KIC 009098450

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 ($S_\oplus$)
009098450-01	OBS	No	390.733219	370.465217	850.5	7.722	7.4	7.1	0.68	5350	2.44	0.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009098450-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

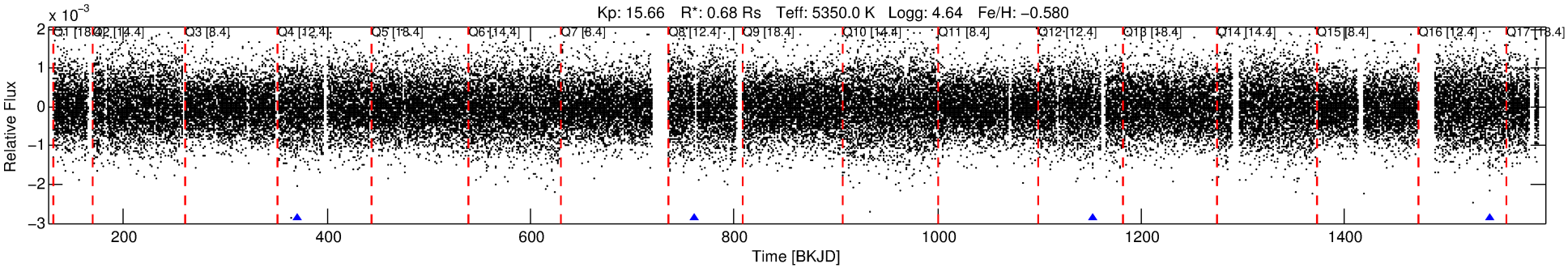
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

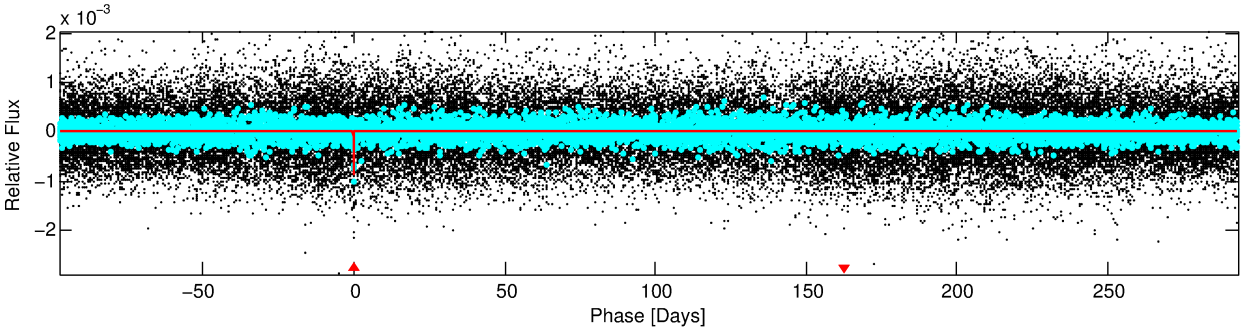
Ephemeris Match Information For 009098450-01

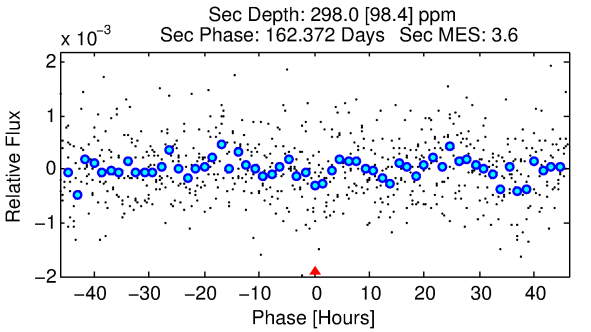
No Significant Match Found

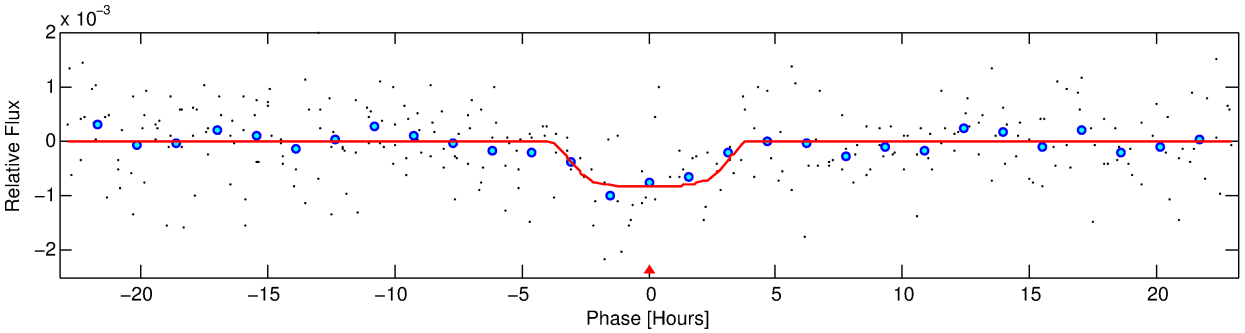
DV One-Page Summary

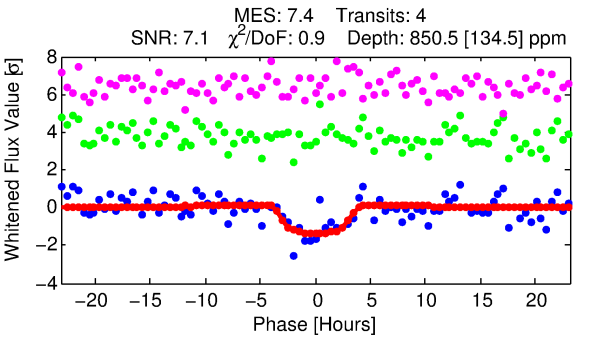
KIC: 9098450 Candidate: 1 of 1 Period: 390.733 d

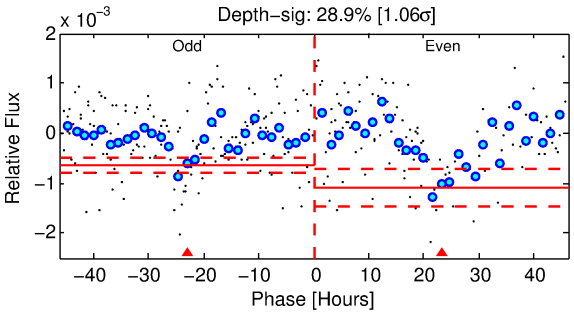


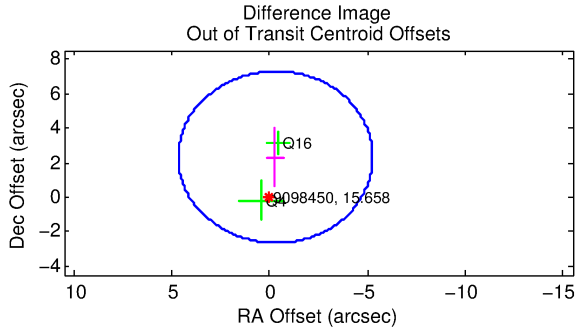












DV Fit Results:

Period = 390.73322 [0.01027] d
Epoch = 370.4652 [0.0214] BKJD
Rp/R* = 0.0329 [0.0054]
a/R* = 176.87 [102.04]
b = 0.93 [0.09]

Seff = 0.38 [0.08]
Teq = 200 [11] K
Rp = 2.44 [0.55] Re
a = 0.9447 [0.1171] AU

Ag = 24514.90 [12178.68] [2.01σ]
Teffp = 3874 [466] K [7.88σ]

DV Diagnostic Results:

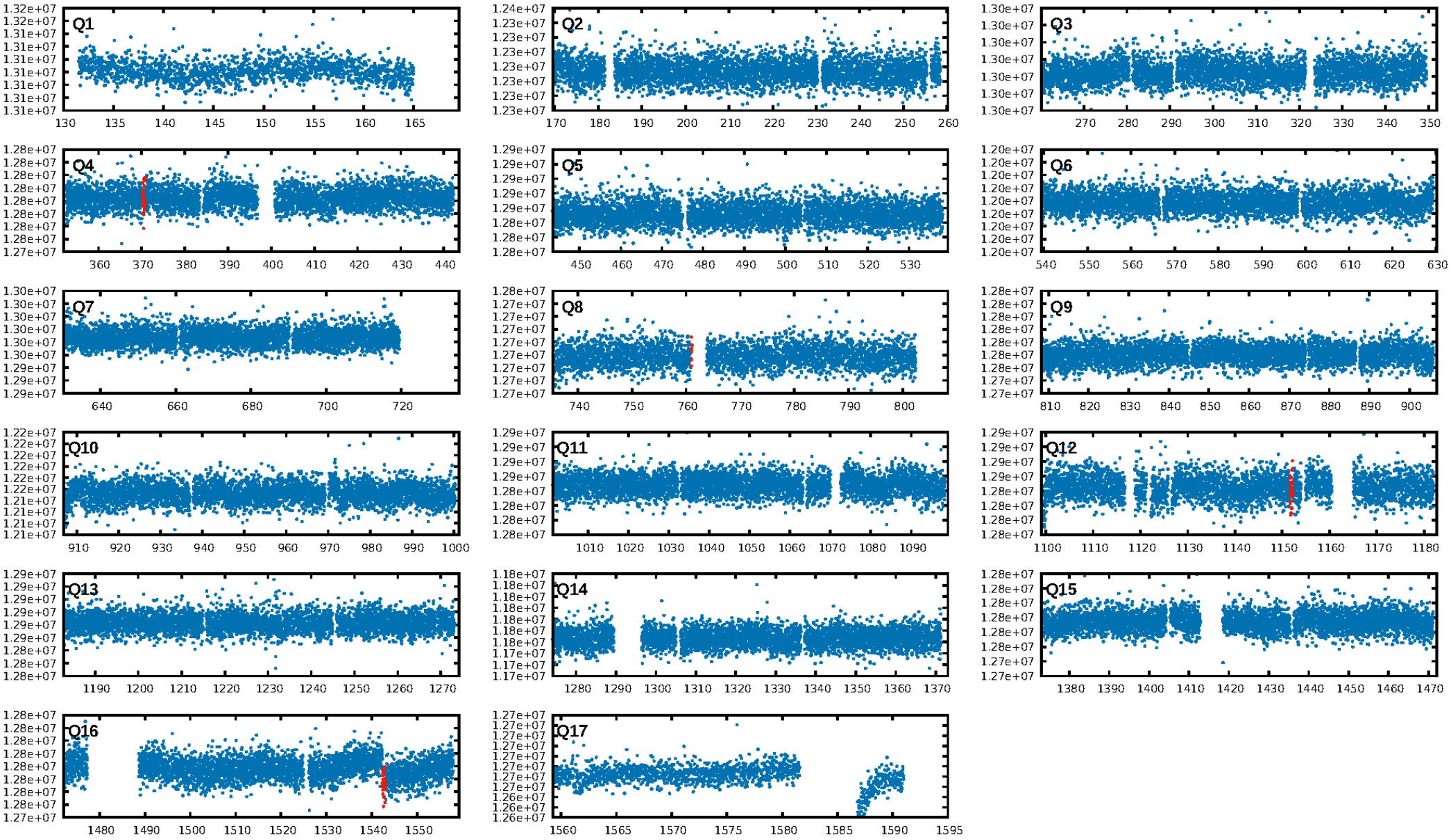
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 43.5%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 5.69e−14
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −16.39

