

KIC 008042004

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})
008042004-01	OBS	No	3.899504	135.135468	11.3	24.296	7.6	7.4	1.64	6223	0.55	1286.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008042004-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

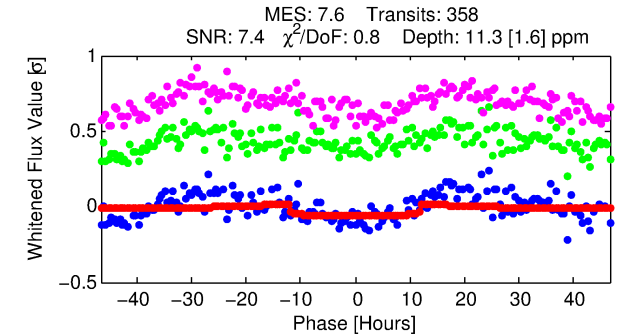
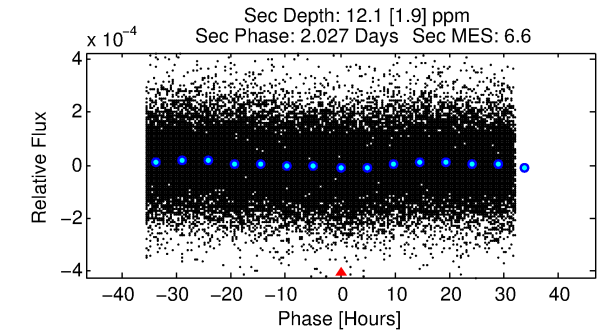
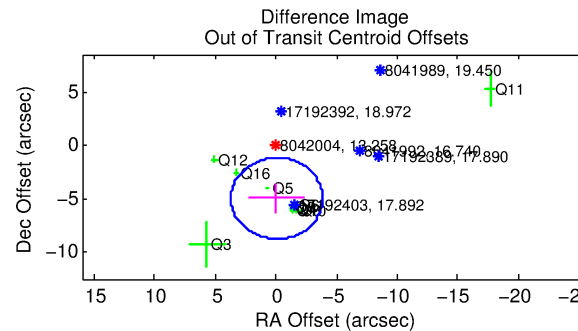
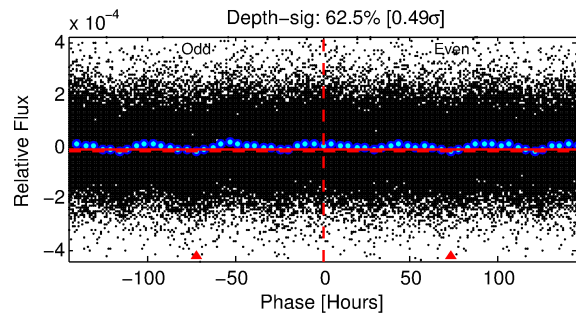
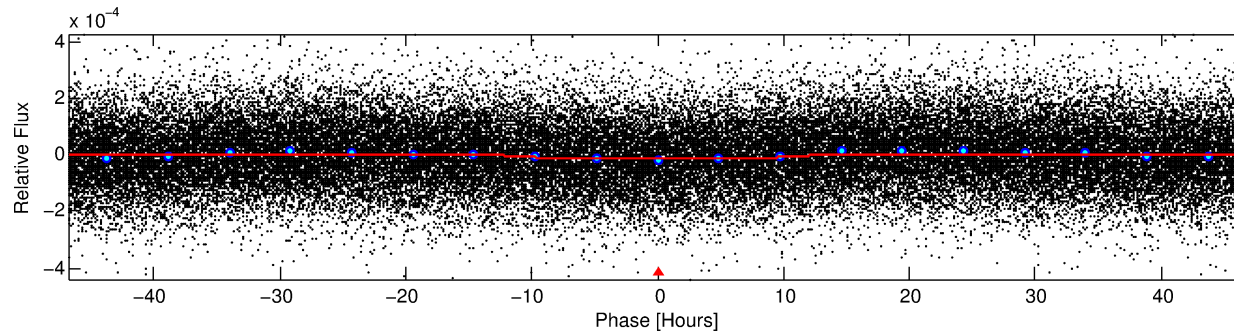
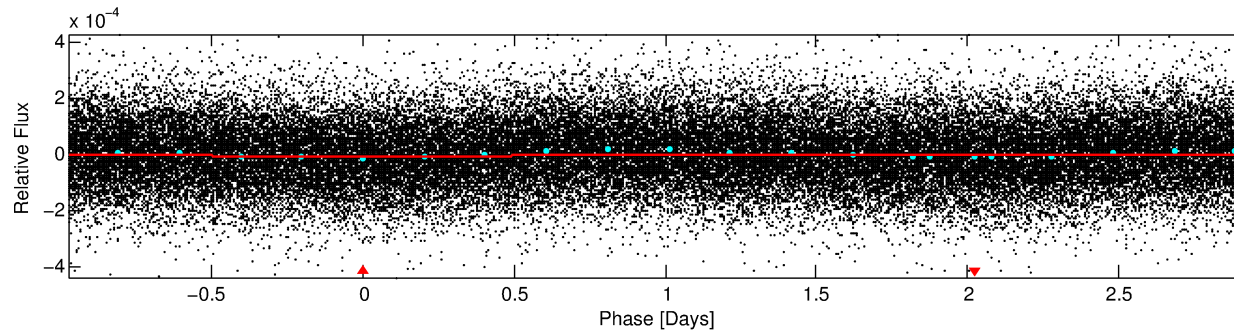
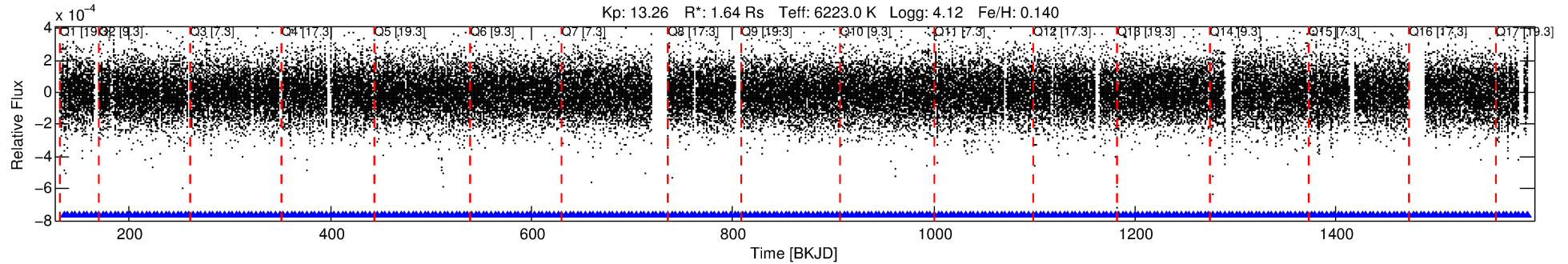
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008042004-01

No Significant Match Found

DV One-Page Summary

KIC: 8042004 Candidate: 1 of 1 Period: 3.900 d



DV Fit Results:

Period = 3.89950 [0.00011] d
Epoch = 135.1355 [0.0194] BKJD
Rp/R* = 0.0031 [0.0037]
a/R* = 1.38 [3.90]
b = 0.06 [100.96]
Seff = 1286.08 [556.72]
Teff = 1527 [165] K
Rp = 0.55 [0.69] Re
a = 0.0530 [0.0139] AU
Ag = 62.20 [153.55] [0.40 σ]
Teffp = 6630 [4048] K [1.26 σ]

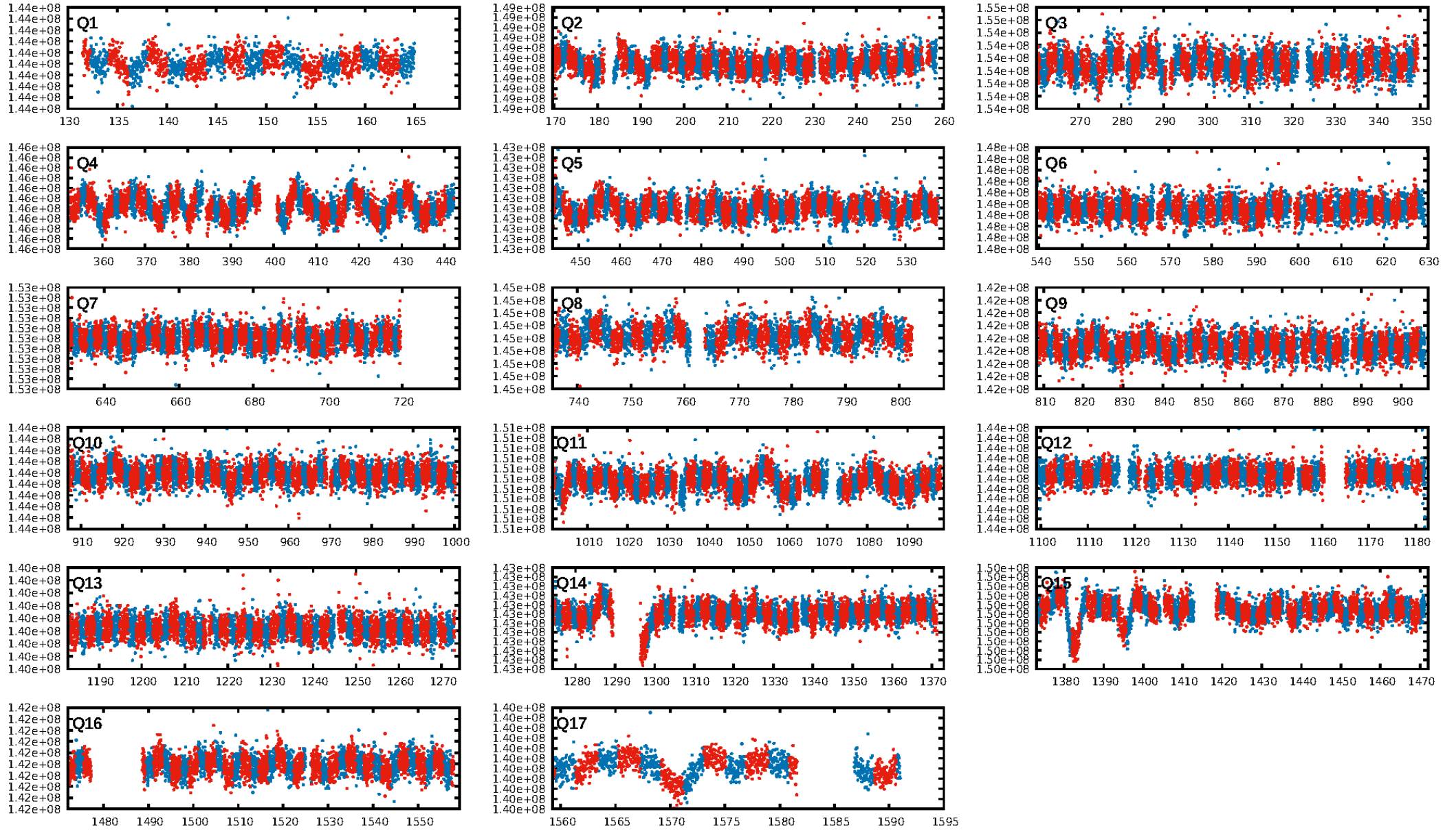
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.81e-16
RollingBand-fgt: 1.00 [342/342]
GhostDiagnostic-chr: 0.003913
Centroid-sig: 0.0%
Centroid-so: 5.301 arcsec [4.11 σ]
OotOffset-rm: 4.971 arcsec [3.93 σ]
KicOffset-rm: 4.886 arcsec [4.86 σ]
OotOffset-st: 2/2/4/2 [10]
KicOffset-st: 2/2/4/2 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 1.00 [17/17]

