

KIC 010798331

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})
010798331-01	OBS	2373.01	147.281577	148.799494	436.5	7.472	13.0	12.8	1.05	5708	2.34	3.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010798331-01	OBS	PC	0.99	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.

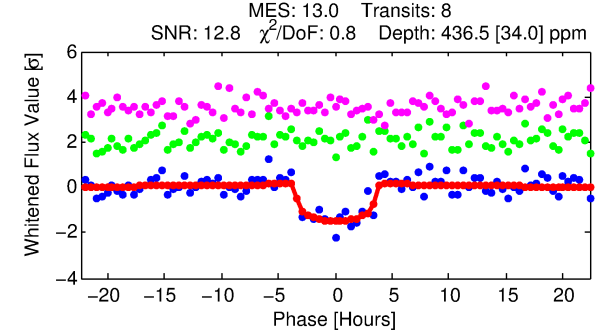
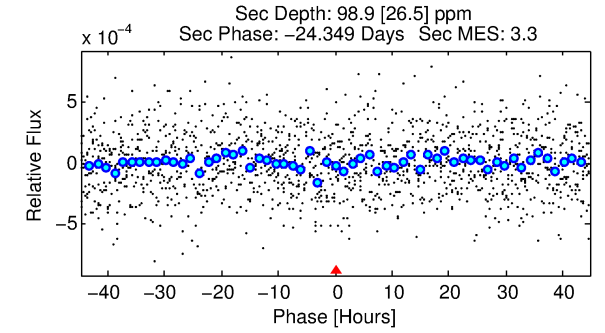
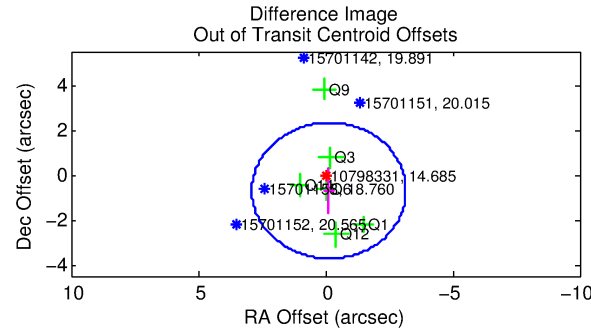
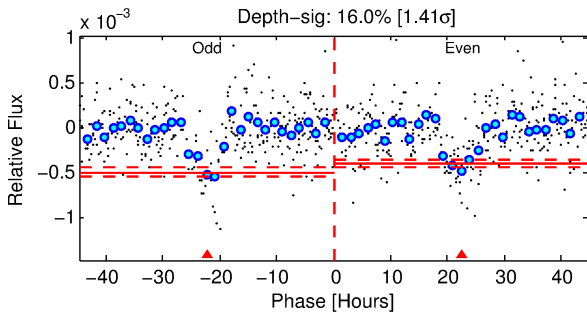
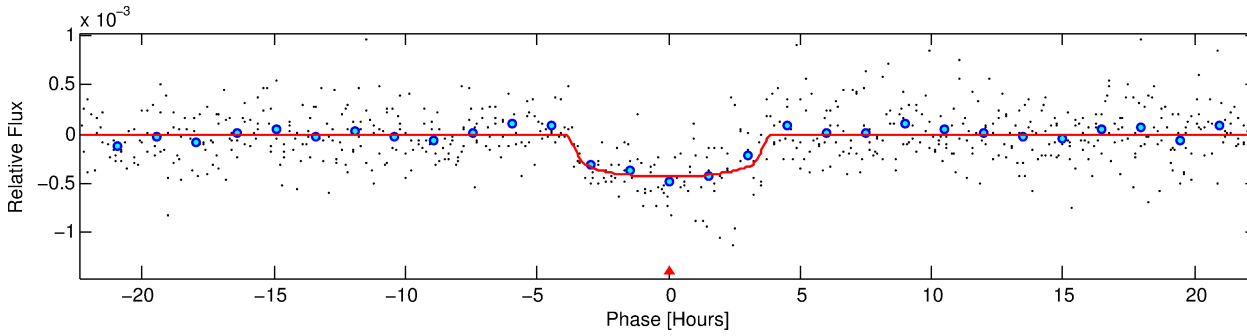
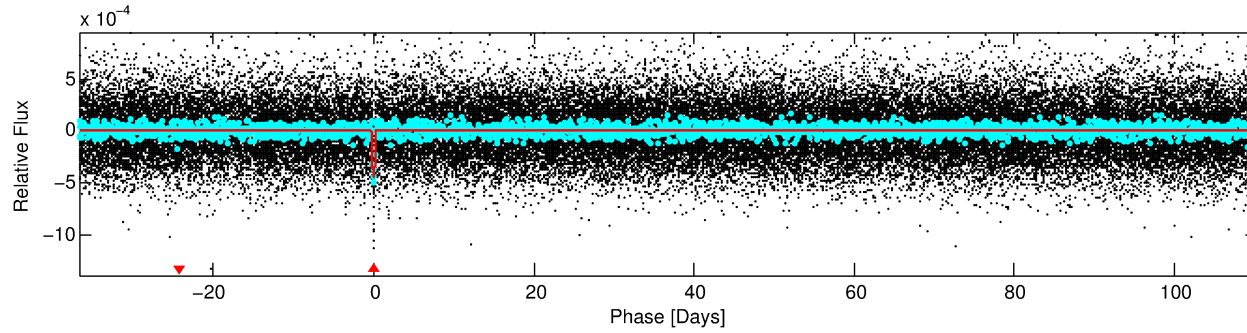
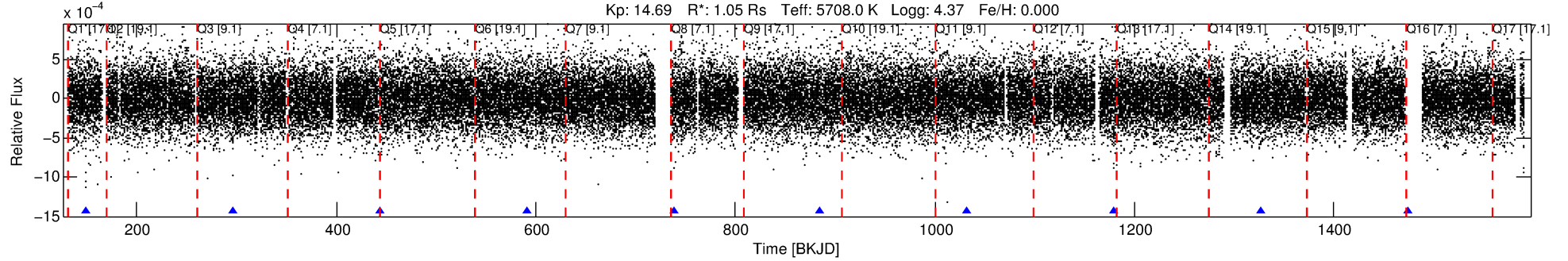
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010798331-01

No Significant Match Found

DV One-Page Summary

KIC: 10798331 Candidate: 1 of 1 Period: 147.282 d
KOI: K02373.01 Corr: 0.990



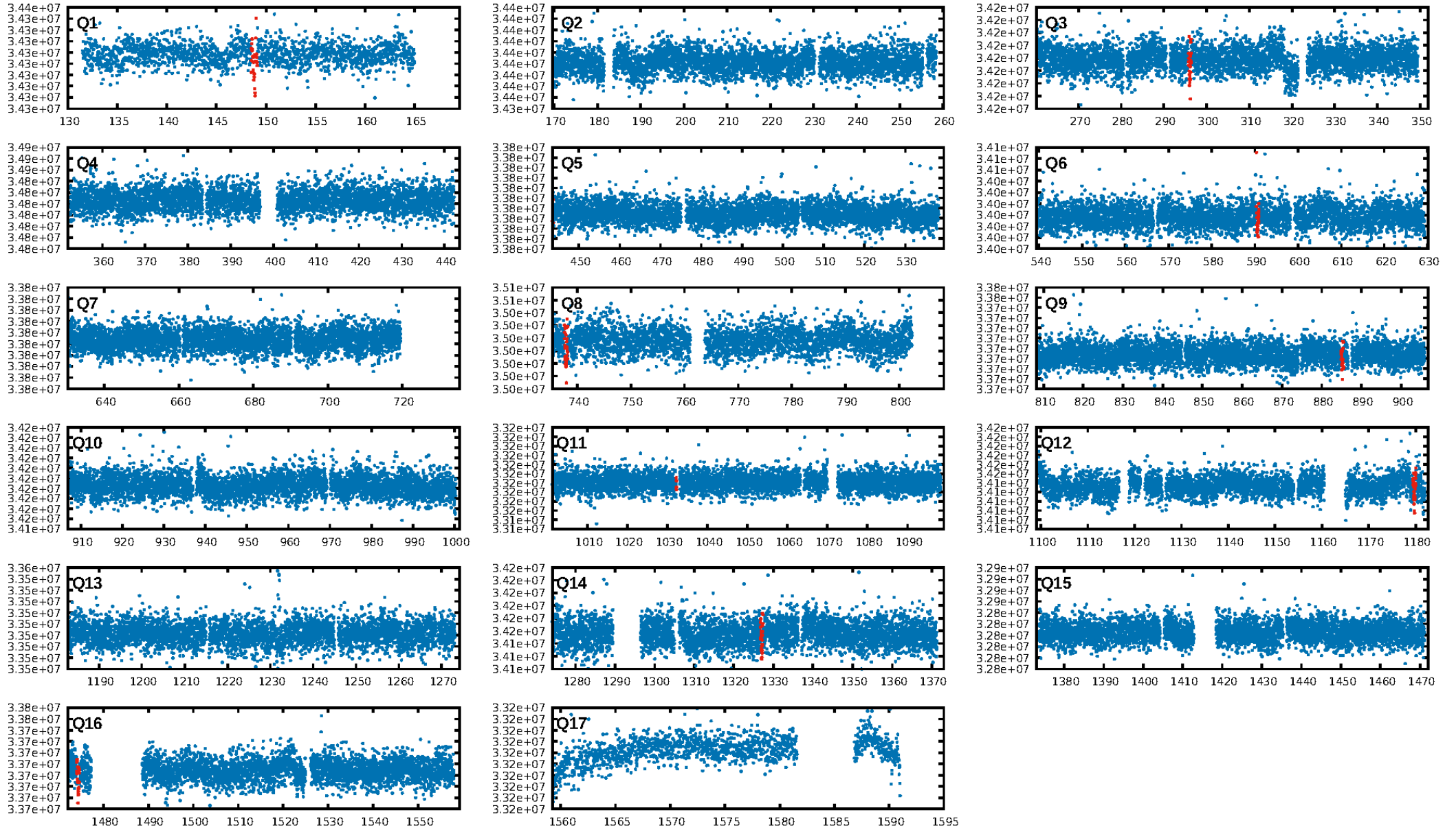
DV Fit Results:

