

KIC 009651163

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})
009651163-01	OBS	No	6.181214	134.559504	102.3	27.207	7.4	8.1	0.77	5176	0.81	99.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651163-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_MEAS—HALO_GHOST

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

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

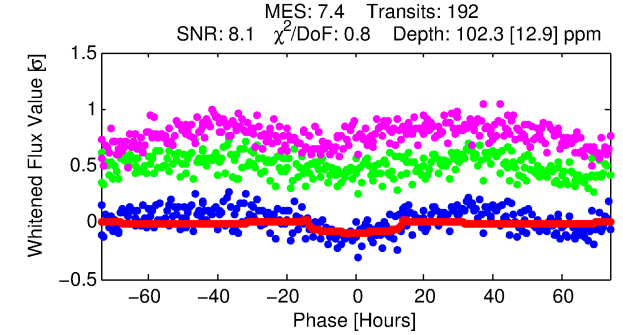
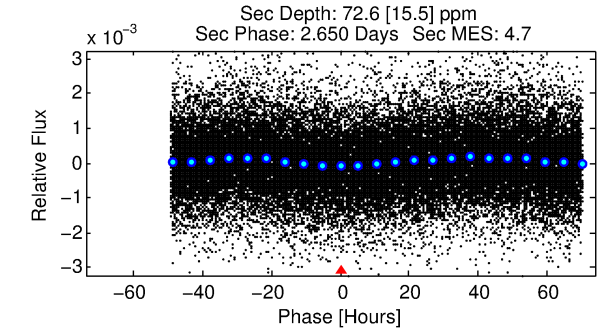
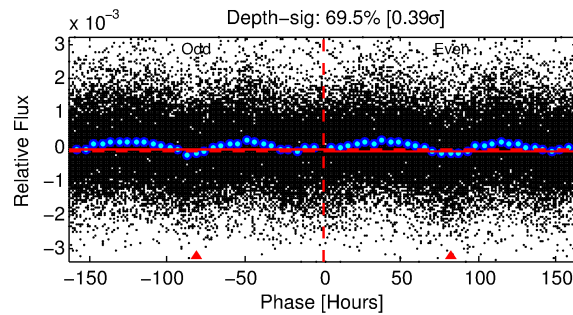
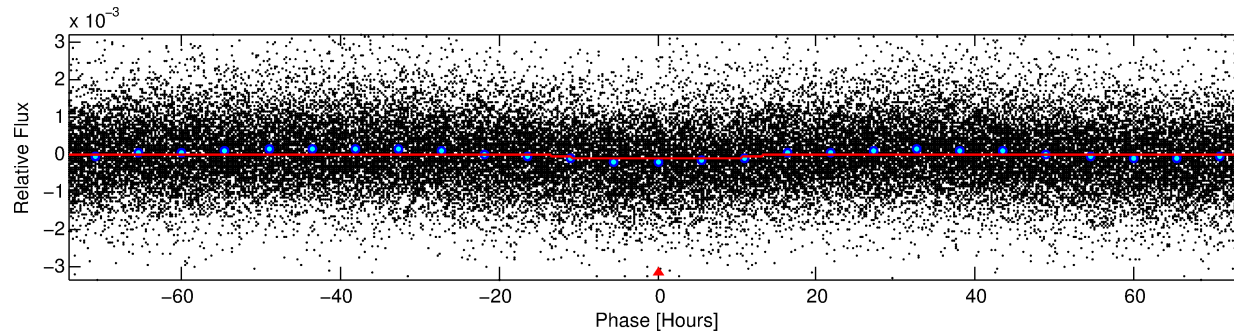
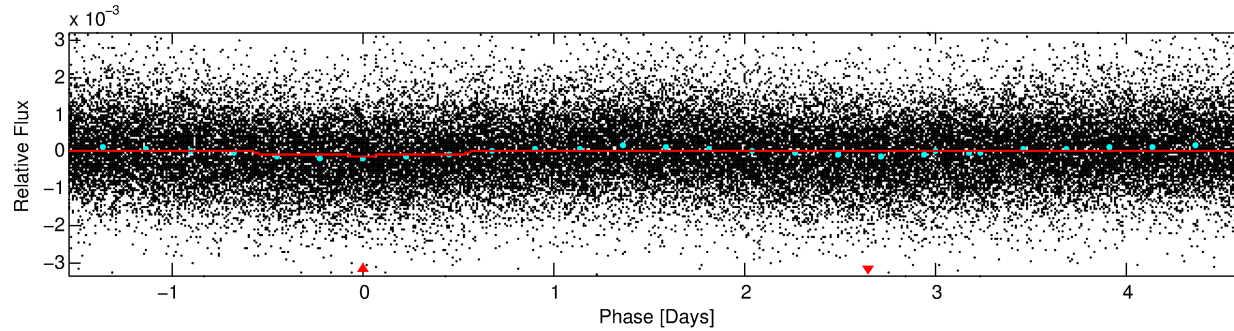
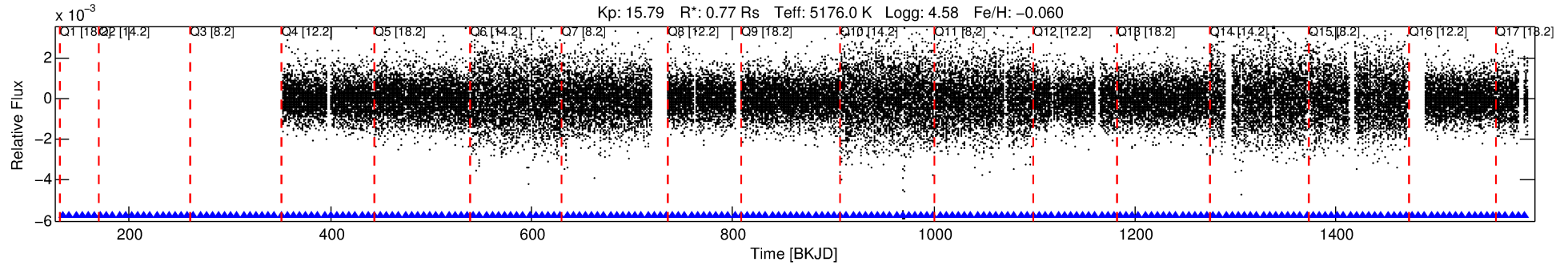
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651163-01

No Significant Match Found

DV One-Page Summary

KIC: 9651163 Candidate: 1 of 1 Period: 6.181 d



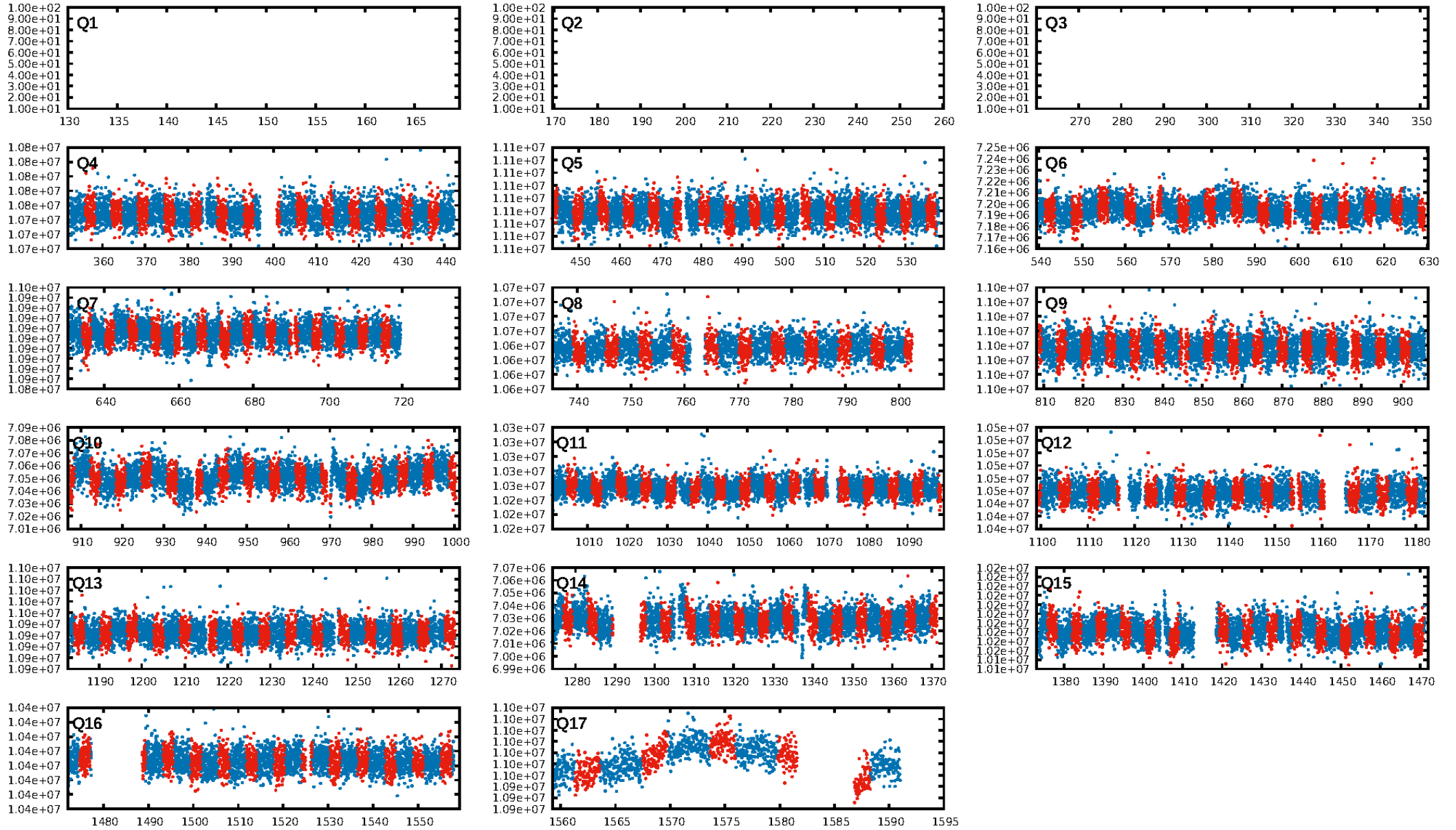
DV Fit Results:

