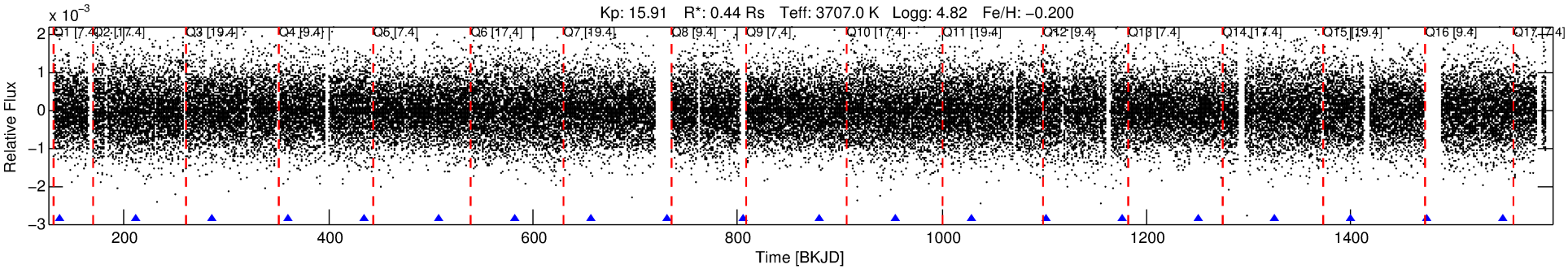
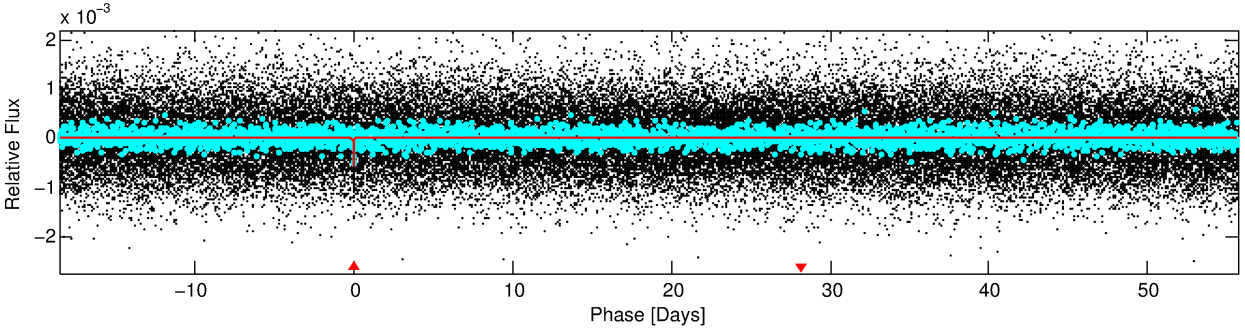
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

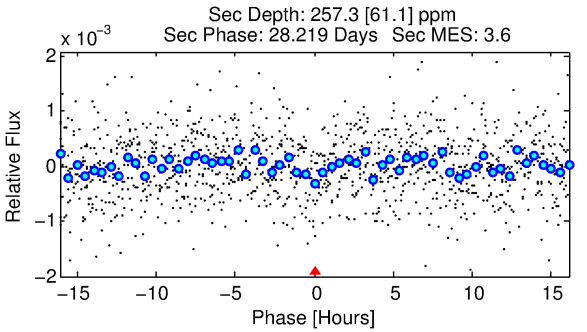
DV One-Page Summary

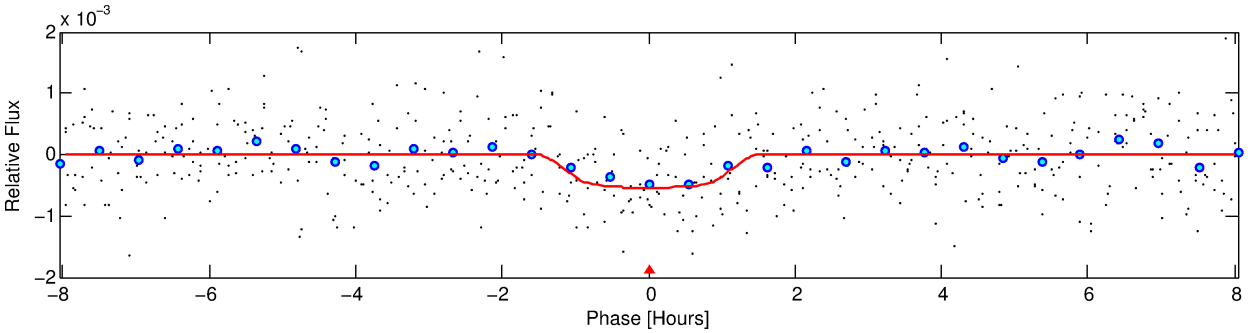
KIC: 9388780 Candidate: 1 of 1 Period: 74.263 d

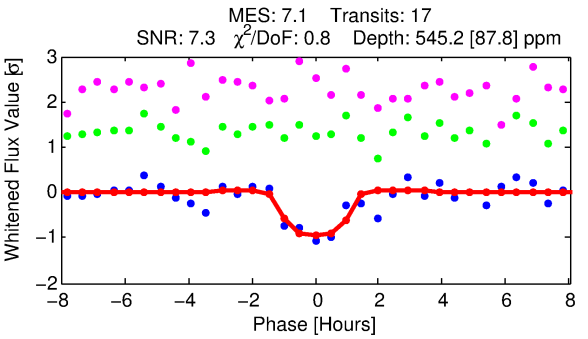
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

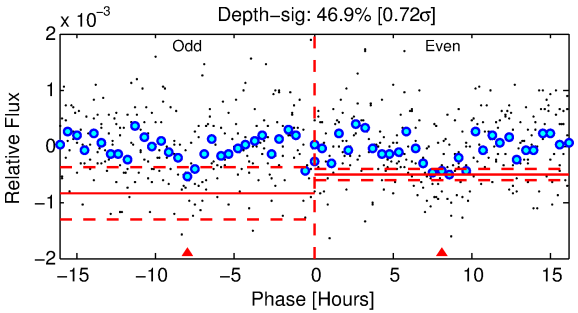


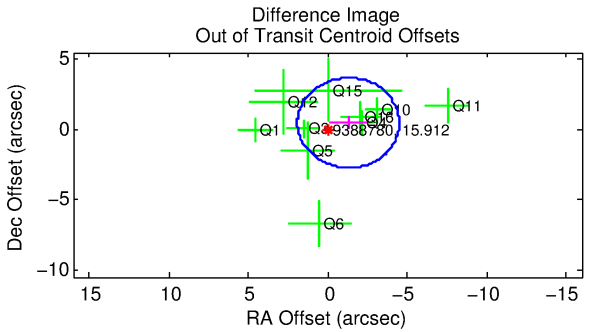












DV Fit Results:

Period = 74.26291 [0.00082] d
Epoch = 137.1514 [0.0092] BKJD
Rp/R* = 0.0253 [0.0132]
a/R* = 104.69 [246.87]
b = 0.90 [0.52]

Seff = 0.45 [0.05]
Teq = 209 [5] K
Rp = 1.21 [0.64] Re
a = 0.2687 [0.0149] AU

Ag = 6976.06 [7503.47] [0.93σ]
Teffp = 2954 [794] K [3.46σ]

DV Diagnostic Results:

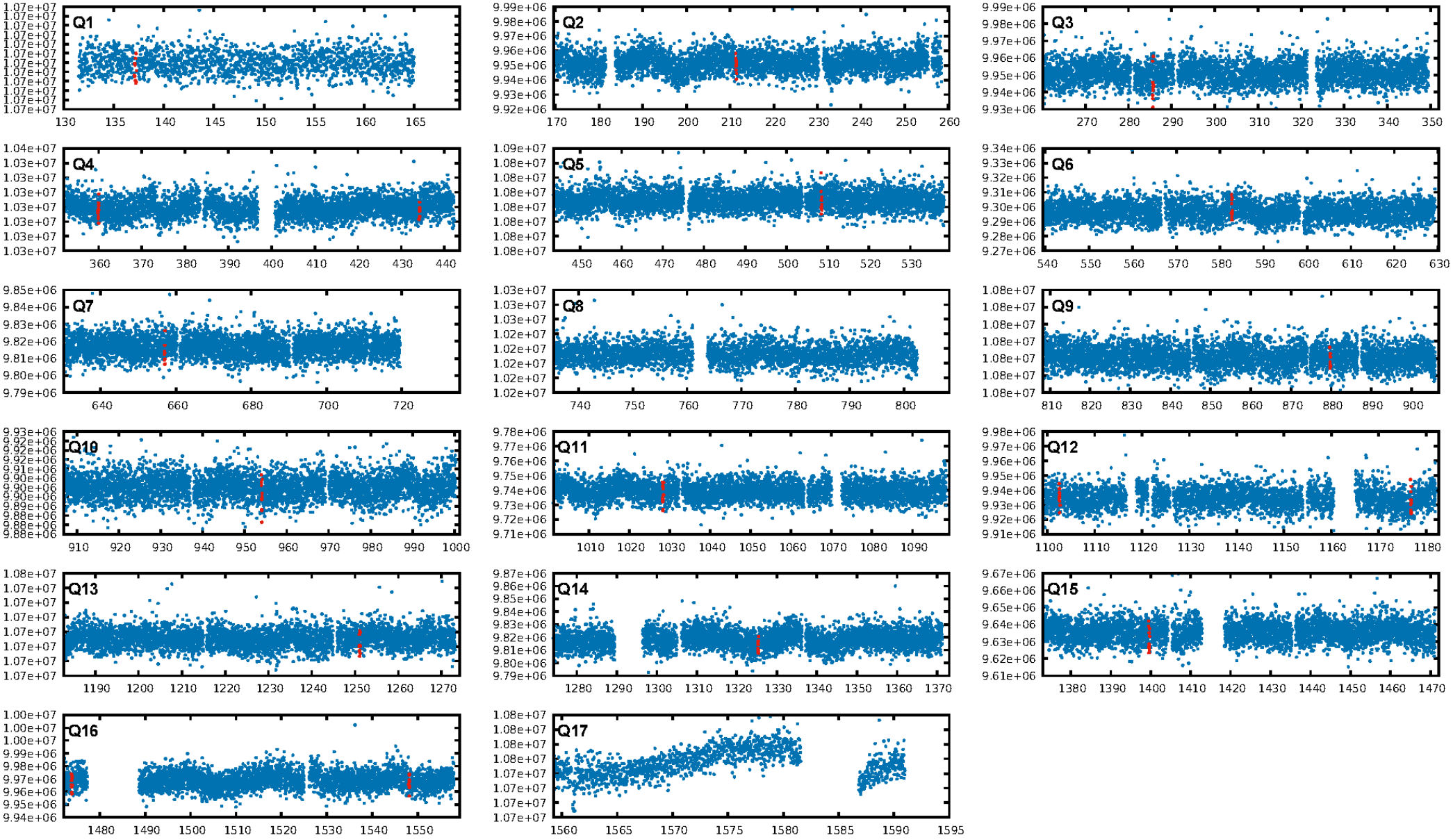
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 89.7%
ModelChiSquareGof−sig: 99.8%
Bootstrap−pfa: 4.67e−13
RollingBand−fgt: 1.00 [16/16]
GhostDiagnostic−chr: −1.547

