KIC 009138680

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 ($S_\oplus$)
009138680-01	OBS	No	389.298457	241.583360	159.4	22.257	7.3	8.5	2.54	5780	3.29	4.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009138680-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS

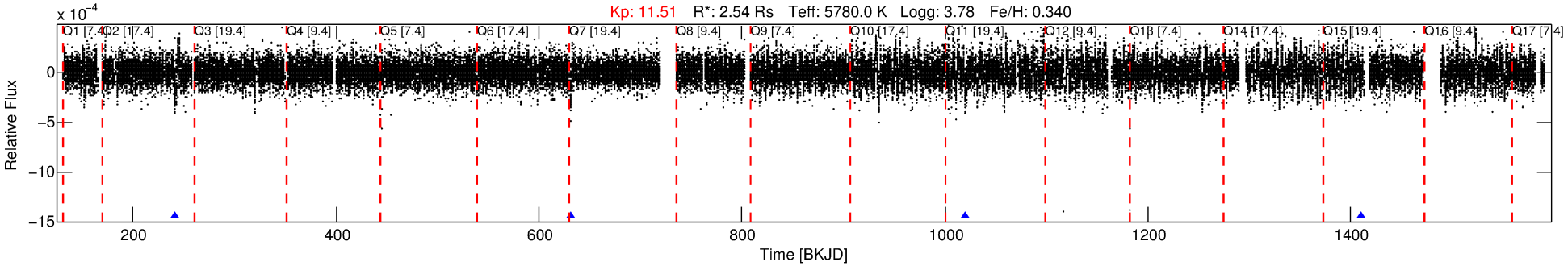
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

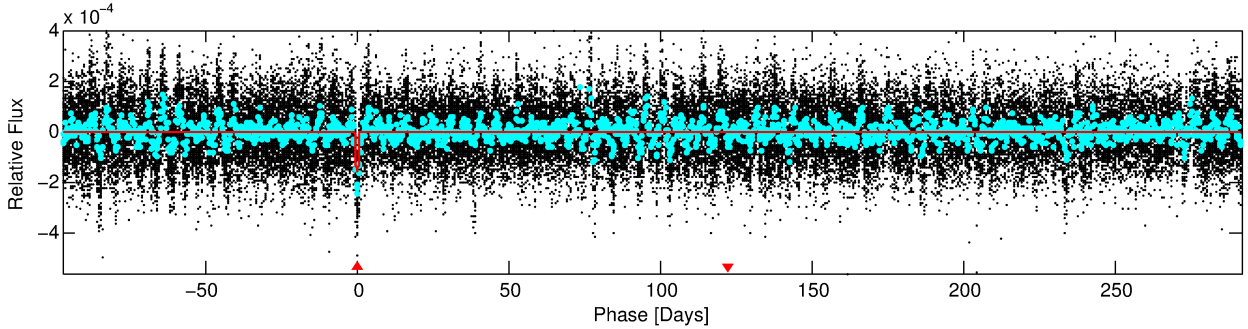
Ephemeris Match Information For 009138680-01

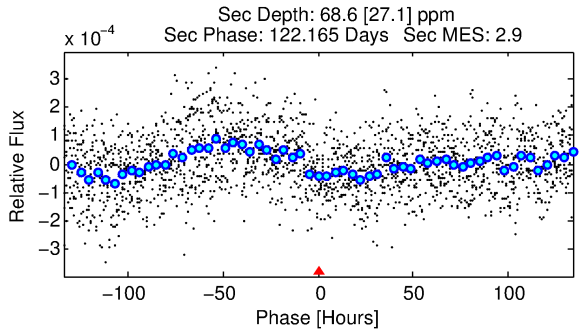
No Significant Match Found

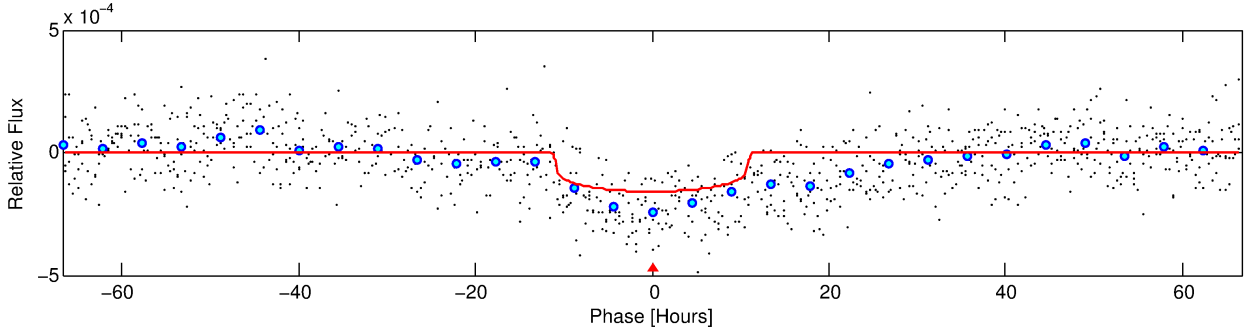
DV One-Page Summary

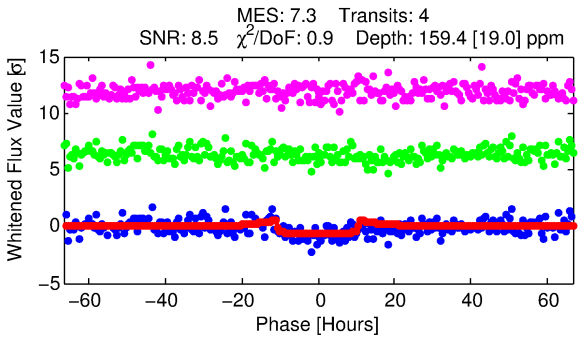
KIC: 9138680 Candidate: 1 of 1 Period: 389.298 d

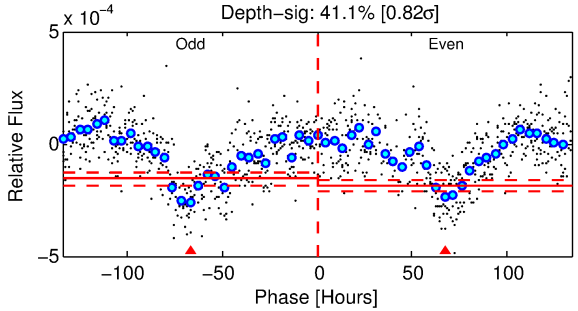












DV Fit Results:

Period = 389.29846 [0.00769] d
Epoch = 241.5834 [0.0146] BKJD
Rp/R* = 0.0119 [0.0053]
a/R* = 113.13 [211.86]
b = 0.55 [2.36]

Seff = 4.67 [0.34]
Teq = 375 [7] K
Rp = 3.29 [1.47] Re
a = 1.1727 [0.0373] AU

Ag = 4784.78 [4647.18] [1.03σ]
Teffp = 4821 [1172] K [3.79σ]

DV Diagnostic Results:

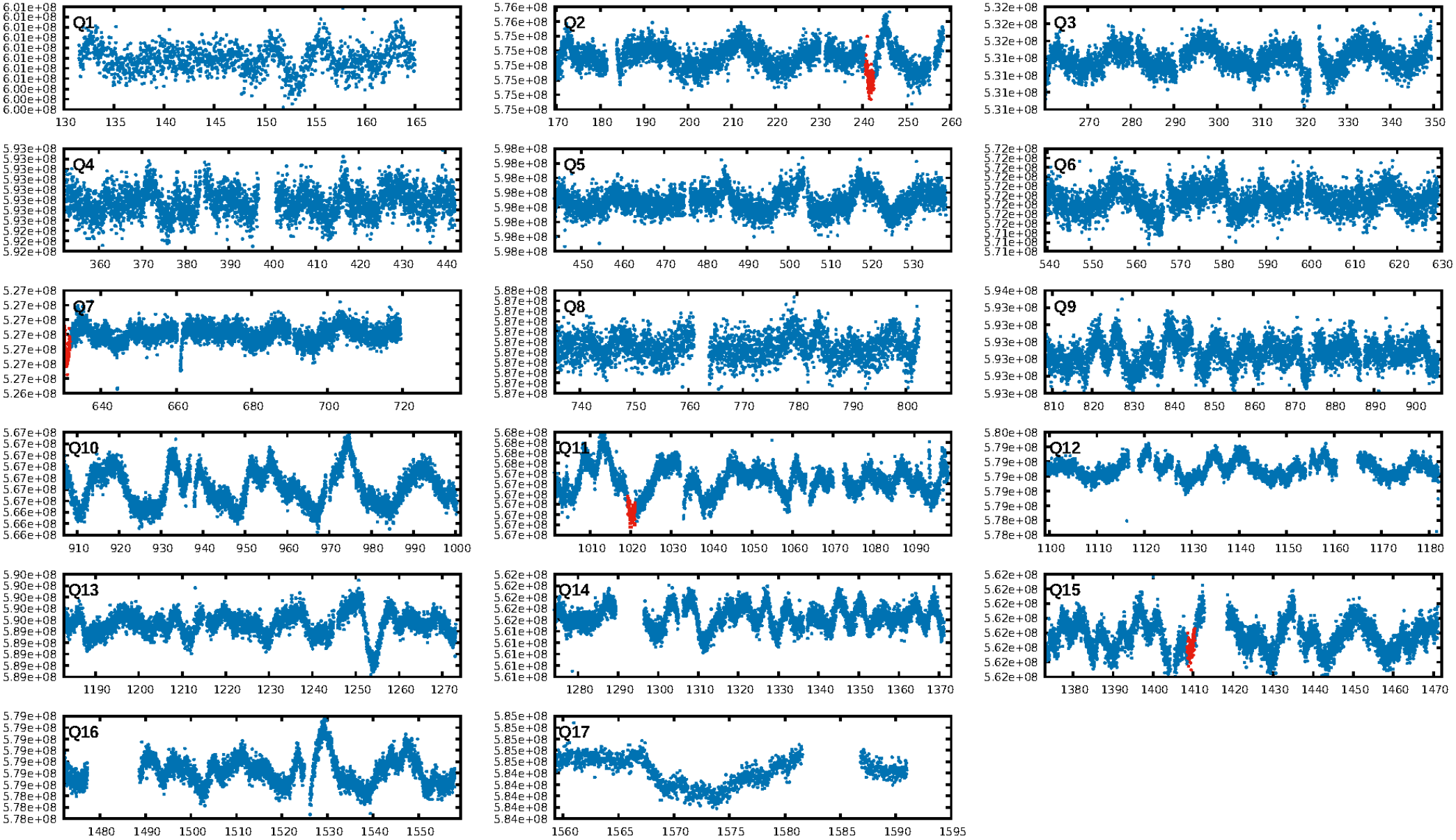
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 8.4%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 7.12e−10
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −3.432

