

KIC 009099728

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})
009099728-01	OBS	No	0.784214	131.816398	35.6	2.393	9.7	4.0	3.02	8450	2.10	95653.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009099728-01	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.

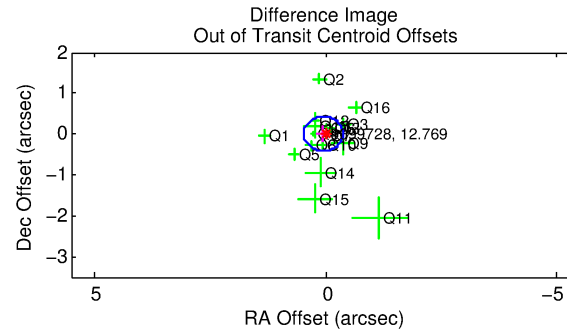
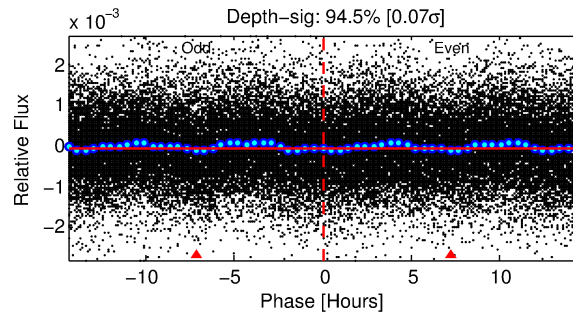
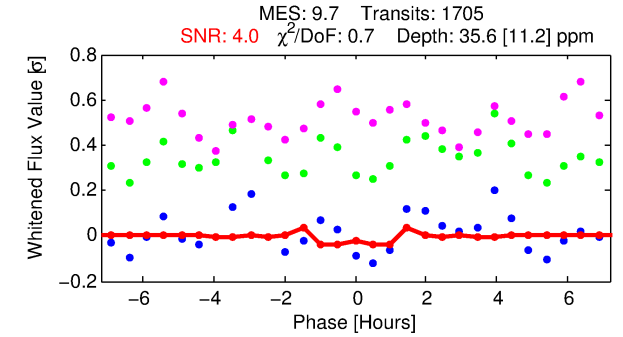
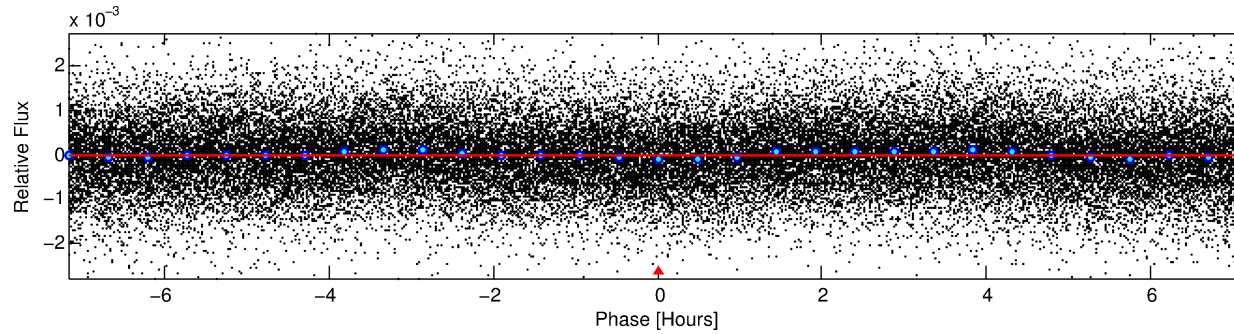
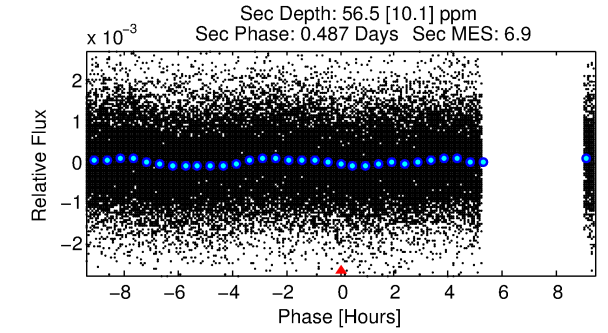
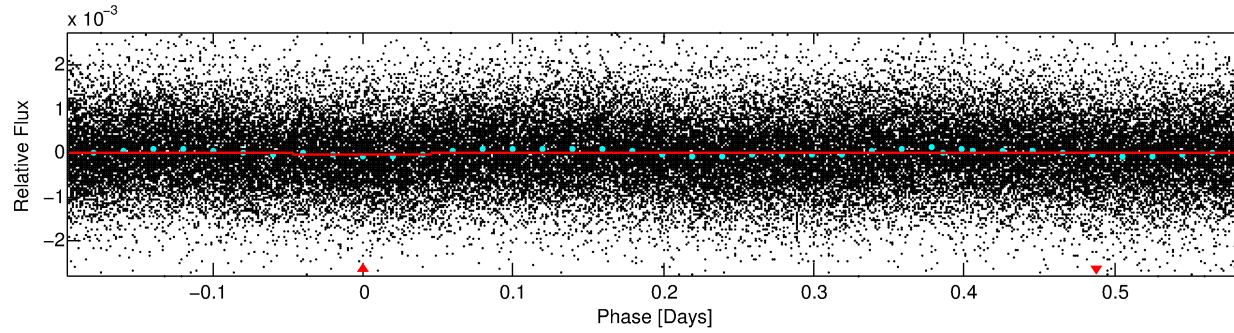
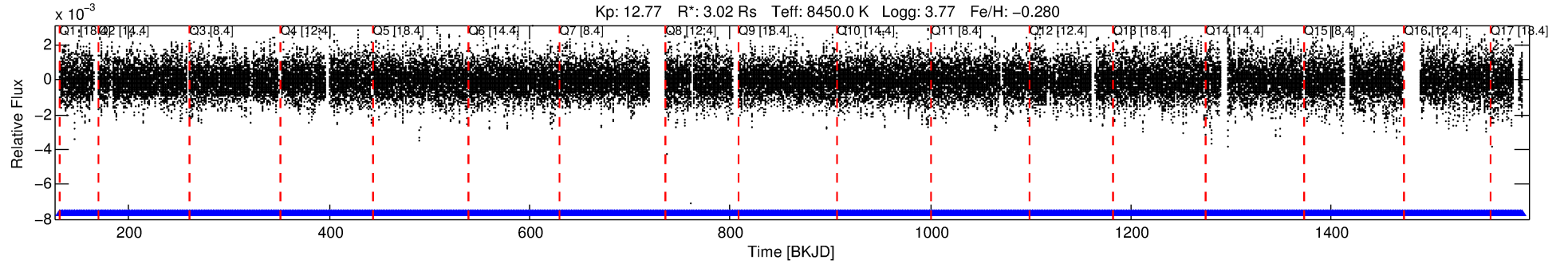
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009099728-01

No Significant Match Found

DV One-Page Summary

KIC: 9099728 Candidate: 1 of 1 Period: 0.784 d



DV Fit Results:

Period = 0.78421 [0.00002] d
Epoch = 131.8164 [0.0027] BKJD
Rp/R* = 0.0064 [0.0019]
a/R* = 1.46 [1.37]
b = 0.90 [0.37]
Seff = 95653.34 [66896.64]
Teq = 4484 [784] K
Rp = 2.10 [1.18] Re
a = 0.0209 [0.0091] AU
Ag = 3.09 [2.88] [0.73σ]
Teffp = 9191 [1516] K [2.76σ]

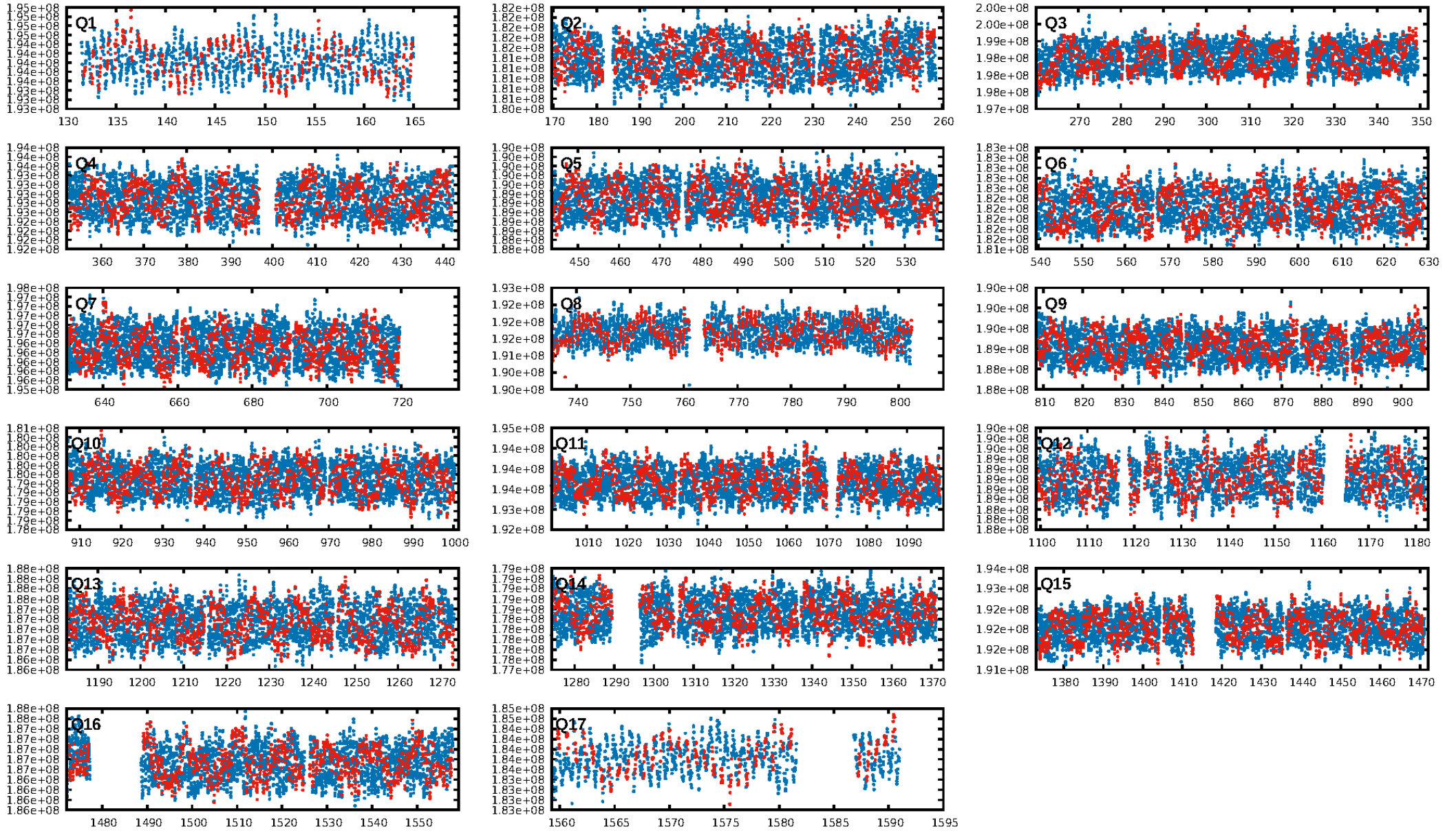
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.42e-20
RollingBand-fgt: 1.00 [1629/1629]
GhostDiagnostic-chr: 2.379
Centroid-sig: 0.3%
Centroid-so: 0.650 arcsec [1.61σ]
OotOffset-rm: 0.049 arcsec [0.34σ]
KicOffset-rm: 0.196 arcsec [1.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

