KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

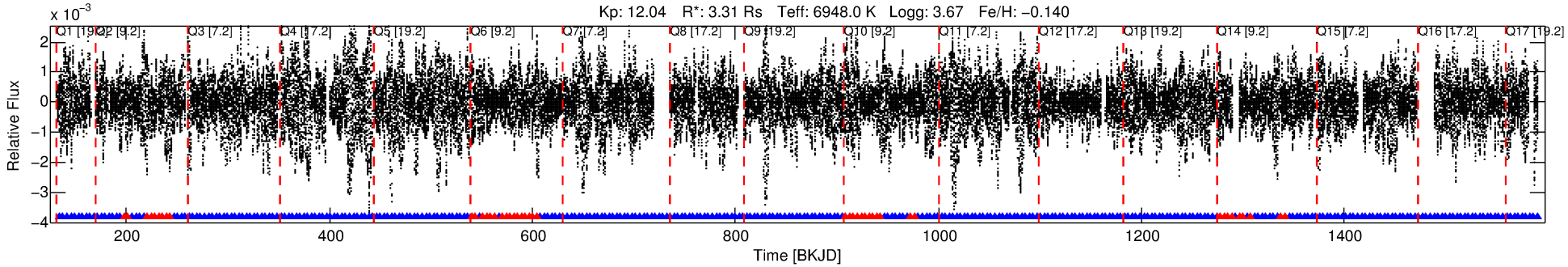
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

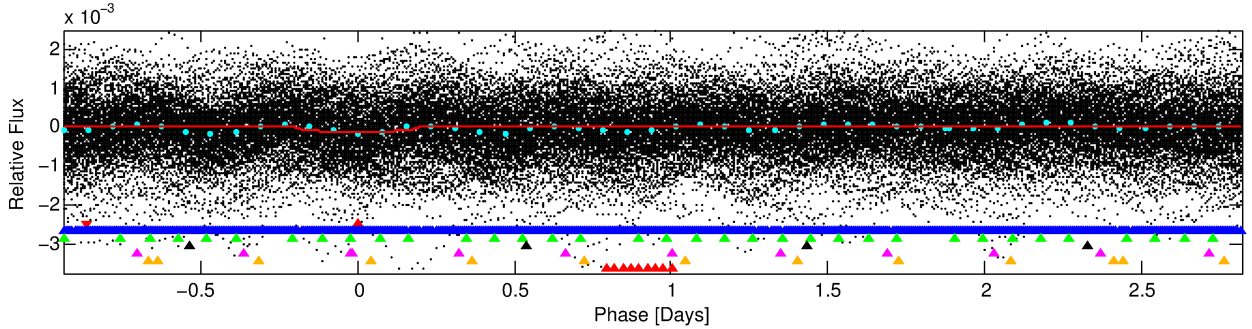
Ephemeris Match Information For 008108099-01

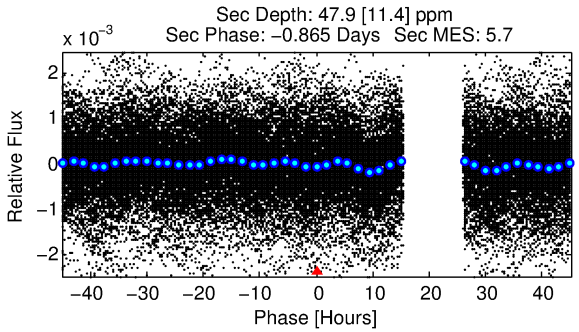
No Significant Match Found

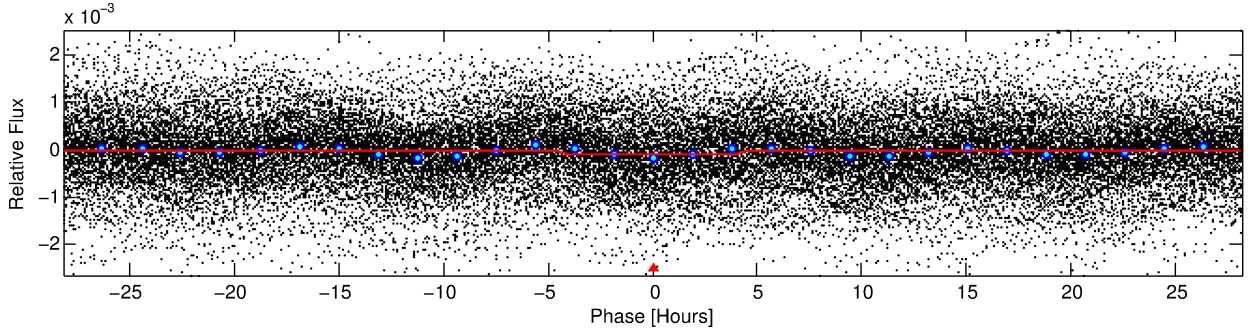
DV One-Page Summary

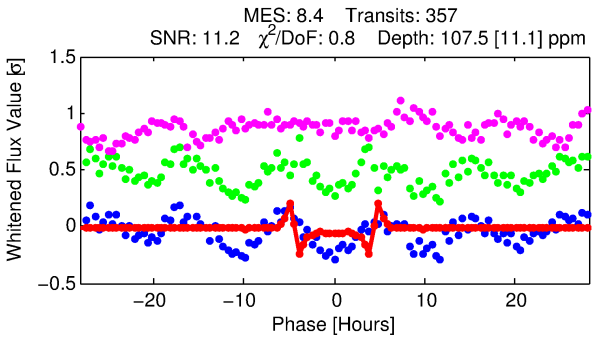
KIC: 8108099 Candidate: 1 of 7 Period: 3.762 d

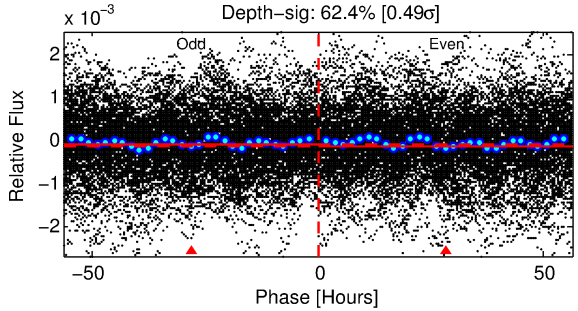


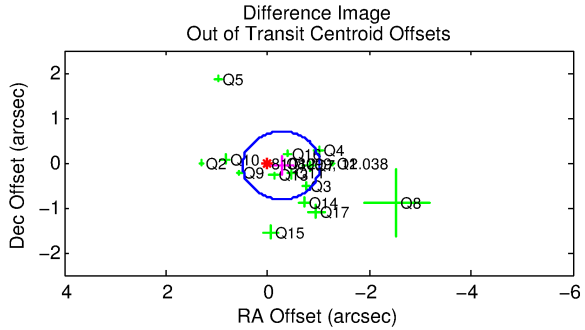












DV Fit Results:

Period = 3.76173 [0.00001] d
Epoch = 134.1437 [0.0018] BKJD
Rp/R* = 0.0110 [0.0007]
a/R* = 1.70 [0.18]
b = 0.90 [0.04]

Seff = 6756.18 [3605.93]
Teq = 2312 [308] K
Rp = 3.99 [1.50] Re
a = 0.0582 [0.0195] AU

Ag = 5.62 [3.28] [1.41σ]
Teffp = 5503 [412] K [6.20σ]

DV Diagnostic Results:

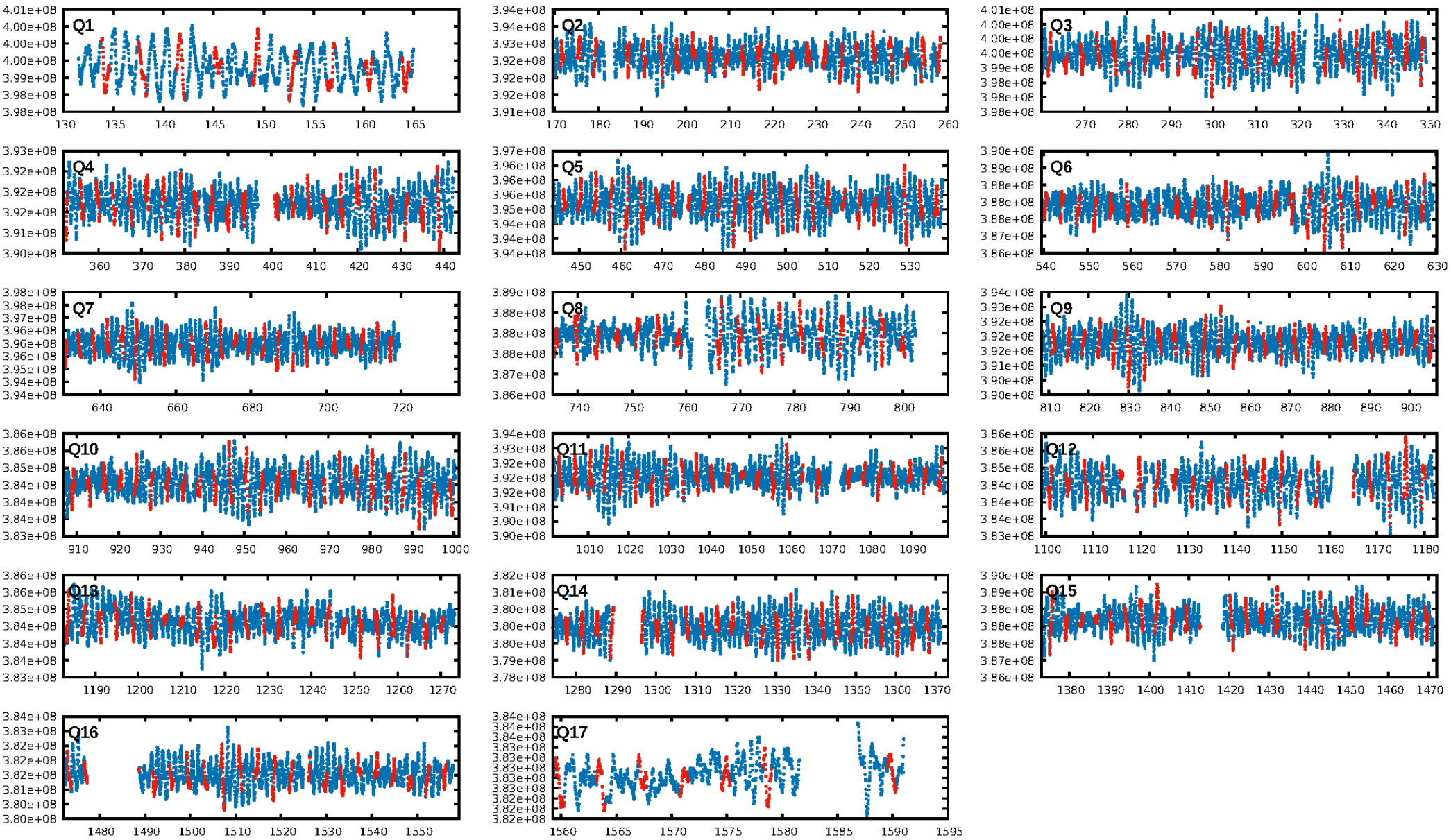
ShortPeriod−sig: 100.0% [6.31σ]
LongPeriod−sig: 100.0% [70.89σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 0.87 [295/341]
GhostDiagnostic−chr: 1.297

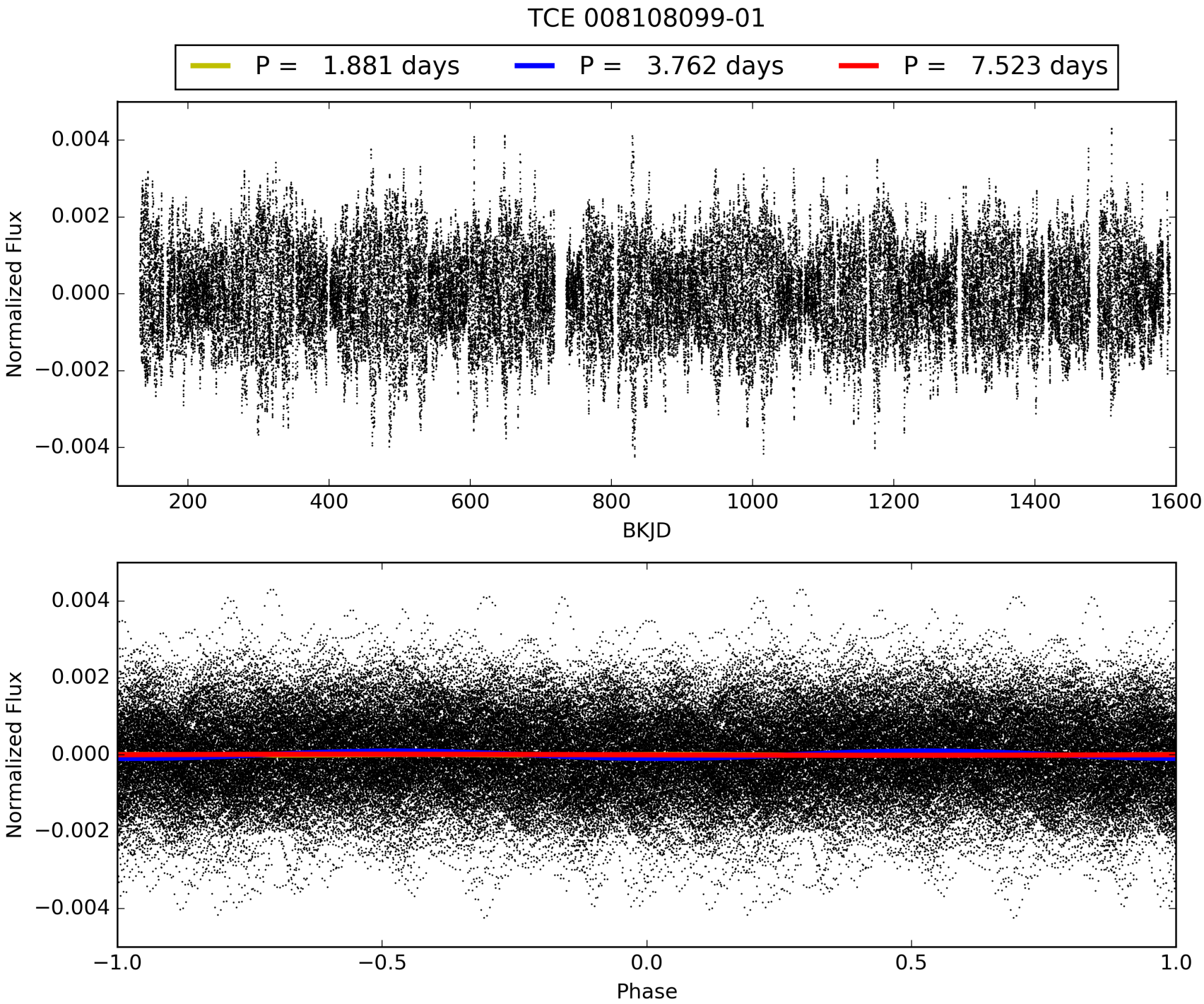
Centroid−sig: 0.0%
Centroid−so: 0.402 arcsec [2.63σ]
OotOffset−rm: 0.277 arcsec [1.10σ]
KicOffset−rm: 0.367 arcsec [1.42σ]
OotOffset−st: 3/4/4/5 [16]
KicOffset−st: 3/4/4/5 [16]
DiffImageQuality−fgm: 0.38 [6/16]
DiffImageOverlap−fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:01:34 Z

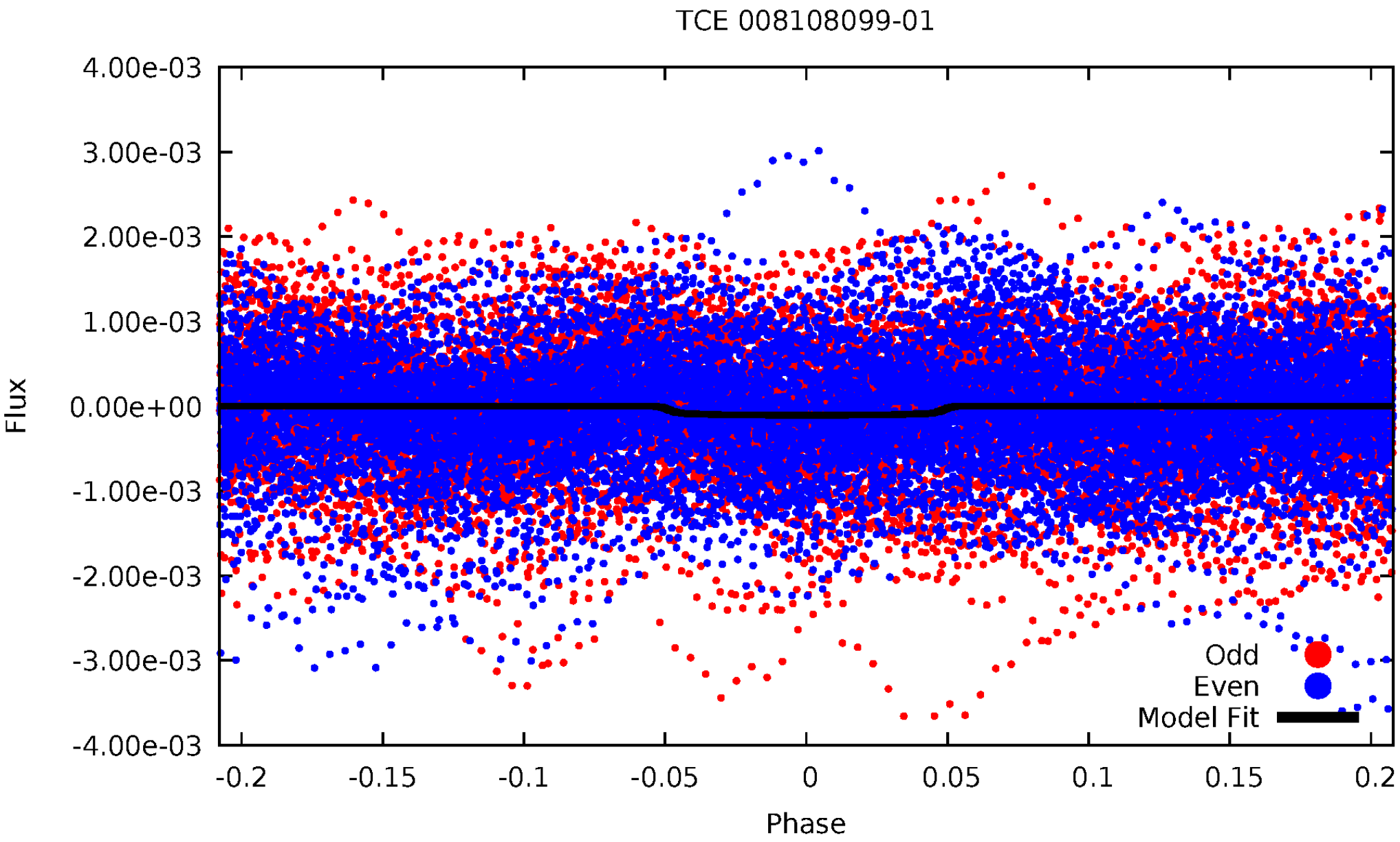
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-01, PDC Light Curves

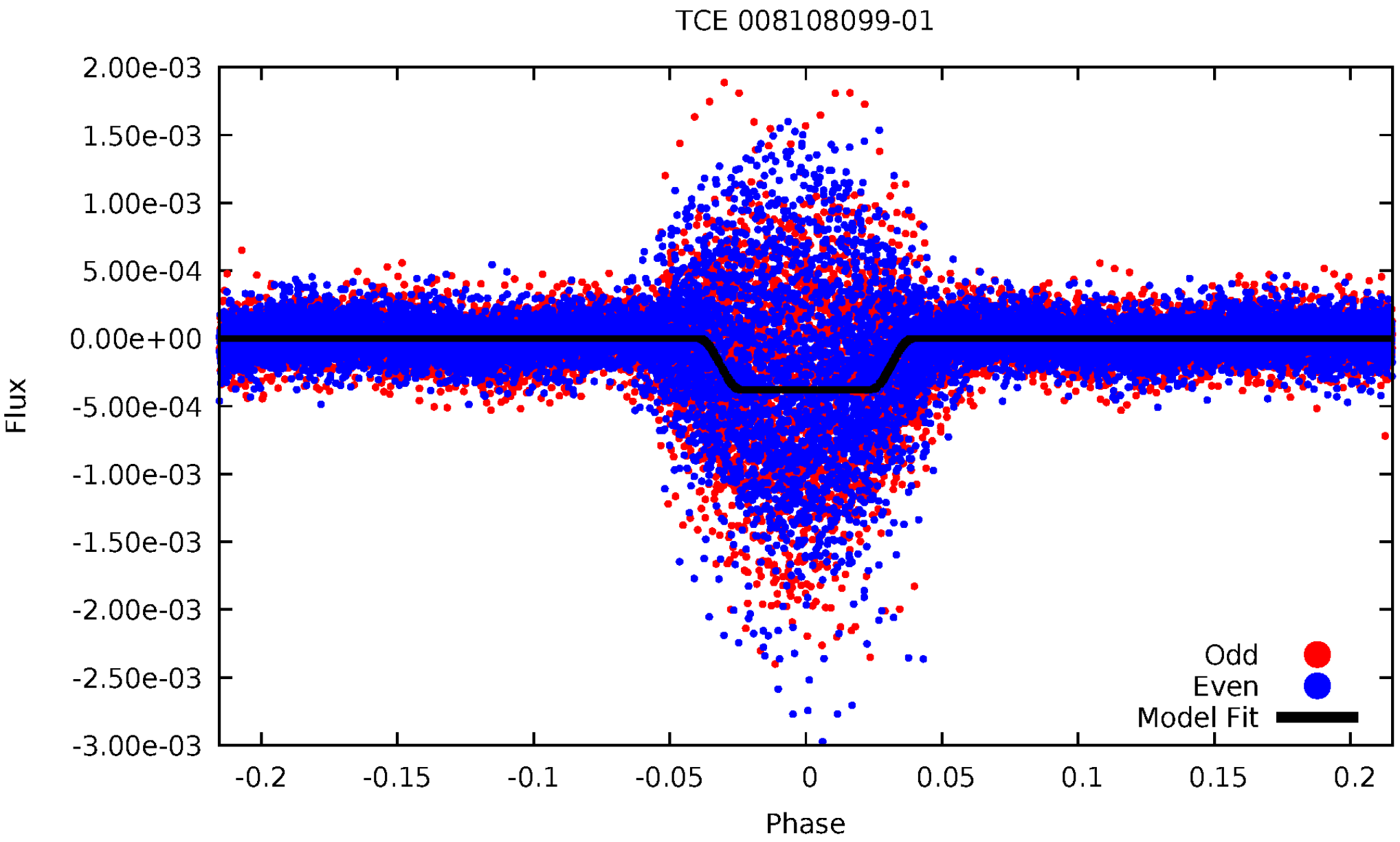



TCE 008108099-01
P = 1.881 days
P = 3.762 days
P = 7.523 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

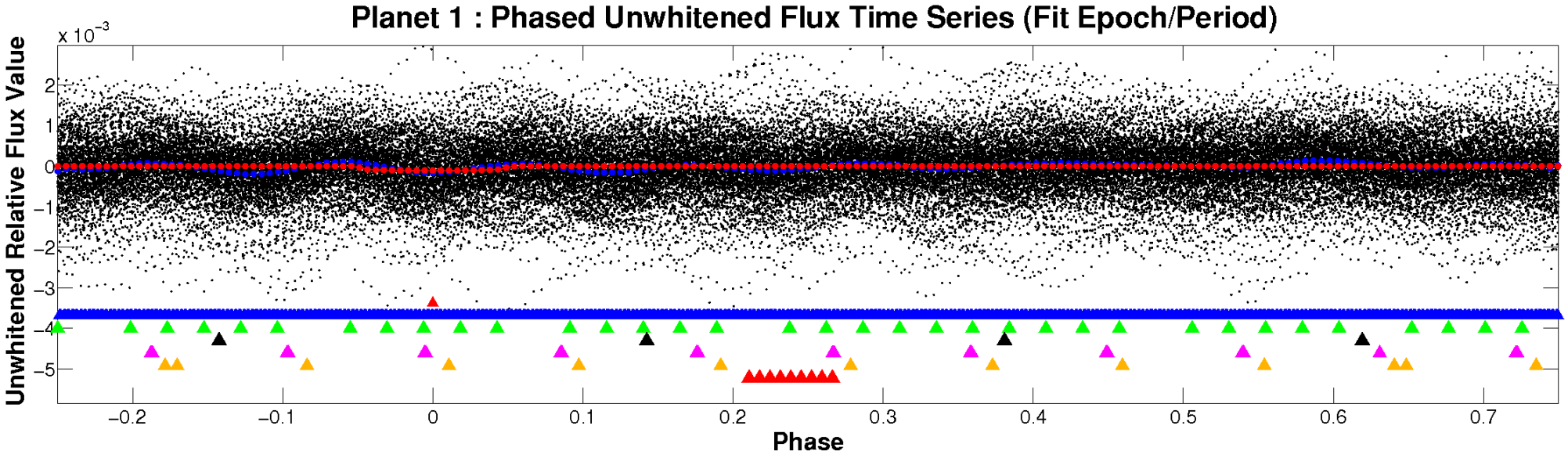
DV Odd/Even

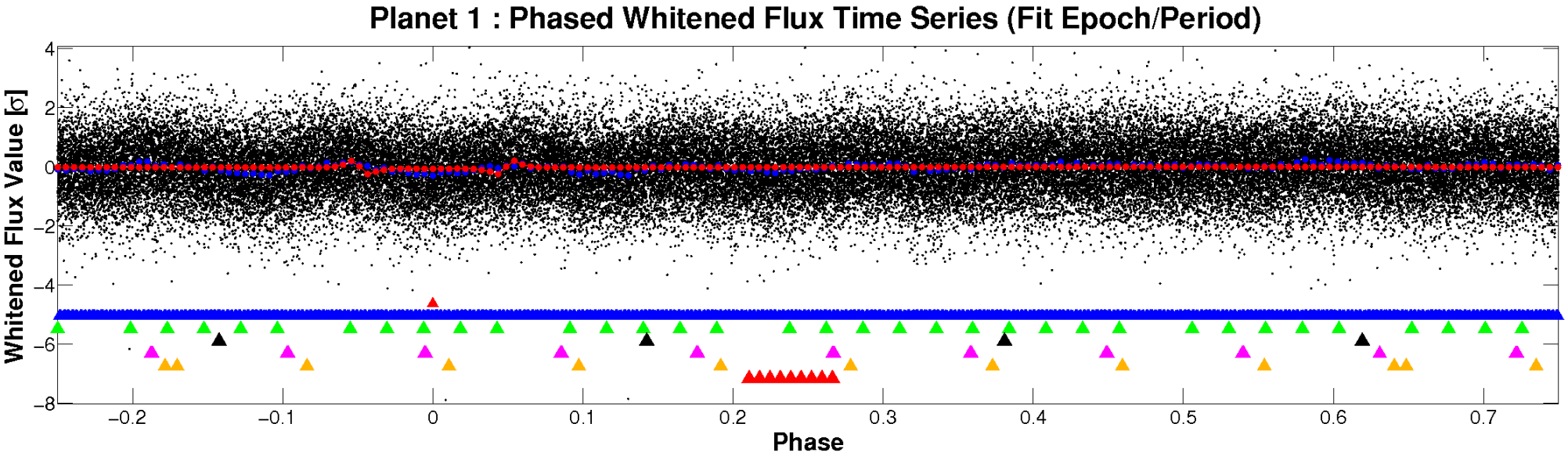

TCE 008108099-01
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
-3.00e-03
Flux
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

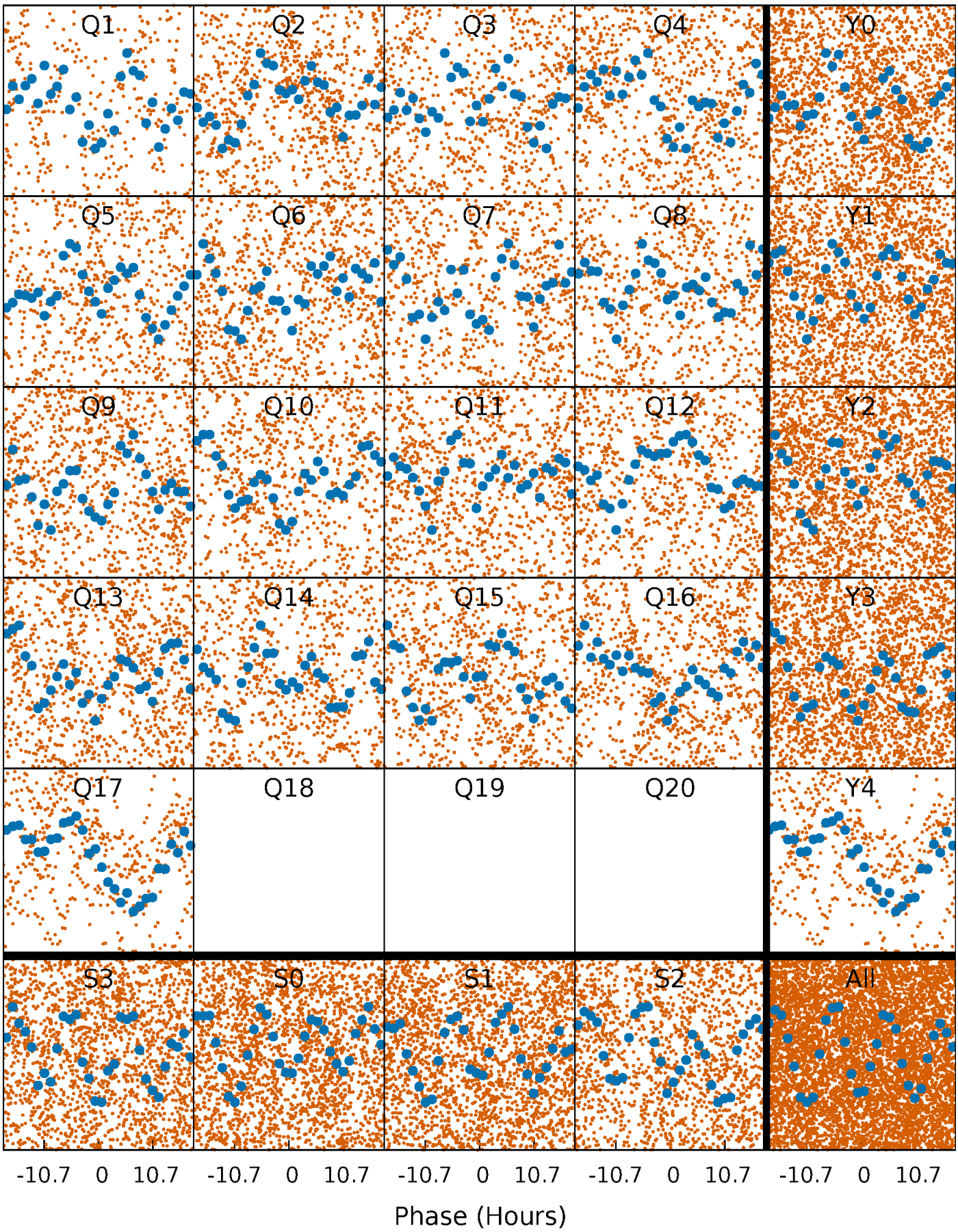
Non-Whitened Vs. Whitened Light Curve





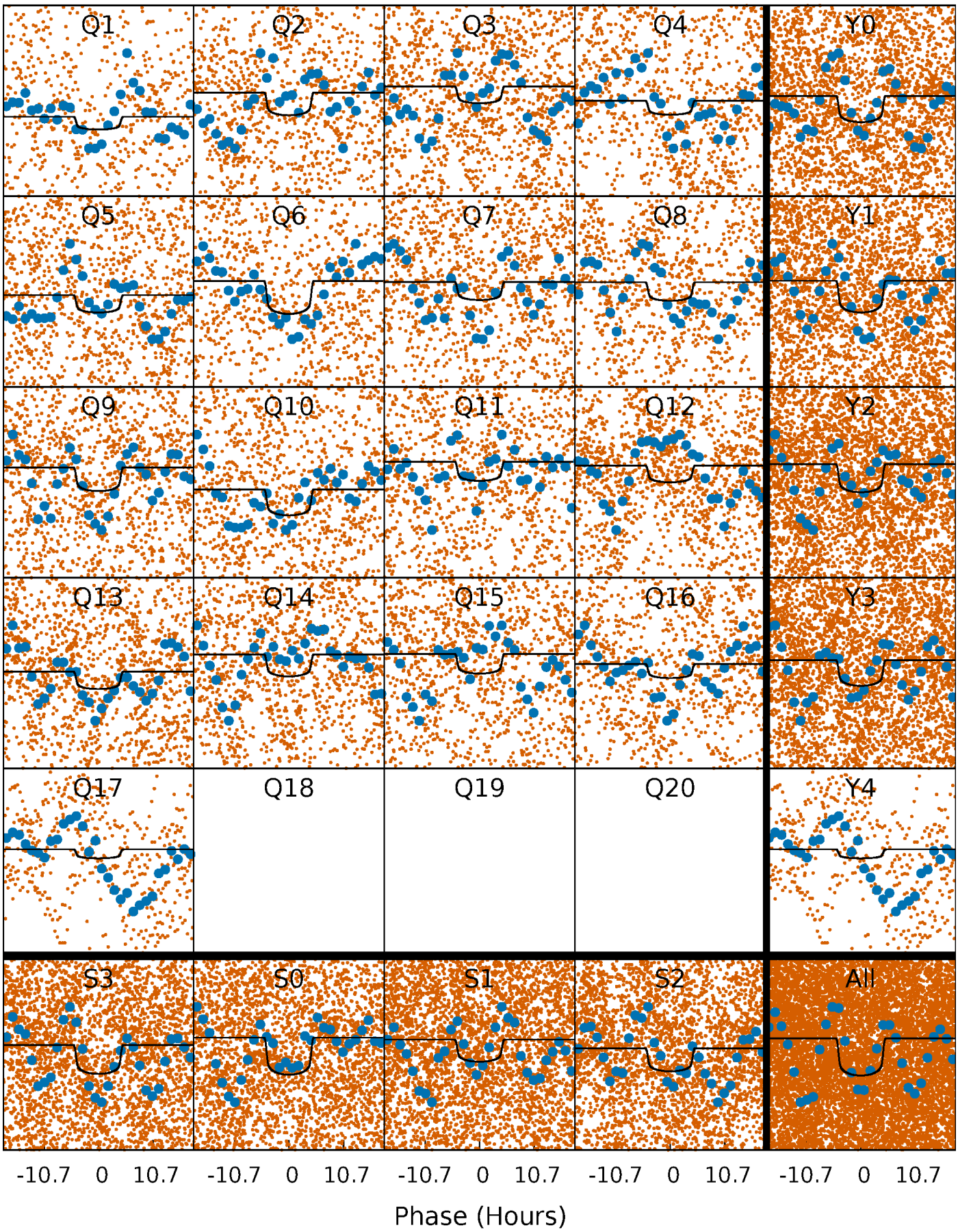
PDC Quarter-Phased Transit Curves

TCE 008108099-01 P= 3.761734 Days T_0=134.143732 (BKJD)



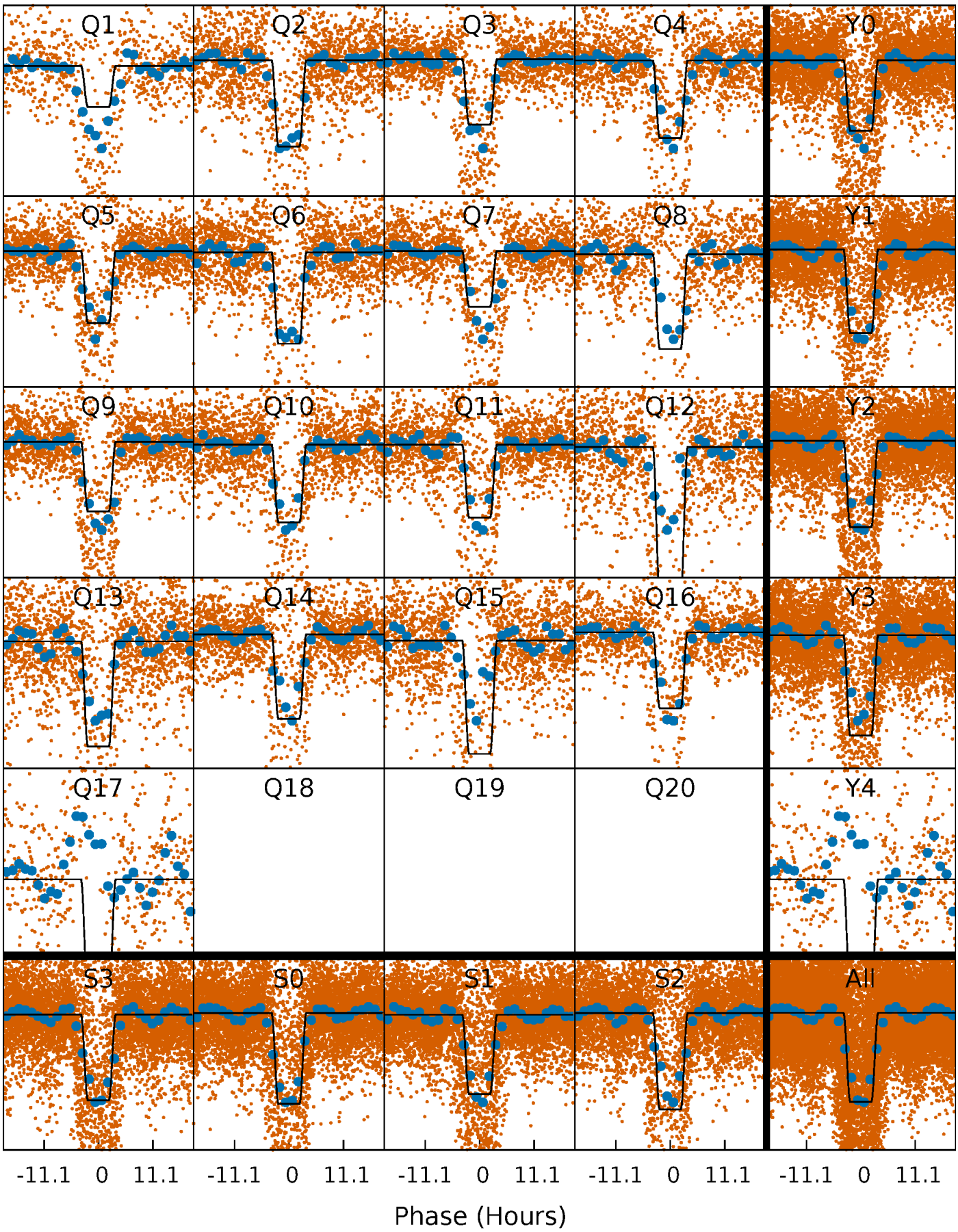
DV Quarter-Phased Transit Curves

TCE 008108099-01 P= 3.761734 Days T_0=134.143732 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

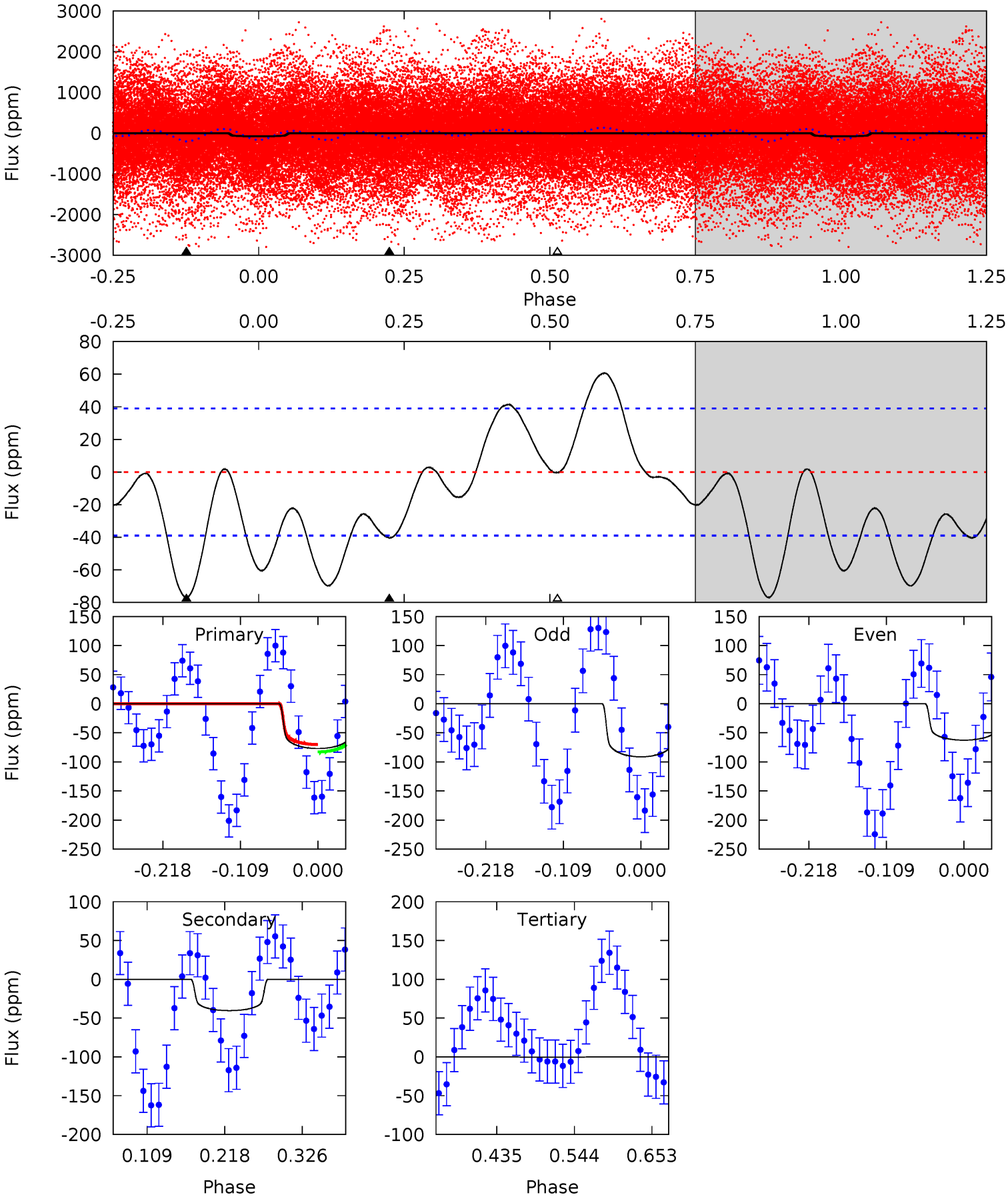
TCE 008108099-01 P= 3.761643 Days T_0=134.145523 (BKJD)



DV Model-Shift Uniqueness Test

008108099-01, P = 3.761734 Days, E = 130.381998 Days

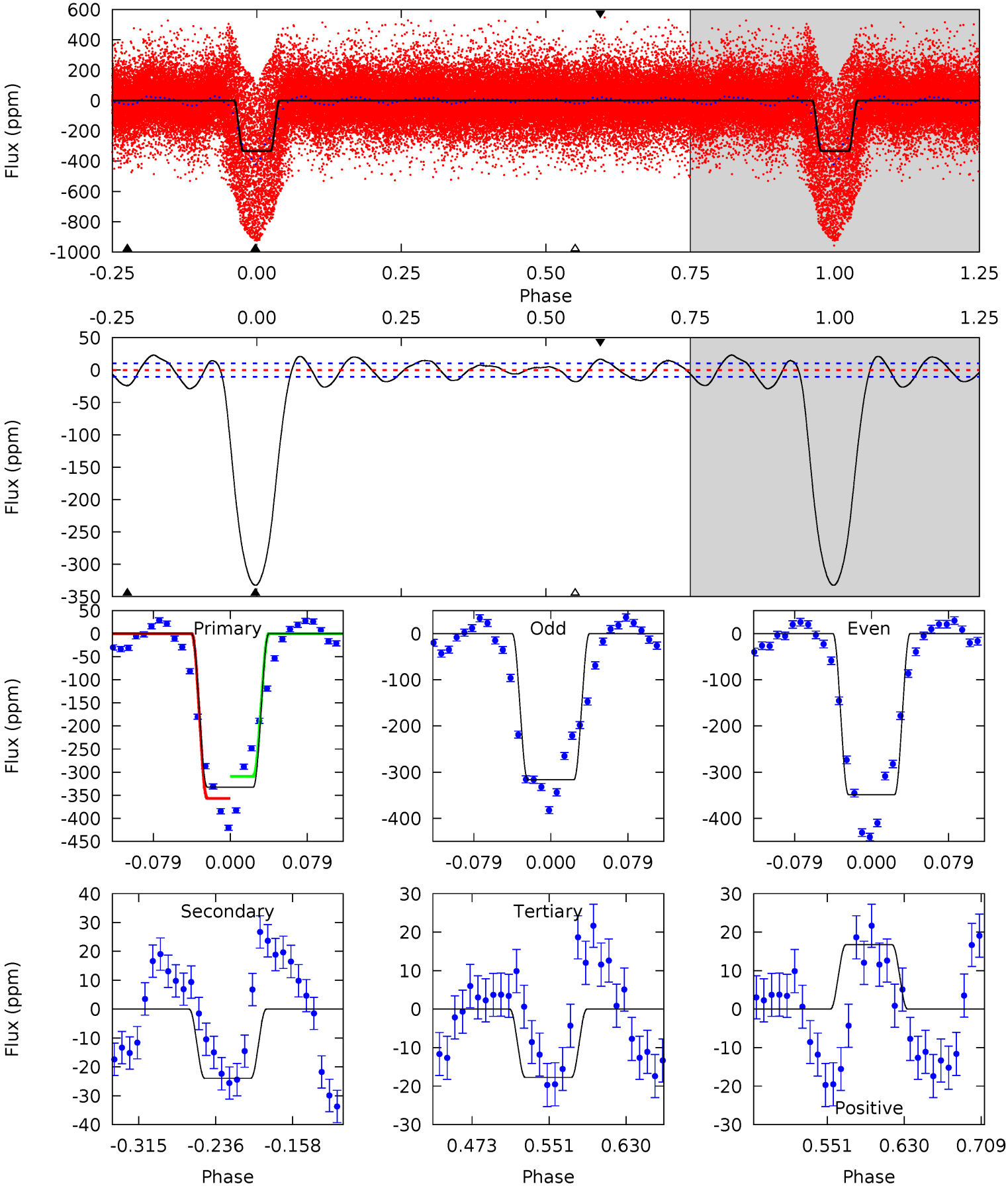
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.98	4.71	0.04	0	4.55	1.60	3.91	8.94	8.98	4.66	4.71	1.68	1.44	0.44	0.74



Alt Model-Shift Uniqueness Test

008108099-01, P = 3.761643 Days, E = 130.383880 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
147.0	10.6	7.84	7.40	4.61	1.76	5.26	139.1	139.6	2.74	3.19	7.06	1.01	0.07	0



Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-40±9	$3.82^{+0.53}_{-0.70}$	3143^{+187}_{-261}	5198^{+355}_{-323}	$5.315^{+2.646}_{-1.502}$
Alt.	-24±2	$6.83^{+0.75}_{-1.36}$	3149^{+182}_{-294}	3597^{+134}_{-126}	$0.976^{+0.439}_{-0.194}$

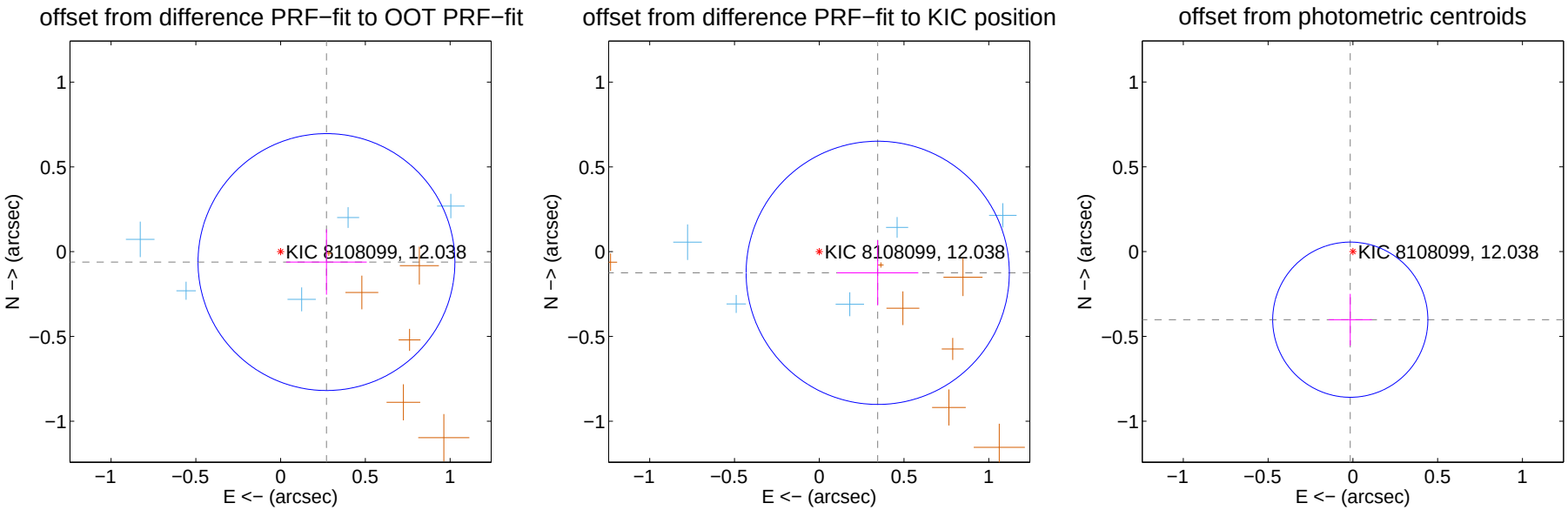
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

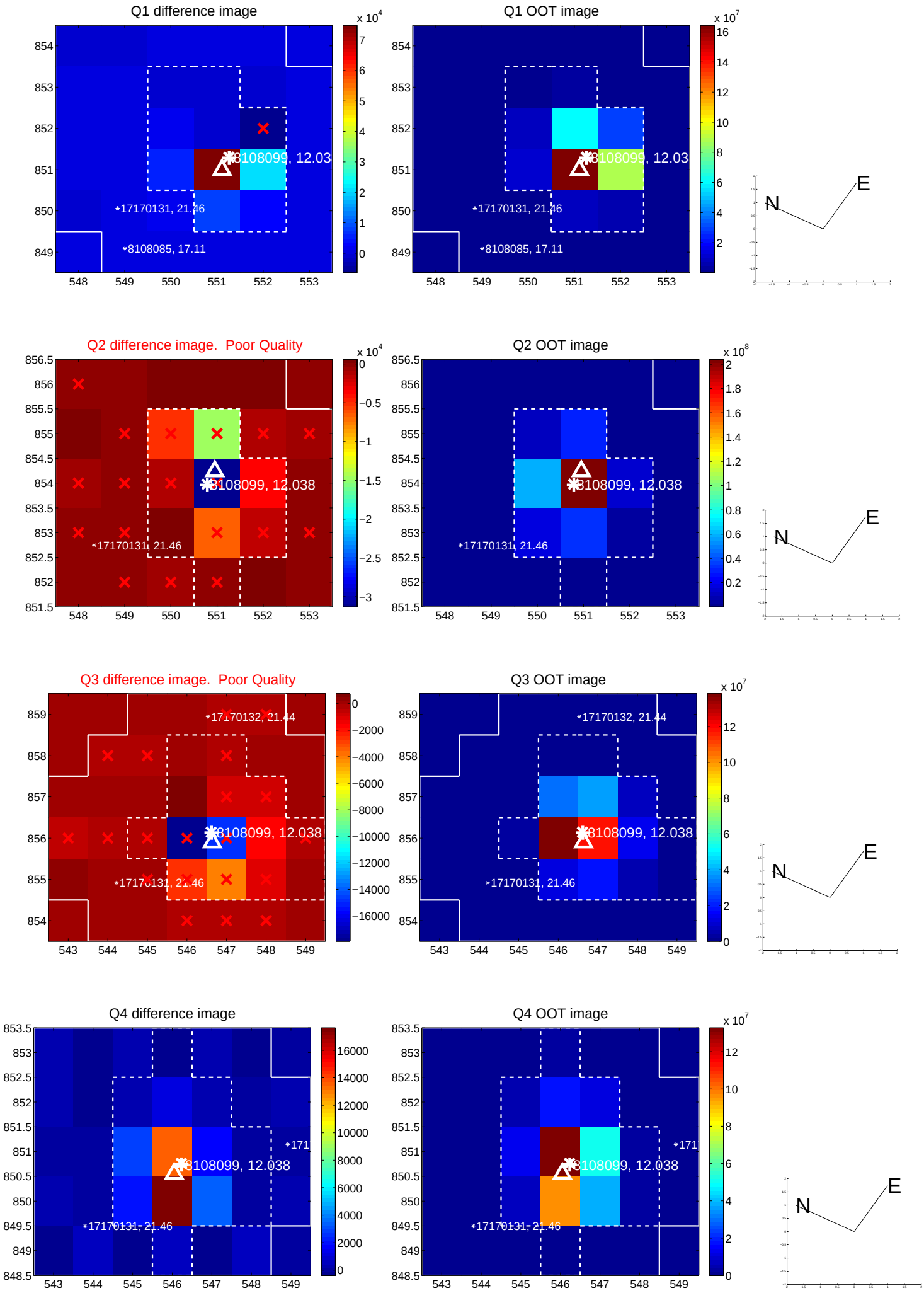
Supplemental centroid analysis for 008108099-01. Kepler magnitude: 12.04. Transit SNR 11.18
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.277 ± 0.253	1.10	-0.271 ± 0.238	-0.061 ± 0.193
PRF-fit source offset from KIC position	0.367 ± 0.259	1.42	-0.345 ± 0.239	-0.125 ± 0.192
photometric centroid source offset	0.40 ± 0.15	2.63	0.02 ± 0.13	-0.40 ± 0.15

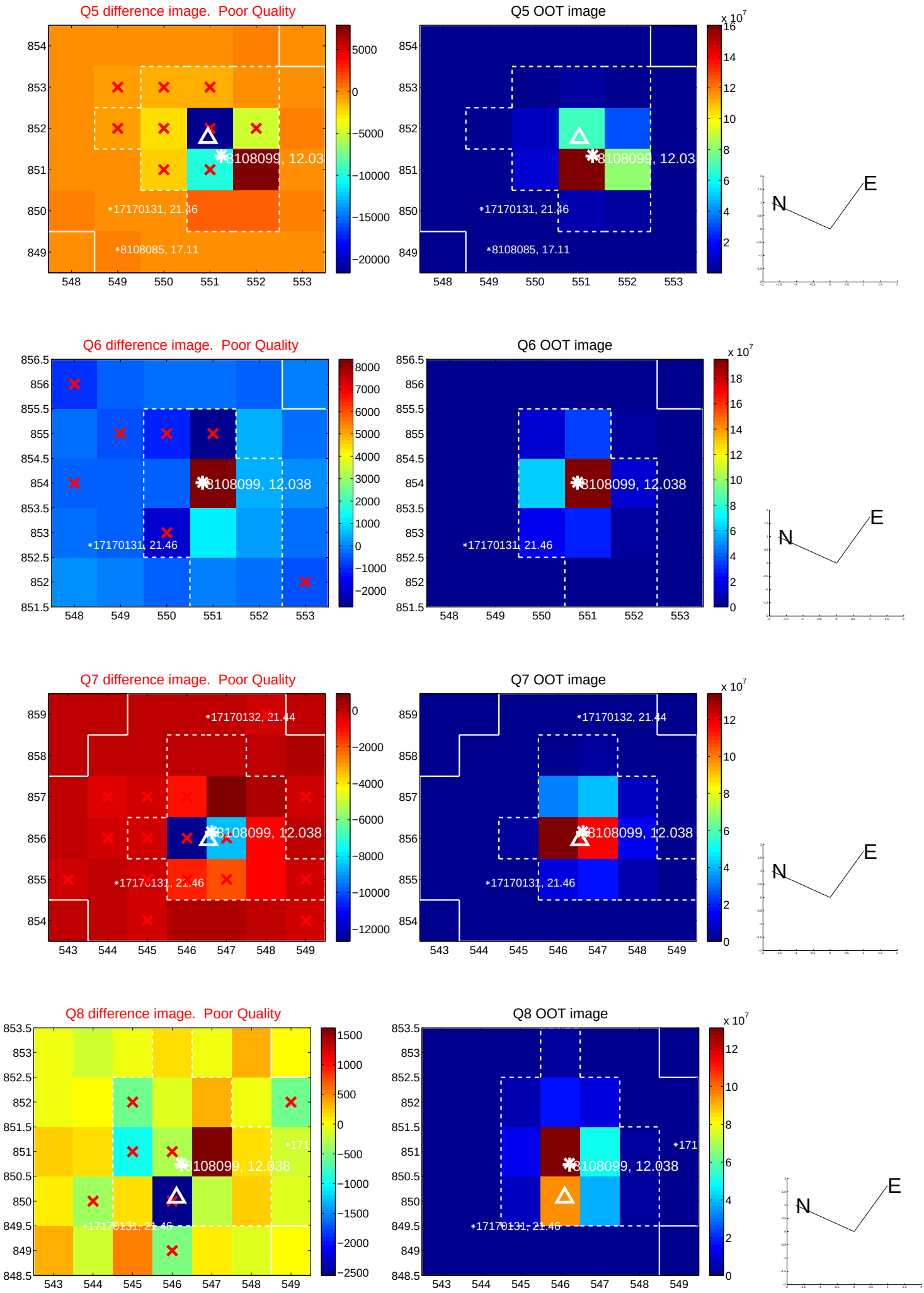


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

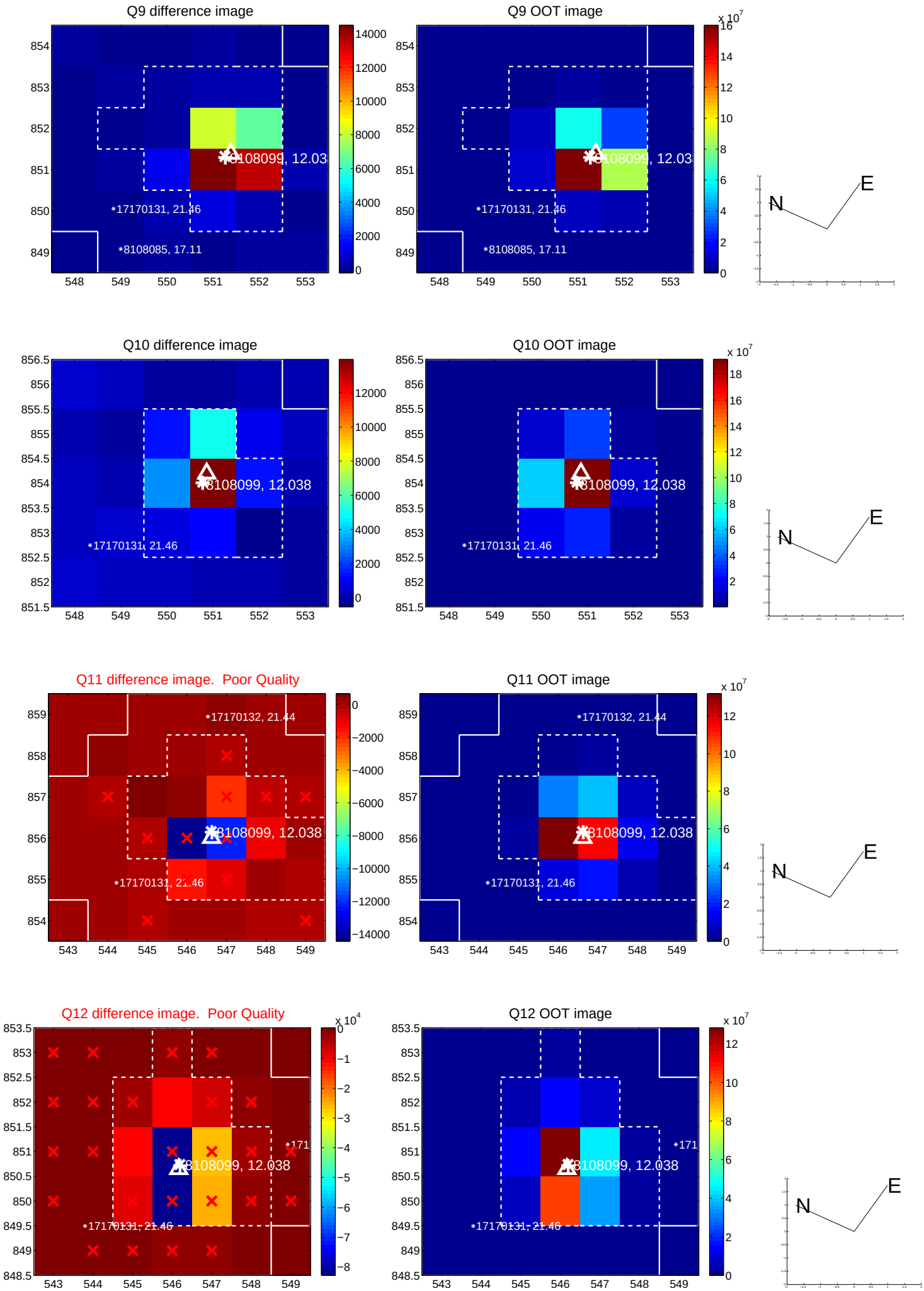
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



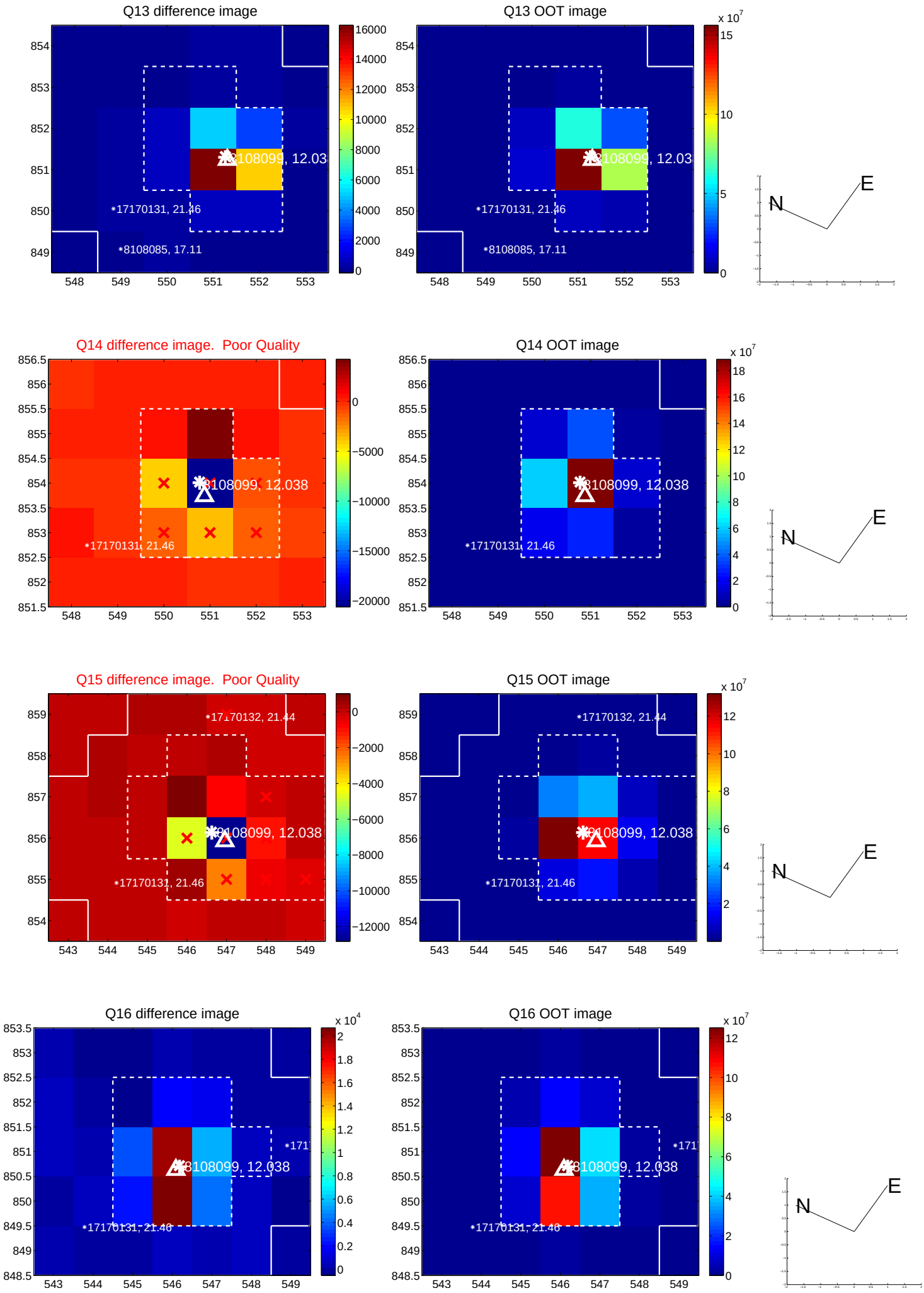
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



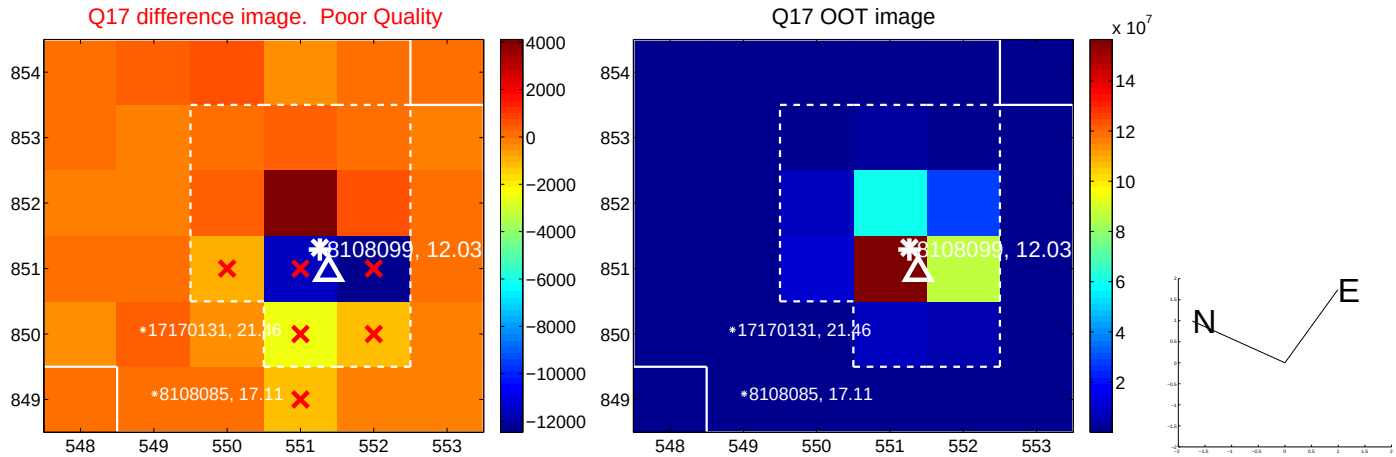
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

