

KIC 003110937

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 _⊕)
003110937-01	OBS	6305.01	1.891226	132.702884	61.7	4.401	9.0	8.8	0.88	5741	0.81	1000.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003110937-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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.

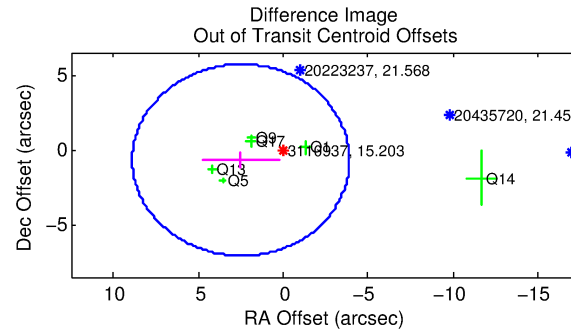
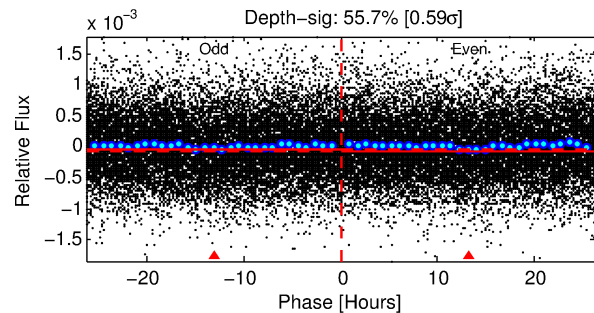
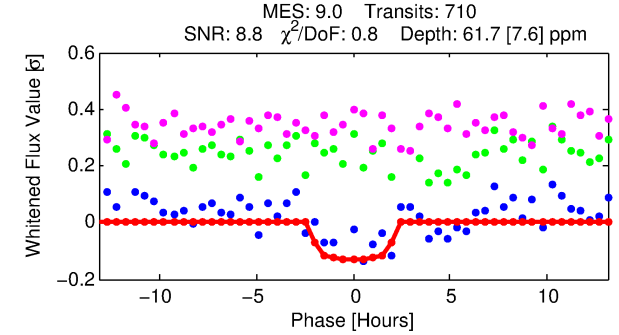
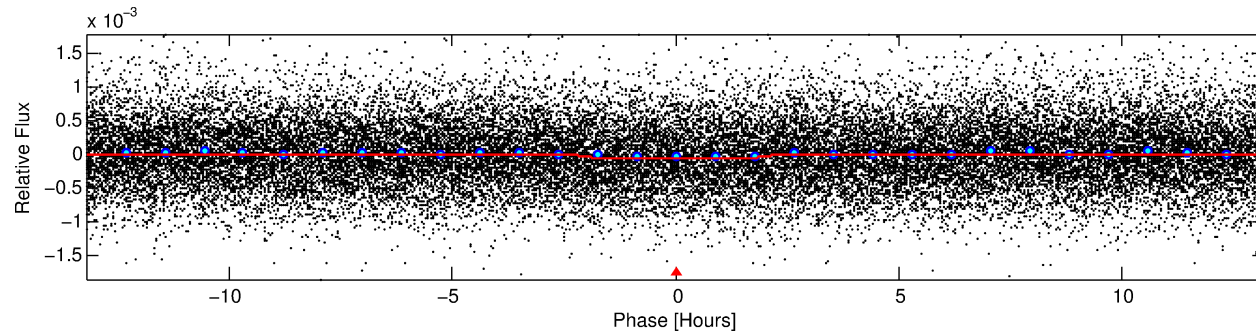
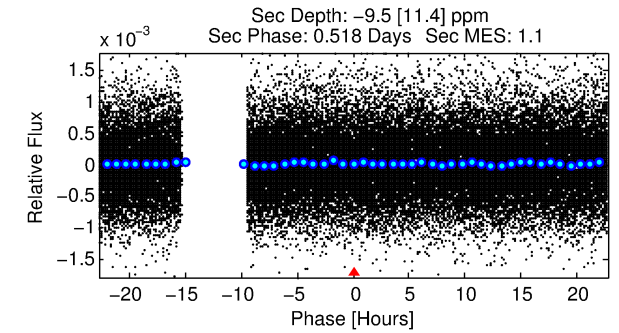
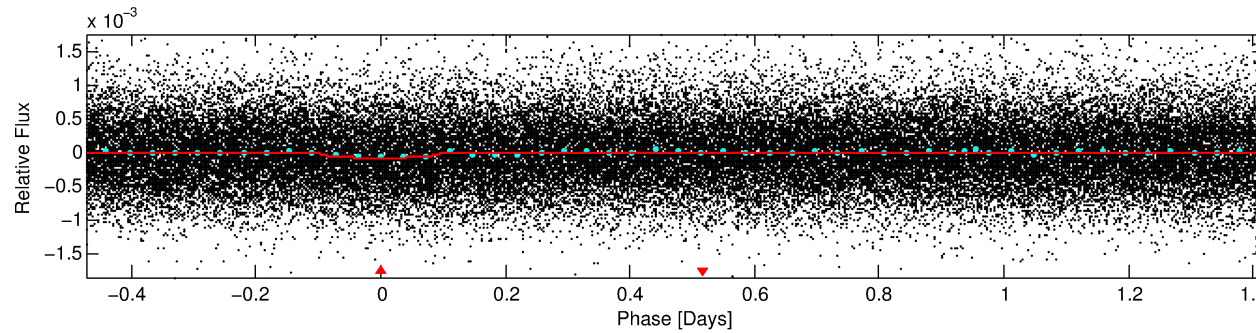
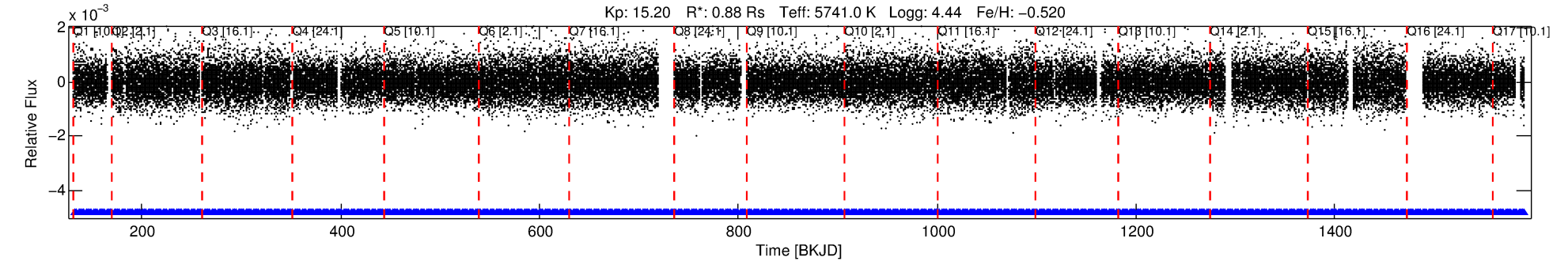
Ephemeris Match Information For 003110937-01

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
003110937-01	3110937	6286.01	2708156	1:1	1347.3	-339	0	10.67	15.20	10337.00	Col-Anomaly	0	1.61	1.13

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: 3110937 Candidate: 1 of 1 Period: 1.891 d
KOI: K06305.01 Corr: 0.895



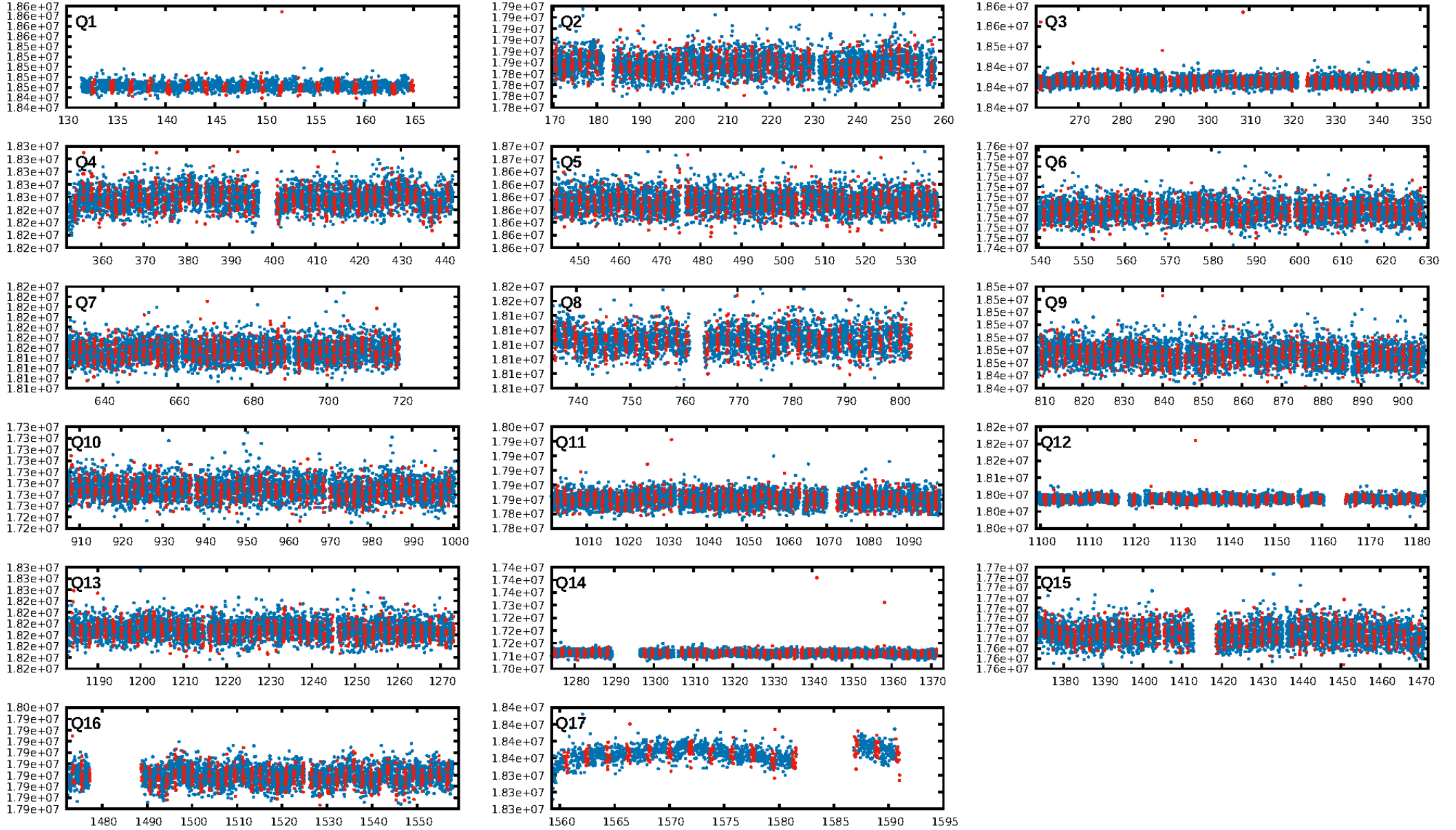
DV Fit Results:

Period = 1.89123 [0.00002] d
Epoch = 132.7029 [0.0066] BKJD
Rp/R* = 0.0083 [0.0059]
a/R* = 1.87 [4.82]
b = 0.88 [0.96]
Seff = 1000.36 [333.60]
Teff = 1434 [120] K
Rp = 0.80 [0.61] Re
a = 0.0276 [0.0058] AU
Ag = N/A
Teffp = N/A

