

KIC 008682175

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})
008682175-01	OBS	No	688.953544	175.269582	277.3	17.026	8.7	9.1	1.00	6022	1.79	0.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008682175-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

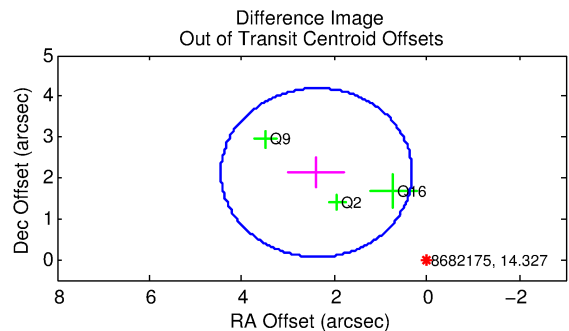
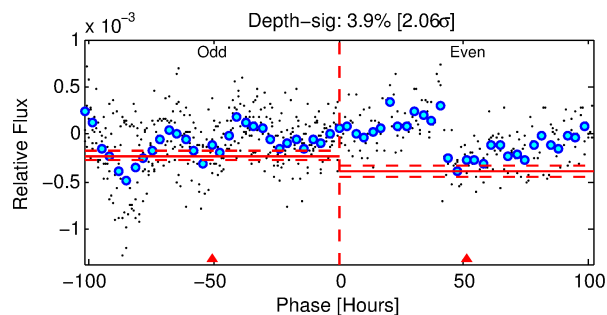
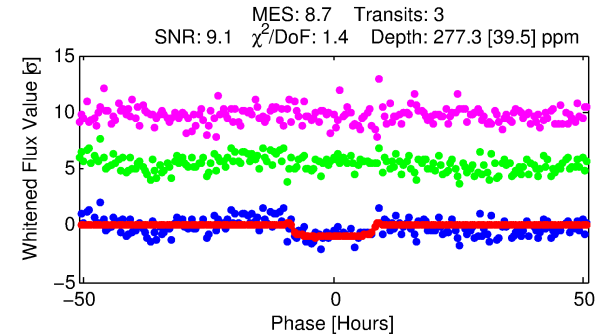
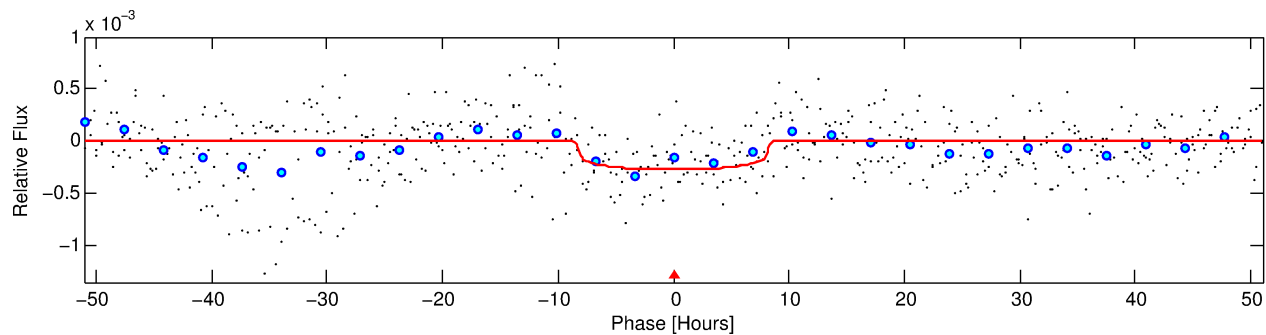
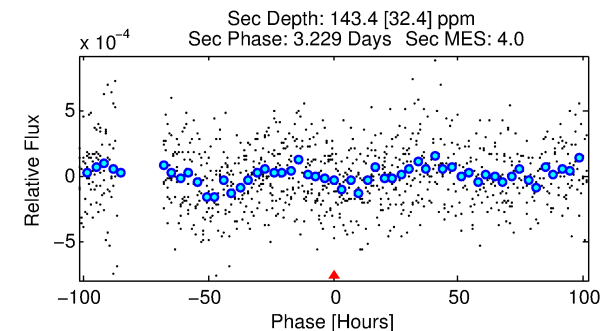
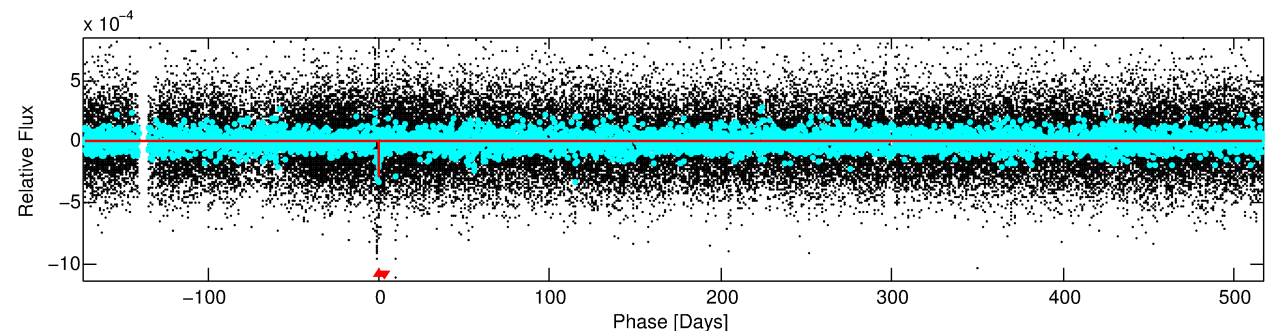
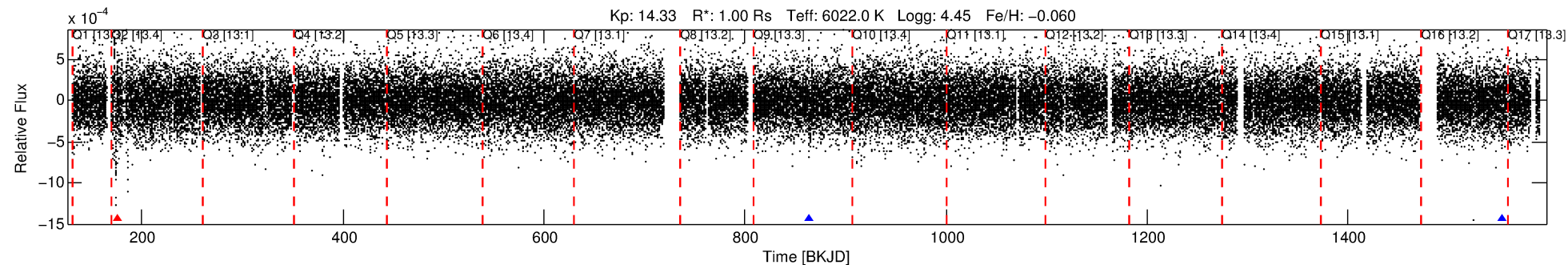
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008682175-01

