

KIC 009070666

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})
009070666-01	OBS	3008.01	2.997903	131.770349	43.7	4.432	11.8	12.5	1.65	5888	1.29	1616.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009070666-01	OBS	PC	0.60	0	0	0	0	CENT_KIC_POS

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

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

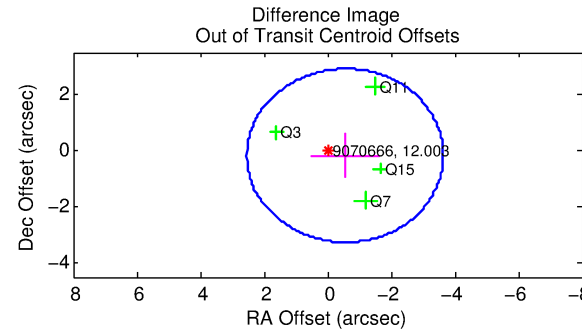
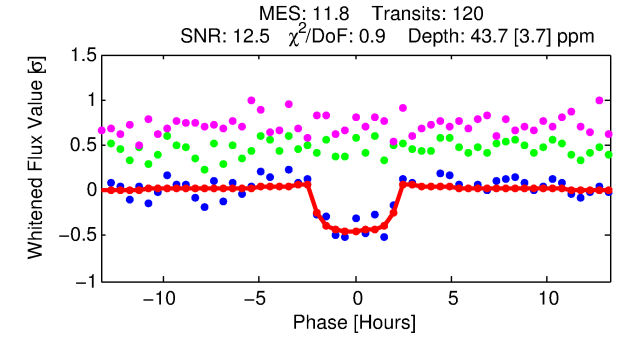
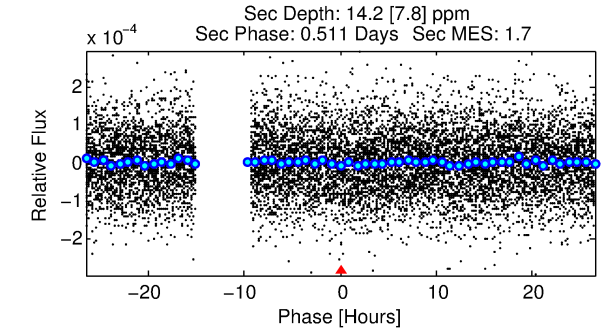
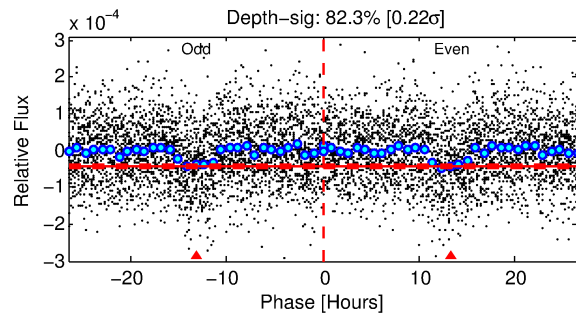
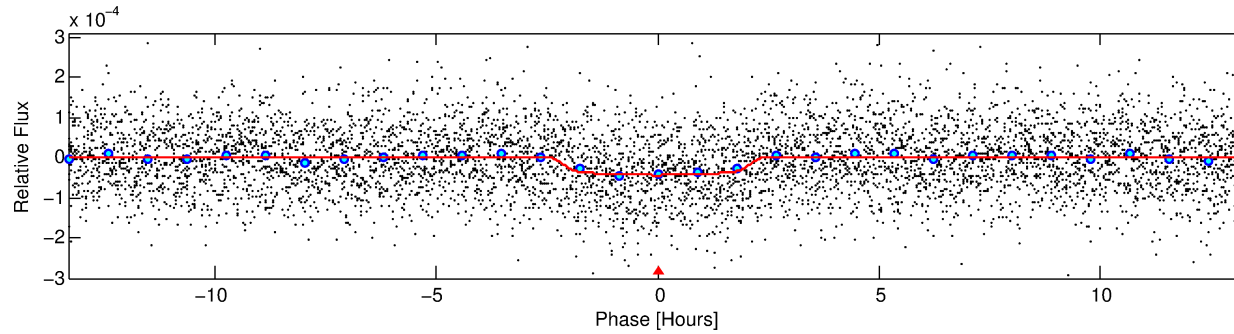
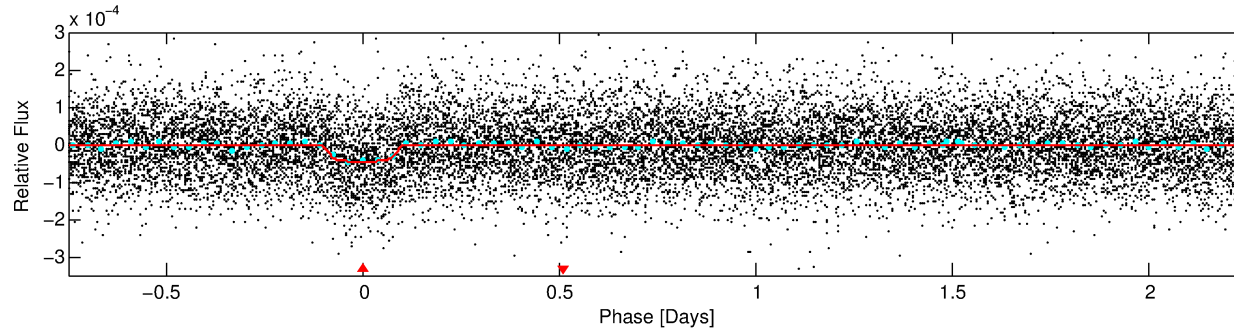
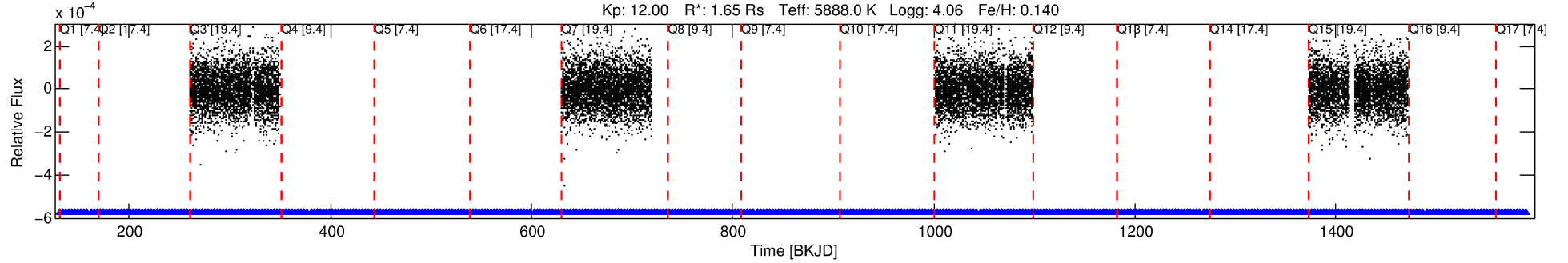
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009070666-01

No Significant Match Found

DV One-Page Summary

KIC: 9070666 Candidate: 1 of 1 Period: 2.998 d
KOI: K03008.01 Corr: 0.976



DV Fit Results:

Period = 2.99790 [0.00002] d
Epoch = 131.7703 [0.0042] BKJD
Rp/R* = 0.0072 [0.0025]
a/R* = 2.52 [3.66]
b = 0.90 [0.37]
Seff = 1616.04 [661.27]
Teq = 1617 [165] K
Rp = 1.29 [0.57] Re
a = 0.0425 [0.0108] AU
Ag = 8.44 [8.25] [0.90 σ]
Teffp = 4260 [950] K [2.74 σ]

