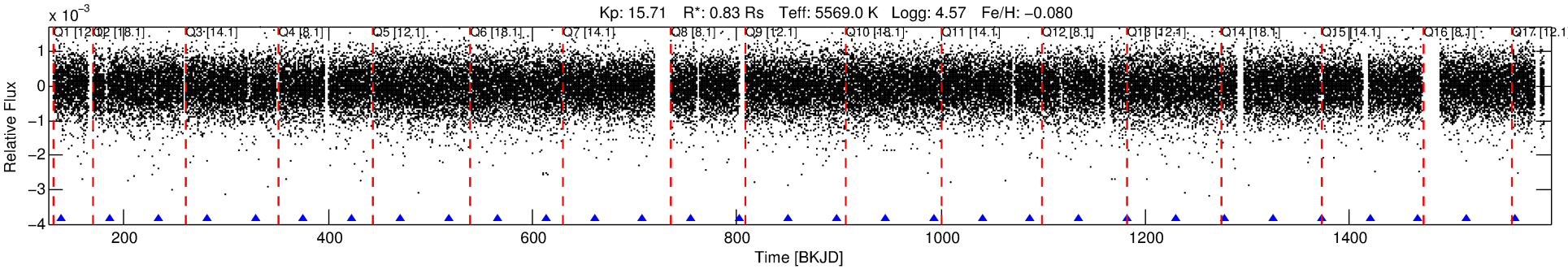
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

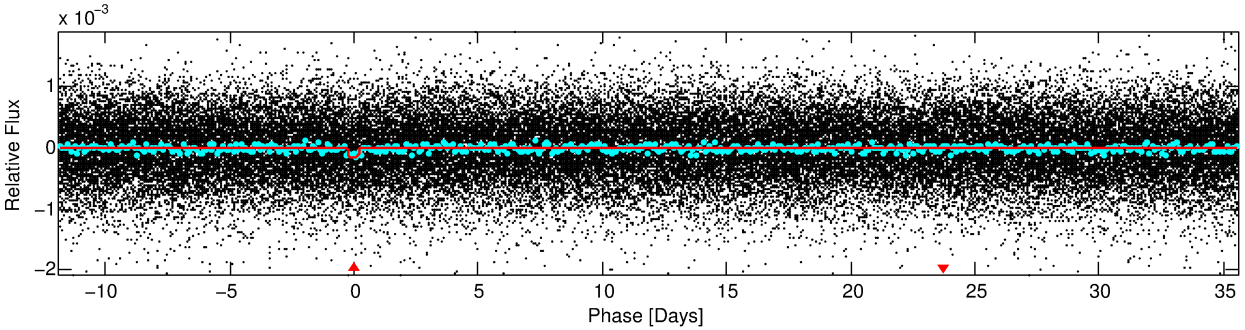
DV One-Page Summary

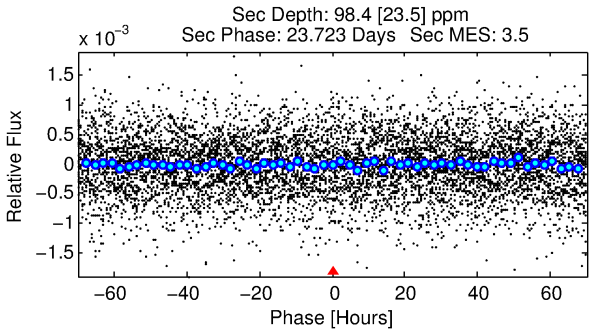
KIC: 9764459 Candidate: 1 of 1 Period: 47.453 d

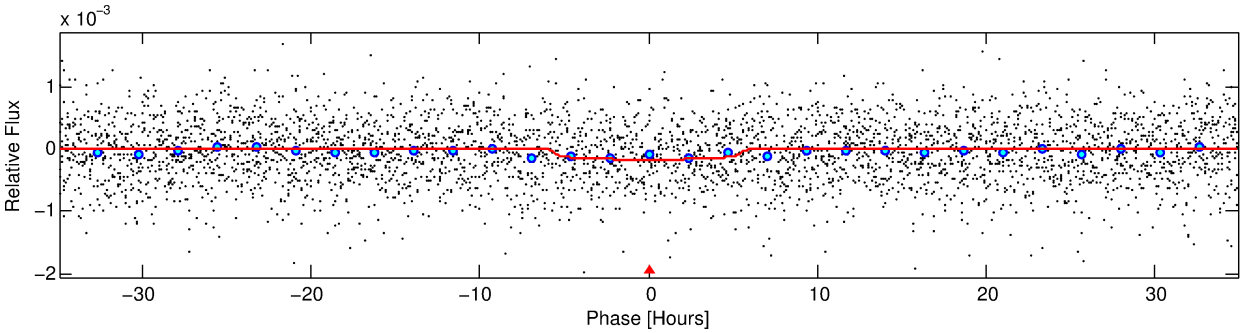
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

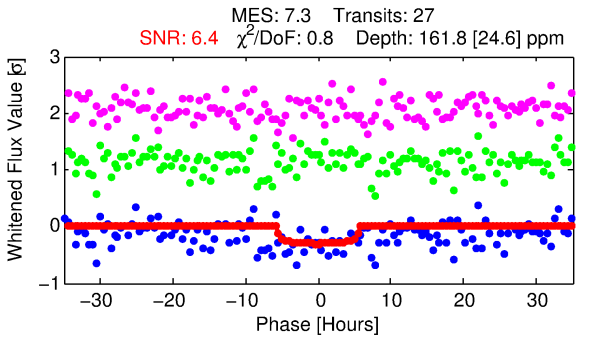
Kp: 15.71 R*: 0.83 Rs Teff: 5569.0 K Logg: 4.57 Fe/H: −0.080

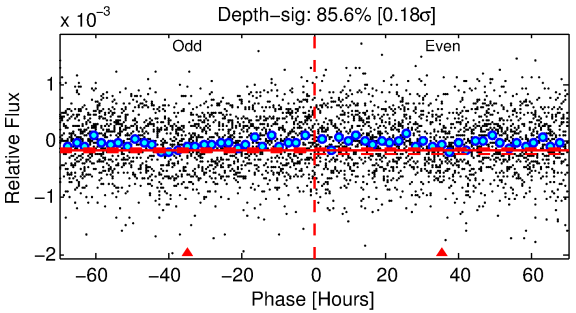


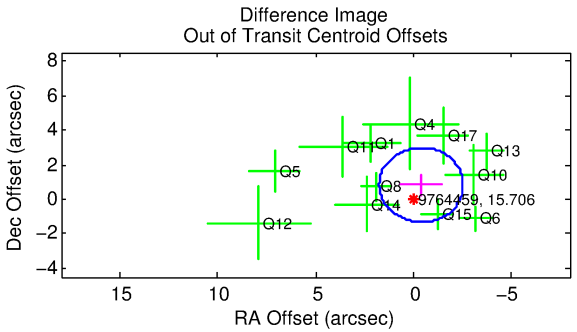












DV Fit Results:

Period = 47.45267 [0.00164] d
Epoch = 138.7055 [0.0291] BKJD
Rp/R* = 0.0132 [0.0069]
a/R* = 17.79 [40.39]
b = 0.84 [0.82]

Seff = 9.49 [3.03]
Teq = 448 [36] K
Rp = 1.20 [0.69] Re
a = 0.2498 [0.0509] AU

Ag = 2356.12 [2611.60] [0.90σ]
Teffp = 4821 [1295] K [3.38σ]

DV Diagnostic Results:

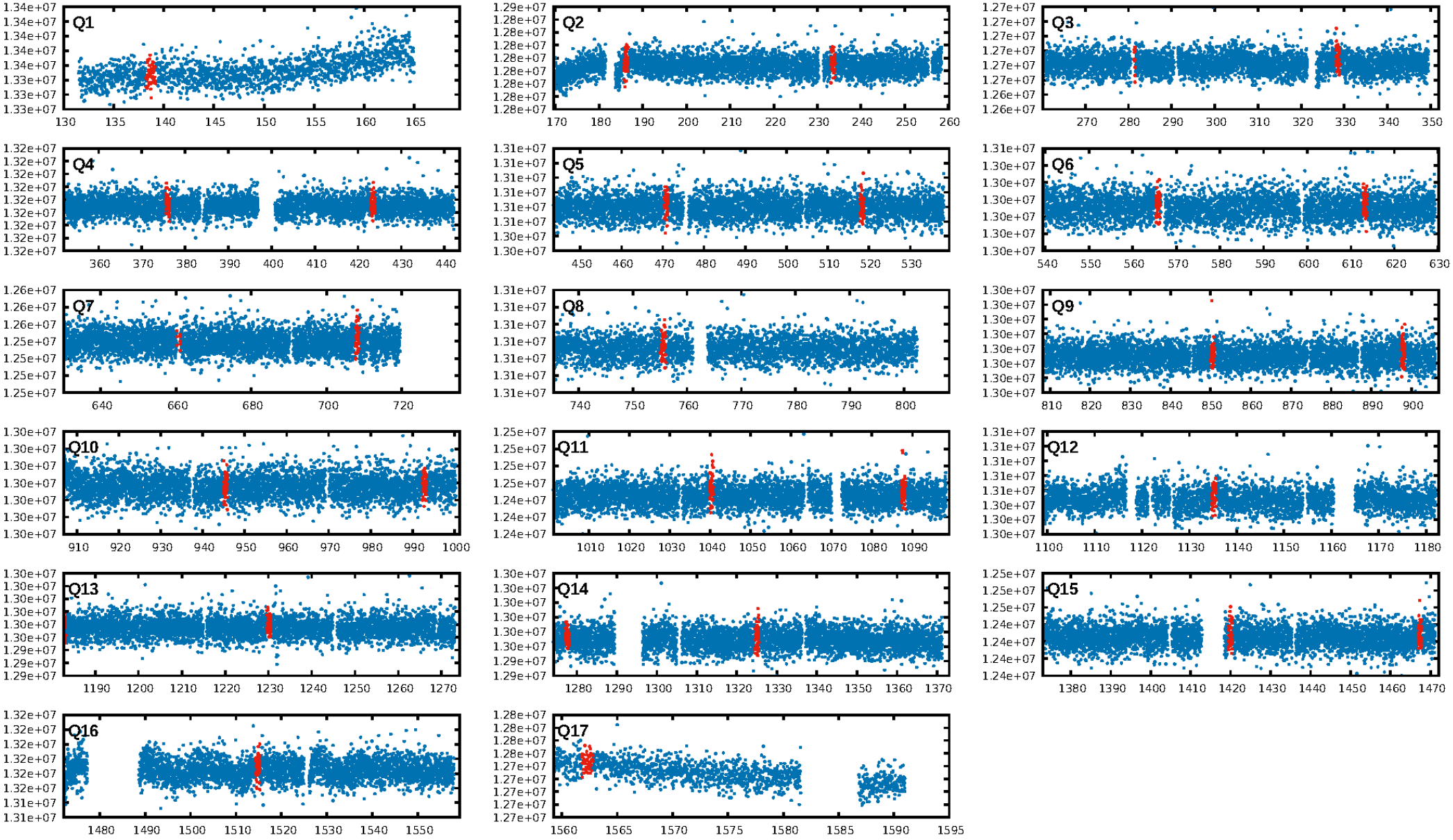
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 98.8%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 4.00e−13
RollingBand−fgt: 1.00 [25/25]
GhostDiagnostic−chr: 1.727

