

KIC 008223931

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})
008223931-01	OBS	No	4.420502	132.318816	17.1	34.611	9.8	9.8	3.29	8090	1.45	9198.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008223931-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

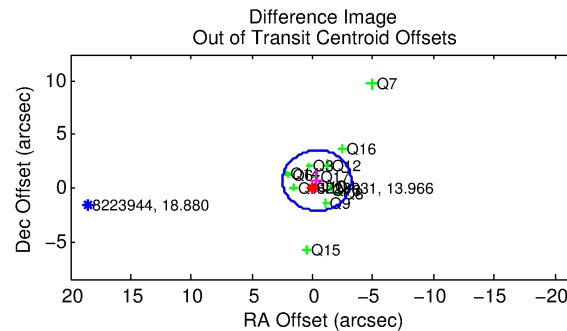
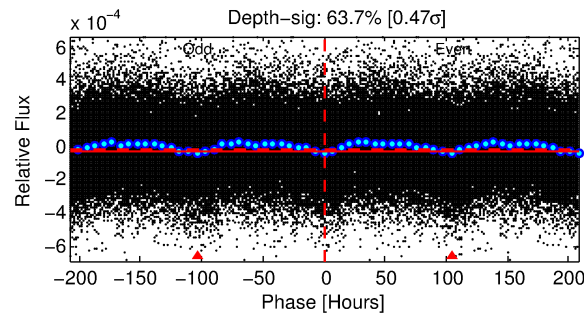
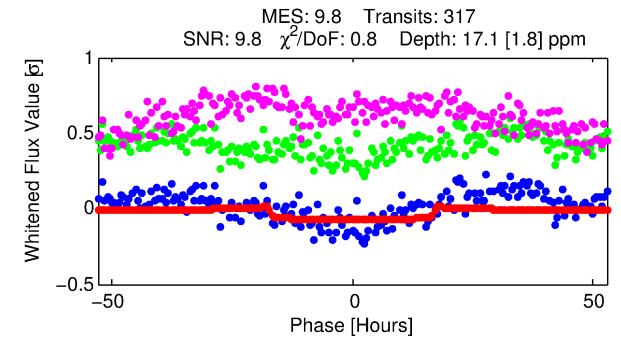
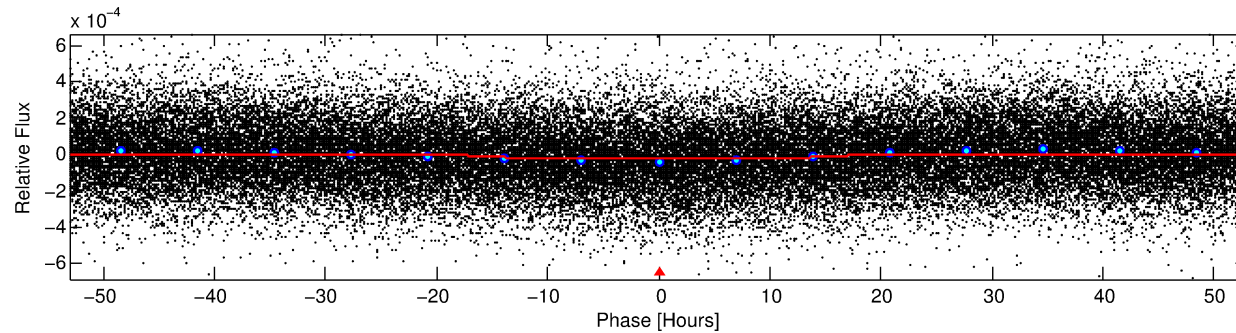
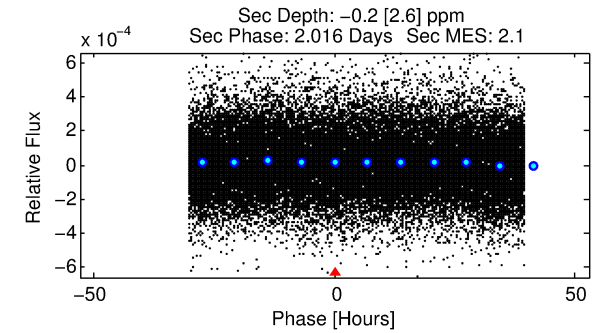
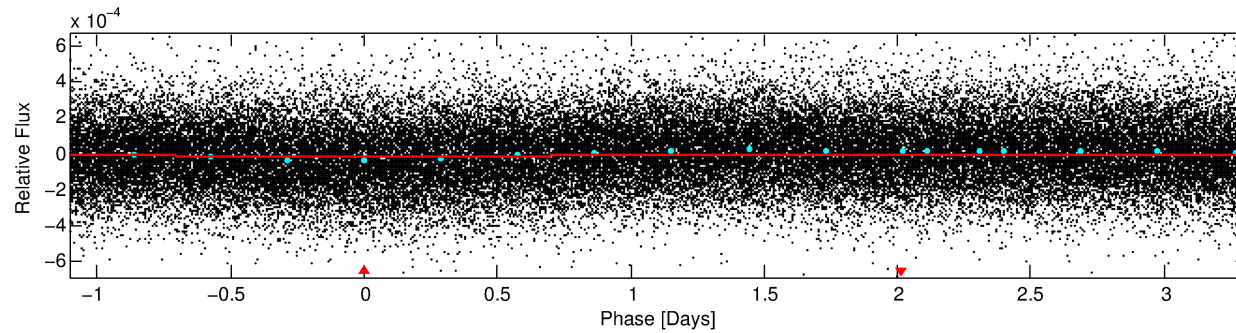
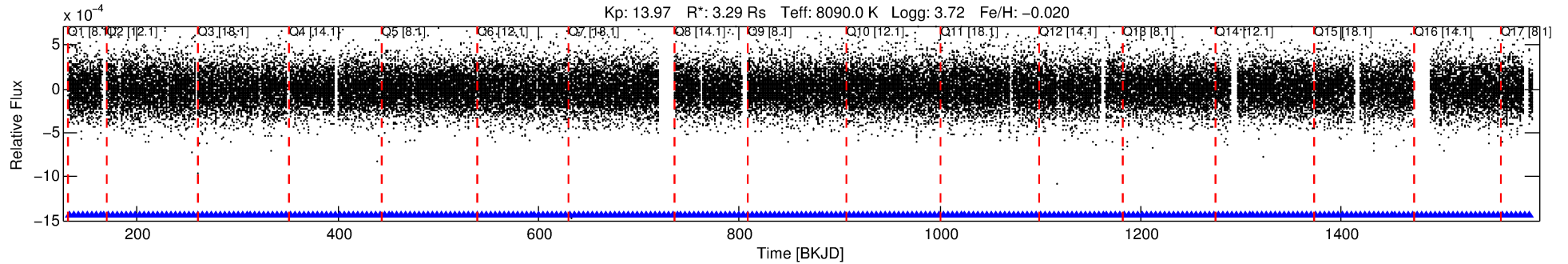
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008223931-01

No Significant Match Found

DV One-Page Summary

KIC: 8223931 Candidate: 1 of 1 Period: 4.421 d



DV Fit Results:

Period = 4.42050 [0.00015] d
Epoch = 132.3188 [0.0237] BKJD
Rp/R* = 0.0040 [0.0017]
a/R* = 1.10 [0.47]
b = 0.69 [1.95]
Seff = 9198.13 [6684.29]
Teq = 2497 [454] K
Rp = 1.45 [0.92] Re
a = 0.0672 [0.0300] AU
Ag = N/A
Teffp = N/A

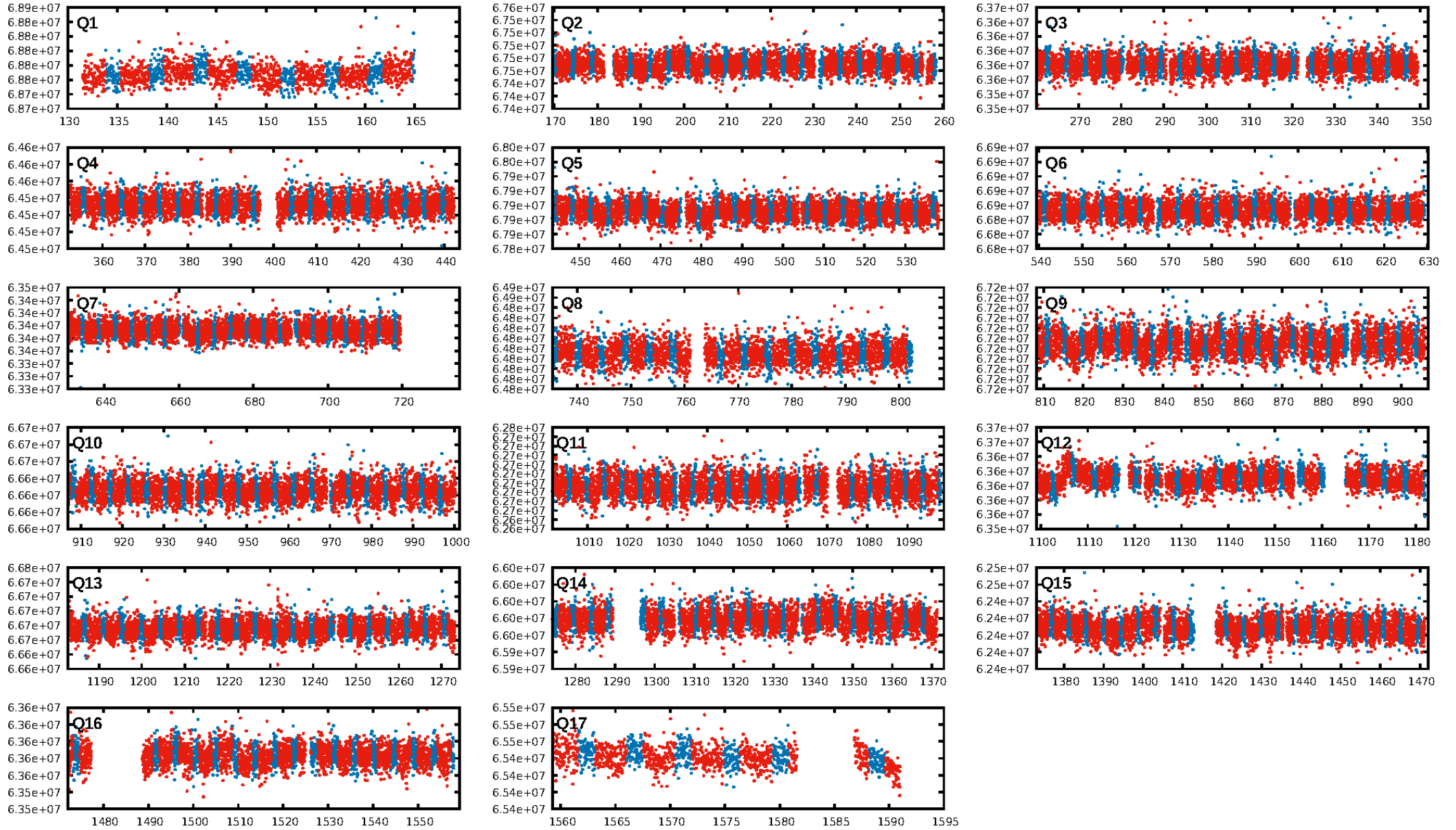
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [301/301]
GhostDiagnostic-chr: 10.24
Centroid-sig: 9.4%
Centroid-so: 1.328 arcsec [1.27σ]
OotOffset-rm: 0.788 arcsec [0.84σ]
KicOffset-rm: 0.750 arcsec [0.85σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 1.00 [17/17]

