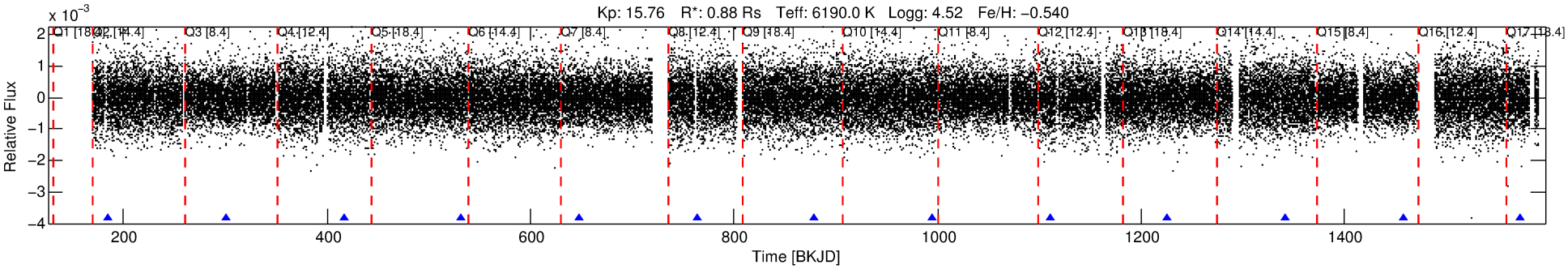
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

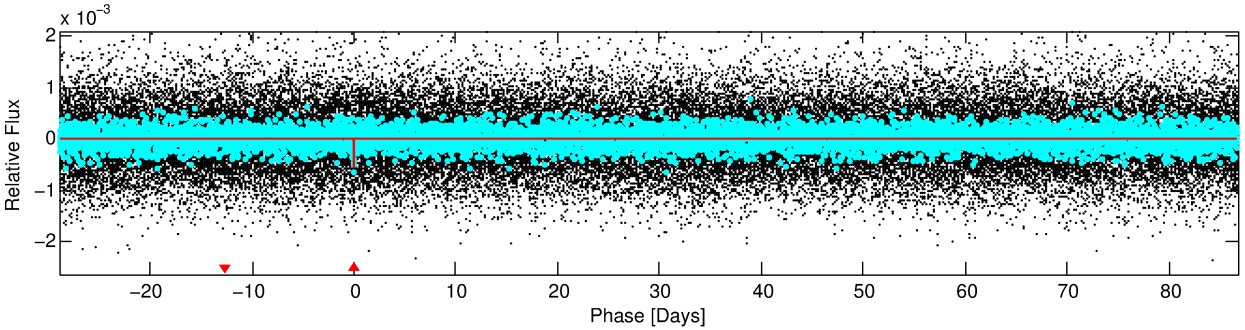
DV One-Page Summary

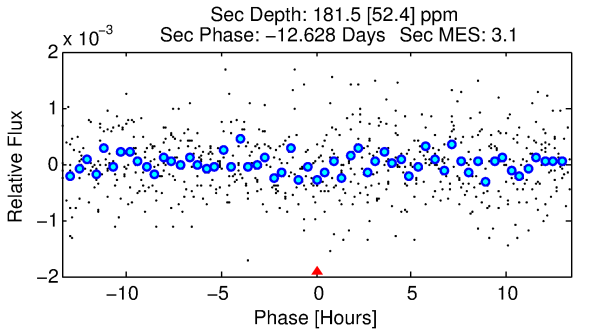
KIC: 8827390 Candidate: 1 of 1 Period: 115.640 d

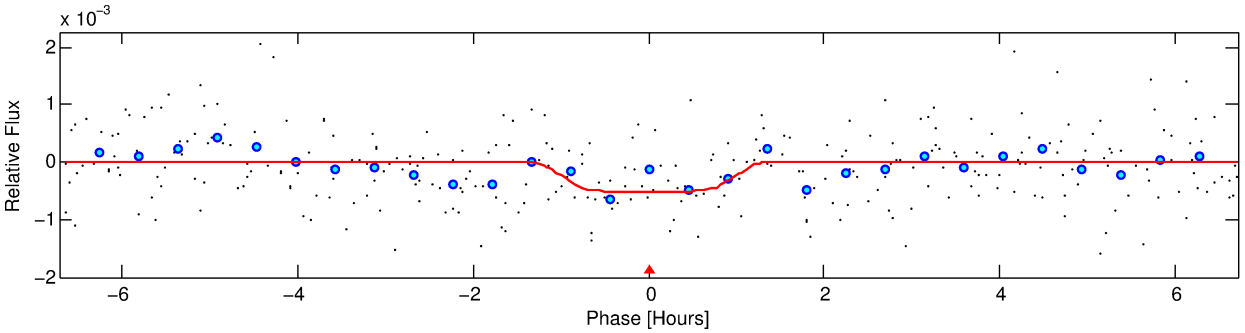
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

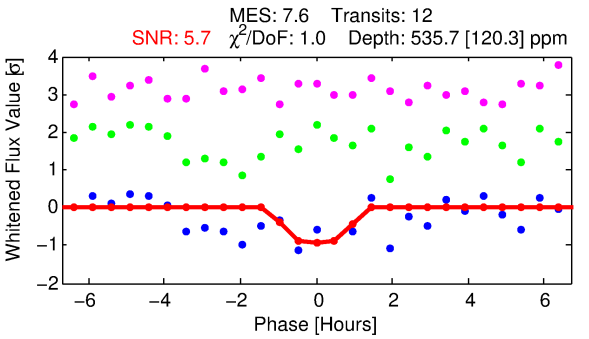
Kp: 15.76 R*: 0.88 Rs Teff: 6190.0 K Logg: 4.52 Fe/H: −0.540

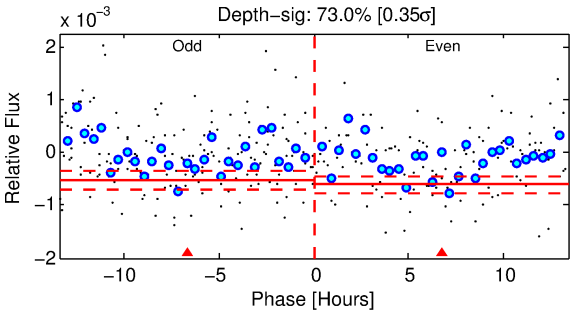


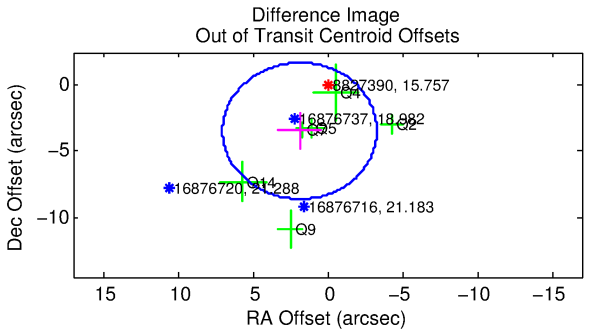












DV Fit Results:

Period = 115.63962 [0.00141] d
Epoch = 185.1218 [0.0108] BKJD
Rp/R* = 0.0241 [0.0278]
a/R* = 224.38 [1393.18]
b = 0.85 [2.02]

Seff = 4.95 [1.99]
Teq = 380 [38] K
Rp = 2.32 [2.77] Re
a = 0.4547 [0.1167] AU

Ag = 3847.44 [9076.01] [0.42σ]
Teffp = 4631 [2701] K [1.57σ]

DV Diagnostic Results:

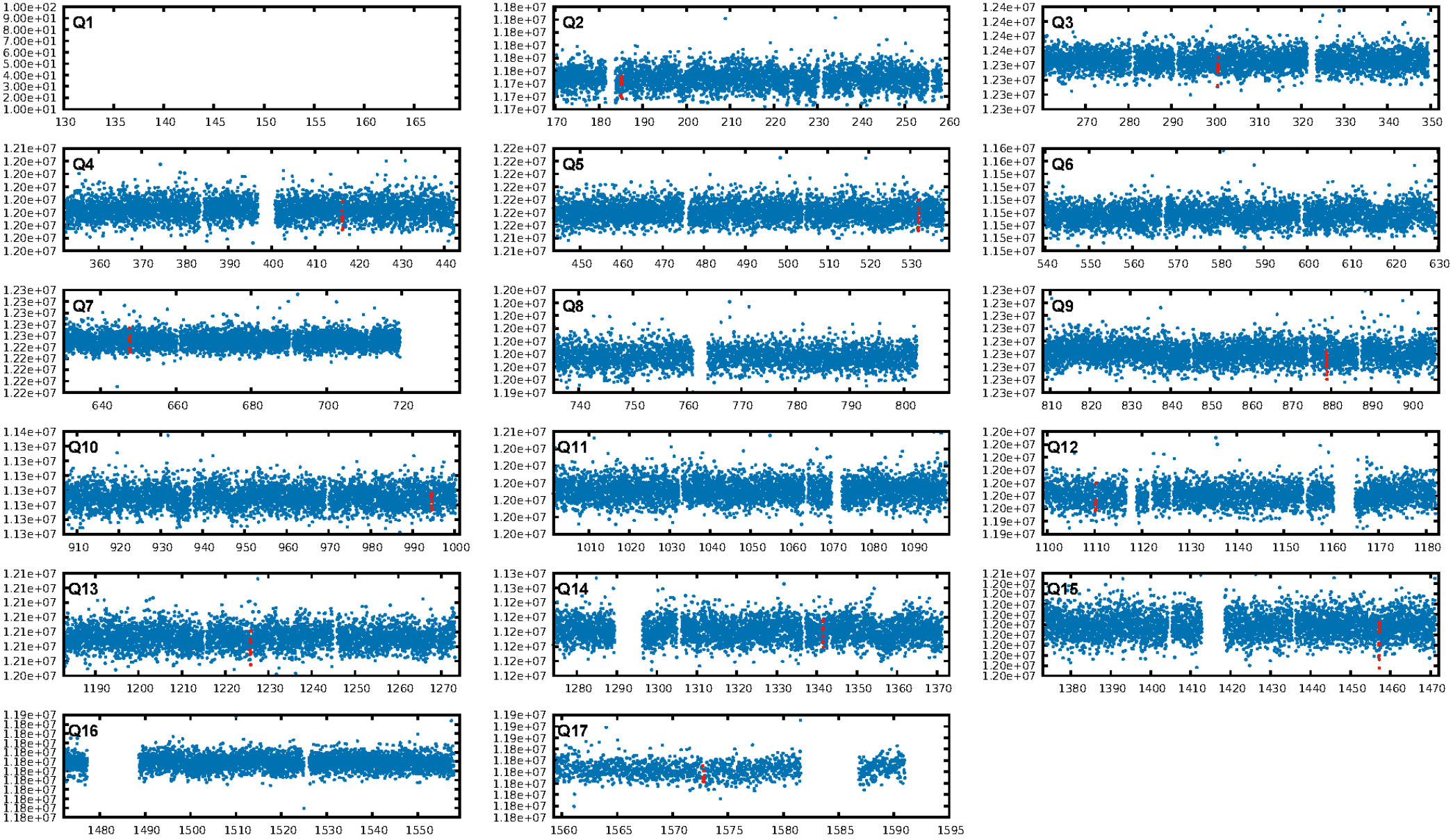
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 91.4%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: 6.70e−15
RollingBand−fgt: 1.00 [11/11]
GhostDiagnostic−chr: 0.9945

