KIC 009074876

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 ($S_\oplus$)
009074876-01	OBS	No	257.393225	257.669913	842.0	4.593	8.2	7.6	0.85	5758	4.80	1.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009074876-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—CENT_KIC_POS

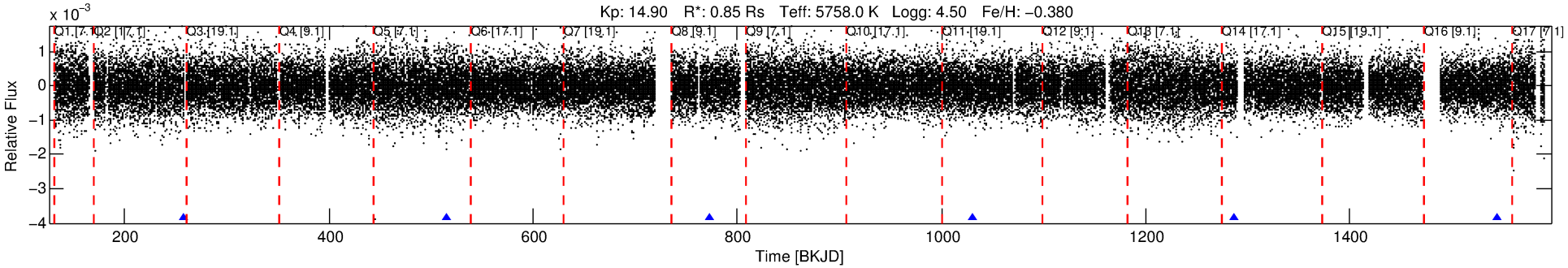
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

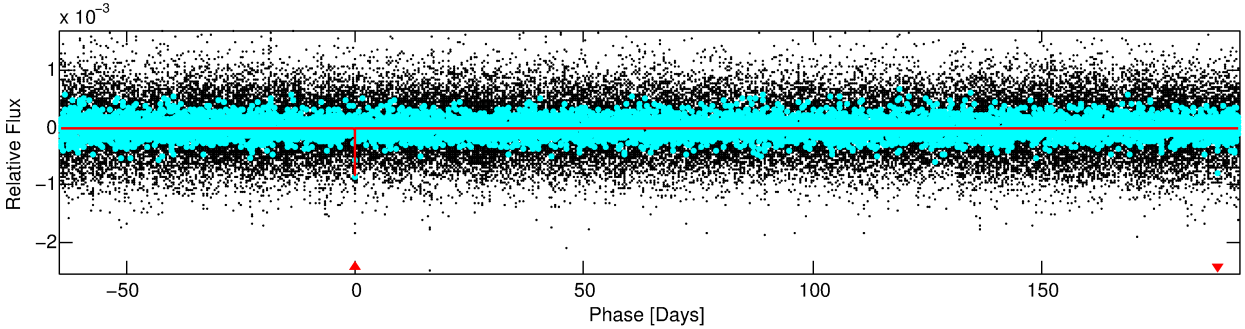
Ephemeris Match Information For 009074876-01

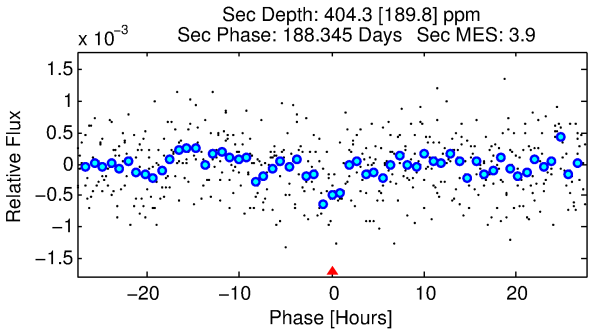
No Significant Match Found

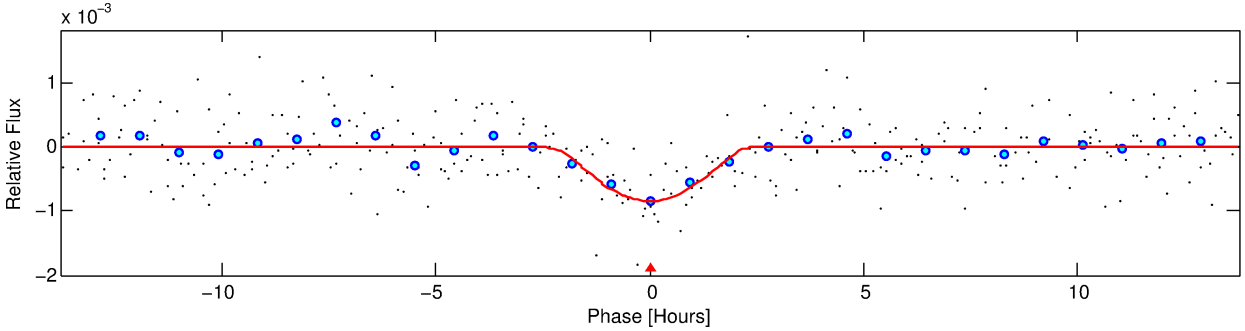
DV One-Page Summary

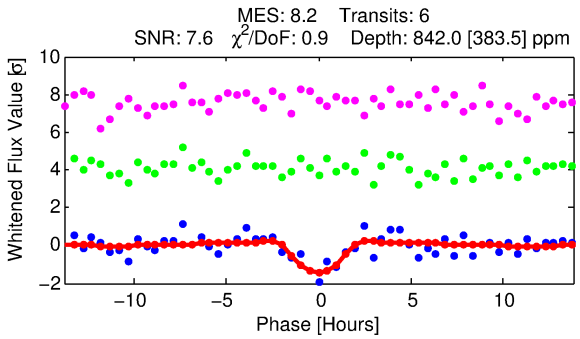
KIC: 9074876 Candidate: 1 of 1 Period: 257.393 d

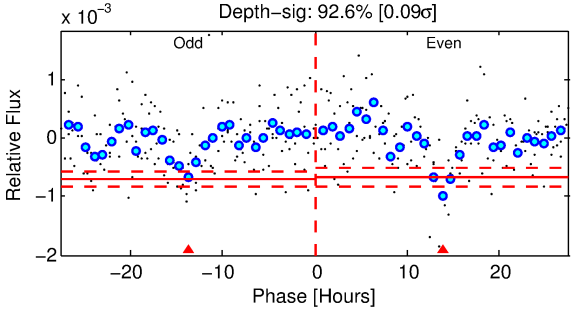


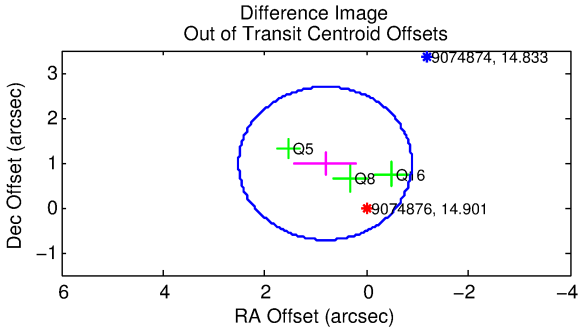












DV Fit Results:

Period = 257.39322 [0.00417] d
Epoch = 257.6699 [0.0136] BKJD
Rp/R* = 0.0516 [0.2235]
a/R* = 139.77 [147.64]
b = 1.00 [0.34]

Seff = 1.27 [0.42]
Teq = 271 [22] K
Rp = 4.80 [20.82] Re
a = 0.7494 [0.1635] AU

Ag = 5423.85 [47069.17] [0.12σ]
Teffp = 3594 [7792] K [0.43σ]

DV Diagnostic Results:

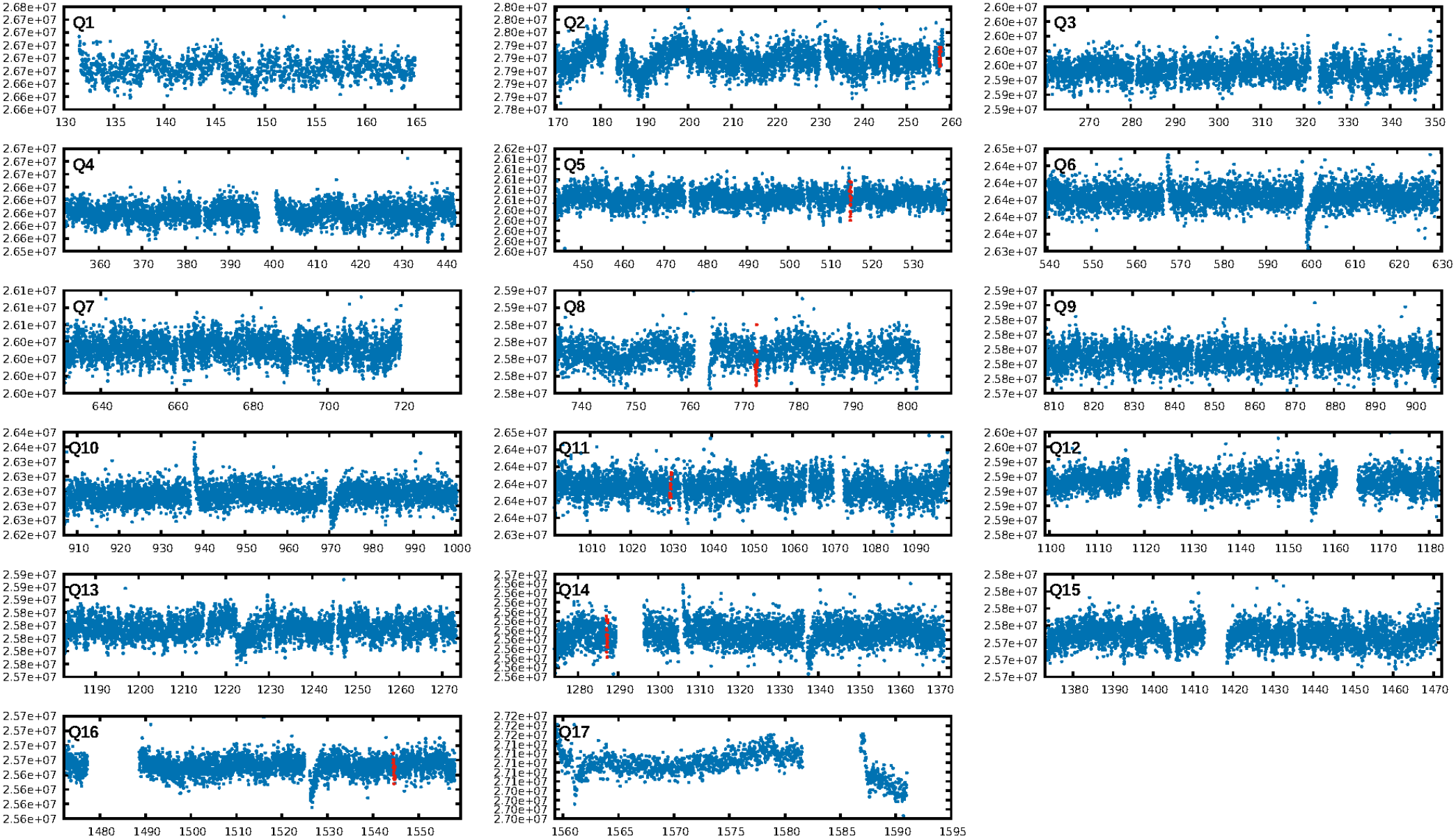
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 34.3%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.42e−13
RollingBand−fgt: 1.00 [6/6]
GhostDiagnostic−chr: 2.01