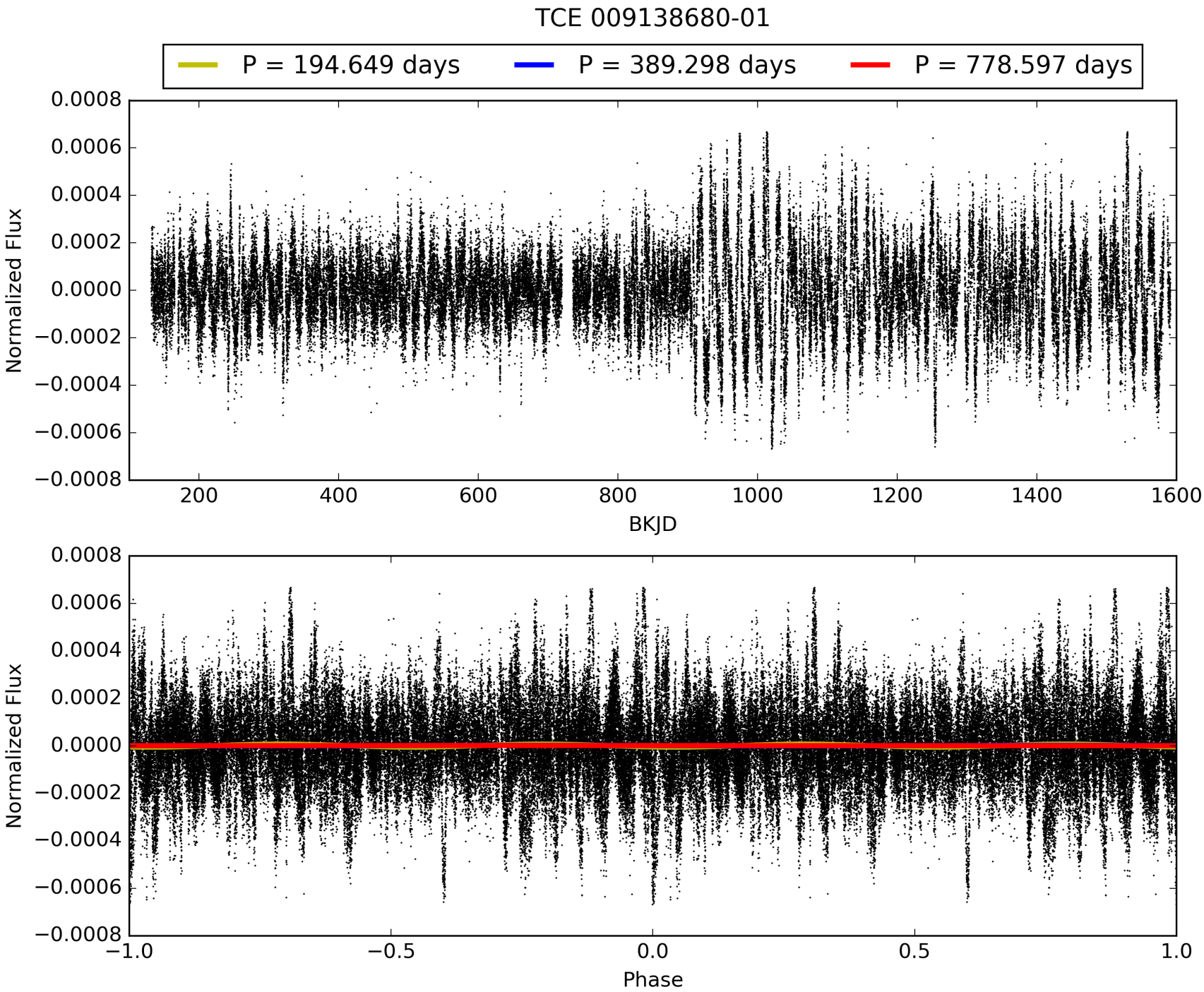
Centroid−sig: 0.0%
Centroid−so: 2.844 arcsec [2.69σ]
OotOffset−rm: N/A
KicOffset−rm: N/A
OotOffset−st: 0/0/0/0 [0]
KicOffset−st: 0/0/0/0 [0]
DiffImageQuality−fgm: N/A
DiffImageOverlap−fno: 1.00 [1/1]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 22:55:44 Z

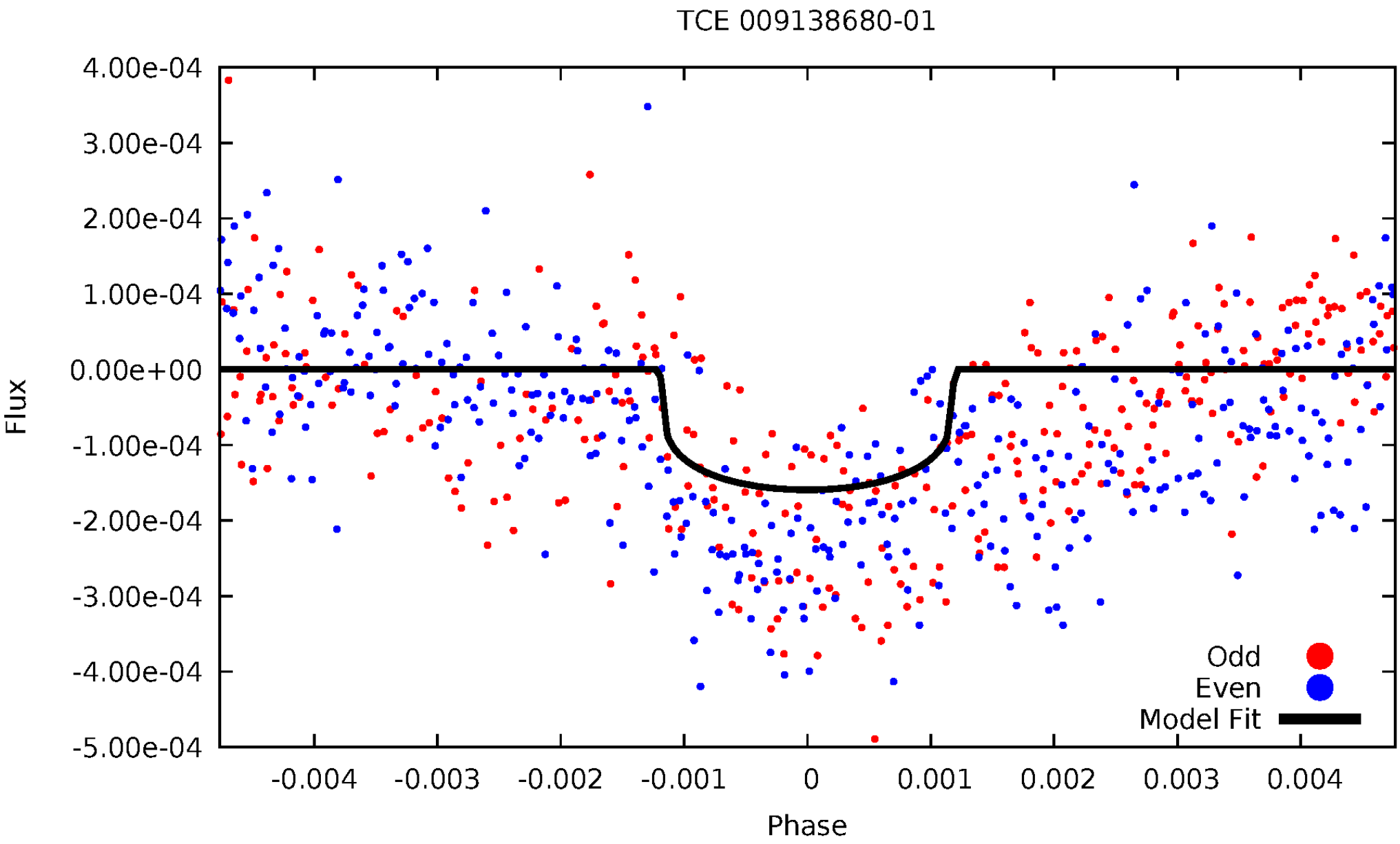
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009138680-01, PDC Light Curves