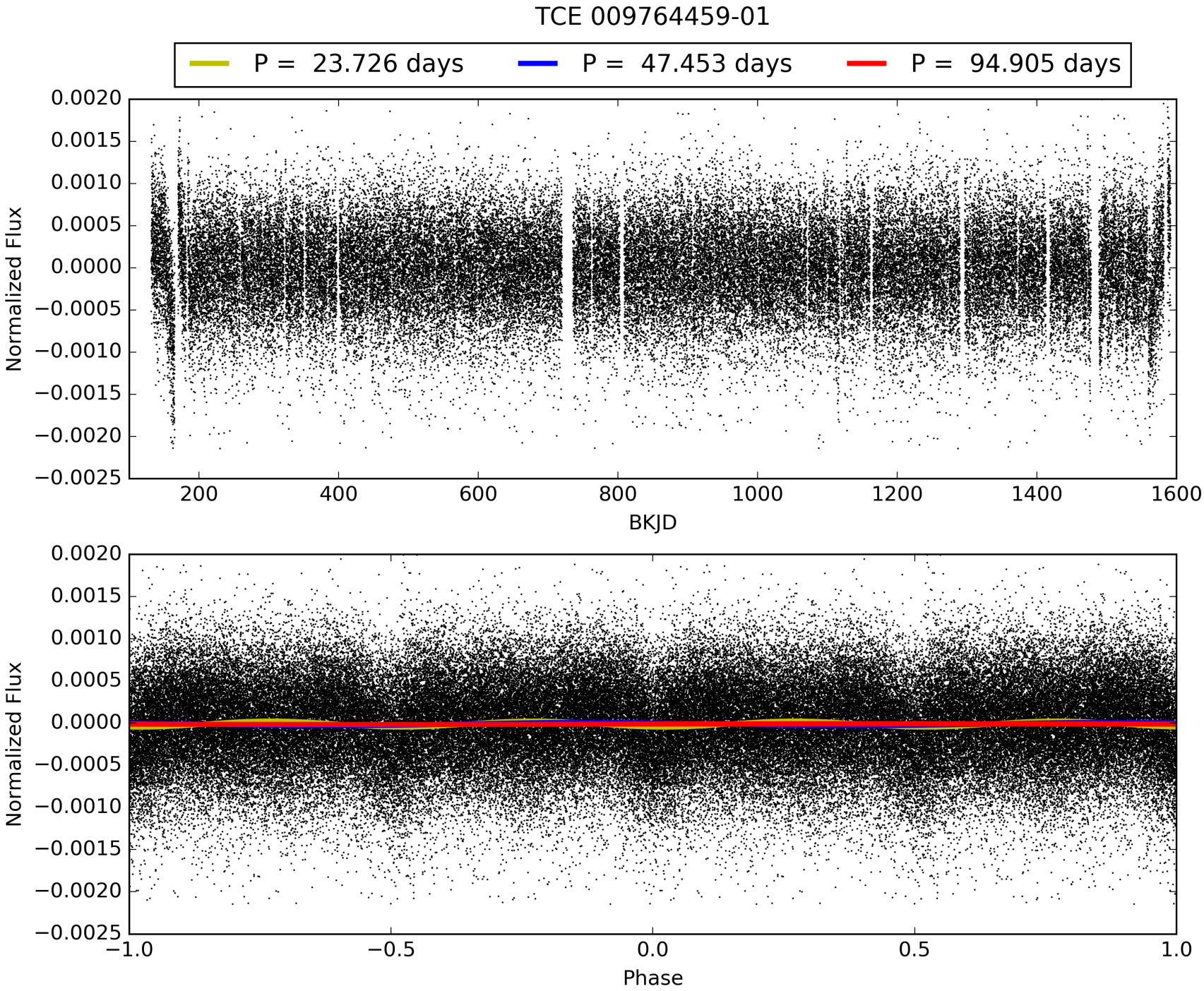
Centroid−sig: 12.2%
Centroid−so: 2.685 arcsec [1.41σ]
OotOffset−rm: 0.914 arcsec [1.28σ]
KicOffset−rm: 0.841 arcsec [1.06σ]
OotOffset−st: 3/2/3/4 [12]
KicOffset−st: 3/2/3/4 [12]
DiffImageQuality−fgm: 0.25 [3/12]
DiffImageOverlap−fno: 1.00 [17/17]

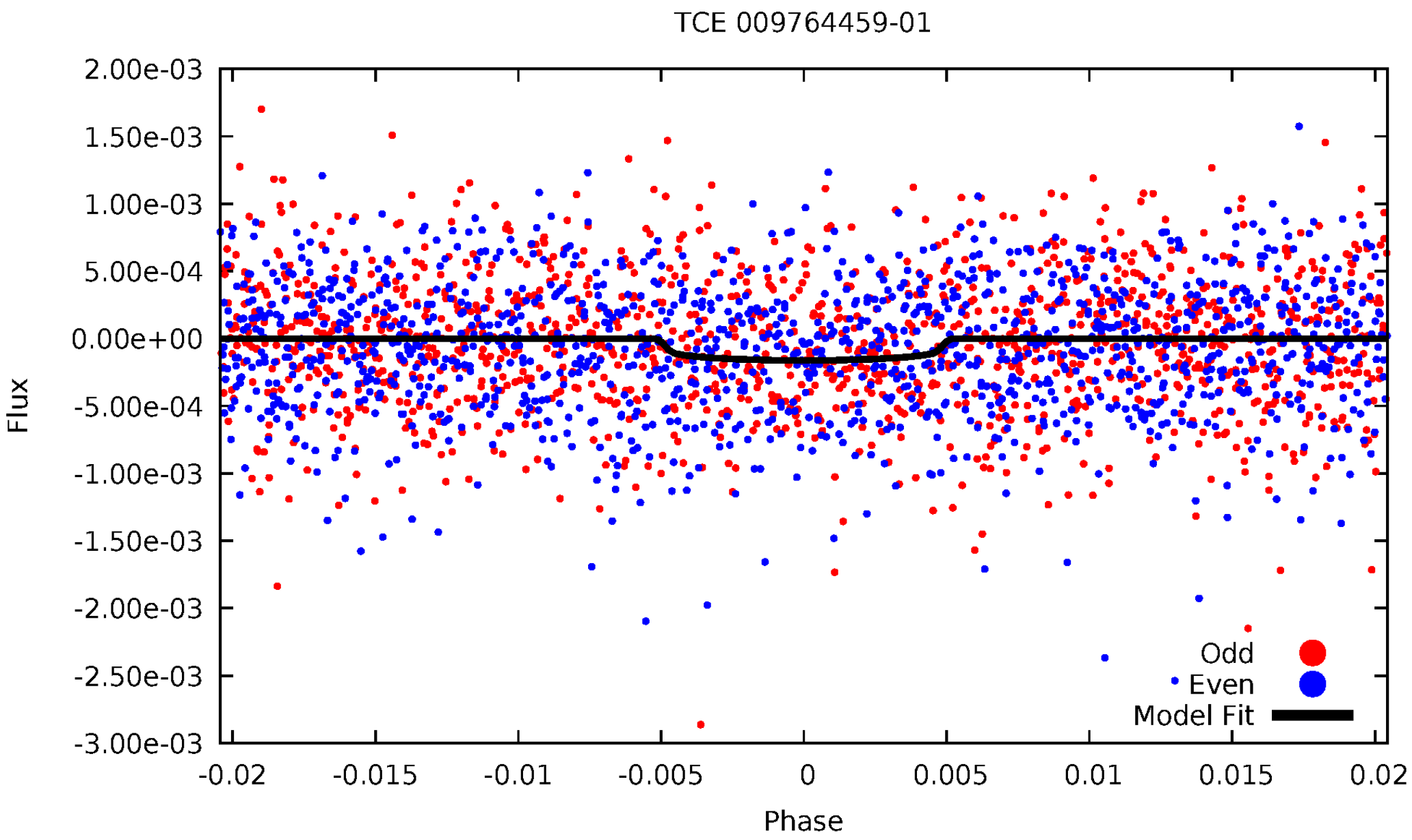
Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2320@61025 −− Date Generated: 03−Mar−2016 23:38:07 Z

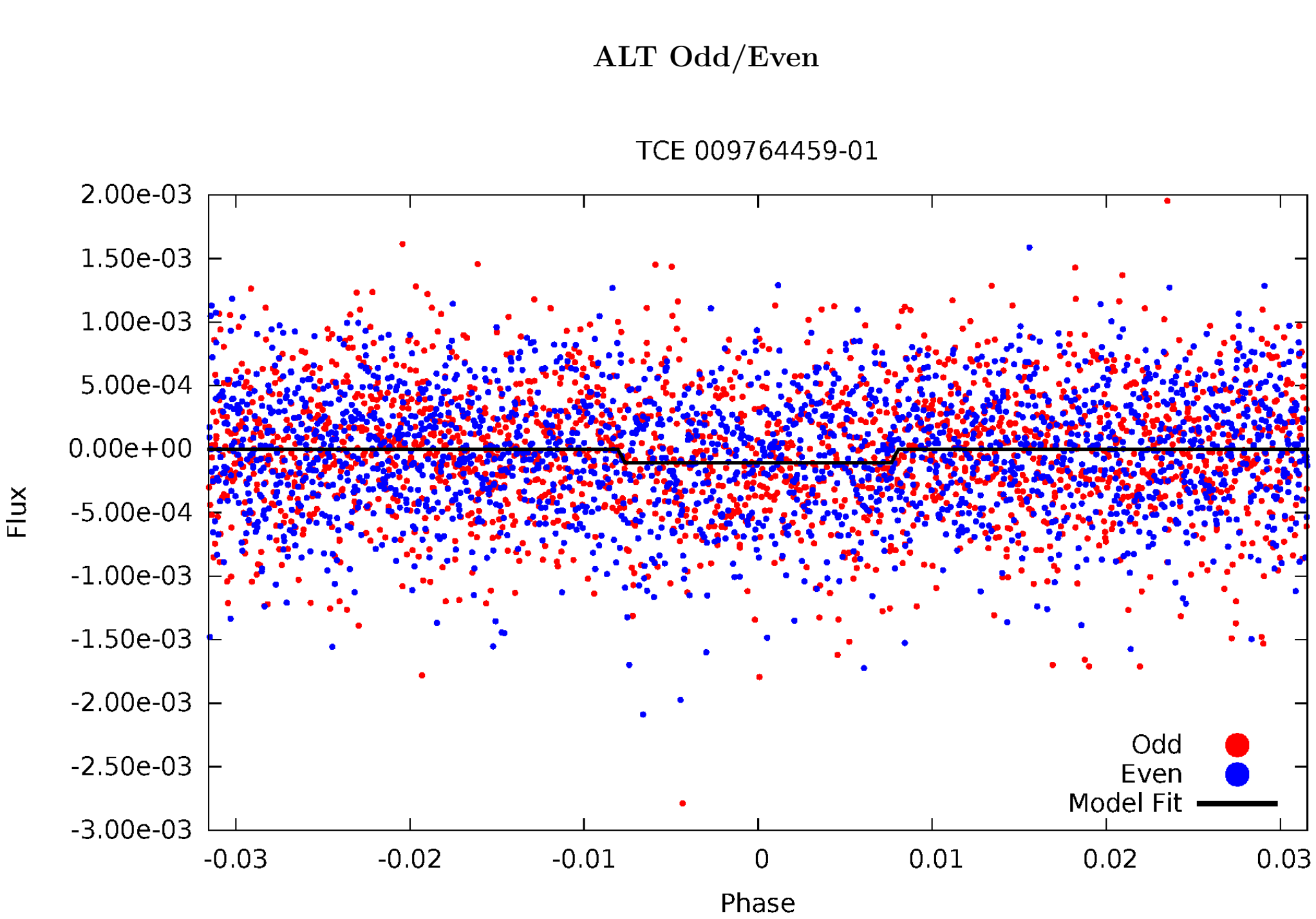
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009764459-01, PDC Light Curves

