

KIC 010342316

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 _⊕)
010342316-01	OBS	4547.01	0.933645	132.529919	19.2	4.304	11.4	4.6	0.97	6056	0.44	3337.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010342316-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—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 010342316-01

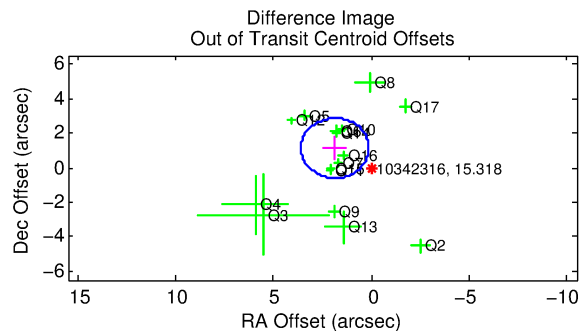
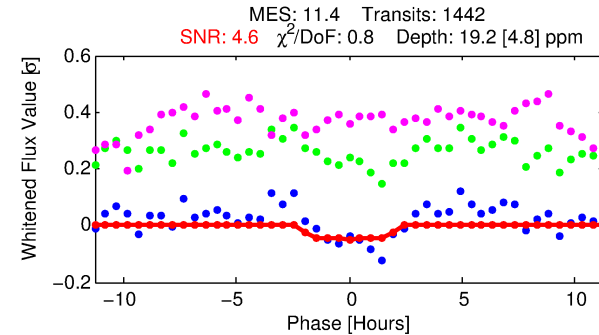
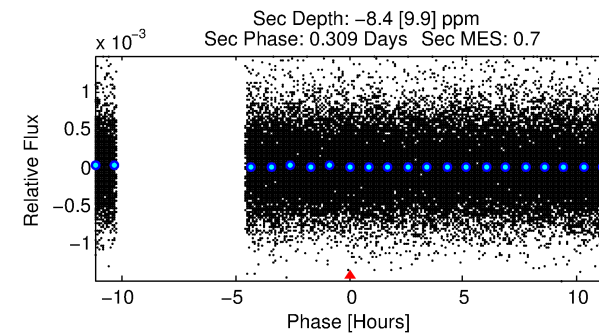
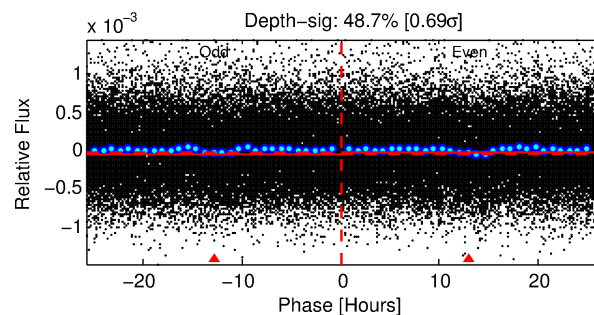
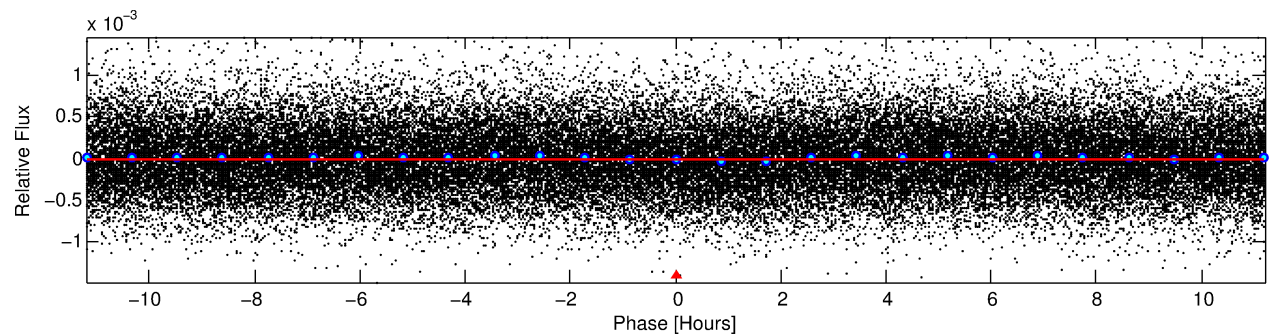
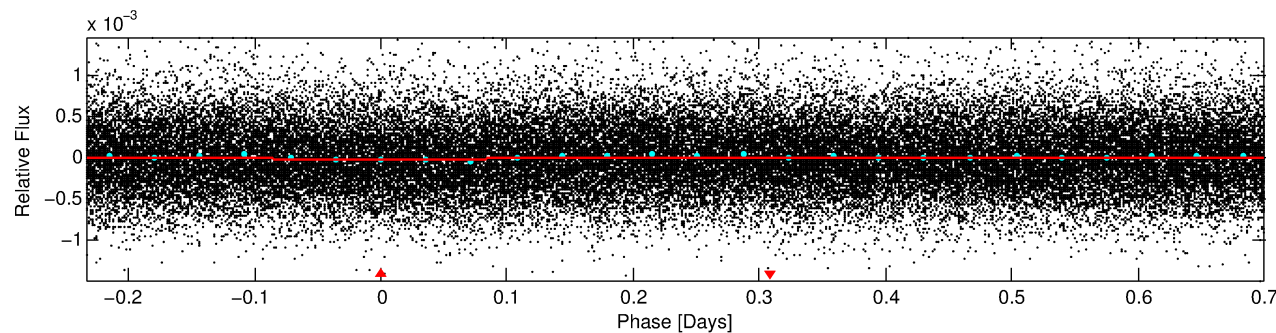
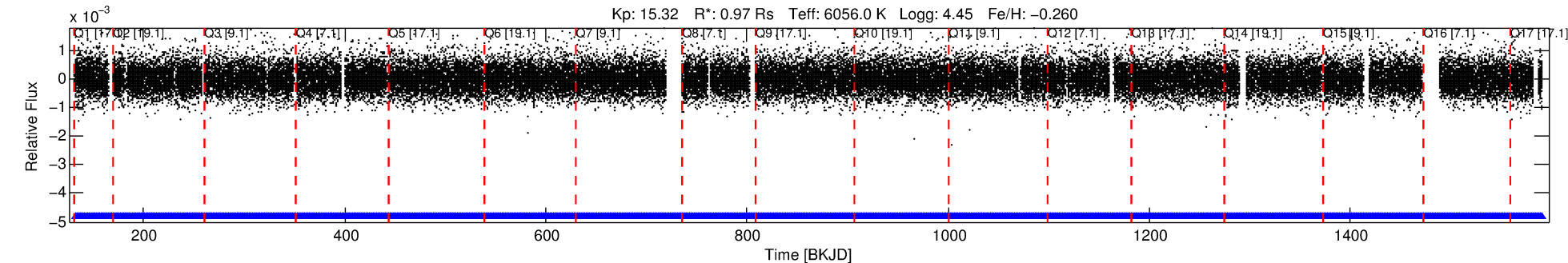
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010342316-01	10342316	010341755-01	10341755	1:1	562.8	-47	-6	15.67	15.32	3.95	Col-Anomaly	1	4.12	2.30

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: 10342316 Candidate: 1 of 1 Period: 0.934 d
KOI: K04547 Corr: No Ephemeris Match

Kp: 15.32 R*: 0.97 Rs Teff: 6056.0 K Logg: 4.45 Fe/H: -0.260



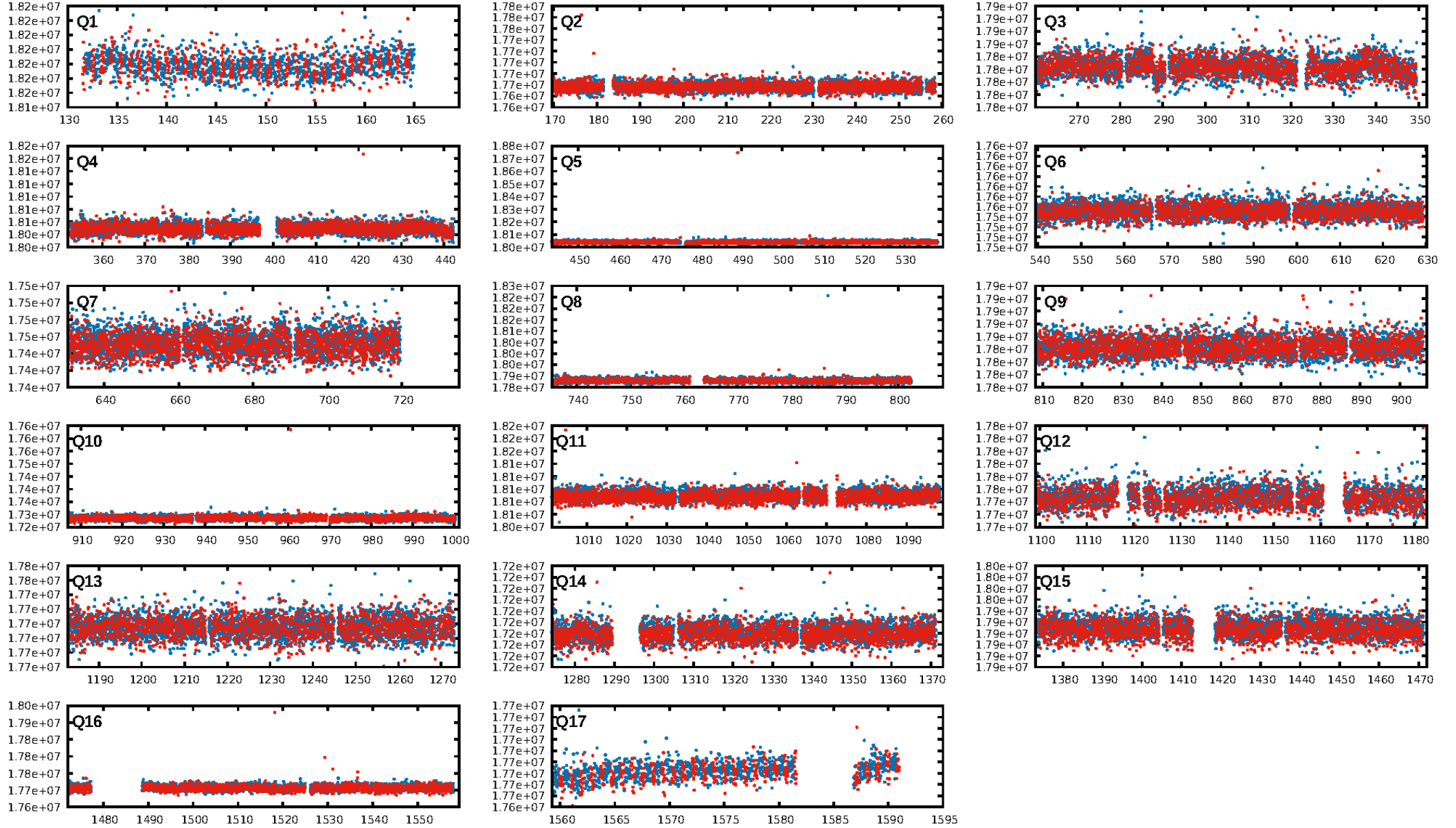
DV Fit Results:

Period = 0.93364 [0.00003] d
Epoch = 132.5299 [0.0112] BKJD
Rp/R* = 0.0041 [0.0041]
a/R* = 1.62 [4.91]
b = 0.50 [7.51]
Seff = 3337.33 [1296.87]
Teff = 1938 [188] K
Rp = 0.44 [0.46] Re
a = 0.0185 [0.0048] AU
Ag = N/A
Teffp = N/A

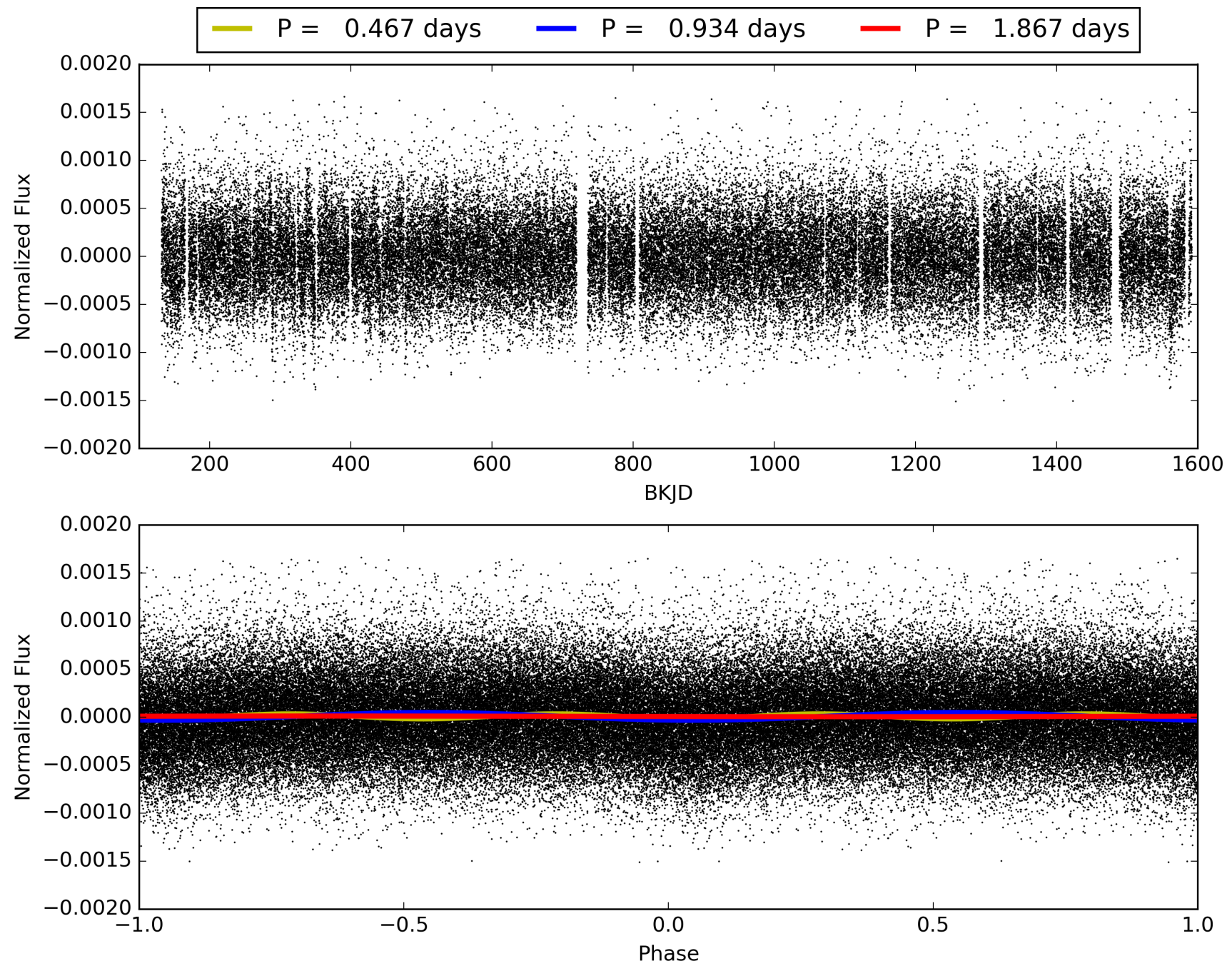
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.43e-28
RollingBand-fgt: 1.00 [1377/1377]
GhostDiagnostic-chr: 0.1567
Centroid-sig: 0.0%
Centroid-so: 12.636 arcsec [4.22σ]
OotOffset-rm: 2.188 arcsec [3.79σ]
KicOffset-rm: 2.151 arcsec [3.89σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.00 [0/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010342316-01, PDC Light Curves