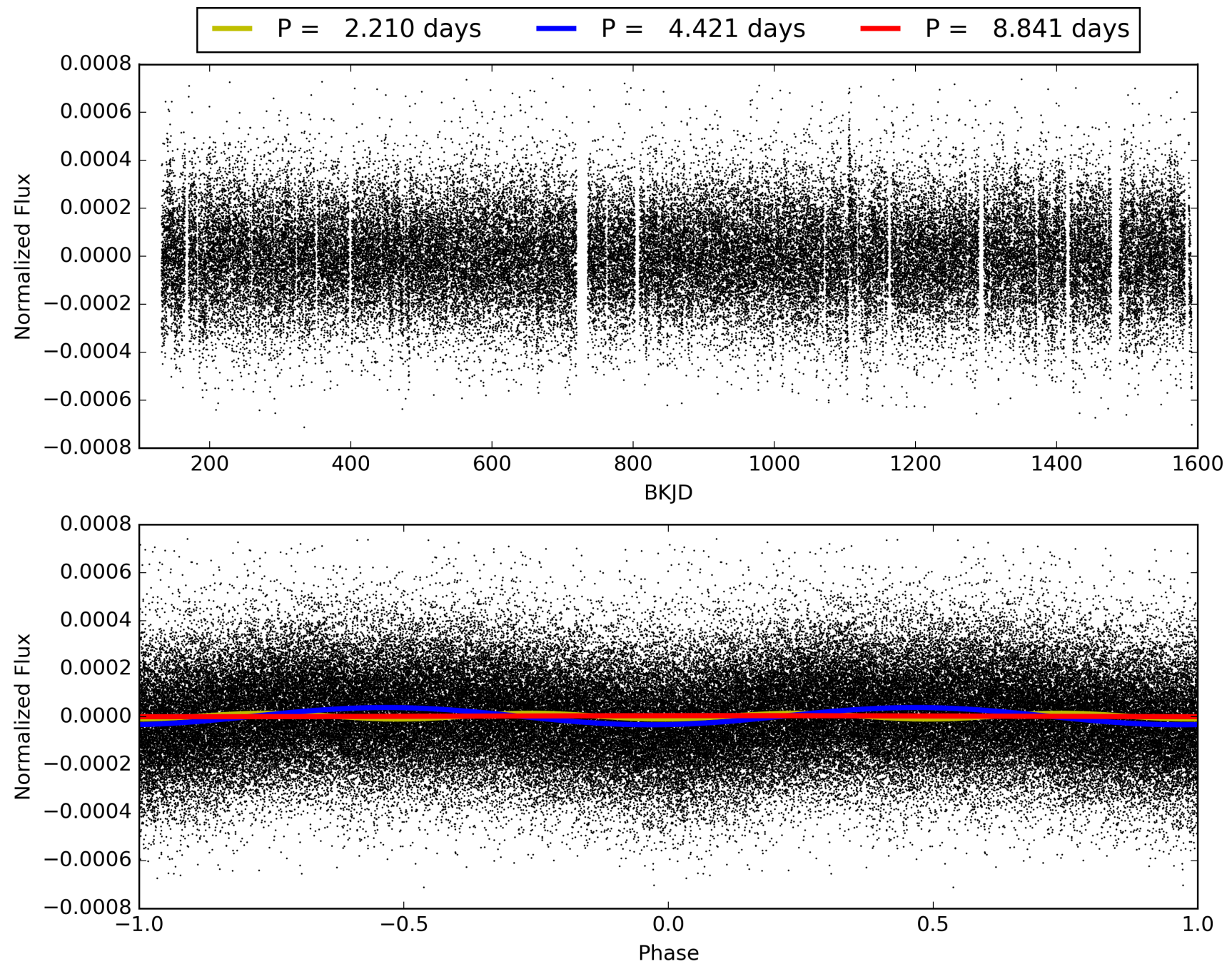
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:30:11 Z