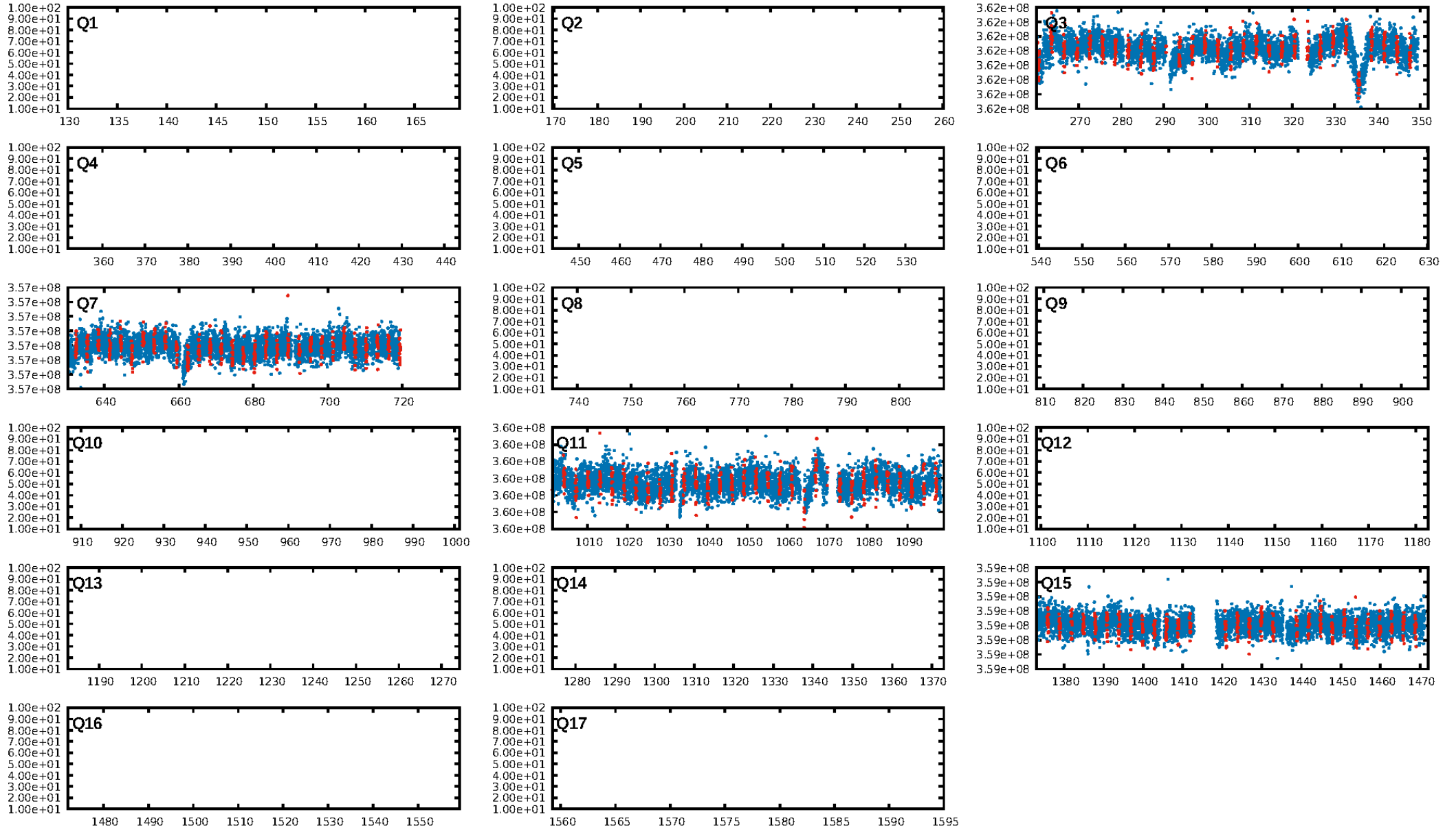
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.74e-31
RollingBand-fgt: 1.00 [120/120]
GhostDiagnostic-chr: 7.148
Centroid-sig: 80.6%
Centroid-so: 0.762 arcsec [0.98 σ]
OotOffset-rm: 0.580 arcsec [0.56 σ]
KicOffset-rm: 0.769 arcsec [0.73 σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

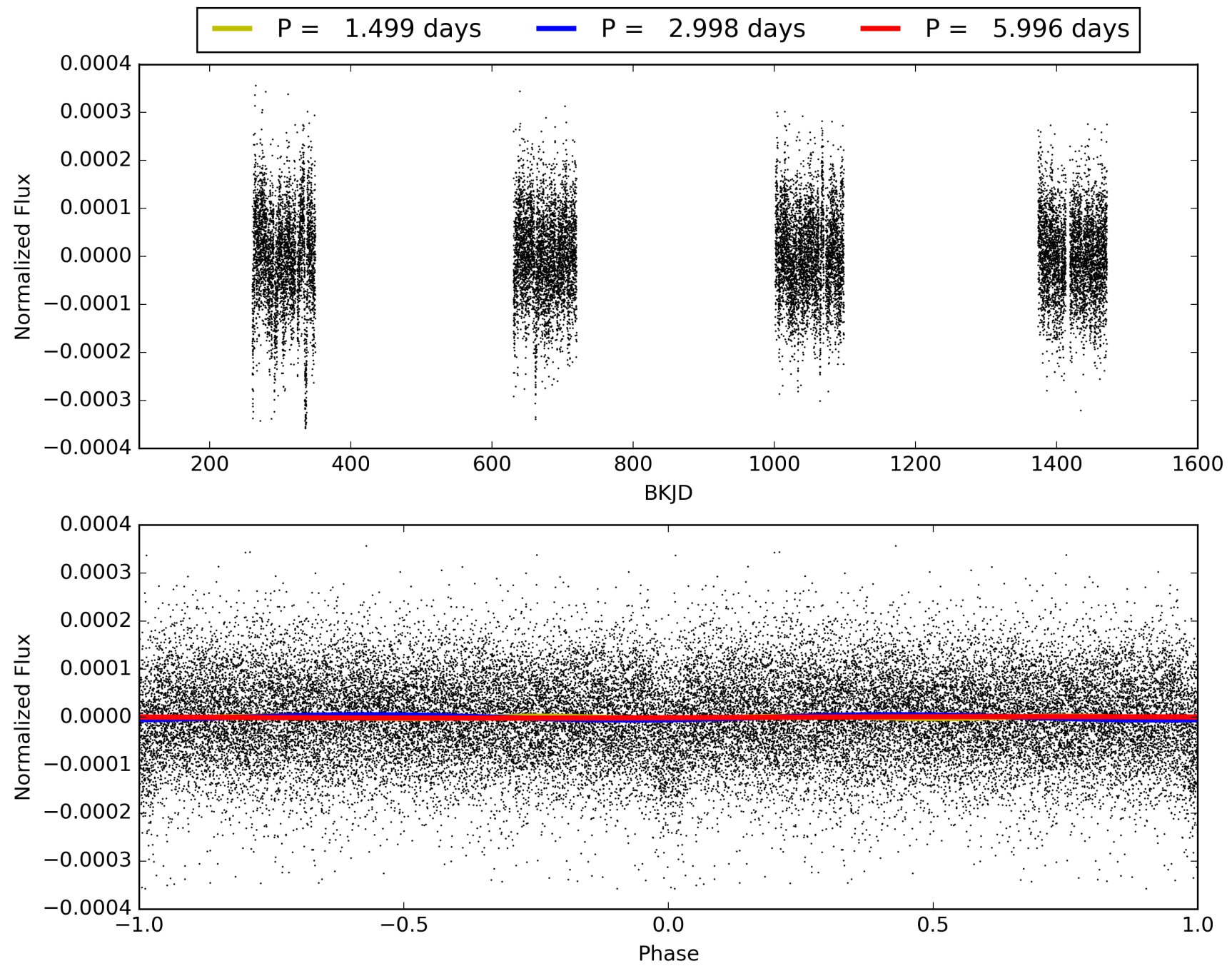
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:22:06 Z

