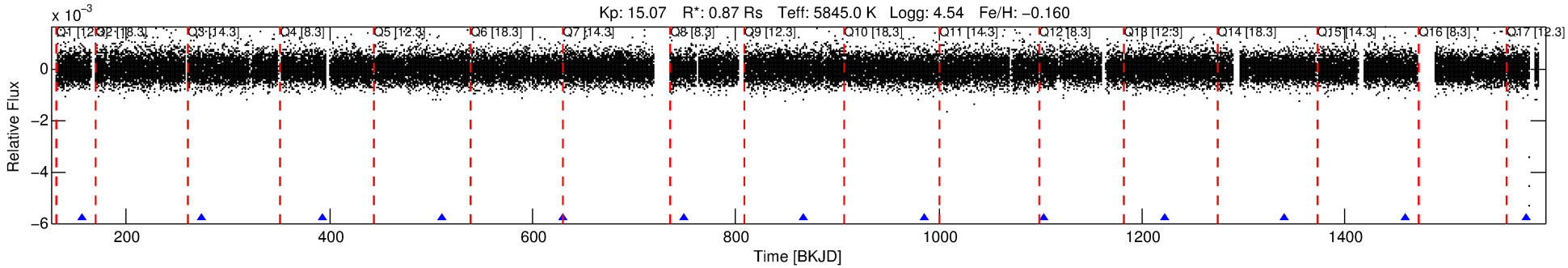
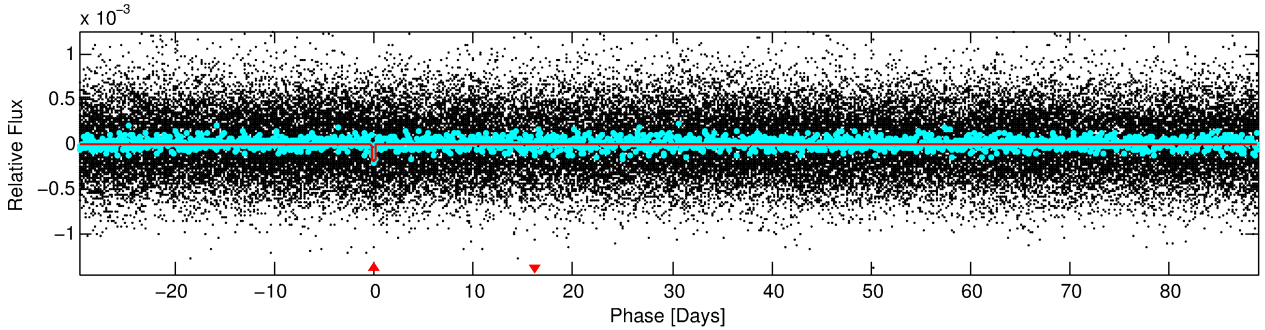
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

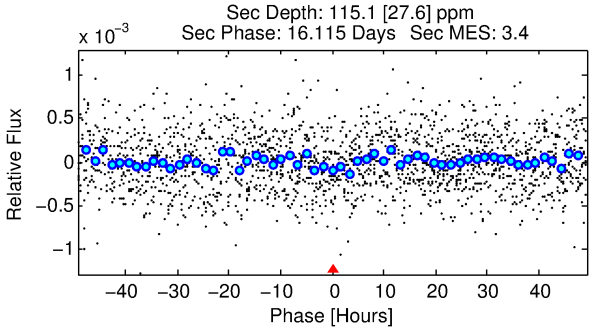
DV One-Page Summary

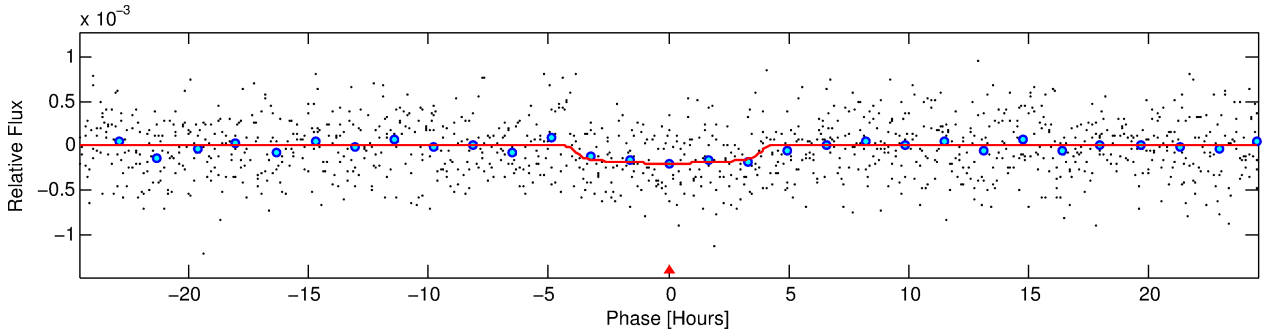
KIC: 9881523 Candidate: 1 of 1 Period: 118.476 d

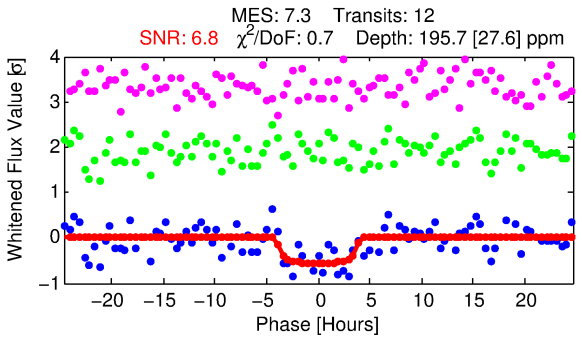
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

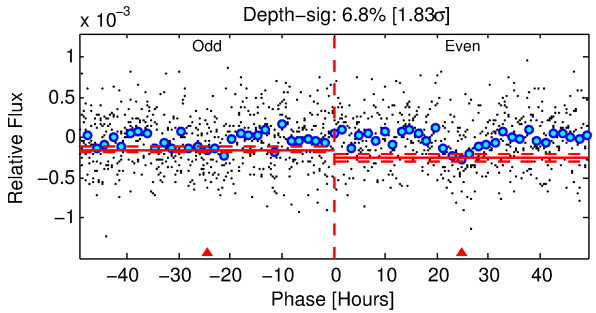


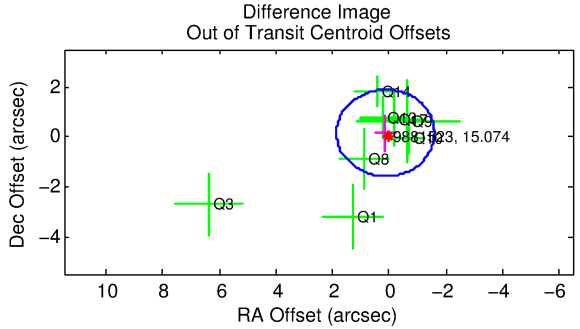












DV Fit Results:

Period = 118.47591 [0.00275] d
Epoch = 156.0948 [0.0202] BKJD
Rp/R* = 0.0146 [0.0082]
a/R* = 60.84 [164.33]
b = 0.85 [0.88]

Seff = 3.66 [1.31]
Teq = 353 [32] K
Rp = 1.39 [0.87] Re
a = 0.4672 [0.1070] AU

Ag = 7108.08 [8525.28] [0.83σ]
Teffp = 5007 [1448] K [3.21σ]

DV Diagnostic Results:

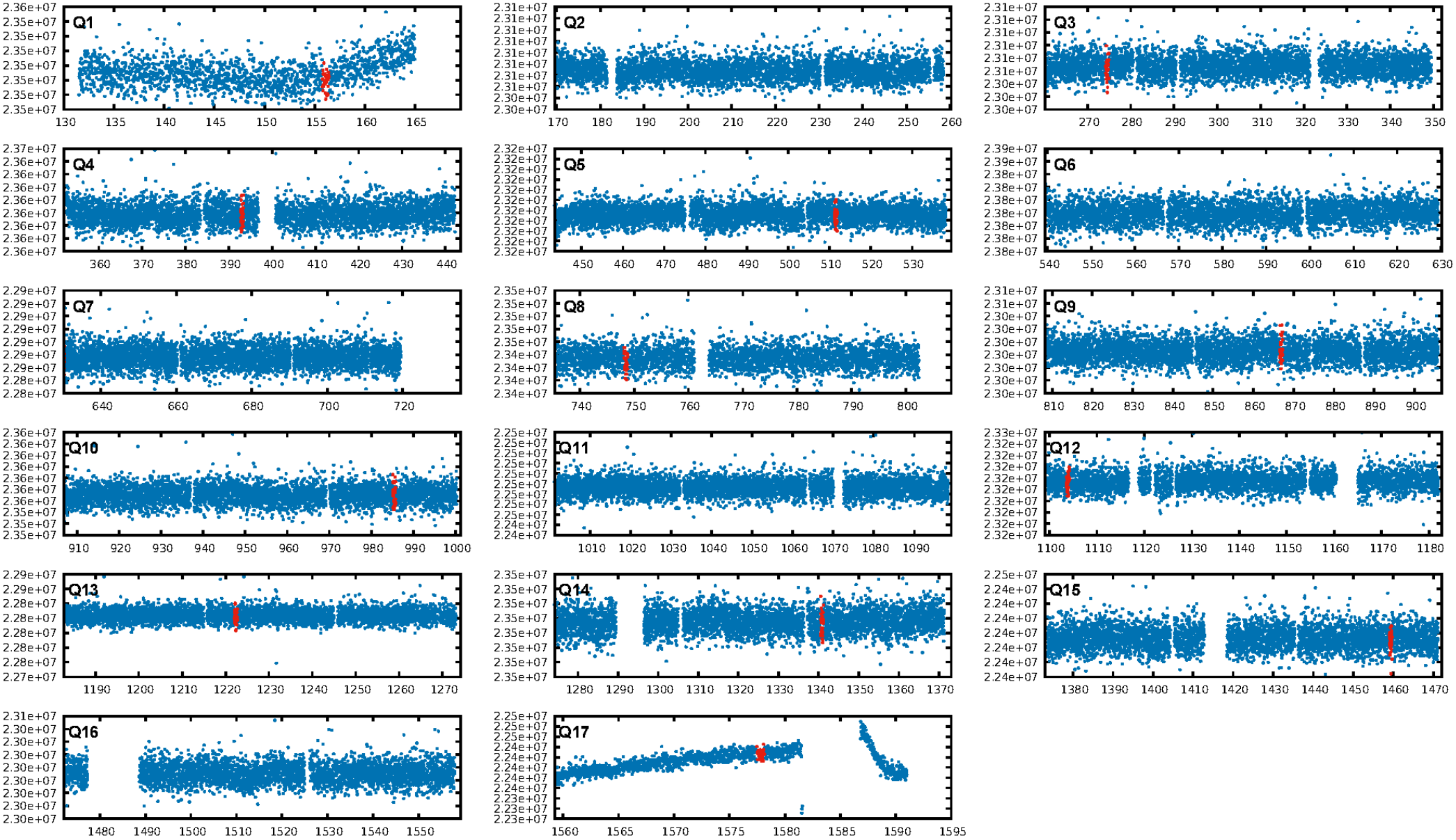
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 70.5%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 4.06e−14
RollingBand−fgt: 1.00 [10/10]
GhostDiagnostic−chr: 1.53