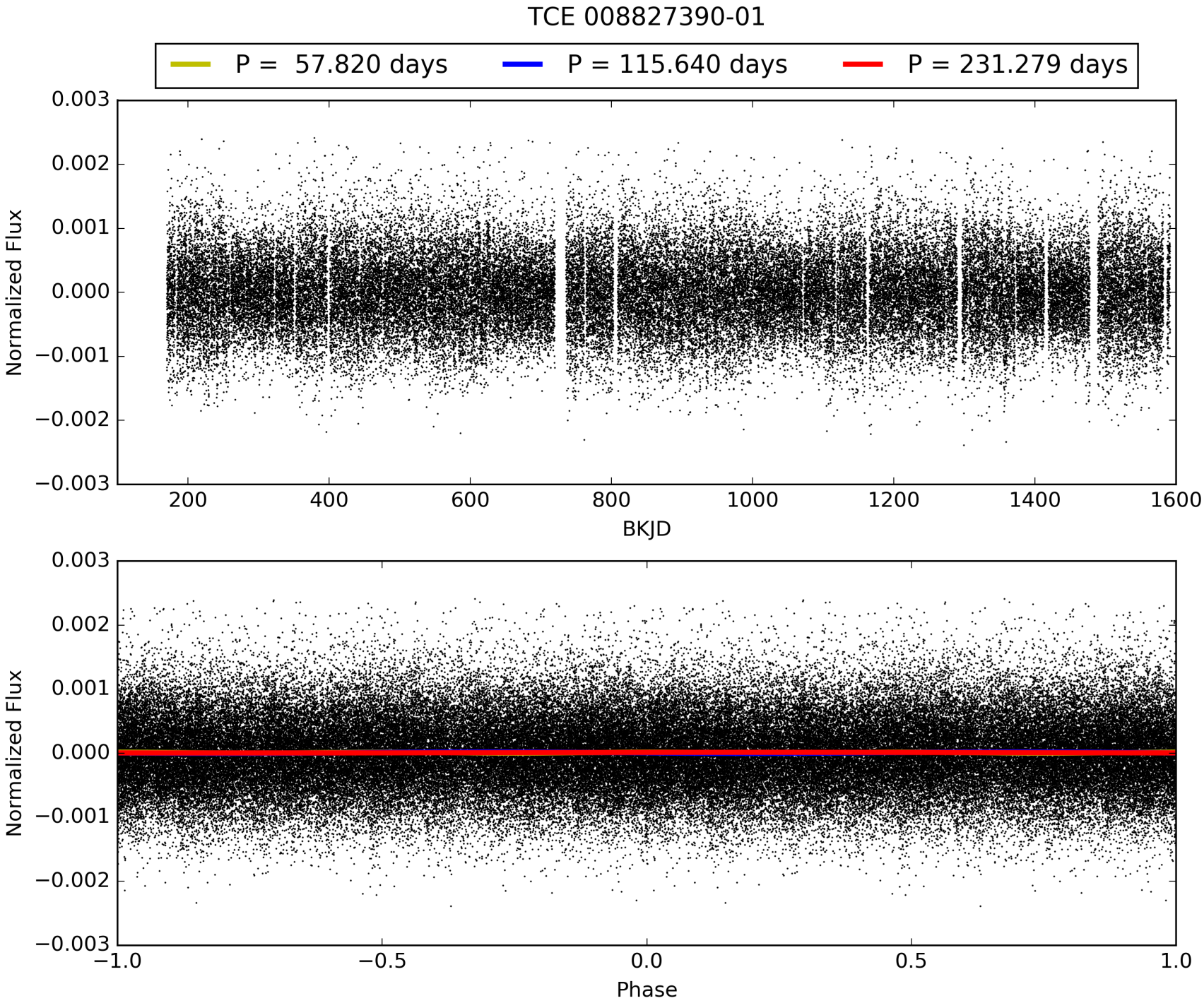
Centroid−sig: 27.2%
Centroid−so: 2.091 arcsec [0.73σ]
OotOffset−rm: 3.915 arcsec [2.28σ]
KicOffset−rm: 3.939 arcsec [2.15σ]
OotOffset−st: 2/1/1/2 [6]
KicOffset−st: 2/1/1/2 [6]
DiffImageQuality−fgm: 0.17 [1/6]
DiffImageOverlap−fno: 1.00 [11/11]

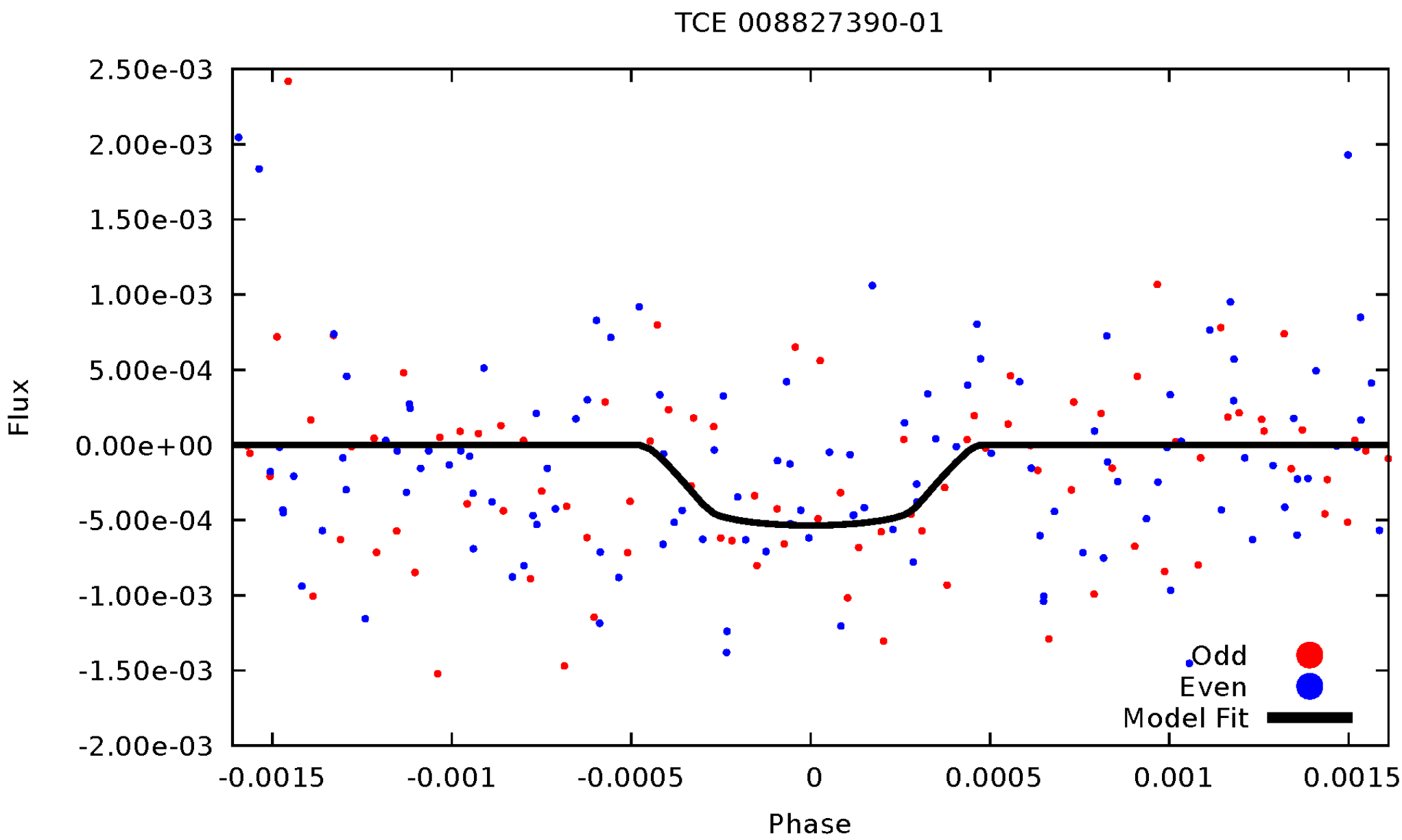
Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2174@60968 −− Date Generated: 15−Feb−2016 11:23:28 Z

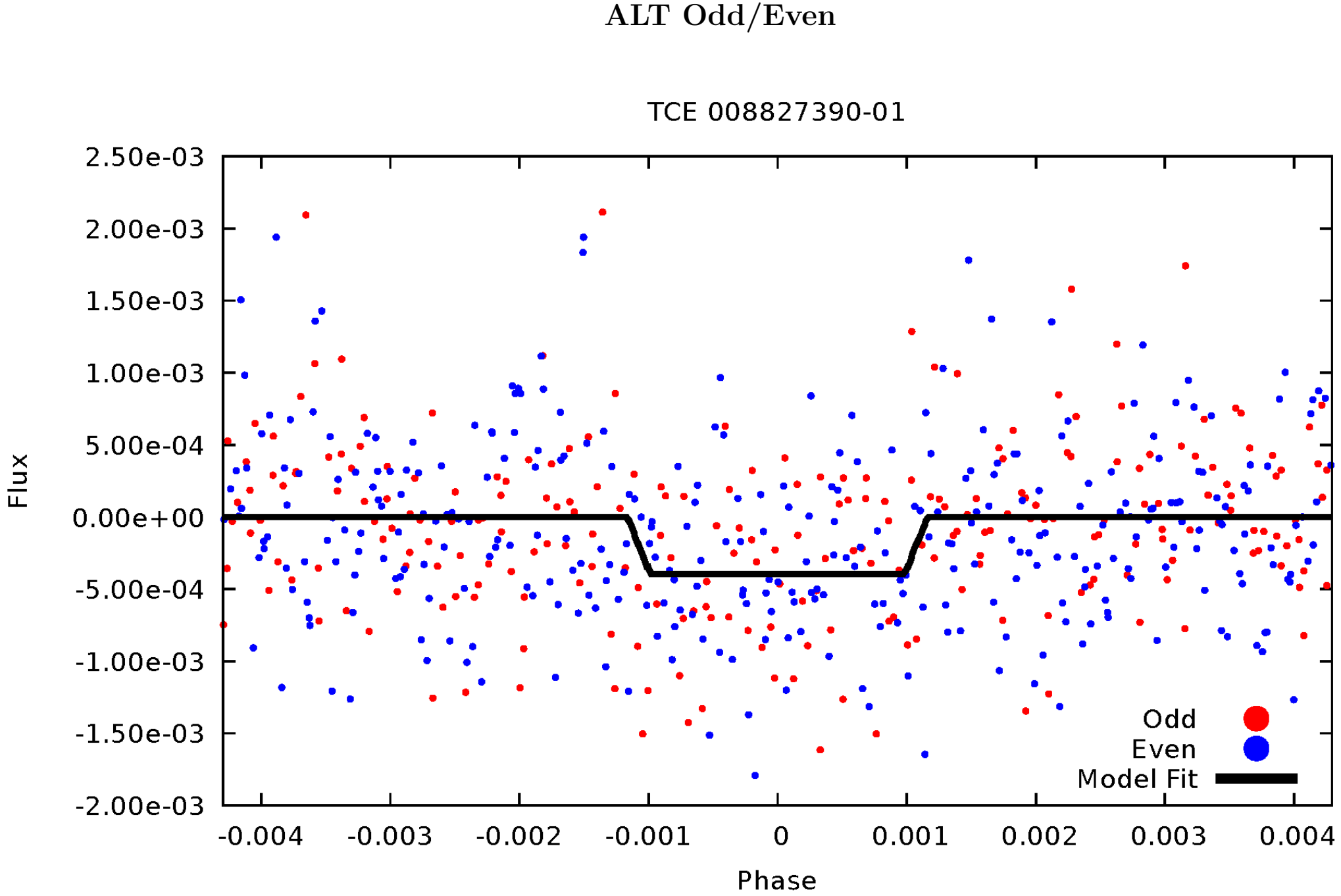
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008827390-01, PDC Light Curves

