

KIC 009993529

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})
009993529-01	OBS	2644.01	0.790547	131.876280	216.4	1.167	19.9	29.3	0.77	4791	1.40	1205.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009993529-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

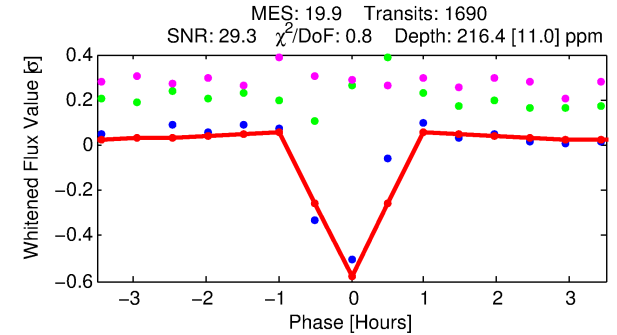
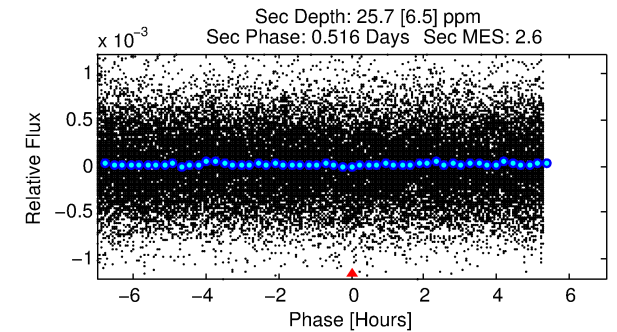
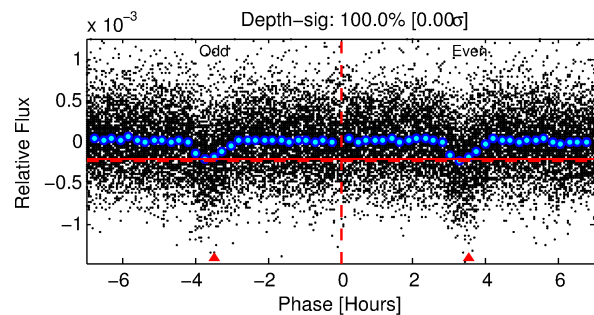
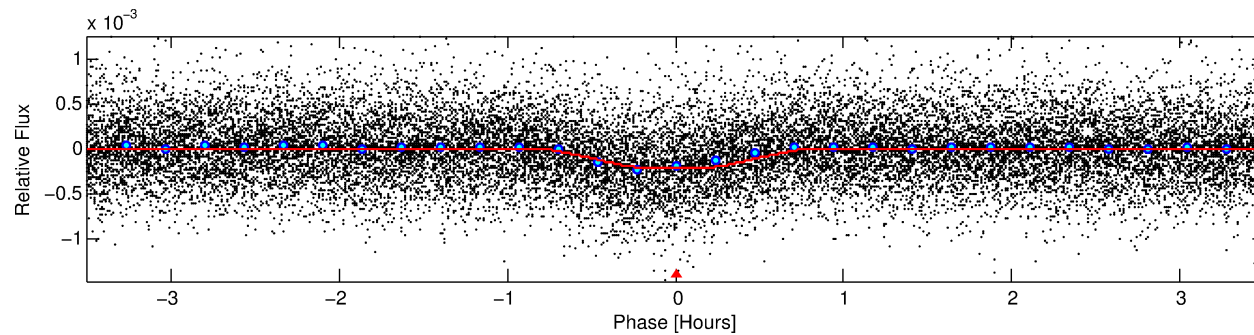
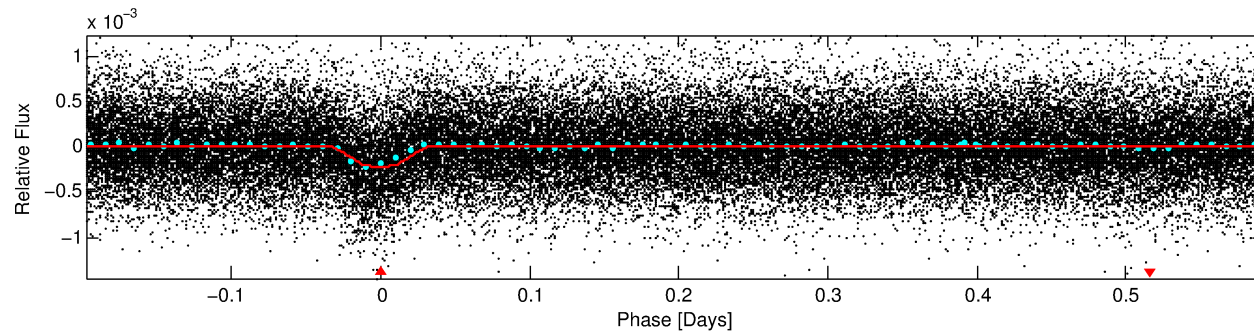
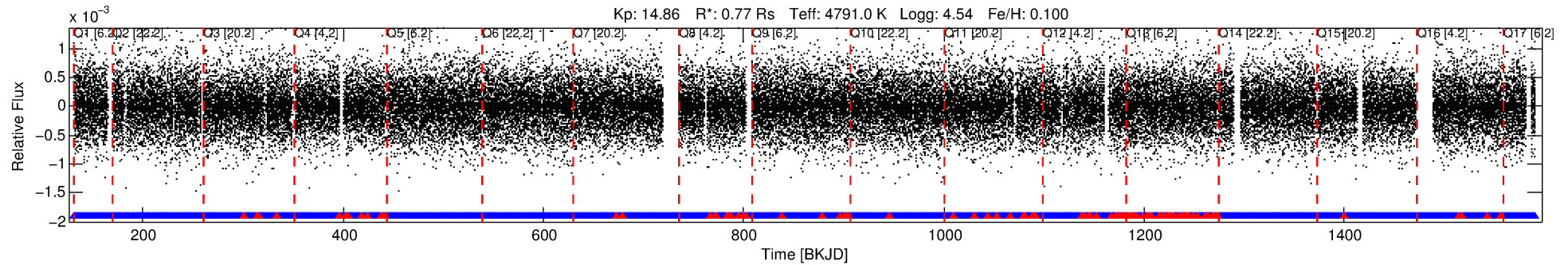
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009993529-01

No Significant Match Found

DV One-Page Summary

KIC: 9993529 Candidate: 1 of 1 Period: 0.791 d
KOI: K02644.01 Corr: 0.866



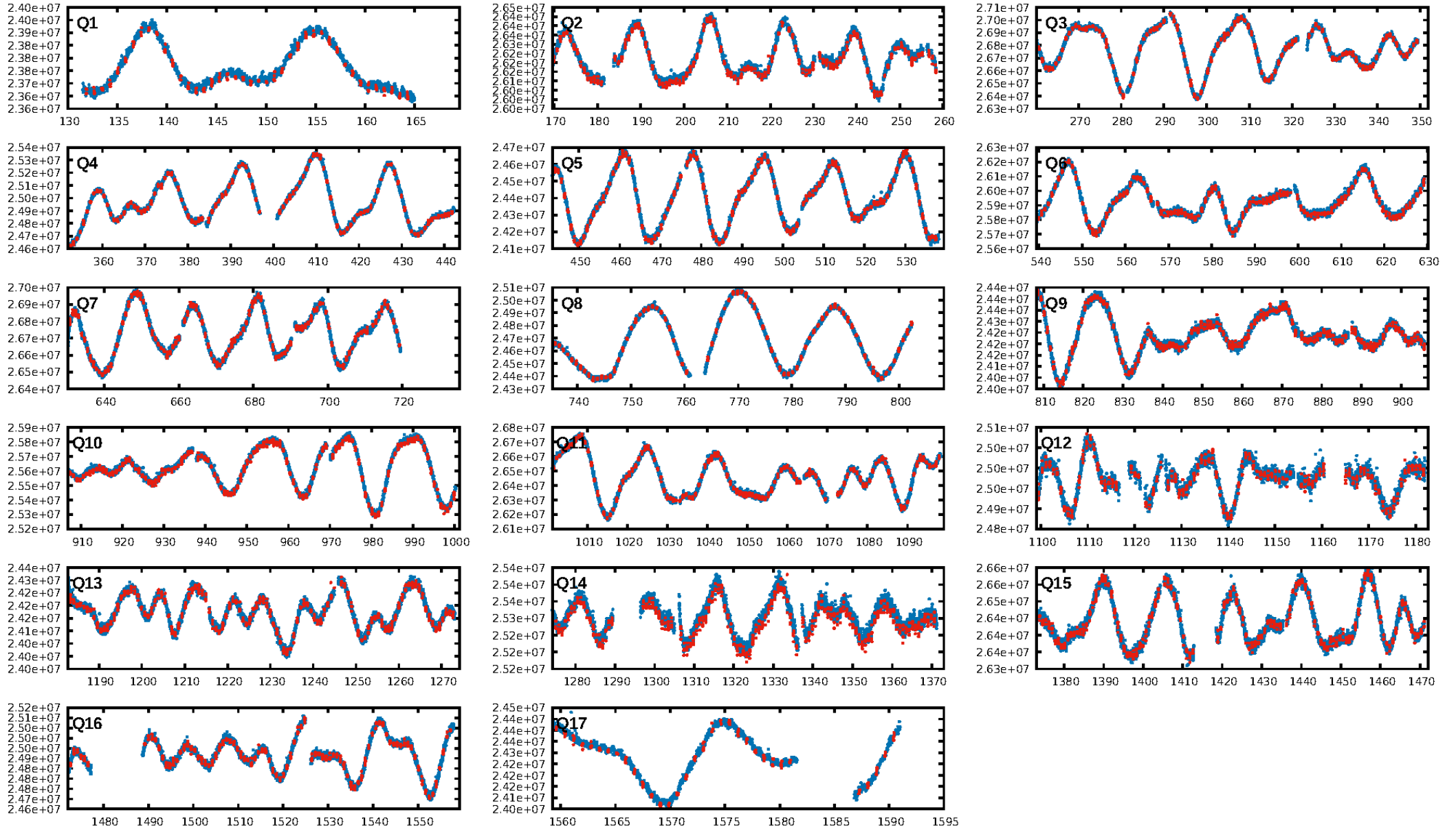
DV Fit Results:

Period = 0.79055 [0.00000] d
Epoch = 131.8763 [0.0006] BKJD
Rp/R* = 0.0167 [0.0054]
a/R* = 2.62 [2.71]
b = 0.90 [0.27]
Seff = 1205.66 [208.61]
Teff = 1503 [65] K
Rp = 1.40 [0.47] Re
a = 0.0152 [0.0013] AU
Ag = 1.67 [1.17] [0.57σ]
Teffp = 2640 [461] K [2.44σ]