TCE 009138680-01
P = 194.649 days
P = 389.298 days
P = 778.597 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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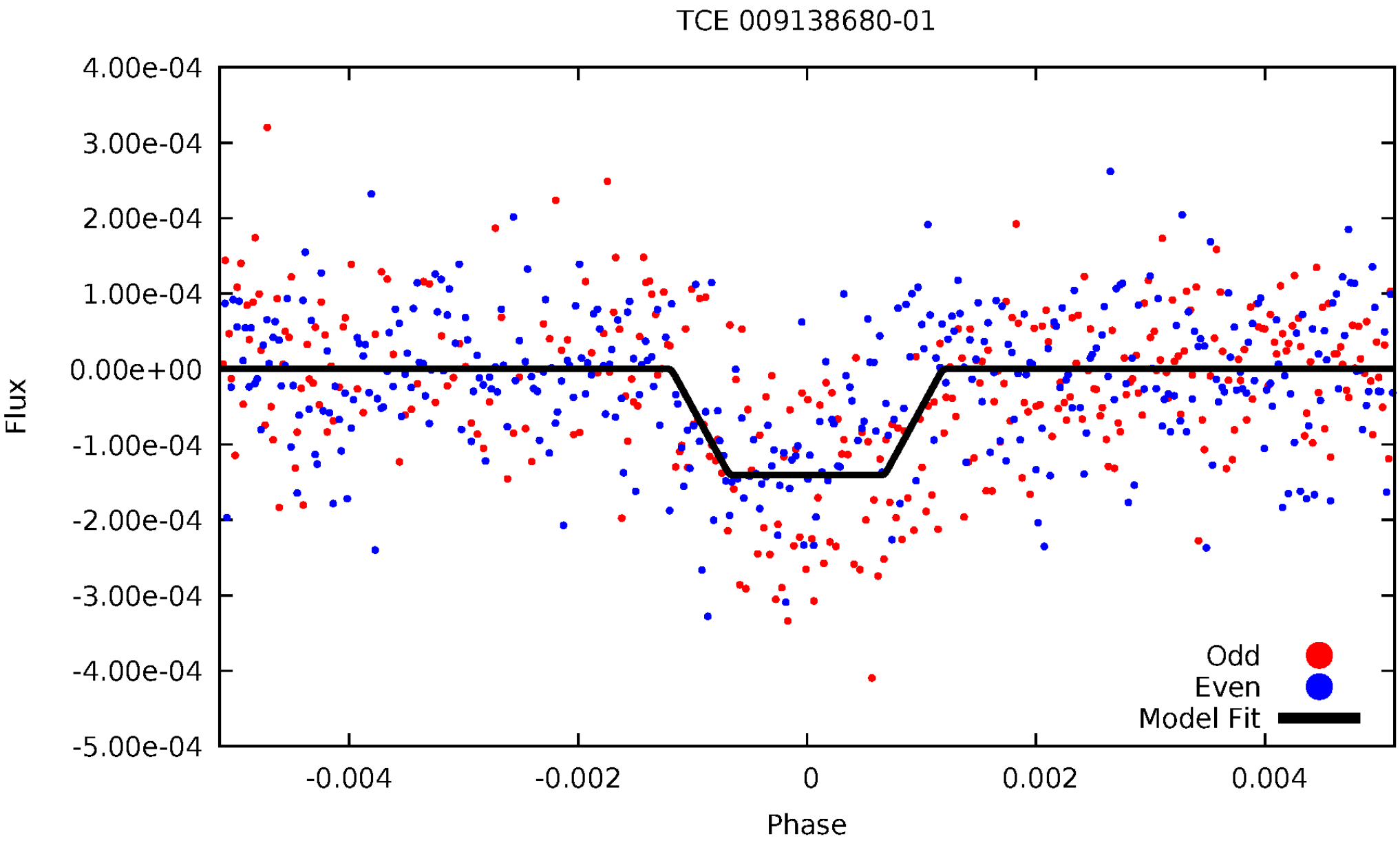
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even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3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
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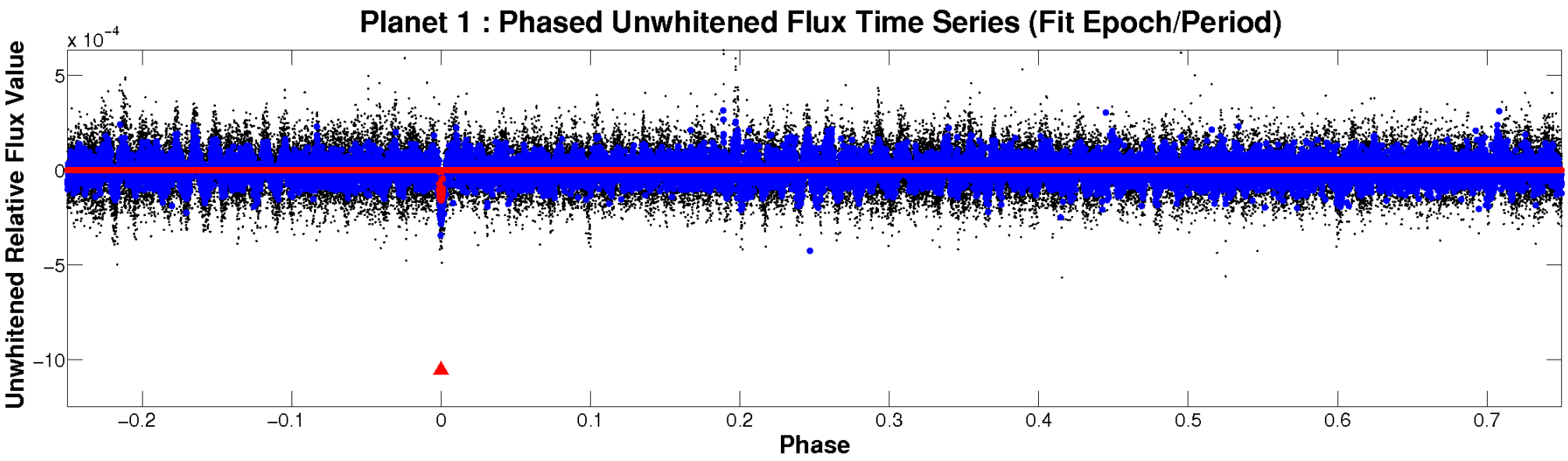
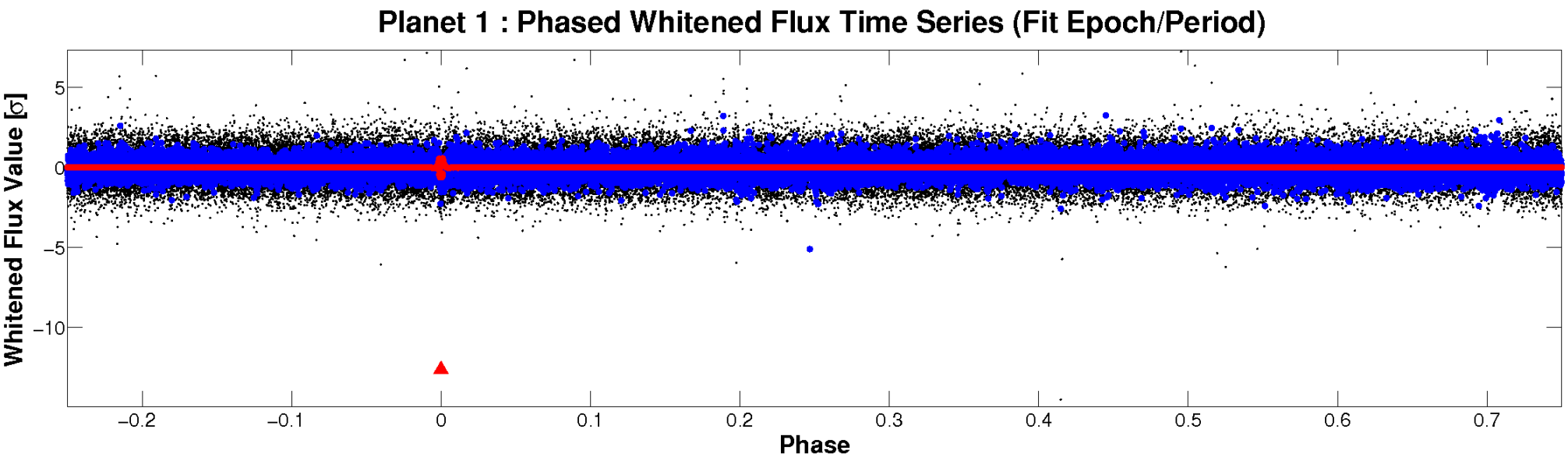
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

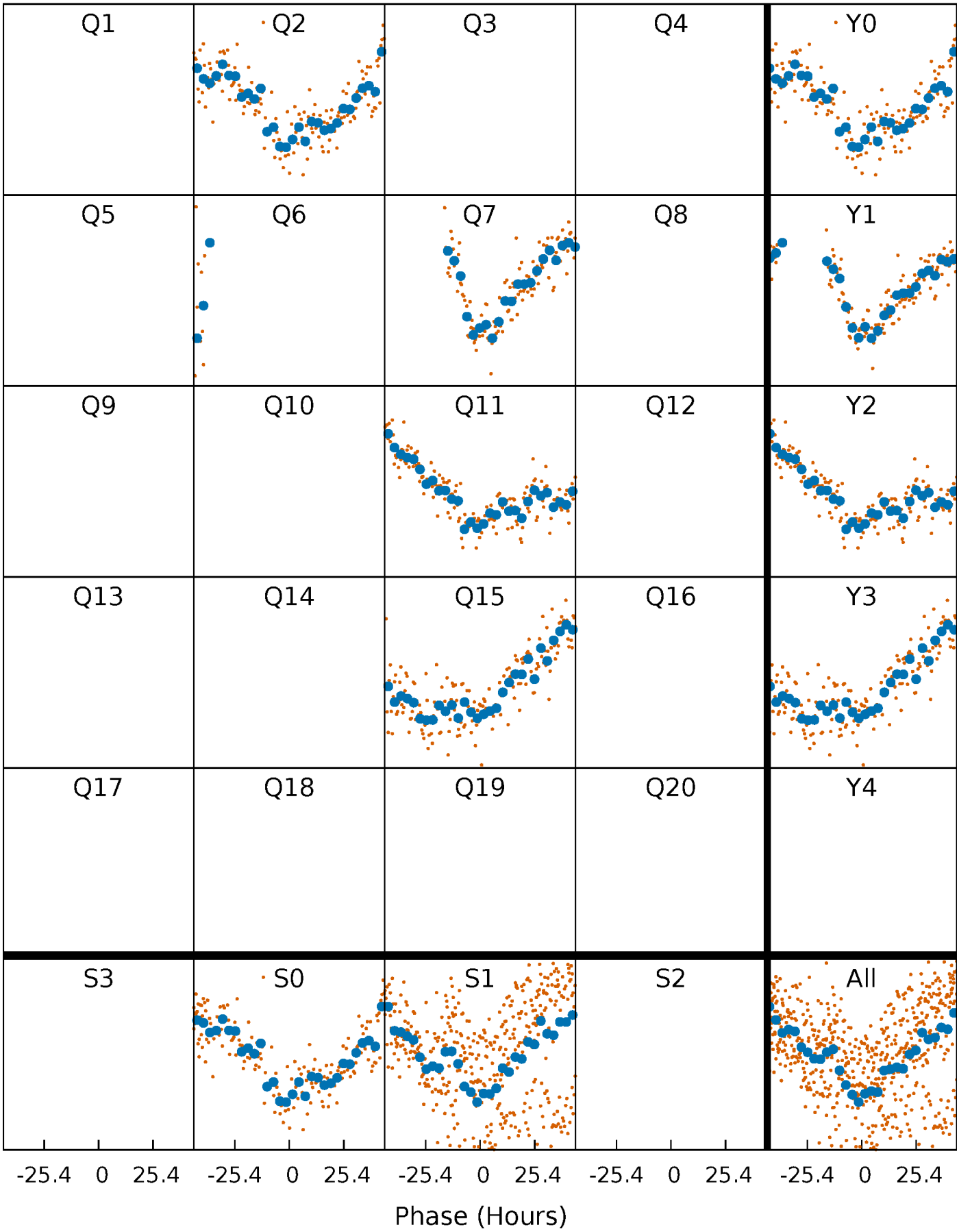
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009138680-01 P=389.298457 Days T_0=241.583360 (BKJD)