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

TCE 009070666-01, PDC Light Curves

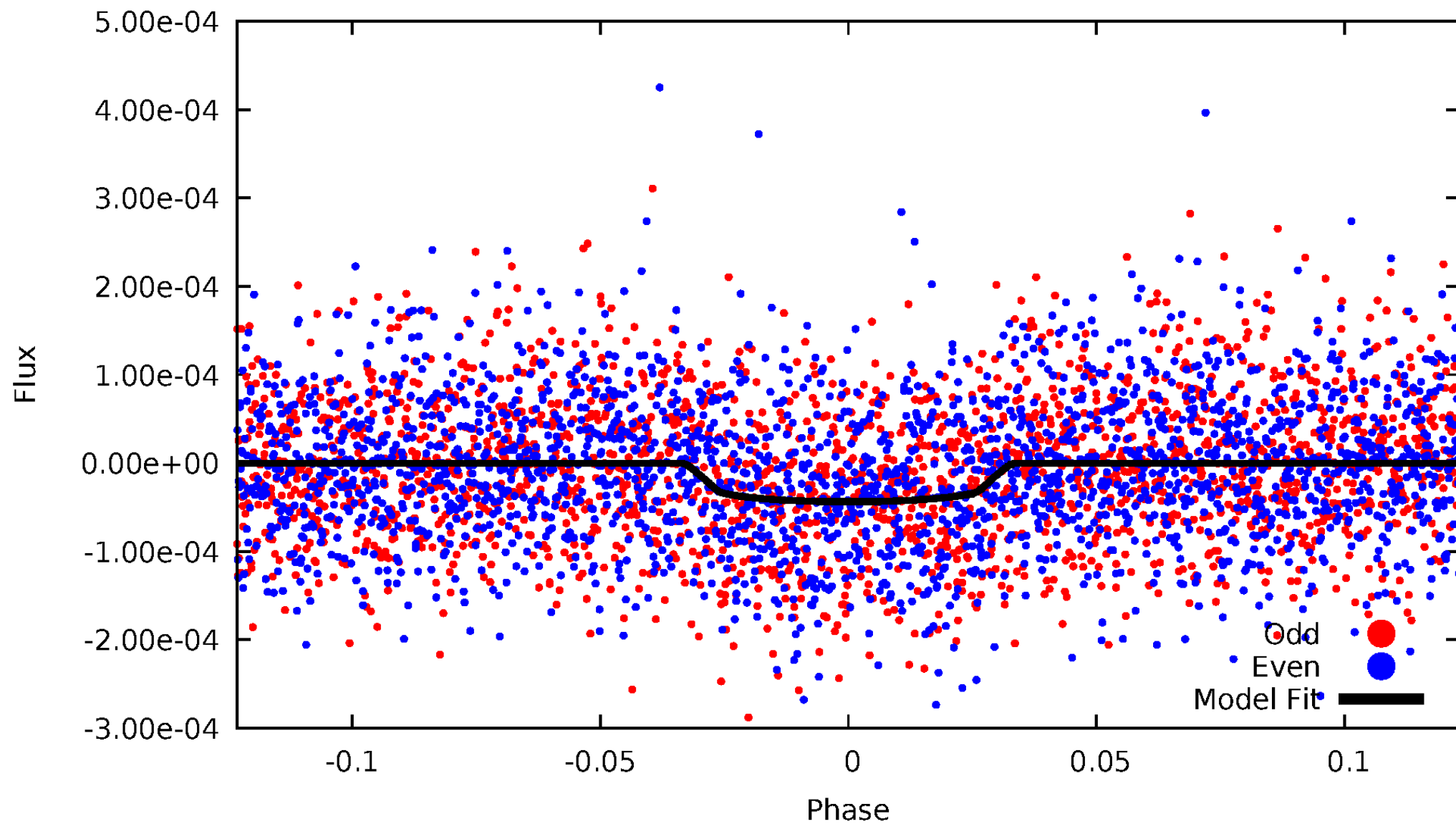


TCE 009070666-01



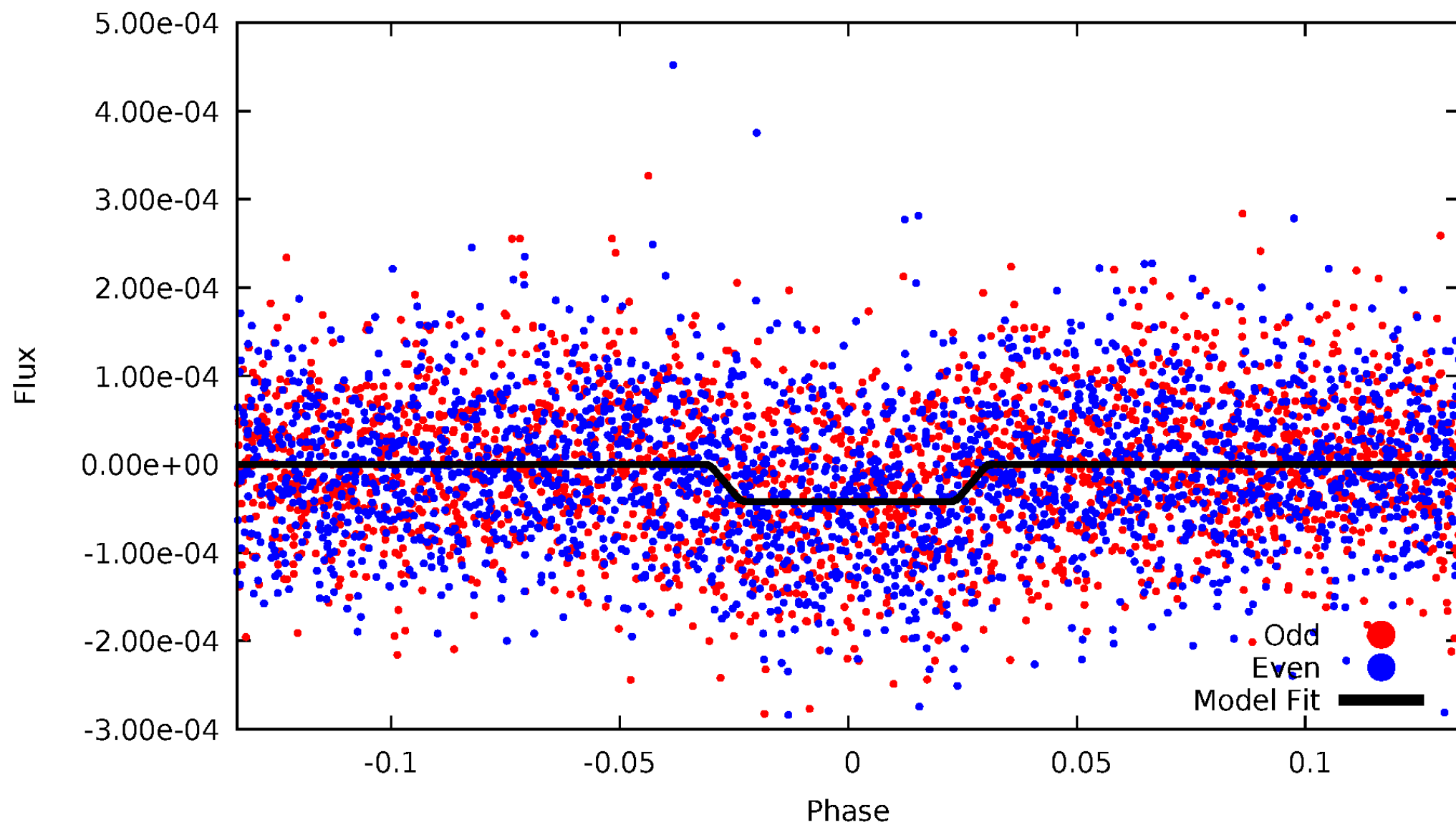
DV Odd/Even

TCE 009070666-01



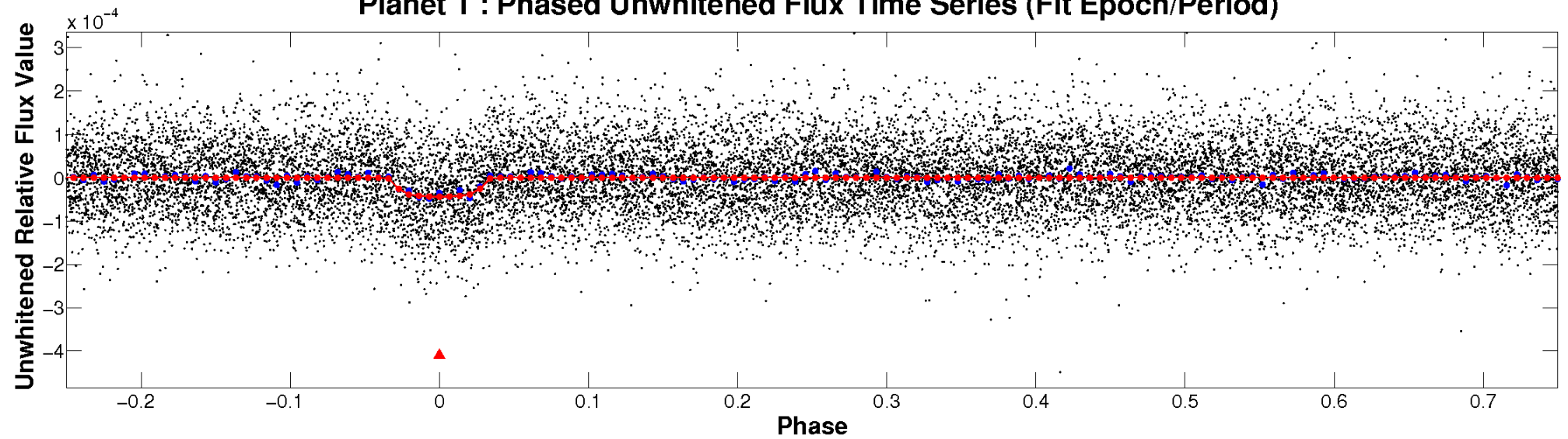
ALT Odd/Even

TCE 009070666-01

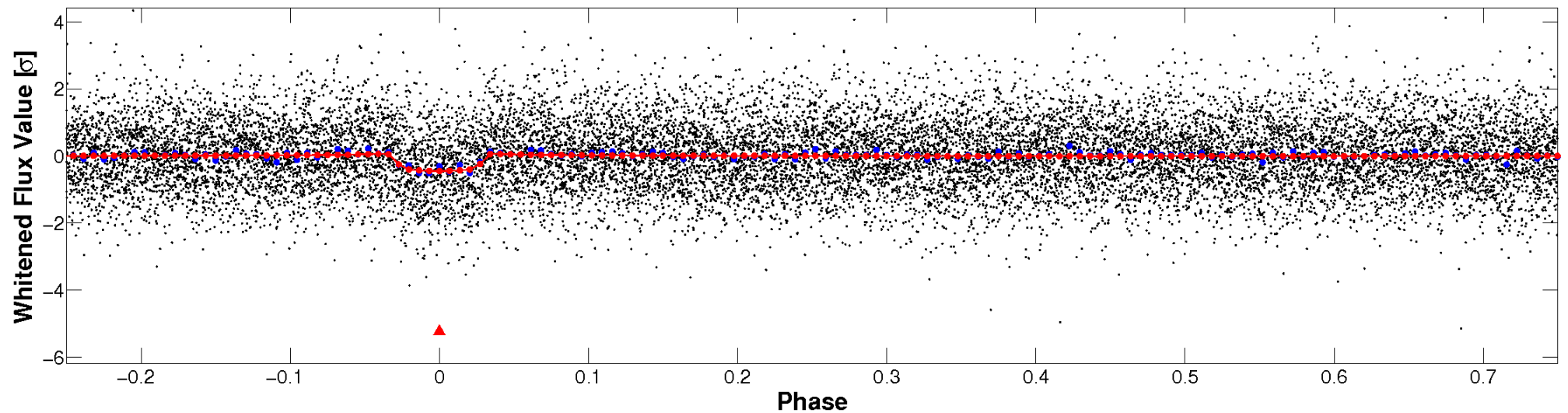


