

KIC 009902554

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})
009902554-01	OBS	No	275.635681	365.735145	244.4	2.750	10.4	7.8	1.43	6467	2.35	4.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009902554-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED

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

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

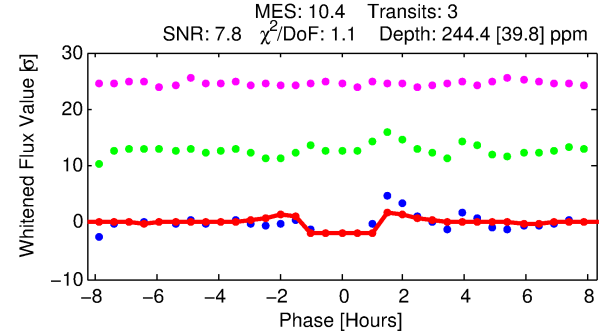
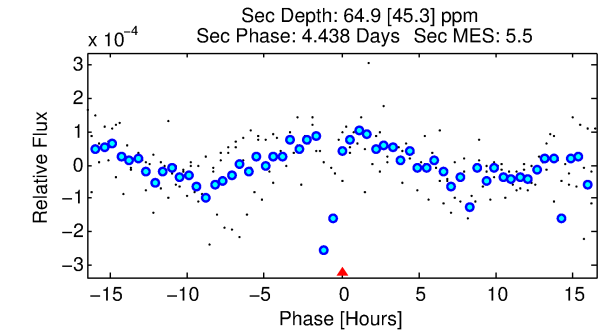
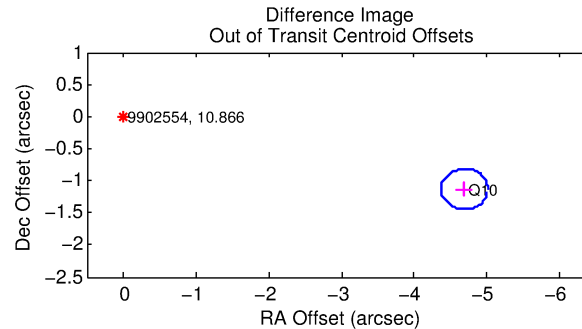
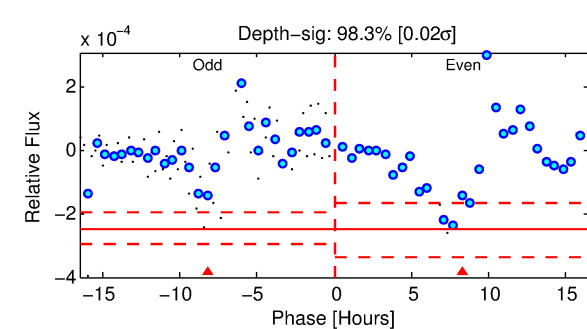
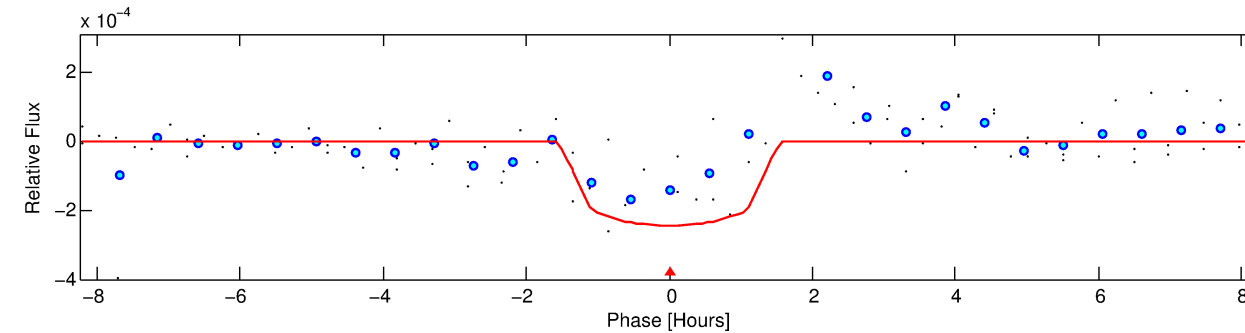
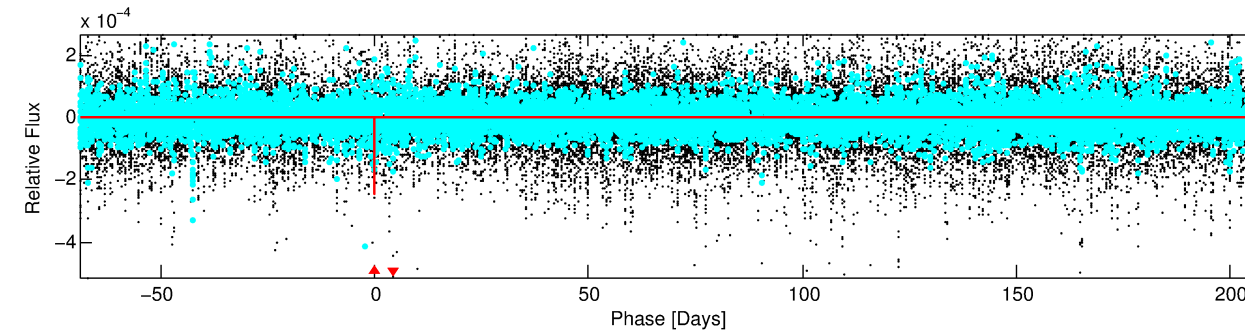
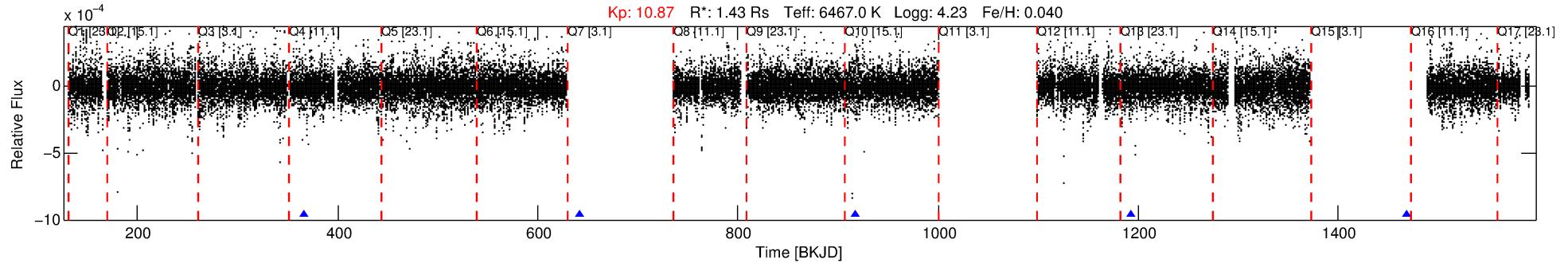
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009902554-01

No Significant Match Found

DV One-Page Summary

KIC: 9902554 Candidate: 1 of 1 Period: 275.636 d



DV Fit Results:

Period = 275.63568 [0.00216] d
Epoch = 365.7351 [0.0051] BKJD
Rp/R* = 0.0150 [0.0088]
a/R* = 622.80 [1794.66]
b = 0.61 [3.02]
Seff = 4.00 [0.91]
Teq = 361 [20] K
Rp = 2.35 [1.45] Re
a = 0.8969 [0.1364] AU
Ag = 5195.03 [7202.92] [0.72 σ]
Teffp = 4734 [1621] K [2.70 σ]