DV Quarter-Phased Transit Curves

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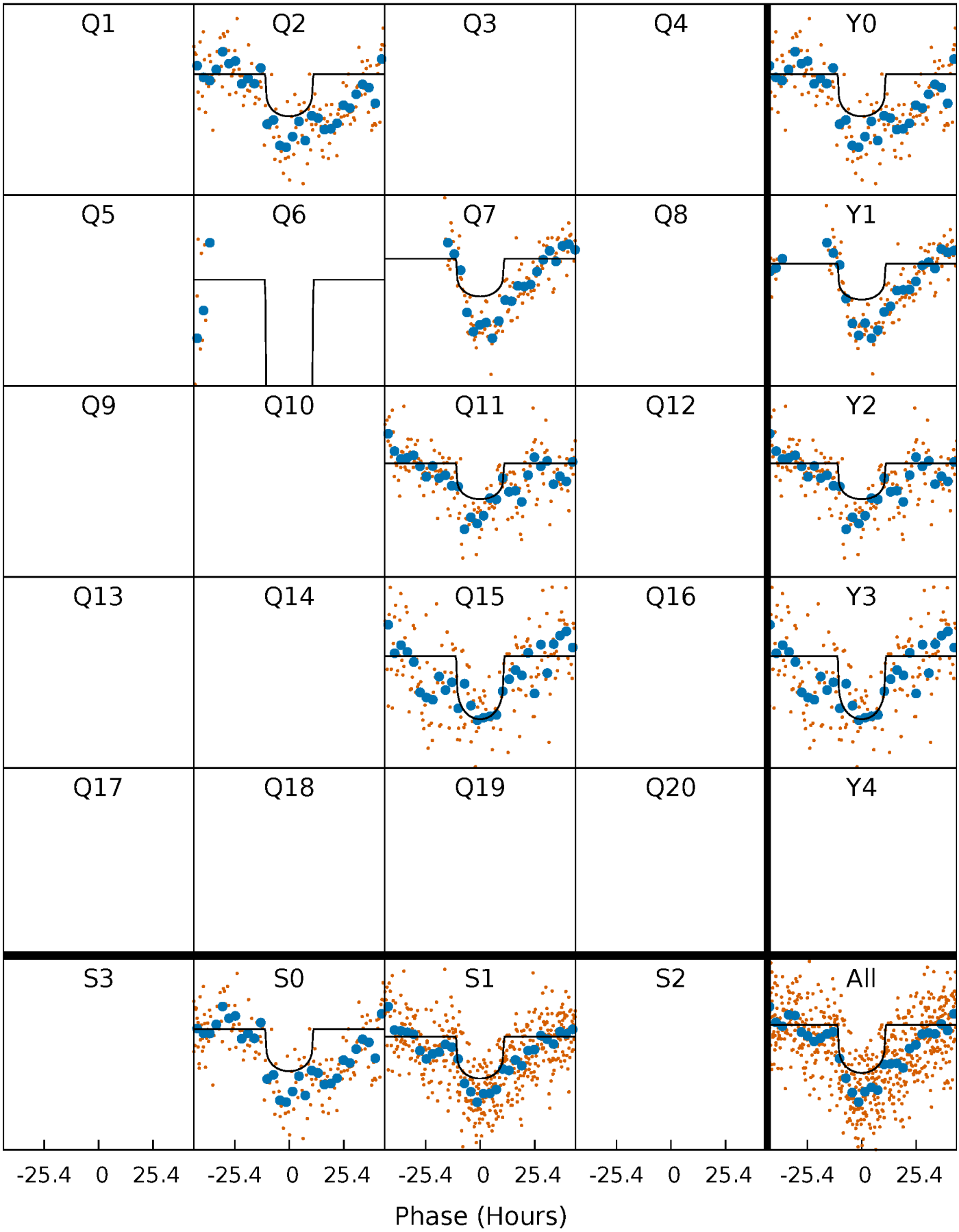
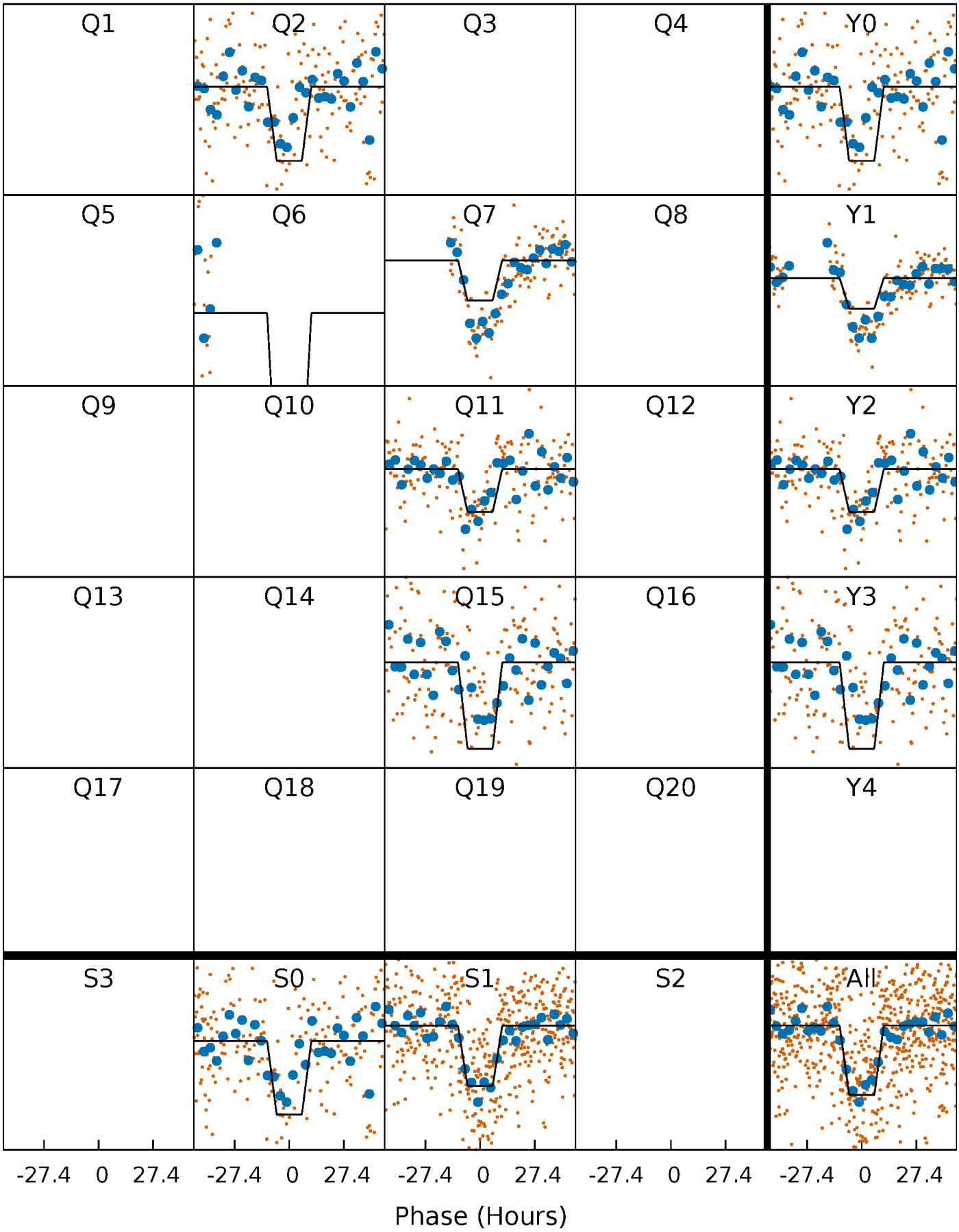


Alt. Detrend Quarter-Phased Transit Curves

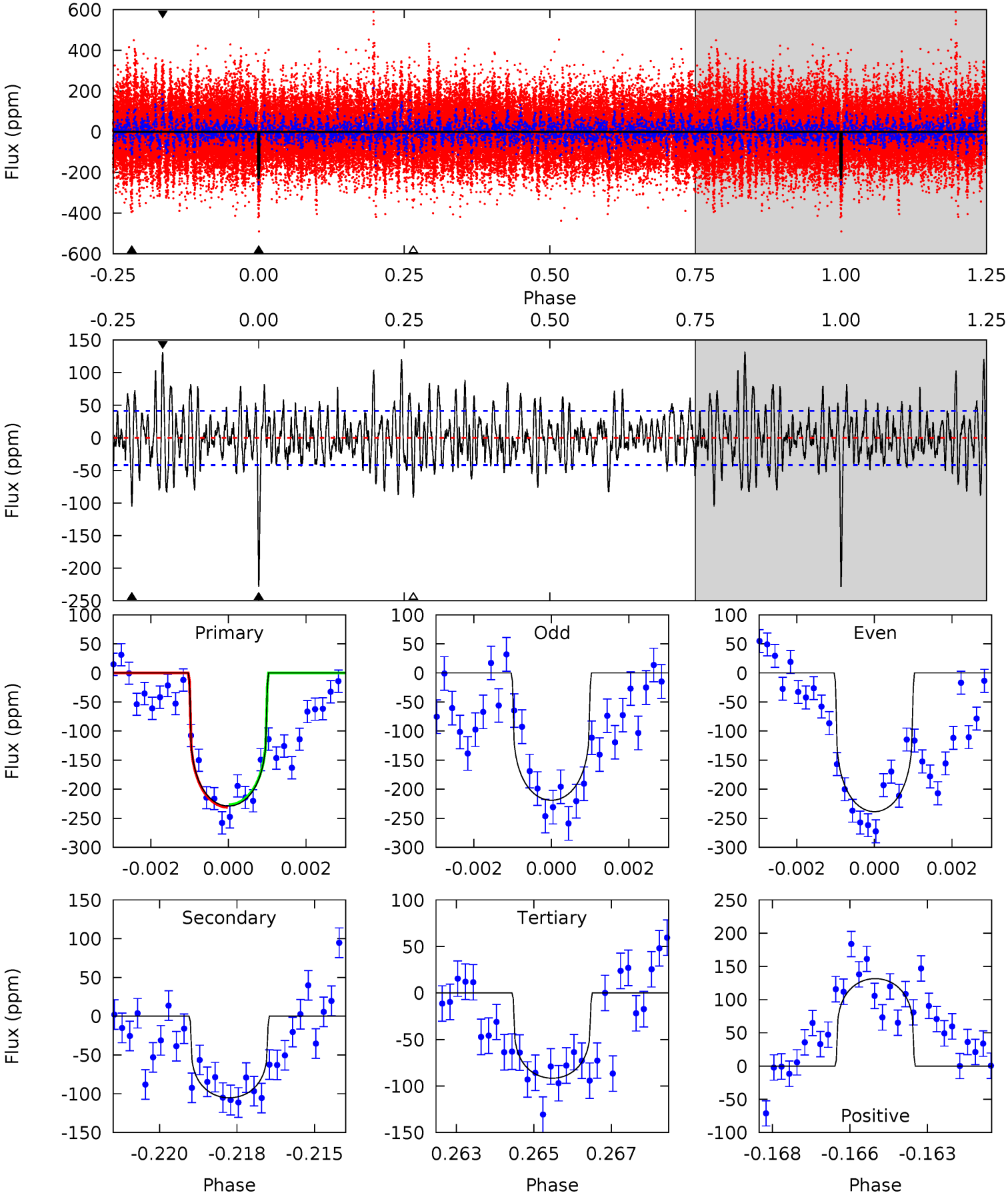
TCE 009138680-01 P=389.306996 Days T_0=241.566418 (BKJD)



