KIC 009093566

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 ($S_\oplus$)
009093566-01	OBS	7130.01	0.943561	132.386434	11.4	5.423	11.3	11.8	1.98	7693	0.68	24096.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009093566-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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.

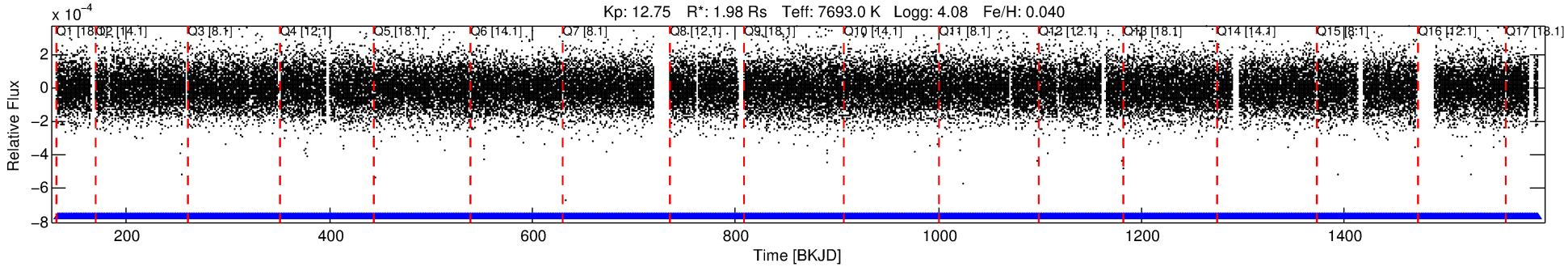
Ephemeris Match Information For 009093566-01

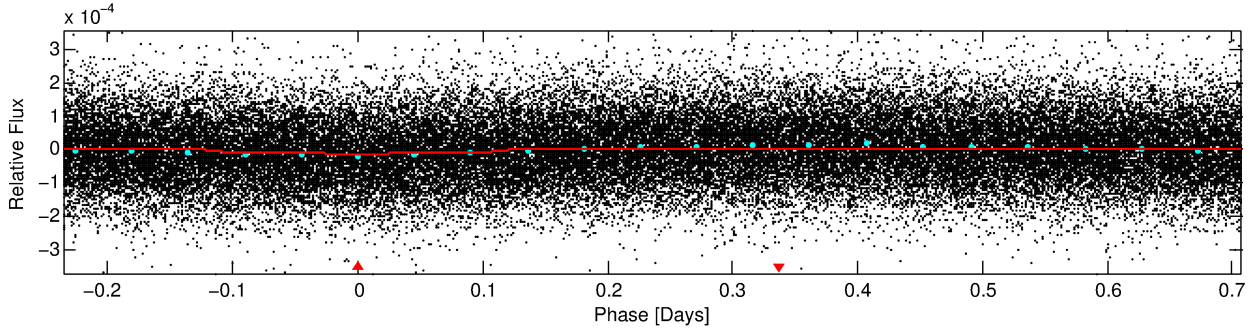
No Significant Match Found

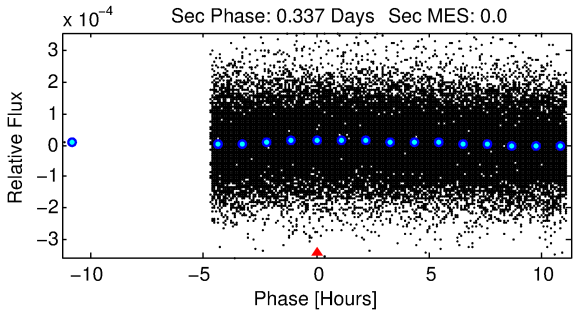
DV One-Page Summary

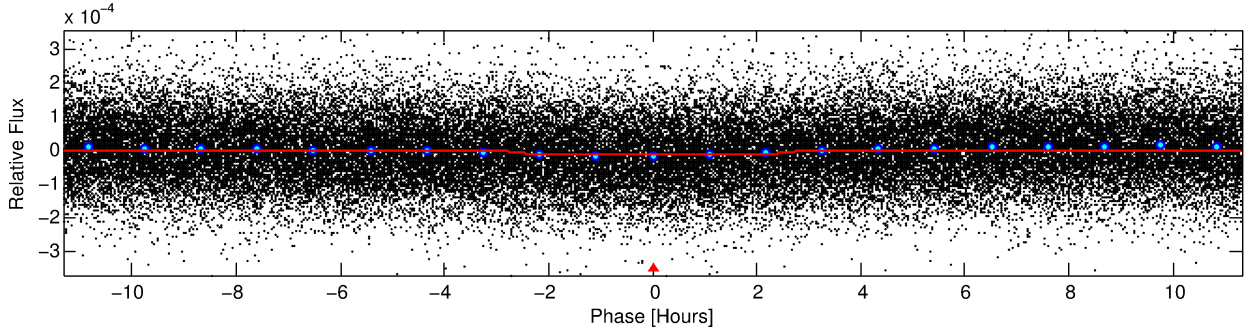
KIC: 9093566 Candidate: 1 of 1 Period: 0.944 d
KOI: K07130 Corr: No Ephemeris Match

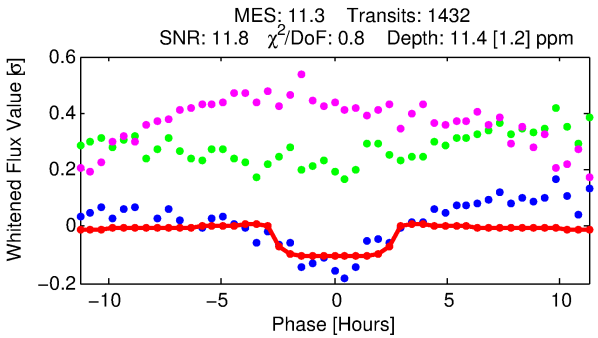
Kp: 12.75 R*: 1.98 Rs Teff: 7693.0 K Logg: 4.08 Fe/H: 0.040

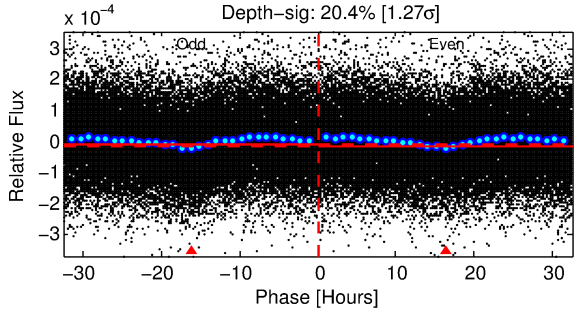


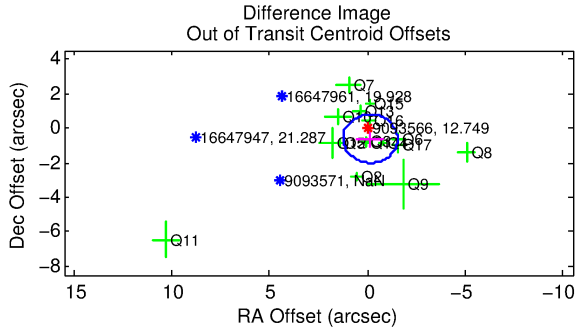












DV Fit Results:

Period = 0.94356 [0.00001] d
Epoch = 132.3864 [0.0045] BKJD
Rp/R* = 0.0031 [0.0022]
a/R* = 1.47 [3.36]
b = 0.03 [143.88]

Seff = 24096.00 [8551.93]
Teq = 3177 [282] K
Rp = 0.68 [0.51] Re
a = 0.0226 [0.0049] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

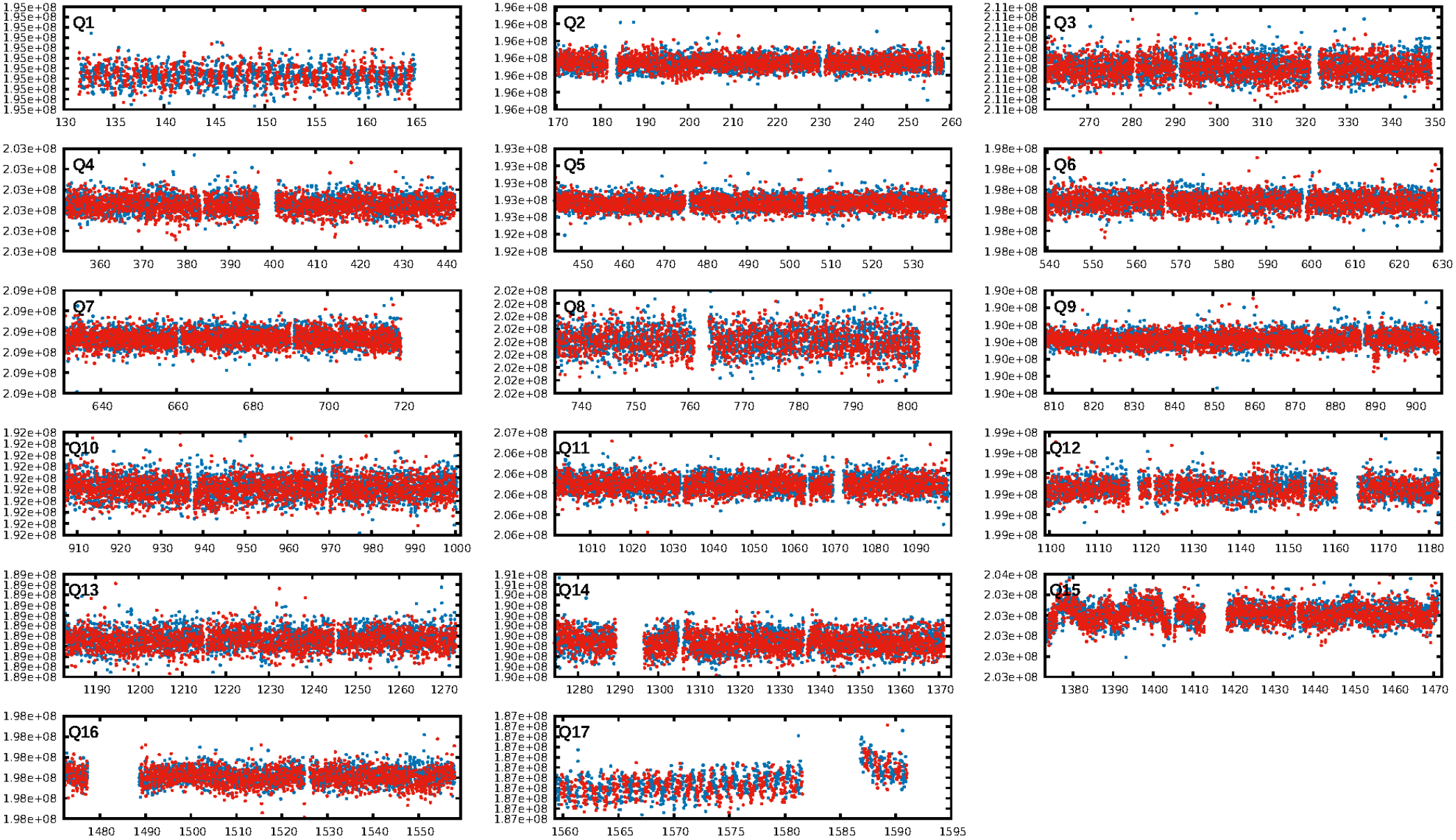
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 2.83e−19
RollingBand−fgt: 1.00 [1368/1368]
GhostDiagnostic−chr: 57.4

