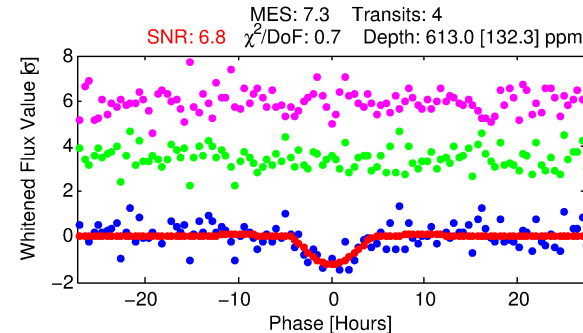
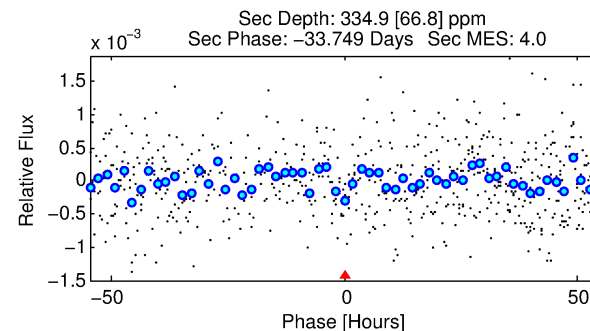
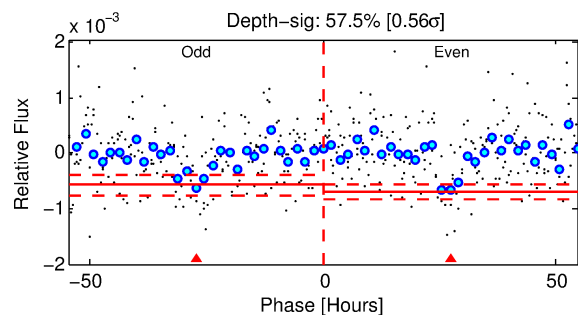
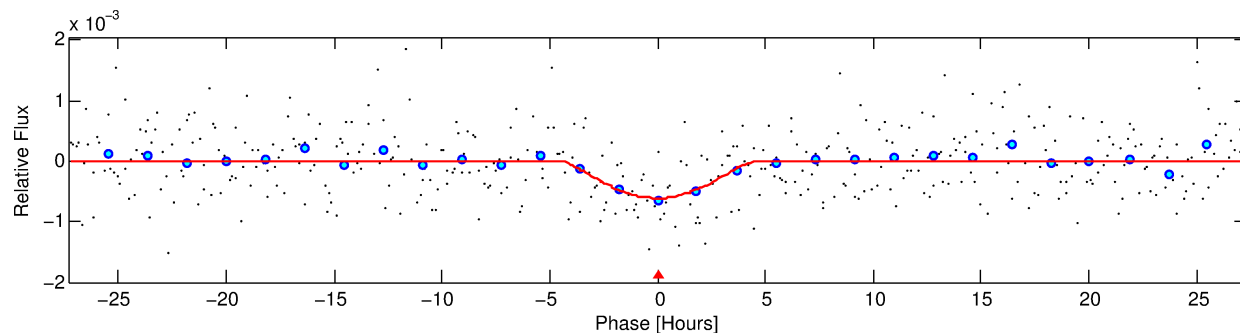
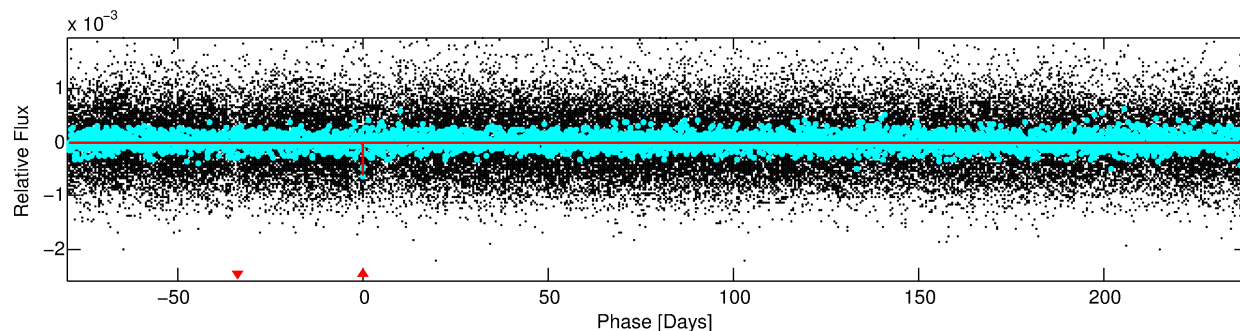
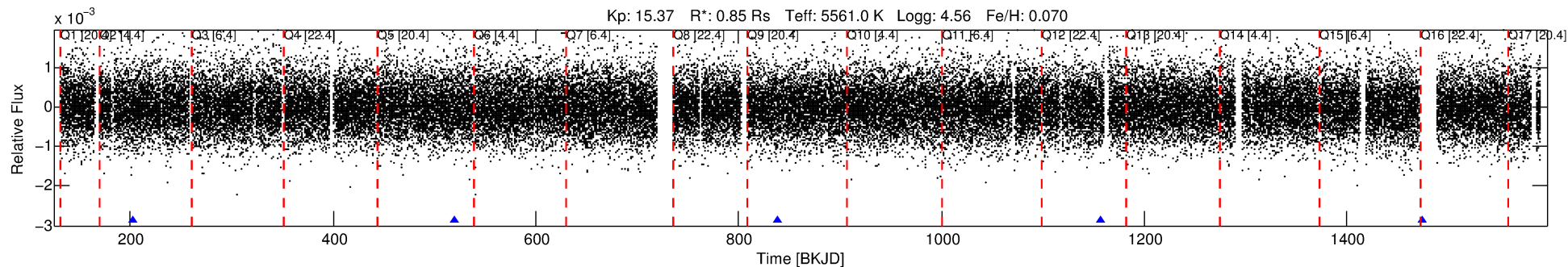


**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

DV One-Page Summary

KIC: 4771178 Candidate: 1 of 1 Period: 317.956 d

**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**



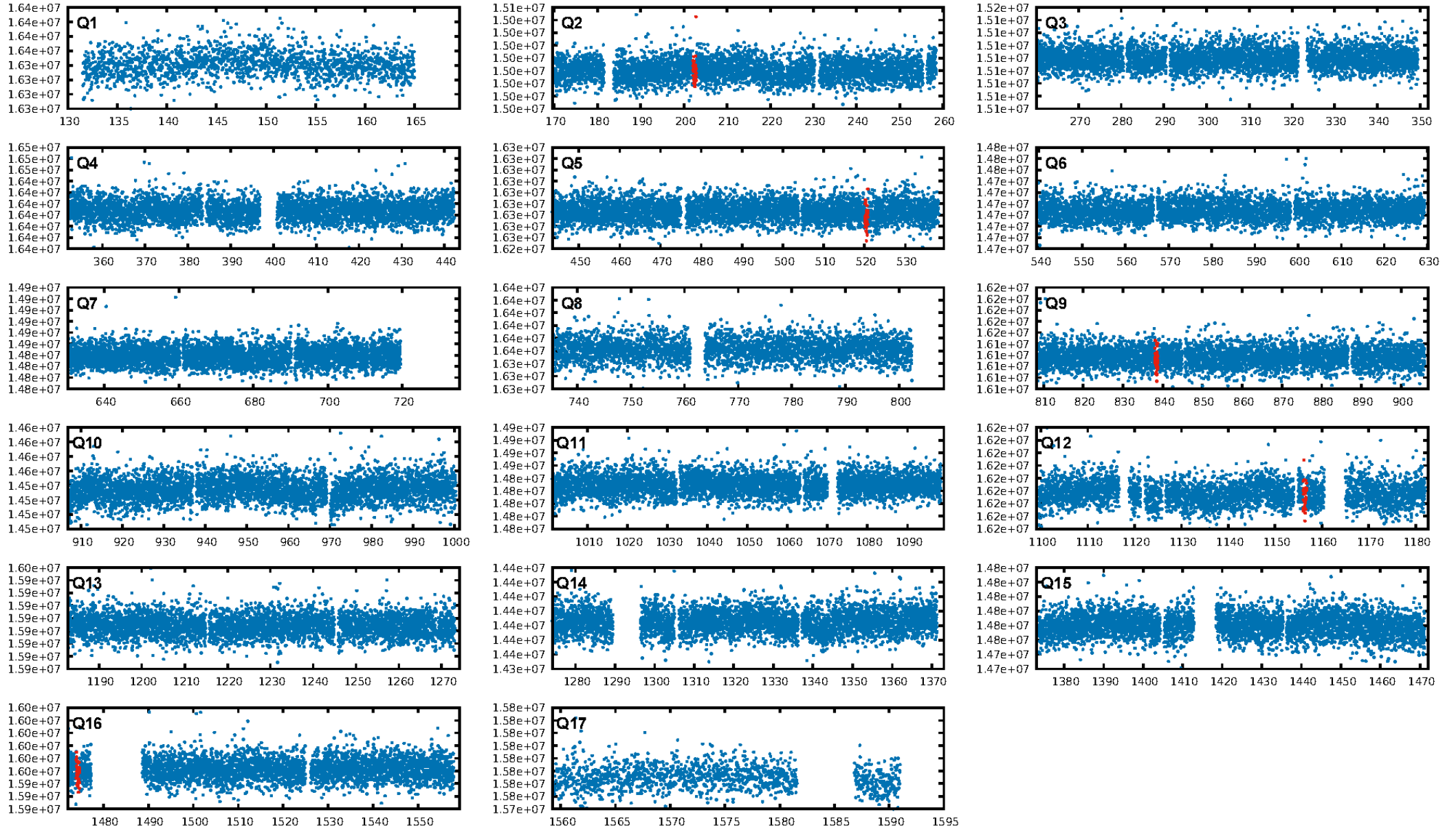
DV Fit Results:

Period = 317.95642 [0.01384] d
Epoch = 202.5064 [0.0248] BKJD
Rp/R* = 0.0432 [0.2188]
a/R* = 82.44 [109.80]
b = 1.00 [0.34]
Seff = 0.77 [0.25]
Teq = 239 [20] K
Rp = 4.03 [20.41] Re
a = 0.9021 [0.1874] AU
Ag = 9253.09 [93800.40] [0.10 σ]
Teffp = 3620 [9170] K [0.37 σ]