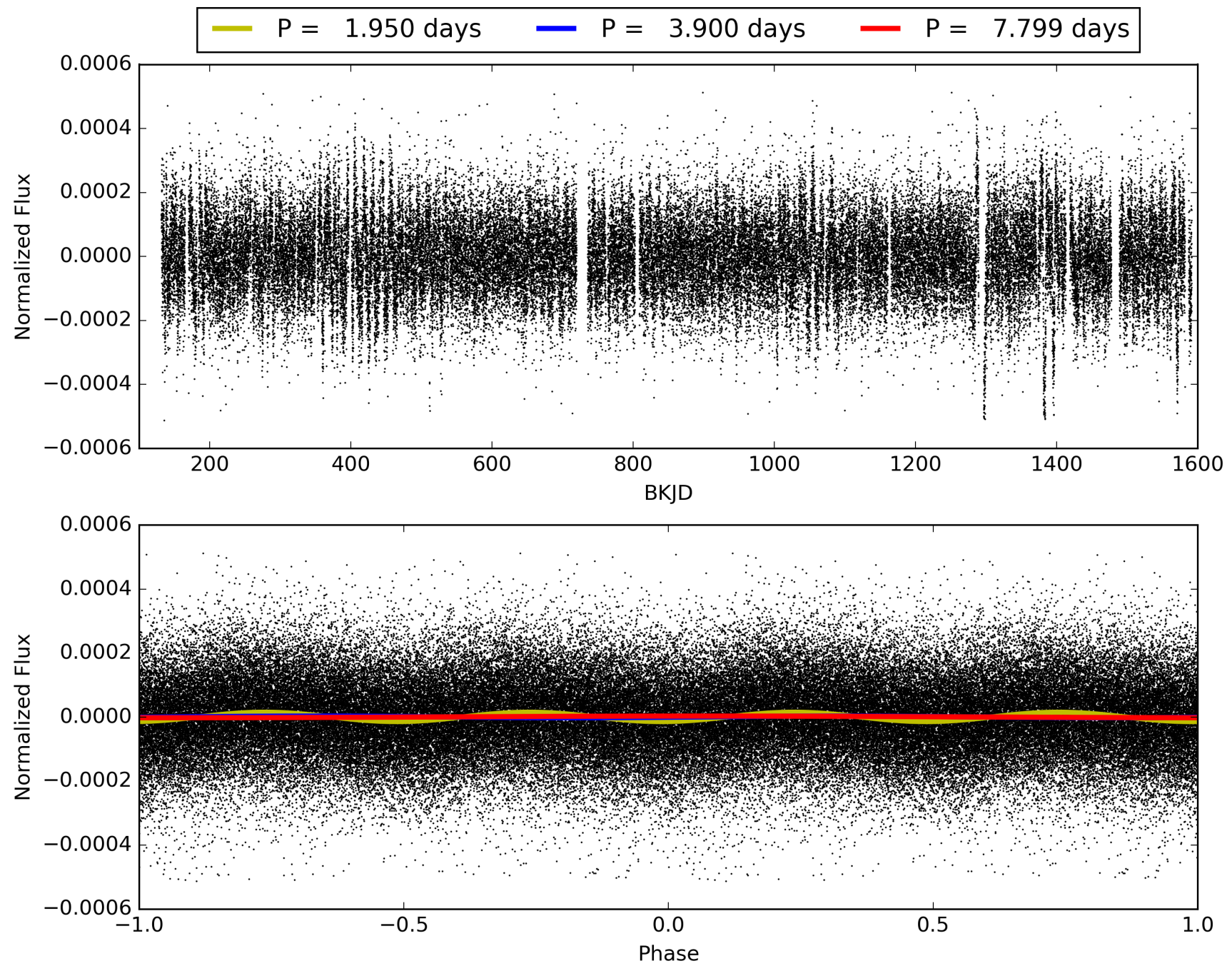
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:06:08 Z

