

KIC 009935642

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})
009935642-01	OBS	4885.01	9.339560	138.109951	240.4	1.532	9.5	10.7	1.10	5516	2.06	143.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009935642-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

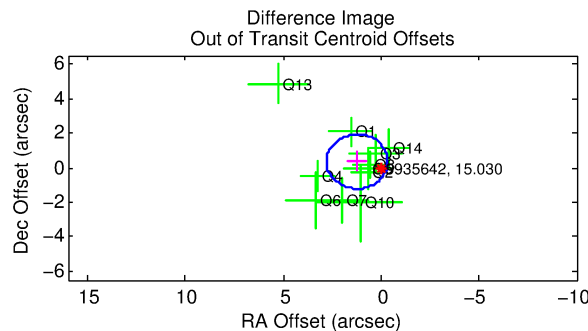
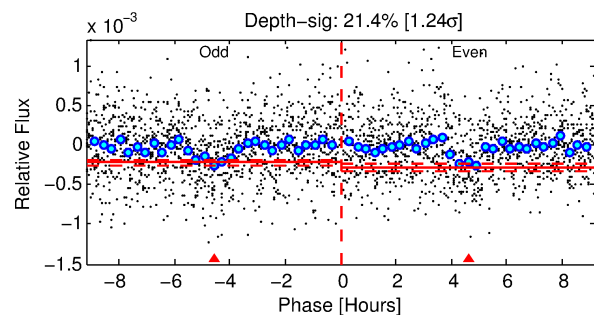
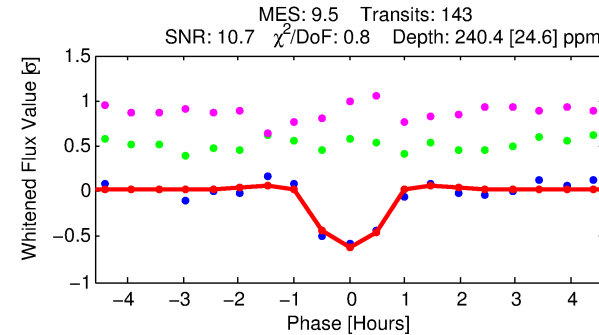
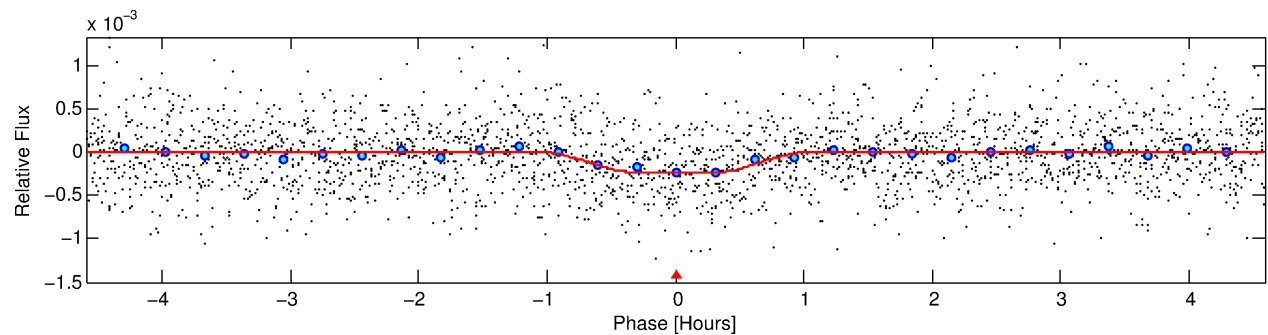
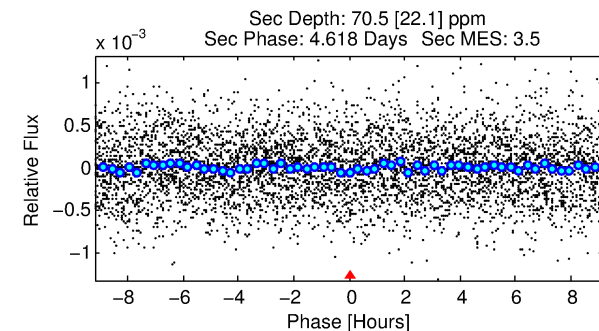
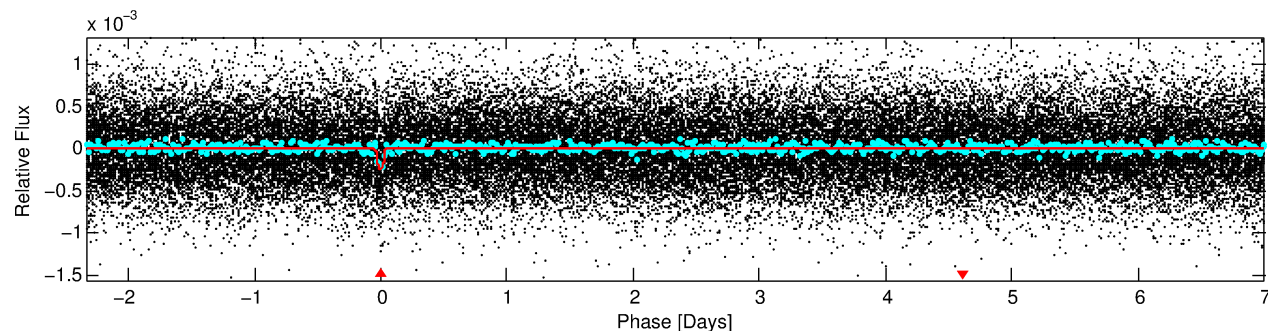
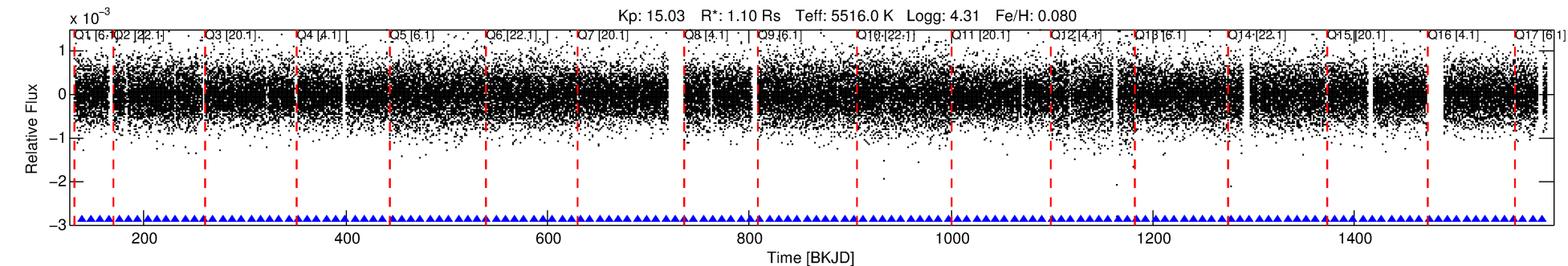
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009935642-01

No Significant Match Found

DV One-Page Summary

KIC: 9935642 Candidate: 1 of 1 Period: 9.340 d
KOI: K04885.01 Corr: 0.825



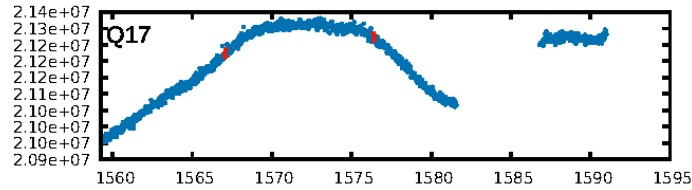
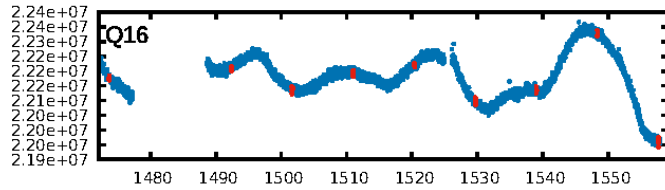
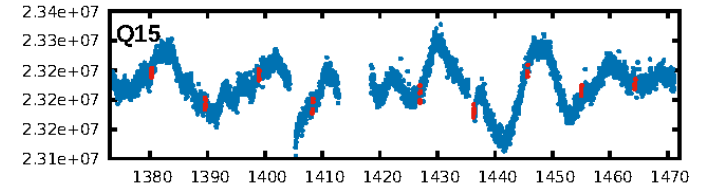
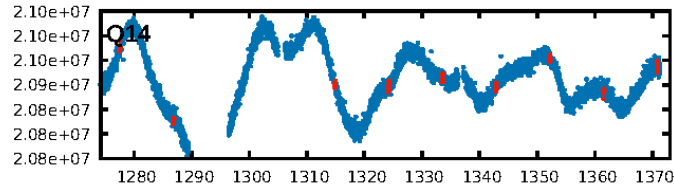
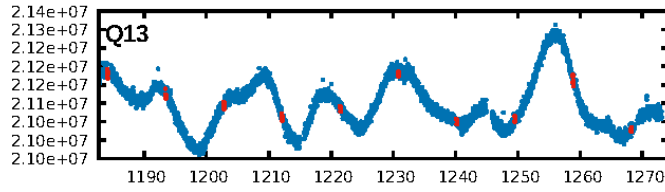
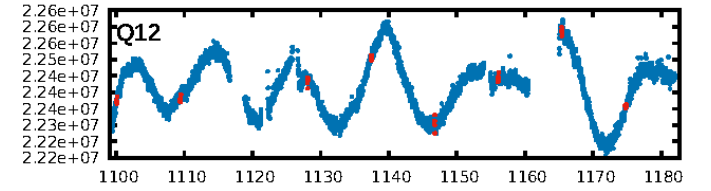
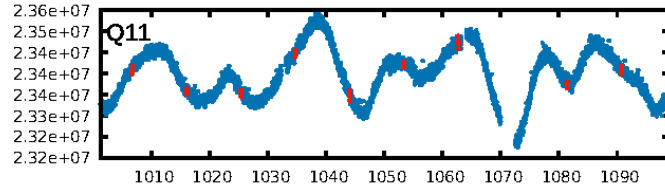
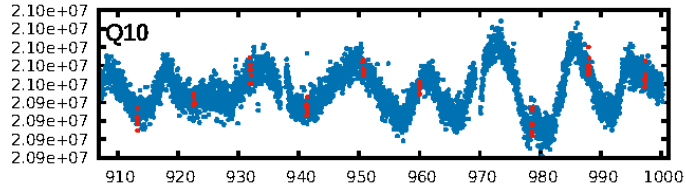
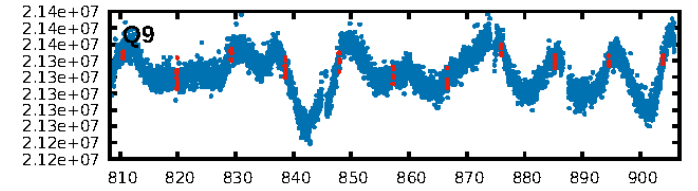
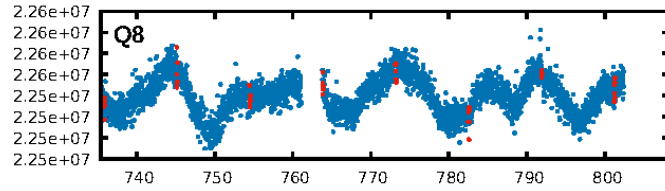
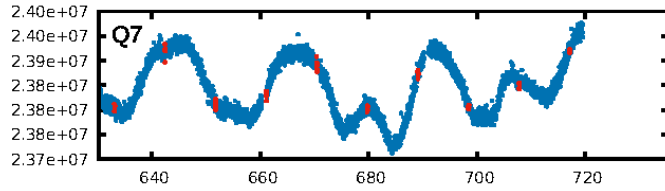
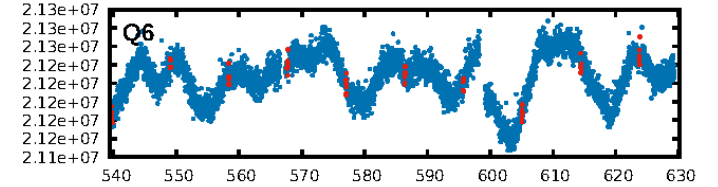
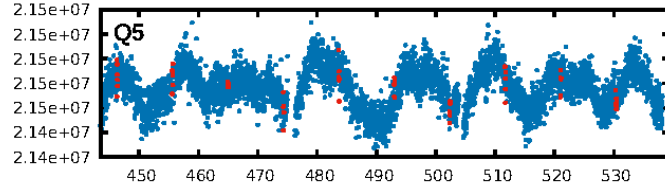
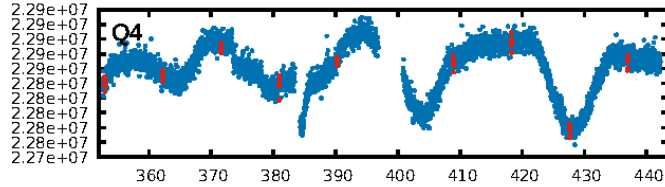
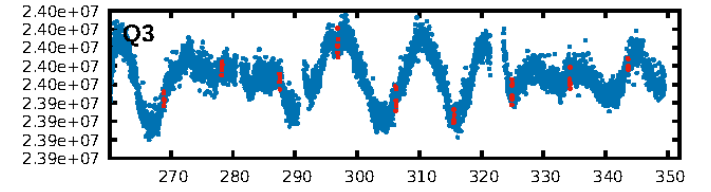
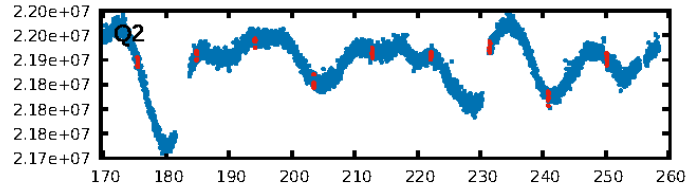
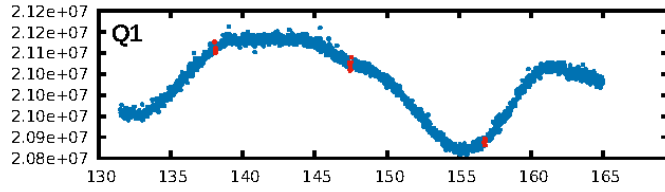
DV Fit Results:

