KIC 009286088

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 ($S_\oplus$)
009286088-01	OBS	4318.01	14.816138	138.387014	92.1	5.691	11.3	11.4	1.32	6356	1.68	163.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009286088-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

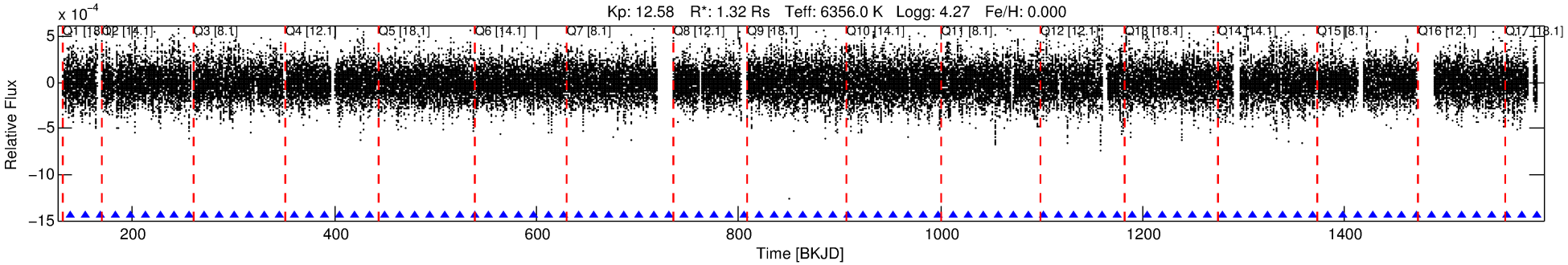
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

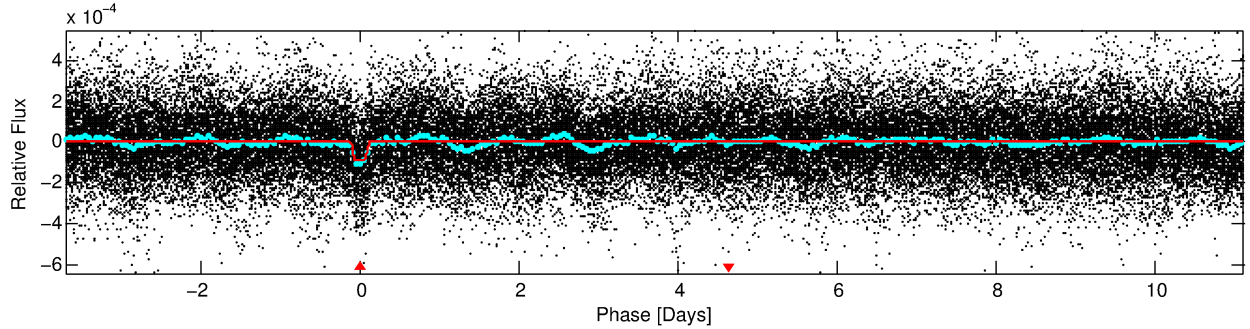
Ephemeris Match Information For 009286088-01

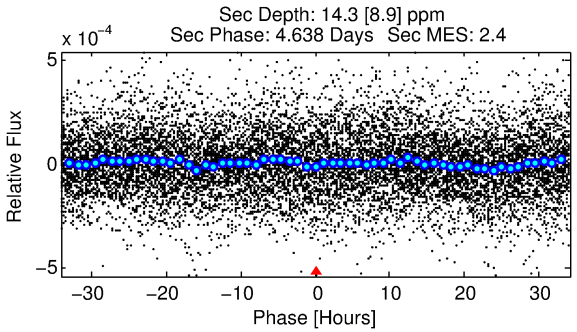
No Significant Match Found

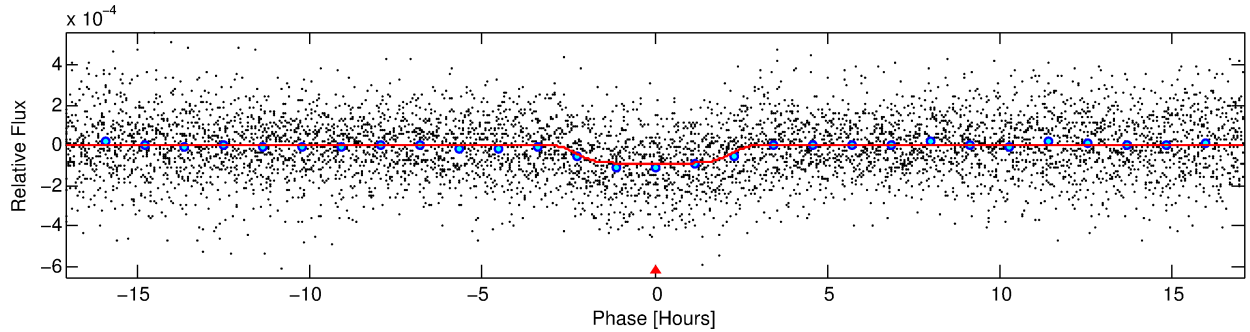
DV One-Page Summary

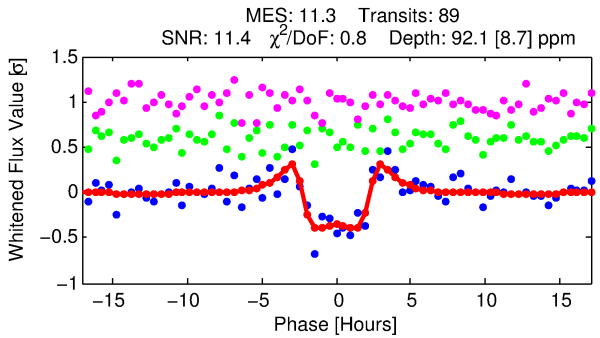
KIC: 9286088 Candidate: 1 of 1 Period: 14.816 d
KOI: K04318.01 Corr: 0.921

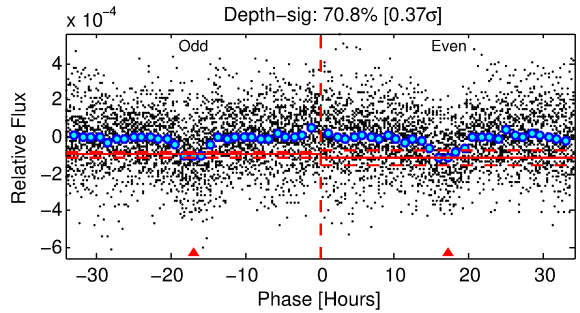


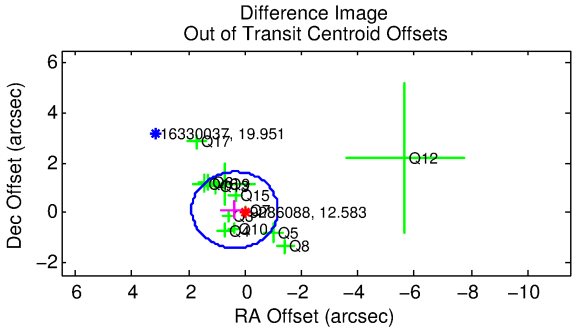












DV Fit Results:

Period = 14.81614 [0.00011] d
Epoch = 138.3870 [0.0061] BKJD
Rp/R* = 0.0116 [0.0007]
a/R* = 5.29 [0.69]
b = 0.98 [0.01]

Seff = 163.73 [35.34]
Teq = 912 [49] K
Rp = 1.68 [0.29] Re
a = 0.1252 [0.0171] AU

Ag = 43.58 [29.04] [1.47σ]
Teffp = 3623 [580] K [4.65σ]

DV Diagnostic Results:

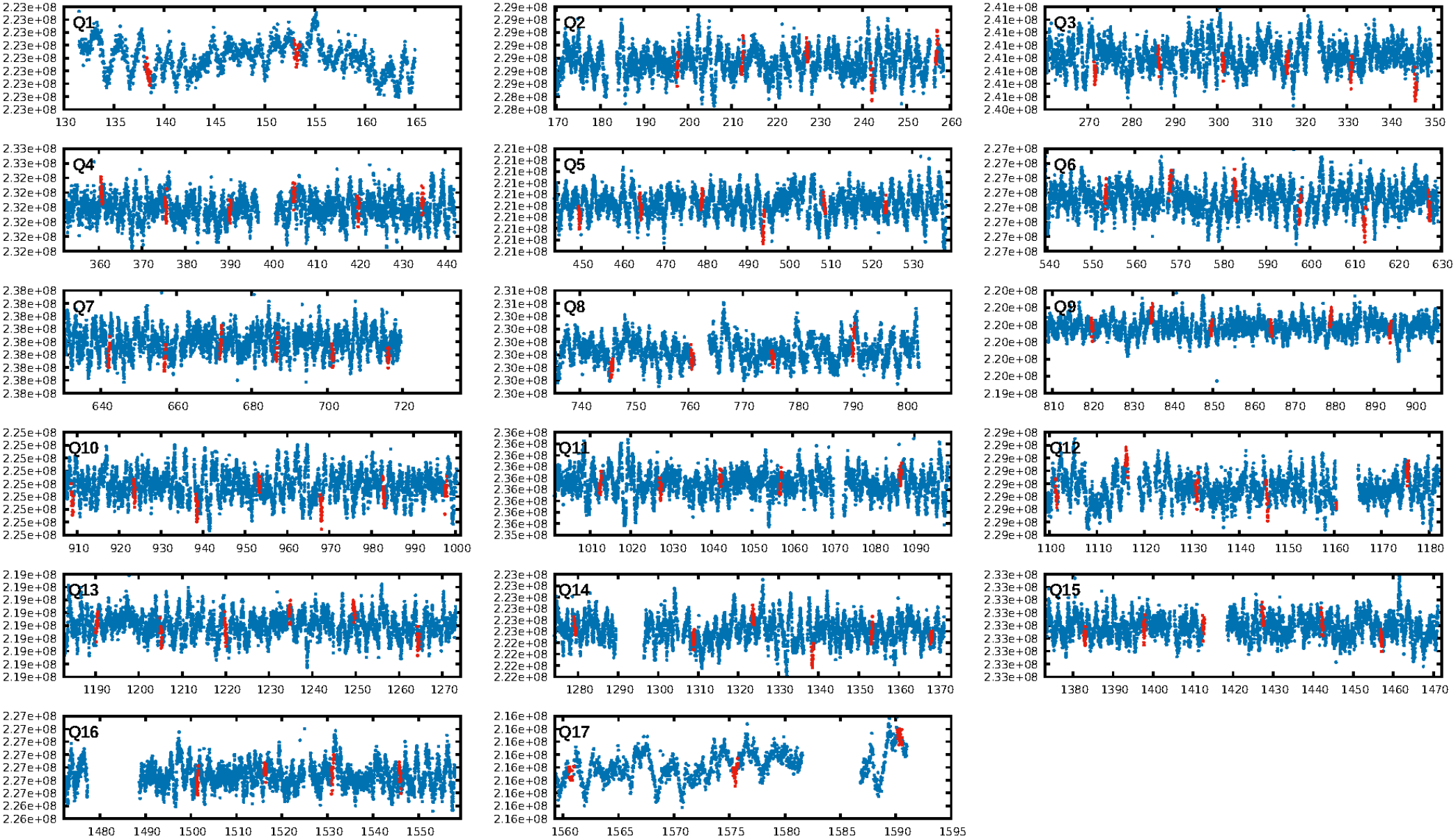
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 99.3%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.77e−28
RollingBand−fgt: 1.00 [84/84]
GhostDiagnostic−chr: 3.963