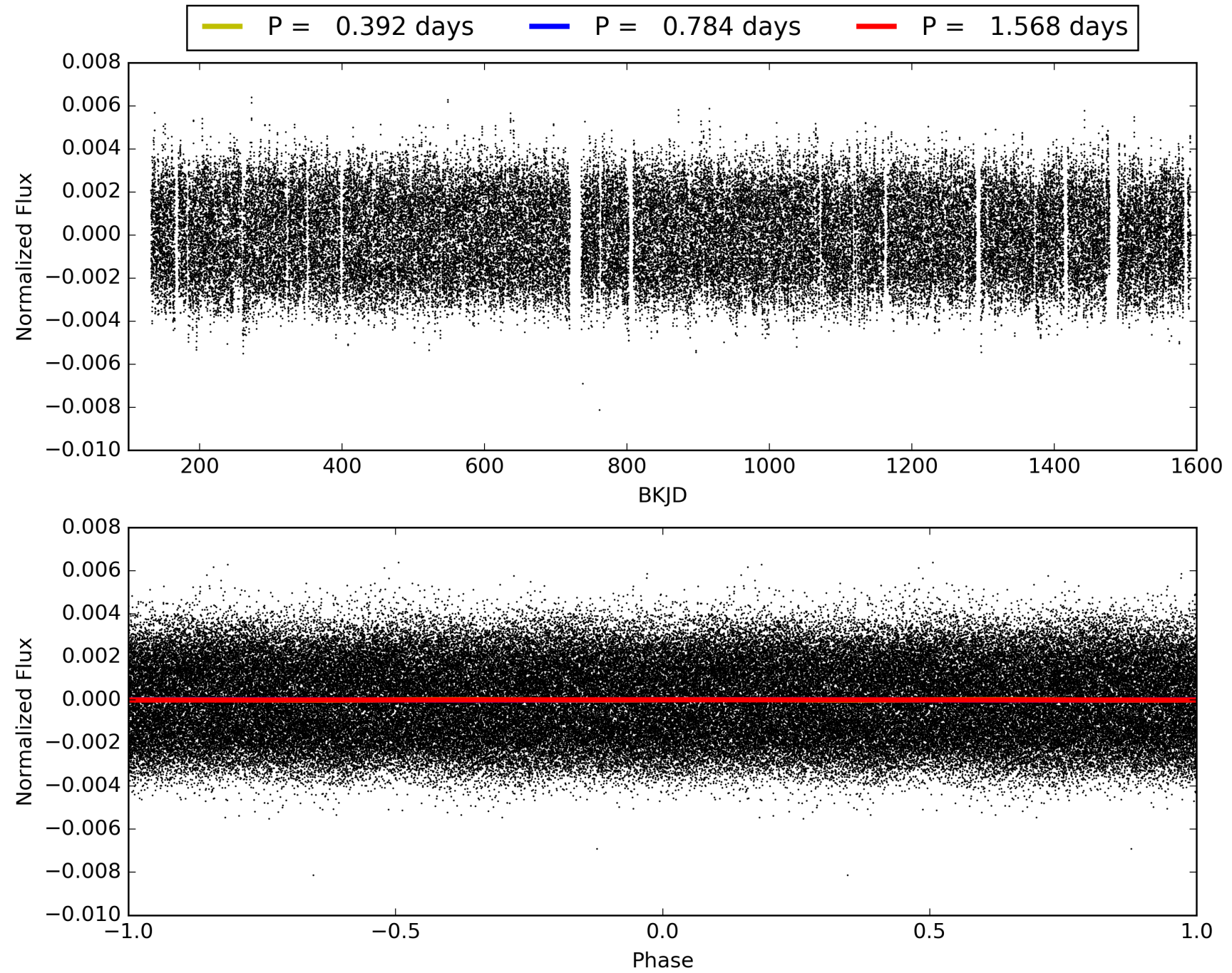
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:59:45 Z