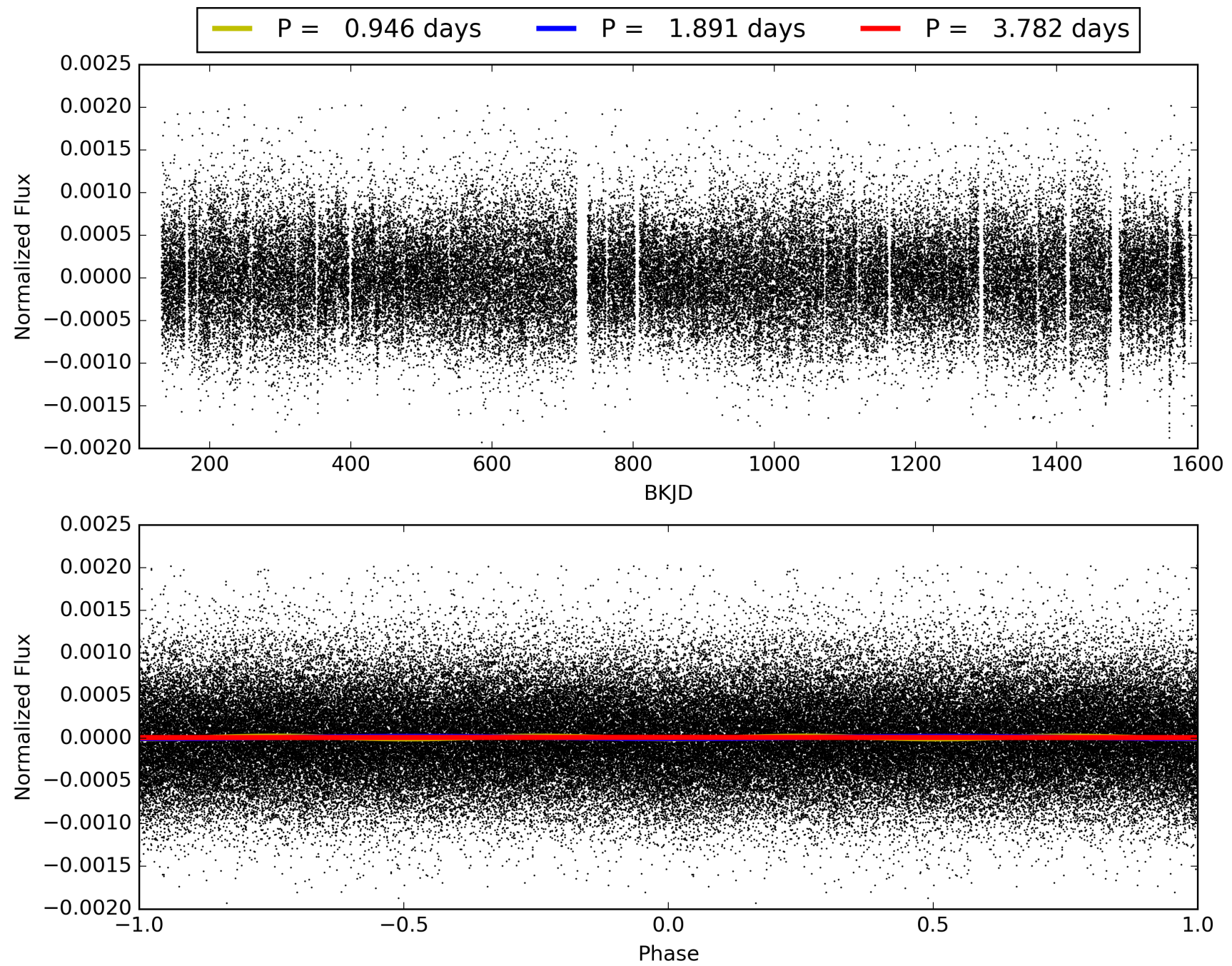
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.23e-20
RollingBand-fgt: 1.00 [677/677]
GhostDiagnostic-chr: 0.3174
Centroid-sig: 0.0%
Centroid-so: 8.969 arcsec [5.12σ]
OotOffset-rm: 2.577 arcsec [1.21σ]
KicOffset-rm: 2.314 arcsec [0.97σ]
OotOffset-st: 1/0/0/5 [6]
KicOffset-st: 1/0/0/5 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003110937-01, PDC Light Curves