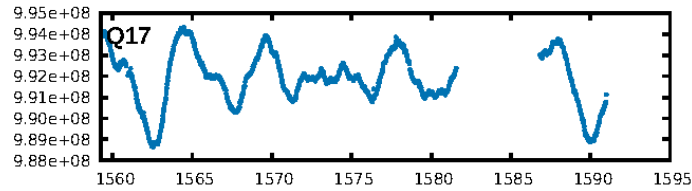
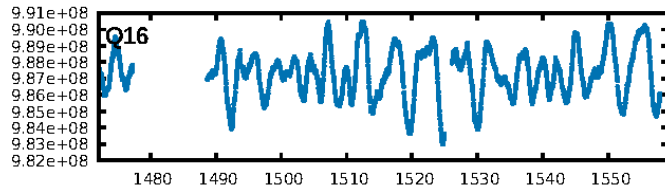
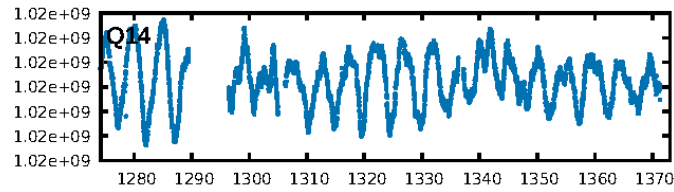
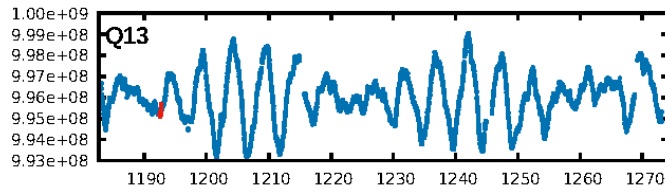
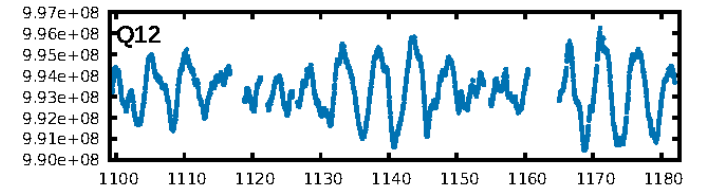
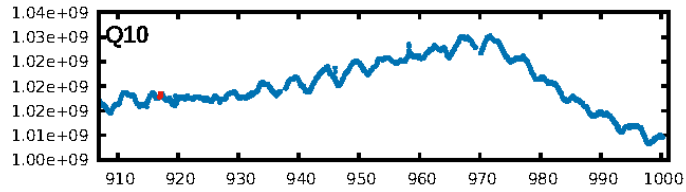
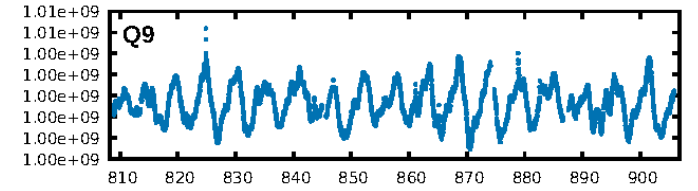
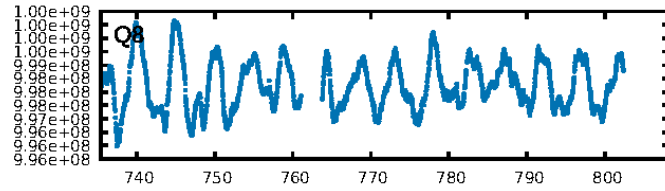
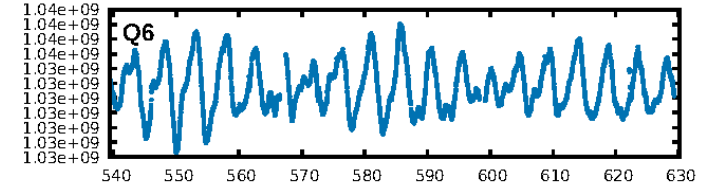
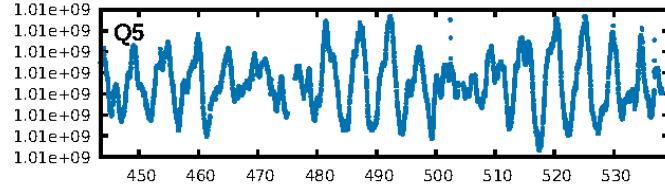
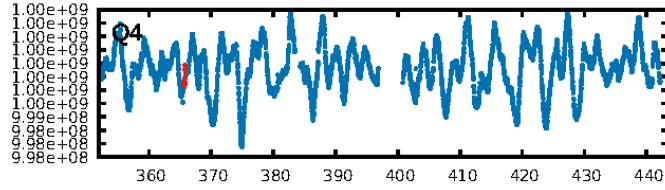
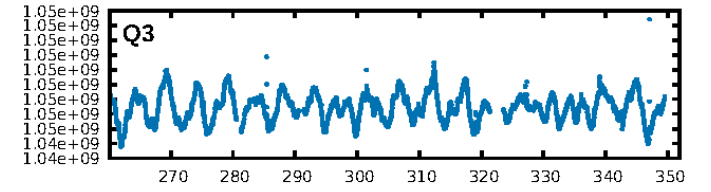
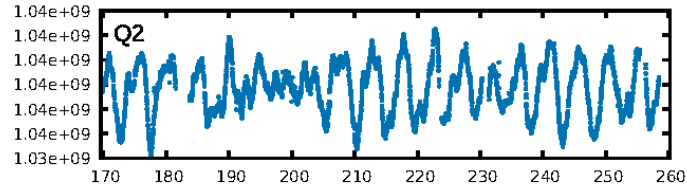
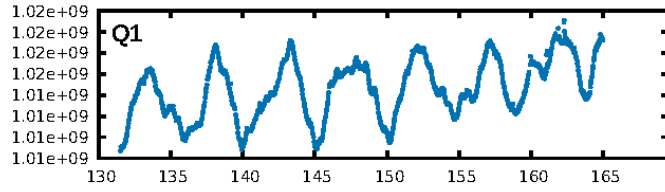
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.1%
ModelChiSquareGof-sig: 96.4%
Bootstrap-pfa: 1.02e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.772
Centroid-sig: 76.3%
Centroid-so: 0.549 arcsec [0.46 σ]
OotOffset-rm: 4.827 arcsec [45.62 σ]
KicOffset-rm: 4.653 arcsec [43.93 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

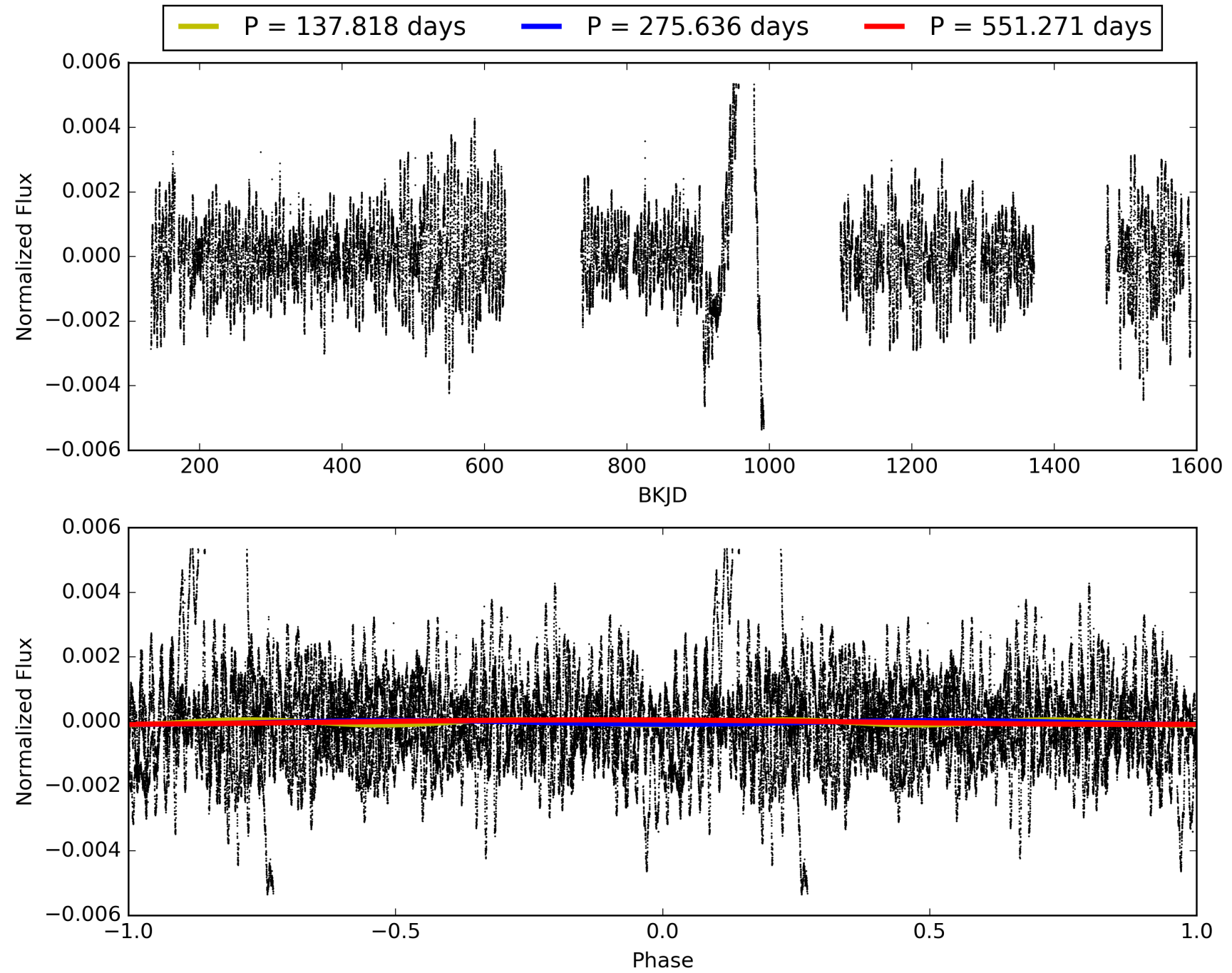
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:34:38 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009902554-01, PDC Light Curves