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

TCE 008223931-01, PDC Light Curves

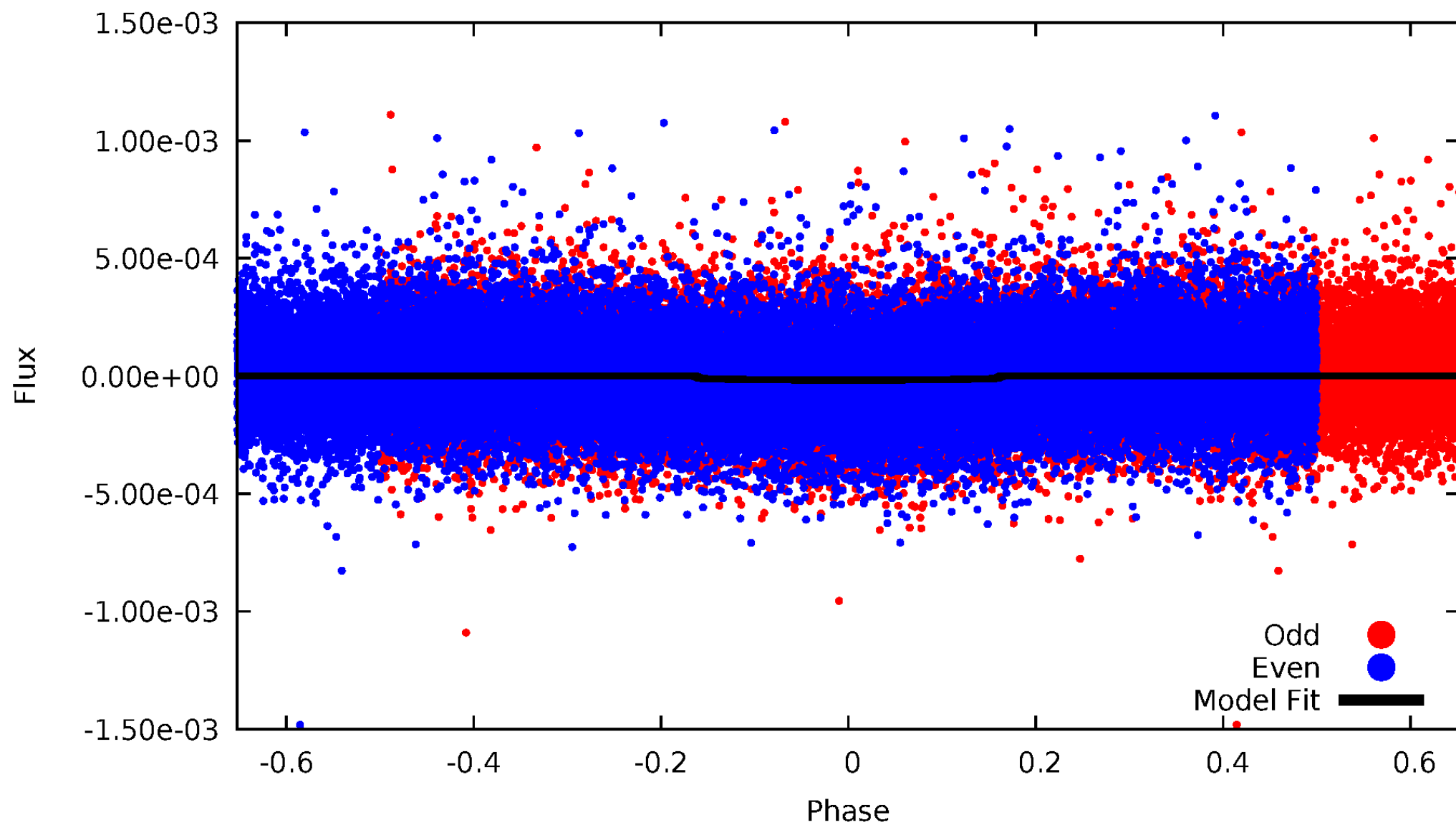


TCE 008223931-01



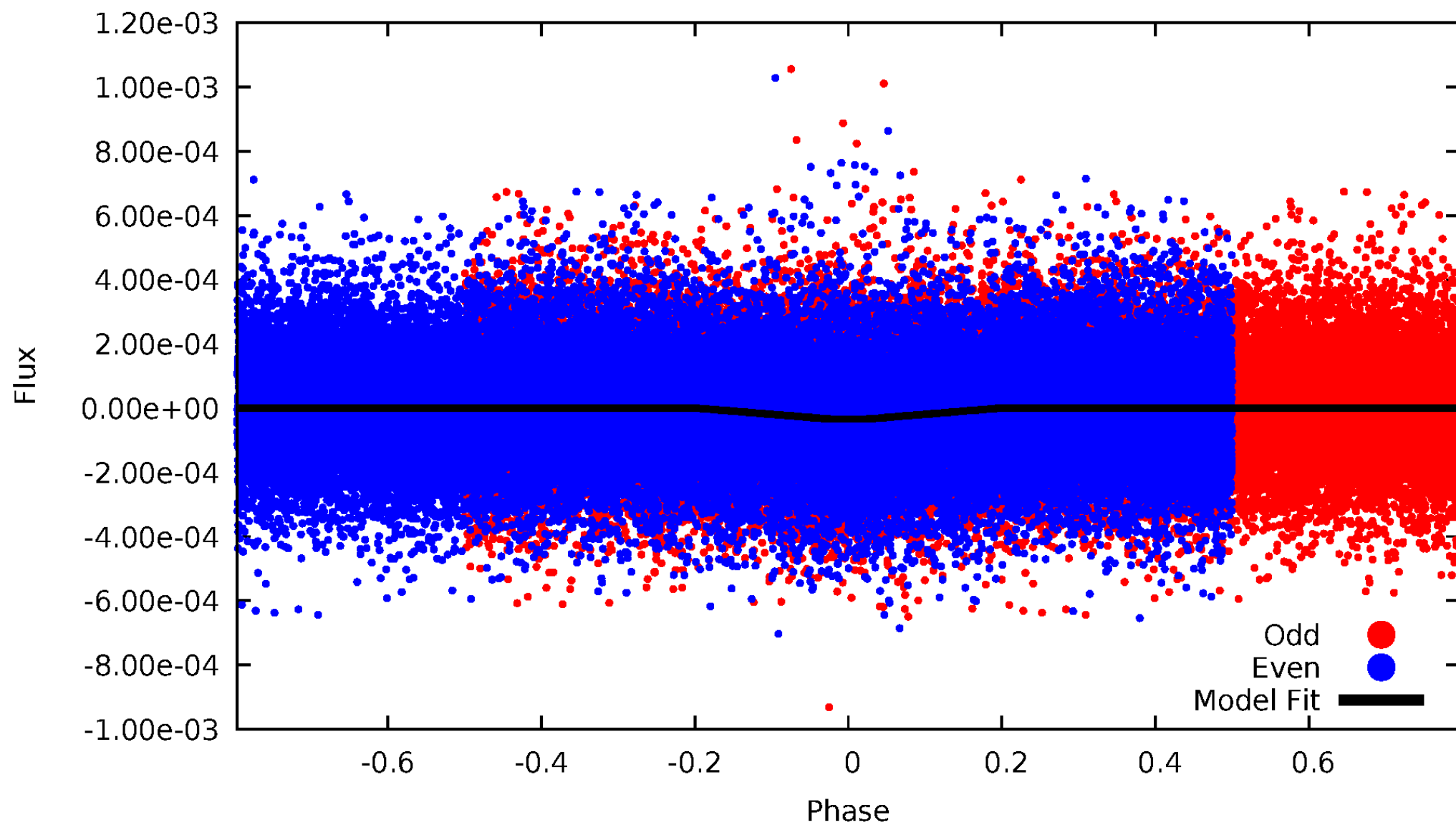
DV Odd/Even

TCE 008223931-01



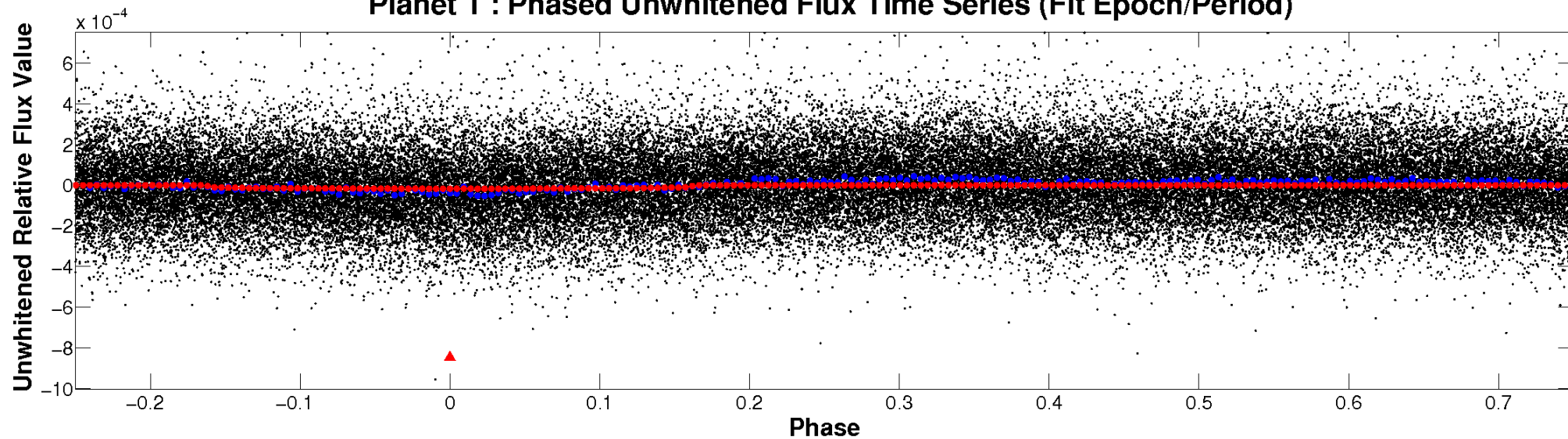
ALT Odd/Even

TCE 008223931-01

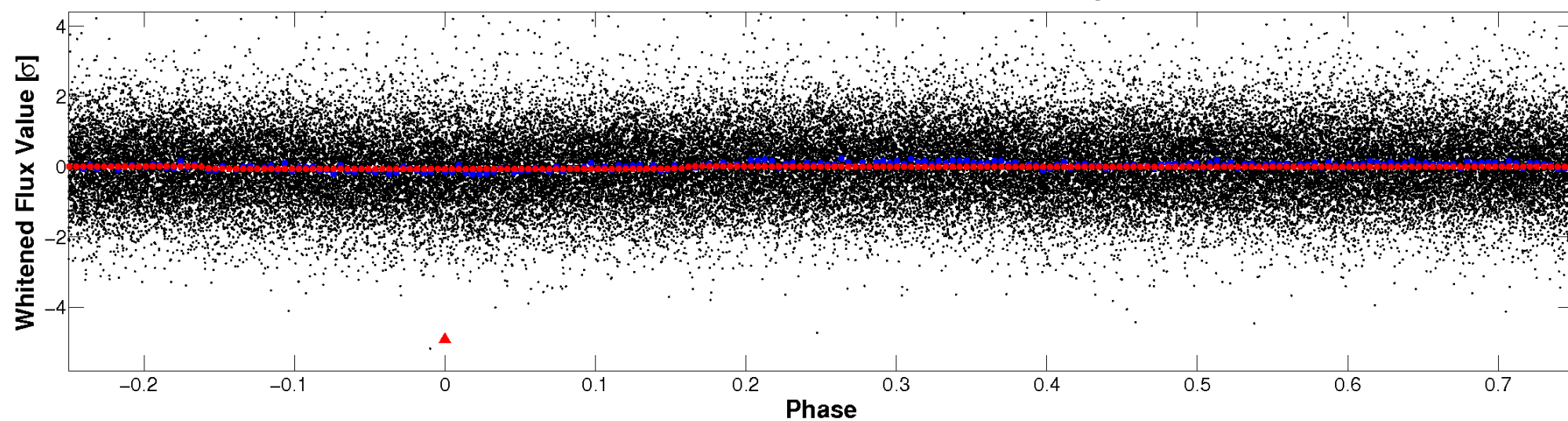


Non-Whitened Vs. Whitened Light Curve

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

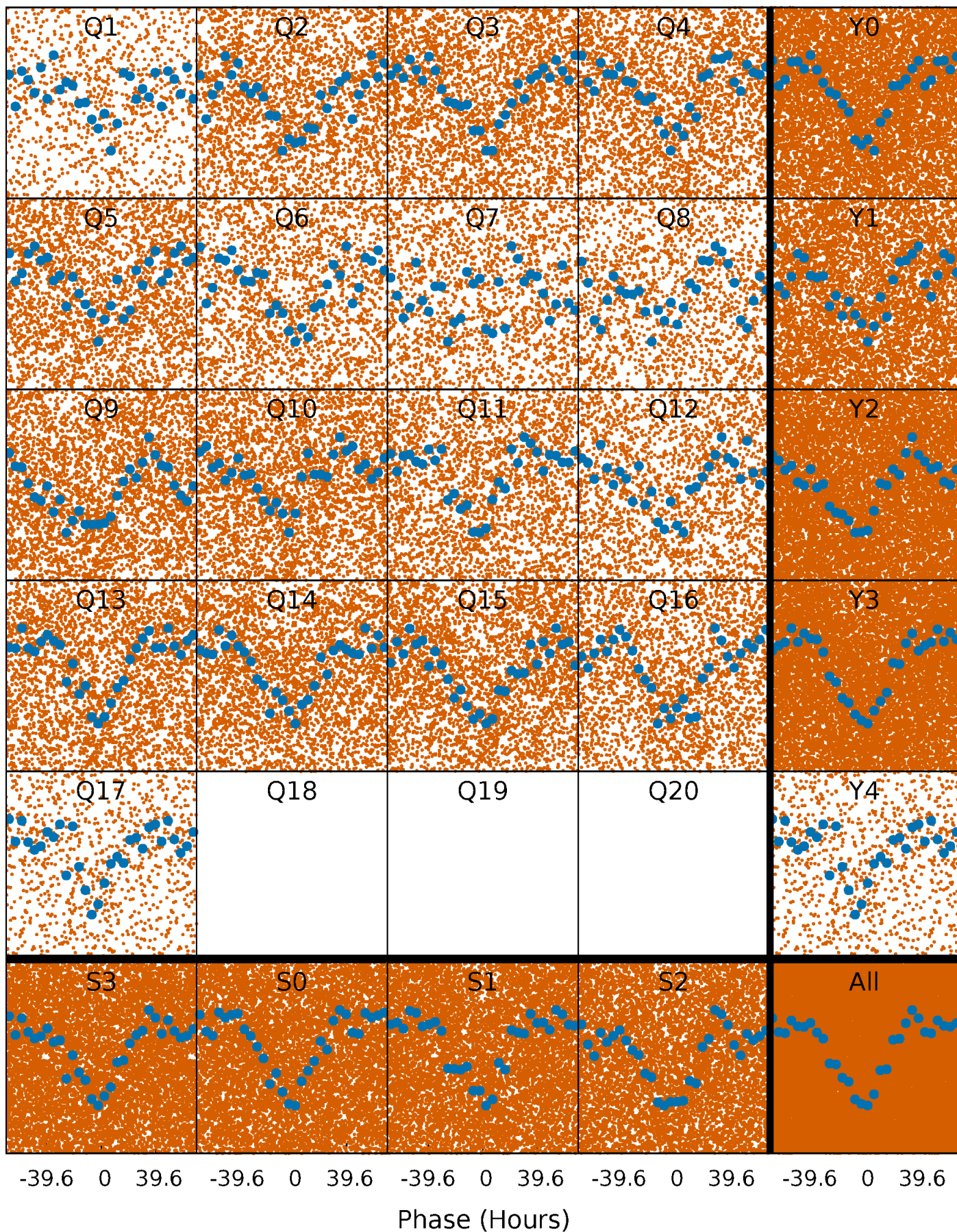


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



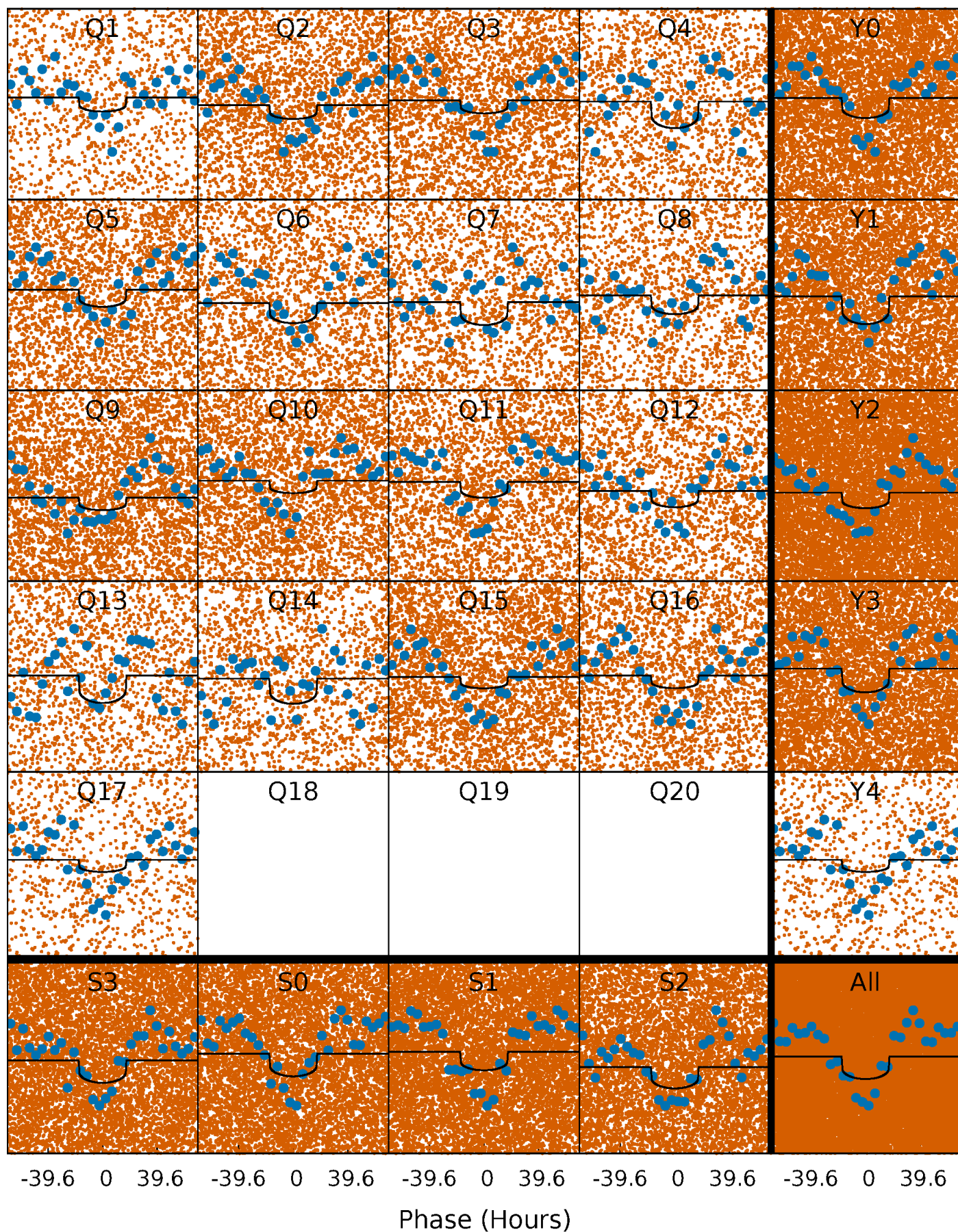
PDC Quarter-Phased Transit Curves

TCE 008223931-01 P= 4.420502 Days $T_0=132.318816$ (BKJD)