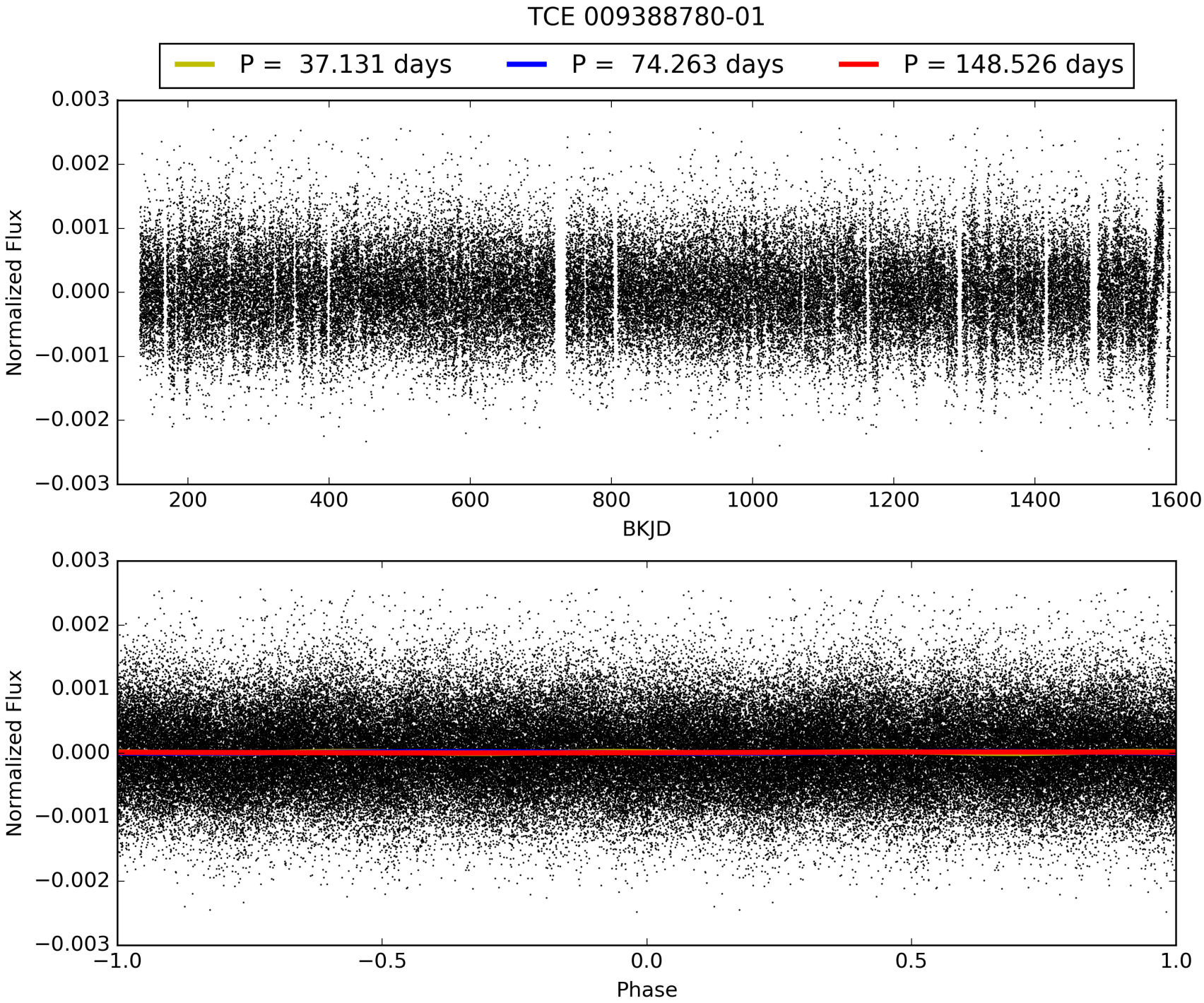
Centroid−sig: 78.7%
Centroid−so: 0.211 arcsec [0.10σ]
OotOffset−rm: 1.392 arcsec [1.30σ]
KicOffset−rm: 1.624 arcsec [1.41σ]
OotOffset−st: 2/3/3/2 [10]
KicOffset−st: 2/3/3/2 [10]
DiffImageQuality−fgm: 0.10 [1/10]
DiffImageOverlap−fno: 1.00 [15/15]

Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2174@60968 −− Date Generated: 16−Feb−2016 06:55:38 Z

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

TCE 009388780-01, PDC Light Curves

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P = 37.131 days
P = 74.263 days
P = 148.526 days
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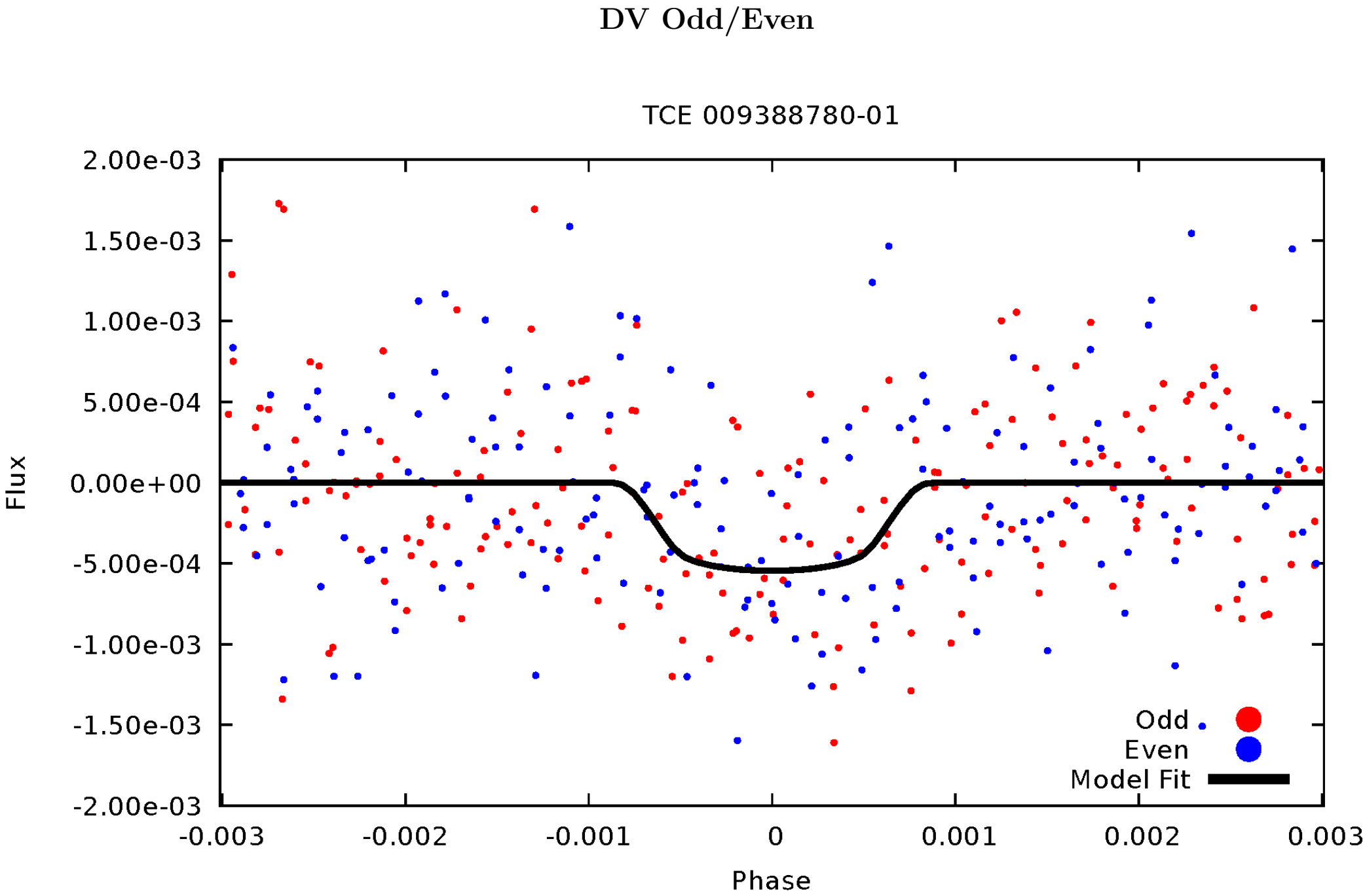
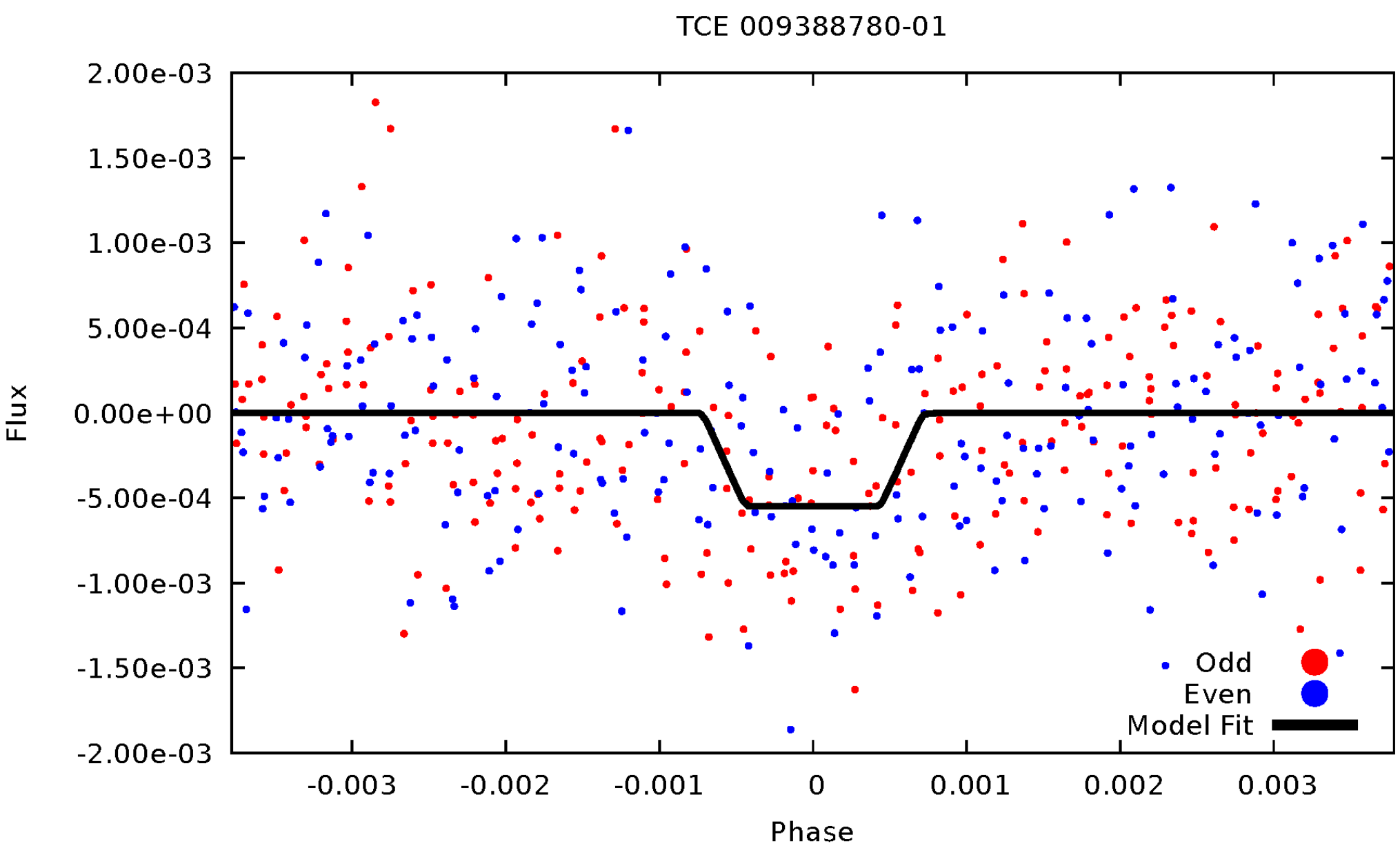
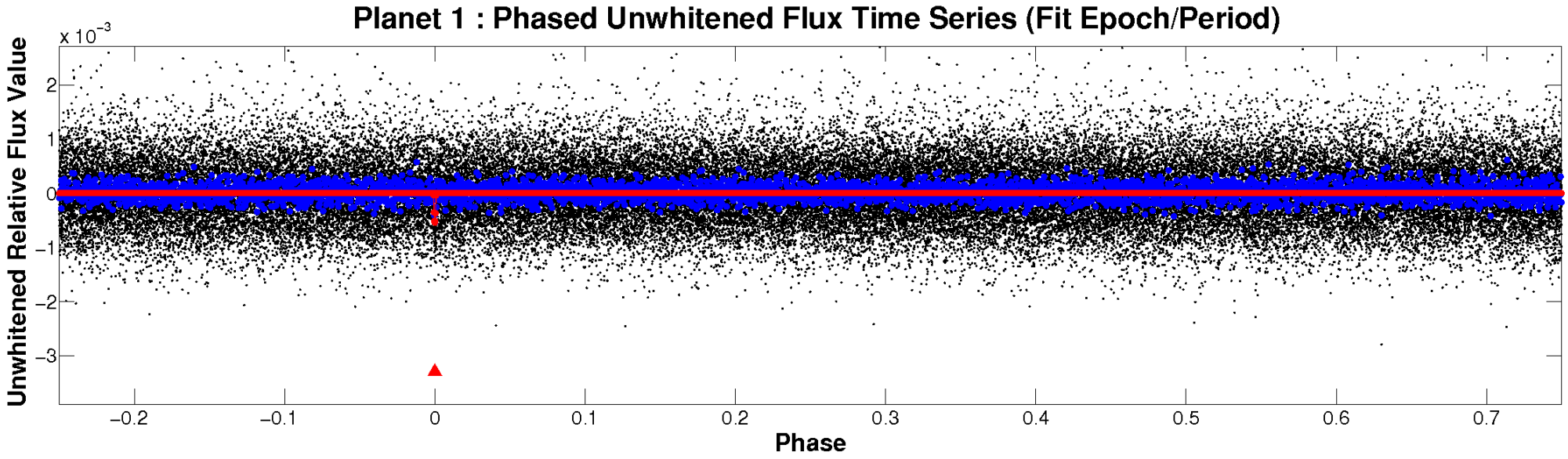
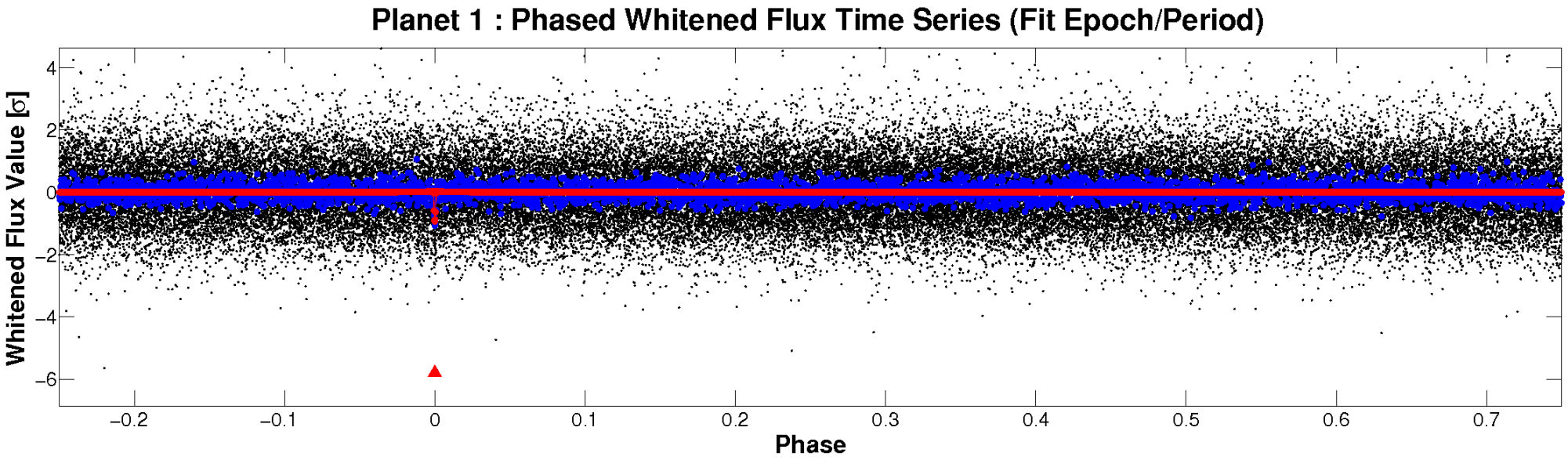
0.002
0.001
0.000
−0.001
−0.002
−0.003
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
−1.0
−0.5
0.0
0.5
1.0
Phase