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

TCE 008042004-01, PDC Light Curves

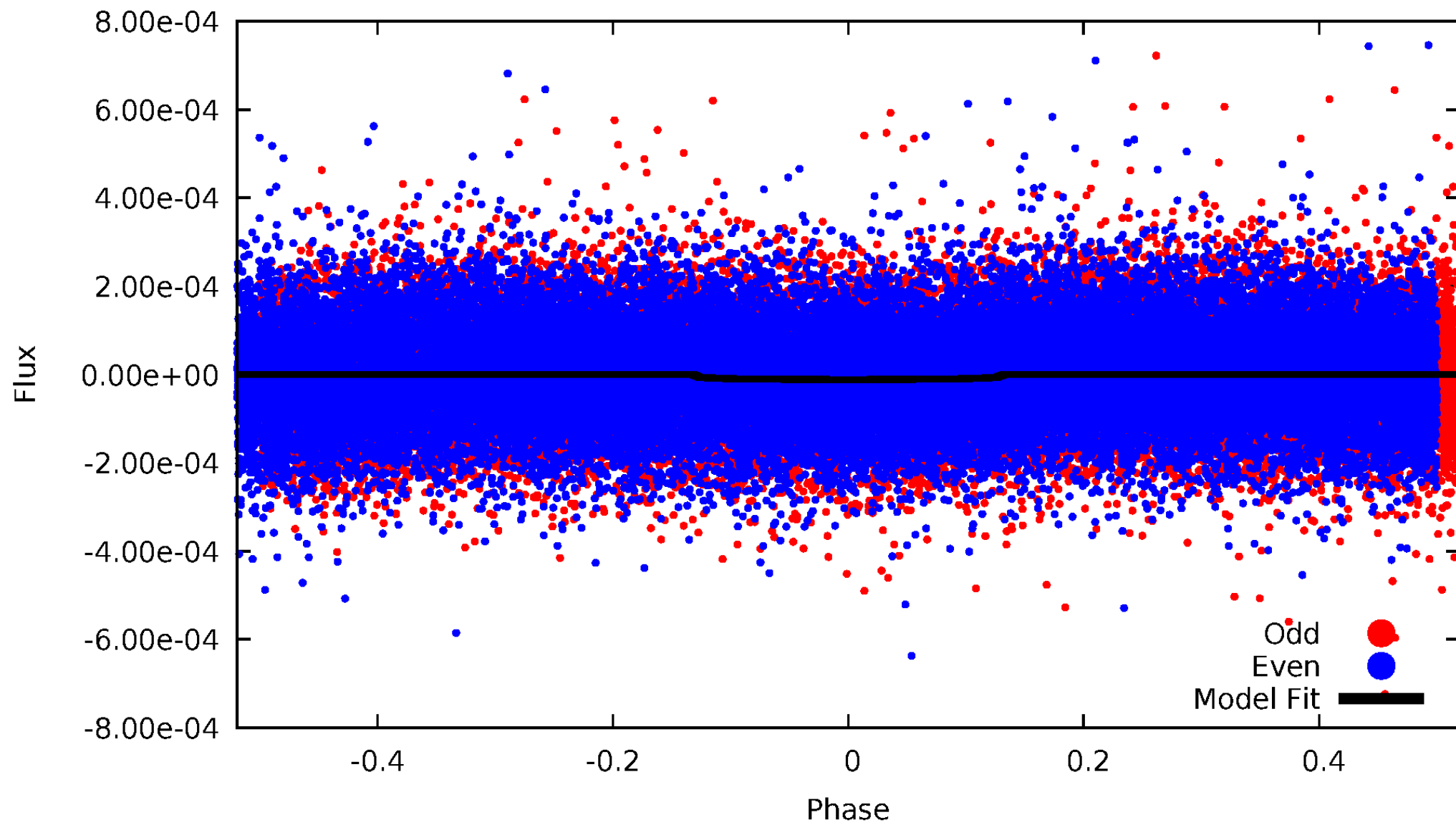


TCE 008042004-01



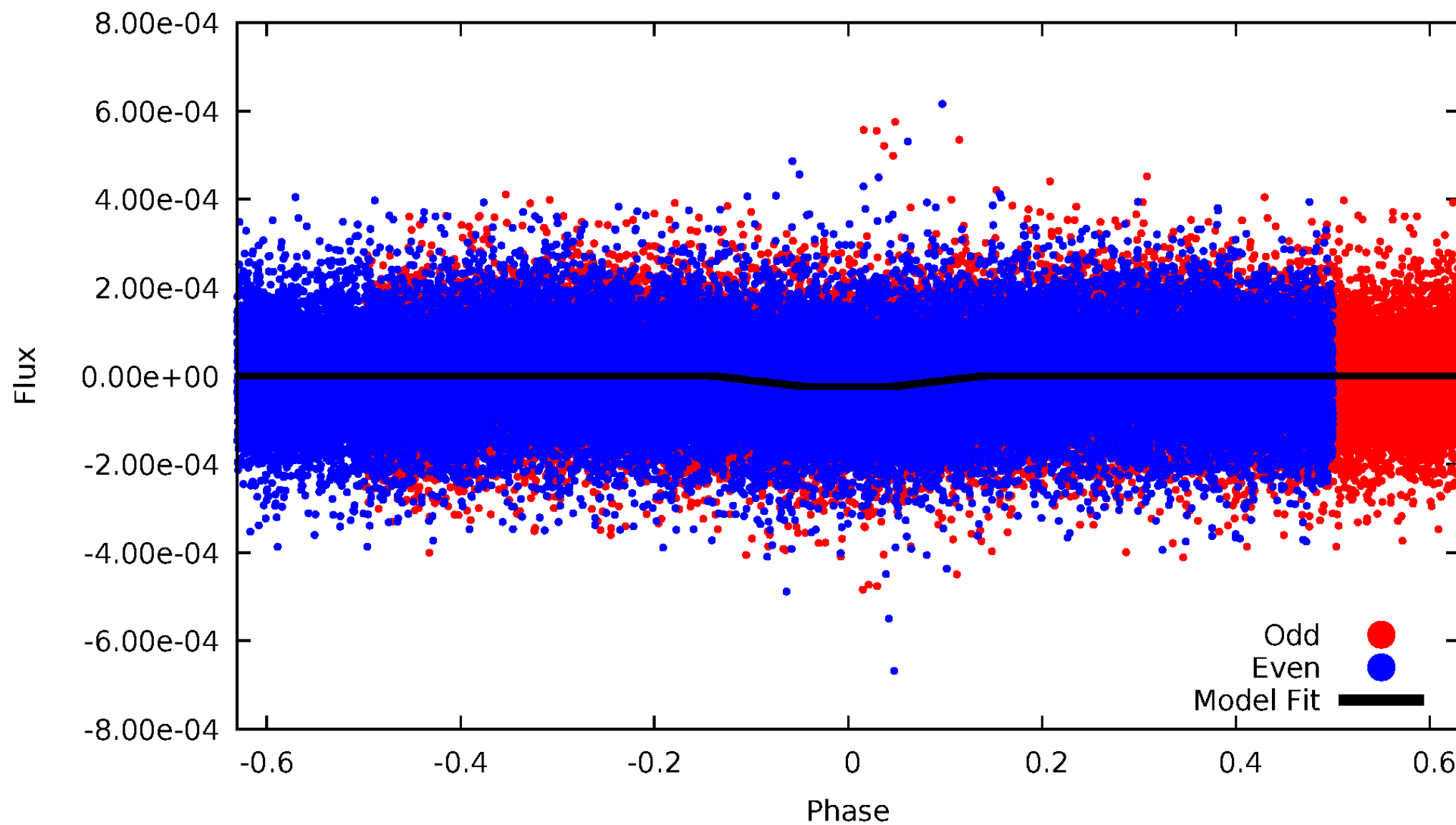
DV Odd/Even

TCE 008042004-01



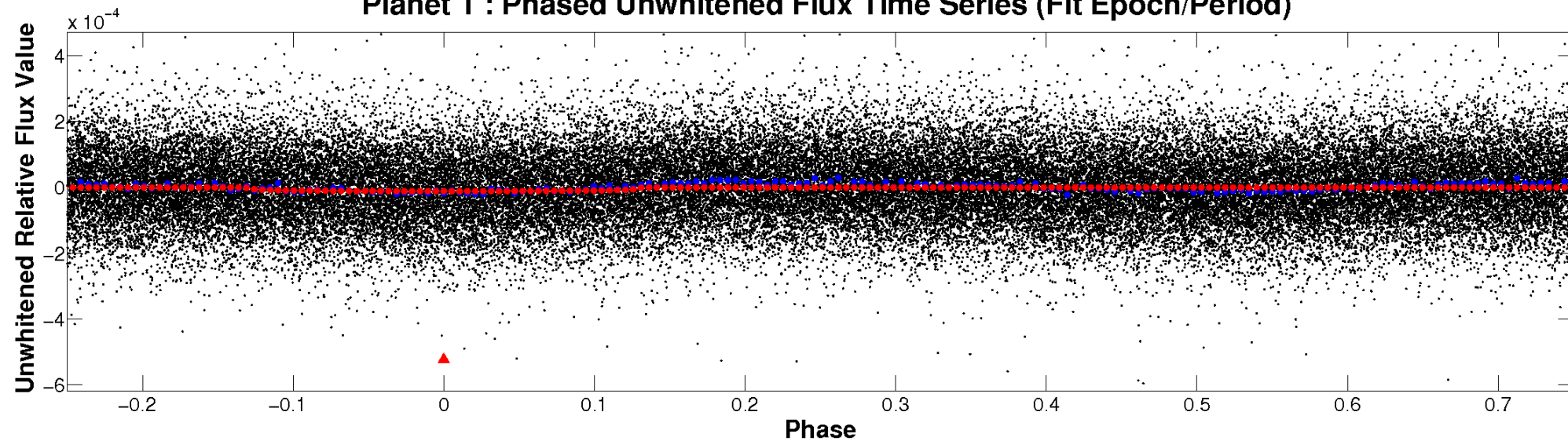
ALT Odd/Even

TCE 008042004-01

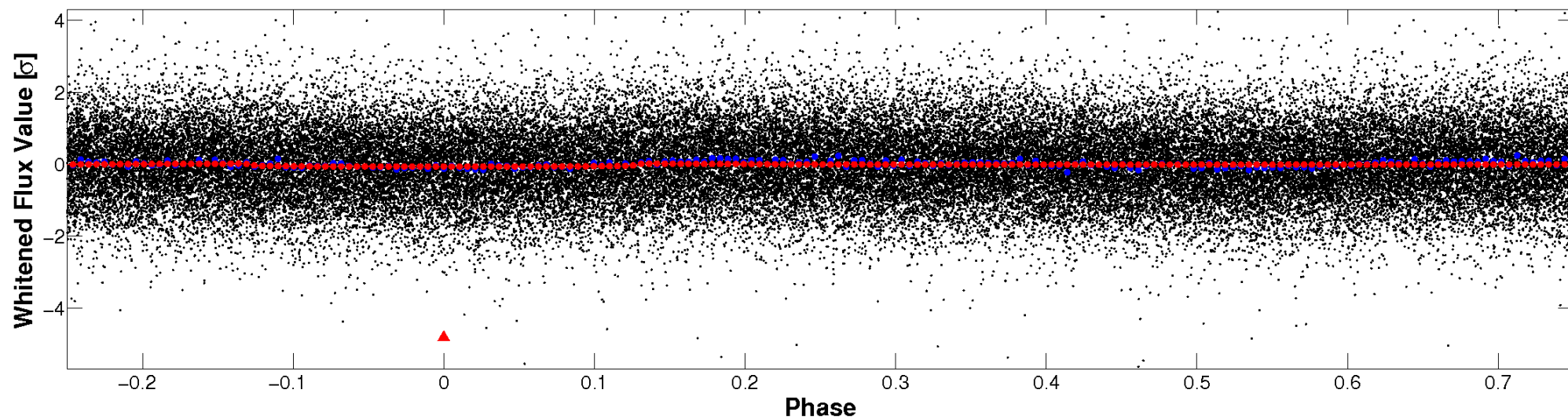


Non-Whitened Vs. Whitened Light Curve

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

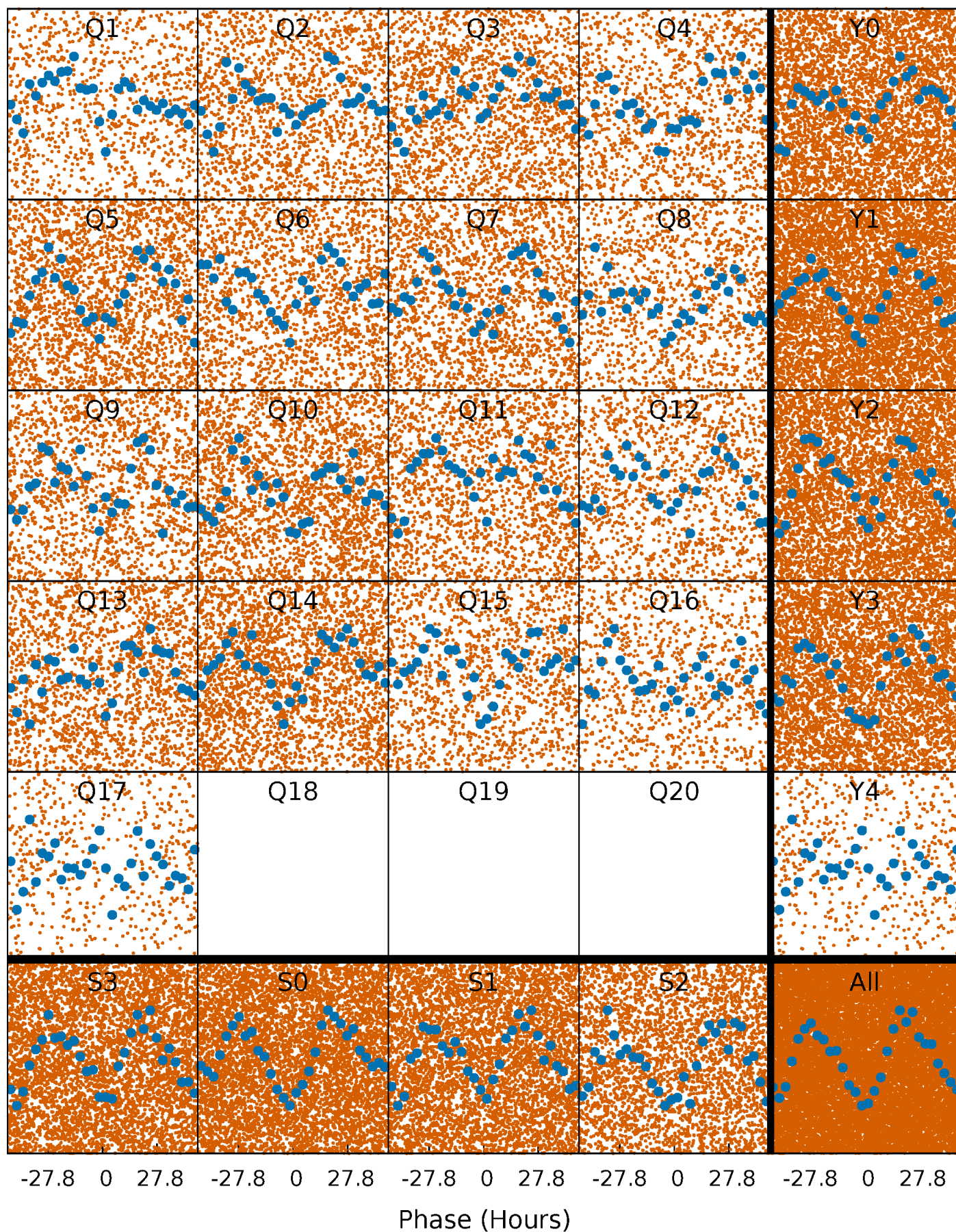


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



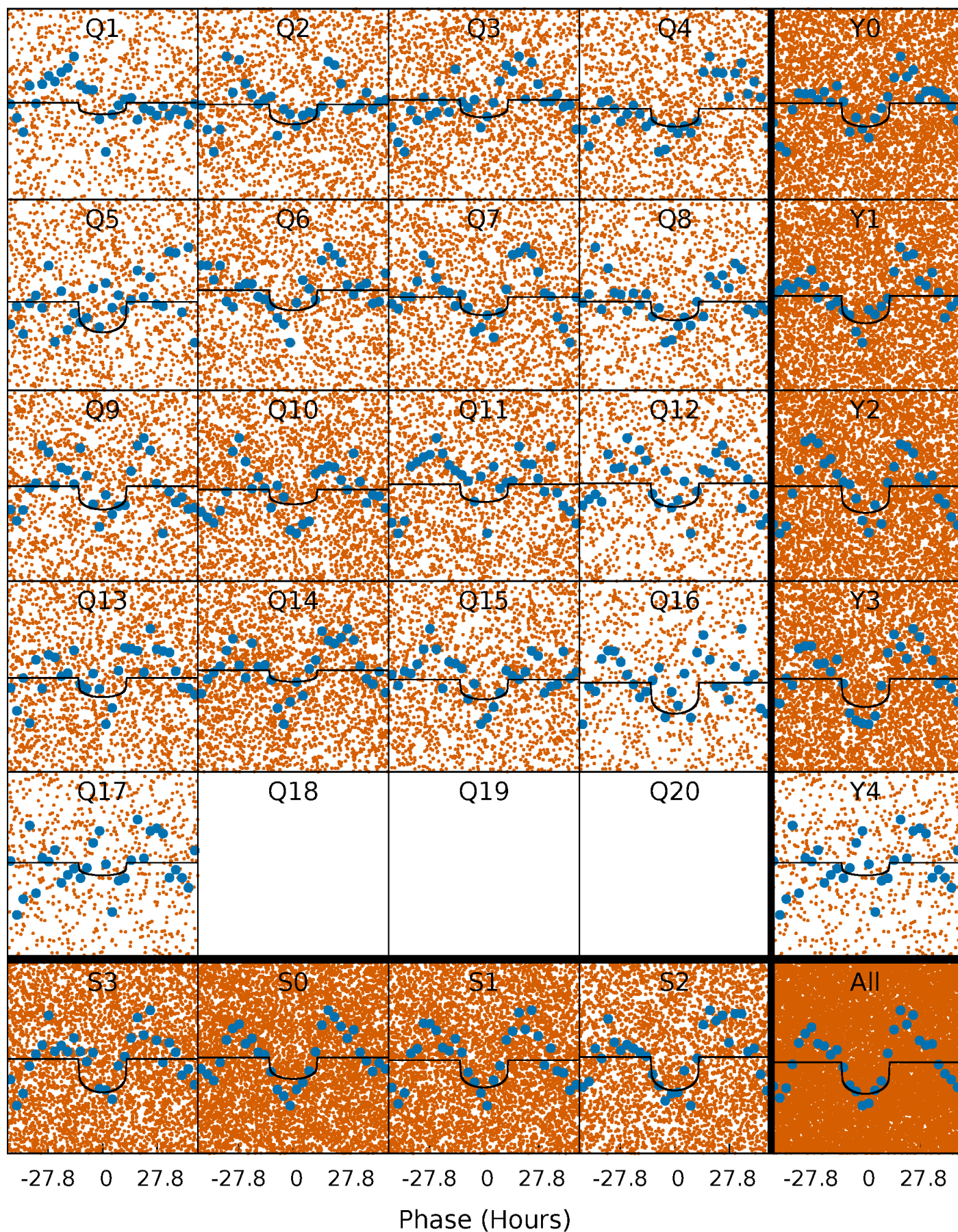
PDC Quarter-Phased Transit Curves

TCE 008042004-01 P= 3.899504 Days $T_0=135.135468$ (BKJD)