Period = 9.33956 [0.00004] d
Epoch = 138.1100 [0.0034] BKJD
Rp/R* = 0.0171 [0.0131]
a/R* = 22.09 [74.54]
b = 0.90 [0.73]
Seff = 143.27 [57.26]
Teff = 882 [88] K
Rp = 2.05 [1.68] Re
a = 0.0838 [0.0212] AU
Ag = 64.42 [103.36] [0.61σ]
Teffp = 3864 [1510] K [1.97σ]

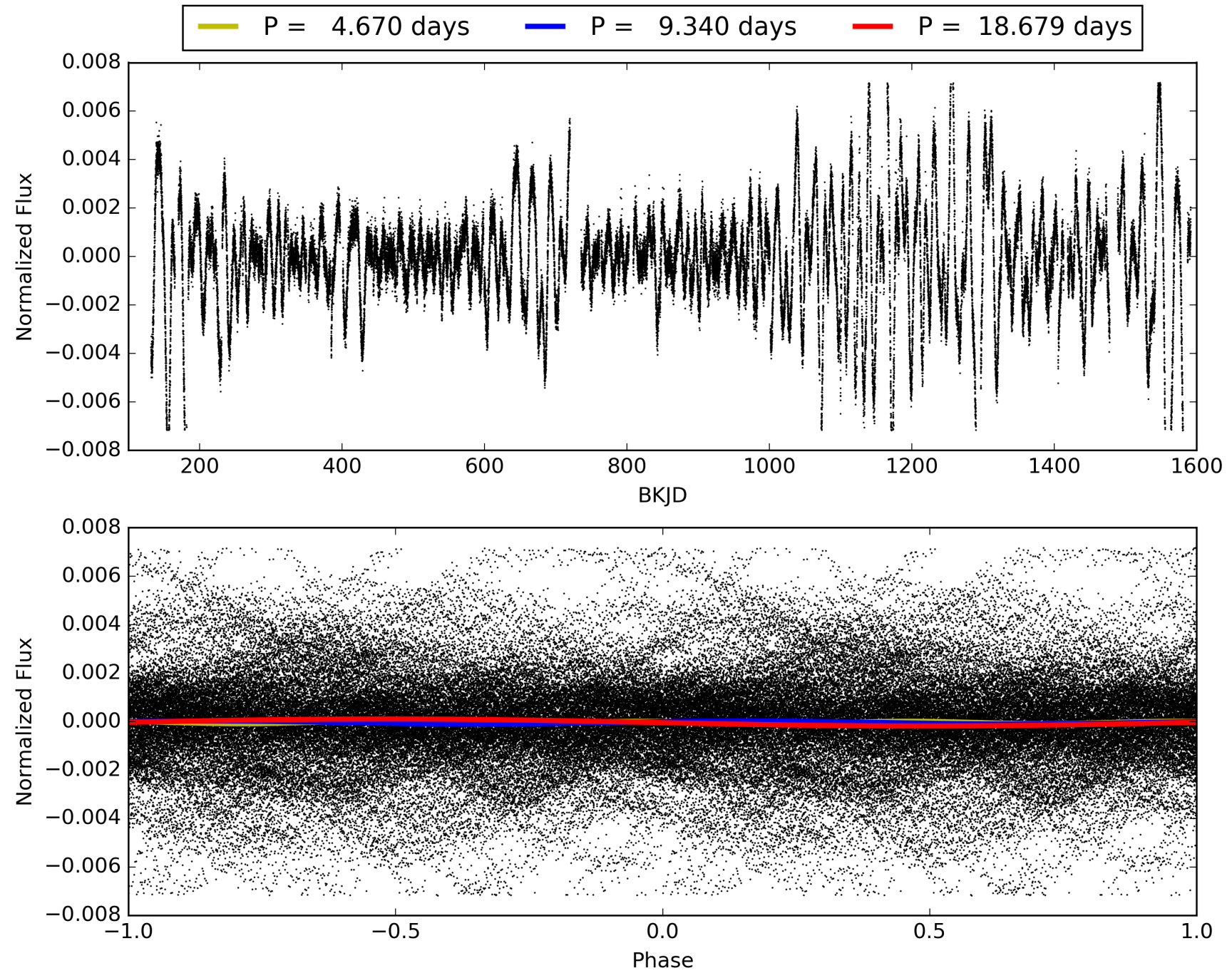
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.56e-20
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: 43.34
Centroid-sig: 63.0%
Centroid-so: 0.609 arcsec [0.56σ]
OotOffset-rm: 1.282 arcsec [2.45σ]
KicOffset-rm: 1.135 arcsec [2.17σ]
OotOffset-st: 4/2/2/3 [11]
KicOffset-st: 4/2/2/3 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009935642-01, PDC Light Curves