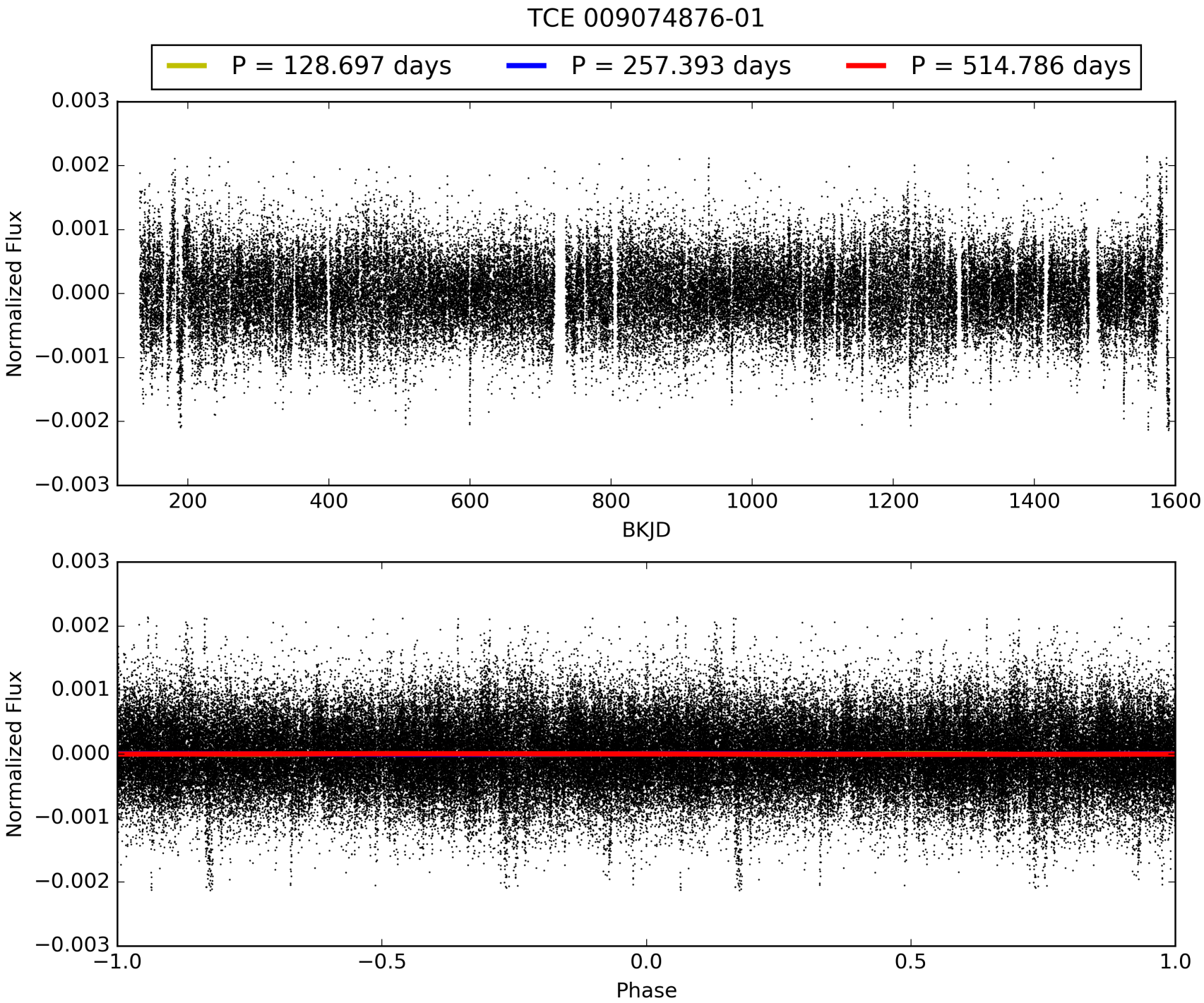
Centroid−sig: 0.8%
Centroid−so: 2.859 arcsec [3.48σ]
OotOffset−rm: 1.276 arcsec [2.25σ]
KicOffset−rm: 2.767 arcsec [10.04σ]
OotOffset−st: 0/0/2/1 [3]
KicOffset−st: 0/0/2/1 [3]
DiffImageQuality−fgm: 1.00 [3/3]
DiffImageOverlap−fno: 1.00 [5/5]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28−Jan−2016 20:43:29 Z

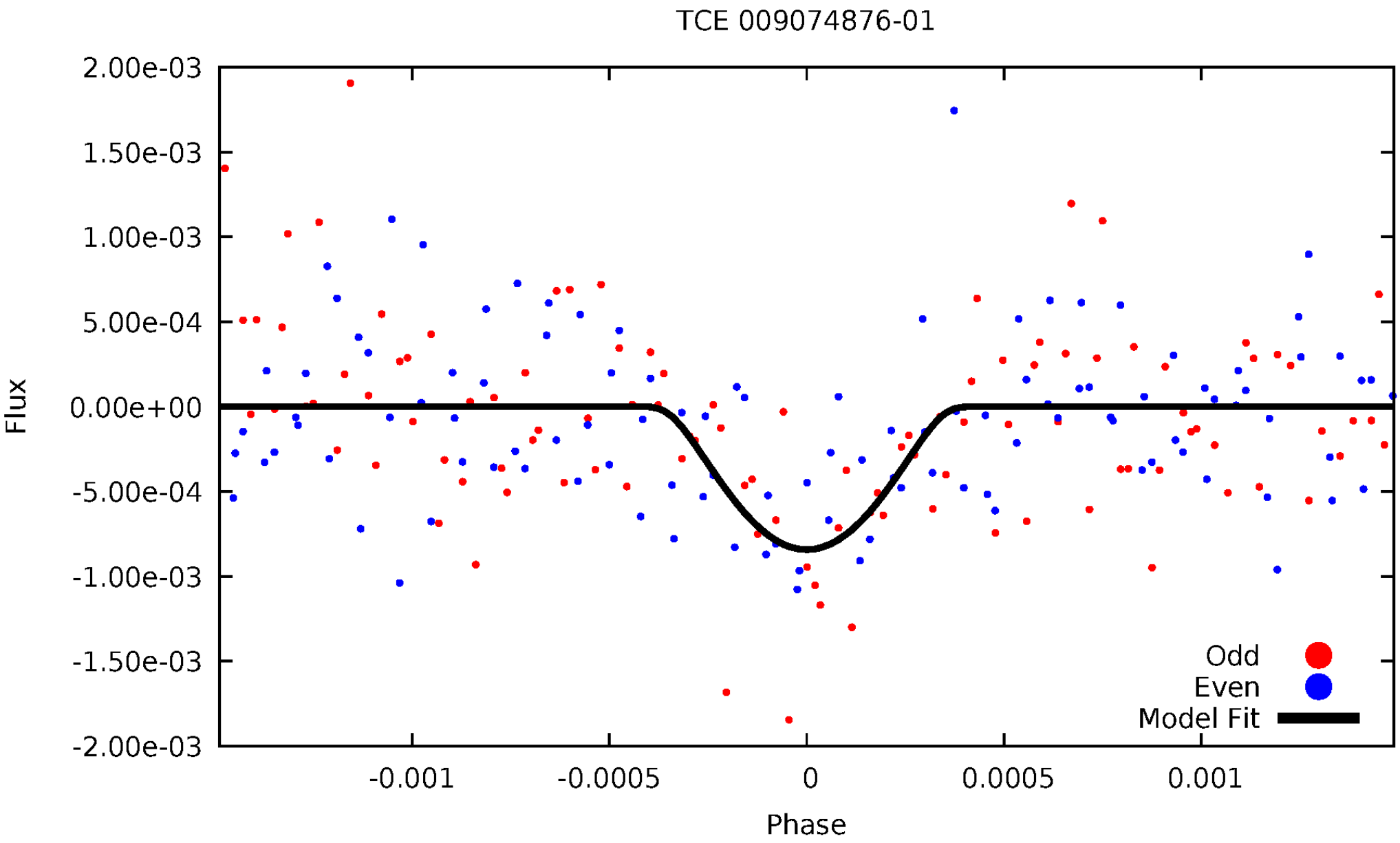
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009074876-01, PDC Light Curves

