

KIC 009649995

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})
009649995-01	OBS	No	357.305733	366.355104	412.2	13.303	7.8	7.4	0.96	5808	2.10	0.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009649995-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

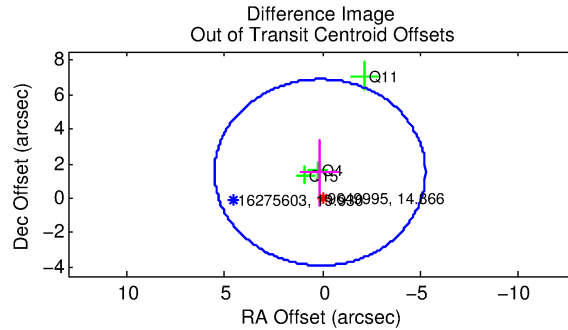
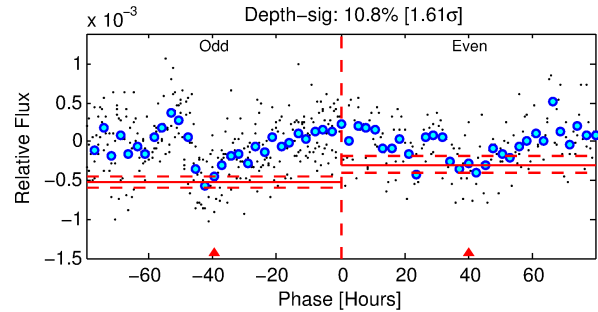
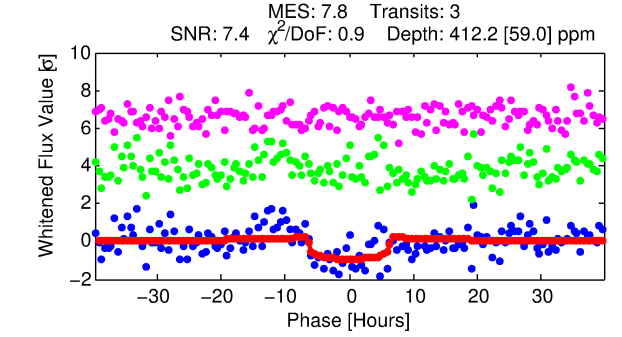
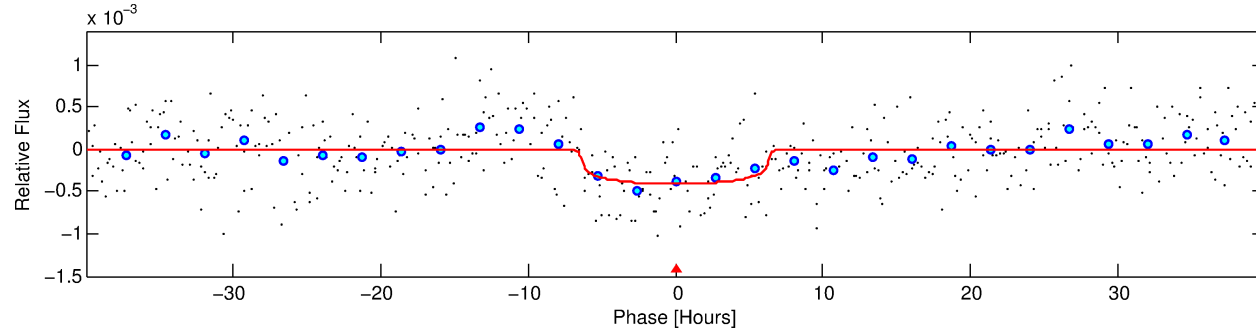
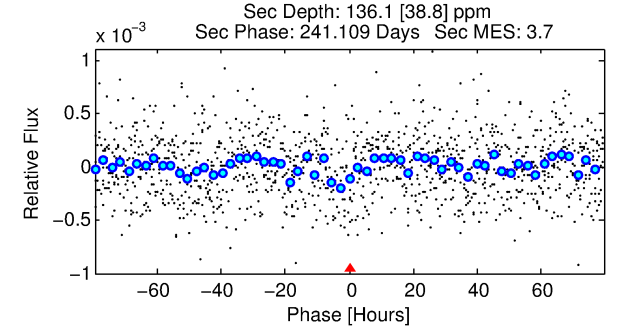
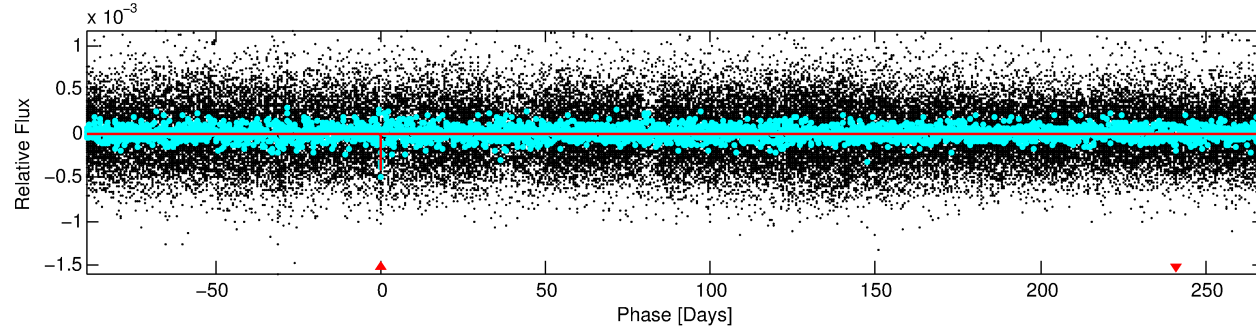
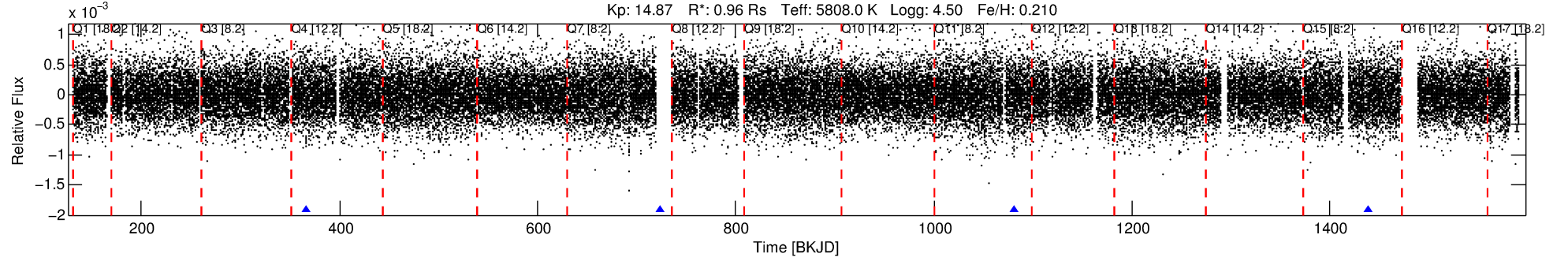
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009649995-01