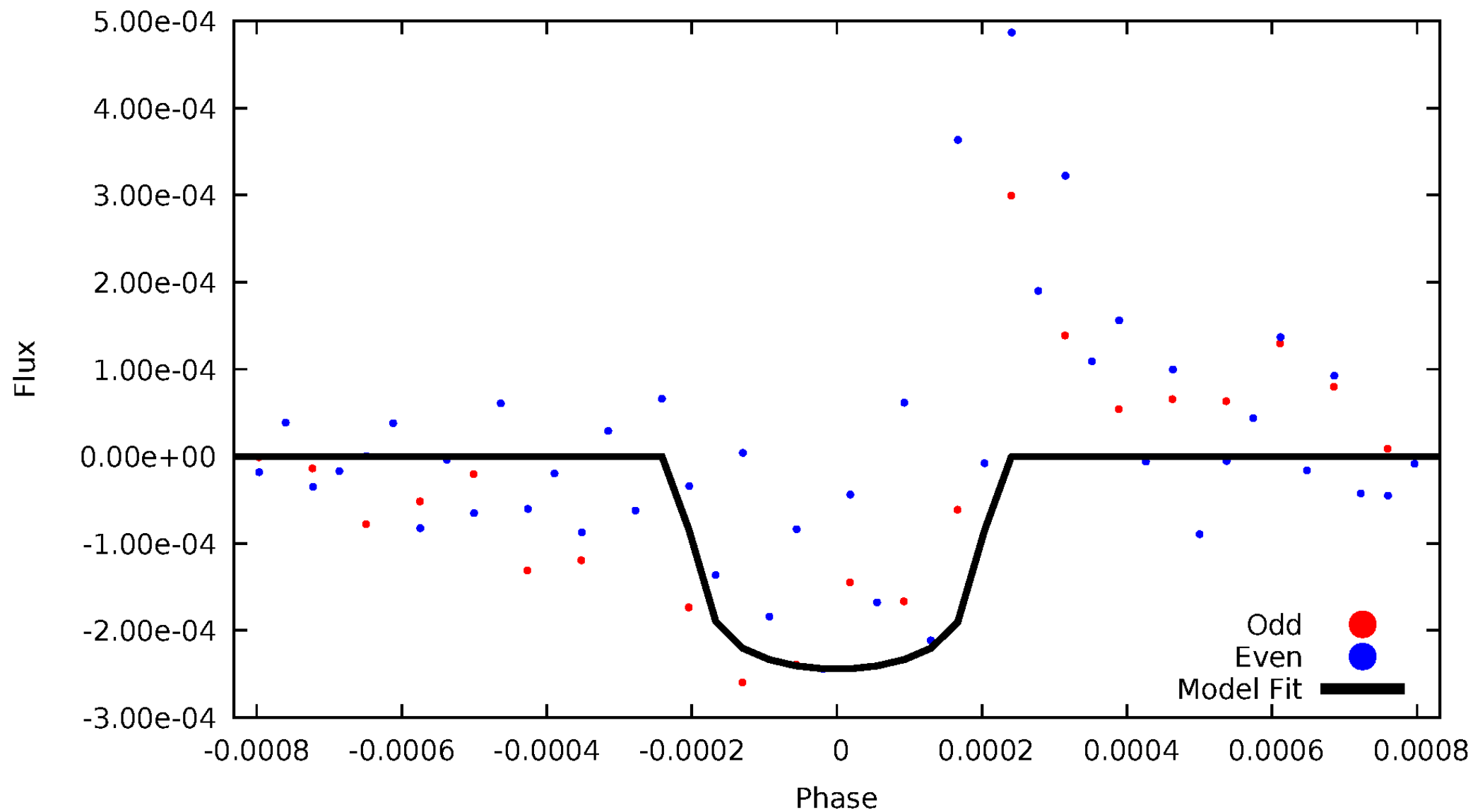


TCE 009902554-01



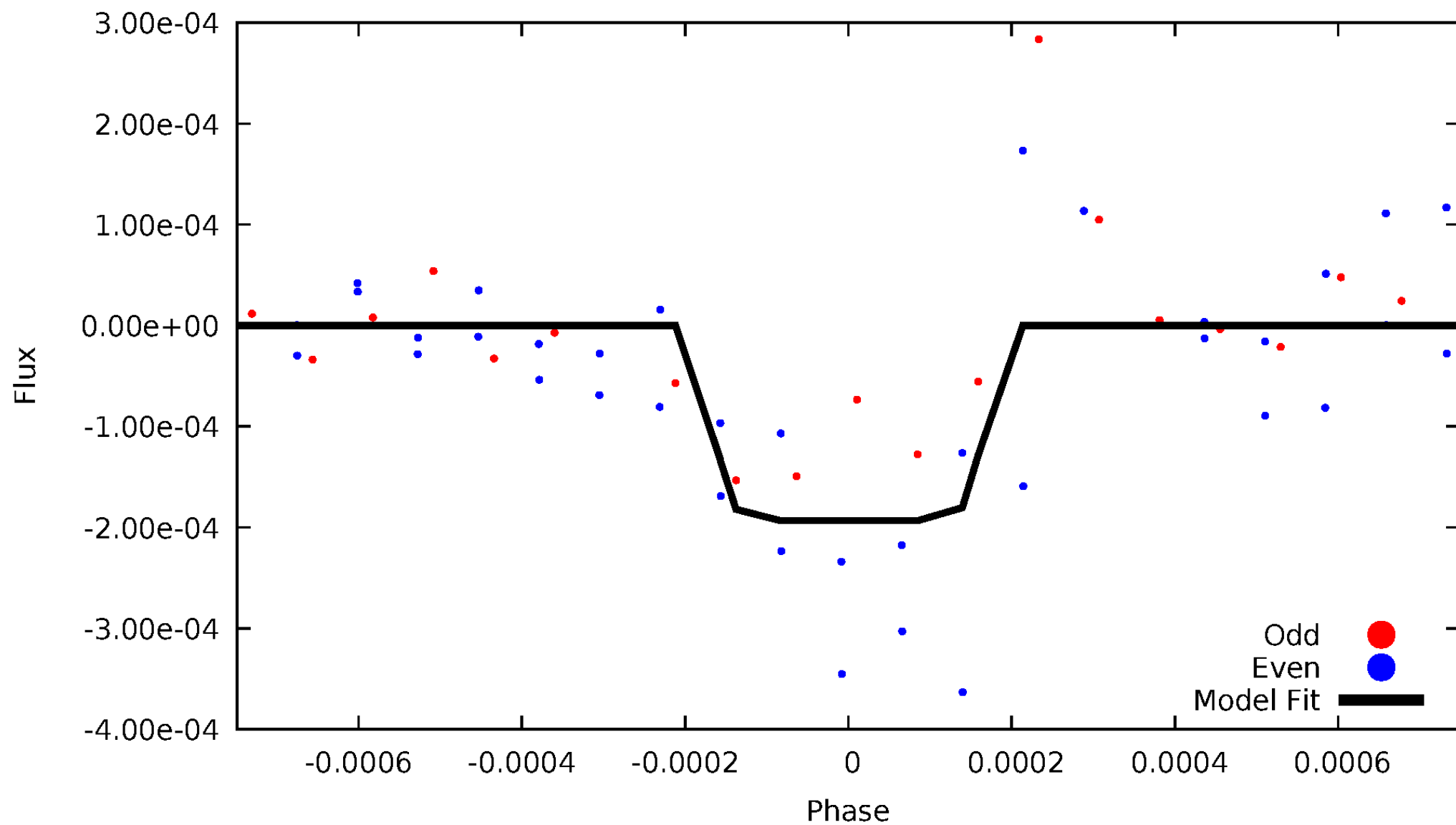
DV Odd/Even

TCE 009902554-01



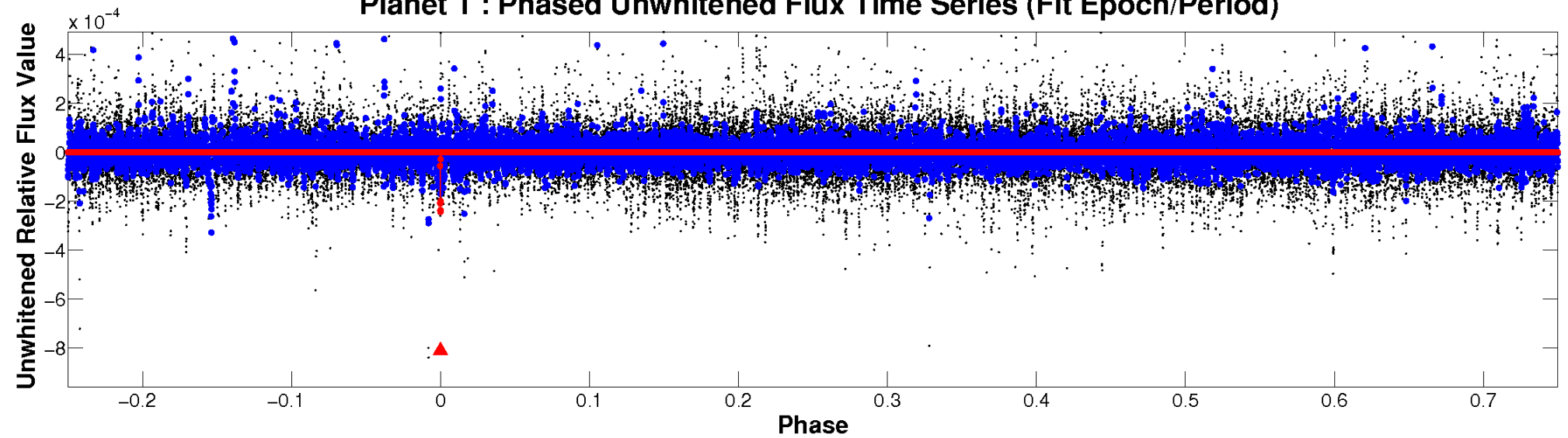
ALT Odd/Even

TCE 009902554-01

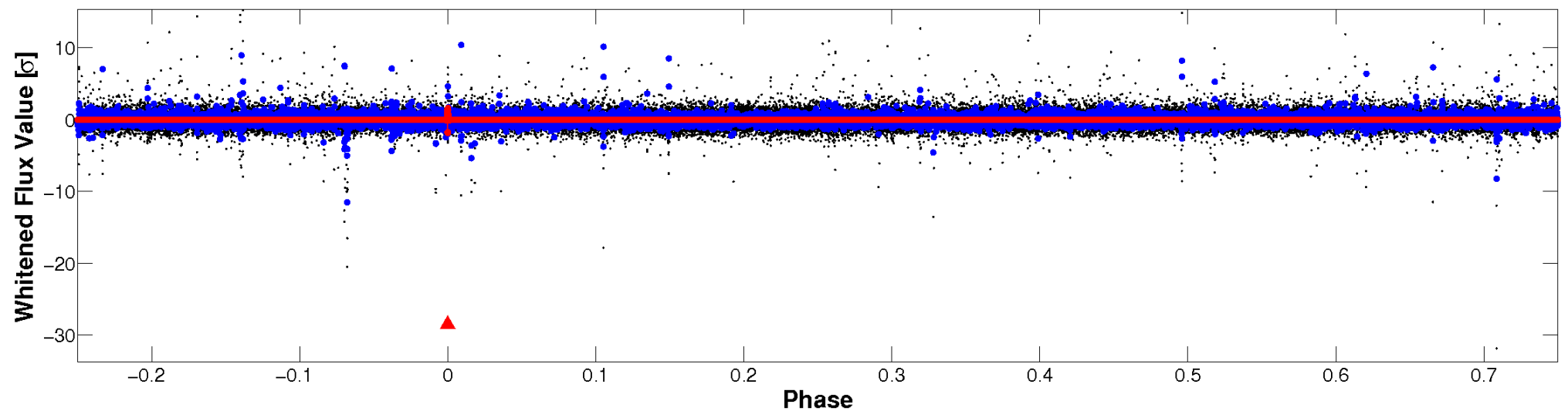


Non-Whitened Vs. Whitened Light Curve