DV Model-Shift Uniqueness Test

009138680-01, P = 389.298457 Days, E = 241.583360 Days

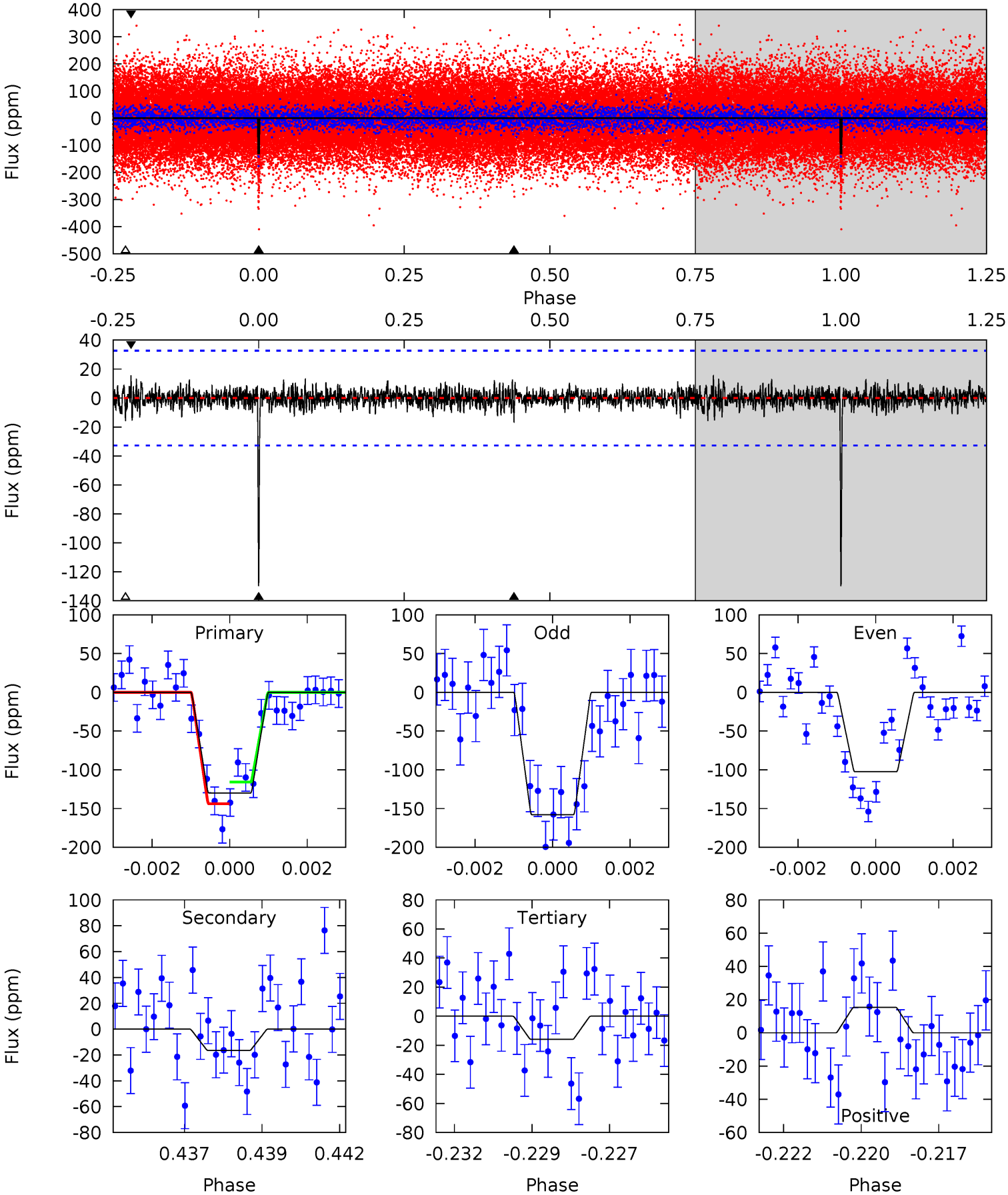
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.2	13.4	11.7	16.8	5.30	3.04	4.20	17.5	12.4	1.73	-3.36	1.25	0.95	0.36	0.28



Alt Model-Shift Uniqueness Test

009138680-01, P = 389.306996 Days, E = 241.566418 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	2.66	2.56	2.48	5.29	3.03	0.68	18.5	18.5	0.09	0.18	4.50	1.26	0.11	2.26



Stellar Parameters For KIC 009138680

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5780^{+69}_{-86}	$3.782^{+0.020}_{-0.015}$	$0.340^{+0.100}_{-0.150}$	$2.535^{+0.053}_{-0.106}$	$1.416^{+0.038}_{-0.055}$	$0.122^{+0.011}_{-0.006}$
	+1%/-1%	+1%/-0%	+29%/-44%	+2%/-4%	+3%/-4%	+9%/-5%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 009138680-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-105±8	$3.41^{+1.43}_{-1.48}$	523^{+8}_{-9}	5319^{+1687}_{-738}	6850^{+14402}_{-3429}
Alt.	-16±6	$3.21^{+1.51}_{-1.33}$	524^{+7}_{-9}	3745^{+881}_{-475}	1108^{+2507}_{-630}

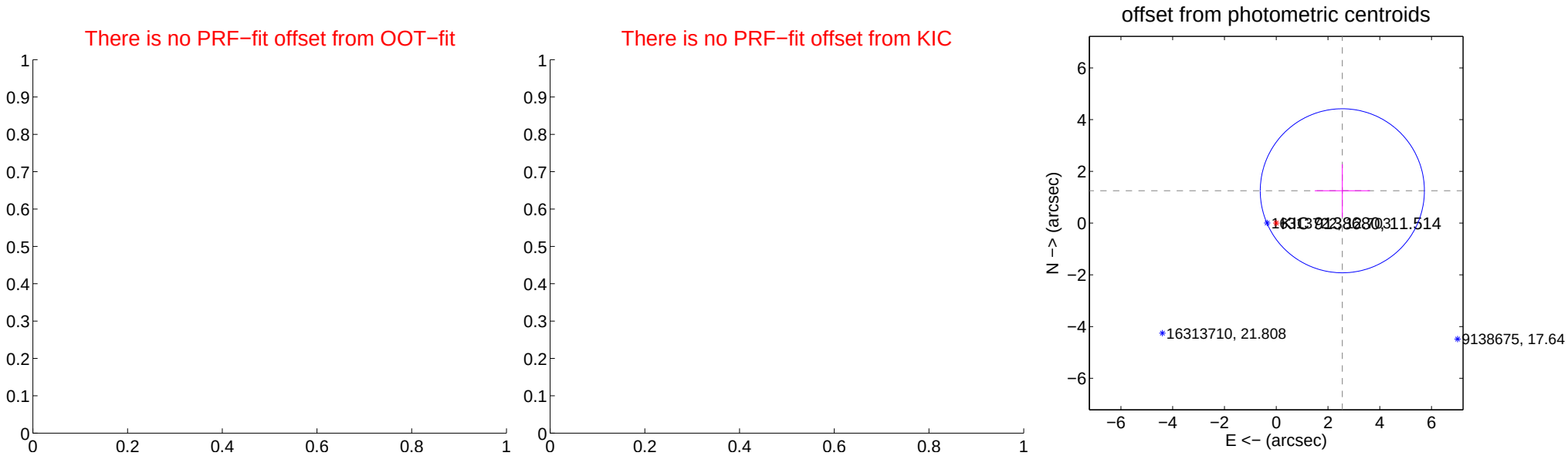
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

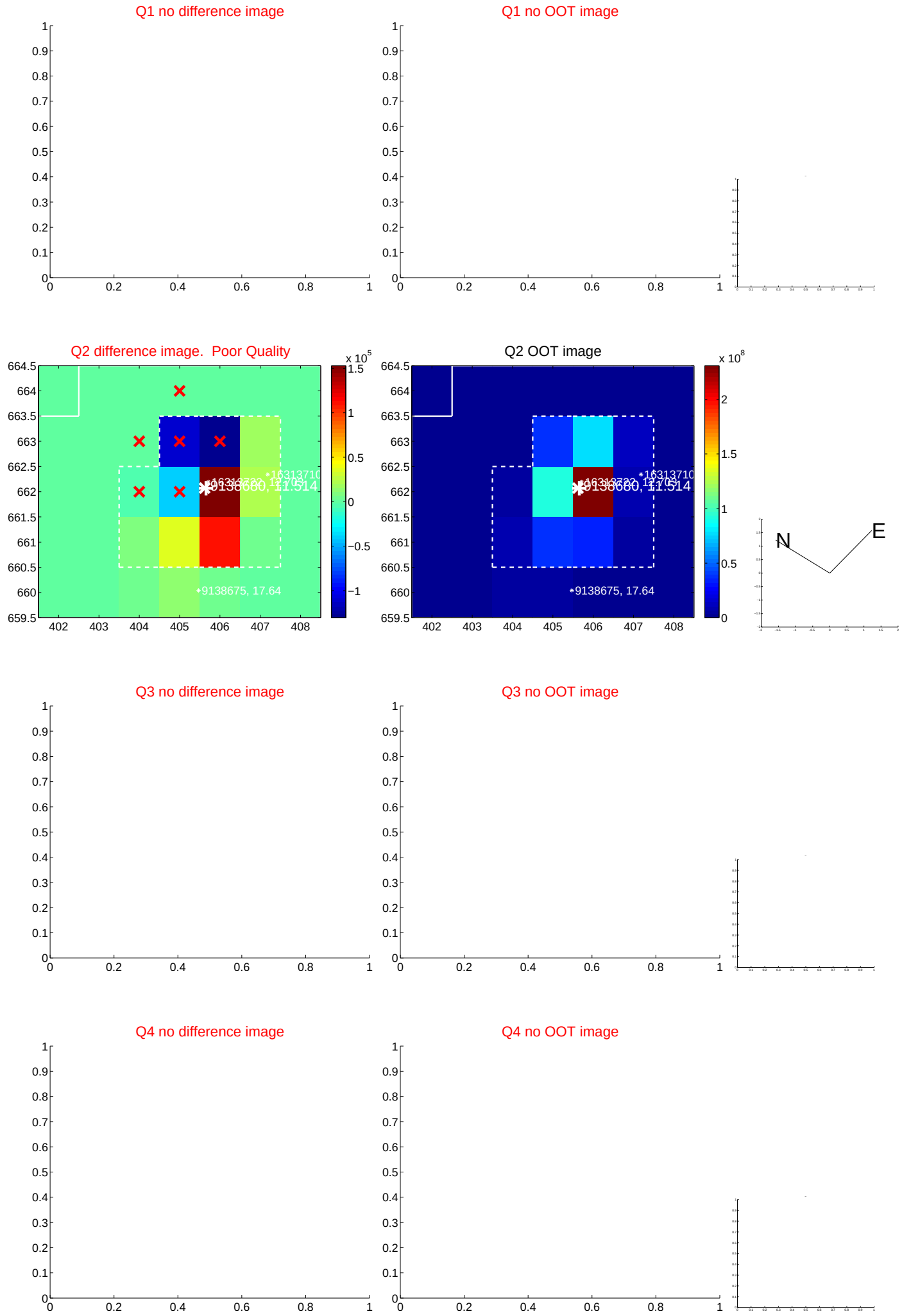
Supplemental centroid analysis for 009138680-01. Kepler magnitude: 11.51. Transit SNR 8.50
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.84 ± 1.06	2.69	-2.55 ± 1.07	1.25 ± 1.02