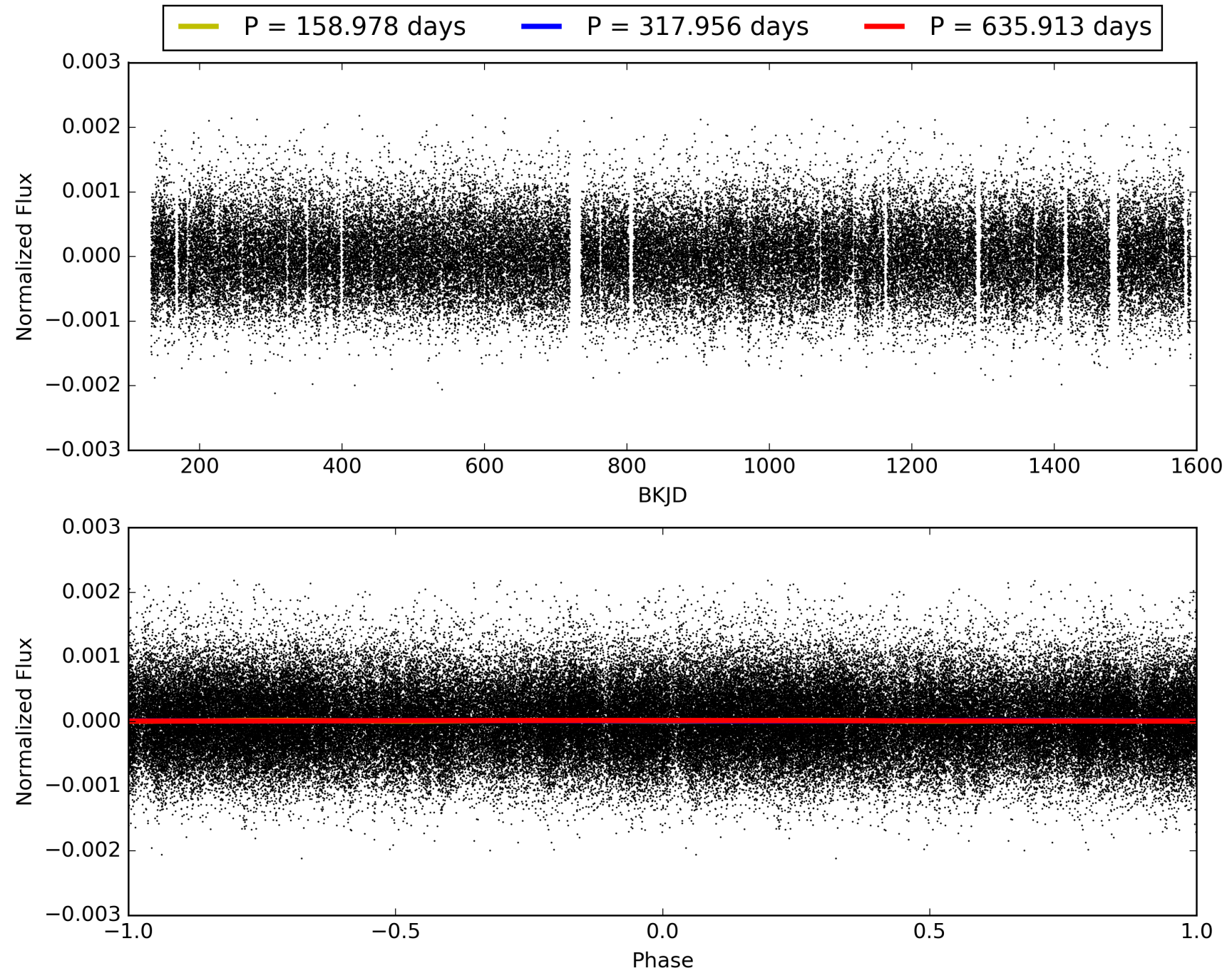
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.40e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.51
Centroid-sig: 21.7%
Centroid-so: 2.376 arcsec [1.00 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [3/3]