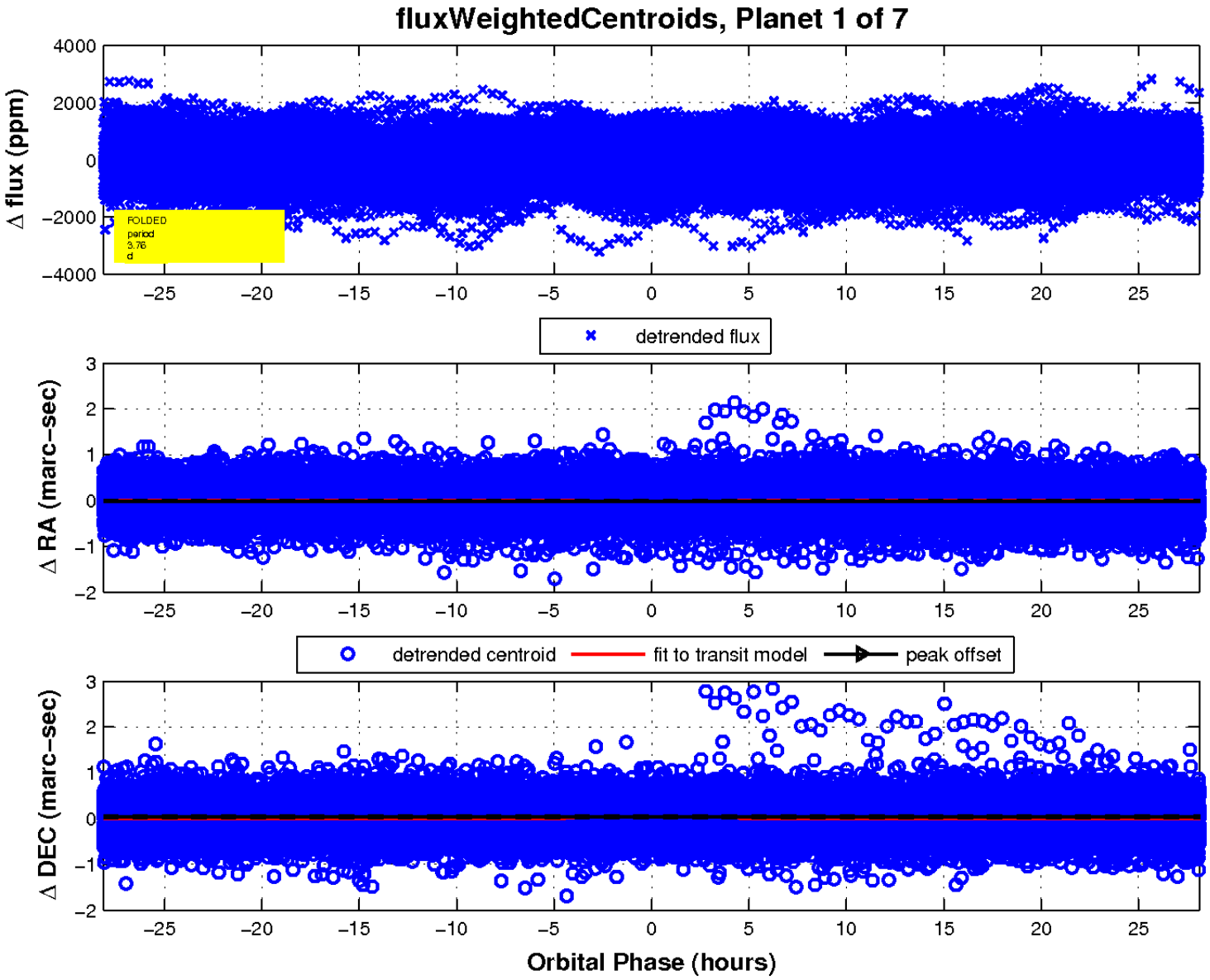


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

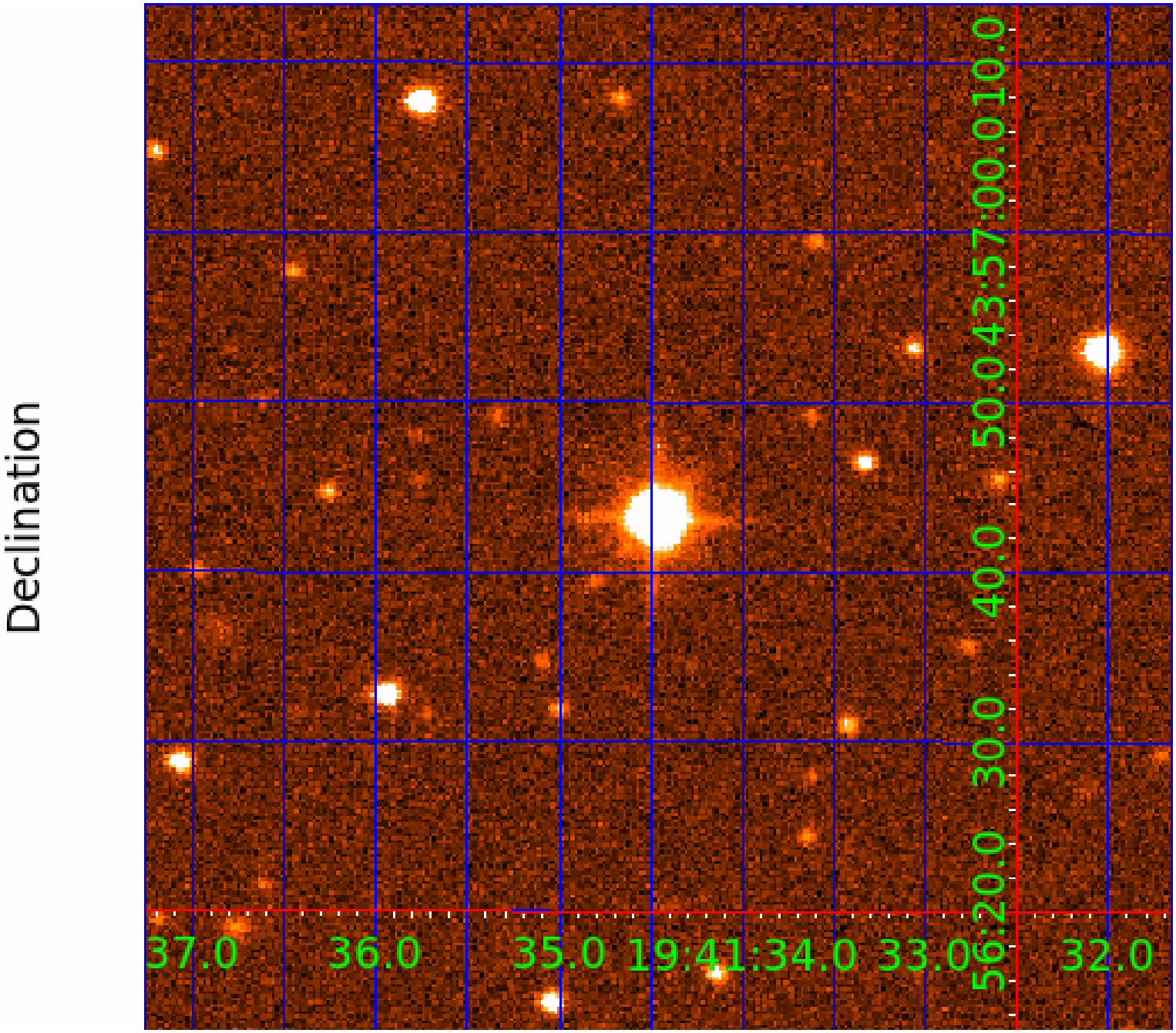


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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35.0
19:41:34.0
33.0
32.0
56:20.0
30.0
40.0
50.0
43:57:00.0
10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
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008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

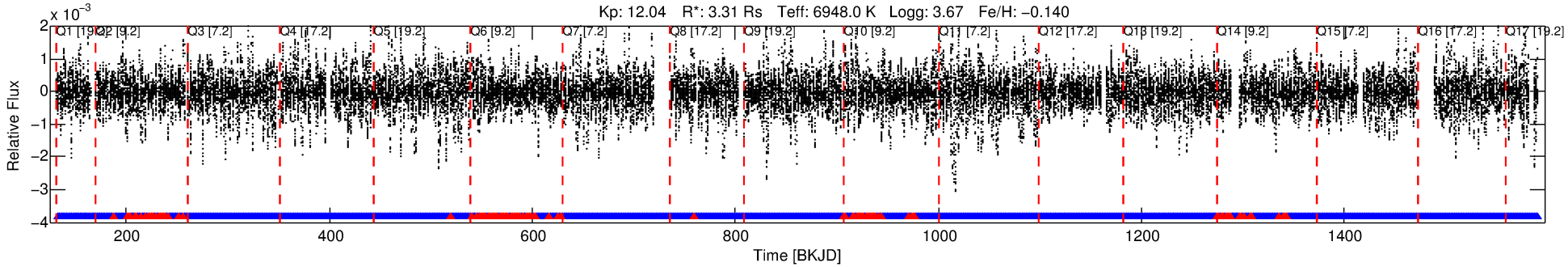
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

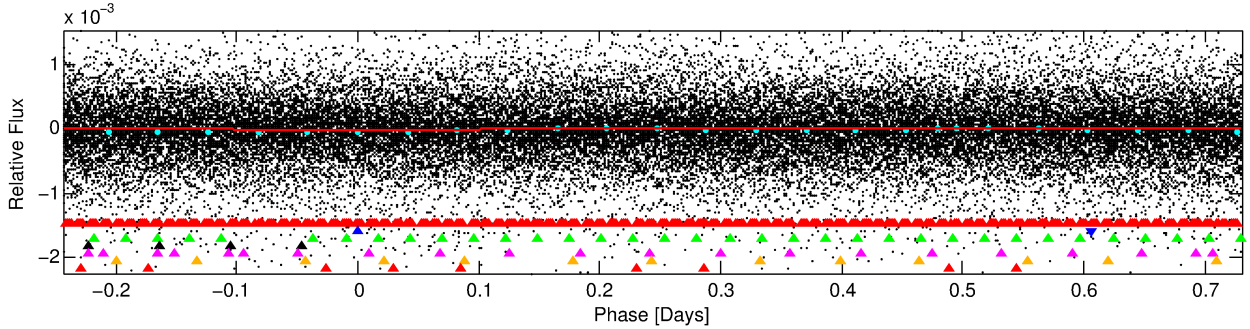
Ephemeris Match Information For 008108099-02

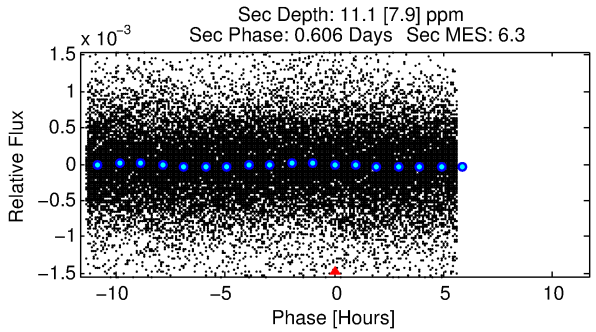
No Significant Match Found

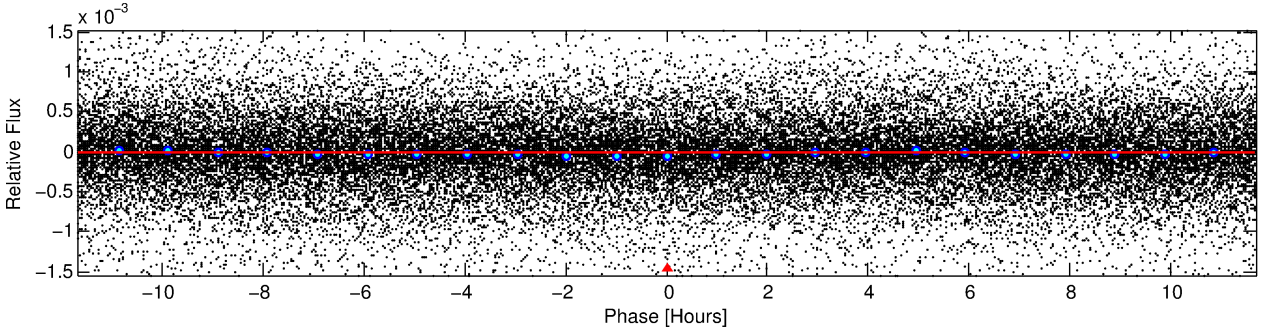
DV One-Page Summary

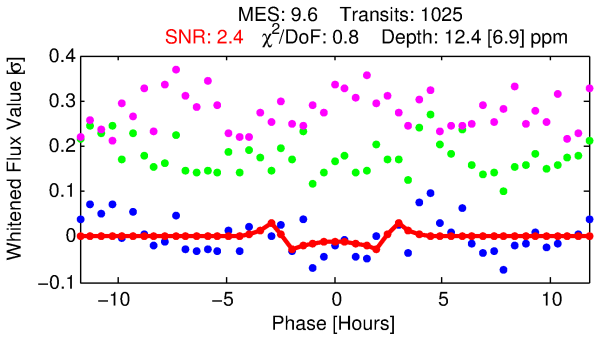
KIC: 8108099 Candidate: 2 of 7 Period: 0.974 d

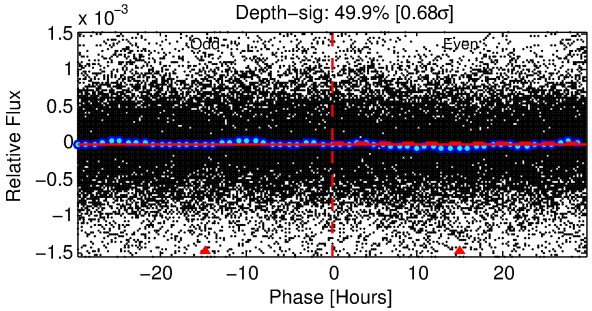


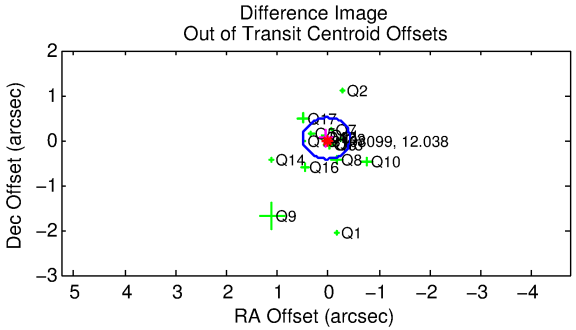












DV Fit Results:

Period = 0.97449 [0.00004] d
Epoch = 132.6301 [0.0065] BKJD
Rp/R* = 0.0033 [0.0022]
a/R* = 1.56 [3.43]
b = 0.36 [9.10]

Seff = 40911.70 [21835.53]
Teq = 3627 [484] K
Rp = 1.19 [0.92] Re
a = 0.0236 [0.0079] AU

Ag = 2.40 [3.87] [0.36σ]
Teffp = 6982 [2670] K [1.24σ]

DV Diagnostic Results:

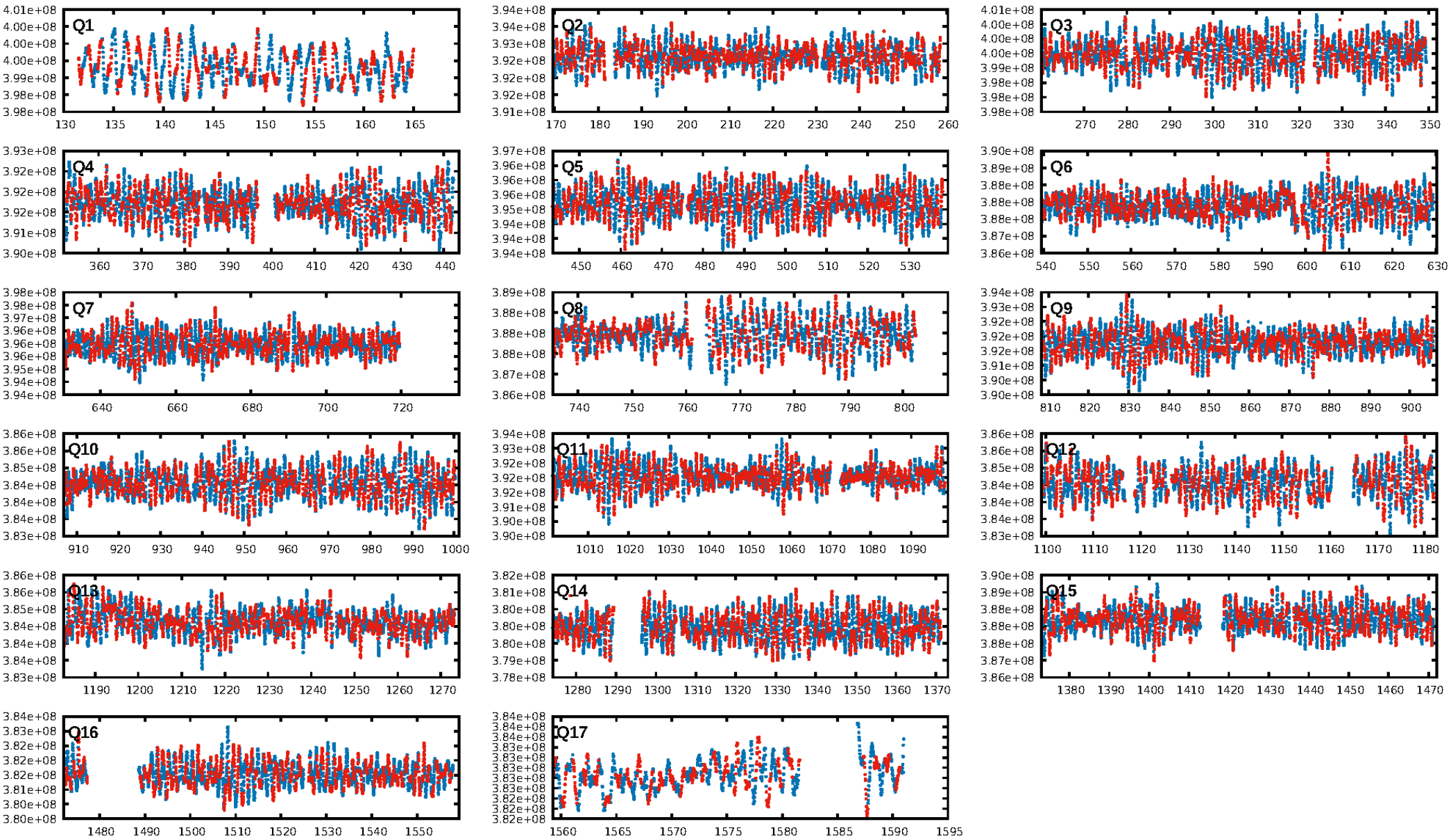
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [6.31σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 0.88 [858/980]
GhostDiagnostic−chr: 0.743

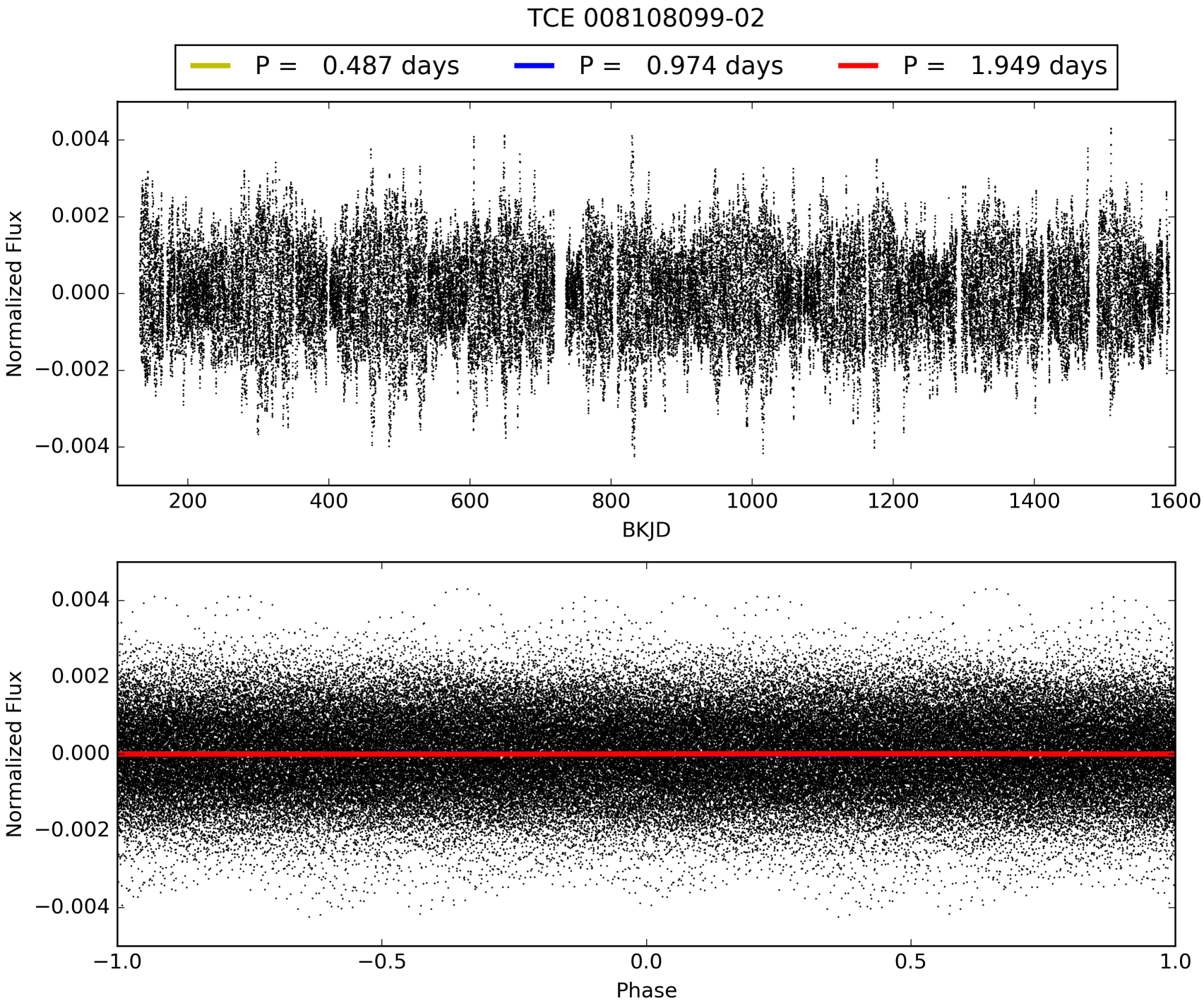
Centroid−sig: 3.3%
Centroid−so: 1.075 arcsec [1.54σ]
OotOffset−rm: 0.052 arcsec [0.34σ]
KicOffset−rm: 0.026 arcsec [0.16σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 0.53 [9/17]
DiffImageOverlap−fno: 0.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:01:47 Z

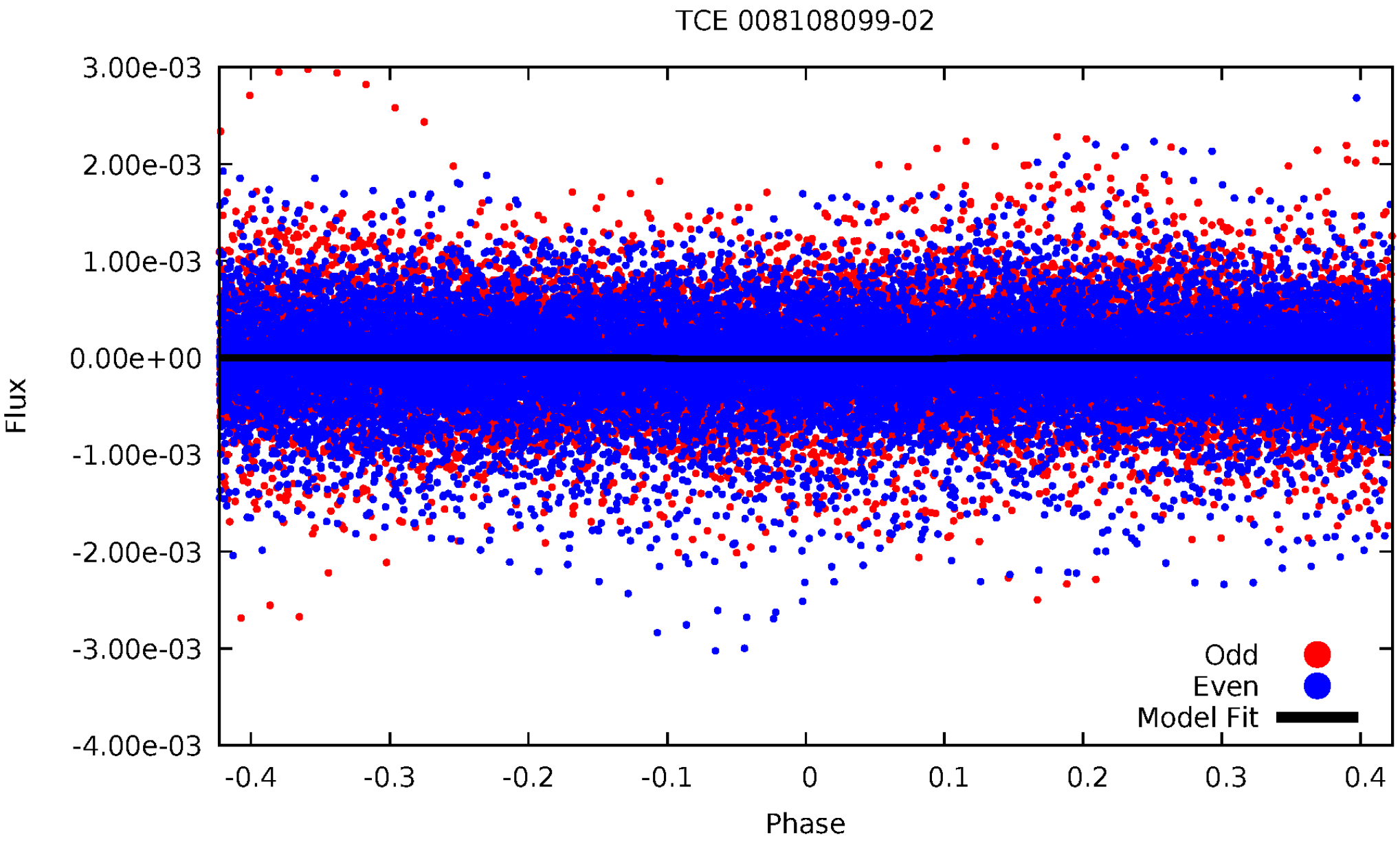
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-02, PDC Light Curves

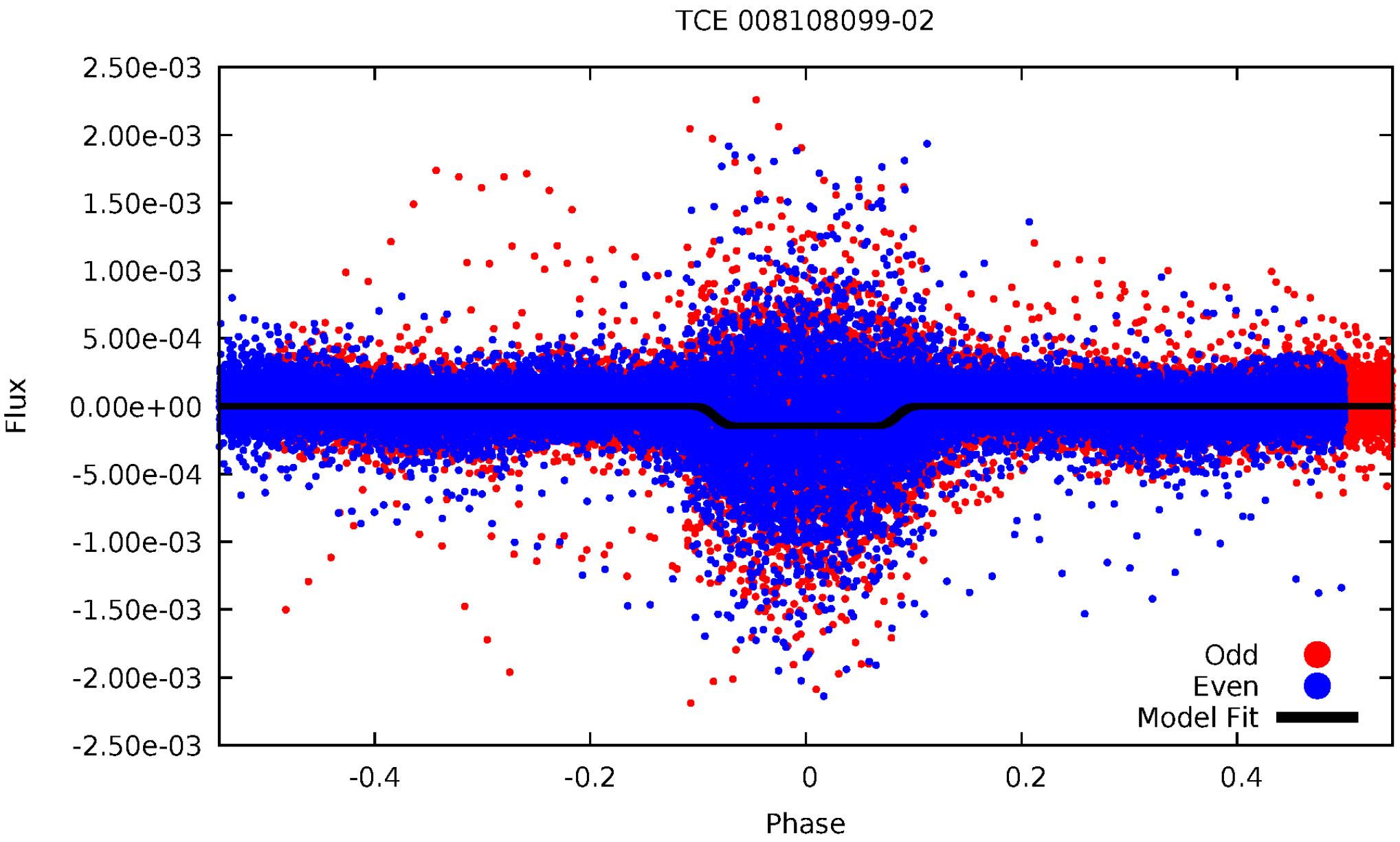



TCE 008108099-02
P = 0.487 days
P = 0.974 days
P = 1.949 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

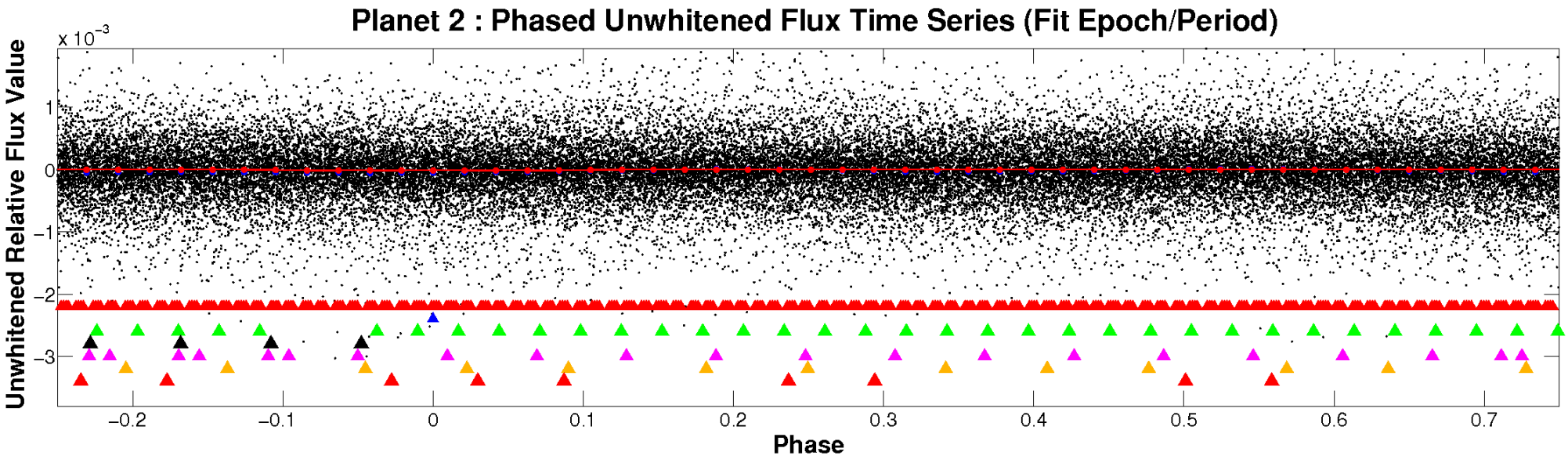
DV Odd/Even

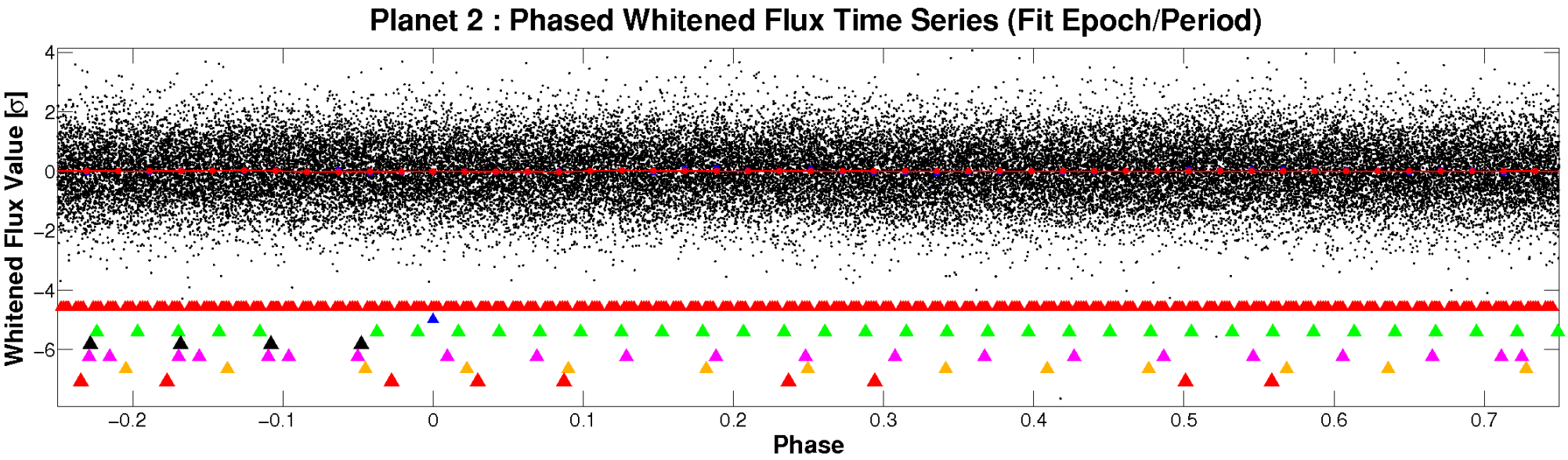

TCE 008108099-02
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-02
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.4
-0.2
0
0.2
0.4
Phase
Odd
Even
Model Fit

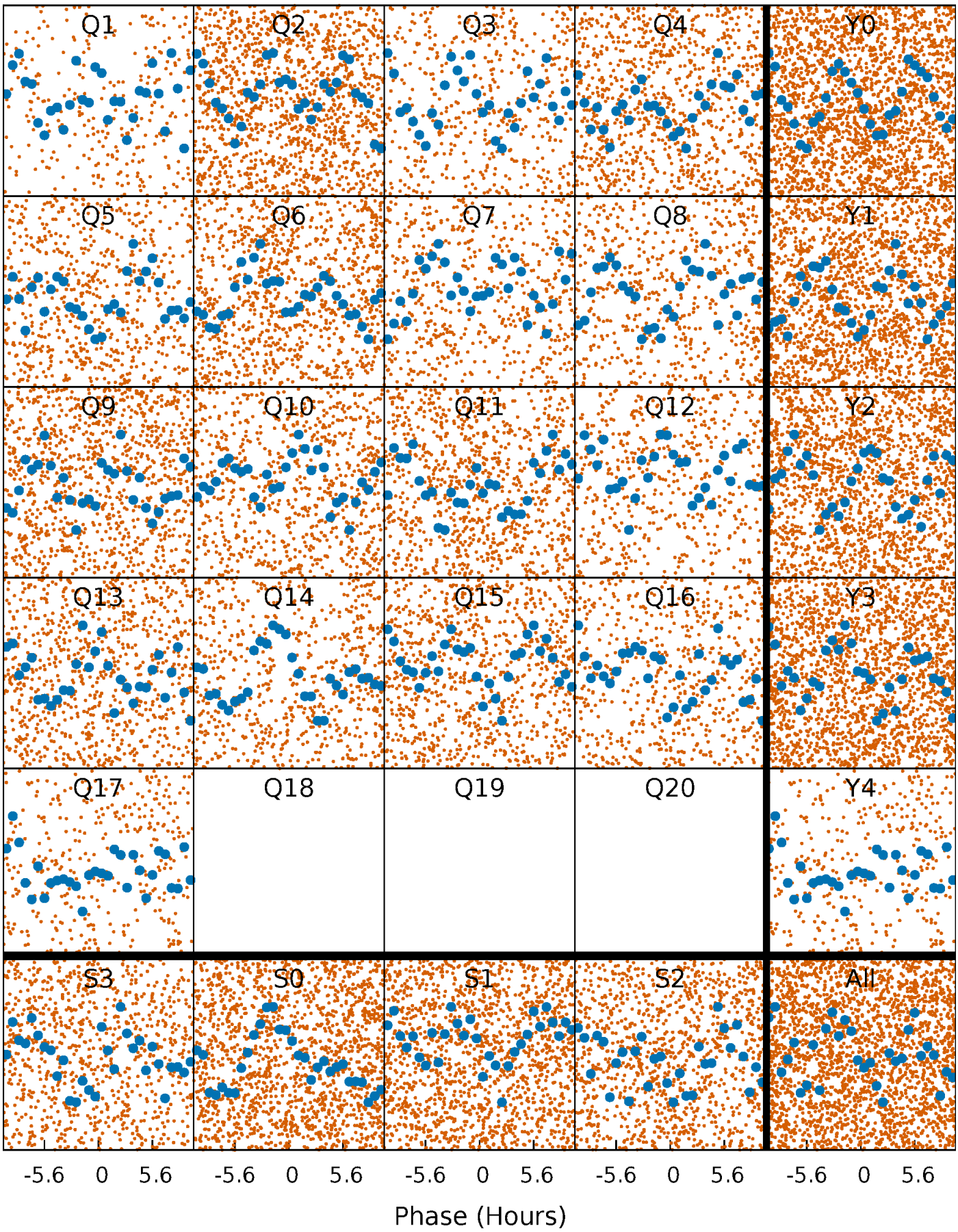
Non-Whitened Vs. Whitened Light Curve





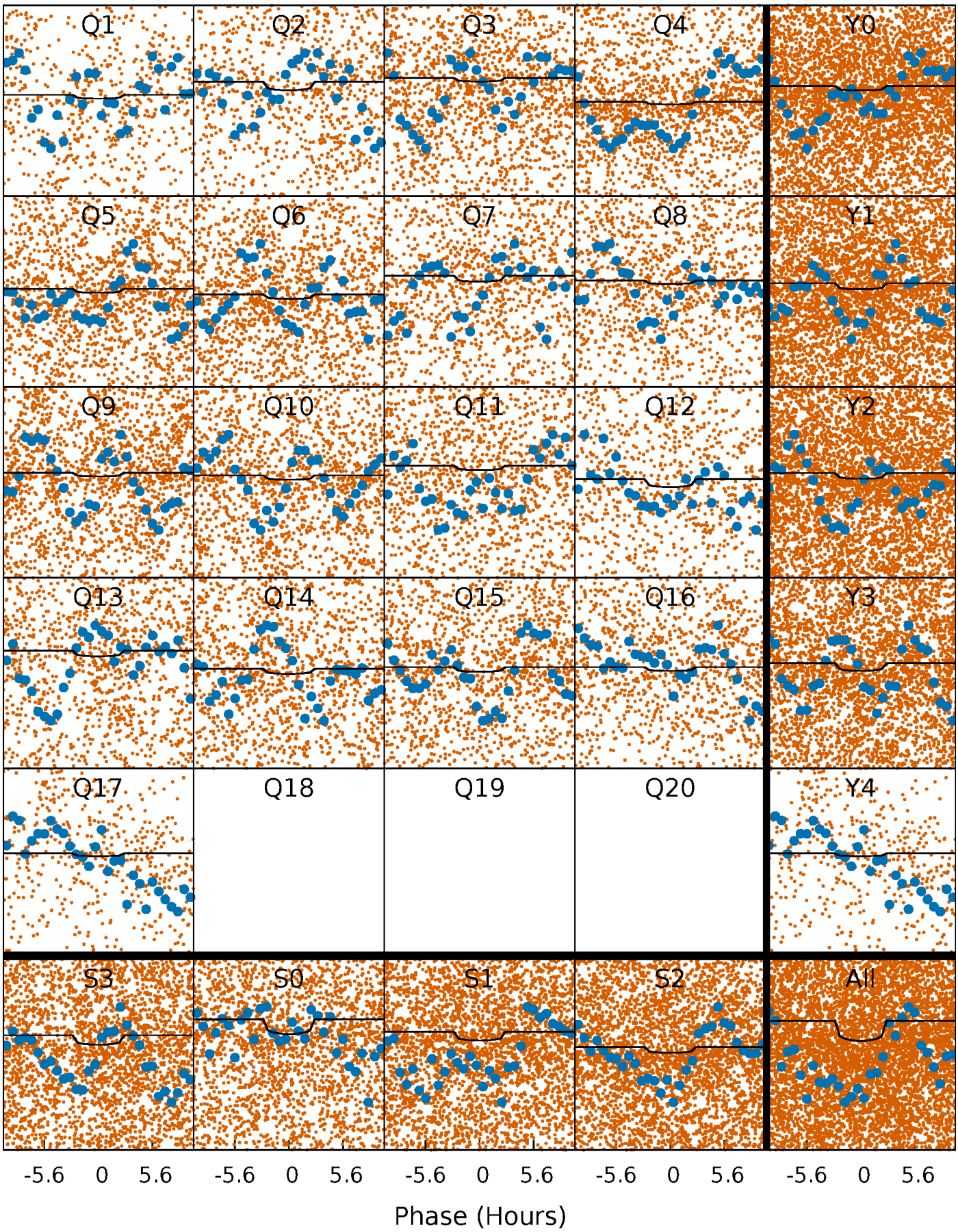
PDC Quarter-Phased Transit Curves

TCE 008108099-02 P= 0.974493 Days T_0=132.630136 (BKJD)



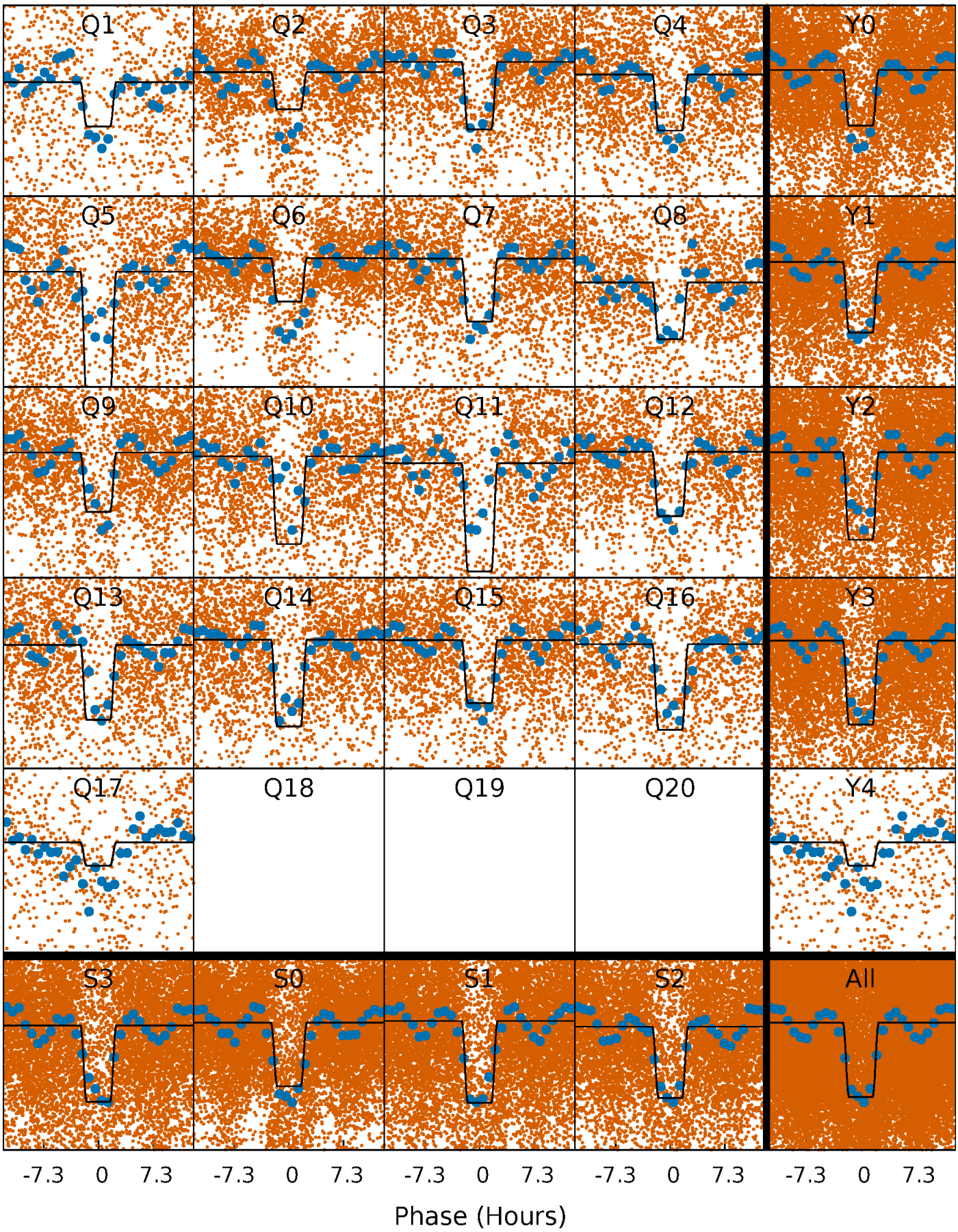
DV Quarter-Phased Transit Curves

TCE 008108099-02 P= 0.974493 Days T_0=132.630136 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

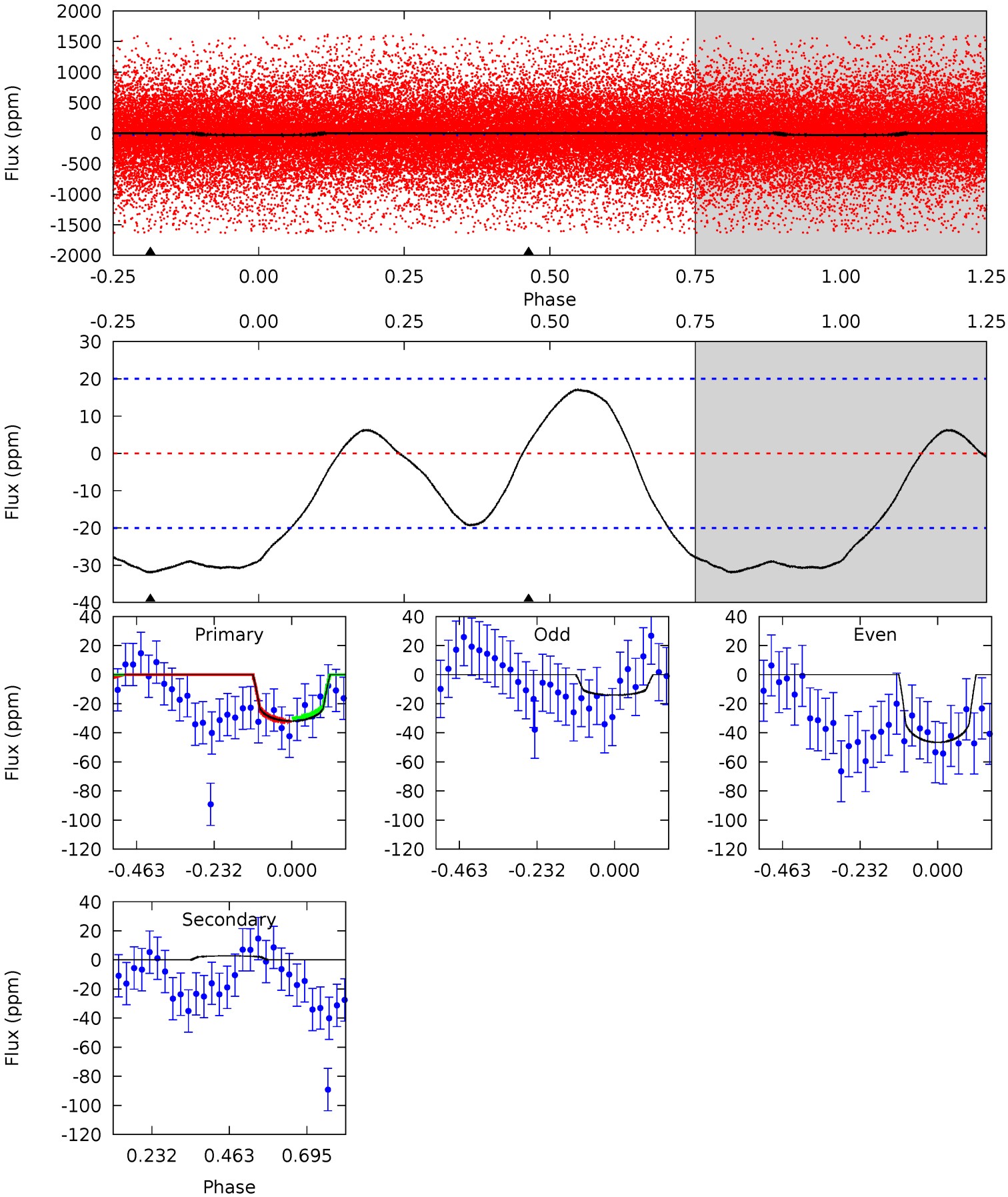
TCE 008108099-02 P= 0.974194 Days T_0=132.430994 (BKJD)



DV Model-Shift Uniqueness Test

008108099-02, P = 0.974493 Days, E = 130.681150 Days

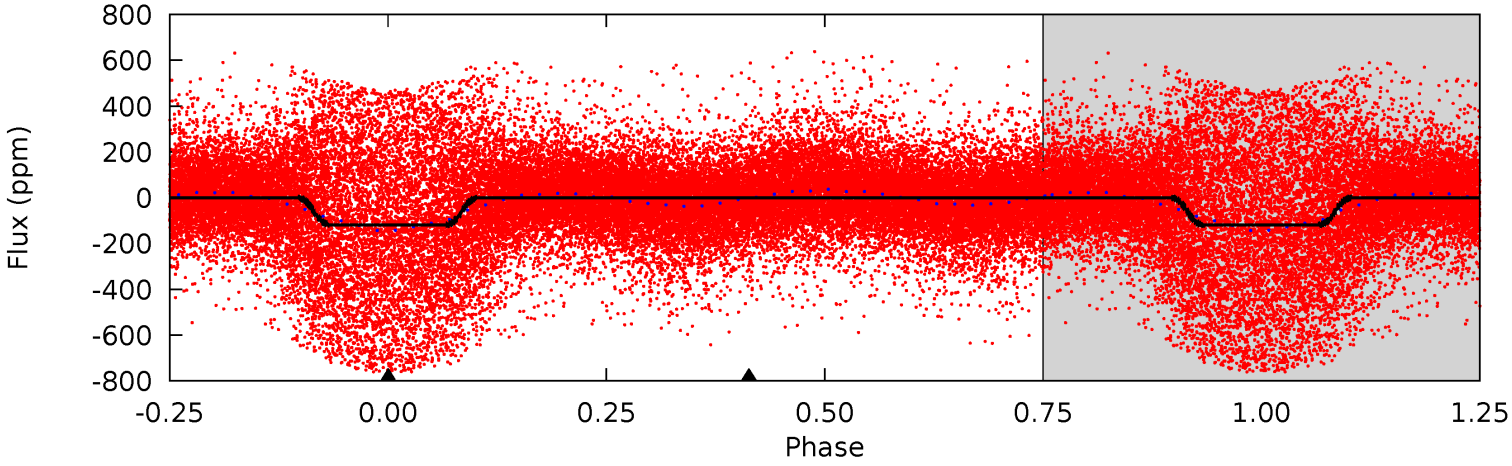
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.99	-0.60	0	0	4.39	1.20	2.02	6.99	6.99	-0.60	-0.60	3.63	1.87	0.35	0.26

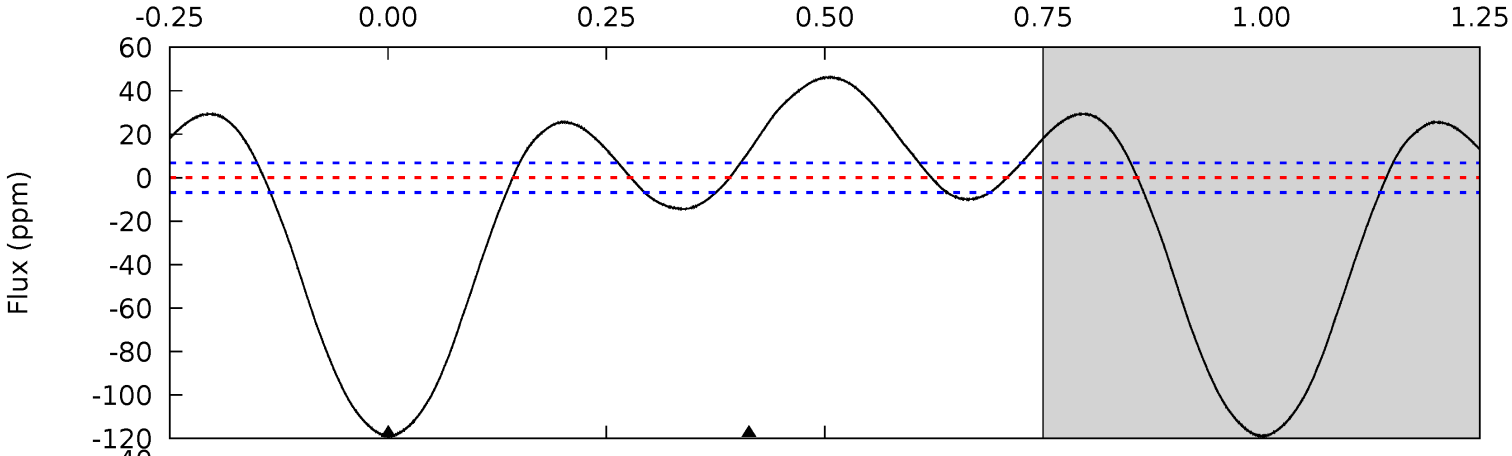


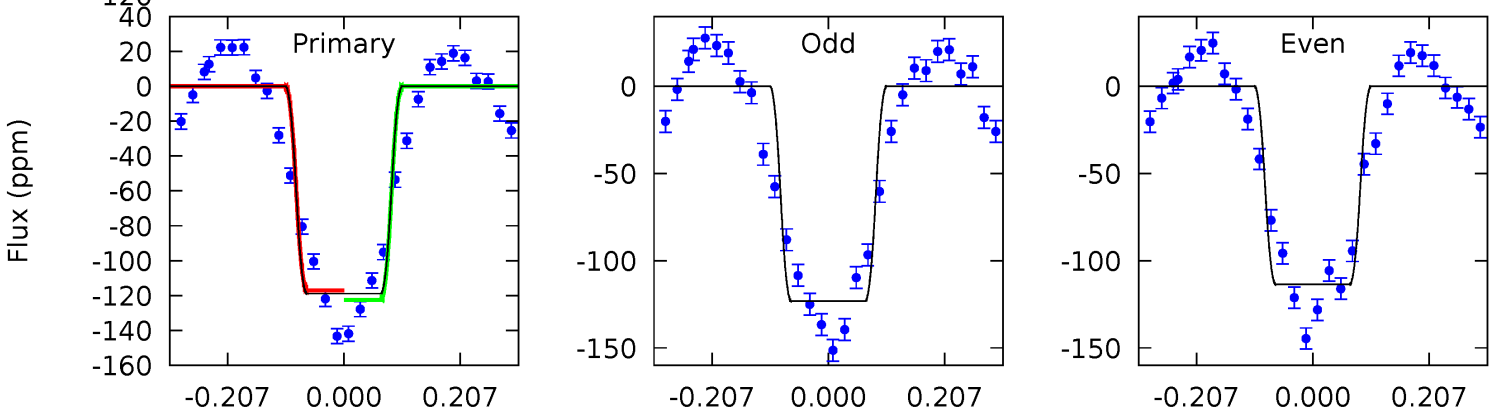
Alt Model-Shift Uniqueness Test

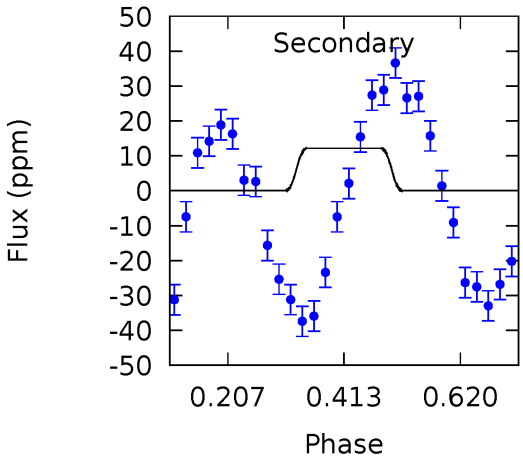
008108099-02, P = 0.974194 Days, E = 131.456800 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.1	-7.89	0	0	4.41	1.26	8.85	77.1	77.1	-7.89	-7.89	3.09	1.09	0.28	1.82









Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	3±5	$1.19^{+0.74}_{-0.67}$	4961^{+268}_{-453}	-5184^{+2460}_{-2364}	$-0.554^{+0.842}_{-2.808}$
Alt.	12±2	$4.16^{+1.03}_{-0.99}$	4968^{+256}_{-424}	-4763^{+239}_{-227}	$-0.216^{+0.077}_{-0.158}$

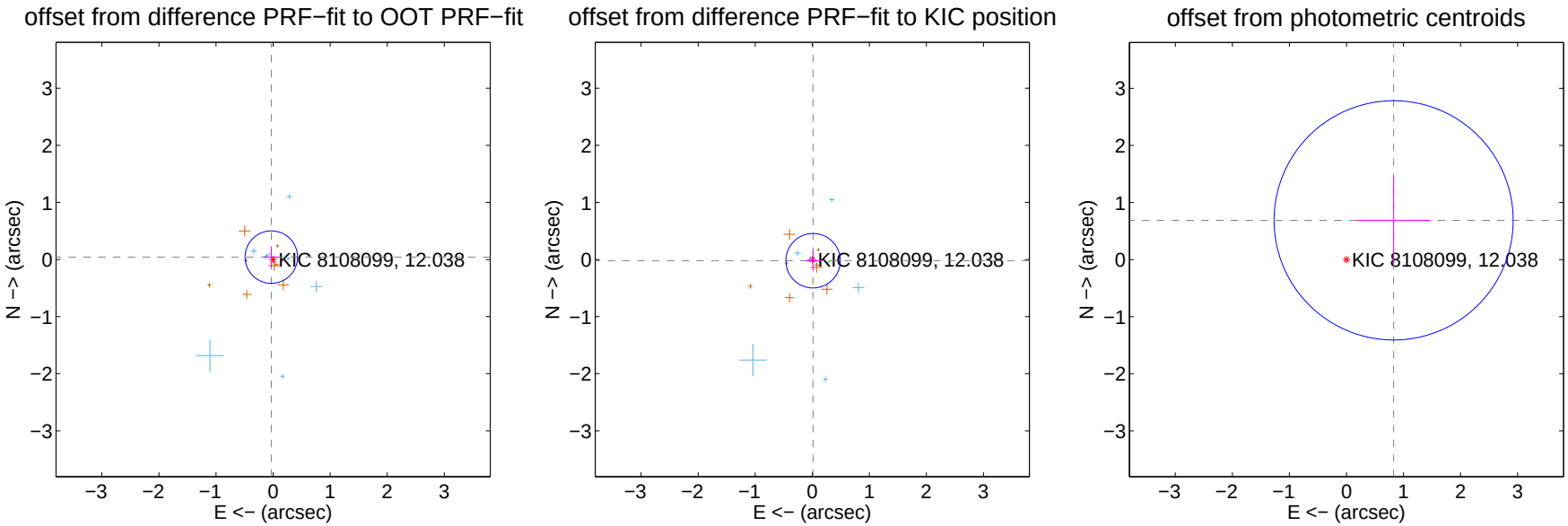
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

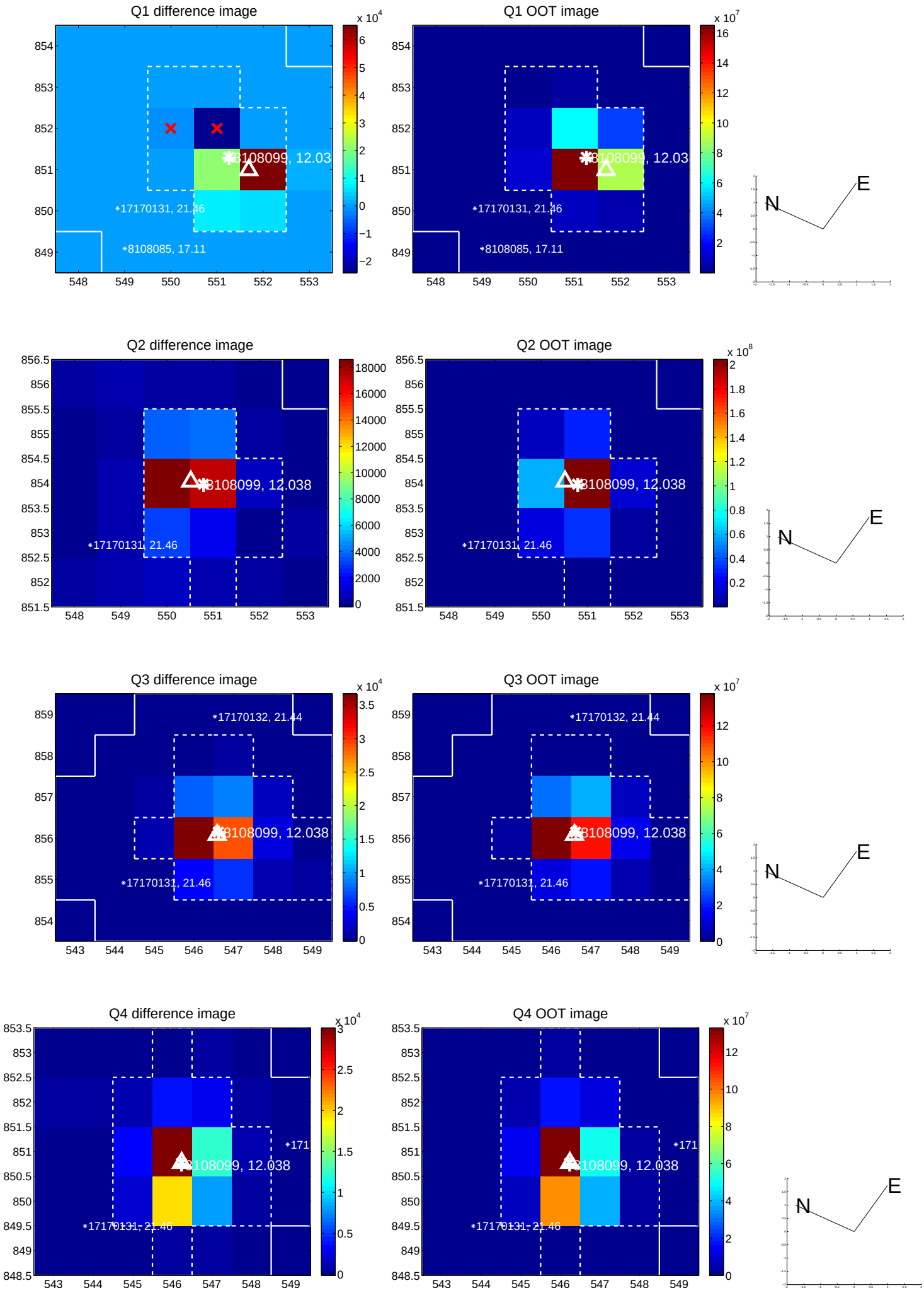
Supplemental centroid analysis for 008108099-02. Kepler magnitude: 12.04. Transit SNR 2.36
There are 9 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.153	0.34	0.031 ± 0.133	0.042 ± 0.185
PRF-fit source offset from KIC position	0.026 ± 0.159	0.16	-0.014 ± 0.133	-0.022 ± 0.185
photometric centroid source offset	1.08 ± 0.70	1.54	-0.83 ± 0.65	0.69 ± 0.76

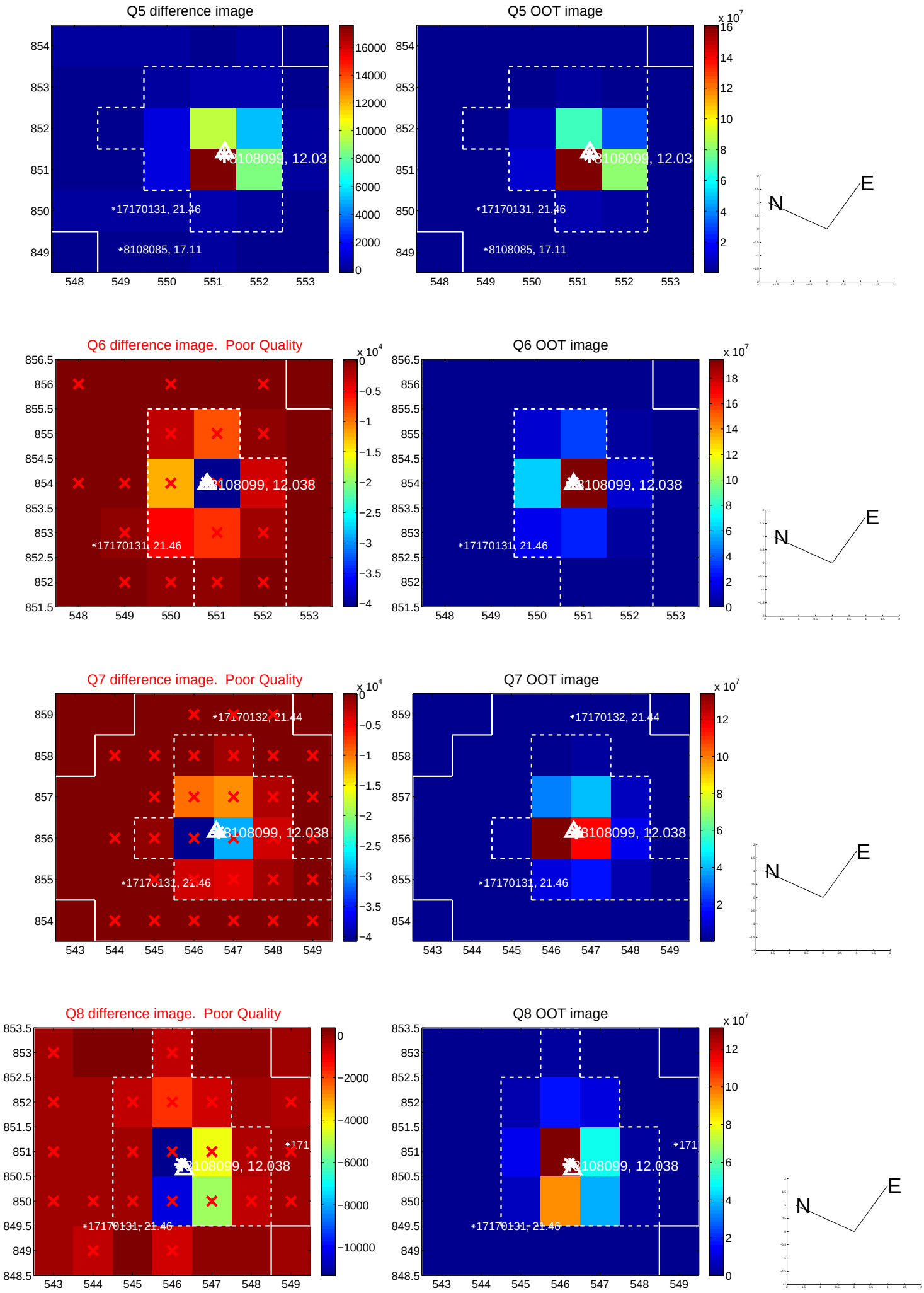


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

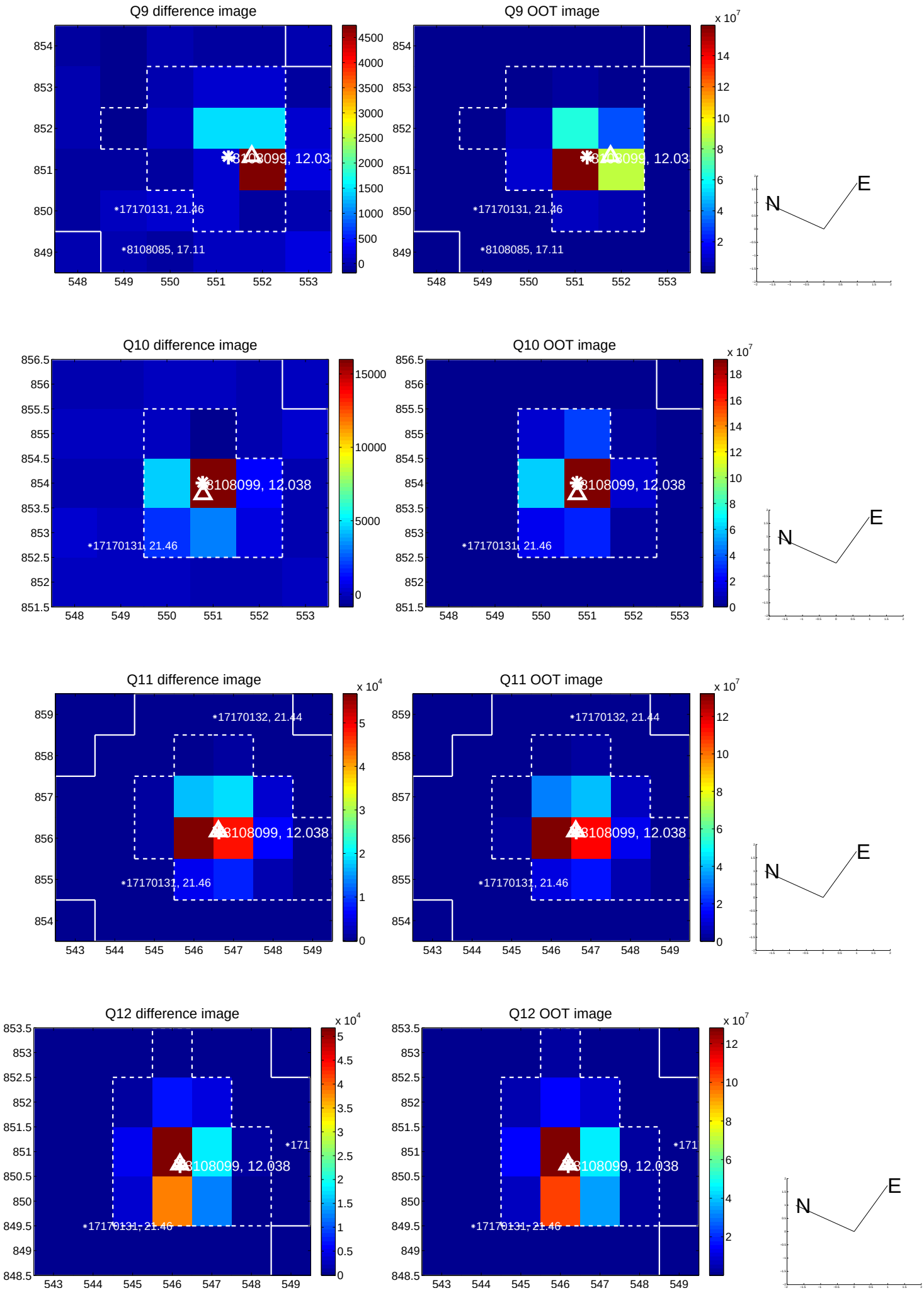
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



