

KIC 008712863

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})
008712863-01	OBS	7908.01	0.532514	131.884930	17.1	1.407	9.2	10.4	4.03	6894	1.69	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008712863-01	OBS	FP	0.17	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

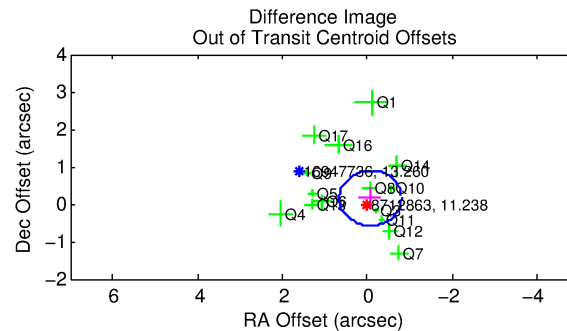
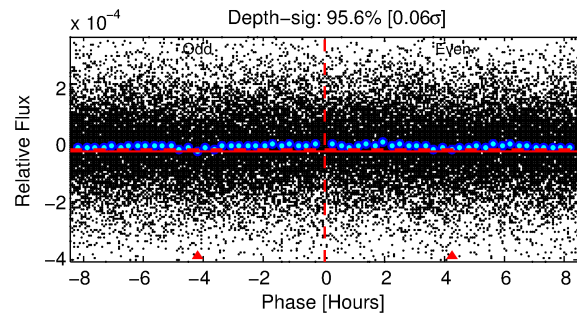
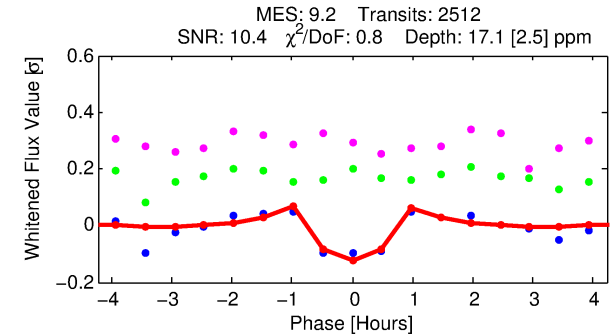
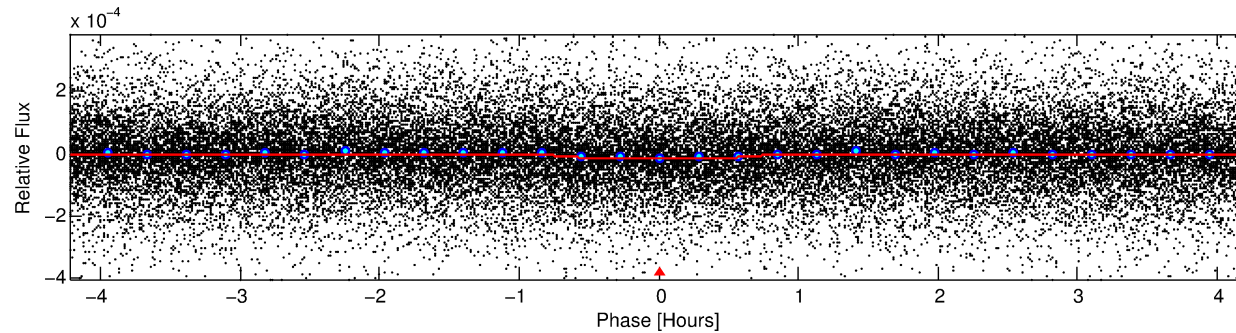
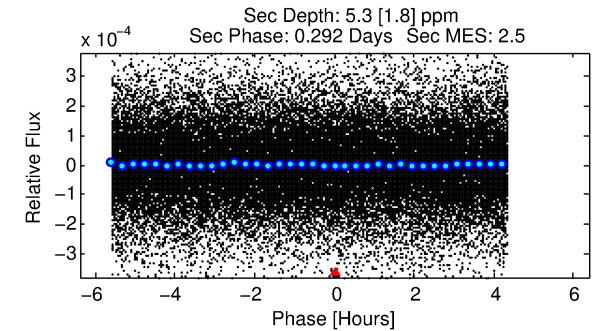
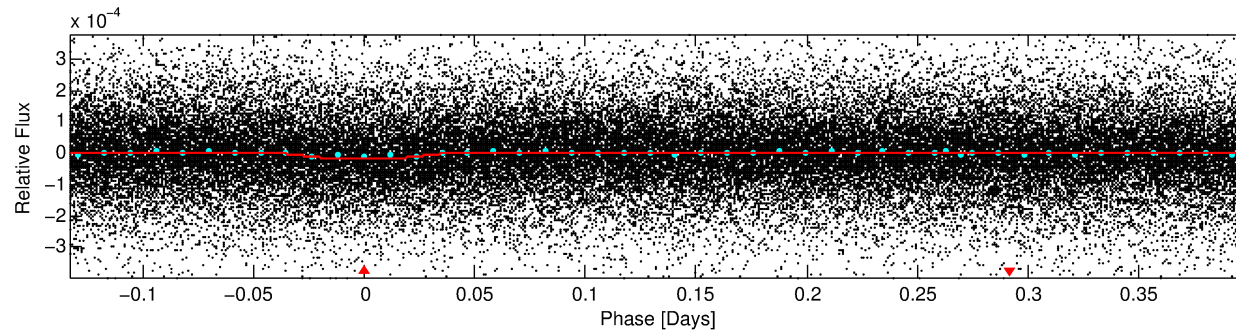
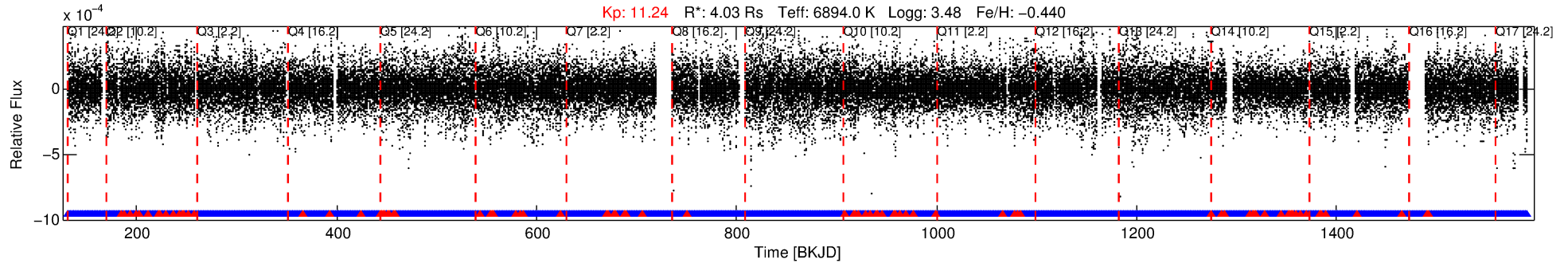
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008712863-01

No Significant Match Found

DV One-Page Summary

KIC: 8712863 Candidate: 1 of 1 Period: 0.533 d



DV Fit Results:

Period = 0.53251 [0.00001] d
Epoch = 131.8849 [0.0013] BKJD
Rp/R* = 0.0038 [0.0015]
a/R* = 2.96 [5.60]
b = 0.02 [97.66]
Seff = N/A
Teq = N/A
Rp = 1.69 [1.02] Re
a = N/A
Ag = N/A
Teffp = N/A

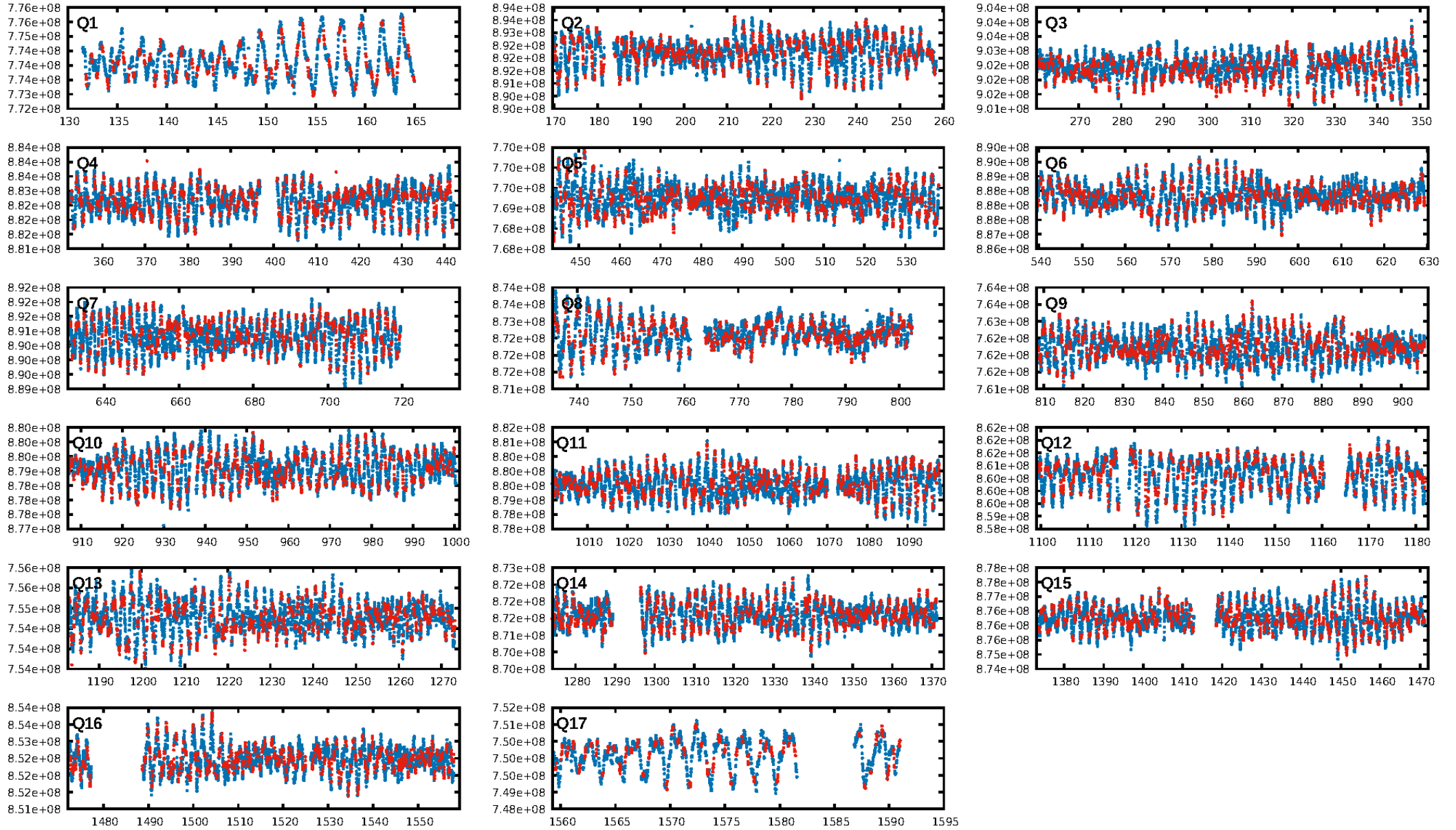
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.62e-20
RollingBand-fgt: 0.96 [2304/2399]
GhostDiagnostic-chr: 2.051
Centroid-sig: 0.4%
Centroid-so: 1.344 arcsec [1.93σ]
OotOffset-rm: 0.176 arcsec [0.72σ]
KicOffset-rm: 0.192 arcsec [0.69σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 1.00 [17/17]

