KIC 009099773

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 ($S_\oplus$)
009099773-01	OBS	7133.01	82.783914	141.420739	185.7	8.791	7.3	7.5	1.48	5749	2.19	14.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009099773-01	OBS	PC	0.74	0	0	0	0	CENT_FEW_DIFFS

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.

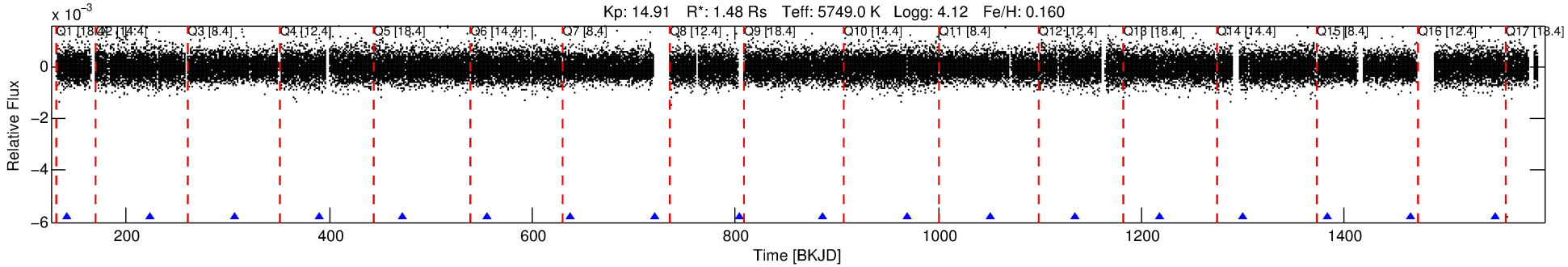
Ephemeris Match Information For 009099773-01

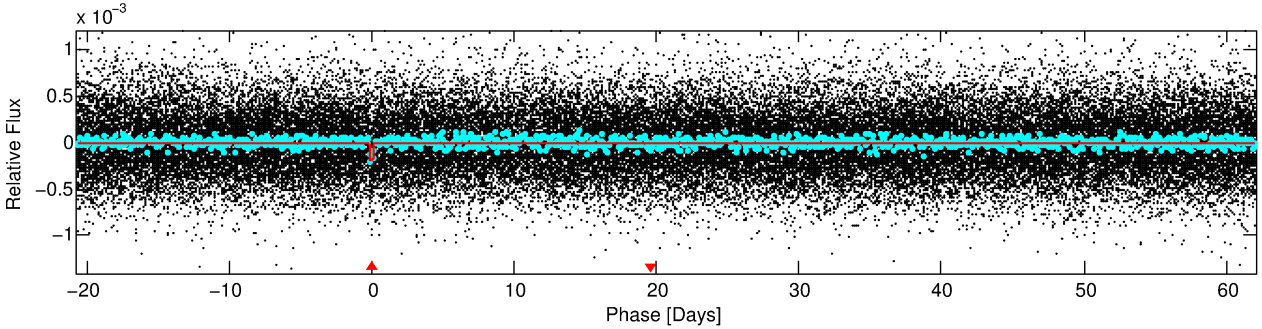
No Significant Match Found

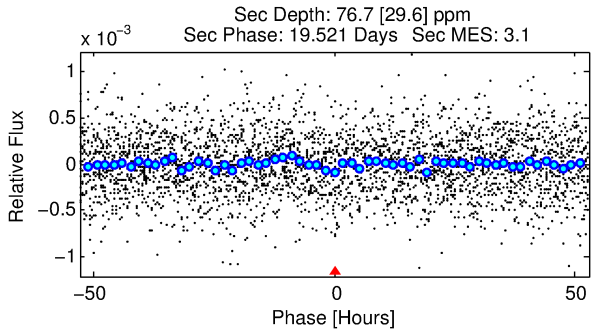
DV One-Page Summary

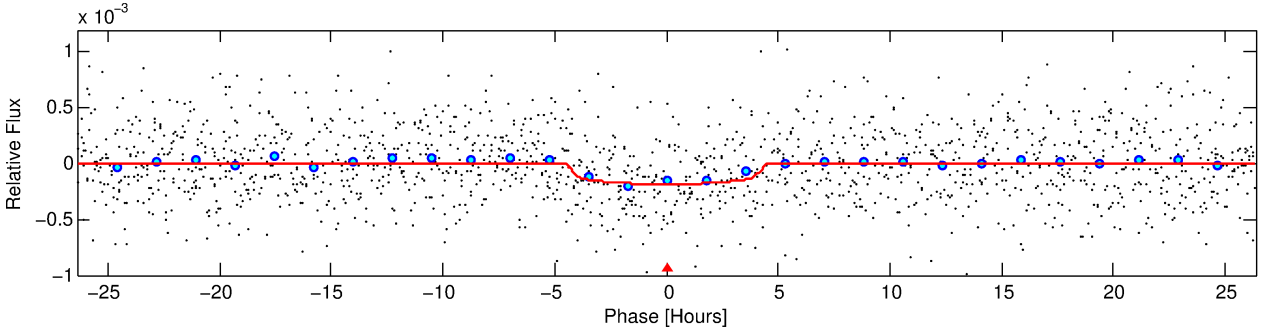
KIC: 9099773 Candidate: 1 of 1 Period: 82.784 d
KOI: K07133.01 Corr: 0.927

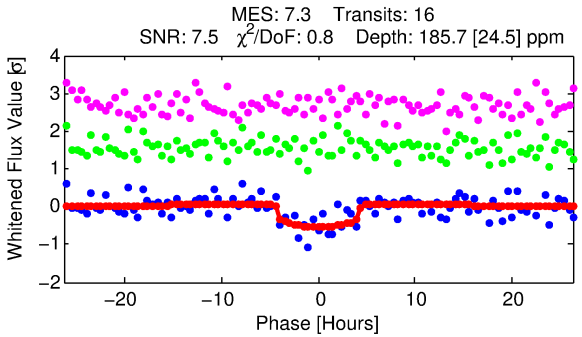
Kp: 14.91 R*: 1.48 Rs Teff: 5749.0 K Logg: 4.12 Fe/H: 0.160

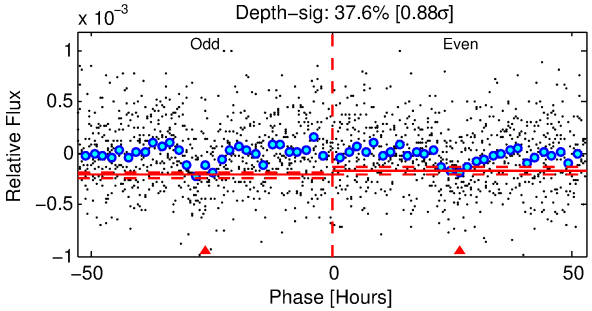


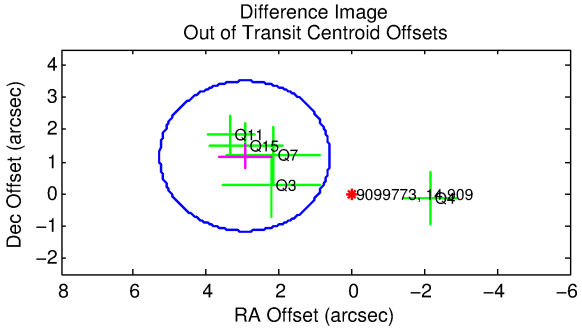












DV Fit Results:

Period = 82.78391 [0.00180] d
Epoch = 141.4207 [0.0189] BKJD
Rp/R* = 0.0135 [0.0110]
a/R* = 49.39 [175.54]
b = 0.75 [2.14]

Seff = 14.91 [4.78]
Teq = 501 [40] K
Rp = 2.19 [1.84] Re
a = 0.3792 [0.0768] AU

Ag = 1269.13 [2155.21] [0.59σ]
Teffp = 4624 [1930] K [2.14σ]

DV Diagnostic Results:

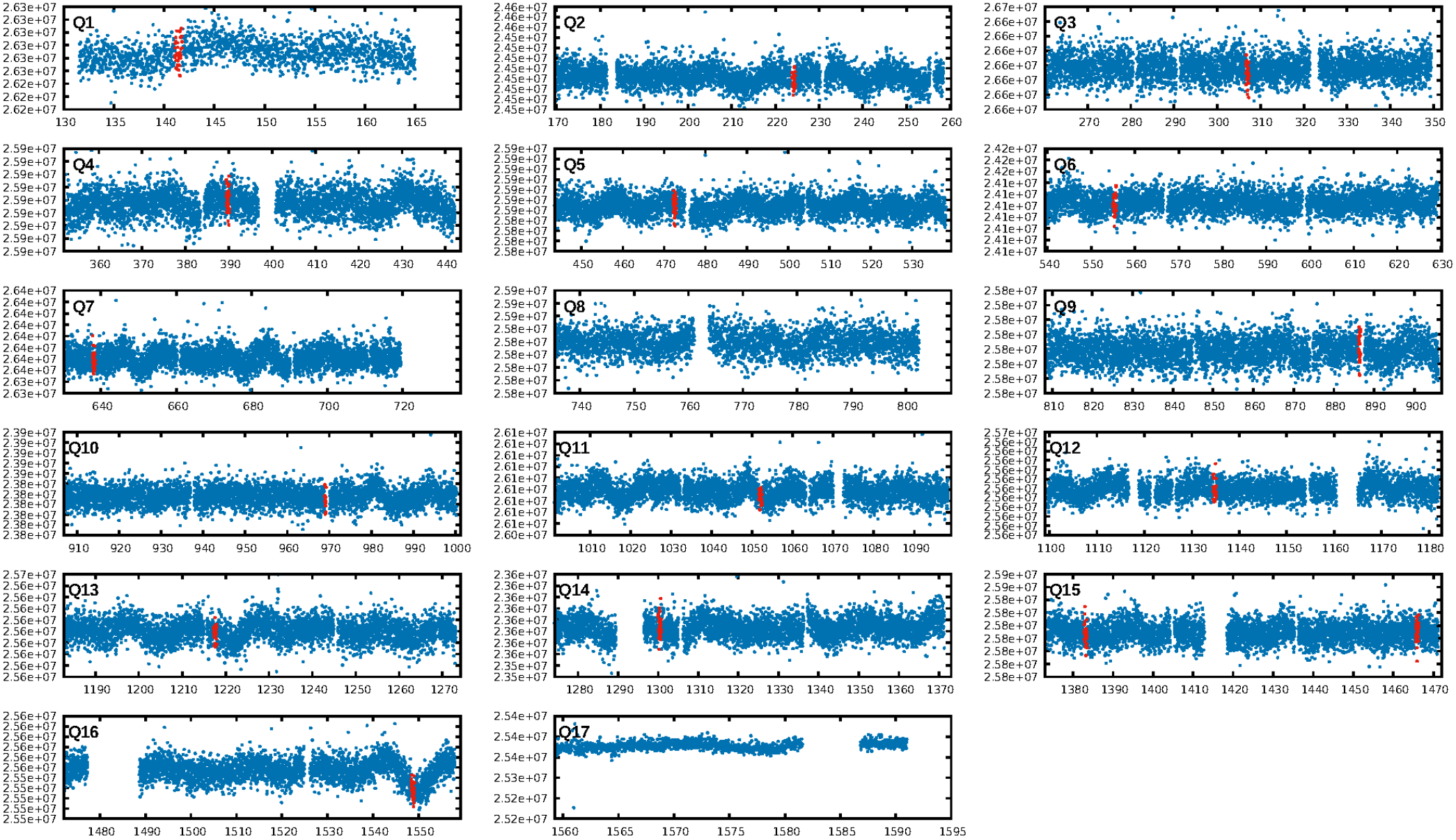
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 91.7%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 1.78e−13
RollingBand−fgt: 1.00 [15/15]
GhostDiagnostic−chr: 2.05