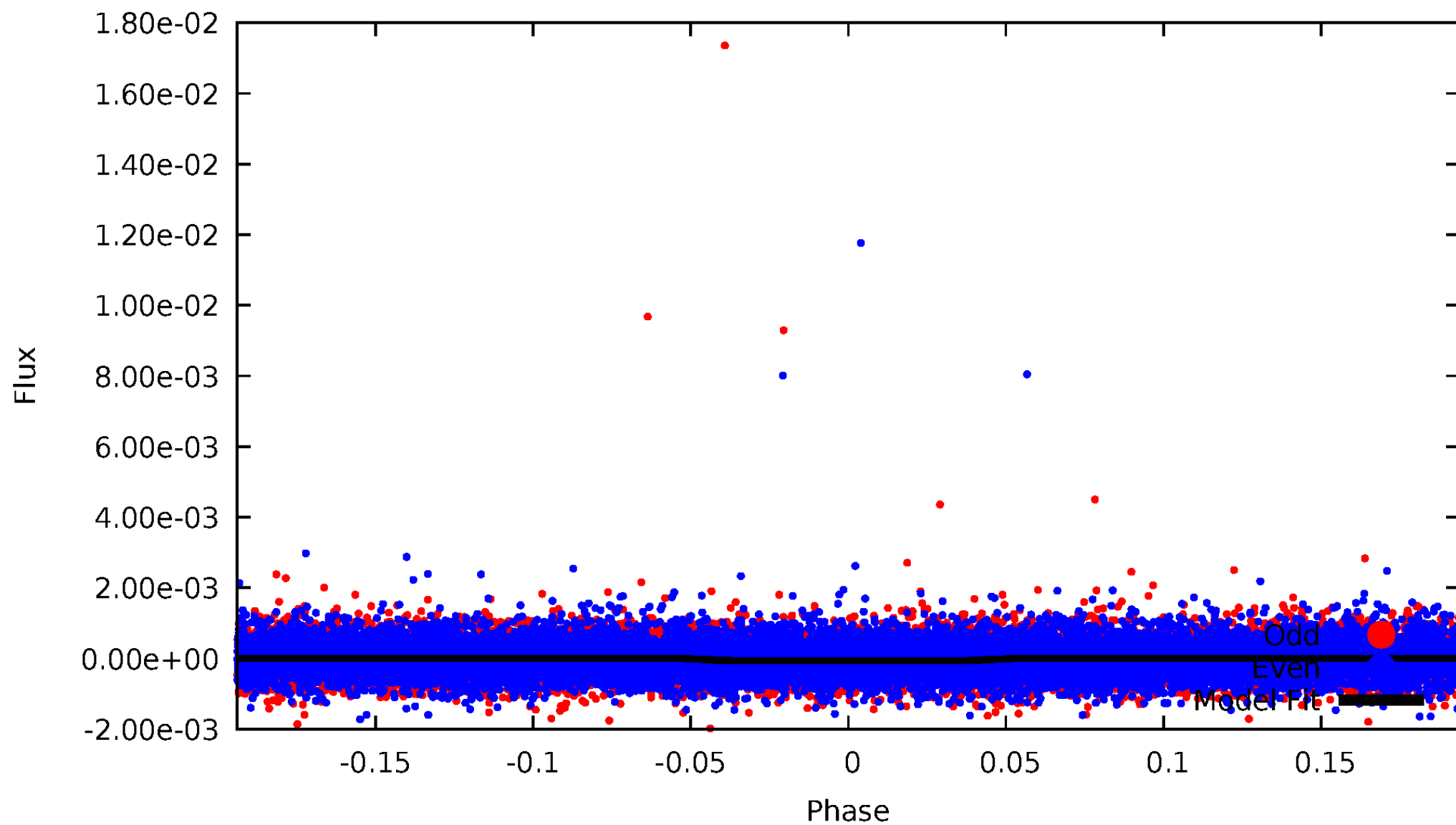


TCE 003110937-01



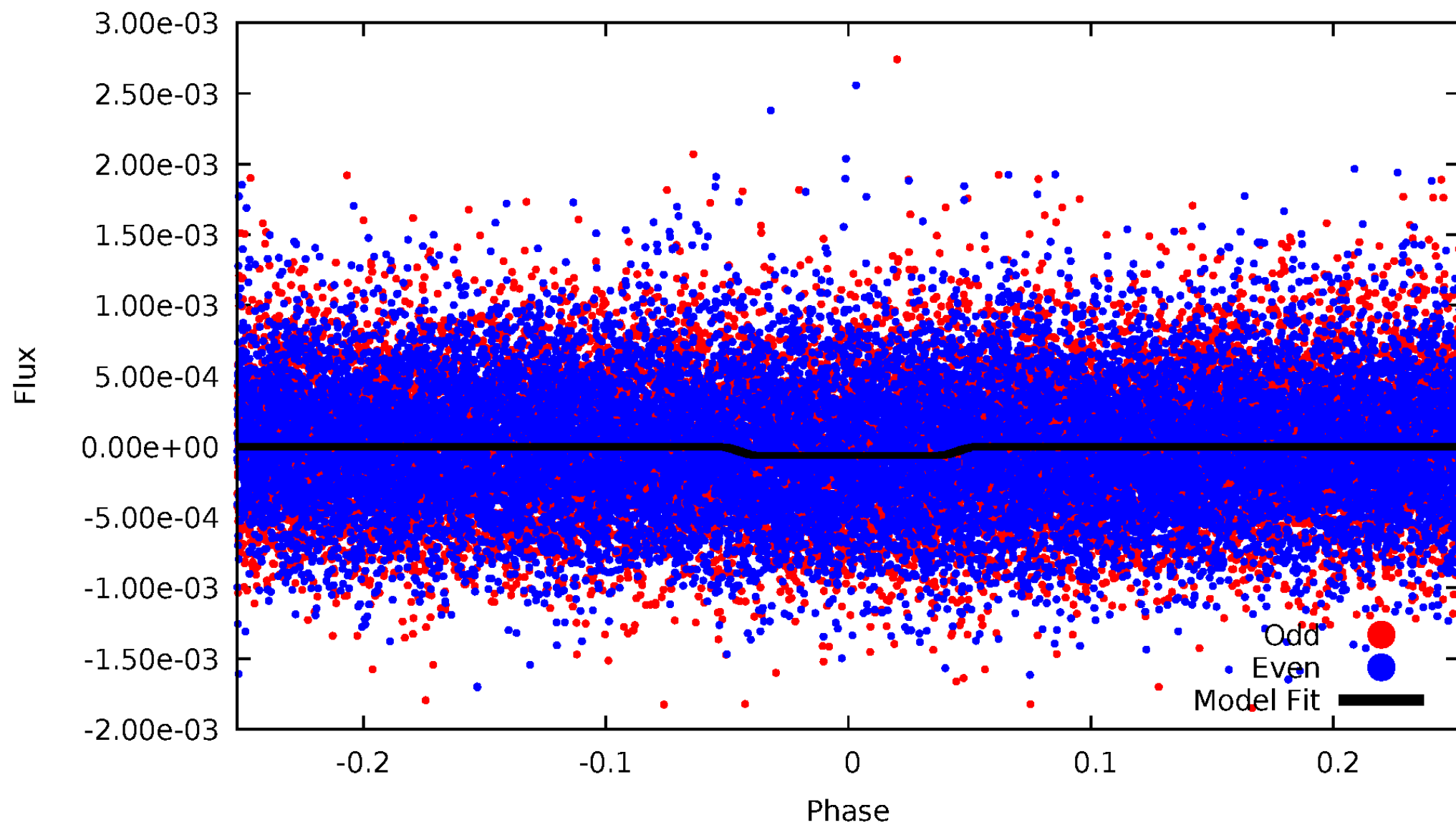
DV Odd/Even

TCE 003110937-01



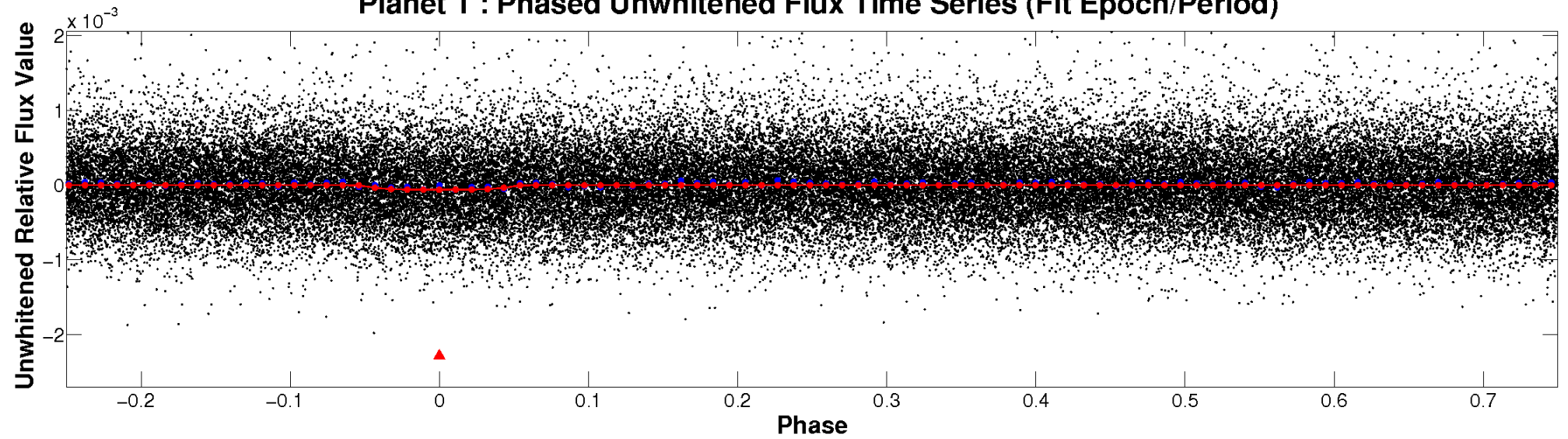
ALT Odd/Even

TCE 003110937-01

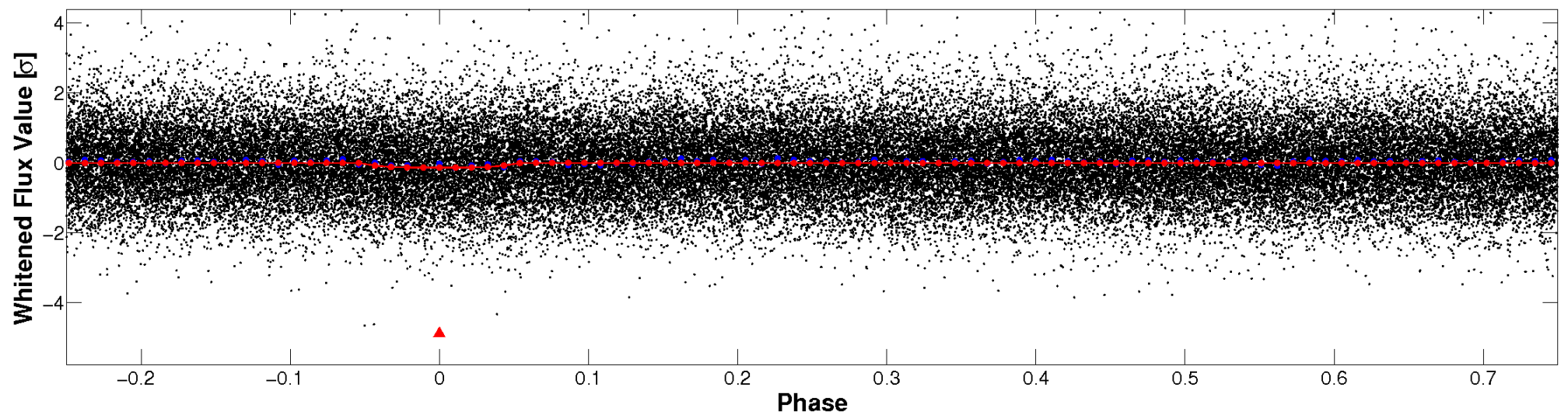


Non-Whitened Vs. Whitened Light Curve

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

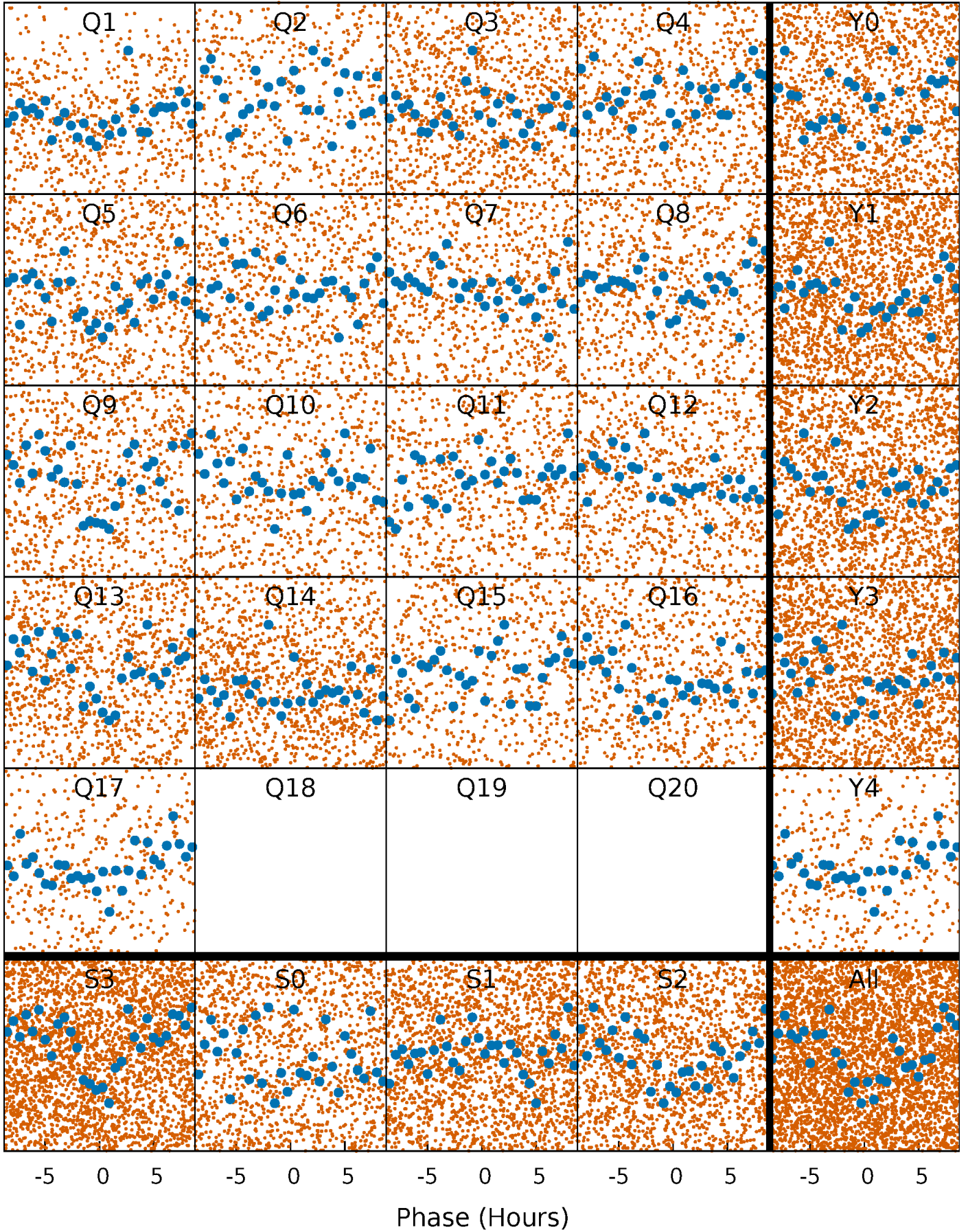


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



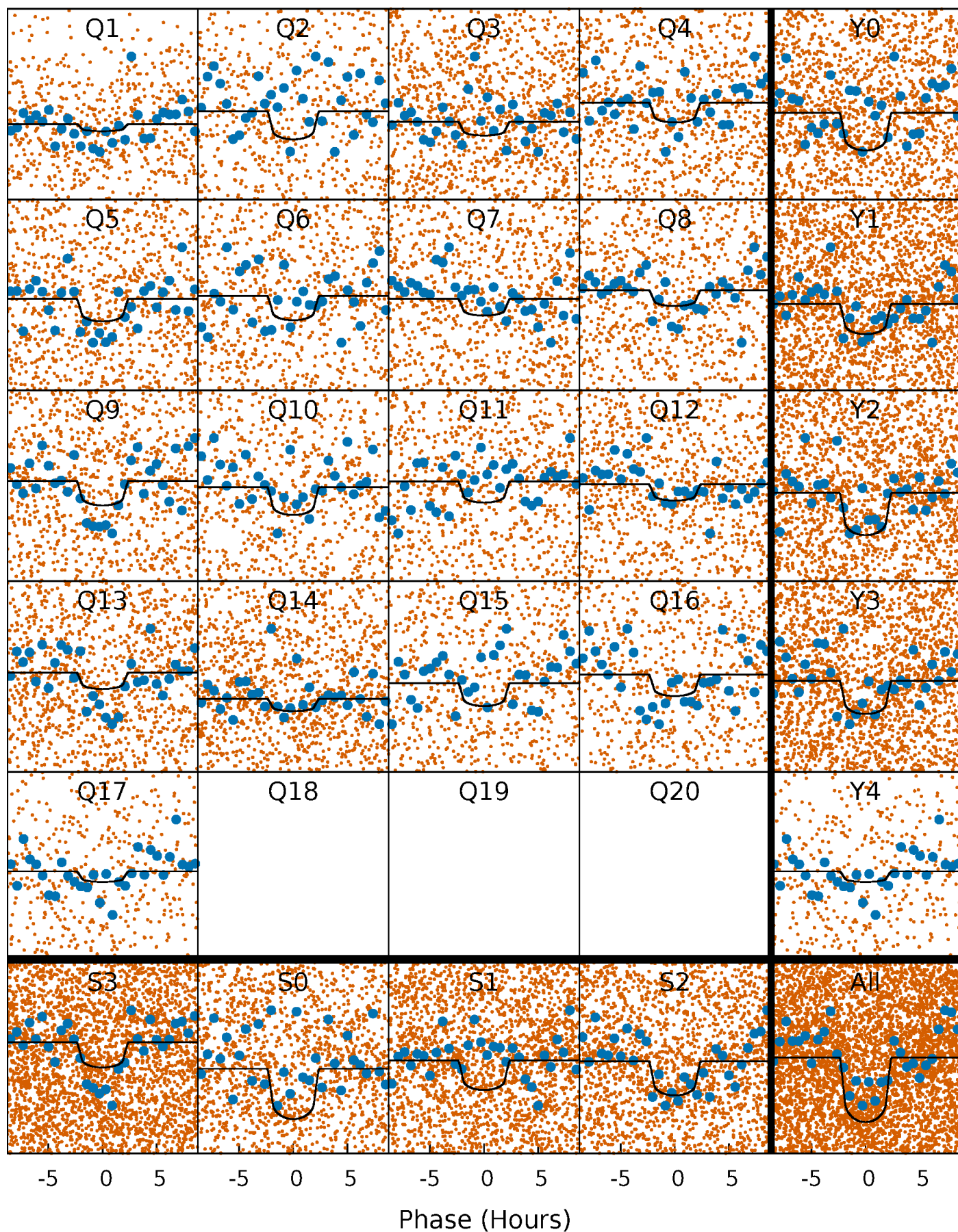
PDC Quarter-Phased Transit Curves

TCE 003110937-01 P= 1.891226 Days $T_0=132.702884$ (BKJD)