No Significant Match Found

DV One-Page Summary

KIC: 8682175 Candidate: 1 of 1 Period: 688.954 d



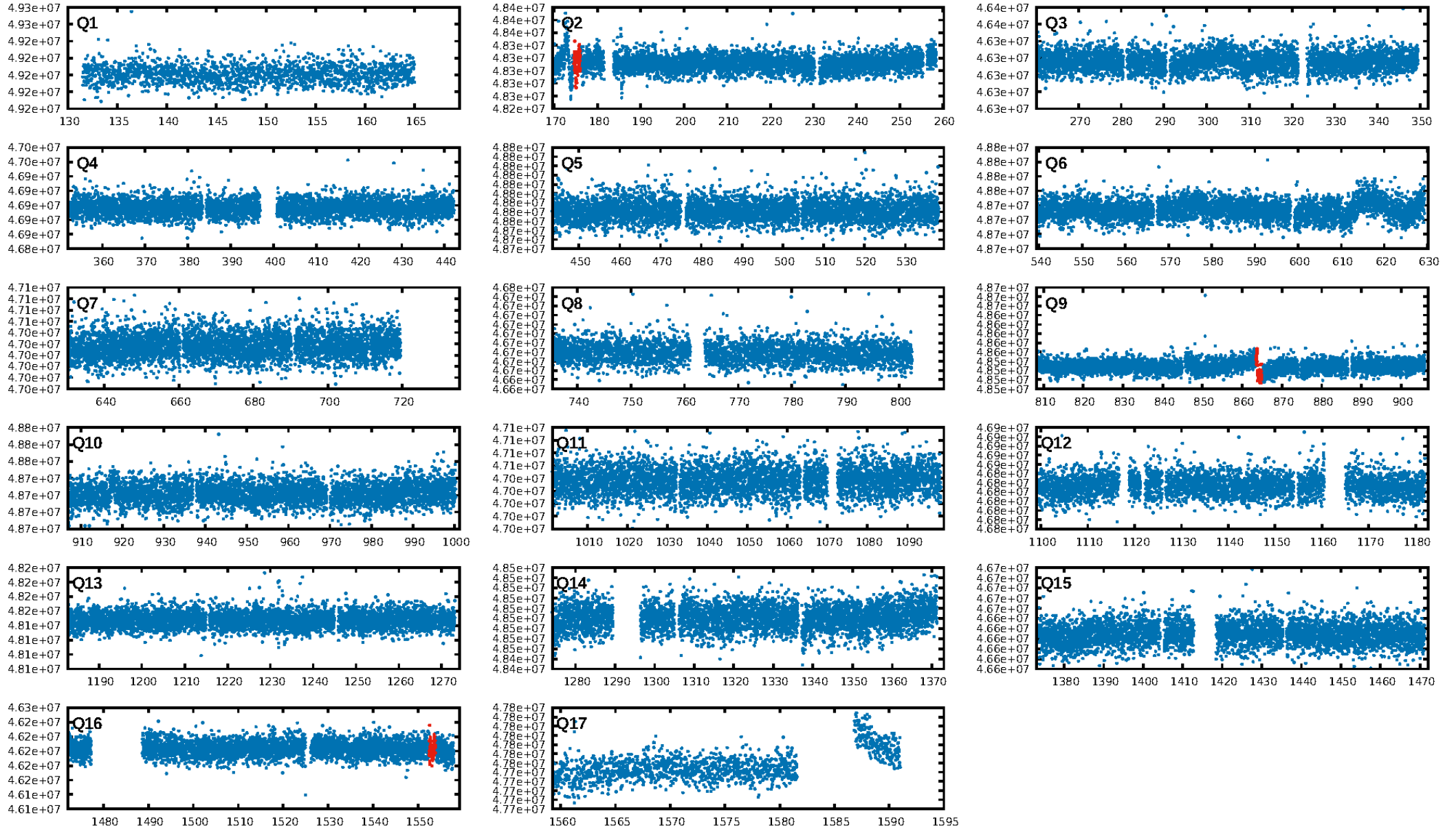
DV Fit Results:

Period = 688.95354 [0.02092] d
Epoch = 175.2696 [0.0282] BKJD
Rp/R* = 0.0164 [0.0072]
a/R* = 224.52 [467.64]
b = 0.71 [1.46]
Seff = 0.50 [0.21]
Teff = 214 [23] K
Rp = 1.79 [0.99] Re
a = 1.5450 [0.4200] AU
Ag = 58542.47 [57924.07] [1.01 σ]
Teffp = 5153 [1190] K [4.15 σ]

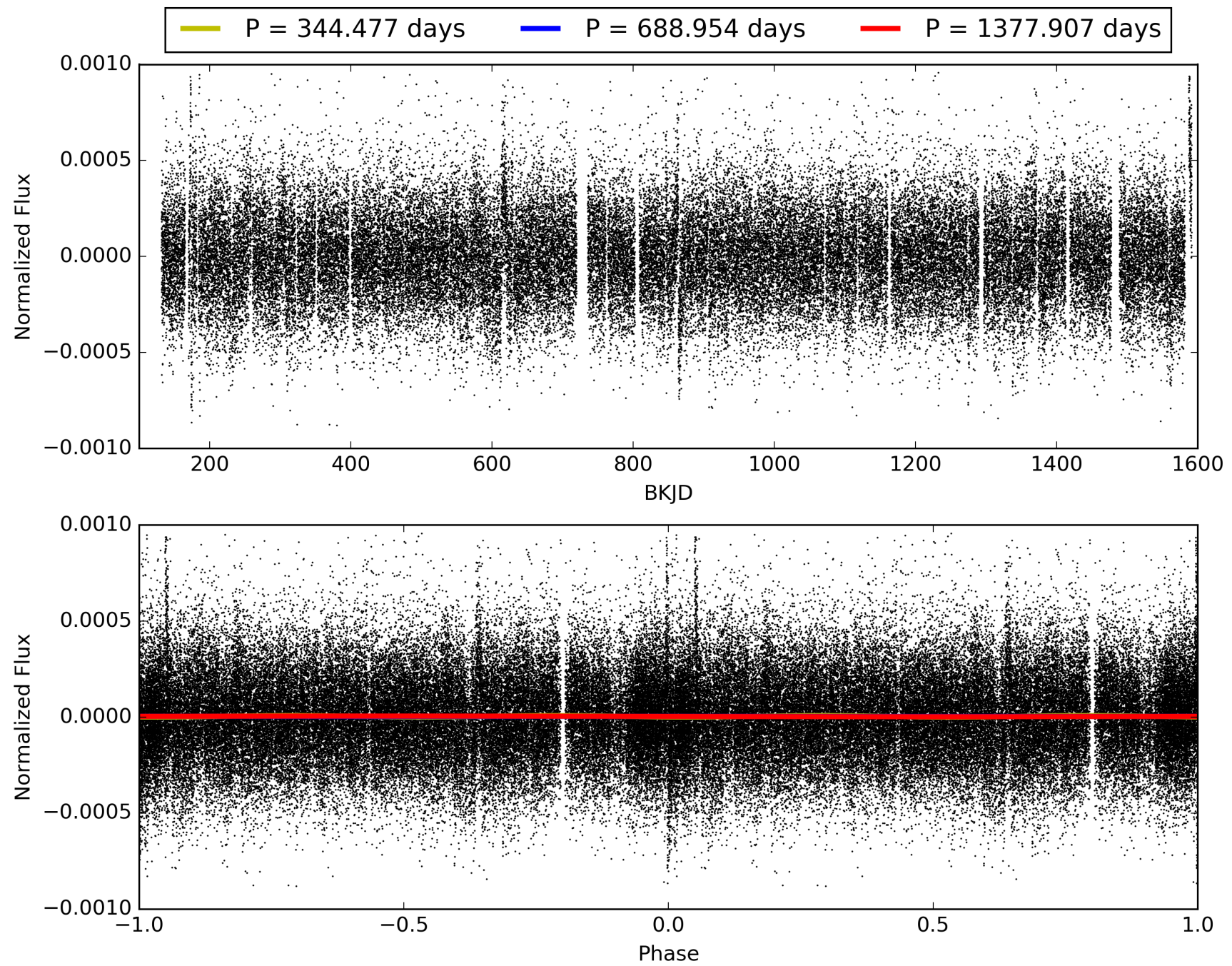
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 6.38e-16
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 1.596
Centroid-sig: 0.5%
Centroid-so: 2.870 arcsec [2.06 σ]
OotOffset-rm: 3.198 arcsec [4.64 σ]
KicOffset-rm: 3.107 arcsec [3.70 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008682175-01, PDC Light Curves