Period = 6.18121 [0.00027] d
Epoch = 134.5595 [0.0362] BKJD
Rp/R* = 0.0096 [0.0058]
a/R* = 1.58 [2.12]
b = 0.63 [2.18]
Seff = 99.16 [21.70]
Teq = 805 [44] K
Rp = 0.81 [0.50] Re
a = 0.0618 [0.0069] AU
Ag = 233.82 [286.34] [0.81 σ]
Teffp = 4865 [1488] K [2.73 σ]

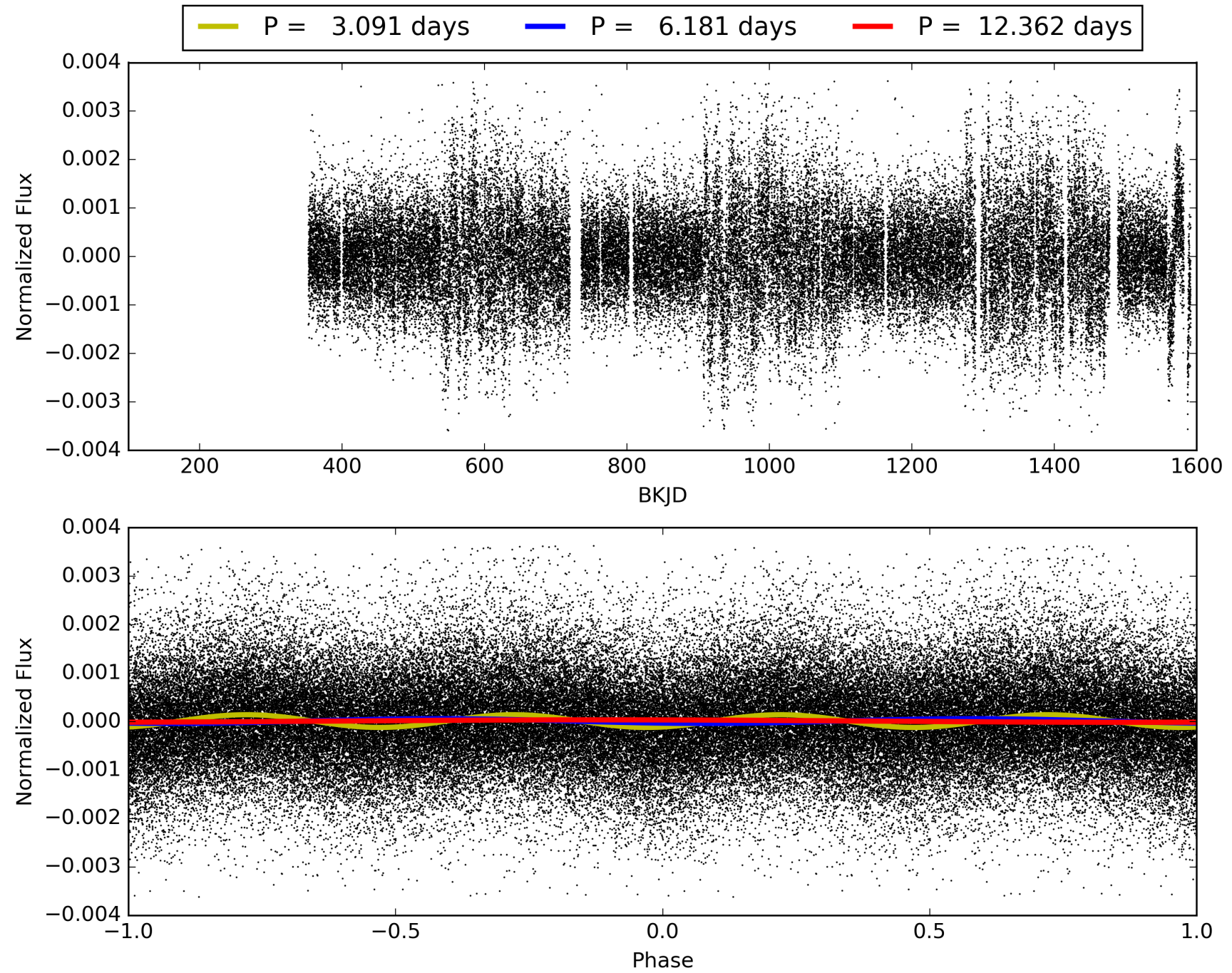
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.12e-14
RollingBand-fgt: 1.00 [187/187]
GhostDiagnostic-chr: -0.2343
Centroid-sig: 0.0%
Centroid-so: 4.785 arcsec [16.38 σ]
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 [14/14]