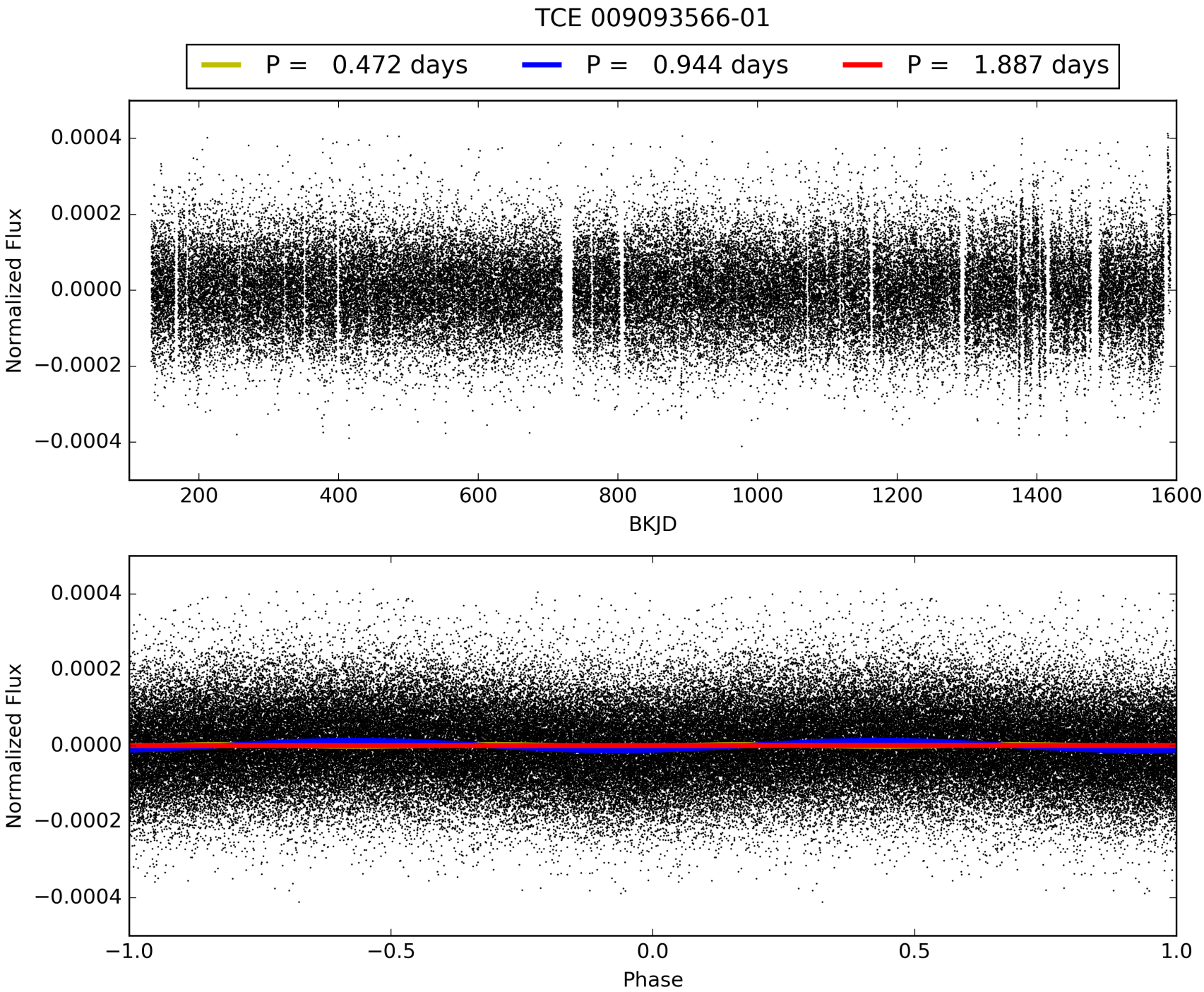
Centroid−sig: 1.7%
Centroid−so: 1.581 arcsec [1.69σ]
OotOffset−rm: 0.630 arcsec [1.35σ]
KicOffset−rm: 0.612 arcsec [1.39σ]
OotOffset−st: 4/4/4/4 [16]
KicOffset−st: 4/4/4/4 [16]
DiffImageQuality−fgm: 0.69 [11/16]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 18:34:21 Z

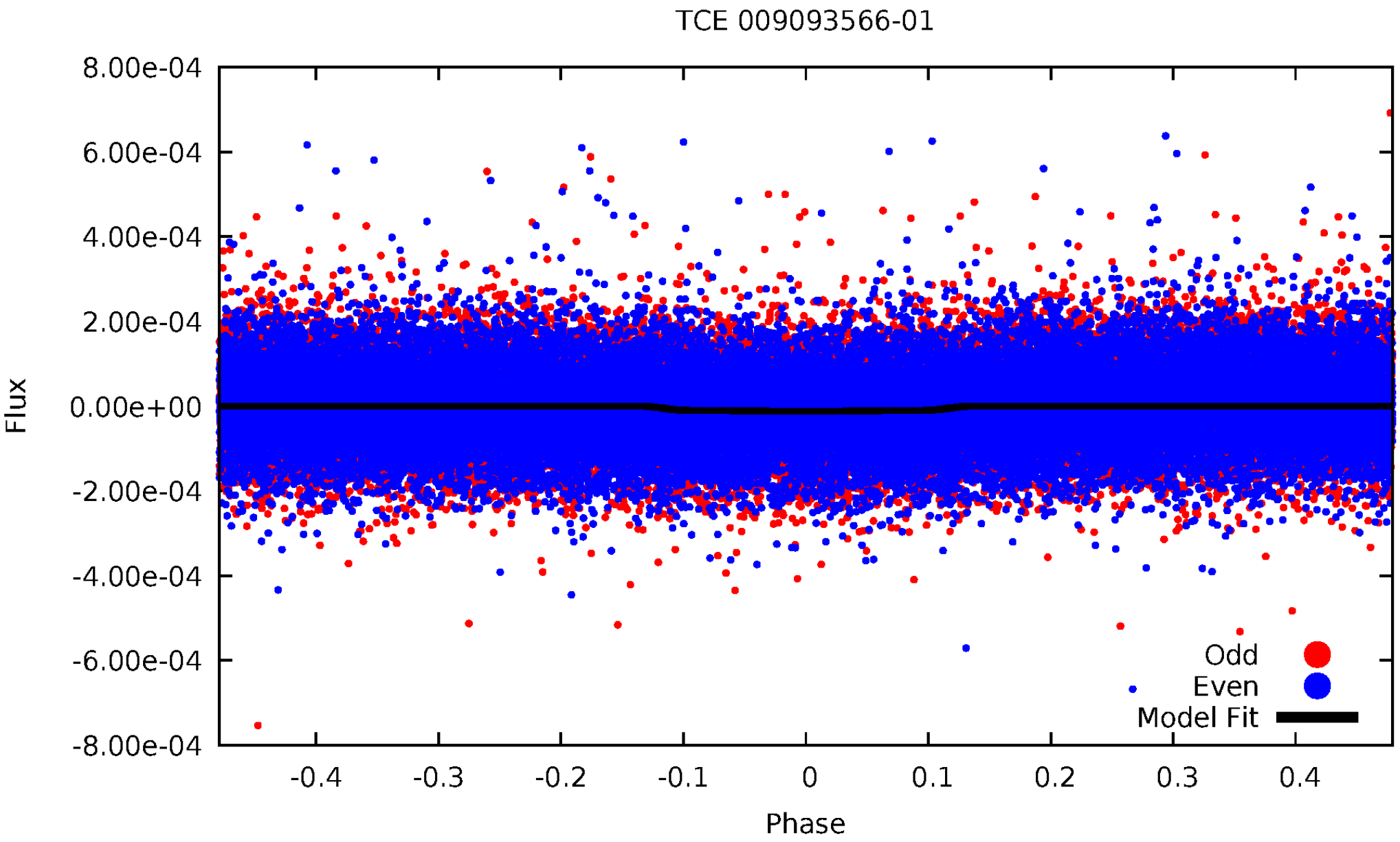
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009093566-01, PDC Light Curves

