KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
009173014-02	OBS	No	20.619306	139.242451	127.0	3.581	12.1	13.7	3.69	6341	4.25	646.30
009173014-03	OBS	No	26.954911	150.134145	223.4	5.408	21.4	20.3	3.69	6341	6.37	452.15
009173014-04	OBS	No	8.000495	138.981541	124.1	1.155	14.7	10.4	3.69	6341	4.27	2283.72
009173014-05	OBS	No	10.375385	141.261051	194.3	0.750	14.0	9.1	3.69	6341	5.25	1614.83
009173014-06	OBS	No	14.331522	142.739122	248.9	1.500	14.0	-1.0	3.69	6341	5.86	1049.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009173014-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

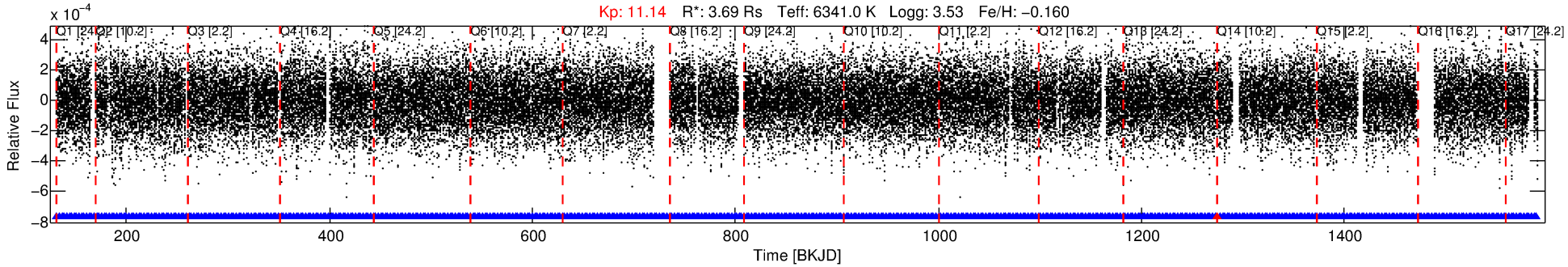
Ephemeris Match Information For 009173014-01

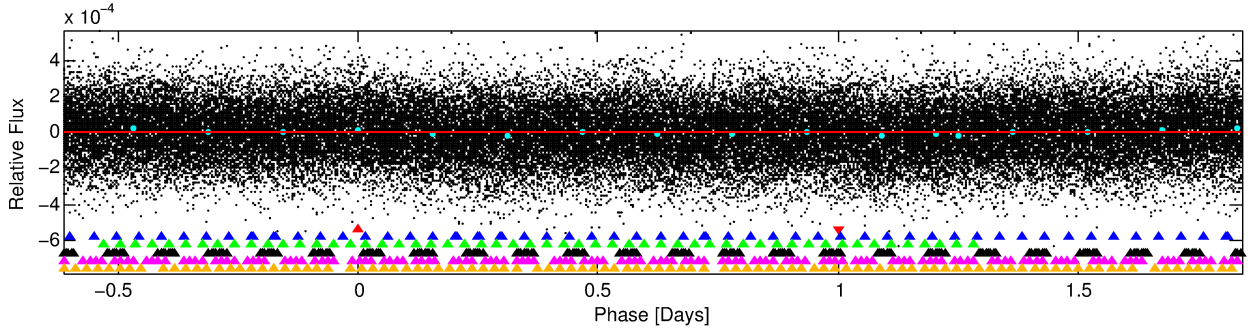
No Significant Match Found

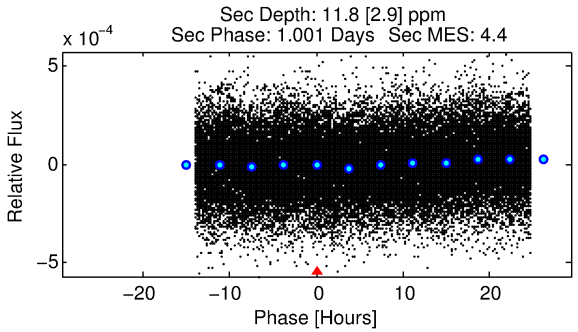
DV One-Page Summary

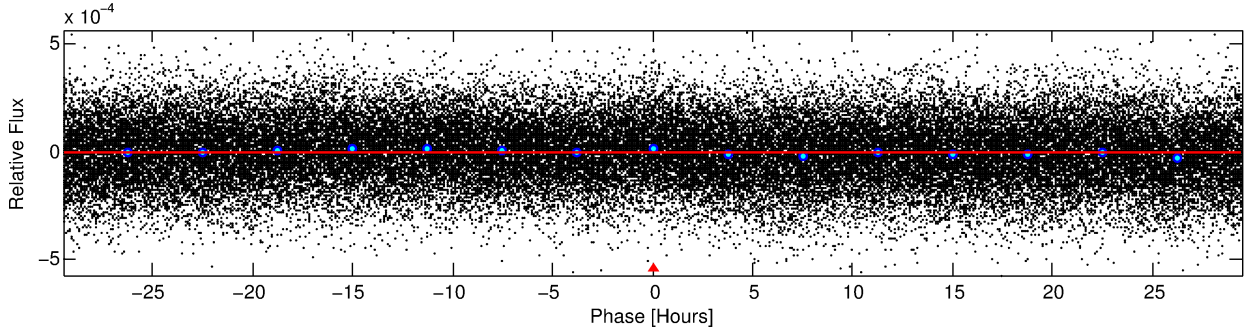
KIC: 9173014 Candidate: 1 of 6 Period: 2.454 d
KOI: K05633 Corr: No Ephemeris Match

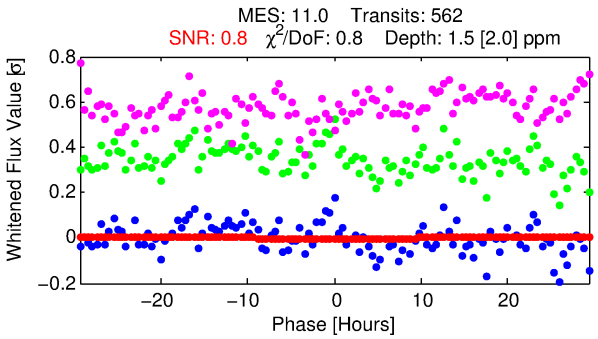
Kp: 11.14 R*: 3.69 Rs Teff: 6341.0 K Logg: 3.53 Fe/H: −0.160

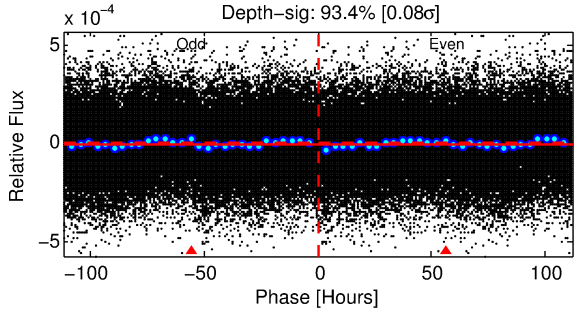


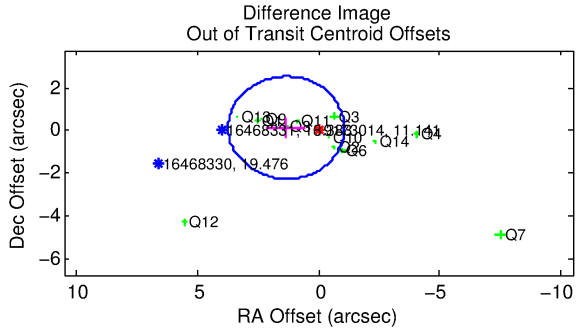












DV Fit Results:

Period = 2.45355 [0.00049] d
Epoch = 131.6785 [0.0948] BKJD
Rp/R* = 0.0012 [0.0041]
a/R* = 1.16 [5.63]
b = 0.39 [40.67]

Seff = 11042.58 [7153.30]
Teq = 2614 [423] K
Rp = 0.47 [1.66] Re
a = 0.0423 [0.0168] AU

Ag = 52.96 [374.35] [0.14σ]
Teffp = 10902 [19191] K [0.43σ]

DV Diagnostic Results:

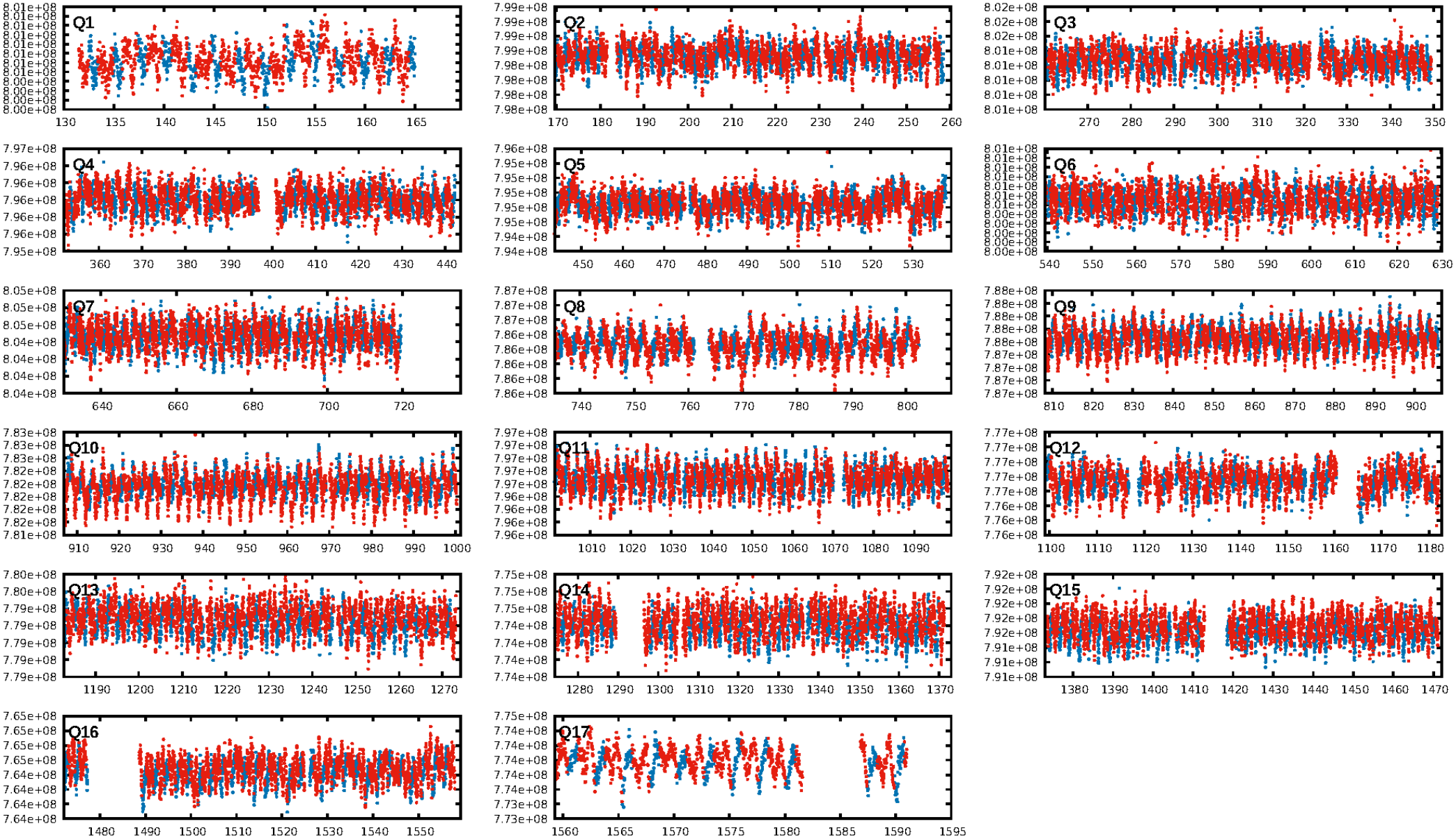
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [7.10σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [535/536]
GhostDiagnostic−chr: N/A

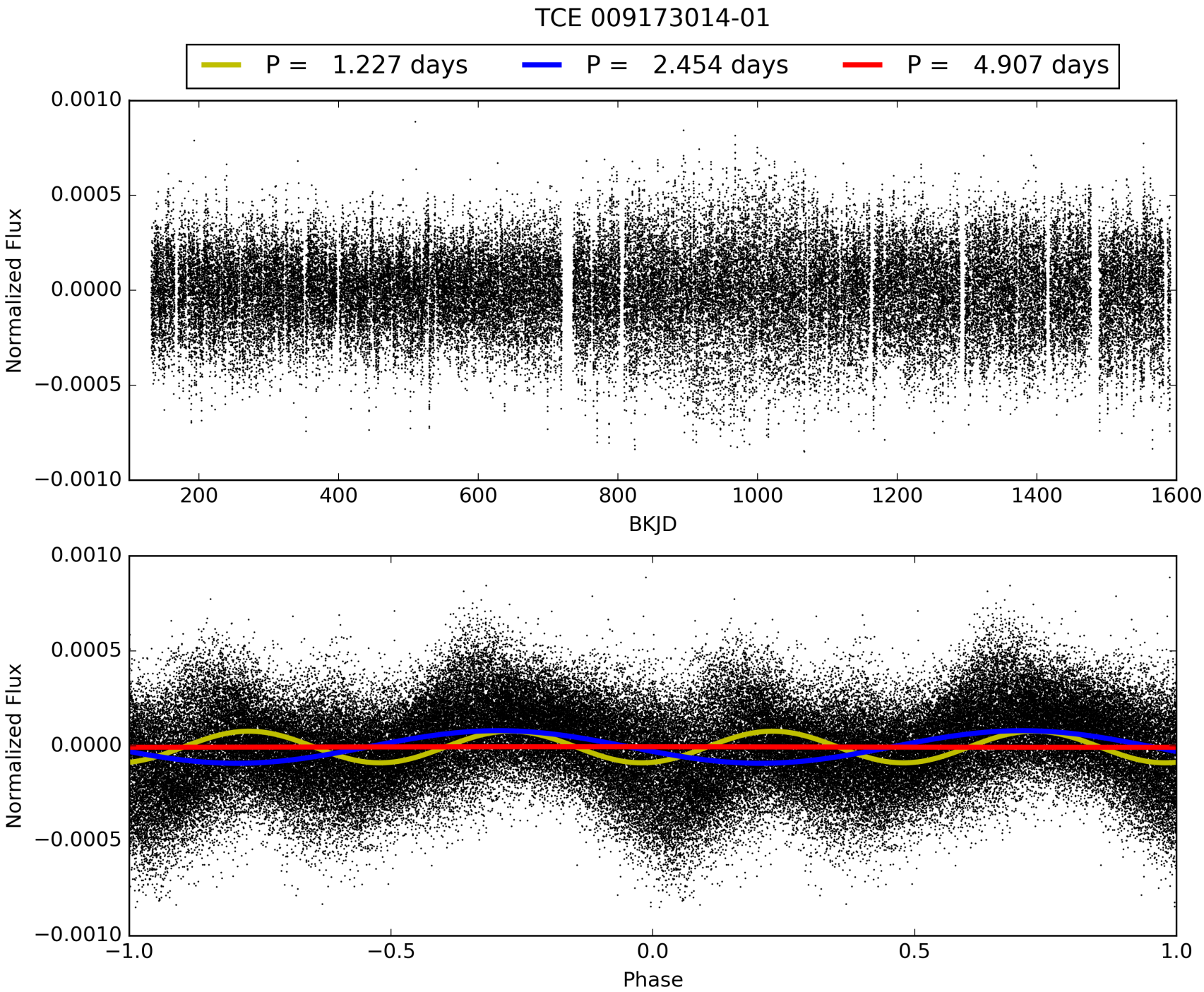
Centroid−sig: N/A
Centroid−so: N/A
OotOffset−rm: 1.341 arcsec [1.68σ]
KicOffset−rm: 1.410 arcsec [1.62σ]
OotOffset−st: 4/3/3/3 [13]
KicOffset−st: 4/3/3/3 [13]
DiffImageQuality−fgm: 0.77 [10/13]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:30 Z

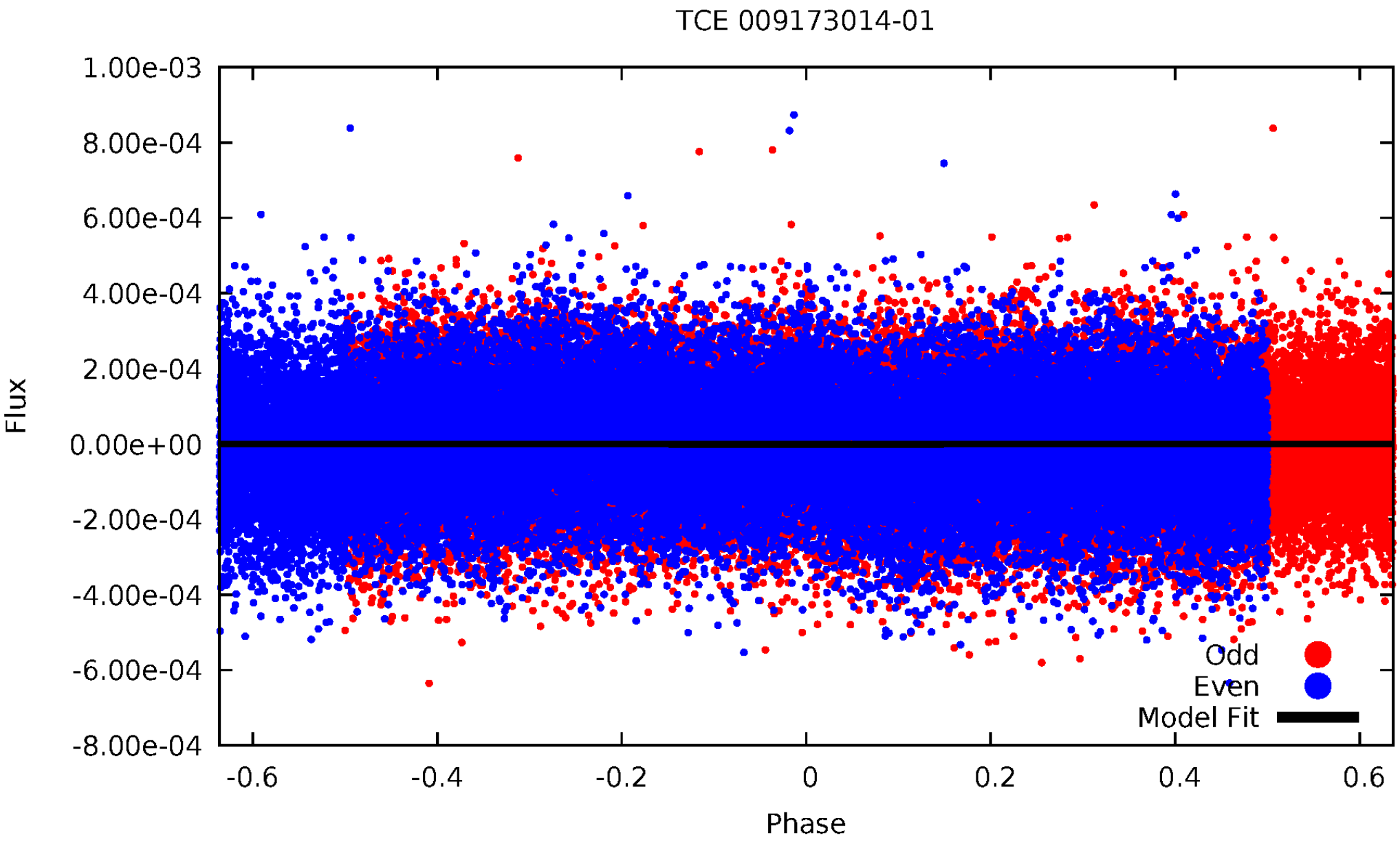
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-01, PDC Light Curves




TCE 009173014-01
P = 1.227 days
P = 2.454 days
P = 4.907 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

DV Odd/Even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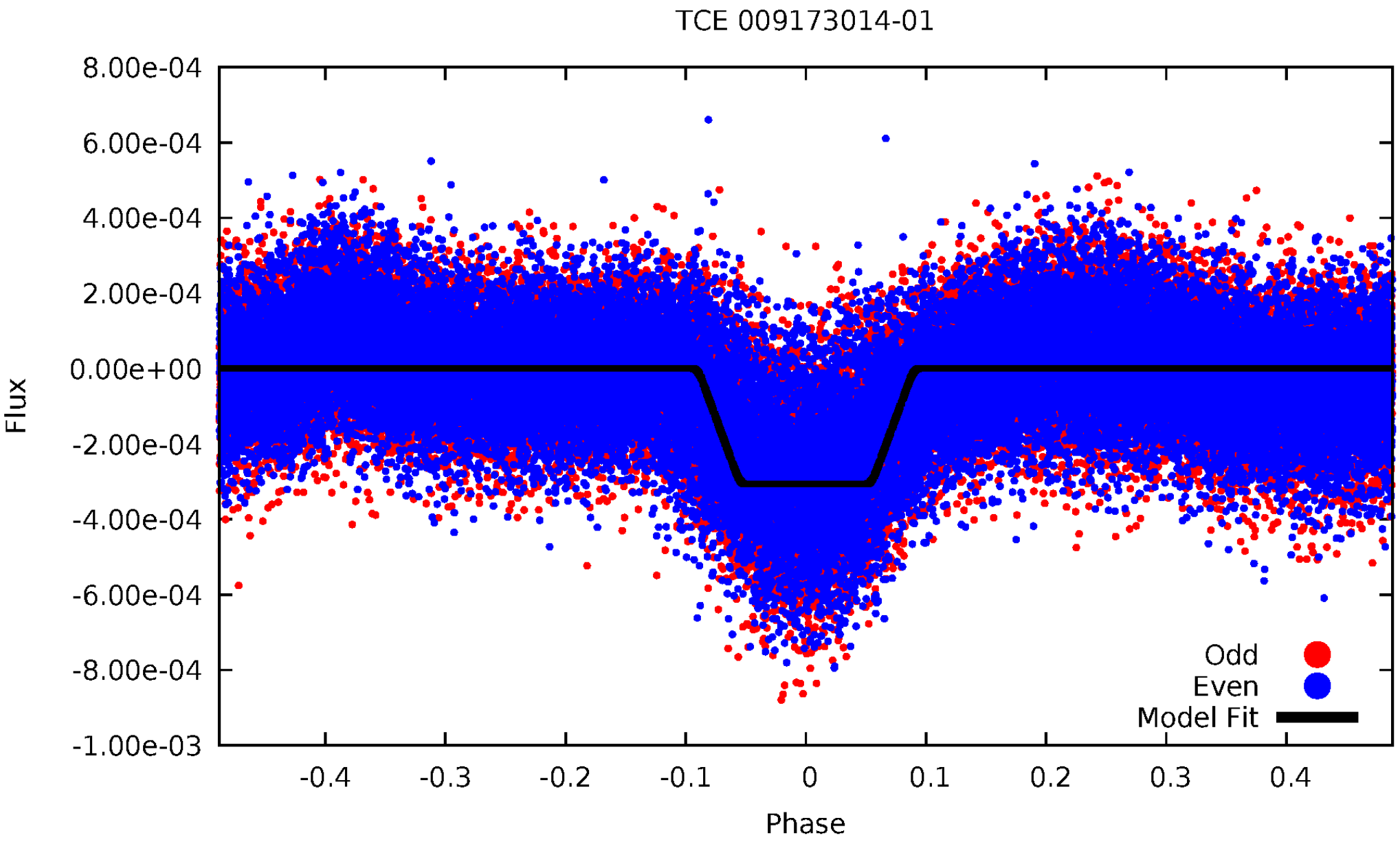
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009173014-01
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6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
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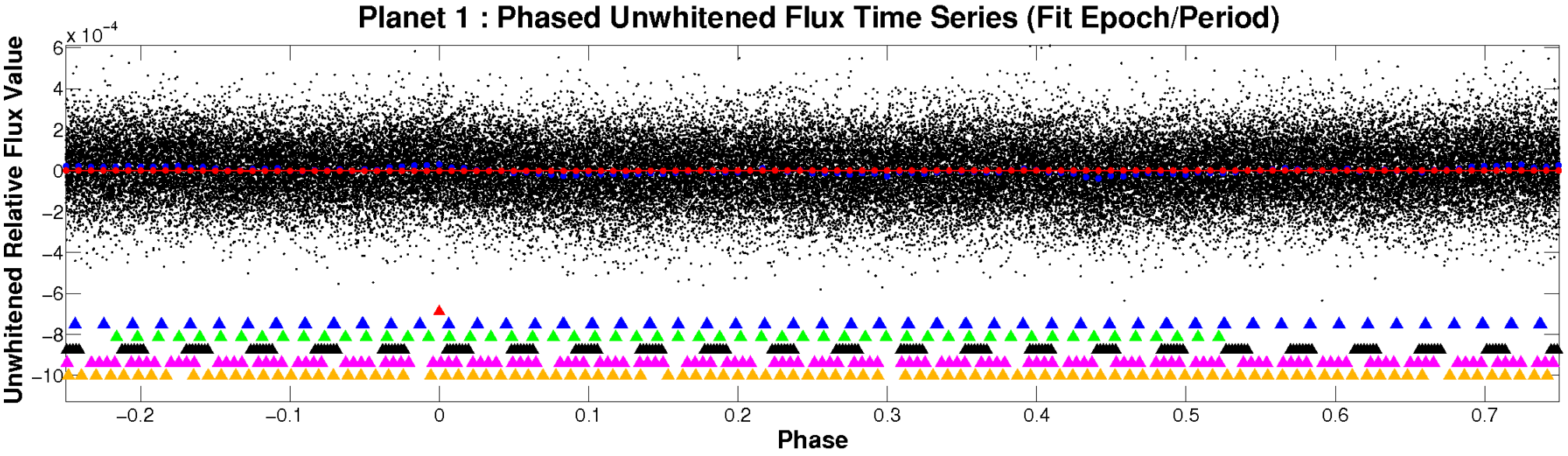
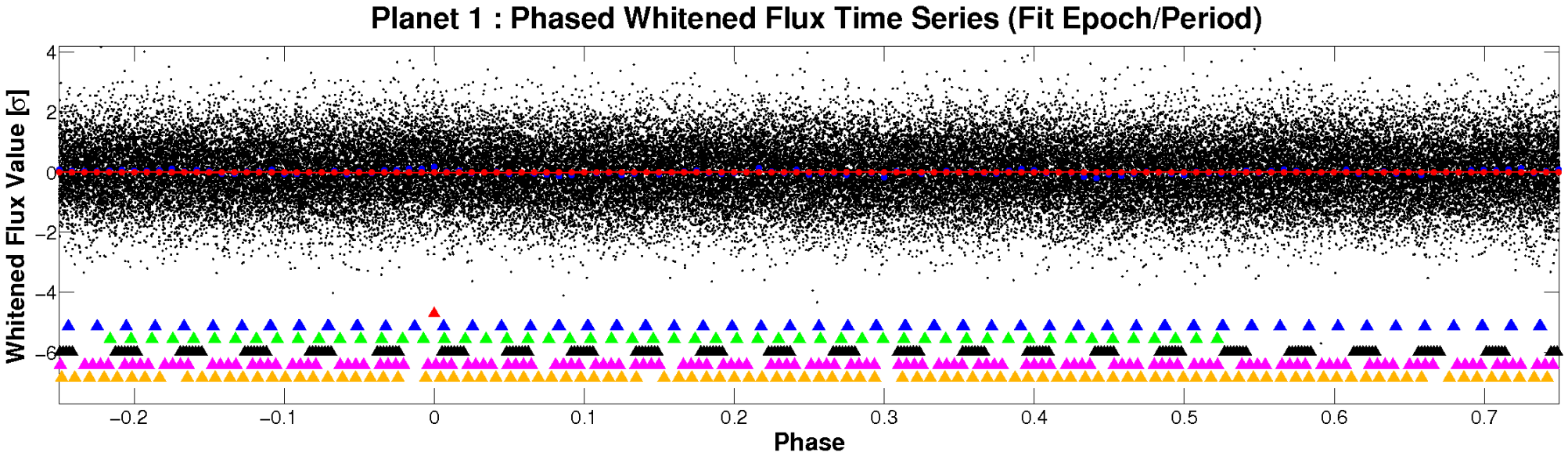
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
Phase
Odd
Even
Model Fit

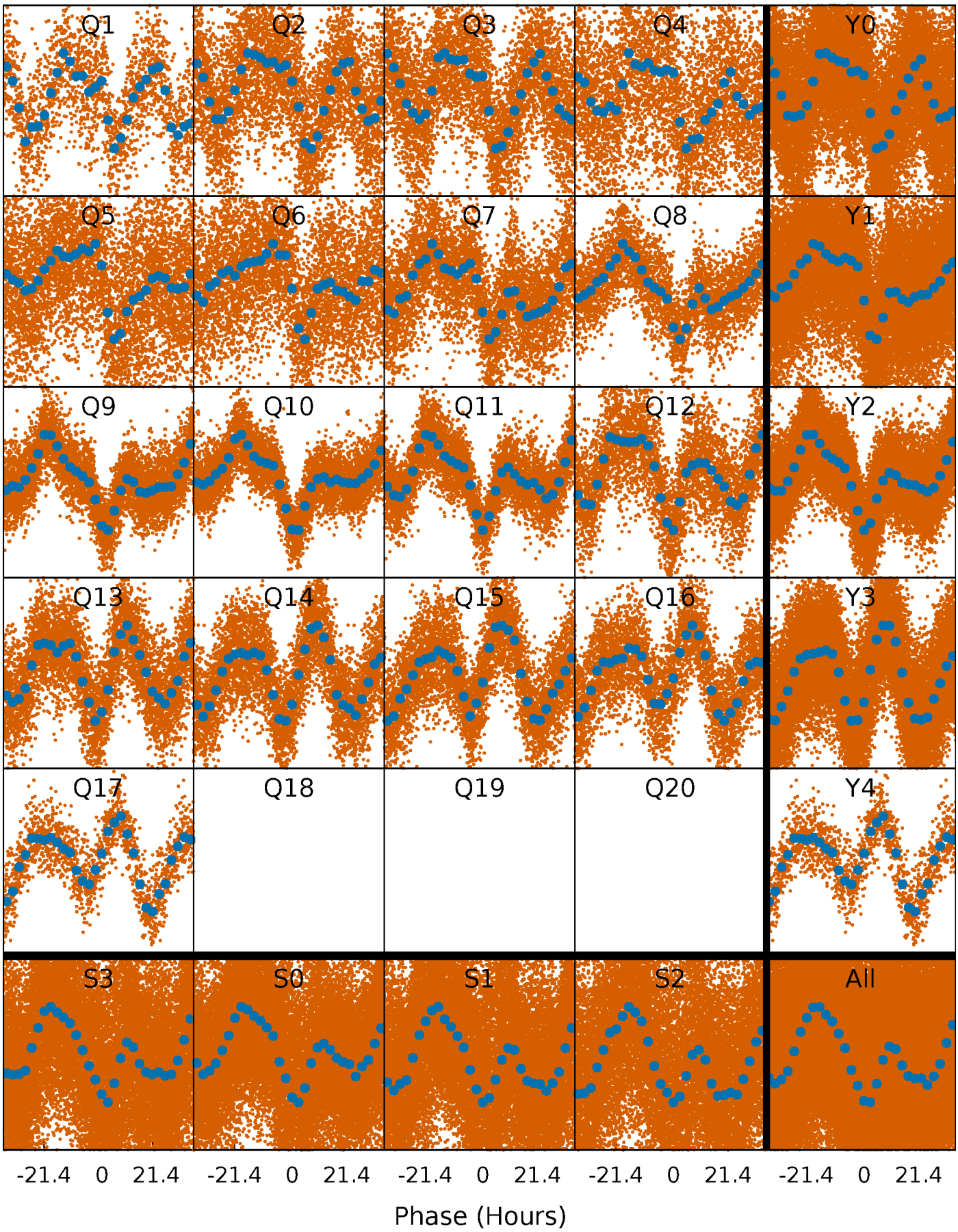
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009173014-01 P= 2.453552 Days T_0=131.678550 (BKJD)



DV Quarter-Phased Transit Curves

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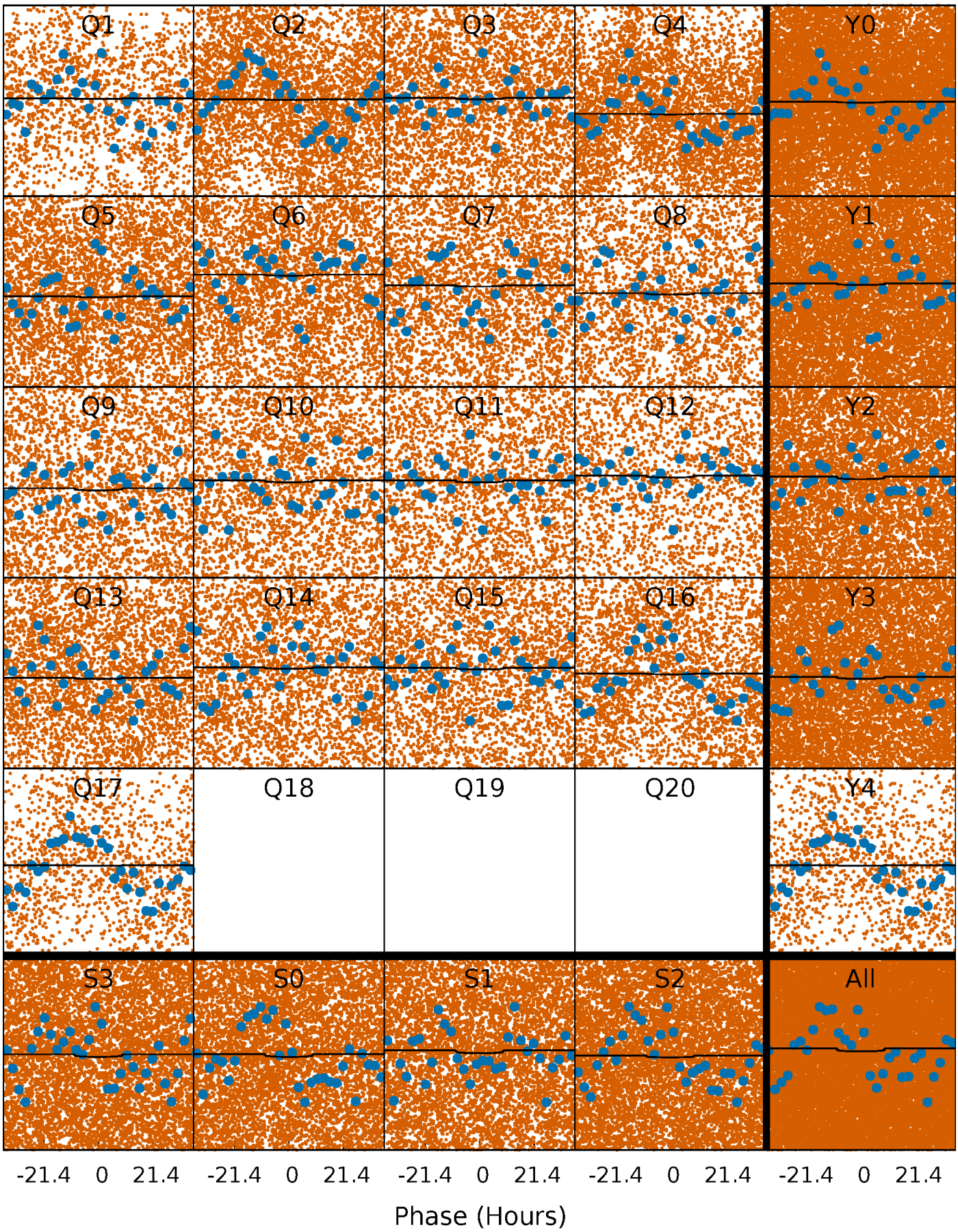
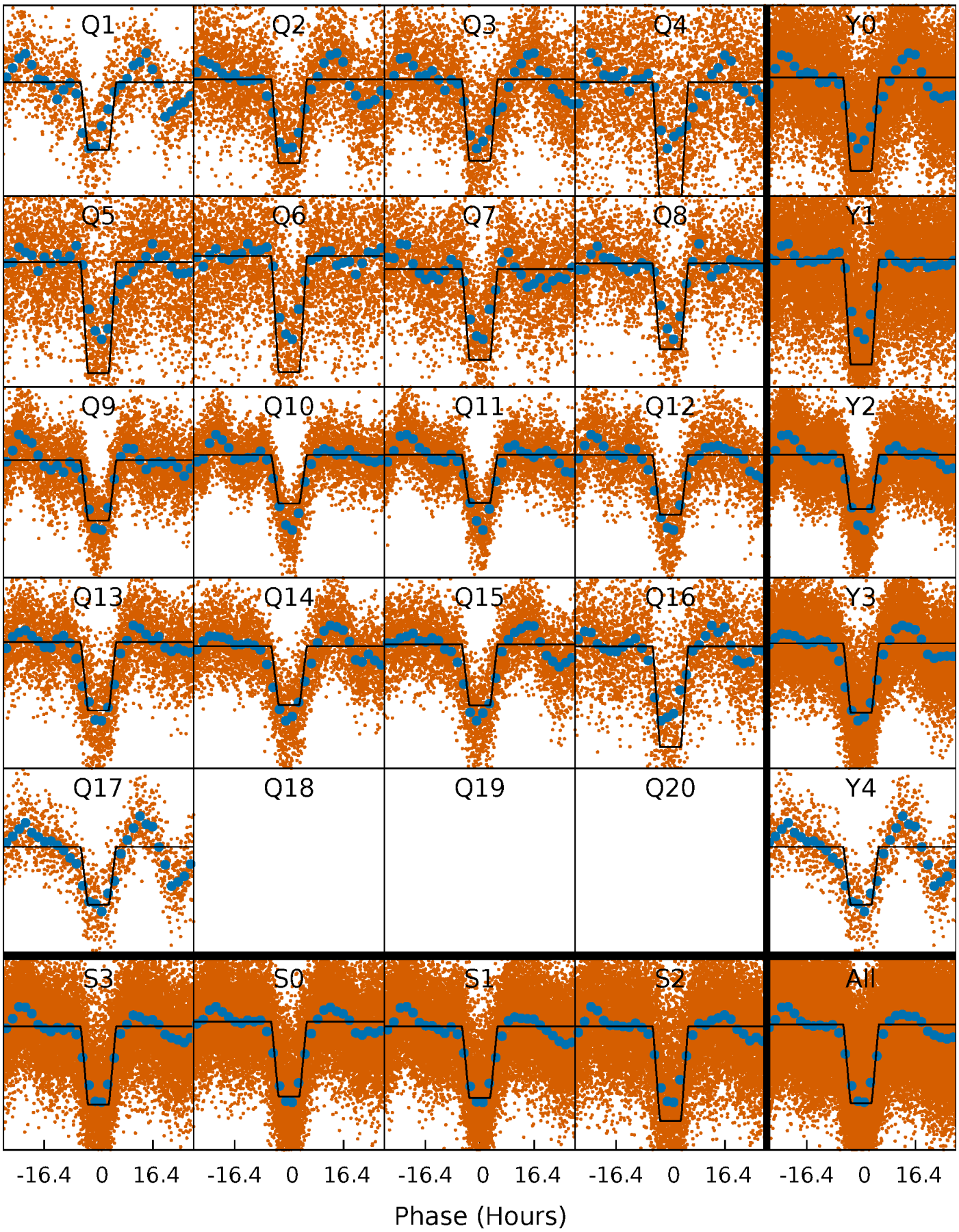


Alt. Detrend Quarter-Phased Transit Curves

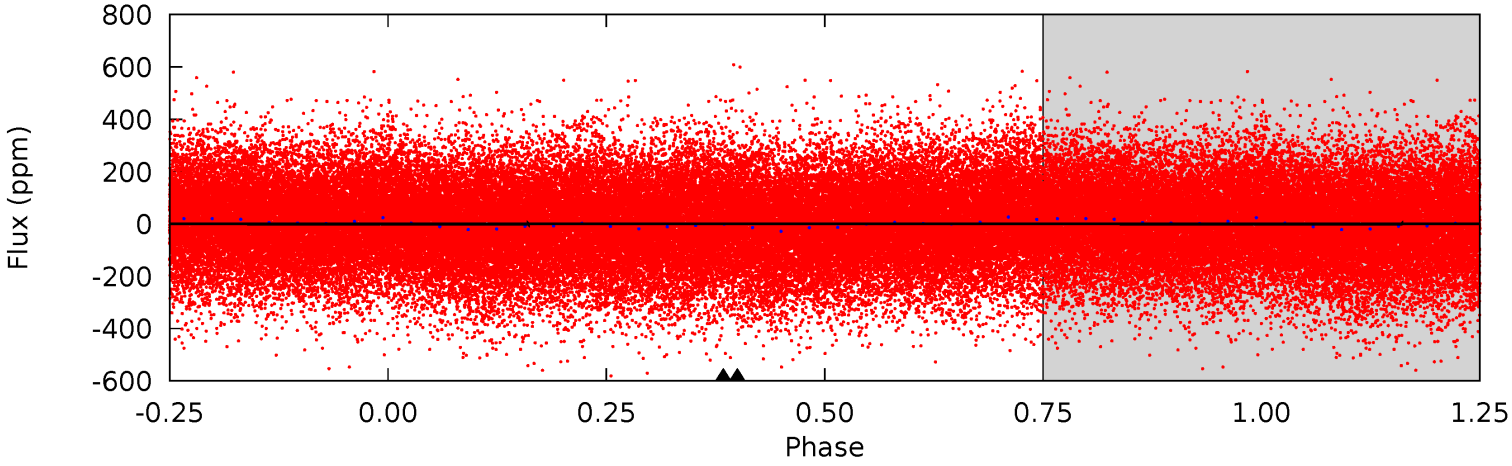
TCE 009173014-01 P= 2.452620 Days T_0=132.069967 (BKJD)

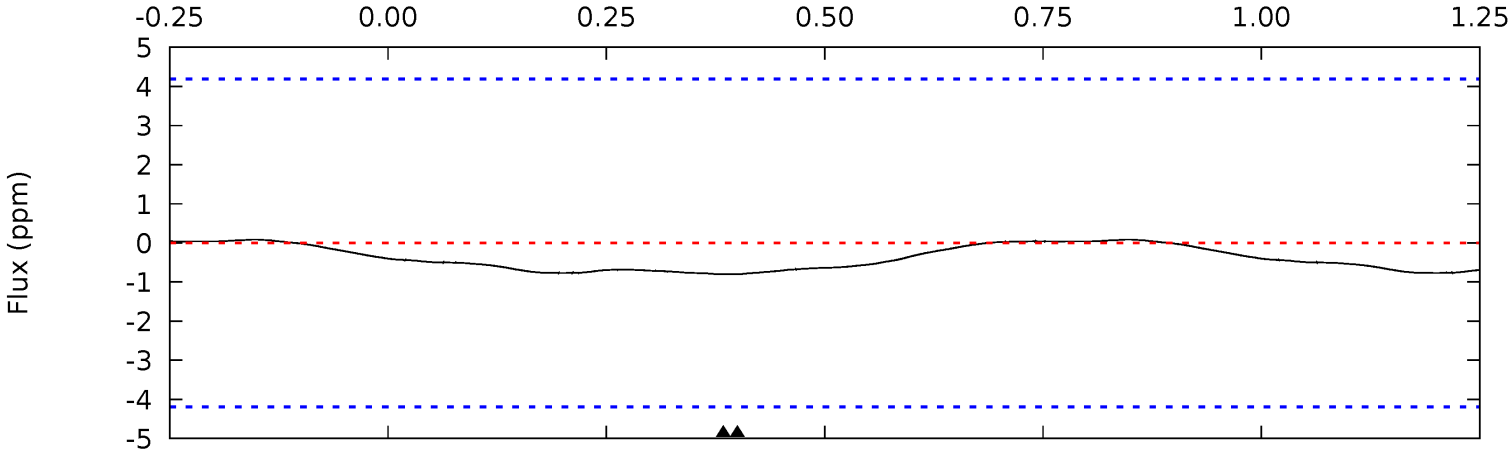


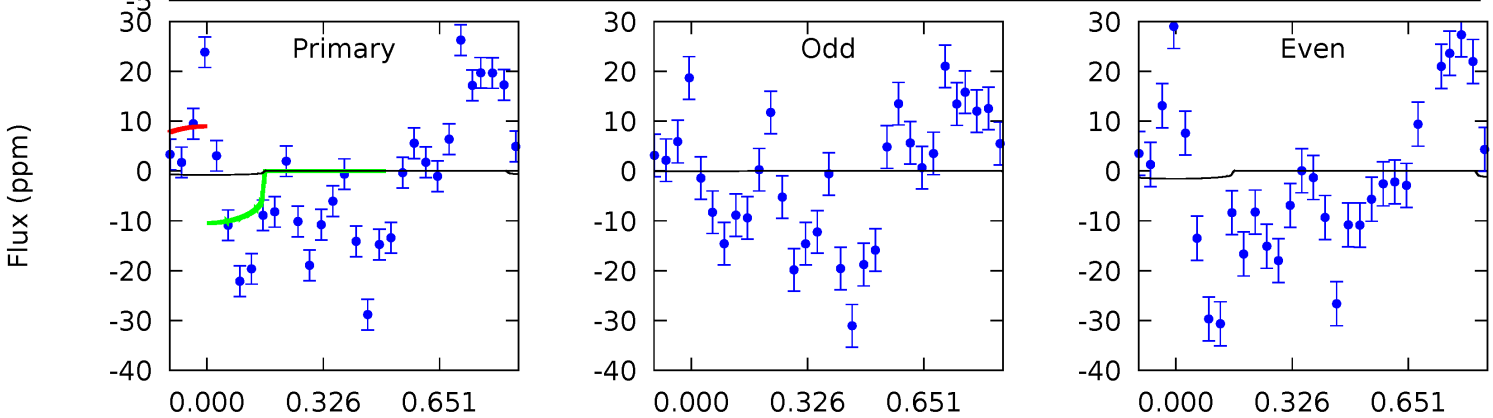
DV Model-Shift Uniqueness Test

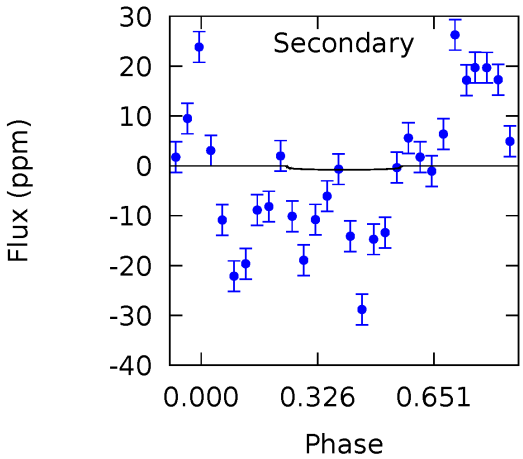
009173014-01, P = 2.453552 Days, E = 129.224998 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.83	0.82	0	0	4.31	0.98	0.21	0.83	0.83	0.82	0.82	0.77	0.31	0.10	0.75