TCE 009651163-01, PDC Light Curves

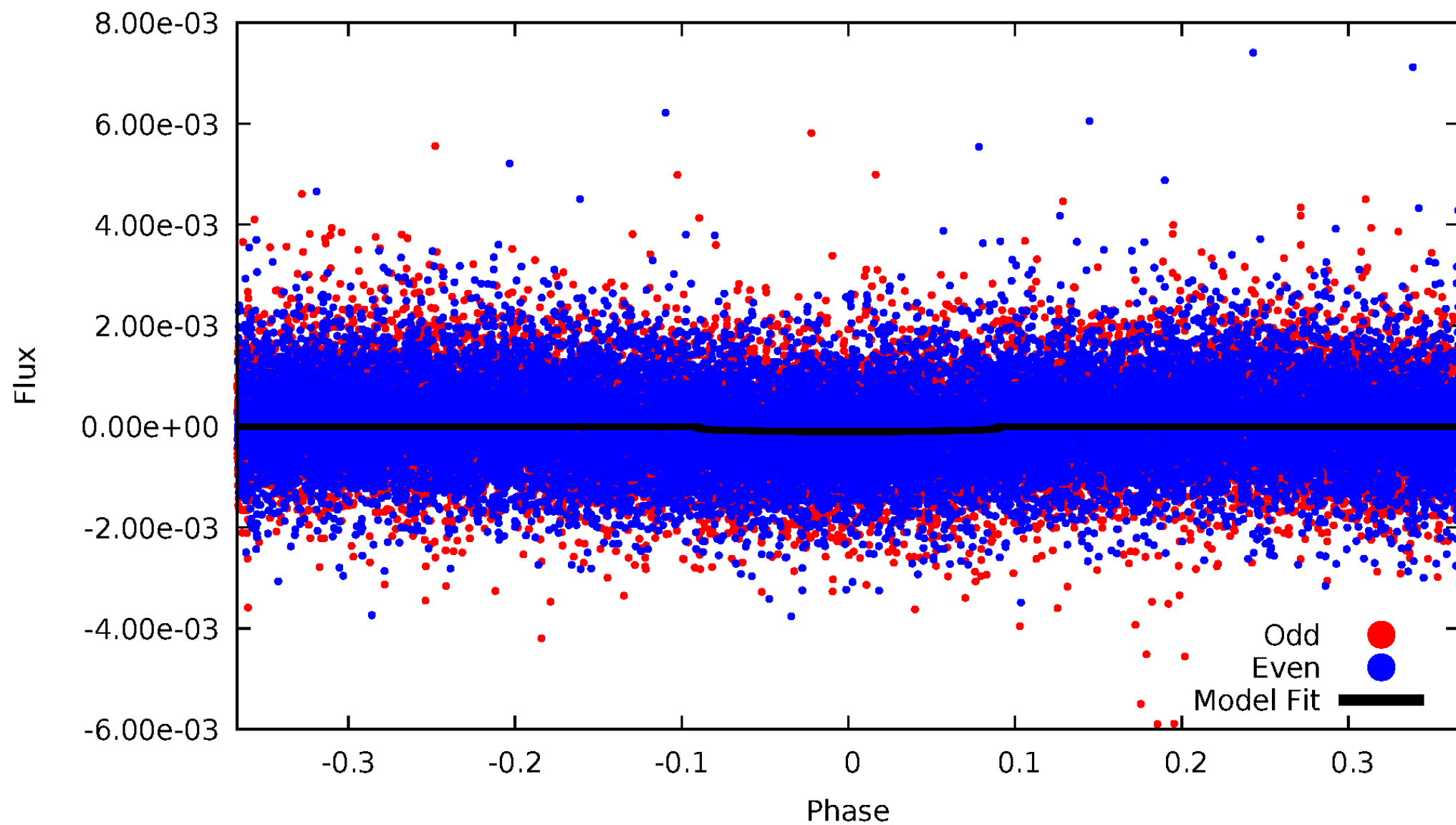


TCE 009651163-01



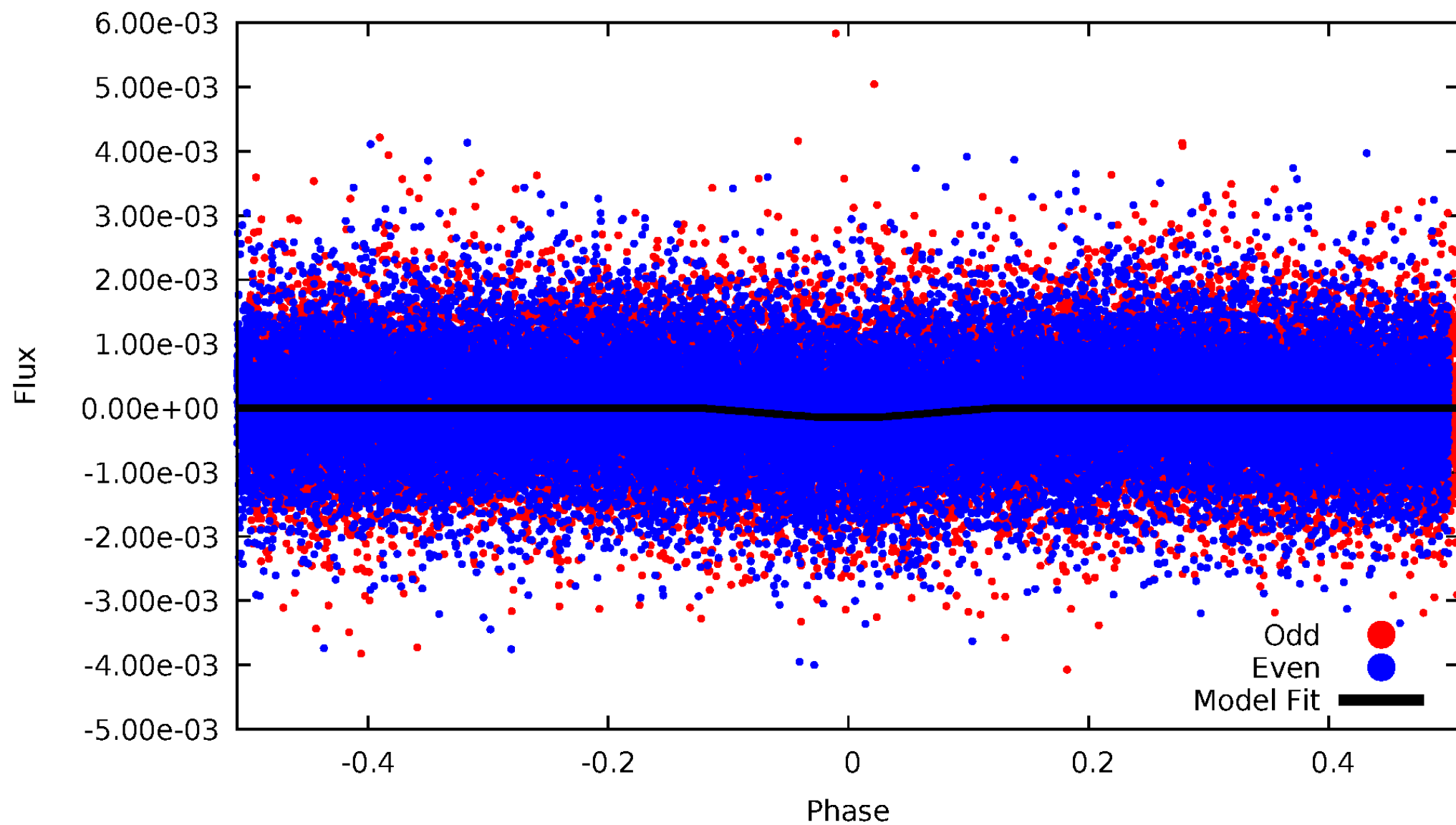
DV Odd/Even

TCE 009651163-01



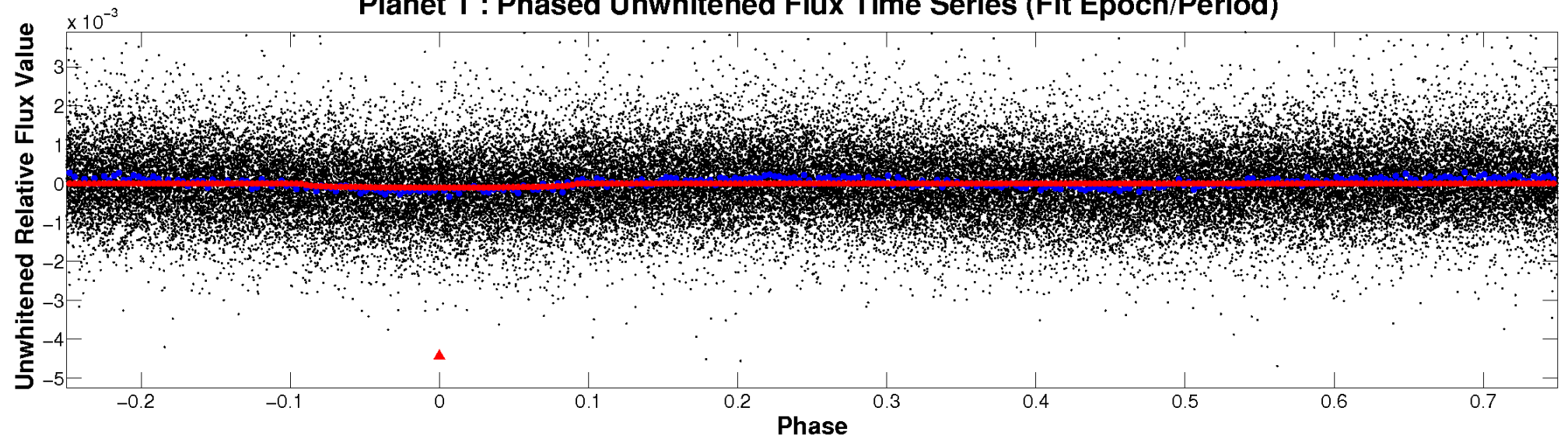
ALT Odd/Even

TCE 009651163-01

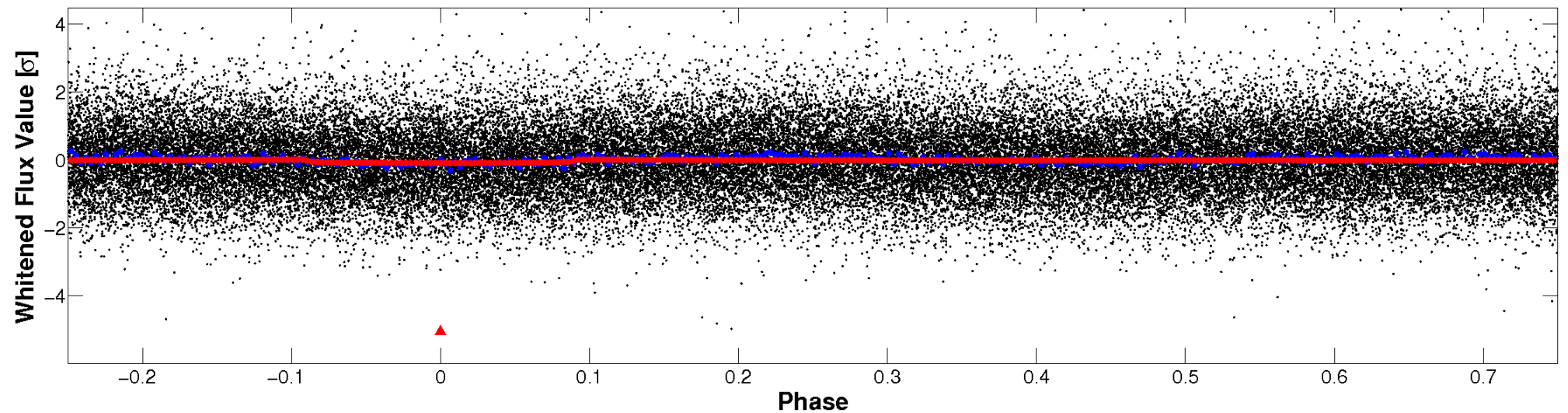


Non-Whitened Vs. Whitened Light Curve

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