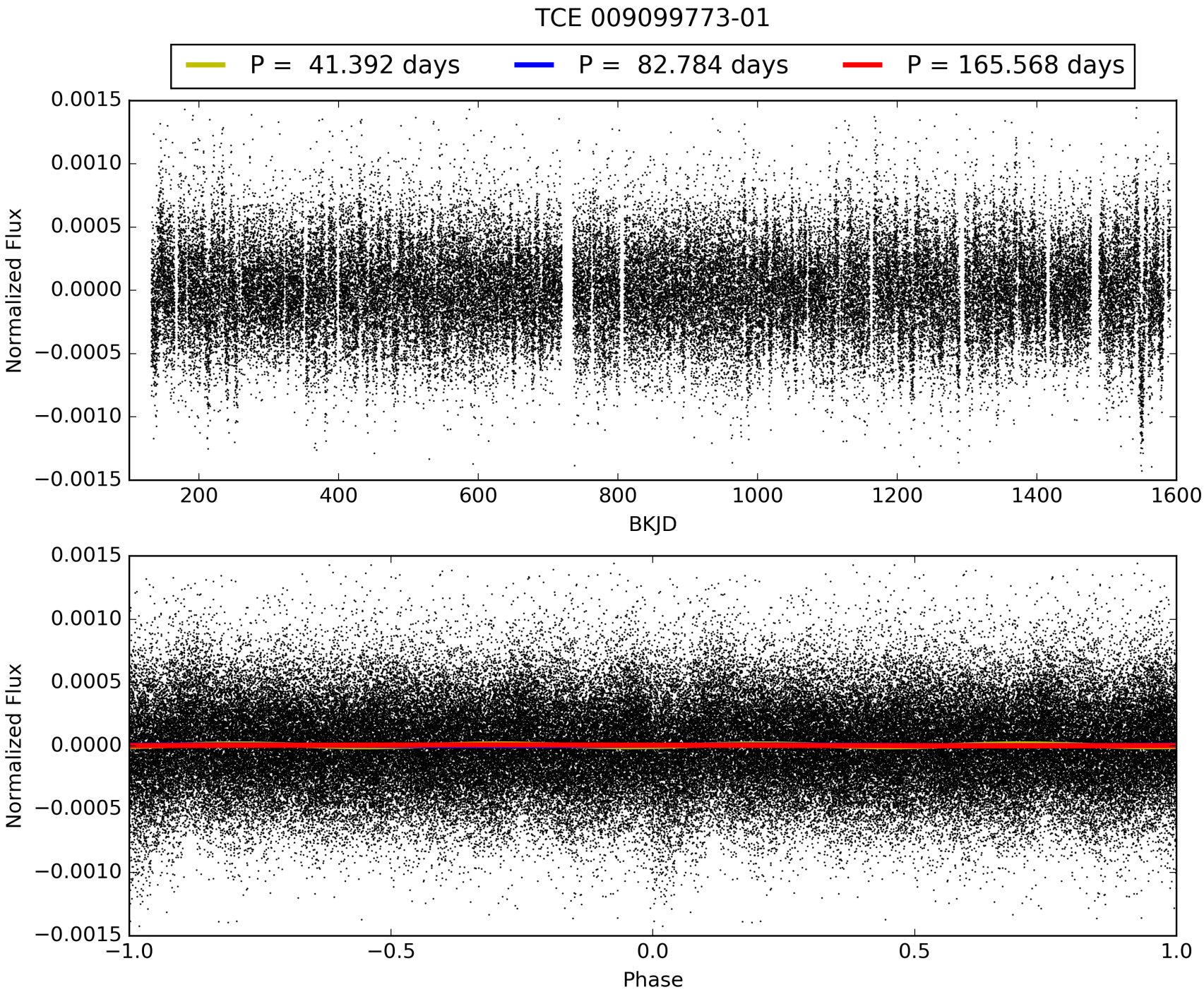
Centroid−sig: 67.4%
Centroid−so: 1.305 arcsec [0.78σ]
OotOffset−rm: 3.169 arcsec [4.06σ]
KicOffset−rm: 3.180 arcsec [3.18σ]
OotOffset−st: 0/4/1/0 [5]
KicOffset−st: 0/4/1/0 [5]
DiffImageQuality−fgm: 0.40 [2/5]
DiffImageOverlap−fno: 1.00 [10/10]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 00:02:31 Z

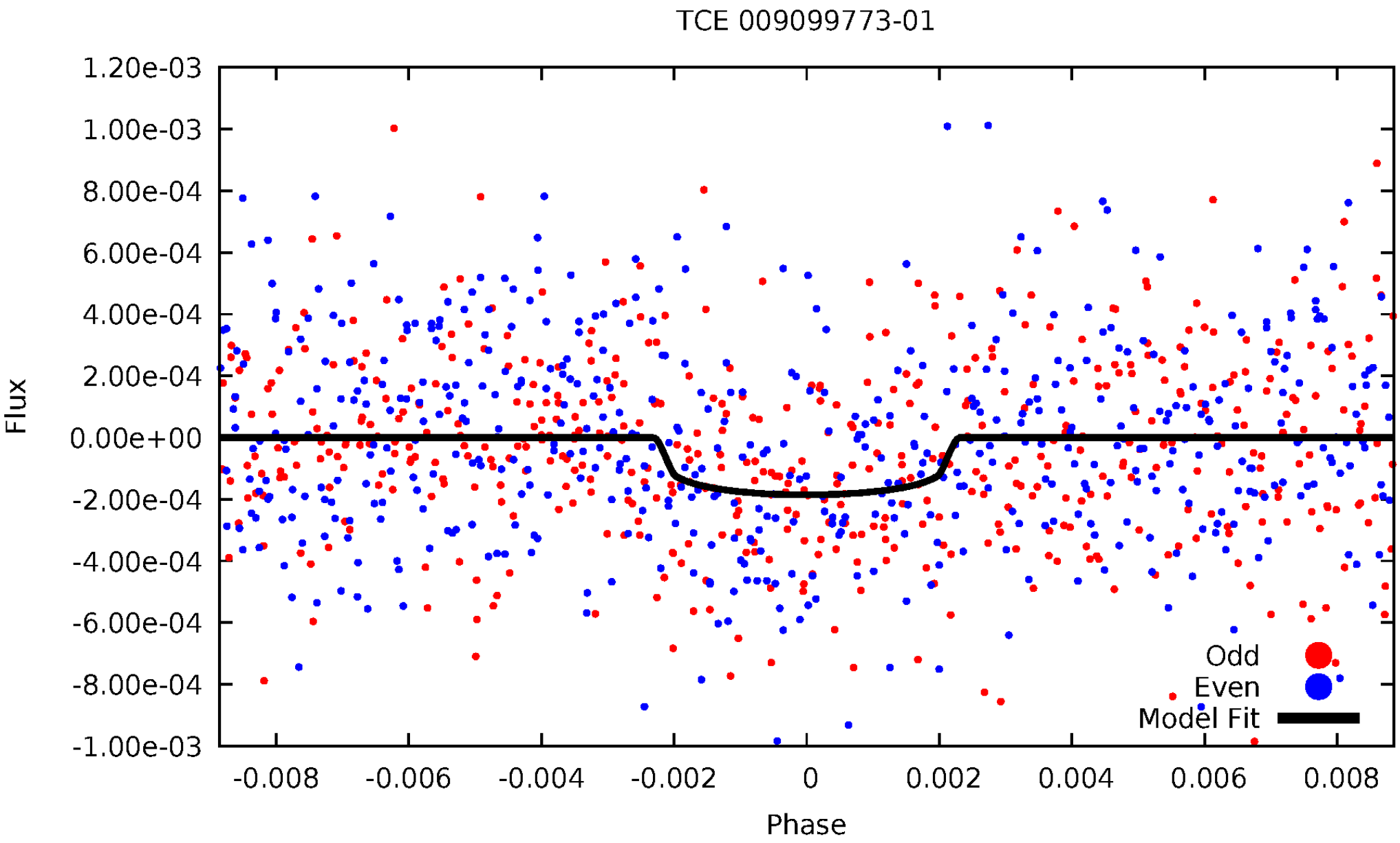
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009099773-01, PDC Light Curves