No Significant Match Found

DV One-Page Summary

KIC: 9649995 Candidate: 1 of 1 Period: 357.306 d



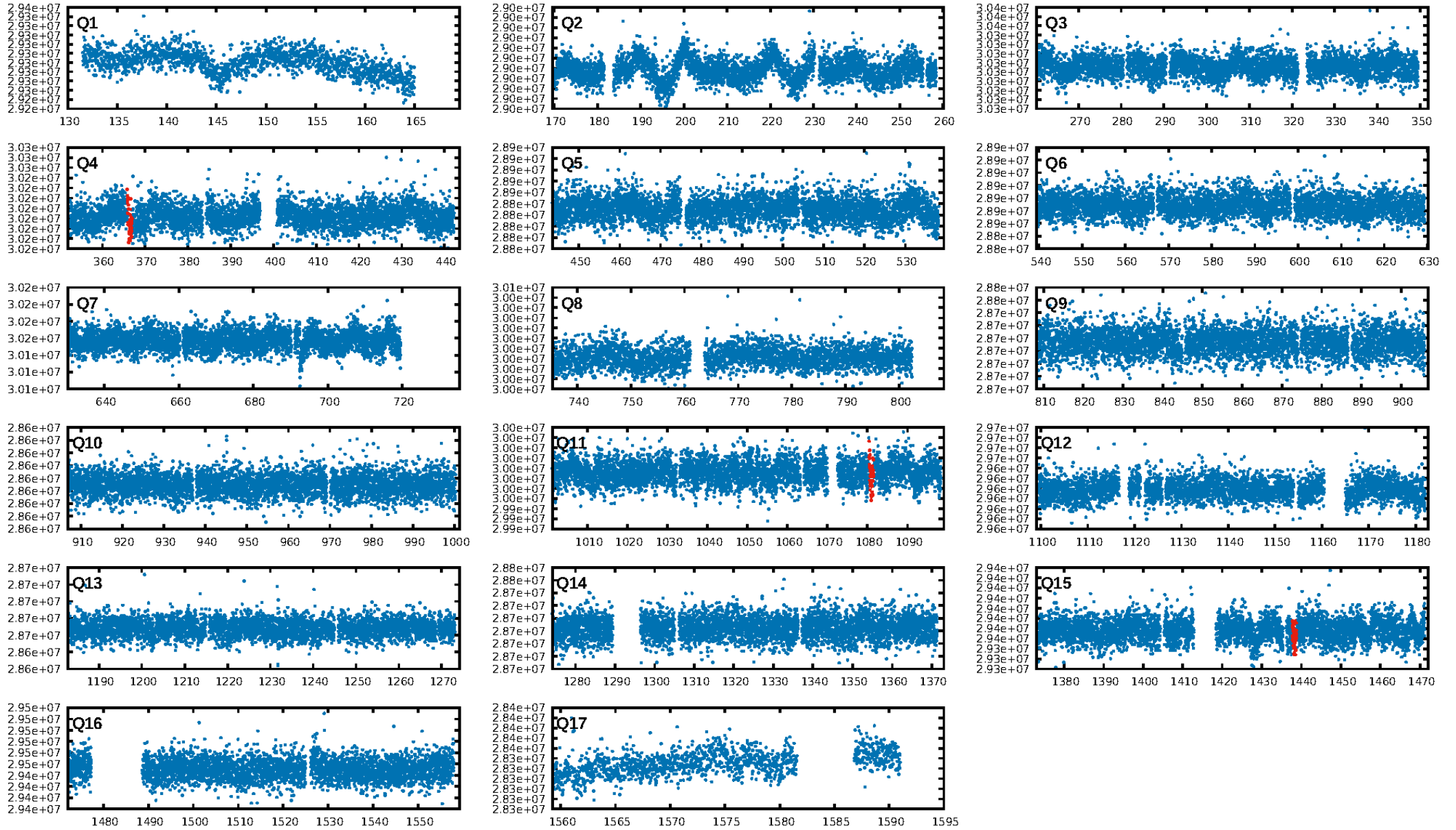
DV Fit Results:

Period = 357.30573 [0.01049] d
Epoch = 366.3551 [0.0194] BKJD
Rp/R* = 0.0200 [0.0089]
a/R* = 148.10 [280.71]
b = 0.72 [1.28]
Seff = 0.93 [0.38]
Teff = 250 [26] K
Rp = 2.10 [1.13] Re
a = 1.0104 [0.2650] AU
Ag = 17318.72 [17540.59] [0.99σ]
Teffp = 4437 [1045] K [4.00σ]

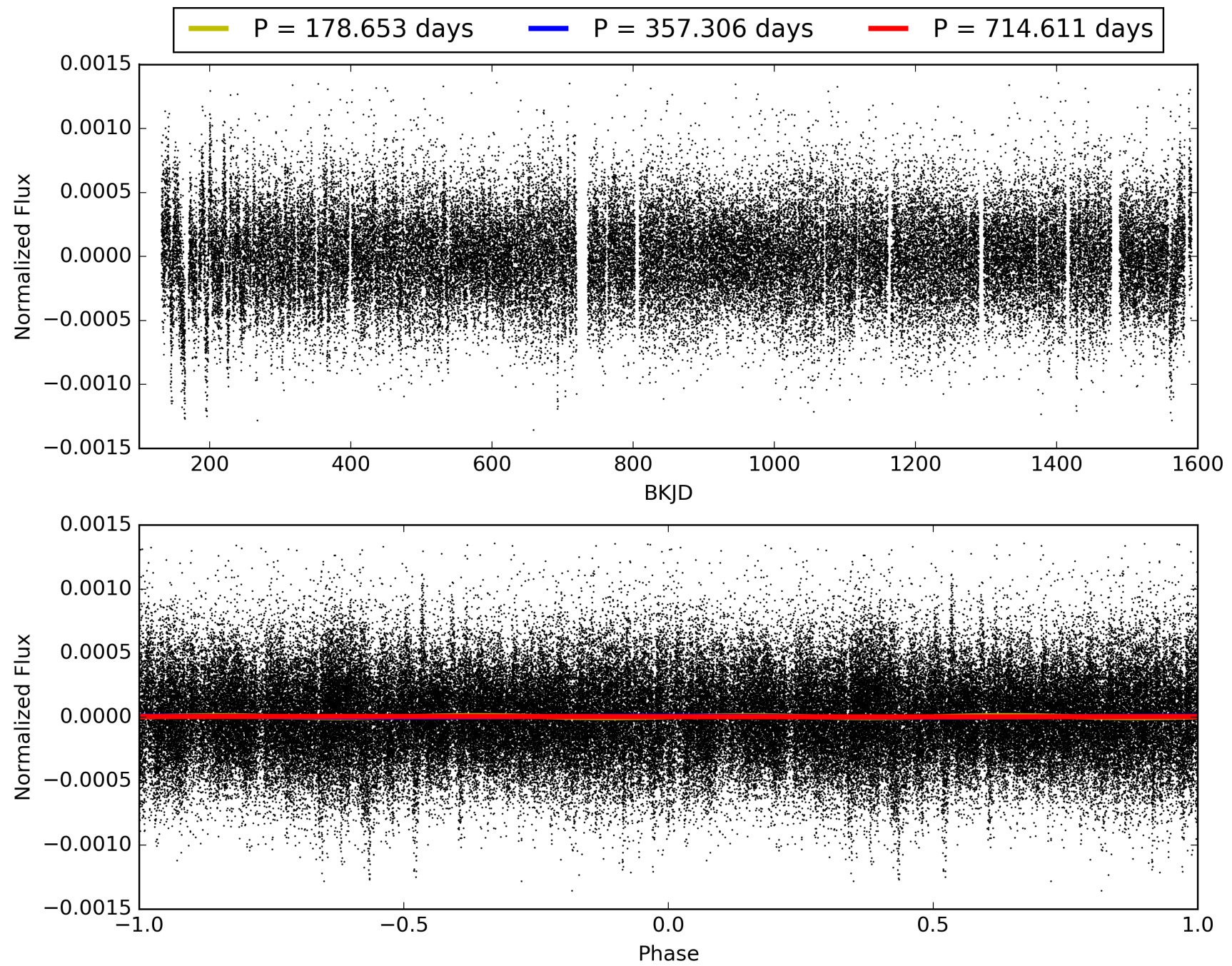
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.49e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.952
Centroid-sig: 30.4%
Centroid-so: 1.620 arcsec [0.86σ]
OotOffset-rm: 1.498 arcsec [0.83σ]
KicOffset-rm: 1.455 arcsec [1.10σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 009649995-01, PDC Light Curves