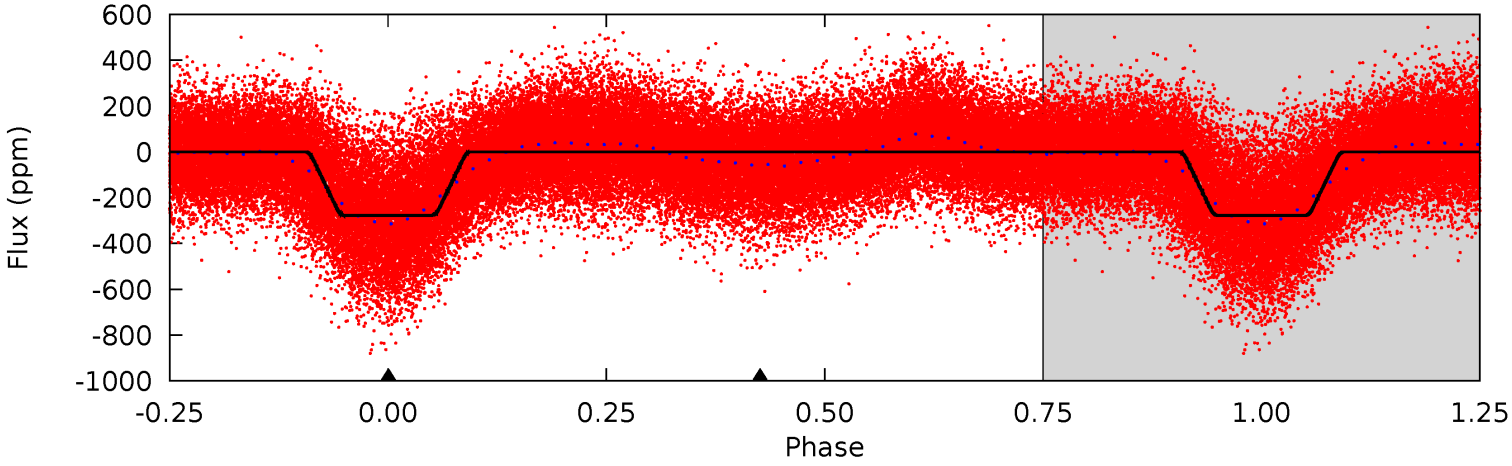


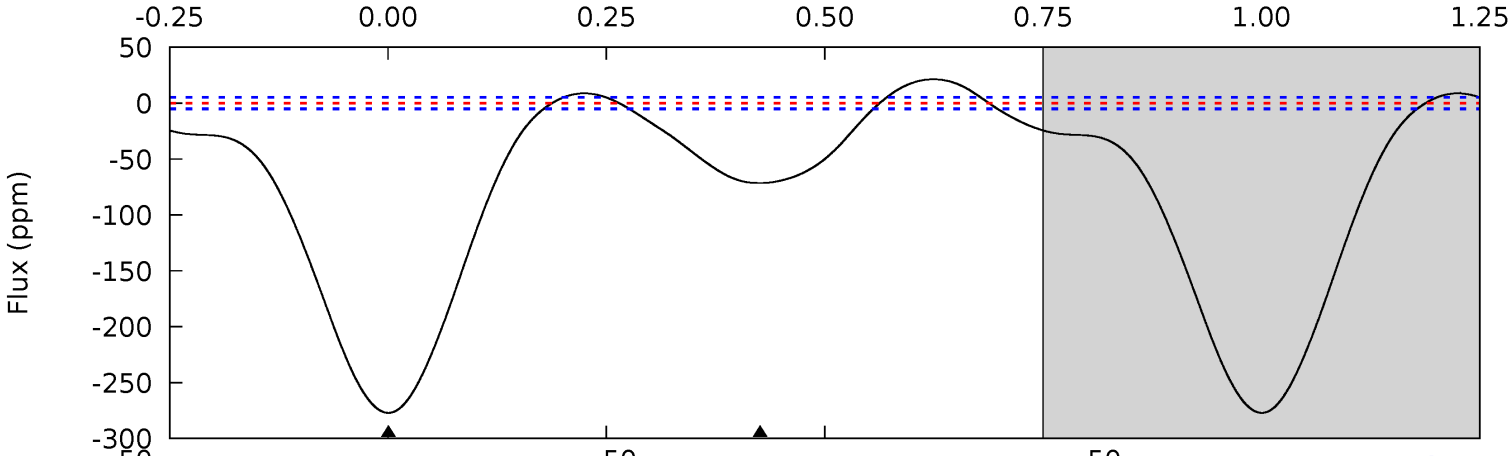


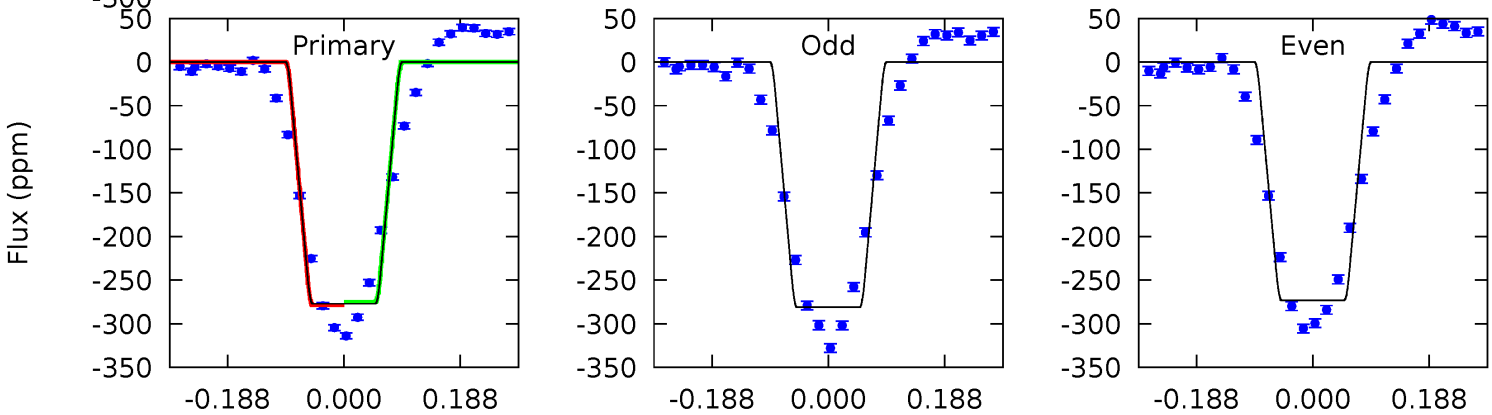
Alt Model-Shift Uniqueness Test

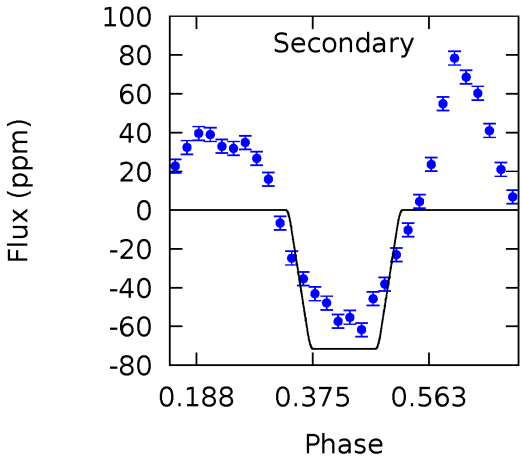
009173014-01, P = 2.452620 Days, E = 129.617347 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
234.6	60.5	0	0	4.43	1.32	15.2	234.6	234.6	60.5	60.5	3.46	0.98	0.07	1.55









Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1±1	$1.25^{+1.40}_{-0.89}$	3603^{+192}_{-348}	2495^{+2978}_{-6064}	$0.329^{+3.861}_{-0.393}$
Alt.	-72±1	$6.59^{+1.97}_{-1.89}$	3605^{+202}_{-352}	4408^{+578}_{-449}	$1.621^{+1.494}_{-0.662}$

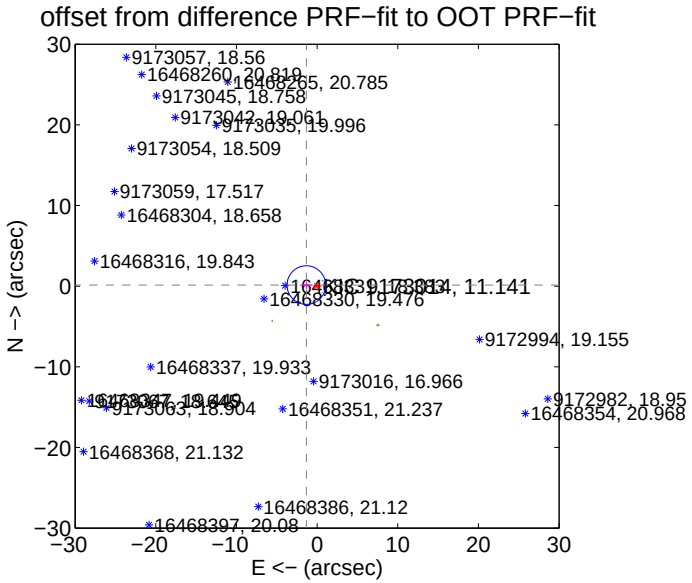
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

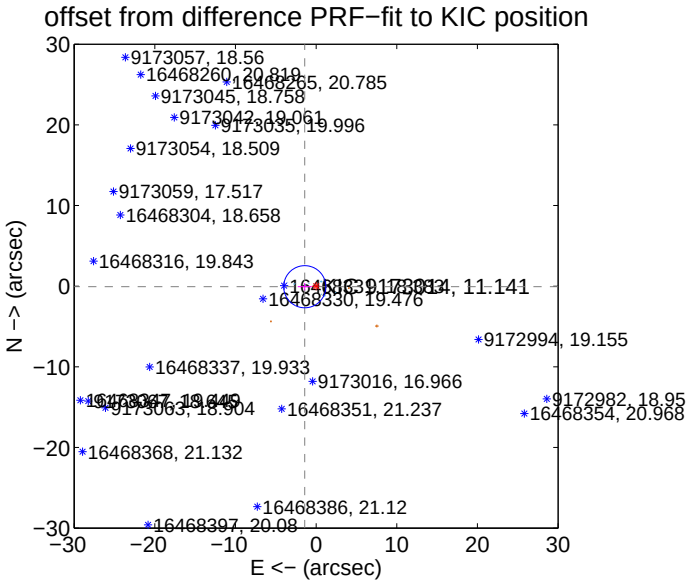
If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

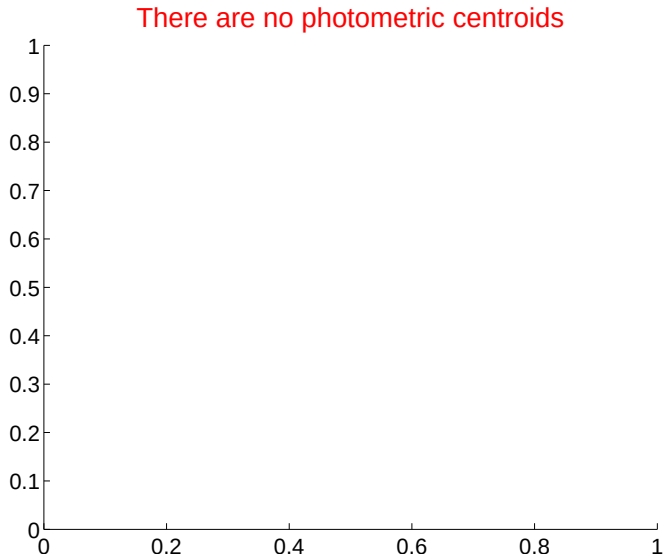
DV Centroid Data

Supplemental centroid analysis for 009173014-01. Kepler magnitude: 11.14. Transit SNR 0.81
There are 10 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.341 ± 0.798	1.68	1.334 ± 0.788	0.135 ± 0.459
PRF-fit source offset from KIC position	1.410 ± 0.871	1.62	1.408 ± 0.877	-0.069 ± 0.455
photometric centroid source offset	—	—	—	—

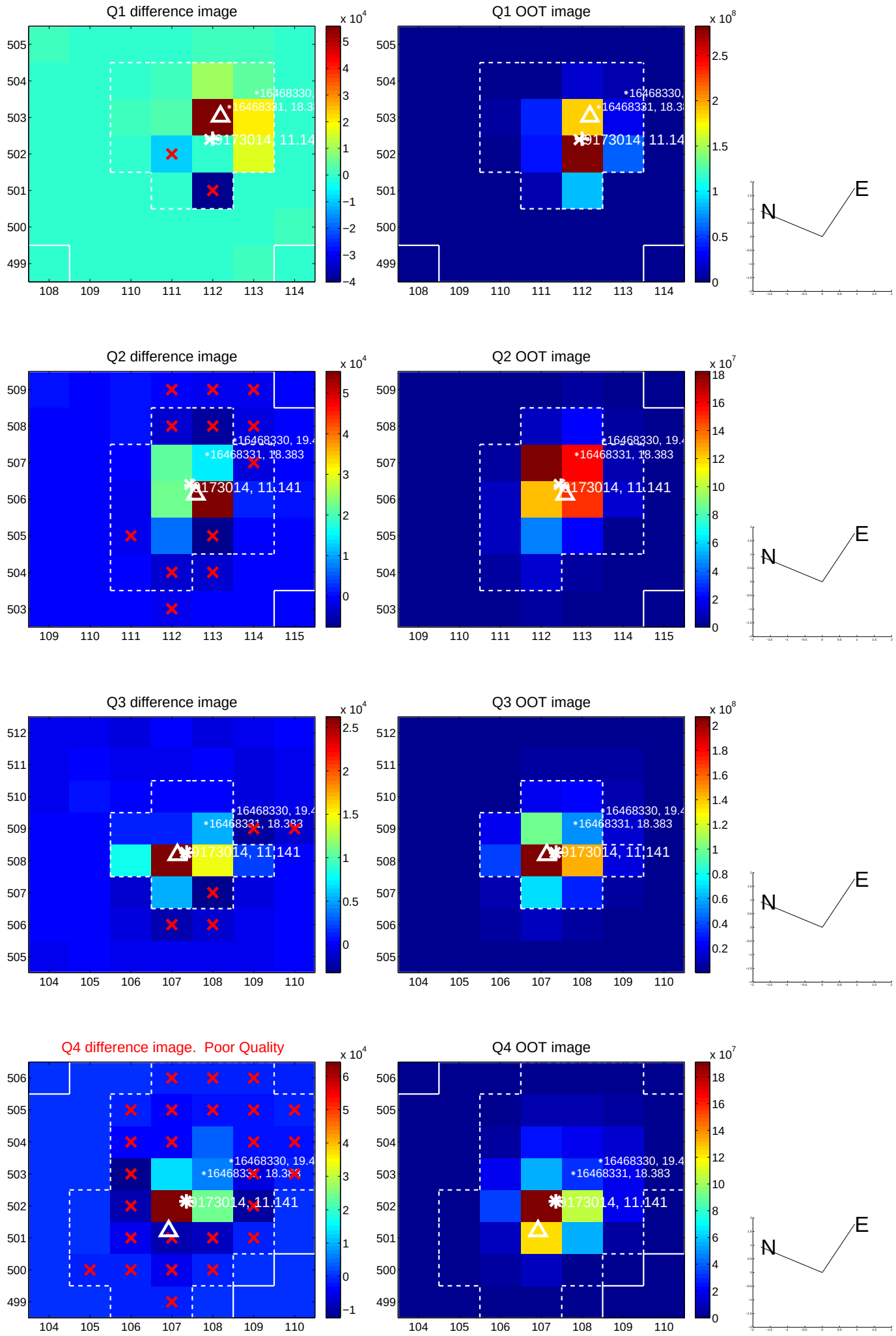




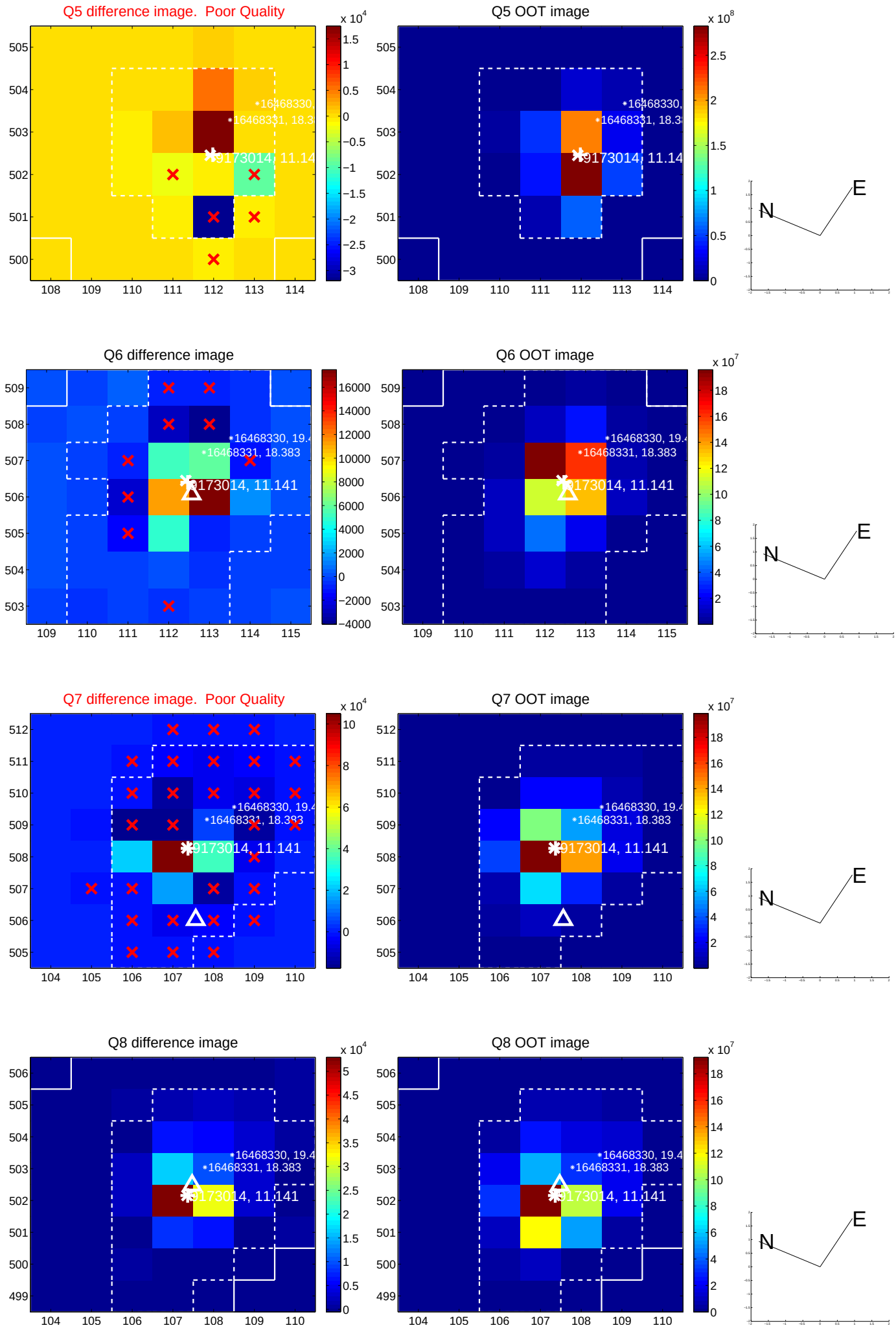


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

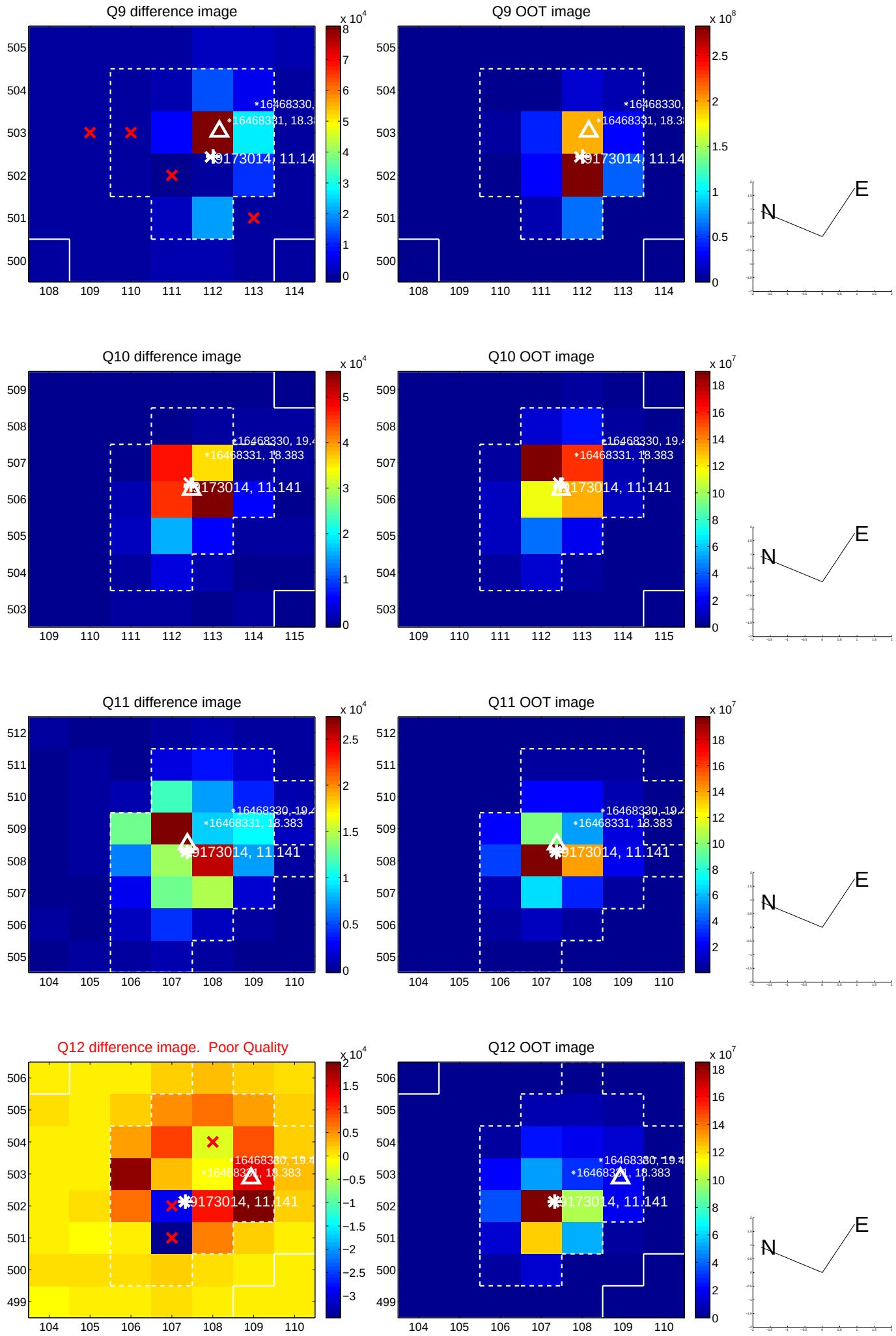
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



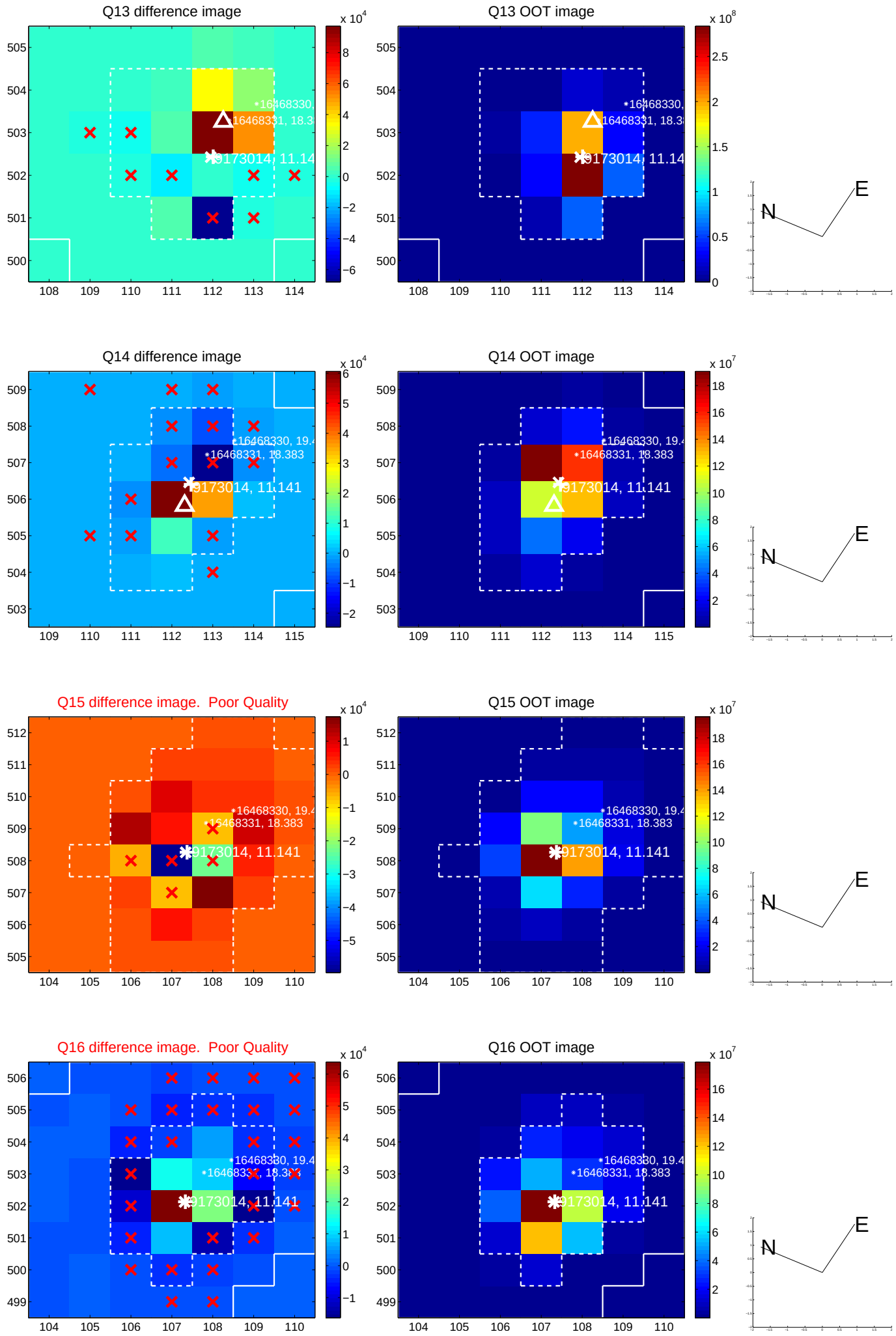
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



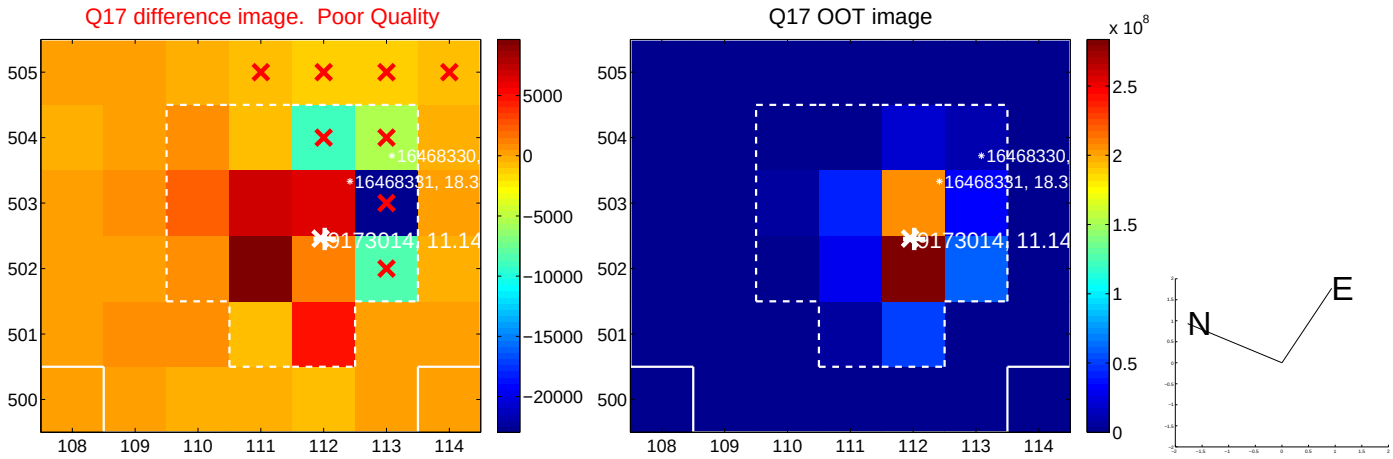
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

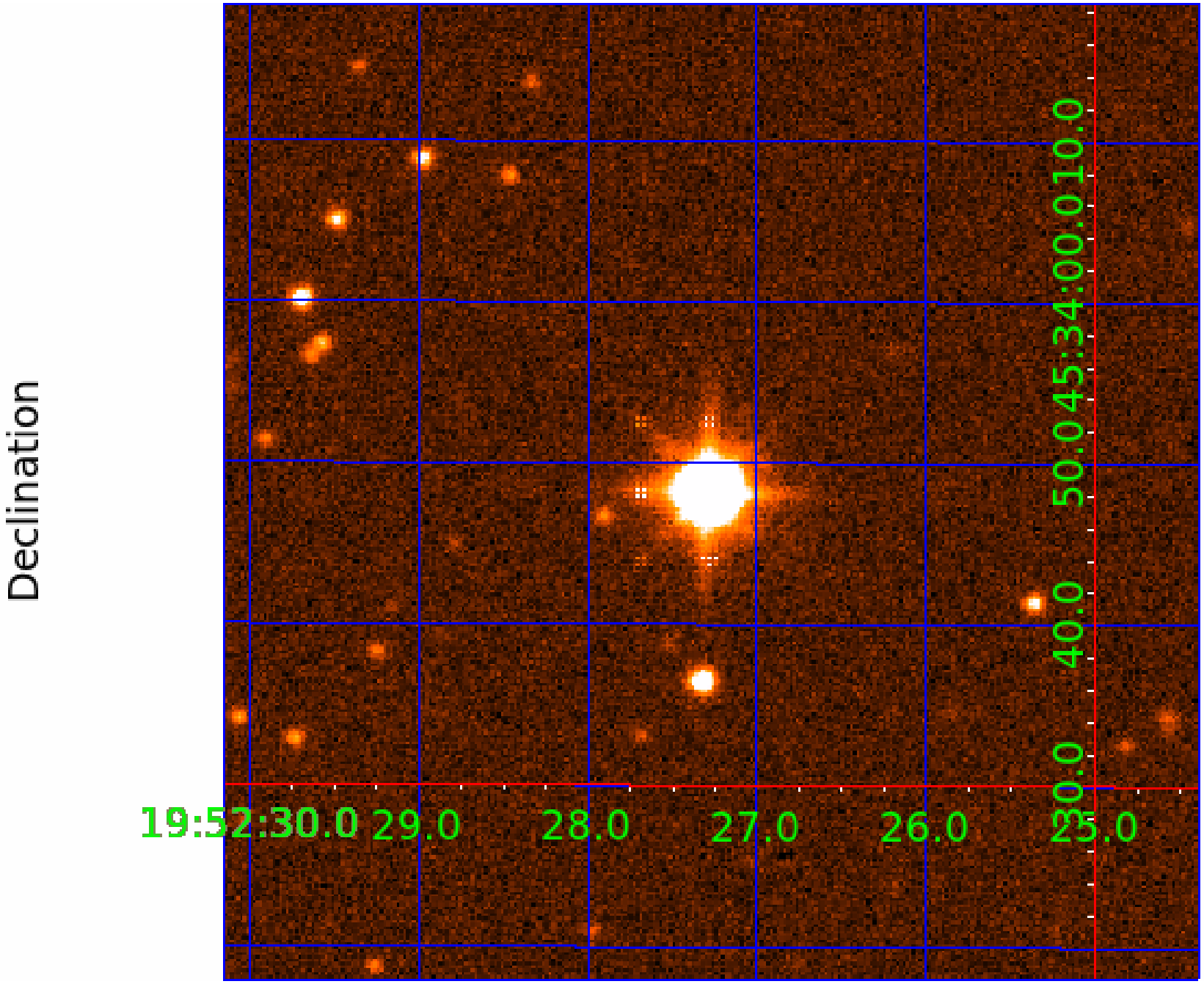


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



olded centroid time series figure for this object.

UKIRT Image


Declination
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29.0
28.0
27.0
26.0
25.0
30.0
40.0
50.0
45:34:00.0
10.0

KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
009173014-02	OBS	No	20.619306	139.242451	127.0	3.581	12.1	13.7	3.69	6341	4.25	646.30
009173014-03	OBS	No	26.954911	150.134145	223.4	5.408	21.4	20.3	3.69	6341	6.37	452.15
009173014-04	OBS	No	8.000495	138.981541	124.1	1.155	14.7	10.4	3.69	6341	4.27	2283.72
009173014-05	OBS	No	10.375385	141.261051	194.3	0.750	14.0	9.1	3.69	6341	5.25	1614.83
009173014-06	OBS	No	14.331522	142.739122	248.9	1.500	14.0	-1.0	3.69	6341	5.86	1049.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009173014-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

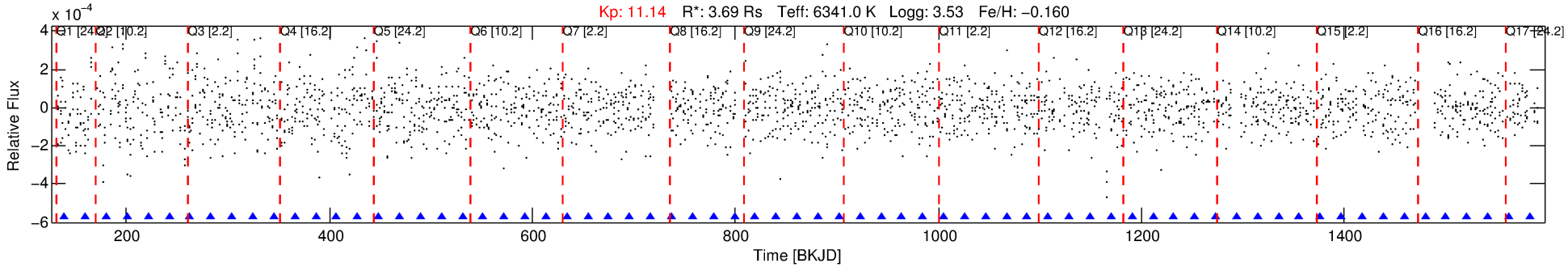
Ephemeris Match Information For 009173014-02

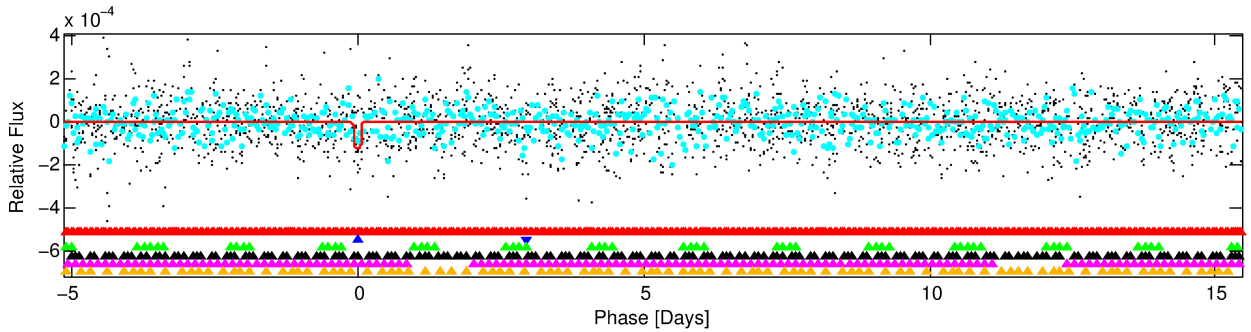
No Significant Match Found

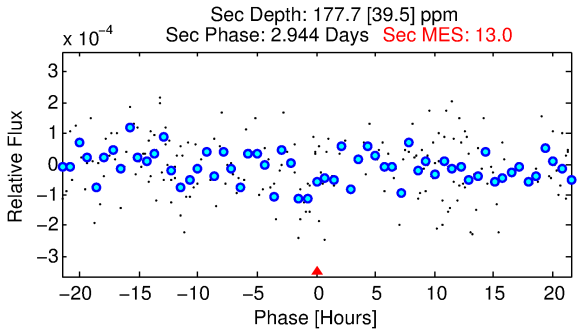
DV One-Page Summary

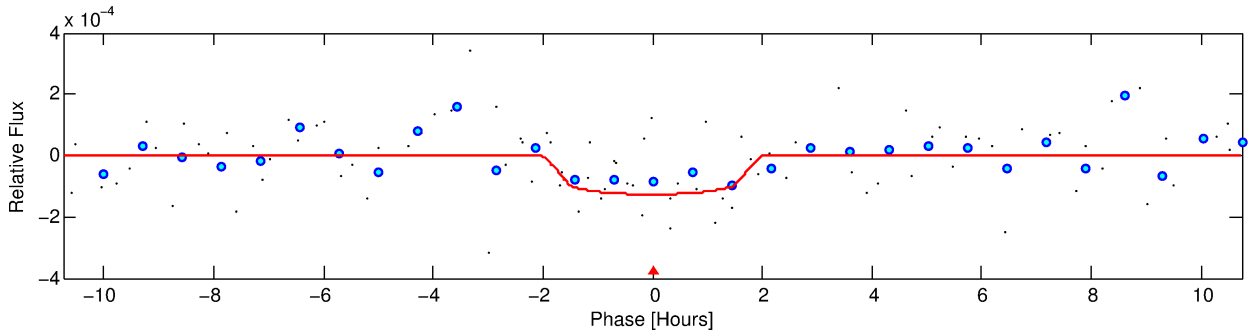
KIC: 9173014 Candidate: 2 of 6 Period: 20.619 d
KOI: K05633 Corr: No Ephemeris Match

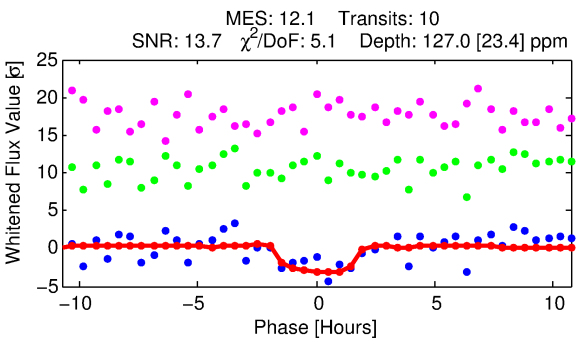
Kp: 11.14 R*: 3.69 Rs Teff: 6341.0 K Logg: 3.53 Fe/H: −0.160

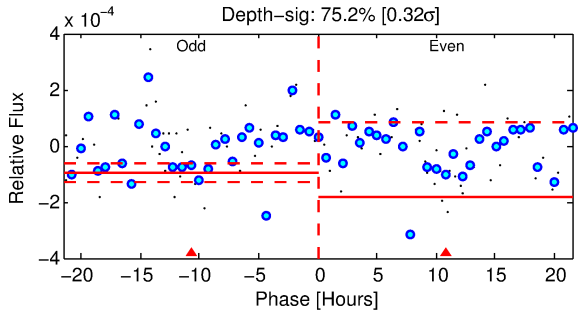


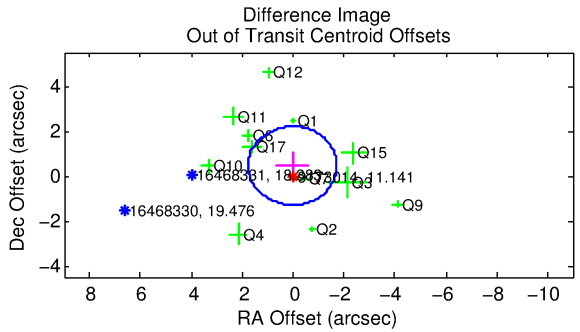












DV Fit Results:

Period = 20.61931 [0.00044] d
Epoch = 139.2425 [0.0144] BKJD
Rp/R* = 0.0105 [0.0223]
a/R* = 40.64 [438.47]
b = 0.41 [22.14]

Seff = 646.30 [418.67]
Teq = 1286 [208] K
Rp = 4.25 [9.14] Re
a = 0.1746 [0.0693] AU

Ag = 165.36 [707.80] [0.23σ]
Teffp = 7128 [7545] K [0.77σ]

DV Diagnostic Results:

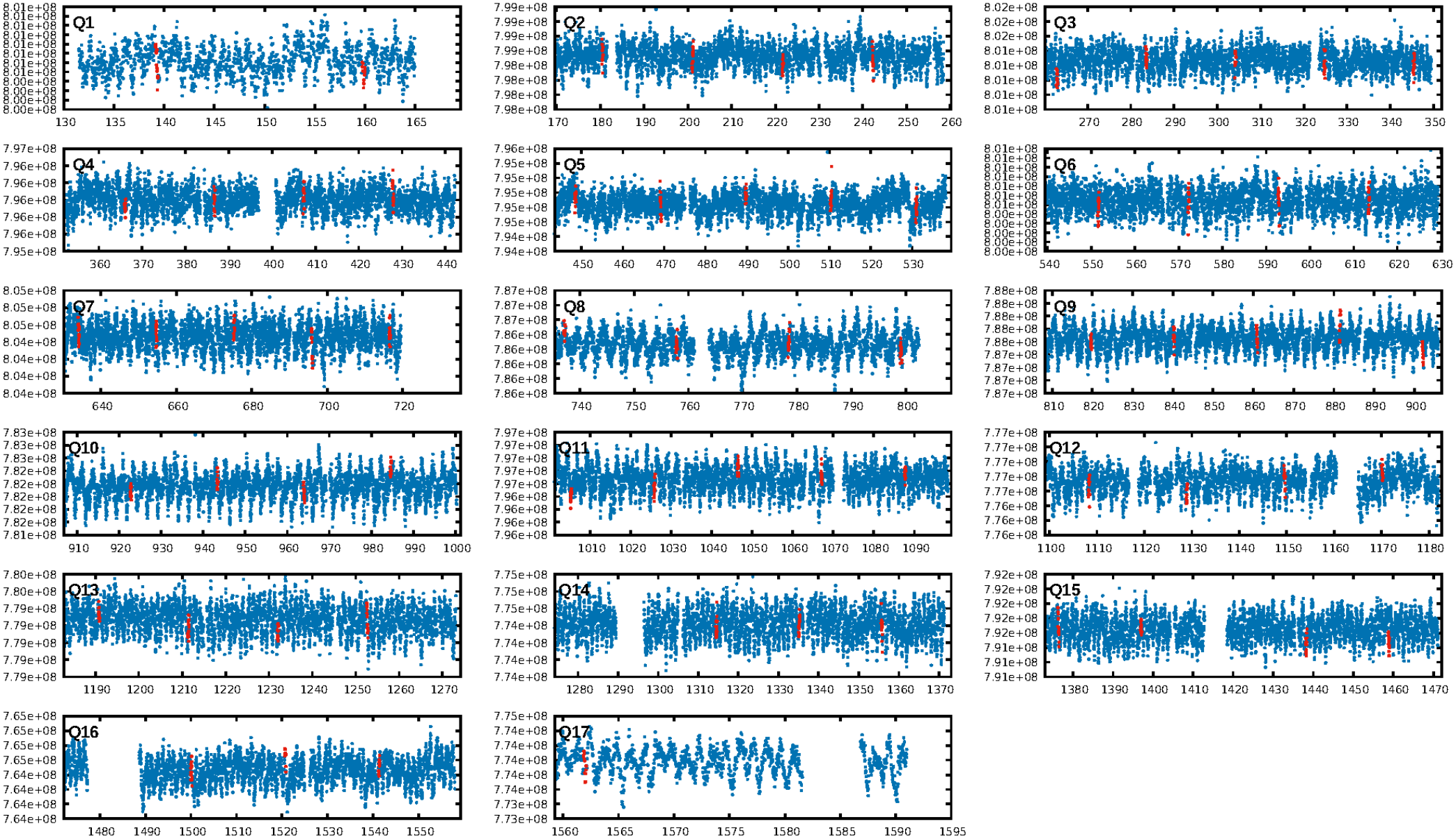
ShortPeriod−sig: 100.0% [38.87σ]
LongPeriod−sig: 100.0% [23.44σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 23.2%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [9/9]
GhostDiagnostic−chr: 0.7245

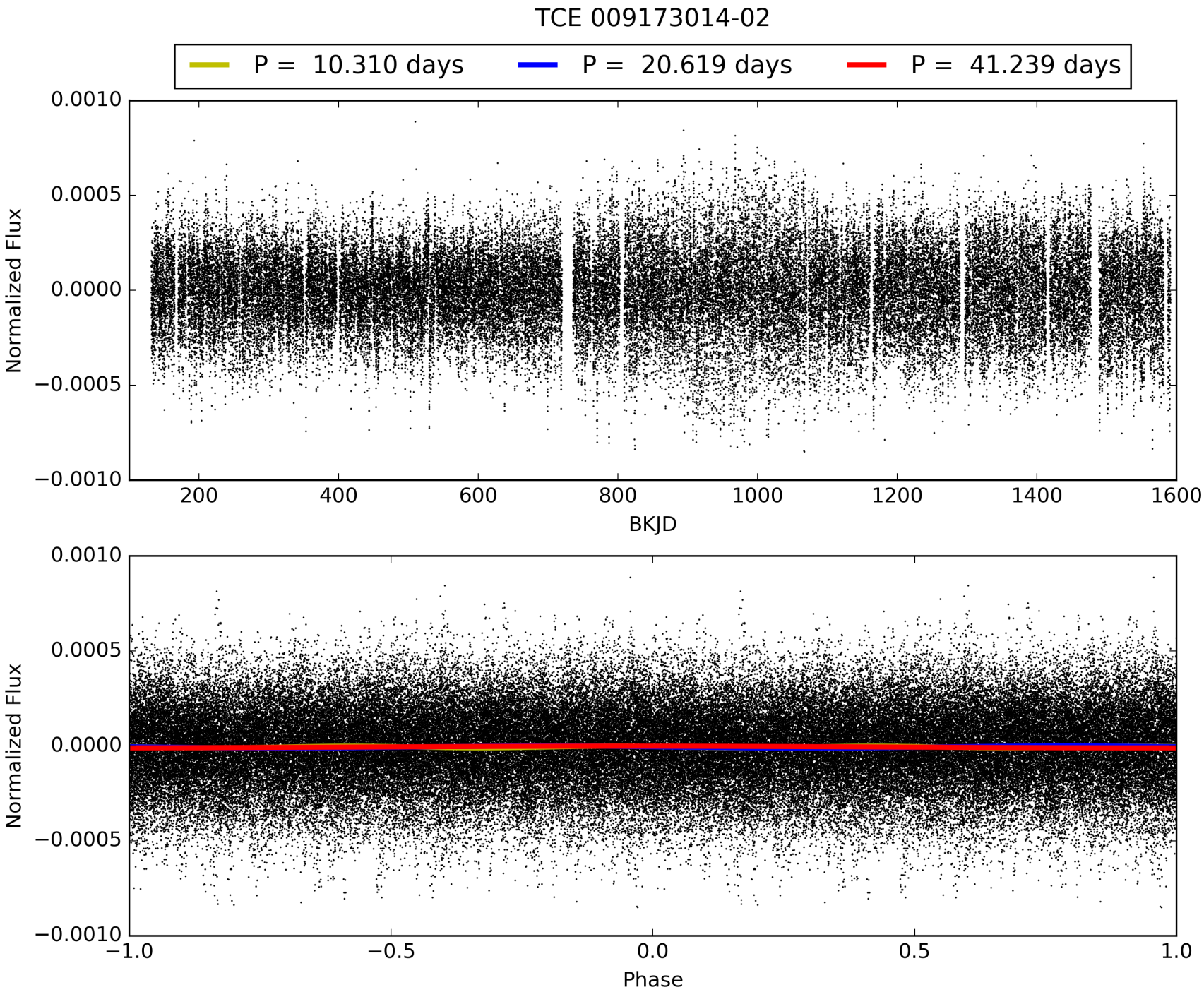
Centroid−sig: 0.0%
Centroid−so: 1.402 arcsec [3.49σ]
OotOffset−rm: 0.453 arcsec [0.78σ]
KicOffset−rm: 0.326 arcsec [0.48σ]
OotOffset−st: 3/4/2/3 [12]
KicOffset−st: 3/4/2/3 [12]
DiffImageQuality−fgm: 0.33 [4/12]
DiffImageOverlap−fno: 0.82 [14/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:41 Z

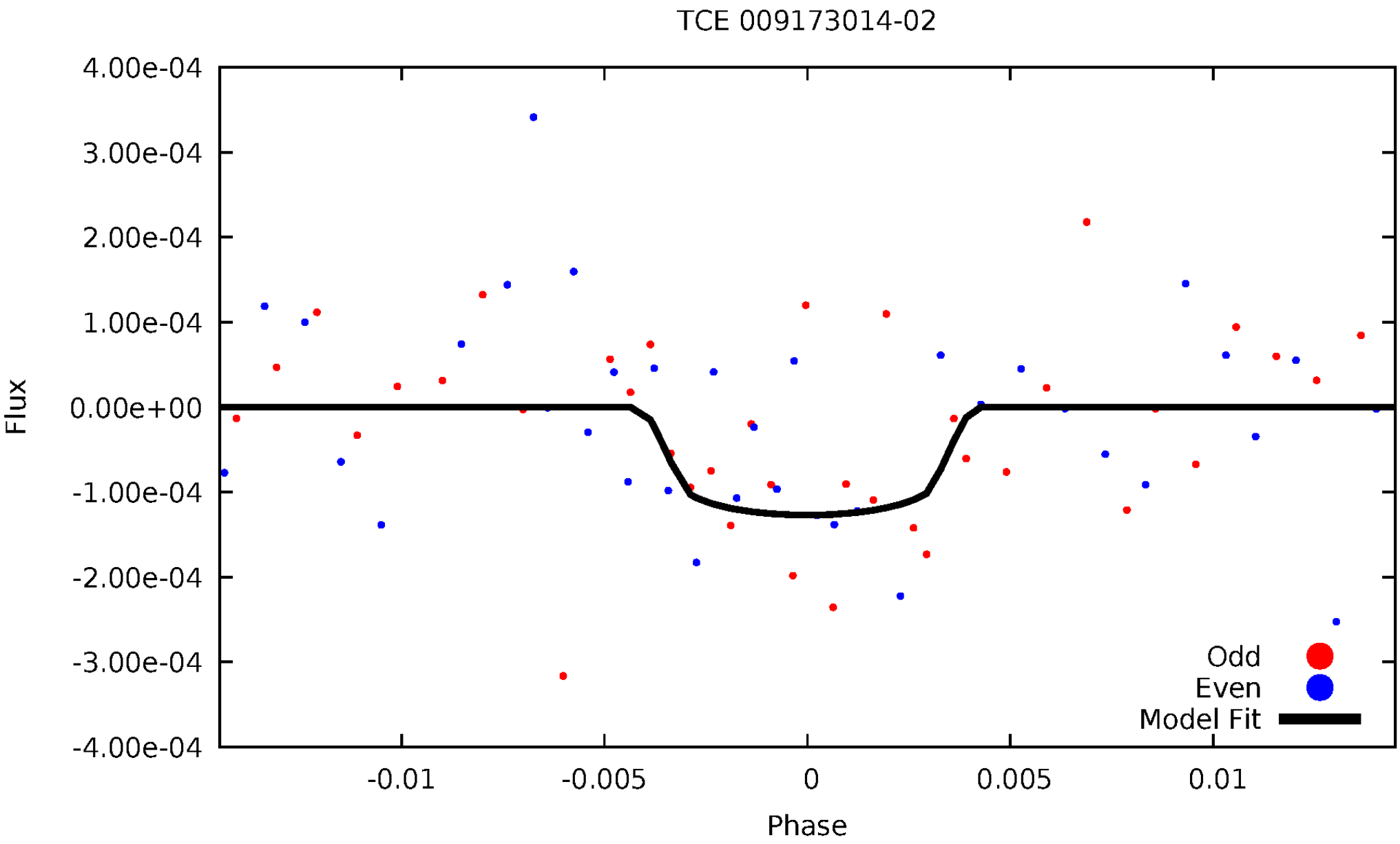
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-02, PDC Light Curves