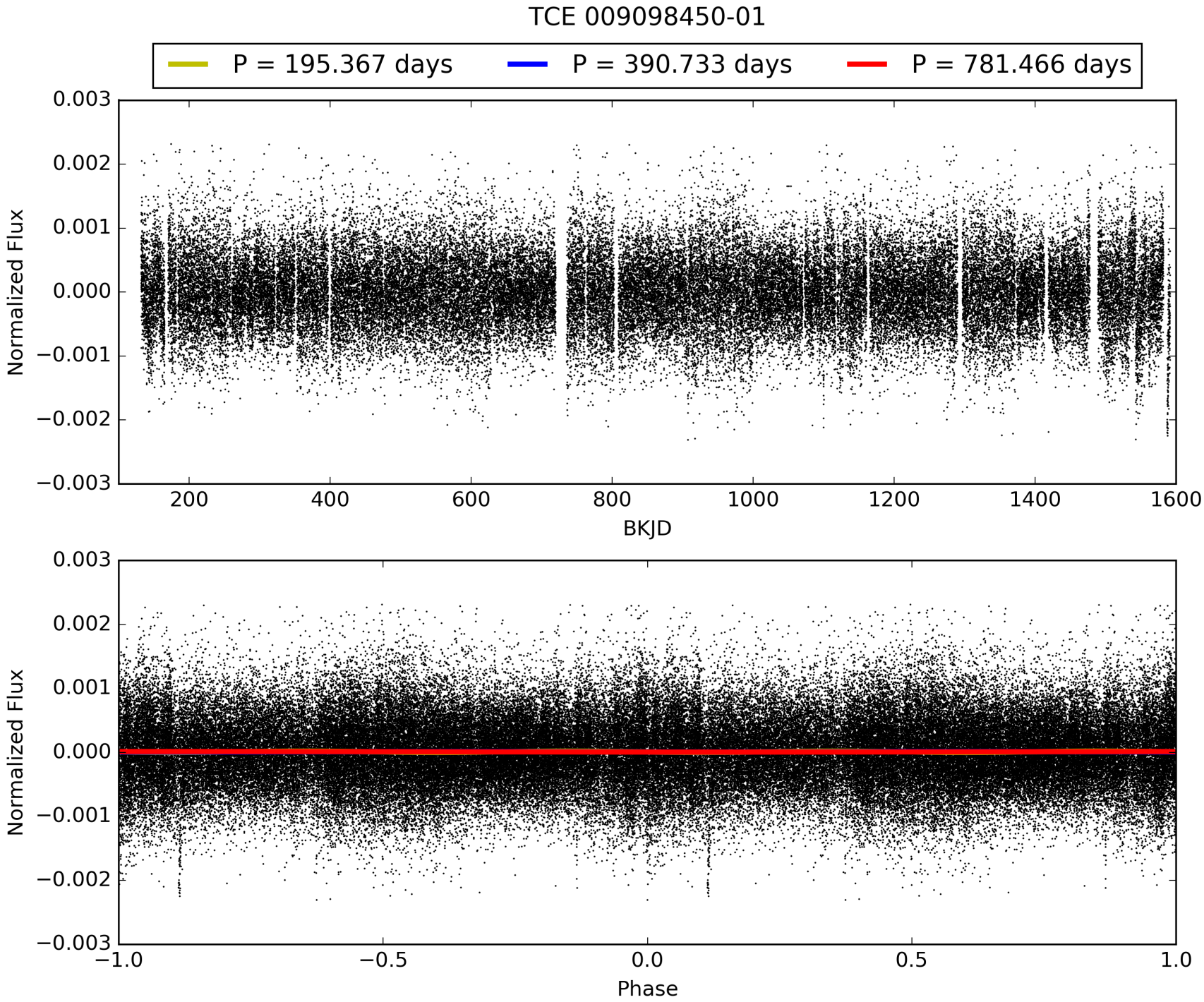
Centroid−sig: 33.3%
Centroid−so: 1.532 arcsec [1.07σ]
OotOffset−rm: 2.339 arcsec [1.41σ]
KicOffset−rm: 2.258 arcsec [1.39σ]
OotOffset−st: 0/0/2/0 [2]
KicOffset−st: 0/0/2/0 [2]
DiffImageQuality−fgm: 1.00 [2/2]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 31−Jan−2016 00:26:29 Z

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

TCE 009098450-01, PDC Light Curves

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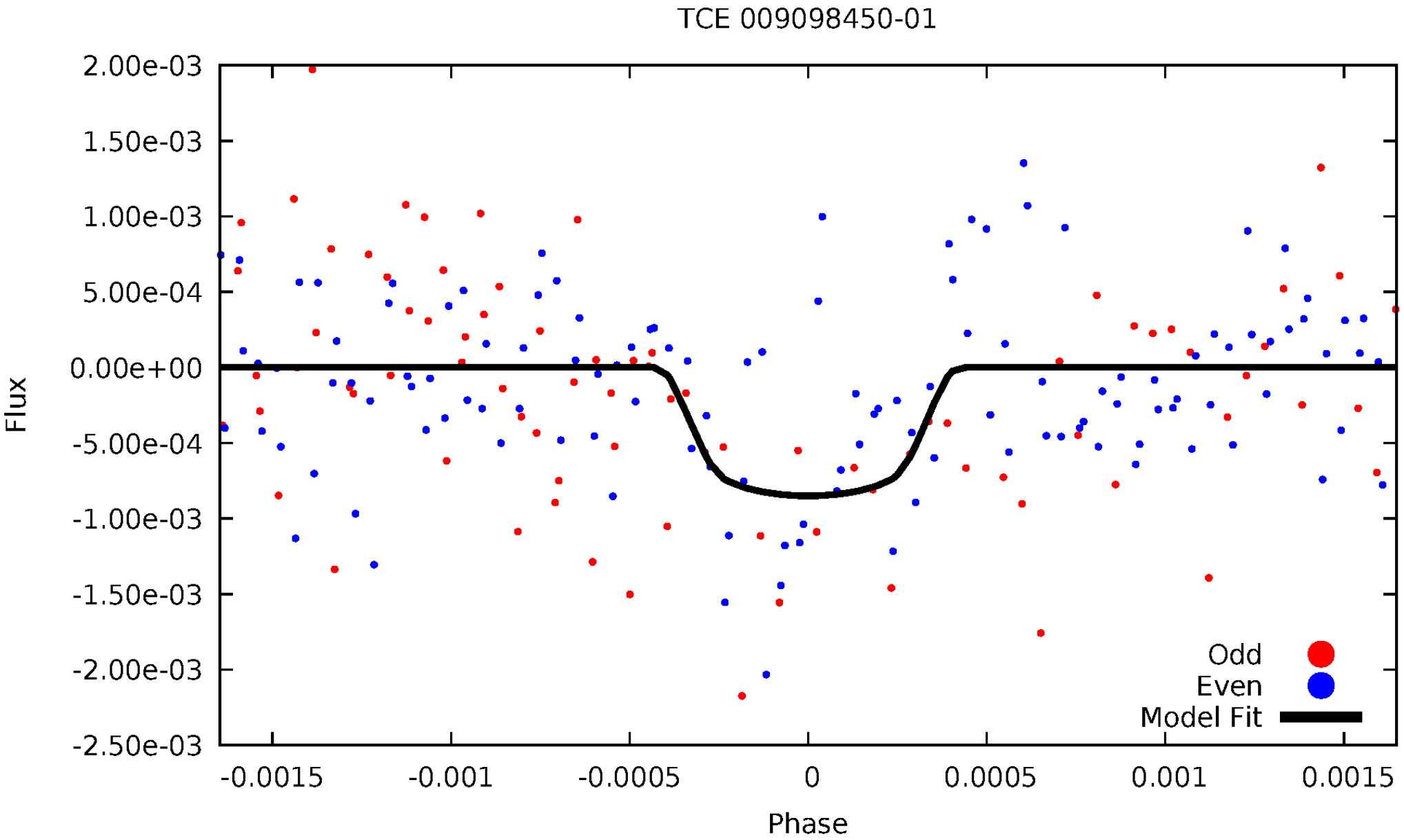
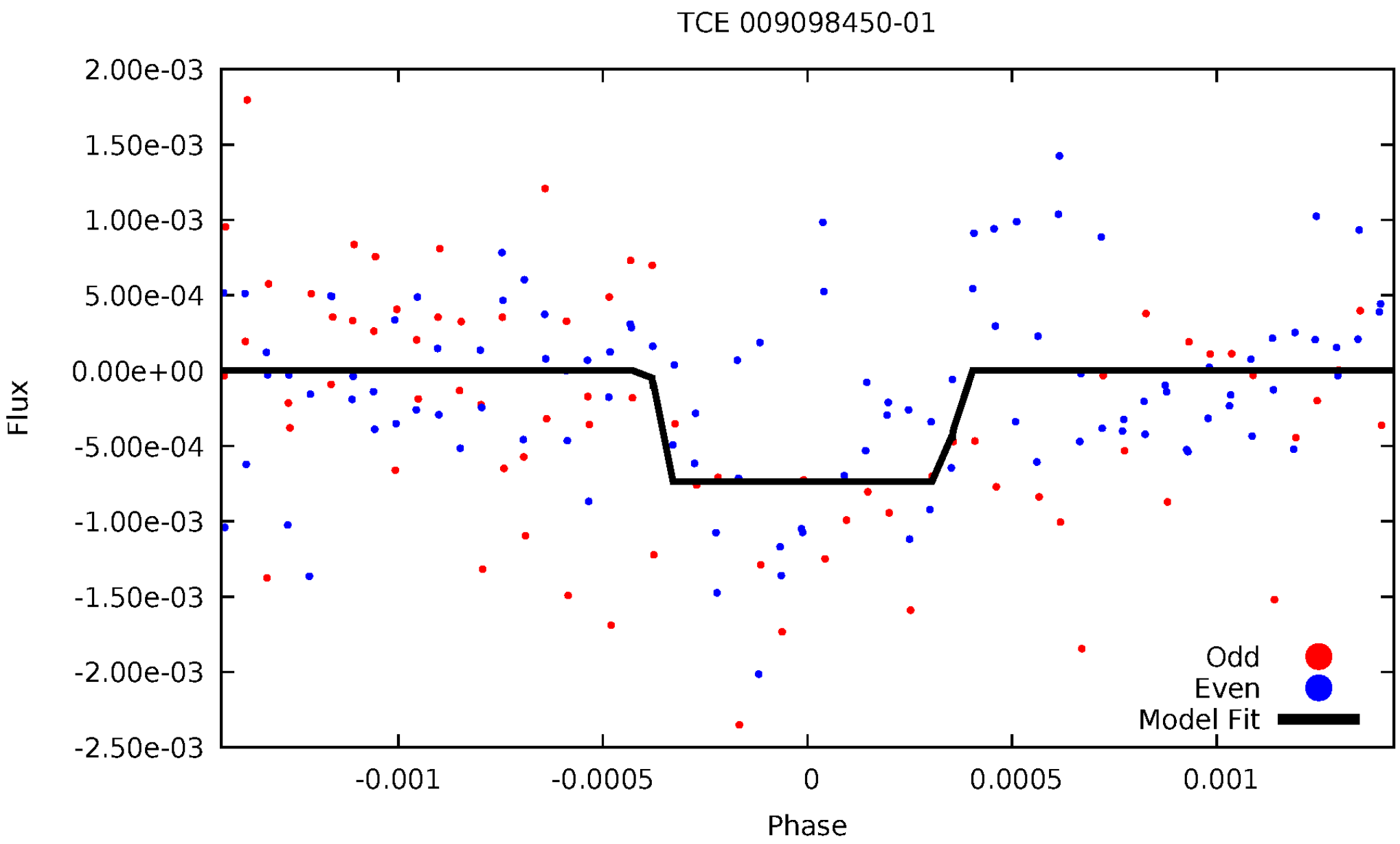
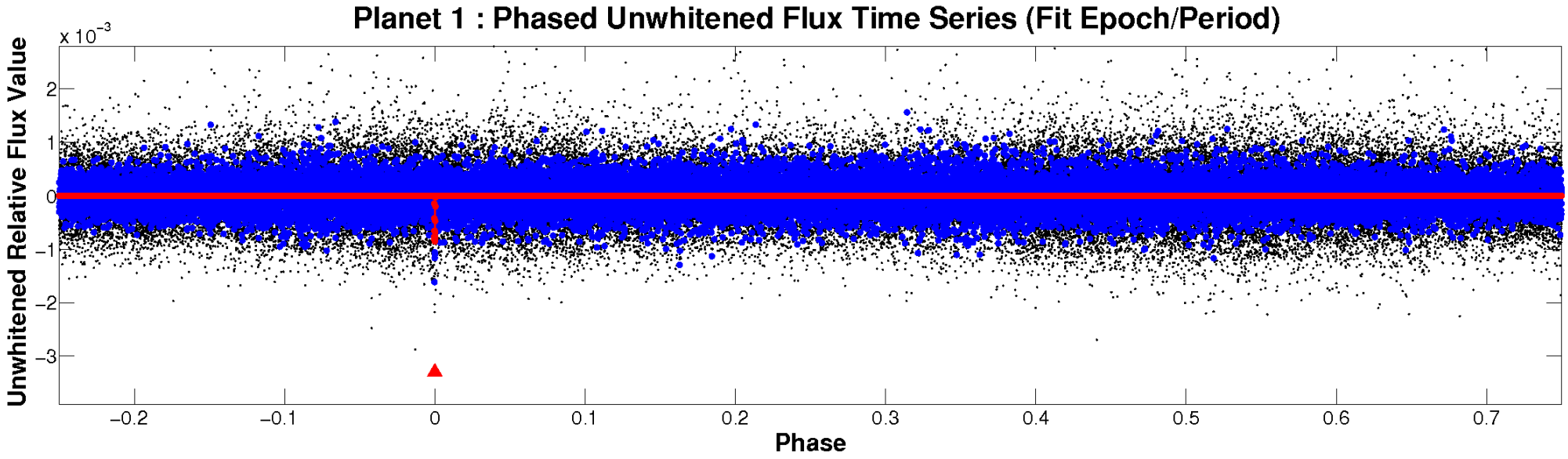
P = 195.367 days
P = 390.733 days
P = 781.466 days
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
−1.0
−0.5
0.0
0.5
1.0
Phase