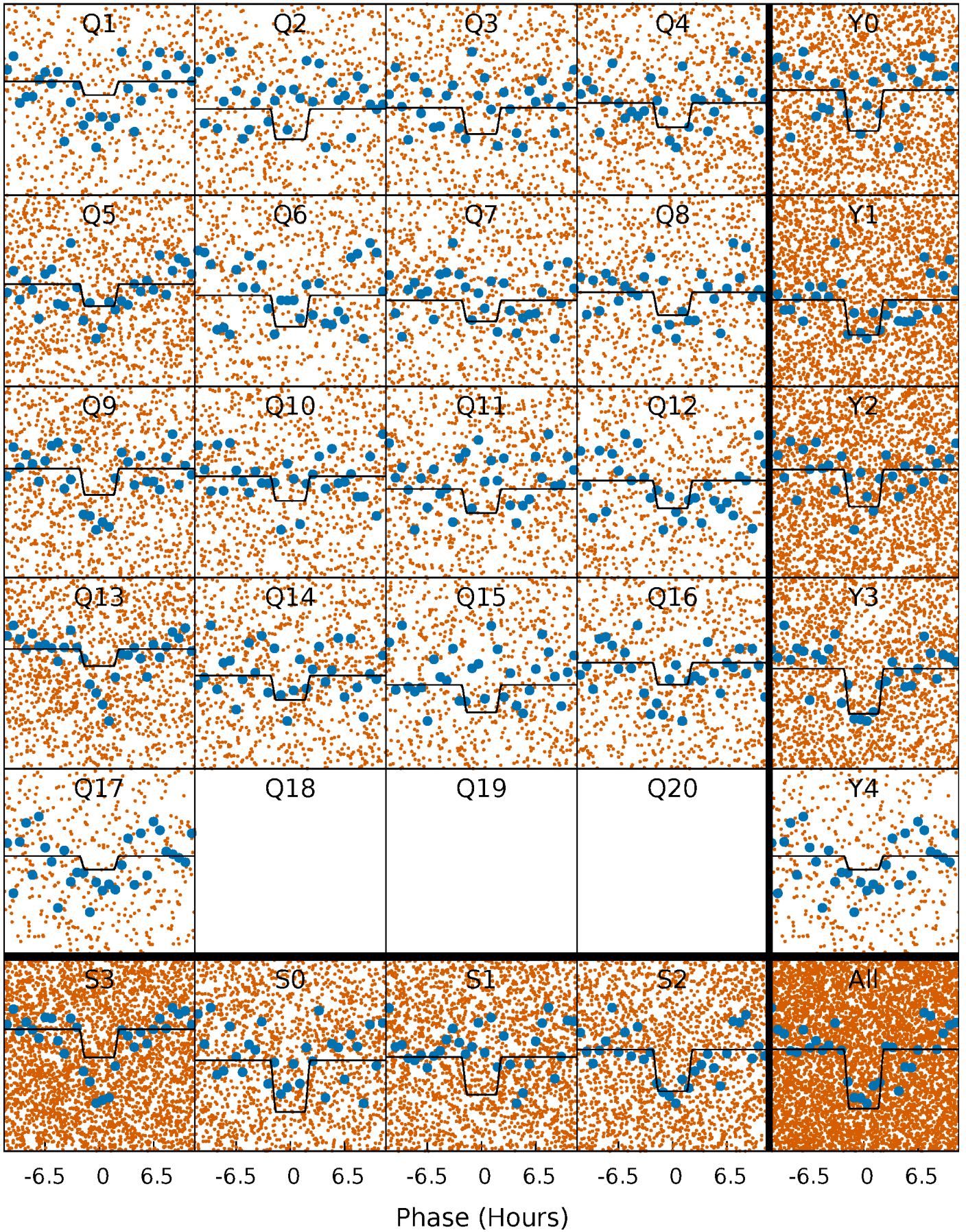
DV Quarter-Phased Transit Curves

TCE 003110937-01 P= 1.891226 Days $T_0=132.702884$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

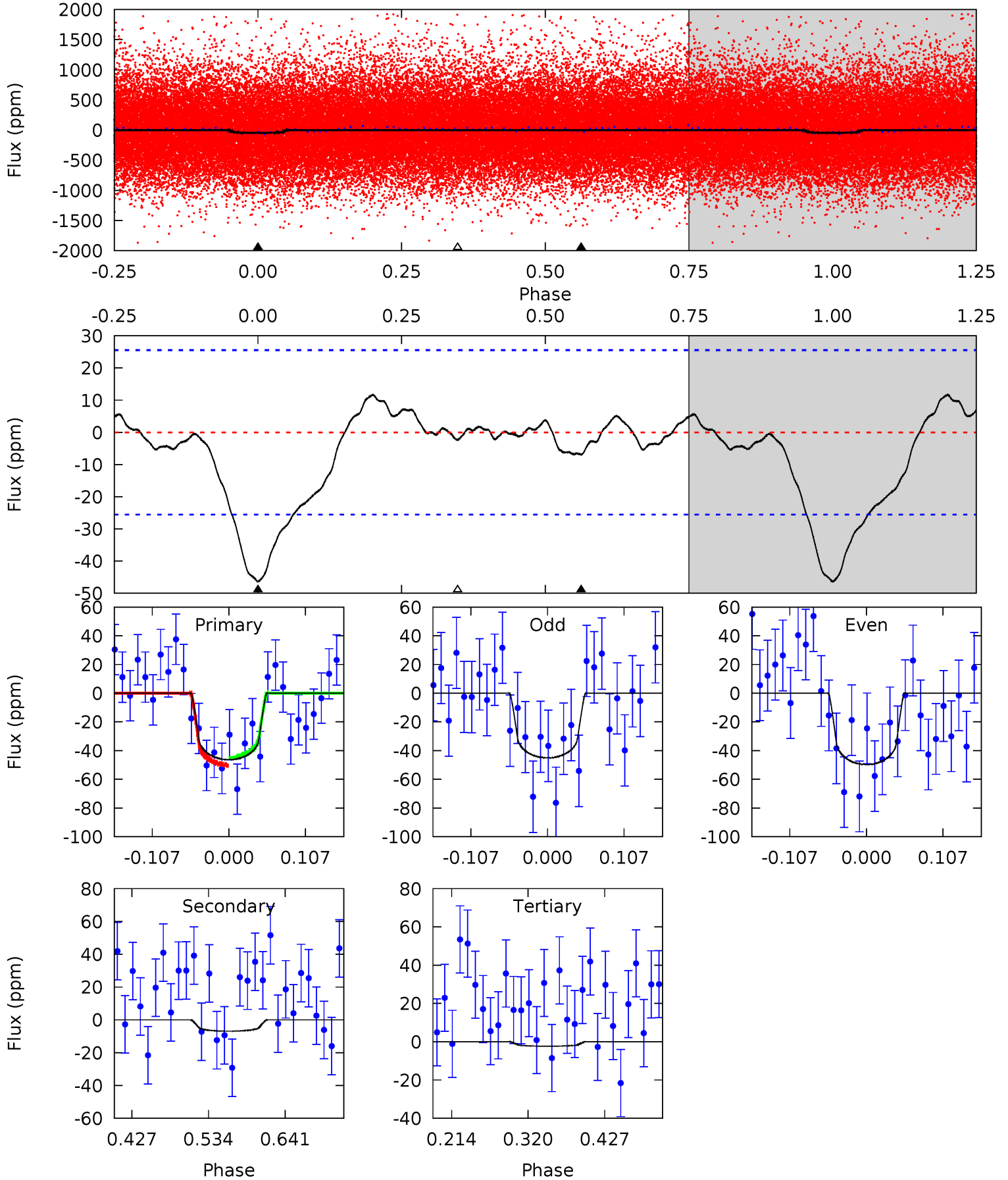
TCE 003110937-01 P= 1.891233 Days $T_0=132.698379$ (BKJD)