TCE 004771178-01, PDC Light Curves

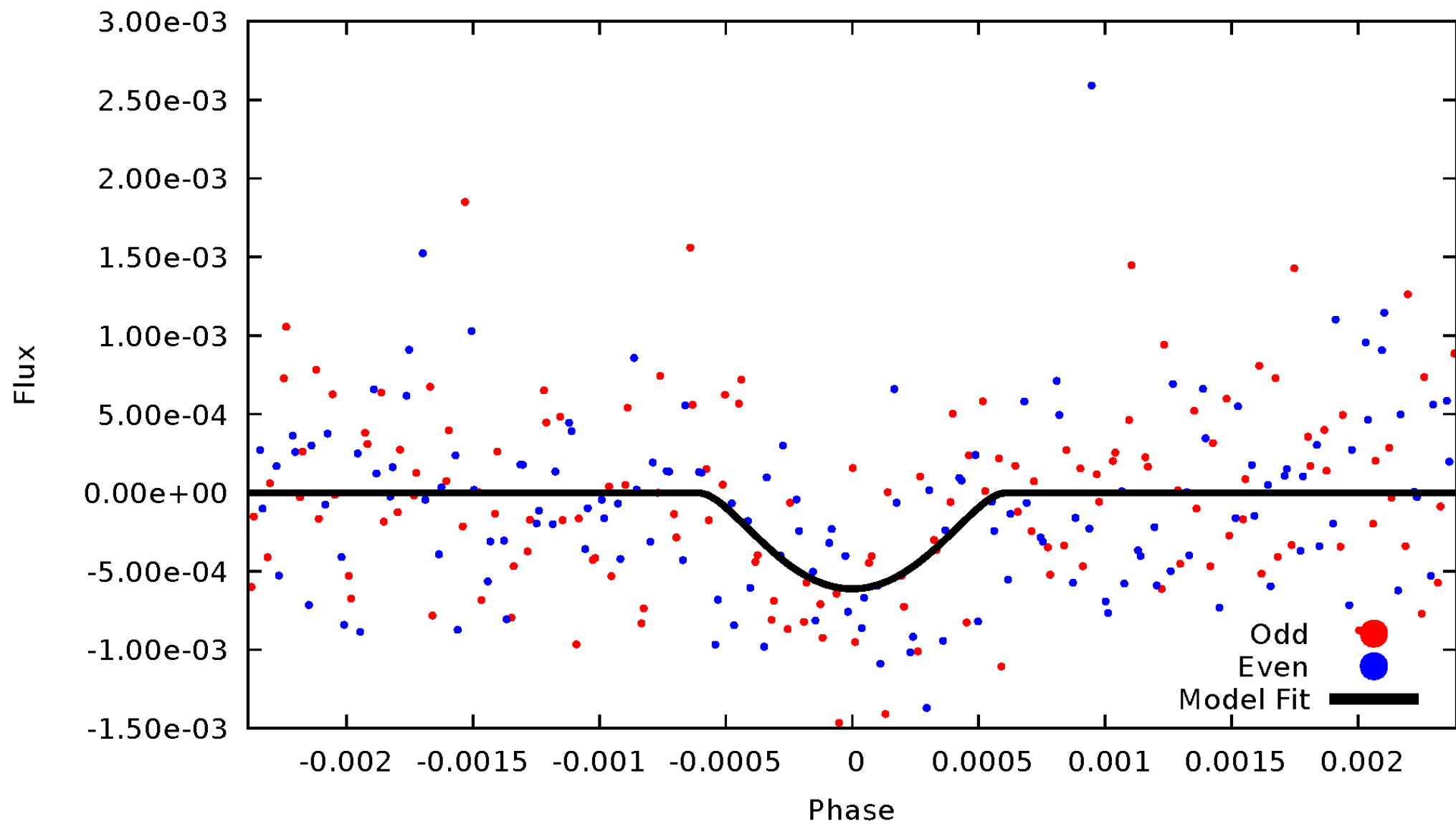


TCE 004771178-01



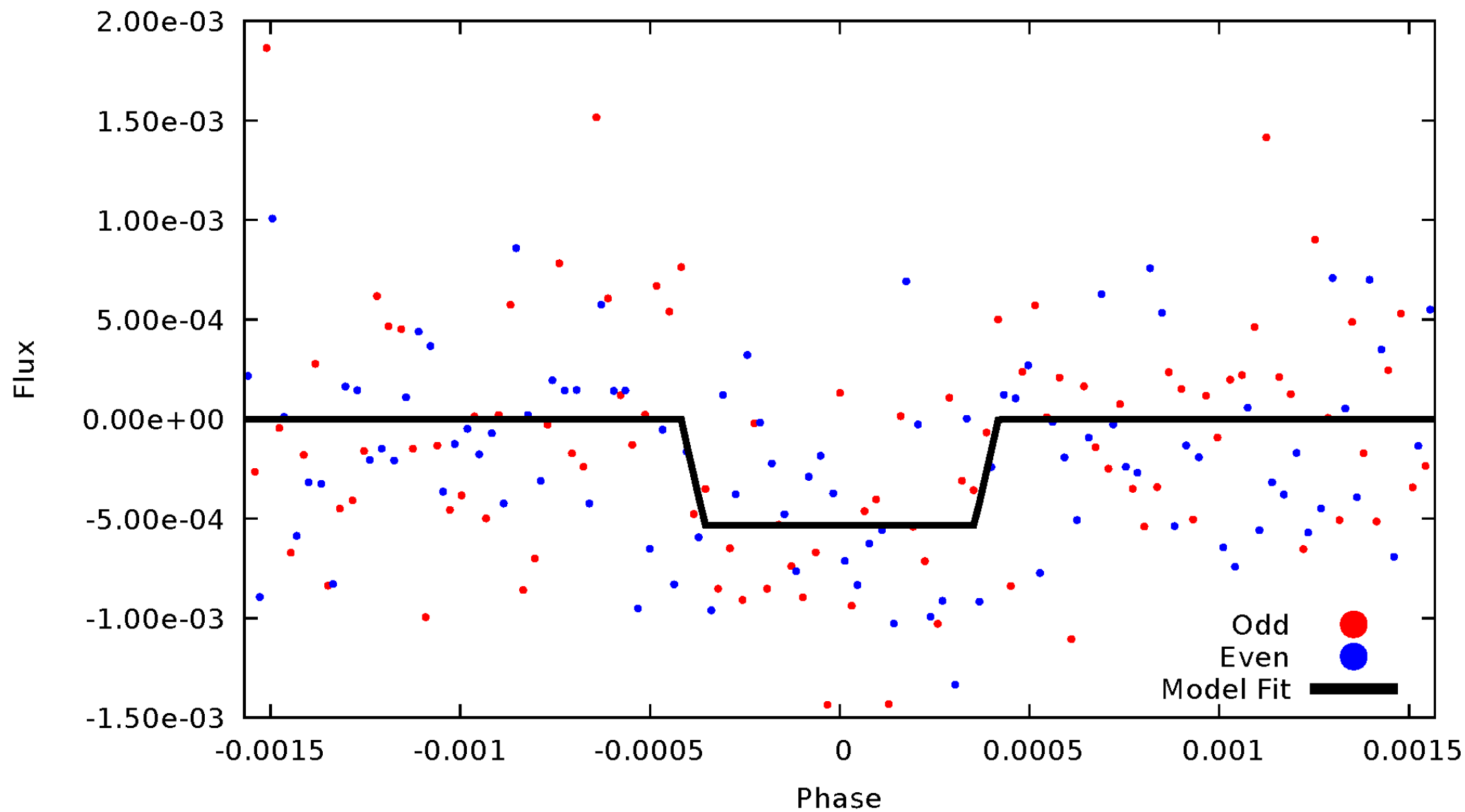
DV Odd/Even

TCE 004771178-01



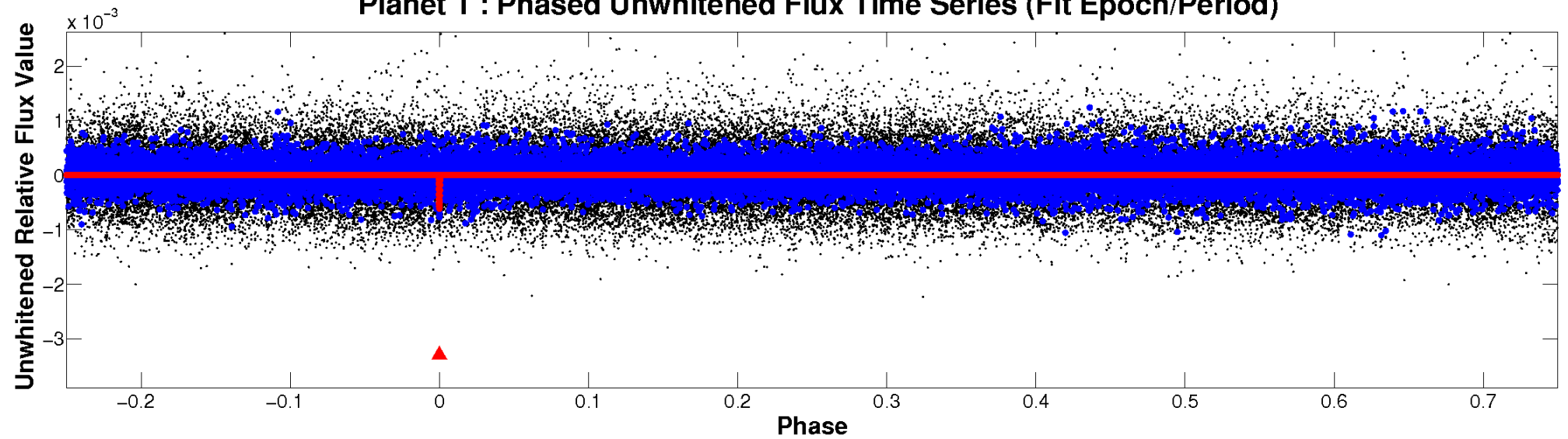
ALT Odd/Even

TCE 004771178-01

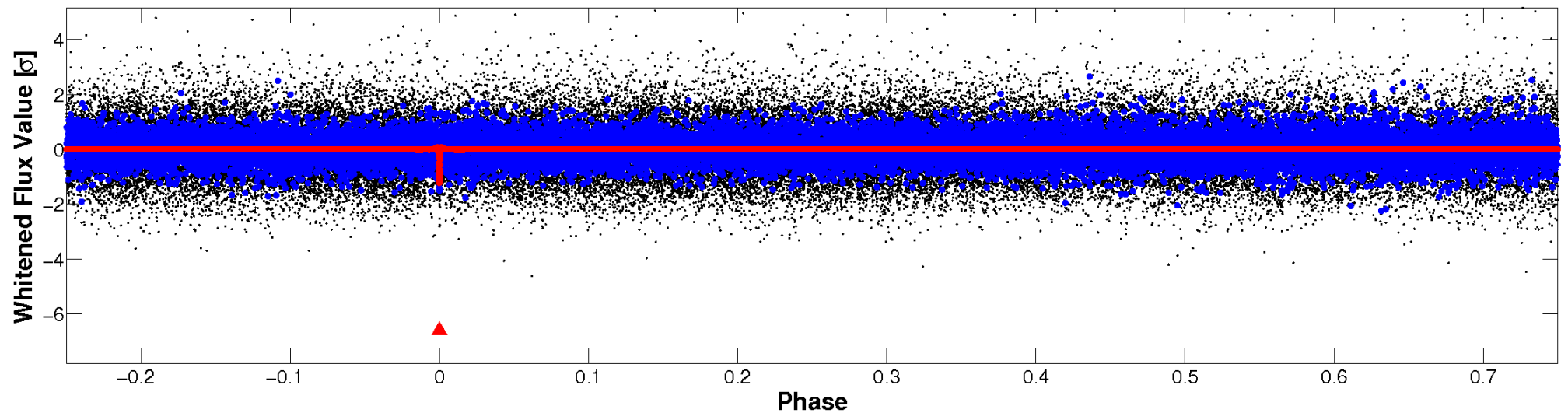


Non-Whitened Vs. Whitened Light Curve

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



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



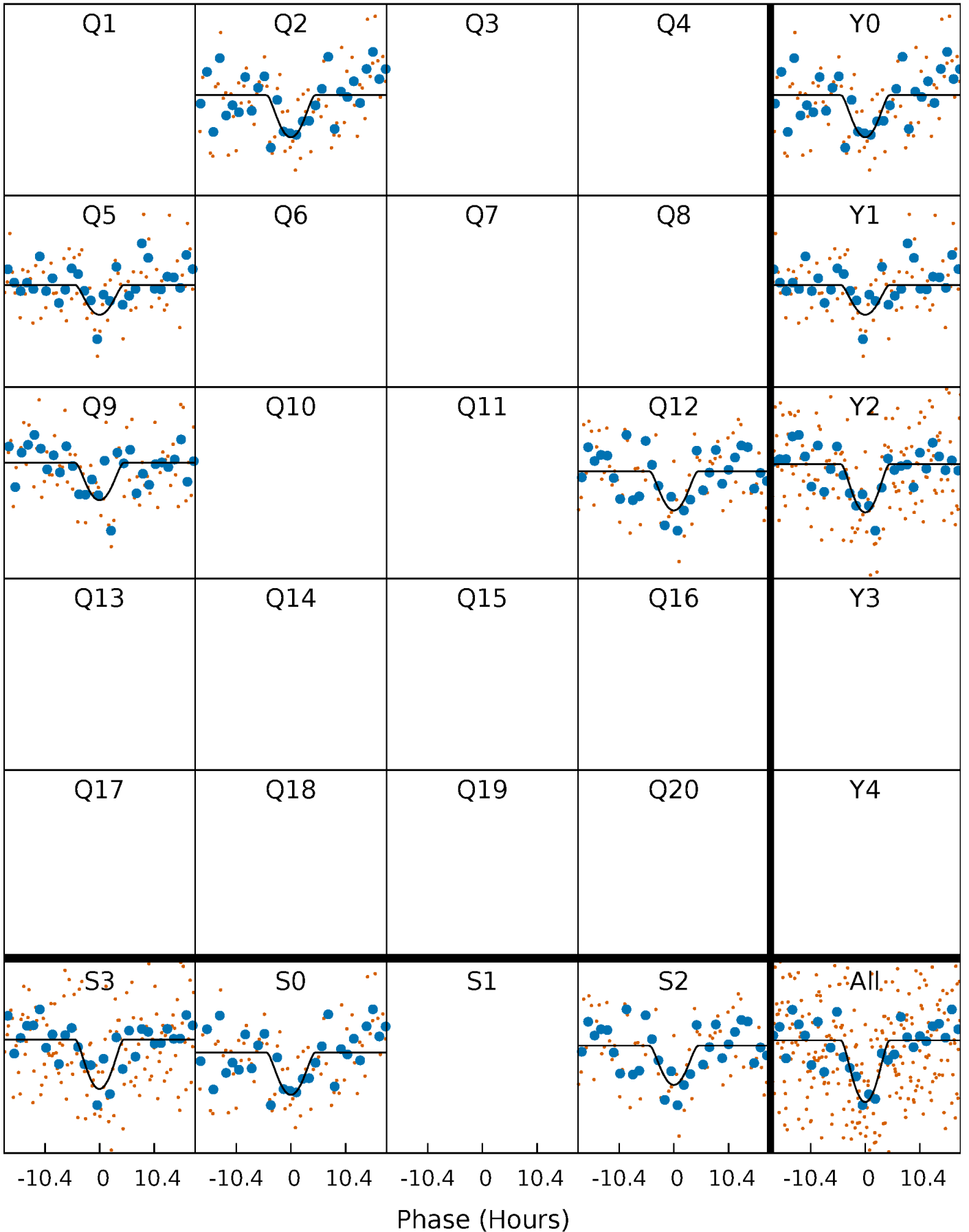
PDC Quarter-Phased Transit Curves

TCE 004771178-01 P=317.956421 Days $T_0=202.506449$ (BKJD)