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

TCE 009099728-01, PDC Light Curves

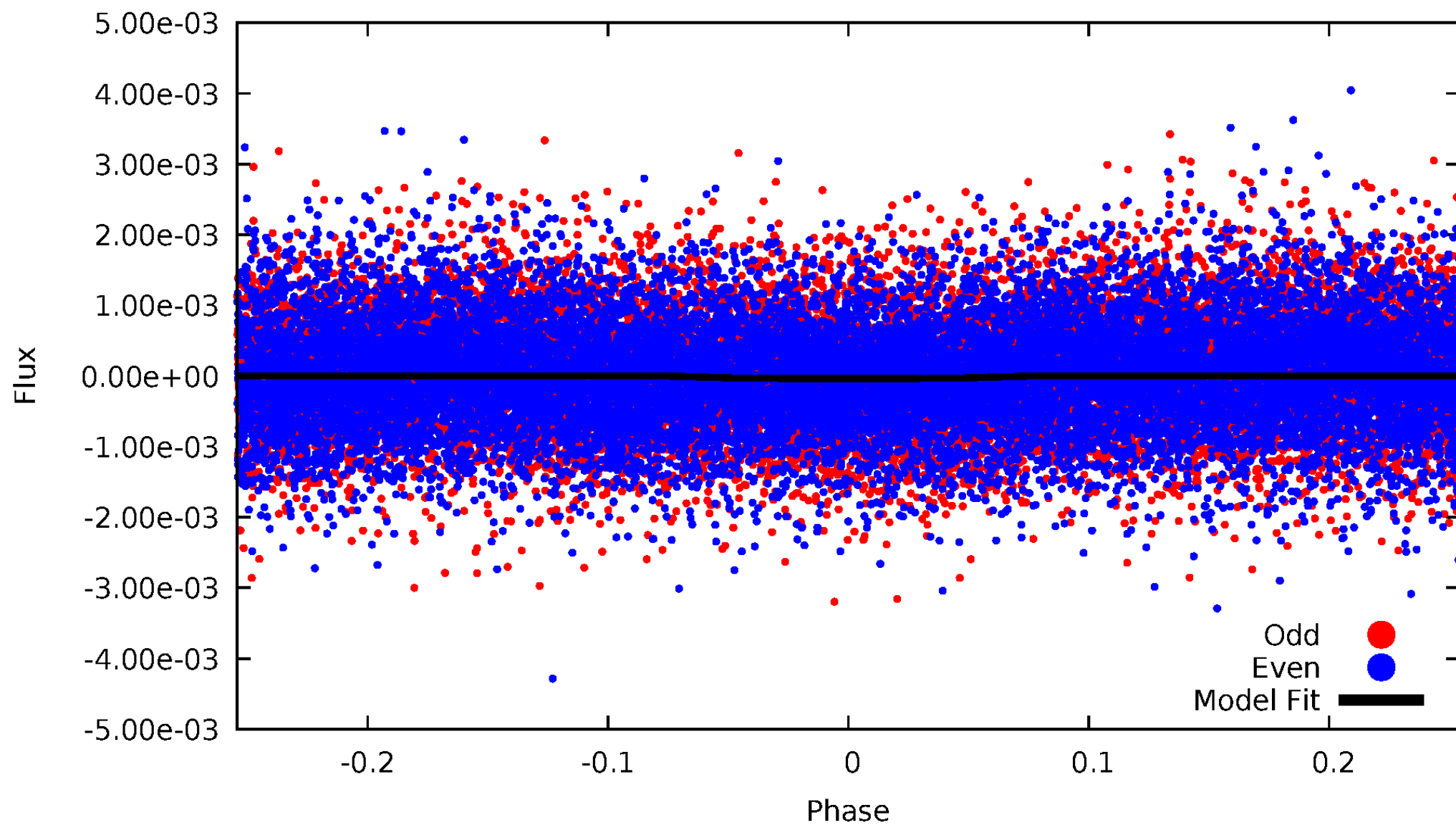


TCE 009099728-01



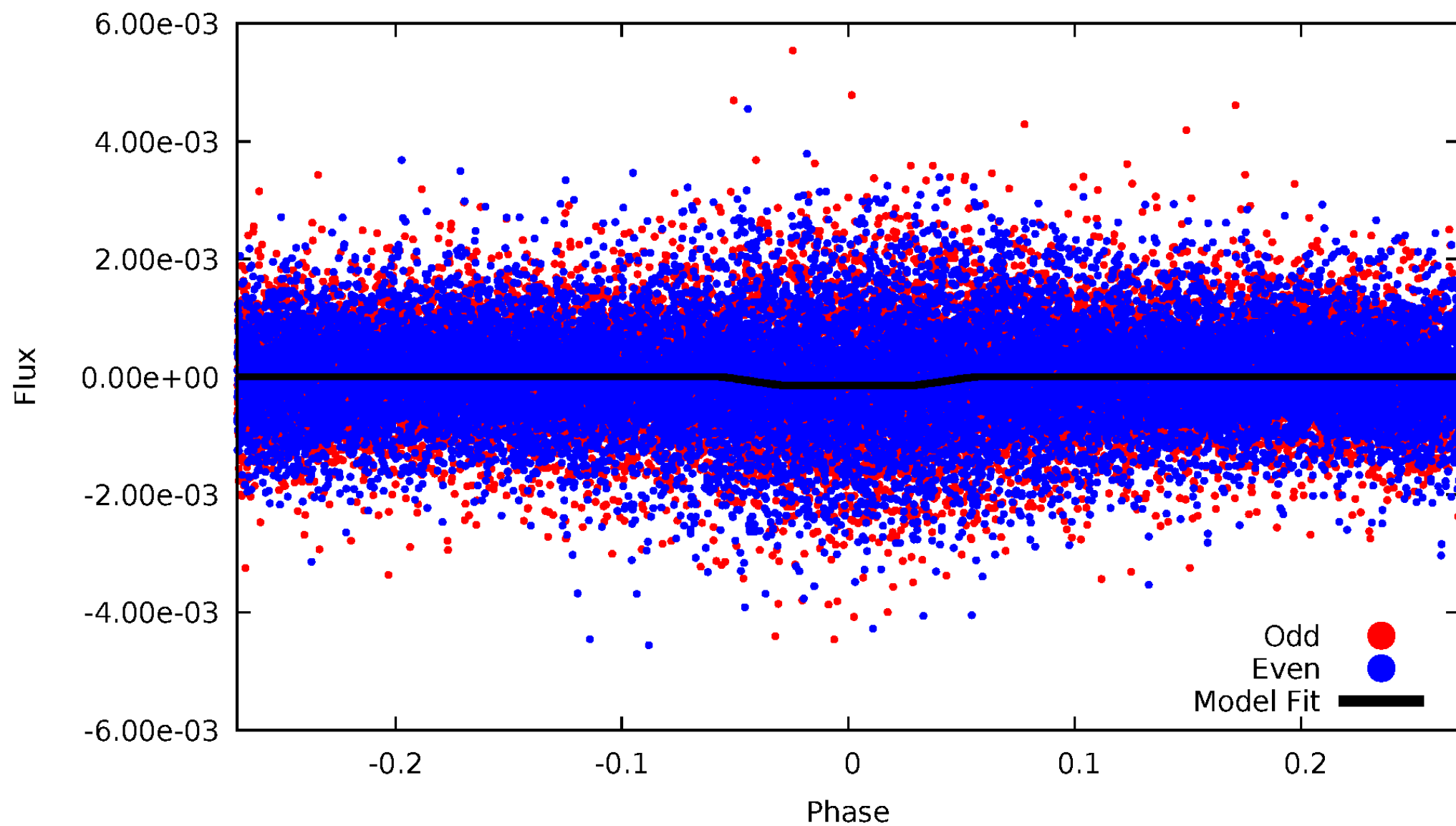
DV Odd/Even

TCE 009099728-01



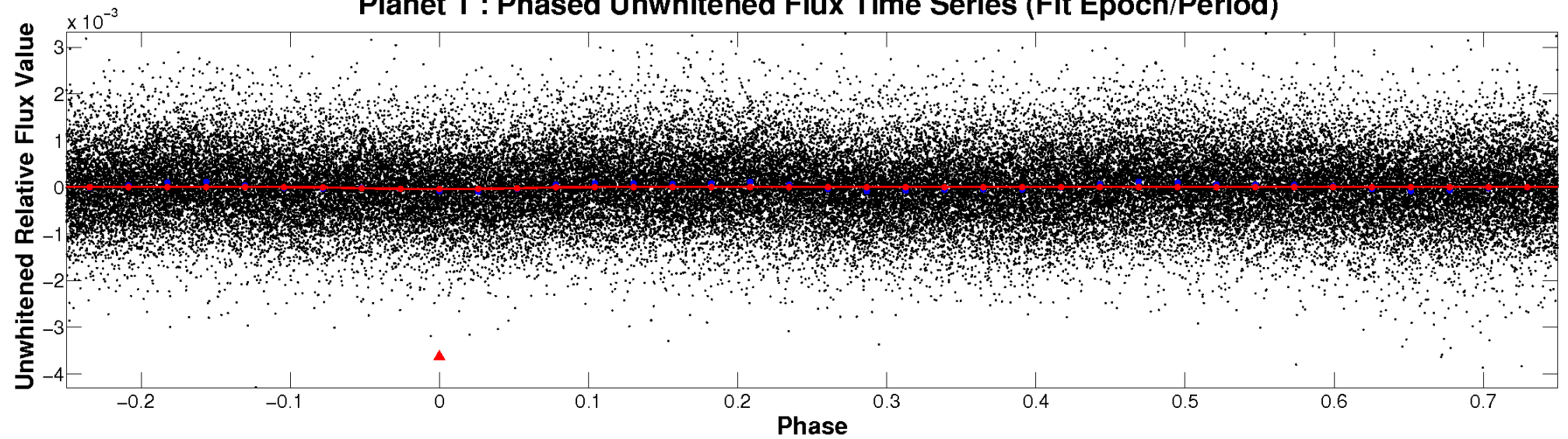
ALT Odd/Even

TCE 009099728-01

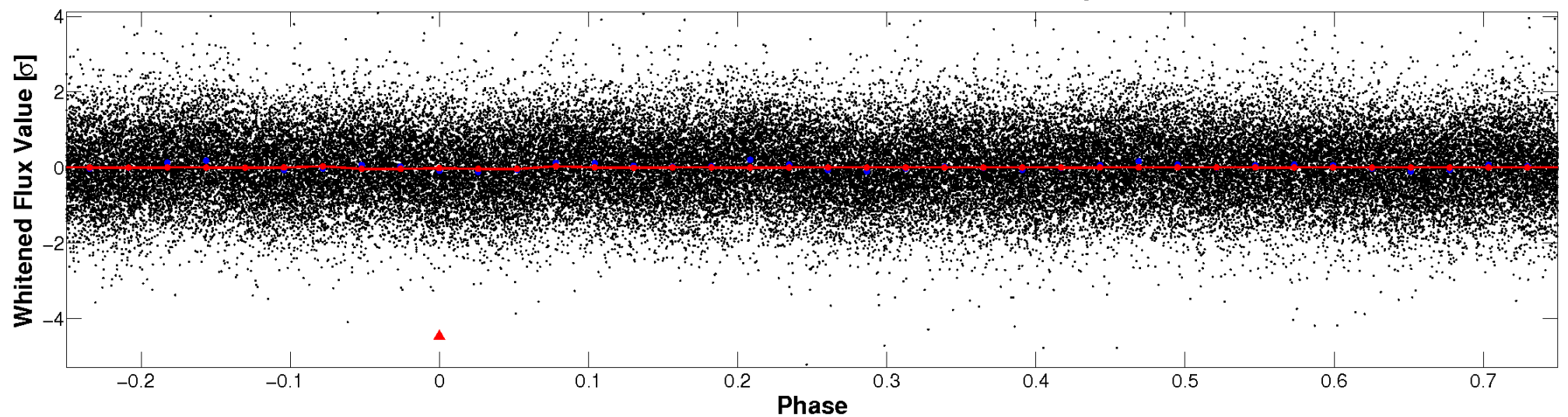


Non-Whitened Vs. Whitened Light Curve

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