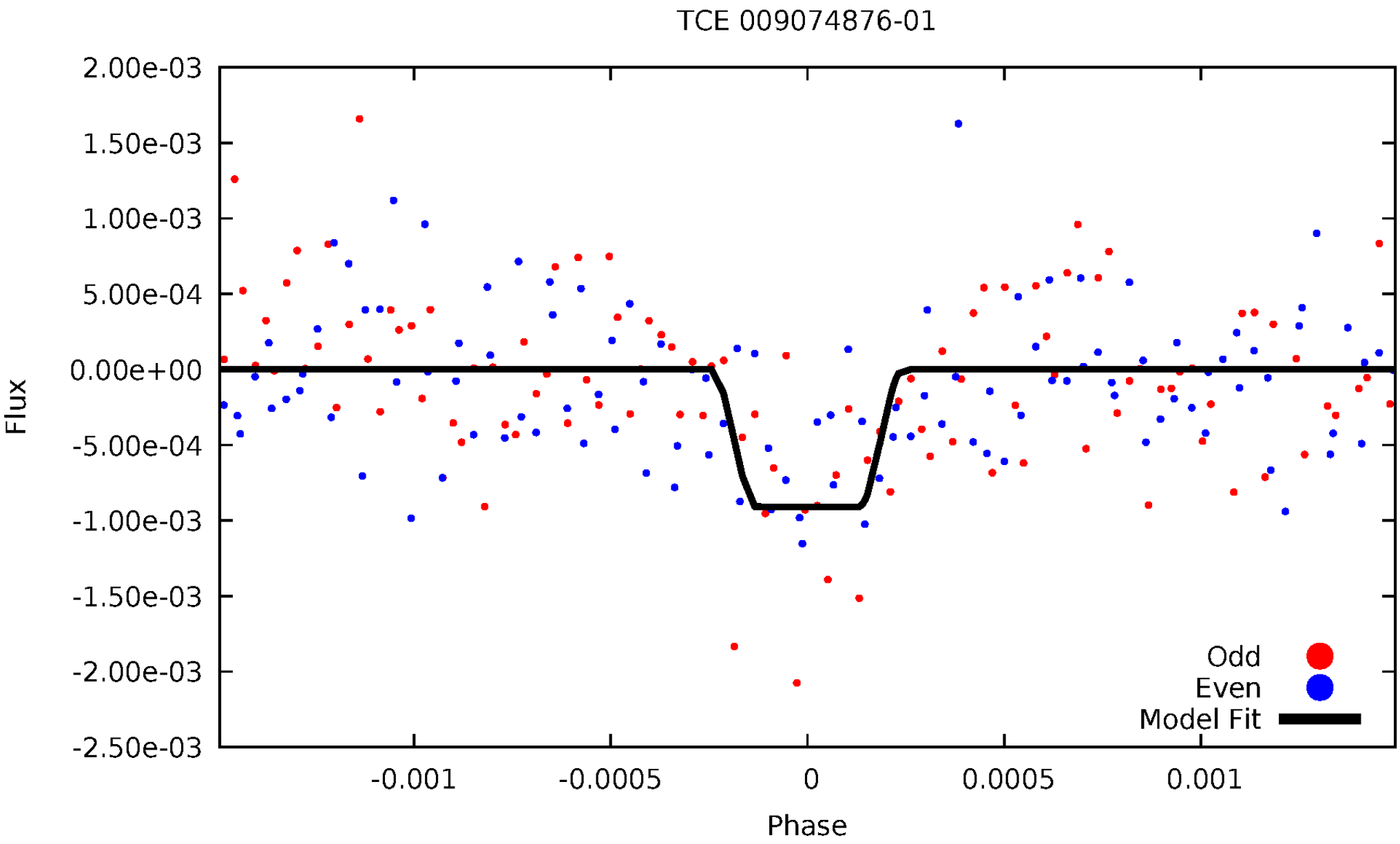



TCE 009074876-01
P = 128.697 days
P = 257.393 days
P = 514.786 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 009074876-01
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
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009074876-01
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1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
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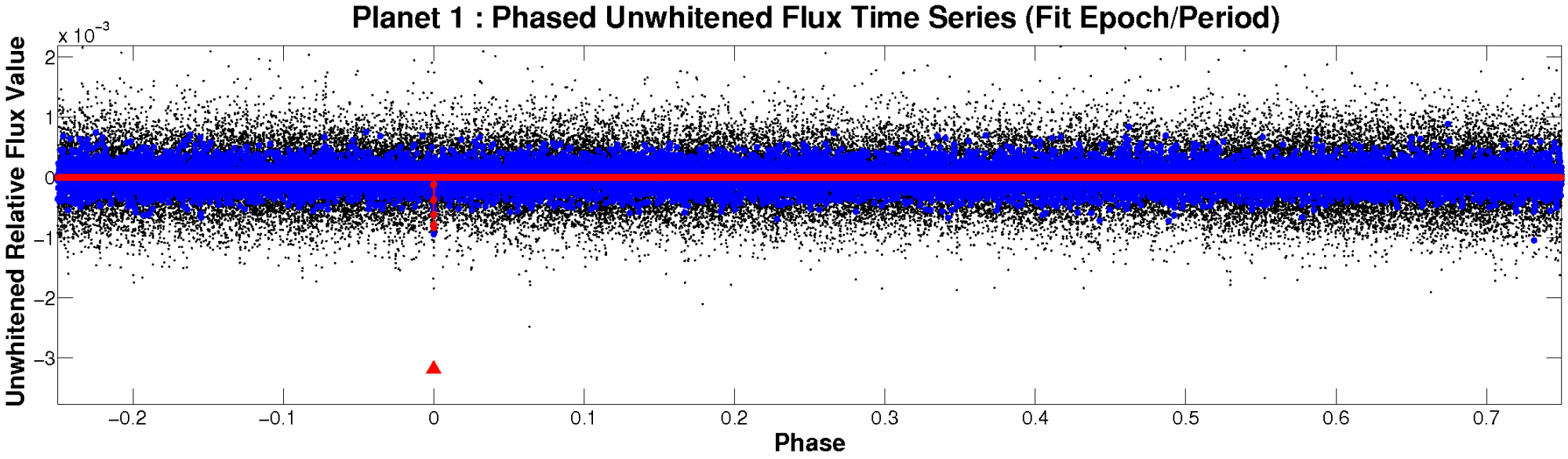
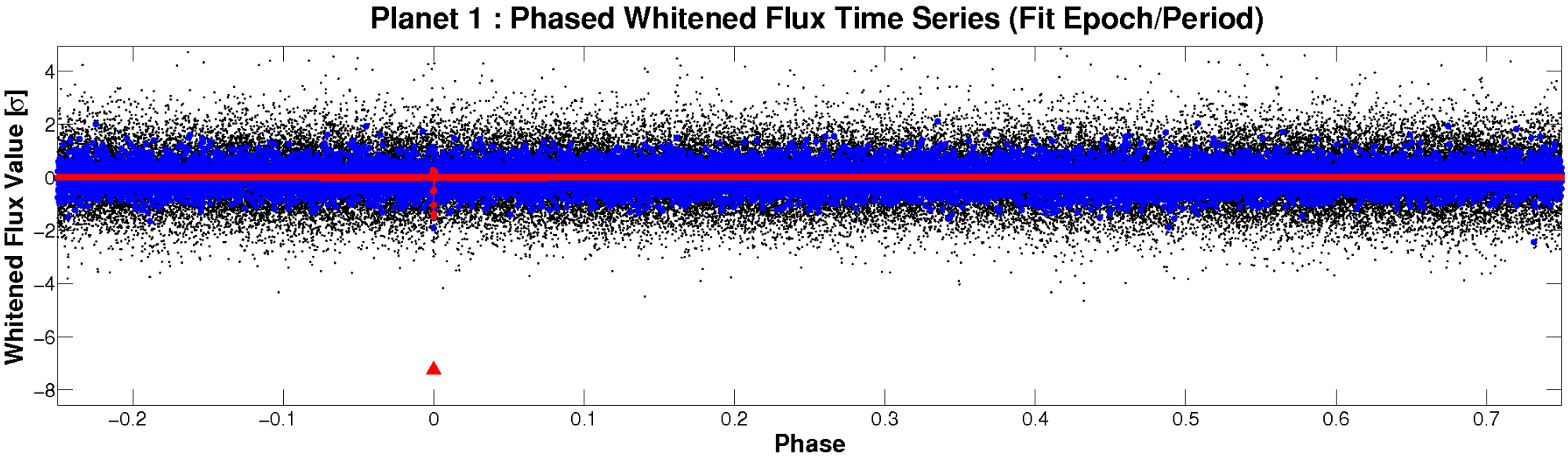
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

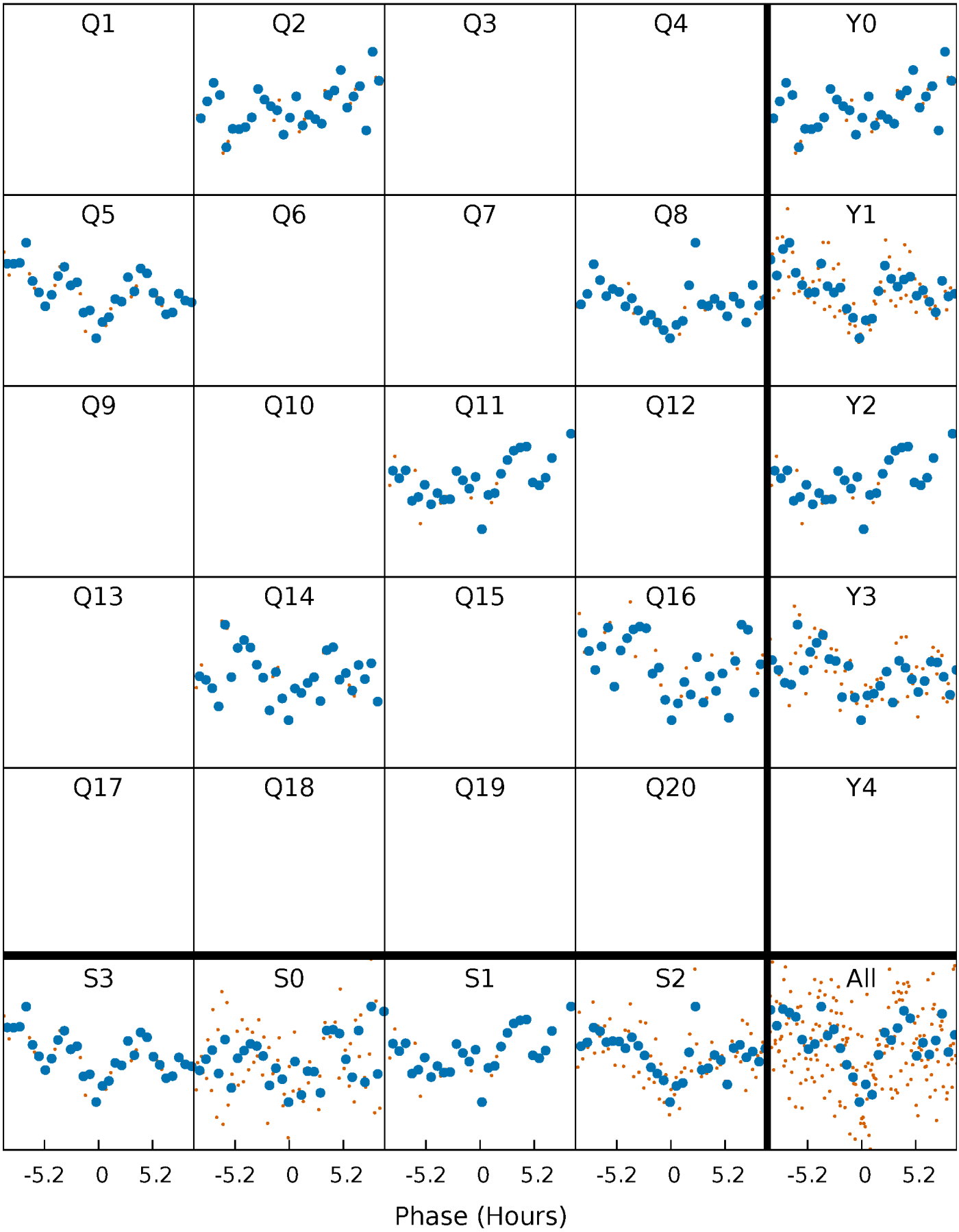
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009074876-01 P=257.393225 Days T_0=257.669913 (BKJD)