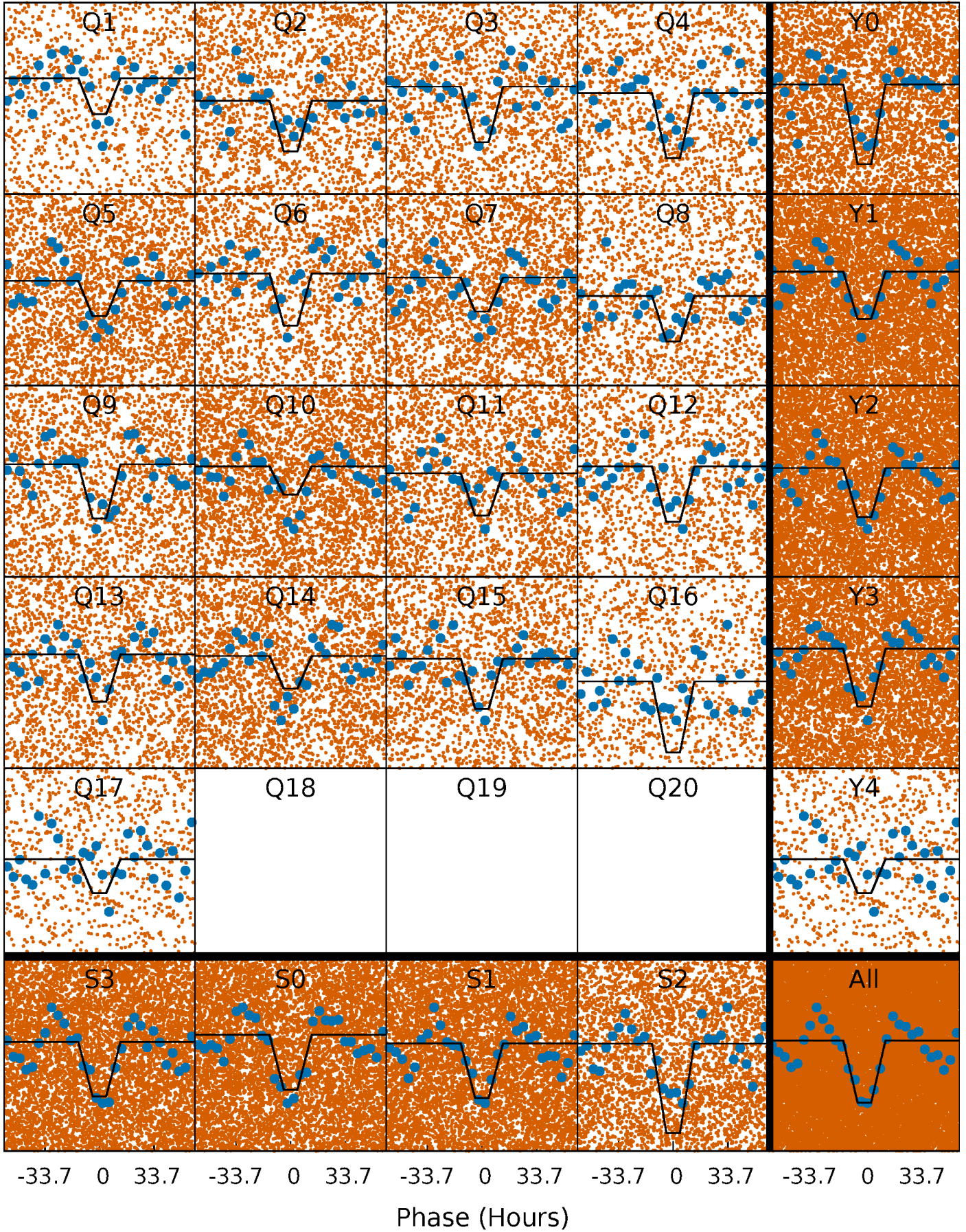
DV Quarter-Phased Transit Curves

TCE 008042004-01 P= 3.899504 Days $T_0=135.135468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

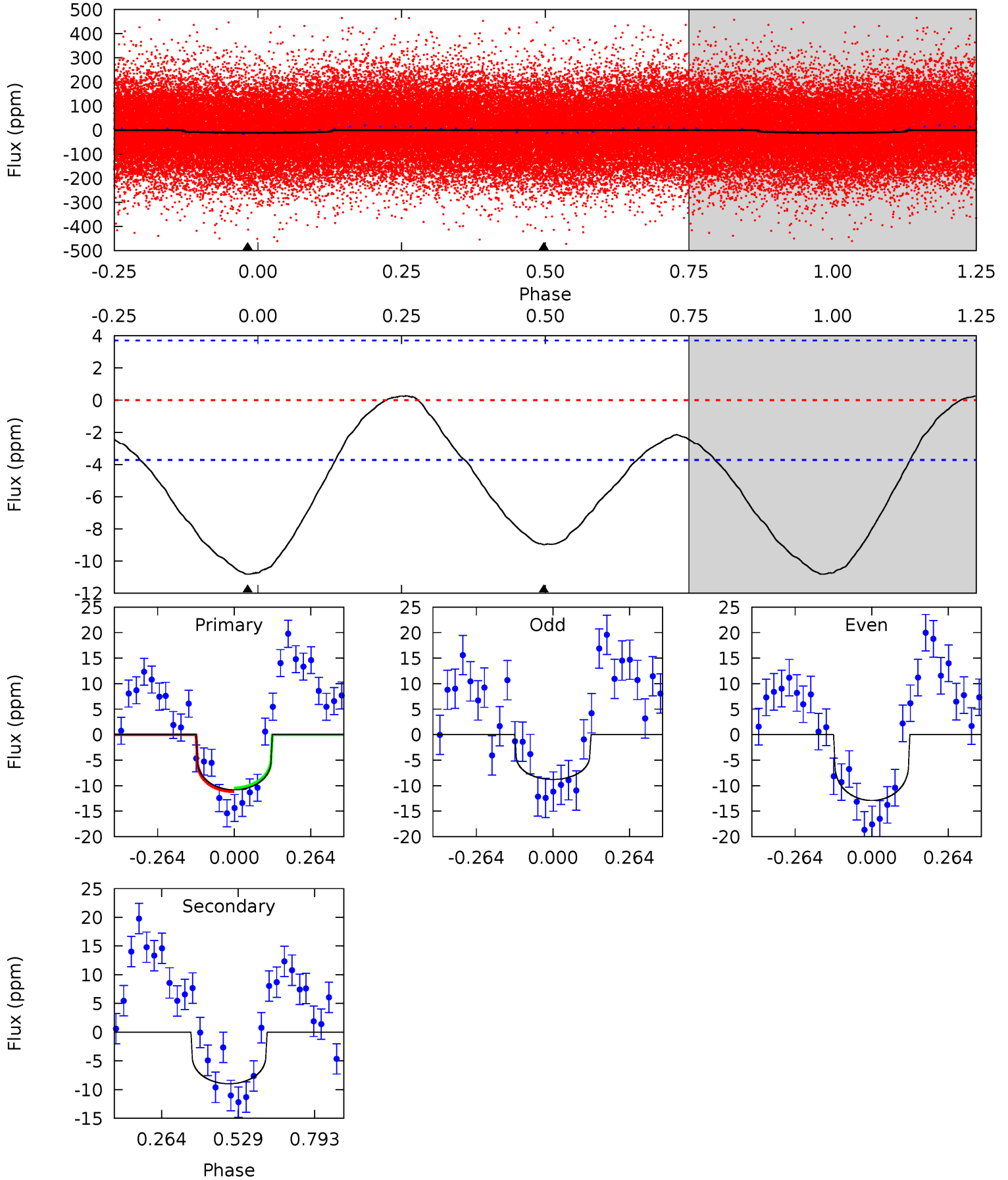
TCE 008042004-01 P= 3.899637 Days $T_0=135.121709$ (BKJD)