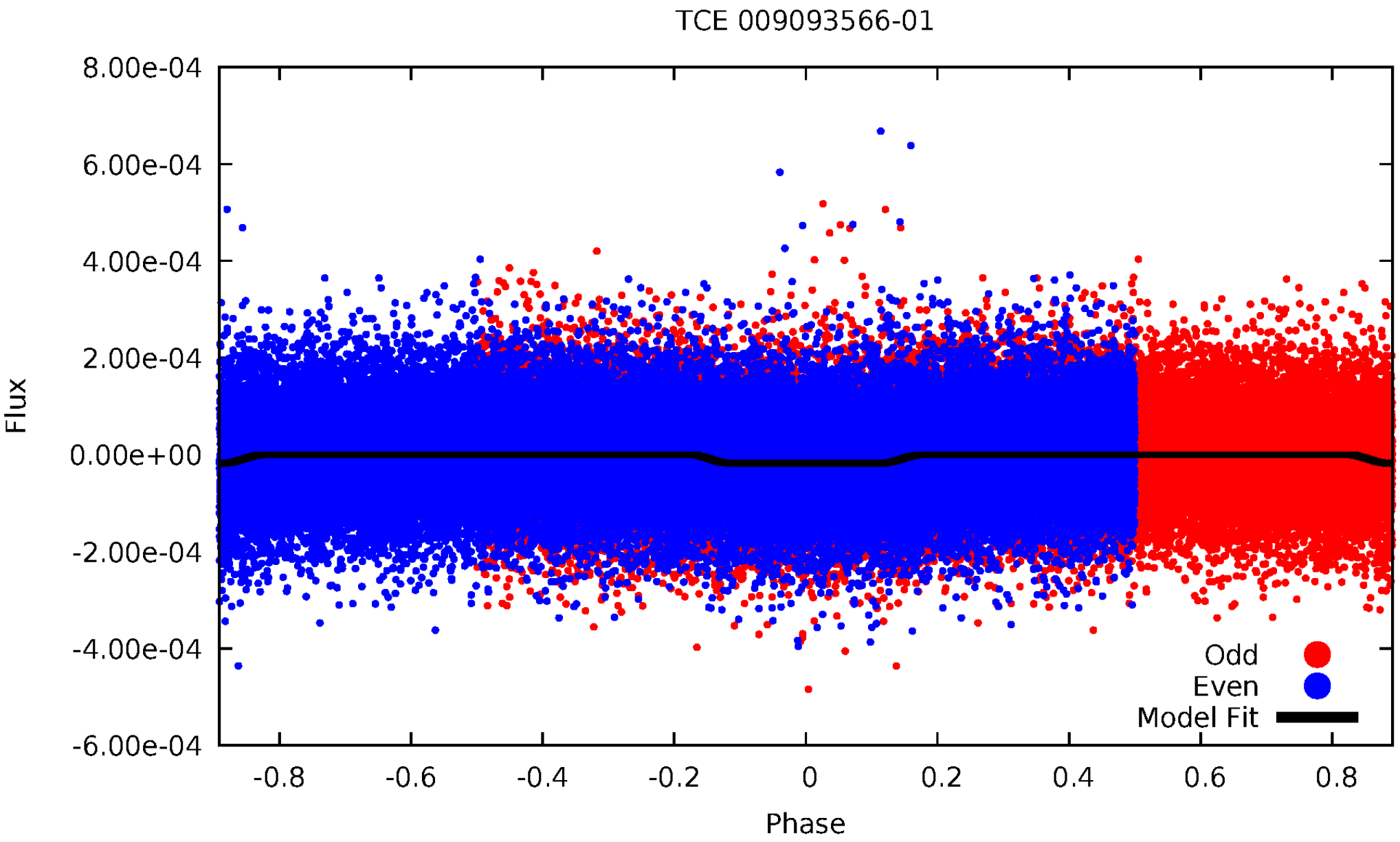



TCE 009093566-01
P = 0.472 days
P = 0.944 days
P = 1.887 days
Normalized Flux
0.0004
0.0002
0.0000
−0.0002
−0.0004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0004
0.0002
0.0000
−0.0002
−0.0004
−1.0
−0.5
0.0
0.5
1.0
Phase

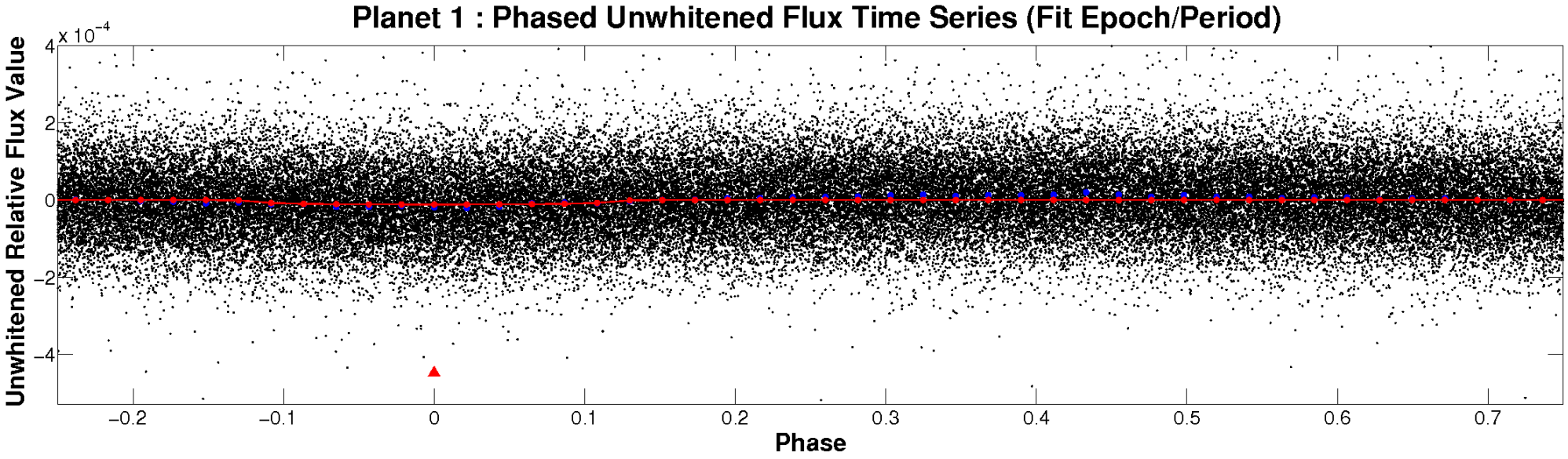
DV Odd/Even

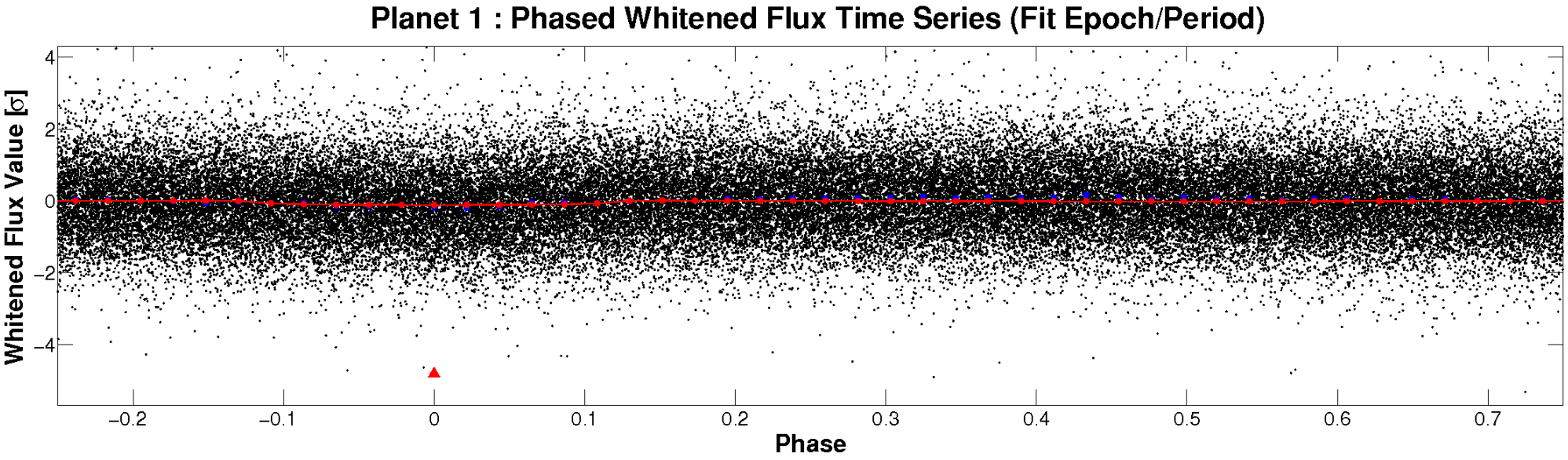

TCE 009093566-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009093566-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
Flux
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
Phase
Odd
Even
Model Fit