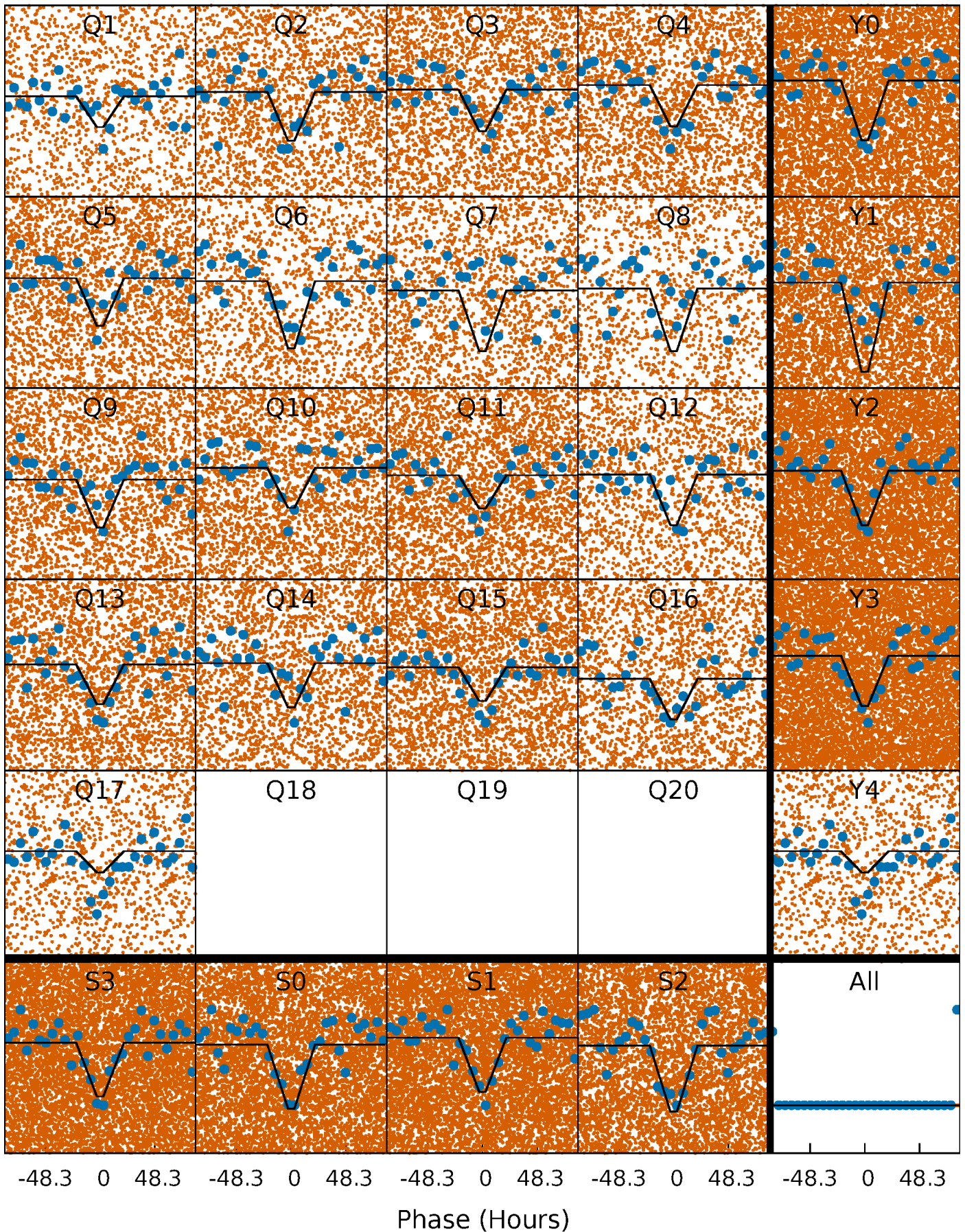
DV Quarter-Phased Transit Curves

TCE 008223931-01 P= 4.420502 Days $T_0=132.318816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

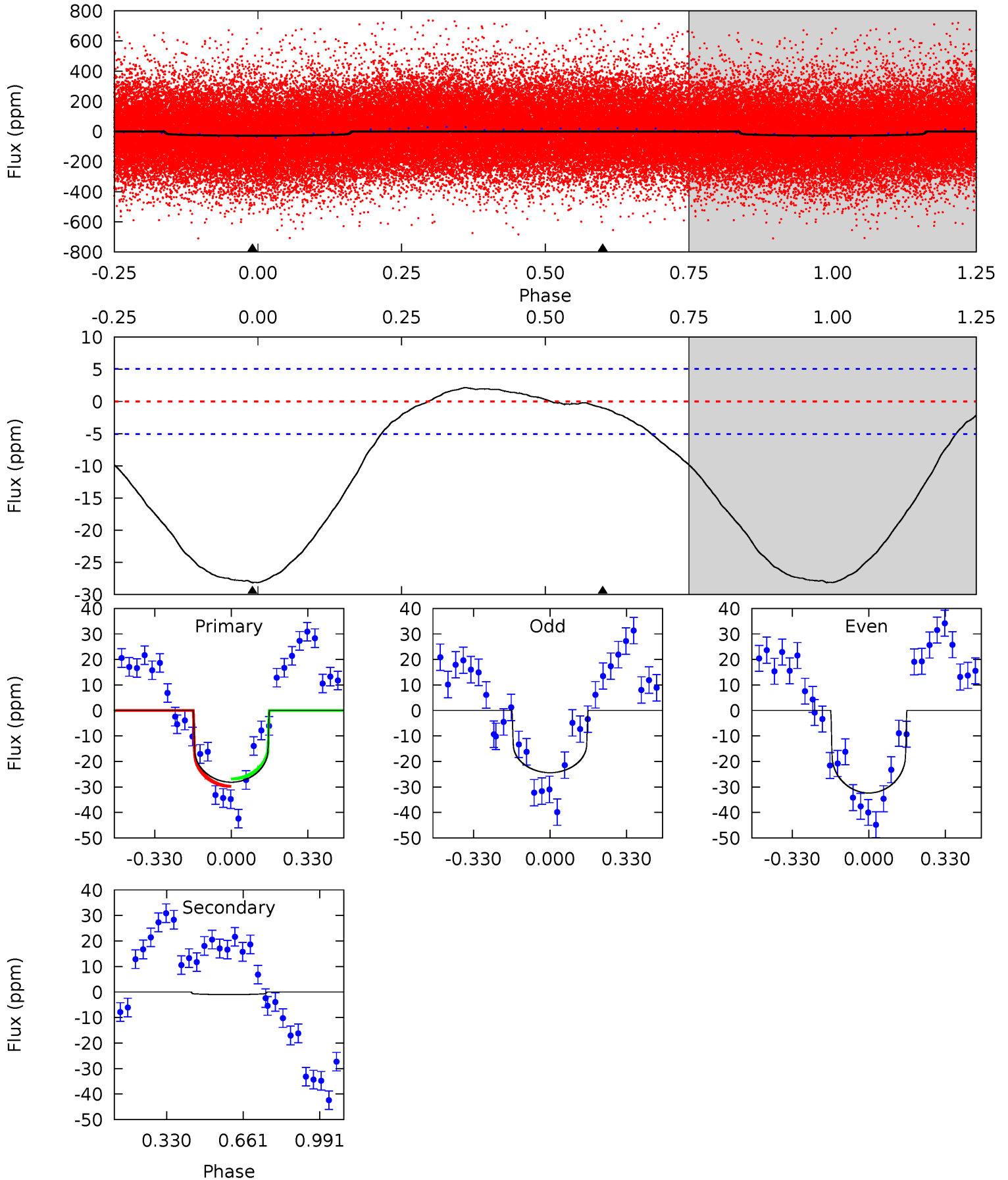
TCE 008223931-01 P= 4.420059 Days $T_0=132.398690$ (BKJD)



DV Model-Shift Uniqueness Test

008223931-01, P = 4.420502 Days, E = 127.898314 Days

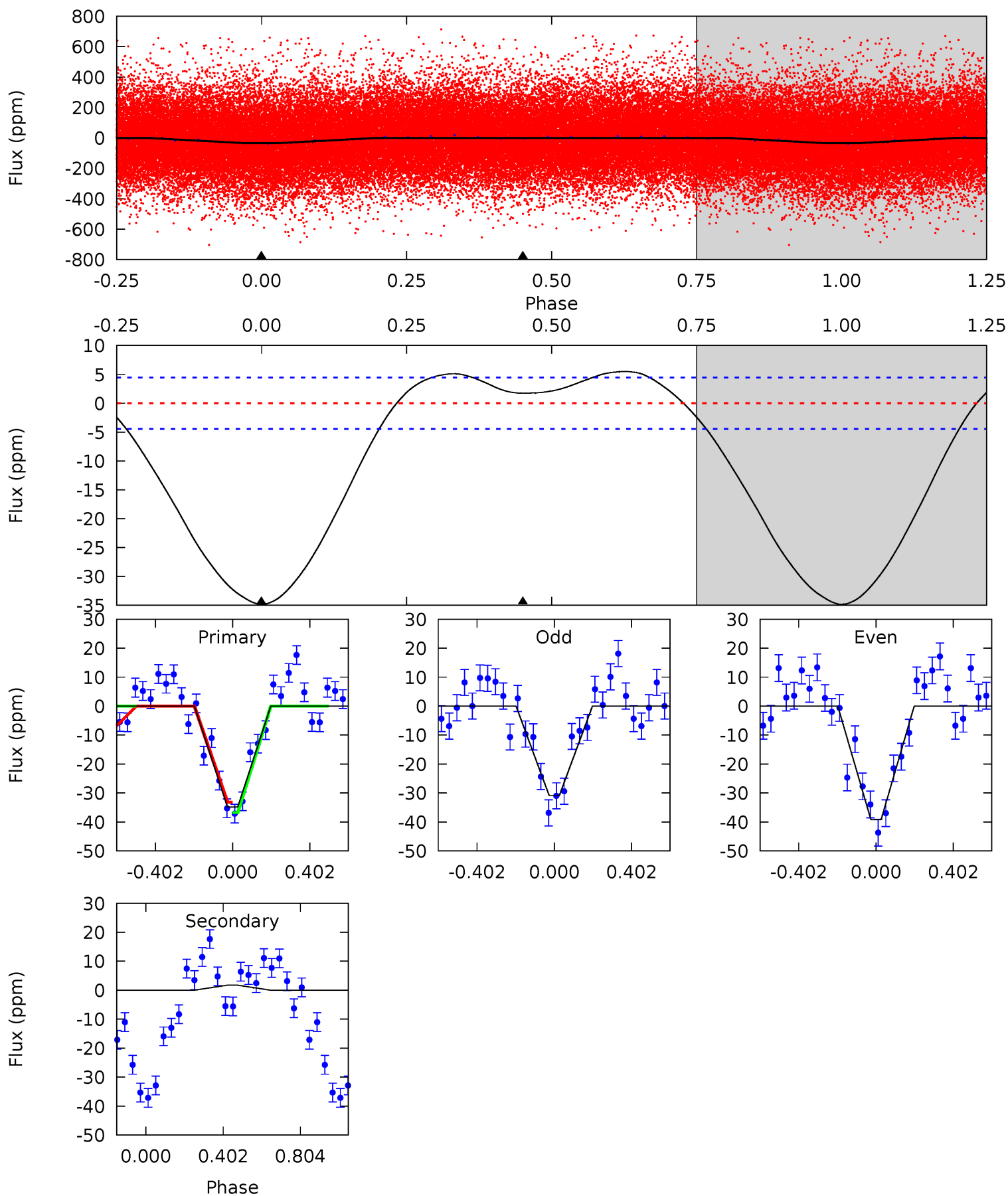
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	0.86	0	0	4.31	0.97	1.06	23.9	23.9	0.86	0.86	3.41	1.00	0.07	1.23



