

KIC 003222680

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})
003222680-01	OBS	4966.01	2.311678	132.113833	471.3	3.354	21.6	25.5	18.43	4883	84.90	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222680-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_ODDEVEN_DV—DEEP_V_SHAPED—CENT_RESOLVED_OFFSET

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 003222680-01

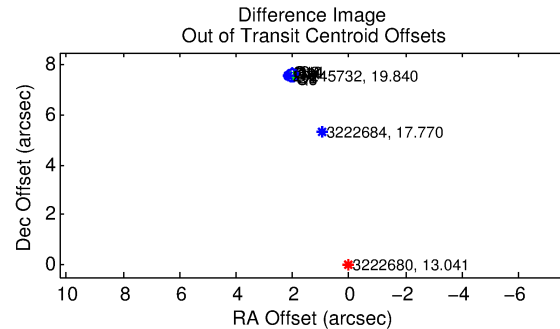
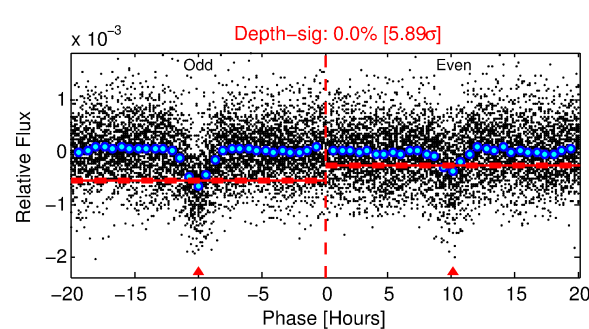
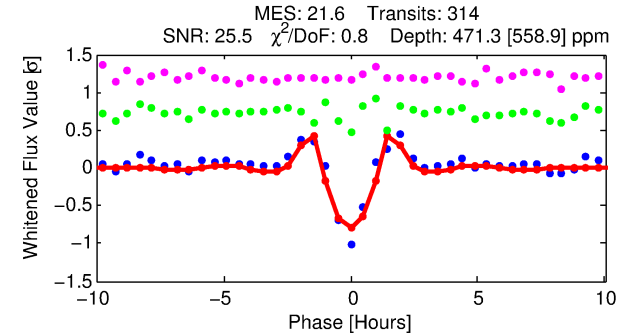
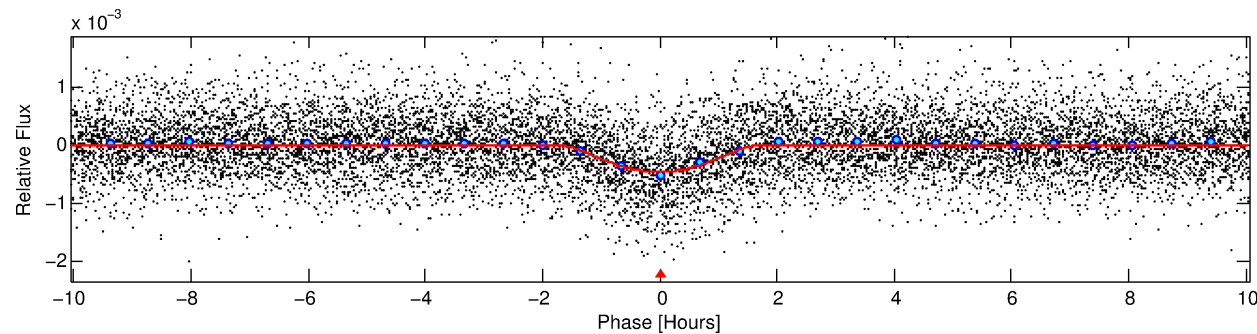
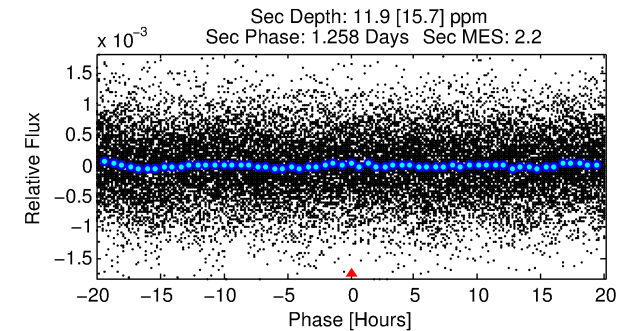
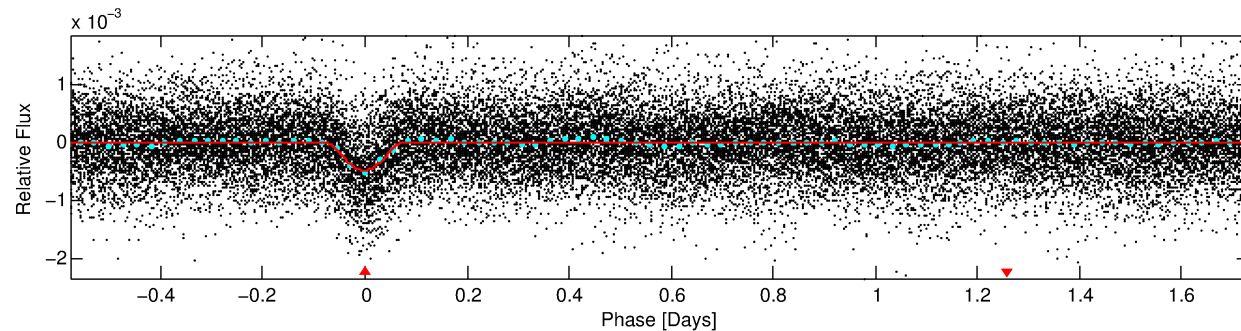
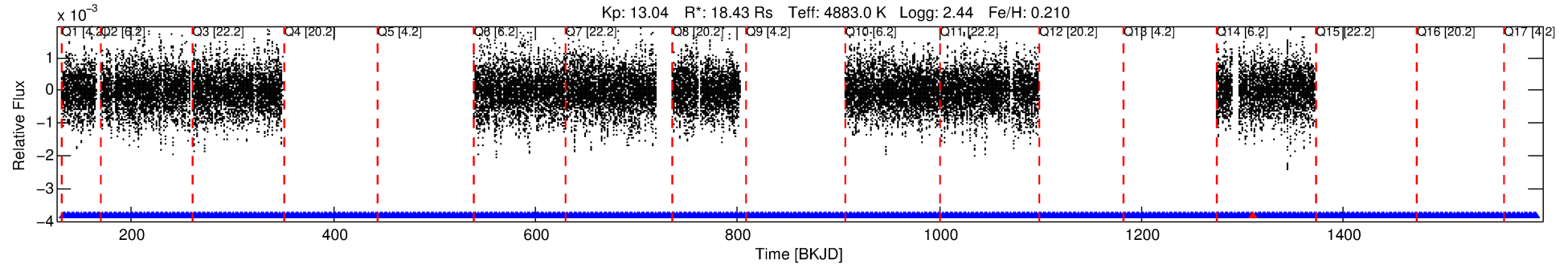
No Significant Match Found

DV One-Page Summary

KIC: 3222680 Candidate: 1 of 1 Period: 2.312 d

KOI: K04966.01 Corr: 0.848

Kp: 13.04 R*: 18.43 Rs Teff: 4883.0 K Logg: 2.44 Fe/H: 0.210



DV Fit Results:

Period = 2.31168 [0.00001] d
Epoch = 132.1138 [0.0011] BKJD
Rp/R* = 0.0422 [0.0207]
a/R* = 1.85 [0.14]
b = 1.00 [0.00]
Seff = N/A
Teq = N/A
Rp = 84.90 [52.49] Re
a = N/A
Ag = N/A
Teff = N/A

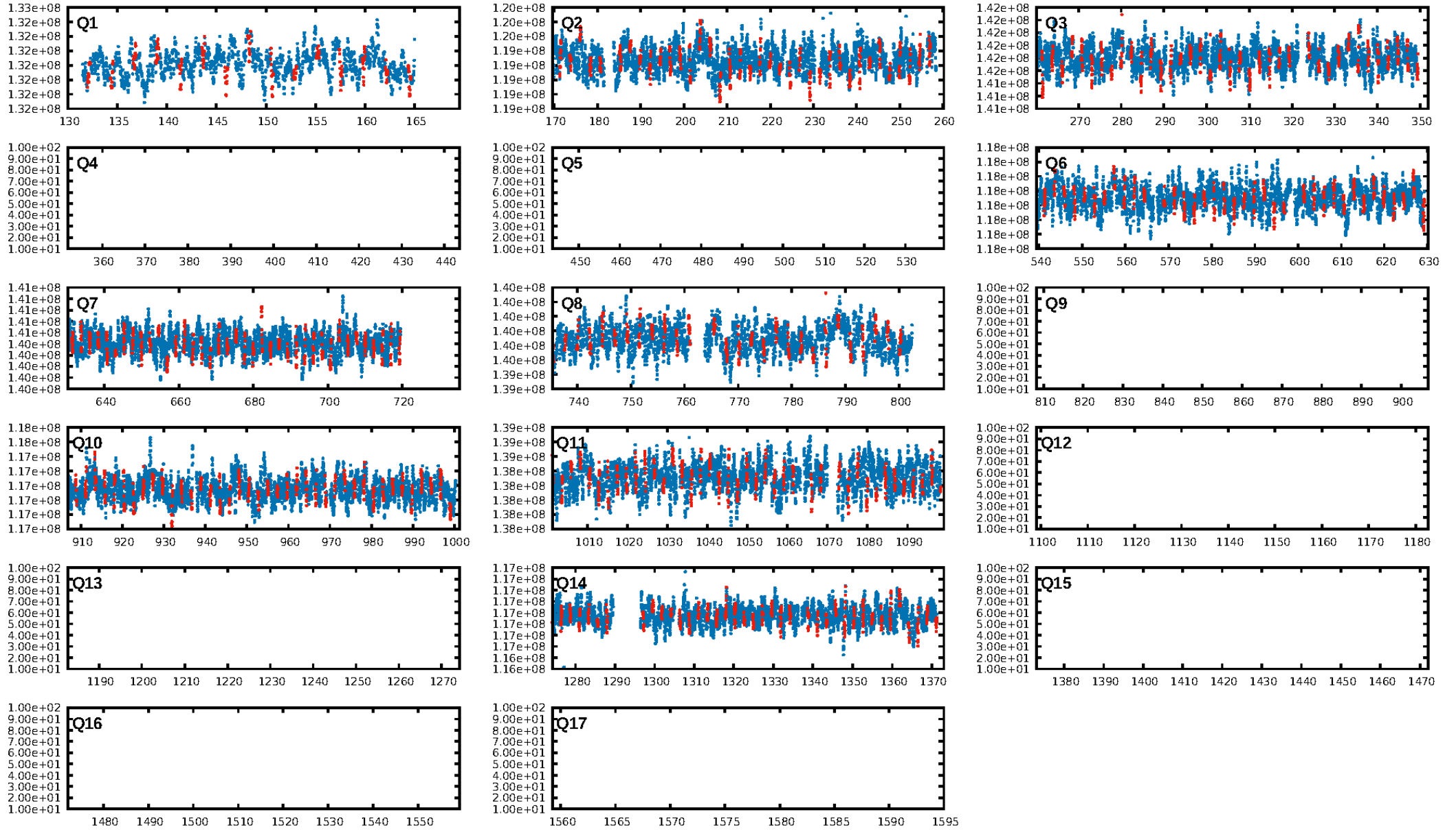
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 7.36e-93
RollingBand-fgt: 1.00 [298/299]
GhostDiagnostic-chr: 0.2724
Centroid-sig: 0.0%
Centroid-so: 11.138 arcsec [73.02σ]
OotOffset-rm: 7.863 arcsec [99.15σ]
KicOffset-rm: 7.854 arcsec [93.94σ]
OotOffset-st: 4/3/1/1 [9]
KicOffset-st: 4/3/1/1 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

