

KIC 009101208

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
009101208-01	OBS	7134.01	1.811346	132.999572	61.8	5.901	10.2	10.8	0.91	5941	0.83	1094.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009101208-01	OBS	FP	0.00	0	0	0	1	CENT_FEW_DIFFS—EPHEM_MATCH

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.

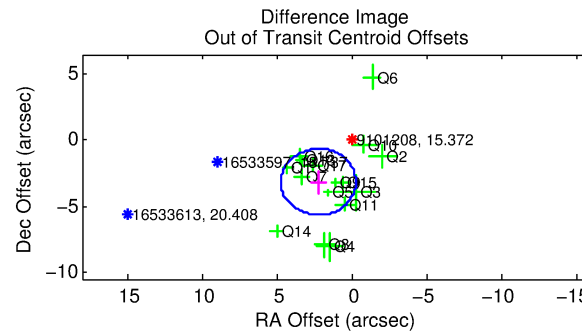
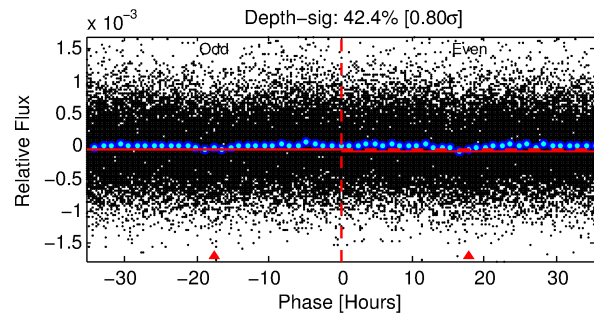
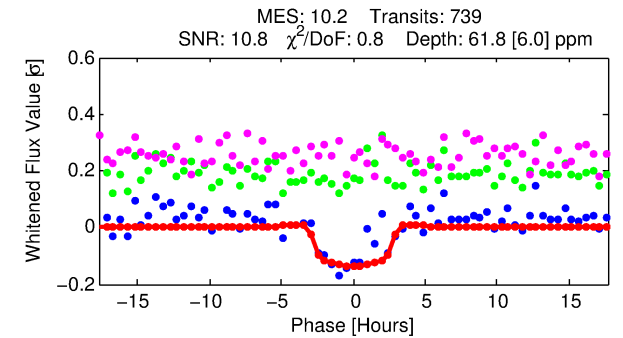
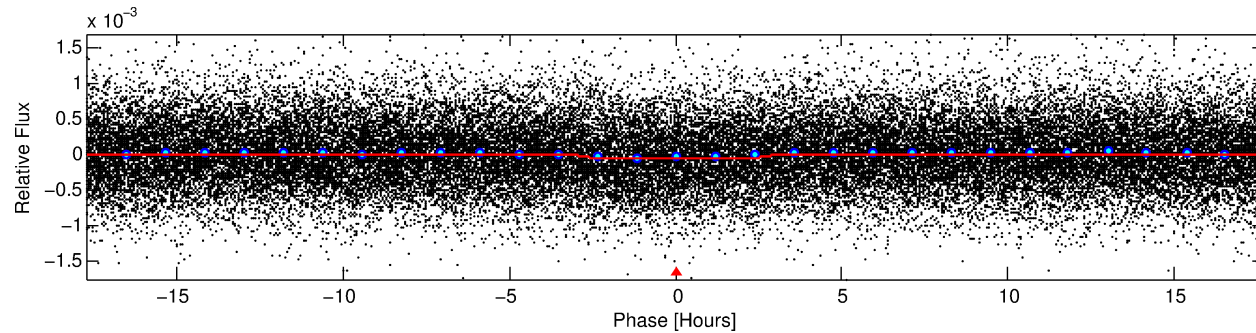
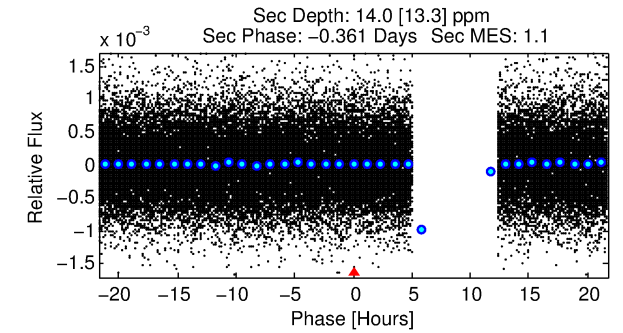
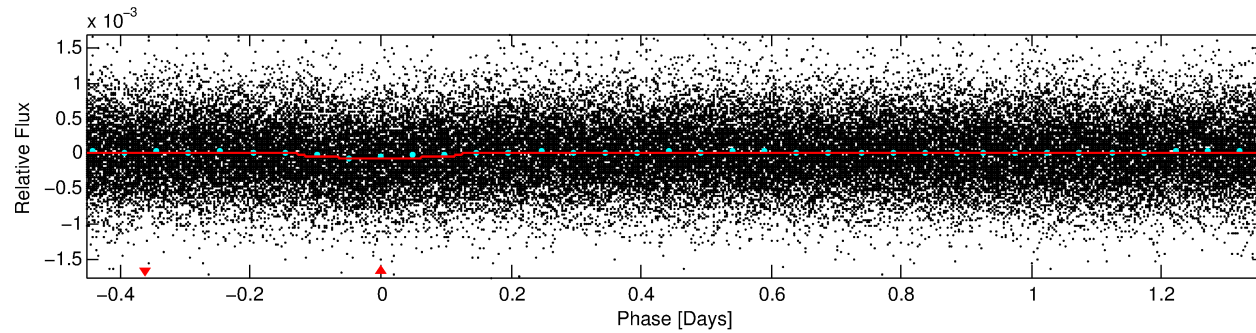
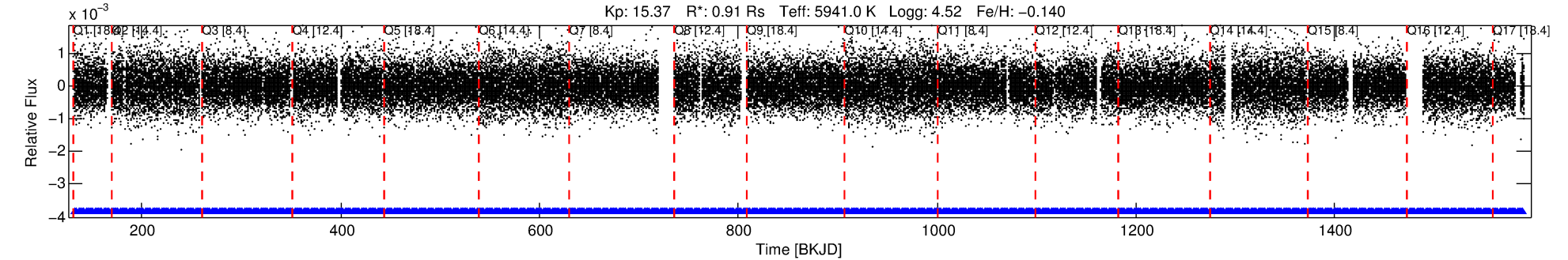
Ephemeris Match Information For 009101208-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
009101208-01	9101208	5614.01	9101279	1:1	69.8	17	2	13.95	15.38	15508.00	Direct-PRF	0	4.71	3.96

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9101208 Candidate: 1 of 1 Period: 1.811 d
KOI: K07134.01 Corr: 0.779



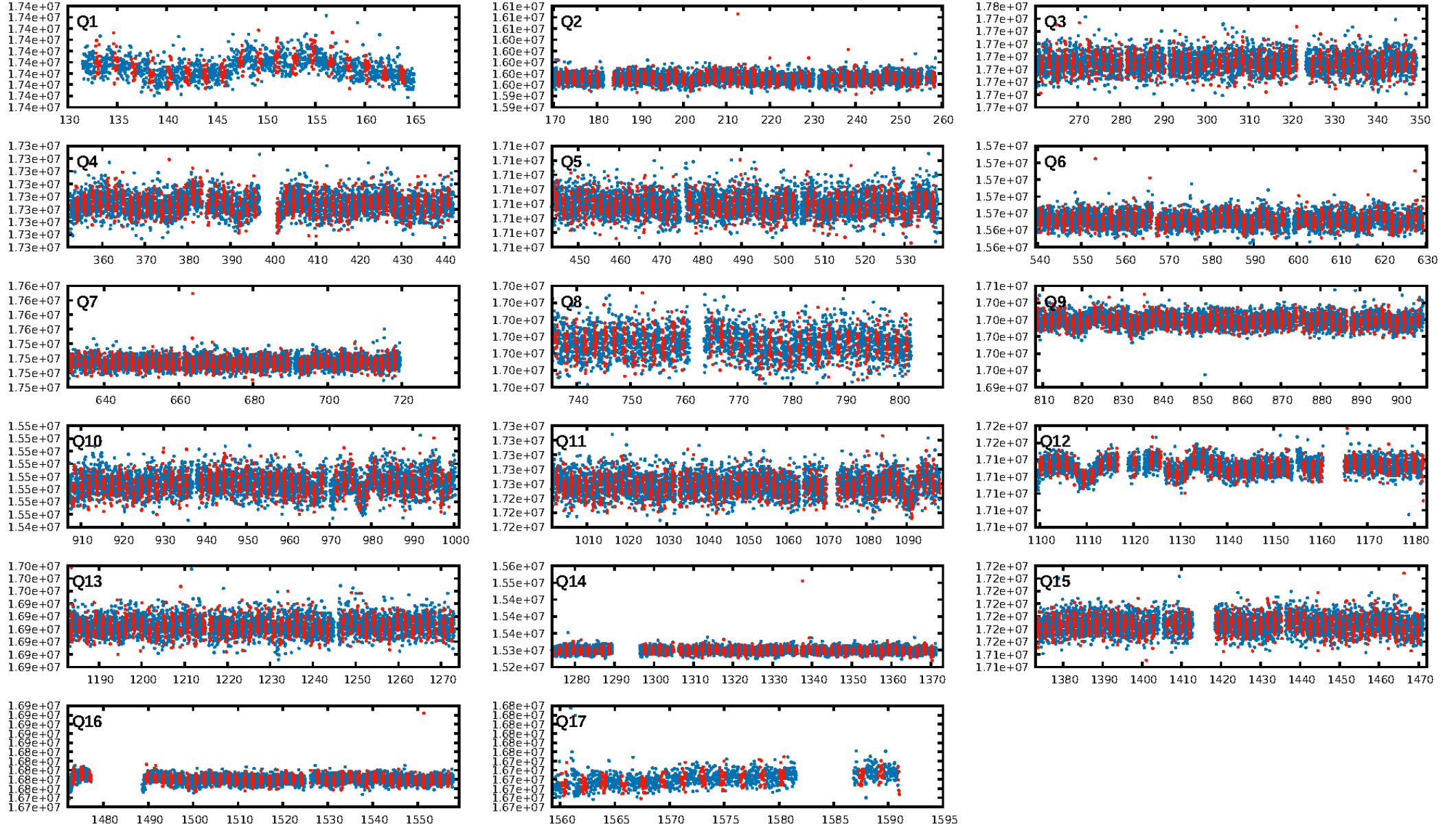
DV Fit Results:

Period = 1.81135 [0.00002] d
Epoch = 132.9996 [0.0064] BKJD
Rp/R* = 0.0083 [0.0041]
a/R* = 1.49 [2.05]
b = 0.88 [0.67]
Seff = 1094.82 [446.48]
Teff = 1467 [150] K
Rp = 0.83 [0.48] Re
a = 0.0291 [0.0076] AU
Ag = 9.47 [13.46] [0.63σ]
Teffp = 3978 [1367] K [1.83σ]