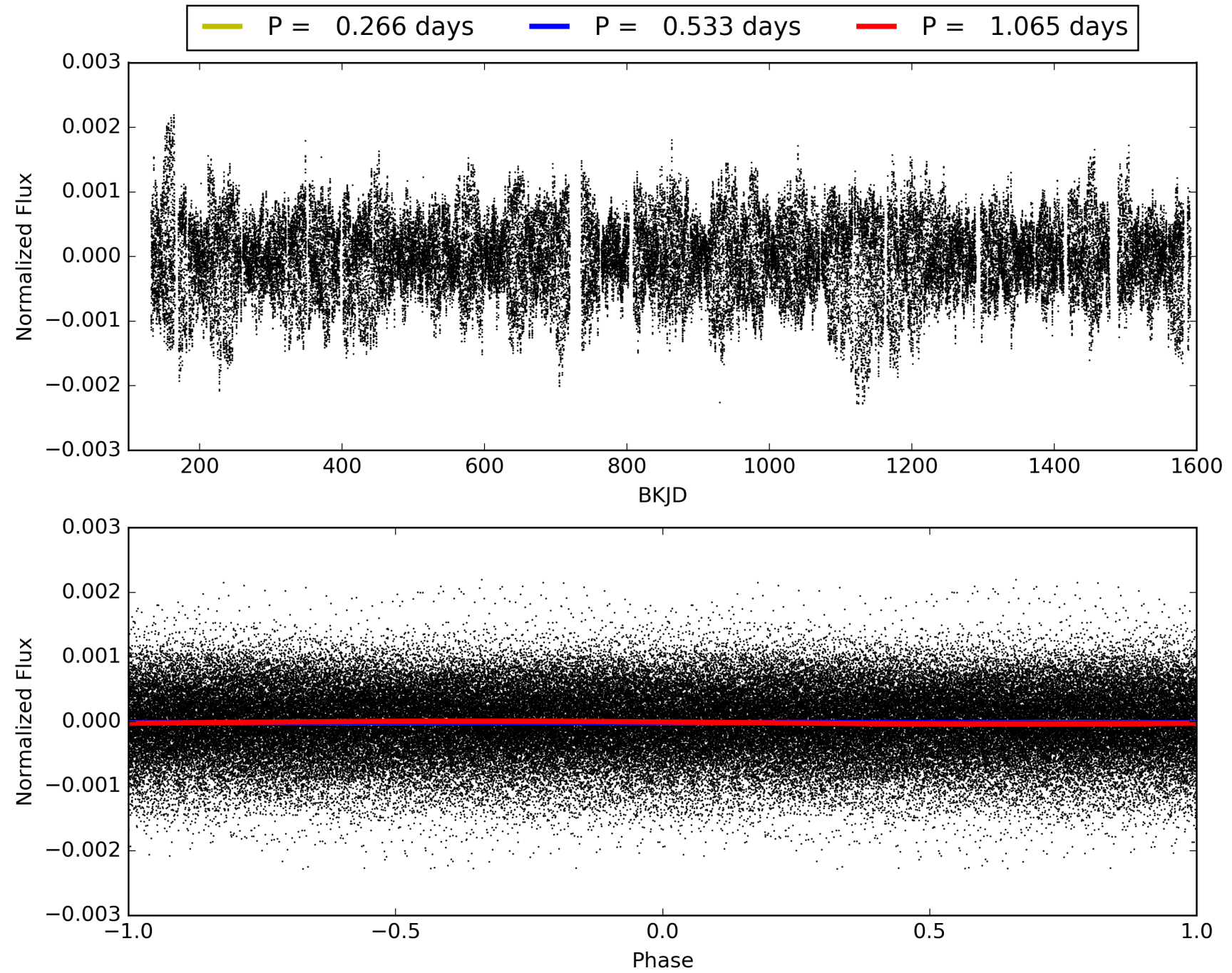
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:50:23 Z