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

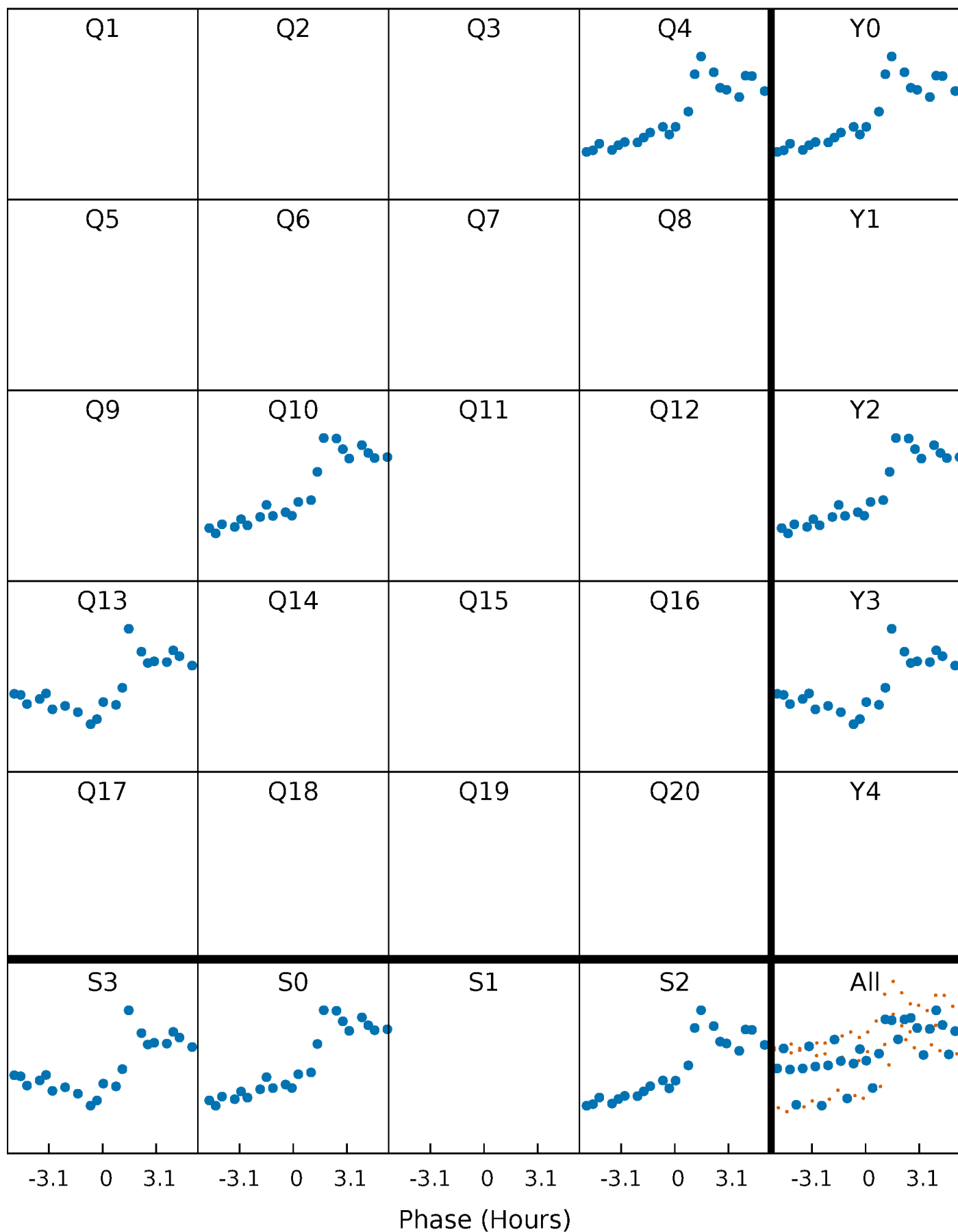


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



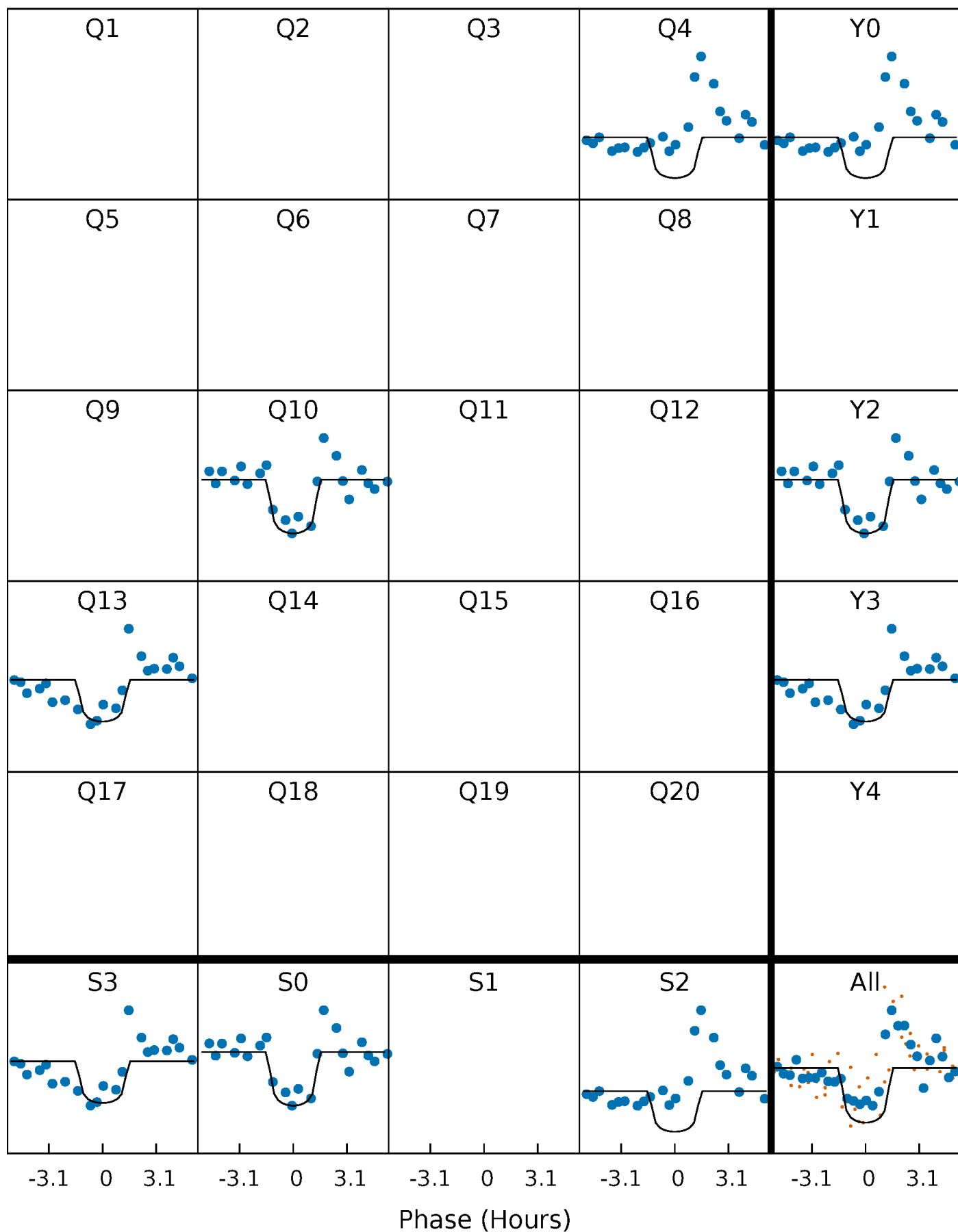
PDC Quarter-Phased Transit Curves

TCE 009902554-01 P=275.635681 Days $T_0=365.735145$ (BKJD)