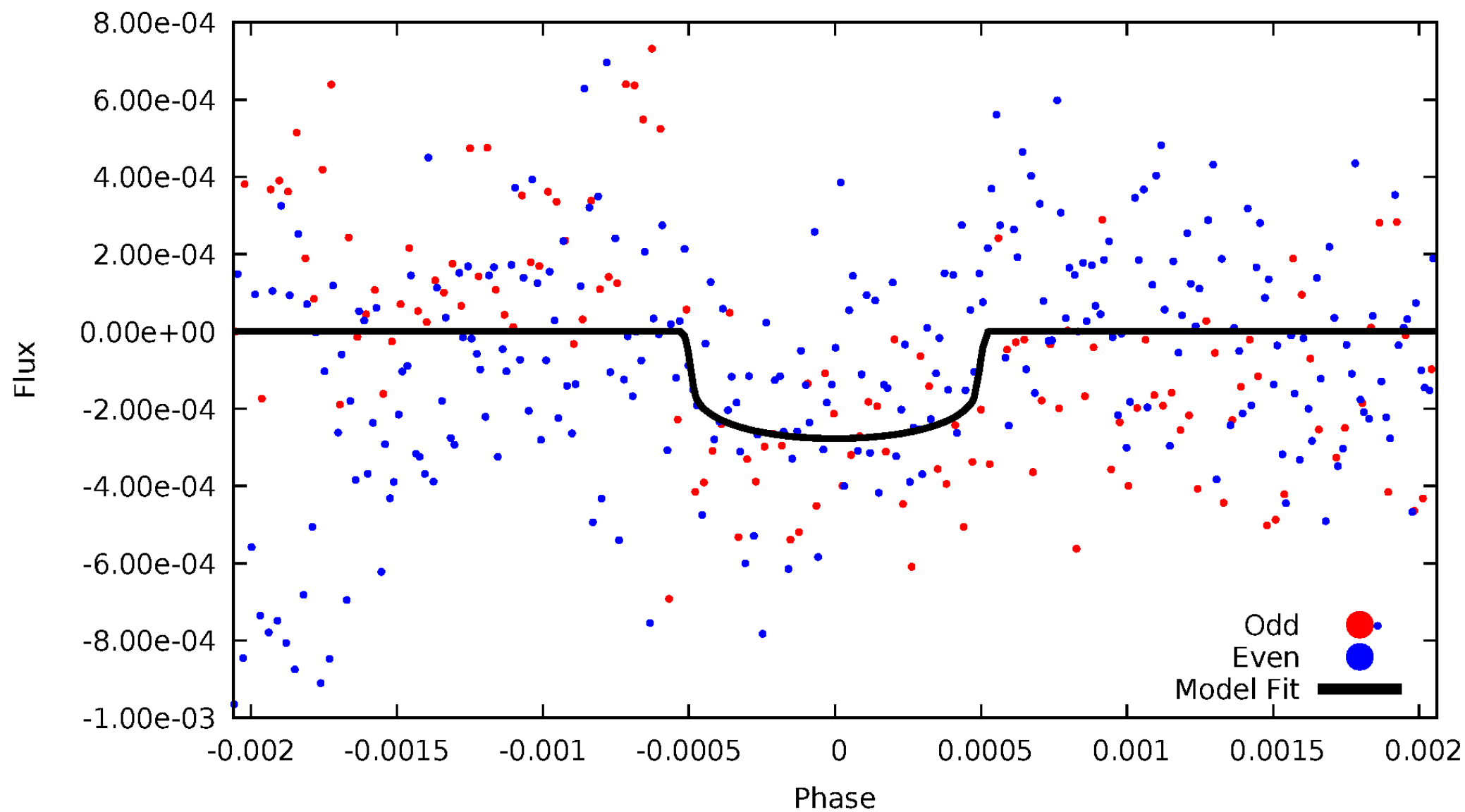


TCE 008682175-01



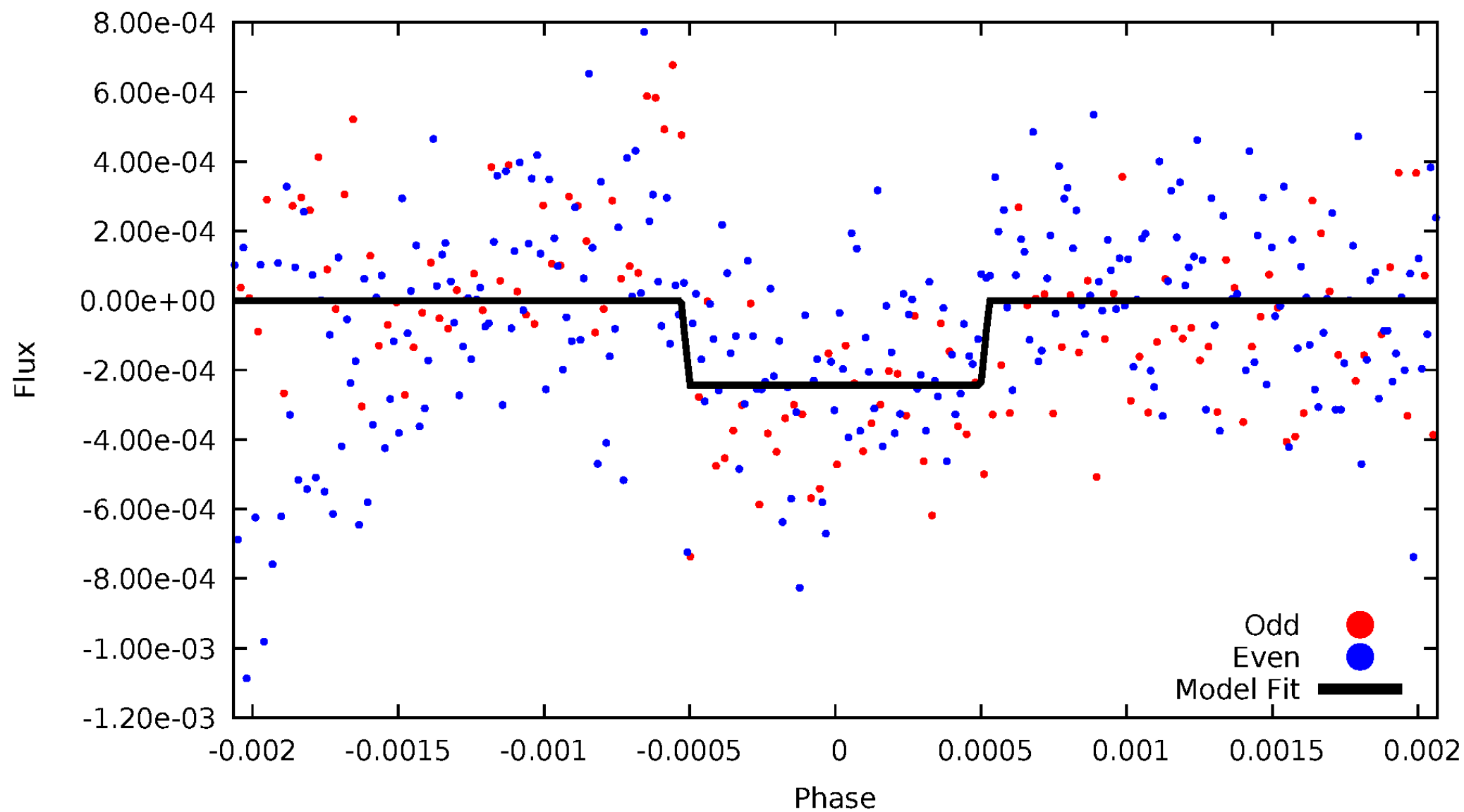
DV Odd/Even

TCE 008682175-01

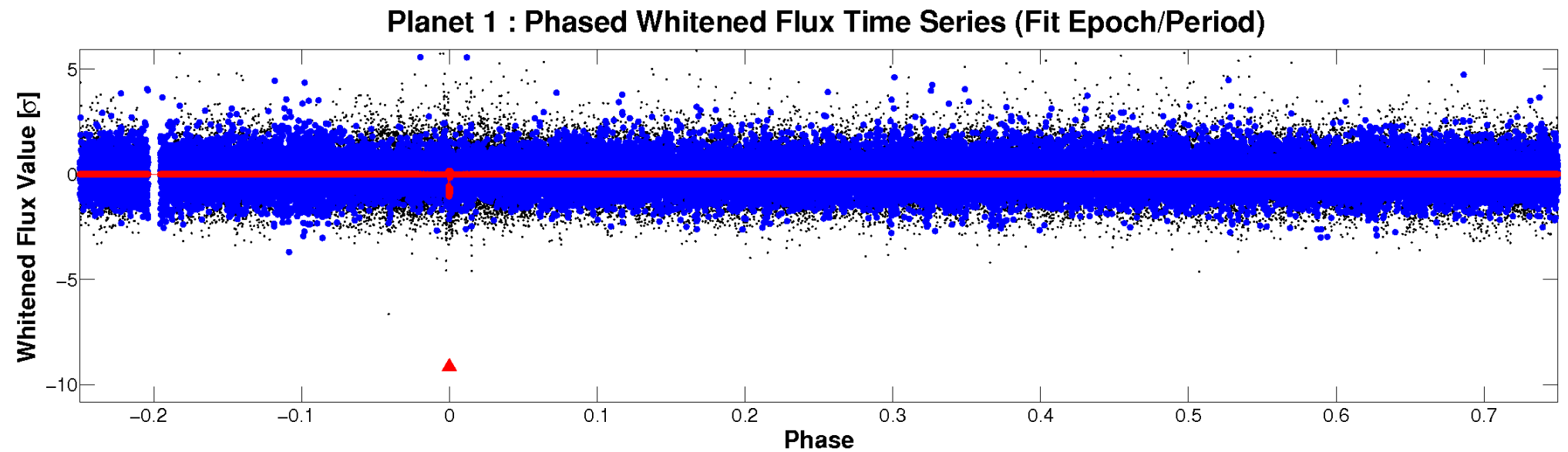
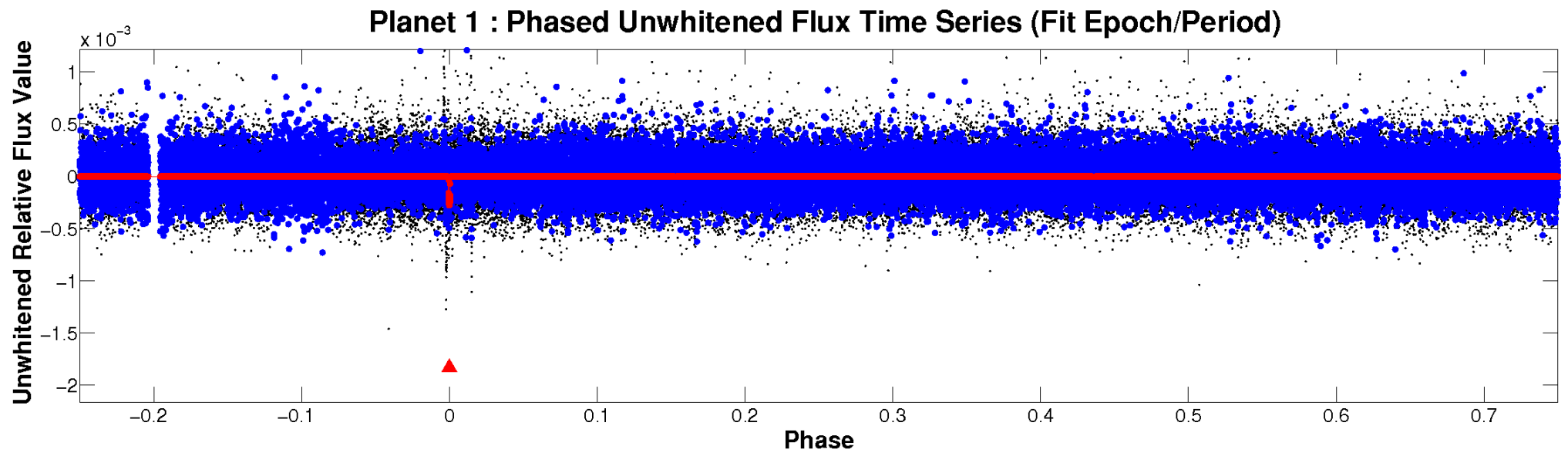


