KIC 009099624

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 ($S_\oplus$)
009099624-01	OBS	No	1.266154	132.584379	16.8	4.309	7.8	9.2	1.63	5471	0.70	4603.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009099624-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

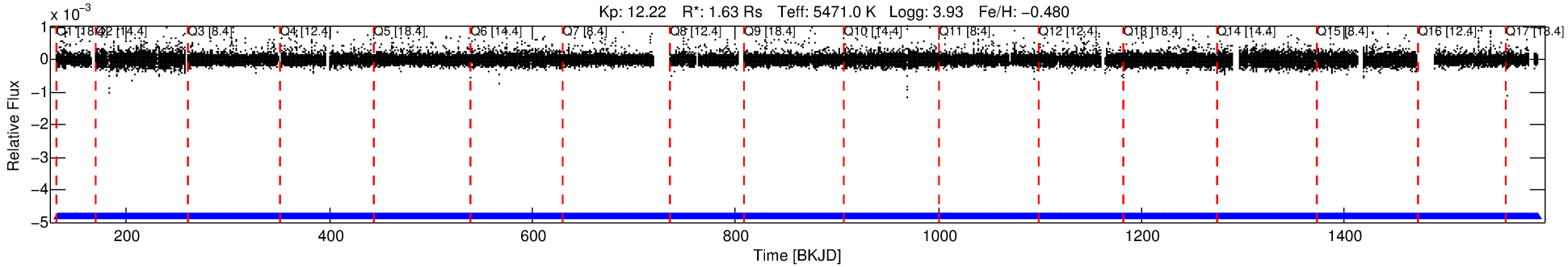
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

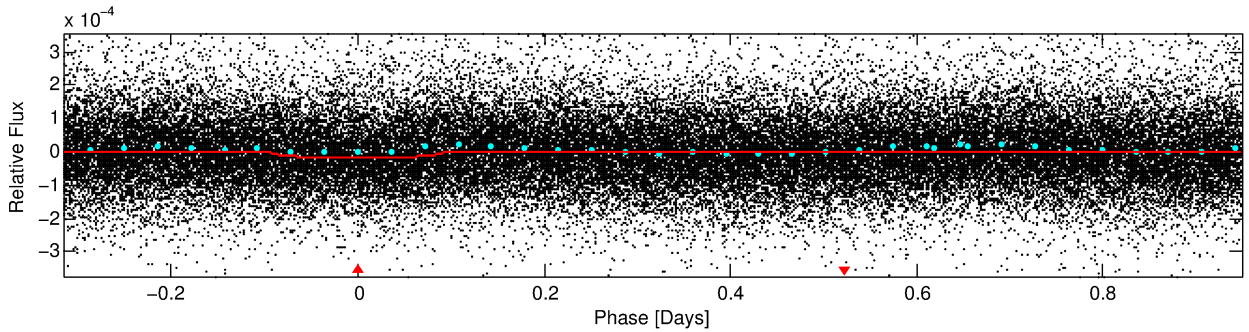
Ephemeris Match Information For 009099624-01

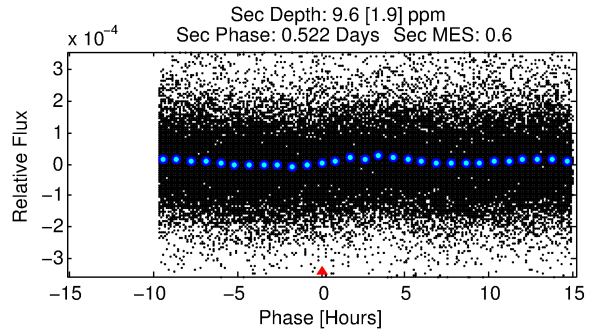
No Significant Match Found

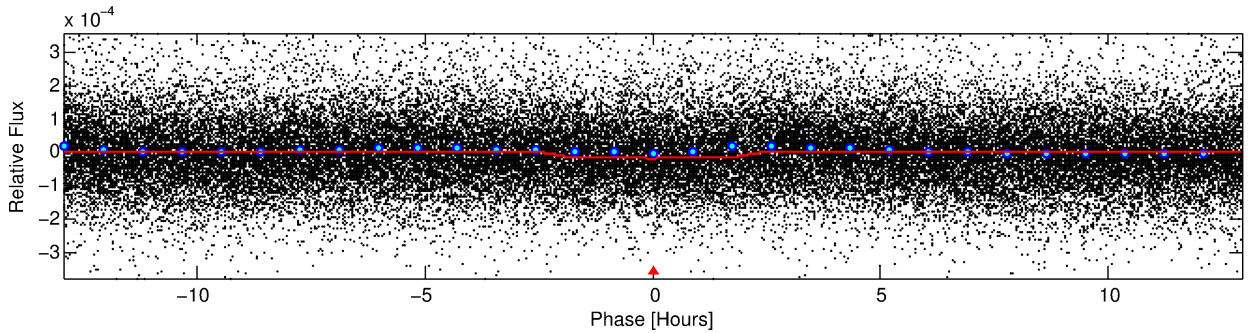
DV One-Page Summary

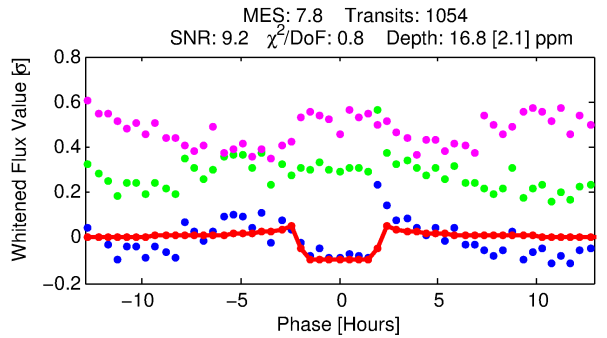
KIC: 9099624 Candidate: 1 of 1 Period: 1.266 d

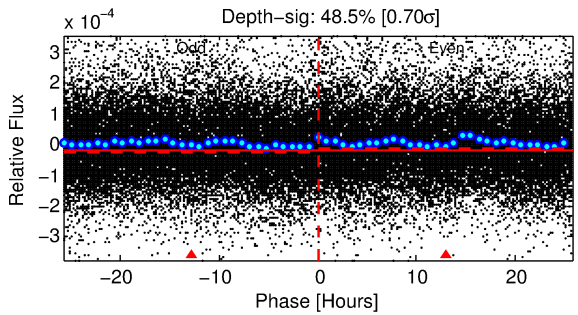


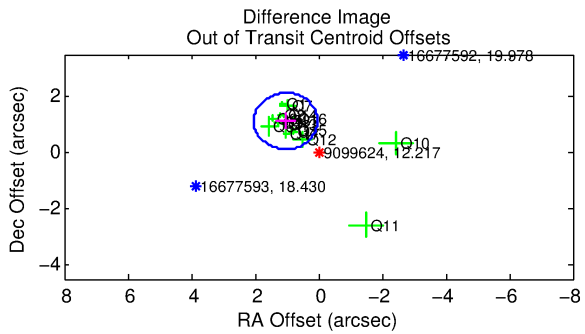












DV Fit Results:

Period = 1.26615 [0.00001] d
Epoch = 132.5844 [0.0036] BKJD
Rp/R* = 0.0039 [0.0008]
a/R* = 1.89 [1.16]
b = 0.65 [0.77]

Seff = 4603.91 [5175.56]
Teq = 2100 [590] K
Rp = 0.70 [0.41] Re
a = 0.0215 [0.0138] AU

Ag = 4.98 [6.01] [0.66σ]
Teffp = 4852 [570] K [3.35σ]

DV Diagnostic Results:

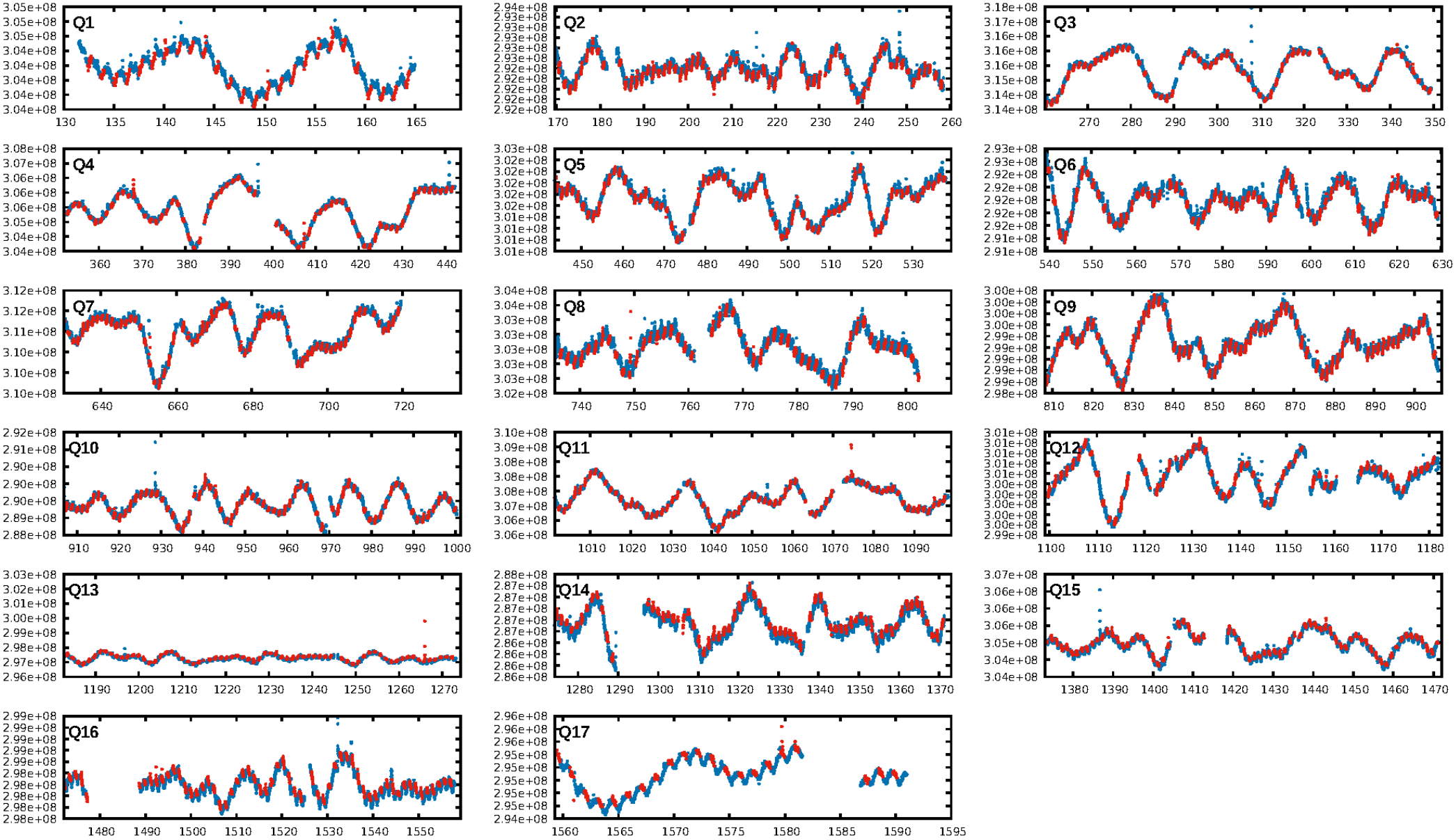
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 2.19e−10
RollingBand−fgt: 1.00 [1007/1007]
GhostDiagnostic−chr: 0.497