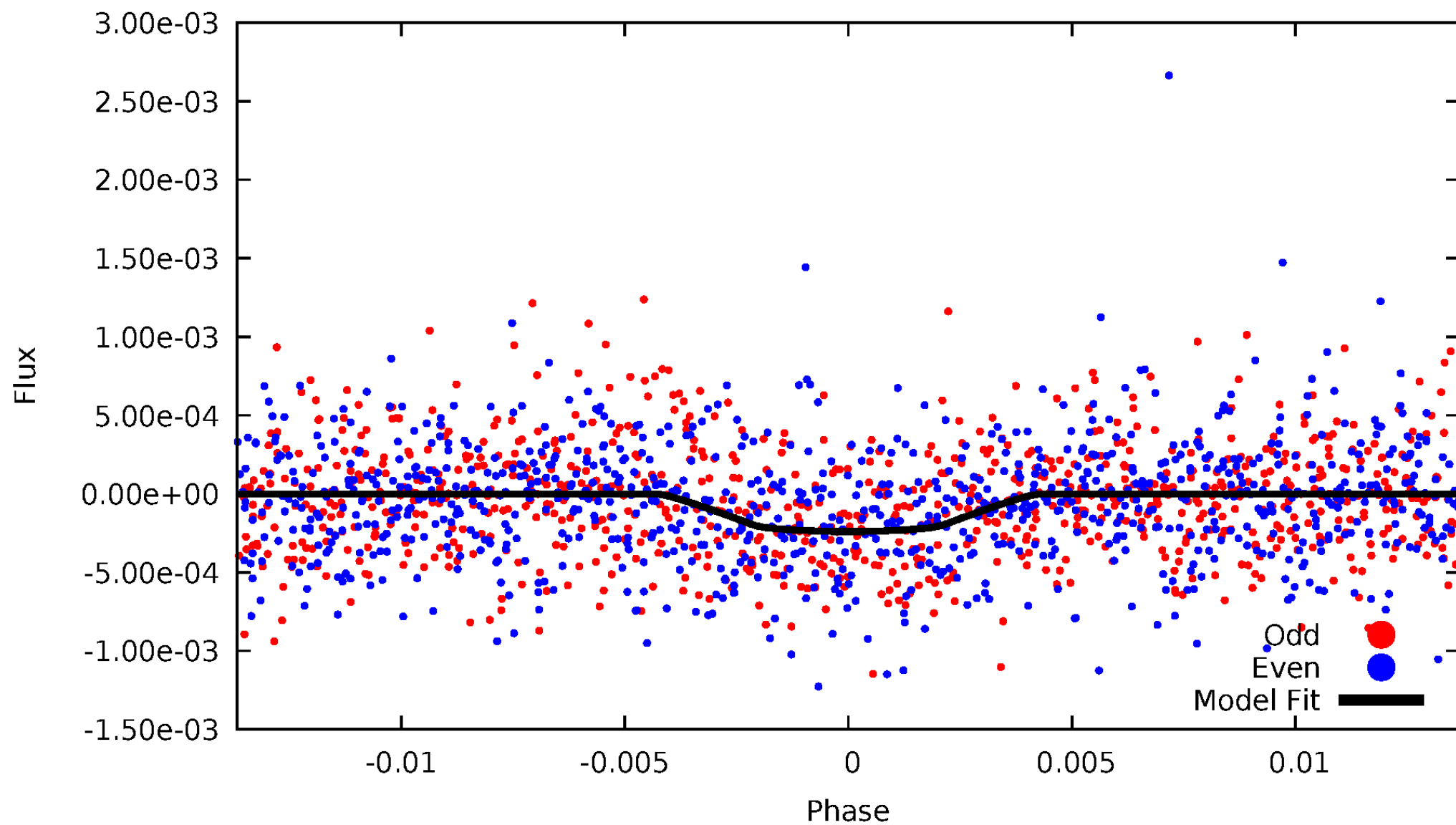


TCE 009935642-01



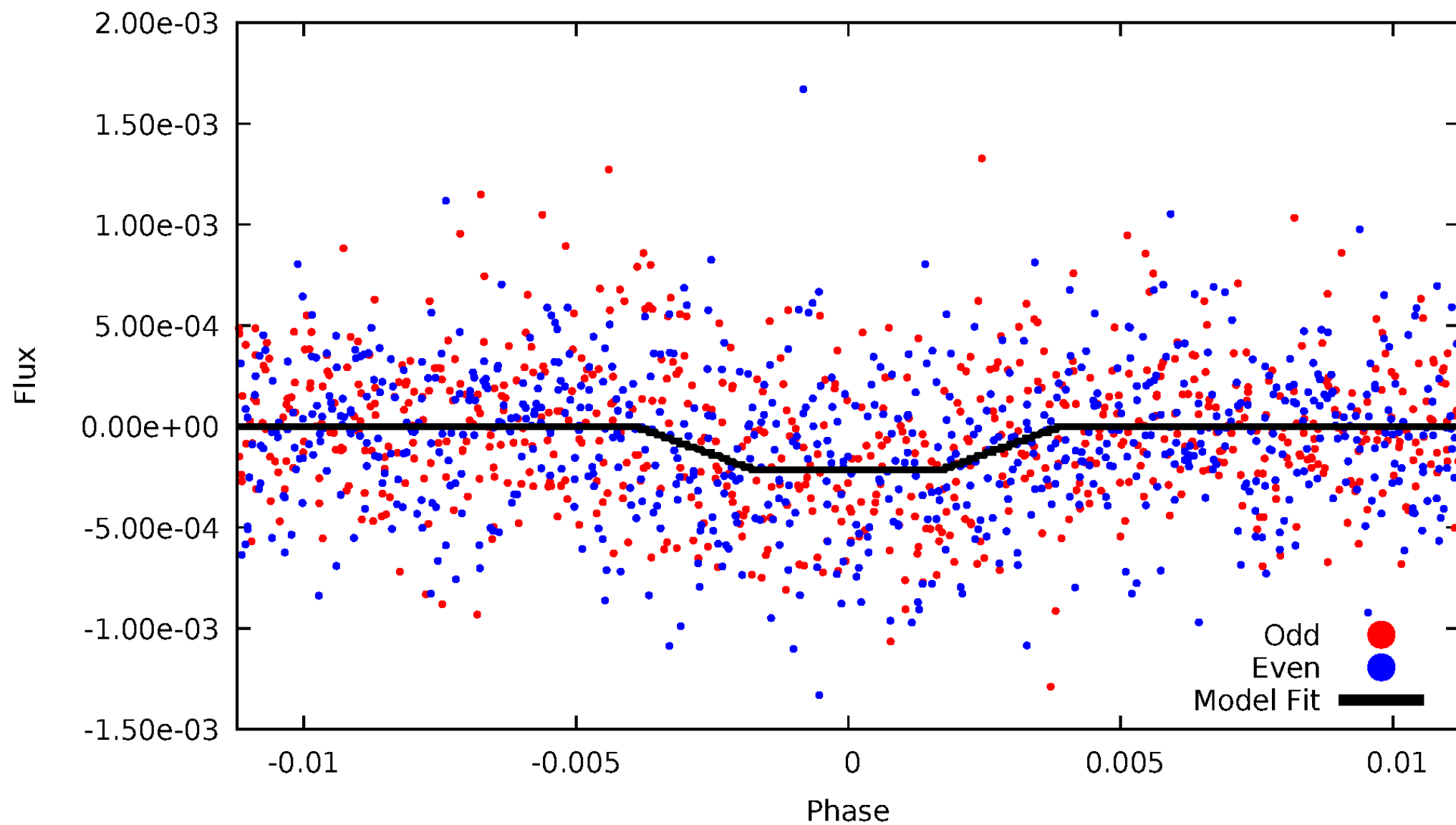
DV Odd/Even

TCE 009935642-01



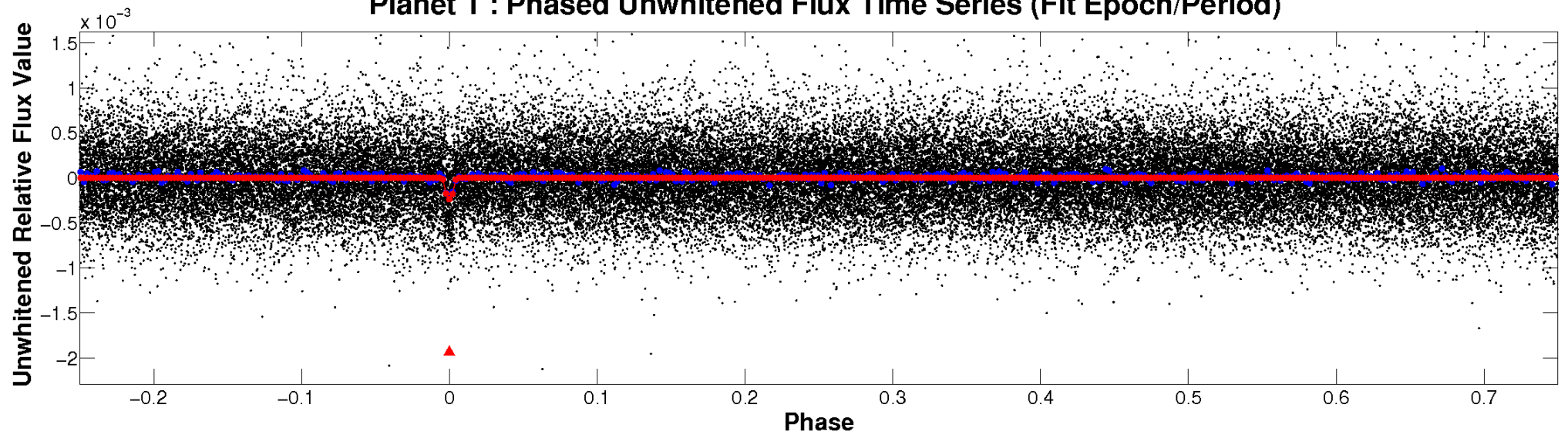
ALT Odd/Even

TCE 009935642-01

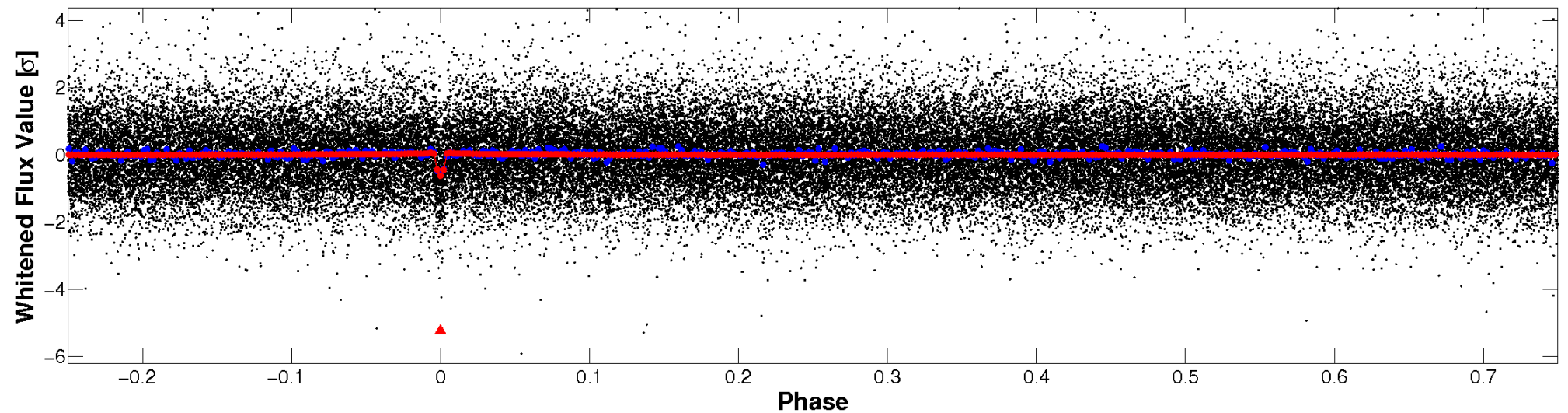


Non-Whitened Vs. Whitened Light Curve

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

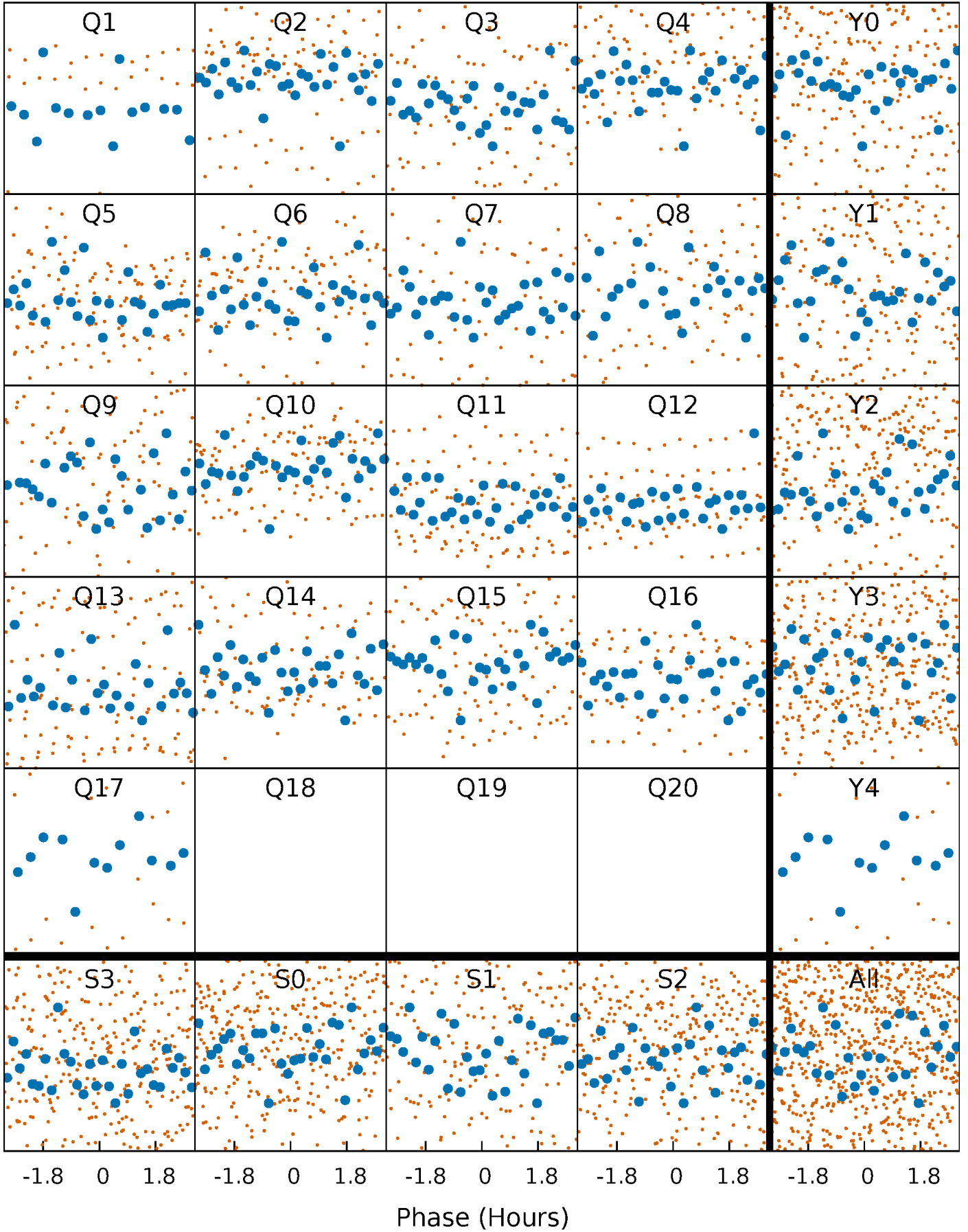


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