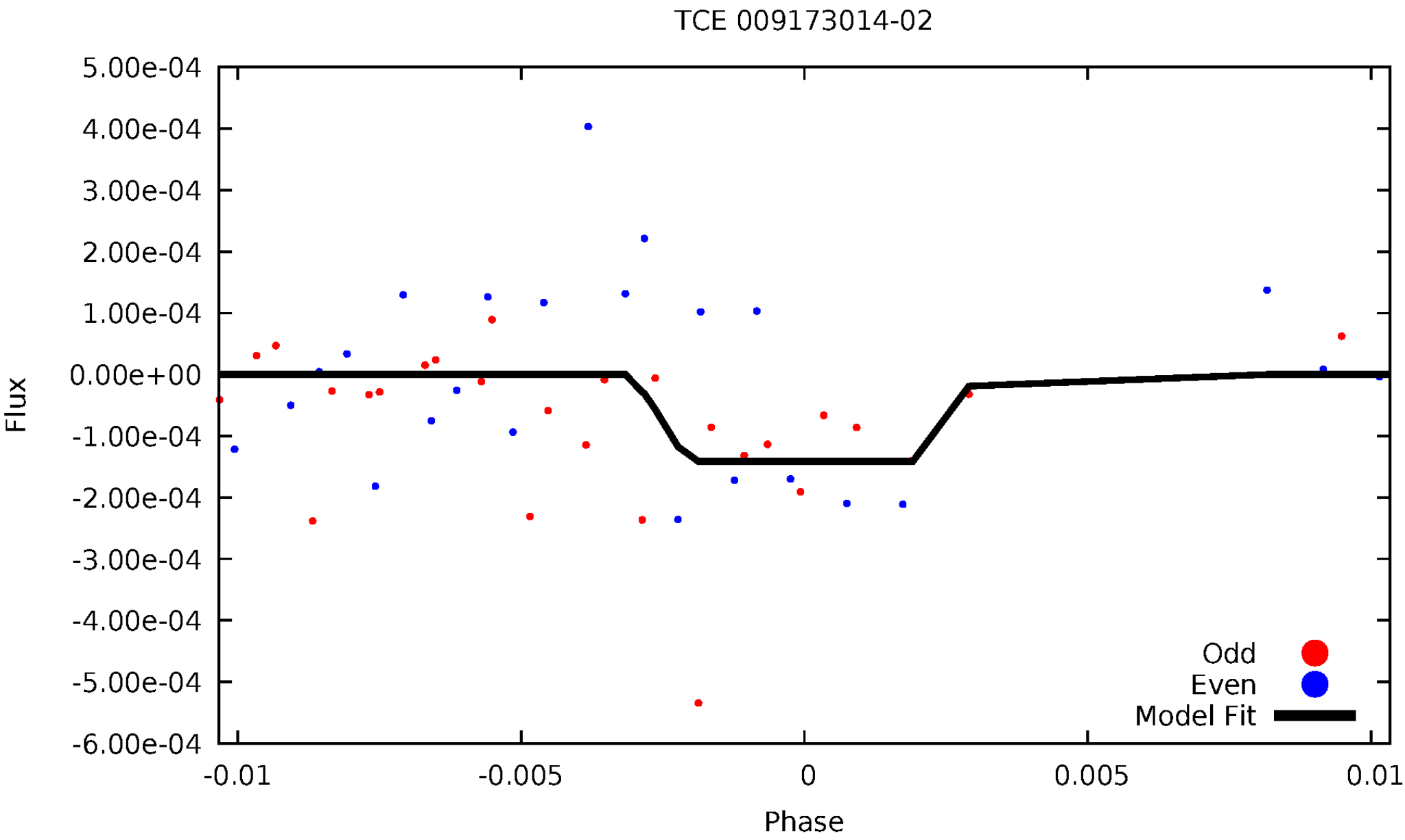



TCE 009173014-02
P = 10.310 days
P = 20.619 days
P = 41.239 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

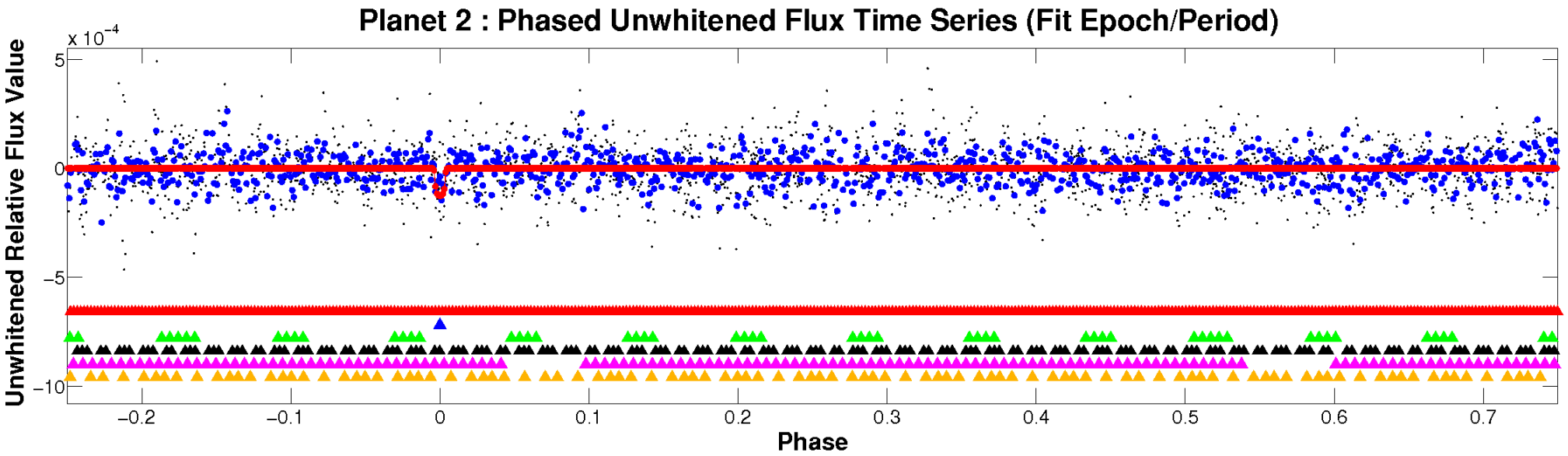
DV Odd/Even

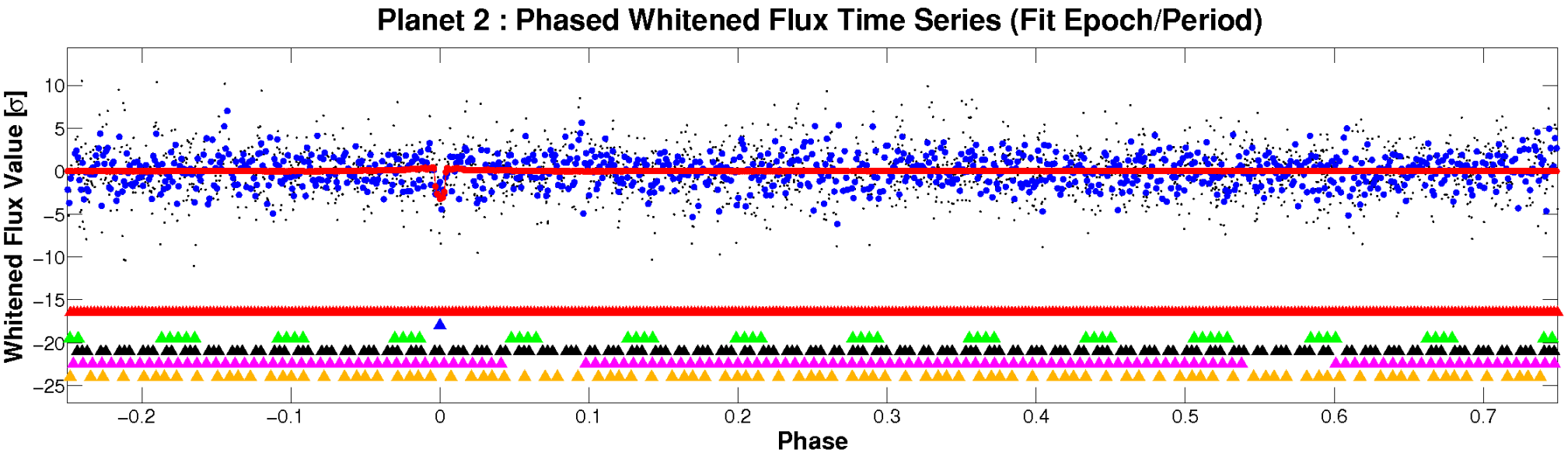

TCE 009173014-02
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009173014-02
5.00e-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
-6.00e-04
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

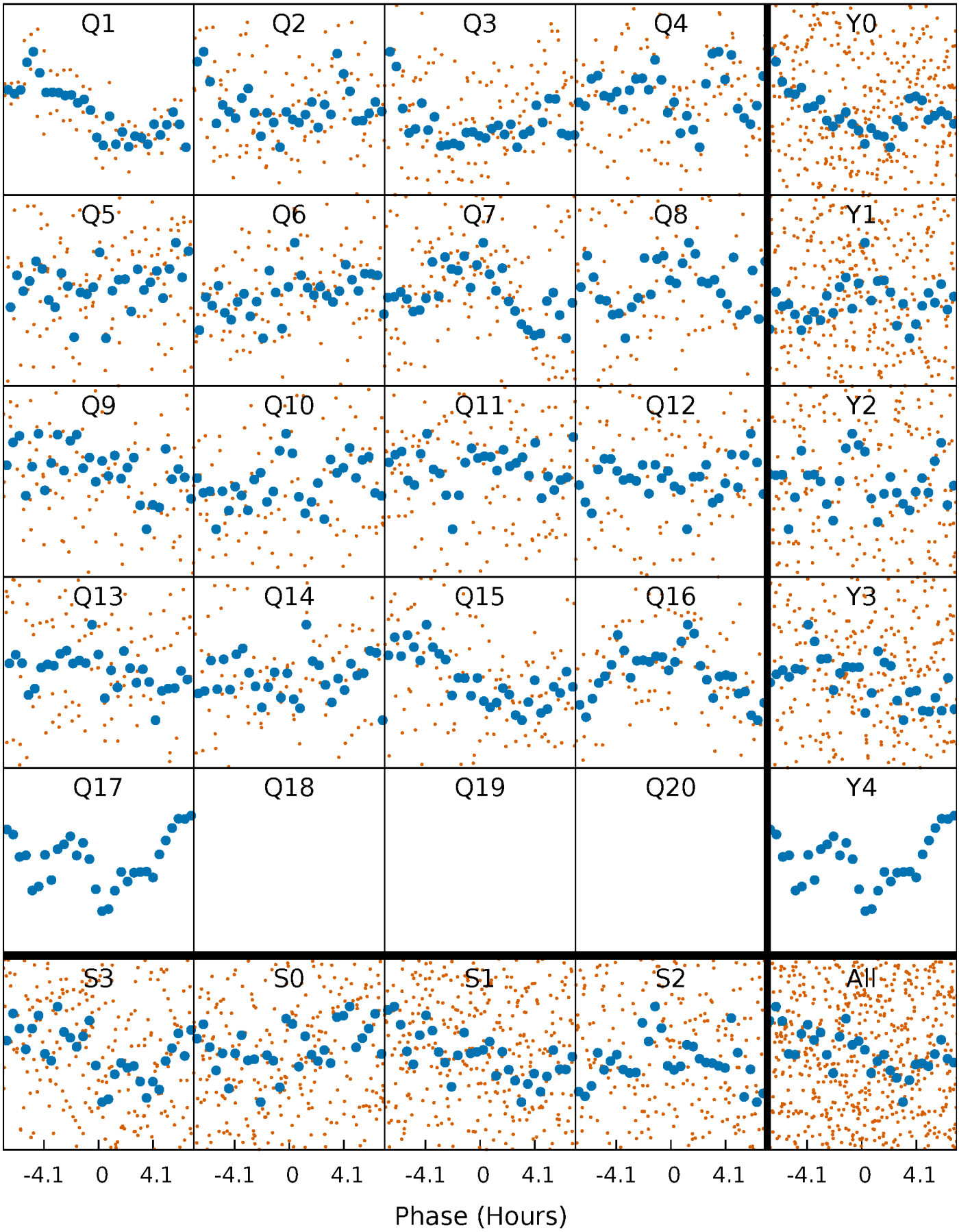
Non-Whitened Vs. Whitened Light Curve





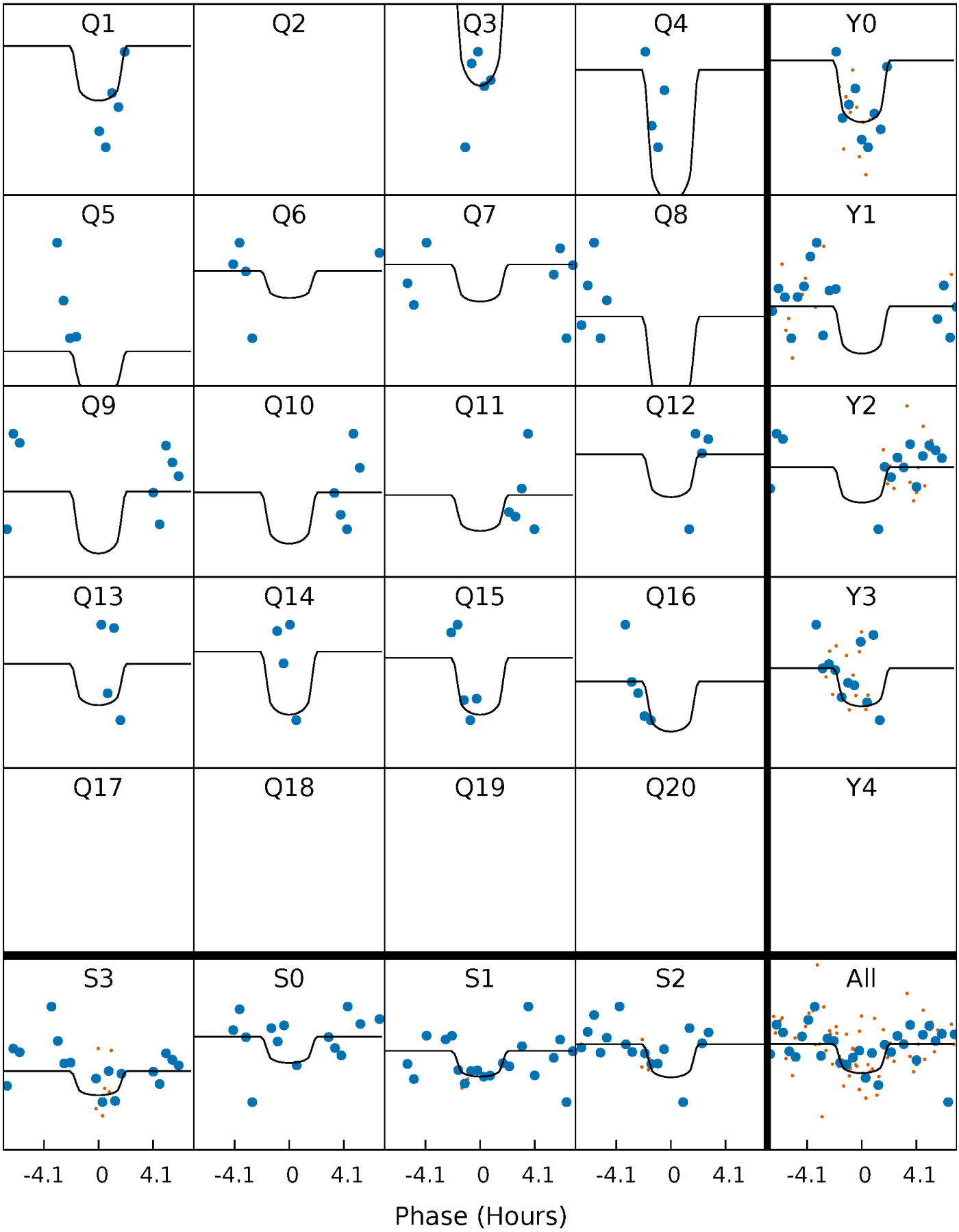
PDC Quarter-Phased Transit Curves

TCE 009173014-02 P= 20.619306 Days T_0=139.242451 (BKJD)



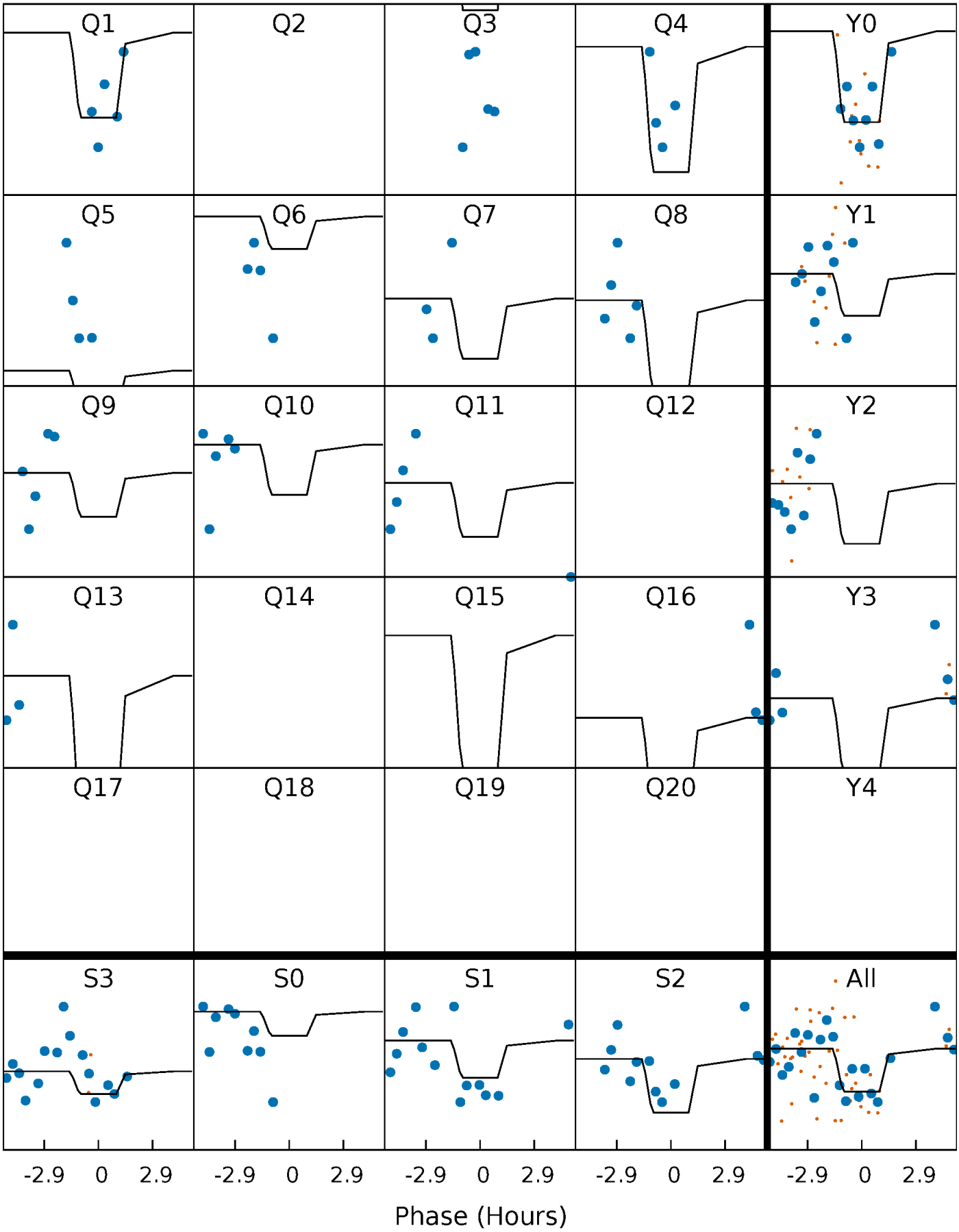
DV Quarter-Phased Transit Curves

TCE 009173014-02 P= 20.619306 Days T_0=139.242451 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

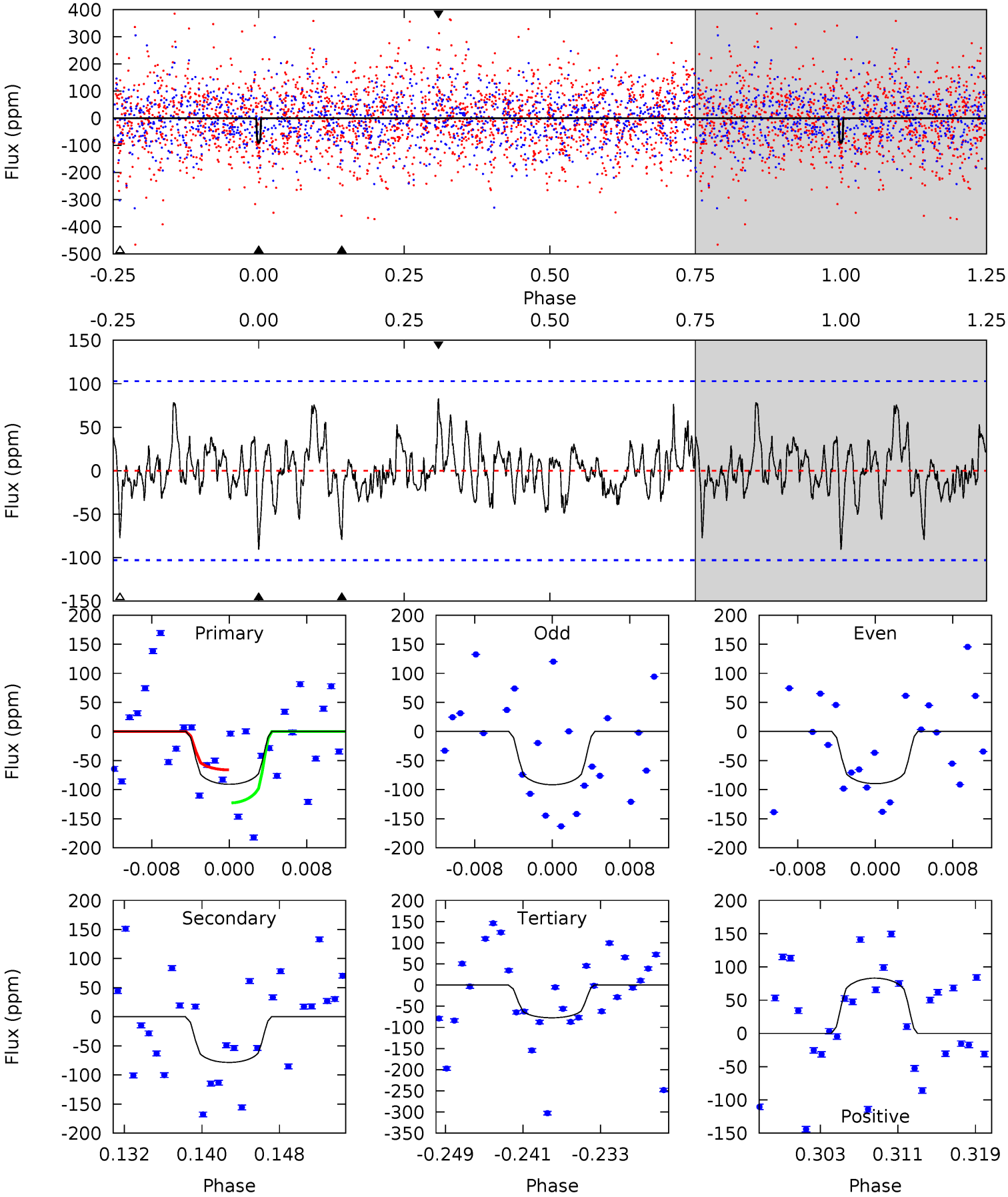
TCE 009173014-02 P= 20.614304 Days T_0=139.261959 (BKJD)



DV Model-Shift Uniqueness Test

009173014-02, P = 20.619306 Days, E = 118.623145 Days

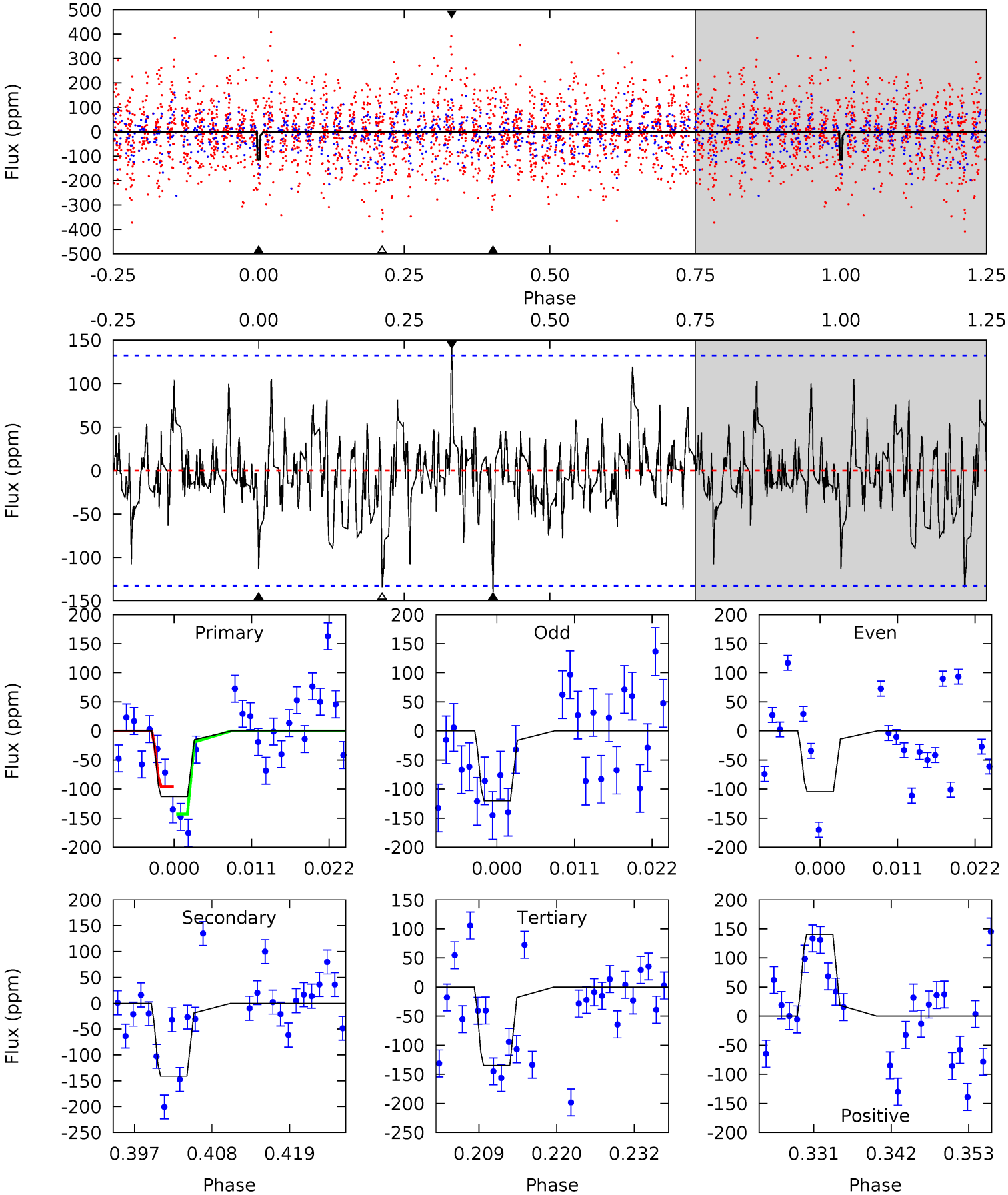
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.48	3.87	3.82	4.10	5.07	2.66	1.24	0.66	0.38	0.06	-0.22	0.05	0.81	0.48	1.39



Alt Model-Shift Uniqueness Test

009173014-02, P = 20.614304 Days, E = 118.647655 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.26	5.34	5.09	5.32	5.01	2.54	1.33	-0.83	-1.06	0.25	0.02	0.29	1.25	0.50	0.86



Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-79±20	$7.31^{+7.08}_{-4.85}$	1777^{+97}_{-177}	4431^{+3045}_{-974}	24^{+193}_{-18}
Alt.	-141±26	$7.70^{+7.19}_{-5.42}$	1767^{+105}_{-184}	4895^{+4433}_{-1076}	39^{+373}_{-28}

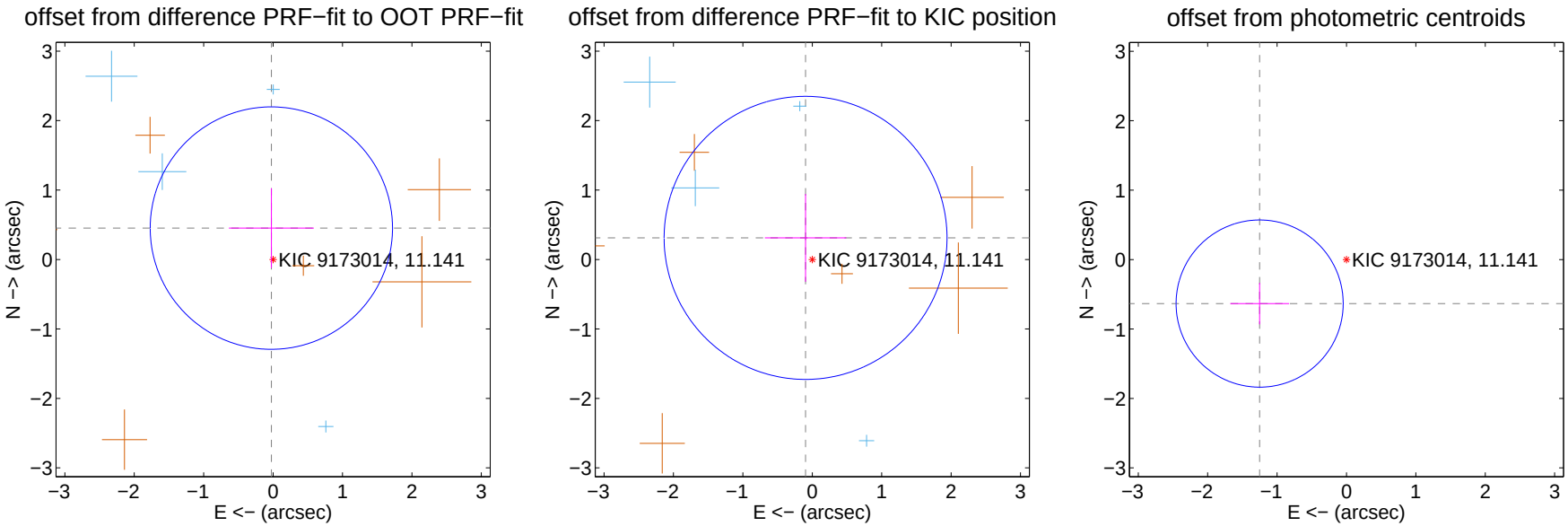
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

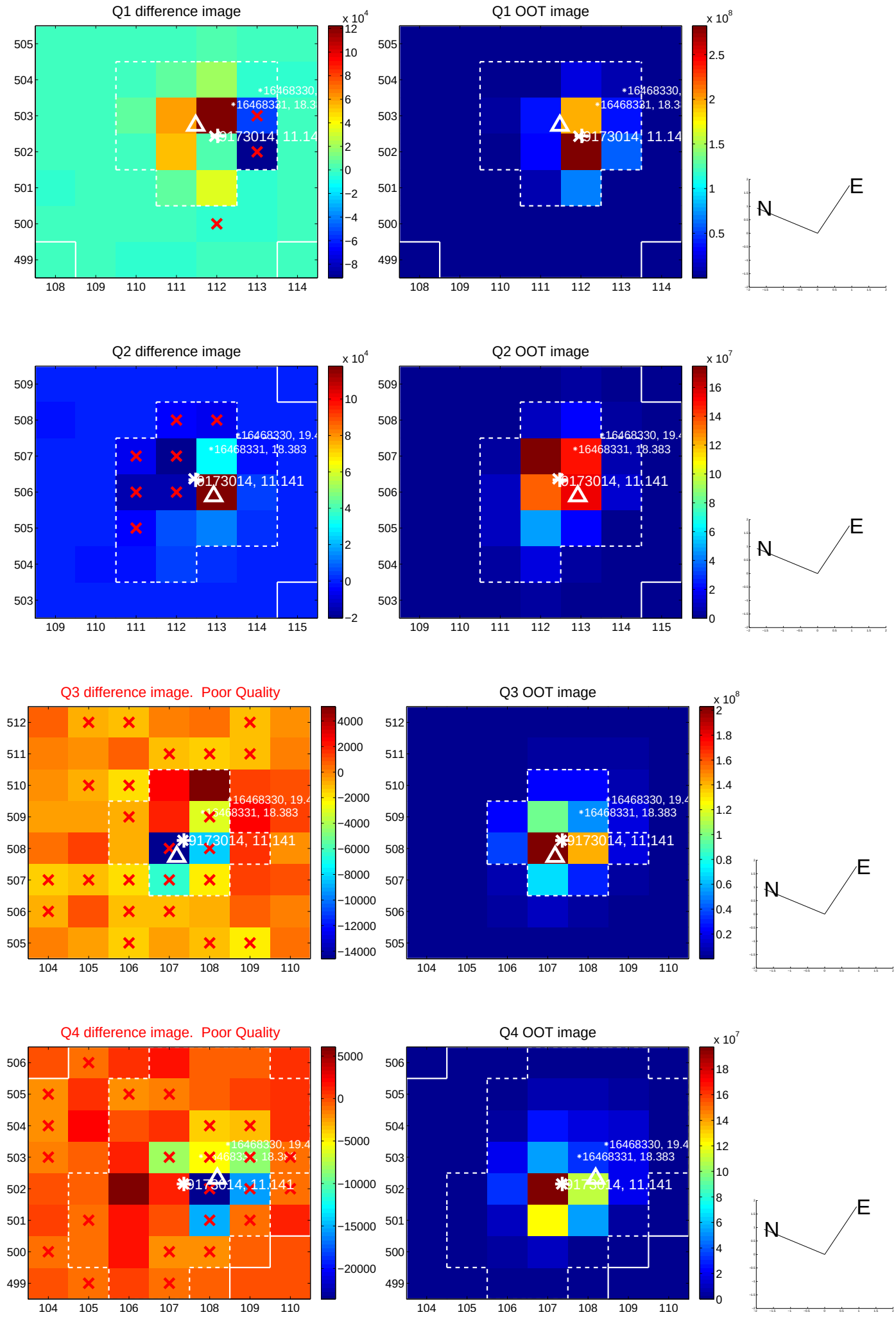
Supplemental centroid analysis for 009173014-02. Kepler magnitude: 11.14. Transit SNR 13.67
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.453 ± 0.582	0.78	0.025 ± 0.612	0.452 ± 0.573
PRF-fit source offset from KIC position	0.326 ± 0.679	0.48	0.097 ± 0.587	0.311 ± 0.632
photometric centroid source offset	1.40 ± 0.40	3.49	1.25 ± 0.42	-0.63 ± 0.30



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.



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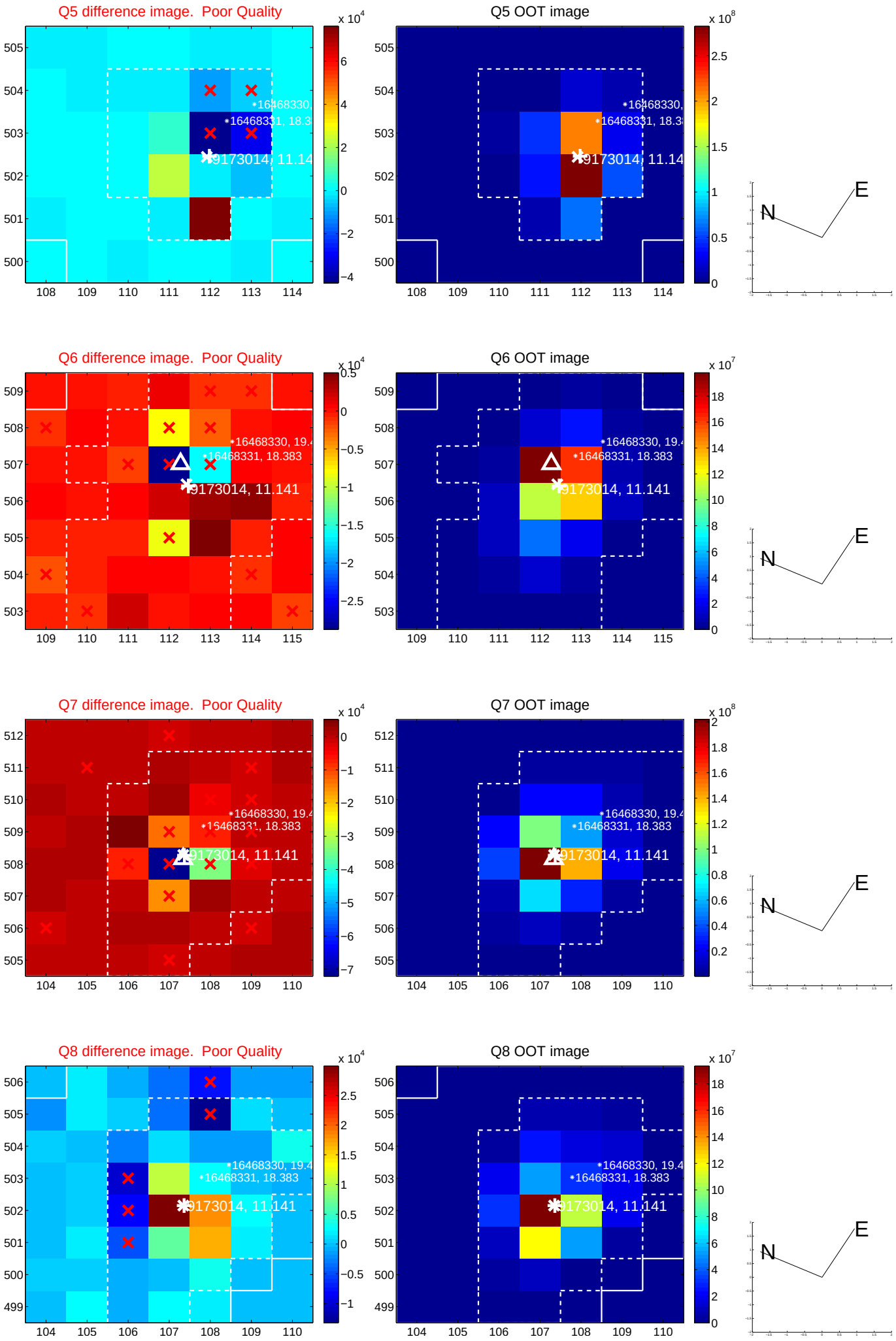
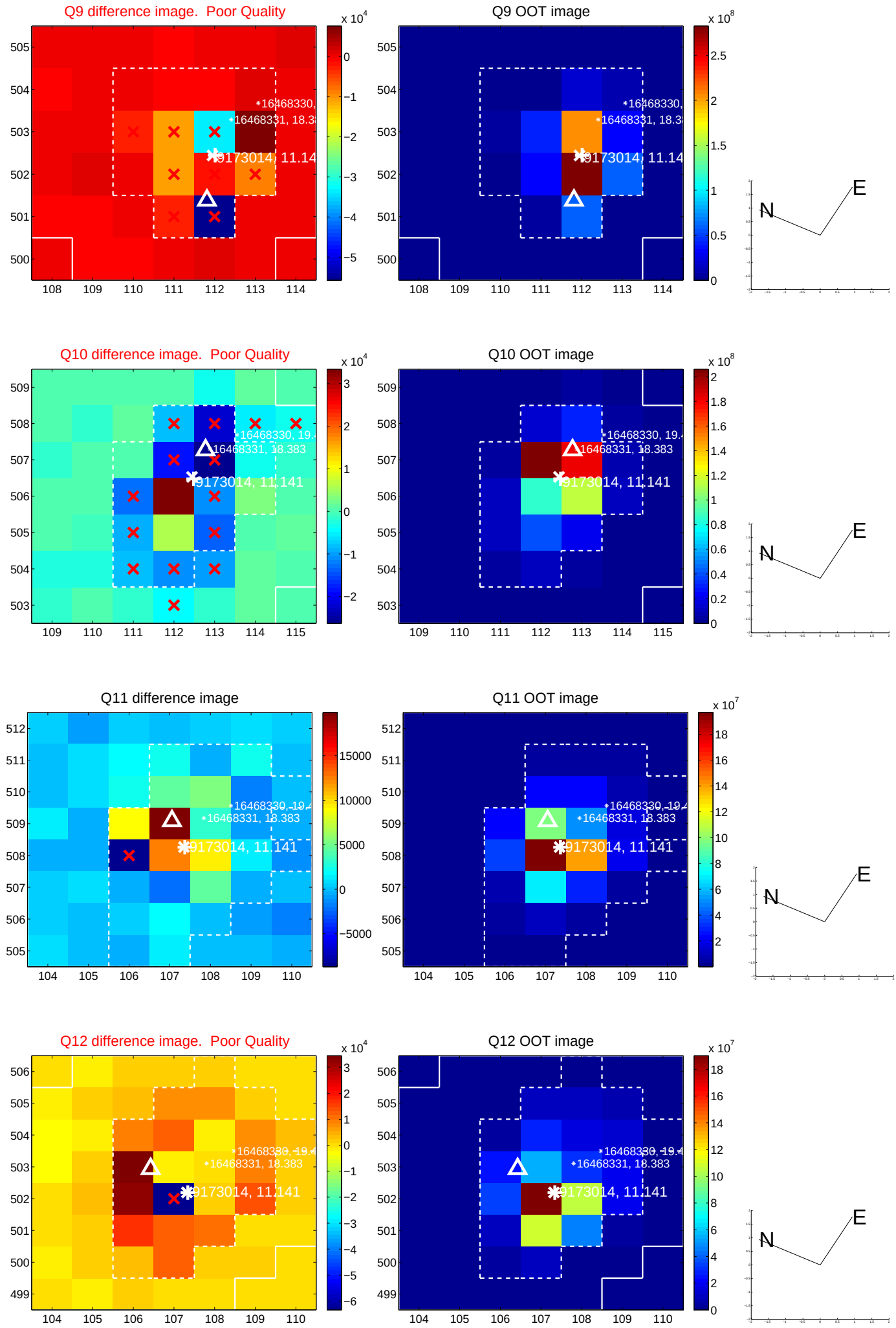


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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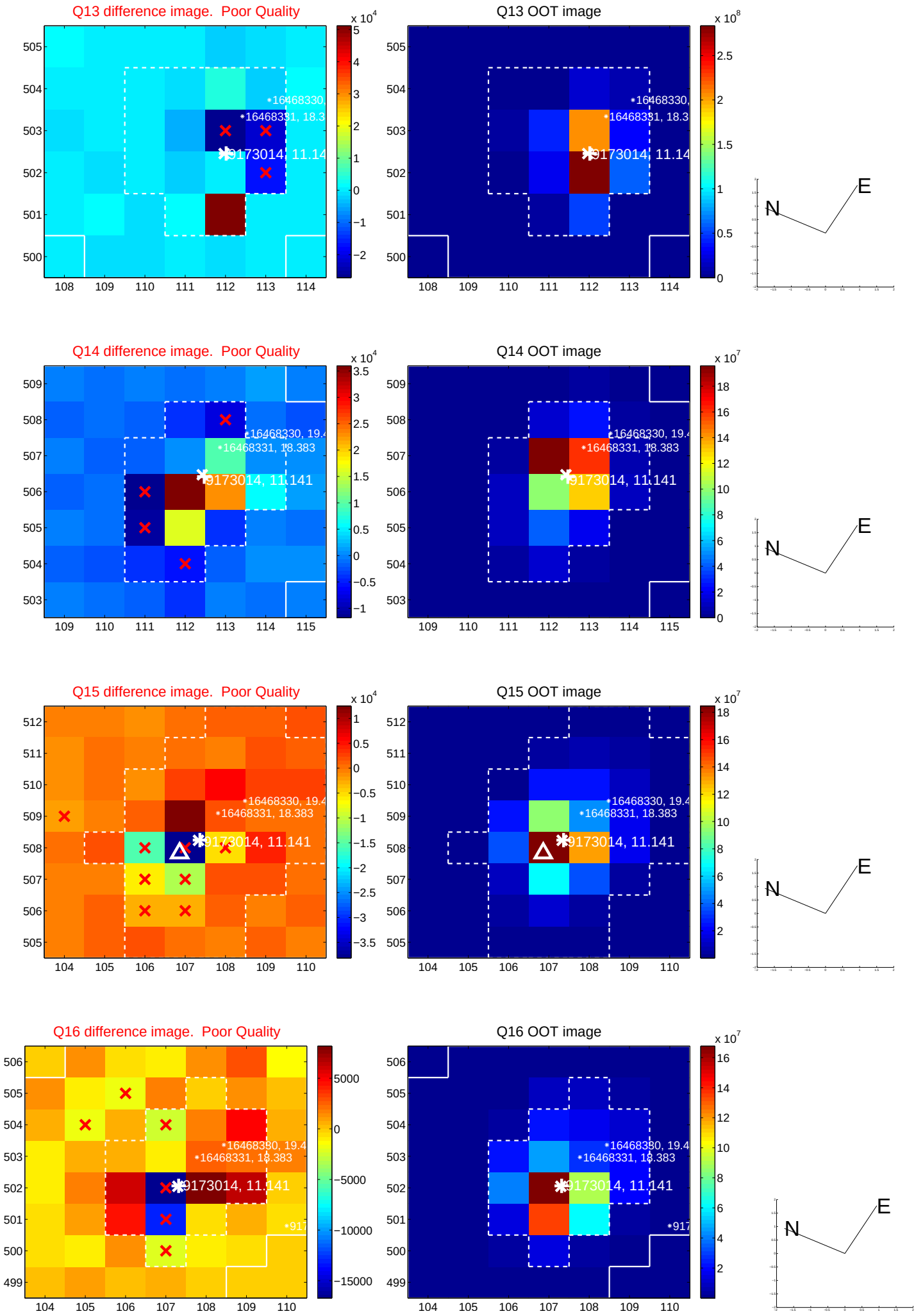

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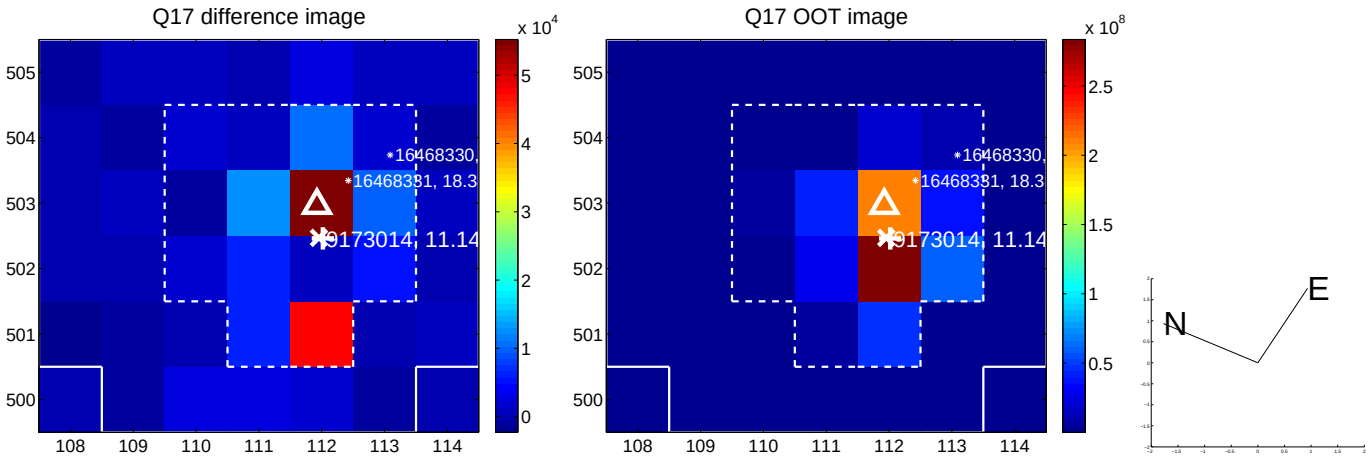
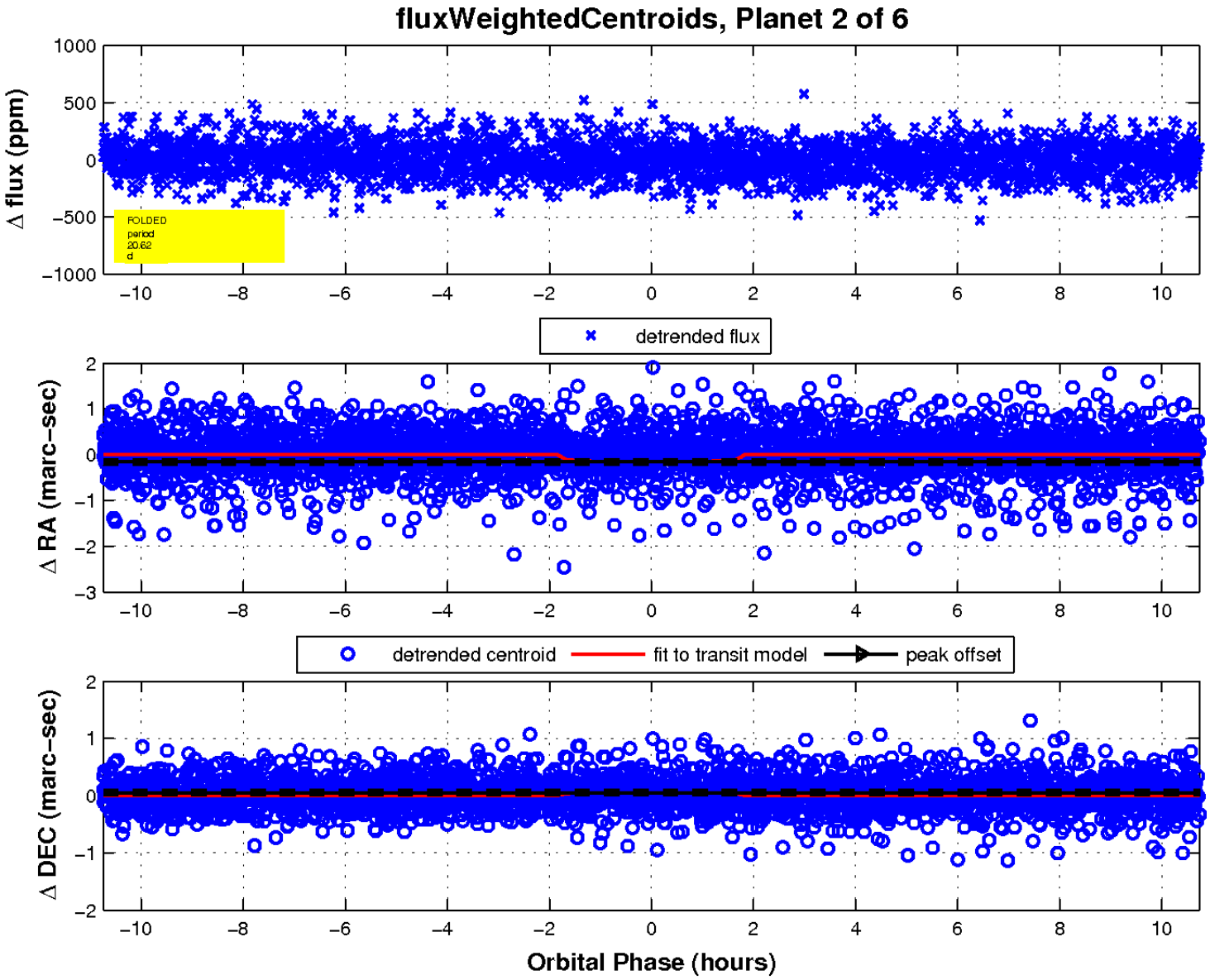
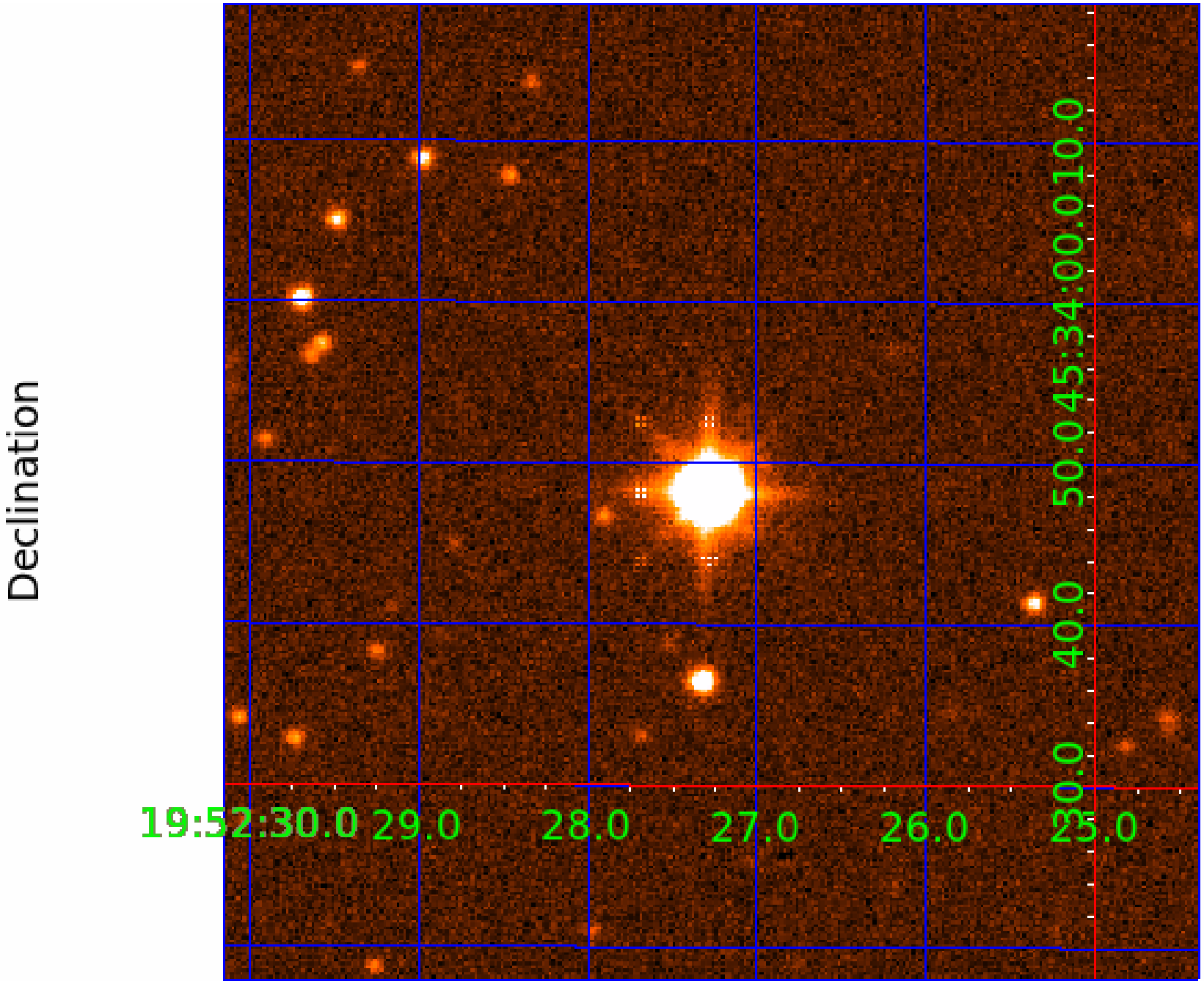