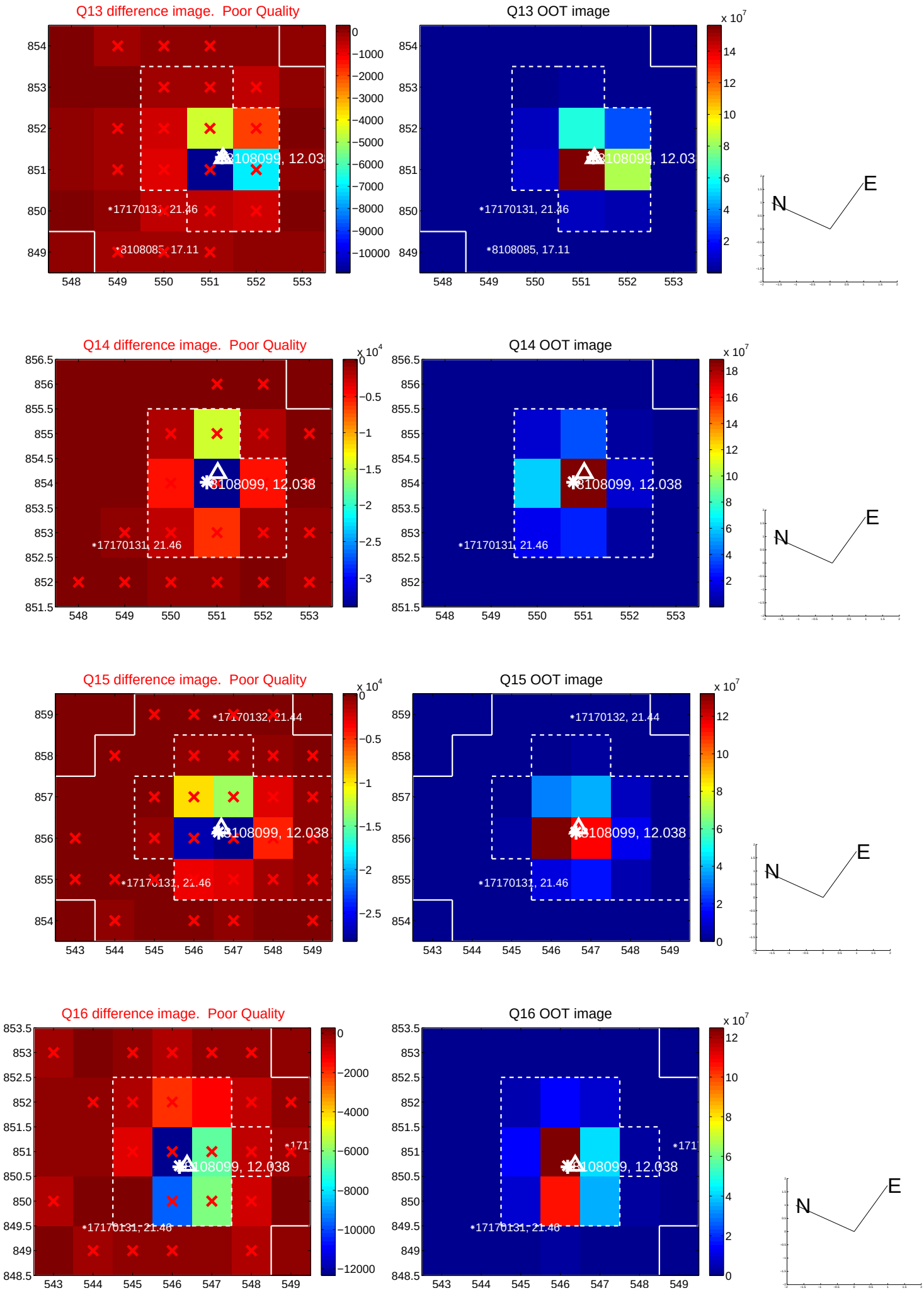
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



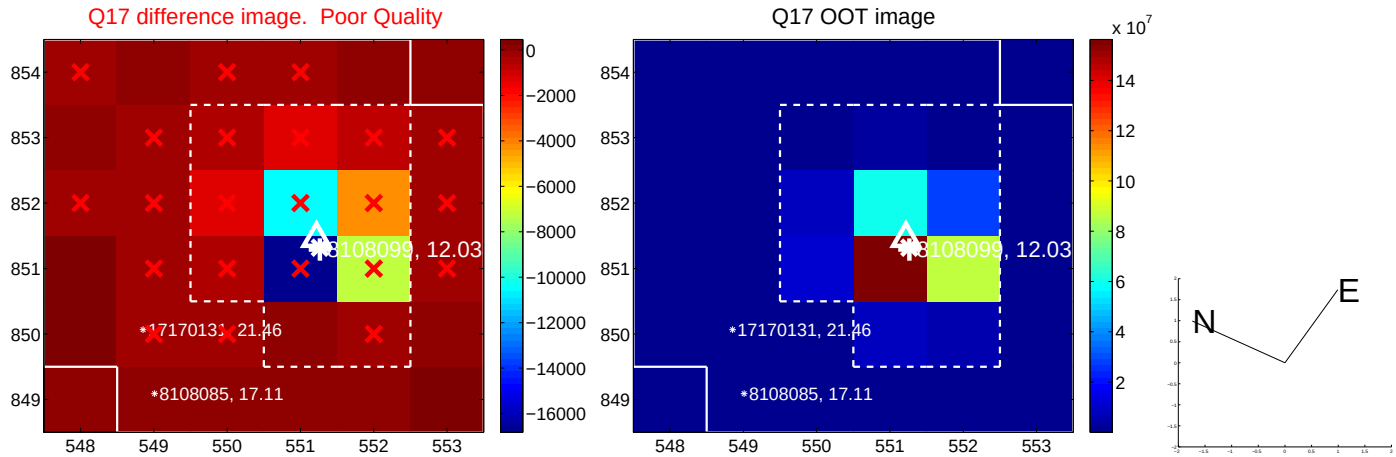
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

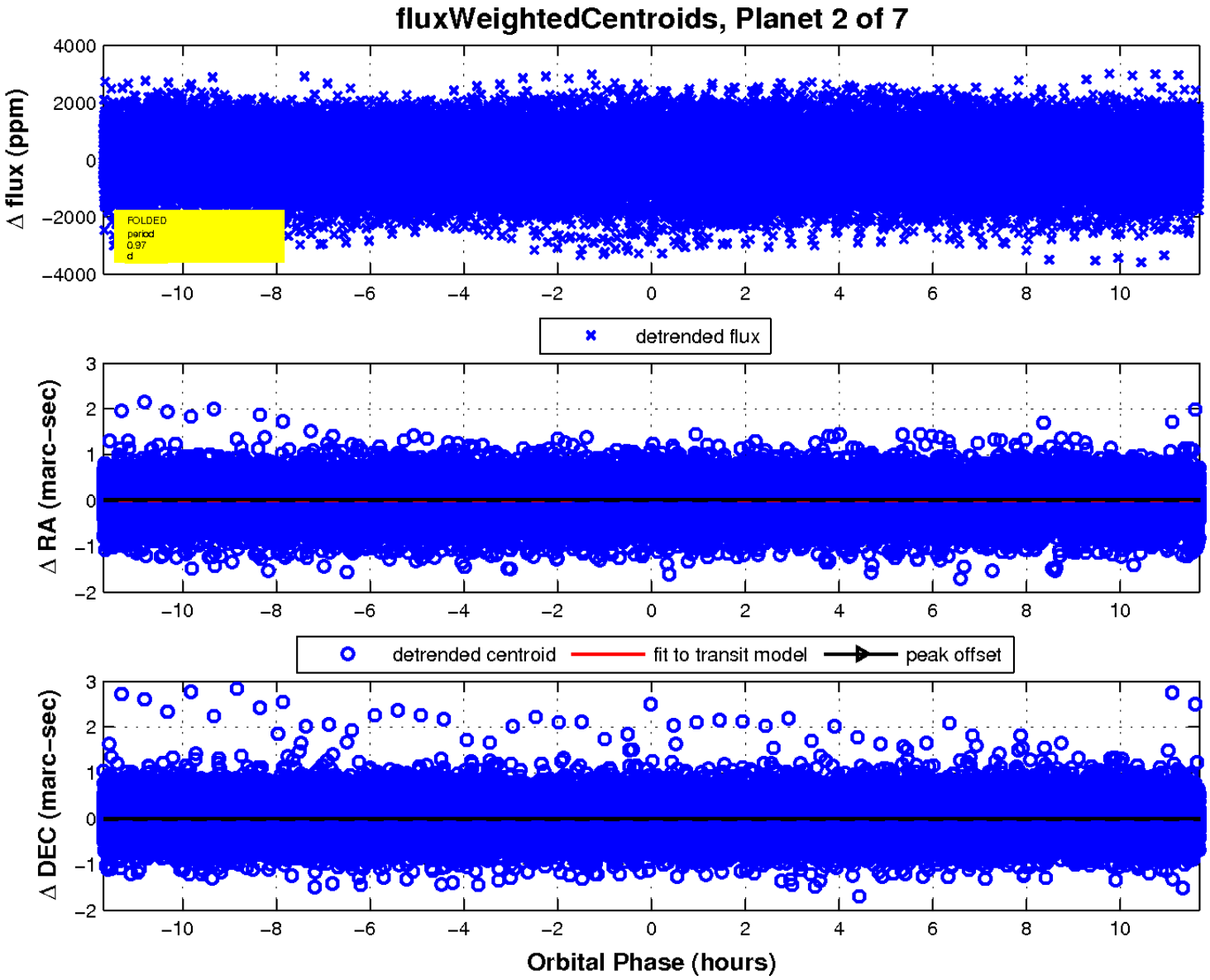


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

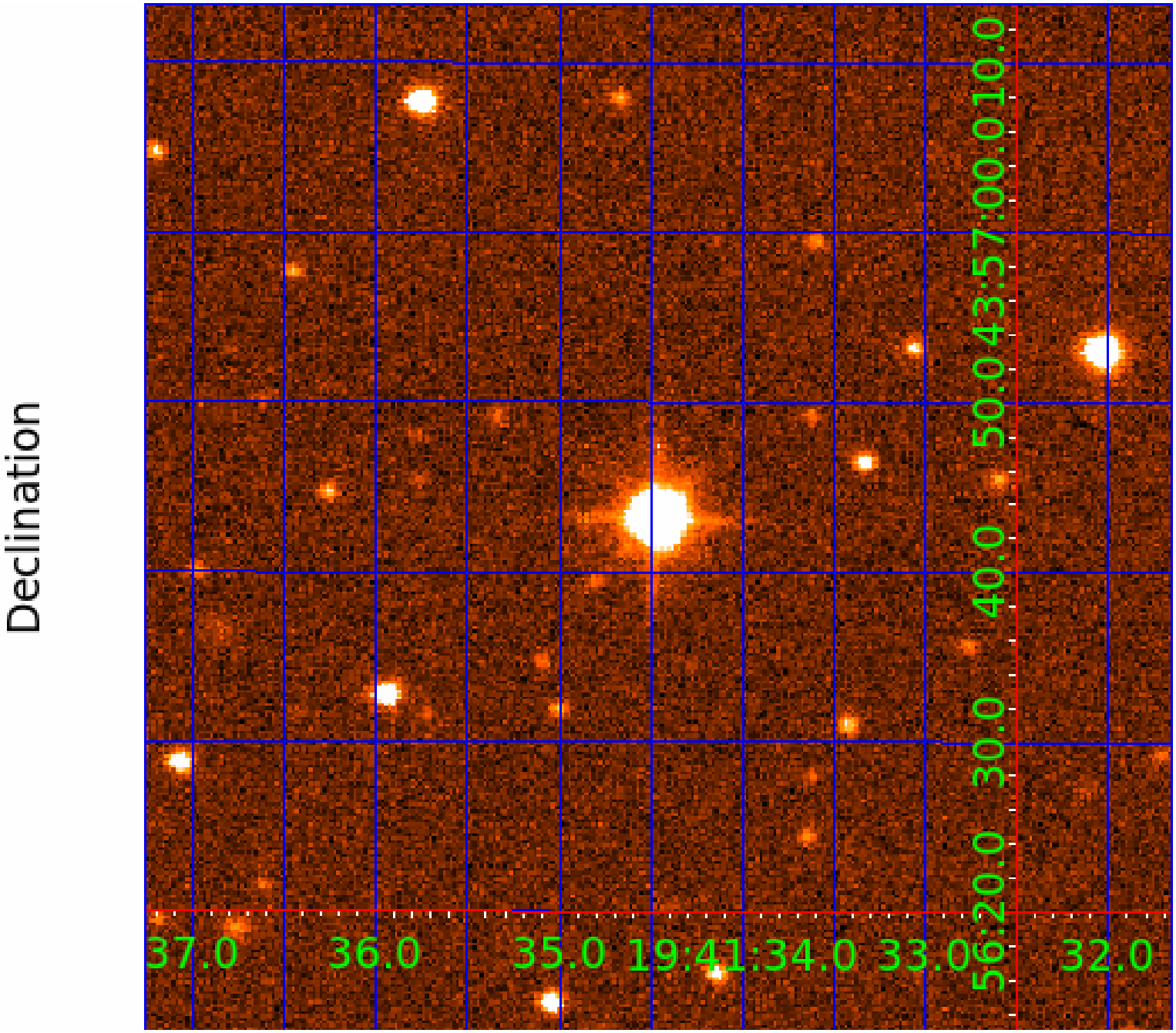


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
37.0
36.0
35.0
19:41:34.0
33.0
32.0
56:20.0
30.0
40.0
50.0
43:57:00.0
10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

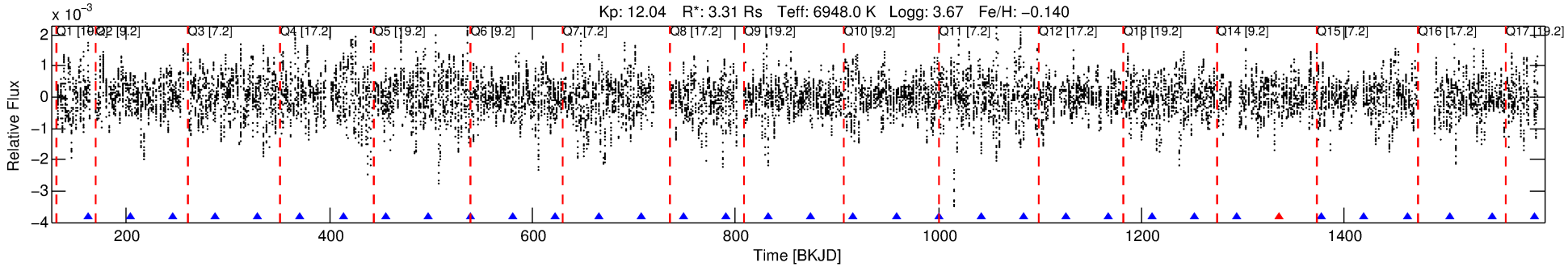
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

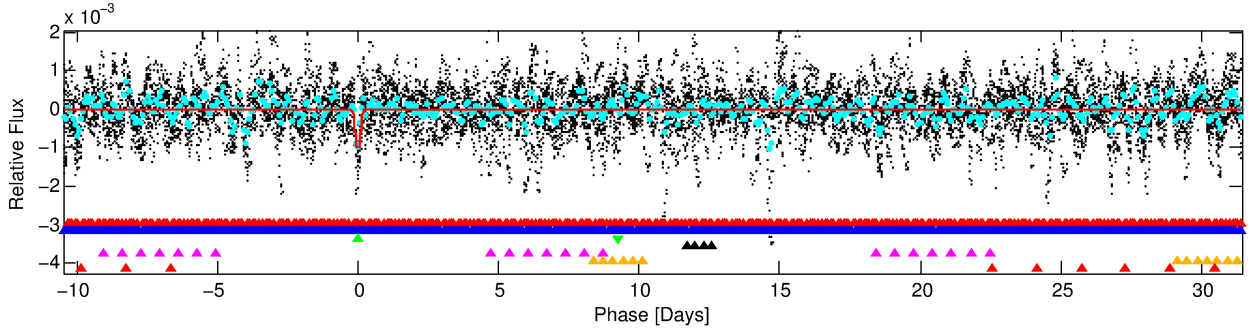
Ephemeris Match Information For 008108099-03

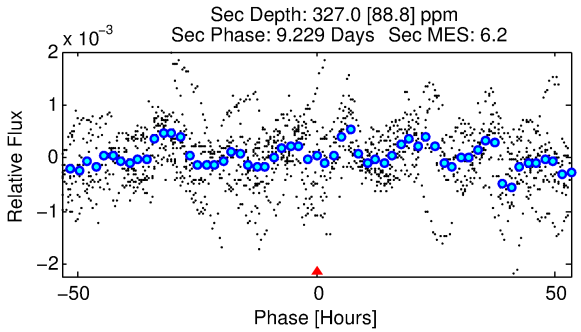
No Significant Match Found

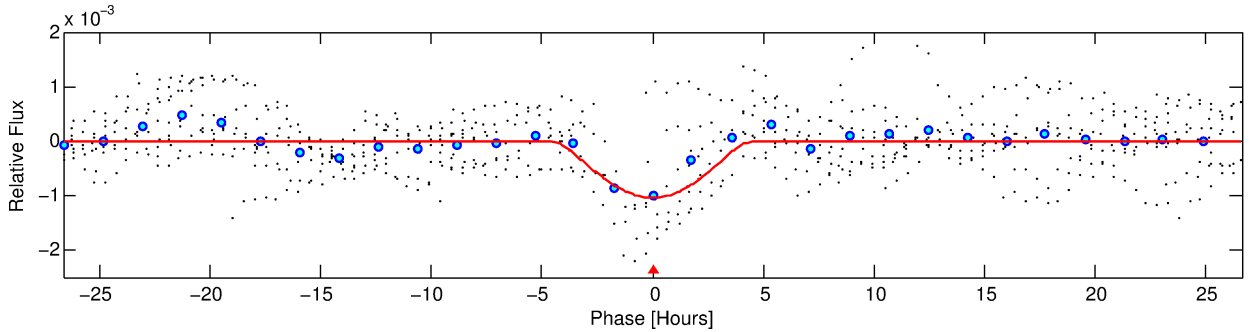
DV One-Page Summary

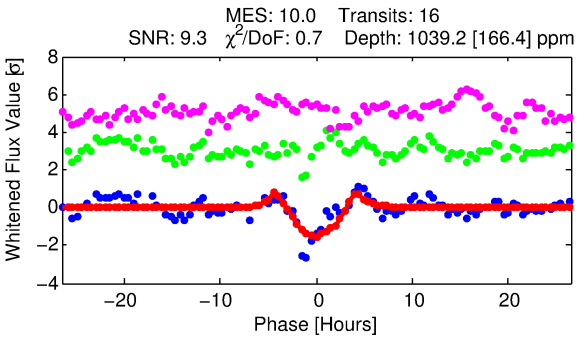
KIC: 8108099 Candidate: 3 of 7 Period: 41.930 d

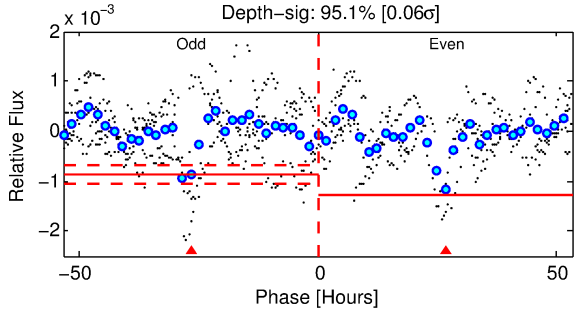


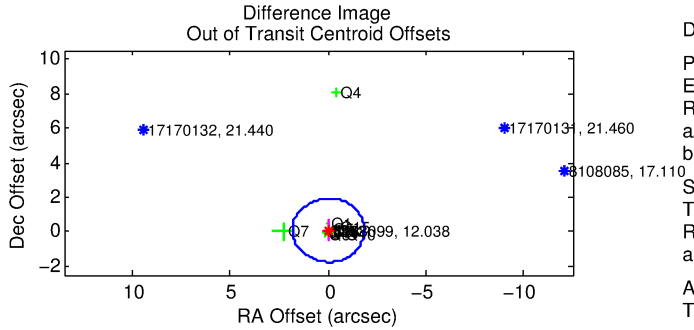












DV Fit Results:

Period = 41.92960 [0.00144] d
Epoch = 161.8285 [0.0297] BKJD
Rp/R* = 0.0551 [0.0608]
a/R* = 12.18 [3.17]
b = 1.00 [0.09]

Seff = 271.35 [144.82]
Teq = 1035 [138] K
Rp = 19.89 [23.16] Re
a = 0.2904 [0.0975] AU

Ag = 38.35 [87.57] [0.43σ]
Teffp = 3982 [2218] K [1.33σ]

DV Diagnostic Results:

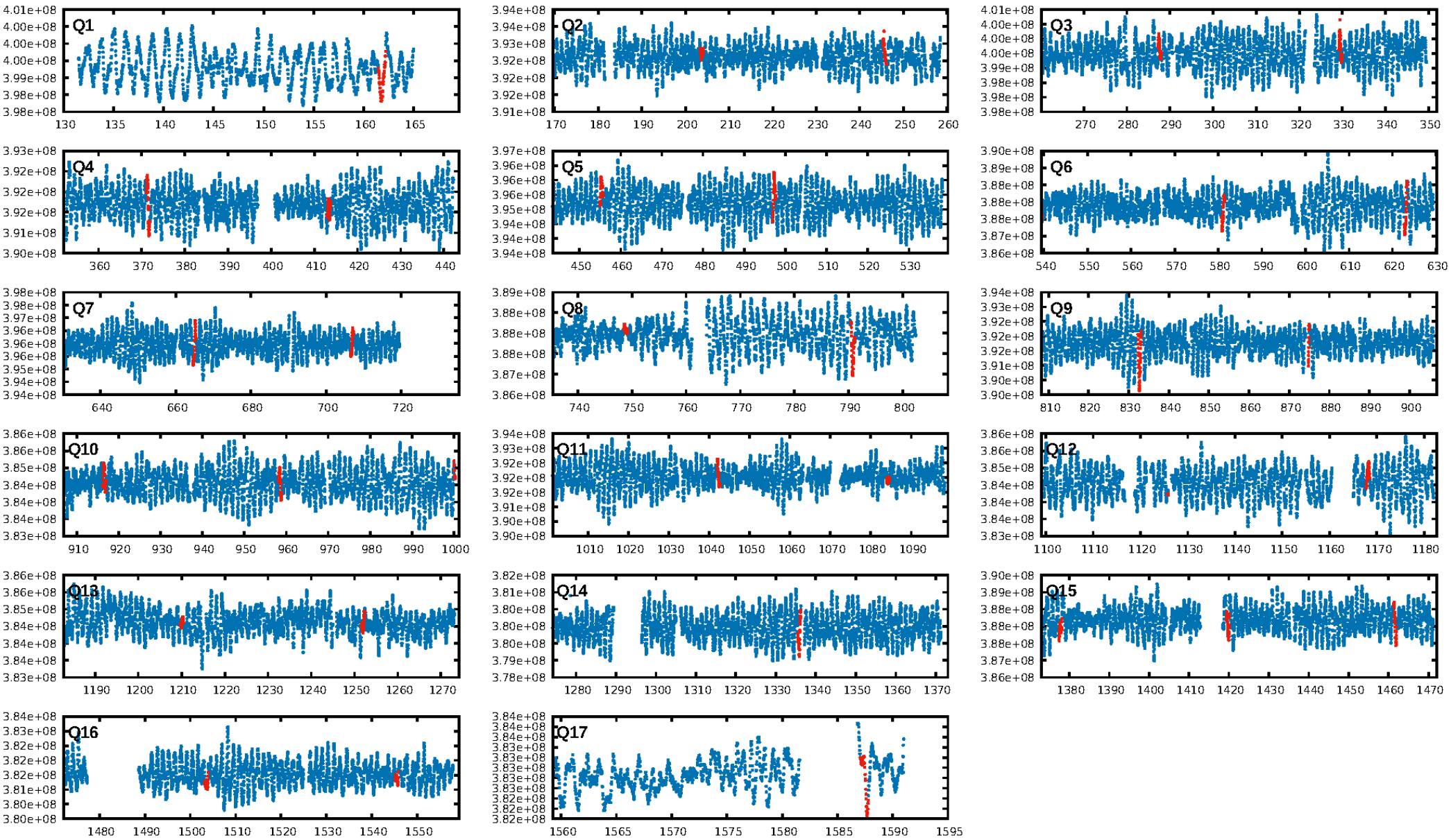
ShortPeriod−sig: 100.0% [70.89σ]
LongPeriod−sig: 100.0% [48.99σ]
ModelChiSquare2−sig: 0.2%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 0.94 [15/16]
GhostDiagnostic−chr: 1.552

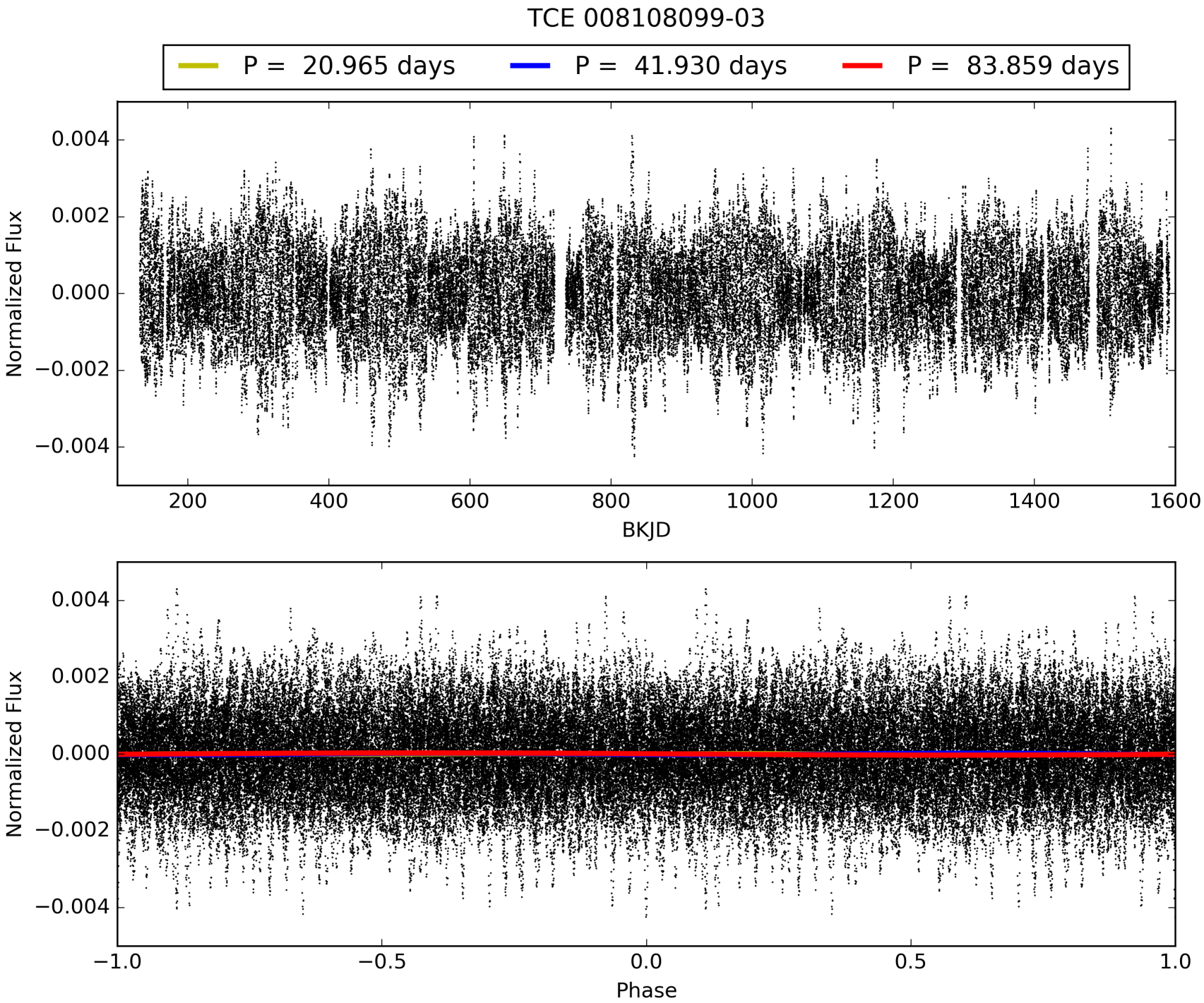
Centroid−sig: 9.4%
Centroid−so: 0.150 arcsec [2.18σ]
OotOffset−rm: 0.087 arcsec [0.14σ]
KicOffset−rm: 0.103 arcsec [0.28σ]
OotOffset−st: 2/4/4/3 [13]
KicOffset−st: 2/4/4/3 [13]
DiffImageQuality−fgm: 0.62 [8/13]
DiffImageOverlap−fno: 0.00 [0/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:01:56 Z

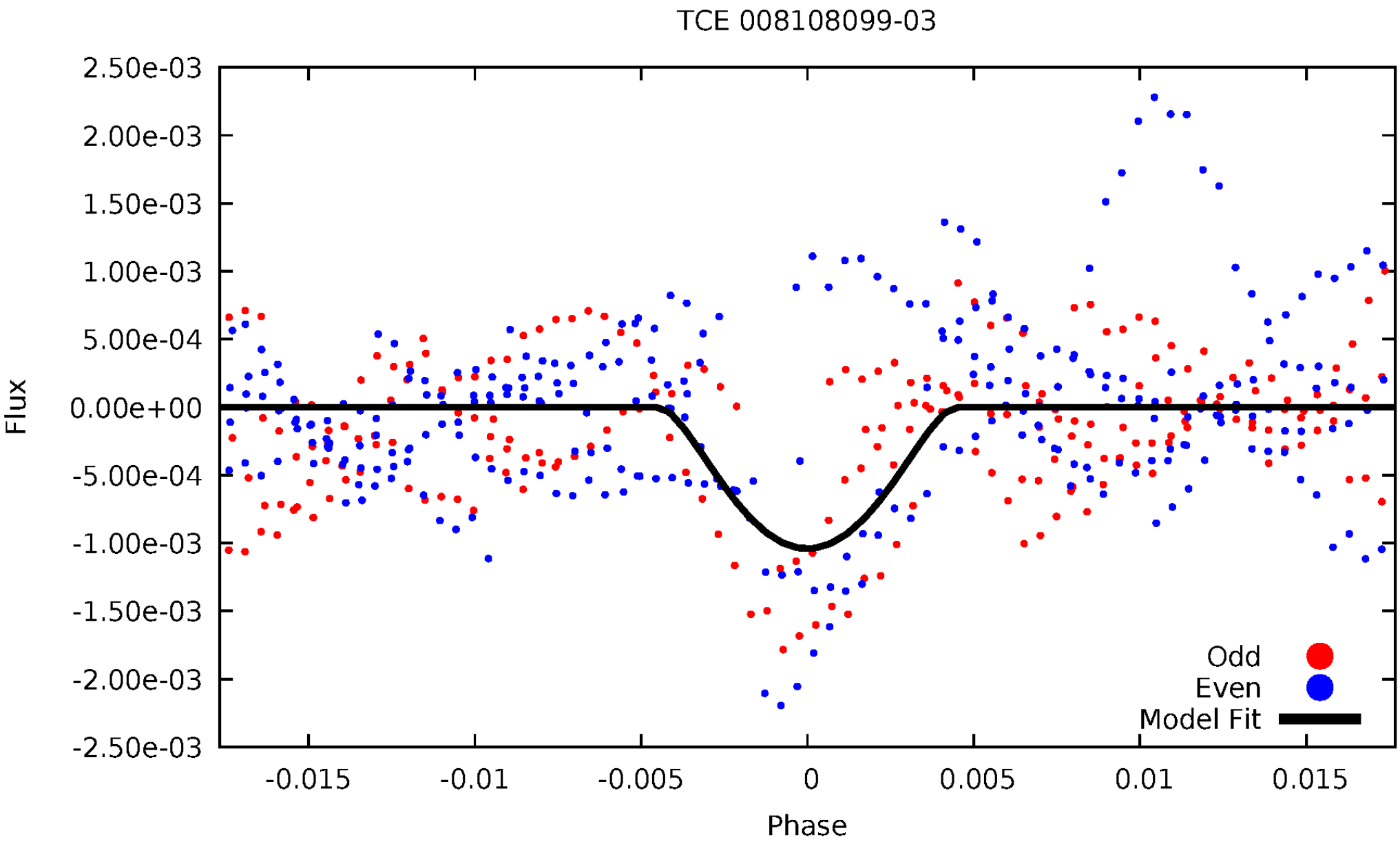
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-03, PDC Light Curves

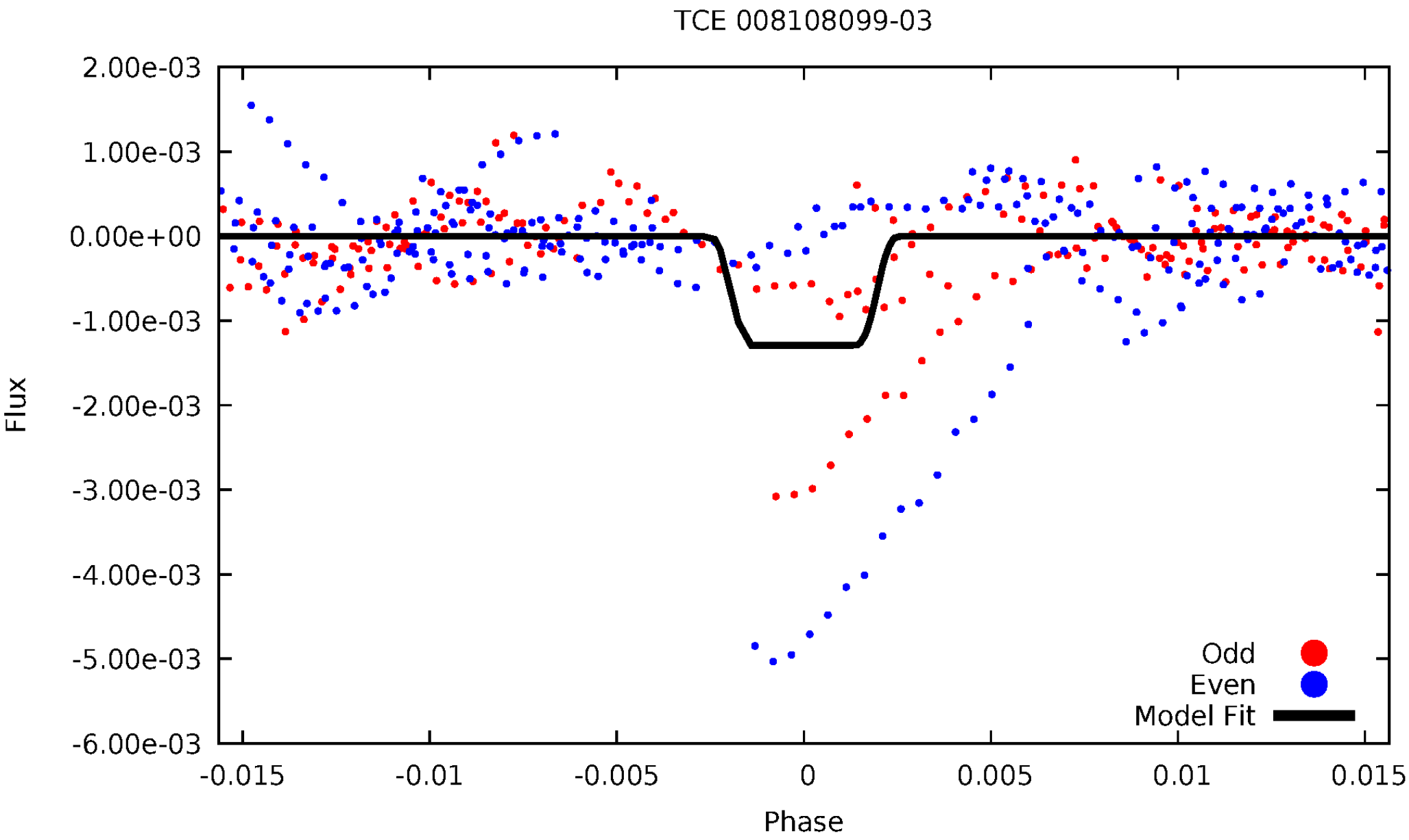



TCE 008108099-03
P = 20.965 days
P = 41.930 days
P = 83.859 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

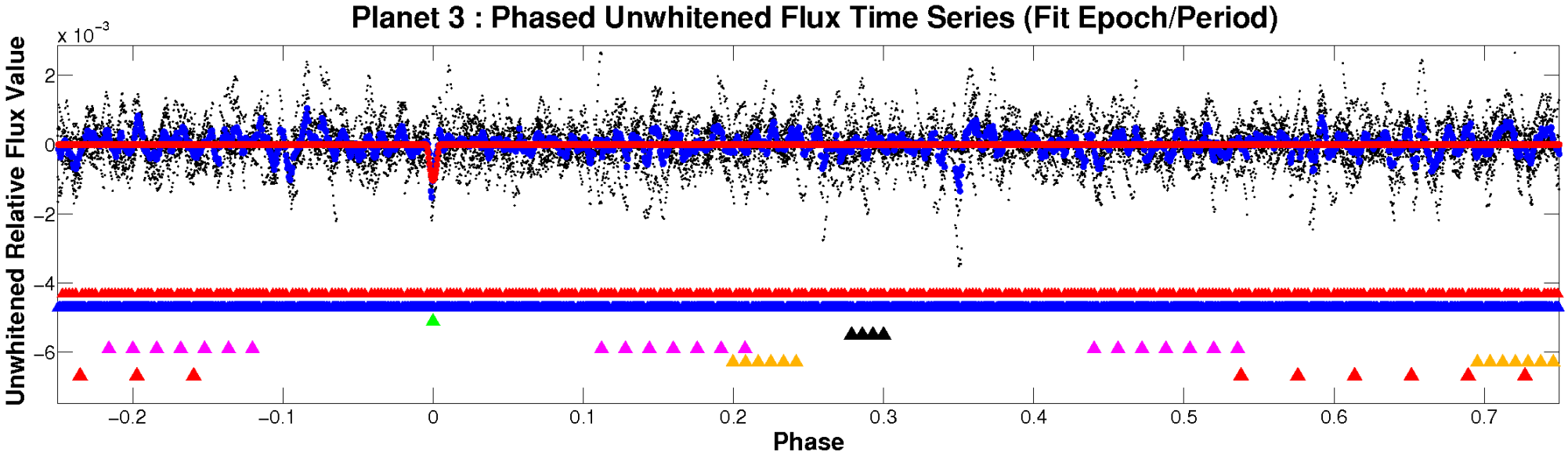
DV Odd/Even

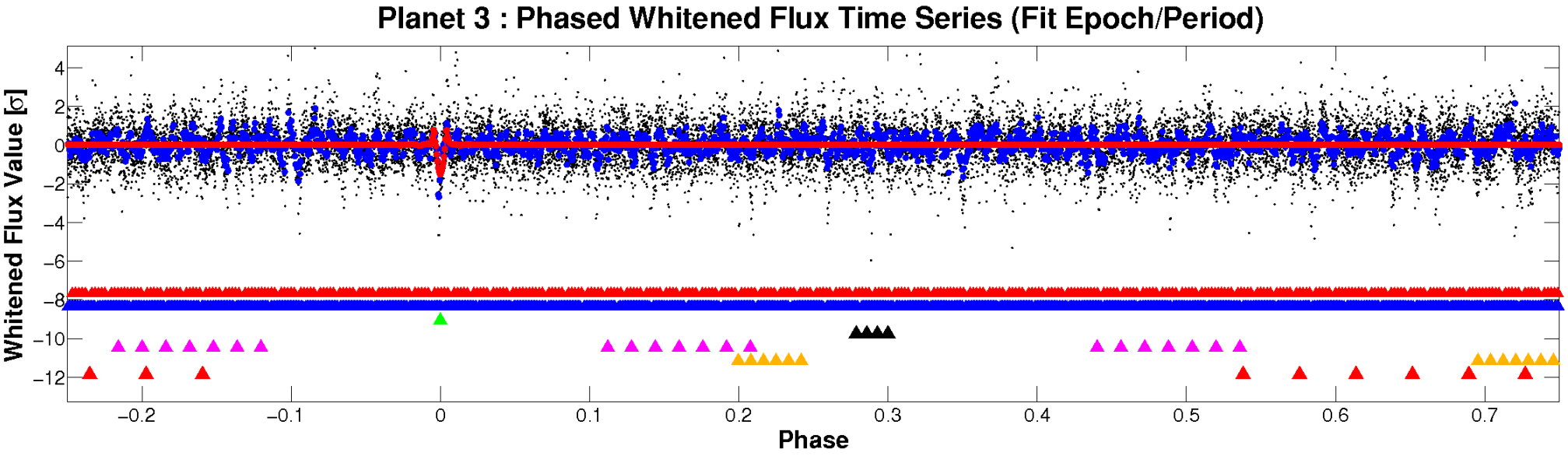

TCE 008108099-03
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
-5.00e-03
-6.00e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

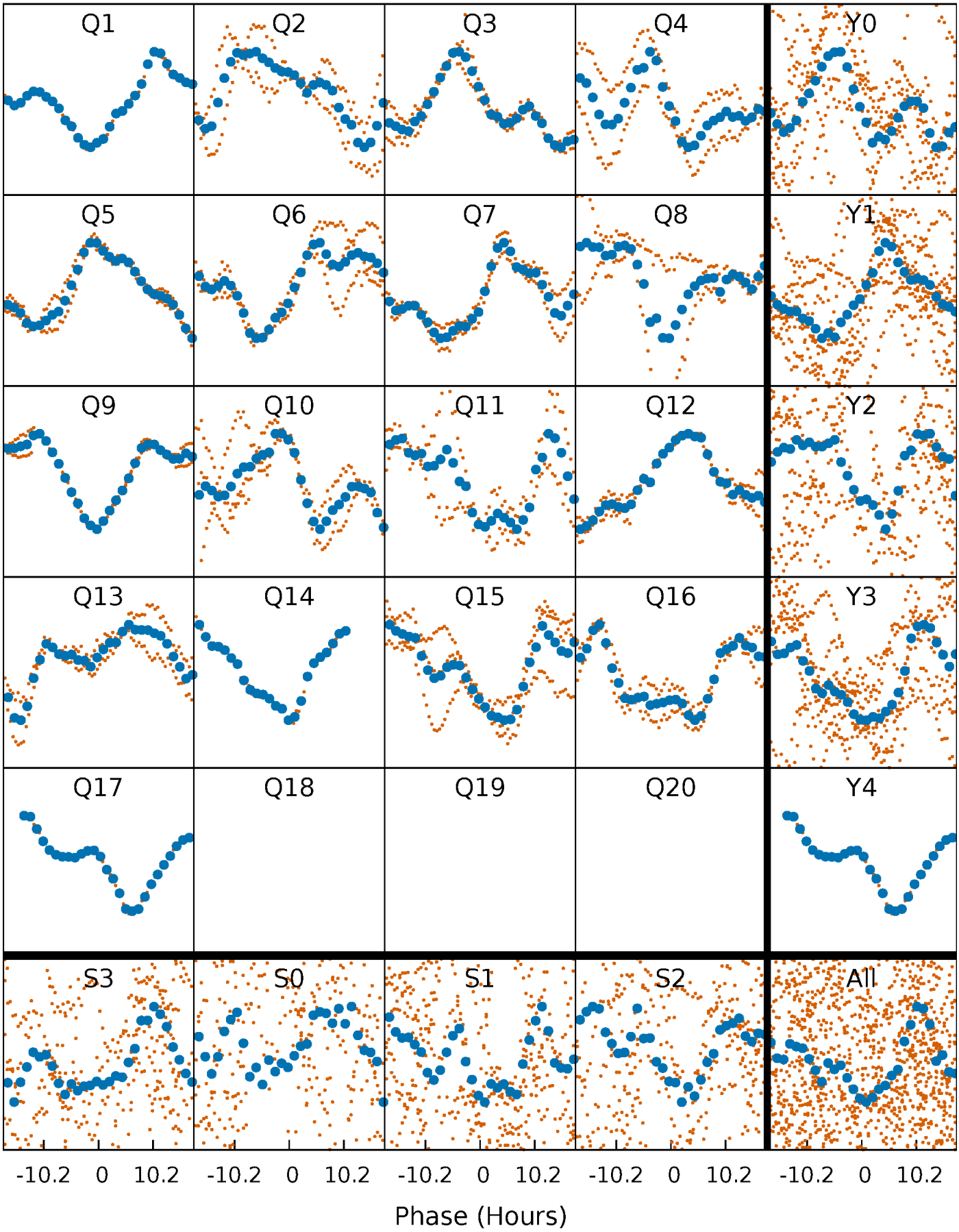
Non-Whitened Vs. Whitened Light Curve





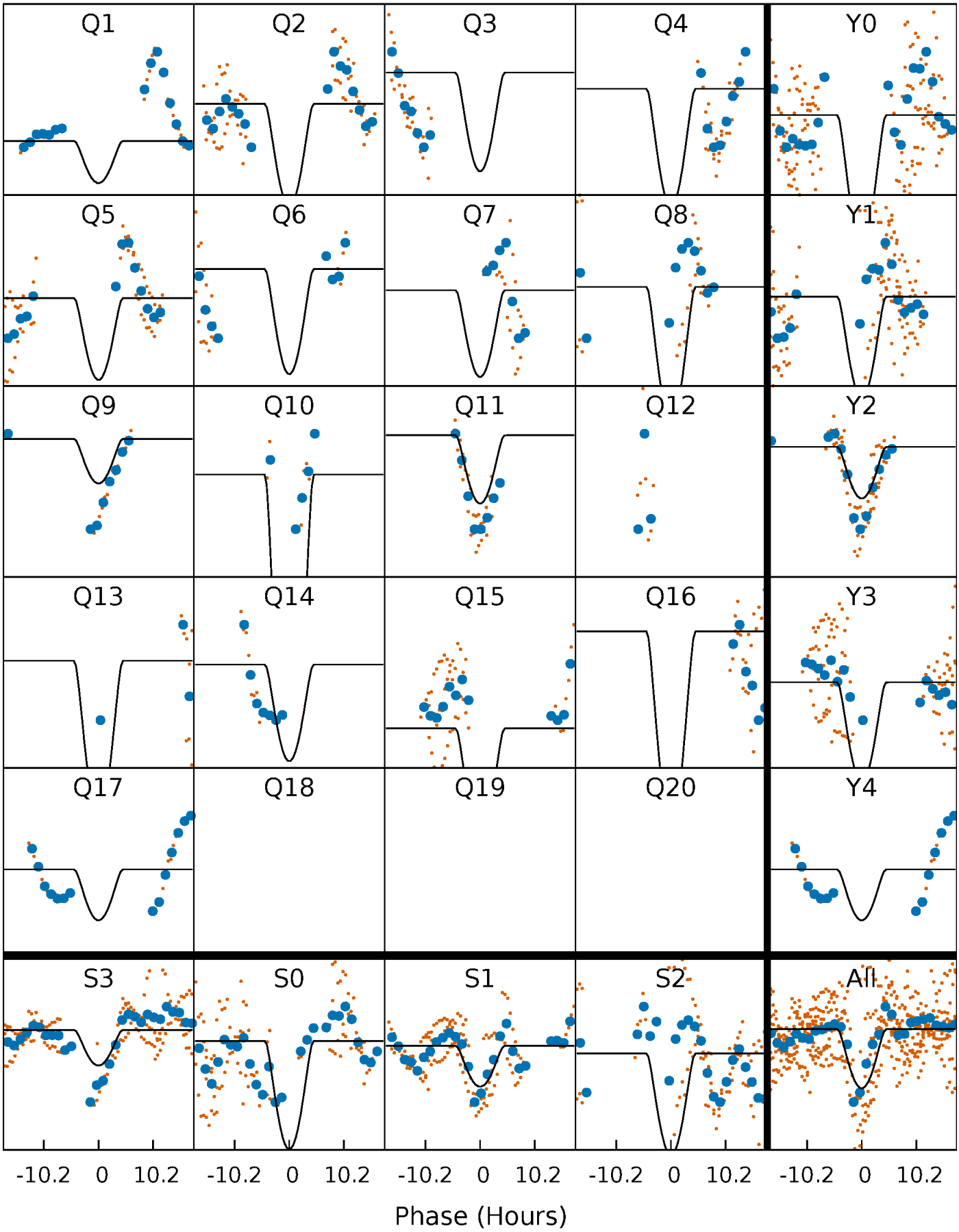
PDC Quarter-Phased Transit Curves

TCE 008108099-03 P= 41.929602 Days T_0=161.828515 (BKJD)



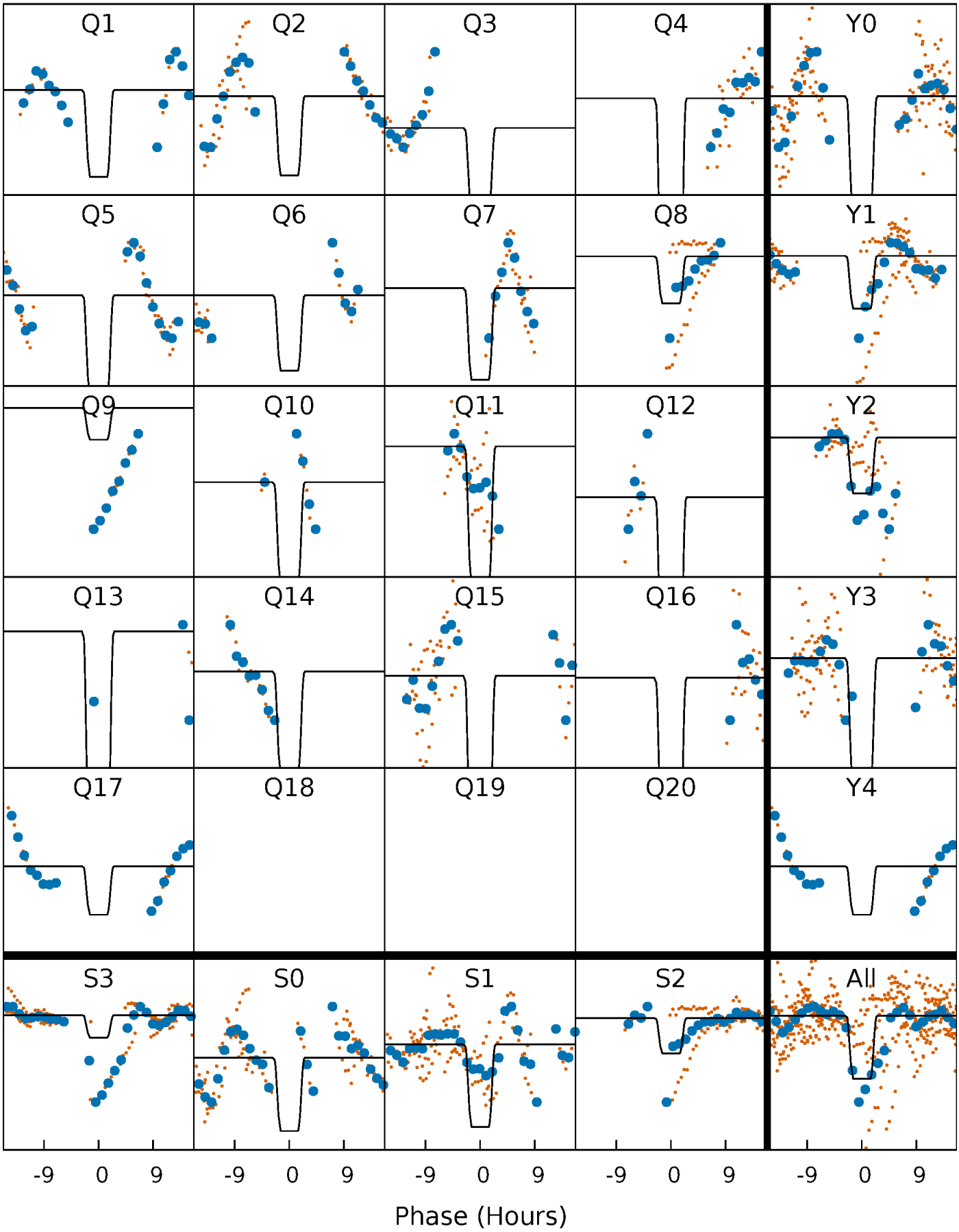
DV Quarter-Phased Transit Curves

TCE 008108099-03 P= 41.929602 Days T_0=161.828515 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

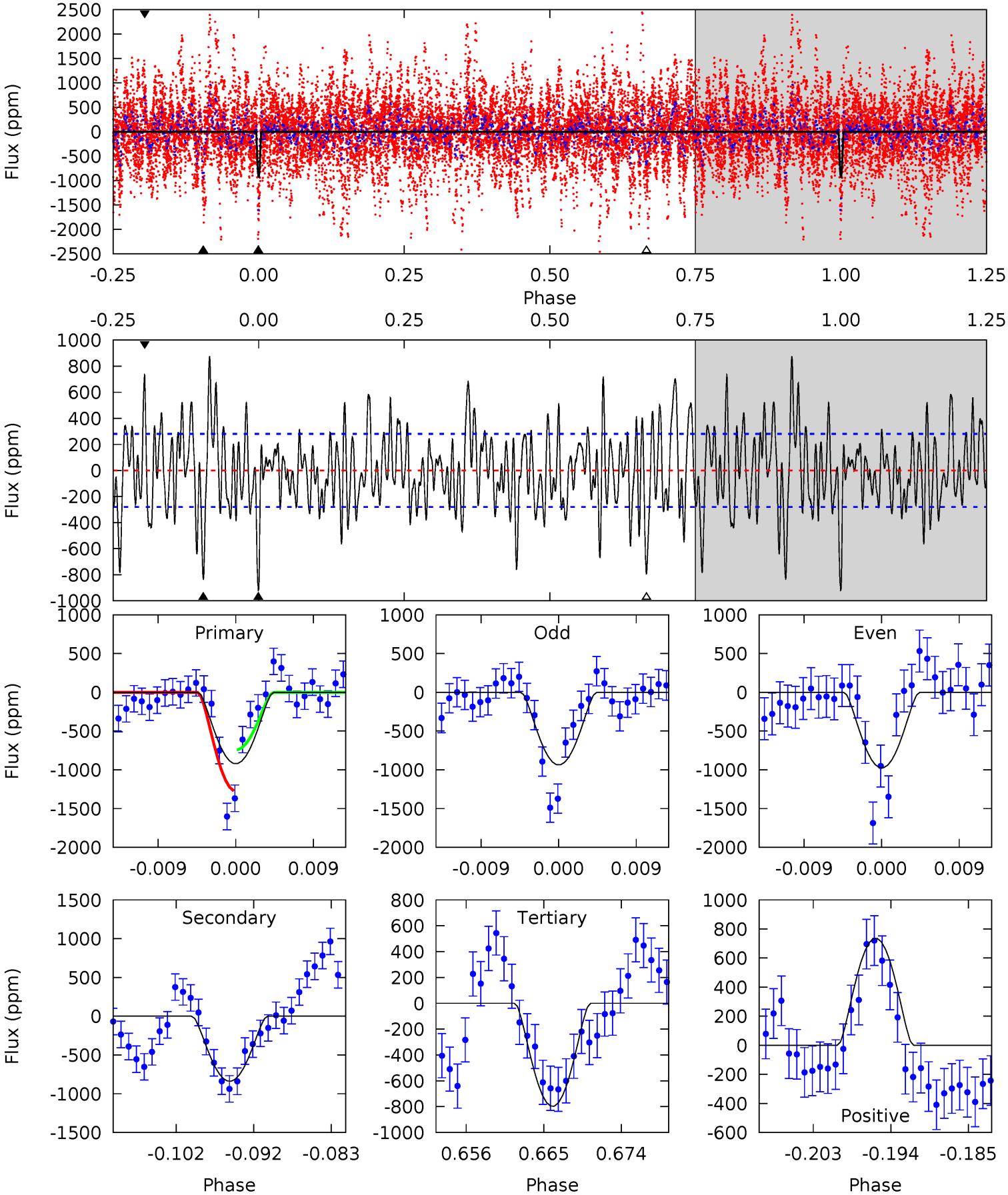
TCE 008108099-03 P= 41.933900 Days T_0=161.760816 (BKJD)



DV Model-Shift Uniqueness Test

008108099-03, P = 41.929602 Days, E = 119.898913 Days

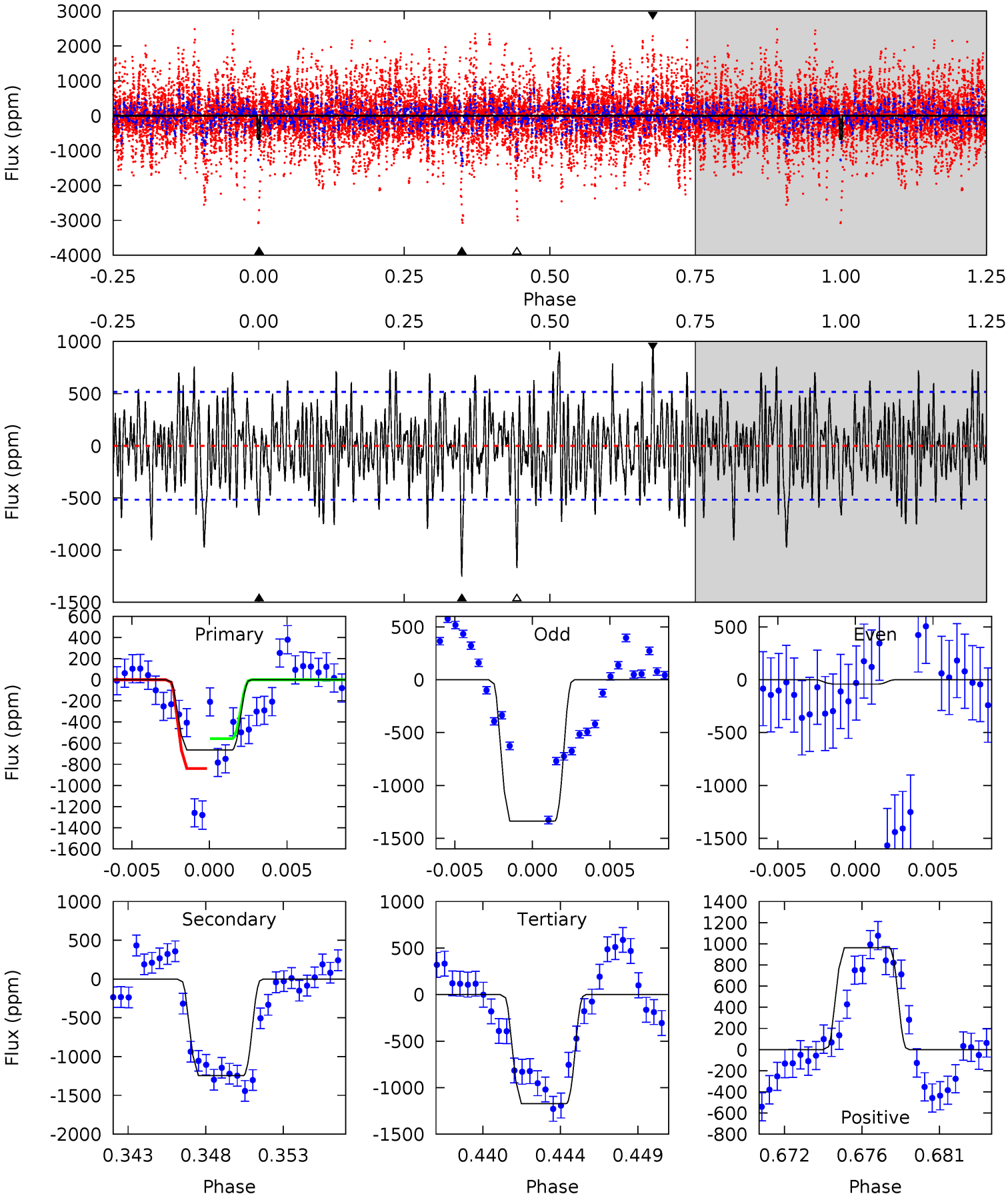
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	15.0	14.3	13.2	5.04	2.60	4.85	2.22	3.32	0.73	1.83	0.35	7.18	0.49	4.69



Alt Model-Shift Uniqueness Test

008108099-03, P = 41.933900 Days, E = 119.826916 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.65	12.5	11.7	9.63	5.16	2.82	2.96	-5.06	-2.98	0.74	2.82	6.53	1.73	0.44	1.34



Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-837±56	$23.40^{+20.62}_{-13.42}$	1421^{+72}_{-115}	4594^{+2168}_{-908}	71^{+305}_{-51}
Alt.	-1246±100	$19.01^{+18.86}_{-12.09}$	1414^{+80}_{-113}	5397^{+4263}_{-1213}	158^{+988}_{-117}

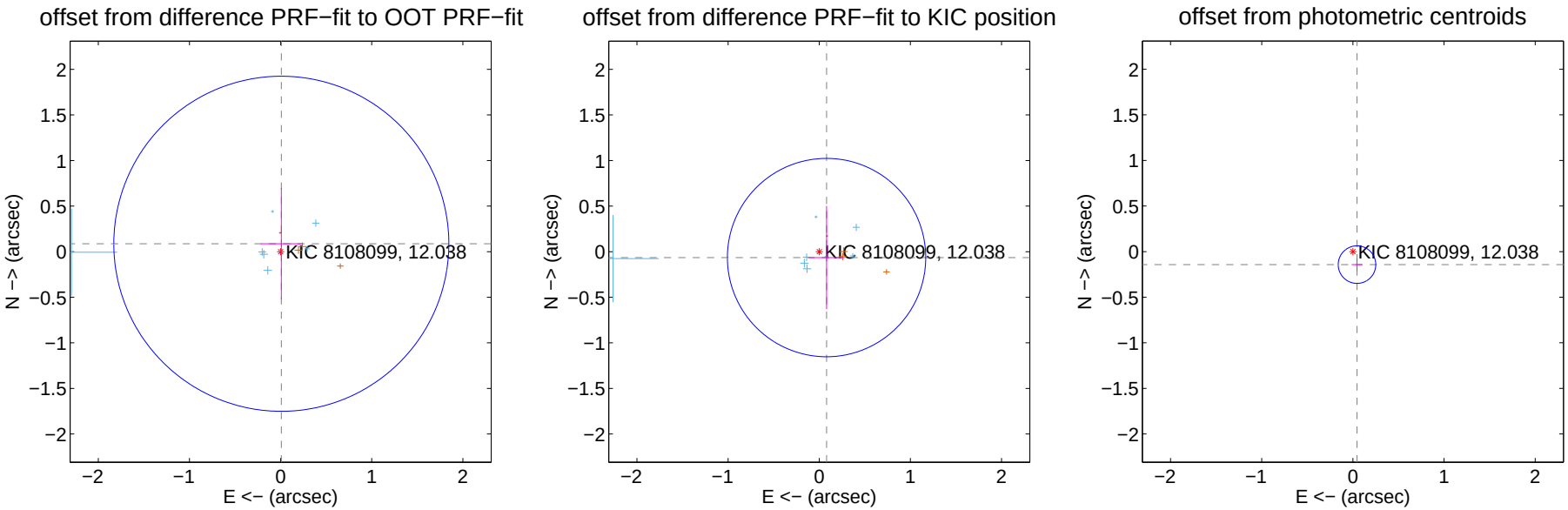
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

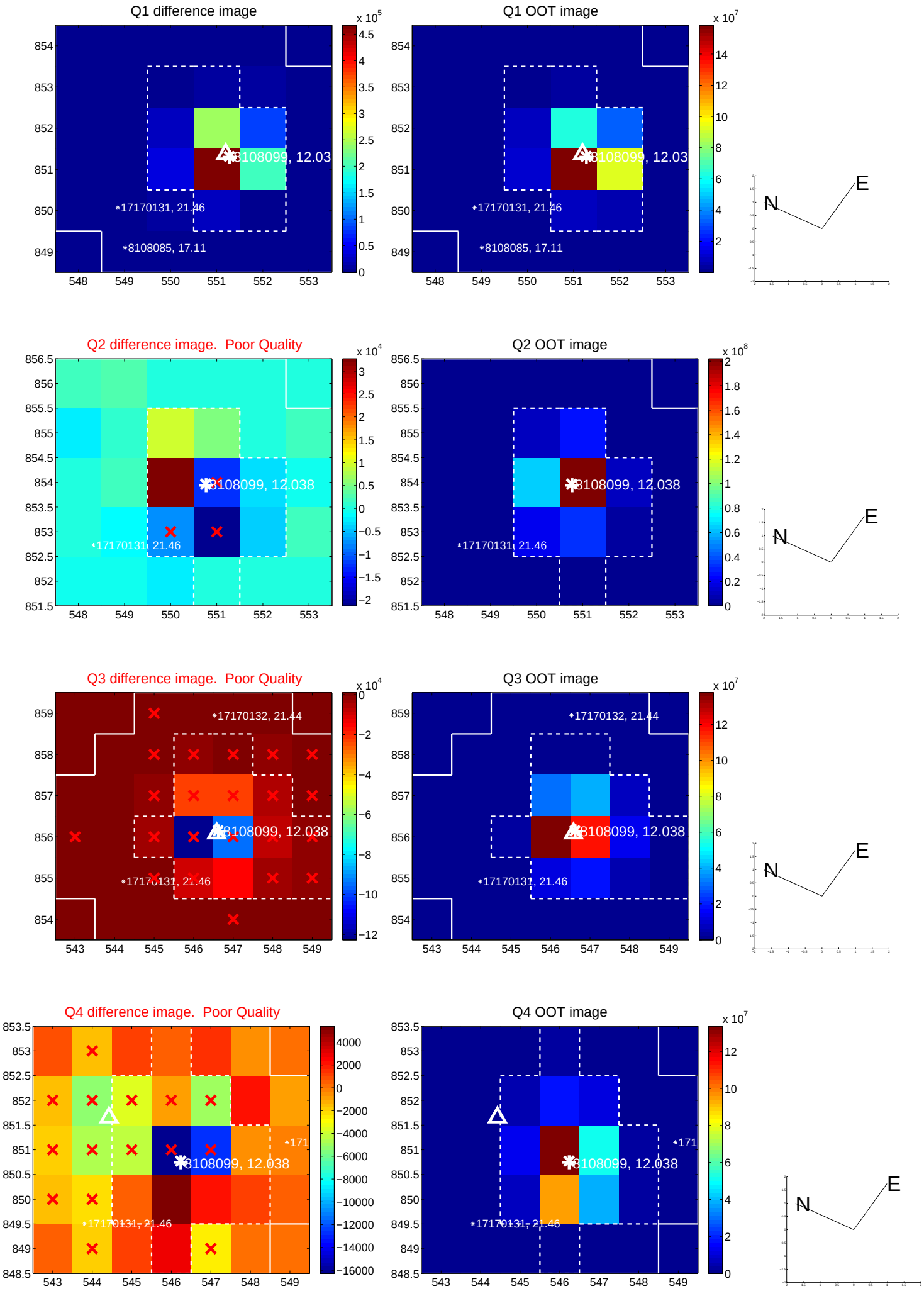
Supplemental centroid analysis for 008108099-03. Kepler magnitude: 12.04. Transit SNR 9.33
There are 8 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.613	0.14	-0.008 ± 0.225	0.087 ± 0.612
PRF-fit source offset from KIC position	0.103 ± 0.363	0.28	-0.080 ± 0.197	-0.065 ± 0.567
photometric centroid source offset	0.15 ± 0.07	2.18	-0.05 ± 0.06	-0.14 ± 0.07

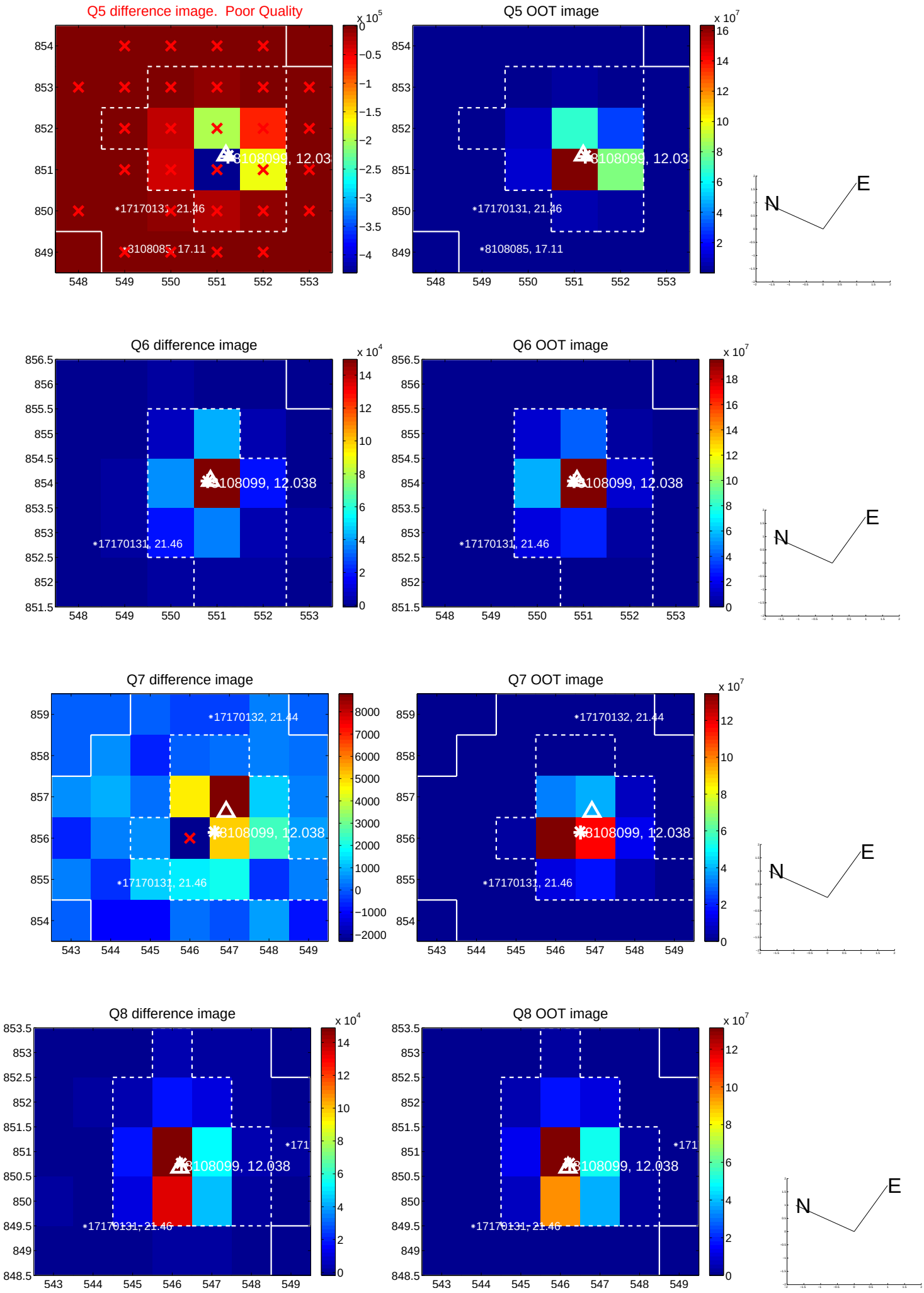


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

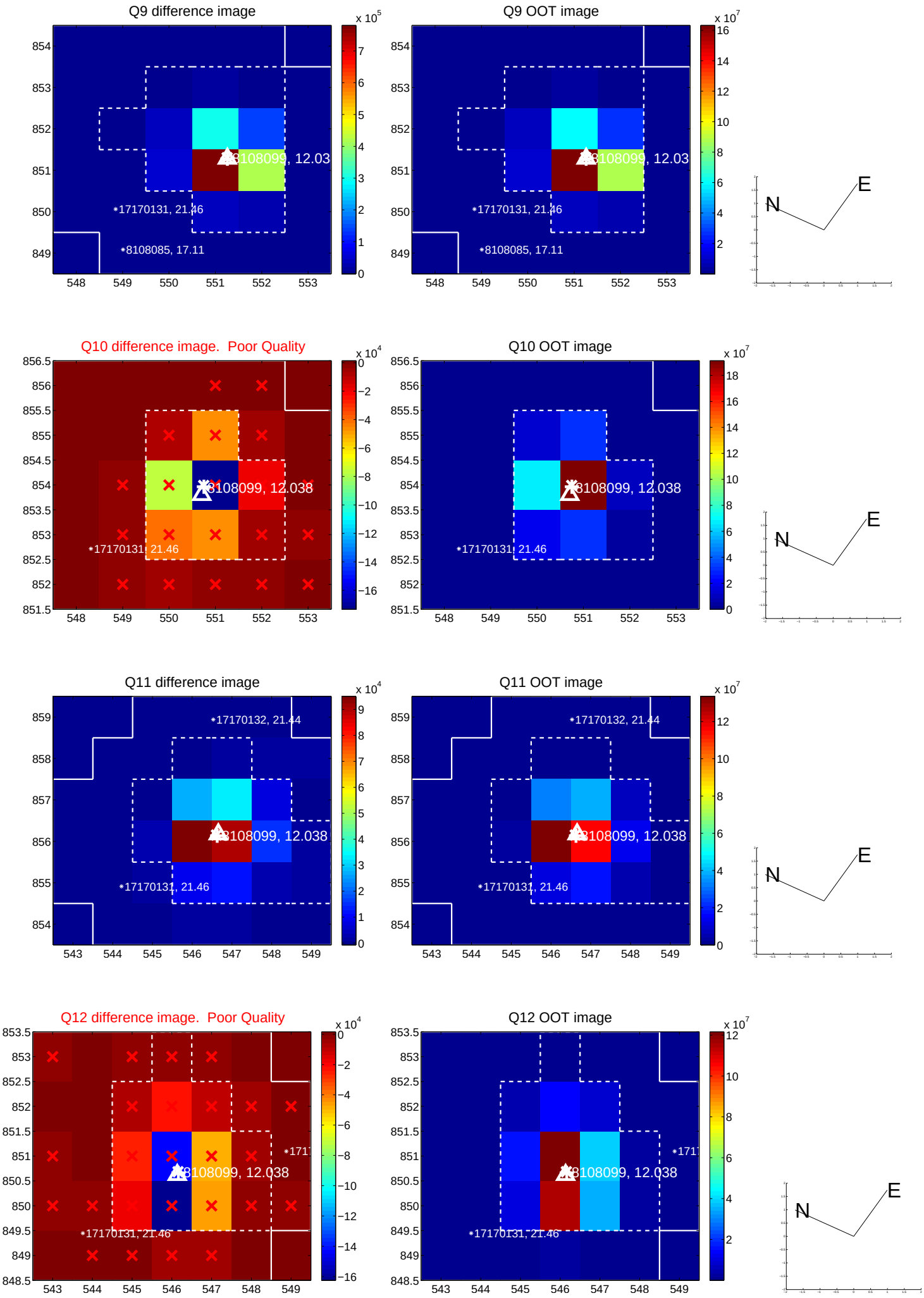
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