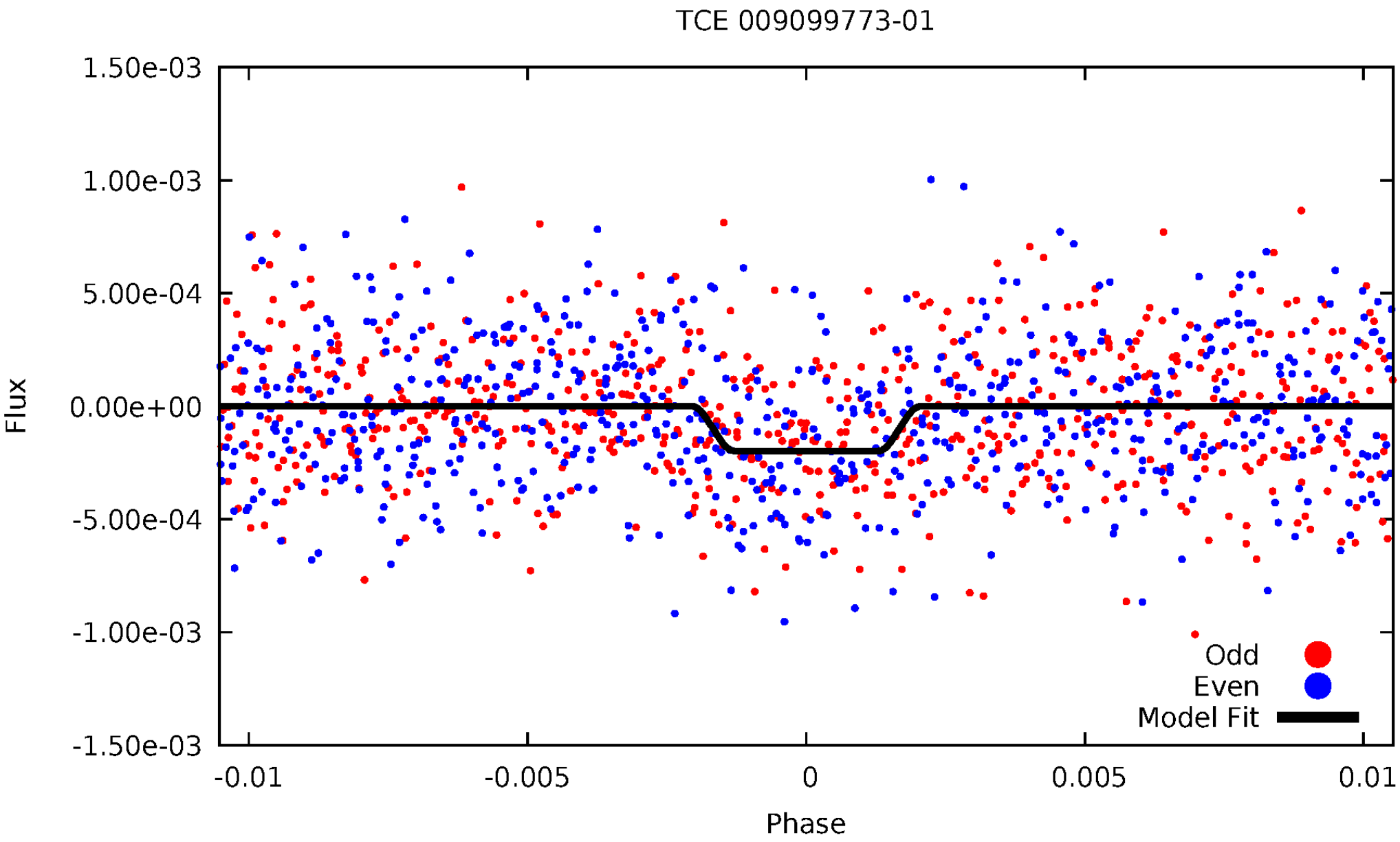



TCE 009099773-01
P = 41.392 days
P = 82.784 days
P = 165.568 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
−1.0
−0.5
0.0
0.5
1.0
Phase

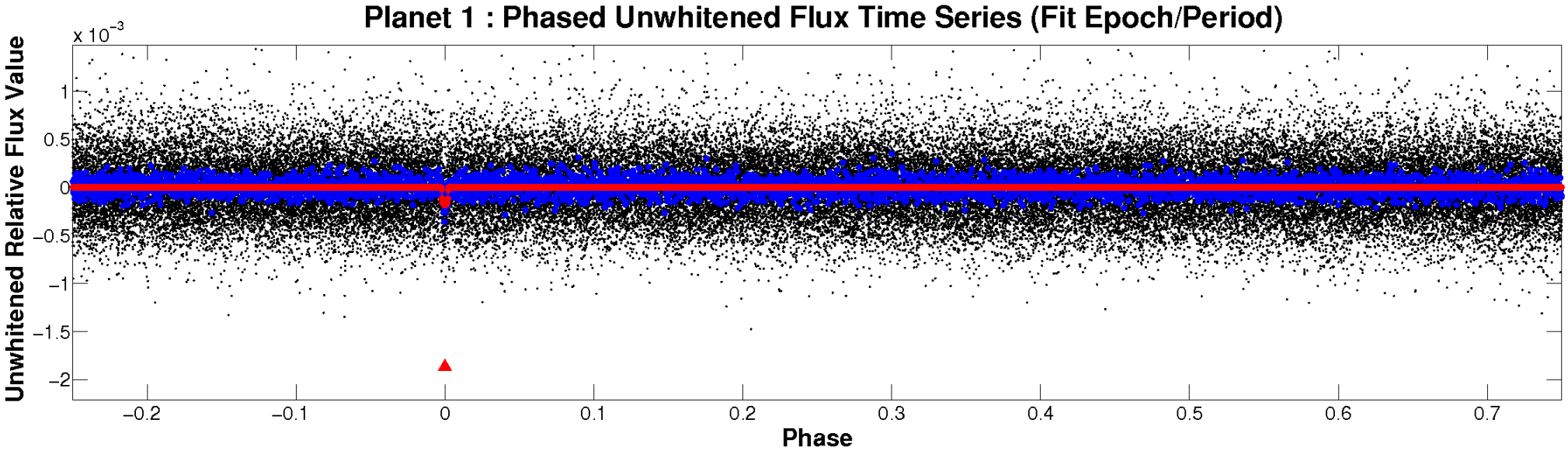
DV Odd/Even

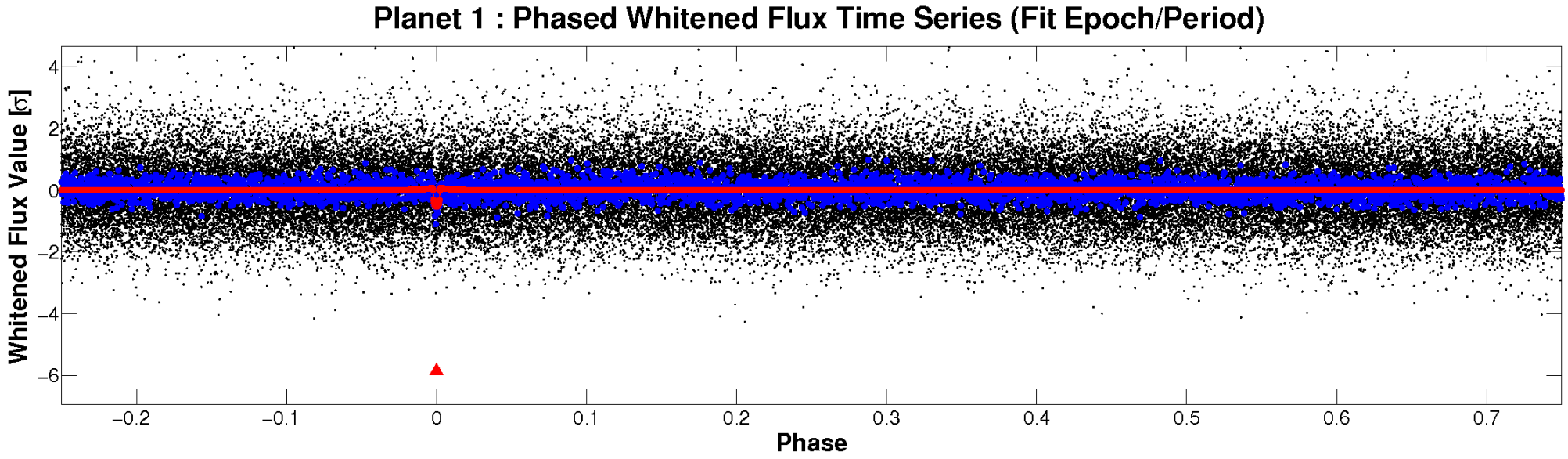

TCE 009099773-01
1.20e-03
1.00e-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.008
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
0.008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009099773-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