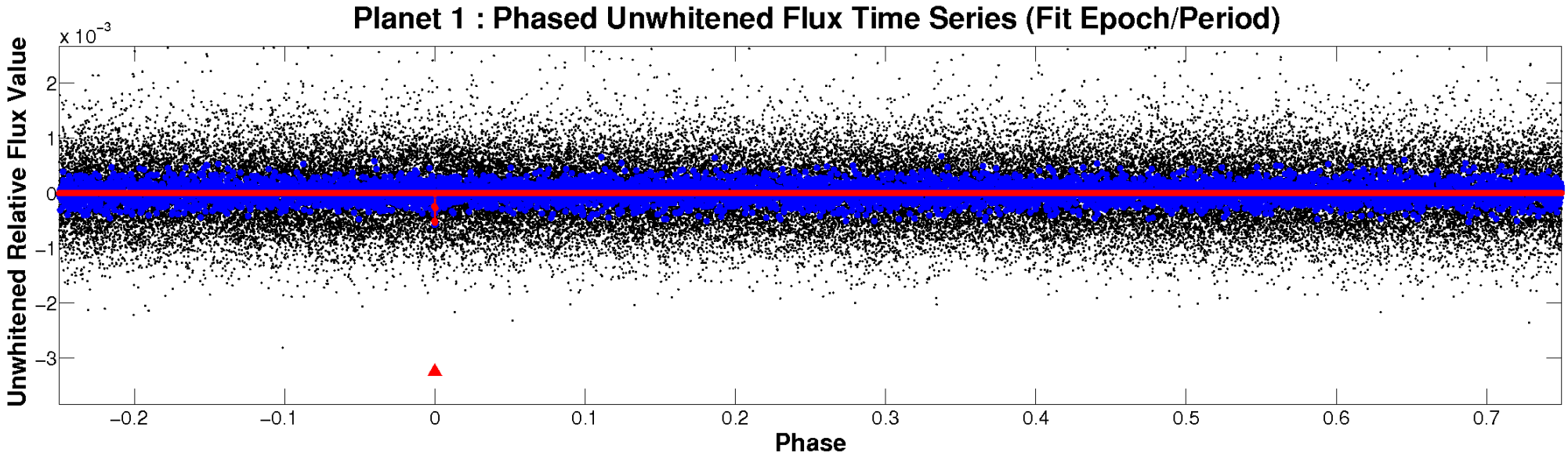


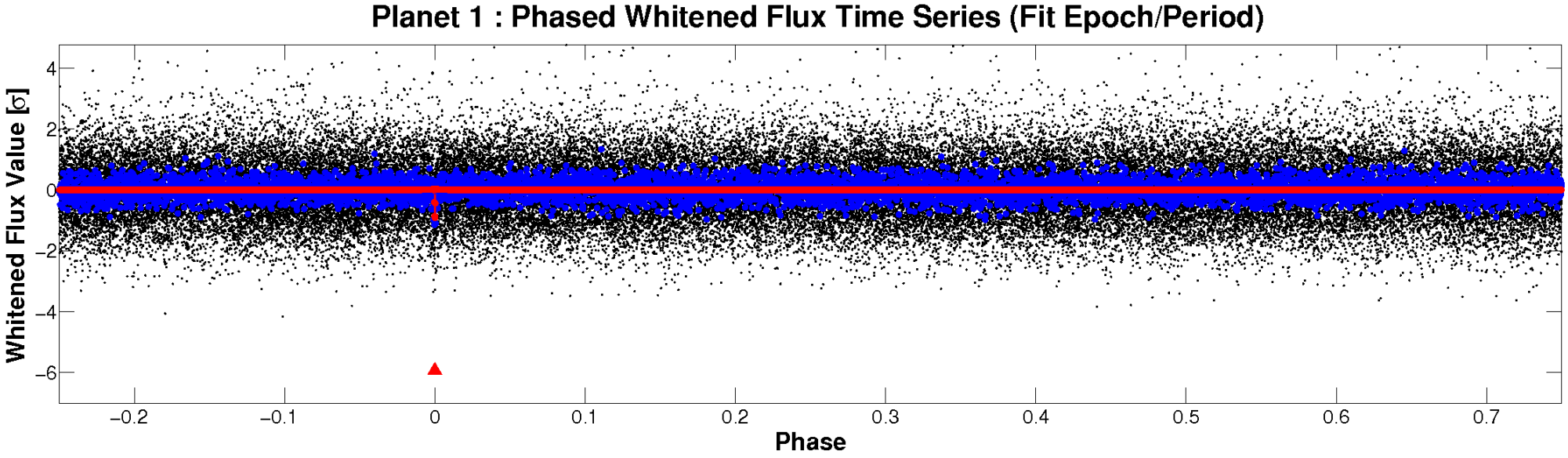

TCE 008827390-01
P = 57.820 days
P = 115.640 days
P = 231.279 days
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
−1.0
−0.5
0.0
0.5
1.0
Phase


DV Odd/Even
TCE 008827390-01
2.50e-03
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
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 008827390-01
2.50e-03
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
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

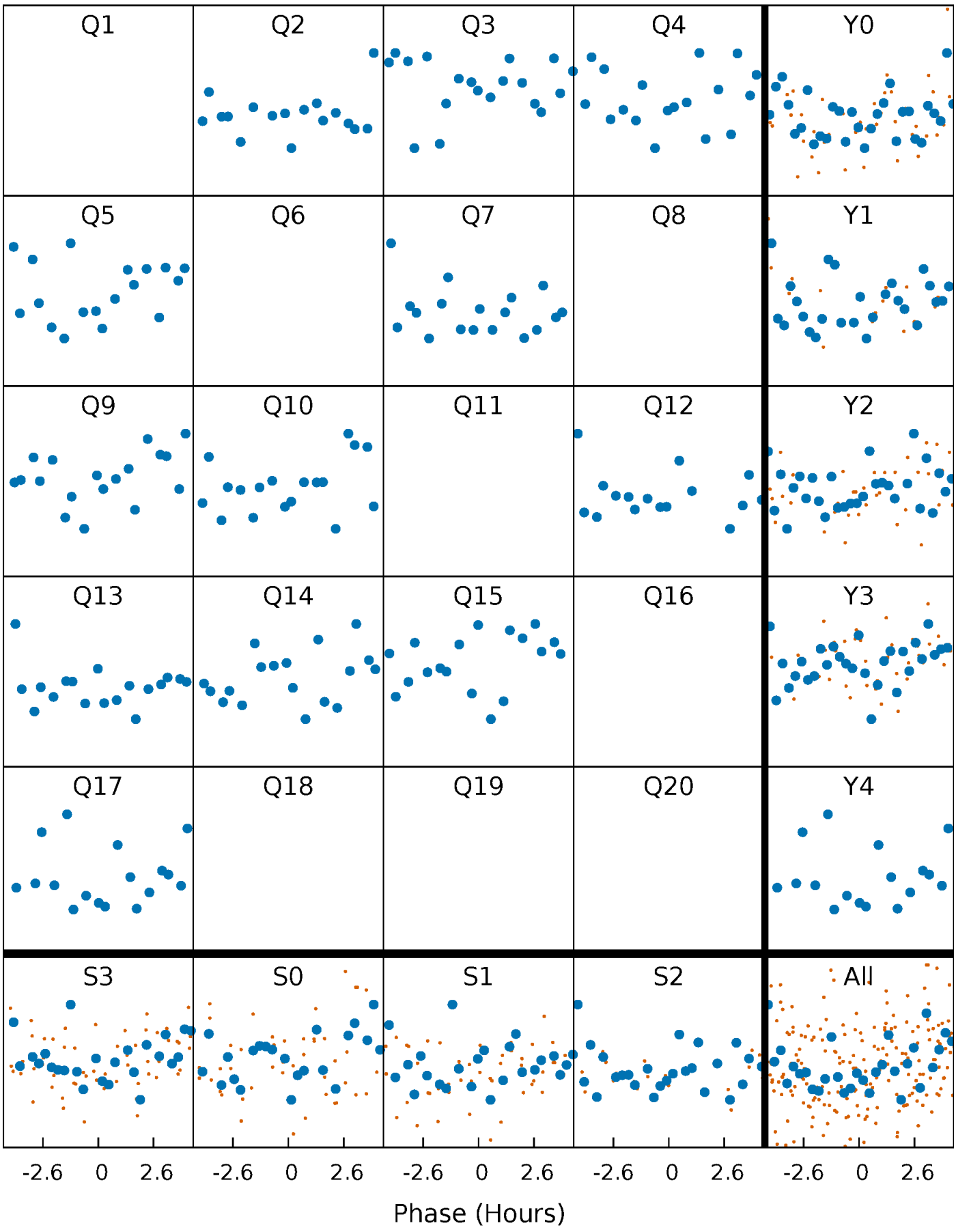
Non-Whitened Vs. Whitened Light Curve





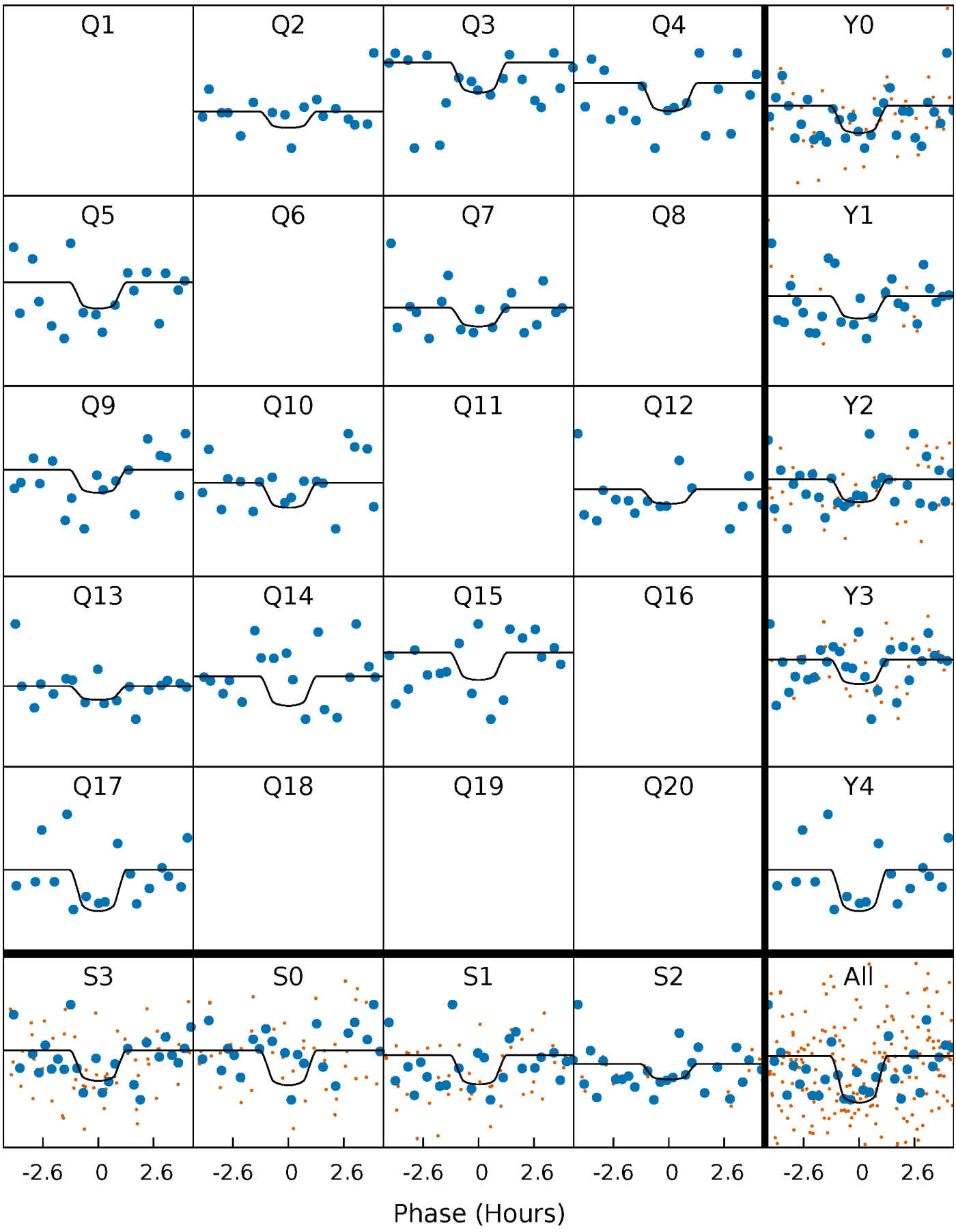
PDC Quarter-Phased Transit Curves

TCE 008827390-01 P=115.639617 Days T_0=185.121847 (BKJD)