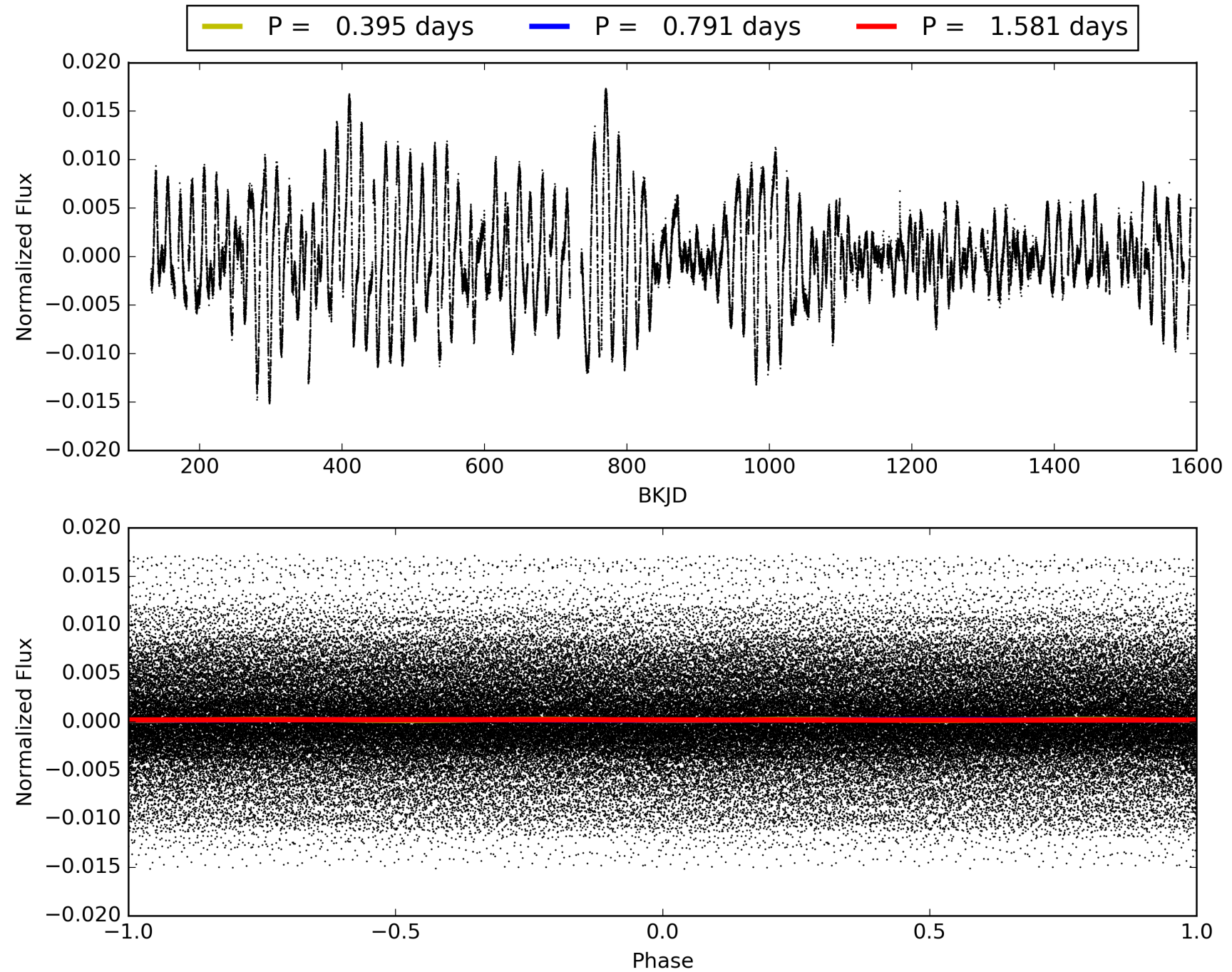
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.03e-82
RollingBand-fgt: 0.94 [1516/1615]
GhostDiagnostic-chr: -2.237
Centroid-sig: 0.0%
Centroid-so: 4.779 arcsec [9.76σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009993529-01, PDC Light Curves