DV Odd/Even
TCE 009388780-01
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
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009388780-01
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
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

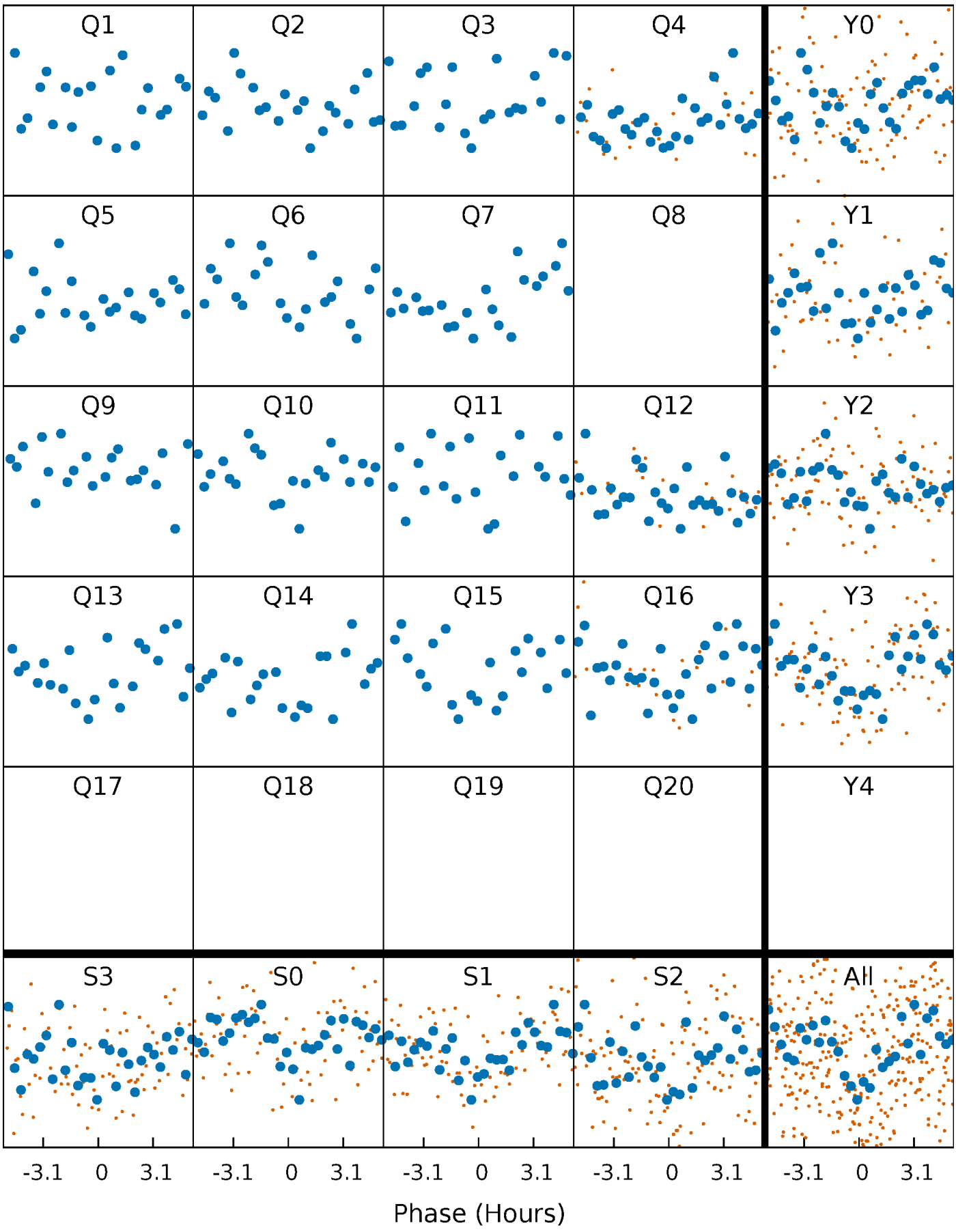
Non-Whitened Vs. Whitened Light Curve





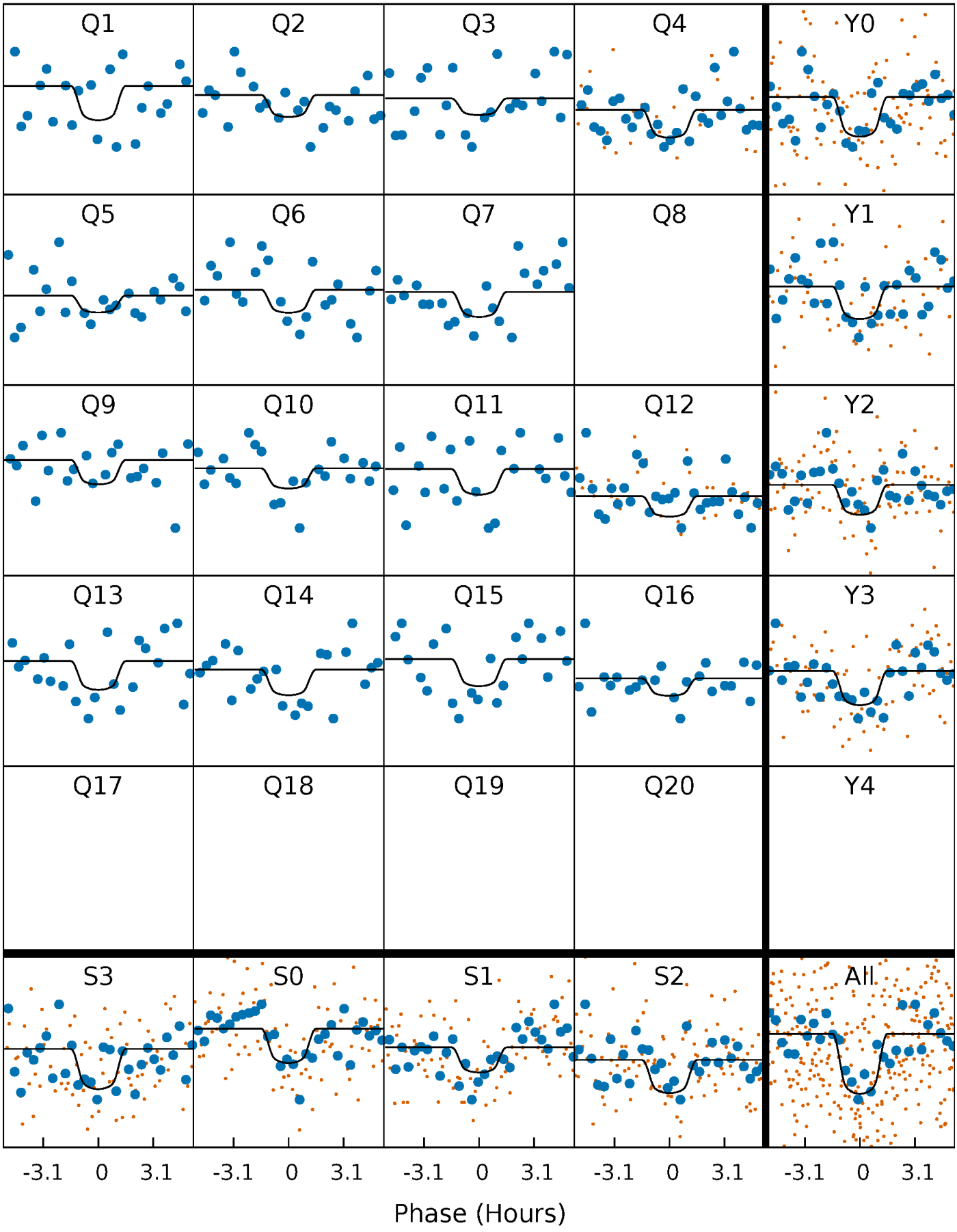
PDC Quarter-Phased Transit Curves

TCE 009388780-01 P= 74.262911 Days T_0=137.151428 (BKJD)