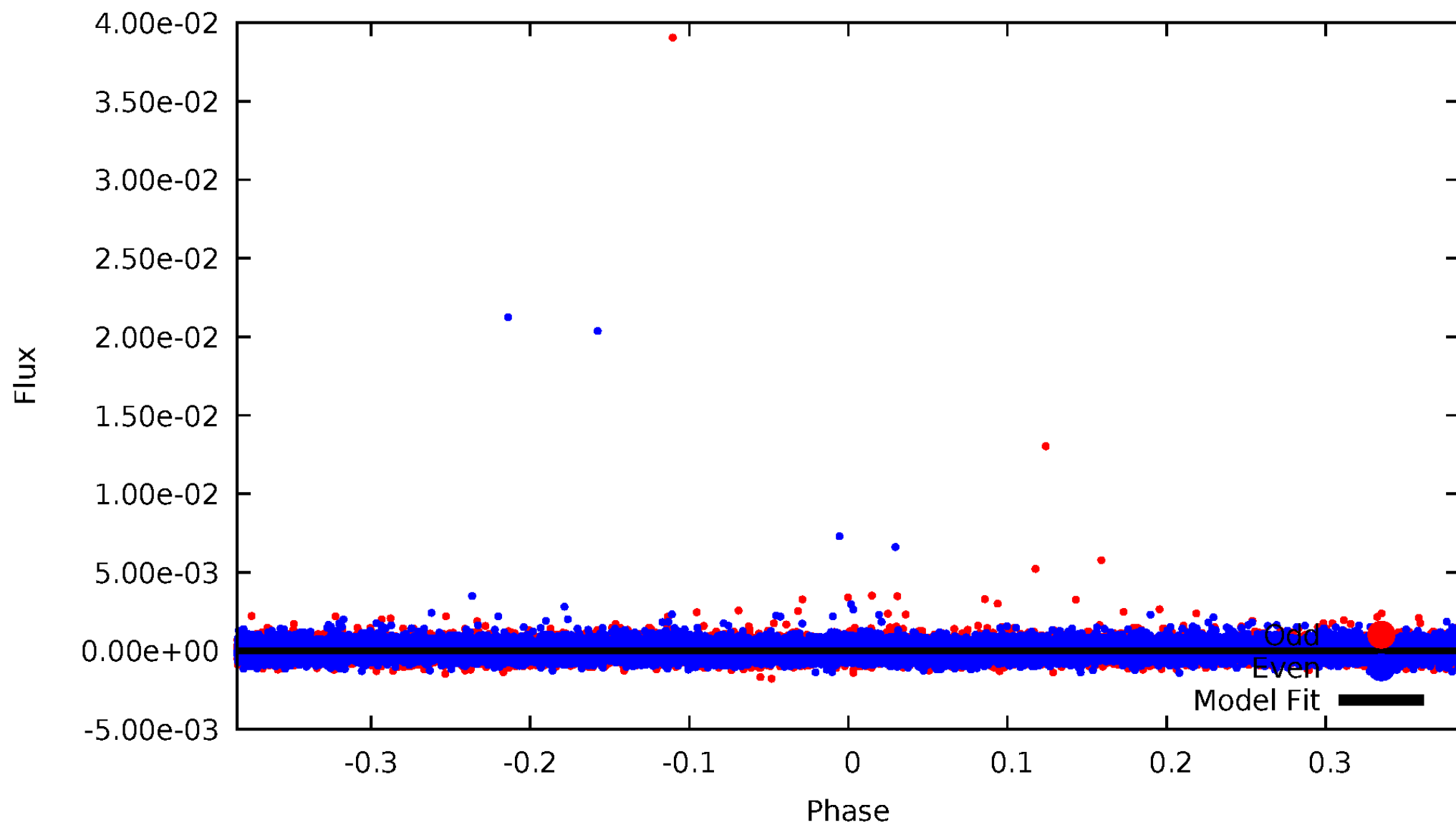


TCE 010342316-01



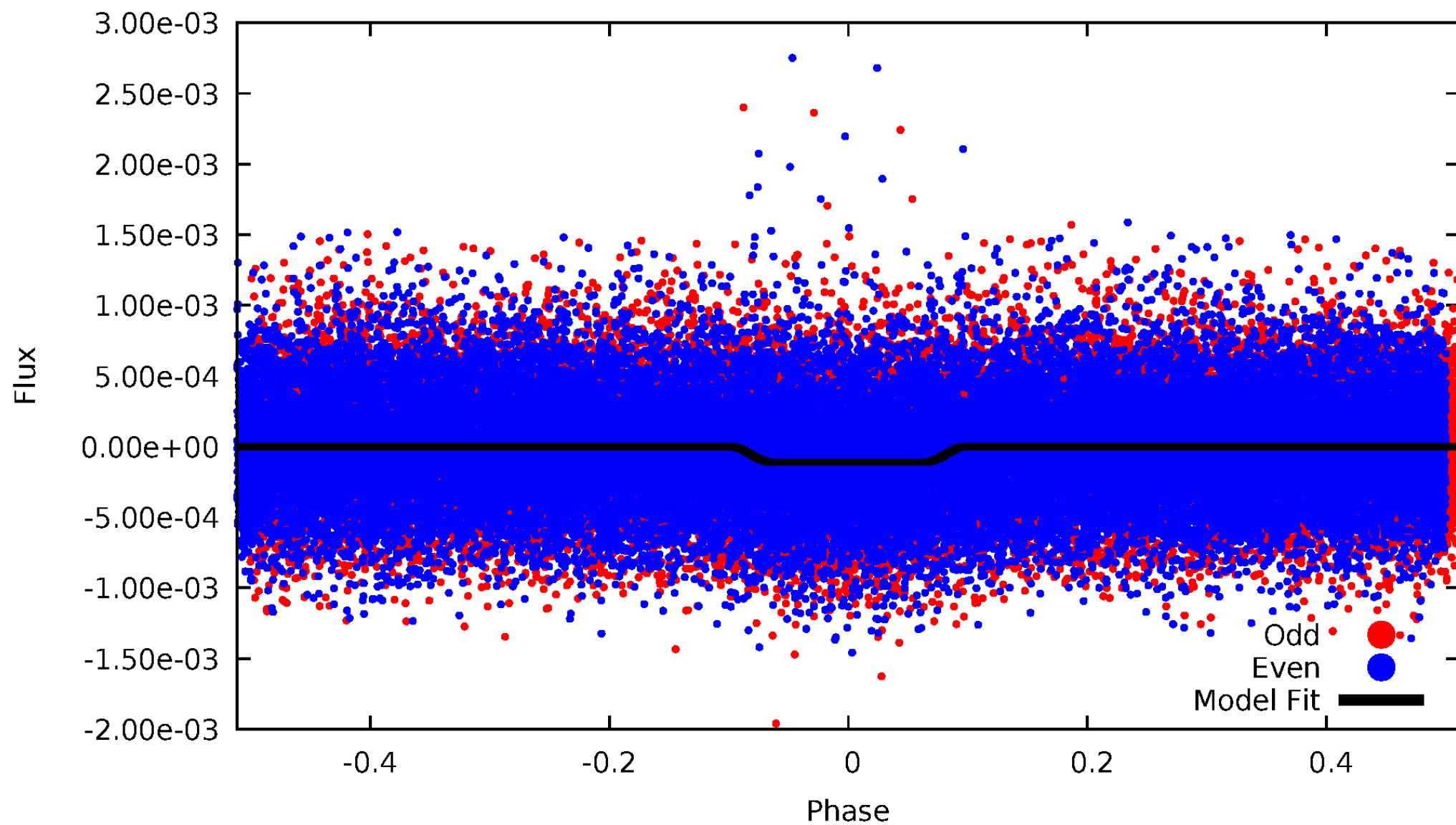
DV Odd/Even

TCE 010342316-01



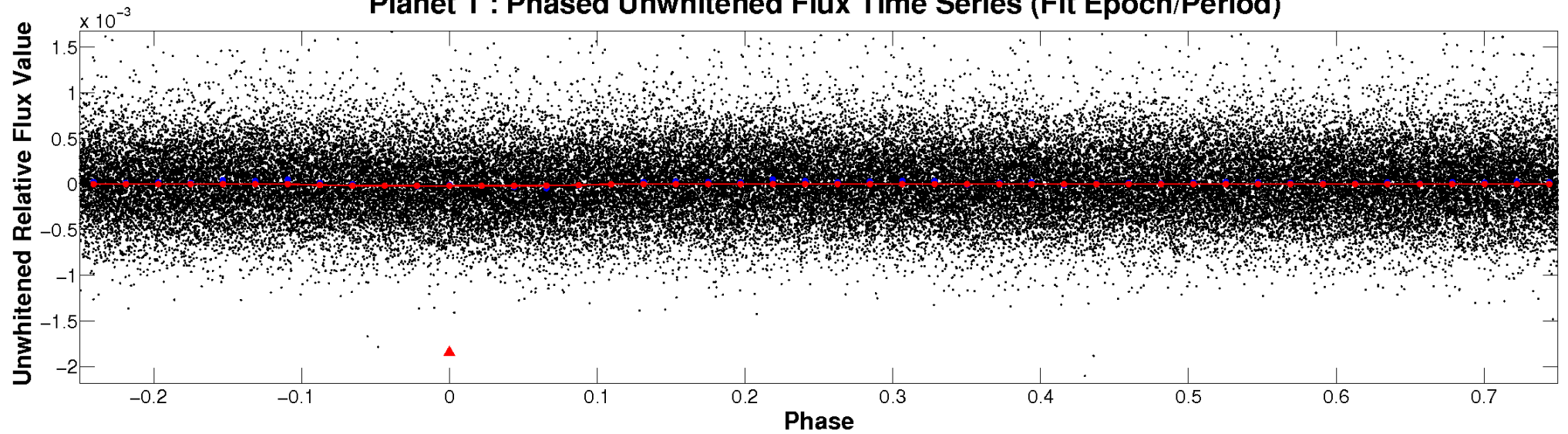
ALT Odd/Even

TCE 010342316-01

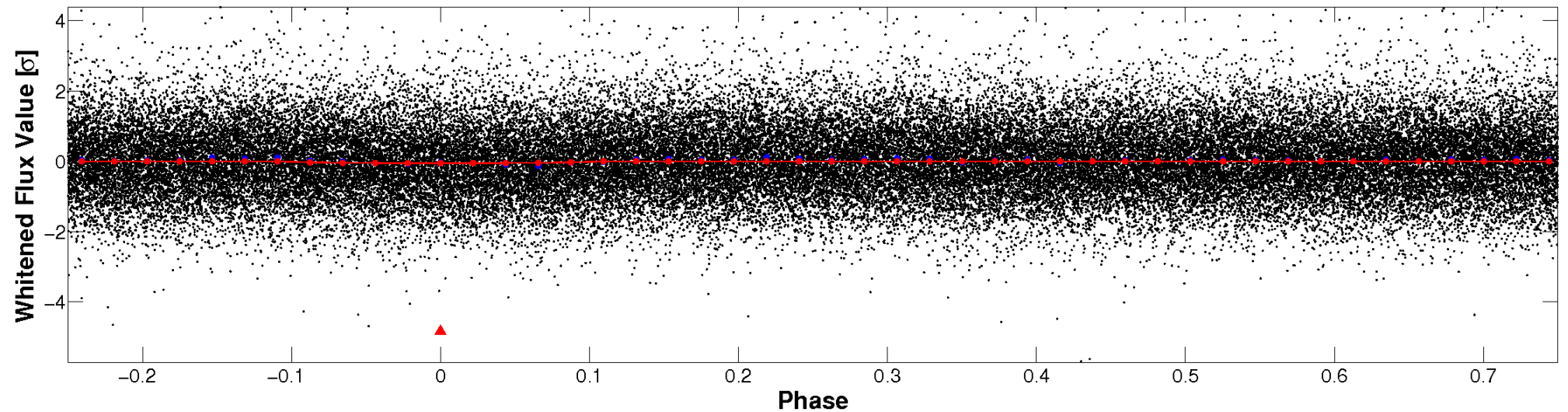


Non-Whitened Vs. Whitened Light Curve

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

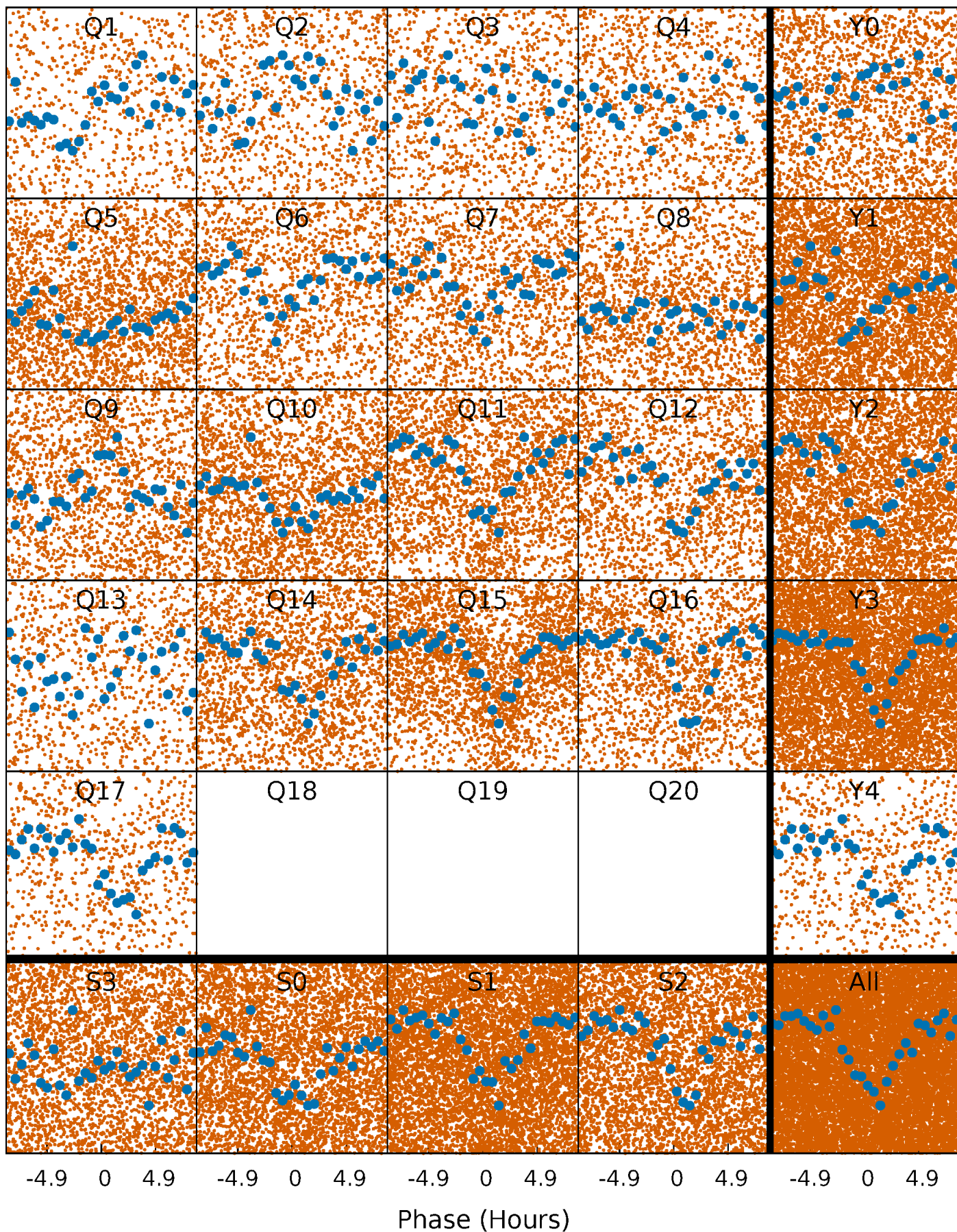


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



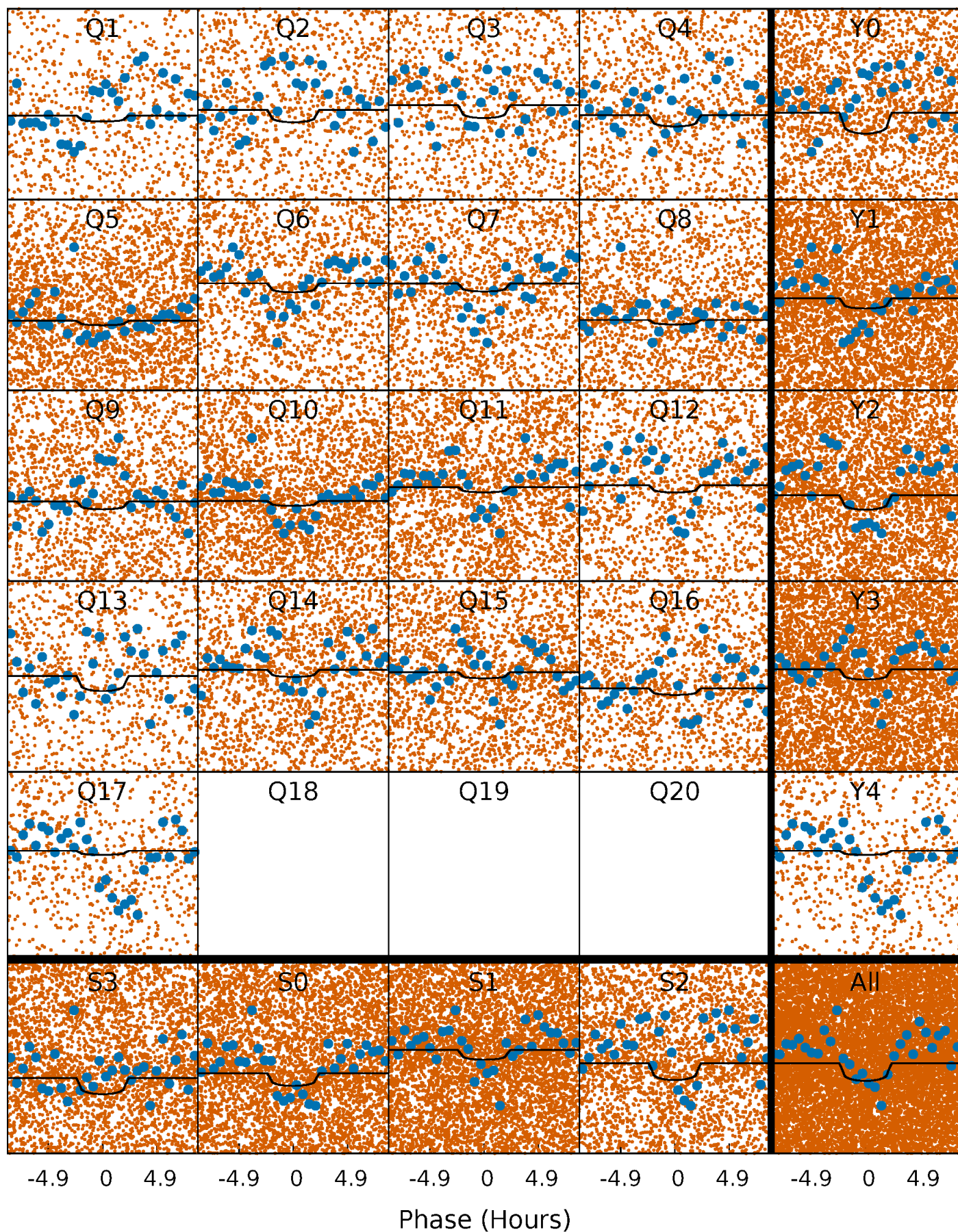
PDC Quarter-Phased Transit Curves

TCE 010342316-01 P= 0.933645 Days $T_0=132.529919$ (BKJD)