ALT Odd/Even

TCE 008682175-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008682175-01 P=688.953545 Days $T_0=175.269583$ (BKJD)



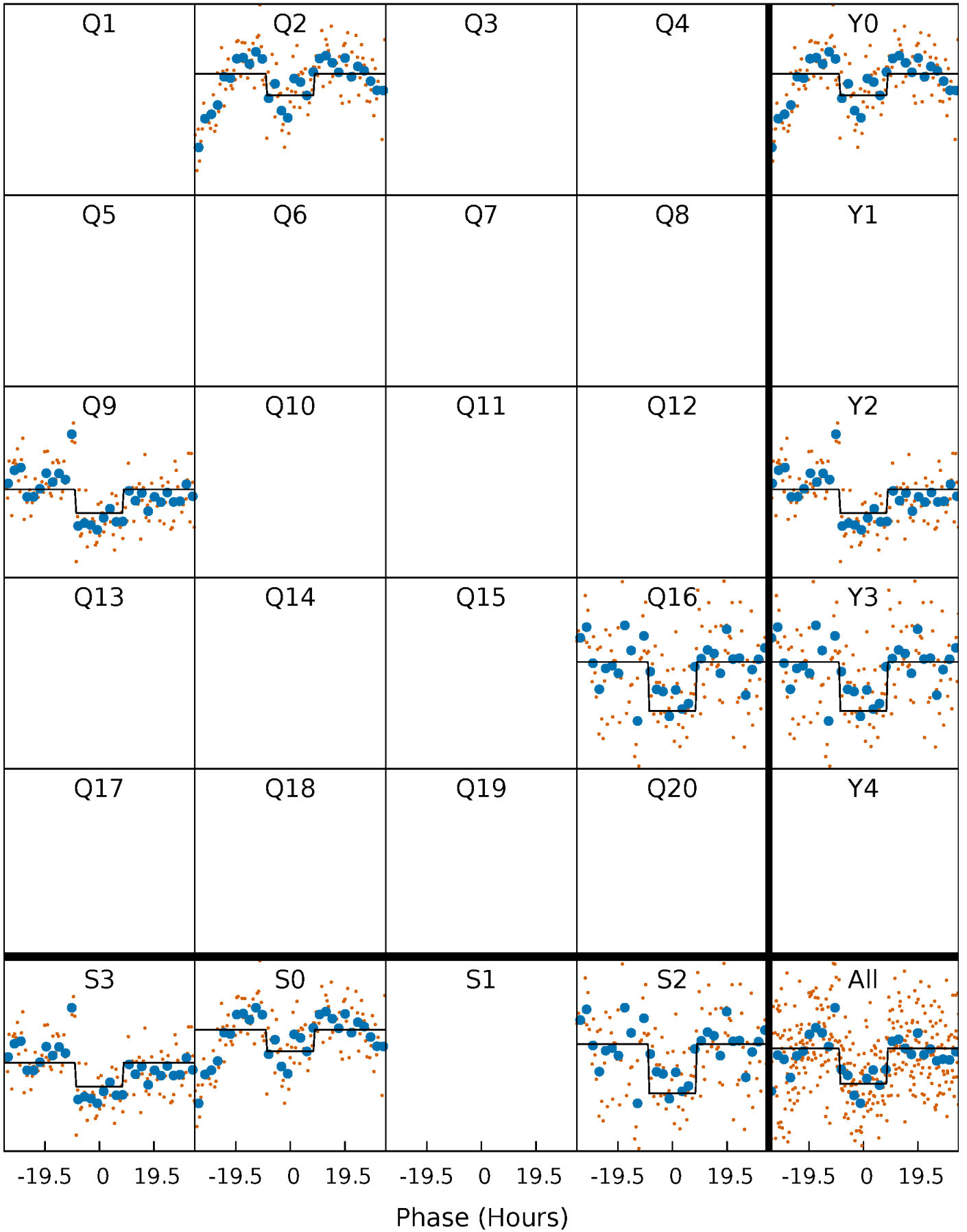
DV Quarter-Phased Transit Curves

TCE 008682175-01 P=688.953545 Days $T_0=175.269583$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

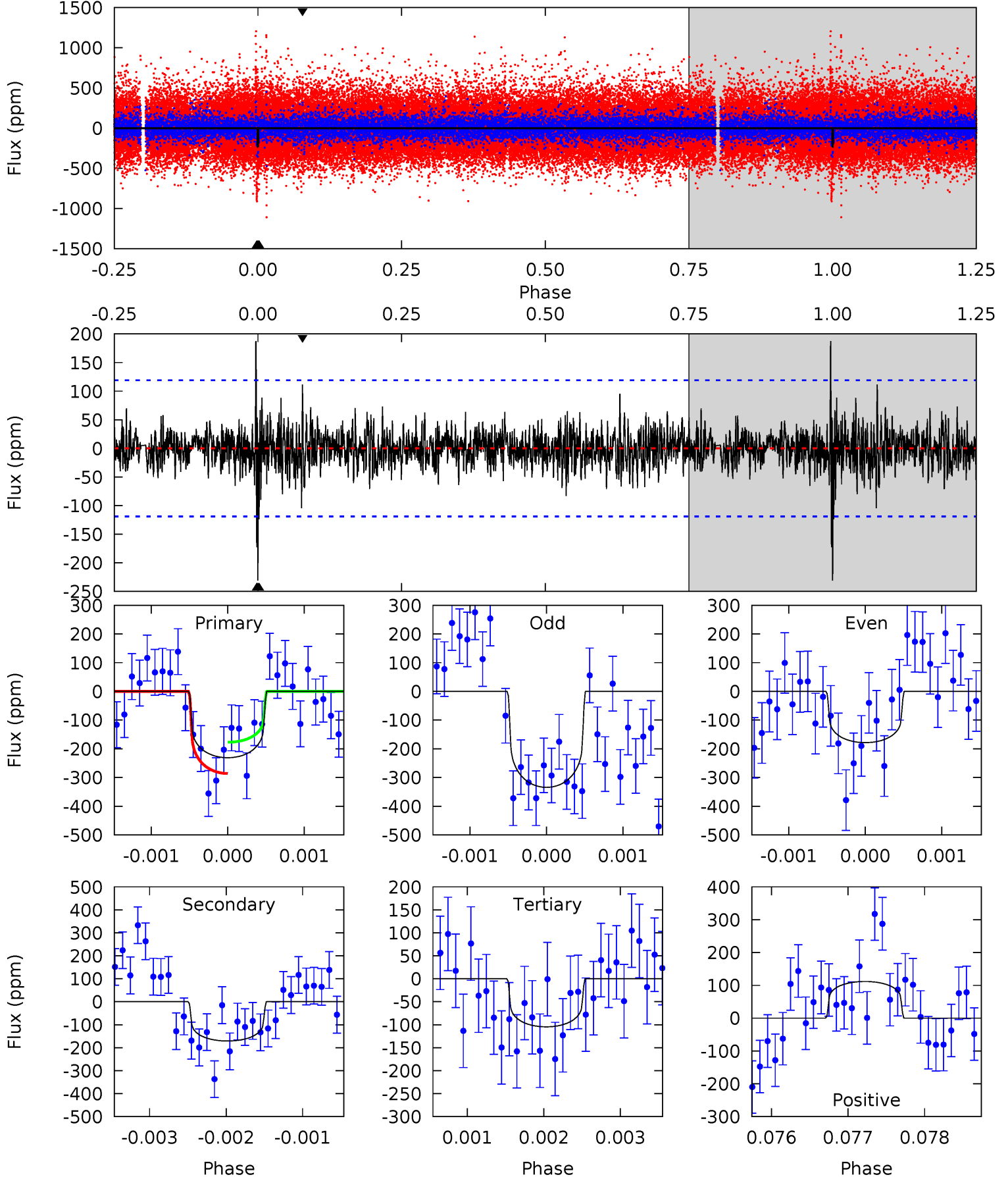
TCE 008682175-01 P=688.992398 Days $T_0=175.182689$ (BKJD)