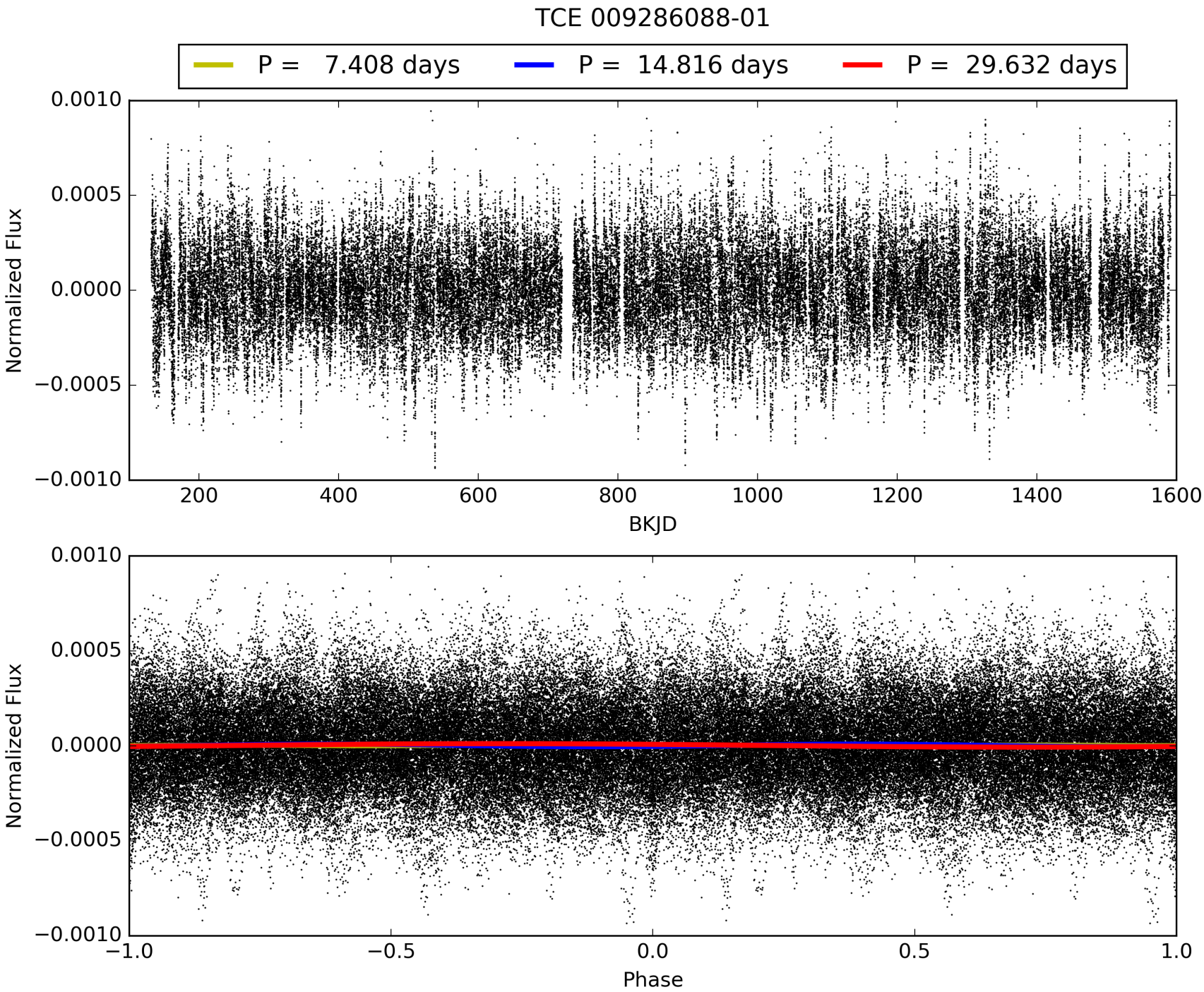
Centroid−sig: 0.2%
Centroid−so: 1.102 arcsec [2.29σ]
OotOffset−rm: 0.372 arcsec [0.73σ]
KicOffset−rm: 0.392 arcsec [0.83σ]
OotOffset−st: 2/3/4/4 [13]
KicOffset−st: 2/3/4/4 [13]
DiffImageQuality−fgm: 0.92 [12/13]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 31−Jan−2016 16:04:01 Z

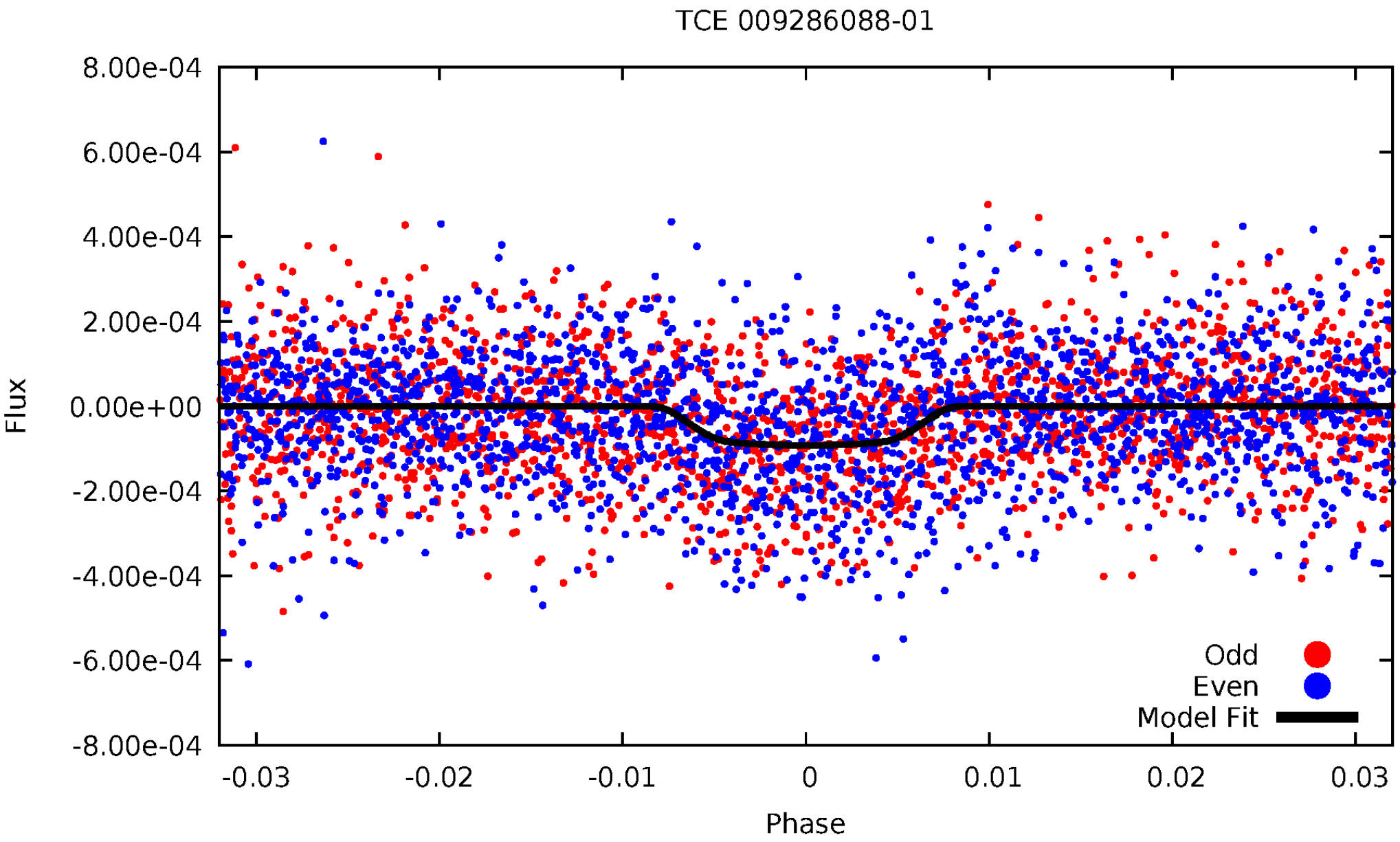
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009286088-01, PDC Light Curves

