KIC 009005854

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 ($S_\oplus$)
009005854-01	OBS	7121.01	3.780458	131.678109	158684.8	3.931	4648.0	3306.6	0.78	5356	46.56	219.58
009005854-02	OBS	No	3.780470	133.566761	64624.0	3.692	2331.7	1600.8	0.78	5356	29.59	219.58
009005854-03	OBS	No	332.382921	341.951881	56.7	3.639	10.3	0.2	0.78	5356	0.71	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009005854-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009005854-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009005854-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

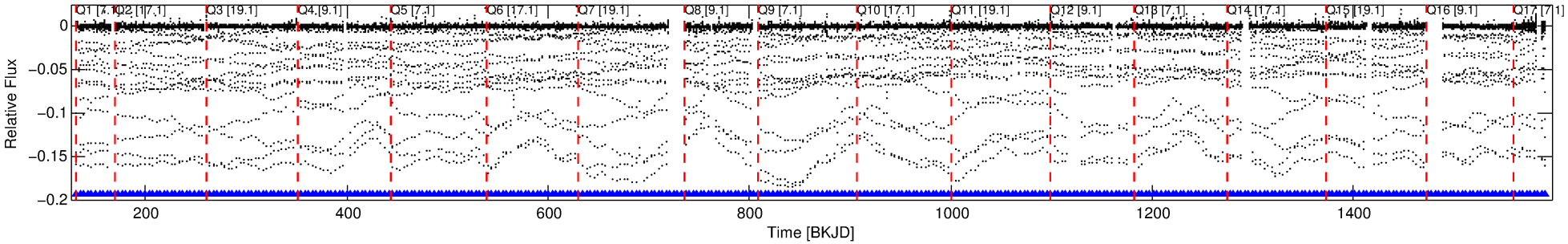
Ephemeris Match Information For 009005854-01

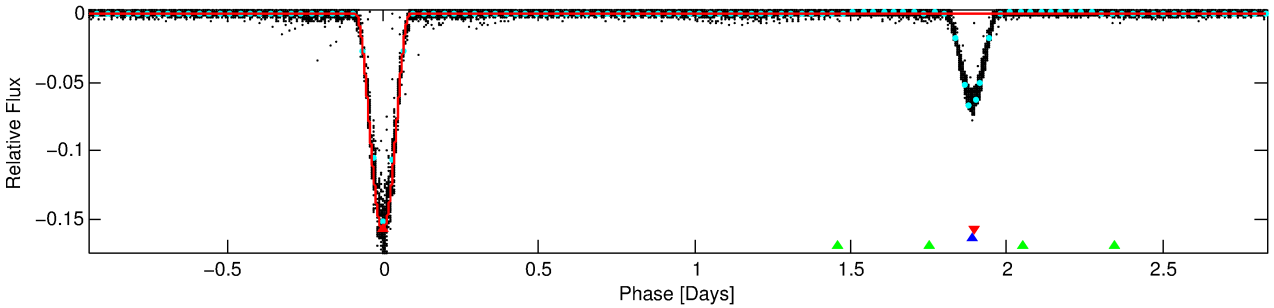
No Significant Match Found

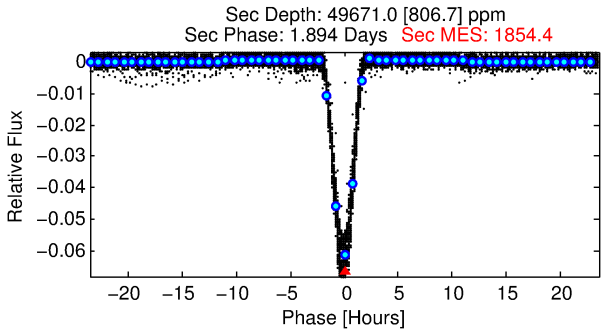
DV One-Page Summary

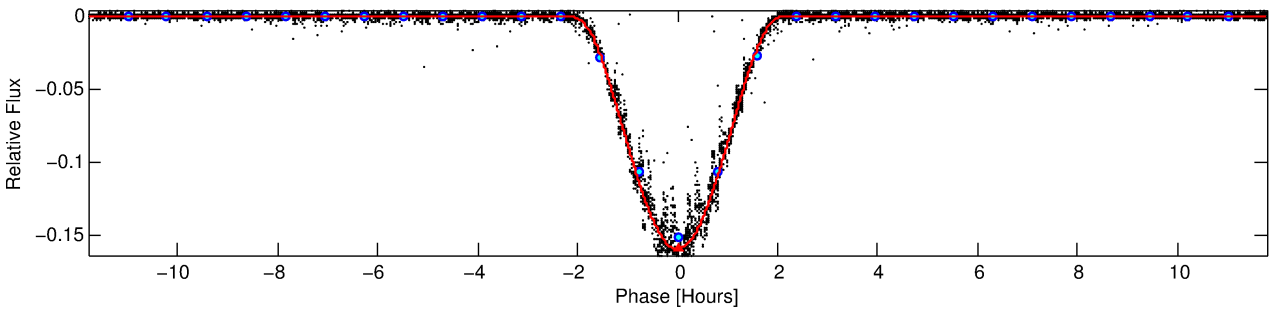
KIC: 9005854 Candidate: 1 of 3 Period: 3.780 d
KOI: K07121 Corr: No Ephemeris Match

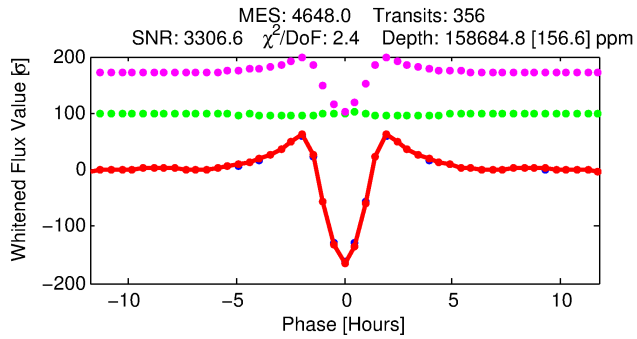
Kp: 15.57 R*: 0.78 Rs Teff: 5356.0 K Logg: 4.59 Fe/H: −0.120

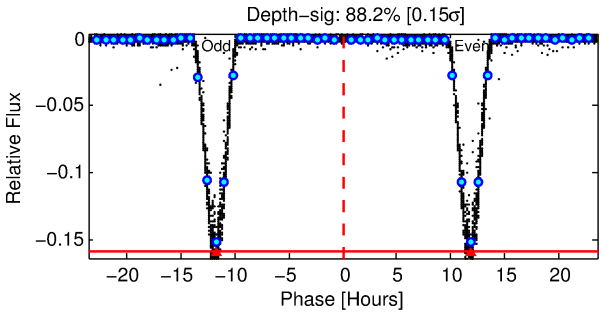


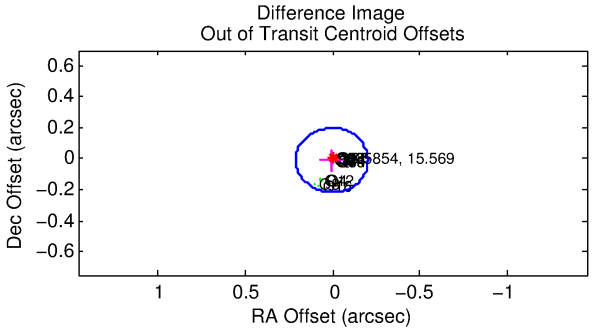












DV Fit Results:

Period = 3.78046 [0.00000] d
Epoch = 131.6781 [0.0000] BKJD
Rp/R* = 0.5471 [0.0313]
a/R* = 9.32 [0.07]
b = 0.90 [0.04]

Seff = 219.58 [53.96]
Teq = 982 [60] K
Rp = 46.56 [8.37] Re
a = 0.0452 [0.0066] AU

Ag = 25.75 [6.29] [3.94σ]
Teffp = 3419 [142] K [15.84σ]

DV Diagnostic Results:

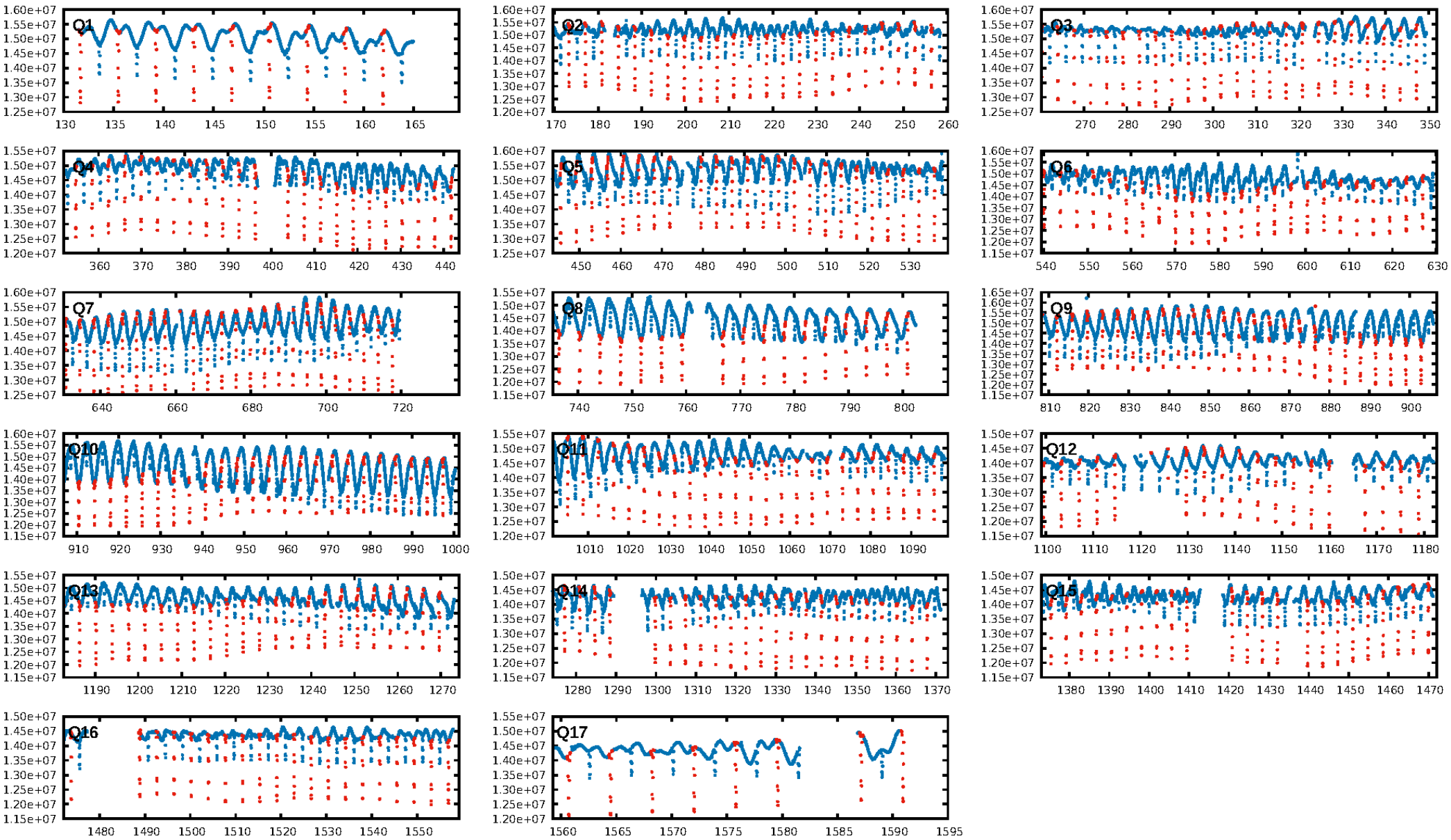
ShortPeriod−sig: N/A
LongPeriod−sig: 0.0% [0.00σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 0.00e+00
RollingBand−fgt: 1.00 [339/339]
GhostDiagnostic−chr: 1.465

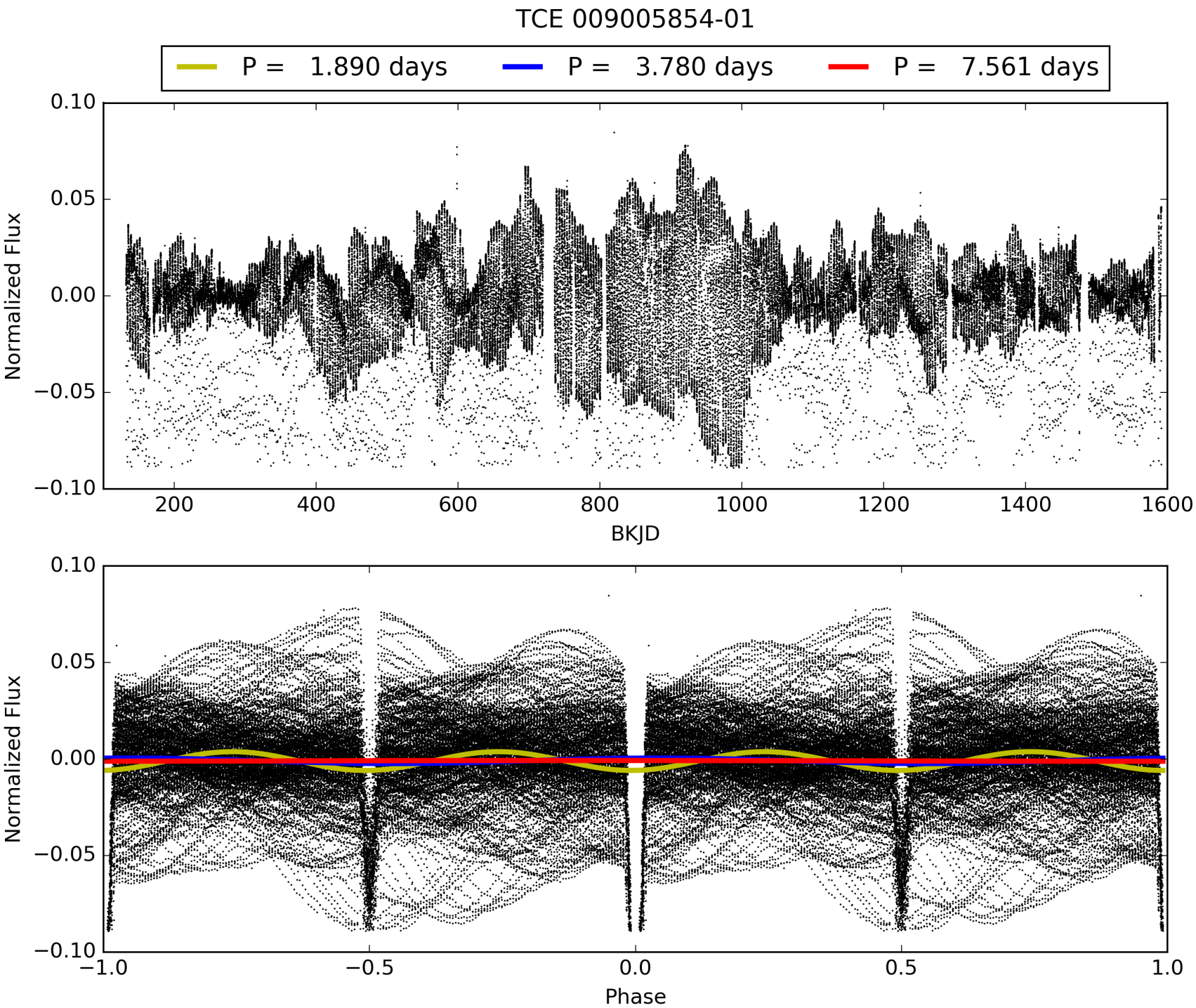
Centroid−sig: N/A
Centroid−so: 0.038 arcsec [29.12σ]
OotOffset−rm: 0.010 arcsec [0.15σ]
KicOffset−rm: 0.016 arcsec [0.20σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 1.00 [17/17]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 30−Jan−2016 05:19:51 Z

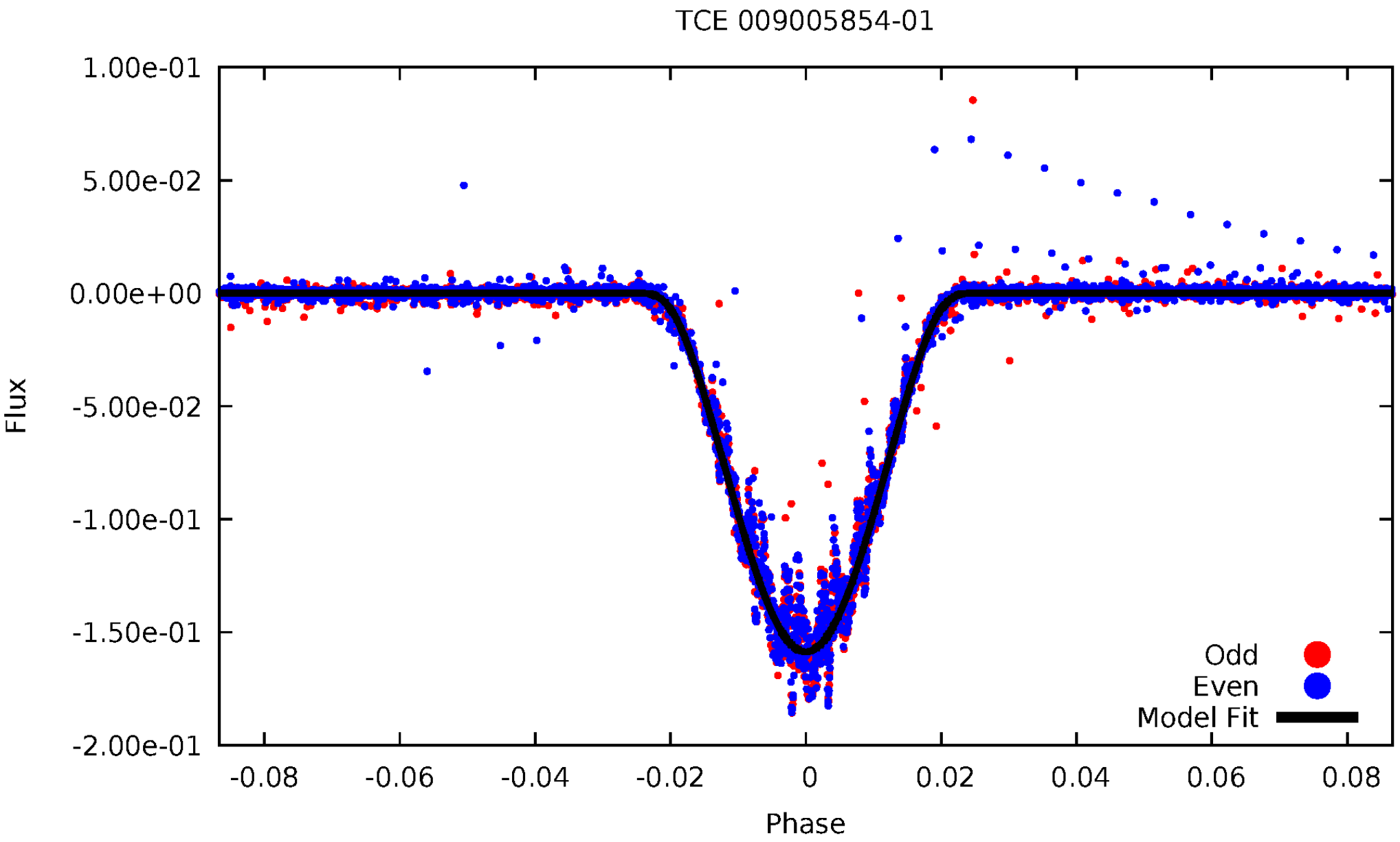
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009005854-01, PDC Light Curves

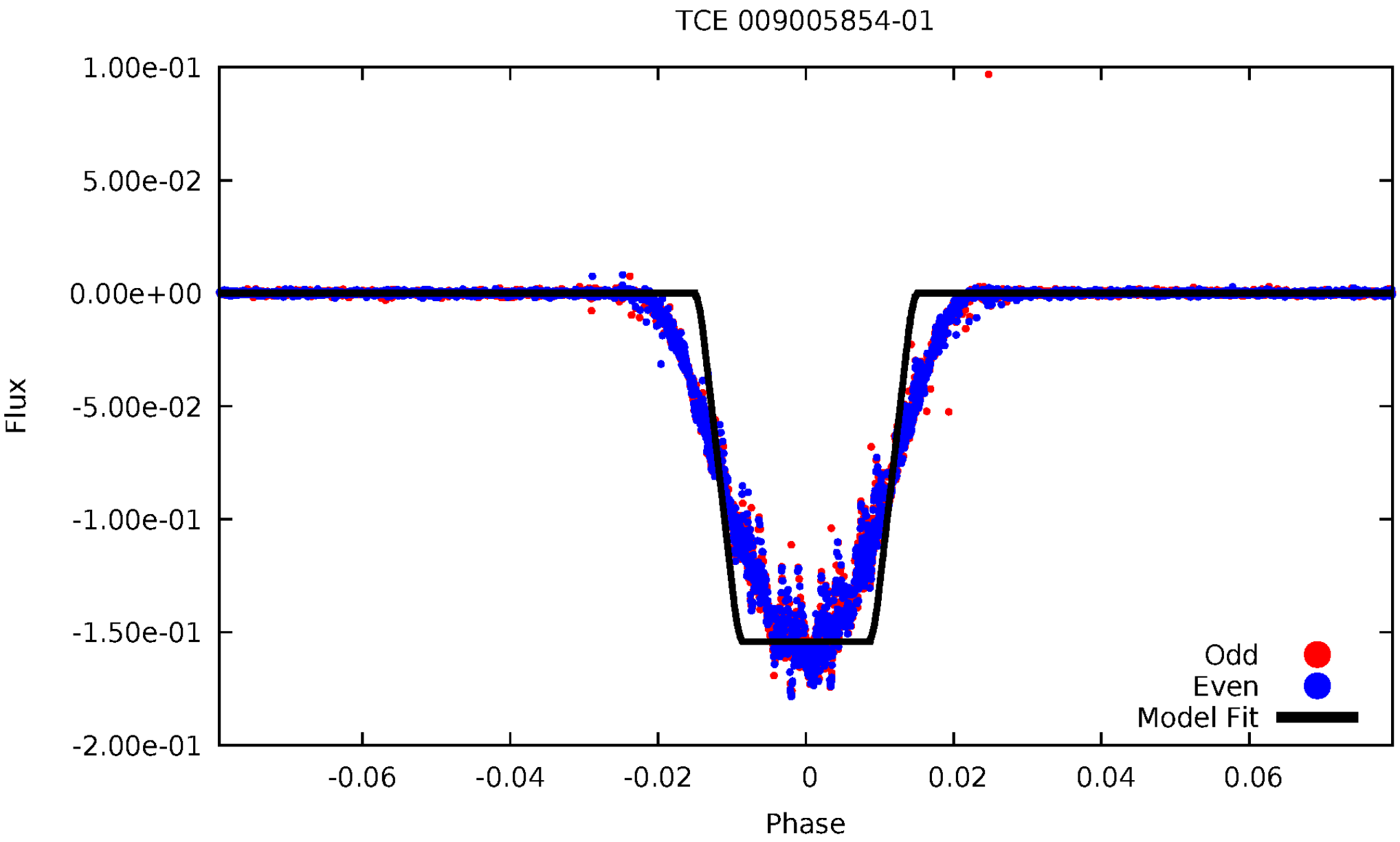



TCE 009005854-01
P = 1.890 days
P = 3.780 days
P = 7.561 days
Normalized Flux
BKJD
Phase

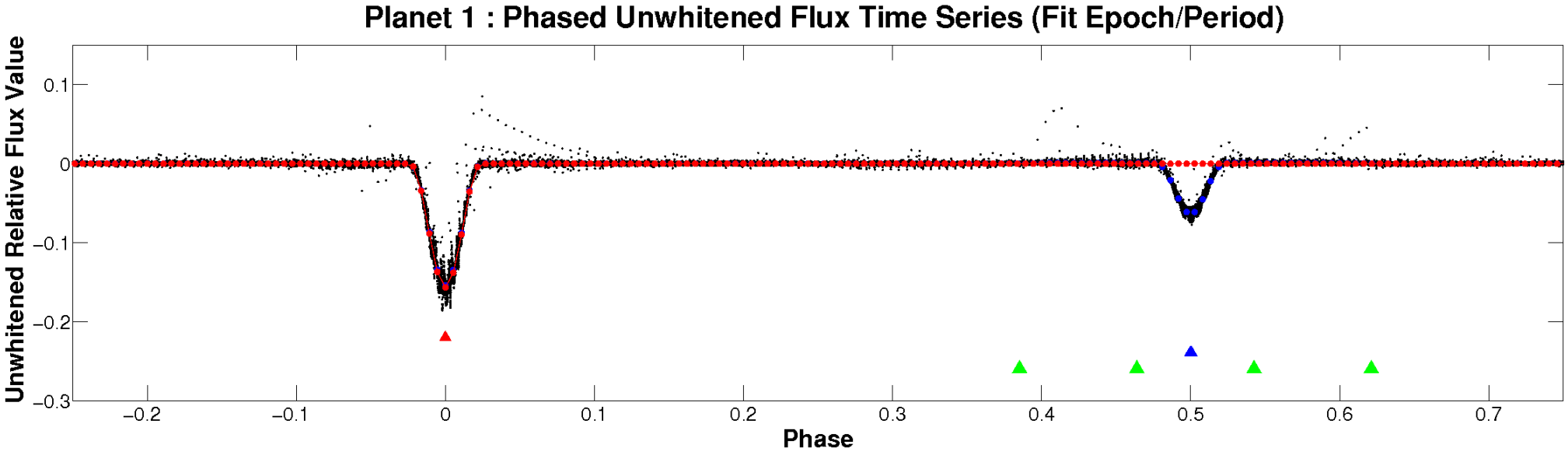
DV Odd/Even

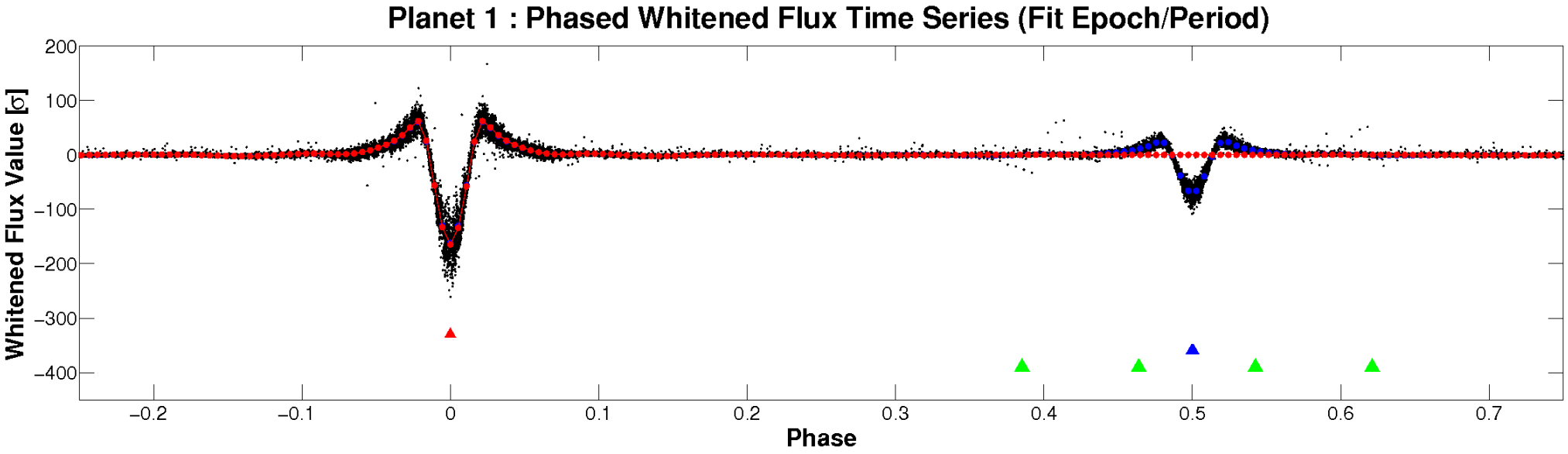

TCE 009005854-01
1.00e-01
5.00e-02
0.00e+00
-5.00e-02
-1.00e-01
-1.50e-01
-2.00e-01
Flux
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009005854-01
1.00e-01
5.00e-02
0.00e+00
-5.00e-02
-1.00e-01
-1.50e-01
-2.00e-01
Flux
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
Phase
Odd
Even
Model Fit