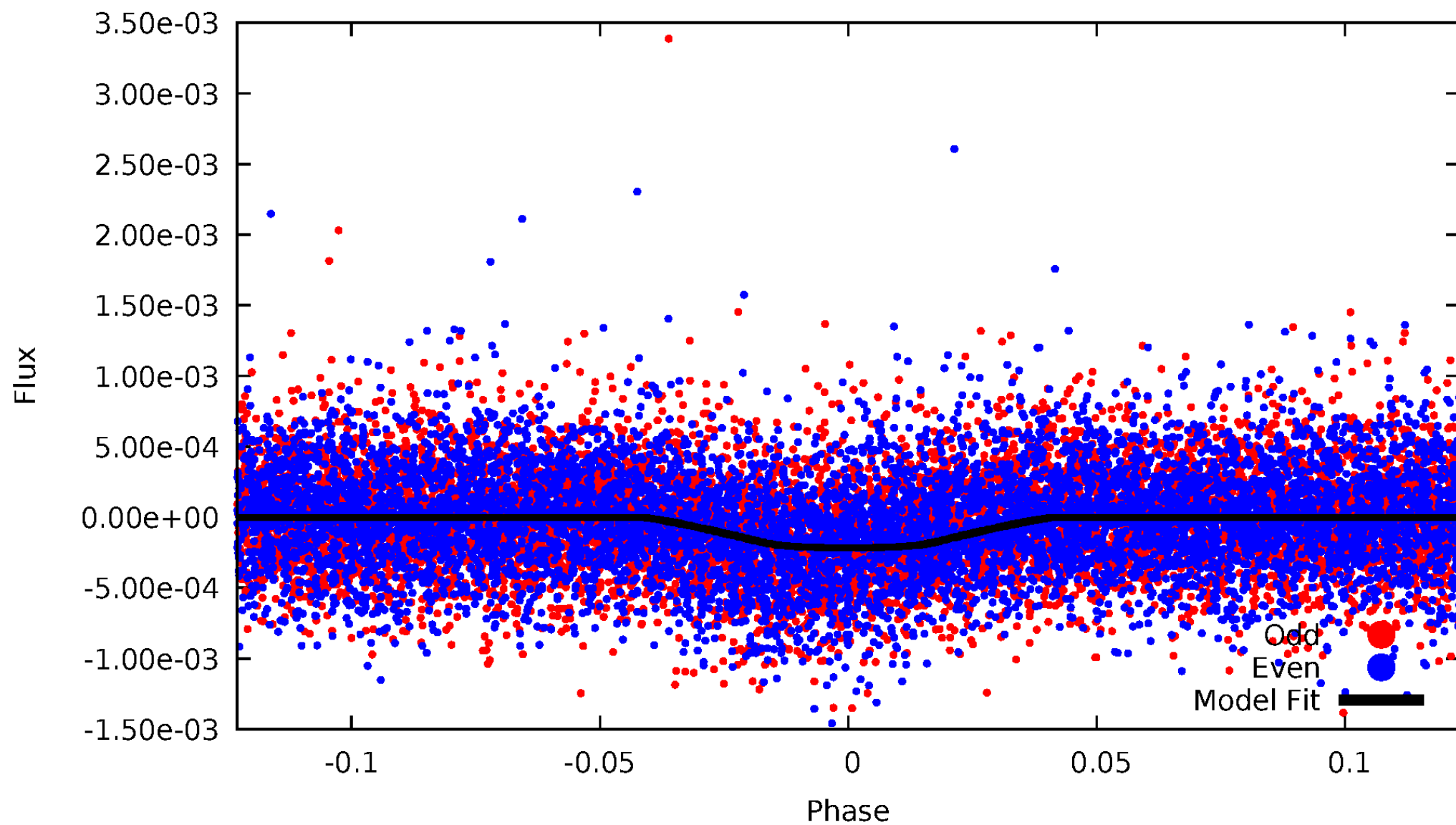


TCE 009993529-01



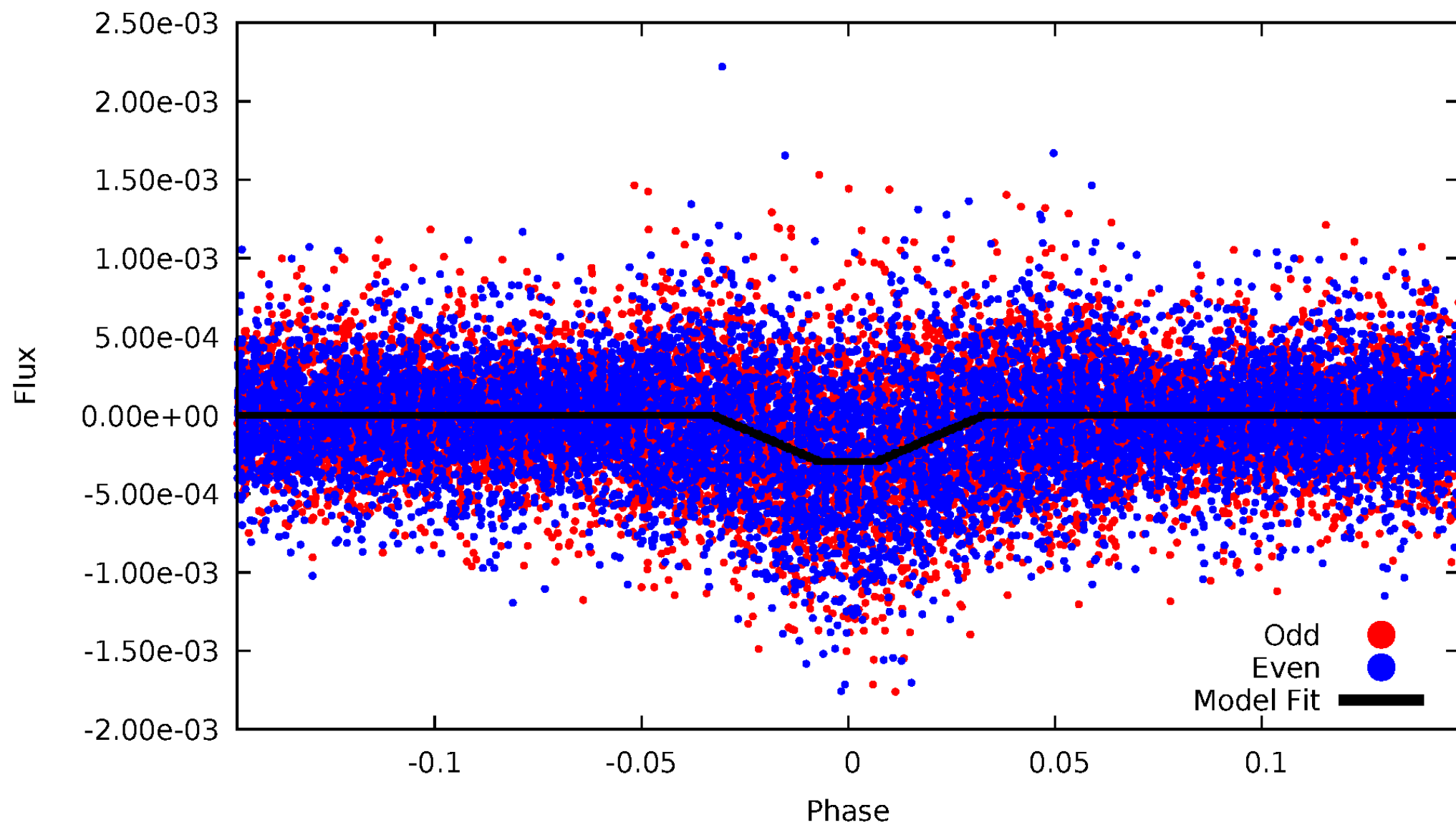
DV Odd/Even

TCE 009993529-01



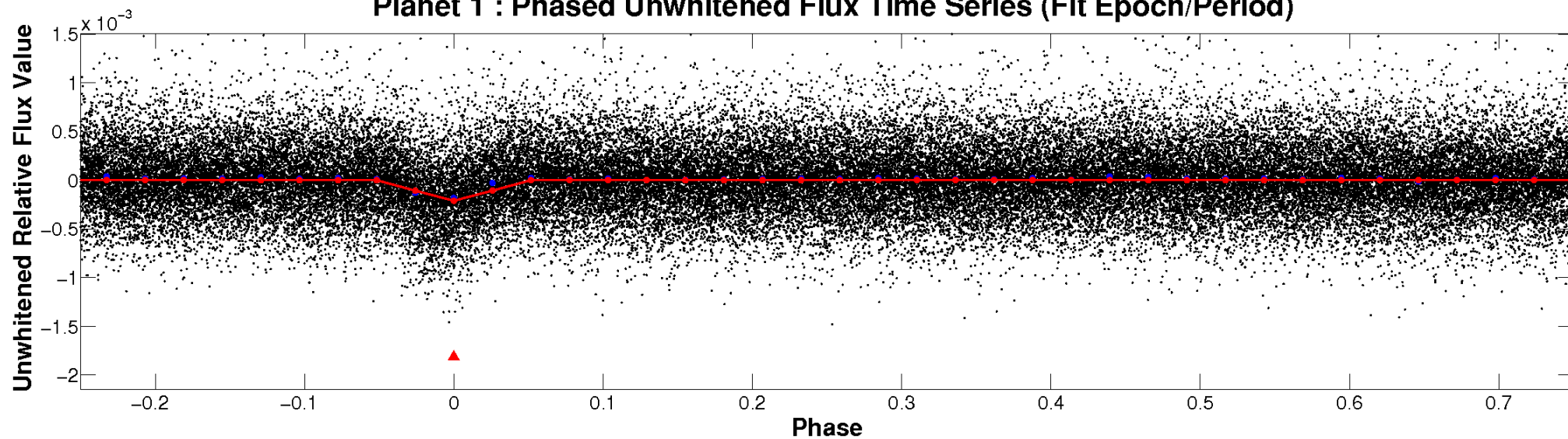
ALT Odd/Even

TCE 009993529-01

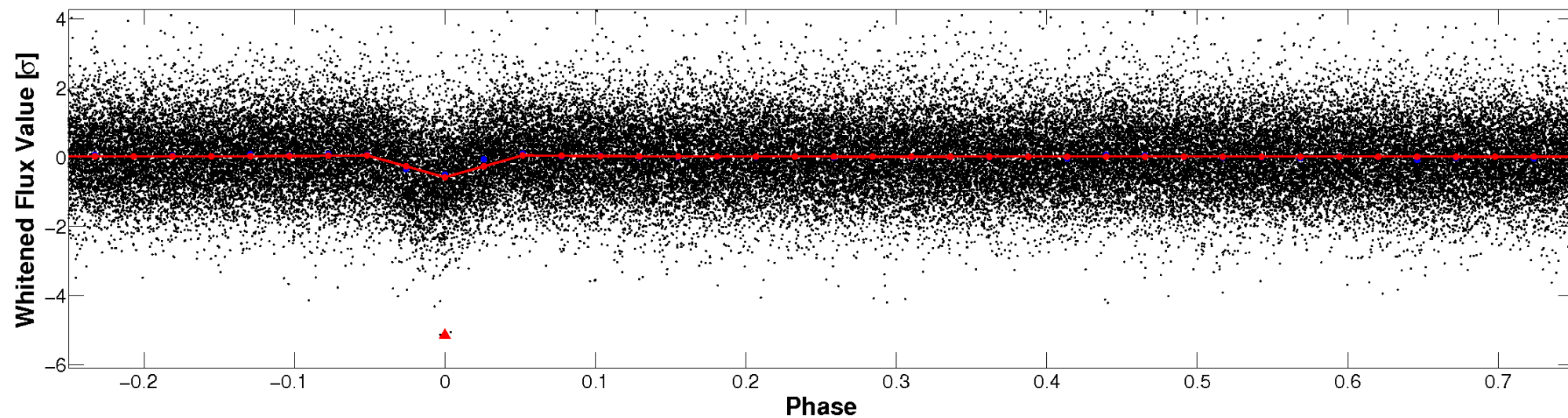


Non-Whitened Vs. Whitened Light Curve

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

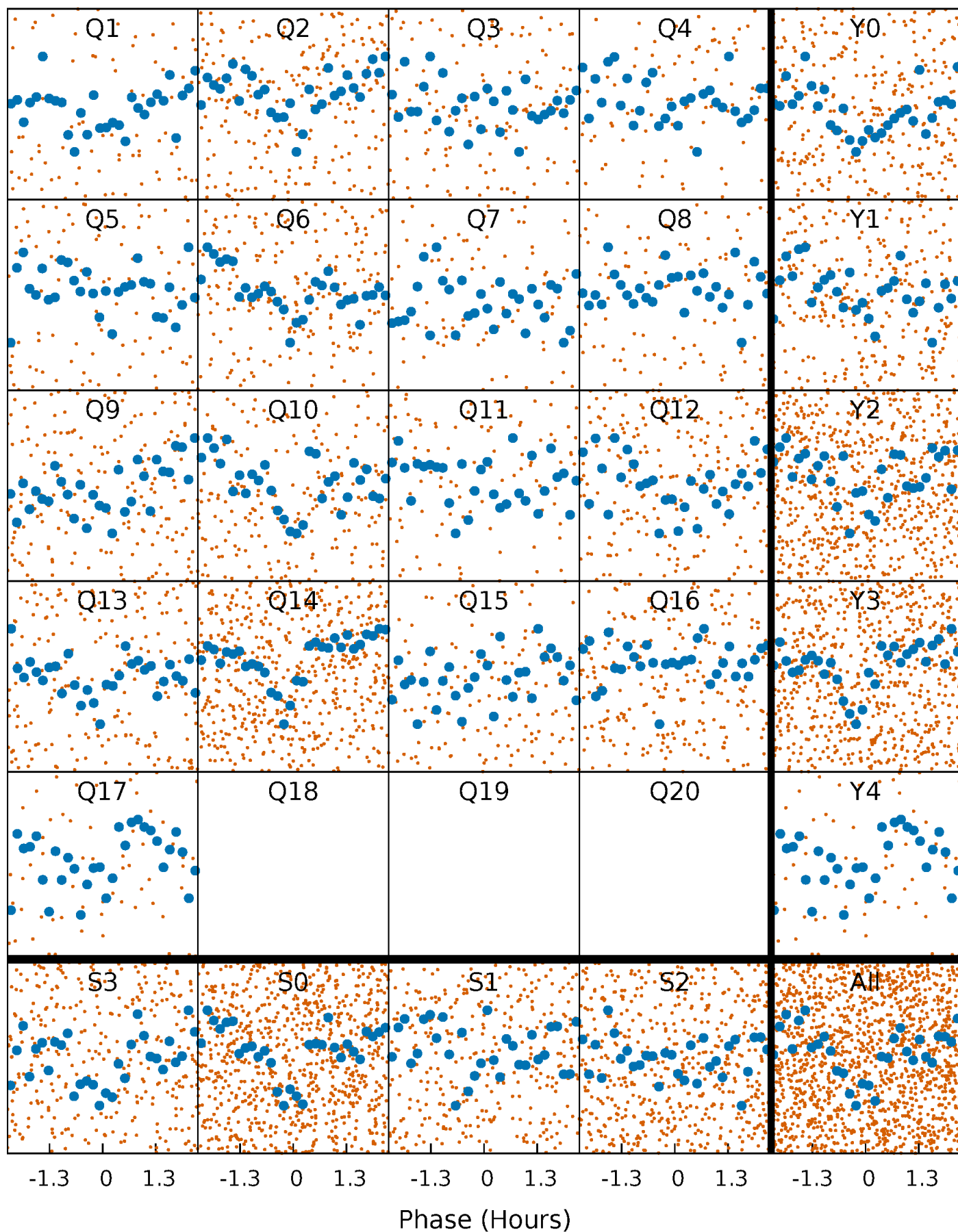


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



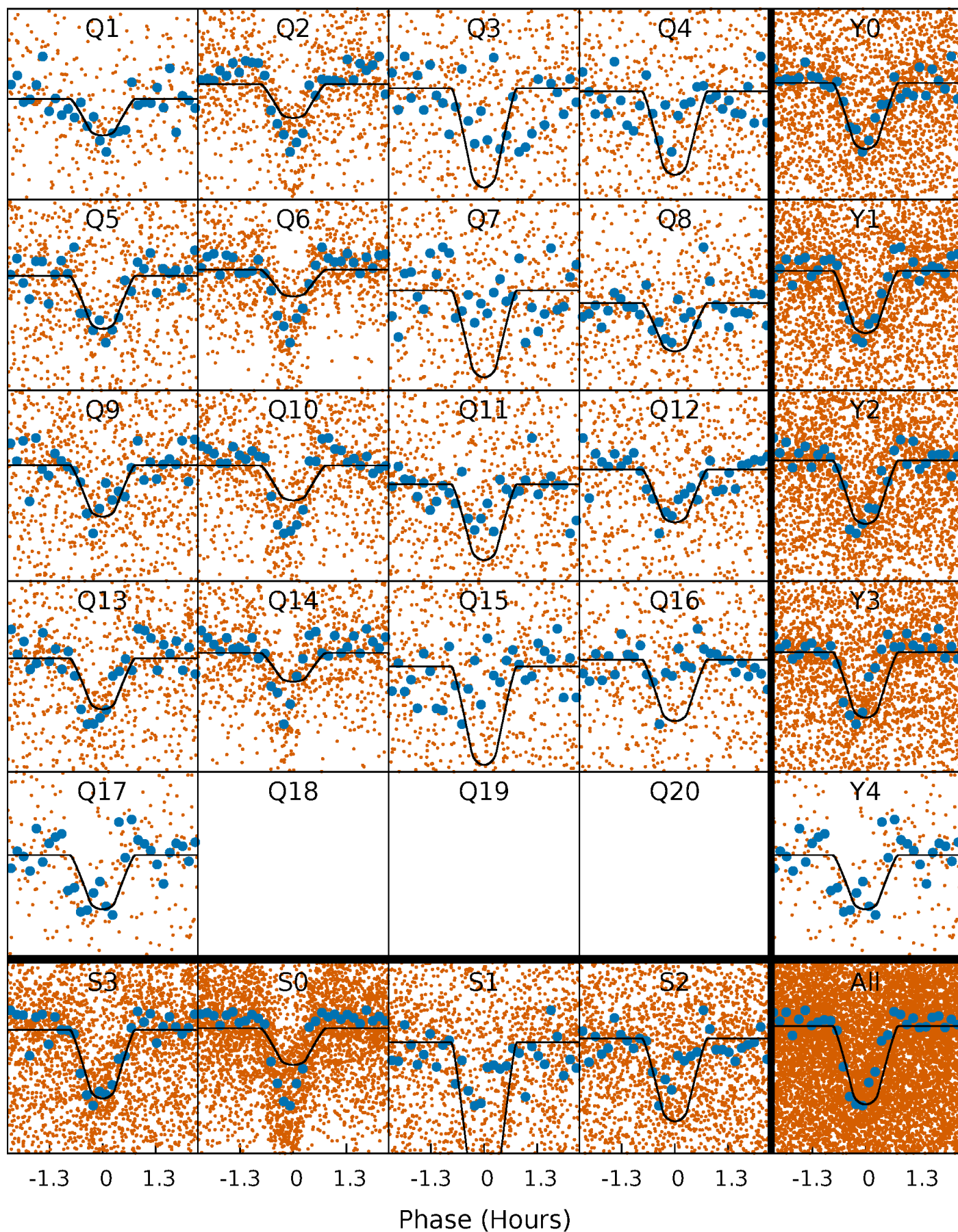
PDC Quarter-Phased Transit Curves

TCE 009993529-01 P= 0.790547 Days $T_0=131.876280$ (BKJD)