DV Model-Shift Uniqueness Test

003110937-01, P = 1.891226 Days, E = 130.811658 Days

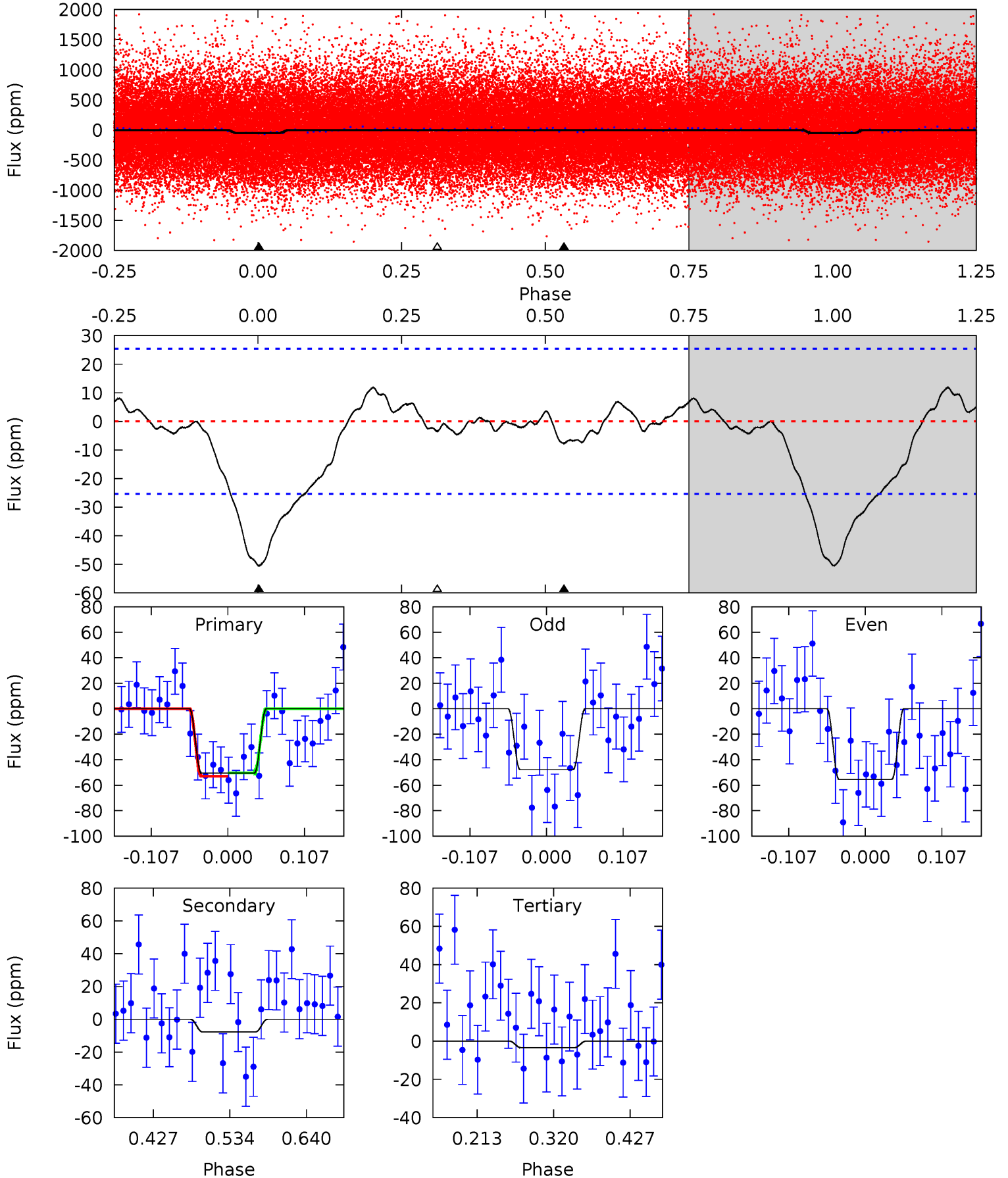
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.25	1.22	0.41	0	4.55	1.61	0.93	7.84	8.25	0.81	1.22	0.41	0.79	0.20	0.48



Alt Model-Shift Uniqueness Test

003110937-01, P = 1.891233 Days, E = 130.807146 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.06	1.38	0.62	0	4.55	1.61	0.97	8.43	9.06	0.76	1.38	0.68	1.02	0.19	0.23



Stellar Parameters For KIC 003110937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5741^{+173}_{-173}	$4.438^{+0.140}_{-0.171}$	$-0.520^{+0.300}_{-0.300}$	$0.884^{+0.221}_{-0.148}$	$0.781^{+0.111}_{-0.055}$	$1.593^{+1.004}_{-0.717}$
	+3%/-3%	+3%/-4%	+58%/-58%	+25%/-17%	+14%/-7%	+63%/-45%
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 003110937-01 / KOI 6305.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 6	$0.90^{+0.55}_{-0.53}$	2007^{+133}_{-115}	3363^{+1347}_{-1201}	$2.843^{+17.220}_{-2.464}$
Alt.	-8 ± 6	$0.83^{+0.59}_{-0.50}$	2014^{+146}_{-113}	3567^{+1607}_{-912}	$3.938^{+25.422}_{-3.192}$

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 $A_{obs} \gg 1.0$

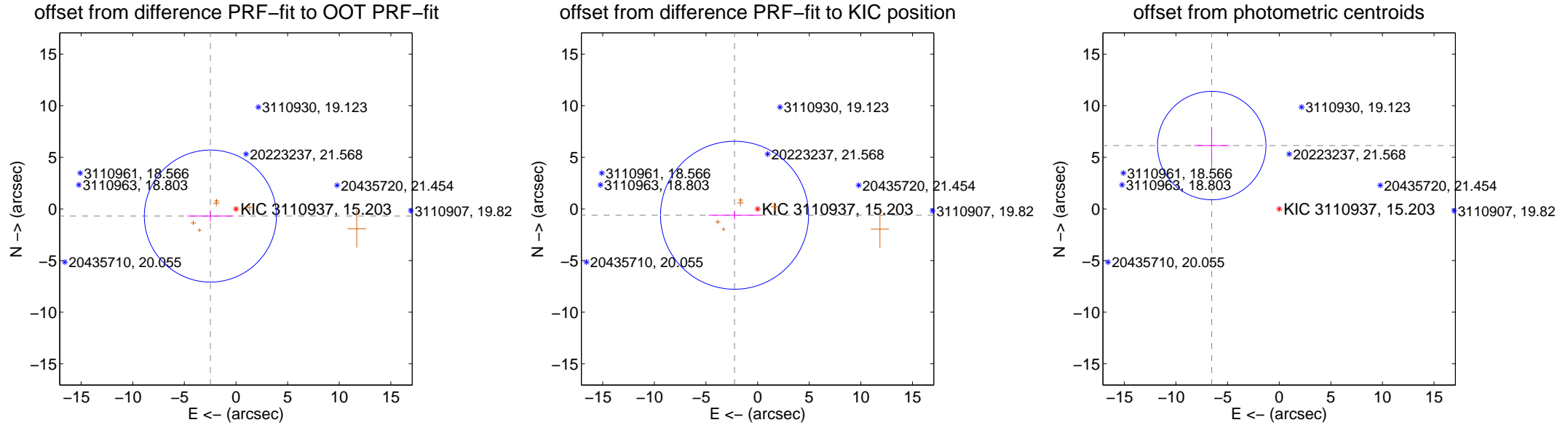
DV Centroid Data

Supplemental centroid analysis for 003110937-01. Kepler magnitude: 15.20. Transit SNR 8.81

There are 0 quarters with good PRF difference image offsets

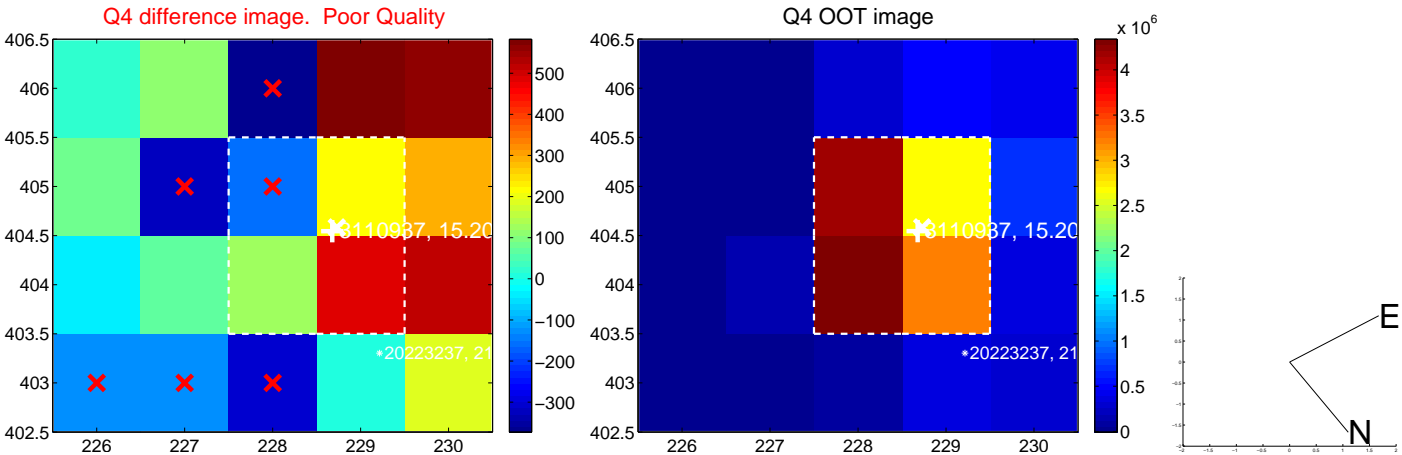
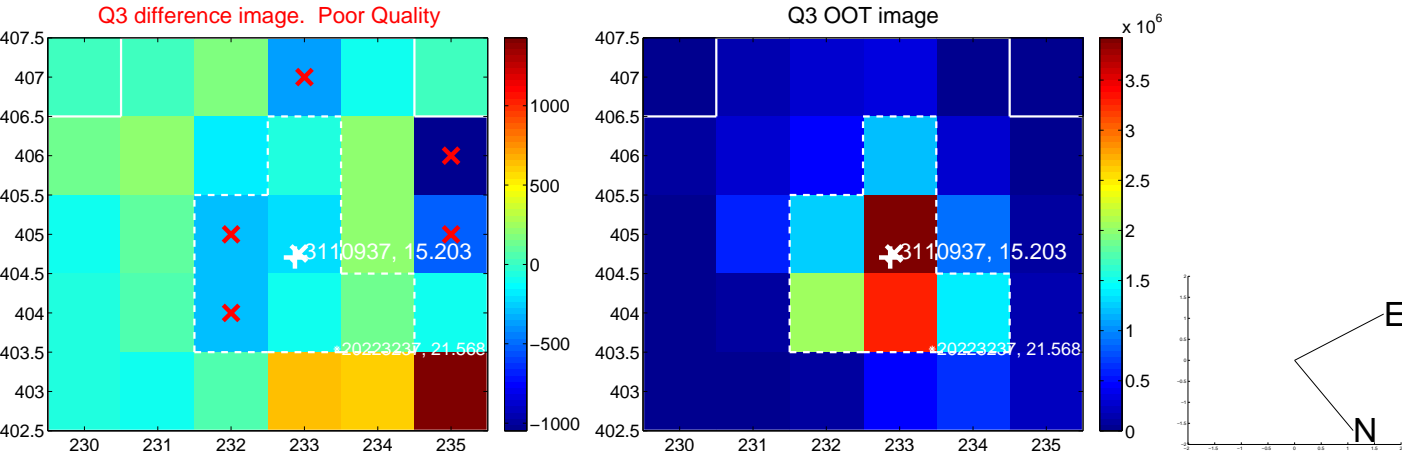
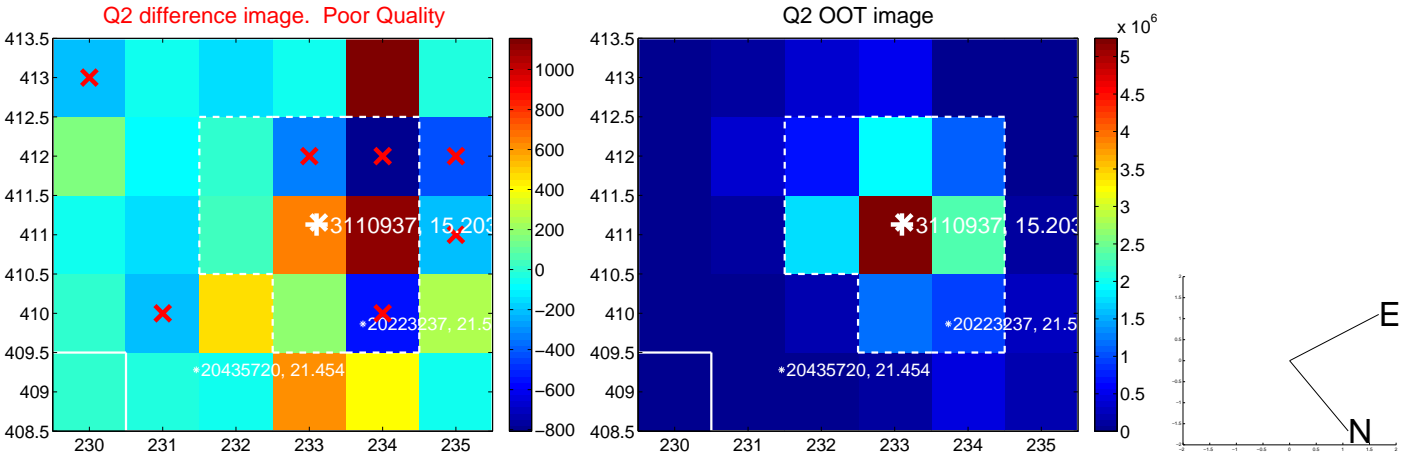
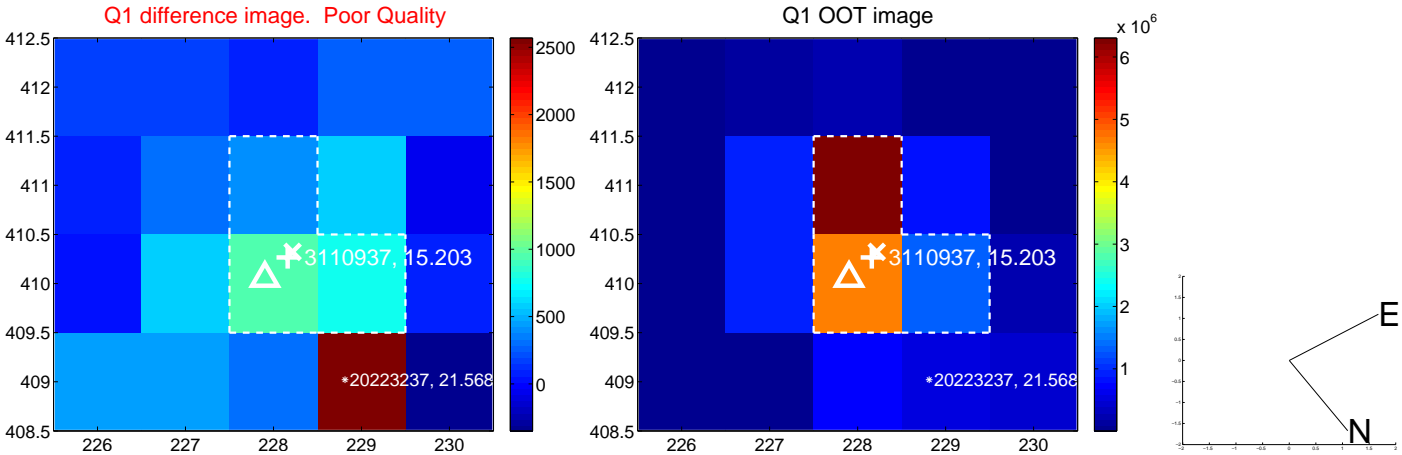
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.577 ± 2.132	1.21	2.482 ± 2.226	-0.692 ± 0.523
PRF-fit source offset from KIC position	2.314 ± 2.390	0.97	2.232 ± 2.513	-0.611 ± 0.422
photometric centroid source offset	8.97 ± 1.75	5.12	6.54 ± 1.71	6.14 ± 1.80