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

TCE 008712863-01, PDC Light Curves

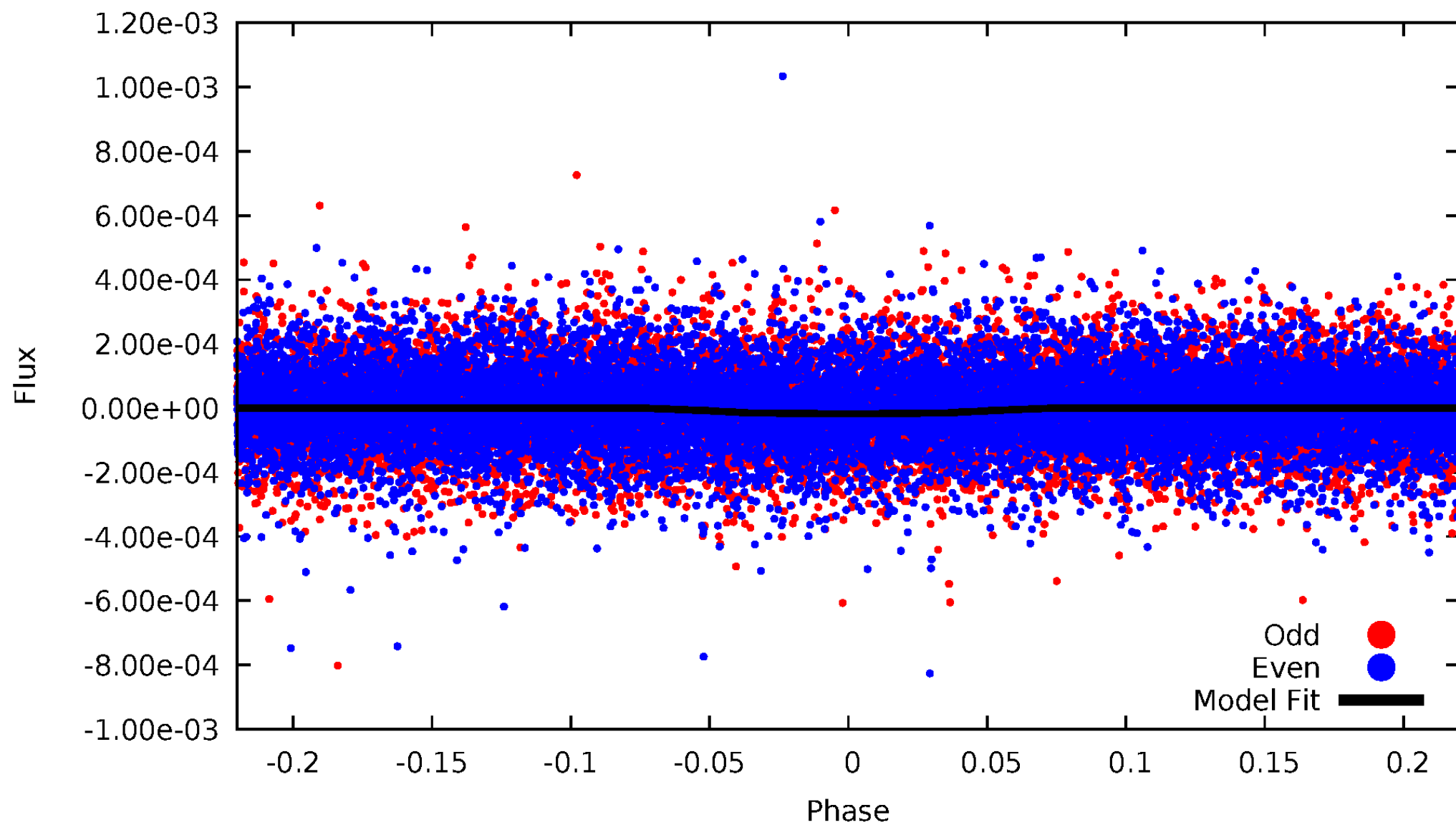


TCE 008712863-01



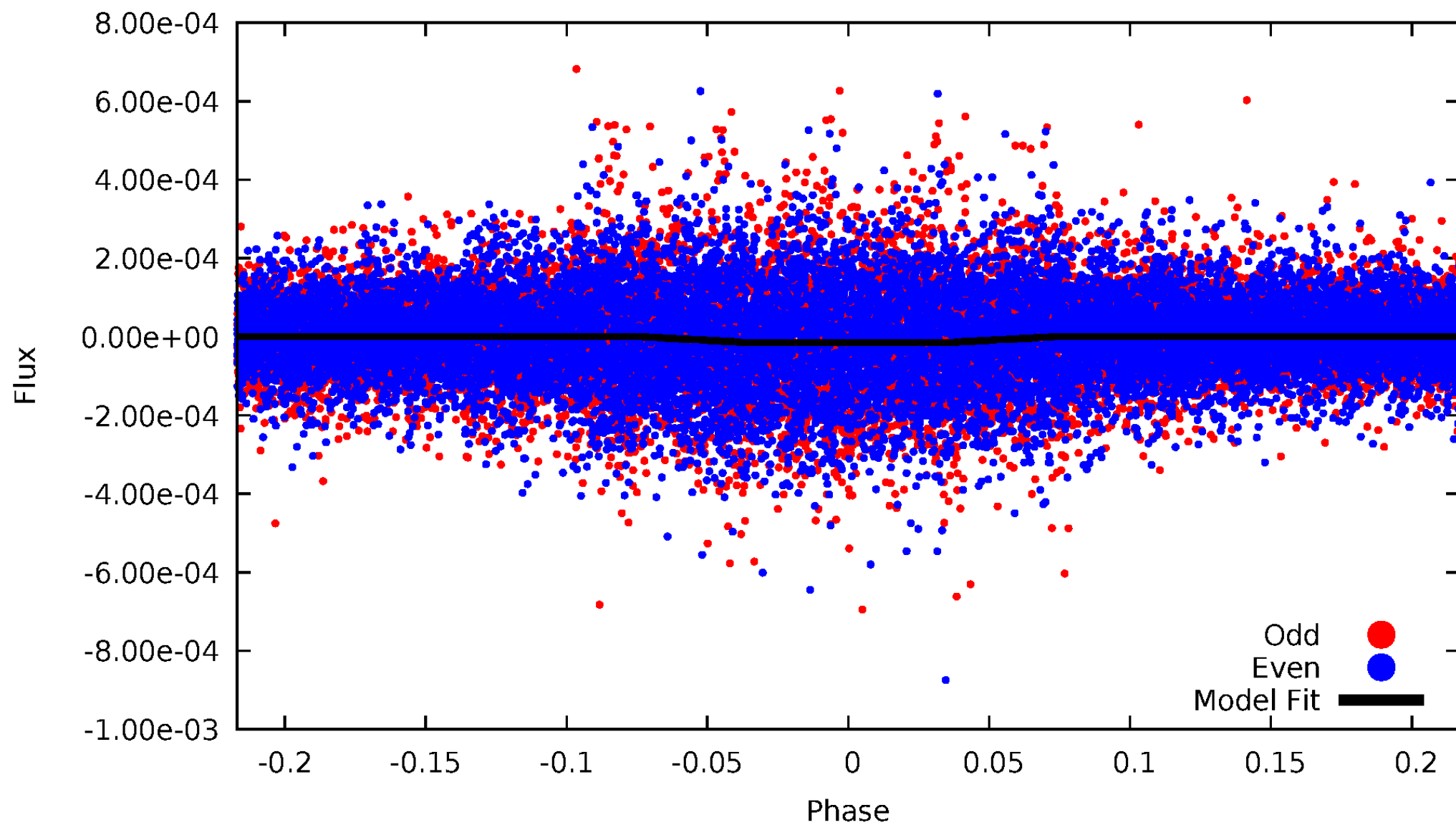
DV Odd/Even

TCE 008712863-01

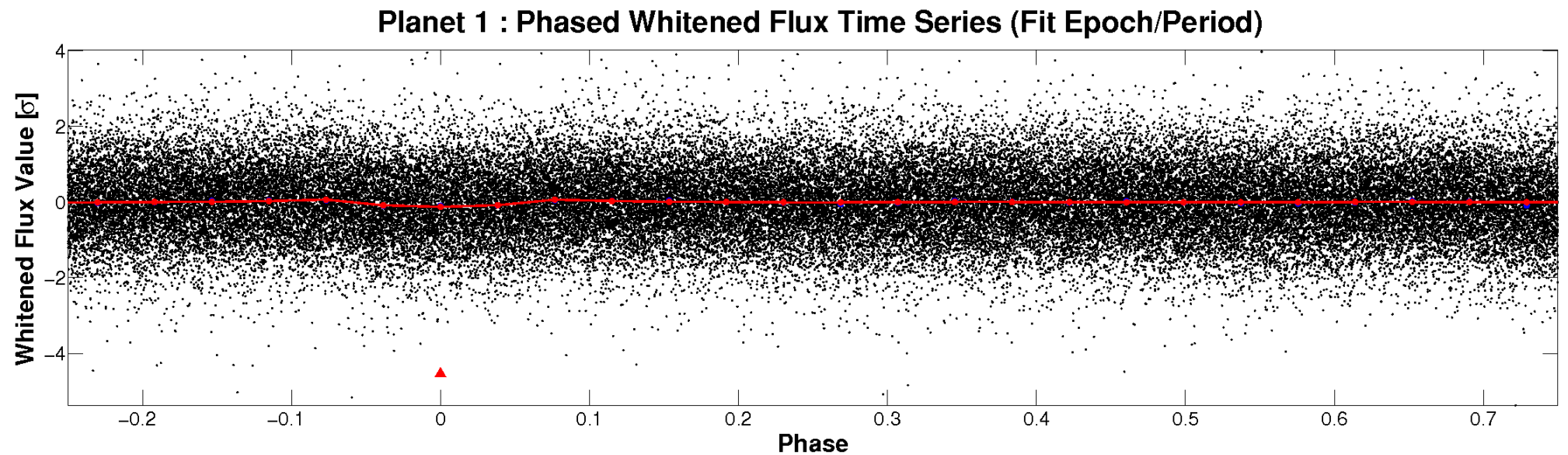
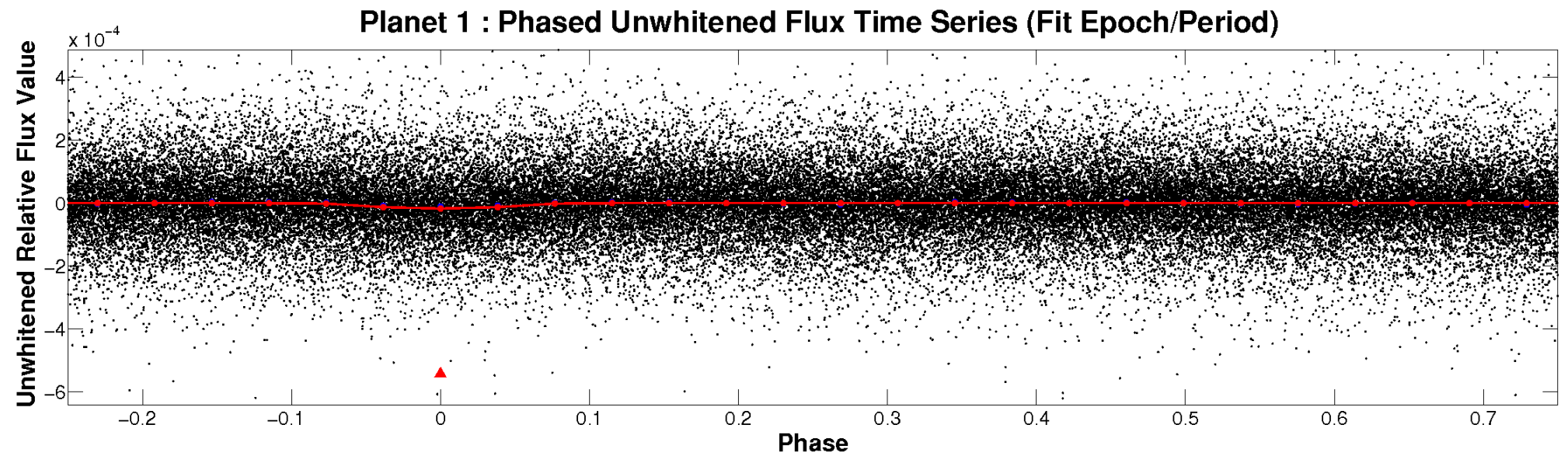