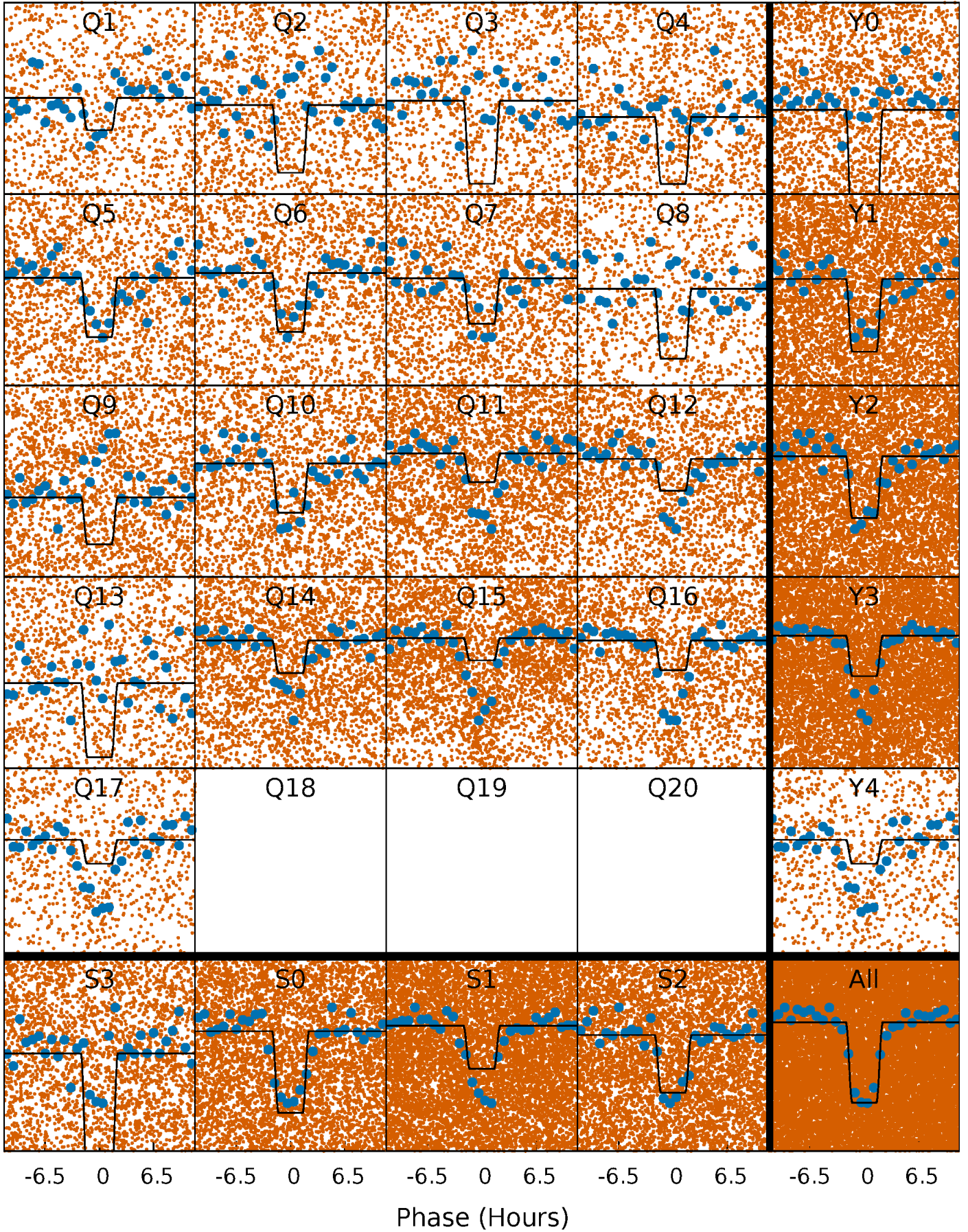
DV Quarter-Phased Transit Curves

TCE 010342316-01 P= 0.933645 Days $T_0=132.529919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

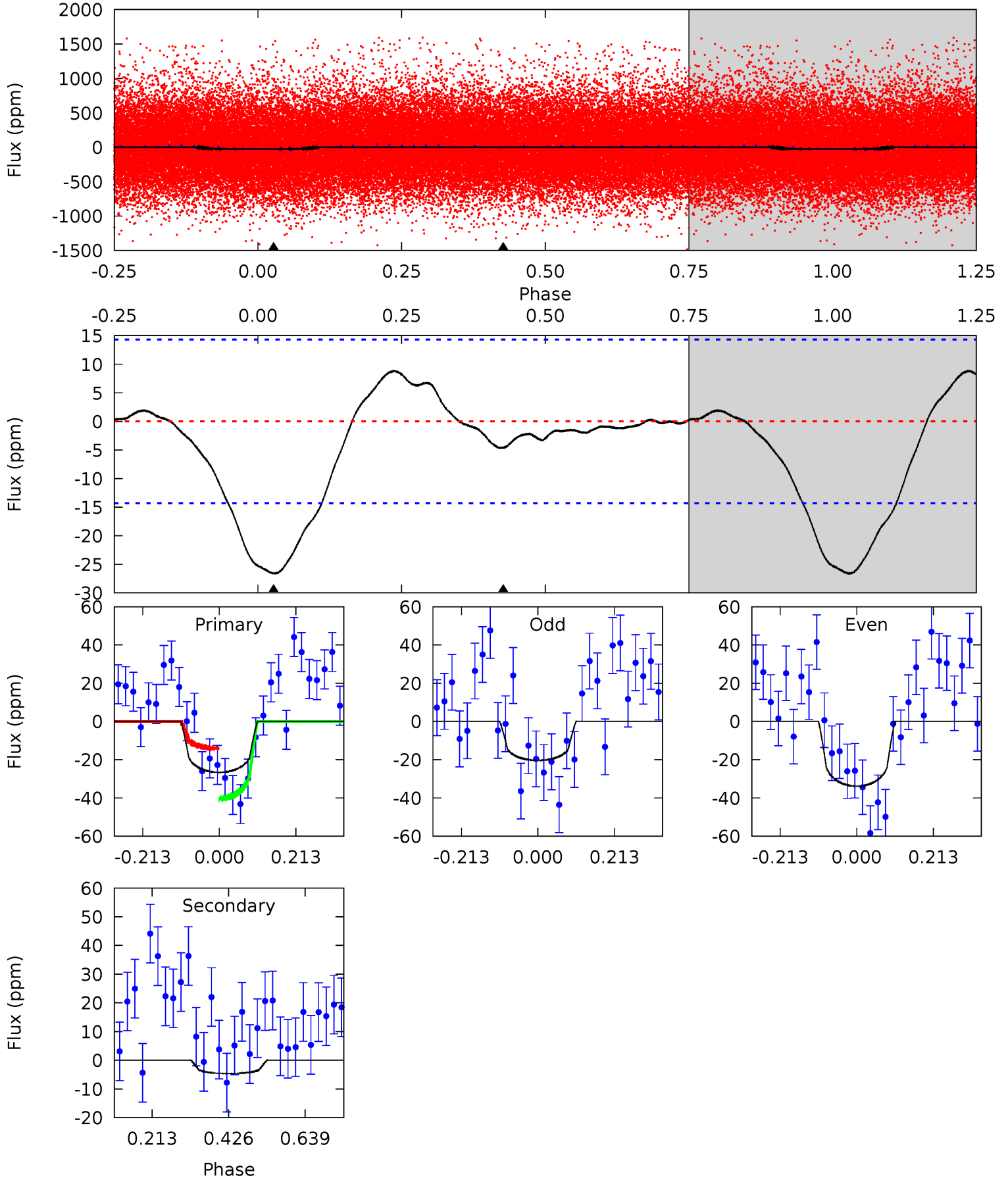
TCE 010342316-01 P= 0.933764 Days $T_0=132.427880$ (BKJD)