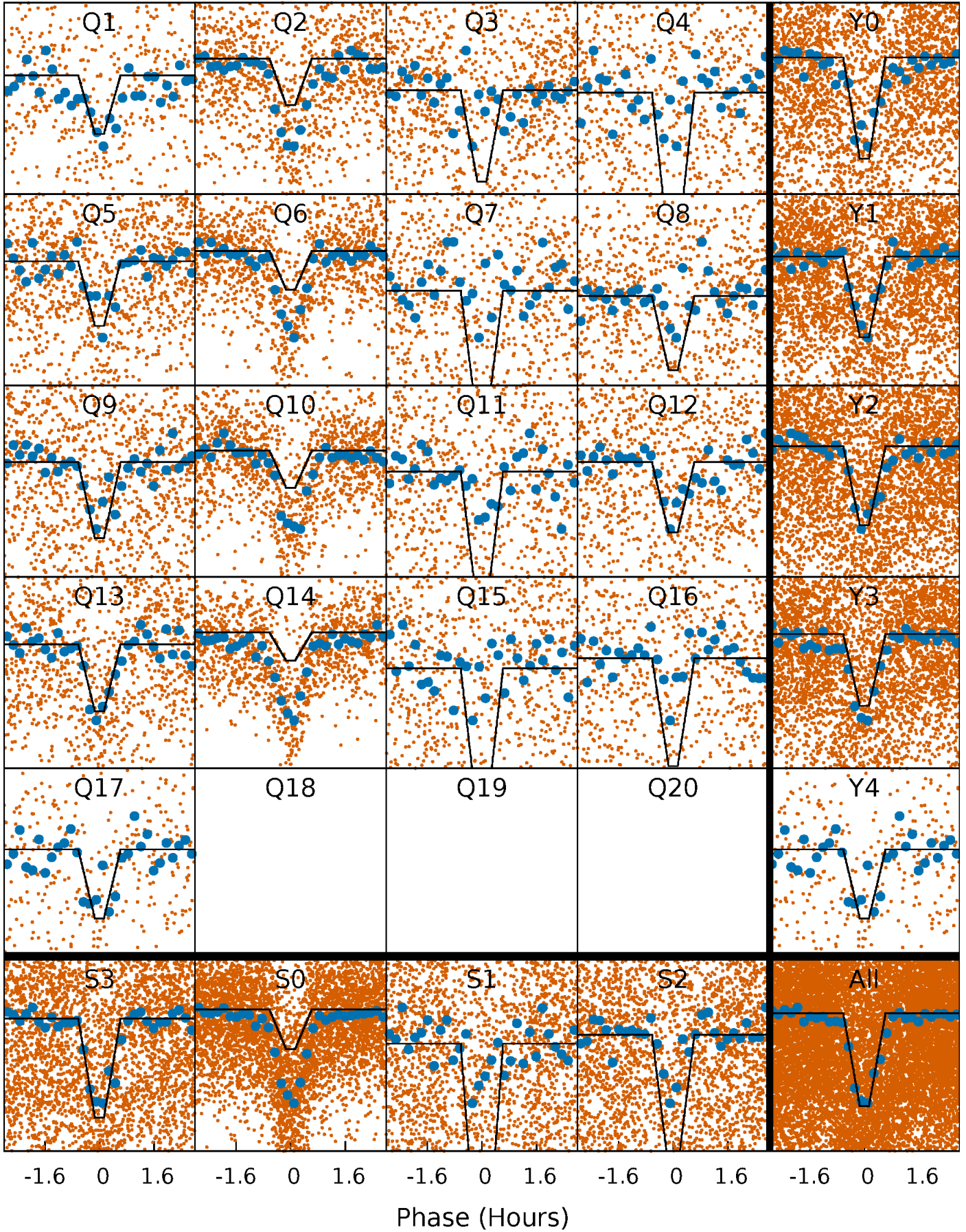
DV Quarter-Phased Transit Curves

TCE 009993529-01 P= 0.790547 Days $T_0=131.876280$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

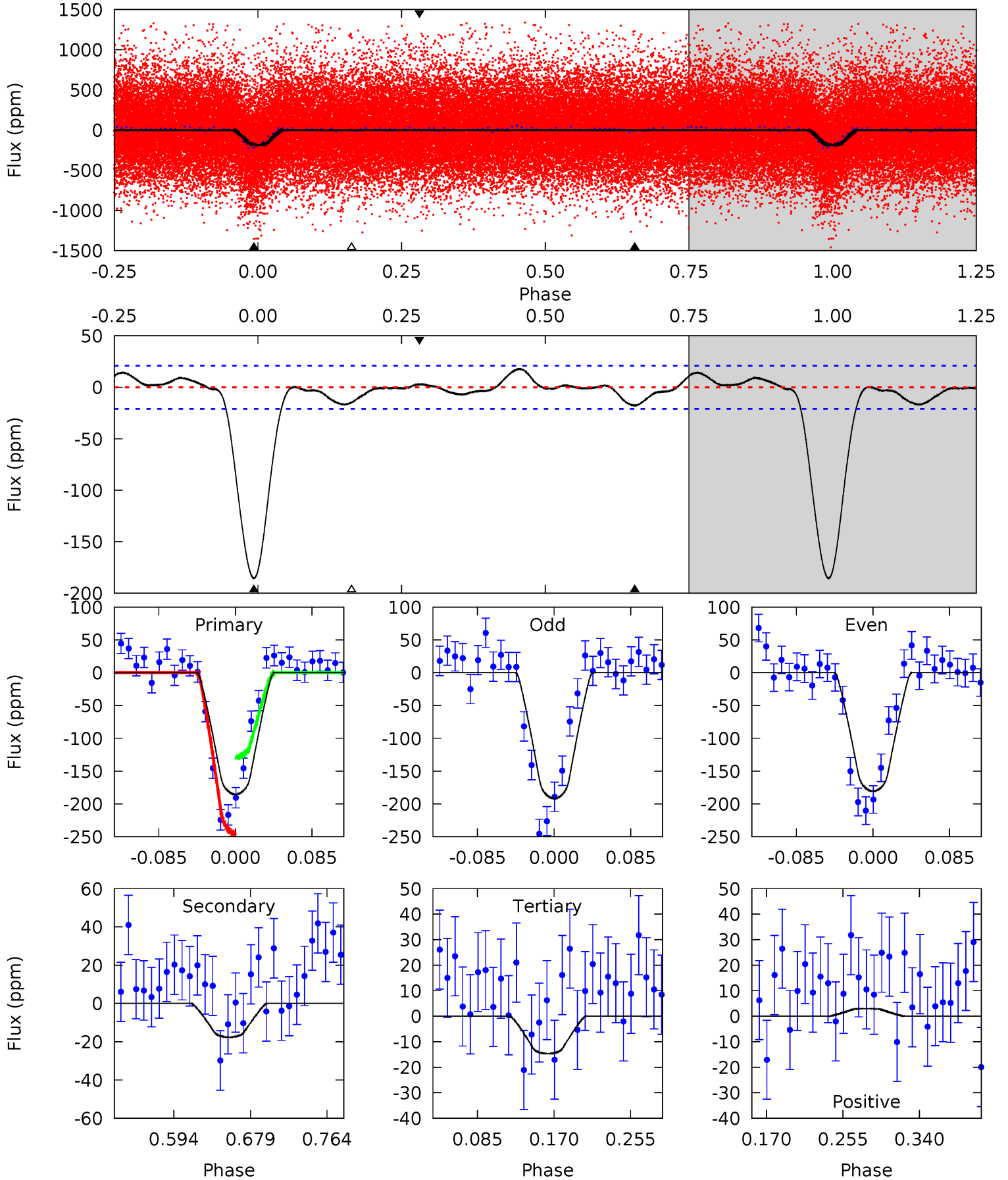
TCE 009993529-01 P= 0.790541 Days $T_0=131.875240$ (BKJD)



DV Model-Shift Uniqueness Test

009993529-01, P = 0.790547 Days, E = 131.085733 Days

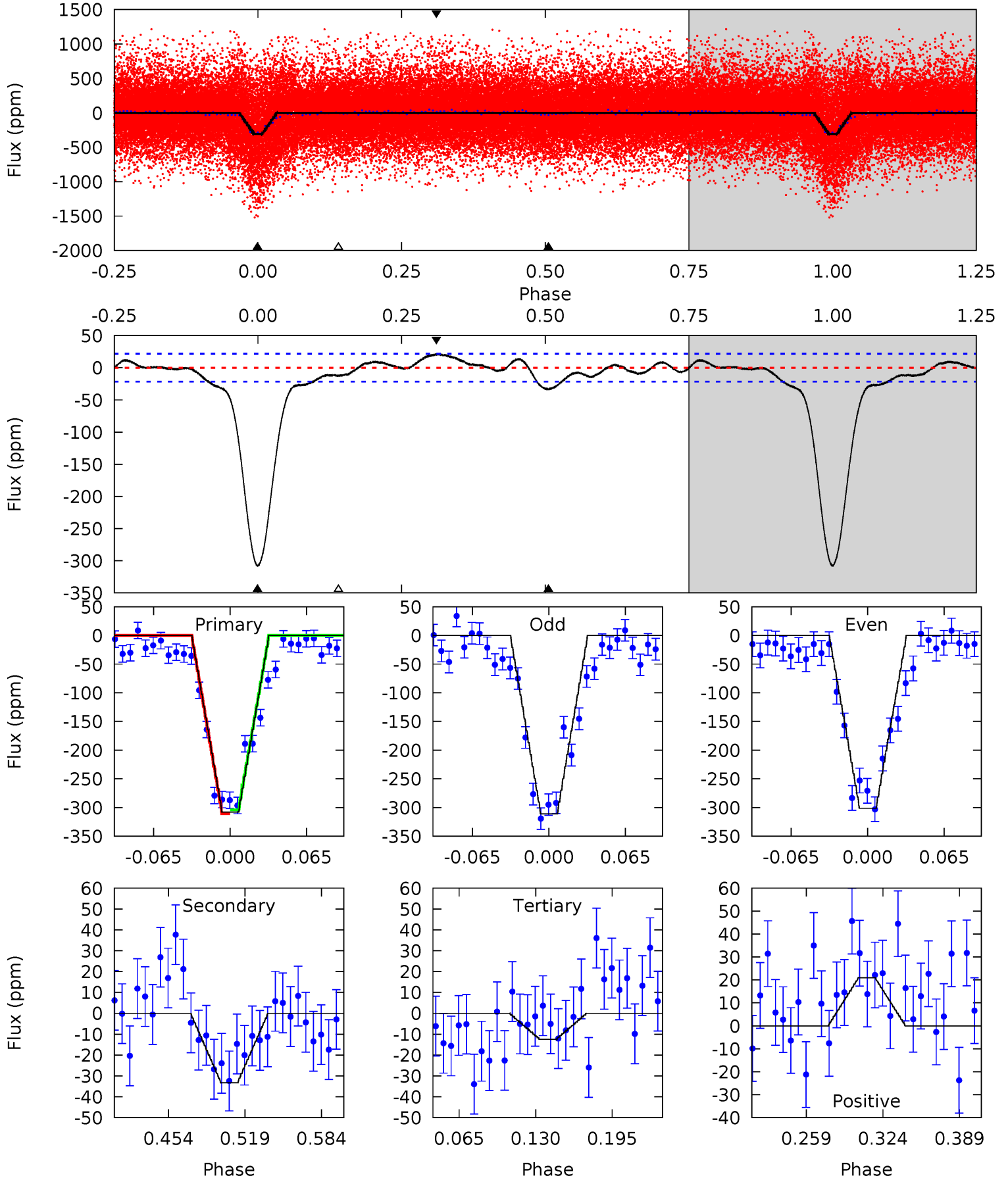
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.7	3.87	3.22	0.66	4.60	1.72	1.62	37.4	40.0	0.64	3.21	1.22	0.98	0.09	12.8