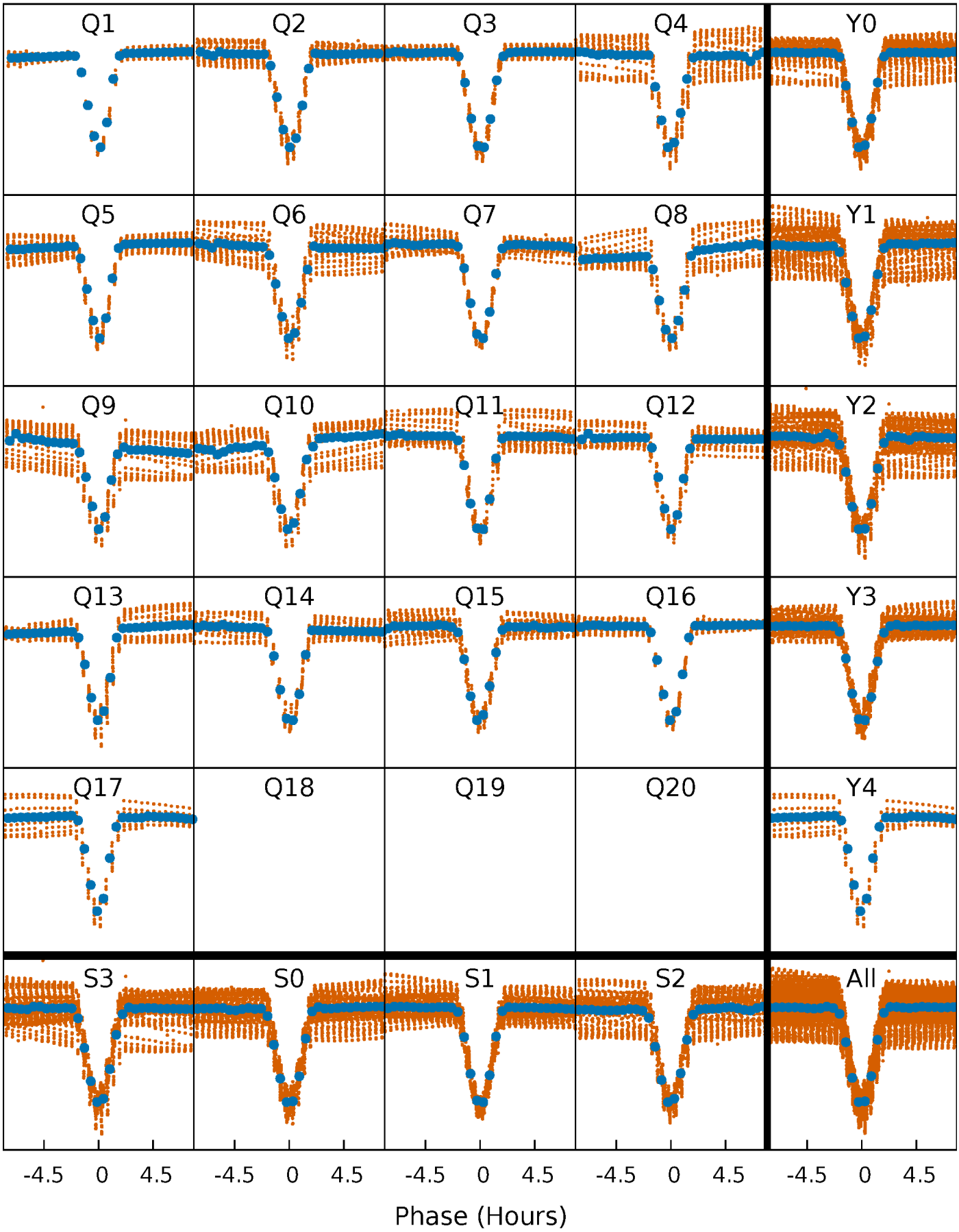
Non-Whitened Vs. Whitened Light Curve





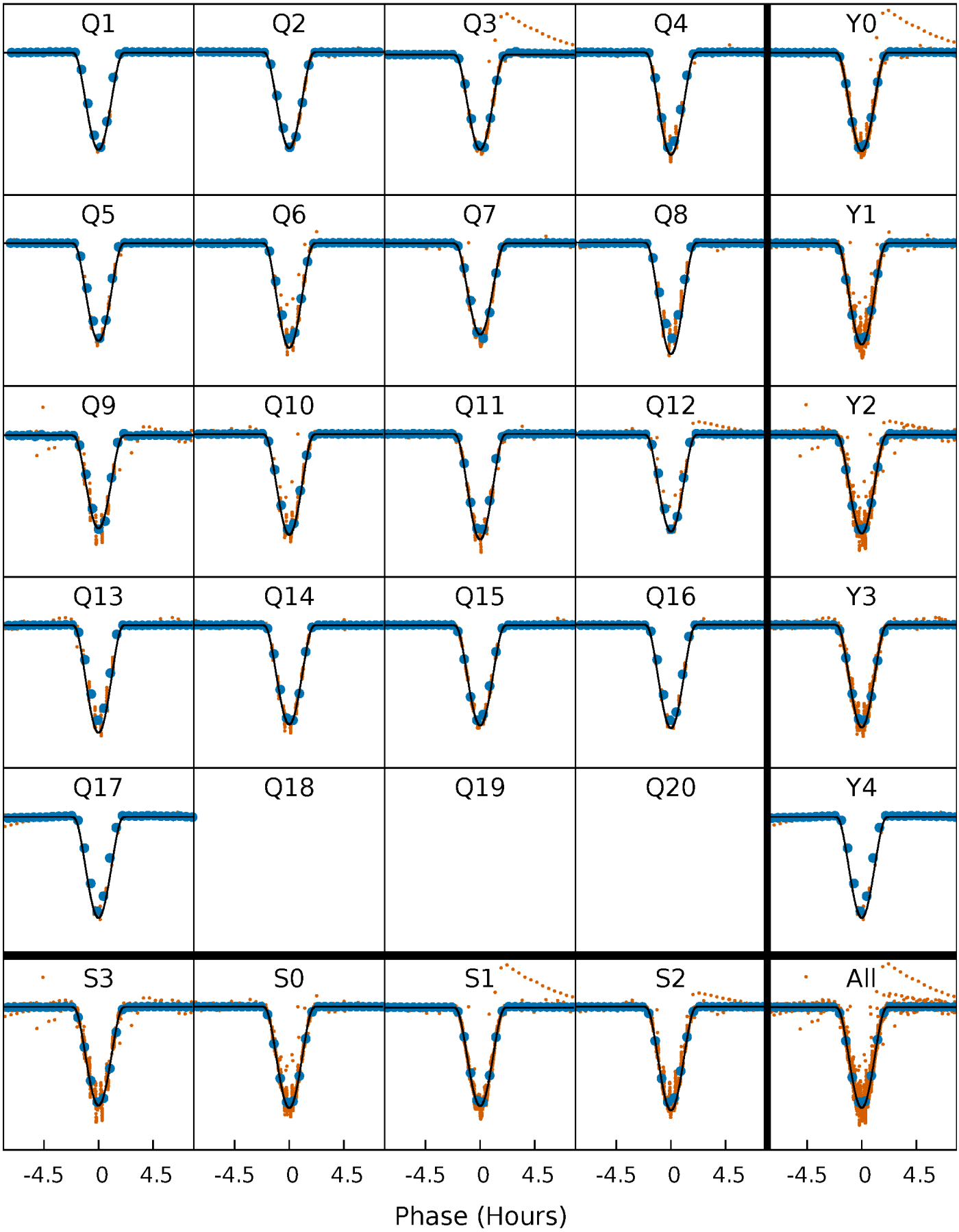
PDC Quarter-Phased Transit Curves

TCE 009005854-01 P= 3.780458 Days T_0=131.678109 (BKJD)



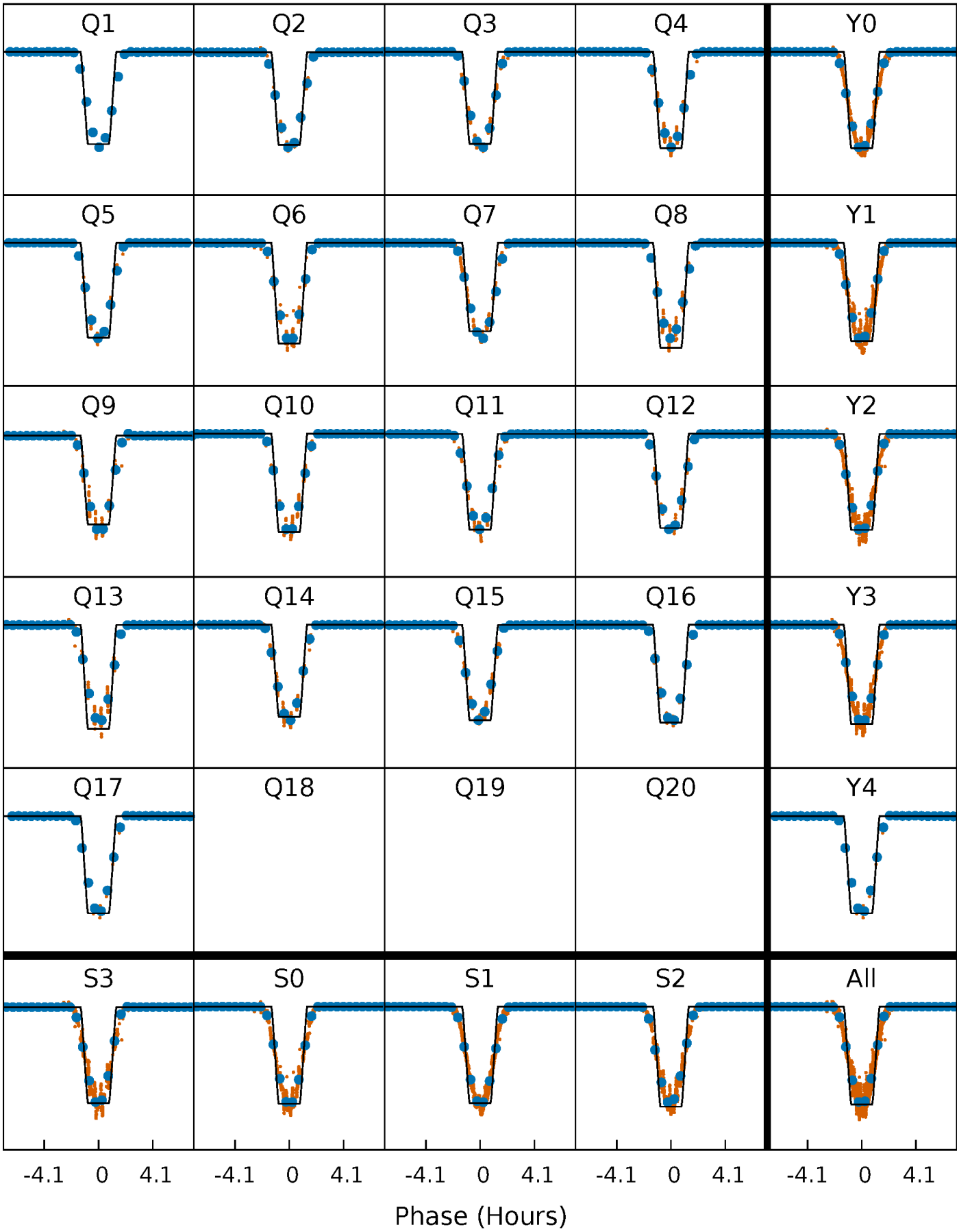
DV Quarter-Phased Transit Curves

TCE 009005854-01 P= 3.780458 Days T_0=131.678109 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

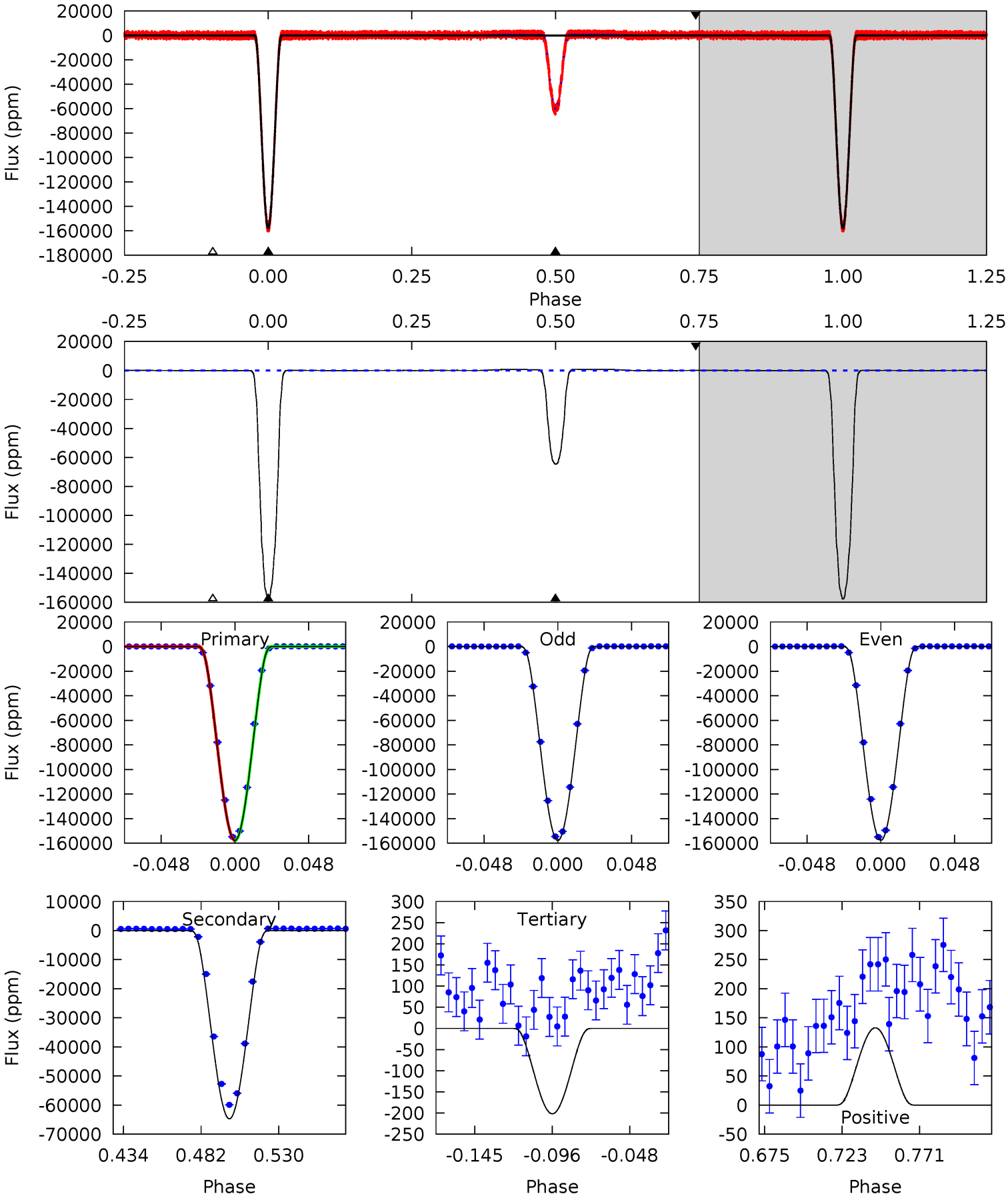
TCE 009005854-01 P= 3.780465 Days T_0=131.676754 (BKJD)



DV Model-Shift Uniqueness Test

009005854-01, P = 3.780458 Days, E = 127.897651 Days

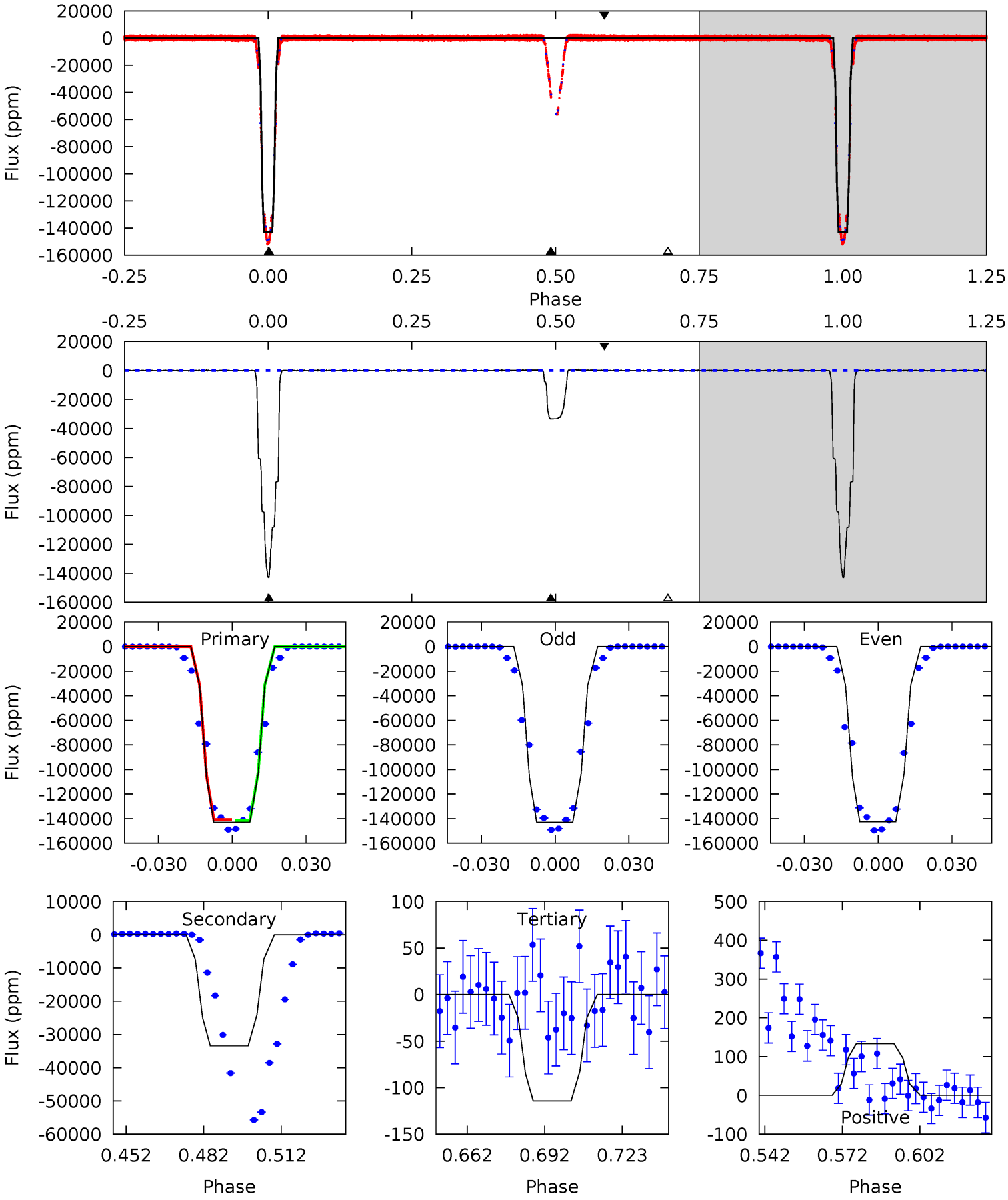
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7264	2981	9.29	6.12	4.72	1.98	11.9	7255	7258	2972	2975	3.51	0.98	0.01	0



Alt Model-Shift Uniqueness Test

009005854-01, P = 3.780465 Days, E = 127.896289 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4287	1003	3.43	3.99	4.81	2.17	2.50	4283	4283	999.7	999.1	8.72	1.00	0.00	0



Stellar Parameters For KIC 009005854

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	5356^{+159}_{-159}	$4.589^{+0.035}_{-0.119}$	$-0.120^{+0.300}_{-0.300}$	$0.780^{+0.133}_{-0.061}$	$0.872^{+0.070}_{-0.104}$	$2.584^{+0.423}_{-0.896}$
	+3%/-3%	+1%/-3%	+250%/-250%	+17%/-8%	+8%/-12%	+16%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009005854-01 / KOI 7121.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-64740±22	$47.78^{+4.85}_{-3.89}$	1390^{+65}_{-56}	4001^{+127}_{-129}	34^{+6}_{-5}
Alt.	-33434±33	$34.54^{+4.04}_{-3.58}$	1396^{+67}_{-58}	3974^{+165}_{-141}	32^{+7}_{-6}

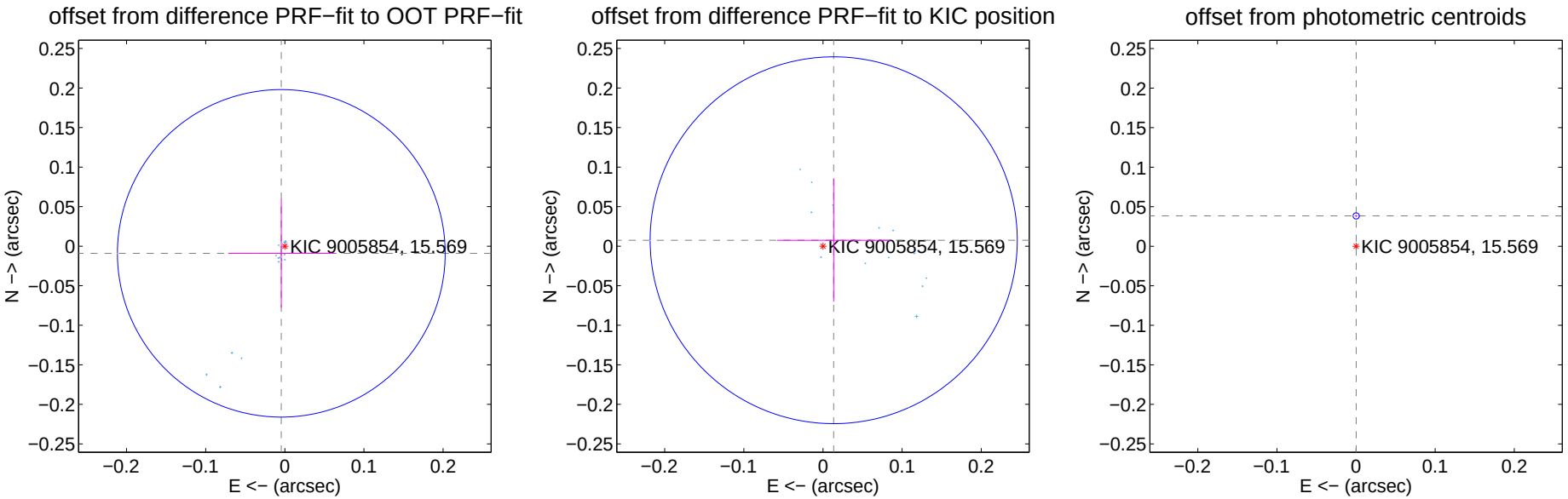
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

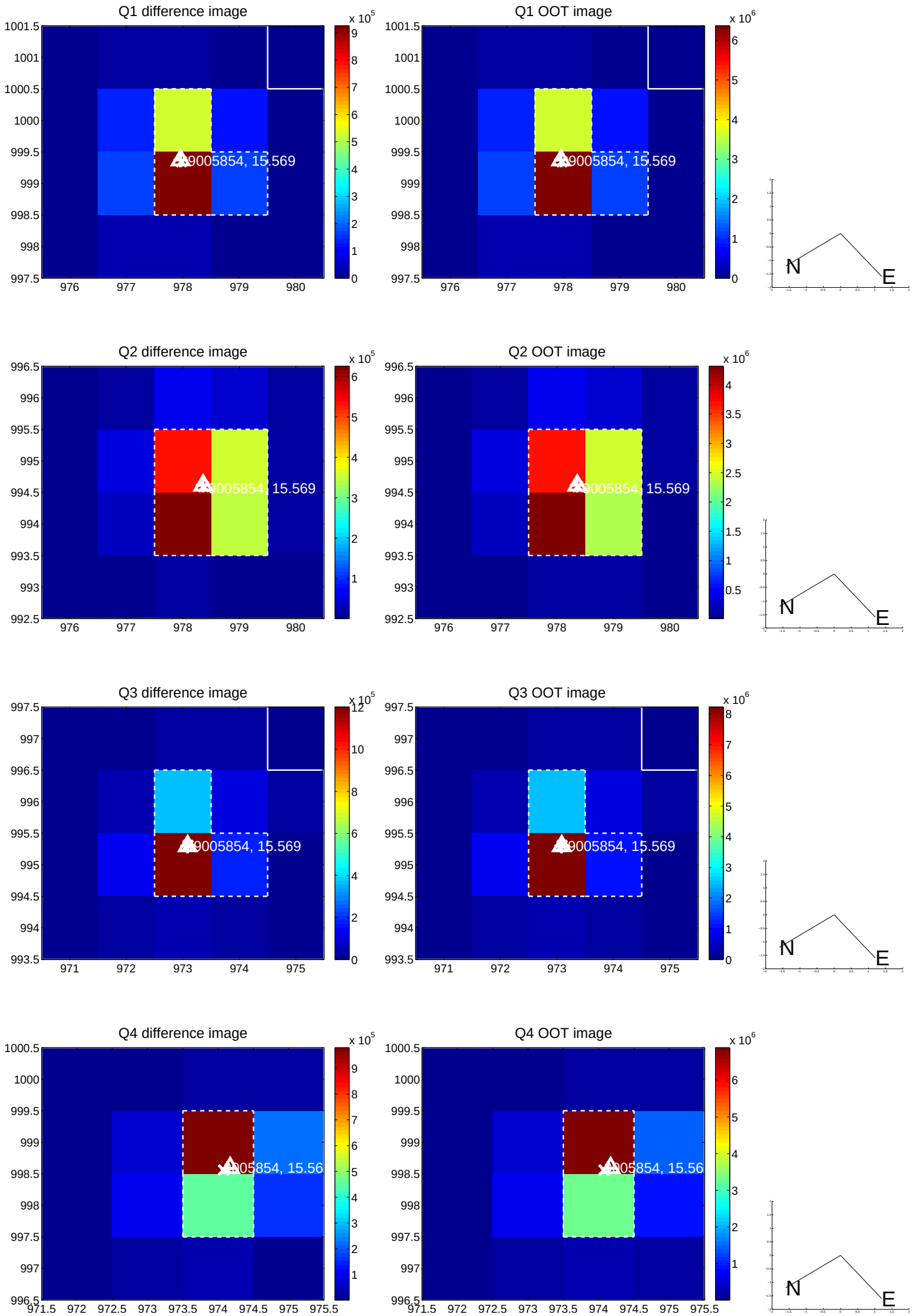
Supplemental centroid analysis for 009005854-01. Kepler magnitude: 15.57. Transit SNR 3306.56
There are 17 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.069	0.15	0.004 ± 0.067	-0.009 ± 0.069
PRF-fit source offset from KIC position	0.016 ± 0.077	0.20	-0.014 ± 0.072	0.008 ± 0.078
photometric centroid source offset	0.04 ± 0.00	29.12	-0.00 ± 0.00	0.04 ± 0.00