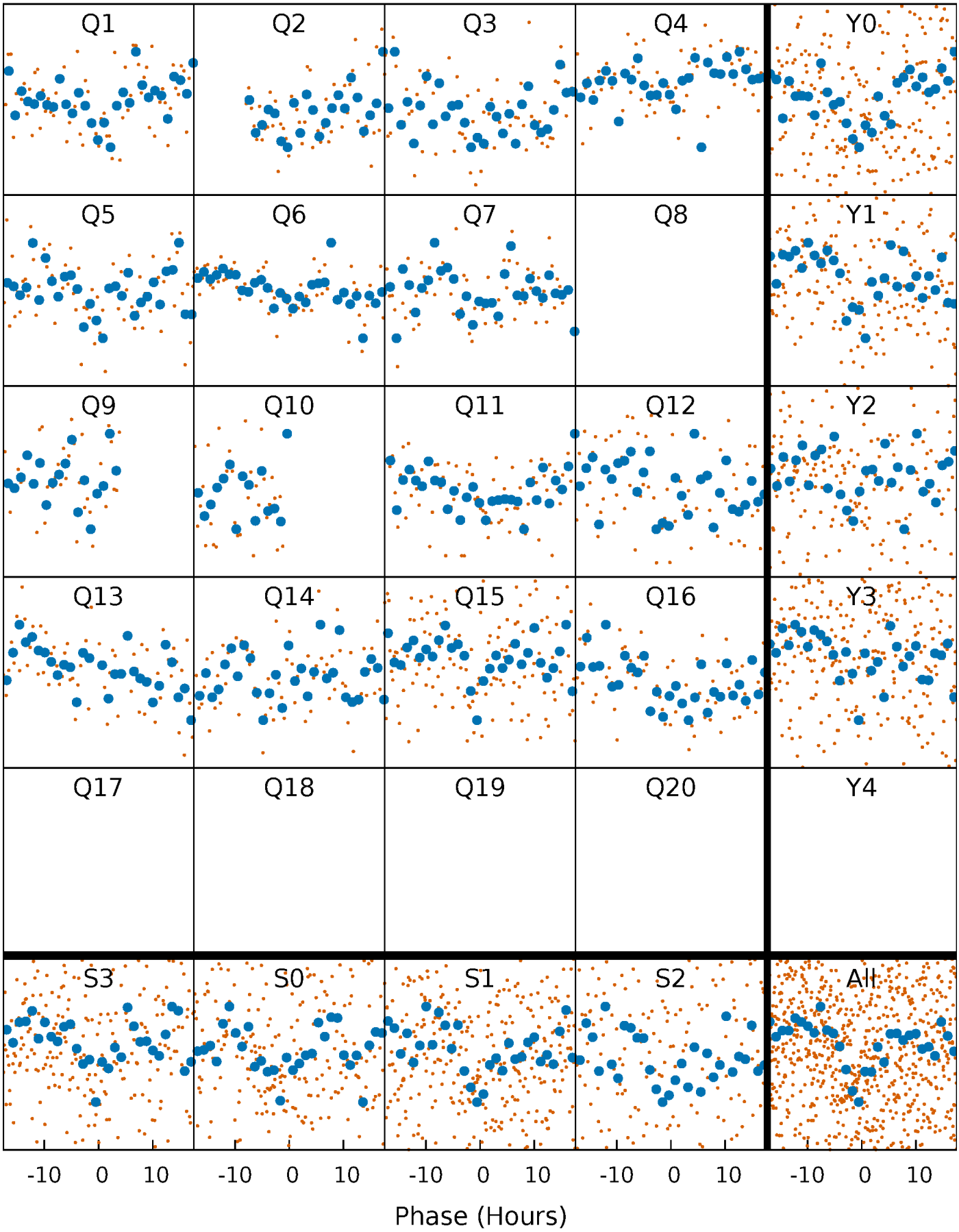
Non-Whitened Vs. Whitened Light Curve





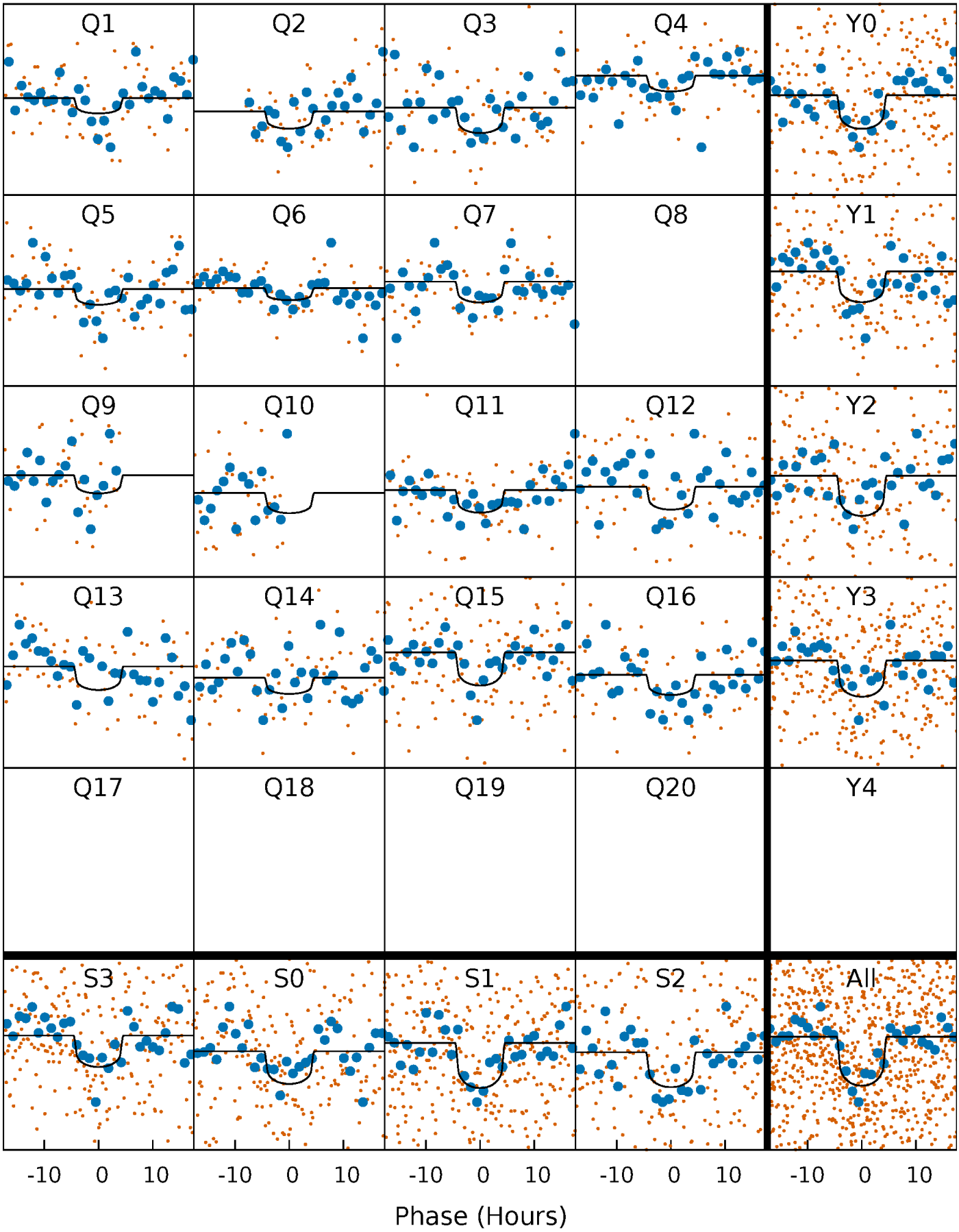
PDC Quarter-Phased Transit Curves

TCE 009099773-01 P= 82.783914 Days T_0=141.420739 (BKJD)



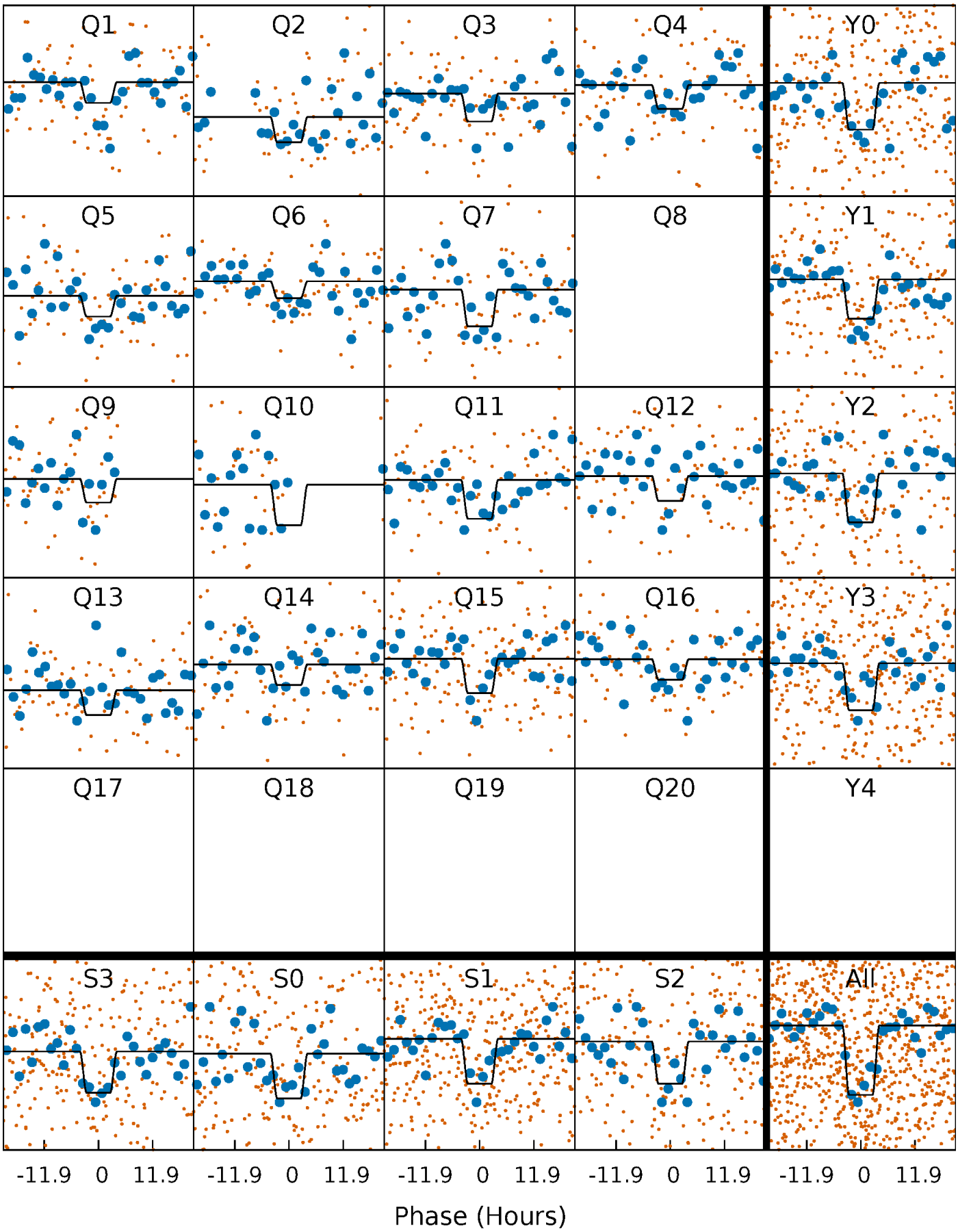
DV Quarter-Phased Transit Curves

TCE 009099773-01 P= 82.783914 Days T_0=141.420739 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