UKIRT Image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29.0
28.0
27.0
26.0
25.0
30.0
40.0
50.0
45:34:00.0
10.0

KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

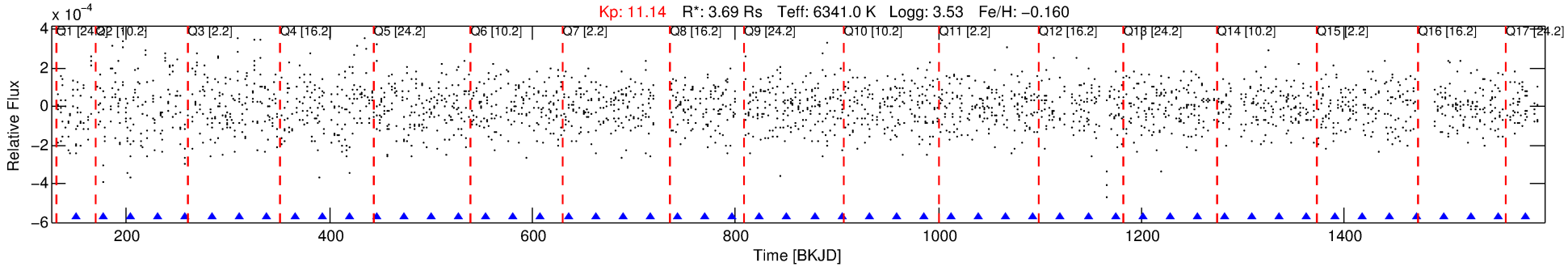
Ephemeris Match Information For 009173014-03

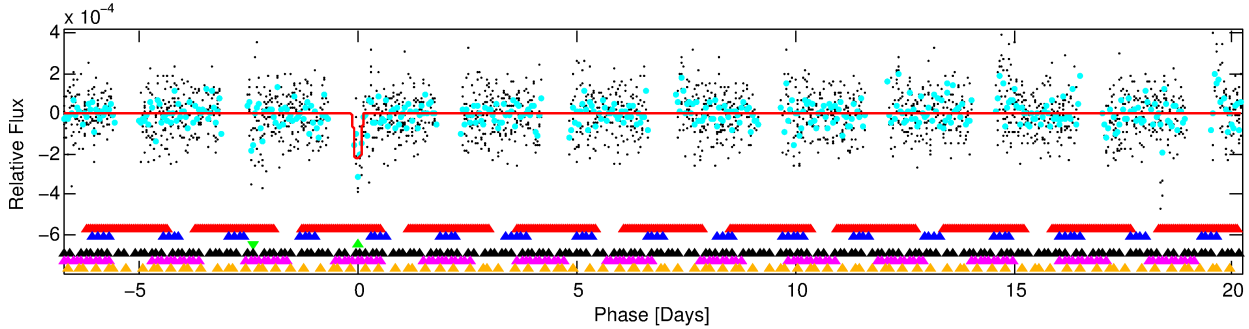
No Significant Match Found

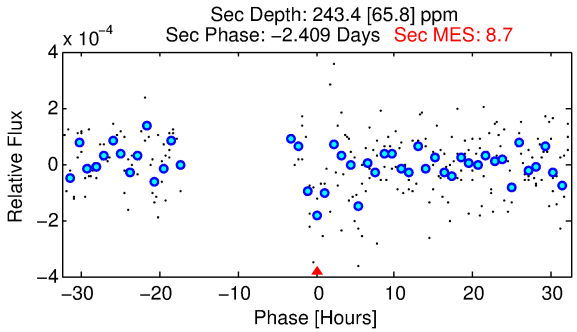
DV One-Page Summary

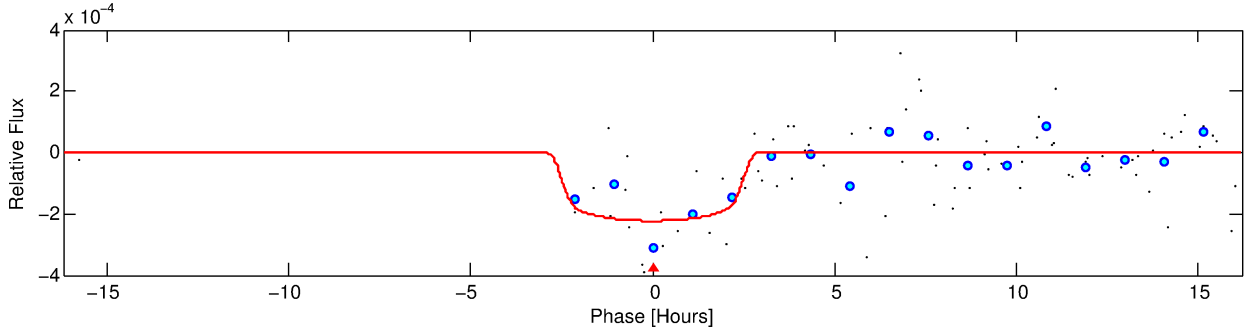
KIC: 9173014 Candidate: 3 of 6 Period: 26.955 d
KOI: K05633 Corr: No Ephemeris Match

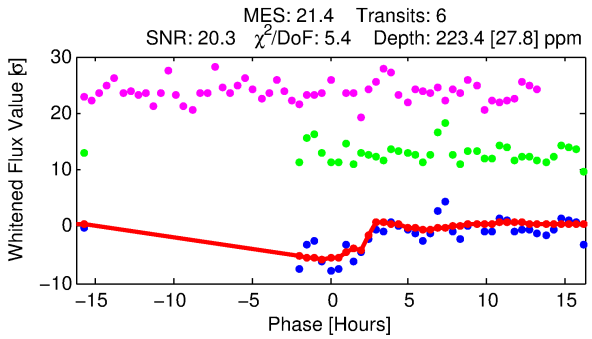
Kp: 11.14 R*: 3.69 Rs Teff: 6341.0 K Logg: 3.53 Fe/H: −0.160

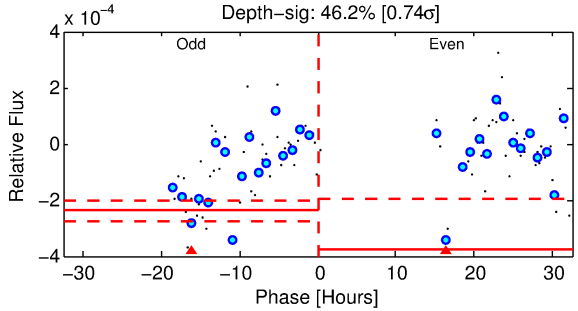


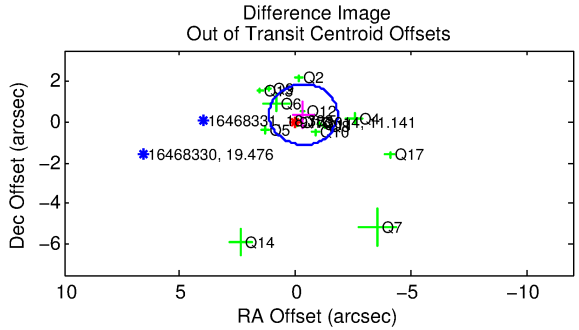












DV Fit Results:

Period = 26.95491 [0.00610] d
Epoch = 150.1341 [0.0313] BKJD
Rp/R* = 0.0158 [0.0106]
a/R* = 19.19 [75.34]
b = 0.88 [0.95]

Seff = 452.15 [292.90]
Teq = 1176 [190] K
Rp = 6.37 [4.98] Re
a = 0.2088 [0.0829] AU

Ag = 144.09 [216.65] [0.66σ]
Teffp = 6299 [2151] K [2.37σ]

DV Diagnostic Results:

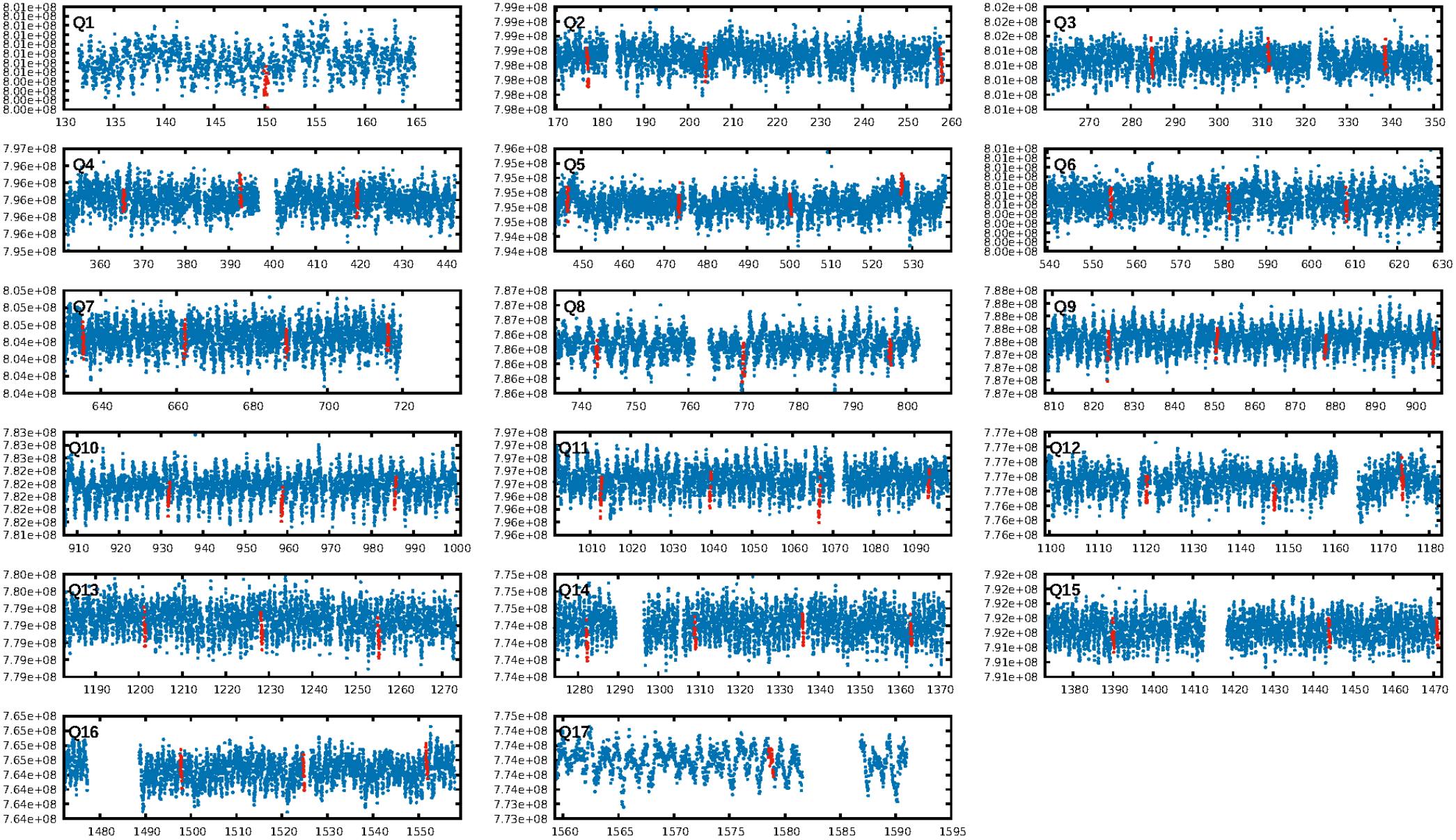
ShortPeriod−sig: 100.0% [23.44σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: 0.7%
ModelChiSquareGof−sig: 9.7%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [5/5]
GhostDiagnostic−chr: 0.5882

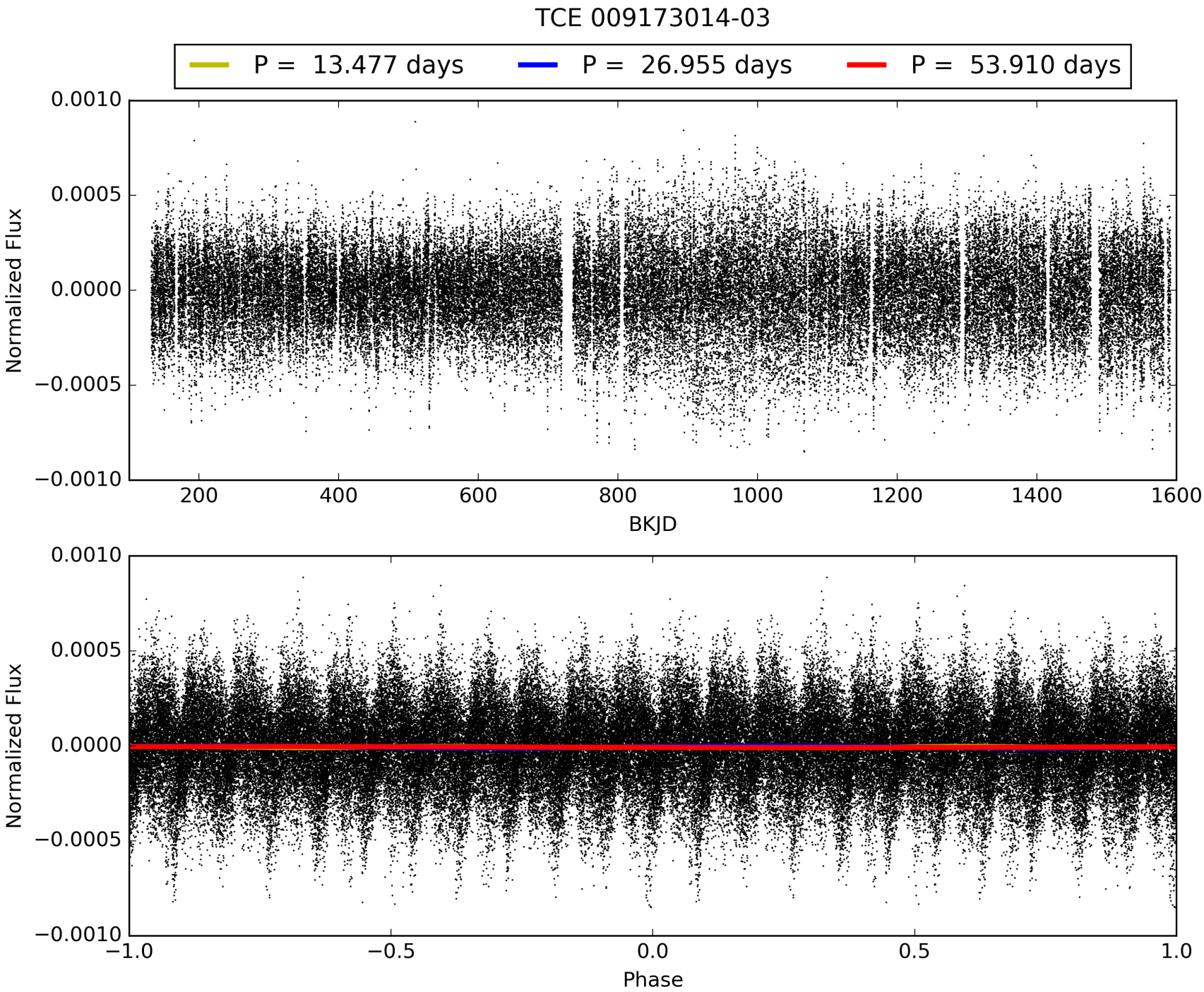
Centroid−sig: 66.3%
Centroid−so: 0.294 arcsec [1.69σ]
OotOffset−rm: 0.489 arcsec [0.99σ]
KicOffset−rm: 0.383 arcsec [0.82σ]
OotOffset−st: 4/2/4/4 [14]
KicOffset−st: 4/2/4/4 [14]
DiffImageQuality−fgm: 0.36 [5/14]
DiffImageOverlap−fno: 0.29 [5/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:44 Z

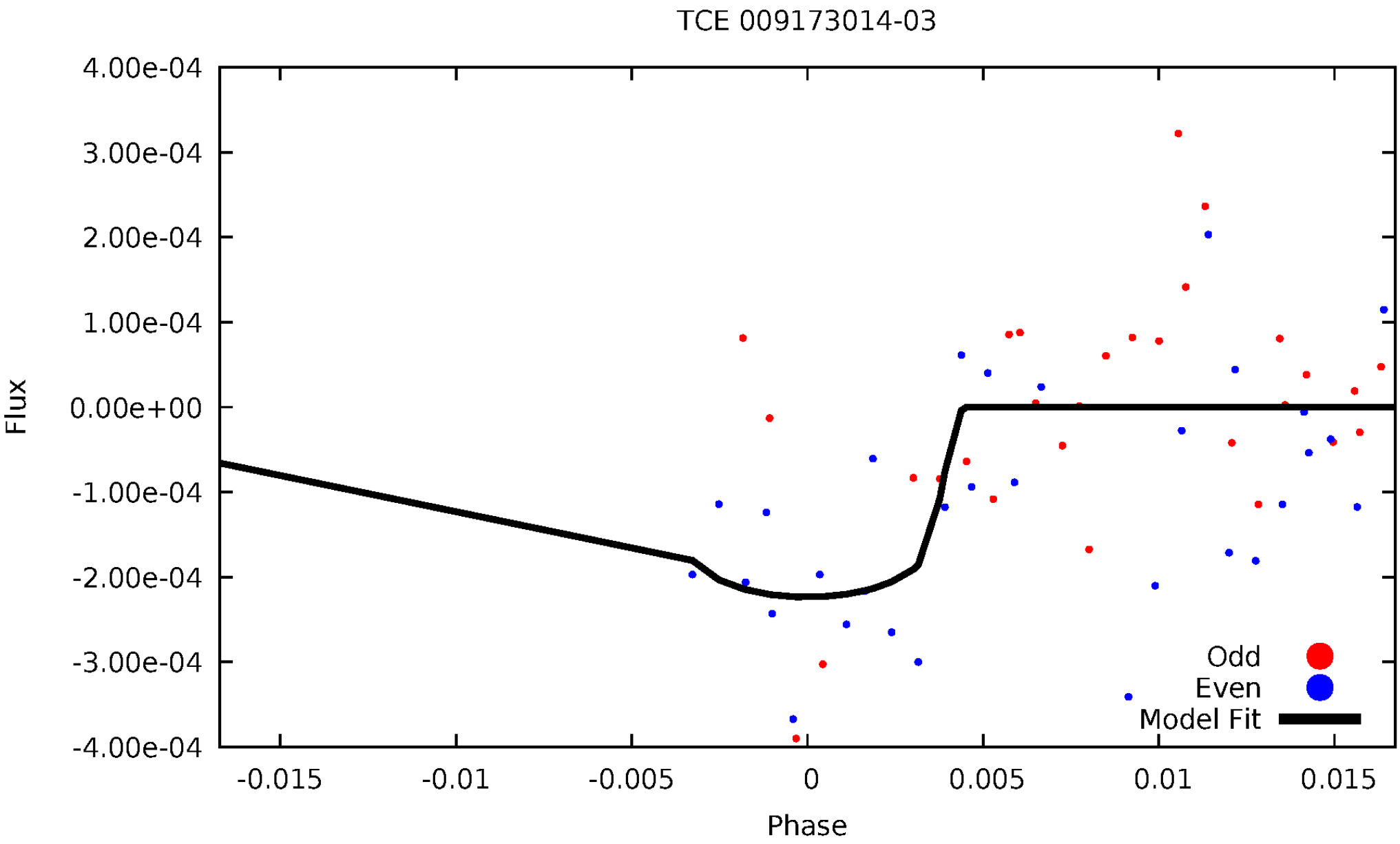
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-03, PDC Light Curves

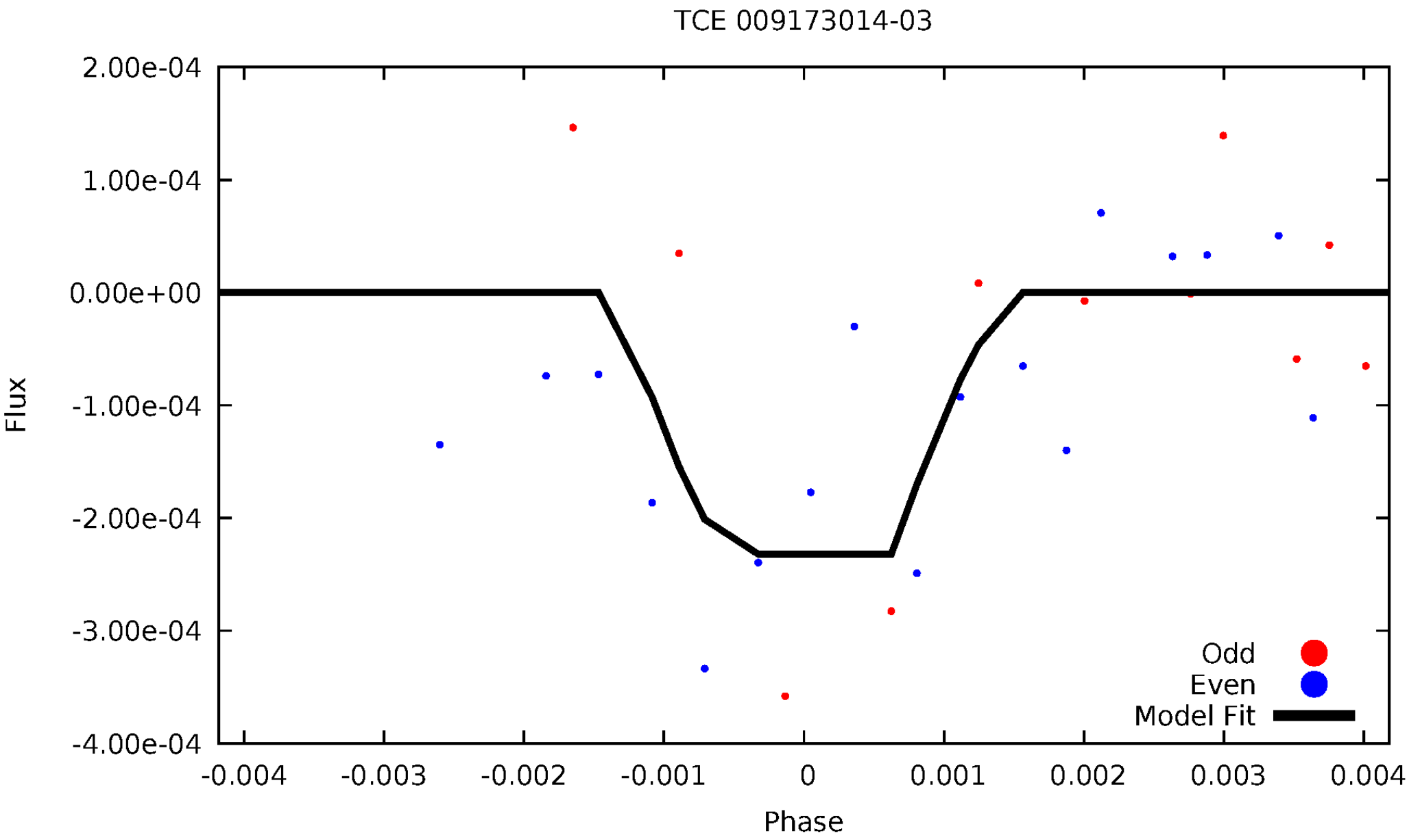



TCE 009173014-03
P = 13.477 days
P = 26.955 days
P = 53.910 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

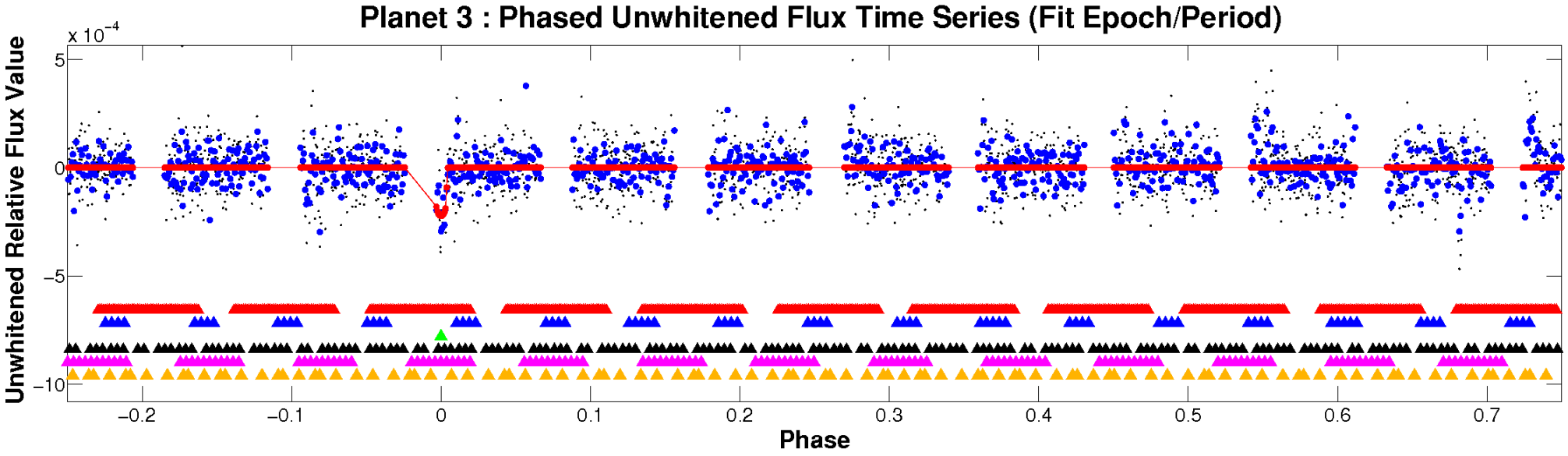
DV Odd/Even

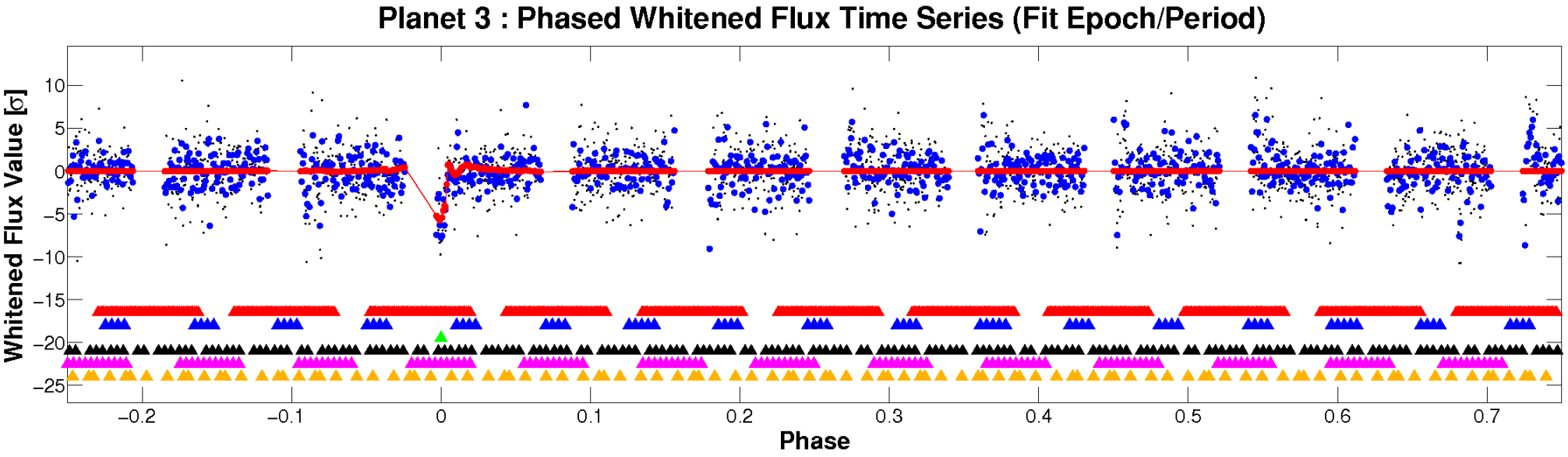

TCE 009173014-03
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.015
-0.01
-0.005
0
0.005
0.01
0.015
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009173014-03
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

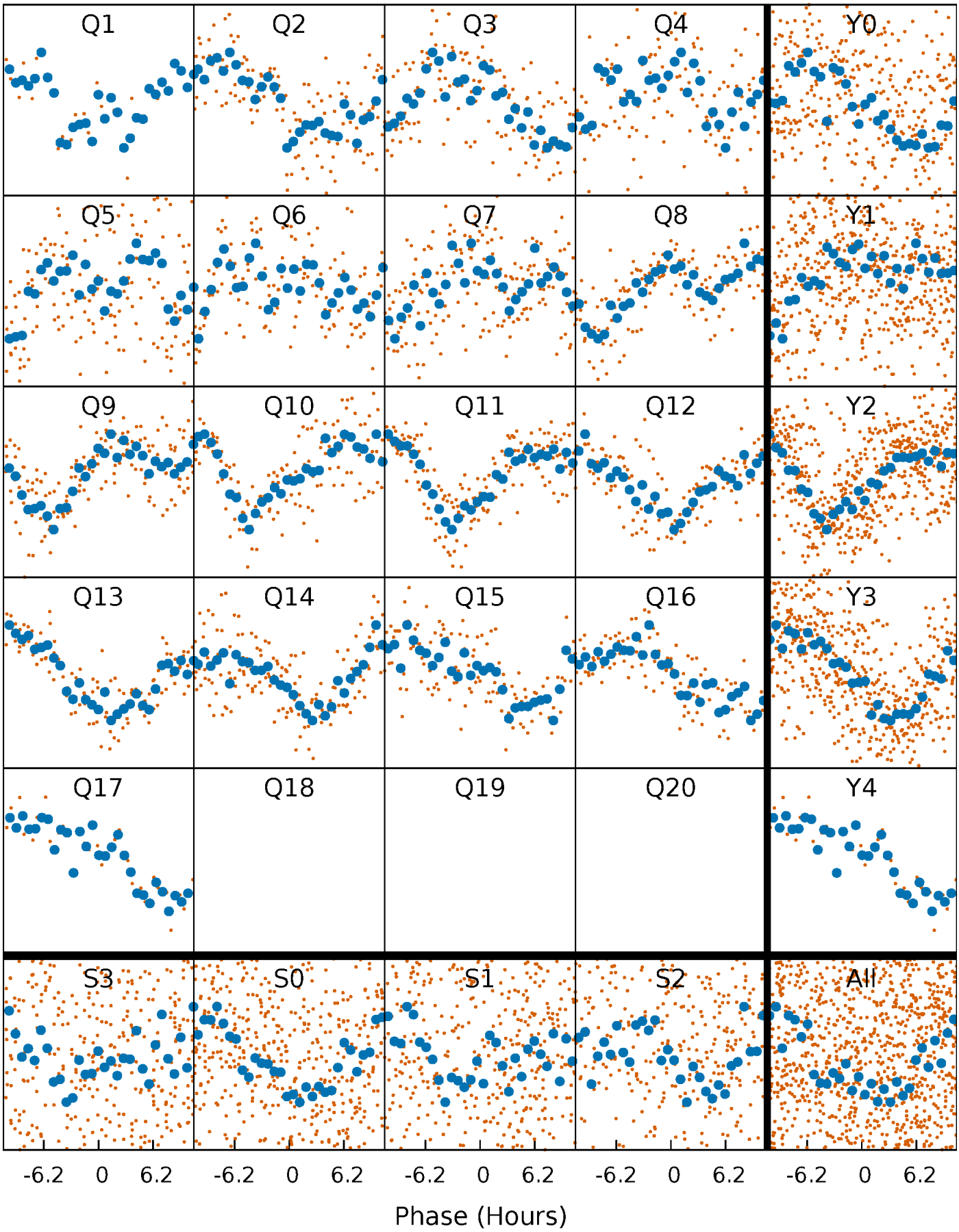
Non-Whitened Vs. Whitened Light Curve





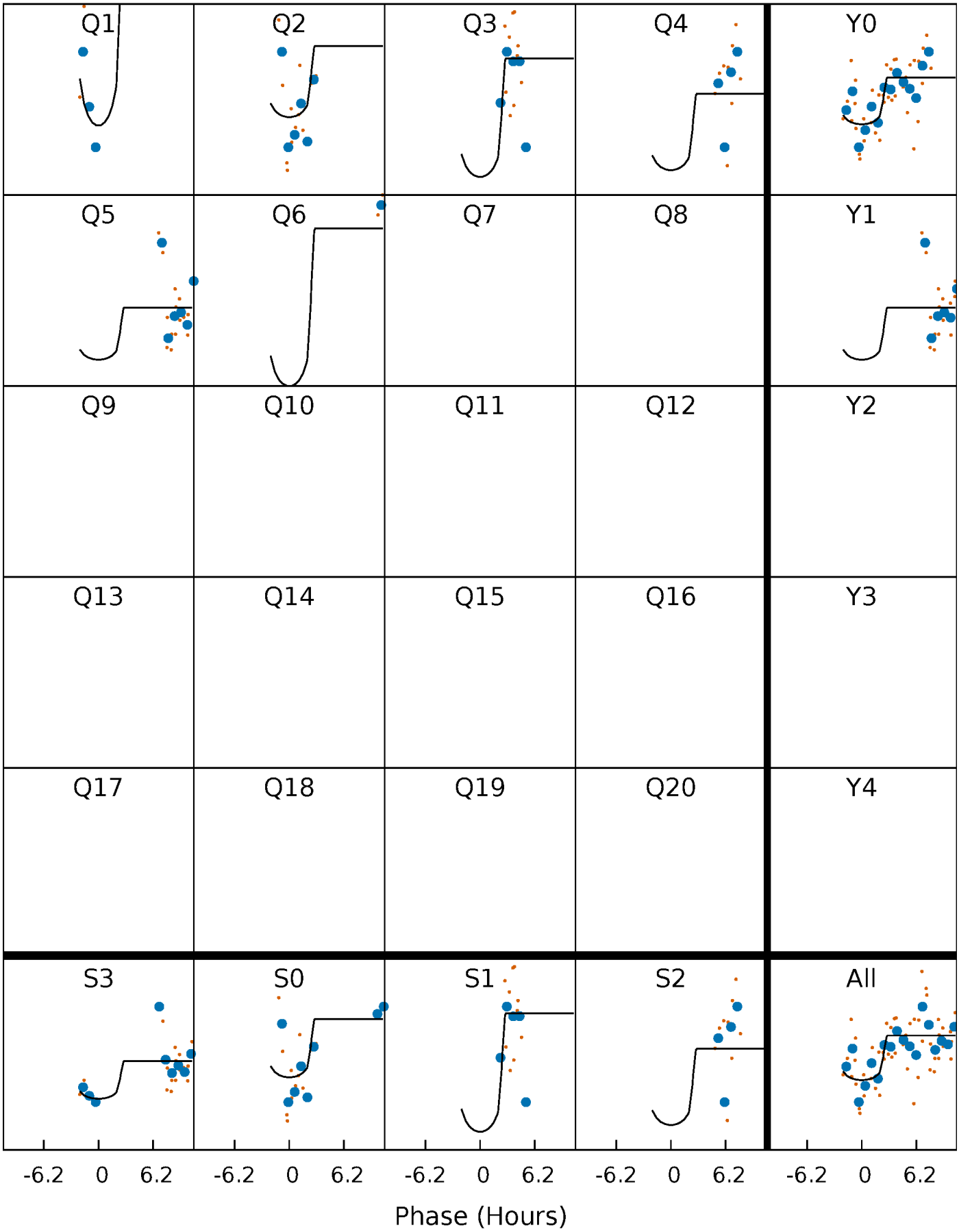
PDC Quarter-Phased Transit Curves

TCE 009173014-03 P= 26.954911 Days T_0=150.134145 (BKJD)



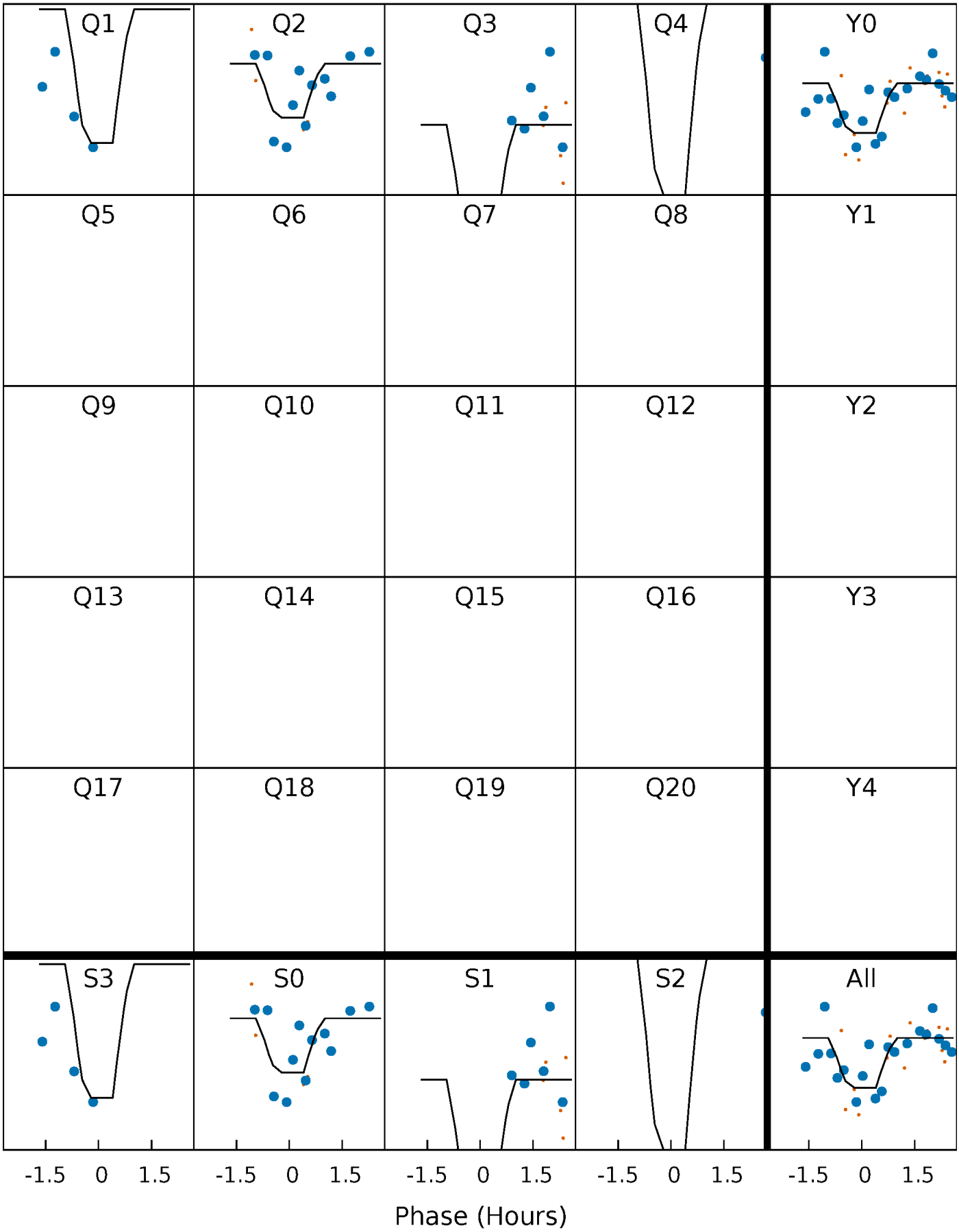
DV Quarter-Phased Transit Curves

TCE 009173014-03 P= 26.954911 Days T_0=150.134145 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

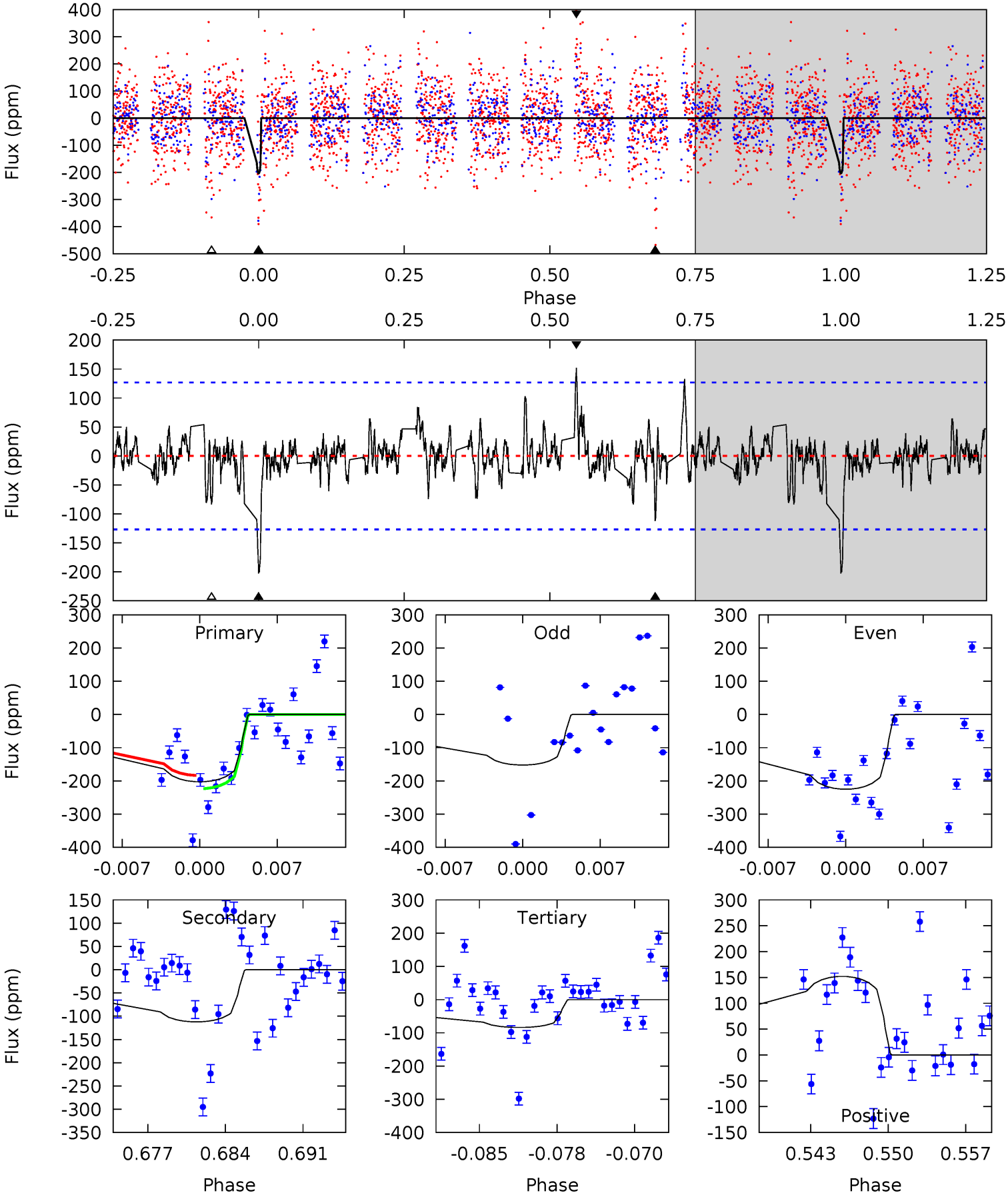
TCE 009173014-03 P= 26.968071 Days T_0=150.115952 (BKJD)



DV Model-Shift Uniqueness Test

009173014-03, P = 26.954911 Days, E = 123.179234 Days

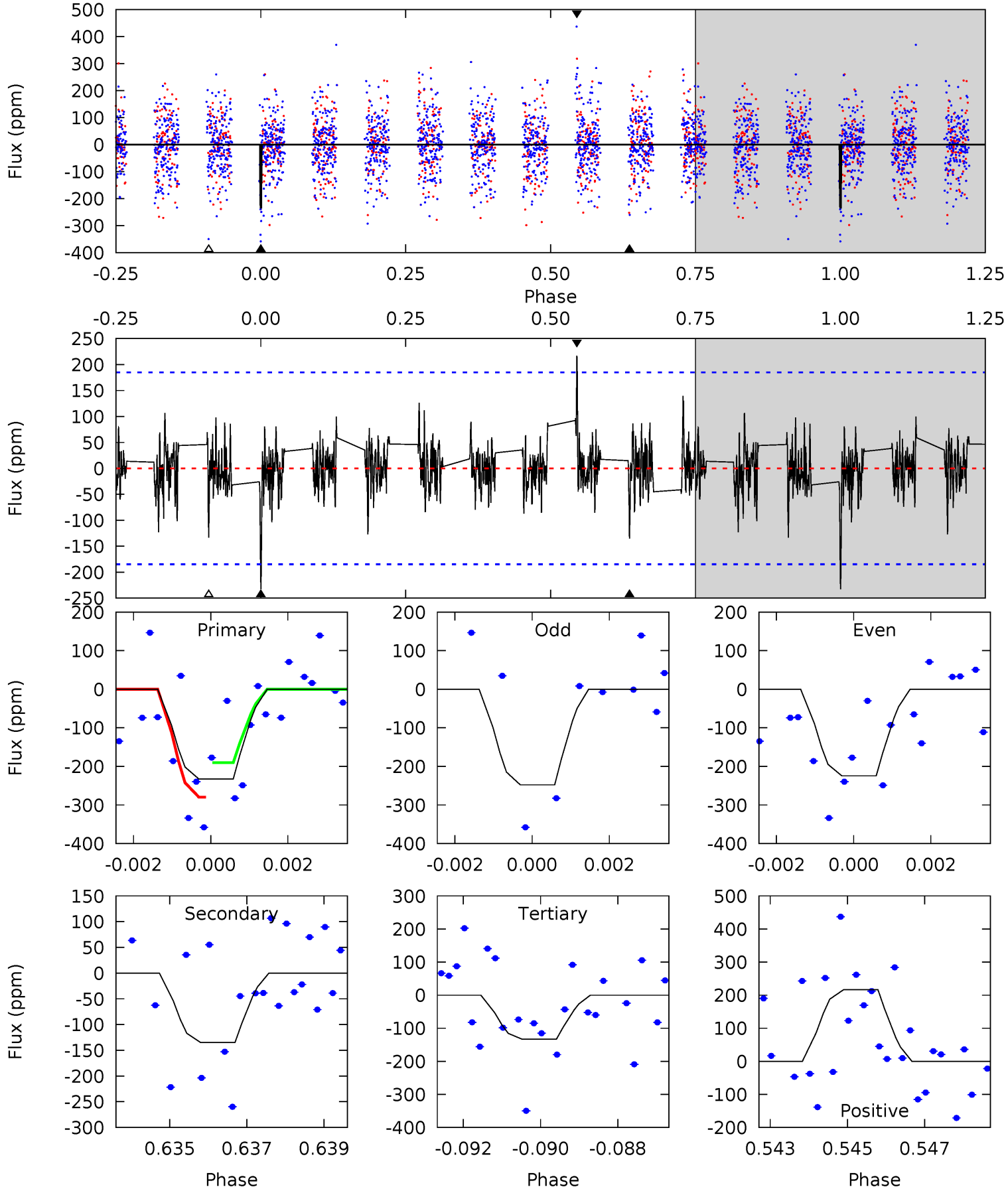
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.13	4.50	3.36	6.10	5.09	2.69	1.21	4.76	2.03	1.13	-1.60	1.38	0.95	0.43	0.78