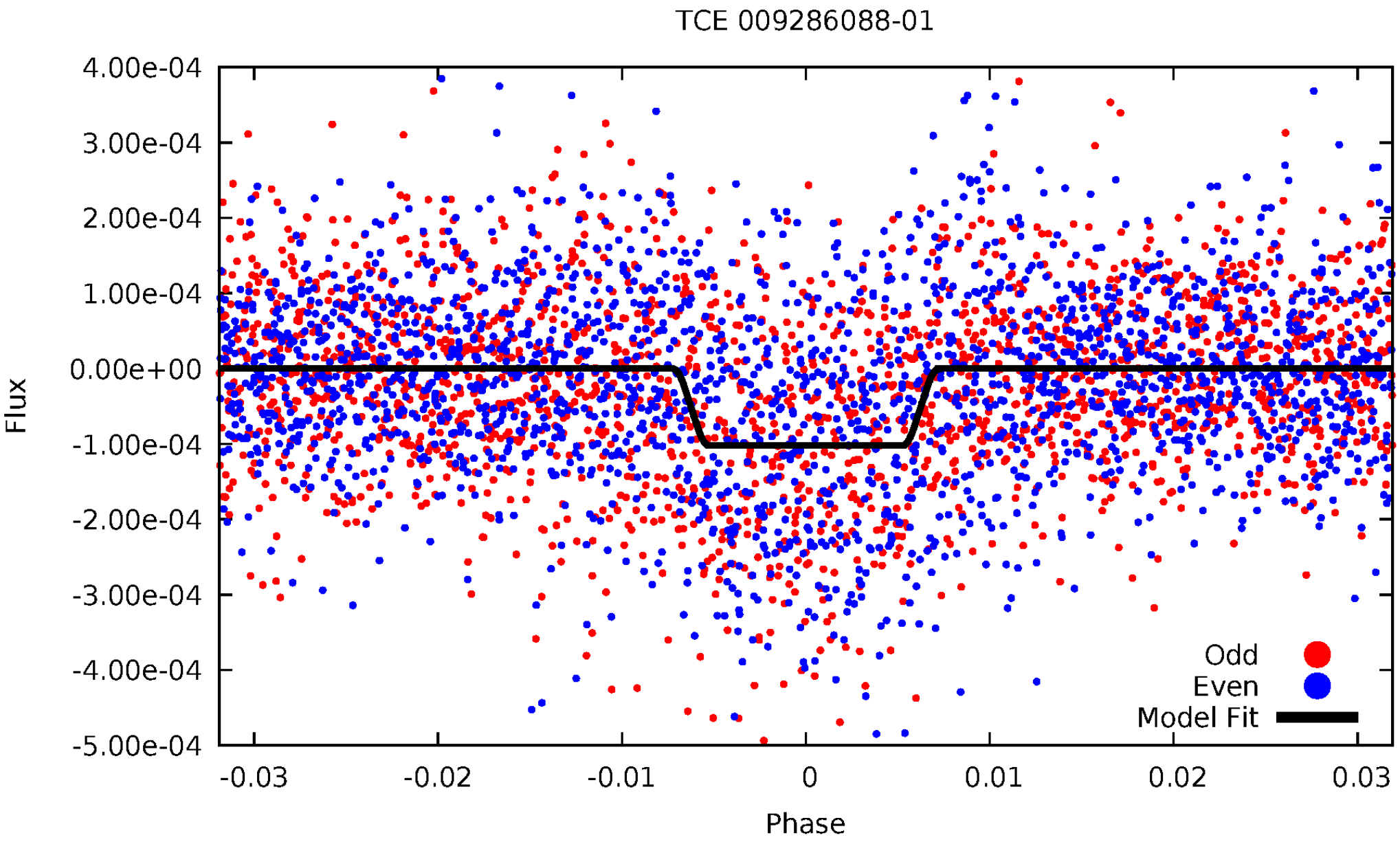



TCE 009286088-01
P = 7.408 days
P = 14.816 days
P = 29.632 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

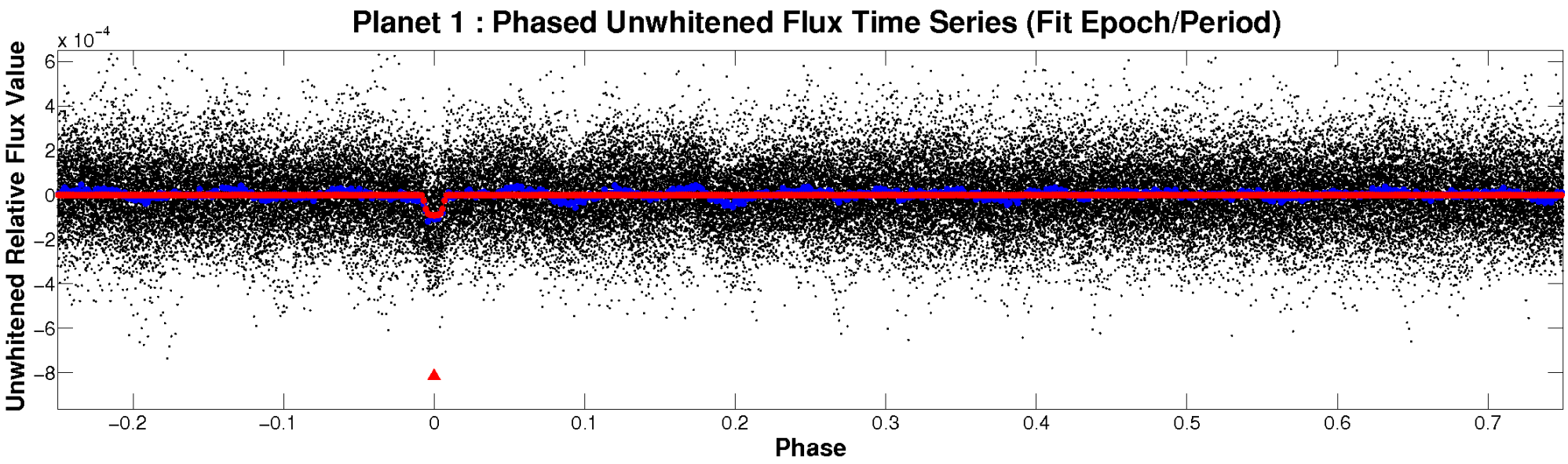
DV Odd/Even

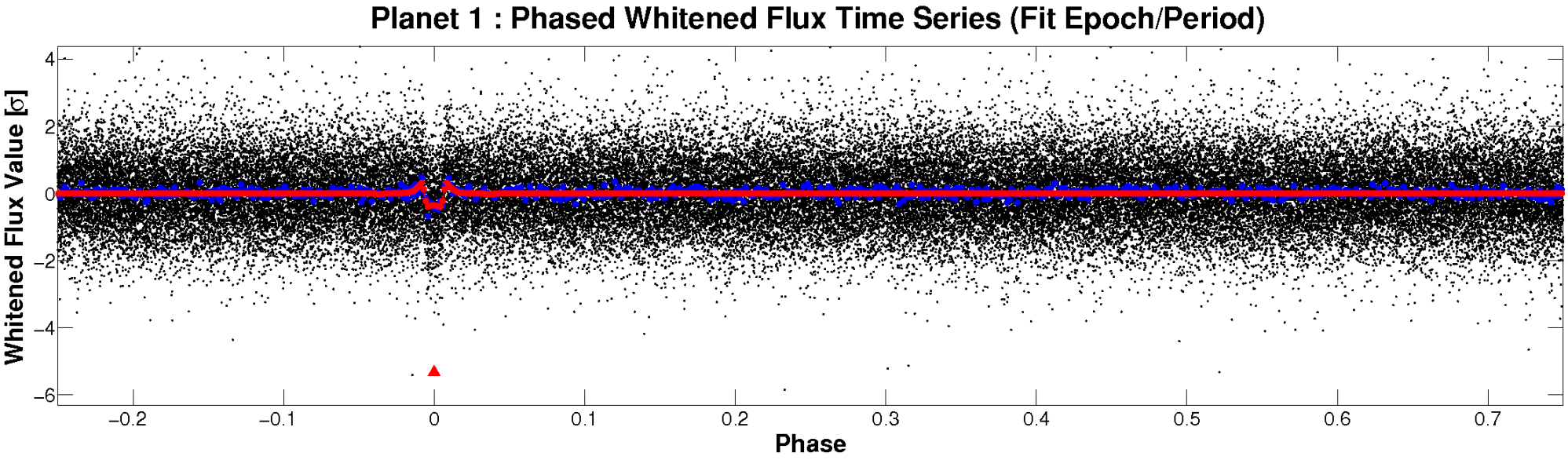

TCE 009286088-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009286088-01
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
Phase
Odd
Even
Model Fit