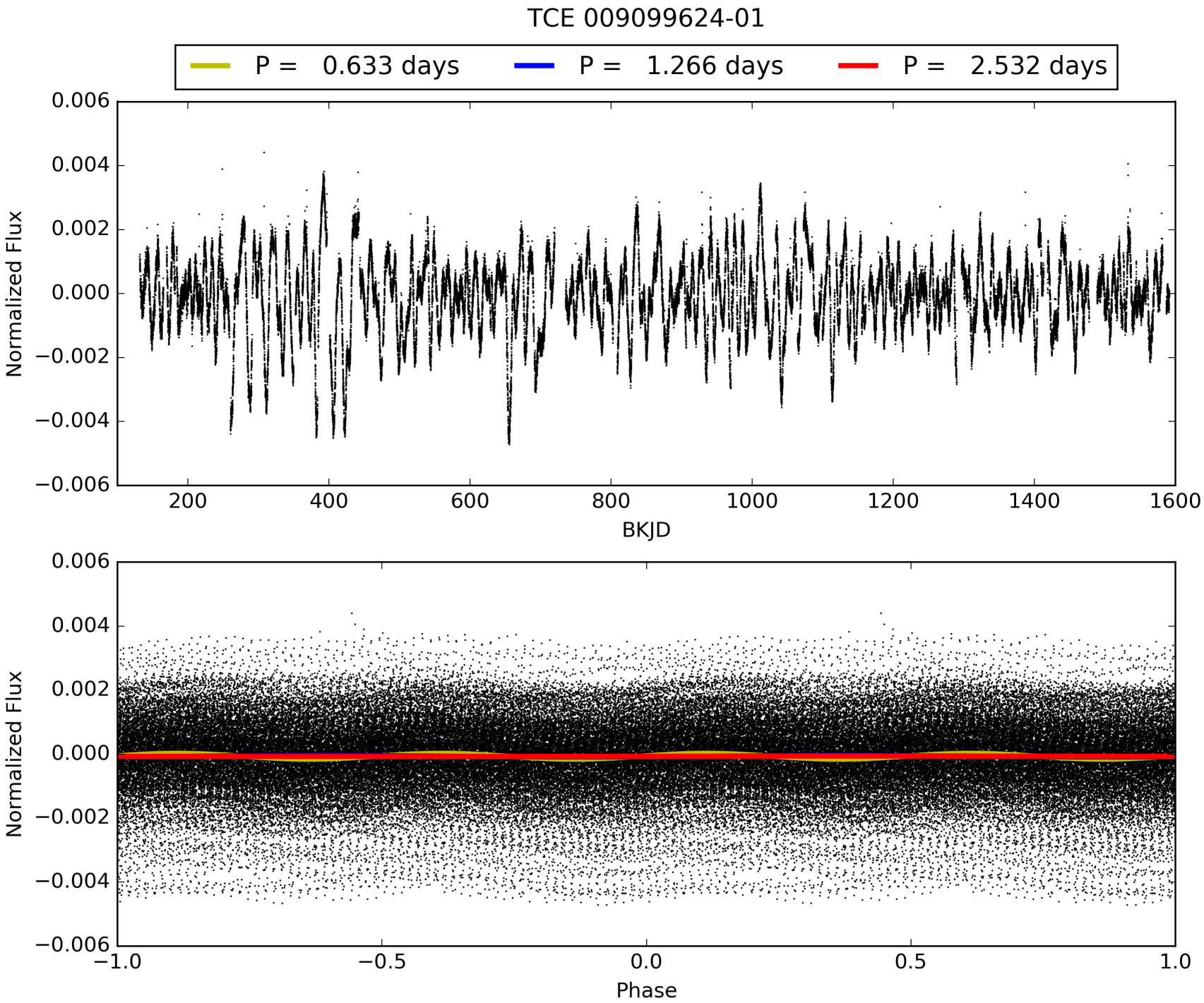
Centroid−sig: 31.9%
Centroid−so: 0.579 arcsec [0.85σ]
OotOffset−rm: 1.532 arcsec [4.58σ]
KicOffset−rm: 1.325 arcsec [3.94σ]
OotOffset−st: 4/4/4/4 [16]
KicOffset−st: 4/4/4/4 [16]
DiffImageQuality−fgm: 0.62 [10/16]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 07:17:06 Z

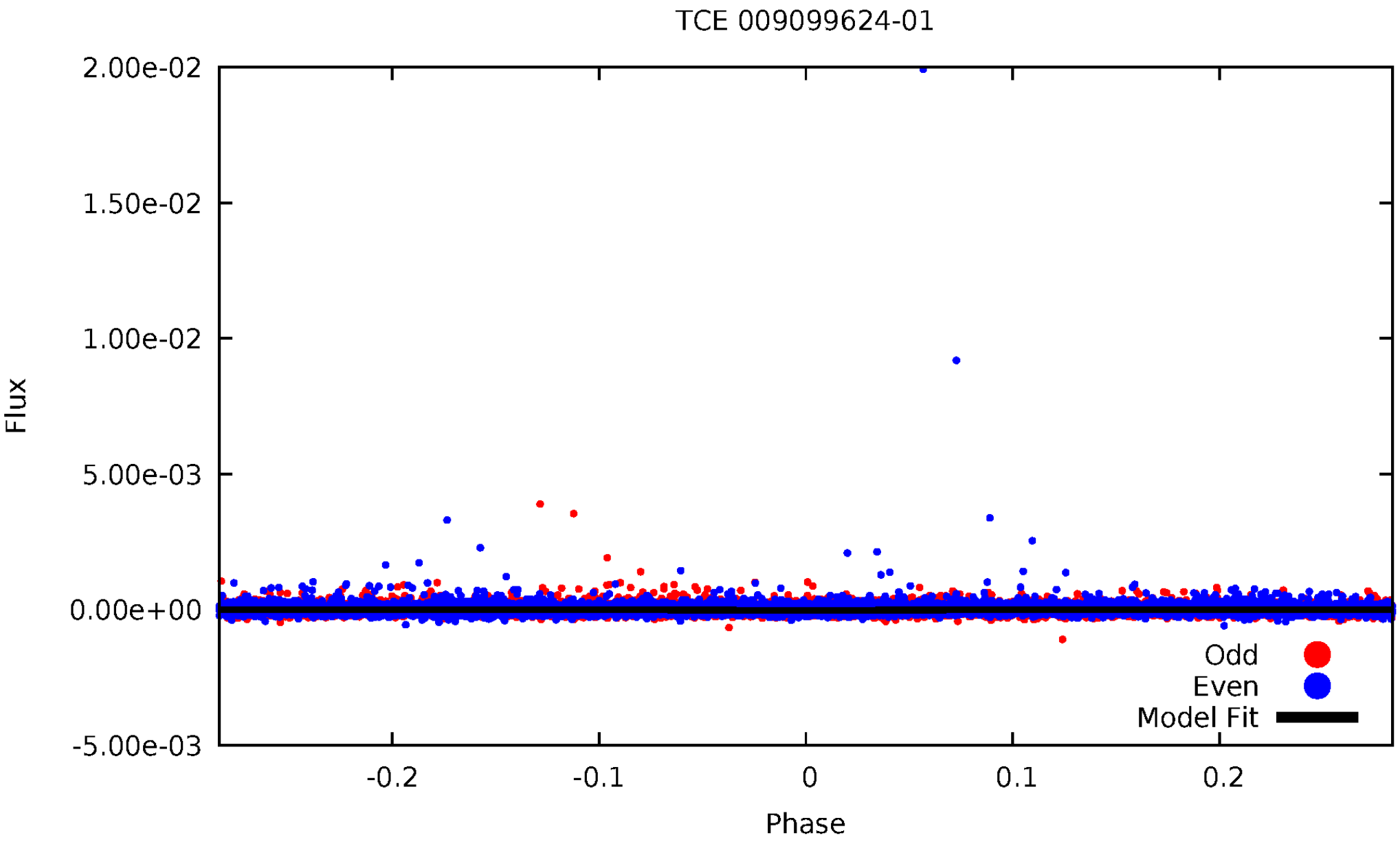
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009099624-01, PDC Light Curves