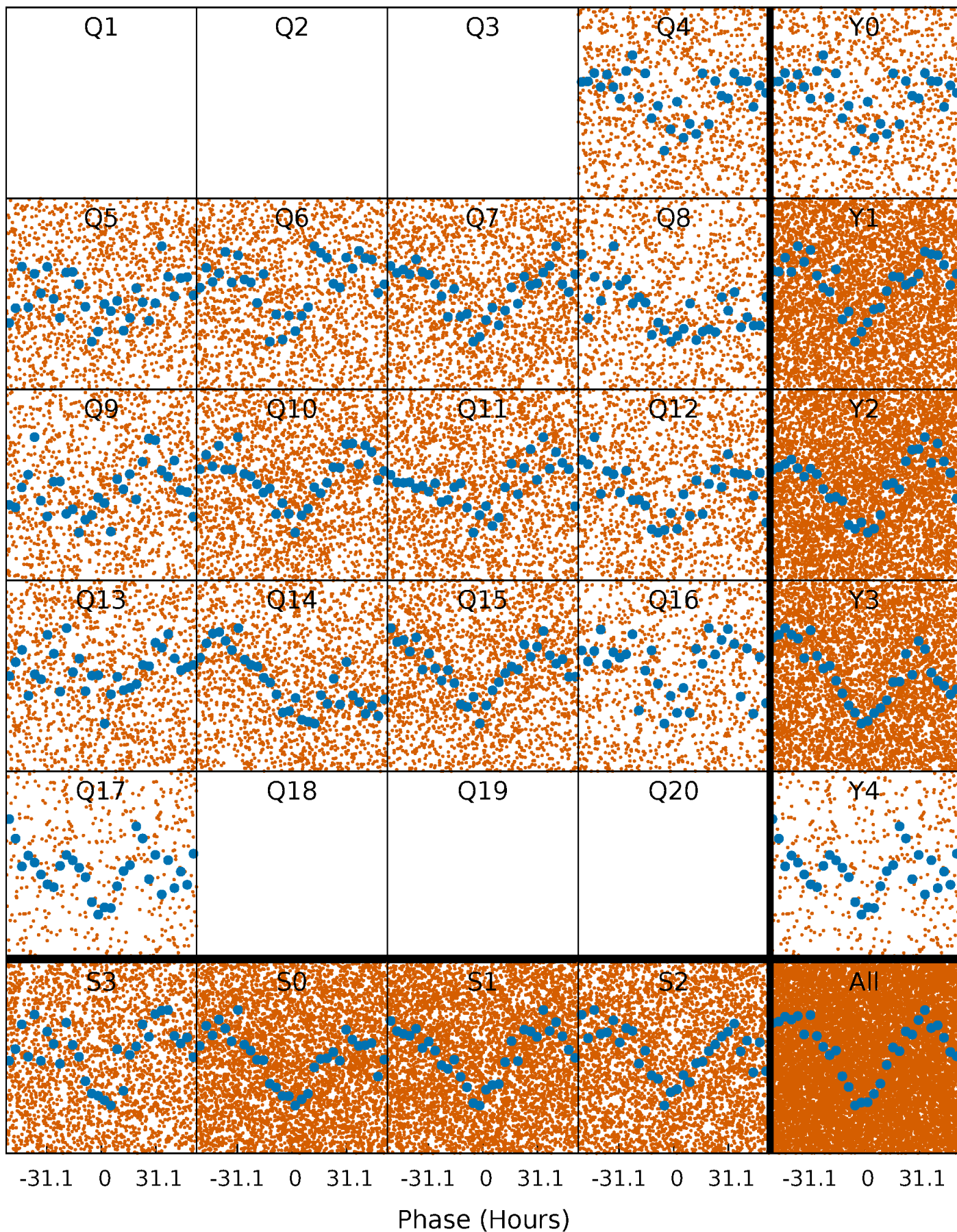


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



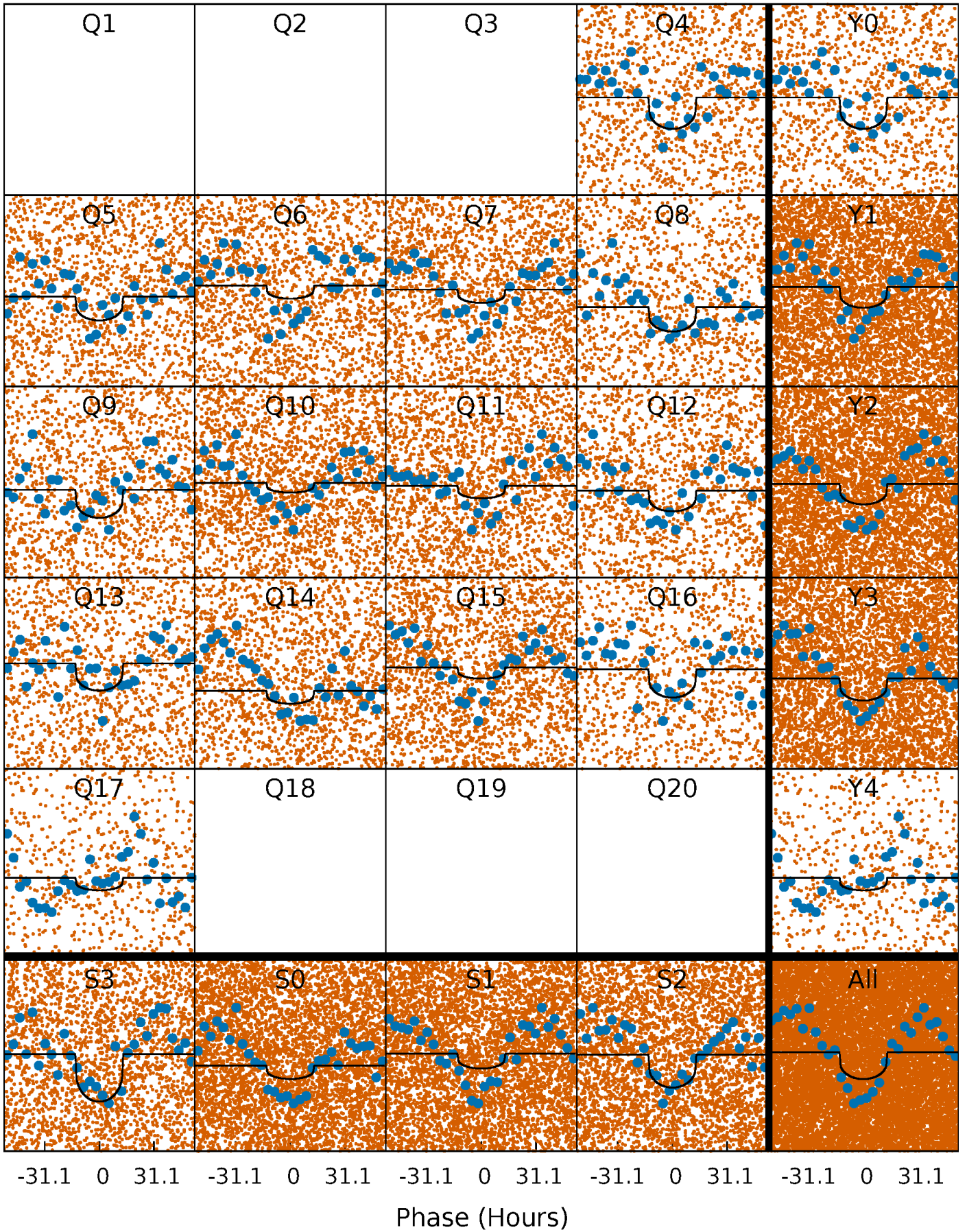
PDC Quarter-Phased Transit Curves

TCE 009651163-01 P= 6.181214 Days $T_0=134.559504$ (BKJD)



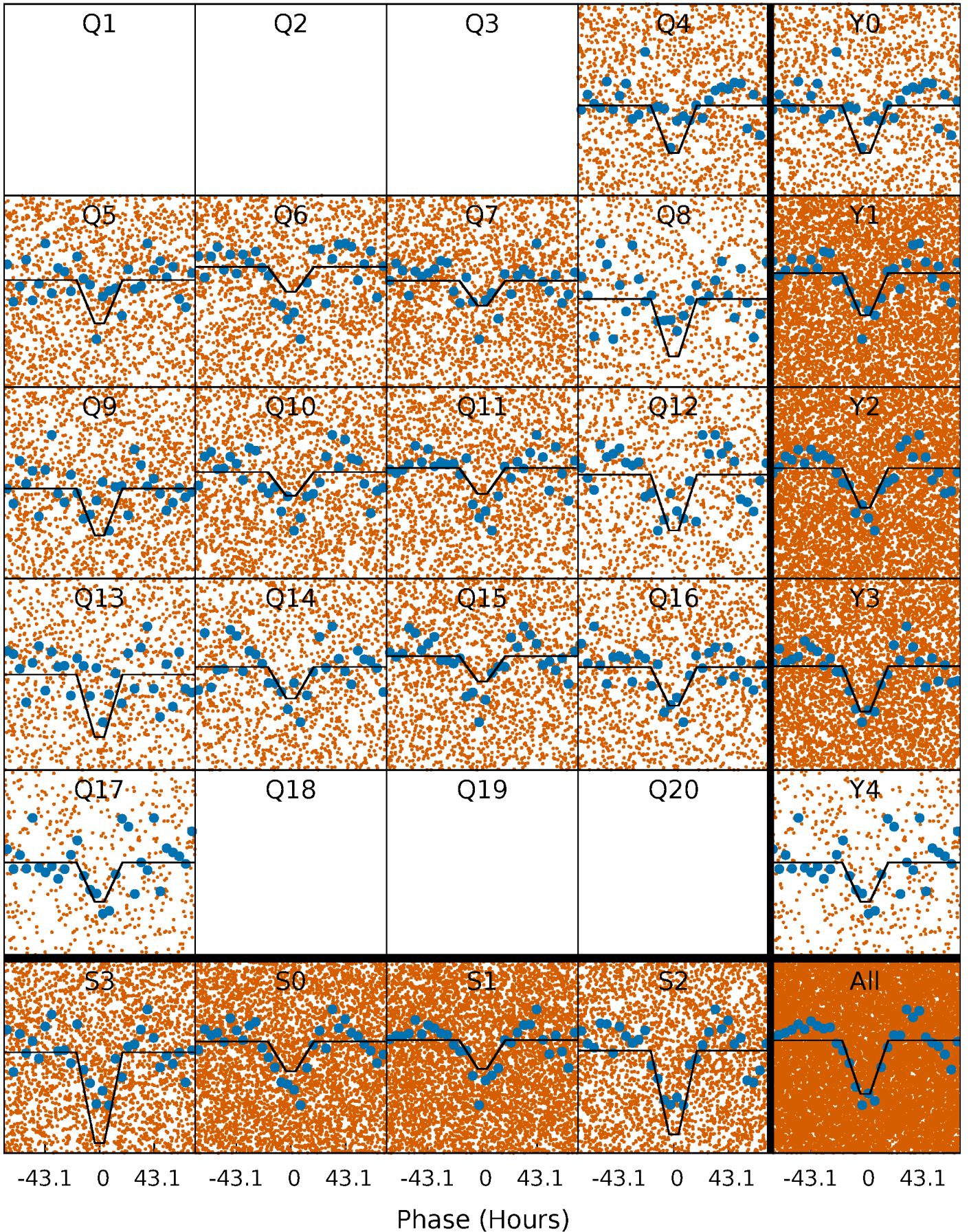
DV Quarter-Phased Transit Curves

TCE 009651163-01 P= 6.181214 Days $T_0=134.559504$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

