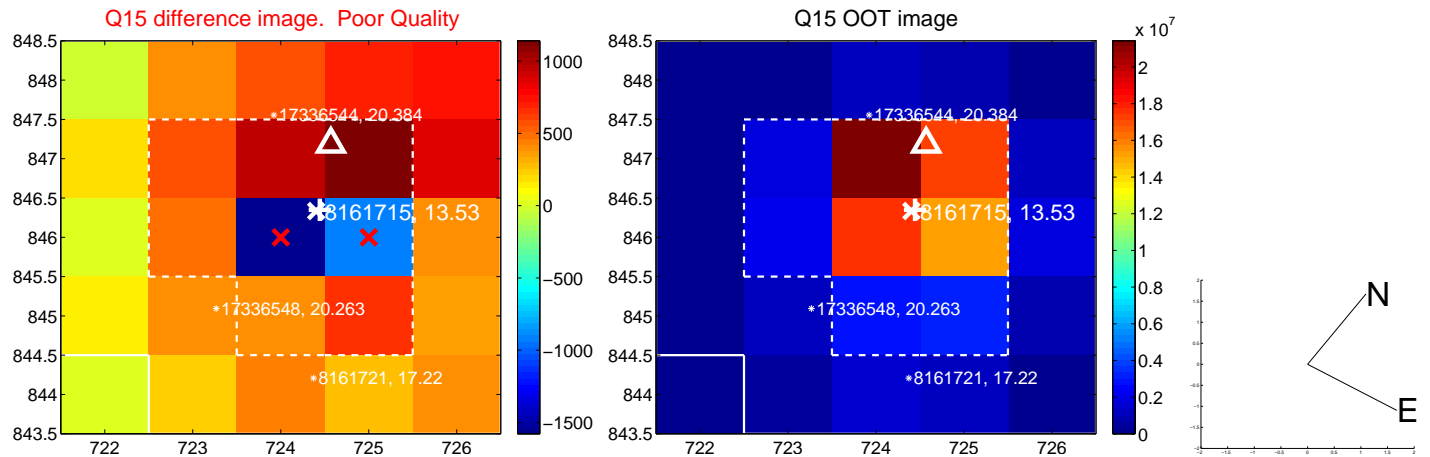
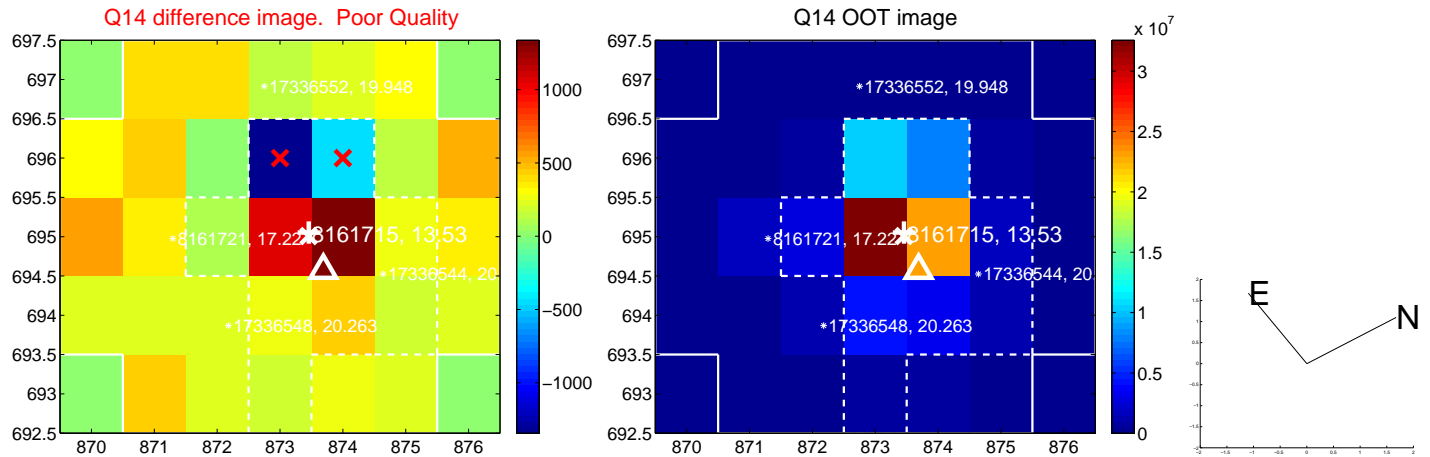
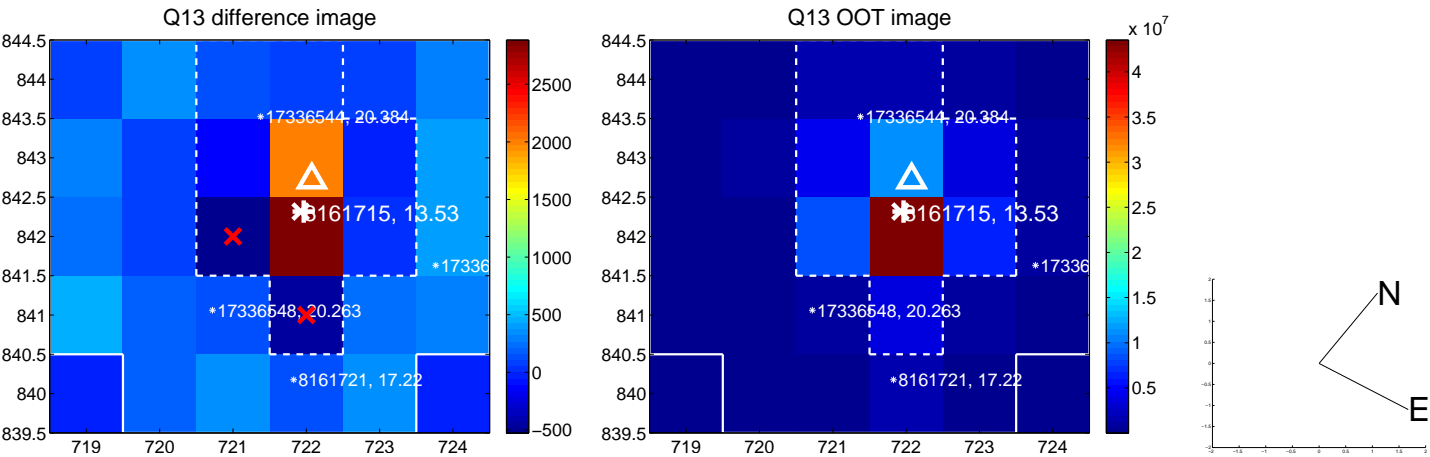