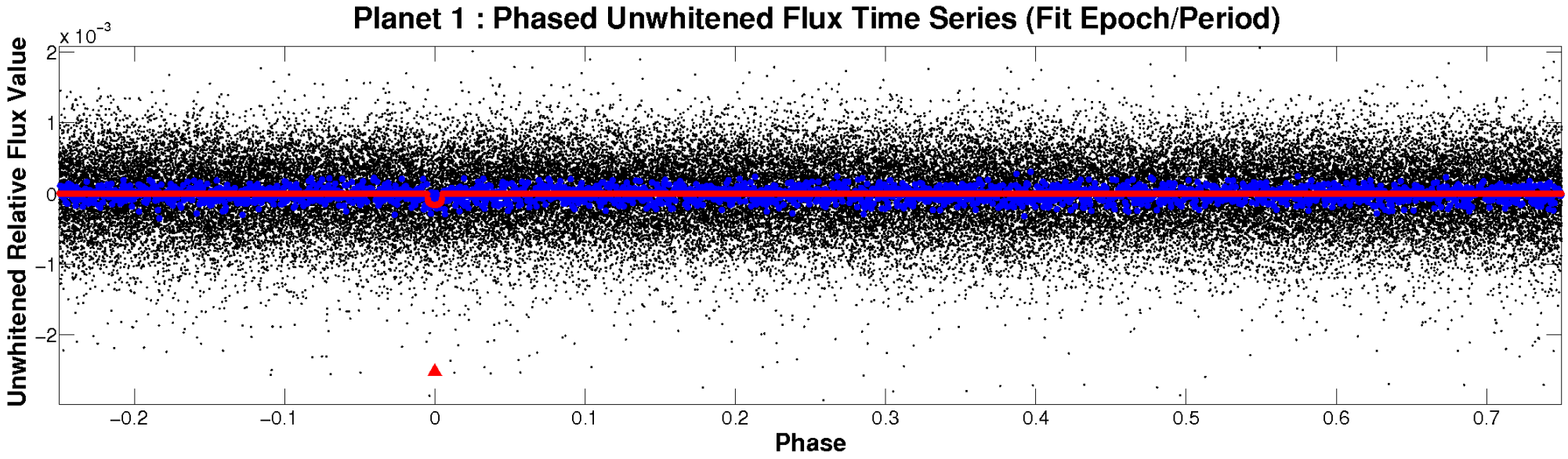


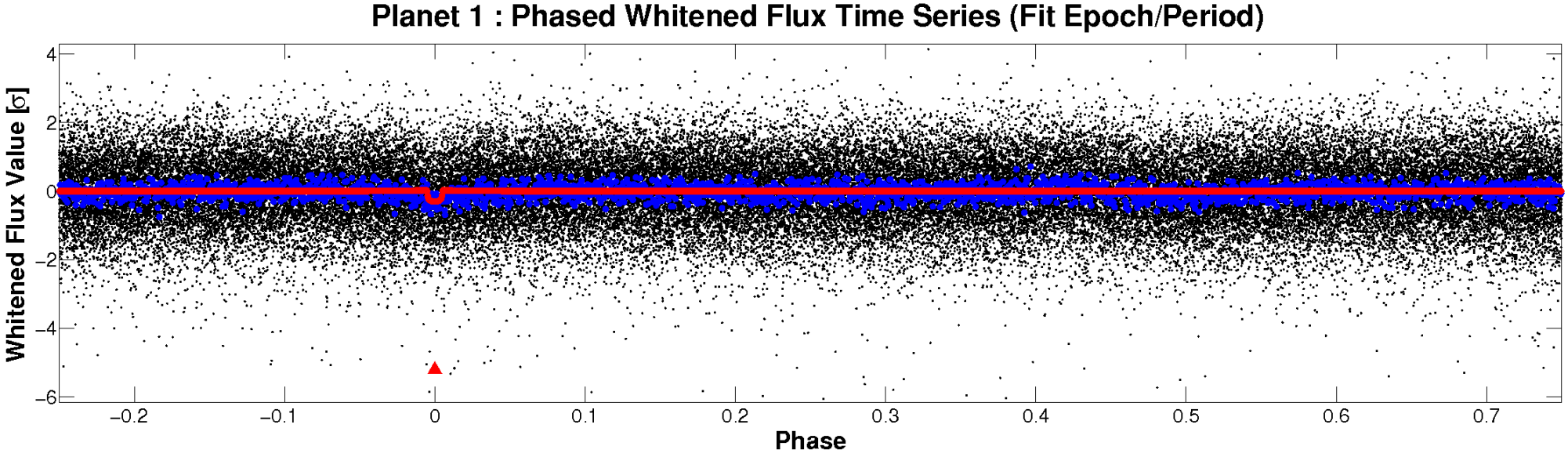

TCE 009764459-01
P = 23.726 days
P = 47.453 days
P = 94.905 days
Normalized Flux
BKJD
Normalized Flux
Phase


DV Odd/Even
TCE 009764459-01
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
-3.00e-03
Flux
-0.02
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
0.02
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009764459-01
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
-3.00e-03
Flux
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
Phase
Odd
Even
Model Fit

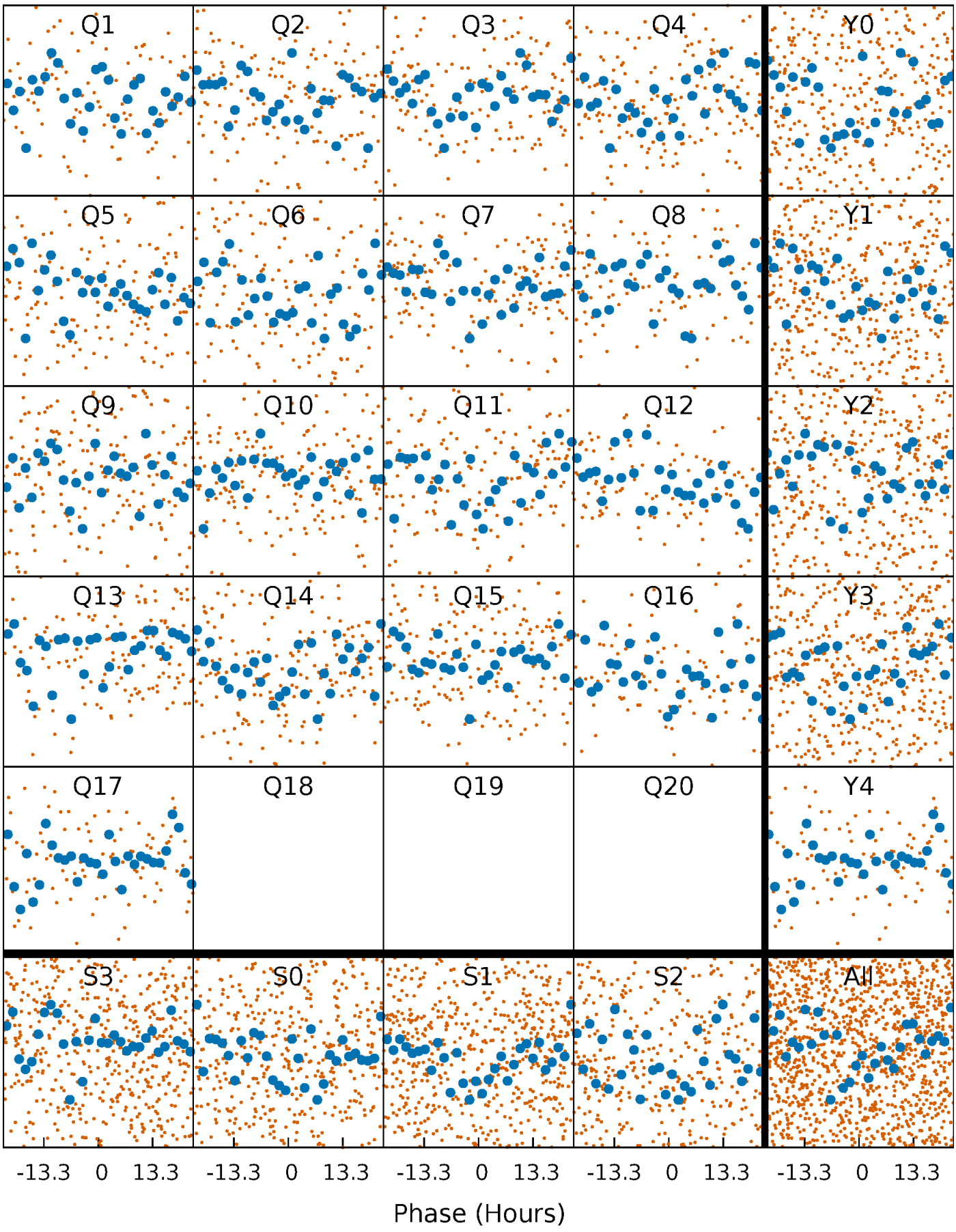
Non-Whitened Vs. Whitened Light Curve





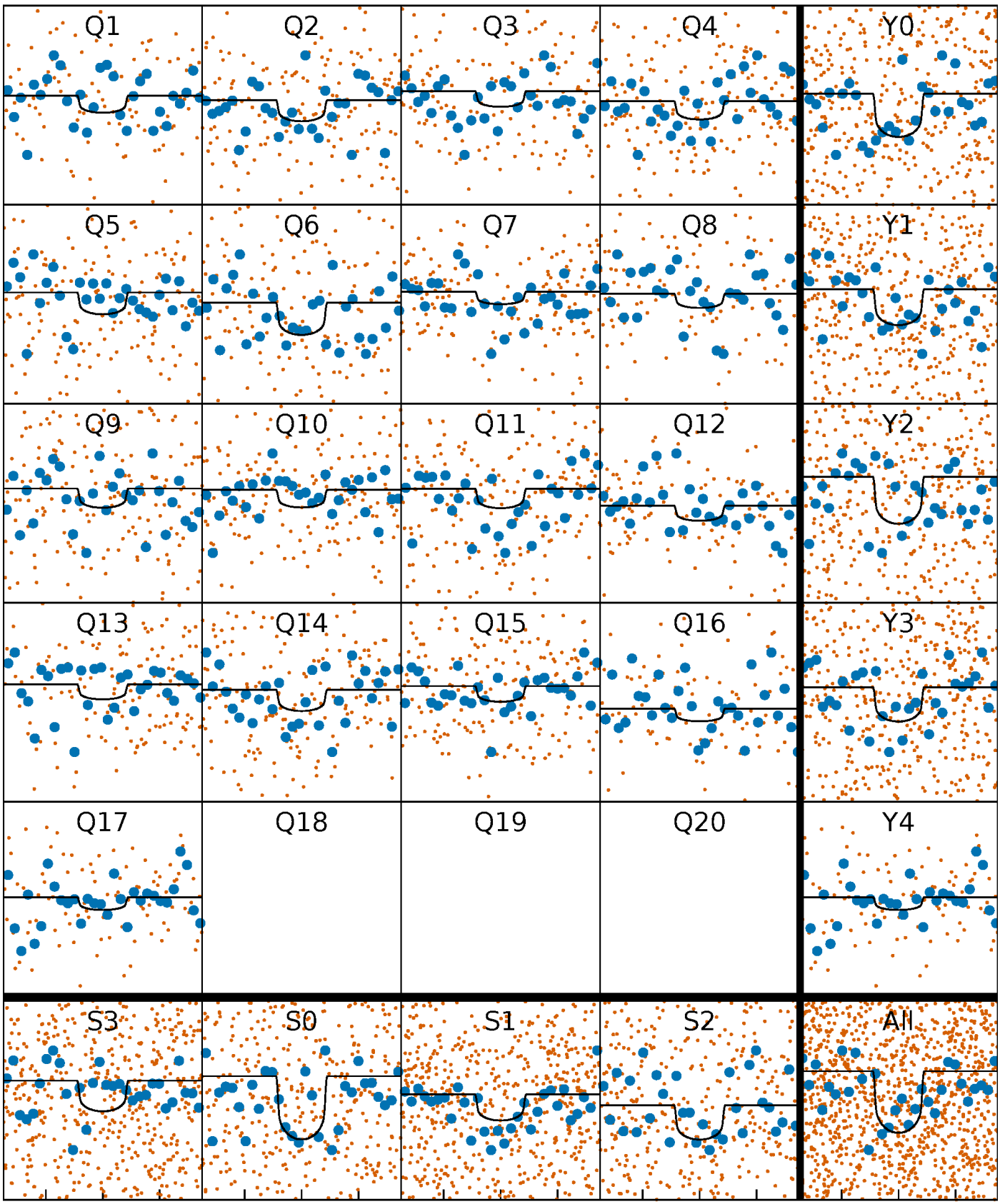
PDC Quarter-Phased Transit Curves

TCE 009764459-01 P= 47.452674 Days T_0=138.705492 (BKJD)