DV Model-Shift Uniqueness Test

008042004-01, P = 3.899504 Days, E = 131.235964 Days

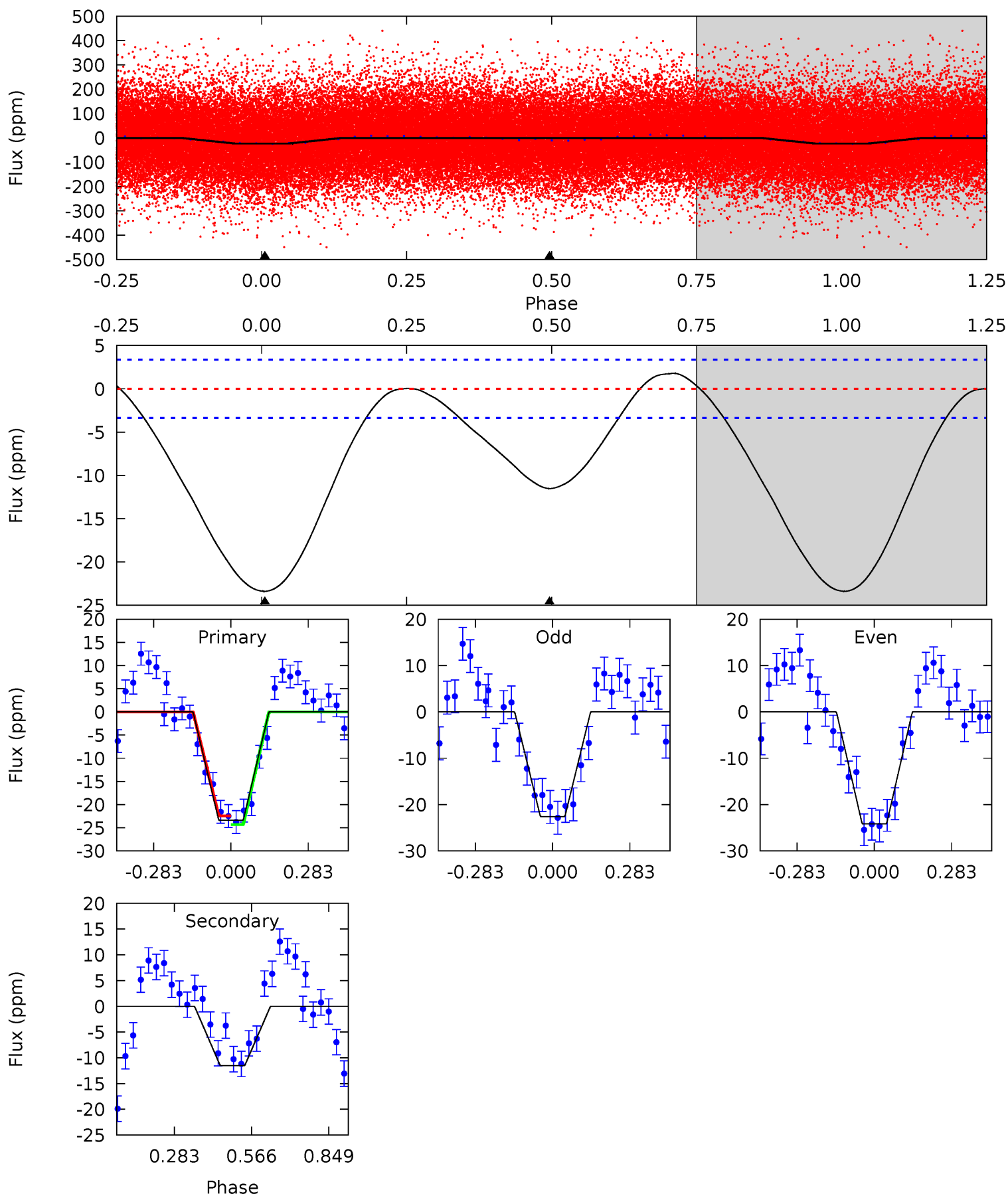
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	10.5	0	0	4.36	1.12	1.36	12.7	12.7	10.5	10.5	2.42	0.91	0.02	0.41



Alt Model-Shift Uniqueness Test

008042004-01, P = 3.899637 Days, E = 131.222072 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.2	14.9	0	0	4.34	1.07	1.06	30.2	30.2	14.9	14.9	1.00	0.86	0.07	1.20



Stellar Parameters For KIC 008042004

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6223^{+177}_{-265}	$4.124^{+0.225}_{-0.184}$	$0.140^{+0.200}_{-0.300}$	$1.639^{+0.486}_{-0.486}$	$1.303^{+0.168}_{-0.251}$	$0.417^{+0.589}_{-0.218}$
	+3%/-4%	+5%/-4%	+143%/-214%	+30%/-30%	+13%/-19%	+141%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008042004-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 1	$0.72^{+0.62}_{-0.46}$	2121^{+172}_{-162}	5331^{+3972}_{-1201}	26^{+182}_{-19}
Alt.	-12 ± 1	$0.94^{+0.58}_{-0.55}$	2119^{+167}_{-179}	4972^{+2672}_{-834}	20^{+101}_{-12}

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

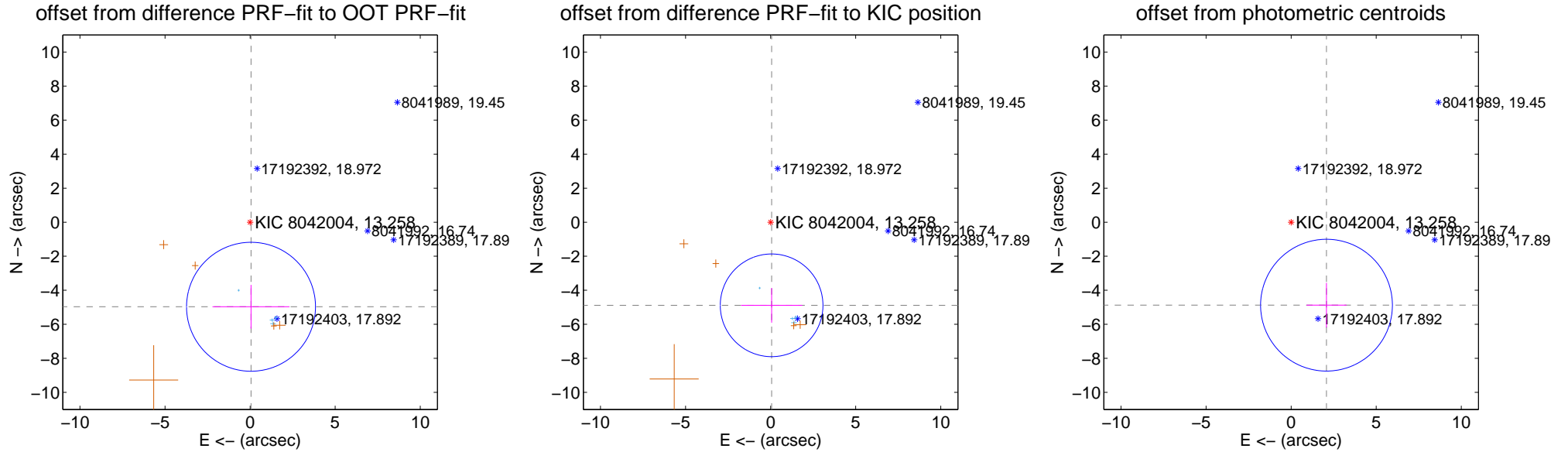
DV Centroid Data

Supplemental centroid analysis for 008042004-01. Kepler magnitude: 13.26. Transit SNR 7.38

There are 4 quarters with good PRF difference image offsets

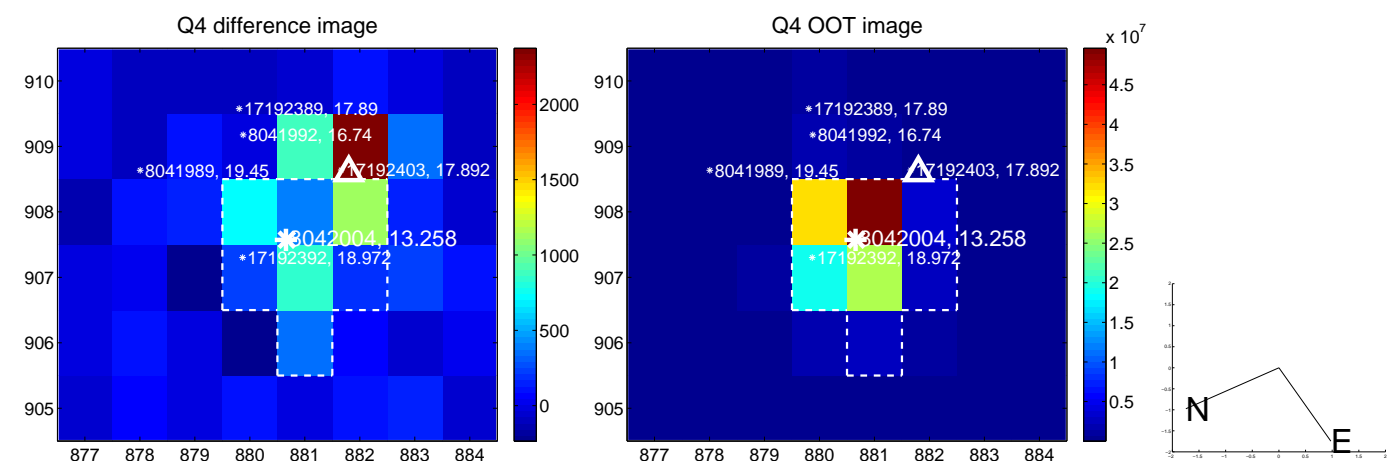
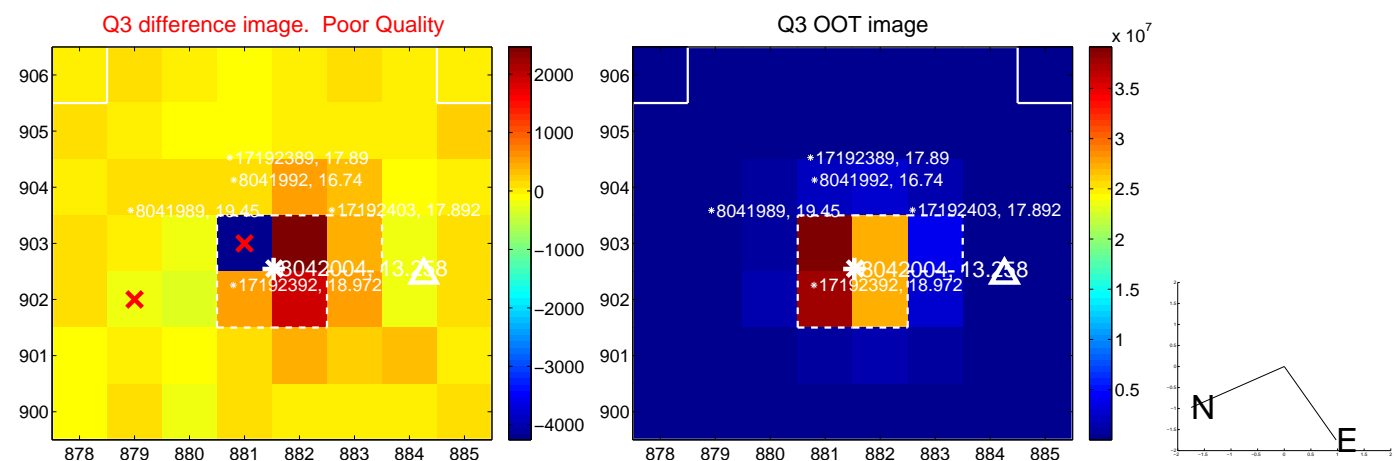
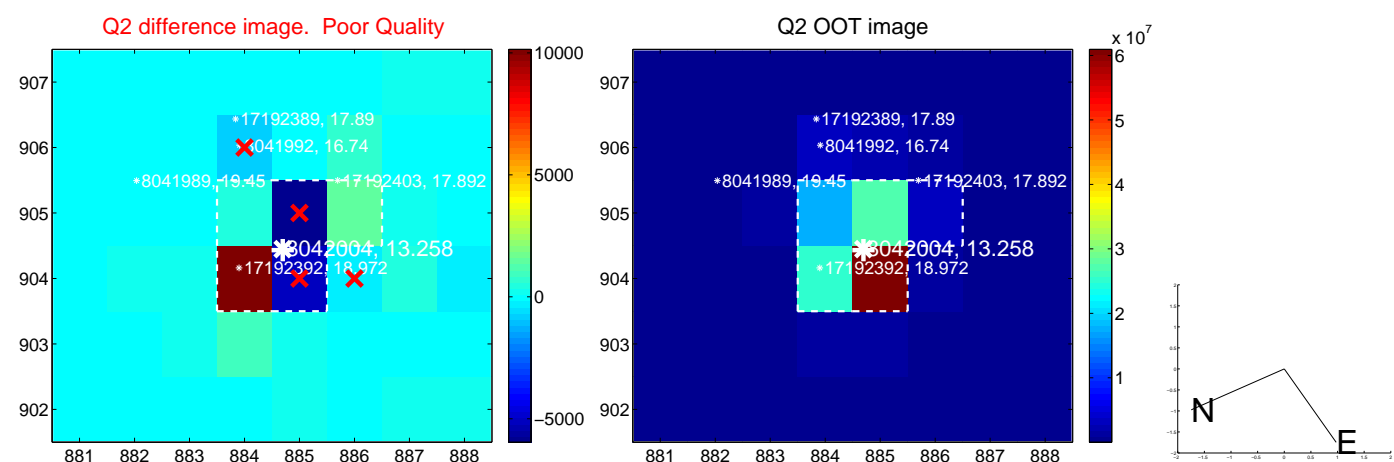
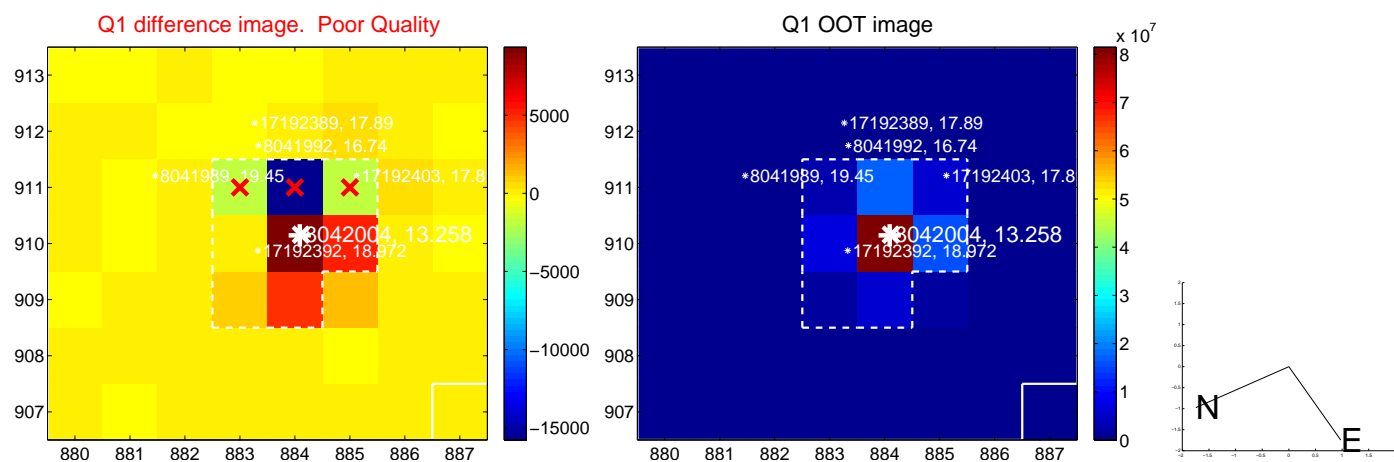
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.971 ± 1.263	3.93	-0.054 ± 2.263	-4.971 ± 1.282
PRF-fit source offset from KIC position	4.886 ± 1.006	4.86	-0.058 ± 1.798	-4.885 ± 1.019
photometric centroid source offset	5.30 ± 1.29	4.11	-2.08 ± 1.18	-4.88 ± 1.31