Non-Whitened Vs. Whitened Light Curve

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

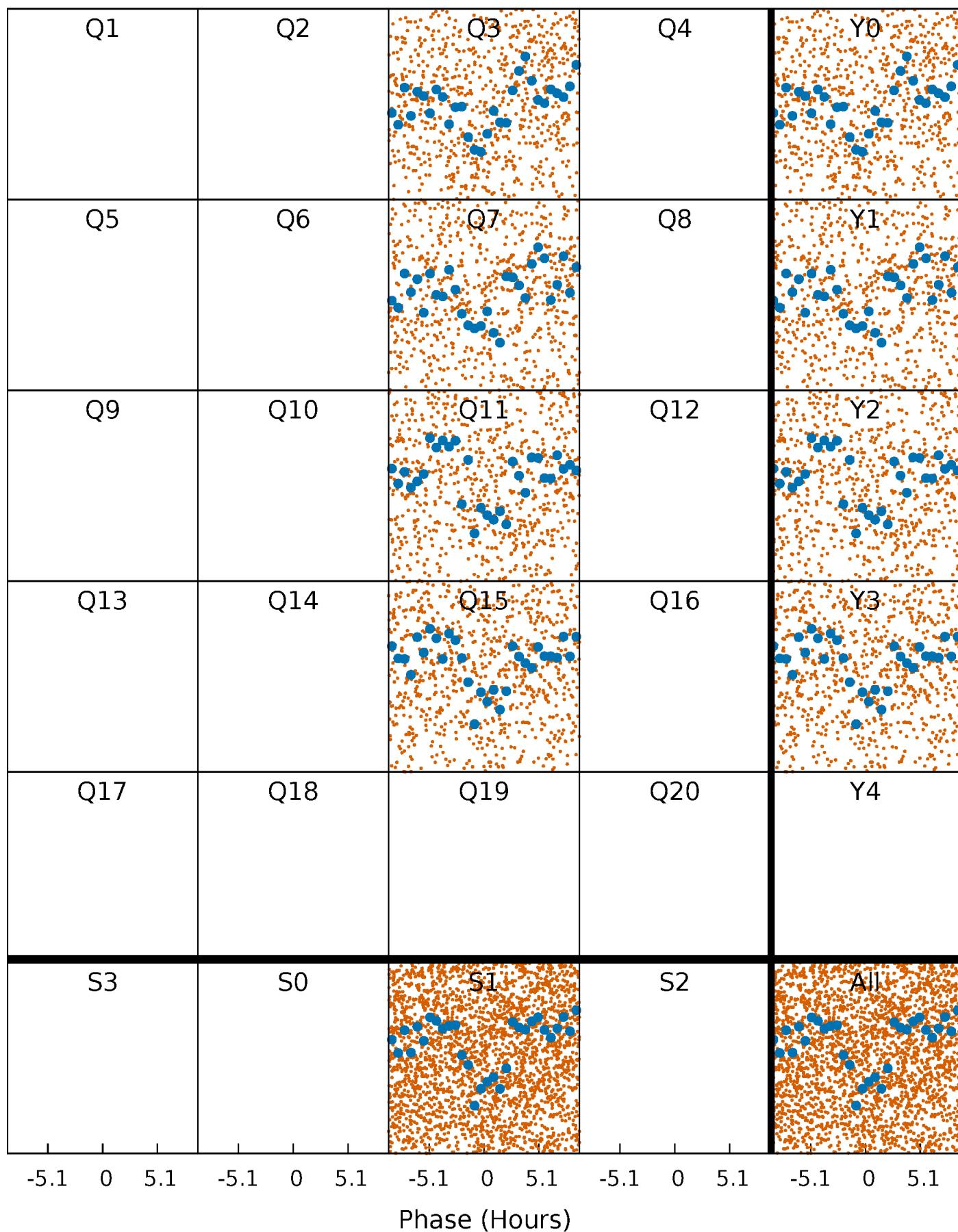


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



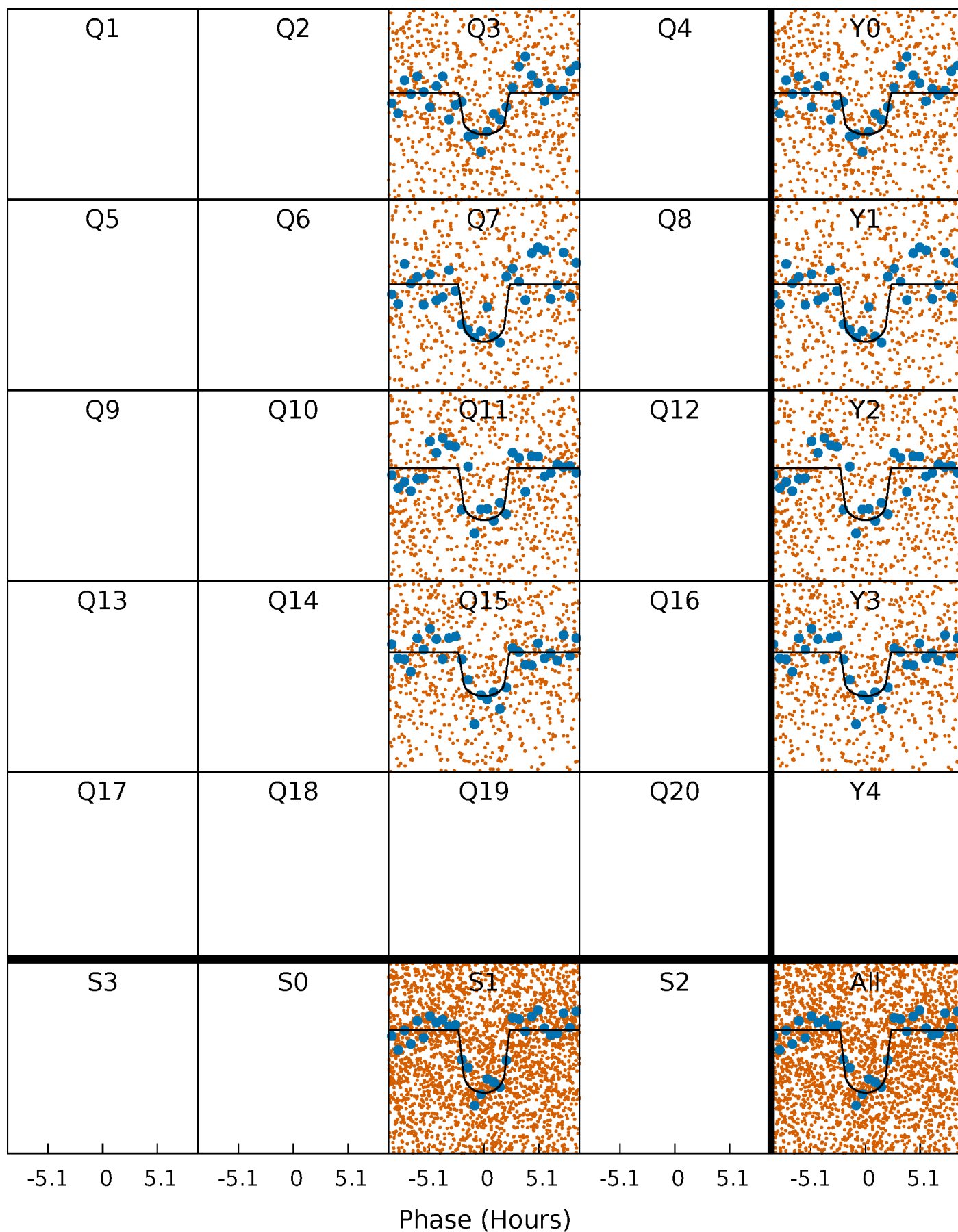
PDC Quarter-Phased Transit Curves

TCE 009070666-01 P= 2.997903 Days $T_0=131.770349$ (BKJD)