DV Model-Shift Uniqueness Test

008682175-01, P = 688.953545 Days, E = 175.269583 Days

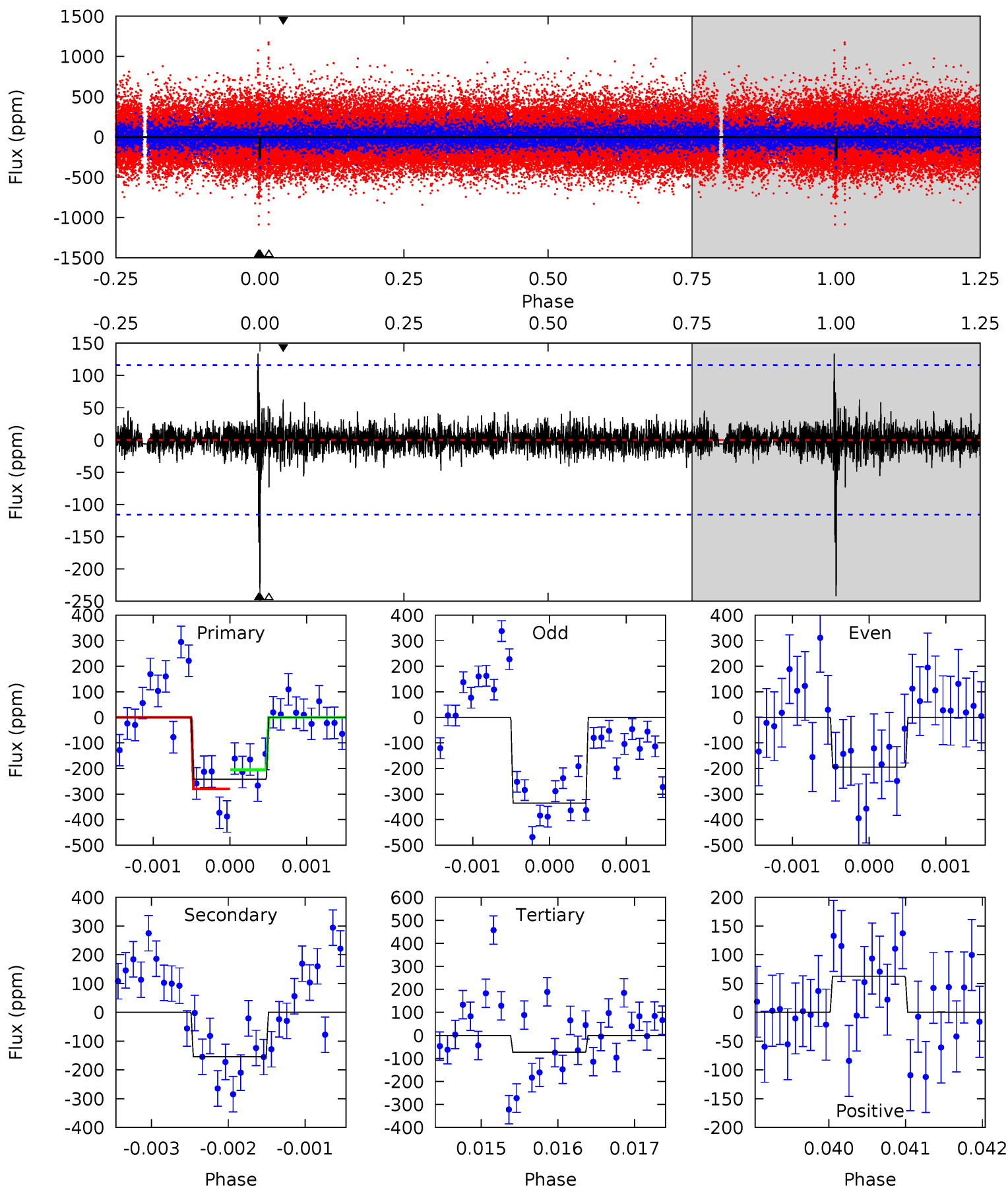
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	7.83	4.79	5.11	5.45	3.28	1.16	5.78	5.47	3.03	2.72	3.37	1.11	0.45	2.49



Alt Model-Shift Uniqueness Test

008682175-01, P = 688.992398 Days, E = 175.182689 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	7.24	3.44	2.95	5.44	3.28	0.64	7.95	8.45	3.80	4.30	3.14	1.13	0.36	1.77



Stellar Parameters For KIC 008682175

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6022^{+192}_{-241}	$4.449^{+0.070}_{-0.210}$	$-0.060^{+0.250}_{-0.300}$	$1.005^{+0.330}_{-0.110}$	$1.031^{+0.153}_{-0.126}$	$1.432^{+0.515}_{-0.764}$
	+3%/-4%	+2%/-5%	+417%/-500%	+33%/-11%	+15%/-12%	+36%/-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 008682175-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-171 ± 22	$1.91^{+0.84}_{-0.82}$	304^{+25}_{-18}	5365^{+1689}_{-763}	$60530^{+123056}_{-31529}$
Alt.	-154 ± 21	$1.81^{+0.87}_{-0.75}$	304^{+24}_{-16}	5346^{+1699}_{-803}	$60646^{+119674}_{-32566}$

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

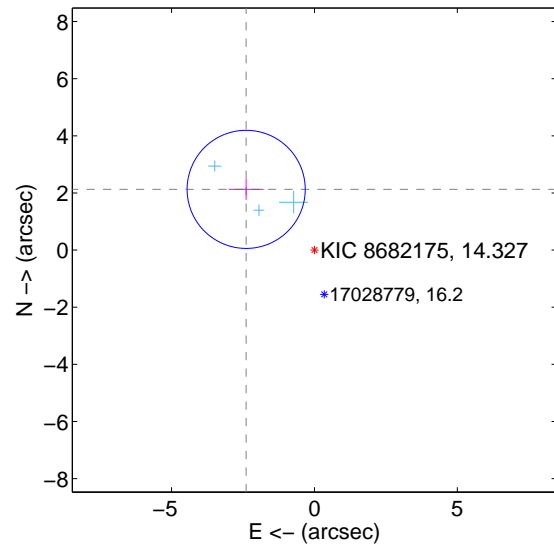
Supplemental centroid analysis for 008682175-01. Kepler magnitude: 14.33. Transit SNR 9.11