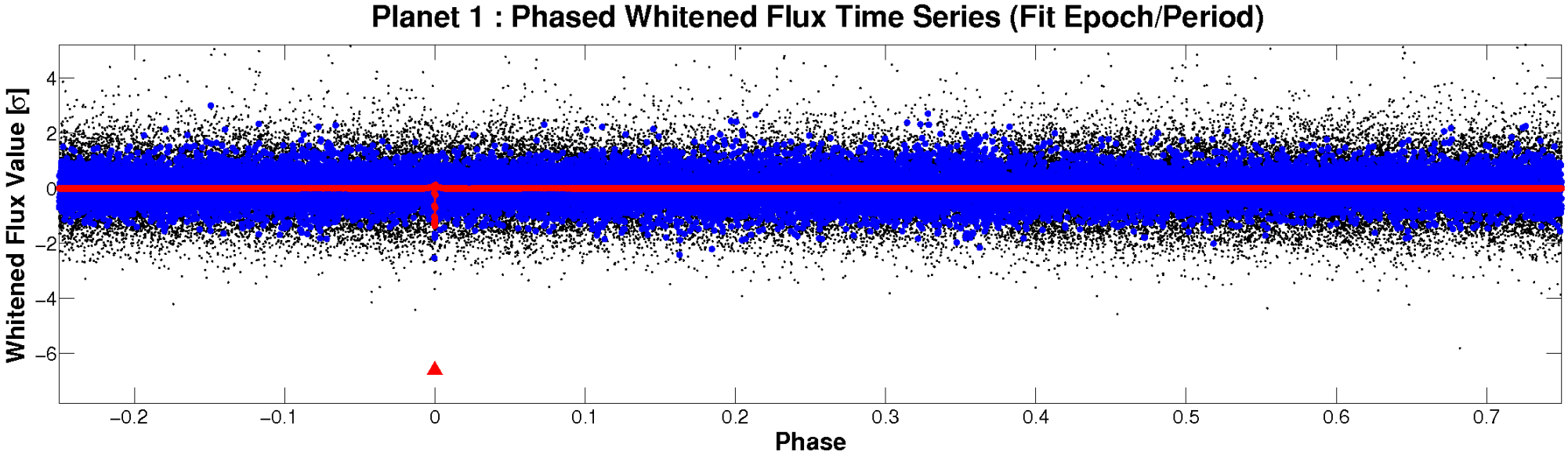
DV Odd/Even


TCE 009098450-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009098450-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

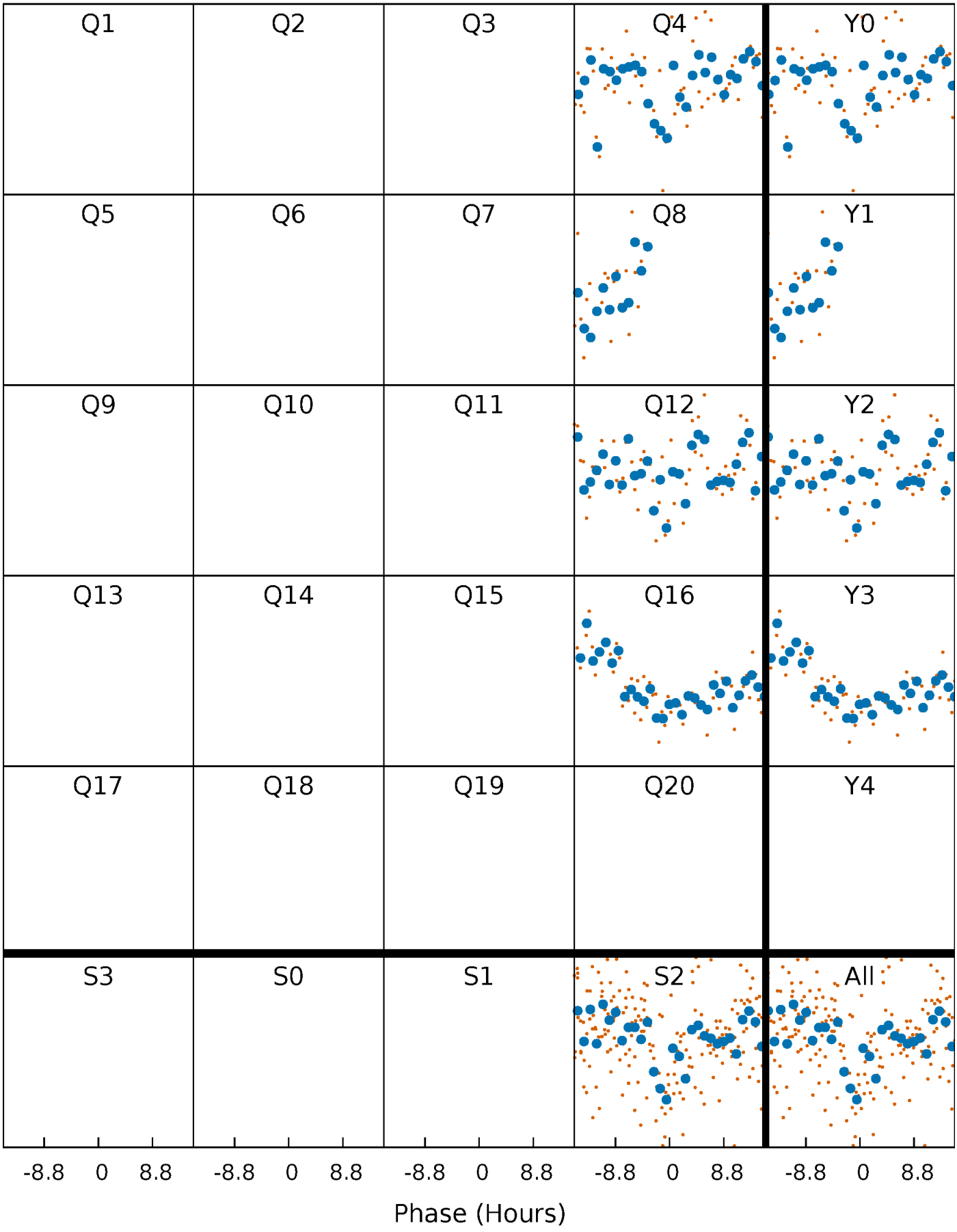
Non-Whitened Vs. Whitened Light Curve





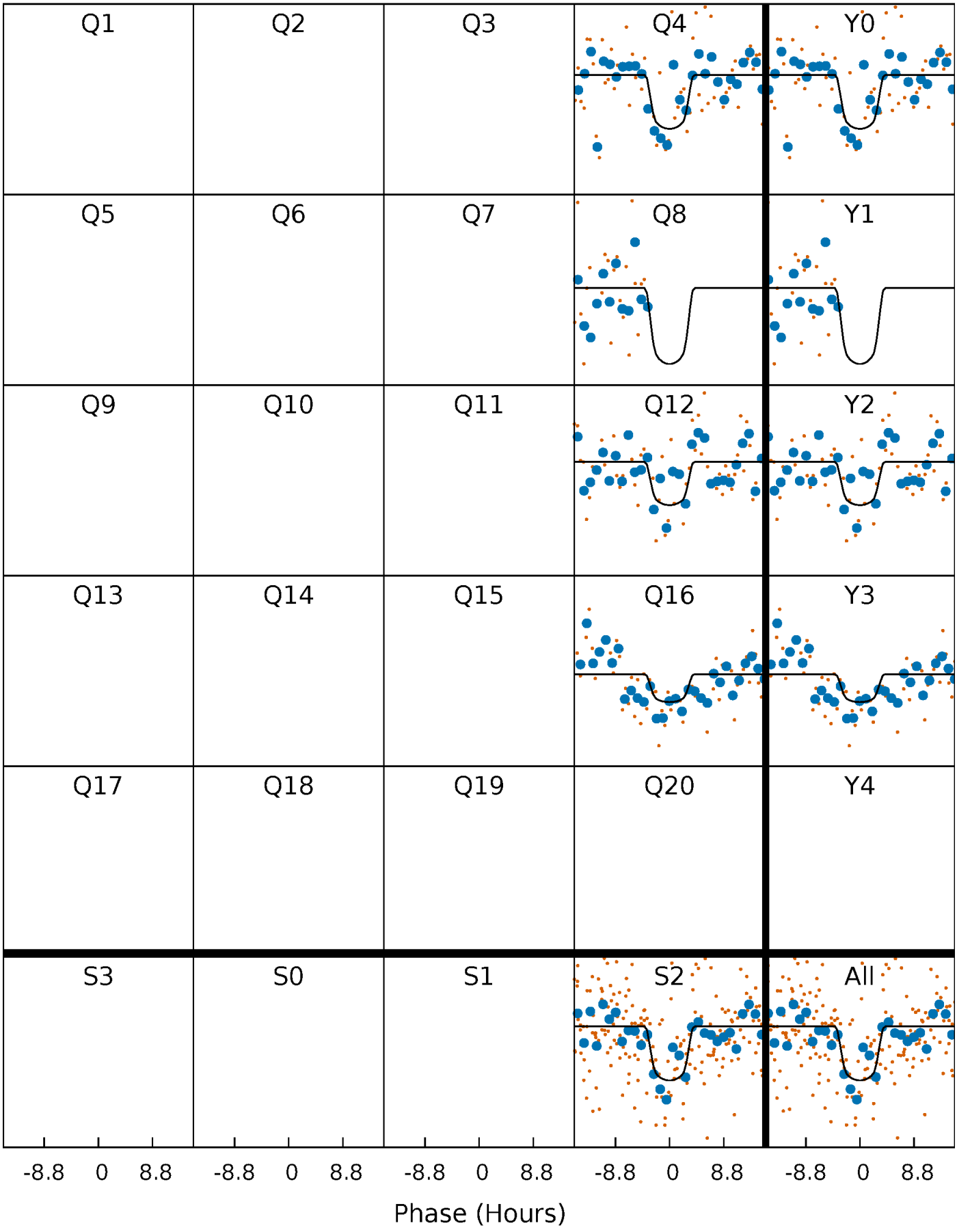
PDC Quarter-Phased Transit Curves

TCE 009098450-01 P=390.733219 Days T_0=370.465217 (BKJD)