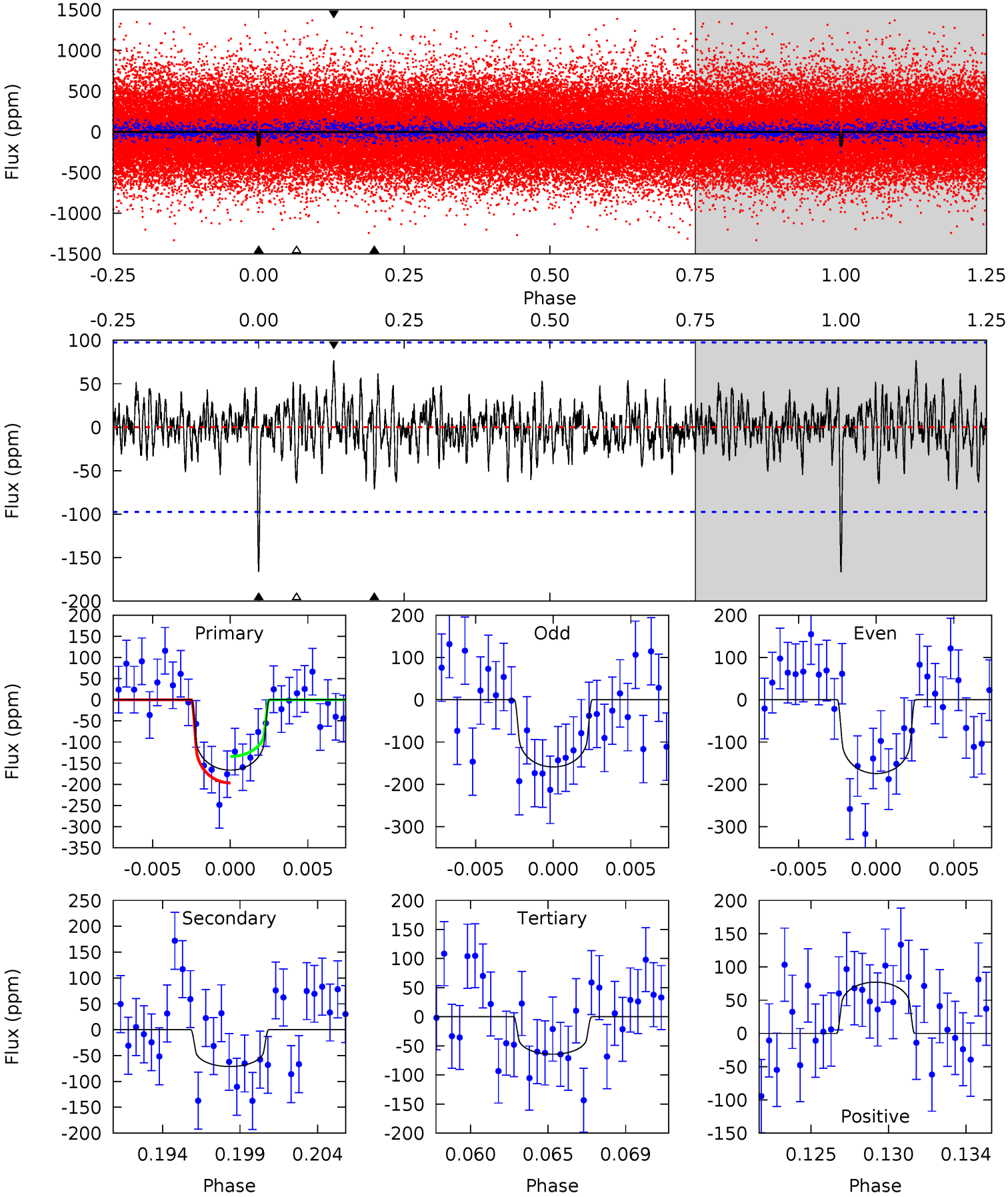
TCE 009099773-01 P= 82.785178 Days T_0=141.395910 (BKJD)



DV Model-Shift Uniqueness Test

009099773-01, P = 82.783914 Days, E = 58.636825 Days

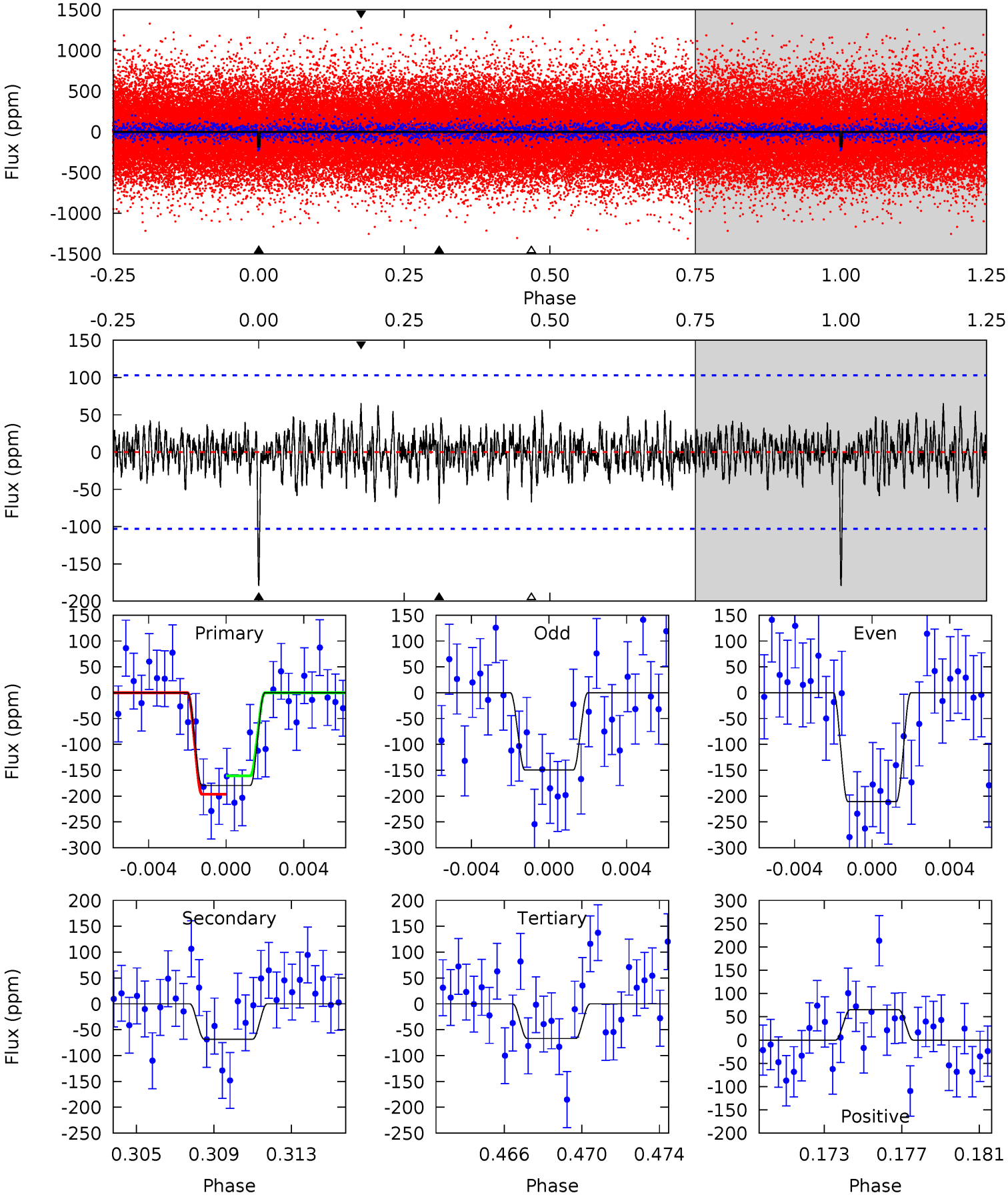
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.83	3.78	3.41	4.09	5.17	2.83	1.09	5.41	4.74	0.36	-0.31	0.41	1.05	0.32	1.66



Alt Model-Shift Uniqueness Test

009099773-01, P = 82.785178 Days, E = 58.610732 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.05	3.45	3.39	3.29	5.19	2.87	1.00	5.66	5.75	0.06	0.15	1.54	0.97	0.27	0.90



Stellar Parameters For KIC 009099773

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5749^{+78}_{-78}	$4.123^{+0.182}_{-0.098}$	$0.160^{+0.150}_{-0.150}$	$1.480^{+0.245}_{-0.326}$	$1.059^{+0.105}_{-0.084}$	$0.461^{+0.444}_{-0.140}$
	+1%/-1%	+4%/-2%	+94%/-94%	+17%/-22%	+10%/-8%	+96%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009099773-01 / KOI 7133.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-71±19	$2.41^{+1.59}_{-1.38}$	694^{+31}_{-41}	4450^{+2199}_{-778}	967^{+4962}_{-648}
Alt.	-68±20	$2.35^{+1.63}_{-1.43}$	696^{+33}_{-42}	4472^{+2206}_{-805}	948^{+5486}_{-635}

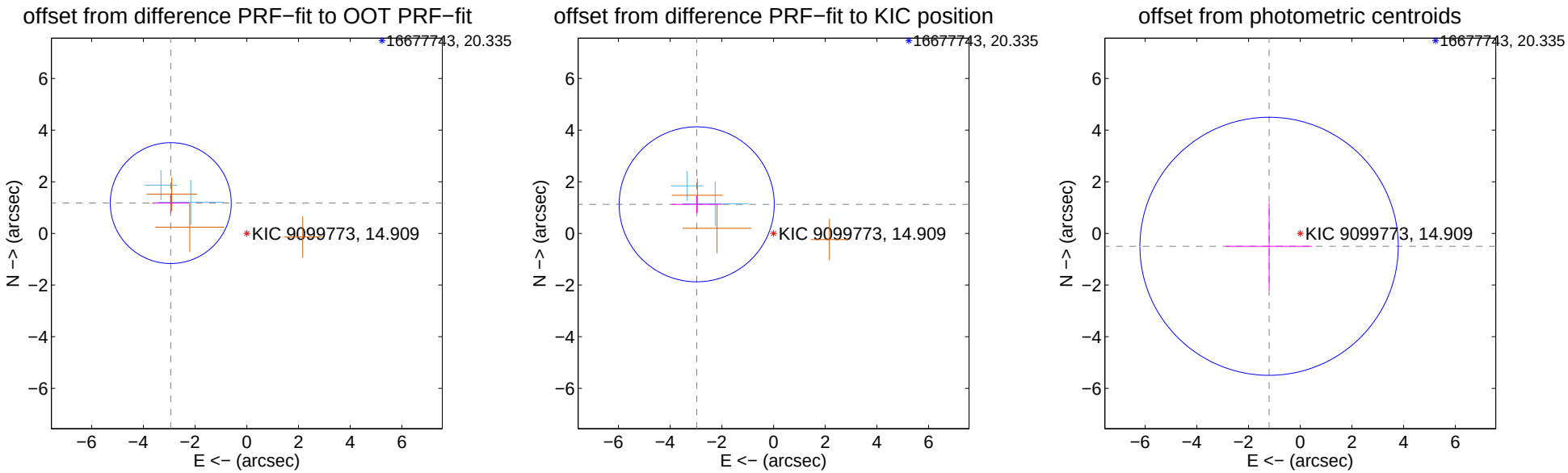
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