Alt Model-Shift Uniqueness Test

009173014-03, P = 26.968071 Days, E = 123.147881 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	3.88	3.83	6.23	5.31	3.07	1.12	2.86	0.47	0.05	-2.35	0.29	0.82	0.48	1.25



Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-112±25	$6.09^{+4.20}_{-3.38}$	1620^{+88}_{-155}	5138^{+2589}_{-909}	69^{+288}_{-44}
Alt.	-135±35	$5.78^{+4.14}_{-3.26}$	1612^{+84}_{-168}	5375^{+3290}_{-1018}	90^{+431}_{-60}

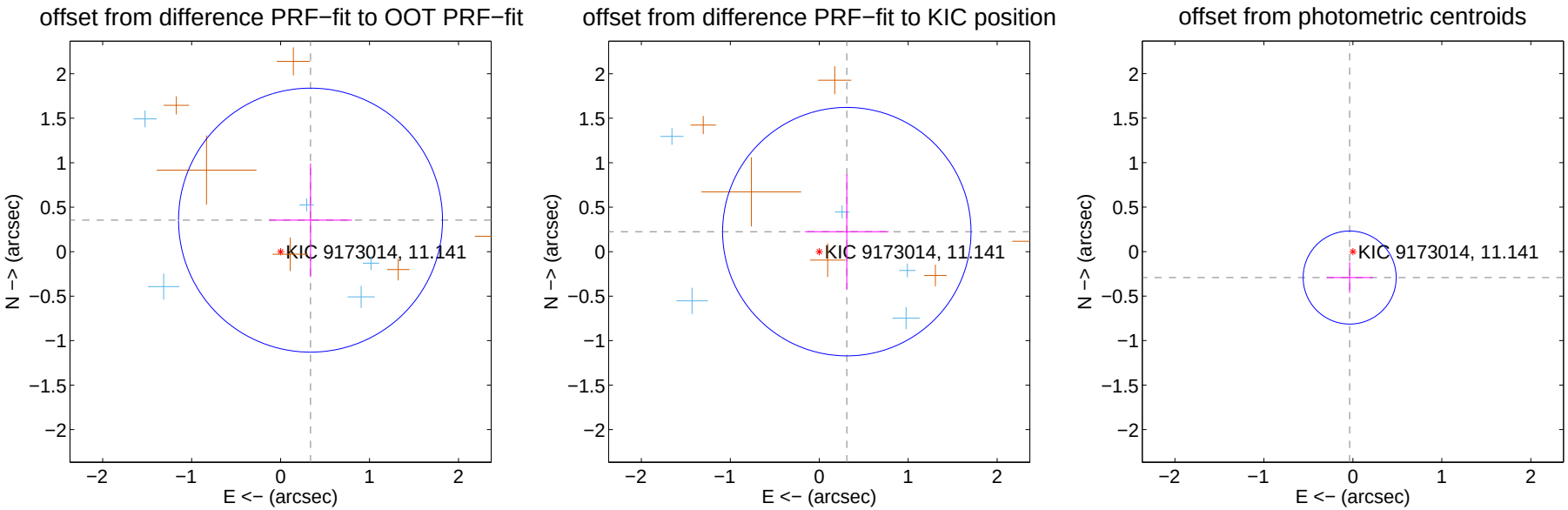
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

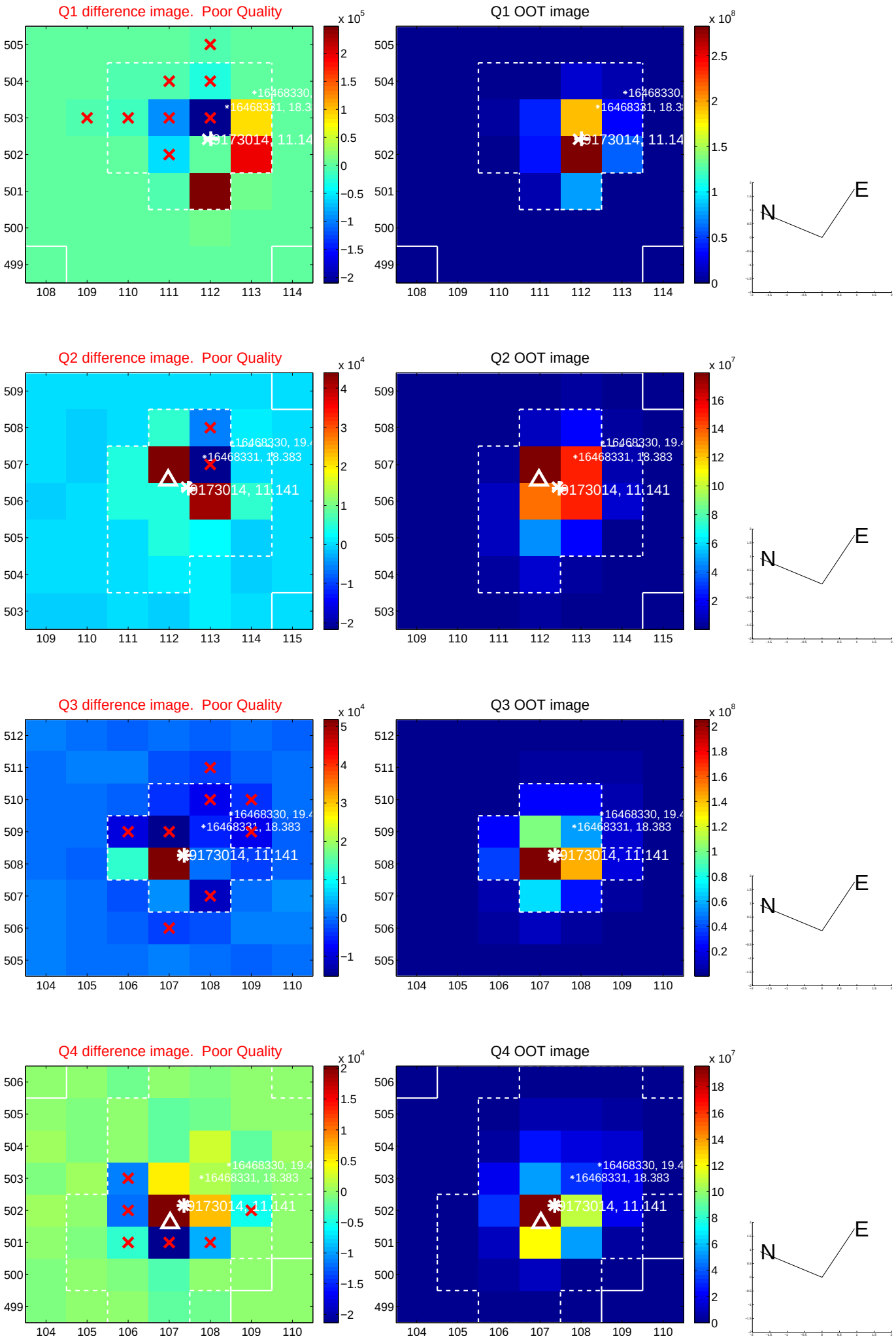
Supplemental centroid analysis for 009173014-03. Kepler magnitude: 11.14. Transit SNR 20.34
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.489 ± 0.495	0.99	-0.337 ± 0.466	0.354 ± 0.638
PRF-fit source offset from KIC position	0.383 ± 0.465	0.82	-0.310 ± 0.471	0.225 ± 0.645
photometric centroid source offset	0.29 ± 0.17	1.69	0.04 ± 0.26	-0.29 ± 0.17

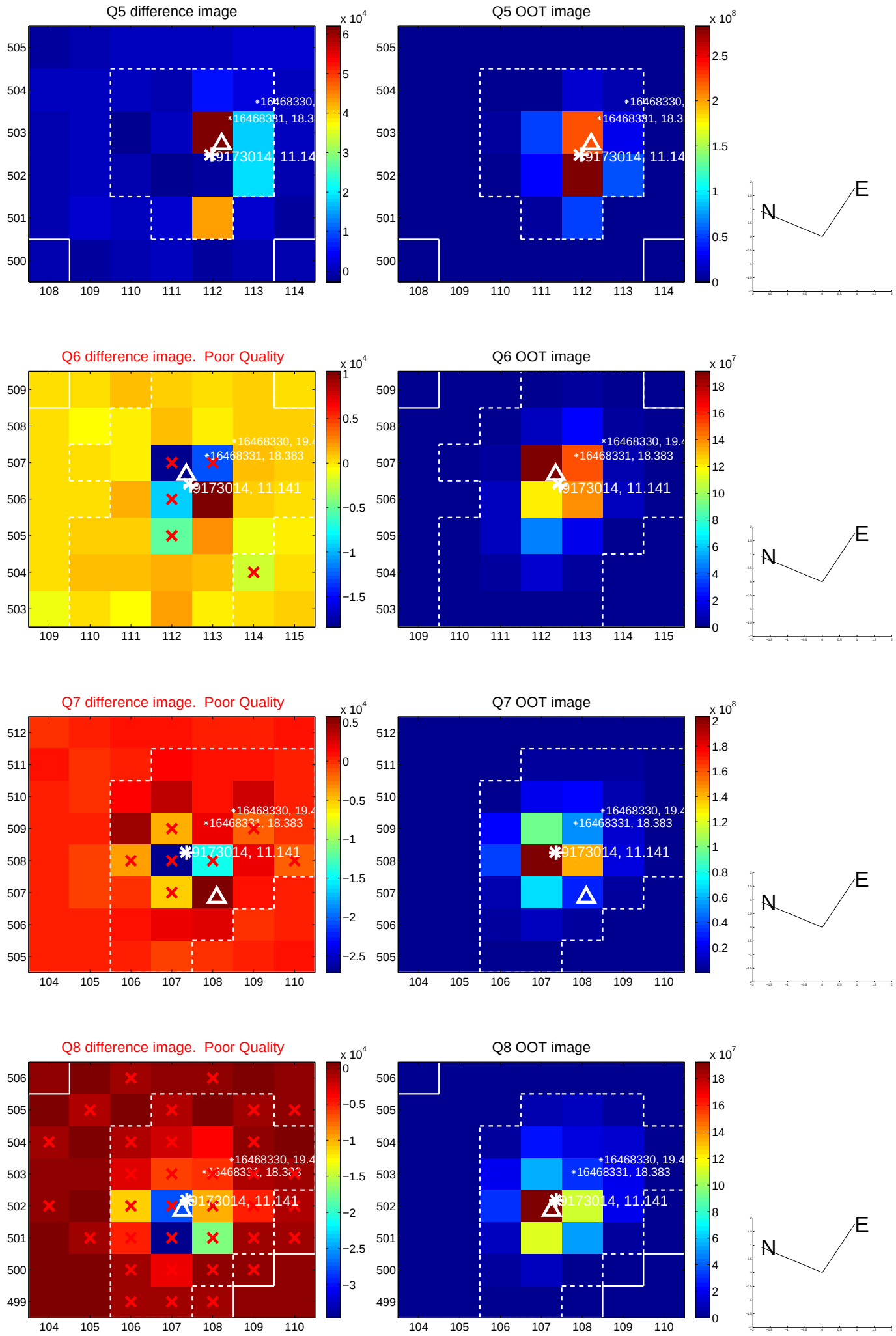


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

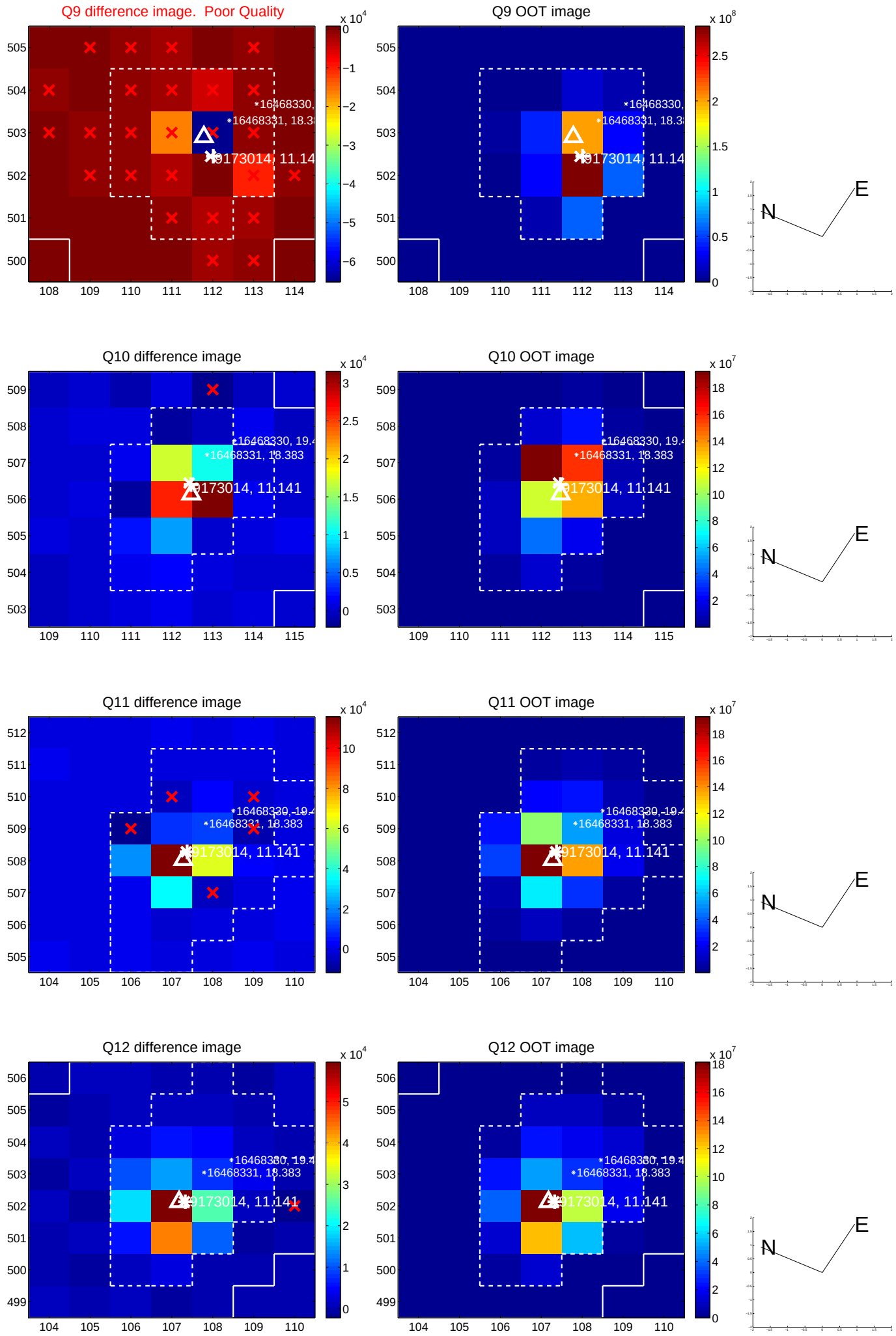
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



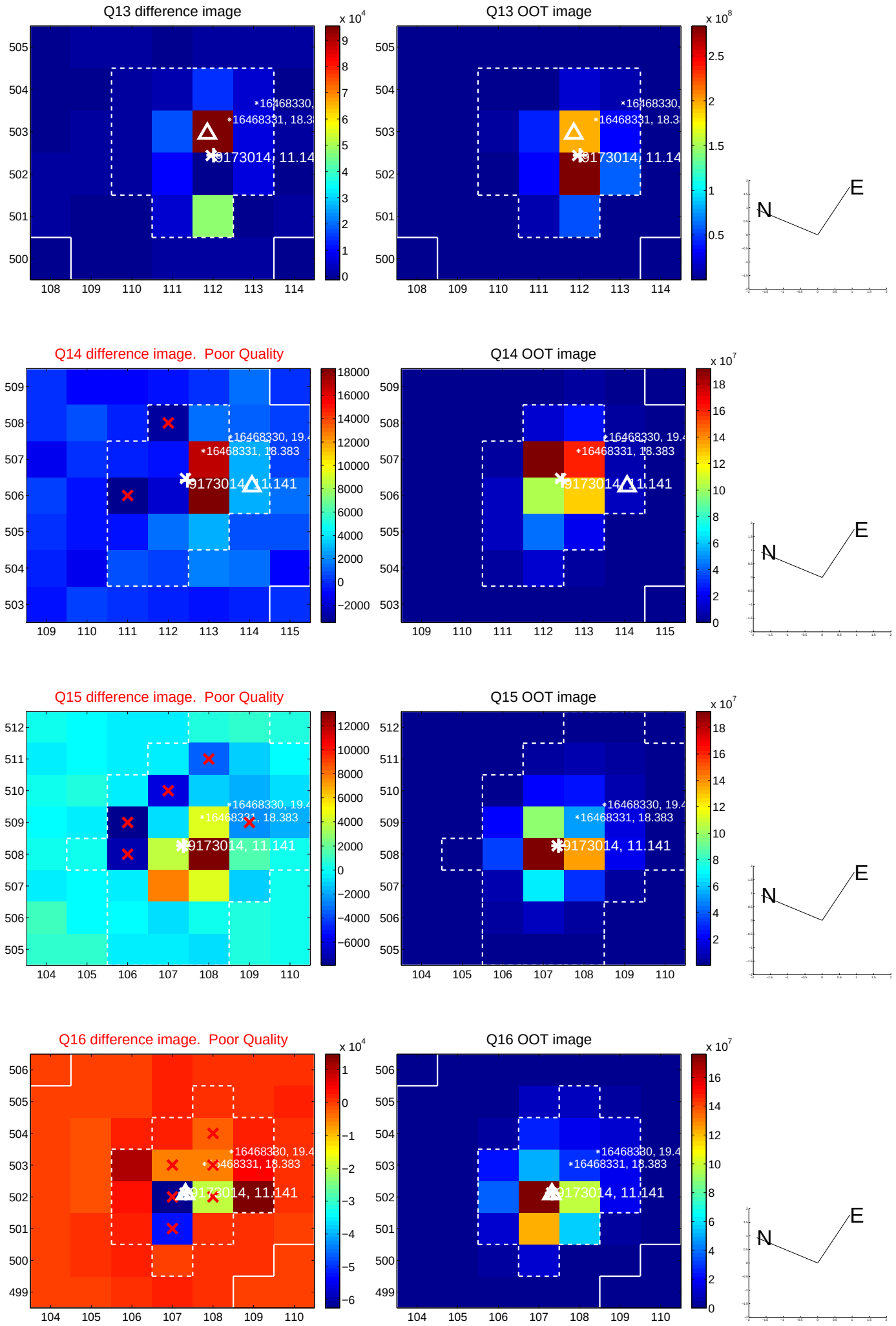
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



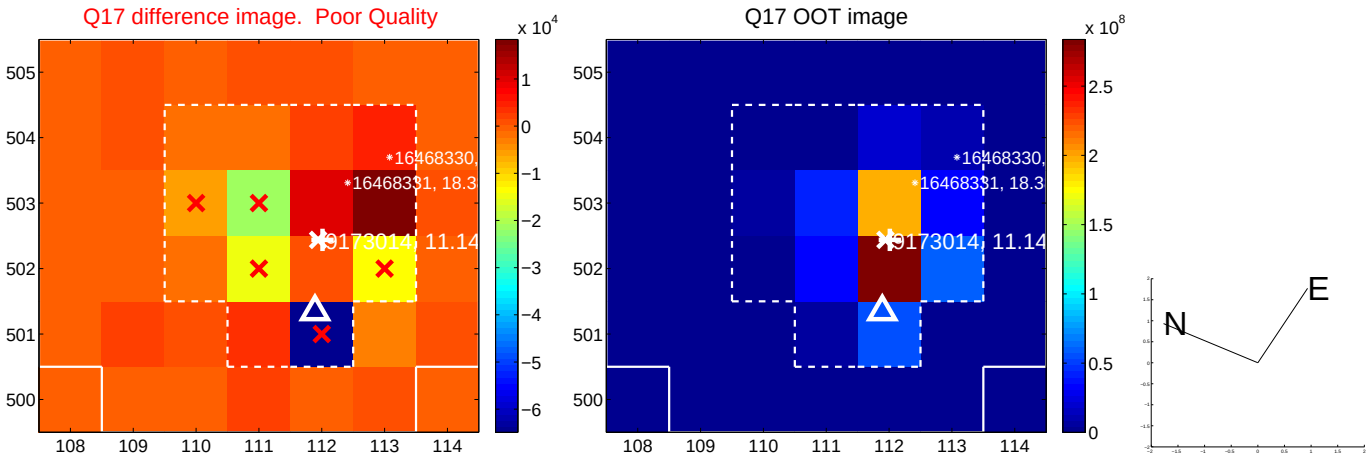
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

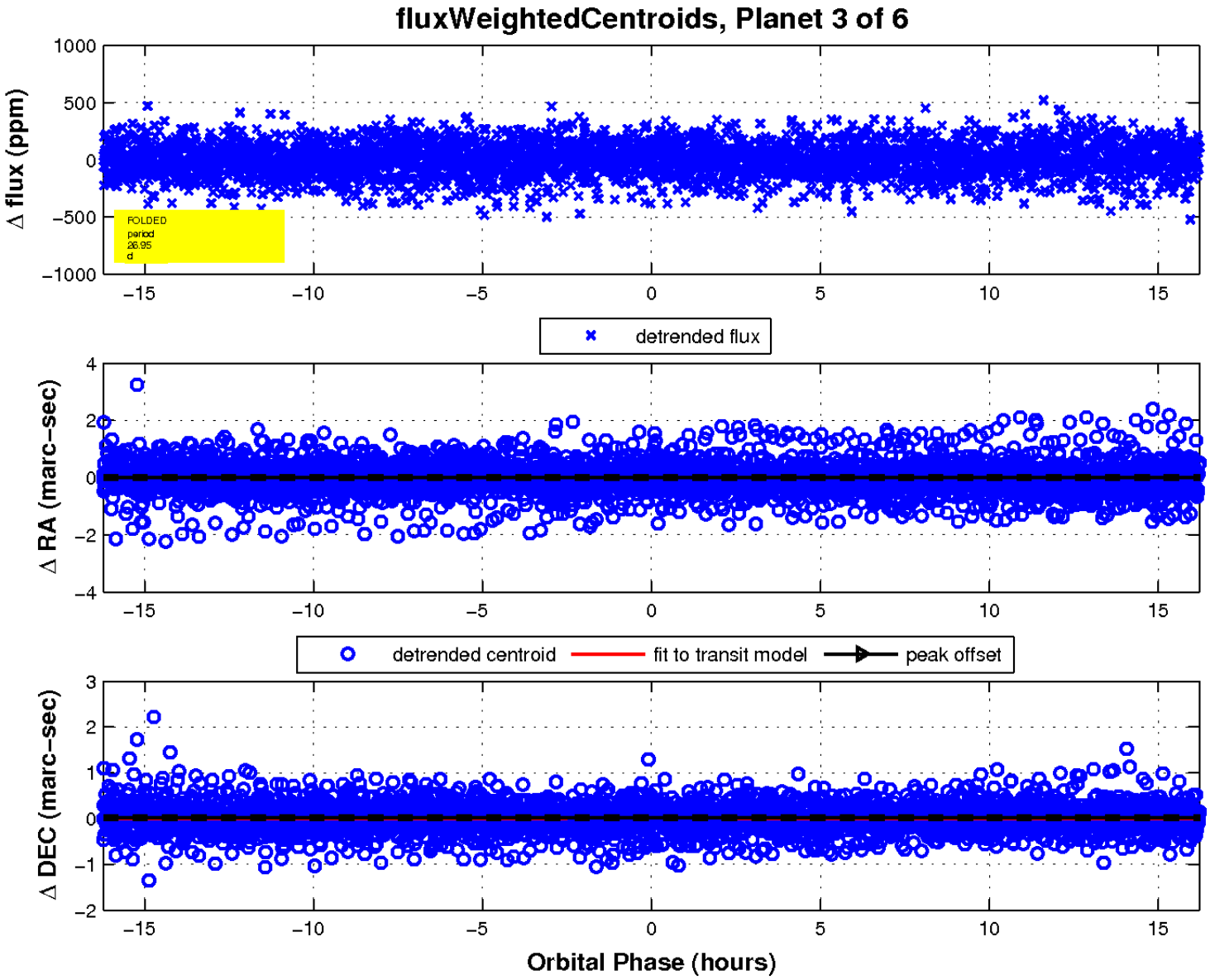


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

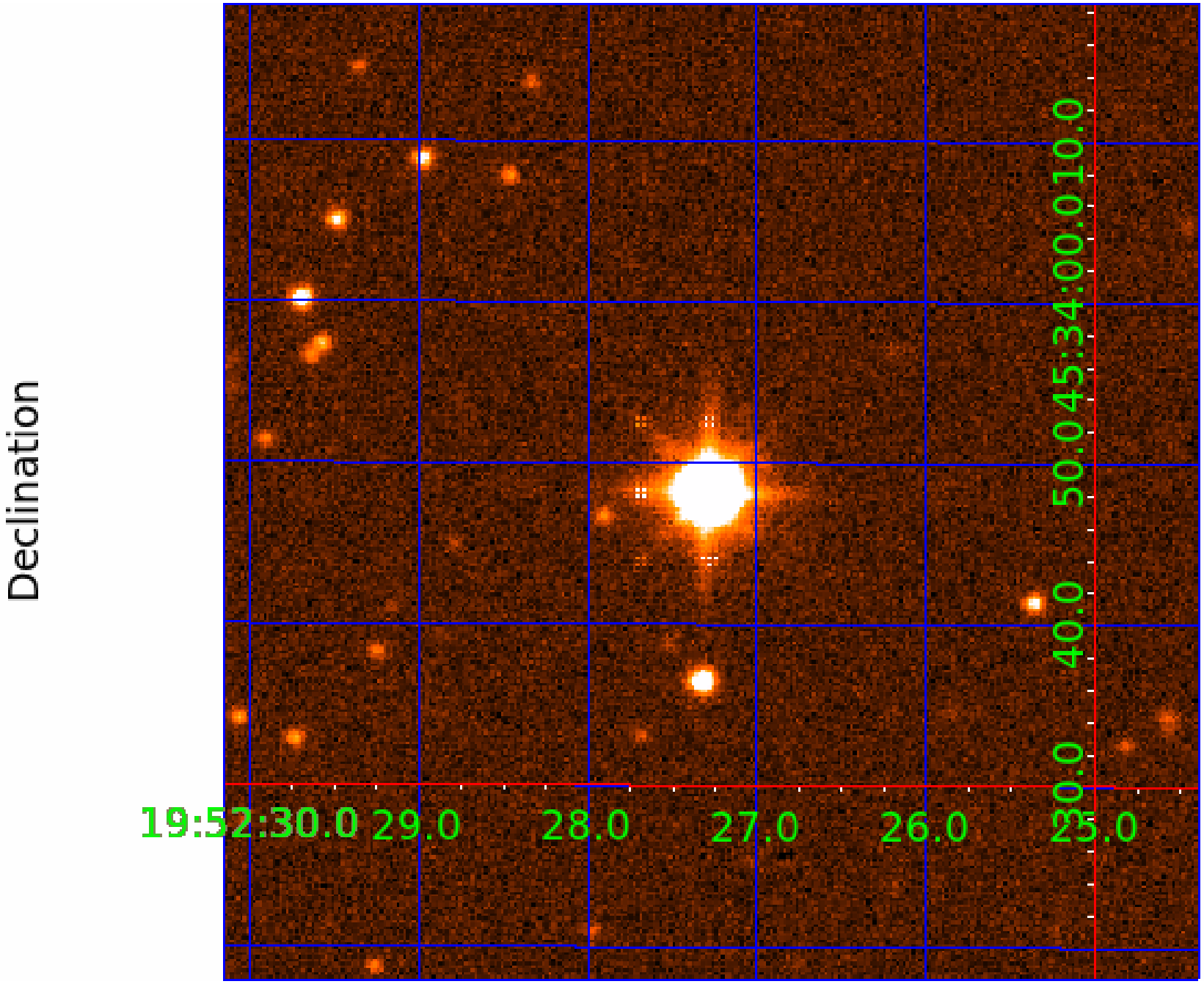


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
19:52:30.0
29.0
28.0
27.0
26.0
25.0
30.0
40.0
50.0
45:34:00.0
10.0

KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
009173014-02	OBS	No	20.619306	139.242451	127.0	3.581	12.1	13.7	3.69	6341	4.25	646.30
009173014-03	OBS	No	26.954911	150.134145	223.4	5.408	21.4	20.3	3.69	6341	6.37	452.15
009173014-04	OBS	No	8.000495	138.981541	124.1	1.155	14.7	10.4	3.69	6341	4.27	2283.72
009173014-05	OBS	No	10.375385	141.261051	194.3	0.750	14.0	9.1	3.69	6341	5.25	1614.83
009173014-06	OBS	No	14.331522	142.739122	248.9	1.500	14.0	-1.0	3.69	6341	5.86	1049.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009173014-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

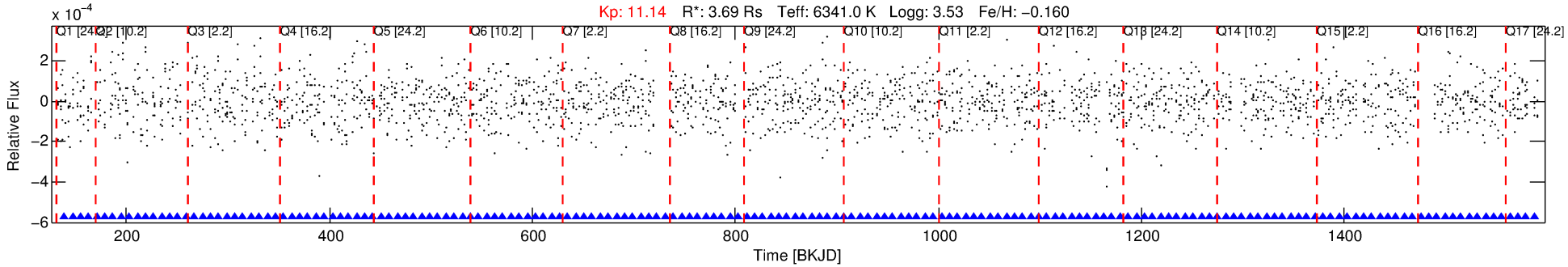
Ephemeris Match Information For 009173014-04

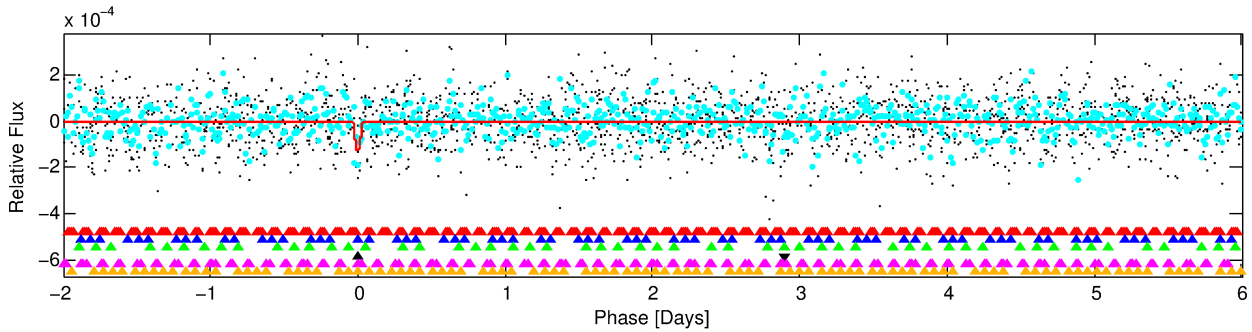
No Significant Match Found

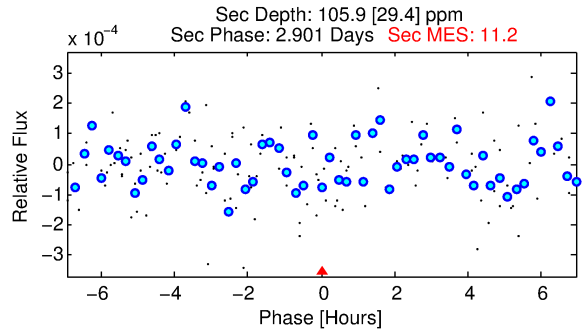
DV One-Page Summary

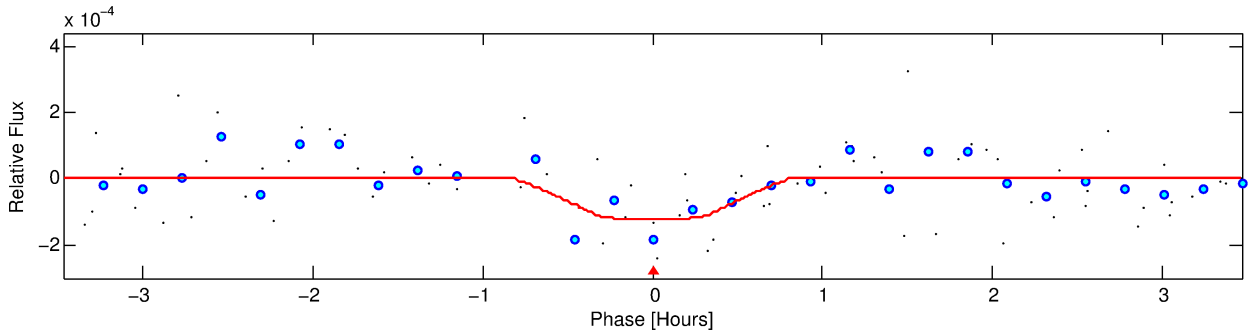
KIC: 9173014 Candidate: 4 of 6 Period: 8.000 d
KOI: K05633 Corr: No Ephemeris Match

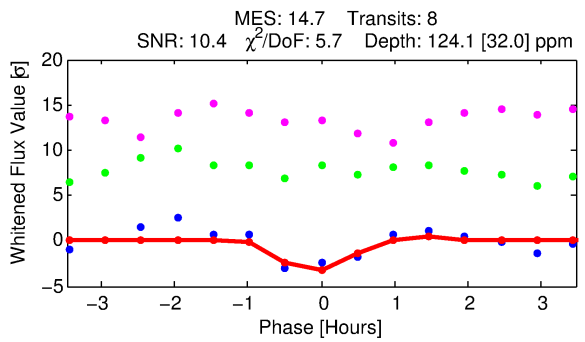
Kp: 11.14 R*: 3.69 Rs Teff: 6341.0 K Logg: 3.53 Fe/H: −0.160

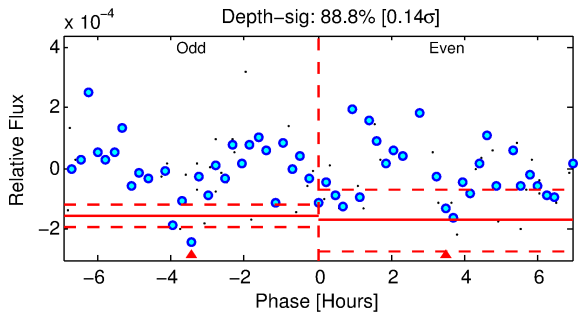


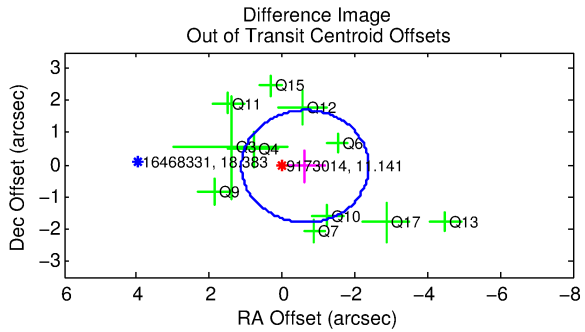












DV Fit Results:

Period = 8.00049 [0.00009] d
Epoch = 138.9815 [0.0082] BKJD
Rp/R* = 0.0106 [0.0199]
a/R* = 46.26 [451.97]
b = 0.51 [14.42]

Seff = 2283.72 [1479.37]
Teq = 1763 [285] K
Rp = 4.27 [8.19] Re
a = 0.0929 [0.0369] AU

Ag = 27.61 [105.28] [0.25σ]
Teffp = 6247 [5874] K [0.76σ]

DV Diagnostic Results:

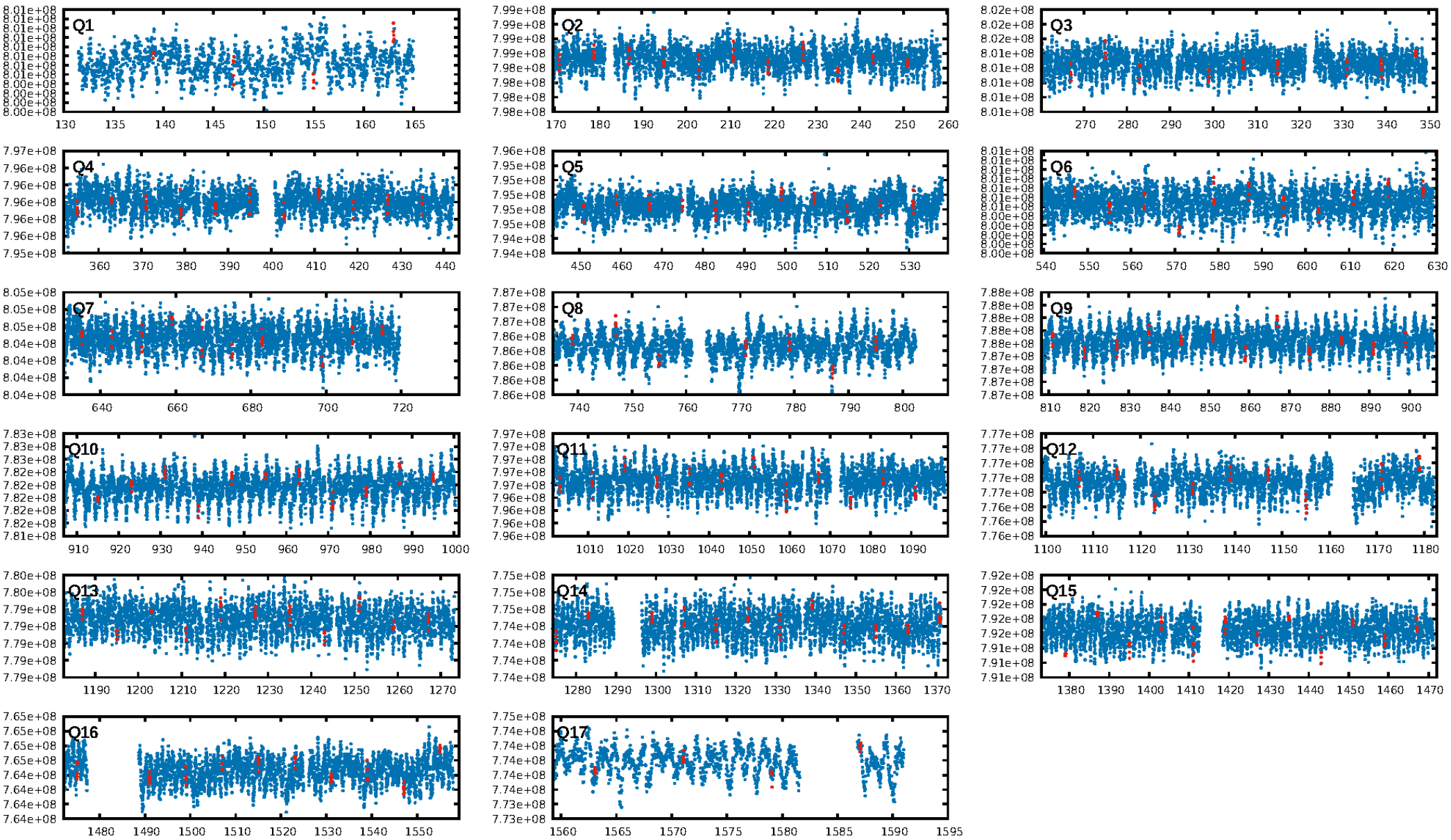
ShortPeriod−sig: 100.0% [7.10σ]
LongPeriod−sig: 100.0% [41.39σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 0.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: 11.92

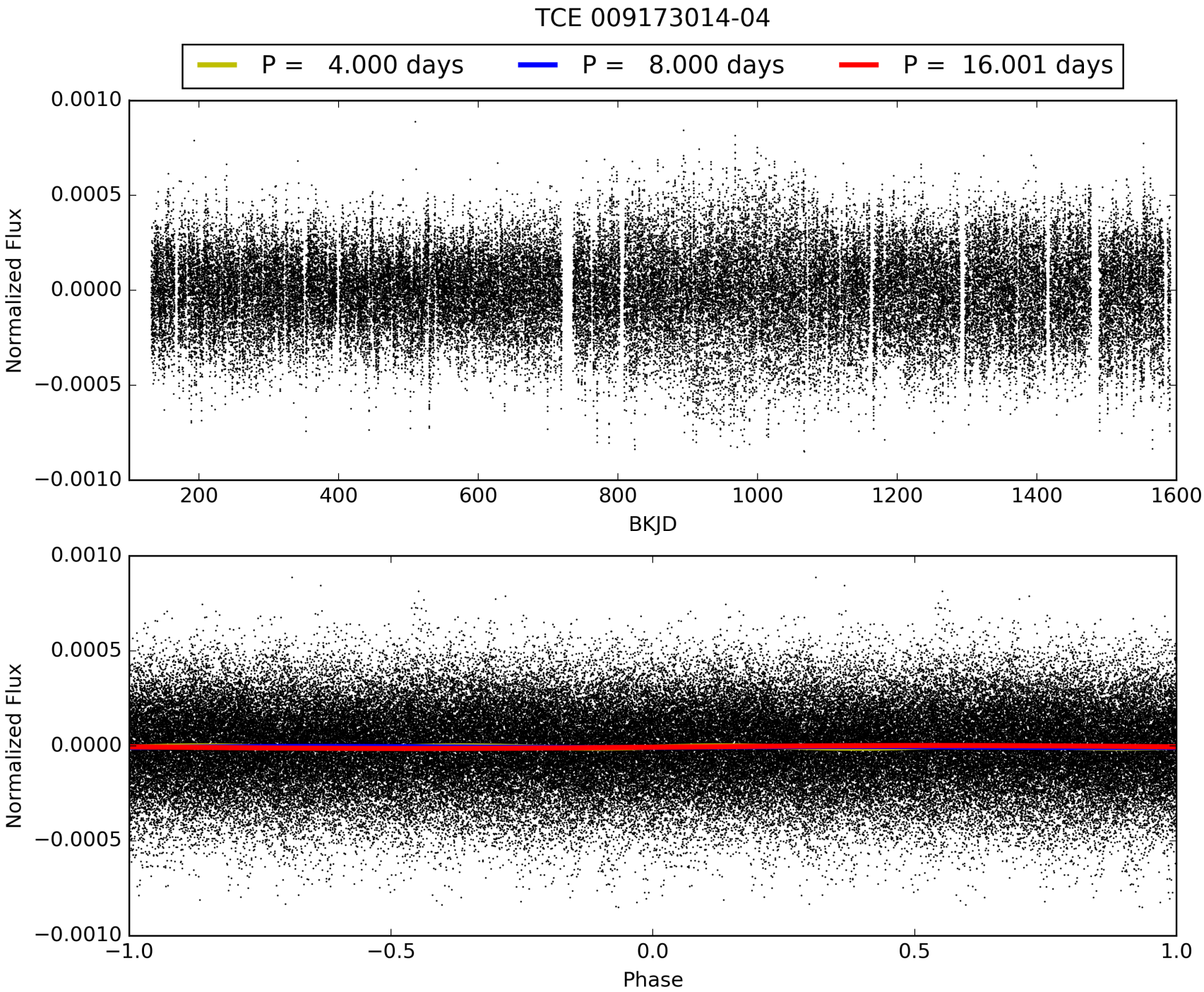
Centroid−sig: 58.4%
Centroid−so: 0.343 arcsec [0.87σ]
OotOffset−rm: 0.636 arcsec [1.09σ]
KicOffset−rm: 0.662 arcsec [1.05σ]
OotOffset−st: 2/4/2/3 [11]
KicOffset−st: 2/4/2/3 [11]
DiffImageQuality−fgm: 0.27 [3/11]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:47 Z

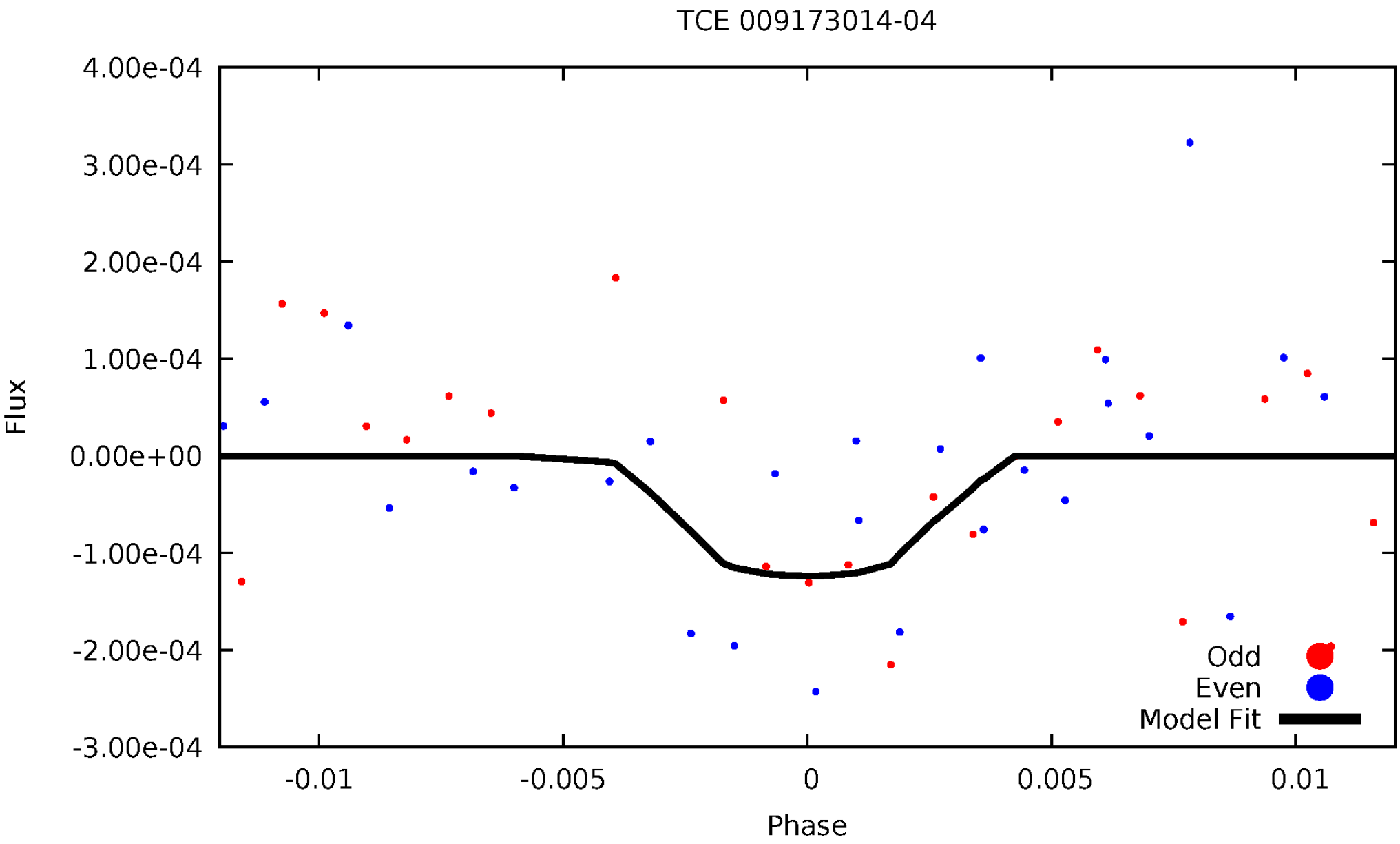
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-04, PDC Light Curves

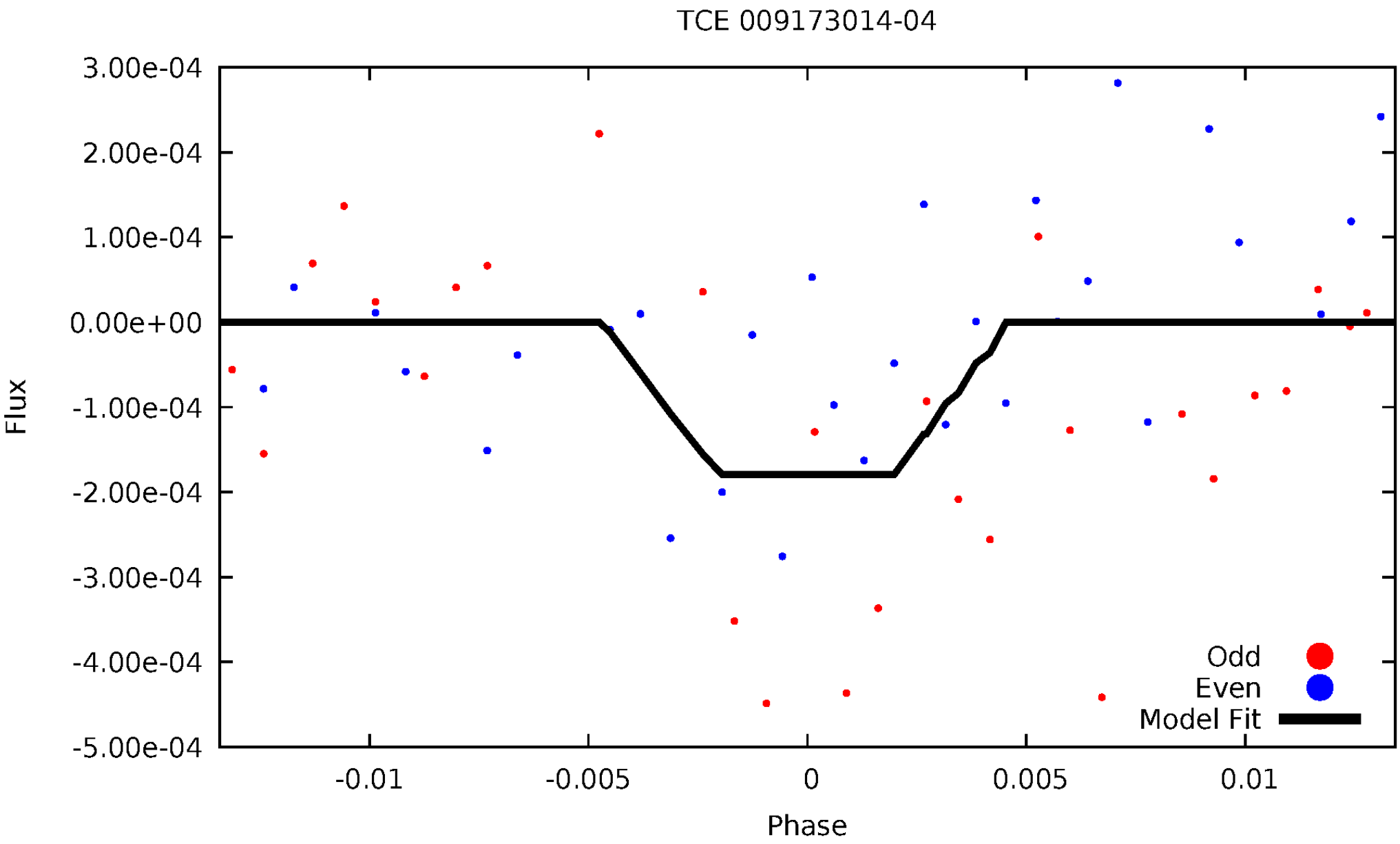



TCE 009173014-04
P = 4.000 days
P = 8.000 days
P = 16.001 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