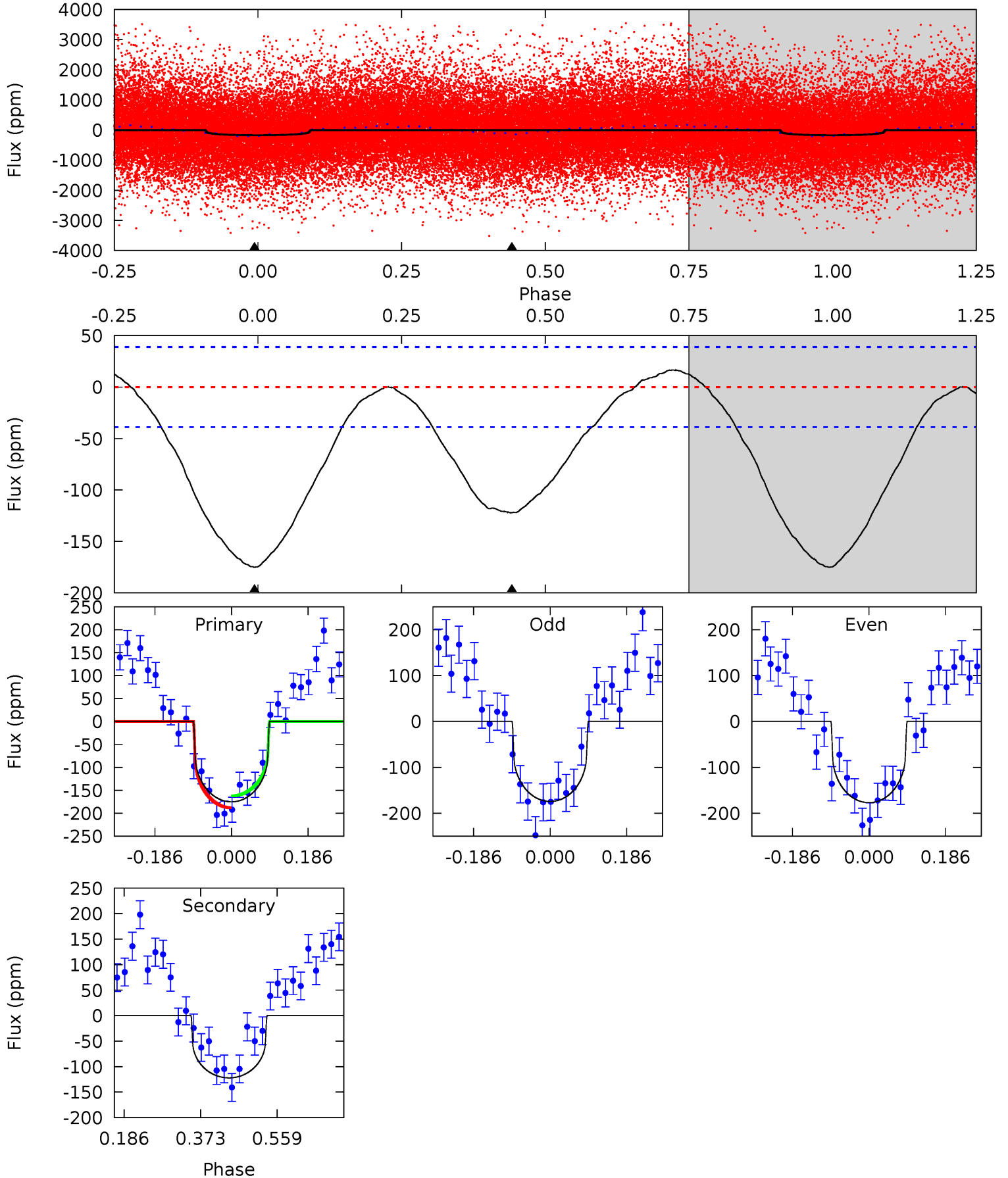
TCE 009651163-01 P= 6.181786 Days $T_0=134.442426$ (BKJD)



DV Model-Shift Uniqueness Test

009651163-01, P = 6.181214 Days, E = 134.559504 Days

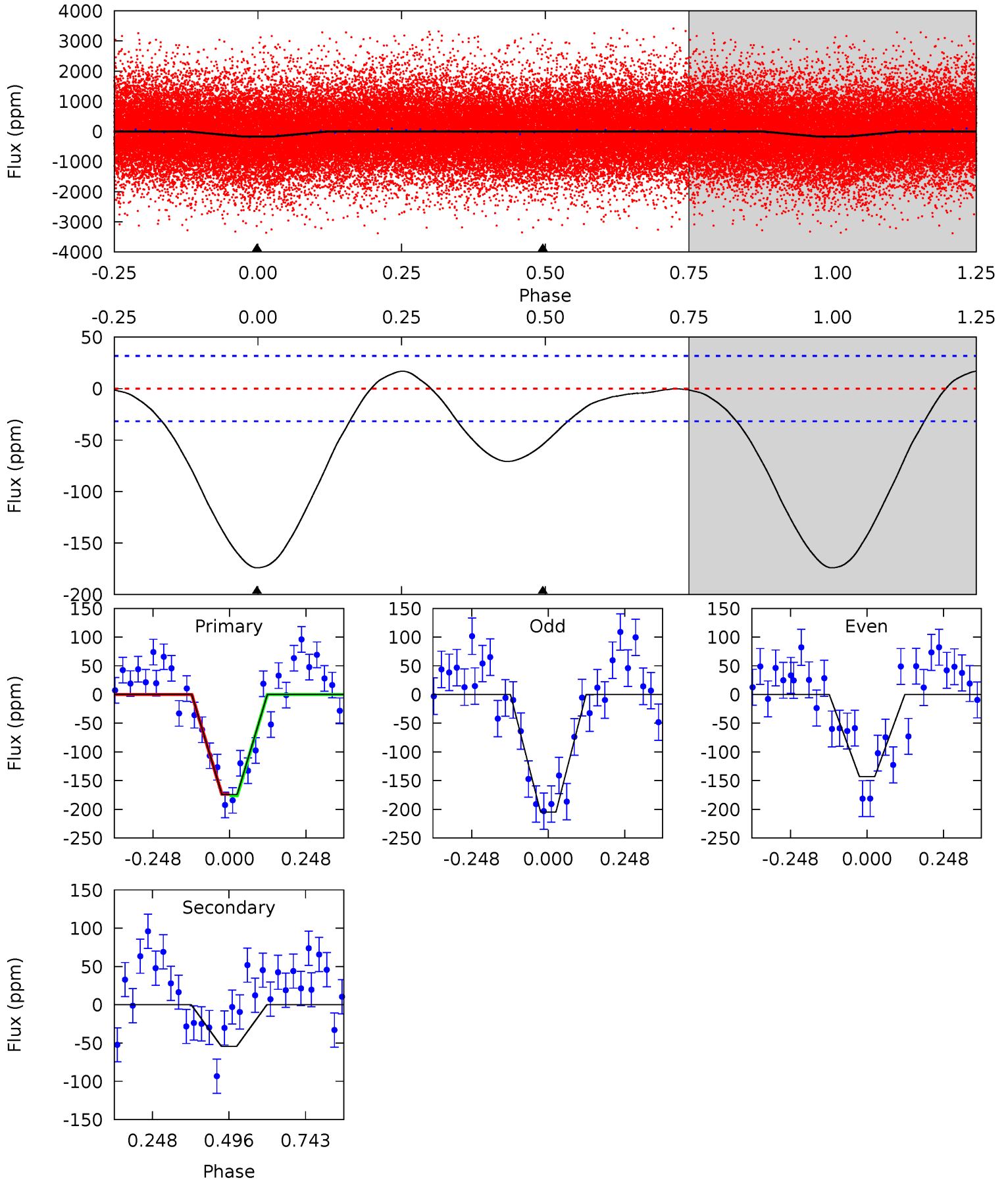
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	13.9	0	0	4.43	1.32	1.05	20.0	20.0	13.9	13.9	0.15	1.21	0.09	1.48



Alt Model-Shift Uniqueness Test

009651163-01, P = 6.181786 Days, E = 134.442426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	7.49	0	0	4.37	1.16	1.17	24.0	24.0	7.49	7.49	4.28	1.16	0.09	0.17



Stellar Parameters For KIC 009651163

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5176^{+196}_{-179}	$4.584^{+0.039}_{-0.084}$	$-0.060^{+0.300}_{-0.300}$	$0.768^{+0.105}_{-0.065}$	$0.827^{+0.073}_{-0.082}$	$2.575^{+0.494}_{-0.714}$
	+4%/-3%	+1%/-2%	+500%/-500%	+14%/-8%	+9%/-10%	+19%/-28%
Source	KIC0	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 009651163-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-122 ± 9	$0.83^{+0.48}_{-0.45}$	1136^{+49}_{-45}	5494^{+3006}_{-990}	374^{+1336}_{-224}
Alt.	-54 ± 7	$1.04^{+0.47}_{-0.49}$	1135^{+50}_{-47}	4227^{+1205}_{-543}	105^{+260}_{-57}

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

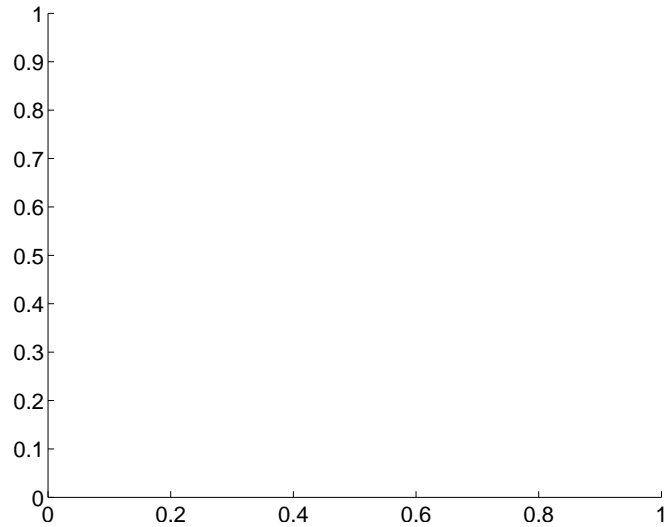
Supplemental centroid analysis for 009651163-01. Kepler magnitude: 15.79. Transit SNR 8.09