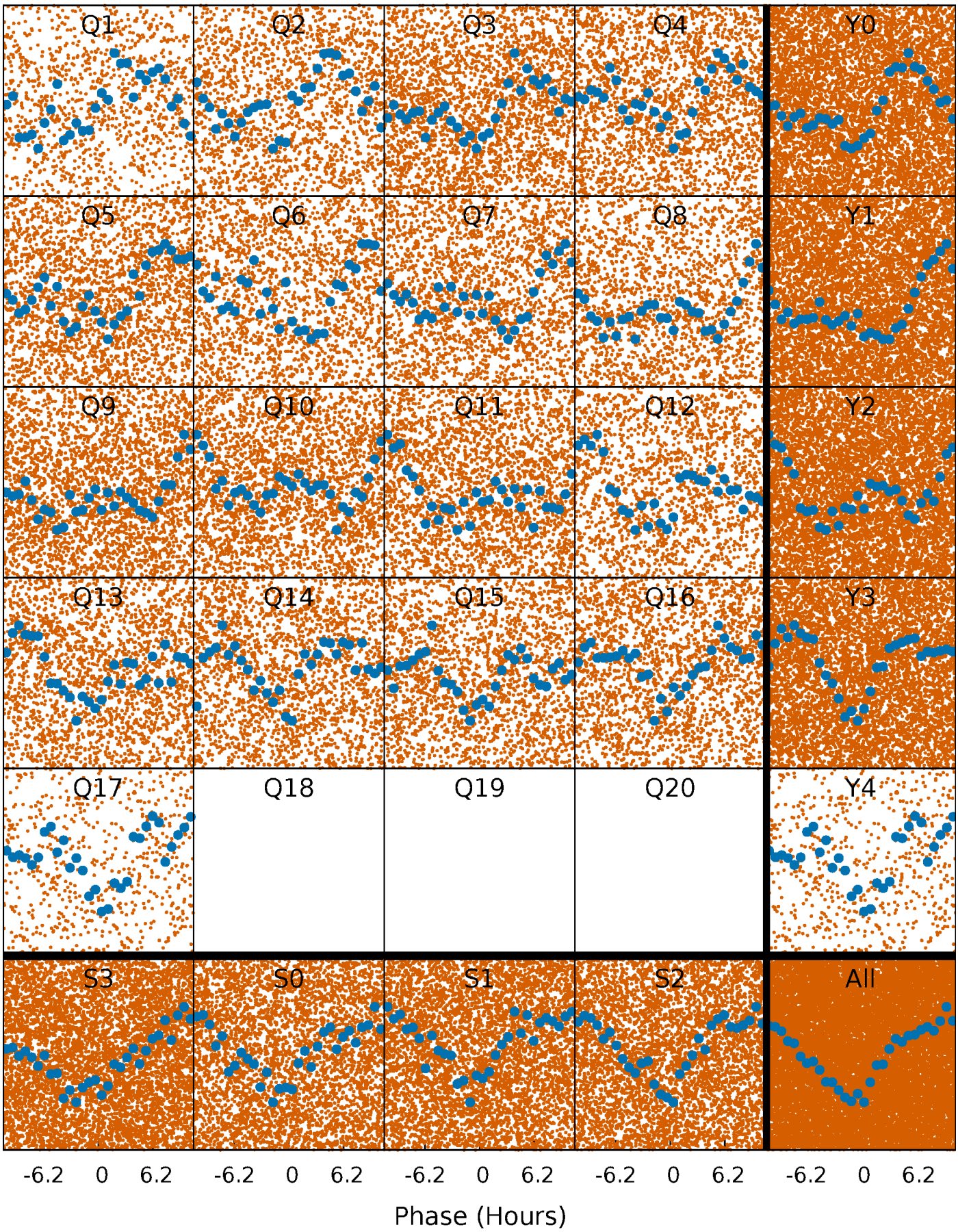
Non-Whitened Vs. Whitened Light Curve





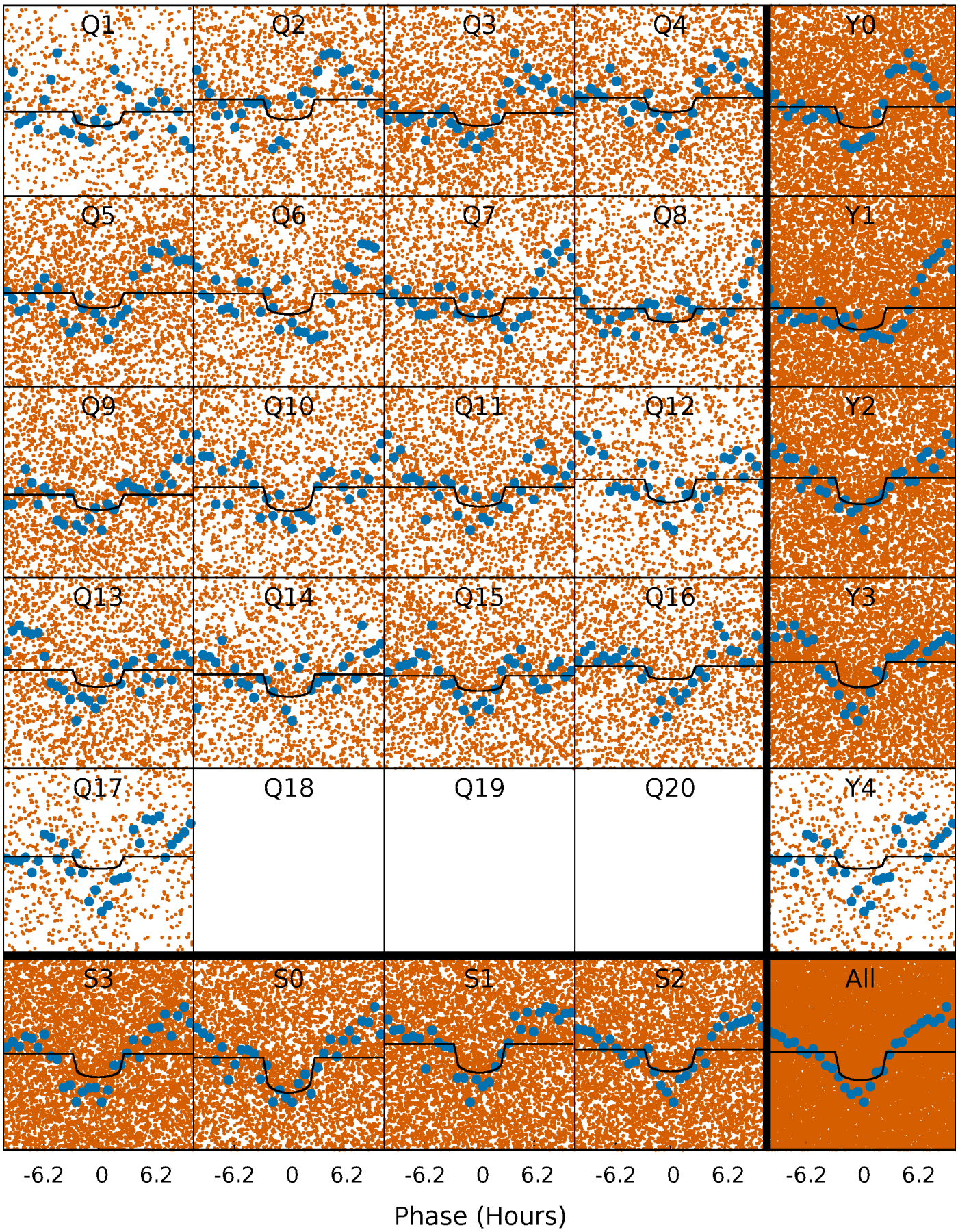
PDC Quarter-Phased Transit Curves

TCE 009093566-01 P= 0.943561 Days T_0=132.386434 (BKJD)