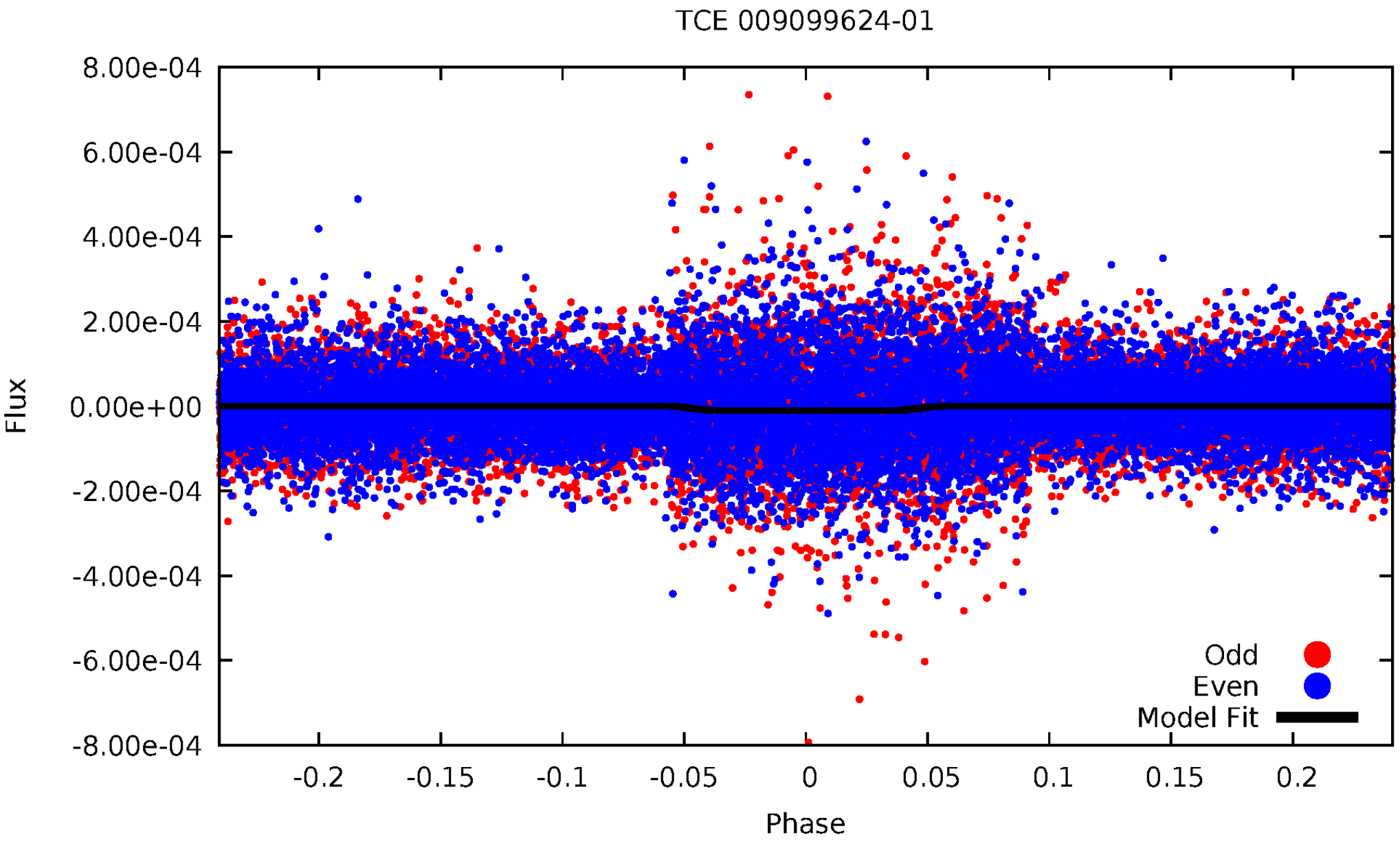



TCE 009099624-01
P = 0.633 days
P = 1.266 days
P = 2.532 days
Normalized Flux
BKJD
Normalized Flux
Phase

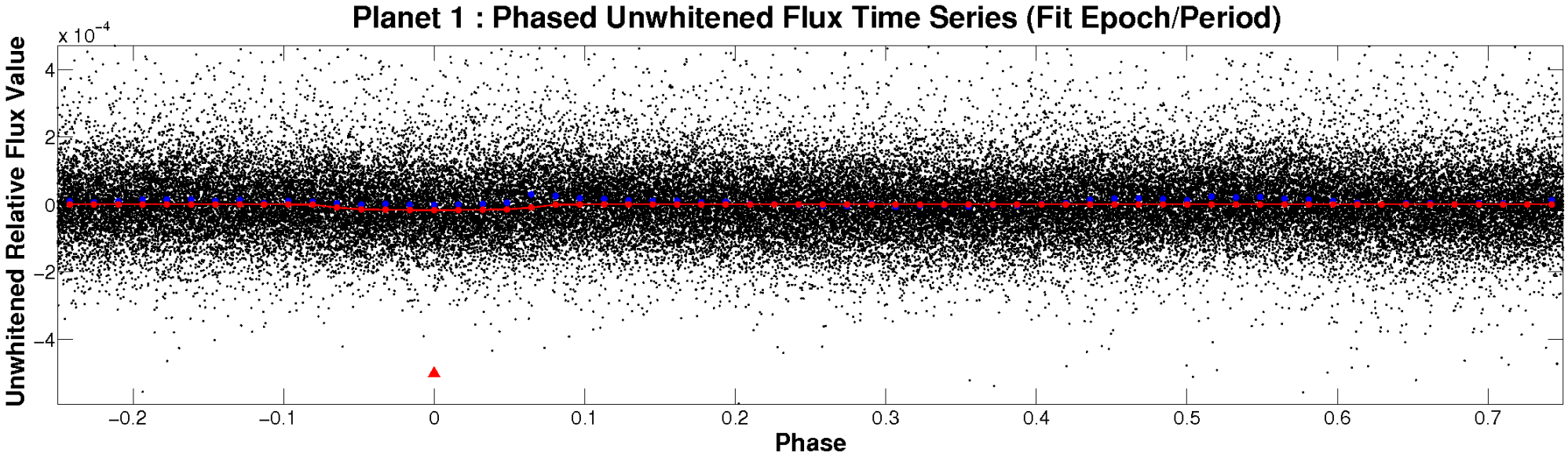
DV Odd/Even

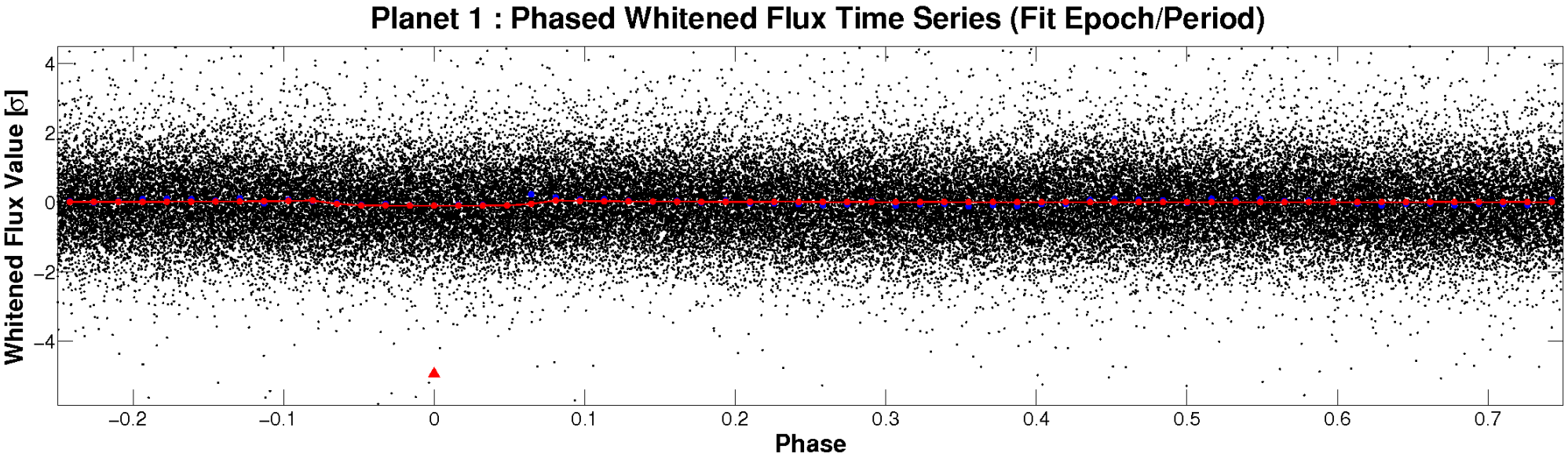

TCE 009099624-01
2.00e-02
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
Flux
-0.2
-0.1
0
0.1
0.2
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009099624-01
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
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