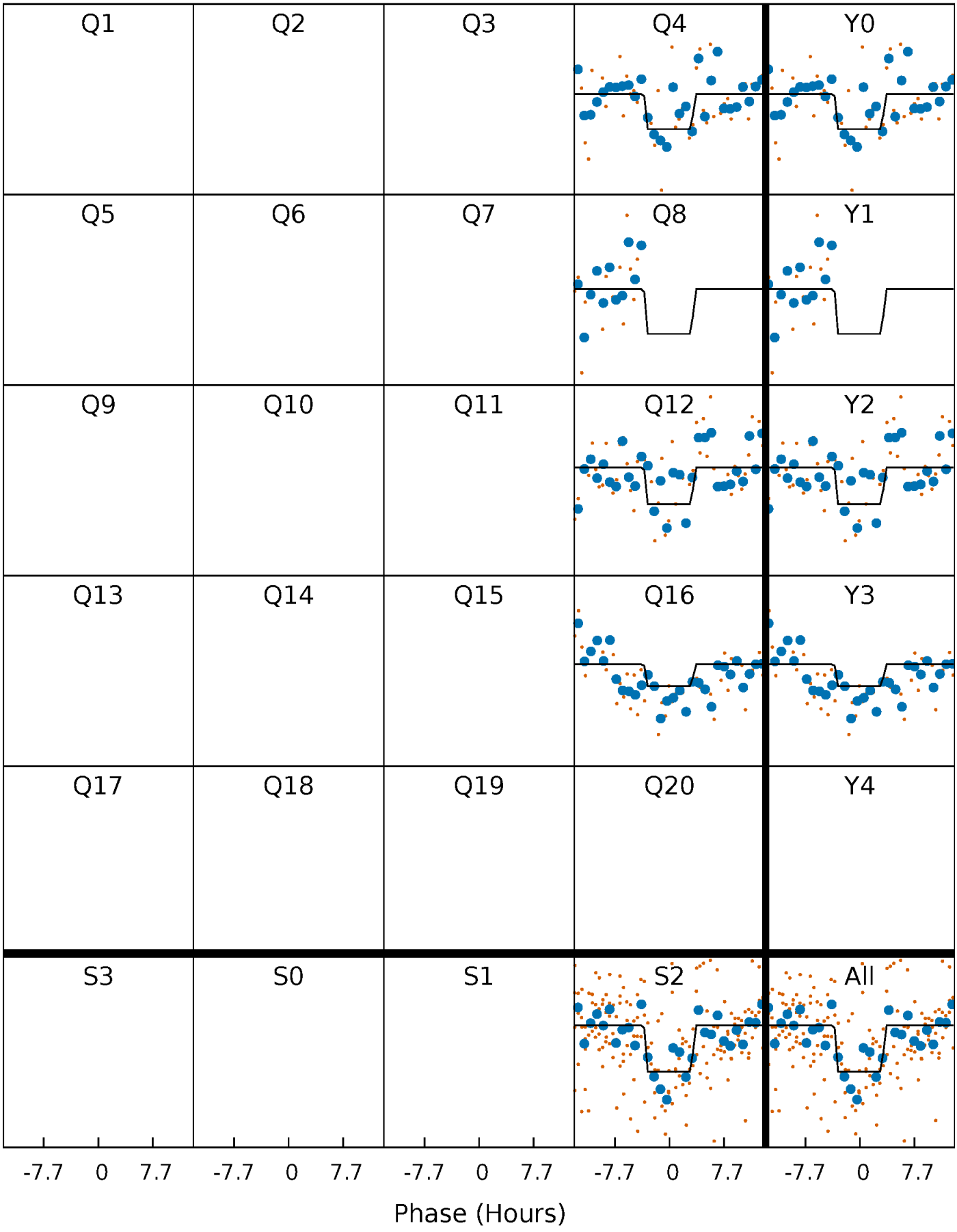
DV Quarter-Phased Transit Curves

TCE 009098450-01 P=390.733219 Days T_0=370.465217 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

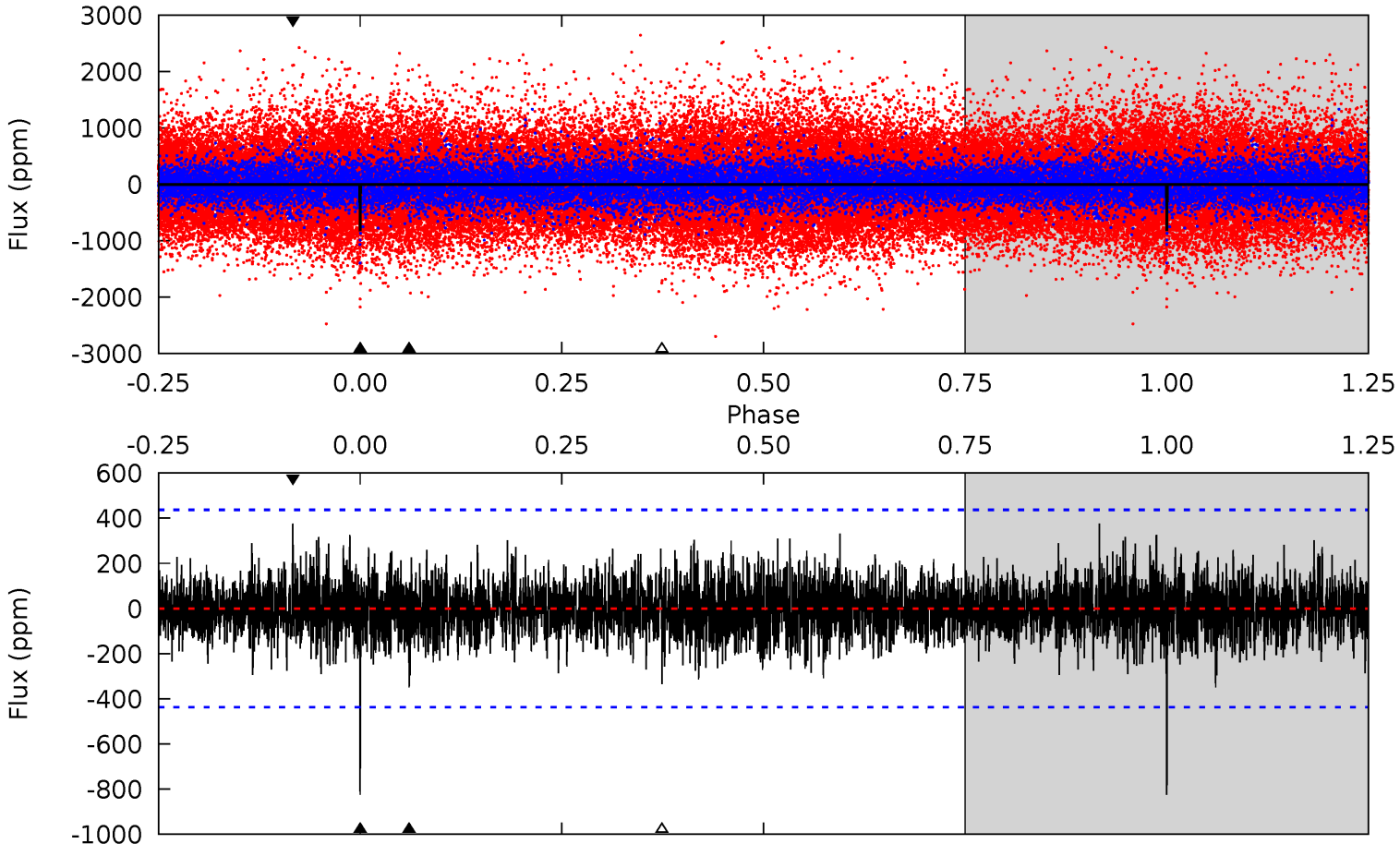
TCE 009098450-01 P=390.730534 Days T_0=370.465924 (BKJD)

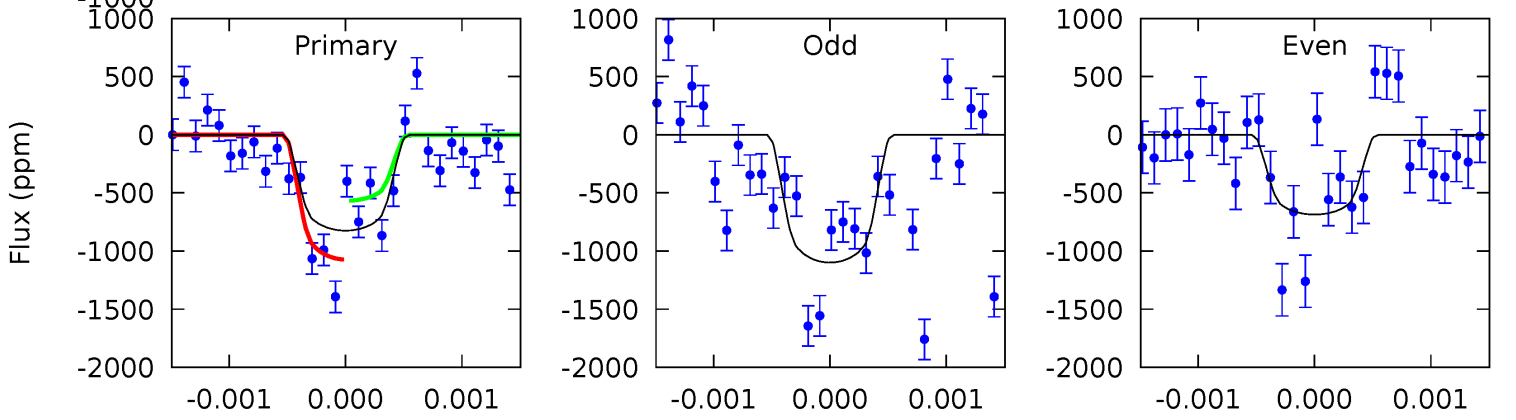


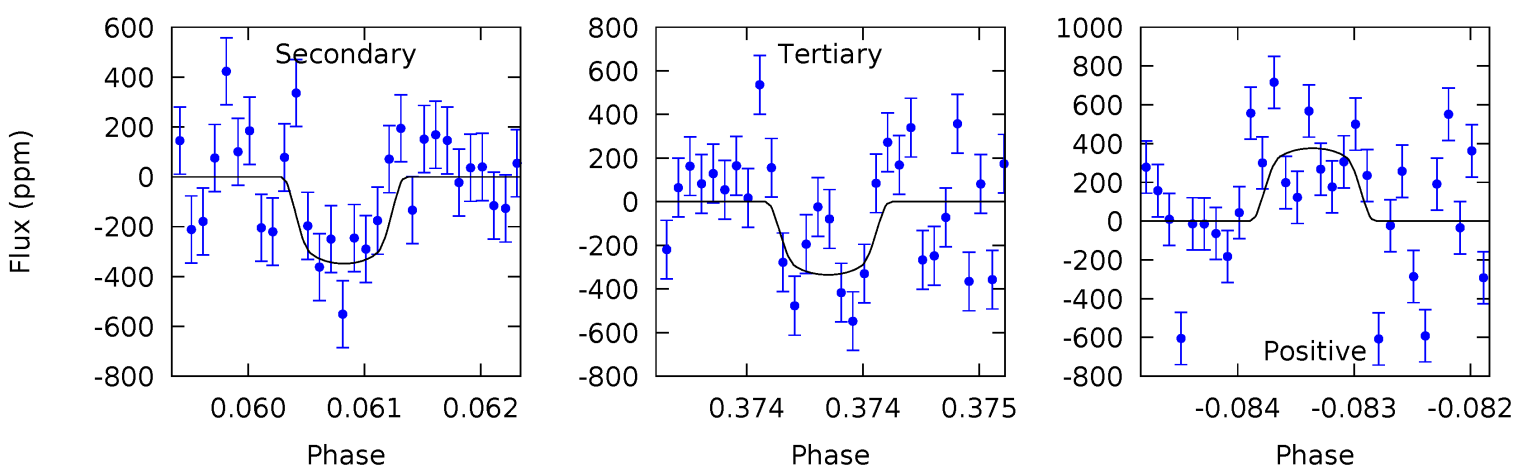
DV Model-Shift Uniqueness Test

009098450-01, P = 390.733219 Days, E = 370.465217 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	4.38	4.21	4.72	5.49	3.35	1.18	6.15	5.64	0.17	-0.35	2.47	1.18	0.31	3.18