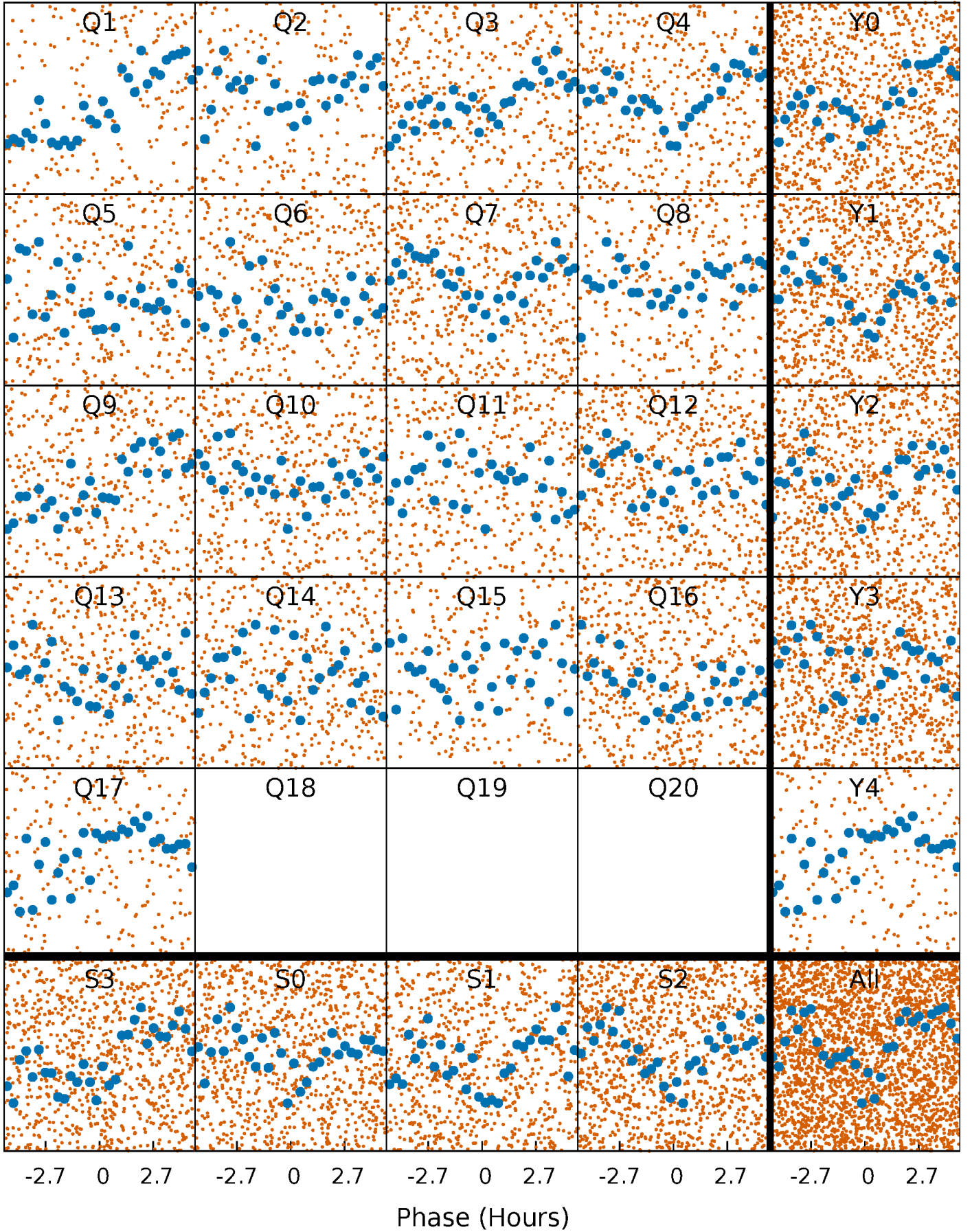


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



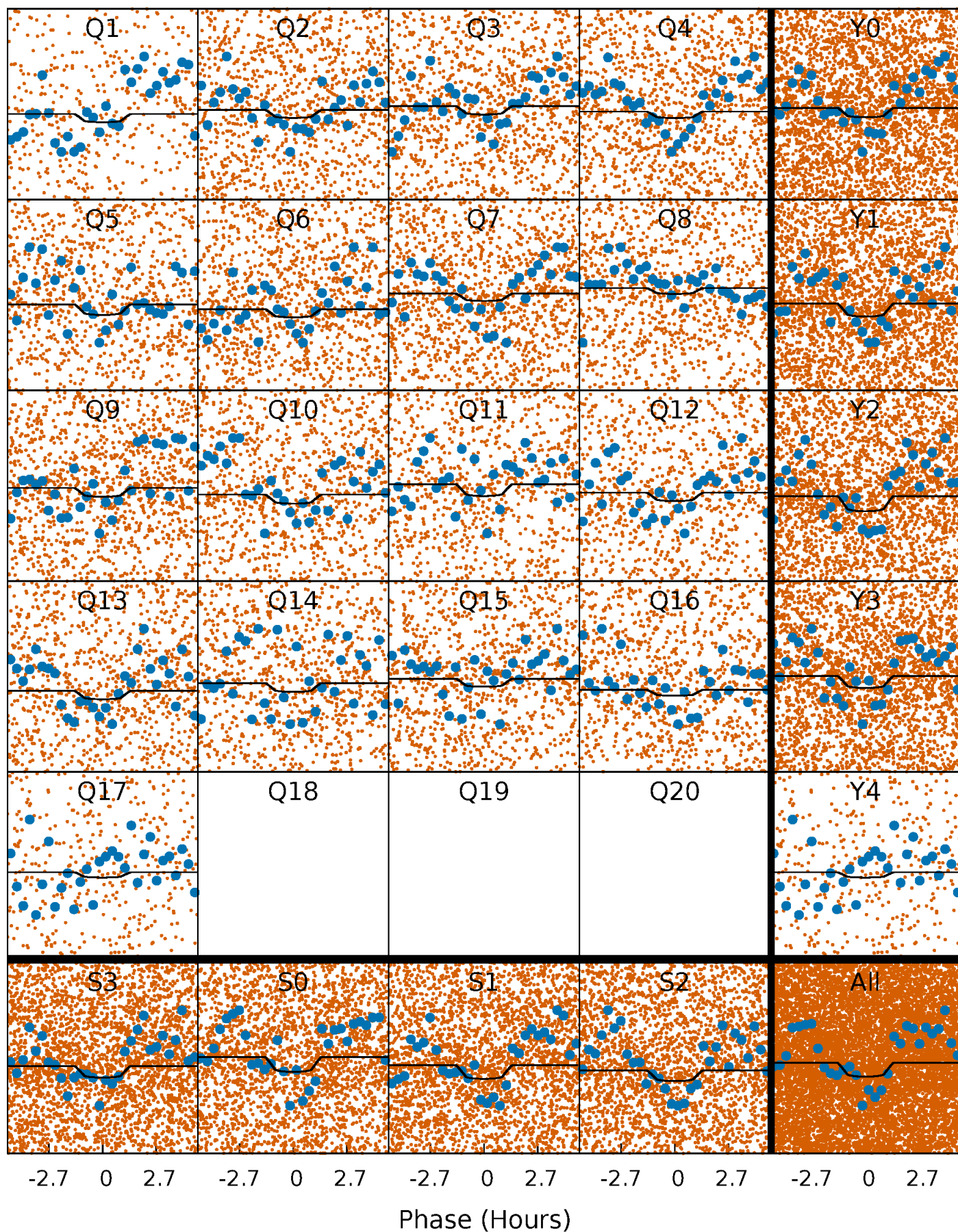
PDC Quarter-Phased Transit Curves

TCE 009099728-01 P= 0.784214 Days $T_0=131.816398$ (BKJD)



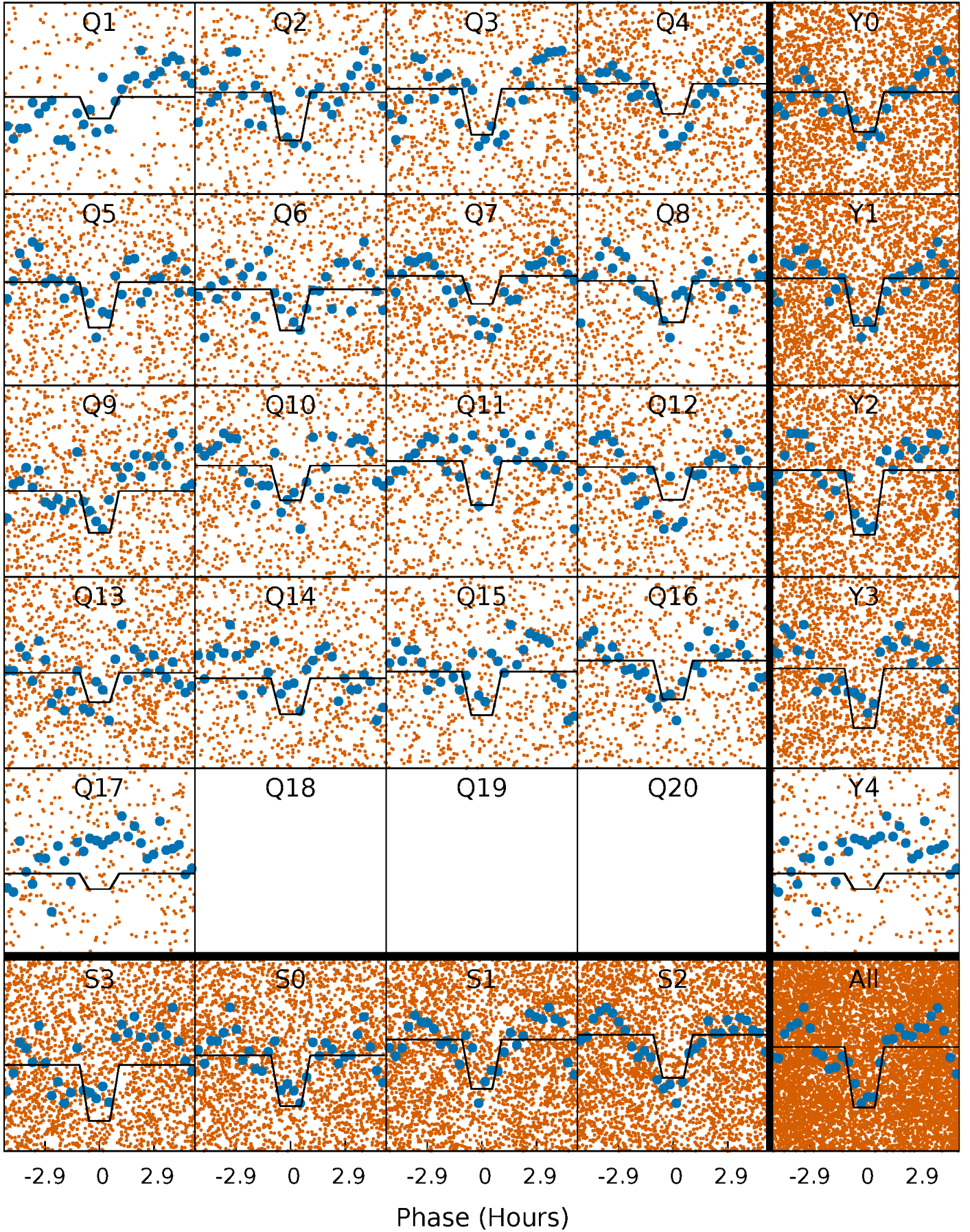
DV Quarter-Phased Transit Curves

TCE 009099728-01 P= 0.784214 Days $T_0=131.816398$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