Alt Model-Shift Uniqueness Test

009993529-01, P = 0.790541 Days, E = 131.084699 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.3	7.18	2.69	4.52	4.65	1.85	2.38	63.6	61.8	4.49	2.66	1.06	1.05	0.06	0.70



Stellar Parameters For KIC 009993529

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4791^{+129}_{-143}	$4.541^{+0.070}_{-0.030}$	$0.100^{+0.250}_{-0.300}$	$0.767^{+0.043}_{-0.074}$	$0.747^{+0.071}_{-0.053}$	$2.330^{+0.681}_{-0.280}$
	+3%/-3%	+2%/-1%	+250%/-300%	+6%/-10%	+10%/-7%	+29%/-12%
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 009993529-01 / KOI 2644.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 5	$1.39^{+0.45}_{-0.43}$	2084^{+67}_{-76}	2869^{+449}_{-340}	$1.134^{+1.496}_{-0.516}$
Alt.	-33 ± 5	$1.40^{+0.46}_{-0.43}$	2083^{+68}_{-73}	3207^{+428}_{-316}	$2.197^{+2.272}_{-1.007}$

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

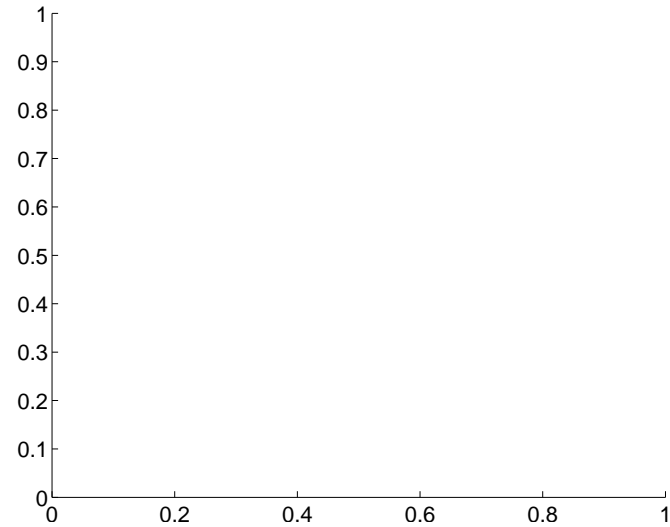
Supplemental centroid analysis for 009993529-01. Kepler magnitude: 14.86. Transit SNR 29.33

There are 0 quarters with good PRF difference image offsets

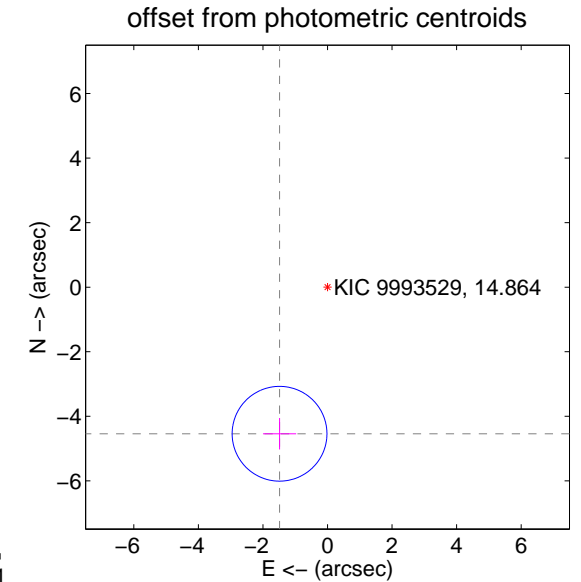
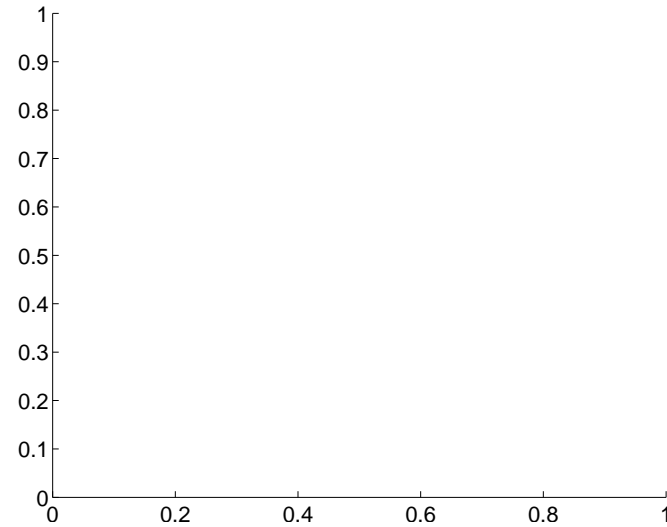
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.78 ± 0.49	9.76	1.49 ± 0.51	-4.54 ± 0.49

There is no PRF-fit offset from OOT-fit

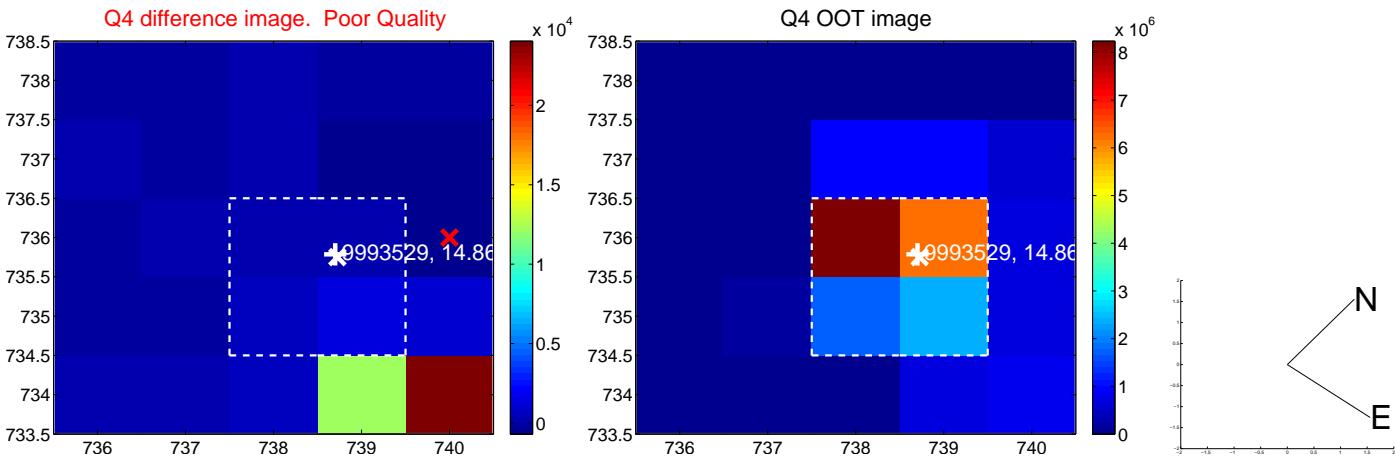
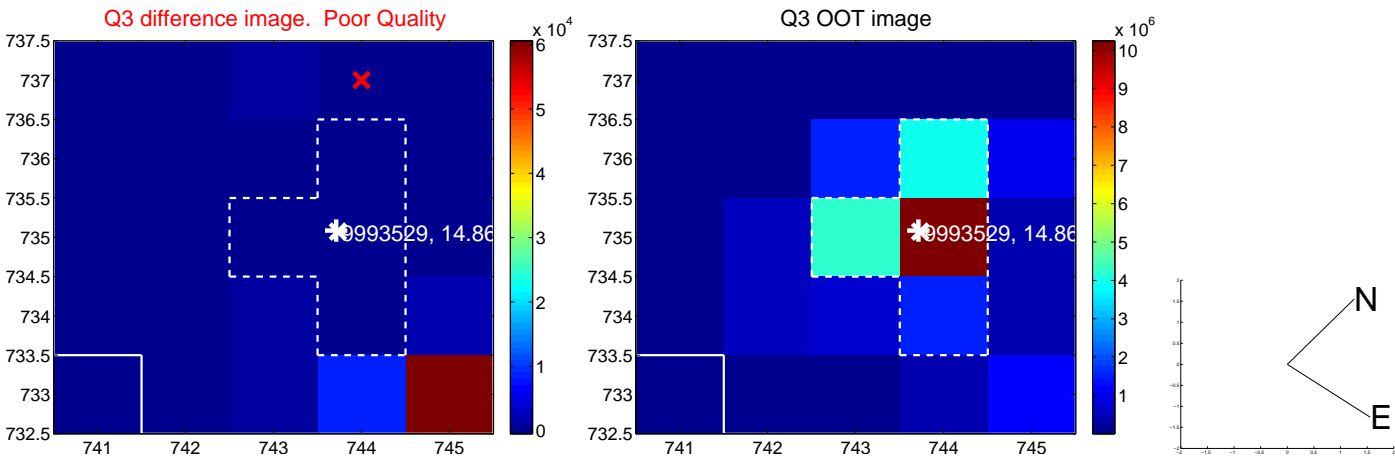
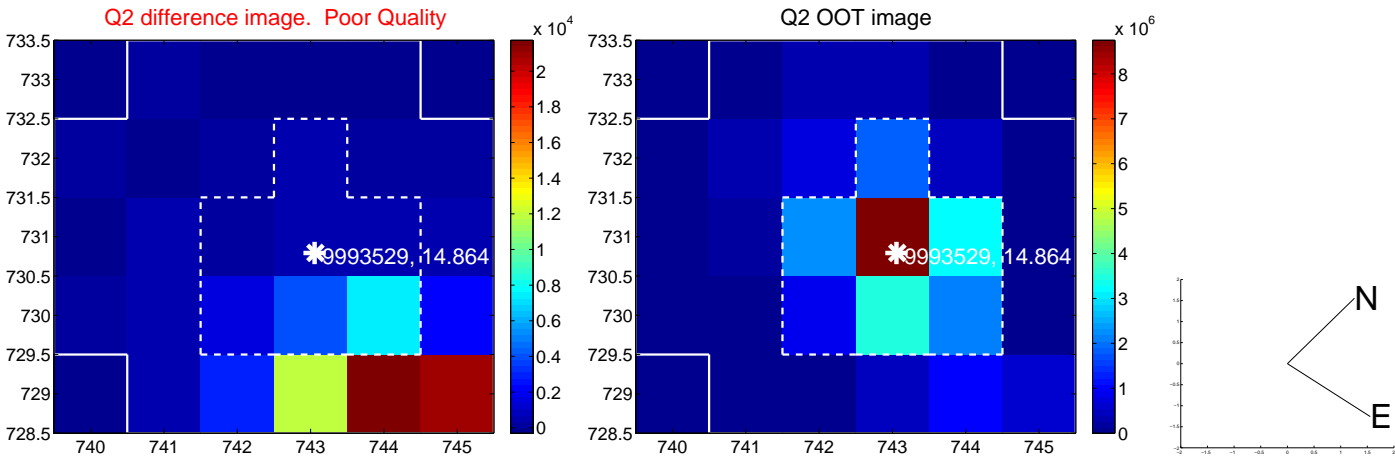
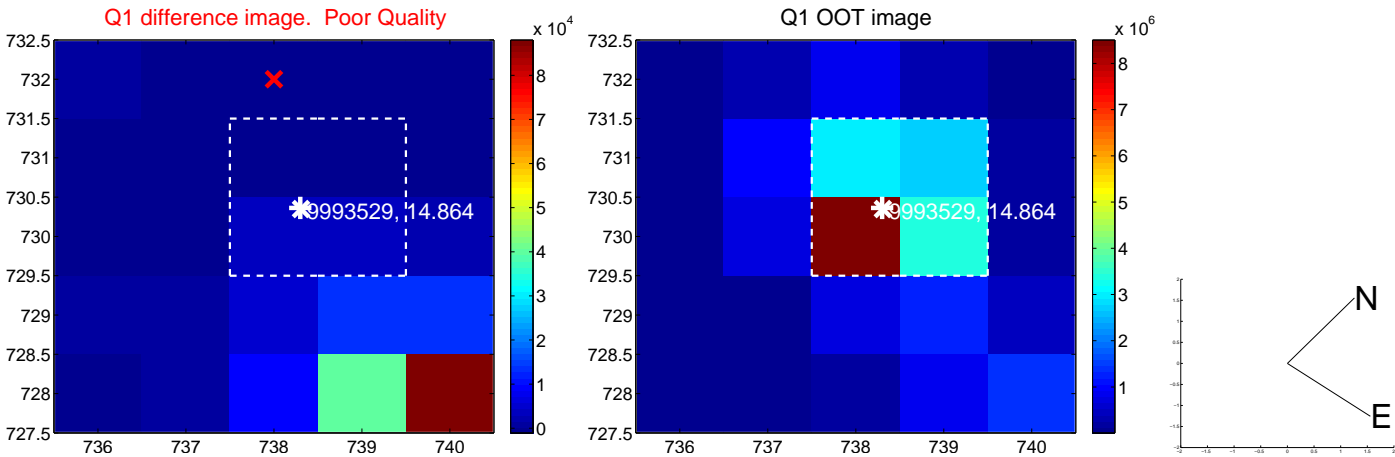