Period = 147.28158 [0.00177] d
Epoch = 148.7995 [0.0085] BKJD
Rp/R* = 0.0203 [0.0124]
a/R* = 114.09 [301.72]
b = 0.68 [2.08]
Seff = 3.70 [0.81]
Teq = 354 [19] K
Rp = 2.34 [1.47] Re
a = 0.5346 [0.0720] AU
Ag = 2844.38 [3600.77] [0.79 σ]
Teff = 3992 [1250] K [2.91 σ]

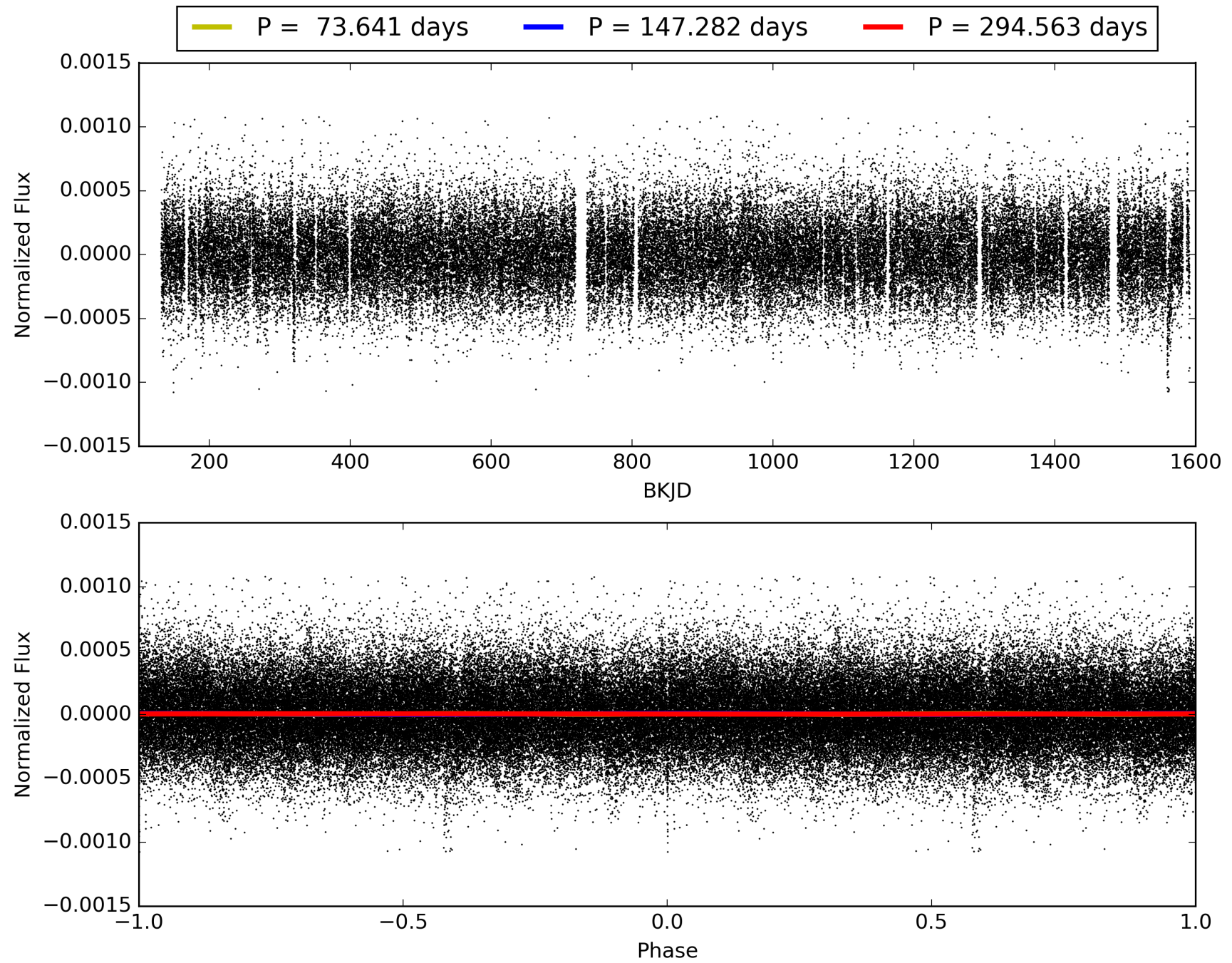
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.37e-33
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 1.765
Centroid-sig: 2.0%
Centroid-so: 1.811 arcsec [1.98 σ]
OotOffset-rm: 0.715 arcsec [0.71 σ]
KicOffset-rm: 0.680 arcsec [0.67 σ]
OotOffset-st: 2/1/1/2 [6]
KicOffset-st: 2/1/1/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [7/7]