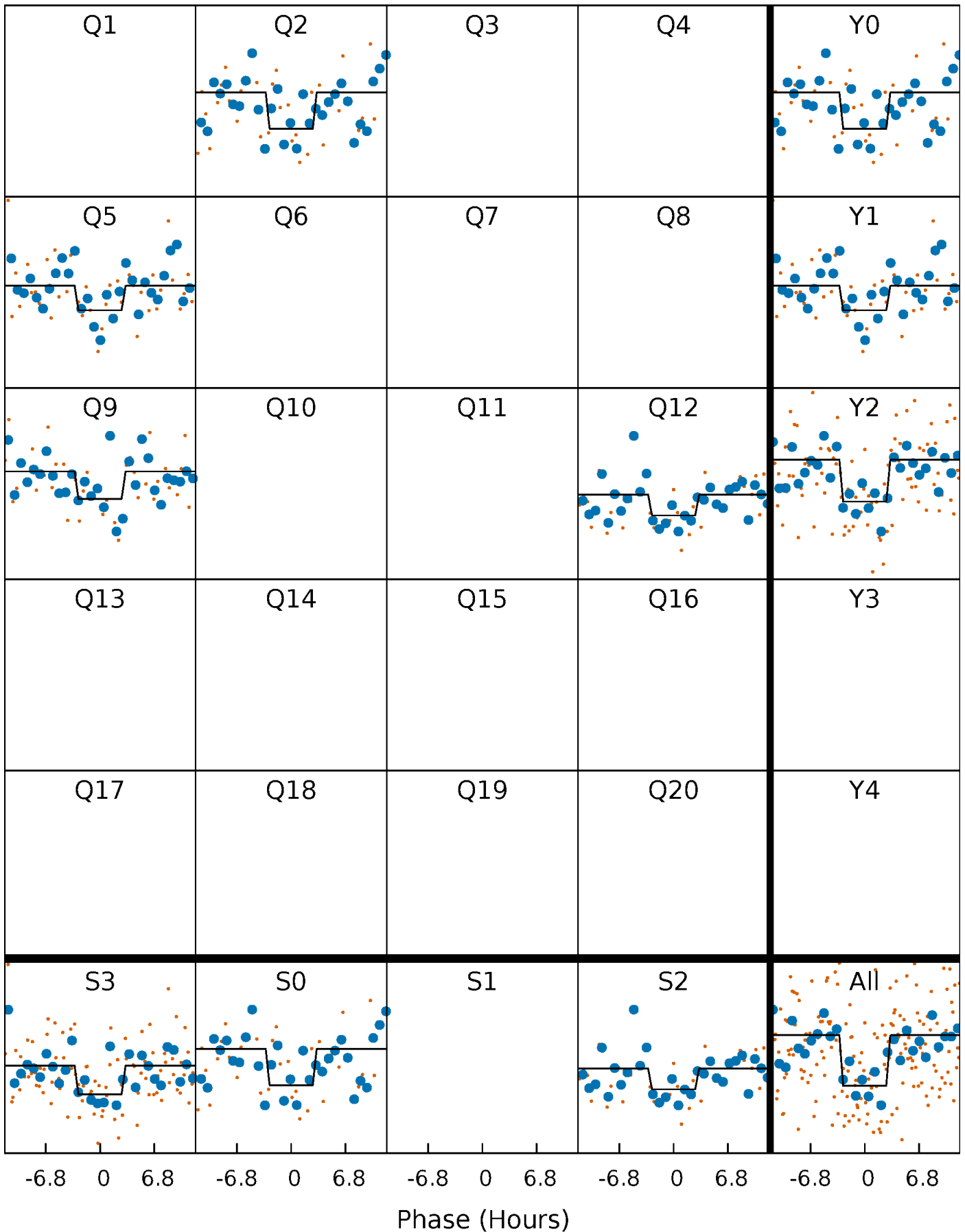
DV Quarter-Phased Transit Curves

TCE 004771178-01 P=317.956421 Days $T_0=202.506449$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

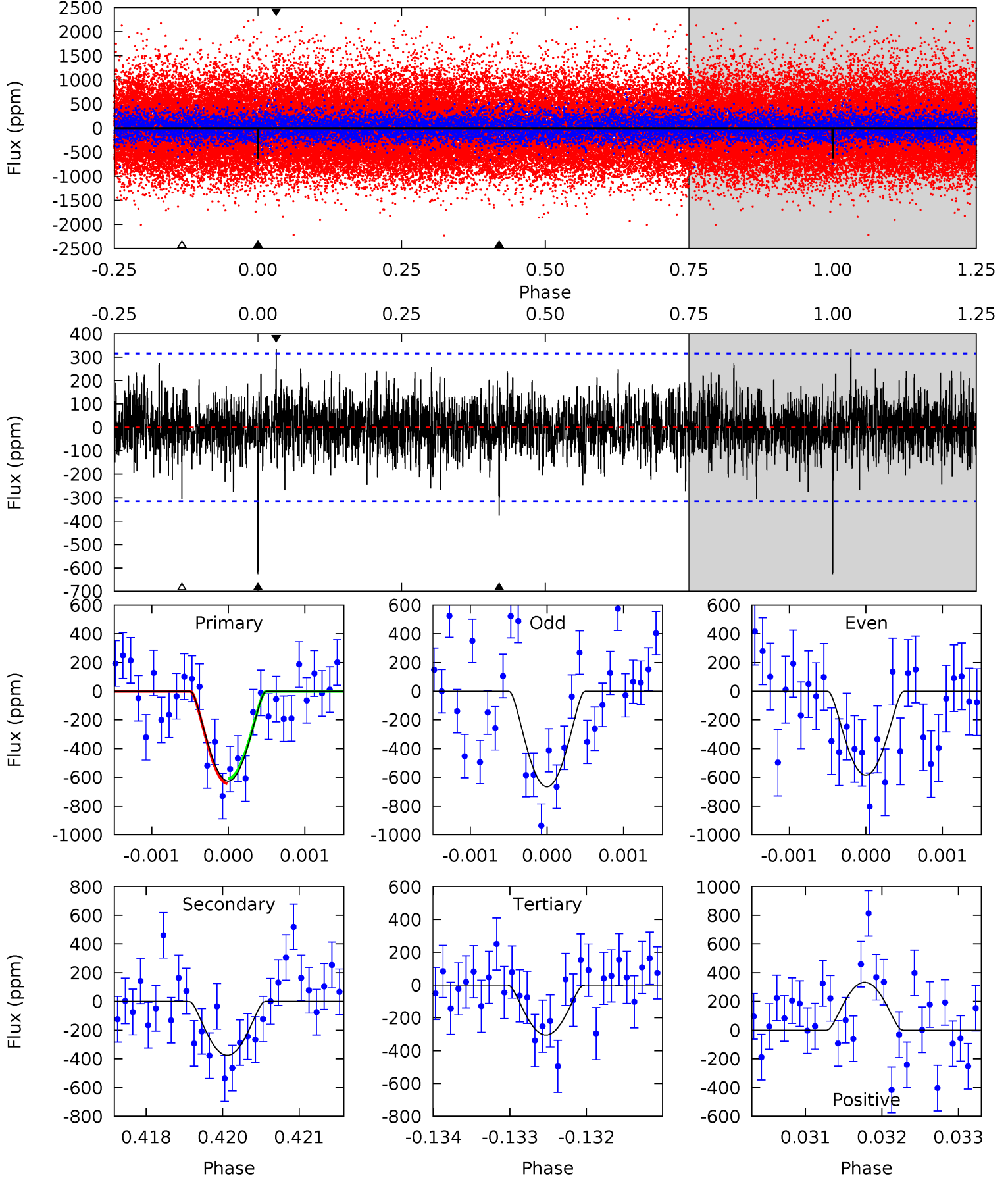
TCE 004771178-01 P=317.959816 Days $T_0=202.496639$ (BKJD)



DV Model-Shift Uniqueness Test

004771178-01, $P = 317.956421$ Days, $E = 202.506449$ Days

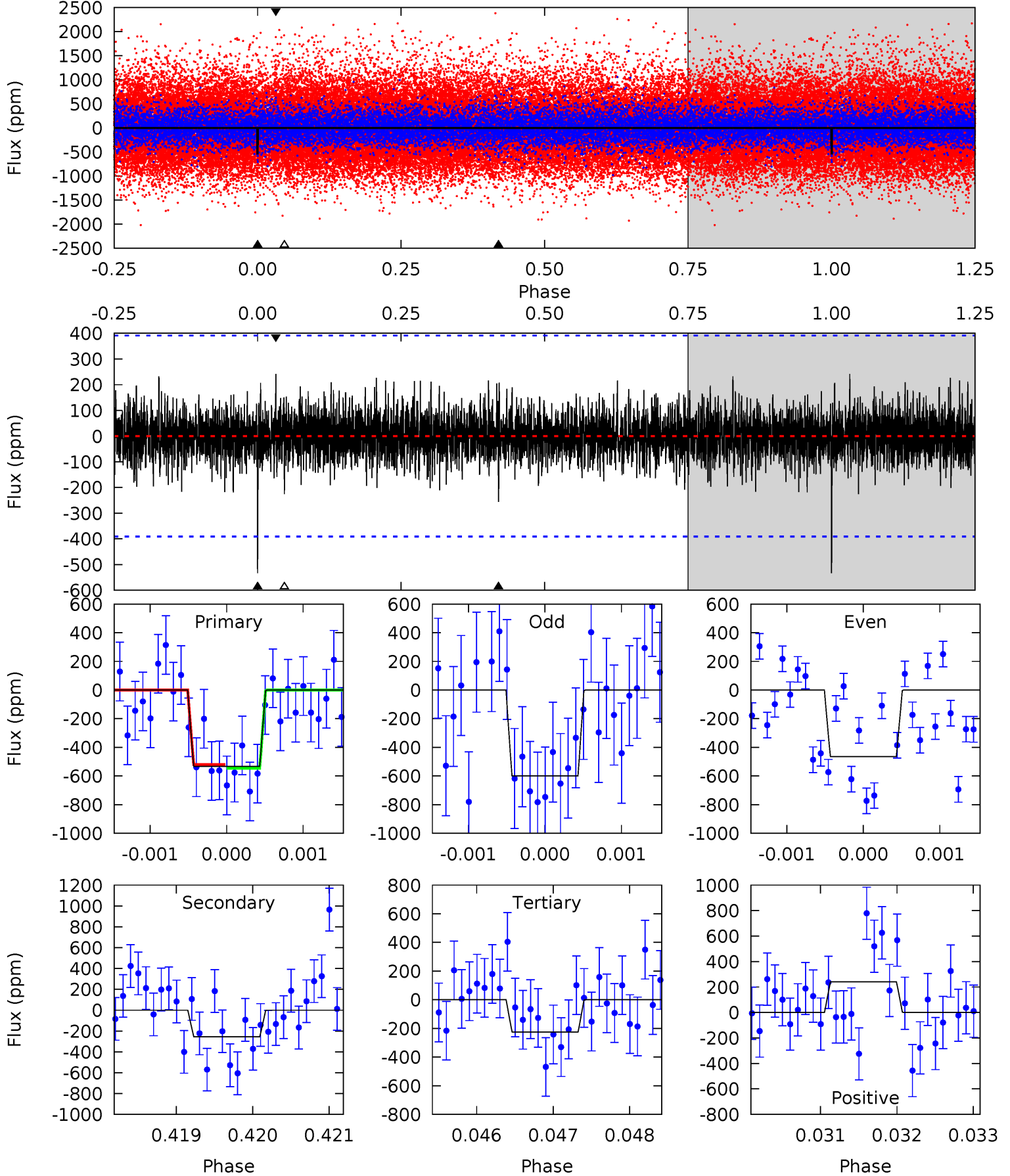
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.43	5.22	5.72	5.41	3.23	1.38	5.51	5.02	1.21	0.72	0.69	1.05	0.35	0.32