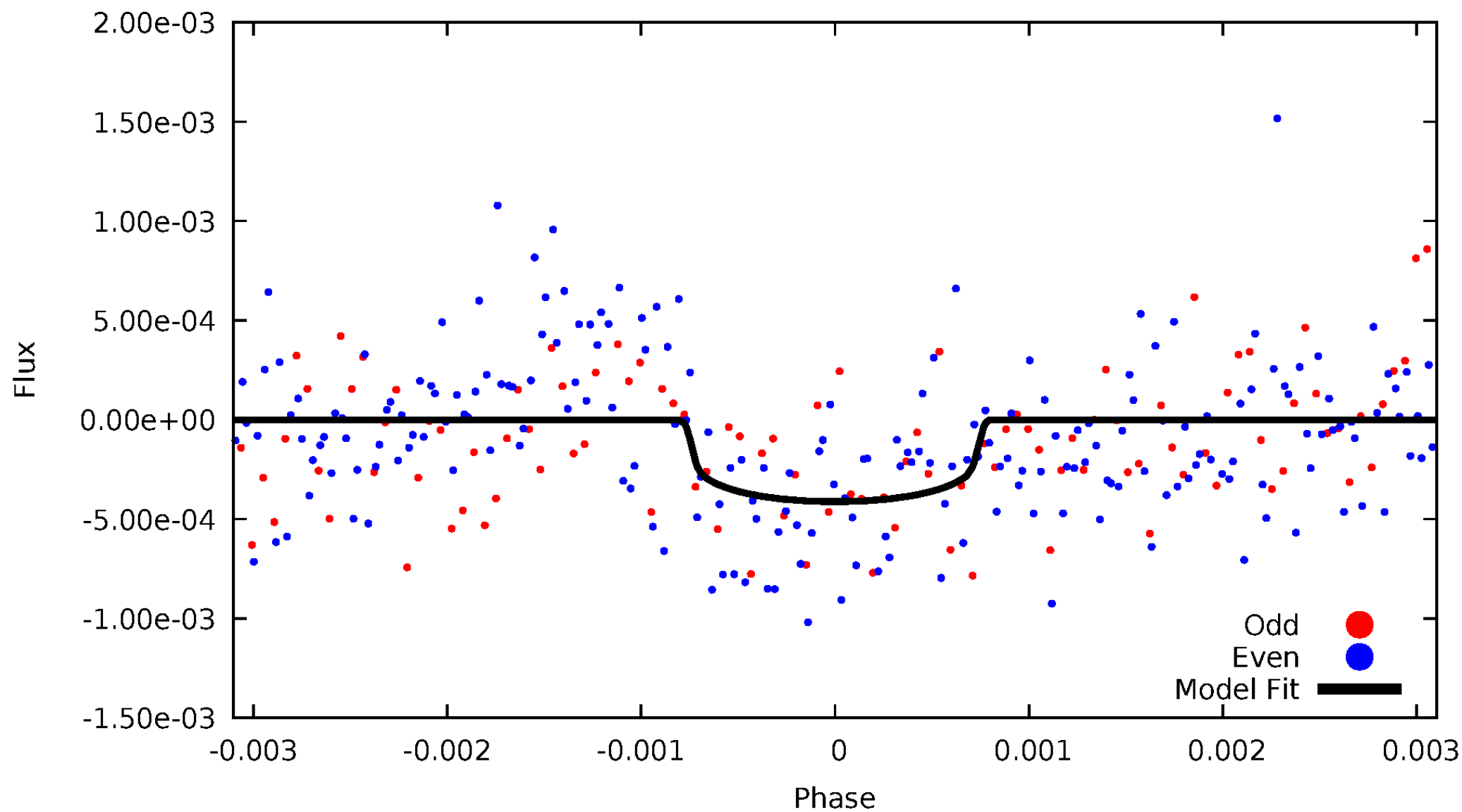


TCE 009649995-01



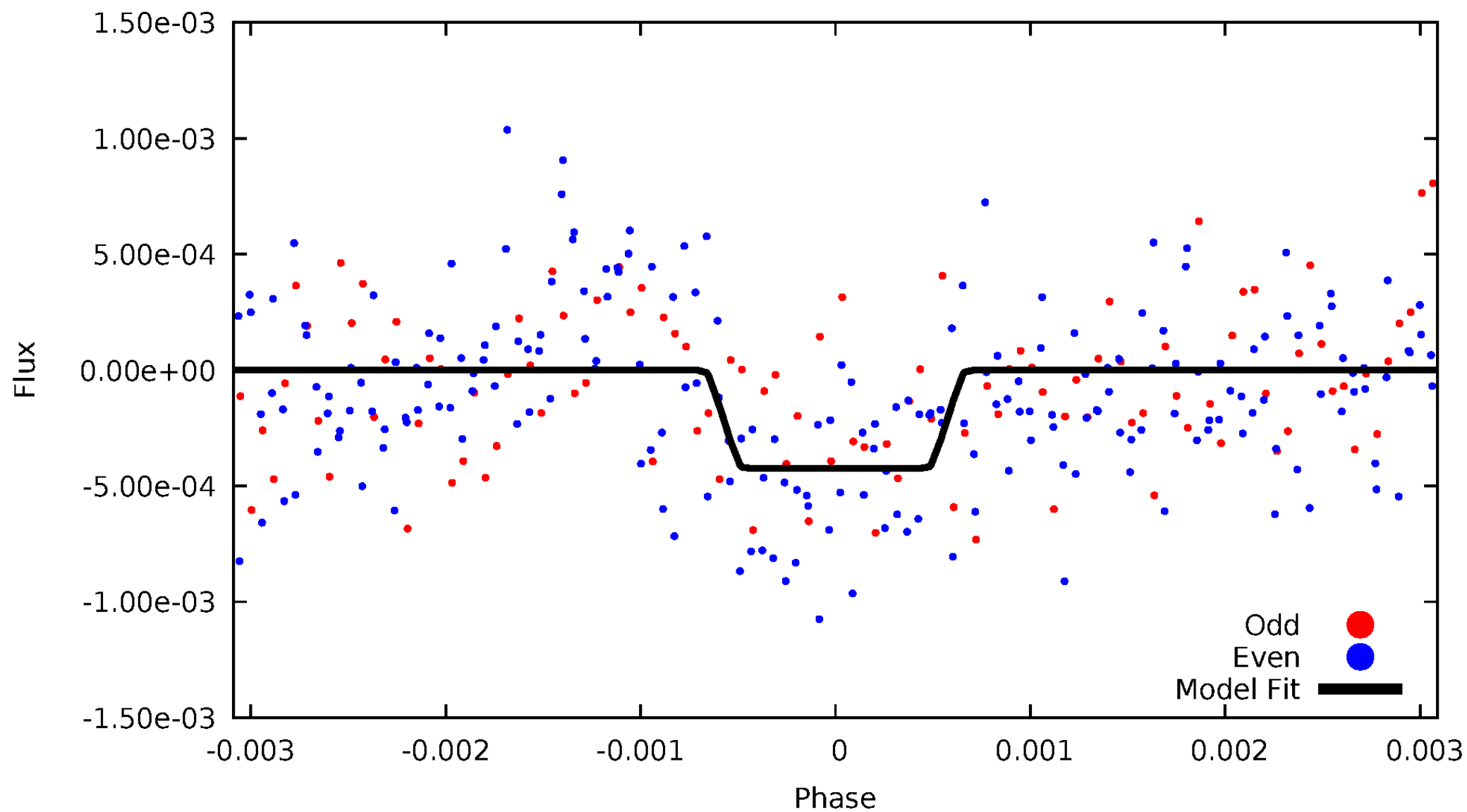
DV Odd/Even

TCE 009649995-01



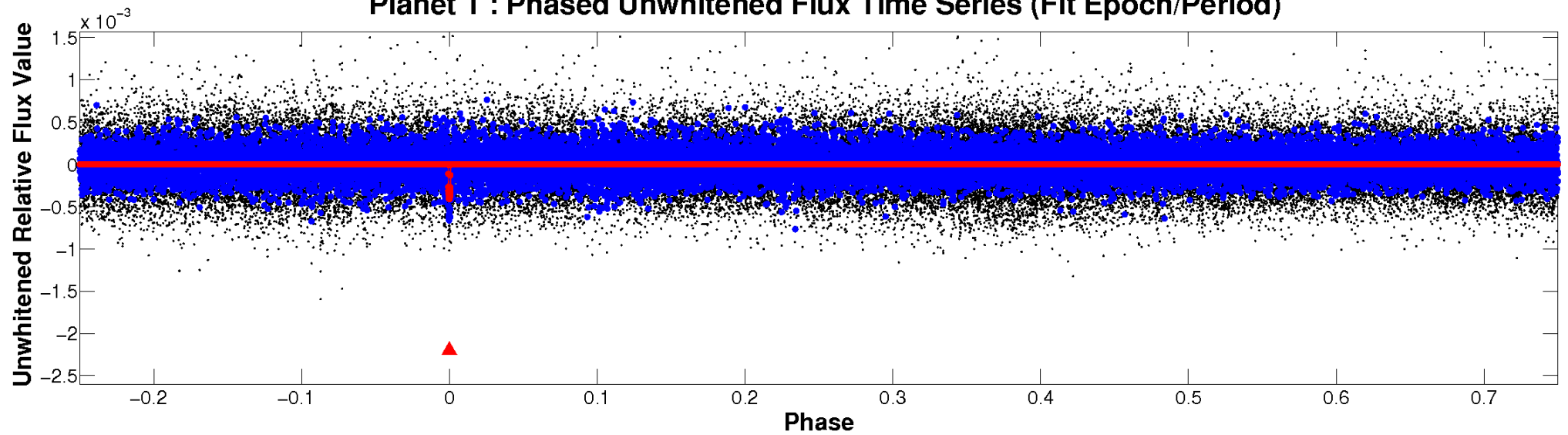
ALT Odd/Even

TCE 009649995-01

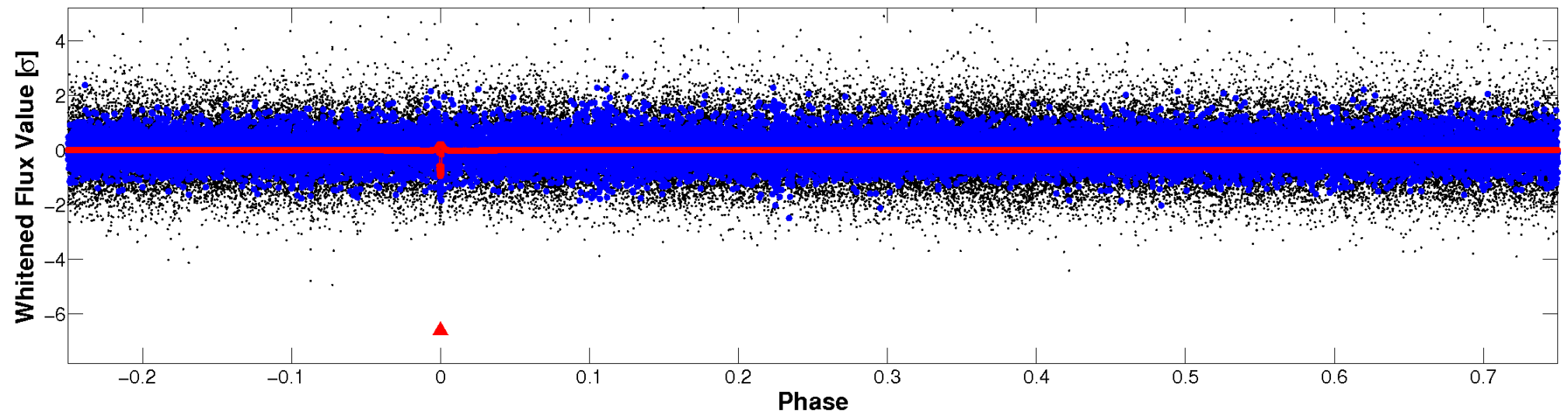


Non-Whitened Vs. Whitened Light Curve

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