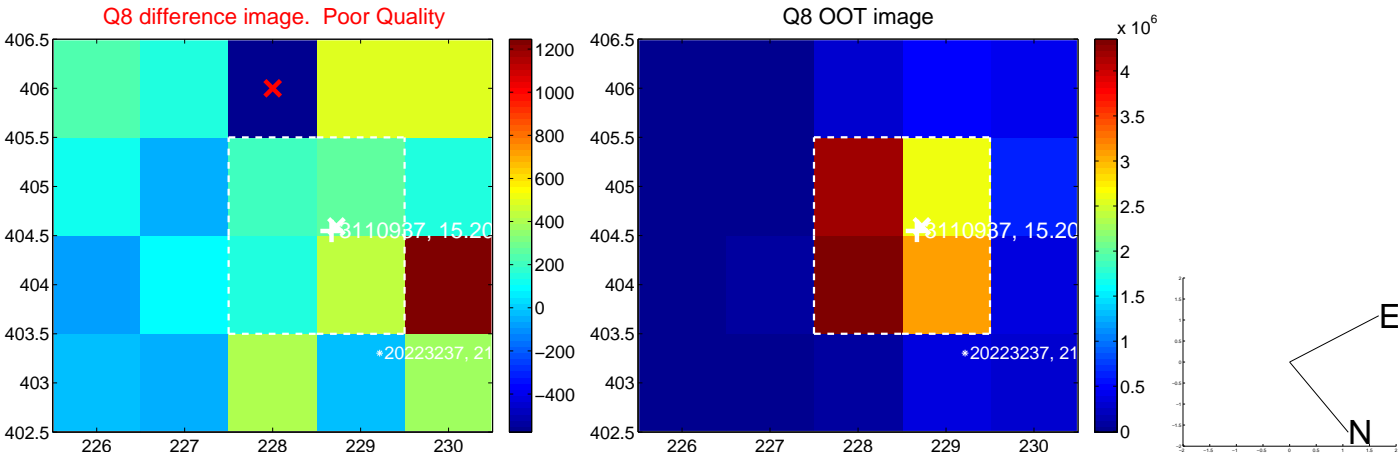
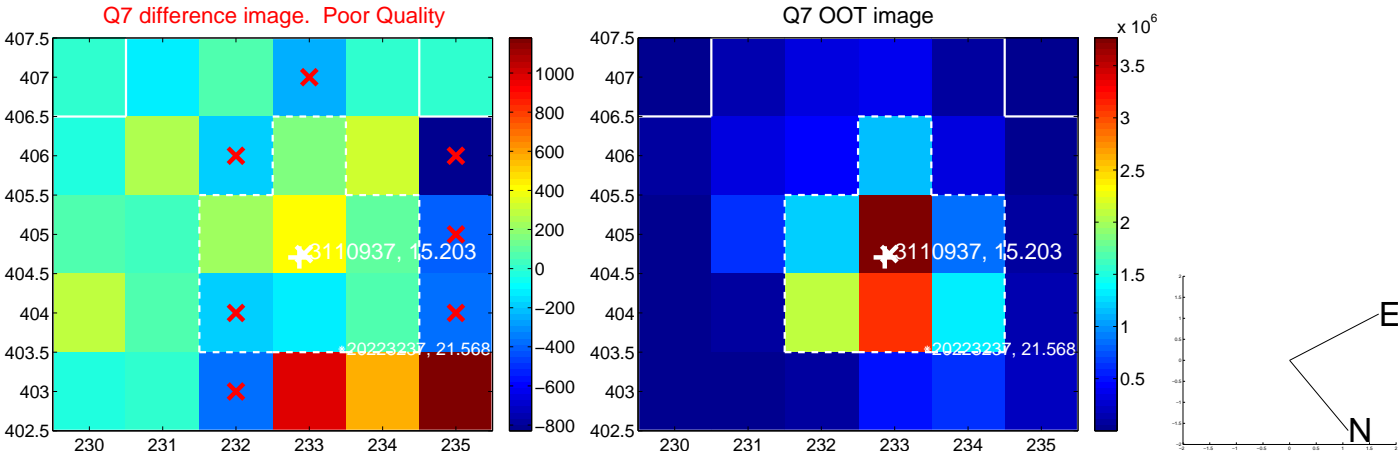
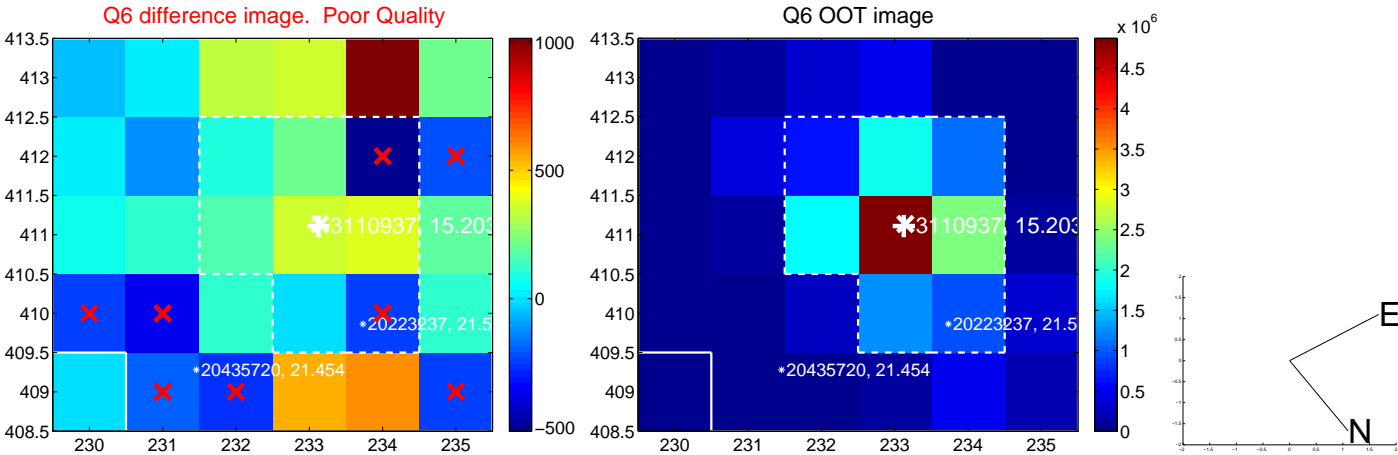
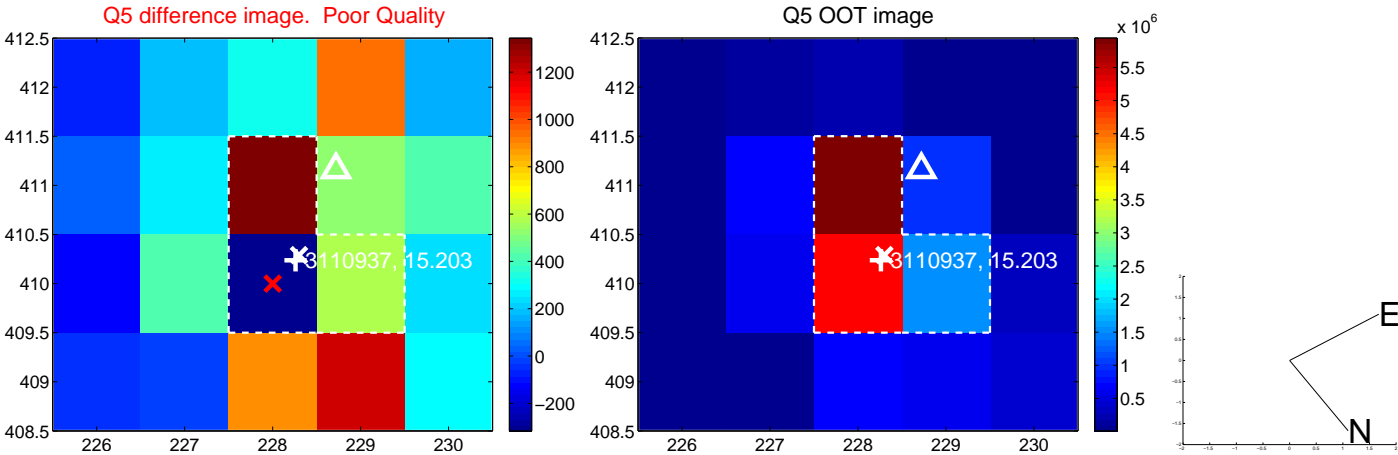