Alt Model-Shift Uniqueness Test

008223931-01, P = 4.420059 Days, E = 127.978631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	-1.66	0	0	4.26	0.84	2.70	33.4	33.4	-1.66	-1.66	3.98	1.01	0.14	1.69



Stellar Parameters For KIC 008223931

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8090^{+224}_{-337}	$3.720^{+0.413}_{-0.138}$	$-0.020^{+0.250}_{-0.400}$	$3.292^{+0.834}_{-1.549}$	$2.075^{+0.333}_{-0.500}$	$0.082^{+0.324}_{-0.035}$
	+3%/-4%	+11%/-4%	+1250%/-2000%	+25%/-47%	+16%/-24%	+395%/-42%
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 008223931-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 1	$1.35^{+0.67}_{-0.62}$	3405^{+277}_{-380}	3894^{+1455}_{-7507}	$1.211^{+4.203}_{-1.458}$
Alt.	2 ± 1	$1.90^{+0.70}_{-0.68}$	3395^{+301}_{-381}	-4226^{+538}_{-652}	$-1.112^{+0.750}_{-1.894}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

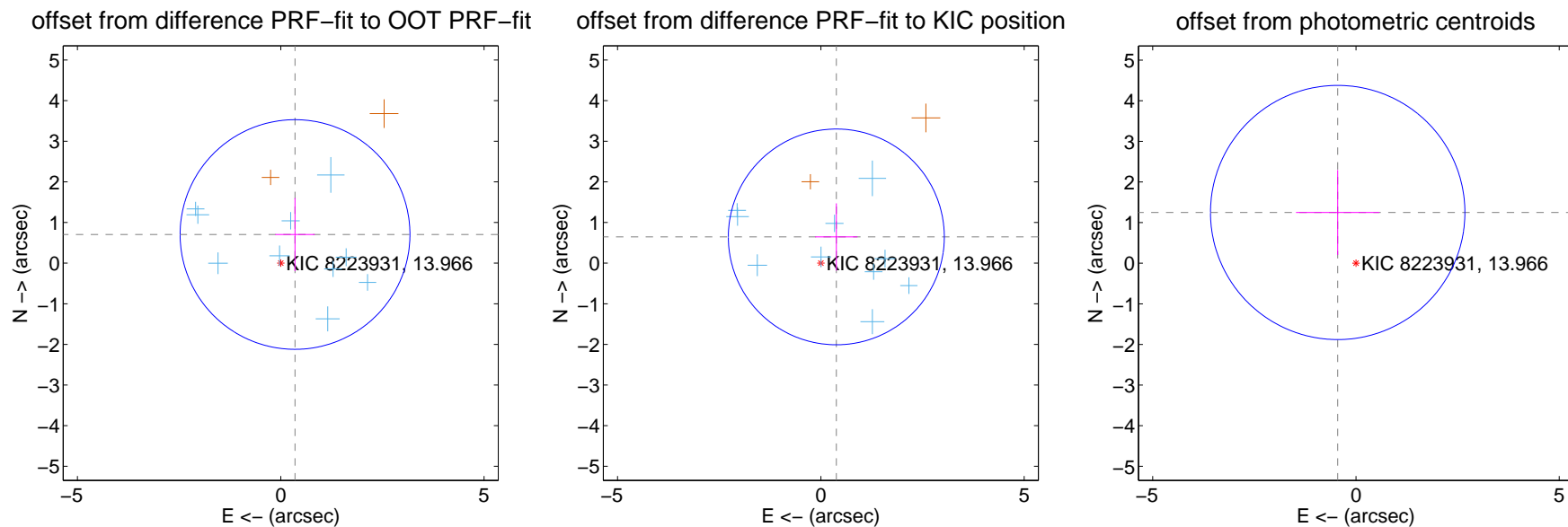
DV Centroid Data

Supplemental centroid analysis for 008223931-01. Kepler magnitude: 13.97. Transit SNR 9.82

There are 10 quarters with good PRF difference image offsets

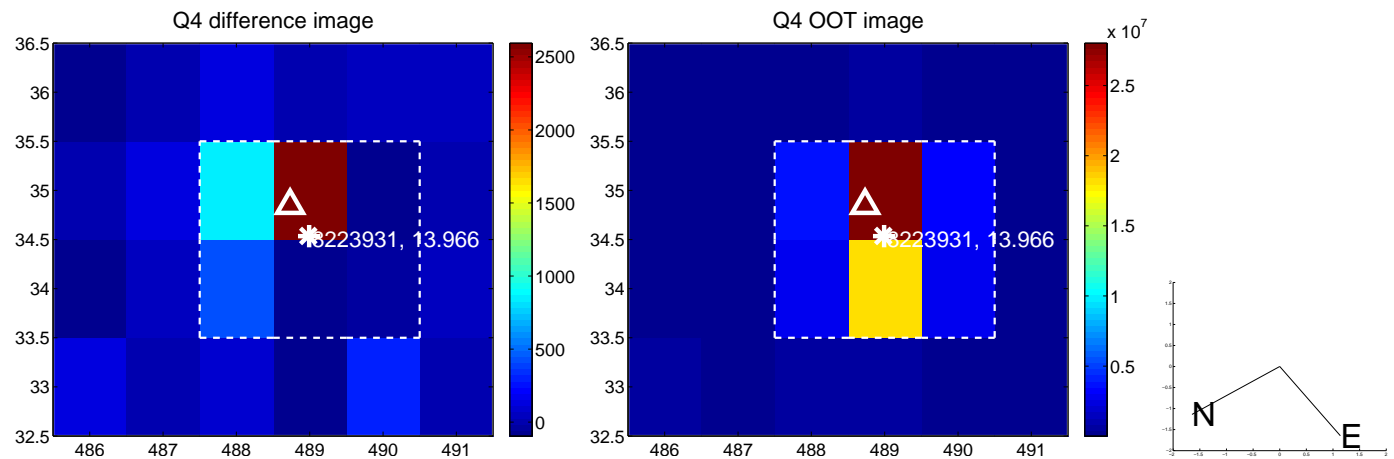
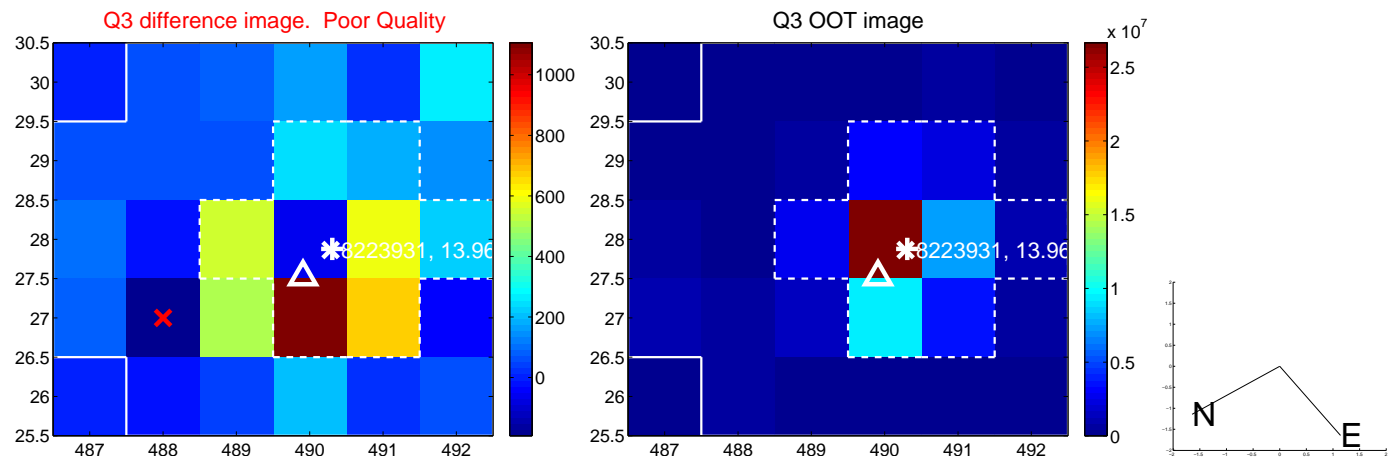
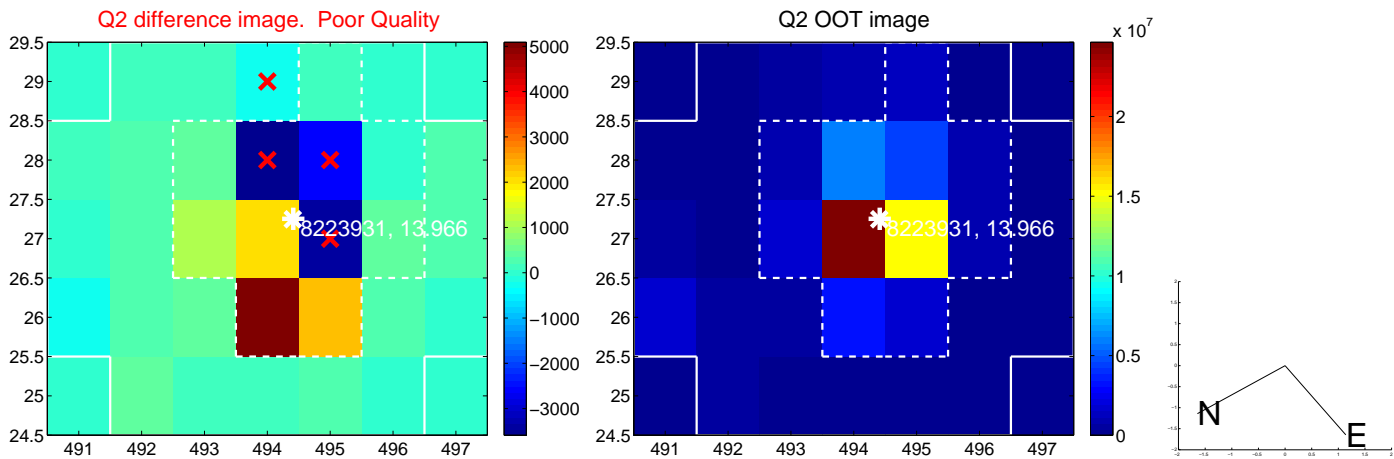
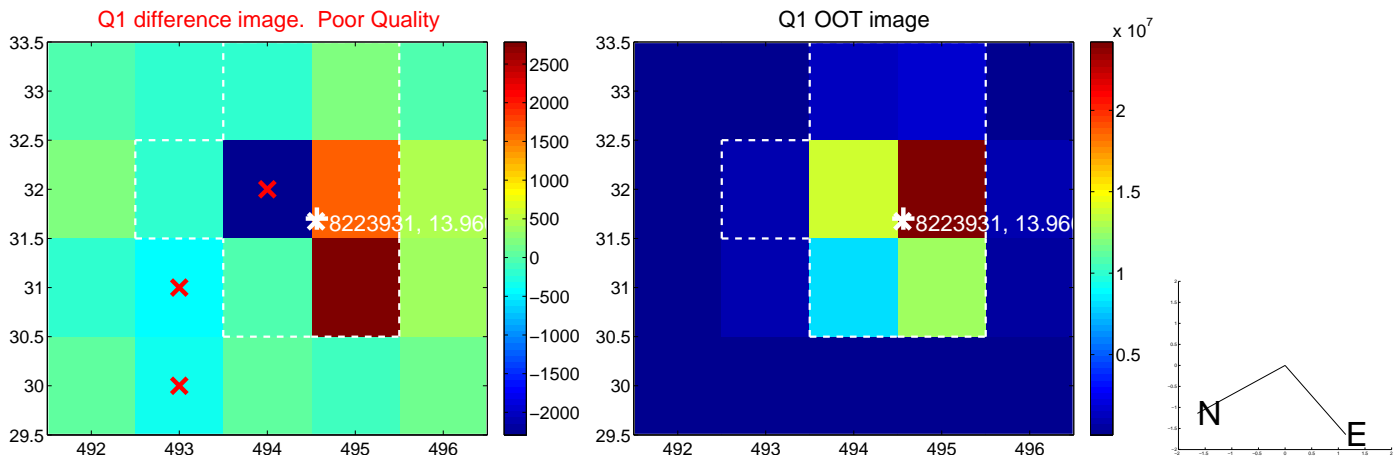
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.788 ± 0.942	0.84	-0.351 ± 0.486	0.705 ± 0.899
PRF-fit source offset from KIC position	0.750 ± 0.885	0.85	-0.380 ± 0.520	0.646 ± 0.826
photometric centroid source offset	1.33 ± 1.04	1.27	0.45 ± 1.02	1.25 ± 1.05