TCE 010798331-01, PDC Light Curves

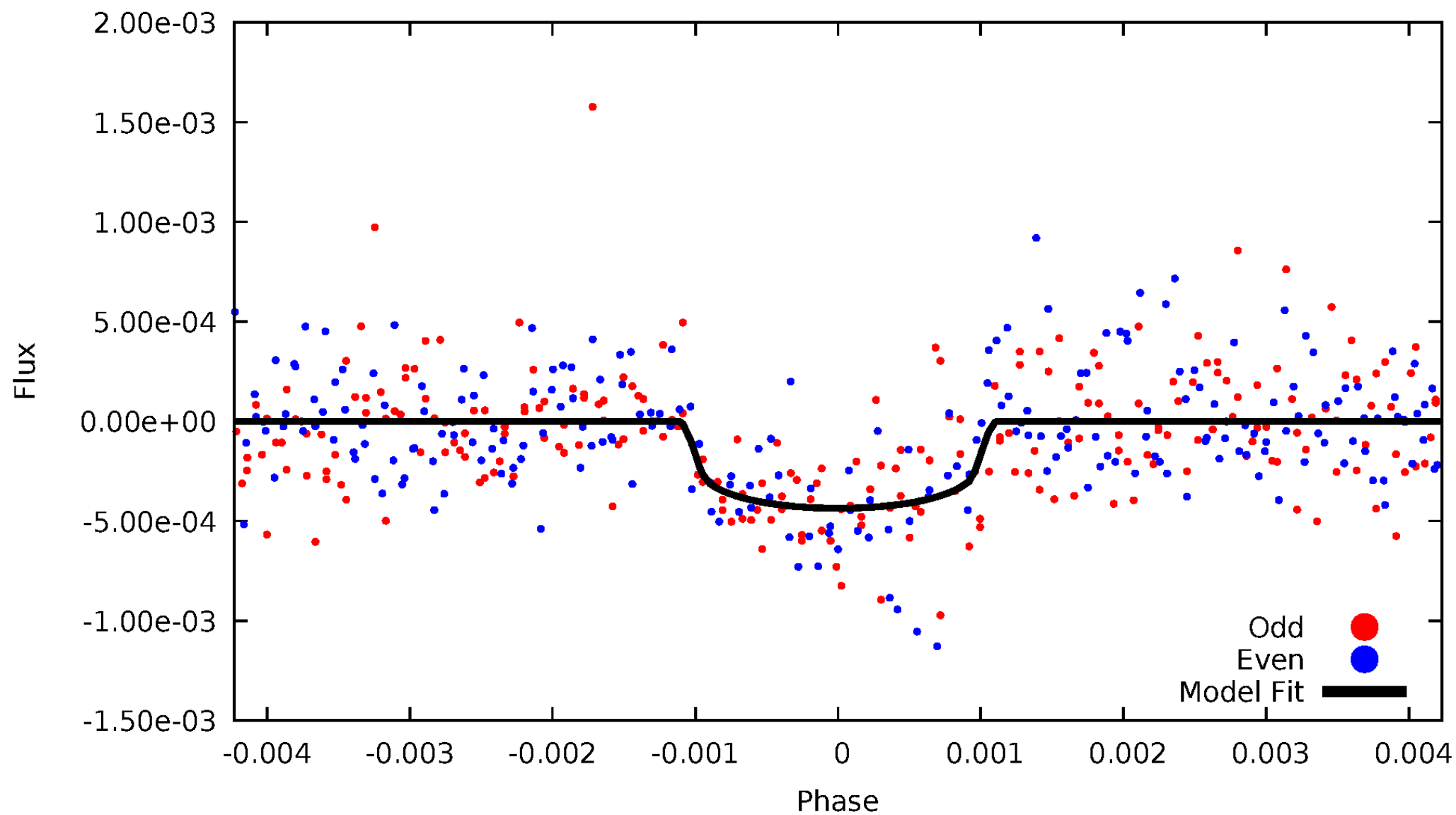


TCE 010798331-01



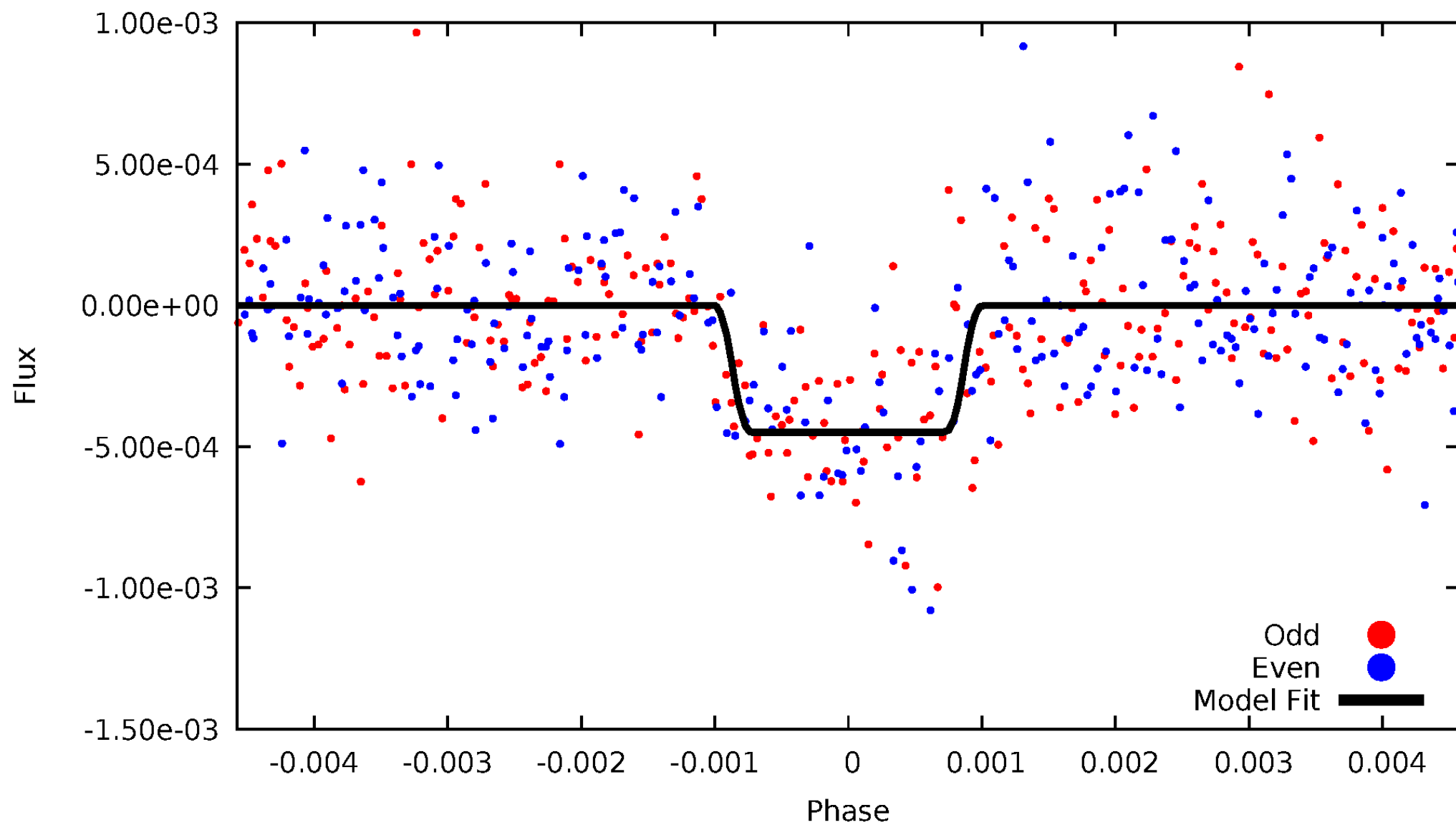
DV Odd/Even

TCE 010798331-01



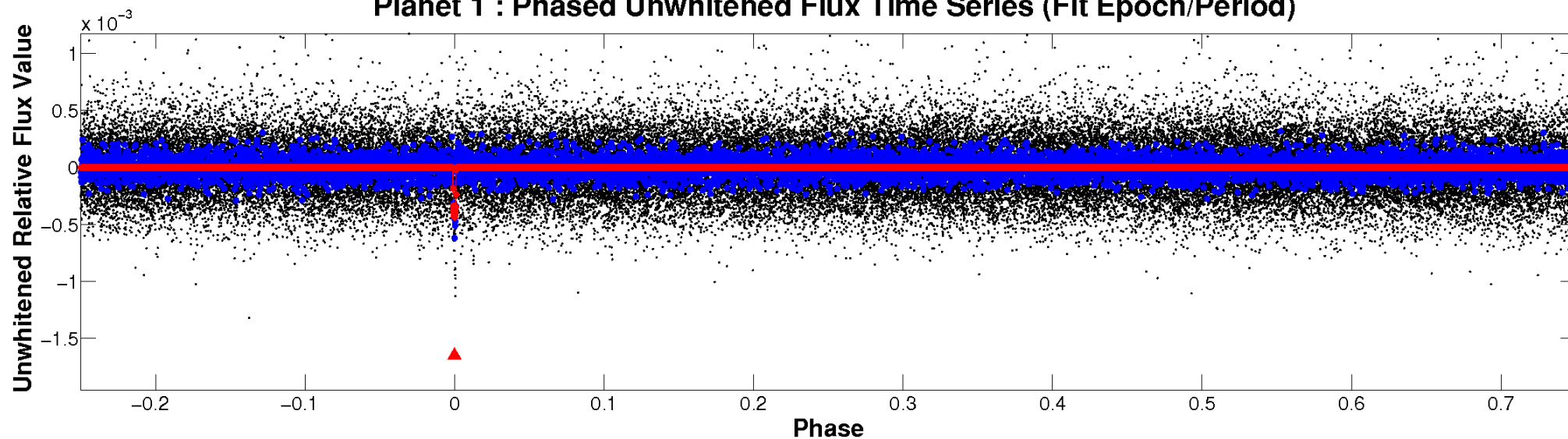
ALT Odd/Even

TCE 010798331-01

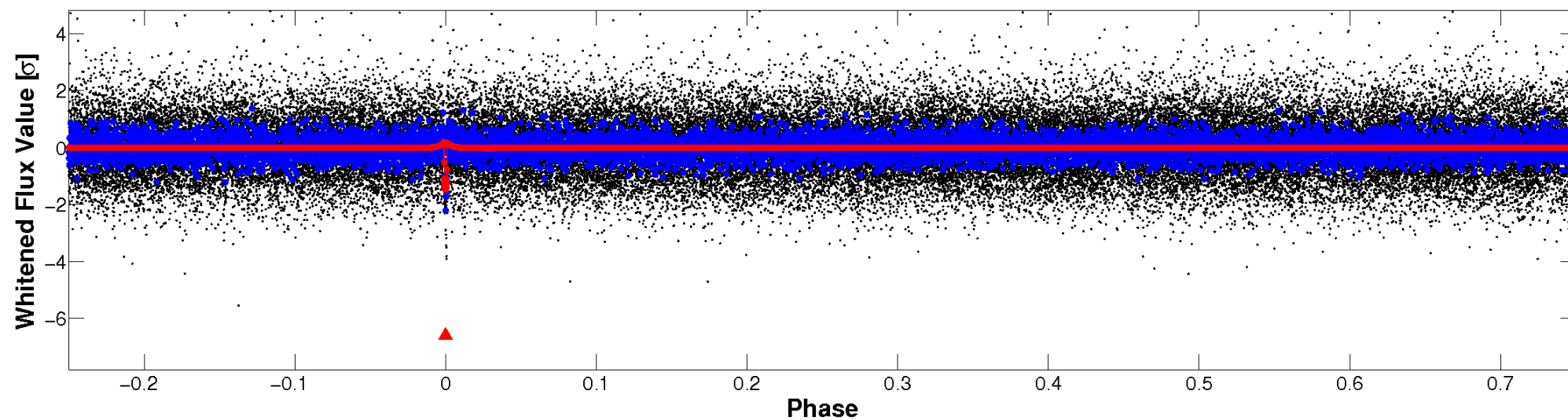


Non-Whitened Vs. Whitened Light Curve

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

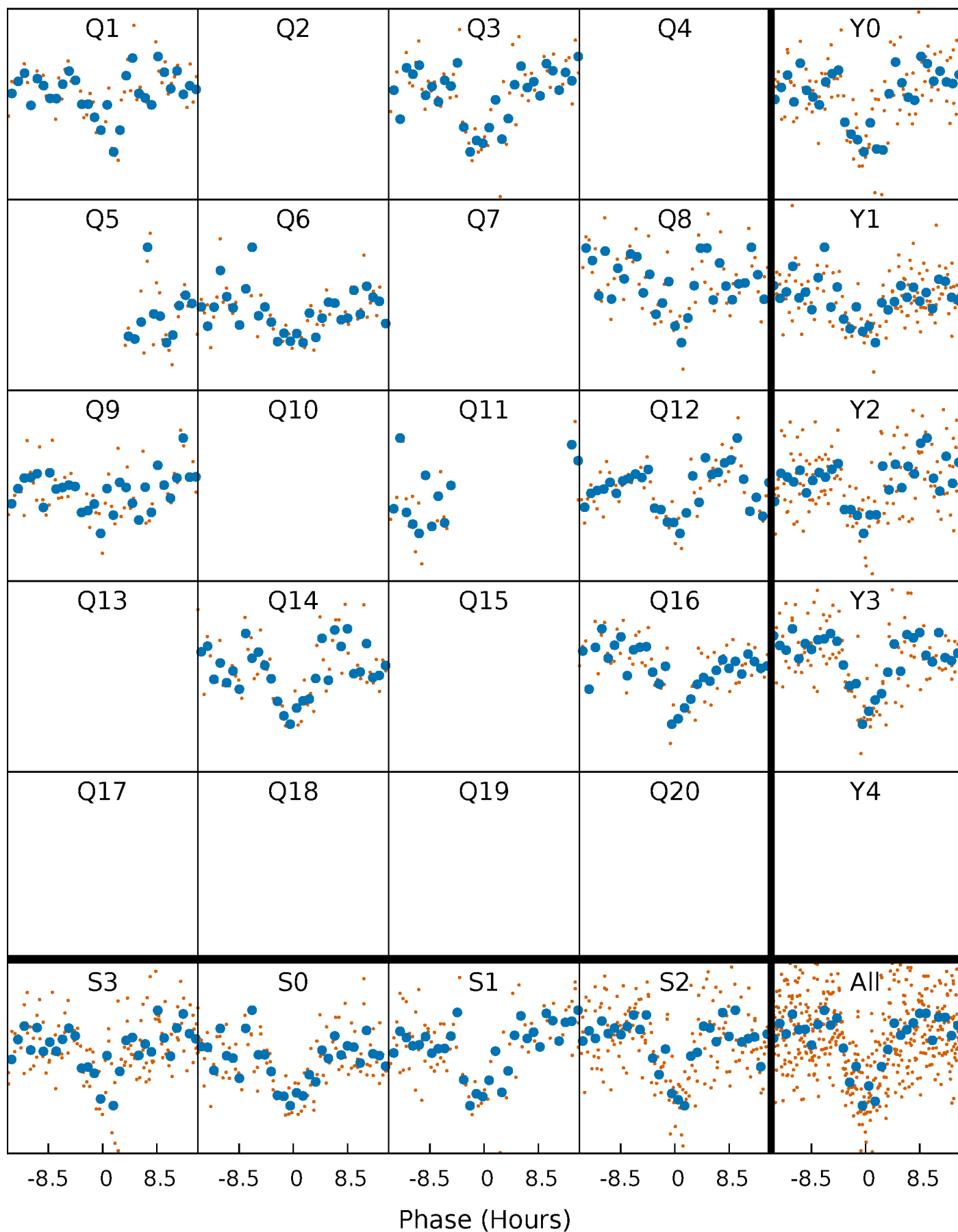