There are 3 quarters with good PRF difference image offsets

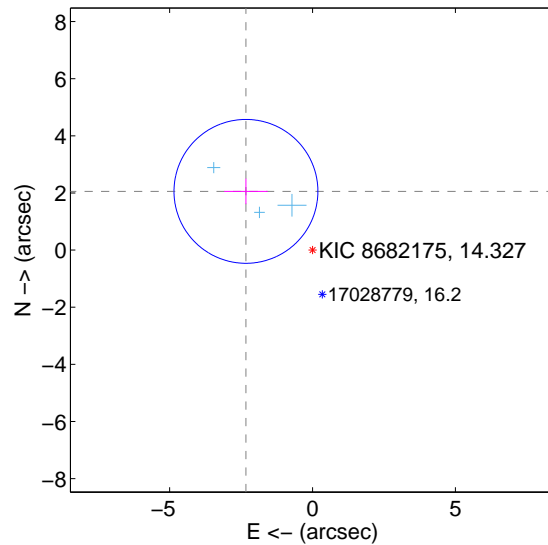
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.198 ± 0.689	4.64	2.389 ± 0.613	2.126 ± 0.367
PRF-fit source offset from KIC position	3.107 ± 0.839	3.70	2.330 ± 0.763	2.056 ± 0.448
photometric centroid source offset	2.87 ± 1.40	2.06	1.88 ± 1.40	2.17 ± 1.39

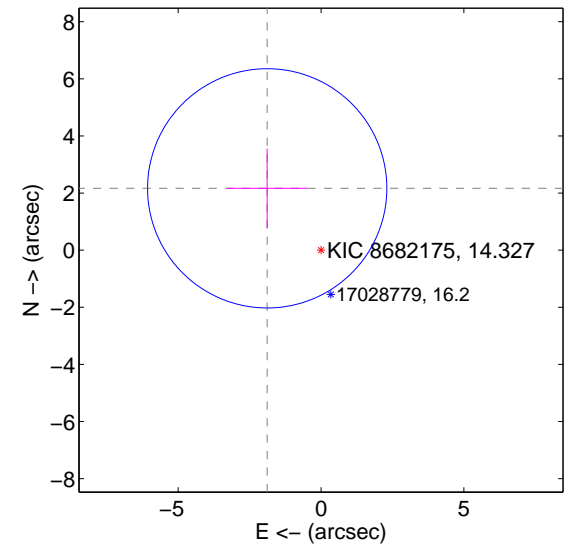
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

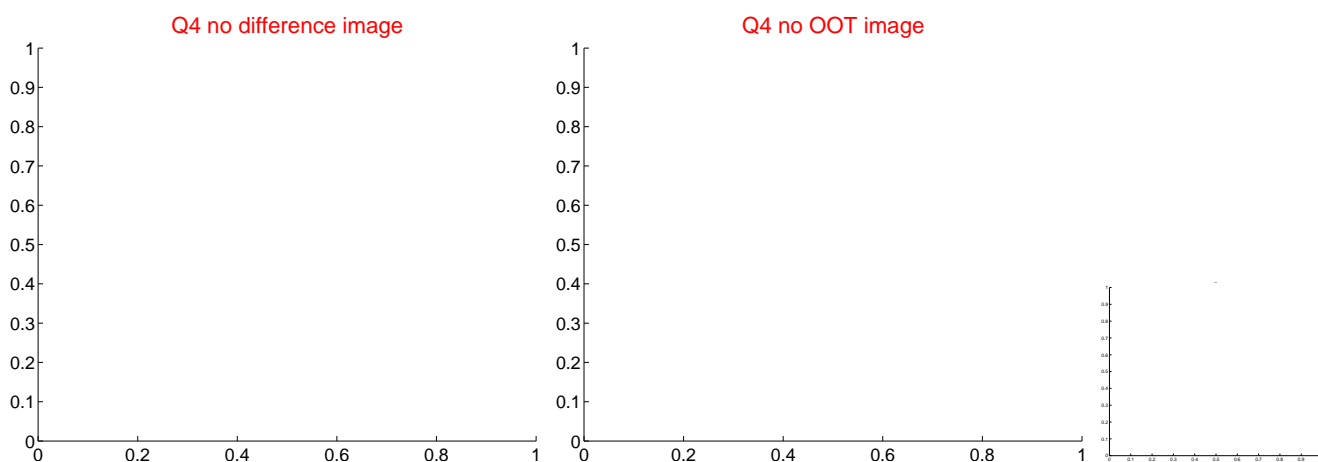
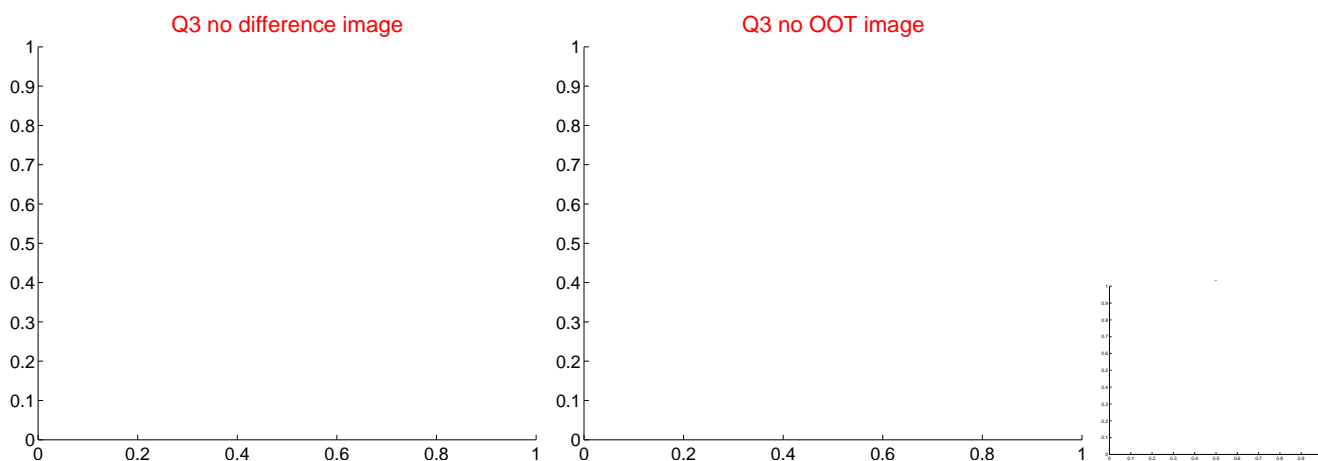
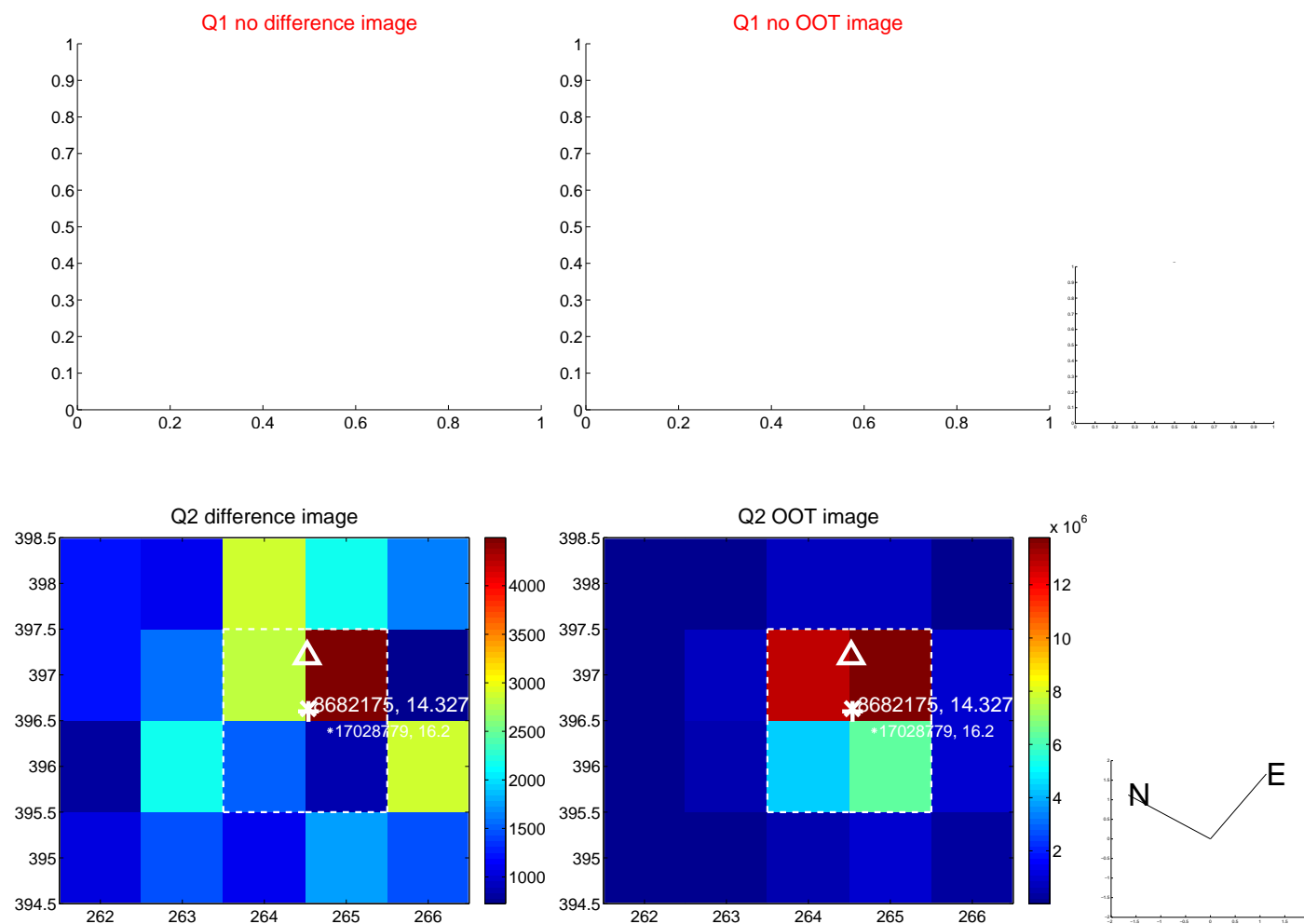


offset from photometric centroids



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.