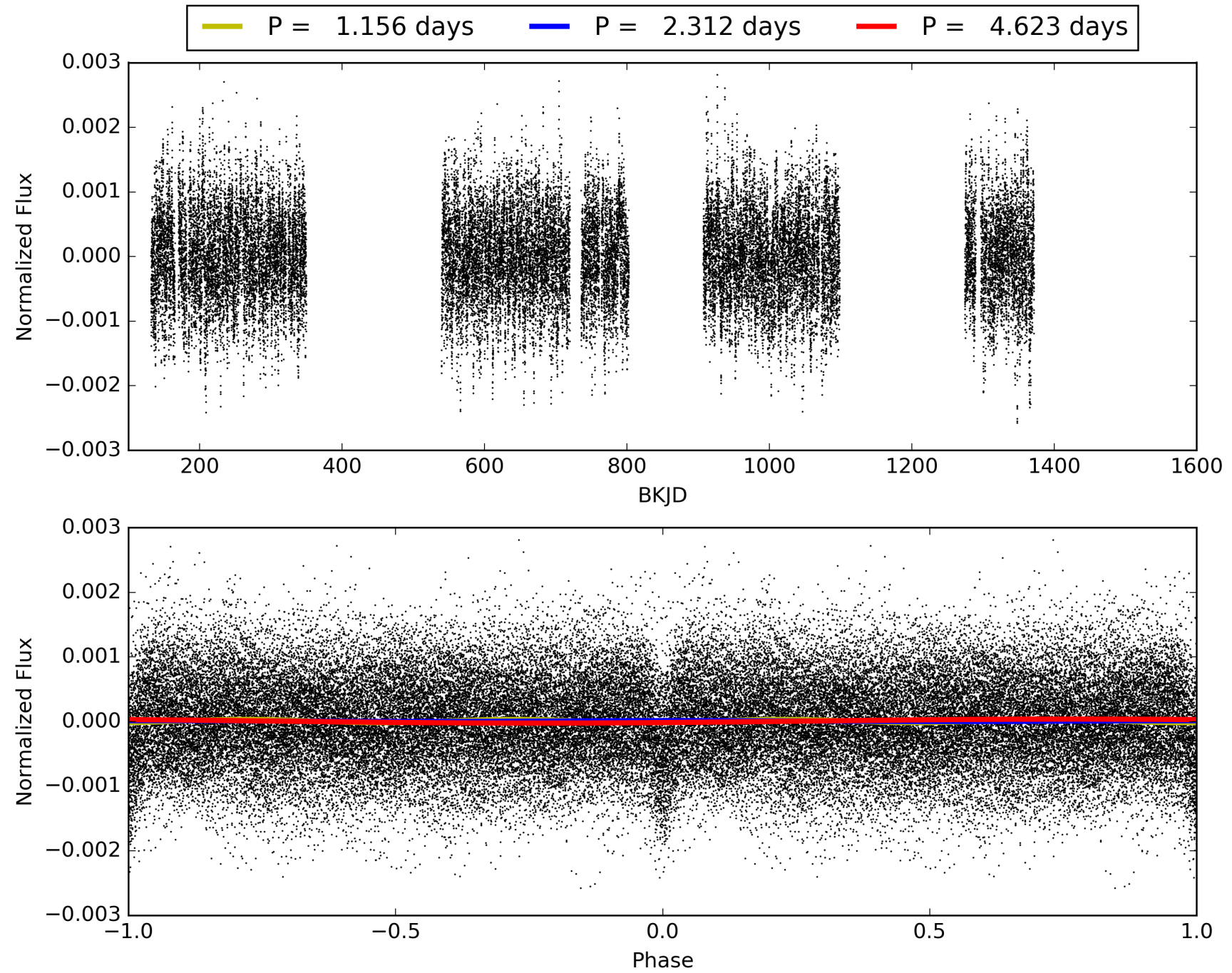
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:56:36 Z