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



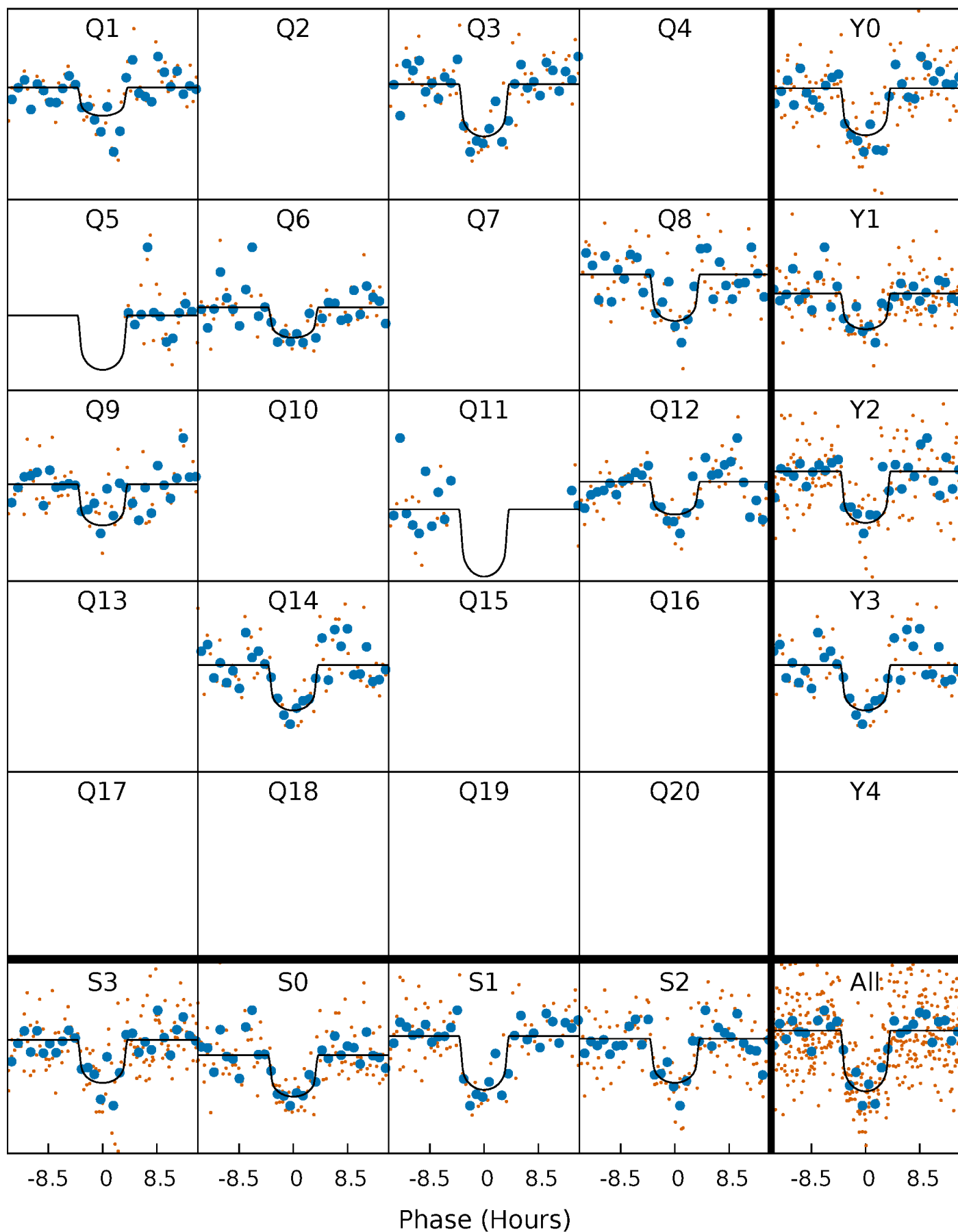
PDC Quarter-Phased Transit Curves

TCE 010798331-01 P=147.281577 Days $T_0=148.799494$ (BKJD)



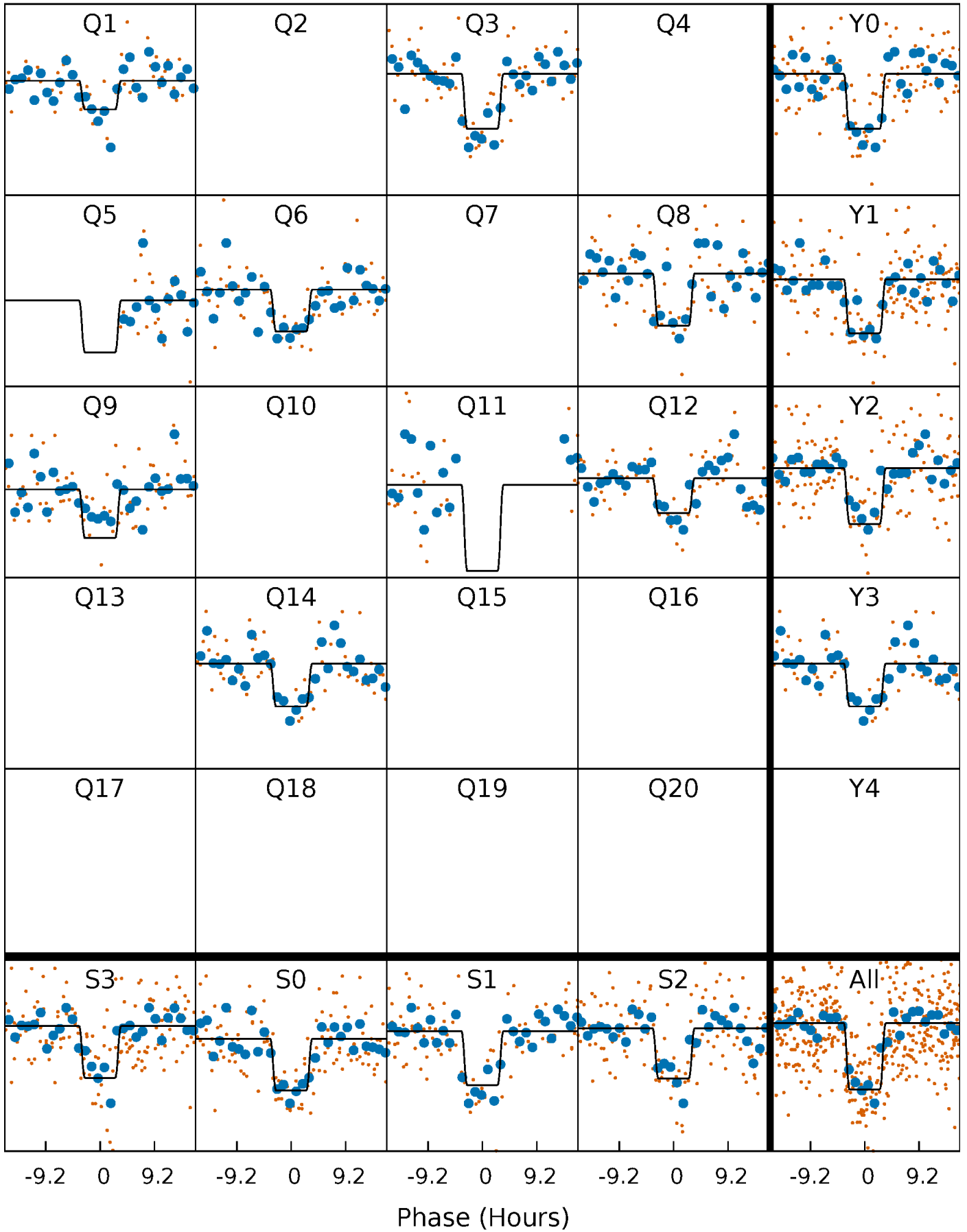
DV Quarter-Phased Transit Curves

TCE 010798331-01 P=147.281577 Days $T_0=148.799494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

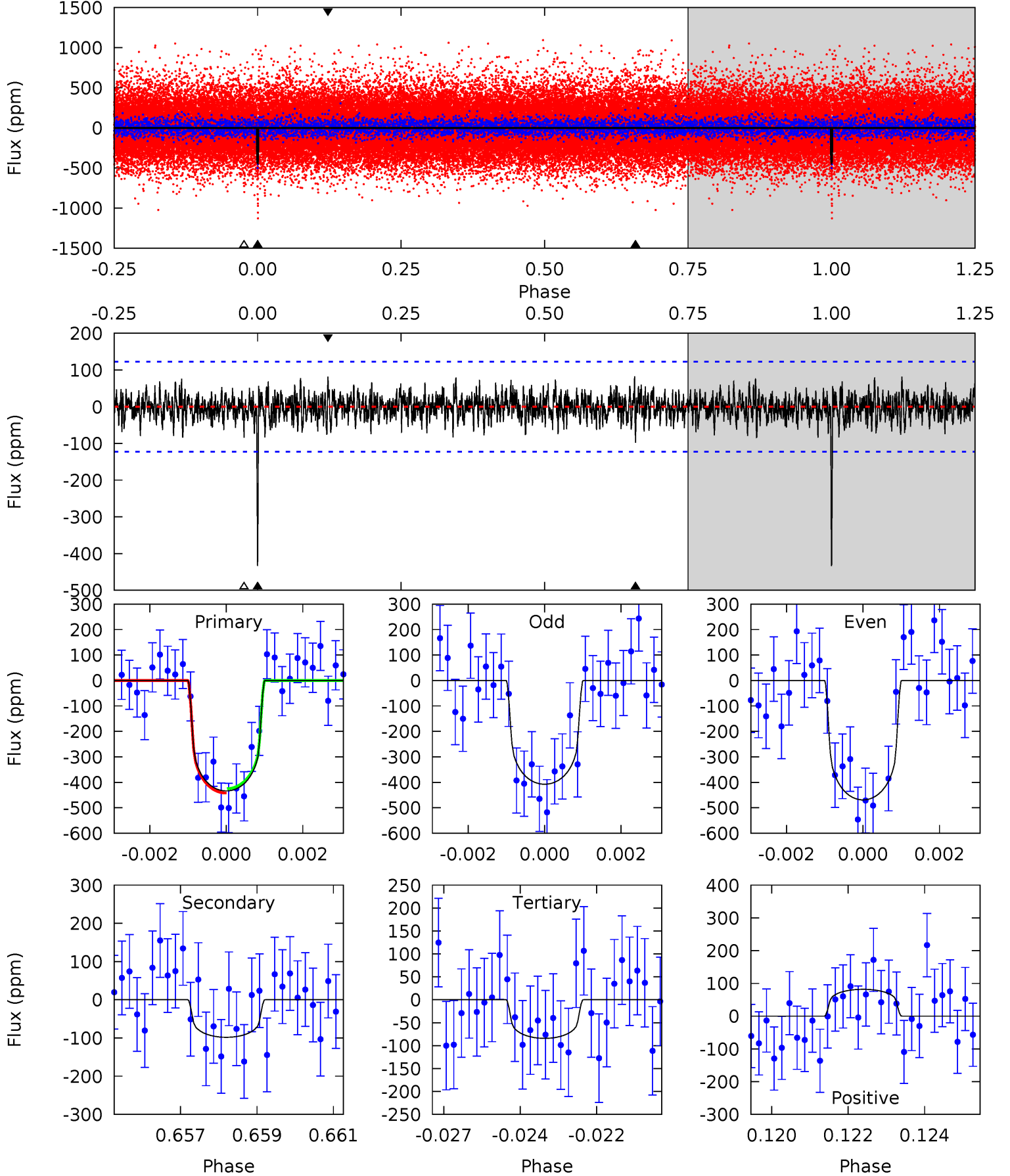
TCE 010798331-01 P=147.277279 Days $T_0=148.810901$ (BKJD)