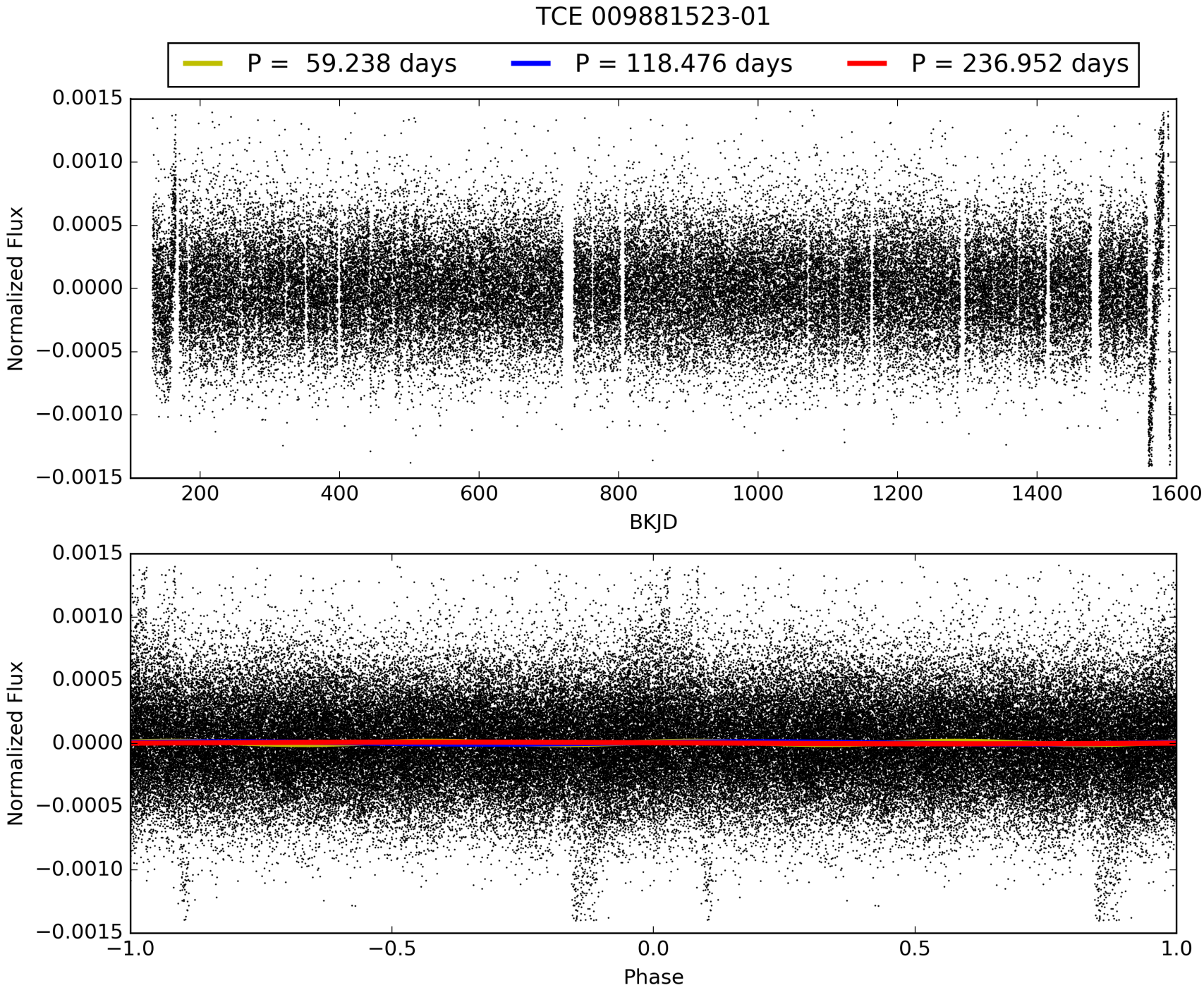
Centroid−sig: 17.3%
Centroid−so: 1.994 arcsec [0.98σ]
OotOffset−rm: 0.198 arcsec [0.34σ]
KicOffset−rm: 0.113 arcsec [0.17σ]
OotOffset−st: 2/1/1/4 [8]
KicOffset−st: 2/1/1/4 [8]
DiffImageQuality−fgm: 0.50 [4/8]
DiffImageOverlap−fno: 1.00 [11/11]

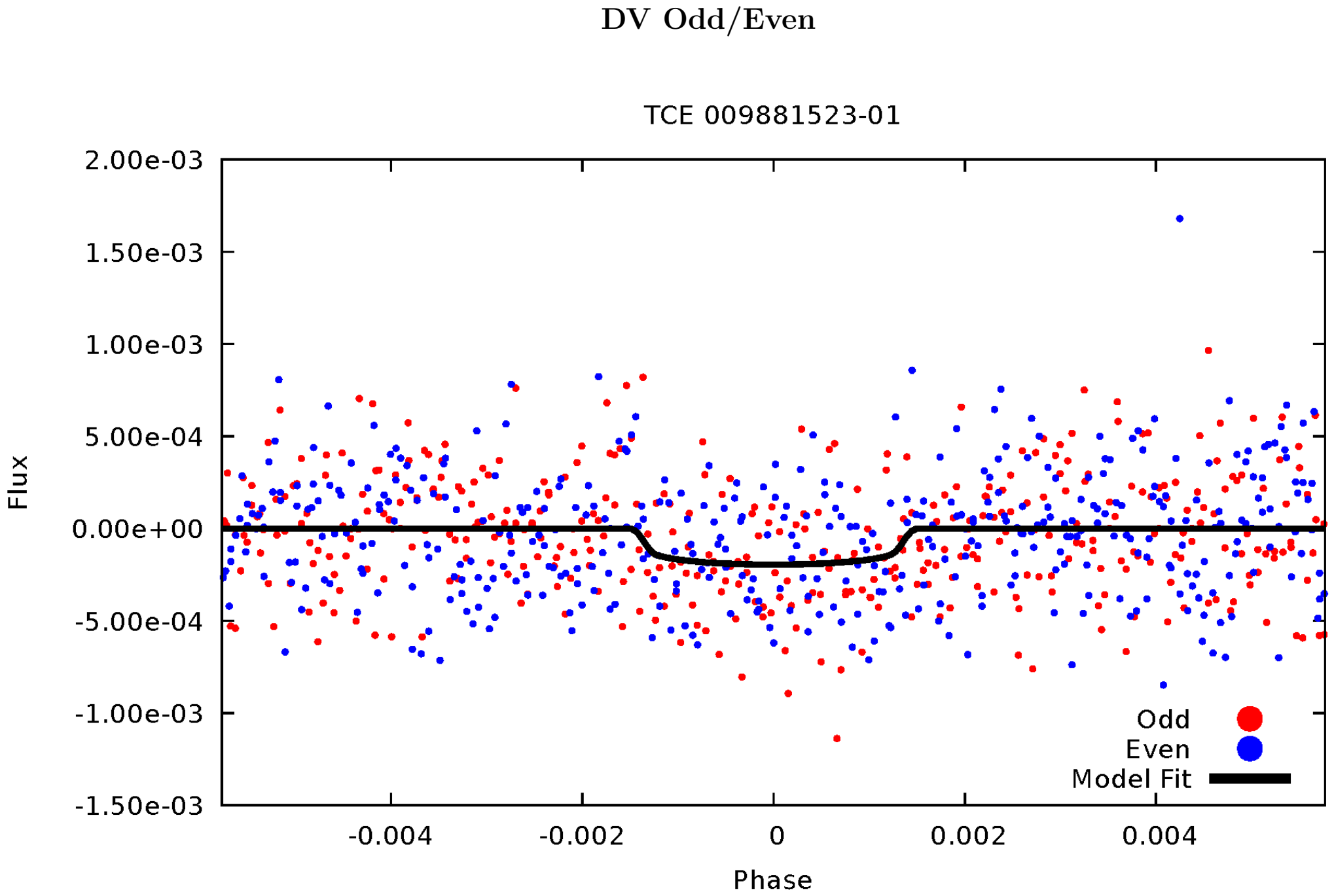
Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2174@60968 −− Date Generated: 15−Feb−2016 22:49:14 Z

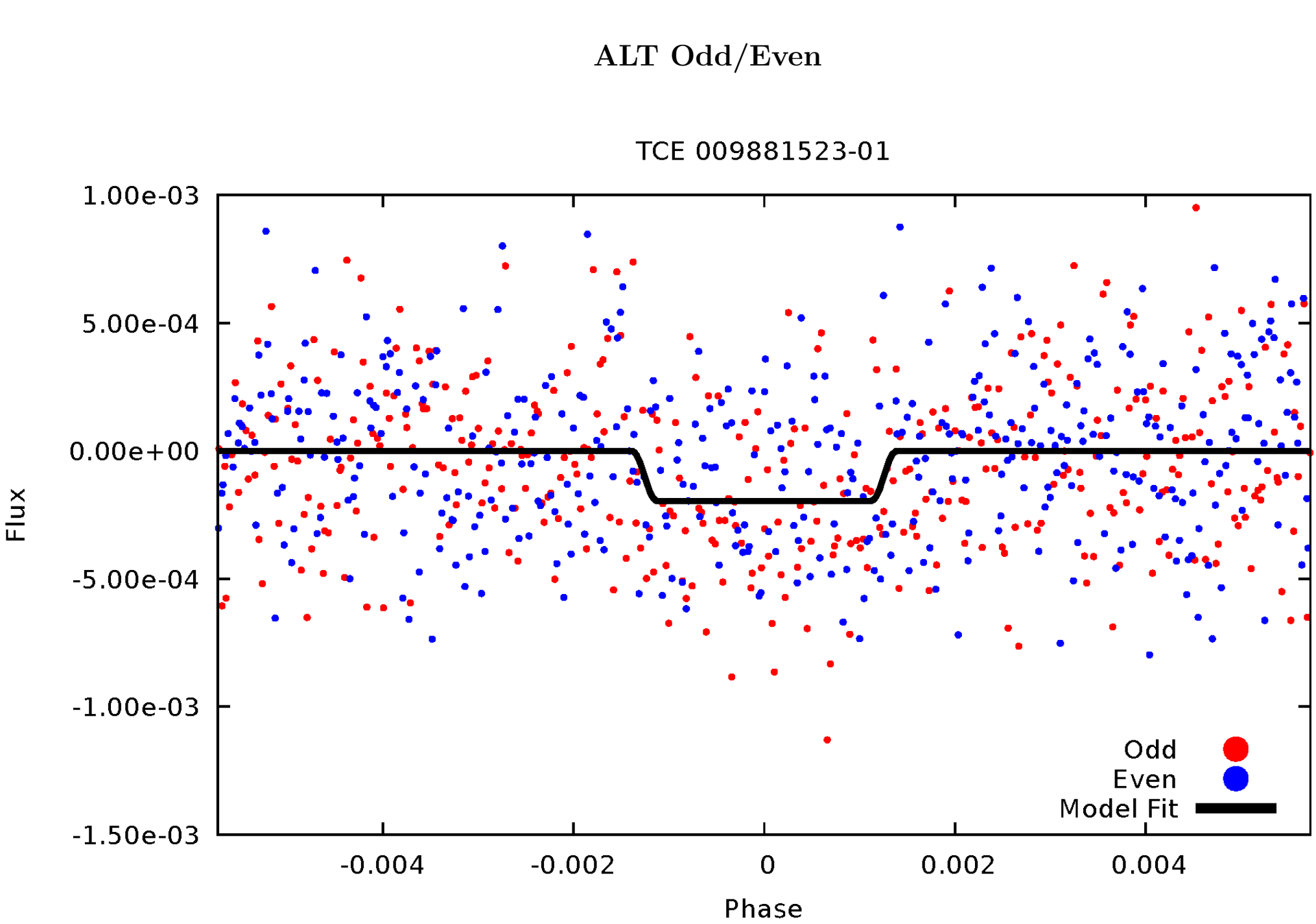
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009881523-01, PDC Light Curves