There are 0 quarters with good PRF difference image offsets

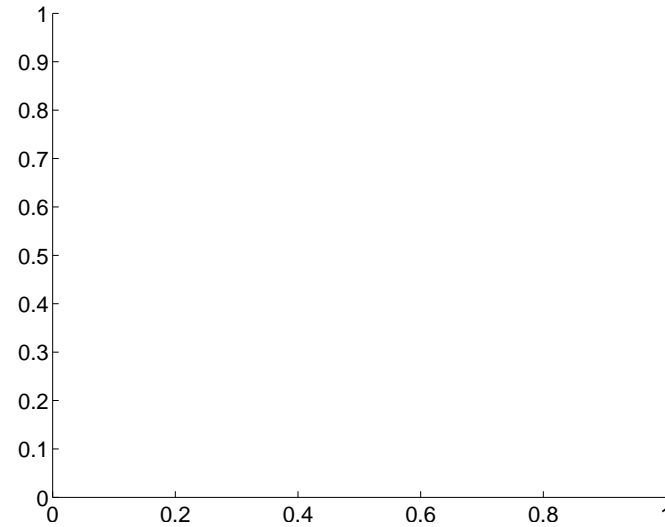
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	4.79 ± 0.29	16.38	4.34 ± 0.30	-2.02 ± 0.24

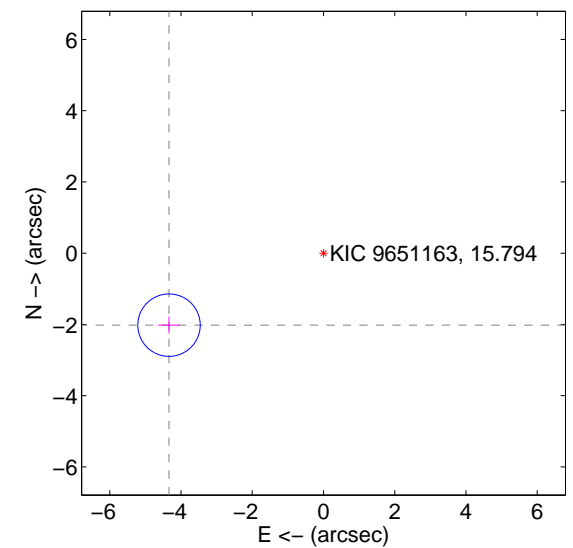
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