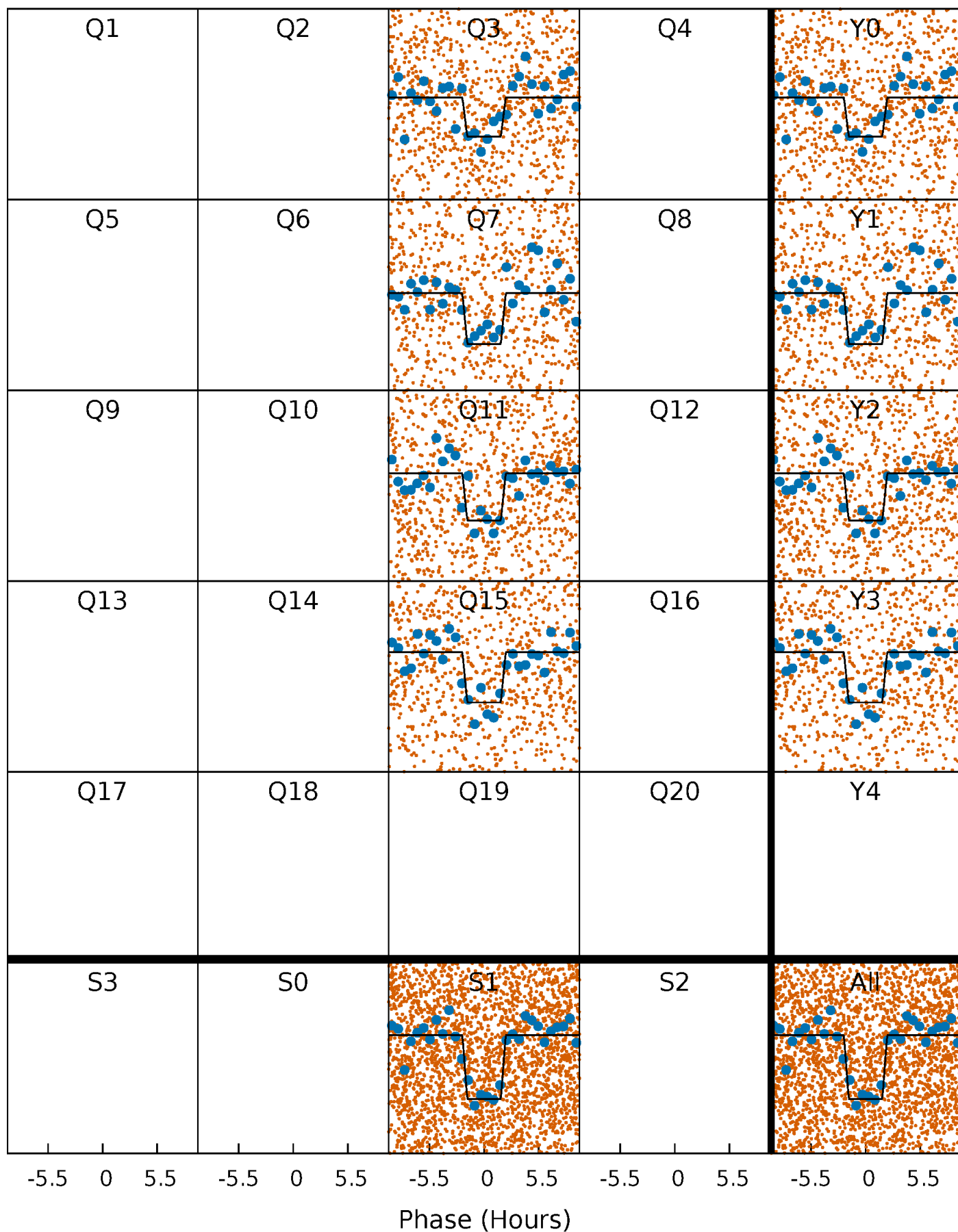
DV Quarter-Phased Transit Curves

TCE 009070666-01 P= 2.997903 Days $T_0=131.770349$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

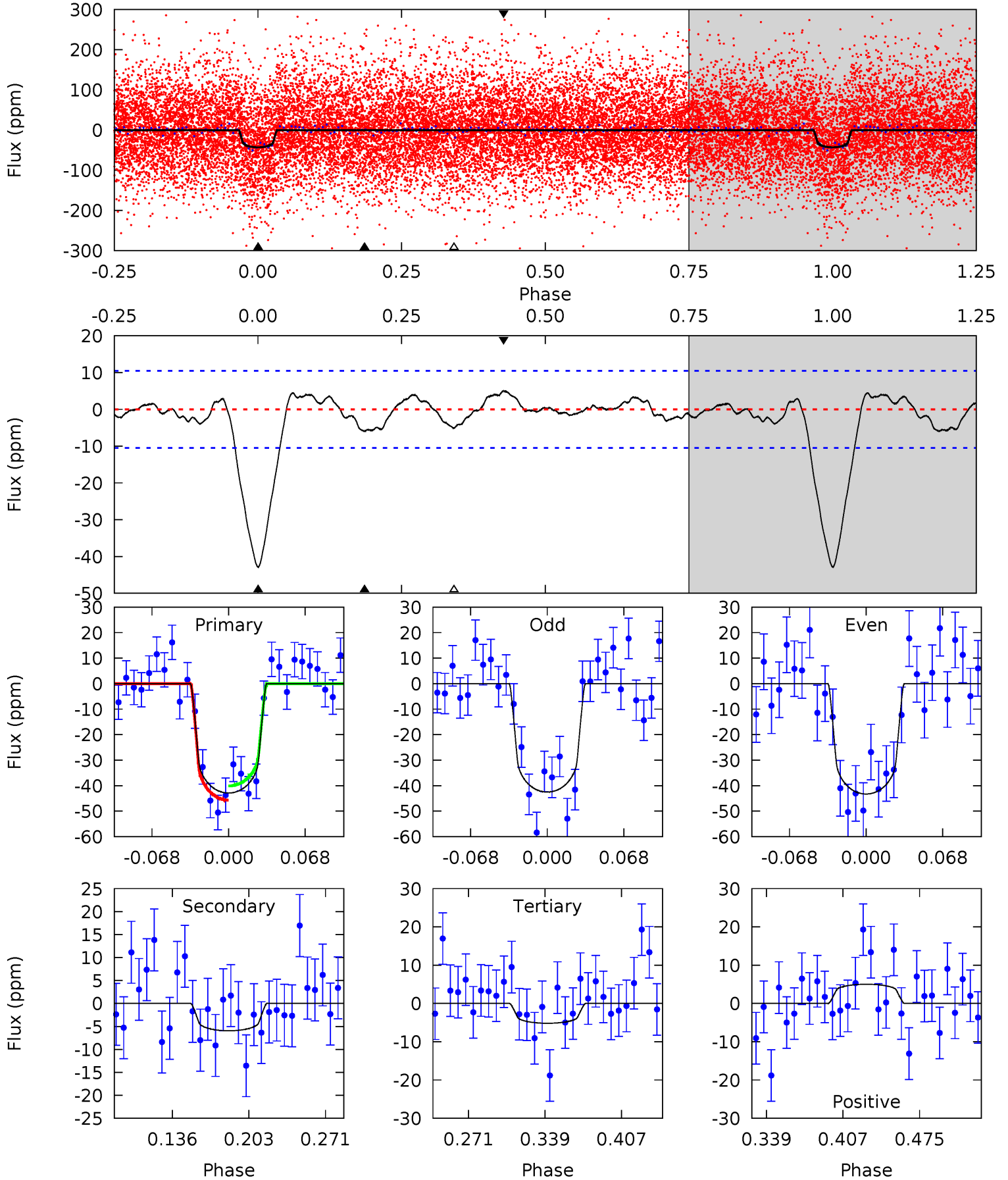
TCE 009070666-01 P= 2.997951 Days $T_0=131.762437$ (BKJD)



DV Model-Shift Uniqueness Test

009070666-01, P = 2.997903 Days, E = 131.770349 Days

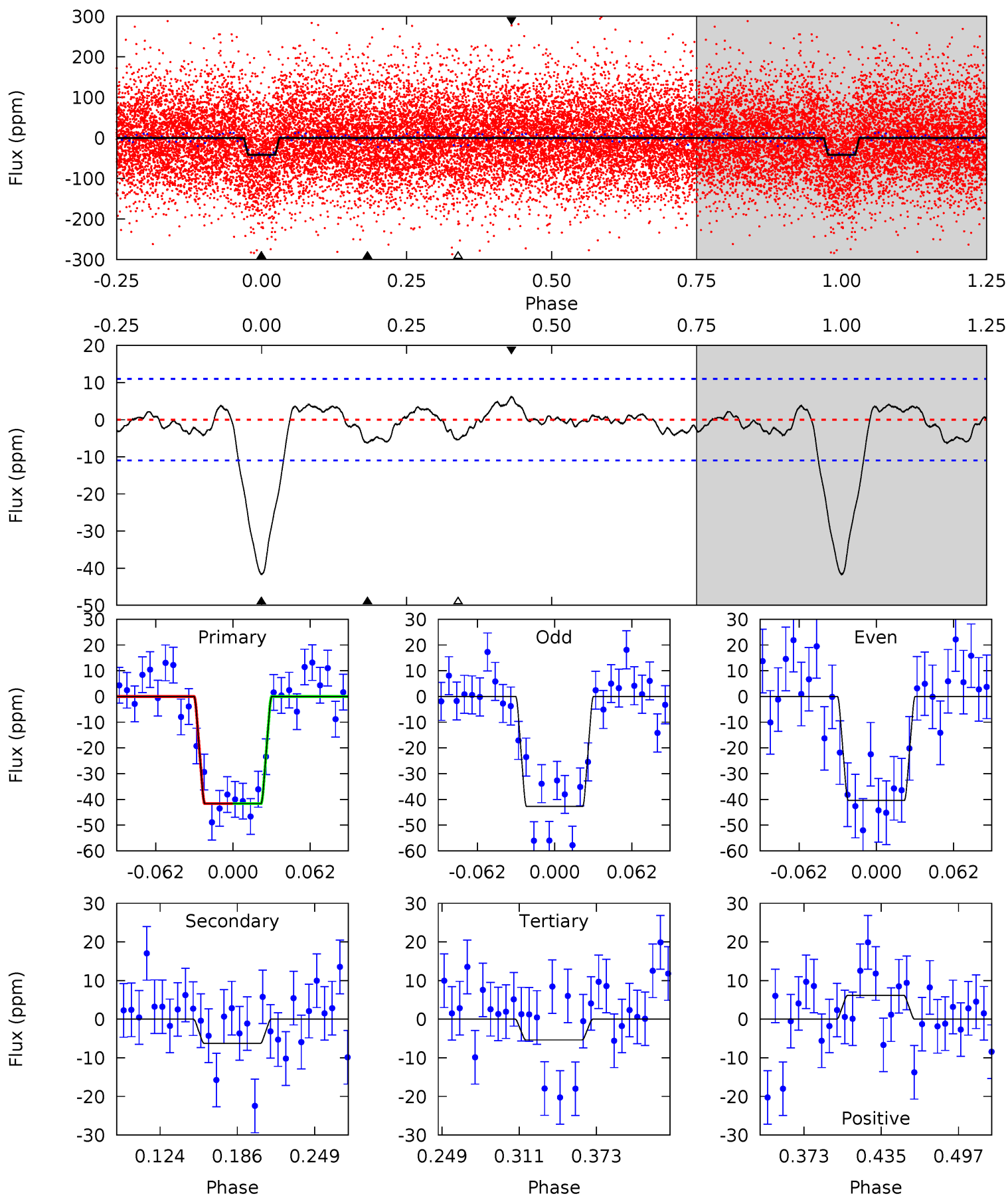
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	2.64	2.29	2.22	4.65	1.83	1.02	16.7	16.8	0.35	0.42	0.17	1.10	0.10	1.22