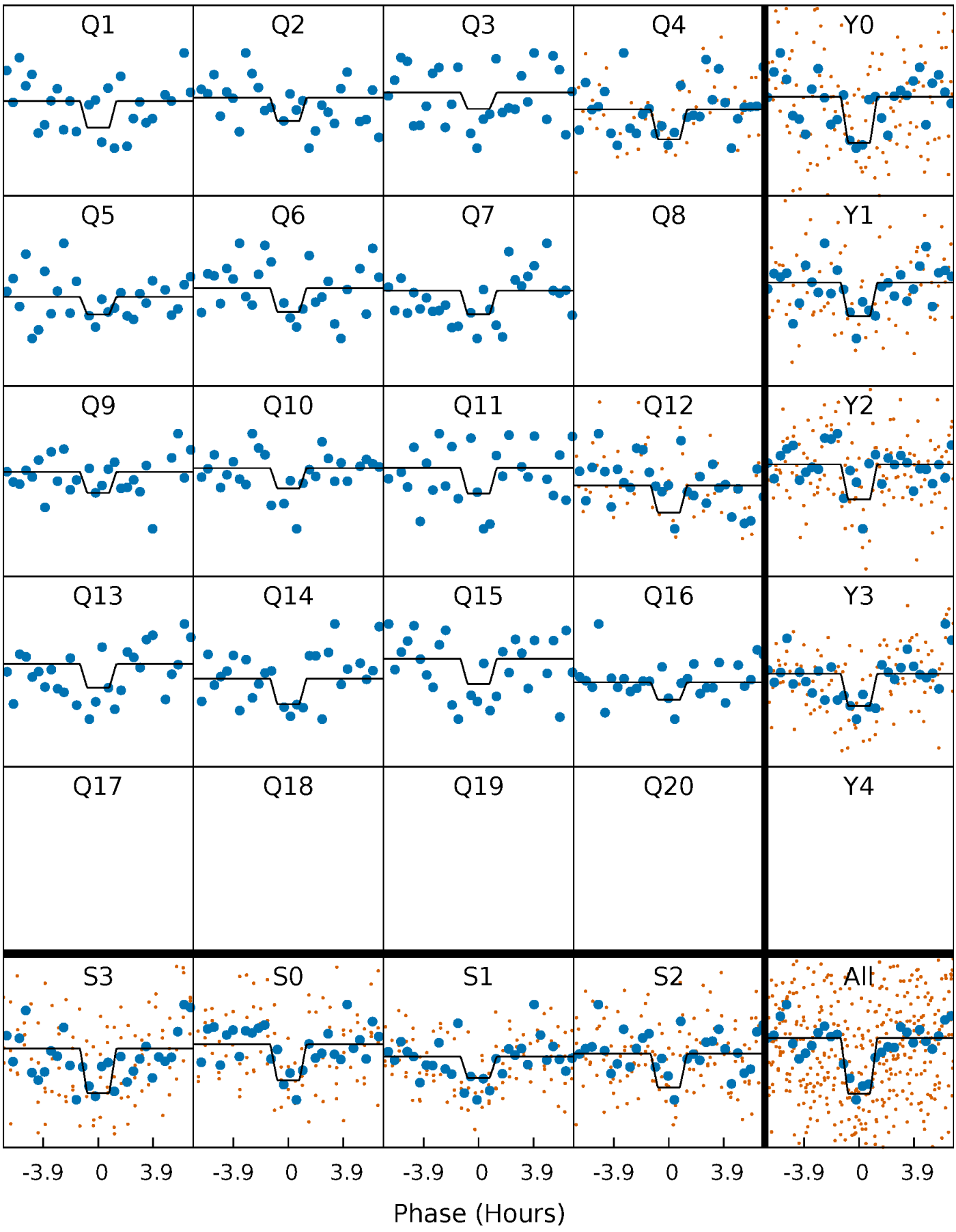
DV Quarter-Phased Transit Curves

TCE 009388780-01 P= 74.262911 Days T_0=137.151428 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

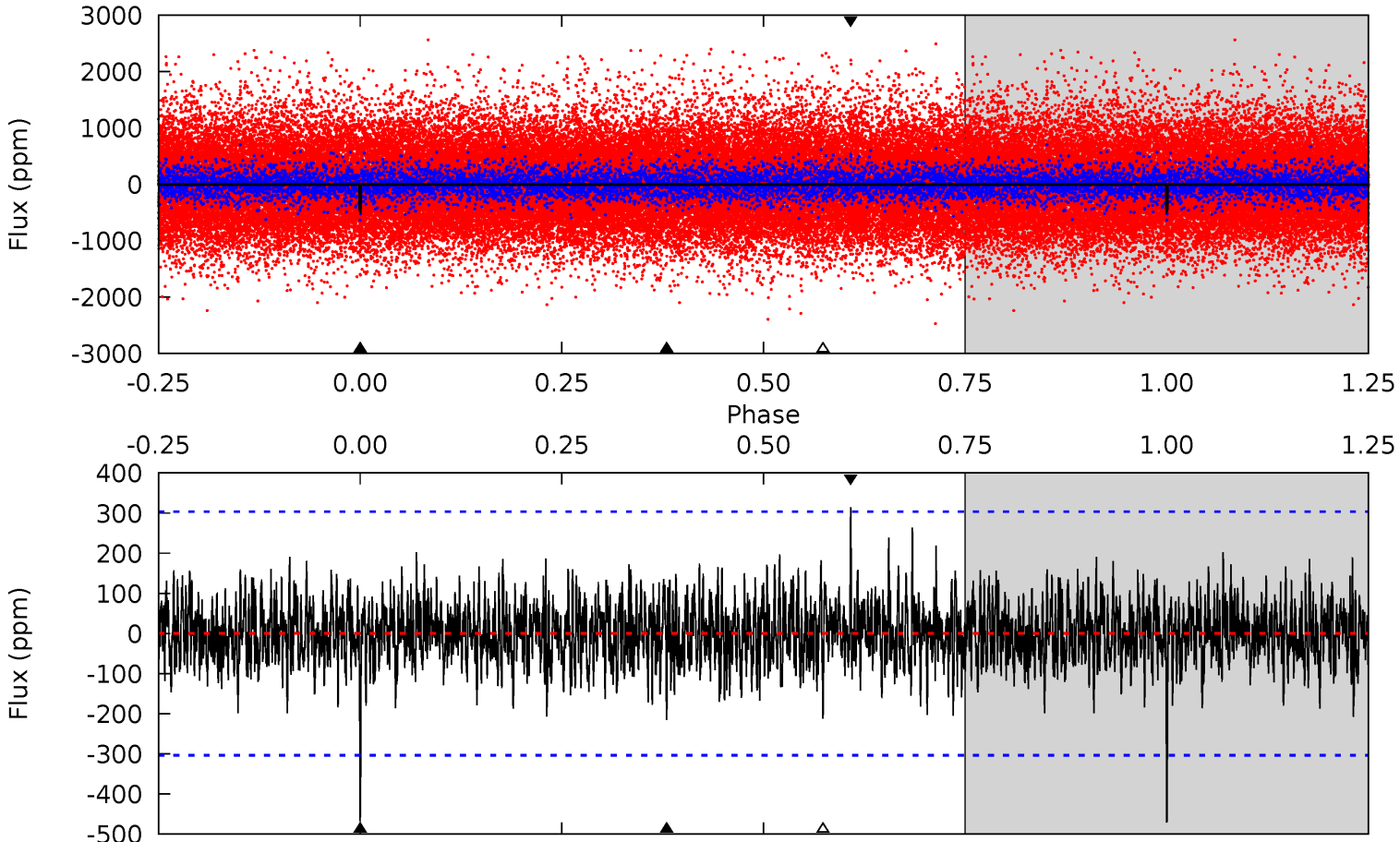
TCE 009388780-01 P= 74.263792 Days T_0=137.146415 (BKJD)

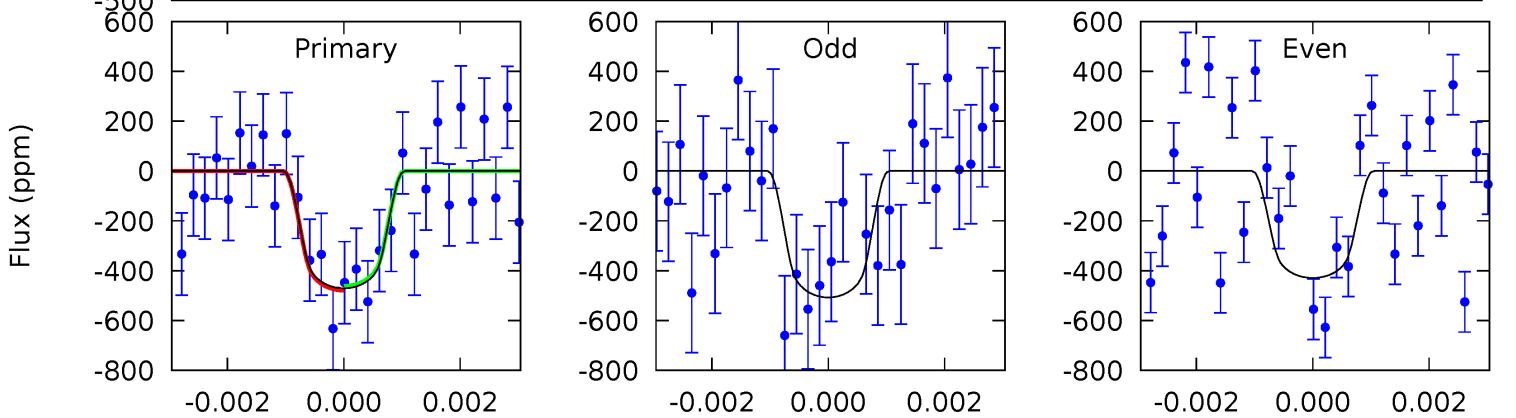


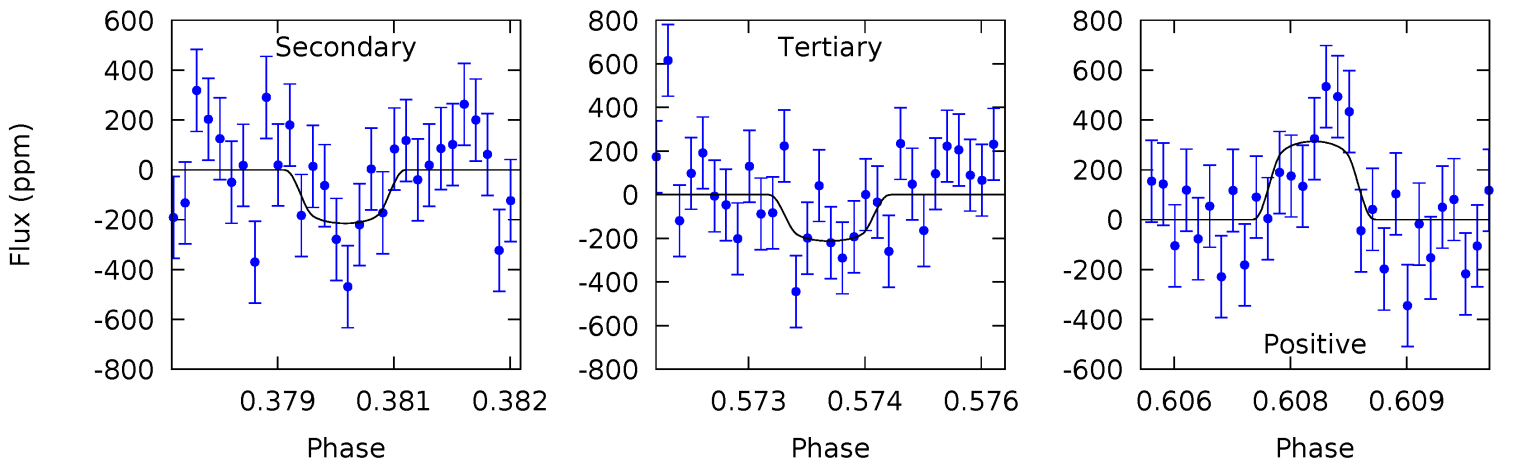
DV Model-Shift Uniqueness Test

009388780-01, P = 74.262911 Days, E = 62.888517 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	3.80	3.75	5.55	5.36	3.14	1.22	4.57	2.77	0.05	-1.75	0.69	0.91	0.40	0.15