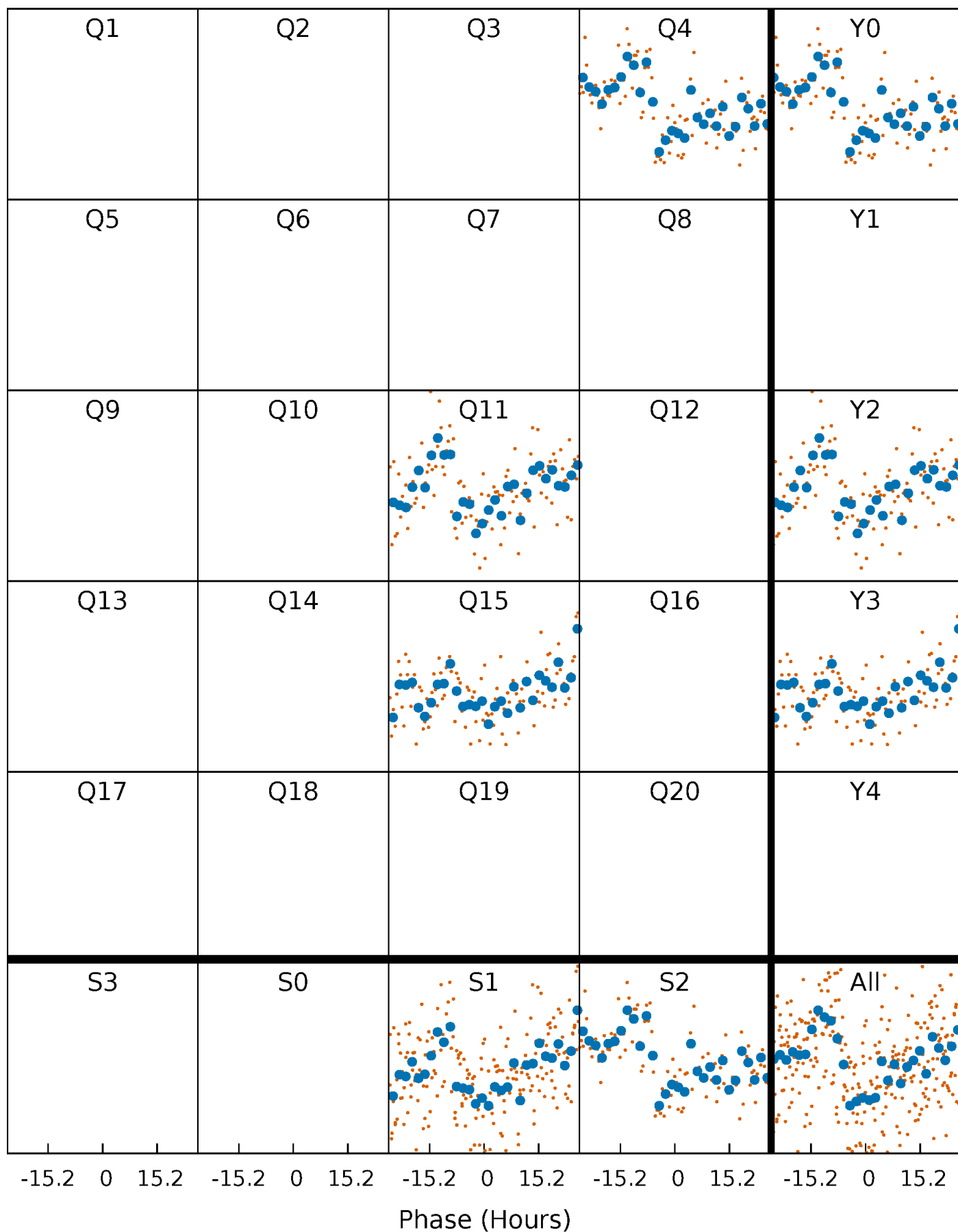


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



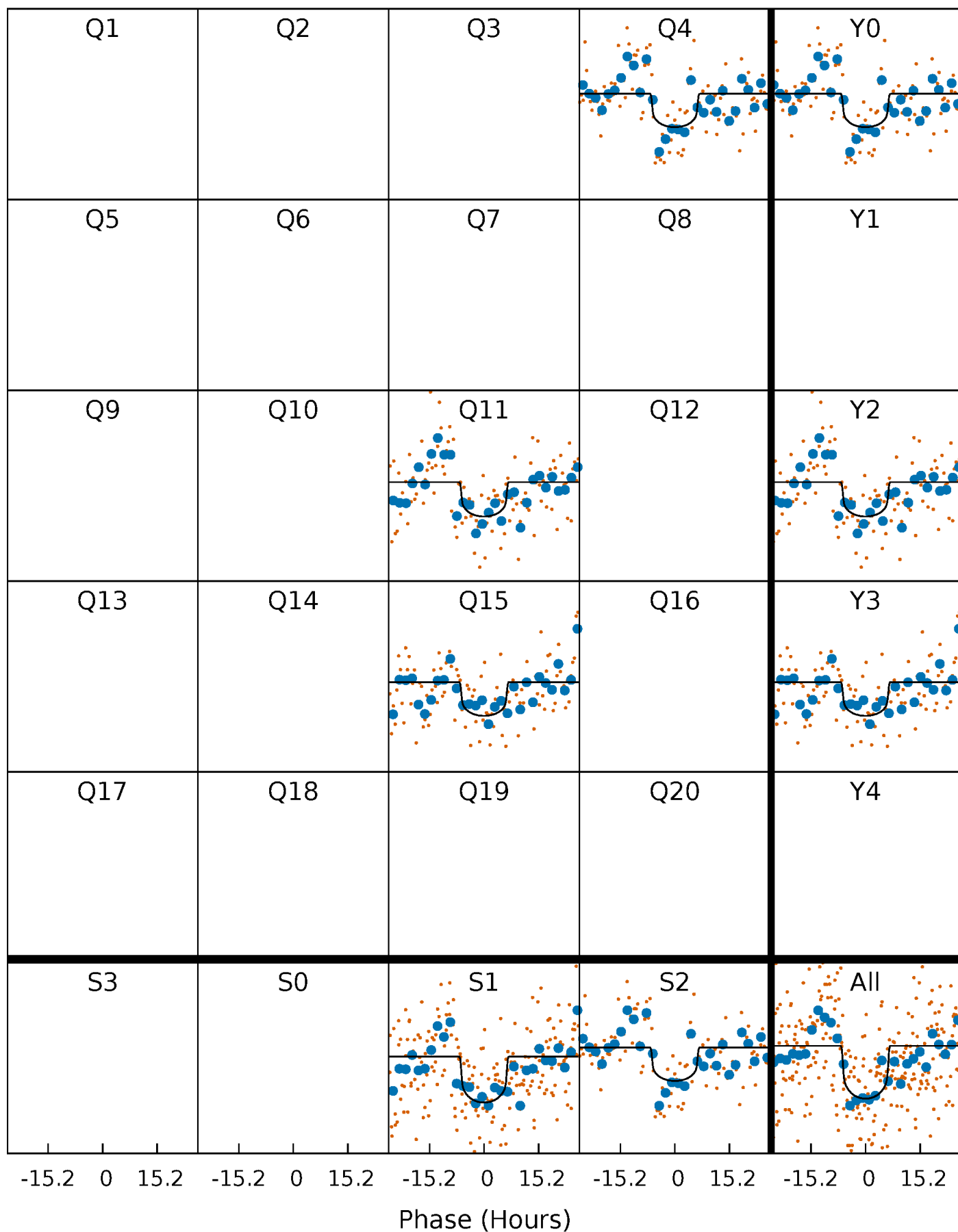
PDC Quarter-Phased Transit Curves

TCE 009649995-01 P=357.305733 Days $T_0=366.355104$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009649995-01 P=357.305733 Days $T_0=366.355104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