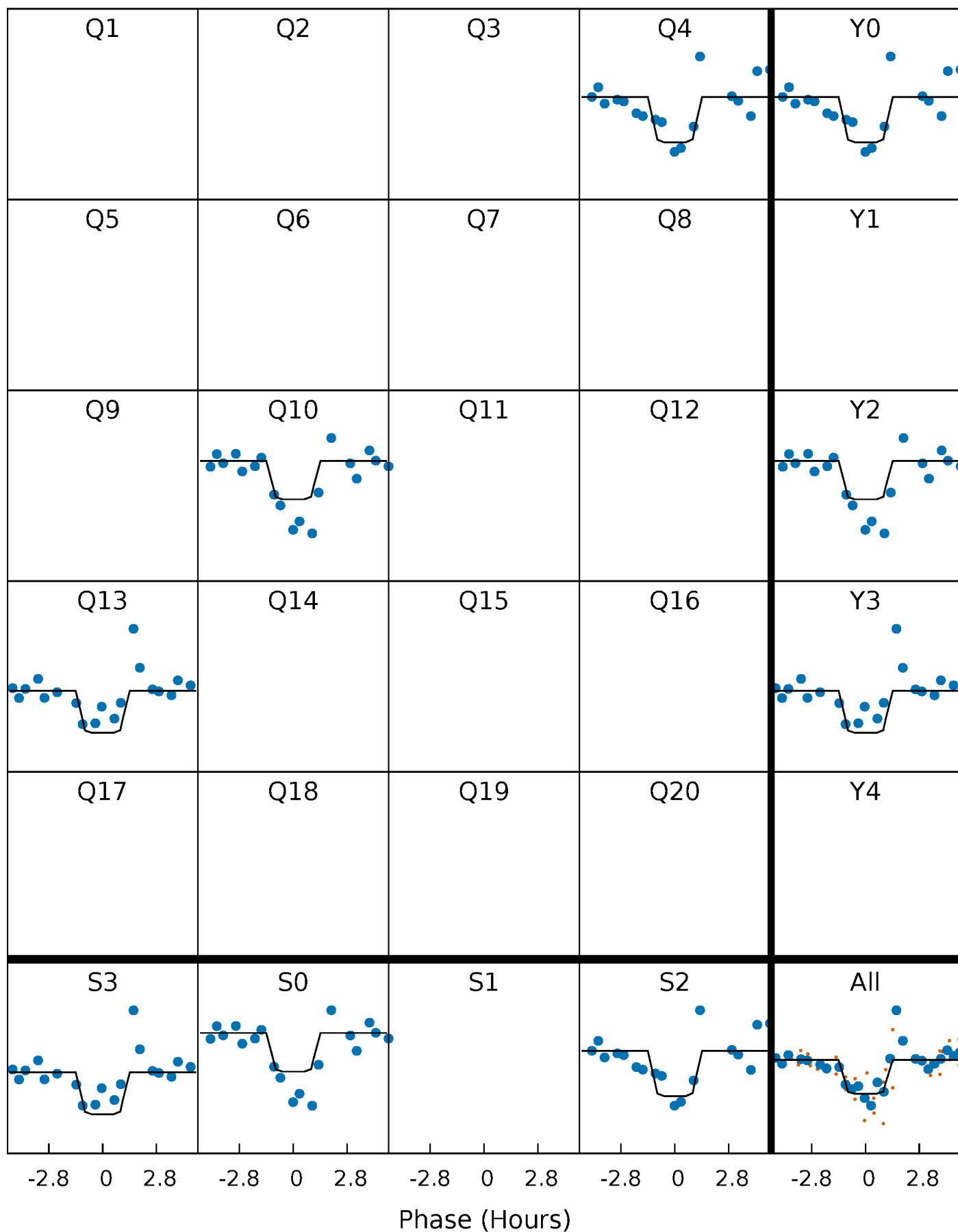
DV Quarter-Phased Transit Curves

TCE 009902554-01 P=275.635681 Days $T_0=365.735145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

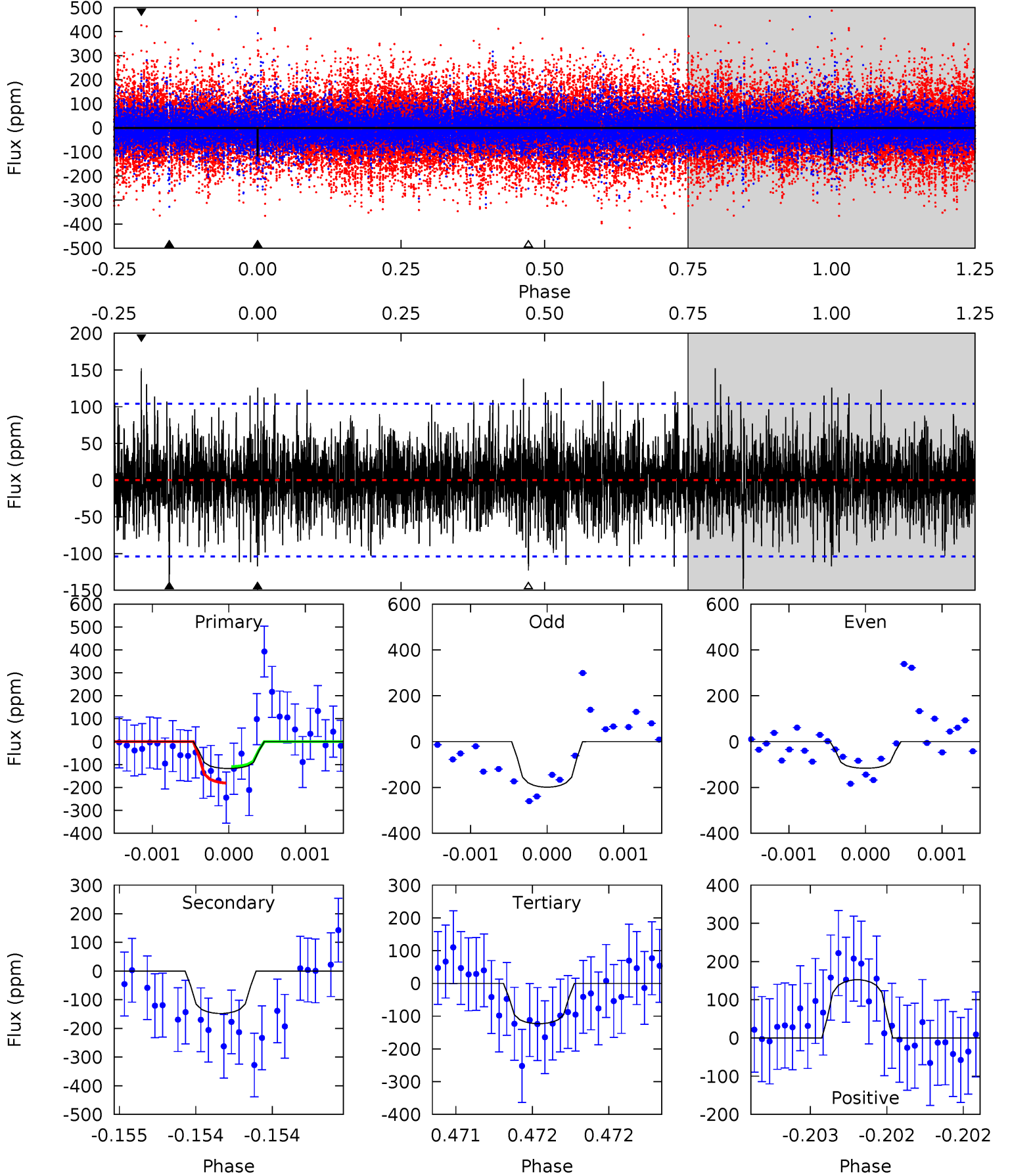
TCE 009902554-01 P=275.640666 Days $T_0=365.722243$ (BKJD)