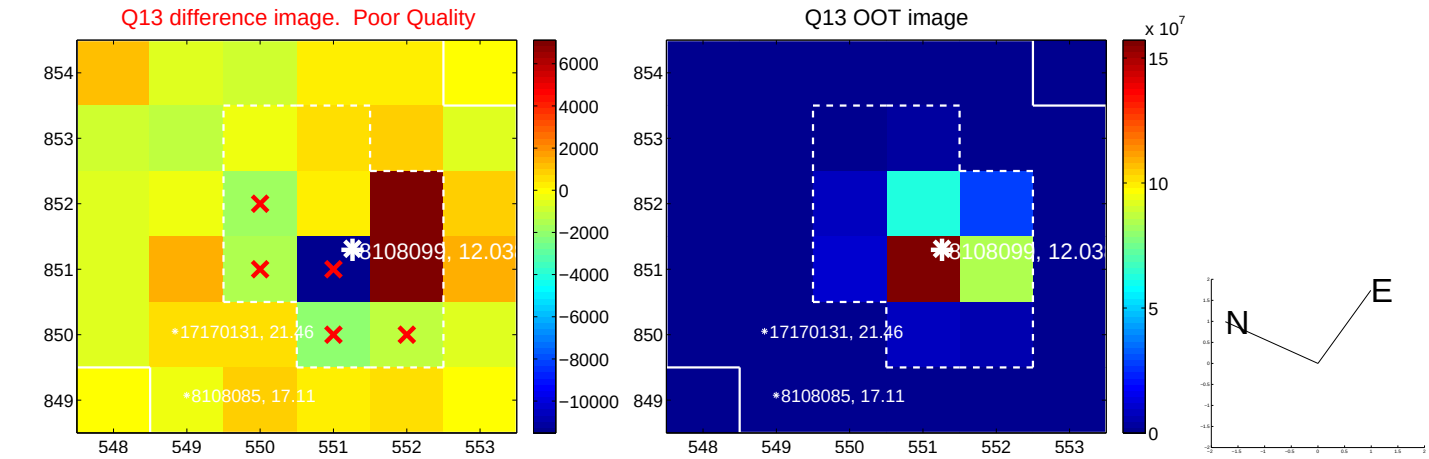
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

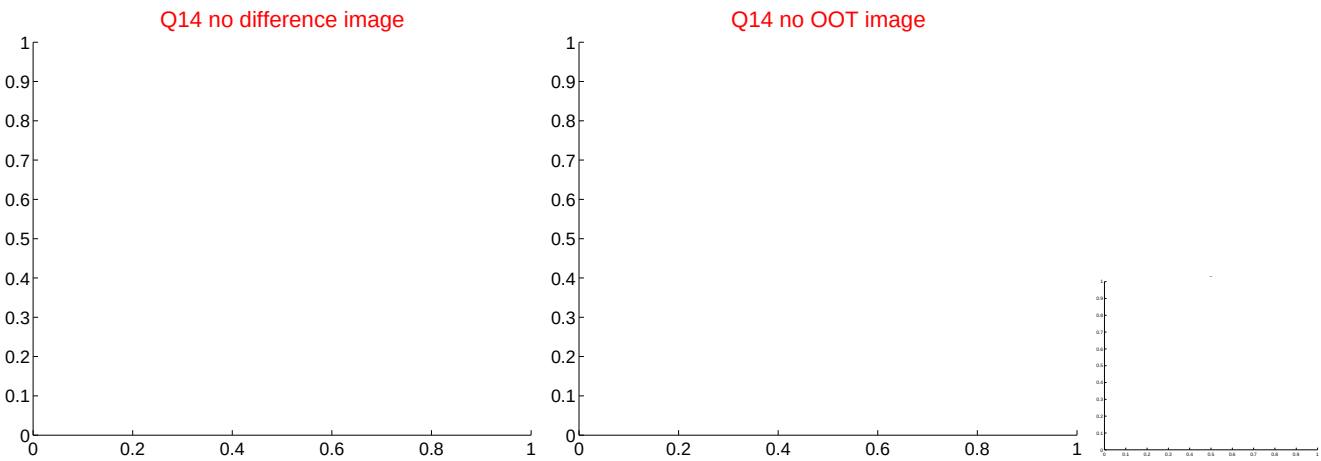


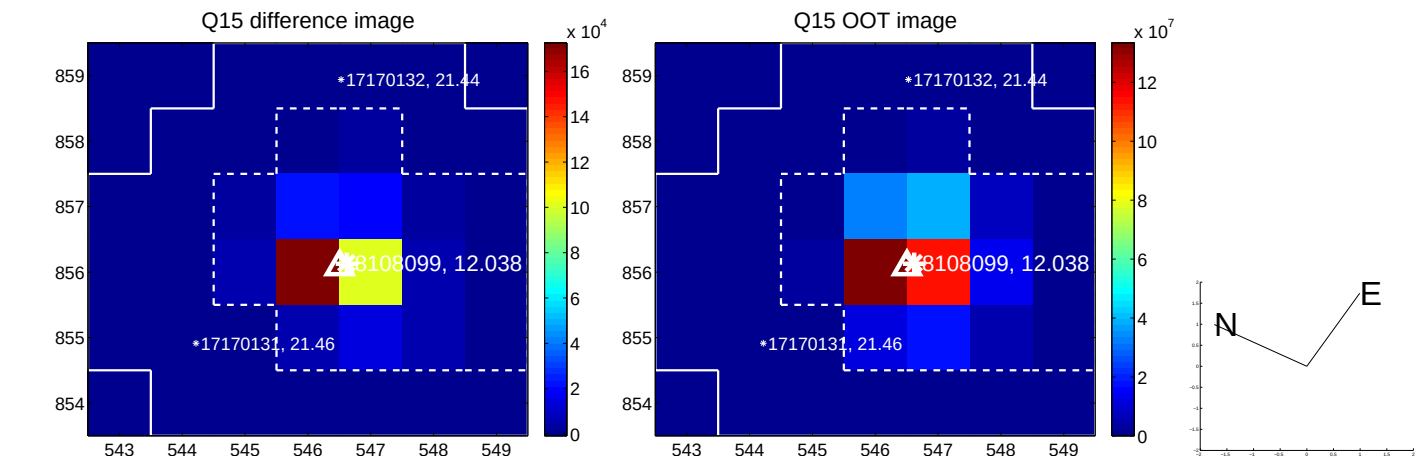
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

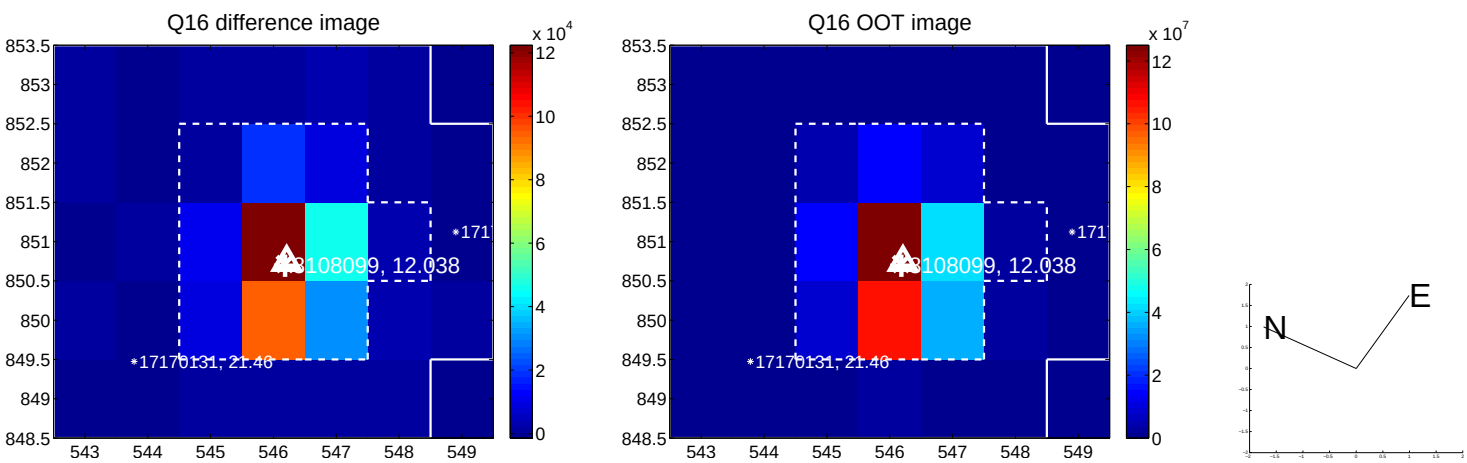


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

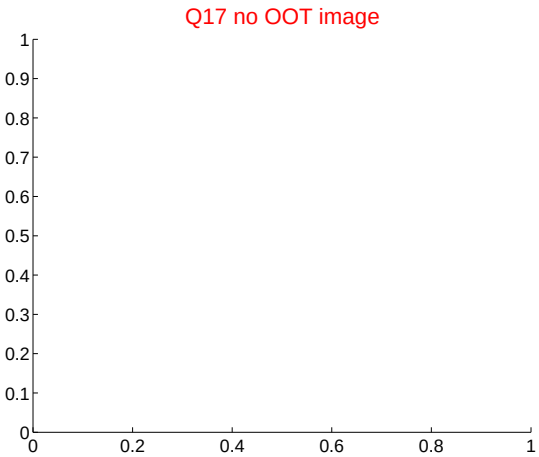


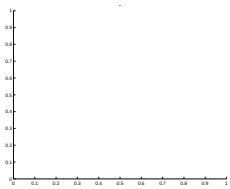


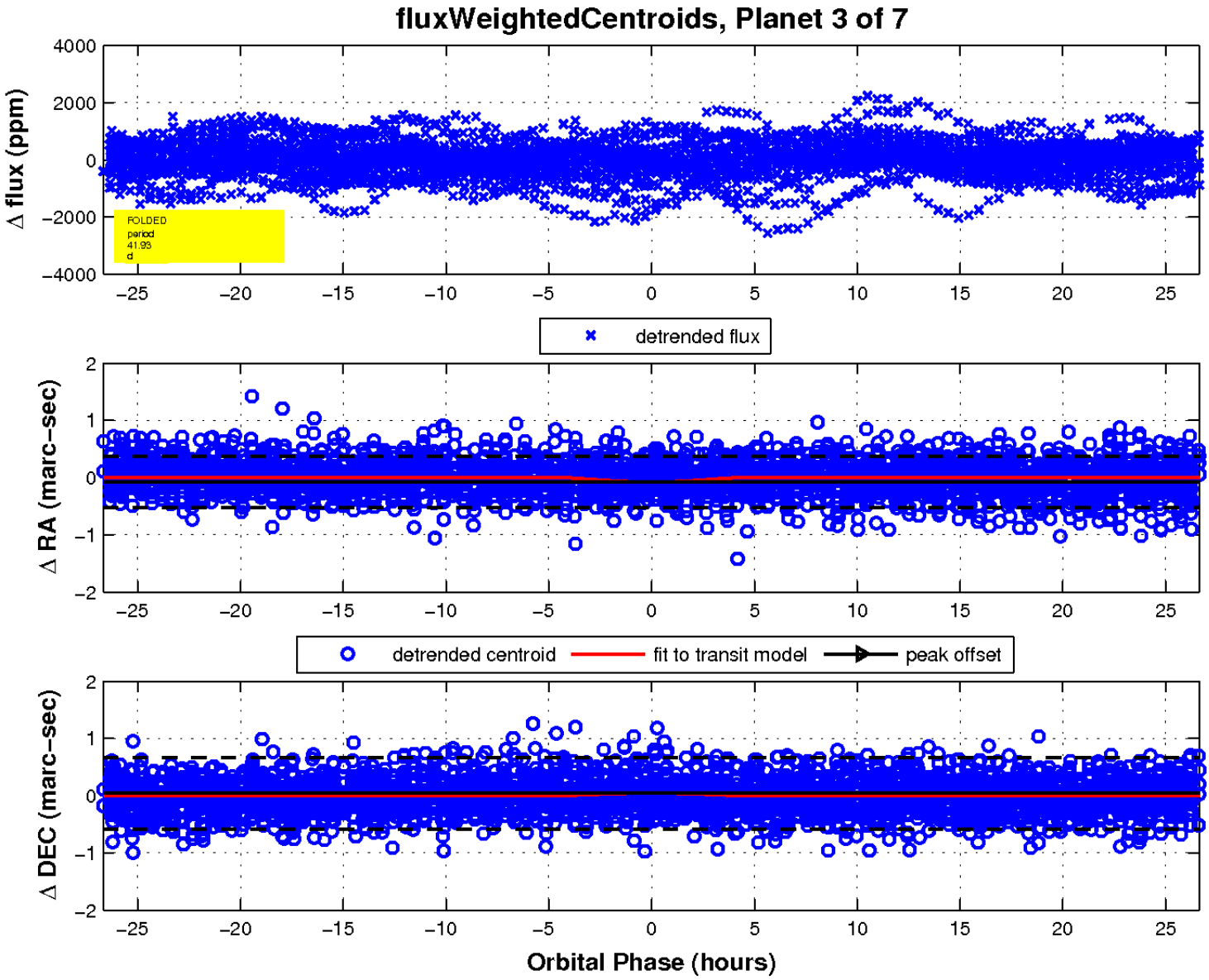




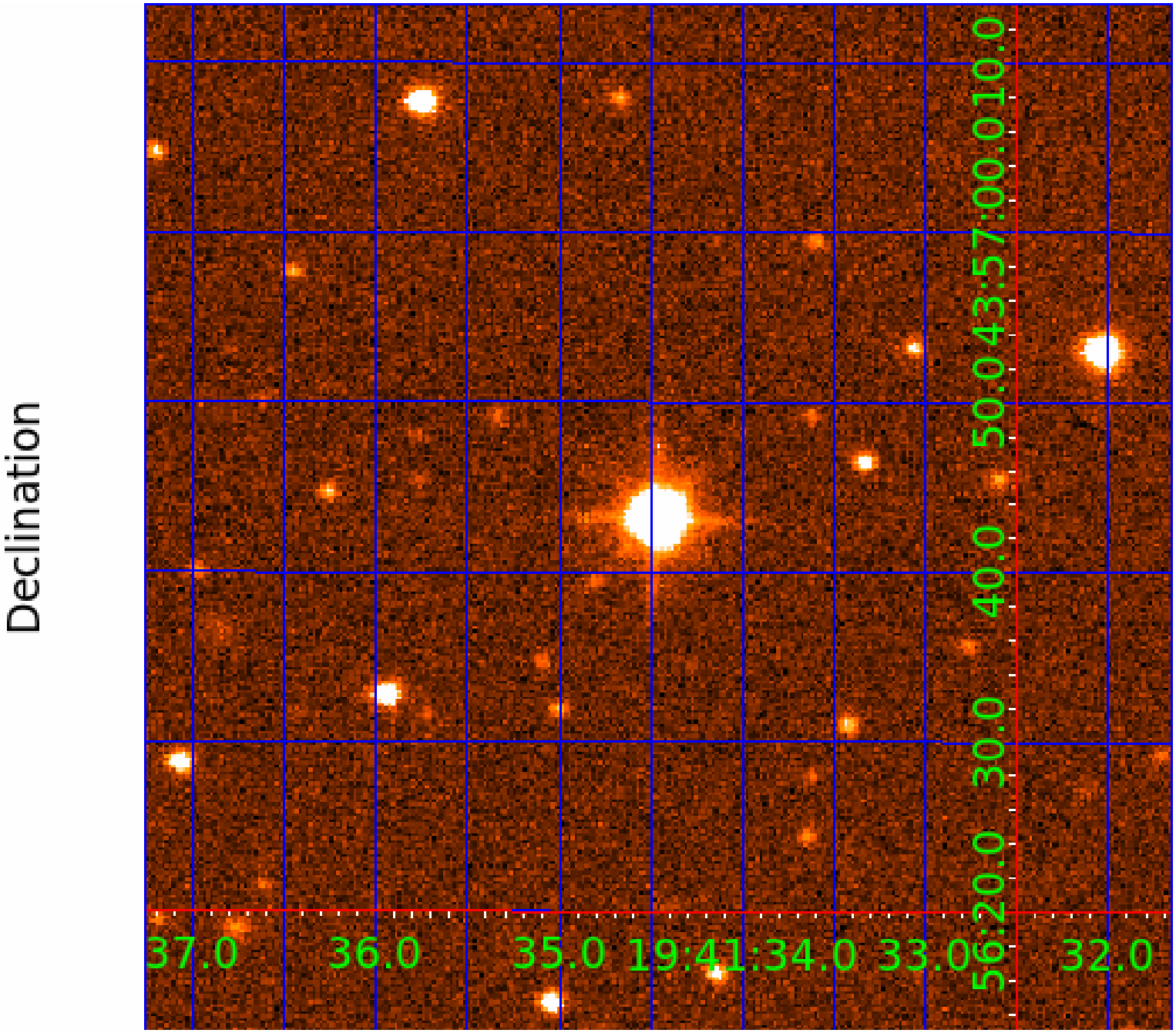
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
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36.0
35.0
19:41:34.0
33.0
32.0
56:20.0
30.0
40.0
50.0
43:57:00.0
10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

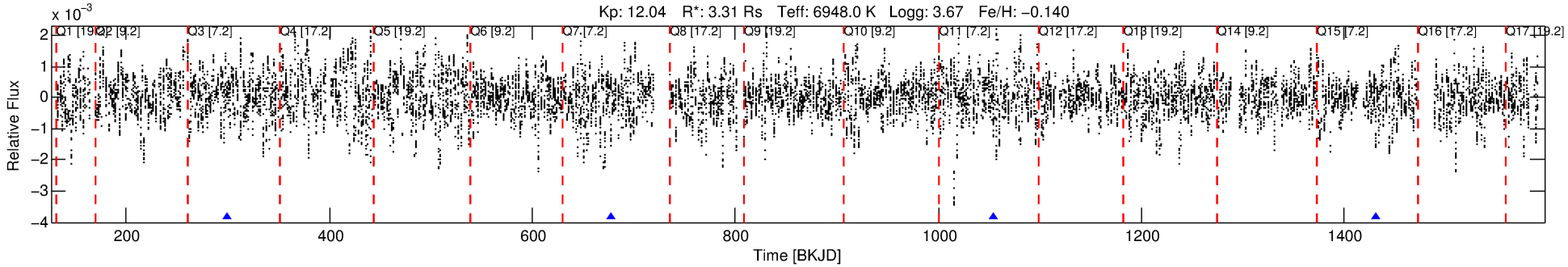
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

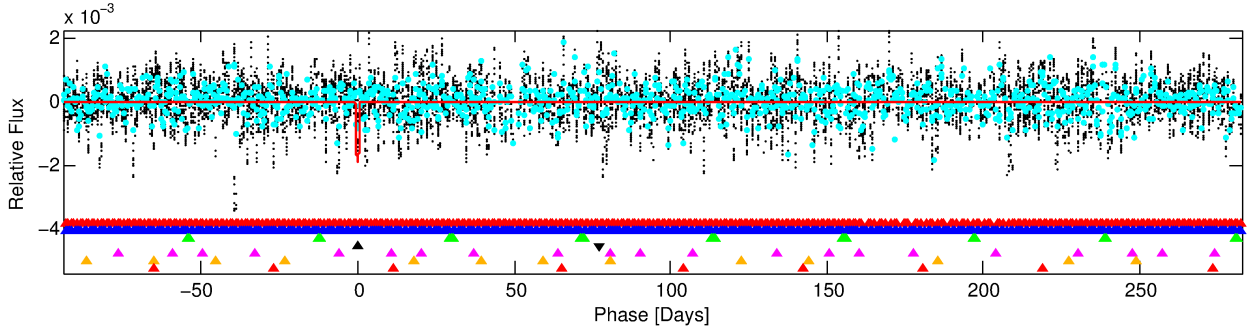
Ephemeris Match Information For 008108099-04

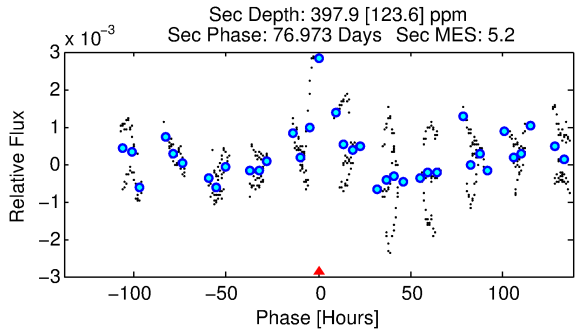
No Significant Match Found

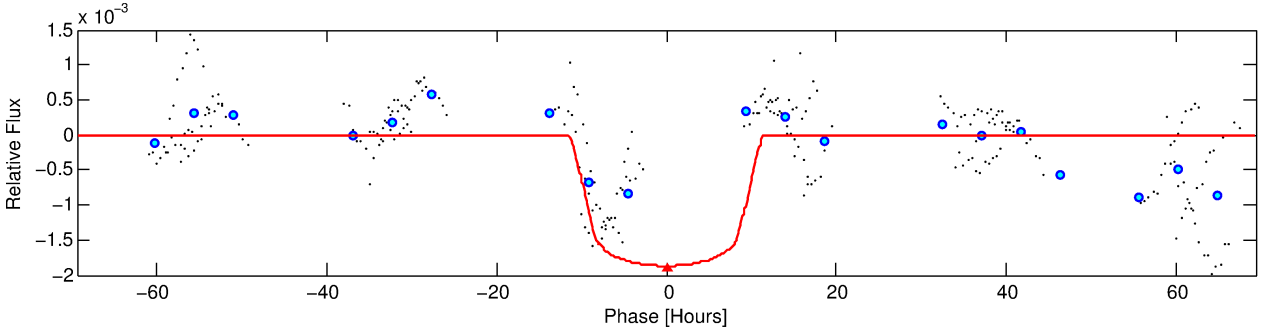
DV One-Page Summary

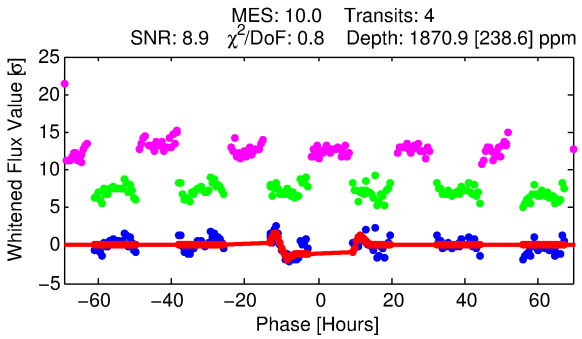
KIC: 8108099 Candidate: 4 of 7 Period: 377.070 d

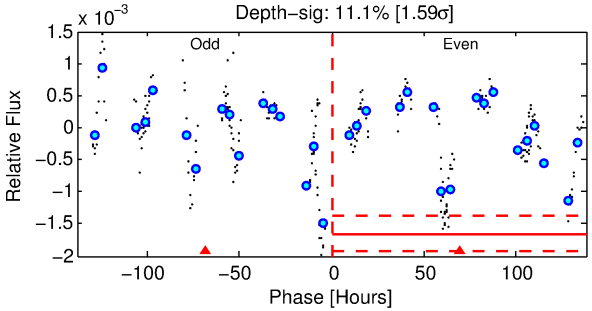


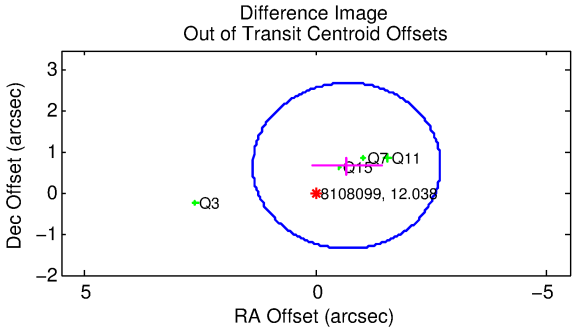












DV Fit Results:

Period = 377.06999 [0.00929] d
Epoch = 300.1963 [0.0131] BKJD
Rp/R* = 0.0450 [0.0031]
a/R* = 73.36 [4.85]
b = 0.86 [0.02]

Seff = 14.51 [7.74]
Teq = 498 [66] K
Rp = 16.26 [6.13] Re
a = 1.2556 [0.4217] AU

Ag = 1305.26 [807.32] [1.62σ]
Teffp = 4625 [420] K [9.70σ]

DV Diagnostic Results:

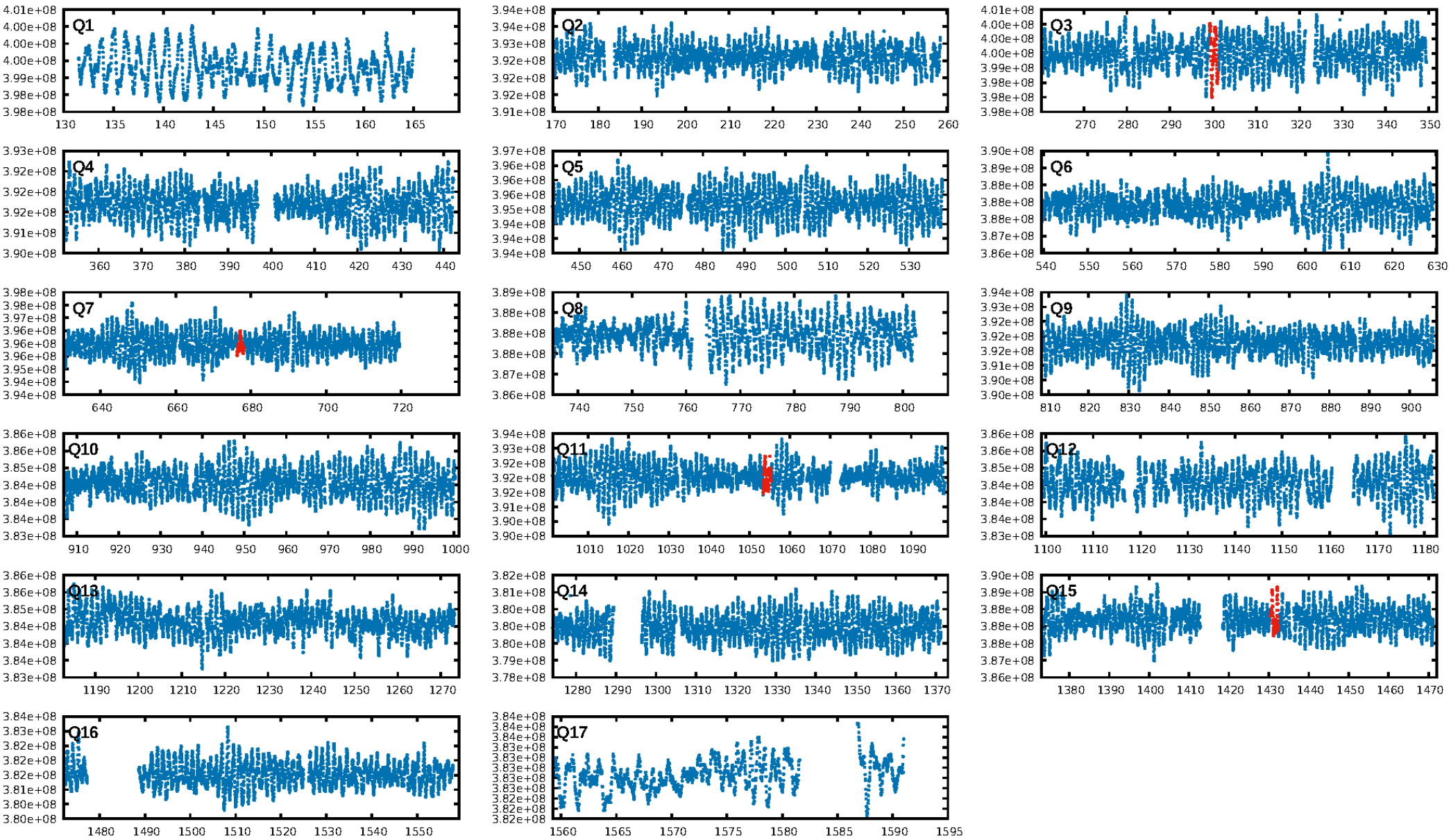
ShortPeriod−sig: 100.0% [181.50σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 36.9%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [4/4]
GhostDiagnostic−chr: −716.4

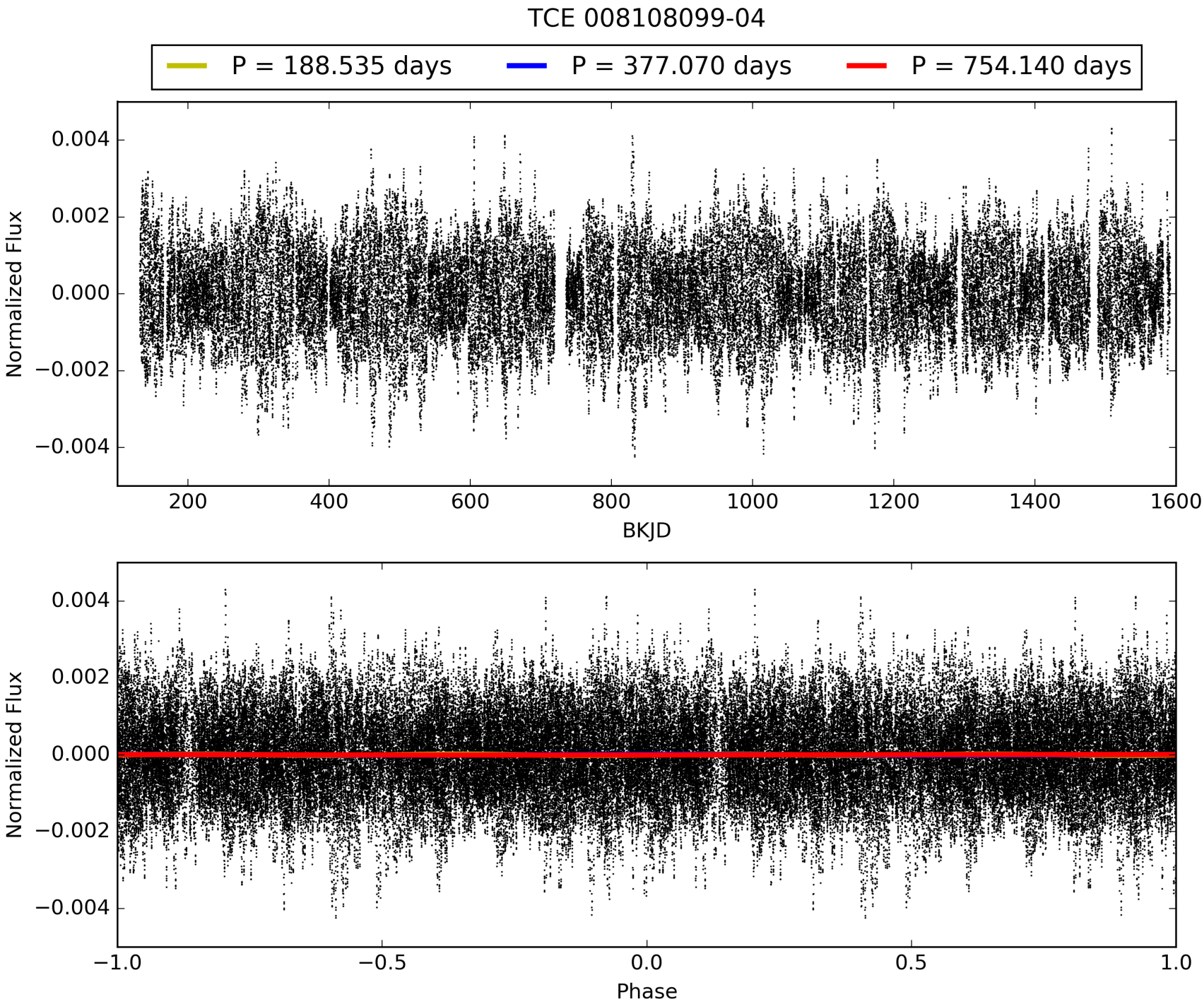
Centroid−sig: 30.8%
Centroid−so: 0.139 arcsec [2.65σ]
OotOffset−rm: 0.953 arcsec [1.41σ]
KicOffset−rm: 0.935 arcsec [1.20σ]
OotOffset−st: 0/4/0/0 [4]
KicOffset−st: 0/4/0/0 [4]
DiffImageQuality−fgm: 0.50 [2/4]
DiffImageOverlap−fno: 0.00 [0/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:02:00 Z

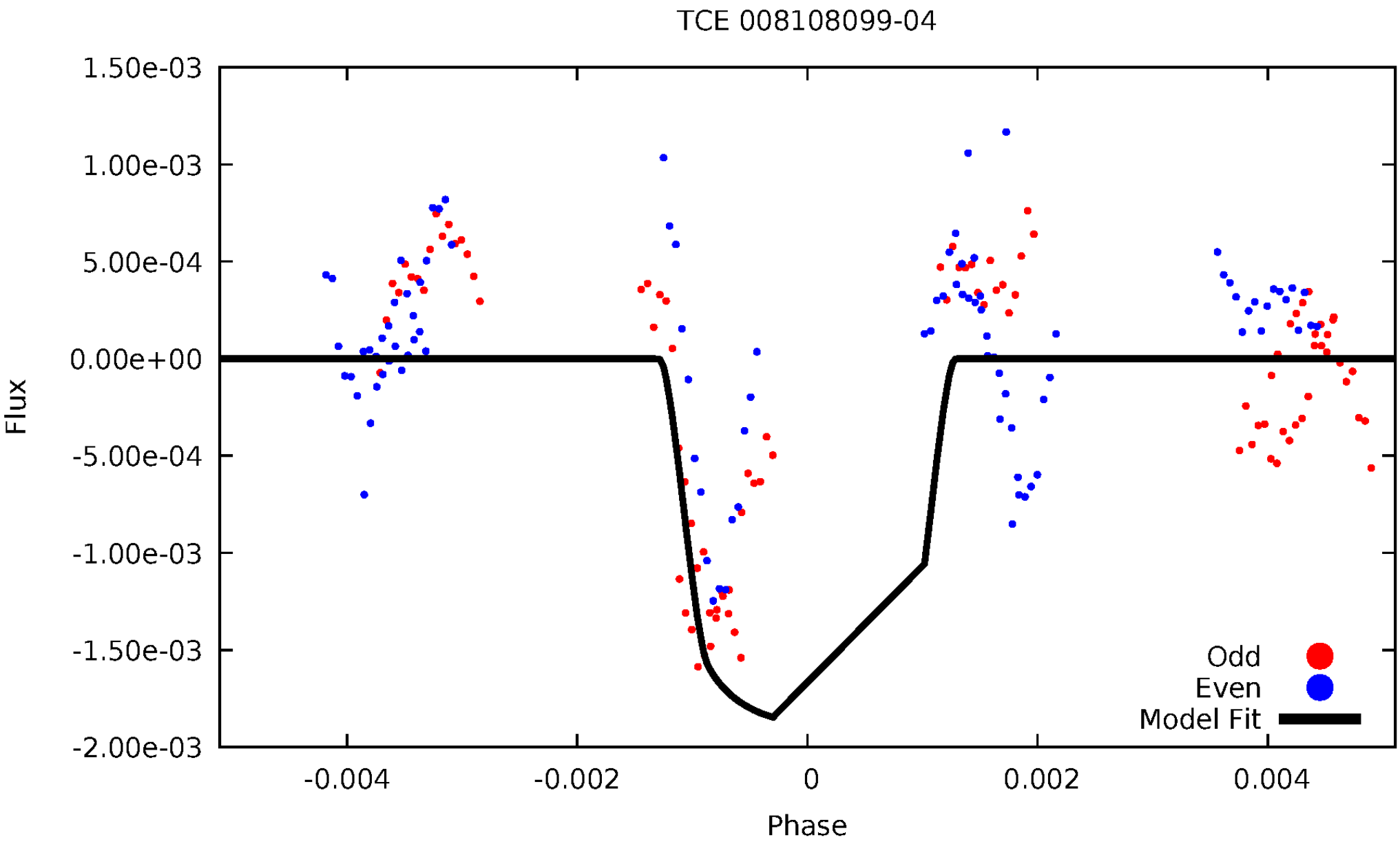
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-04, PDC Light Curves

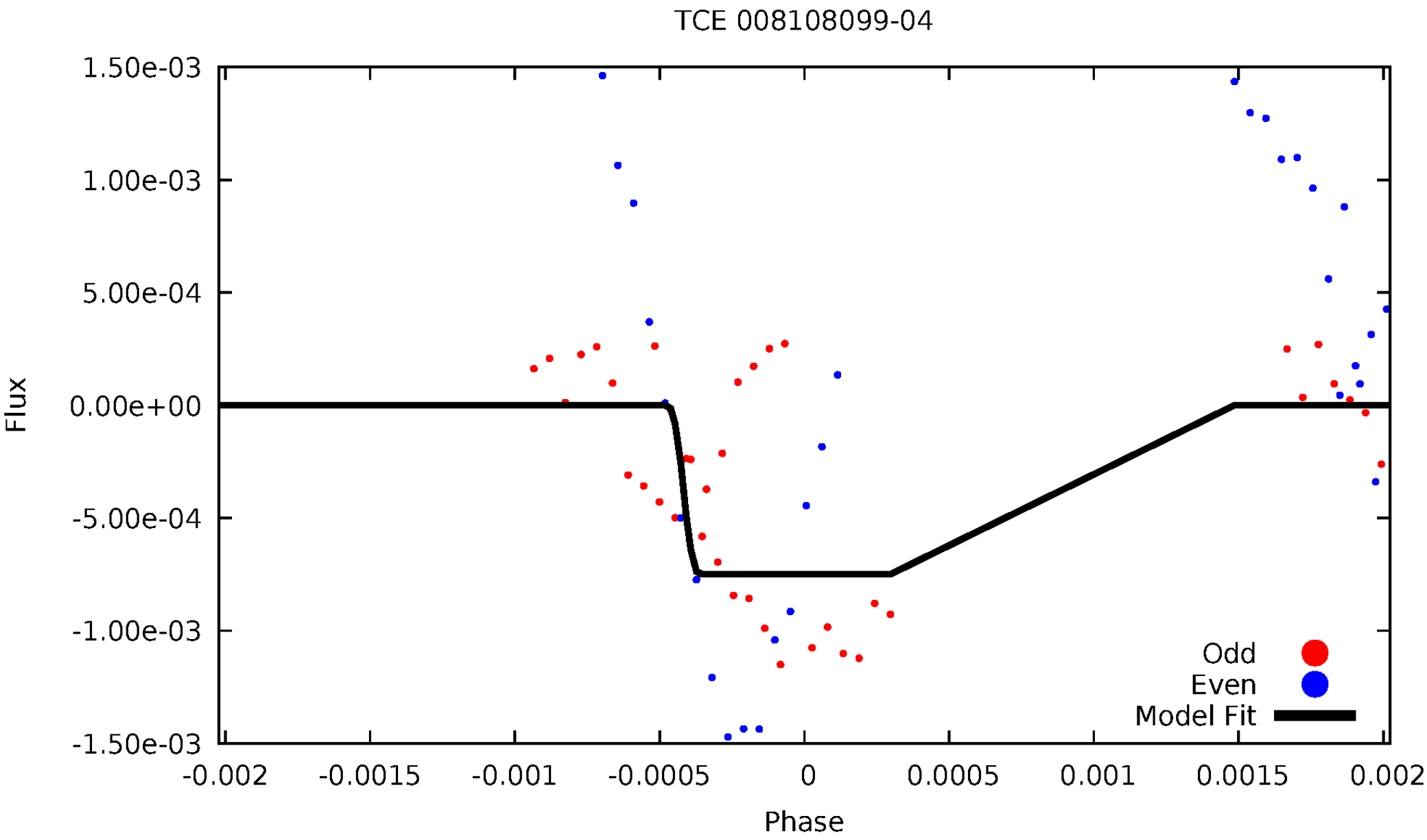



TCE 008108099-04
P = 188.535 days
P = 377.070 days
P = 754.140 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

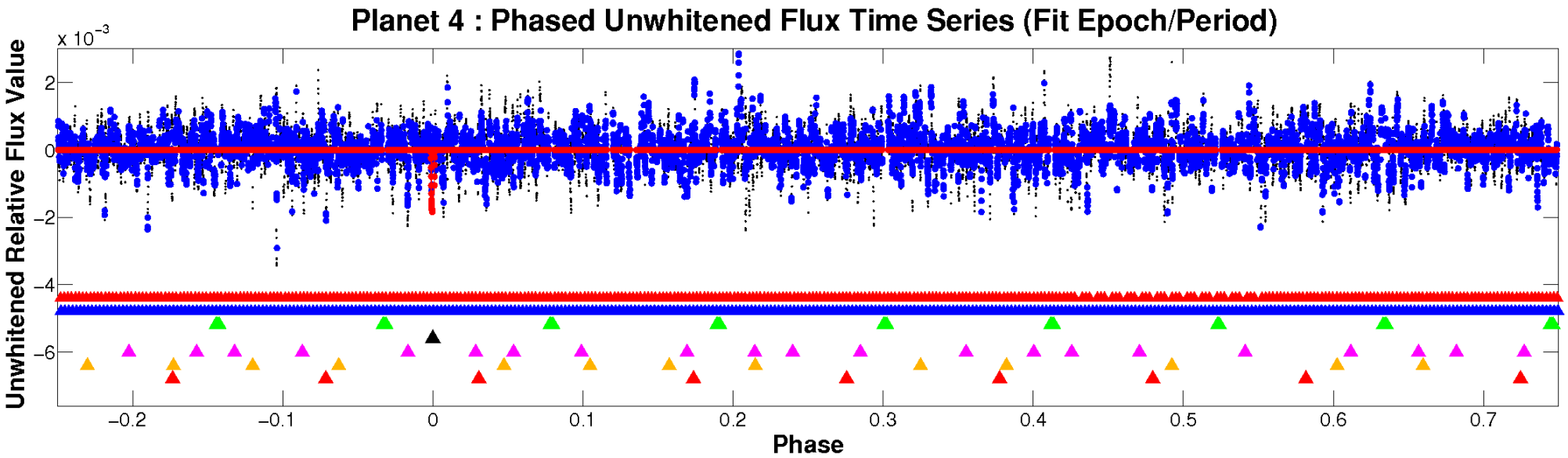
DV Odd/Even

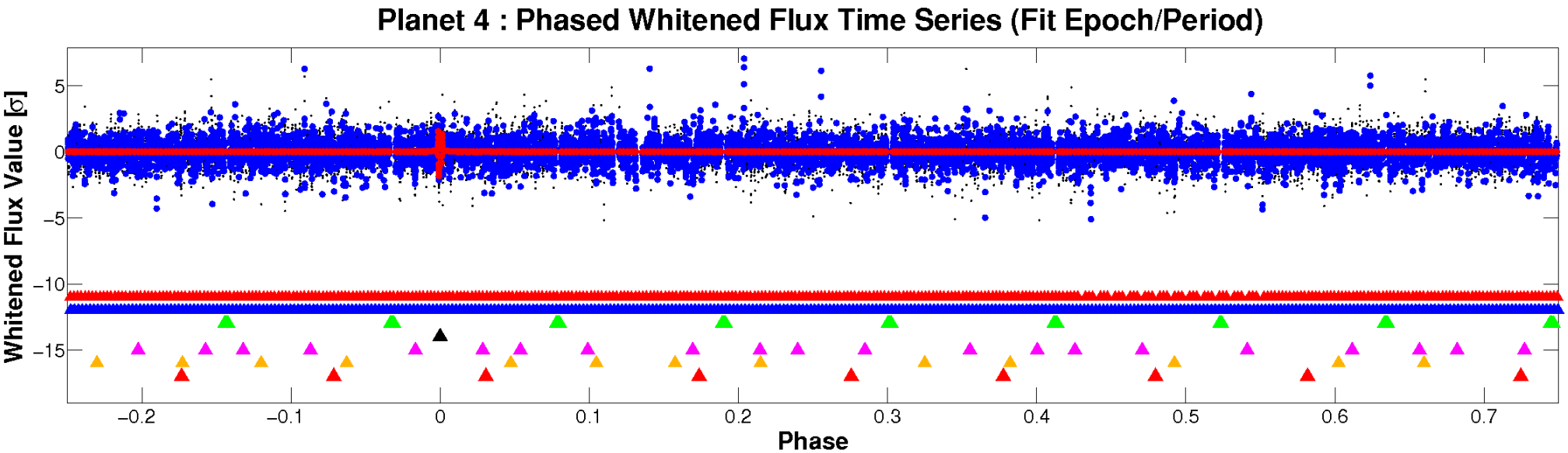

TCE 008108099-04
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-04
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

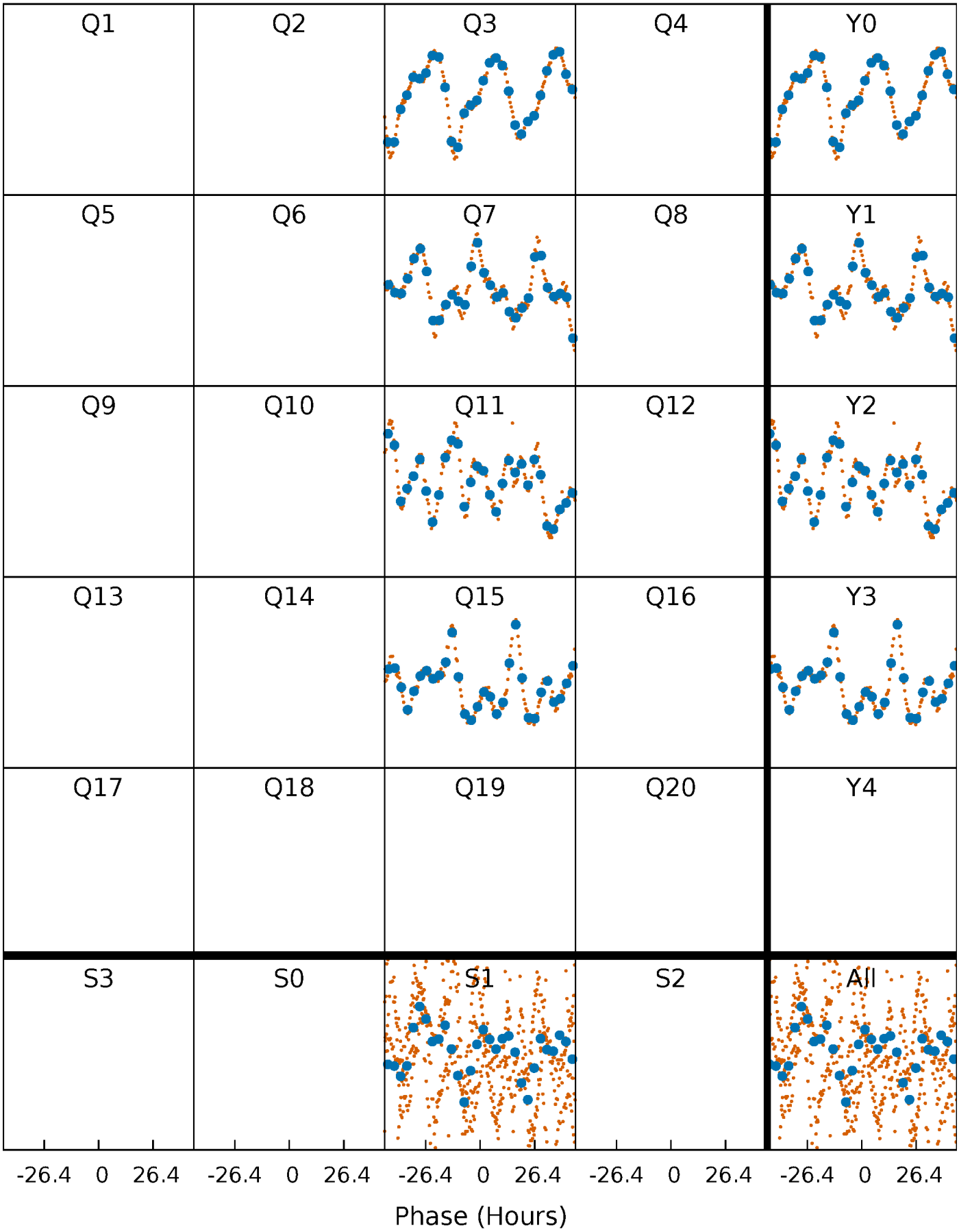
Non-Whitened Vs. Whitened Light Curve





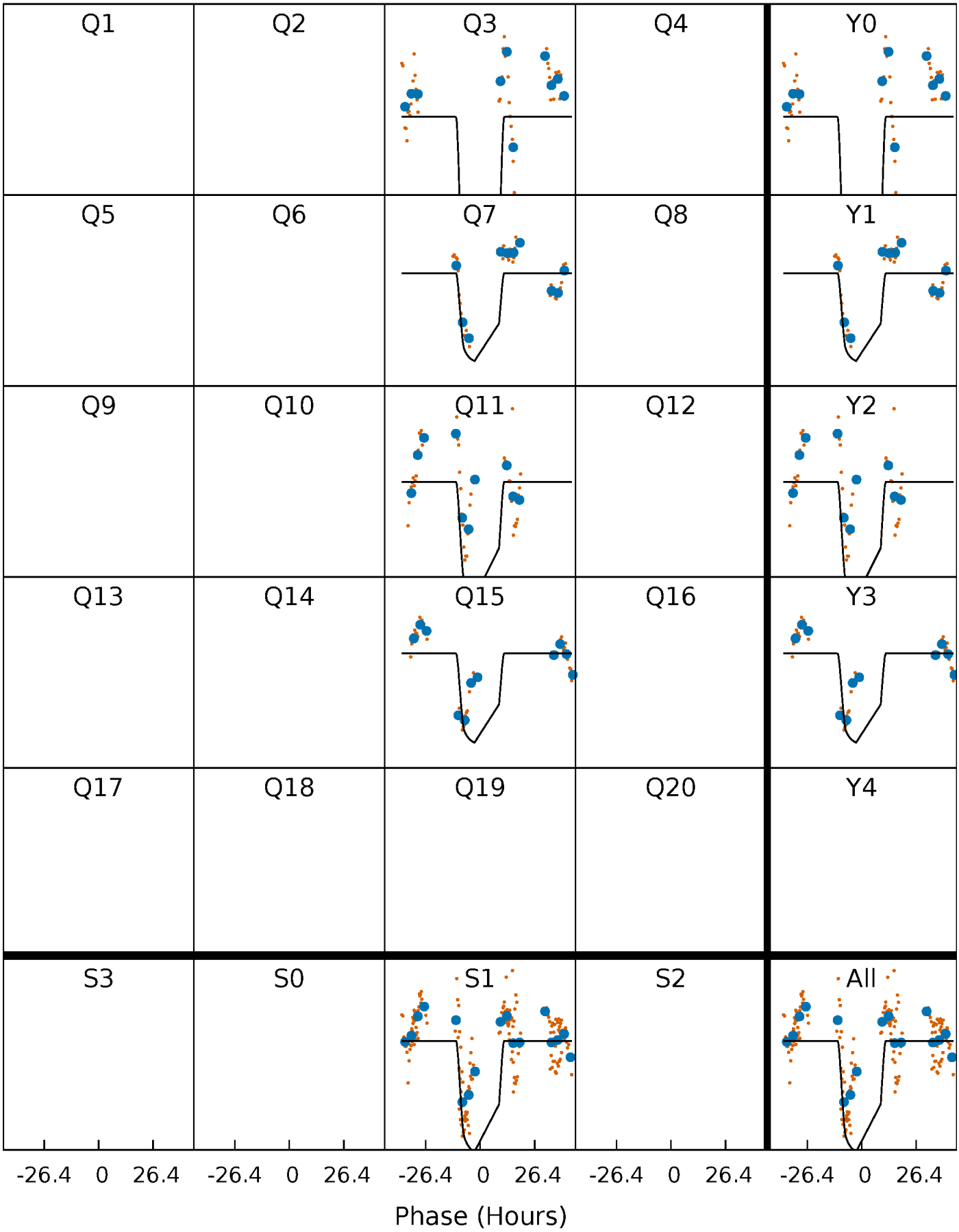
PDC Quarter-Phased Transit Curves

TCE 008108099-04 P=377.069985 Days T_0=300.196296 (BKJD)



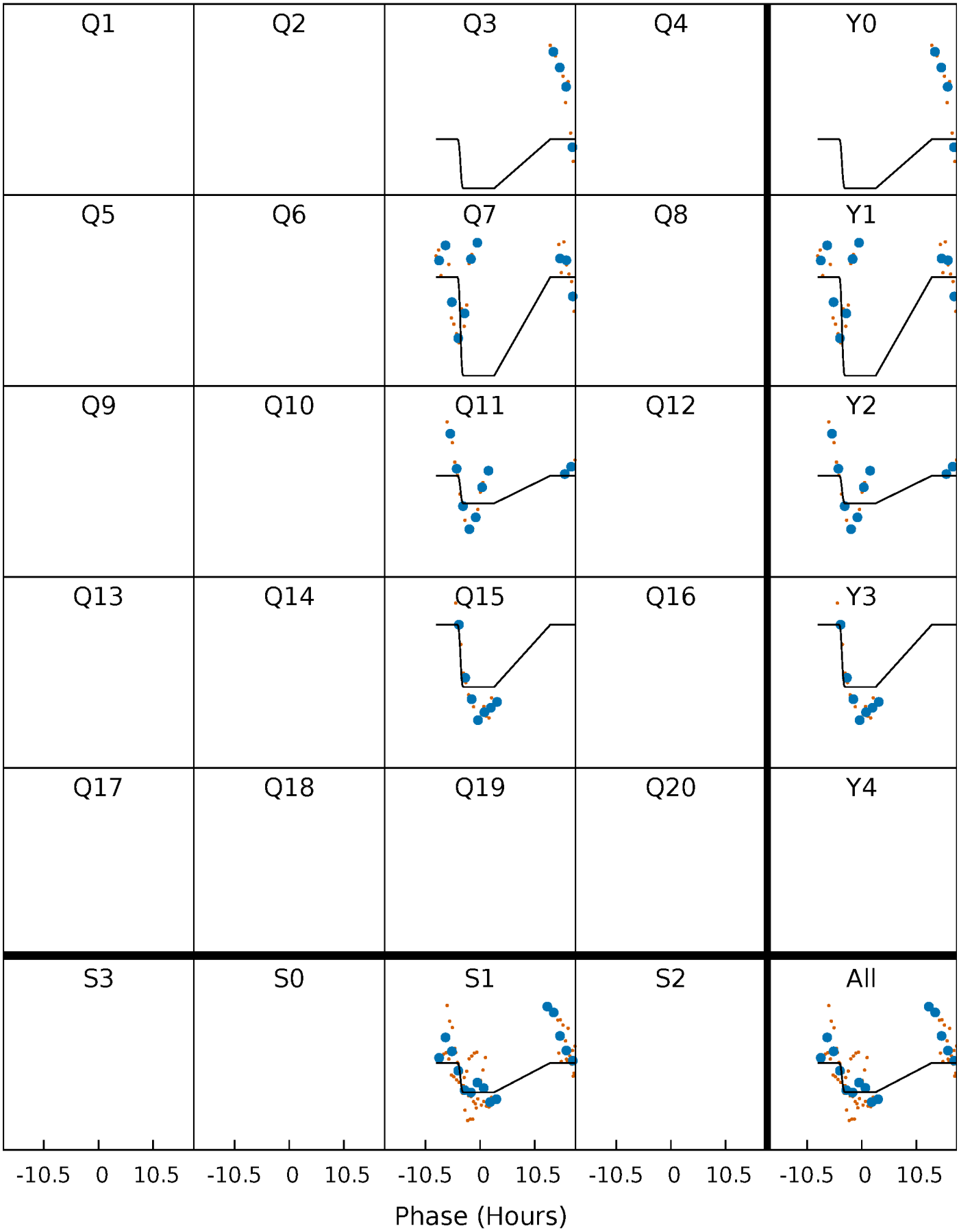
DV Quarter-Phased Transit Curves

TCE 008108099-04 P=377.069985 Days T_0=300.196296 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

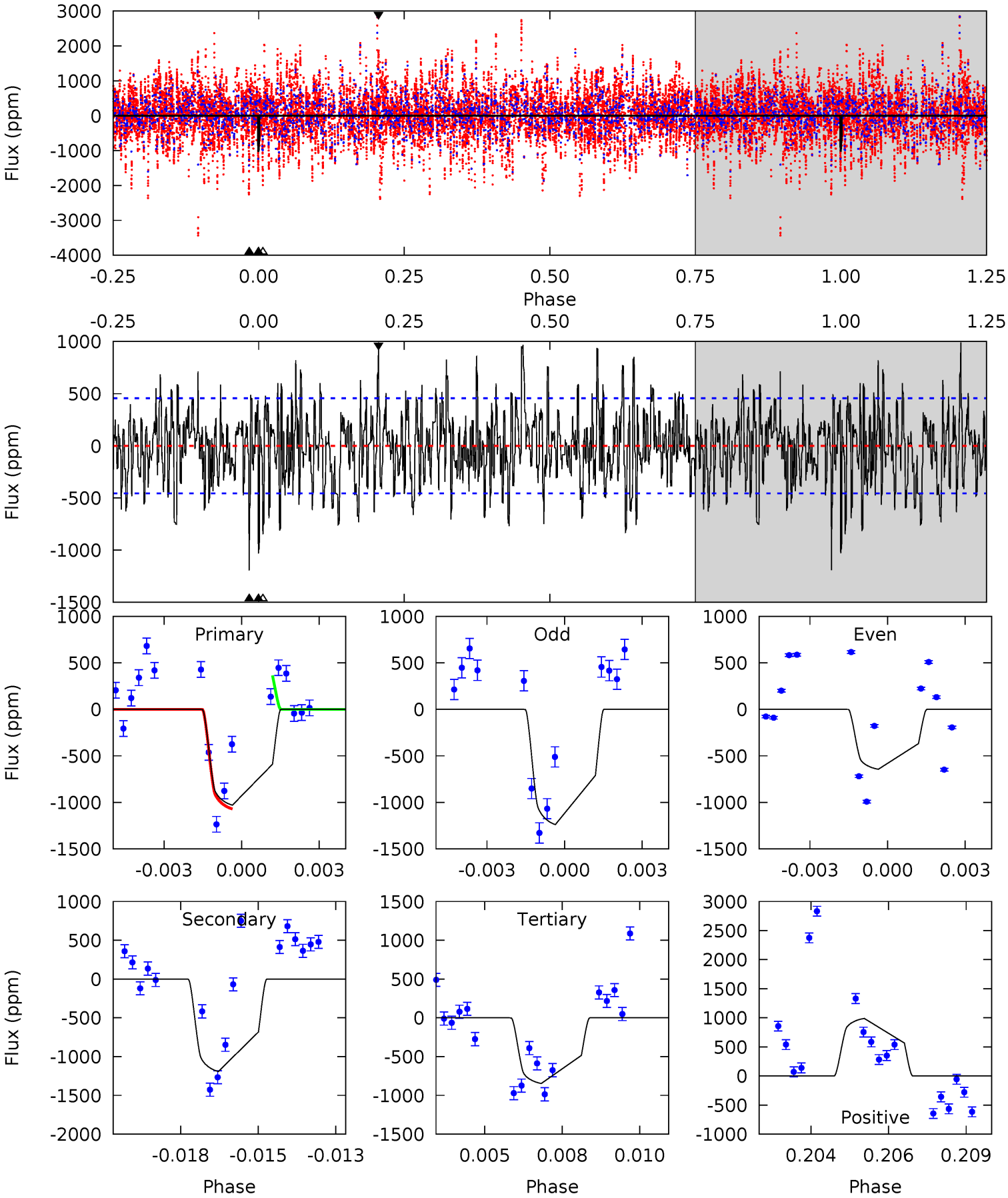
TCE 008108099-04 P=377.053672 Days T_0=300.019986 (BKJD)



DV Model-Shift Uniqueness Test

008108099-04, P = 377.069985 Days, E = 300.196296 Days

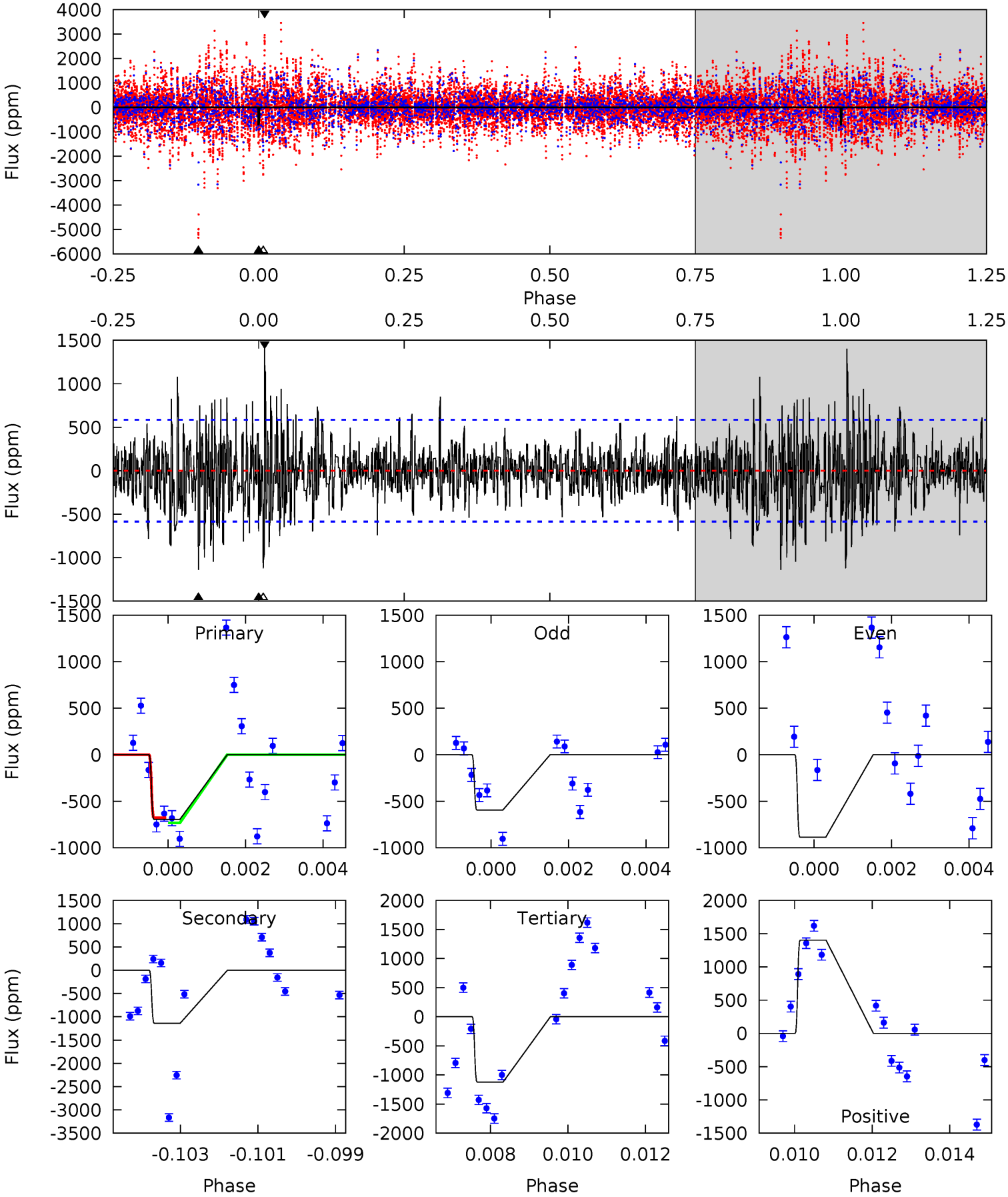
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	13.8	9.80	11.5	5.28	3.02	3.36	2.13	0.46	4.01	2.34	3.43	0.75	0.45	3.03



Alt Model-Shift Uniqueness Test

008108099-04, P = 377.053672 Days, E = 300.019986 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.33	10.4	10.2	12.8	5.33	3.10	2.37	-3.88	-6.43	0.17	-2.37	1.27	0.68	0.55	0.22



Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1193±86	$15.66^{+2.10}_{-2.94}$	680^{+38}_{-56}	6042^{+280}_{-274}	4285^{+1799}_{-937}
Alt.	-1141±110	$9.40^{+1.68}_{-1.85}$	681^{+36}_{-53}	7854^{+662}_{-597}	11379^{+5461}_{-3267}

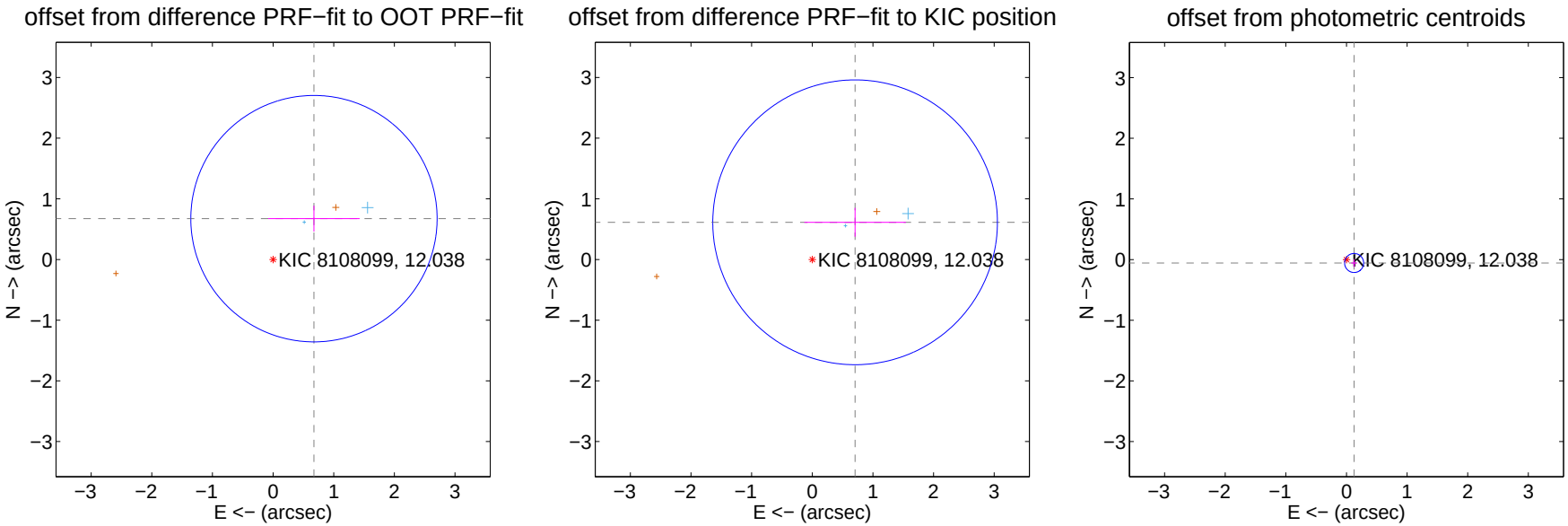
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