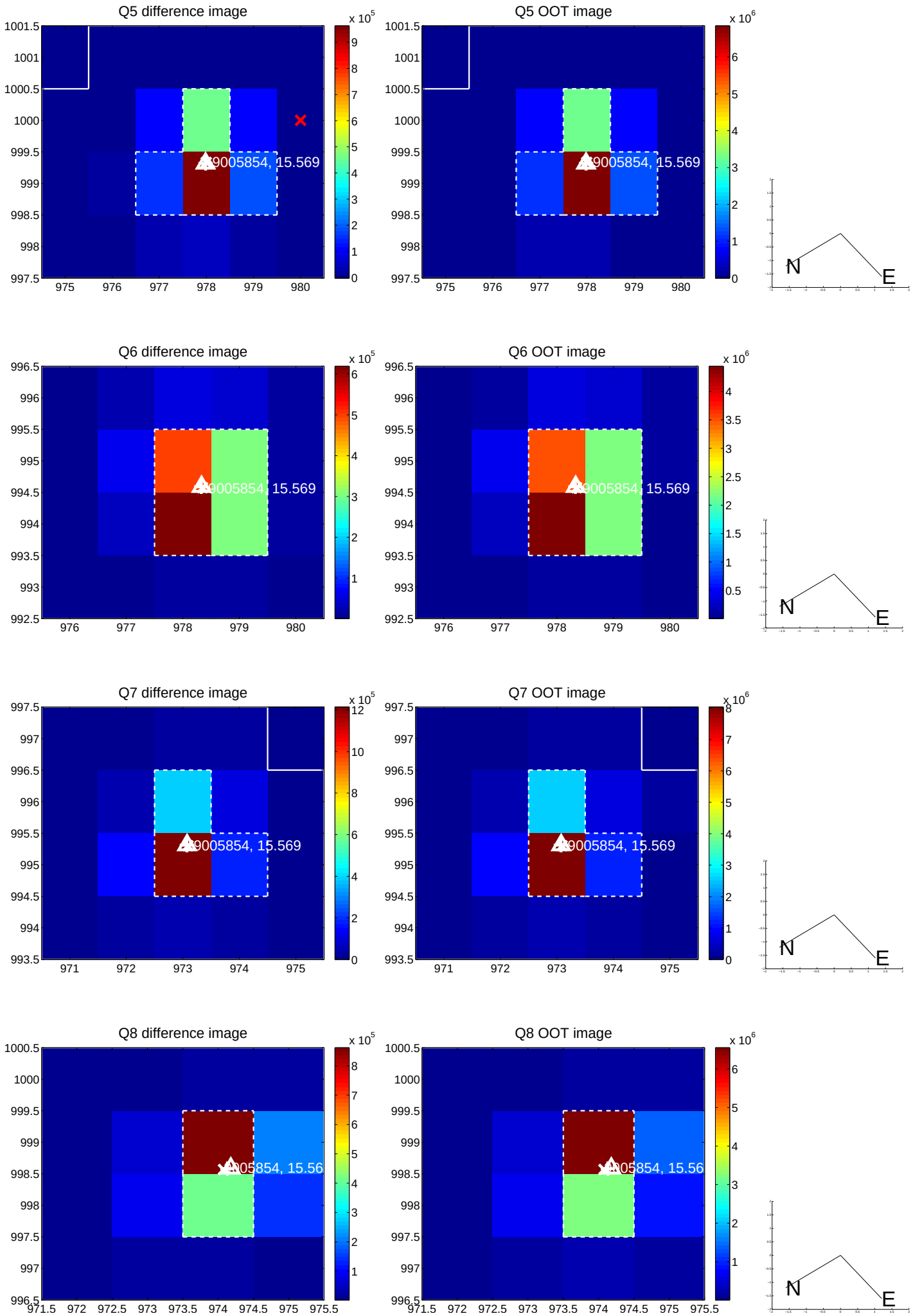


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

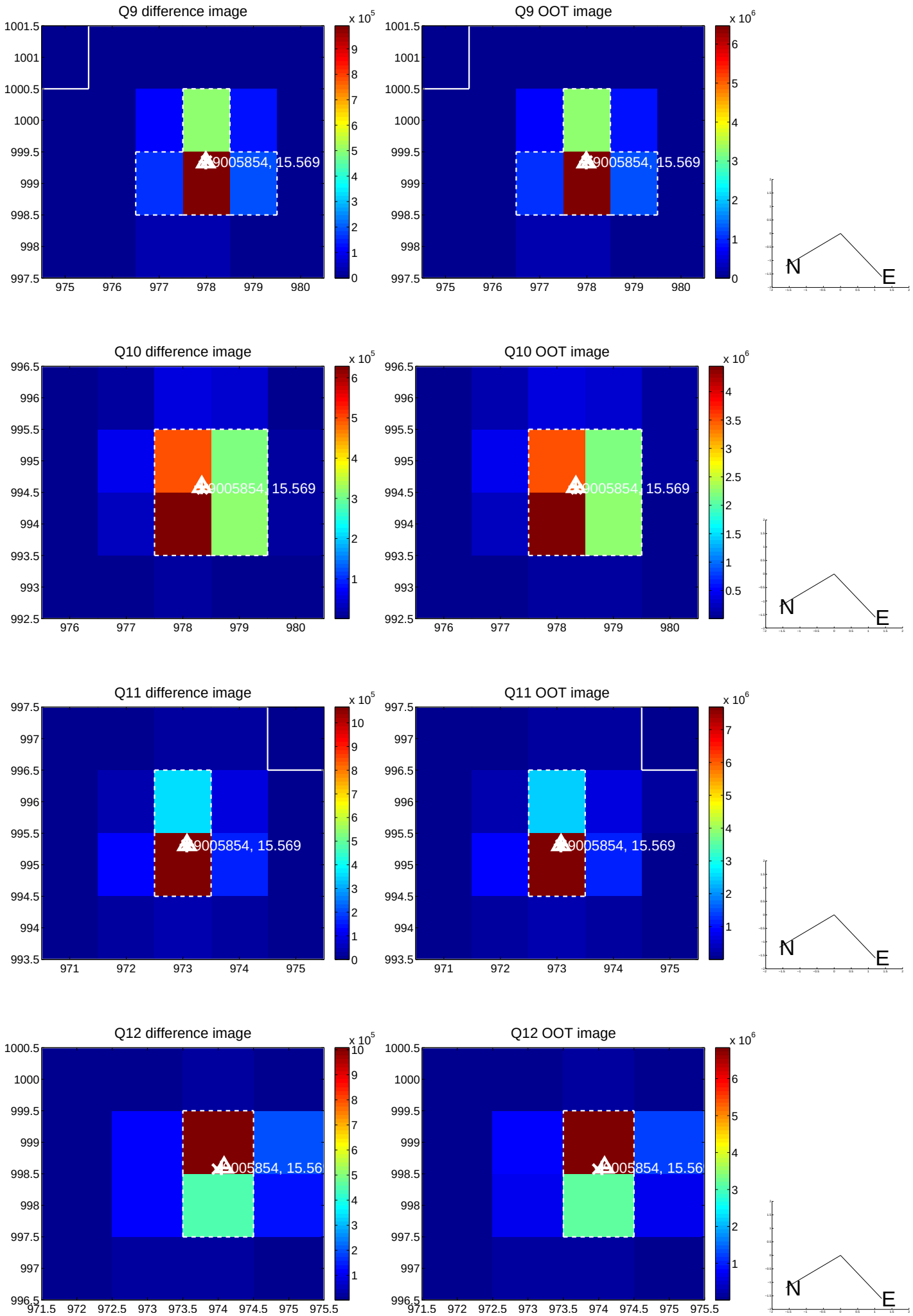
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



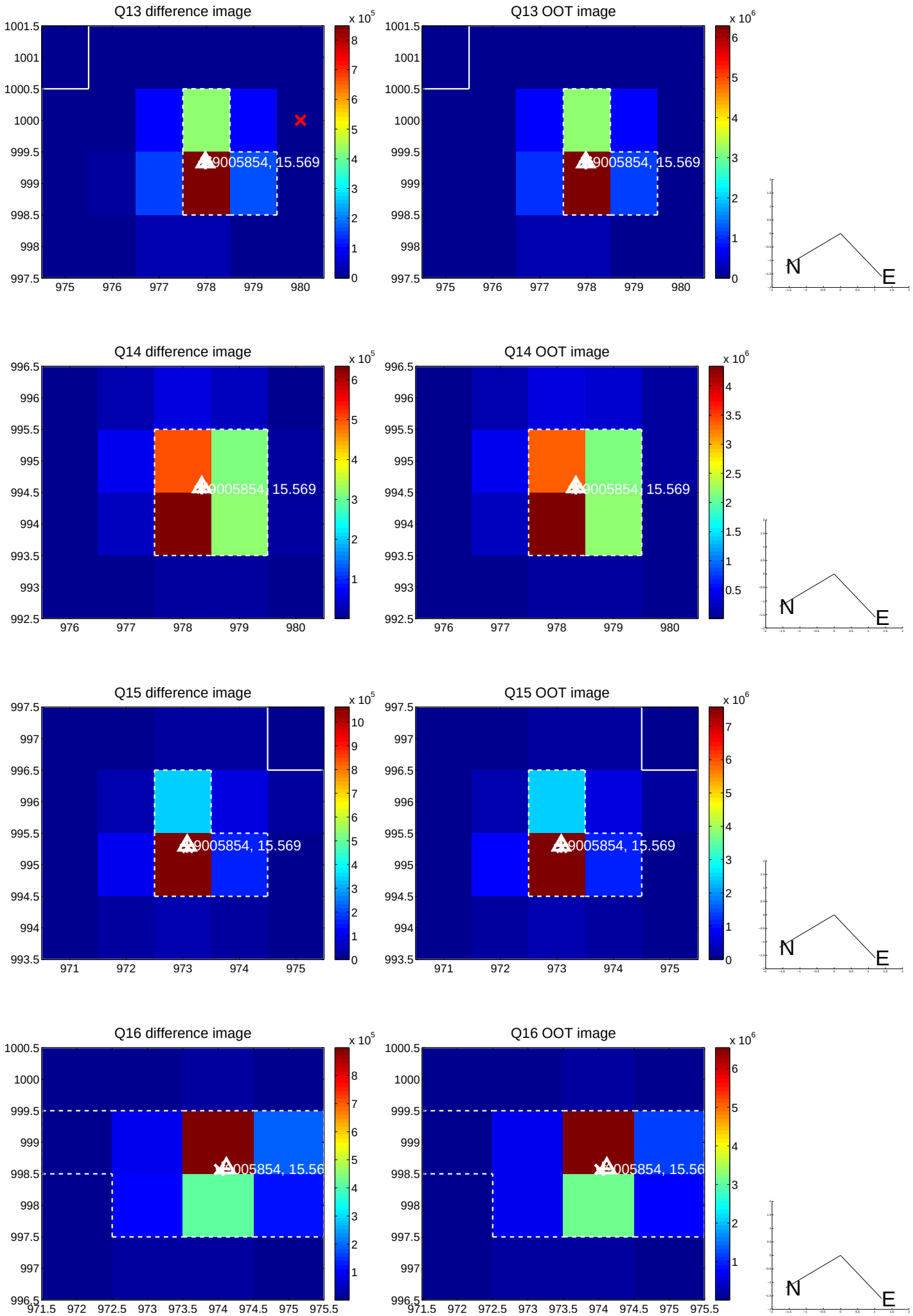
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



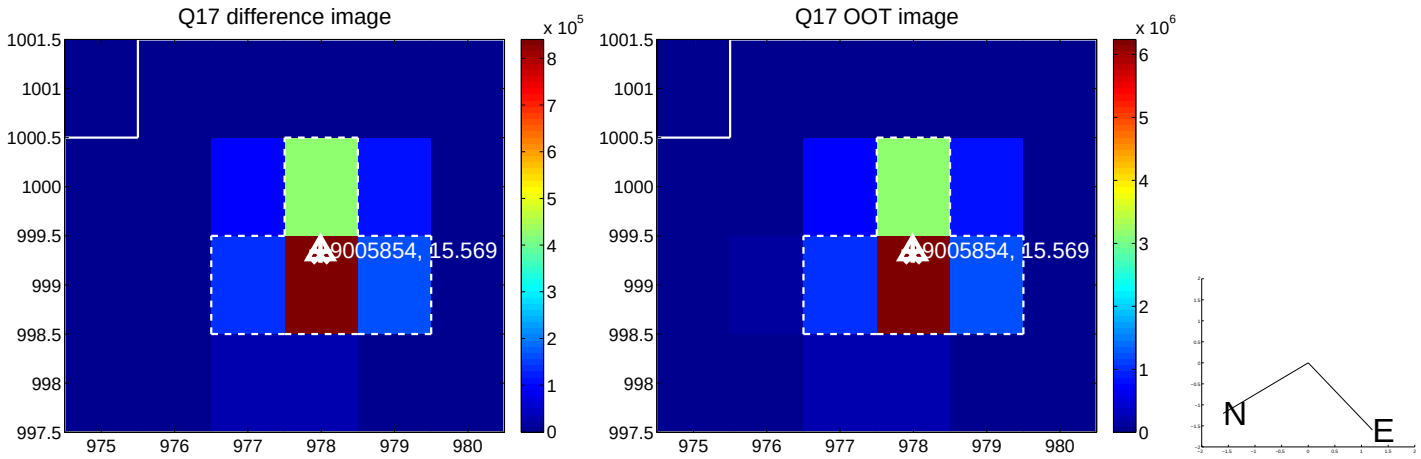
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

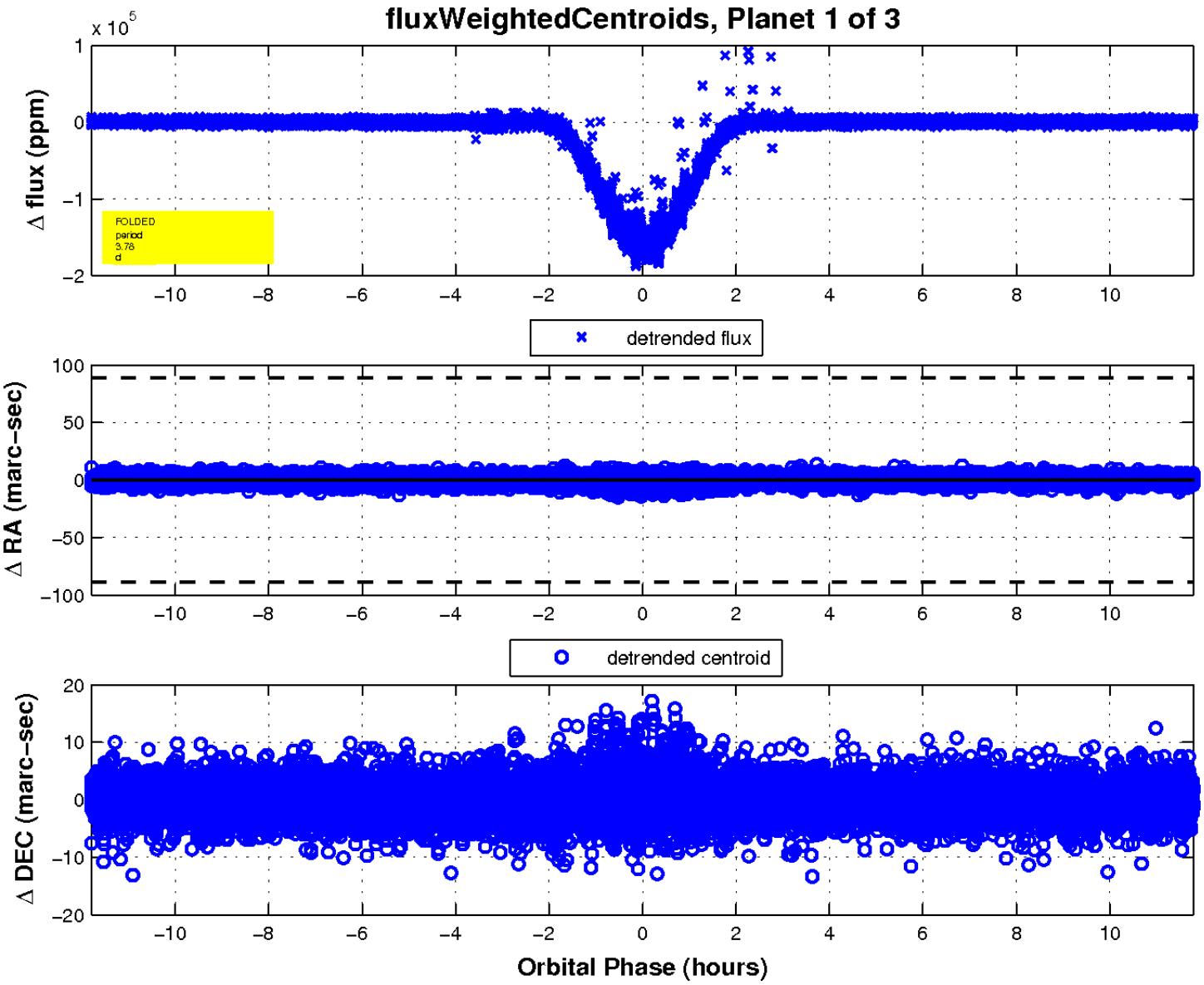


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

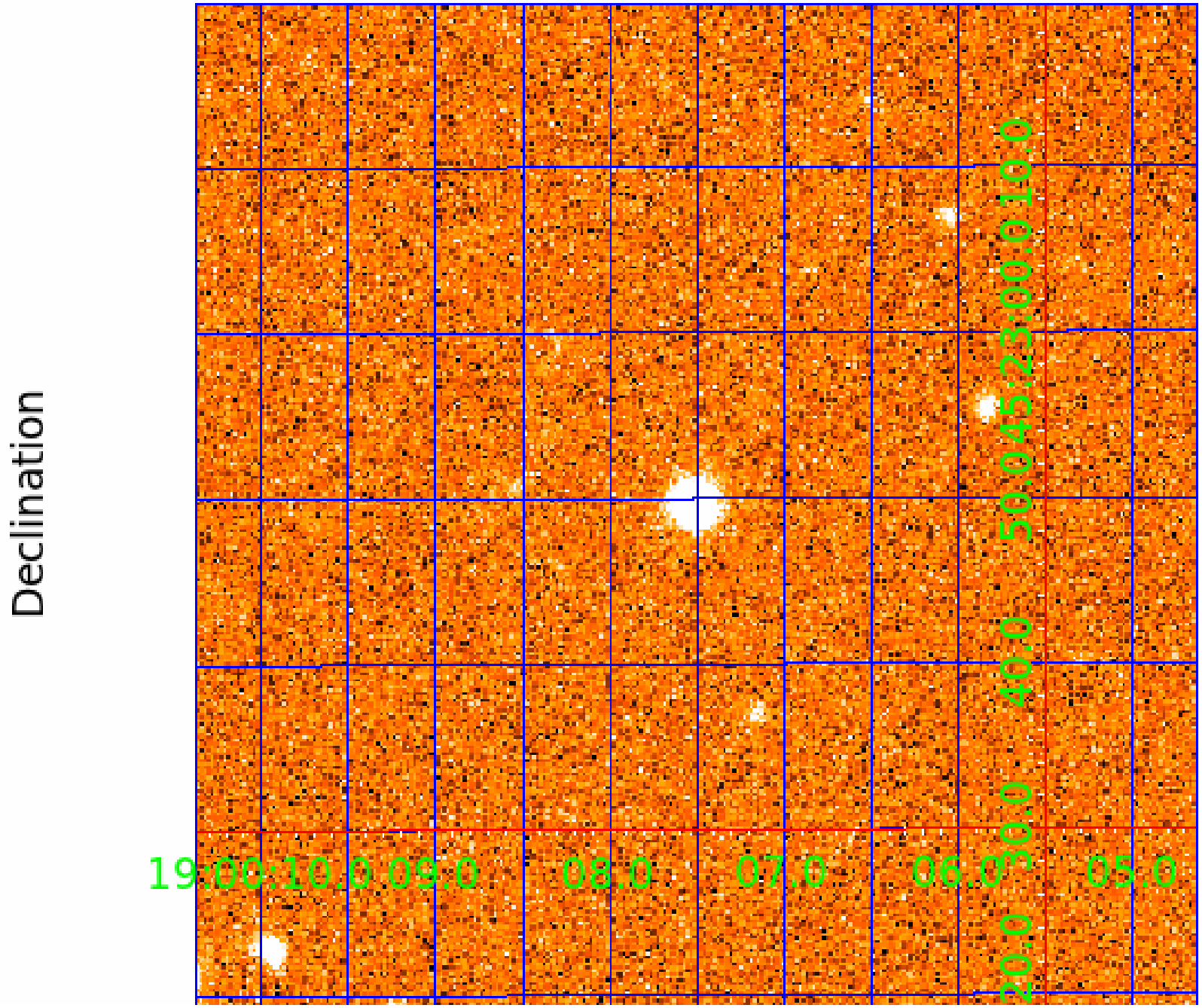


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
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10.0

KIC 009005854

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 ($S_\oplus$)
009005854-01	OBS	7121.01	3.780458	131.678109	158684.8	3.931	4648.0	3306.6	0.78	5356	46.56	219.58
009005854-02	OBS	No	3.780470	133.566761	64624.0	3.692	2331.7	1600.8	0.78	5356	29.59	219.58
009005854-03	OBS	No	332.382921	341.951881	56.7	3.639	10.3	0.2	0.78	5356	0.71	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009005854-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009005854-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009005854-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

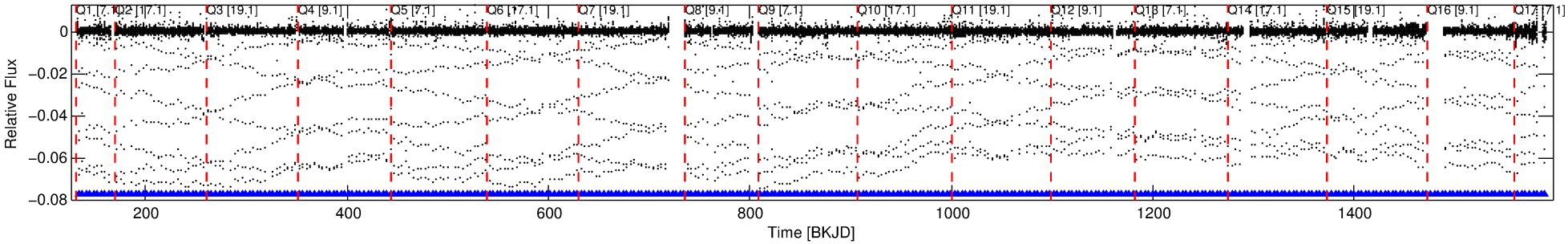
Ephemeris Match Information For 009005854-02

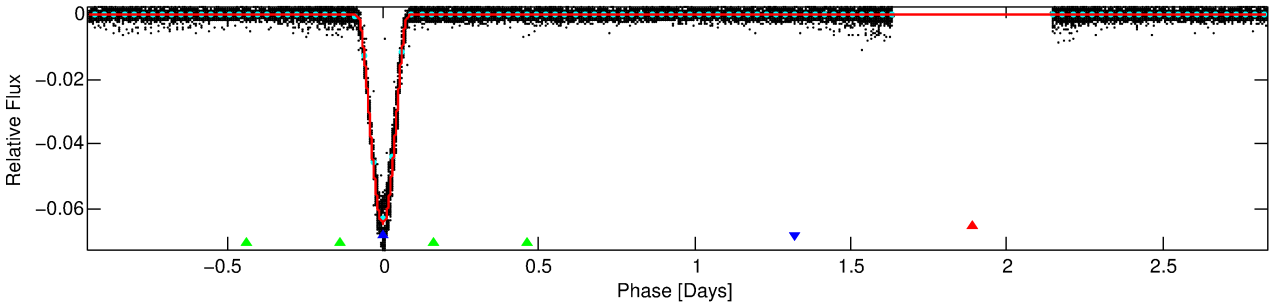
No Significant Match Found

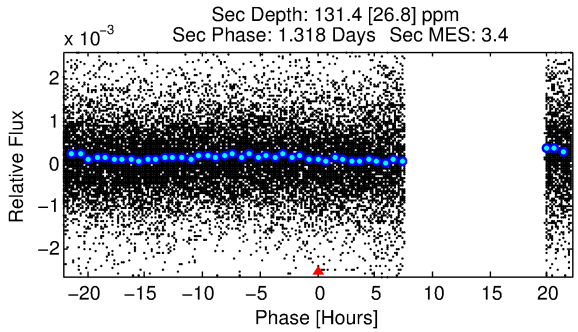
DV One-Page Summary

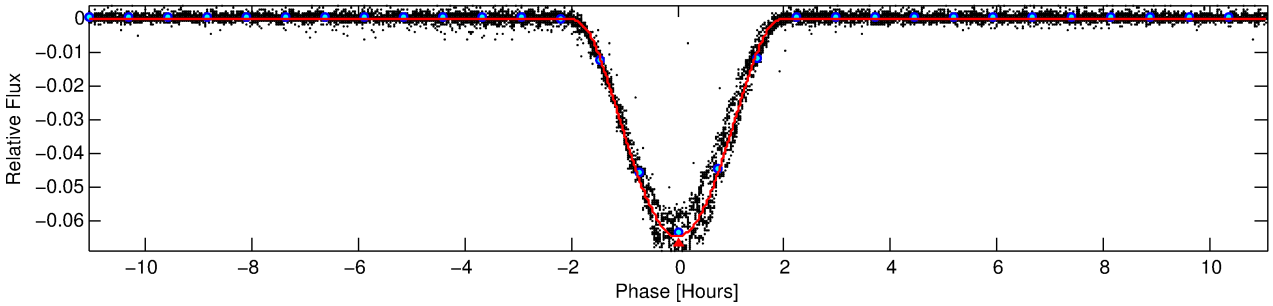
KIC: 9005854 Candidate: 2 of 3 Period: 3.780 d
KOI: K07121 Corr: No Ephemeris Match

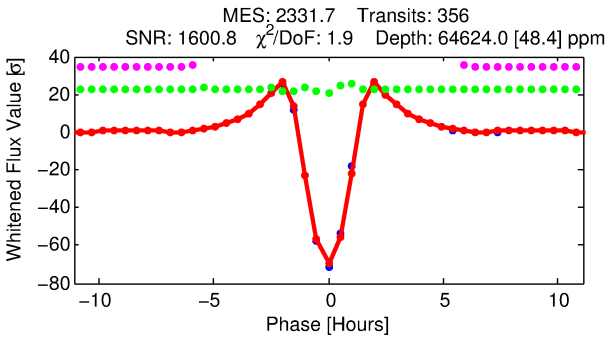
Kp: 15.57 R*: 0.78 Rs Teff: 5356.0 K Logg: 4.59 Fe/H: −0.120

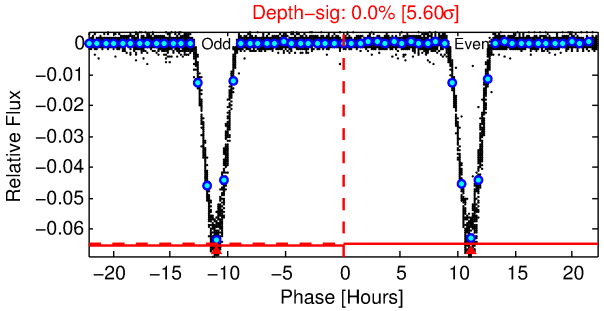


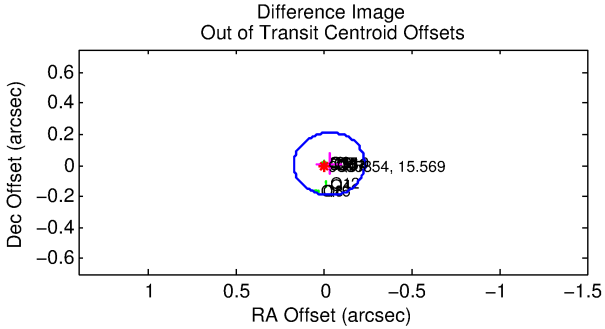












DV Fit Results:

Period = 3.78047 [0.00000] d
Epoch = 133.5668 [0.0000] BKJD
Rp/R* = 0.3477 [0.0109]
a/R* = 7.77 [0.01]
b = 0.92 [0.02]

Seff = 219.58 [53.96]
Teq = 982 [60] K
Rp = 29.59 [5.13] Re
a = 0.0452 [0.0066] AU

Ag = 0.17 [0.05] [−16.26σ]
Teffp = 972 [59] K [−0.11σ]

DV Diagnostic Results:

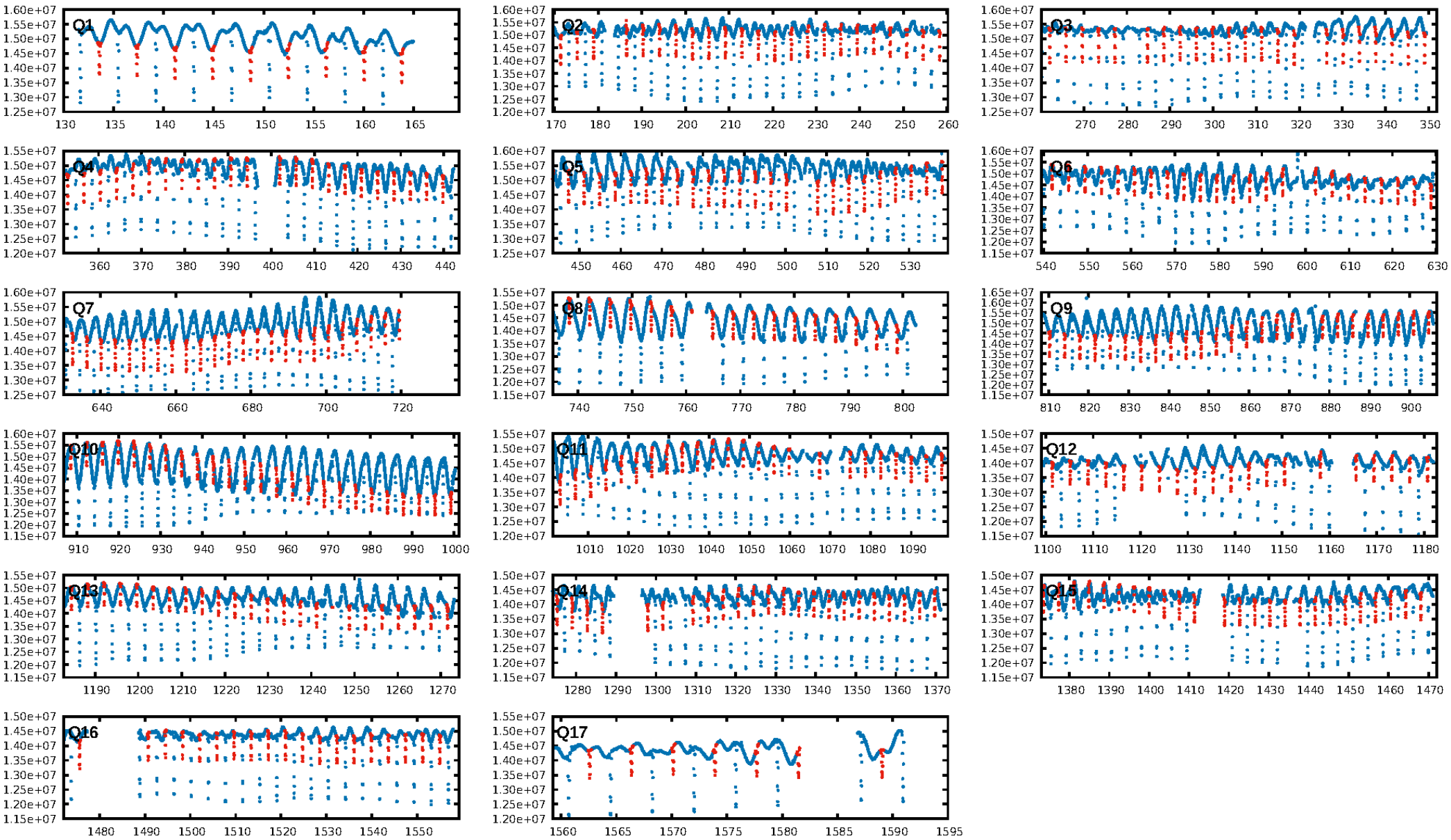
ShortPeriod−sig: 0.0% [0.00σ]
LongPeriod−sig: 100.0% [1521.31σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 0.00e+00
RollingBand−fgt: 1.00 [340/340]
GhostDiagnostic−chr: 1.327