DV Model-Shift Uniqueness Test

009902554-01, P = 275.635681 Days, E = 90.099464 Days

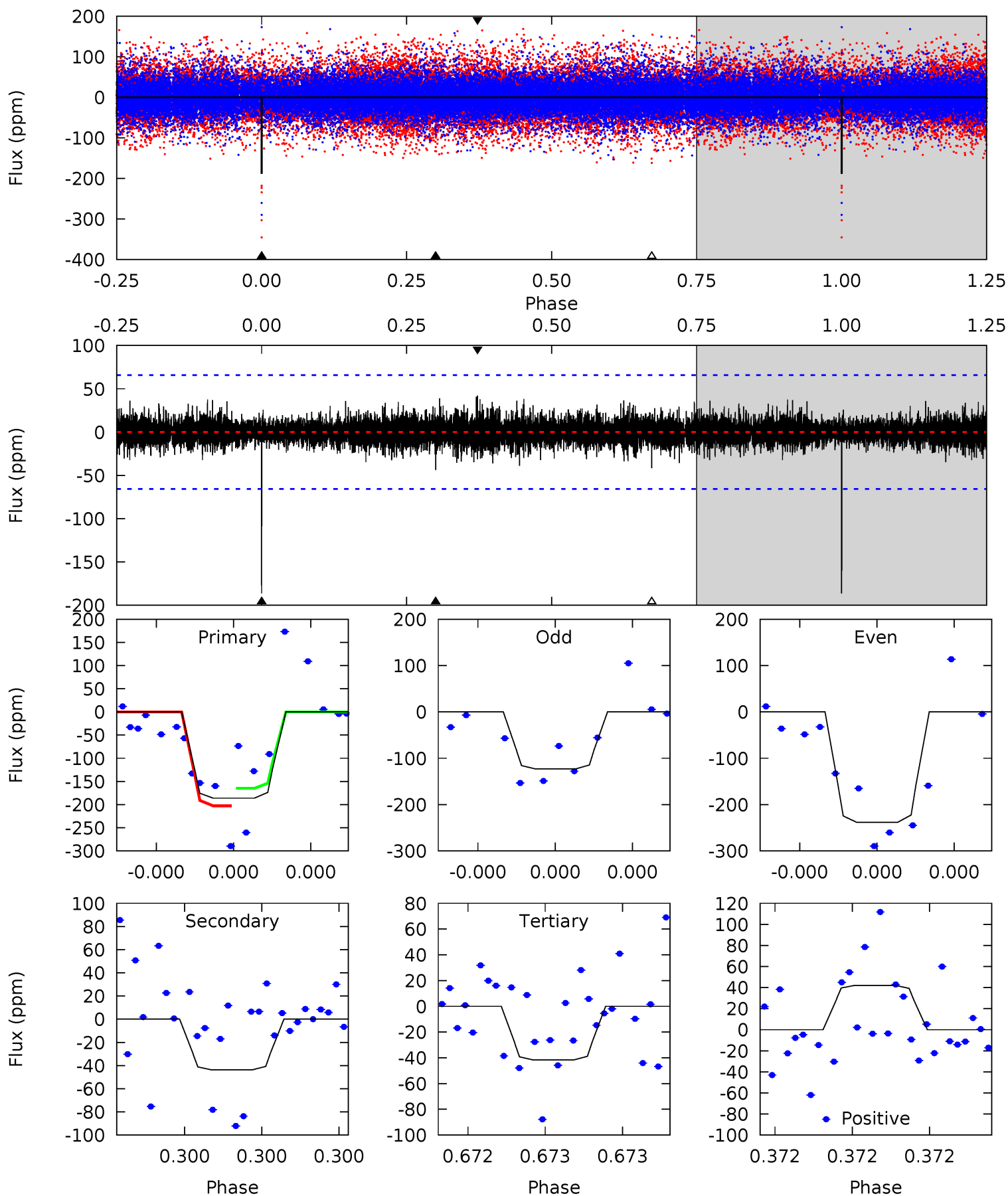
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.28	7.91	6.59	8.15	5.57	3.47	1.77	-0.30	-1.86	1.33	-0.23	2.03	0.59	0.51	1.87



Alt Model-Shift Uniqueness Test

009902554-01, P = 275.640666 Days, E = 90.081577 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	3.76	3.58	3.62	5.65	3.60	0.78	12.4	12.4	0.18	0.14	5.04	1.17	0.18	1.62



Stellar Parameters For KIC 009902554

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6467^{+77}_{-83}	$4.228^{+0.099}_{-0.121}$	$0.040^{+0.150}_{-0.200}$	$1.433^{+0.259}_{-0.194}$	$1.266^{+0.095}_{-0.105}$	$0.606^{+0.269}_{-0.218}$
	+1%/-1%	+2%/-3%	+375%/-500%	+18%/-14%	+8%/-8%	+44%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 009902554-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-148 ± 19	$2.45^{+1.34}_{-1.22}$	506^{+24}_{-19}	5696^{+2669}_{-947}	10837^{+33251}_{-6375}
Alt.	-44 ± 12	$2.27^{+1.42}_{-1.20}$	506^{+21}_{-20}	4533^{+1799}_{-736}	3644^{+12903}_{-2266}

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

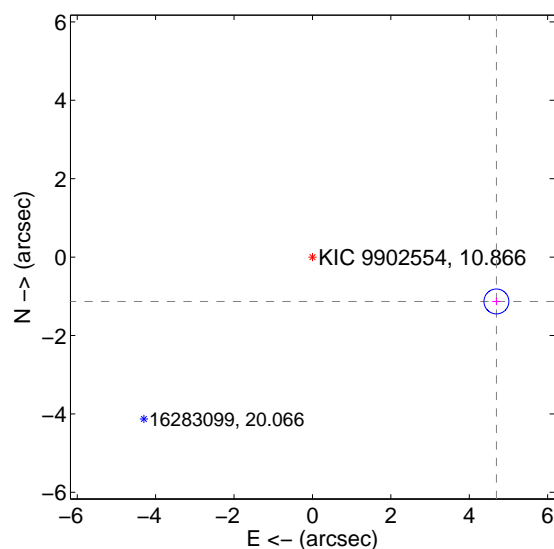
Supplemental centroid analysis for 009902554-01. **Kepler magnitude: 10.87.** Transit SNR 7.77

There are 1 quarters with good PRF difference image offsets

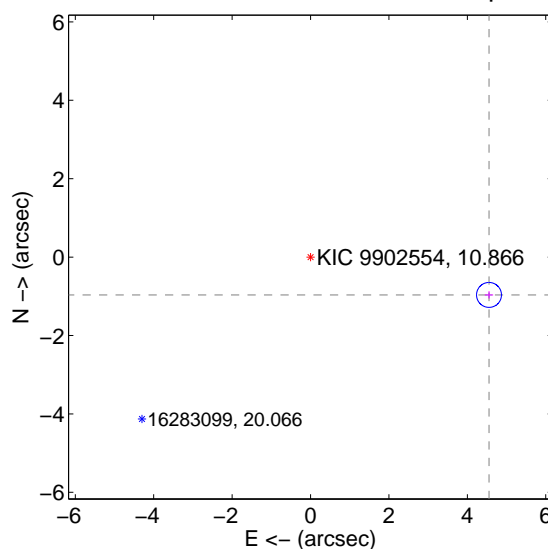
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.827 ± 0.106	45.62	-4.692 ± 0.106	-1.131 ± 0.095
PRF-fit source offset from KIC position	4.653 ± 0.106	43.93	-4.552 ± 0.106	-0.965 ± 0.095
photometric centroid source offset	0.55 ± 1.19	0.46	-0.44 ± 1.27	0.32 ± 1.04