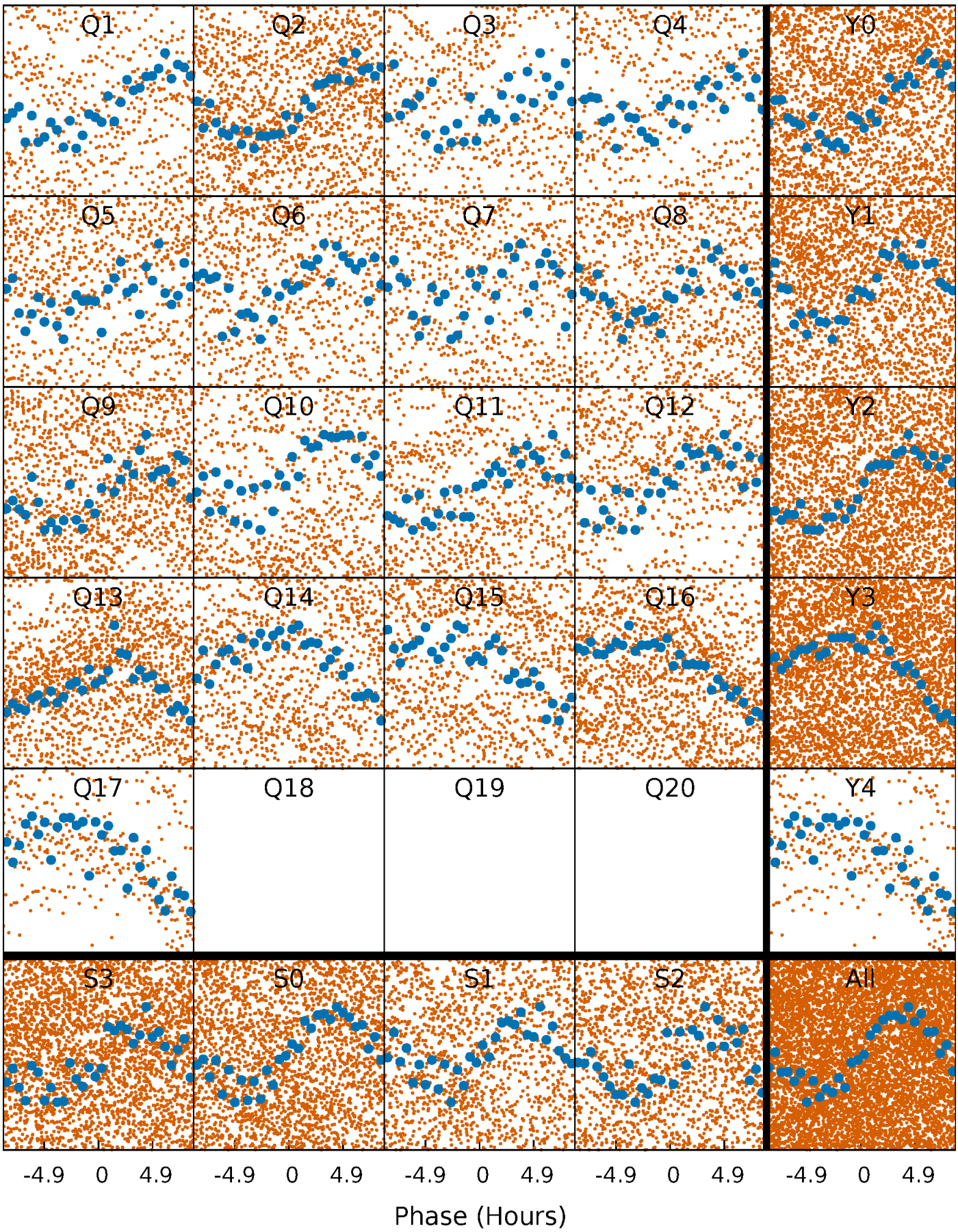
Non-Whitened Vs. Whitened Light Curve





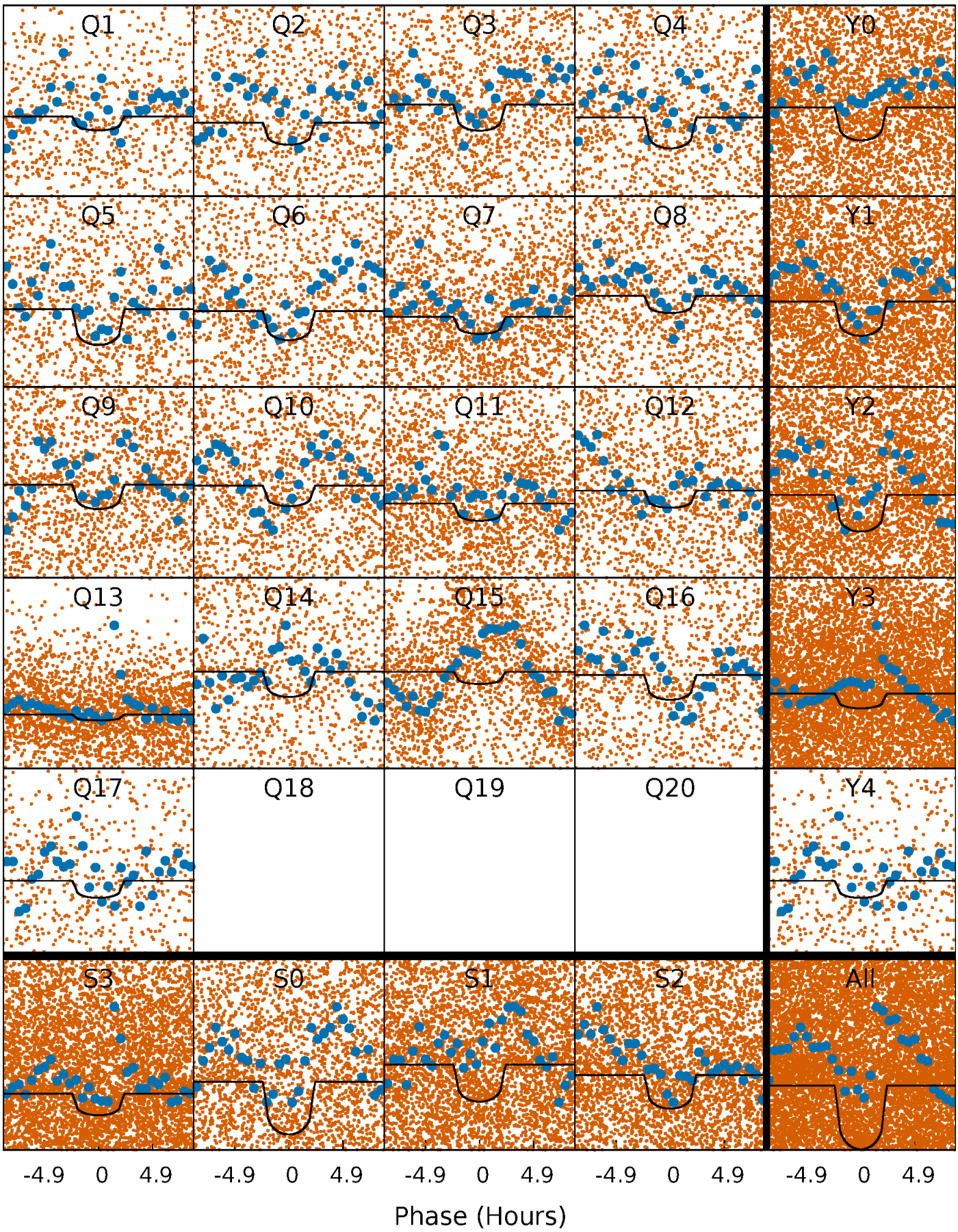
PDC Quarter-Phased Transit Curves

TCE 009099624-01 P= 1.266154 Days T_0=132.584379 (BKJD)



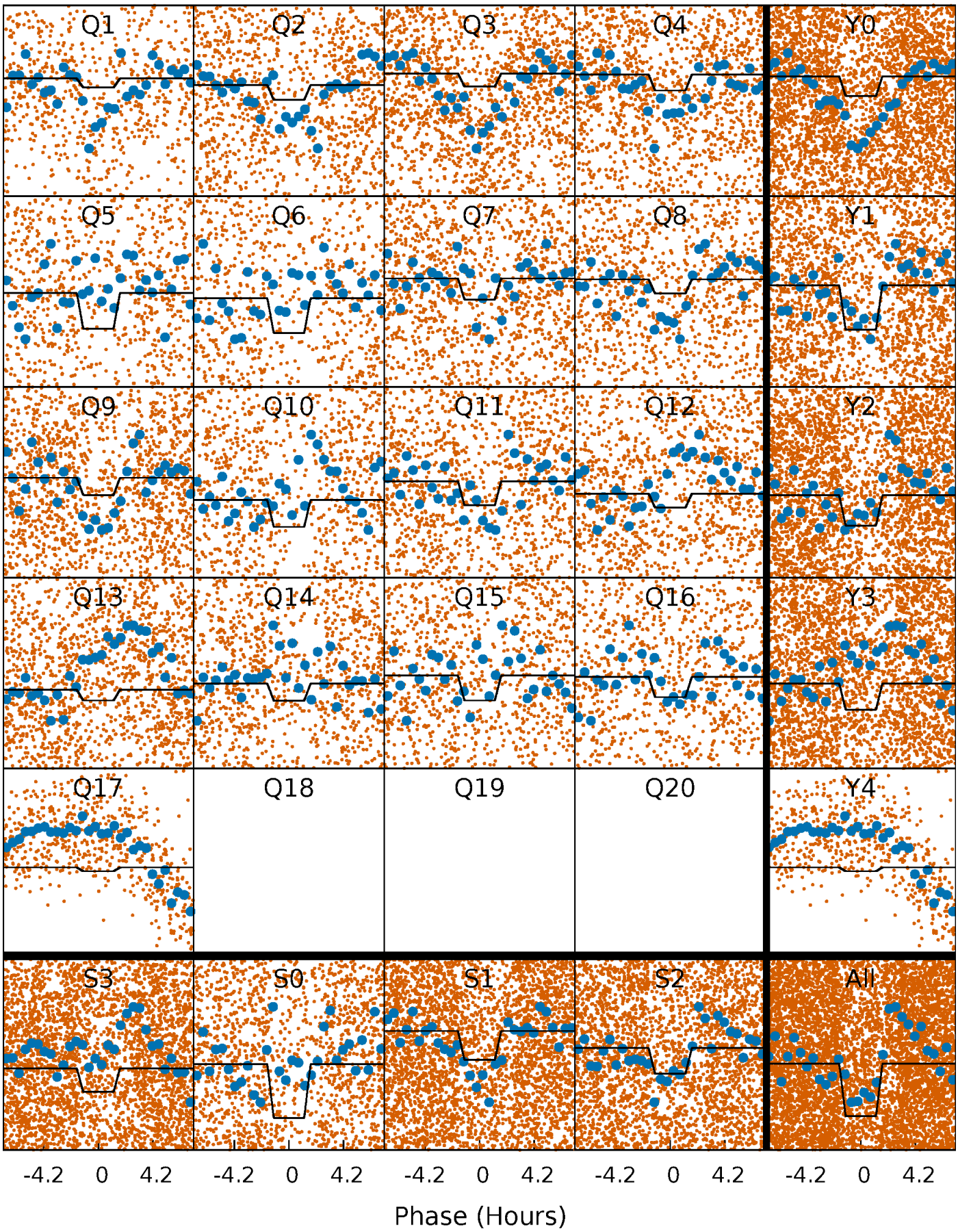
DV Quarter-Phased Transit Curves

TCE 009099624-01 P= 1.266154 Days T_0=132.584379 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