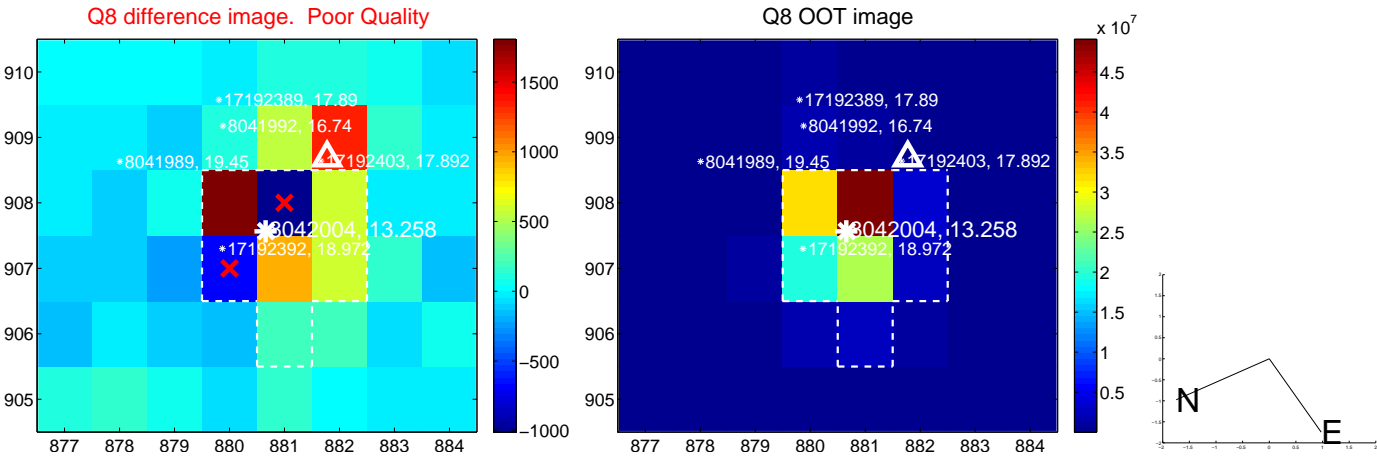
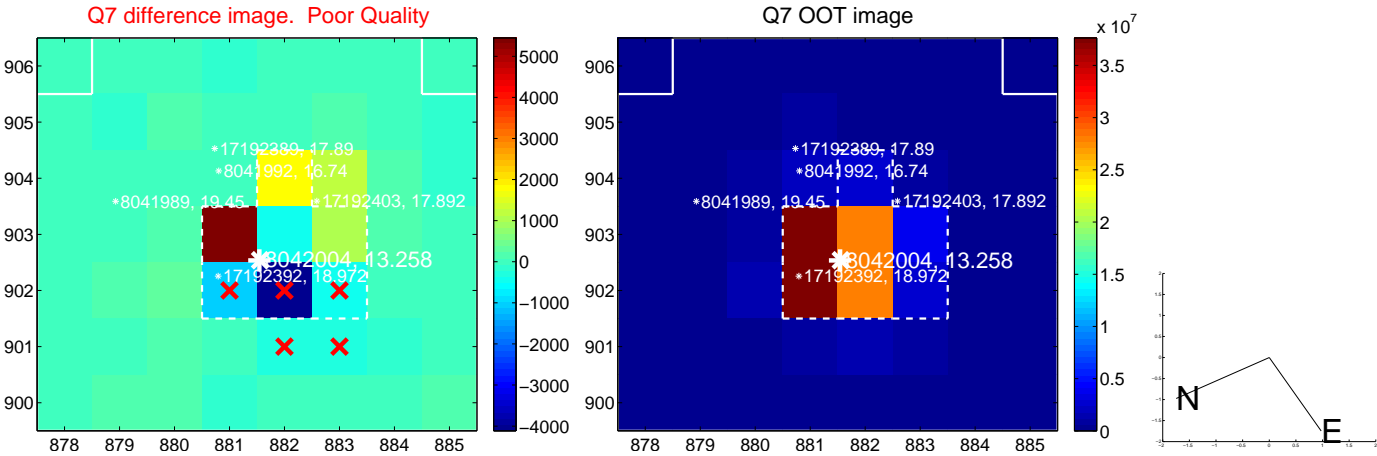
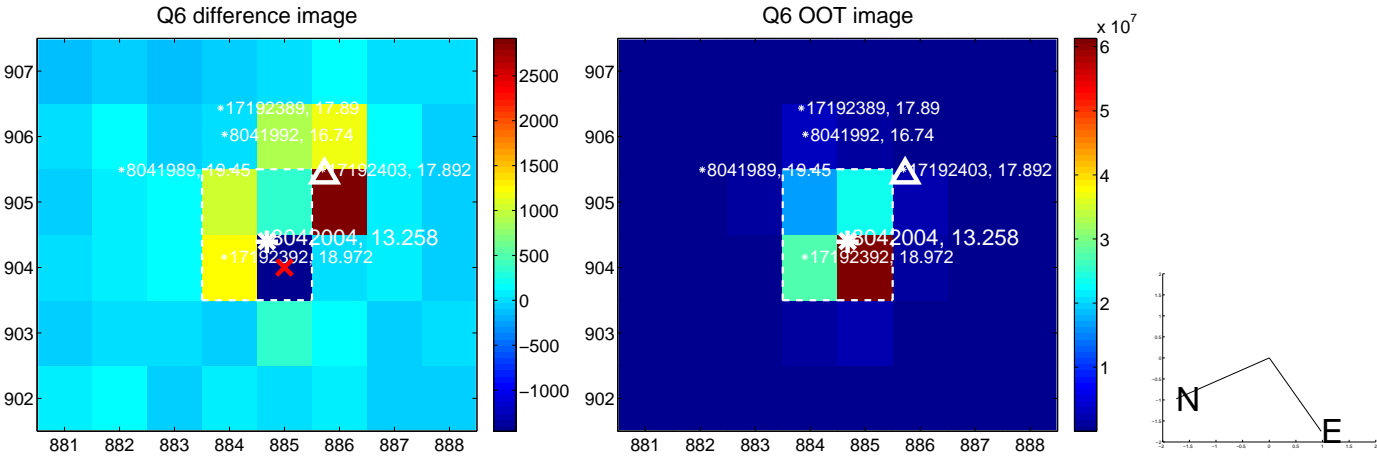
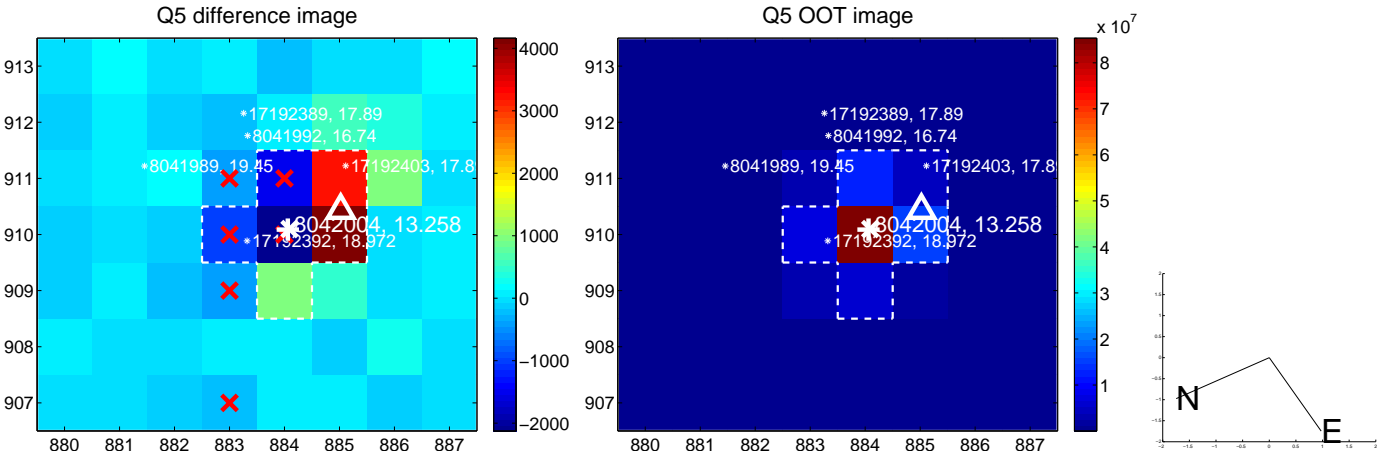