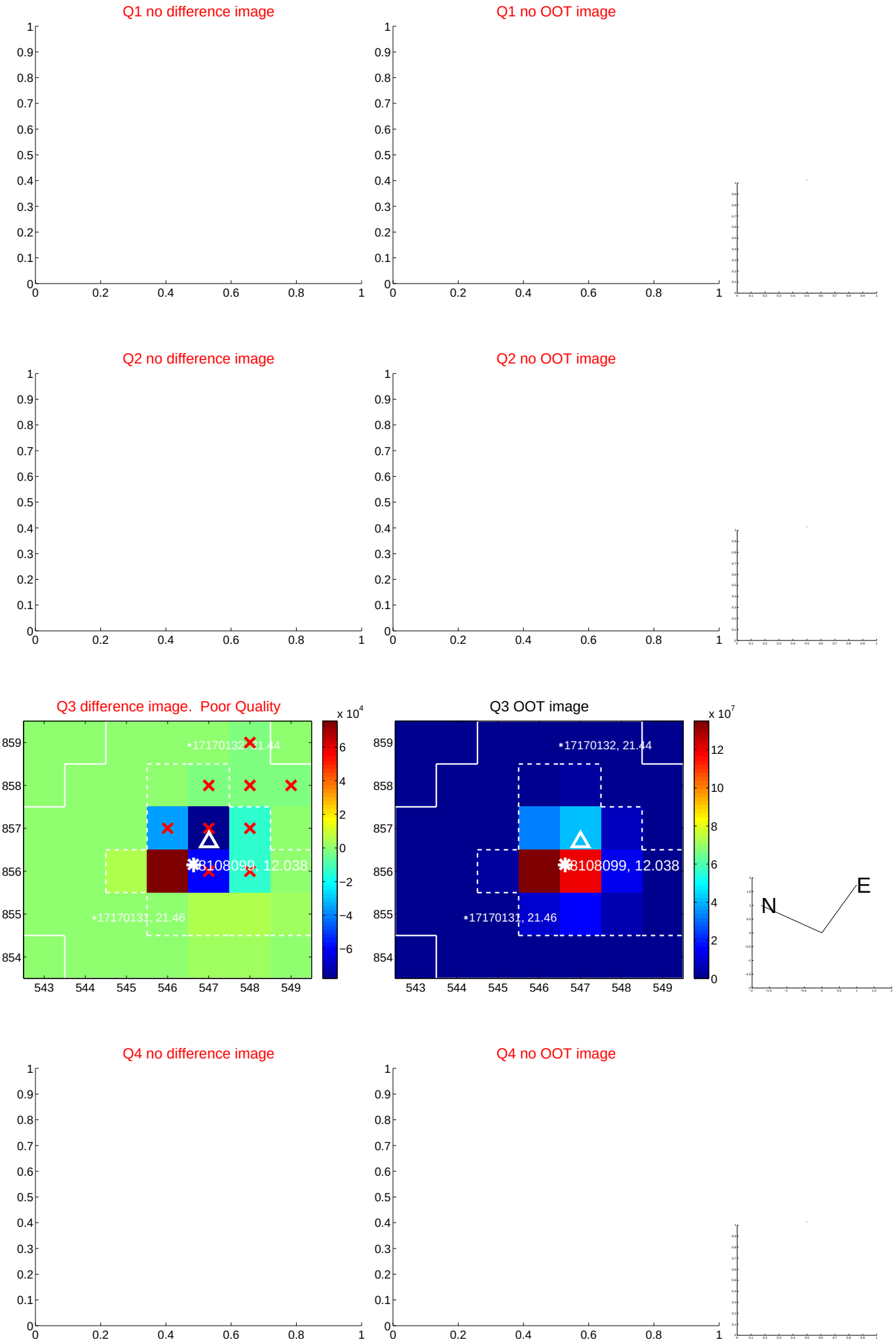
Supplemental centroid analysis for 008108099-04. Kepler magnitude: 12.04. Transit SNR 8.94
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.953 ± 0.677	1.41	-0.674 ± 0.754	0.673 ± 0.213
PRF-fit source offset from KIC position	0.935 ± 0.782	1.20	-0.706 ± 0.838	0.613 ± 0.238
photometric centroid source offset	0.14 ± 0.05	2.65	-0.13 ± 0.05	-0.06 ± 0.06

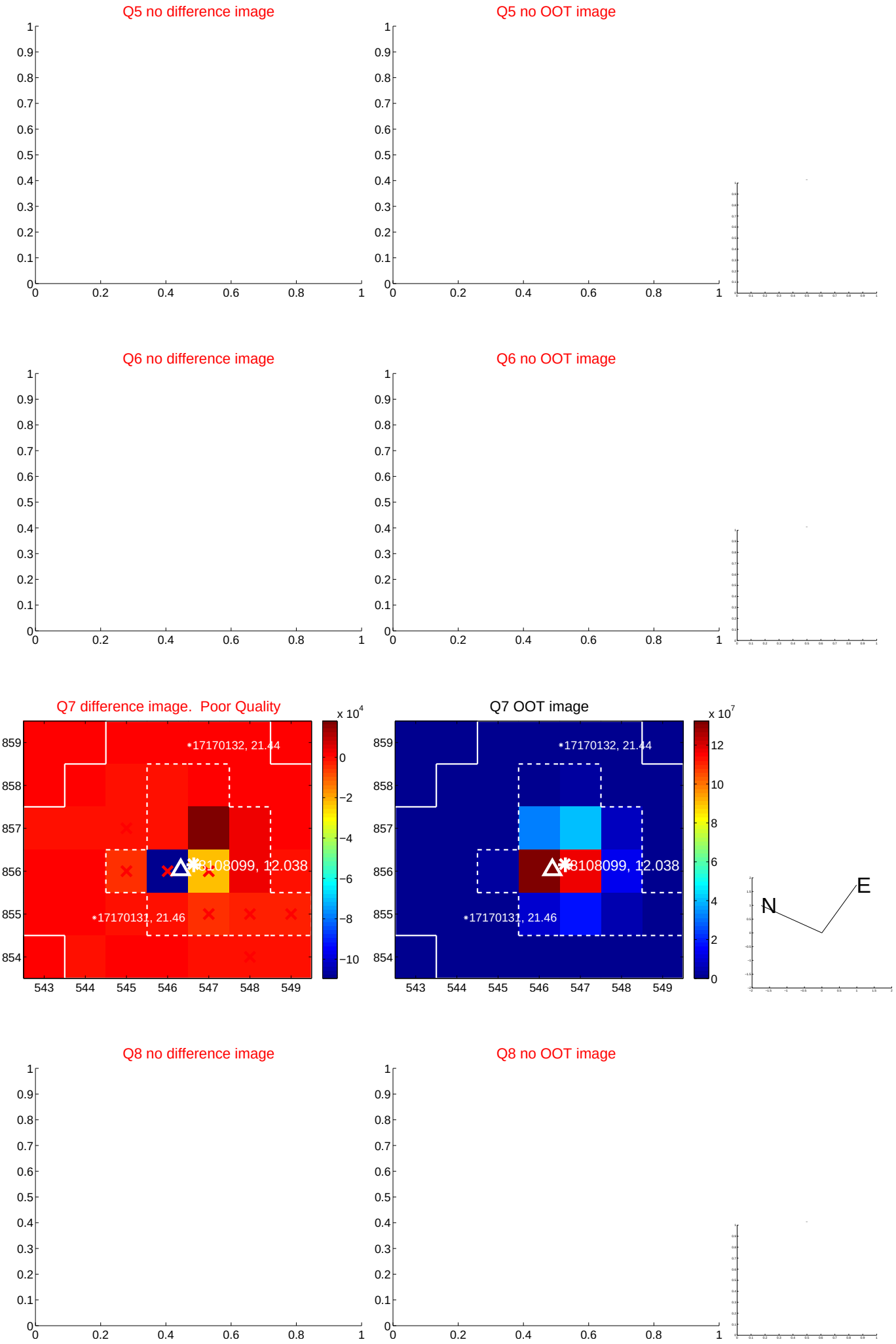


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

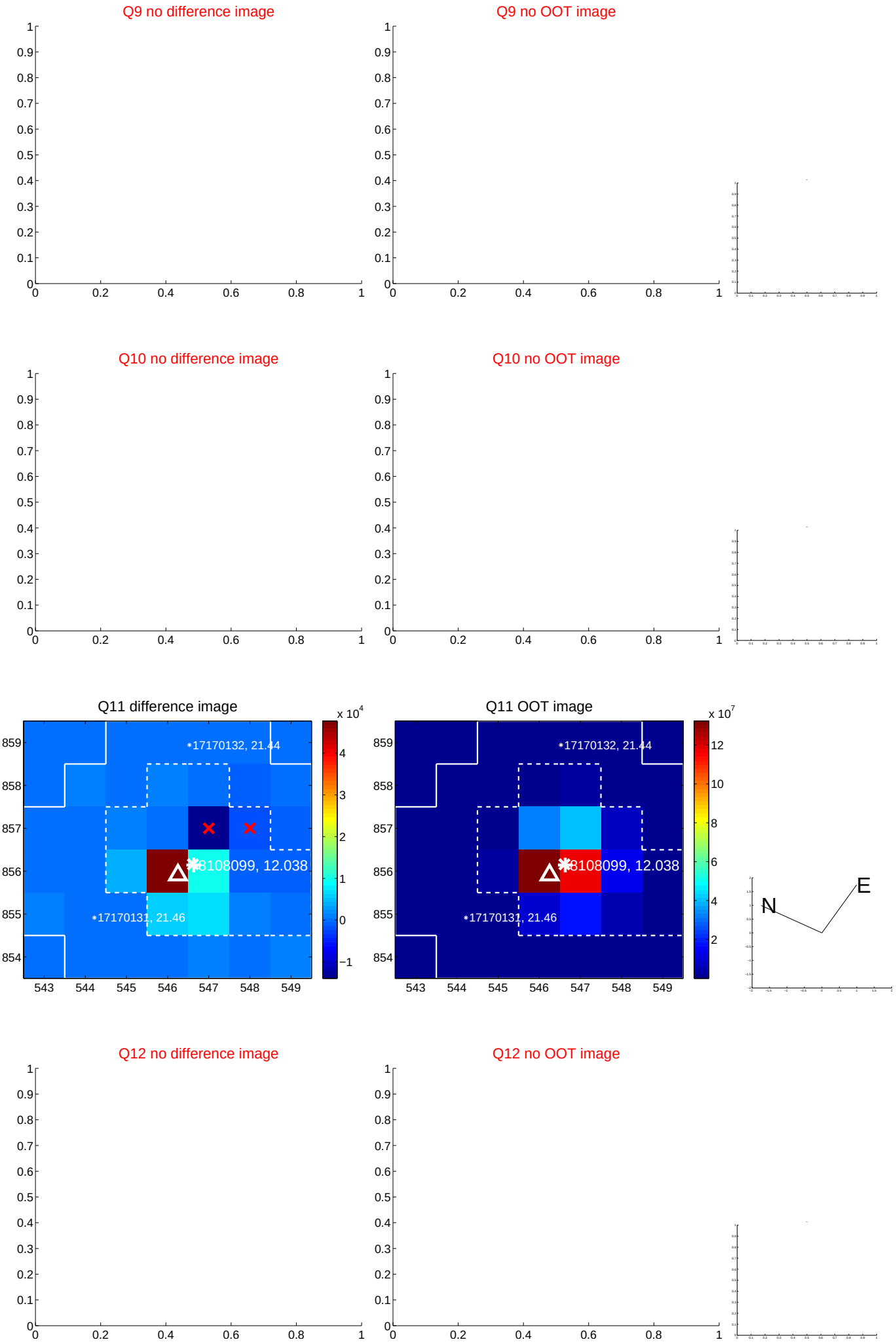
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



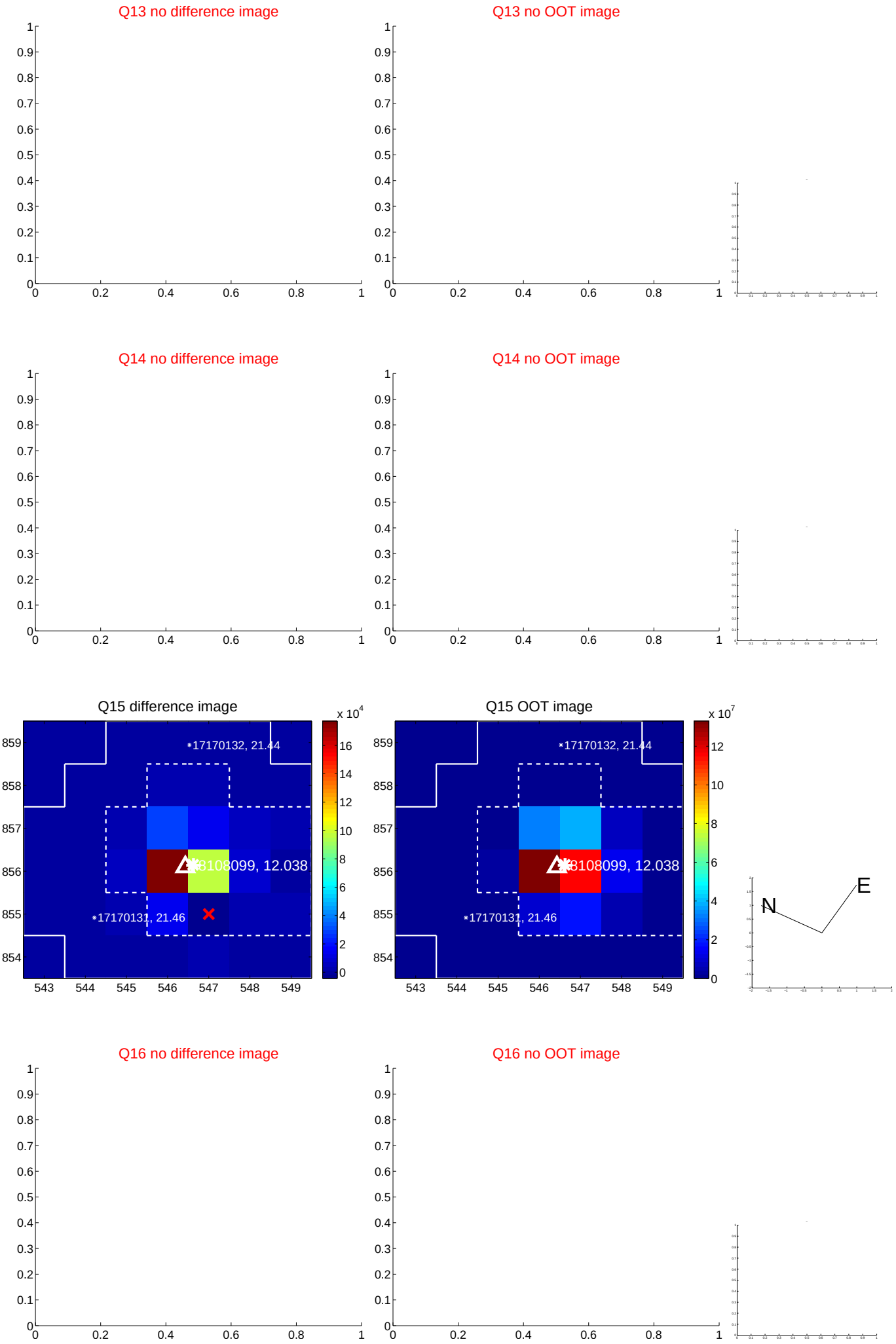
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



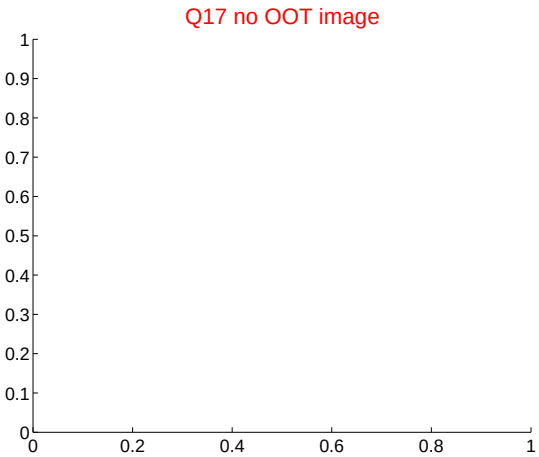
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

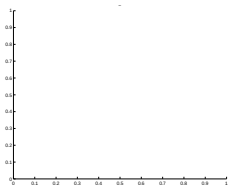


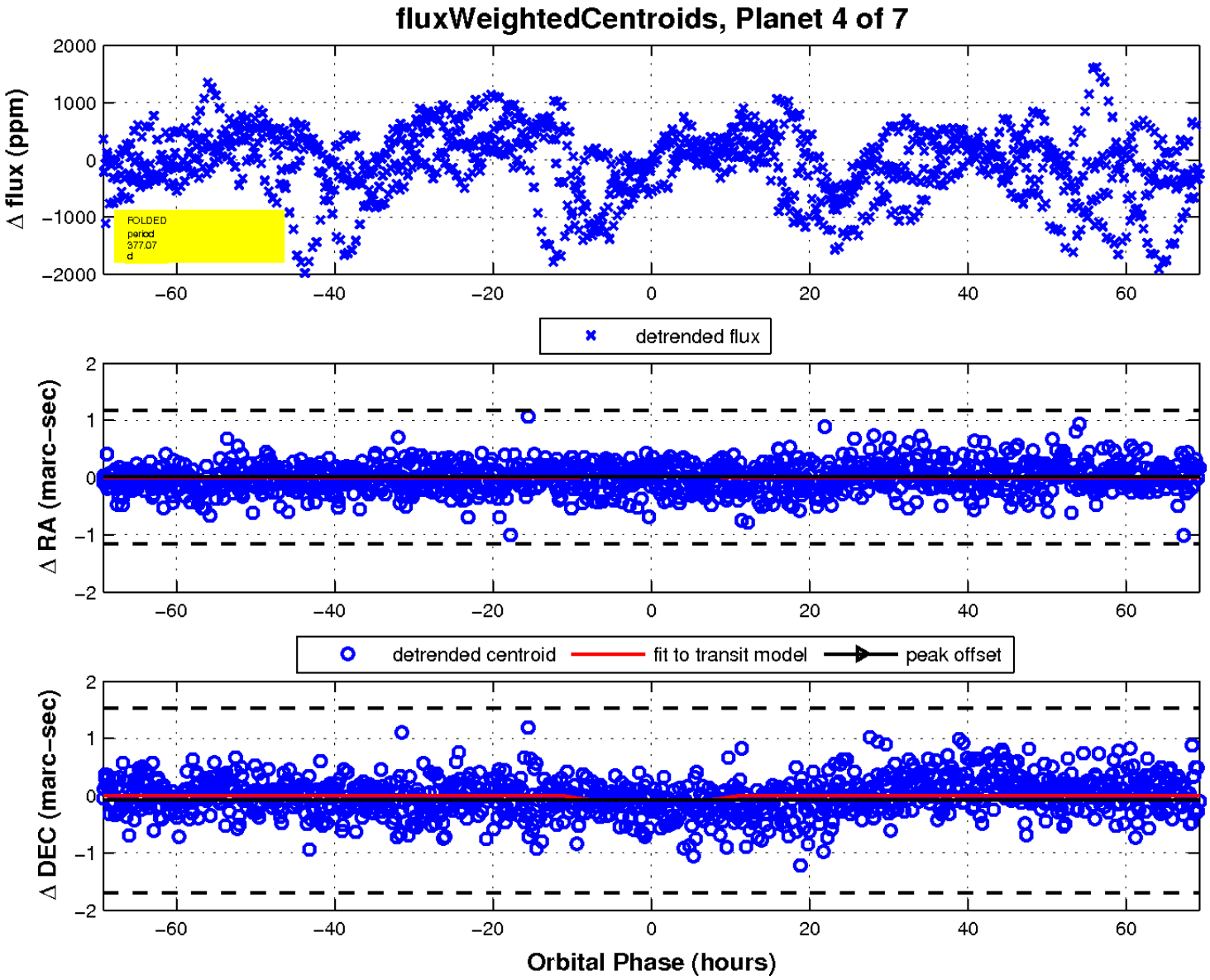
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



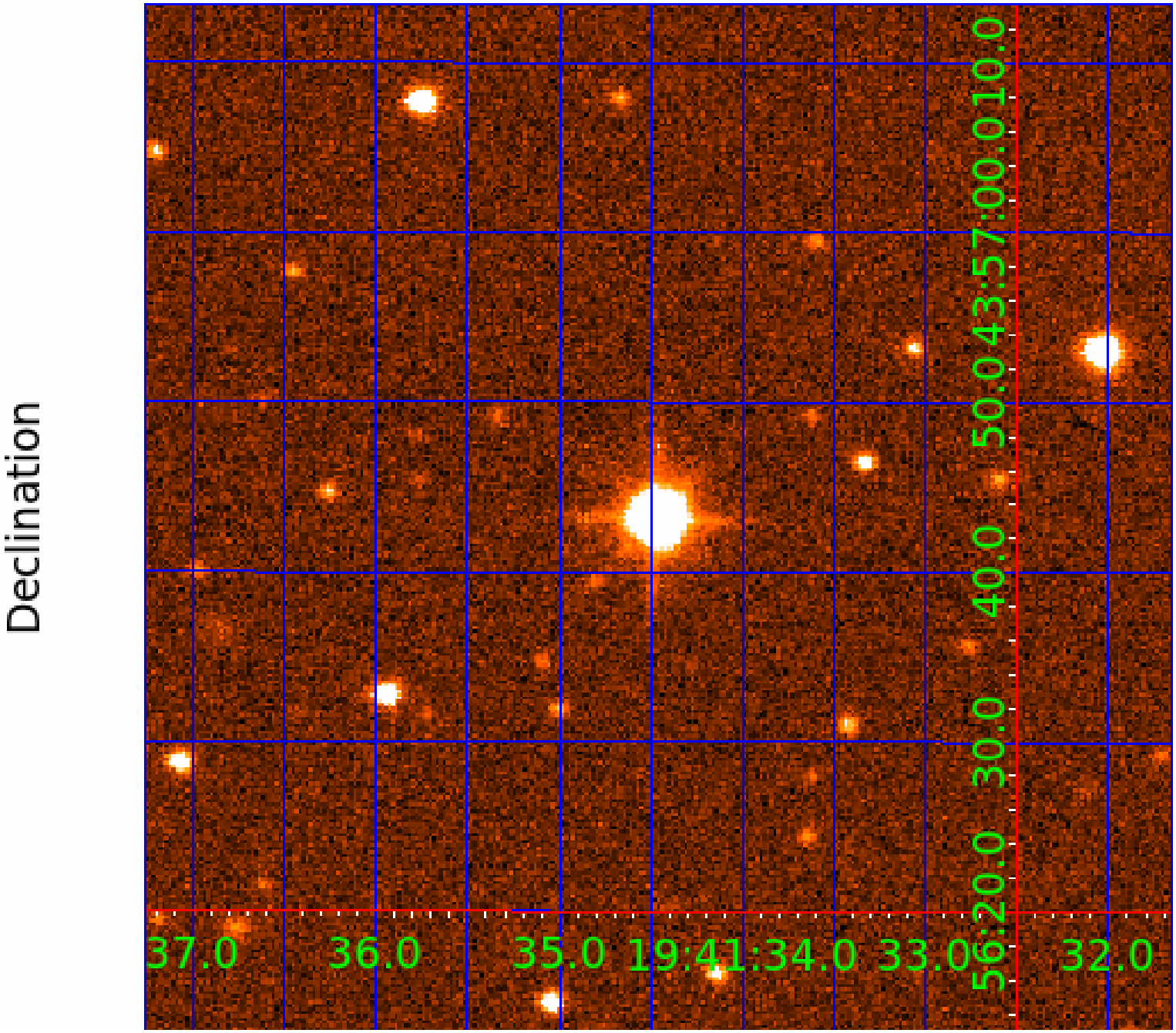
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
37.0
36.0
35.0
19:41:34.0
33.0
32.0
56:20.0
30.0
40.0
50.0
43:57:00.0
10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

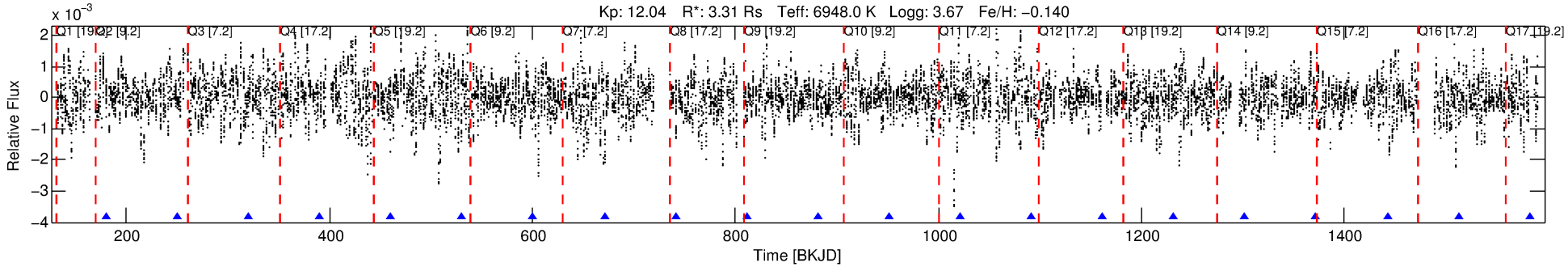
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

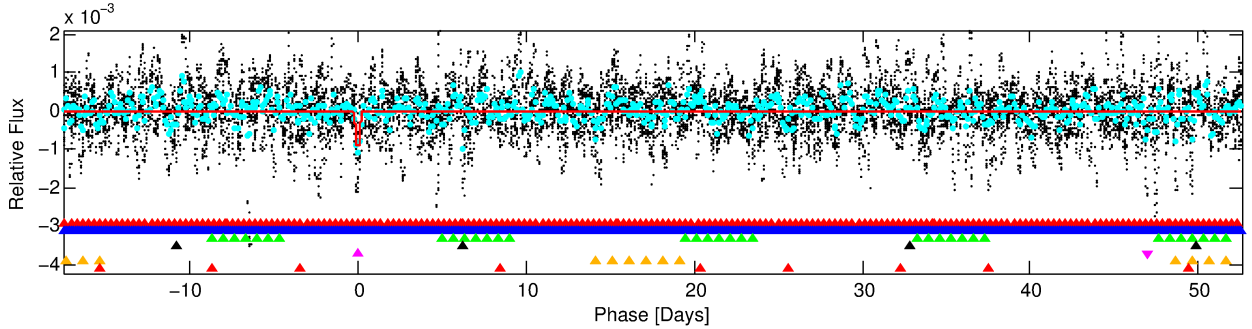
Ephemeris Match Information For 008108099-05

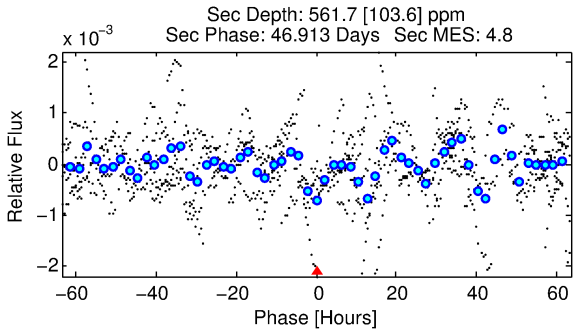
No Significant Match Found

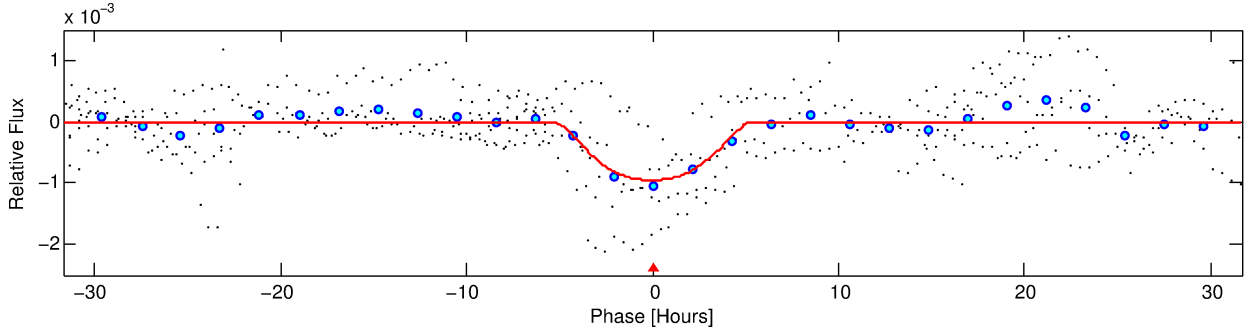
DV One-Page Summary

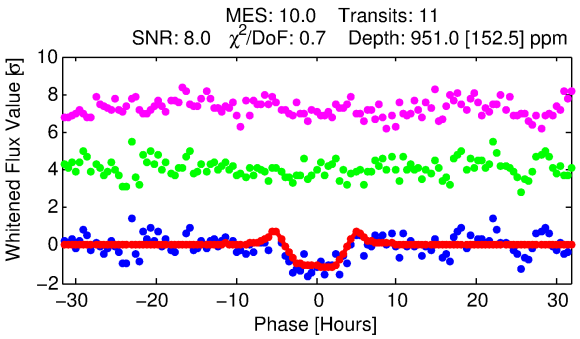
KIC: 8108099 Candidate: 5 of 7 Period: 70.105 d

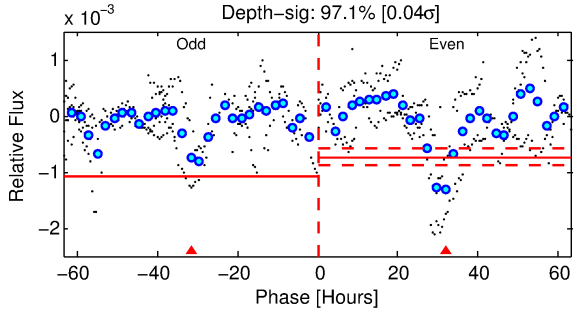


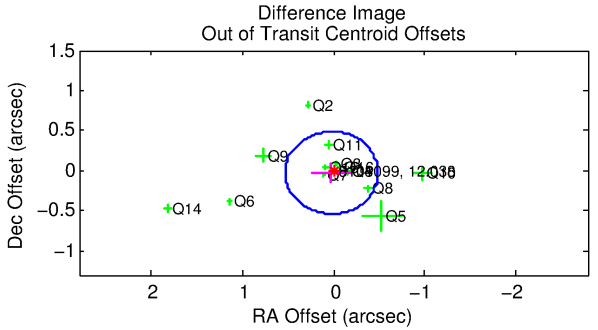












DV Fit Results:

Period = 70.10535 [0.00137] d
Epoch = 180.2867 [0.0151] BKJD
Rp/R* = 0.0360 [0.0040]
a/R* = 19.10 [1.67]
b = 0.97 [0.01]

Seff = 136.74 [72.98]
Teq = 872 [116] K
Rp = 12.99 [5.03] Re
a = 0.4090 [0.1374] AU

Ag = 306.59 [181.45] [1.68σ]
Teffp = 5641 [446] K [10.35σ]

DV Diagnostic Results:

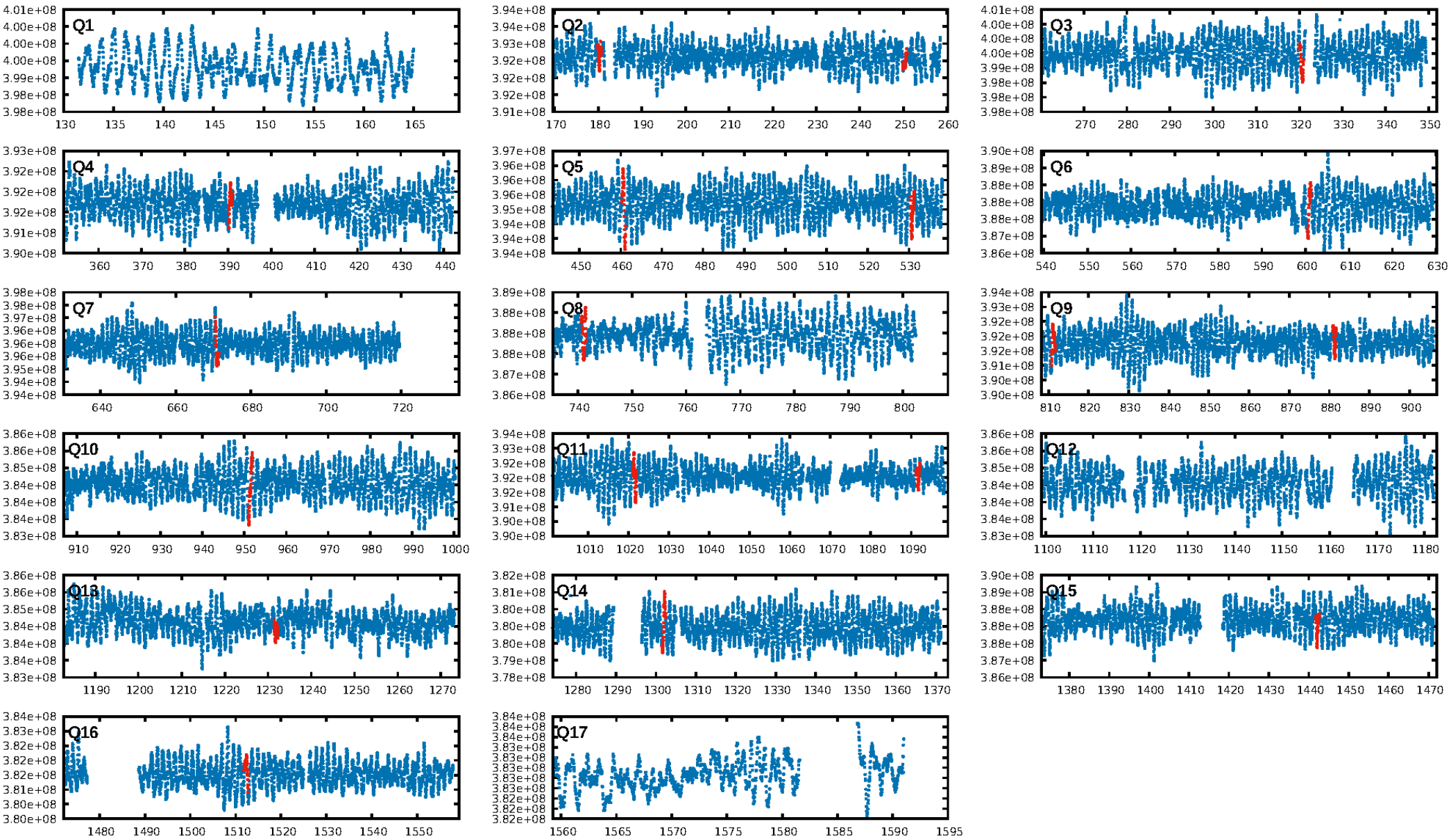
ShortPeriod−sig: 100.0% [48.99σ]
LongPeriod−sig: 100.0% [67.10σ]
ModelChiSquare2−sig: 6.7%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [11/11]
GhostDiagnostic−chr: 0.01199

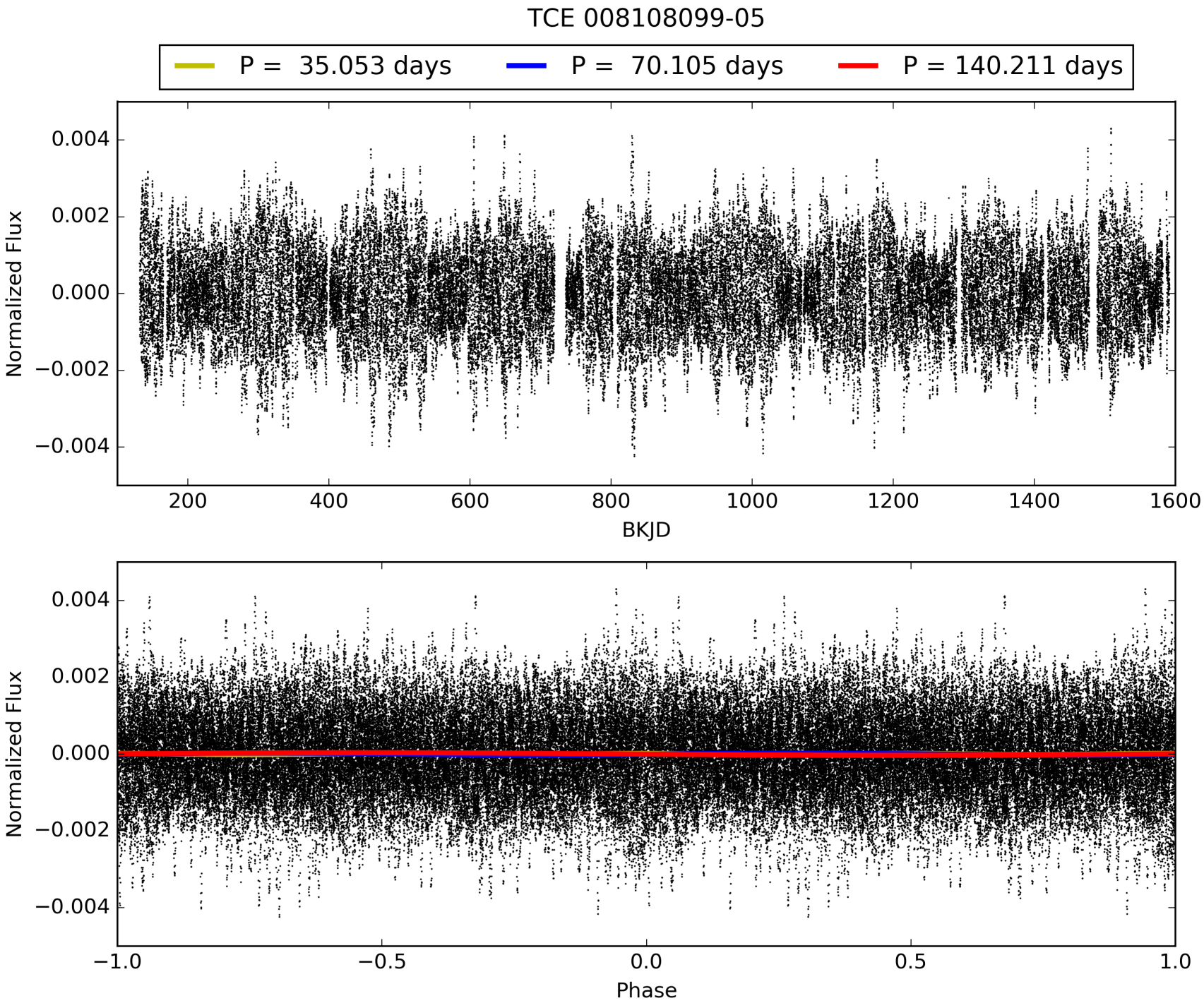
Centroid−sig: 0.7%
Centroid−so: 0.083 arcsec [0.96σ]
OotOffset−rm: 0.035 arcsec [0.20σ]
KicOffset−rm: 0.089 arcsec [0.77σ]
OotOffset−st: 4/4/3/2 [13]
KicOffset−st: 4/4/3/2 [13]
DiffImageQuality−fgm: 0.46 [6/13]
DiffImageOverlap−fno: 0.00 [0/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:02:04 Z

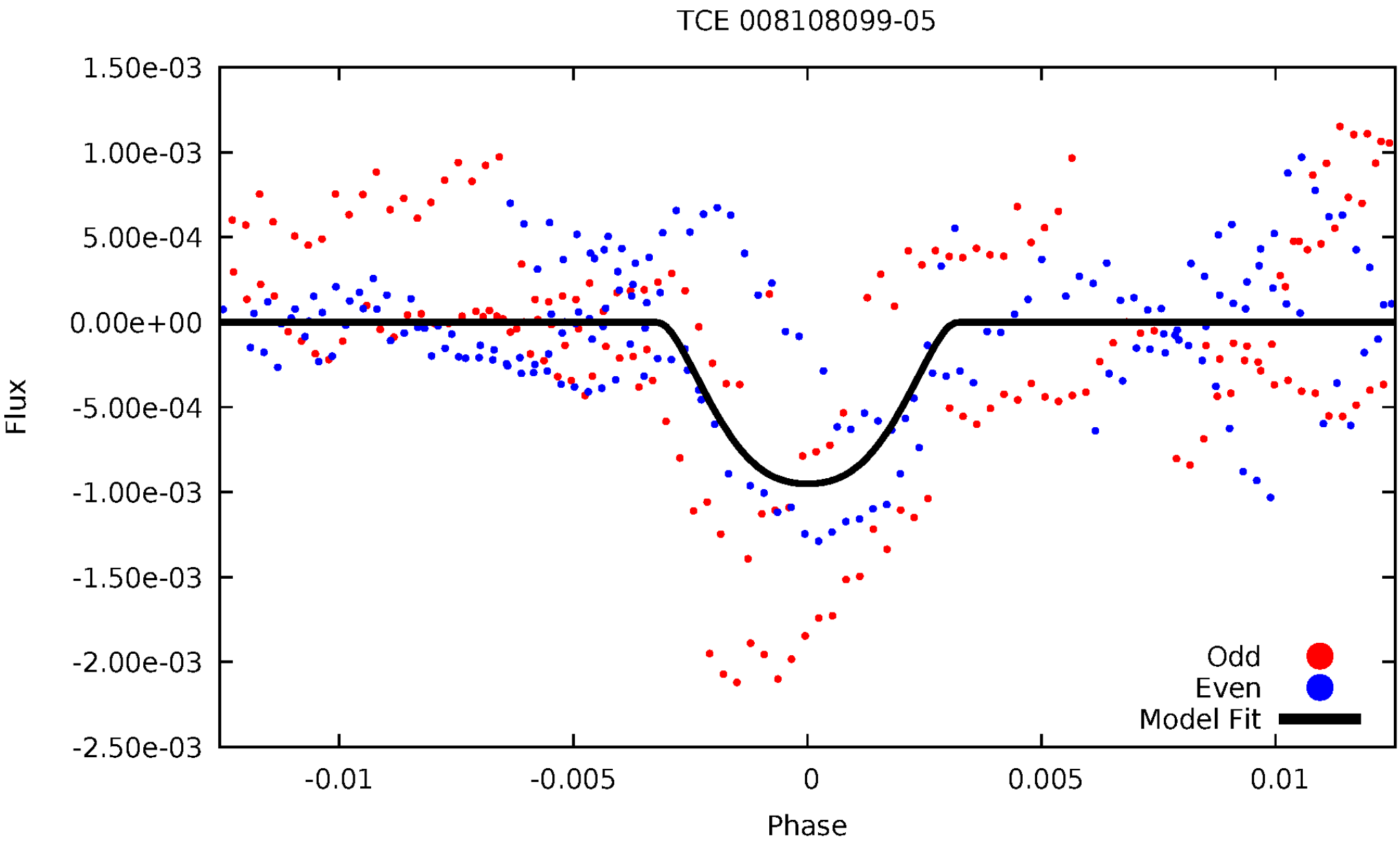
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-05, PDC Light Curves

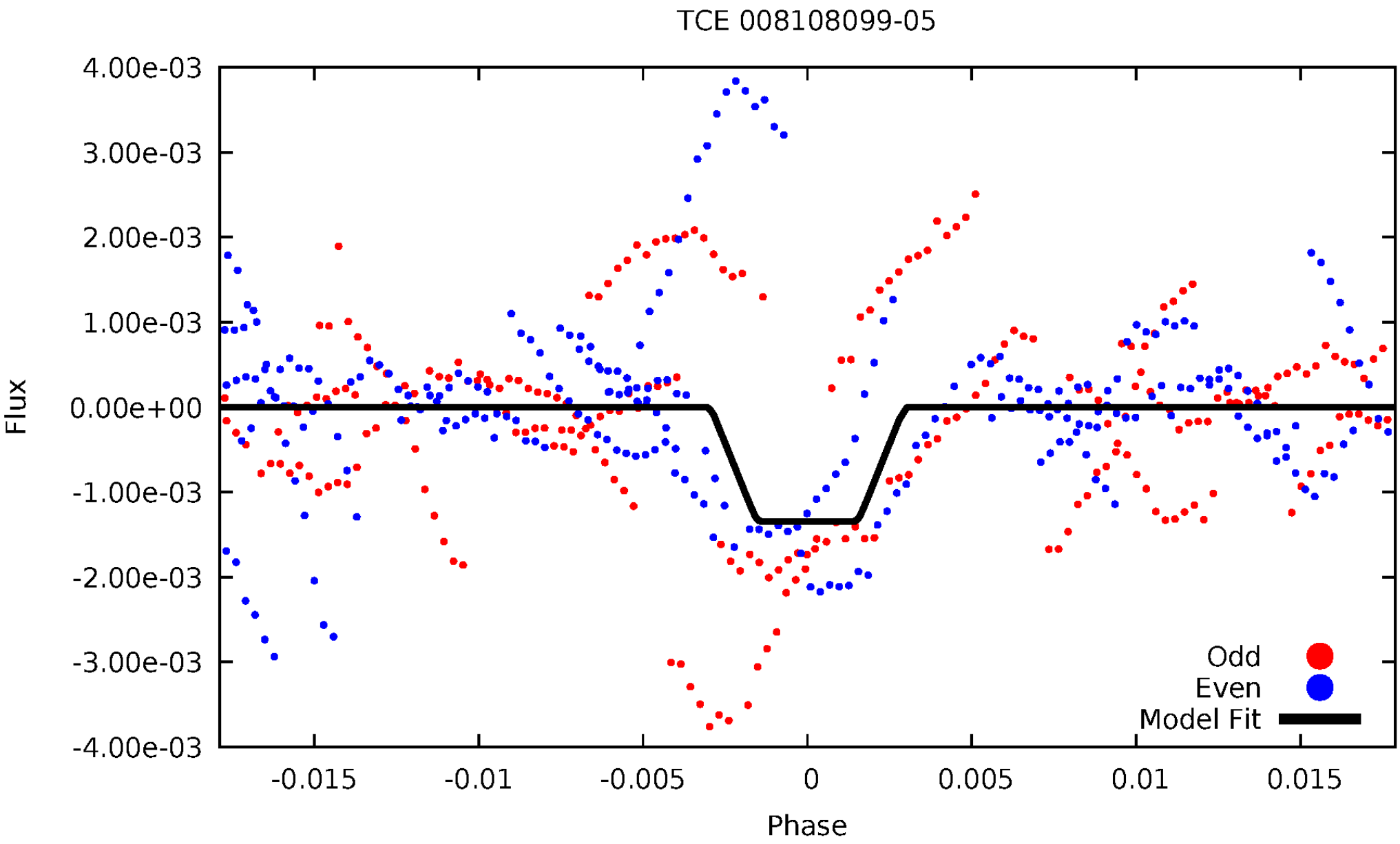



TCE 008108099-05
P = 35.053 days
P = 70.105 days
P = 140.211 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

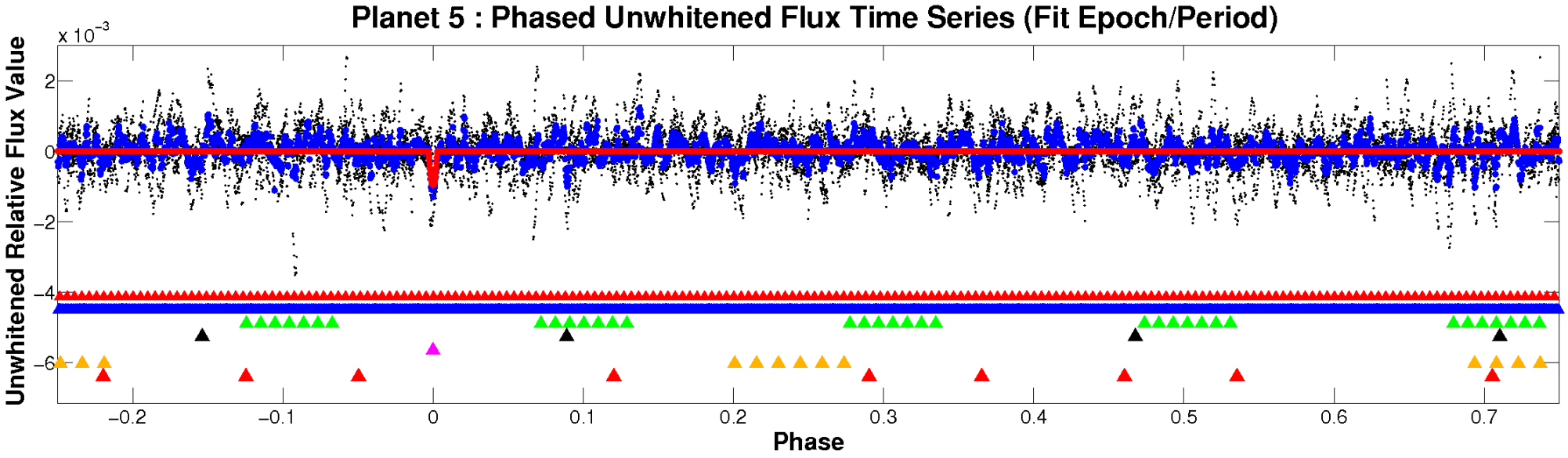
DV Odd/Even

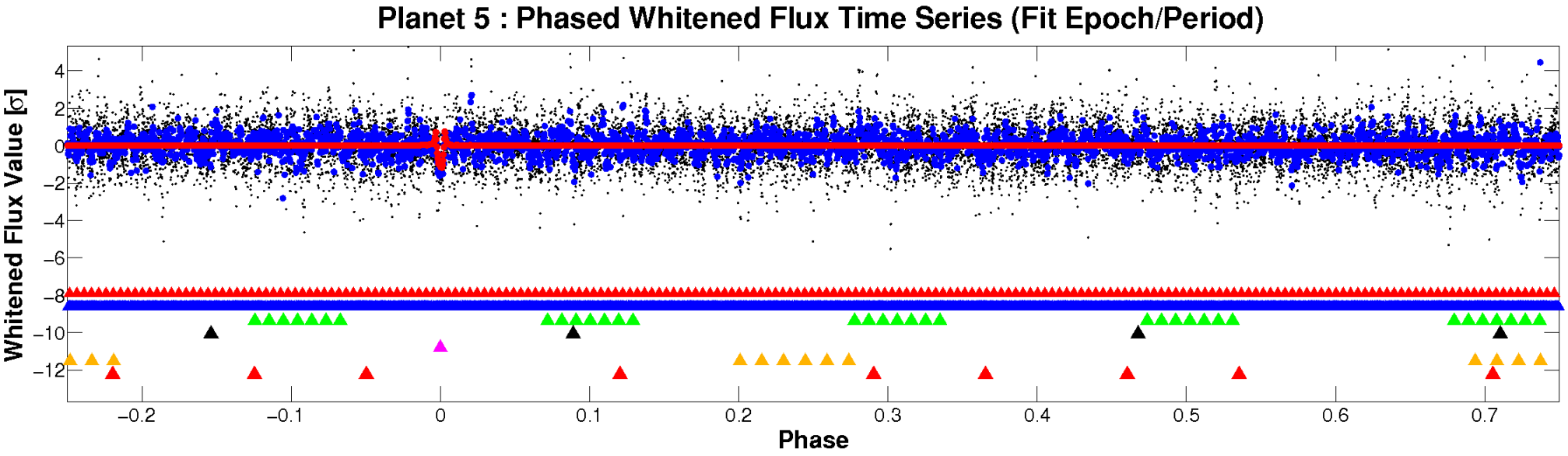

TCE 008108099-05
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-05
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

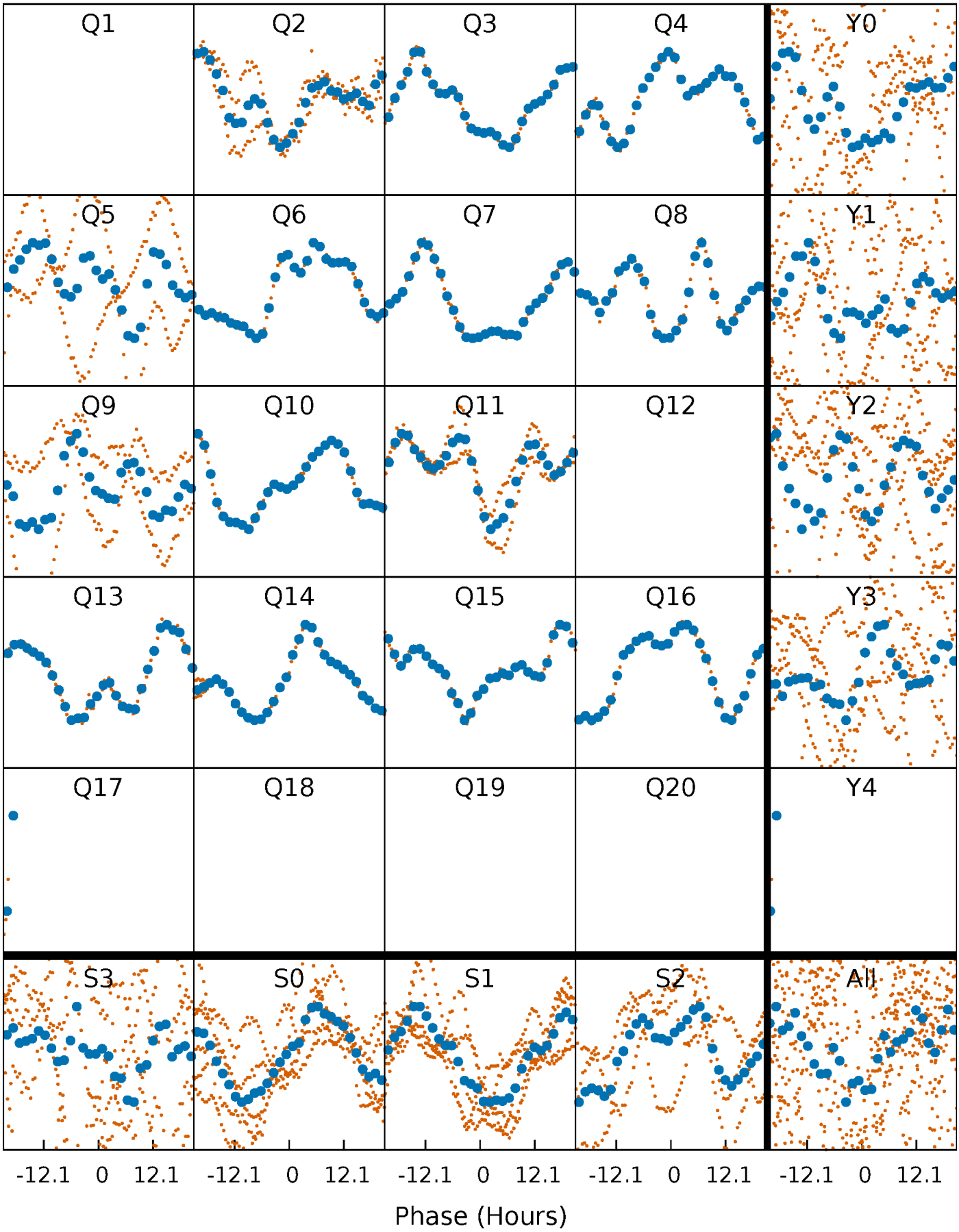
Non-Whitened Vs. Whitened Light Curve





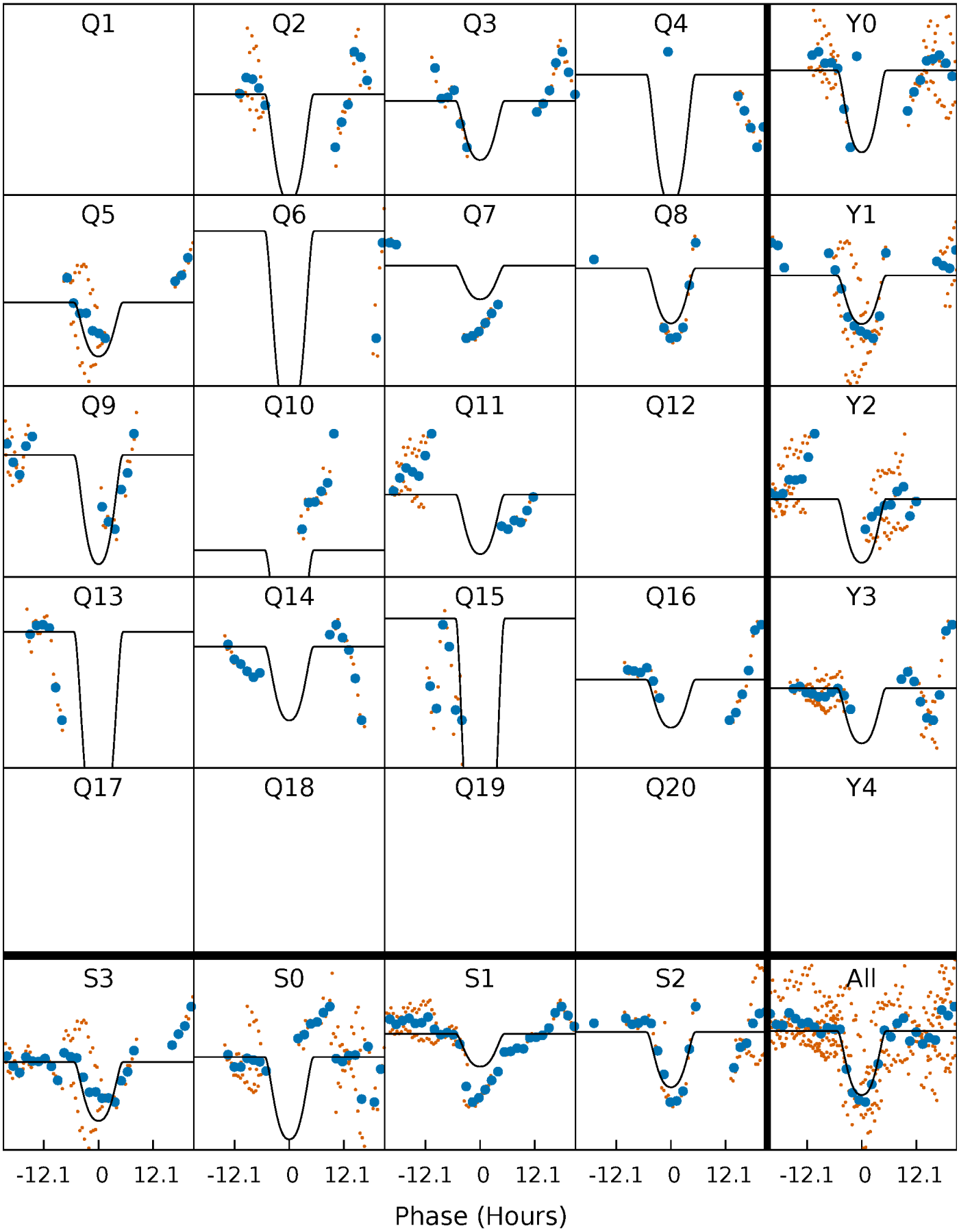
PDC Quarter-Phased Transit Curves

TCE 008108099-05 P= 70.105353 Days T_0=180.286659 (BKJD)



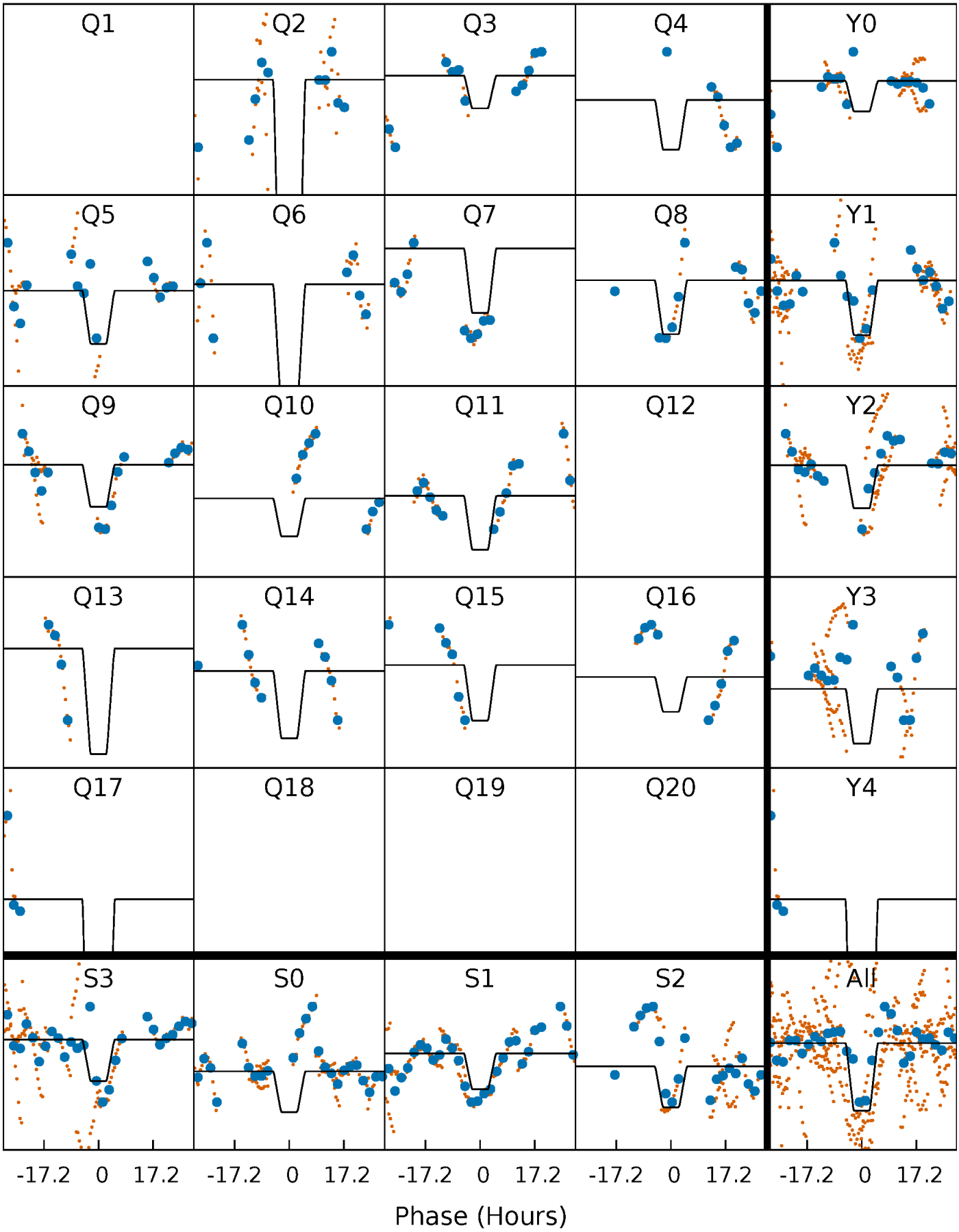
DV Quarter-Phased Transit Curves

TCE 008108099-05 P= 70.105353 Days T_0=180.286659 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

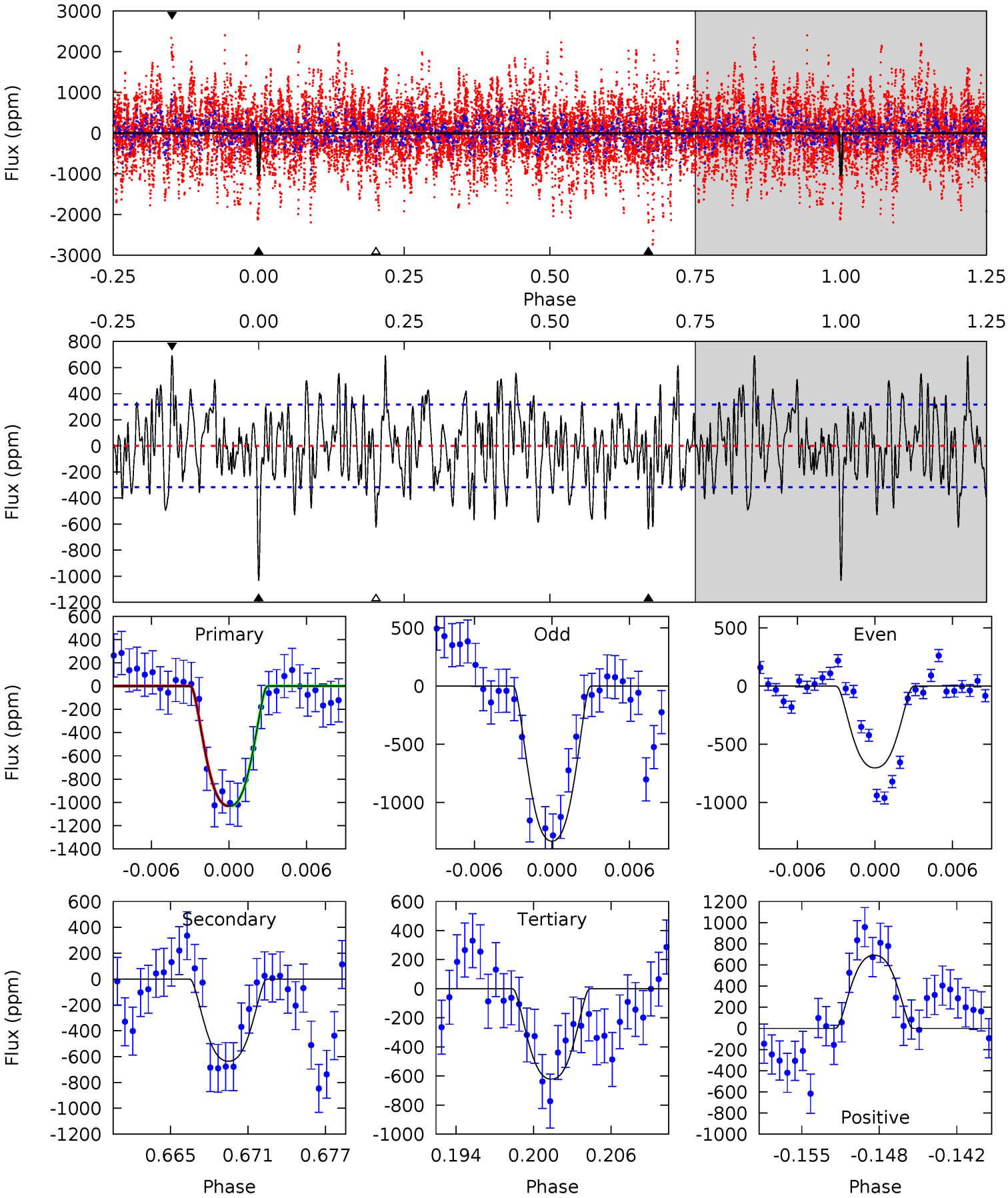
TCE 008108099-05 P= 70.105321 Days T_0=180.324781 (BKJD)



DV Model-Shift Uniqueness Test

008108099-05, P = 70.105353 Days, E = 110.181306 Days

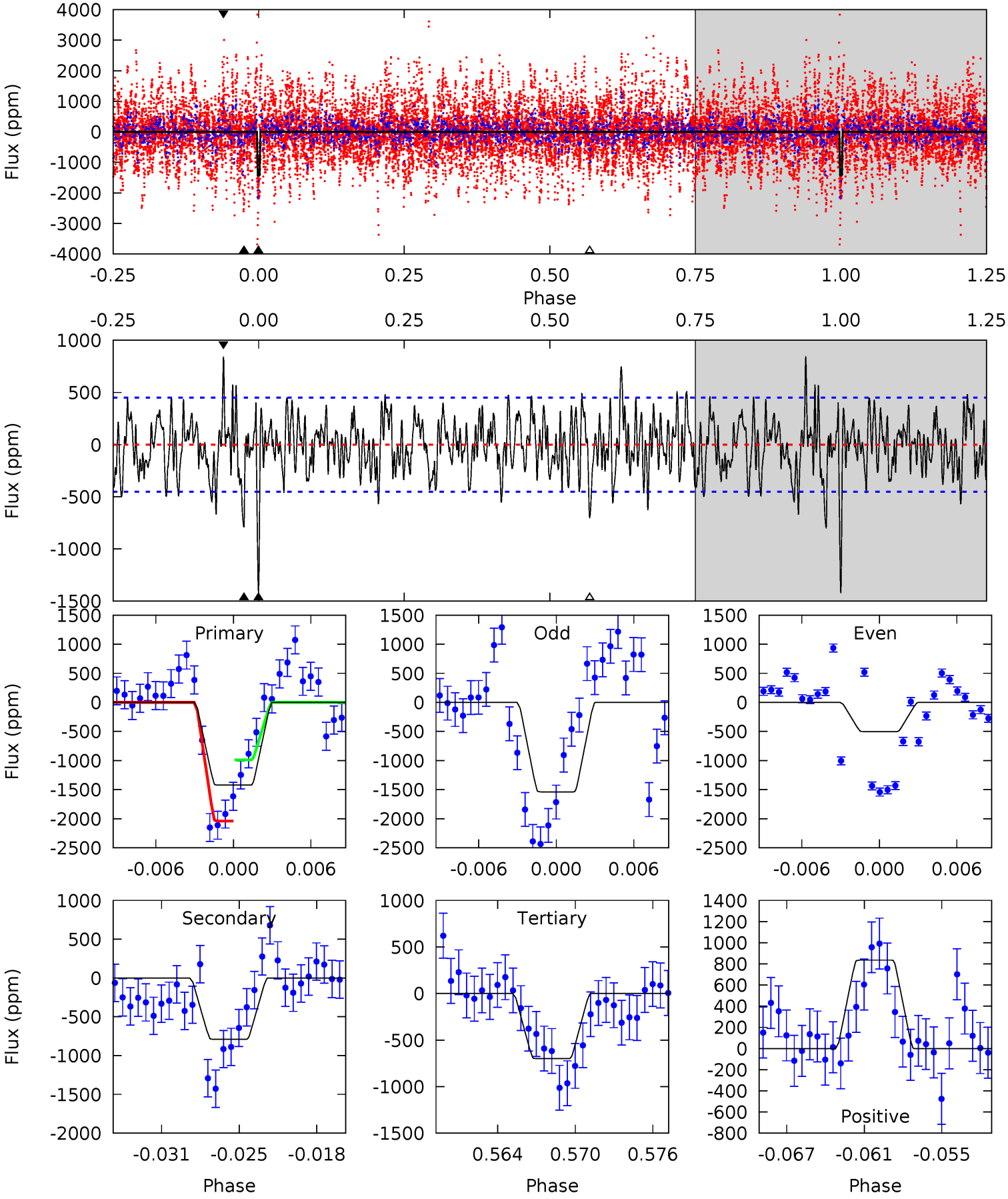
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	10.3	10.0	11.2	5.11	2.72	3.84	6.65	5.51	0.23	-0.91	5.11	0.72	0.40	0.02



Alt Model-Shift Uniqueness Test

008108099-05, P = 70.105321 Days, E = 110.219460 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	8.97	7.94	9.48	5.12	2.74	2.57	8.23	6.68	1.04	-0.51	6.03	0.38	0.37	5.88



Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-636±62	$12.30^{+2.22}_{-2.20}$	1192^{+62}_{-102}	5764^{+402}_{-322}	389^{+182}_{-110}
Alt.	-790±88	$12.57^{+2.25}_{-2.52}$	1190^{+65}_{-103}	6019^{+429}_{-378}	457^{+251}_{-123}