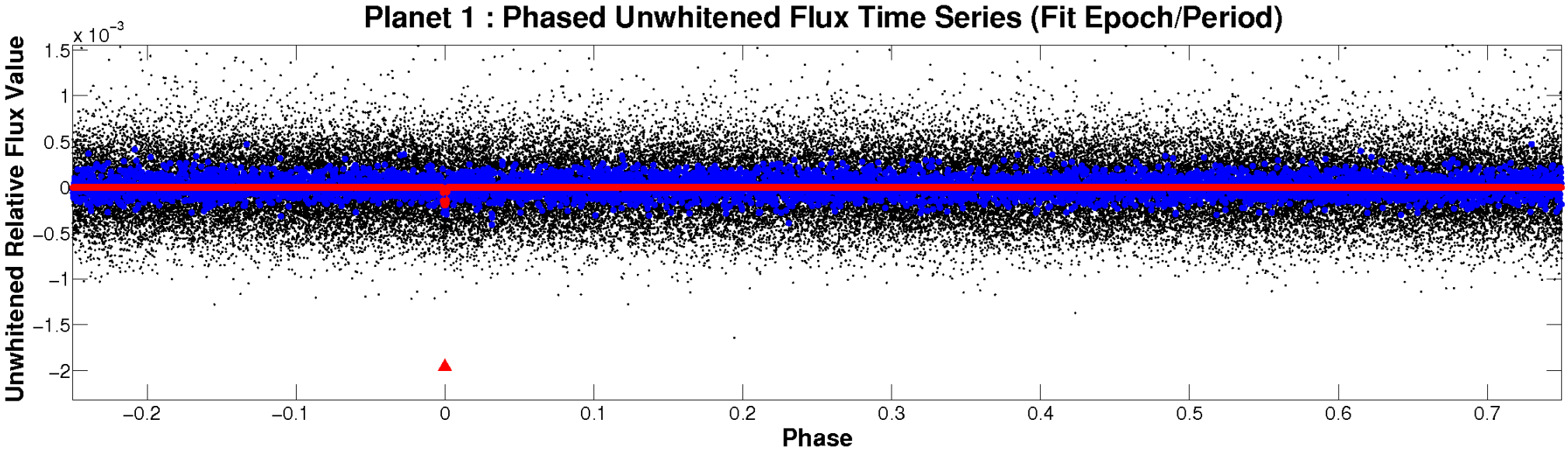


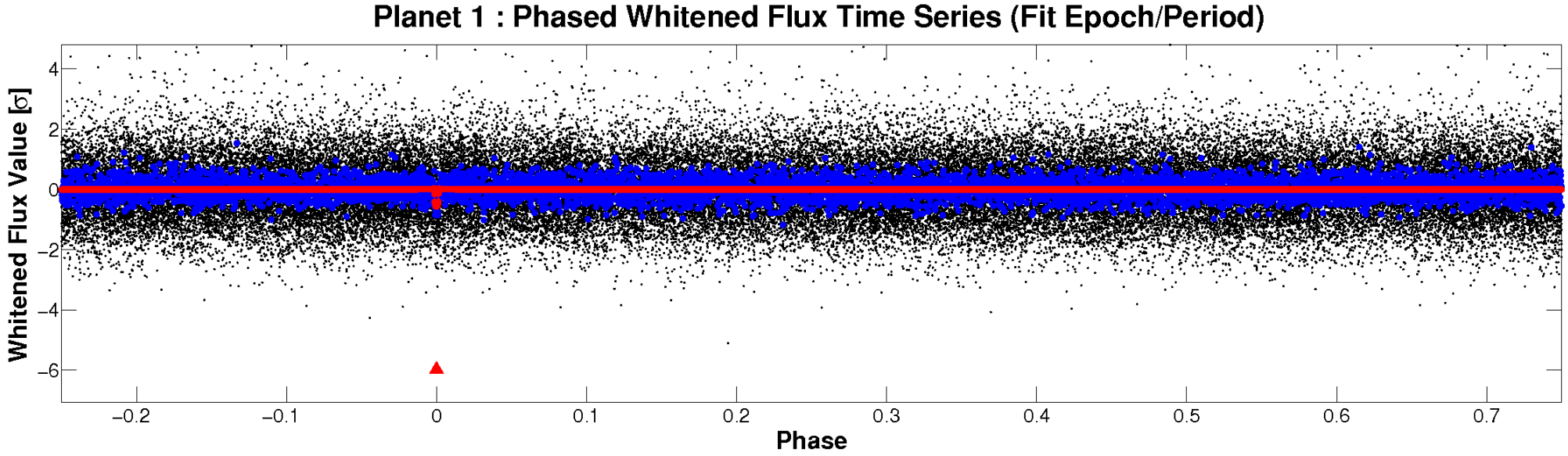

TCE 009881523-01
P = 59.238 days
P = 118.476 days
P = 236.952 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase


DV Odd/Even
TCE 009881523-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009881523-01
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