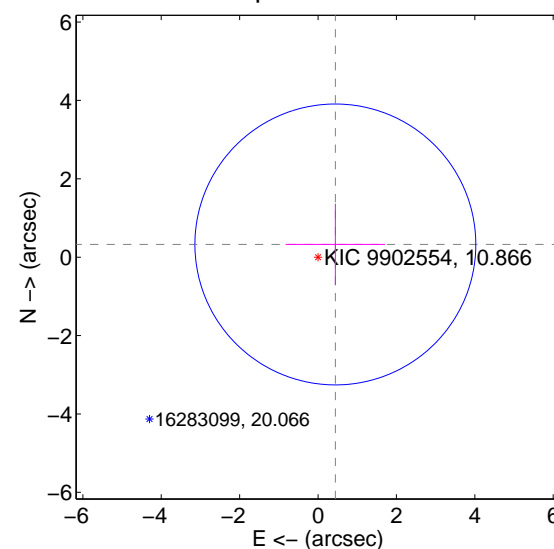
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

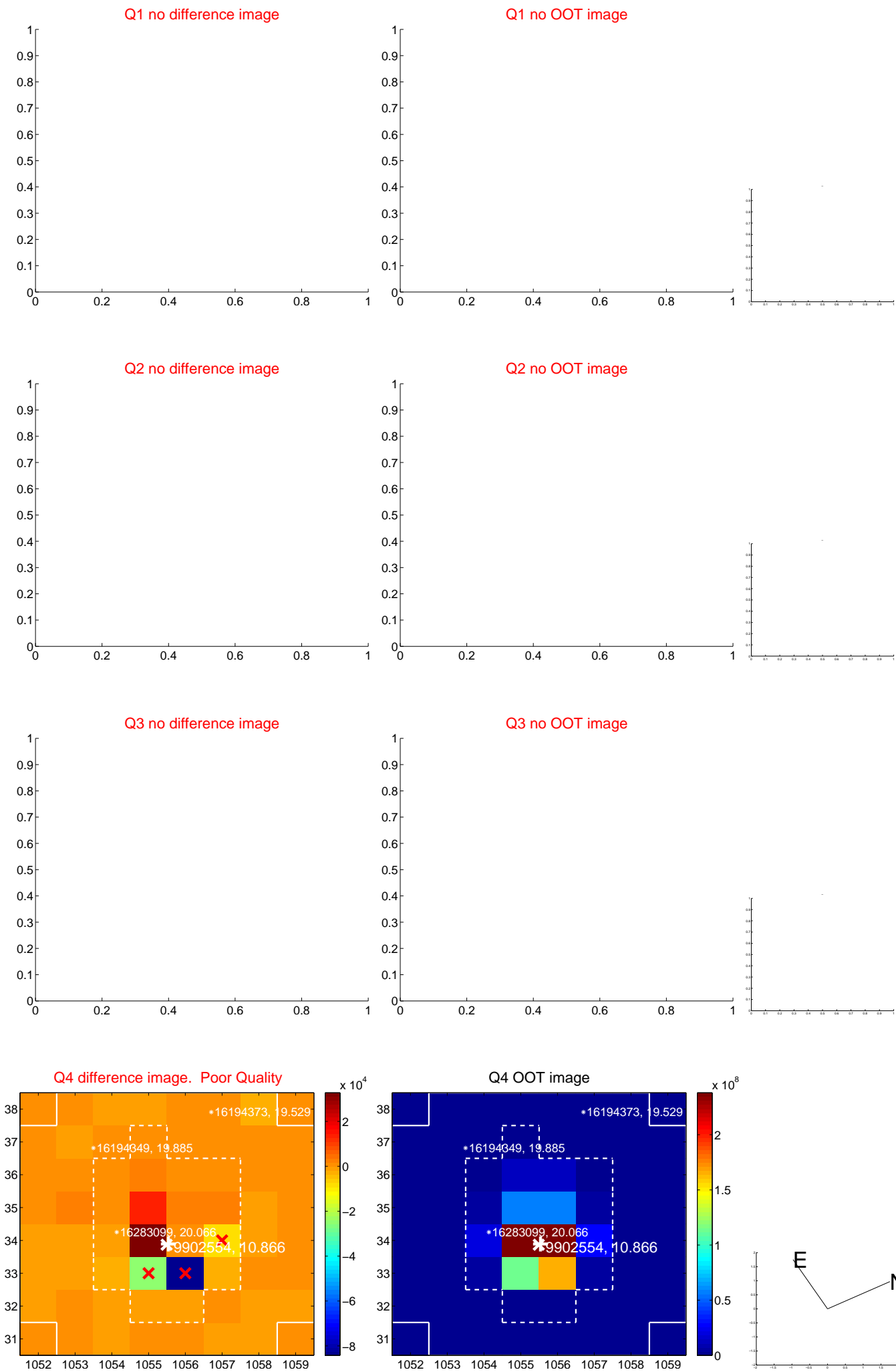


offset from photometric centroids



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.