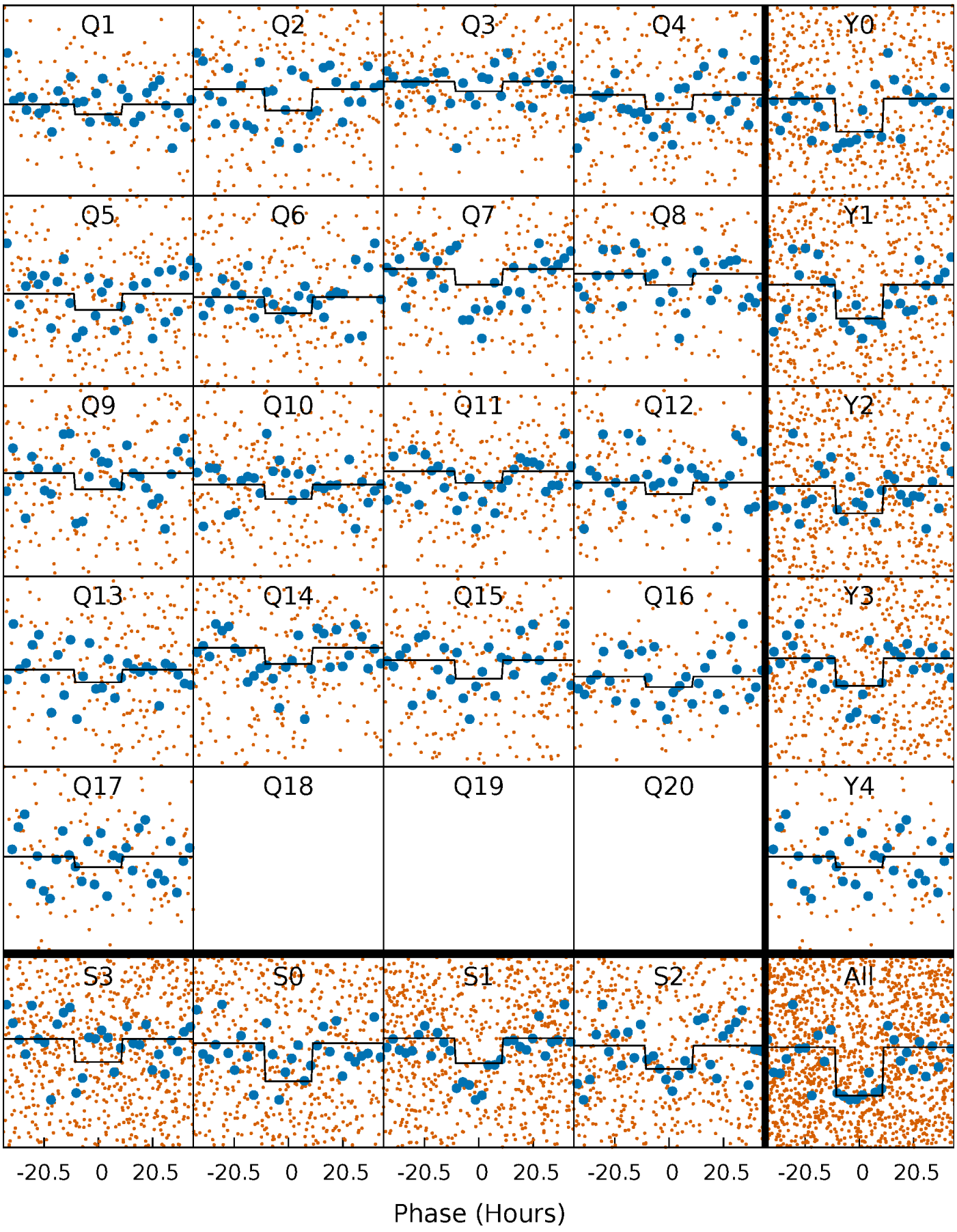
DV Quarter-Phased Transit Curves

TCE 009764459-01 P= 47.452674 Days T_0=138.705492 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

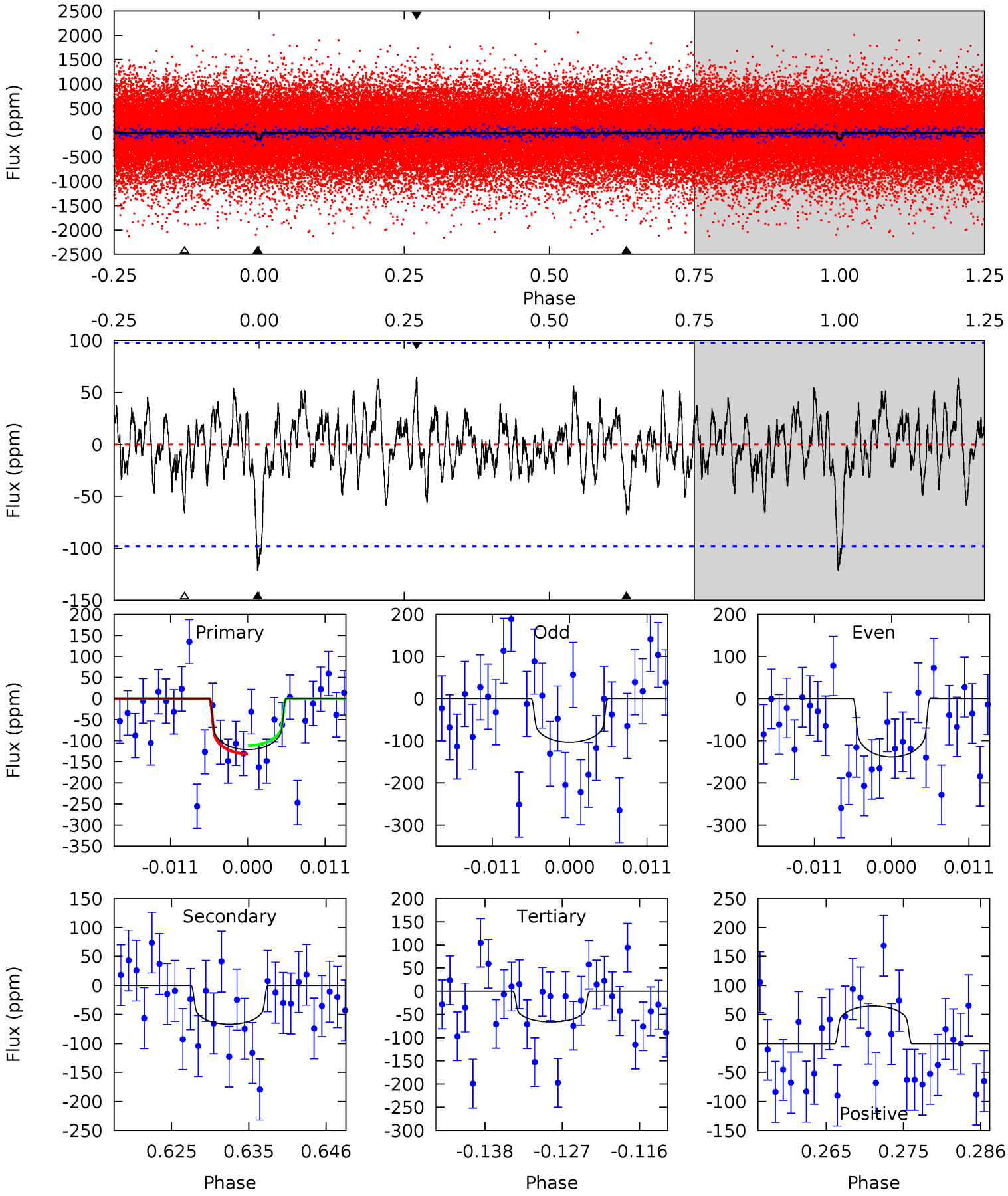
TCE 009764459-01 P= 47.455934 Days T_0=138.691597 (BKJD)



DV Model-Shift Uniqueness Test

009764459-01, P = 47.452674 Days, E = 91.252818 Days

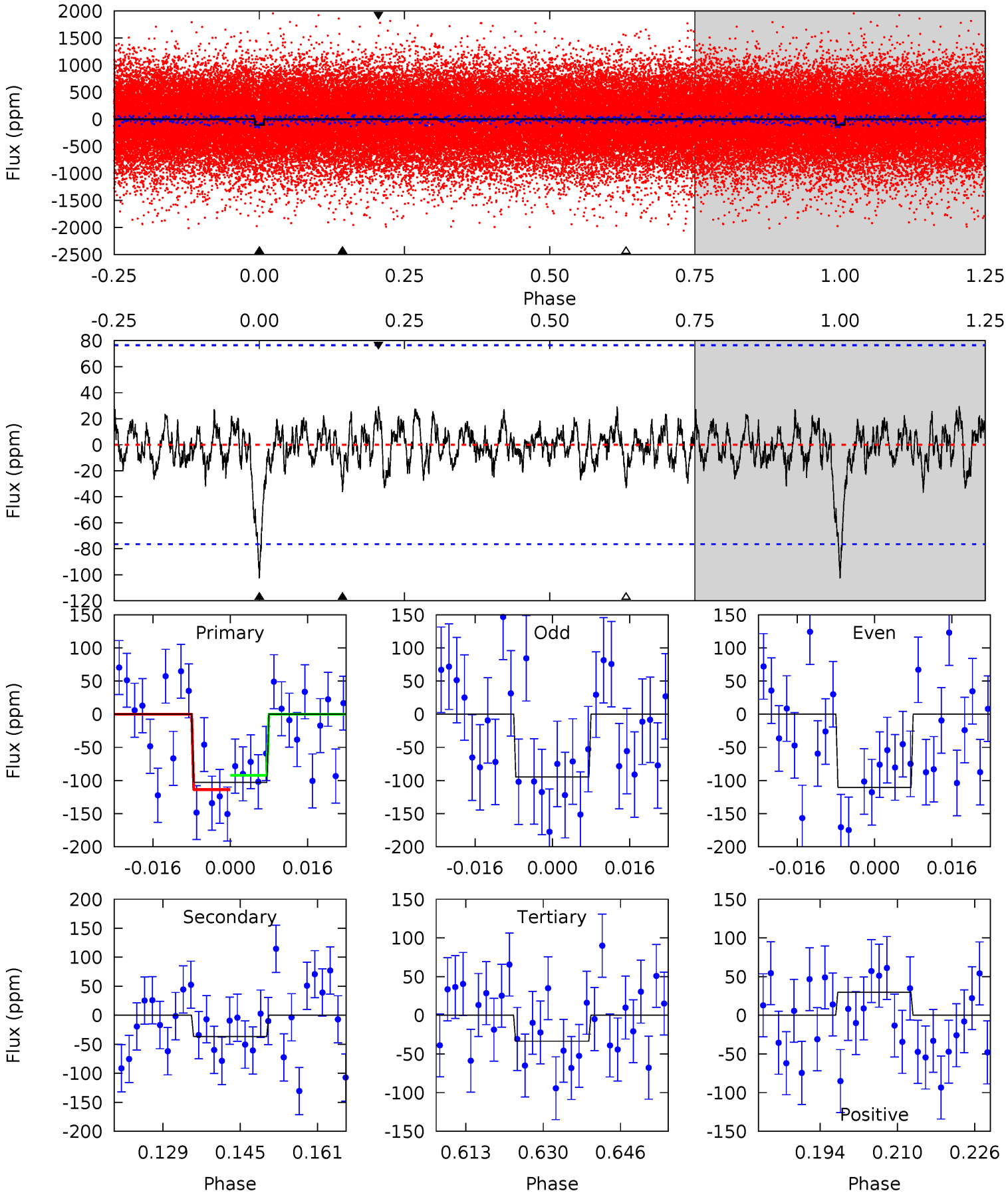
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.22	3.43	3.39	3.31	5.02	2.56	1.13	2.83	2.90	0.04	0.11	0.91	1.06	0.35	0.52