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



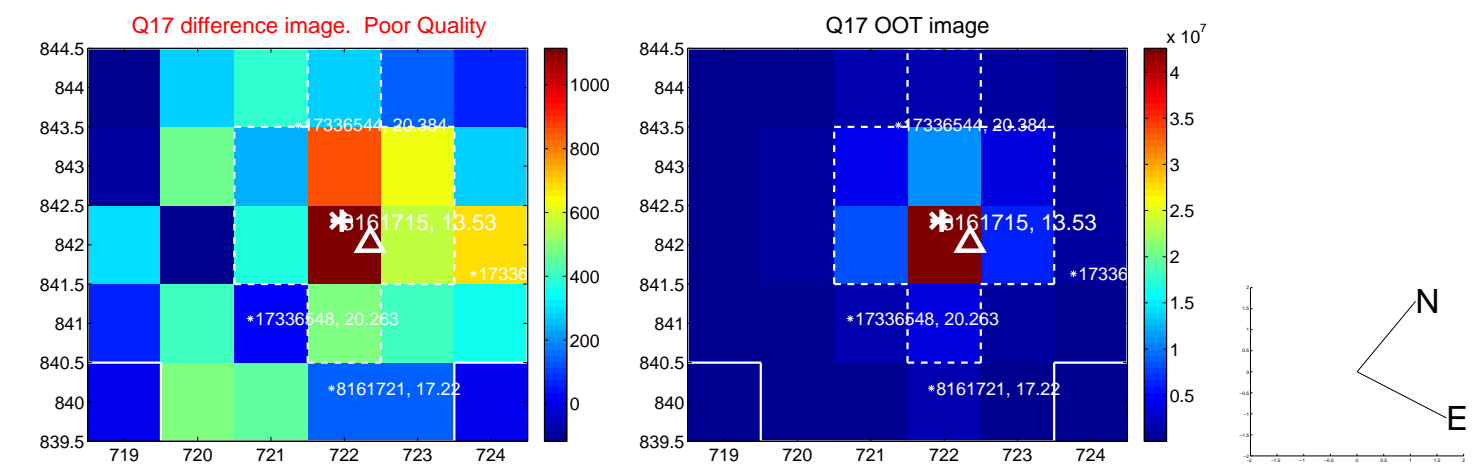
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