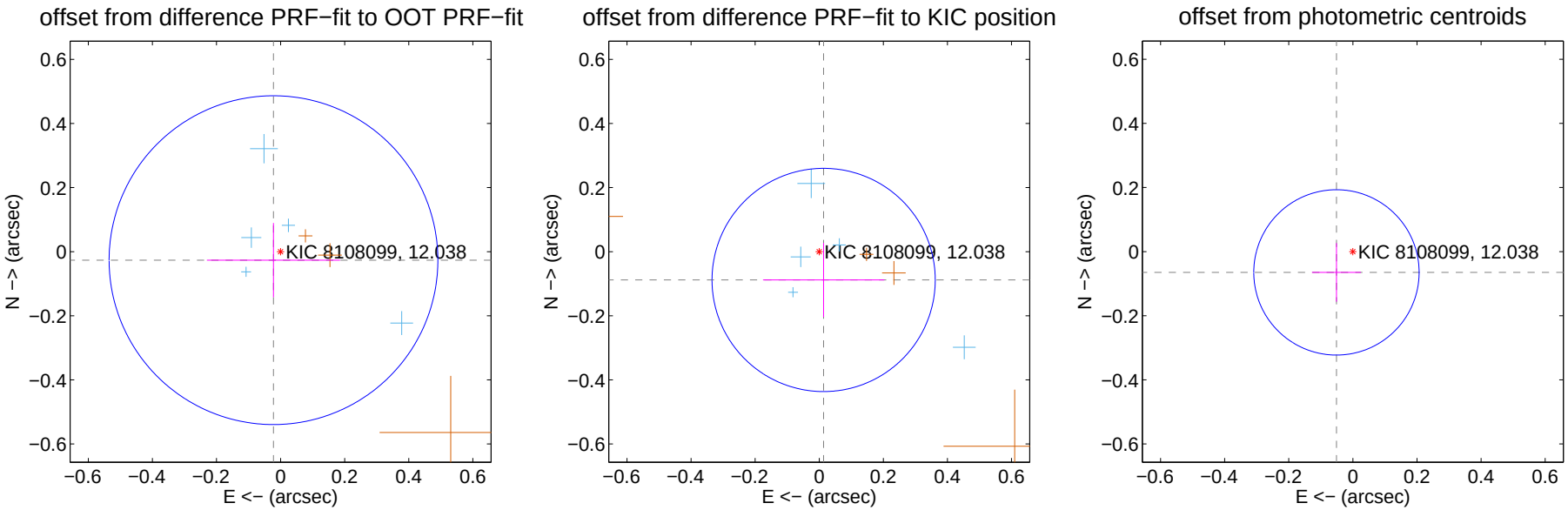
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

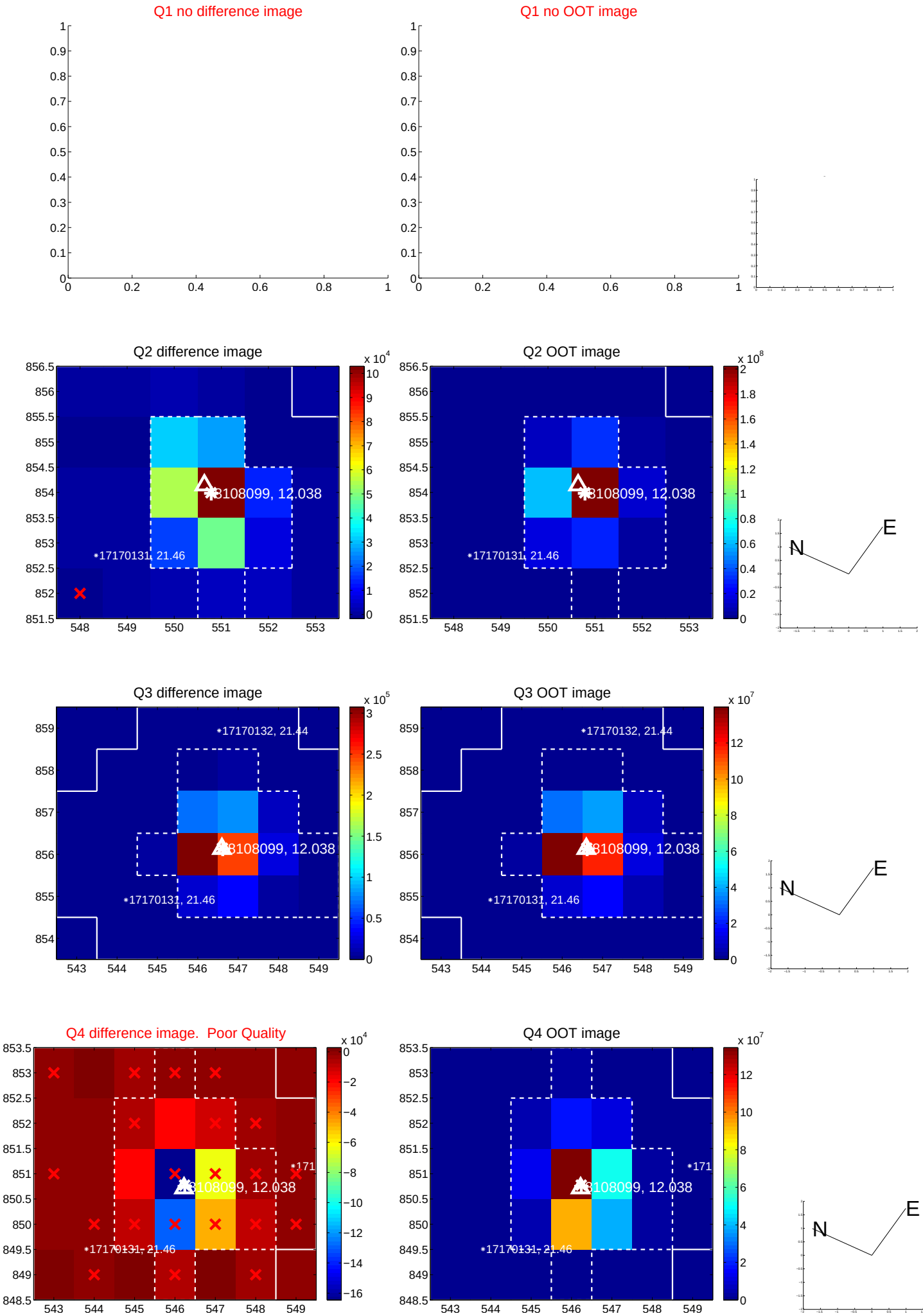
Supplemental centroid analysis for 008108099-05. Kepler magnitude: 12.04. Transit SNR 8.02
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.171	0.20	0.022 ± 0.208	-0.026 ± 0.116
PRF-fit source offset from KIC position	0.089 ± 0.116	0.77	-0.014 ± 0.189	-0.088 ± 0.116
photometric centroid source offset	0.08 ± 0.09	0.96	0.05 ± 0.08	-0.06 ± 0.09

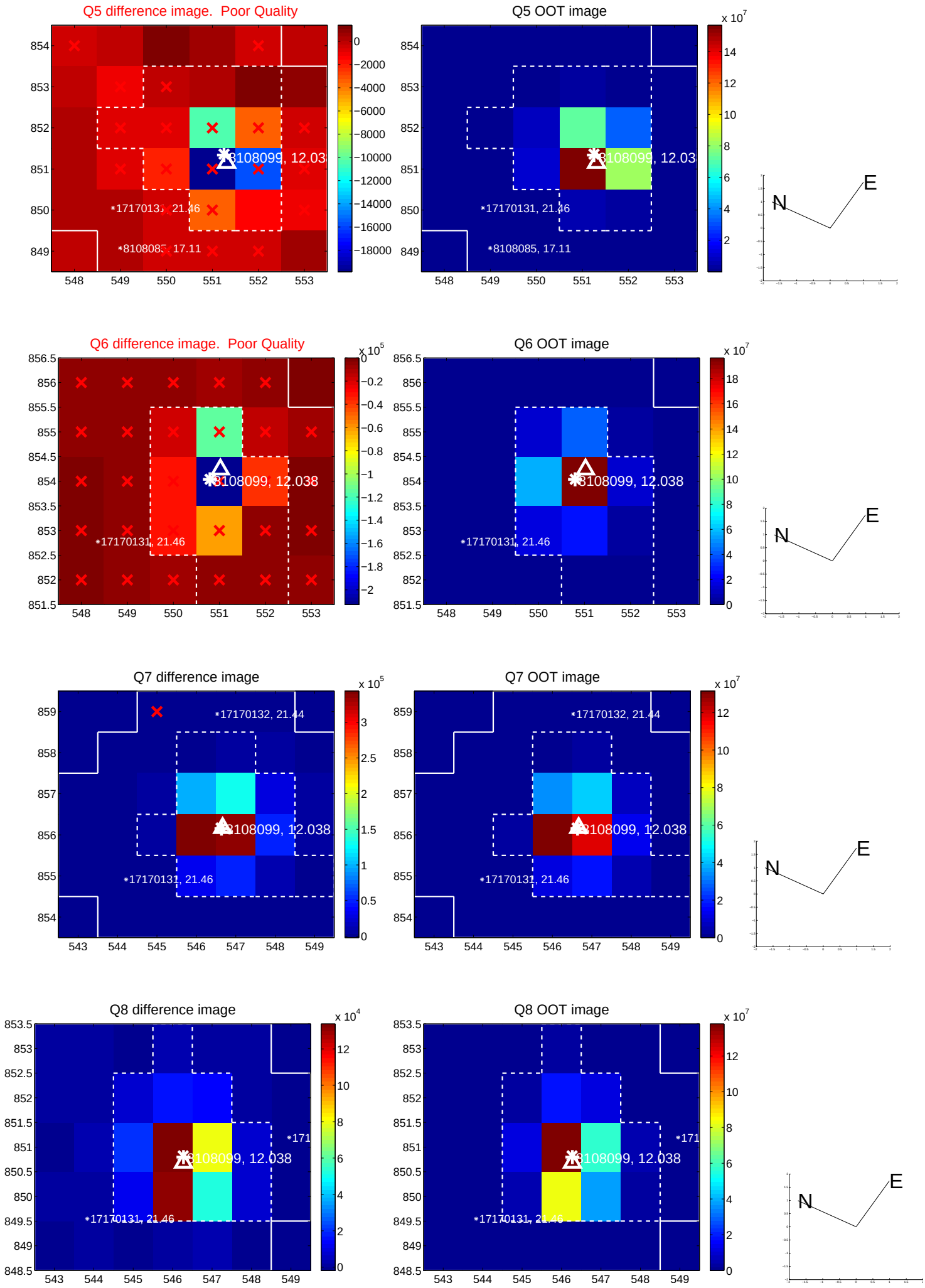


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

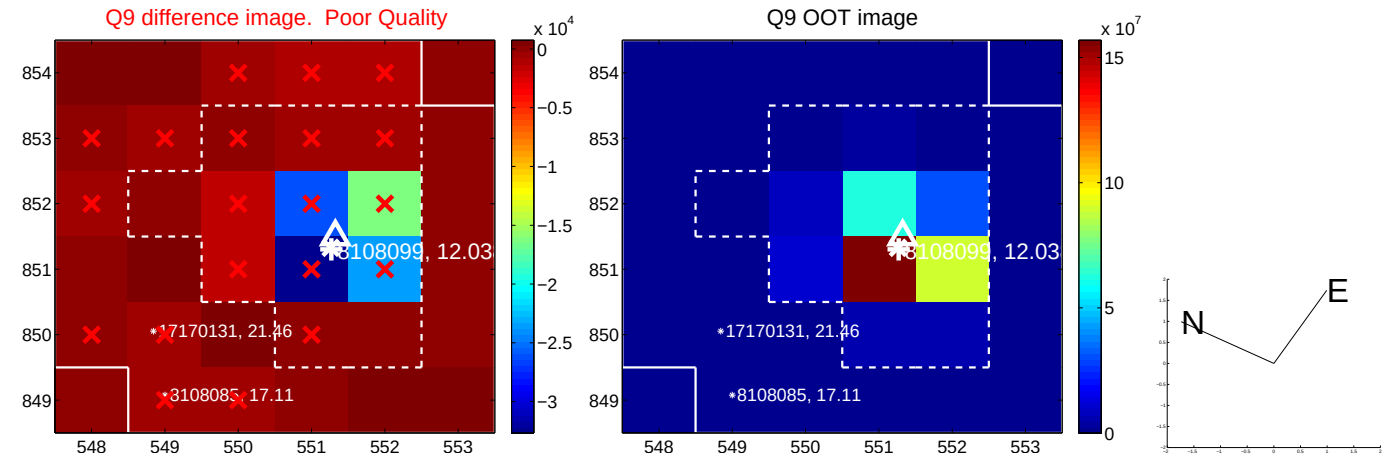
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

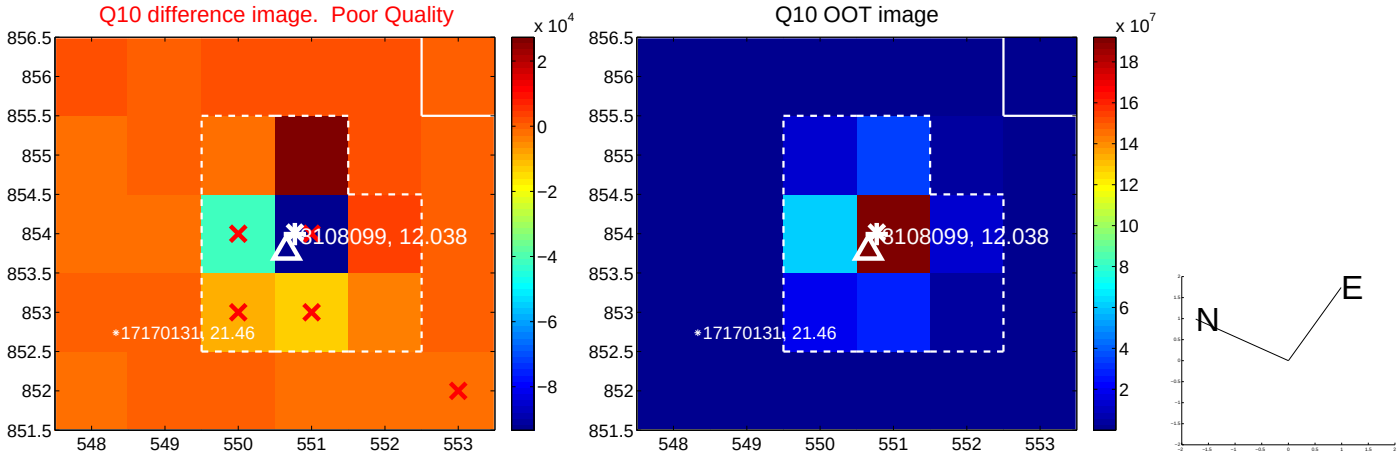


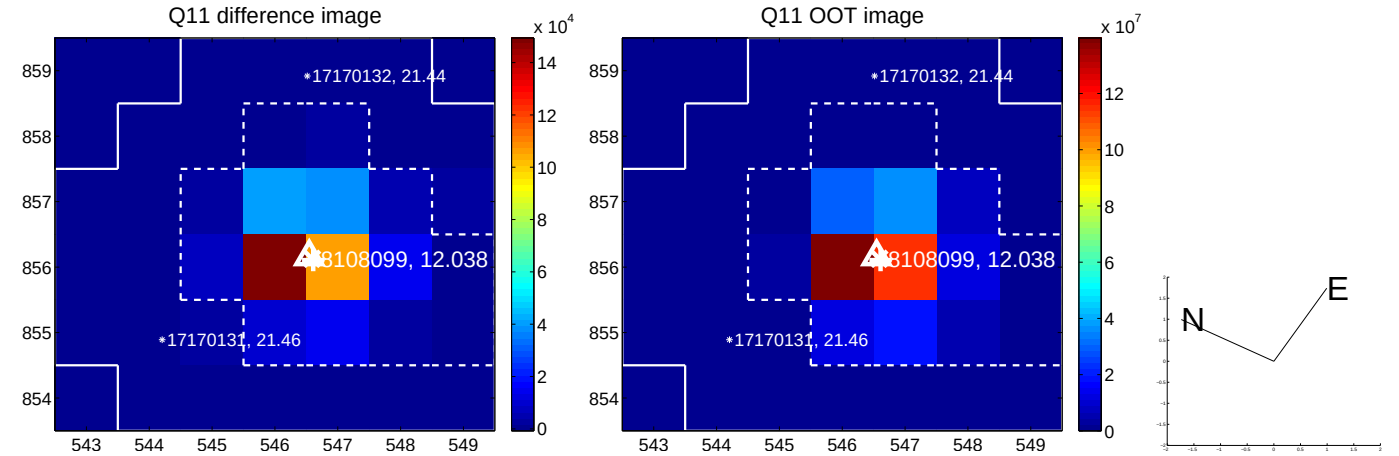
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

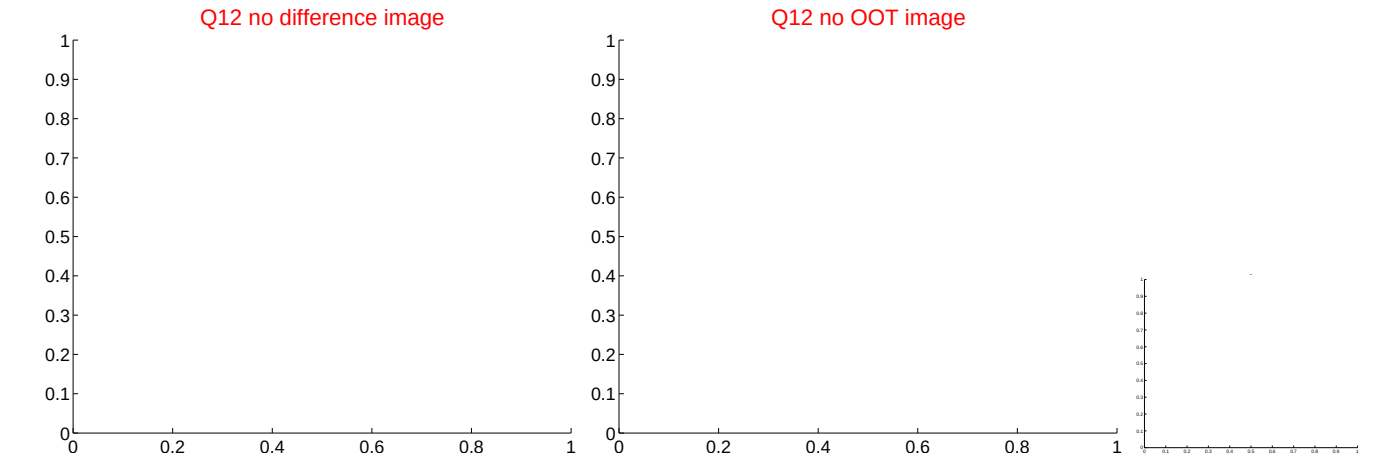


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

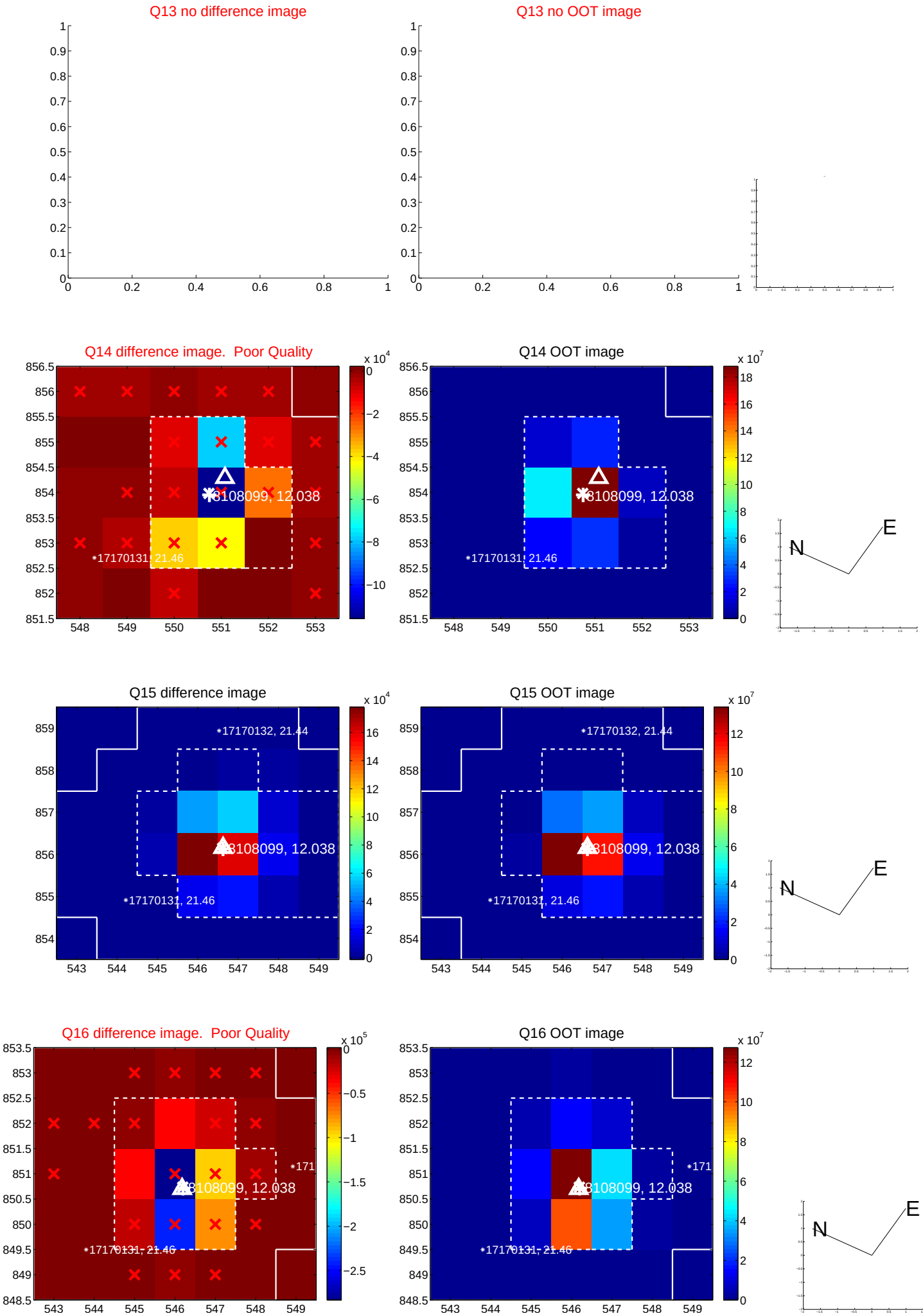




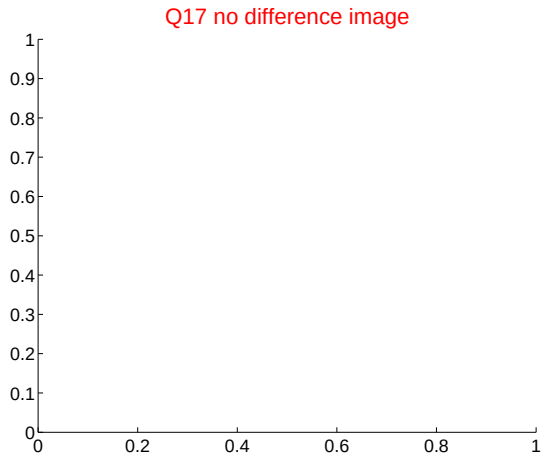


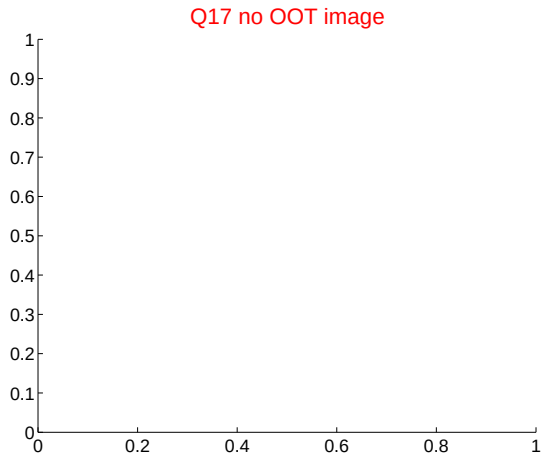


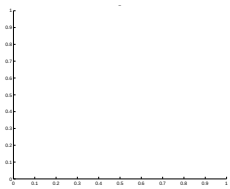
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

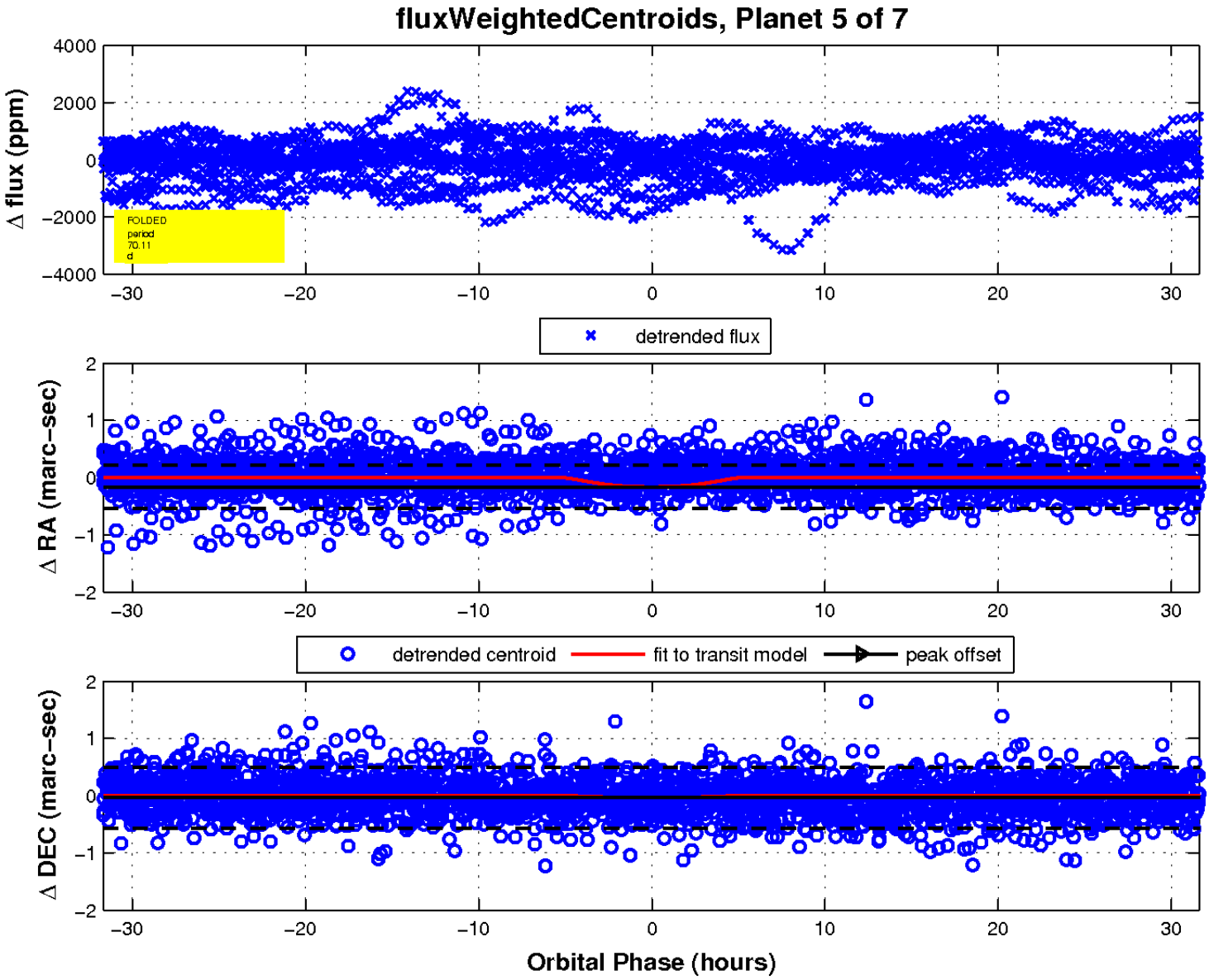


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

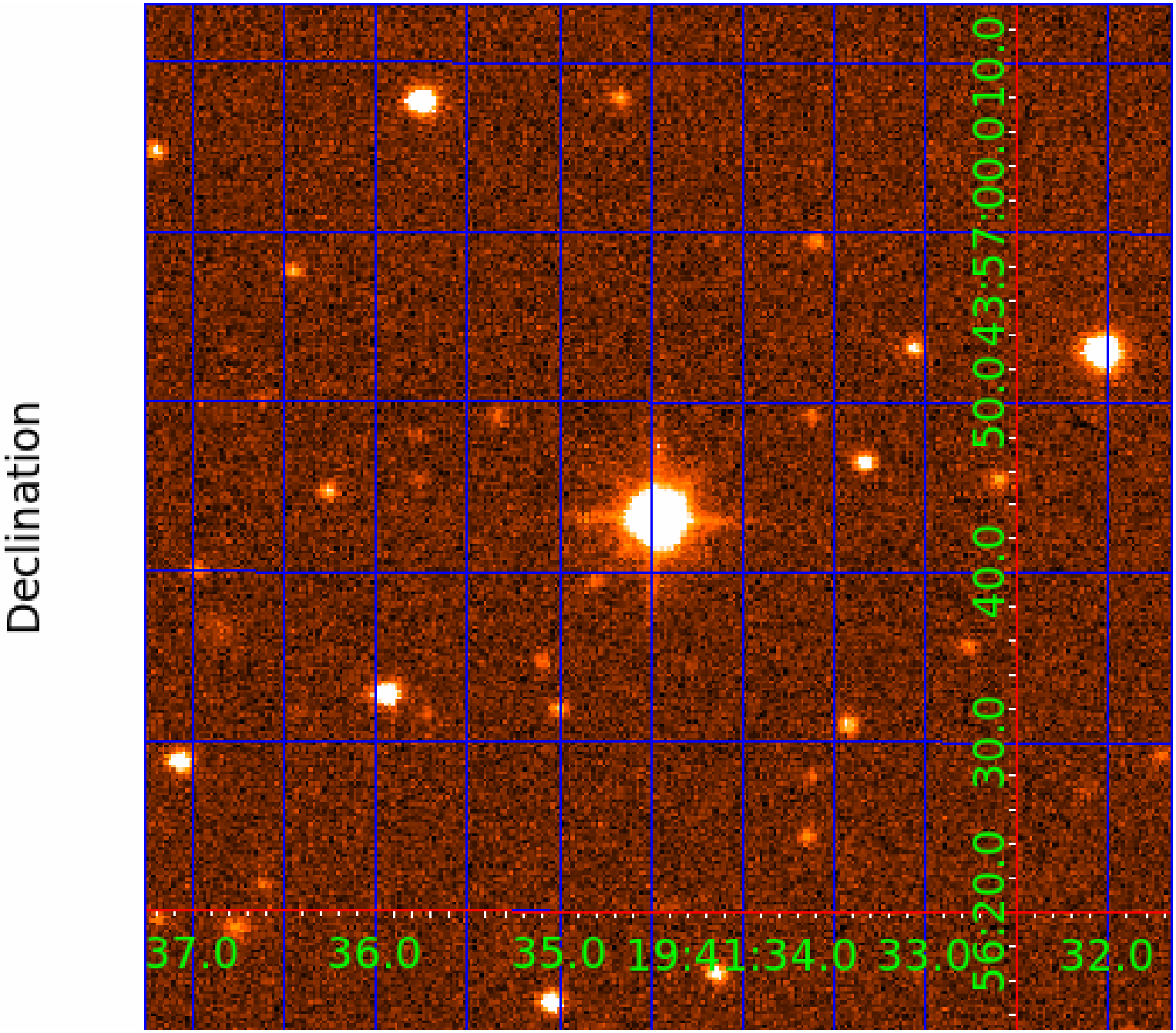








UKIRT Image


Declination
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33.0
32.0
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40.0
50.0
43:57:00.0
10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

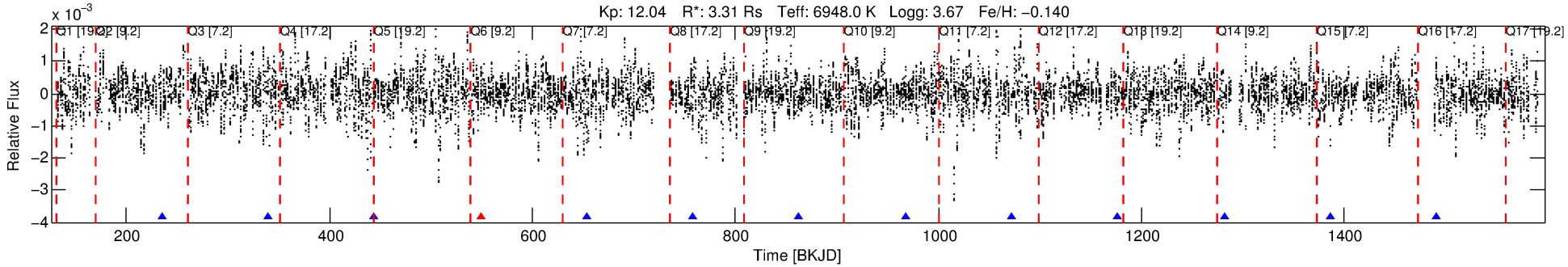
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

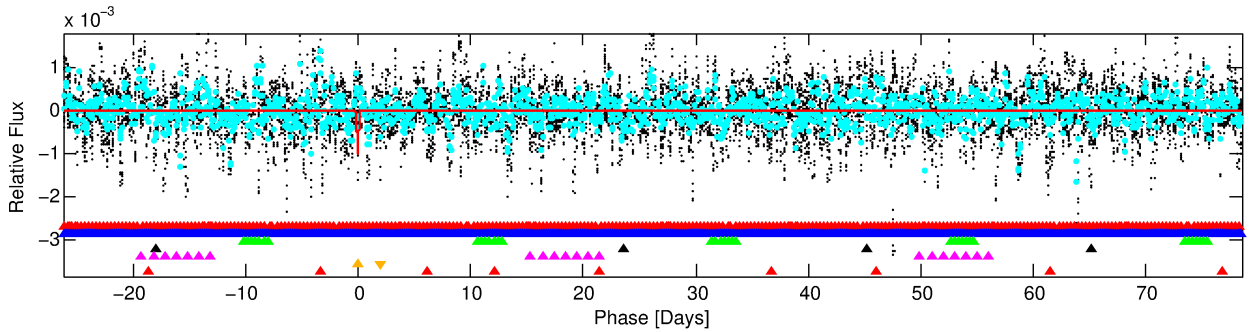
Ephemeris Match Information For 008108099-06

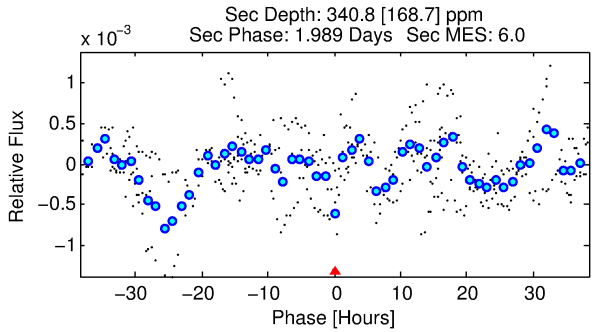
No Significant Match Found

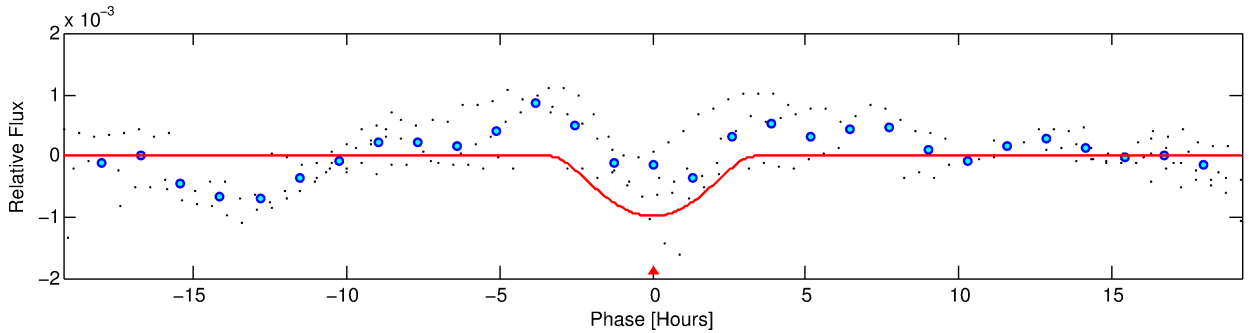
DV One-Page Summary

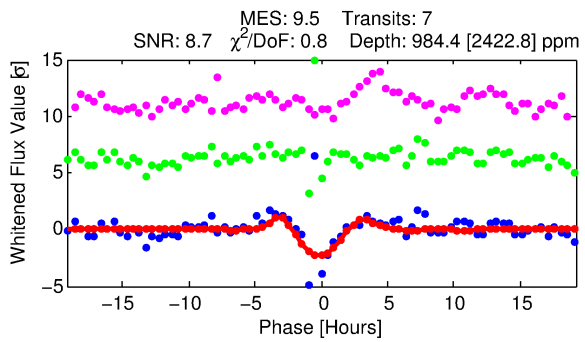
KIC: 8108099 Candidate: 6 of 7 Period: 104.647 d

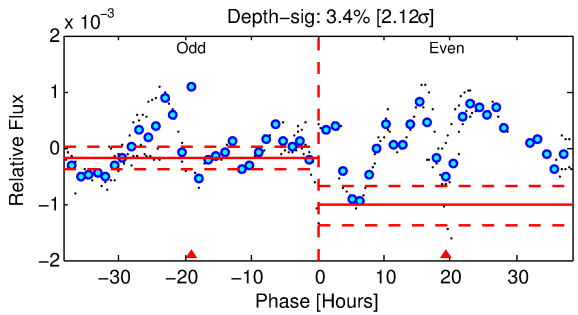


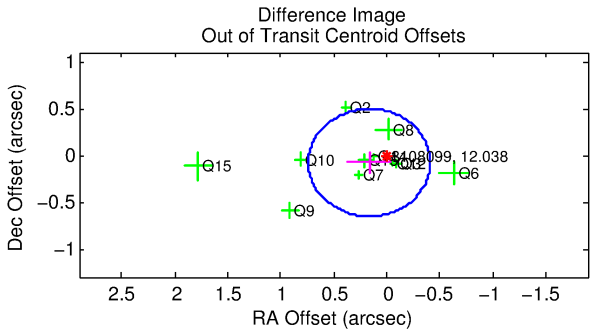












DV Fit Results:

Period = 104.64732 [0.00194] d
Epoch = 235.0397 [0.0136] BKJD
Rp/R* = 0.0538 [0.1256]
a/R* = 41.43 [24.03]
b = 1.00 [0.27]

Seff = 80.15 [42.78]
Teq = 763 [102] K
Rp = 19.42 [45.93] Re
a = 0.5342 [0.1794] AU

Ag = 141.86 [670.35] [0.21σ]
Teffp = 4071 [4782] K [0.69σ]

DV Diagnostic Results:

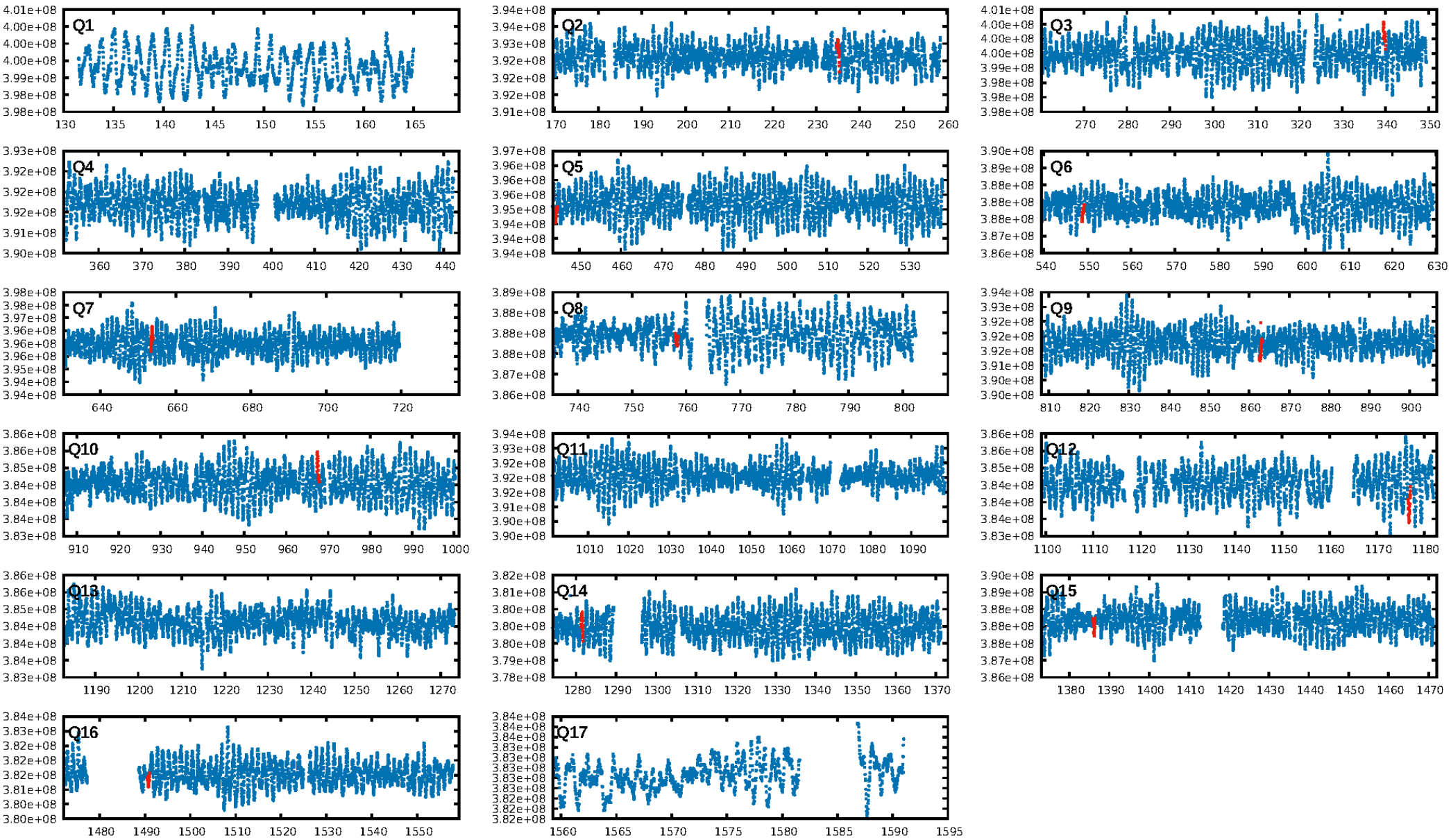
ShortPeriod−sig: 100.0% [67.10σ]
LongPeriod−sig: 100.0% [95.92σ]
ModelChiSquare2−sig: 23.3%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 0.86 [6/7]
GhostDiagnostic−chr: 1.94

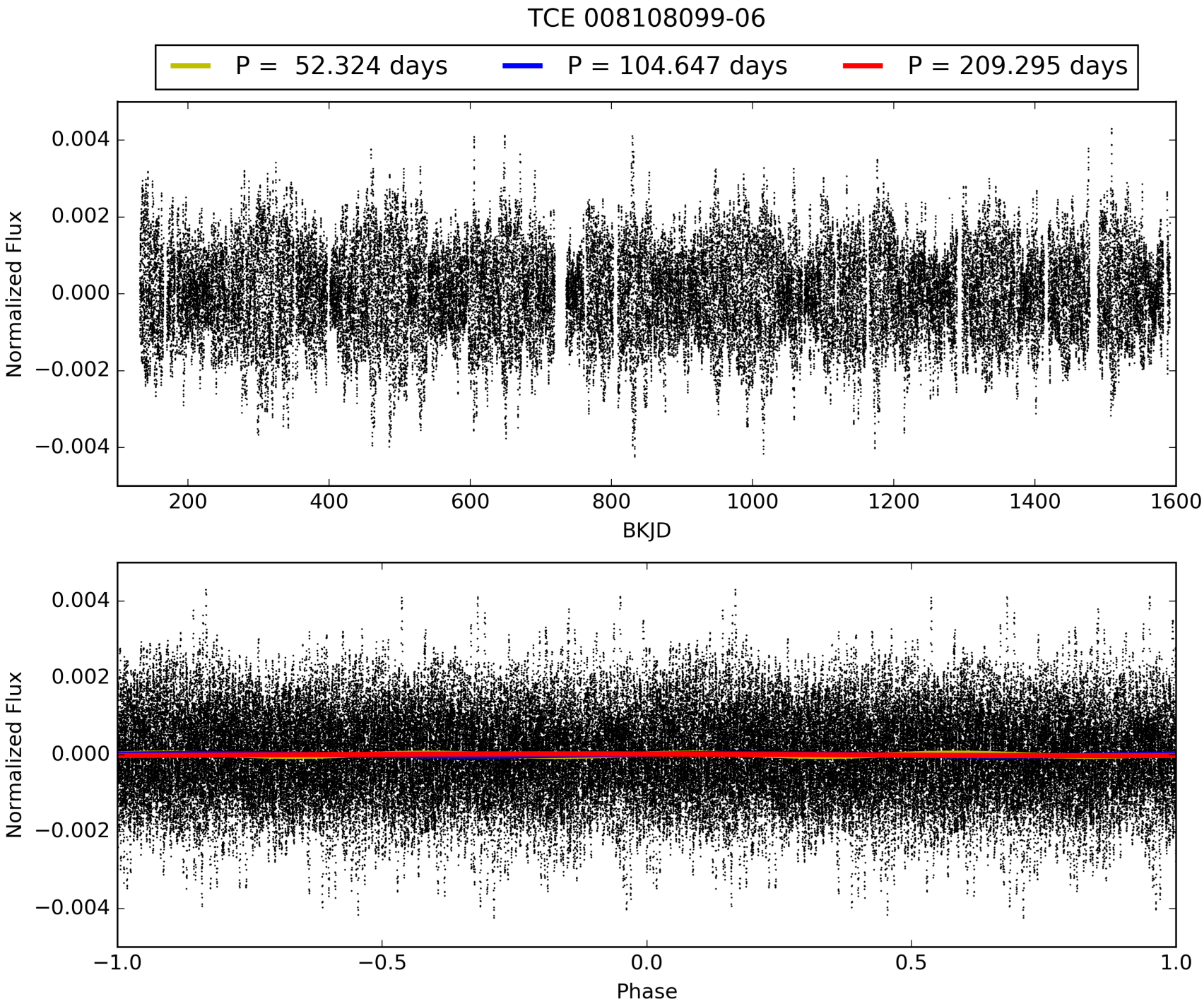
Centroid−sig: 94.0%
Centroid−so: 0.135 arcsec [1.09σ]
OotOffset−rm: 0.182 arcsec [0.95σ]
KicOffset−rm: 0.203 arcsec [1.41σ]
OotOffset−st: 4/3/3/1 [11]
KicOffset−st: 4/3/3/1 [11]
DiffImageQuality−fgm: 0.55 [6/11]
DiffImageOverlap−fno: 0.00 [0/11]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:02:09 Z

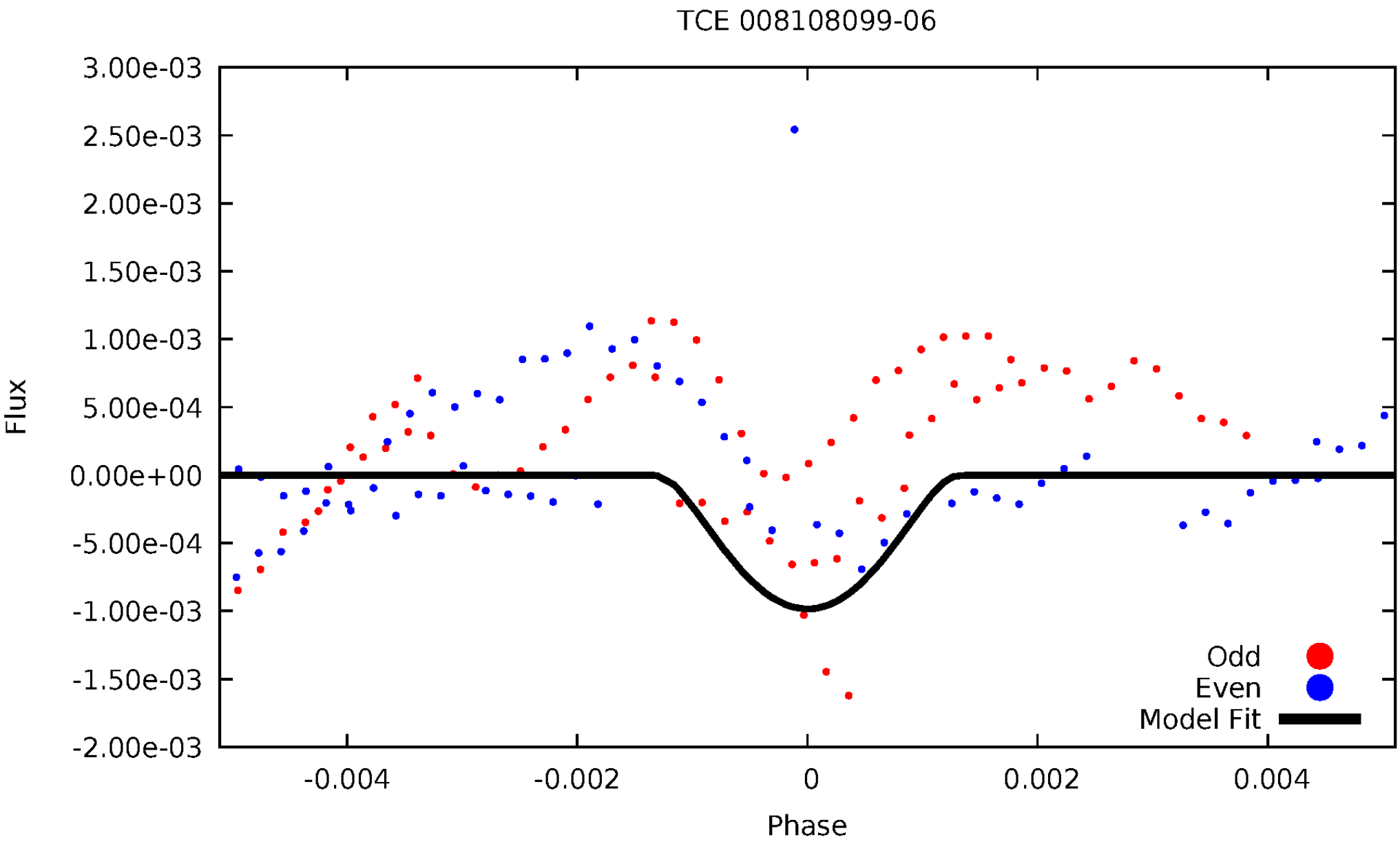
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-06, PDC Light Curves

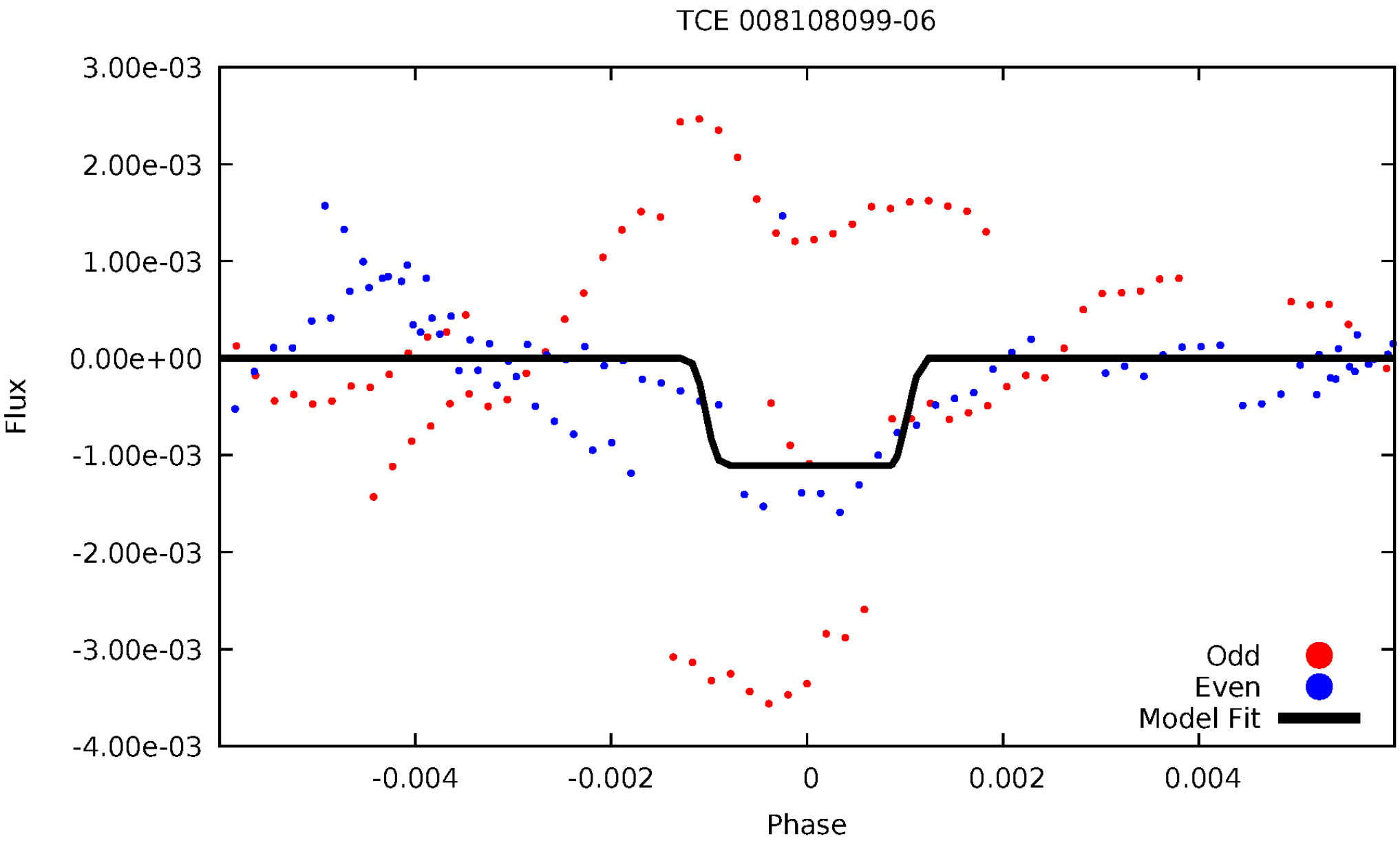



TCE 008108099-06
P = 52.324 days
P = 104.647 days
P = 209.295 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

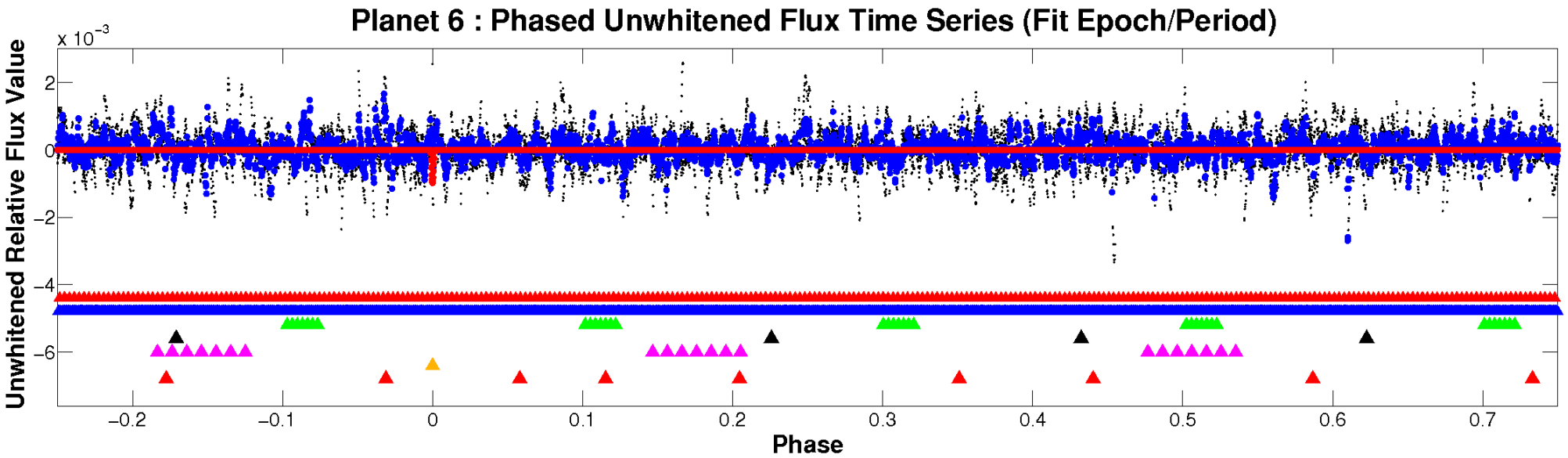
DV Odd/Even

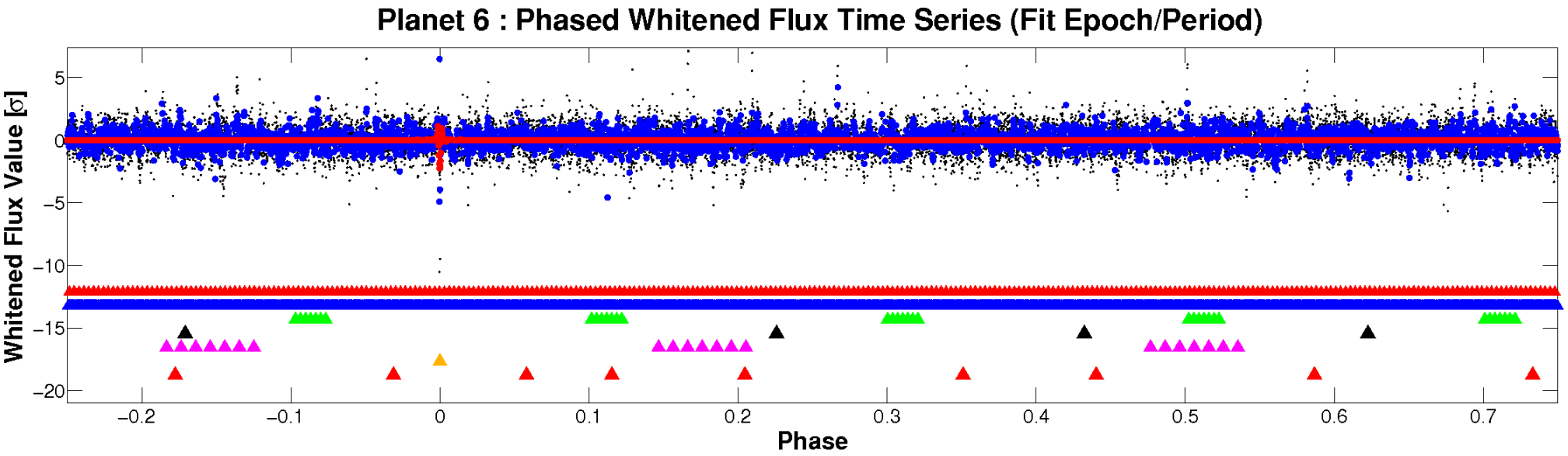

TCE 008108099-06
3.00e-03
2.50e-03
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-06
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

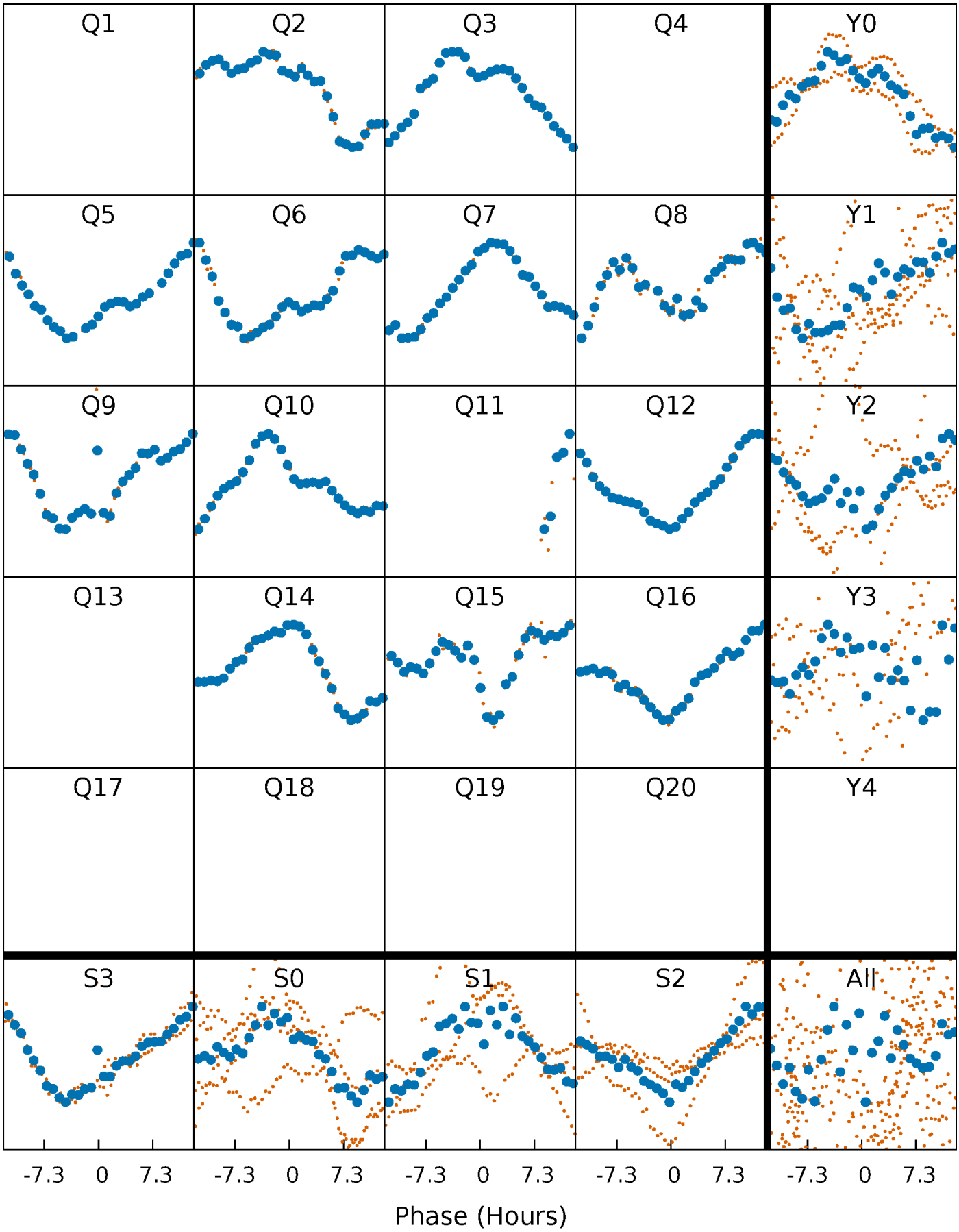
Non-Whitened Vs. Whitened Light Curve





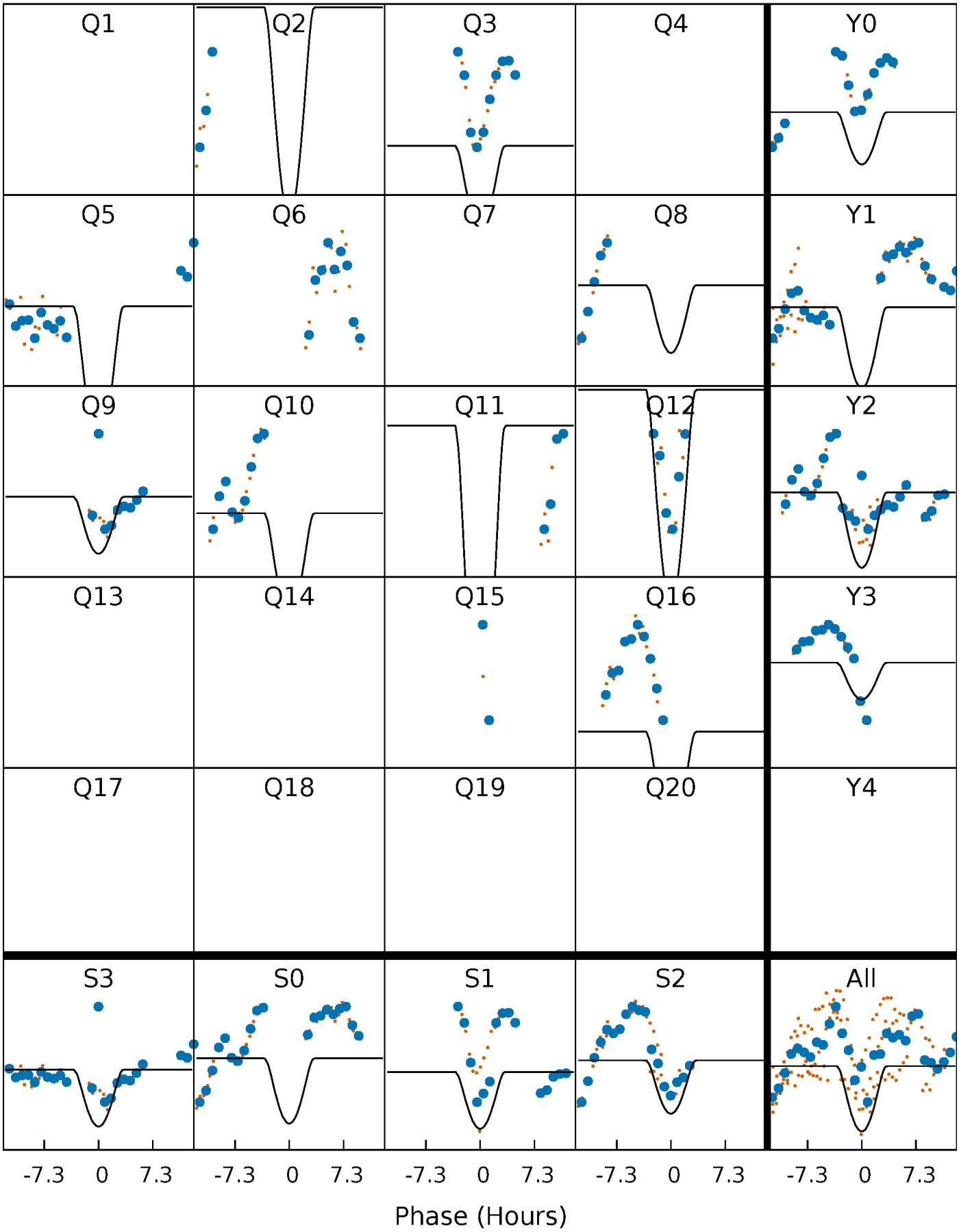
PDC Quarter-Phased Transit Curves

TCE 008108099-06 P=104.647323 Days T_0=235.039669 (BKJD)



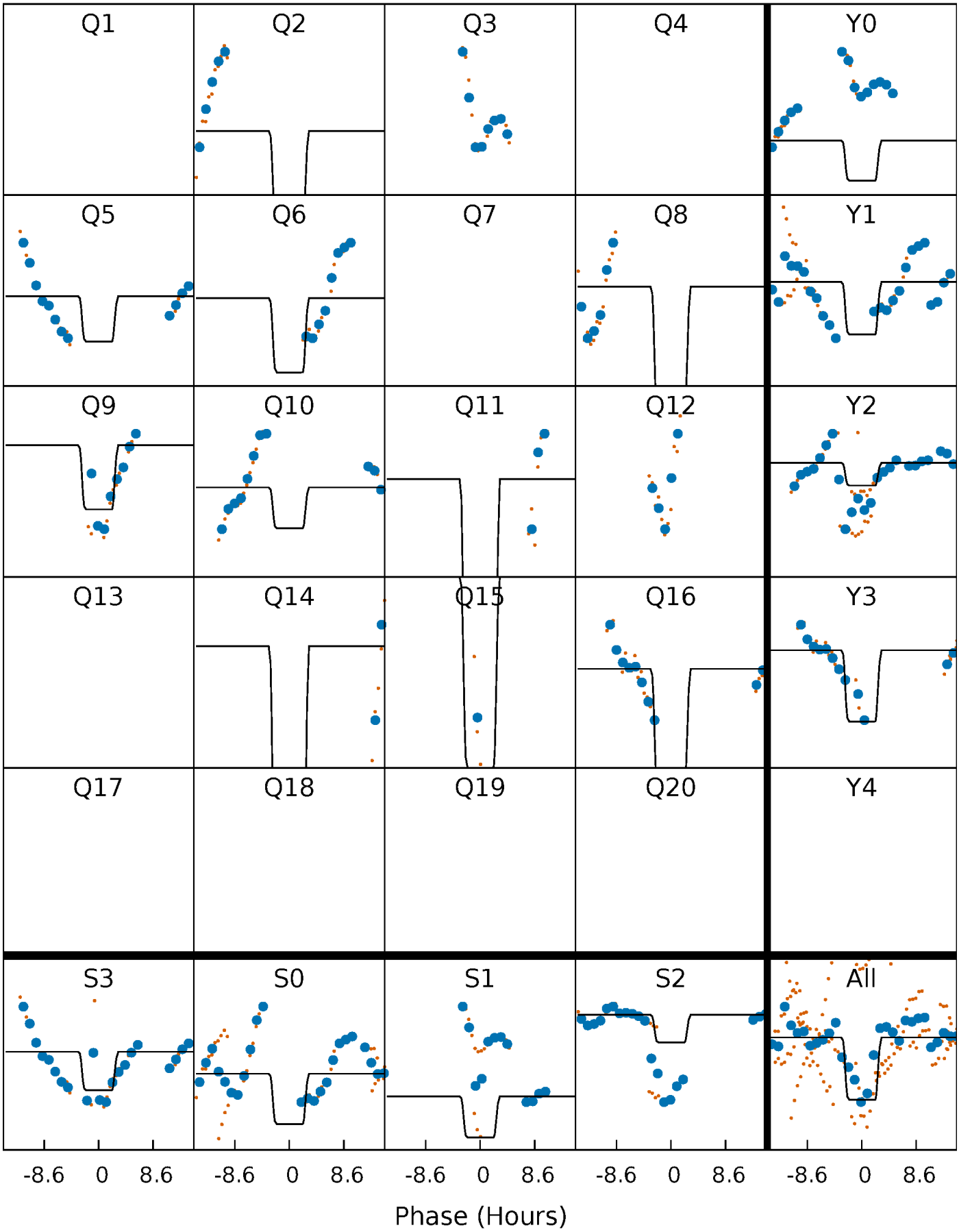
DV Quarter-Phased Transit Curves

TCE 008108099-06 P=104.647323 Days T_0=235.039669 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