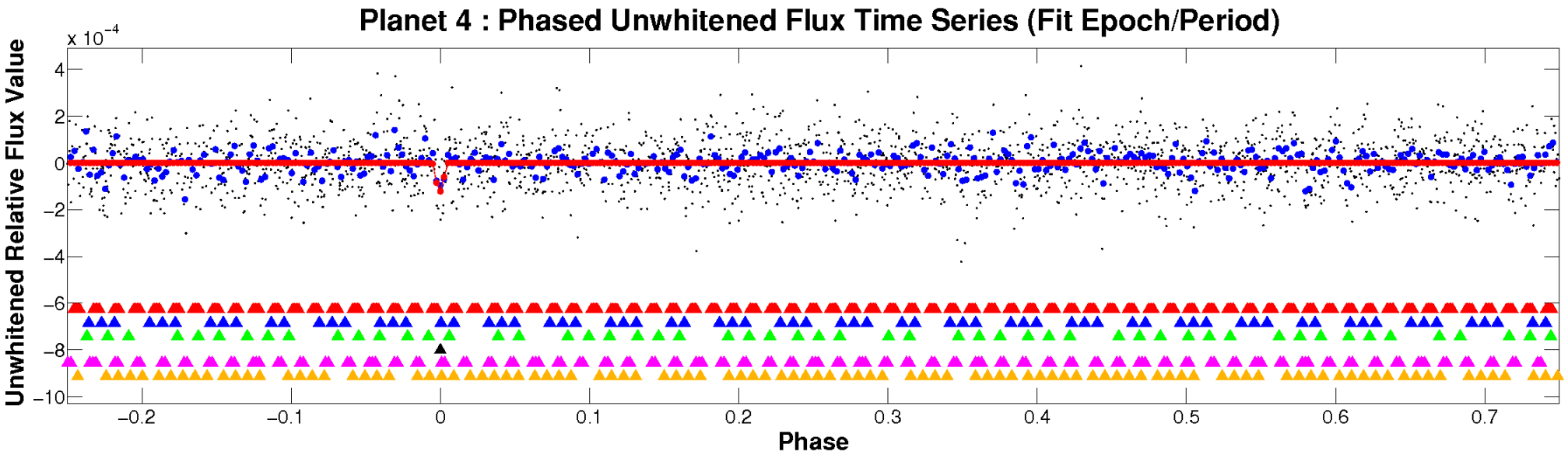
DV Odd/Even

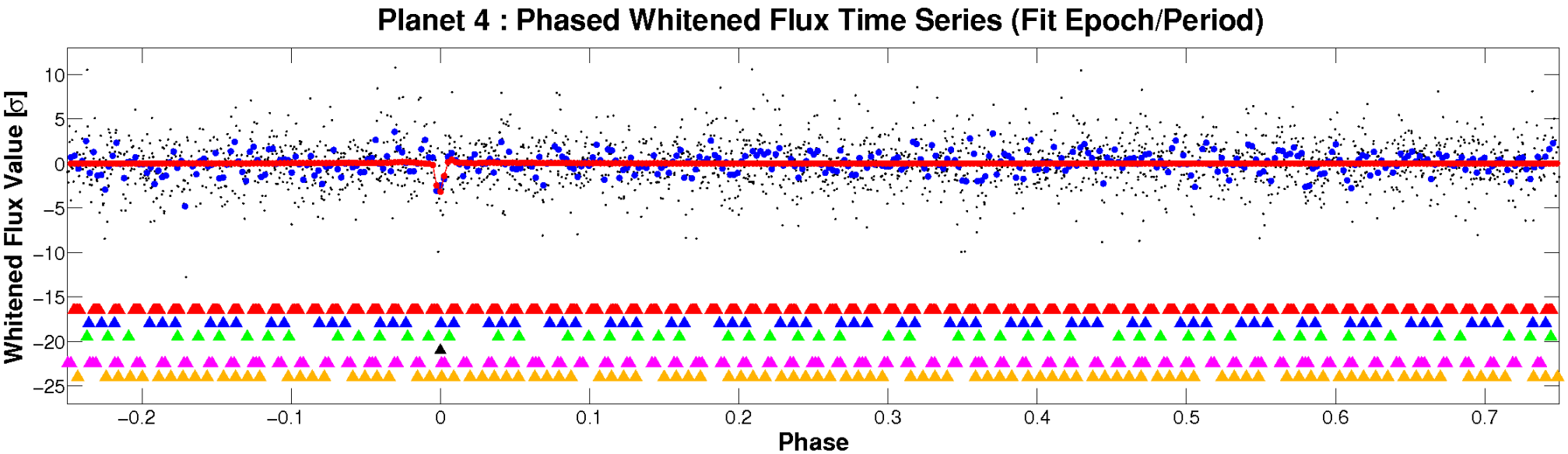

TCE 009173014-04
4.00e-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009173014-04
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
-4.00e-04
-5.00e-04
Flux
-0.01
-0.005
0
0.005
0.01
Phase
Odd
Even
Model Fit

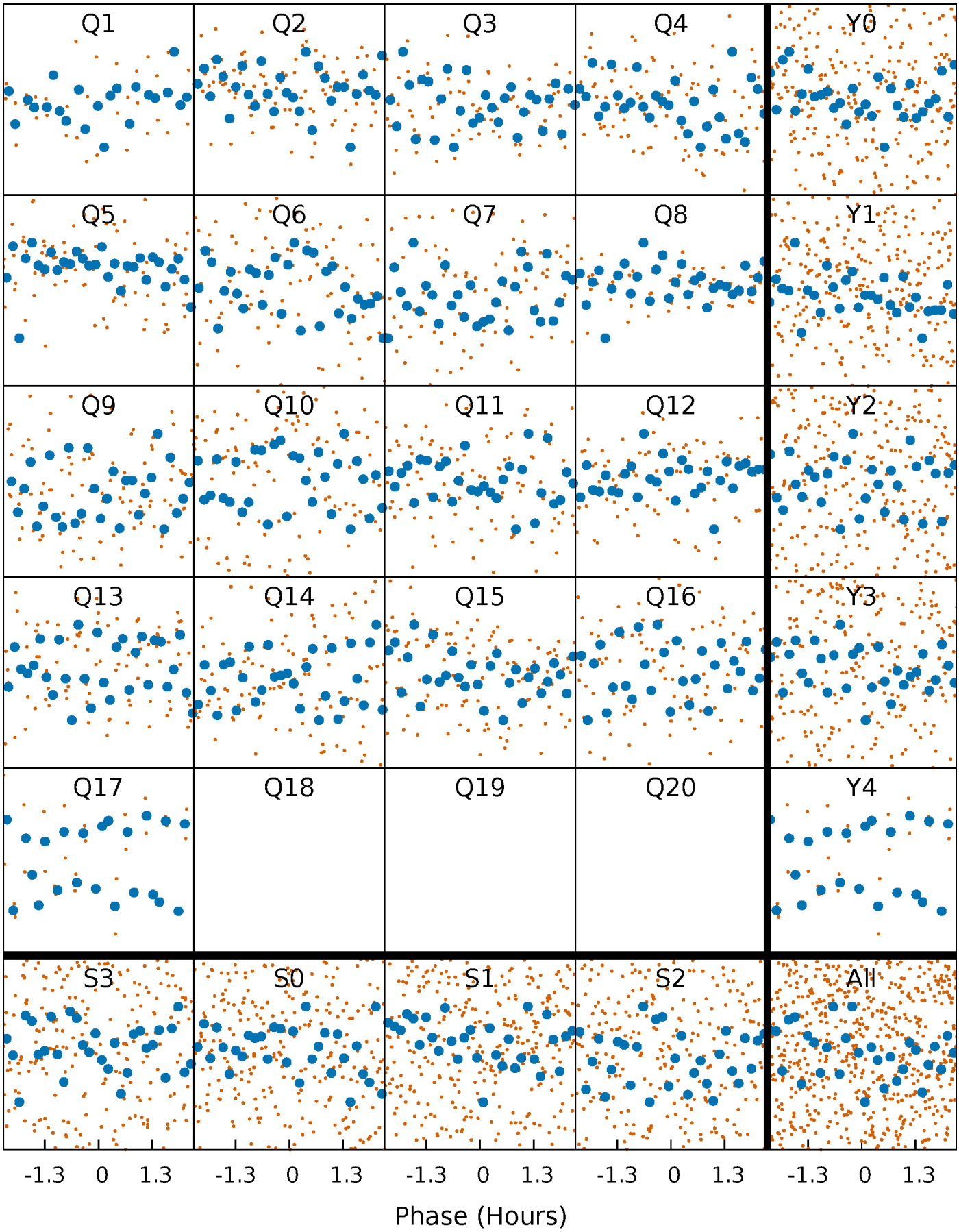
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009173014-04 P= 8.000495 Days T_0=138.981541 (BKJD)



DV Quarter-Phased Transit Curves

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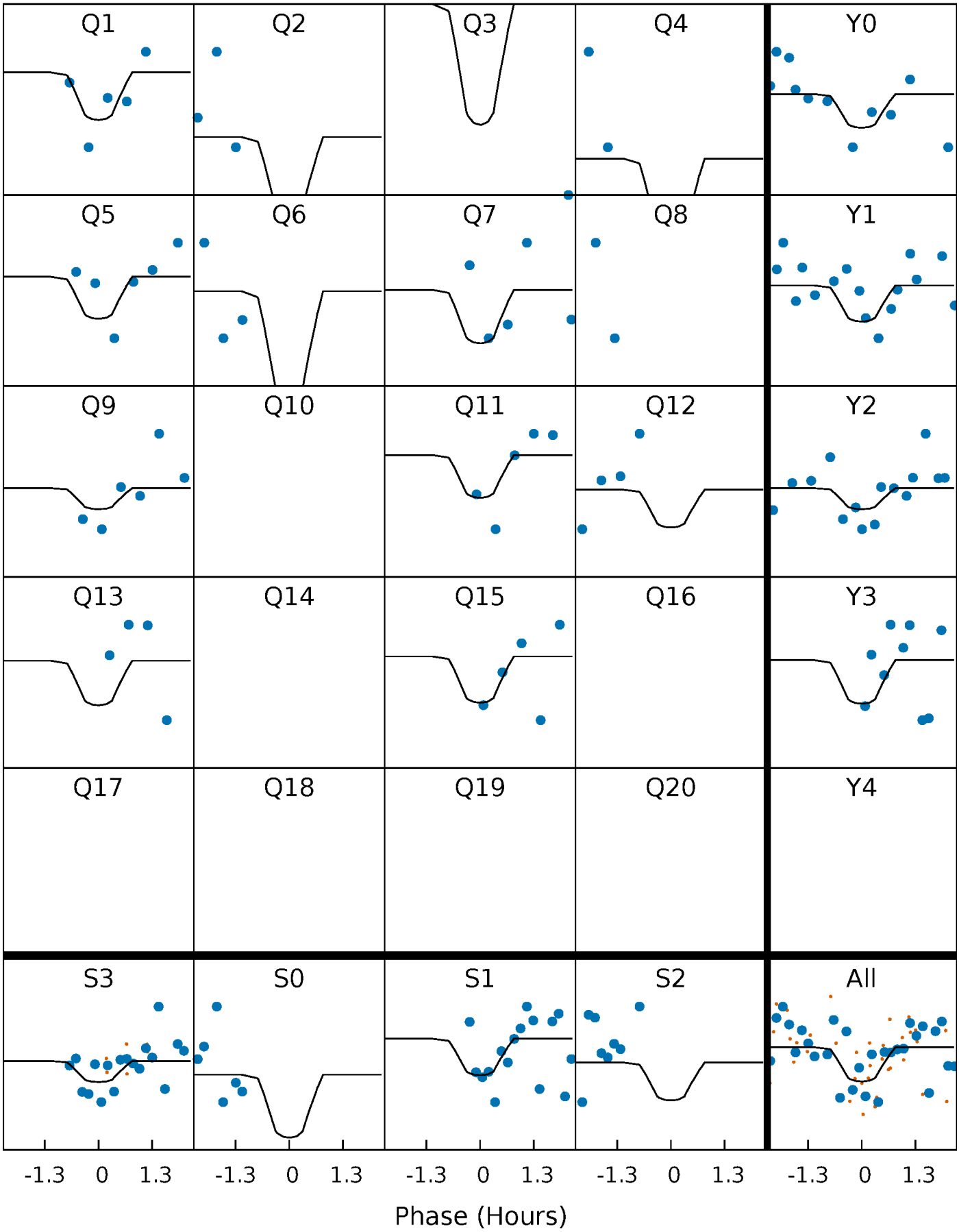
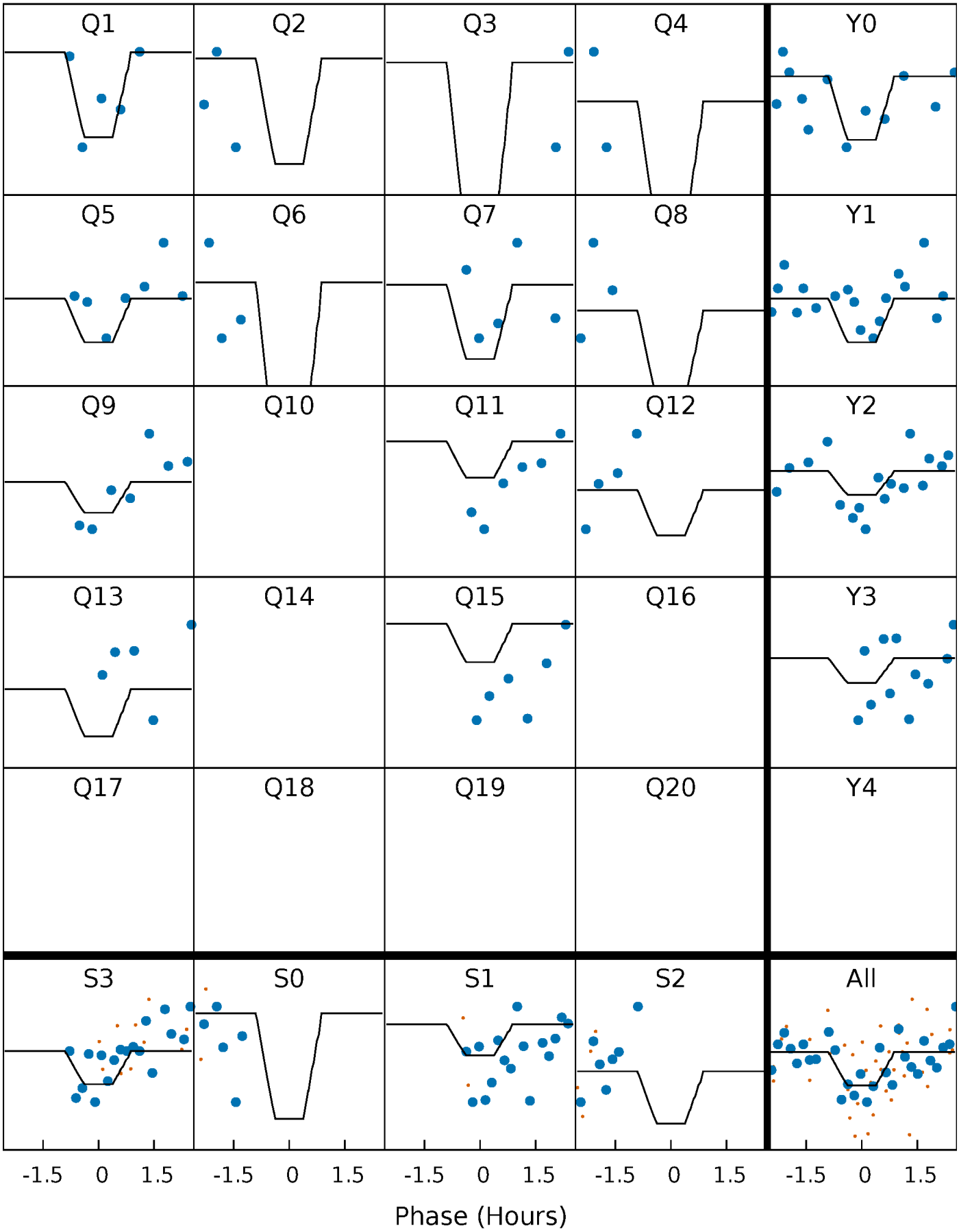


Alt. Detrend Quarter-Phased Transit Curves

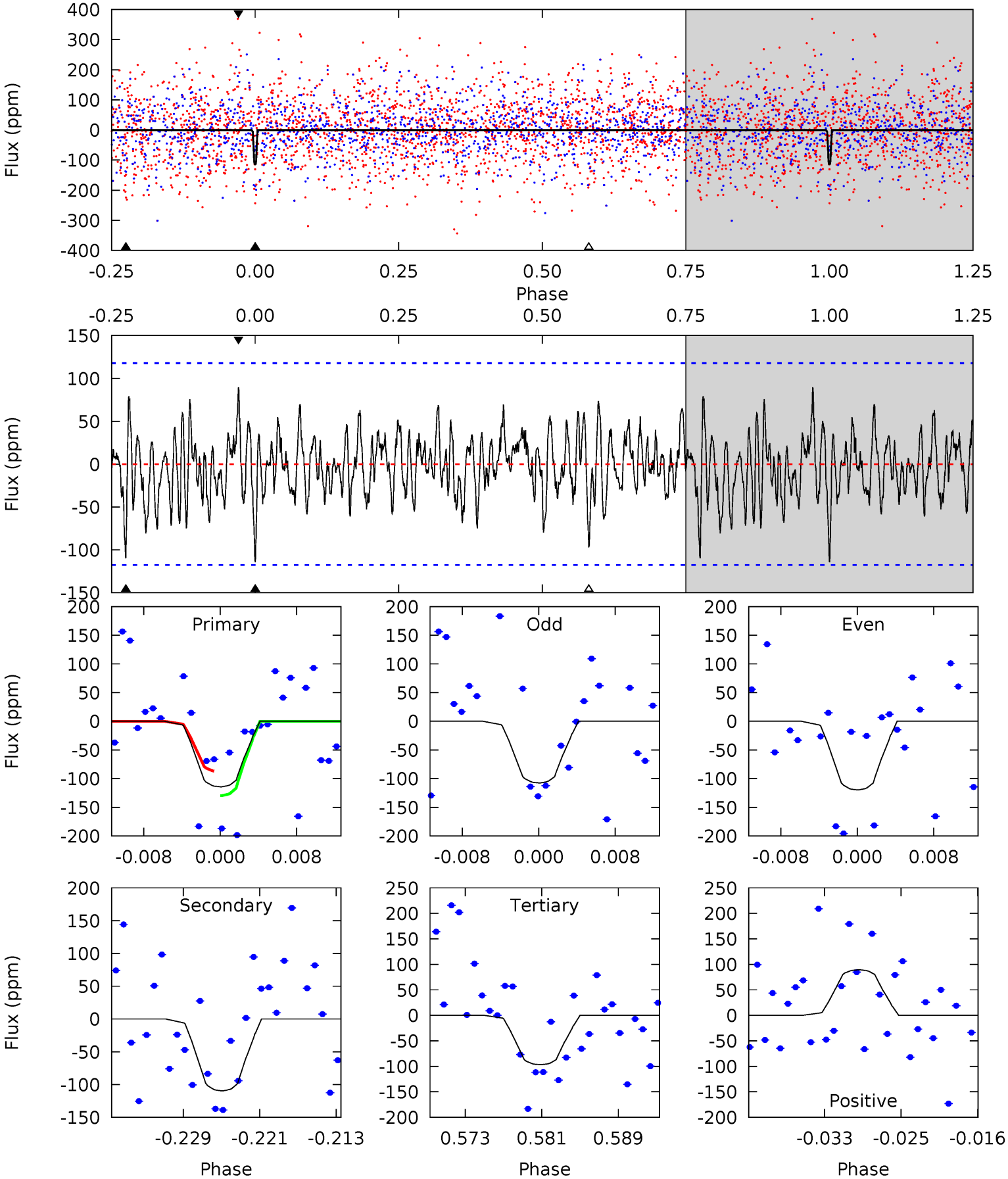
TCE 009173014-04 P= 8.000520 Days T_0=138.985085 (BKJD)



DV Model-Shift Uniqueness Test

009173014-04, P = 8.000495 Days, E = 130.981046 Days

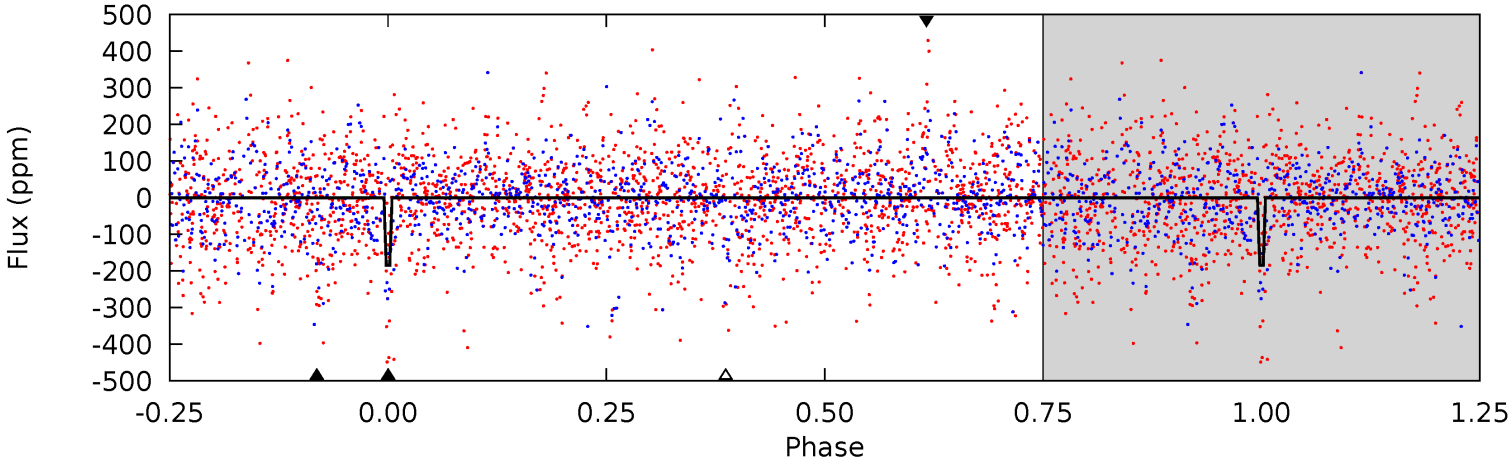
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.92	4.72	4.17	3.85	5.06	2.64	1.33	0.76	1.07	0.55	0.87	0.25	0.90	0.44	0.87

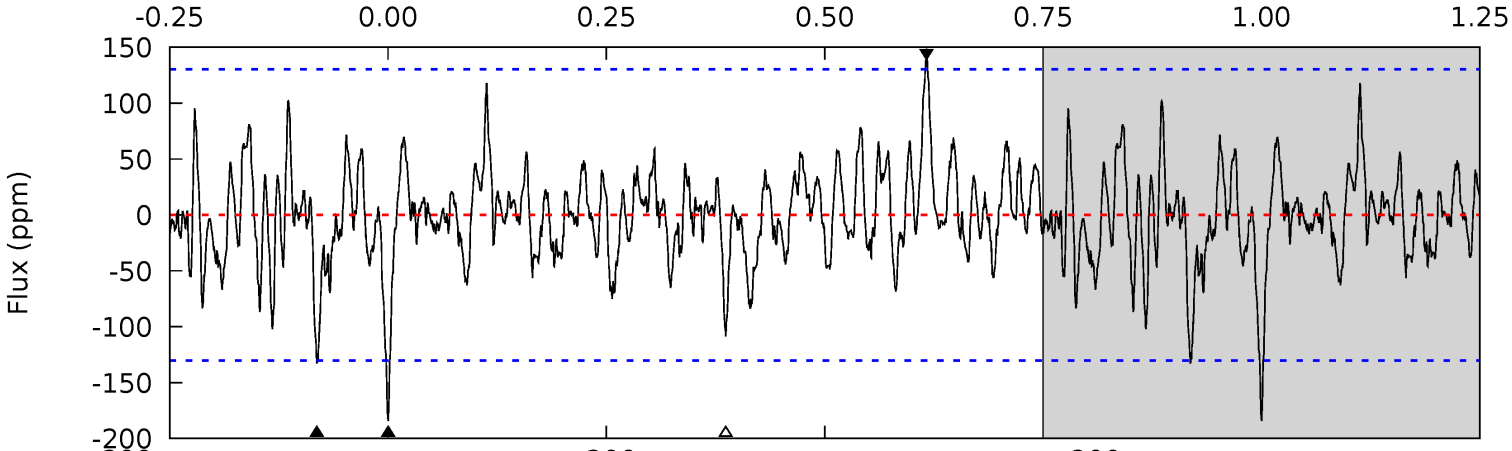


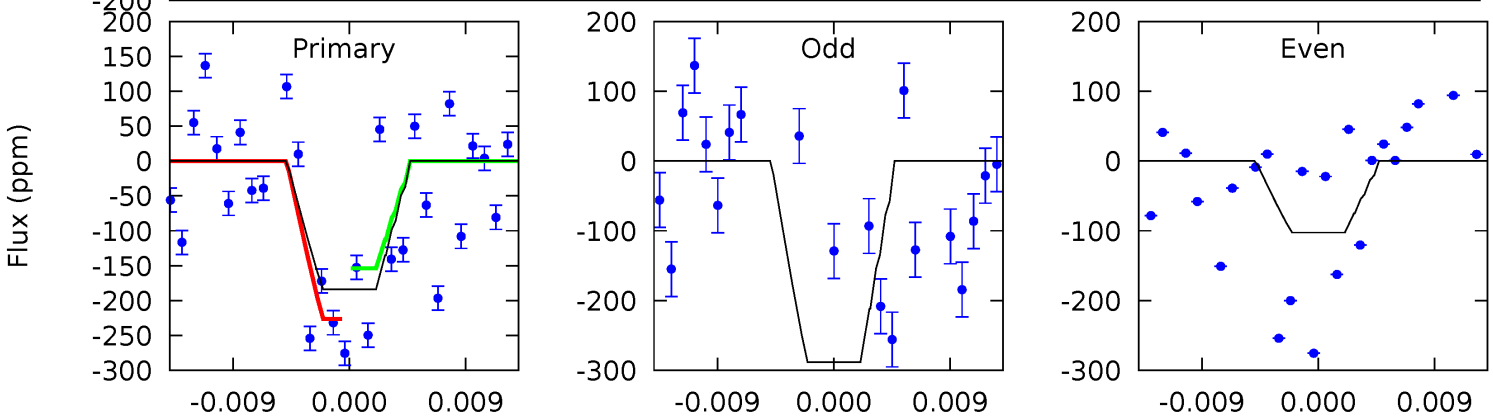
Alt Model-Shift Uniqueness Test

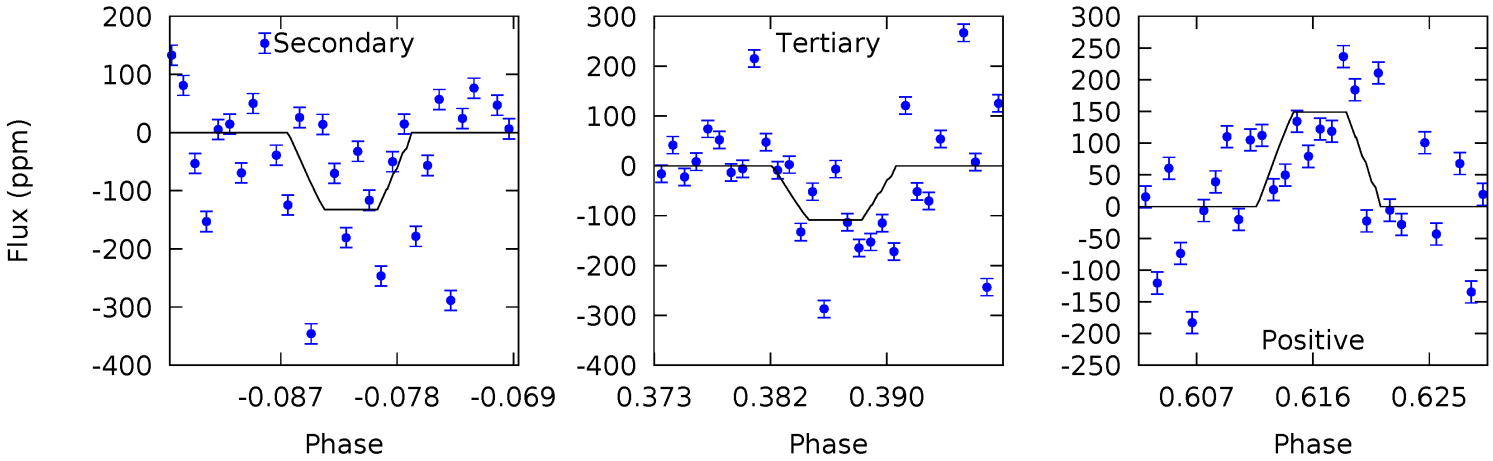
009173014-04, P = 8.000520 Days, E = 130.984565 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.15	5.15	4.22	5.78	5.05	2.62	1.40	2.93	1.37	0.94	-0.63	3.55	1.10	0.45	1.37









Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-110±23	$6.19^{+6.43}_{-4.08}$	2410^{+137}_{-223}	5028^{+3883}_{-1204}	13^{+101}_{-10}
Alt.	-133±26	$7.24^{+6.74}_{-4.89}$	2414^{+139}_{-254}	4901^{+3570}_{-1101}	12^{+99}_{-8}

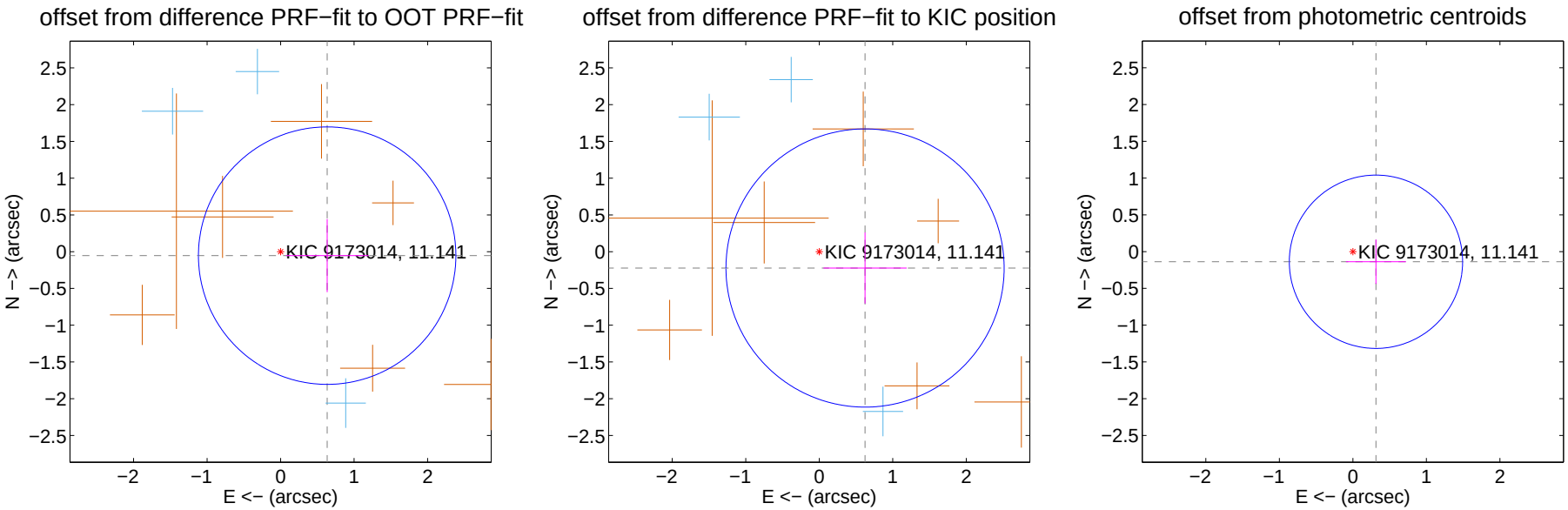
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

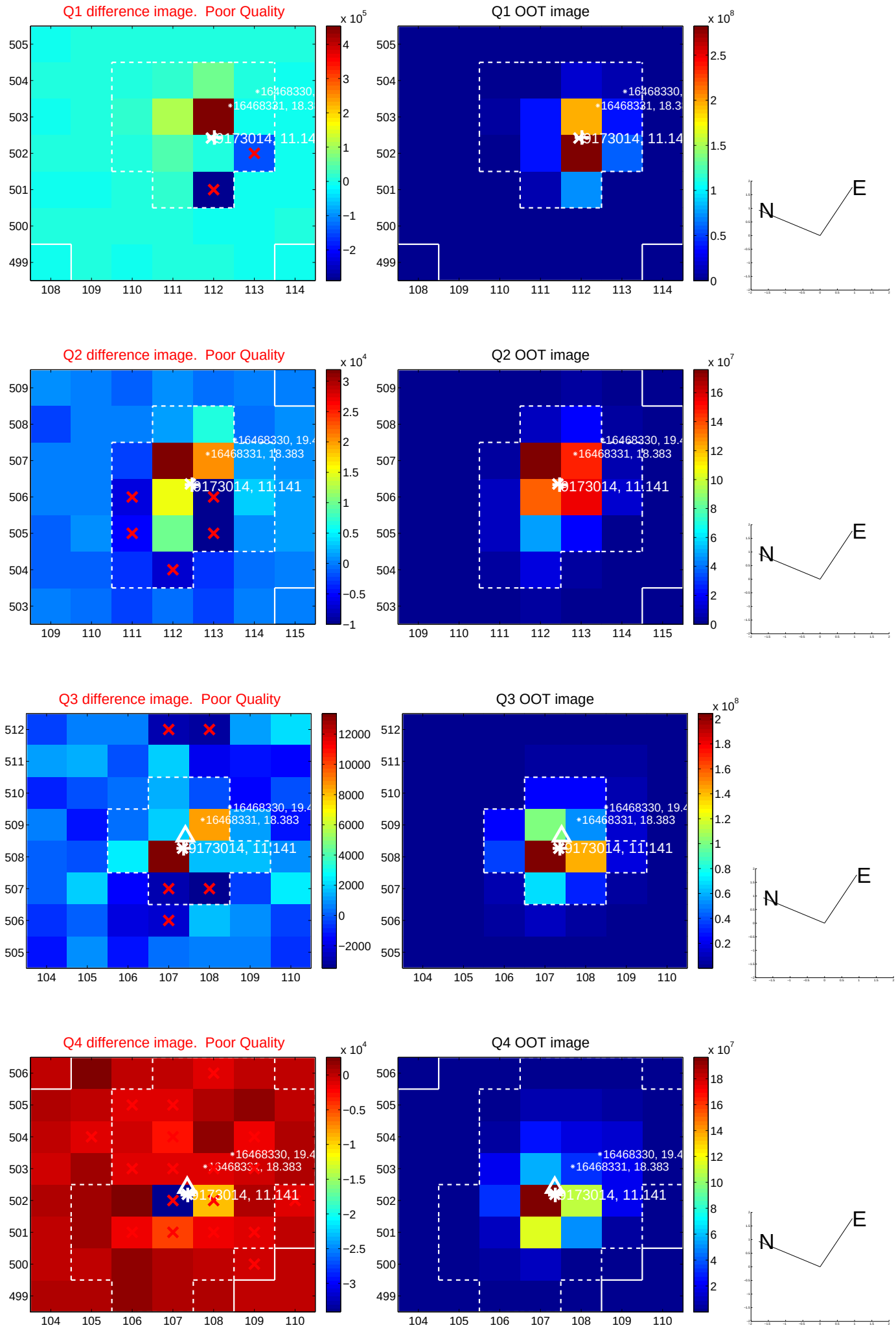
Supplemental centroid analysis for 009173014-04. Kepler magnitude: 11.14. Transit SNR 10.39
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.636 ± 0.584	1.09	-0.634 ± 0.563	-0.054 ± 0.498
PRF-fit source offset from KIC position	0.662 ± 0.631	1.05	-0.623 ± 0.566	-0.222 ± 0.484
photometric centroid source offset	0.34 ± 0.39	0.87	-0.31 ± 0.41	-0.14 ± 0.30

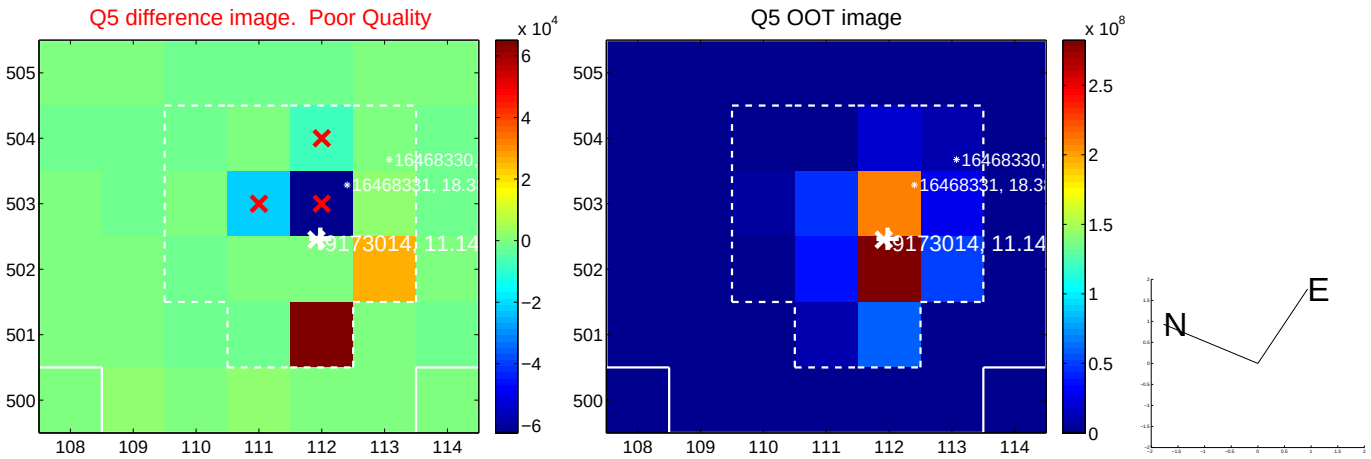


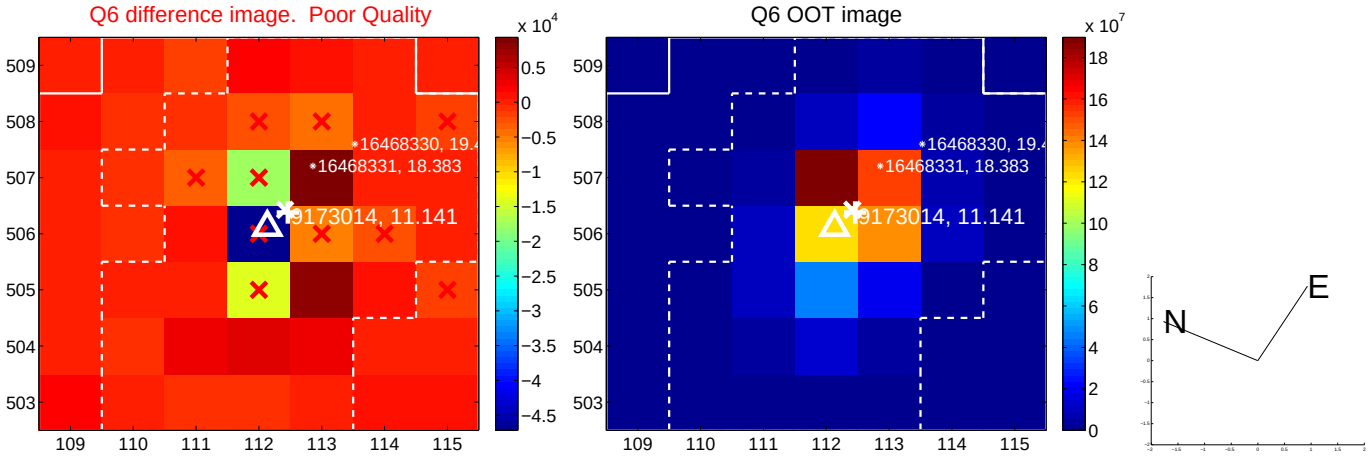
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

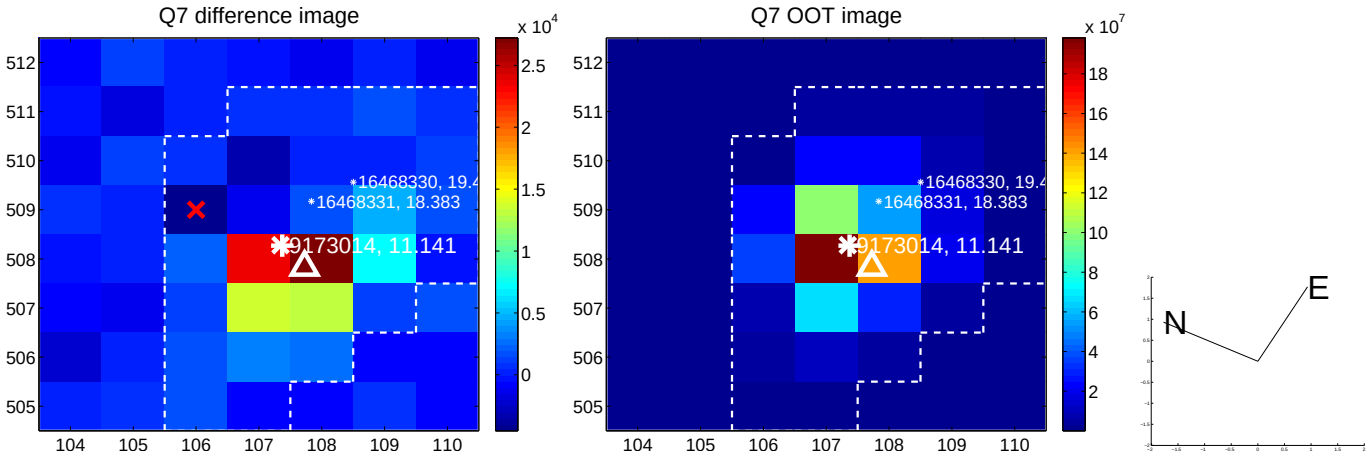
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

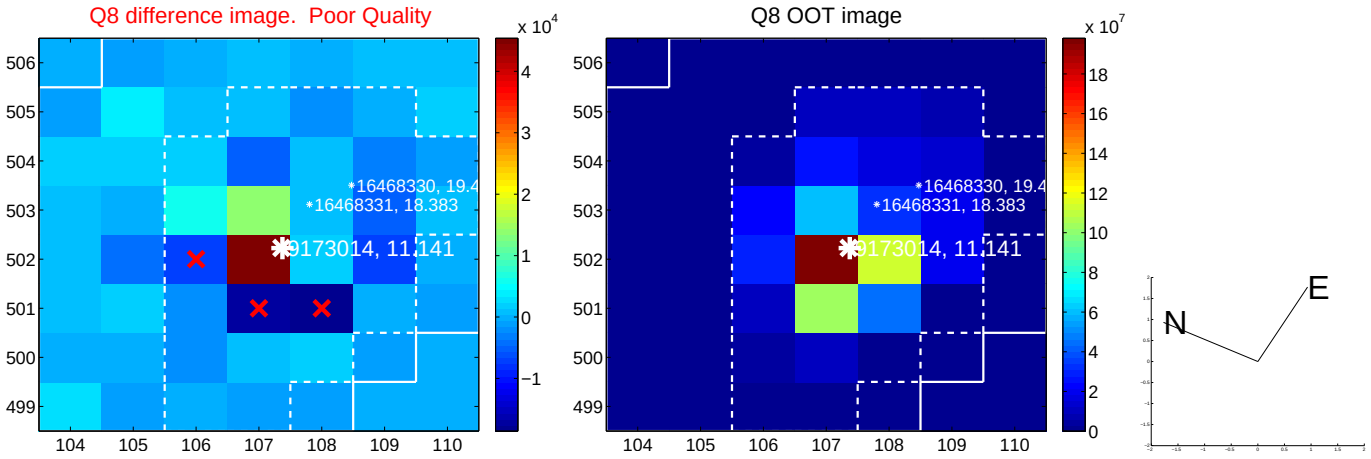


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

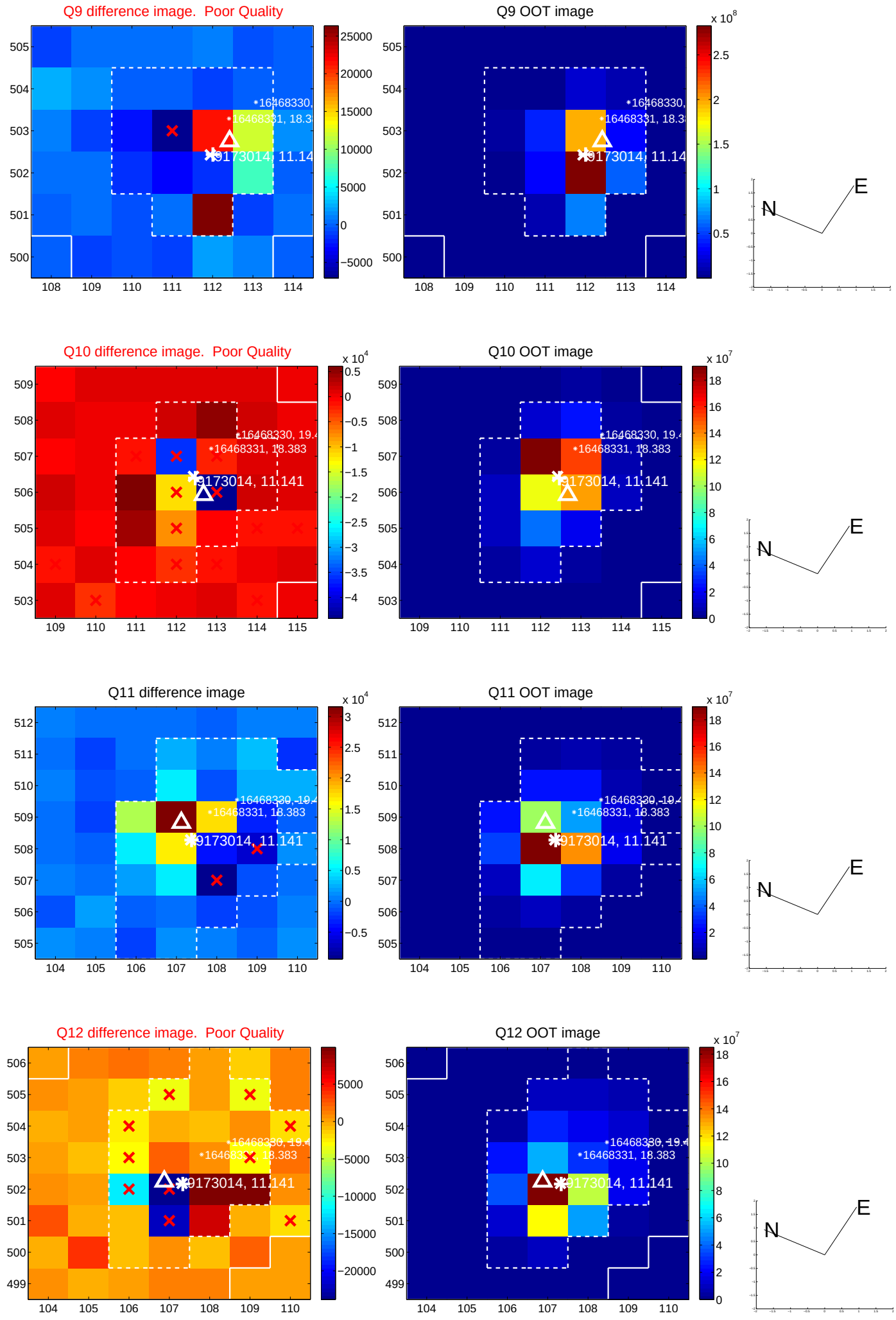




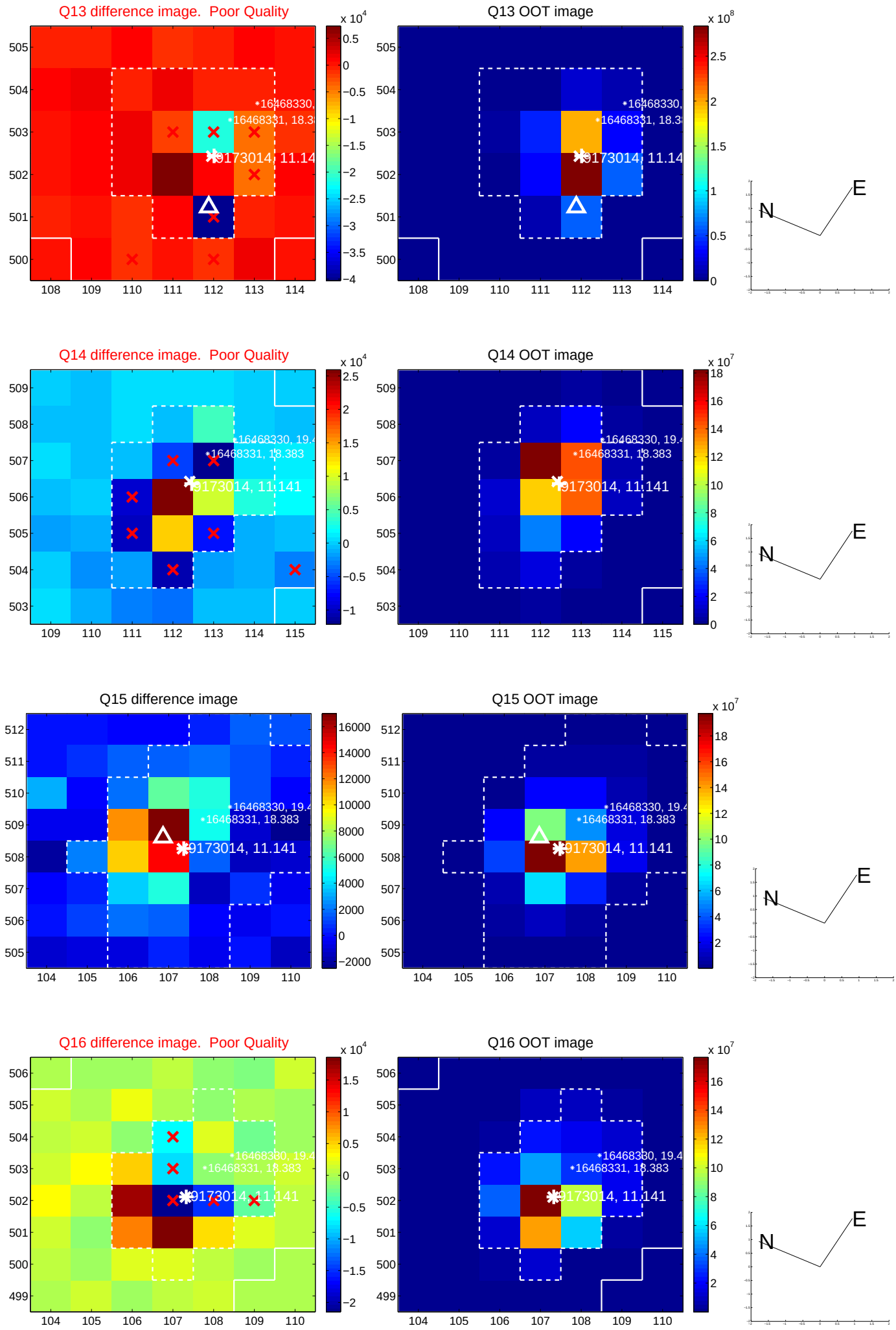




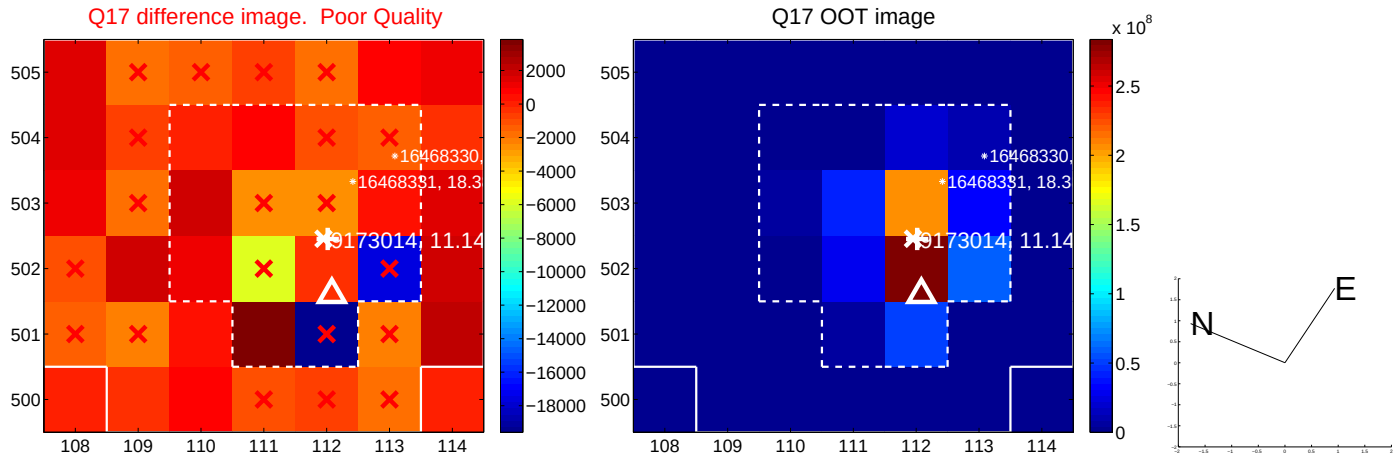
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