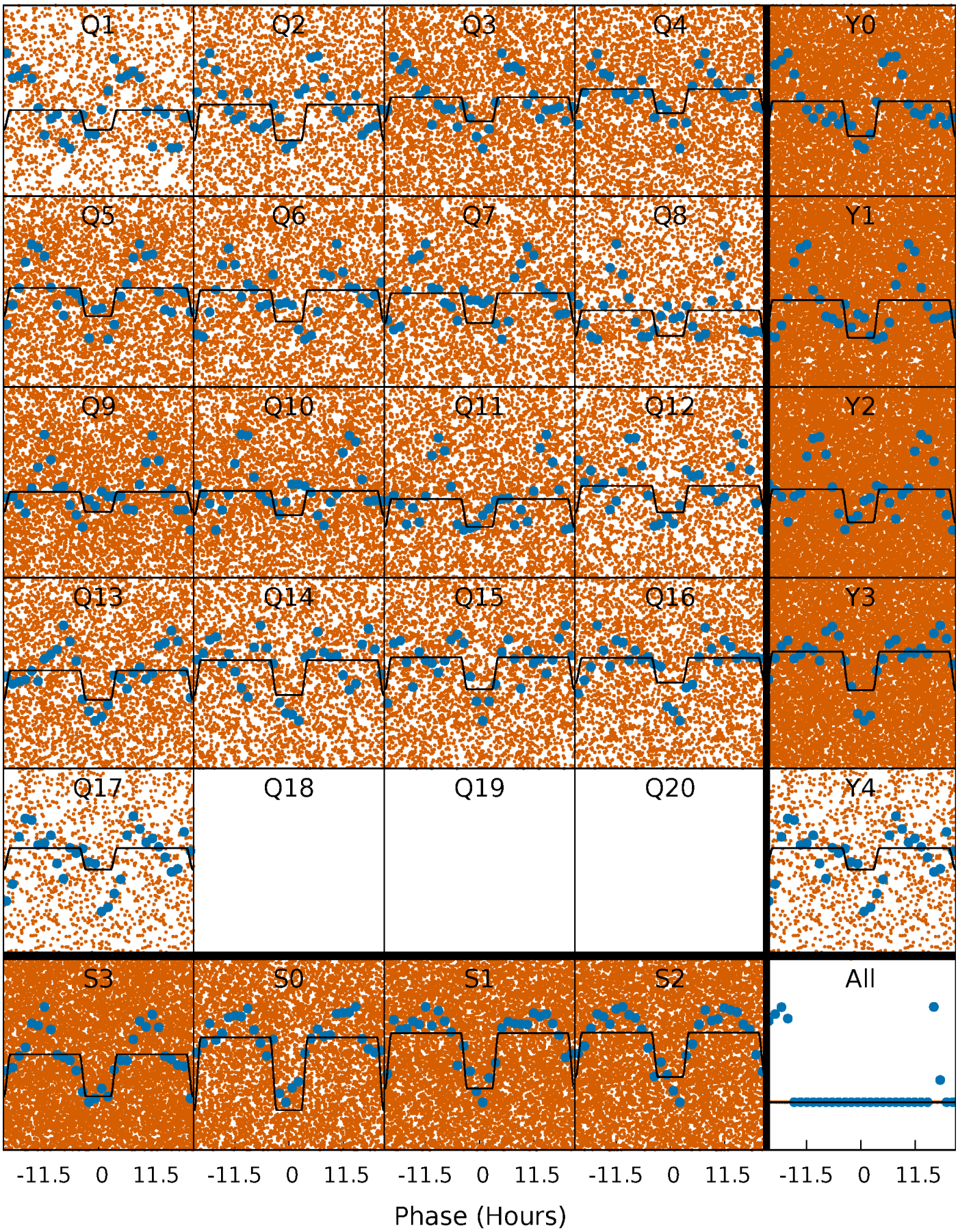
DV Quarter-Phased Transit Curves

TCE 009093566-01 P= 0.943561 Days T_0=132.386434 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

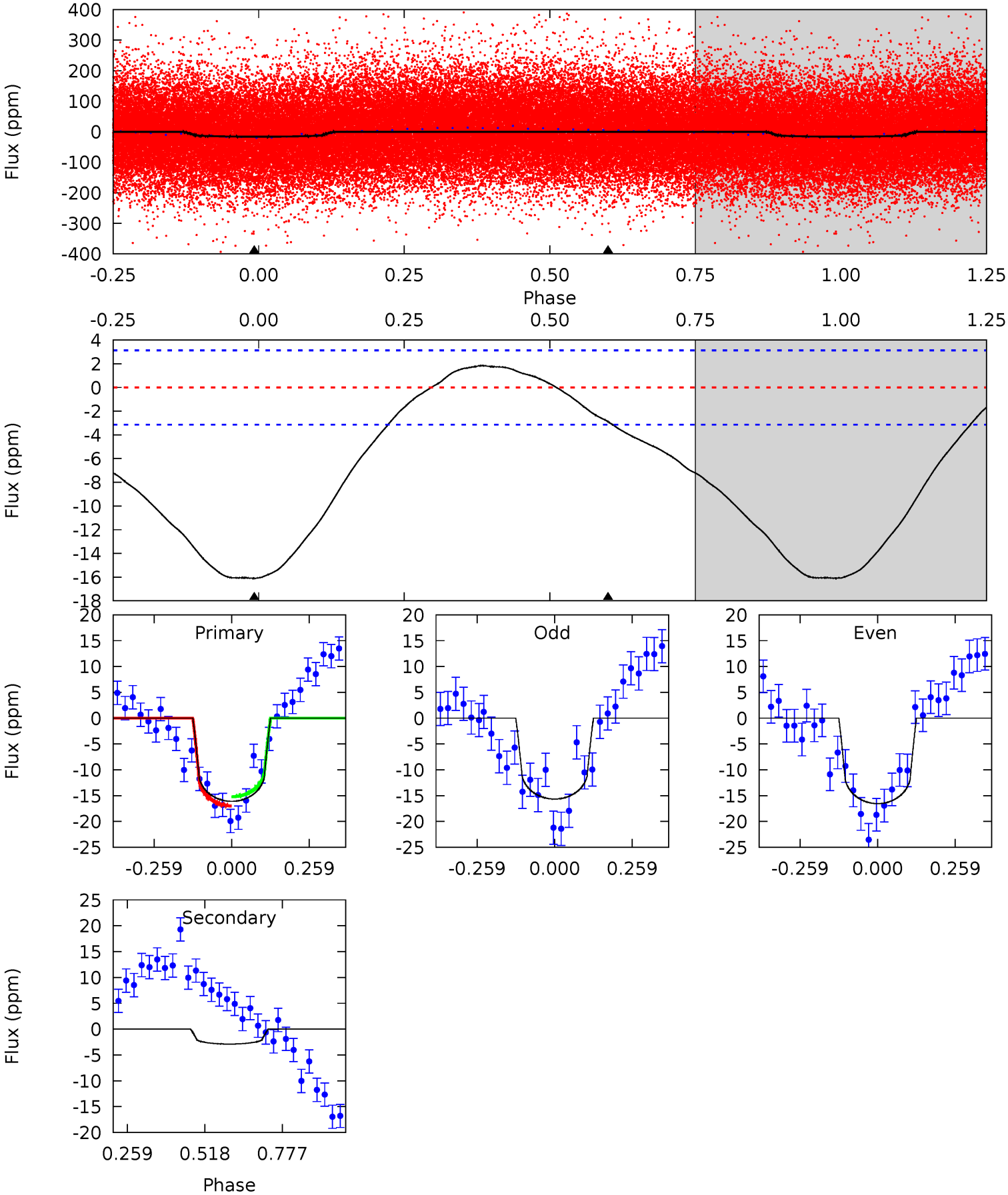
TCE 009093566-01 P= 0.943547 Days T_0=132.343476 (BKJD)



DV Model-Shift Uniqueness Test

009093566-01, P = 0.943561 Days, E = 131.442873 Days

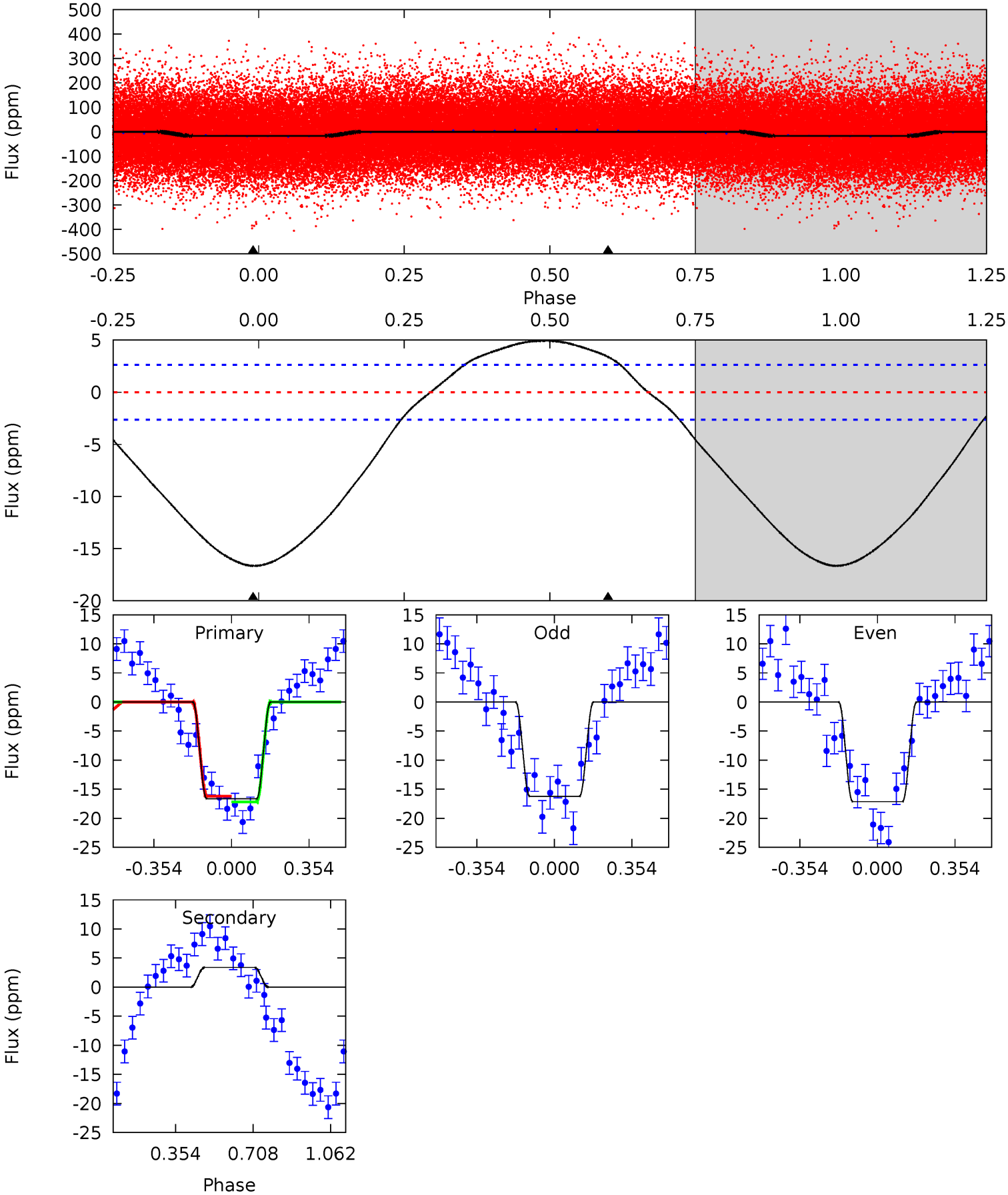
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	4.01	0	0	4.36	1.13	1.37	22.4	22.4	4.01	4.01	0.61	1.00	0.10	1.26



Alt Model-Shift Uniqueness Test

009093566-01, P = 0.943547 Days, E = 131.399929 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	-5.52	0	0	4.29	0.93	2.30	27.1	27.1	-5.52	-5.52	0.73	1.03	0.23	0.77