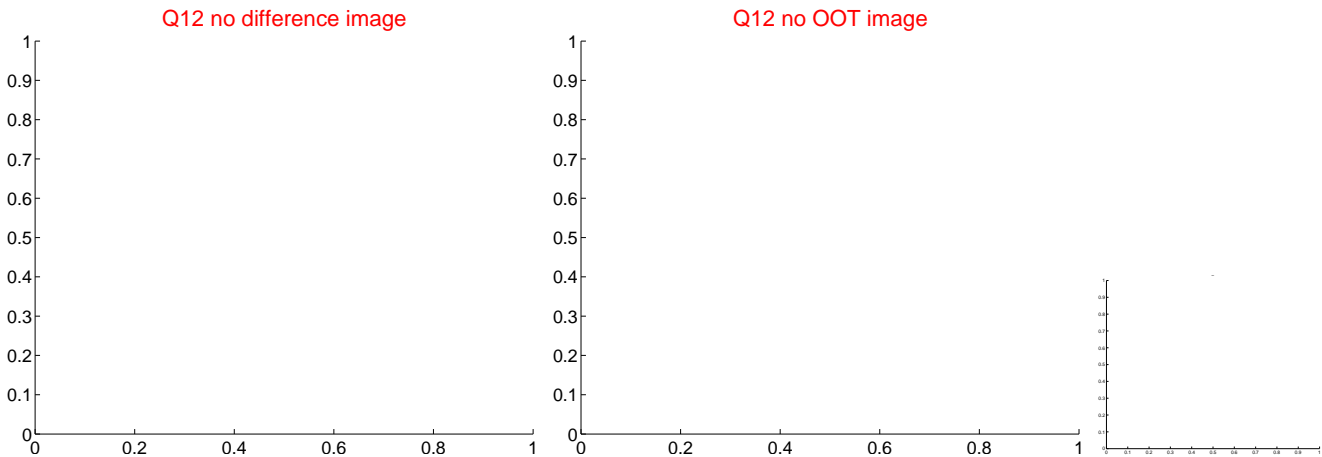
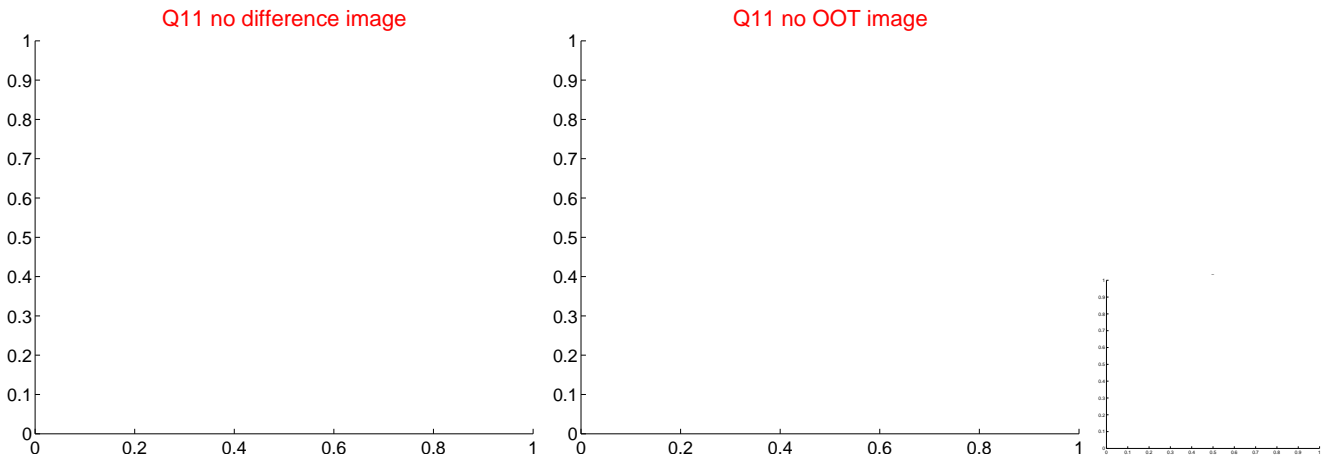
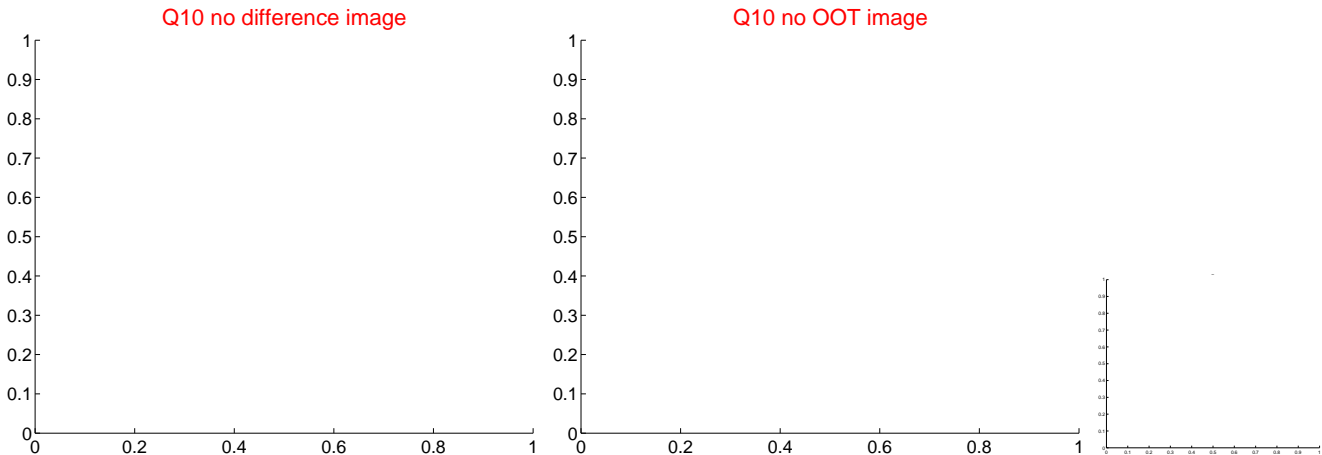
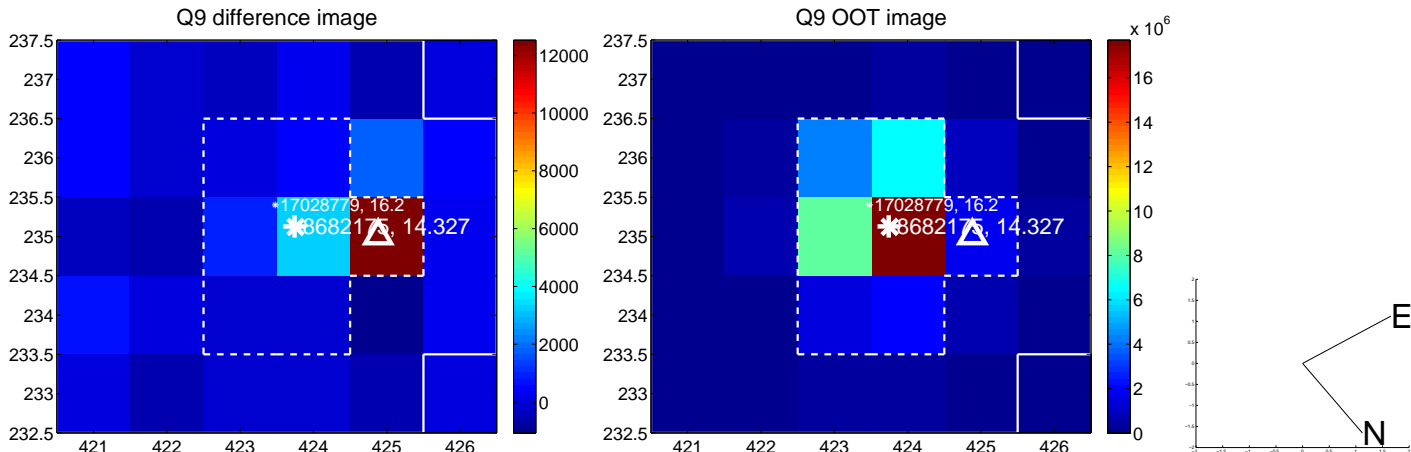
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