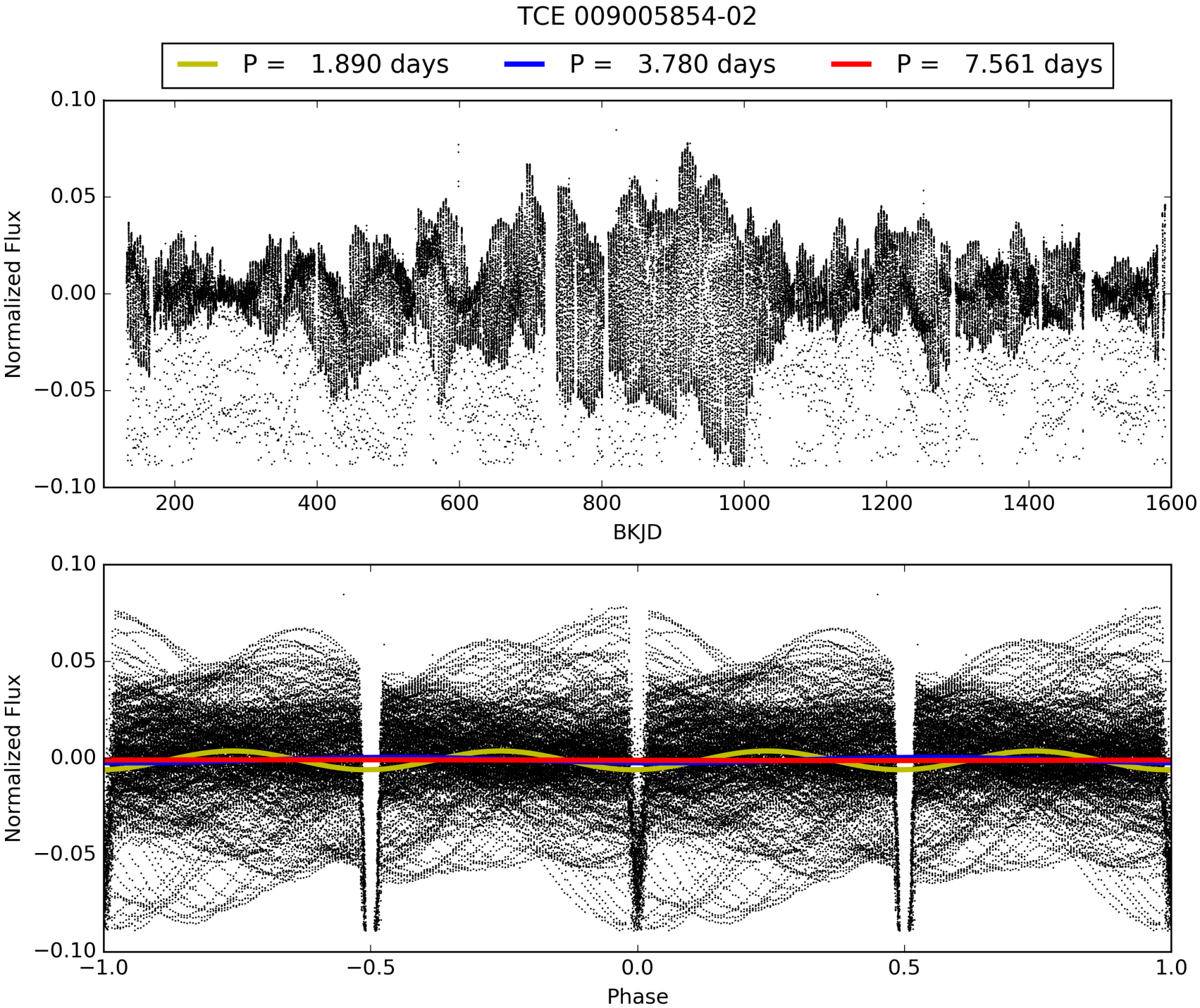
Centroid−sig: N/A
Centroid−so: 0.048 arcsec [14.88σ]
OotOffset−rm: 0.032 arcsec [0.48σ]
KicOffset−rm: 0.072 arcsec [0.95σ]
OotOffset−st: 4/4/4/5 [17]
KicOffset−st: 4/4/4/5 [17]
DiffImageQuality−fgm: 1.00 [17/17]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 05:19:57 Z

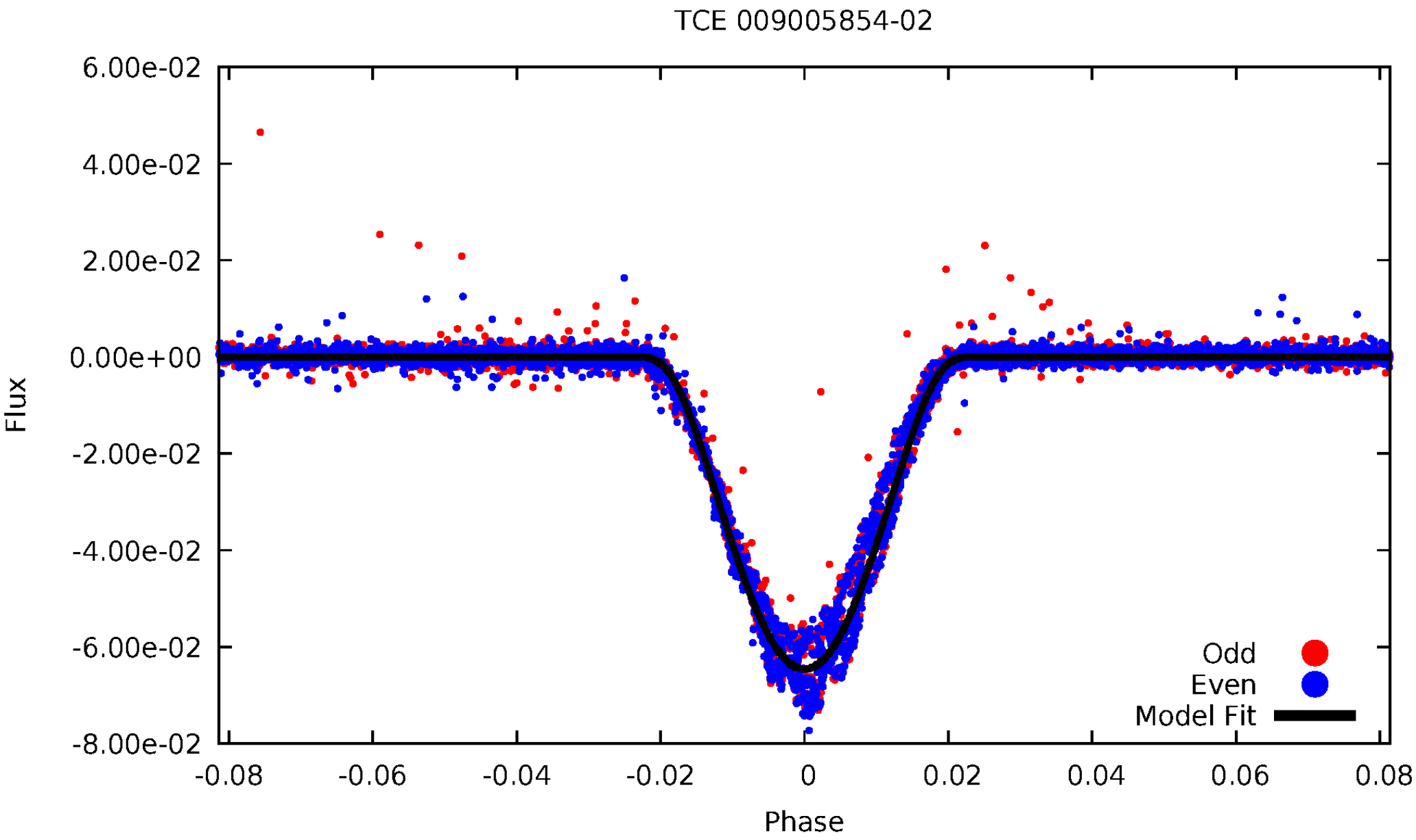
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009005854-02, PDC Light Curves

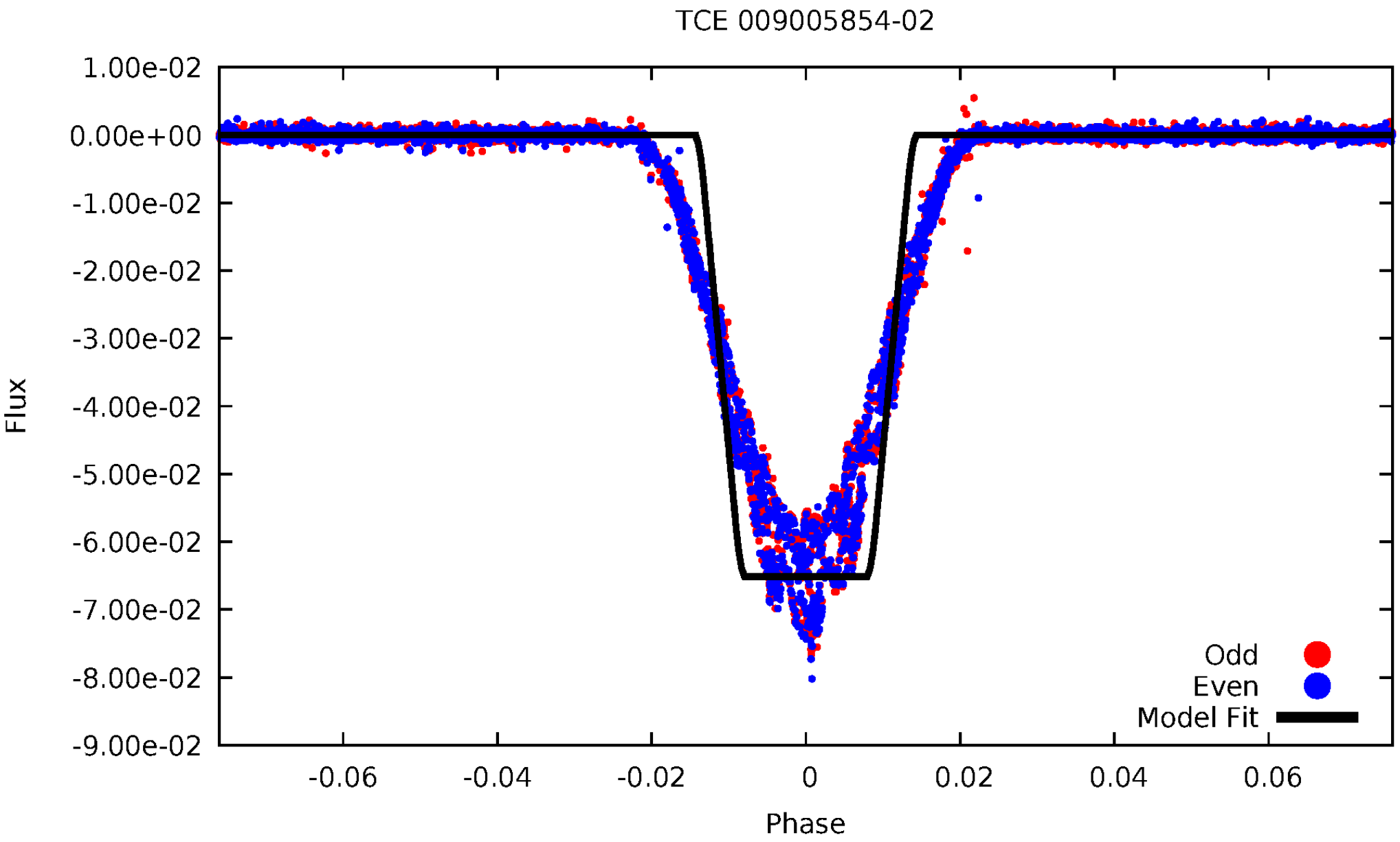



TCE 009005854-02
P = 1.890 days
P = 3.780 days
P = 7.561 days
Normalized Flux
BKJD
Phase

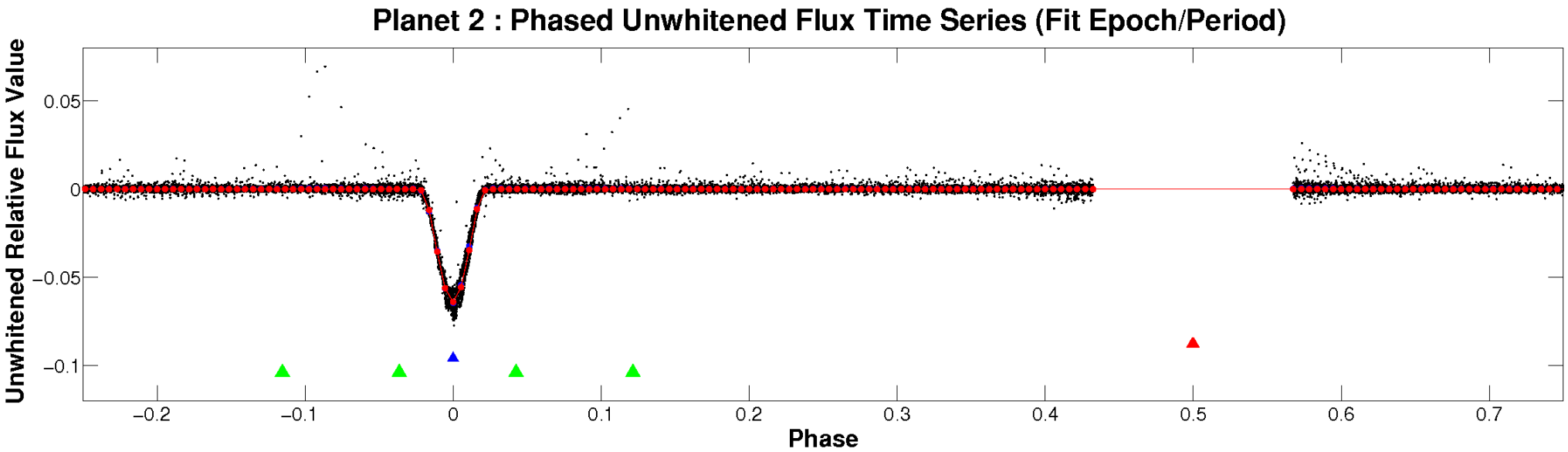
DV Odd/Even

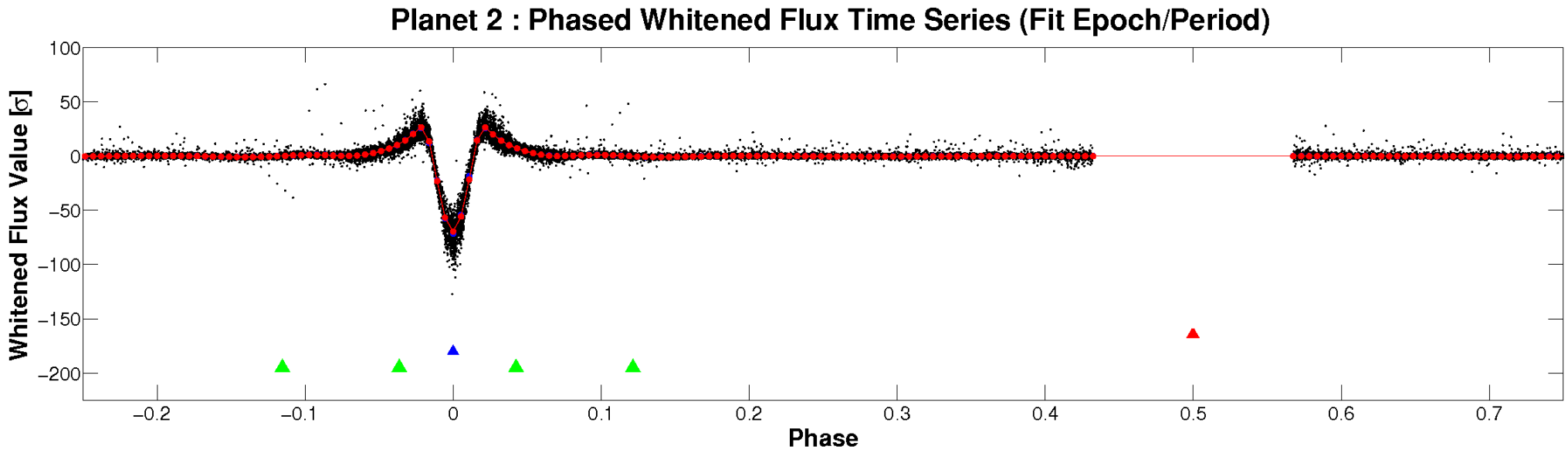

TCE 009005854-02
6.00e-02
4.00e-02
2.00e-02
0.00e+00
-2.00e-02
-4.00e-02
-6.00e-02
-8.00e-02
Flux
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009005854-02
1.00e-02
0.00e+00
-1.00e-02
-2.00e-02
-3.00e-02
-4.00e-02
-5.00e-02
-6.00e-02
-7.00e-02
-8.00e-02
-9.00e-02
Flux
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
Phase
Odd
Even
Model Fit

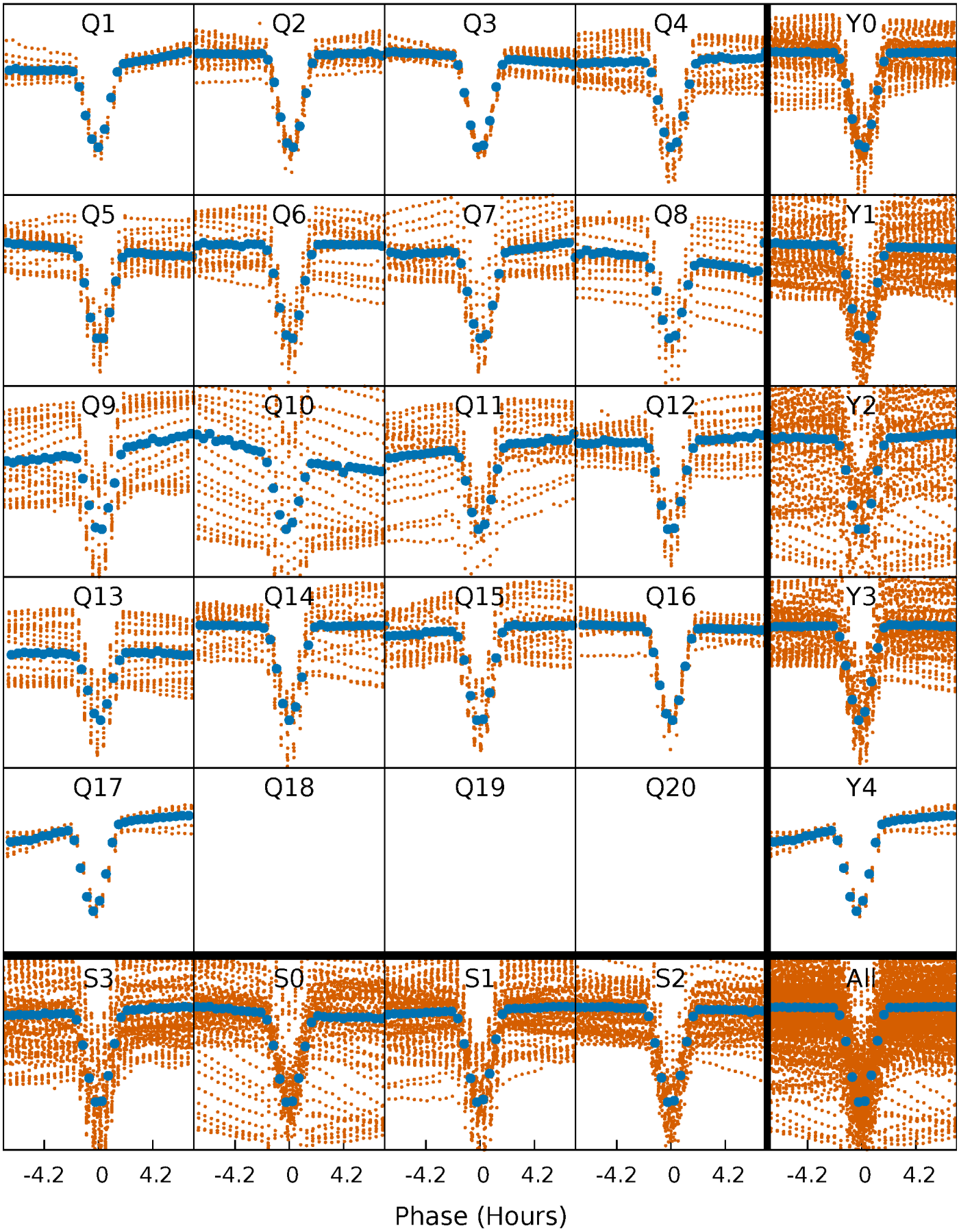
Non-Whitened Vs. Whitened Light Curve





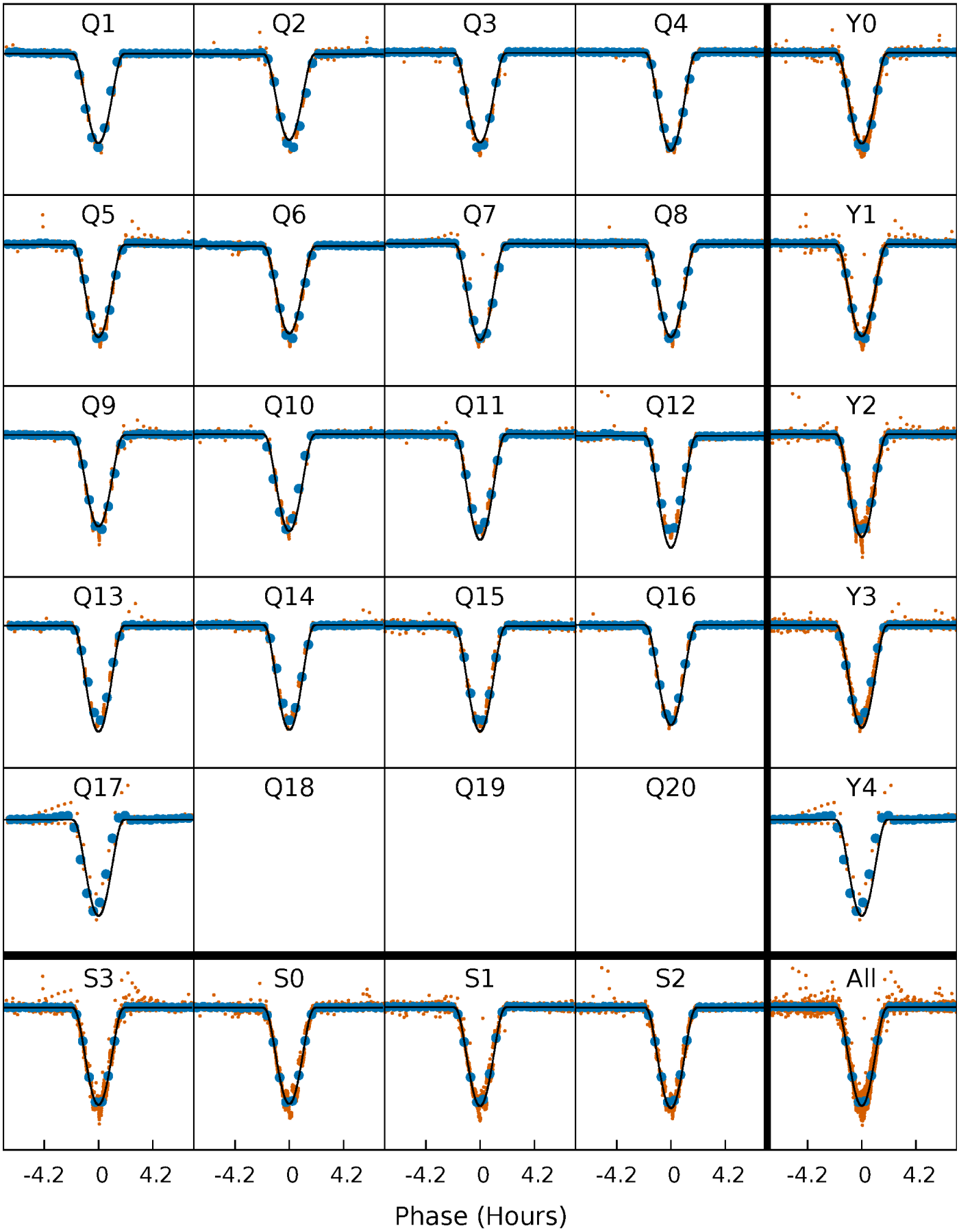
PDC Quarter-Phased Transit Curves

TCE 009005854-02 P= 3.780470 Days T_0=133.566761 (BKJD)



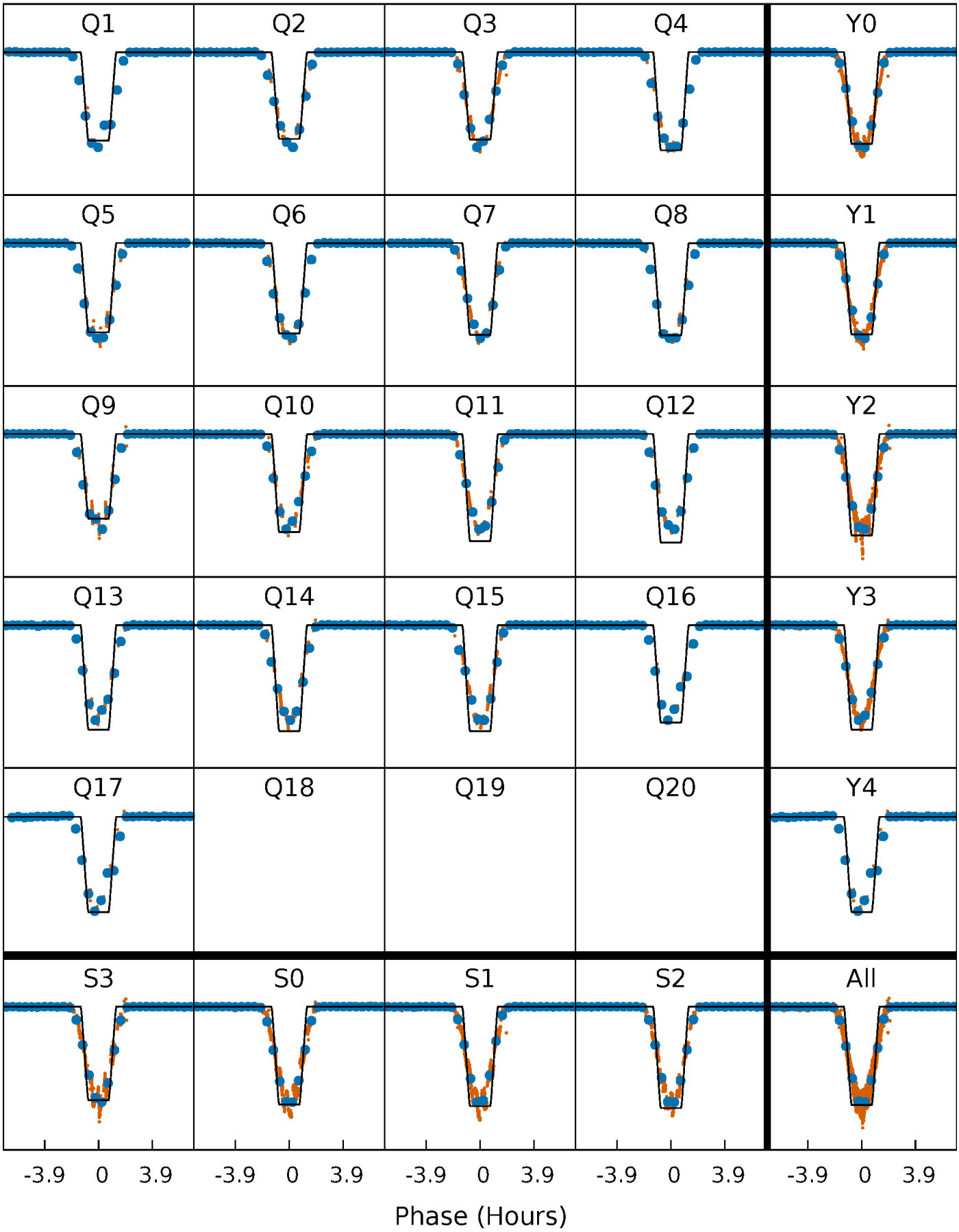
DV Quarter-Phased Transit Curves

TCE 009005854-02 P= 3.780470 Days T_0=133.566761 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