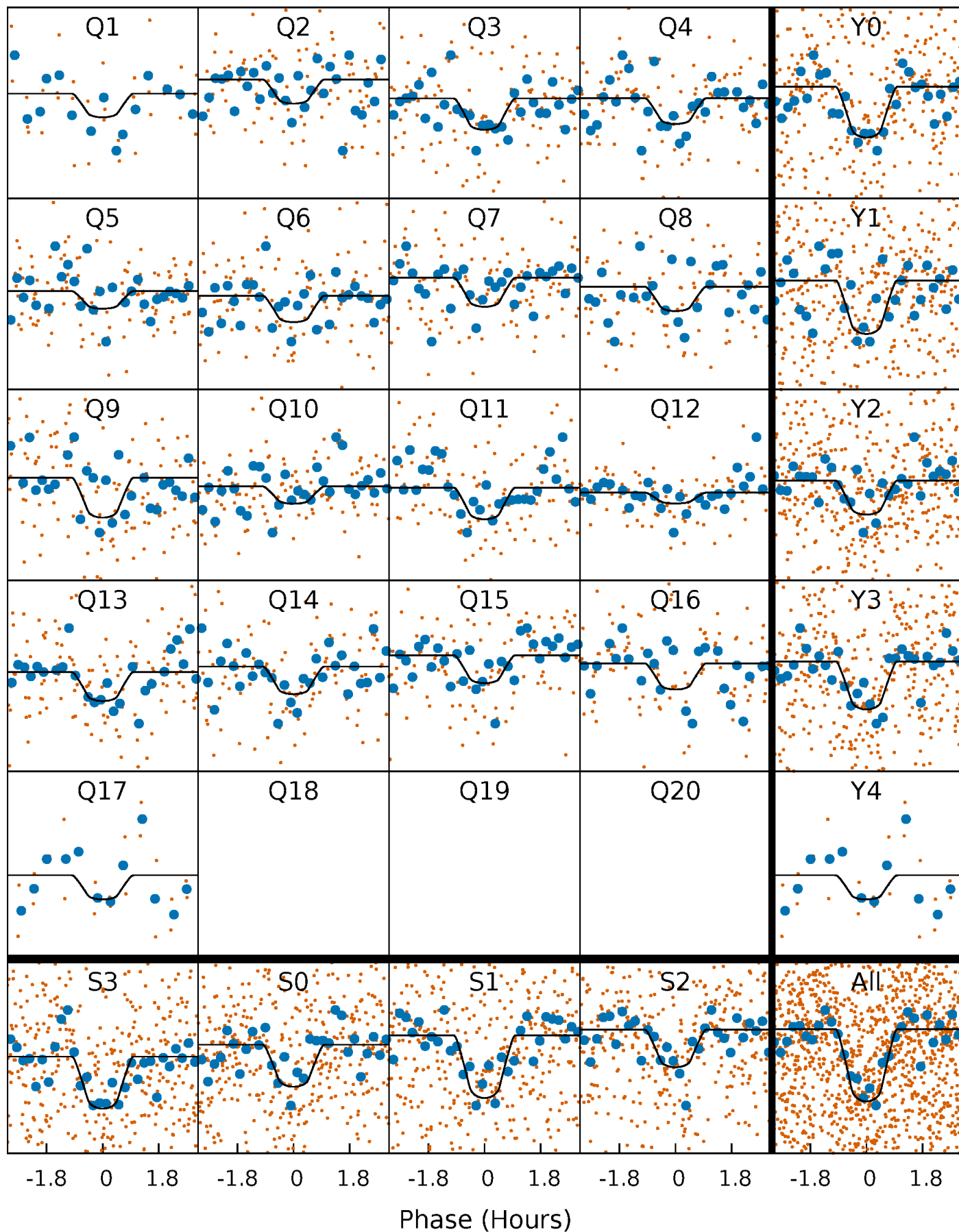
PDC Quarter-Phased Transit Curves

TCE 009935642-01 P= 9.339560 Days $T_0=138.109951$ (BKJD)



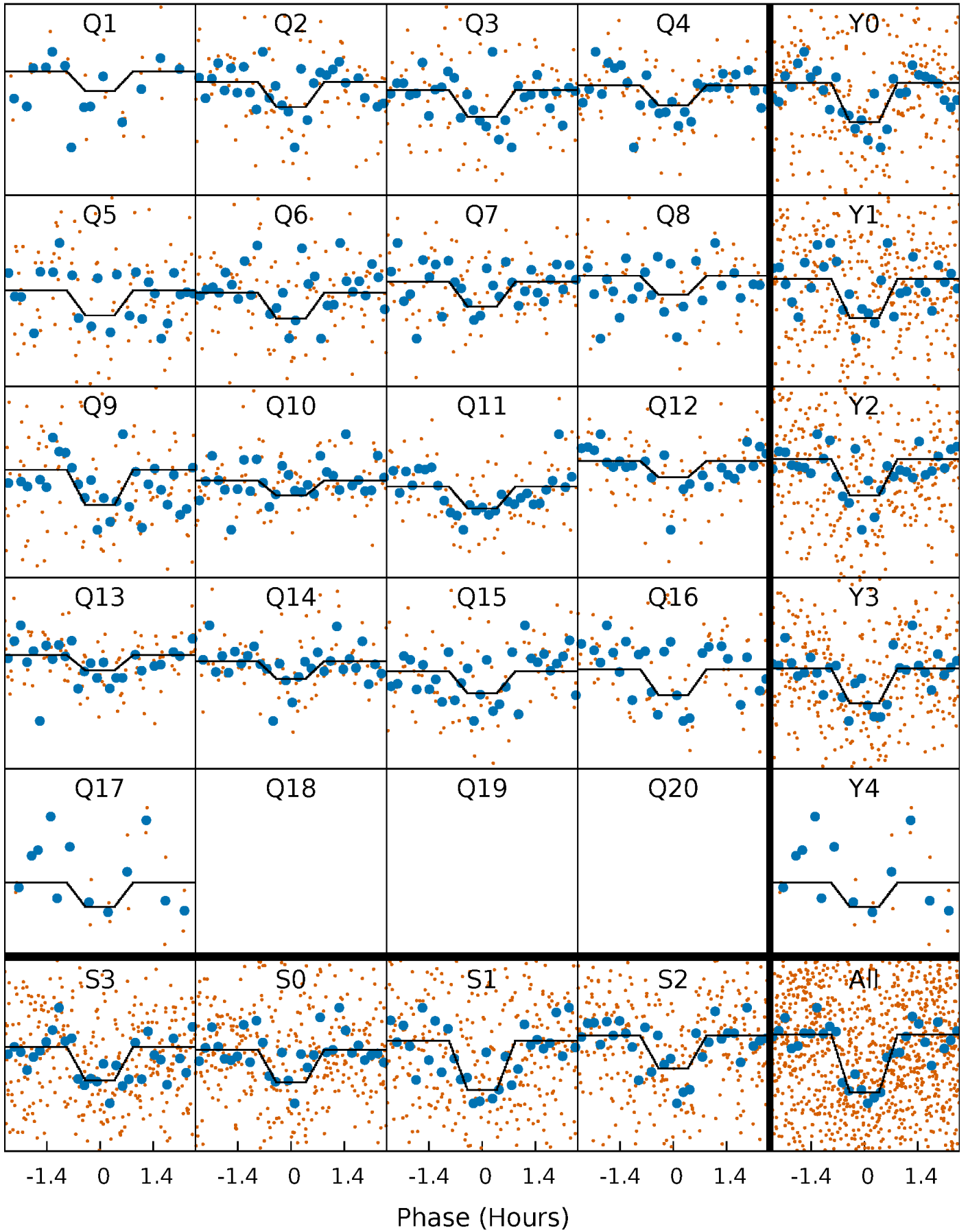
DV Quarter-Phased Transit Curves

TCE 009935642-01 P= 9.339560 Days $T_0=138.109951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

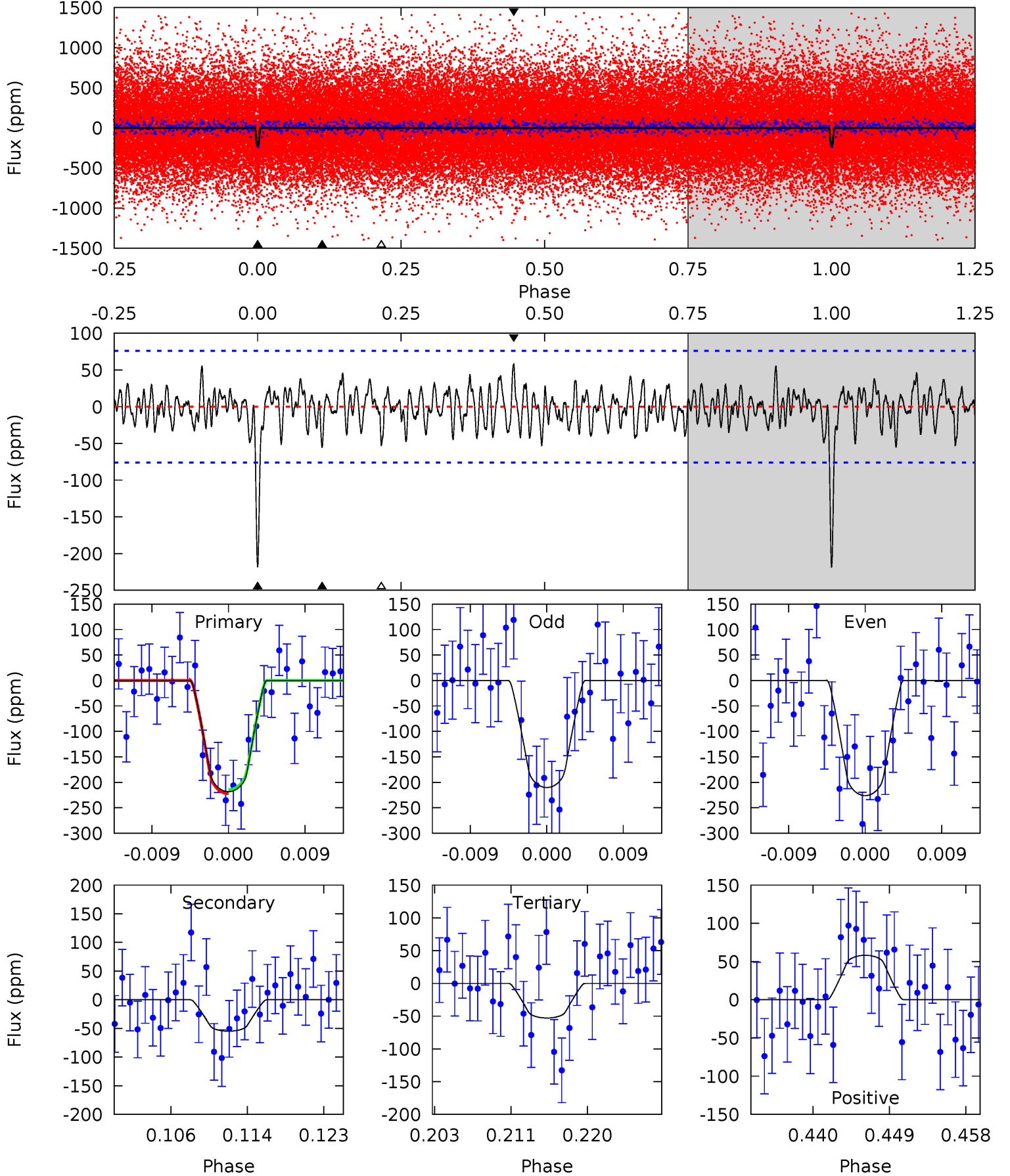
TCE 009935642-01 P= 9.339584 Days $T_0=138.106212$ (BKJD)