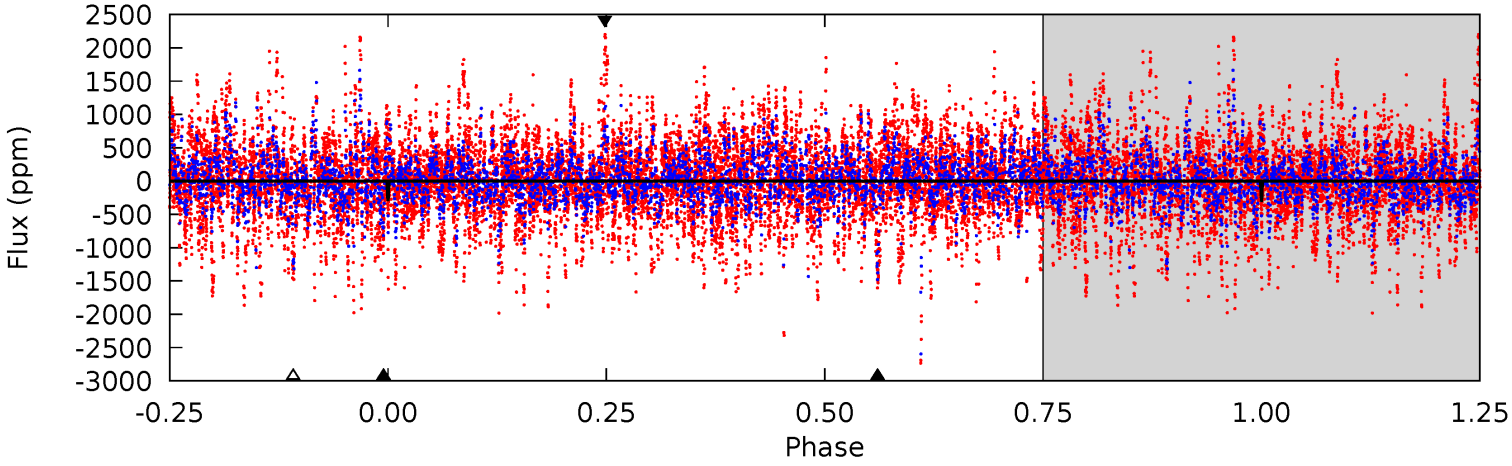
TCE 008108099-06 P=104.651472 Days T_0=235.029123 (BKJD)

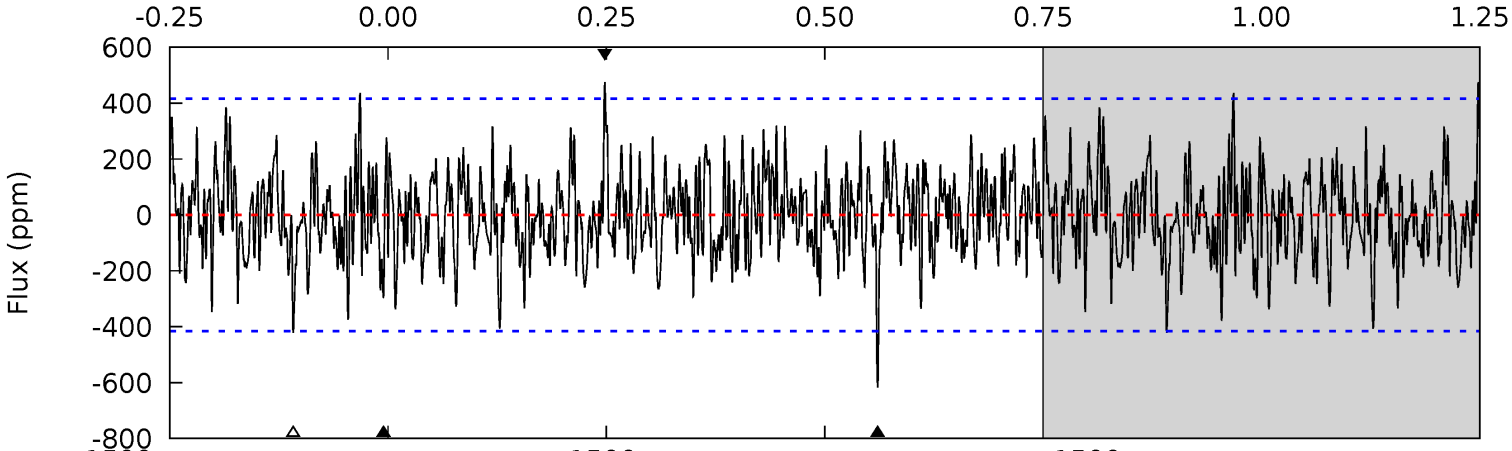


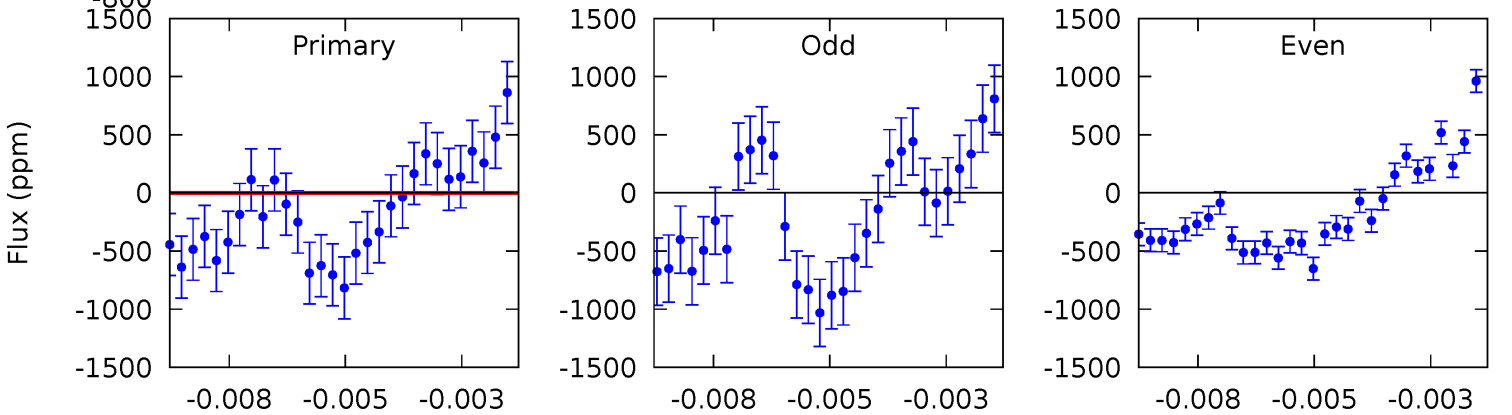
DV Model-Shift Uniqueness Test

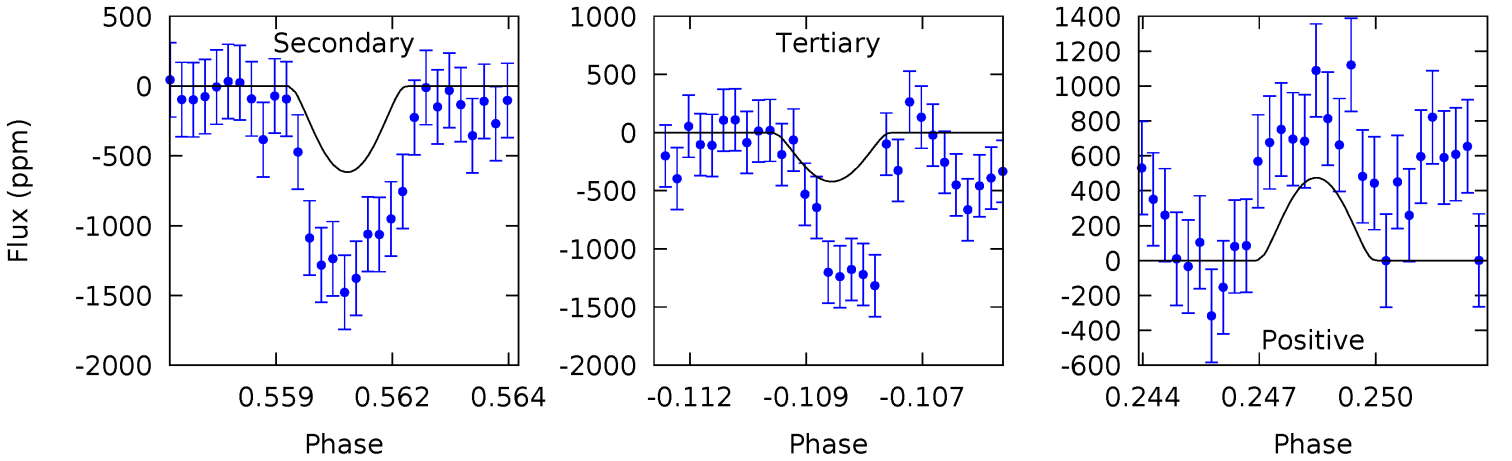
008108099-06, P = 104.647323 Days, E = 130.392346 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.73	7.84	5.35	6.03	5.28	3.01	1.68	-1.61	-2.30	2.49	1.81	0.27	0.11	0.43	1.09





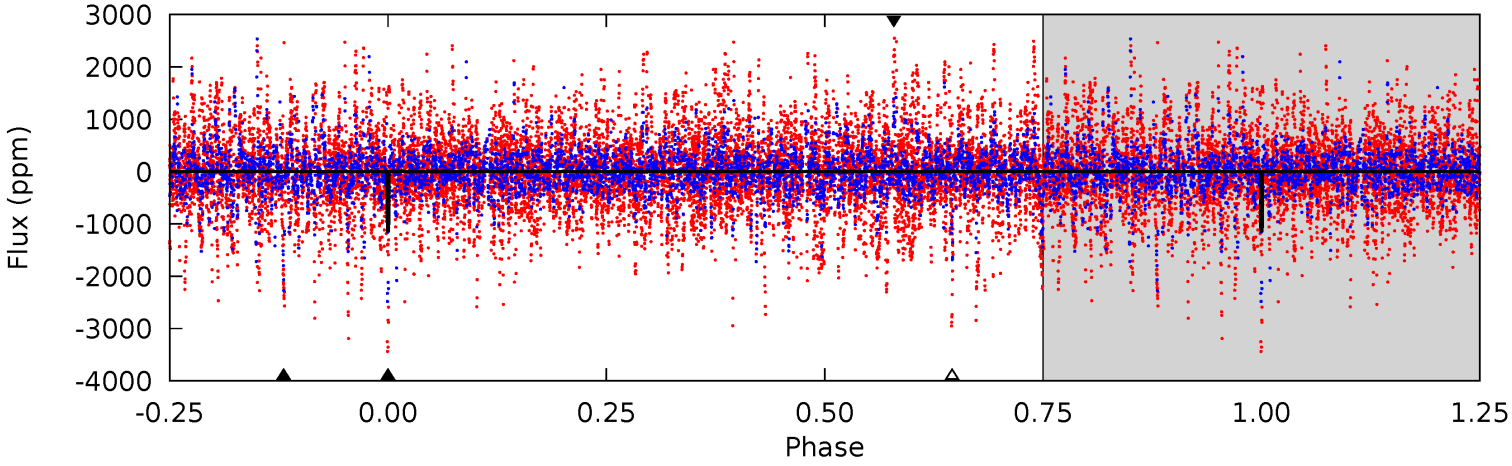


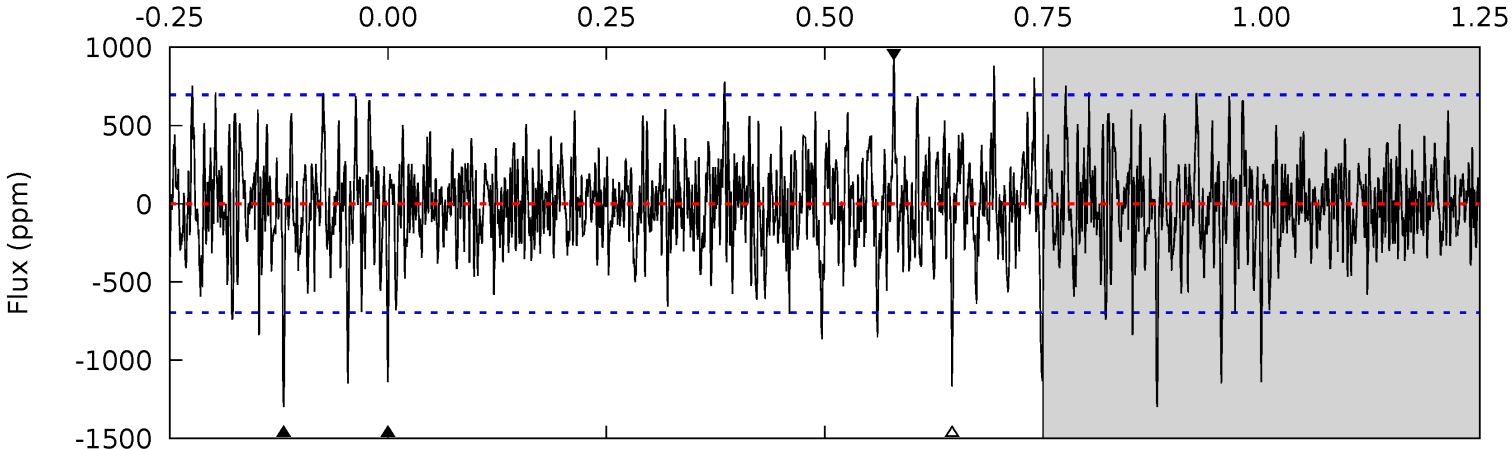


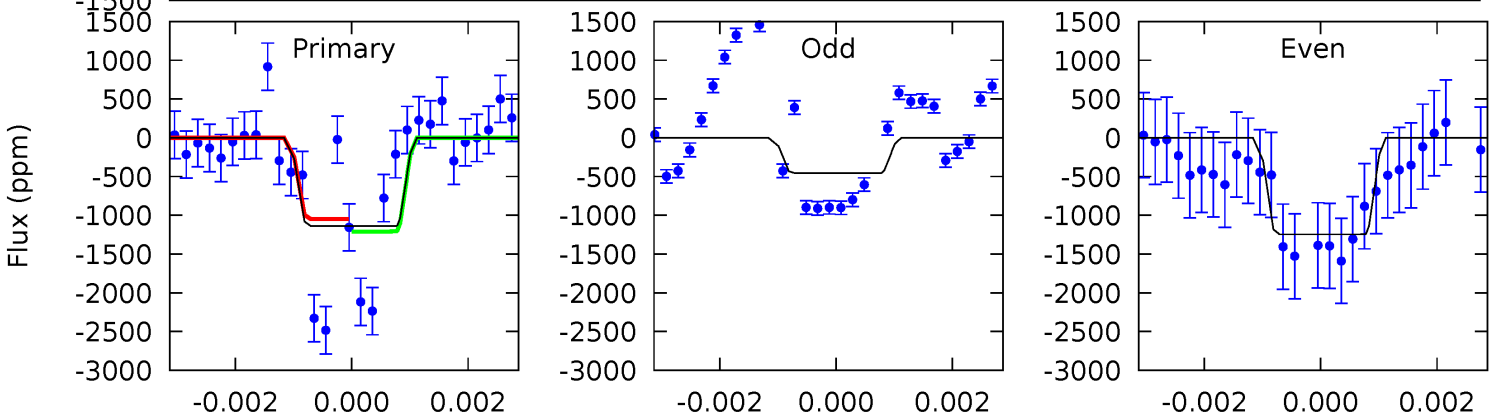
Alt Model-Shift Uniqueness Test

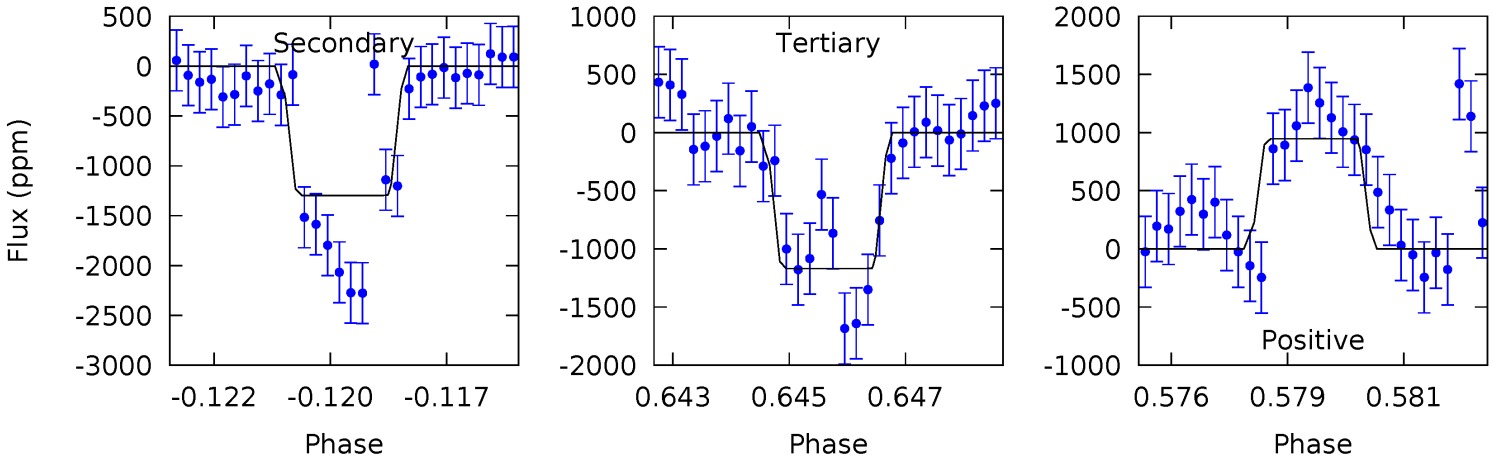
008108099-06, P = 104.651472 Days, E = 130.377651 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.69	9.90	8.92	7.22	5.31	3.06	1.97	-0.23	1.47	0.98	2.68	3.05	1.02	0.42	0.60









Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-617±79	$36.37^{+35.61}_{-23.49}$	1043^{+55}_{-94}	3655^{+1882}_{-644}	69^{+482}_{-50}
Alt.	-1298±131	$32.60^{+34.30}_{-23.45}$	1044^{+57}_{-90}	4410^{+3747}_{-959}	187^{+2272}_{-143}

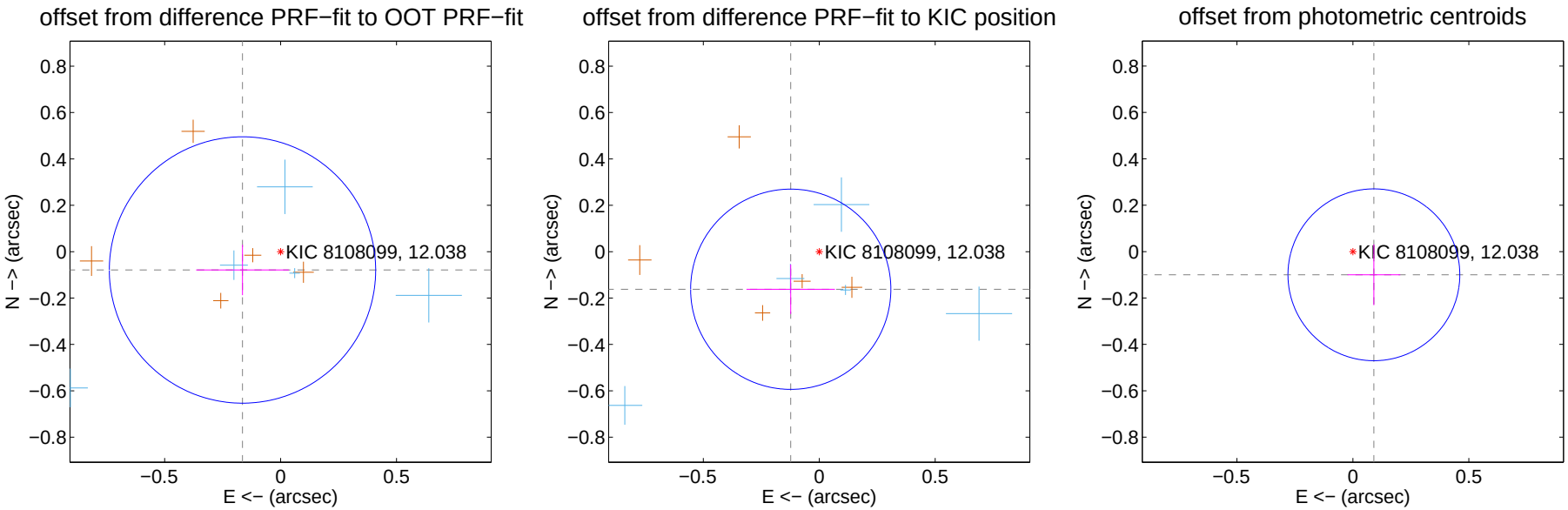
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

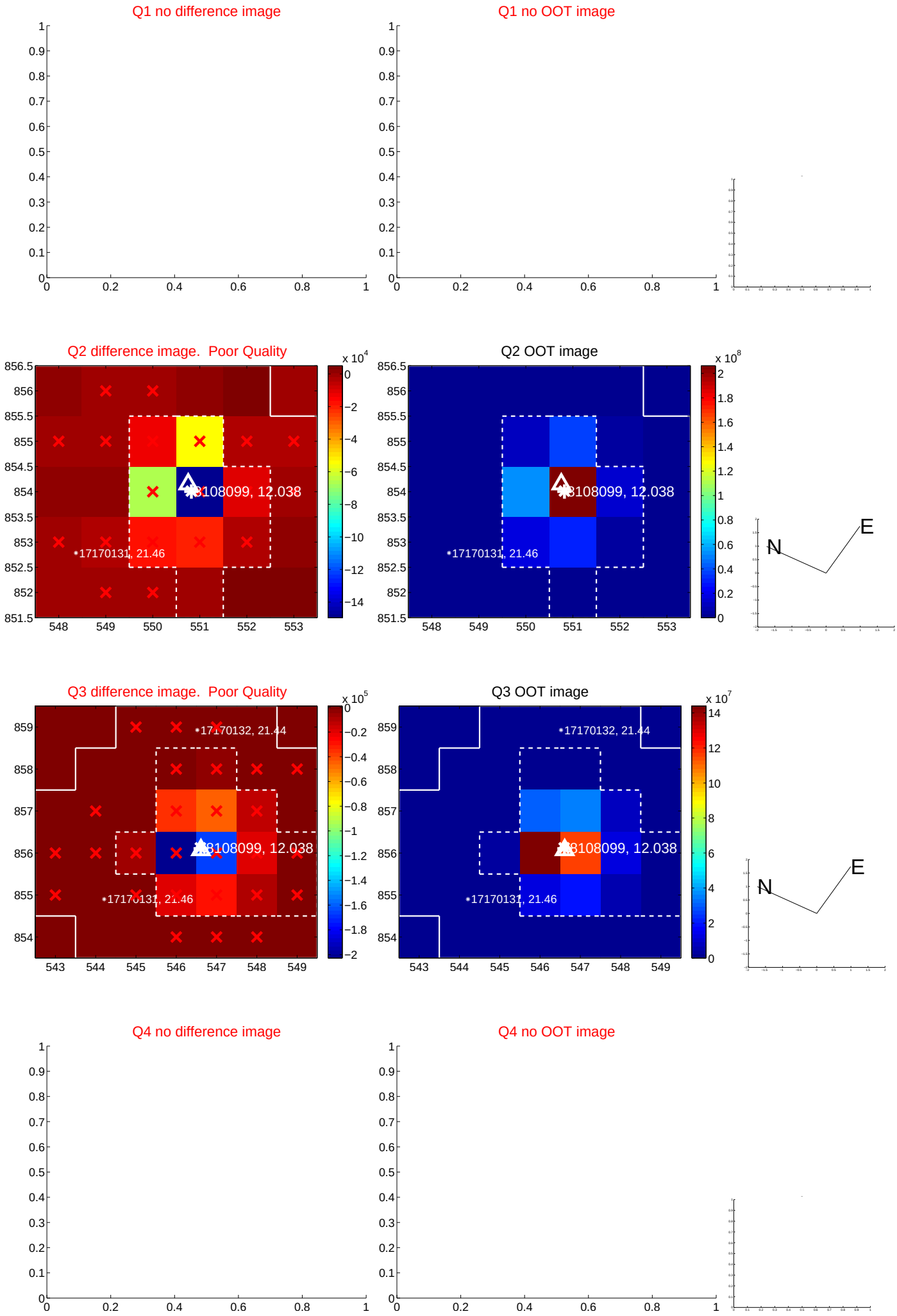
Supplemental centroid analysis for 008108099-06. Kepler magnitude: 12.04. Transit SNR 8.75
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.182 ± 0.191	0.95	0.164 ± 0.200	-0.079 ± 0.109
PRF-fit source offset from KIC position	0.203 ± 0.144	1.41	0.123 ± 0.191	-0.162 ± 0.107
photometric centroid source offset	0.13 ± 0.12	1.09	-0.09 ± 0.11	-0.10 ± 0.13

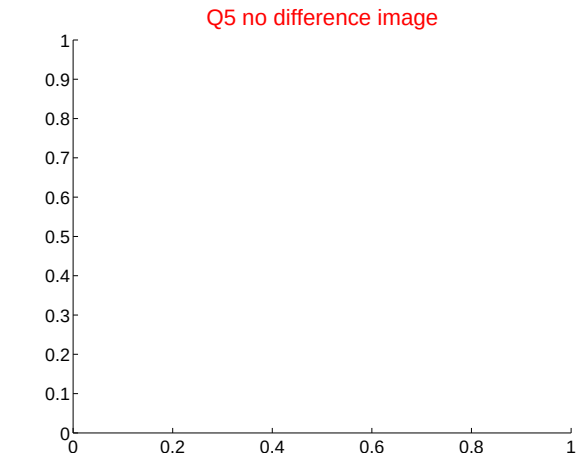


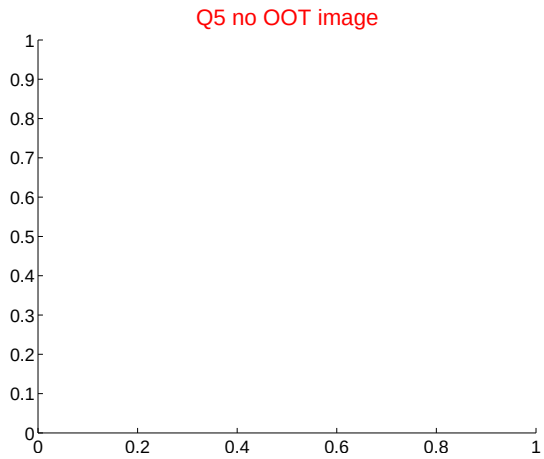
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

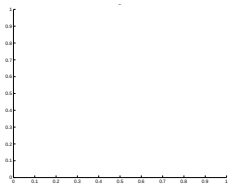
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

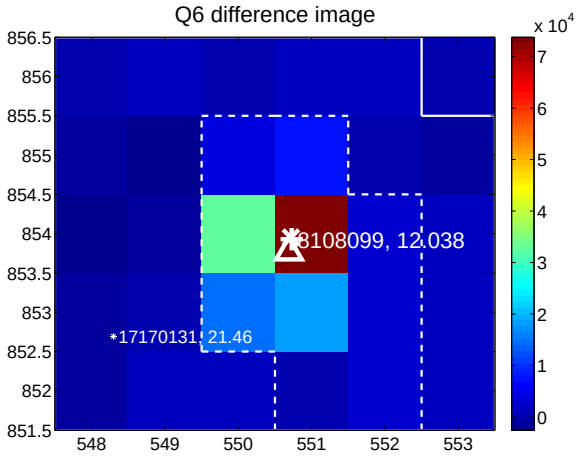


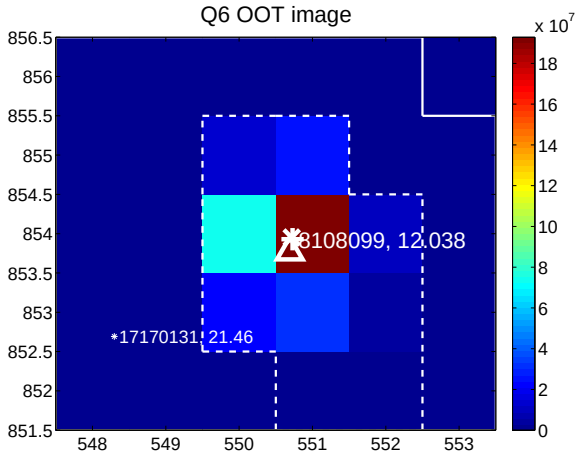
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

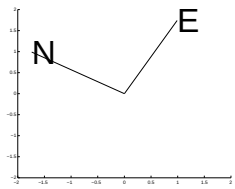


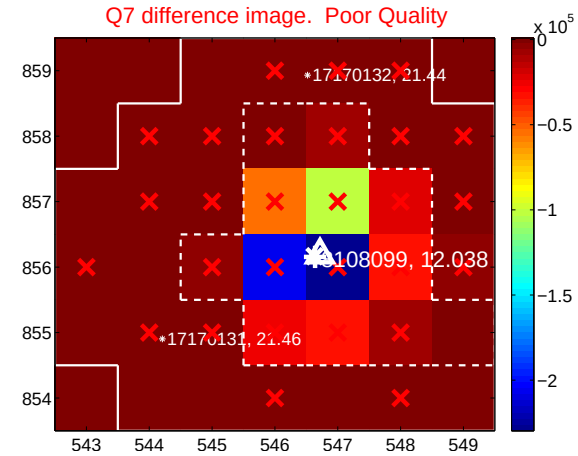


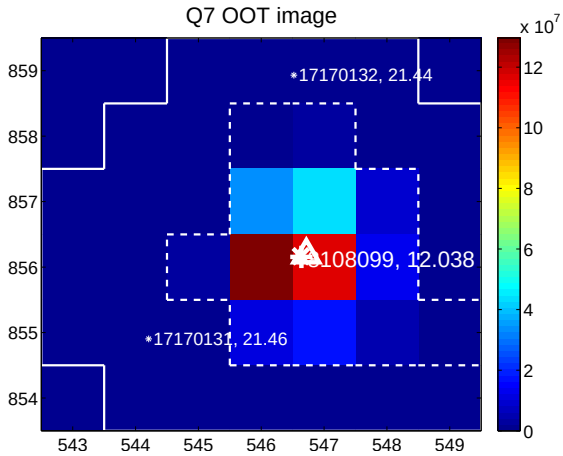


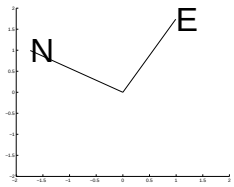


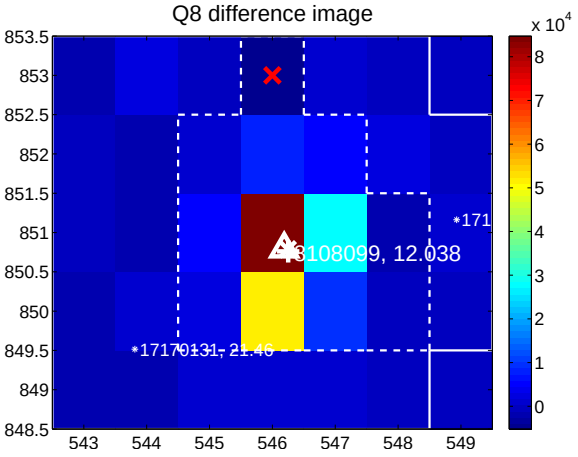


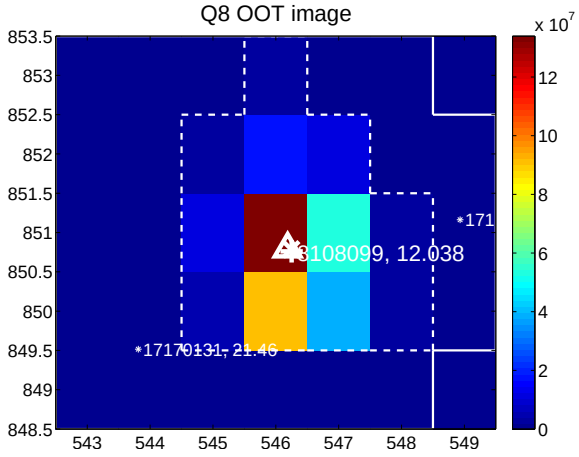


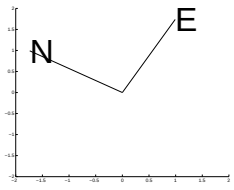




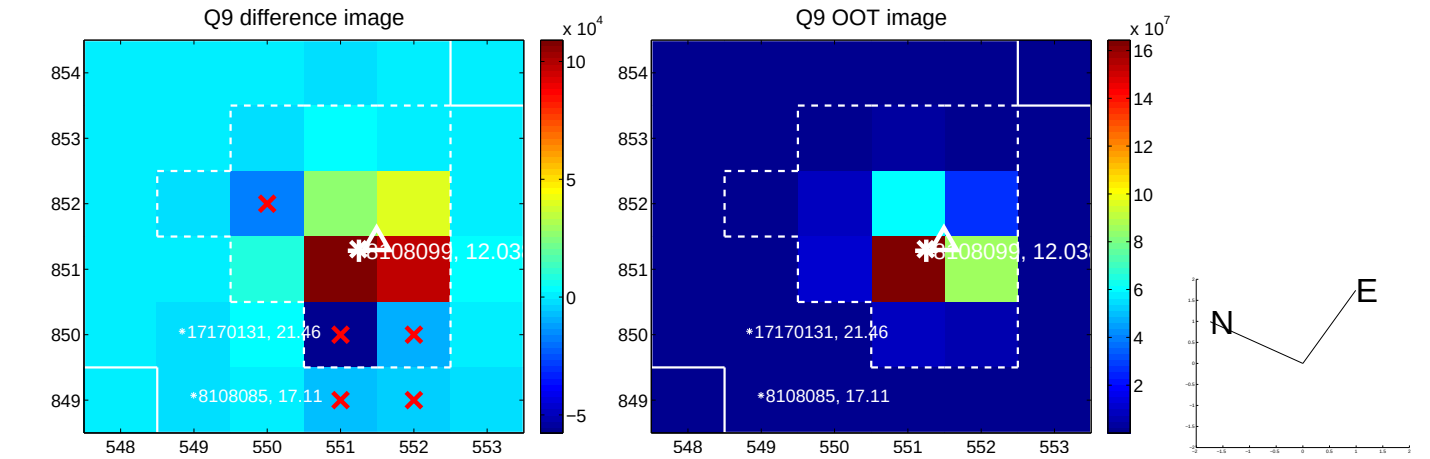


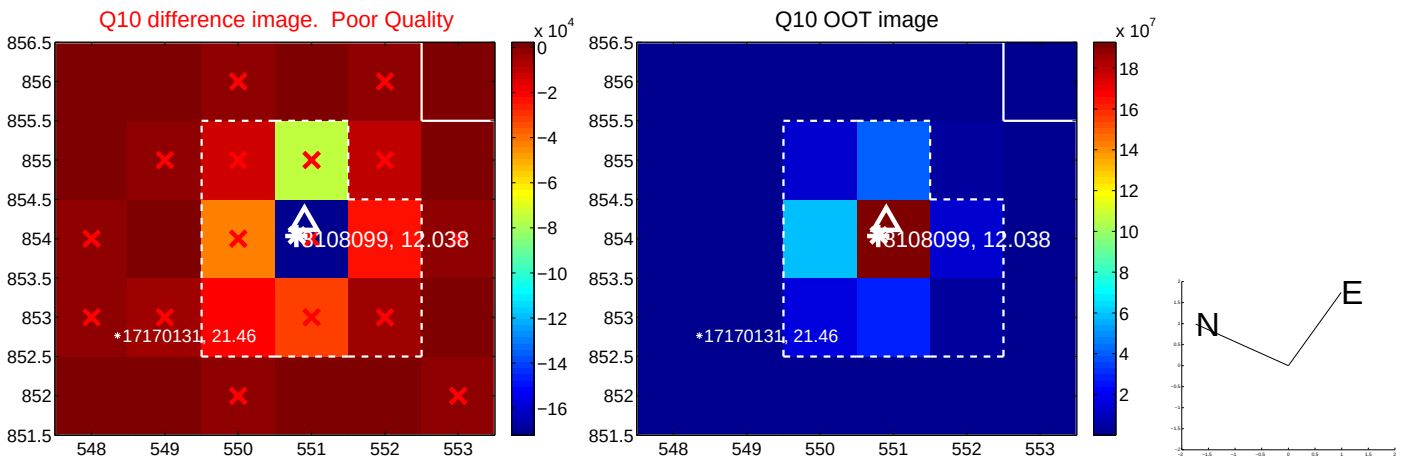


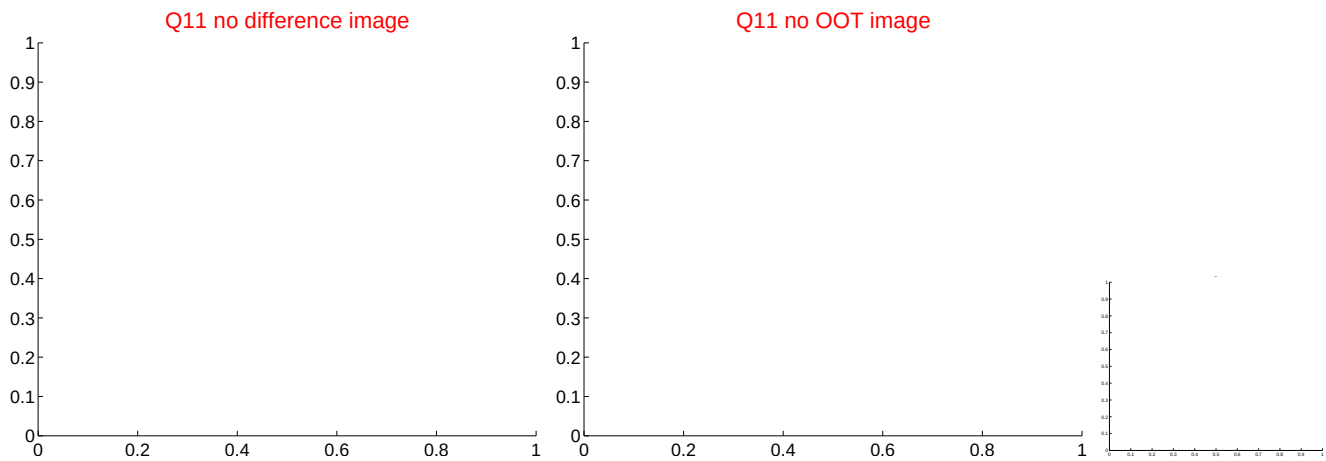


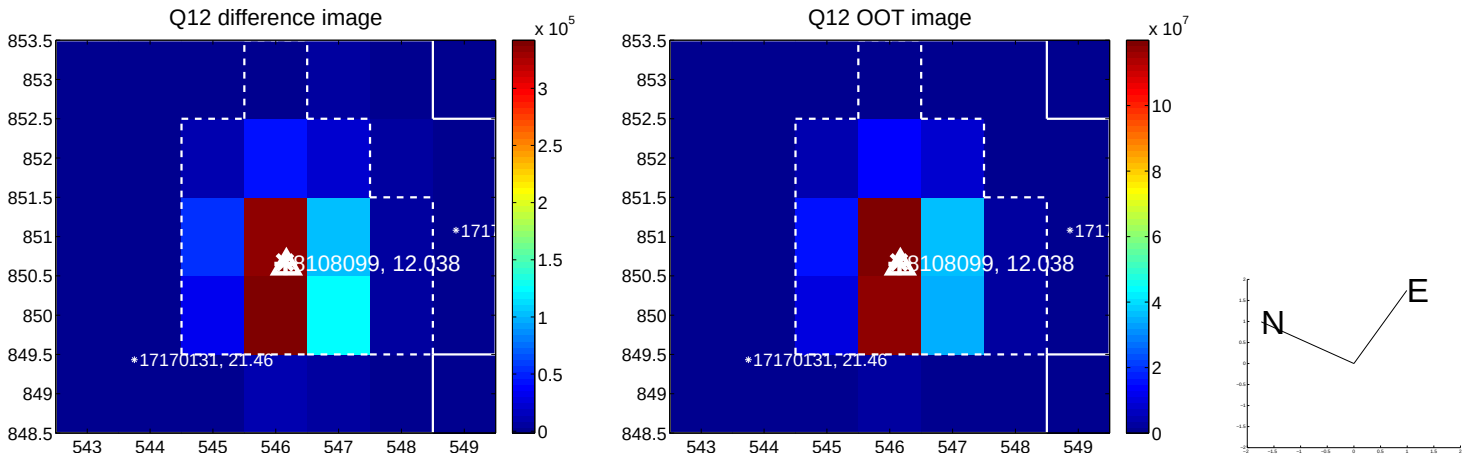


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

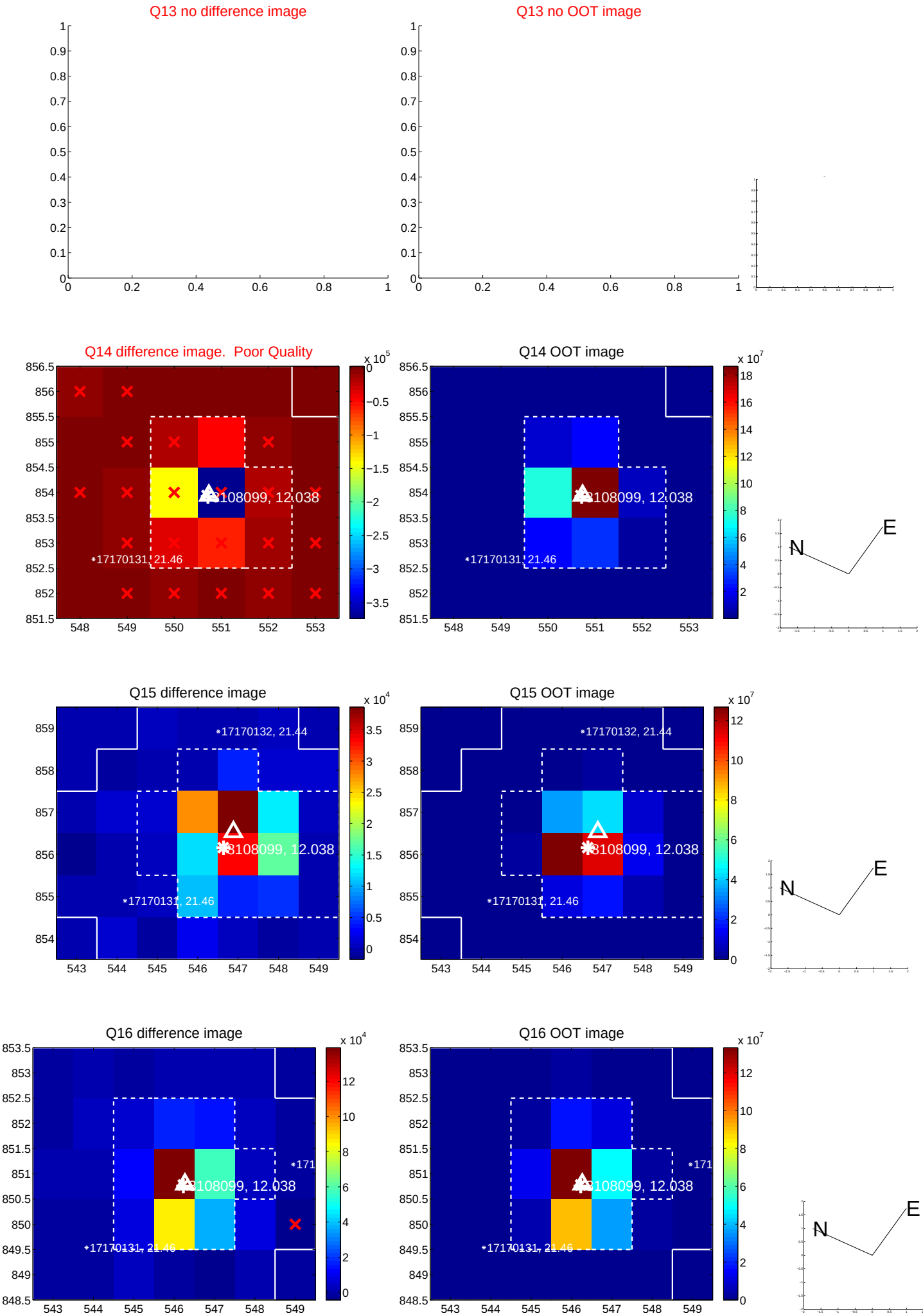




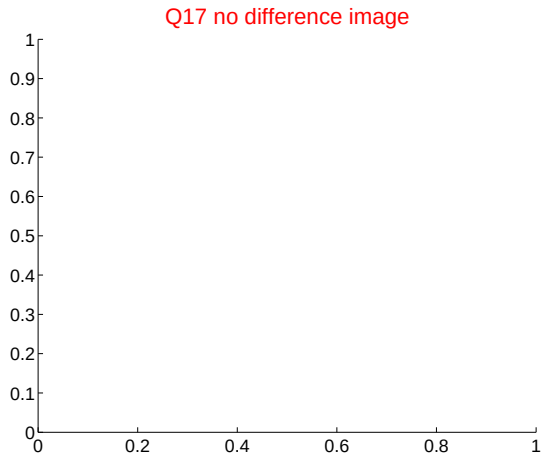


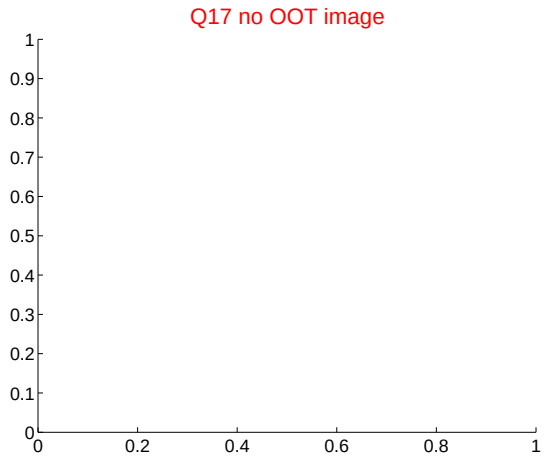


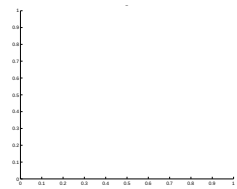
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

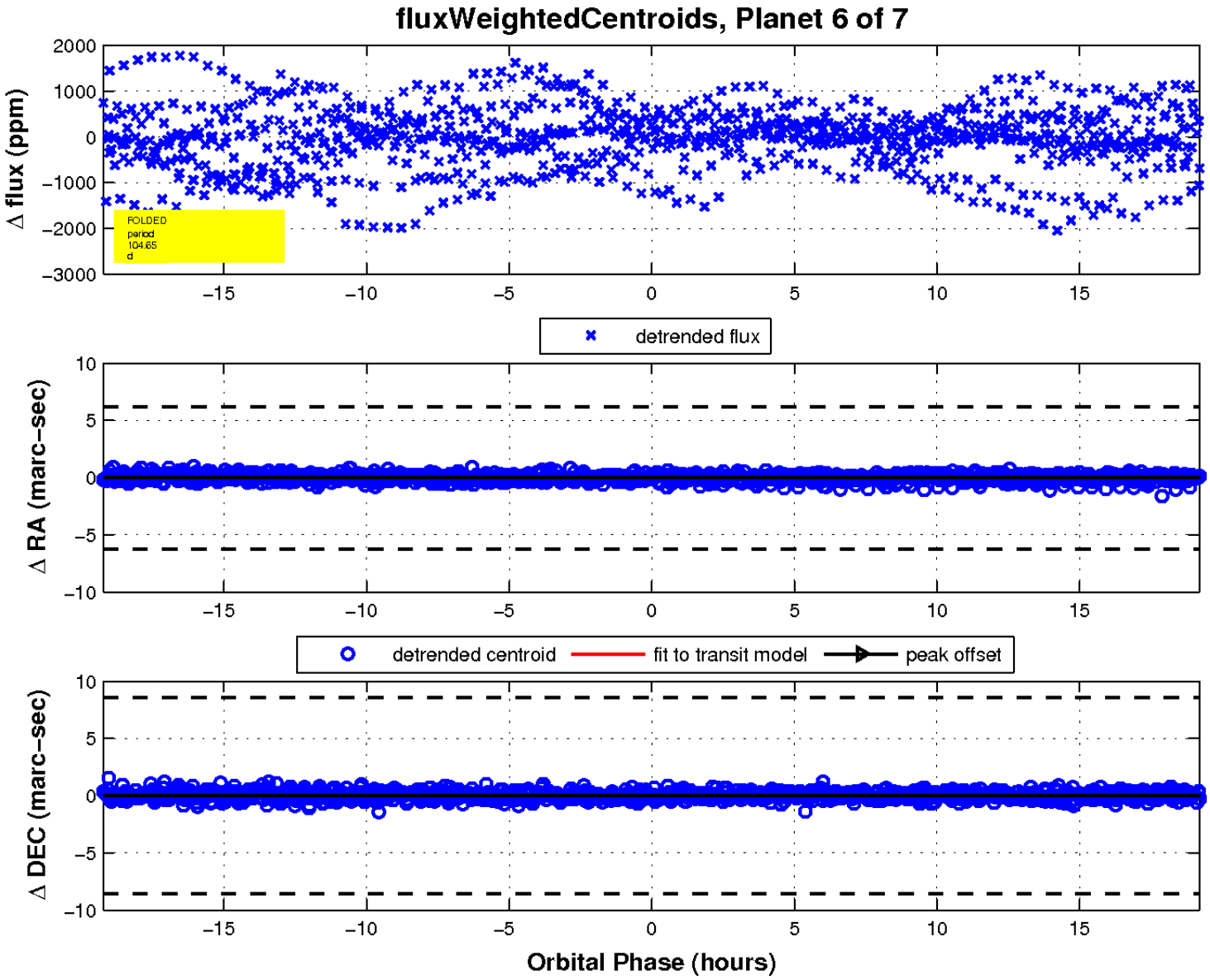


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

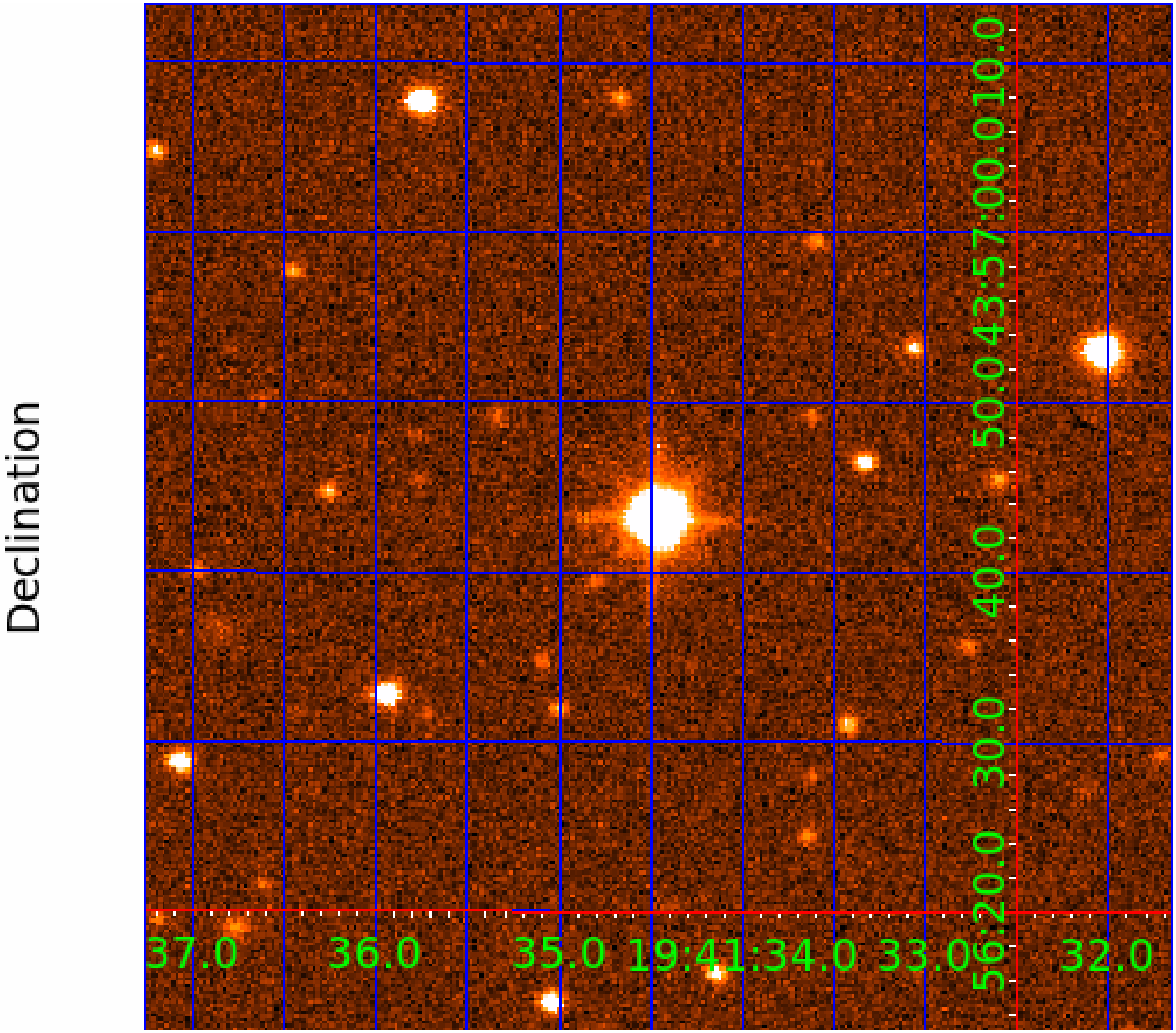








UKIRT Image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10.0

KIC 008108099

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 ($S_\oplus$)
008108099-01	OBS	No	3.761734	134.143732	107.5	9.379	8.4	11.2	3.31	6948	3.99	6756.19
008108099-02	OBS	No	0.974492	132.630136	12.4	4.943	9.6	2.4	3.31	6948	1.19	40911.71
008108099-03	OBS	No	41.929602	161.828515	1039.2	8.889	10.0	9.3	3.31	6948	19.89	271.35
008108099-04	OBS	No	377.069985	300.196296	1870.9	23.113	10.0	8.9	3.31	6948	16.26	14.51
008108099-05	OBS	No	70.105353	180.286659	951.0	10.560	10.0	8.0	3.31	6948	12.98	136.74
008108099-06	OBS	No	104.647323	235.039669	984.4	6.414	9.5	8.7	3.31	6948	19.42	80.15
008108099-07	OBS	No	169.304084	142.460064	986.2	14.851	10.1	7.6	3.31	6948	12.36	42.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108099-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008108099-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT
008108099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008108099-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008108099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008108099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT

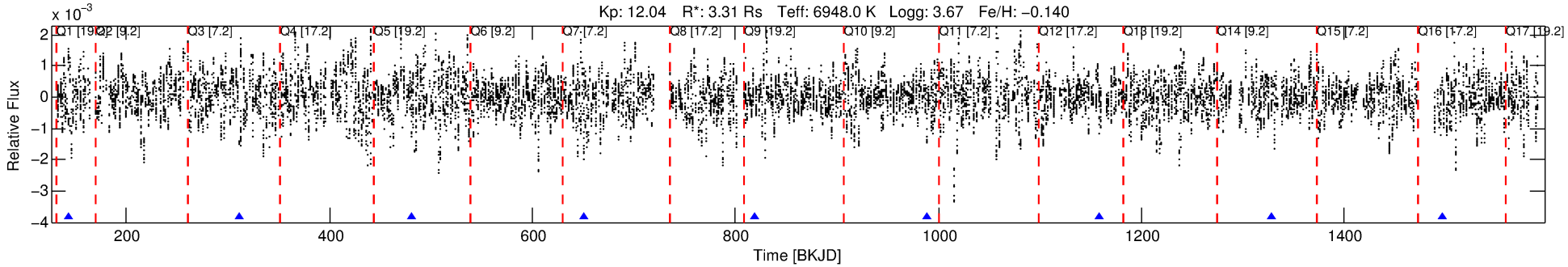
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

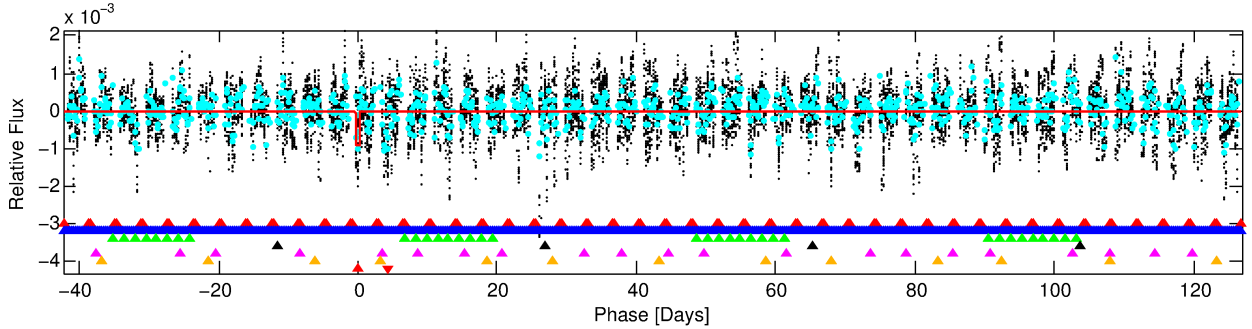
Ephemeris Match Information For 008108099-07

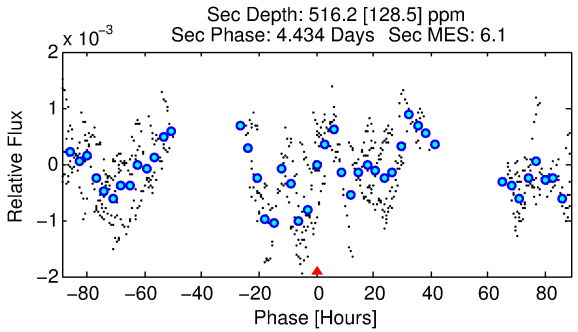
No Significant Match Found

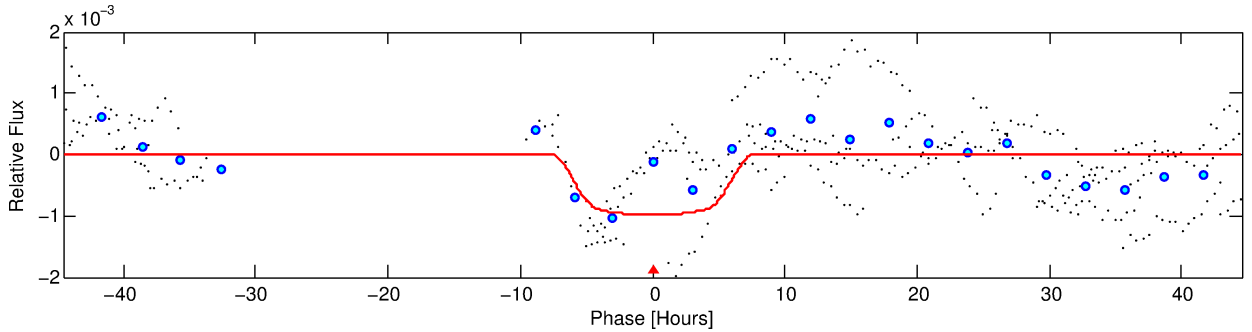
DV One-Page Summary

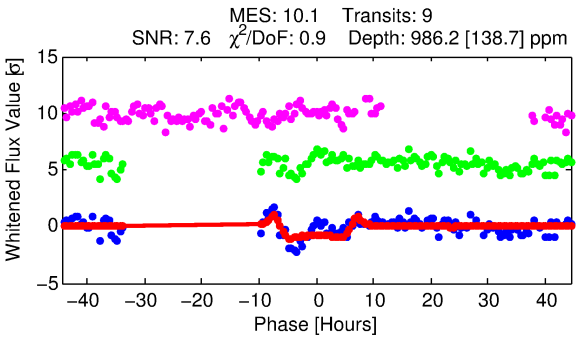
KIC: 8108099 Candidate: 7 of 7 Period: 169.304 d

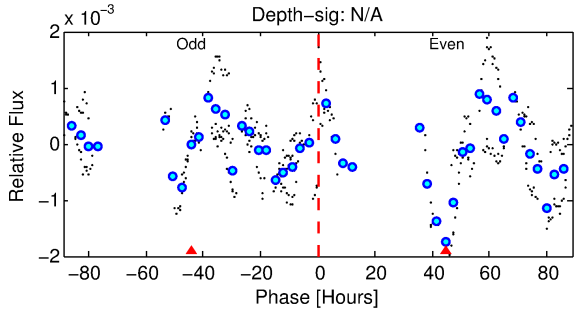


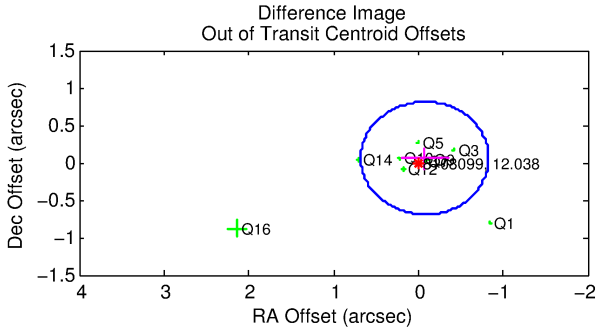












DV Fit Results:

Period = 169.30408 [0.00411] d
Epoch = 142.4601 [0.0212] BKJD
Rp/R* = 0.0342 [0.0026]
a/R* = 40.29 [4.83]
b = 0.93 [0.02]

Seff = 42.20 [22.52]
Teq = 650 [87] K
Rp = 12.36 [4.68] Re
a = 0.7363 [0.2473] AU

Ag = 1007.47 [598.04] [1.68σ]
Teffp = 5661 [452] K [10.89σ]

DV Diagnostic Results:

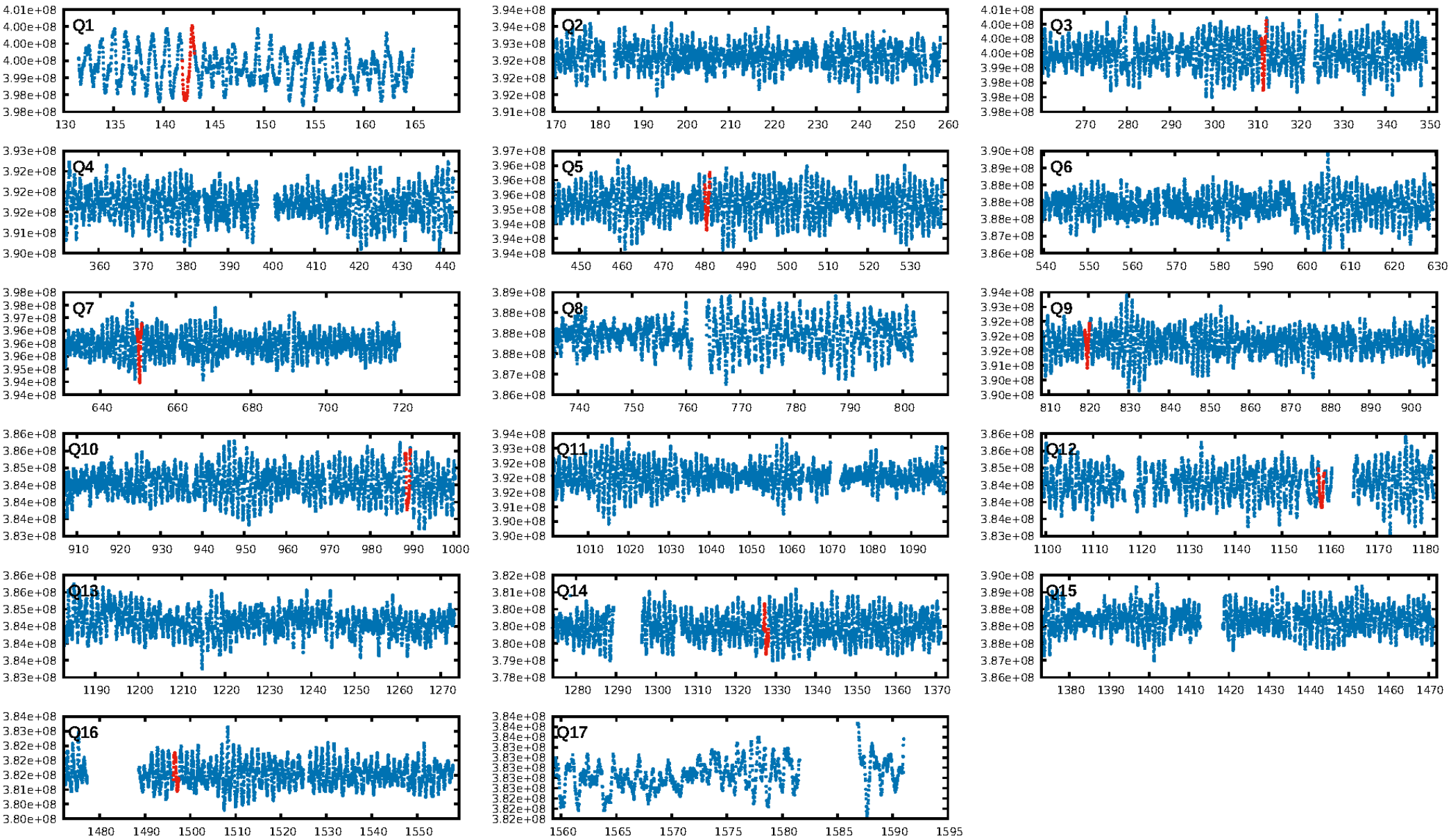
ShortPeriod−sig: 100.0% [95.92σ]
LongPeriod−sig: 100.0% [181.50σ]
ModelChiSquare2−sig: 0.1%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [8/8]
GhostDiagnostic−chr: 1.101

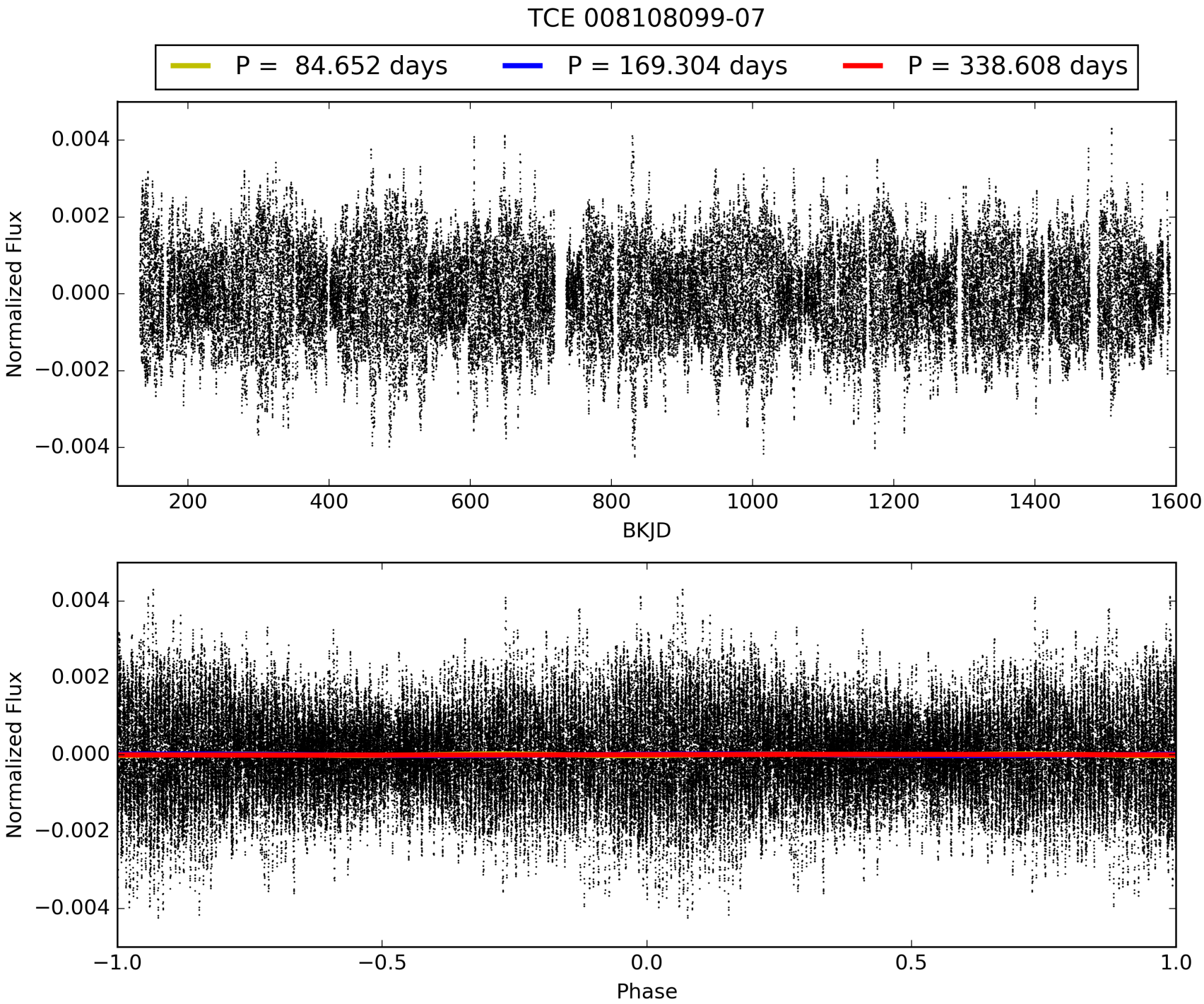
Centroid−sig: 13.5%
Centroid−so: 0.221 arcsec [2.74σ]
OotOffset−rm: 0.096 arcsec [0.38σ]
KicOffset−rm: 0.113 arcsec [0.39σ]
OotOffset−st: 2/2/2/3 [9]
KicOffset−st: 2/2/2/3 [9]
DiffImageQuality−fgm: 0.89 [8/9]
DiffImageOverlap−fno: 0.00 [0/9]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 11:02:13 Z