Alt Model-Shift Uniqueness Test

004771178-01, P = 317.959816 Days, E = 202.496639 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.48	3.59	3.17	3.38	5.49	3.35	0.89	4.31	4.10	0.42	0.21	0.95	1.01	0.31	0.20



Stellar Parameters For KIC 004771178

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5561^{+150}_{-166}	$4.561^{+0.030}_{-0.170}$	$0.070^{+0.250}_{-0.300}$	$0.854^{+0.207}_{-0.069}$	$0.968^{+0.075}_{-0.113}$	$2.192^{+0.358}_{-0.994}$
	+3%/-3%	+1%/-4%	+357%/-429%	+24%/-8%	+8%/-12%	+16%/-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 004771178-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-375 ± 58	$16.61^{+16.60}_{-11.76}$	340^{+20}_{-15}	2664^{+1190}_{-421}	590^{+6603}_{-448}
Alt.	-256 ± 71	$15.91^{+16.95}_{-11.11}$	341^{+18}_{-14}	2568^{+991}_{-430}	441^{+4052}_{-346}

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

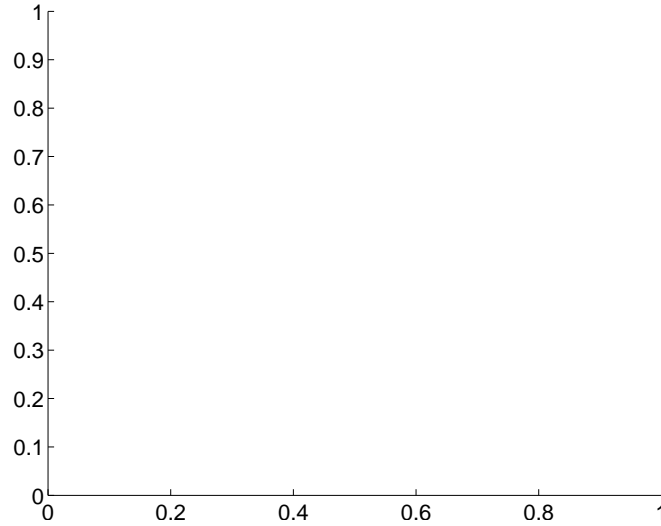
Supplemental centroid analysis for 004771178-01. Kepler magnitude: 15.37. Transit SNR 6.83

There are 0 quarters with good PRF difference image offsets

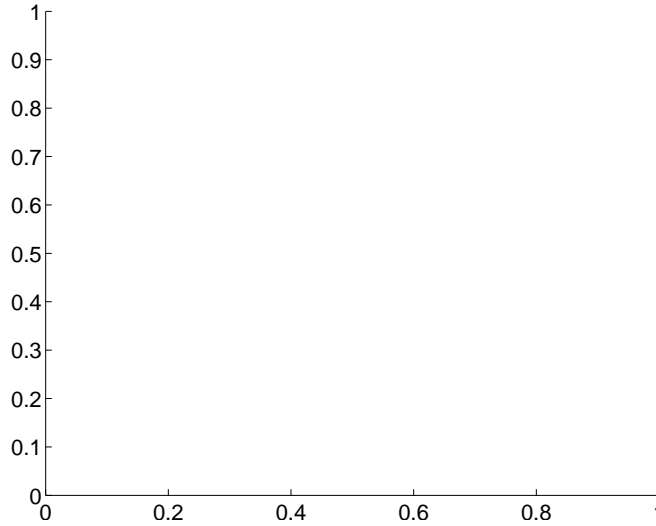
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.38 ± 2.38	1.00	-1.00 ± 2.36	-2.16 ± 2.38

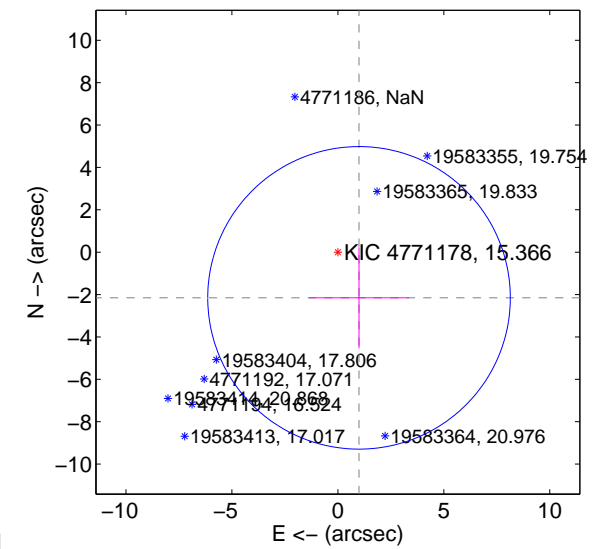
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



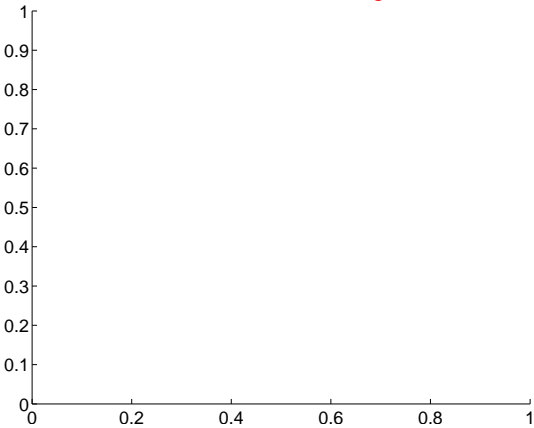
offset from photometric centroids



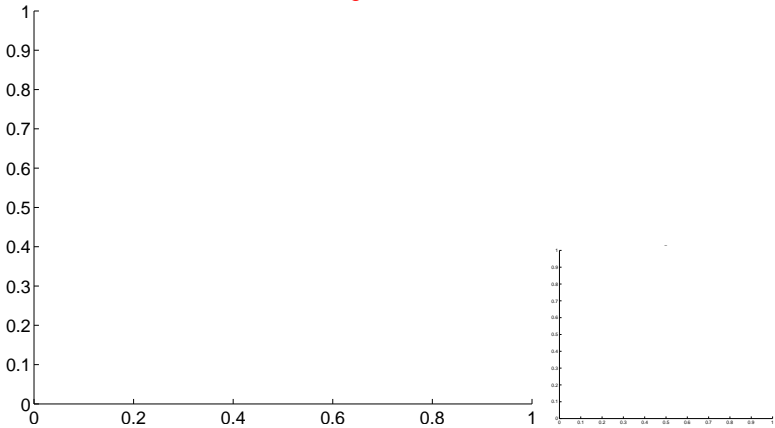
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