DV Quarter-Phased Transit Curves

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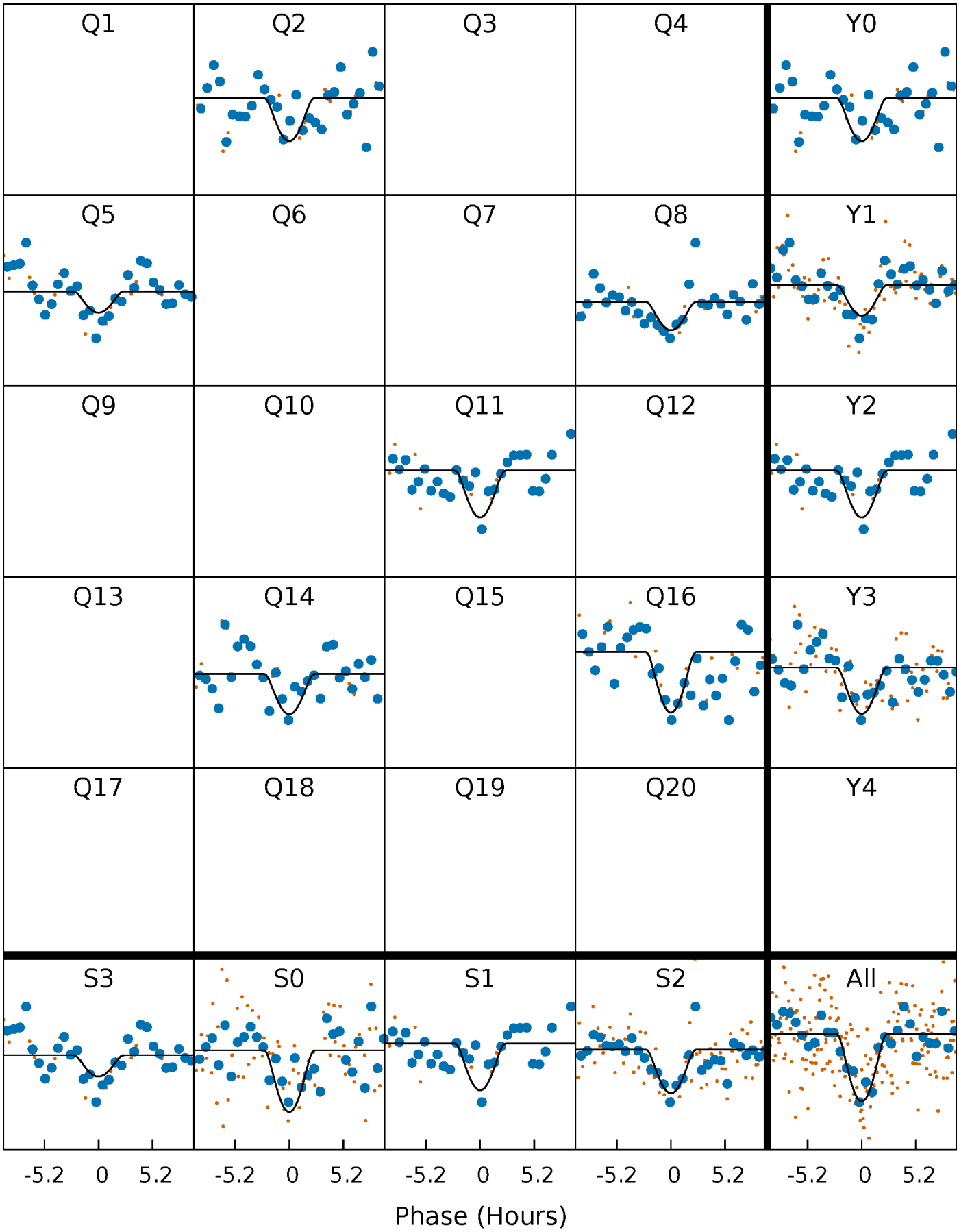
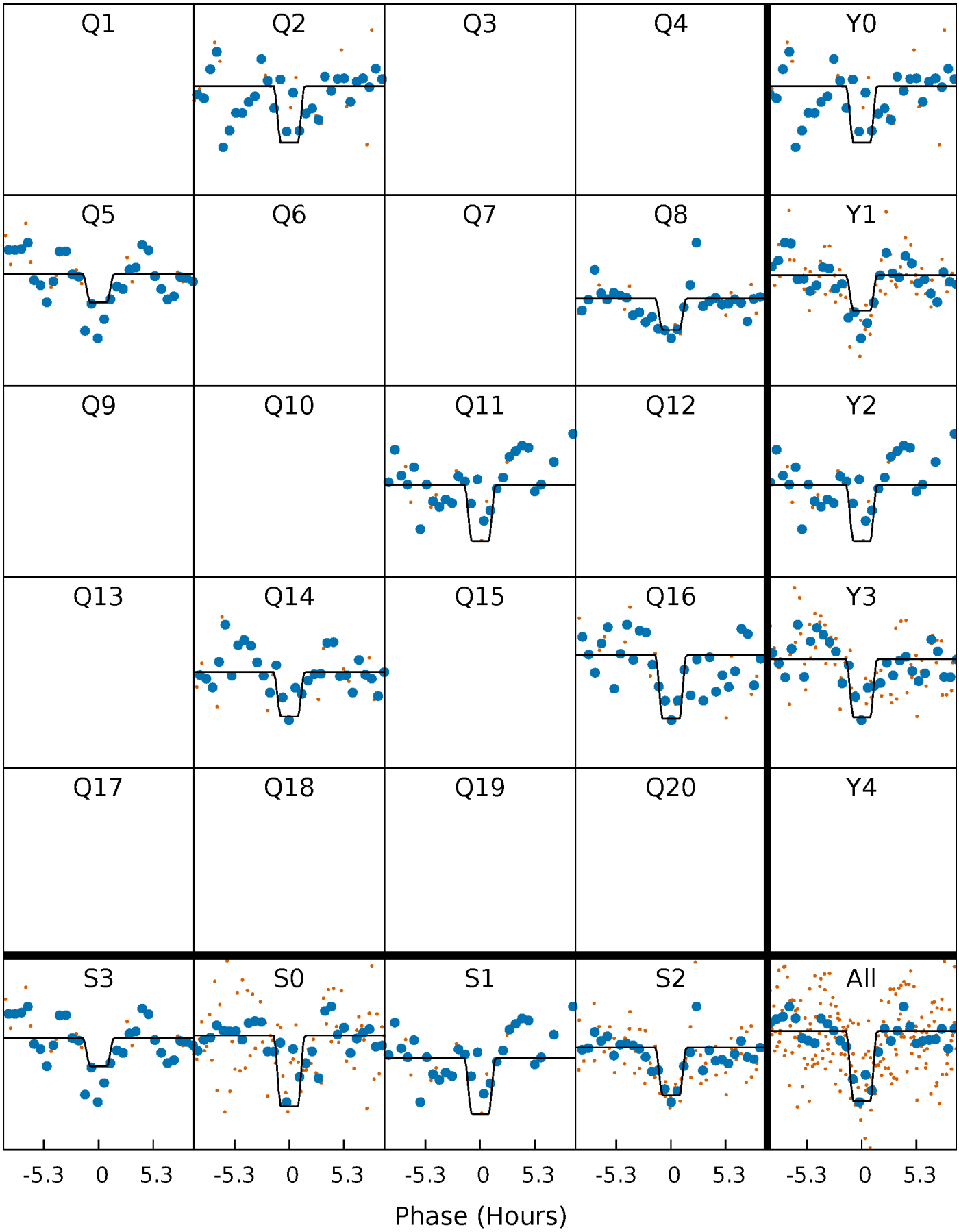


Alt. Detrend Quarter-Phased Transit Curves

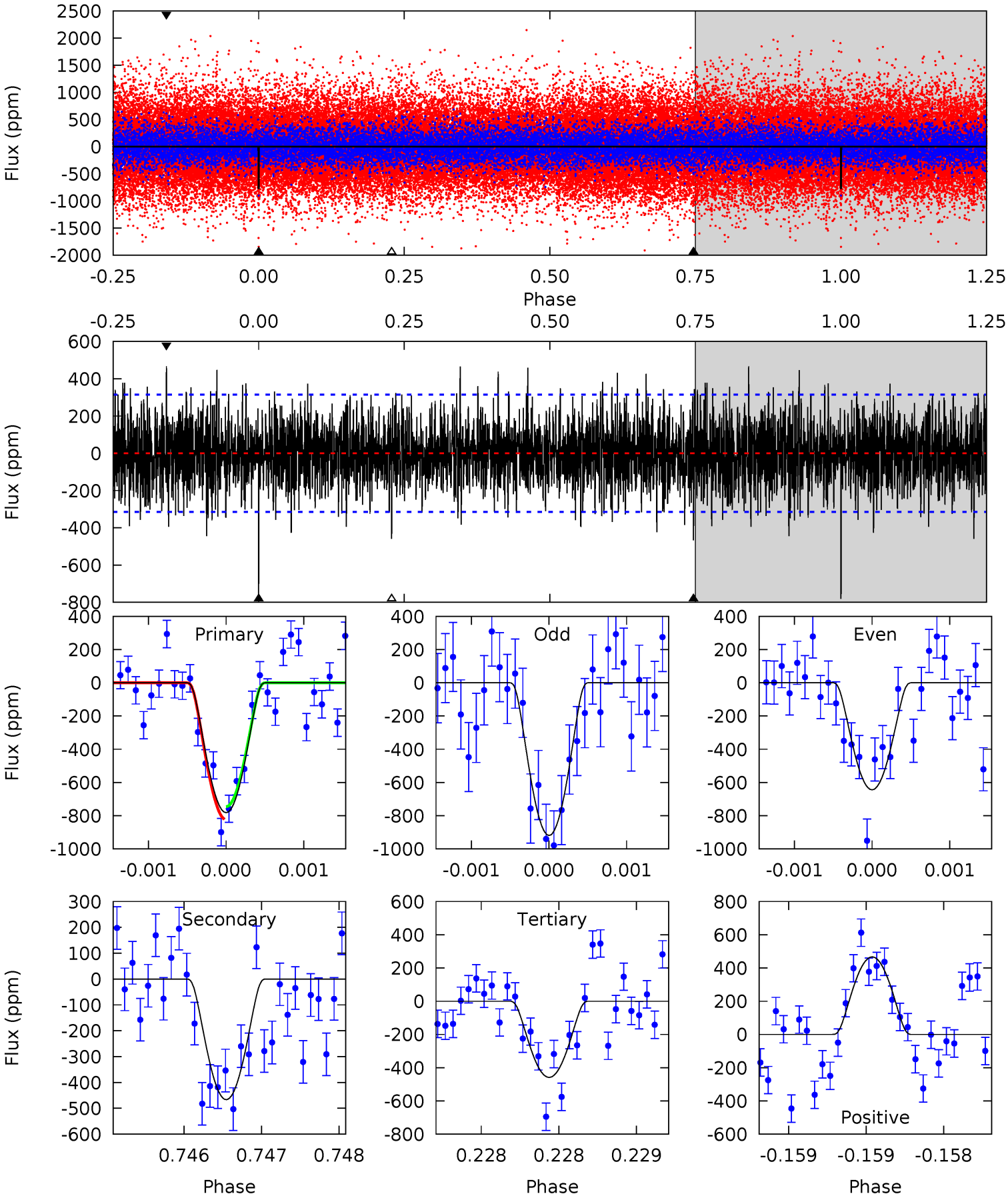
TCE 009074876-01 P=257.394828 Days T_0=257.663928 (BKJD)