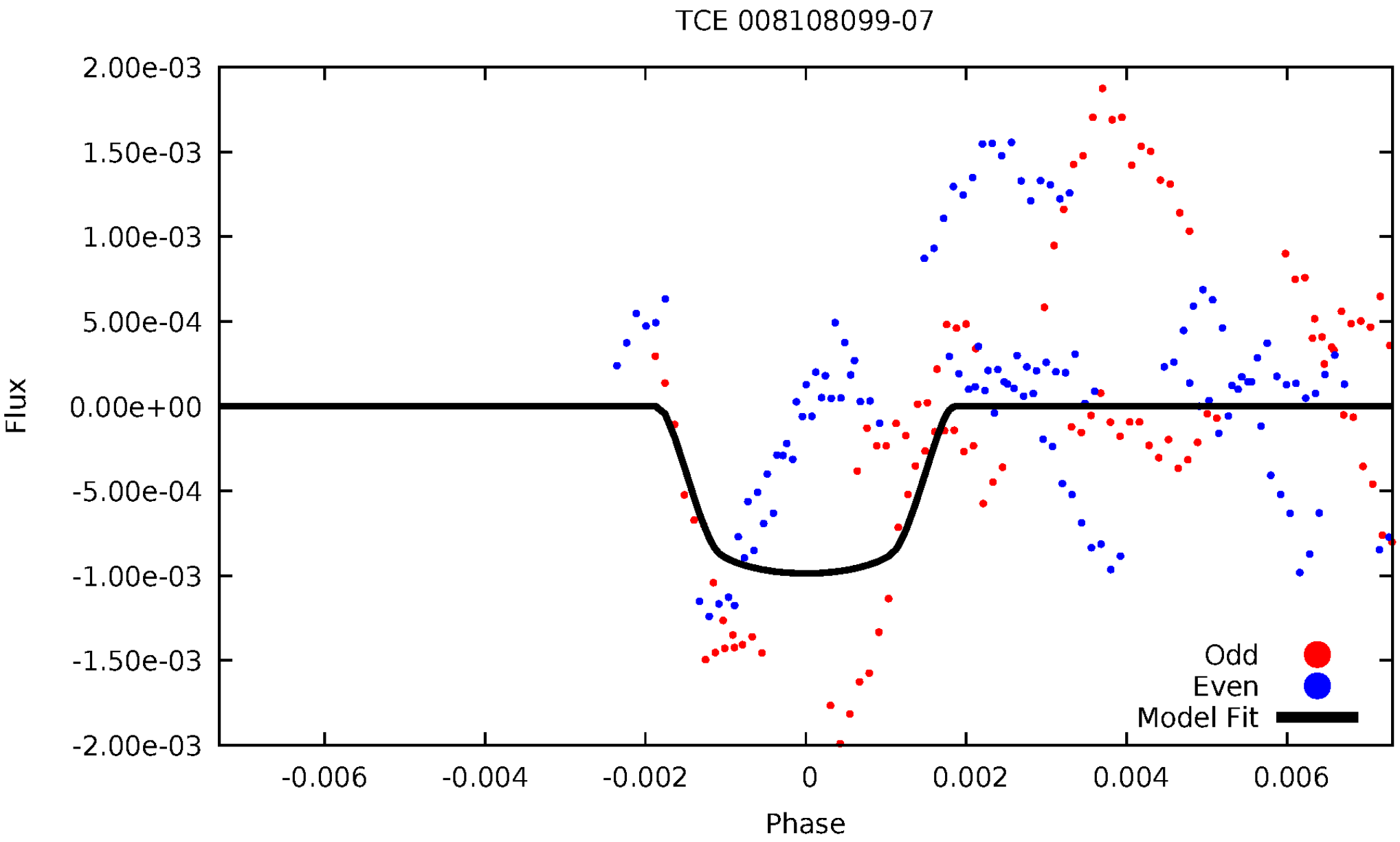
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008108099-07, PDC Light Curves

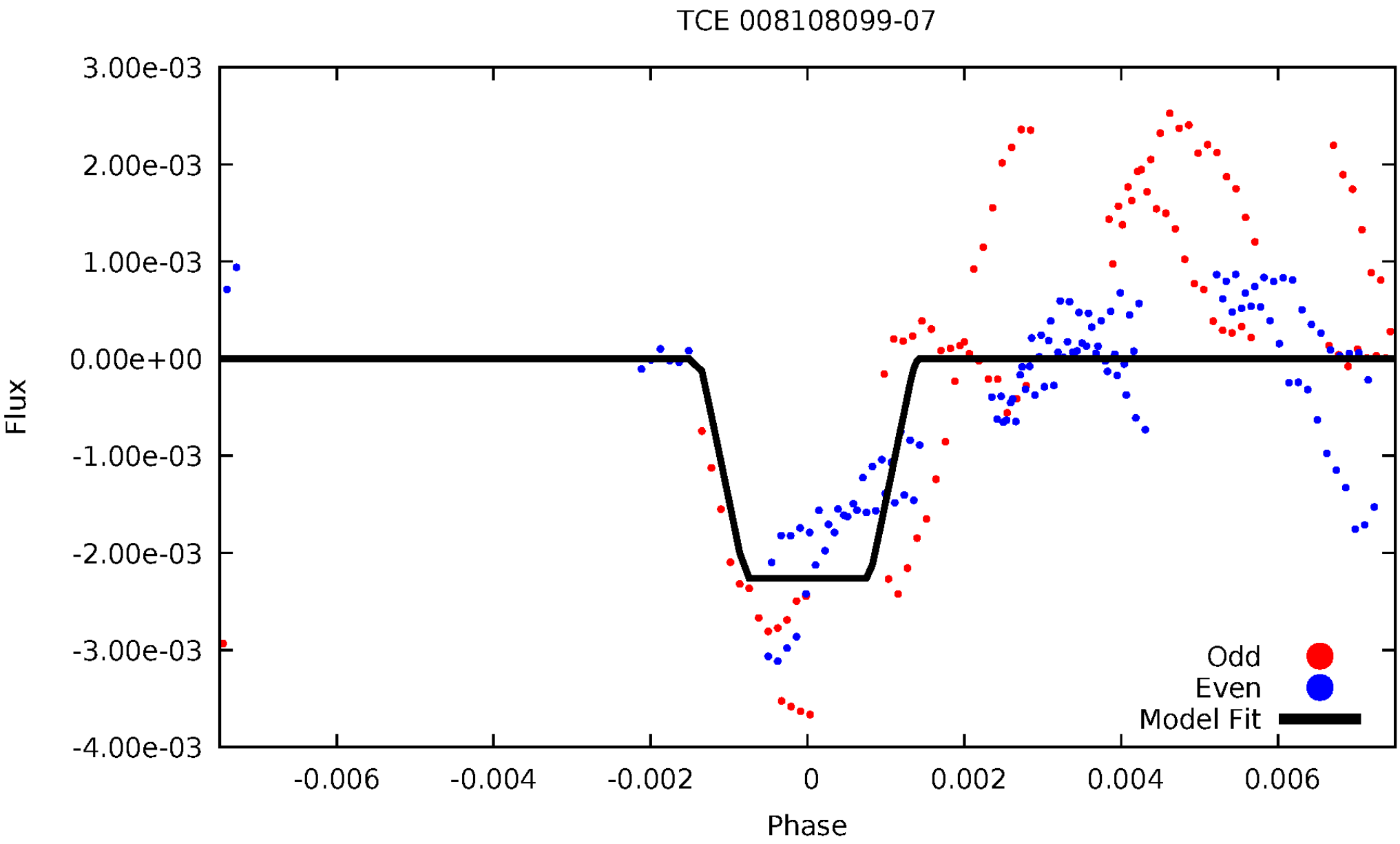



TCE 008108099-07
P = 84.652 days
P = 169.304 days
P = 338.608 days
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.004
0.002
0.000
−0.002
−0.004
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even


TCE 008108099-07
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008108099-07
3.00e-03
2.00e-03
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0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
-4.00e-03
Flux
-0.006
-0.004
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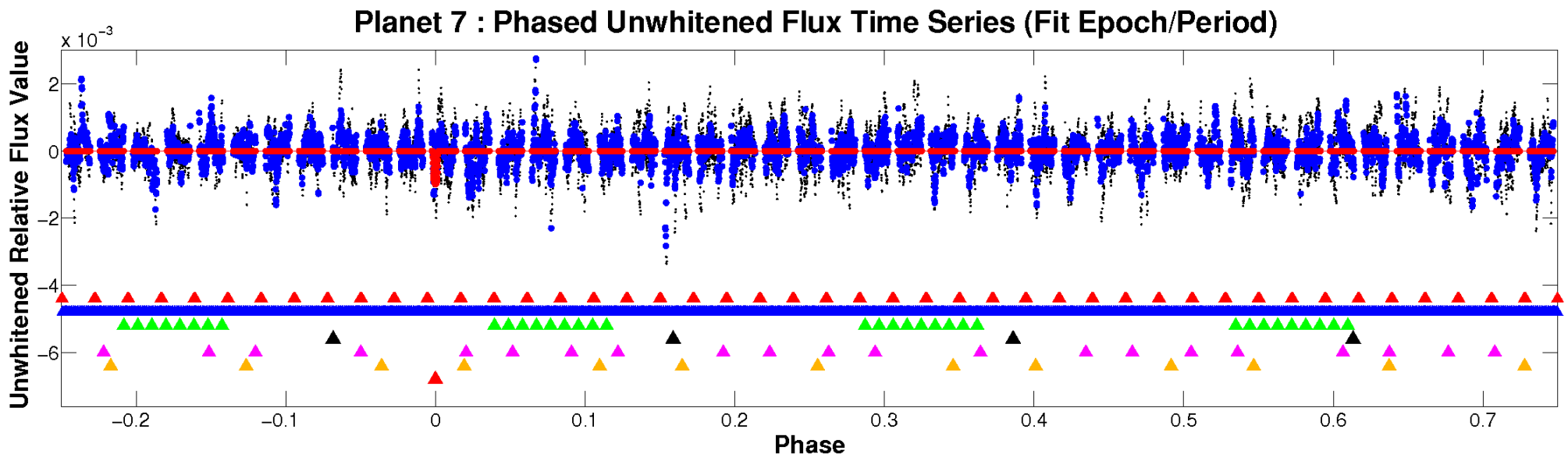
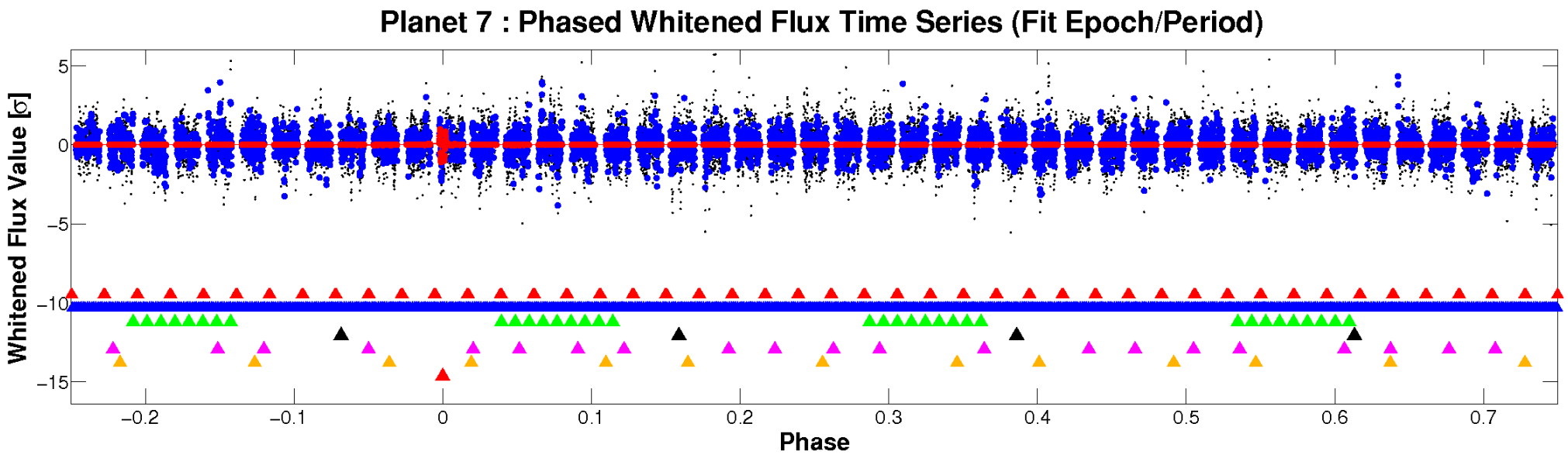
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

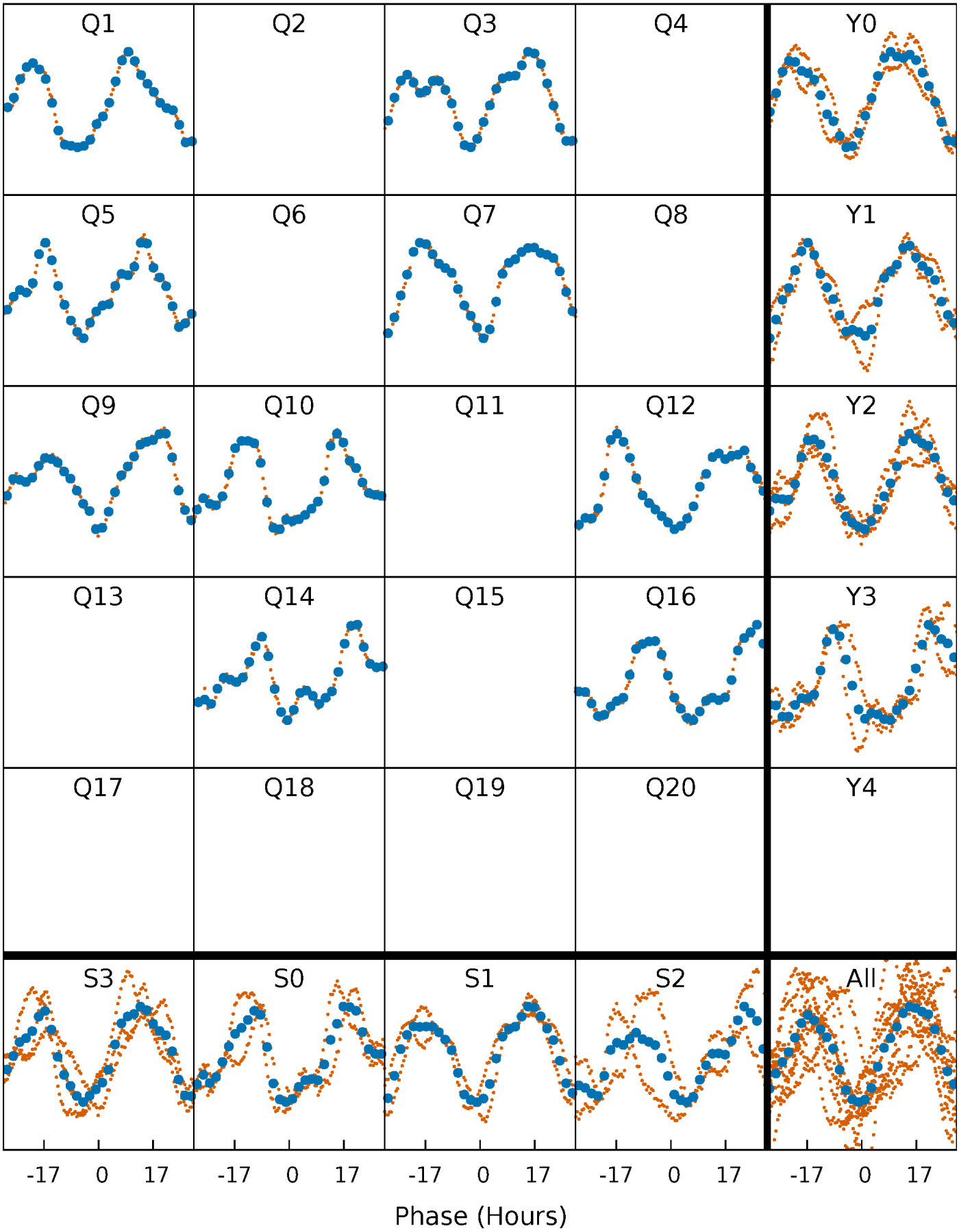
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 008108099-07 P=169.304084 Days T_0=142.460064 (BKJD)



DV Quarter-Phased Transit Curves

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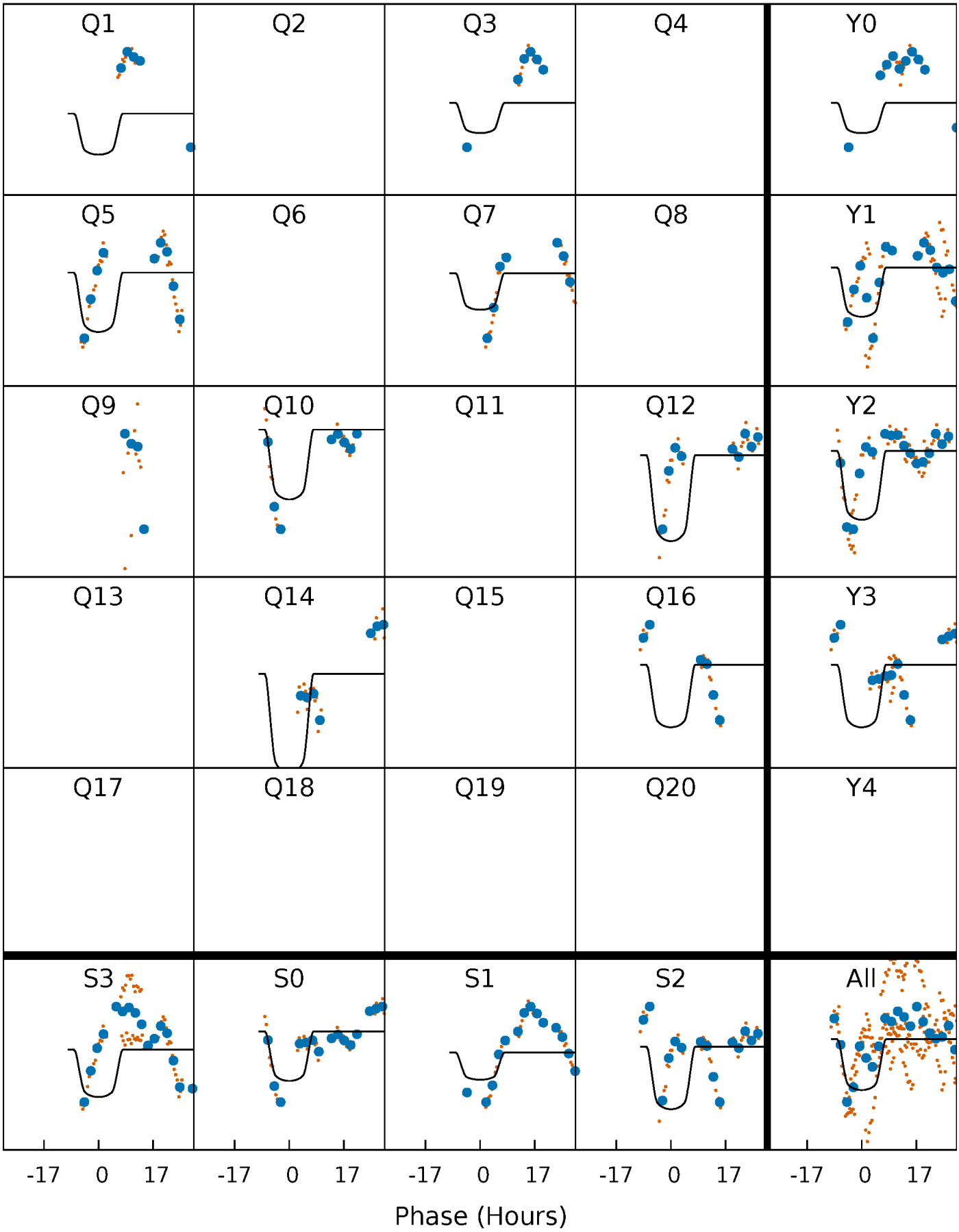
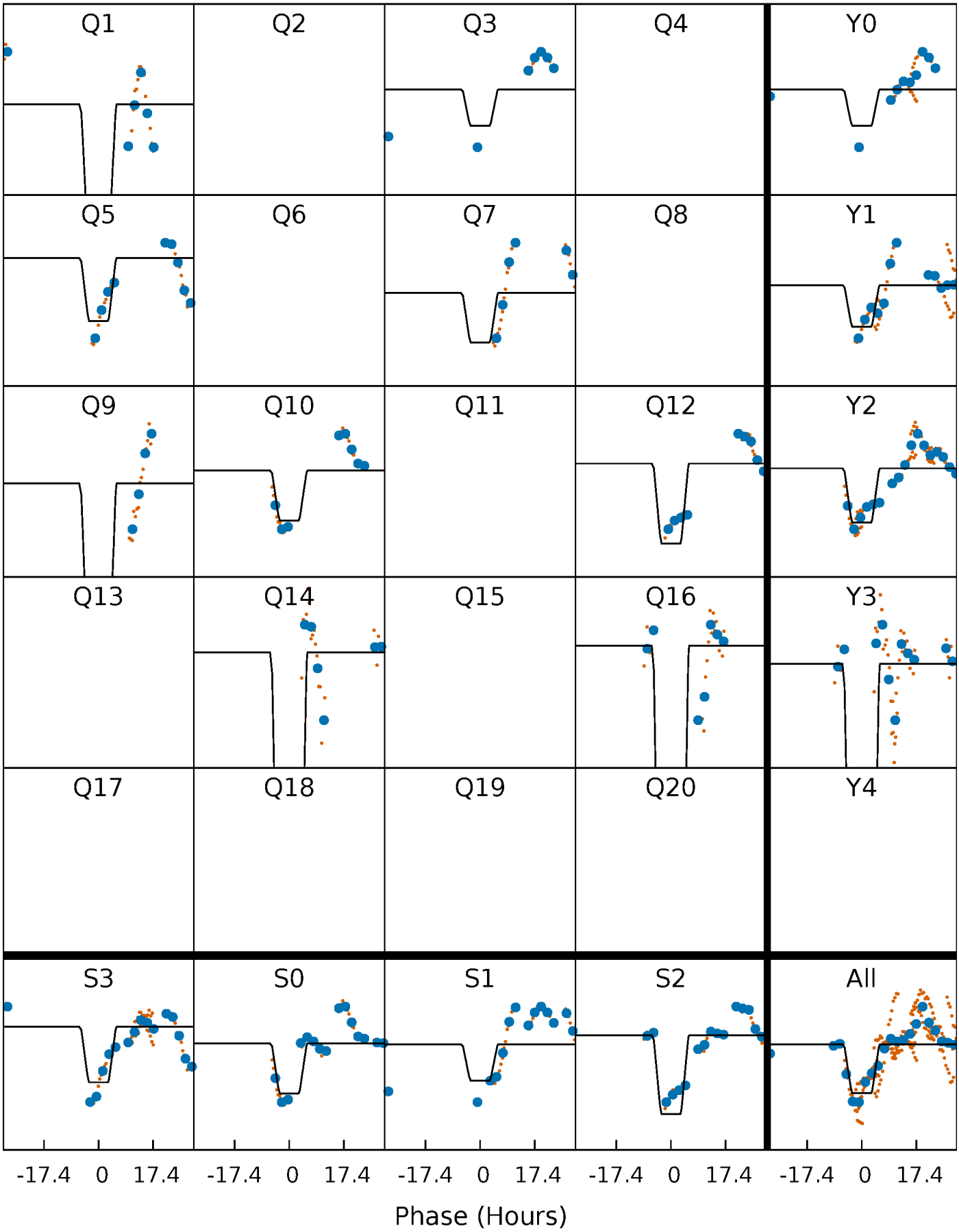


Alt. Detrend Quarter-Phased Transit Curves

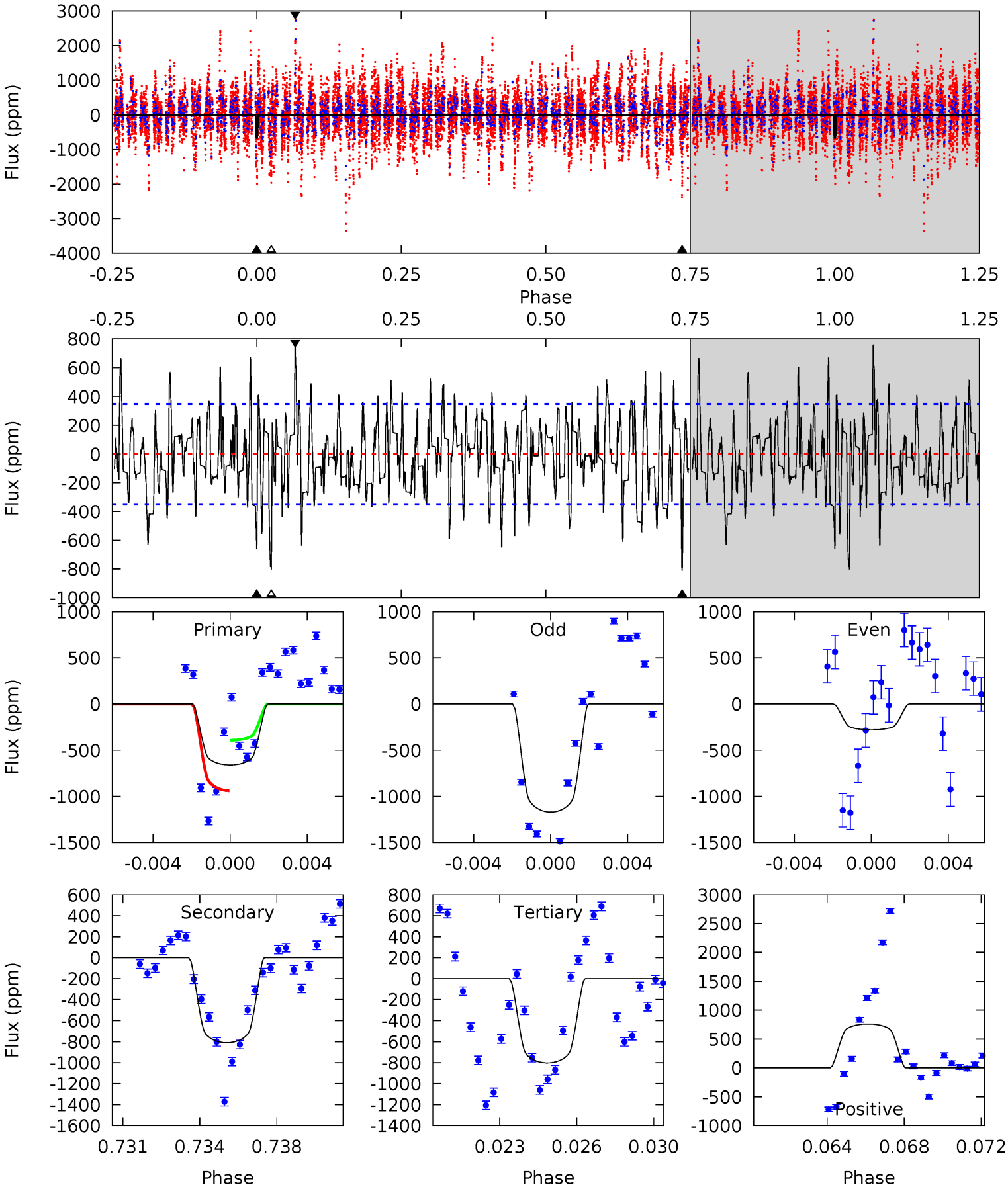
TCE 008108099-07 P=169.320619 Days T_0=142.287459 (BKJD)



DV Model-Shift Uniqueness Test

008108099-07, P = 169.304084 Days, E = 142.460064 Days

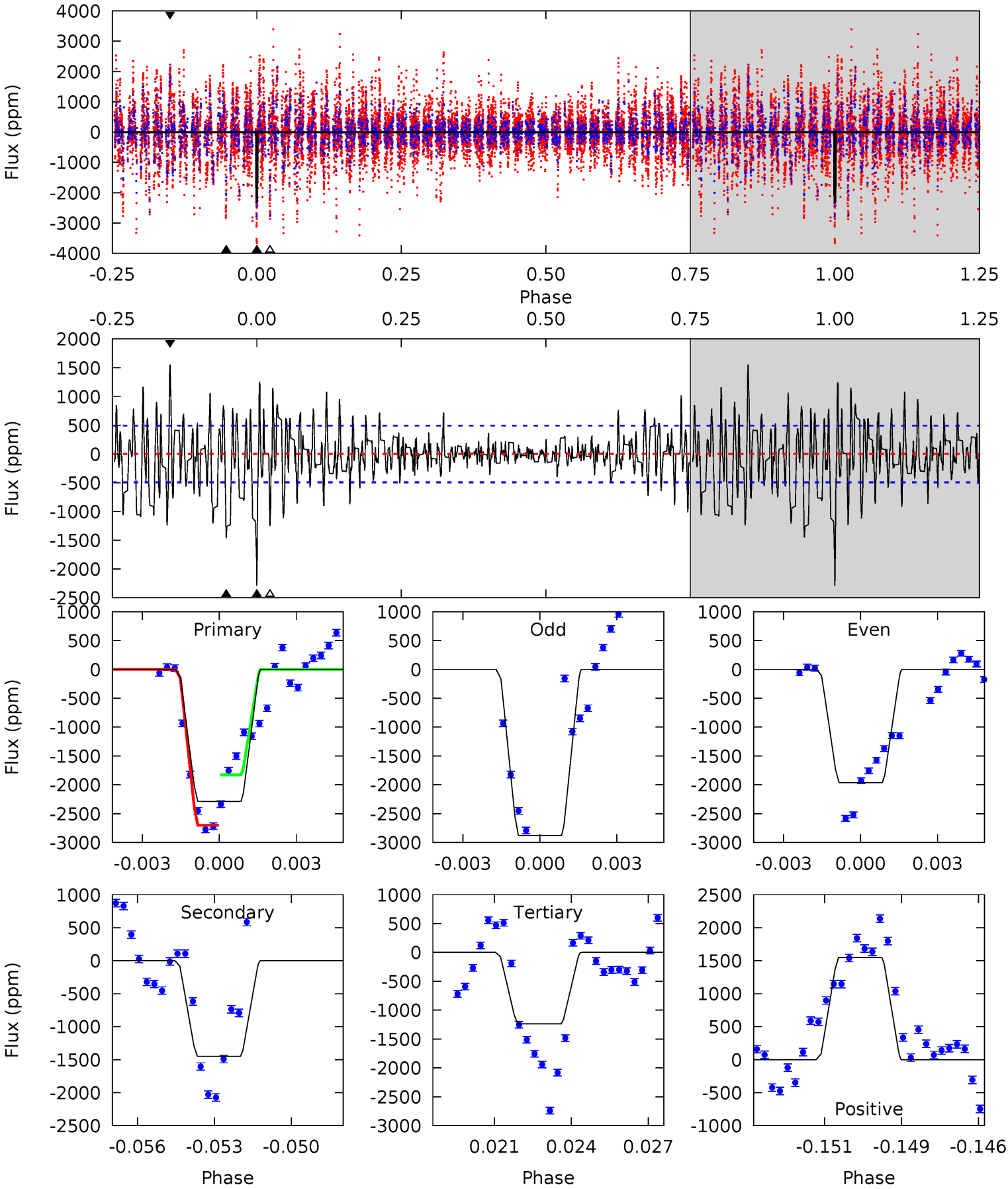
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.89	12.1	12.0	11.4	5.21	2.90	3.66	-2.14	-1.49	0.11	0.75	6.69	-4.11	0.48	4.11



Alt Model-Shift Uniqueness Test

008108099-07, P = 169.320619 Days, E = 142.287459 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	15.5	13.3	16.6	5.28	3.01	3.87	11.2	7.88	2.27	-1.08	4.65	1.06	0.40	4.55



Stellar Parameters For KIC 008108099

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6948^{+166}_{-228}	$3.667^{+0.296}_{-0.074}$	$-0.140^{+0.300}_{-0.250}$	$3.310^{+0.409}_{-1.228}$	$1.858^{+0.179}_{-0.417}$	$0.072^{+0.158}_{-0.018}$
	+2%/-3%	+8%/-2%	+214%/-179%	+12%/-37%	+10%/-22%	+219%/-26%
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 008108099-07 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-810±67	$11.79^{+1.80}_{-2.16}$	890^{+45}_{-76}	6280^{+357}_{-303}	1757^{+732}_{-429}
Alt.	-1450±93	$16.76^{+1.98}_{-3.07}$	892^{+50}_{-74}	6167^{+239}_{-257}	1554^{+624}_{-295}

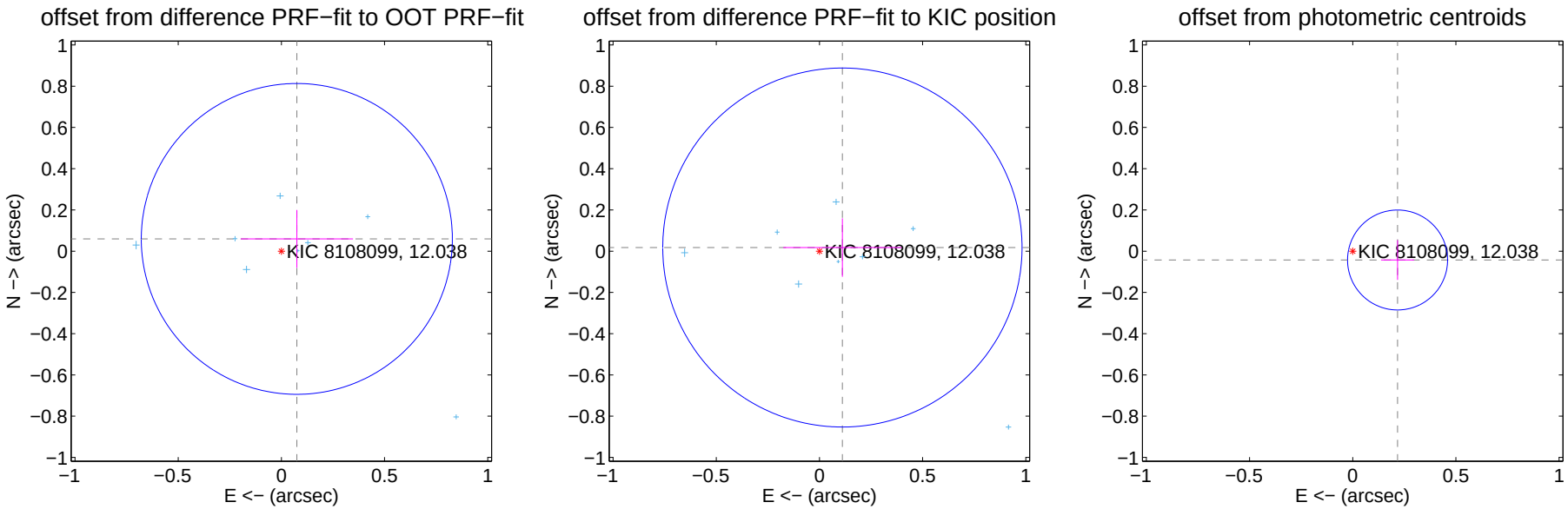
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

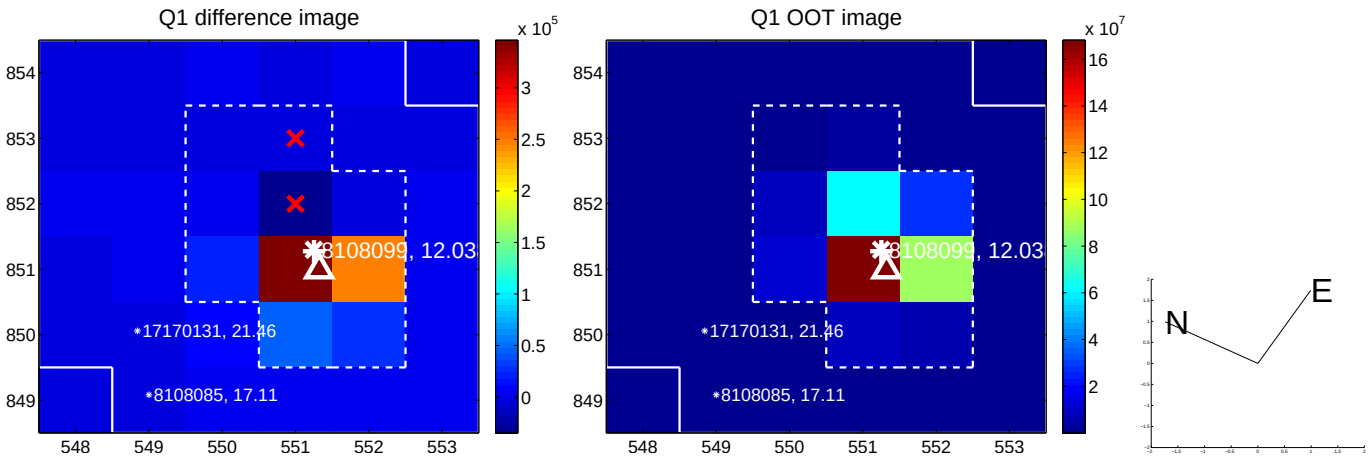
Supplemental centroid analysis for 008108099-07. Kepler magnitude: 12.04. Transit SNR 7.56
There are 8 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

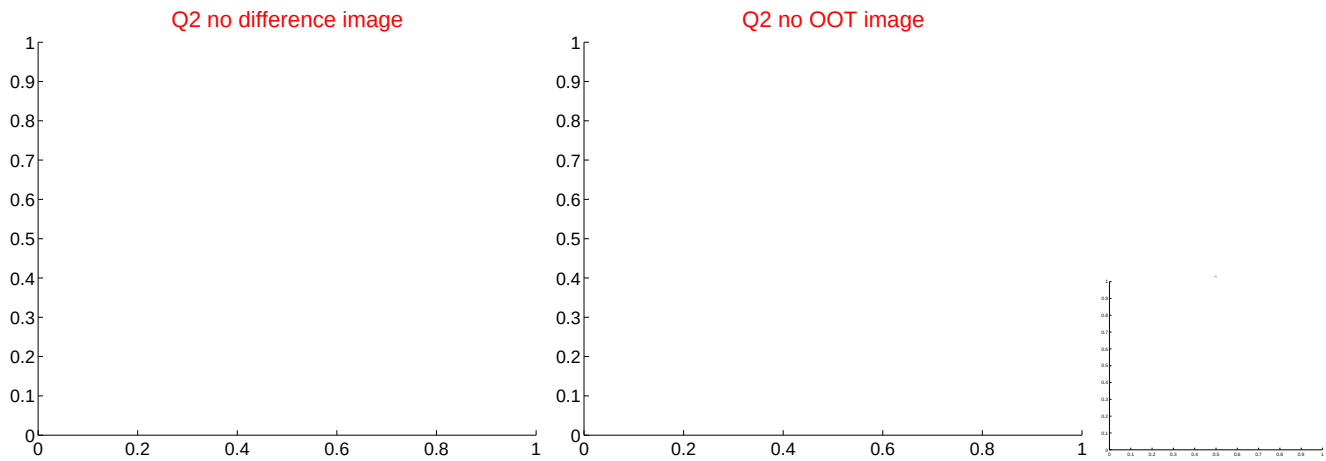
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.251	0.38	-0.075 ± 0.272	0.059 ± 0.140
PRF-fit source offset from KIC position	0.113 ± 0.290	0.39	-0.111 ± 0.287	0.018 ± 0.142
photometric centroid source offset	0.22 ± 0.08	2.74	-0.22 ± 0.08	-0.04 ± 0.10

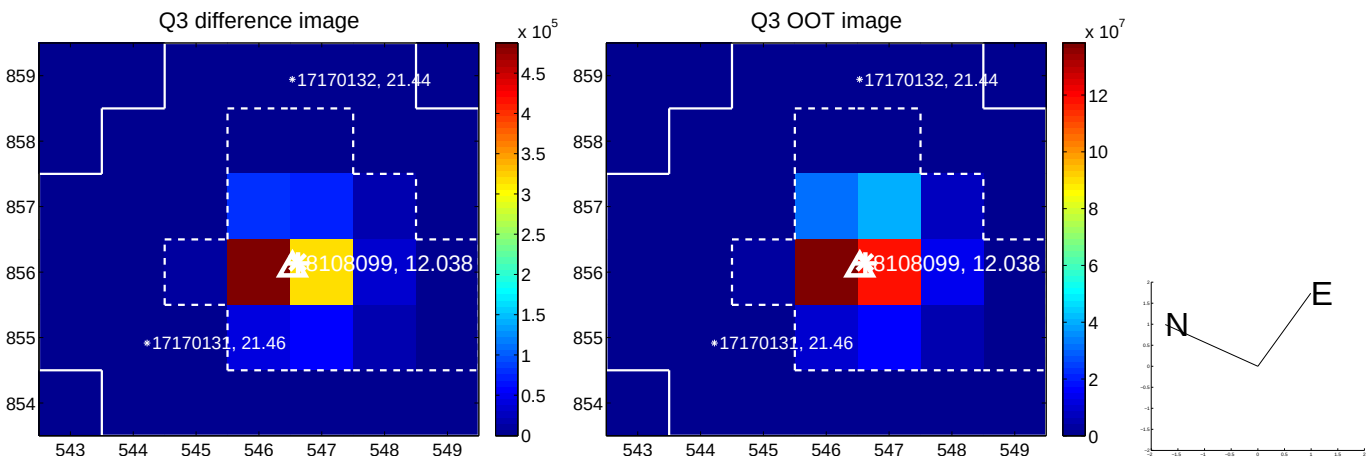


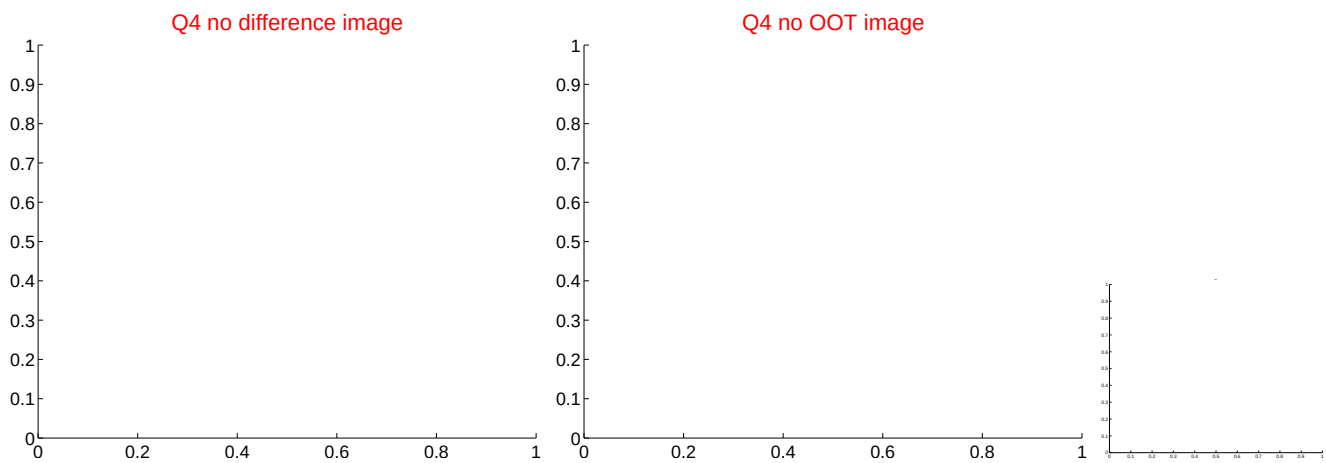
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

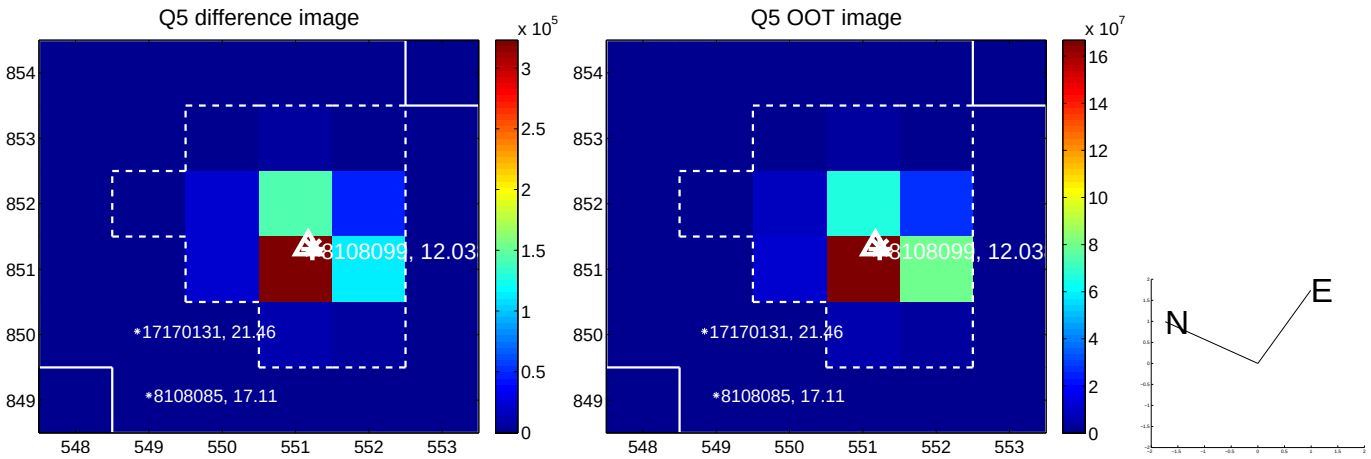


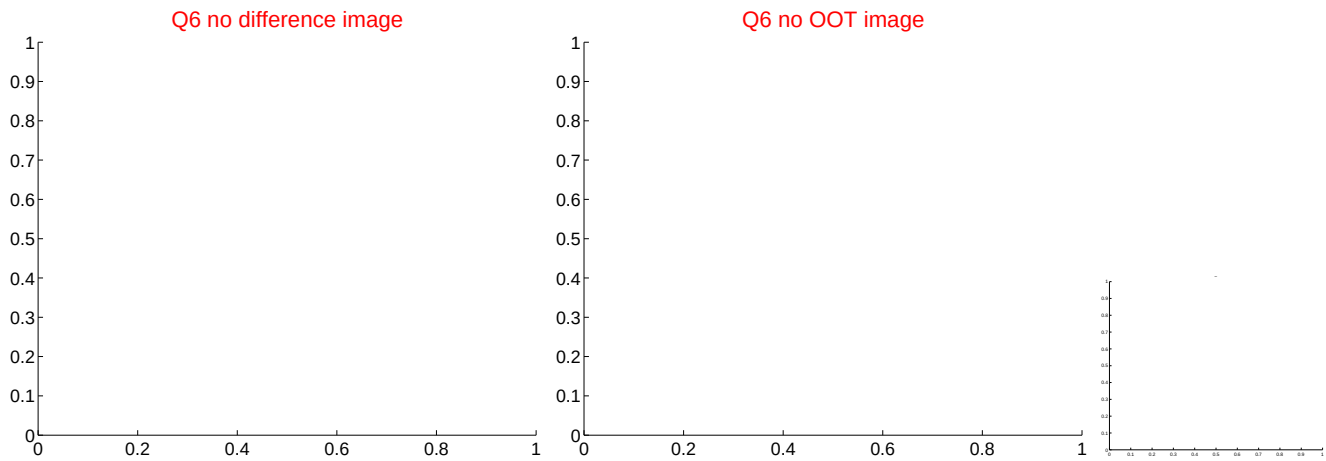


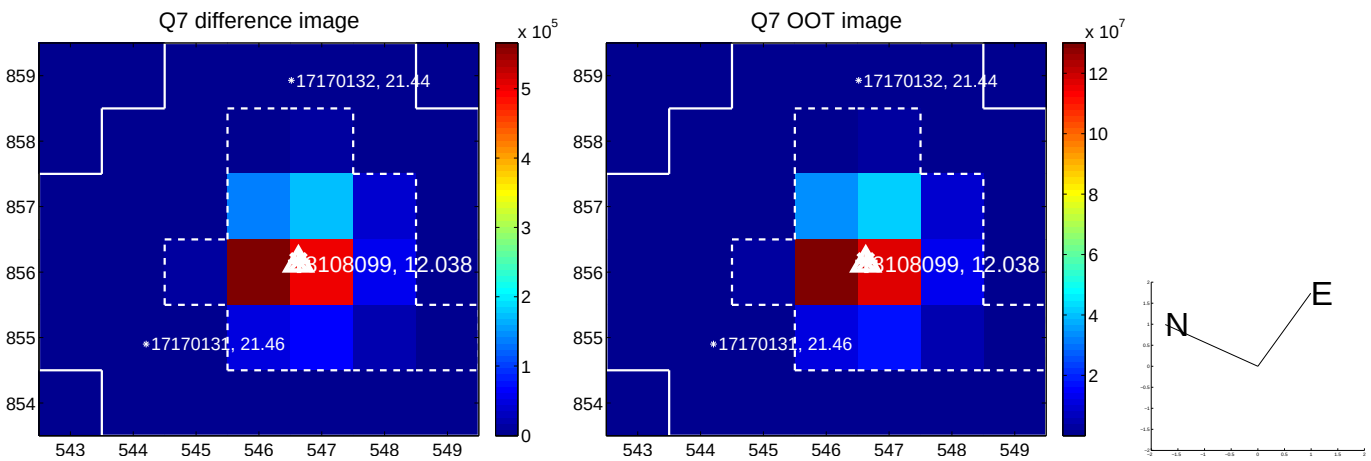


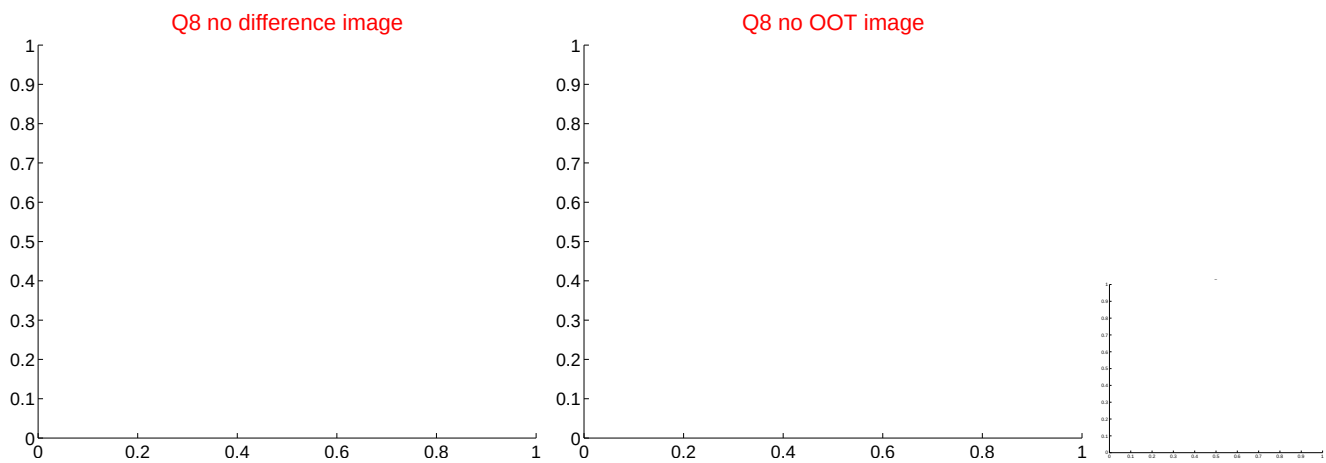


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

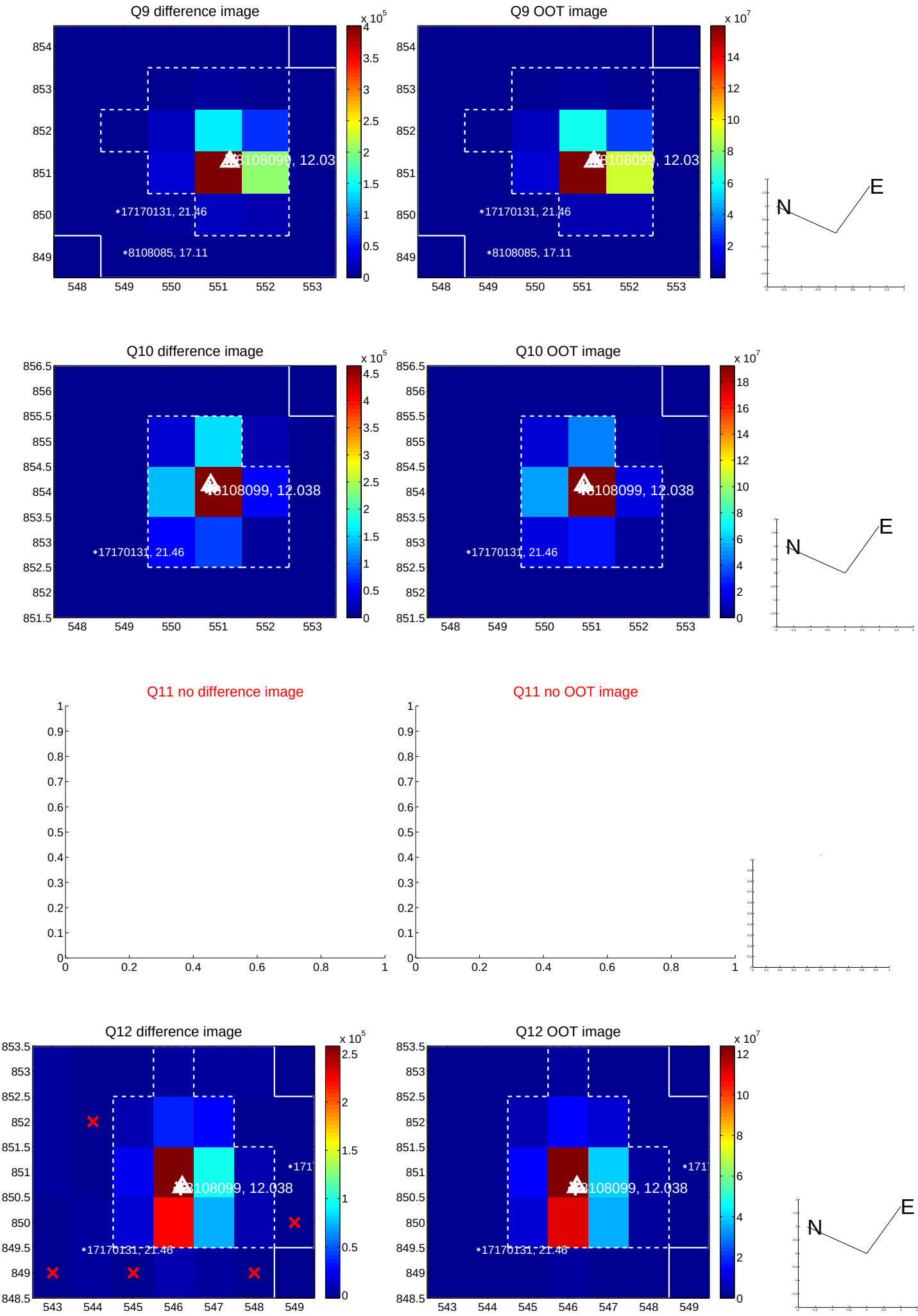








white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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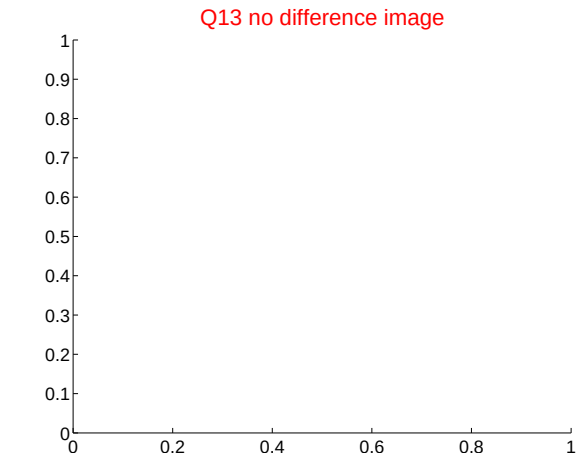

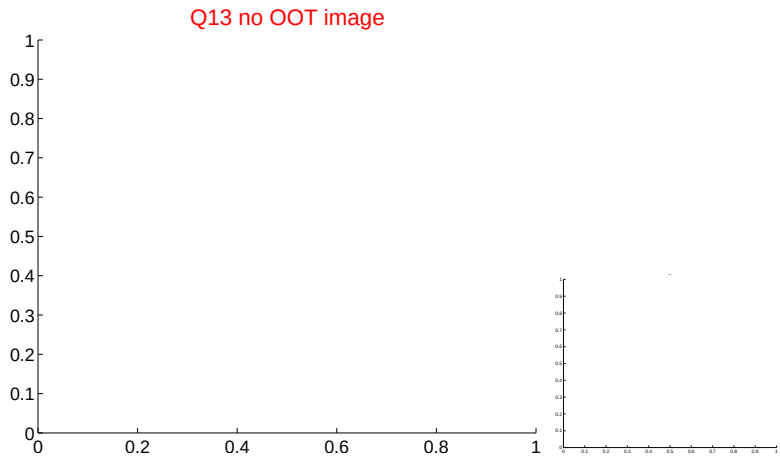

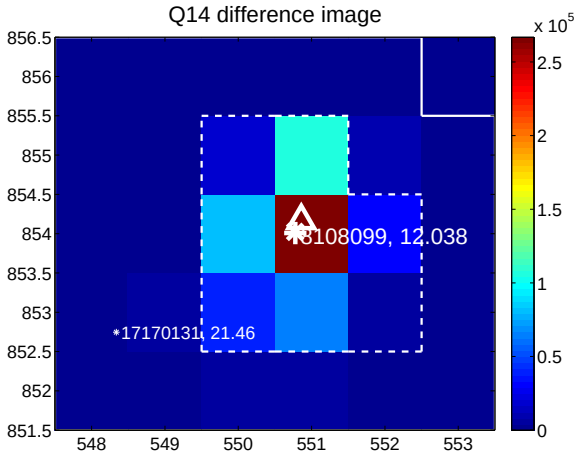

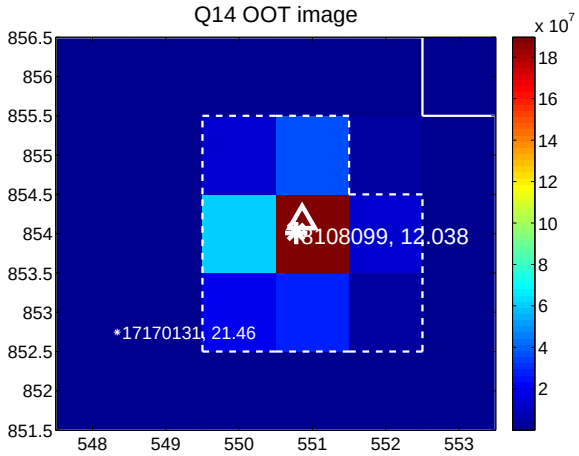

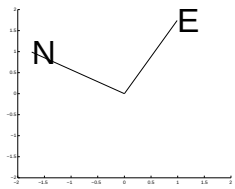

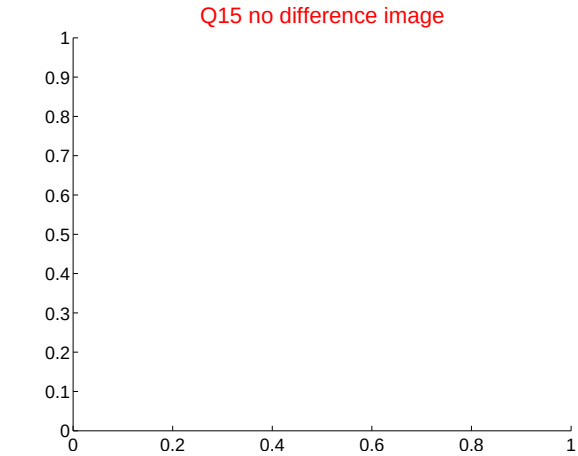

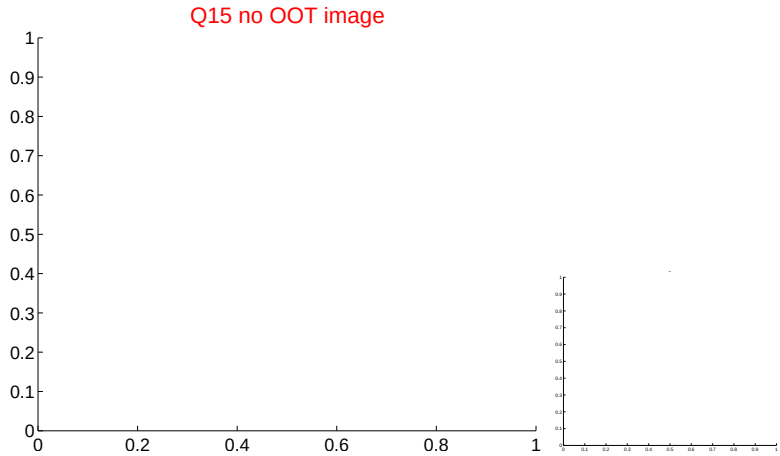

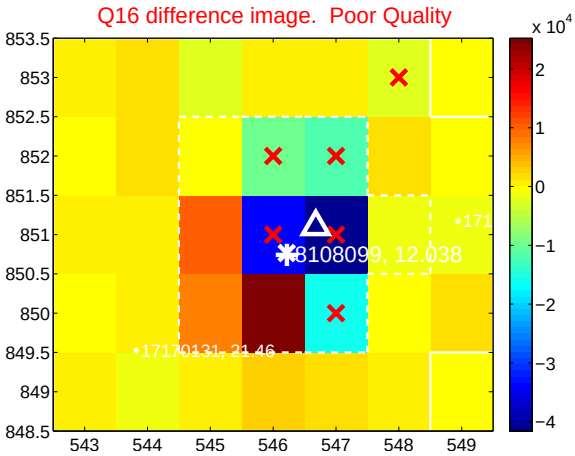

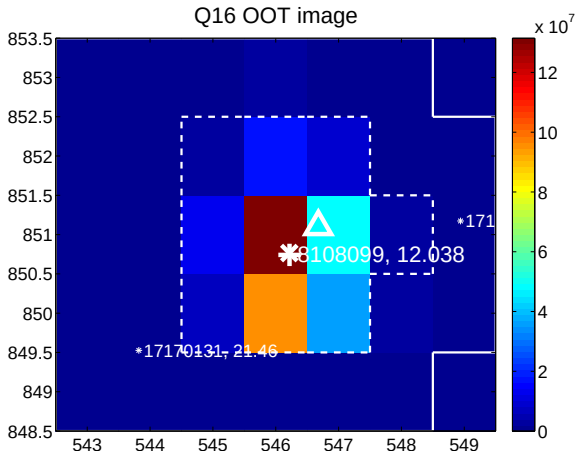

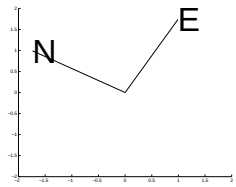

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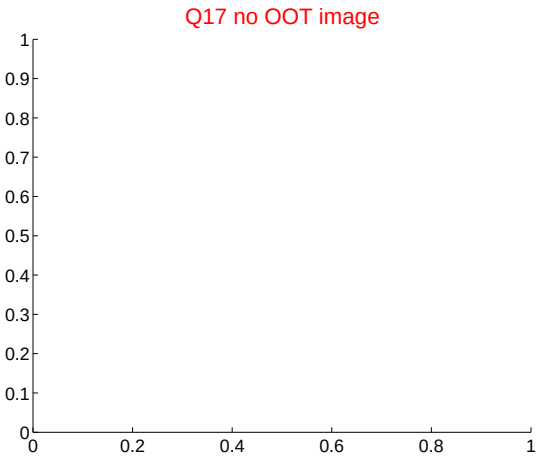
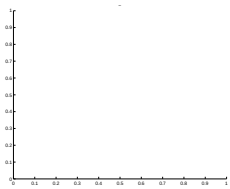
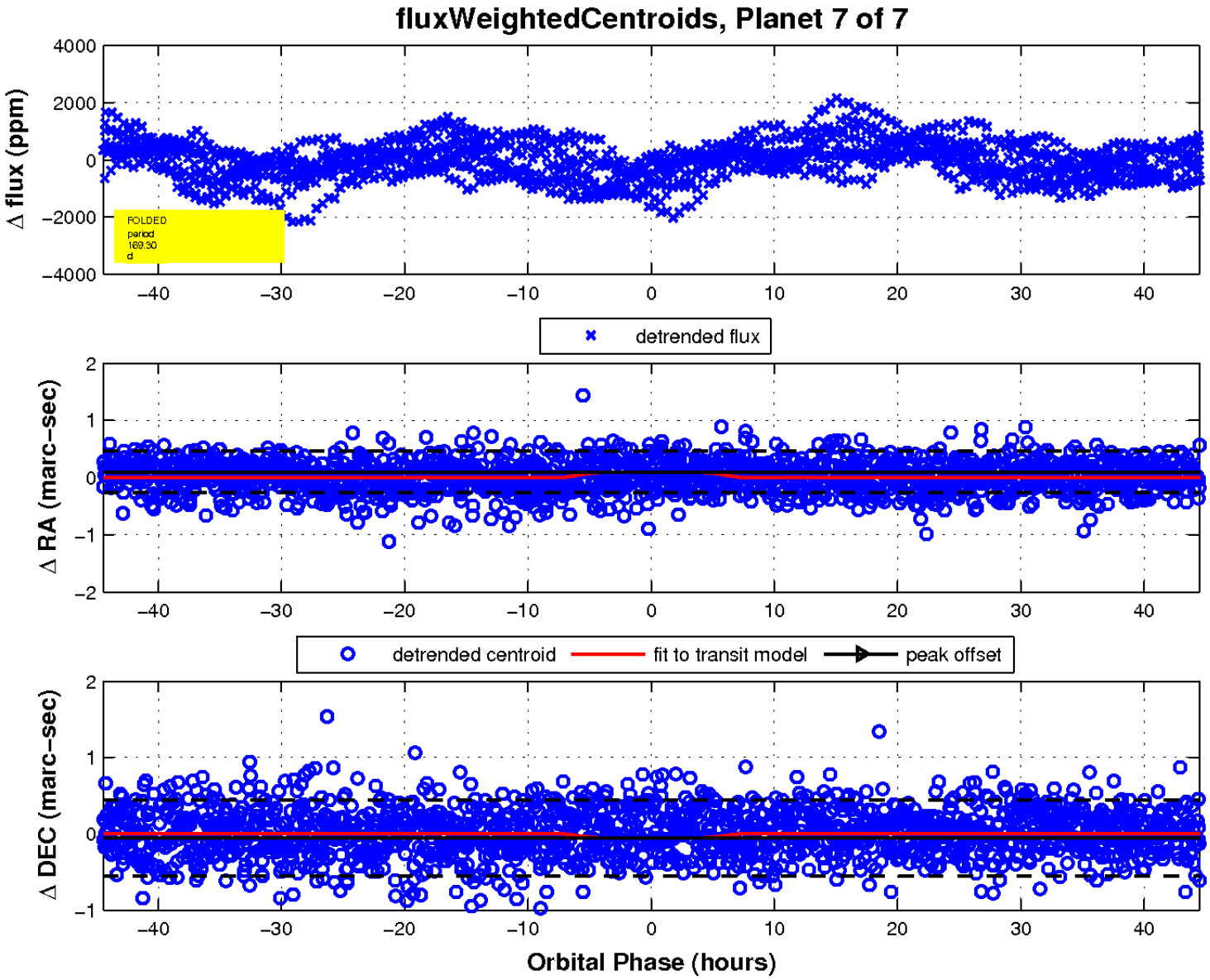
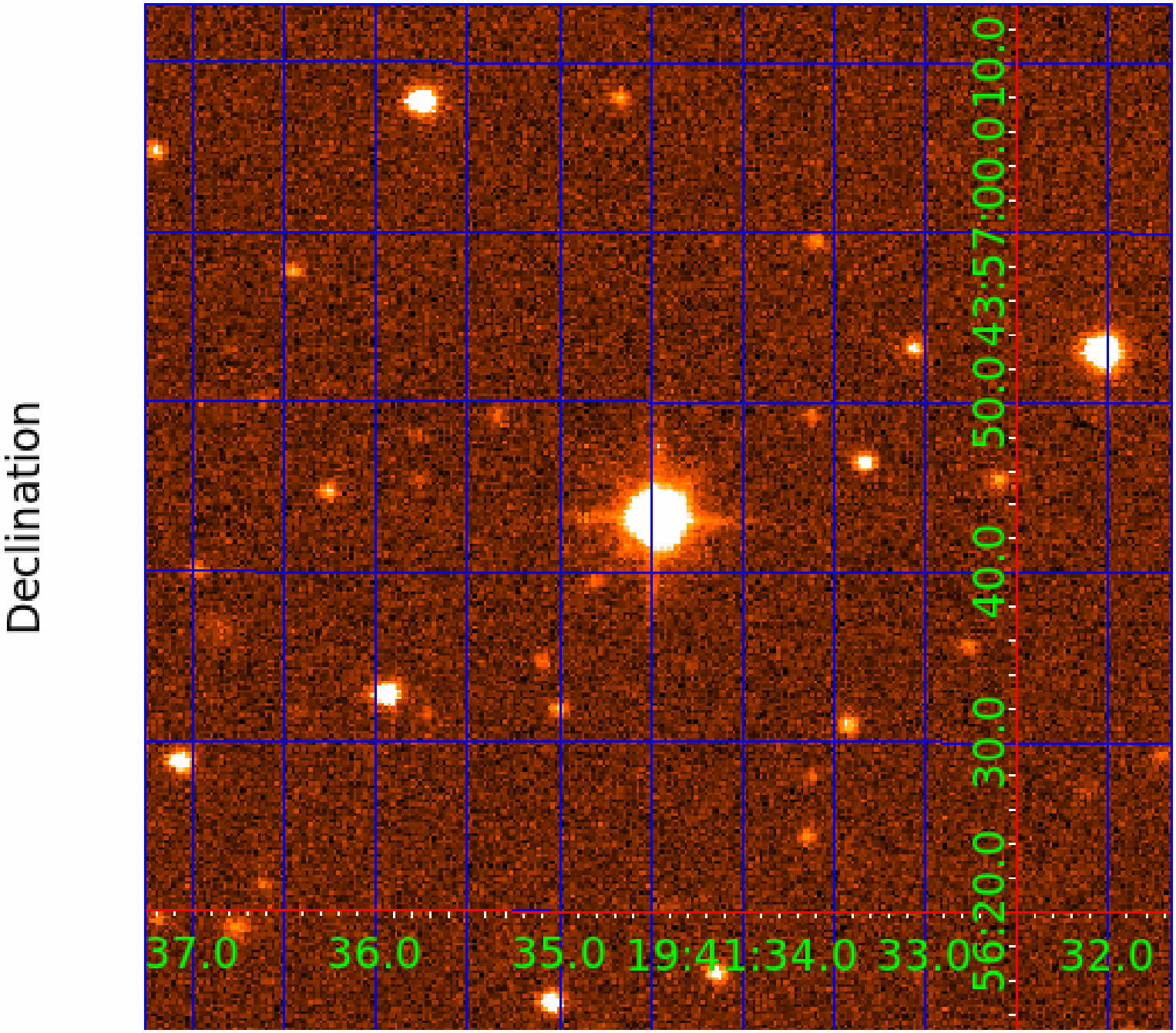






UKIRT Image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