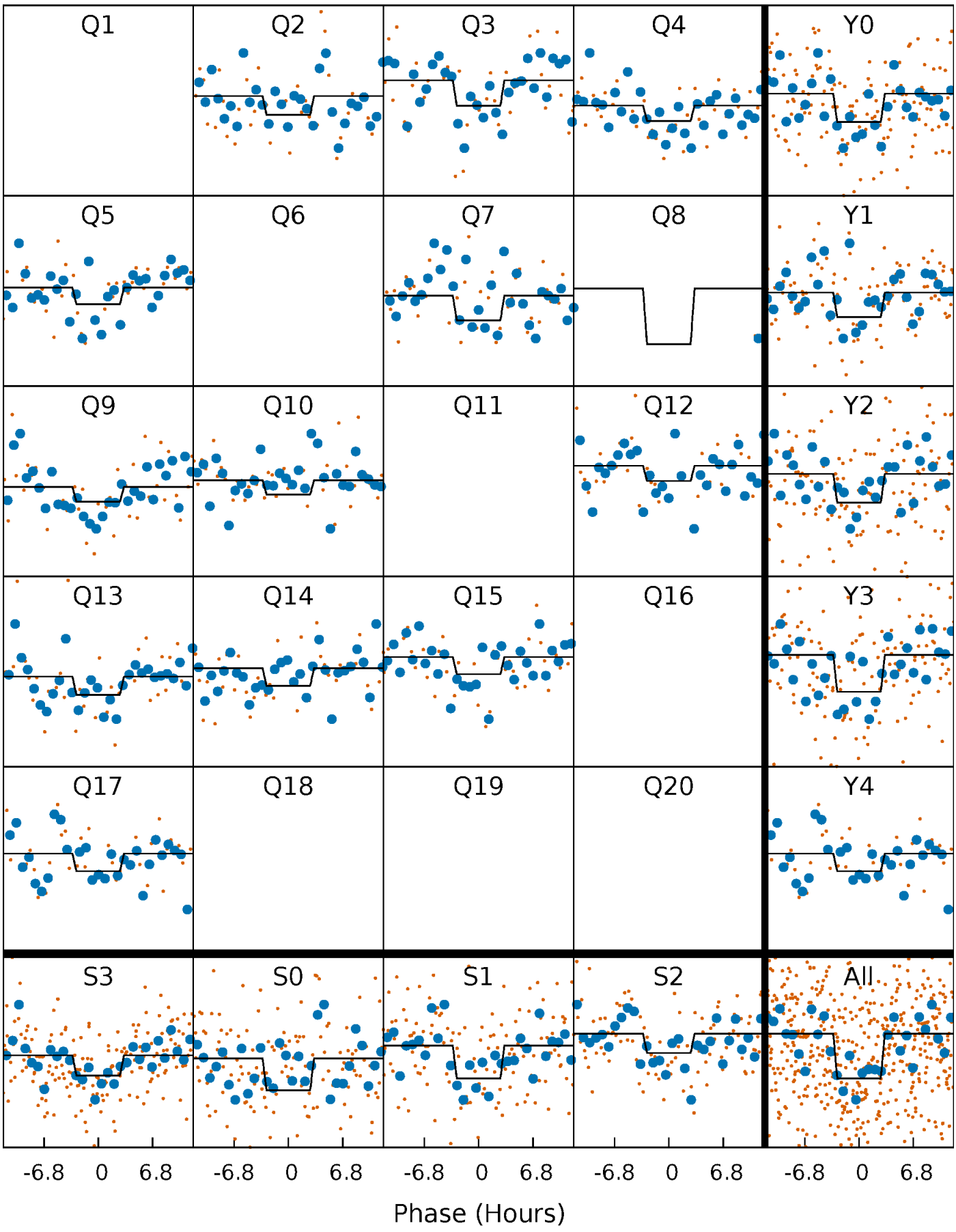
DV Quarter-Phased Transit Curves

TCE 008827390-01 P=115.639617 Days T_0=185.121847 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

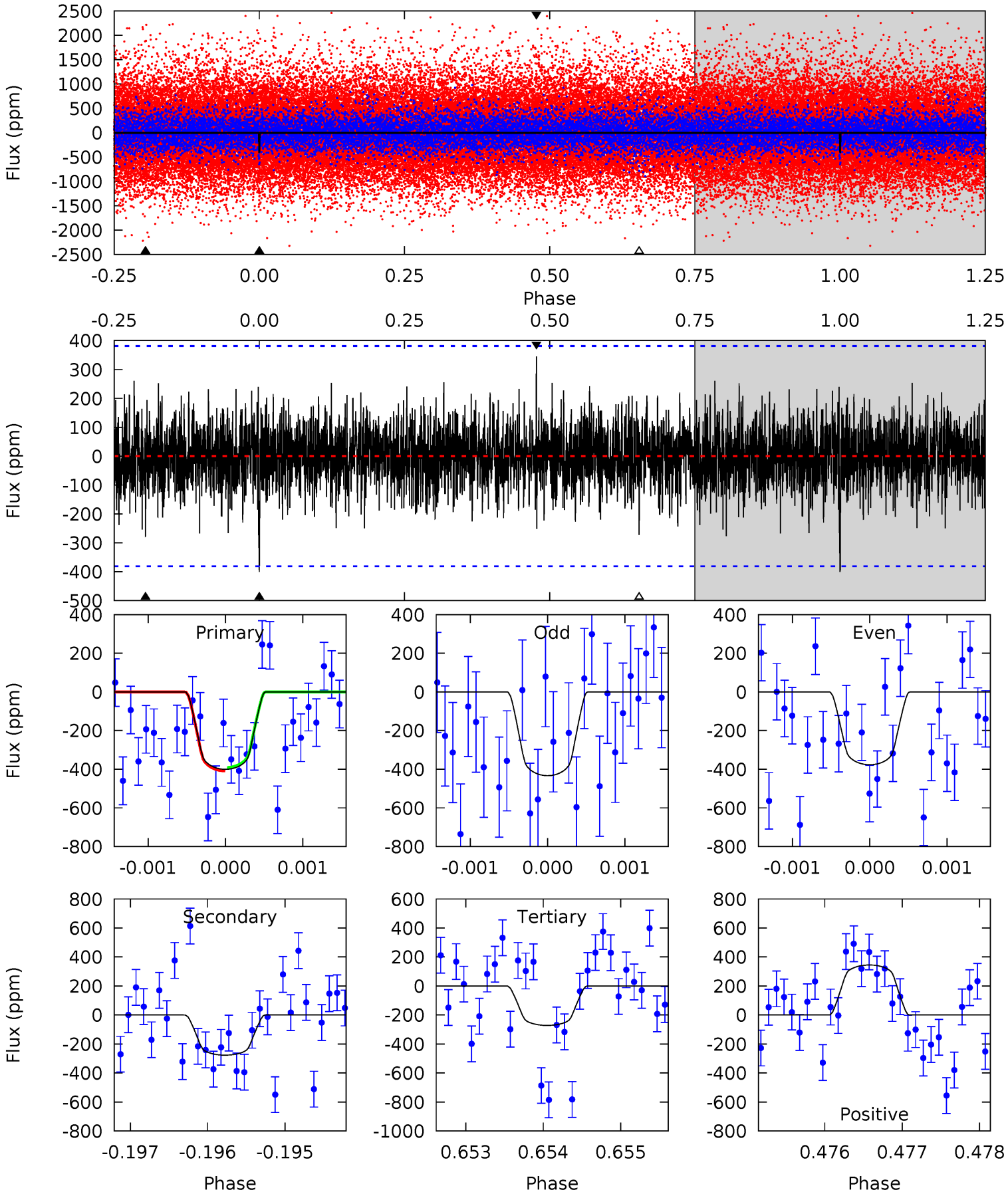
TCE 008827390-01 P=115.638102 Days T_0=185.123963 (BKJD)



DV Model-Shift Uniqueness Test

008827390-01, P = 115.639617 Days, E = 69.482230 Days

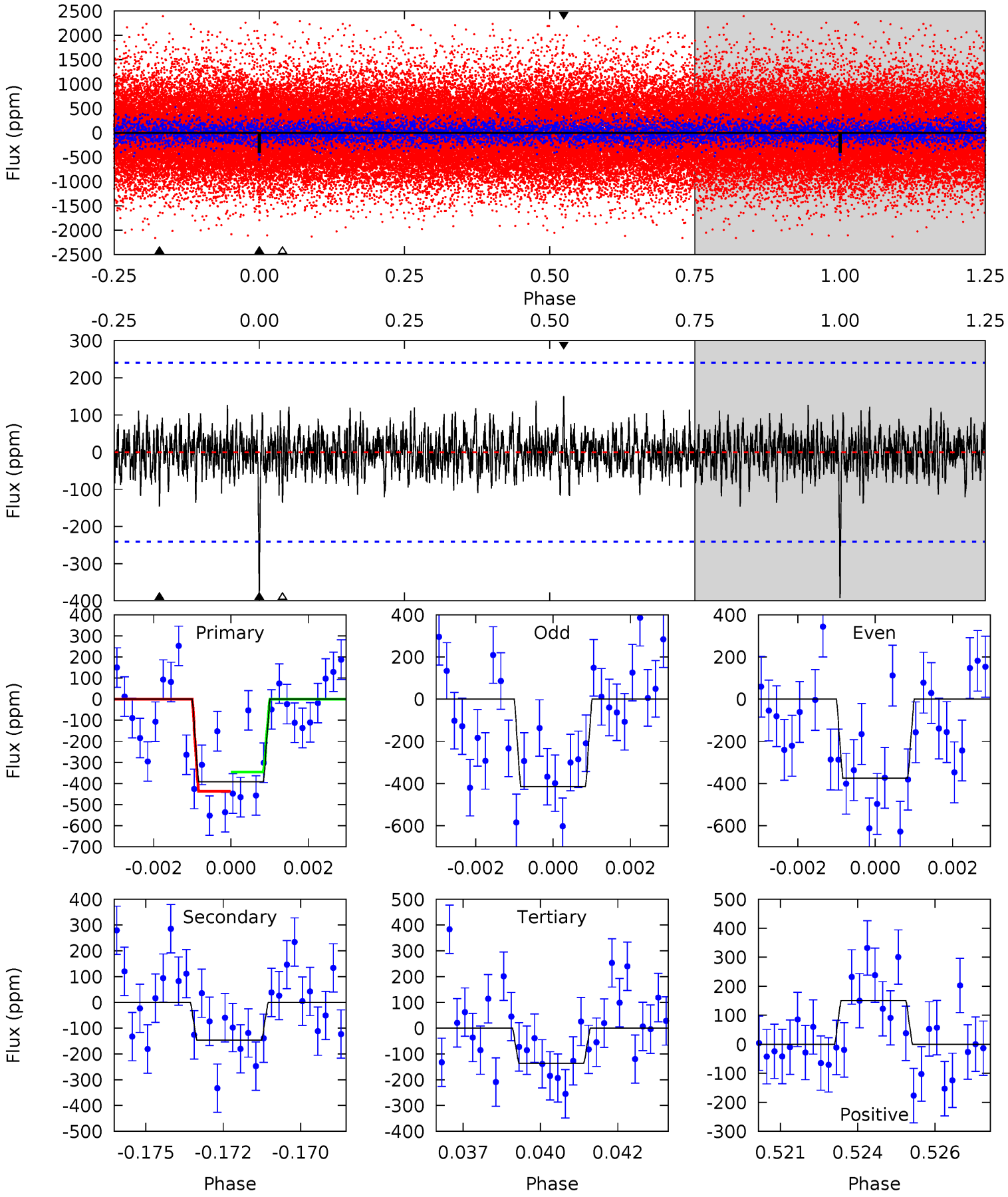
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.74	3.97	3.90	4.95	5.46	3.31	1.18	1.84	0.80	0.07	-0.98	0.40	0.95	0.46	0.12