Alt Model-Shift Uniqueness Test

009764459-01, P = 47.455934 Days, E = 91.235663 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.62	2.35	2.16	1.91	4.93	2.41	0.73	4.47	4.71	0.19	0.44	0.51	1.09	0.22	0.70



Stellar Parameters For KIC 009764459

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5569^{+149}_{-166}	$4.566^{+0.038}_{-0.162}$	$-0.080^{+0.300}_{-0.300}$	$0.829^{+0.201}_{-0.063}$	$0.928^{+0.083}_{-0.111}$	$2.295^{+0.462}_{-0.970}$
	+3%/-3%	+1%/-4%	+375%/-375%	+24%/-8%	+9%/-12%	+20%/-42%
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 009764459-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67±20	$1.25^{+0.65}_{-0.60}$	636^{+34}_{-26}	4517^{+1516}_{-705}	1435^{+3821}_{-857}
Alt.	-36±16	$1.05^{+0.60}_{-0.58}$	637^{+37}_{-29}	4224^{+1926}_{-701}	1050^{+4813}_{-707}

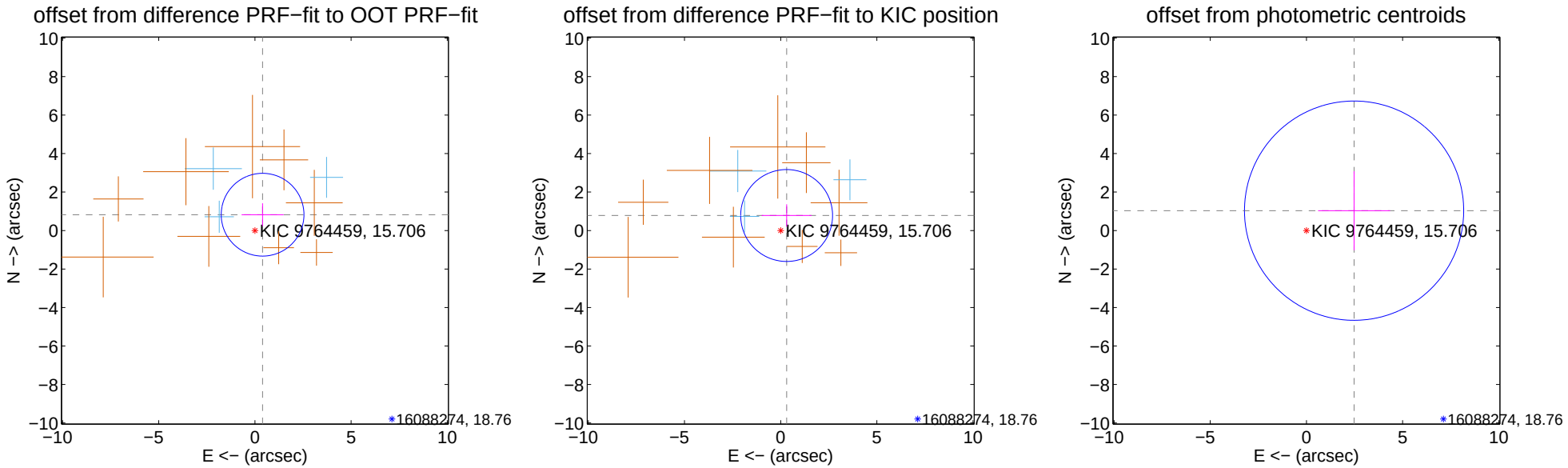
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

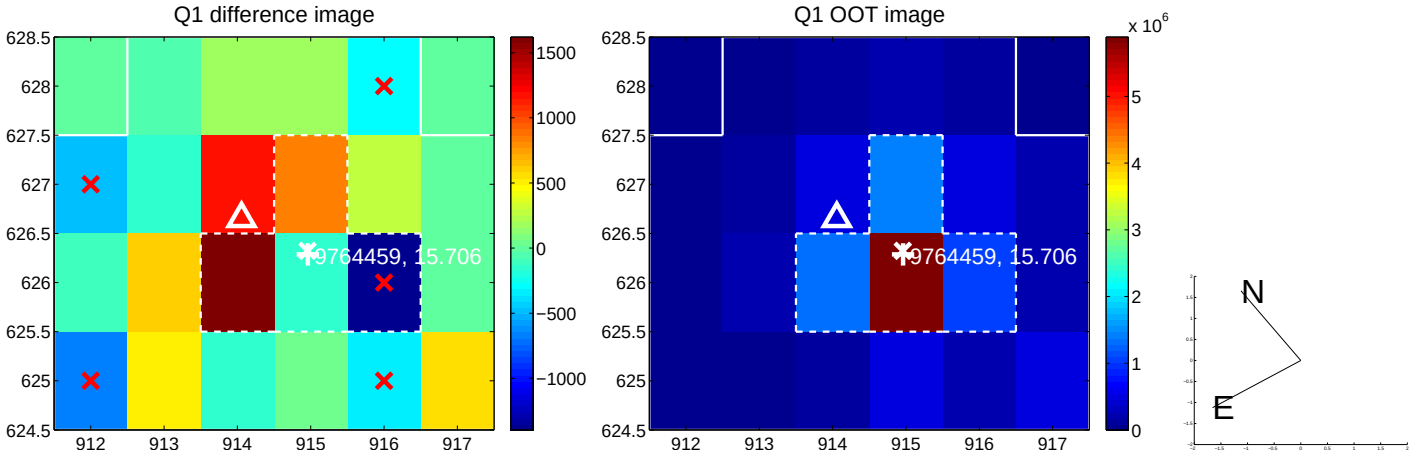
Supplemental centroid analysis for 009764459-01. Kepler magnitude: 15.71. Transit SNR 6.40
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

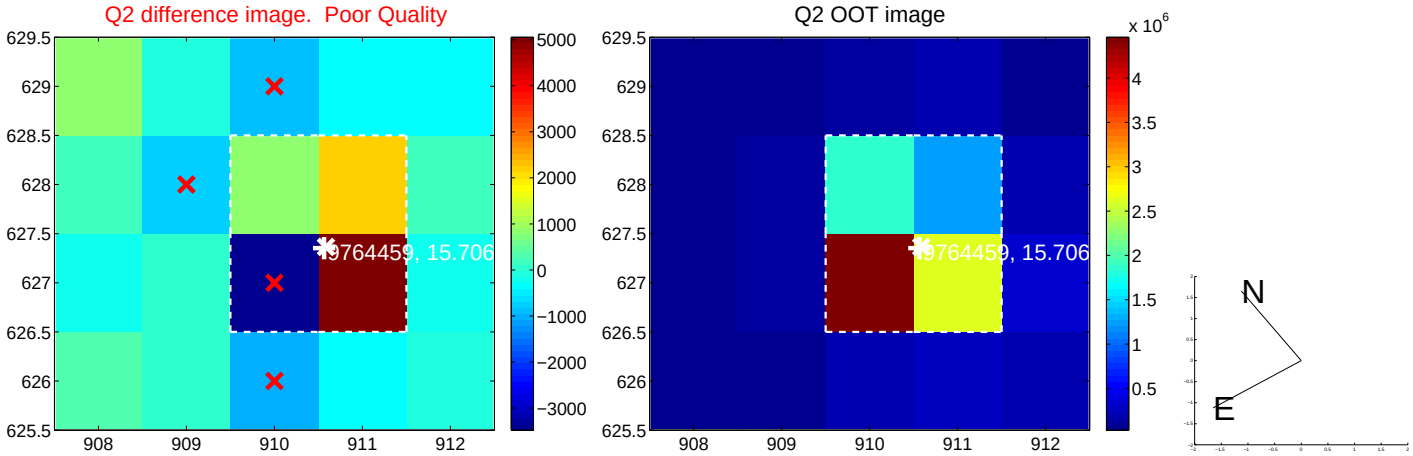
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.914 ± 0.717	1.28	-0.399 ± 1.094	0.823 ± 0.595
PRF-fit source offset from KIC position	0.841 ± 0.796	1.06	-0.310 ± 1.298	0.781 ± 0.581
photometric centroid source offset	2.68 ± 1.90	1.41	-2.48 ± 1.87	1.03 ± 2.05

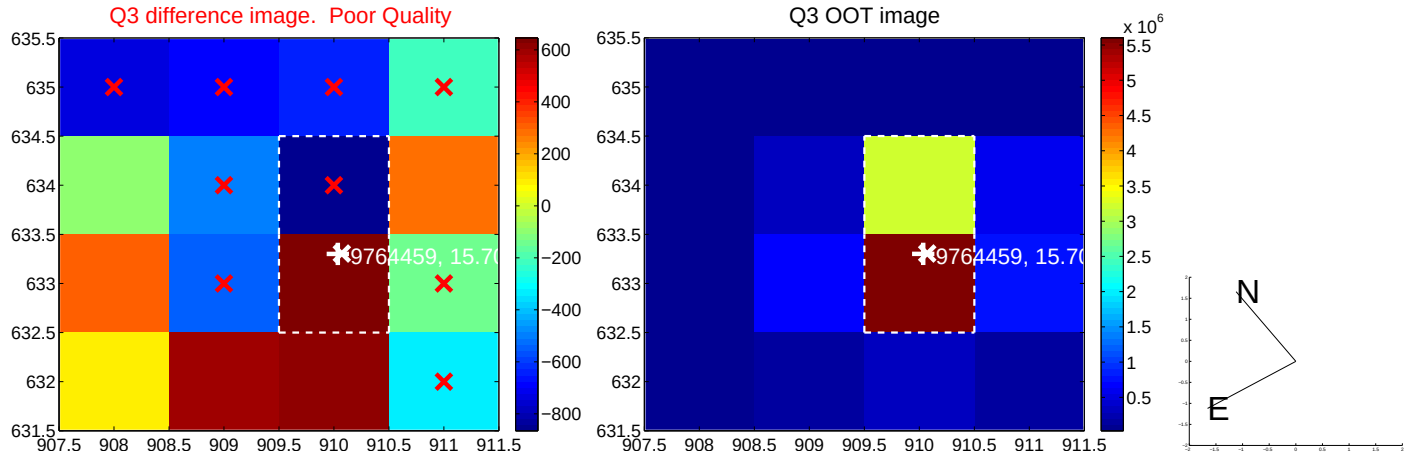


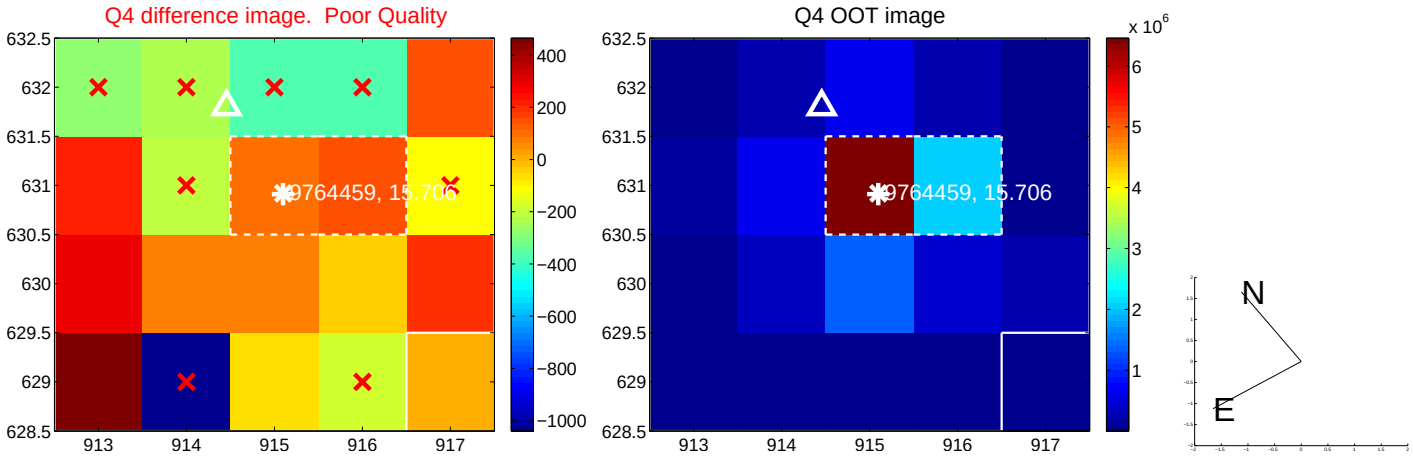
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