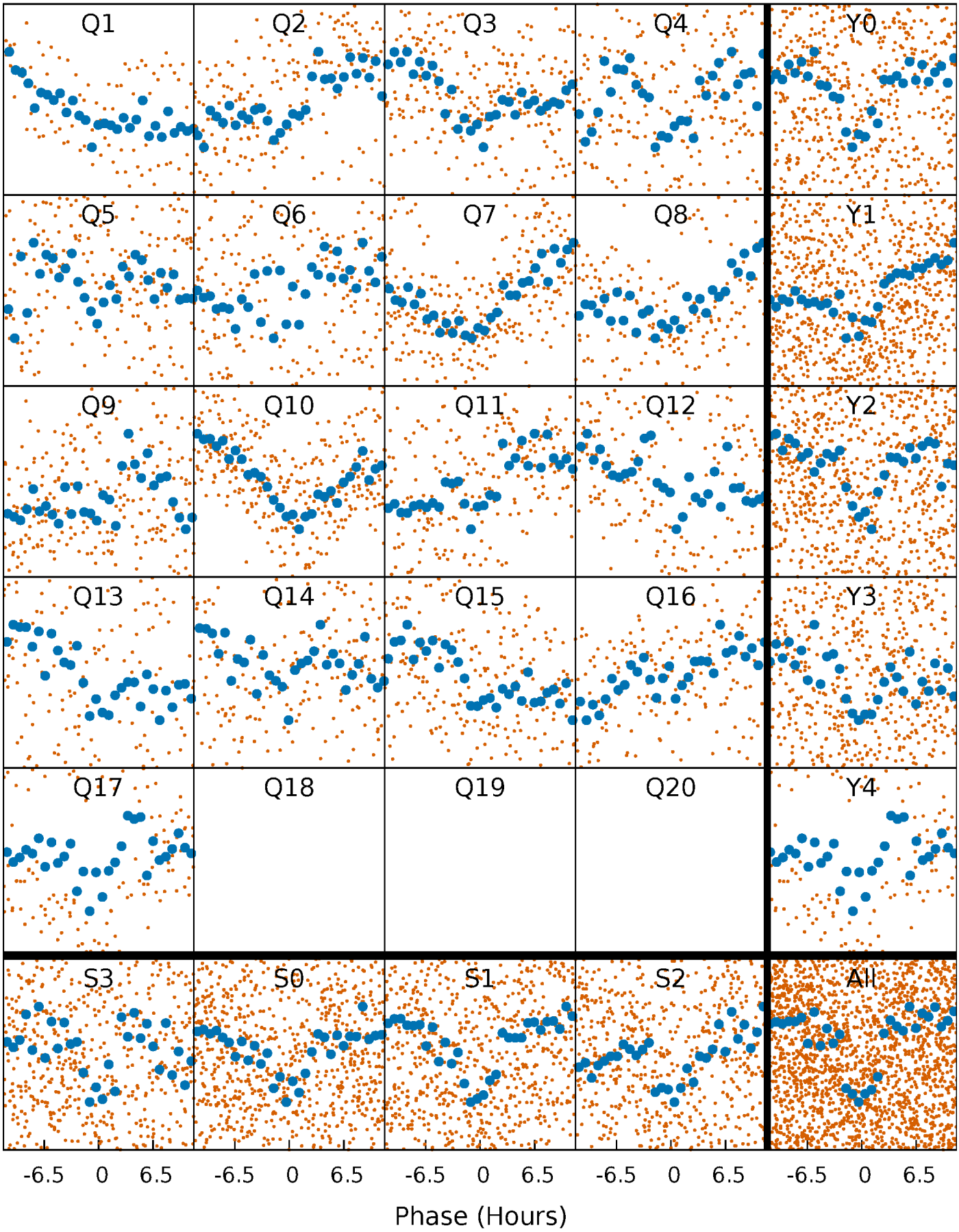
Non-Whitened Vs. Whitened Light Curve





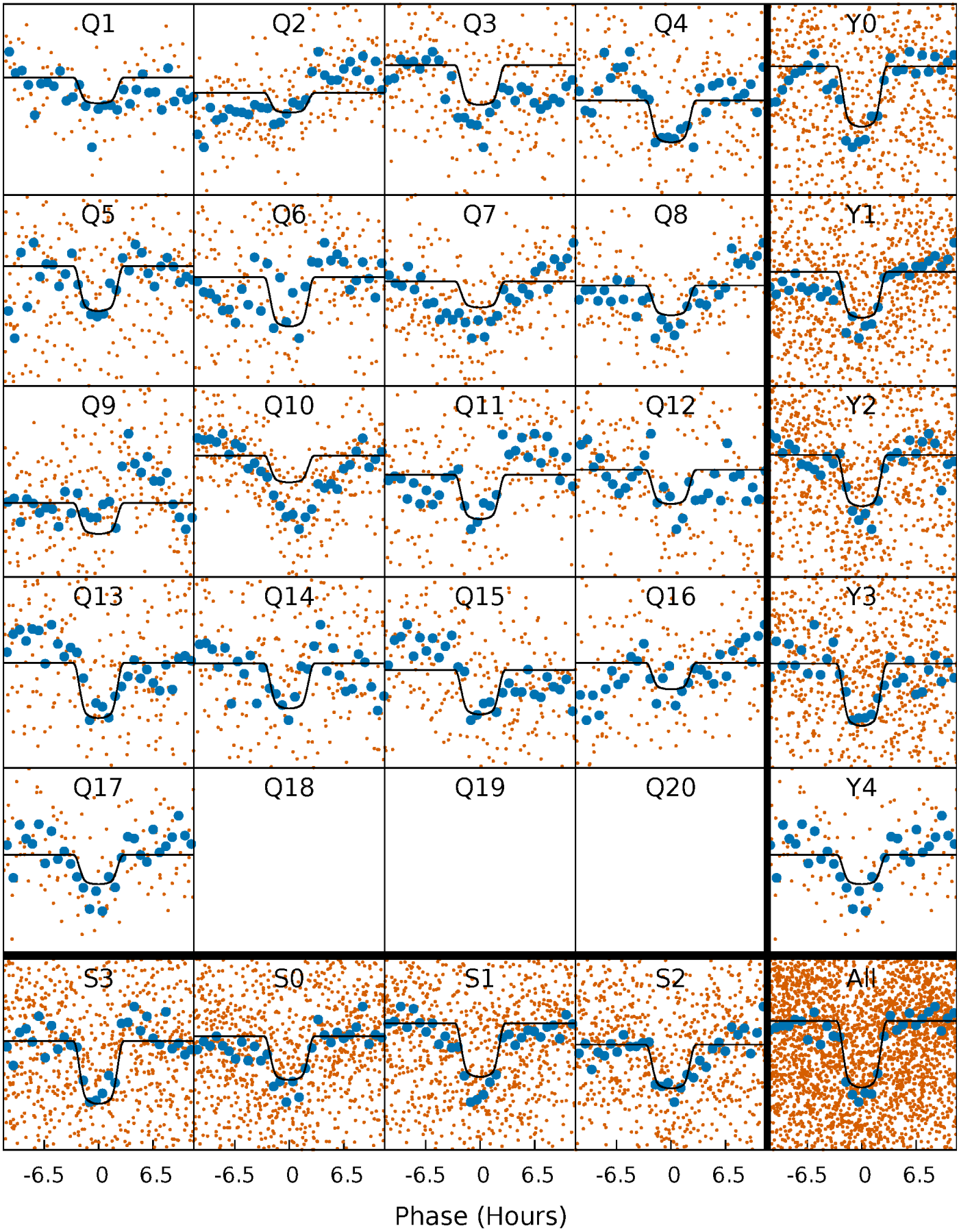
PDC Quarter-Phased Transit Curves

TCE 009286088-01 P= 14.816138 Days T_0=138.387014 (BKJD)



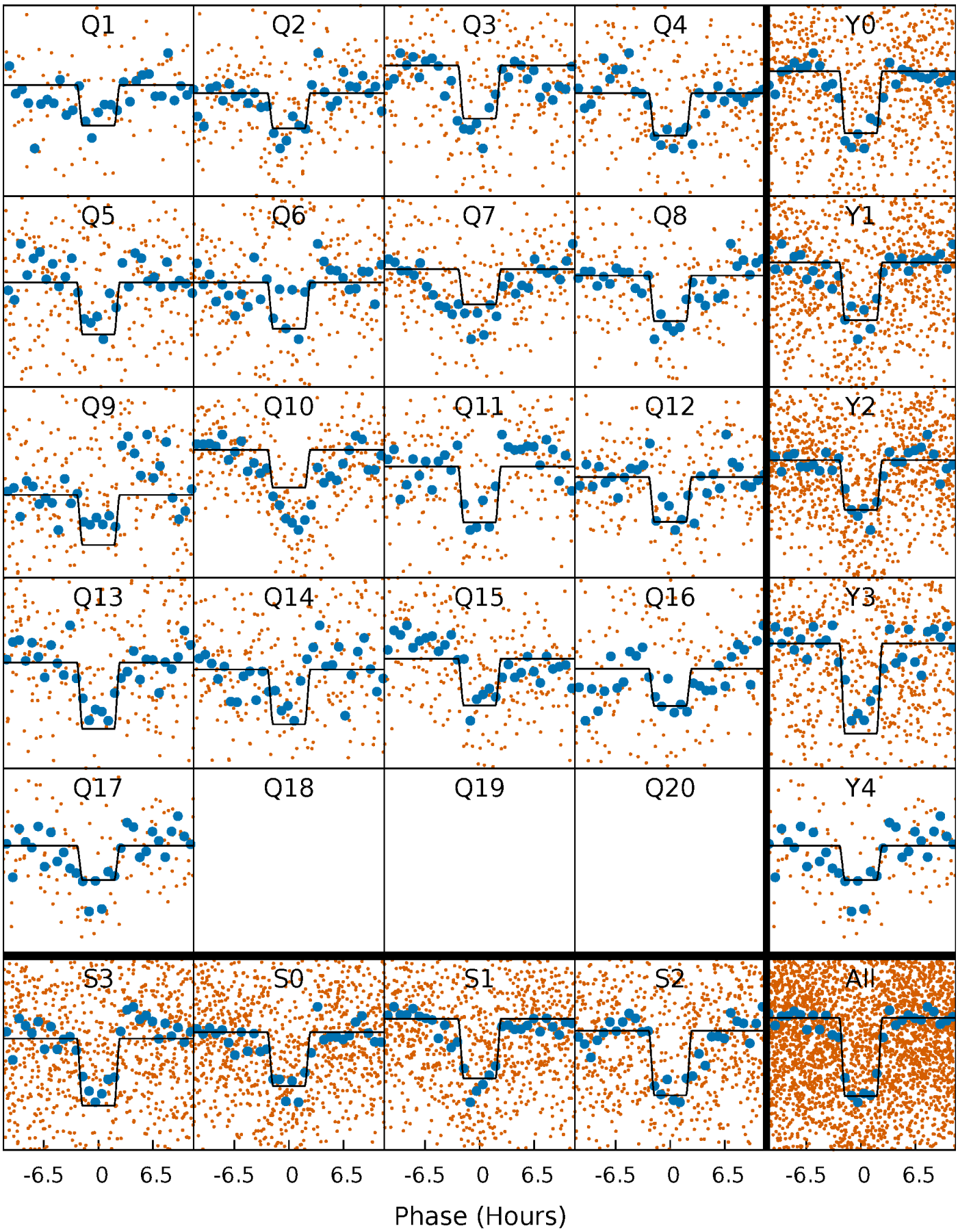
DV Quarter-Phased Transit Curves

TCE 009286088-01 P= 14.816138 Days T_0=138.387014 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