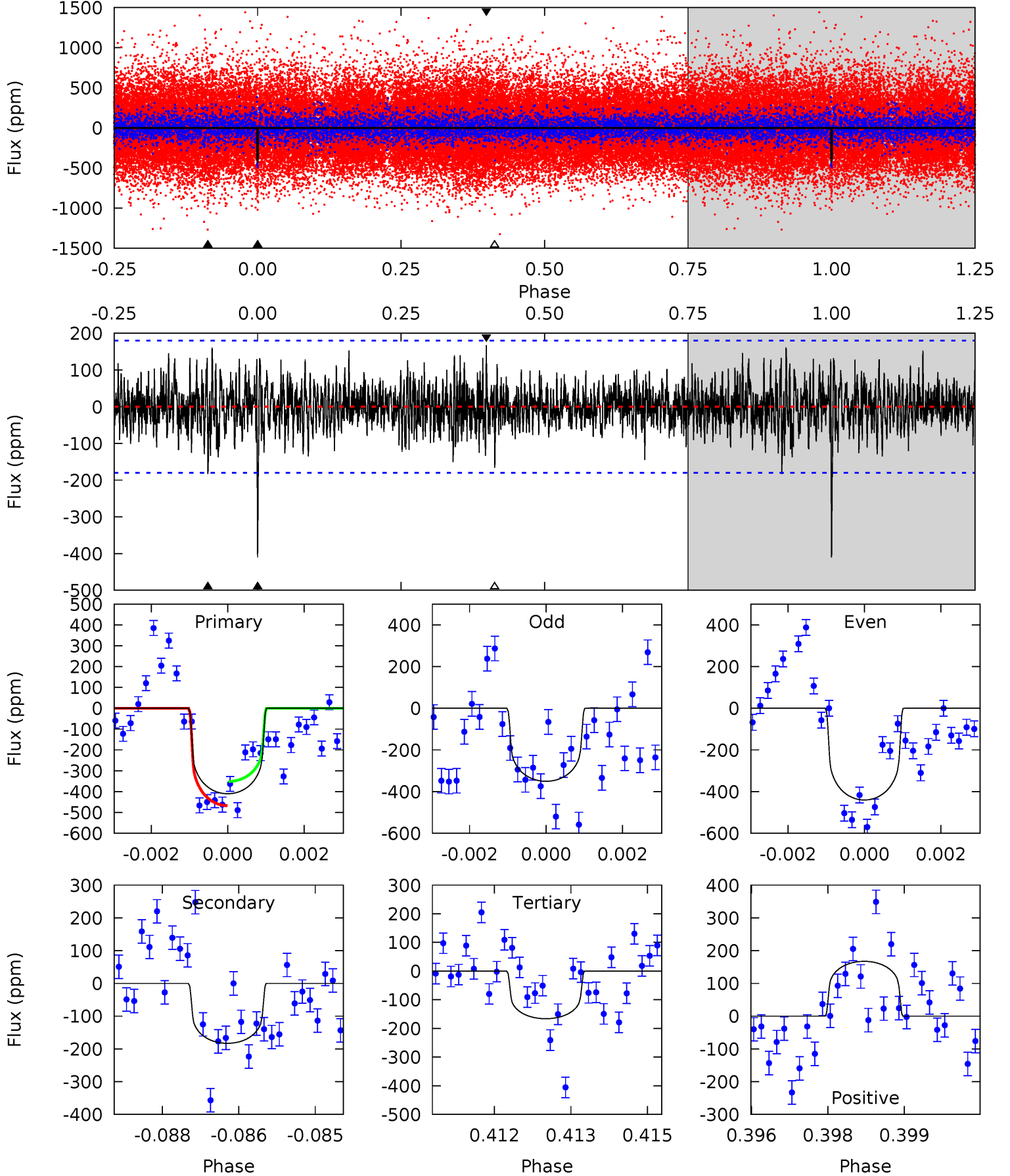
TCE 009649995-01 P=357.321664 Days $T_0=366.303402$ (BKJD)



DV Model-Shift Uniqueness Test

009649995-01, P = 357.305733 Days, E = 9.049371 Days

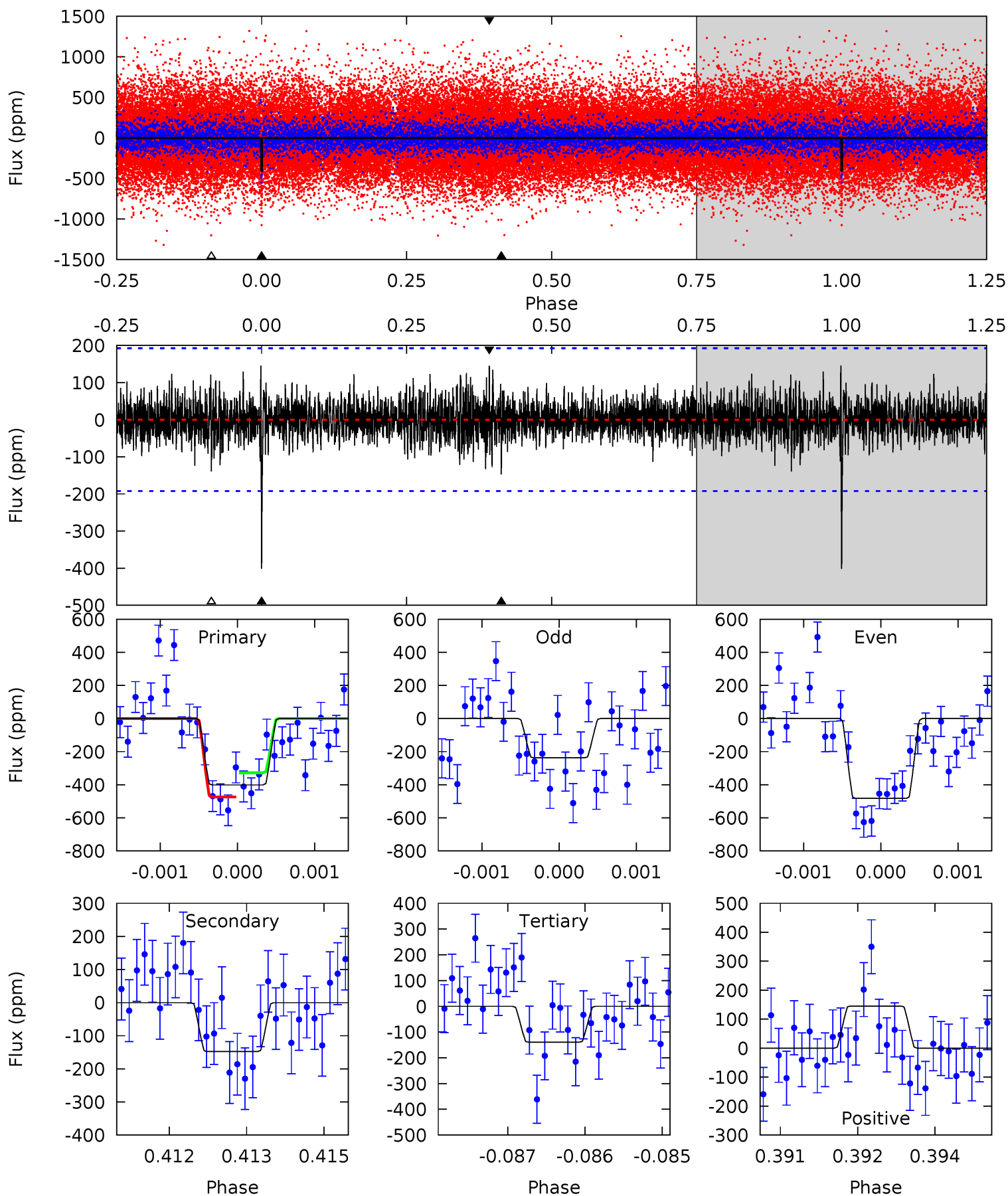
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	5.46	4.95	4.99	5.37	3.16	1.36	7.28	7.25	0.50	0.47	1.27	0.95	0.29	1.73



Alt Model-Shift Uniqueness Test

009649995-01, P = 357.321664 Days, E = 8.981738 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.14	3.91	4.08	5.40	3.21	1.04	7.36	7.19	0.23	0.07	3.25	0.88	0.27	2.04



Stellar Parameters For KIC 009649995

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5808^{+156}_{-191}	$4.503^{+0.039}_{-0.221}$	$0.210^{+0.200}_{-0.300}$	$0.963^{+0.289}_{-0.096}$	$1.077^{+0.112}_{-0.137}$	$1.700^{+0.357}_{-0.901}$
	+3%/-3%	+1%/-5%	+95%/-143%	+30%/-10%	+10%/-13%	+21%/-53%
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 009649995-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-183 ± 34	$2.23^{+1.02}_{-0.91}$	359^{+26}_{-18}	4876^{+1272}_{-670}	20007^{+38494}_{-10623}
Alt.	-147 ± 36	$2.40^{+1.10}_{-1.02}$	358^{+28}_{-16}	4533^{+1173}_{-609}	14267^{+27502}_{-8108}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