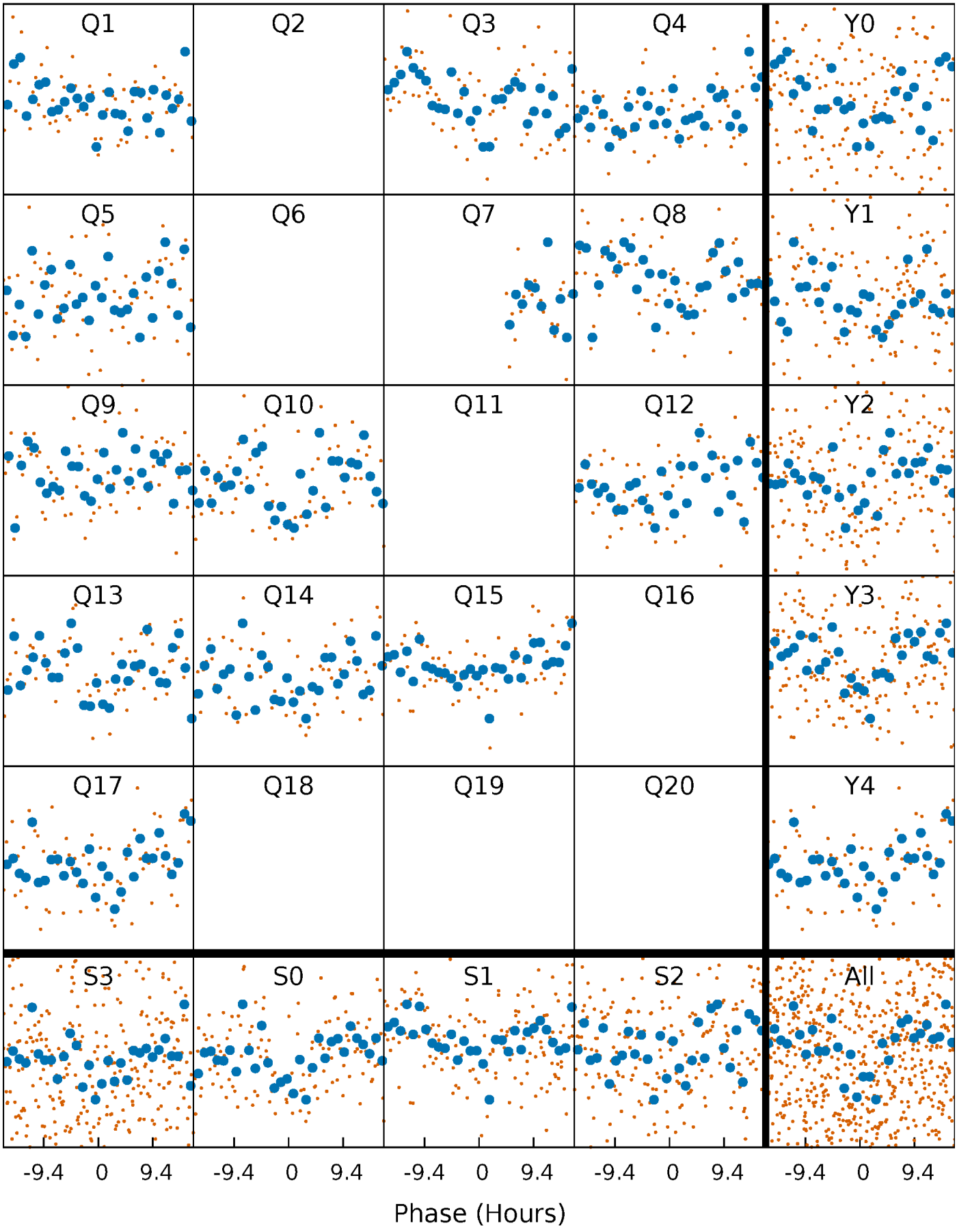
Non-Whitened Vs. Whitened Light Curve





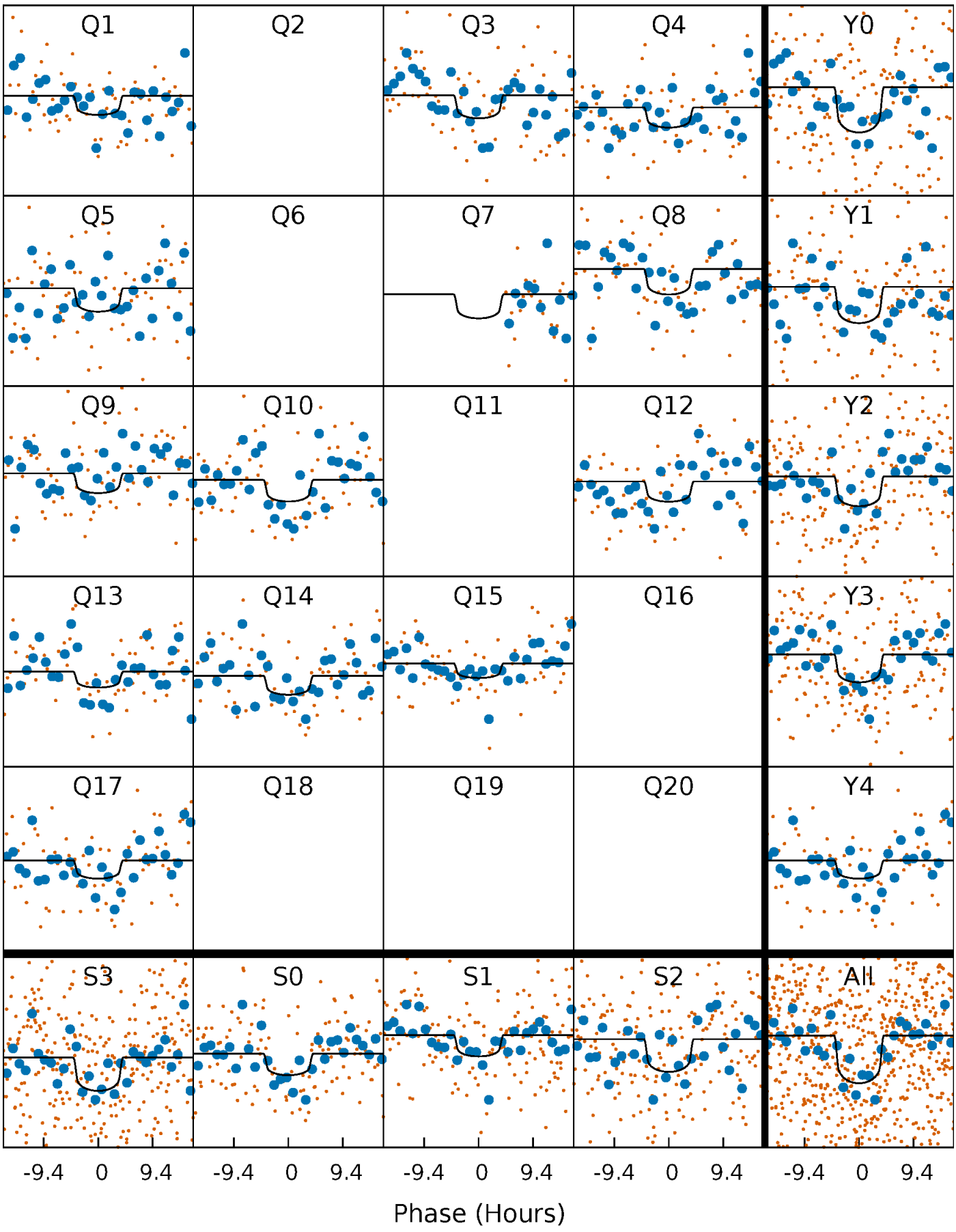
PDC Quarter-Phased Transit Curves

TCE 009881523-01 P=118.475908 Days T_0=156.094782 (BKJD)



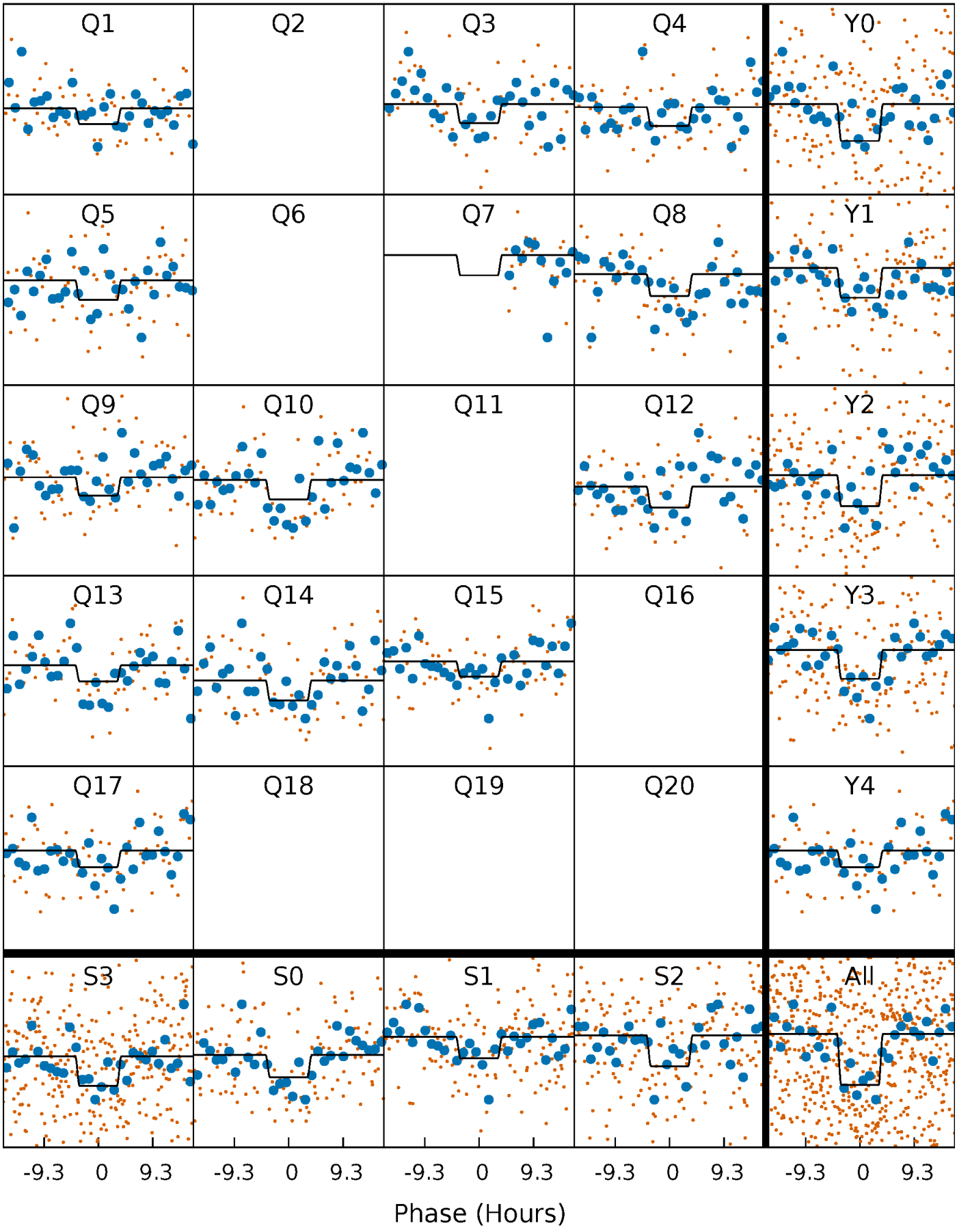
DV Quarter-Phased Transit Curves

TCE 009881523-01 P=118.475908 Days T_0=156.094782 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

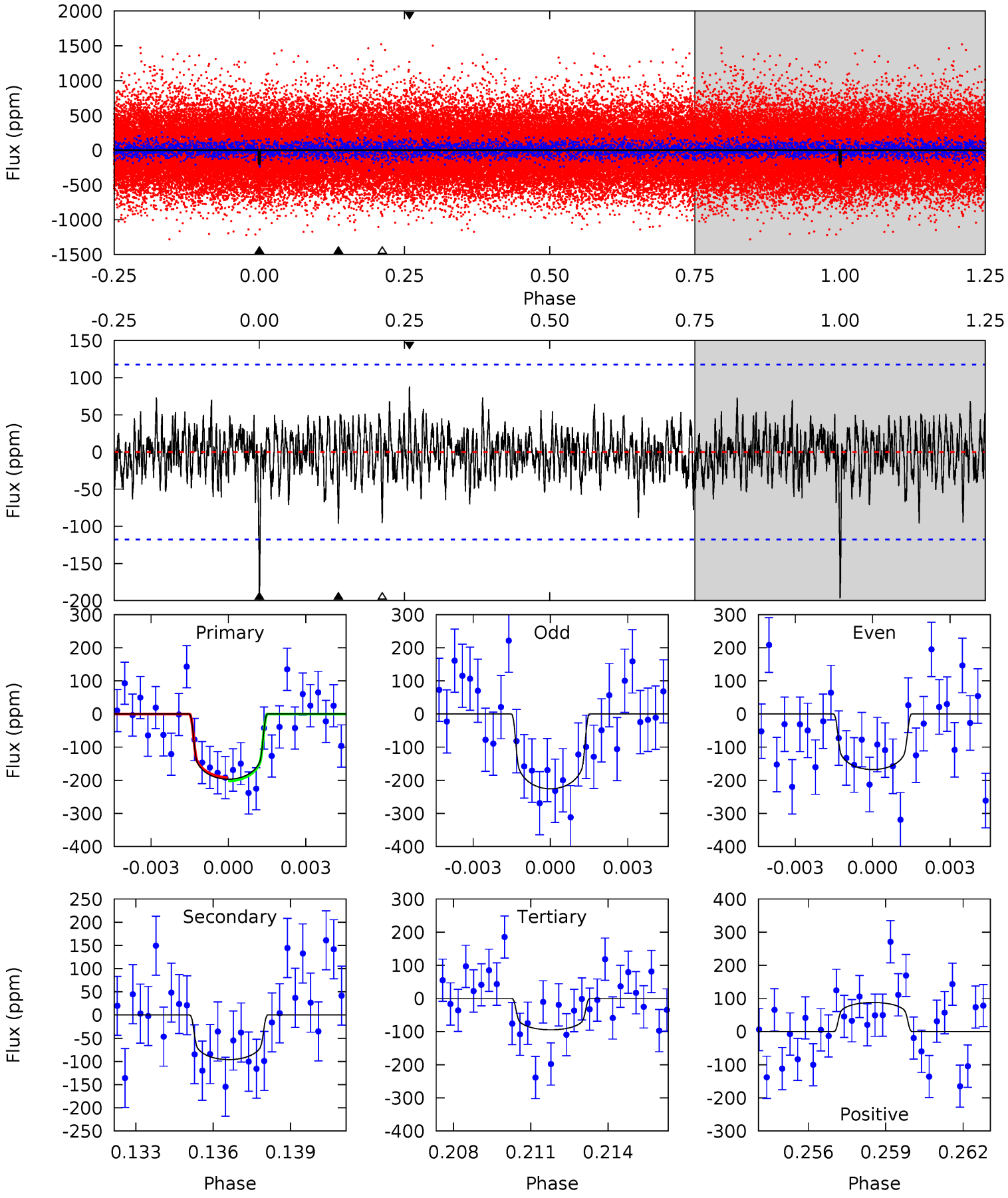
TCE 009881523-01 P=118.475347 Days T_0=156.100952 (BKJD)