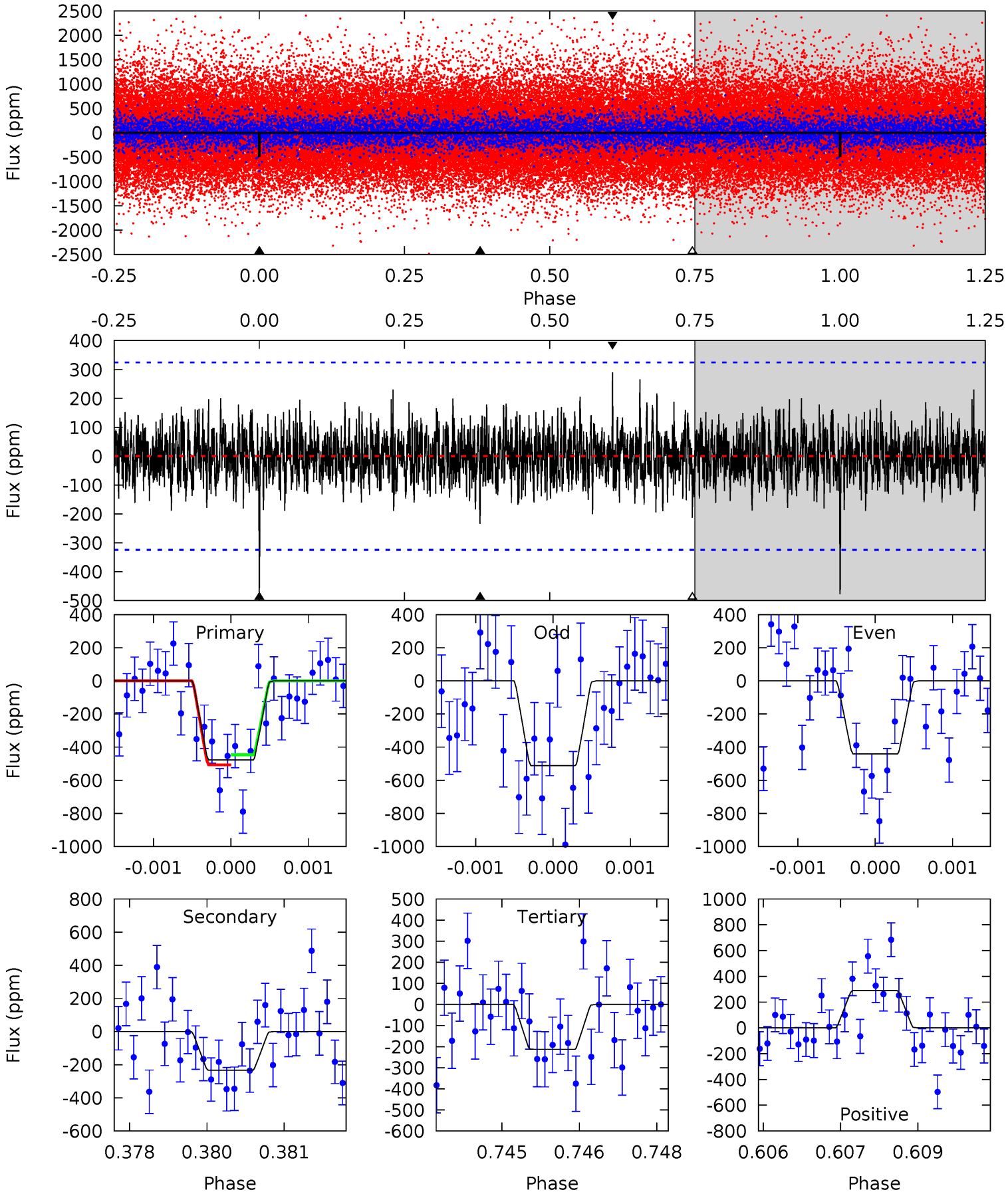




Alt Model-Shift Uniqueness Test

009388780-01, P = 74.263792 Days, E = 62.882623 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.93	3.88	3.53	4.81	5.38	3.18	1.12	4.40	3.12	0.35	-0.93	0.58	0.95	0.38	0.50



Stellar Parameters For KIC 009388780

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3707^{+44}_{-66}	$4.824^{+0.031}_{-0.038}$	$-0.200^{+0.100}_{-0.100}$	$0.439^{+0.031}_{-0.031}$	$0.469^{+0.026}_{-0.037}$	$7.809^{+1.252}_{-1.078}$
	+1%/-2%	+1%/-1%	+50%/-50%	+7%/-7%	+6%/-8%	+16%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009388780-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-215±57	$1.28^{+0.60}_{-0.64}$	292^{+6}_{-6}	3071^{+740}_{-328}	5175^{+15303}_{-2982}
Alt.	-234±60	$1.16^{+0.61}_{-0.58}$	292^{+6}_{-6}	3190^{+801}_{-367}	6704^{+20009}_{-3907}

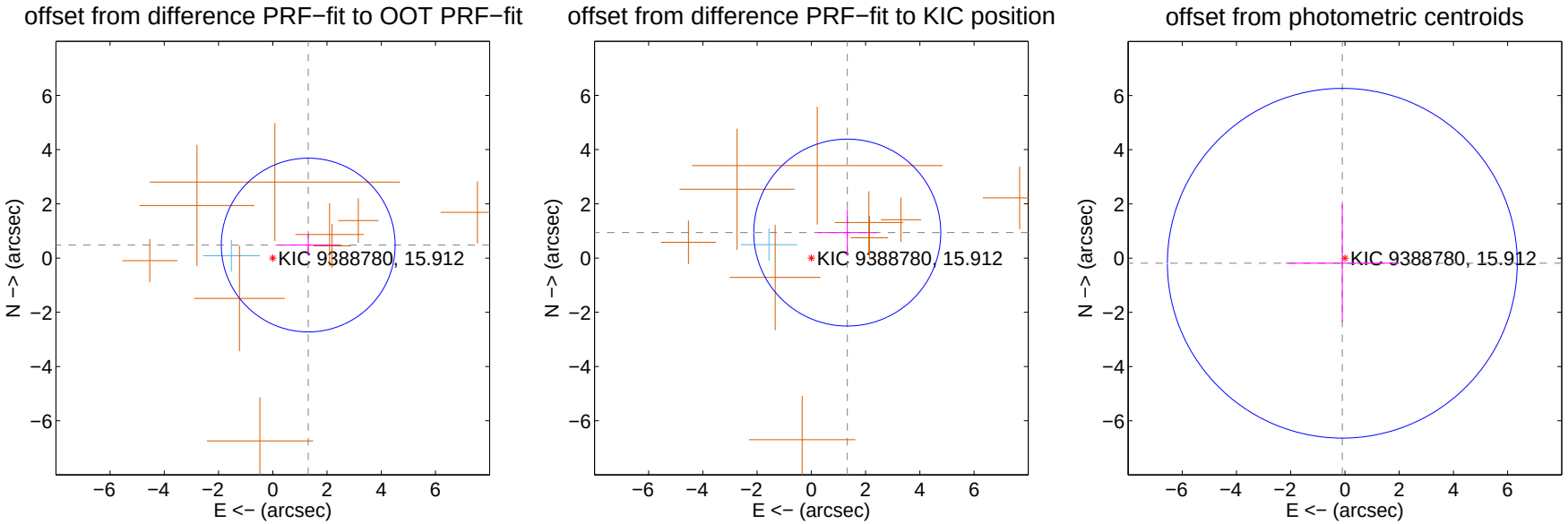
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

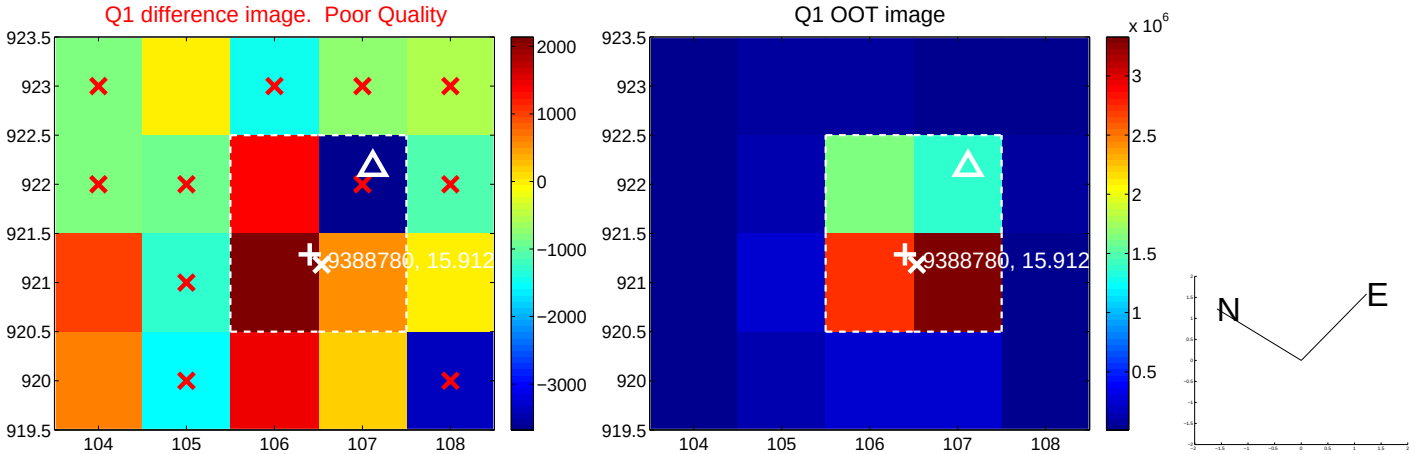
Supplemental centroid analysis for 009388780-01. Kepler magnitude: 15.91. Transit SNR 7.35
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

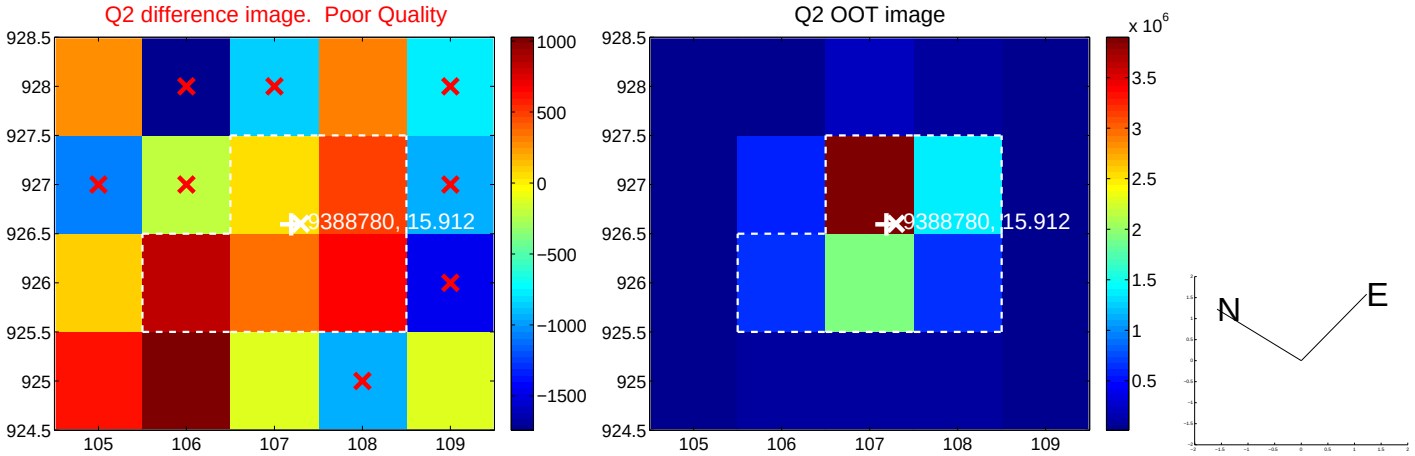
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.392 ± 1.068	1.30	-1.307 ± 1.128	0.480 ± 0.403
PRF-fit source offset from KIC position	1.624 ± 1.149	1.41	-1.324 ± 1.089	0.940 ± 0.856
photometric centroid source offset	0.21 ± 2.15	0.10	0.10 ± 2.08	-0.19 ± 2.17