ALT Odd/Even

TCE 008712863-01

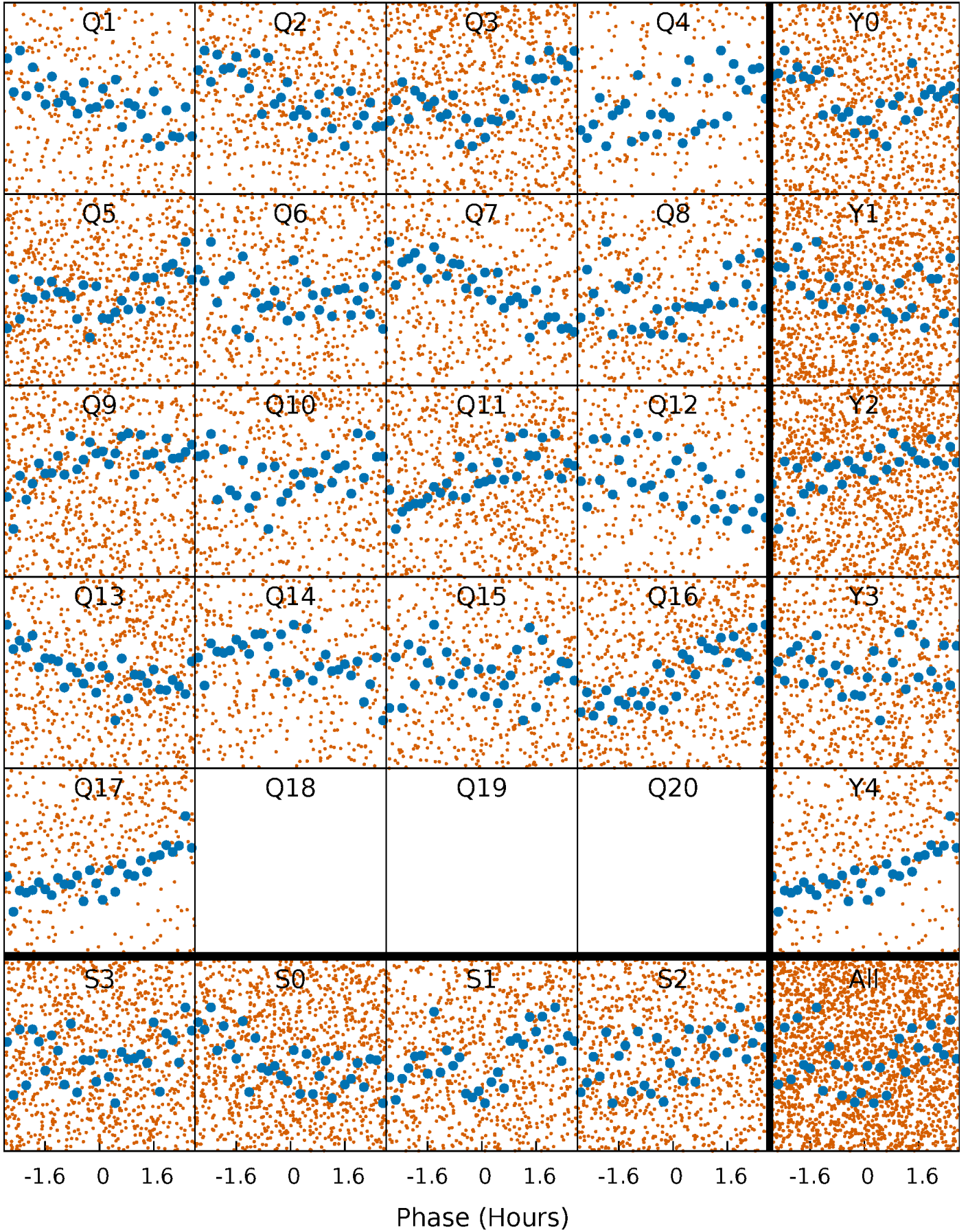


Non-Whitened Vs. Whitened Light Curve



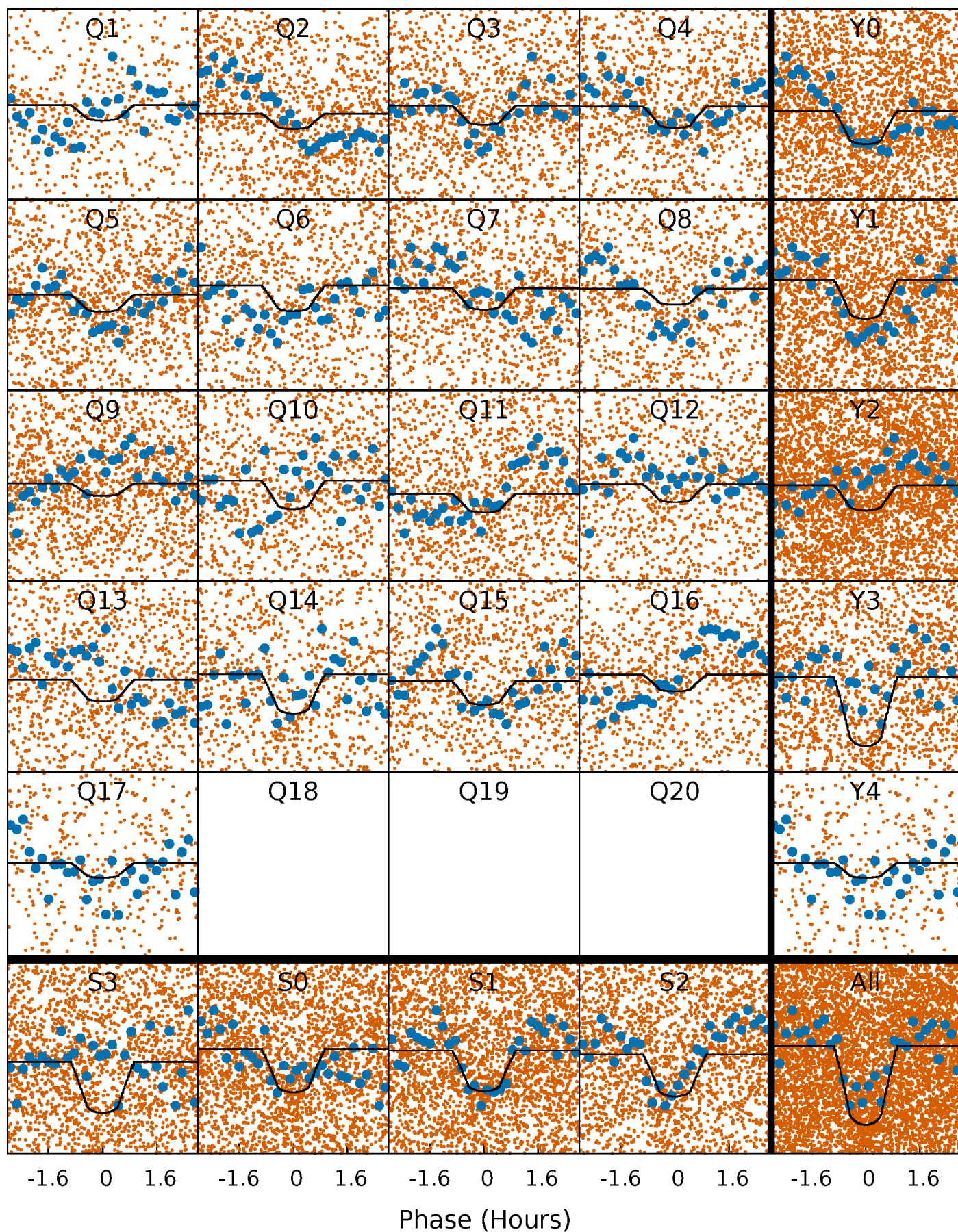
PDC Quarter-Phased Transit Curves

TCE 008712863-01 P= 0.532514 Days $T_0=131.884930$ (BKJD)



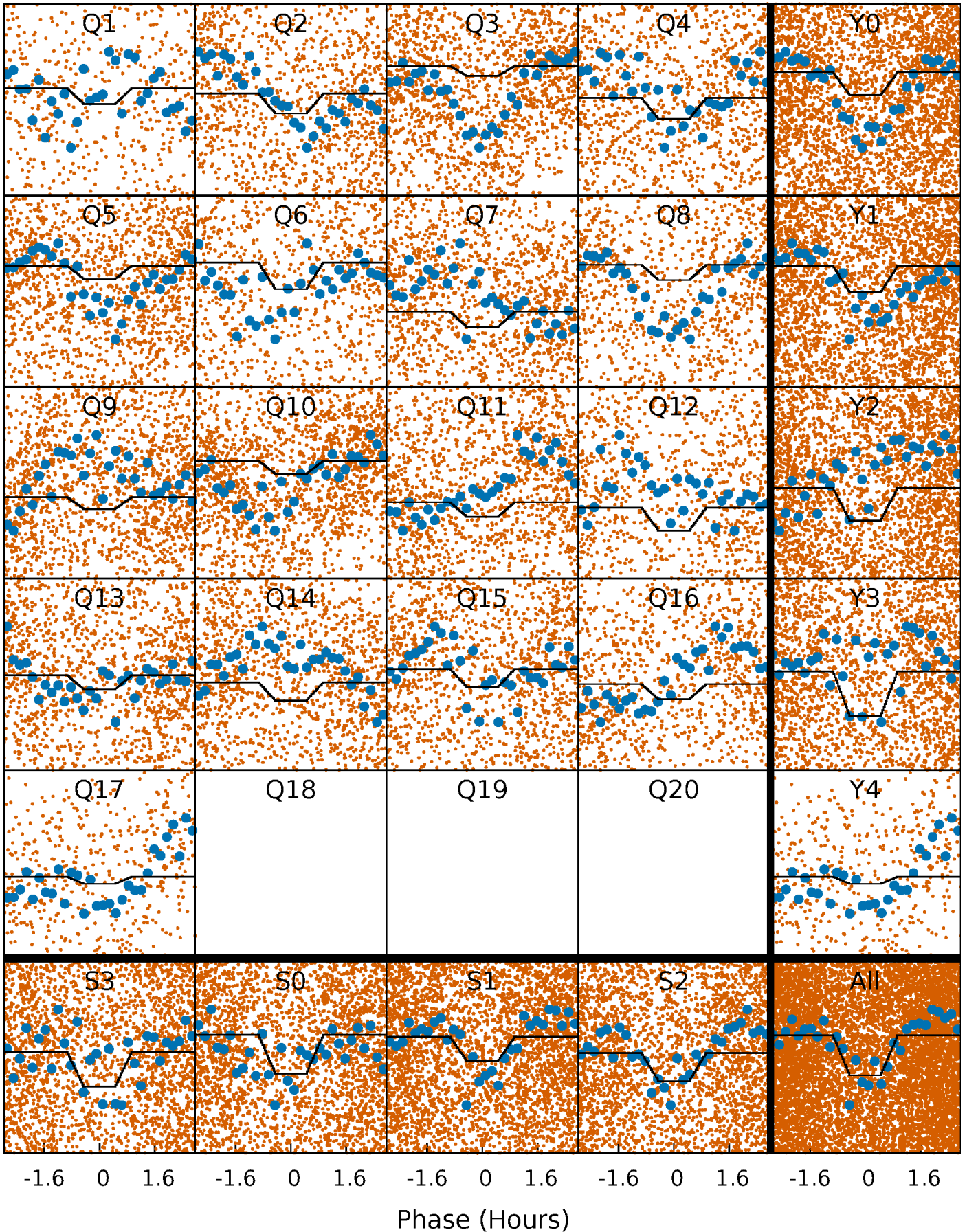
DV Quarter-Phased Transit Curves

TCE 008712863-01 P= 0.532514 Days $T_0=131.884930$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

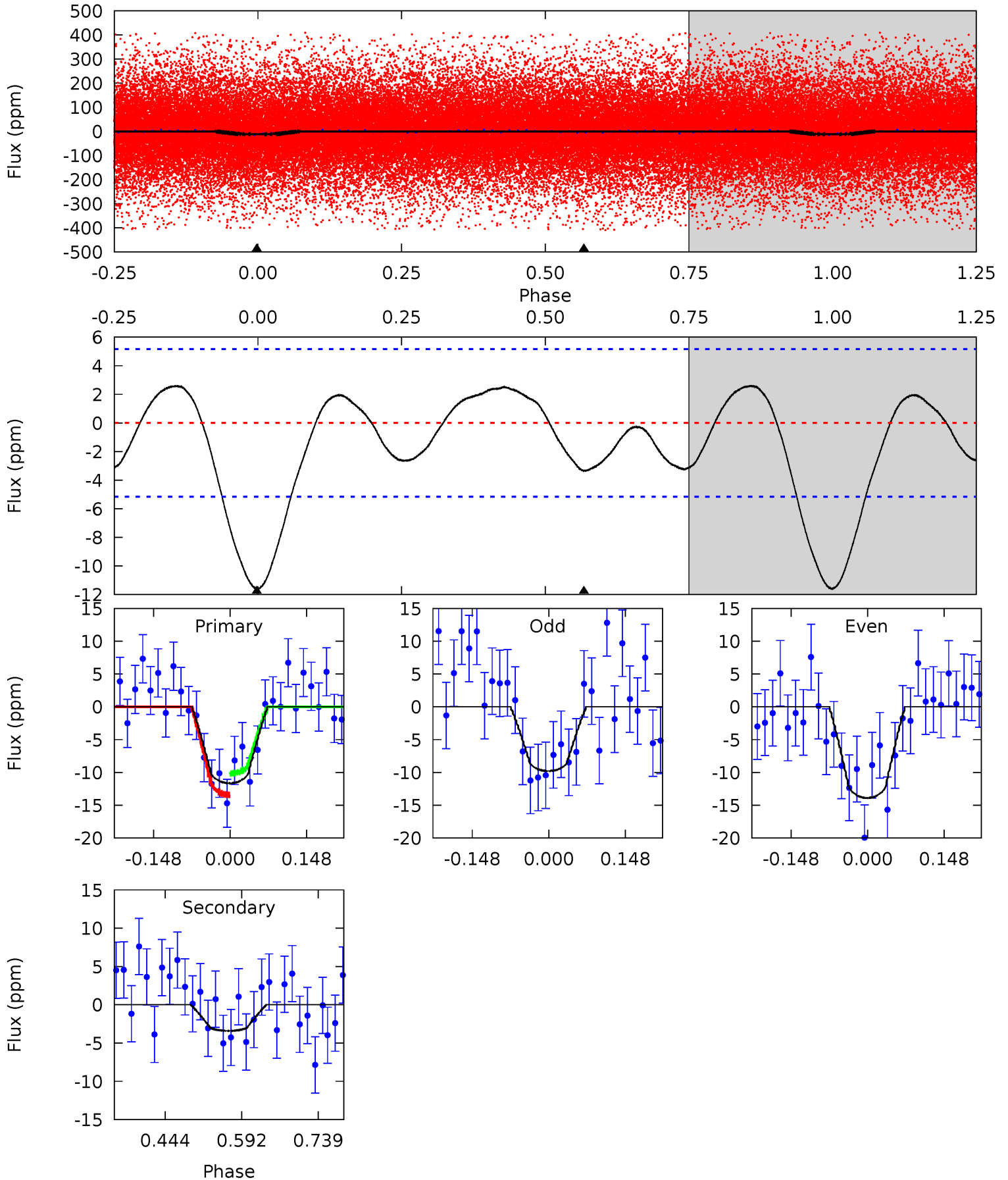
TCE 008712863-01 P= 0.532512 Days $T_0=131.884838$ (BKJD)