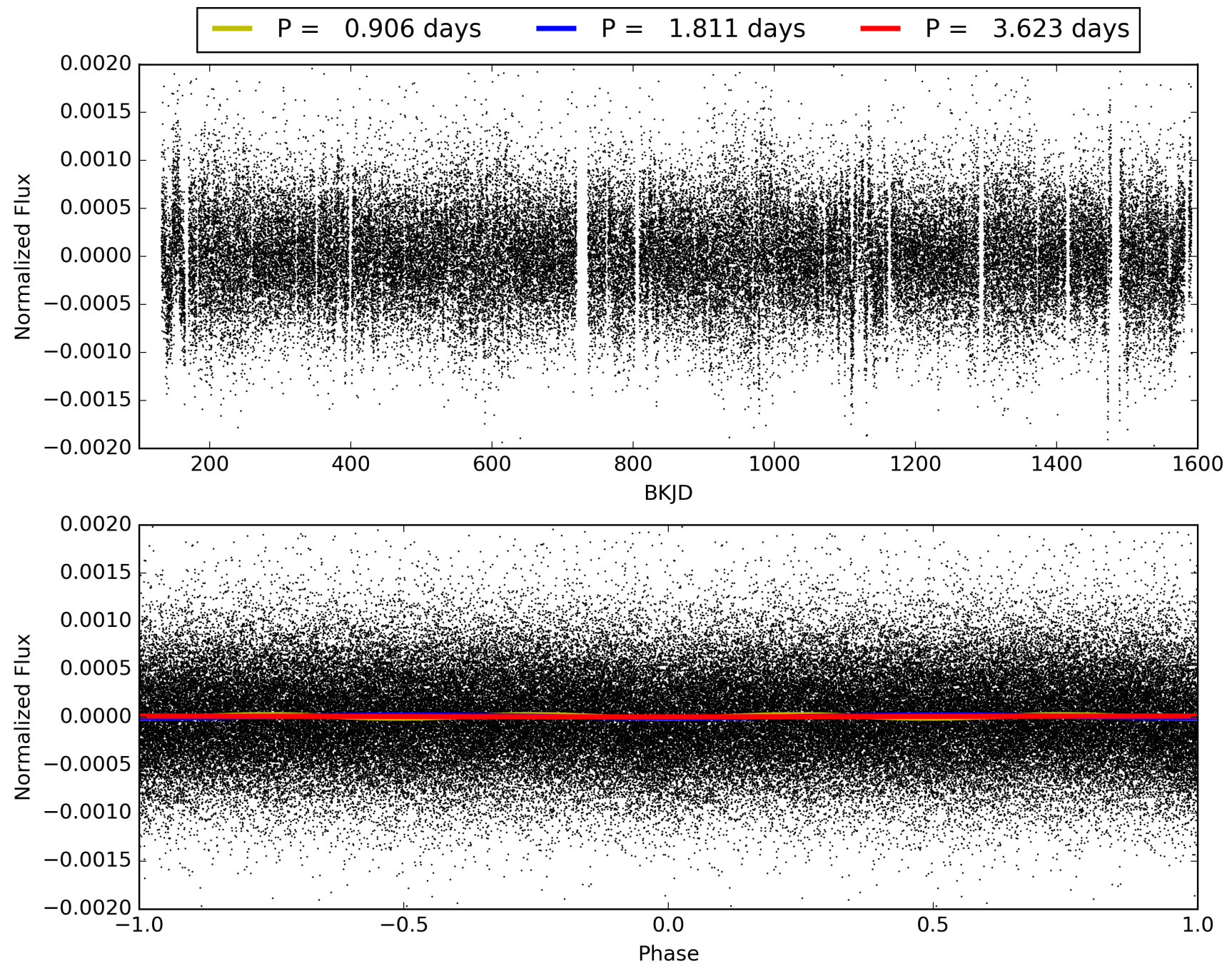
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.51e-23
RollingBand-fgt: 1.00 [706/706]
GhostDiagnostic-chr: 0.3523
Centroid-sig: 0.0%
Centroid-so: 5.872 arcsec [4.24σ]
OotOffset-rm: 3.851 arcsec [4.61σ]
KicOffset-rm: 3.782 arcsec [5.05σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009101208-01, PDC Light Curves