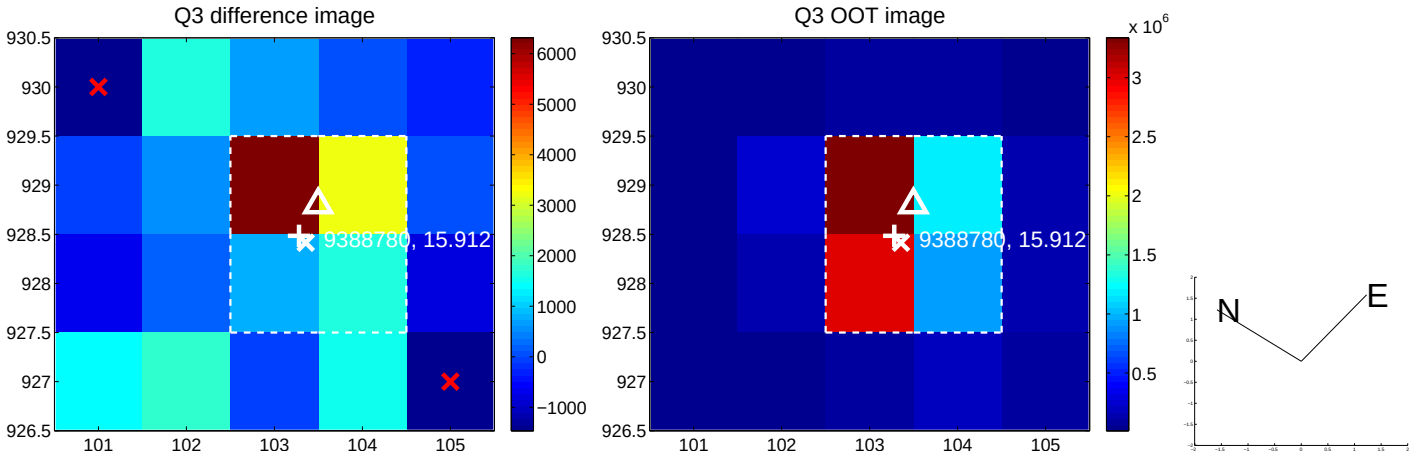


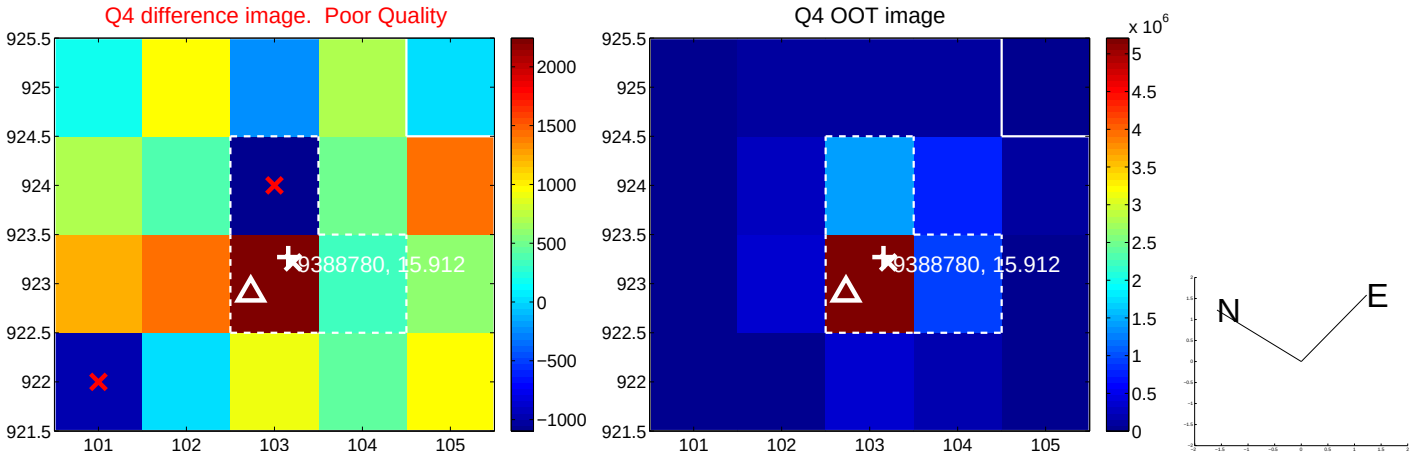
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