DV Model-Shift Uniqueness Test

010342316-01, P = 0.933645 Days, E = 130.662629 Days

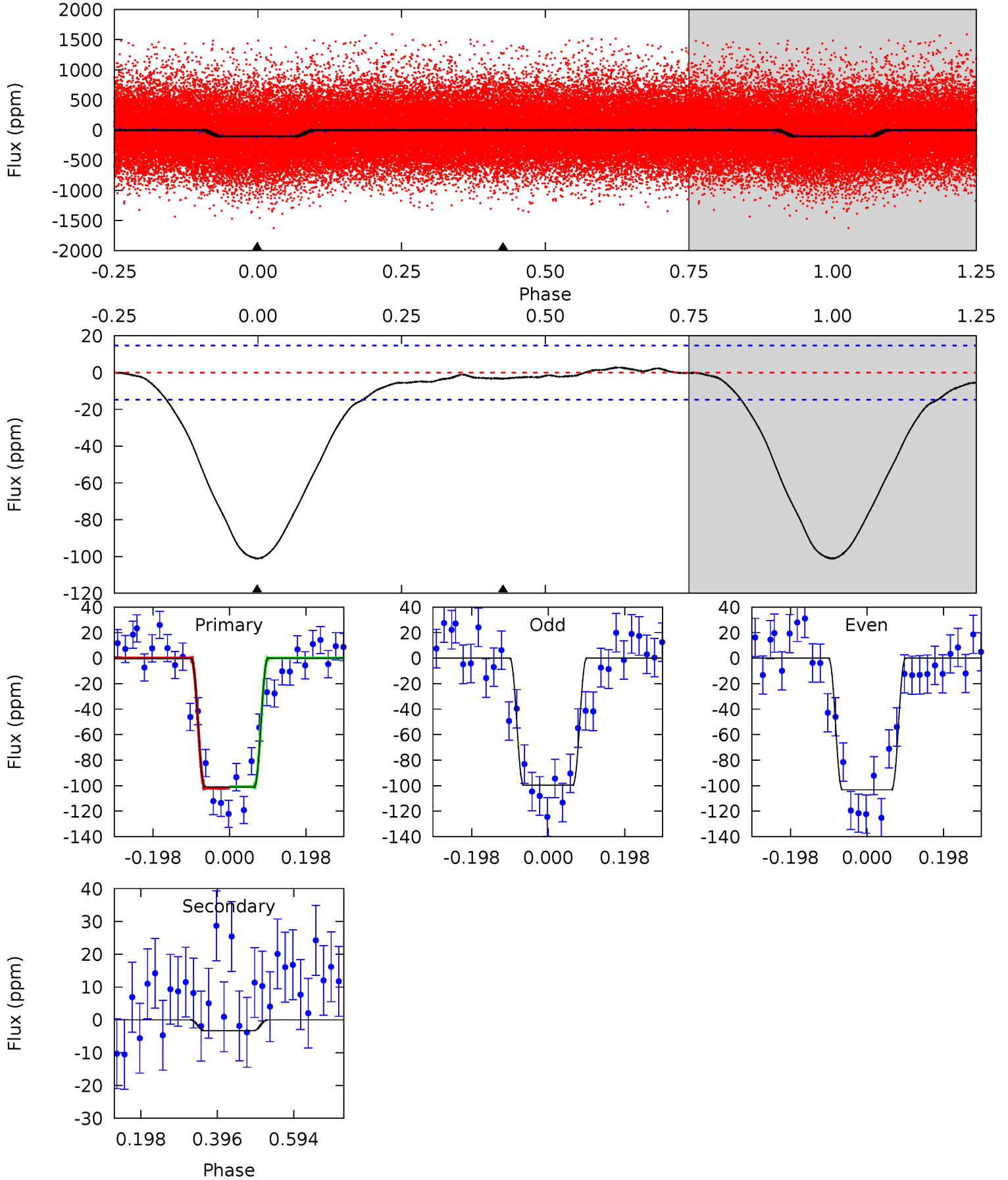
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.20	1.43	0	0	4.40	1.25	0.25	8.20	8.20	1.43	1.43	2.08	0.65	0.25	4.07



Alt Model-Shift Uniqueness Test

010342316-01, P = 0.933764 Days, E = 131.494116 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	0.99	0	0	4.42	1.29	1.10	30.4	30.4	0.99	0.99	0.53	0.92	0.03	0.17



Stellar Parameters For KIC 010342316

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6056^{+181}_{-199}	$4.448^{+0.084}_{-0.196}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.304}_{-0.121}$	$0.973^{+0.143}_{-0.117}$	$1.479^{+0.553}_{-0.782}$
	+3%/-3%	+2%/-4%	+115%/-115%	+31%/-12%	+15%/-12%	+37%/-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 010342316-01 / KOI 4547.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 3	$0.53^{+0.46}_{-0.35}$	2735^{+184}_{-132}	4004^{+2656}_{-1572}	$2.454^{+19.709}_{-2.090}$
Alt.	-3 ± 3	$1.16^{+0.53}_{-0.45}$	2746^{+191}_{-146}	2426^{+1147}_{-5414}	$0.370^{+1.033}_{-0.391}$

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 $A_{obs} \gg 1.0$

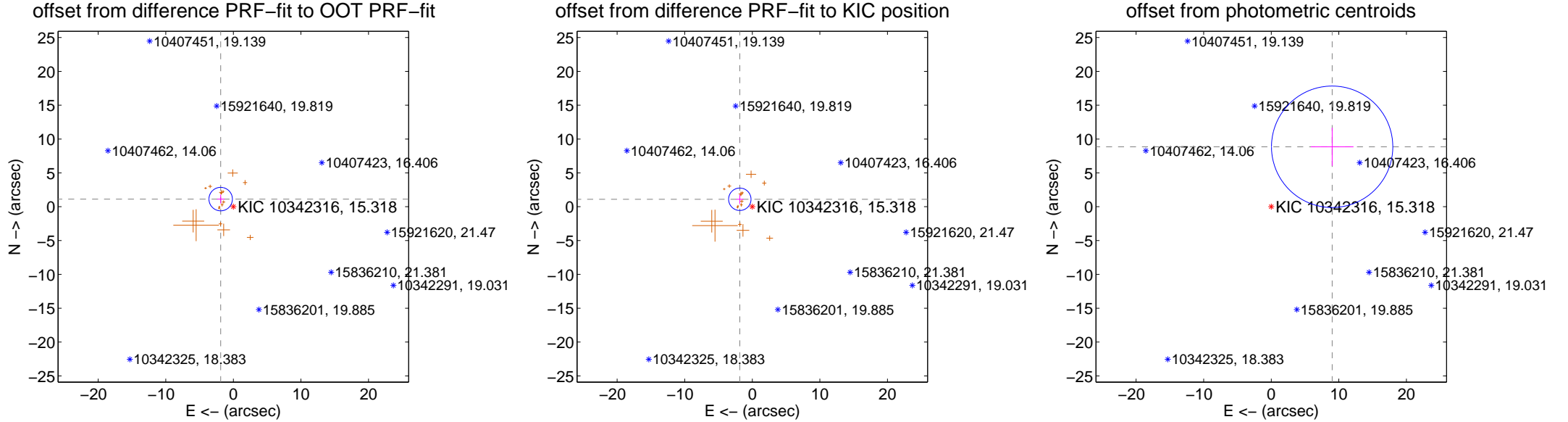
DV Centroid Data

Supplemental centroid analysis for 010342316-01. Kepler magnitude: 15.32. Transit SNR 4.62

There are 0 quarters with good PRF difference image offsets

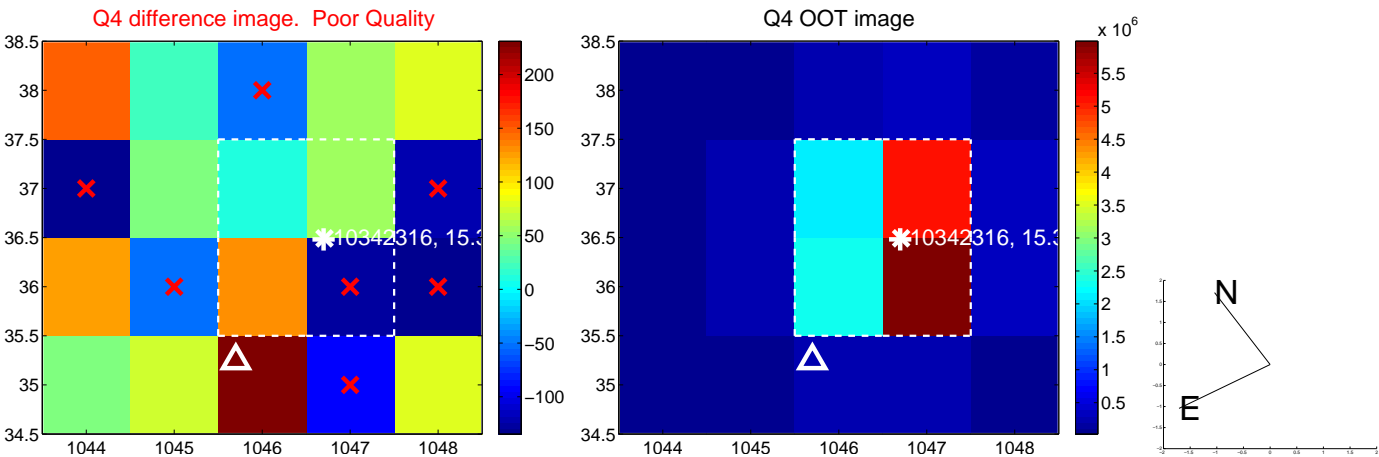
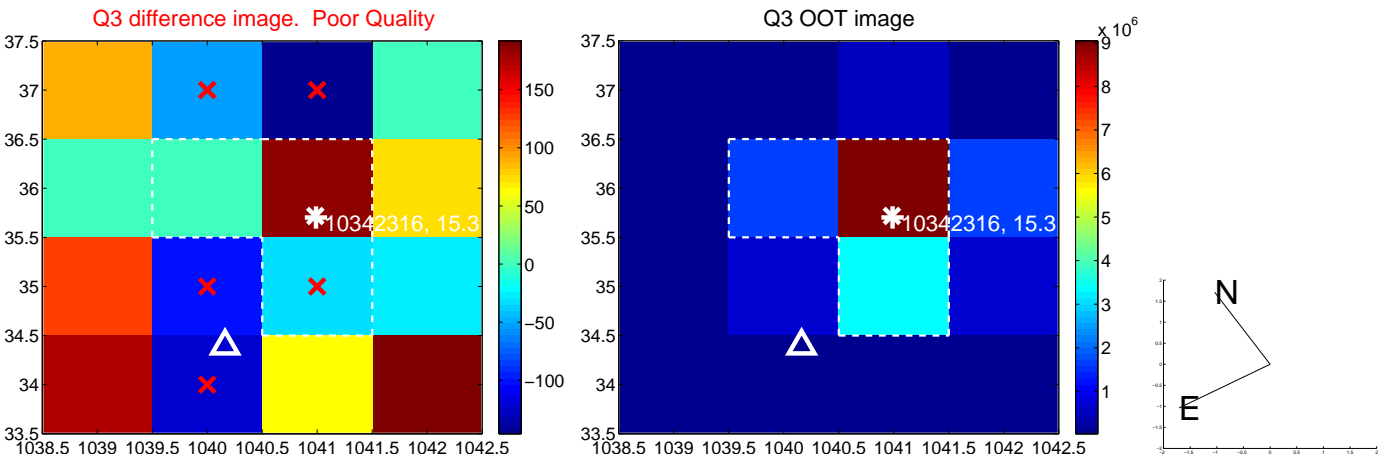
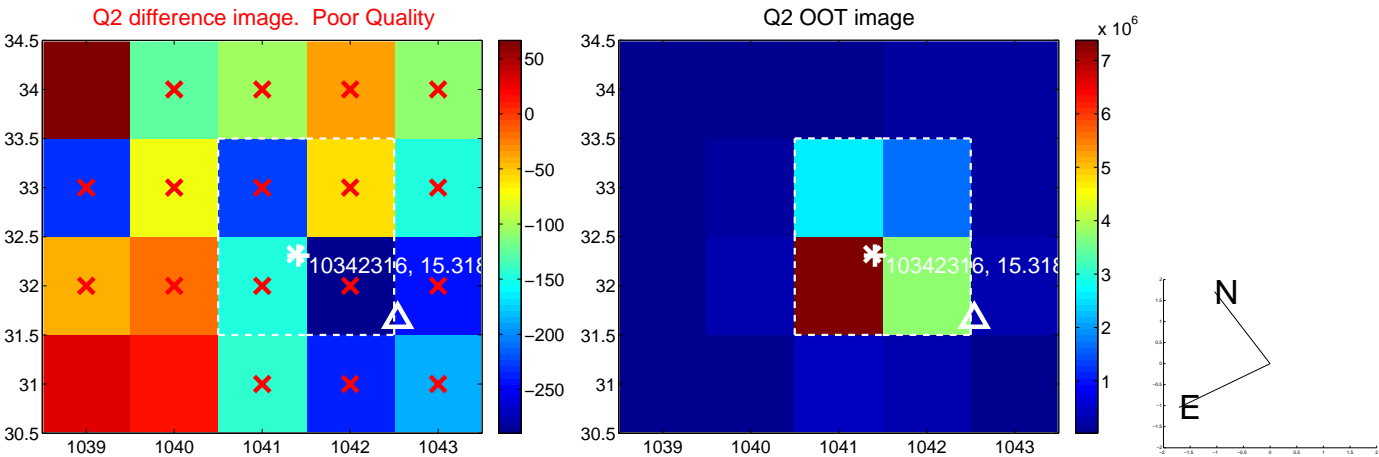
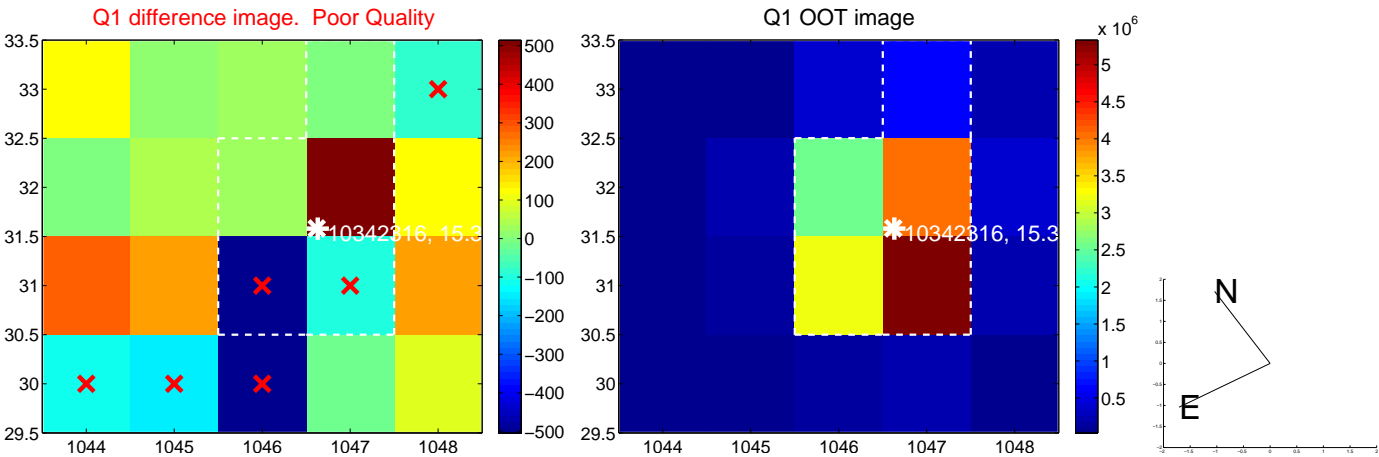
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.188 ± 0.578	3.79	1.876 ± 0.551	1.127 ± 0.669
PRF-fit source offset from KIC position	2.151 ± 0.553	3.89	1.847 ± 0.527	1.103 ± 0.674
photometric centroid source offset	12.64 ± 2.99	4.22	-9.01 ± 3.15	8.86 ± 2.81