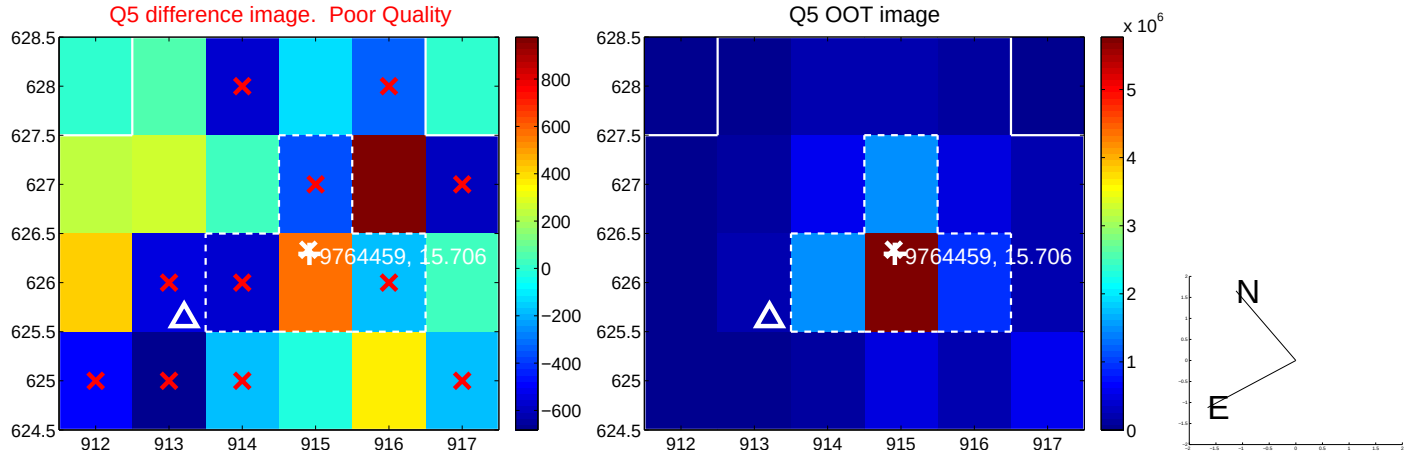


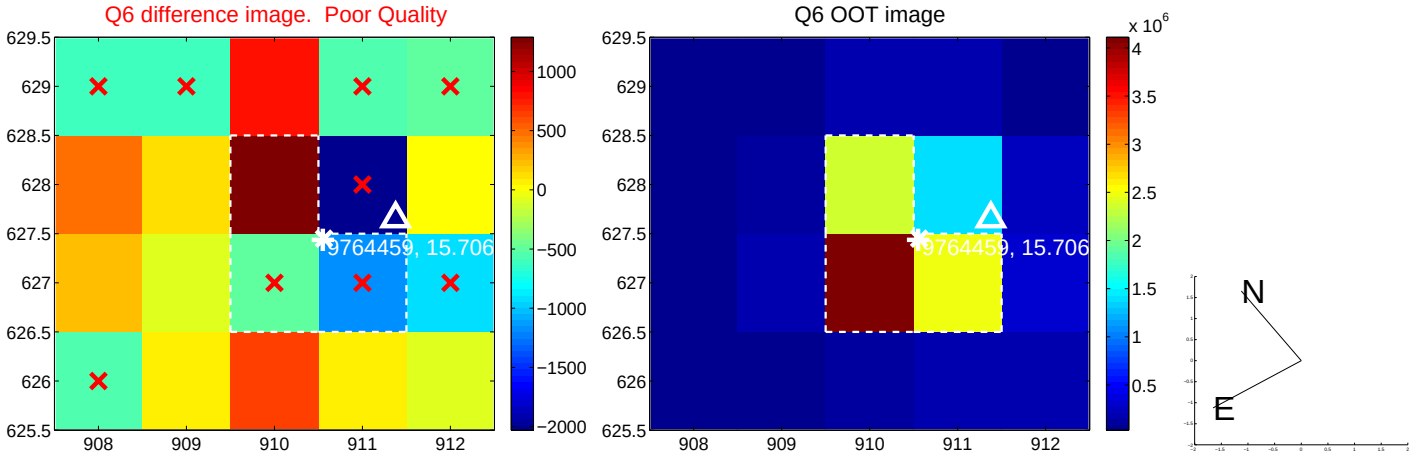


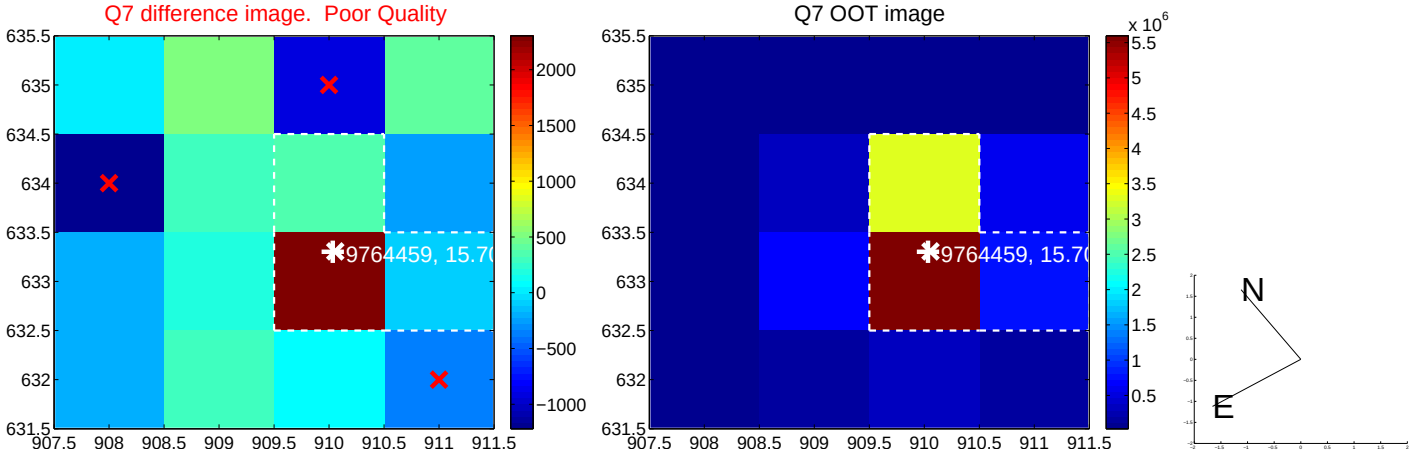


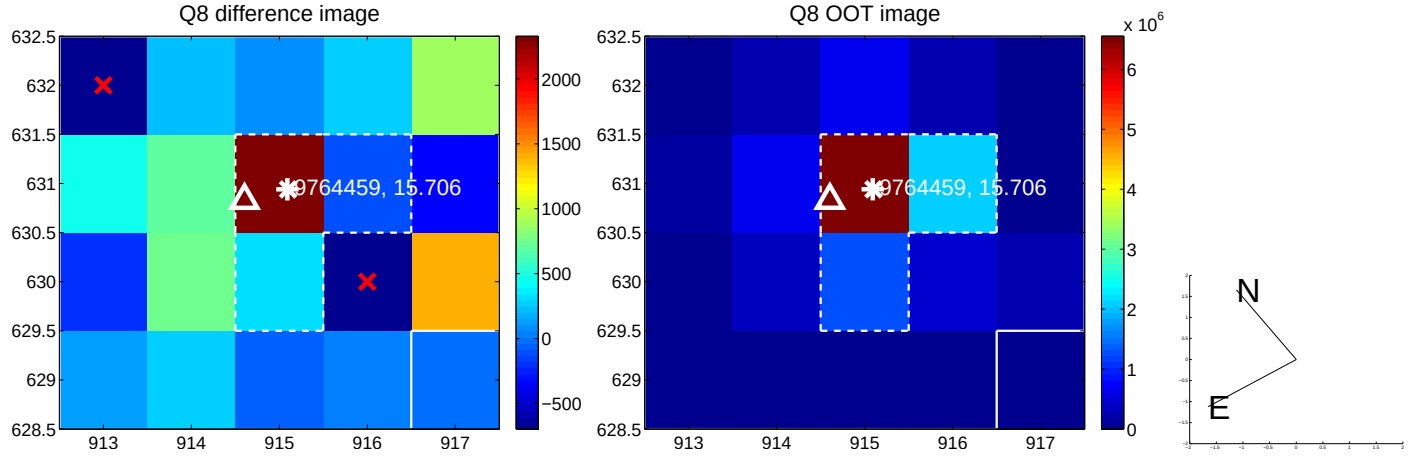


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

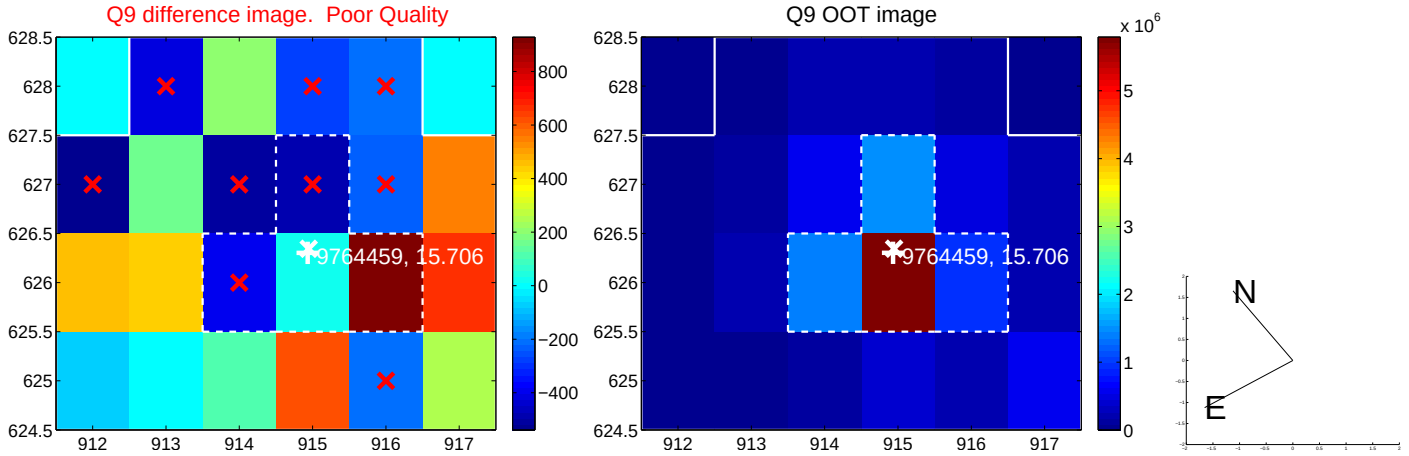