There is no PRF-fit offset from KIC

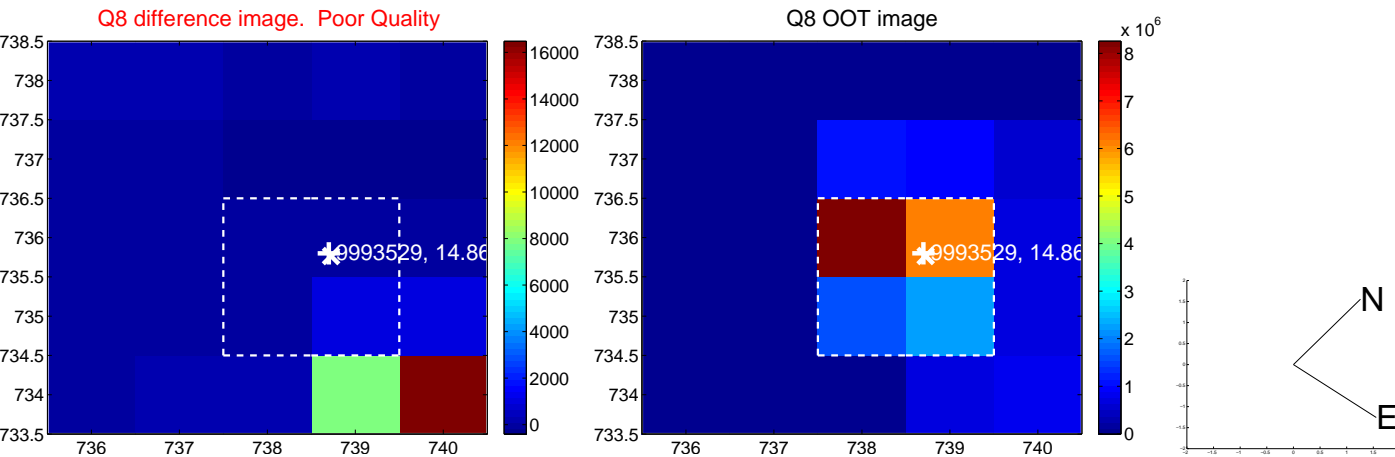
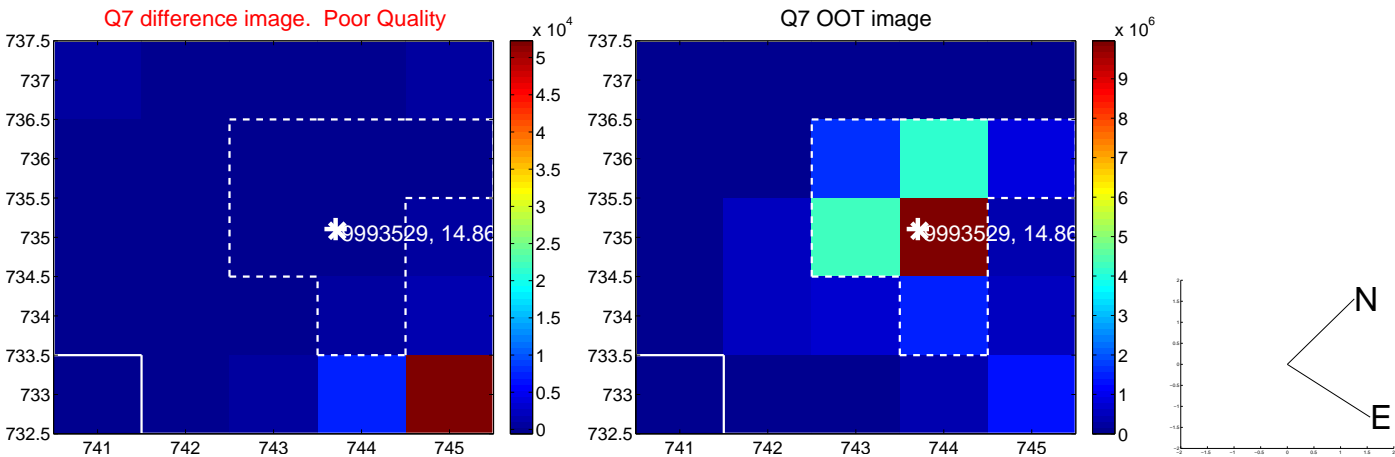
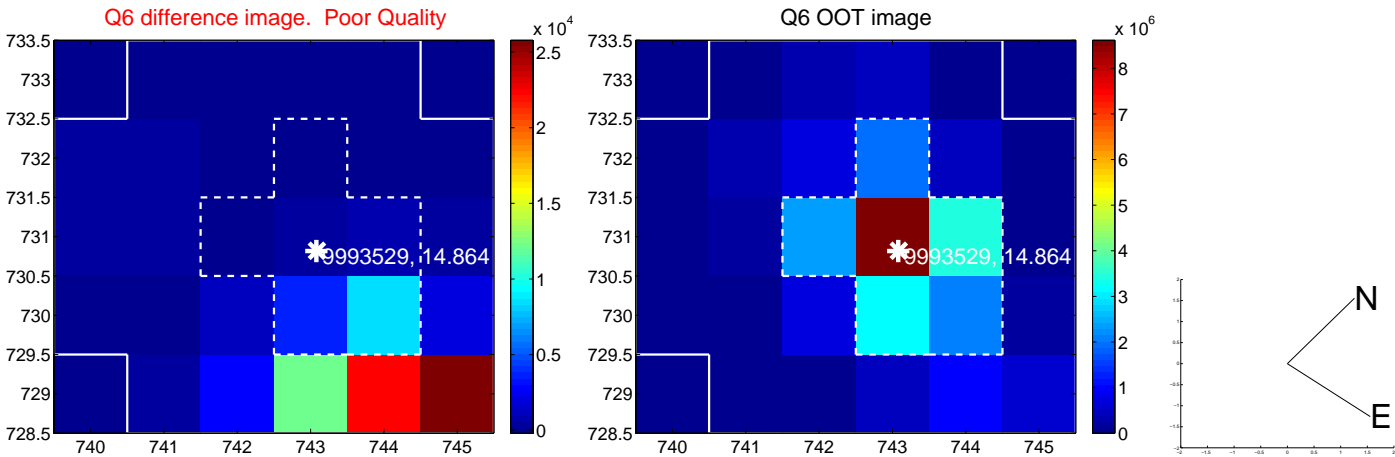
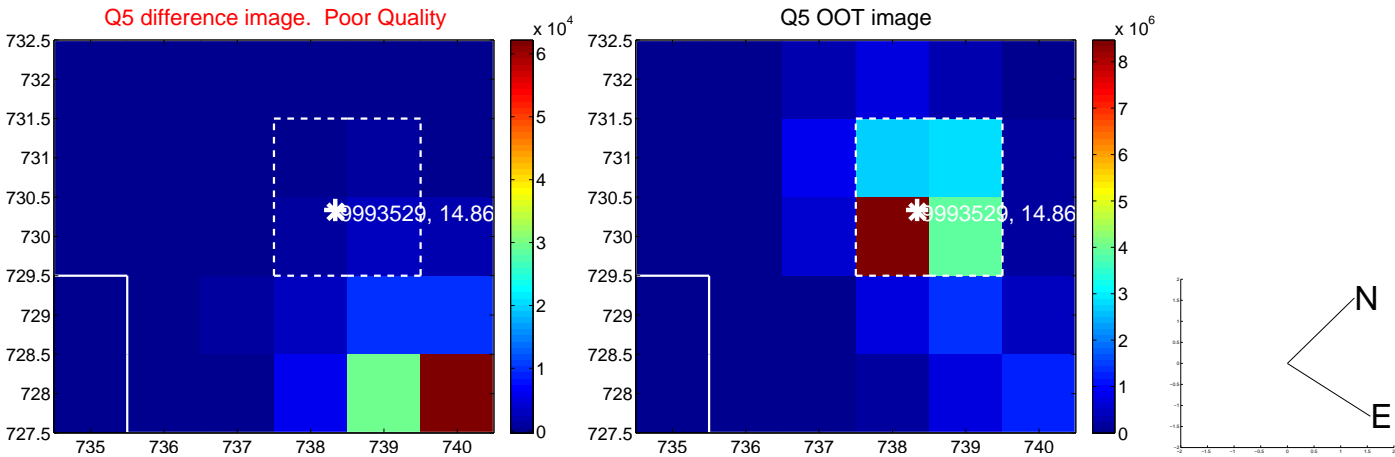