DV Model-Shift Uniqueness Test

009881523-01, P = 118.475908 Days, E = 37.618874 Days

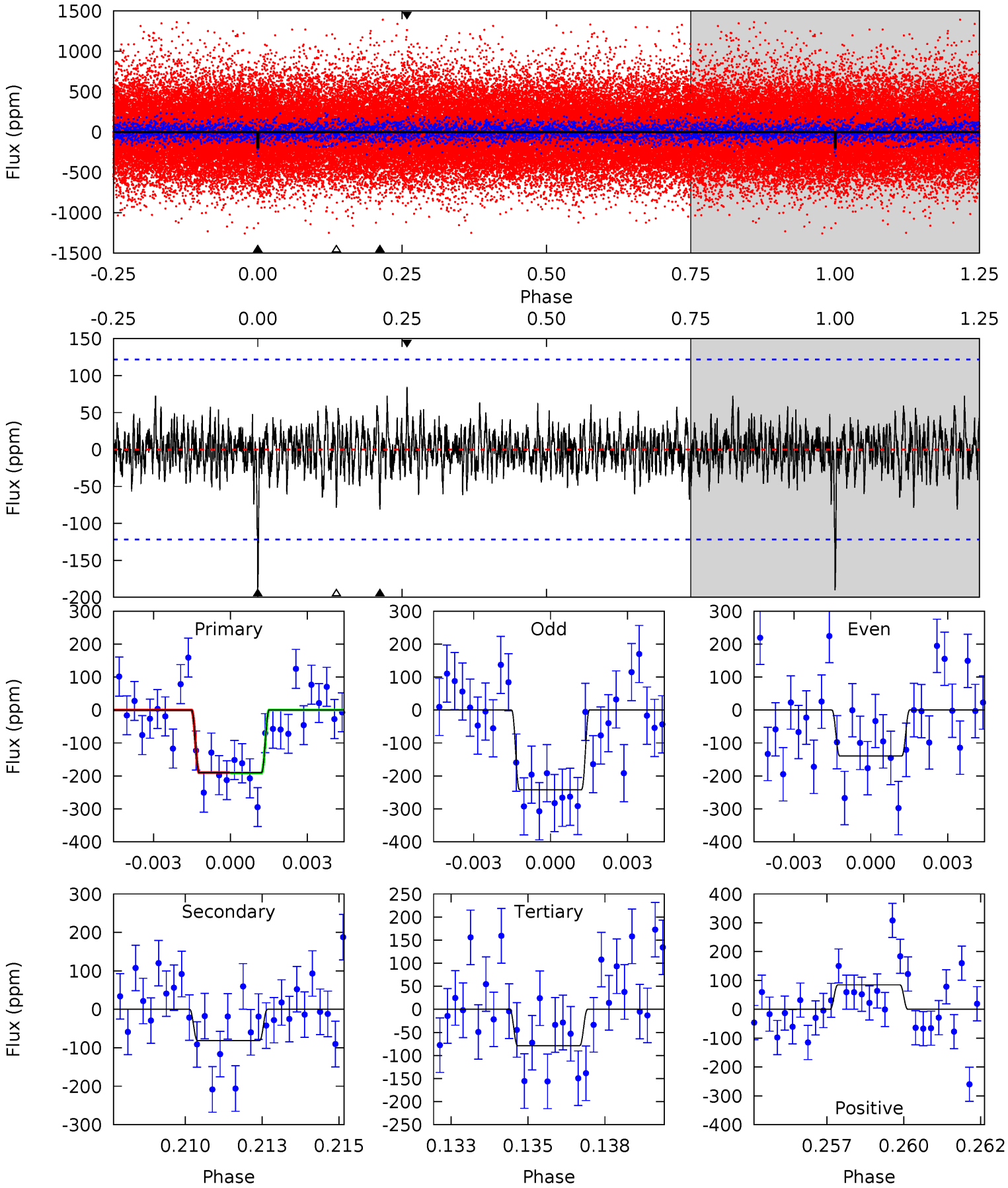
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.77	4.29	4.22	3.92	5.25	2.97	1.10	4.55	4.86	0.06	0.37	1.30	0.91	0.31	0.22



Alt Model-Shift Uniqueness Test

009881523-01, P = 118.475347 Days, E = 37.625605 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.24	3.51	3.41	3.67	5.27	2.99	0.92	4.84	4.57	0.11	-0.16	2.21	1.04	0.31	0.02



Stellar Parameters For KIC 009881523

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5845^{+140}_{-176}	$4.541^{+0.033}_{-0.187}$	$-0.160^{+0.300}_{-0.300}$	$0.874^{+0.234}_{-0.078}$	$0.968^{+0.111}_{-0.122}$	$2.042^{+0.386}_{-1.026}$
	+2%/-3%	+1%/-4%	+188%/-188%	+27%/-9%	+11%/-13%	+19%/-50%
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 009881523-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-96±22	$1.50^{+0.87}_{-0.73}$	506^{+35}_{-24}	4830^{+1755}_{-775}	5036^{+13356}_{-3124}
Alt.	-81±23	$1.47^{+0.78}_{-0.78}$	504^{+32}_{-21}	4701^{+1803}_{-747}	4429^{+13807}_{-2658}

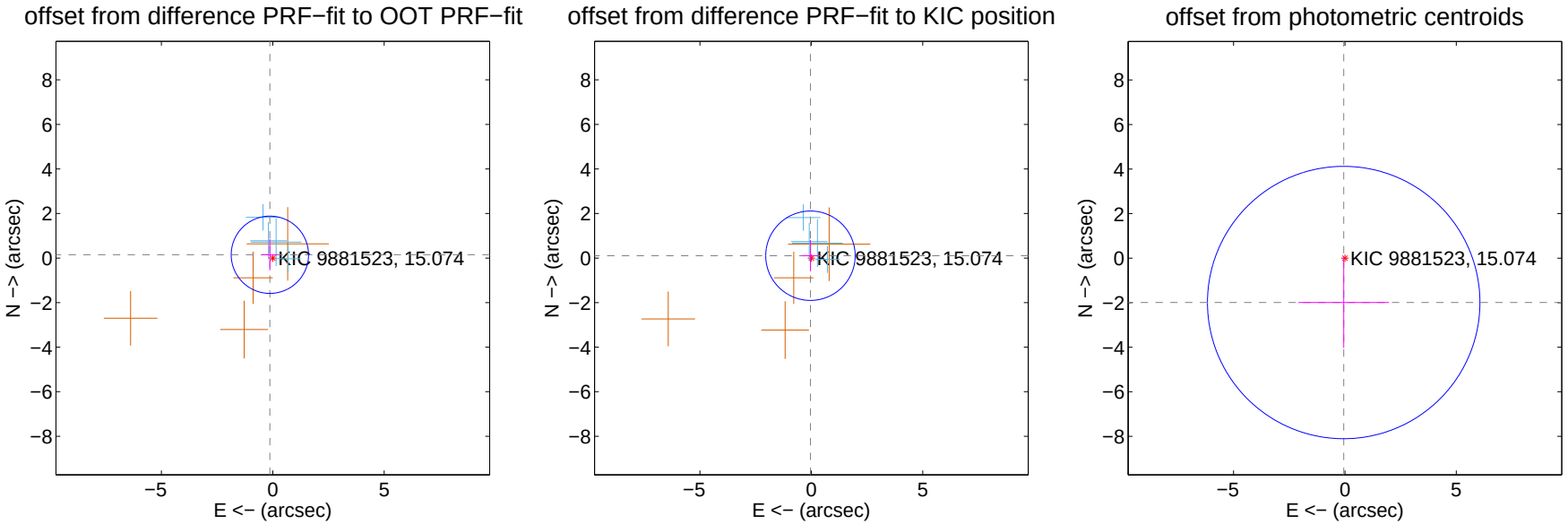
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

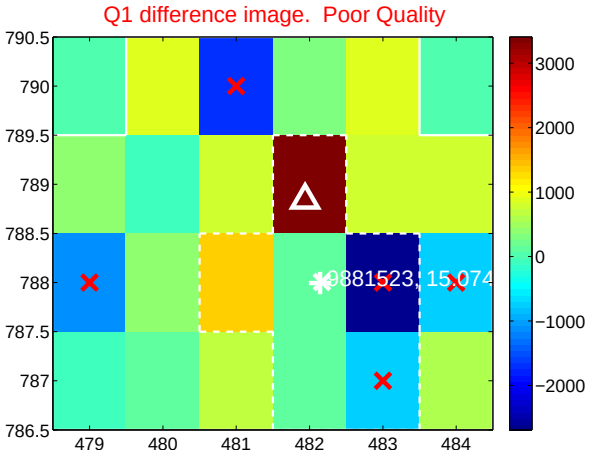
Supplemental centroid analysis for 009881523-01. Kepler magnitude: 15.07. Transit SNR 6.81
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

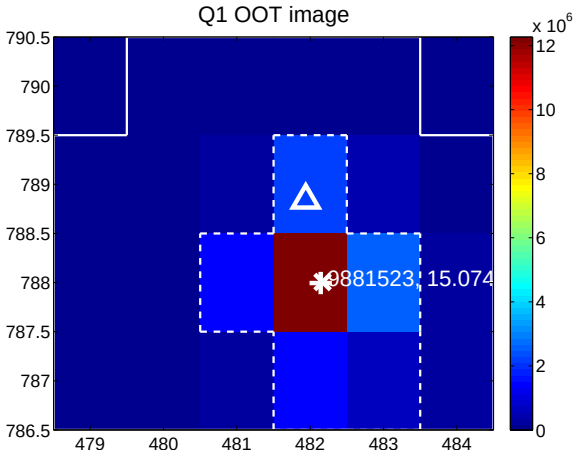
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.198 ± 0.578	0.34	0.131 ± 0.372	0.148 ± 0.699
PRF-fit source offset from KIC position	0.113 ± 0.669	0.17	0.041 ± 0.367	0.105 ± 0.703
photometric centroid source offset	1.99 ± 2.04	0.98	0.05 ± 2.03	-1.99 ± 2.04

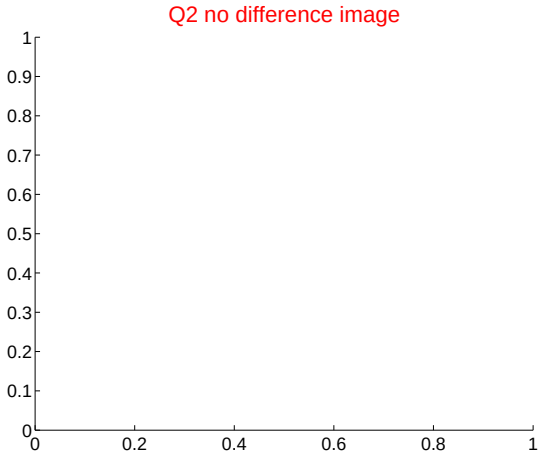


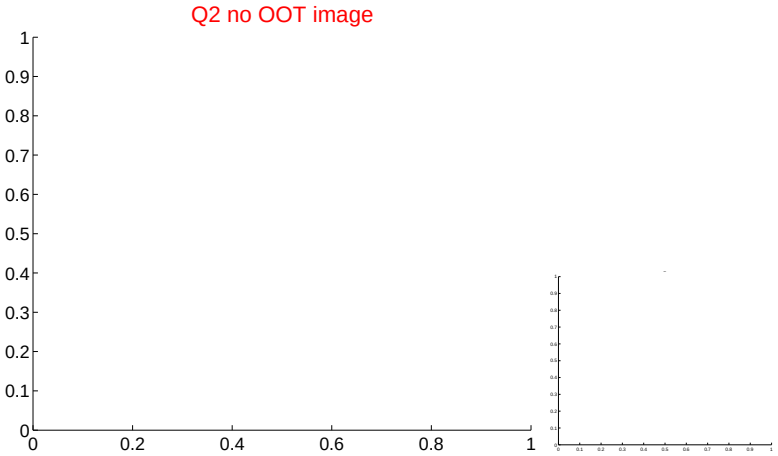
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

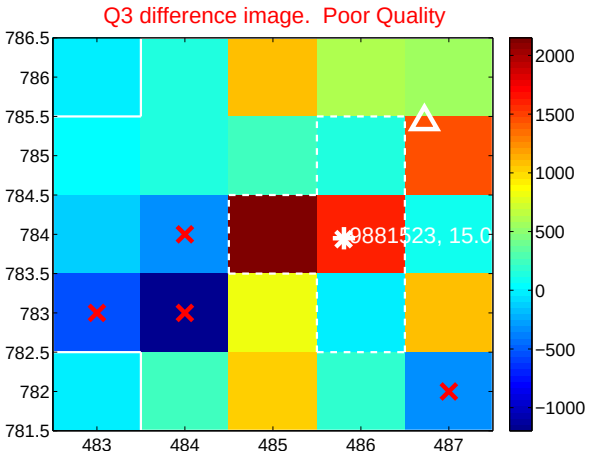
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