Alt Model-Shift Uniqueness Test

009070666-01, P = 2.997951 Days, E = 131.762437 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	2.66	2.29	2.62	4.66	1.87	1.03	15.4	15.0	0.37	0.04	0.50	0.98	0.13	0.00



Stellar Parameters For KIC 009070666

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5888^{+79}_{-79}	$4.061^{+0.238}_{-0.102}$	$0.140^{+0.150}_{-0.150}$	$1.645^{+0.290}_{-0.435}$	$1.136^{+0.122}_{-0.100}$	$0.359^{+0.505}_{-0.112}$
	+1%/-1%	+6%/-3%	+107%/-107%	+18%/-26%	+11%/-9%	+140%/-31%
Source	SPE90	FLK73	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009070666-01 / KOI 3008.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.19^{+0.56}_{-0.43}$	2227^{+121}_{-158}	3745^{+675}_{-485}	$3.880^{+6.194}_{-2.209}$
Alt.	-6 ± 2	$1.15^{+0.44}_{-0.49}$	2241^{+105}_{-156}	3917^{+918}_{-538}	$4.850^{+9.378}_{-2.866}$

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

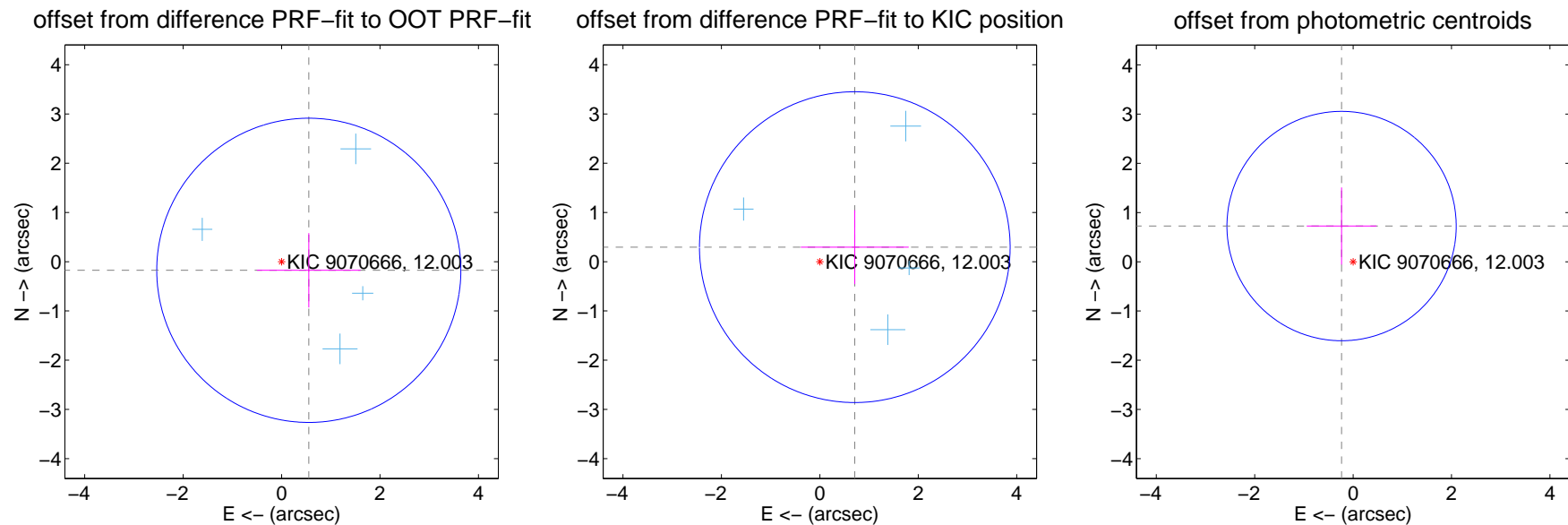
DV Centroid Data

Supplemental centroid analysis for 009070666-01. Kepler magnitude: 12.00. Transit SNR 12.52

There are 4 quarters with good PRF difference image offsets

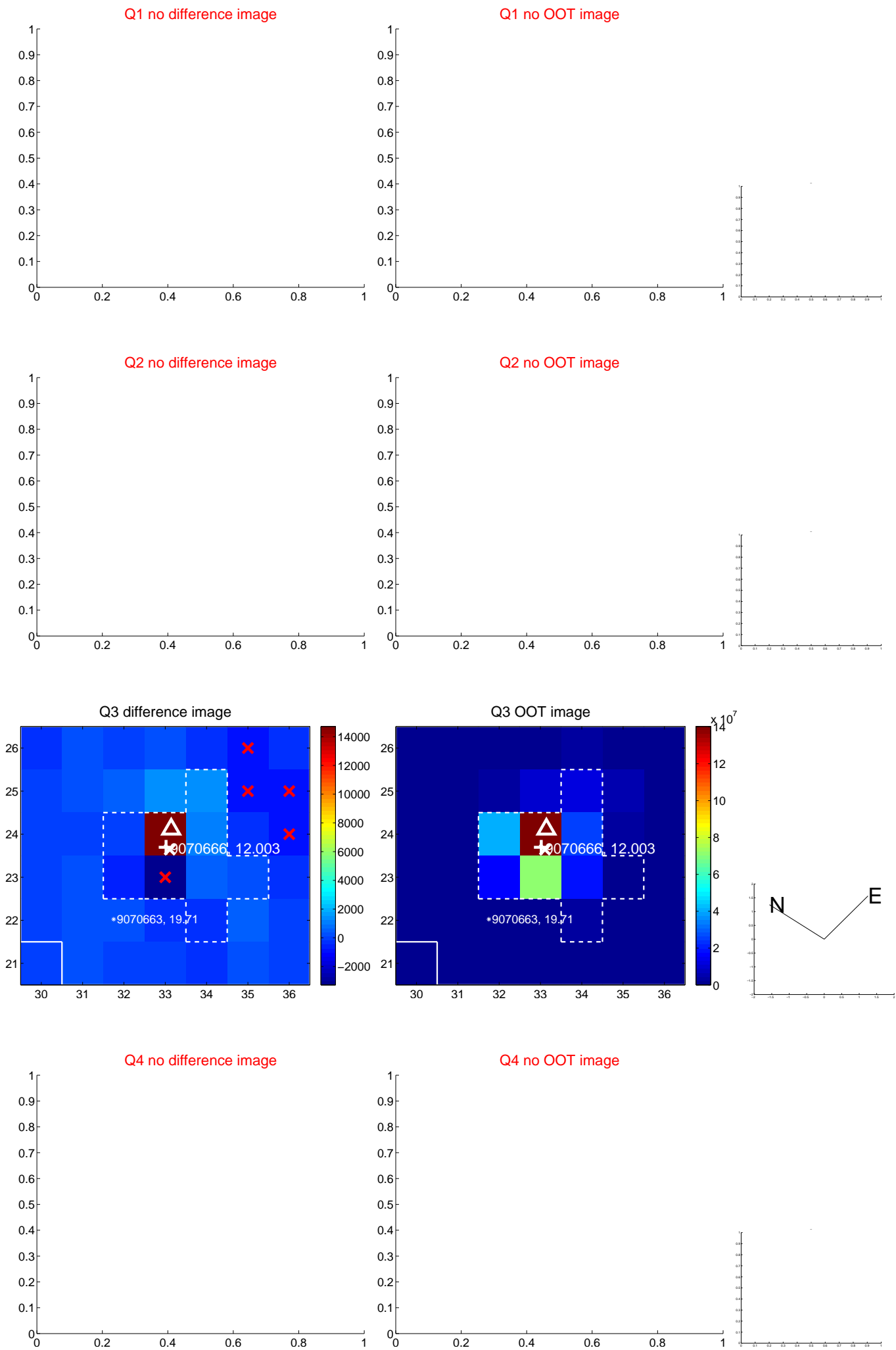
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.580 ± 1.030	0.56	-0.553 ± 1.053	-0.175 ± 0.755
PRF-fit source offset from KIC position	0.769 ± 1.052	0.73	-0.710 ± 1.096	0.295 ± 0.750
photometric centroid source offset	0.76 ± 0.78	0.98	0.23 ± 0.71	0.73 ± 0.78