Alt Model-Shift Uniqueness Test

008827390-01, P = 115.638102 Days, E = 69.485861 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.61	3.21	2.99	3.31	5.30	3.04	0.90	5.63	5.30	0.23	-0.10	0.44	0.82	0.28	1.01



Stellar Parameters For KIC 008827390

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6190^{+174}_{-217}	$4.519^{+0.052}_{-0.208}$	$-0.540^{+0.300}_{-0.300}$	$0.882^{+0.266}_{-0.089}$	$0.938^{+0.115}_{-0.115}$	$1.924^{+0.513}_{-0.978}$
	+3%/-4%	+1%/-5%	+56%/-56%	+30%/-10%	+12%/-12%	+27%/-51%
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 008827390-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-277±70	$3.10^{+2.62}_{-1.96}$	542^{+35}_{-24}	4700^{+2930}_{-988}	3136^{+20370}_{-2255}
Alt.	-146±45	$2.78^{+2.68}_{-1.89}$	542^{+40}_{-28}	4273^{+2874}_{-858}	2010^{+17338}_{-1496}

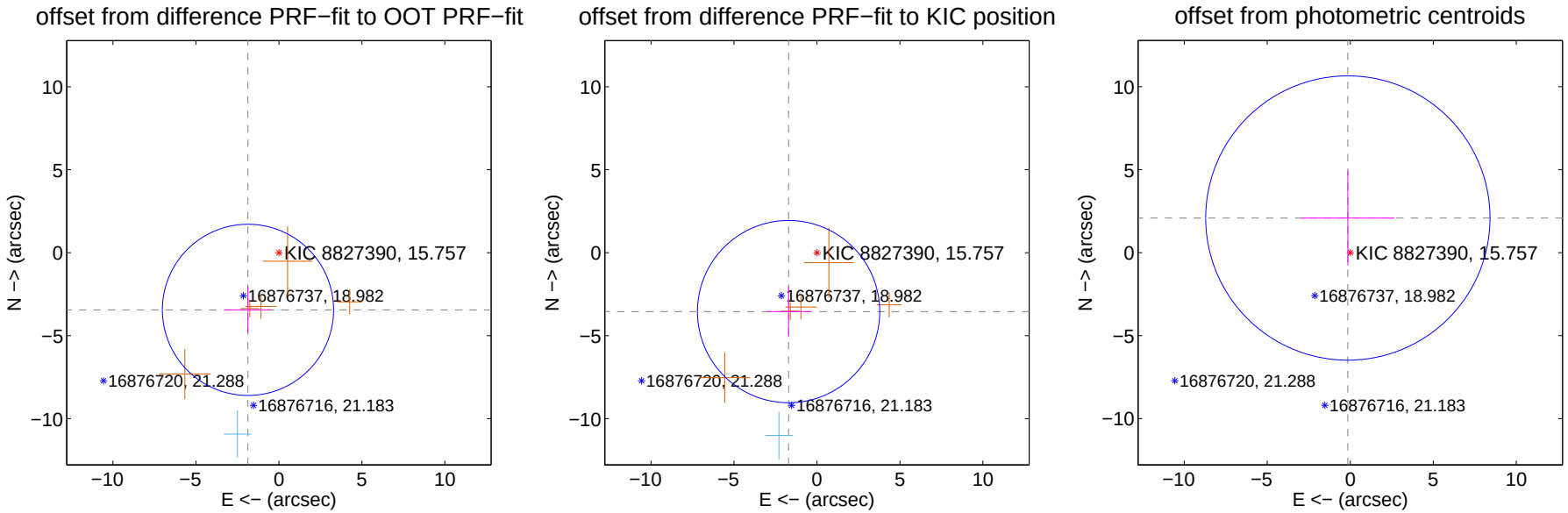
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

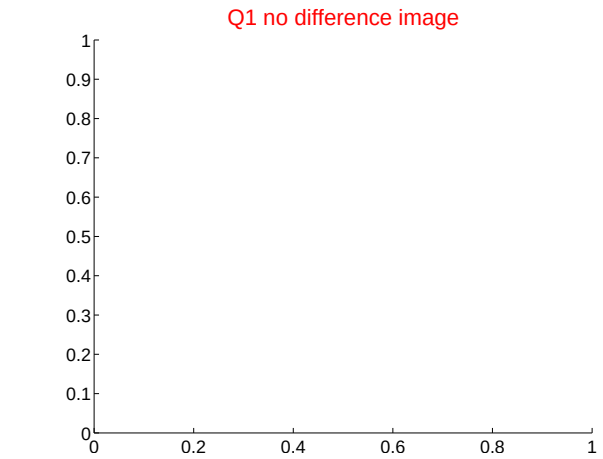
Supplemental centroid analysis for 008827390-01. Kepler magnitude: 15.76. Transit SNR 5.70
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

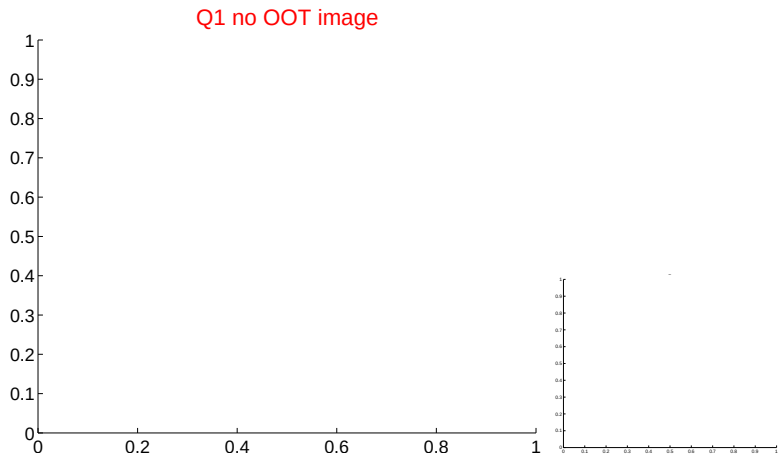
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.915 ± 1.719	2.28	1.864 ± 1.387	-3.443 ± 1.405
PRF-fit source offset from KIC position	3.939 ± 1.830	2.15	1.709 ± 1.304	-3.549 ± 1.515
photometric centroid source offset	2.09 ± 2.85	0.73	0.15 ± 2.82	2.09 ± 2.85

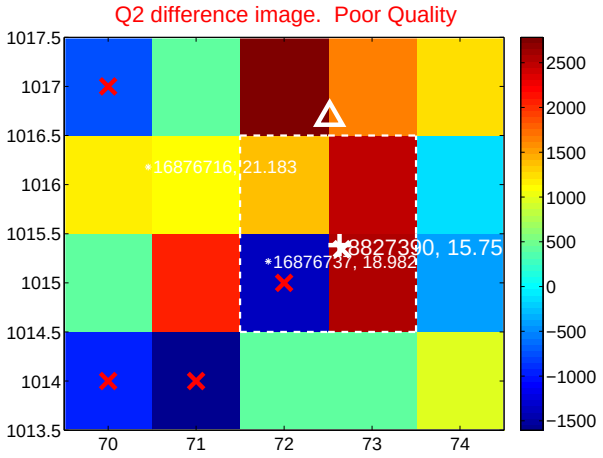


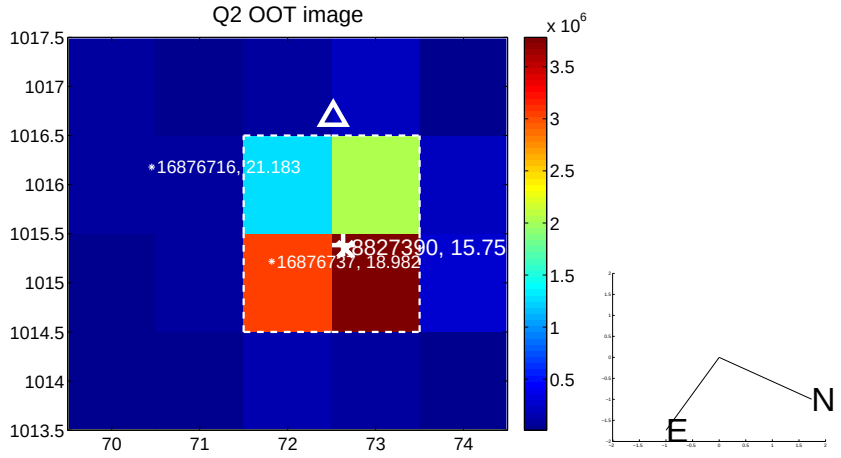
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

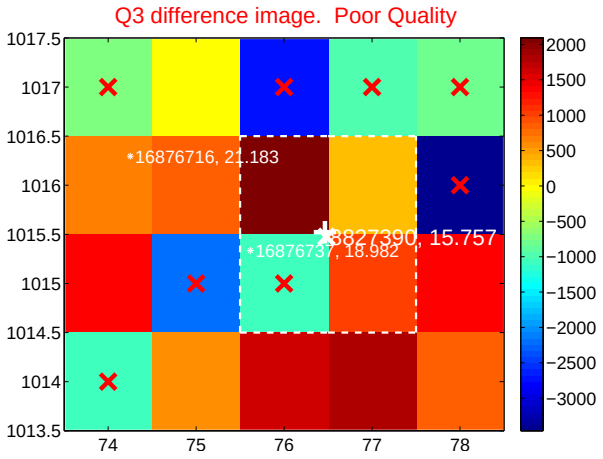
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