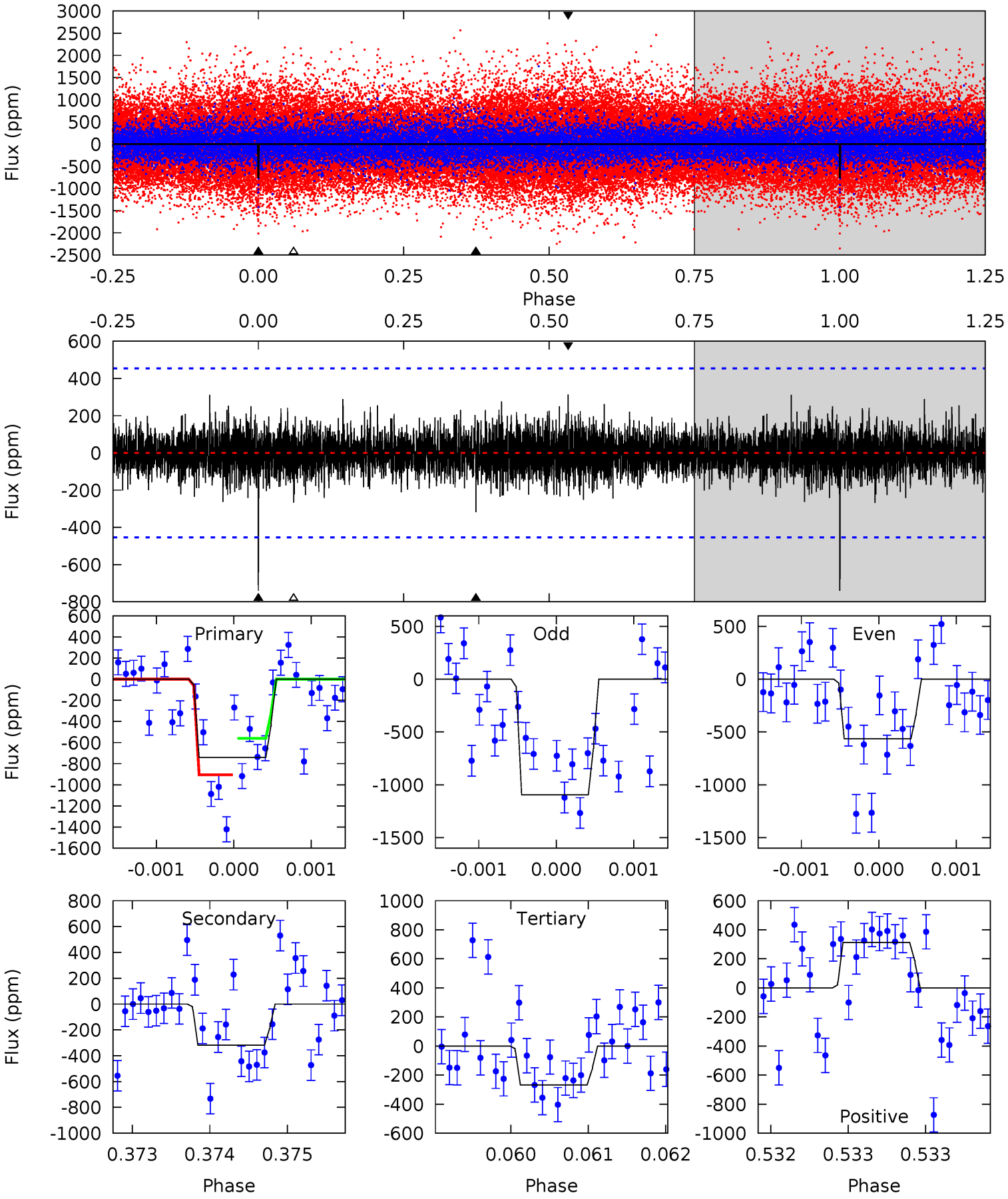




Alt Model-Shift Uniqueness Test

009098450-01, P = 390.730534 Days, E = 370.465924 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.99	3.86	3.25	3.81	5.51	3.38	0.90	5.74	5.19	0.60	0.05	3.03	1.17	0.30	2.10



Stellar Parameters For KIC 009098450

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5350^{+160}_{-160}	$4.640^{+0.036}_{-0.090}$	$-0.580^{+0.300}_{-0.300}$	$0.680^{+0.105}_{-0.045}$	$0.737^{+0.077}_{-0.064}$	$3.298^{+0.511}_{-0.941}$
	+3%/-3%	+1%/-2%	+52%/-52%	+15%/-7%	+10%/-9%	+16%/-29%
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 009098450-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-348±80	$2.47^{+0.48}_{-0.44}$	283^{+12}_{-11}	4249^{+356}_{-344}	27481^{+14140}_{-10133}
Alt.	-318±82	$2.08^{+0.48}_{-0.43}$	283^{+12}_{-10}	4470^{+477}_{-397}	35889^{+23656}_{-14812}

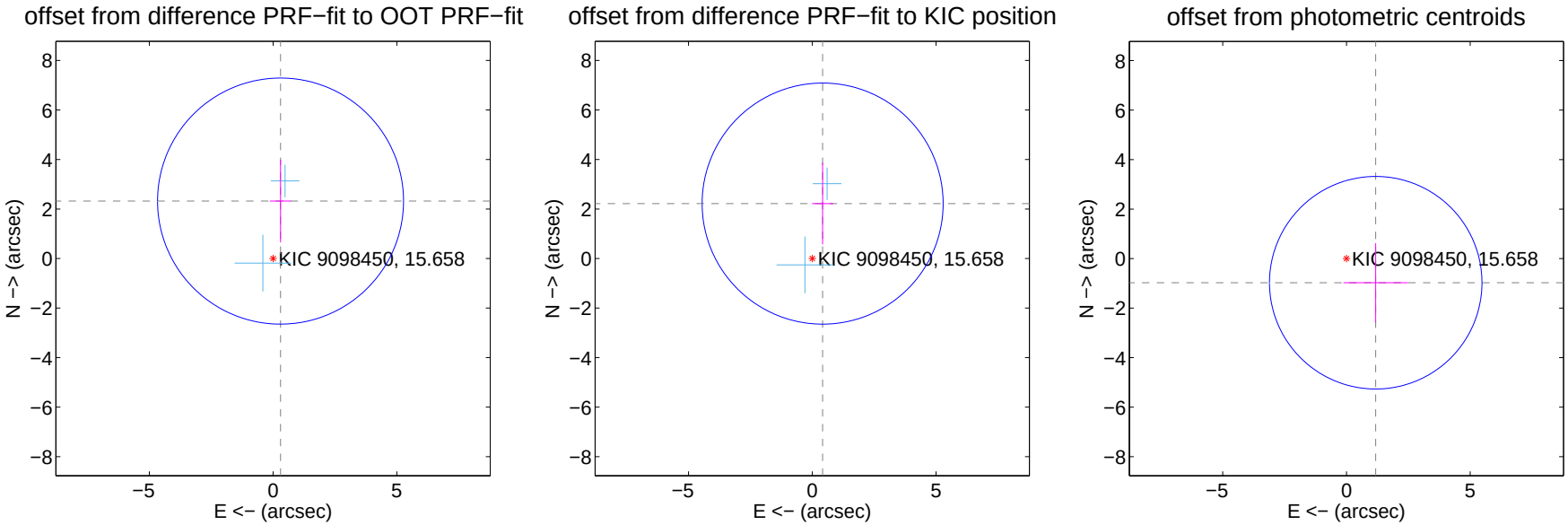
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

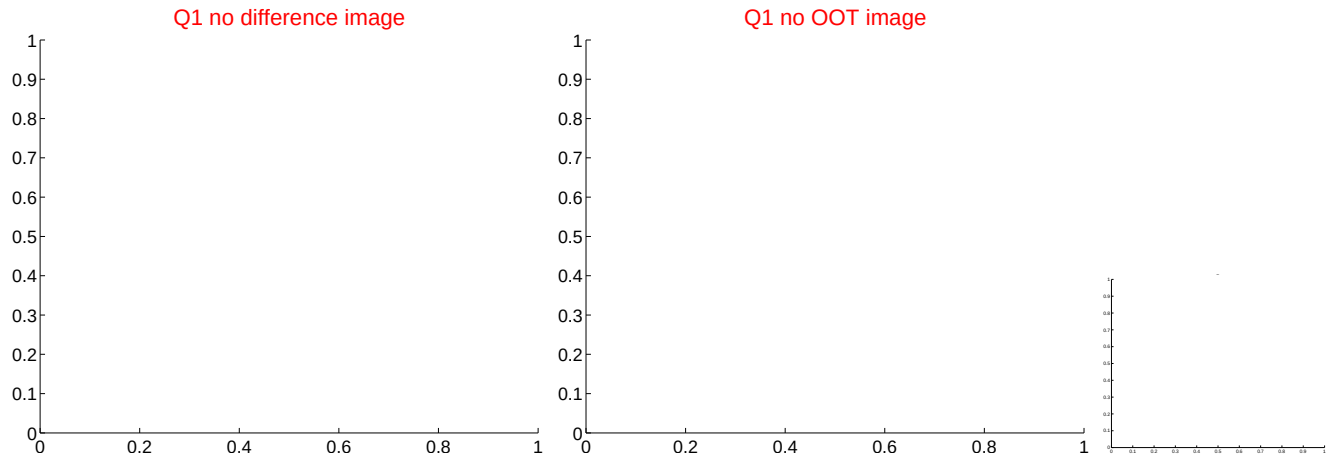
Supplemental centroid analysis for 009098450-01. Kepler magnitude: 15.66. Transit SNR 7.11
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

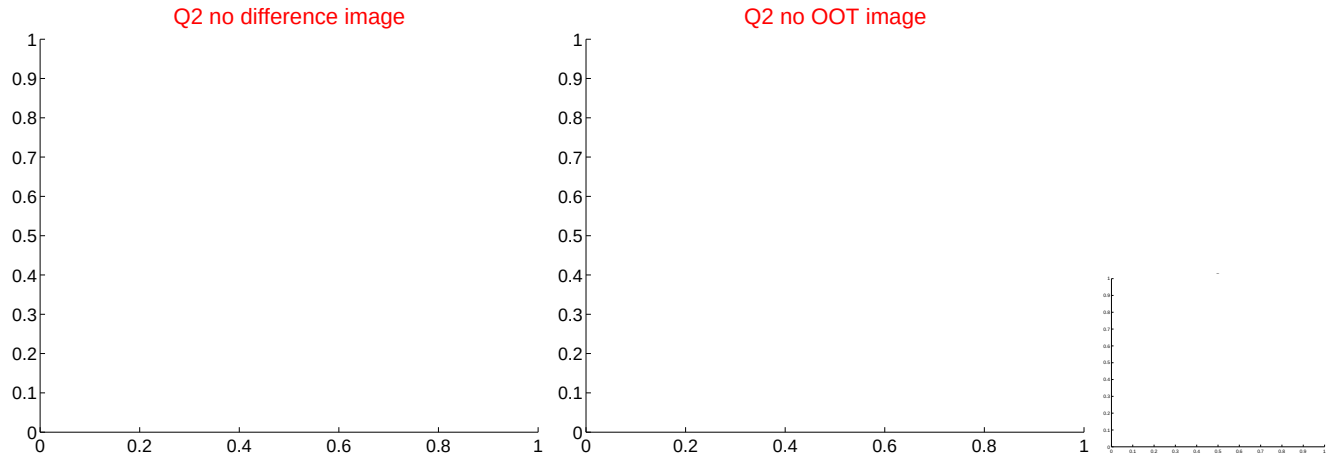
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.339 $\pm$ 1.656	1.41	-0.301 $\pm$ 0.426	2.320 $\pm$ 1.669
PRF-fit source offset from KIC position	2.258 $\pm$ 1.622	1.39	-0.418 $\pm$ 0.428	2.219 $\pm$ 1.649
photometric centroid source offset	1.53 $\pm$ 1.43	1.07	-1.18 $\pm$ 1.31	-0.97 $\pm$ 1.60