DV Model-Shift Uniqueness Test

008712863-01, P = 0.532514 Days, E = 131.352416 Days

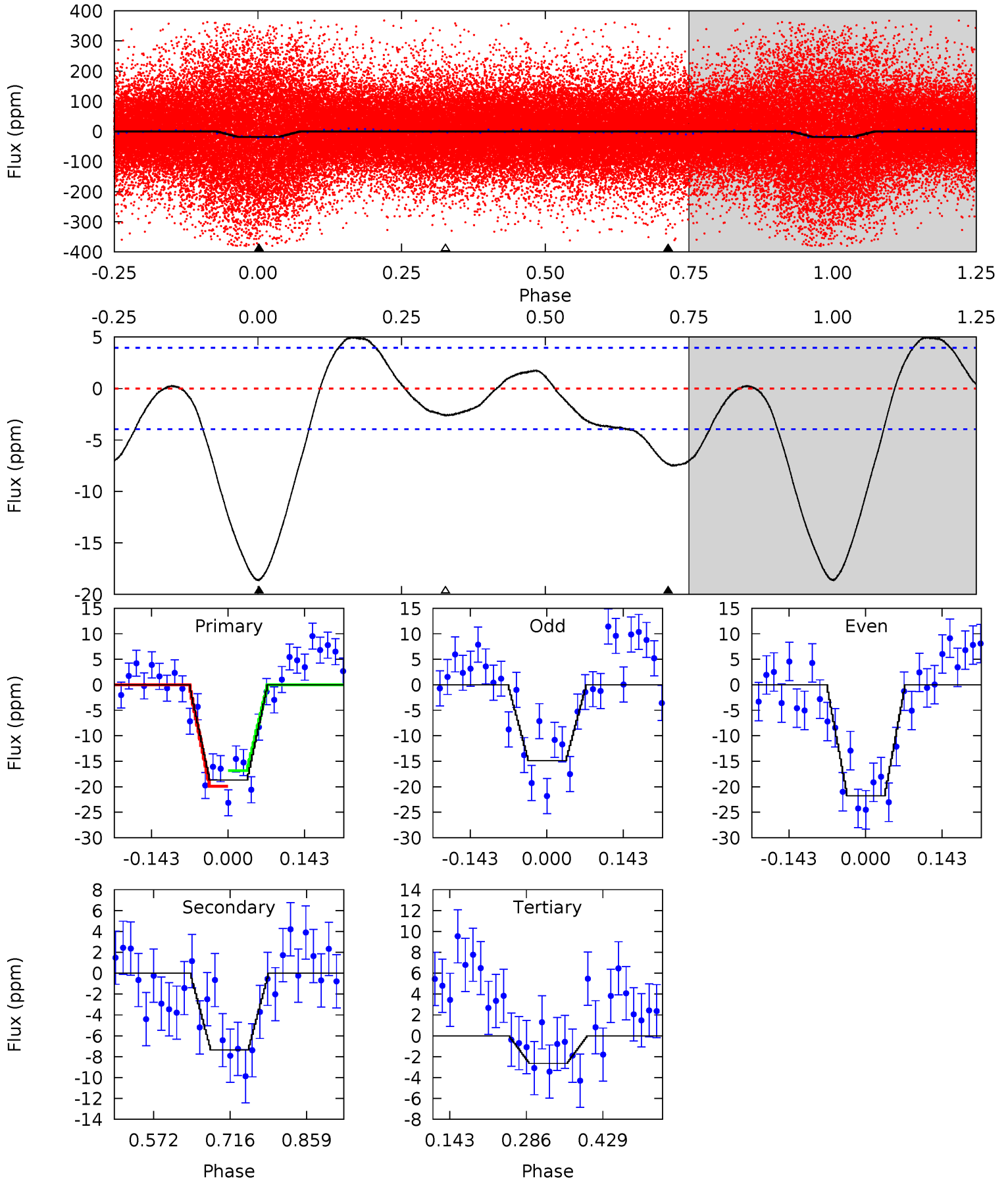
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.96	0	0	4.48	1.45	1.67	10.1	10.1	2.96	2.96	1.78	0.80	0.19	1.41



Alt Model-Shift Uniqueness Test

008712863-01, P = 0.532512 Days, E = 131.352326 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	8.36	3.01	0	4.49	1.46	2.73	18.2	21.2	5.35	8.36	3.90	0.99	0.21	1.74



Stellar Parameters For KIC 008712863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6894^{+280}_{-385}	$3.476^{+0.408}_{-0.072}$	$-0.440^{+0.350}_{-0.300}$	$4.032^{+0.466}_{-1.865}$	$1.774^{+0.157}_{-0.502}$	$0.038^{+0.142}_{-0.009}$
	+4%/-6%	+12%/-2%	+80%/-68%	+12%/-46%	+9%/-28%	+374%/-24%
Source	PHO1	FLK73	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 008712863-01 / KOI 7908.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 1	$1.55^{+0.66}_{-0.69}$	6585^{+489}_{-725}	-4342^{+9468}_{-843}	$0.184^{+0.415}_{-0.108}$
Alt.	-7 ± 1	$1.53^{+0.68}_{-0.62}$	6592^{+517}_{-701}	4291^{+2253}_{-8698}	$0.405^{+0.742}_{-0.214}$

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

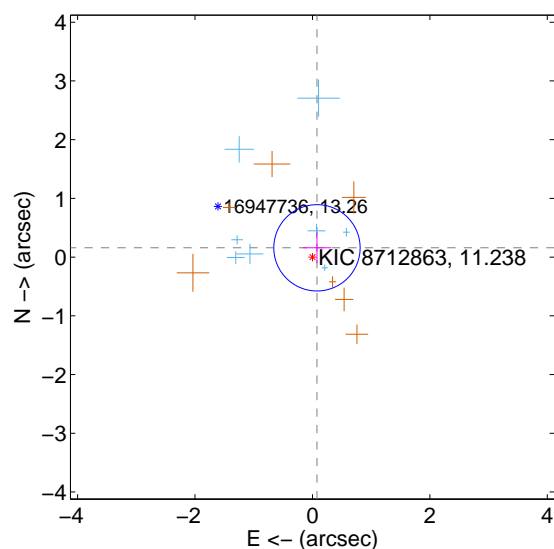
Supplemental centroid analysis for 008712863-01. **Kepler magnitude: 11.24.** Transit SNR 10.39

There are 8 quarters with good PRF difference image offsets

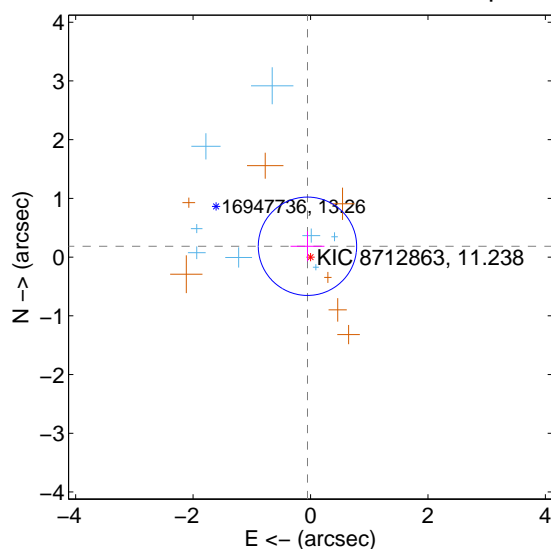
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.176 ± 0.245	0.72	-0.077 ± 0.241	0.158 ± 0.261
PRF-fit source offset from KIC position	0.192 ± 0.279	0.69	0.052 ± 0.289	0.185 ± 0.256
photometric centroid source offset	1.34 ± 0.70	1.93	0.95 ± 0.83	0.95 ± 0.53

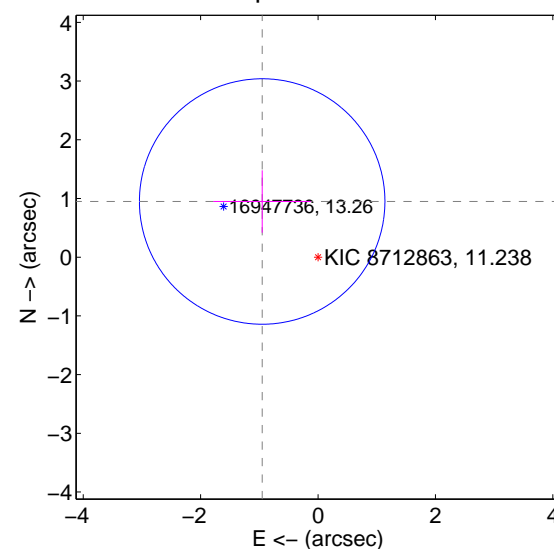
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