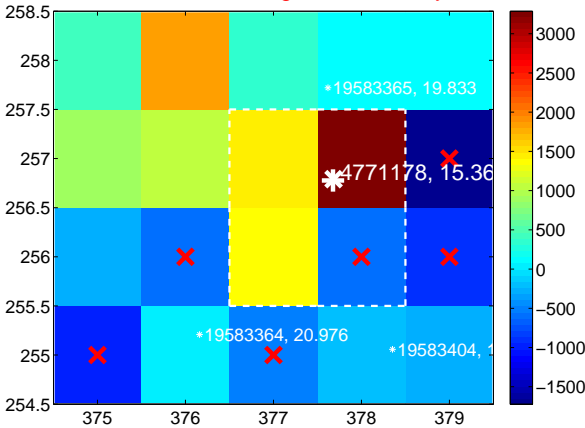
Q1 no difference image



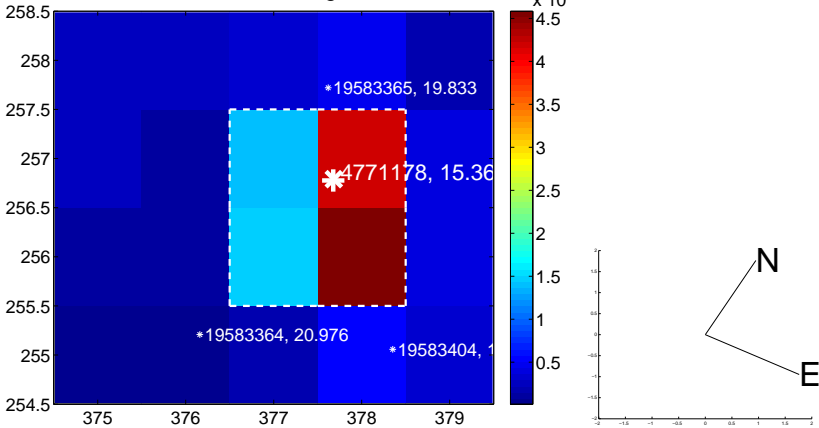
Q1 no OOT image



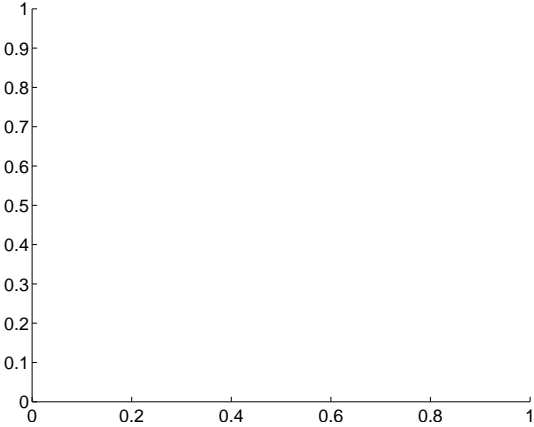
Q2 difference image. Poor Quality



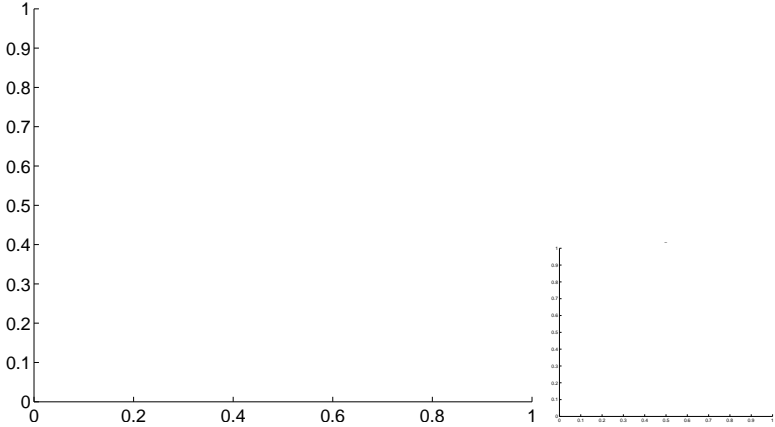
Q2 OOT image



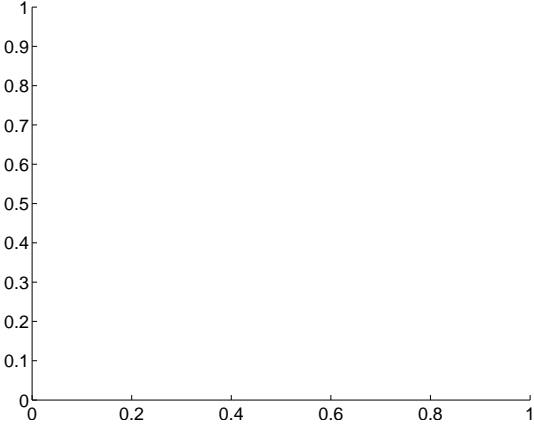
Q3 no difference image



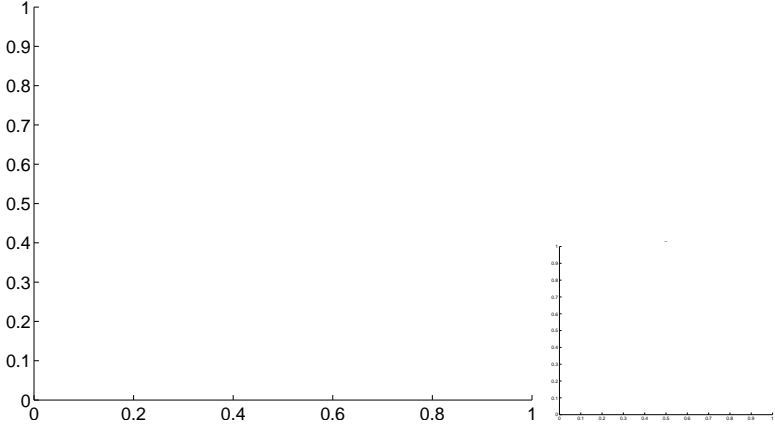
Q3 no OOT image



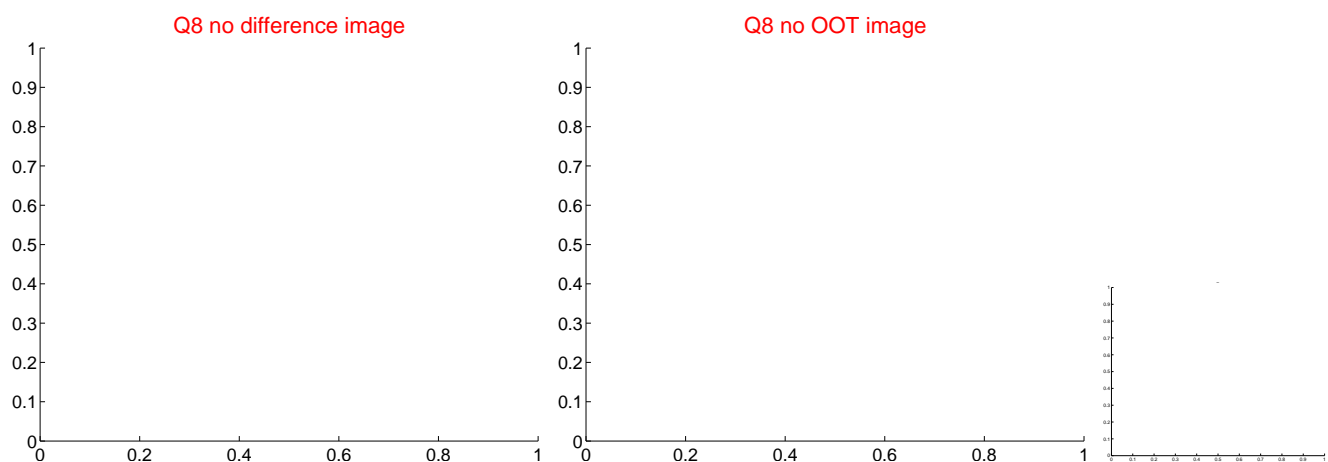
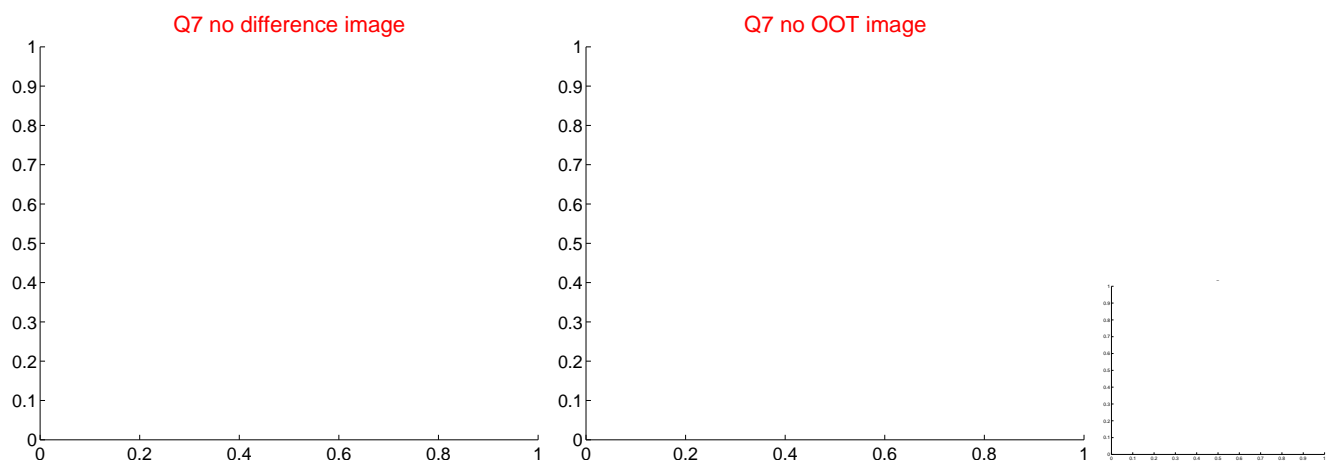
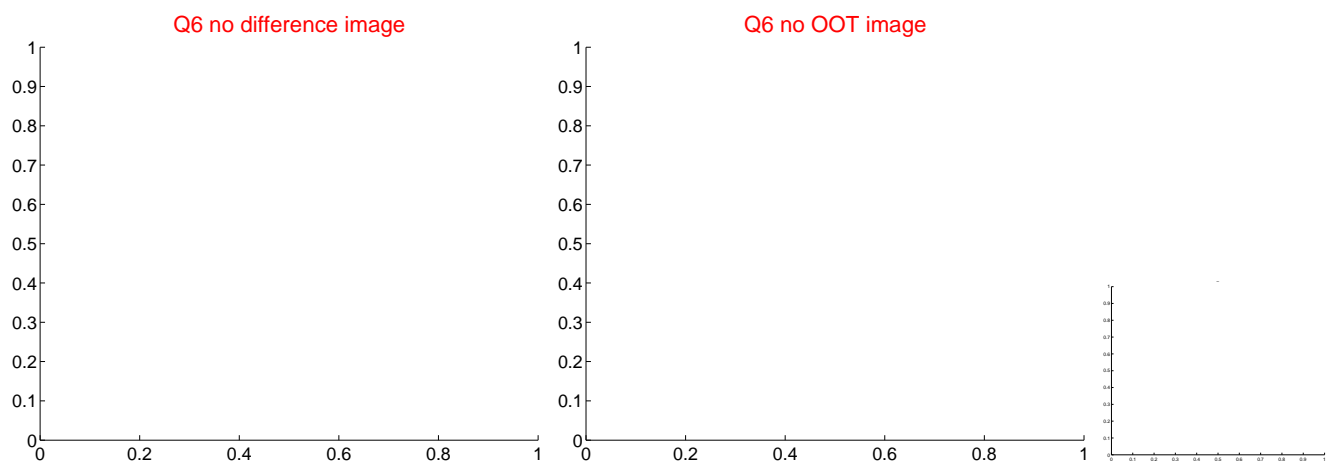
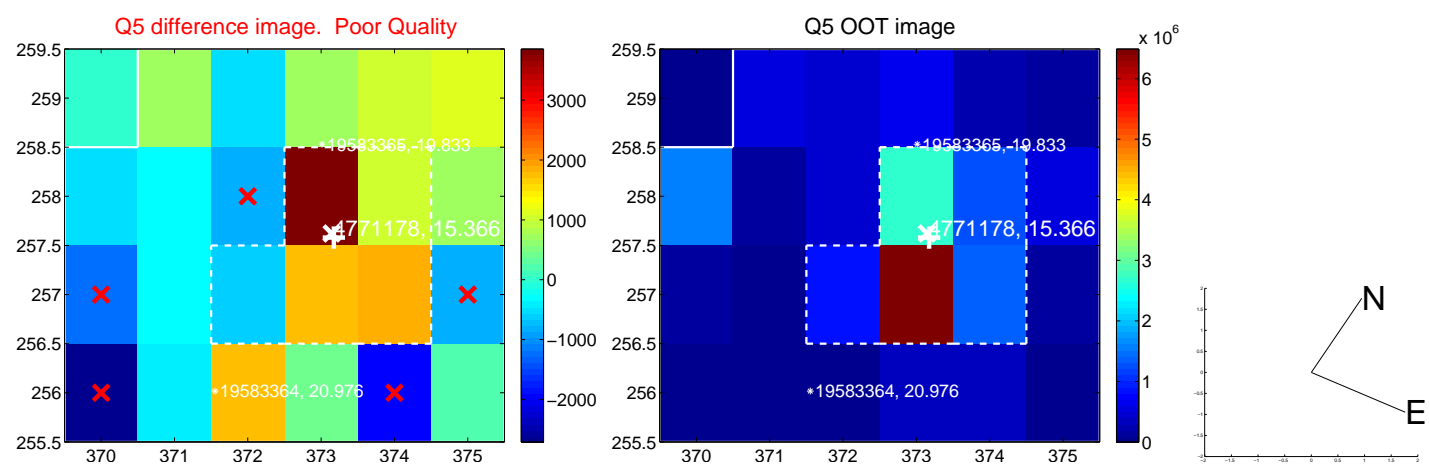
Q4 no difference image