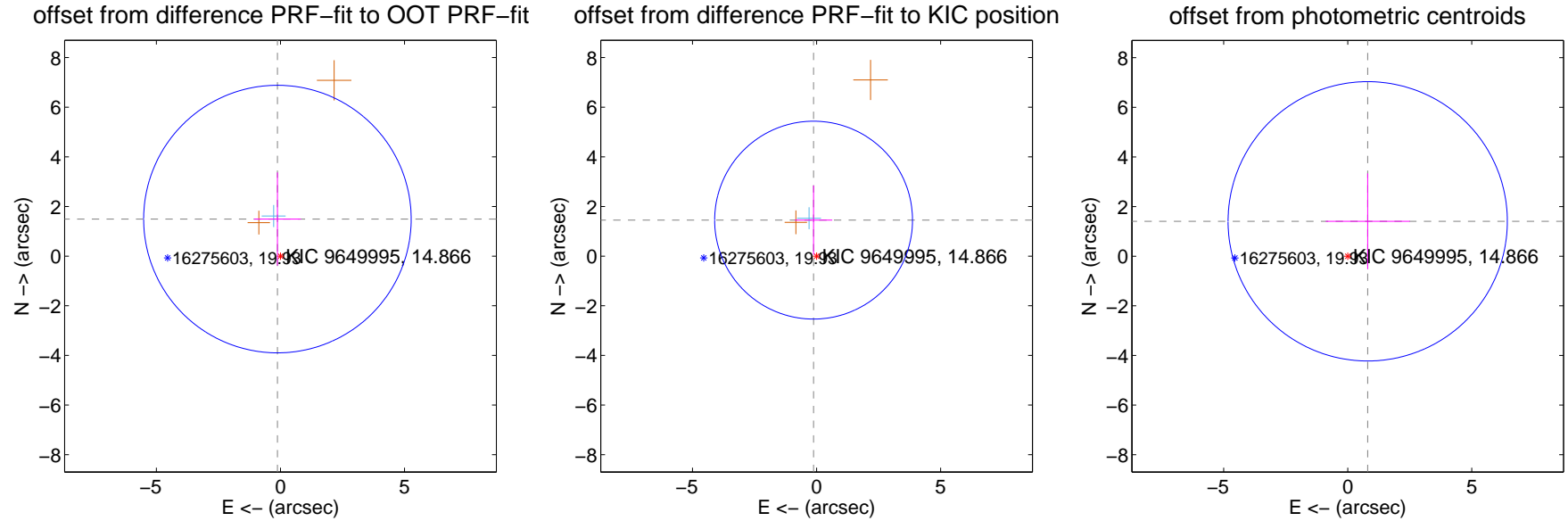
DV Centroid Data

Supplemental centroid analysis for 009649995-01. Kepler magnitude: 14.87. Transit SNR 7.35

There are 1 quarters with good PRF difference image offsets

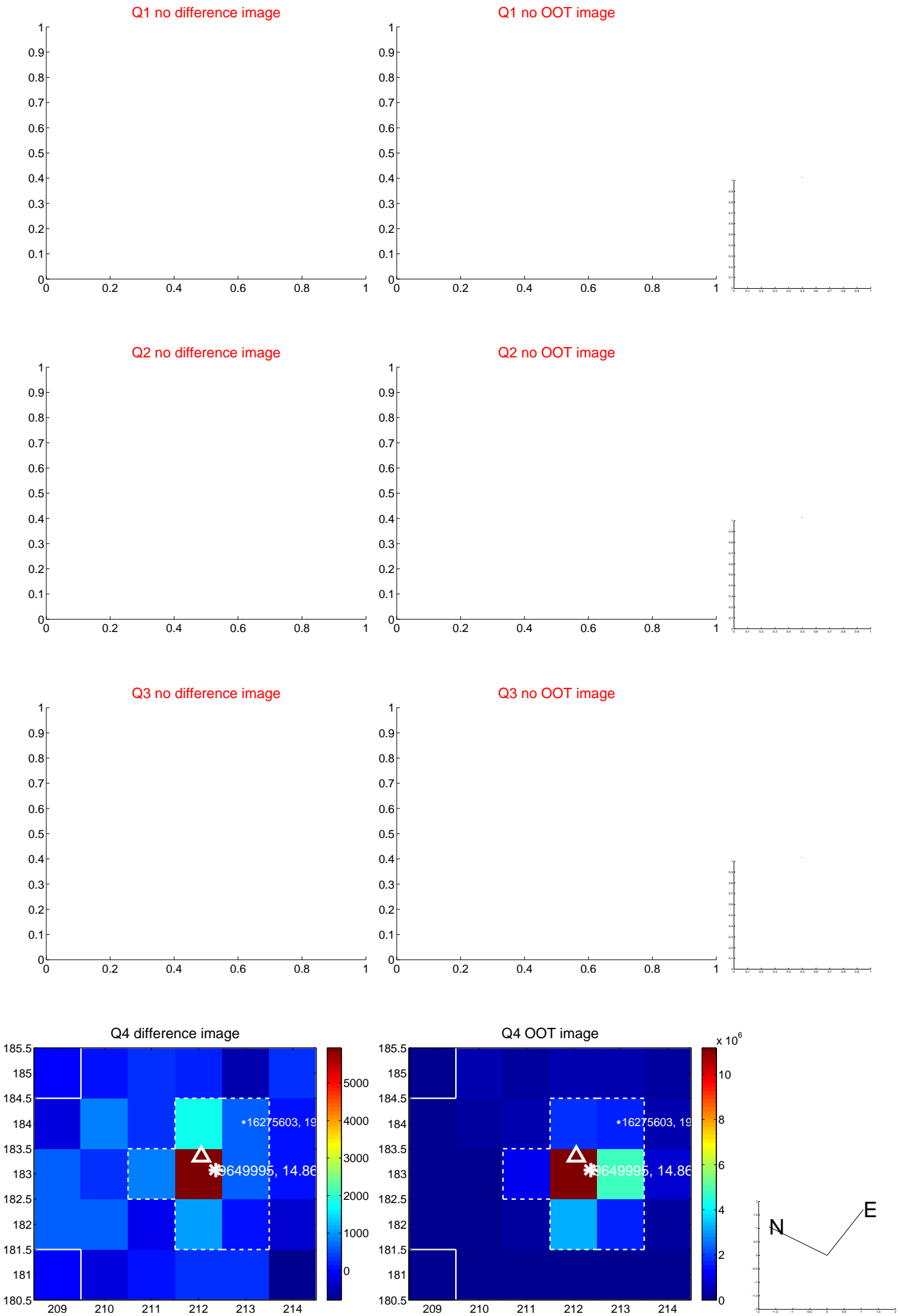
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.498 ± 1.797	0.83	0.123 ± 0.947	1.493 ± 1.880
PRF-fit source offset from KIC position	1.455 ± 1.329	1.10	0.121 ± 0.753	1.450 ± 1.395
photometric centroid source offset	1.62 ± 1.88	0.86	-0.81 ± 1.69	1.41 ± 1.93