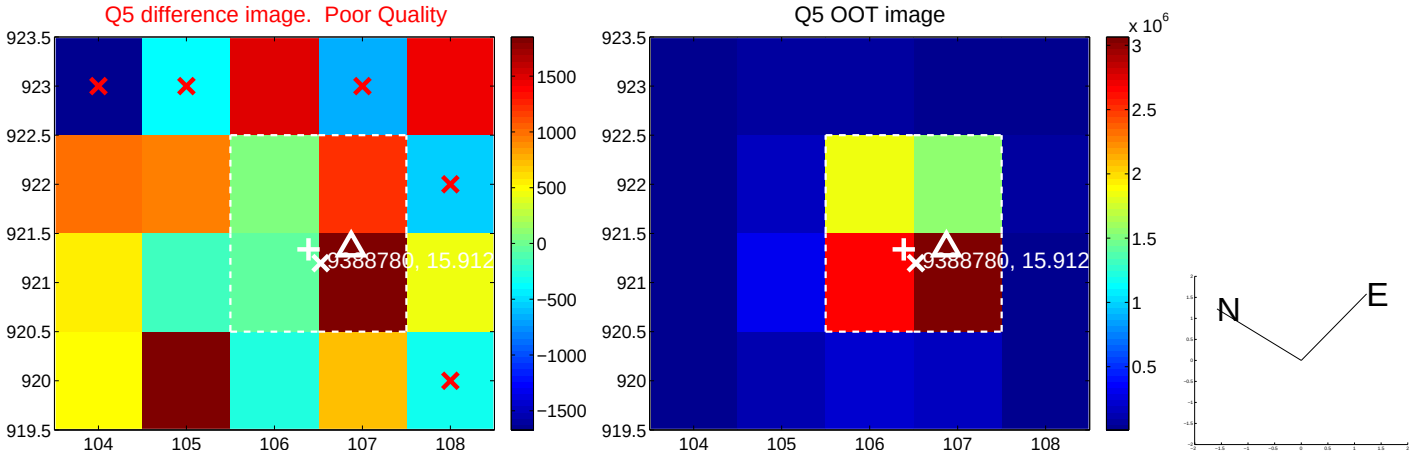


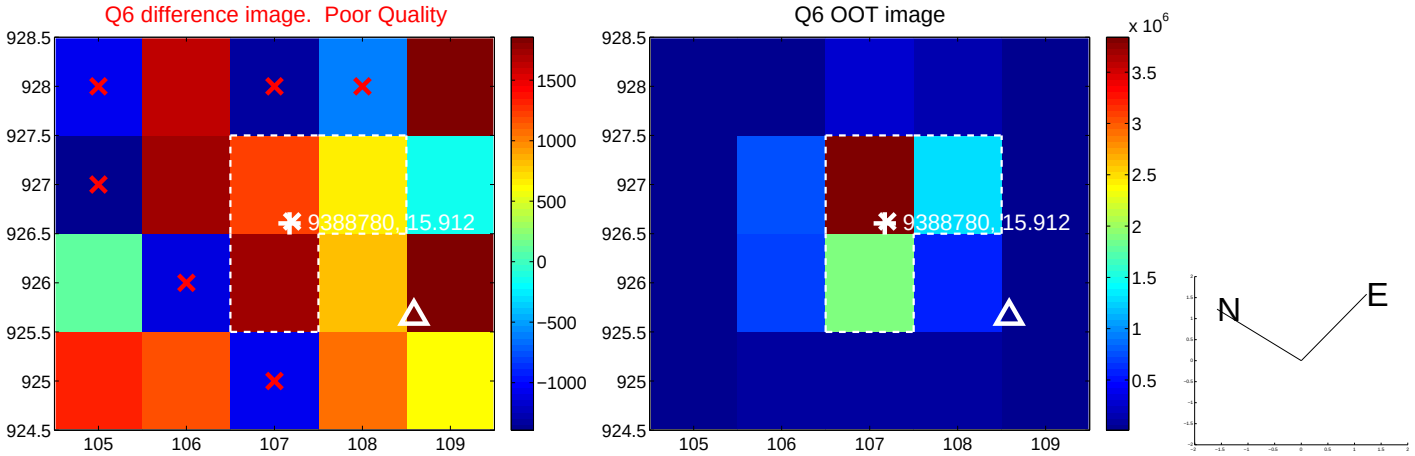


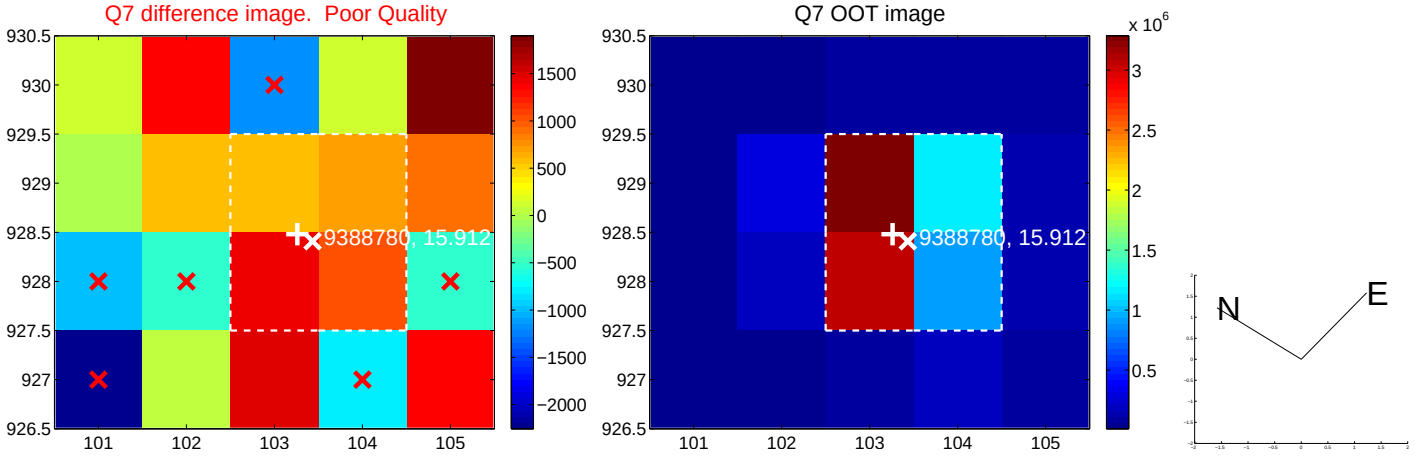


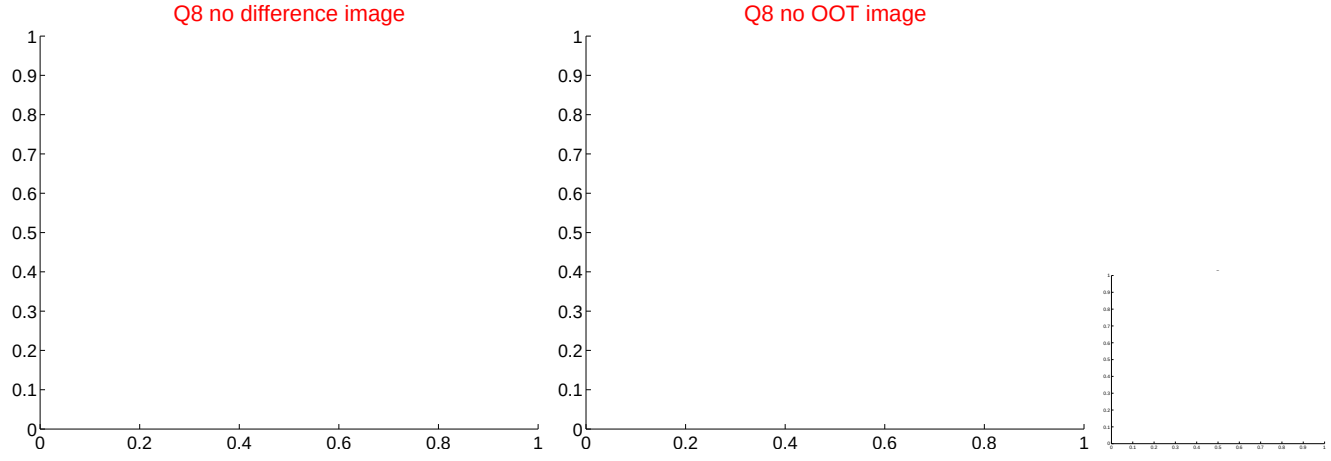


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

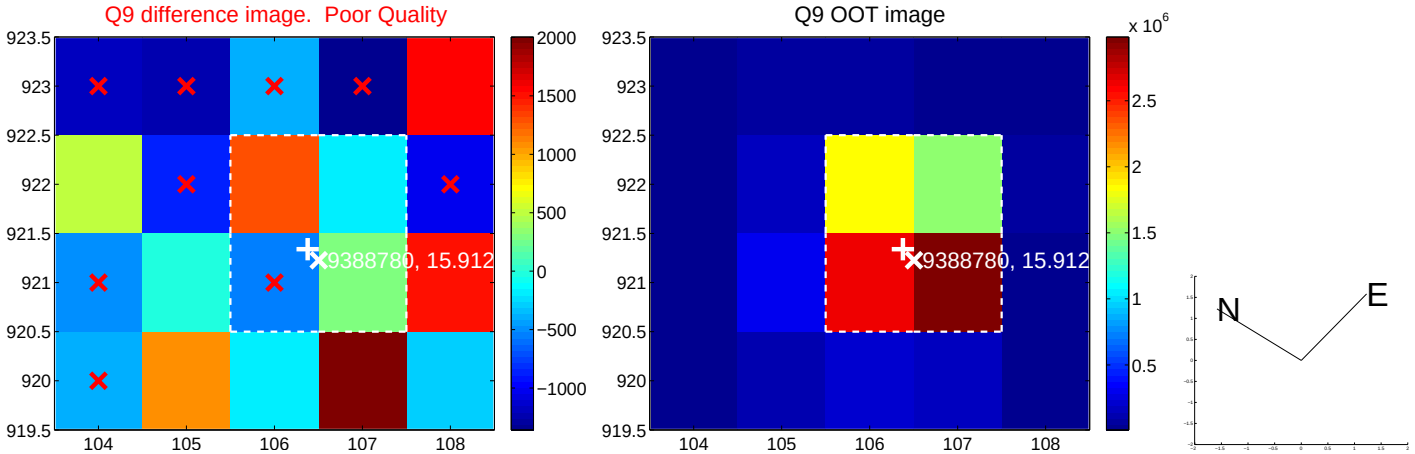


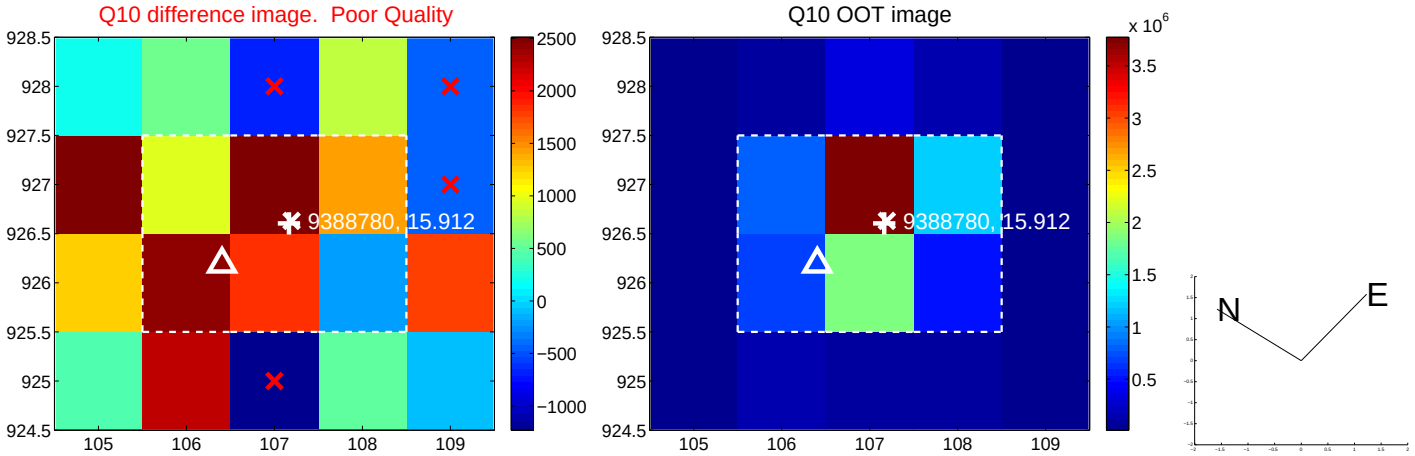


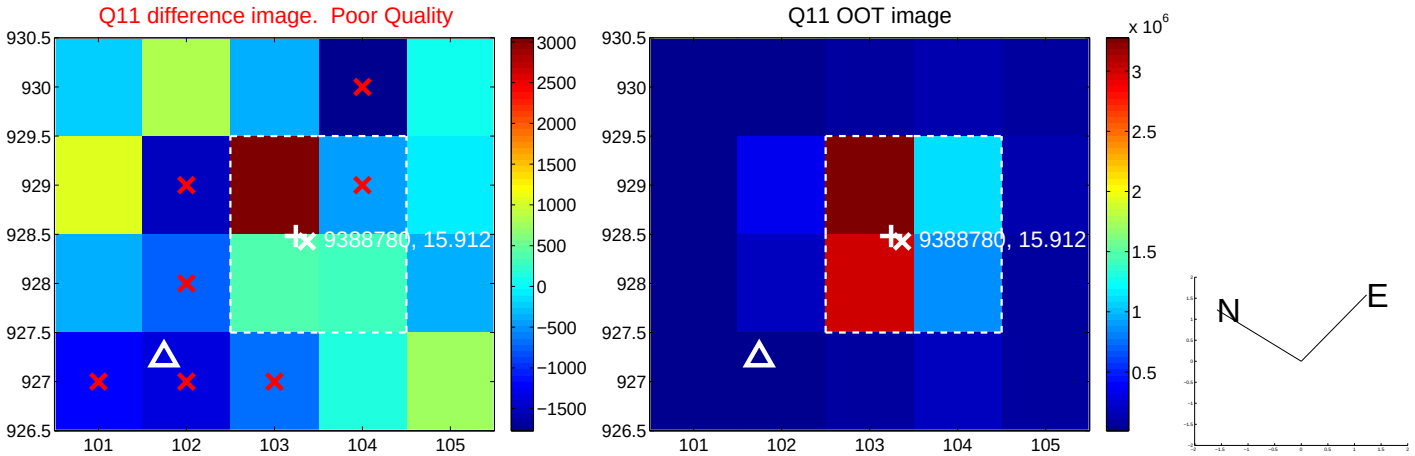


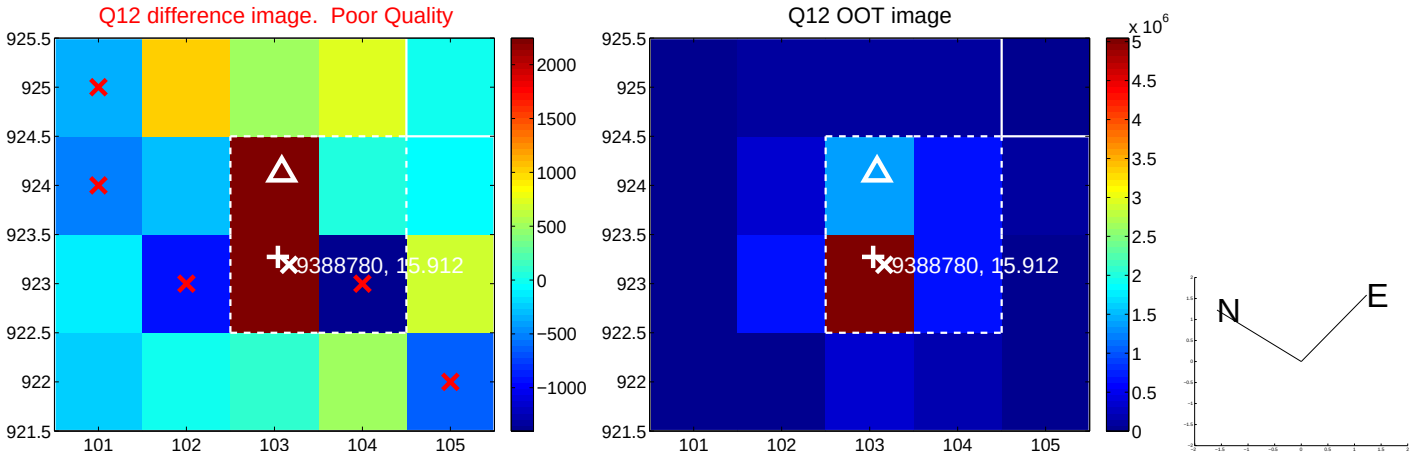


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