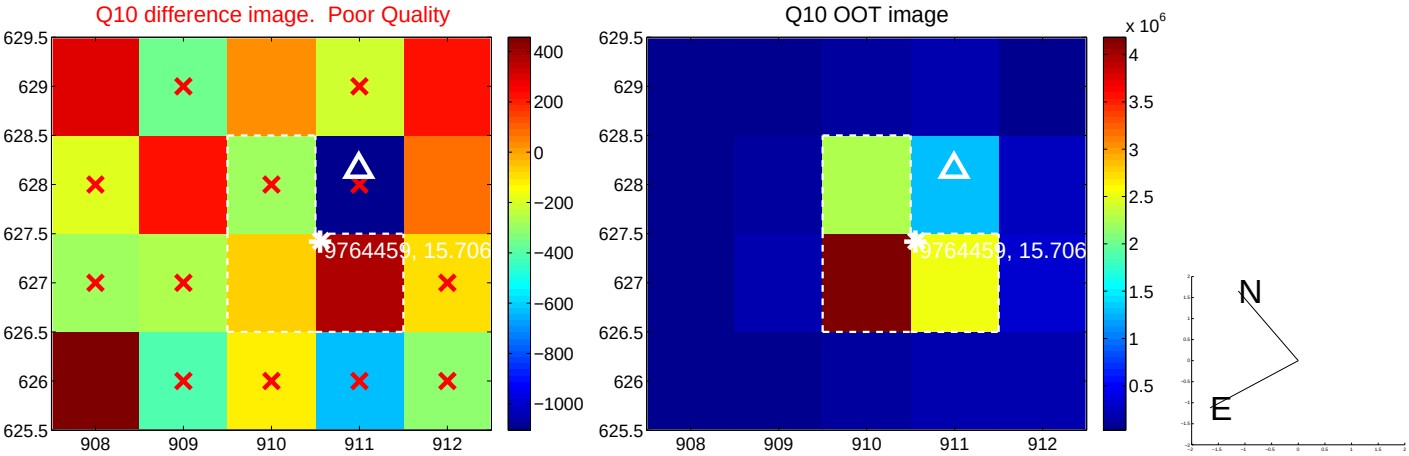


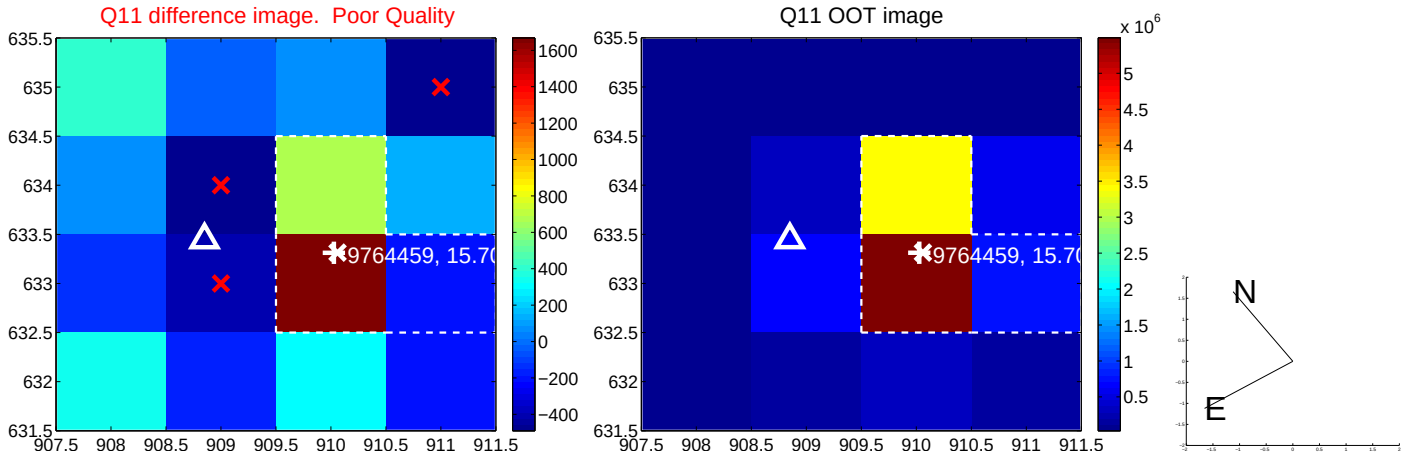


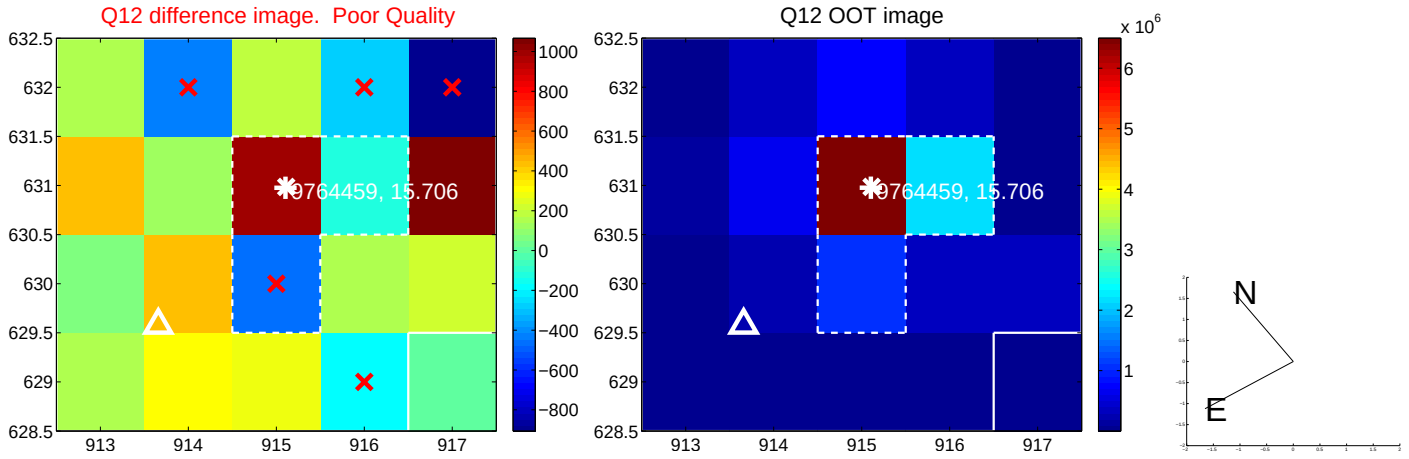


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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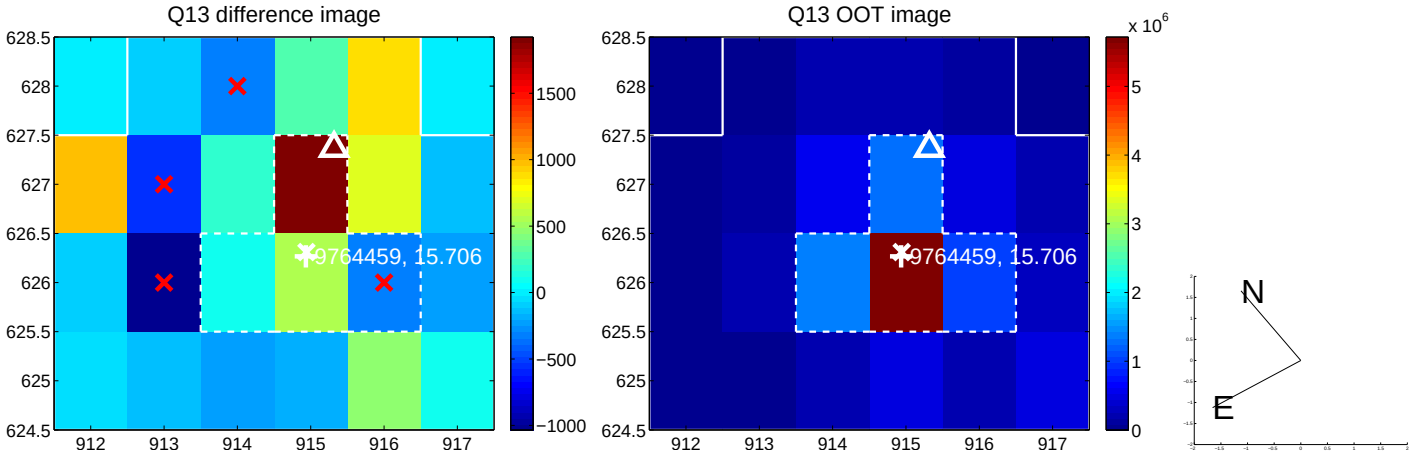