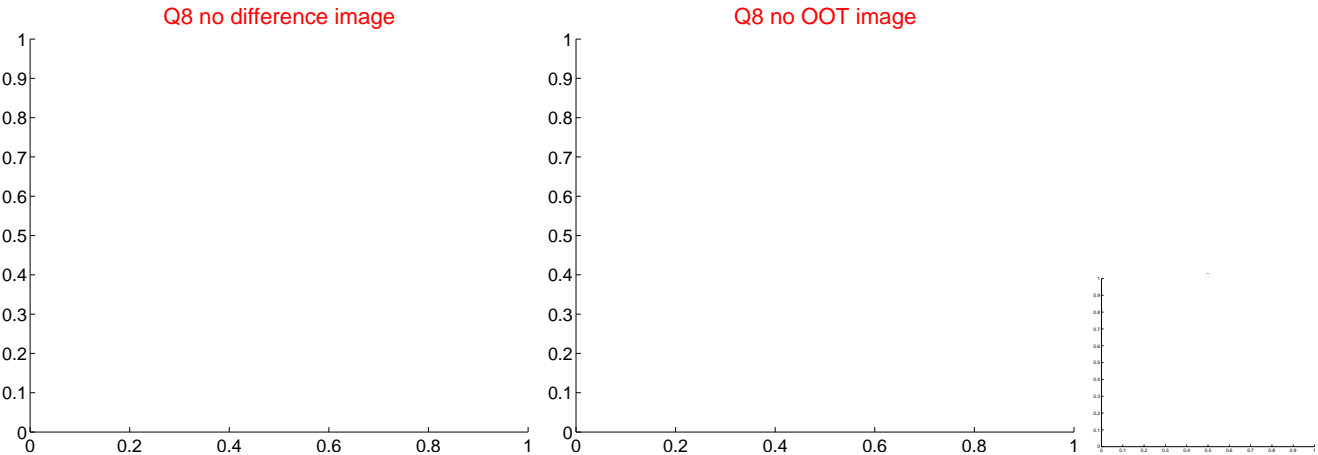
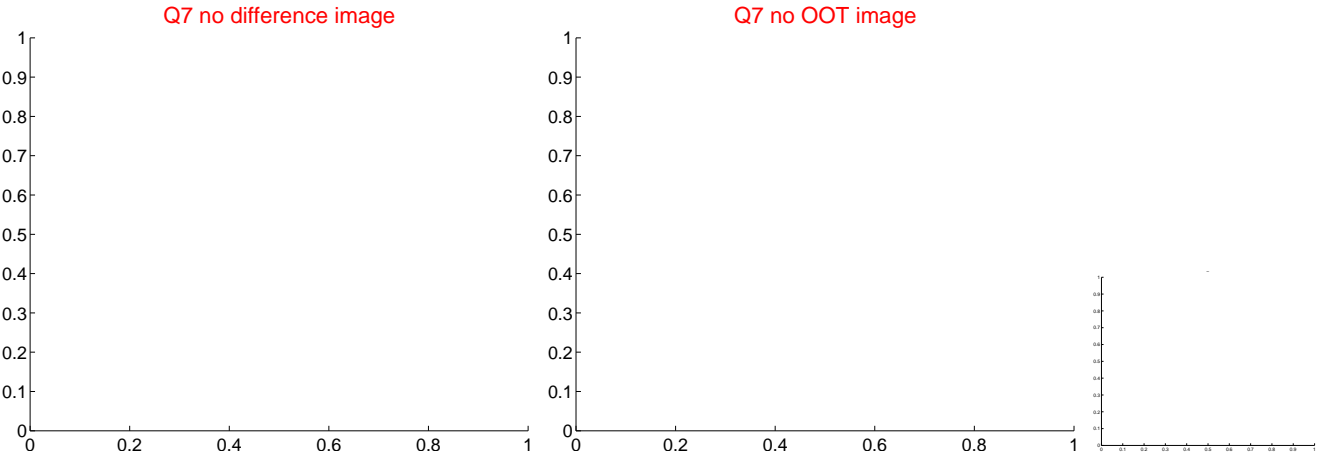
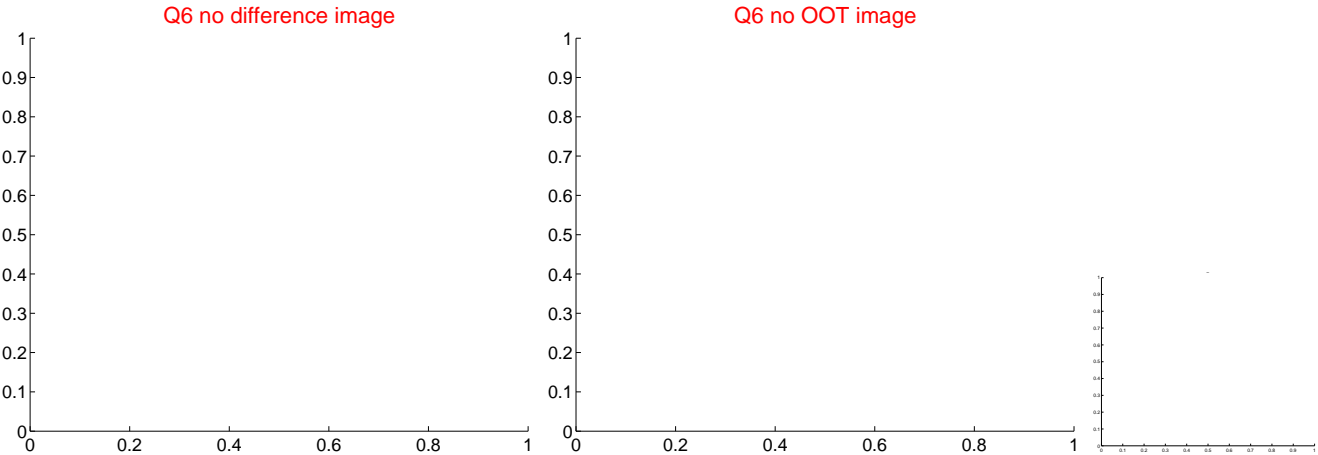
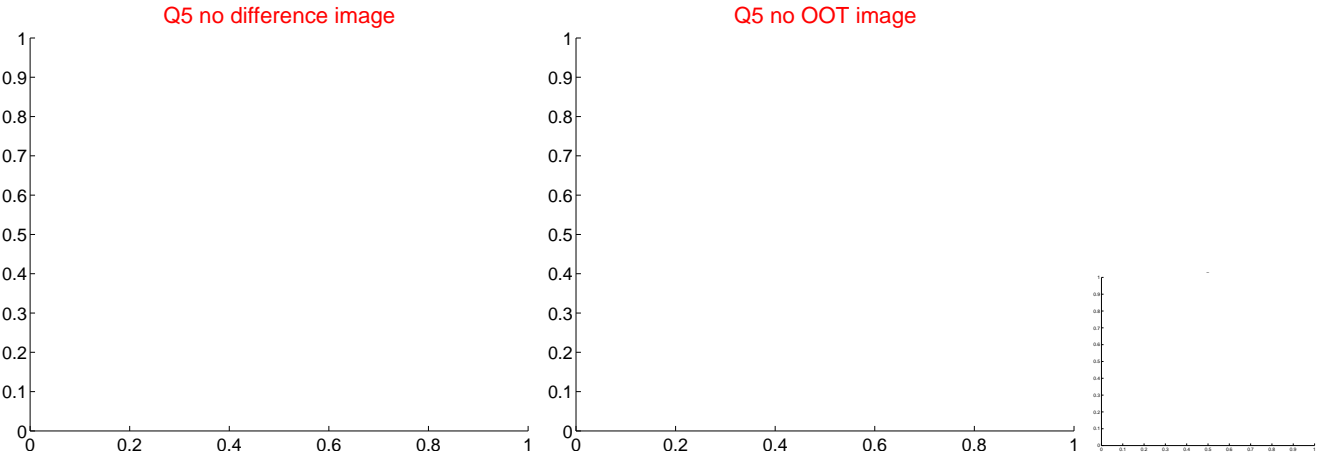


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

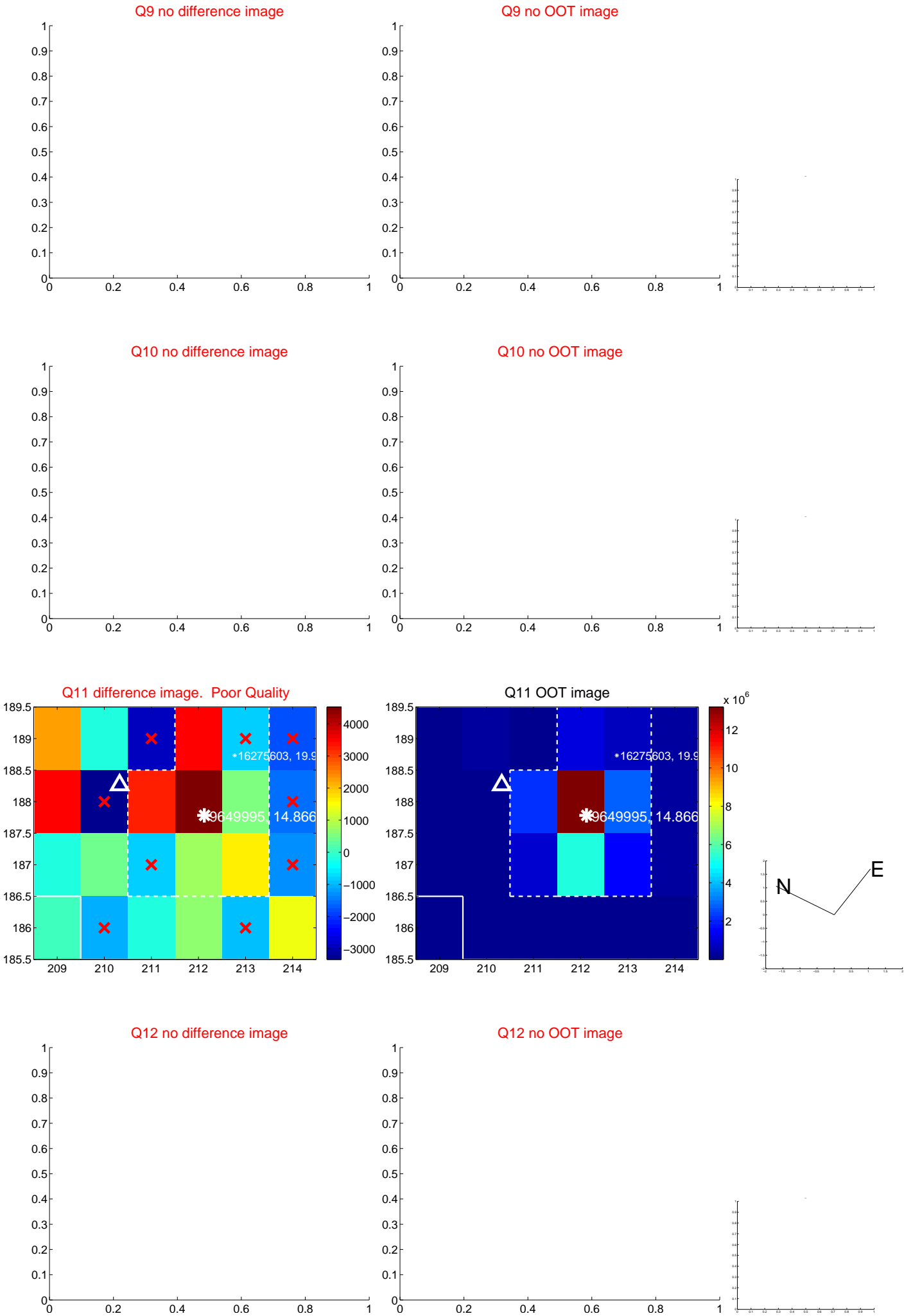
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