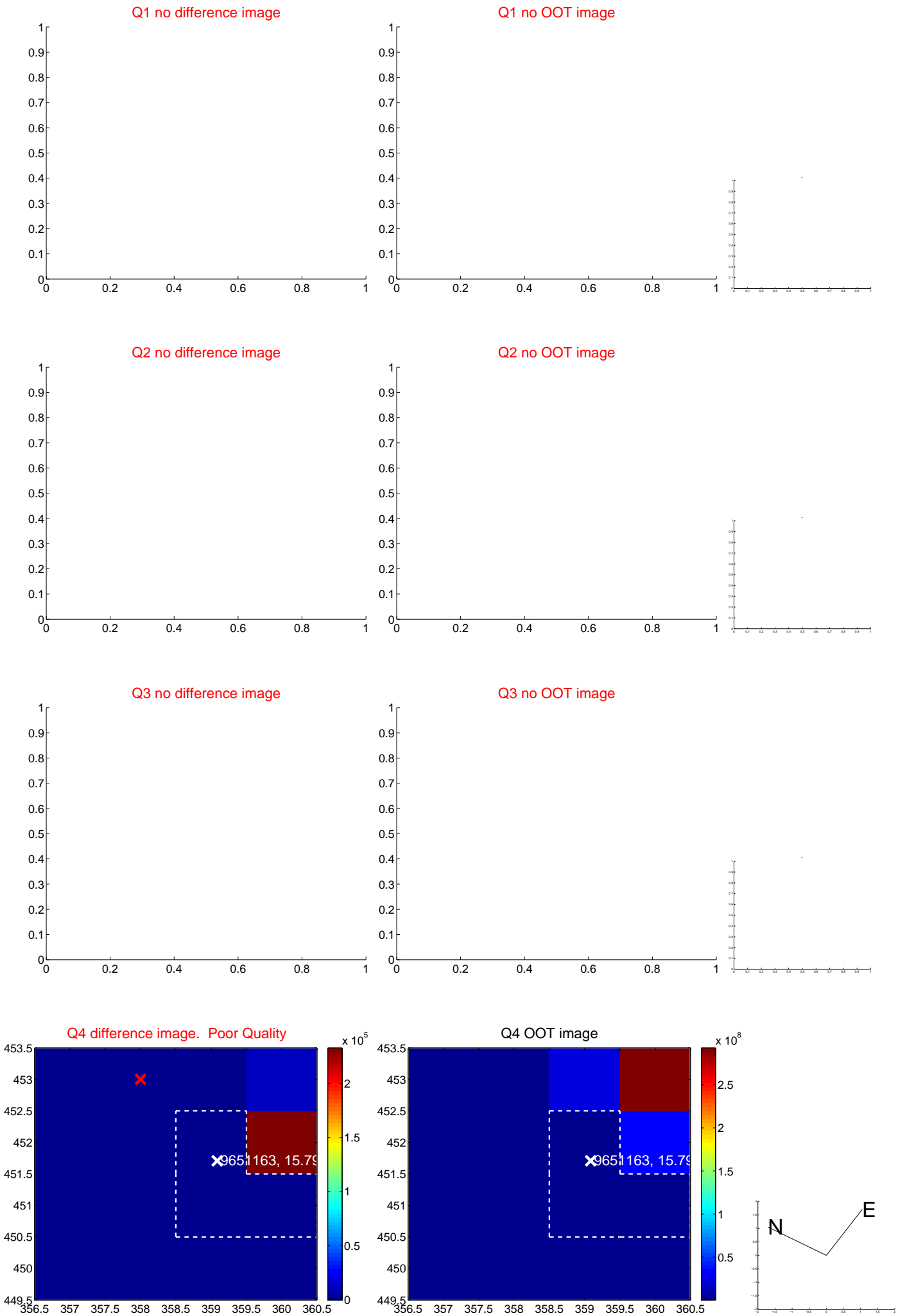


offset from photometric centroids

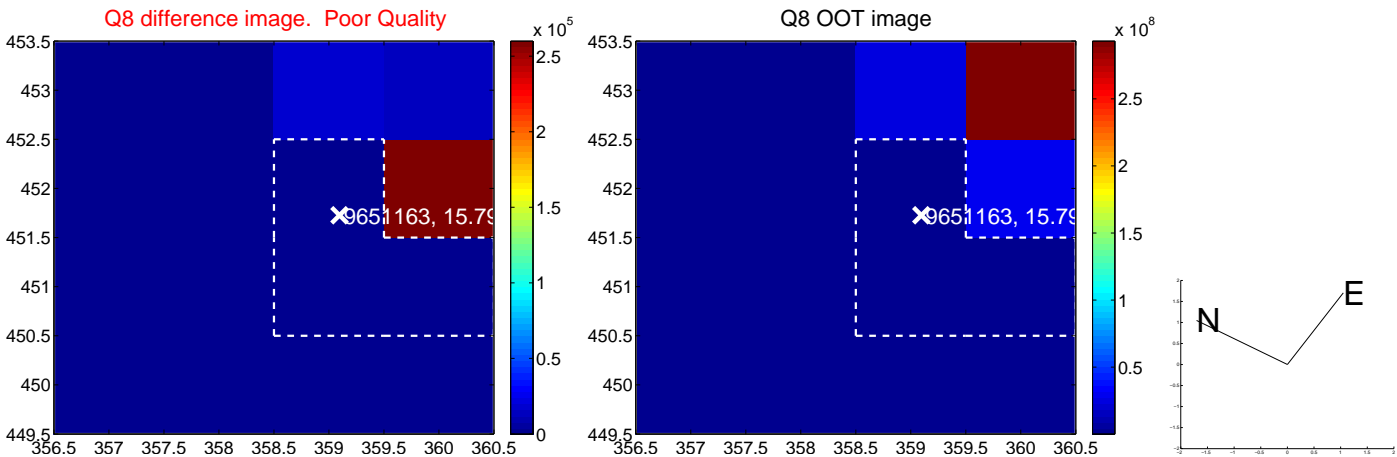
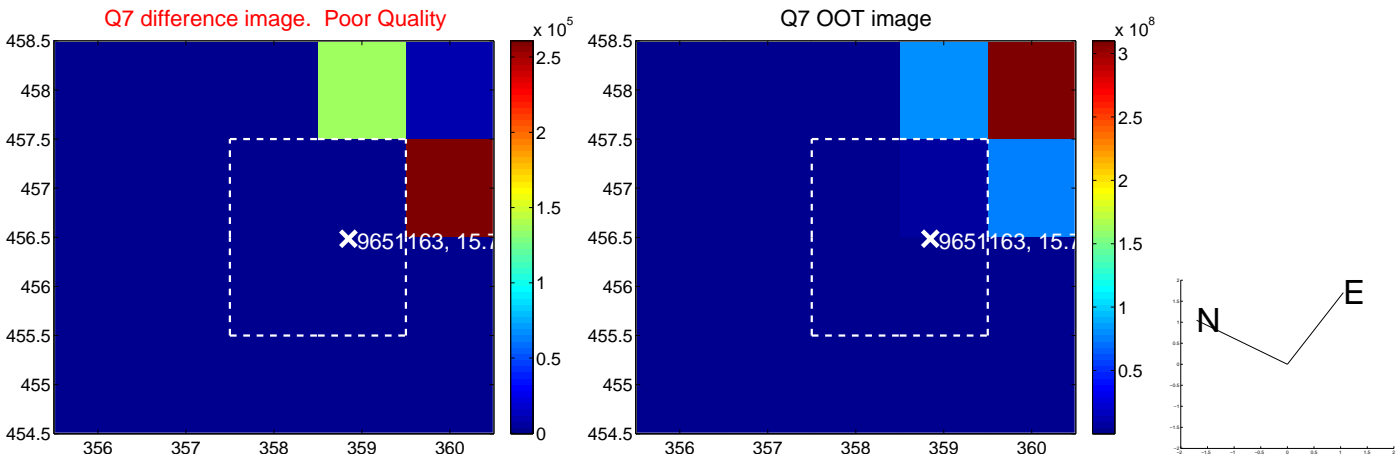
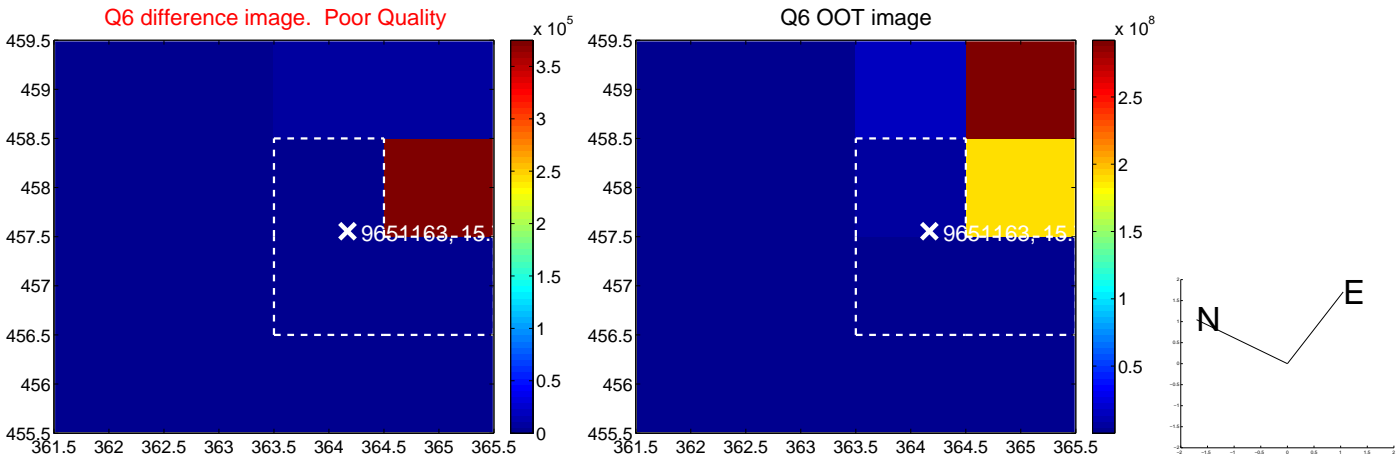
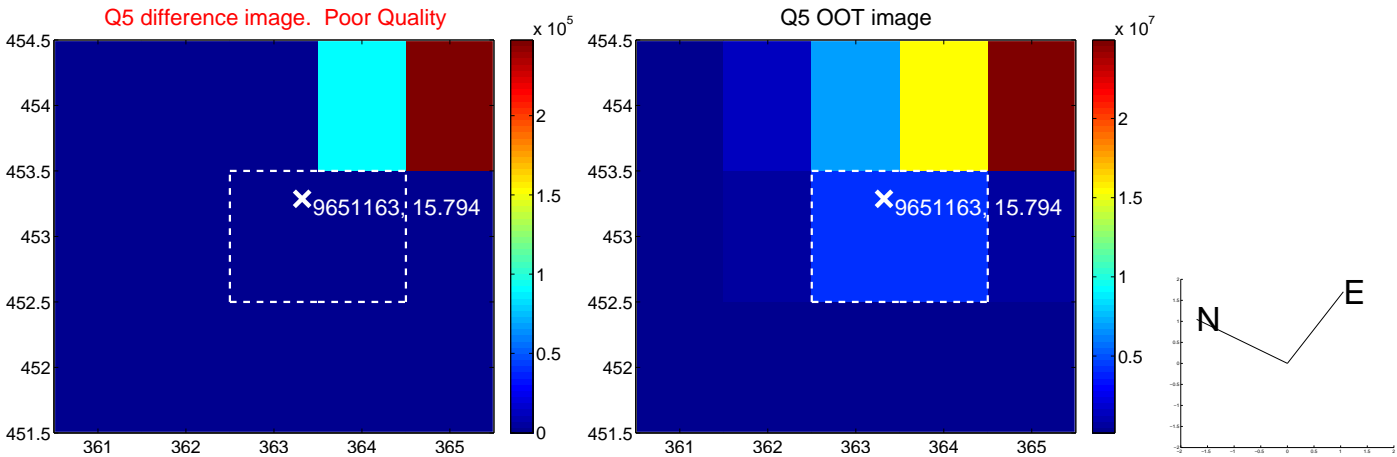


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

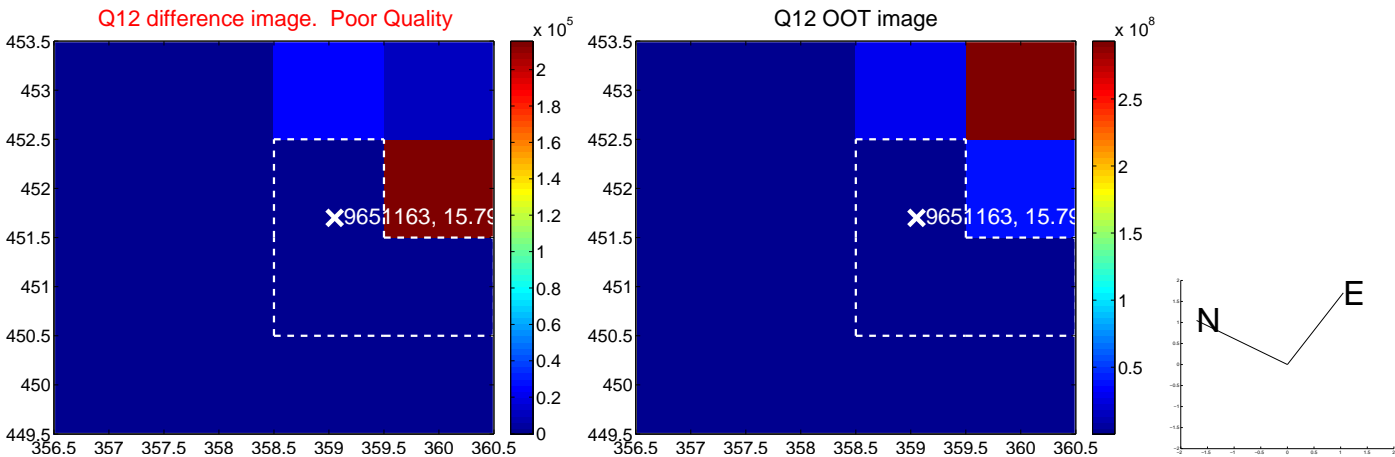
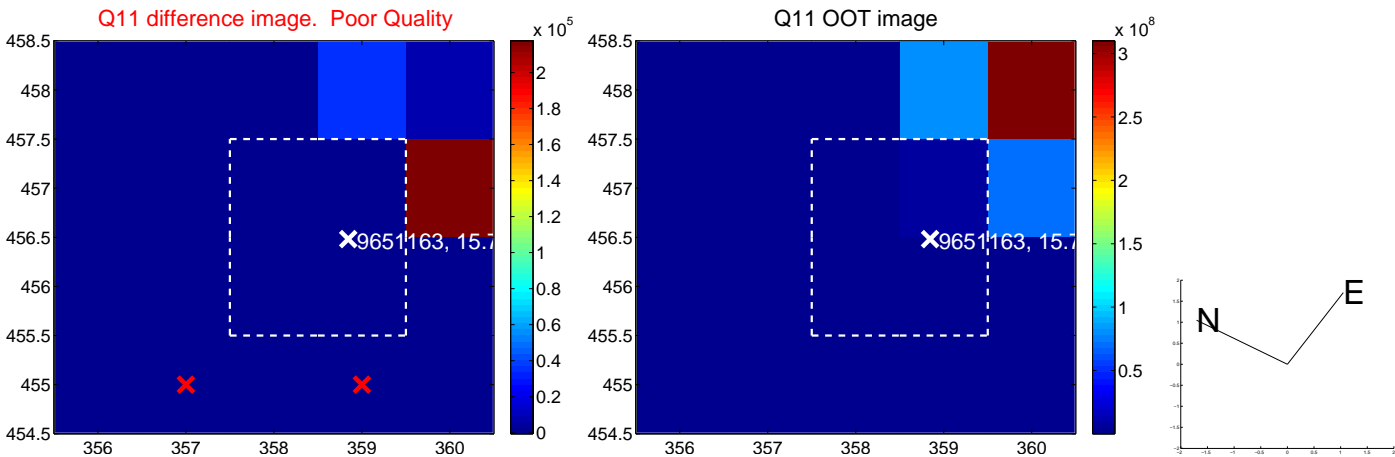
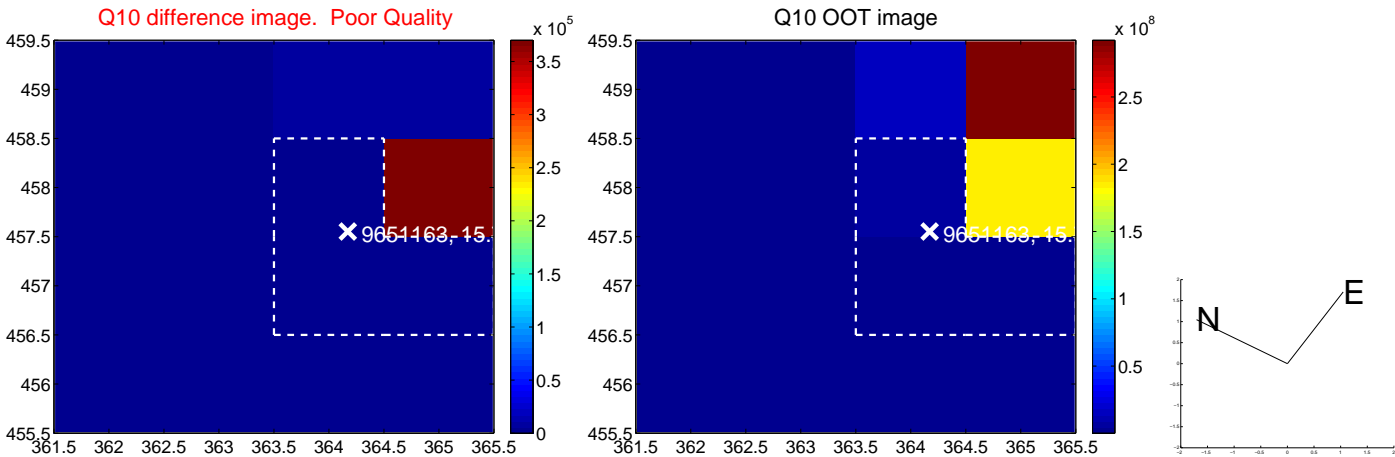
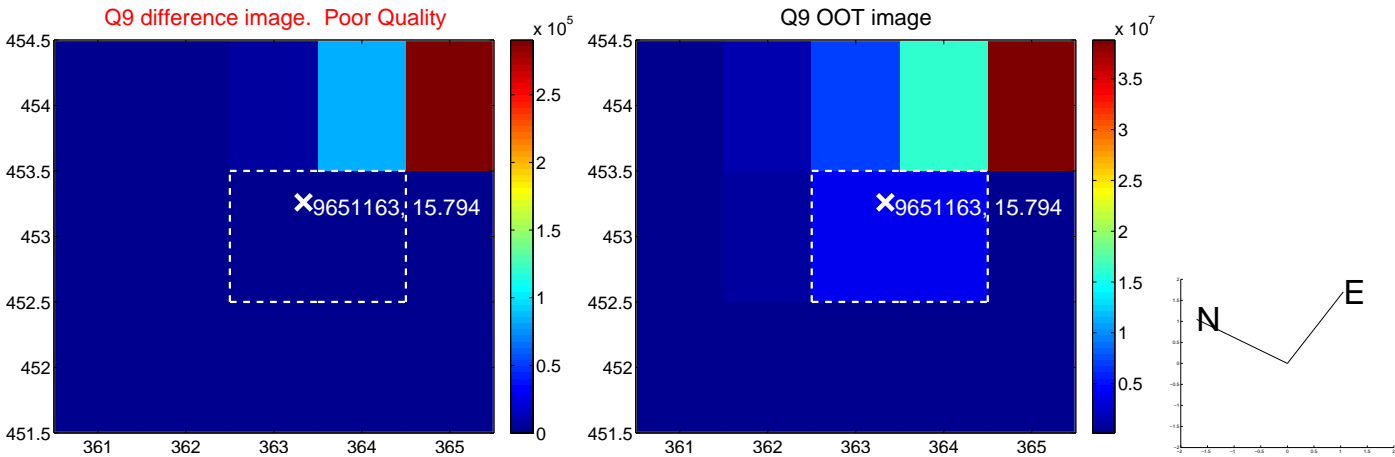
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