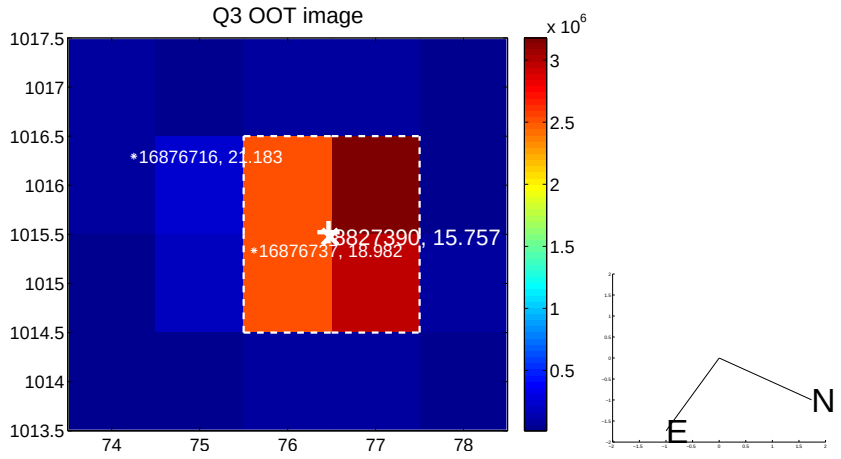


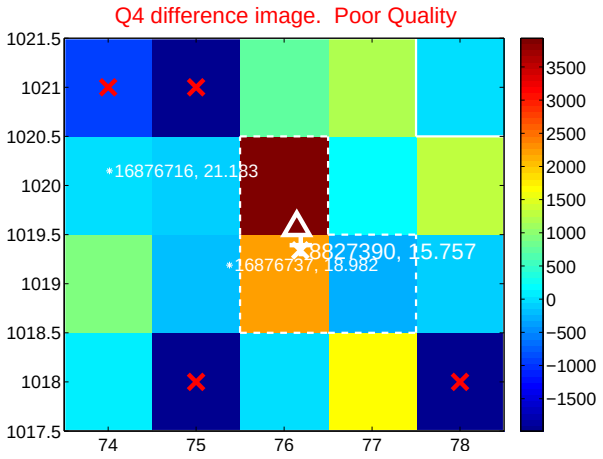


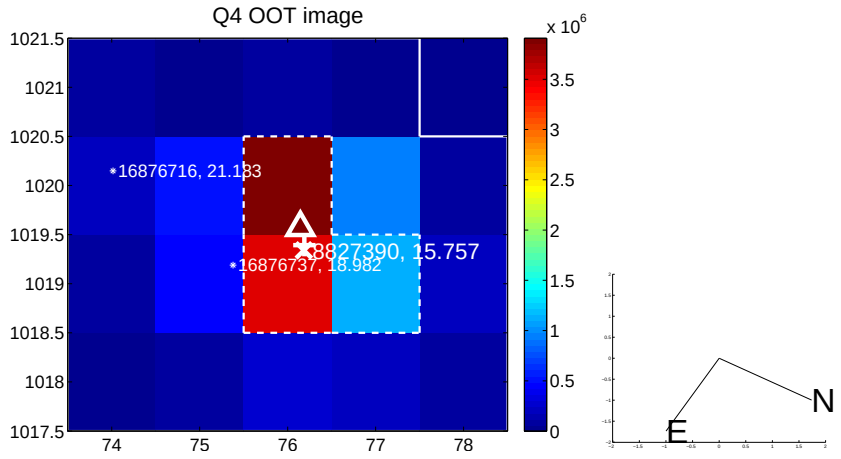




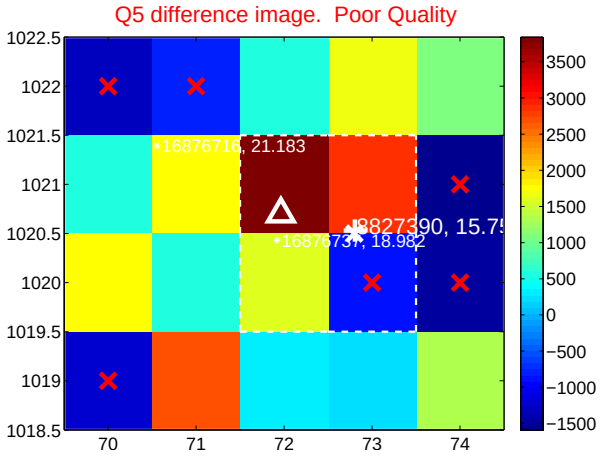


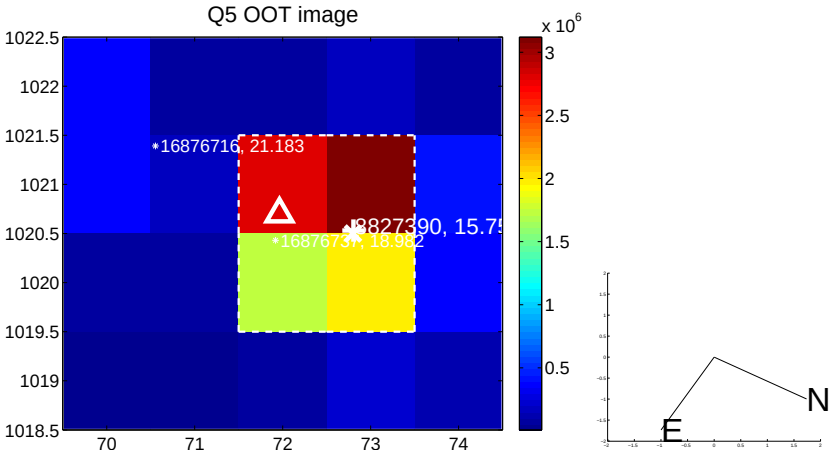


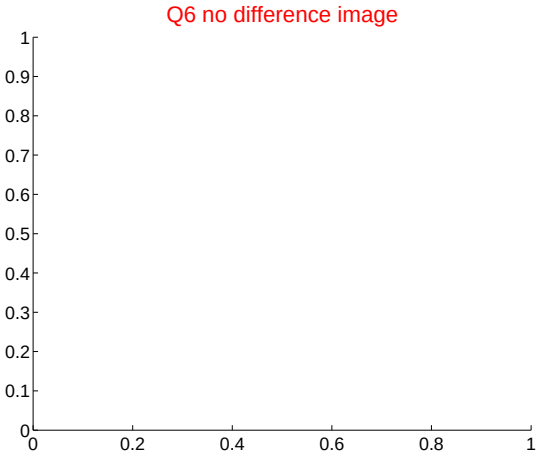


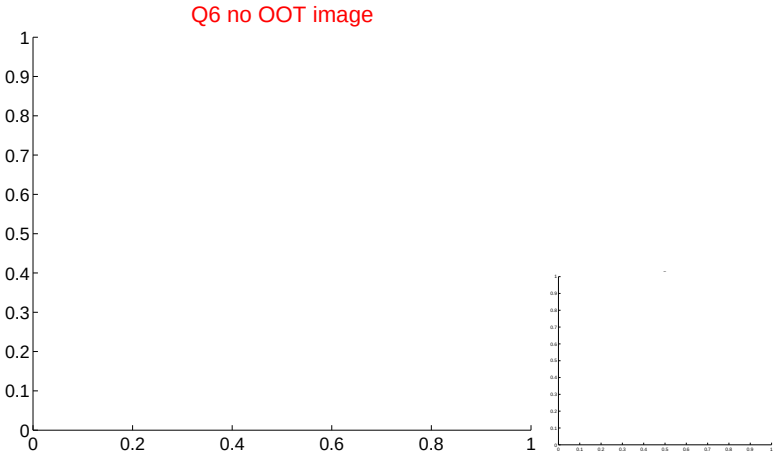


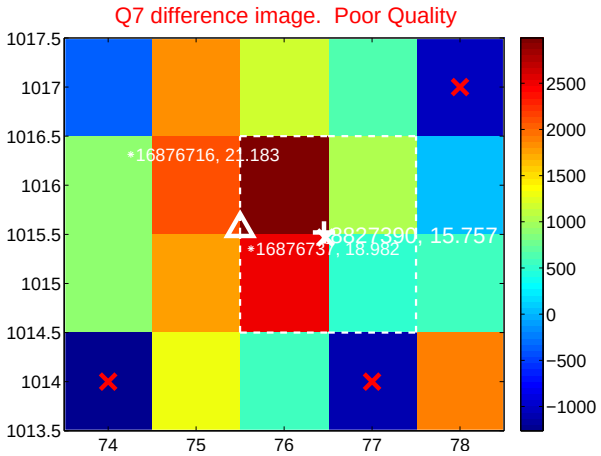
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