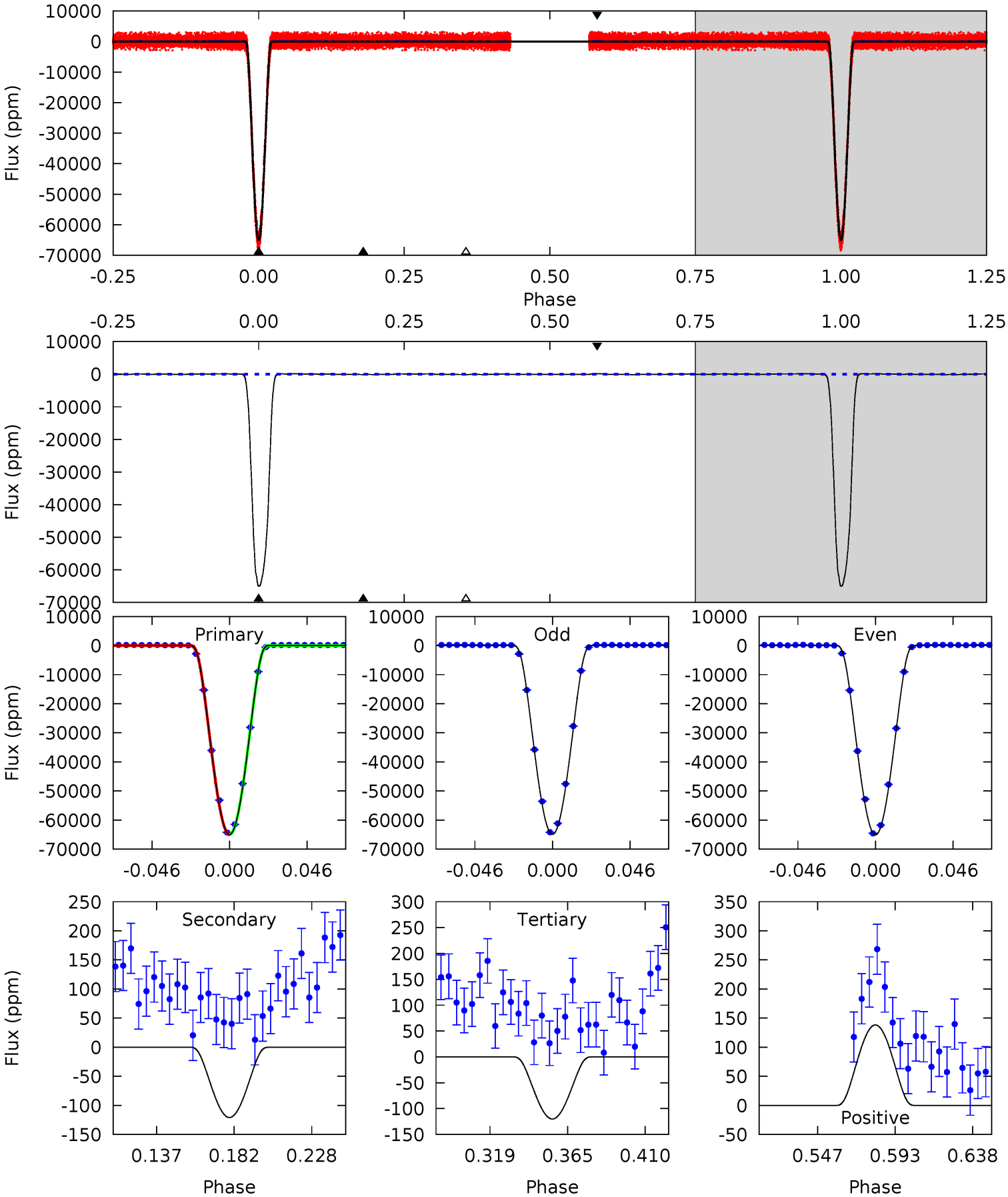
TCE 009005854-02 P= 3.780457 Days T_0=133.568456 (BKJD)



DV Model-Shift Uniqueness Test

009005854-02, P = 3.780470 Days, E = 129.786291 Days

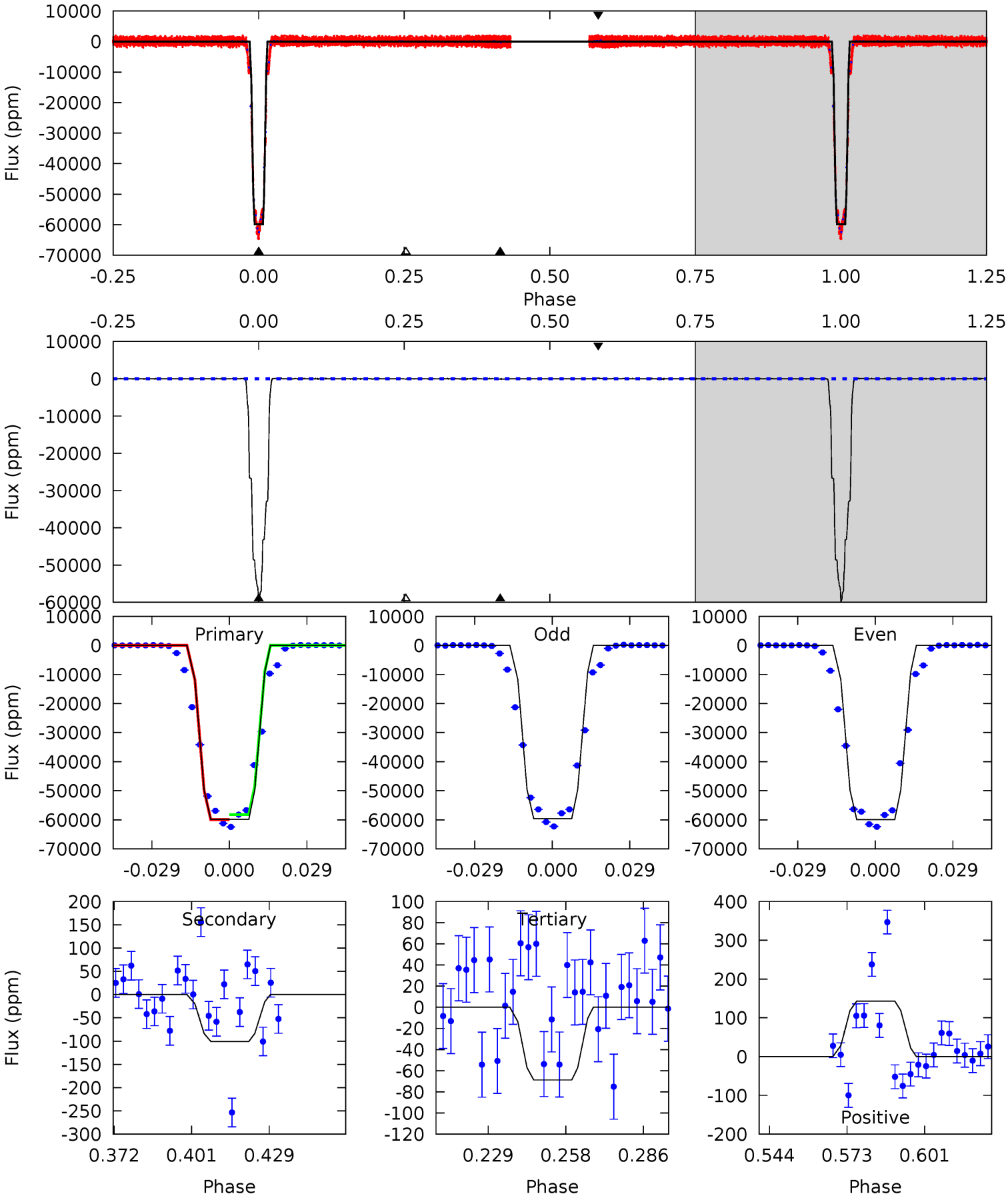
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3497	6.50	6.46	7.44	4.73	2.00	3.18	3491	3490	0.04	-0.94	3.95	0.98	0.00	0



Alt Model-Shift Uniqueness Test

009005854-02, P = 3.780457 Days, E = 129.787999 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2390	4.02	2.75	5.72	4.82	2.19	1.20	2387	2384	1.28	-1.70	6.63	1.01	0.00	0



Stellar Parameters For KIC 009005854

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5356^{+159}_{-159}	$4.589^{+0.035}_{-0.119}$	$-0.120^{+0.300}_{-0.300}$	$0.780^{+0.133}_{-0.061}$	$0.872^{+0.070}_{-0.104}$	$2.584^{+0.423}_{-0.896}$
	+3%/-3%	+1%/-3%	+250%/-250%	+17%/-8%	+8%/-12%	+16%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009005854-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-121±19	$30.37^{+2.74}_{-2.14}$	1394^{+65}_{-55}	-1970^{+65}_{-65}	$0.144^{+0.033}_{-0.027}$
Alt.	-101±25	$22.37^{+2.15}_{-1.78}$	1391^{+66}_{-53}	-1837^{+388}_{-135}	$0.222^{+0.072}_{-0.064}$

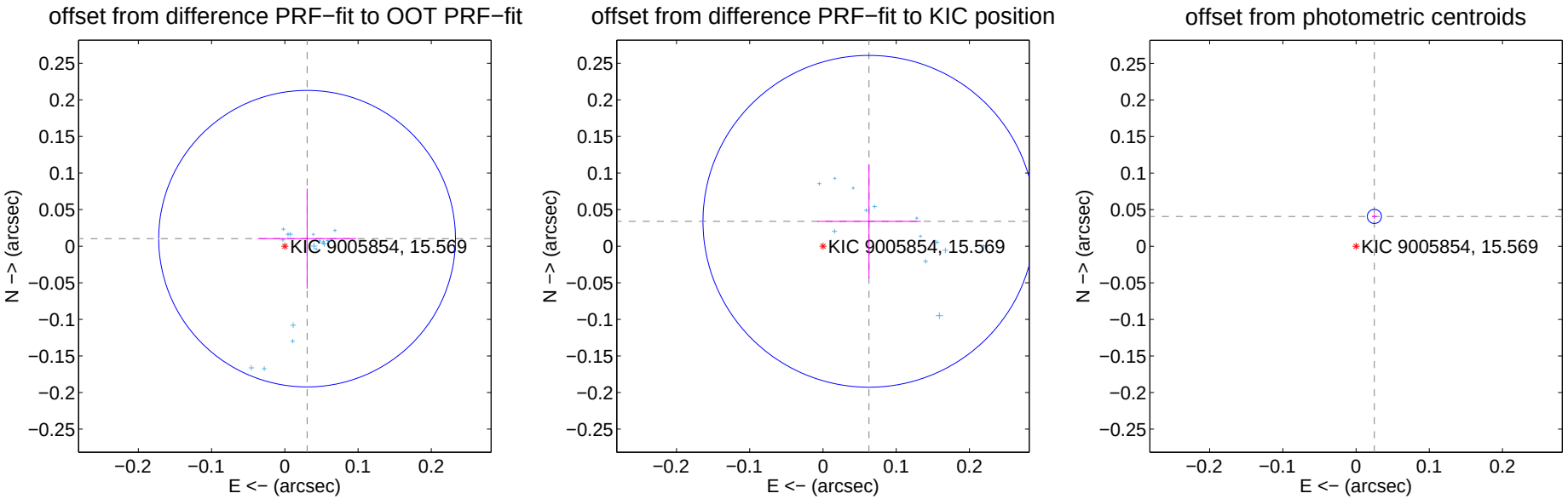
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

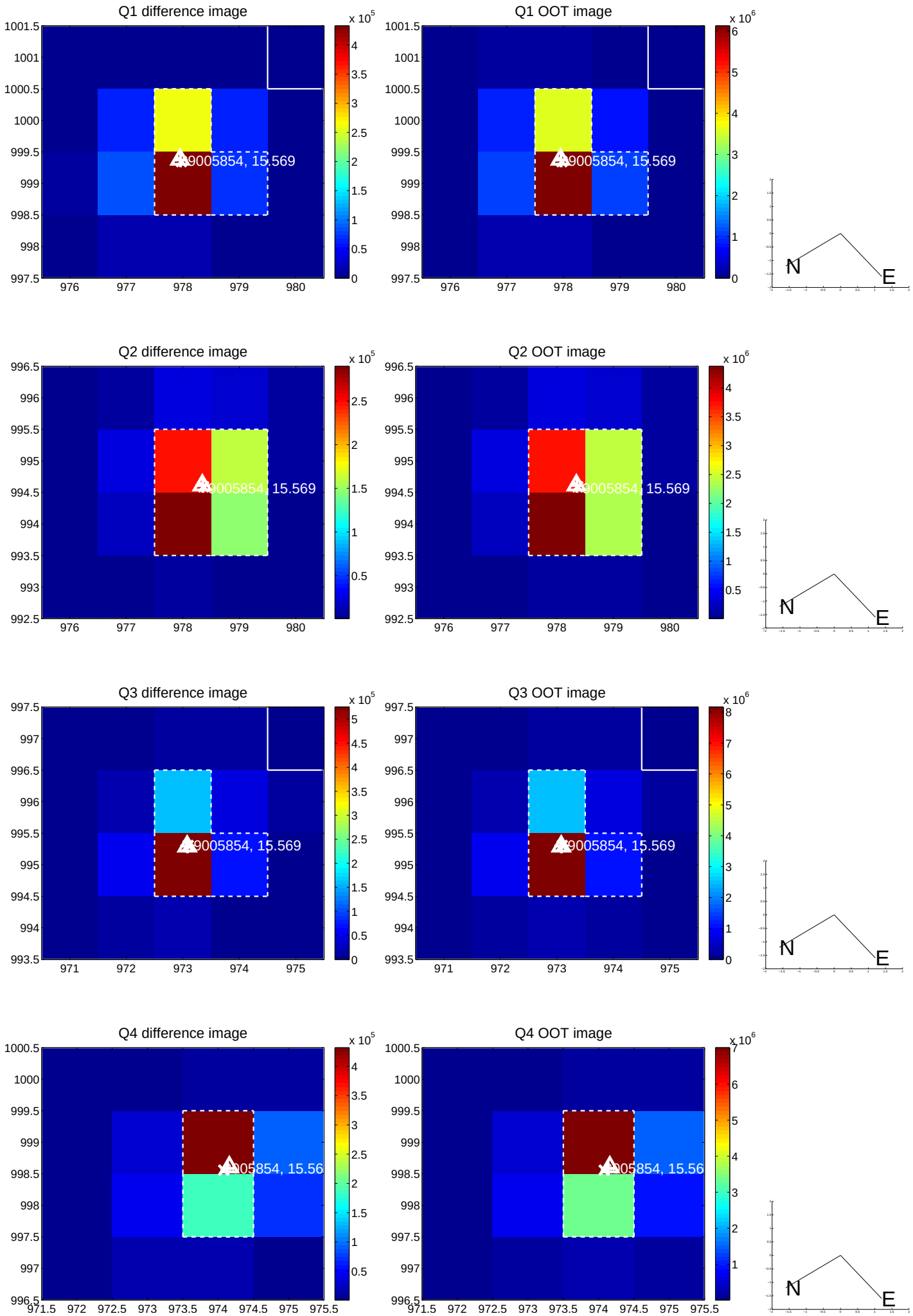
Supplemental centroid analysis for 009005854-02. Kepler magnitude: 15.57. Transit SNR 1600.83
There are 17 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.032 ± 0.068	0.48	-0.030 ± 0.067	0.010 ± 0.068
PRF-fit source offset from KIC position	0.072 ± 0.076	0.95	-0.063 ± 0.071	0.034 ± 0.078
photometric centroid source offset	0.05 ± 0.00	14.88	-0.03 ± 0.00	0.04 ± 0.00

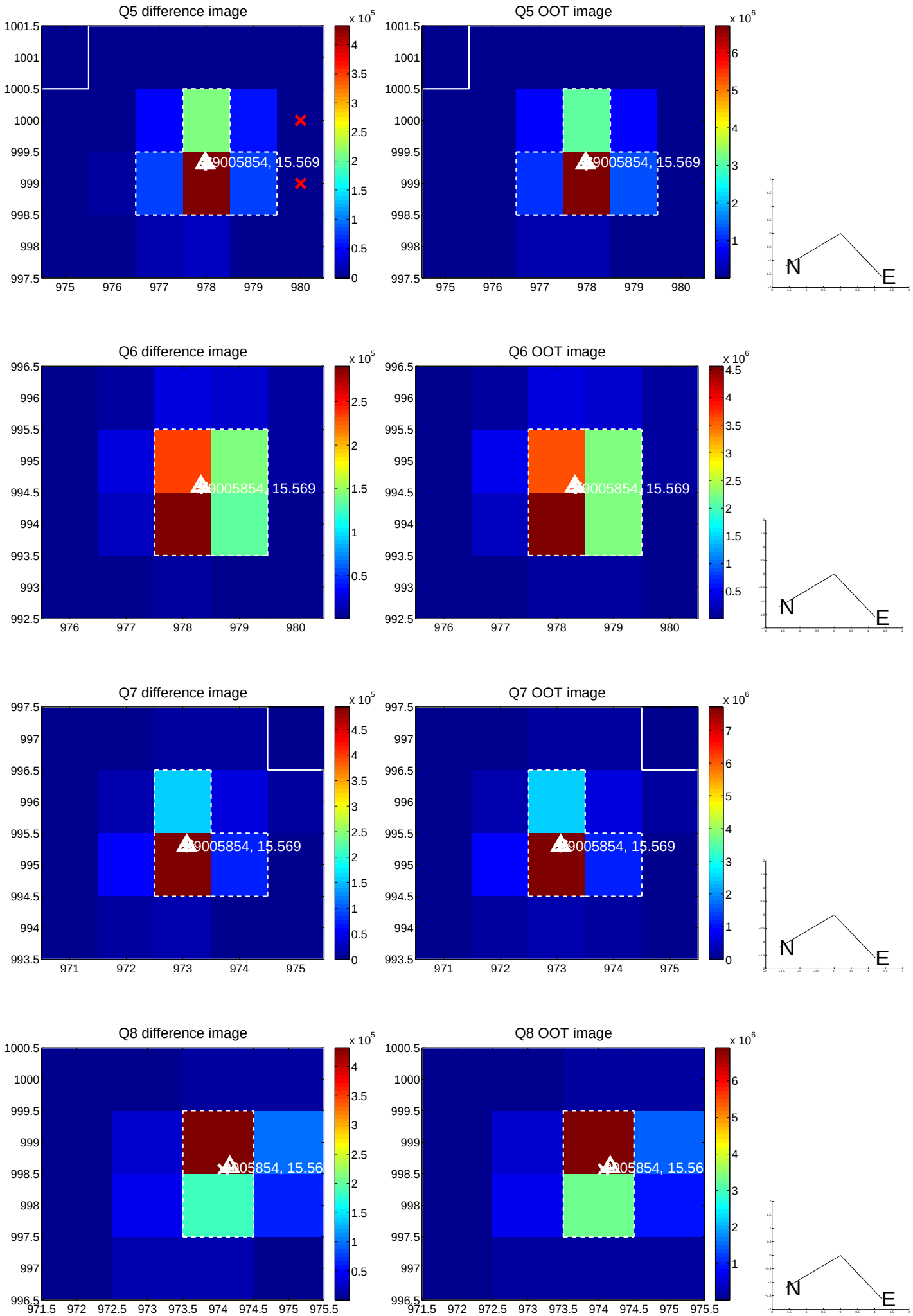


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

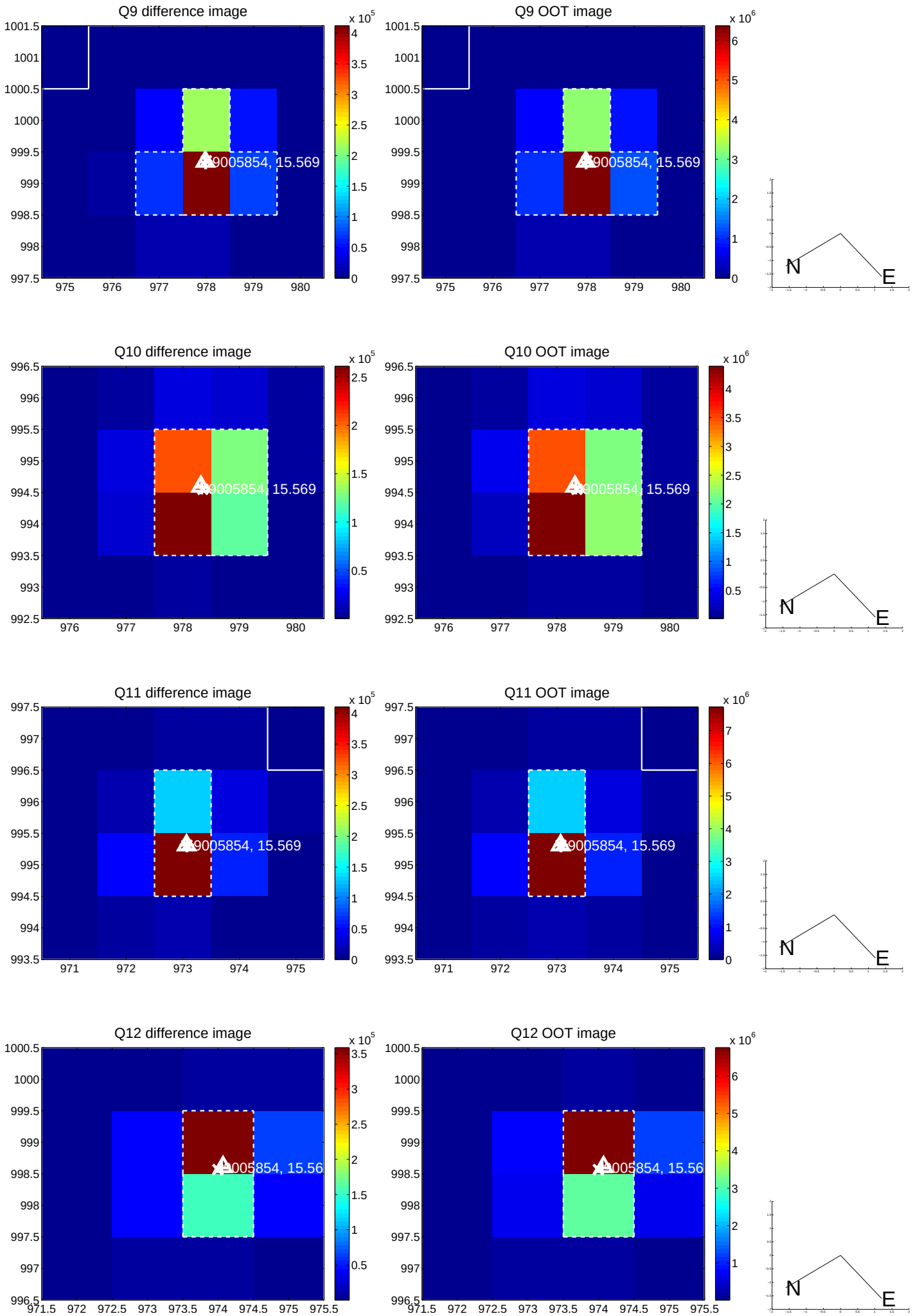
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



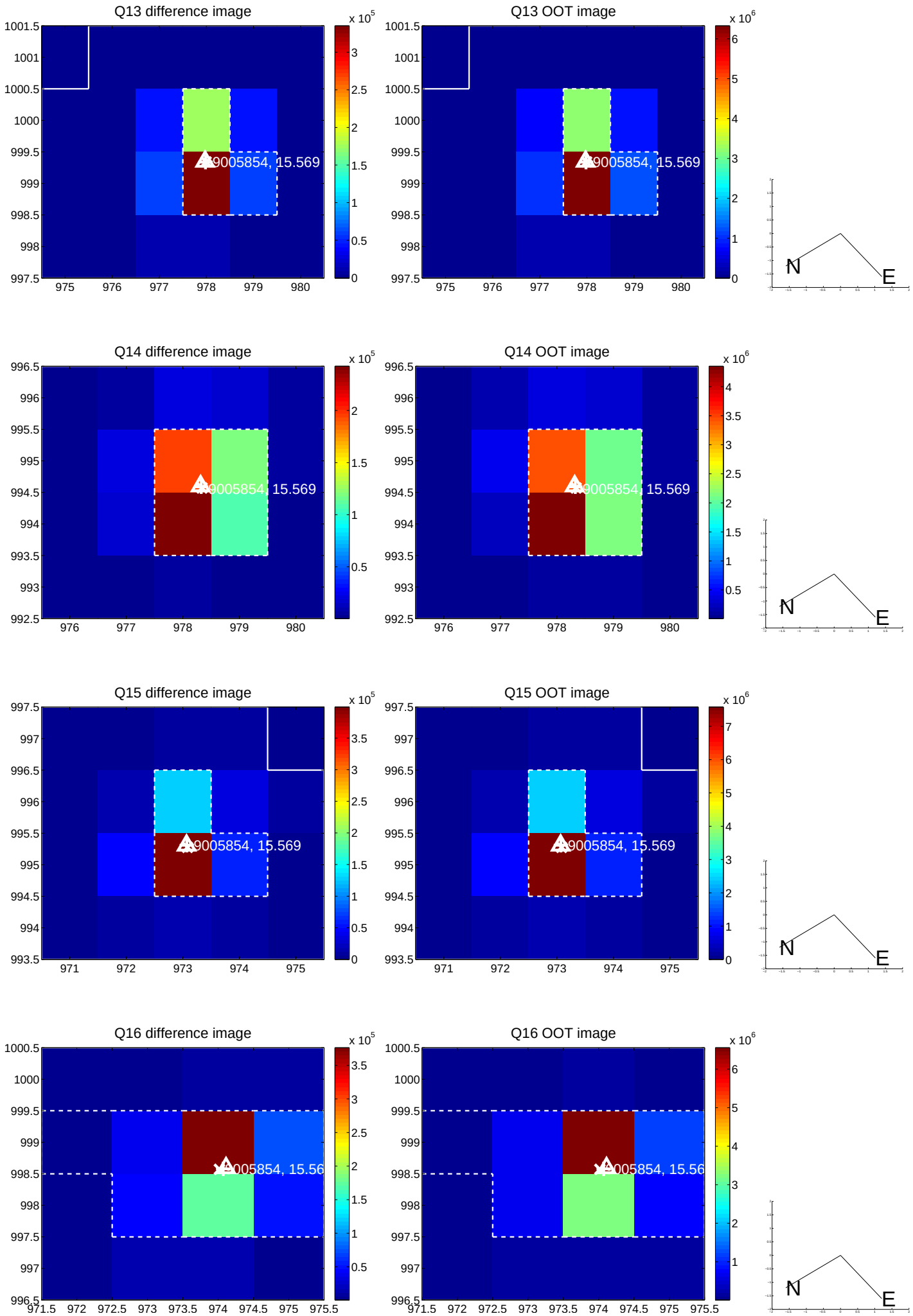
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



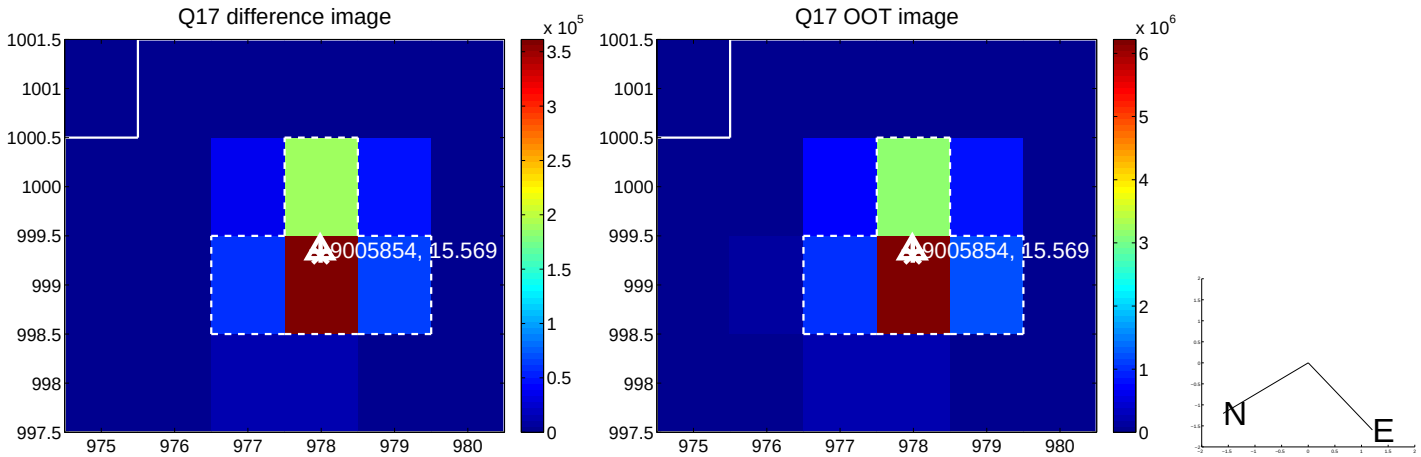
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