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

TCE 003222680-01, PDC Light Curves

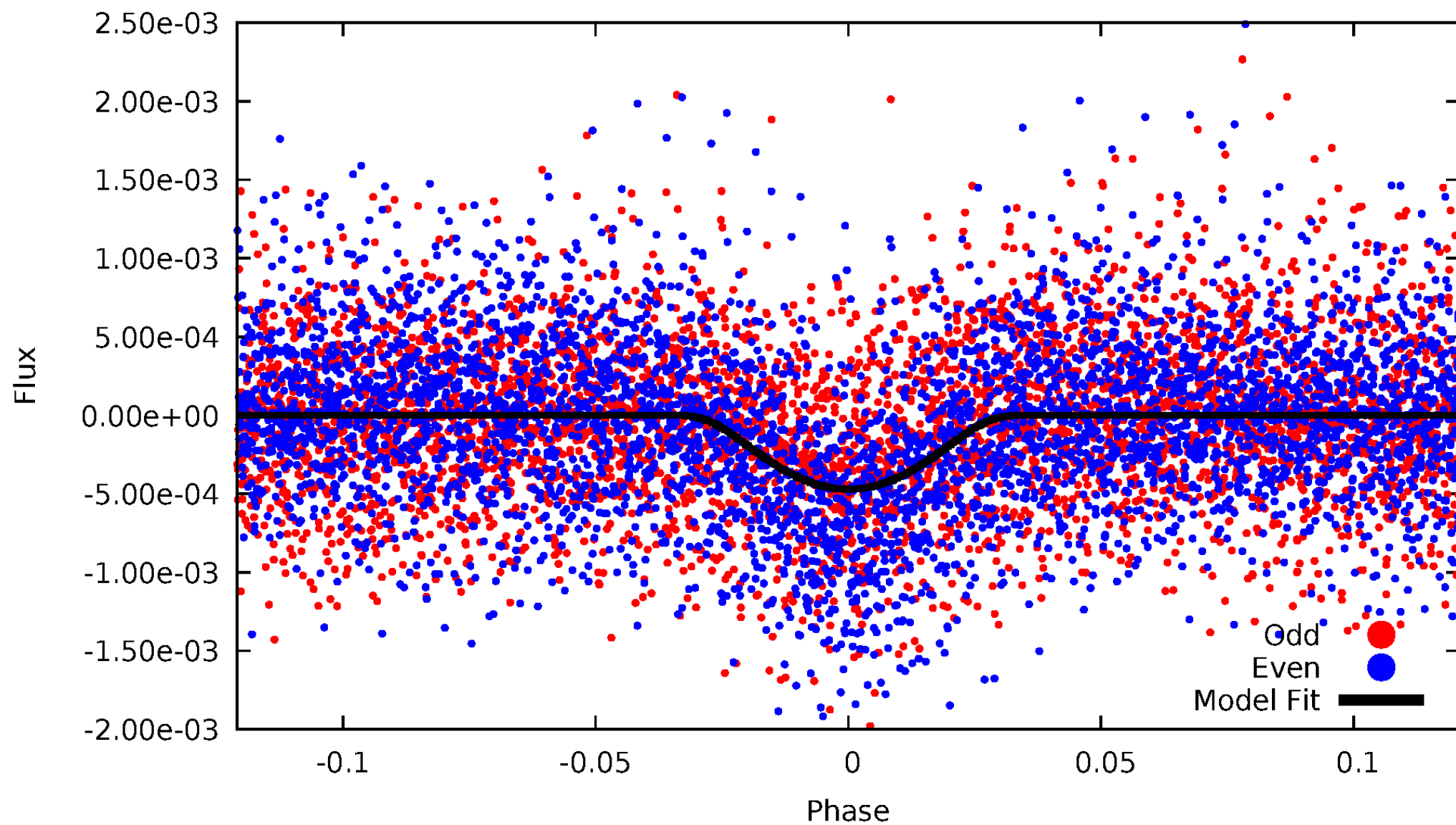


TCE 003222680-01



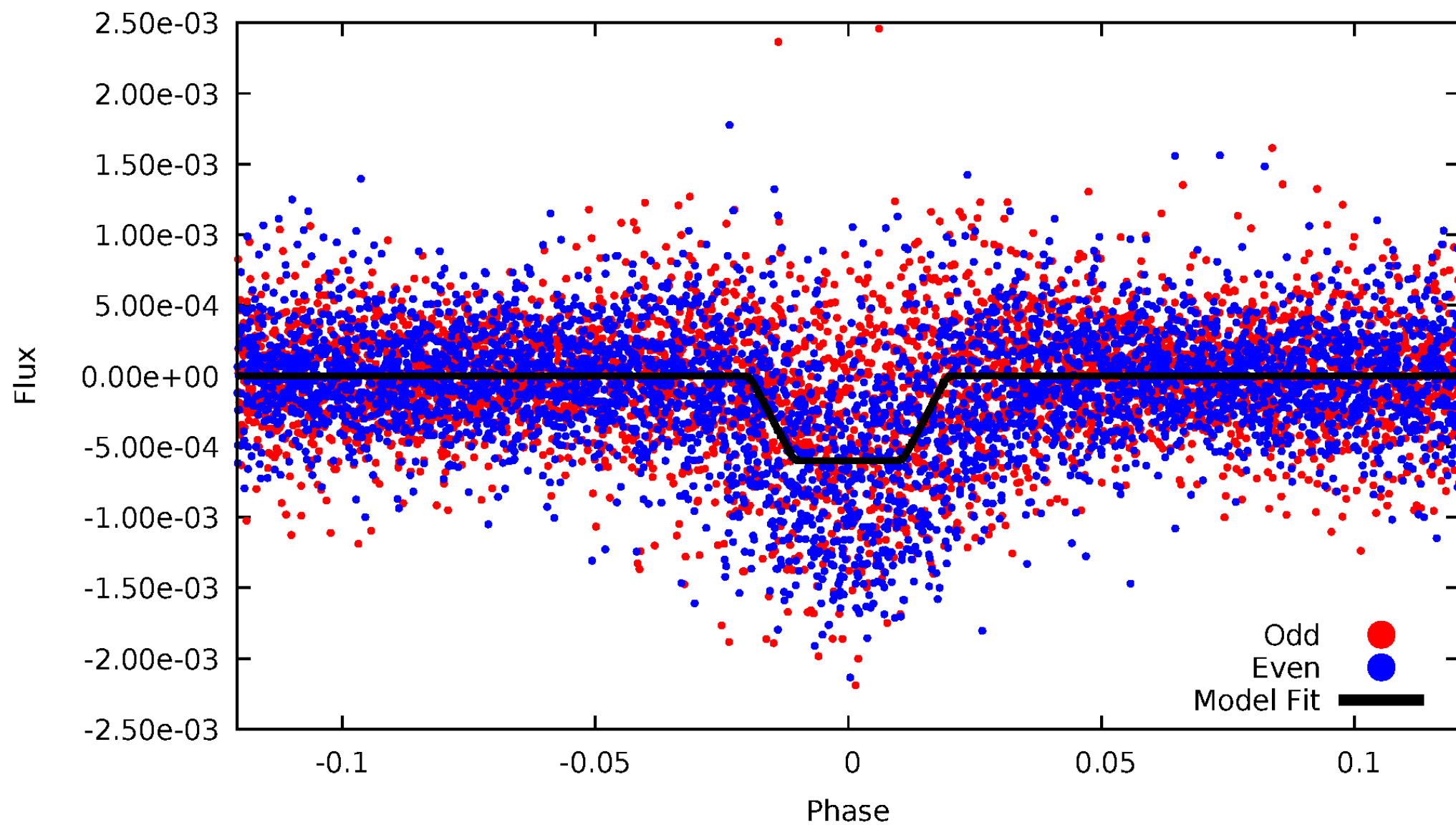
DV Odd/Even

TCE 003222680-01



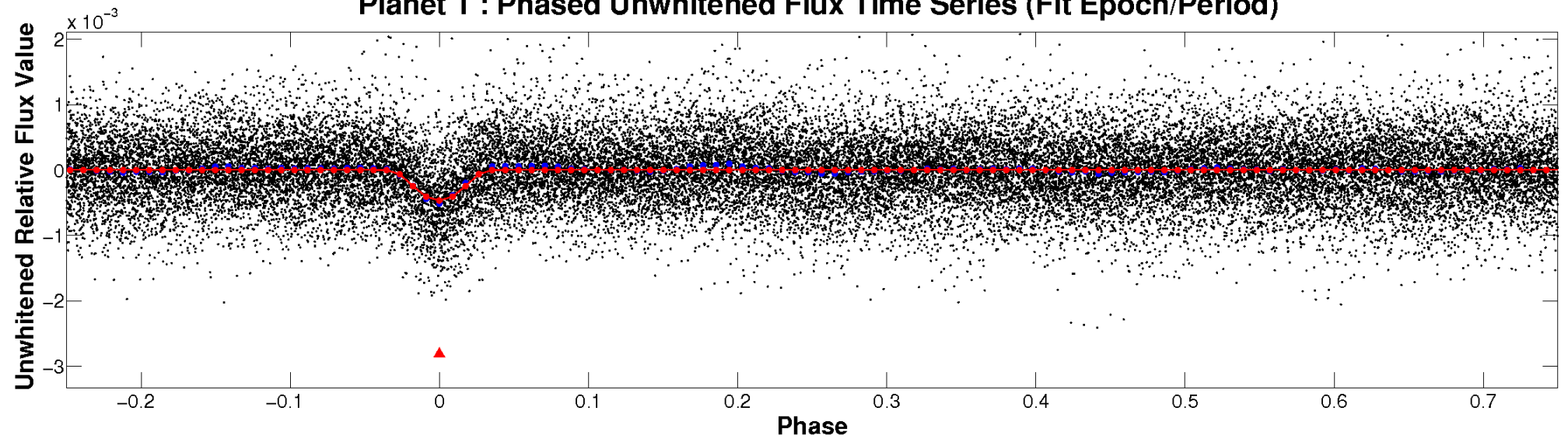
ALT Odd/Even

TCE 003222680-01

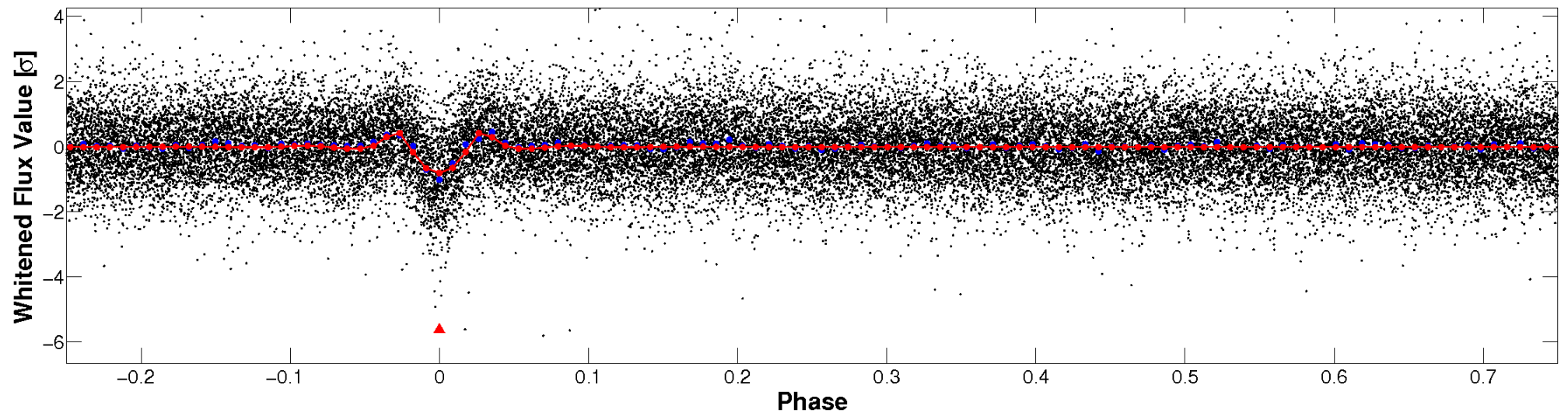


Non-Whitened Vs. Whitened Light Curve

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