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

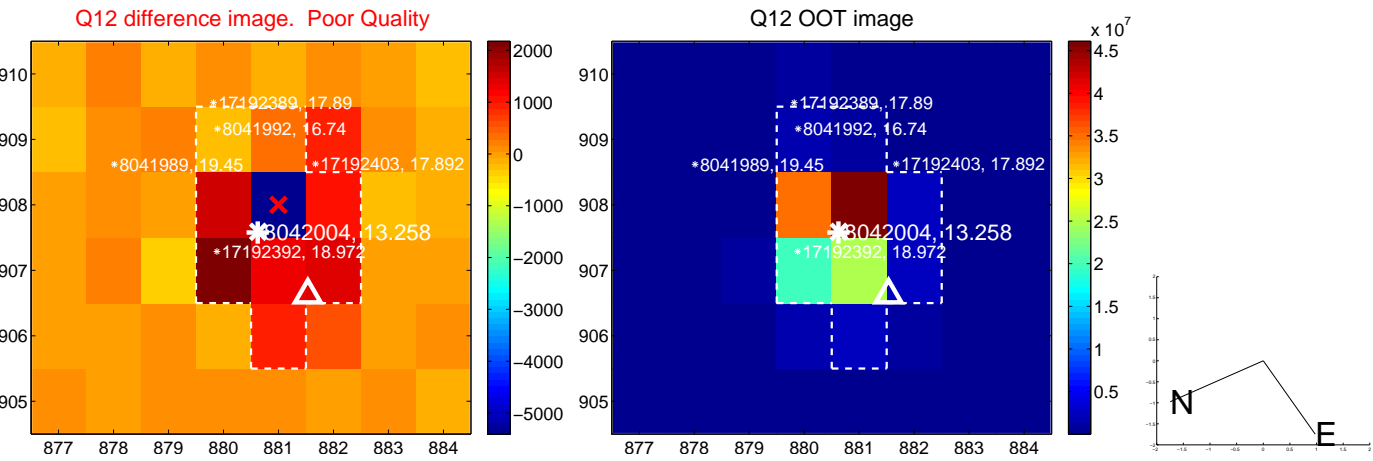
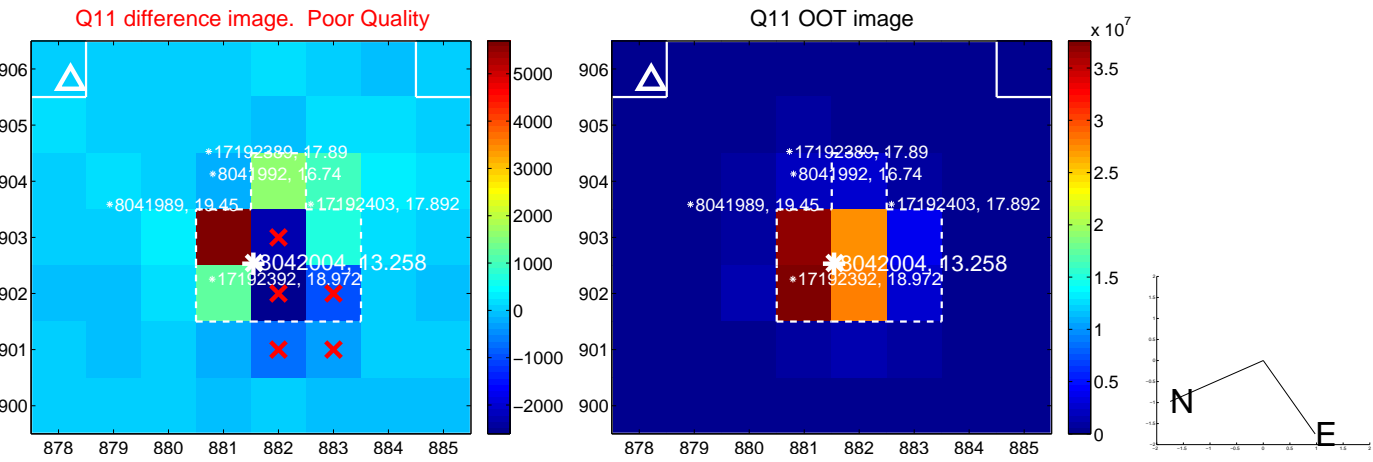
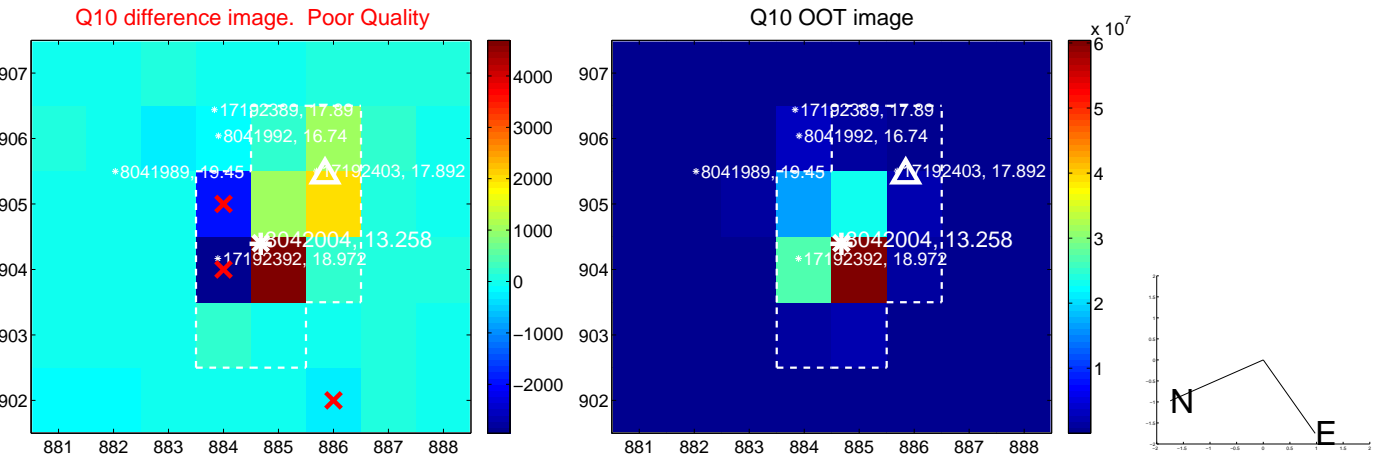
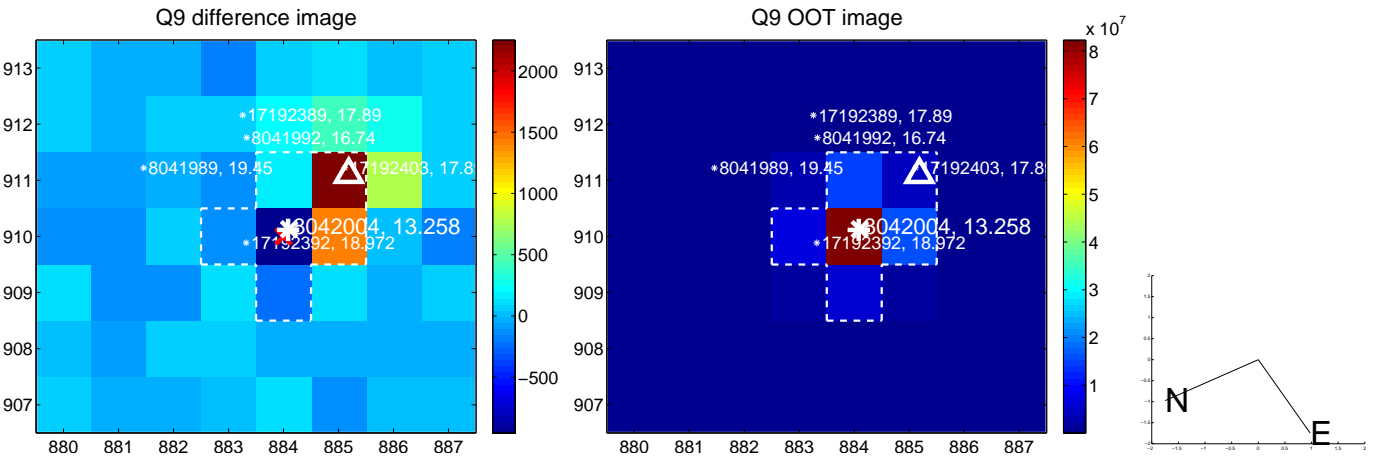
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