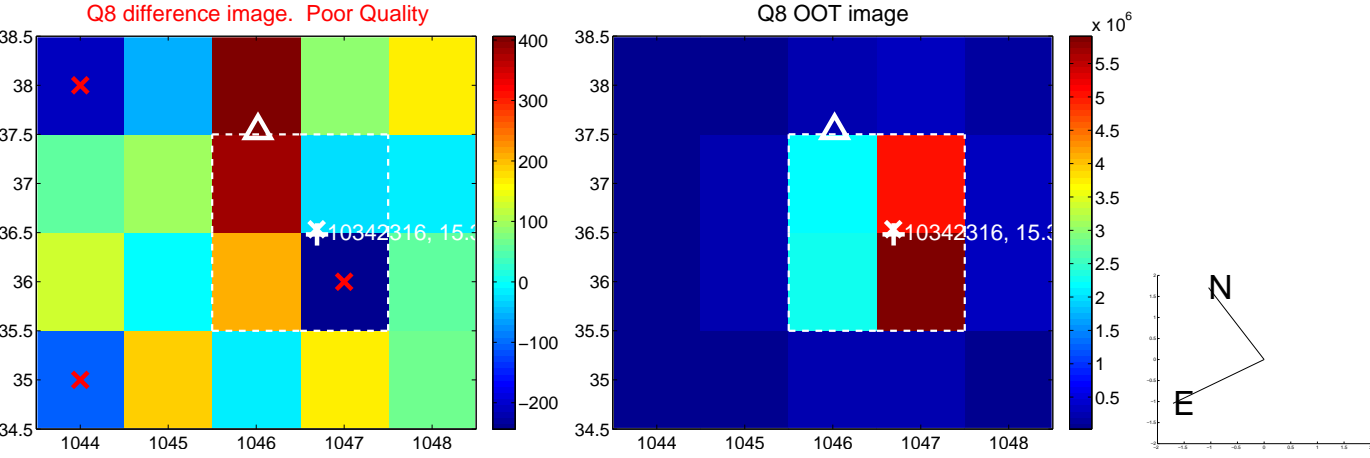
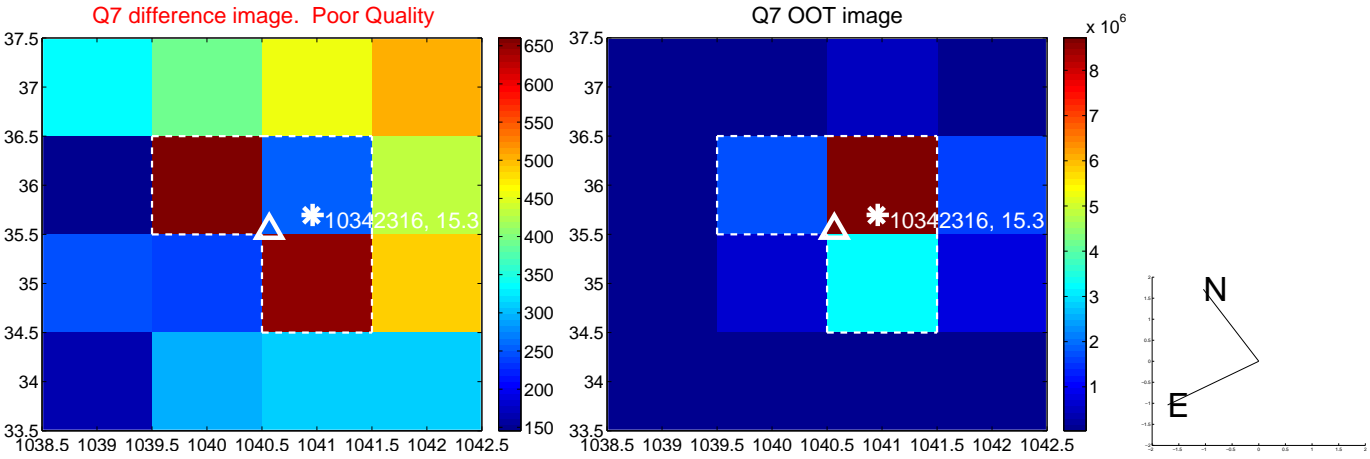
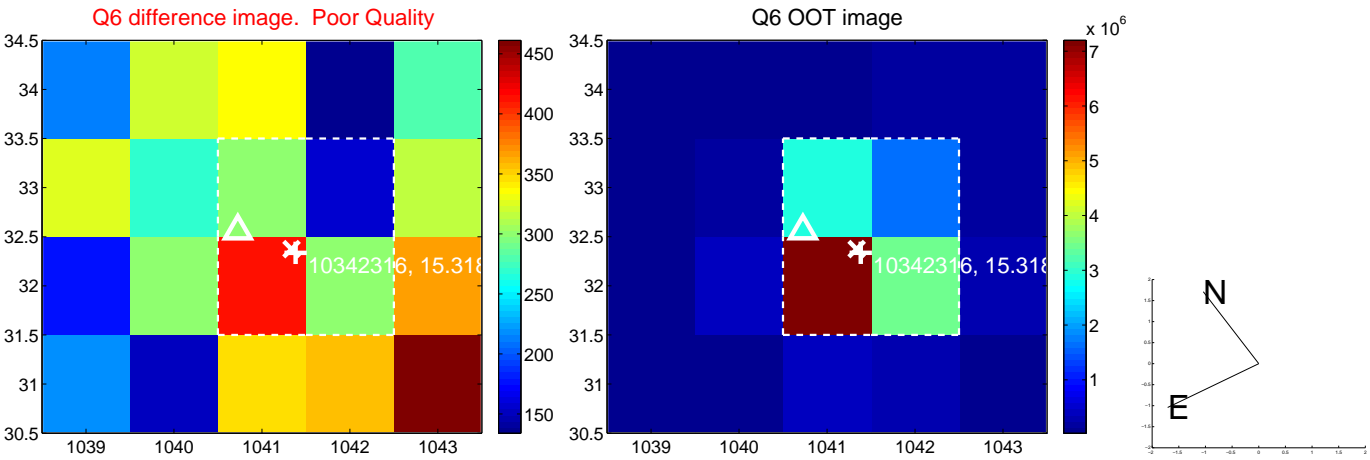
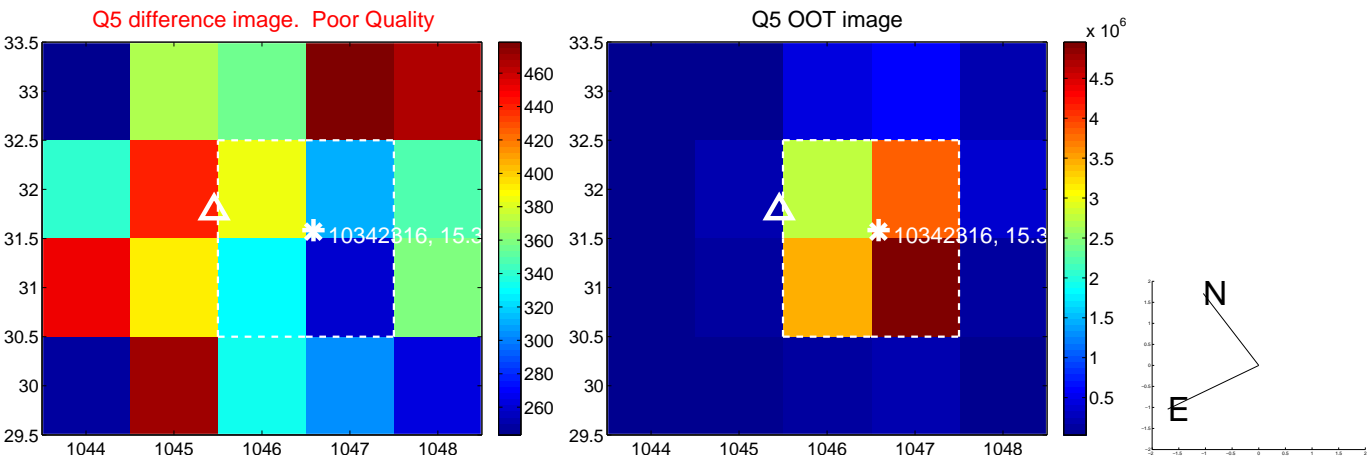