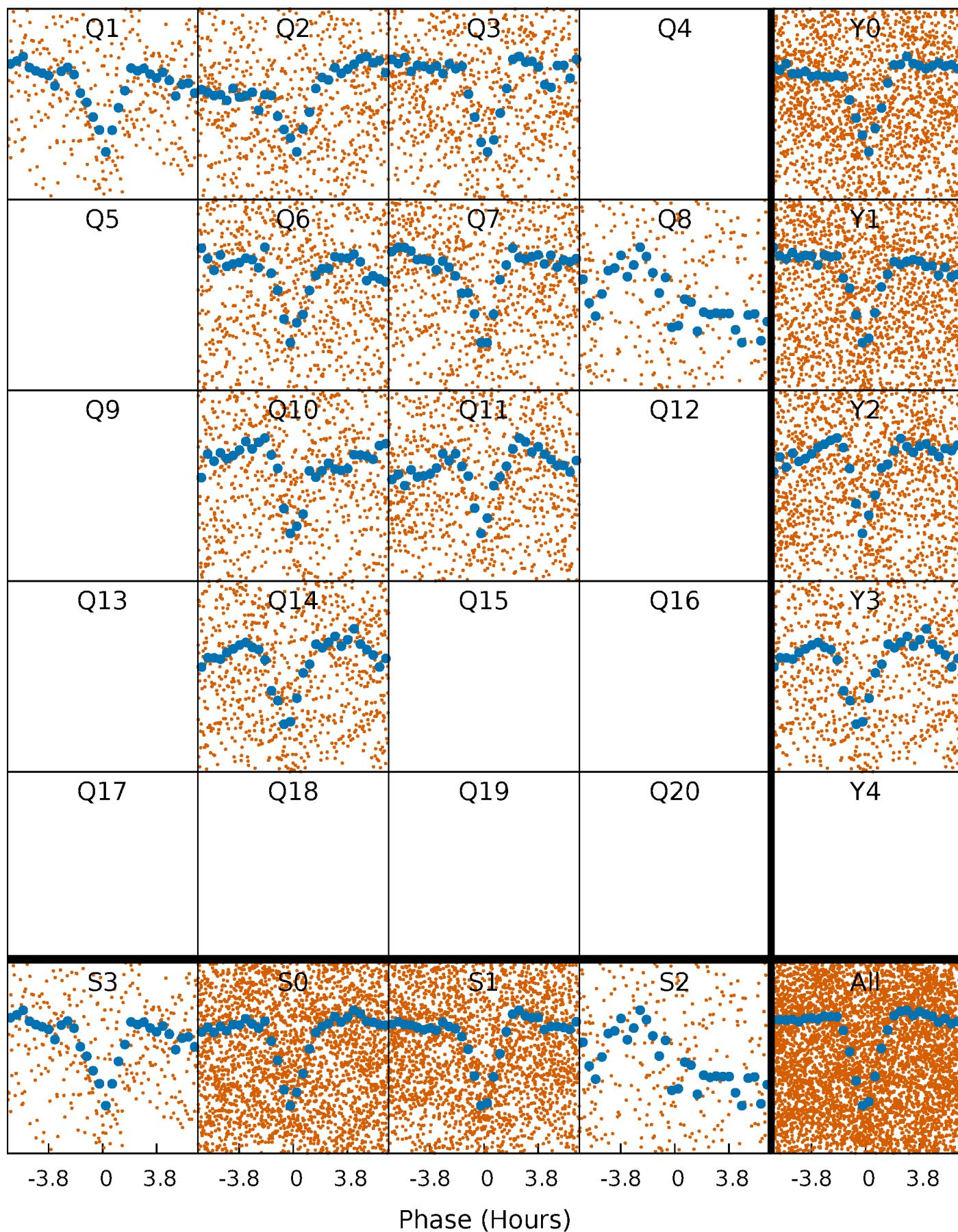


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



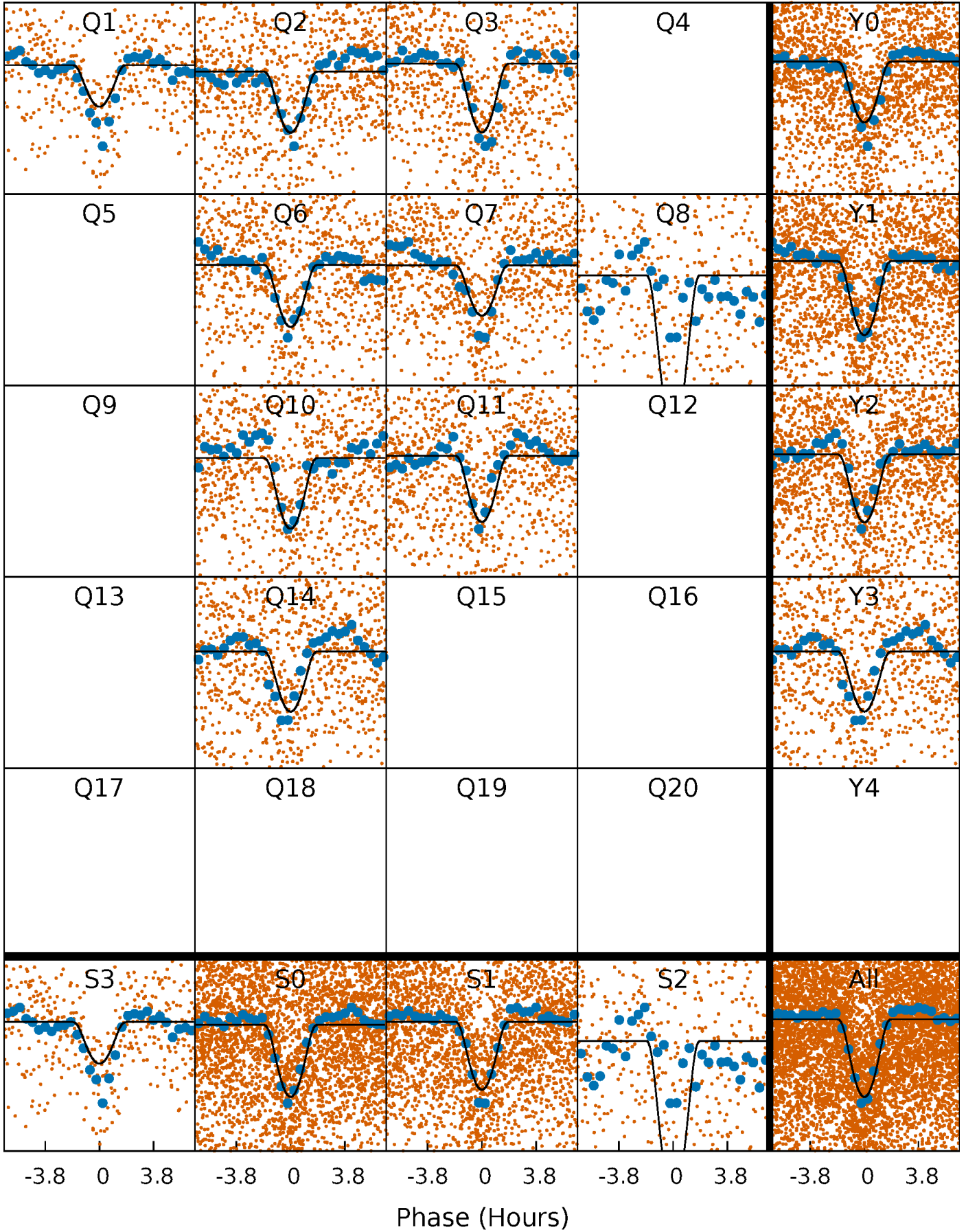
PDC Quarter-Phased Transit Curves

TCE 003222680-01 P= 2.311678 Days $T_0=132.113833$ (BKJD)



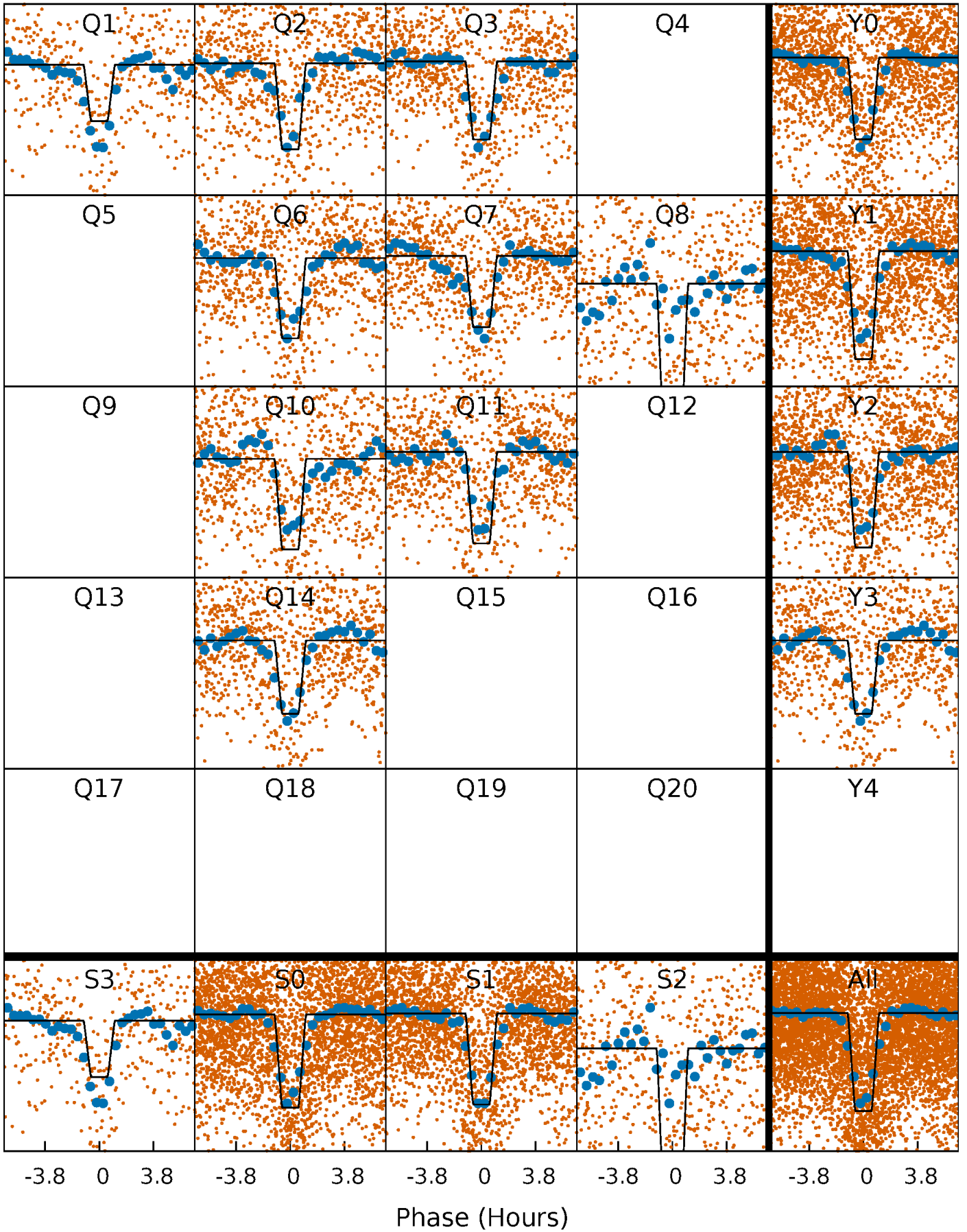
DV Quarter-Phased Transit Curves

TCE 003222680-01 P= 2.311678 Days $T_0=132.113833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