DV Model-Shift Uniqueness Test

009935642-01, P = 9.339560 Days, E = 128.770391 Days

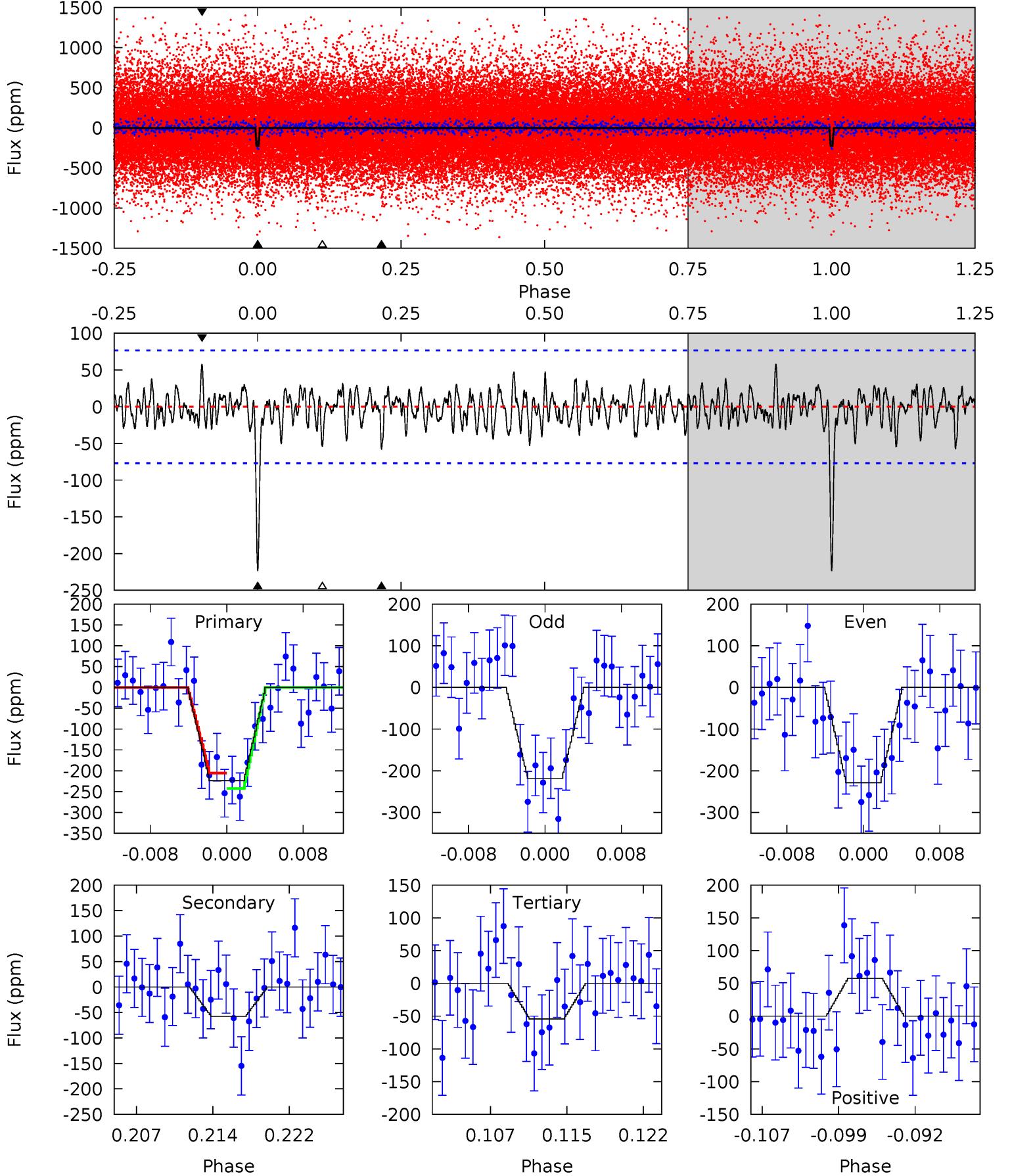
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	3.64	3.52	3.87	5.05	2.62	1.33	11.0	10.6	0.13	-0.22	0.53	1.01	0.21	0.26



Alt Model-Shift Uniqueness Test

009935642-01, P = 9.339584 Days, E = 128.766628 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	3.82	3.60	3.81	5.08	2.67	1.19	11.2	11.0	0.22	0.00	0.35	1.09	0.21	1.23



Stellar Parameters For KIC 009935642

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5516^{+166}_{-150}	$4.308^{+0.214}_{-0.195}$	$0.080^{+0.250}_{-0.250}$	$1.101^{+0.319}_{-0.239}$	$0.898^{+0.113}_{-0.075}$	$0.948^{+0.943}_{-0.467}$
	+3%/-3%	+5%/-5%	+312%/-312%	+29%/-22%	+13%/-8%	+99%/-49%
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 009935642-01 / KOI 4885.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-55 ± 15	$2.19^{+1.57}_{-1.35}$	1229^{+106}_{-87}	3836^{+1706}_{-621}	44^{+254}_{-30}
Alt.	-58 ± 15	$1.94^{+1.45}_{-1.12}$	1231^{+95}_{-87}	4045^{+1681}_{-724}	58^{+255}_{-41}

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

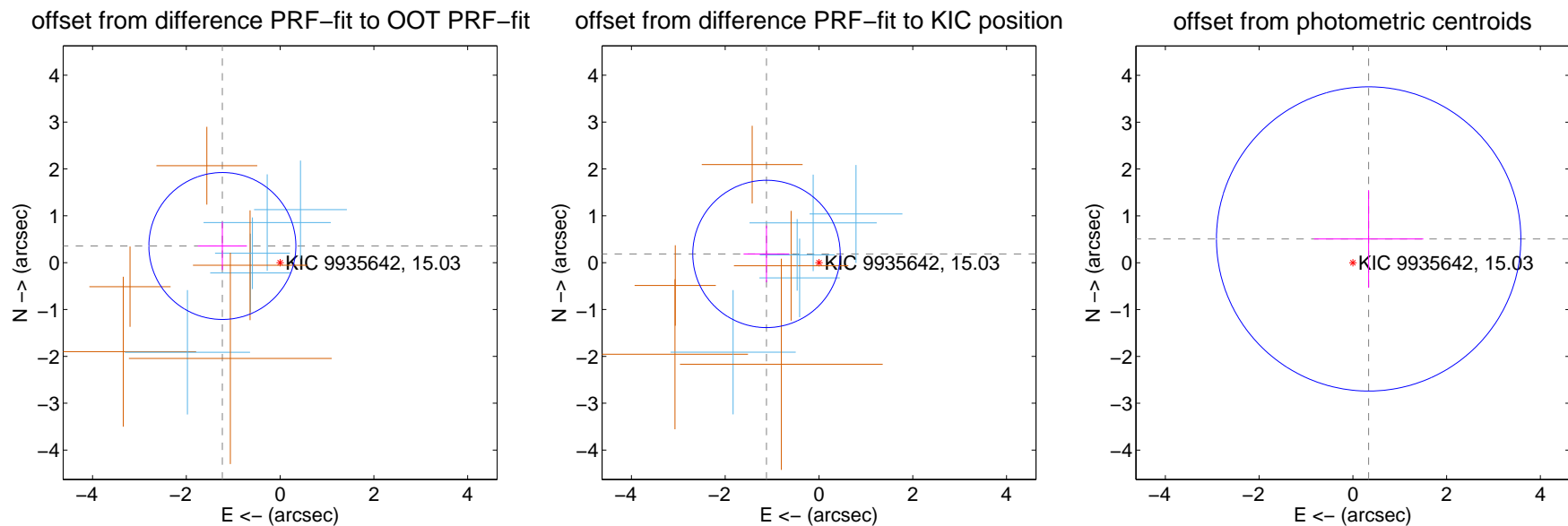
DV Centroid Data

Supplemental centroid analysis for 009935642-01. Kepler magnitude: 15.03. Transit SNR 10.74

There are 5 quarters with good PRF difference image offsets

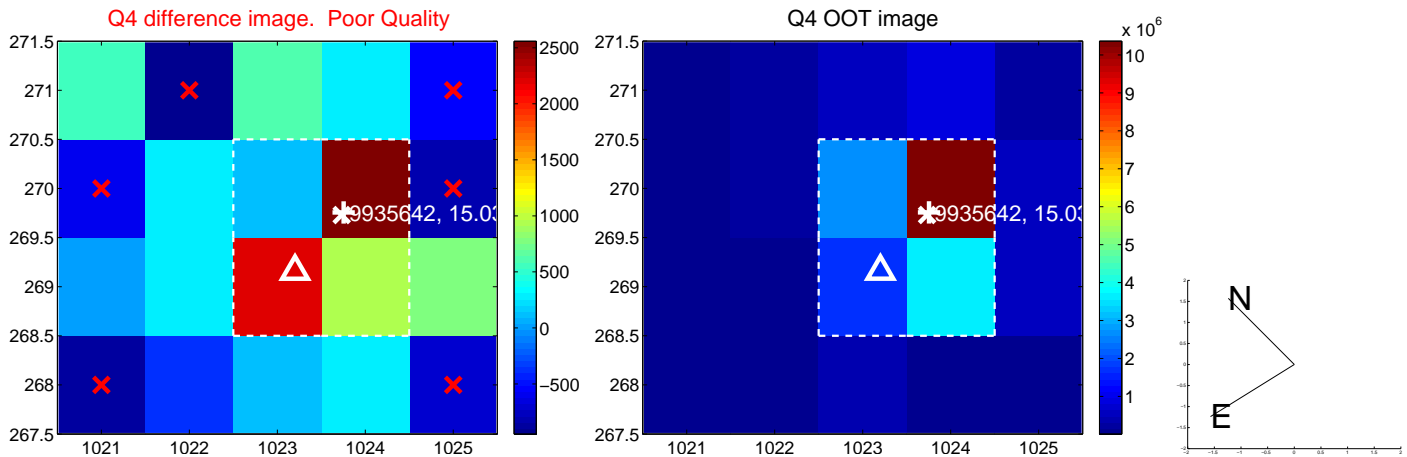
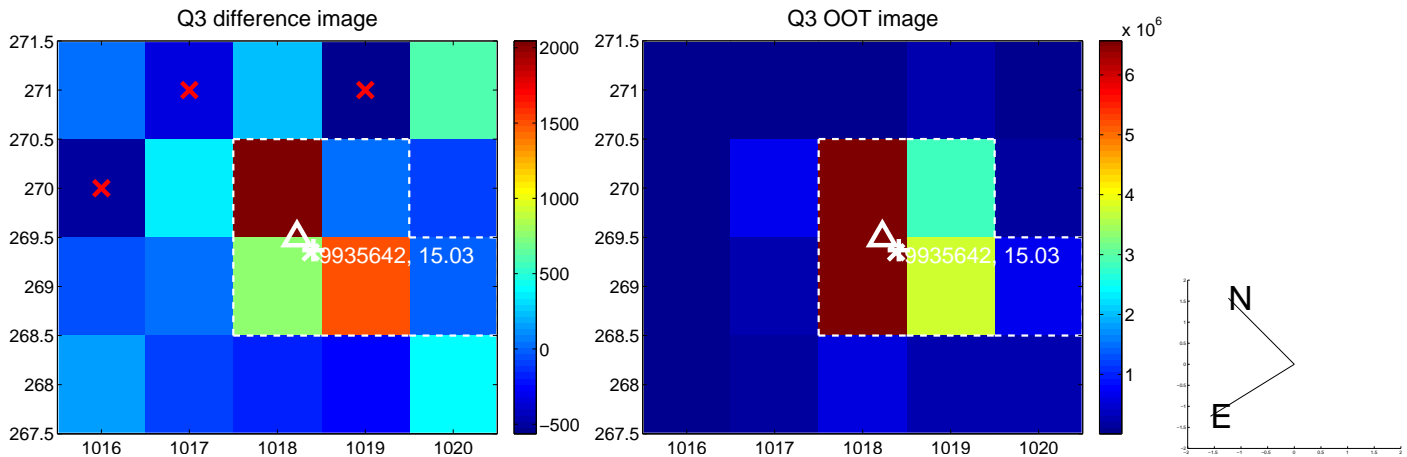
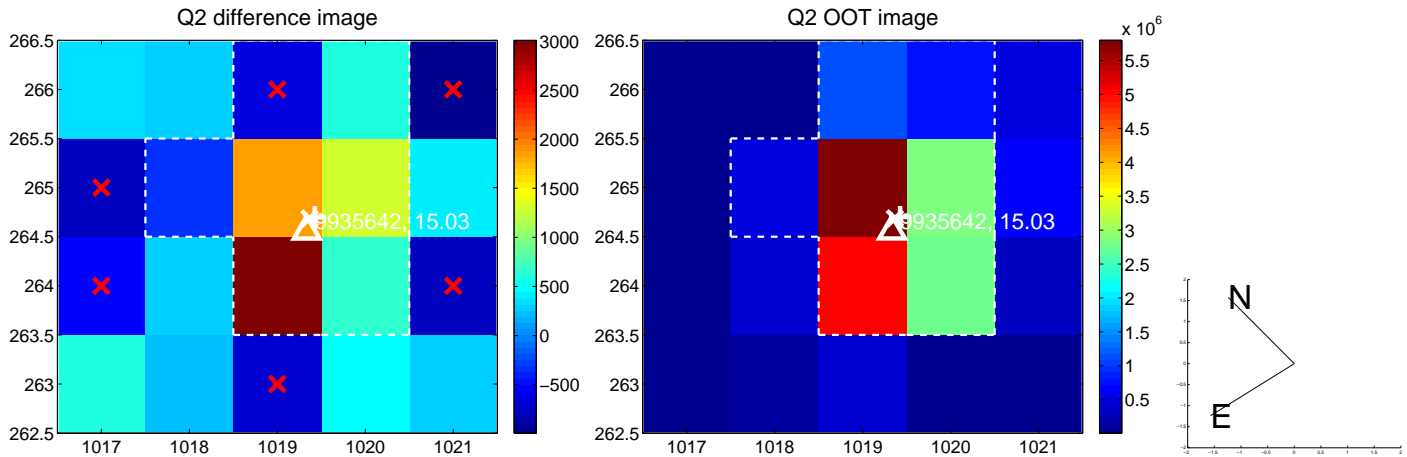
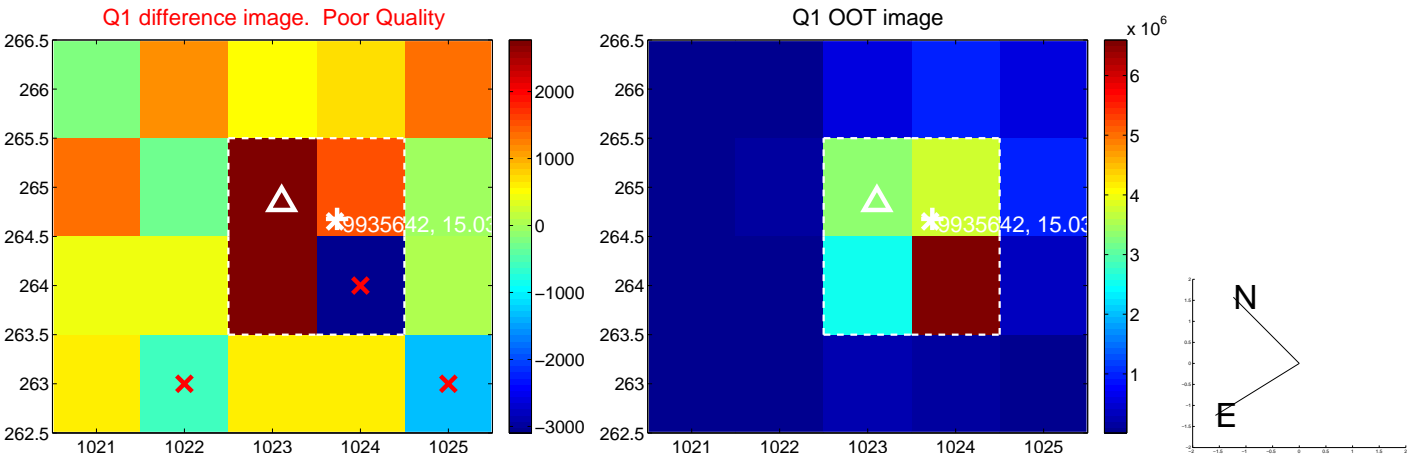
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.282 ± 0.522	2.45	1.231 ± 0.523	0.355 ± 0.512
PRF-fit source offset from KIC position	1.135 ± 0.524	2.17	1.120 ± 0.489	0.186 ± 0.604
photometric centroid source offset	0.61 ± 1.08	0.56	-0.34 ± 1.17	0.51 ± 1.04