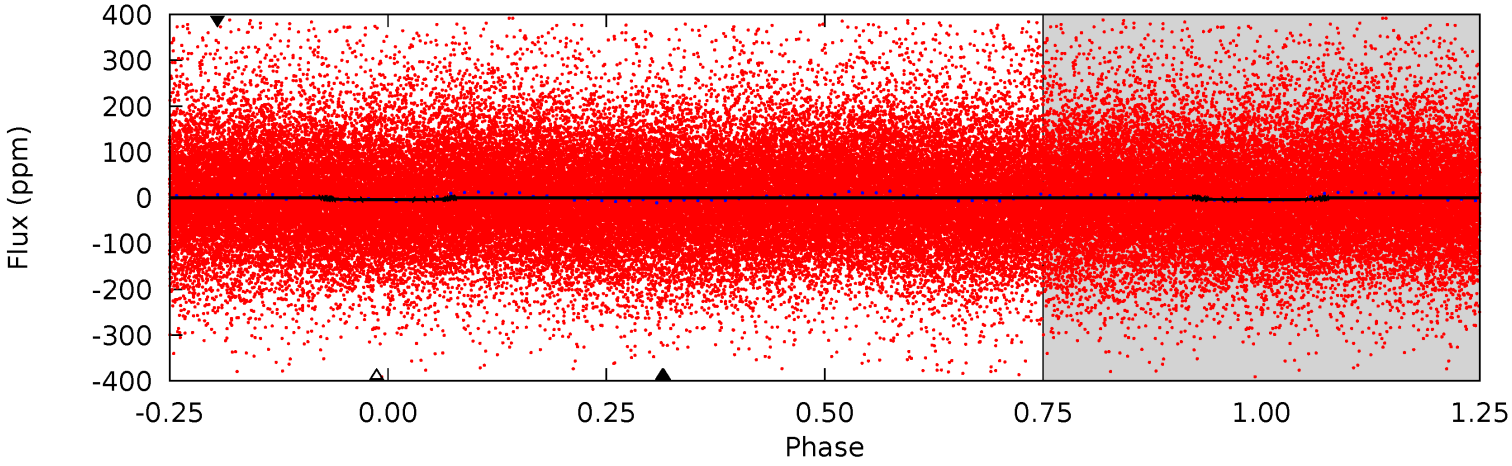
TCE 009099624-01 P= 1.266229 Days T_0=132.531506 (BKJD)

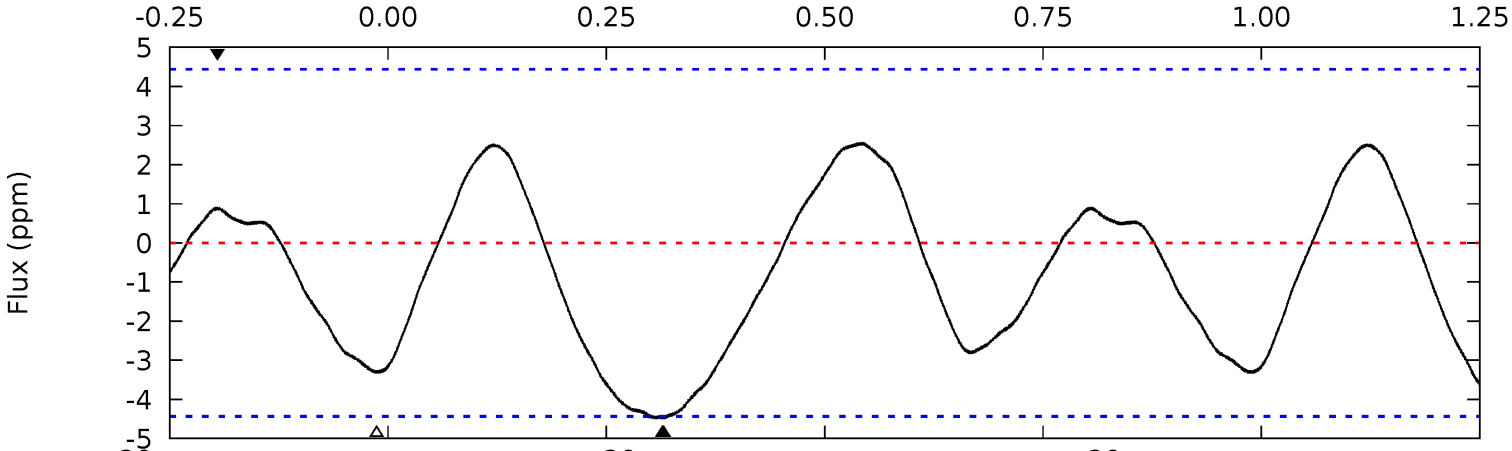


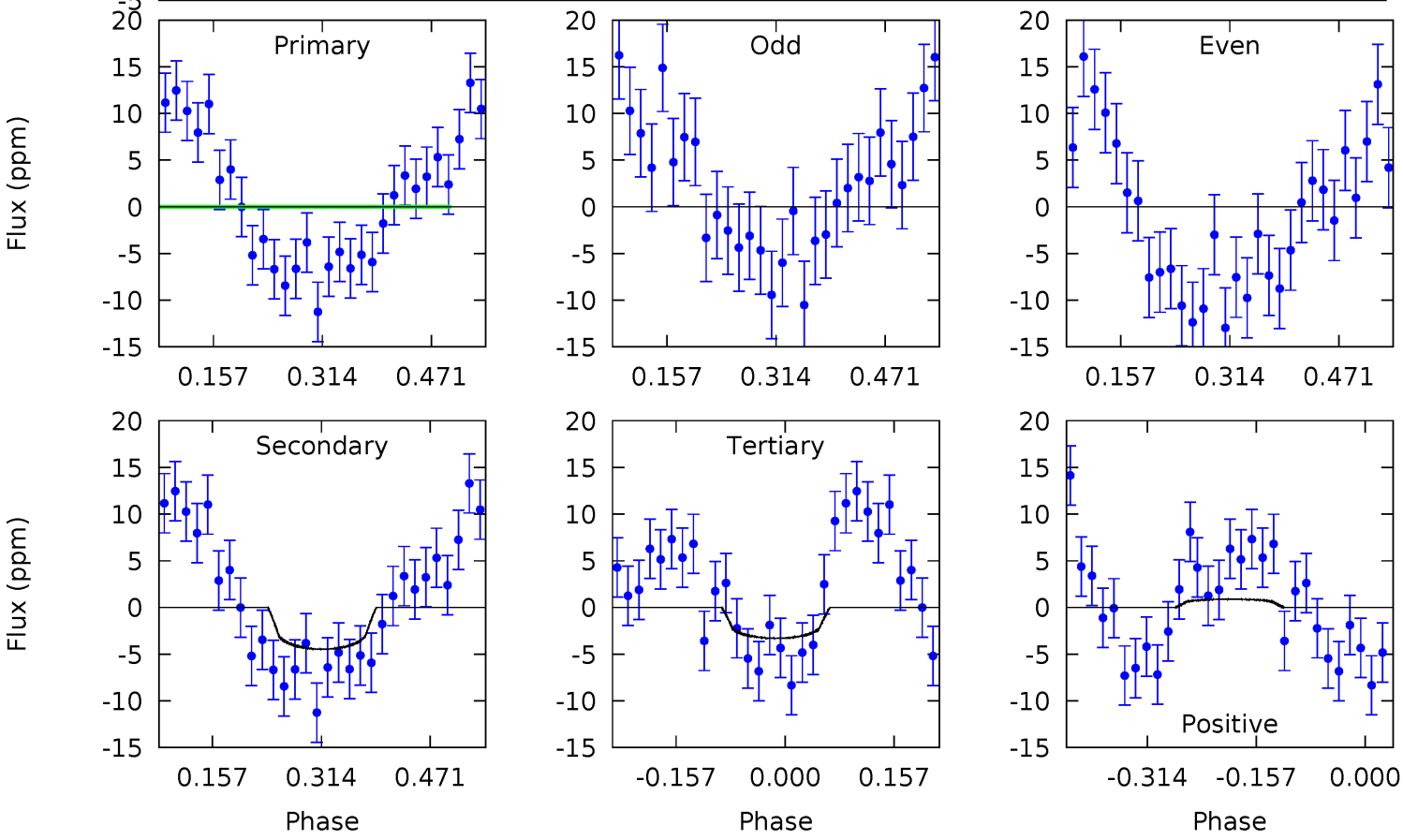
DV Model-Shift Uniqueness Test

009099624-01, P = 1.266154 Days, E = 131.318225 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.50	4.50	3.33	0.89	4.47	1.41	1.85	1.17	3.61	1.17	3.61	0.69	-0.47	0.36	0.52