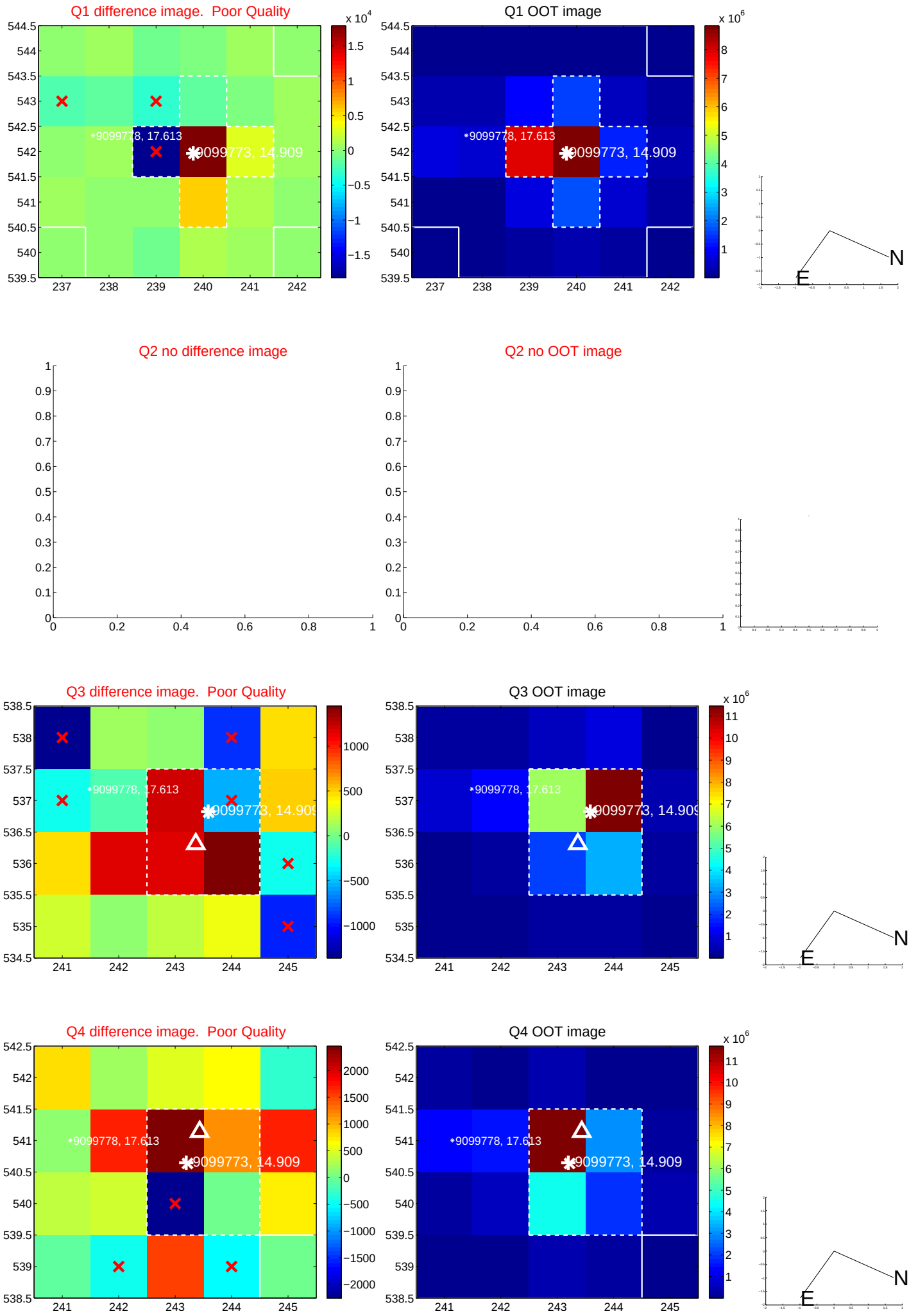
Supplemental centroid analysis for 009099773-01. Kepler magnitude: 14.91. Transit SNR 7.54
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.169 ± 0.780	4.06	2.943 ± 0.712	1.174 ± 0.373
PRF-fit source offset from KIC position	3.180 ± 1.000	3.18	2.973 ± 0.965	1.127 ± 0.339
photometric centroid source offset	1.31 ± 1.67	0.78	1.21 ± 1.67	-0.50 ± 1.67

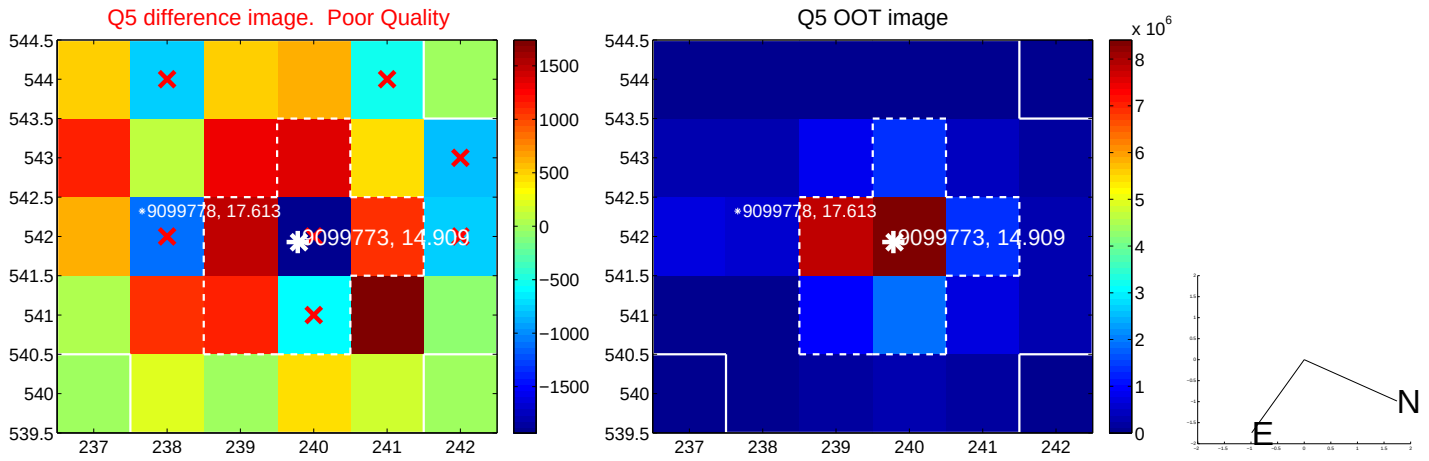


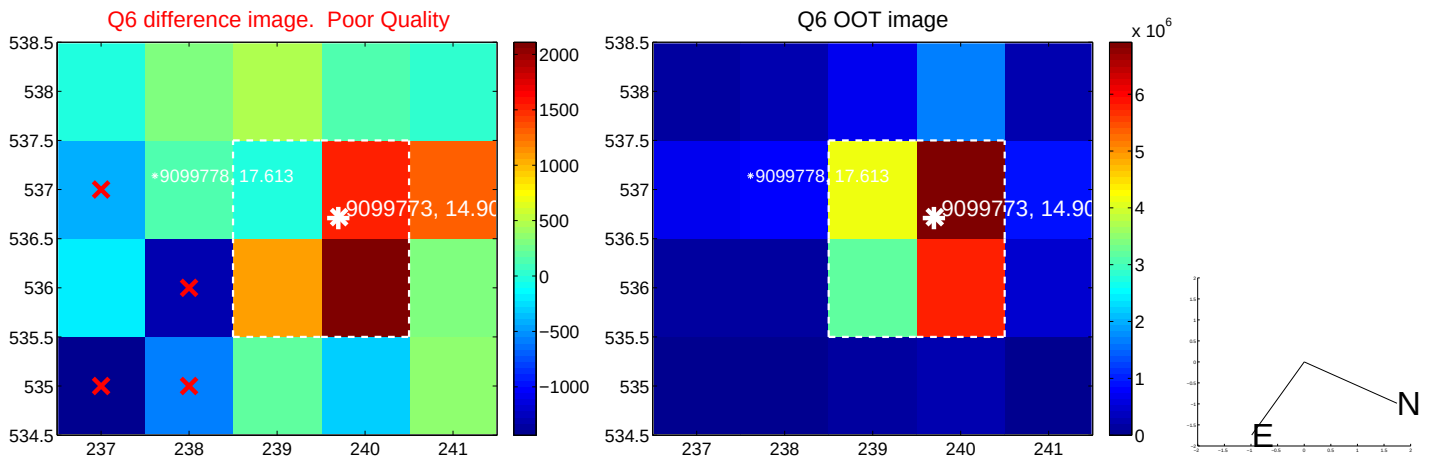
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

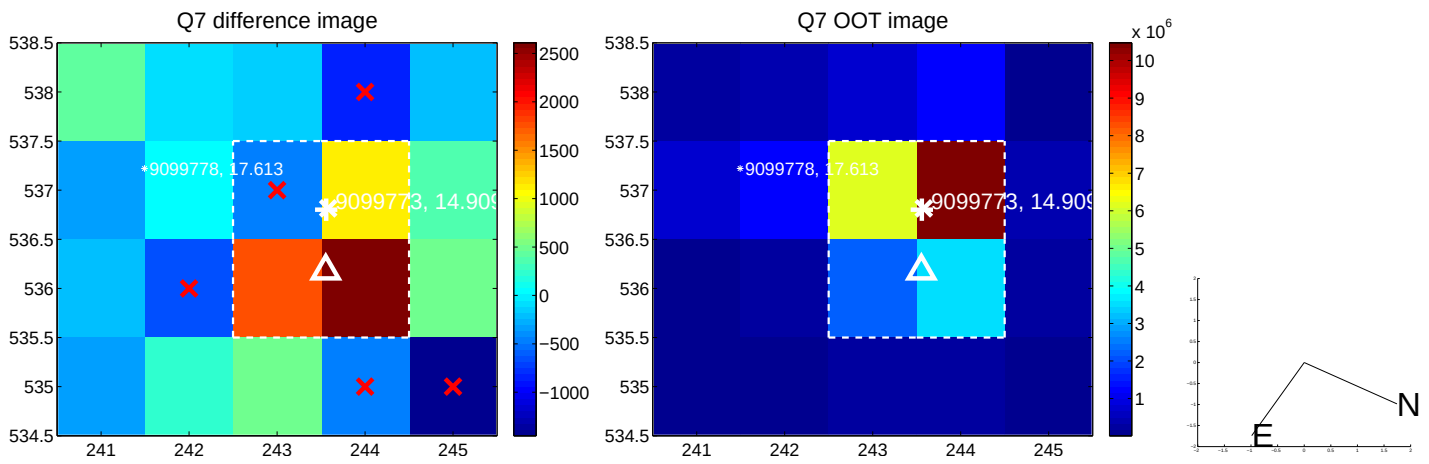
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