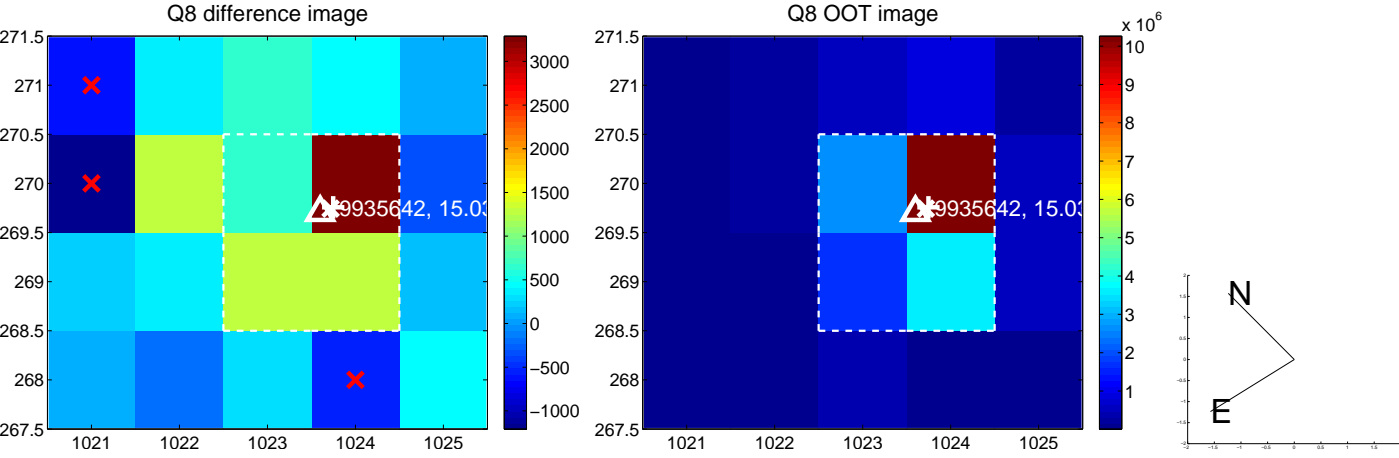
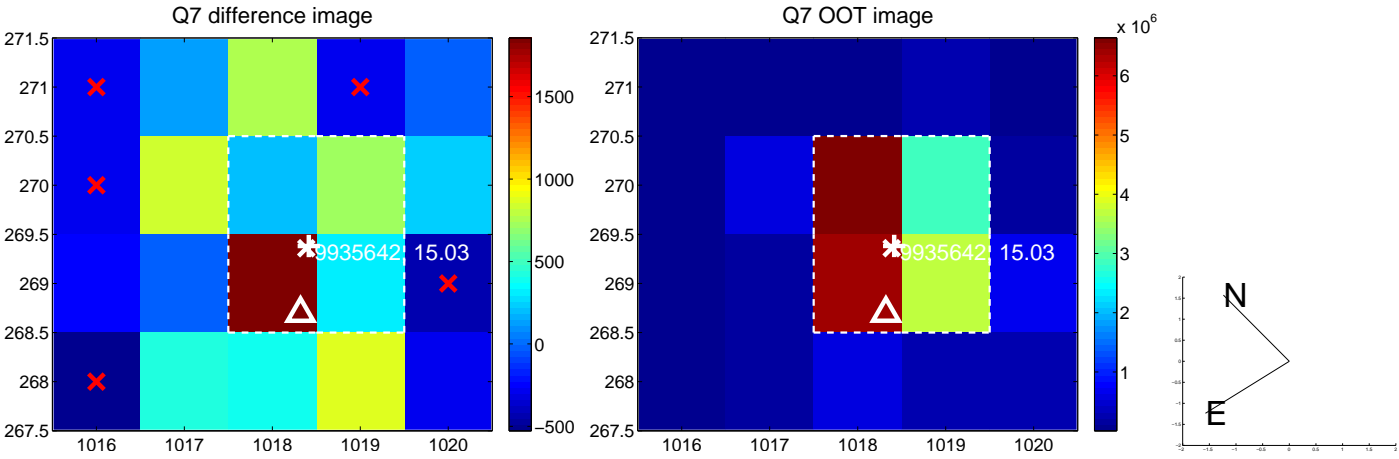
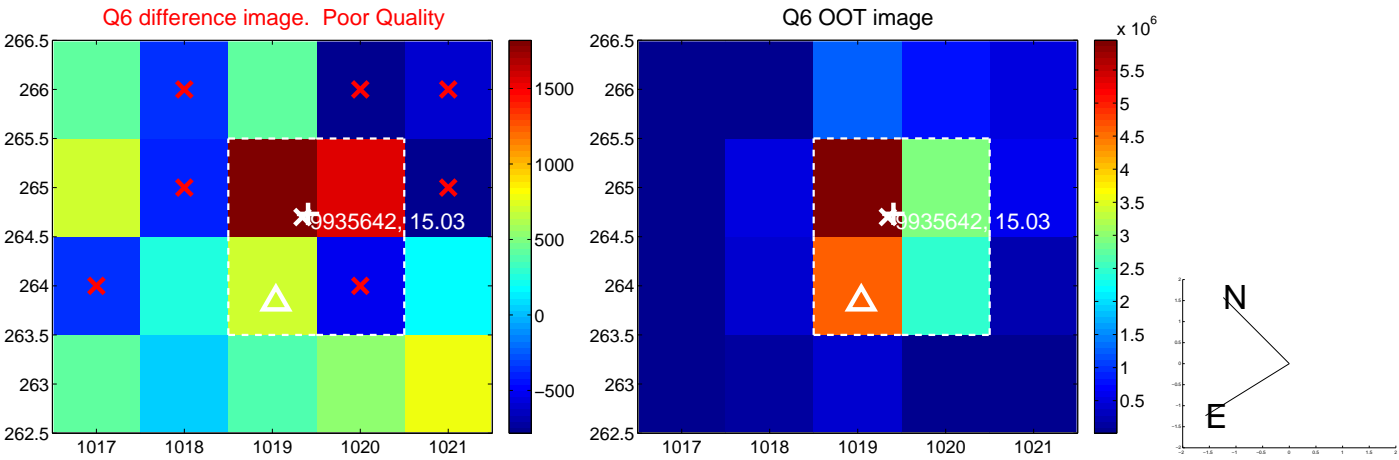
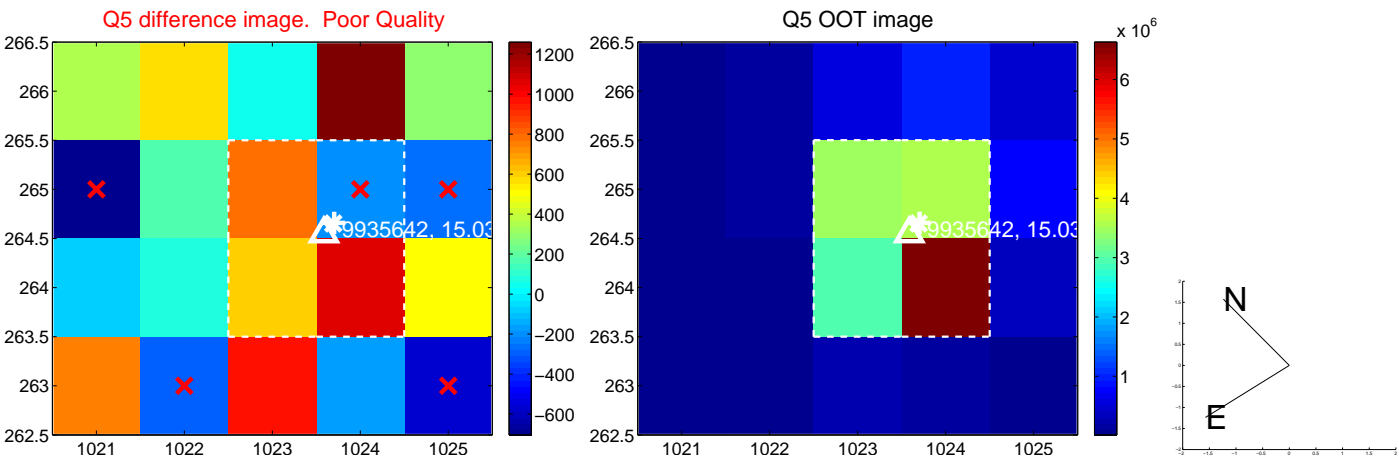