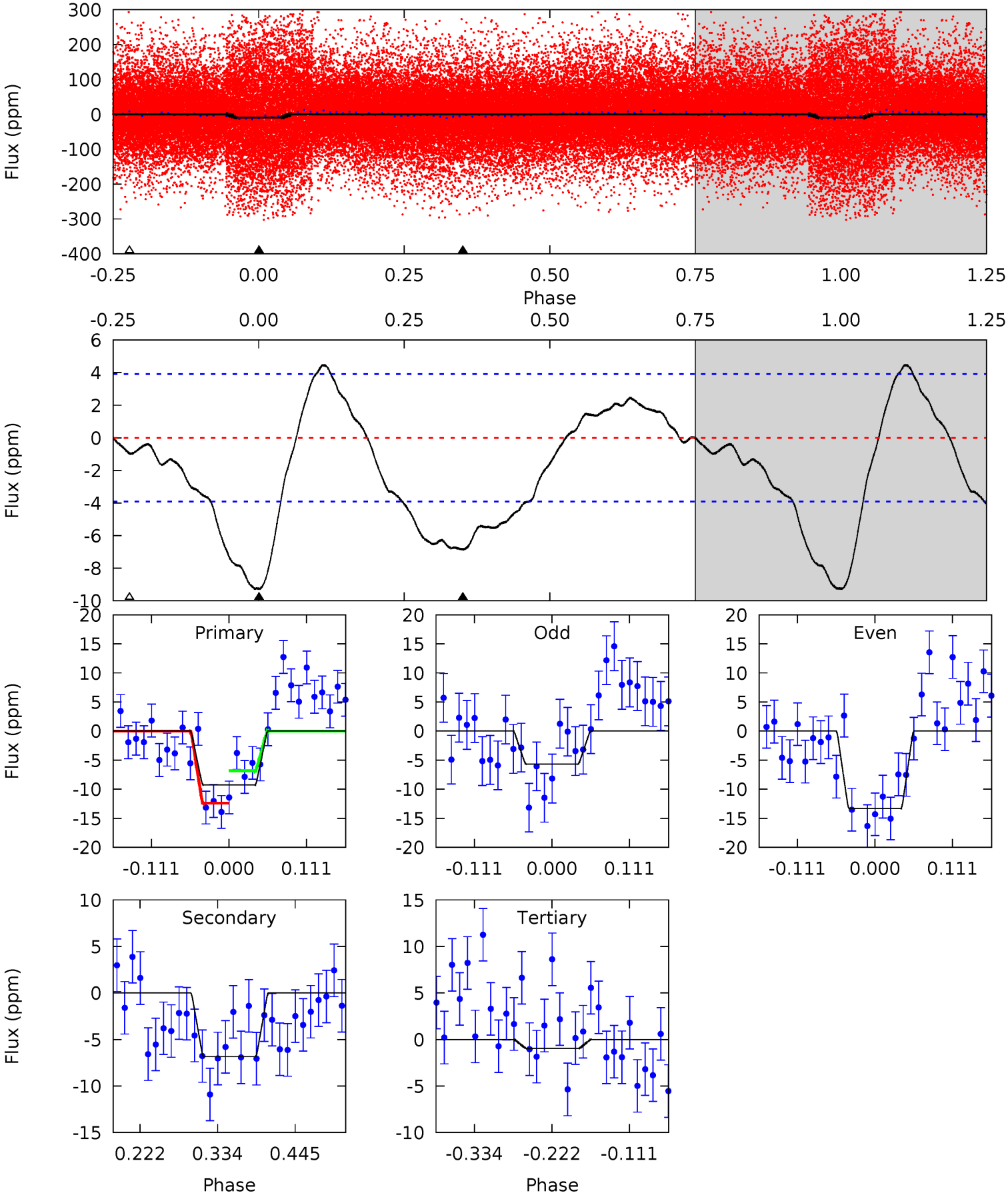




Alt Model-Shift Uniqueness Test

009099624-01, P = 1.266229 Days, E = 131.265277 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	7.95	1.12	0	4.54	1.59	2.19	9.64	10.8	6.83	7.95	4.40	0.66	0.33	3.26



Stellar Parameters For KIC 009099624

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5471^{+163}_{-163}	$3.932^{+0.688}_{-0.121}$	$-0.480^{+0.300}_{-0.350}$	$1.629^{+0.384}_{-0.895}$	$0.828^{+0.069}_{-0.118}$	$0.270^{+2.554}_{-0.121}$
	+3%/-3%	+17%/-3%	+62%/-73%	+24%/-55%	+8%/-14%	+946%/-45%
Source	PHO1	FLK73	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 009099624-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4±1	$0.64^{+0.19}_{-0.22}$	2831^{+237}_{-452}	4133^{+472}_{-377}	$2.871^{+3.451}_{-1.350}$
Alt.	-7±1	$0.48^{+0.19}_{-0.16}$	2820^{+262}_{-441}	5005^{+774}_{-509}	$7.544^{+10.663}_{-3.792}$

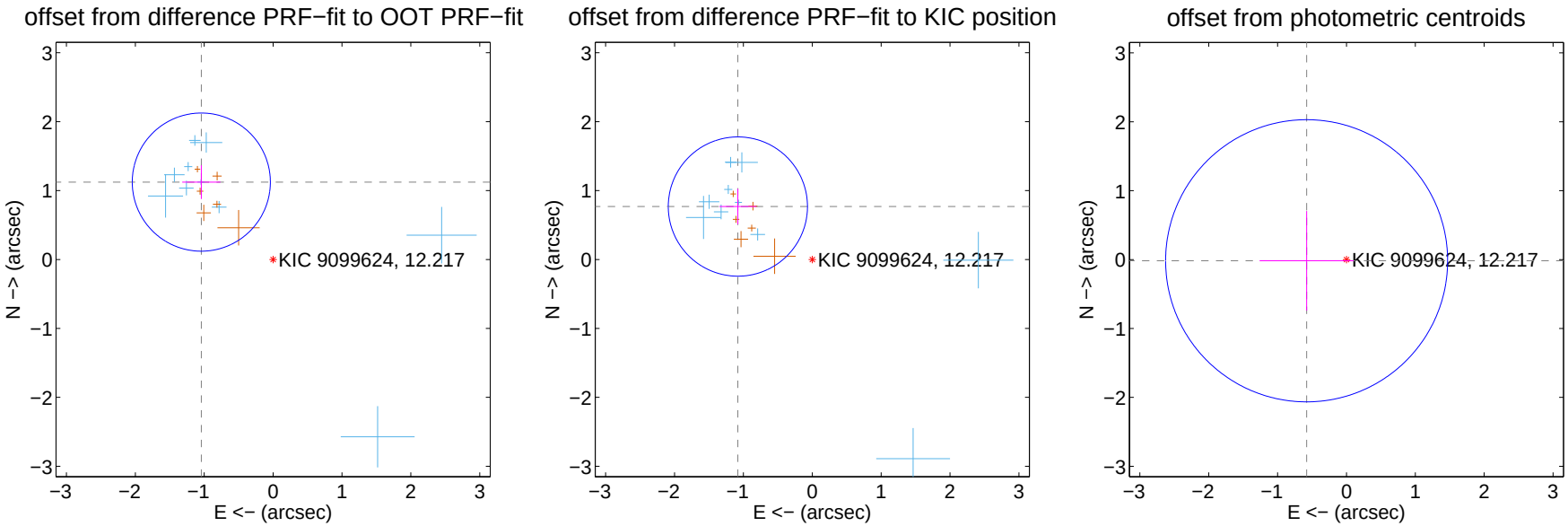
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

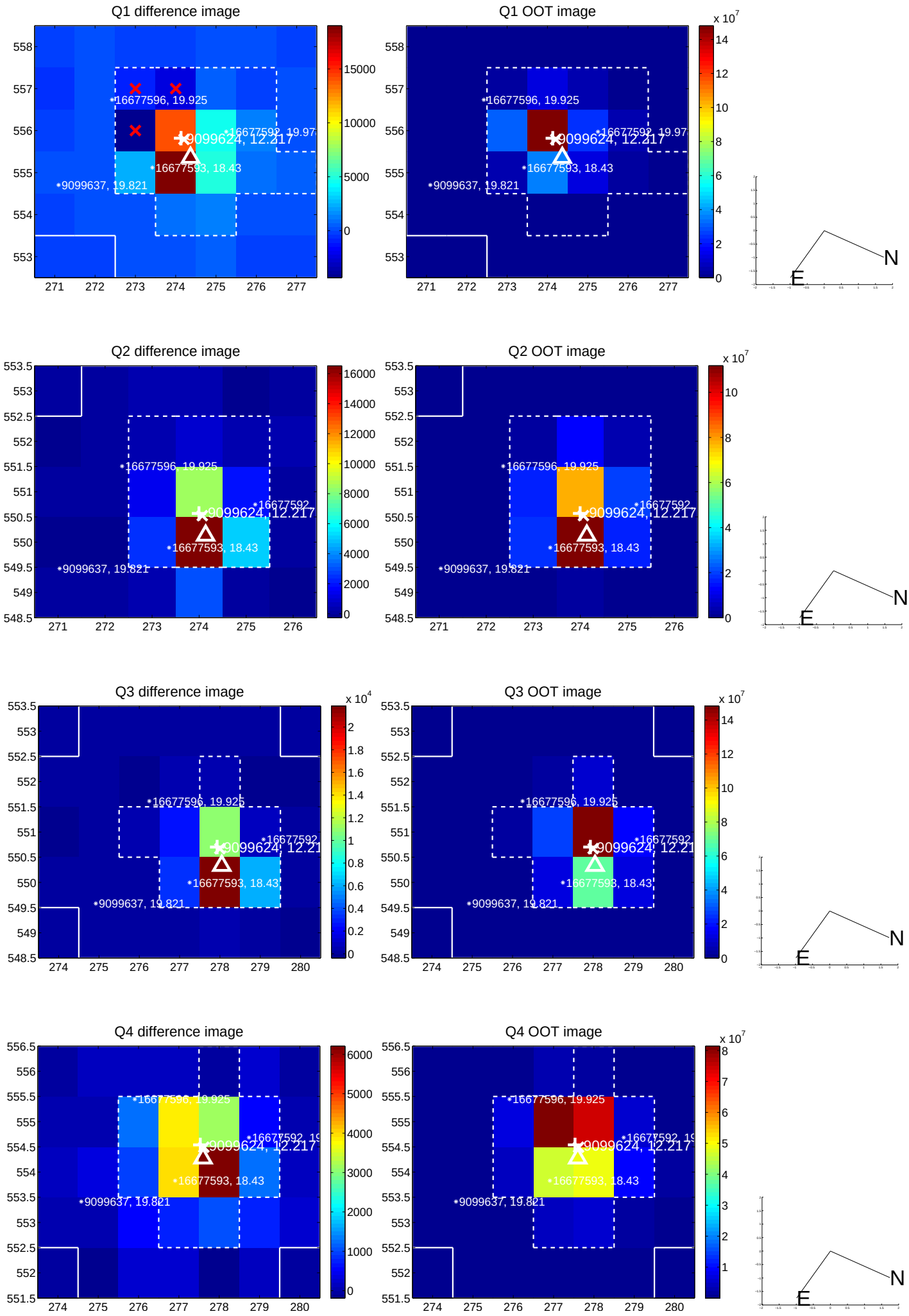
Supplemental centroid analysis for 009099624-01. Kepler magnitude: 12.22. Transit SNR 9.22
There are 10 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.532 ± 0.334	4.58	1.042 ± 0.277	1.123 ± 0.245
PRF-fit source offset from KIC position	1.325 ± 0.337	3.94	1.080 ± 0.268	0.768 ± 0.257
photometric centroid source offset	0.58 ± 0.68	0.85	0.58 ± 0.68	-0.02 ± 0.72