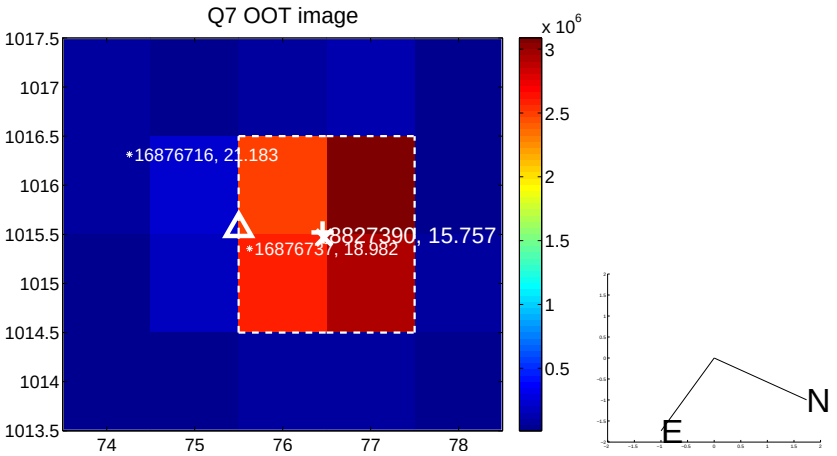


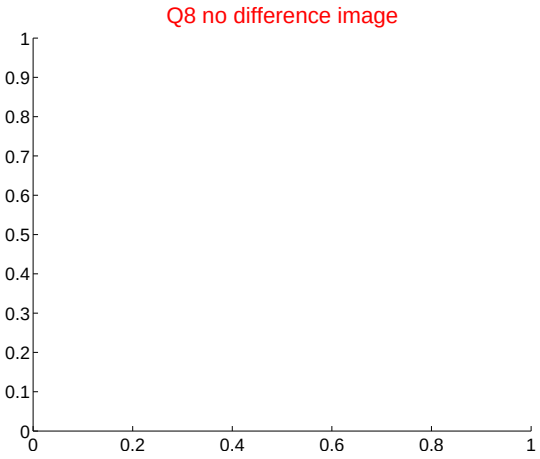


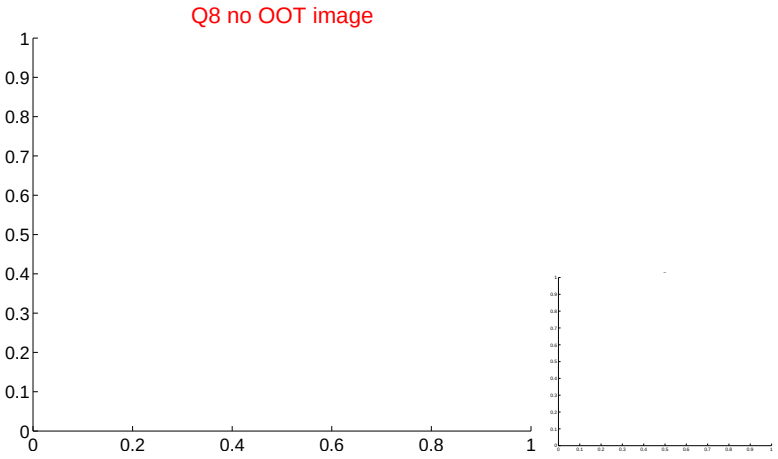




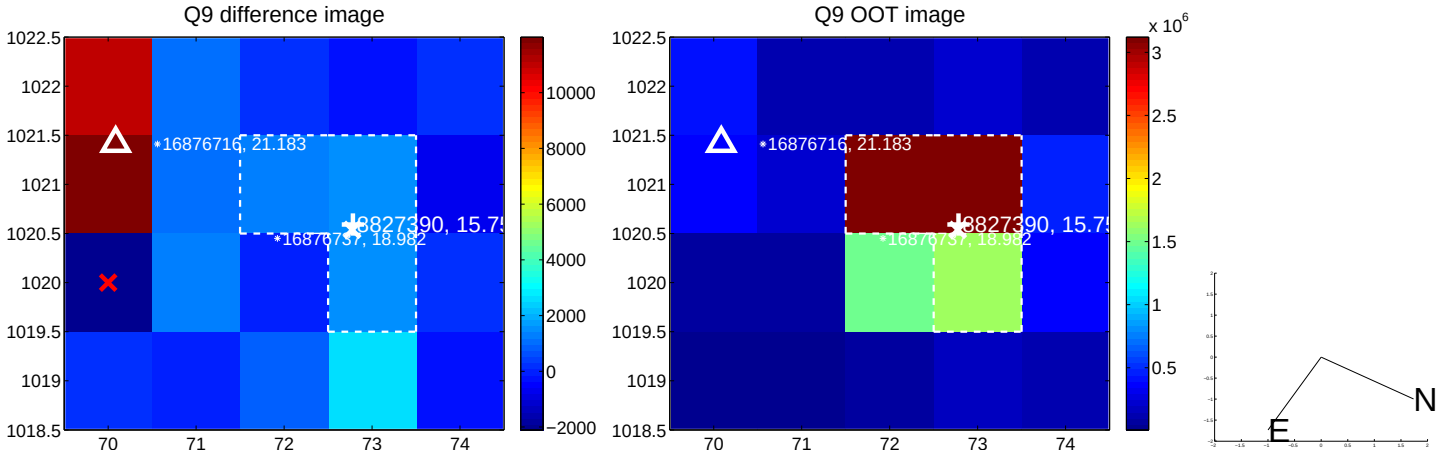


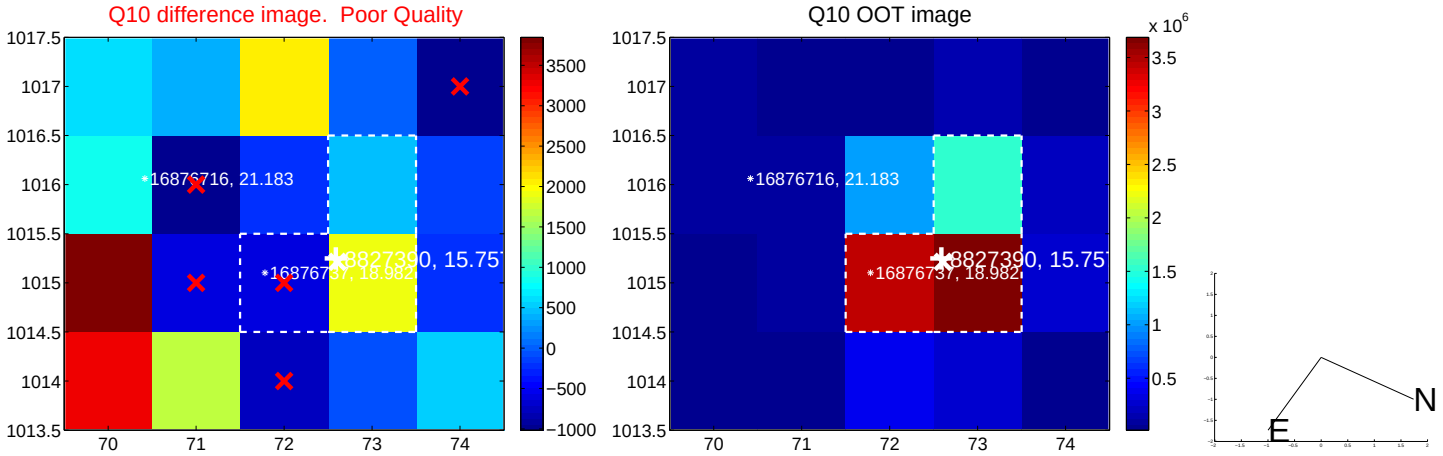


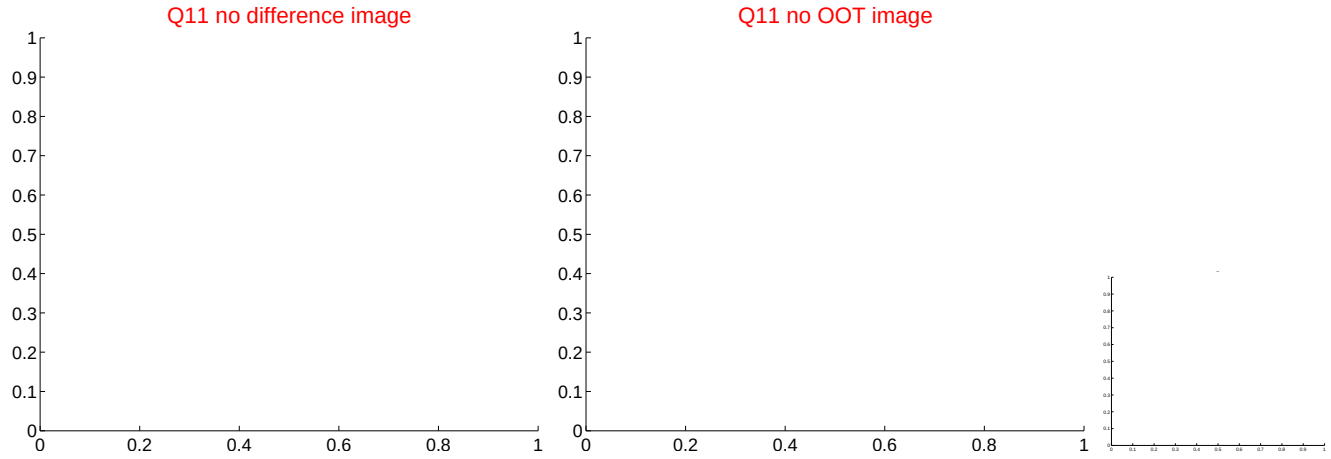


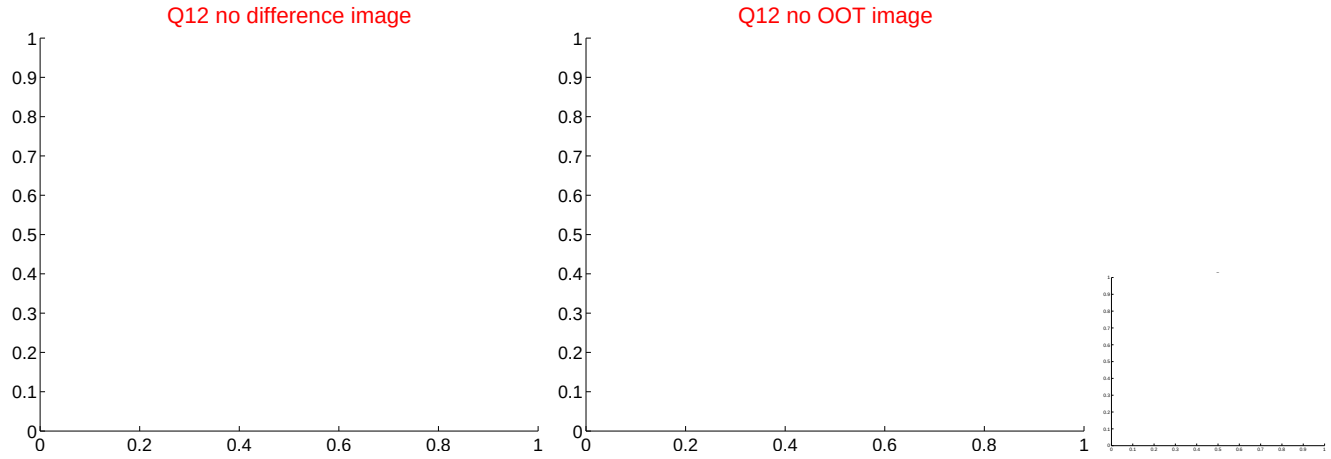


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

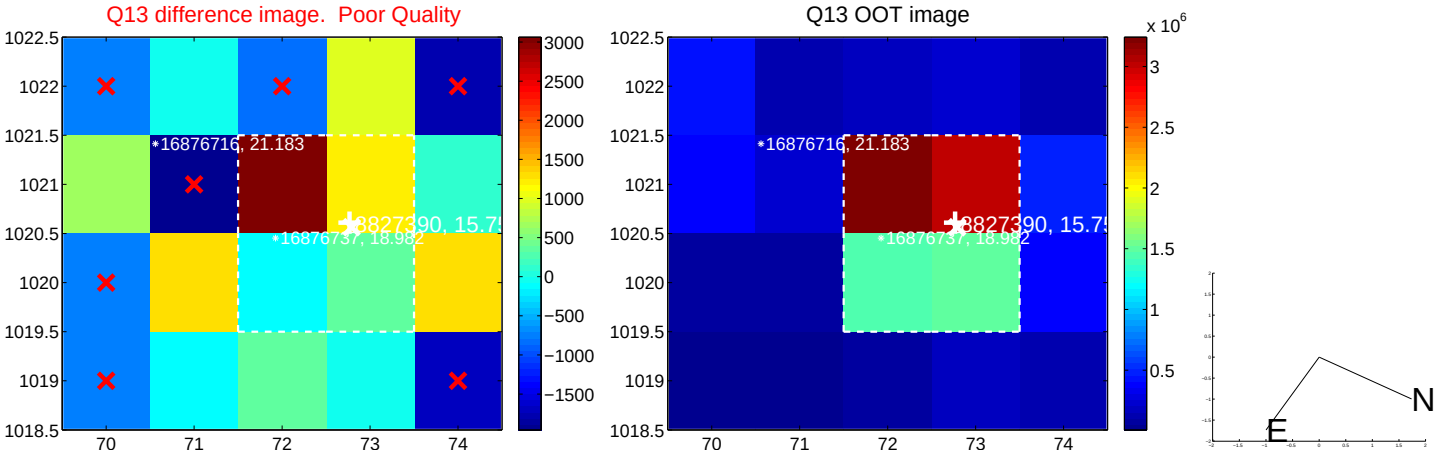