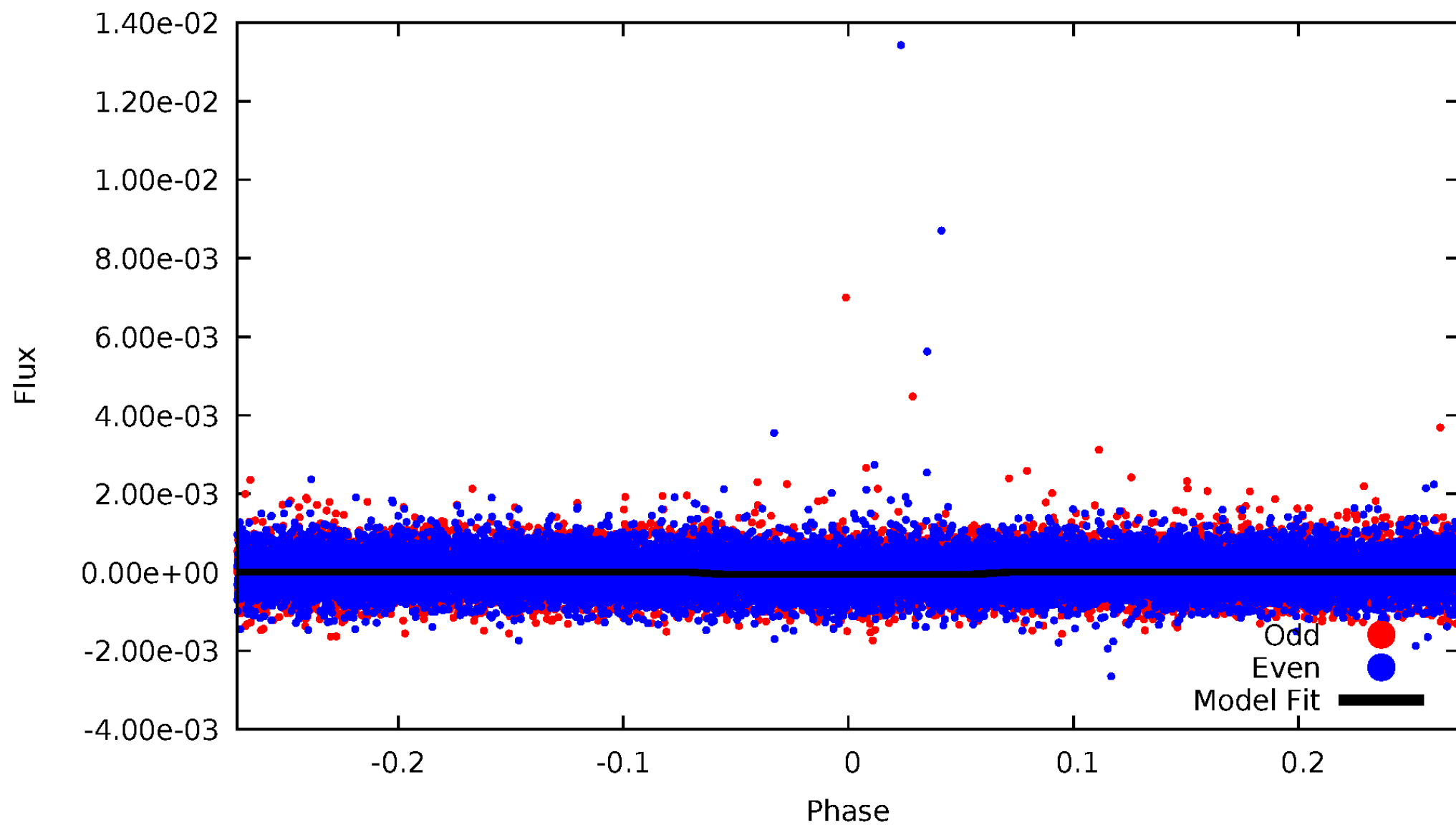


TCE 009101208-01



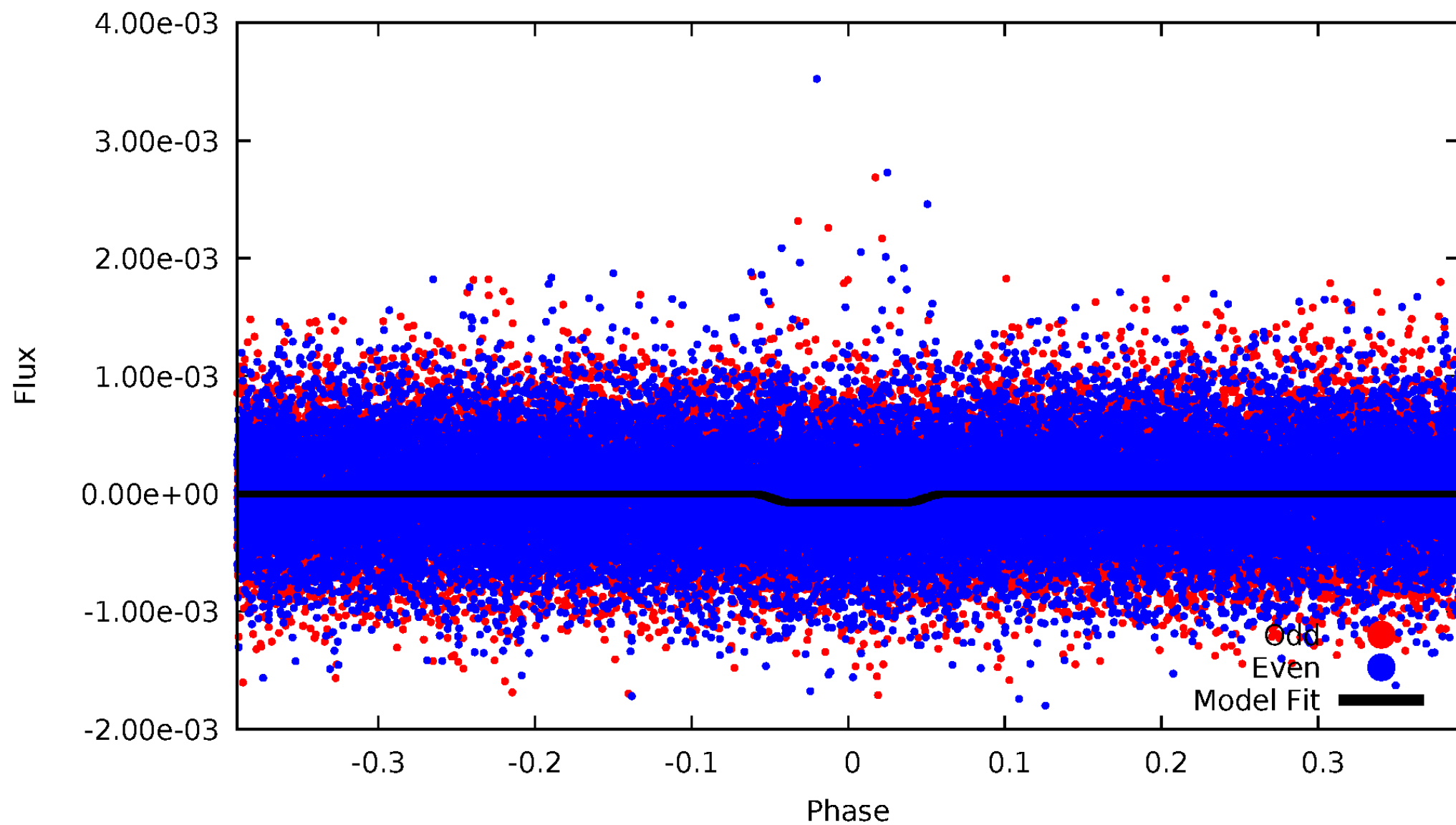
DV Odd/Even

TCE 009101208-01



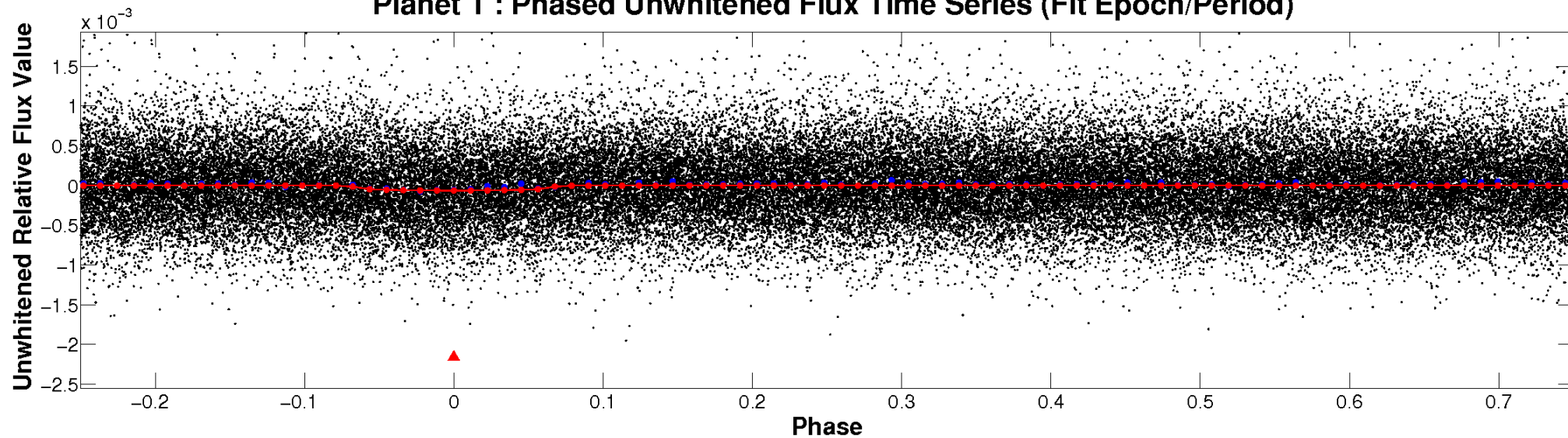
ALT Odd/Even

TCE 009101208-01

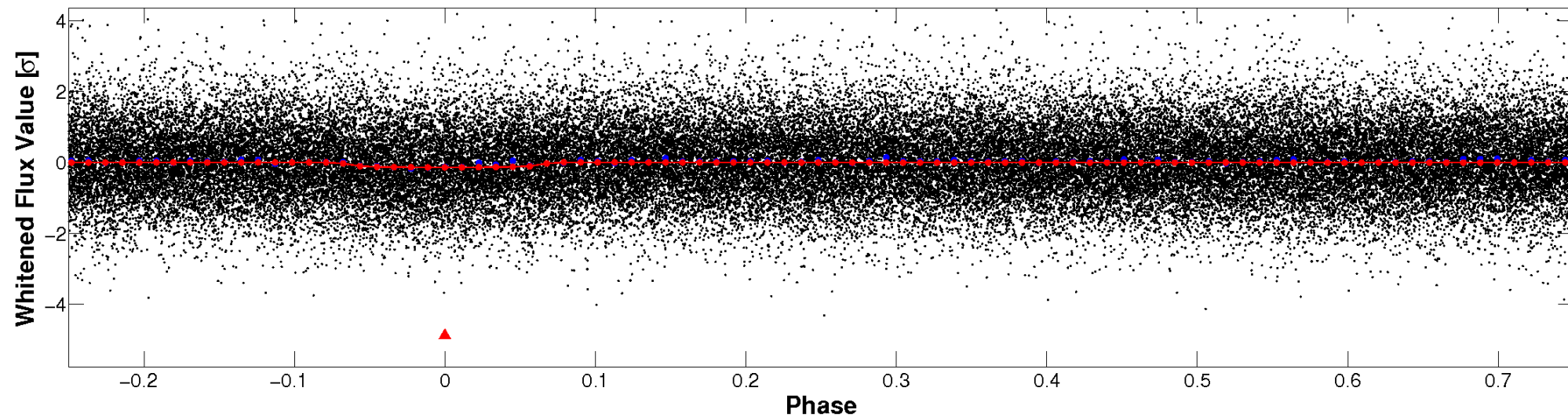


Non-Whitened Vs. Whitened Light Curve

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

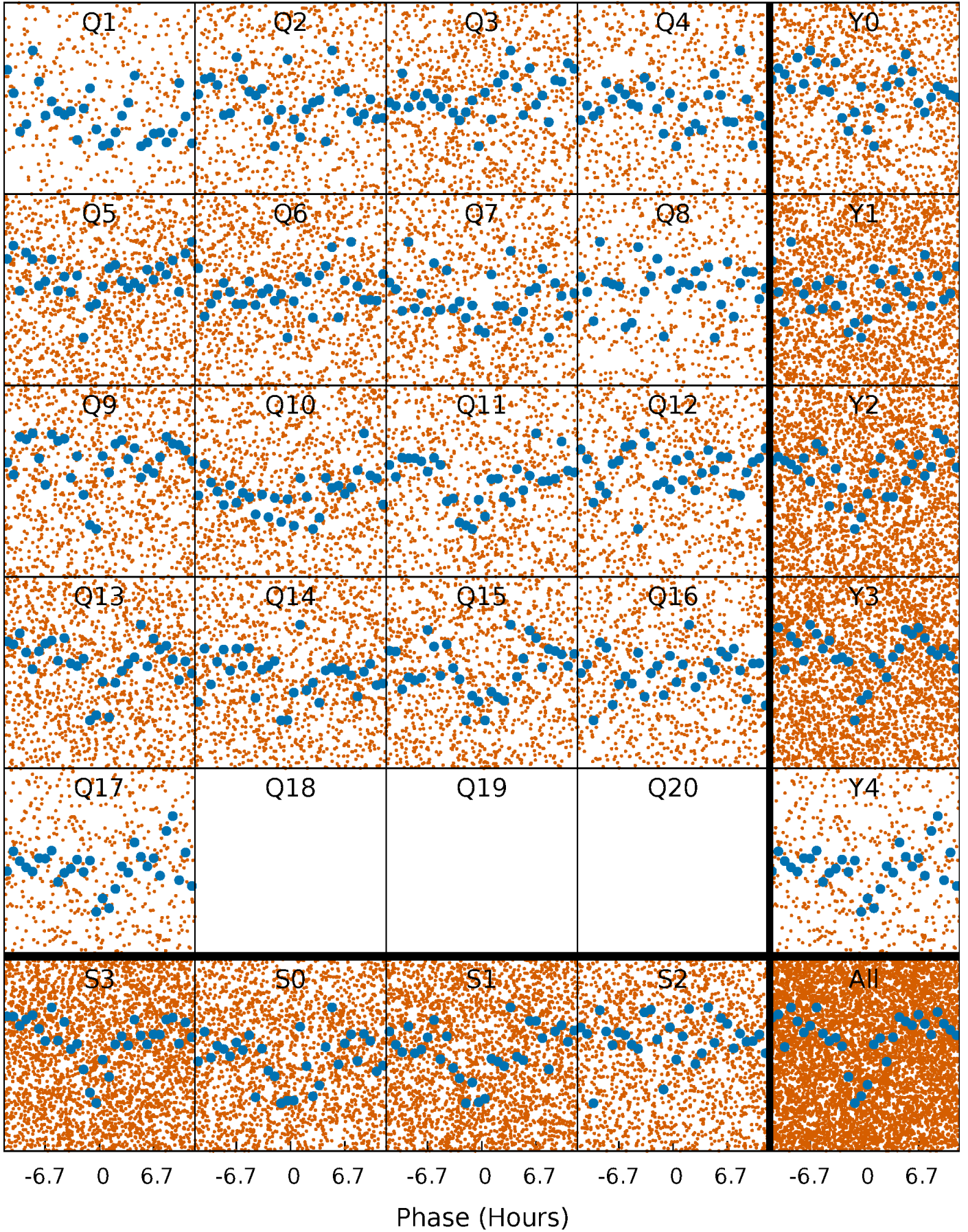


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



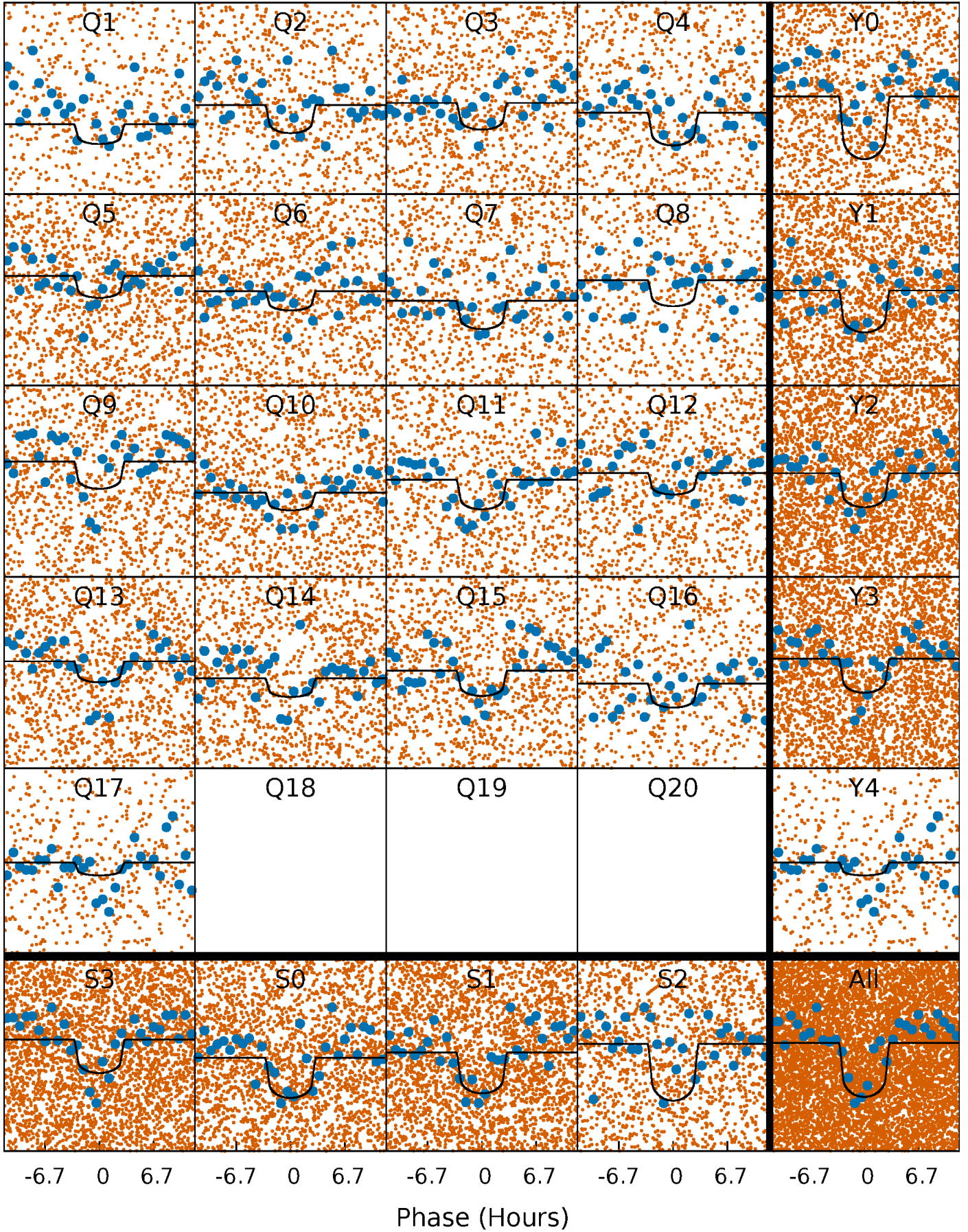
PDC Quarter-Phased Transit Curves

TCE 009101208-01 P= 1.811346 Days $T_0=132.999572$ (BKJD)