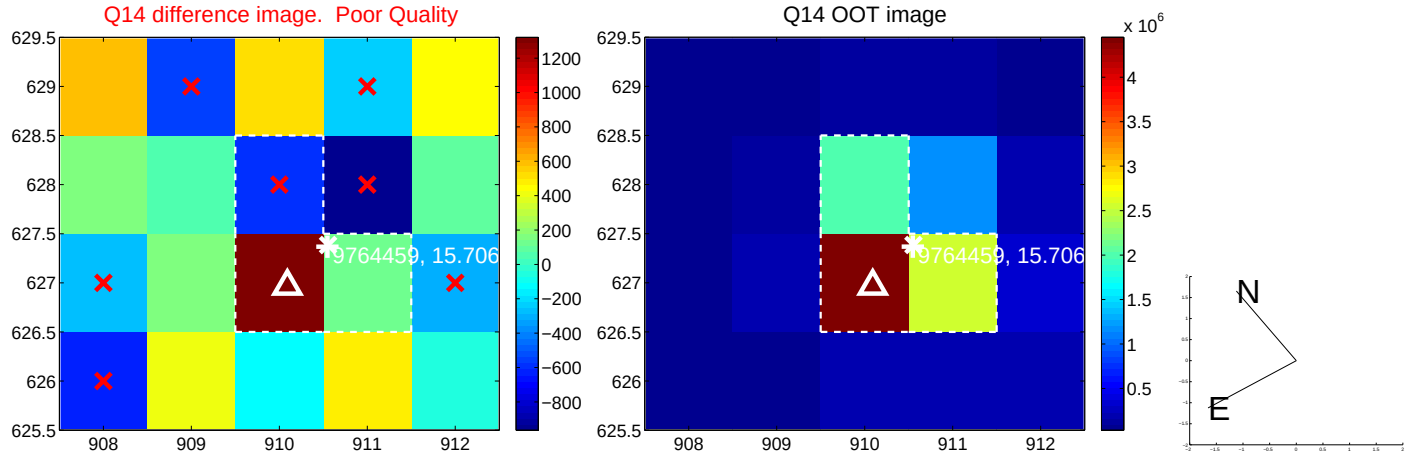

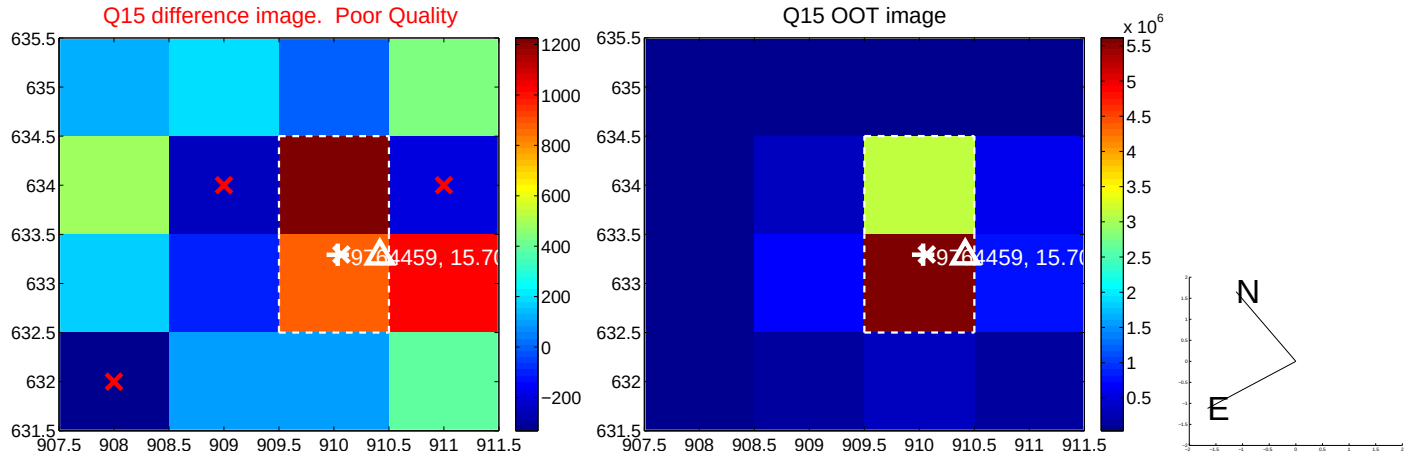

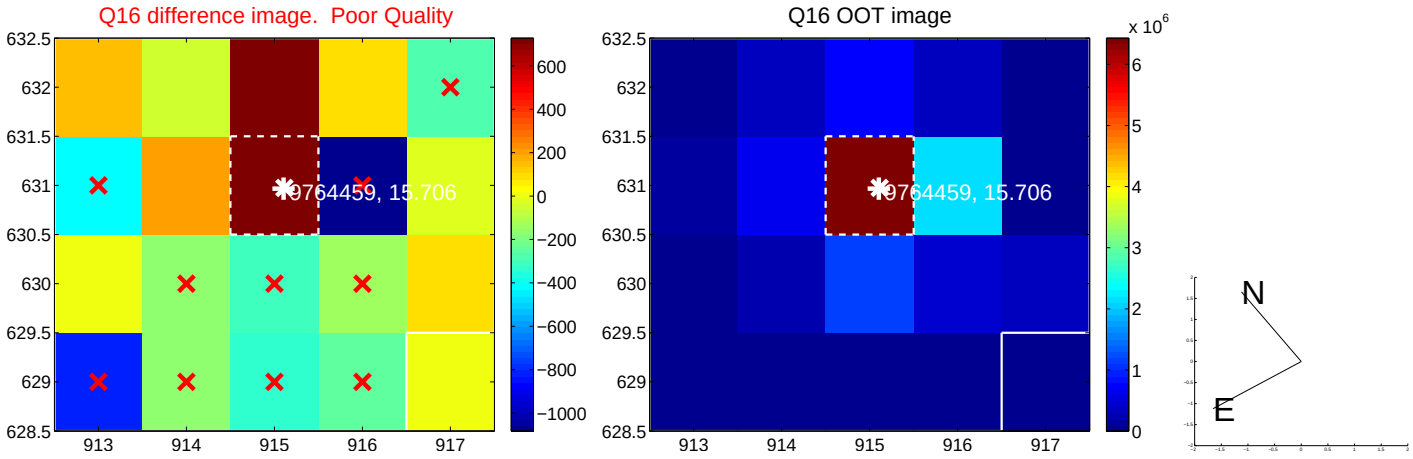

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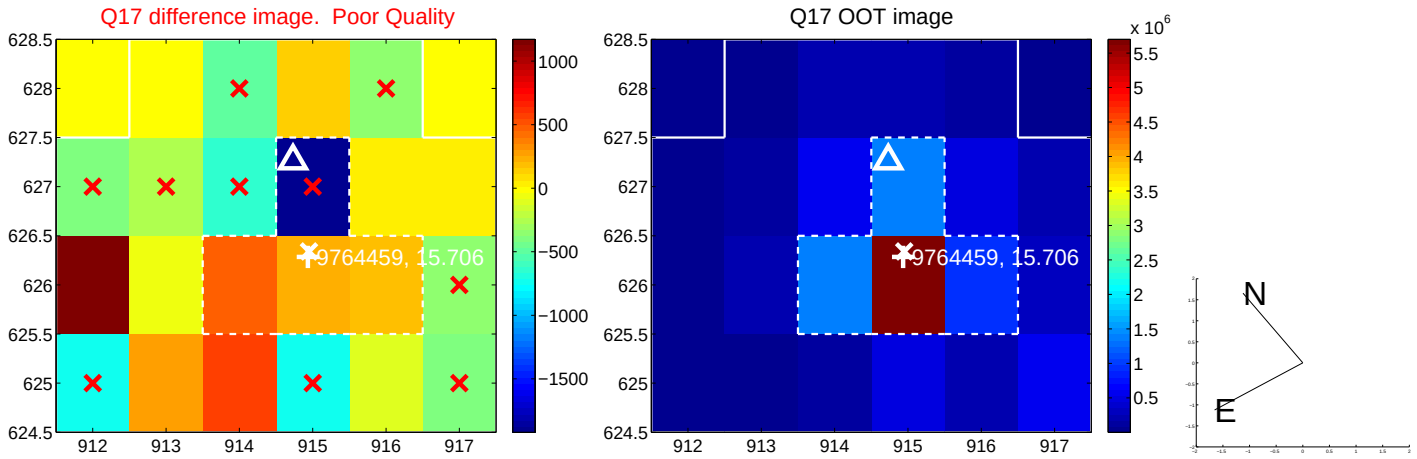

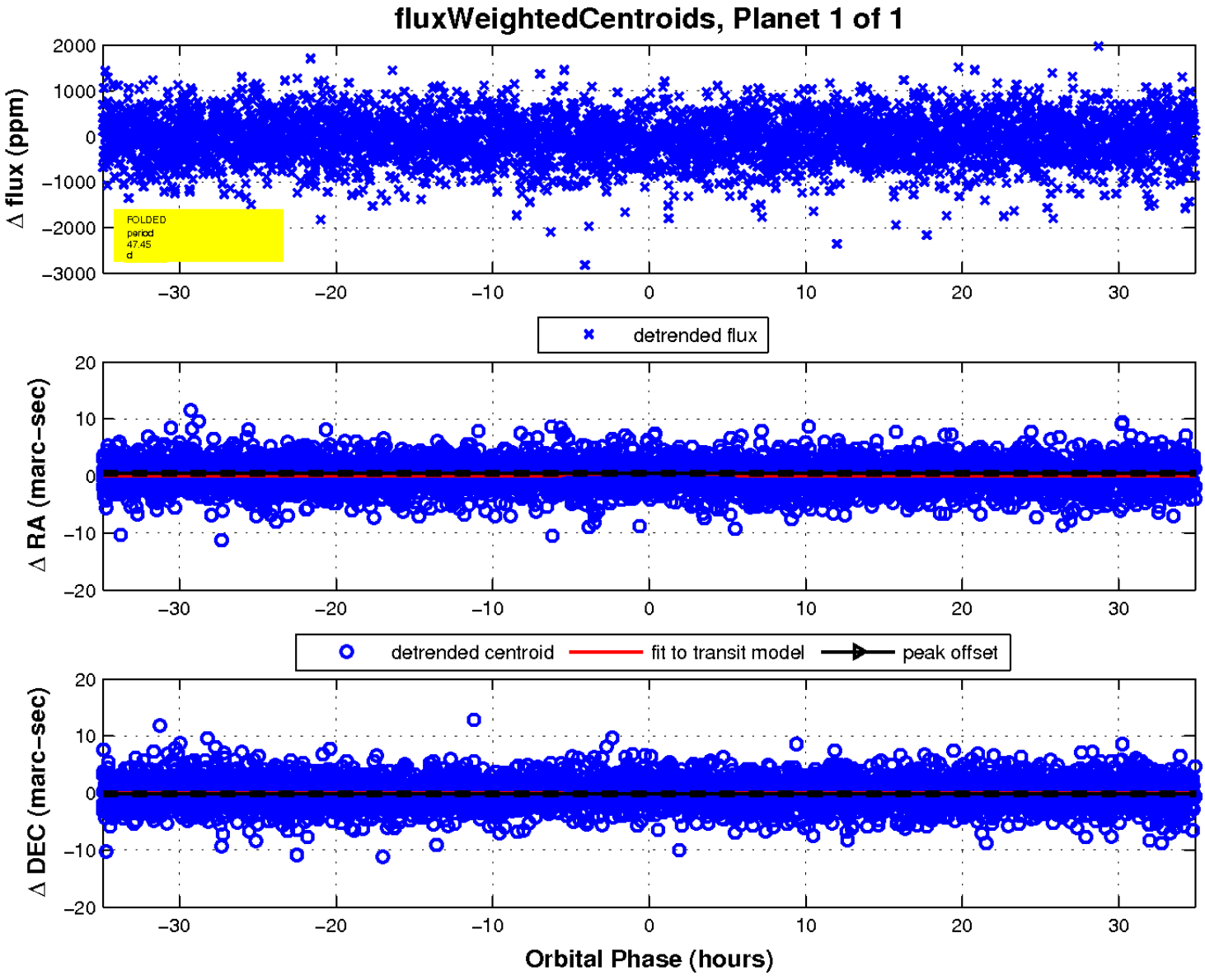

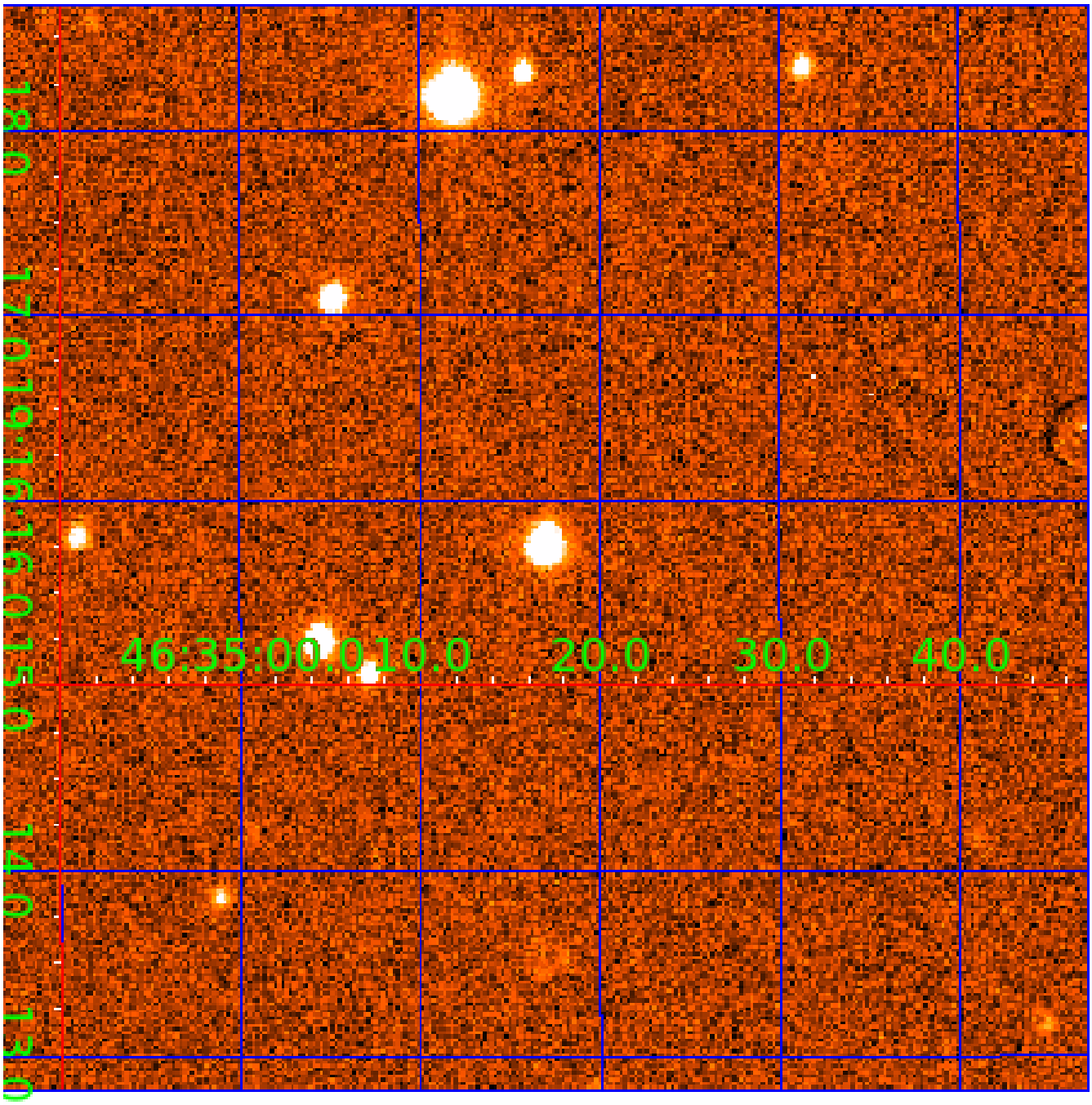
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