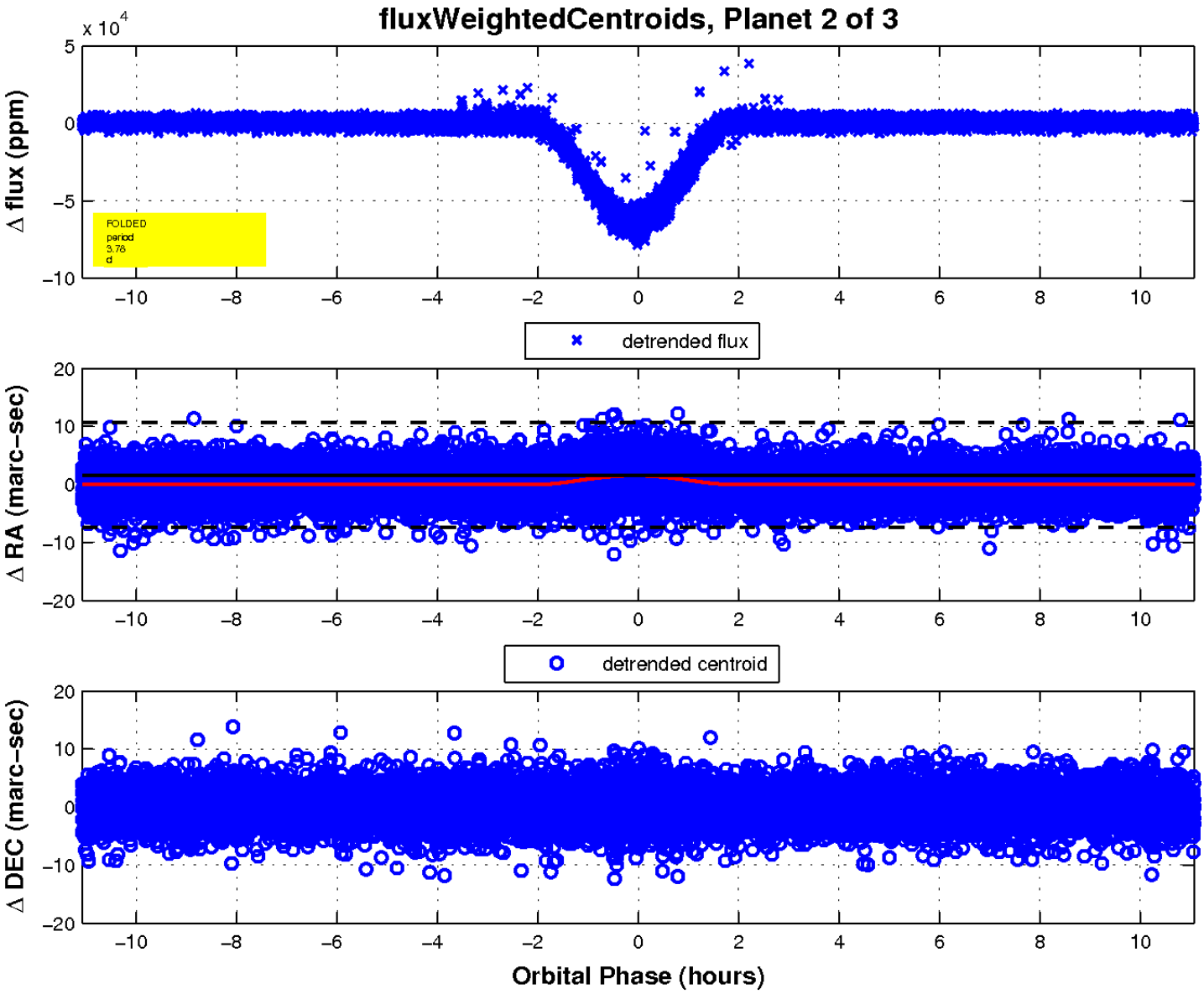


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

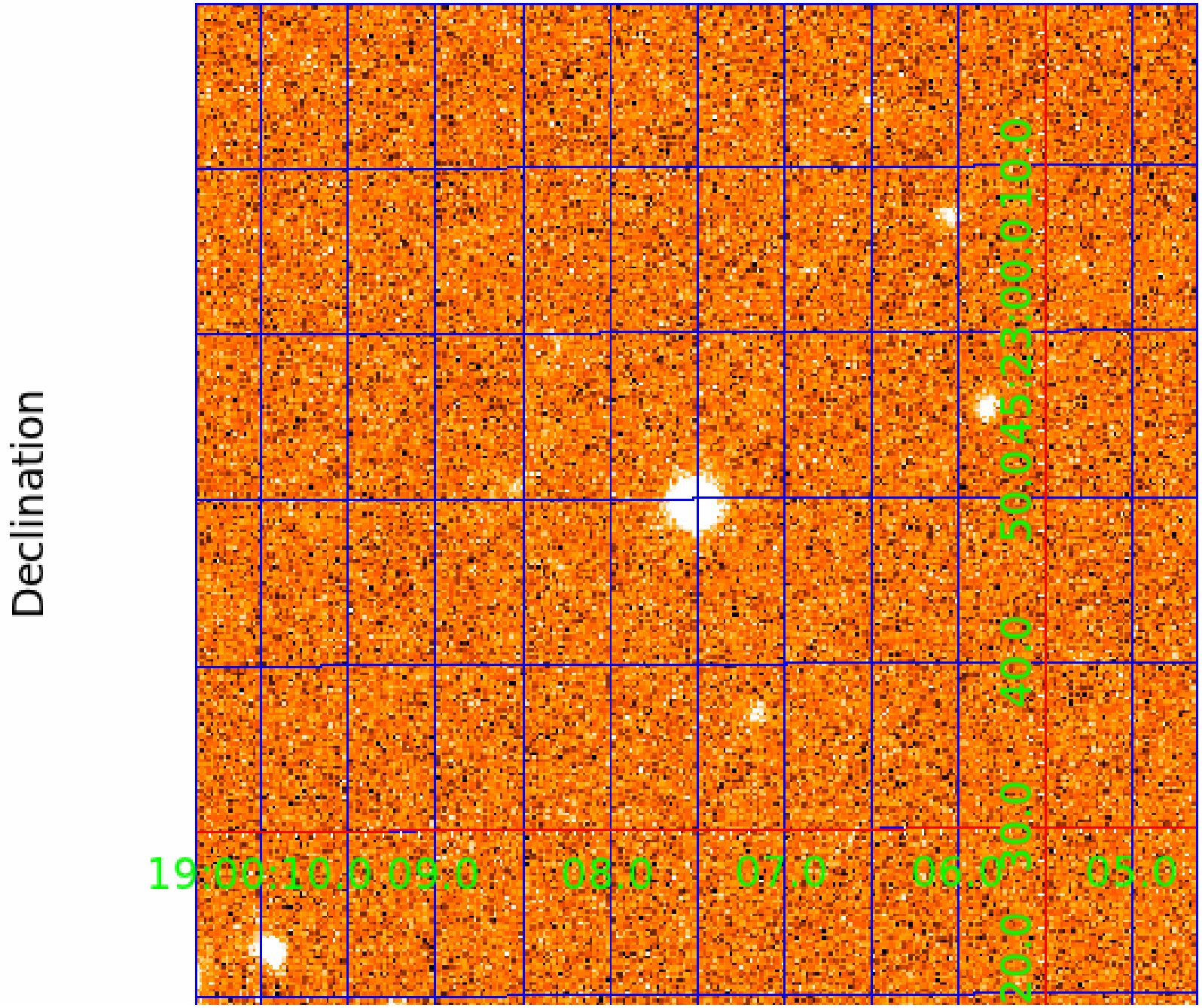


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
19:00:10.0
09.0
08.0
07.0
06.0
05.0
20.0
30.0
40.0
50.0
45:23:00.0
10.0

KIC 009005854

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 ($S_\oplus$)
009005854-01	OBS	7121.01	3.780458	131.678109	158684.8	3.931	4648.0	3306.6	0.78	5356	46.56	219.58
009005854-02	OBS	No	3.780470	133.566761	64624.0	3.692	2331.7	1600.8	0.78	5356	29.59	219.58
009005854-03	OBS	No	332.382921	341.951881	56.7	3.639	10.3	0.2	0.78	5356	0.71	0.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009005854-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009005854-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009005854-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

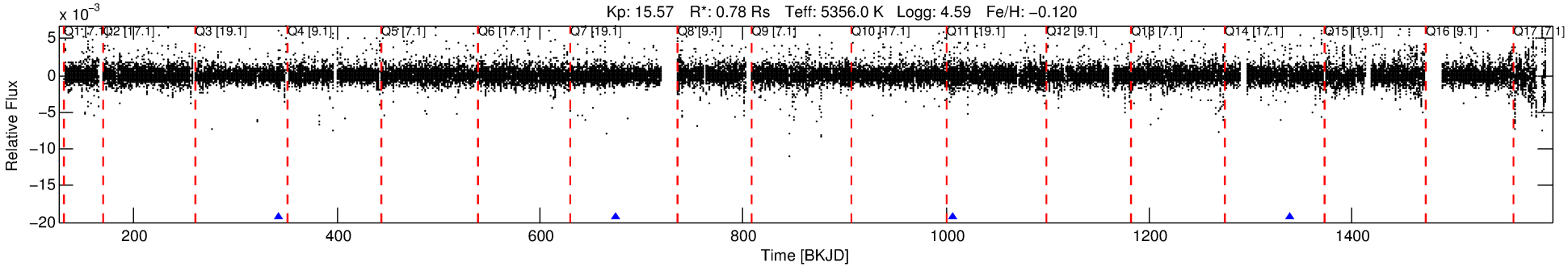
Ephemeris Match Information For 009005854-03

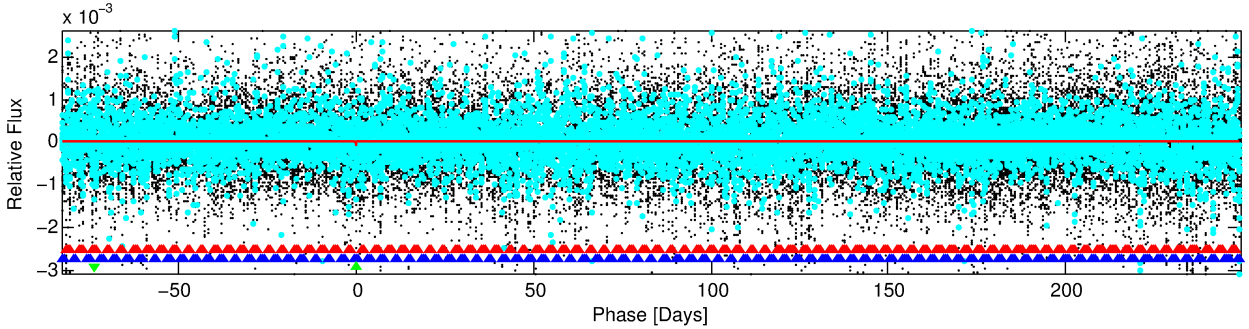
No Significant Match Found

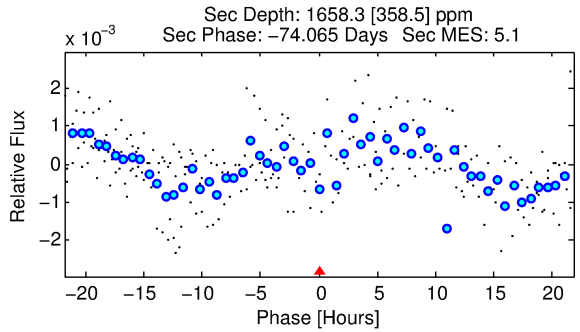
DV One-Page Summary

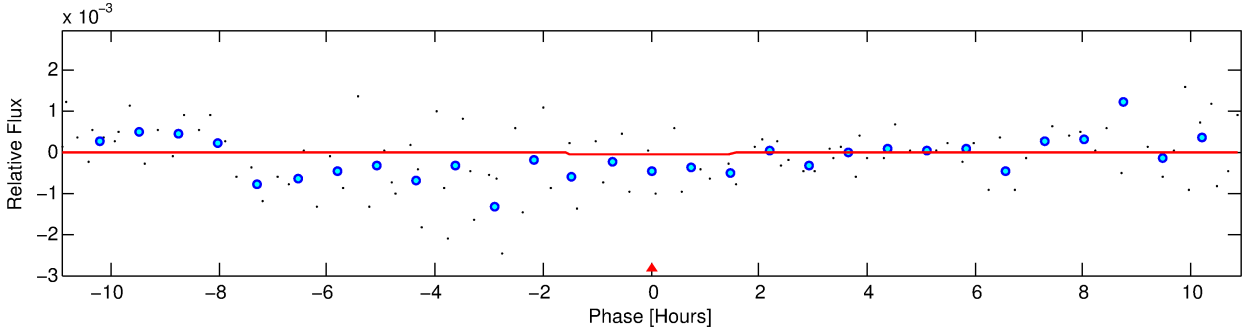
KIC: 9005854 Candidate: 3 of 3 Period: 332.383 d
KOI: K07121 Corr: No Ephemeris Match

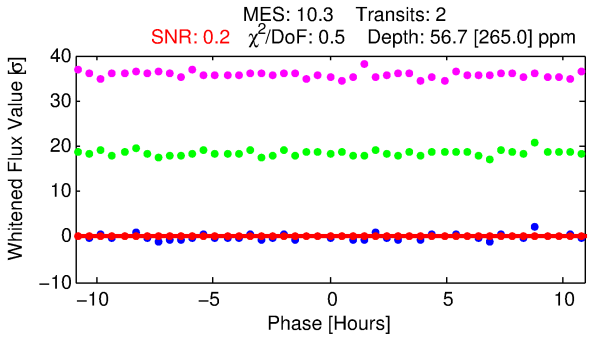
Kp: 15.57 R*: 0.78 Rs Teff: 5356.0 K Logg: 4.59 Fe/H: −0.120

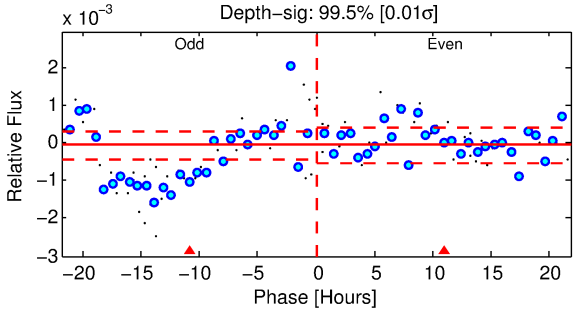


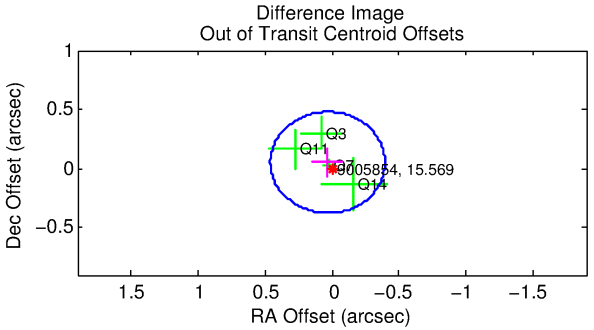












DV Fit Results:

Period = 332.38292 [0.10517] d
Epoch = 341.9519 [0.1891] BKJD
Rp/R* = 0.0083 [0.2045]
a/R* = 315.66 [35174.64]
b = 0.90 [23.61]

Seff = 0.56 [0.14]
Teq = 221 [14] K
Rp = 0.71 [17.41] Re
a = 0.8937 [0.1303] AU

Ag = 1459665.16 [71924790.76] [0.02σ]
Teffp = 11863 [146137] K [0.08σ]

DV Diagnostic Results:

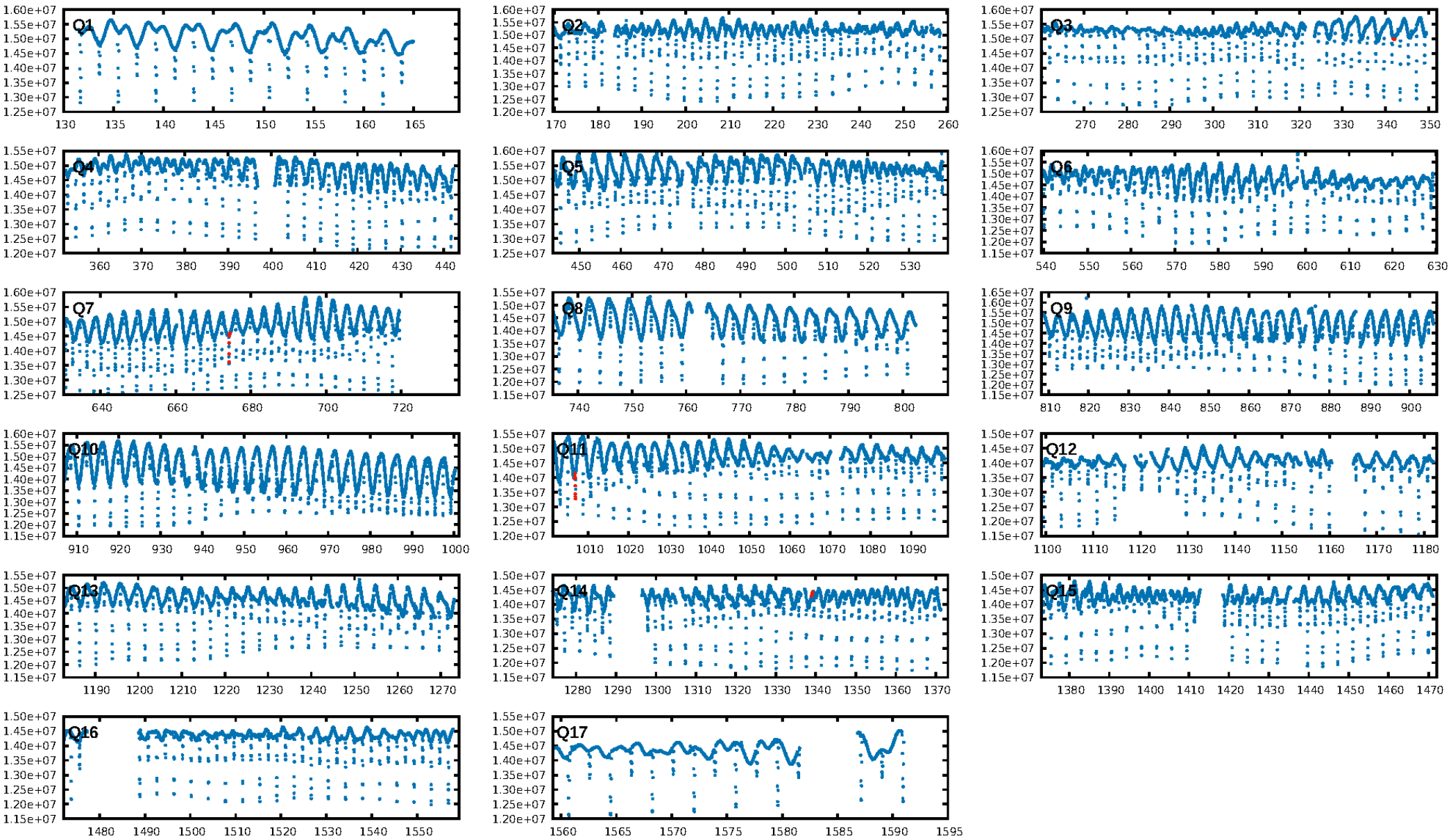
ShortPeriod−sig: 100.0% [1521.31σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 63.5%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: 6.86e−09
RollingBand−fgt: 1.00 [2/2]
GhostDiagnostic−chr: −9.163

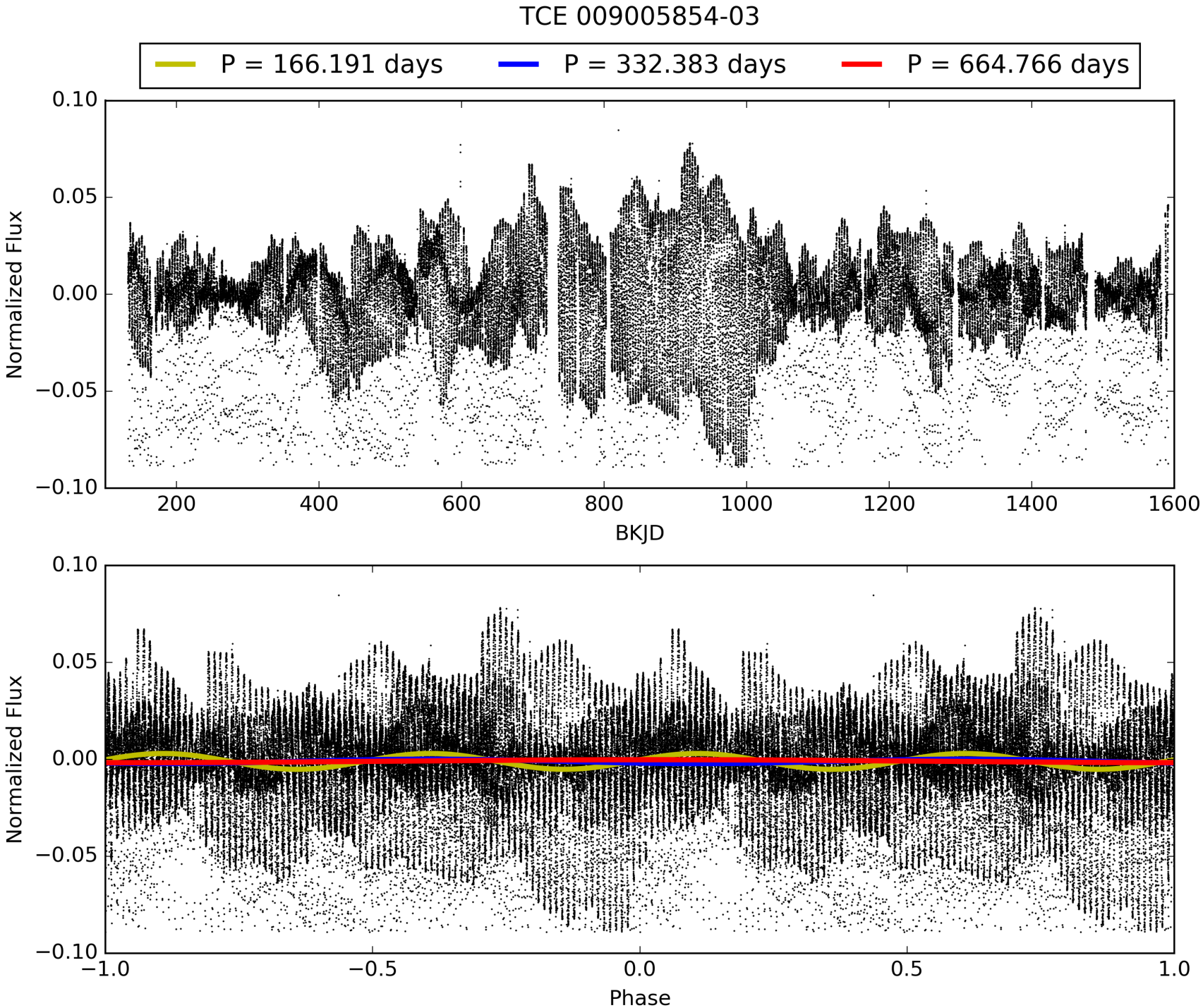
Centroid−sig: N/A
Centroid−so: 6.461 arcsec [0.24σ]
OotOffset−rm: 0.061 arcsec [0.42σ]
KicOffset−rm: 0.099 arcsec [0.97σ]
OotOffset−st: 1/3/0/0 [4]
KicOffset−st: 1/3/0/0 [4]
DiffImageQuality−fgm: 0.25 [1/4]
DiffImageOverlap−fno: 0.50 [2/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 05:20:09 Z

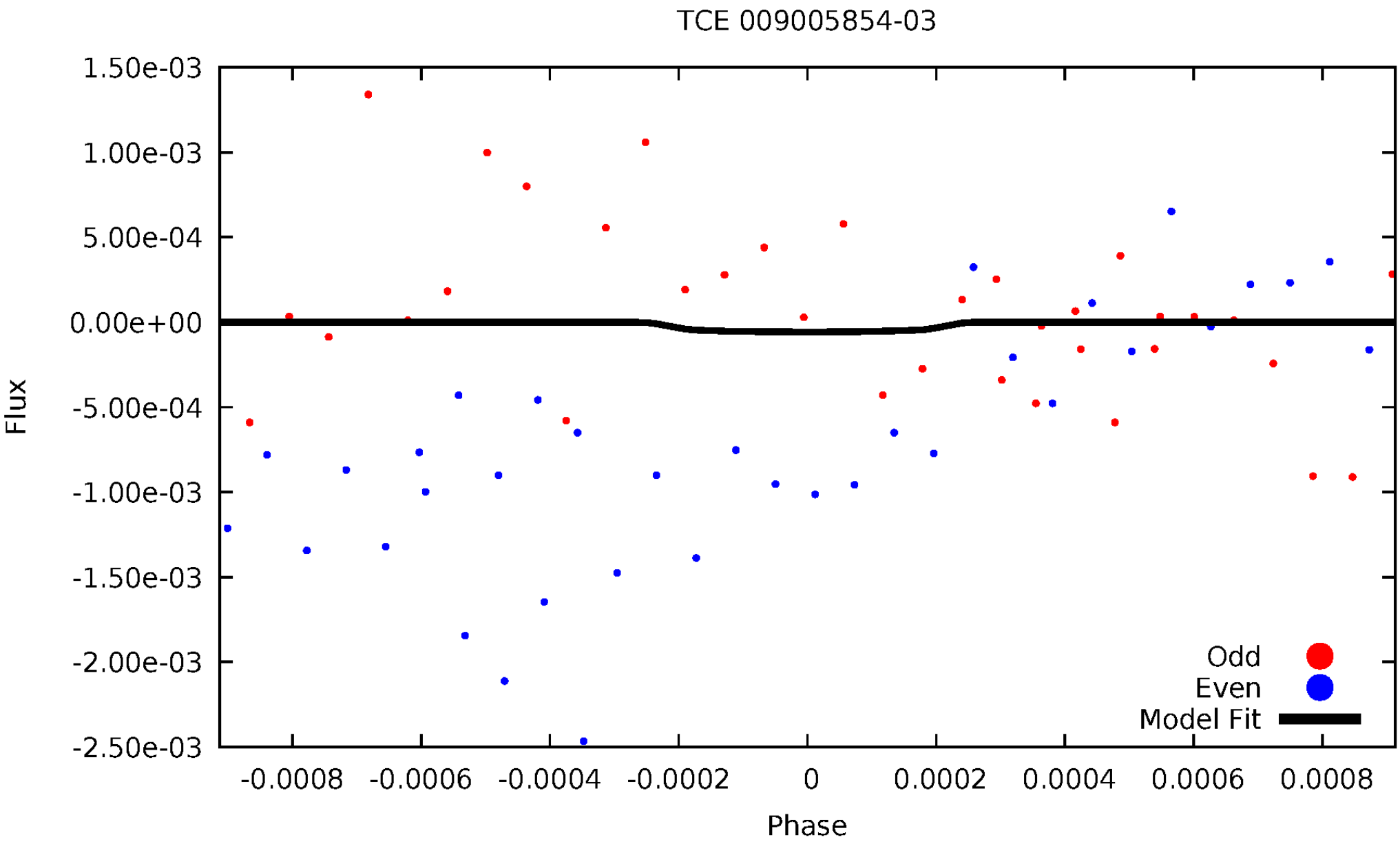
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009005854-03, PDC Light Curves




TCE 009005854-03
P = 166.191 days
P = 332.383 days
P = 664.766 days
Normalized Flux
BKJD
Phase
0.10
0.05
0.00
−0.05
−0.10
200
400
600
800
1000
1200
1400
1600
−1.0
−0.5
0.0
0.5
1.0