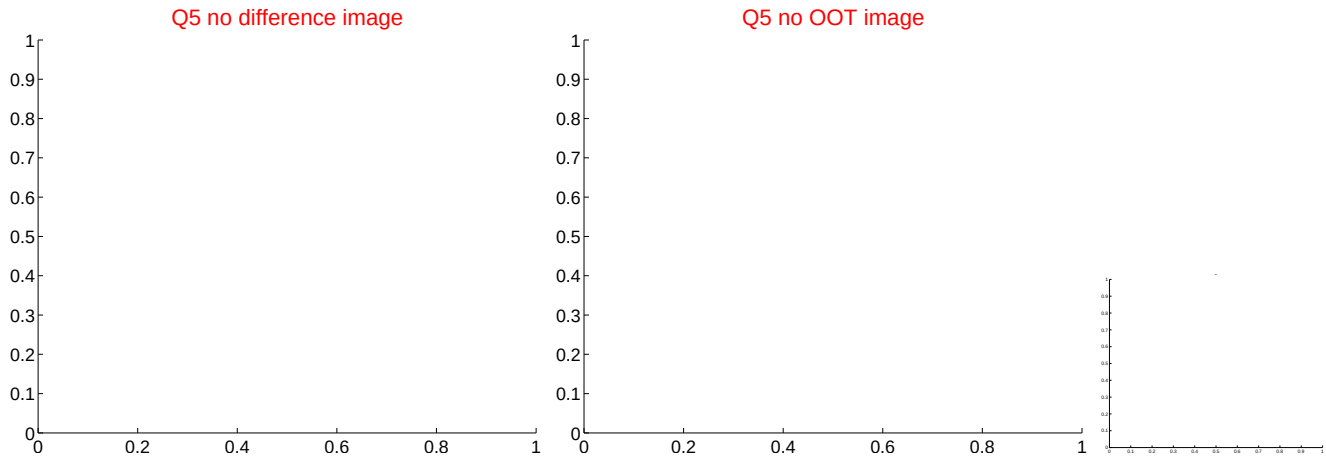


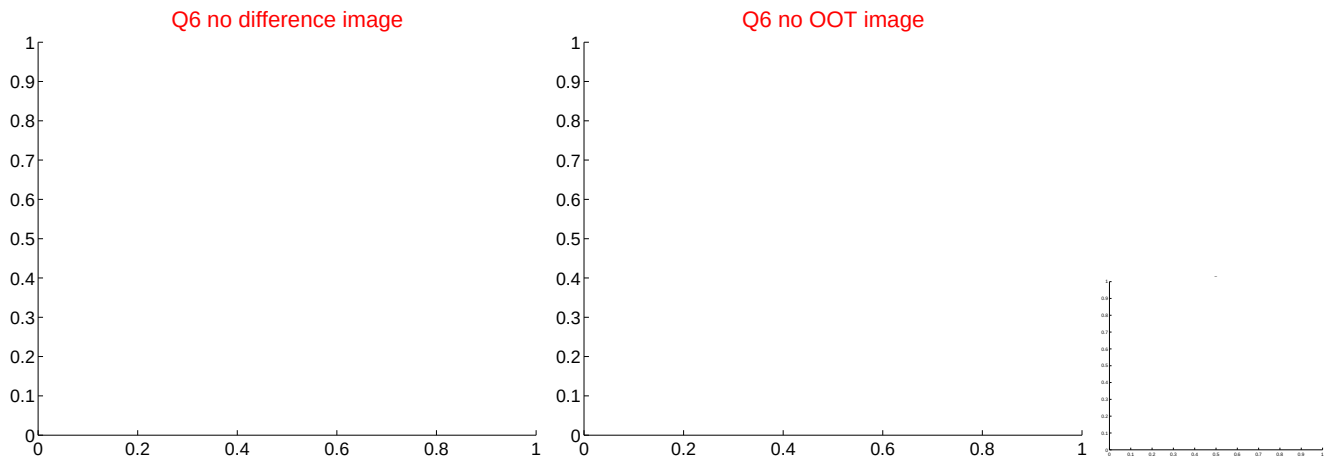
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

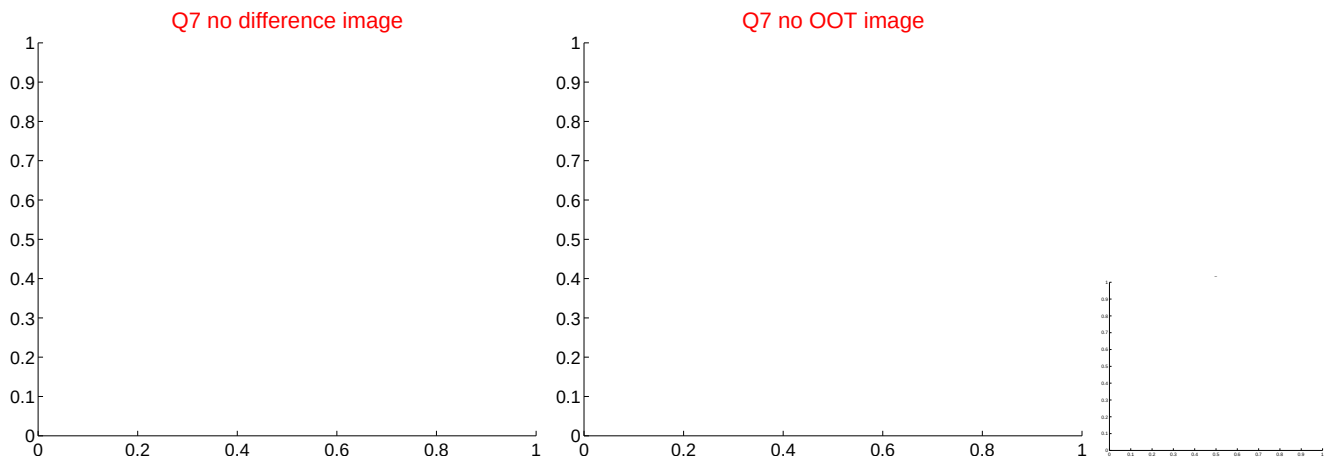
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