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

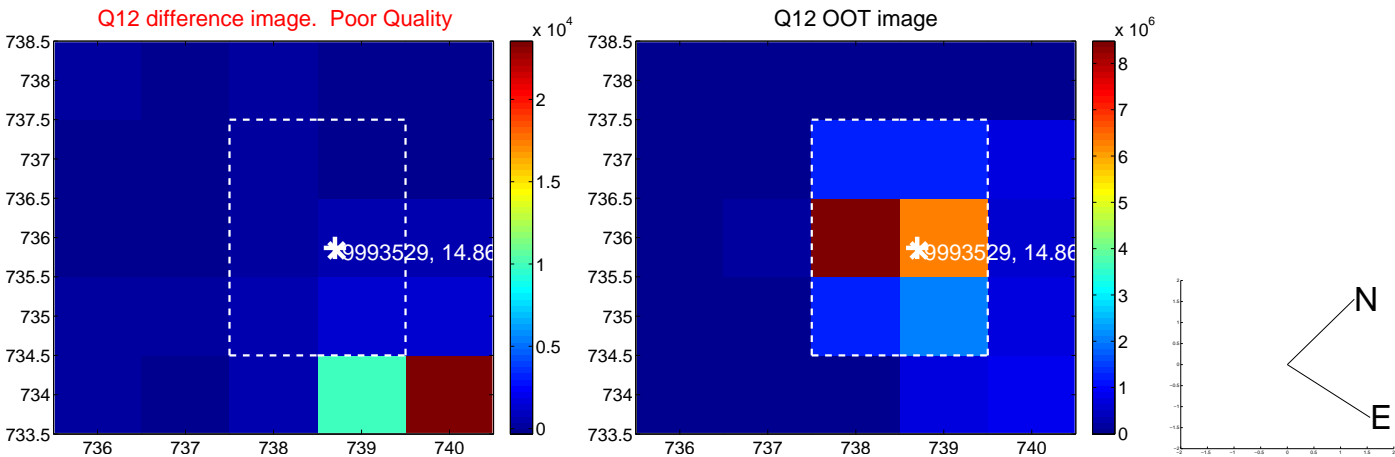
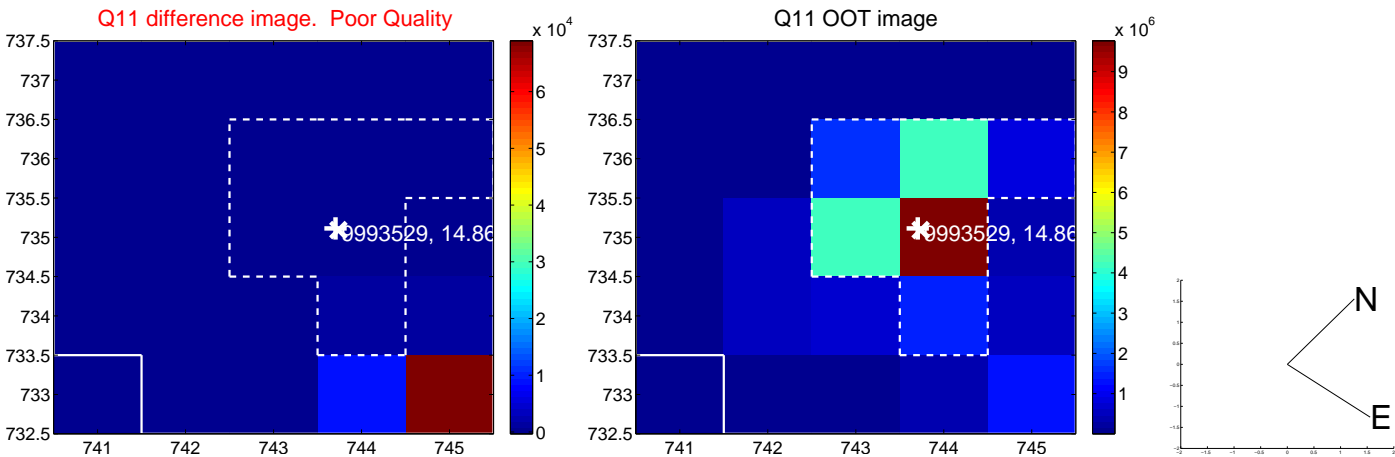
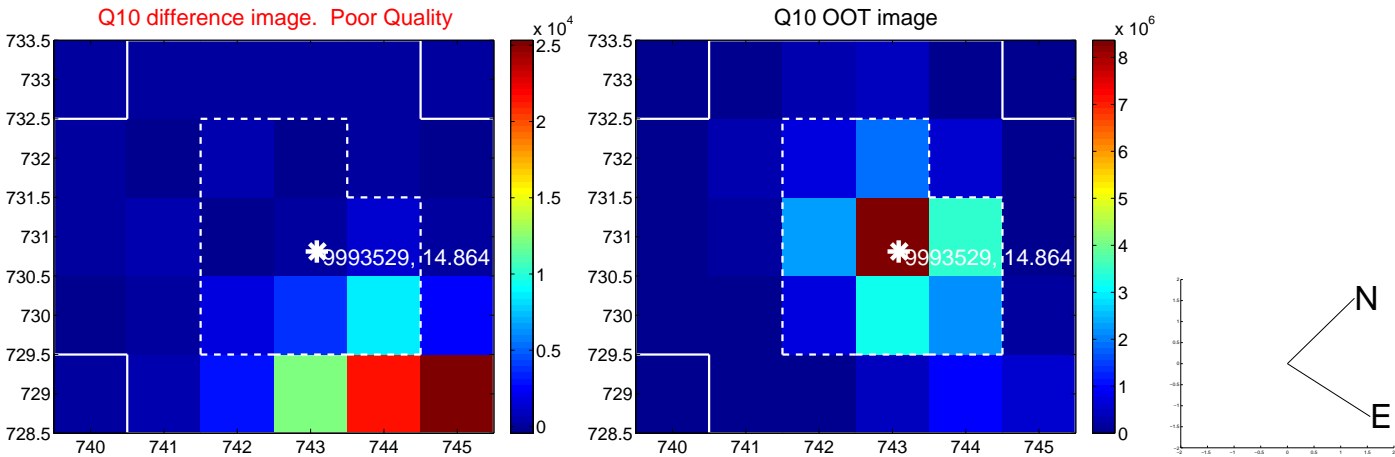
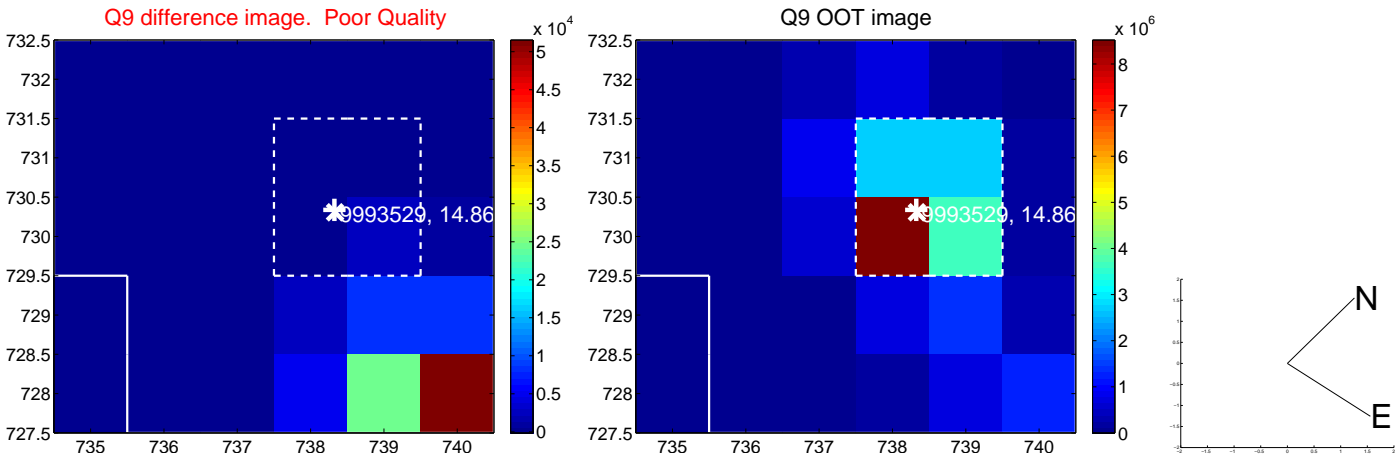
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