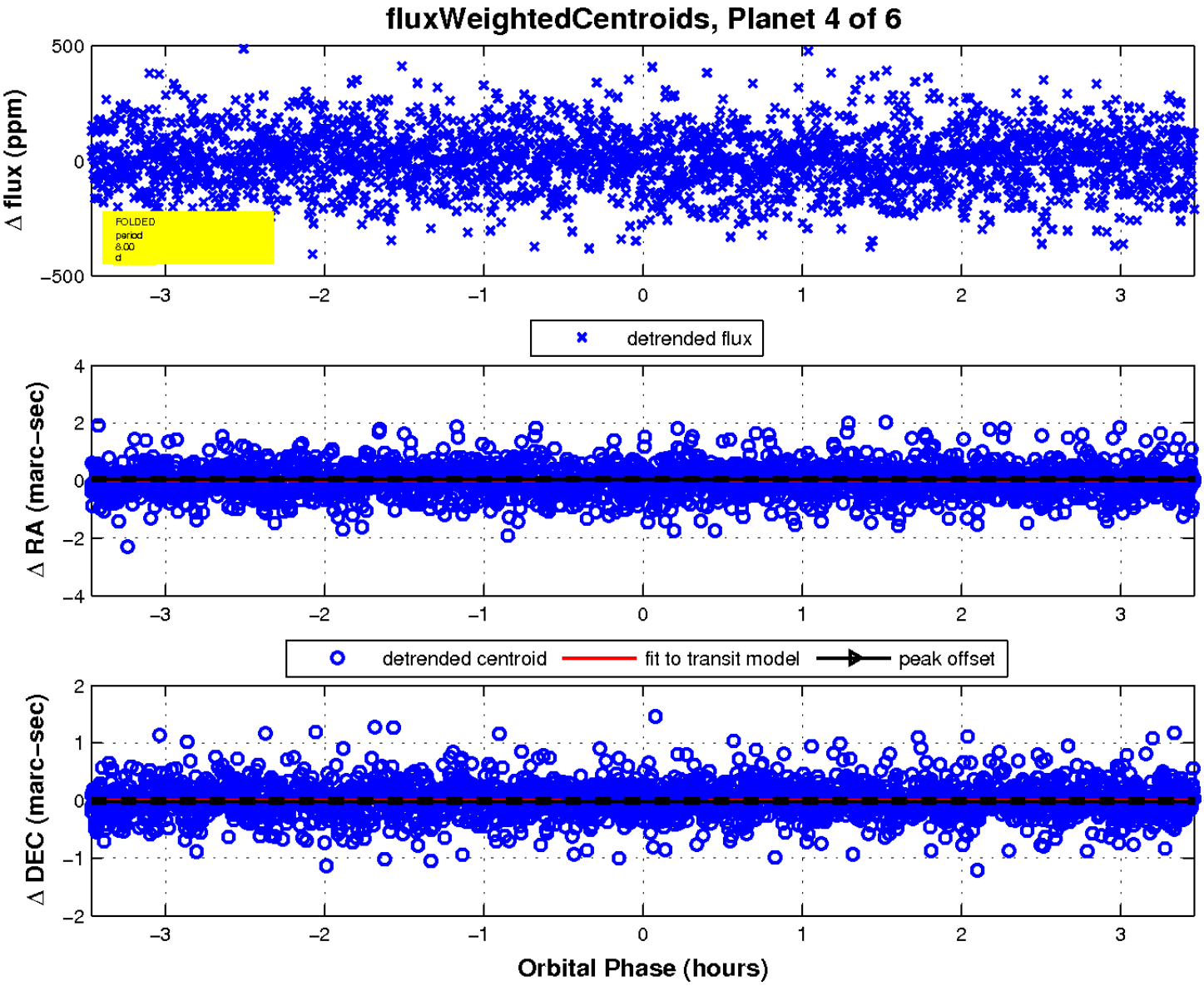


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

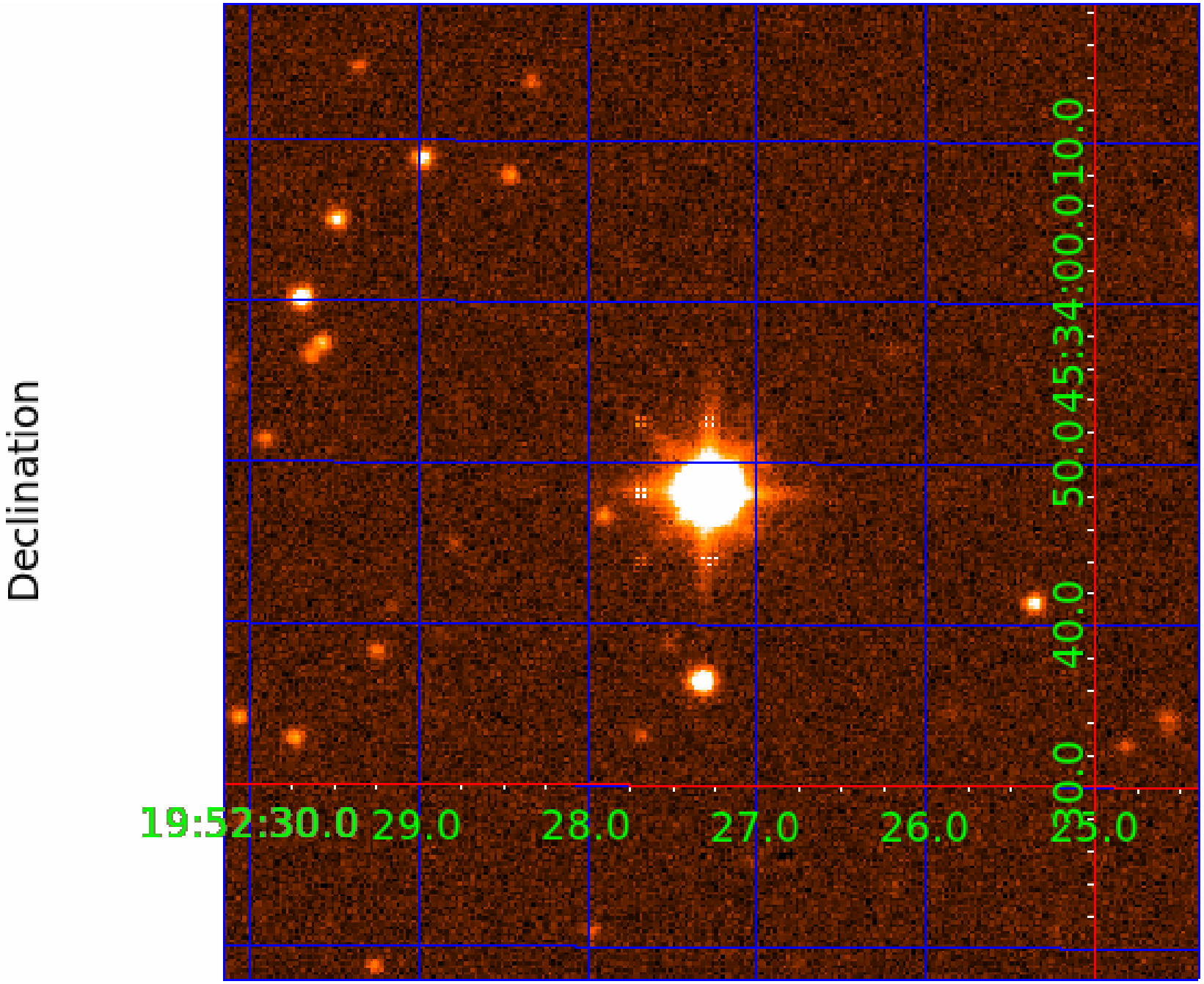


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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10.0

KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
009173014-02	OBS	No	20.619306	139.242451	127.0	3.581	12.1	13.7	3.69	6341	4.25	646.30
009173014-03	OBS	No	26.954911	150.134145	223.4	5.408	21.4	20.3	3.69	6341	6.37	452.15
009173014-04	OBS	No	8.000495	138.981541	124.1	1.155	14.7	10.4	3.69	6341	4.27	2283.72
009173014-05	OBS	No	10.375385	141.261051	194.3	0.750	14.0	9.1	3.69	6341	5.25	1614.83
009173014-06	OBS	No	14.331522	142.739122	248.9	1.500	14.0	-1.0	3.69	6341	5.86	1049.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009173014-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

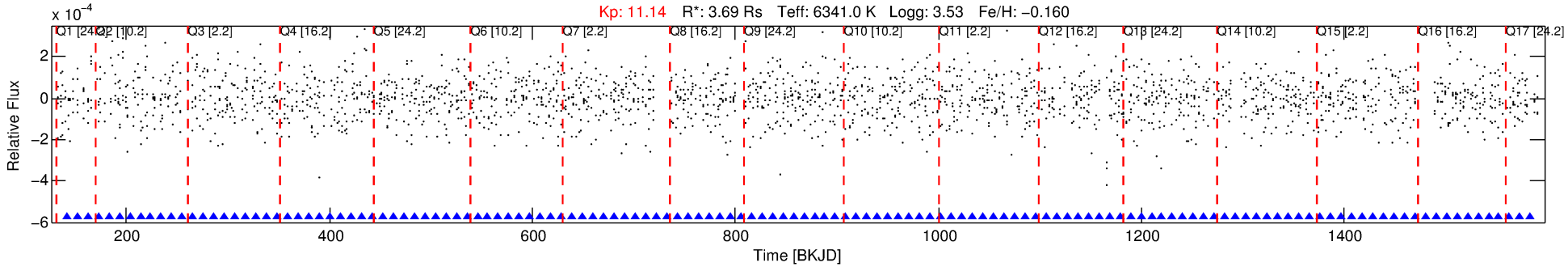
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

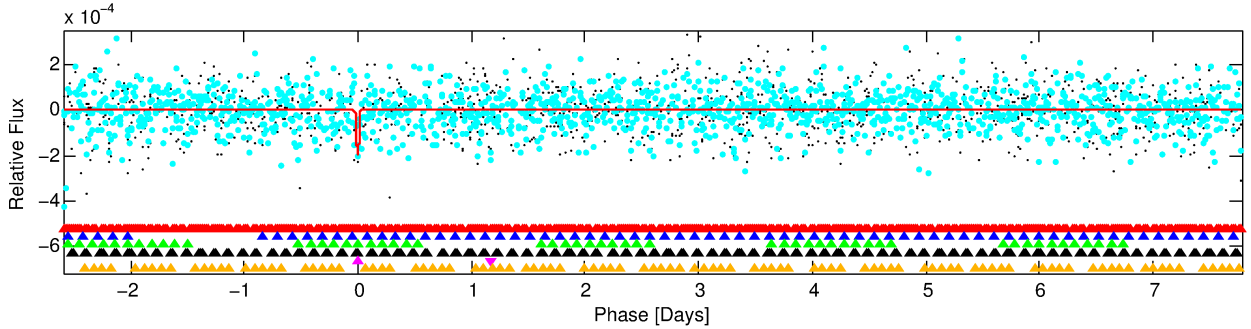
Ephemeris Match Information For 009173014-05

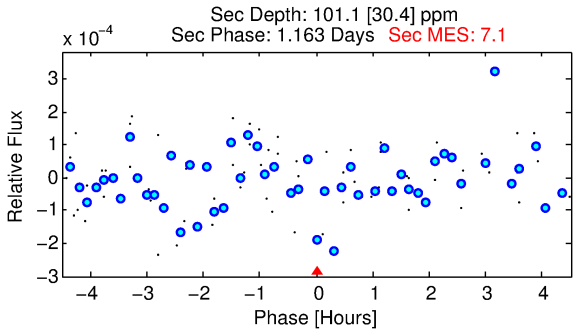
No Significant Match Found

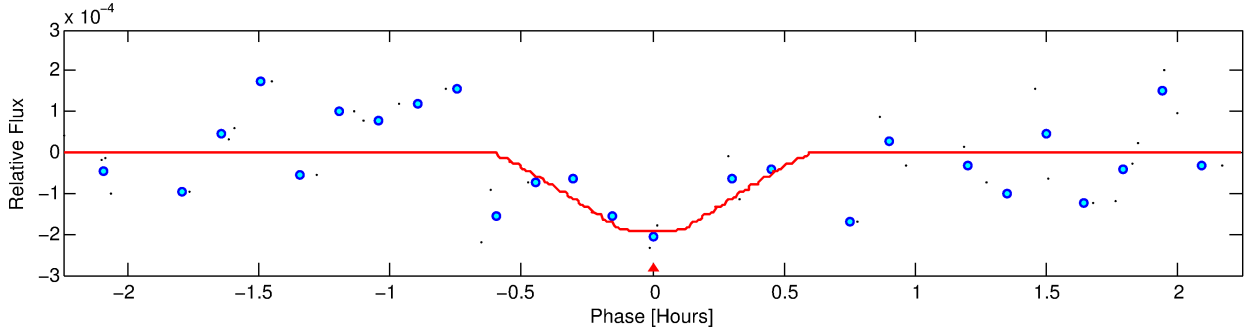
DV One-Page Summary

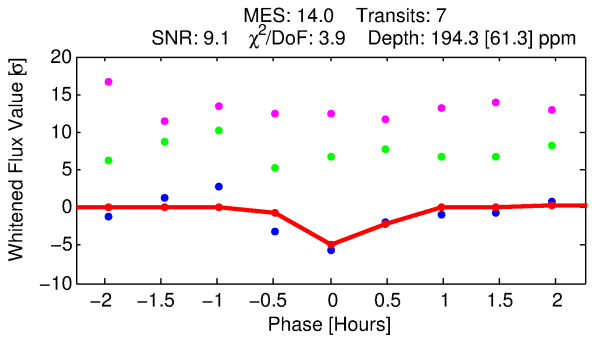
KIC: 9173014 Candidate: 5 of 6 Period: 10.375 d
KOI: K05633 Corr: No Ephemeris Match

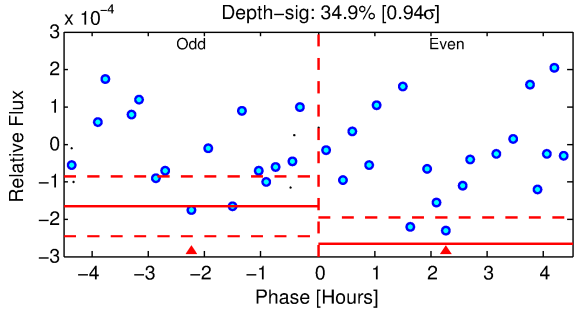


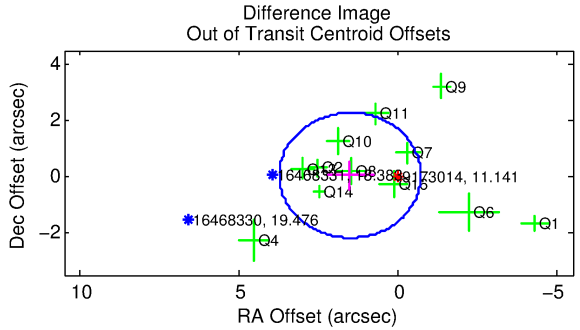












DV Fit Results:

Period = 10.37538 [0.00014] d
Epoch = 141.2611 [0.0053] BKJD
Rp/R* = 0.0130 [0.1187]
a/R* = 105.91 [4848.28]
b = 0.15 [296.30]

Seff = 1614.83 [1046.07]
Teq = 1616 [262] K
Rp = 5.25 [47.85] Re
a = 0.1105 [0.0438] AU

Ag = 24.61 [448.19] [0.05σ]
Teffp = 5566 [25332] K [0.16σ]

DV Diagnostic Results:

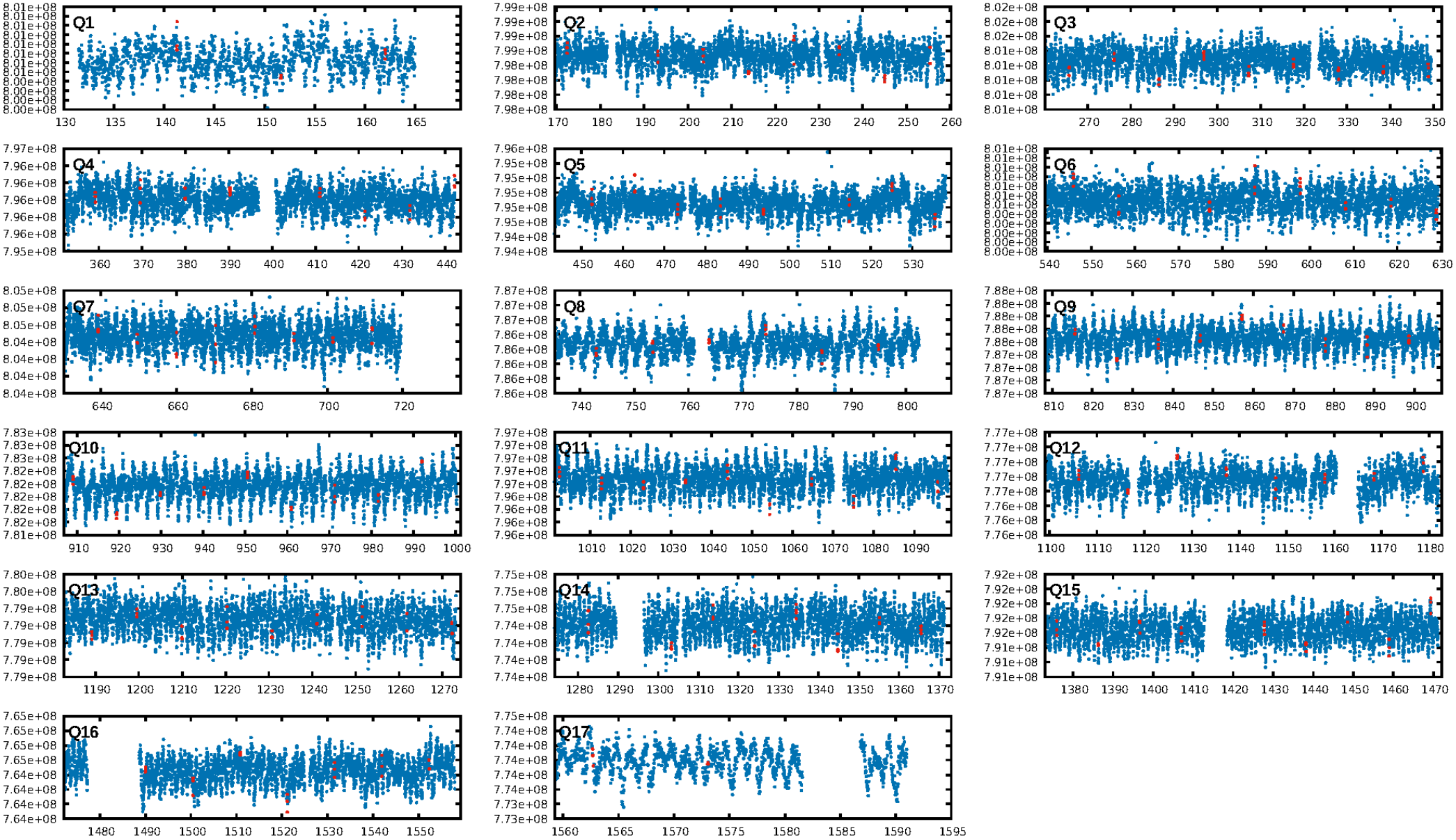
ShortPeriod−sig: 100.0% [41.39σ]
LongPeriod−sig: 100.0% [56.62σ]
ModelChiSquare2−sig: 40.2%
ModelChiSquareGof−sig: 99.0%
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [6/6]
GhostDiagnostic−chr: 2.066

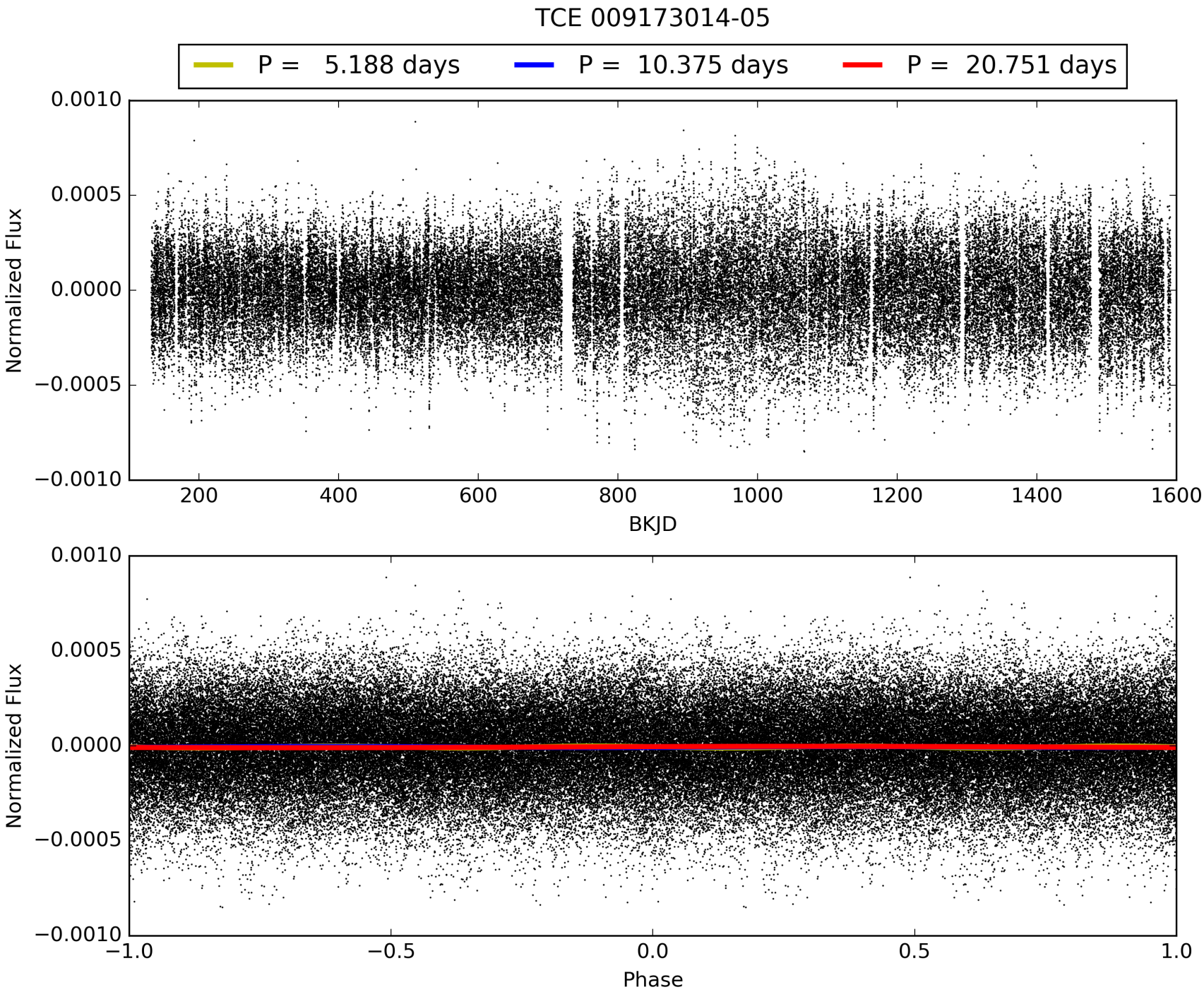
Centroid−sig: 69.5%
Centroid−so: 0.342 arcsec [1.22σ]
OotOffset−rm: 1.509 arcsec [2.03σ]
KicOffset−rm: 1.483 arcsec [2.14σ]
OotOffset−st: 4/2/3/3 [12]
KicOffset−st: 4/2/3/3 [12]
DiffImageQuality−fgm: 0.42 [5/12]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:50 Z

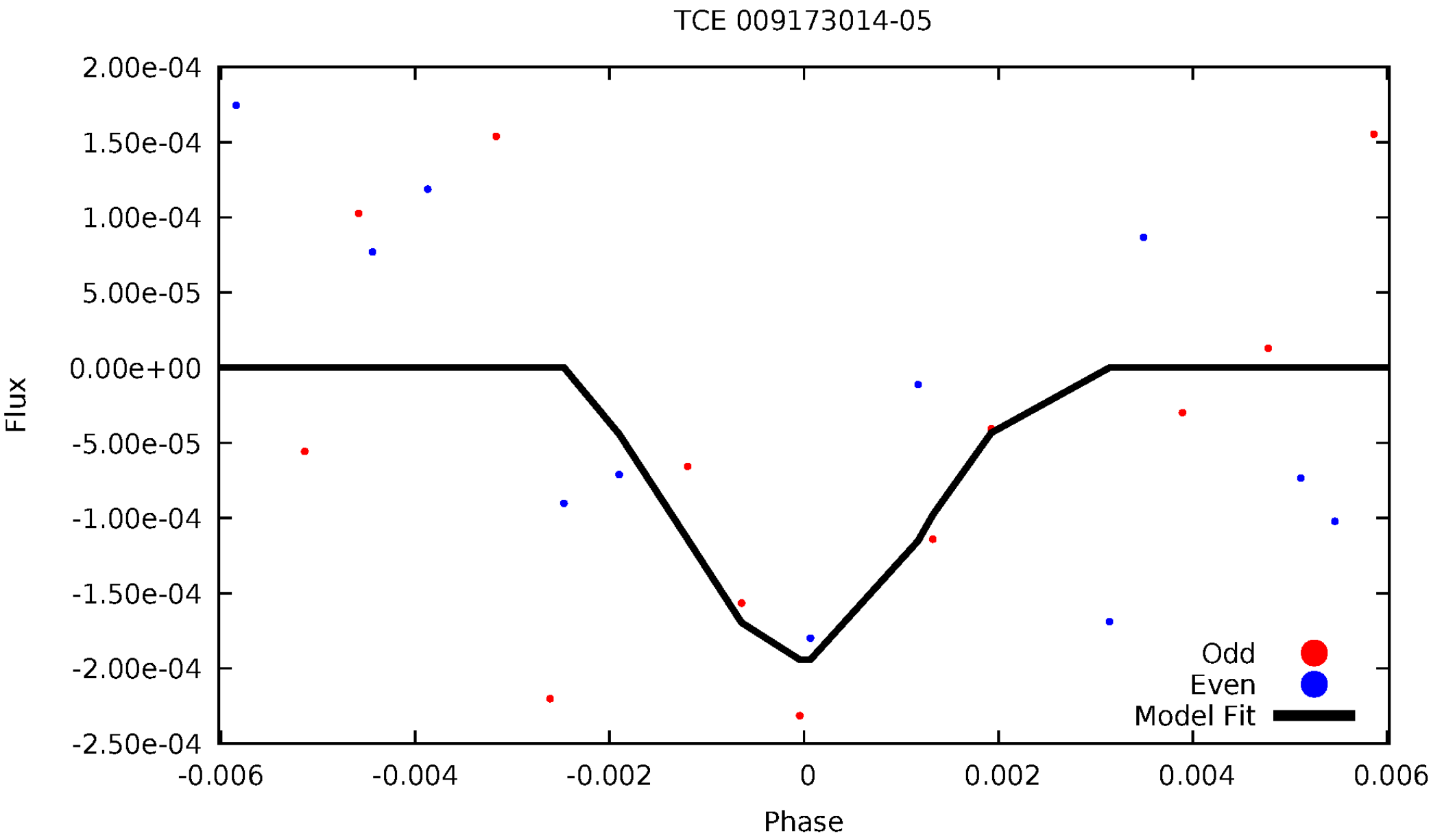
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-05, PDC Light Curves




TCE 009173014-05
P = 5.188 days
P = 10.375 days
P = 20.751 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

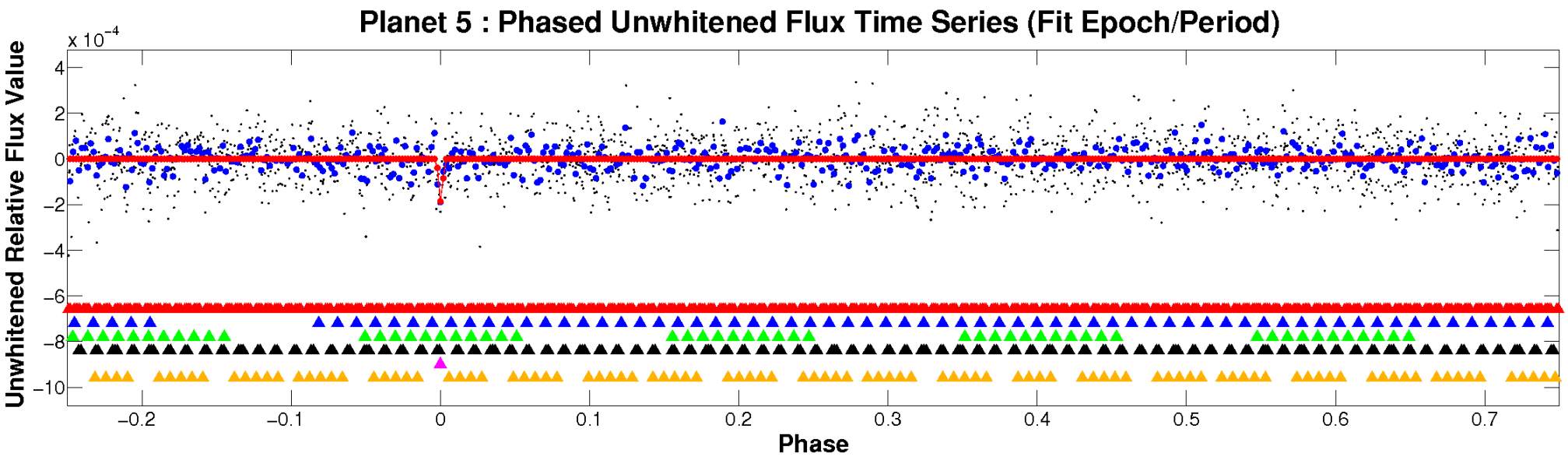
DV Odd/Even

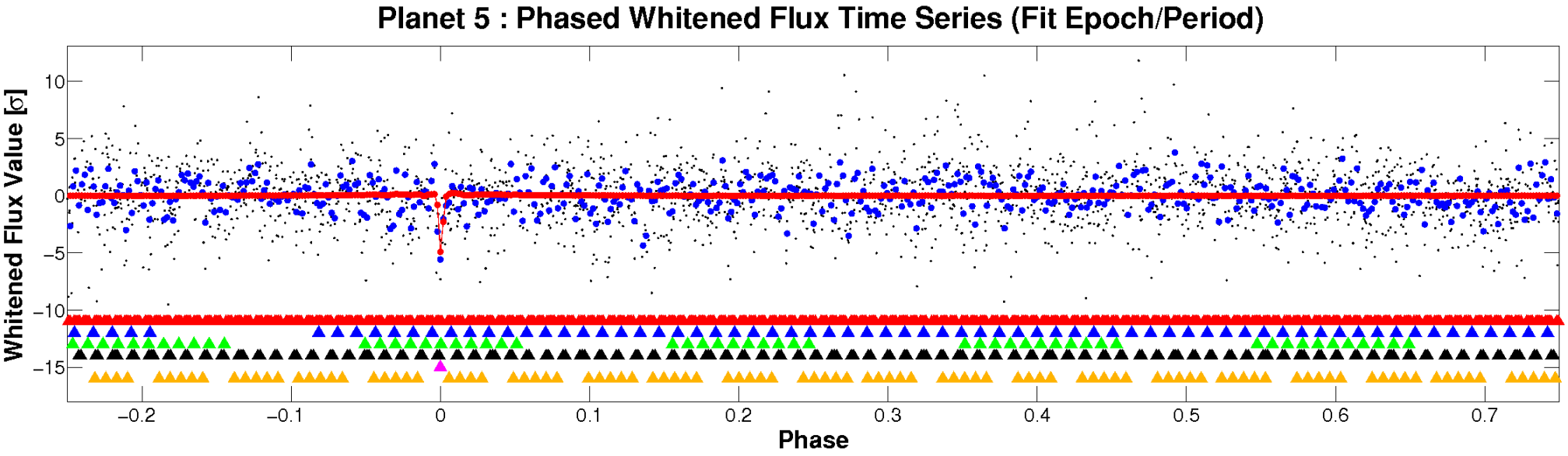

TCE 009173014-05
2.00e-04
1.50e-04
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
-2.50e-04
Flux
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
Phase
Odd
Even
Model Fit

ALT Odd/Even

This plot does not exist for this TCE.

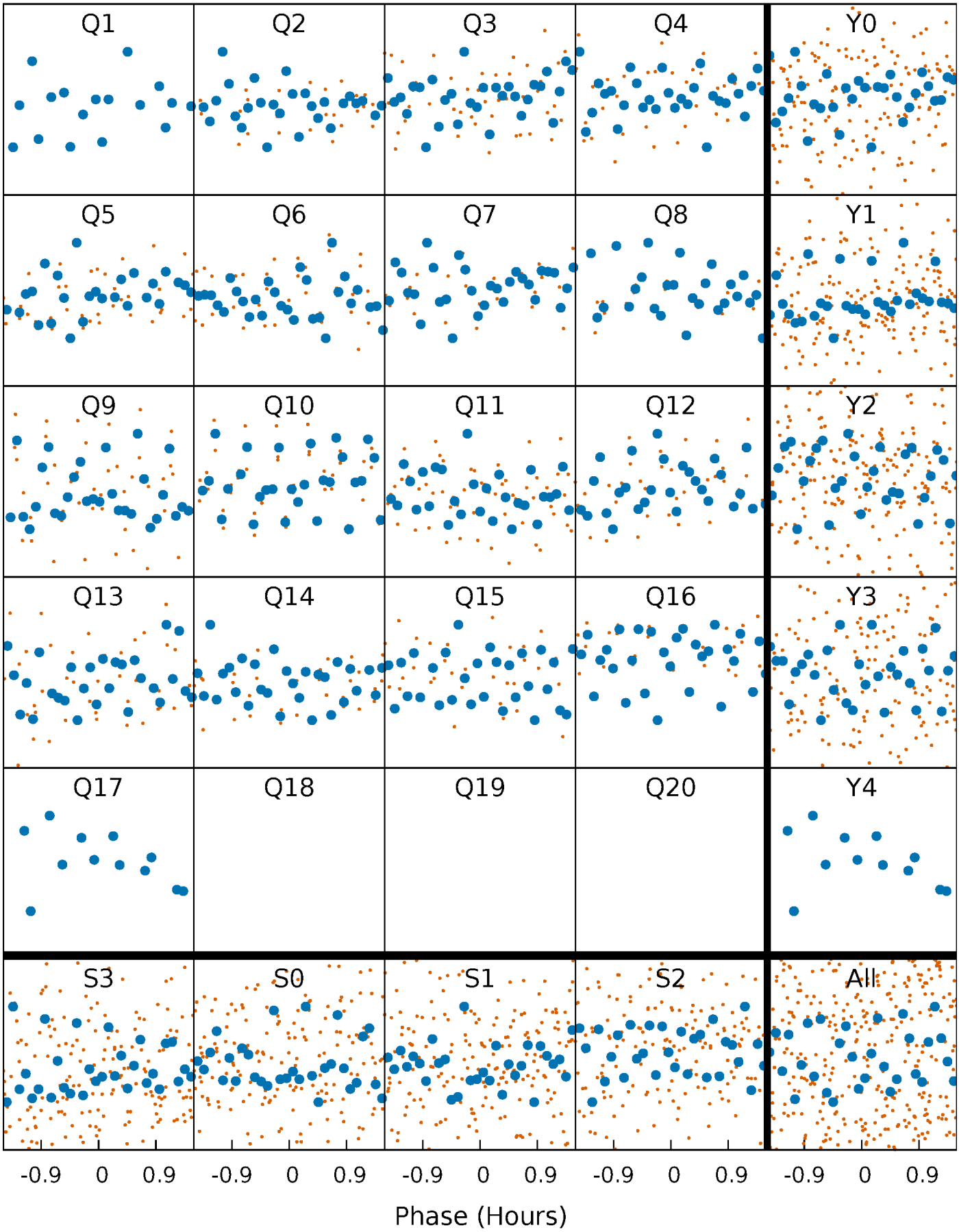
Non-Whitened Vs. Whitened Light Curve





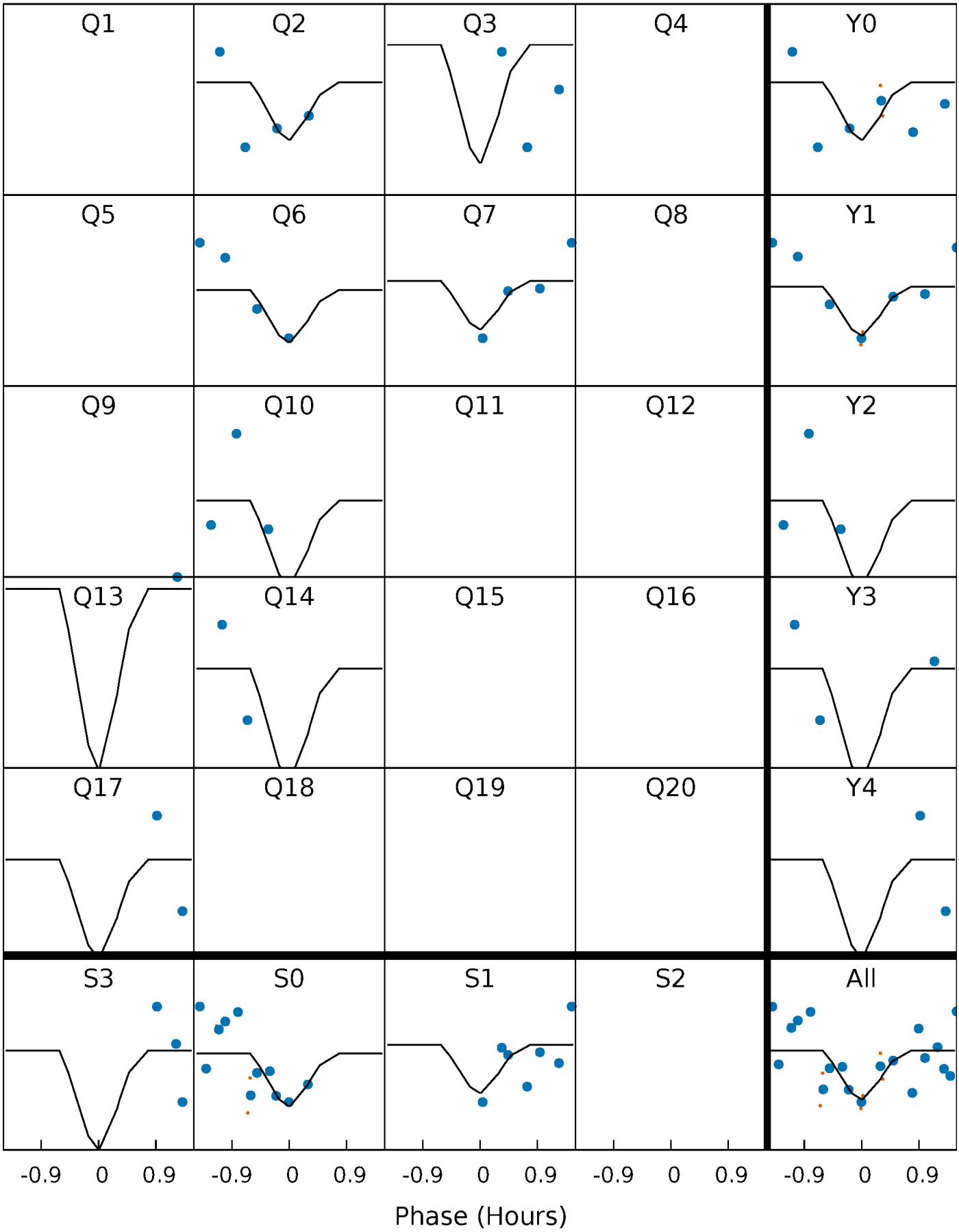
PDC Quarter-Phased Transit Curves

TCE 009173014-05 P= 10.375385 Days T_0=141.261051 (BKJD)



DV Quarter-Phased Transit Curves

TCE 009173014-05 P= 10.375385 Days T_0=141.261051 (BKJD)

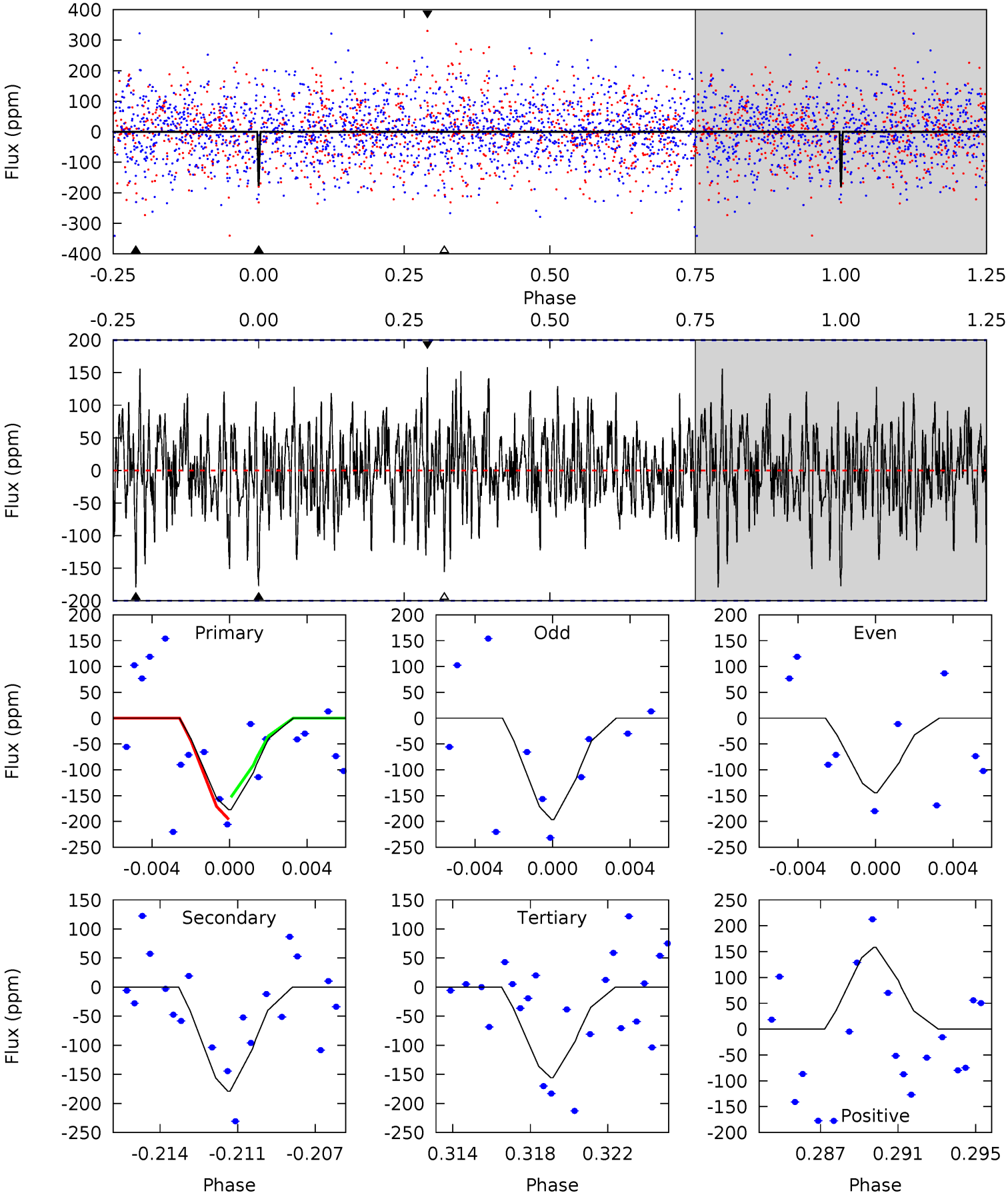


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009173014-05, P = 10.375385 Days, E = 130.885666 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.62	4.67	4.06	4.12	5.21	2.89	1.32	0.56	0.50	0.61	0.54	0.64	1.06	0.47	0.57



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-179±38	$29.93^{+34.70}_{-20.38}$	2218^{+134}_{-229}	3071^{+1530}_{-5026}	$1.370^{+11.551}_{-1.091}$
Alt.	N/A	N/A	N/A	N/A	N/A

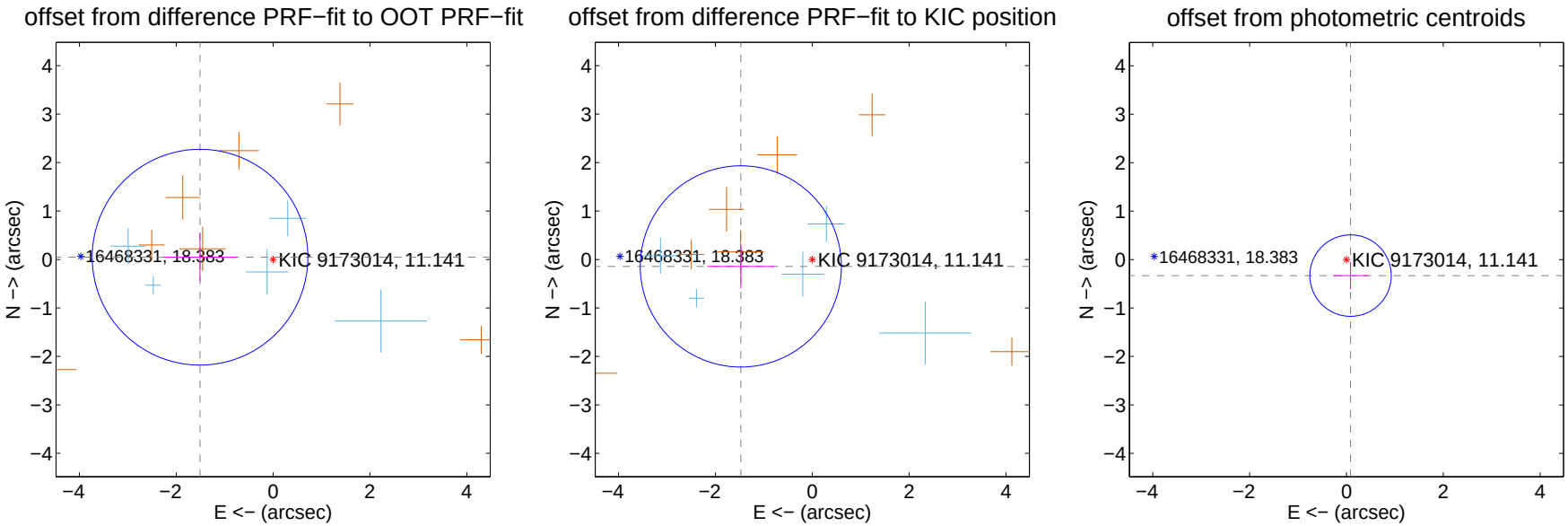
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