DV Model-Shift Uniqueness Test

010798331-01, P = 147.281577 Days, E = 1.517917 Days

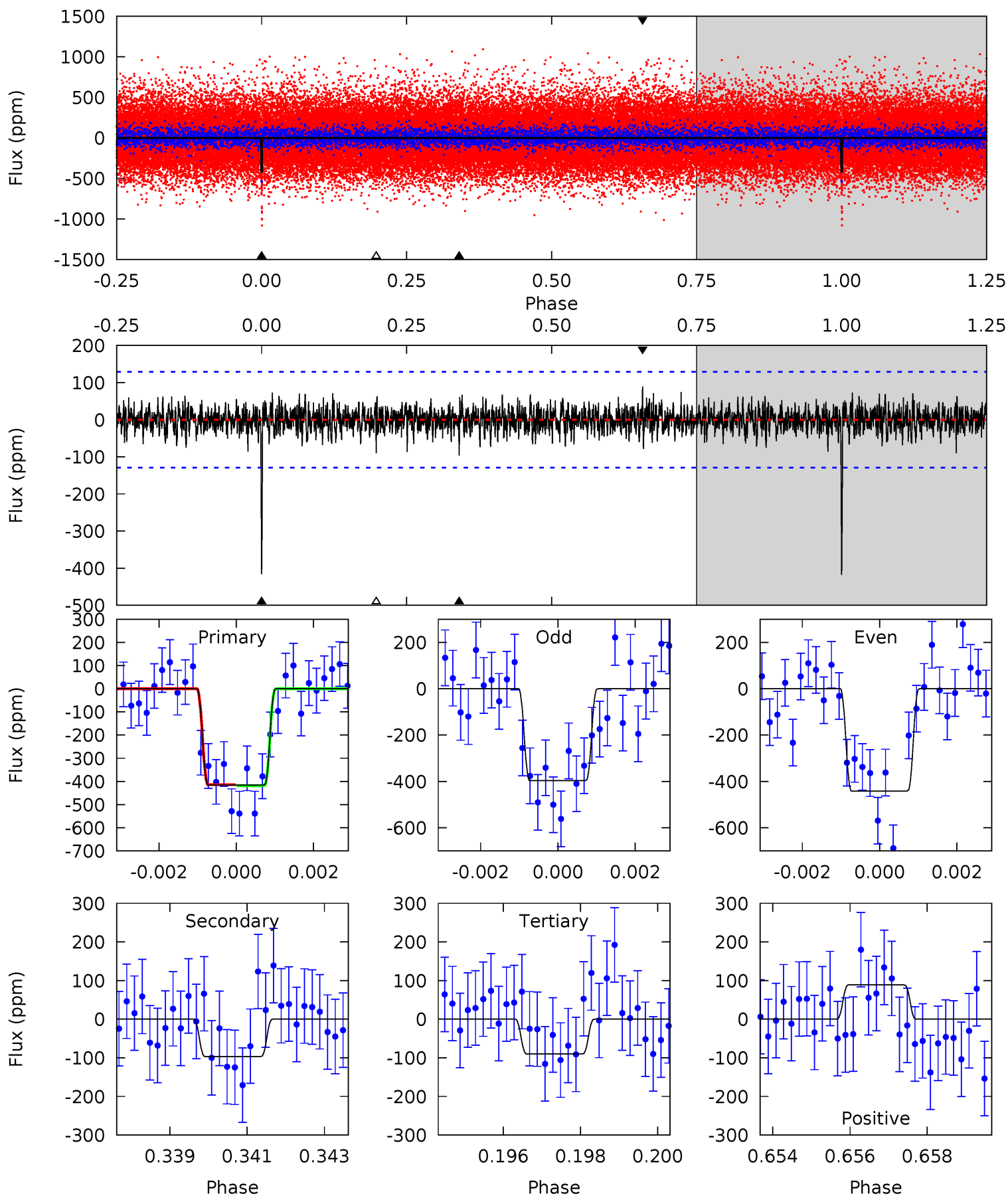
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	4.25	3.64	3.54	5.31	3.06	1.14	15.1	15.2	0.61	0.71	1.32	0.98	0.16	0.37



Alt Model-Shift Uniqueness Test

010798331-01, P = 147.277279 Days, E = 1.533622 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	3.99	3.72	3.66	5.33	3.09	0.99	13.5	13.5	0.27	0.33	0.92	0.94	0.18	0.09



Stellar Parameters For KIC 010798331

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5708^{+114}_{-103}	$4.365^{+0.115}_{-0.103}$	$0.000^{+0.150}_{-0.150}$	$1.054^{+0.161}_{-0.135}$	$0.939^{+0.071}_{-0.057}$	$1.130^{+0.548}_{-0.370}$
	+2%/-2%	+3%/-2%	+inf%/-inf%	+15%/-13%	+8%/-6%	+48%/-33%
Source	SPE57	SPE57	SPE57	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010798331-01 / KOI 2373.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98 ± 23	$2.43^{+1.42}_{-1.20}$	494^{+22}_{-20}	4156^{+1540}_{-630}	2621^{+8656}_{-1655}
Alt.	-97 ± 24	$2.52^{+1.42}_{-1.28}$	495^{+21}_{-21}	4108^{+1423}_{-575}	2359^{+8081}_{-1393}

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

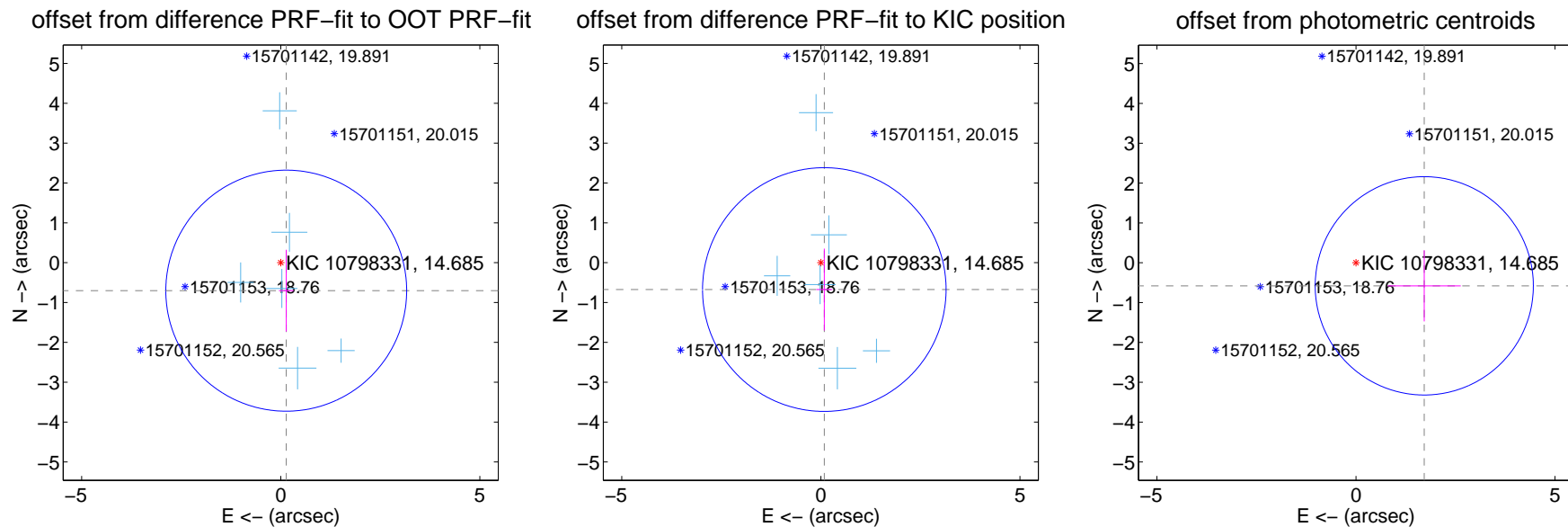
DV Centroid Data

Supplemental centroid analysis for 010798331-01. Kepler magnitude: 14.69. Transit SNR 12.82