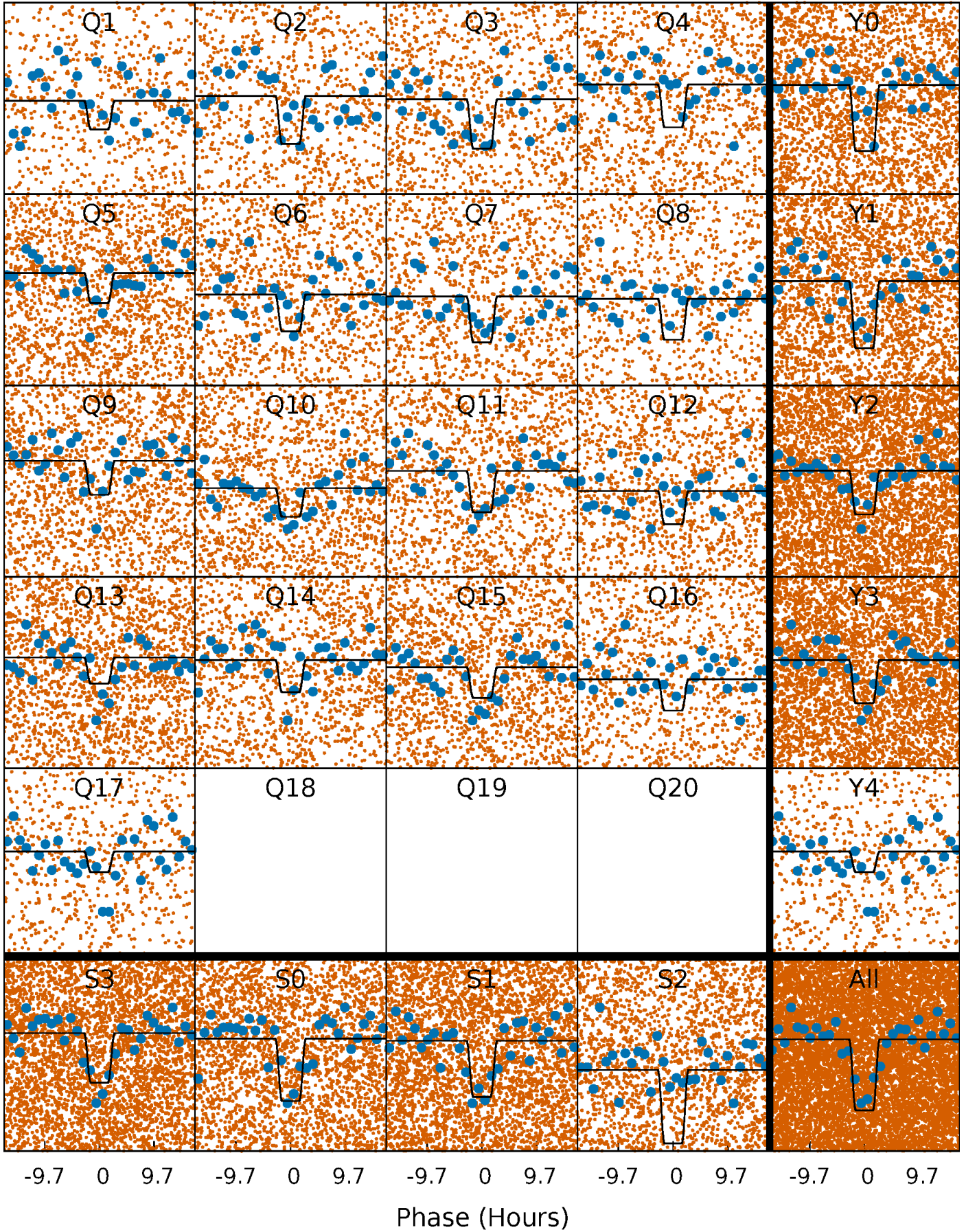
DV Quarter-Phased Transit Curves

TCE 009101208-01 P= 1.811346 Days $T_0=132.999572$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

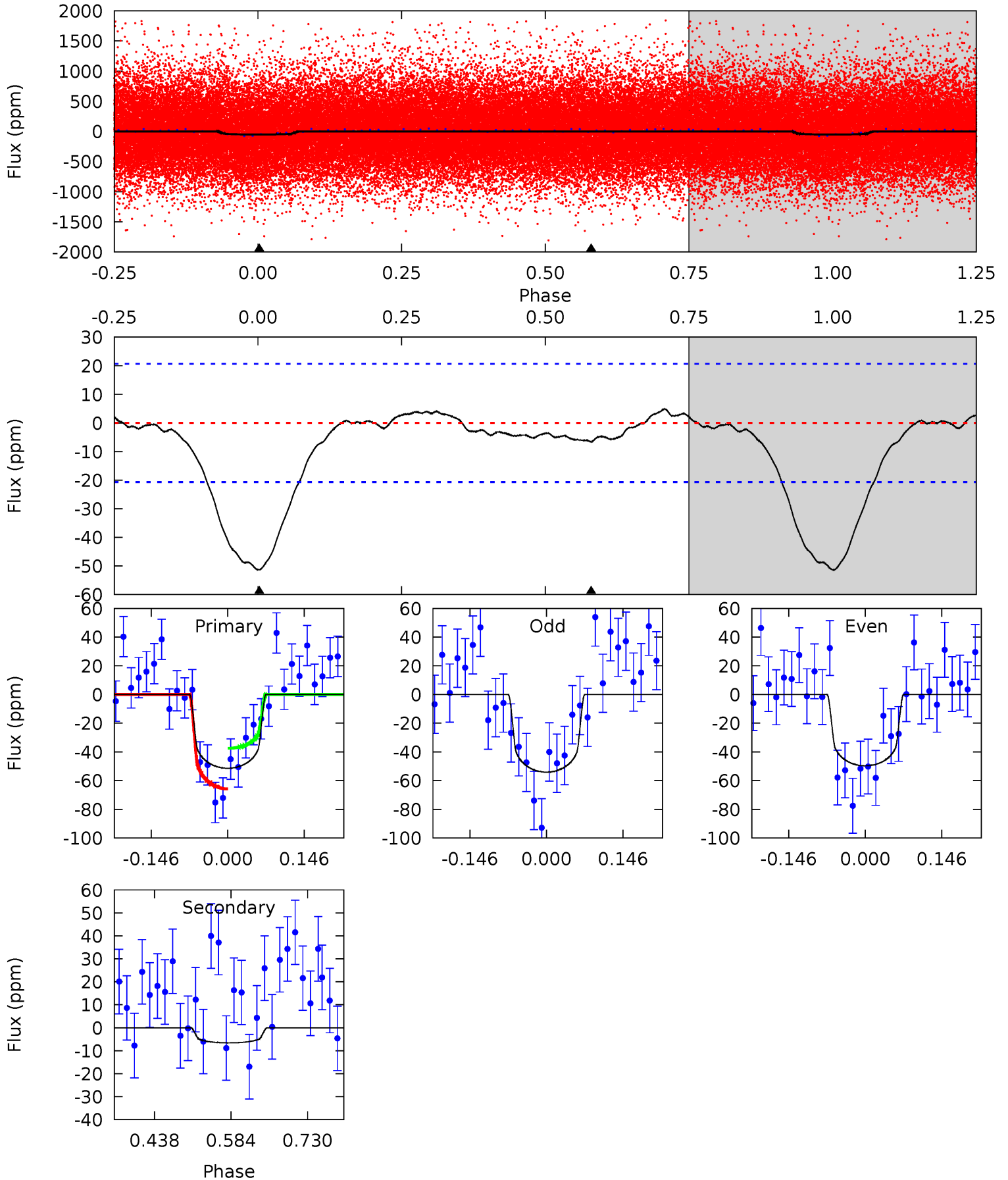
TCE 009101208-01 P= 1.811367 Days $T_0=132.970507$ (BKJD)



DV Model-Shift Uniqueness Test

009101208-01, P = 1.811346 Days, E = 131.188226 Days

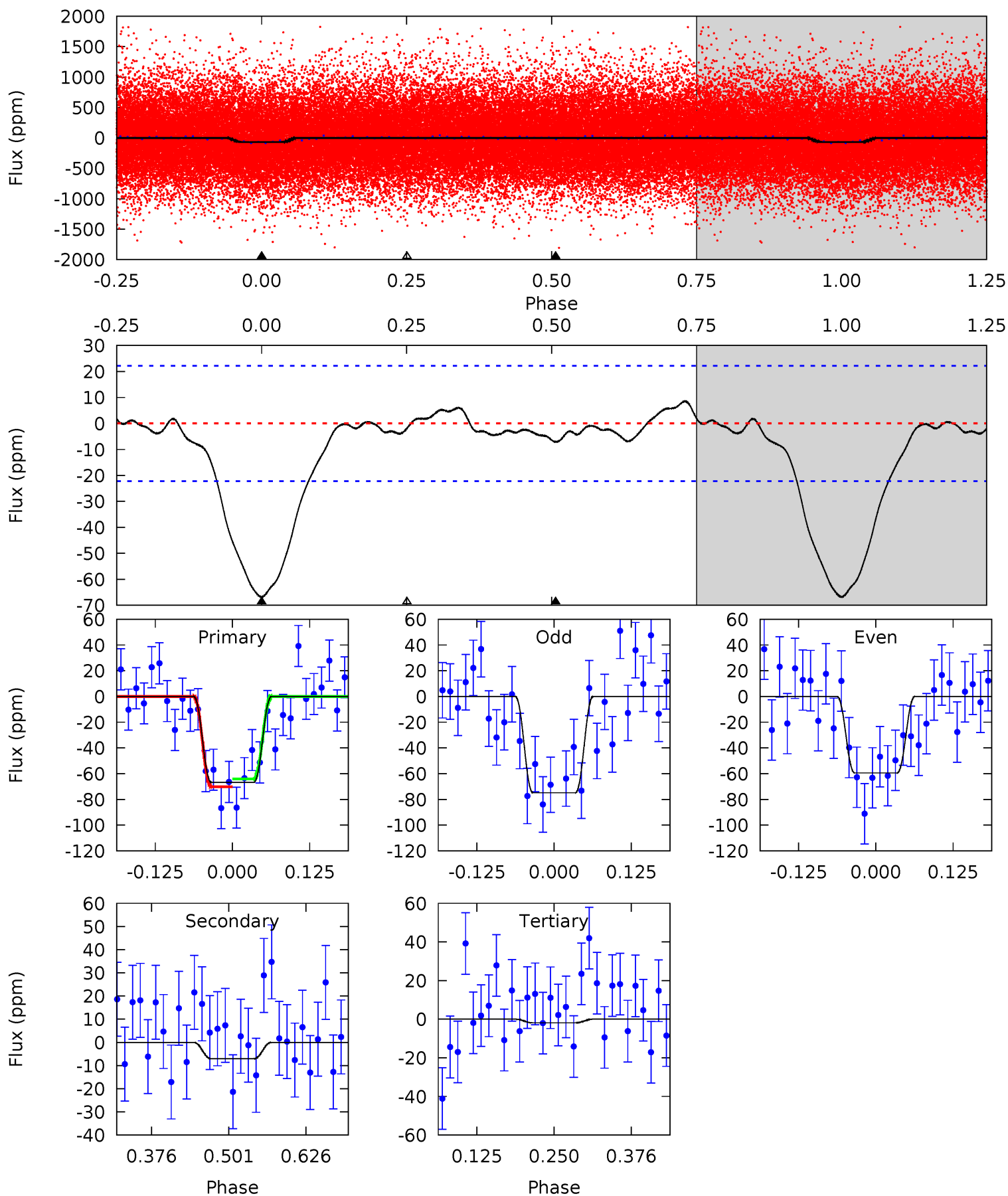
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	1.43	0	0	4.48	1.45	0.53	11.1	11.1	1.43	1.43	0.48	0.89	0.09	3.07