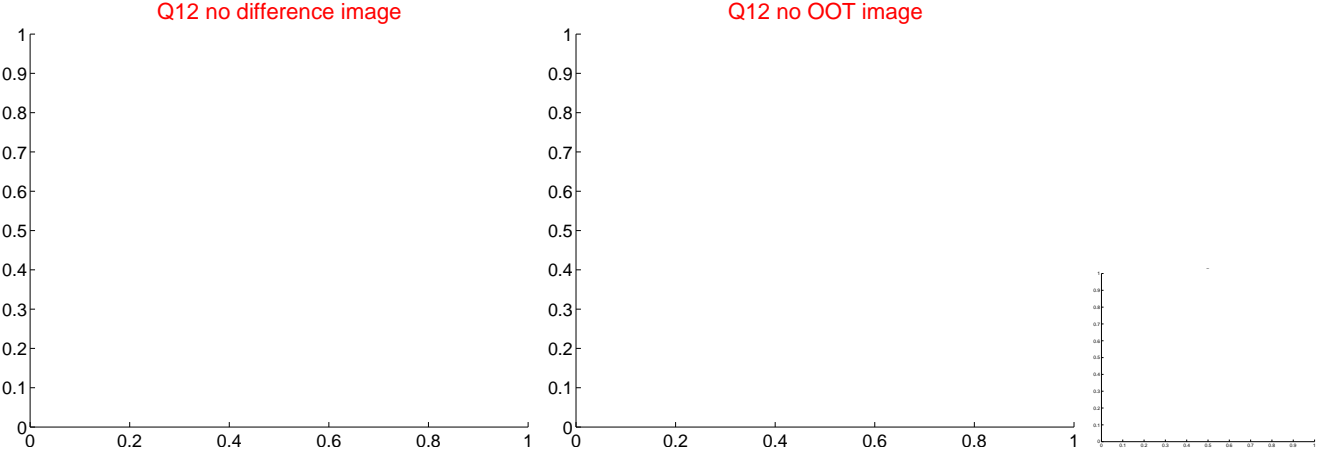
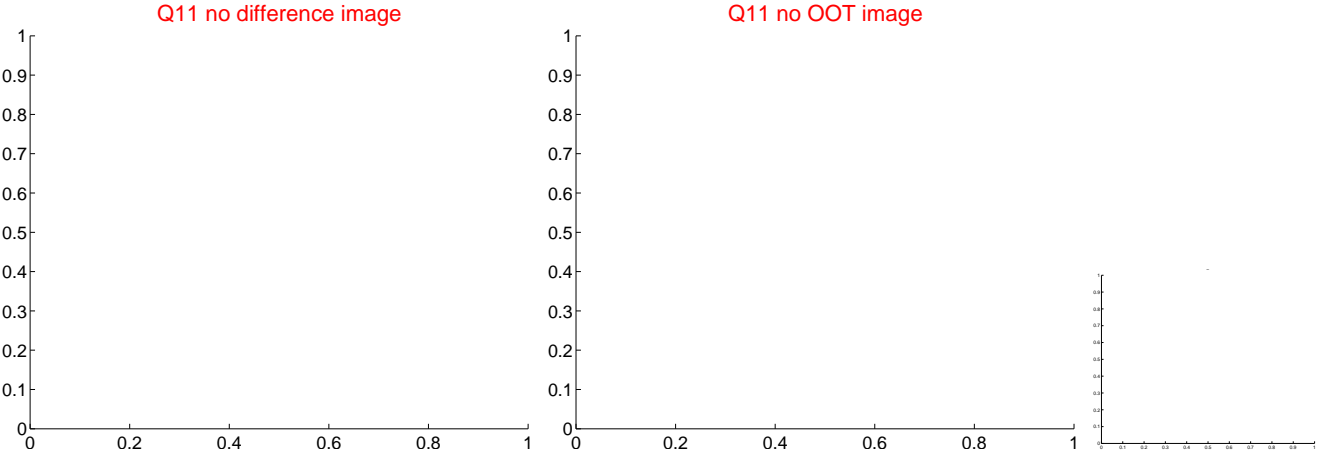
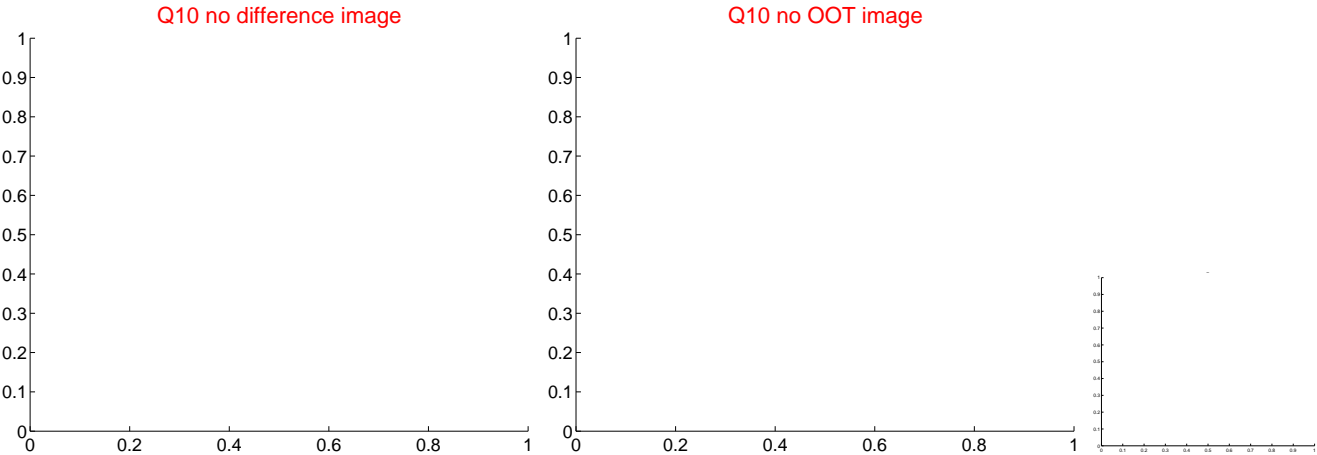
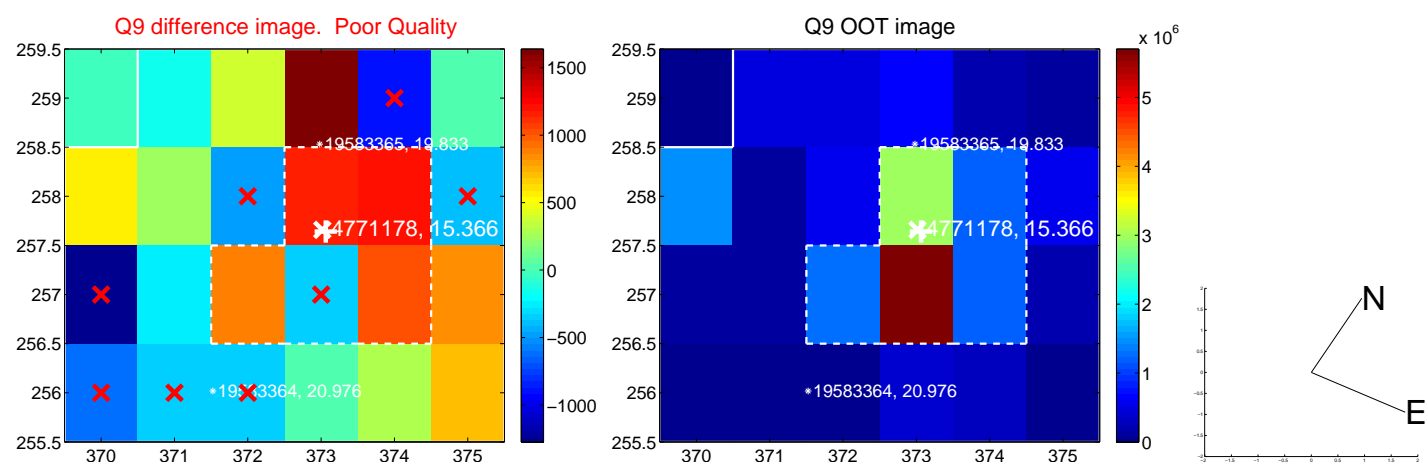
Q4 no OOT image