Stellar Parameters For KIC 009093566

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	7693^{+214}_{-322}	$4.083^{+0.139}_{-0.170}$	$0.040^{+0.200}_{-0.350}$	$1.984^{+0.514}_{-0.420}$	$1.737^{+0.194}_{-0.267}$	$0.313^{+0.219}_{-0.150}$
	+3%/-4%	+3%/-4%	+500%/-875%	+26%/-21%	+11%/-15%	+70%/-48%
Source	KIC0	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 009093566-01 / KOI 7130.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3±1	$0.73^{+0.46}_{-0.40}$	4439^{+328}_{-267}	5061^{+2995}_{-1317}	$1.460^{+5.933}_{-0.939}$
Alt.	3±1	$0.95^{+0.48}_{-0.44}$	4426^{+322}_{-273}	-5263^{+617}_{-1454}	$-1.058^{+0.607}_{-2.576}$

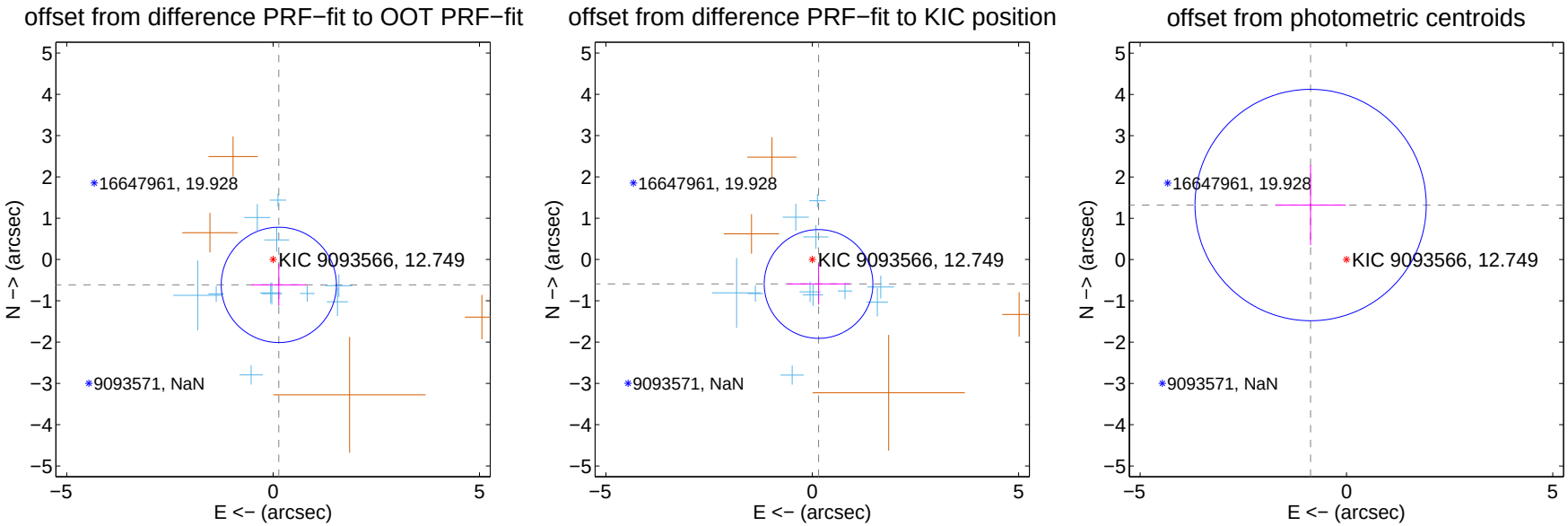
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

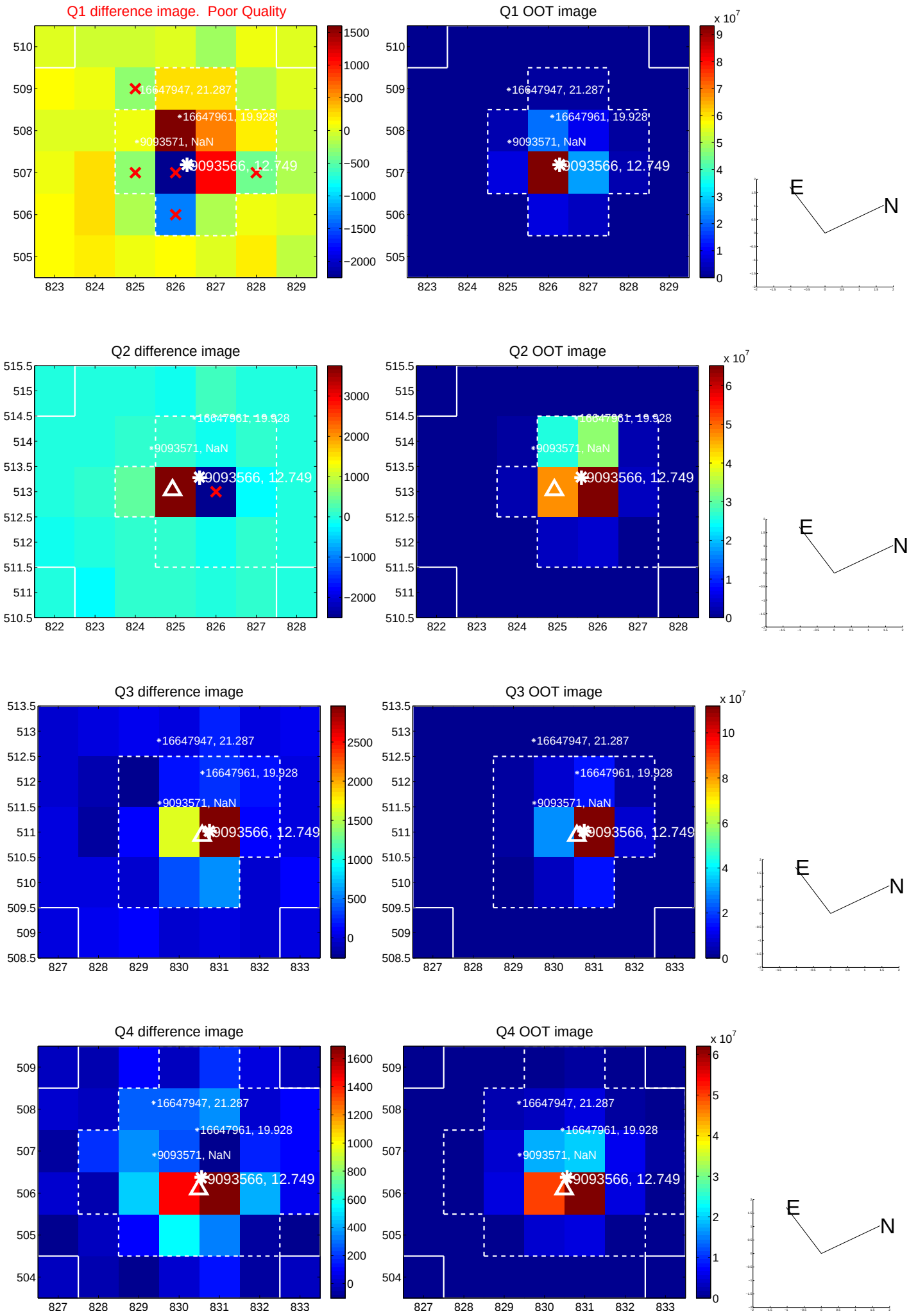
Supplemental centroid analysis for 009093566-01. Kepler magnitude: 12.75. Transit SNR 11.80
There are 11 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.630 ± 0.465	1.35	-0.139 ± 0.661	-0.615 ± 0.510
PRF-fit source offset from KIC position	0.612 ± 0.439	1.39	-0.152 ± 0.762	-0.593 ± 0.499
photometric centroid source offset	1.58 ± 0.93	1.69	0.87 ± 0.85	1.32 ± 0.97