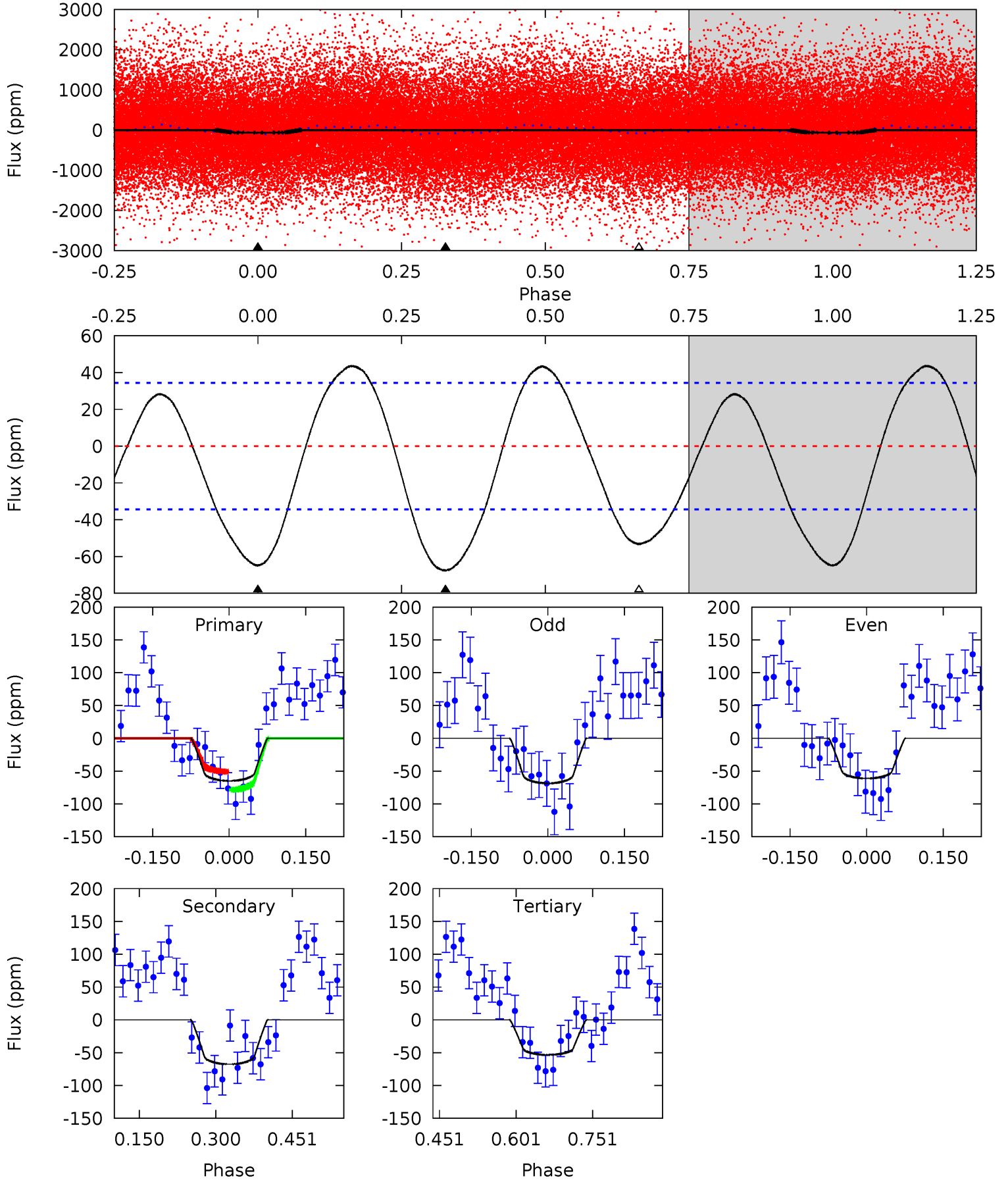
TCE 009099728-01 P= 0.784231 Days $T_0=131.811851$ (BKJD)



DV Model-Shift Uniqueness Test

009099728-01, P = 0.784214 Days, E = 131.032184 Days

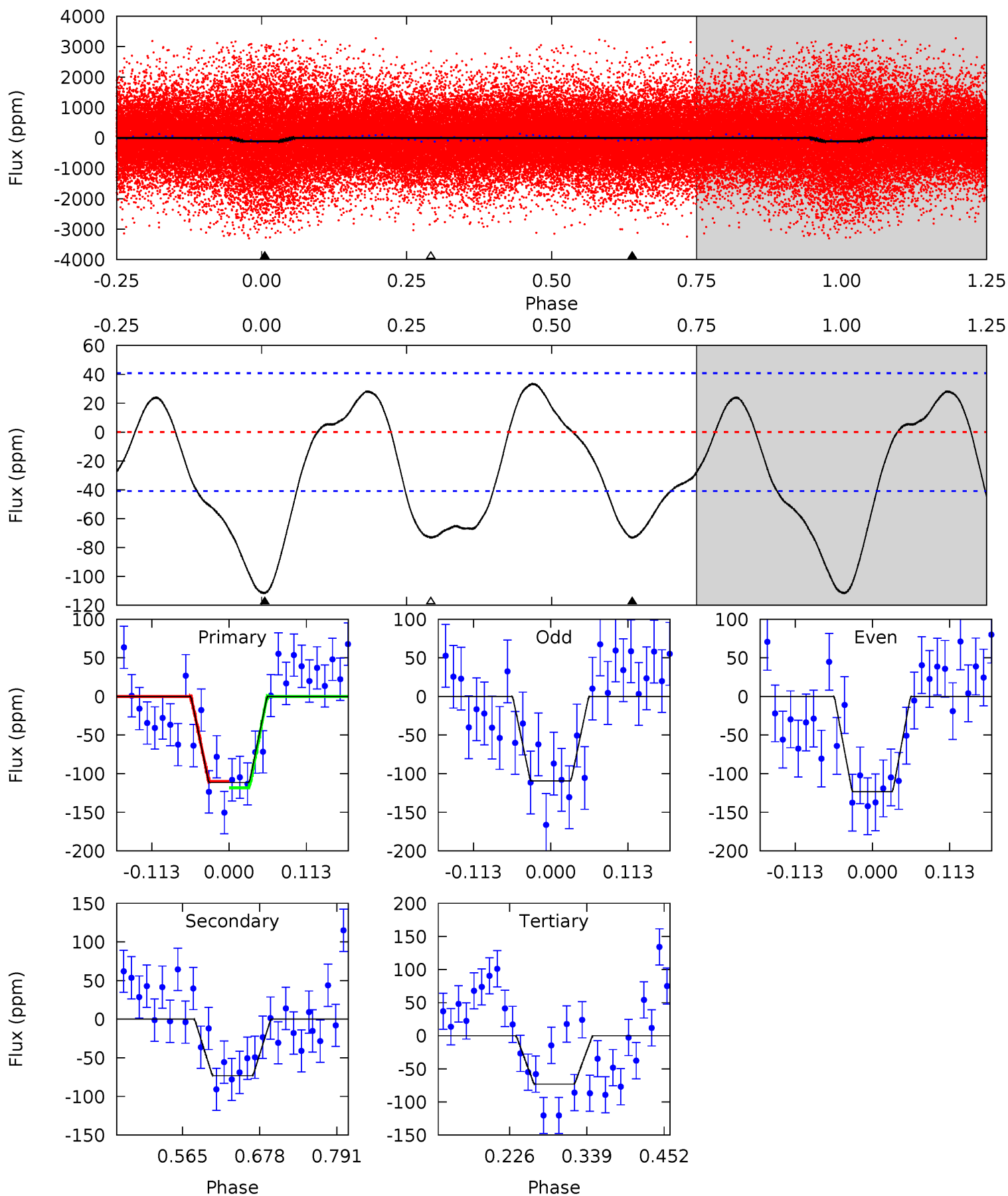
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.45	8.80	6.94	0	4.48	1.44	4.42	1.51	8.45	1.87	8.80	0.49	0.92	0.39	1.86



Alt Model-Shift Uniqueness Test

009099728-01, P = 0.784231 Days, E = 131.027620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	8.12	8.11	0	4.54	1.58	4.00	4.28	12.4	0.01	8.12	0.77	0.84	0.23	0.45



Stellar Parameters For KIC 009099728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8450^{+237}_{-356}	$3.773^{+0.392}_{-0.098}$	$-0.280^{+0.200}_{-0.350}$	$3.023^{+0.712}_{-1.424}$	$1.978^{+0.382}_{-0.424}$	$0.101^{+0.371}_{-0.033}$
	+3%/-4%	+10%/-3%	+71%/-125%	+24%/-47%	+19%/-21%	+368%/-32%
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 009099728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-68 ± 8	$1.94^{+0.80}_{-0.66}$	6059^{+456}_{-652}	9623^{+3740}_{-1801}	$4.349^{+5.452}_{-2.118}$
Alt.	-73 ± 9	$3.71^{+0.98}_{-0.92}$	6055^{+440}_{-586}	6385^{+826}_{-764}	$1.289^{+0.925}_{-0.473}$