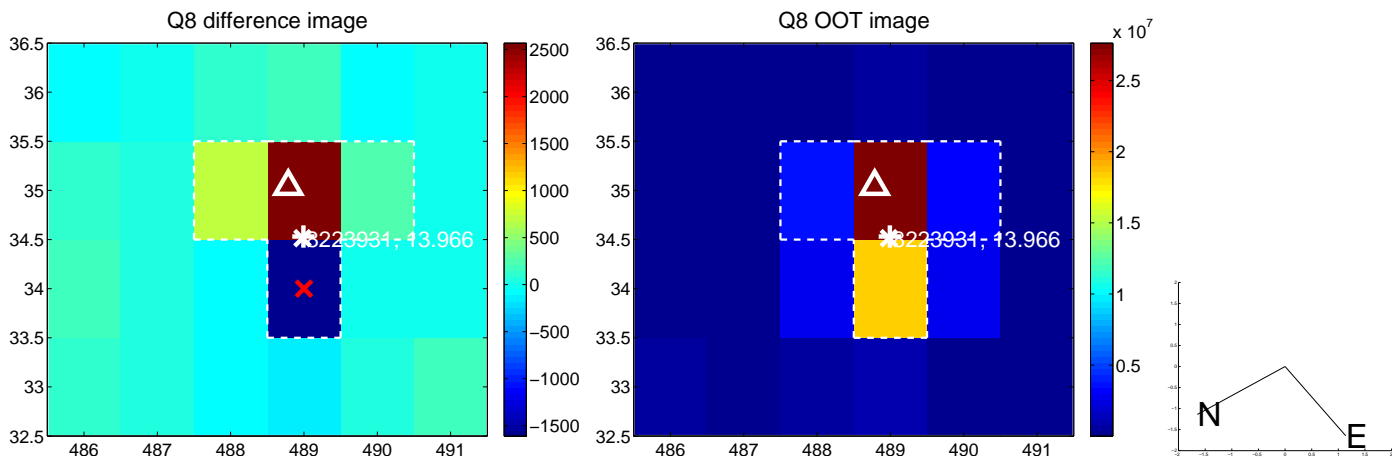
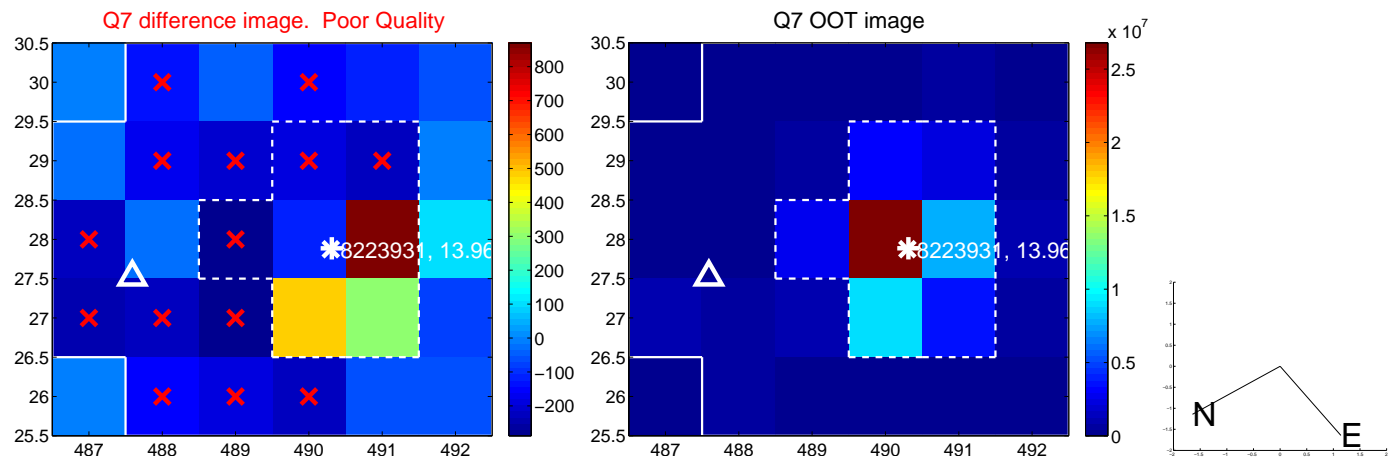
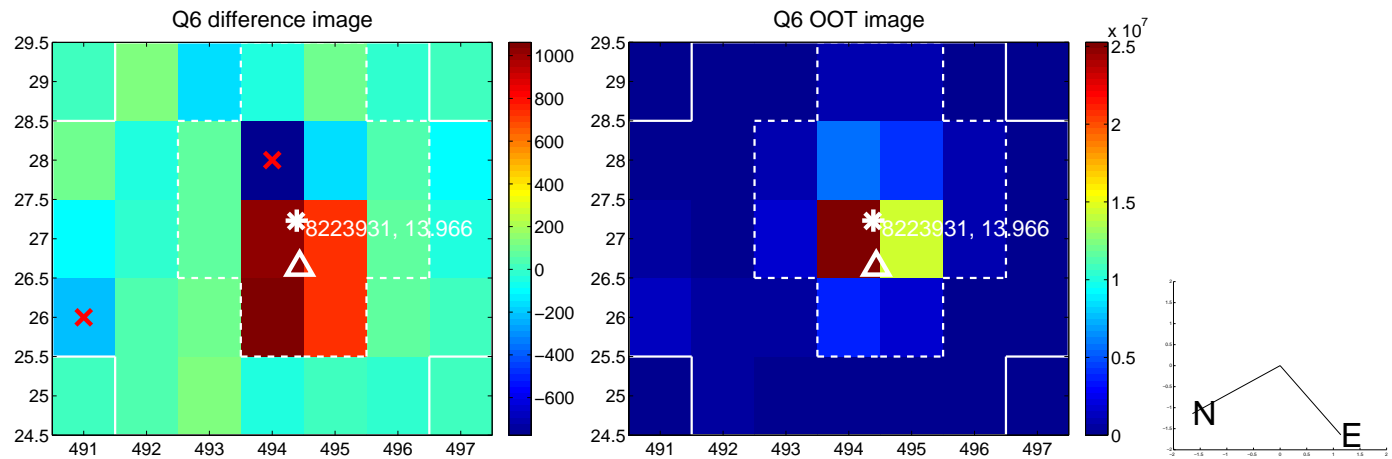
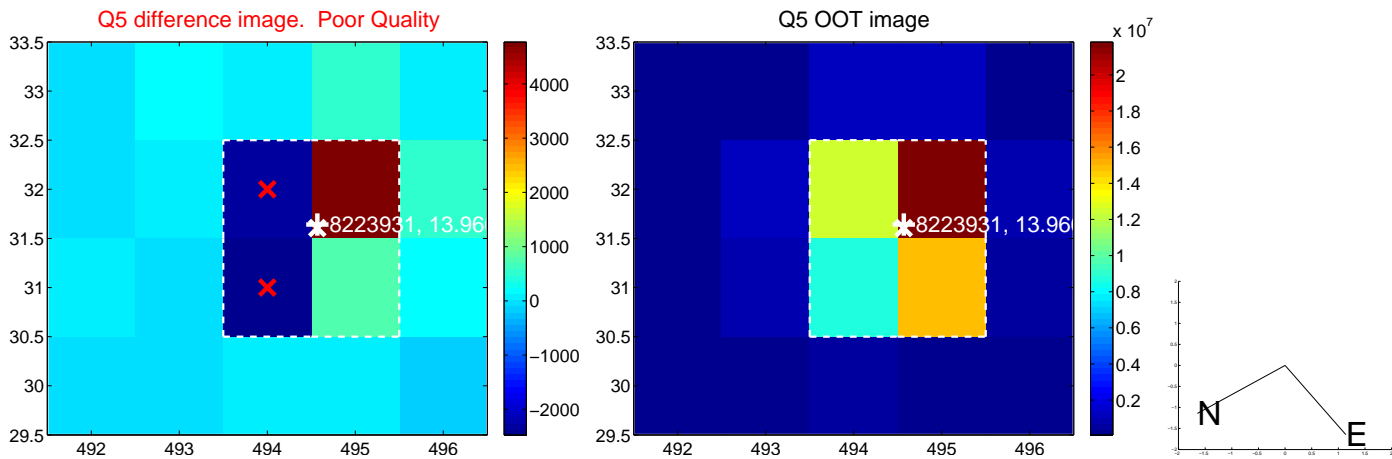