Alt Model-Shift Uniqueness Test

009101208-01, P = 1.811367 Days, E = 131.159140 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	1.44	0.39	0	4.52	1.53	0.72	13.2	13.6	1.06	1.44	1.56	0.95	0.11	0.61



Stellar Parameters For KIC 009101208

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5941^{+160}_{-196}	$4.519^{+0.050}_{-0.213}$	$-0.140^{+0.300}_{-0.300}$	$0.911^{+0.280}_{-0.093}$	$1.001^{+0.119}_{-0.132}$	$1.865^{+0.391}_{-0.996}$
	+3%/-3%	+1%/-5%	+214%/-214%	+31%/-10%	+12%/-13%	+21%/-53%
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 009101208-01 / KOI 7134.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 5	$0.89^{+0.46}_{-0.43}$	2095^{+149}_{-101}	3588^{+1034}_{-770}	$3.472^{+10.152}_{-2.568}$
Alt.	-7 ± 5	$0.90^{+0.48}_{-0.38}$	2086^{+153}_{-93}	3576^{+933}_{-870}	$3.412^{+8.823}_{-2.665}$

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 $A_{obs} \gg 1.0$

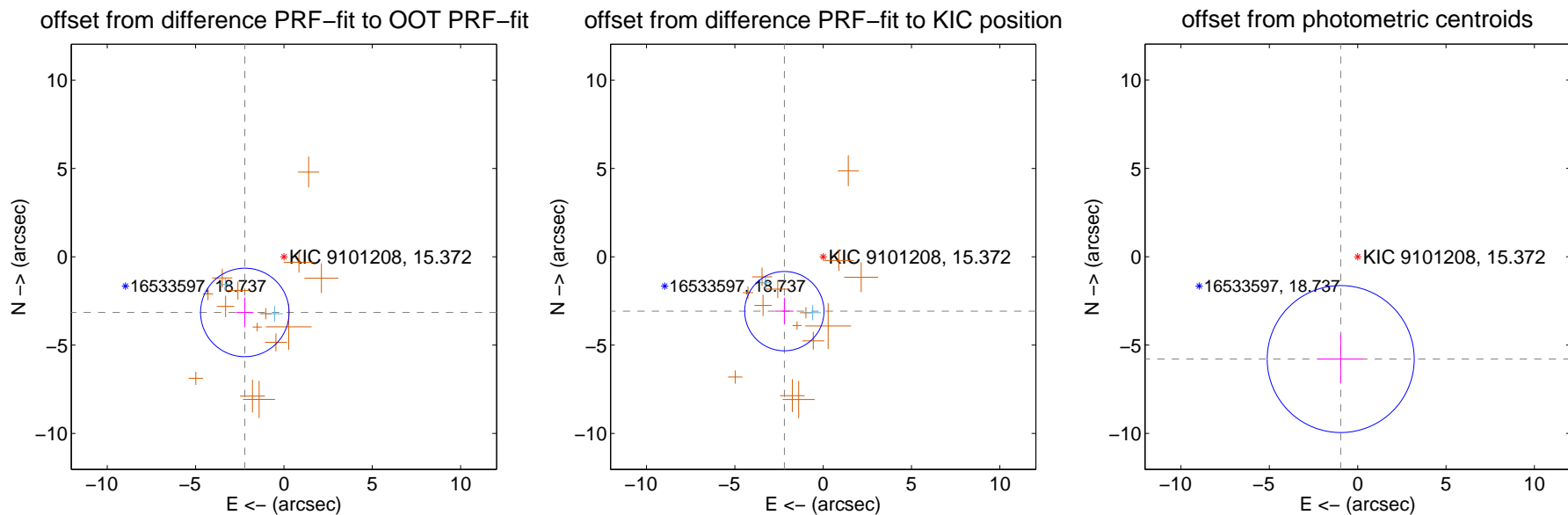
DV Centroid Data

Supplemental centroid analysis for 009101208-01. Kepler magnitude: 15.37. Transit SNR 10.82

There are 2 quarters with good PRF difference image offsets

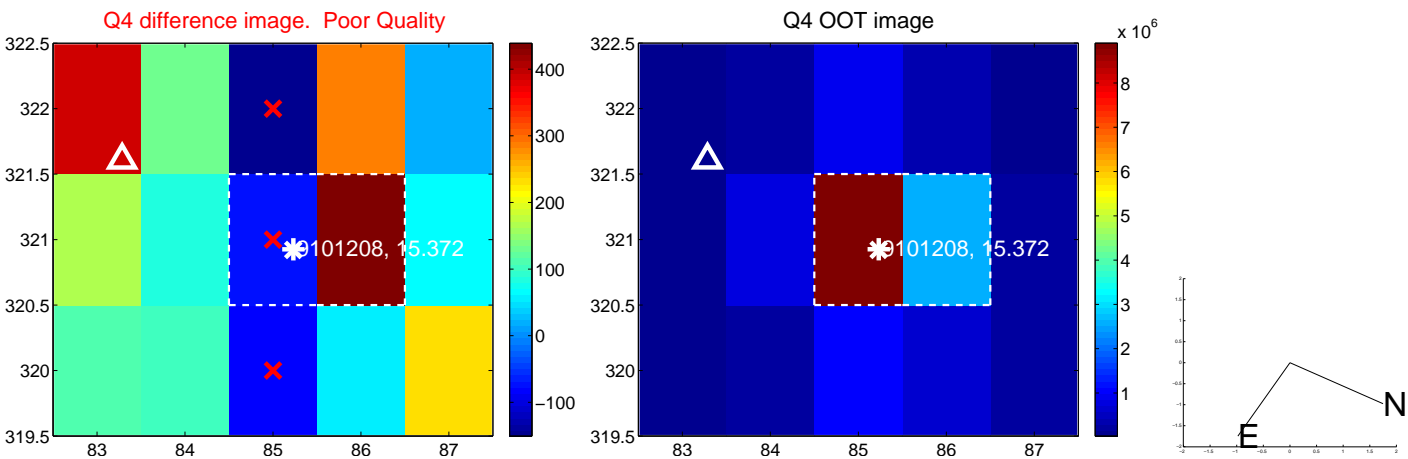
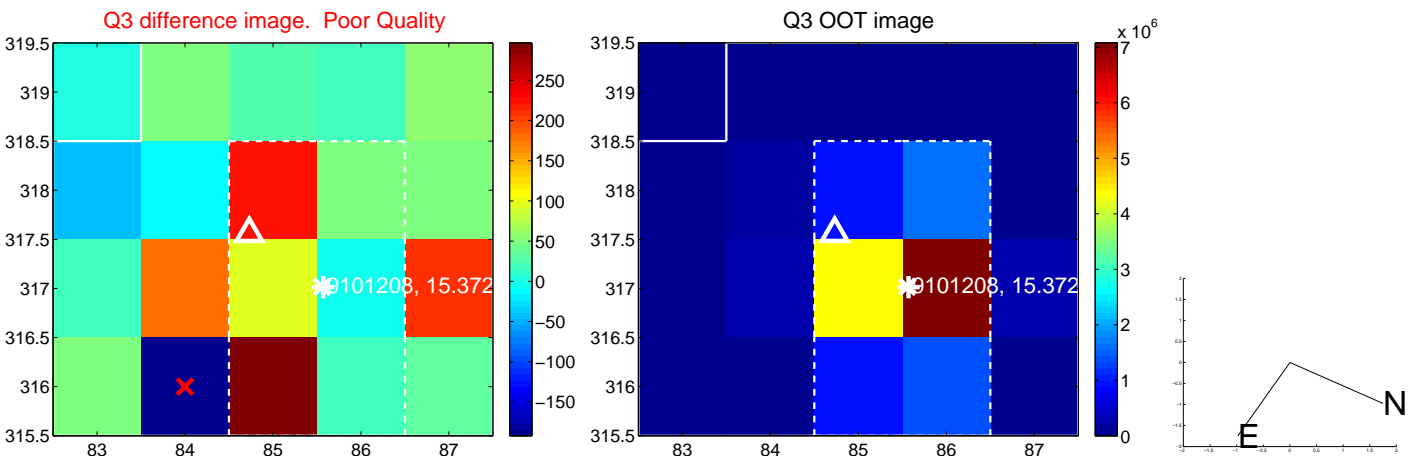
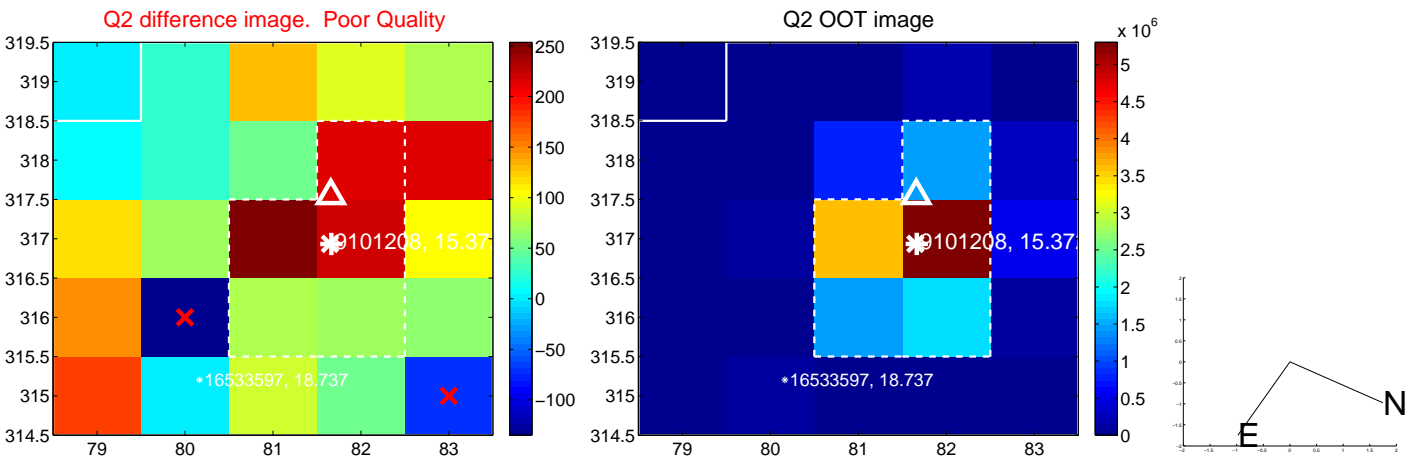
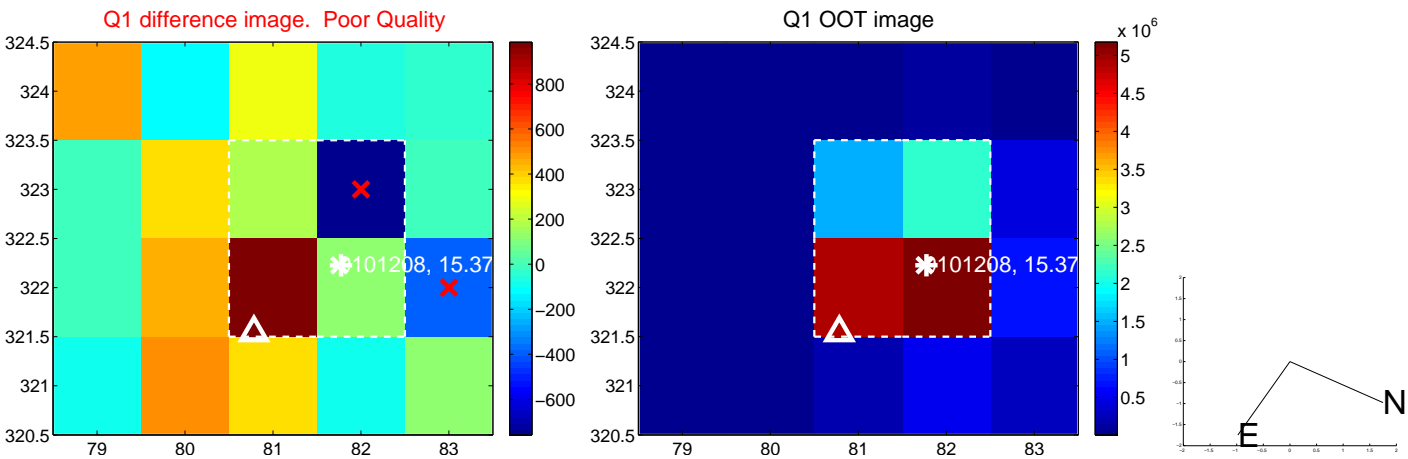
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.851 ± 0.835	4.61	2.213 ± 0.486	-3.151 ± 0.844
PRF-fit source offset from KIC position	3.782 ± 0.748	5.05	2.198 ± 0.518	-3.078 ± 0.750
photometric centroid source offset	5.87 ± 1.39	4.24	0.96 ± 1.29	-5.79 ± 1.39