DV Model-Shift Uniqueness Test

009074876-01, P = 257.393225 Days, E = 0.276688 Days

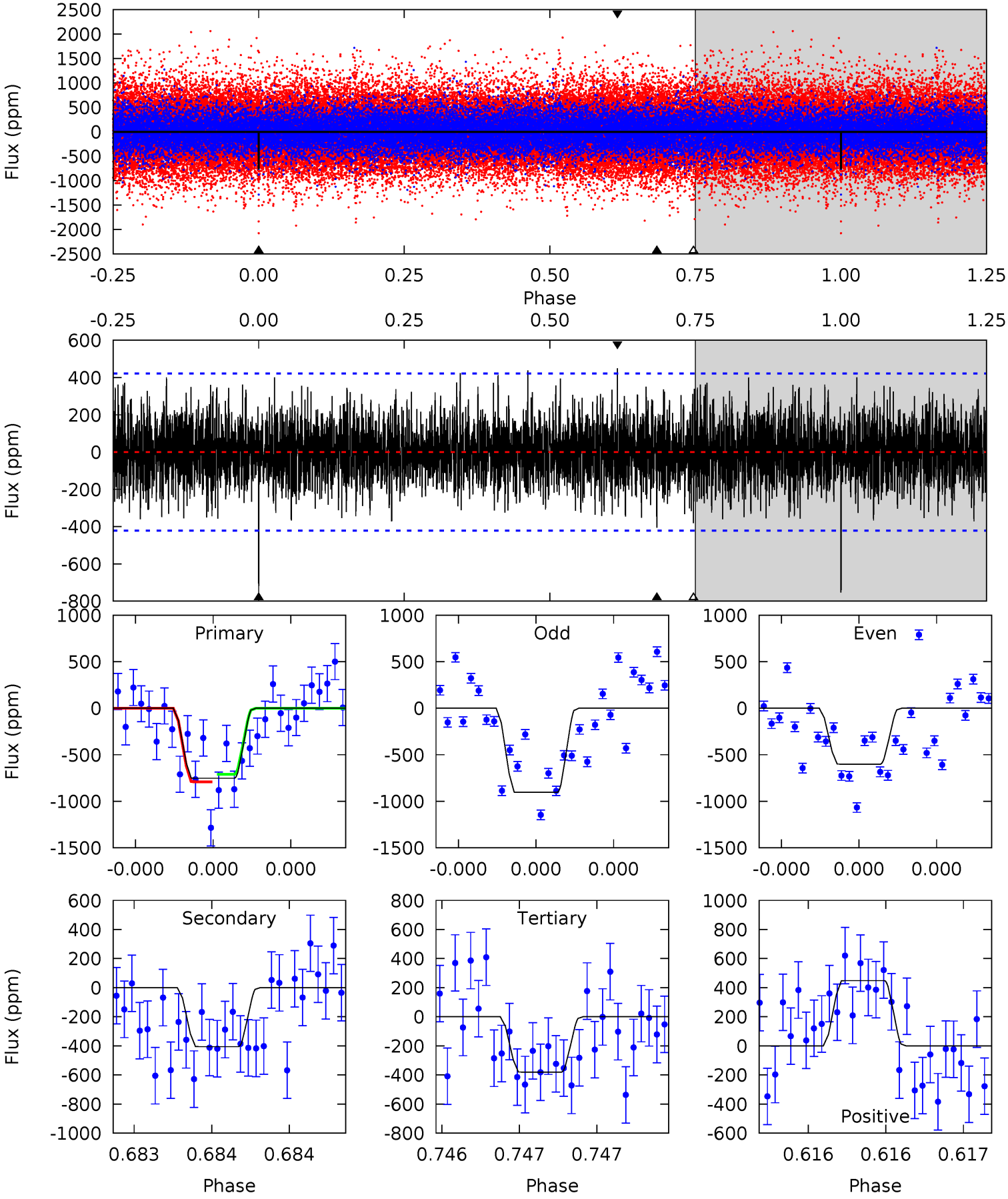
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	8.13	8.00	8.14	5.49	3.35	2.29	5.63	5.49	0.14	-0.00	2.40	1.21	0.37	0.65



Alt Model-Shift Uniqueness Test

009074876-01, P = 257.394828 Days, E = 0.269100 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.96	5.37	5.04	5.94	5.58	3.49	1.61	4.93	4.02	0.33	-0.57	2.01	1.25	0.37	0.54



Stellar Parameters For KIC 009074876

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5758^{+155}_{-155}	$4.505^{+0.072}_{-0.168}$	$-0.380^{+0.300}_{-0.300}$	$0.852^{+0.225}_{-0.096}$	$0.847^{+0.106}_{-0.077}$	$1.930^{+0.588}_{-0.887}$
	+3%/-3%	+2%/-4%	+79%/-79%	+26%/-11%	+13%/-9%	+30%/-46%
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 009074876-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-466±57	$16.64^{+15.56}_{-11.37}$	382^{+27}_{-17}	2790^{+1162}_{-421}	500^{+4480}_{-361}
Alt.	-406±76	$16.18^{+16.30}_{-11.61}$	384^{+26}_{-18}	2750^{+1191}_{-435}	480^{+5370}_{-365}

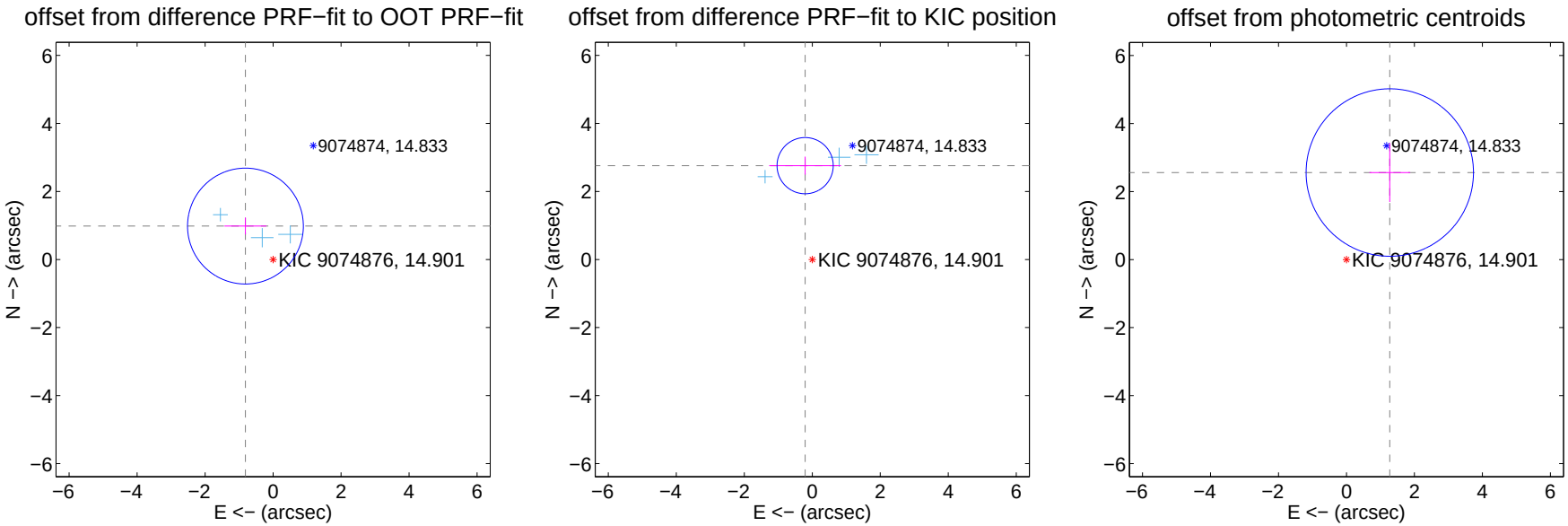
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