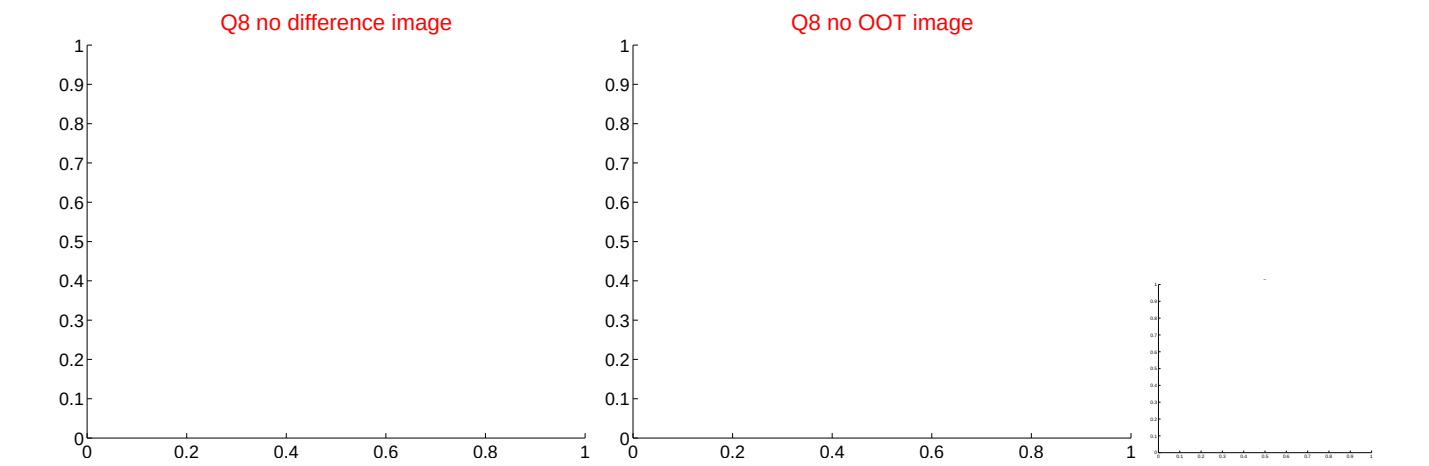


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

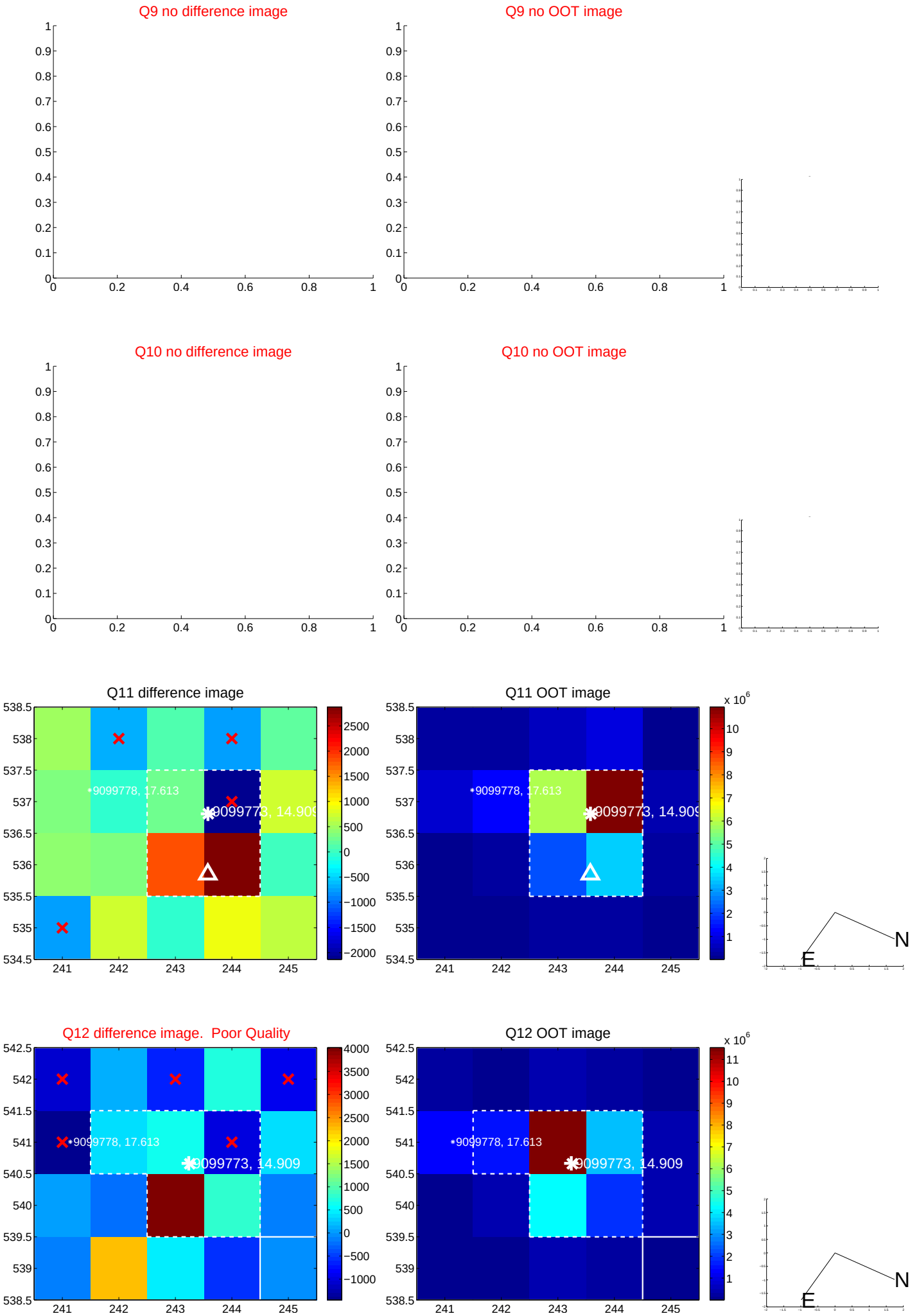




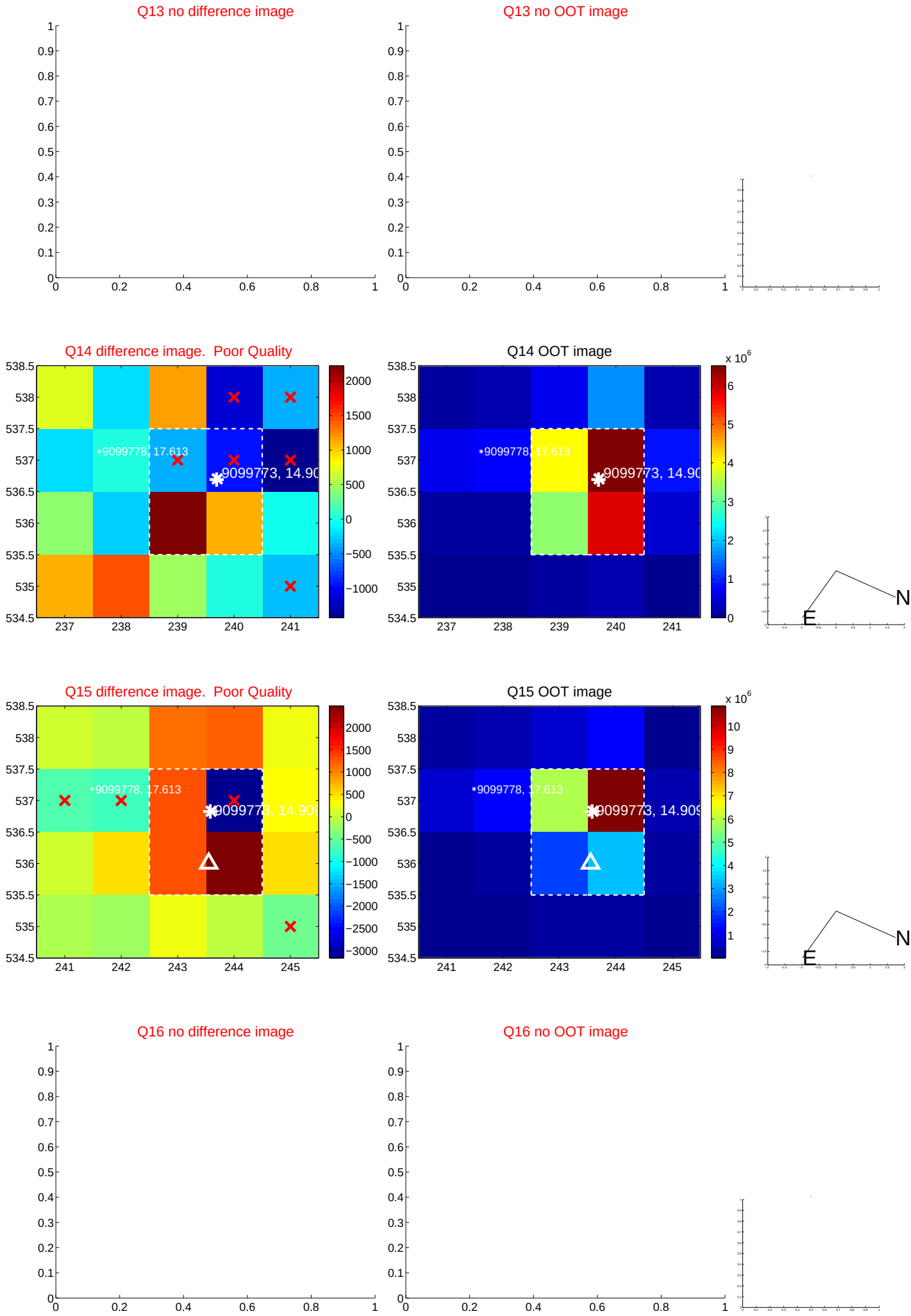




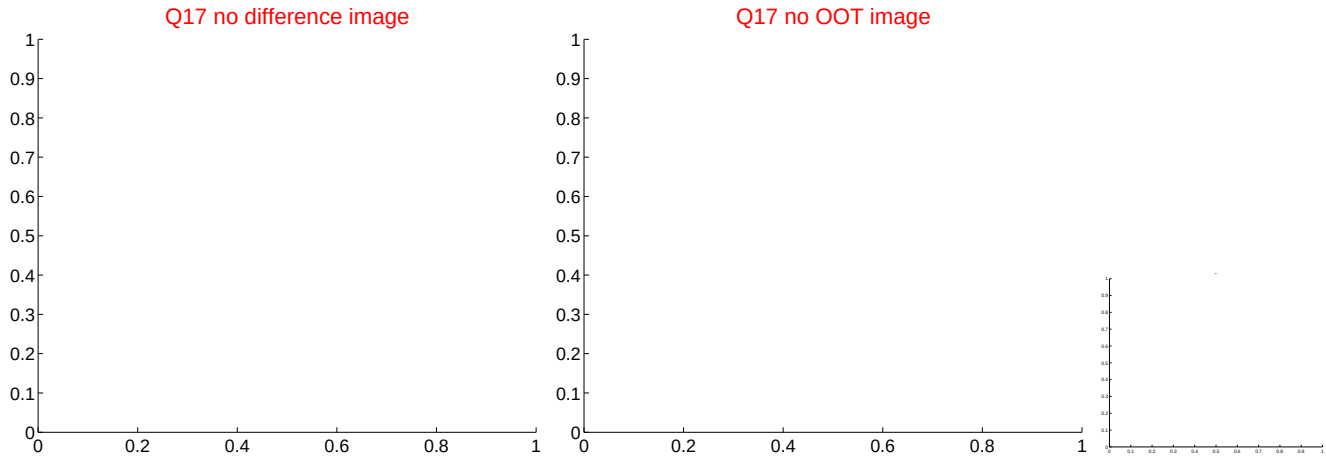
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