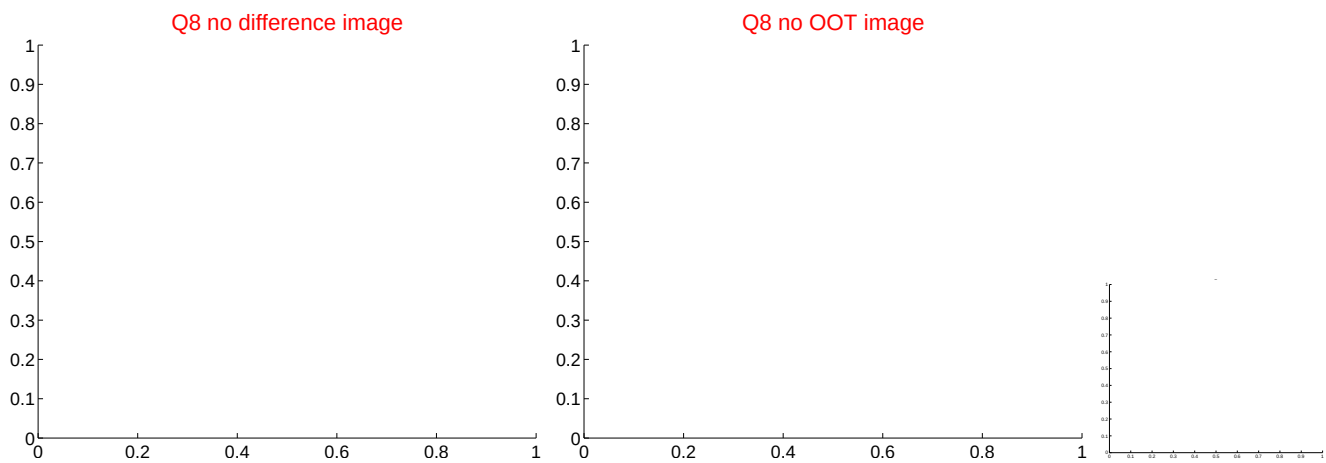


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

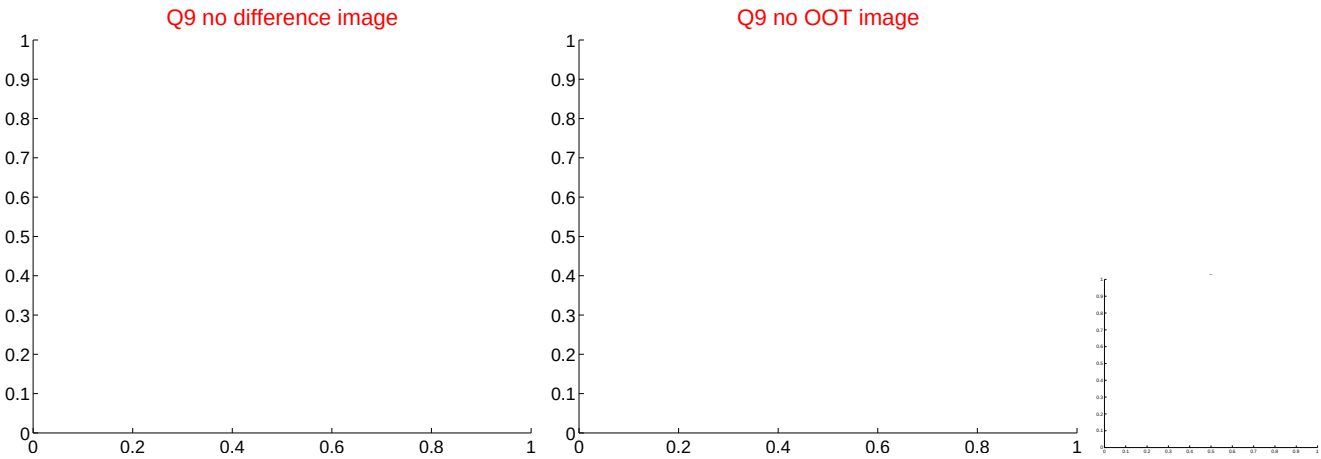


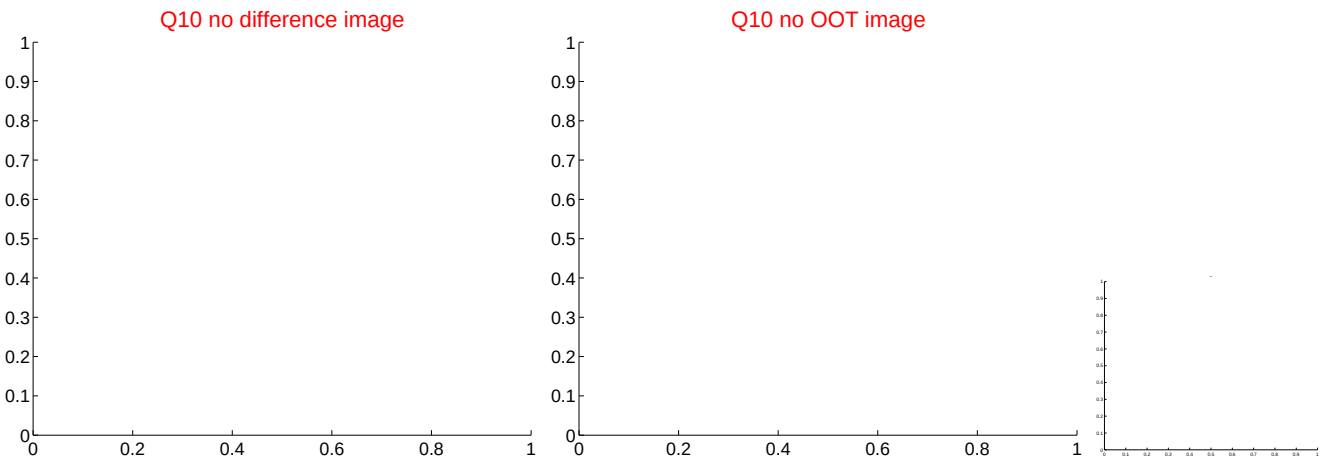


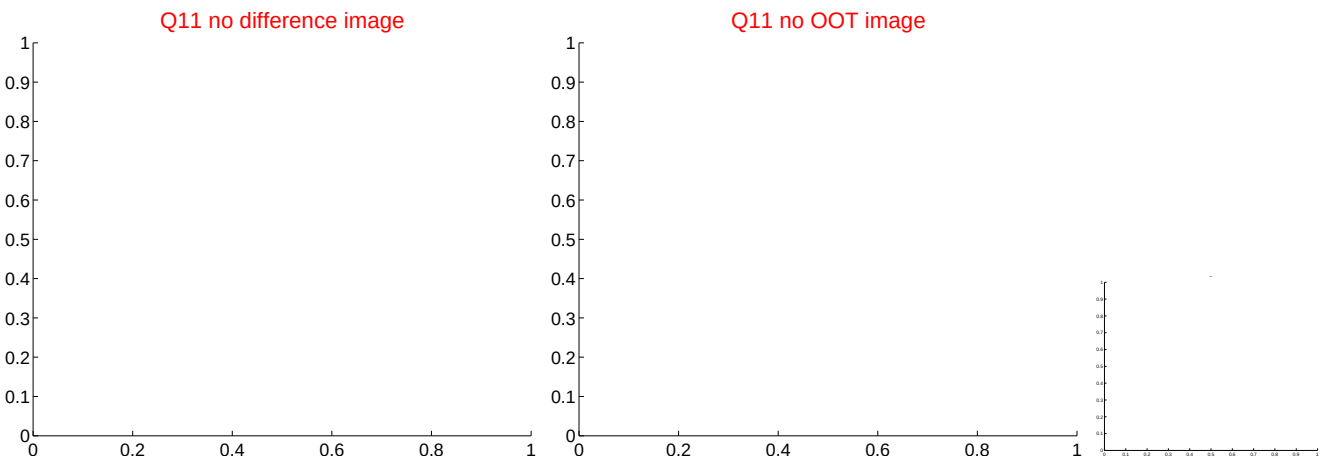


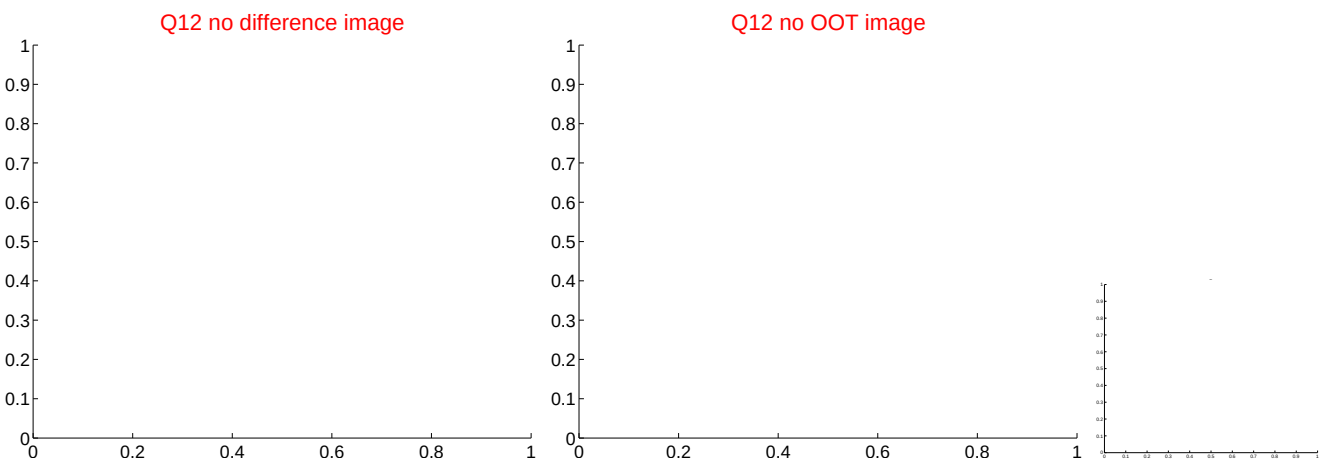


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

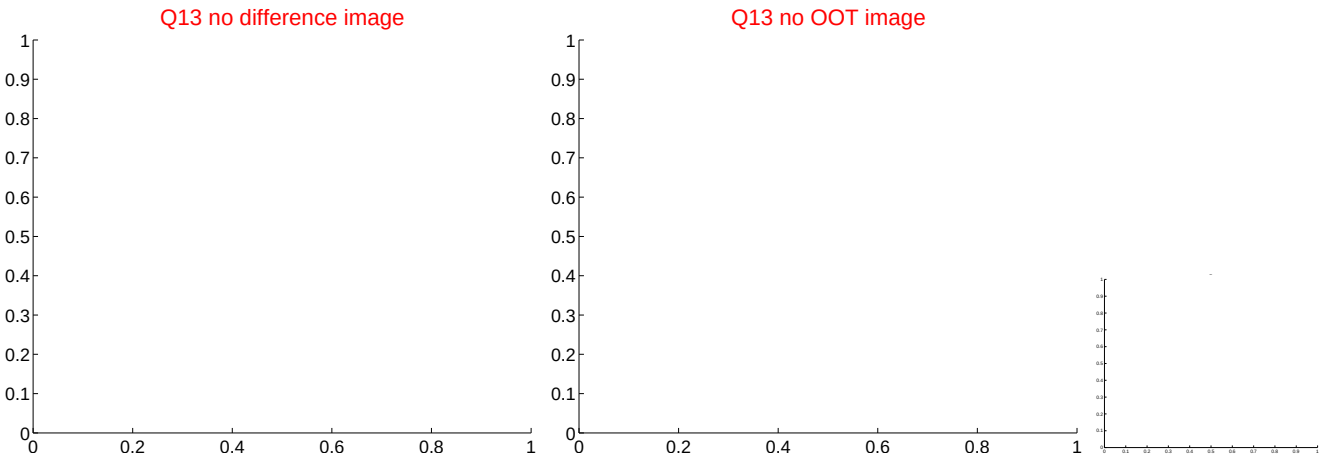


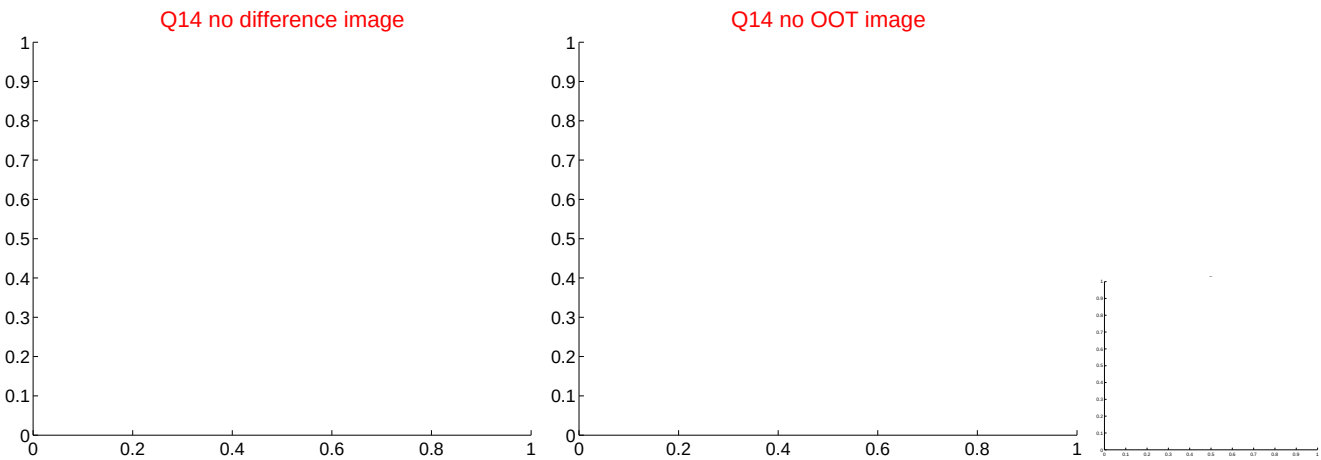


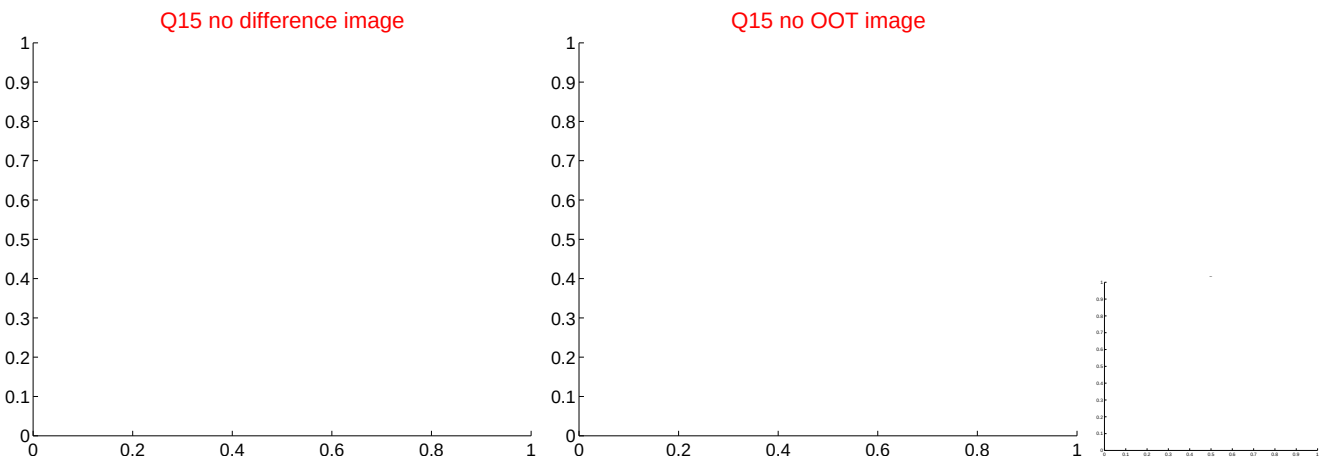