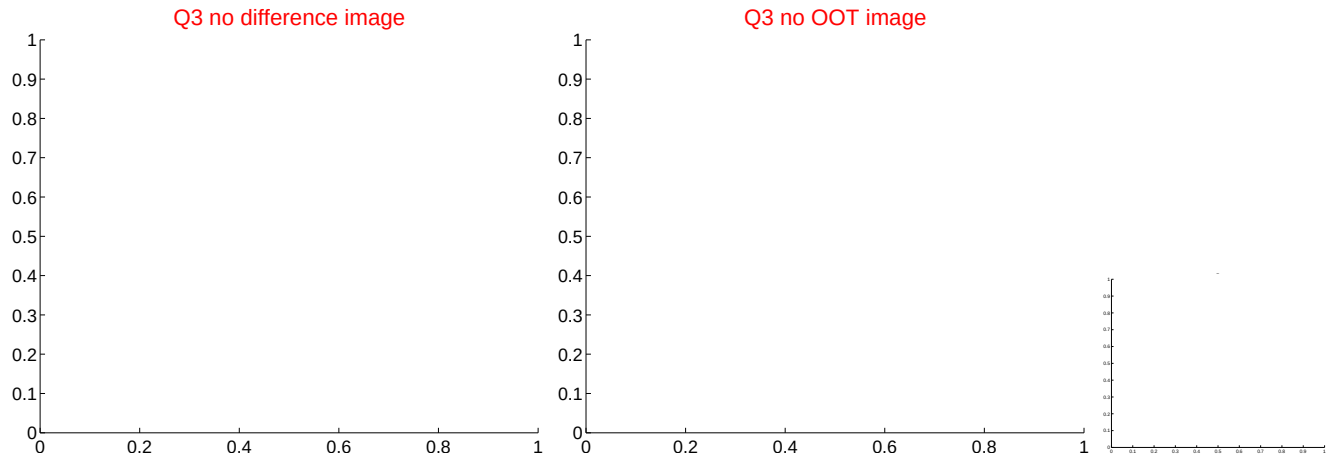


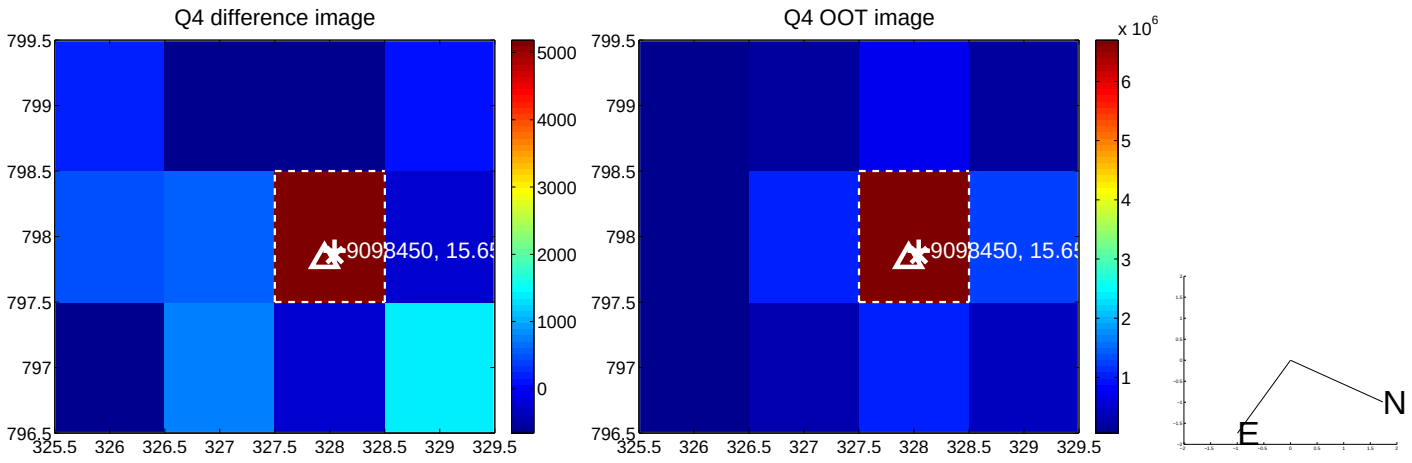
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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









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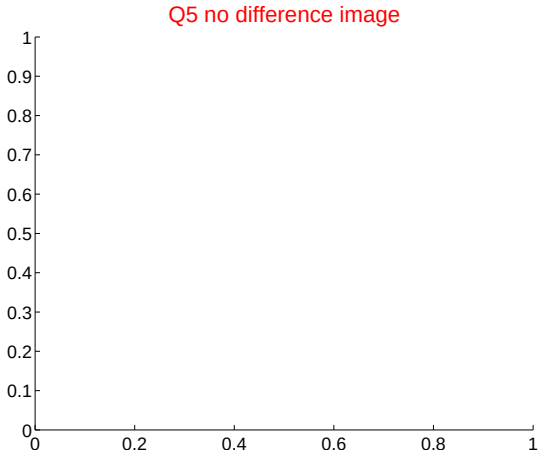
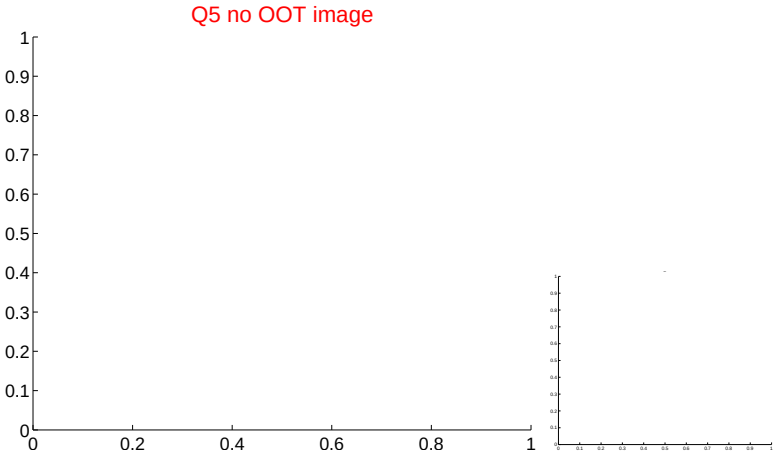
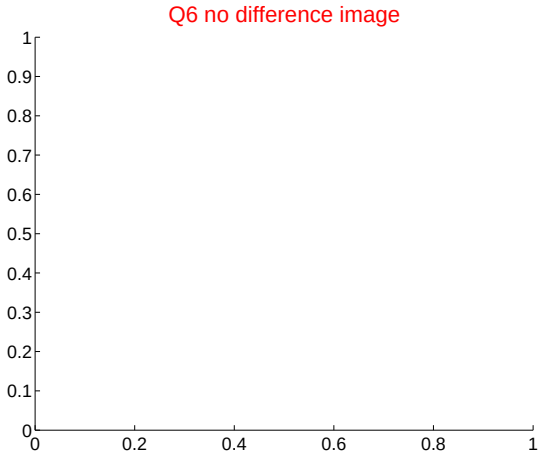
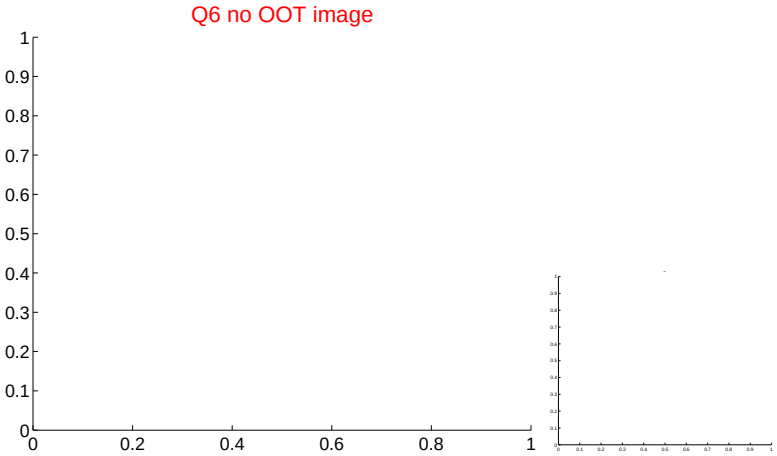
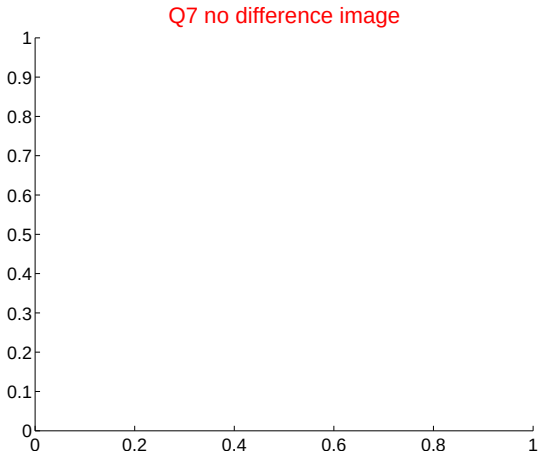
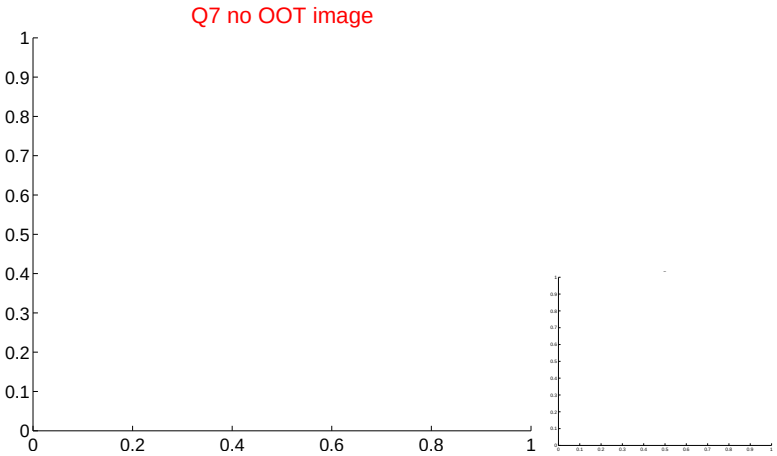