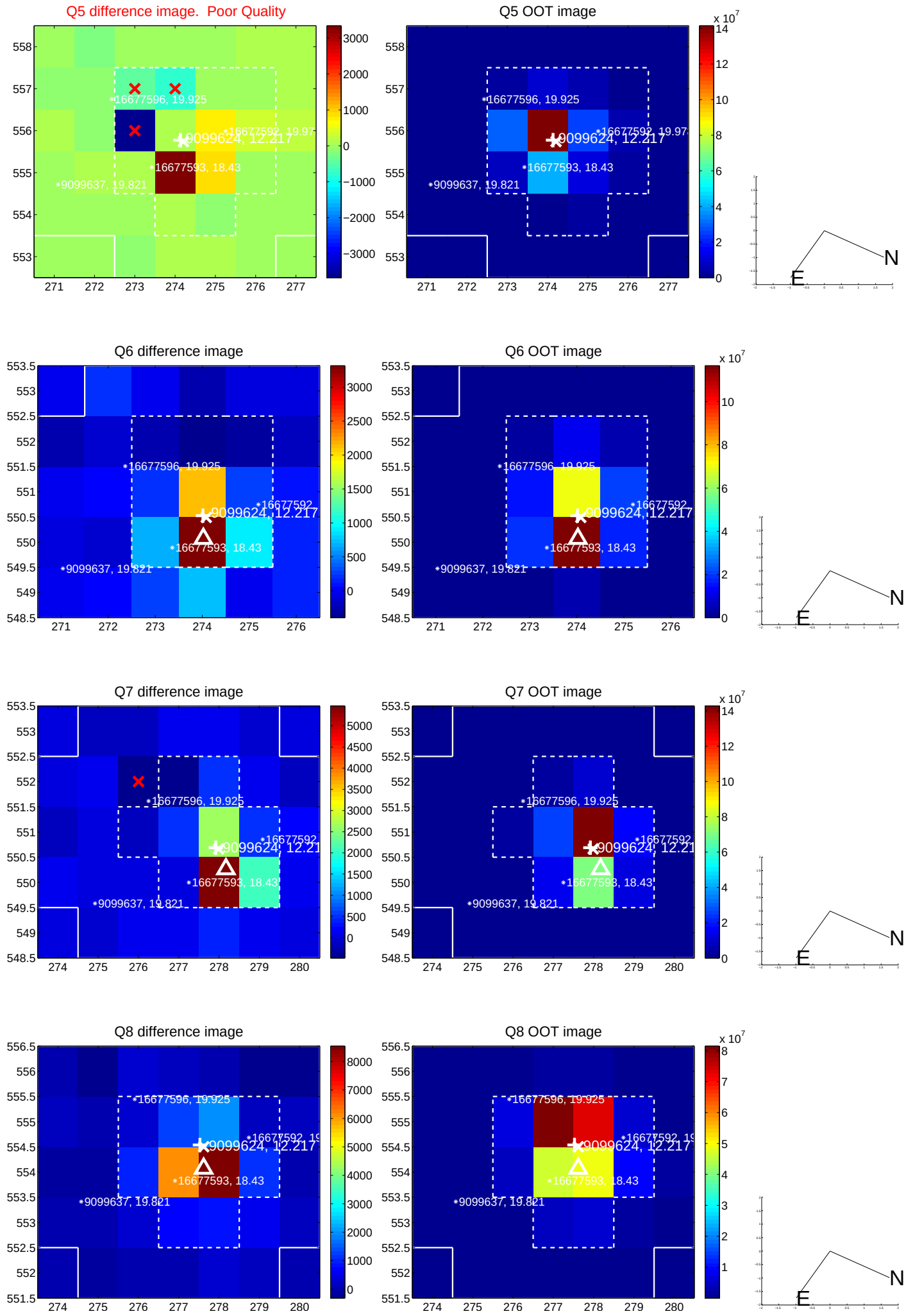


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

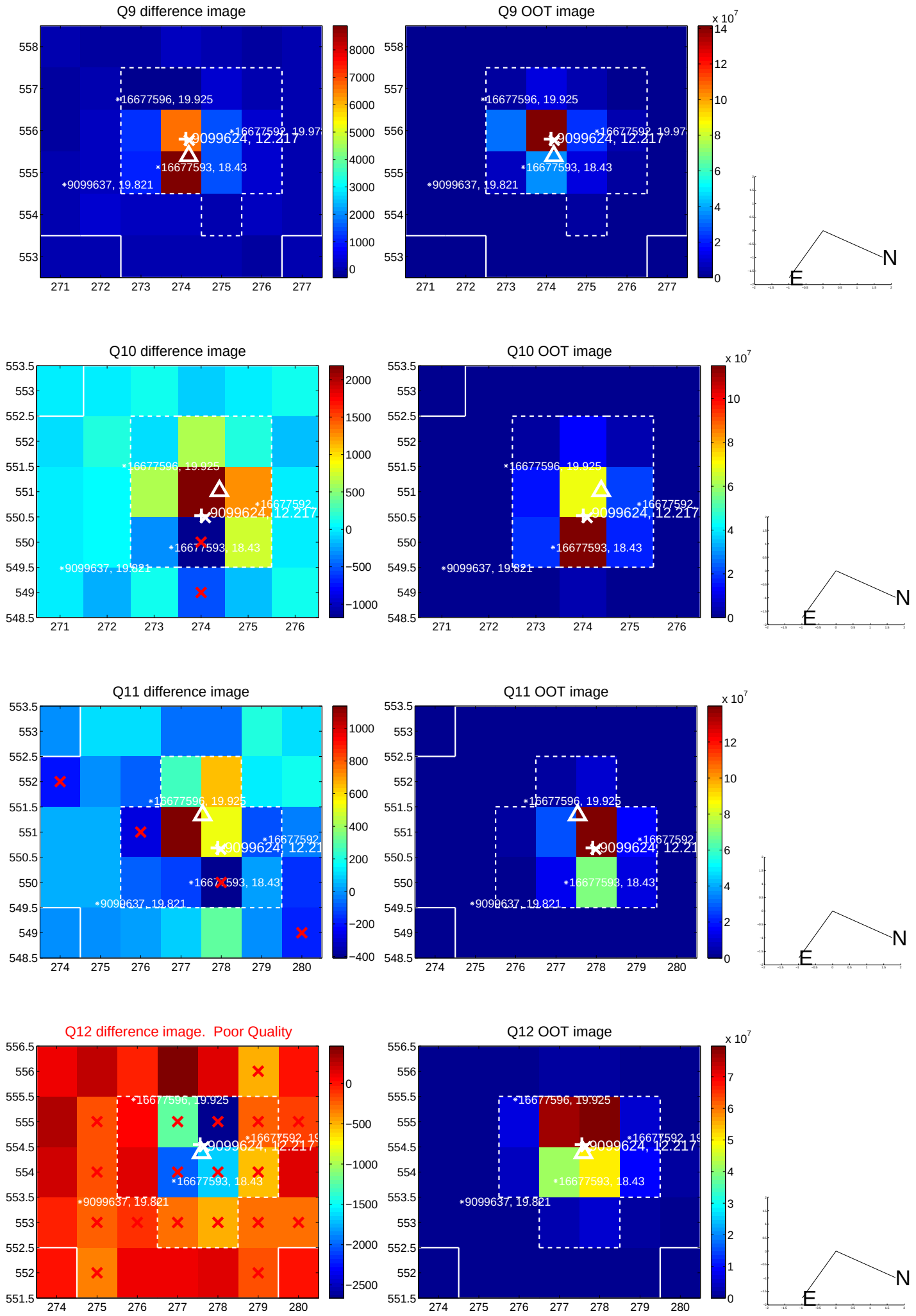
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



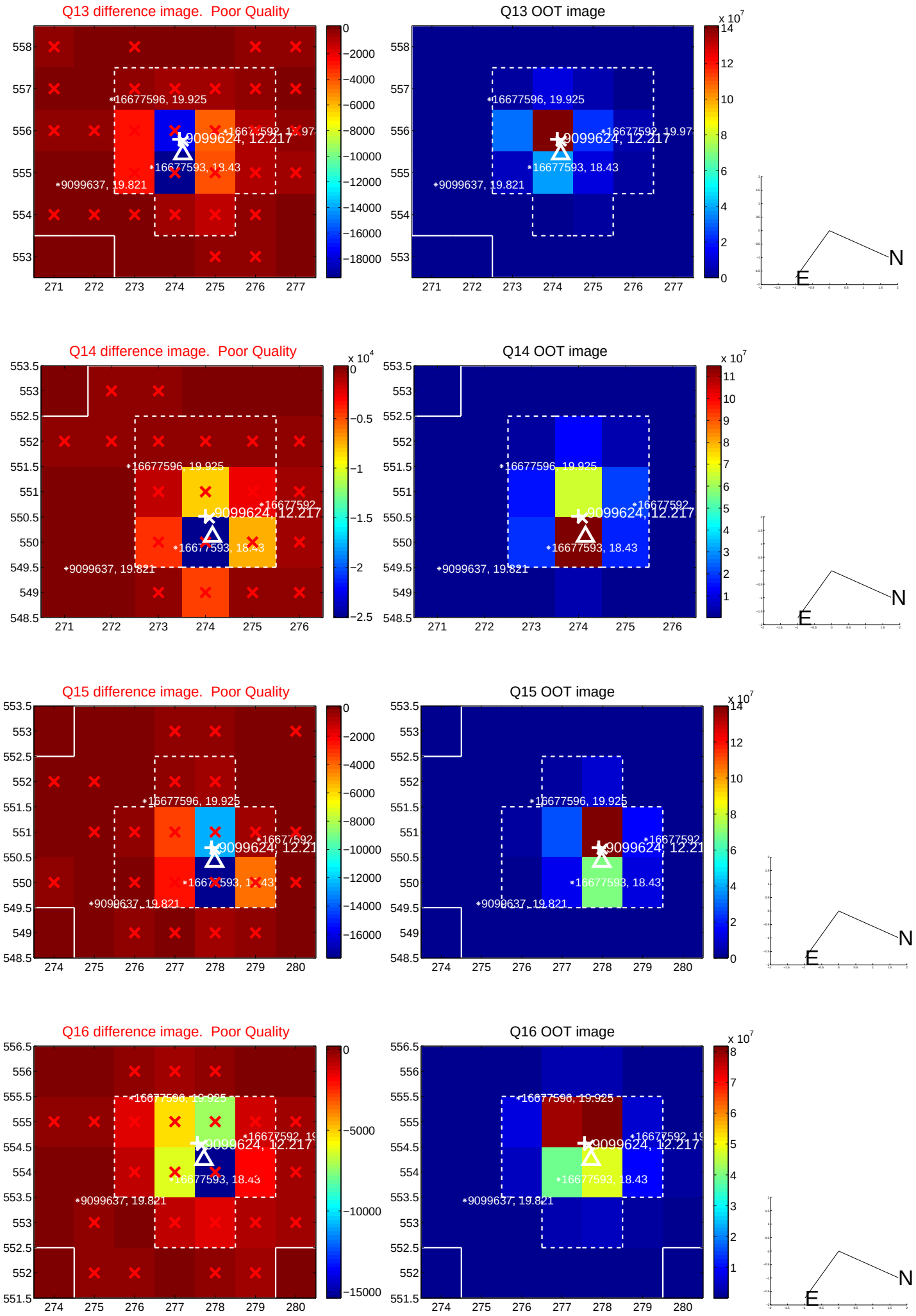
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