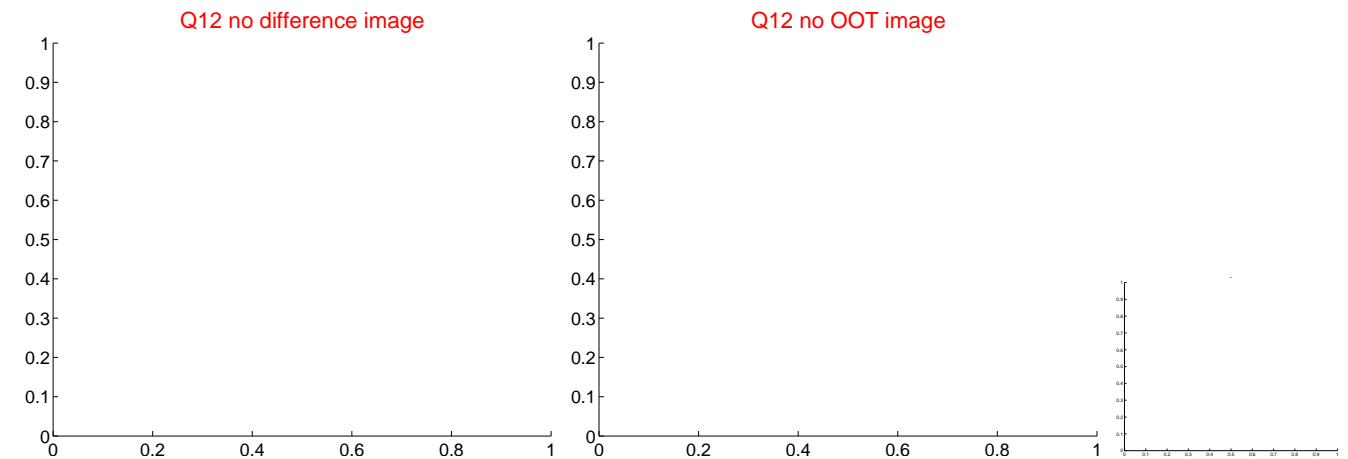
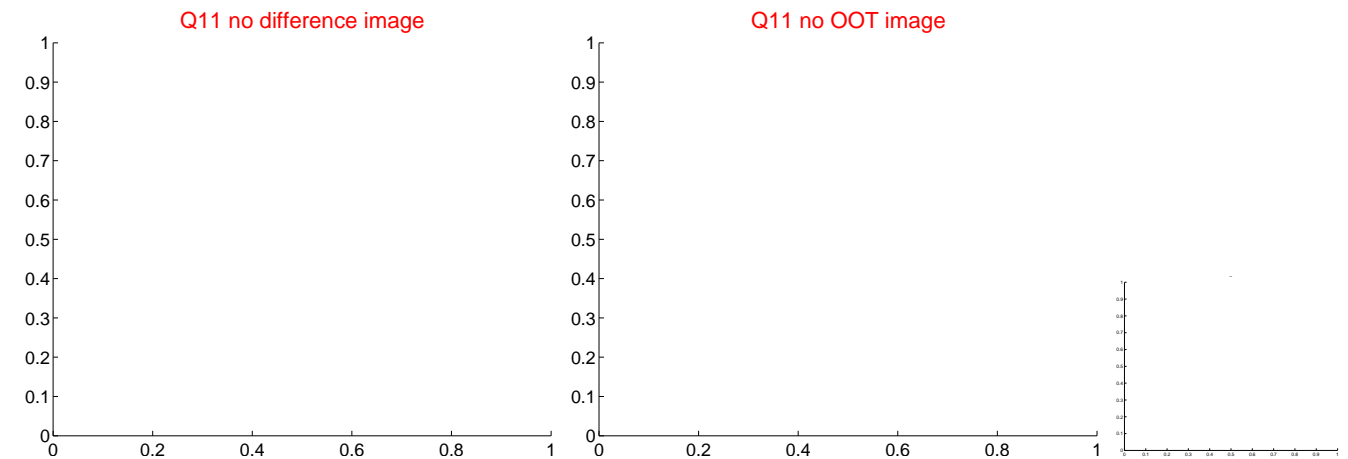
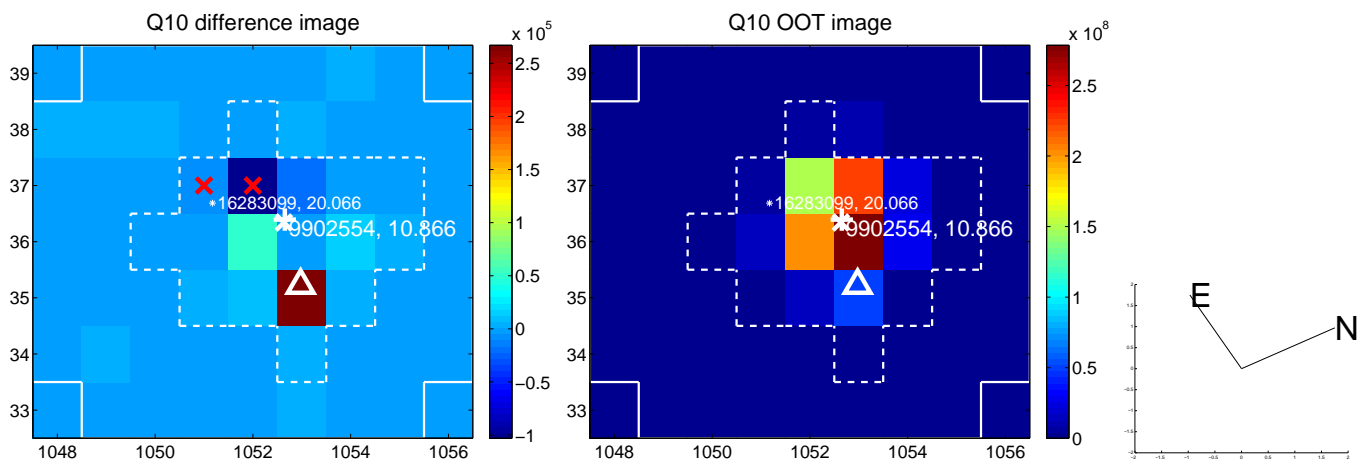
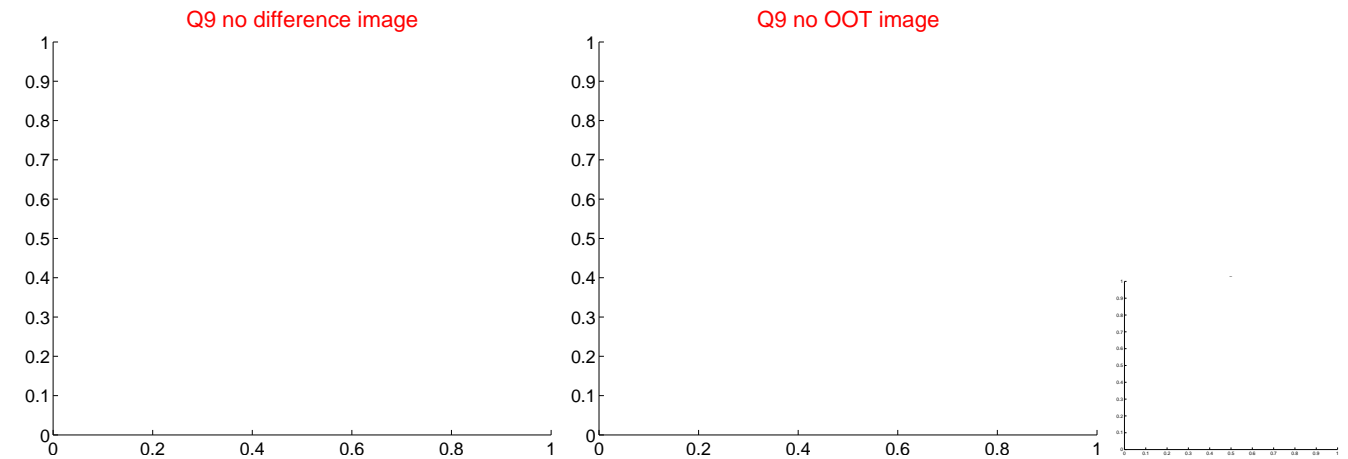
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



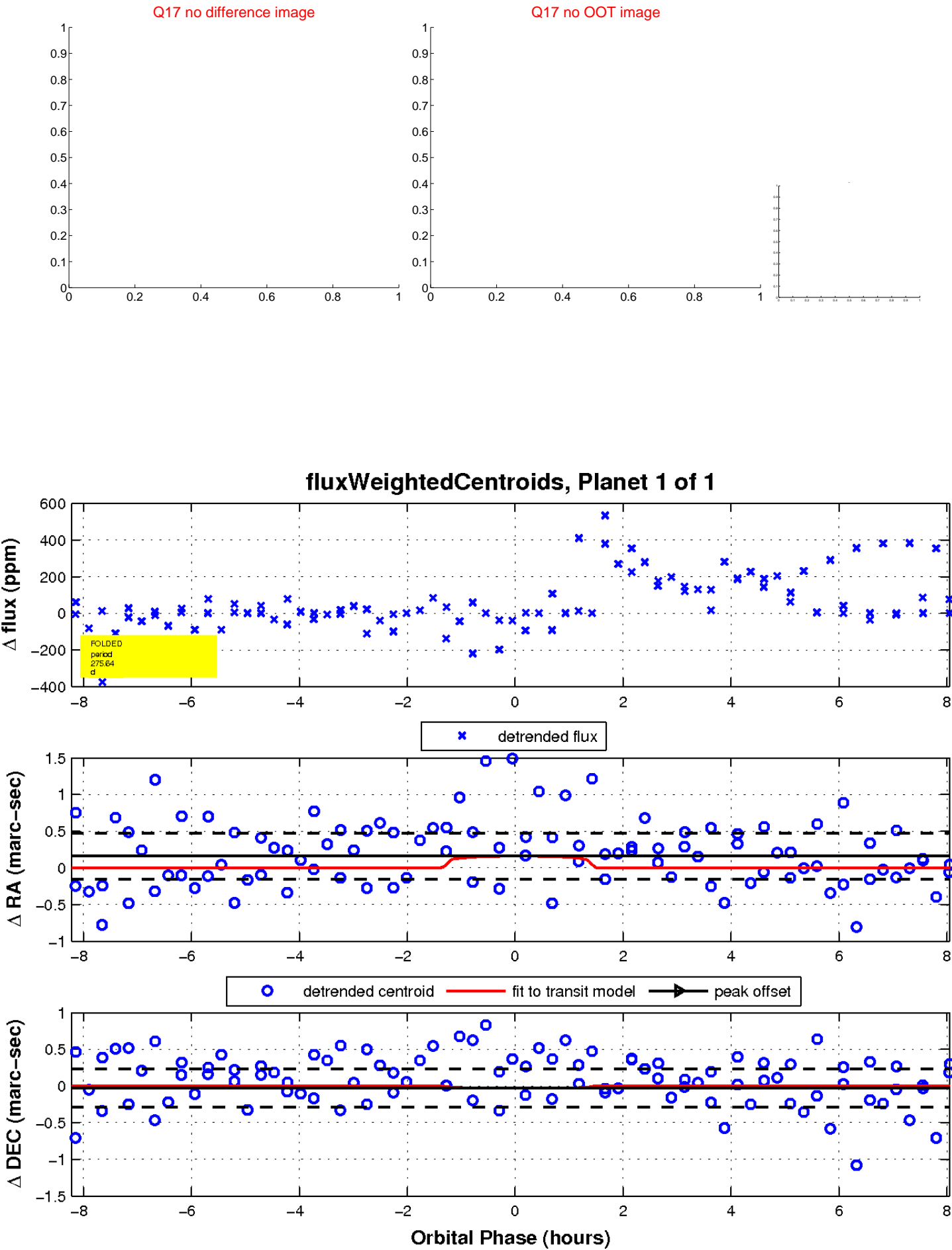
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