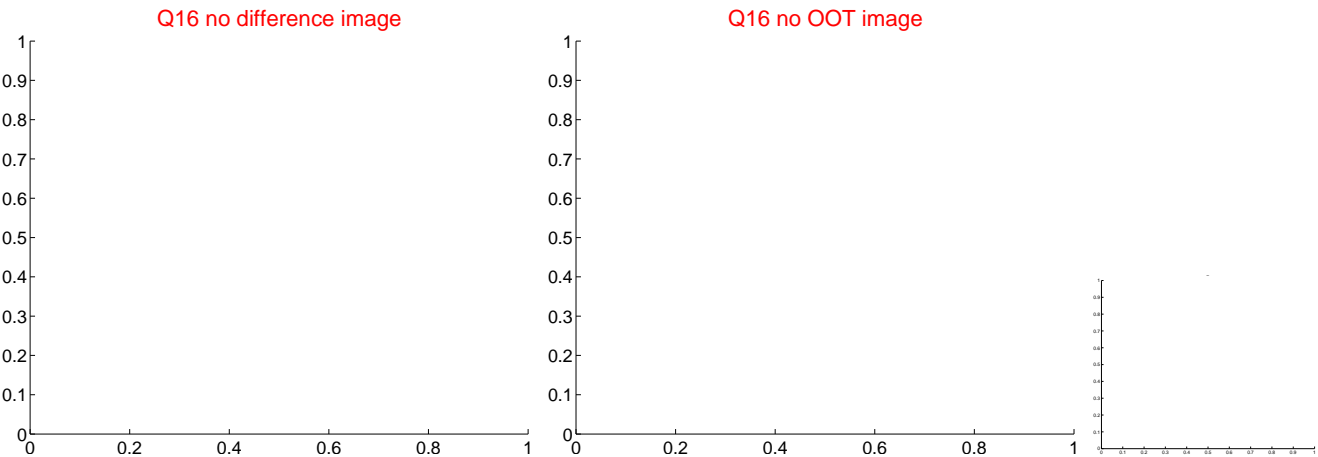
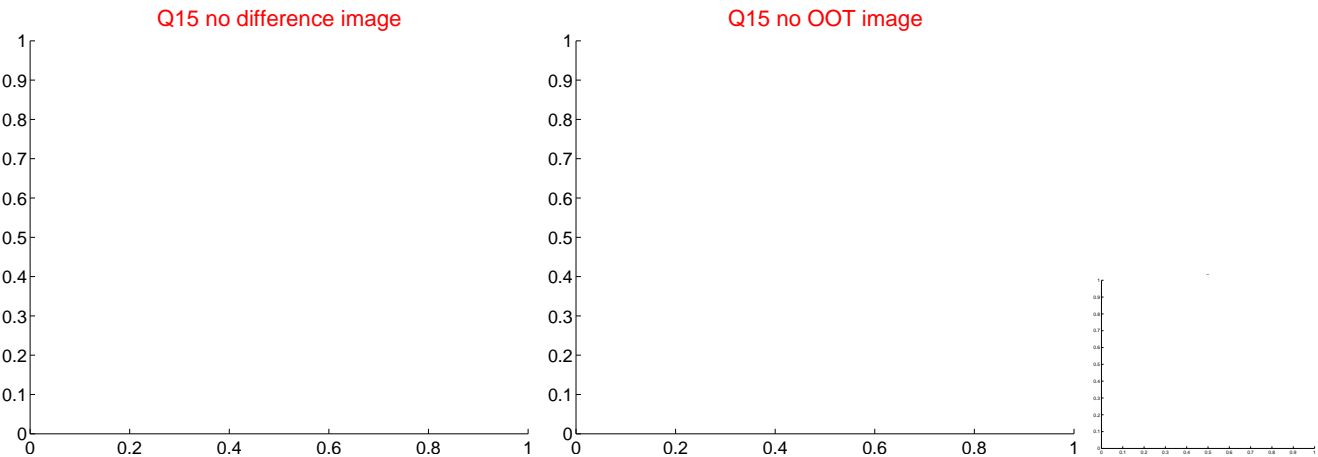
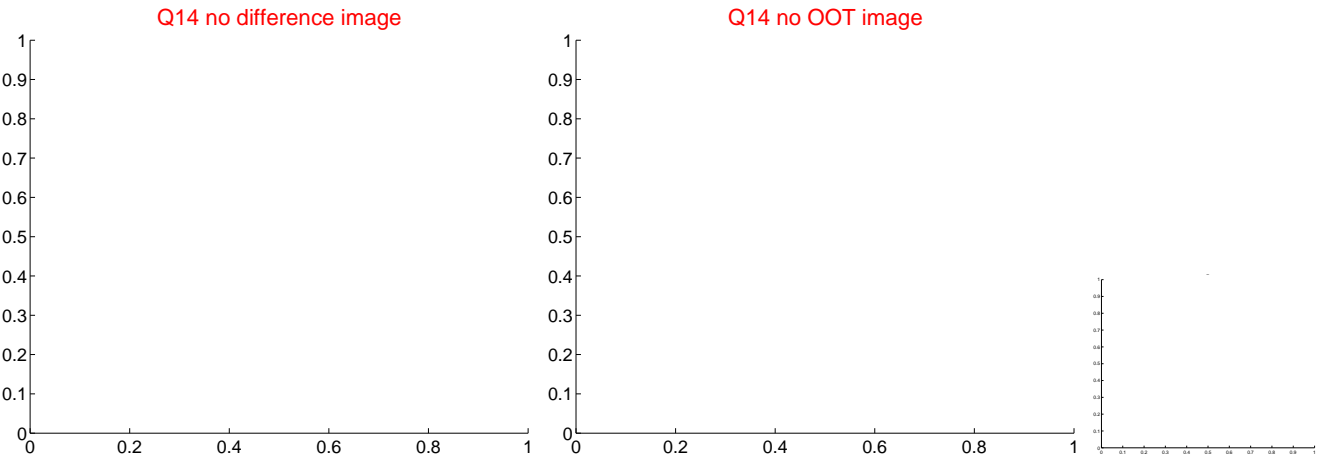
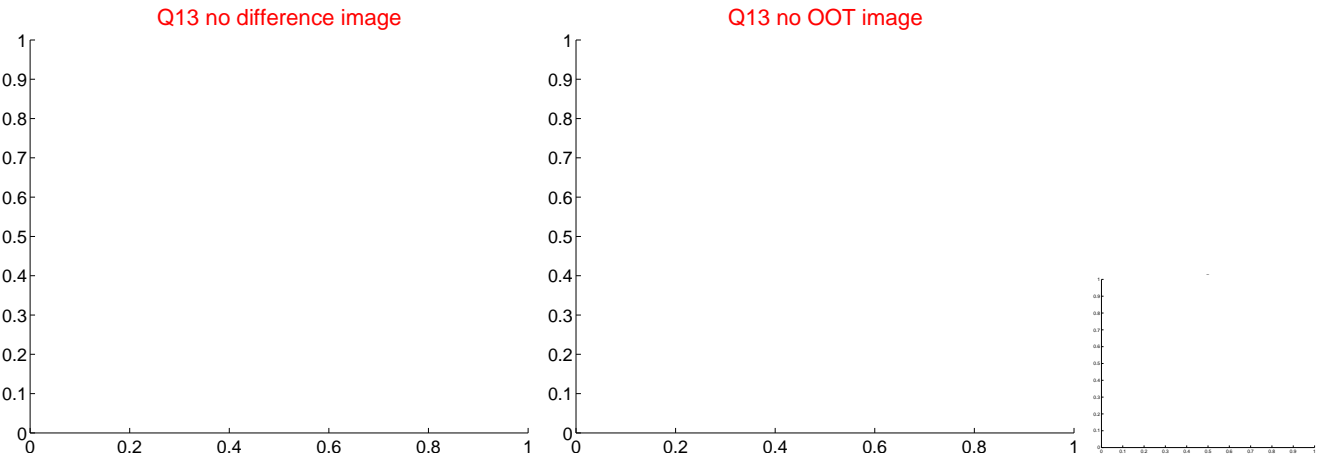
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



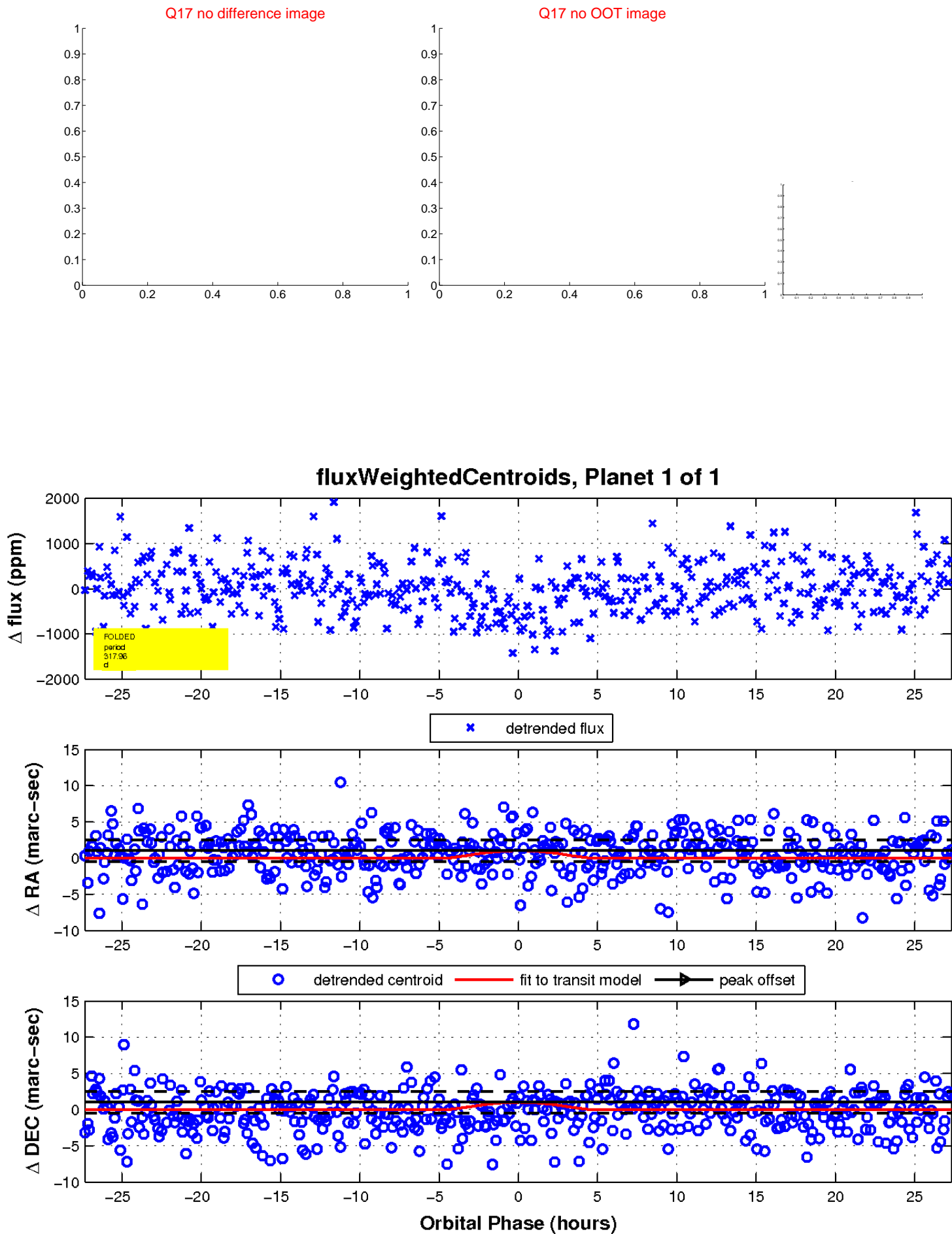
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Declination