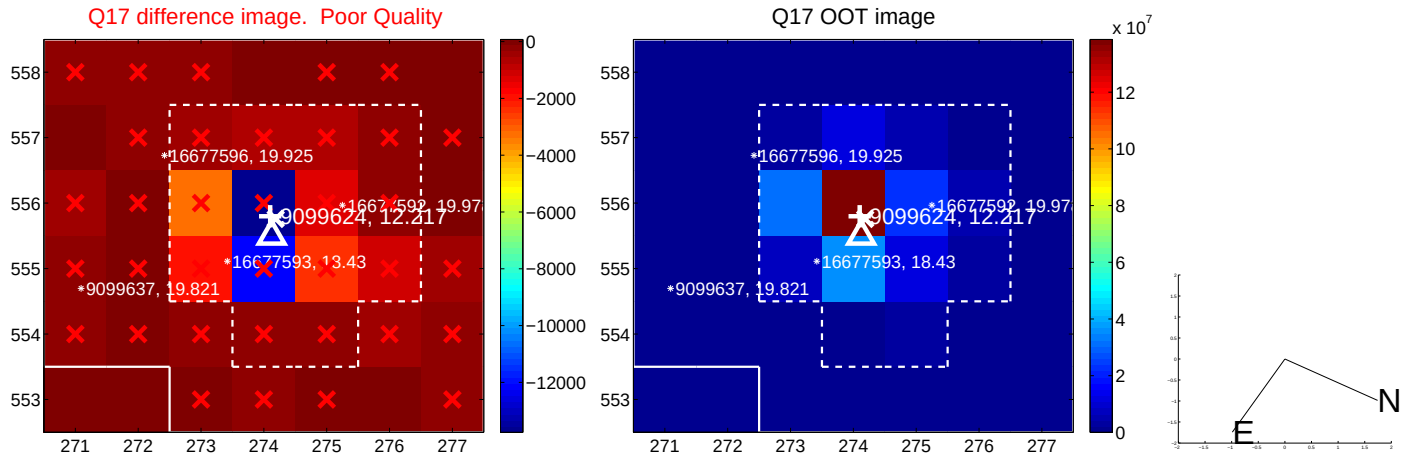
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

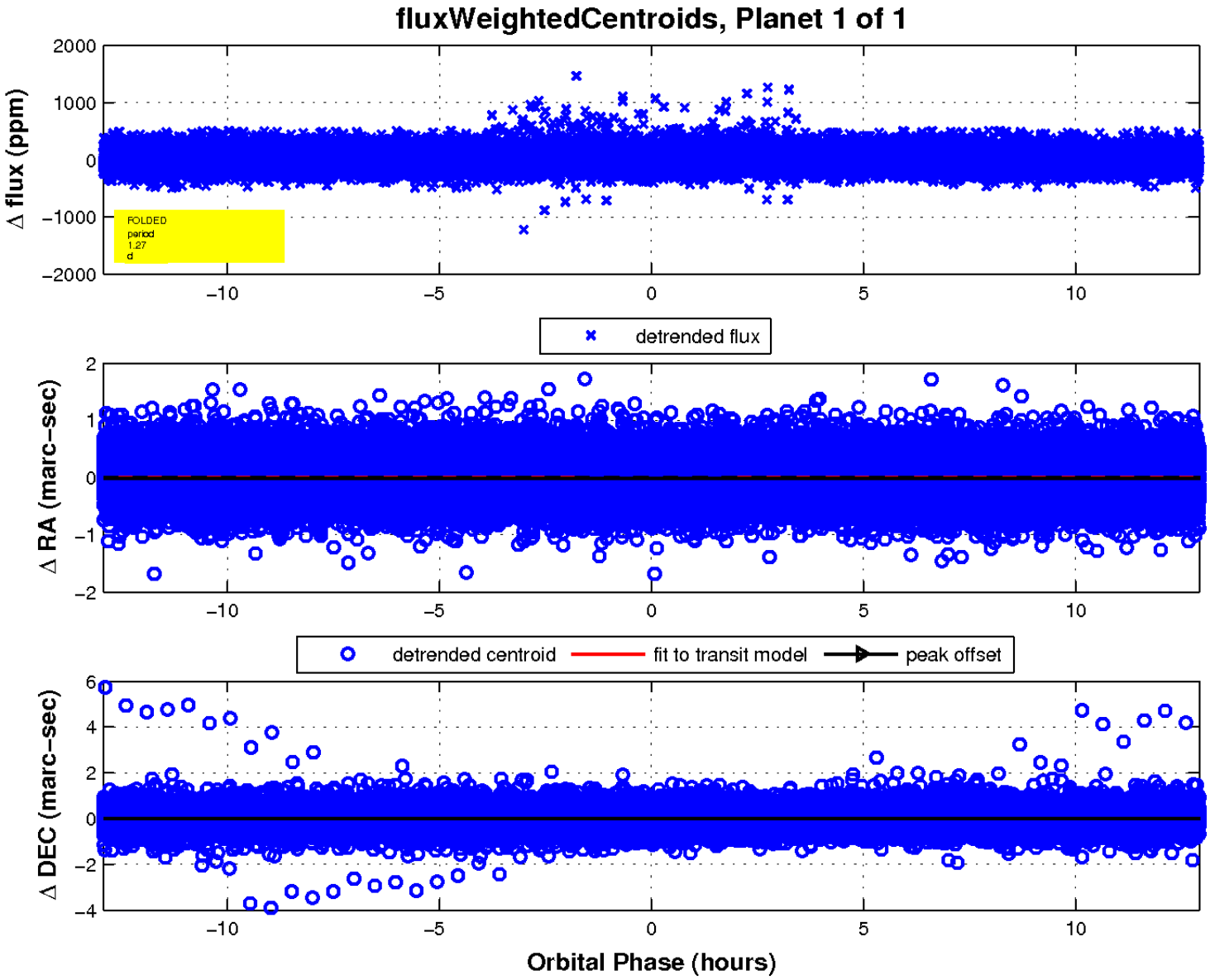
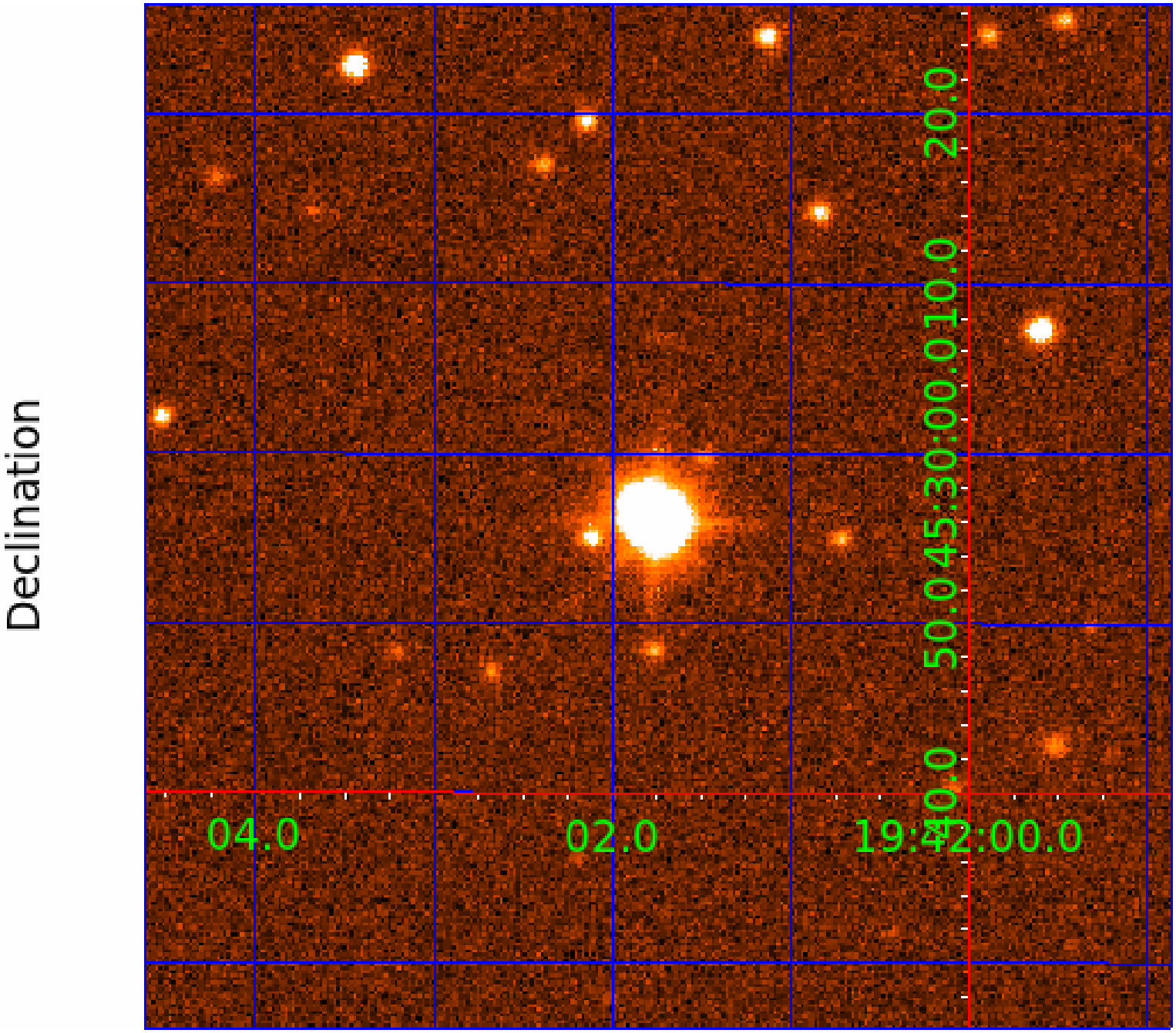


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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





UKIRT Image