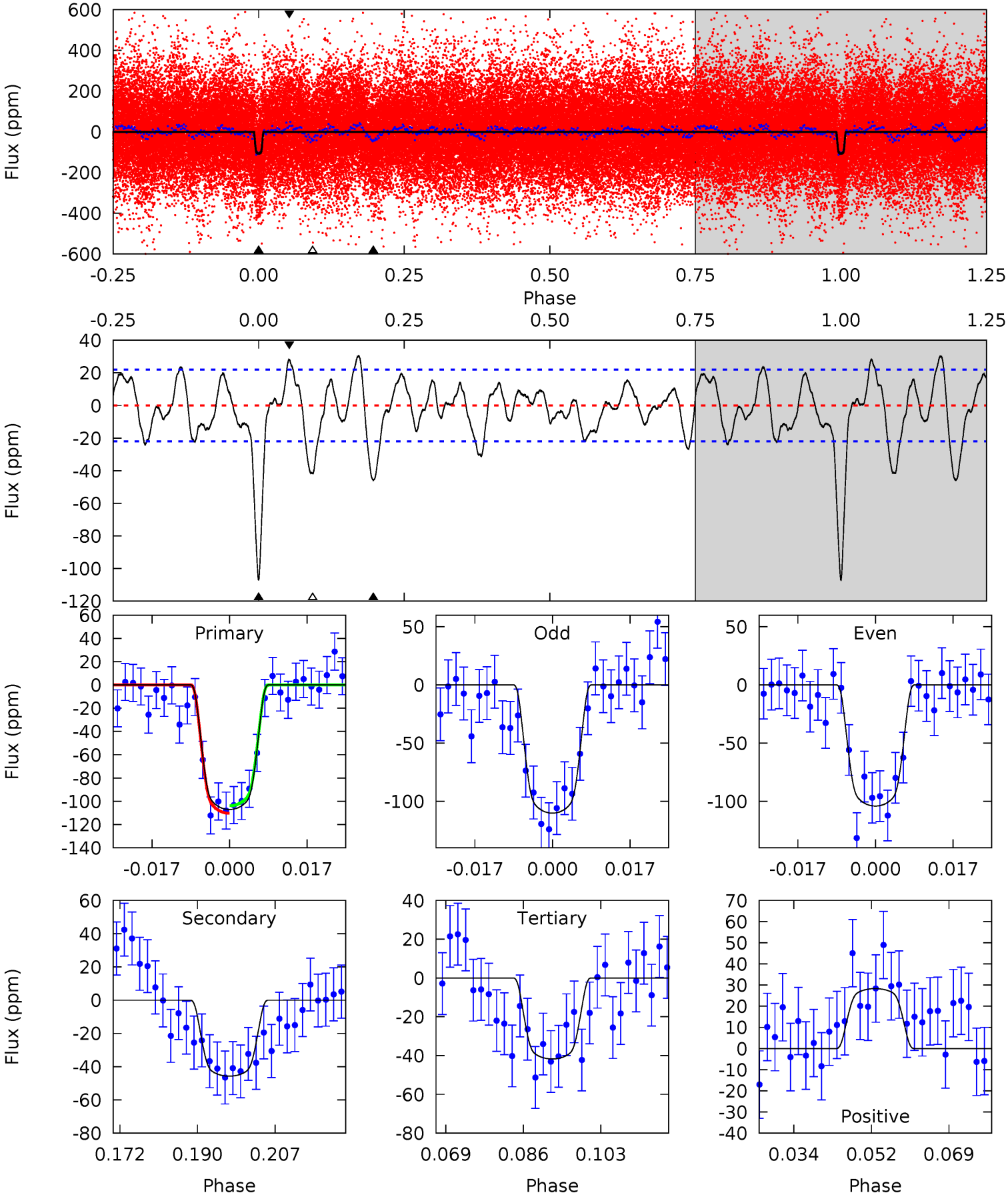
TCE 009286088-01 P= 14.816170 Days T_0=138.385000 (BKJD)



DV Model-Shift Uniqueness Test

009286088-01, P = 14.816138 Days, E = 123.570876 Days

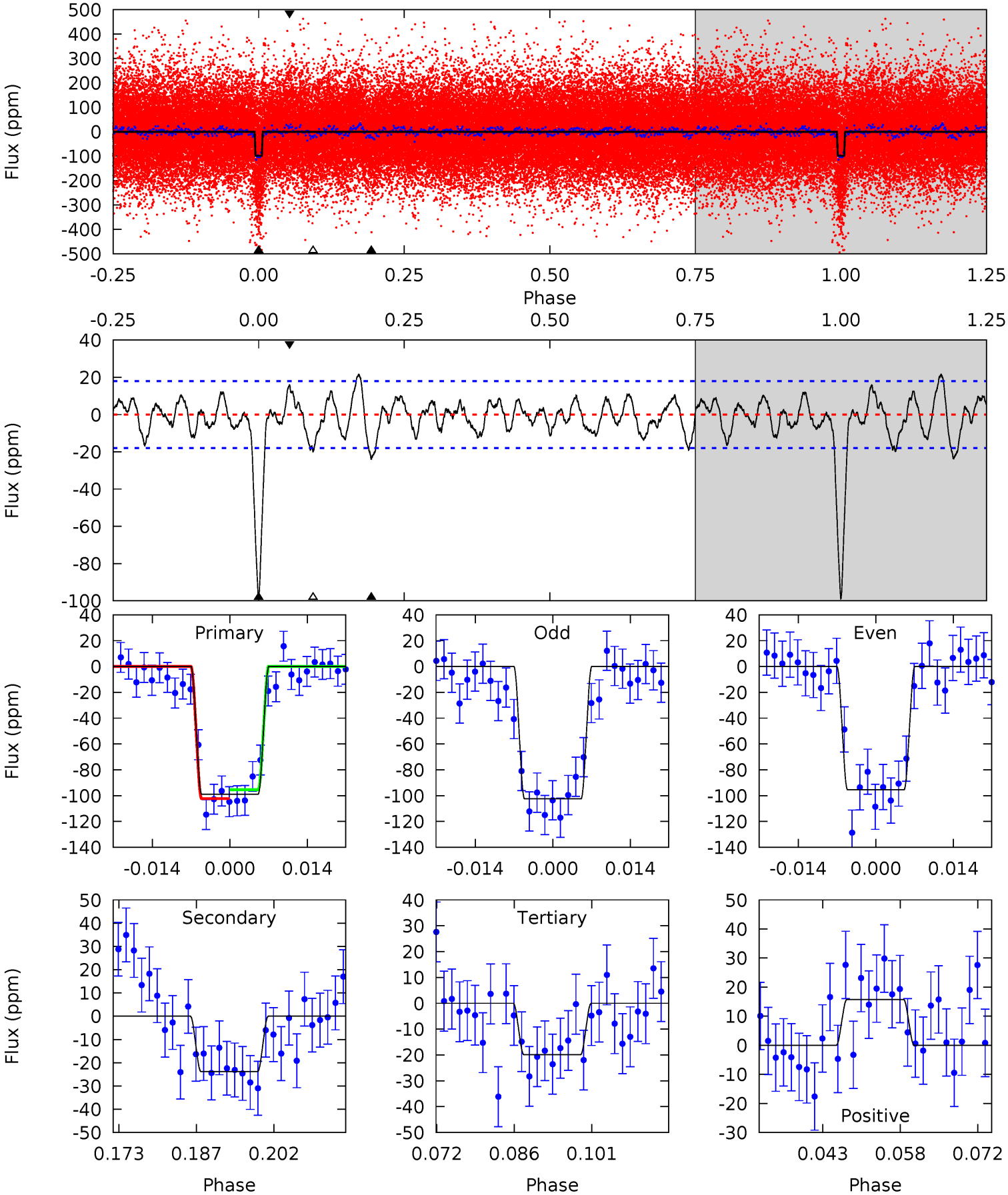
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	10.2	9.33	6.33	4.92	2.38	2.90	14.6	17.6	0.89	3.89	0.68	1.00	0.22	0.73



Alt Model-Shift Uniqueness Test

009286088-01, P = 14.816170 Days, E = 123.568830 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.3	6.57	5.50	4.35	4.96	2.45	1.98	21.8	22.9	1.07	2.22	0.97	1.09	0.18	0.95