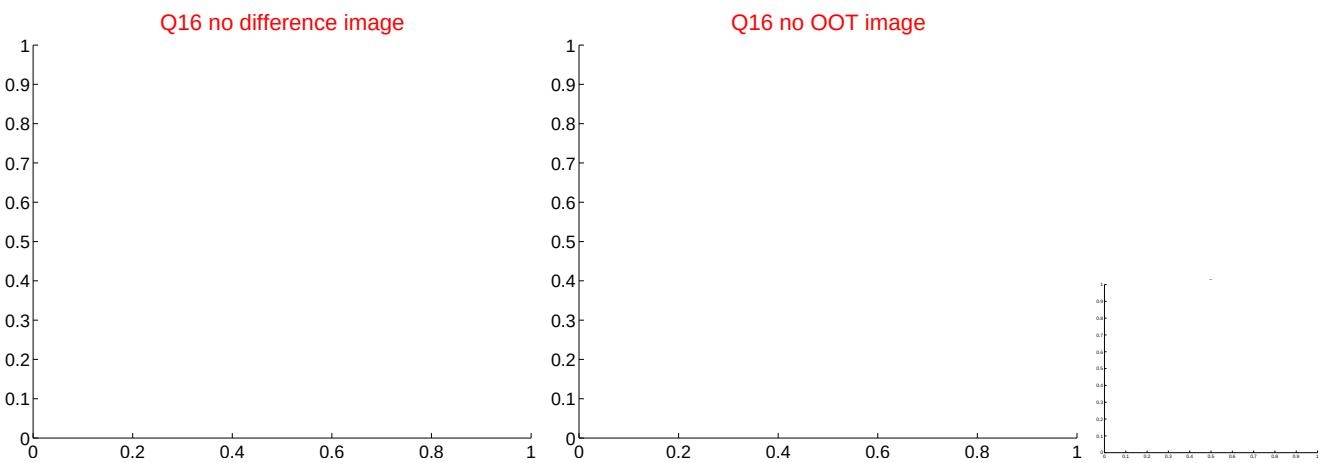


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

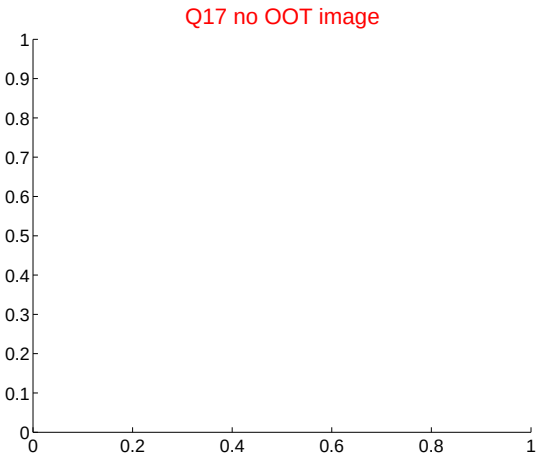


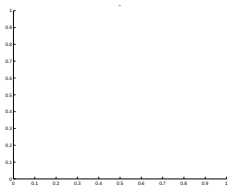


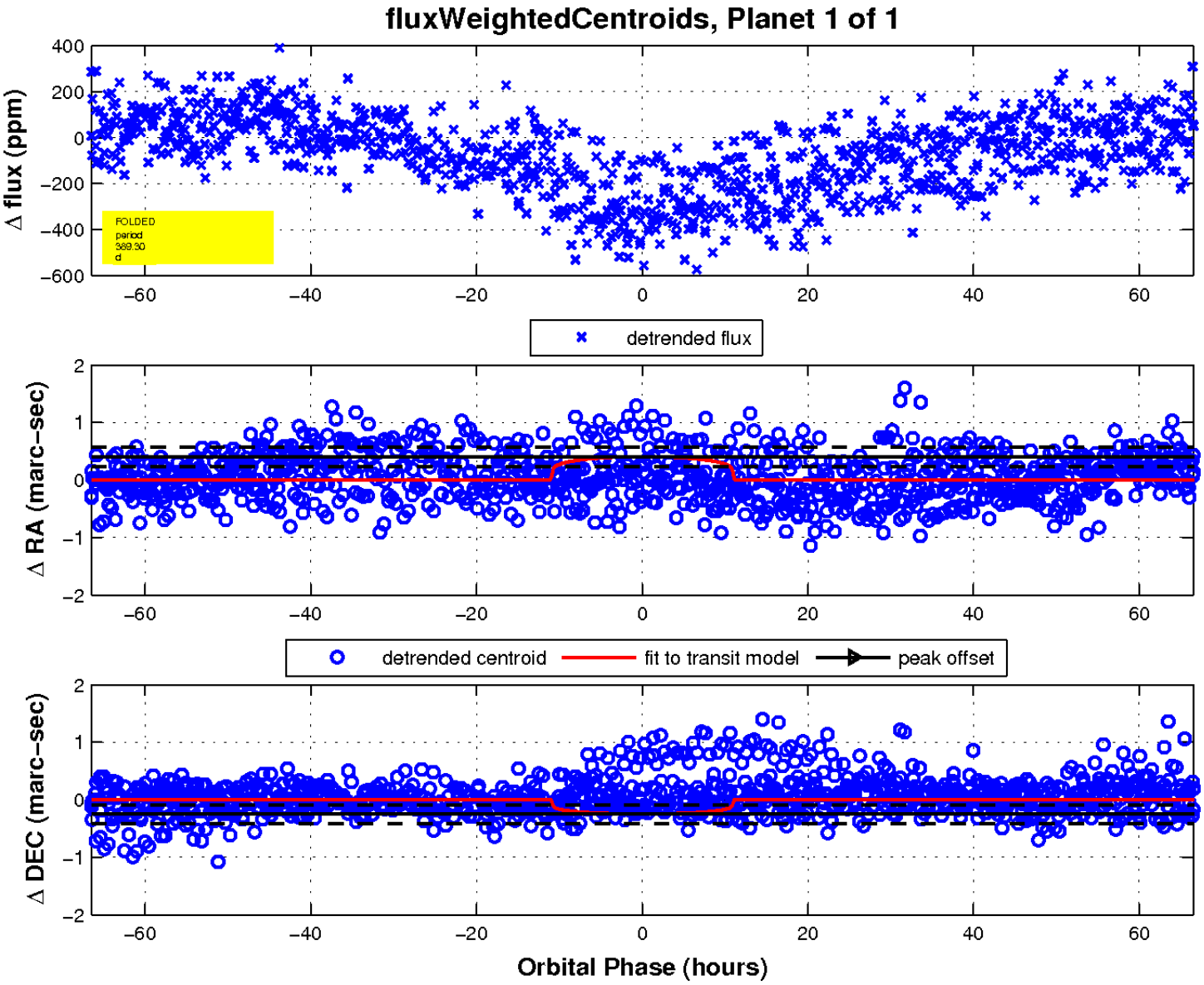




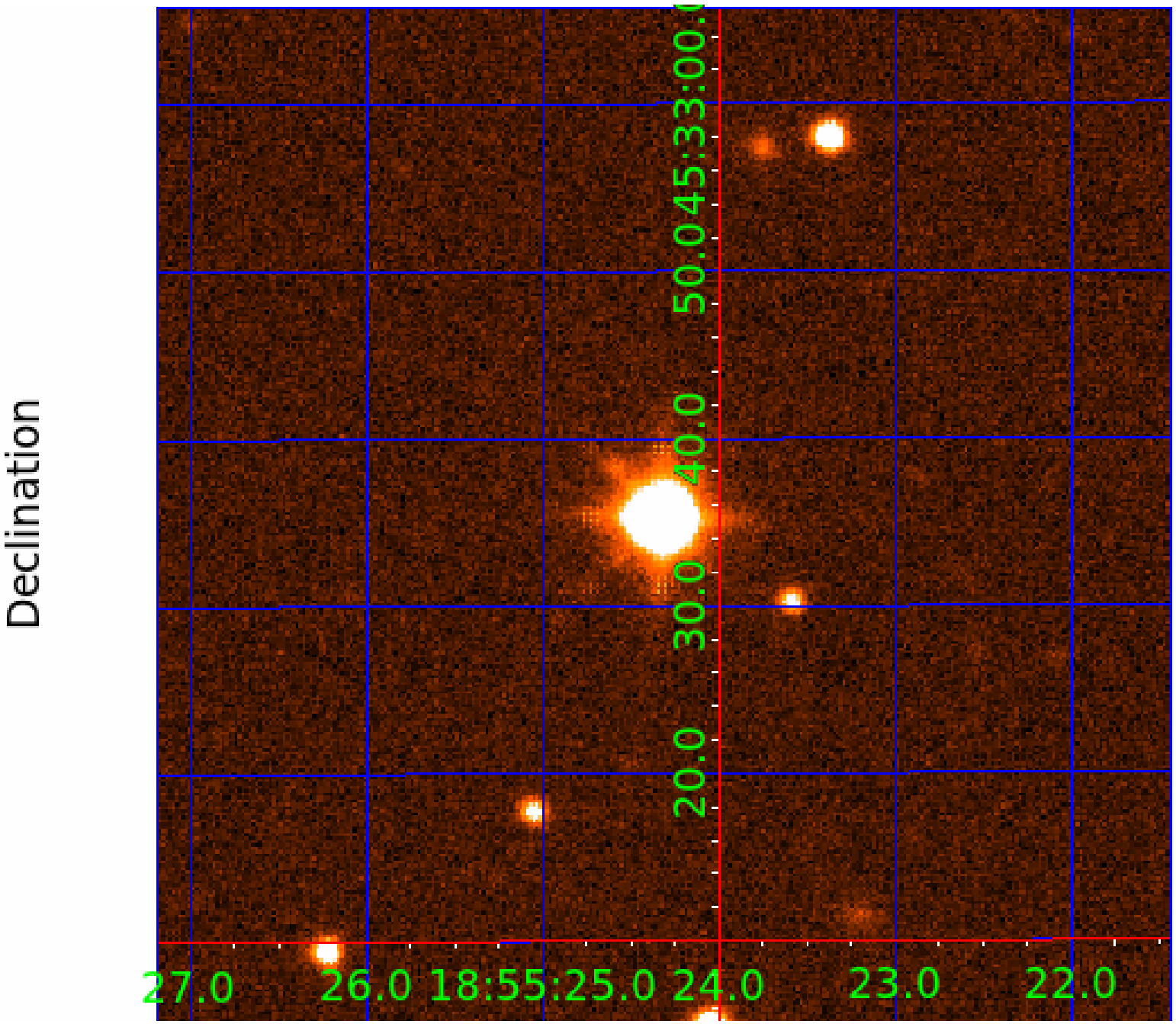
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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18:55:25.0
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22.0