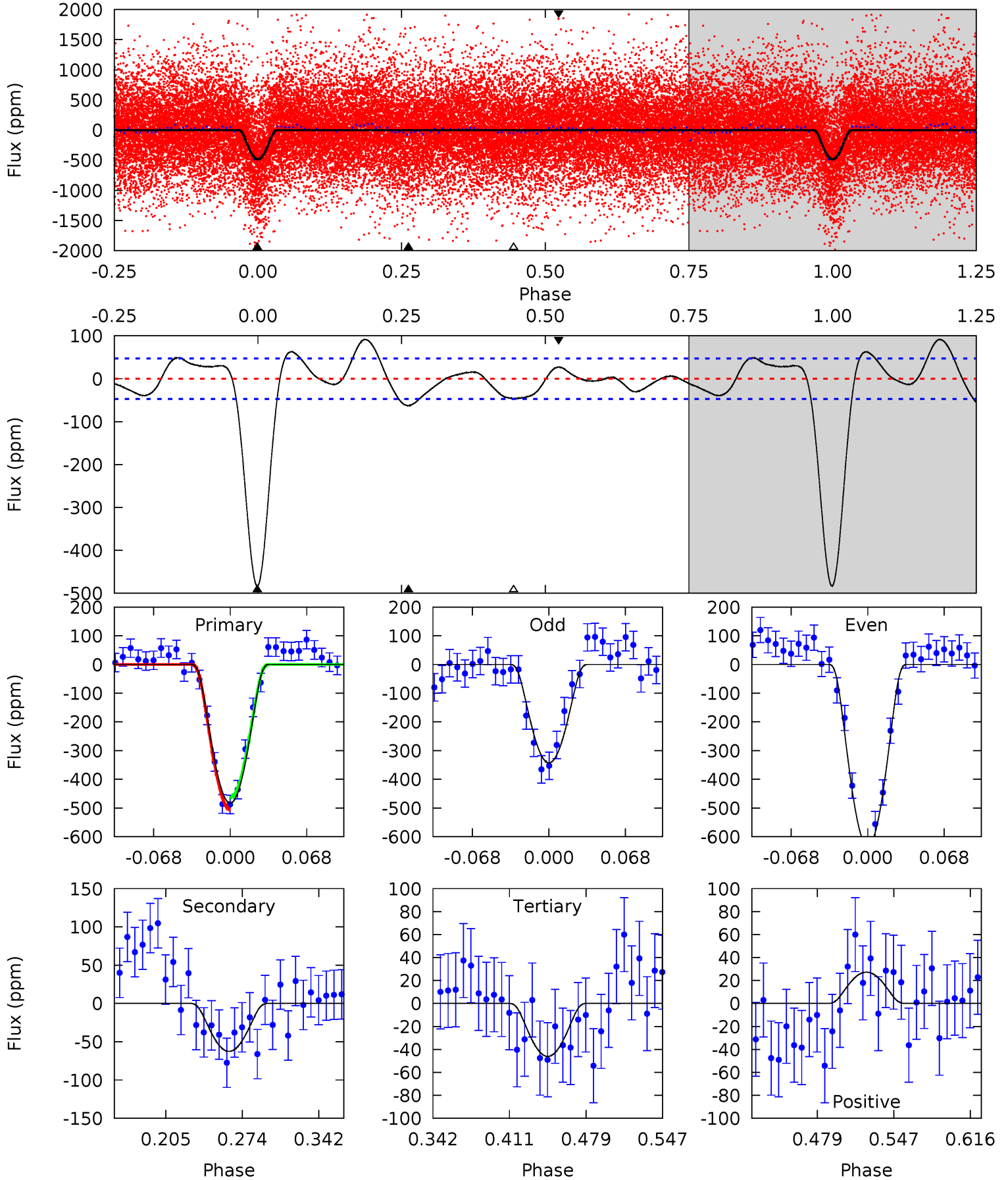
TCE 003222680-01 P= 2.311636 Days $T_0=132.122440$ (BKJD)



DV Model-Shift Uniqueness Test

003222680-01, P = 2.311678 Days, E = 129.802155 Days

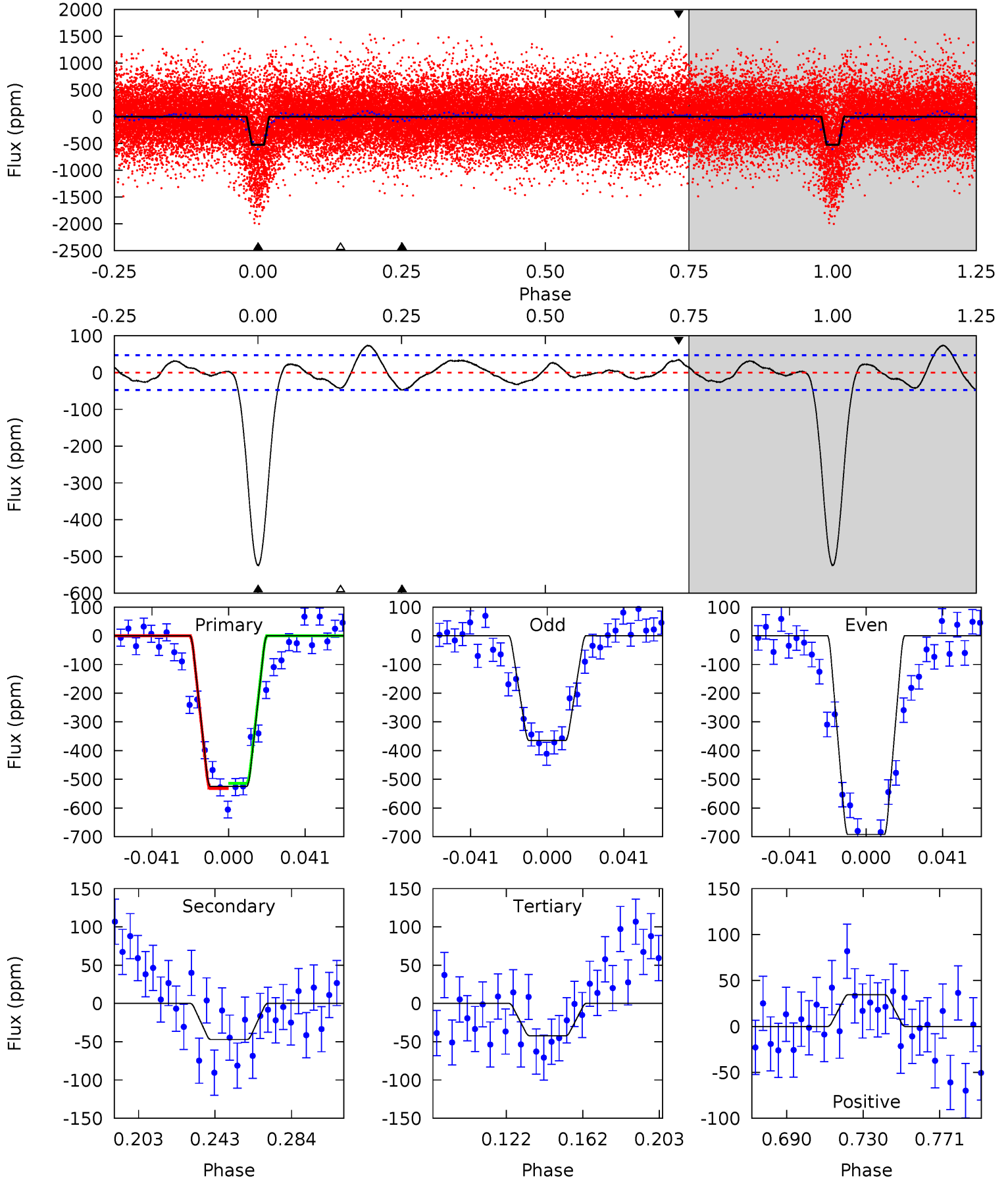
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.5	6.16	4.53	2.68	4.64	1.82	2.86	43.0	44.8	1.62	3.48	14.3	0.98	0.16	2.05



Alt Model-Shift Uniqueness Test

003222680-01, P = 2.311636 Days, E = 129.810804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.7	4.74	4.23	3.48	4.75	2.05	2.23	48.5	49.2	0.50	1.26	16.5	1.02	0.12	0.89



Stellar Parameters For KIC 003222680

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4883^{+84}_{-219}	$2.439^{+0.035}_{-0.031}$	$0.210^{+0.150}_{-0.500}$	$18.427^{+0.769}_{-6.918}$	$3.402^{+0.111}_{-2.007}$	$0.001^{+0.001}_{-0.000}$
	+2%/-4%	+1%/-1%	+71%/-238%	+4%/-38%	+3%/-59%	+67%/-11%
Source	PHO1	AST9	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 003222680-01 / KOI 4966.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-63 ± 10	$87.63^{+40.02}_{-39.31}$	5687^{+134}_{-254}	-4619^{+252}_{-135}	$0.012^{+0.027}_{-0.006}$
Alt.	-47 ± 10	$54.59^{+37.75}_{-32.50}$	5685^{+146}_{-254}	-4540^{+476}_{-191}	$0.024^{+0.118}_{-0.016}$