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

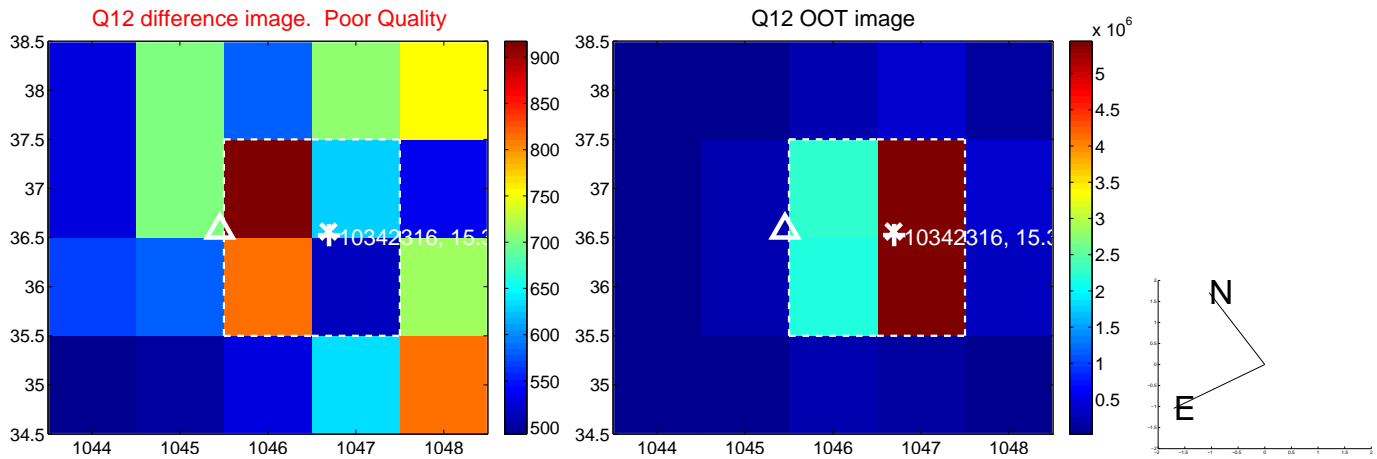
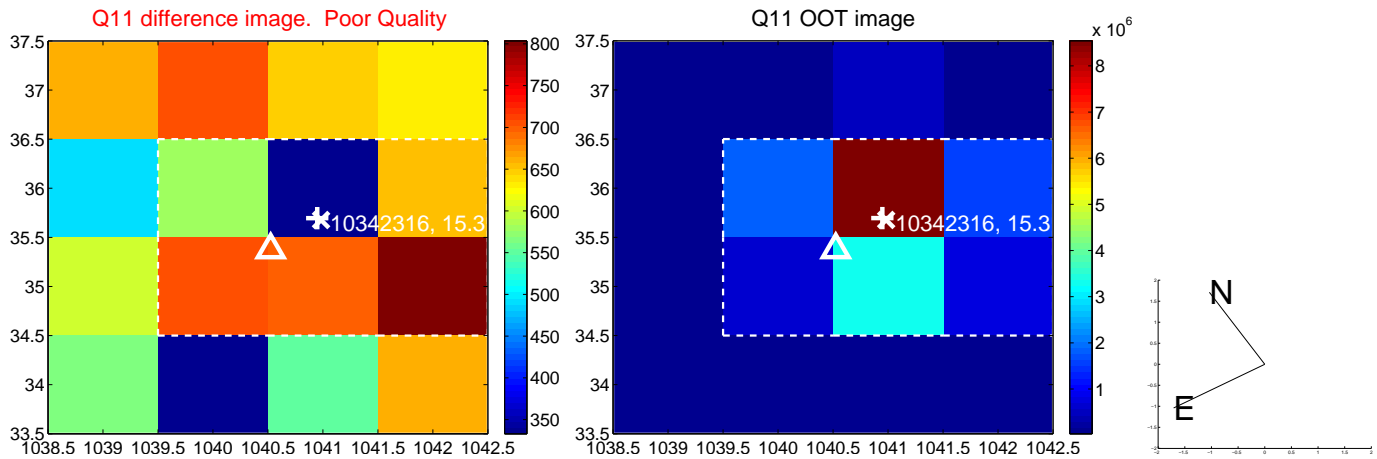
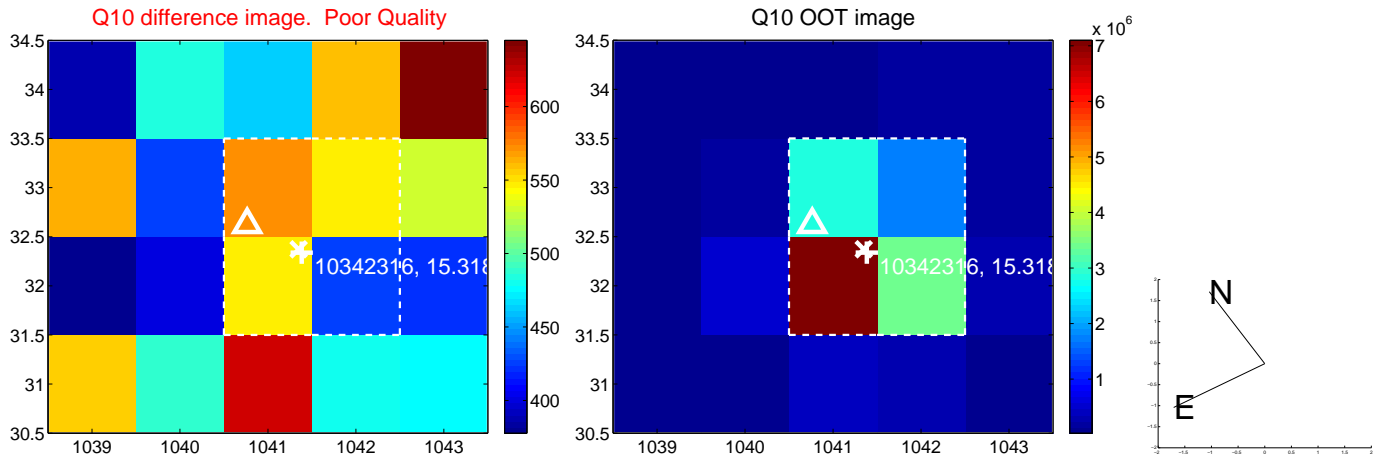
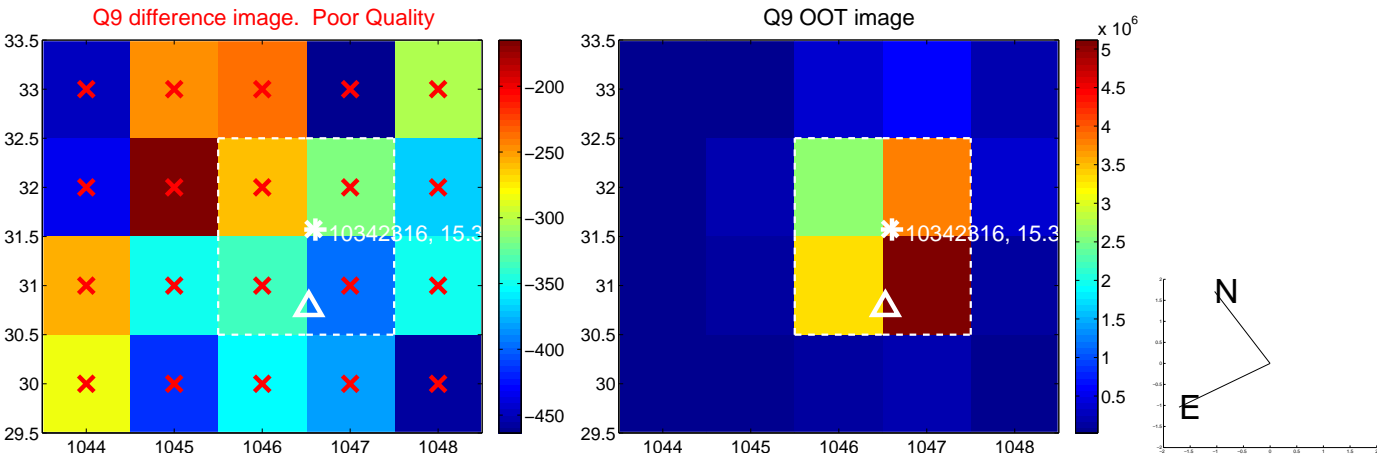
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