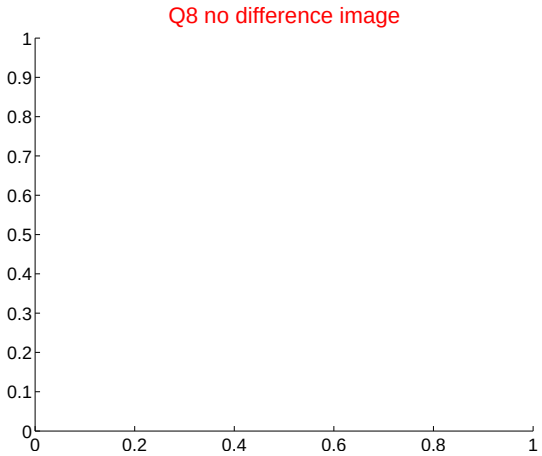


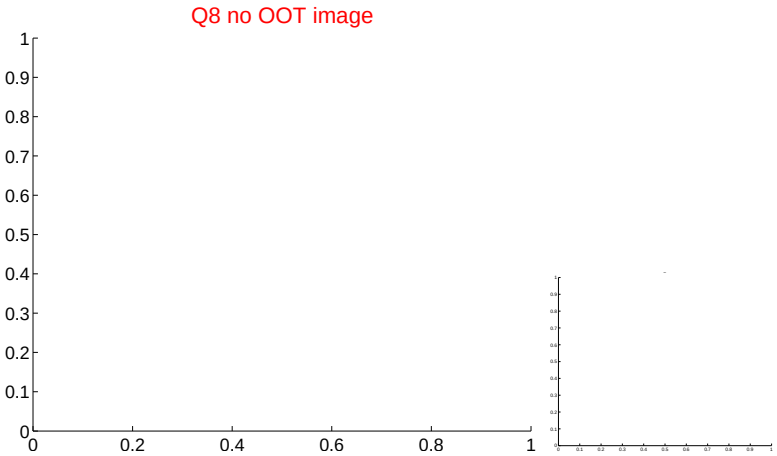




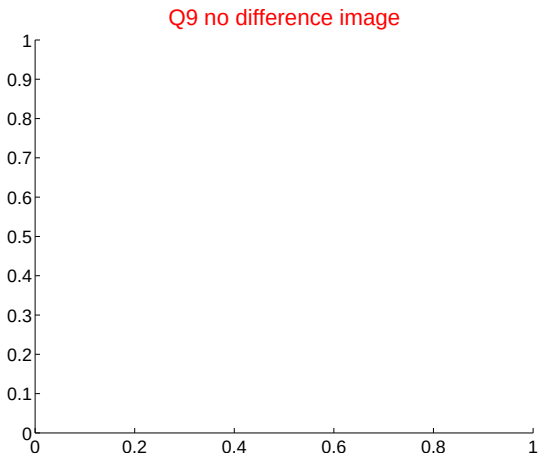


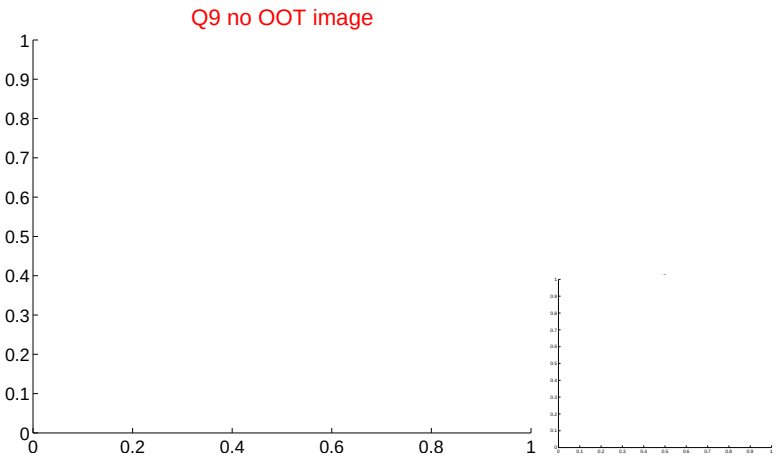


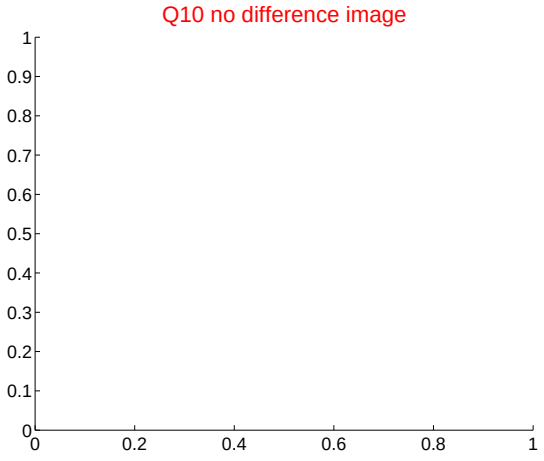


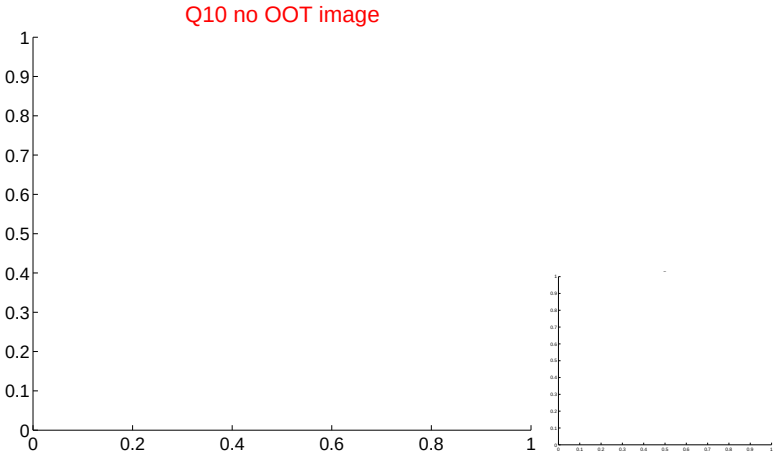


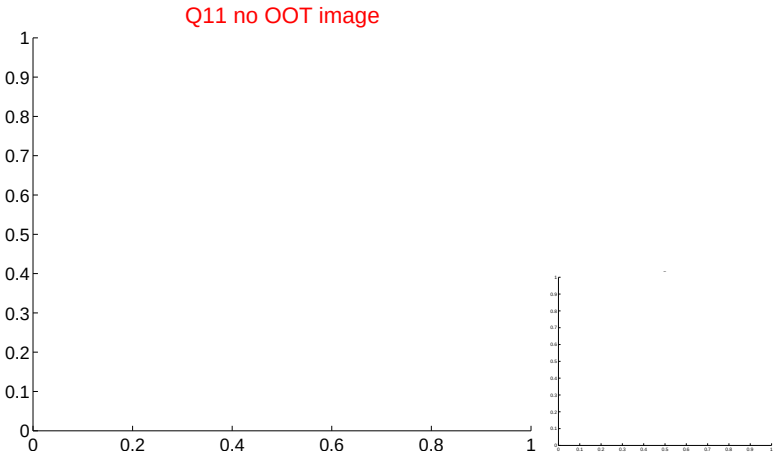
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