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 $A_{obs} \gg 1.0$

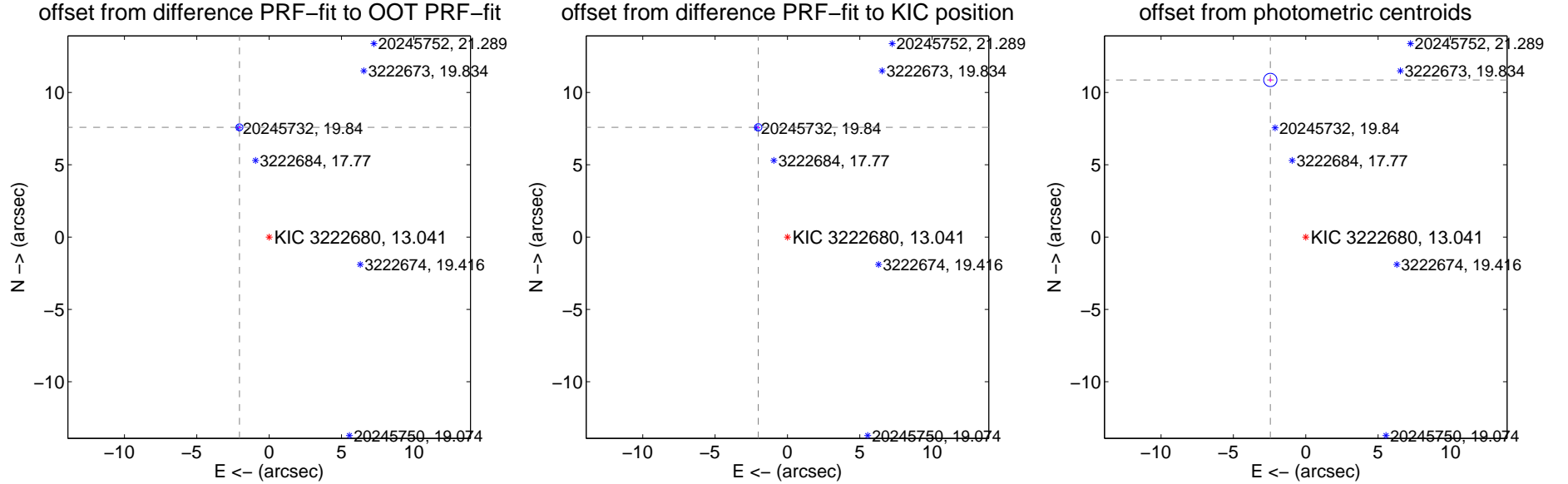
DV Centroid Data

Supplemental centroid analysis for 003222680-01. Kepler magnitude: 13.04. Transit SNR 25.54

There are 9 quarters with good PRF difference image offsets

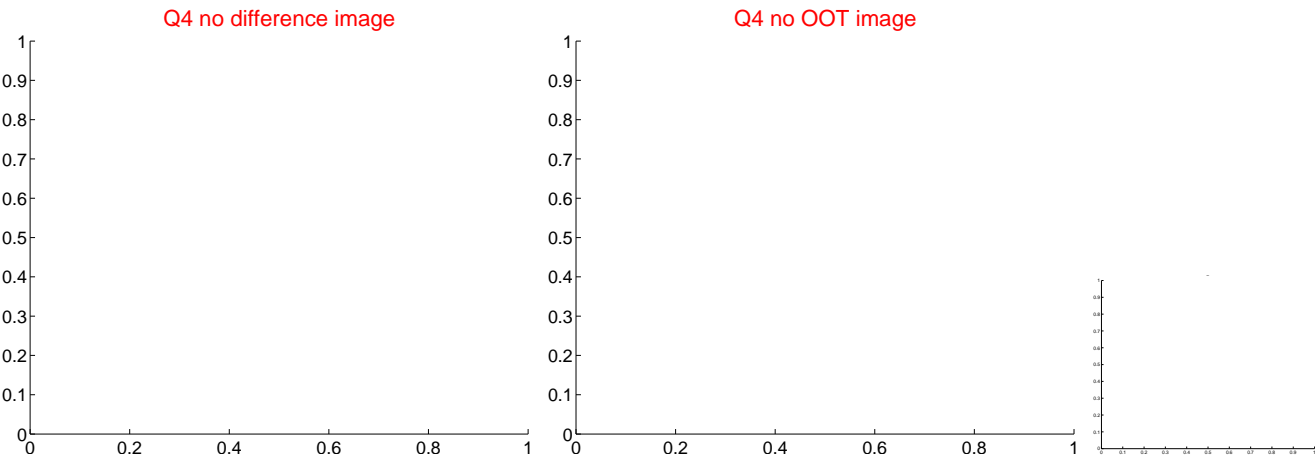
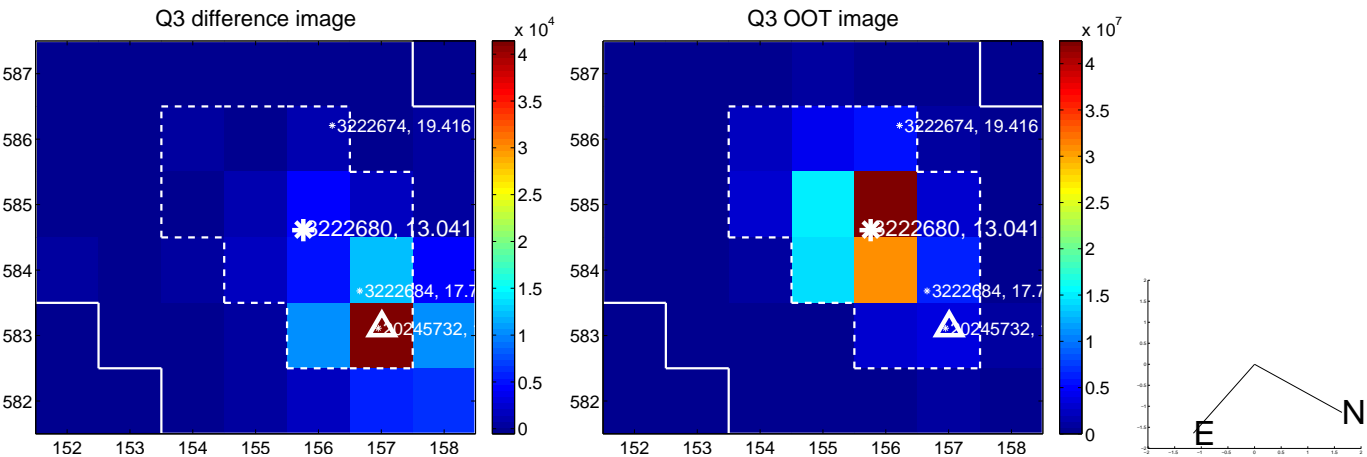
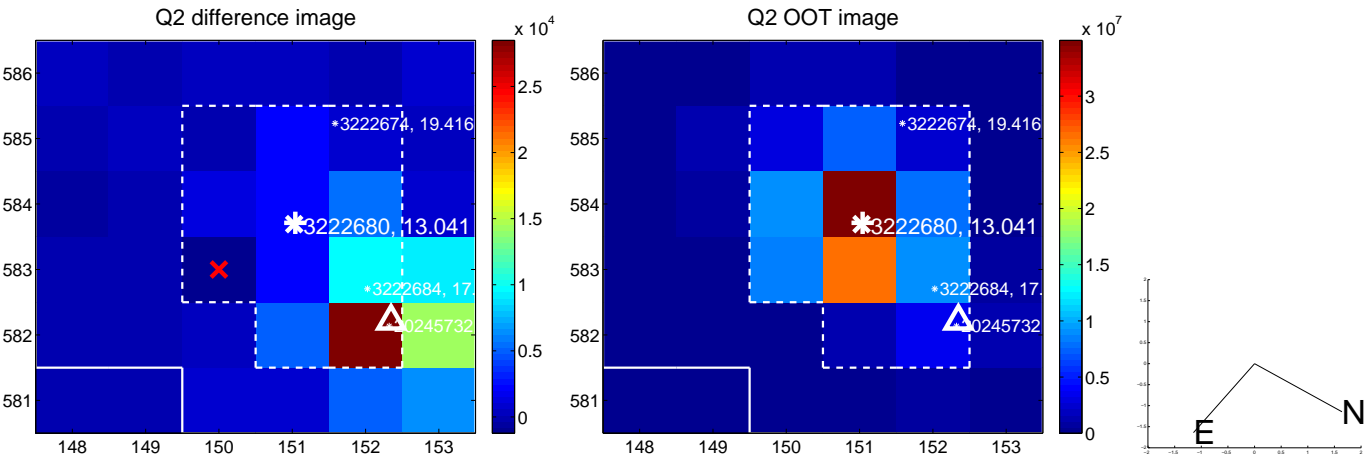
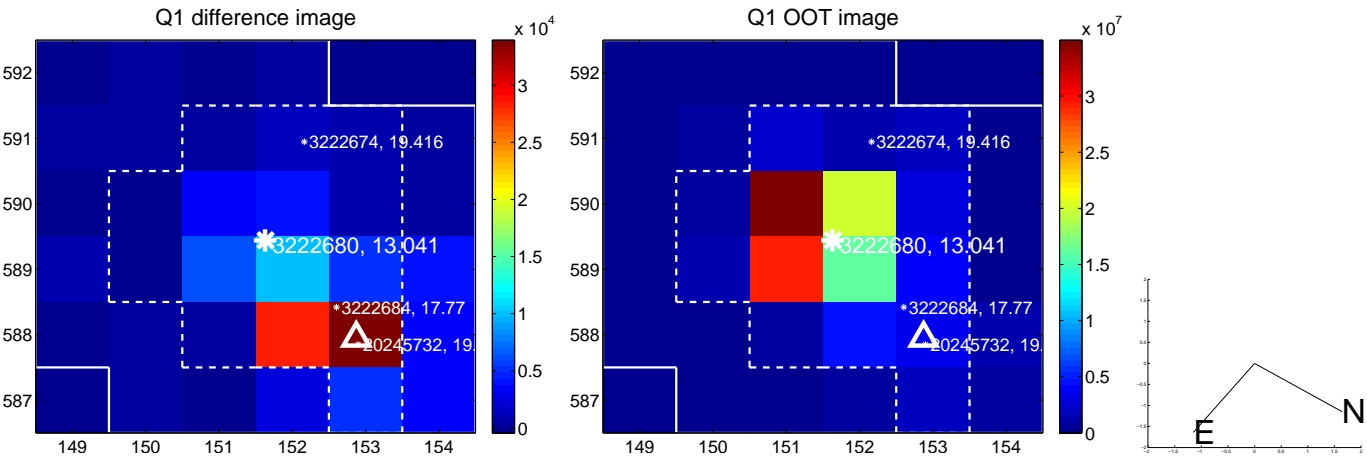
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.863 \pm 0.079	99.15	2.051 \pm 0.070	7.591 \pm 0.078
PRF-fit source offset from KIC position	7.854 \pm 0.084	93.94	2.017 \pm 0.068	7.591 \pm 0.085
photometric centroid source offset	11.14 \pm 0.15	73.02	2.45 \pm 0.13	10.87 \pm 0.15