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

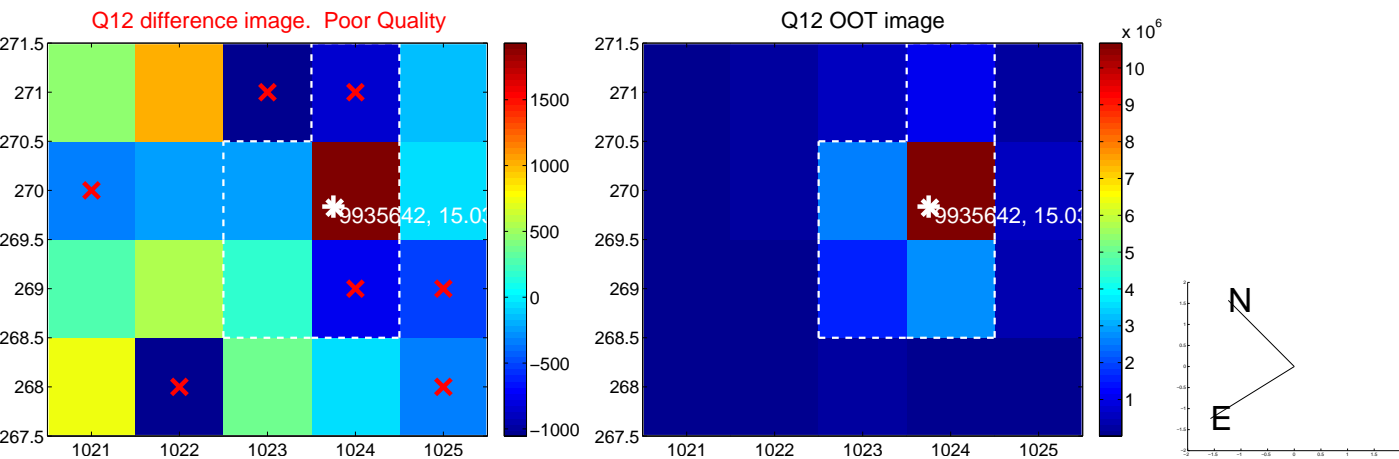
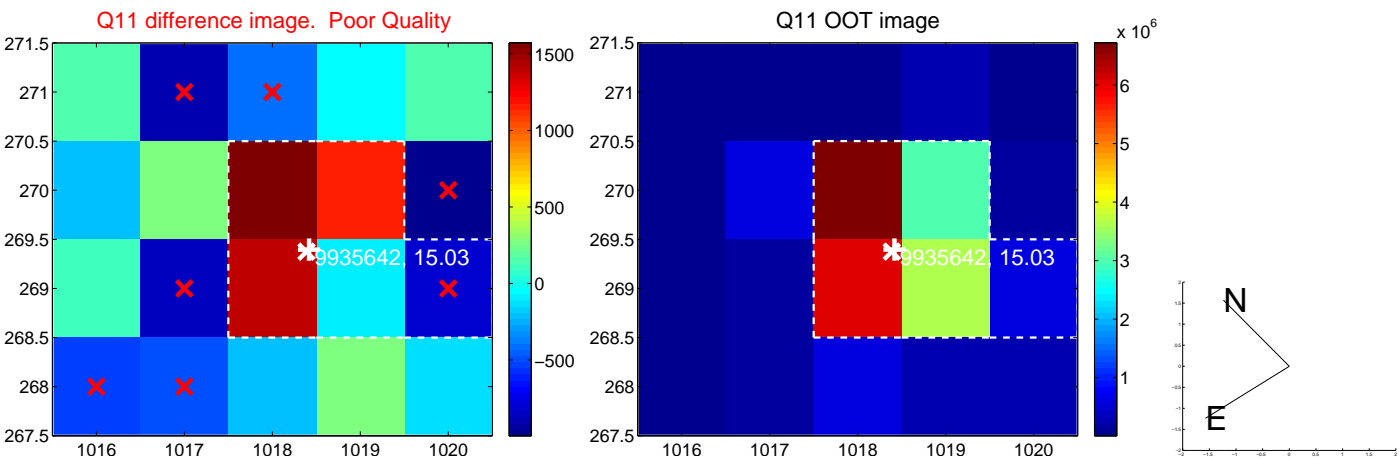
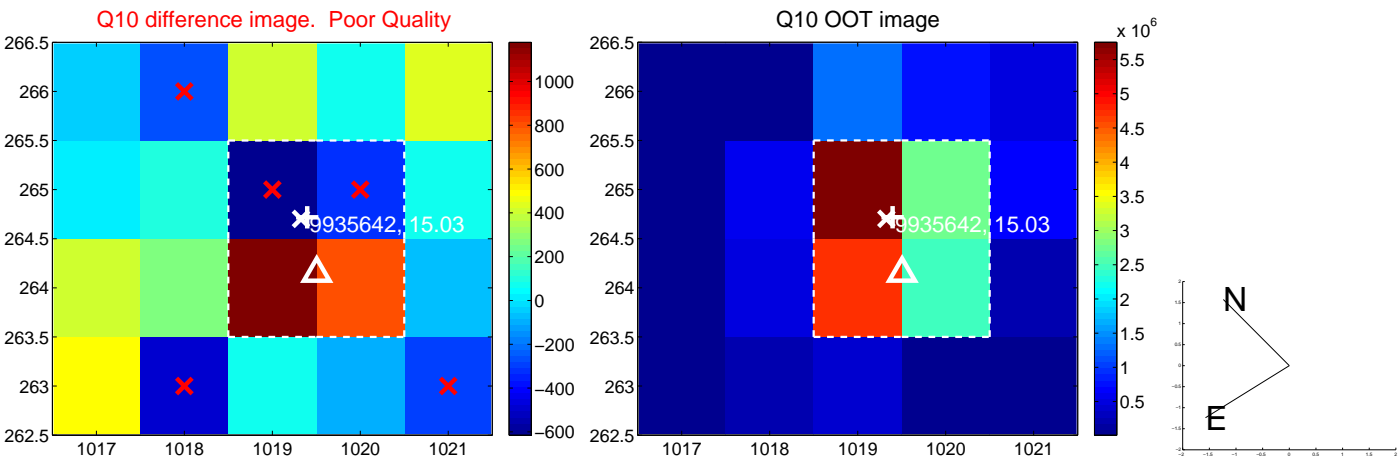
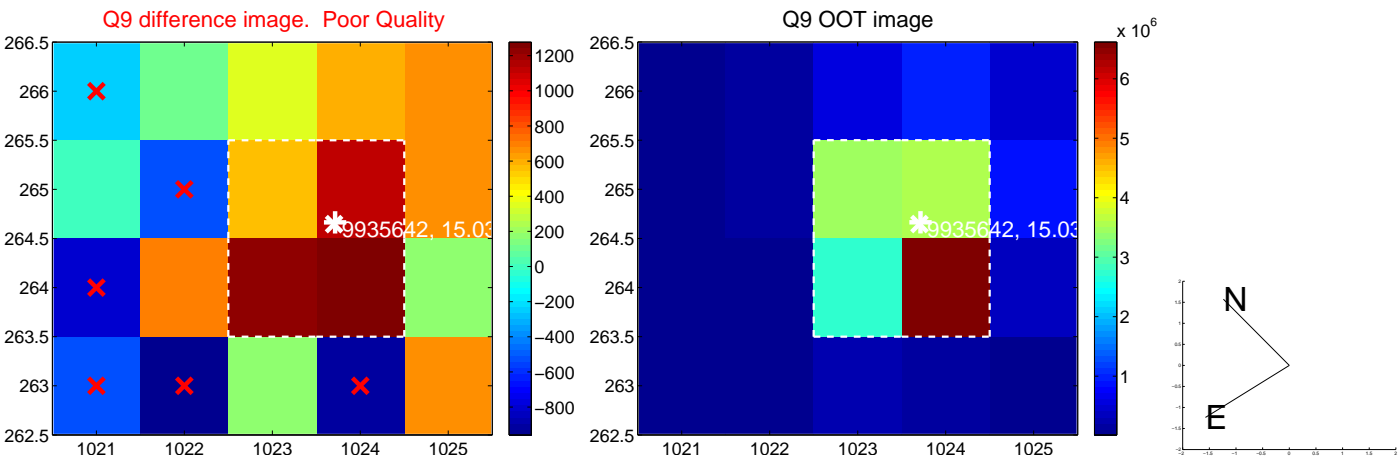
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