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

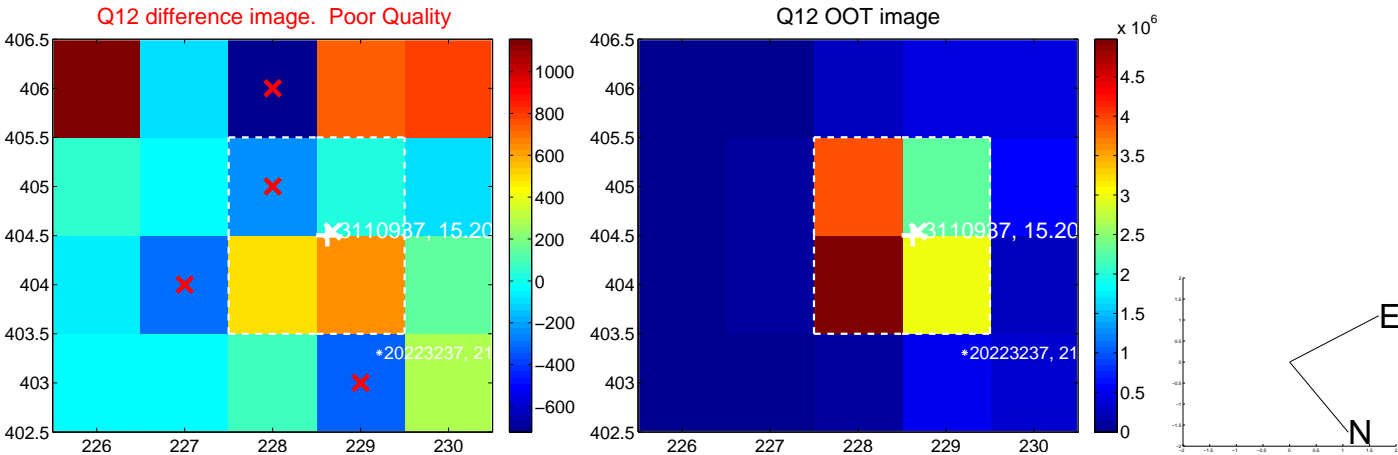
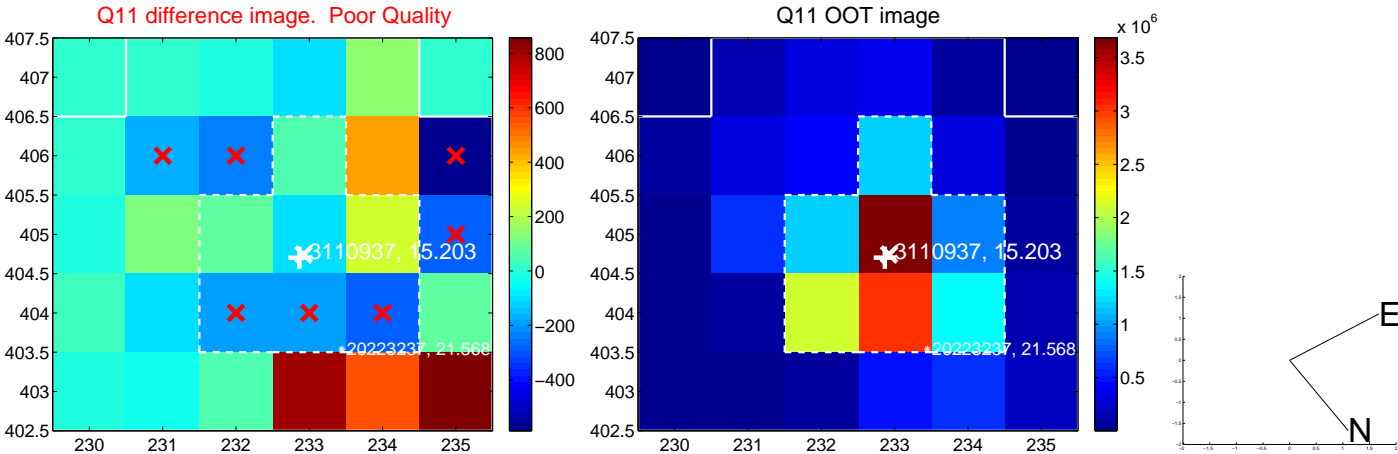
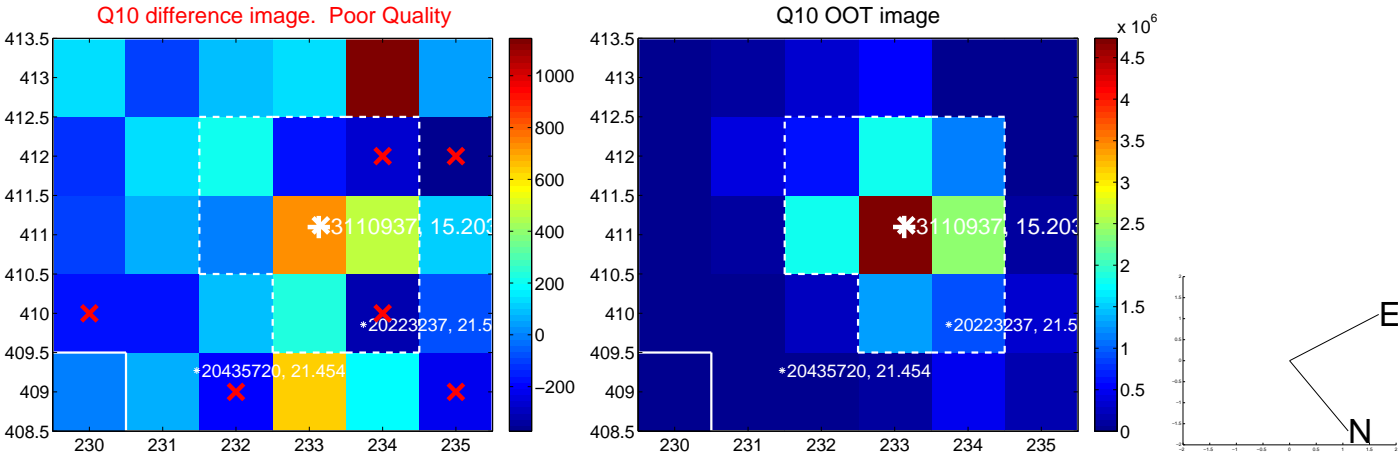
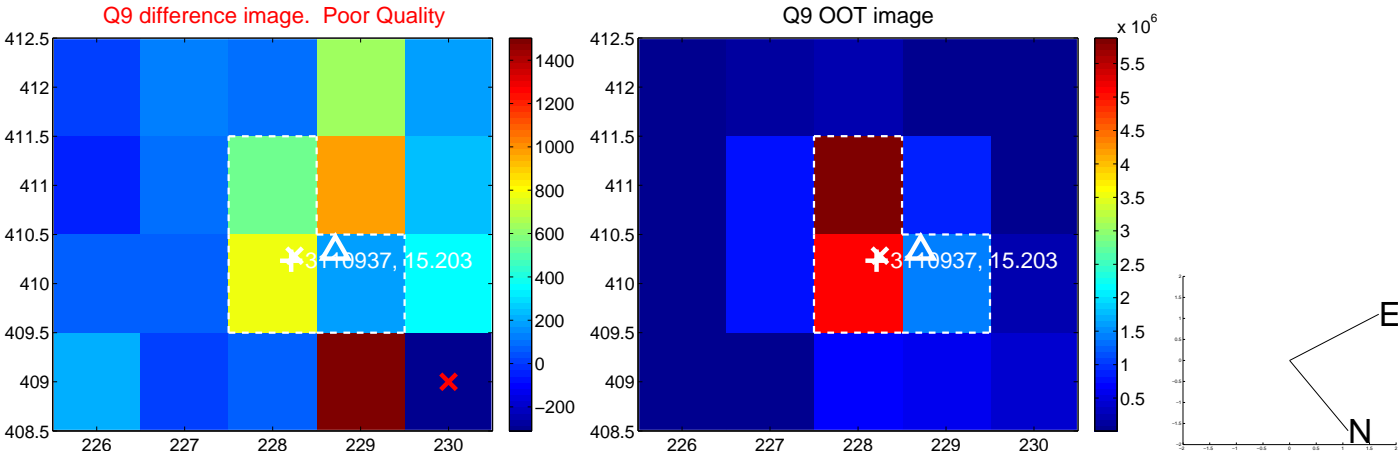
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