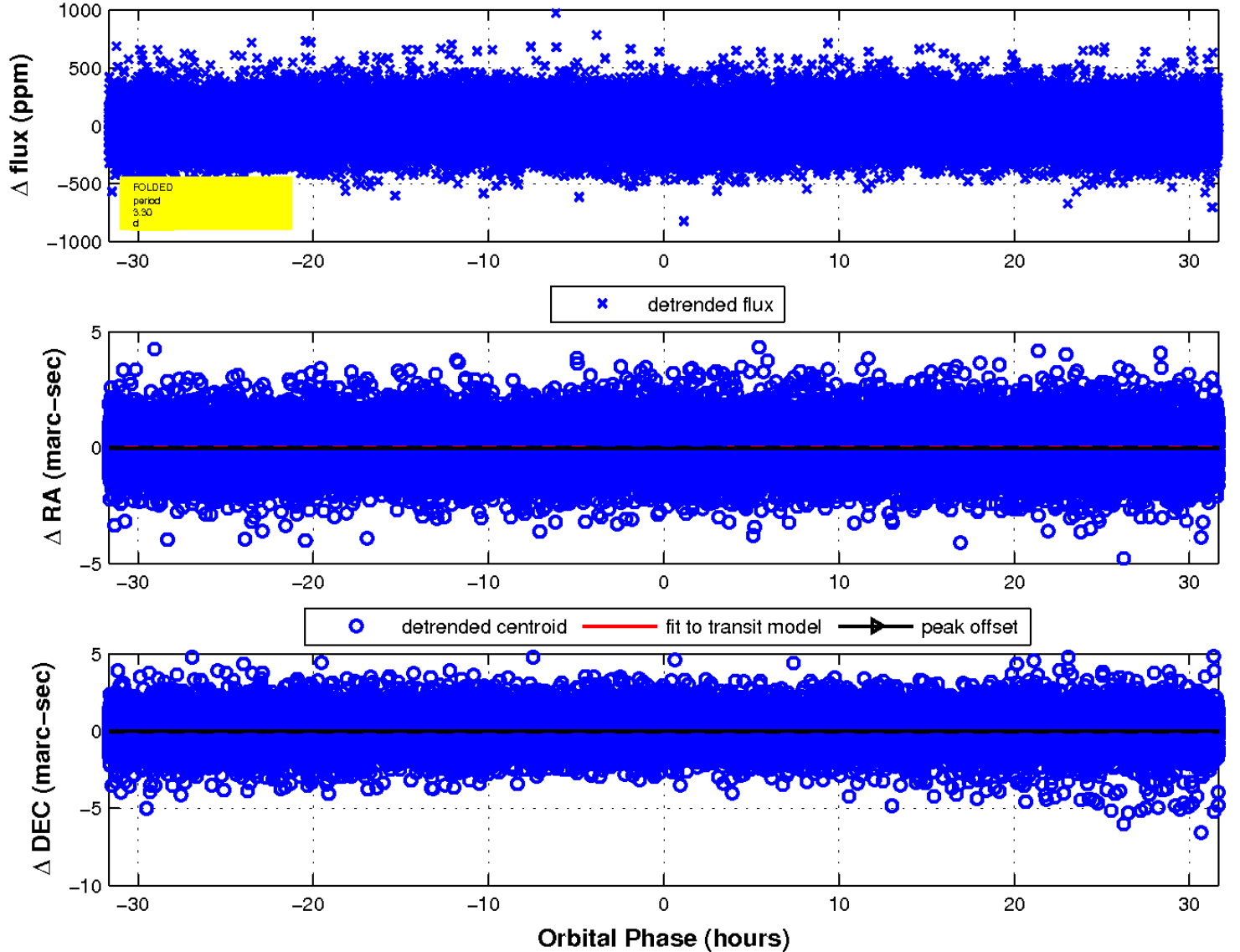
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