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

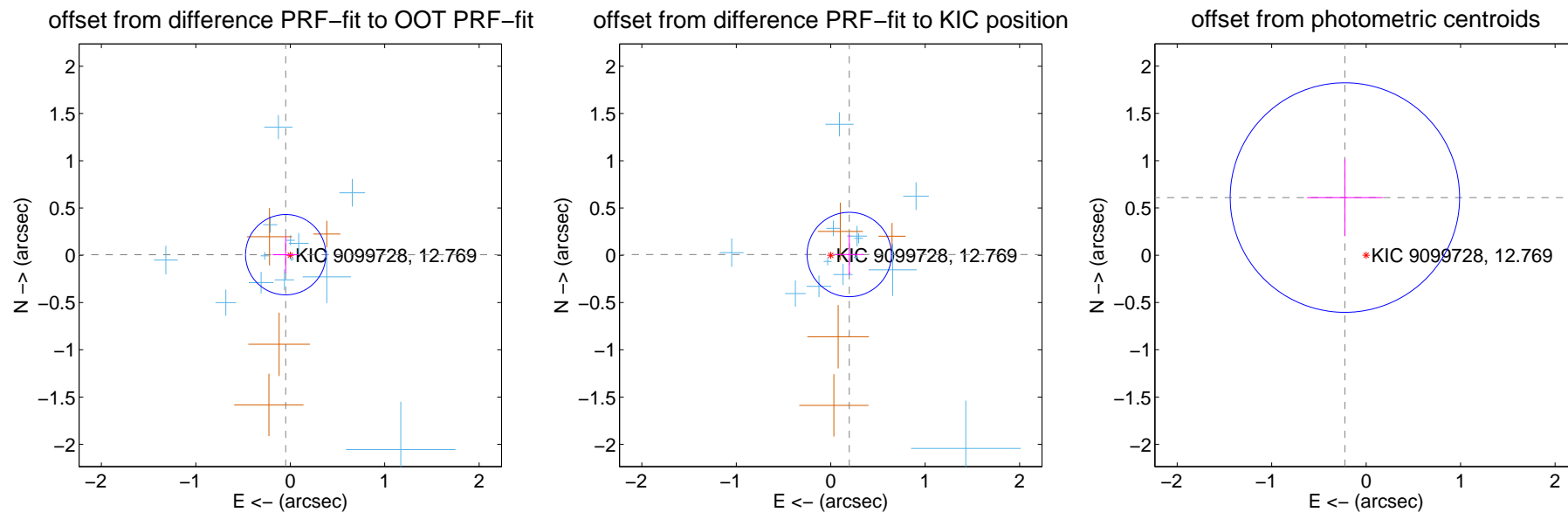
DV Centroid Data

Supplemental centroid analysis for 009099728-01. Kepler magnitude: 12.77. Transit SNR 3.95

There are 13 quarters with good PRF difference image offsets

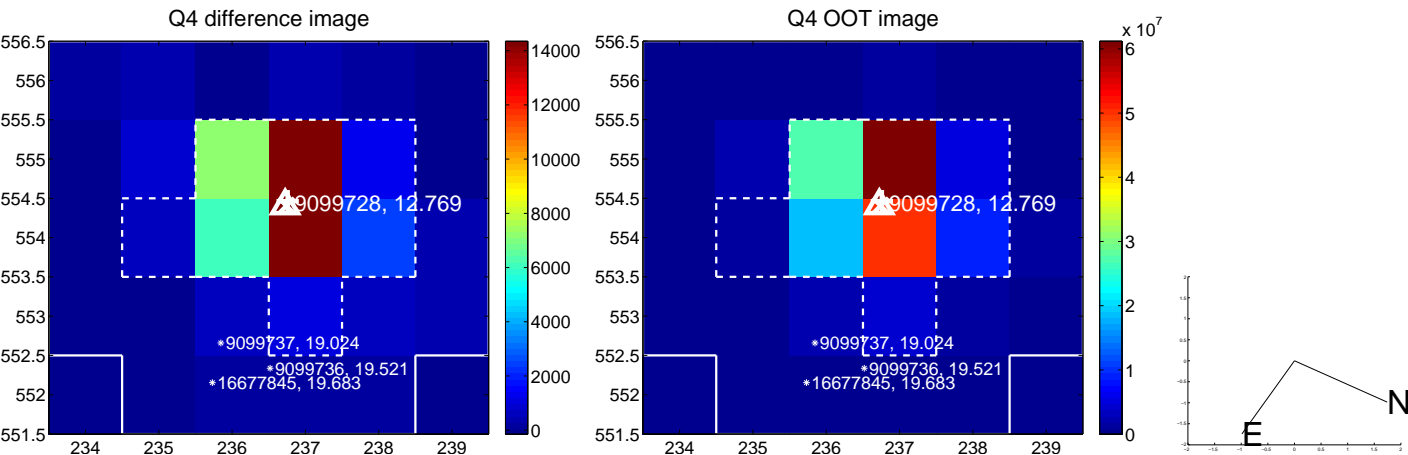
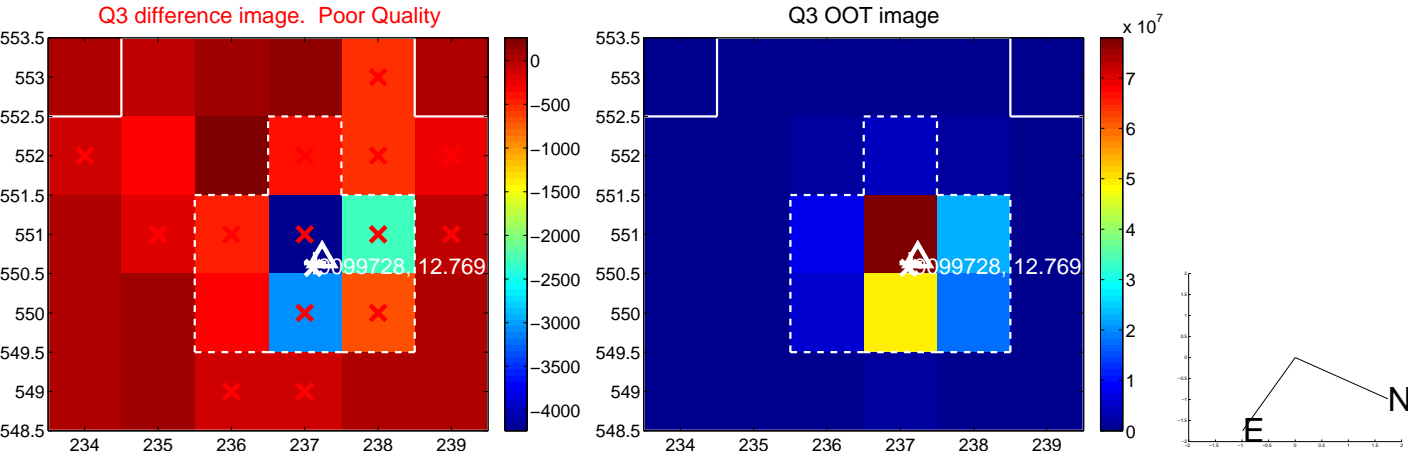
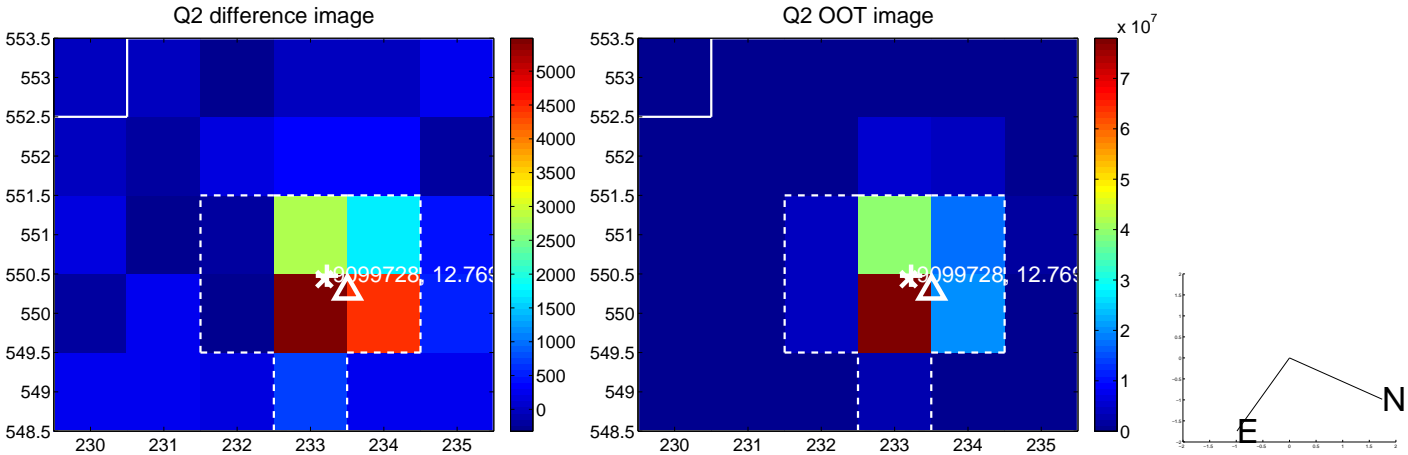
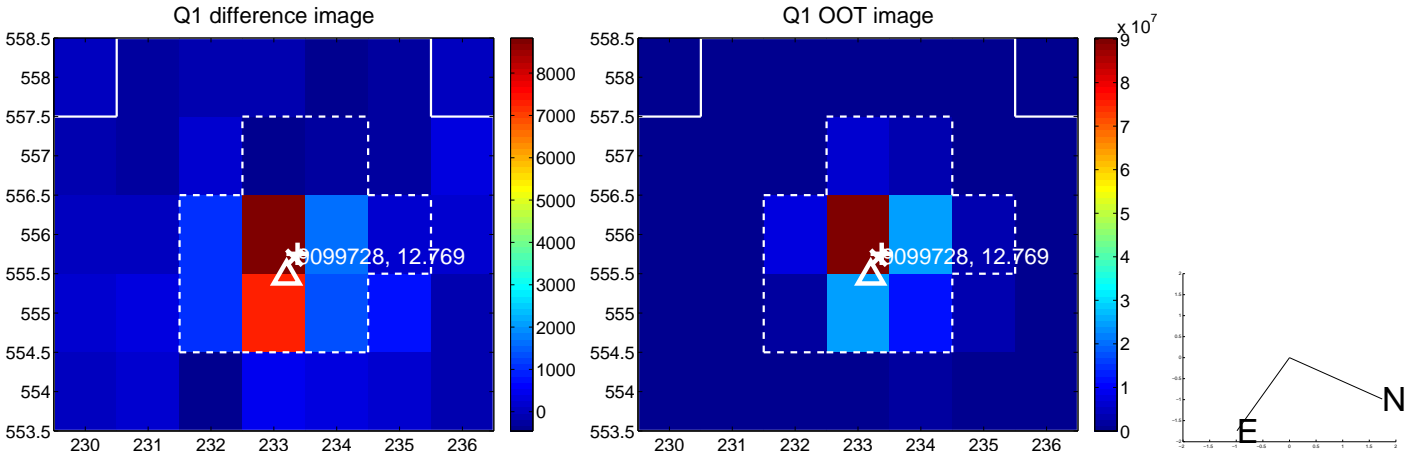
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.049 ± 0.142	0.34	0.048 ± 0.138	0.006 ± 0.195
PRF-fit source offset from KIC position	0.196 ± 0.149	1.32	-0.196 ± 0.150	0.008 ± 0.212
photometric centroid source offset	0.65 ± 0.40	1.61	0.22 ± 0.40	0.61 ± 0.41