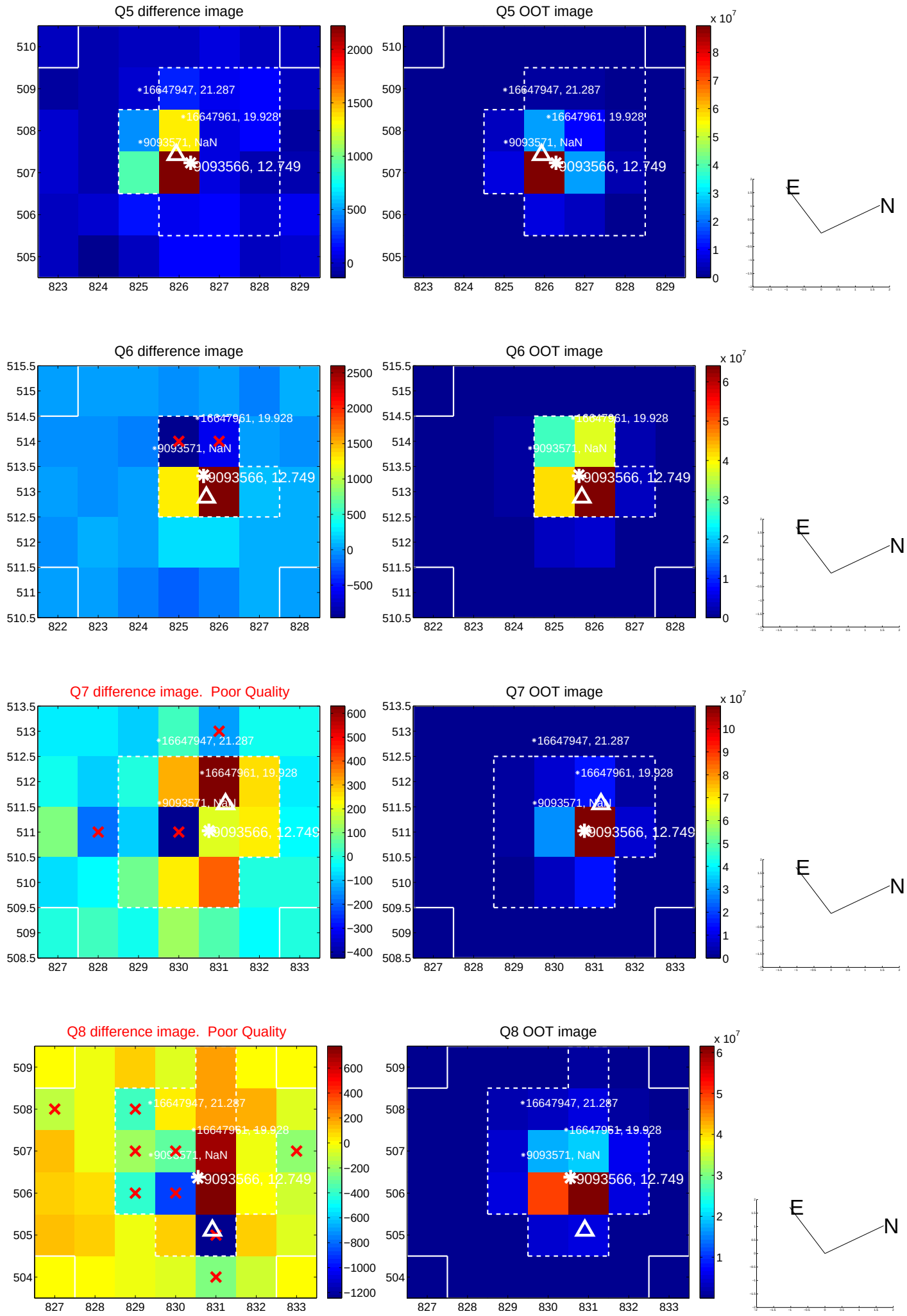


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

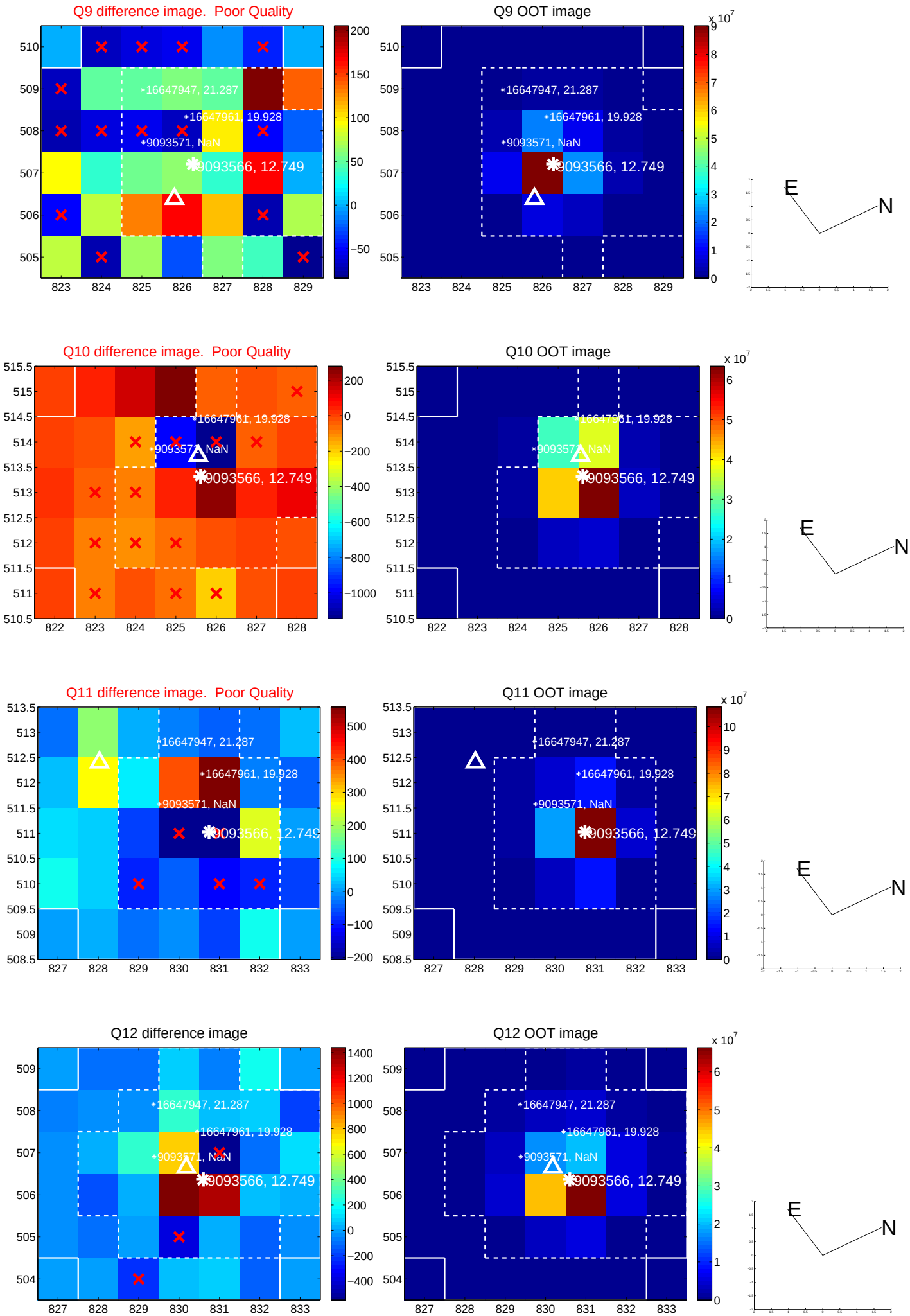
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



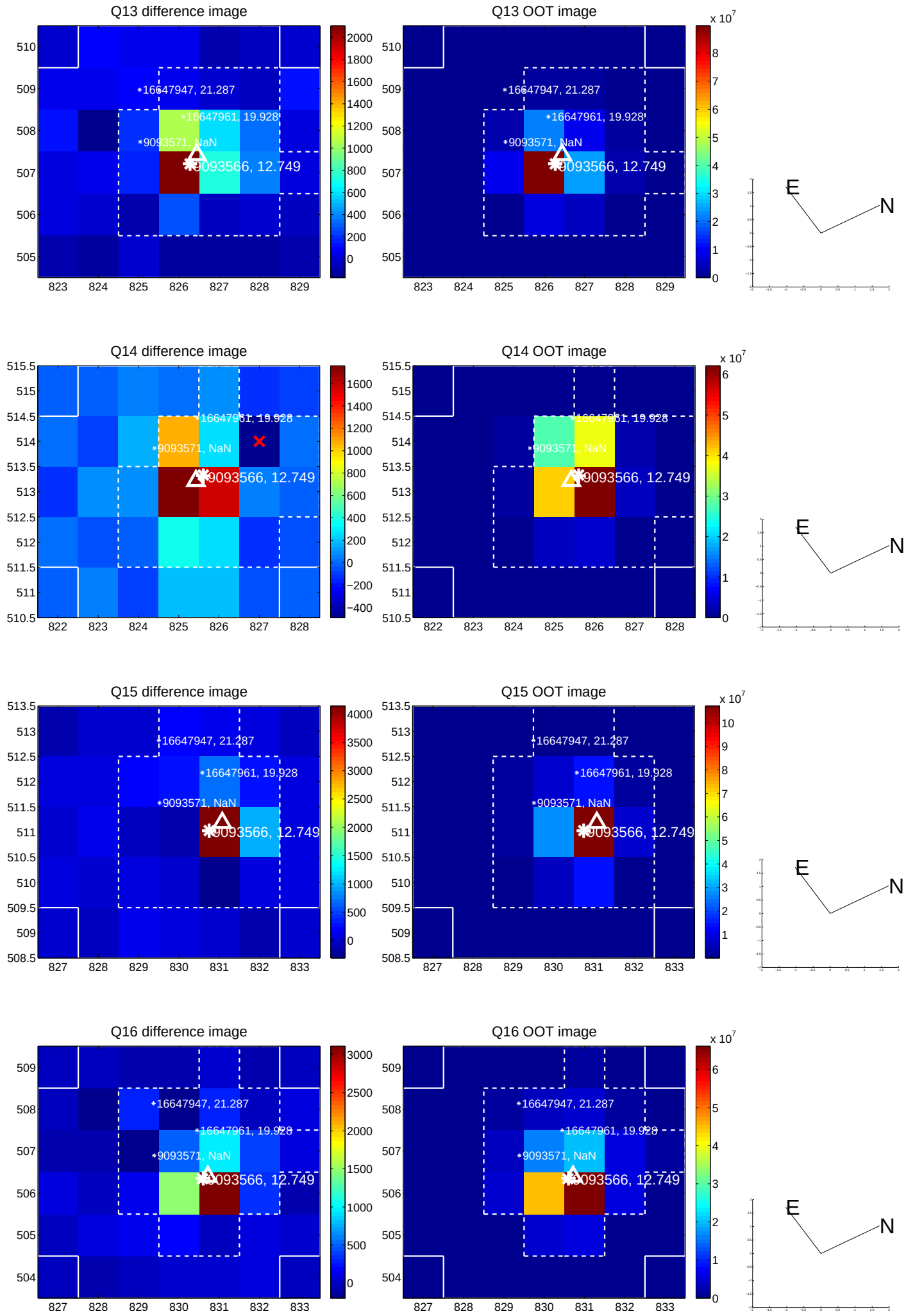
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