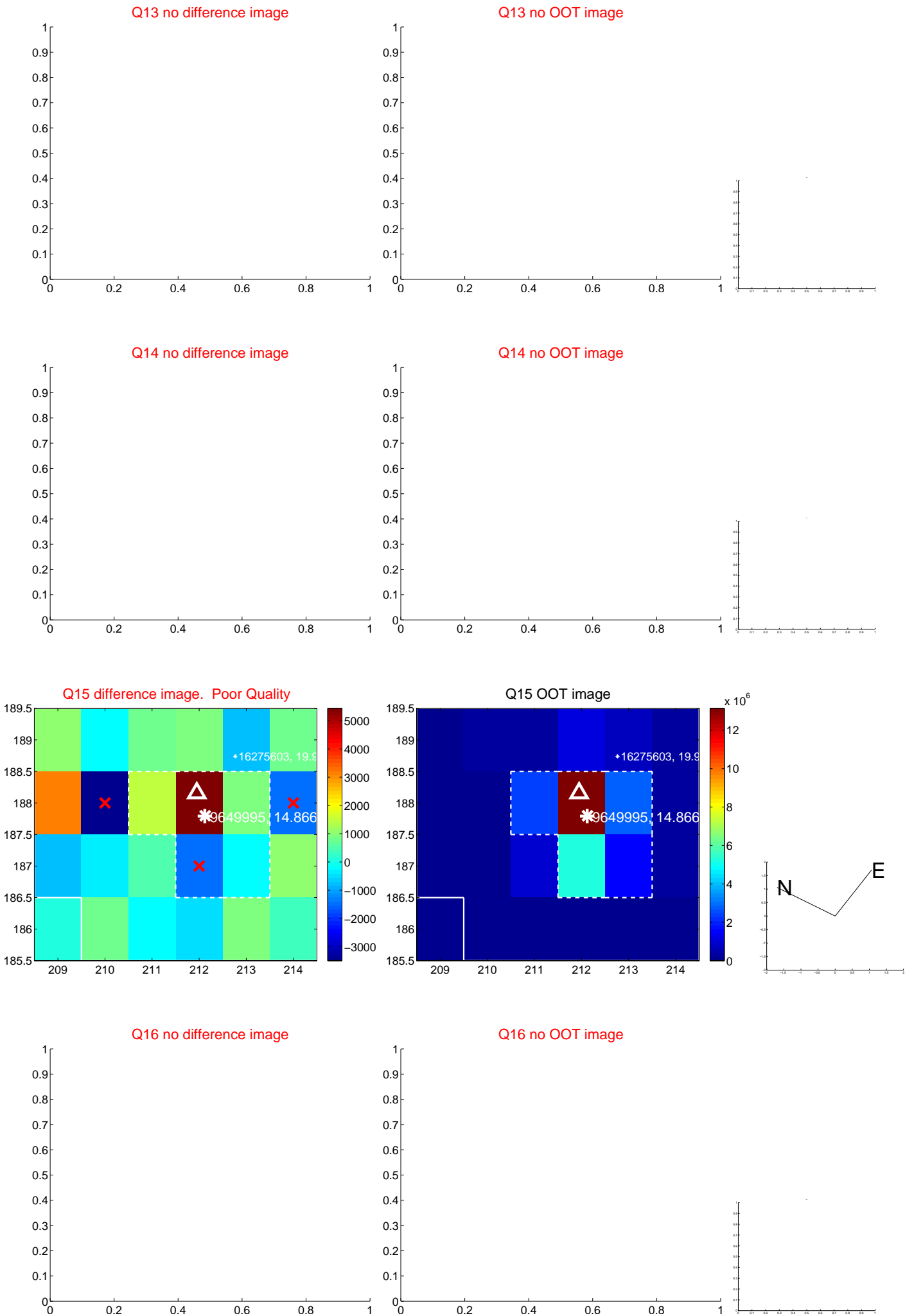
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



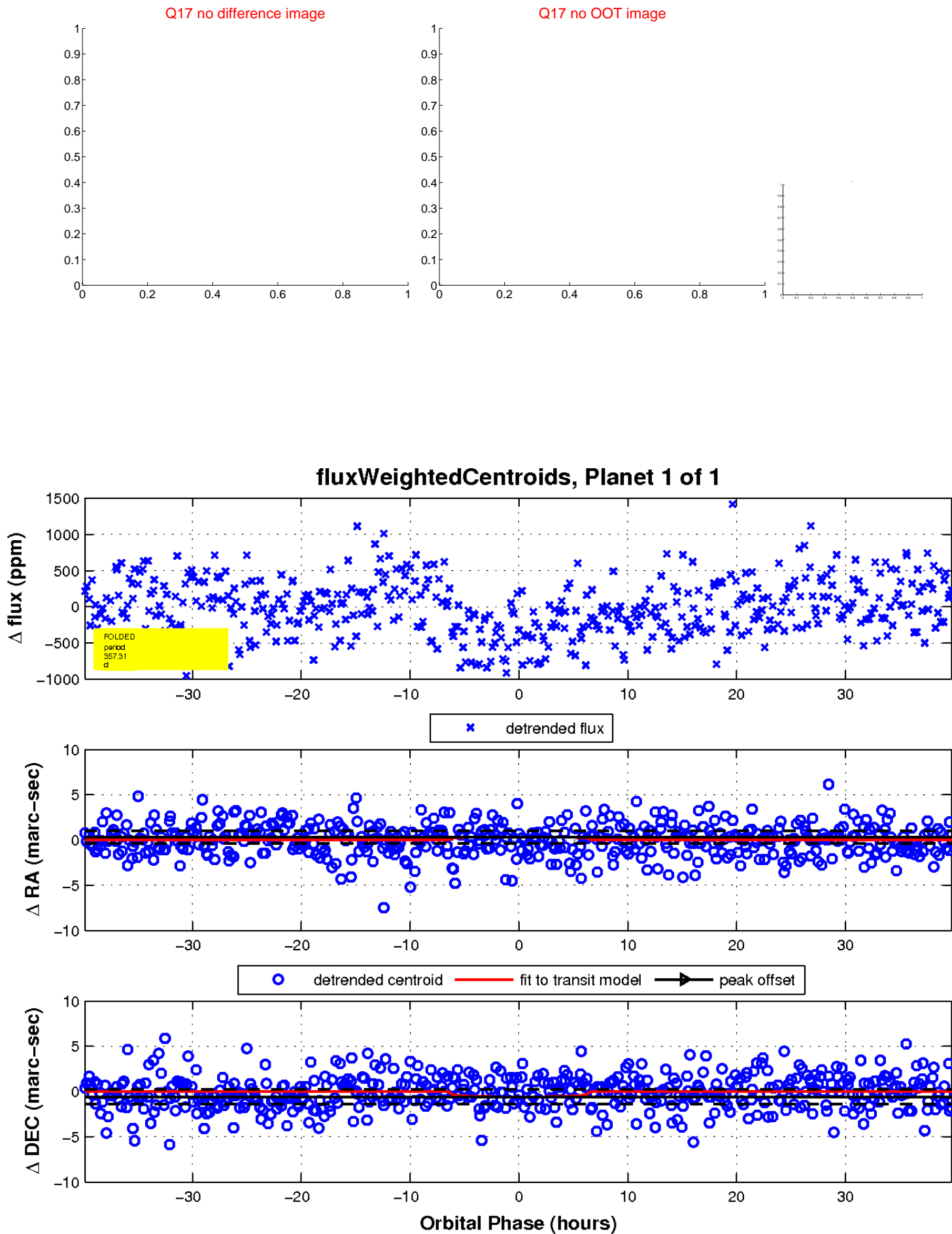
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