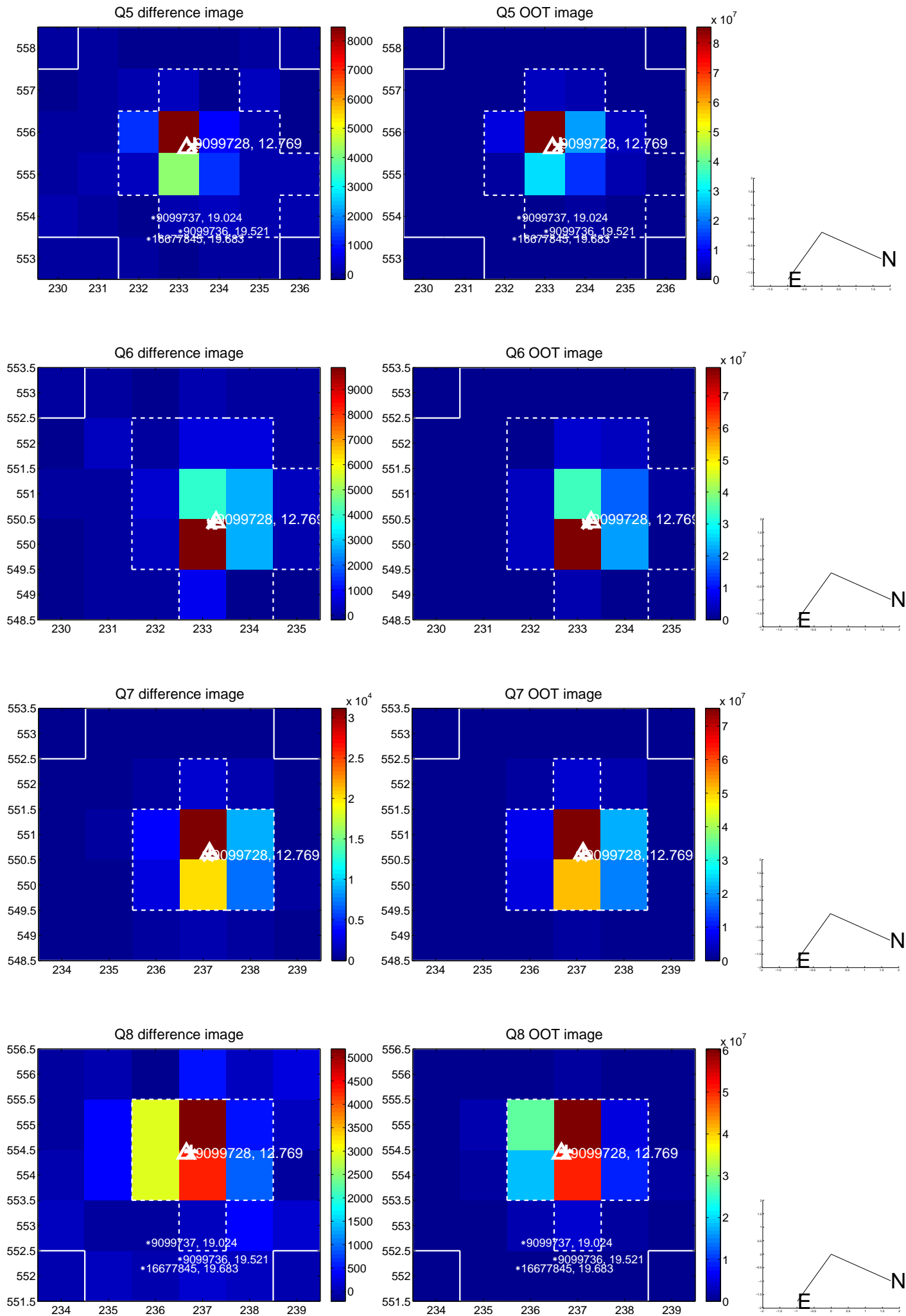


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

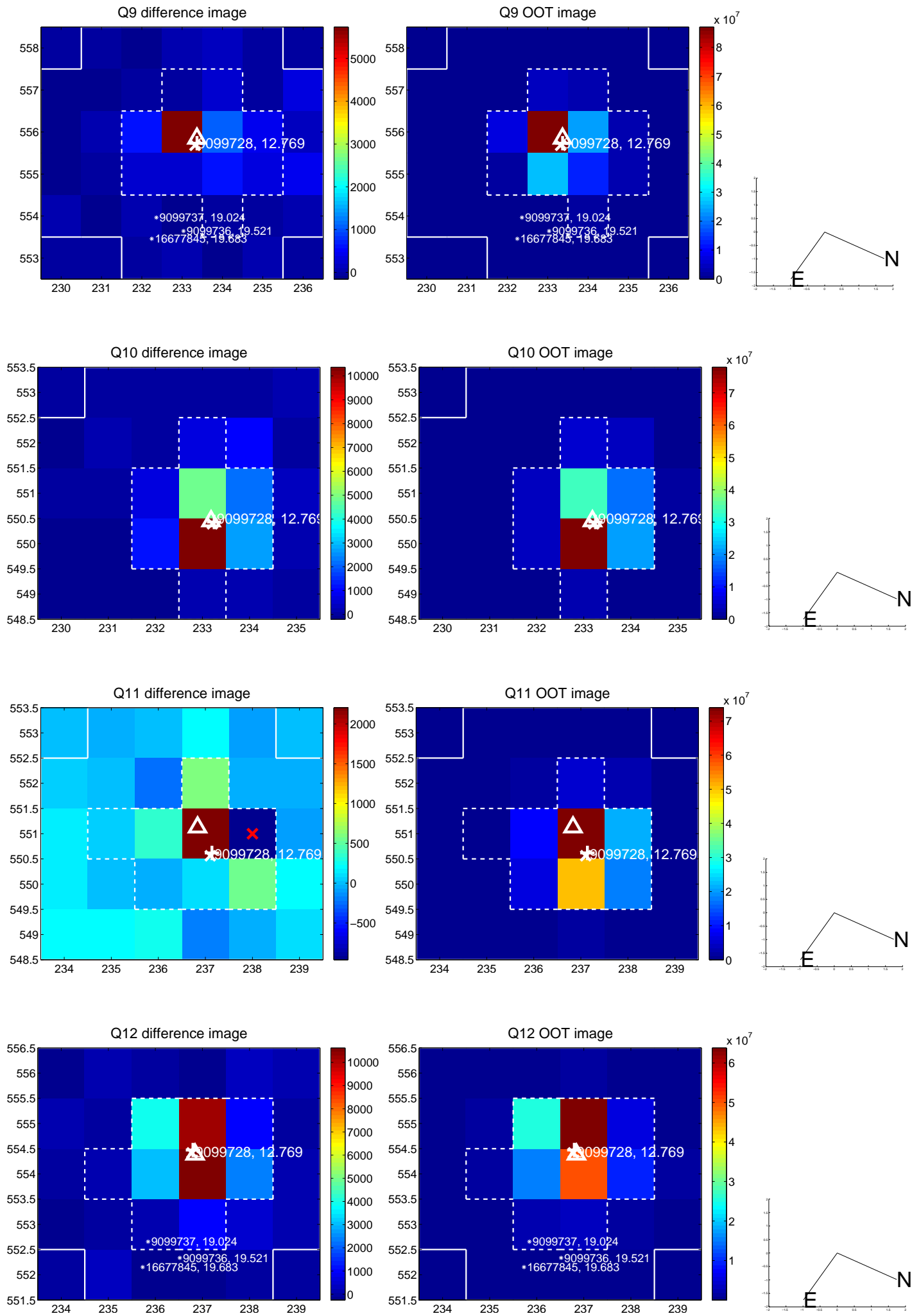
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