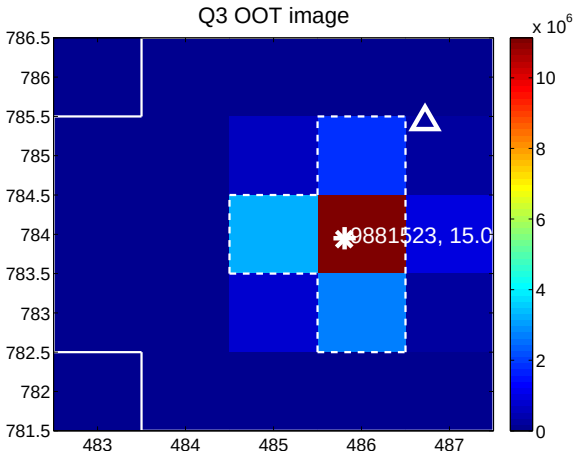


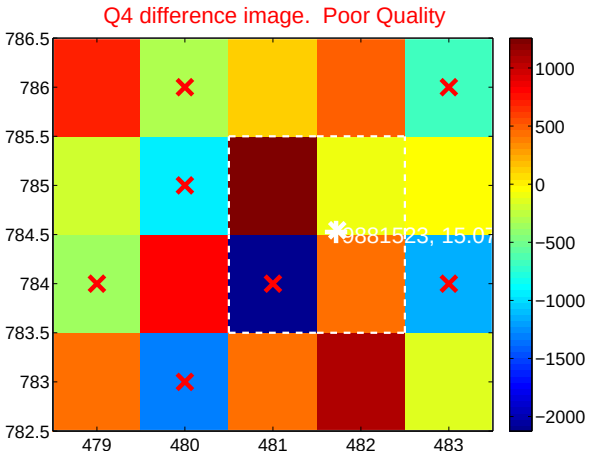


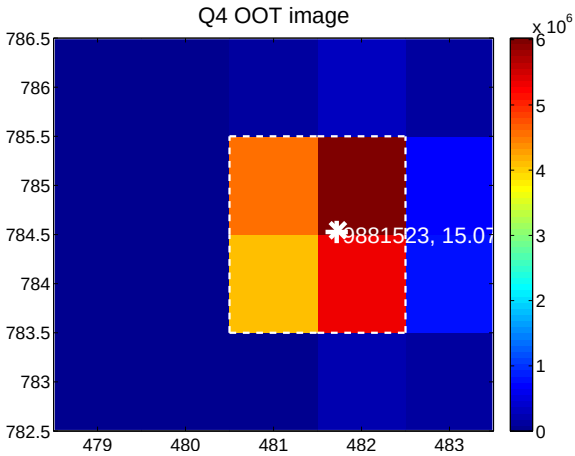




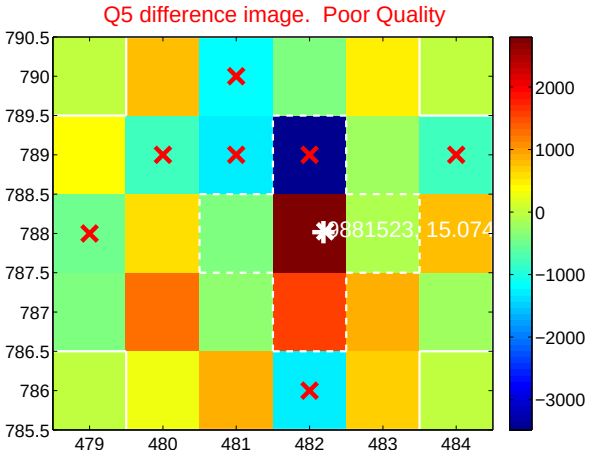


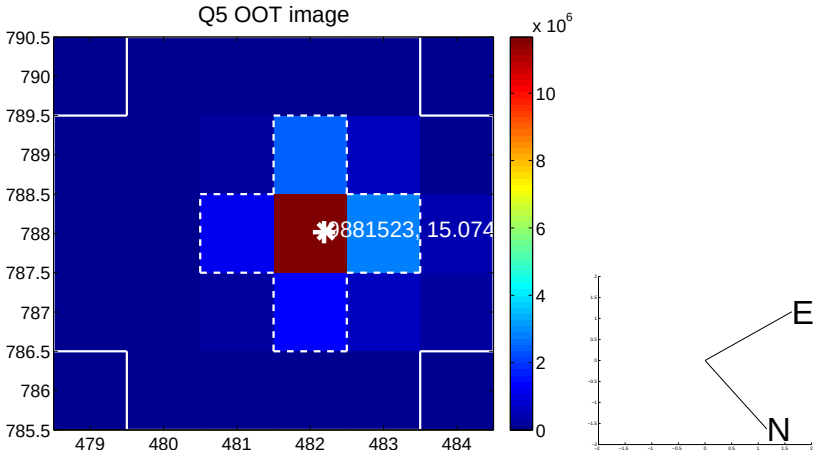


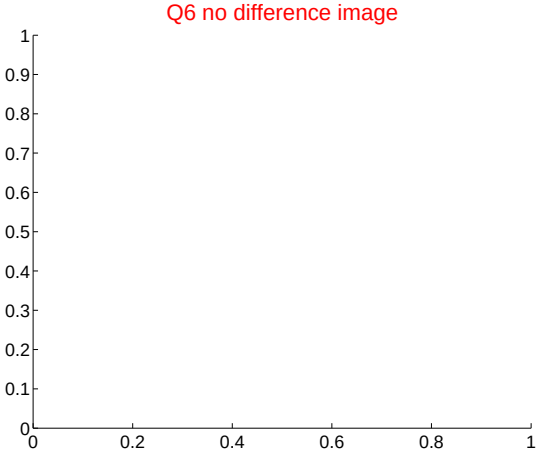


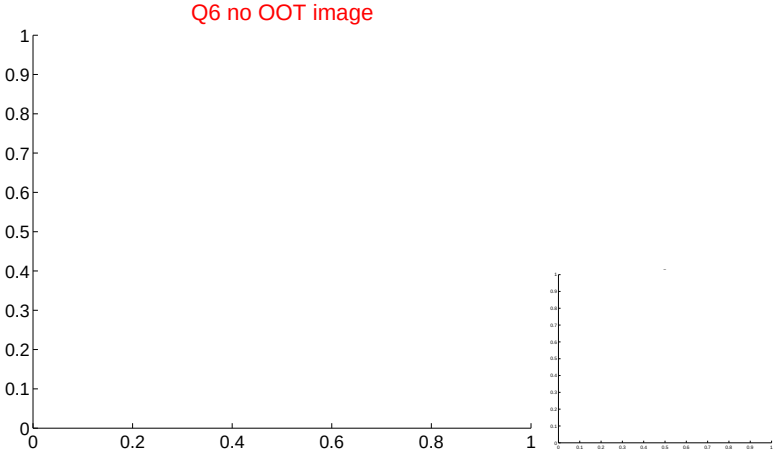


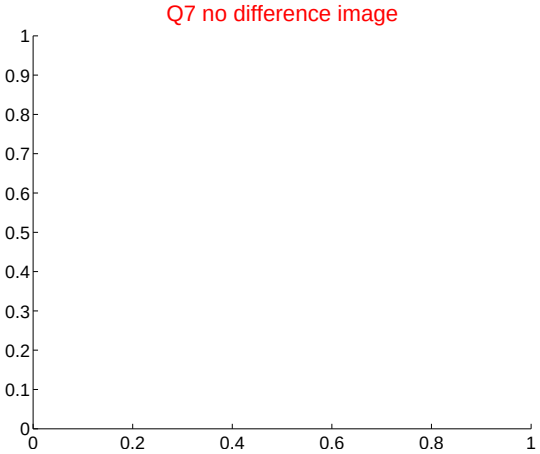
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