DV Odd/Even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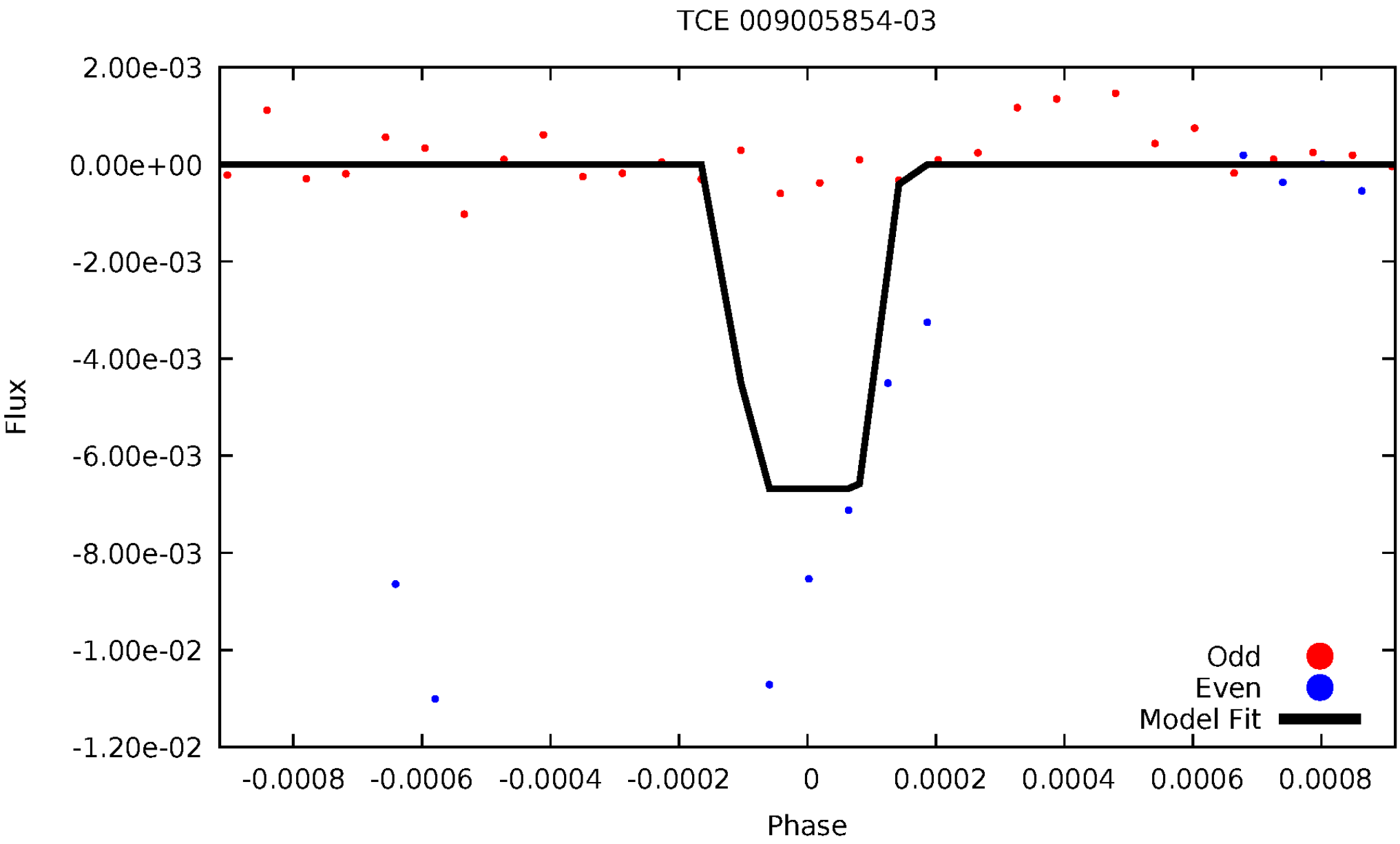
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
-2.50e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009005854-03
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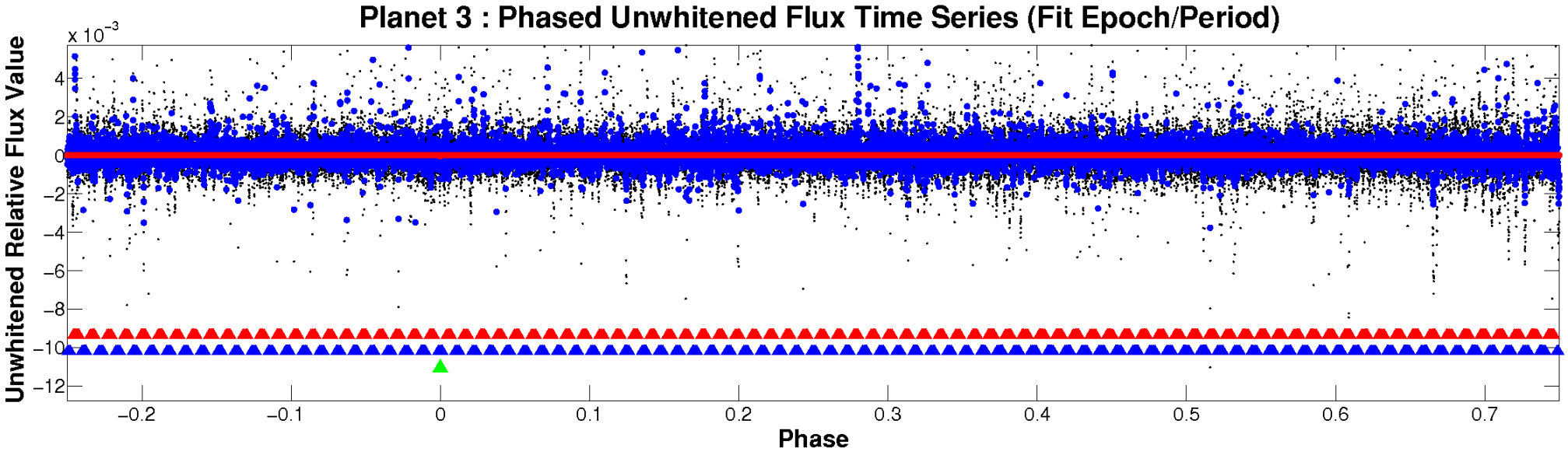
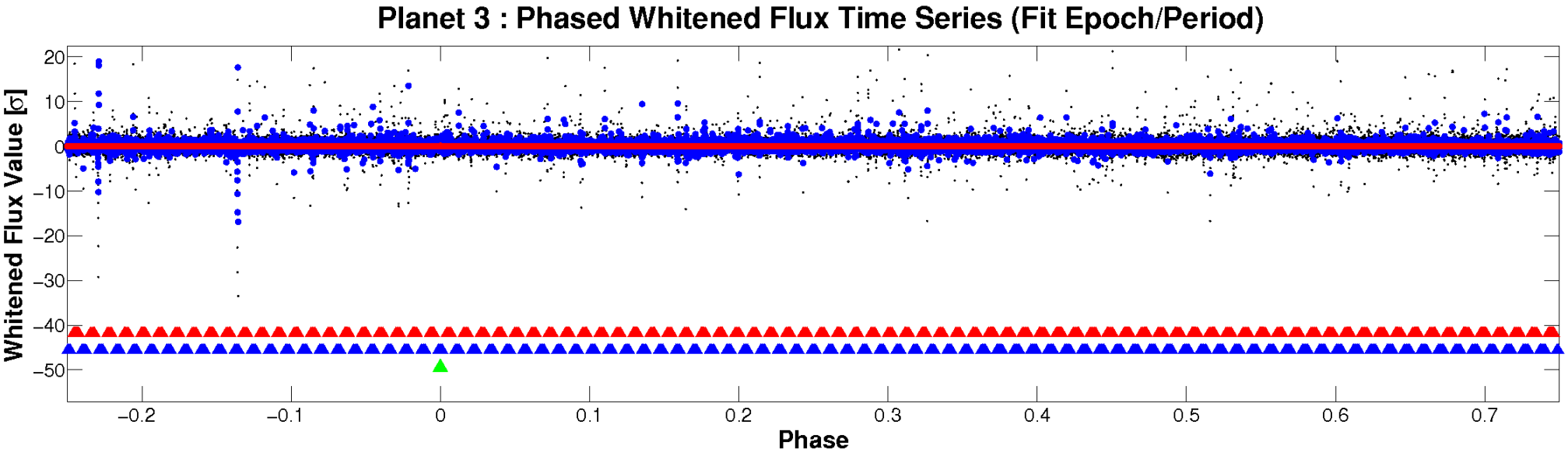
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
-1.00e-02
-1.20e-02
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

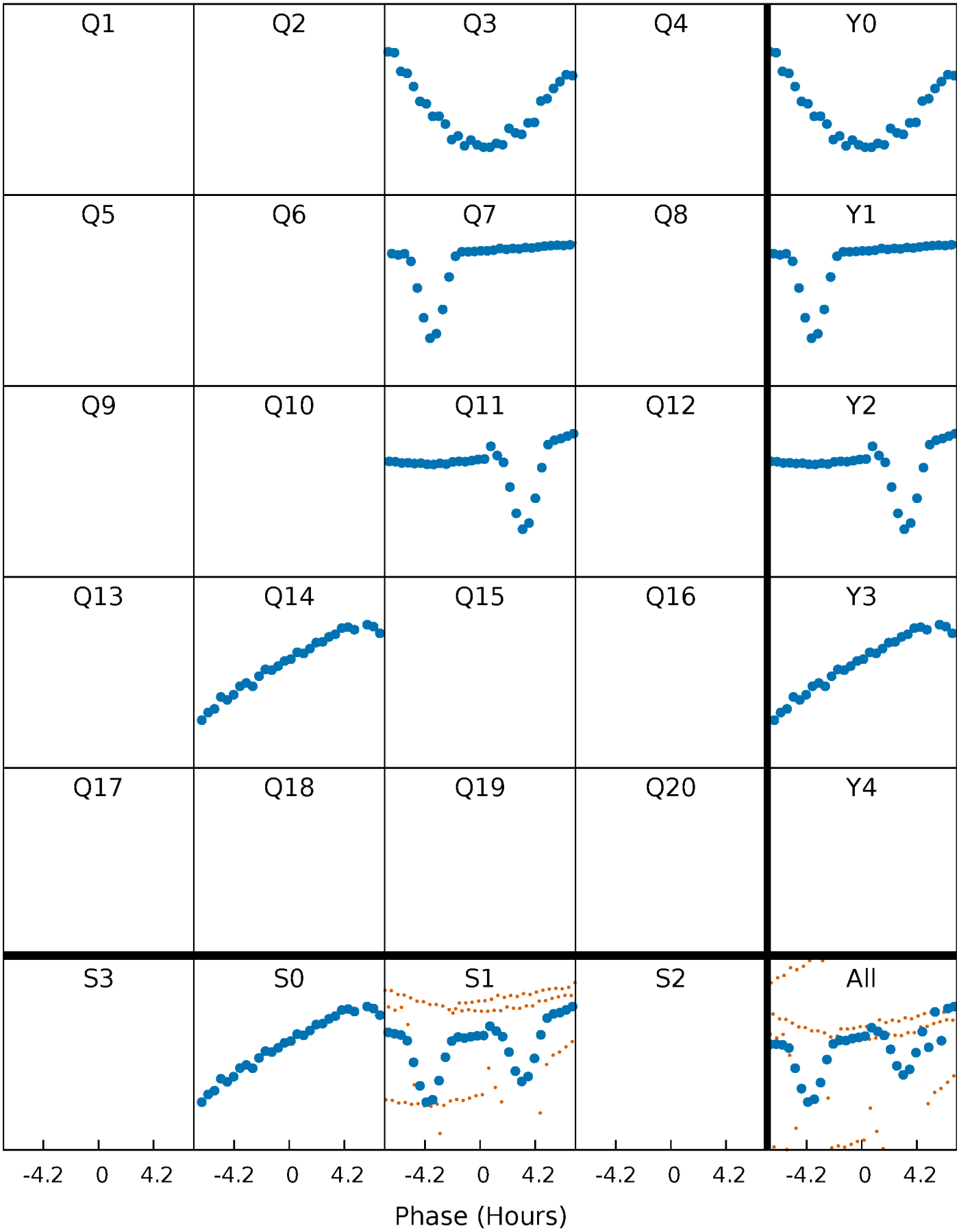
Non-Whitened Vs. Whitened Light Curve





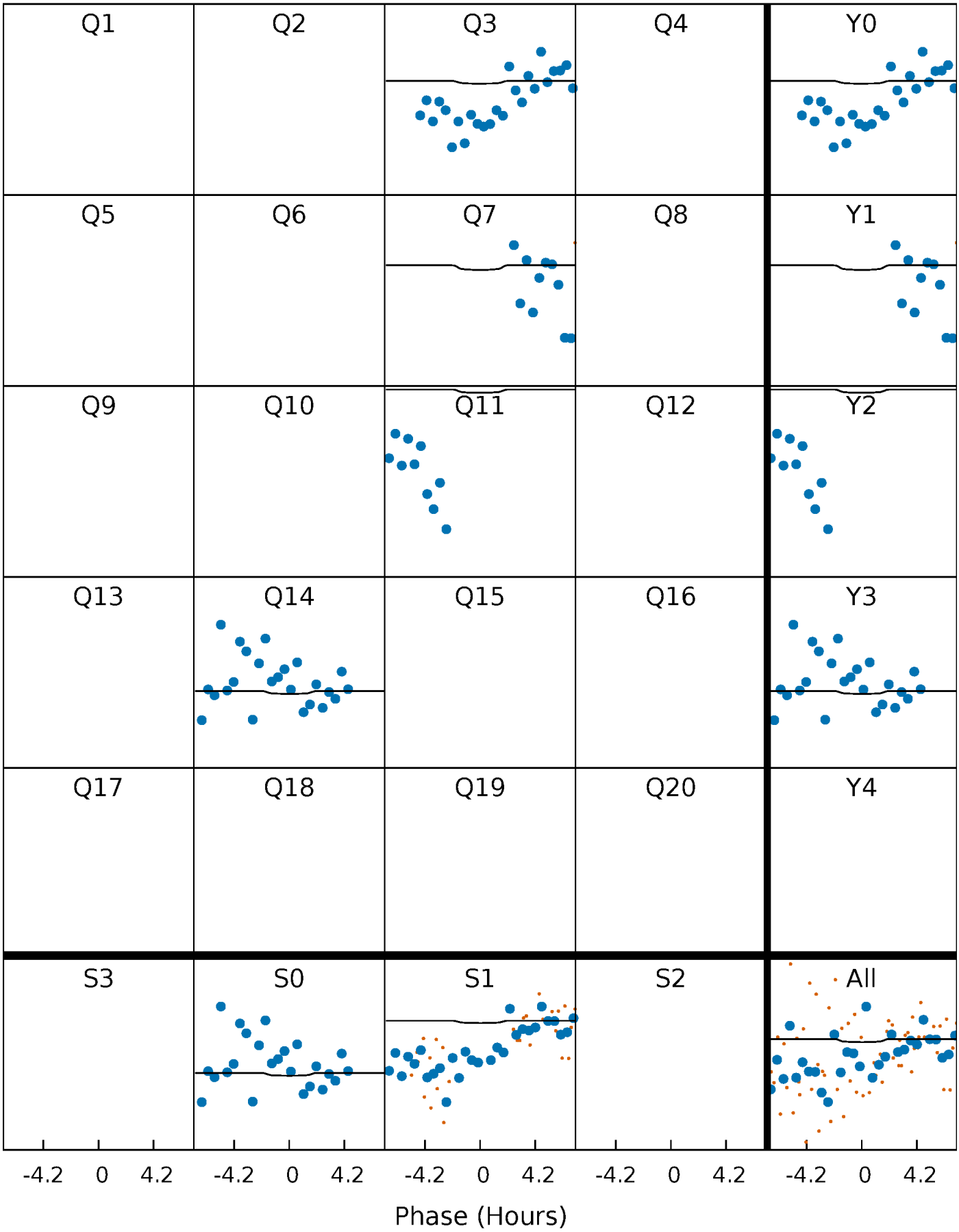
PDC Quarter-Phased Transit Curves

TCE 009005854-03 P=332.382921 Days T_0=341.951881 (BKJD)



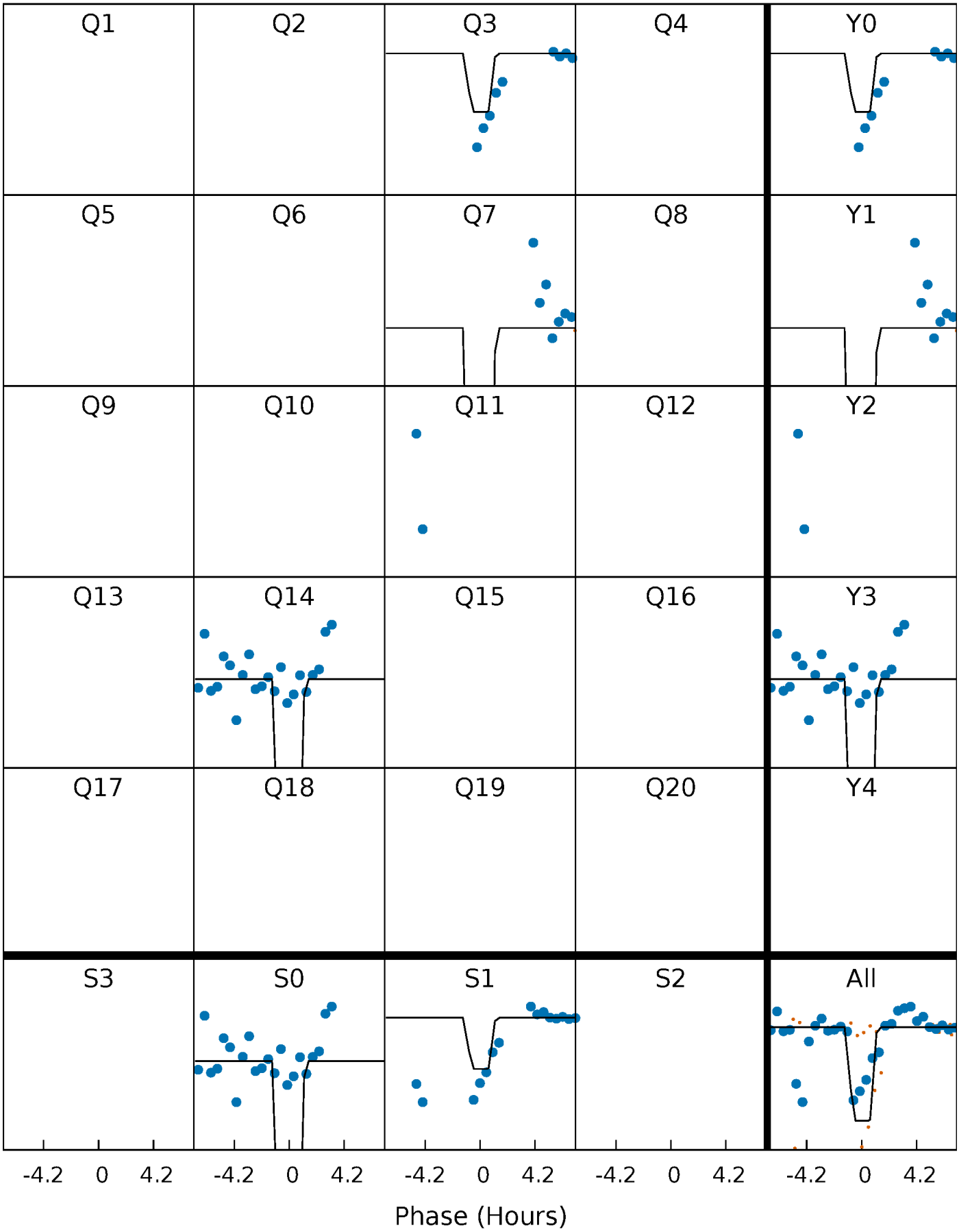
DV Quarter-Phased Transit Curves

TCE 009005854-03 P=332.382921 Days T_0=341.951881 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

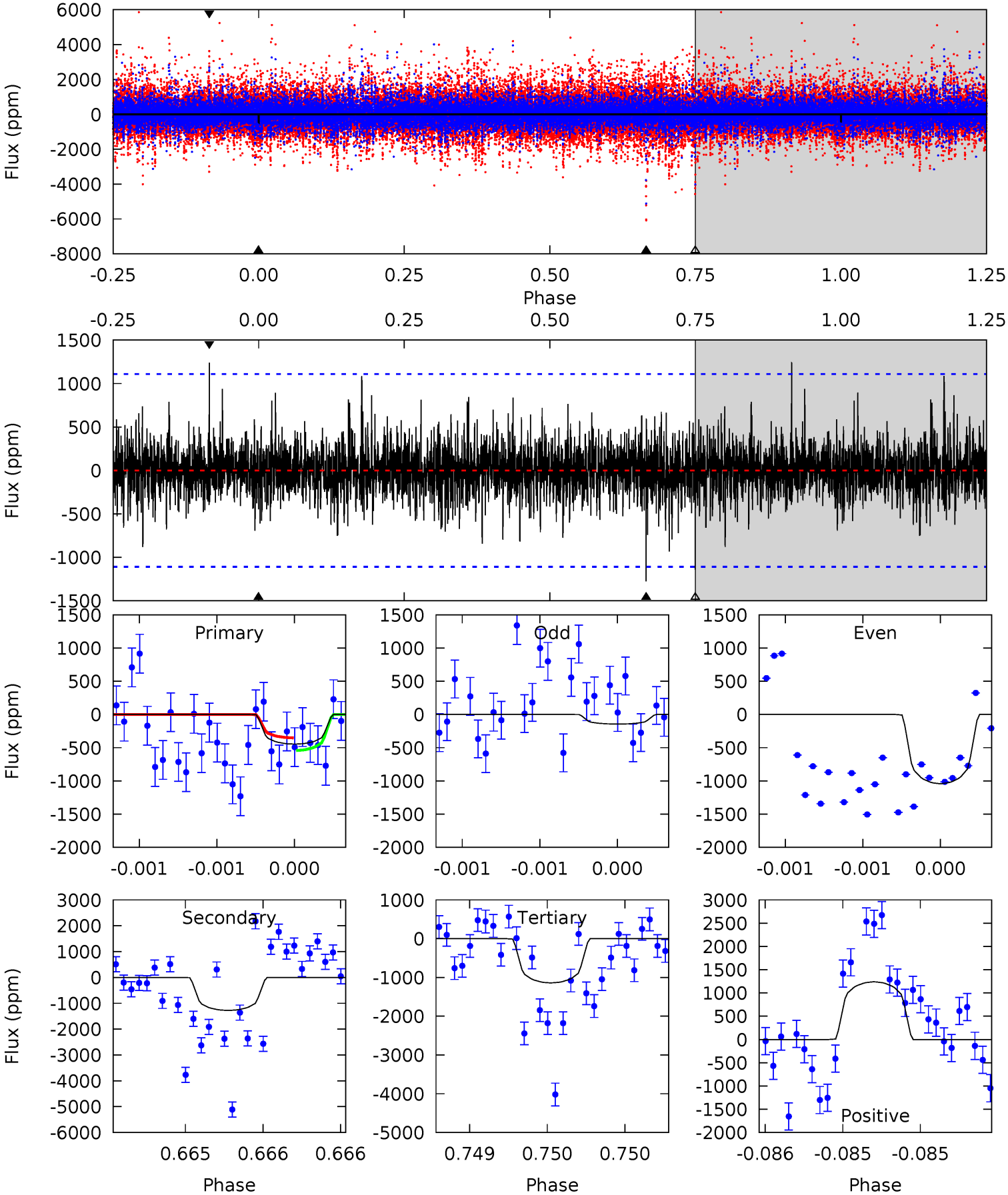
TCE 009005854-03 P=332.440399 Days T_0=341.832441 (BKJD)



DV Model-Shift Uniqueness Test

009005854-03, P = 332.382921 Days, E = 9.568960 Days

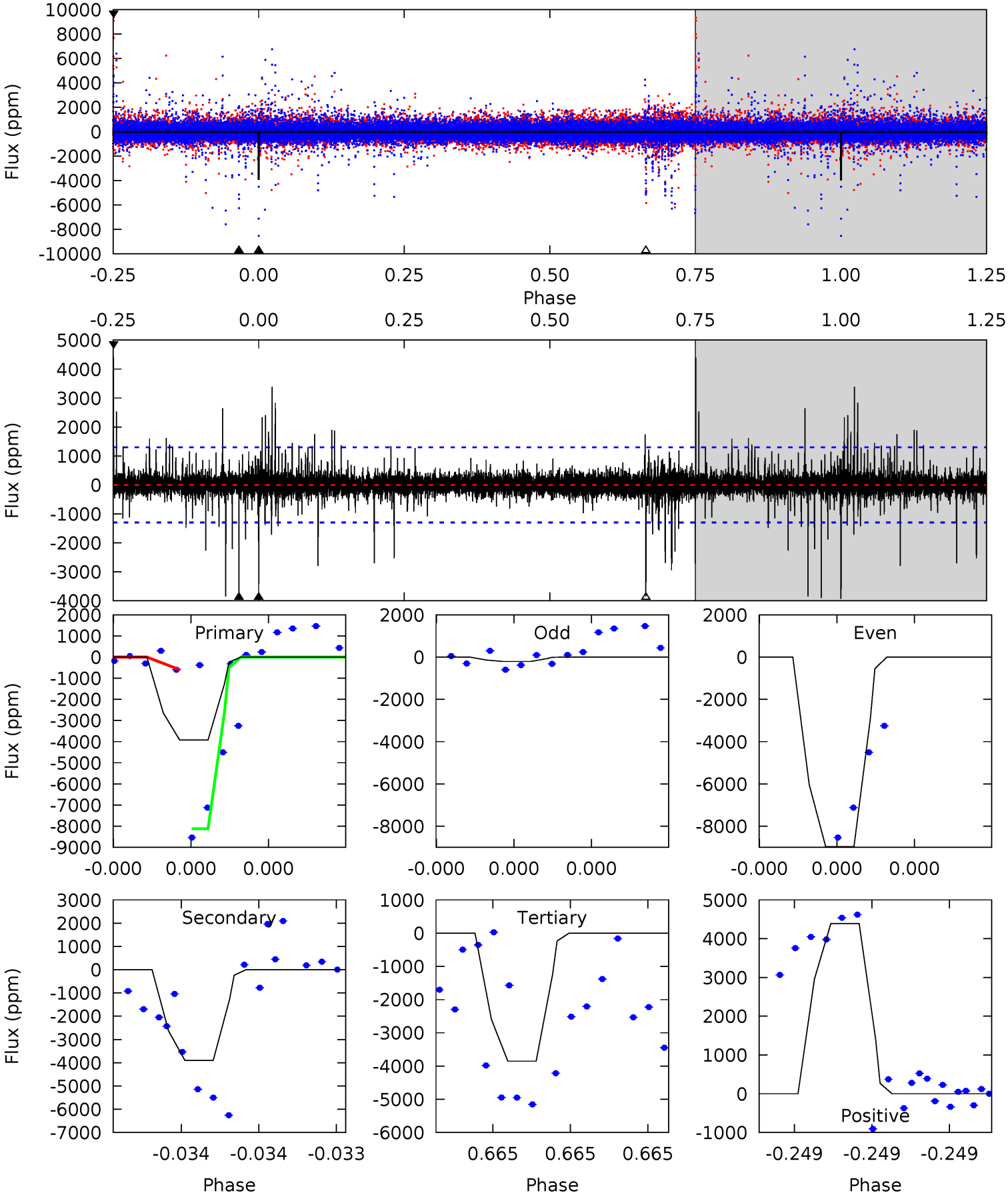
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.24	6.41	5.73	6.22	5.57	3.48	1.08	-3.48	-3.98	0.68	0.18	2.06	1.00	0.49	0.48



Alt Model-Shift Uniqueness Test

009005854-03, P = 332.440399 Days, E = 9.392042 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	17.0	16.8	19.2	5.67	3.62	1.15	0.32	-2.03	0.21	-2.14	15.6	1.00	0.53	11.6



Stellar Parameters For KIC 009005854

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	5356^{+159}_{-159}	$4.589^{+0.035}_{-0.119}$	$-0.120^{+0.300}_{-0.300}$	$0.780^{+0.133}_{-0.061}$	$0.872^{+0.070}_{-0.104}$	$2.584^{+0.423}_{-0.896}$
	+3%/-3%	+1%/-3%	+250%/-250%	+17%/-8%	+8%/-12%	+16%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009005854-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1276±199	$12.72^{+13.31}_{-8.88}$	313^{+14}_{-11}	3218^{+1766}_{-583}	3534^{+36418}_{-2741}
Alt.	-3901±229	$15.71^{+15.18}_{-10.80}$	313^{+14}_{-13}	3583^{+2108}_{-653}	6947^{+65590}_{-5168}

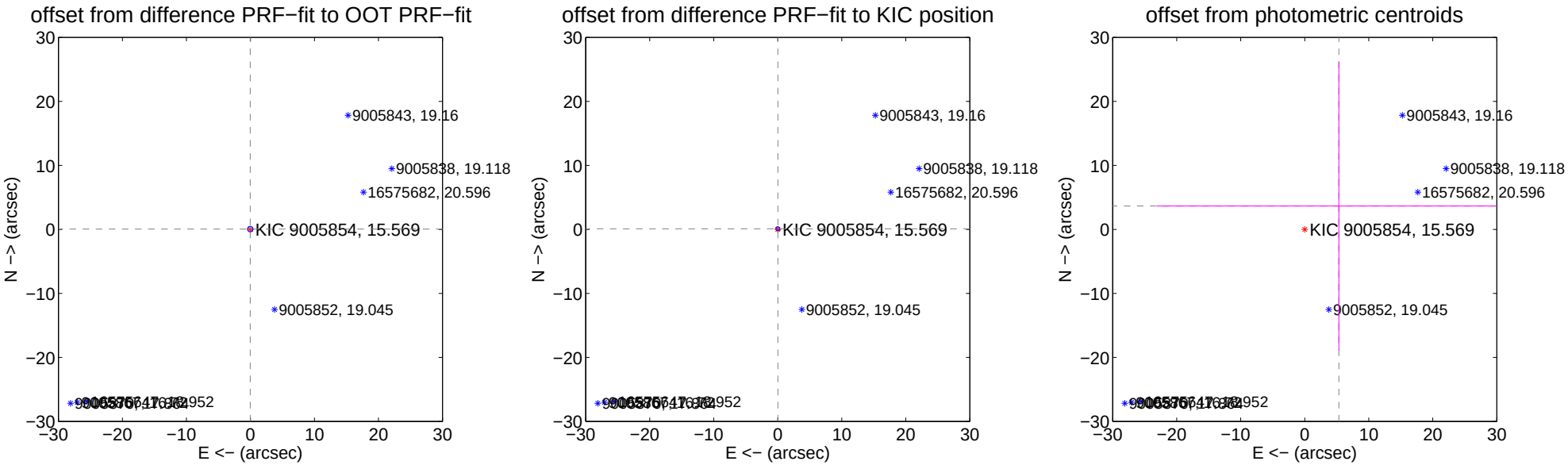
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