Stellar Parameters For KIC 009286088

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6356^{+115}_{-128}	$4.270^{+0.090}_{-0.110}$	$0.000^{+0.150}_{-0.150}$	$1.325^{+0.214}_{-0.175}$	$1.191^{+0.096}_{-0.096}$	$0.722^{+0.293}_{-0.245}$
	+2%/-2%	+2%/-3%	+inf%/-inf%	+16%/-13%	+8%/-8%	+41%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009286088-01 / KOI 4318.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-46±4	$1.69^{+0.17}_{-0.16}$	1277^{+57}_{-52}	4941^{+169}_{-164}	138^{+33}_{-27}
Alt.	-24±4	$1.46^{+0.17}_{-0.13}$	1277^{+55}_{-54}	4574^{+195}_{-204}	94^{+28}_{-21}

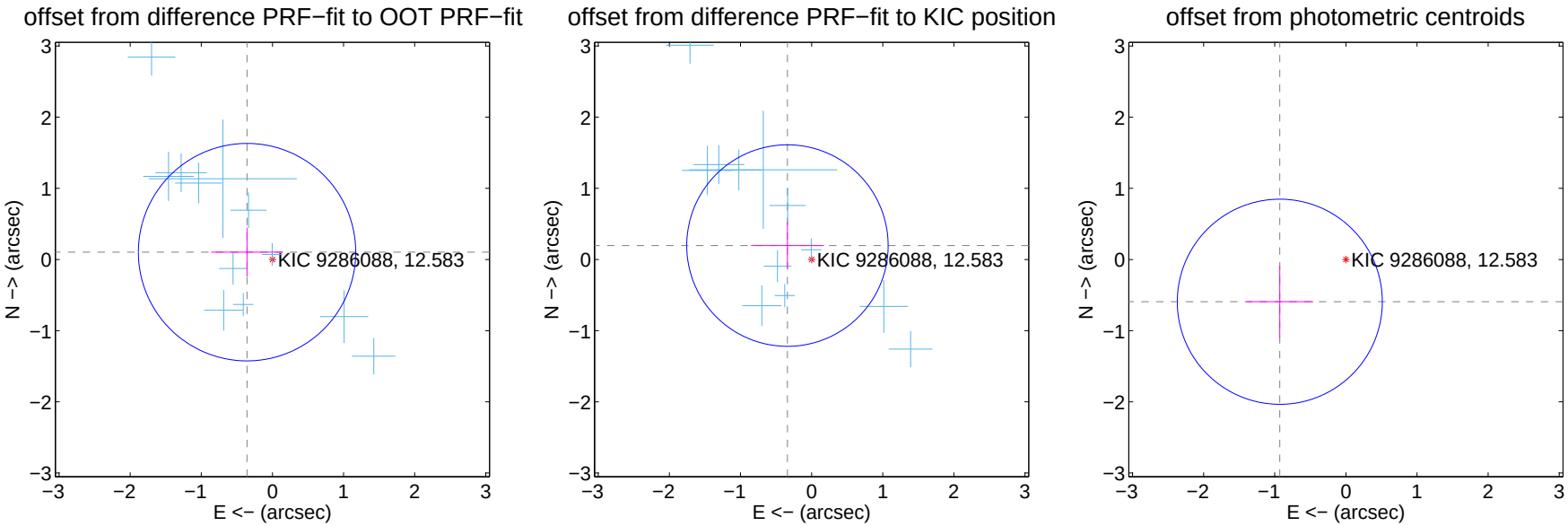
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

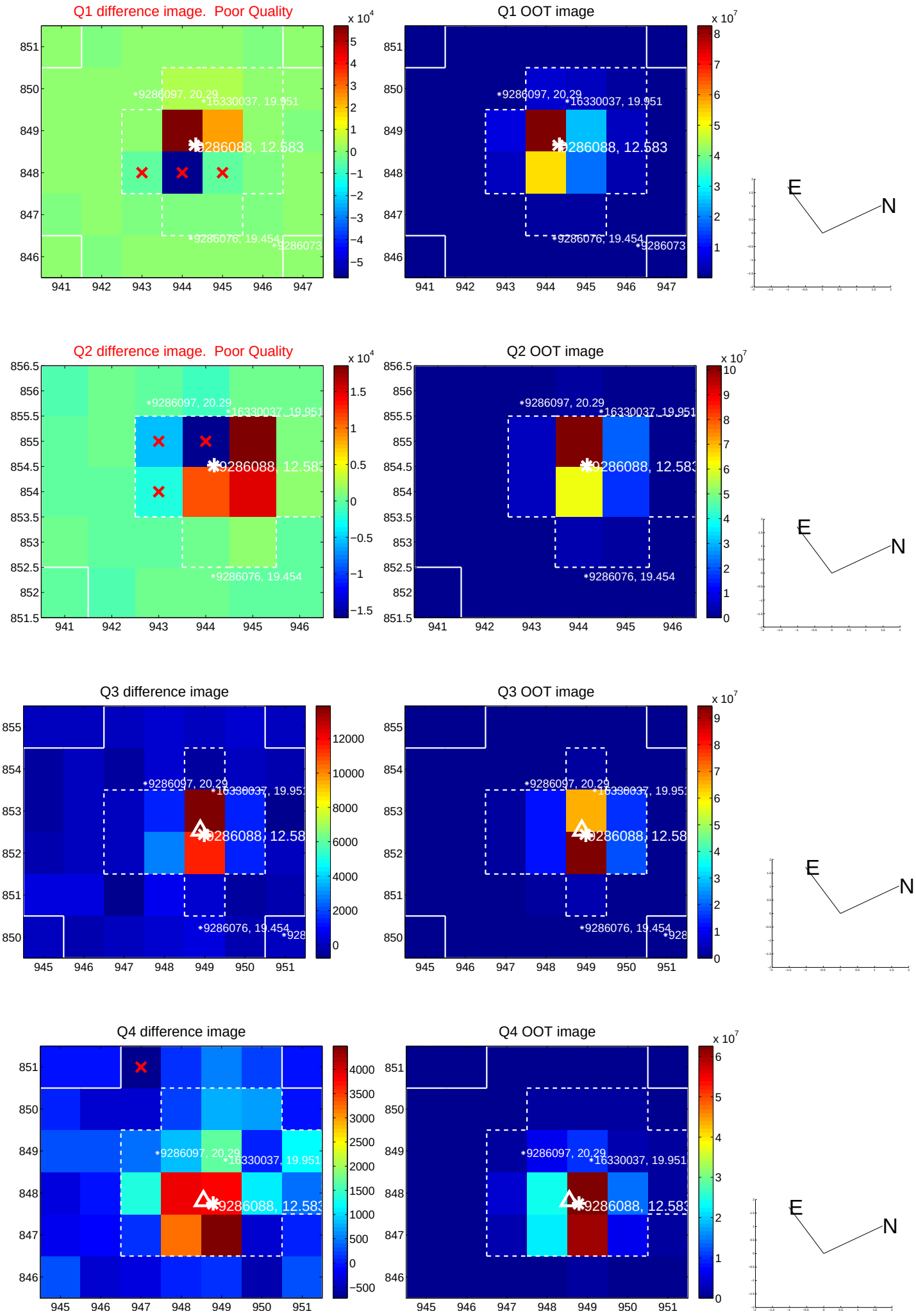
Supplemental centroid analysis for 009286088-01. Kepler magnitude: 12.58. Transit SNR 11.45
There are 12 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.372 ± 0.509	0.73	0.357 ± 0.505	0.103 ± 0.342
PRF-fit source offset from KIC position	0.392 ± 0.472	0.83	0.340 ± 0.513	0.196 ± 0.325
photometric centroid source offset	1.10 ± 0.48	2.29	0.93 ± 0.47	-0.59 ± 0.51