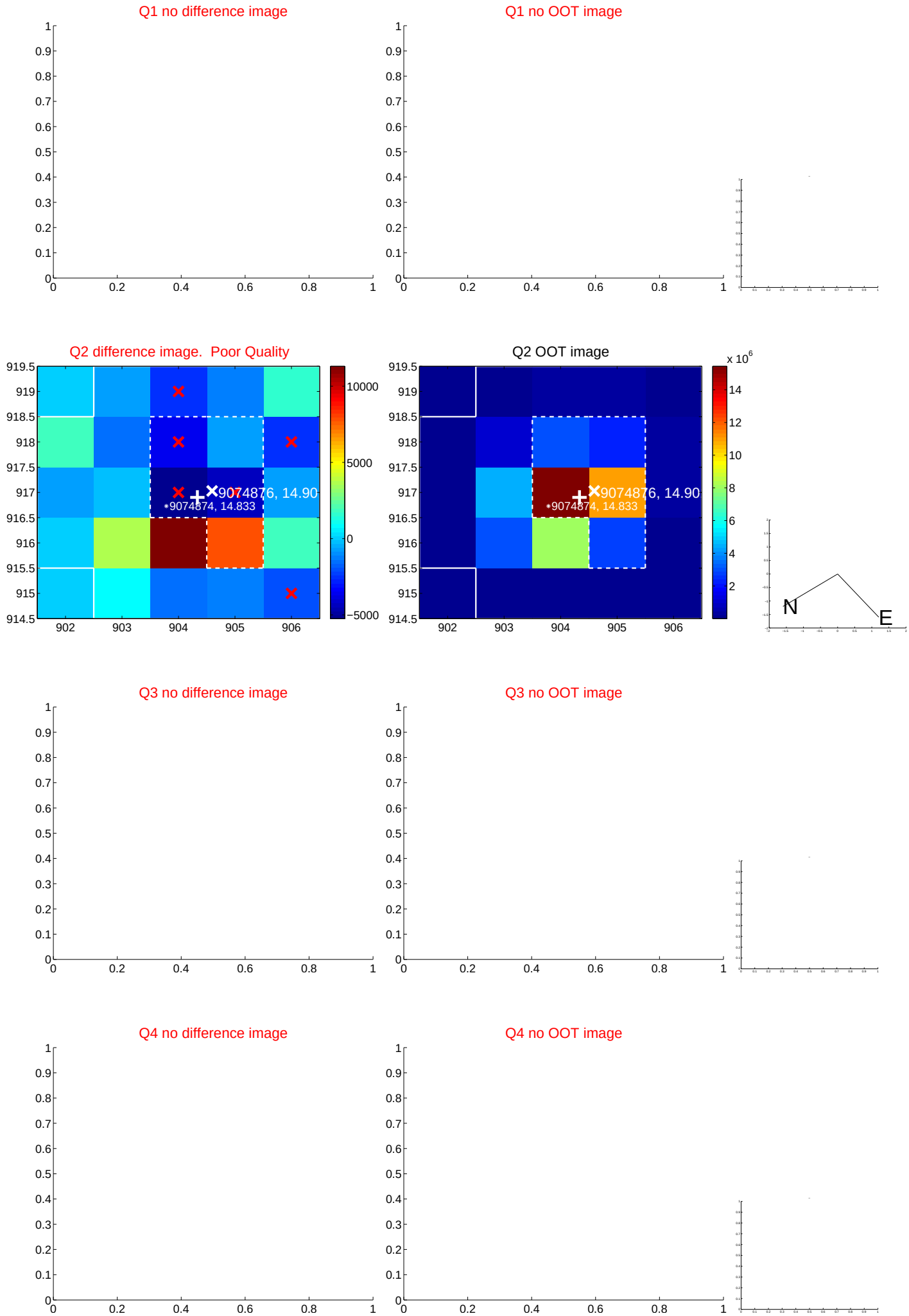
Supplemental centroid analysis for 009074876-01. Kepler magnitude: 14.90. Transit SNR 7.56
There are 3 quarters with good PRF difference image offsets
The OOT PRF centroid is offset from the target star catalog position by about 2.58 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.276 ± 0.568	2.25	0.813 ± 0.616	0.983 ± 0.248
PRF-fit source offset from KIC position	2.767 ± 0.275	10.04	0.210 ± 1.058	2.759 ± 0.264
photometric centroid source offset	2.86 ± 0.82	3.48	-1.27 ± 0.60	2.56 ± 0.87

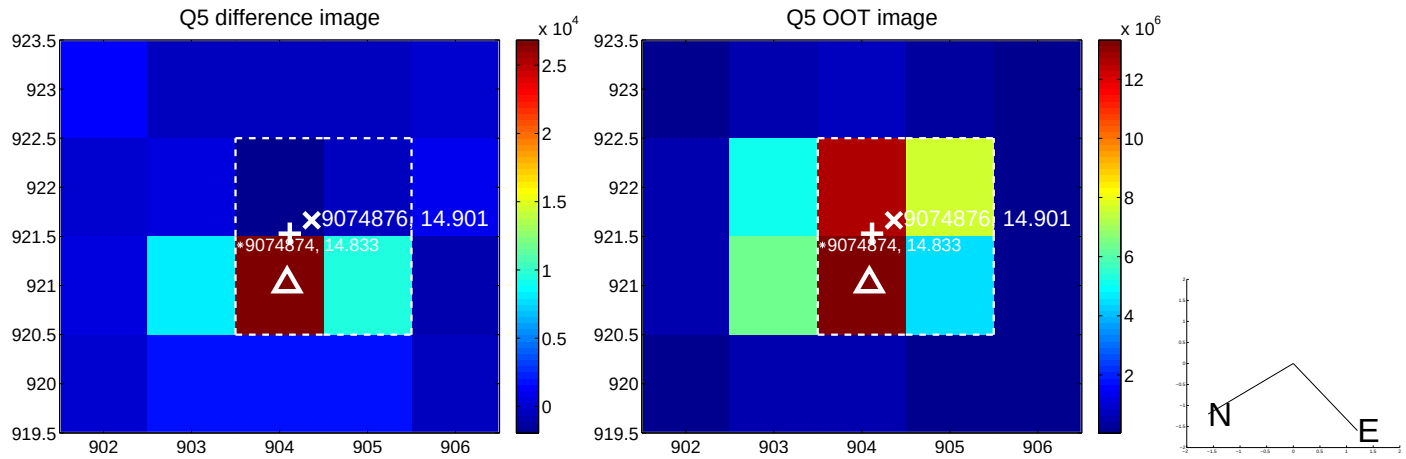


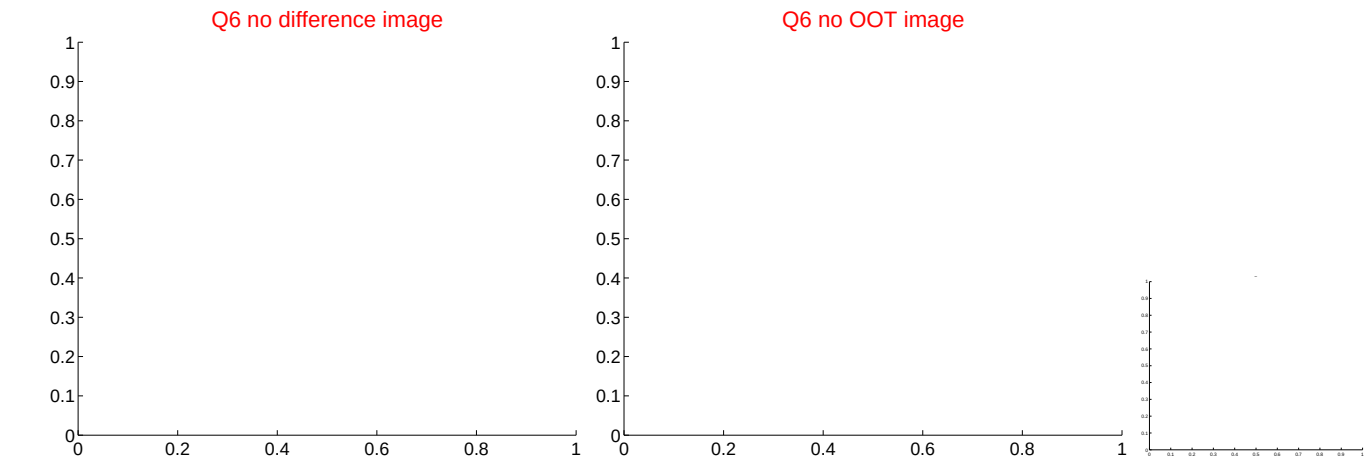
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

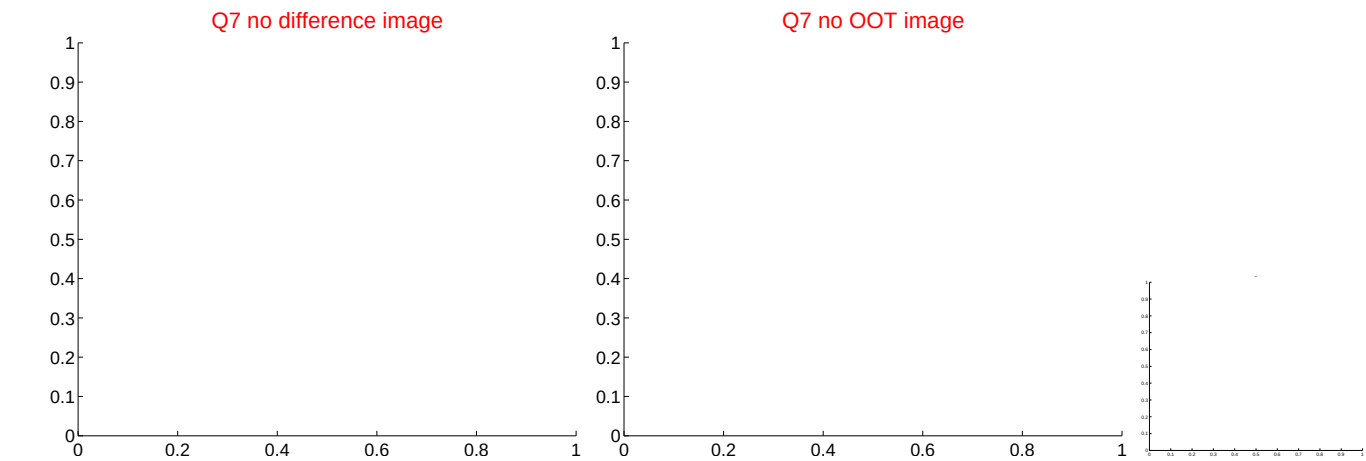
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