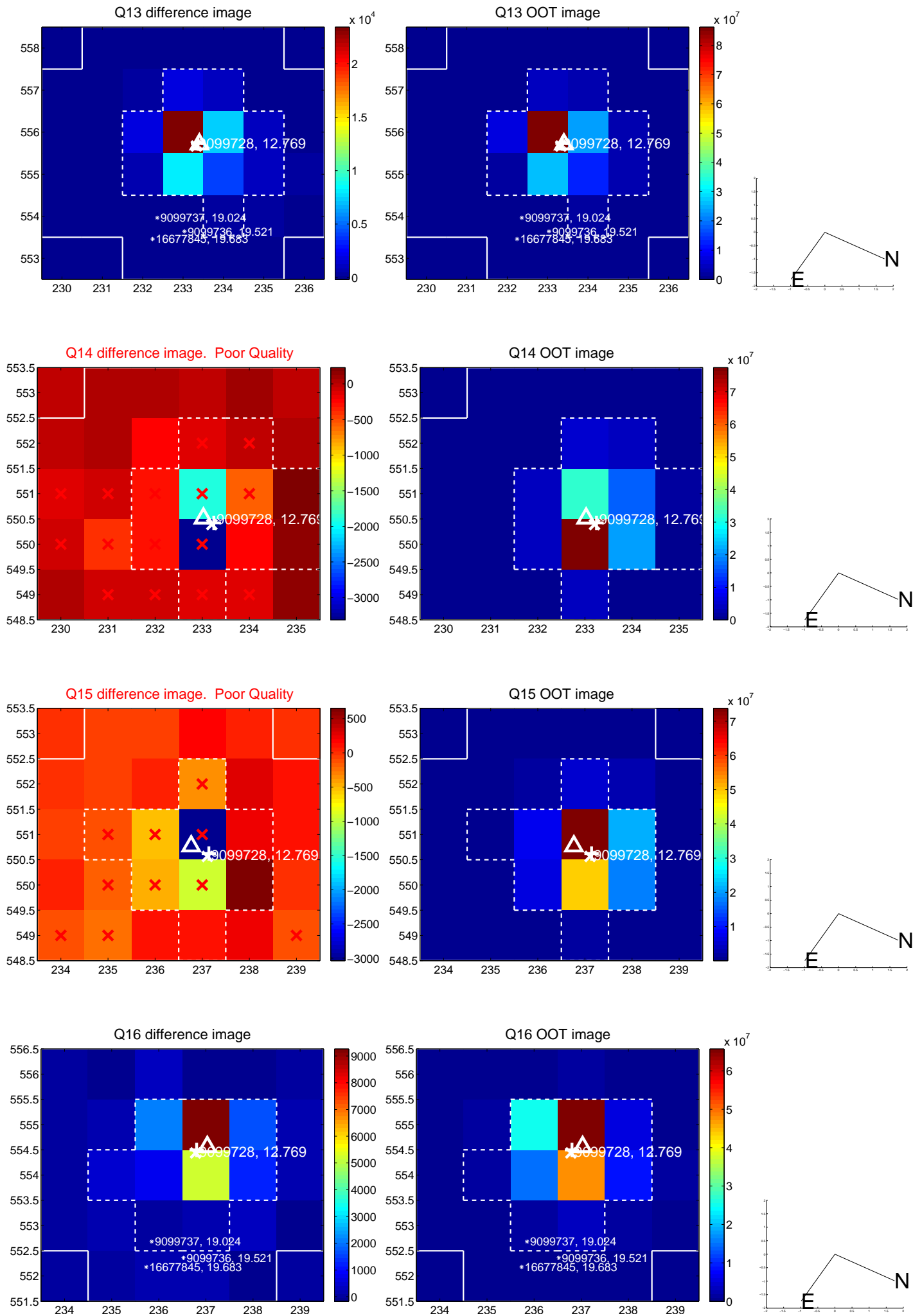
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



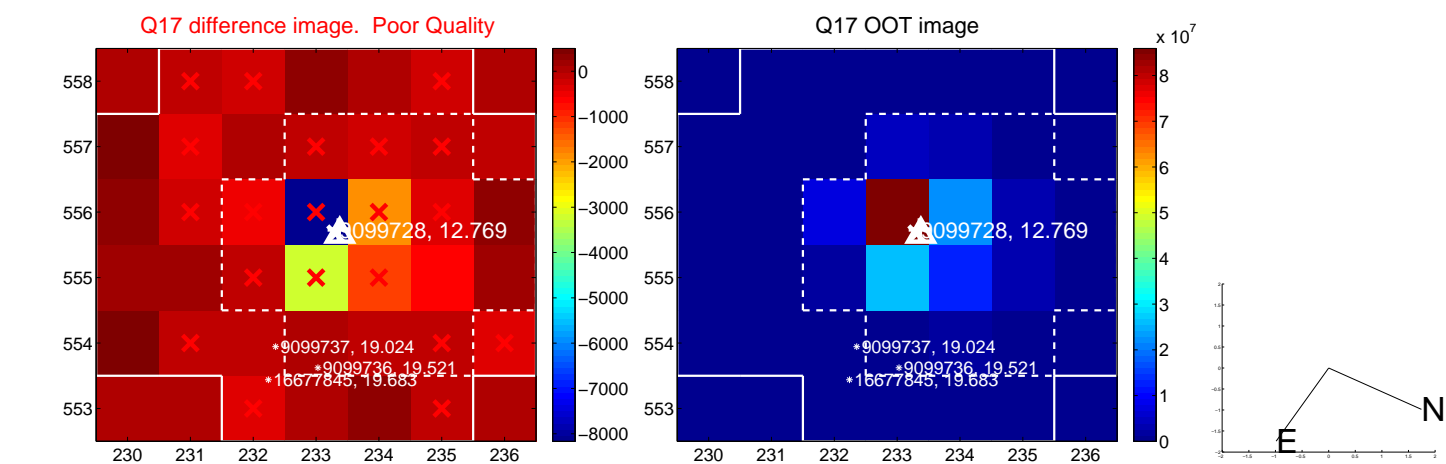
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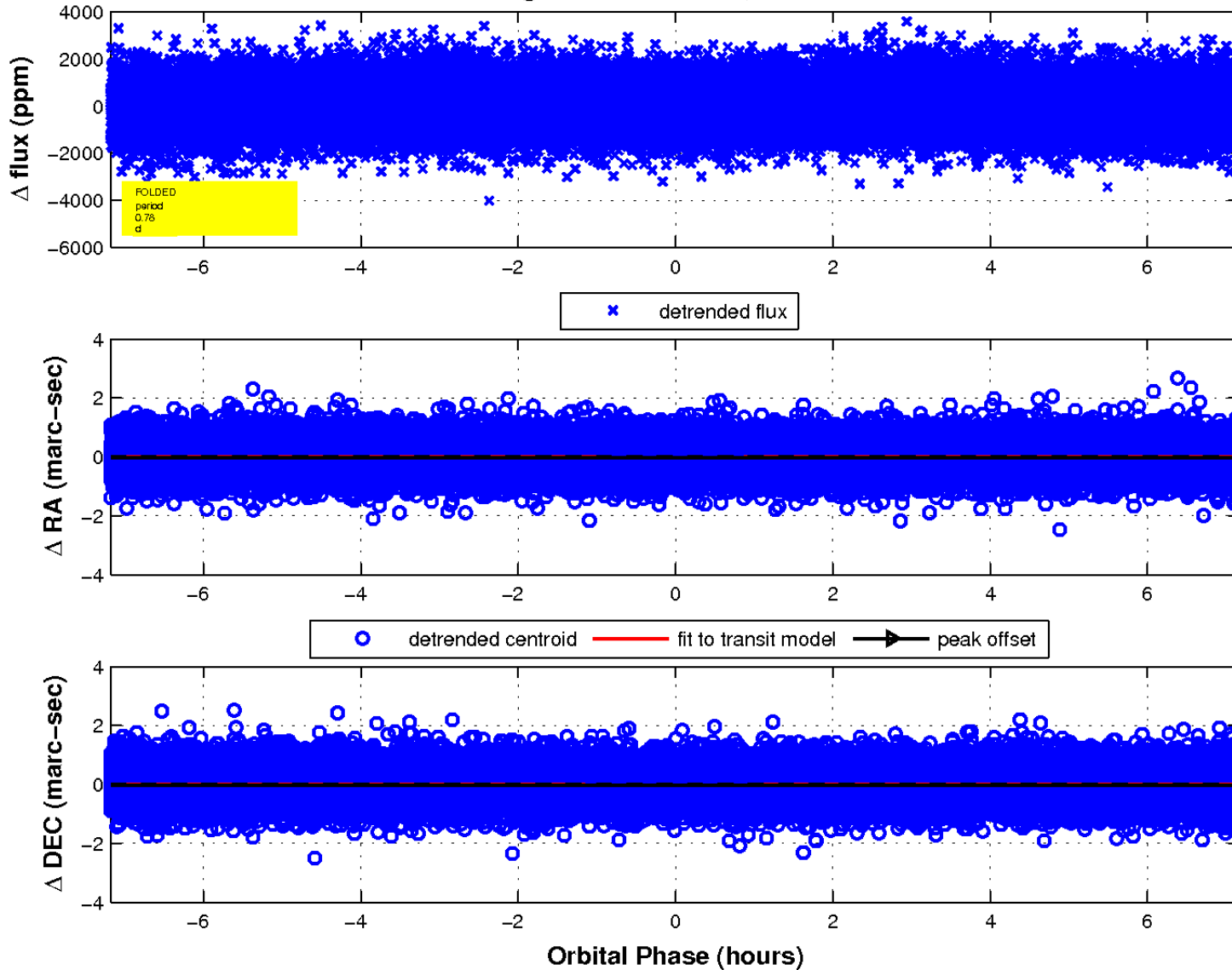
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