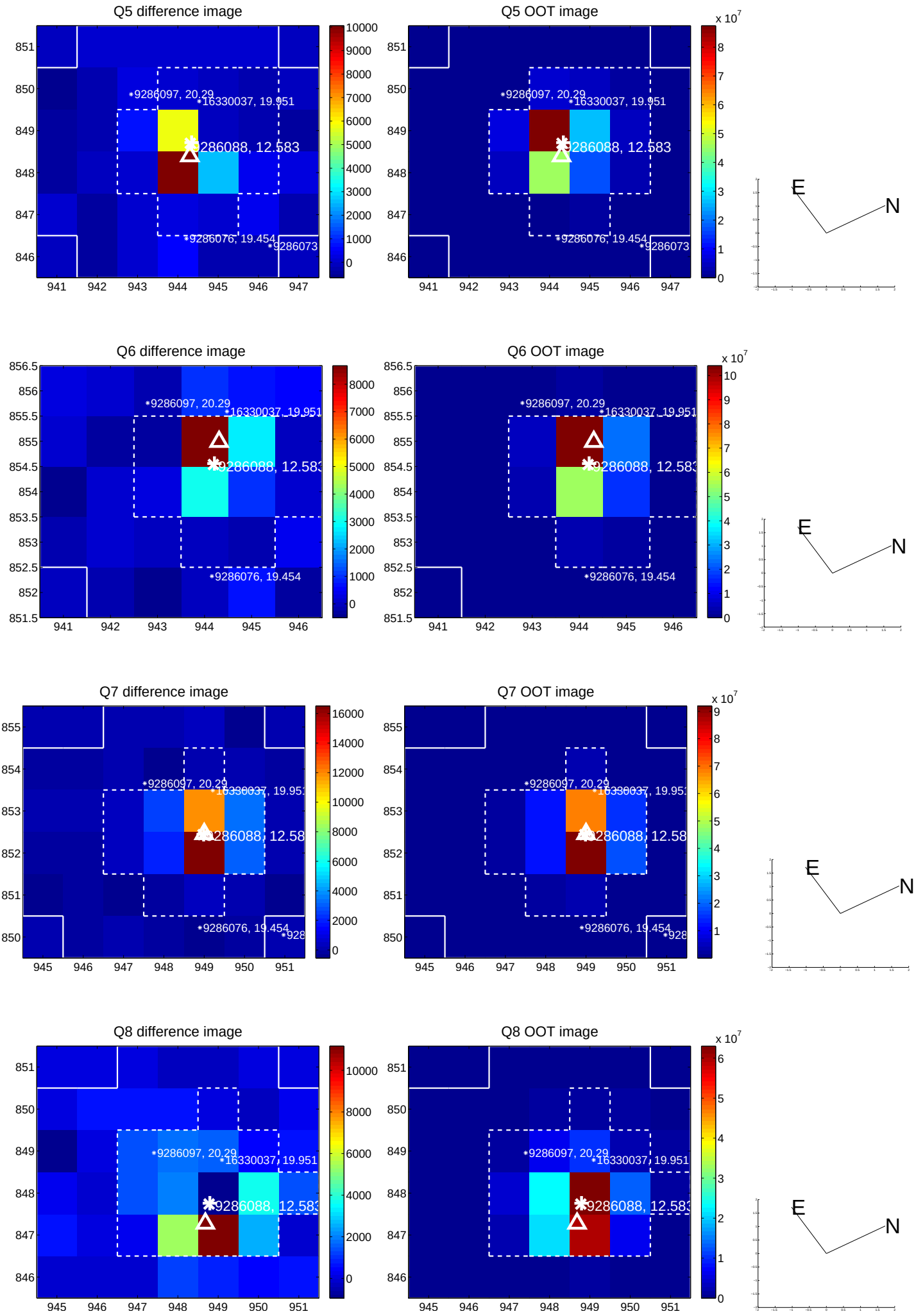


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

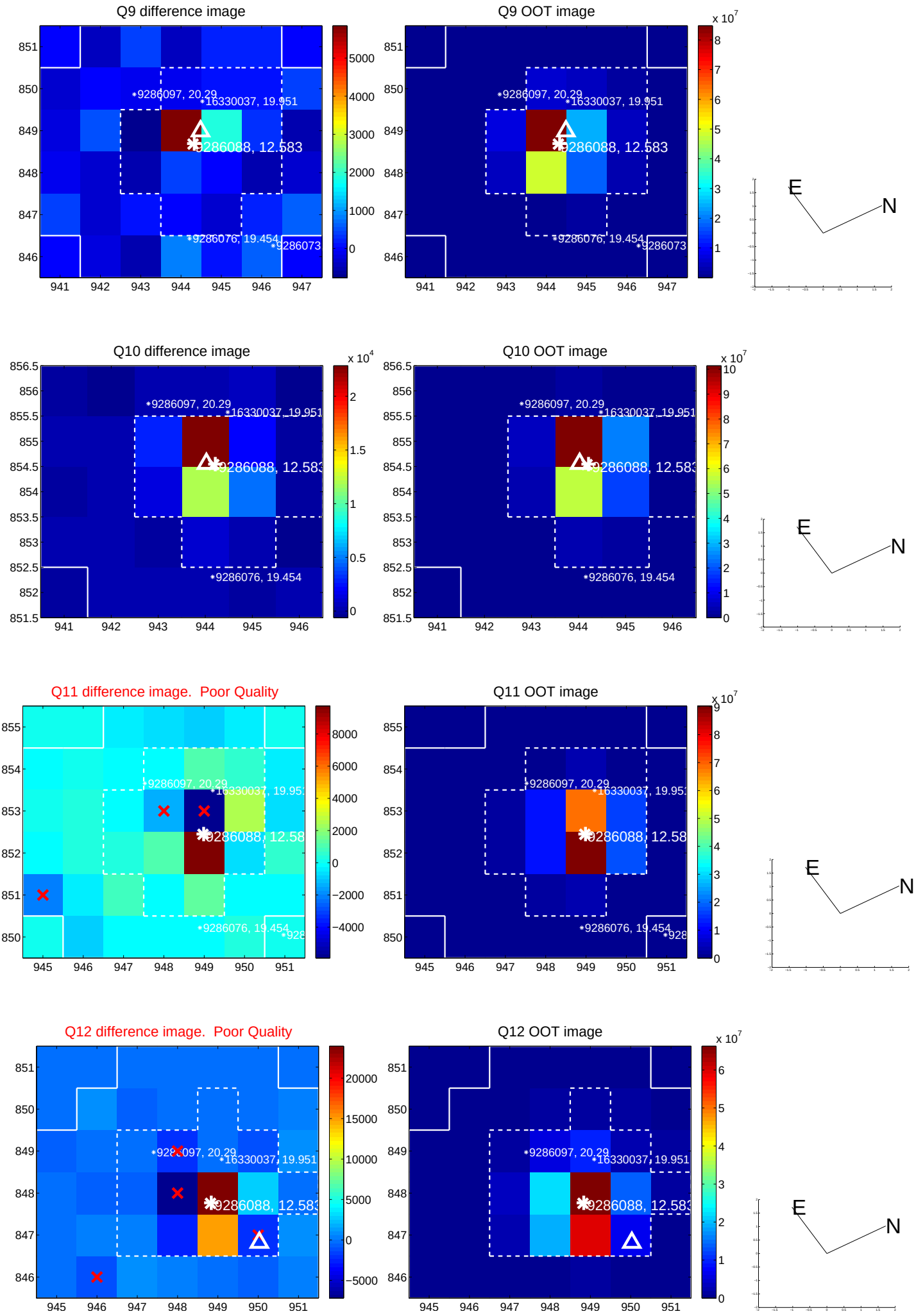
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



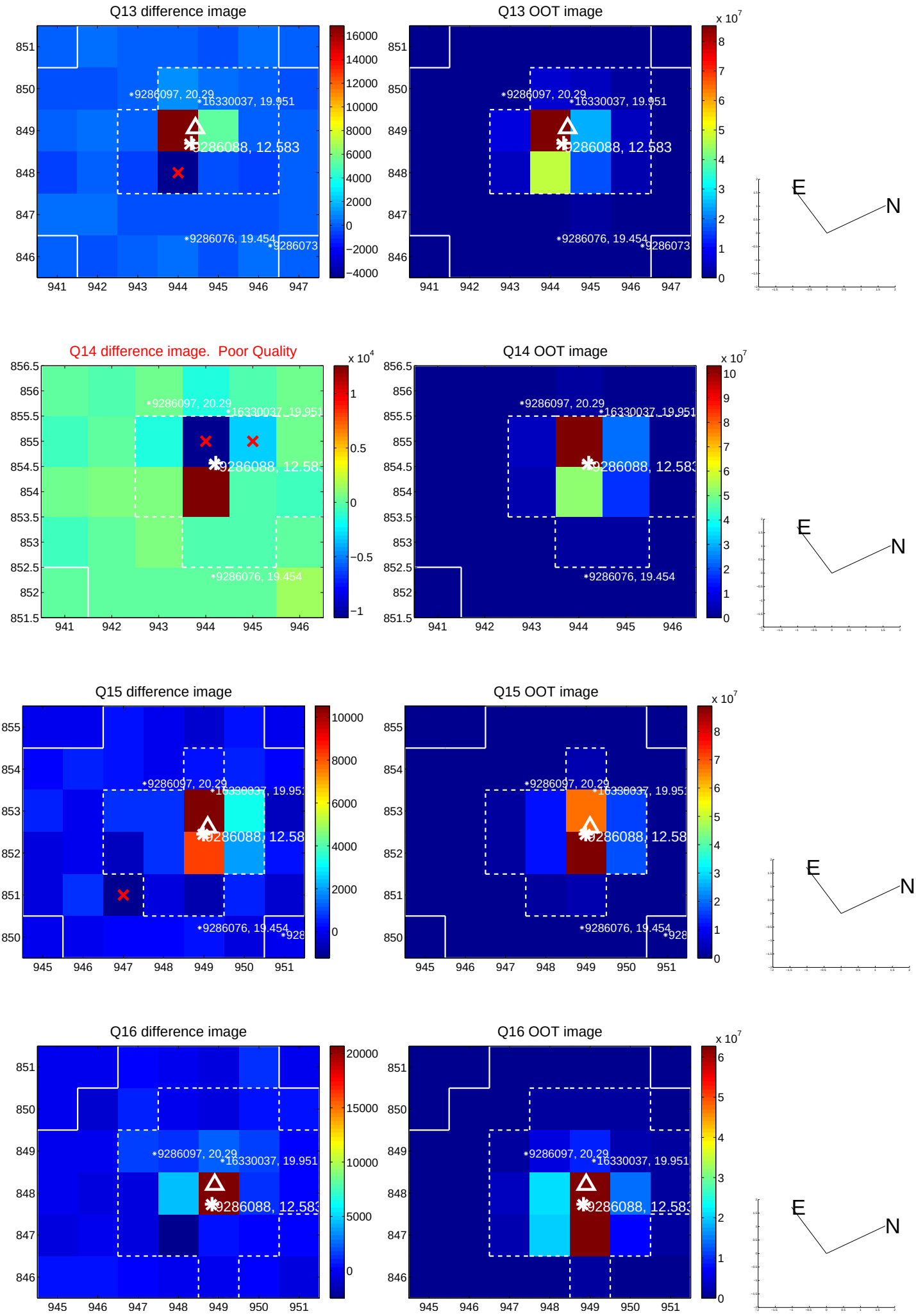
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