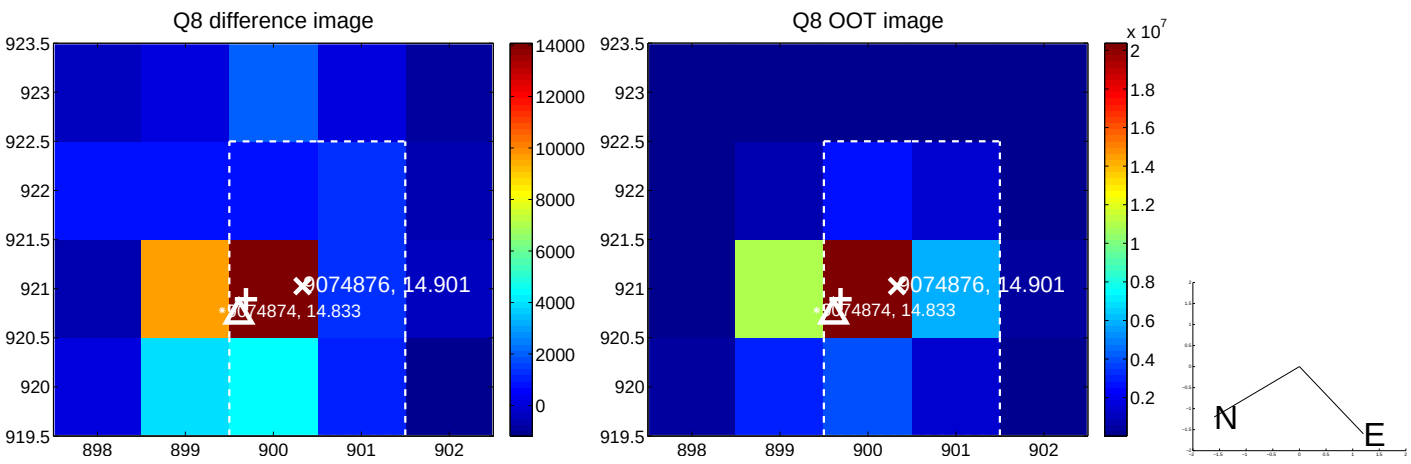


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

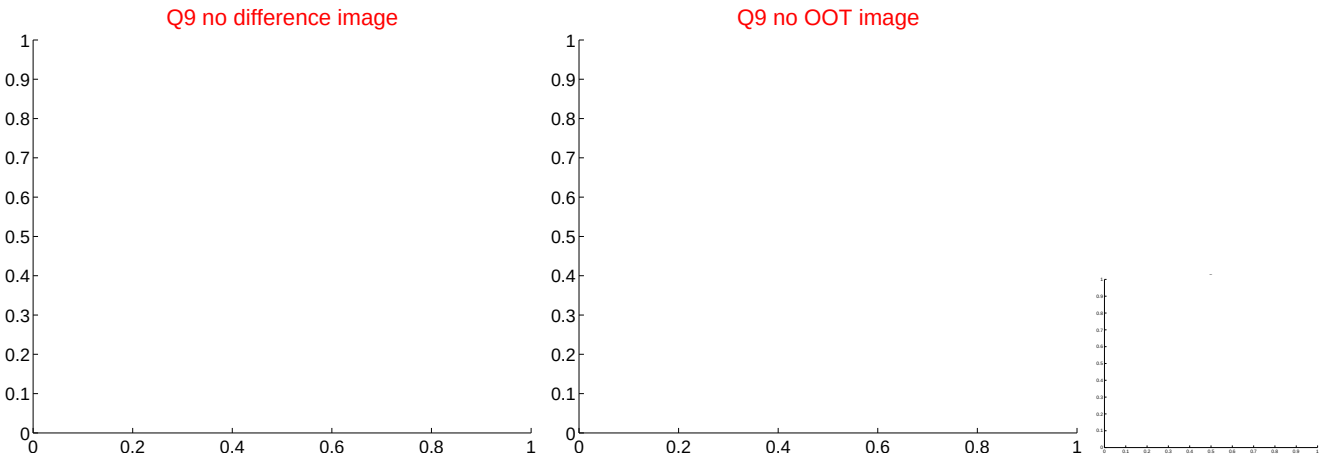


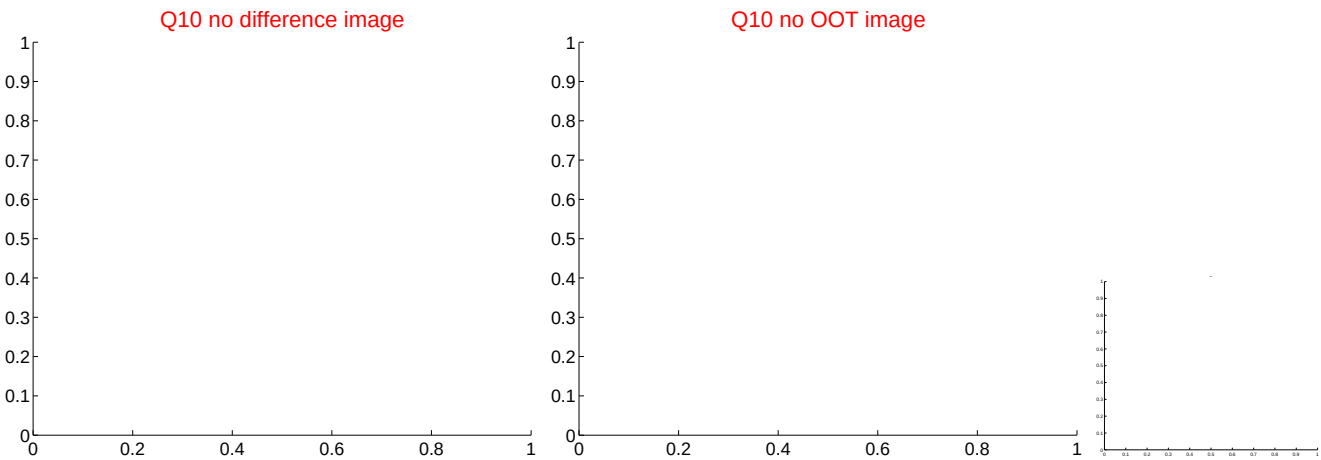


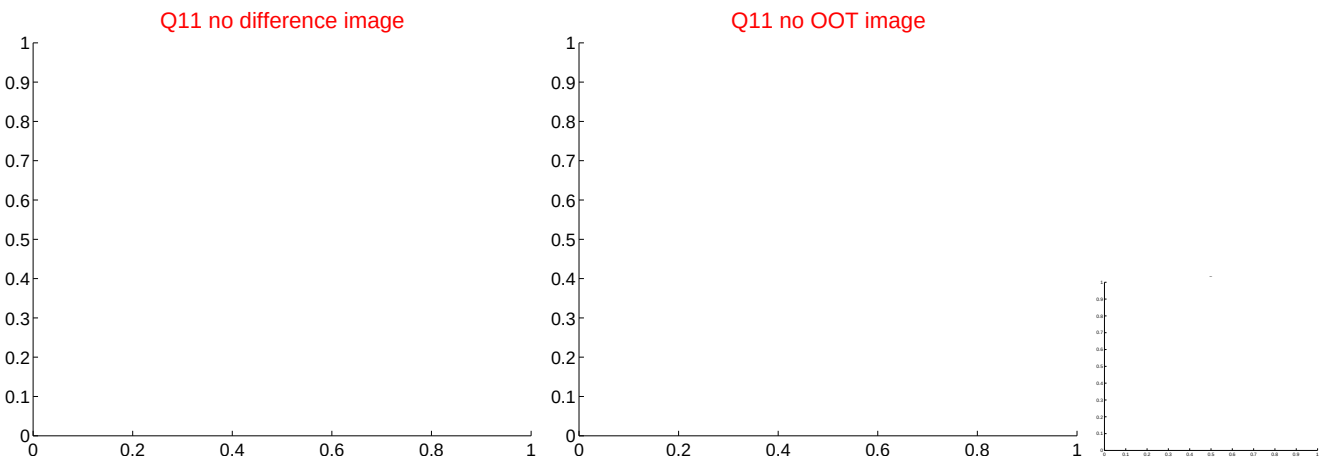


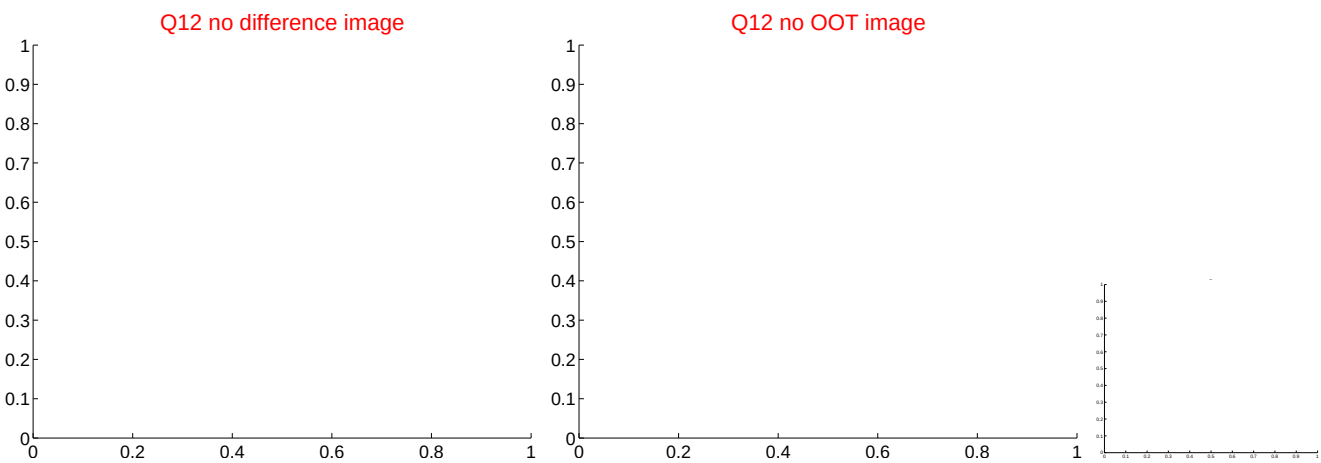


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

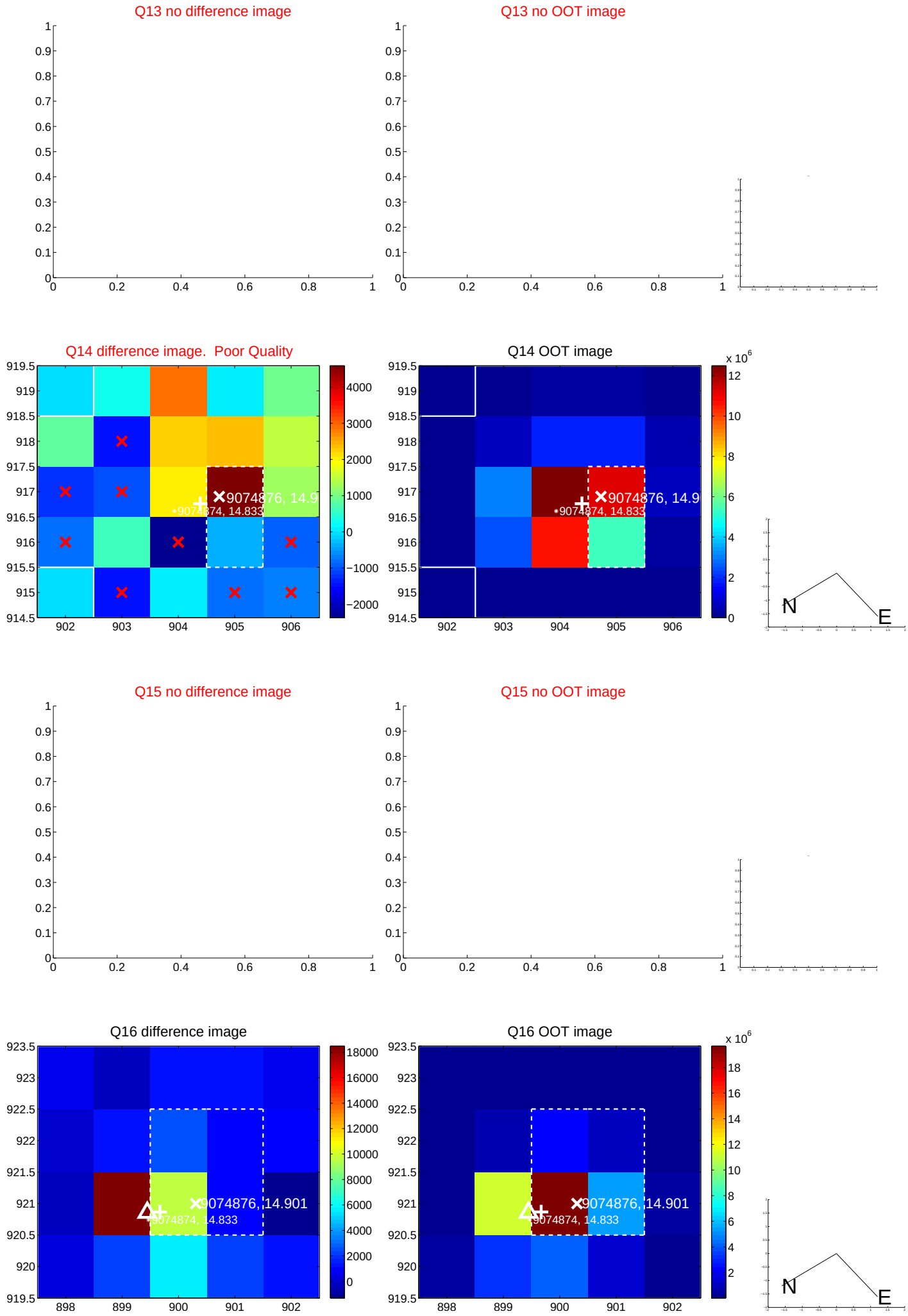