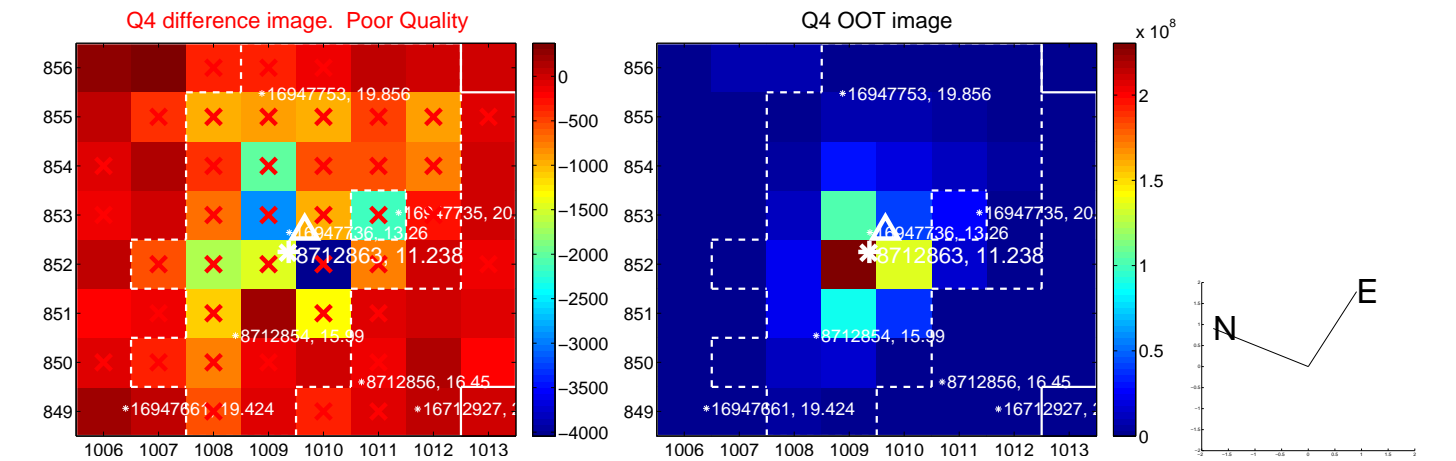
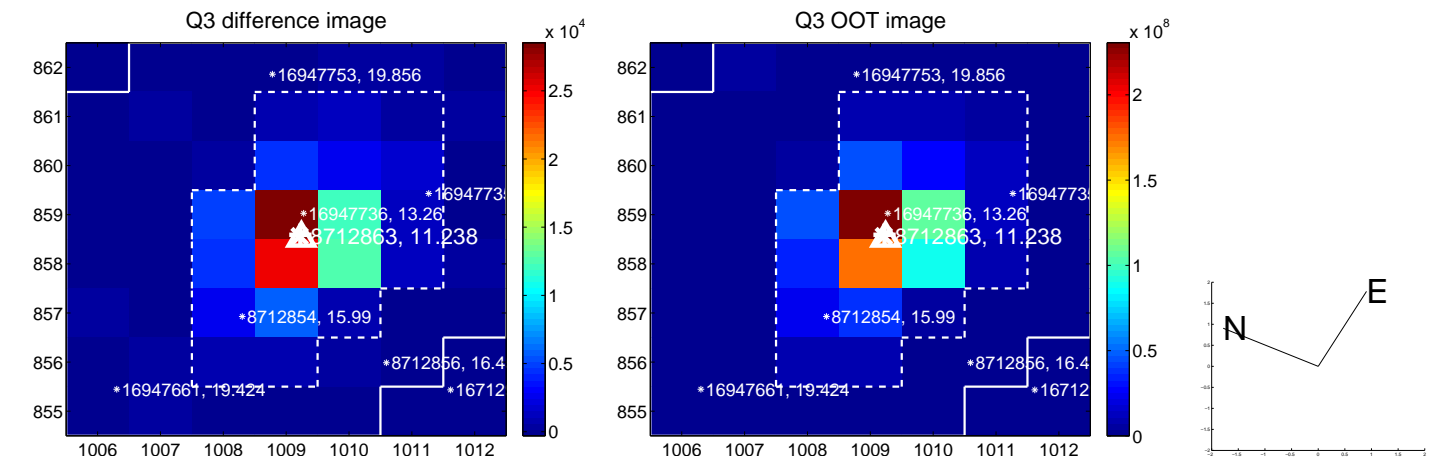
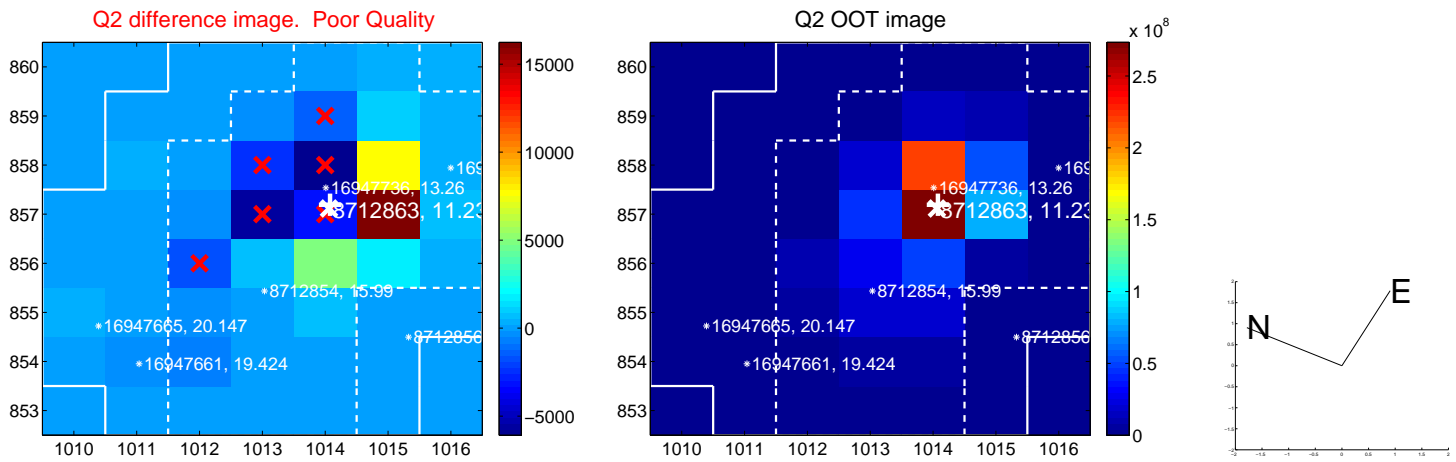
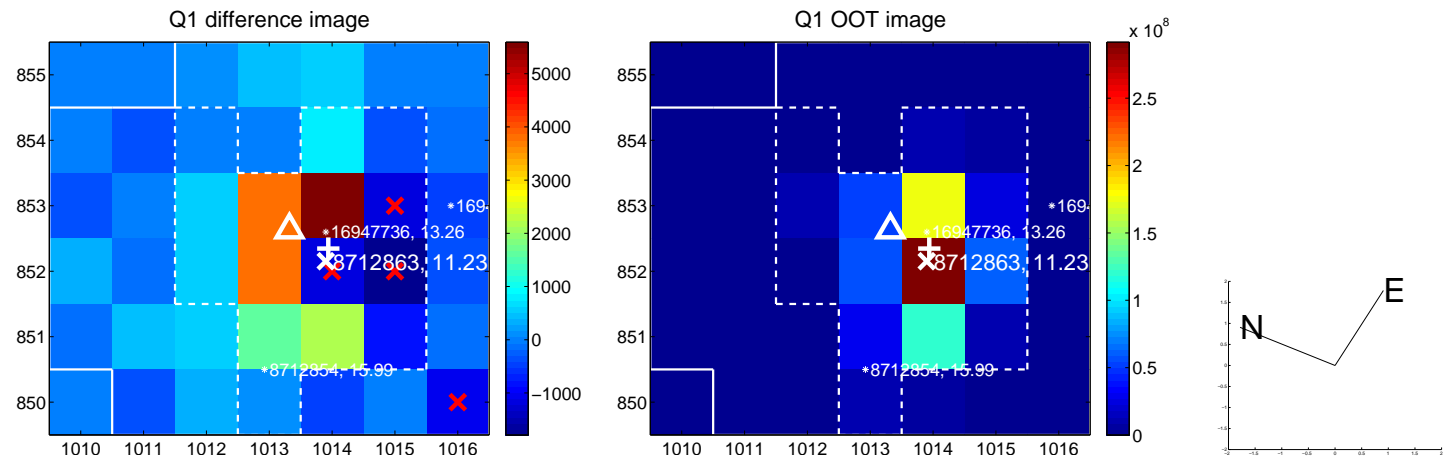