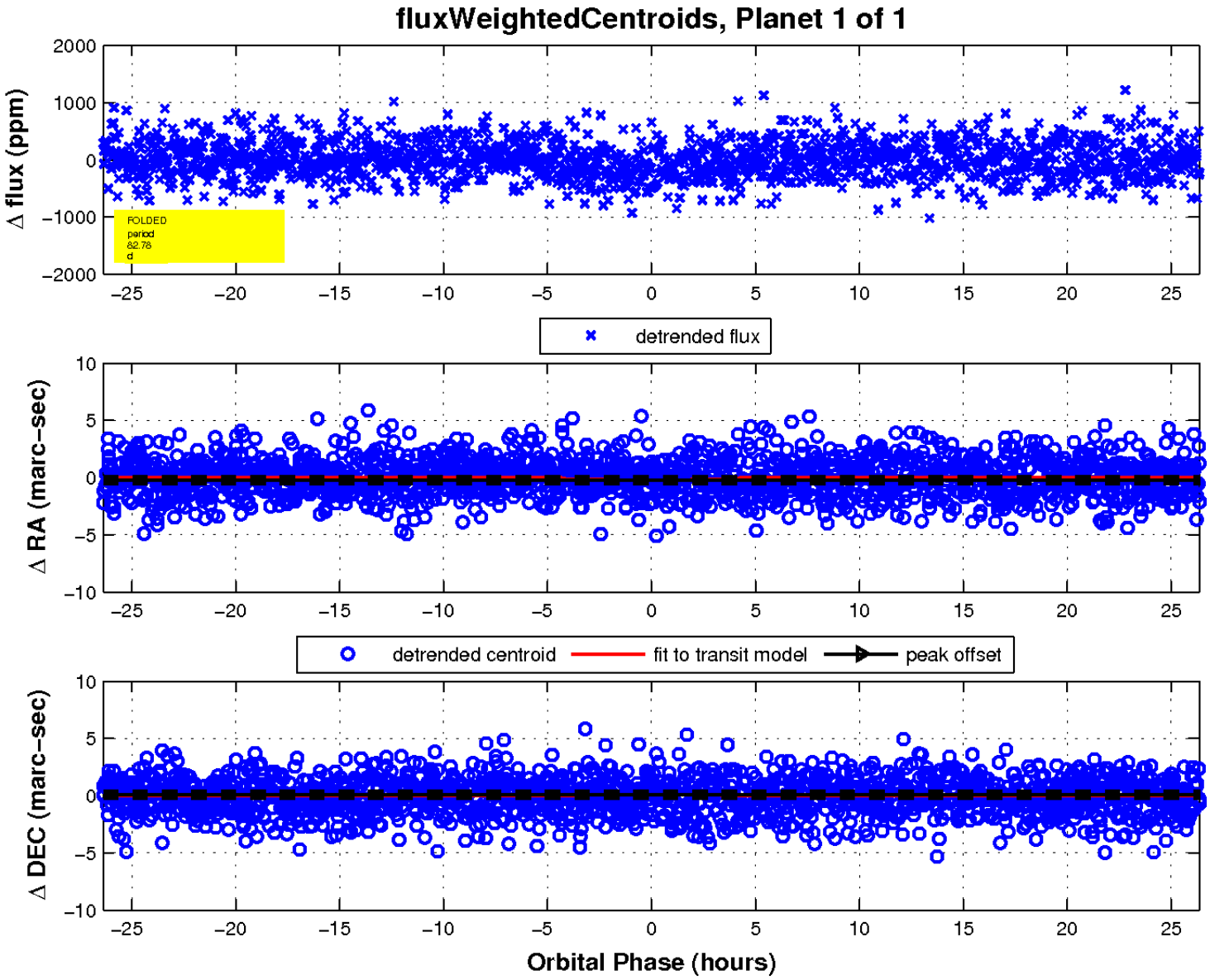


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

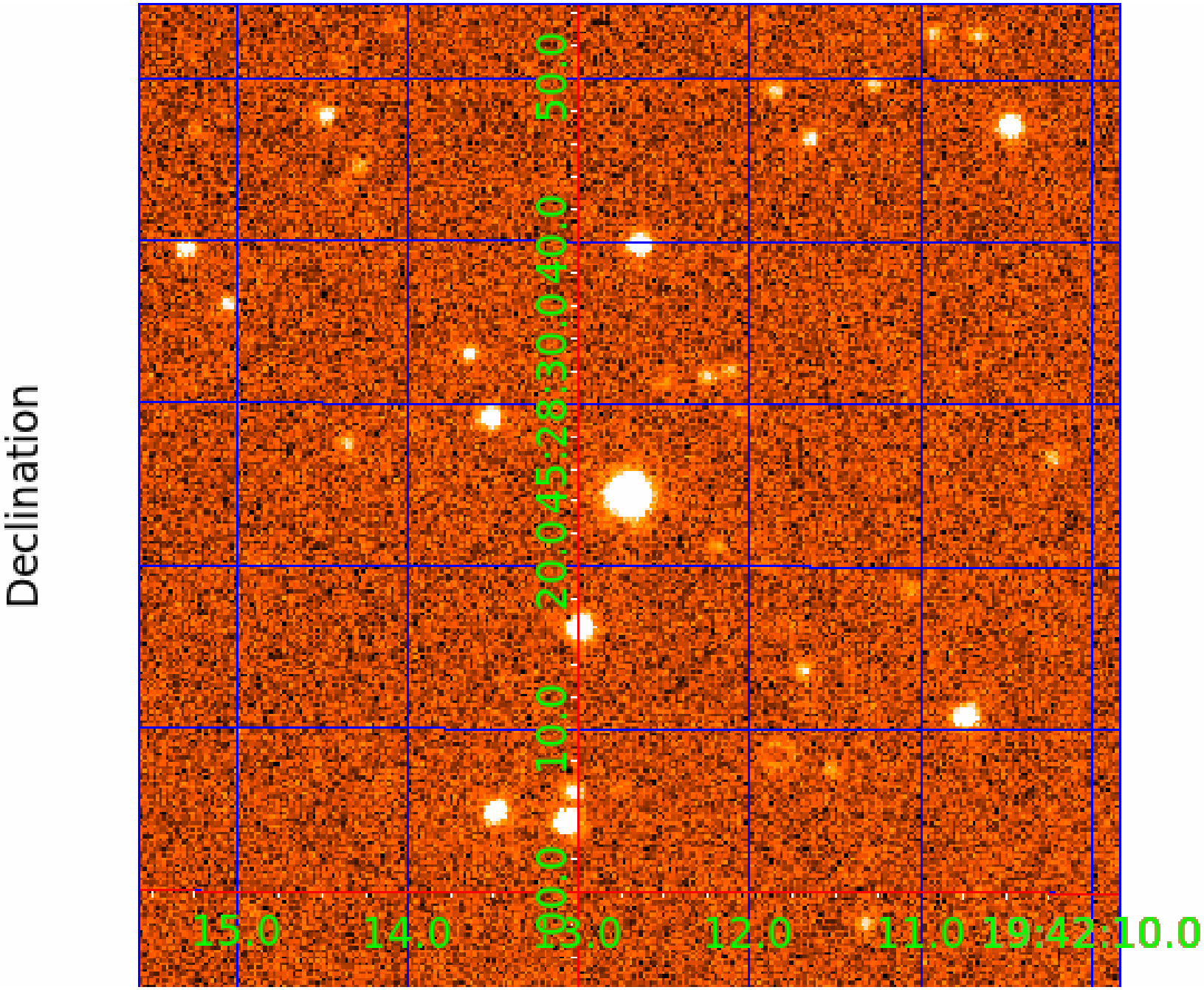


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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11.0
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