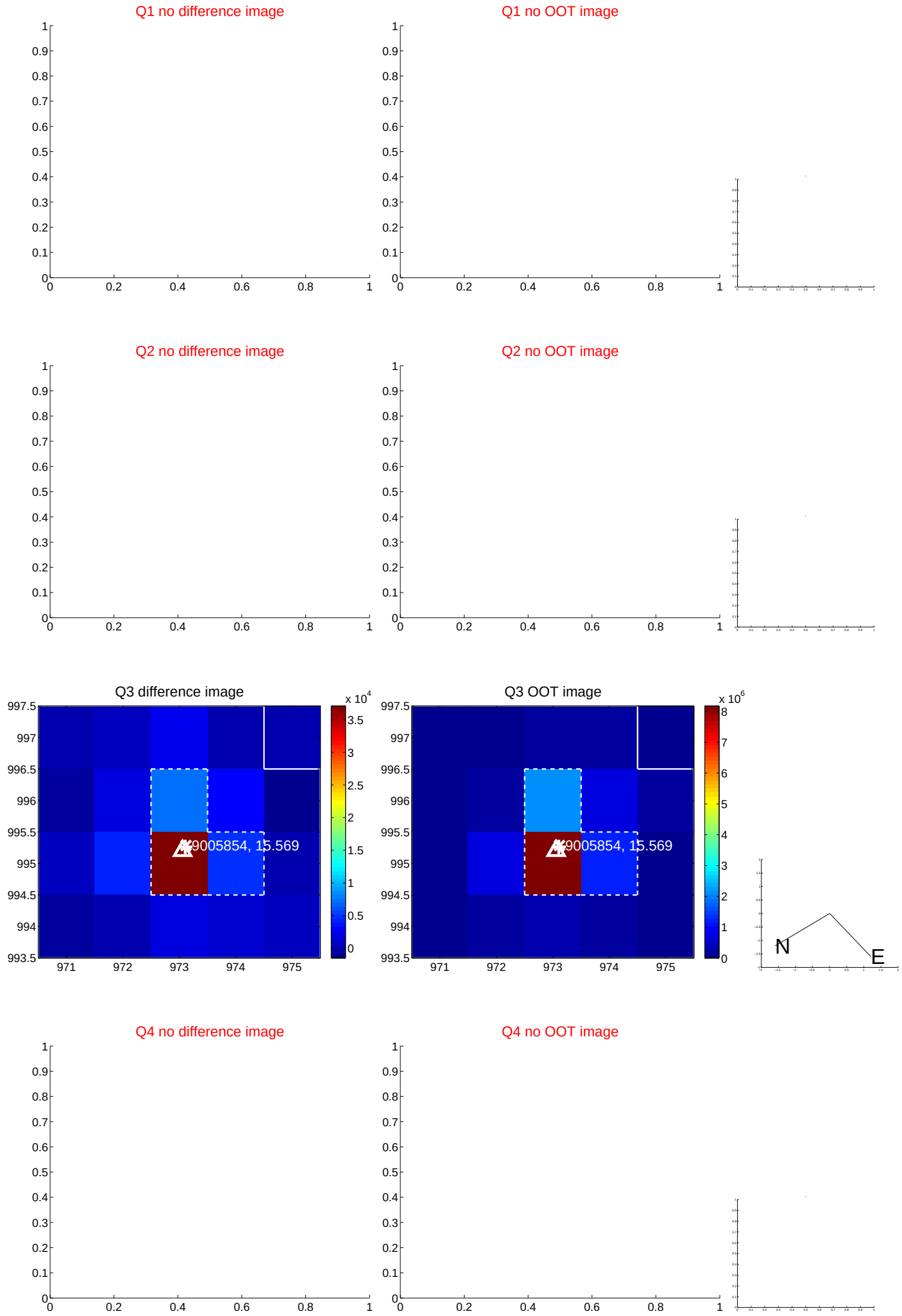
Supplemental centroid analysis for 009005854-03. Kepler magnitude: 15.57. Transit SNR 0.18
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.143	0.42	0.033 ± 0.111	0.051 ± 0.120
PRF-fit source offset from KIC position	0.099 ± 0.102	0.97	-0.024 ± 0.110	0.096 ± 0.102
photometric centroid source offset	6.46 ± 26.70	0.24	-5.33 ± 28.44	3.65 ± 22.56

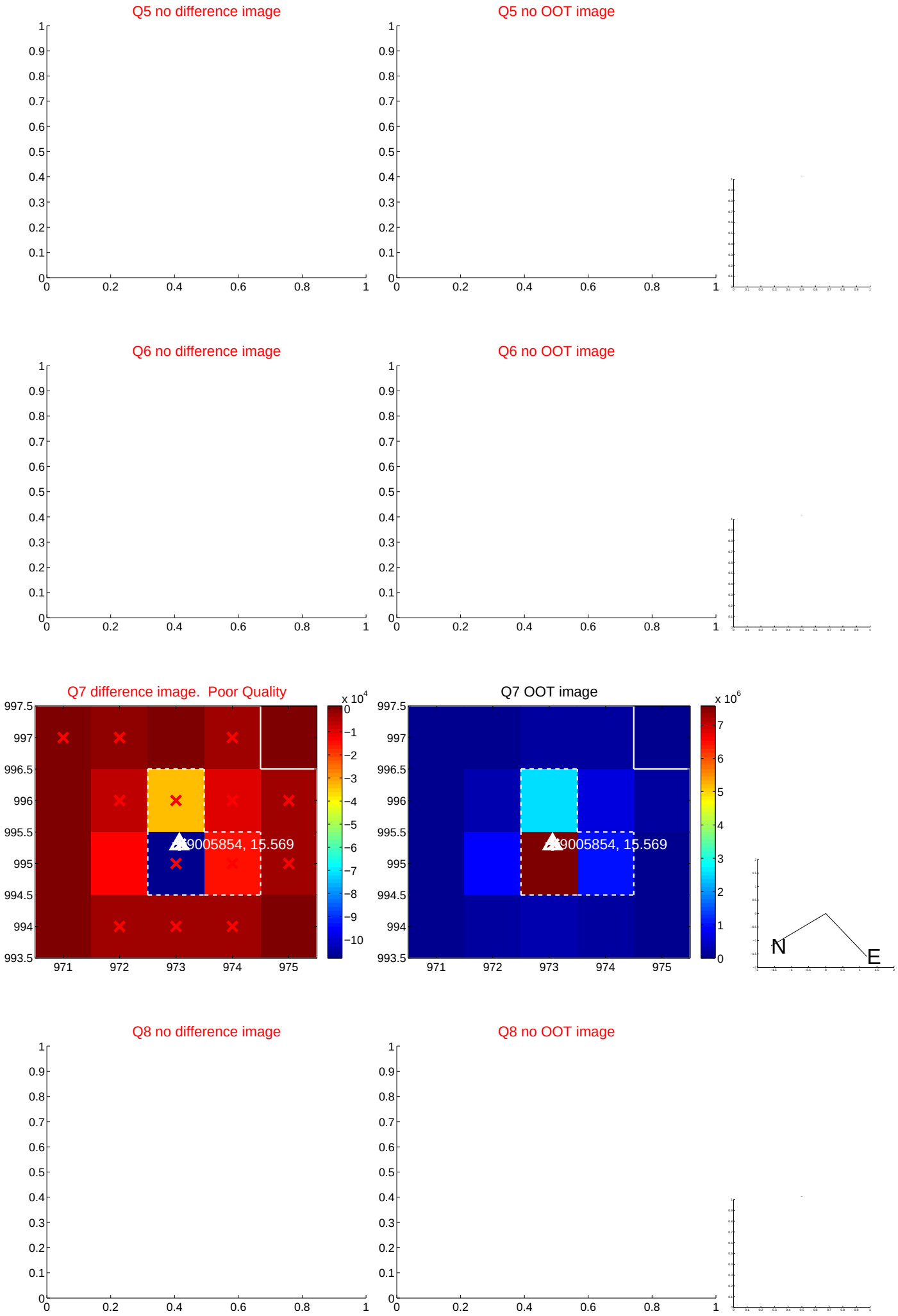


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

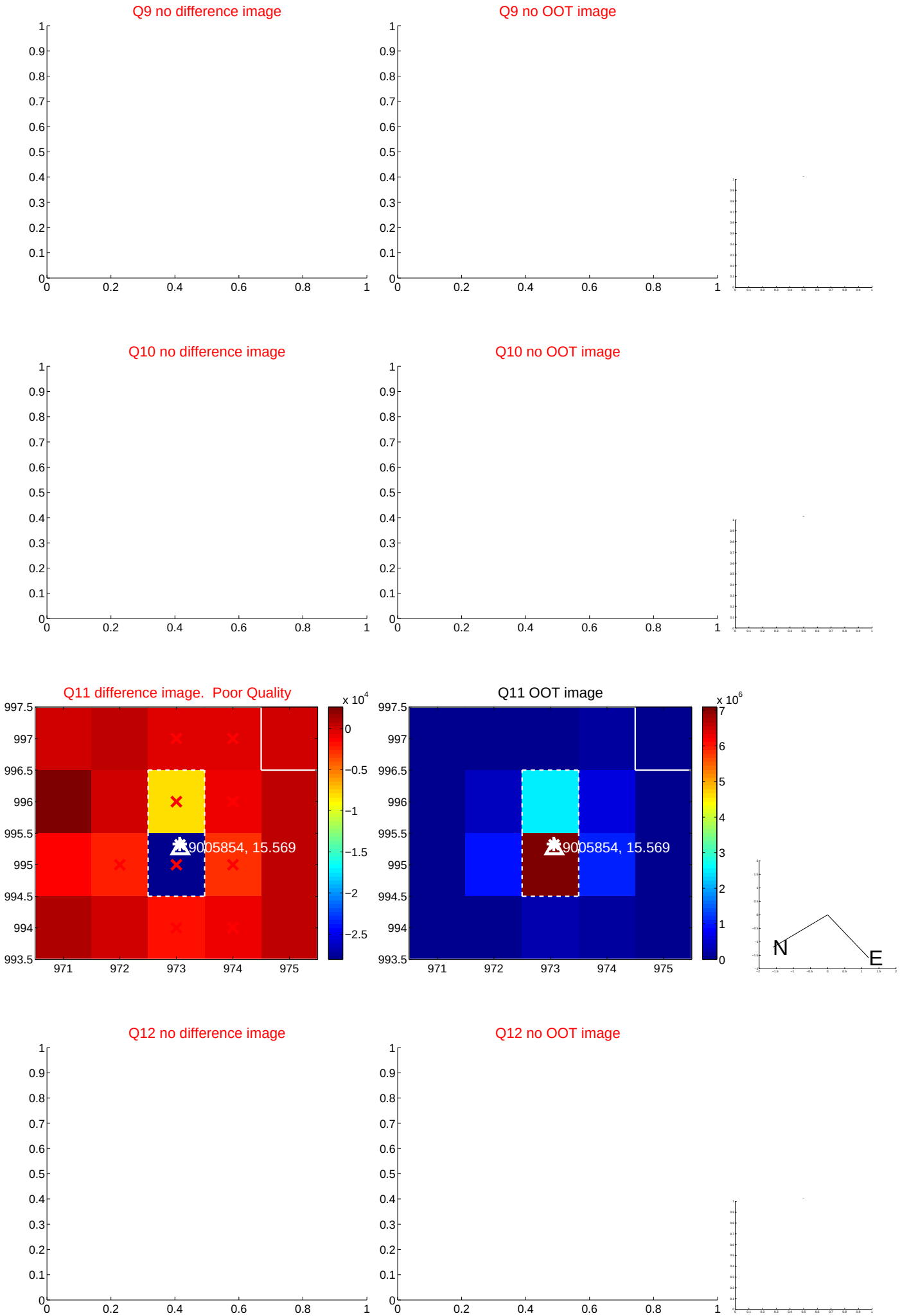
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



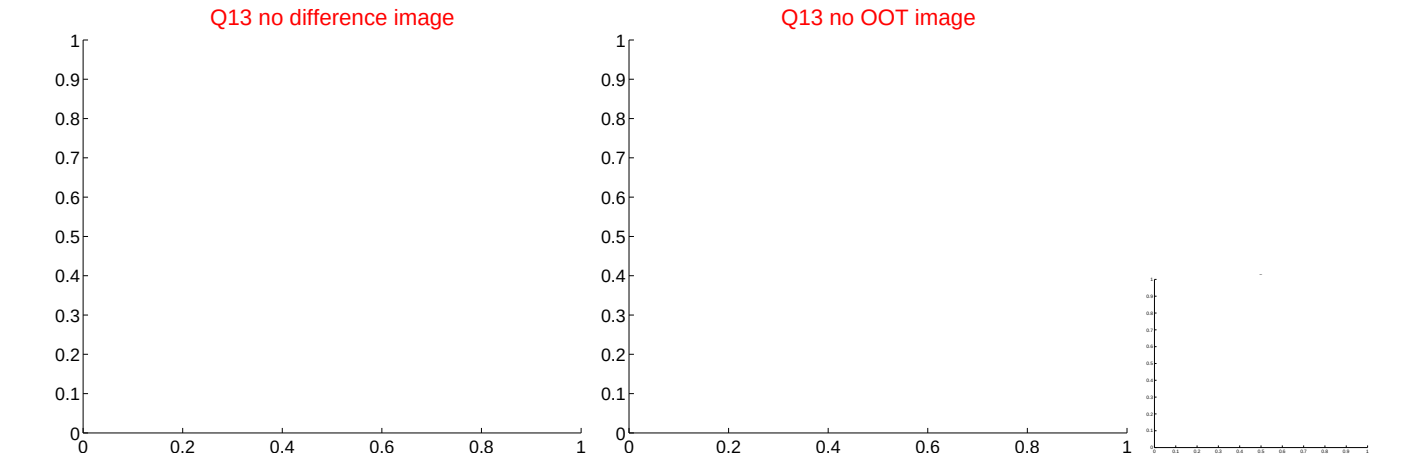
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

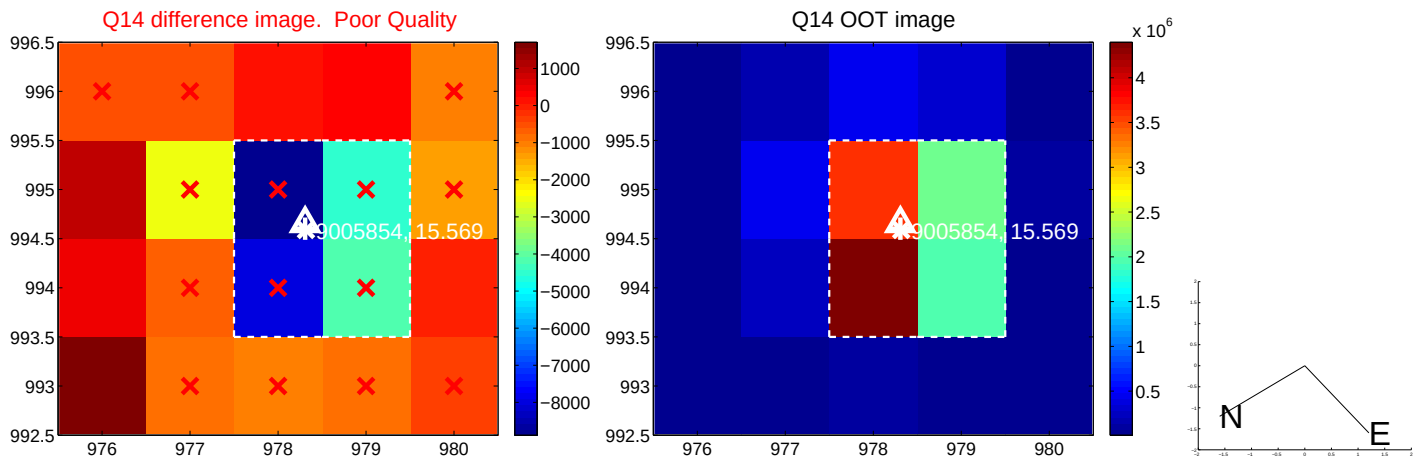


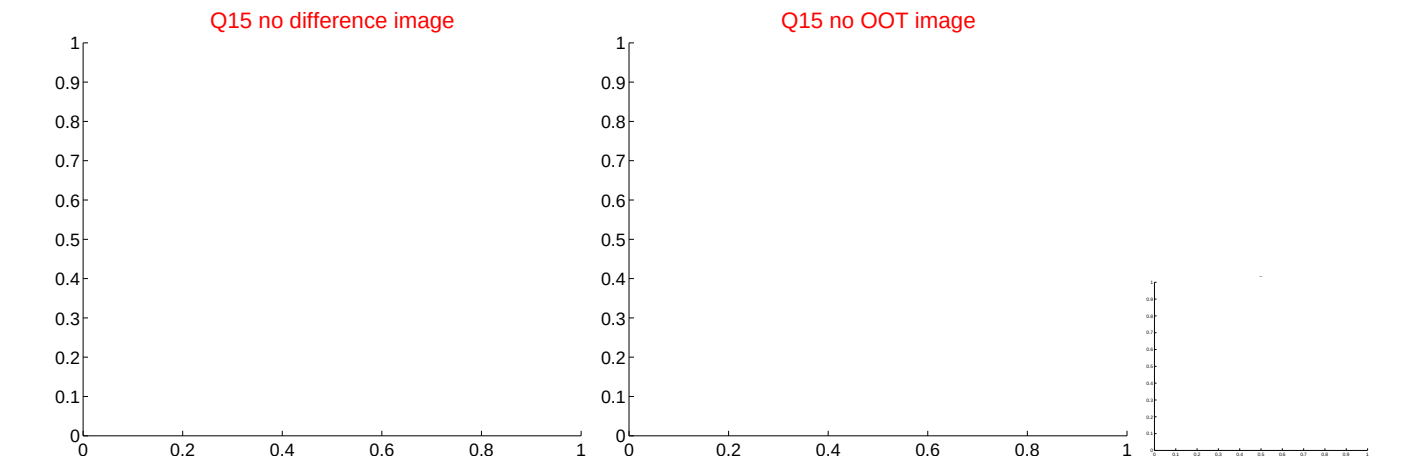
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

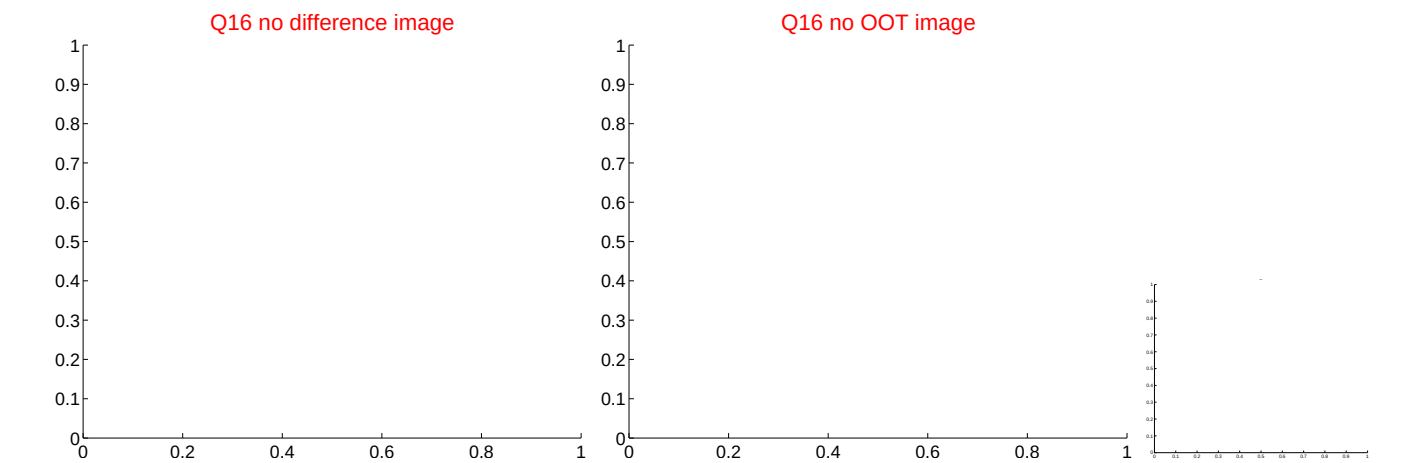


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

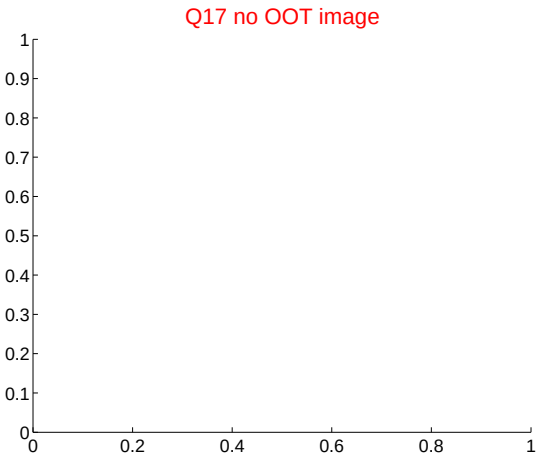


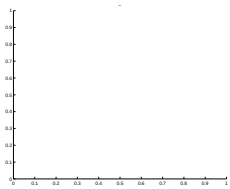


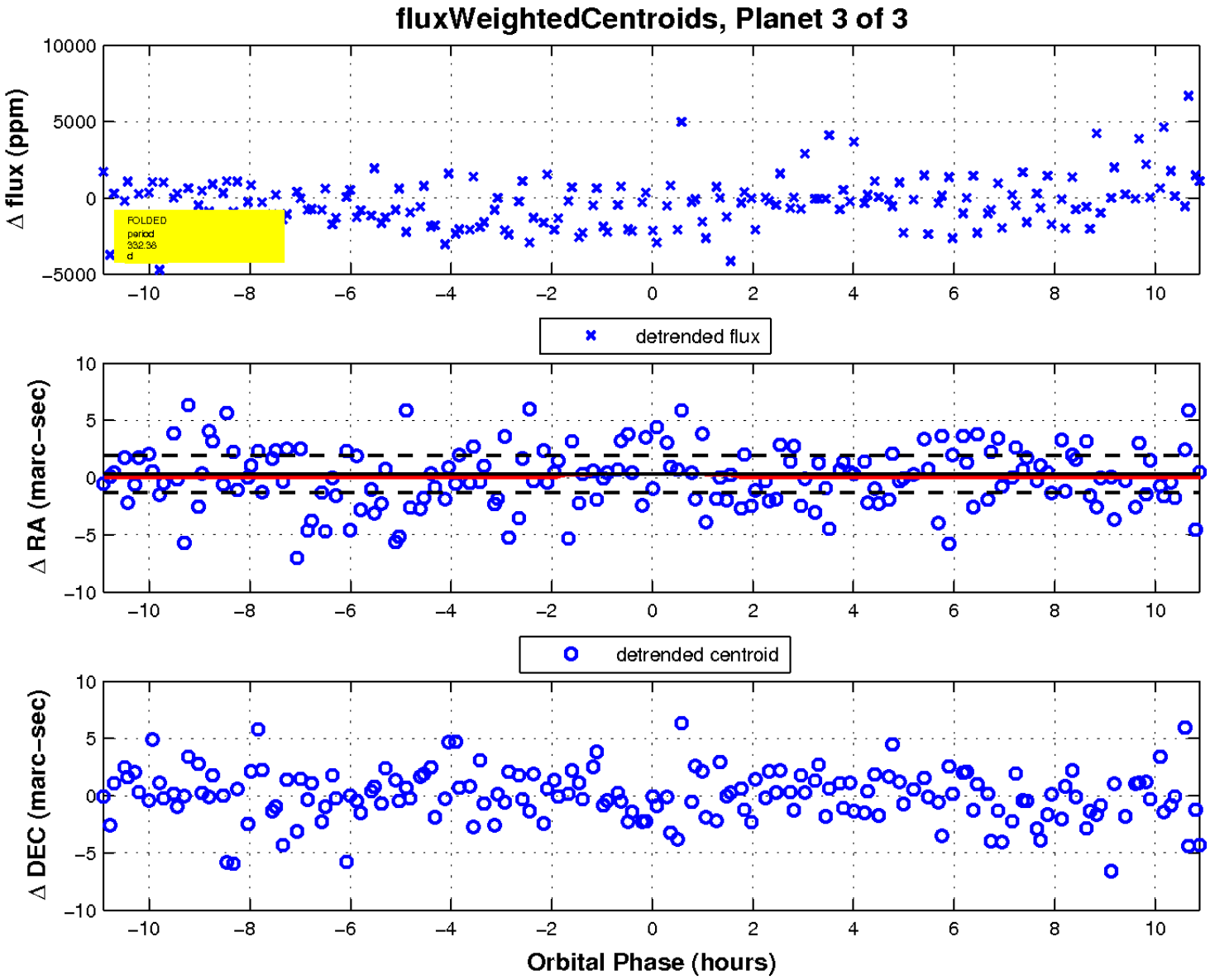




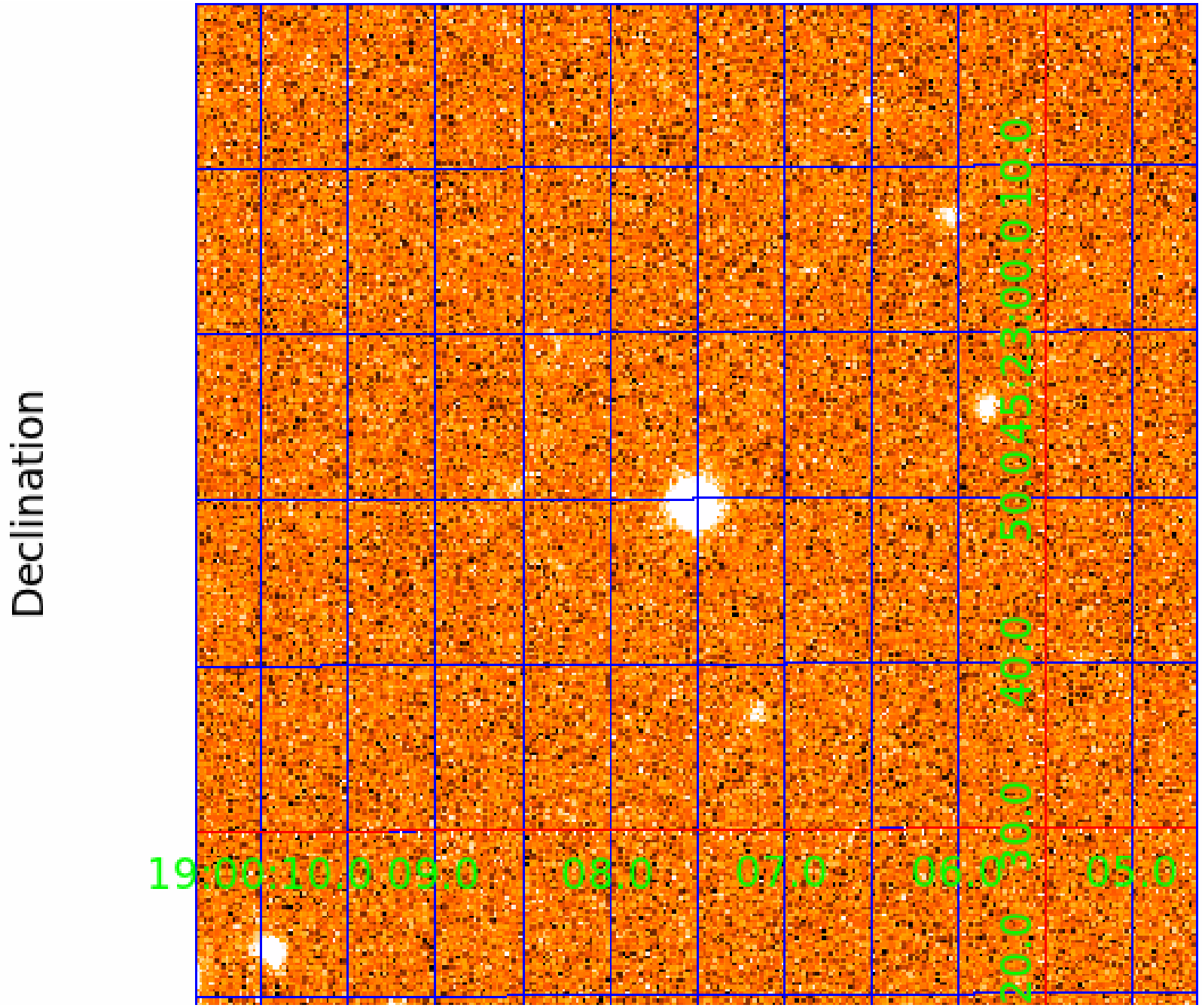
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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