There are 6 quarters with good PRF difference image offsets

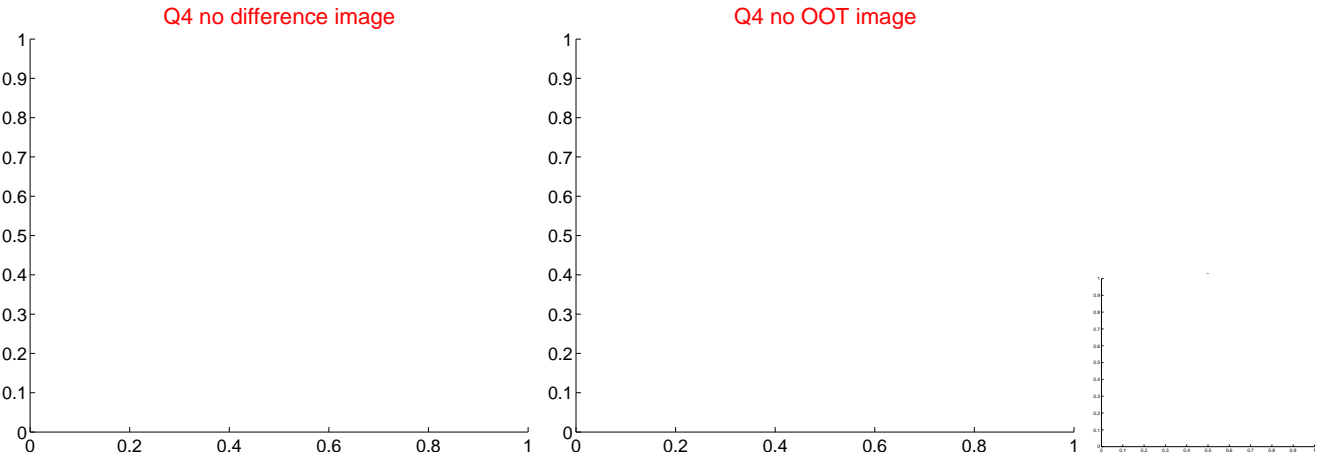
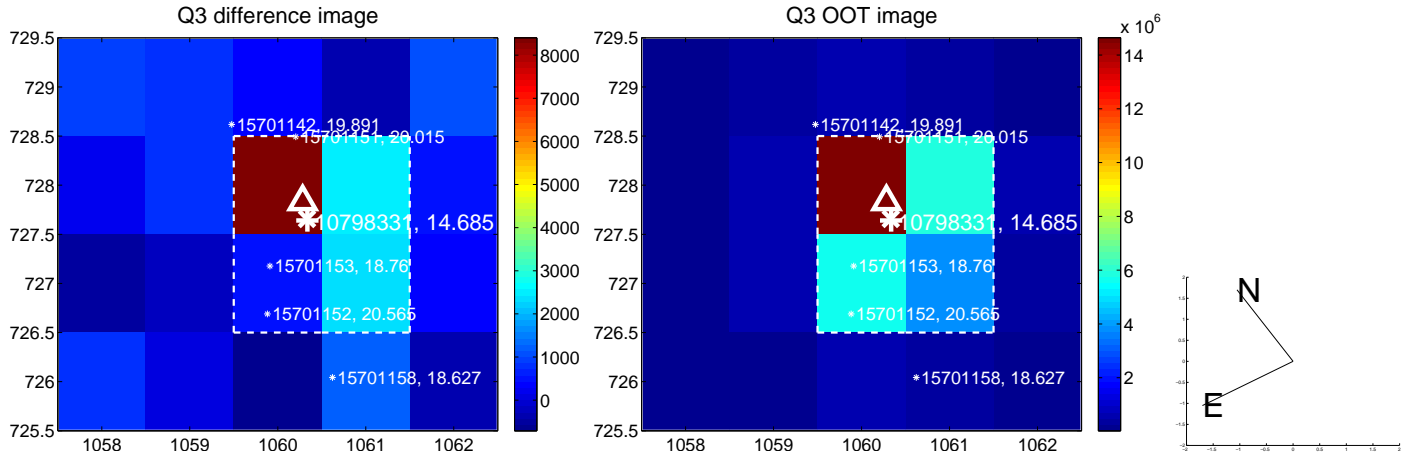
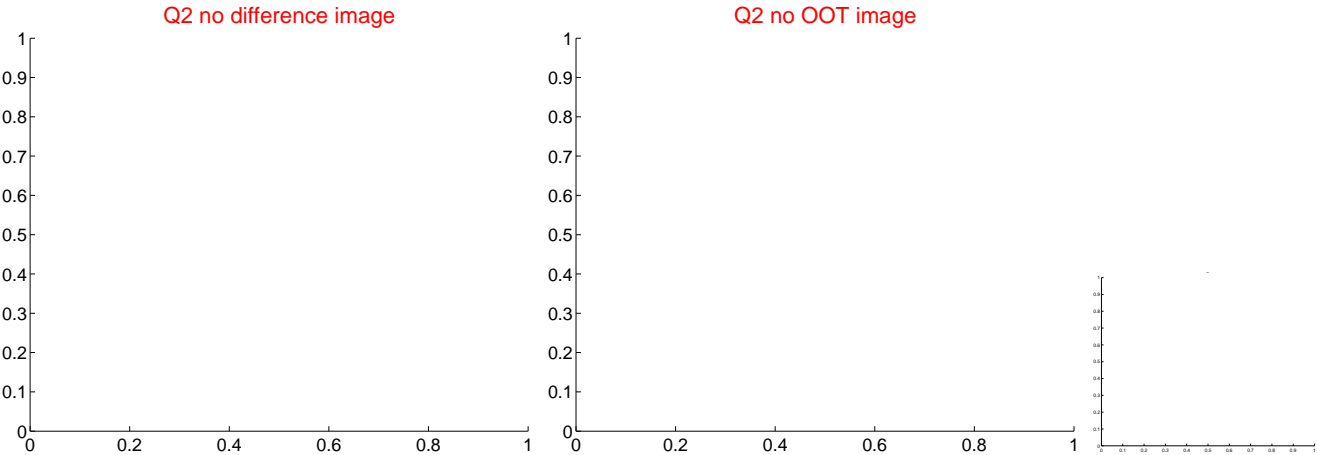
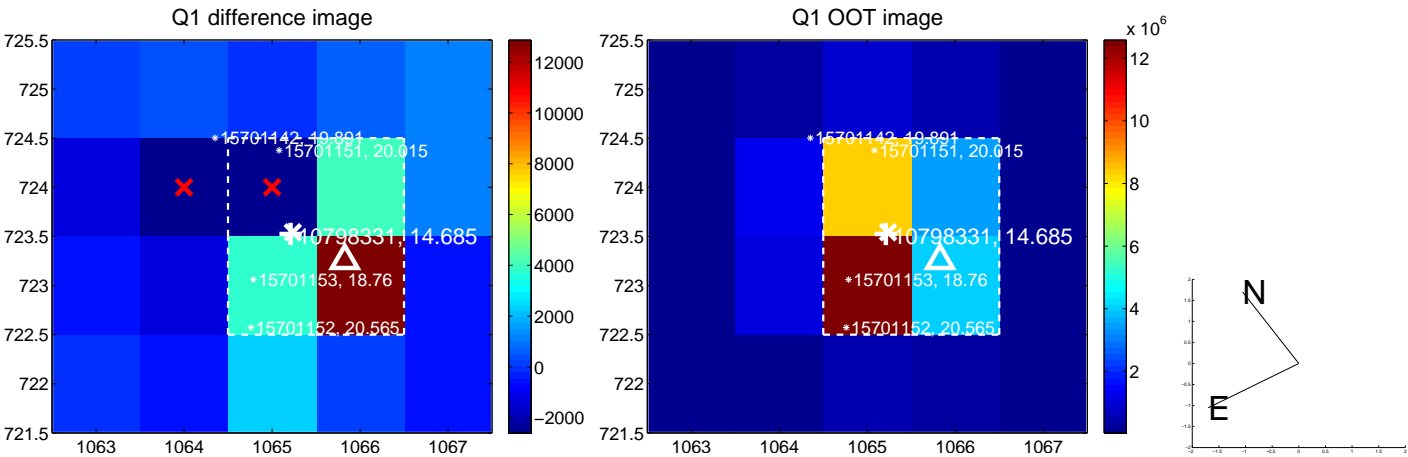
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.715 ± 1.008	0.71	-0.138 ± 0.183	-0.702 ± 1.027
PRF-fit source offset from KIC position	0.680 ± 1.019	0.67	-0.087 ± 0.202	-0.674 ± 1.027
photometric centroid source offset	1.81 ± 0.91	1.98	-1.72 ± 0.92	-0.58 ± 0.89