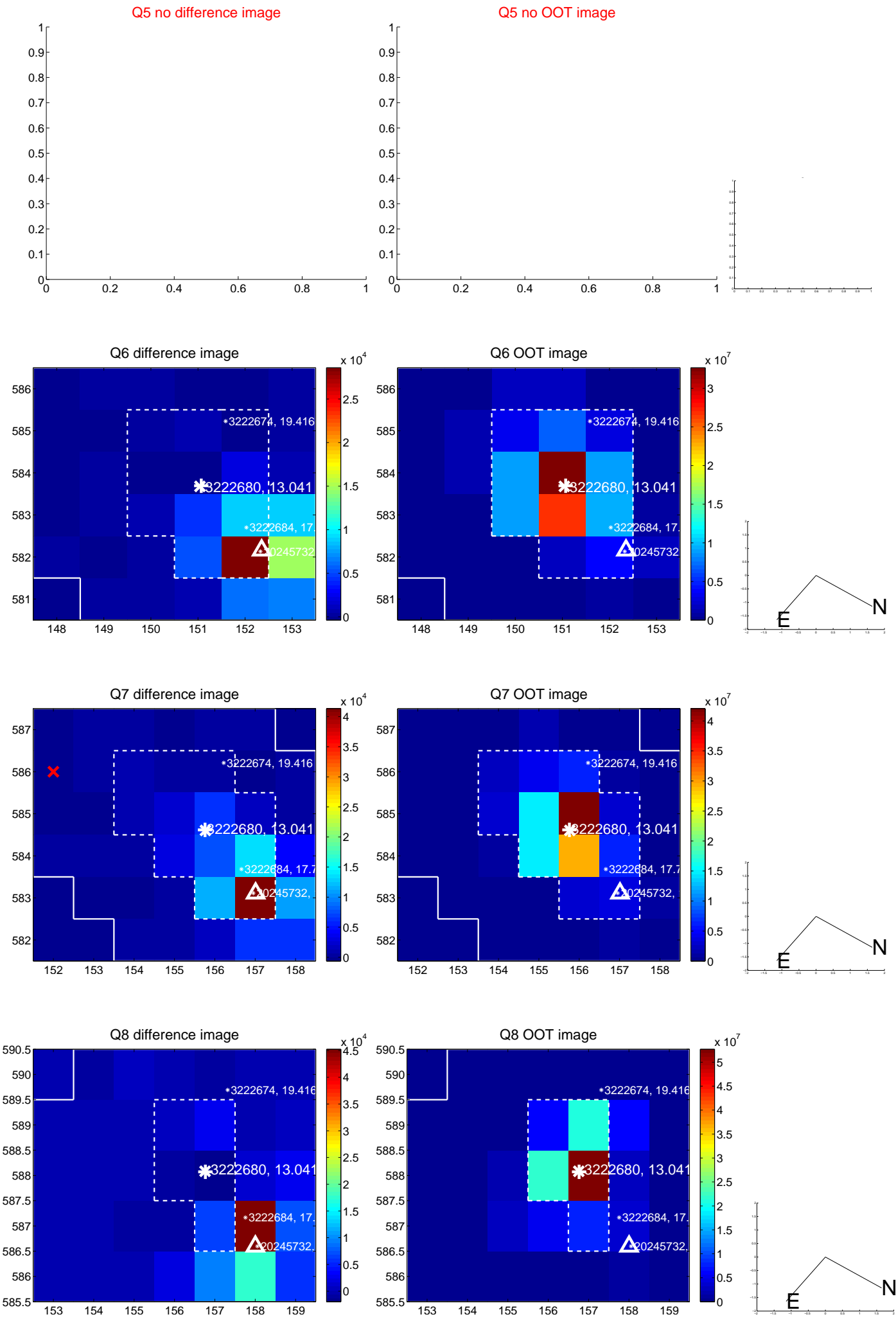


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

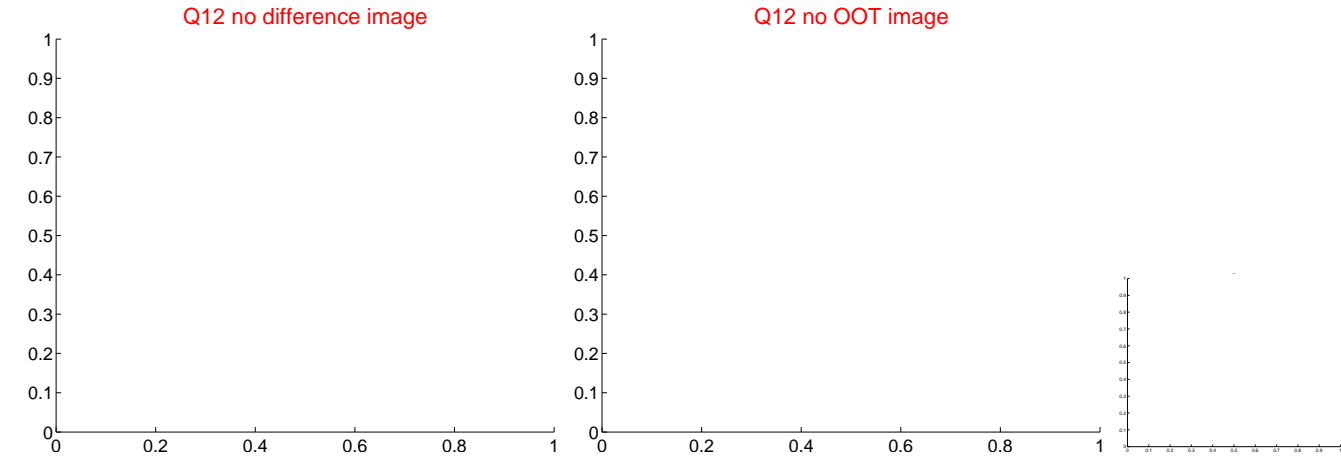
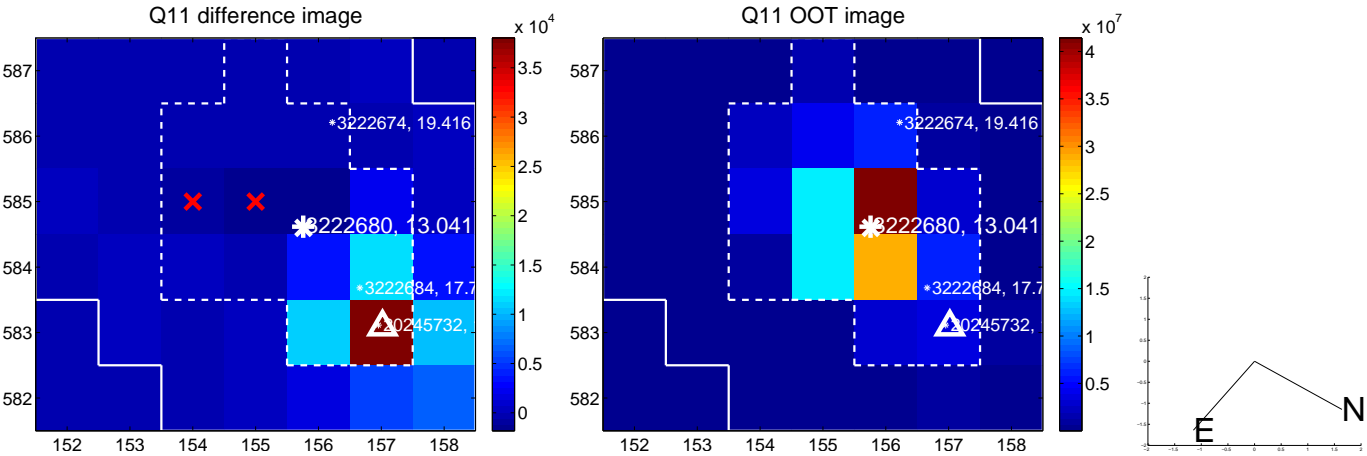
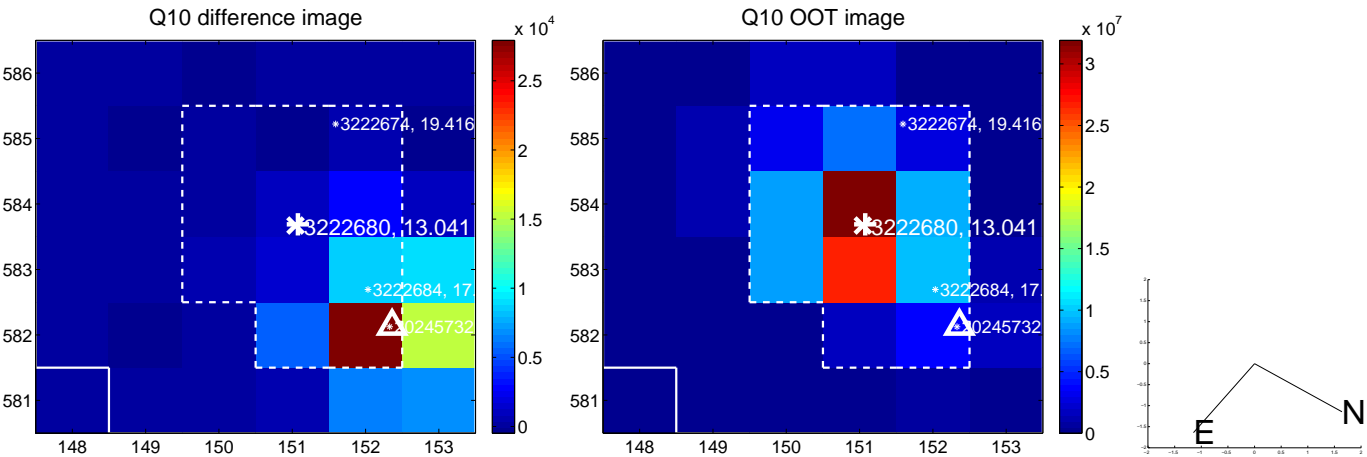
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