offset from photometric centroids

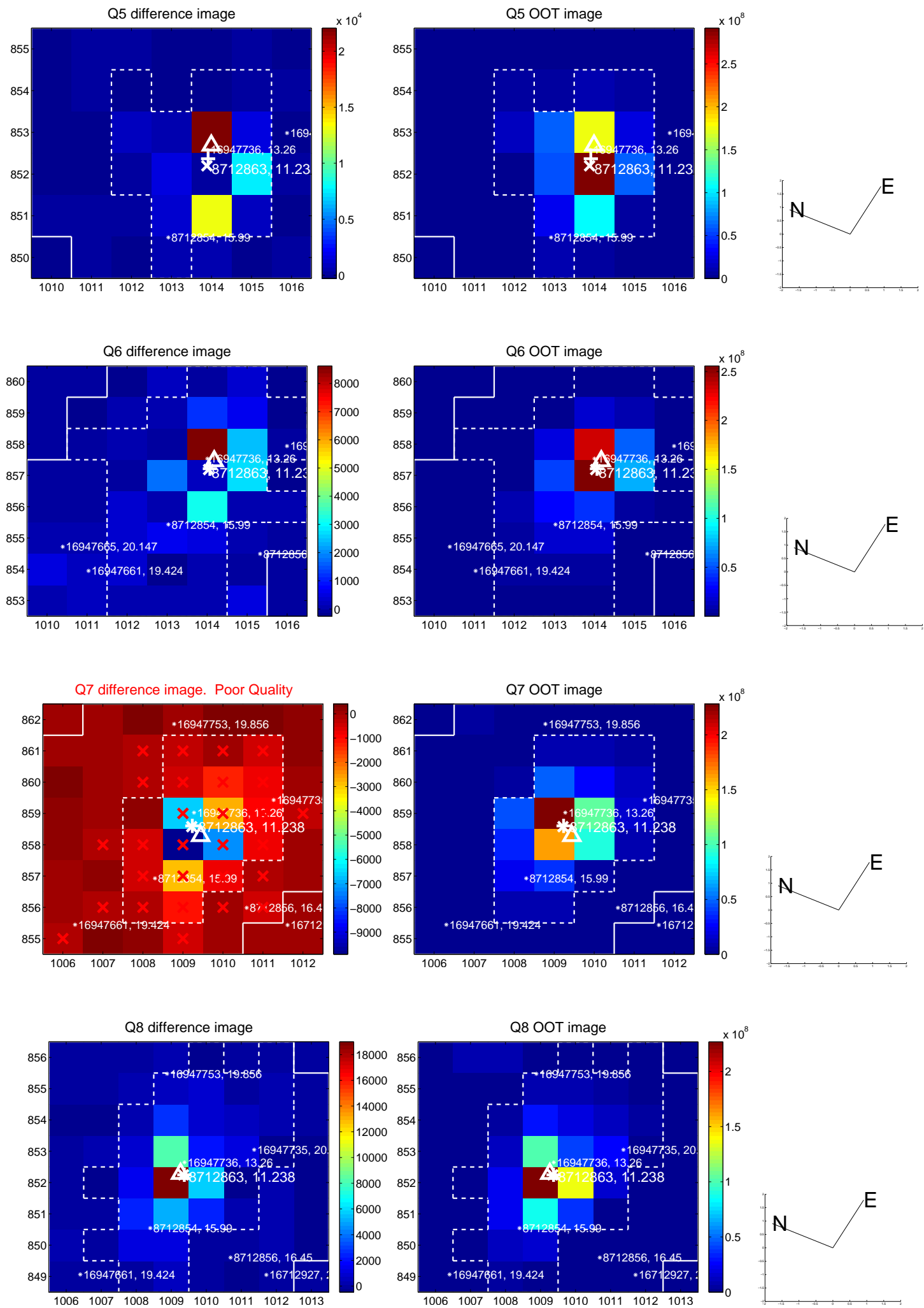


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

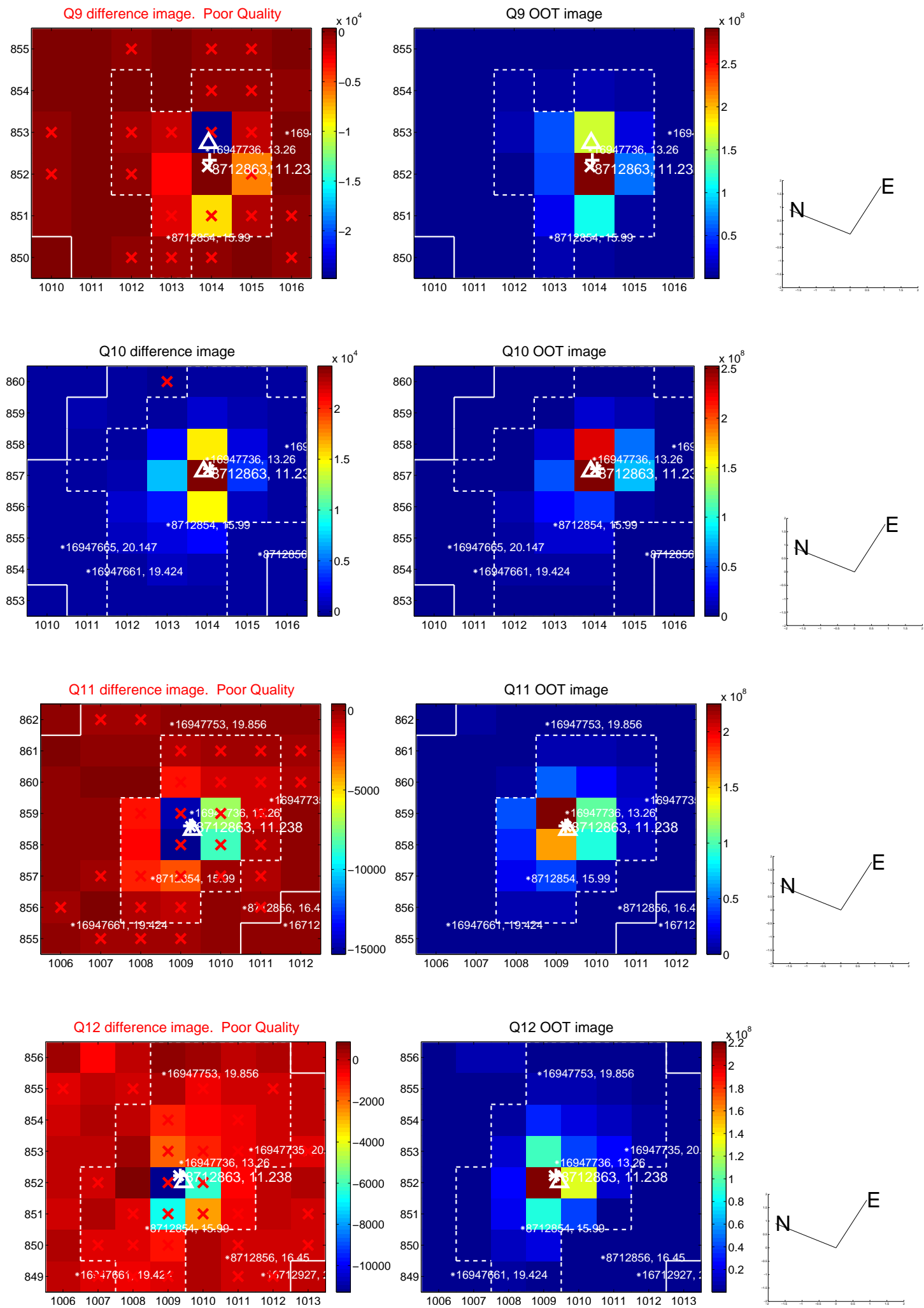
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