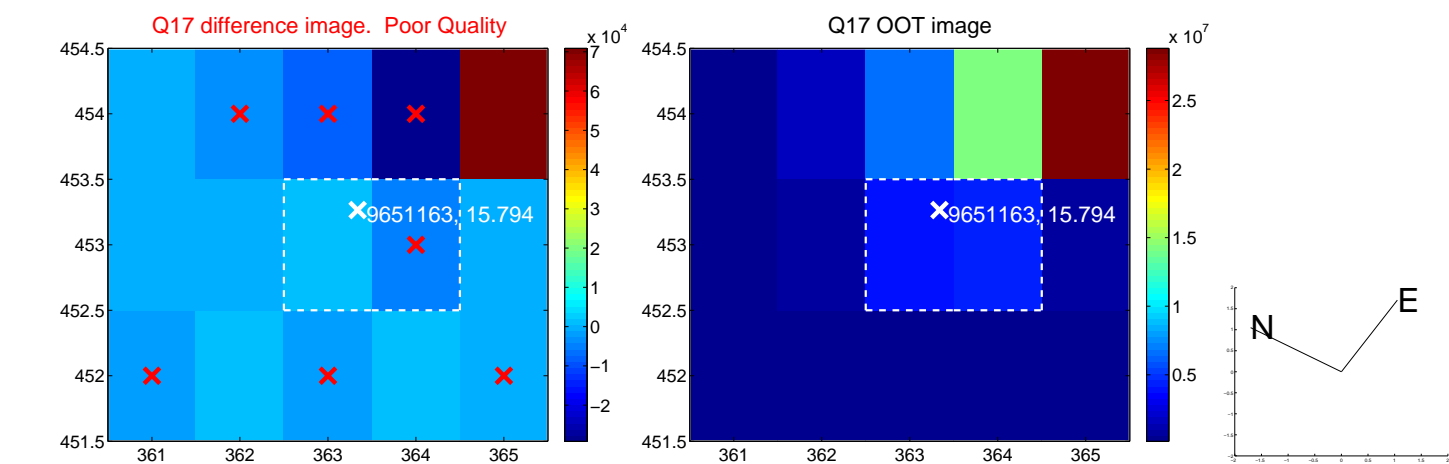
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



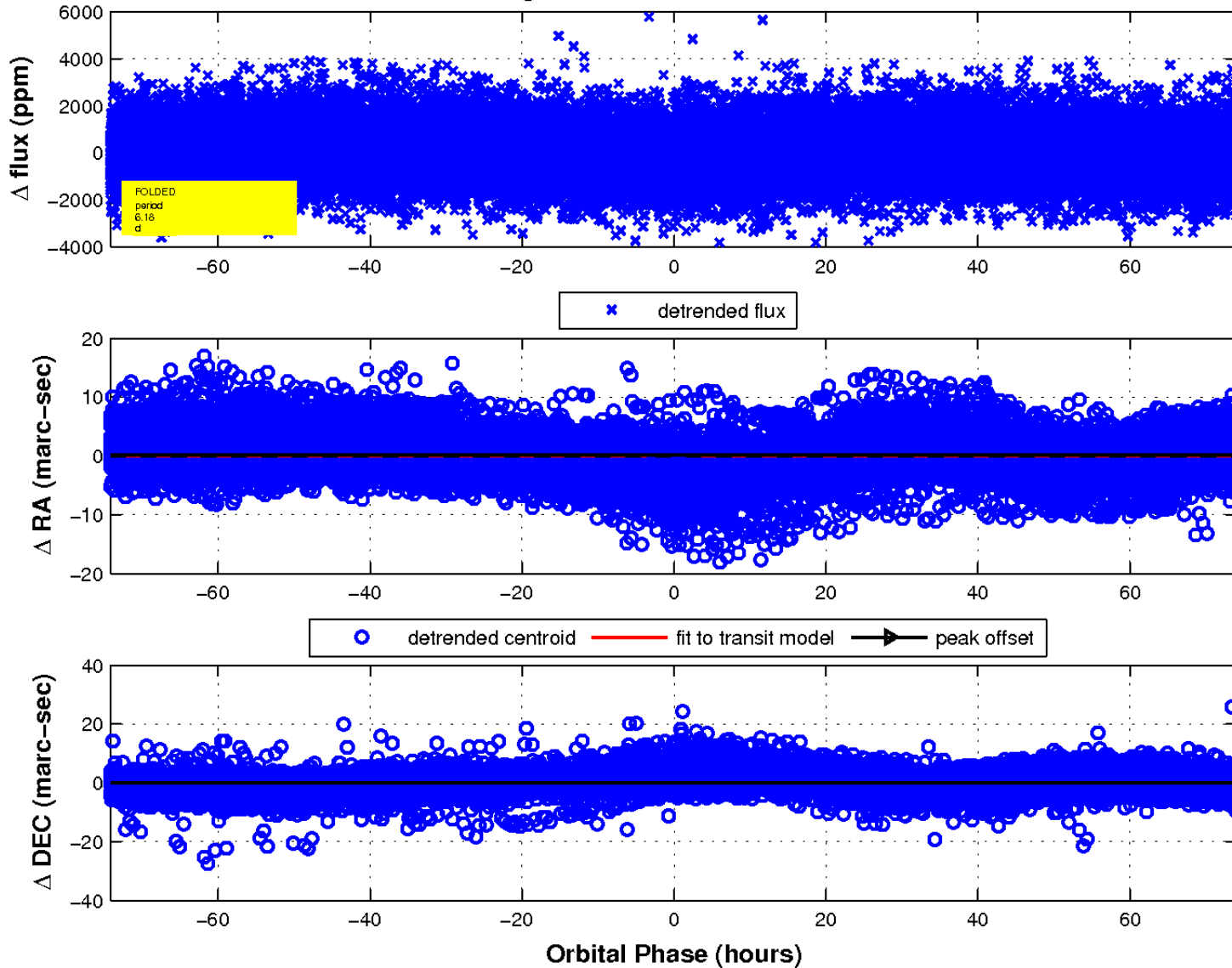
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