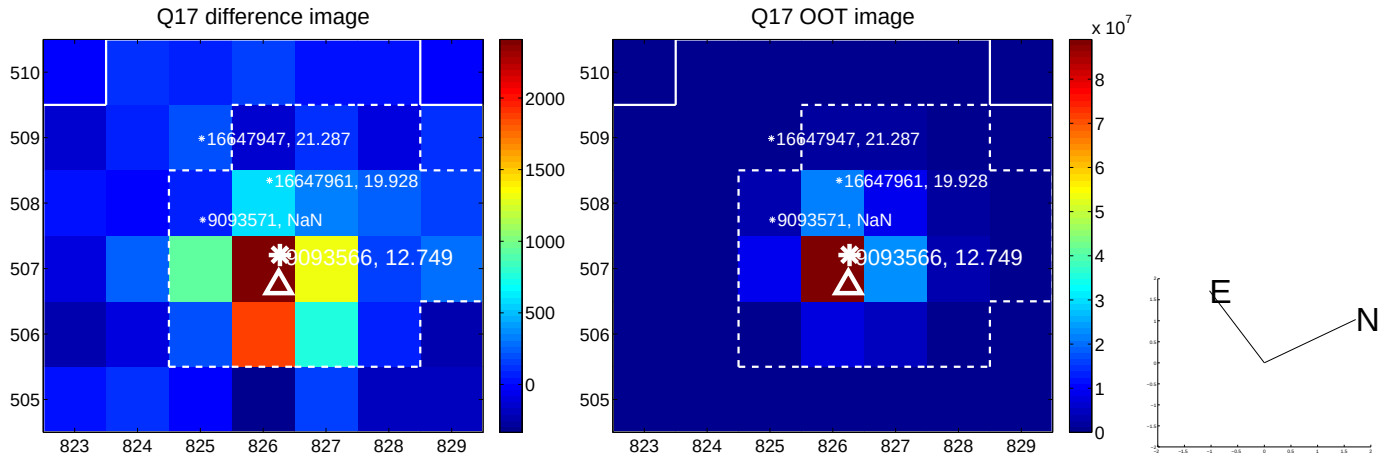
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

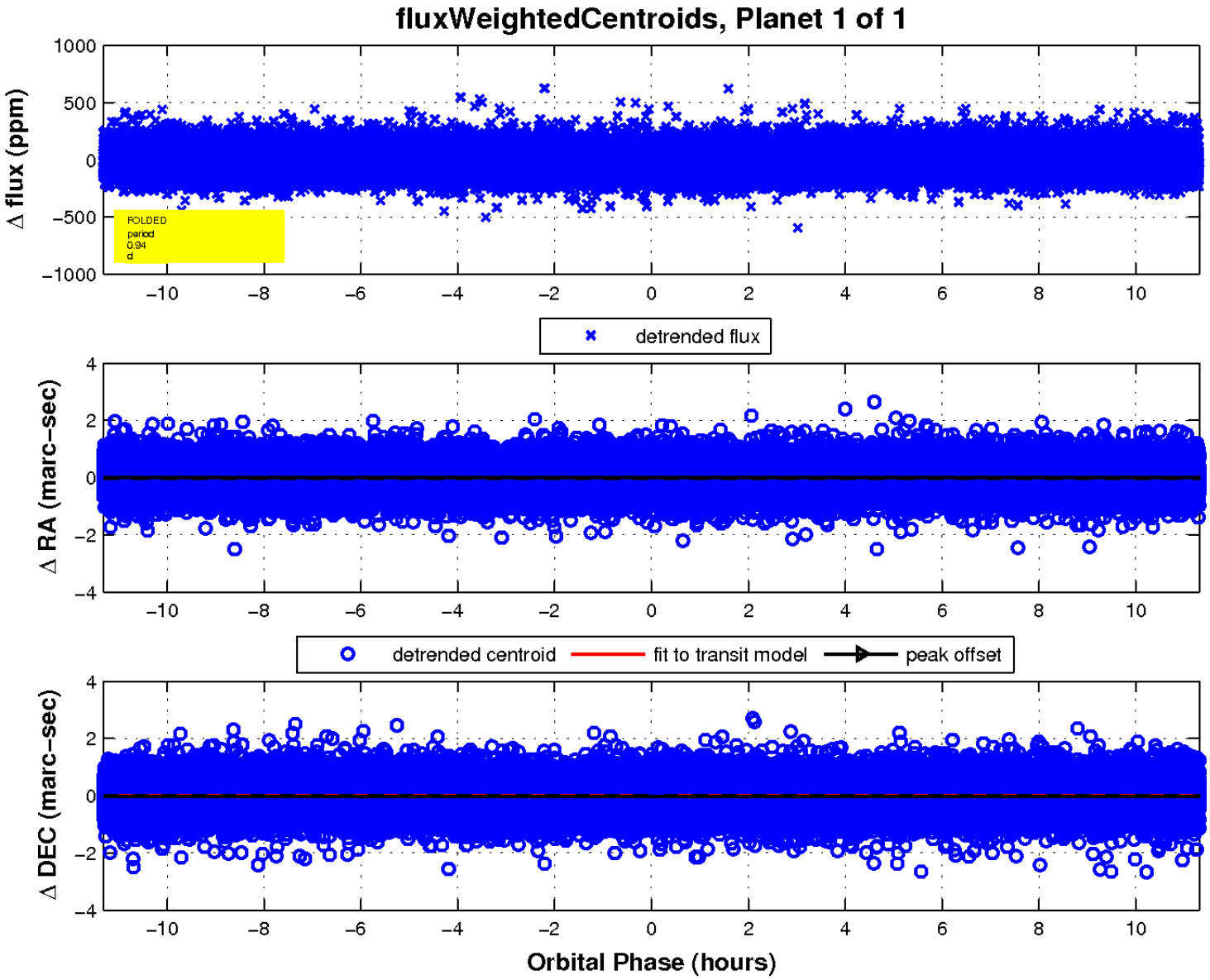


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

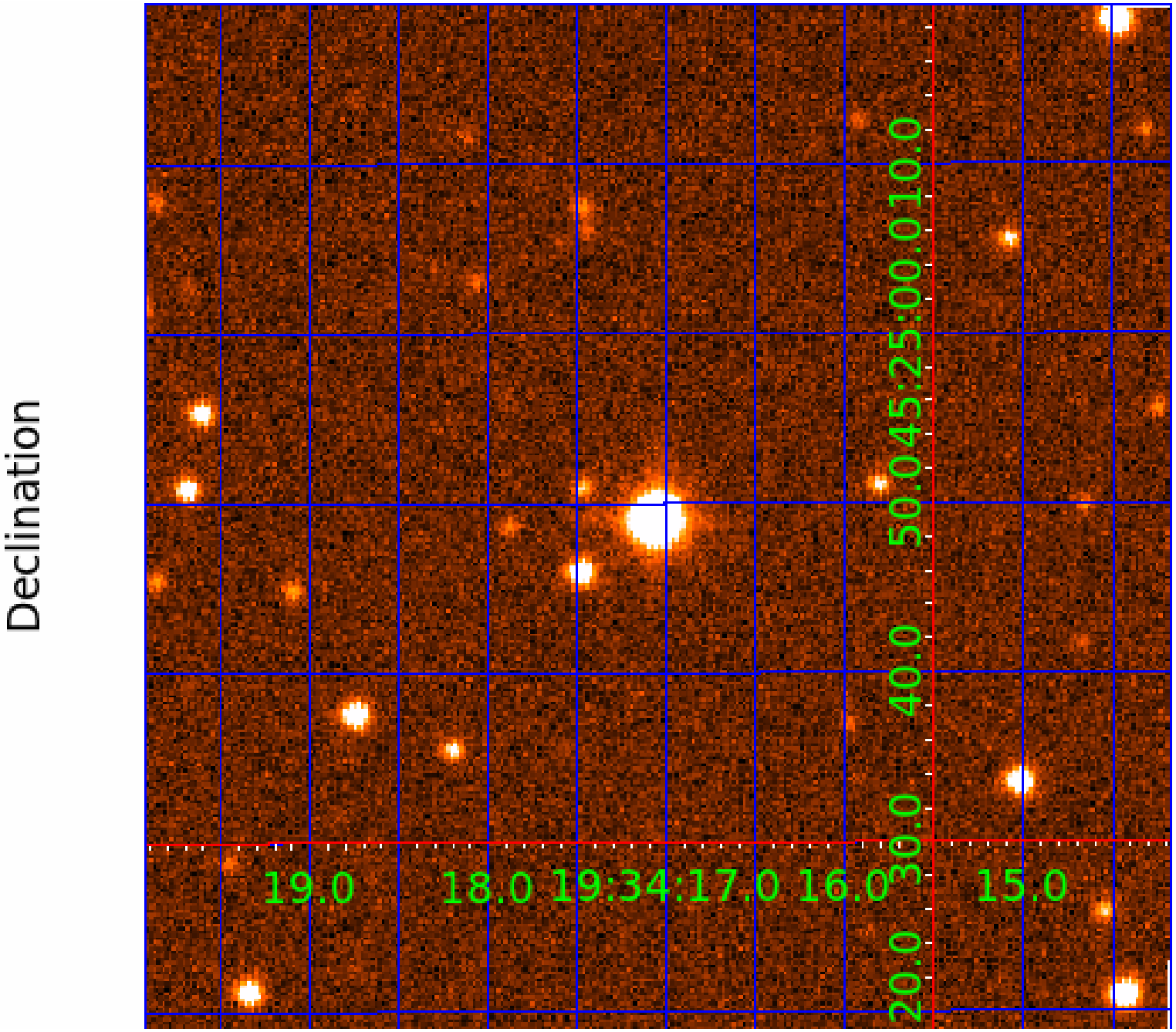


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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18.0
19:34:17.0
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20.0
30.0
40.0
50.0
45:25:00.0
10.0