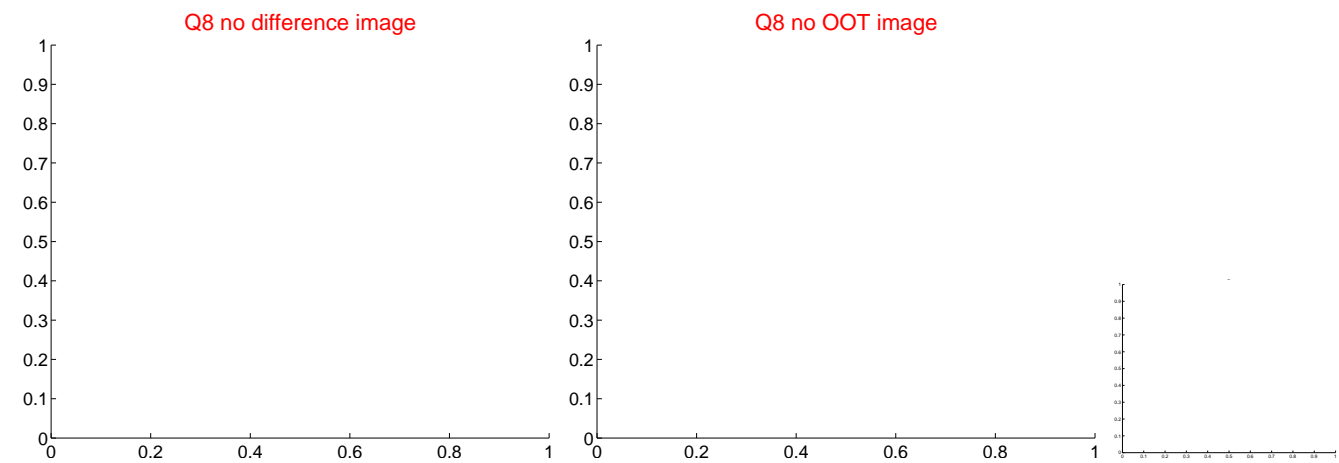
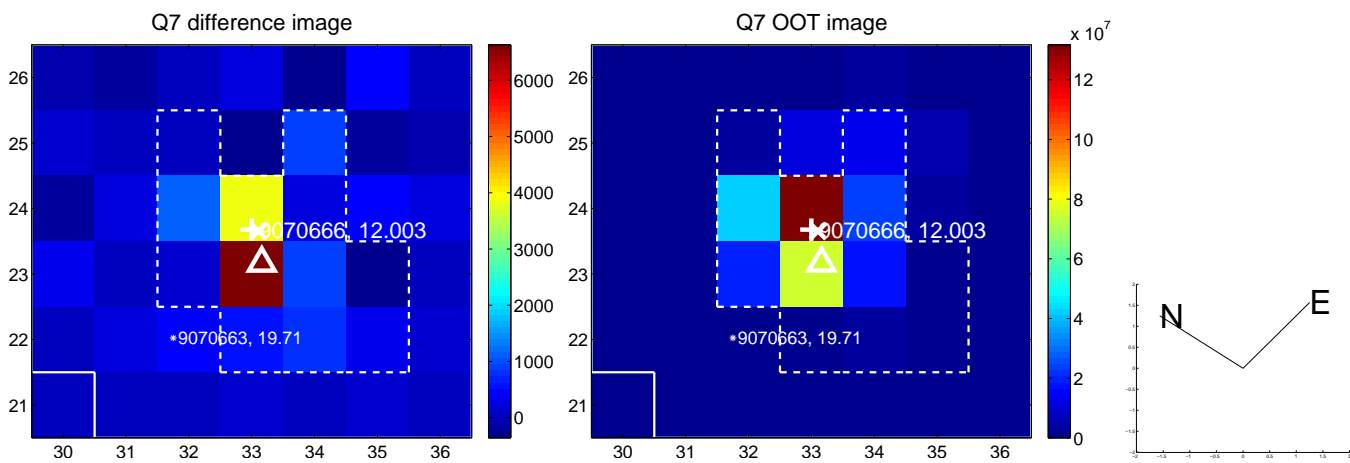
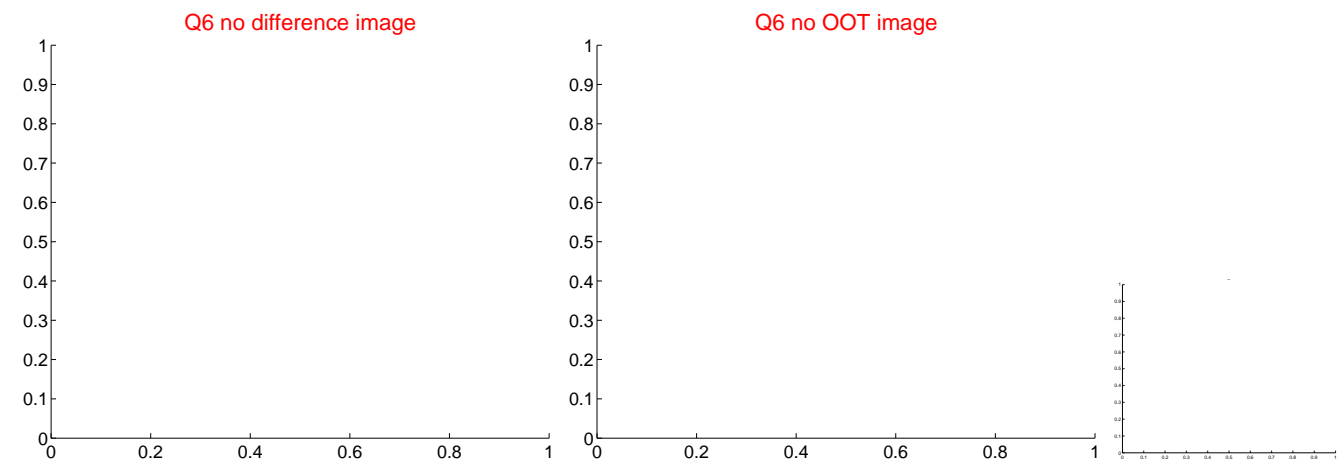
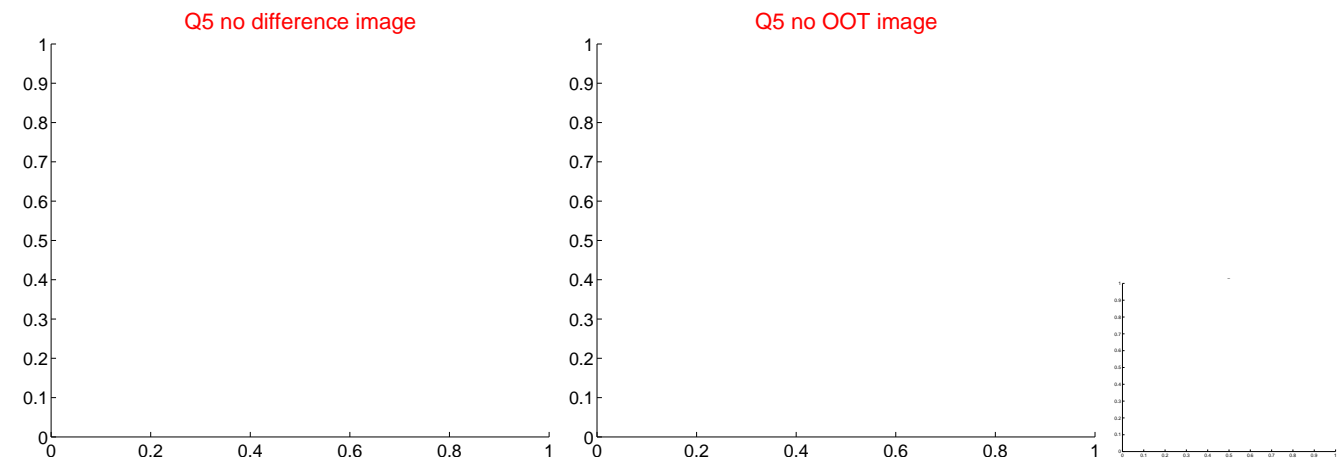


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

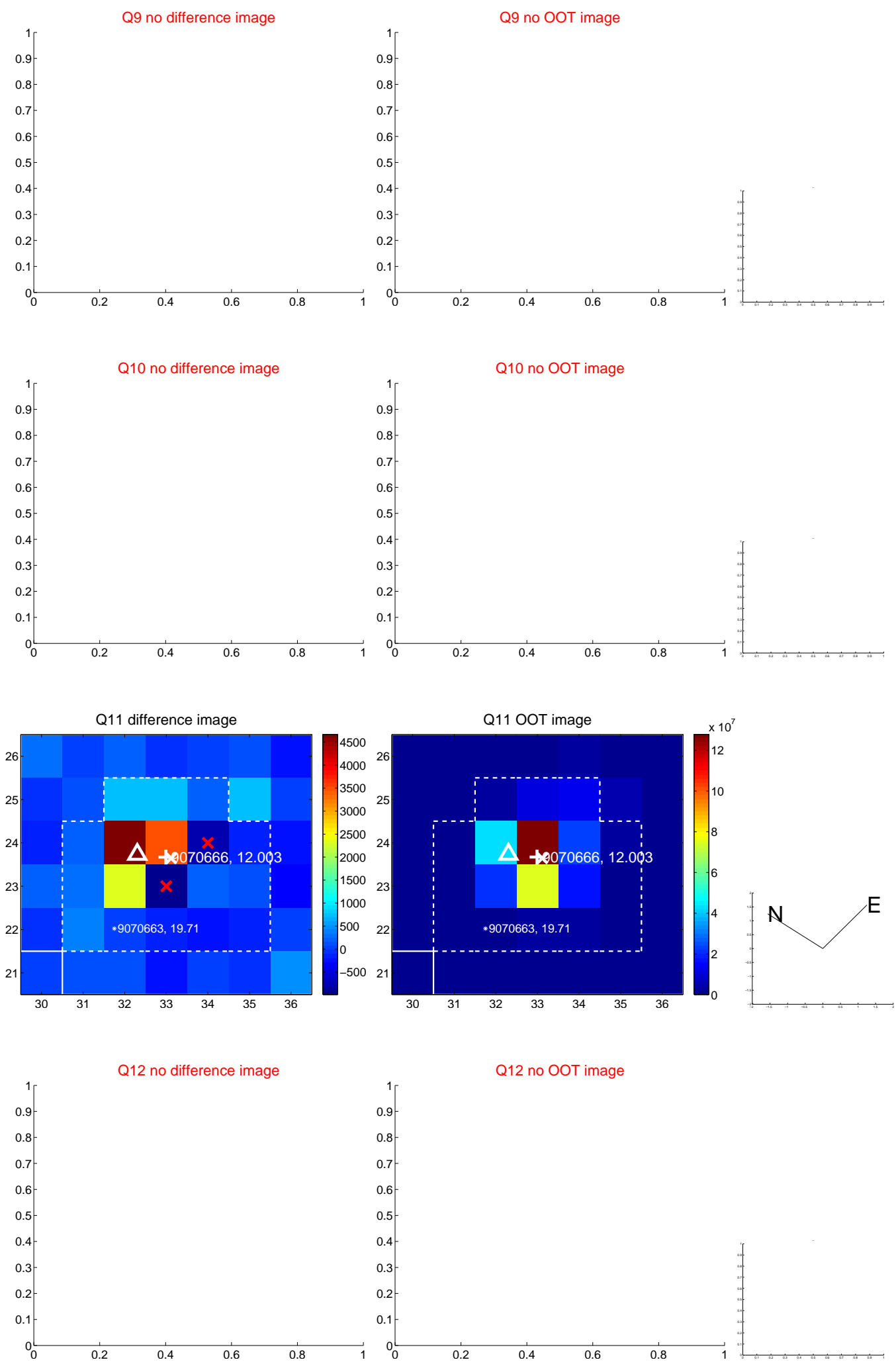
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