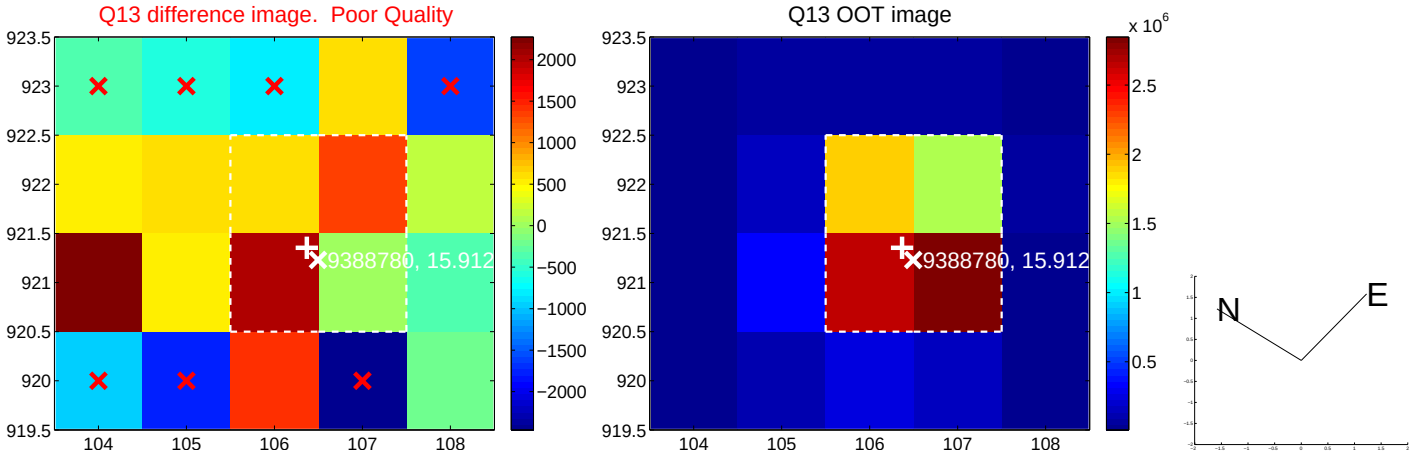


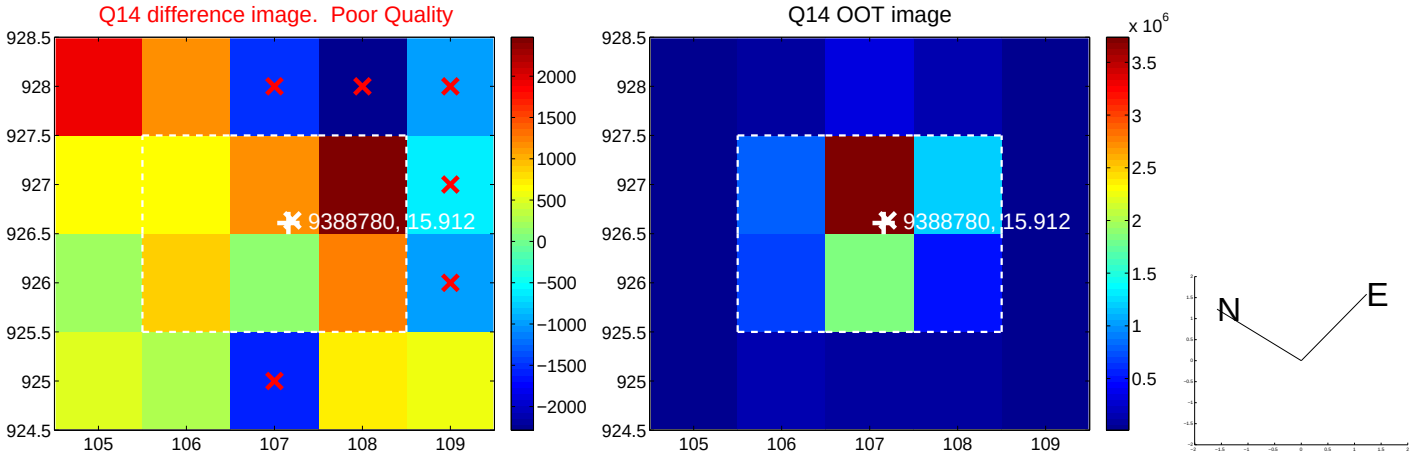


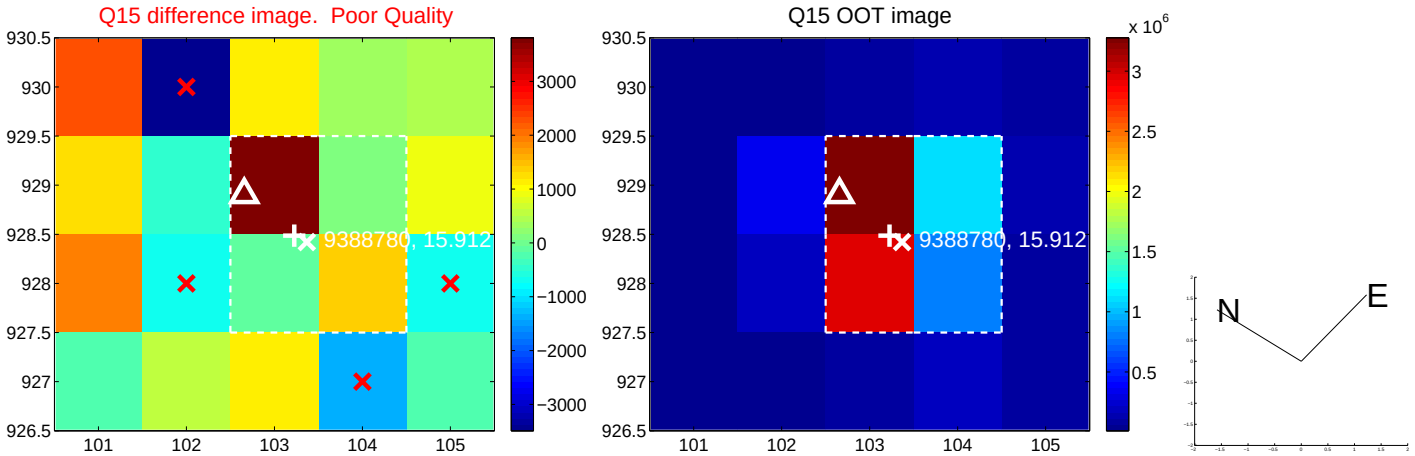


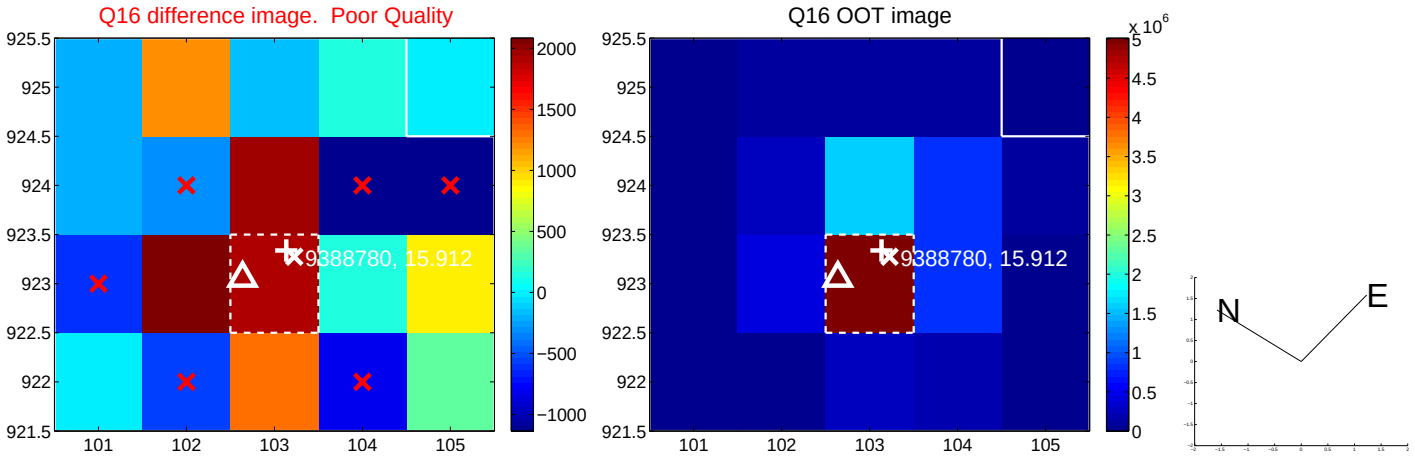


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

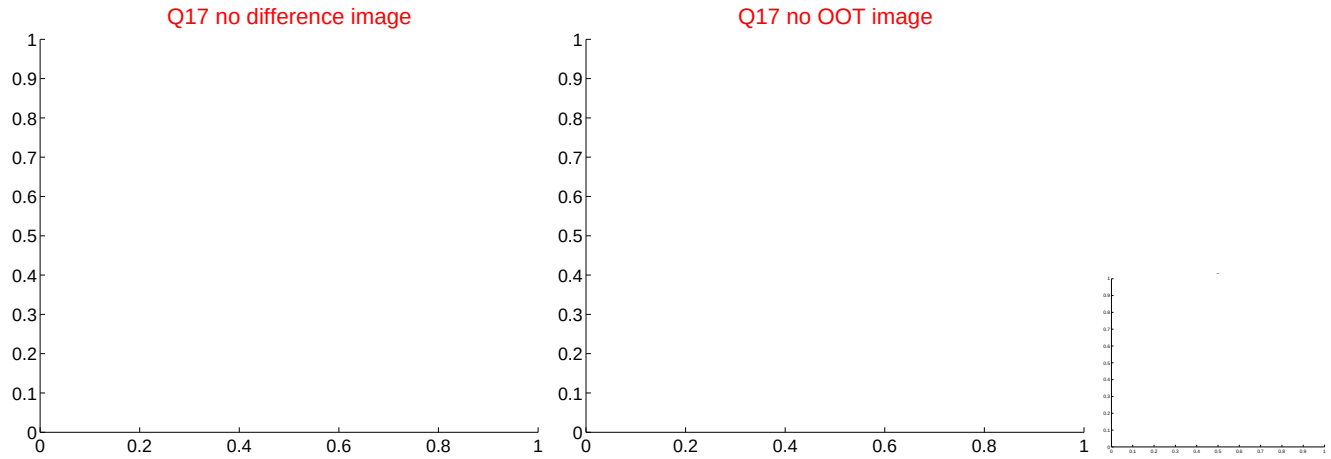


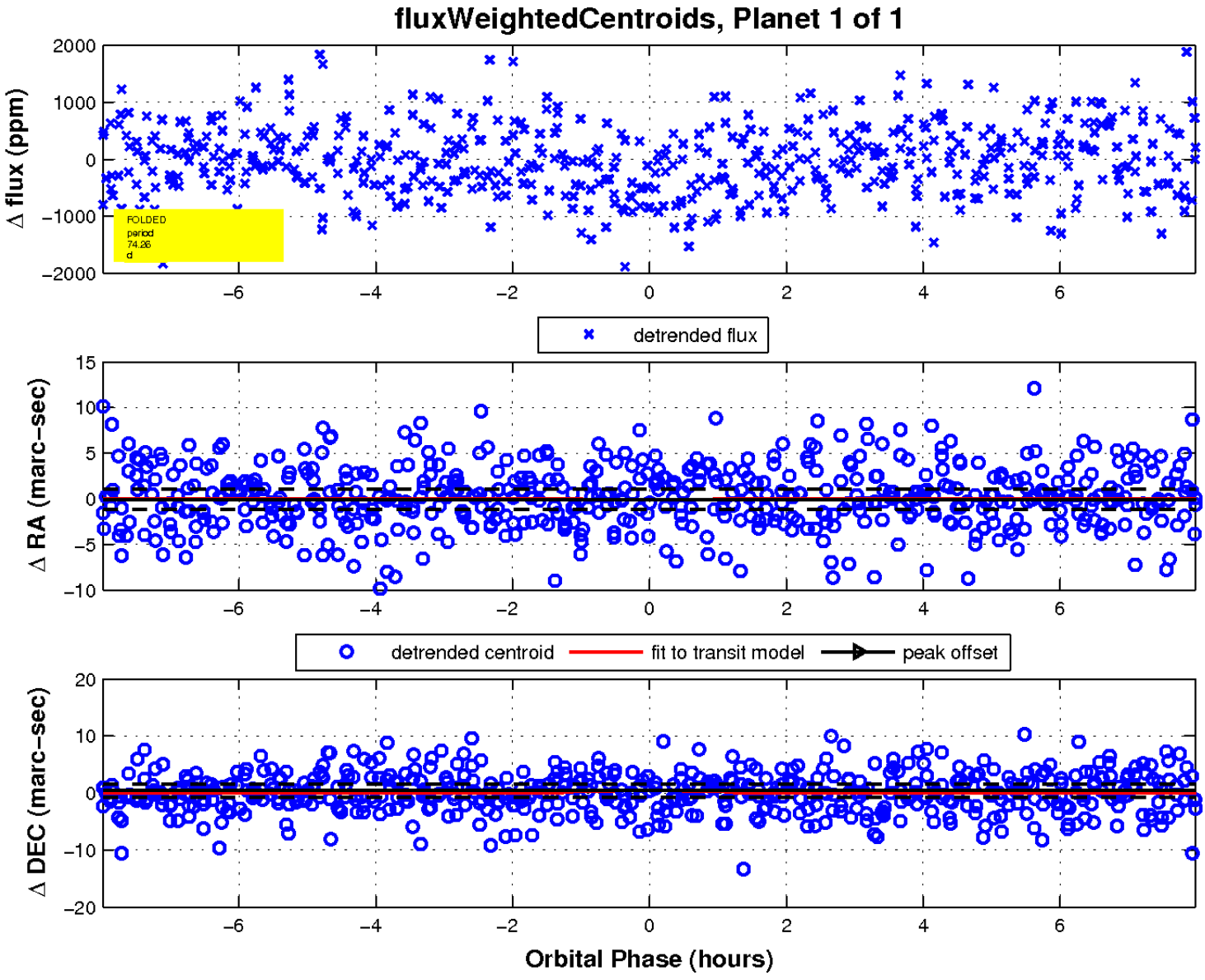






white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image

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