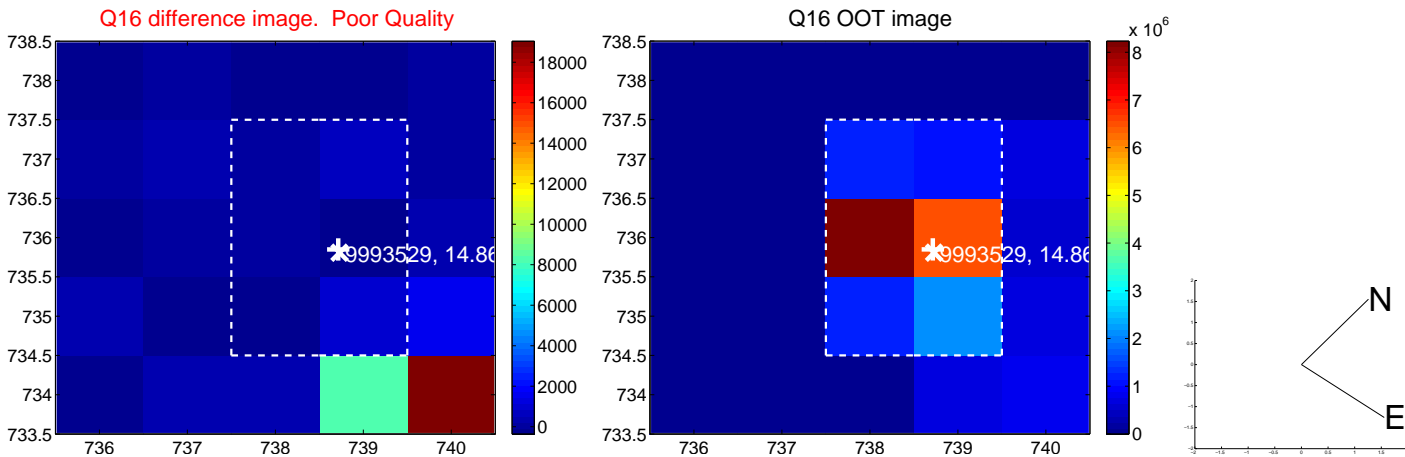
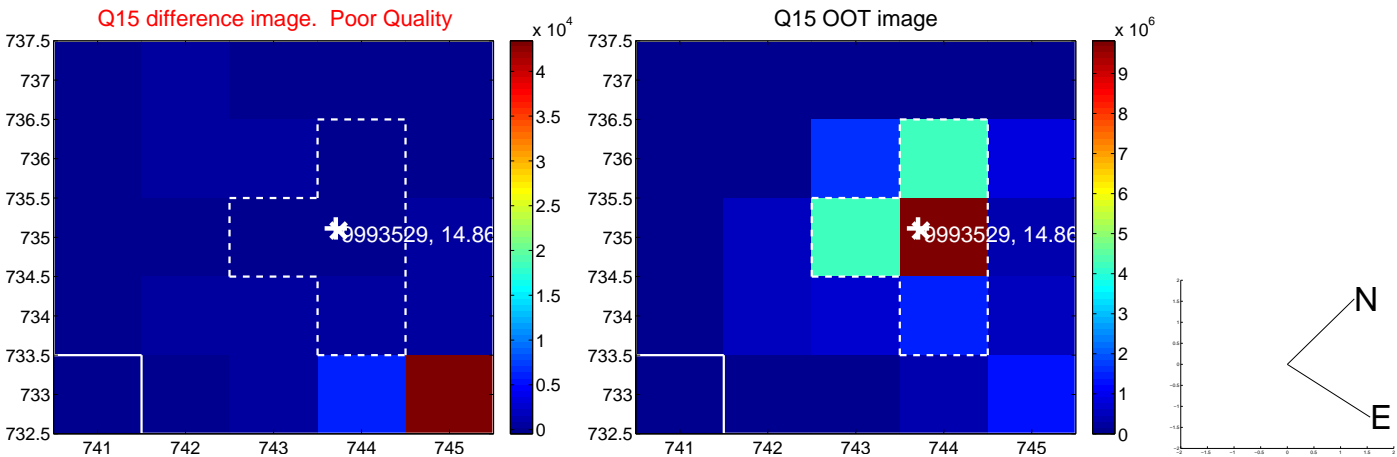
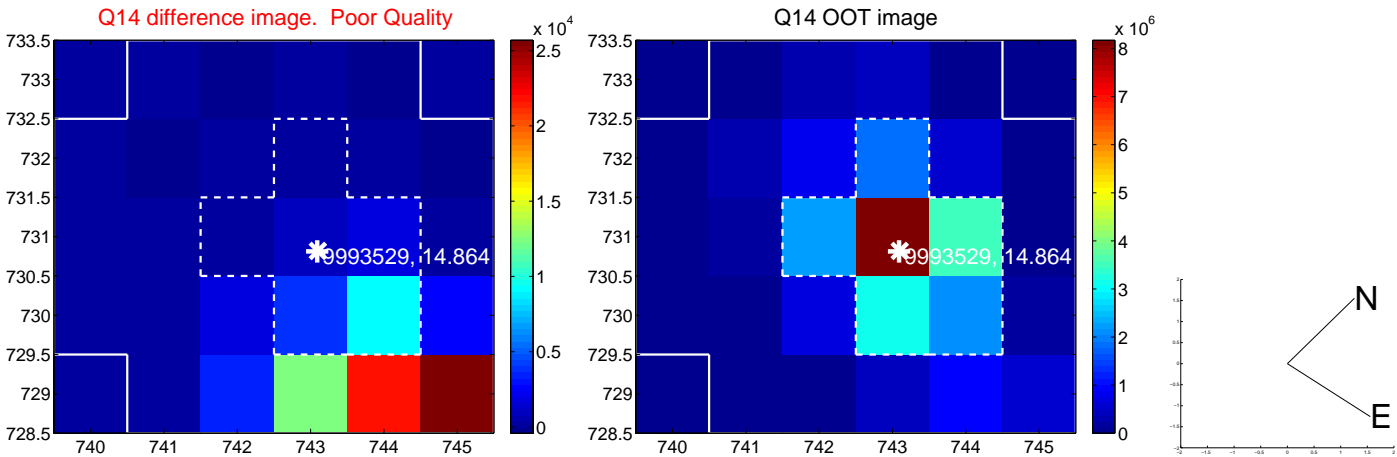
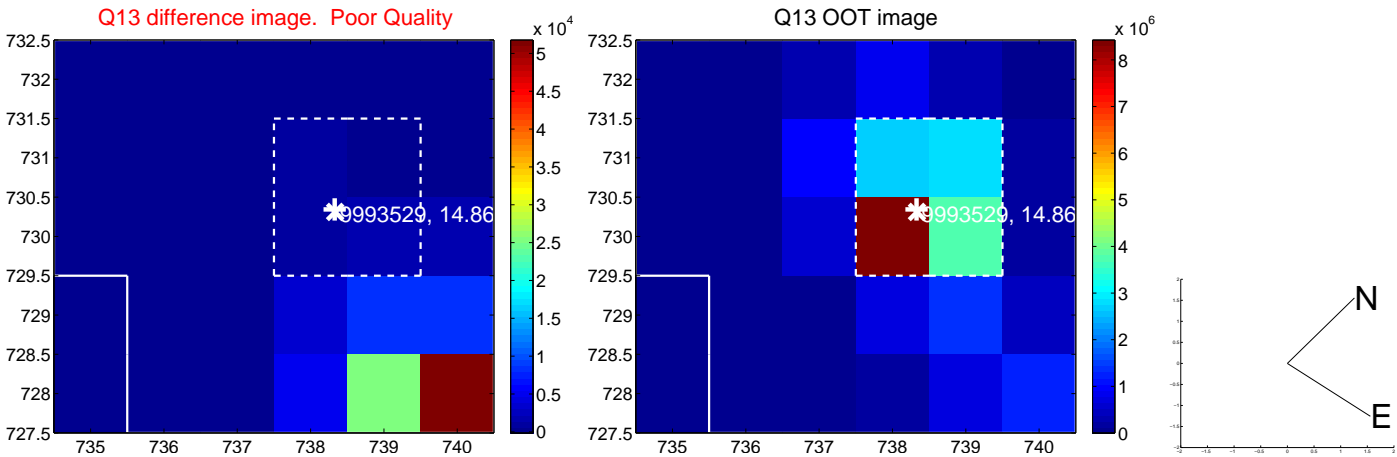
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



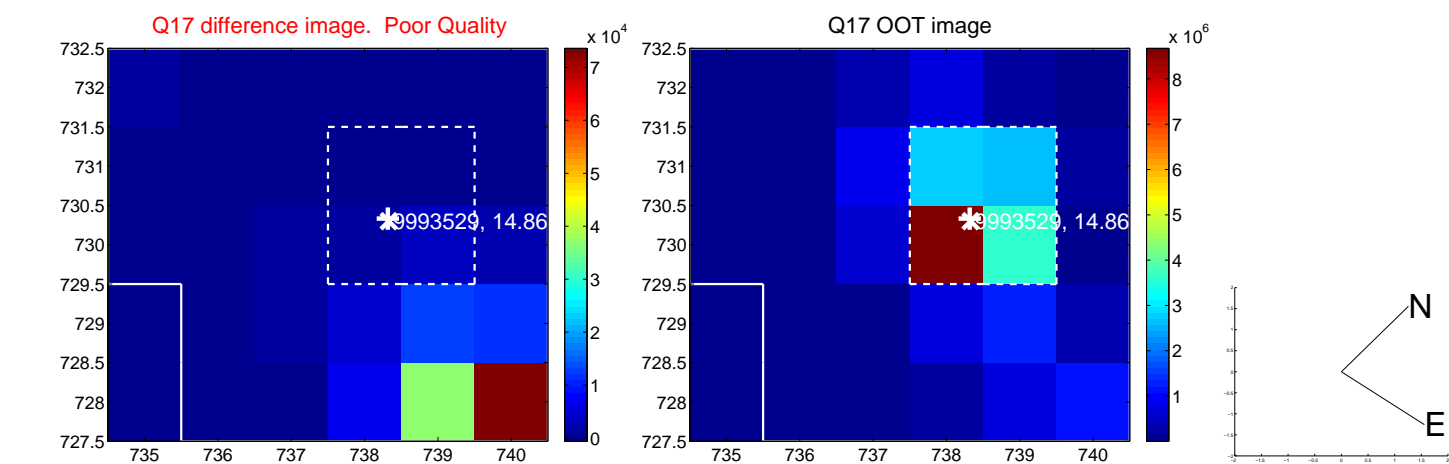
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



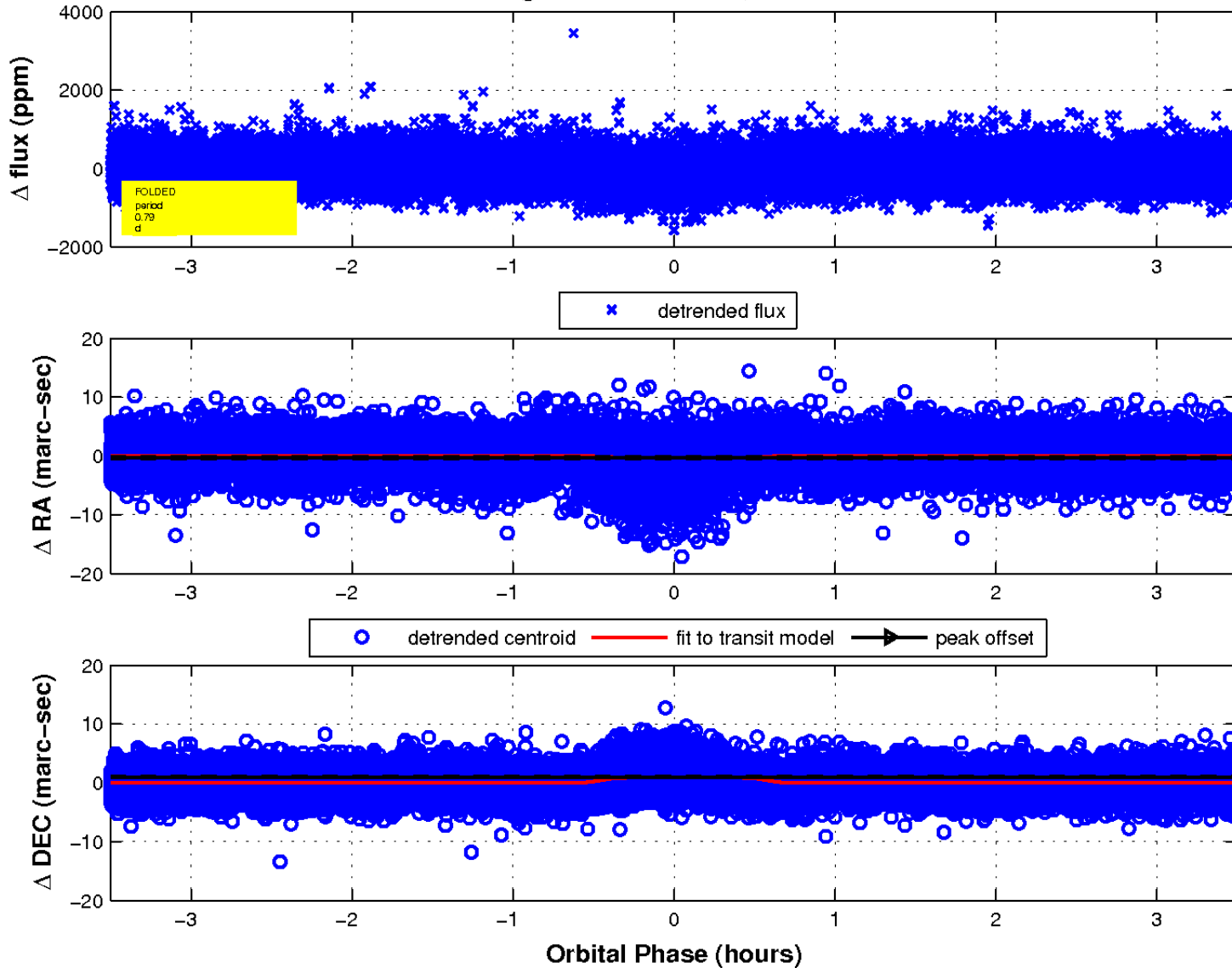
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