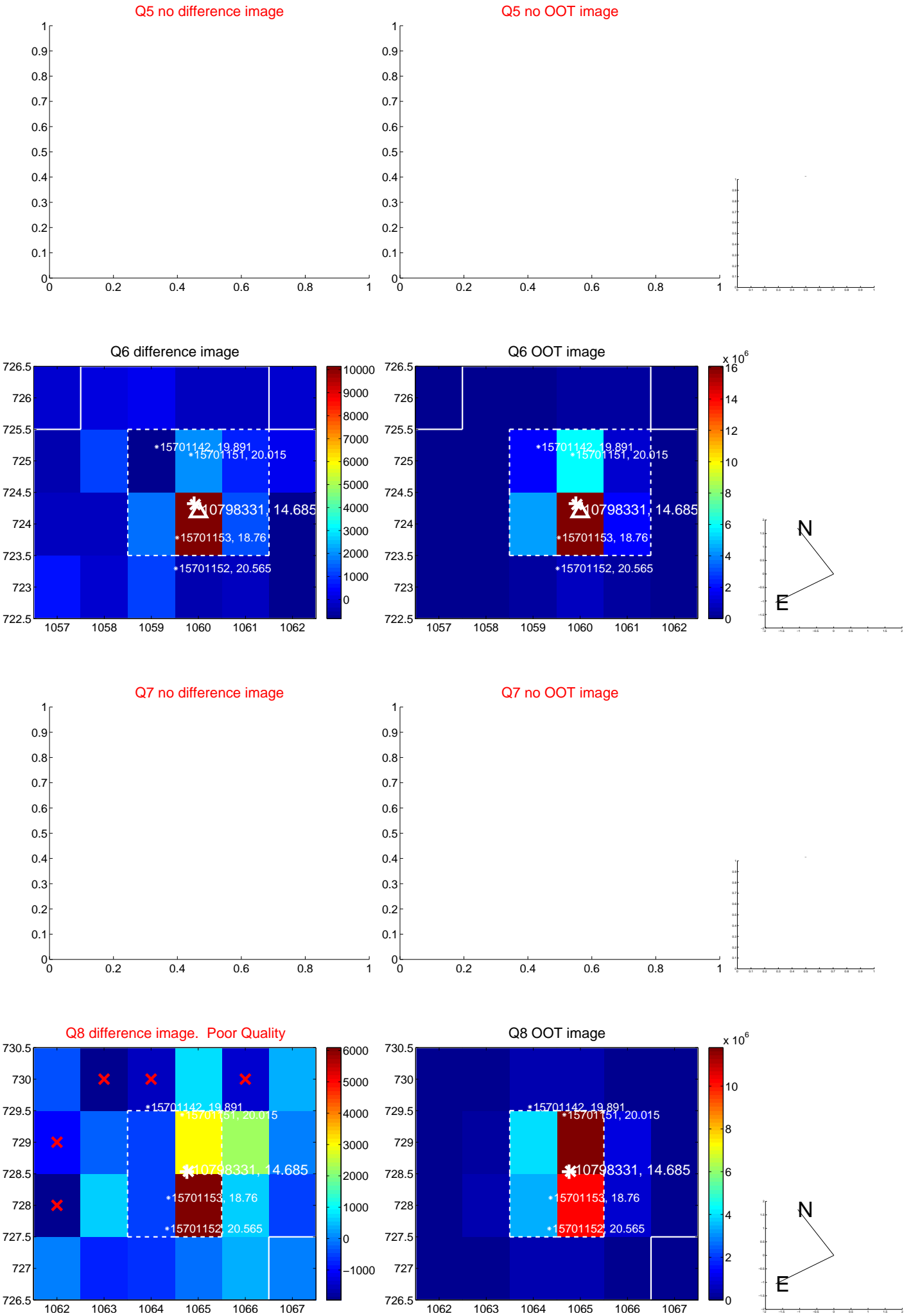


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

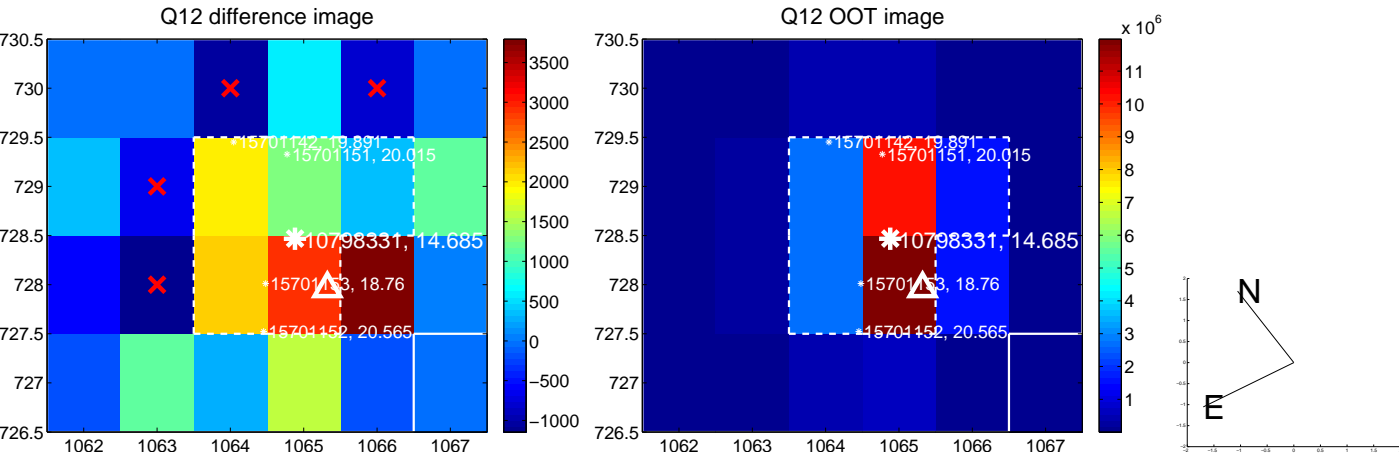
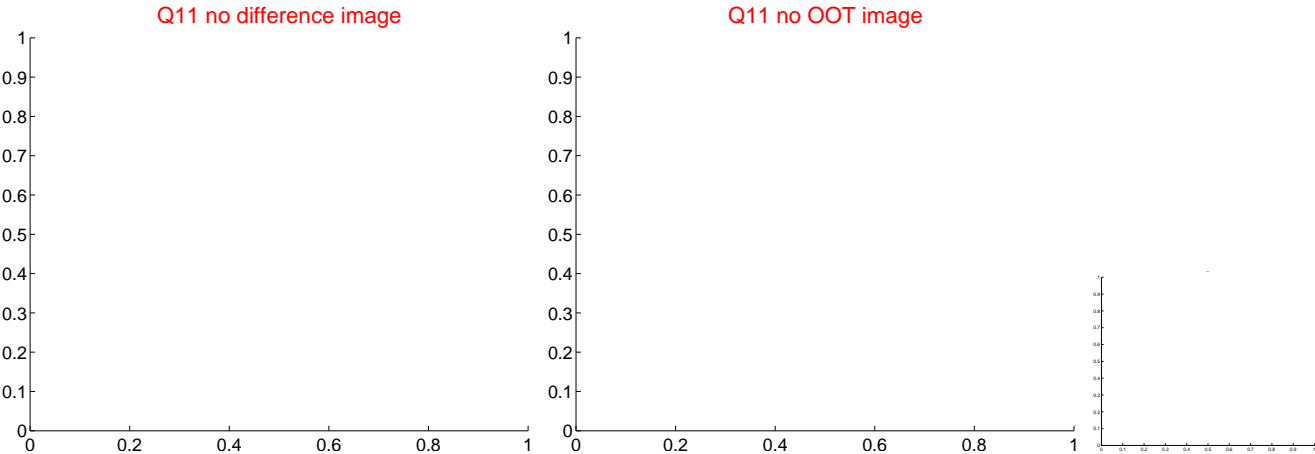
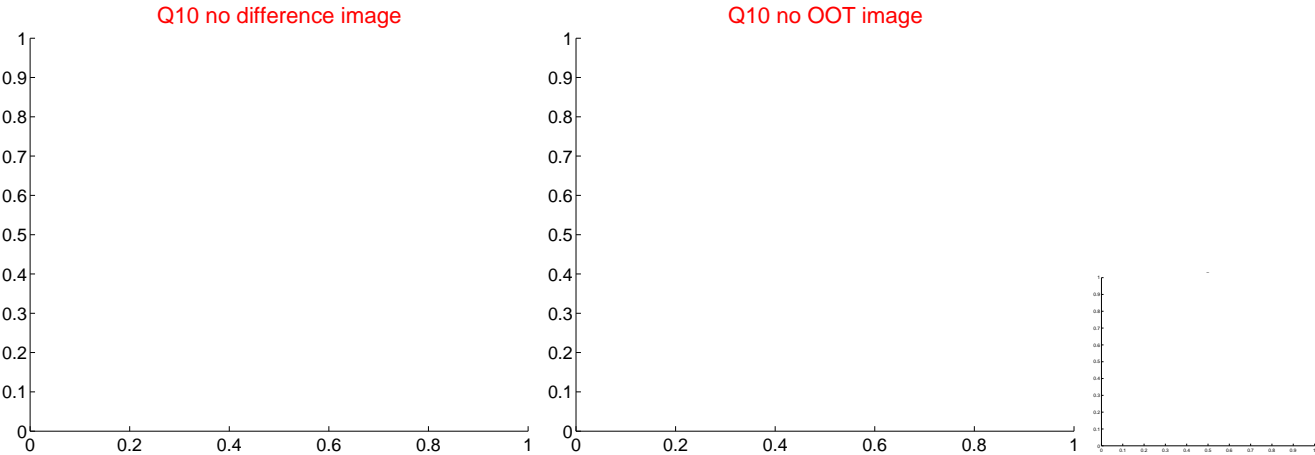
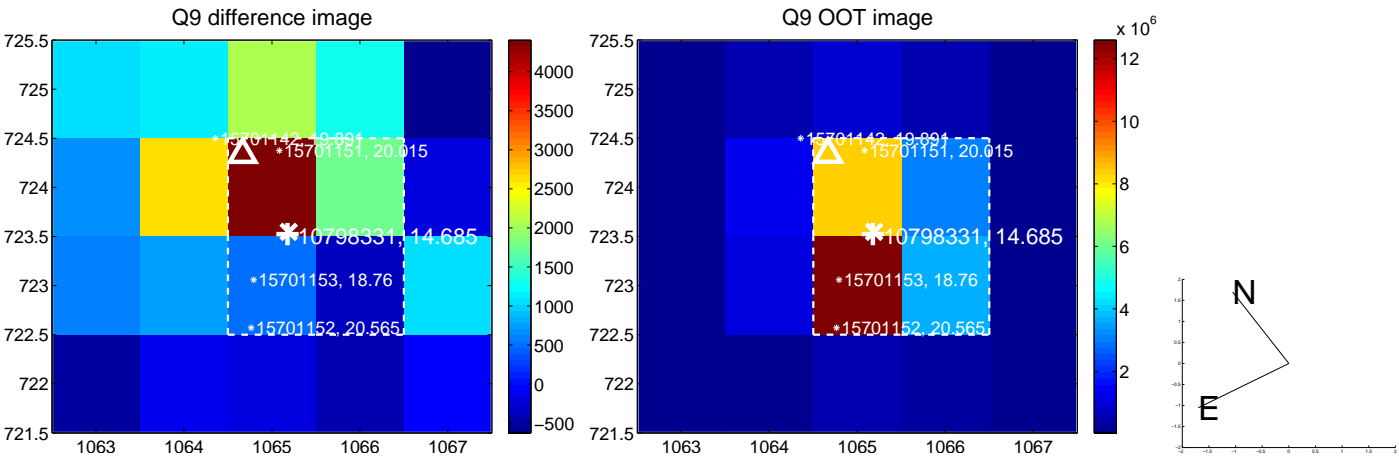
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