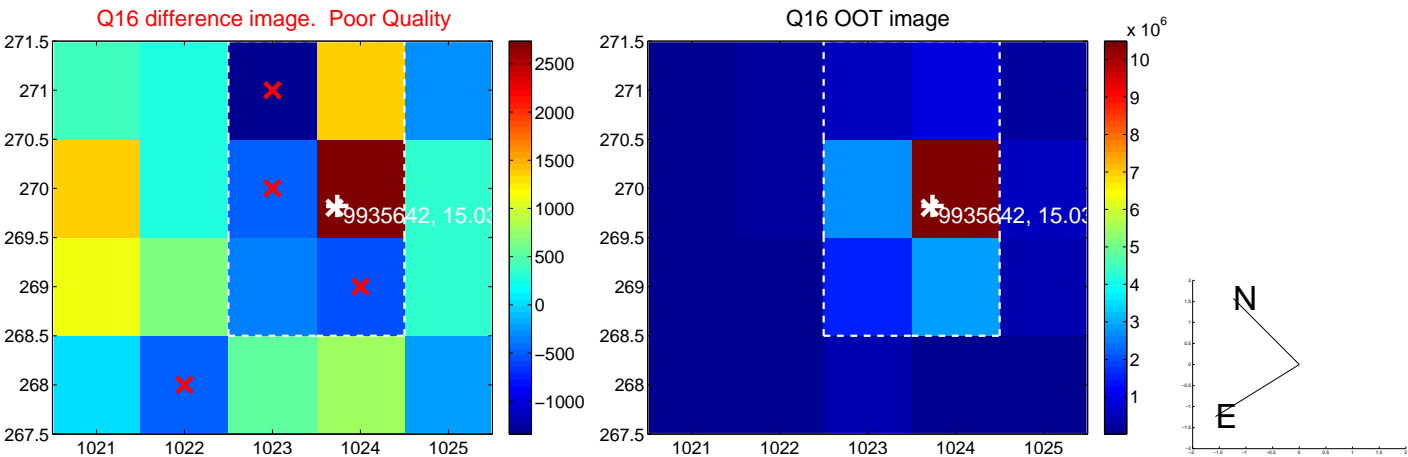
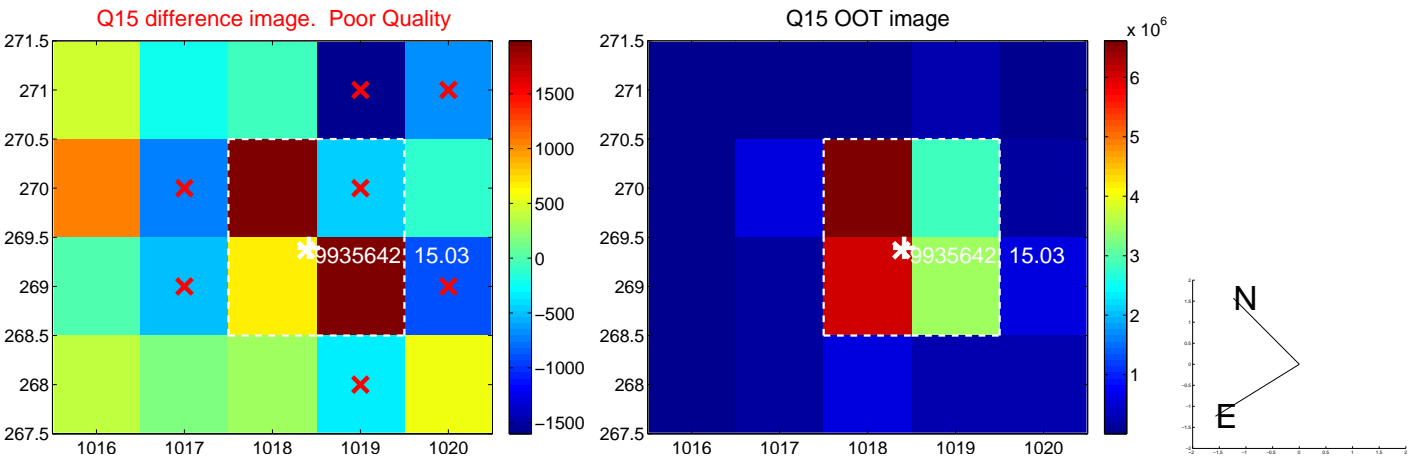
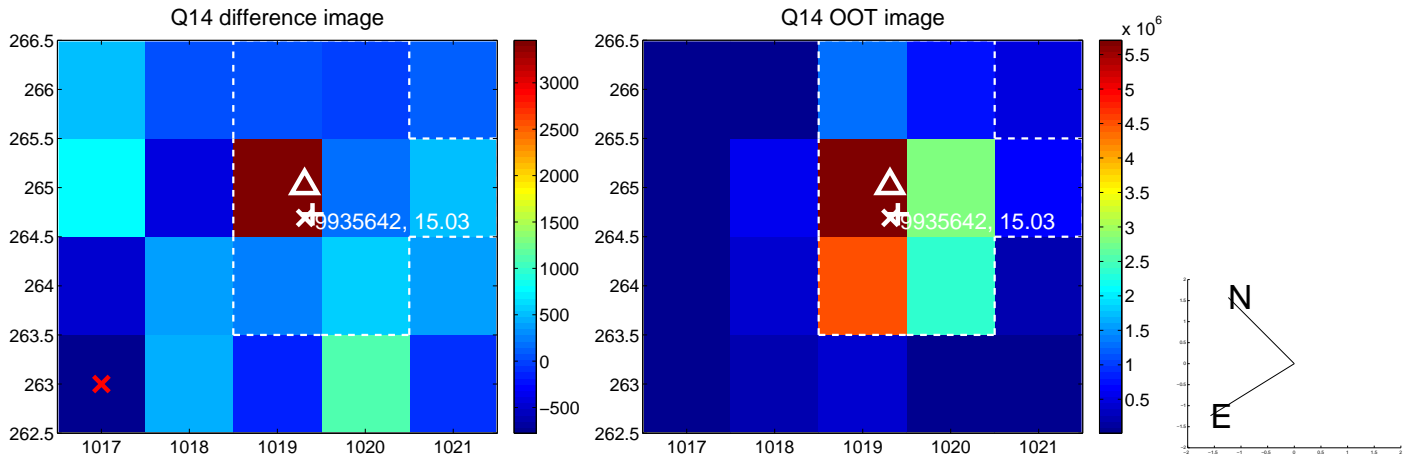
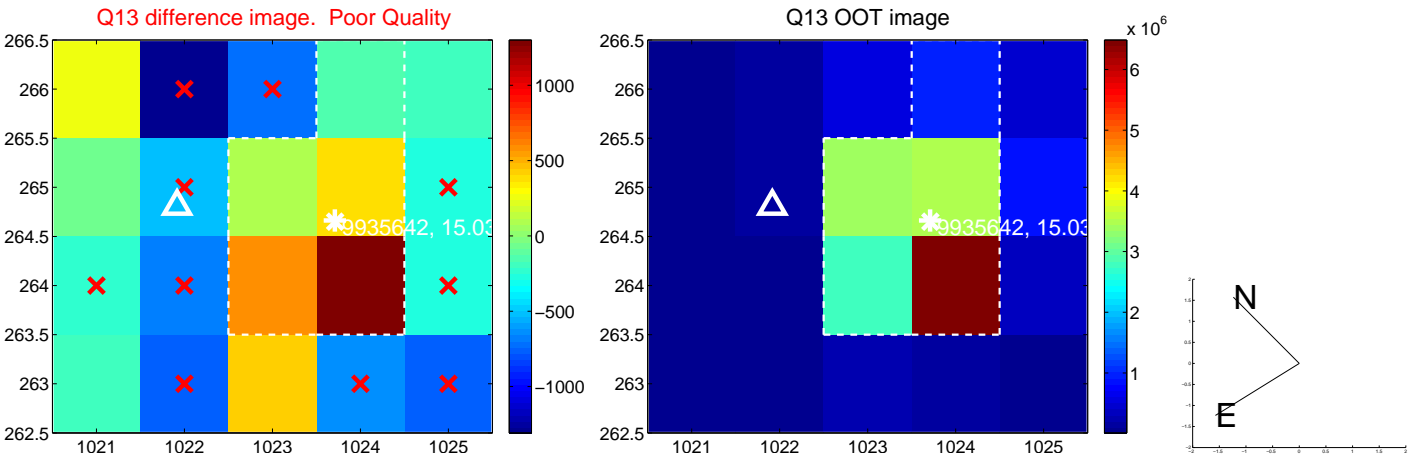
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



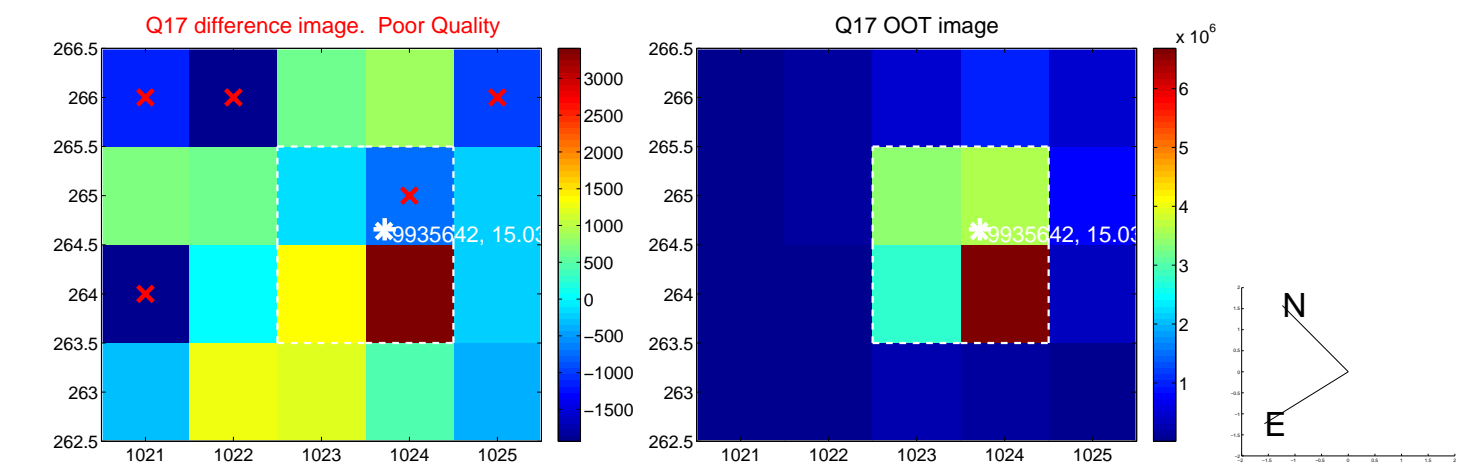
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



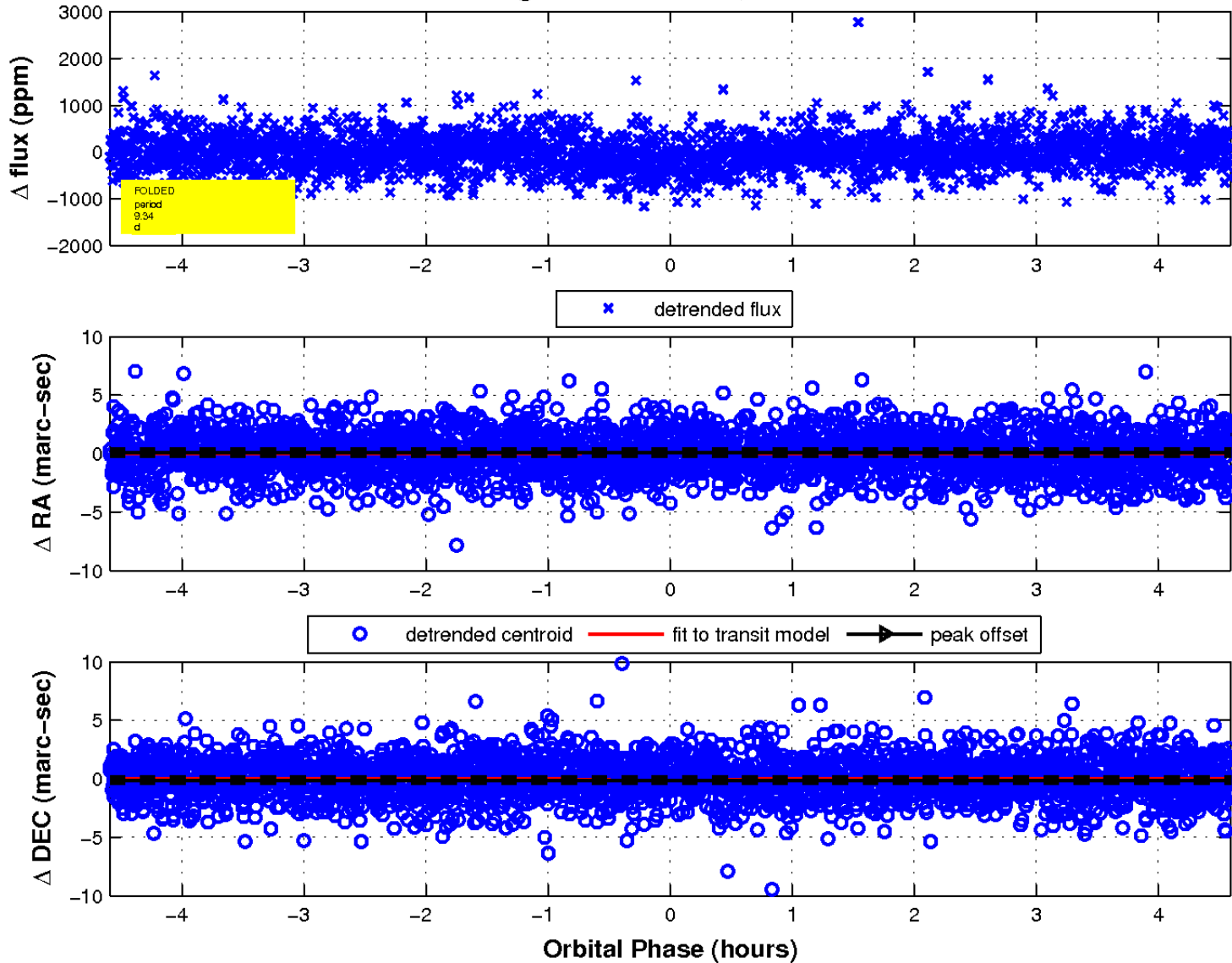
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