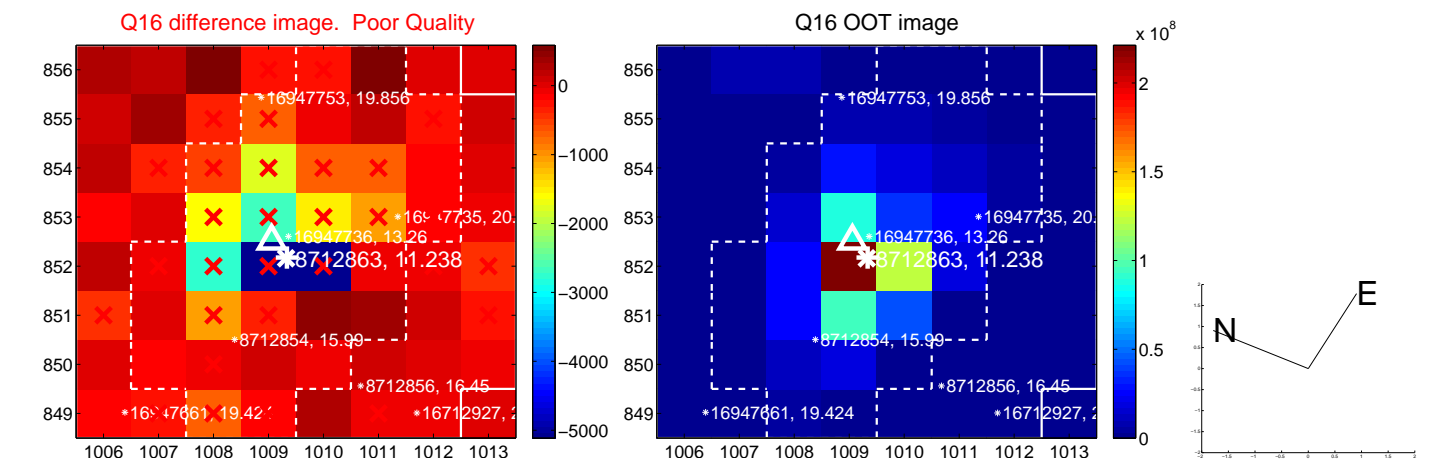
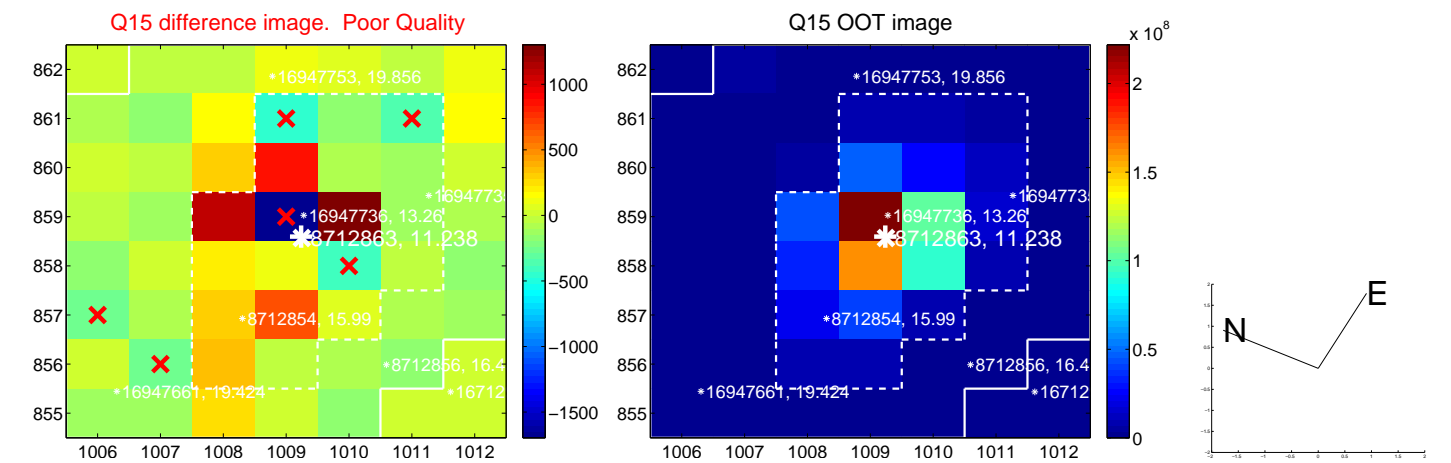
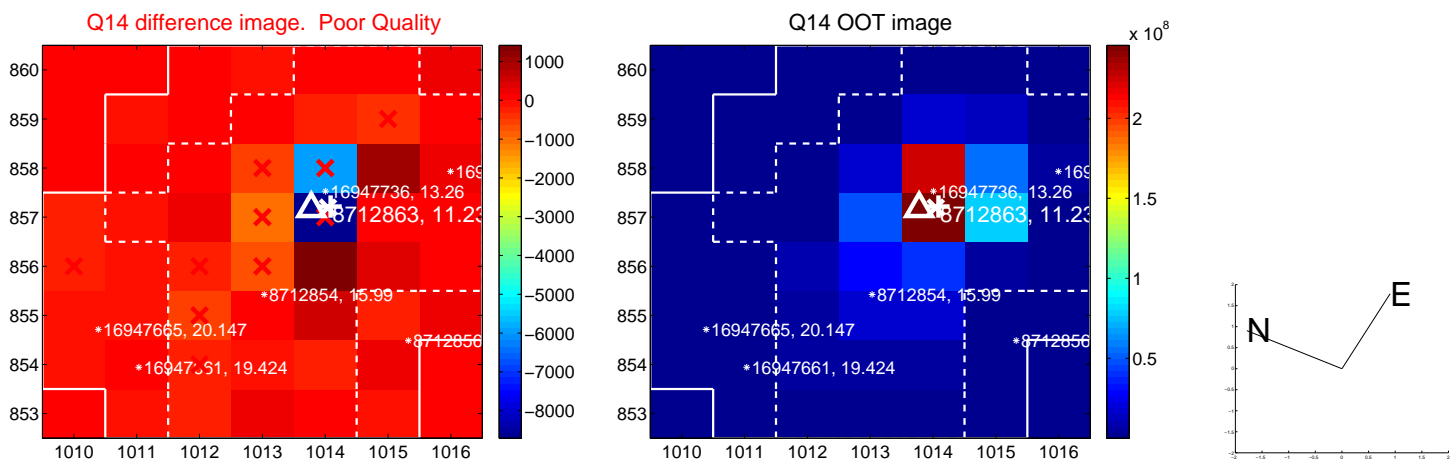
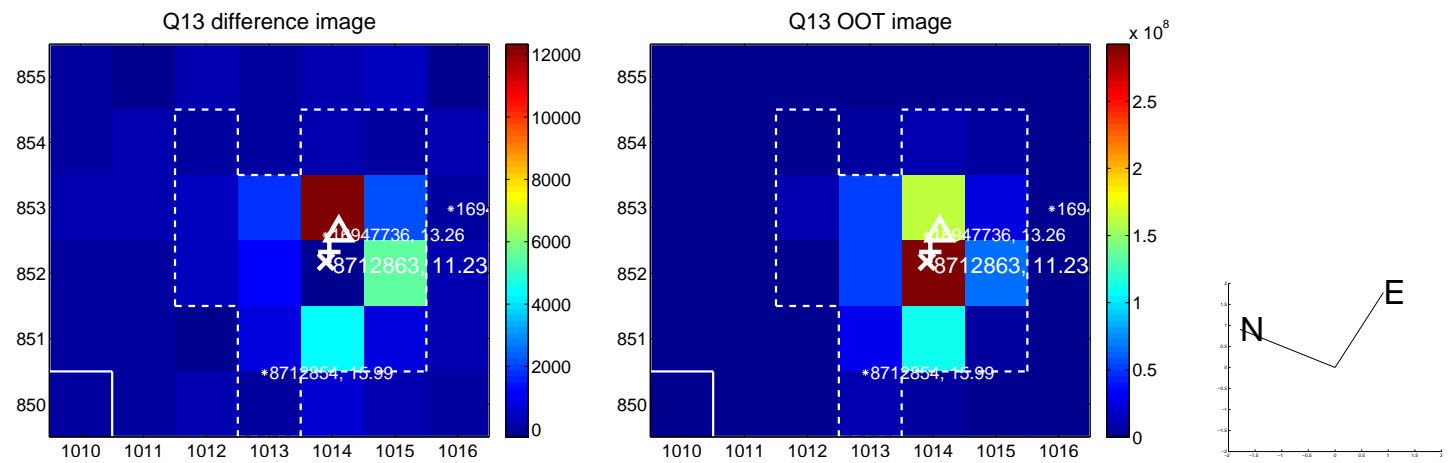
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



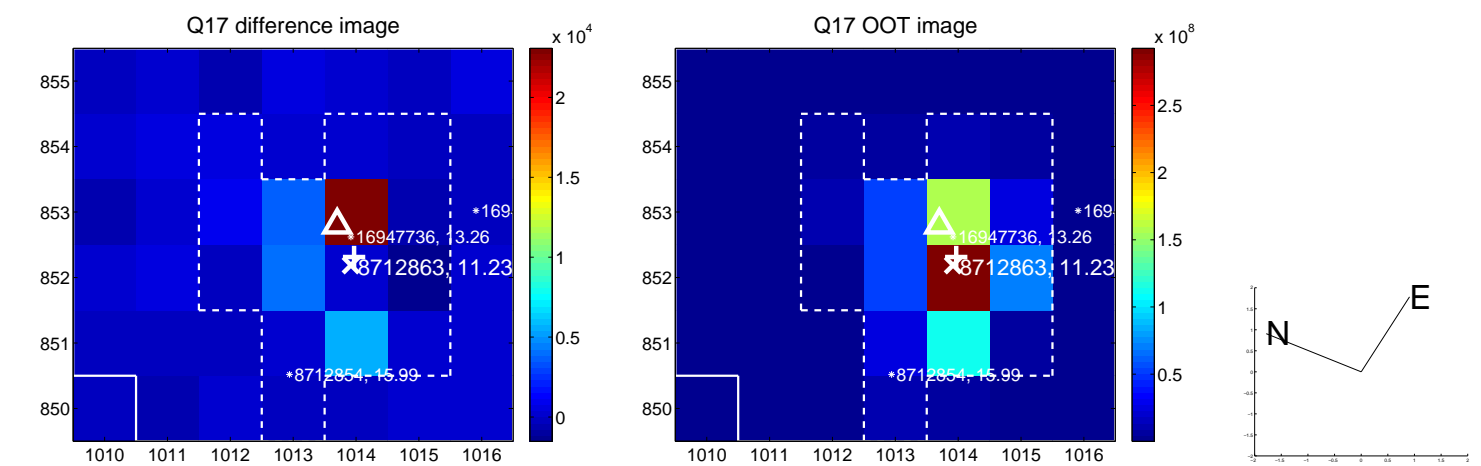
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



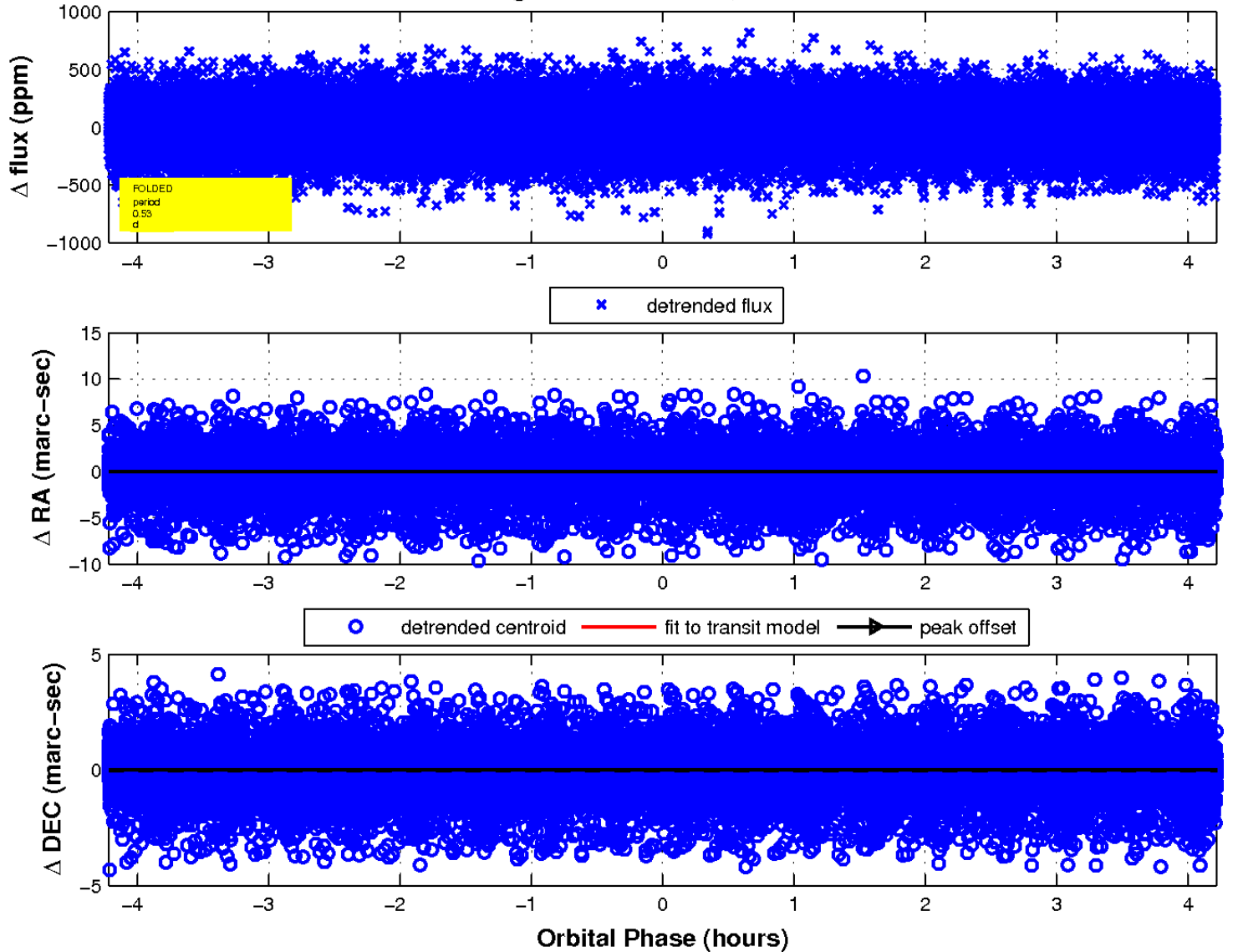
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