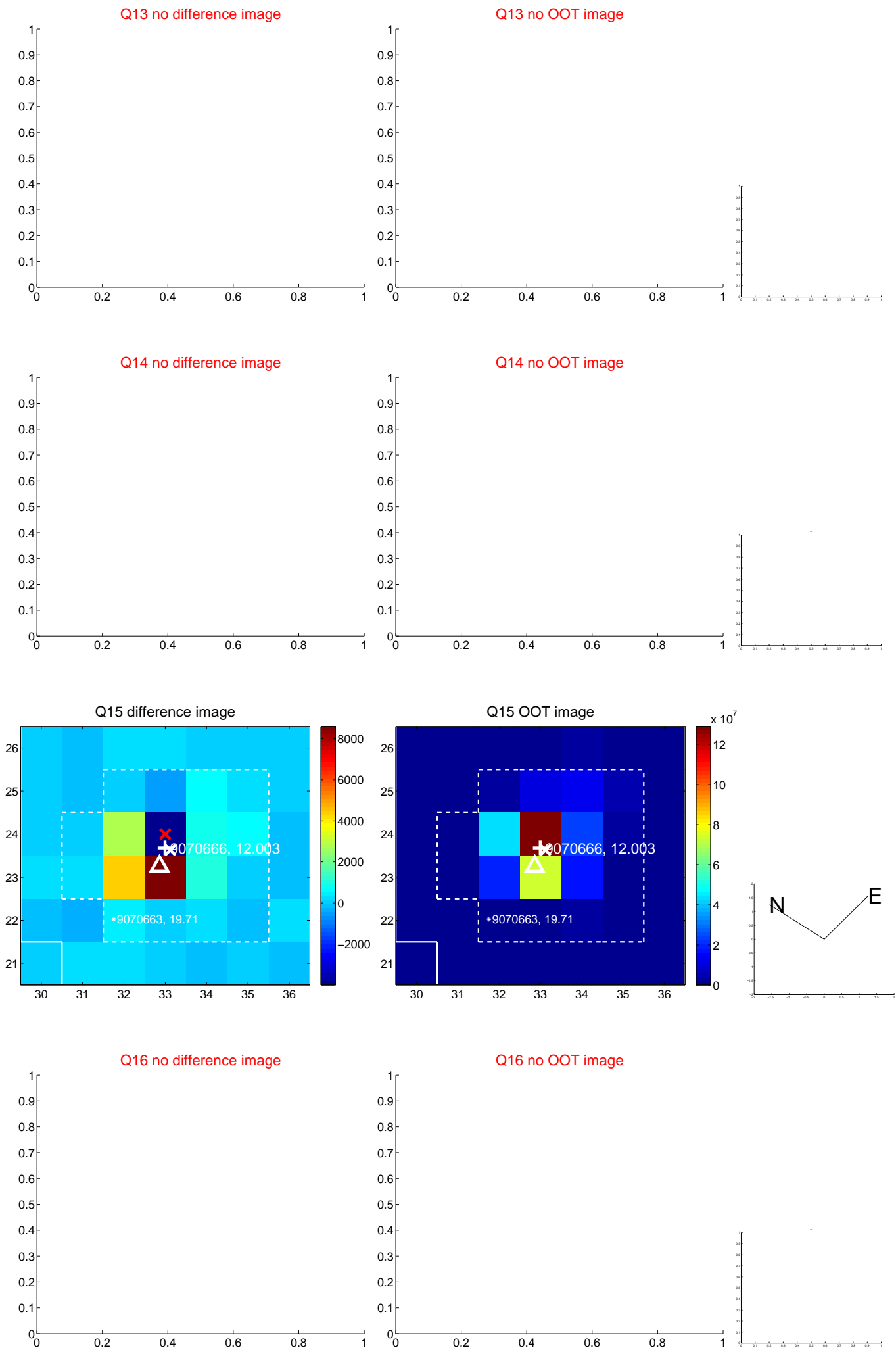
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



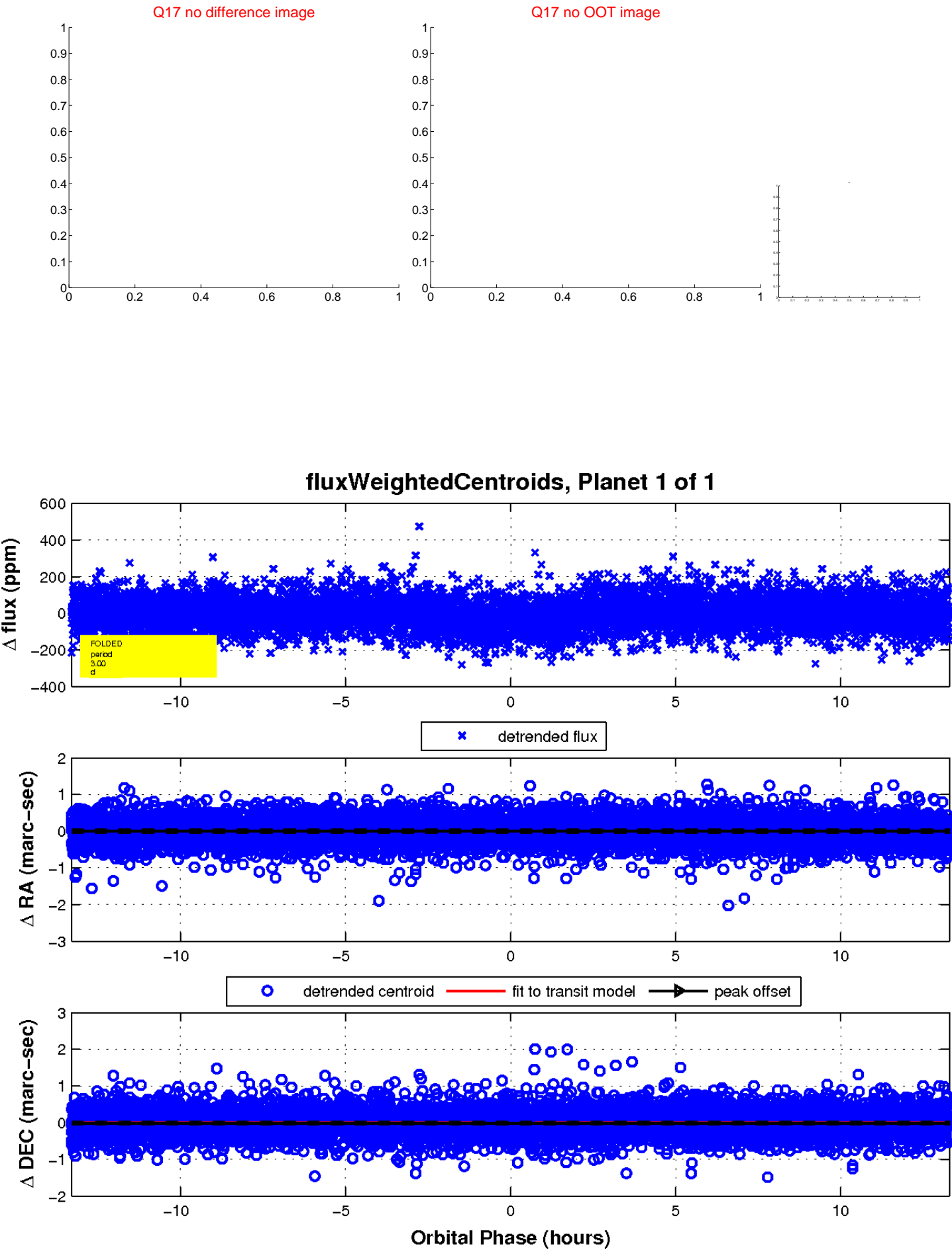
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