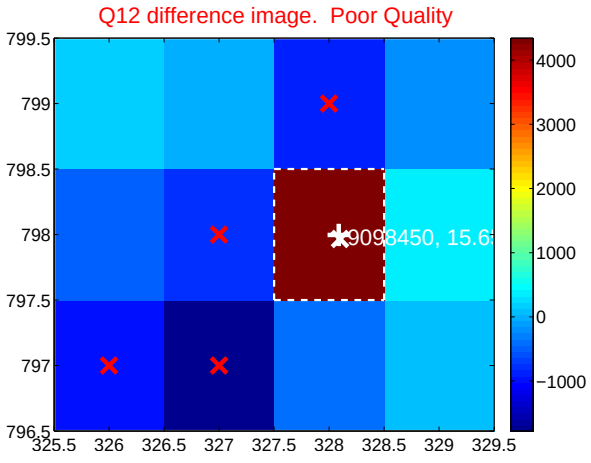


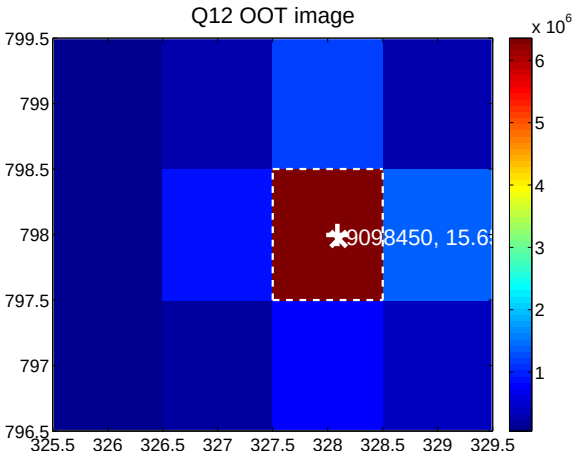




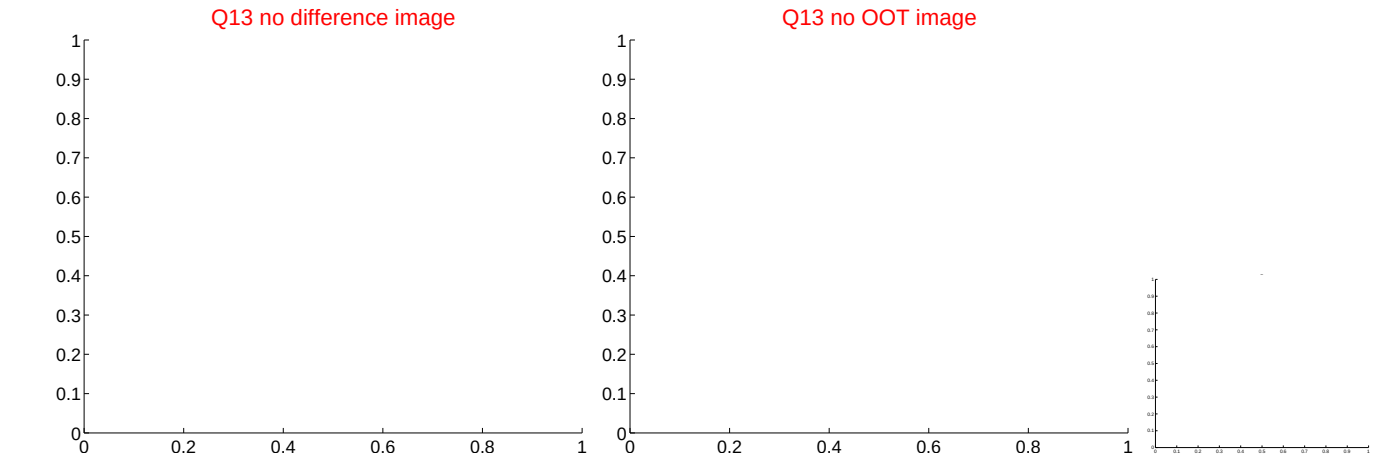


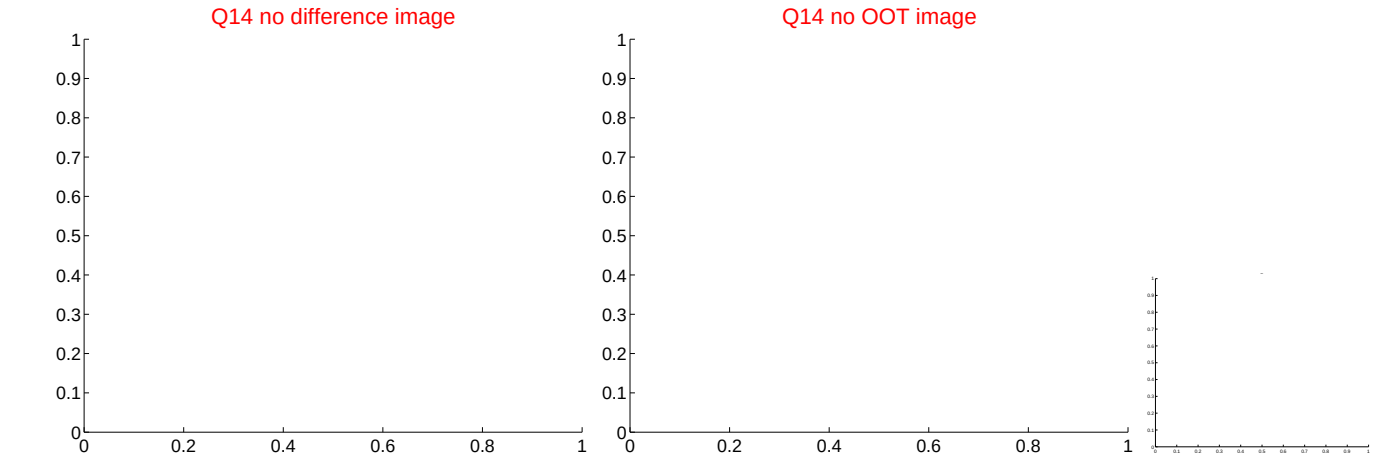


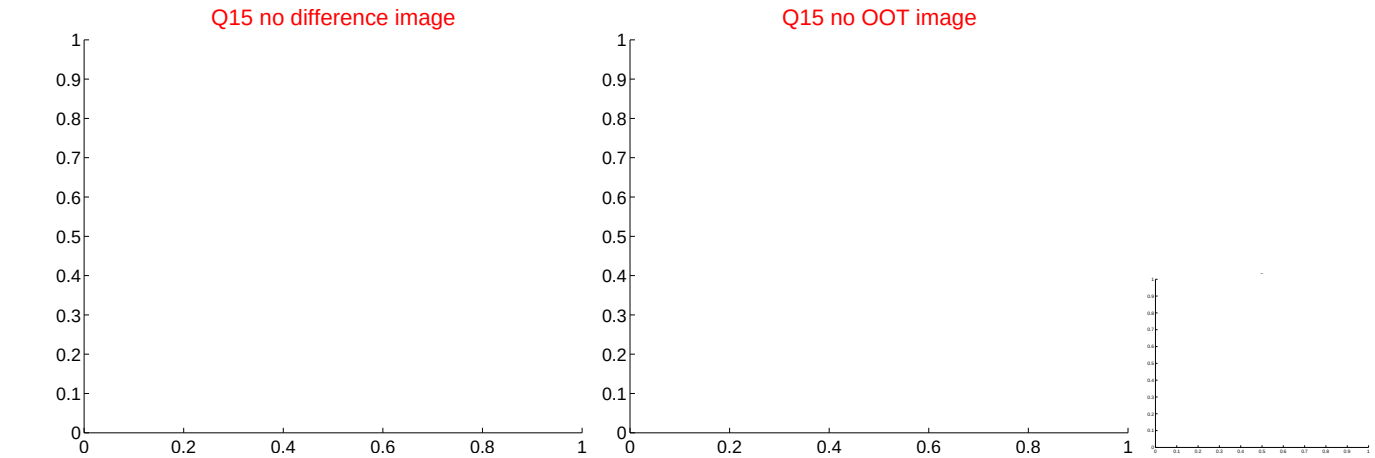


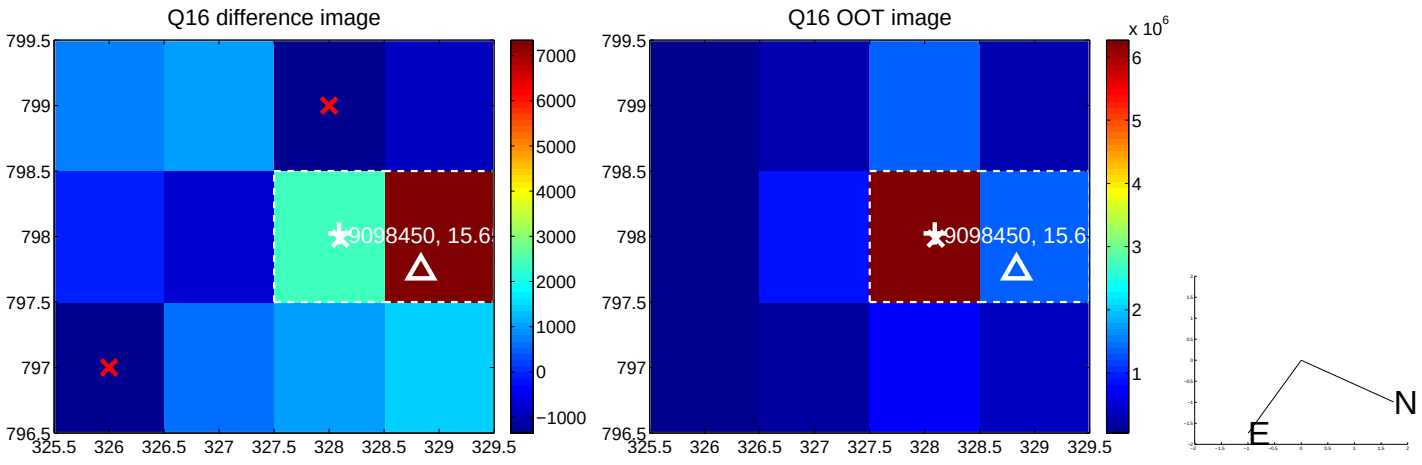


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

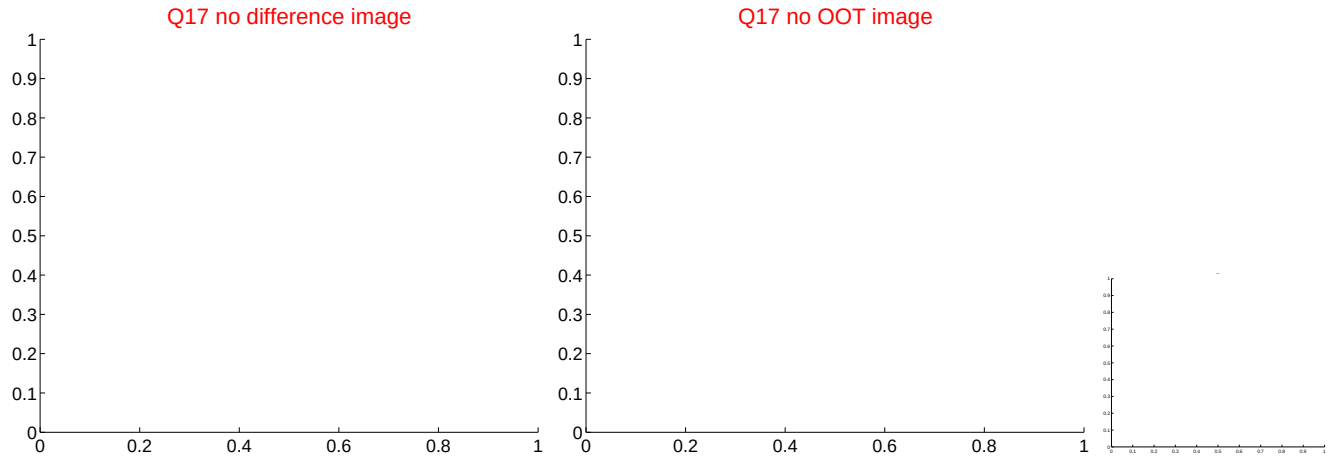


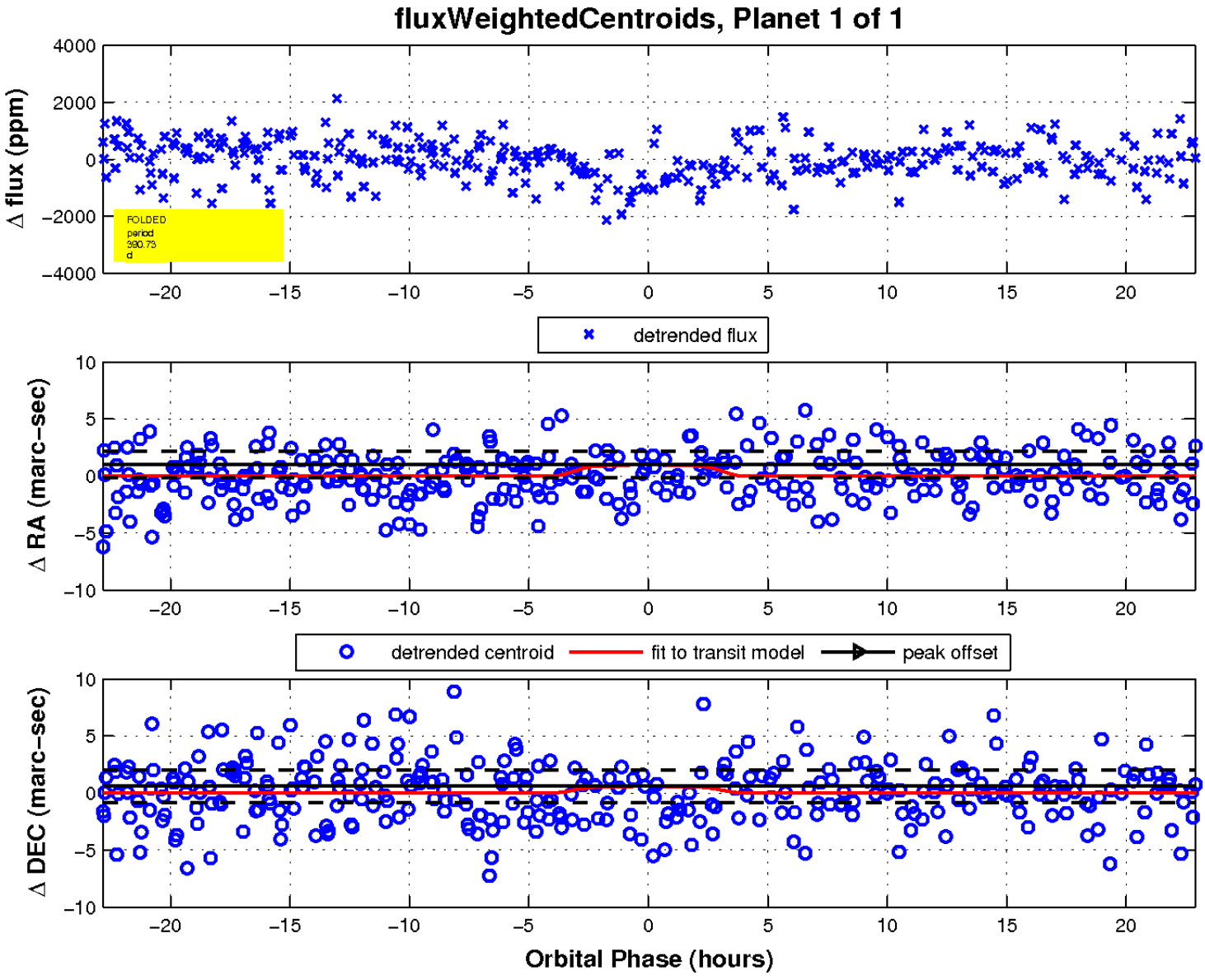




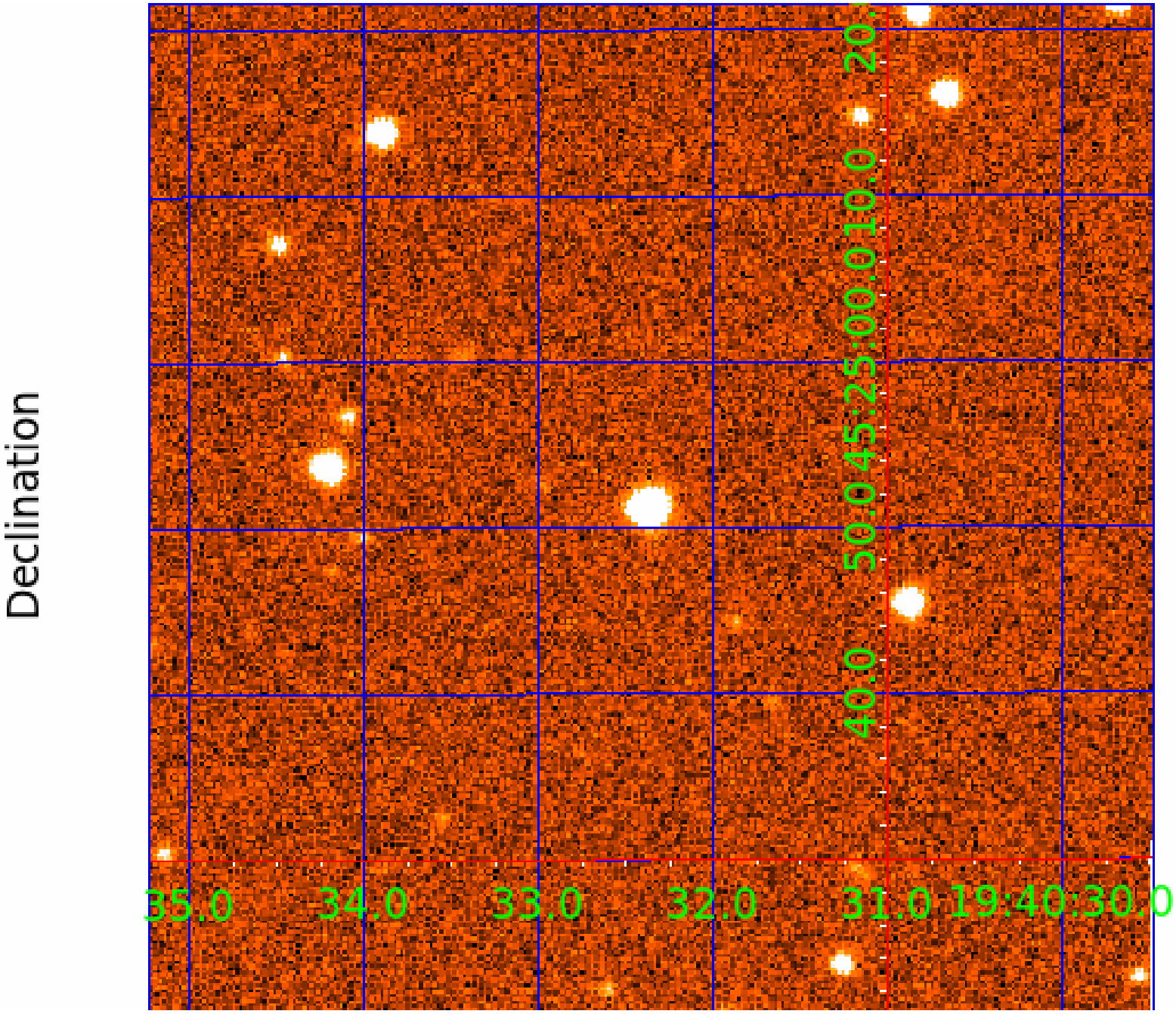


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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