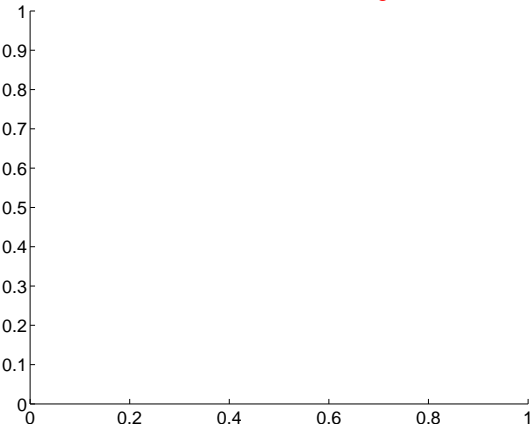


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

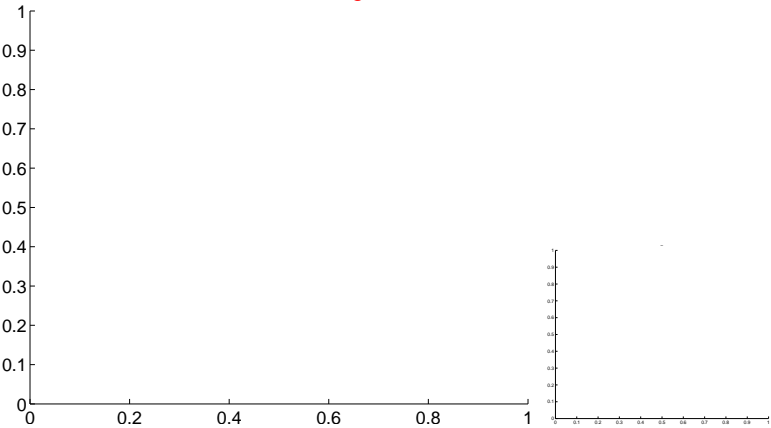


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

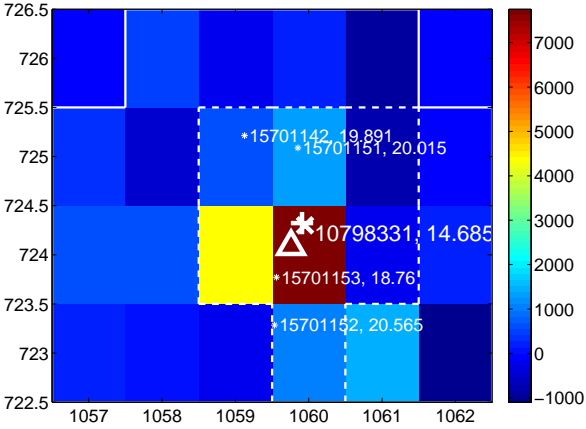
Q13 no difference image



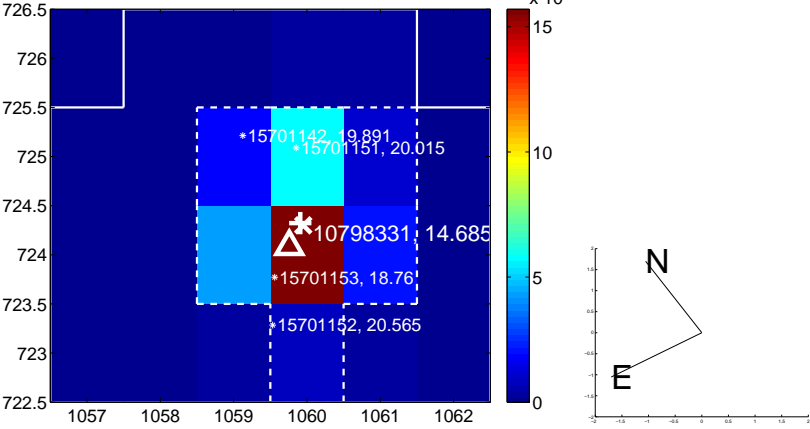
Q13 no OOT image



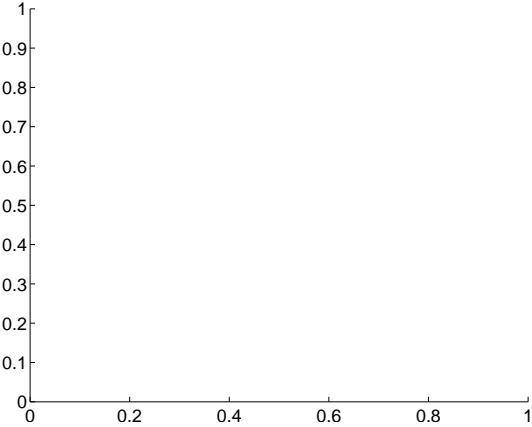
Q14 difference image



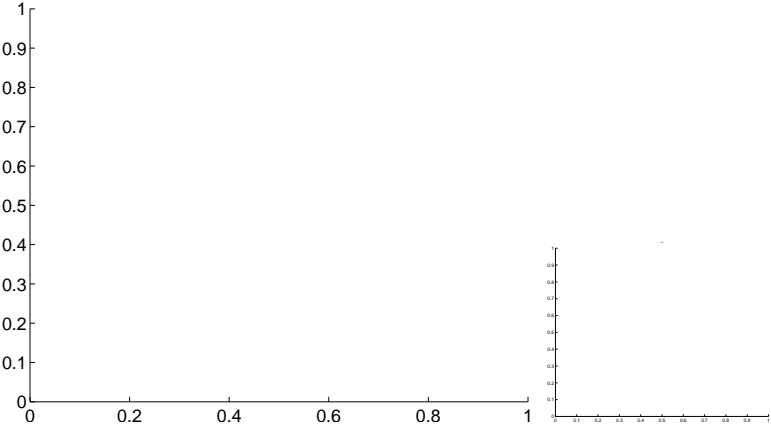
Q14 OOT image



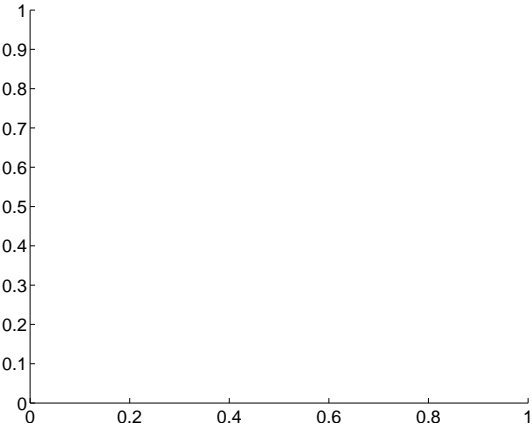
Q15 no difference image



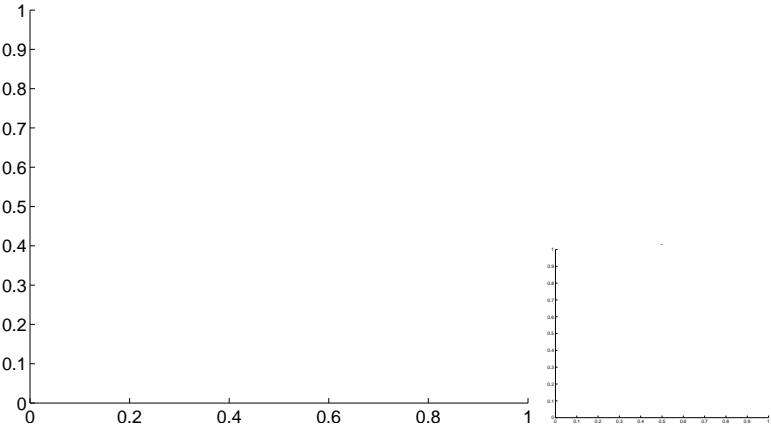
Q15 no OOT image



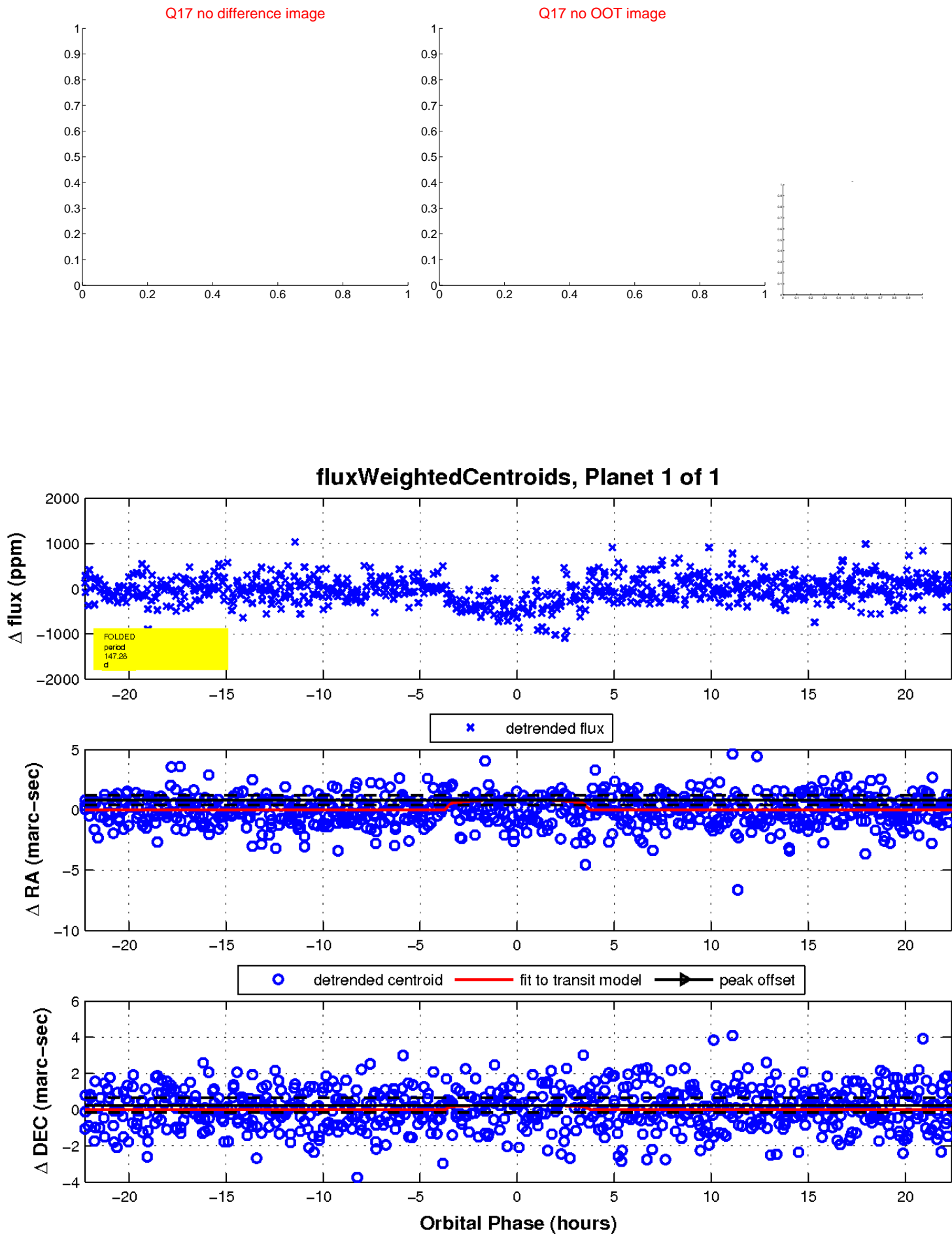
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