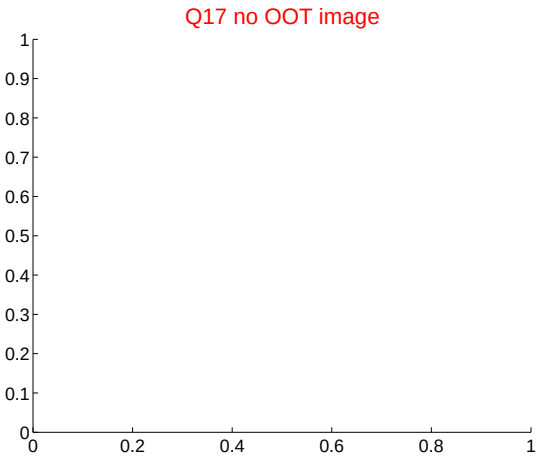


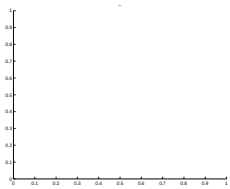


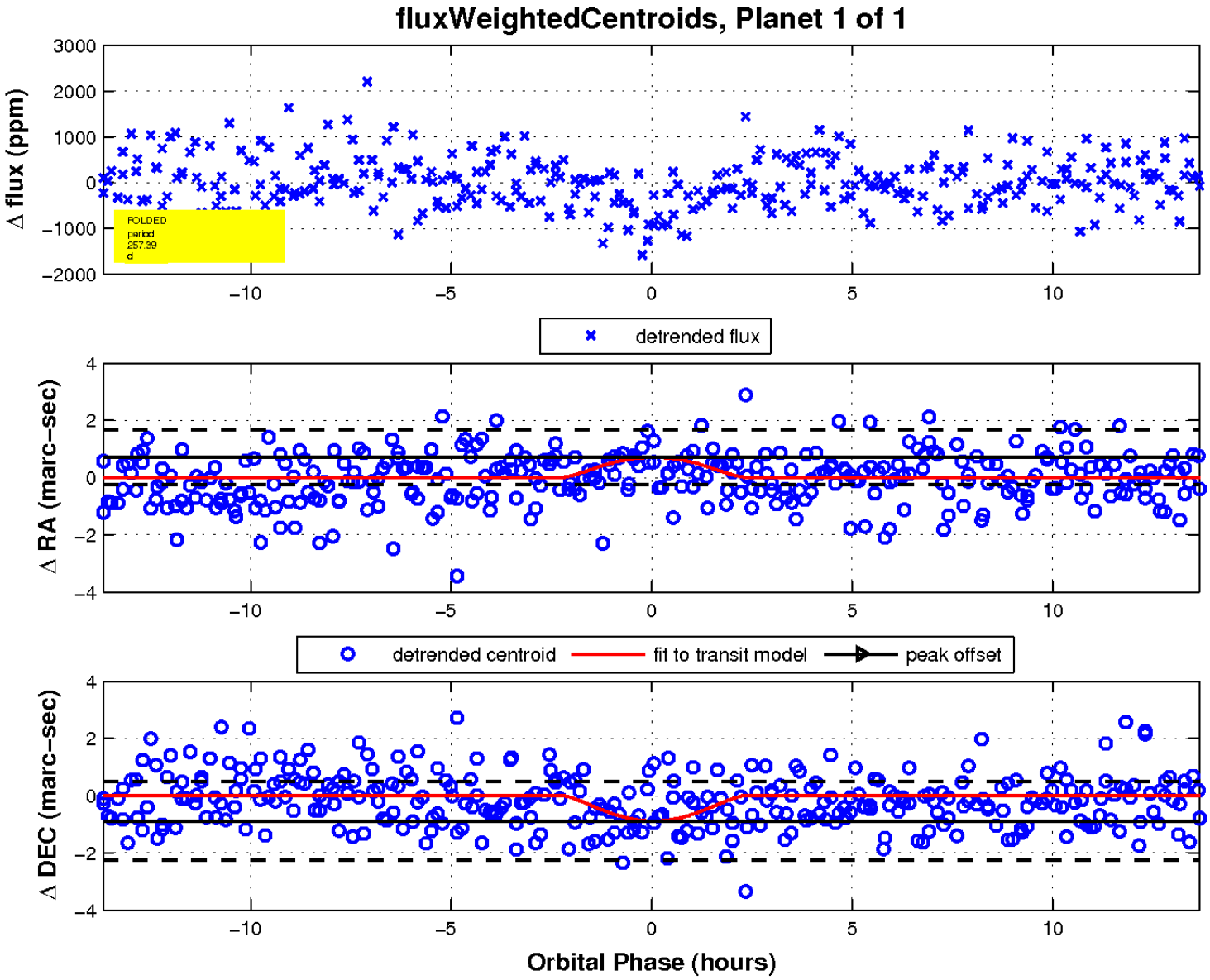
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



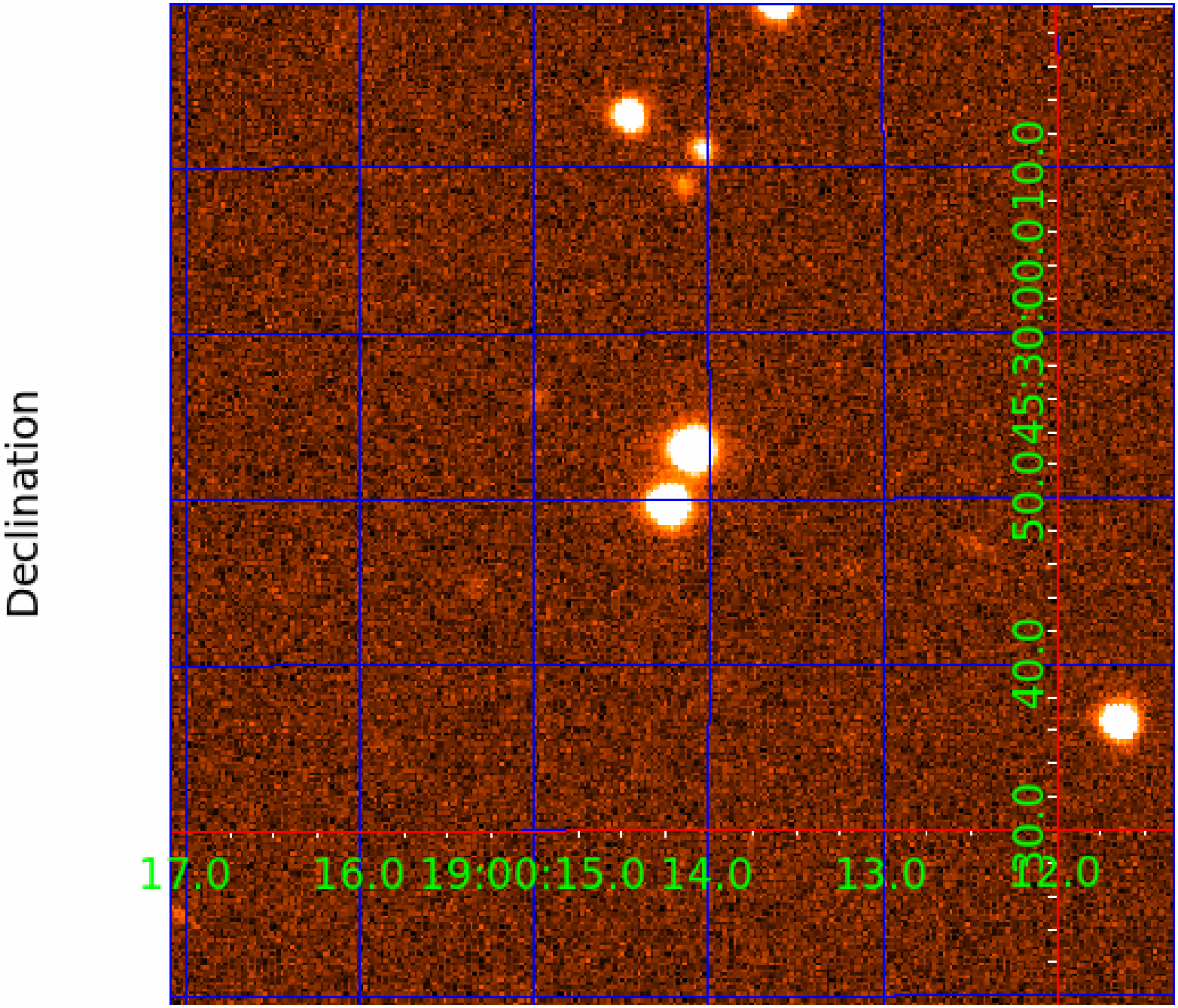
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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