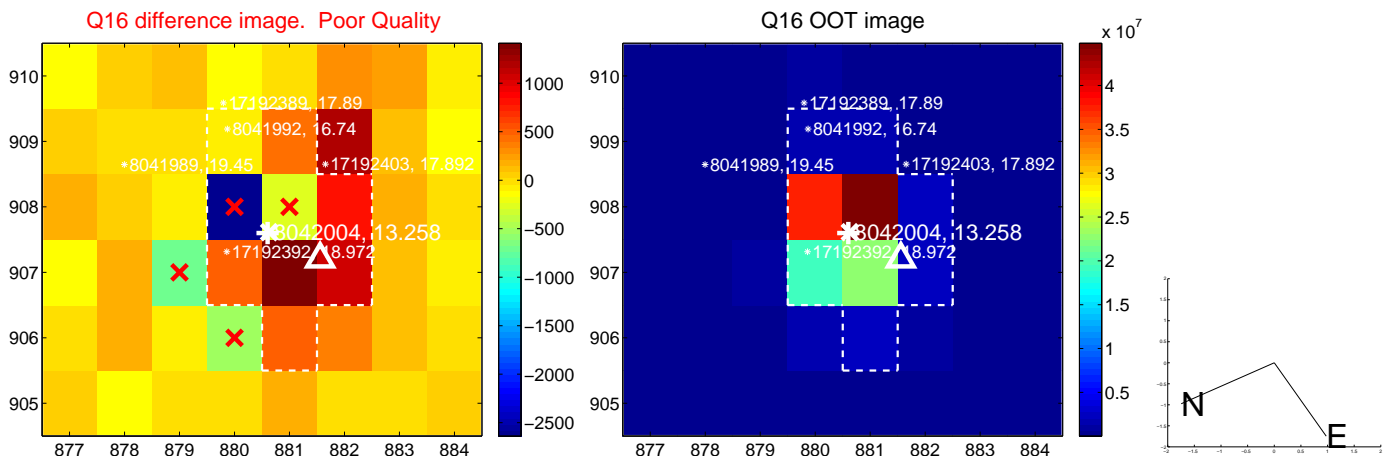
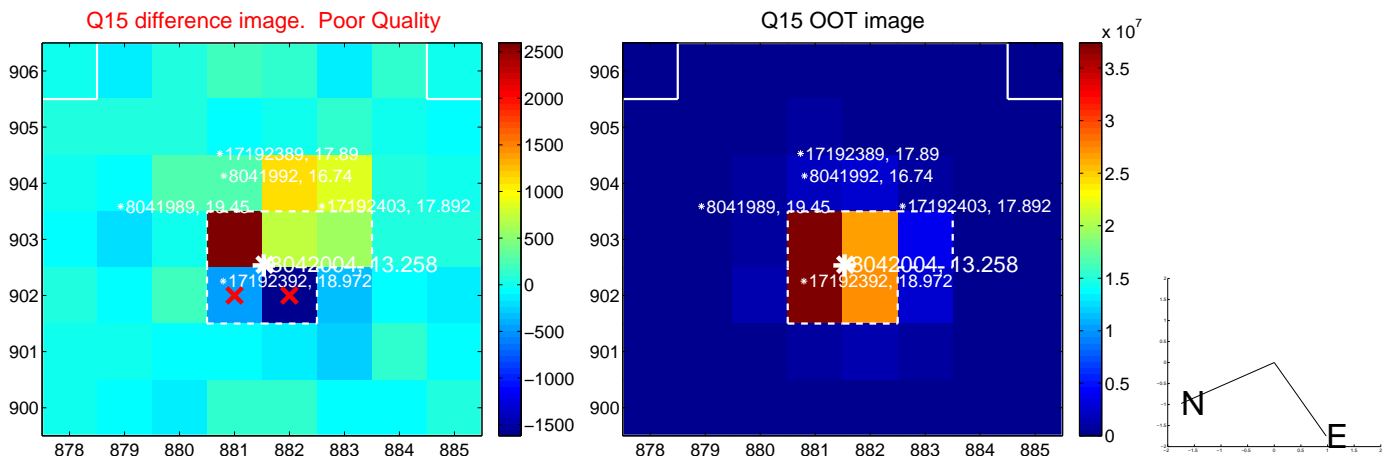
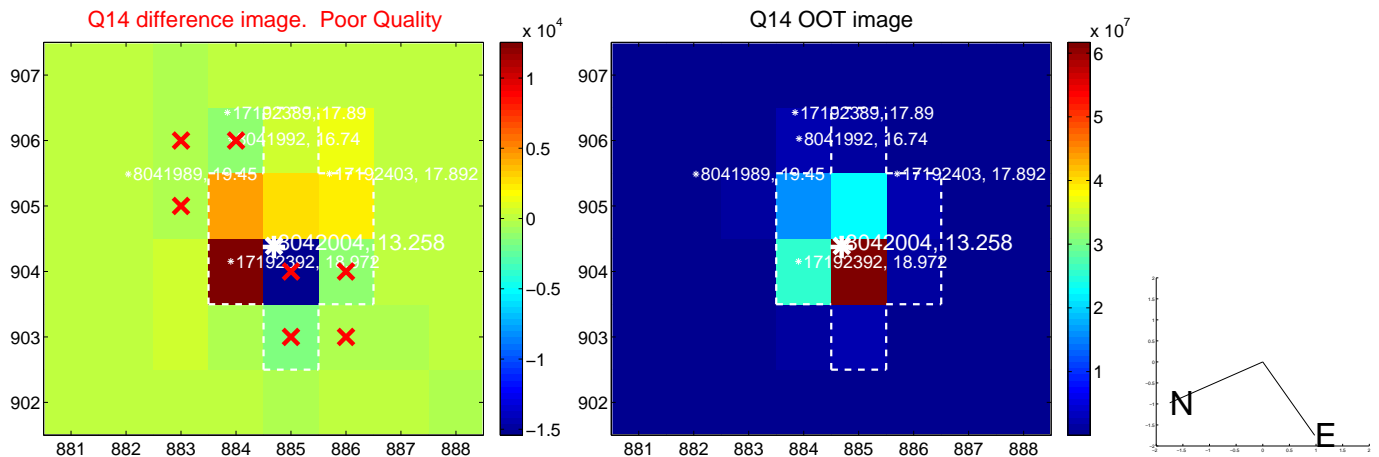
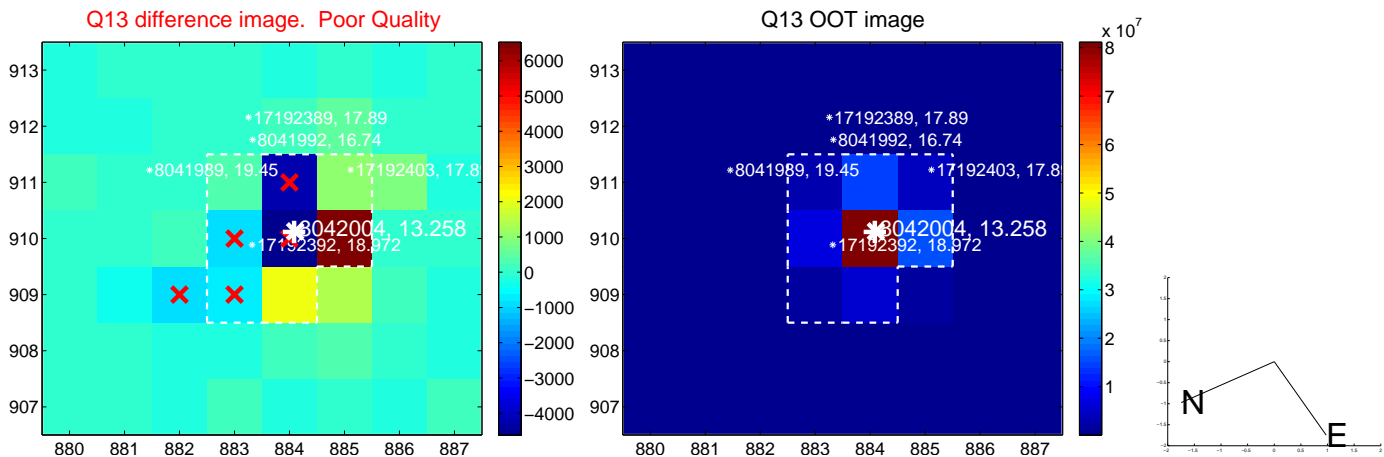
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



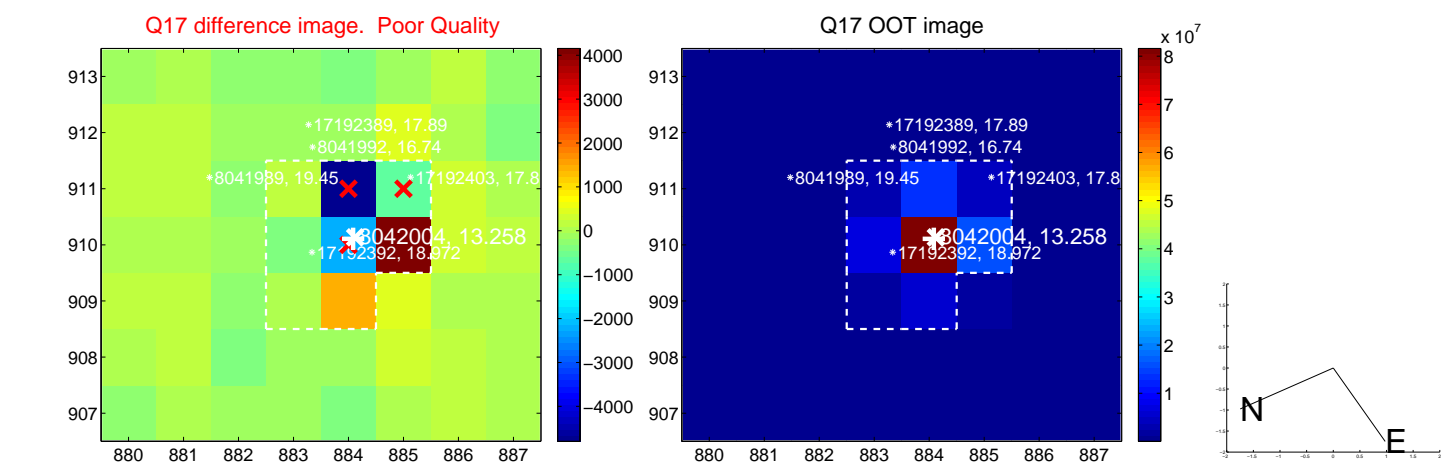
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



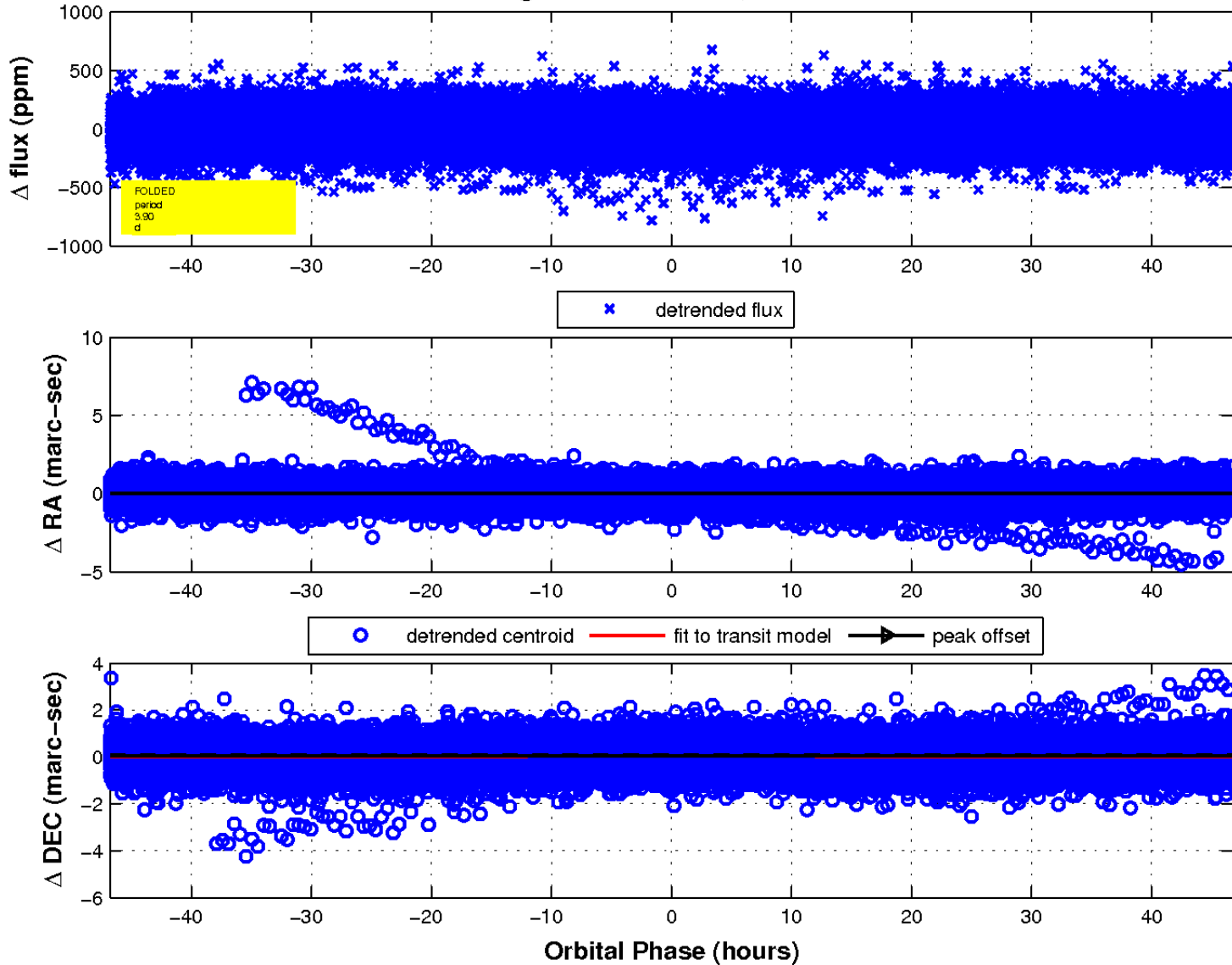
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