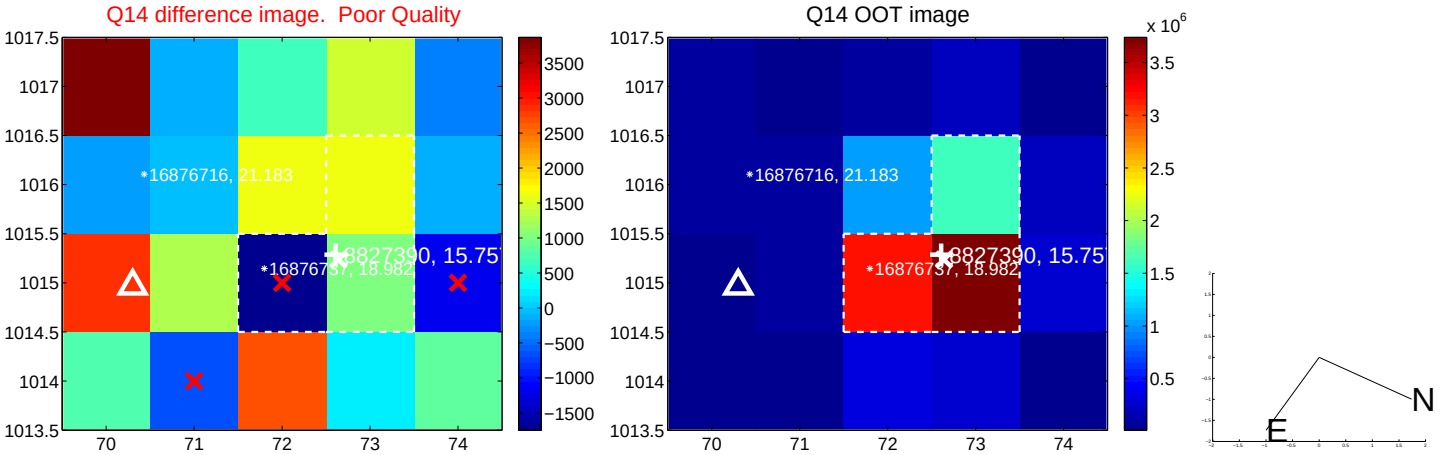


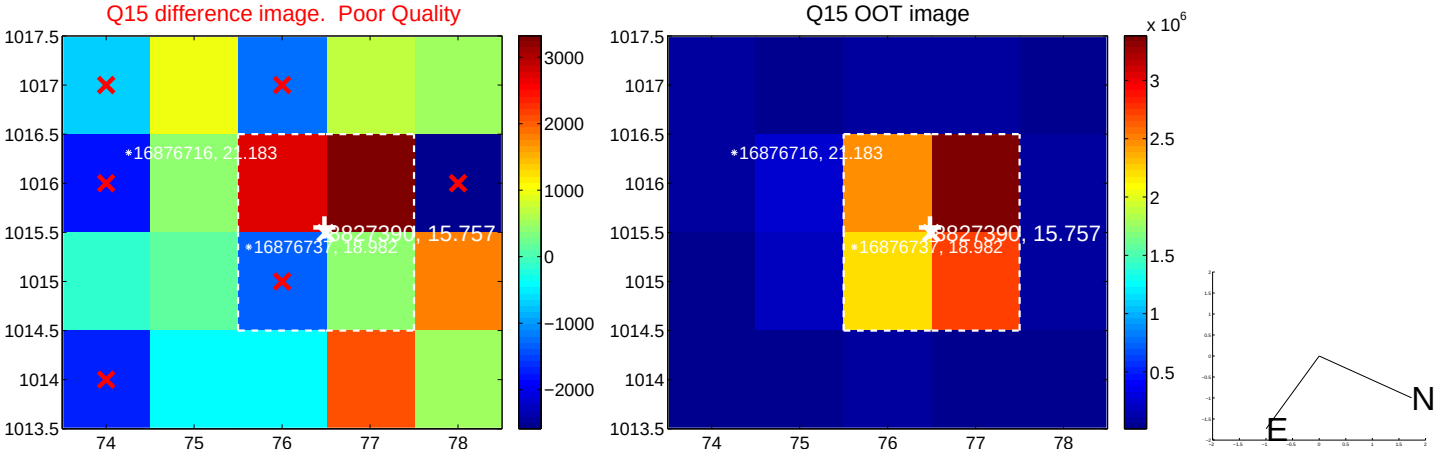


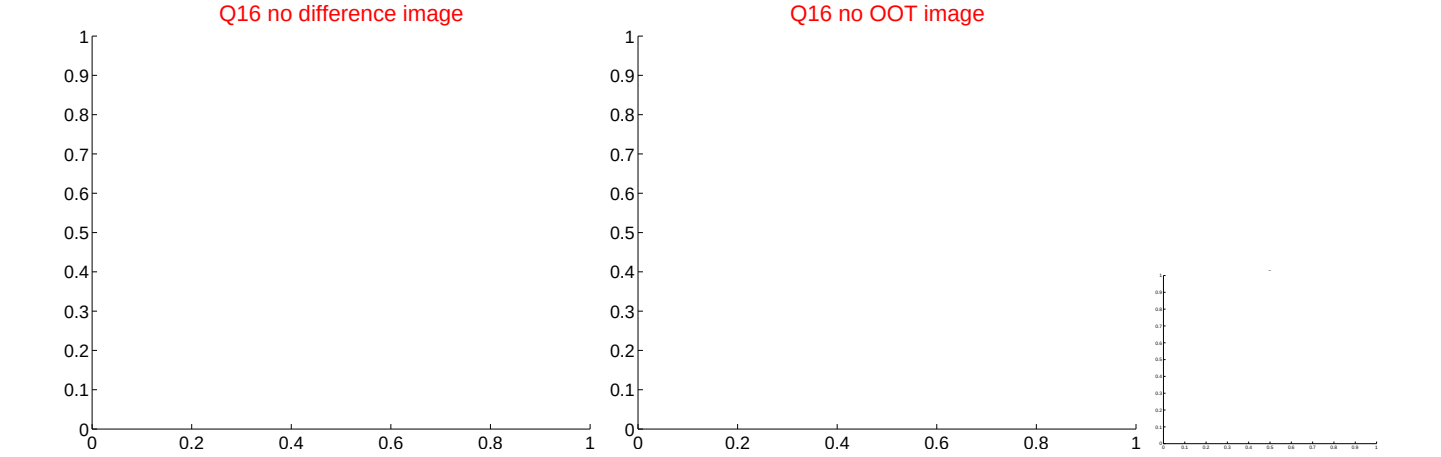


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

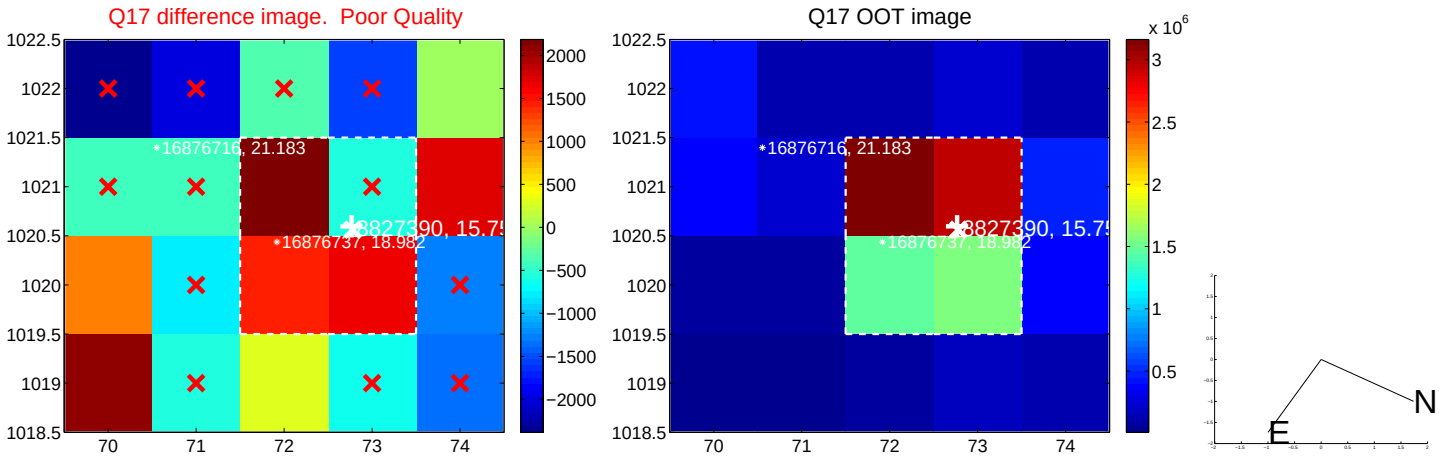


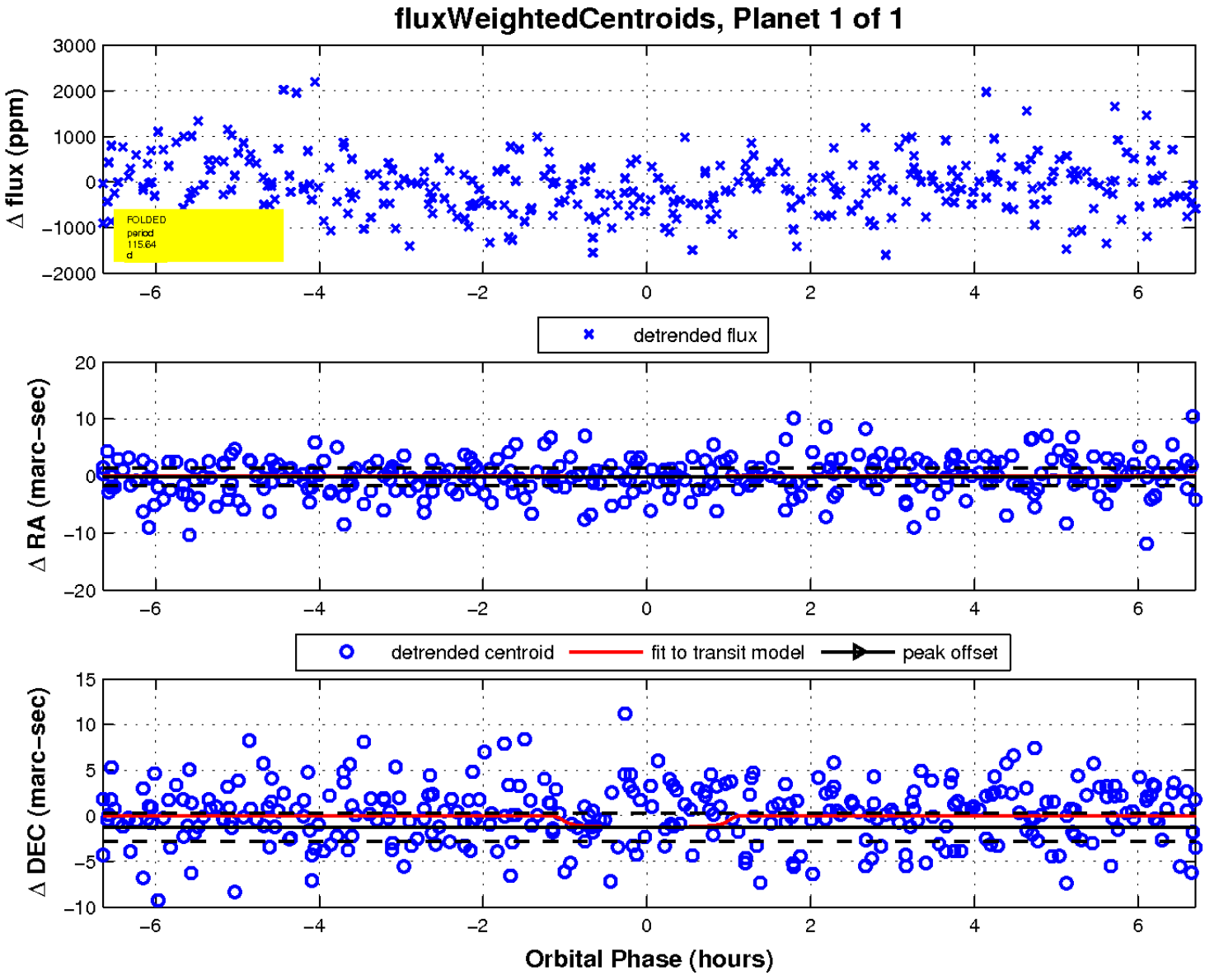




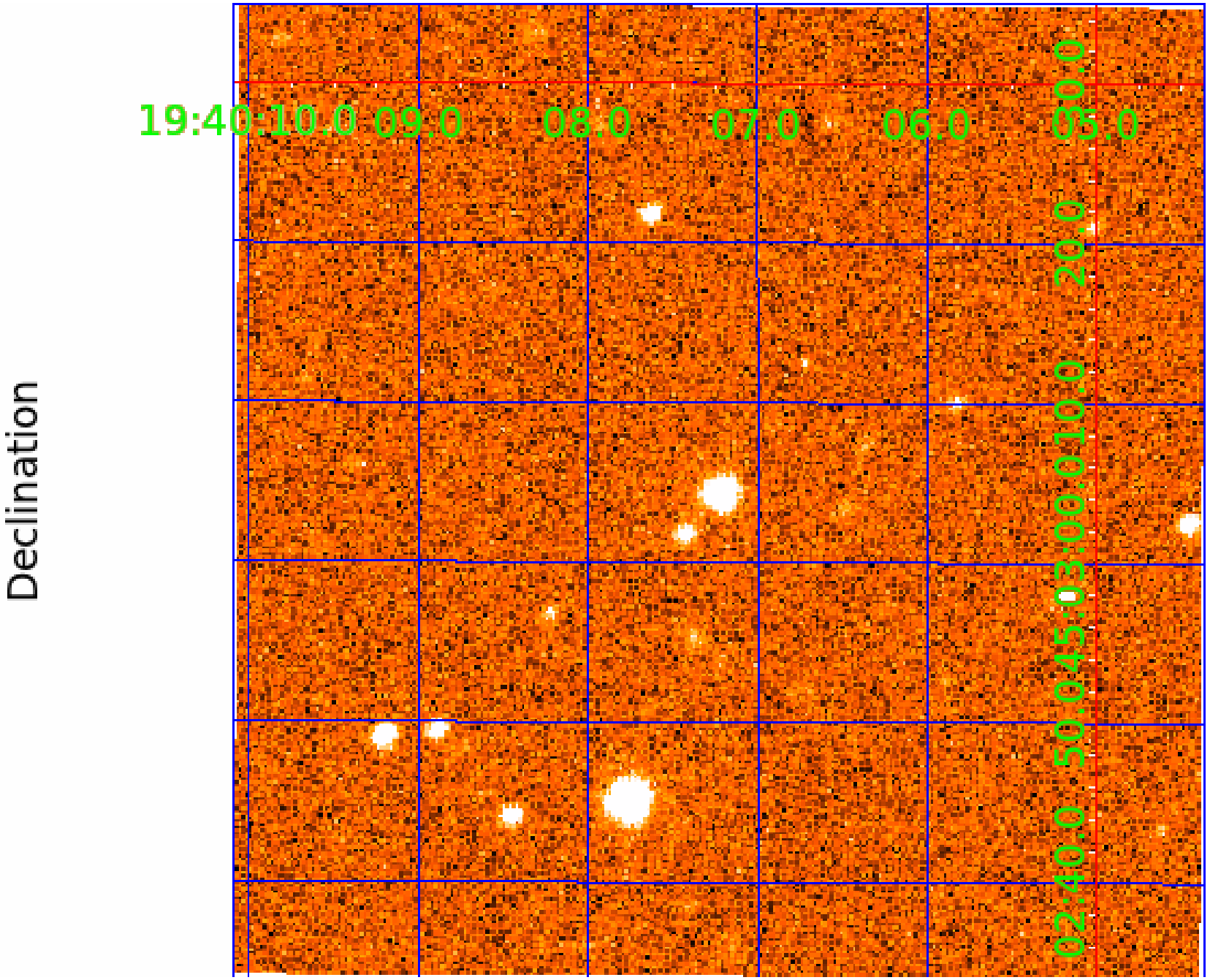


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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