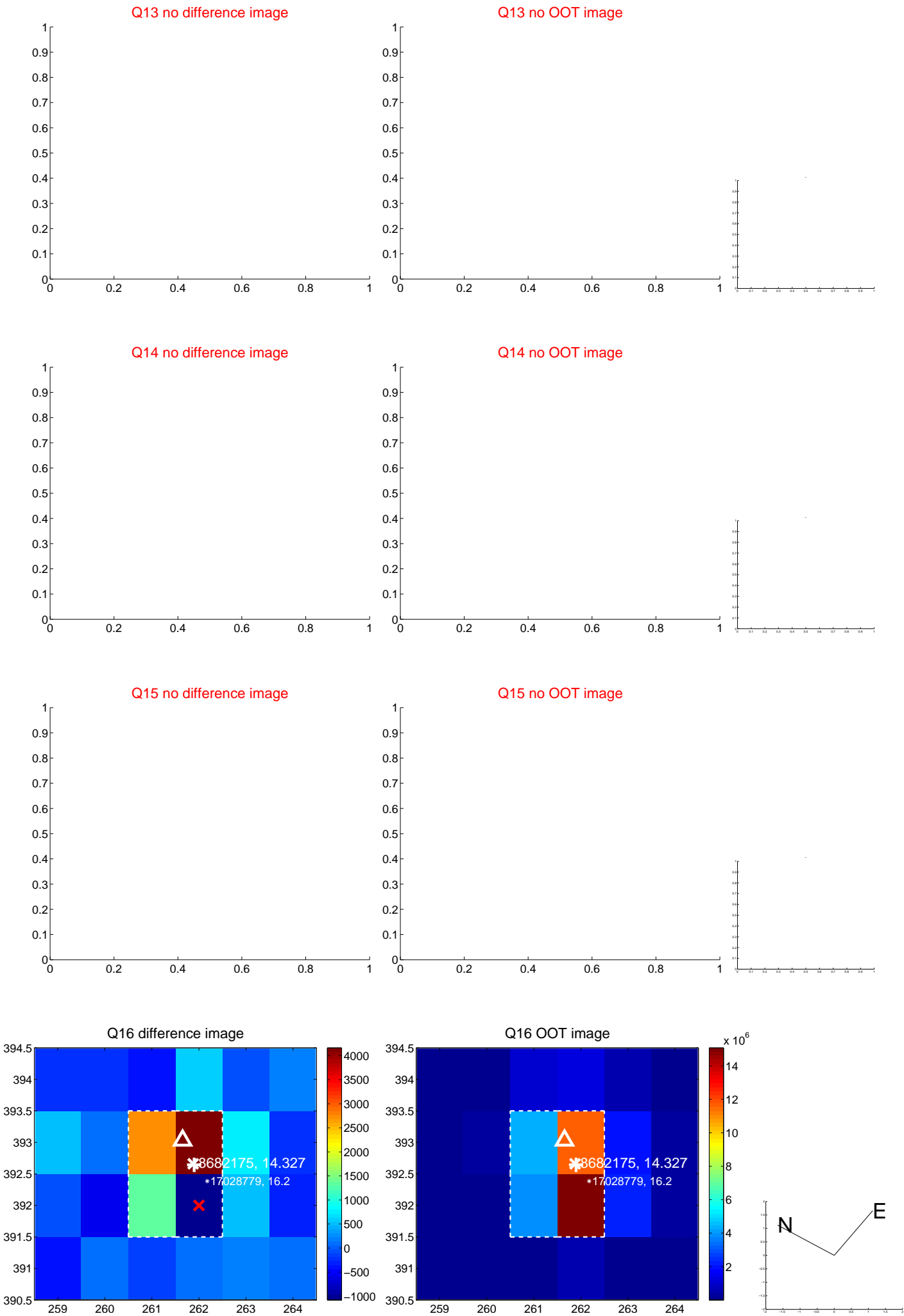
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



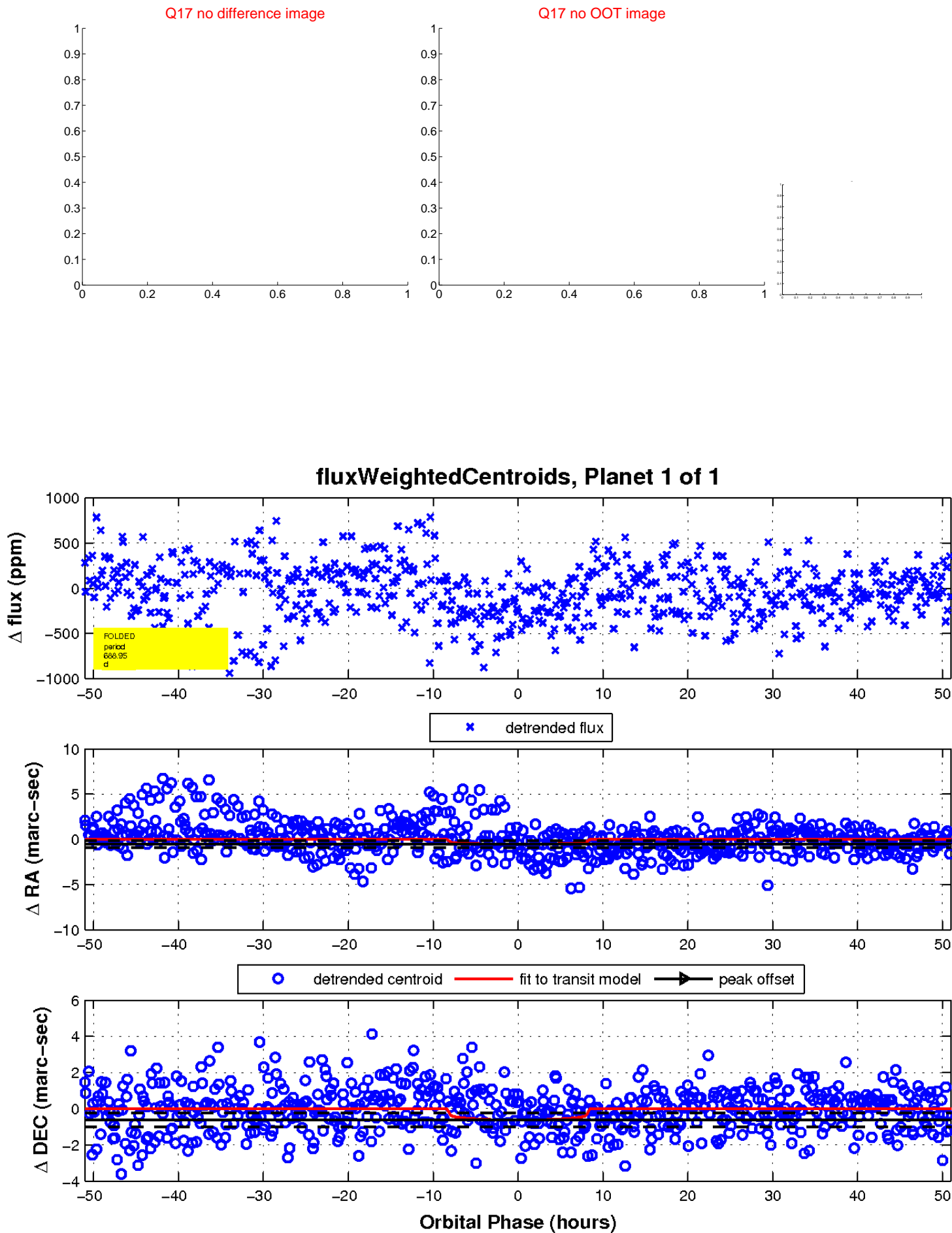
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