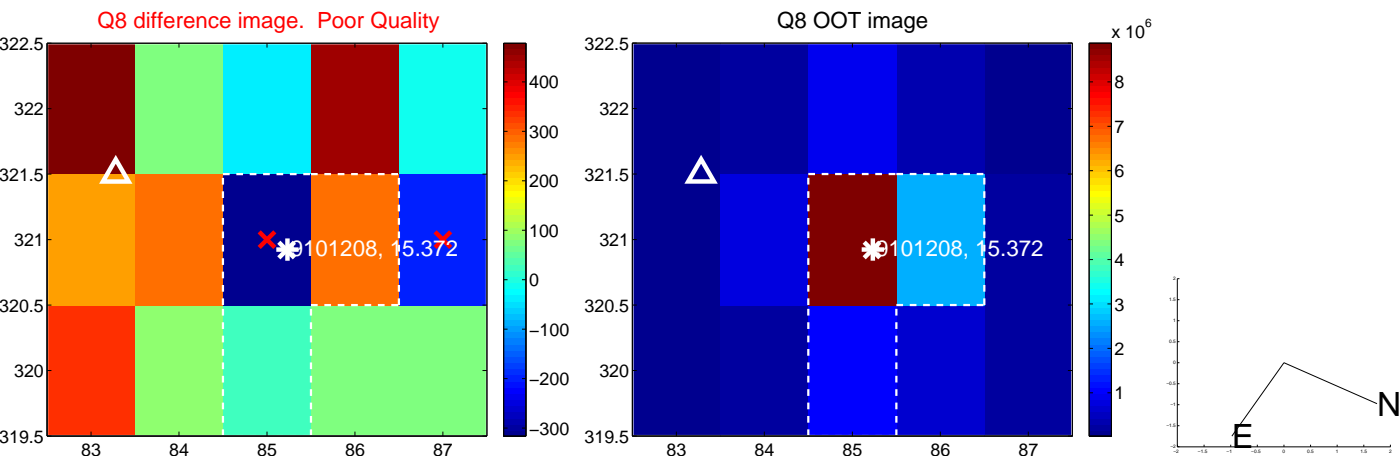
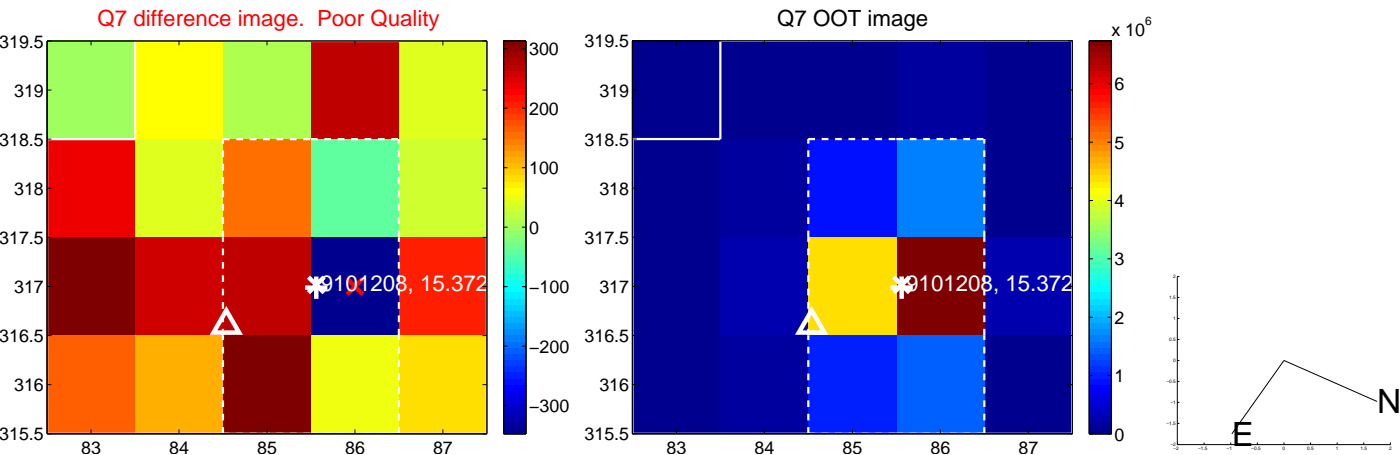
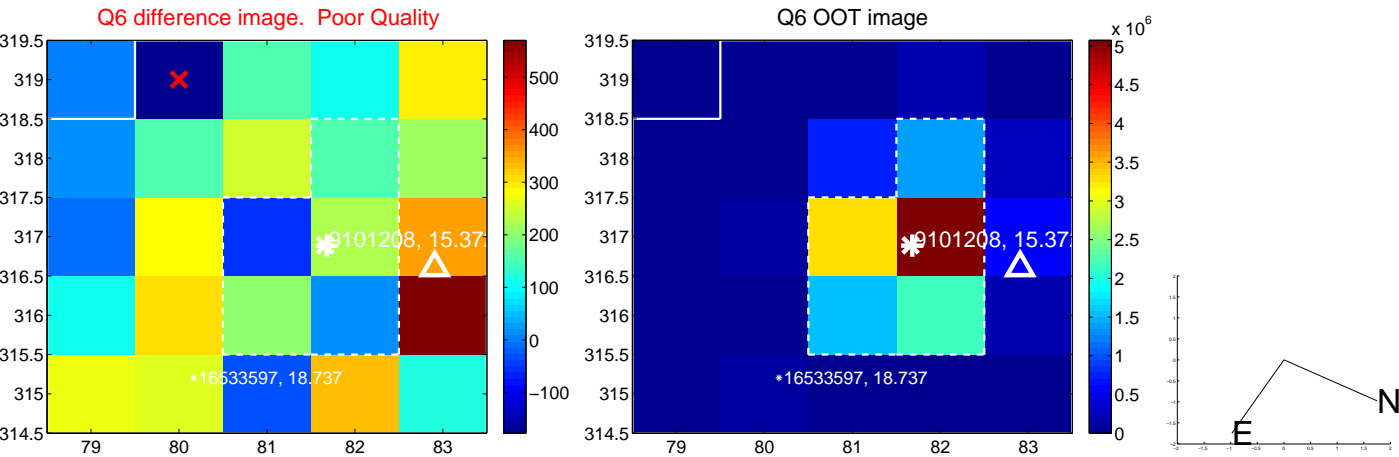
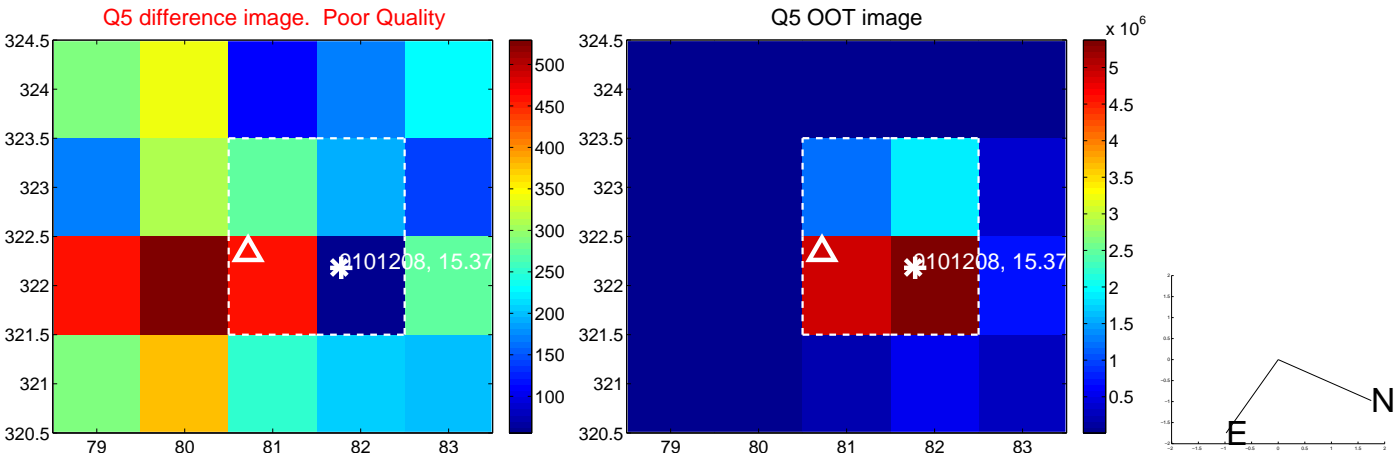