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

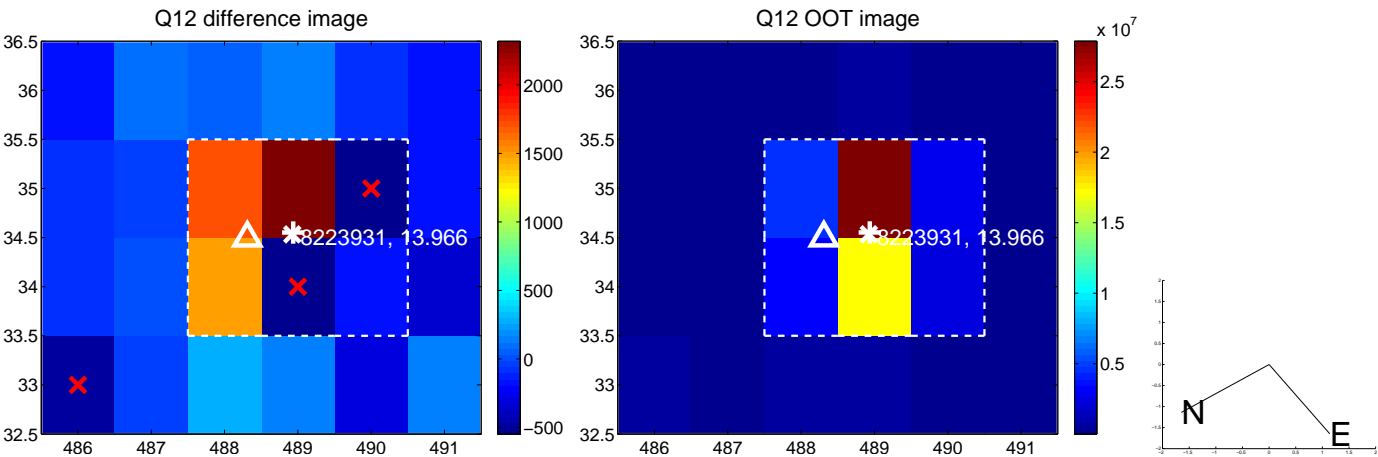
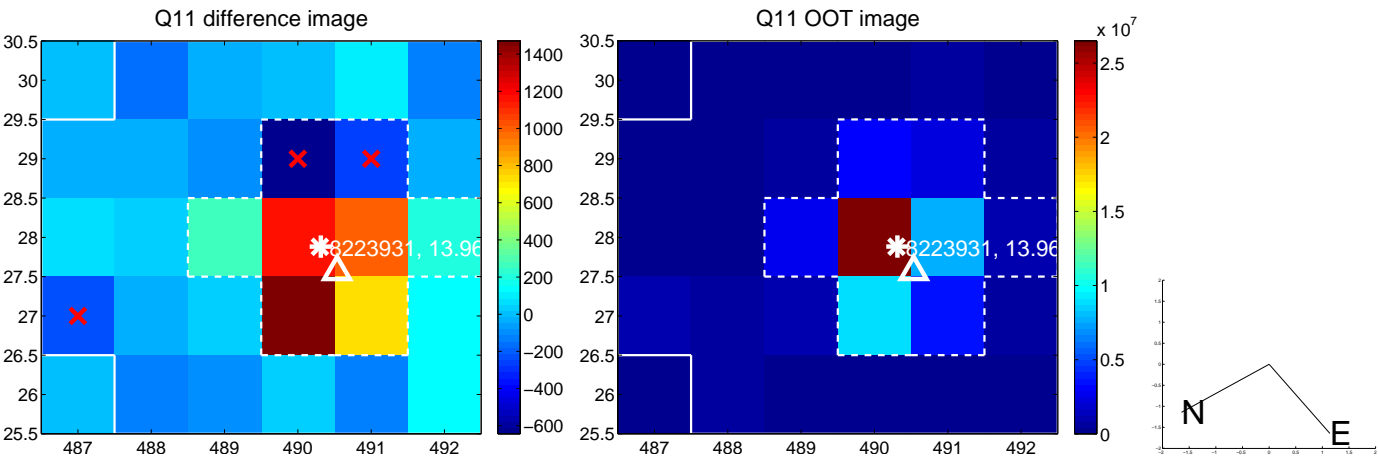
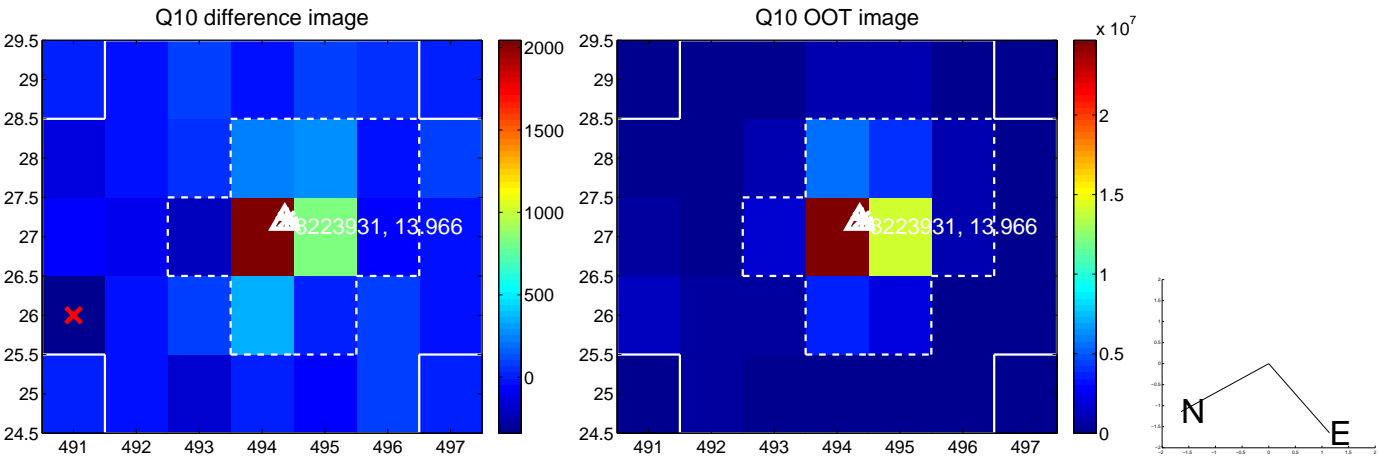
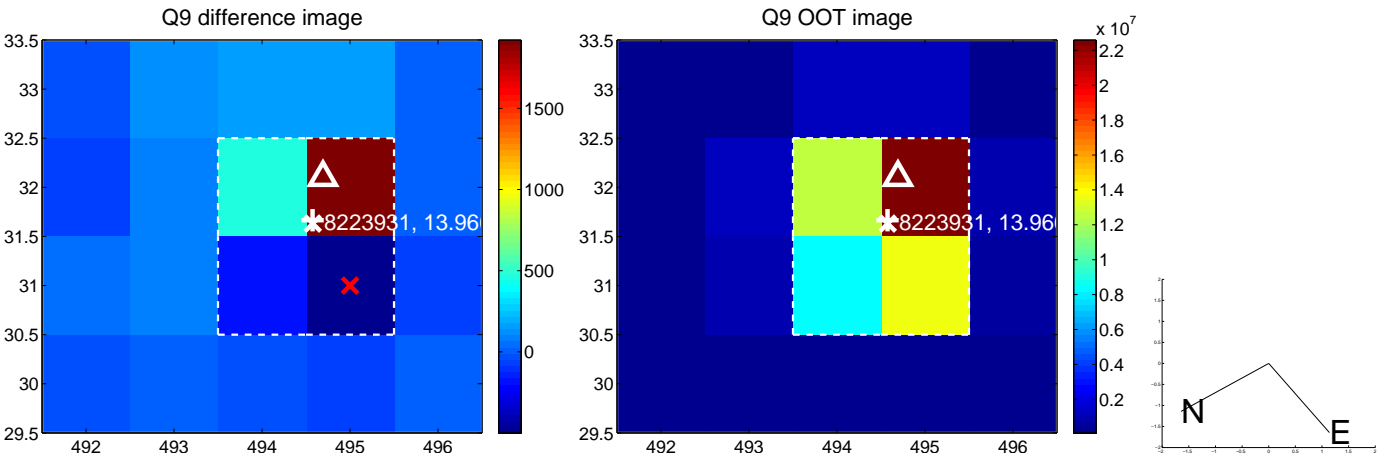
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