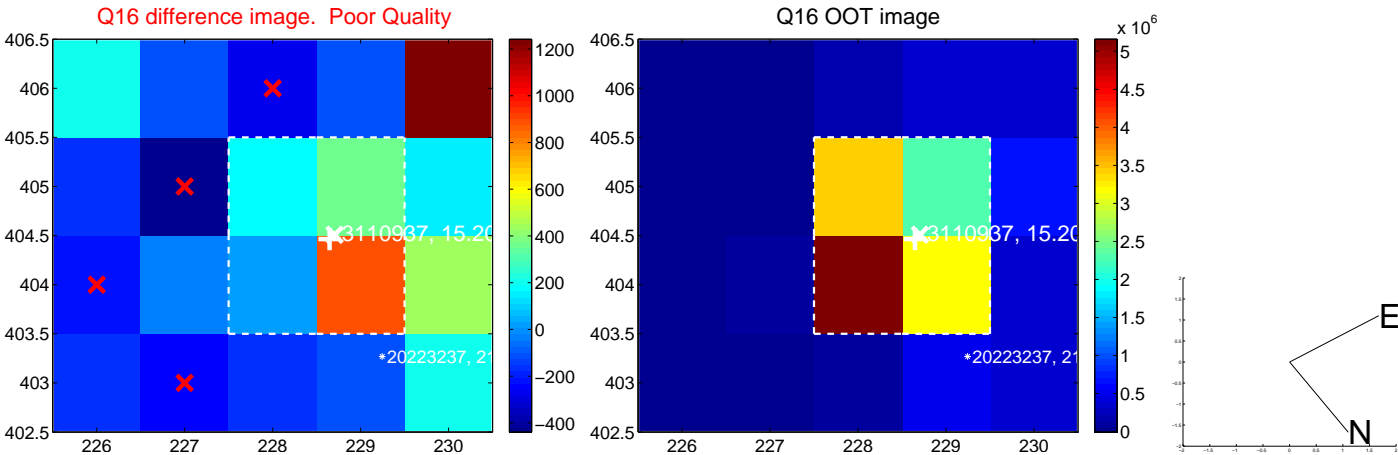
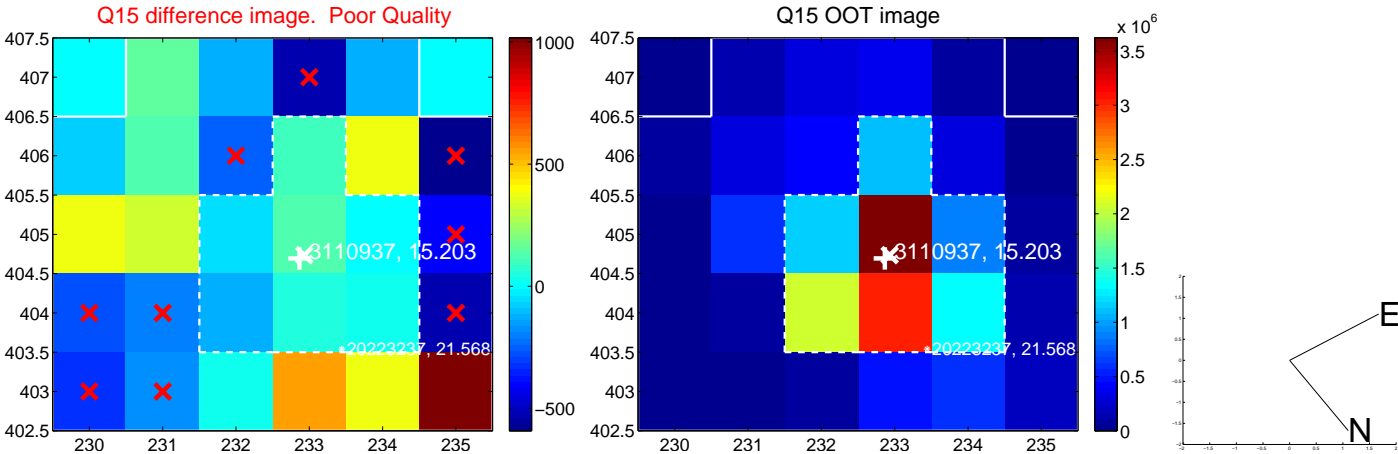
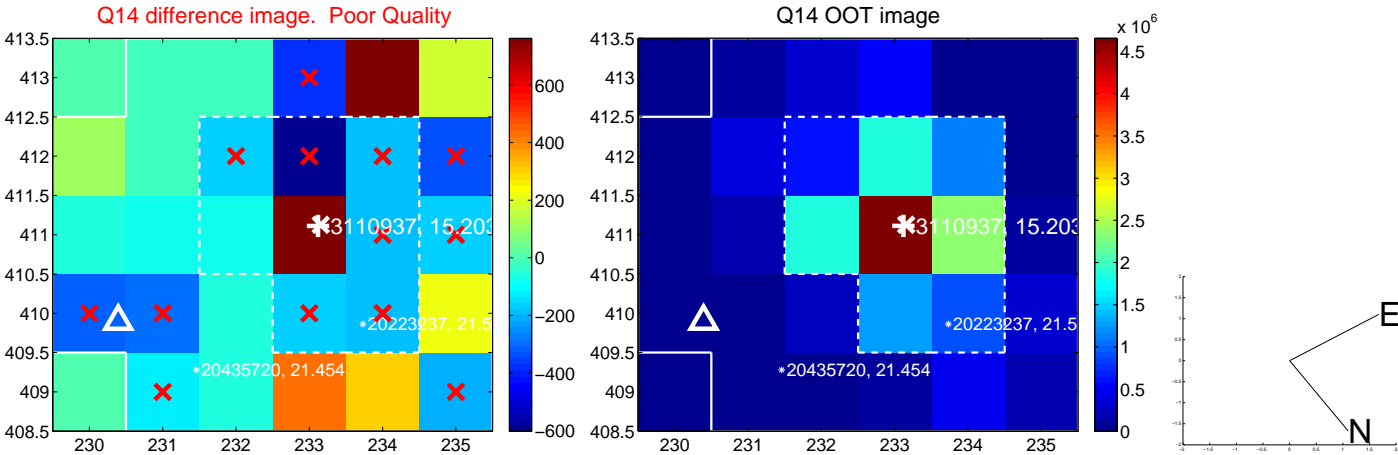
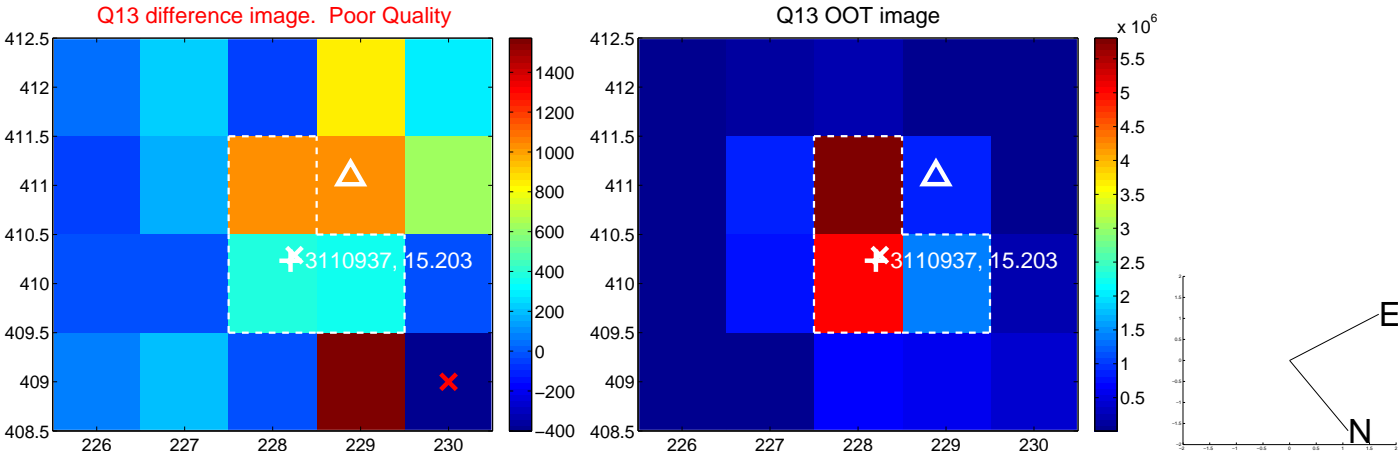
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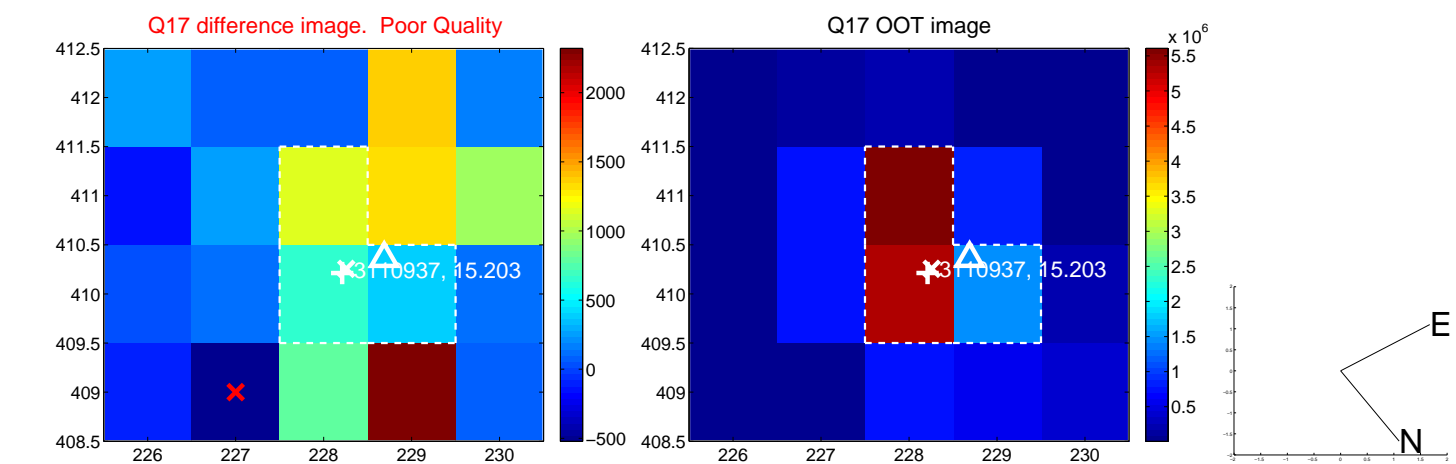
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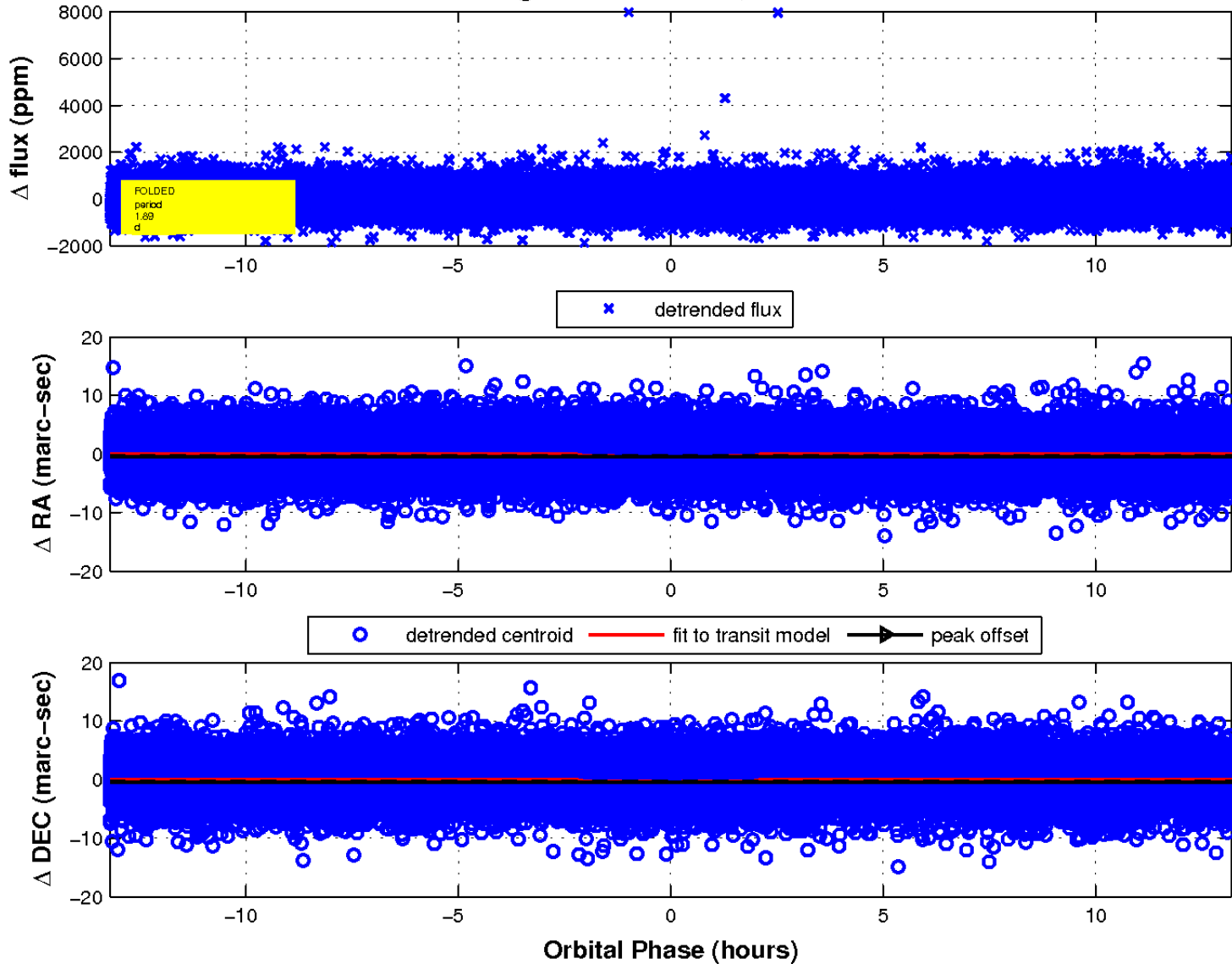
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