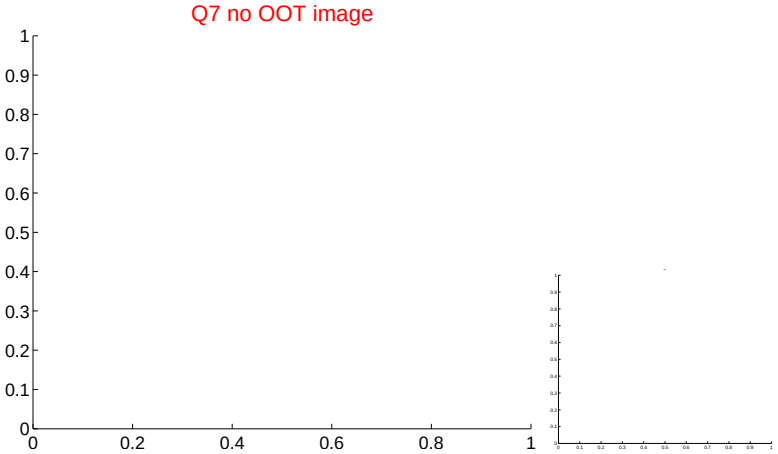


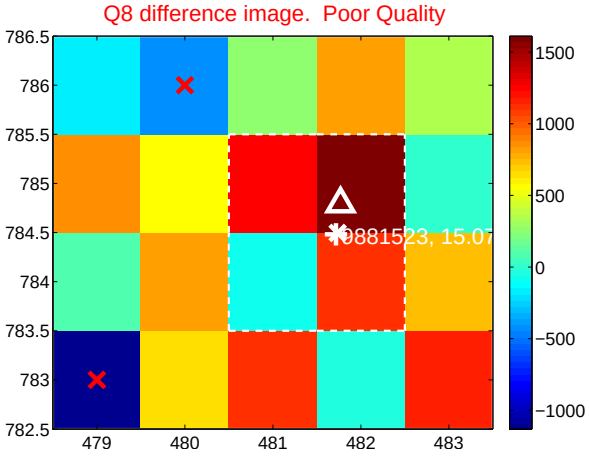


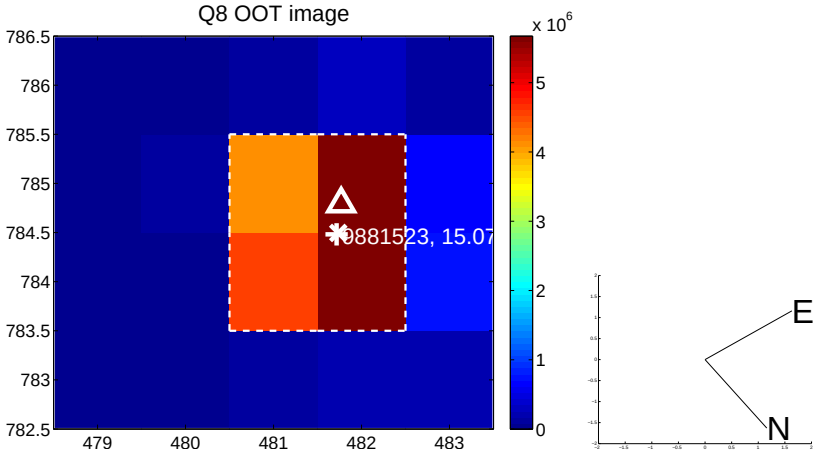




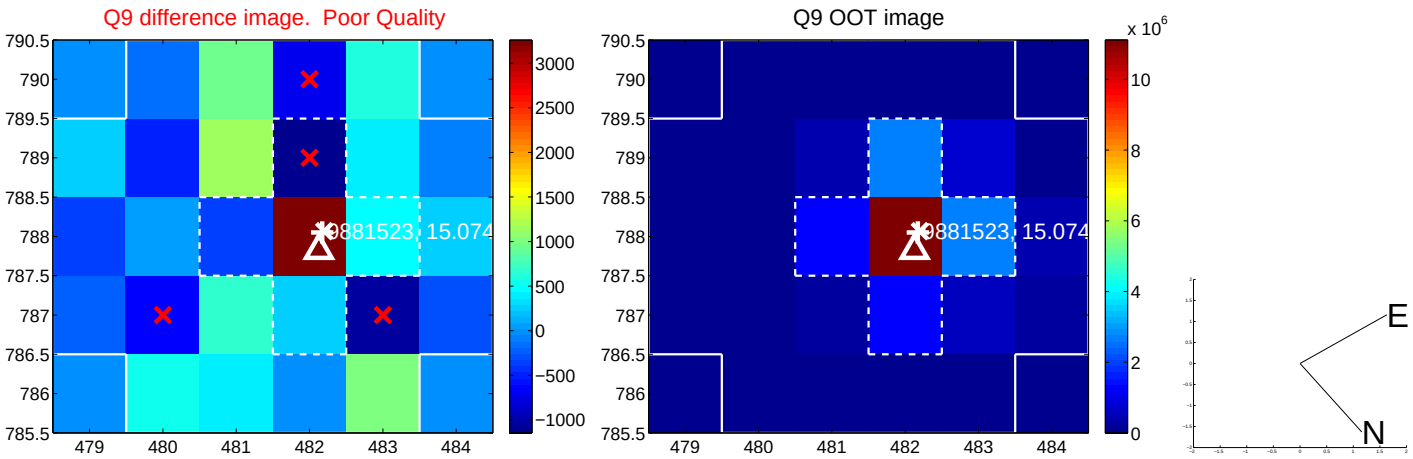


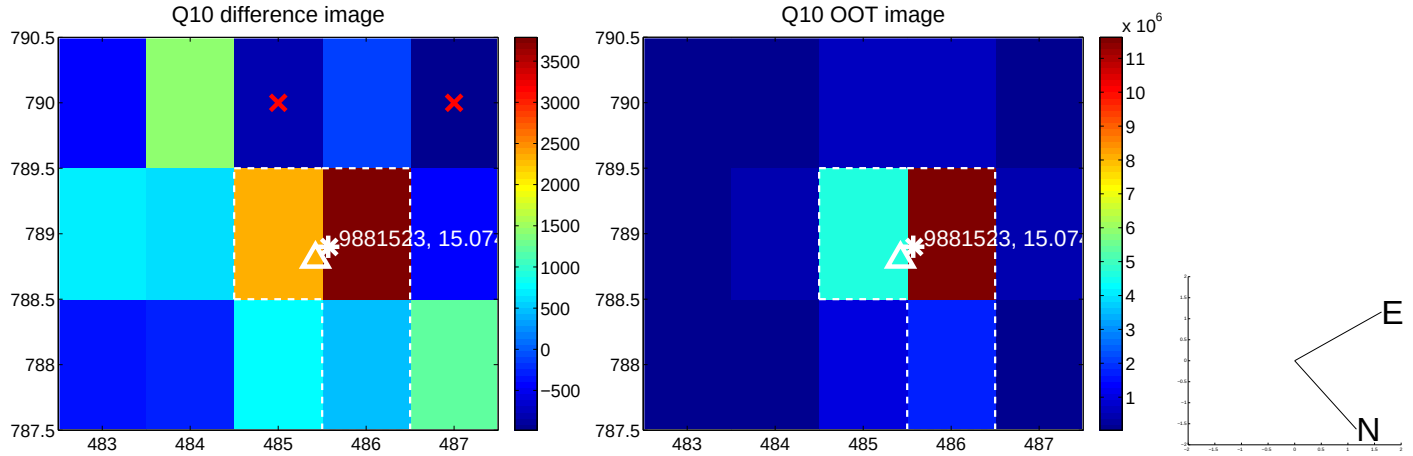


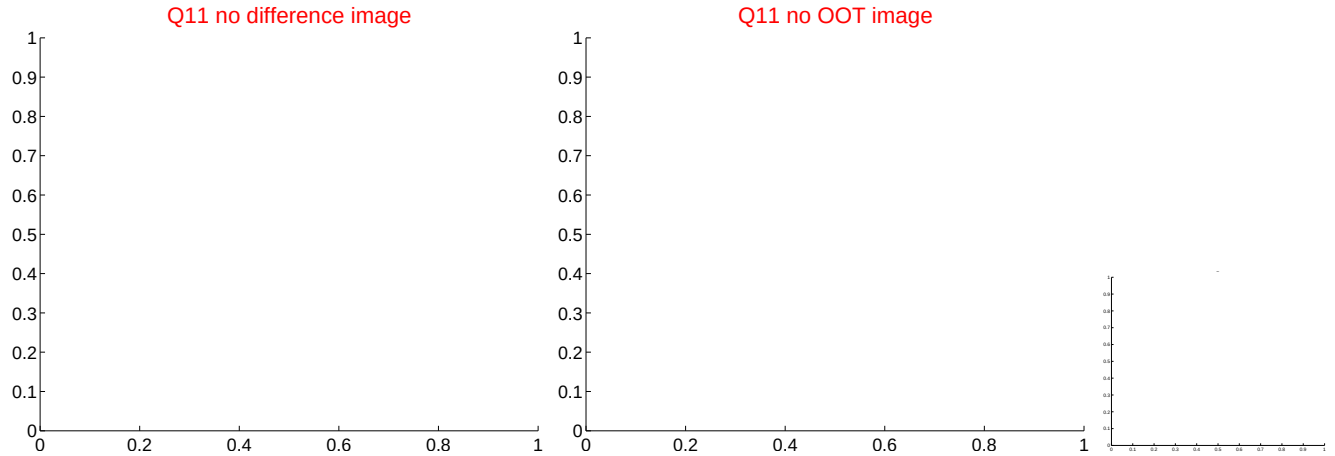


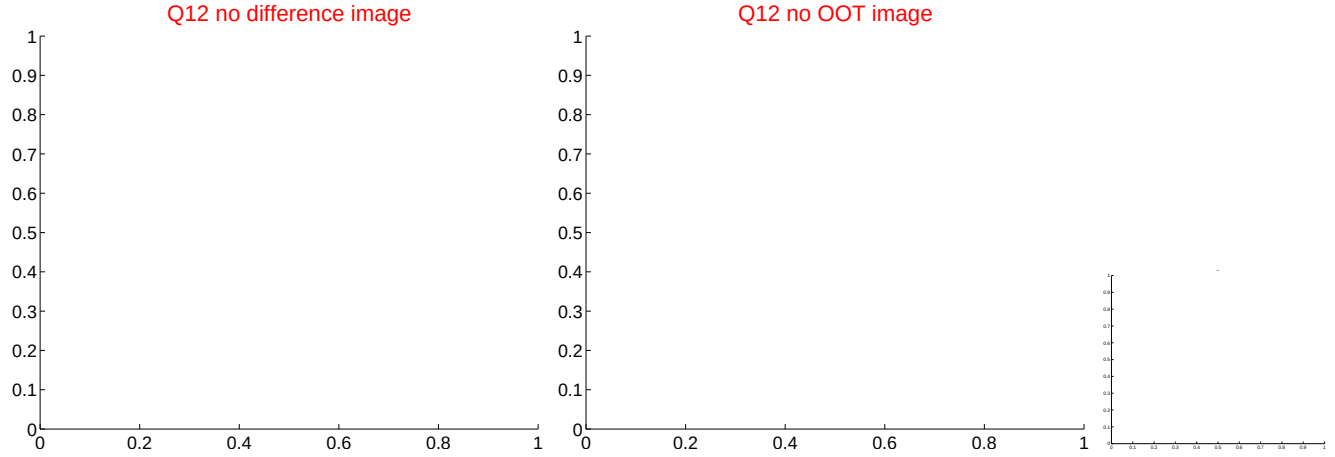


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