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

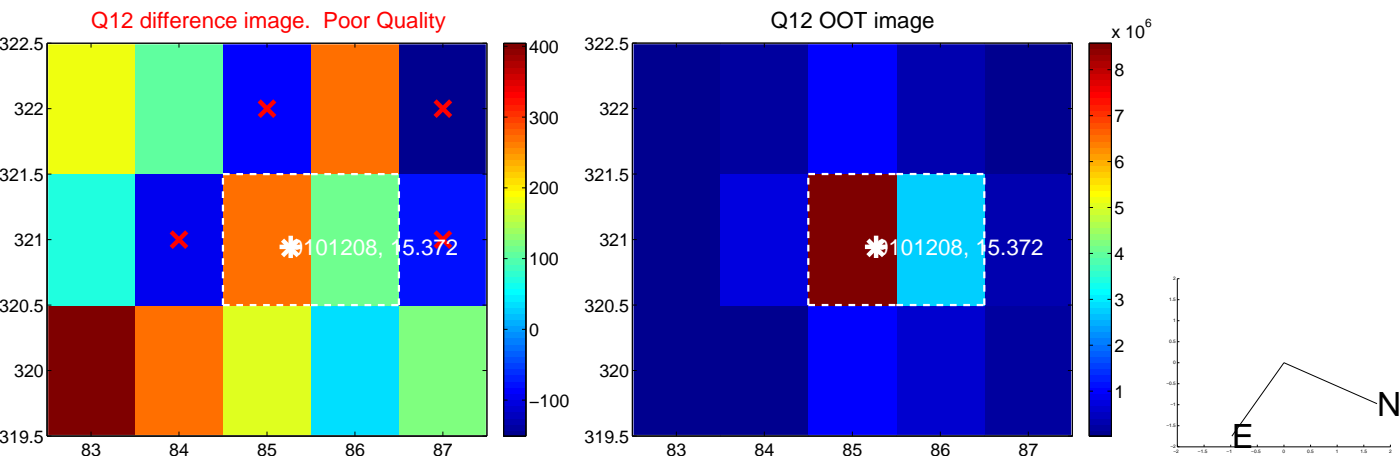
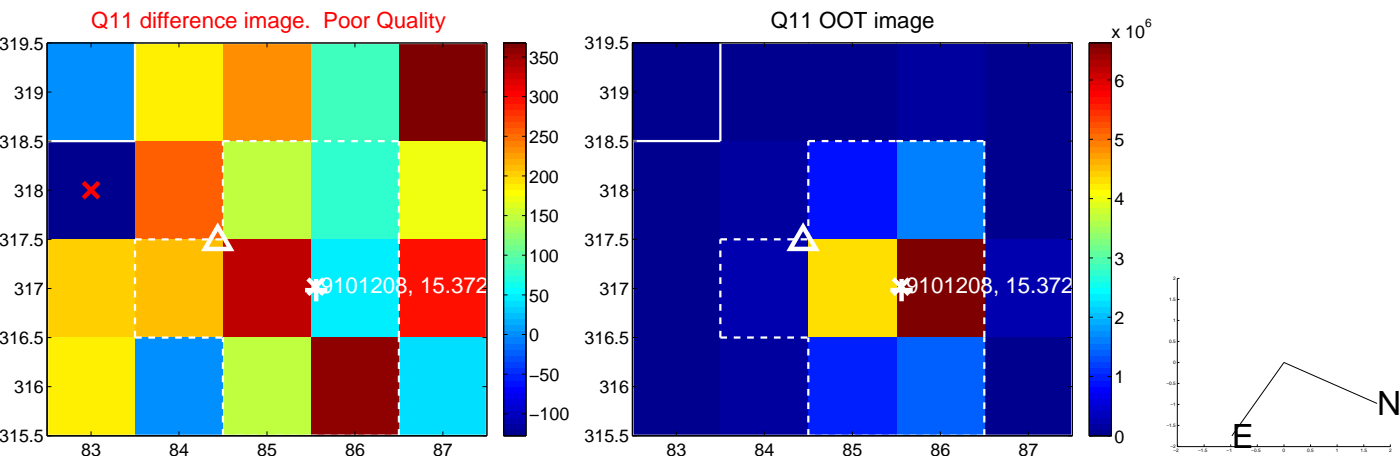
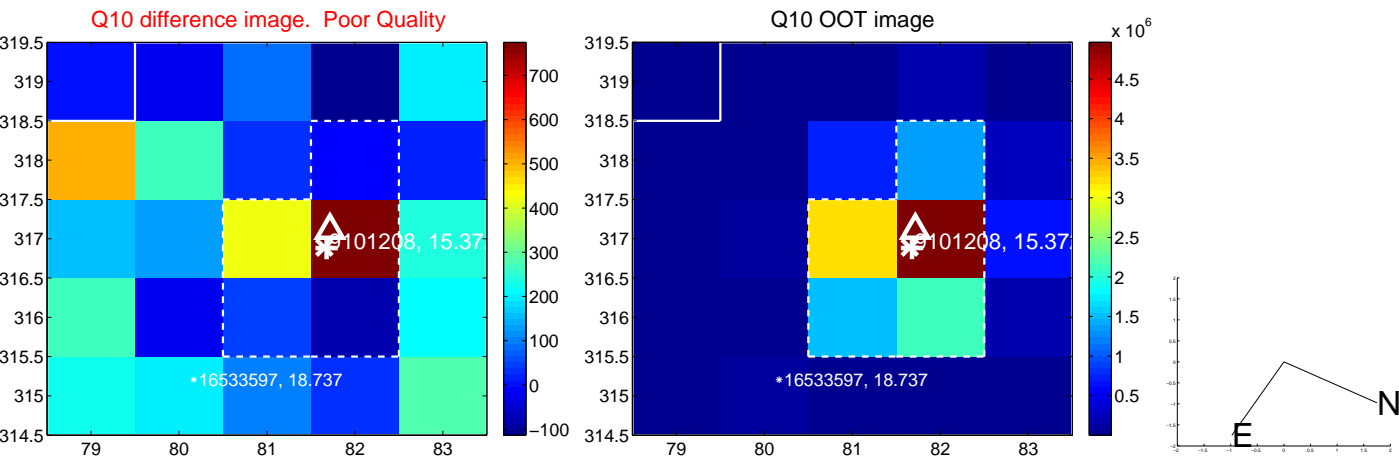
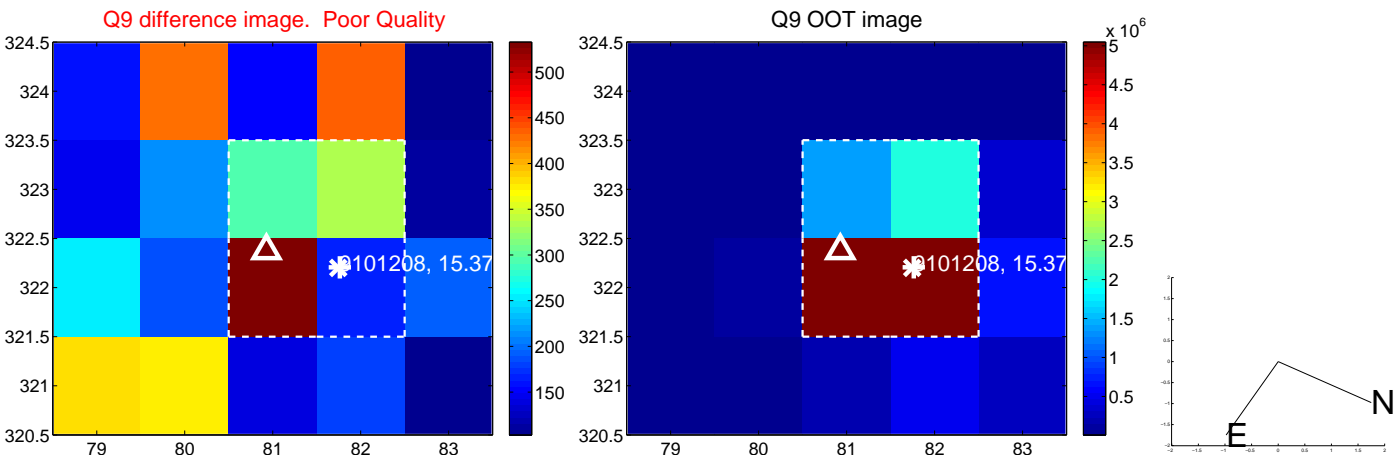
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