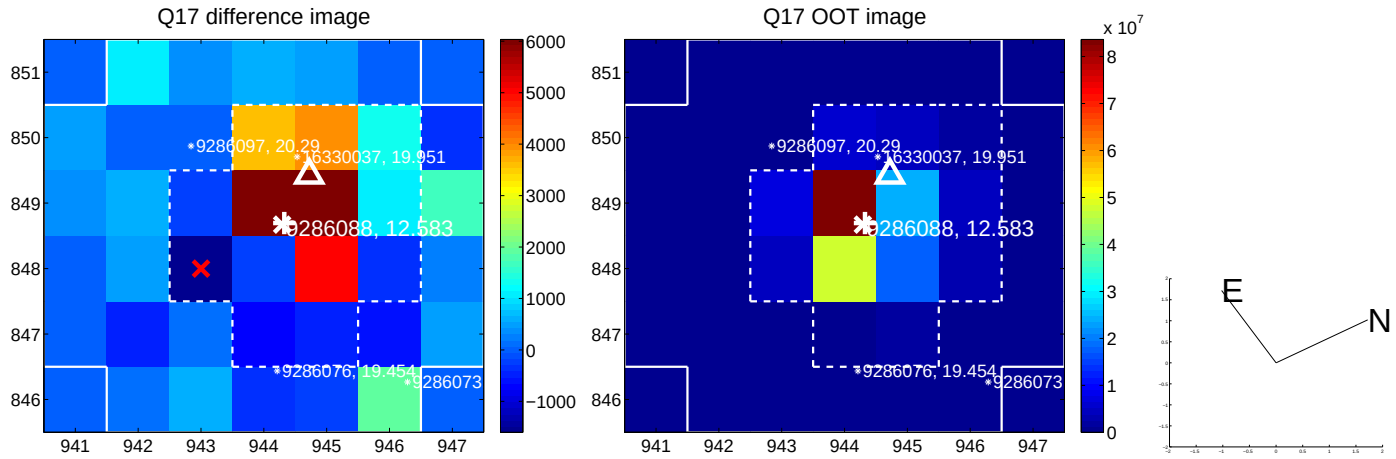
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

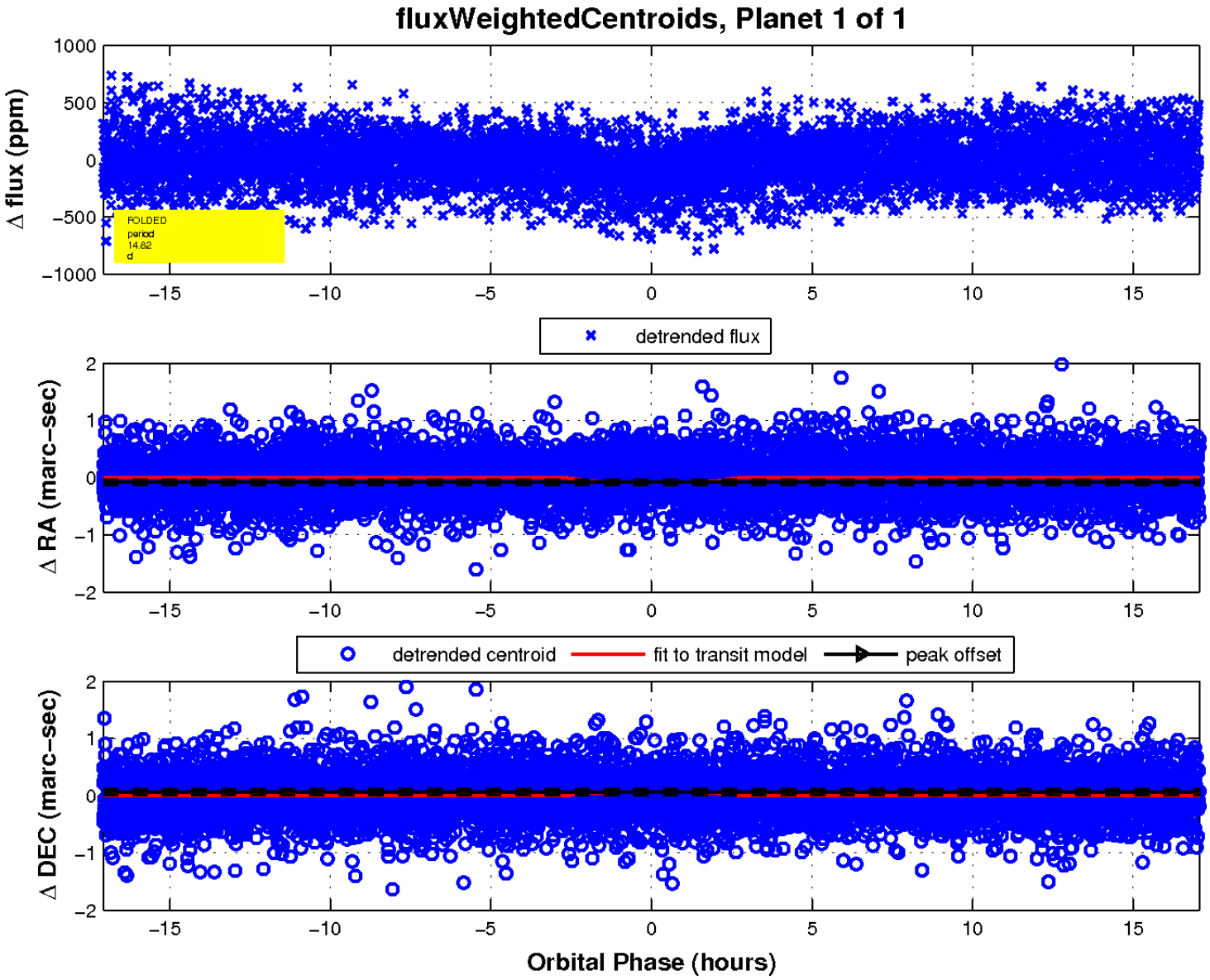


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

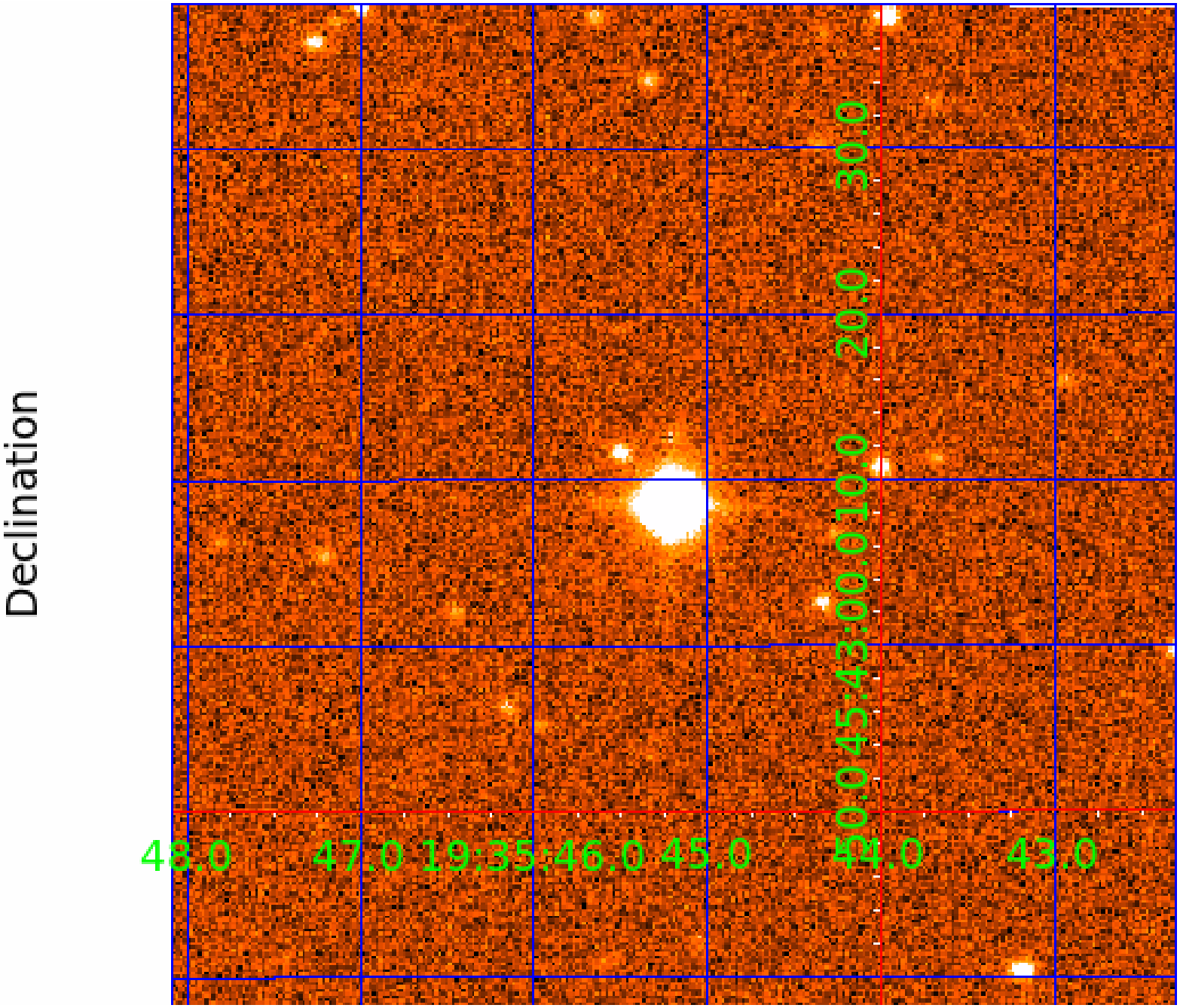


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
30.0
20.0
10.0
50:45:43:00.0
48.0
47.0
19:35:46.0
45.0
44.0
43.0