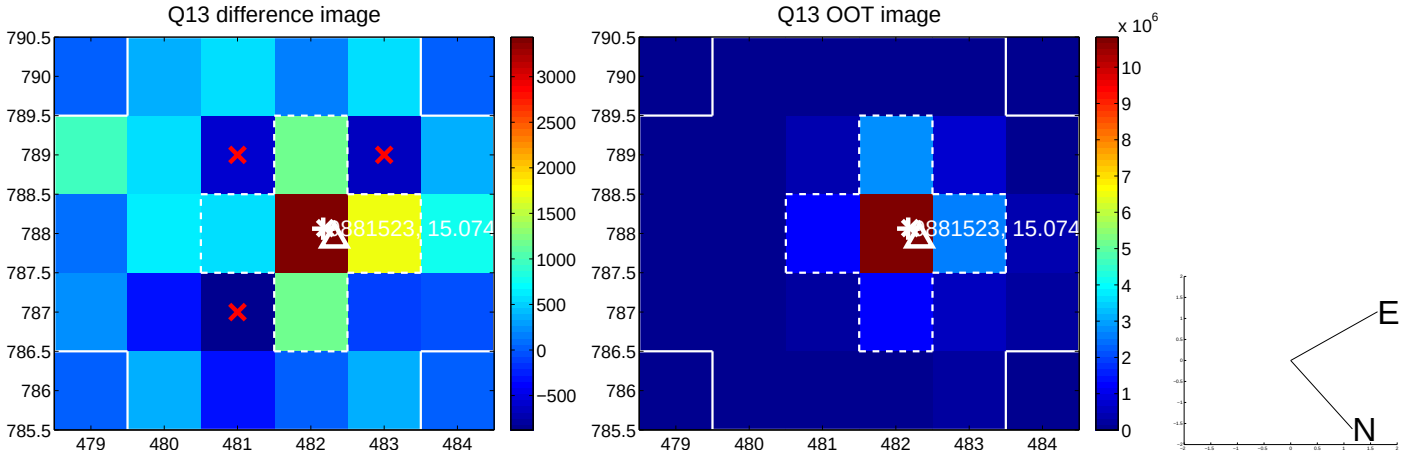


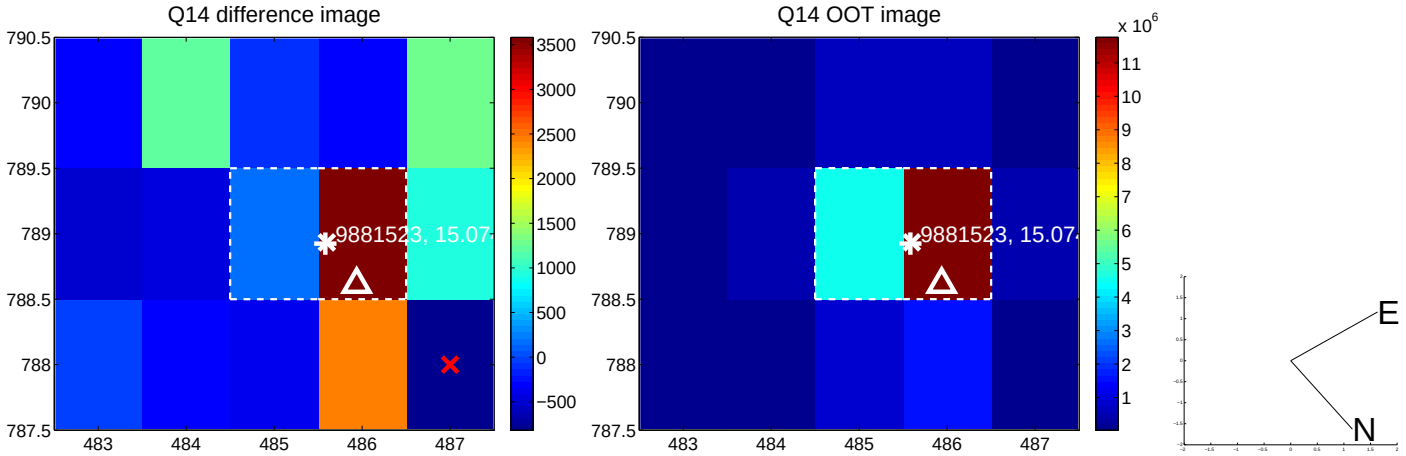


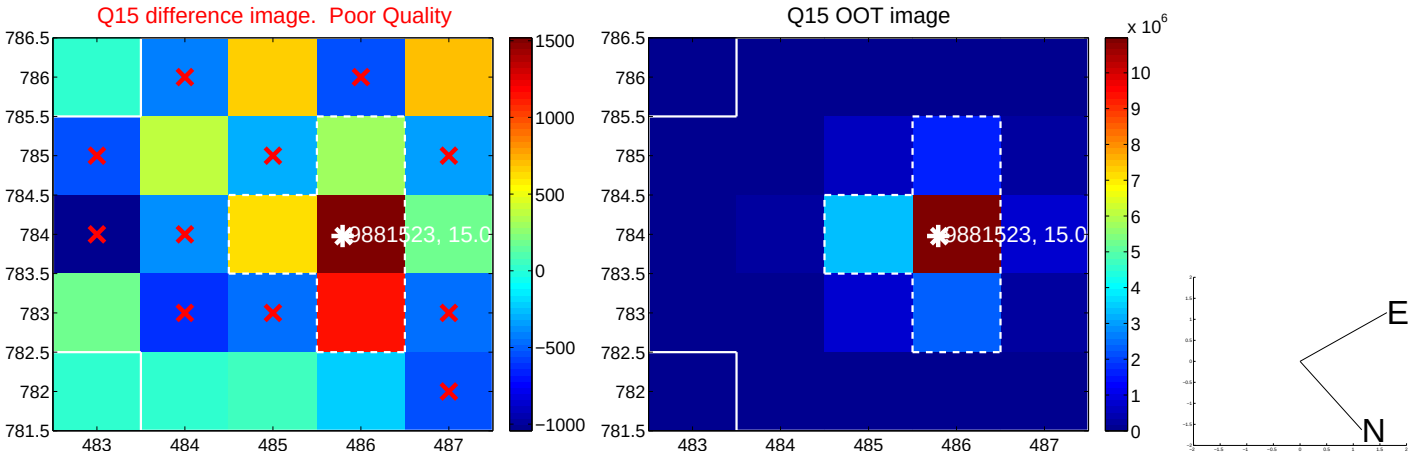


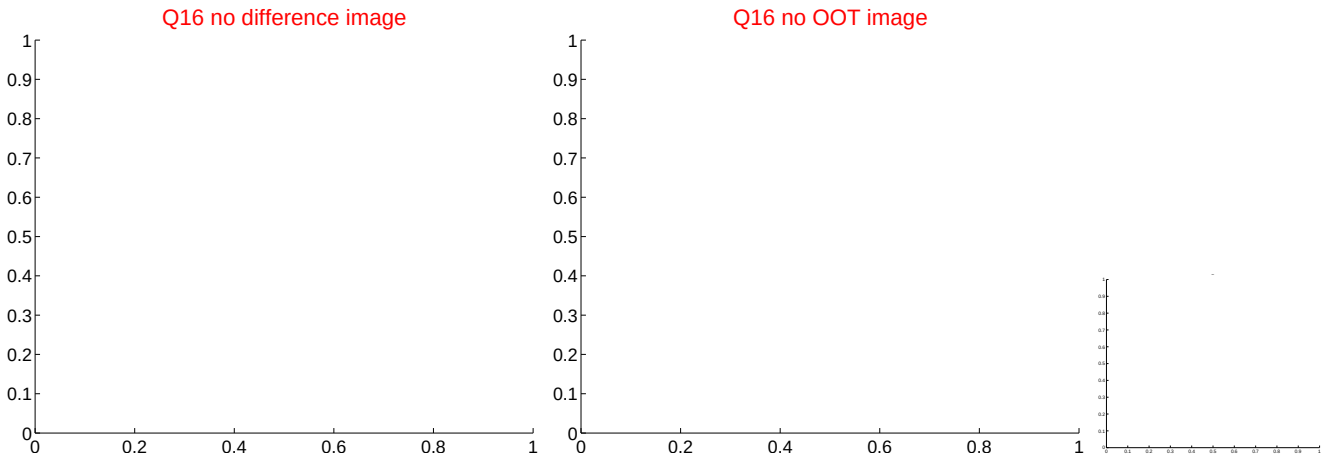


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.









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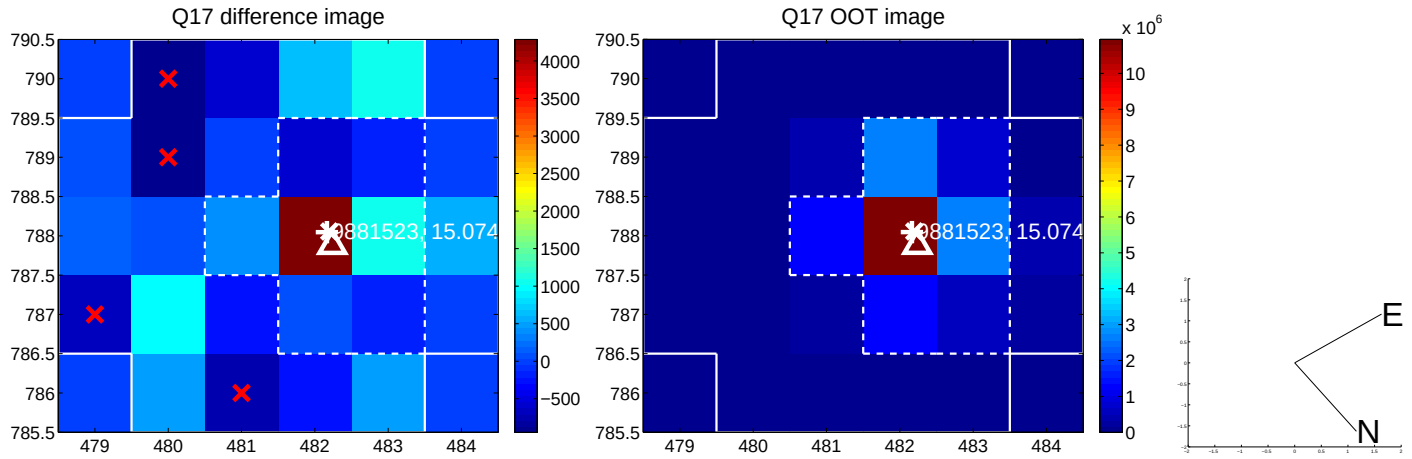

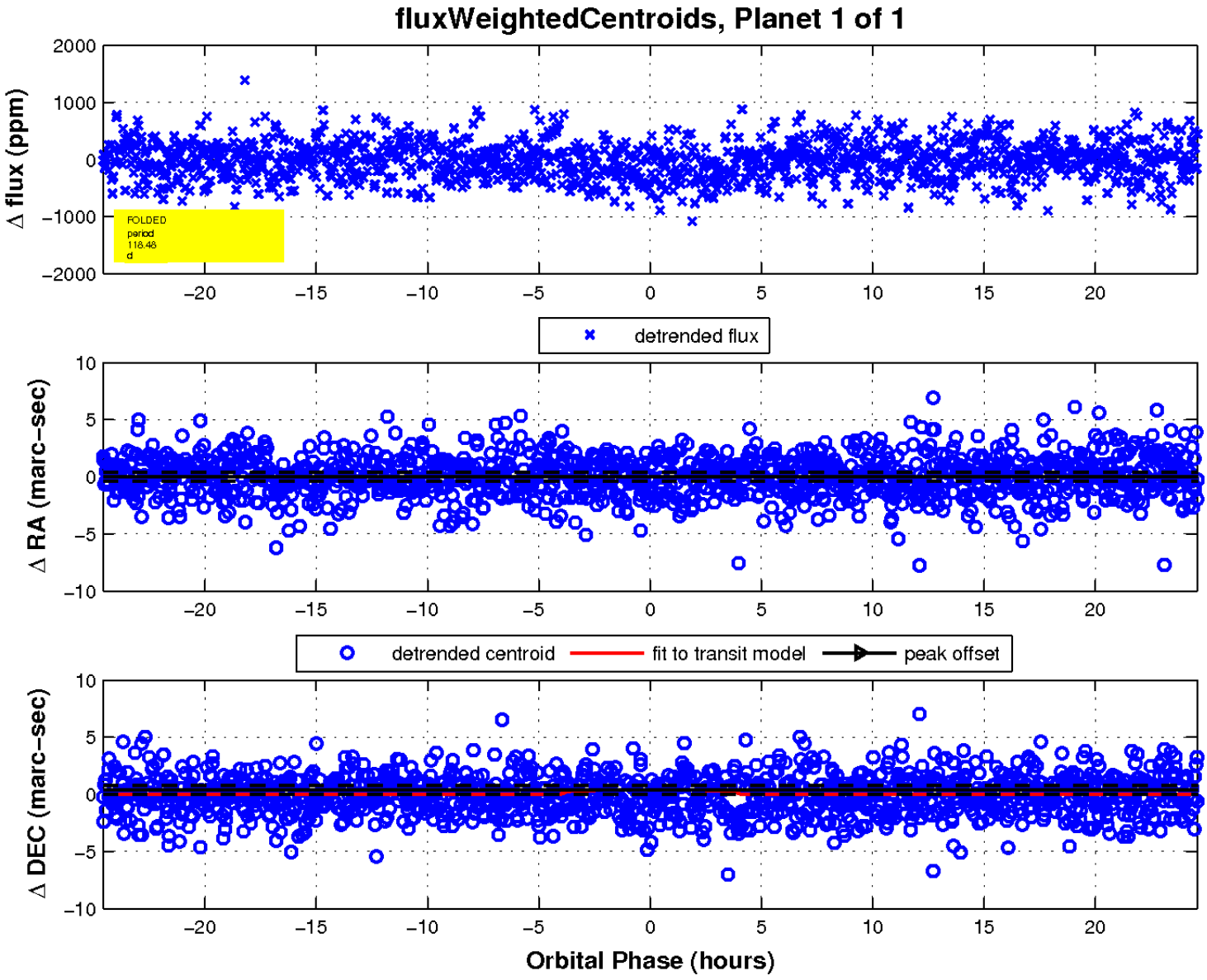

UKIRT Image

Declination