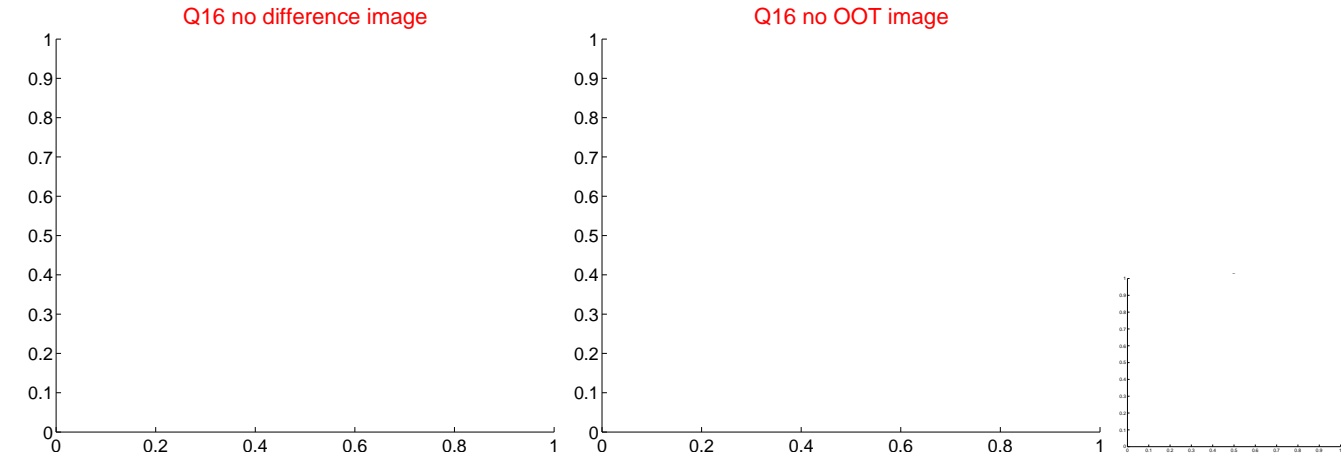
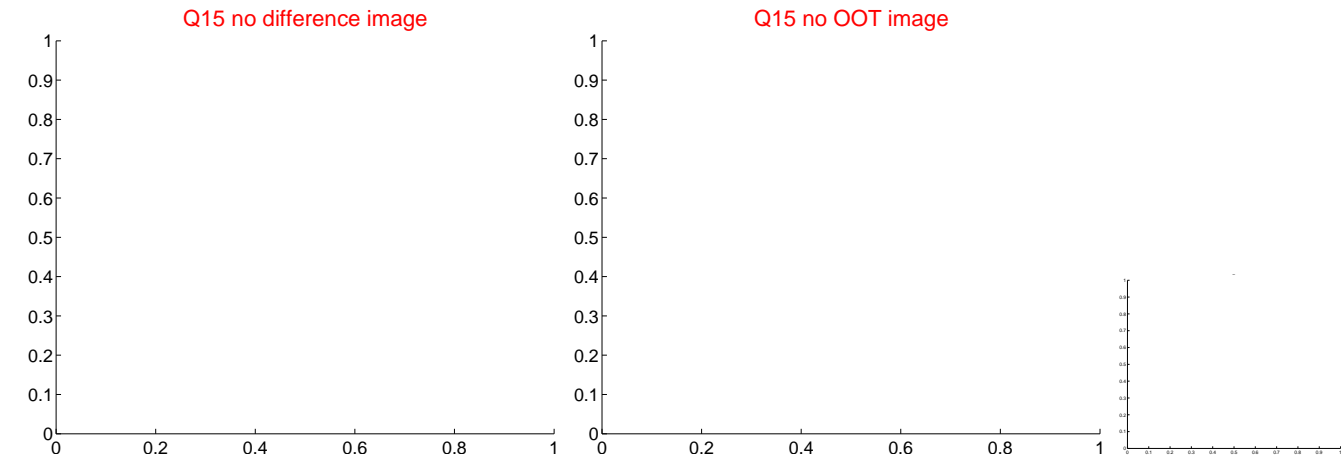
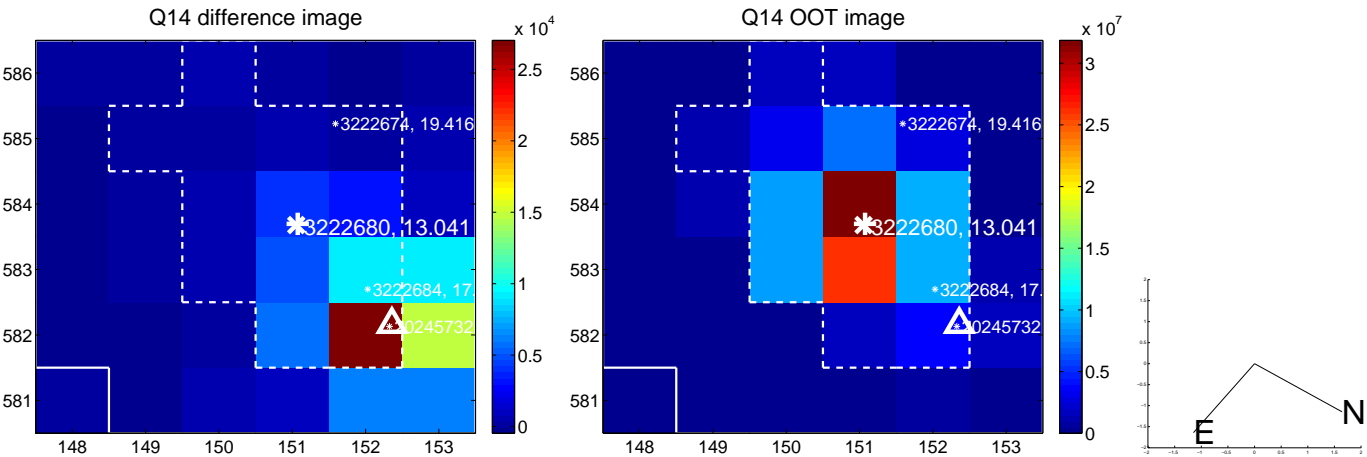
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



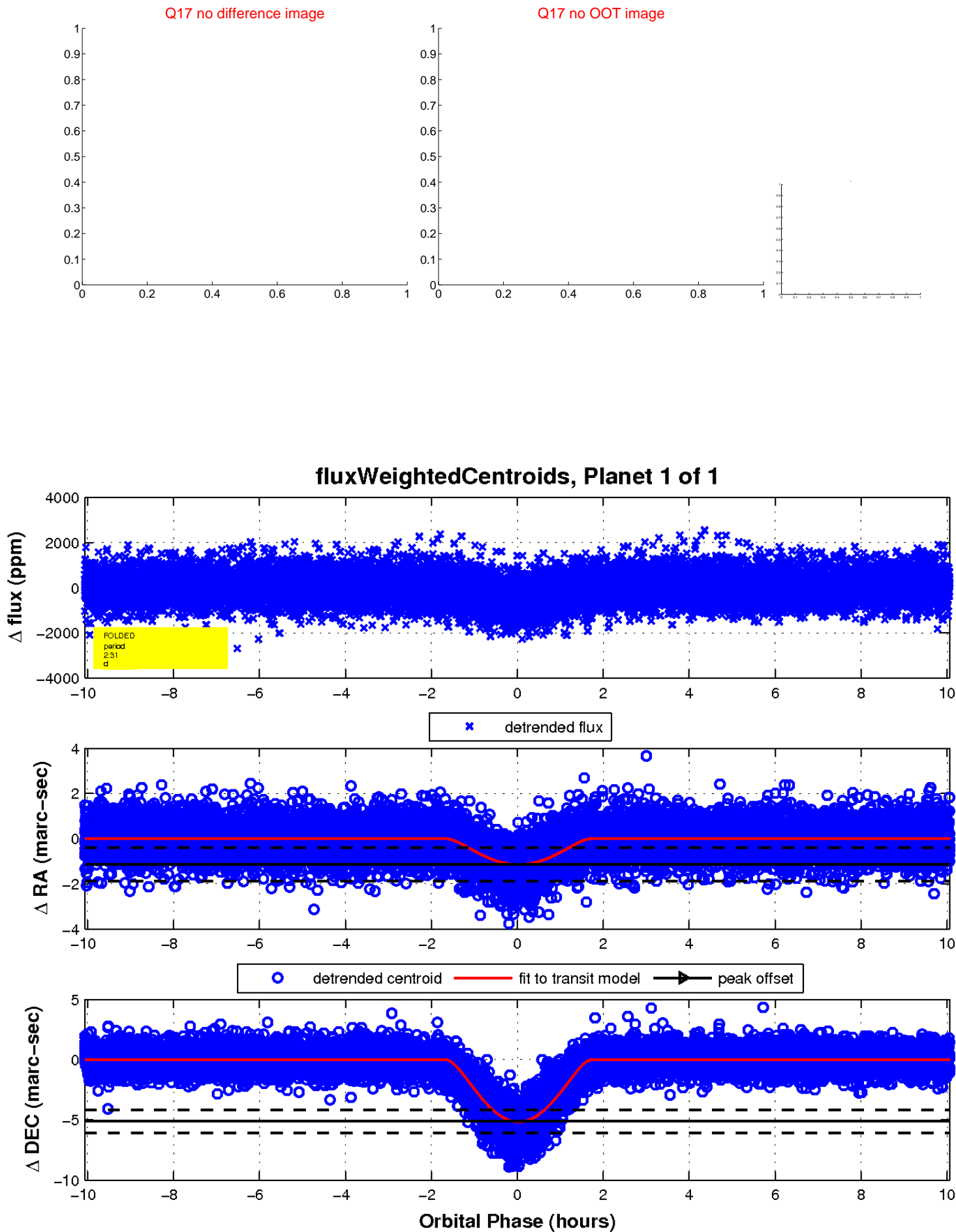
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