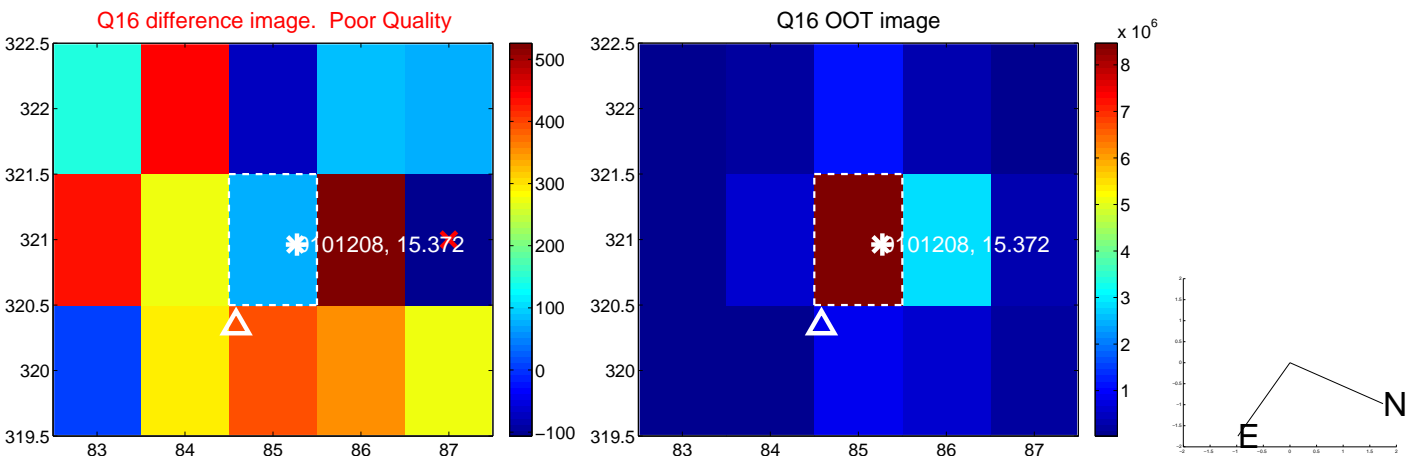
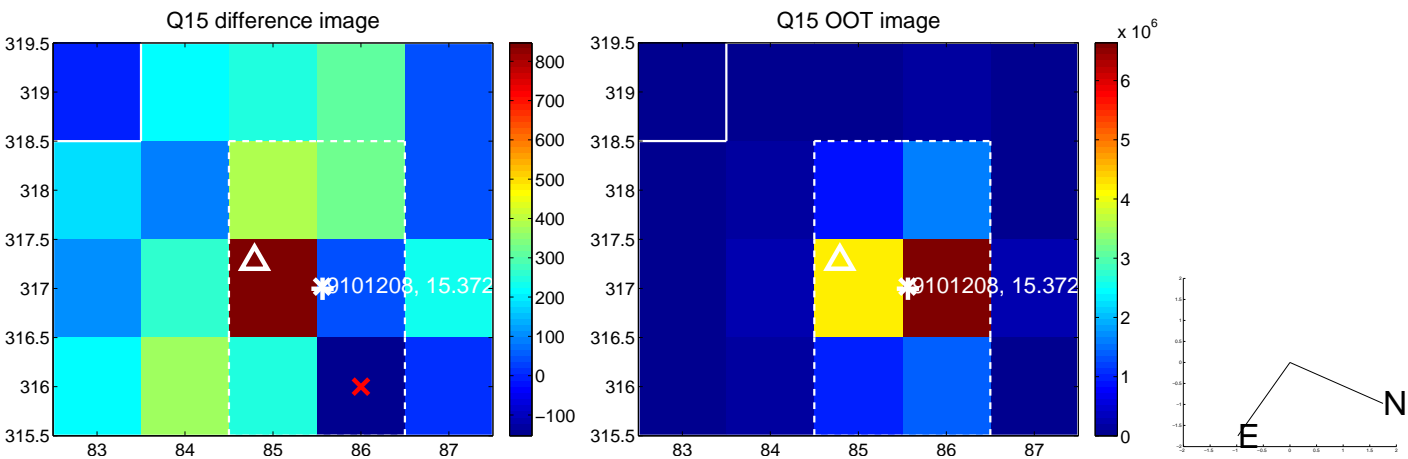
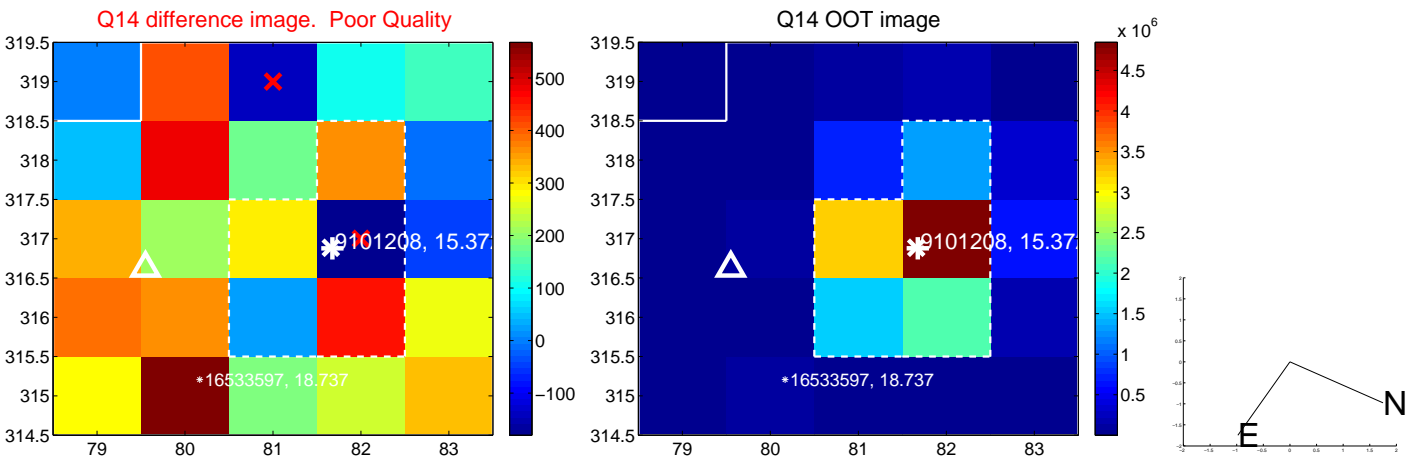
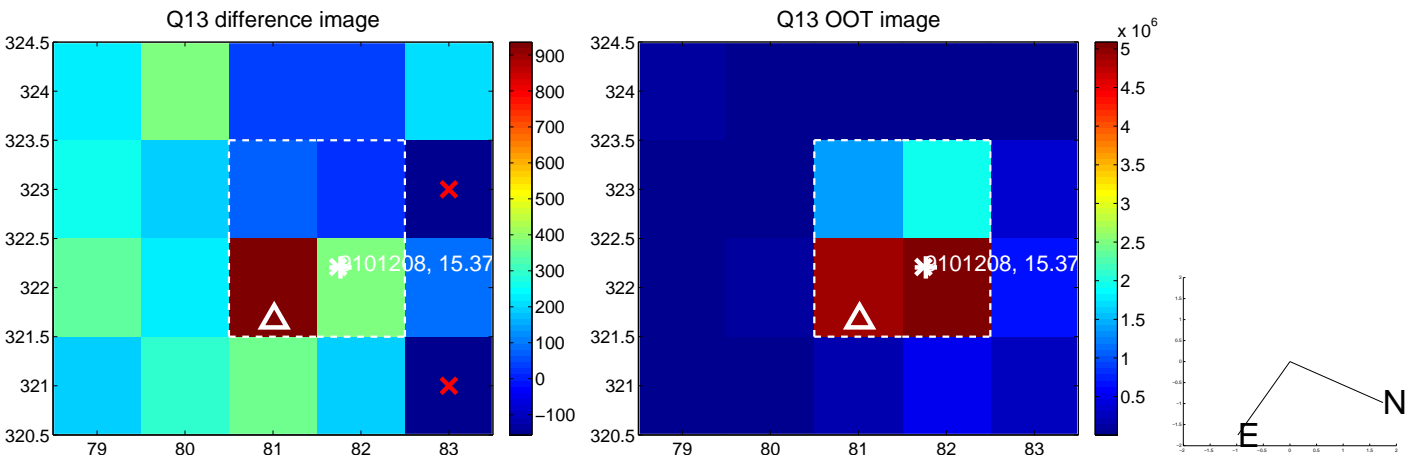
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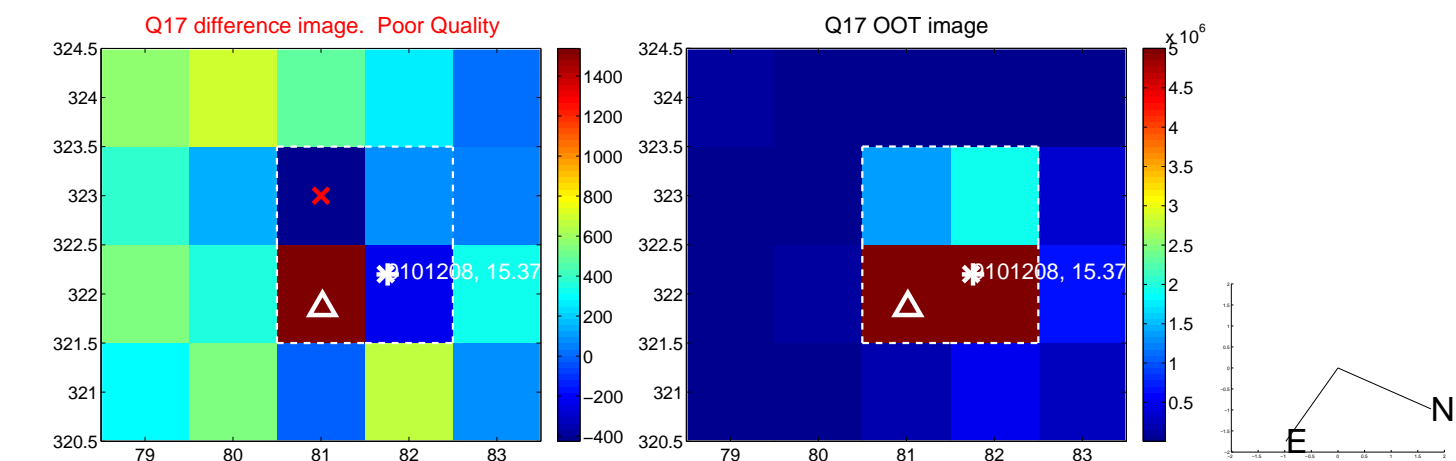
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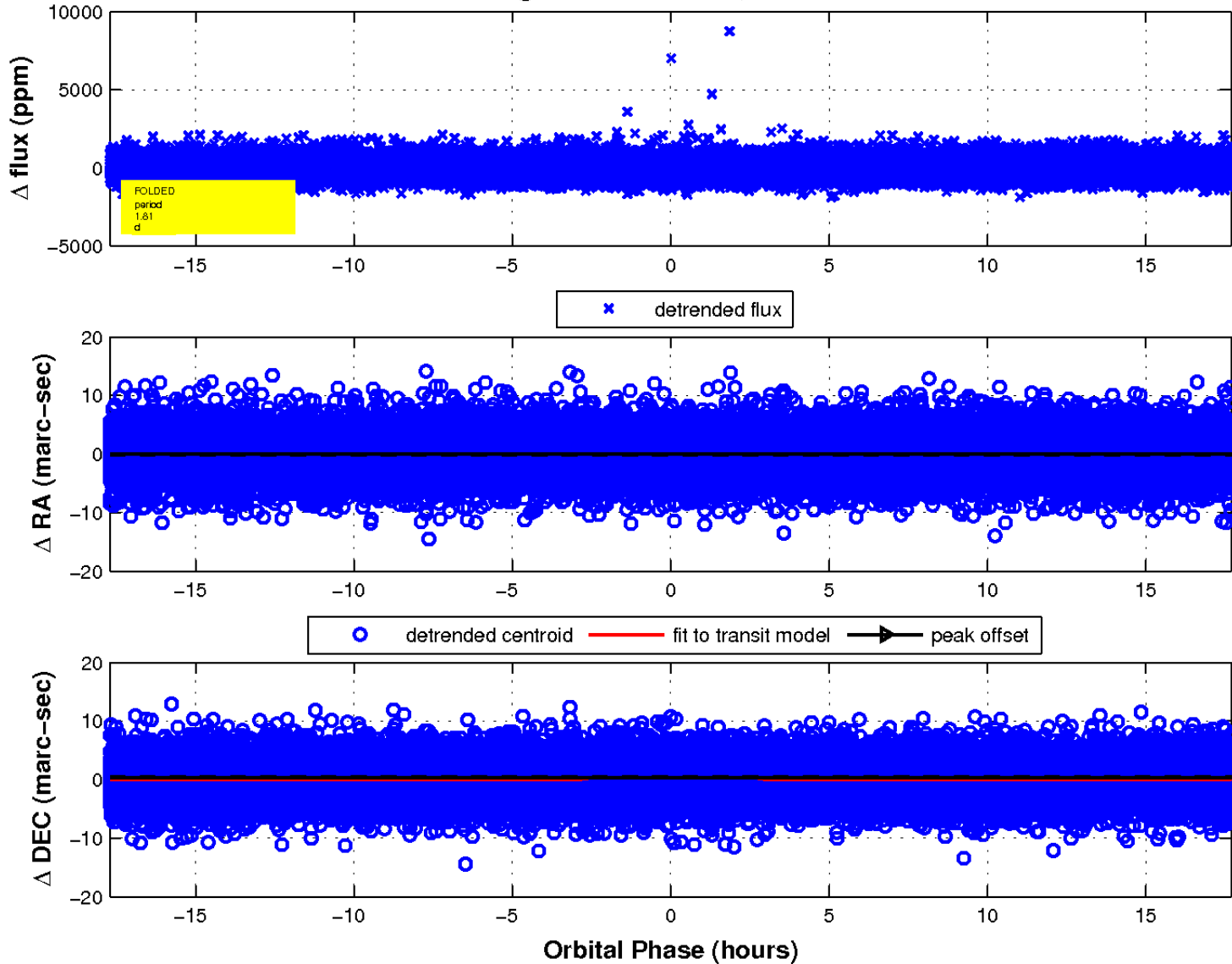
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