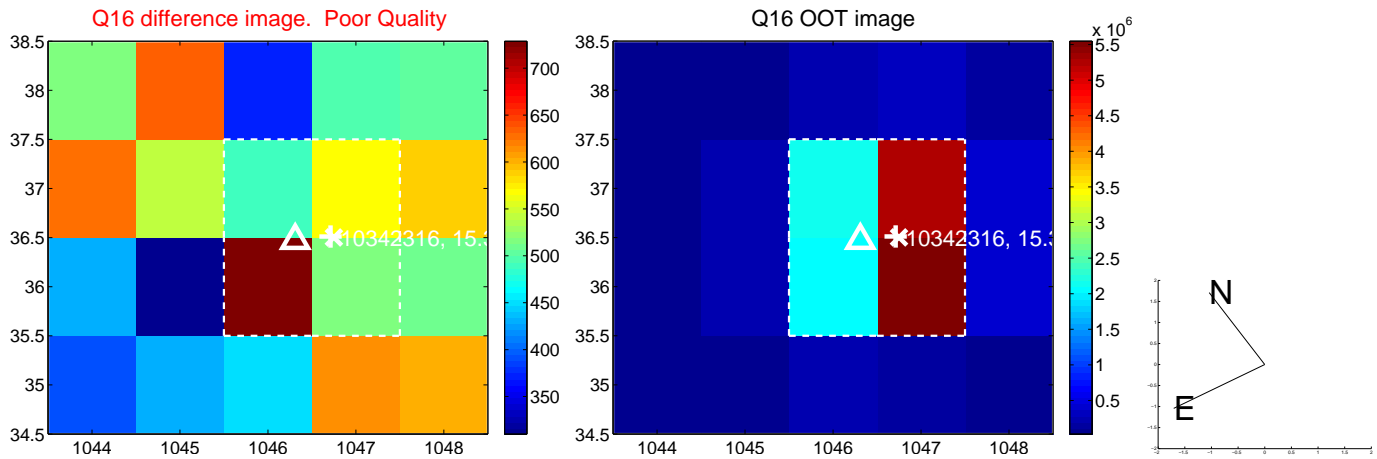
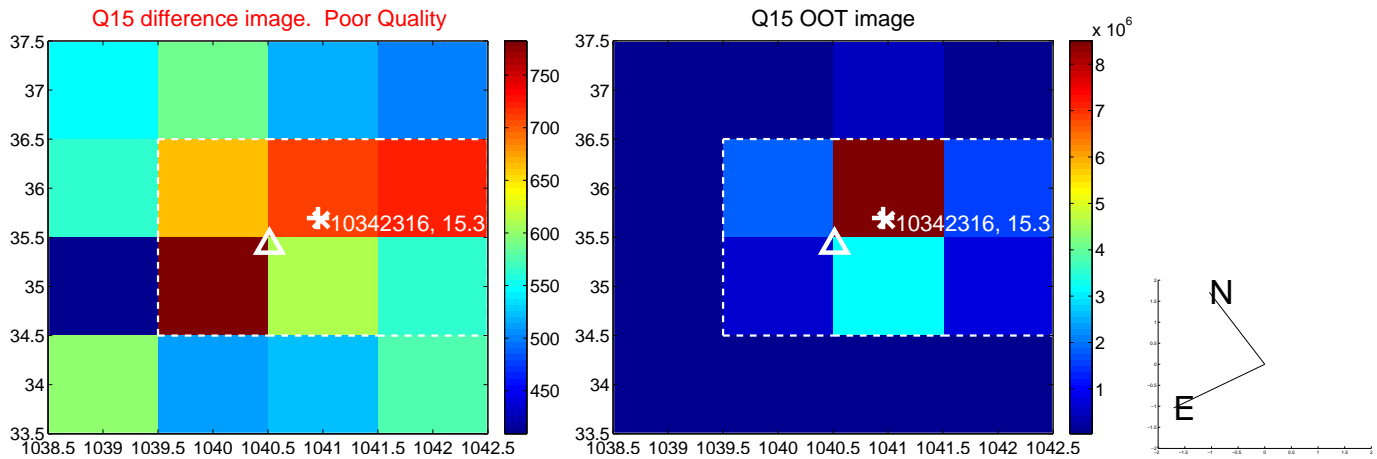
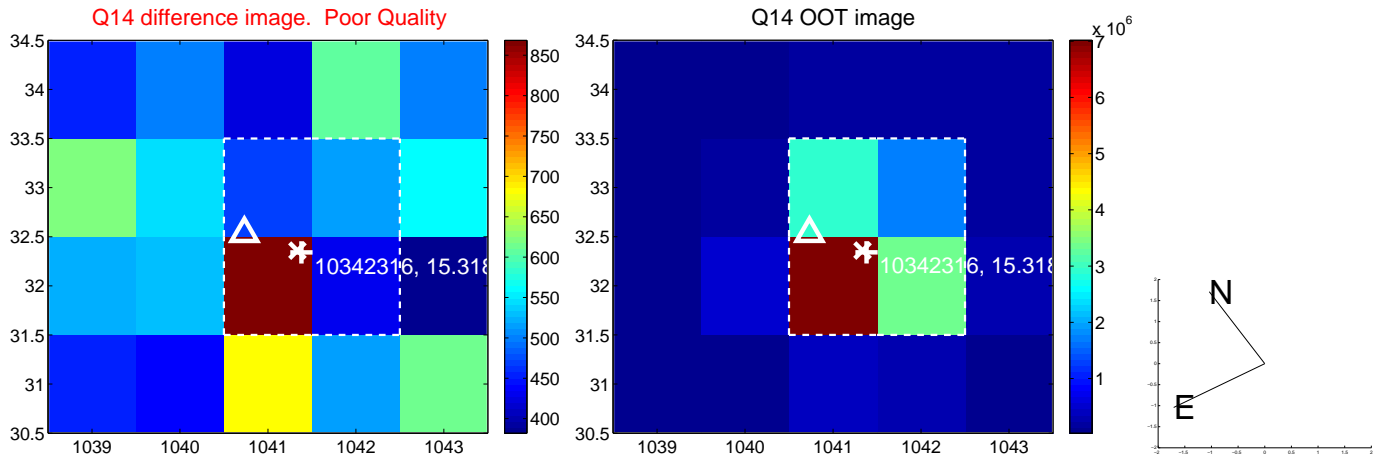
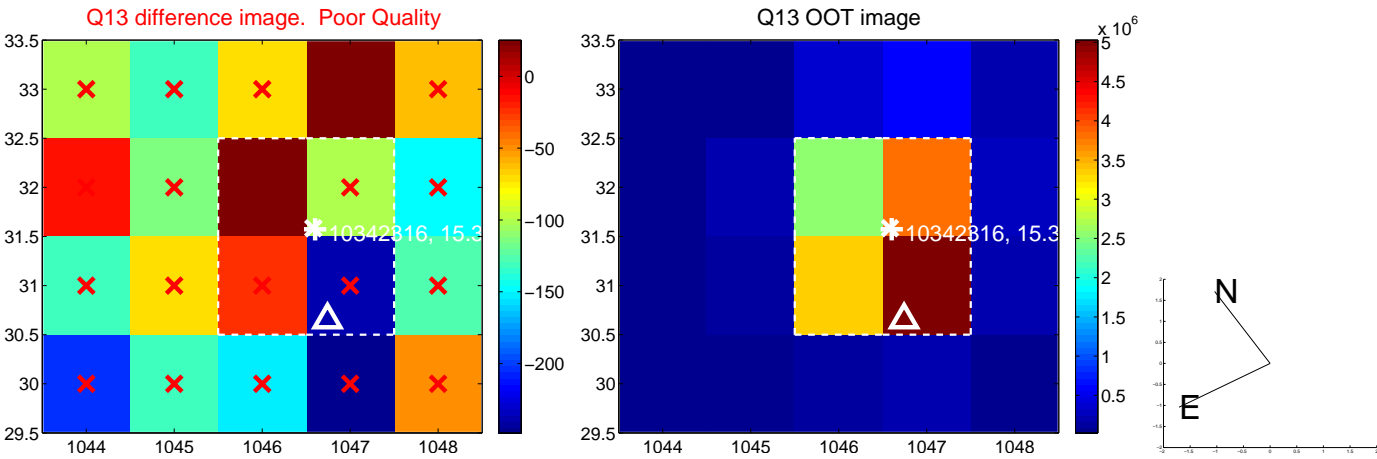
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



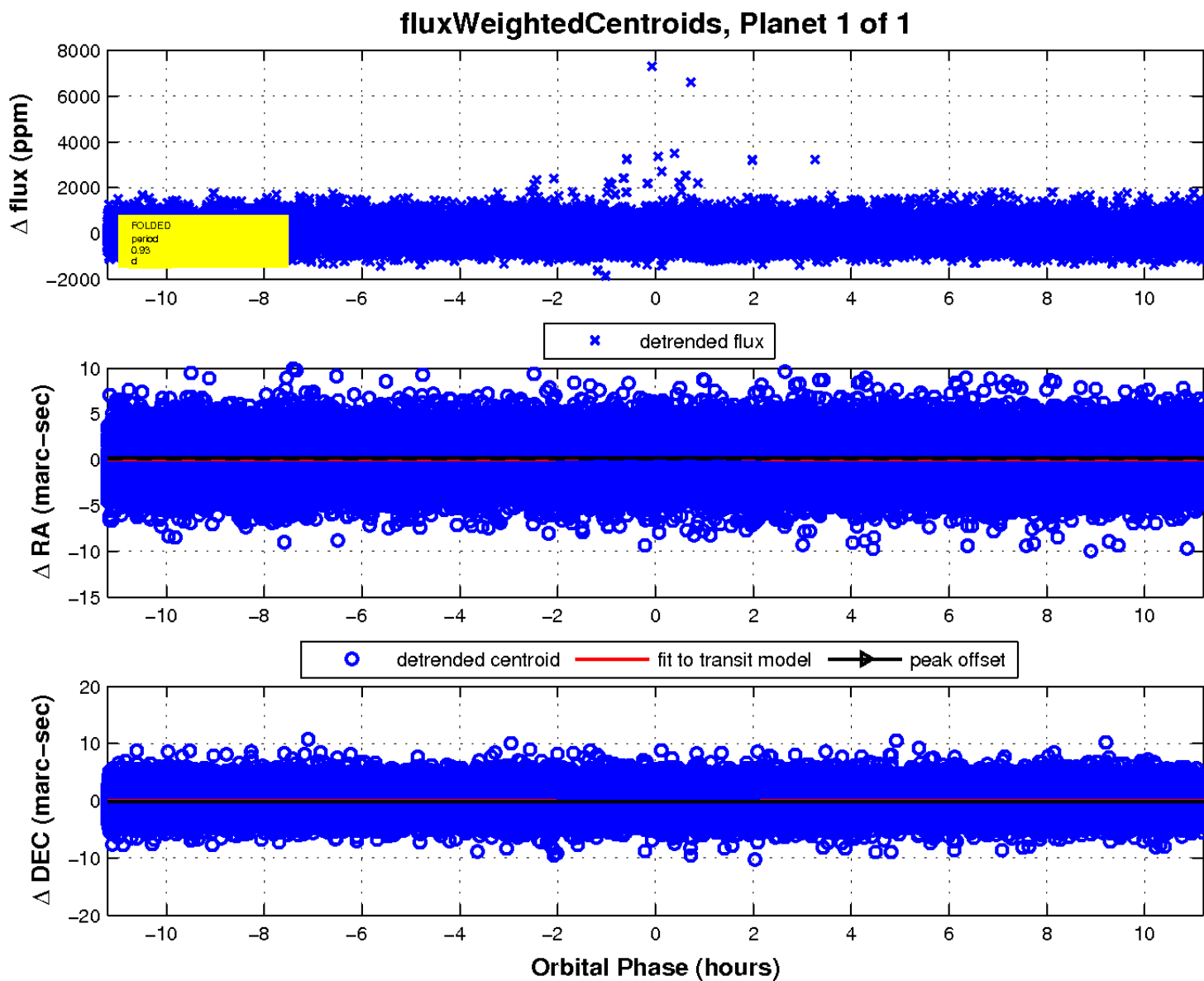
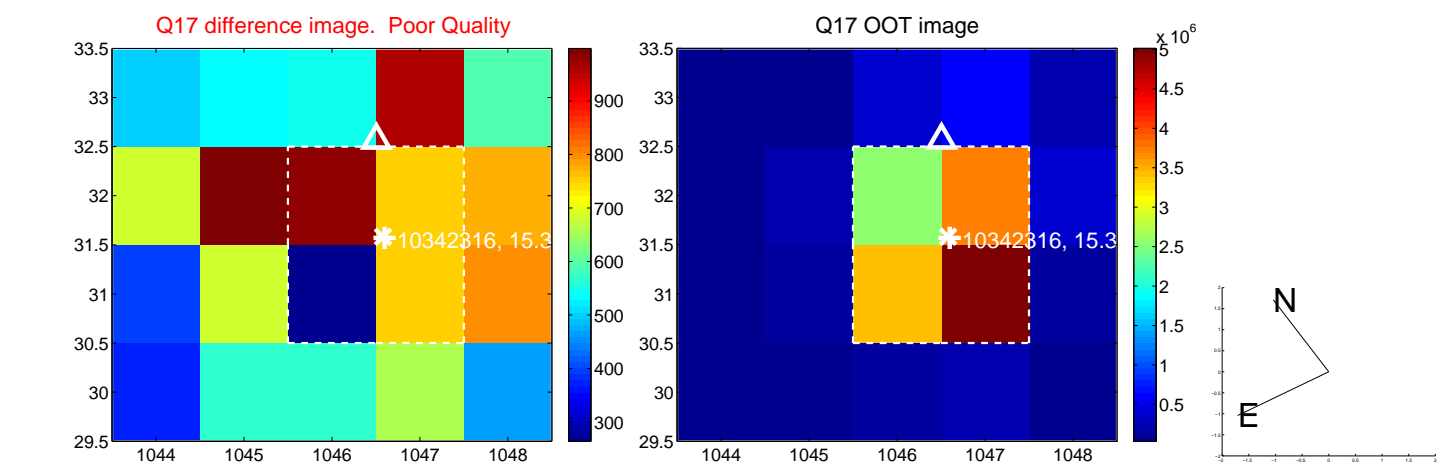
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