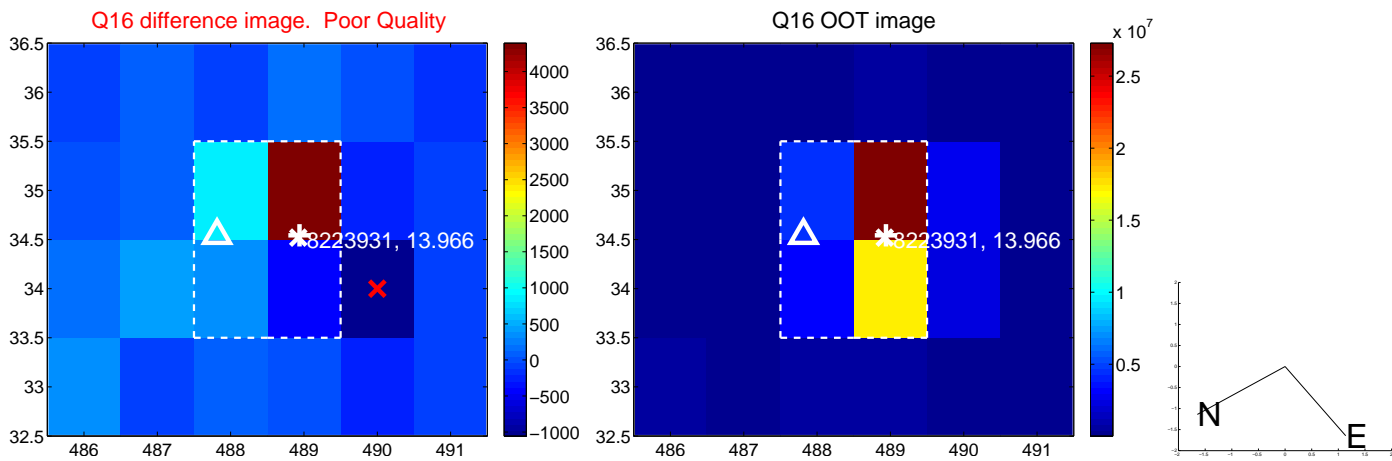
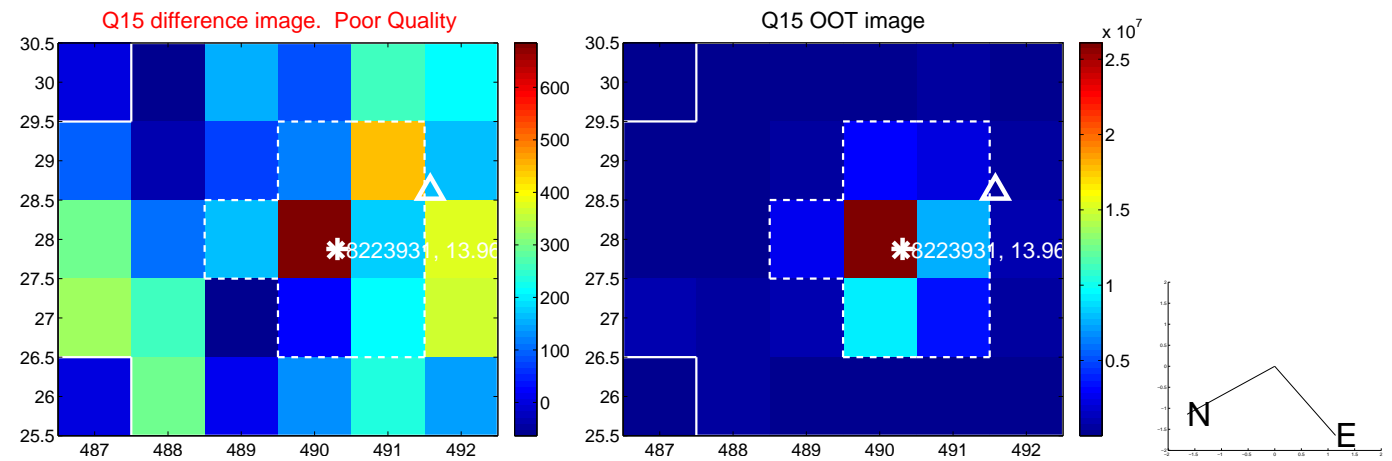
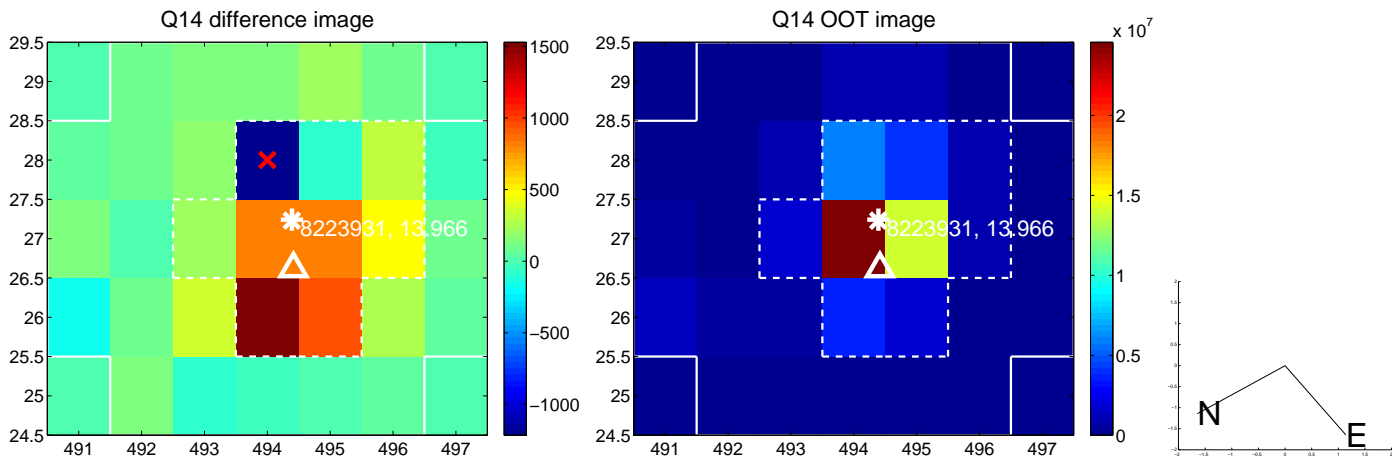
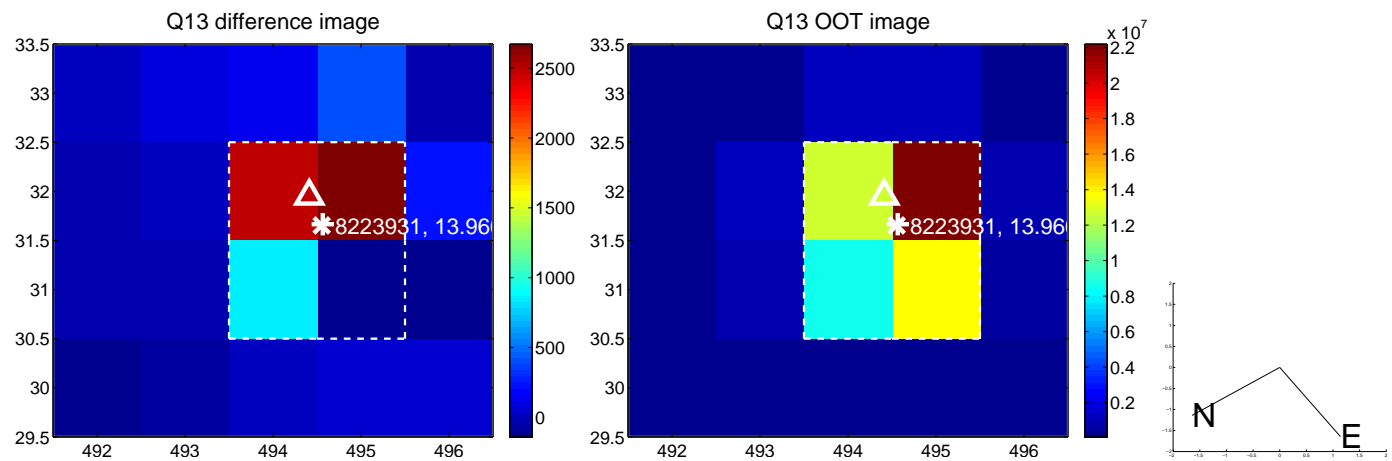
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



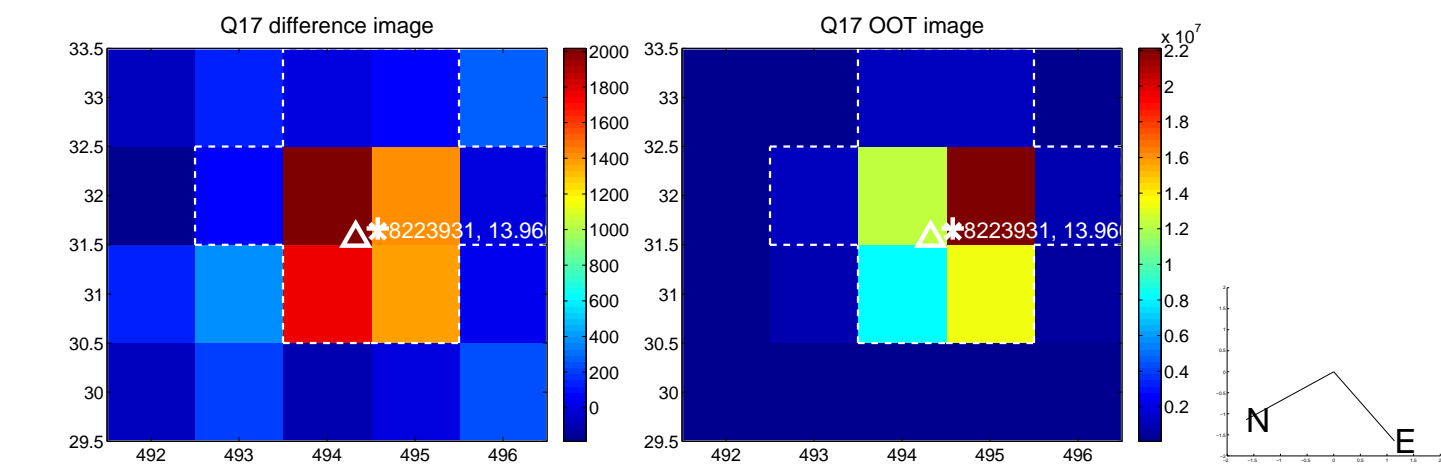
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



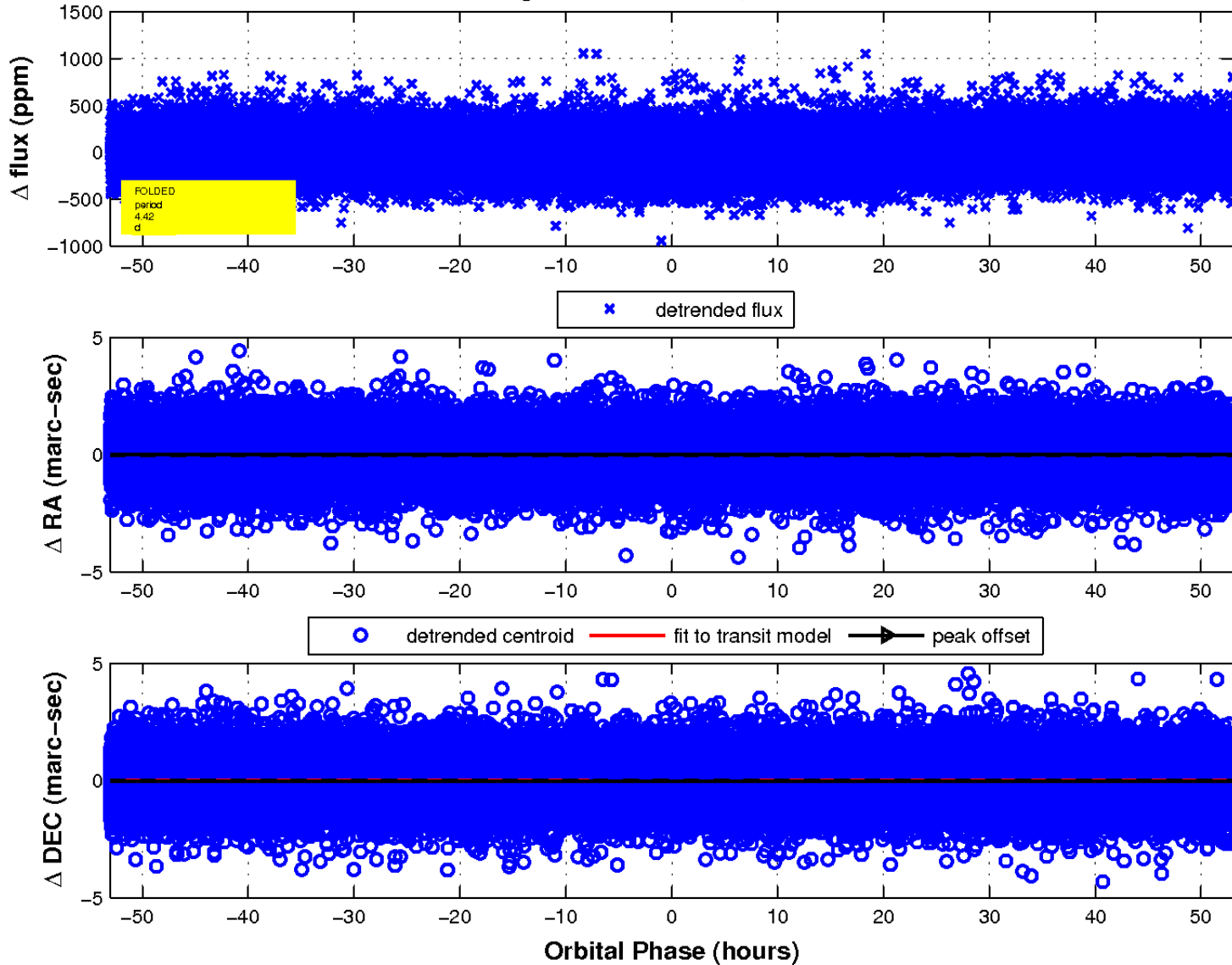
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