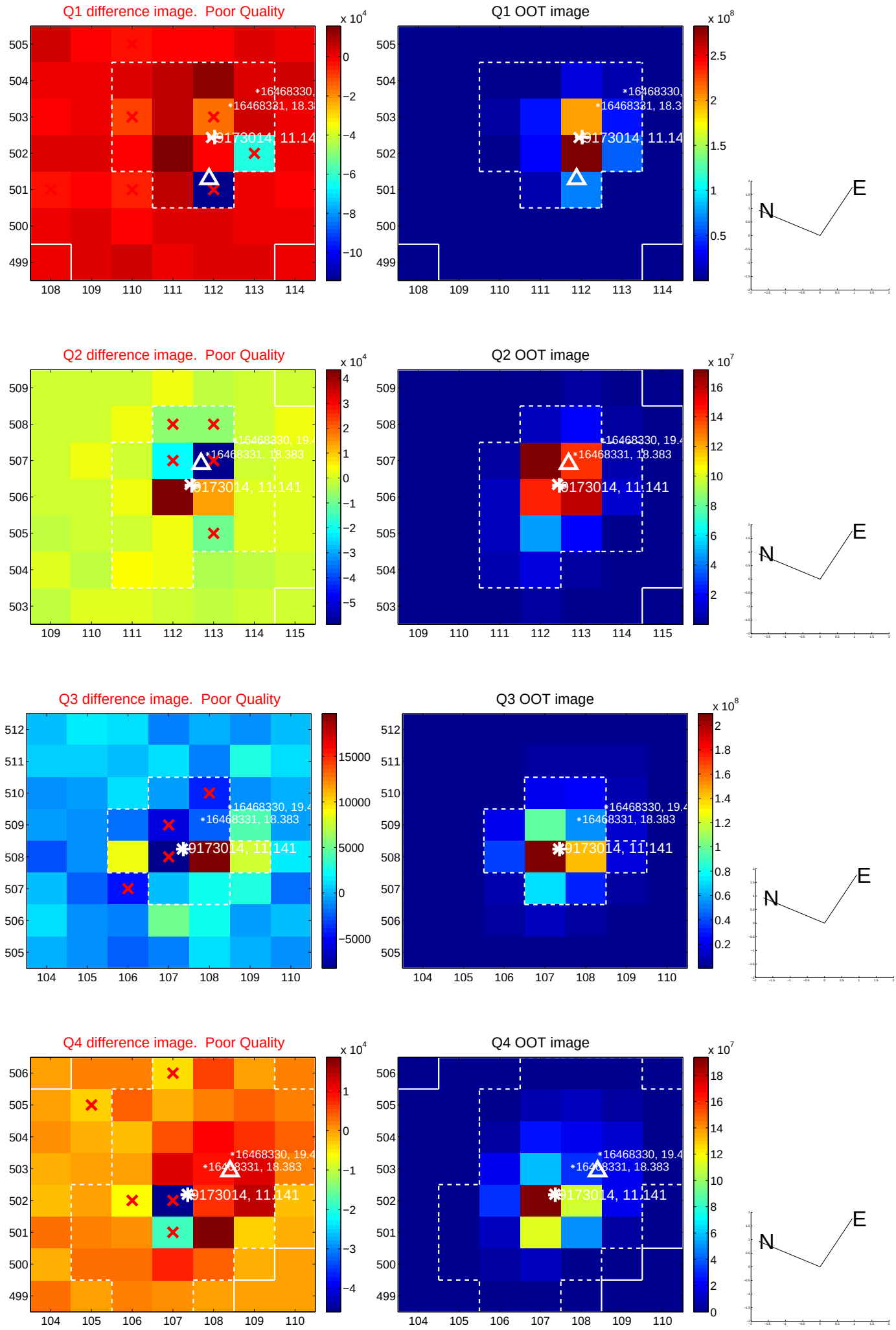
Supplemental centroid analysis for 009173014-05. Kepler magnitude: 11.14. Transit SNR 9.08
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.509 ± 0.742	2.03	1.508 ± 0.742	0.047 ± 0.496
PRF-fit source offset from KIC position	1.483 ± 0.692	2.14	1.476 ± 0.694	-0.143 ± 0.450
photometric centroid source offset	0.34 ± 0.28	1.22	-0.08 ± 0.36	-0.33 ± 0.27

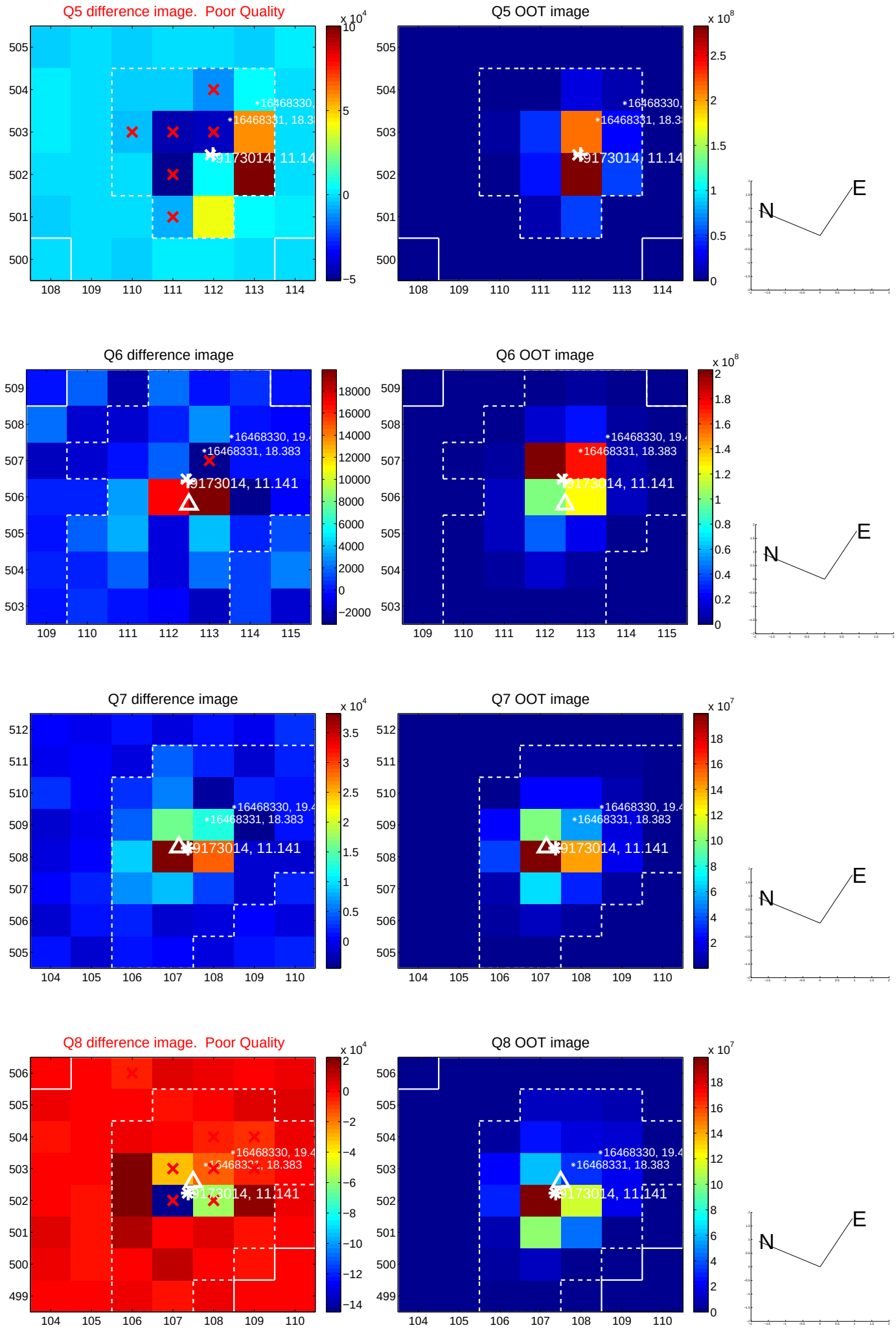


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

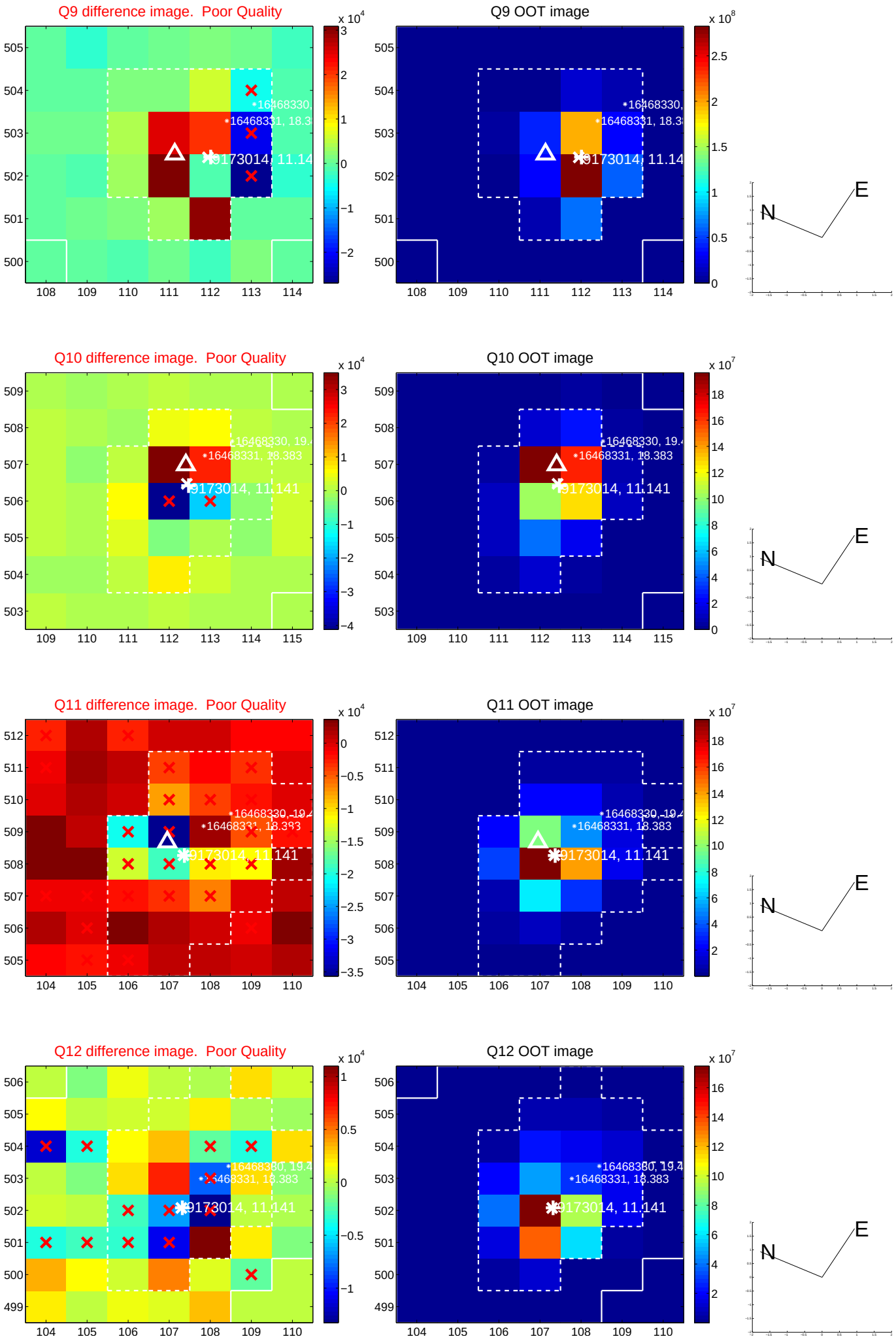
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



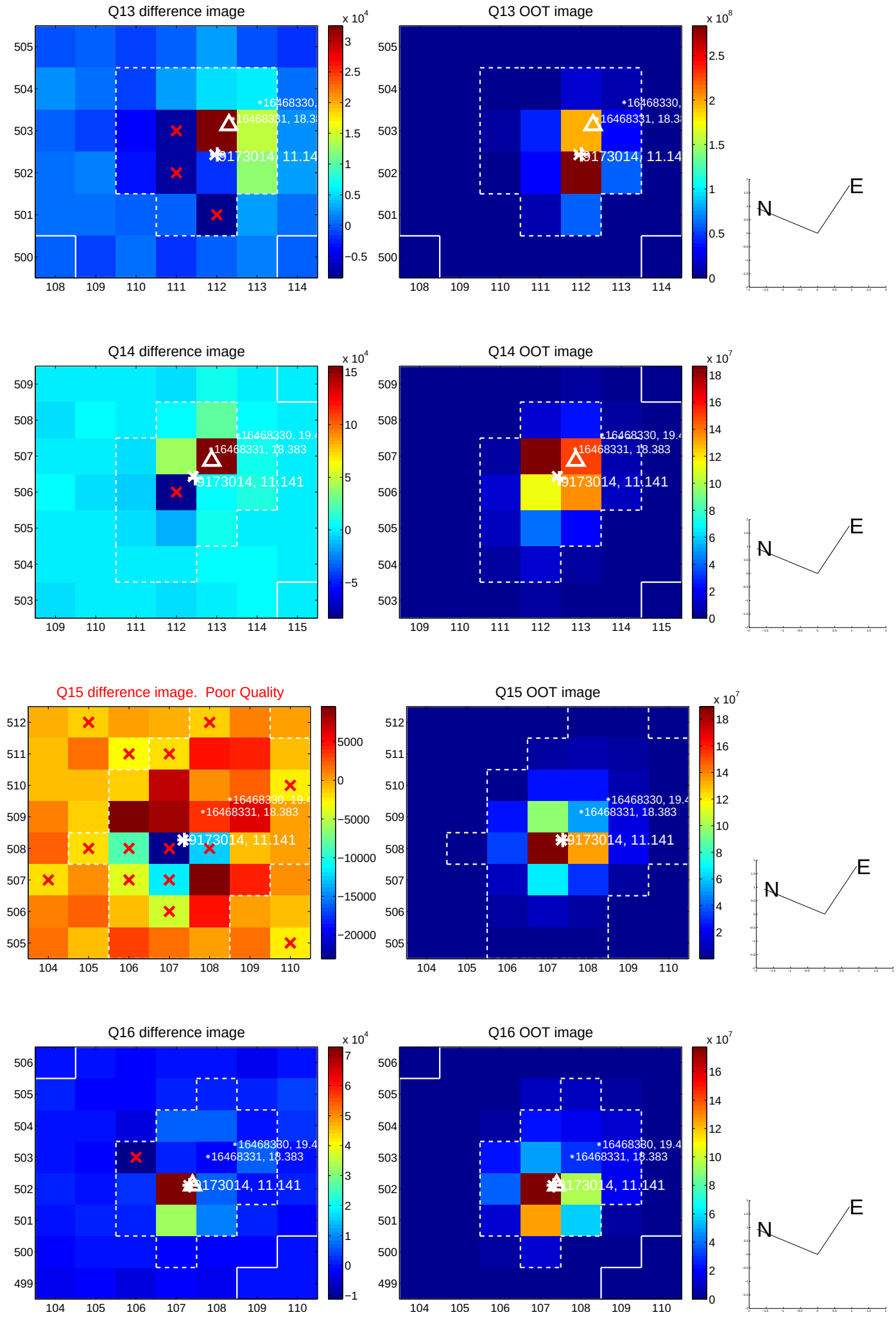
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



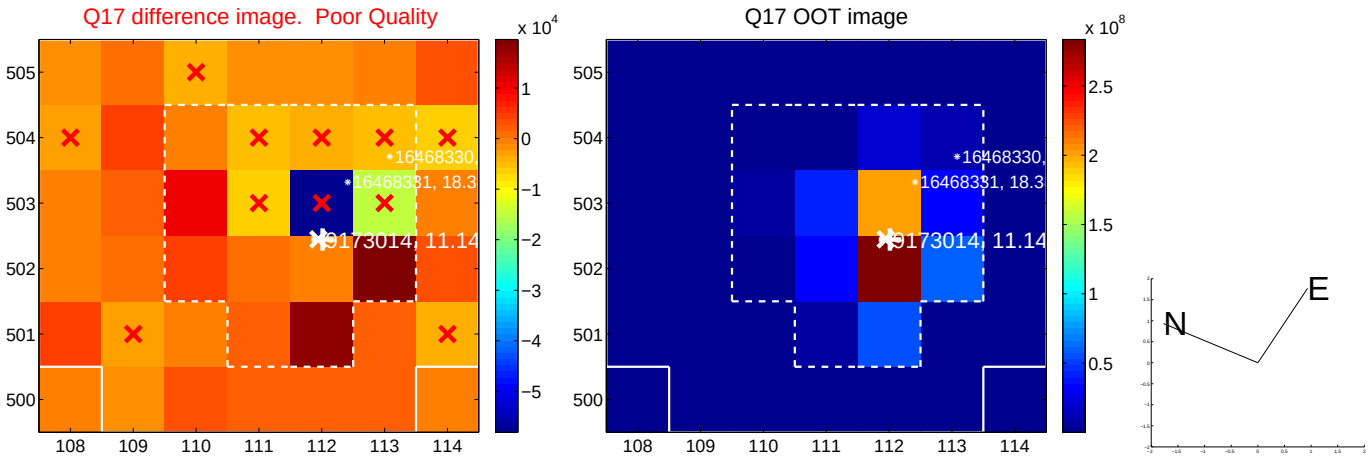
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

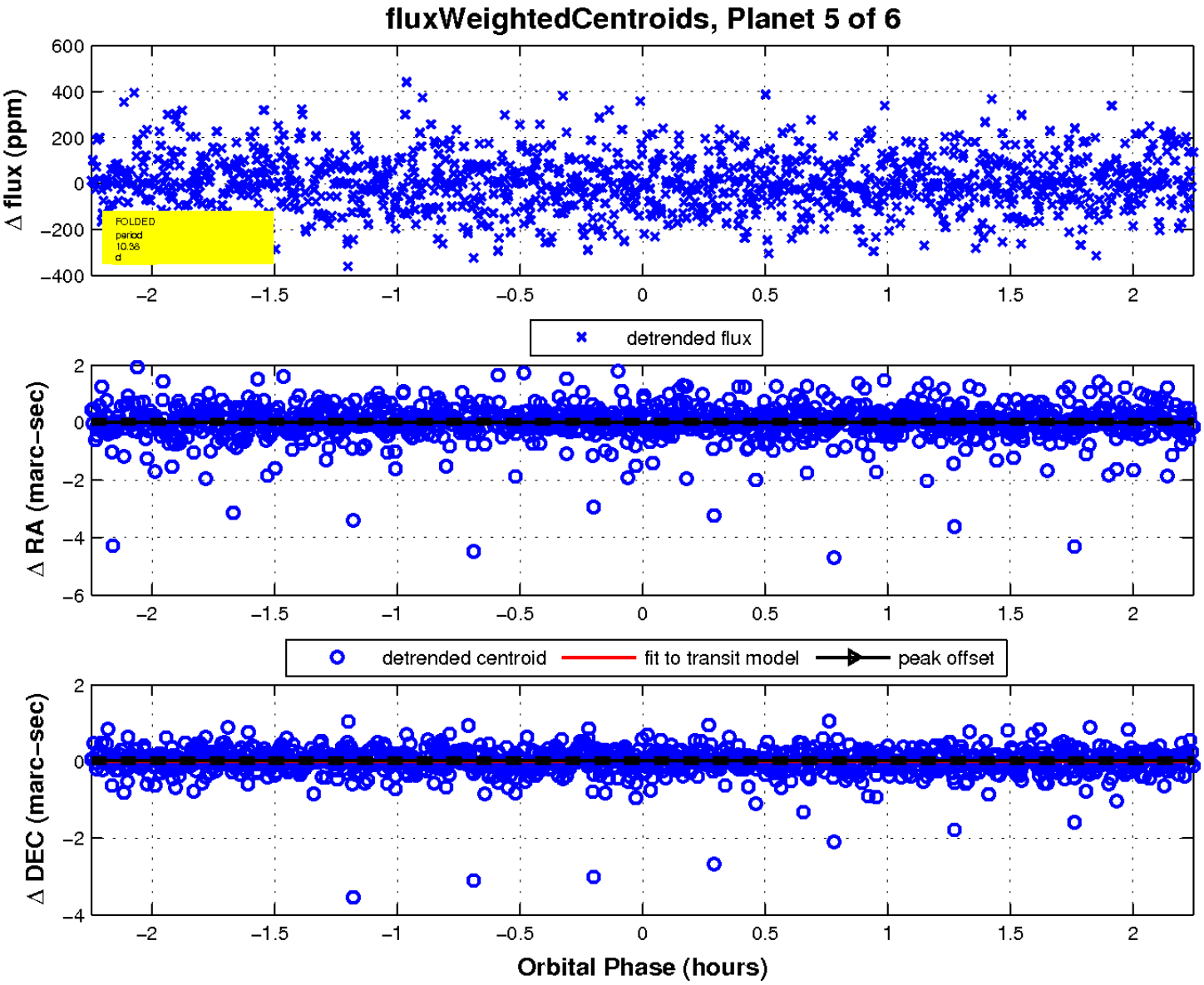


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

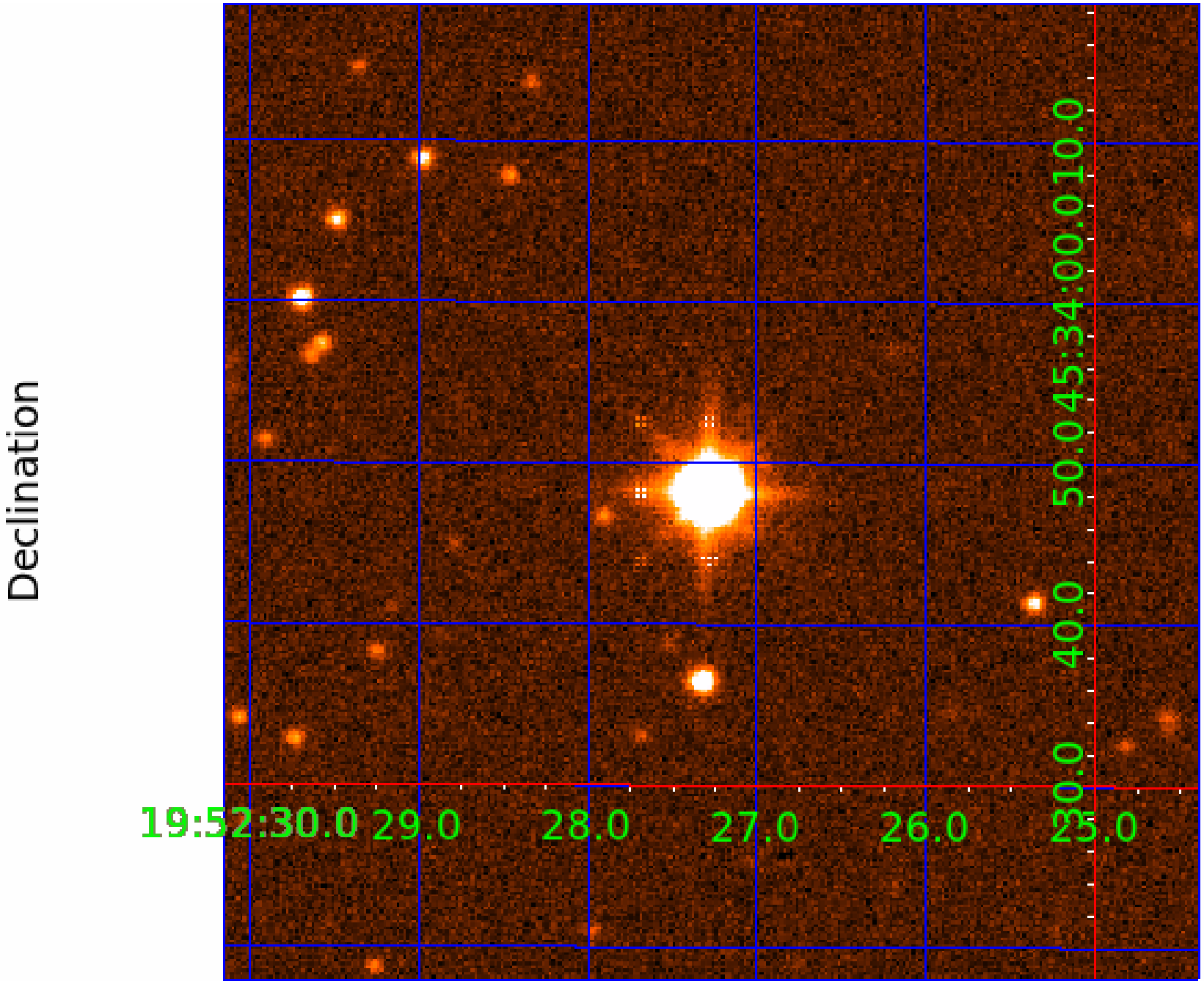


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
19:52:30.0
29.0
28.0
27.0
26.0
25.0
30.0
40.0
50.0
45:34:00.0
10.0

KIC 009173014

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 ($S_\oplus$)
009173014-01	OBS	No	2.453552	131.678550	1.5	18.723	11.0	0.8	3.69	6341	0.47	11042.58
009173014-02	OBS	No	20.619306	139.242451	127.0	3.581	12.1	13.7	3.69	6341	4.25	646.30
009173014-03	OBS	No	26.954911	150.134145	223.4	5.408	21.4	20.3	3.69	6341	6.37	452.15
009173014-04	OBS	No	8.000495	138.981541	124.1	1.155	14.7	10.4	3.69	6341	4.27	2283.72
009173014-05	OBS	No	10.375385	141.261051	194.3	0.750	14.0	9.1	3.69	6341	5.25	1614.83
009173014-06	OBS	No	14.331522	142.739122	248.9	1.500	14.0	-1.0	3.69	6341	5.86	1049.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009173014-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009173014-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009173014-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED
009173014-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

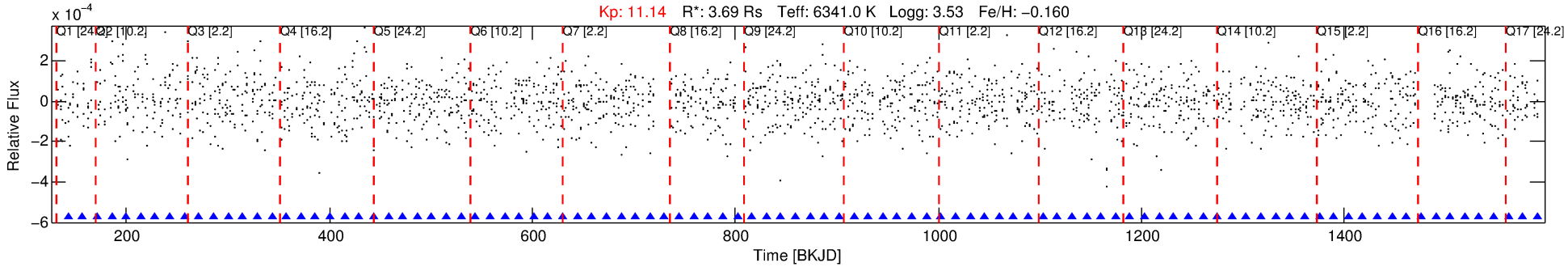
Ephemeris Match Information For 009173014-06

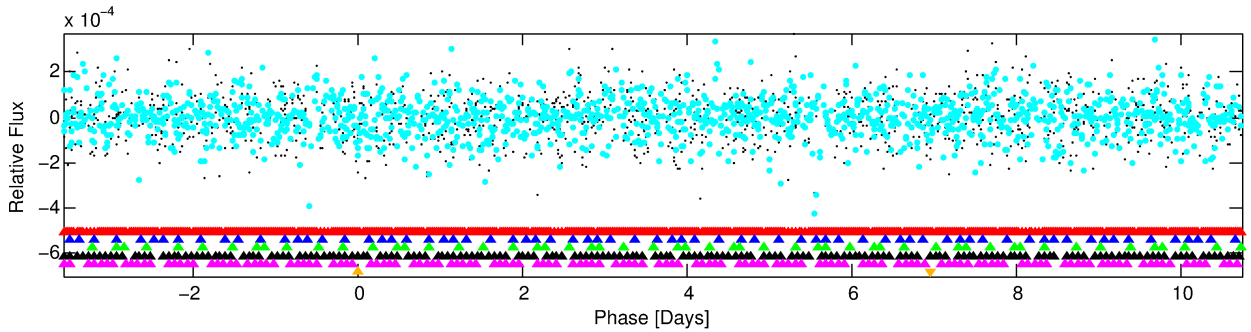
No Significant Match Found

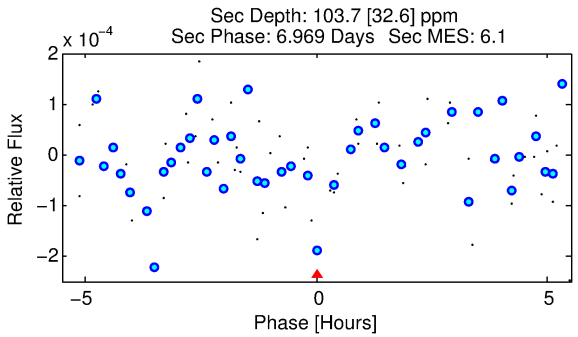
DV One-Page Summary

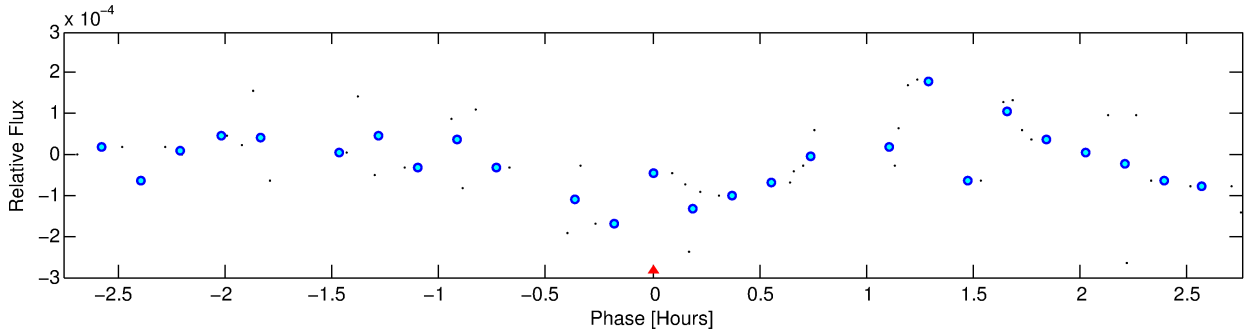
KIC: 9173014 Candidate: 6 of 6 Period: 14.332 d
KOI: K05633 Corr: No Ephemeris Match

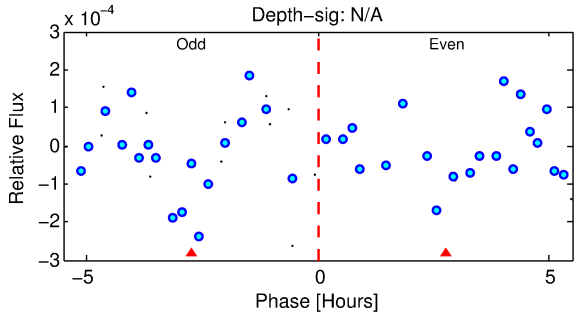
Kp: 11.14 R*: 3.69 Rs Teff: 6341.0 K Logg: 3.53 Fe/H: −0.160

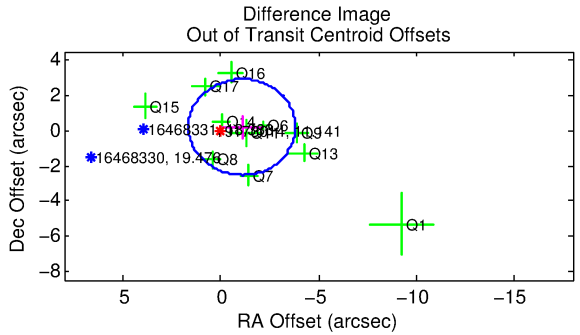












TPS TCE Results:

Period = 14.33152 d
Epoch = 142.7391 BKJD

DV fit results are unavailable

DV Diagnostic Results:

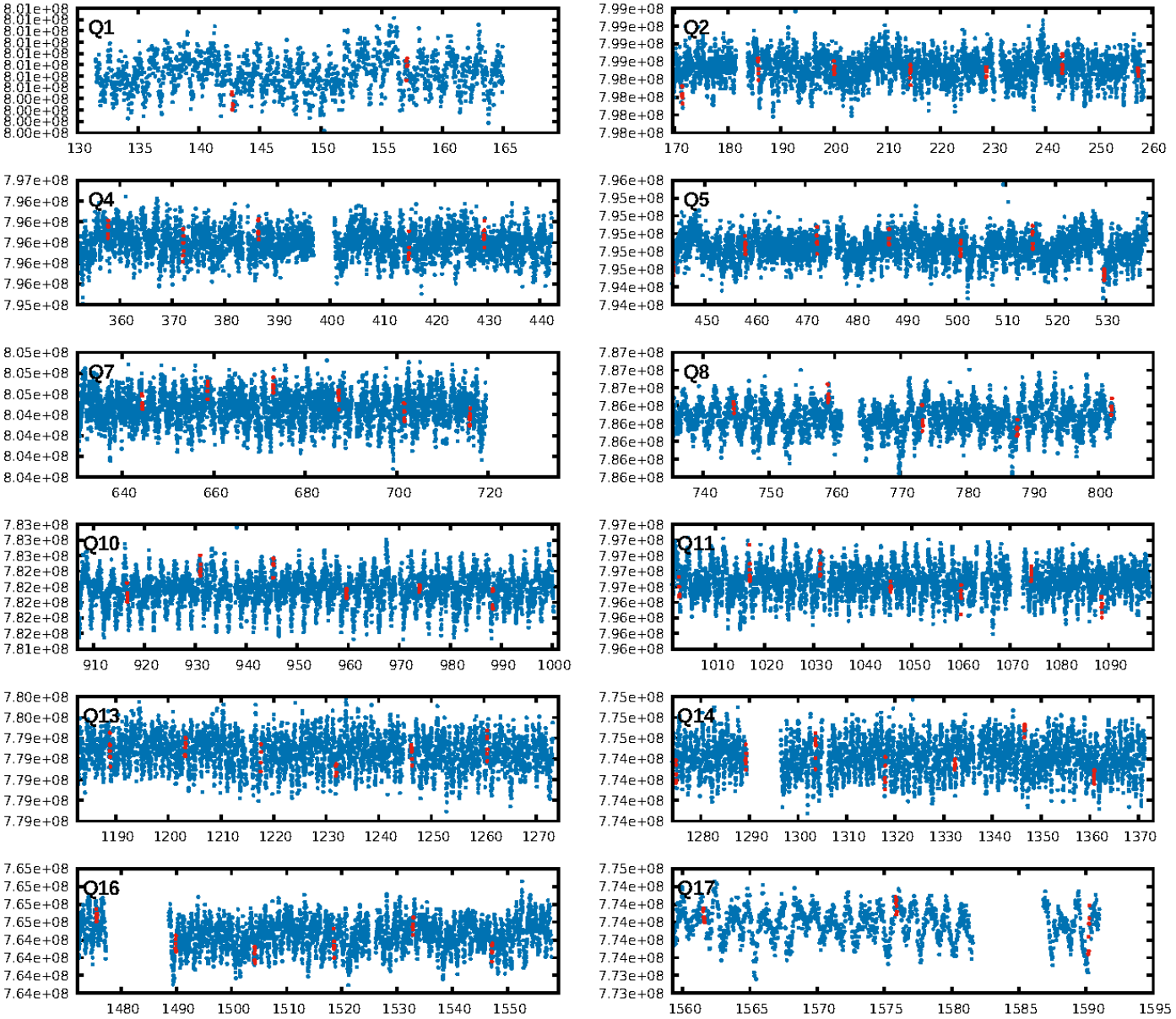
ShortPeriod−sig: 100.0% [56.62σ]
LongPeriod−sig: 100.0% [38.87σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [6/6]
GhostDiagnostic−chr: 1.049

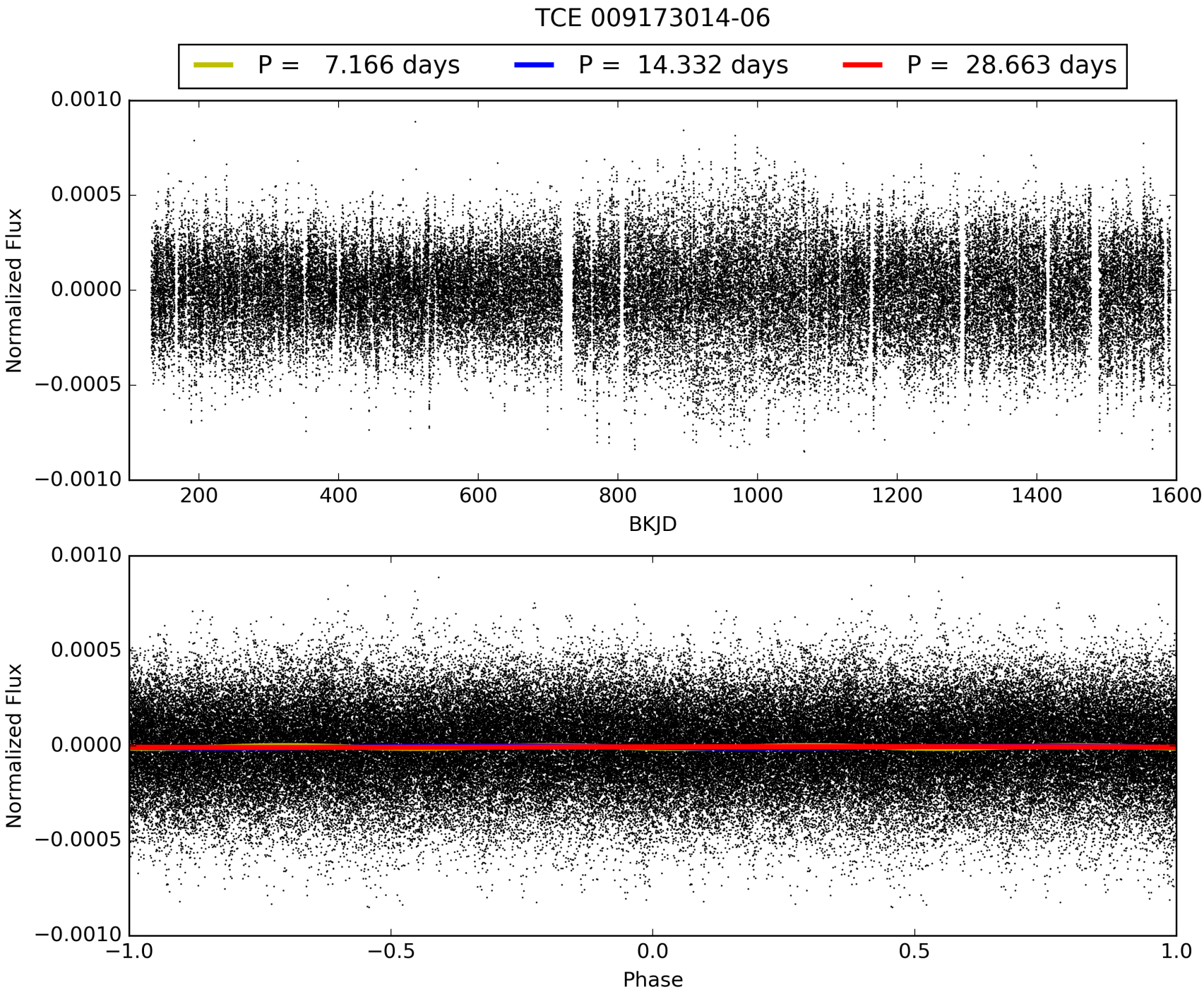
Centroid−sig: 55.0%
Centroid−so: 0.359 arcsec [0.80σ]
OotOffset−rm: 1.100 arcsec [1.21σ]
KicOffset−rm: 1.088 arcsec [1.11σ]
OotOffset−st: 2/3/2/4 [11]
KicOffset−st: 2/3/2/4 [11]
DiffImageQuality−fgm: 0.27 [3/11]
DiffImageOverlap−fno: 0.94 [16/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01−Feb−2016 23:22:53 Z

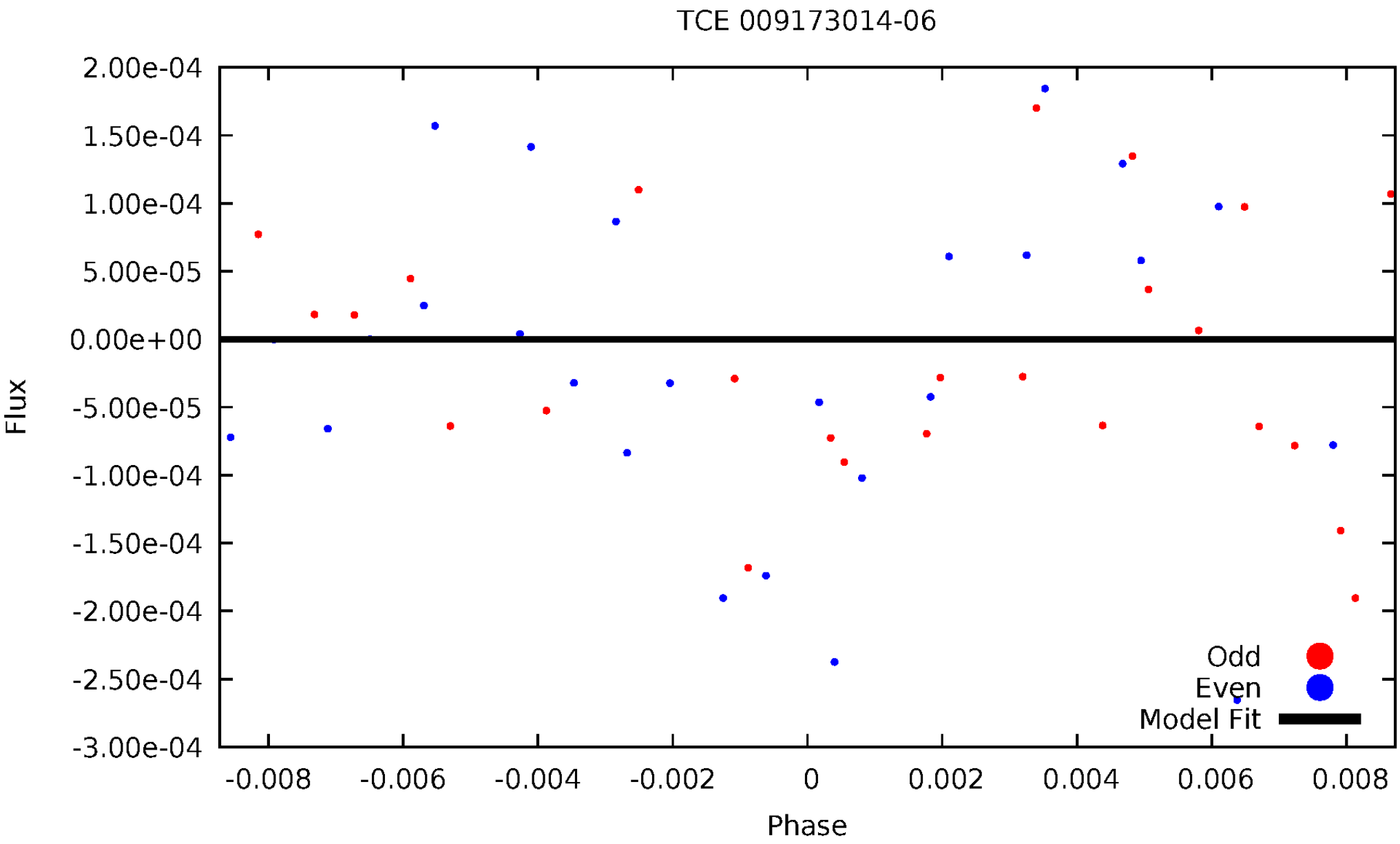
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009173014-06, PDC Light Curves

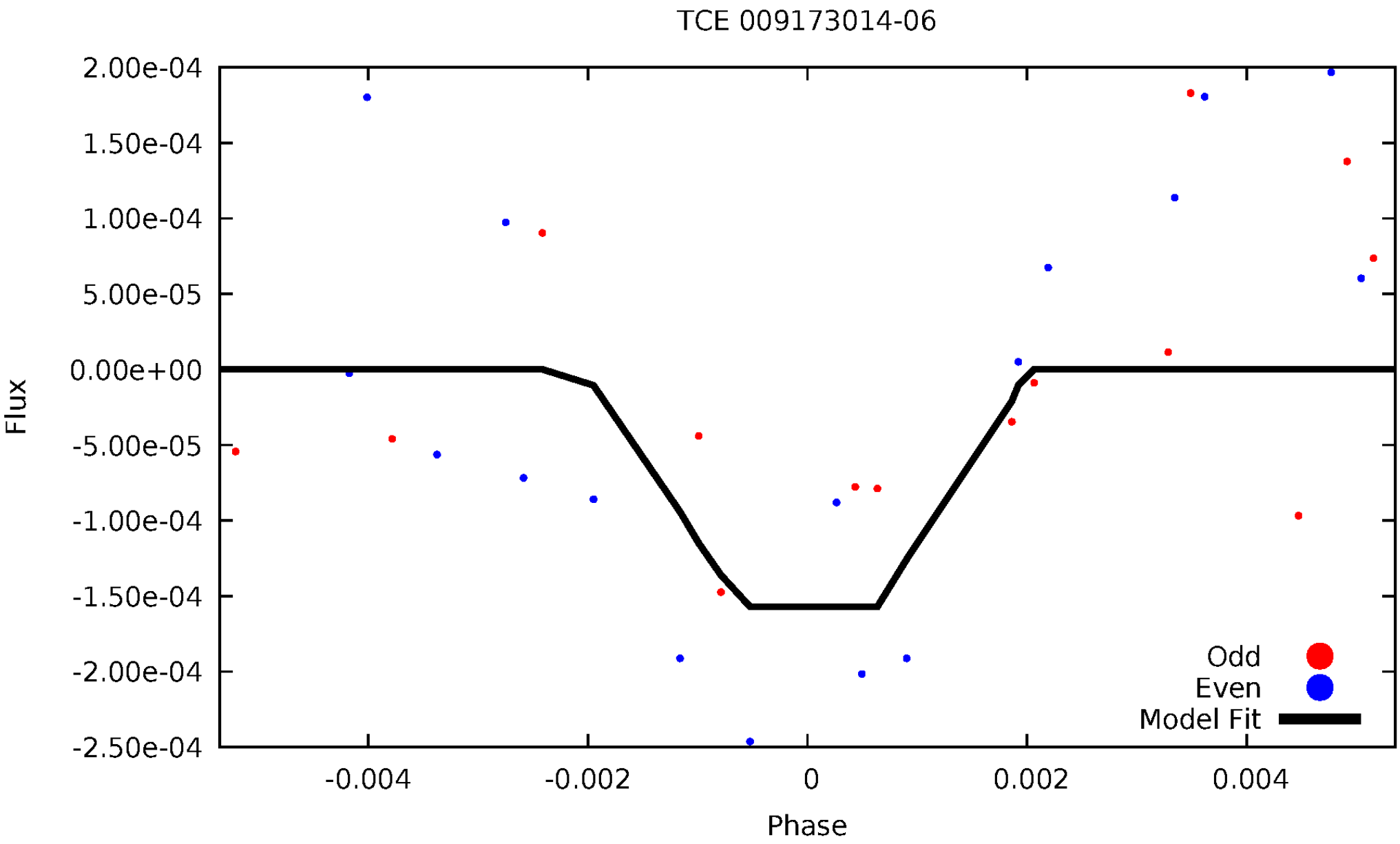



TCE 009173014-06
P = 7.166 days
P = 14.332 days
P = 28.663 days
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
0.0010
0.0005
0.0000
−0.0005
−0.0010
−1.0
−0.5
0.0
0.5
1.0
Phase

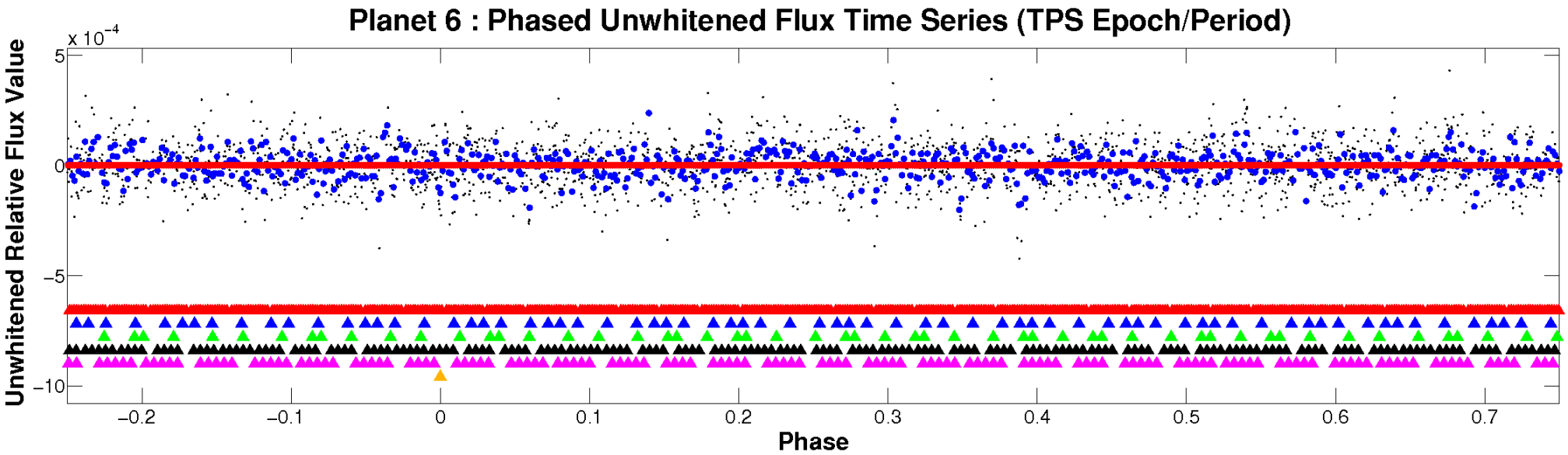
DV Odd/Even

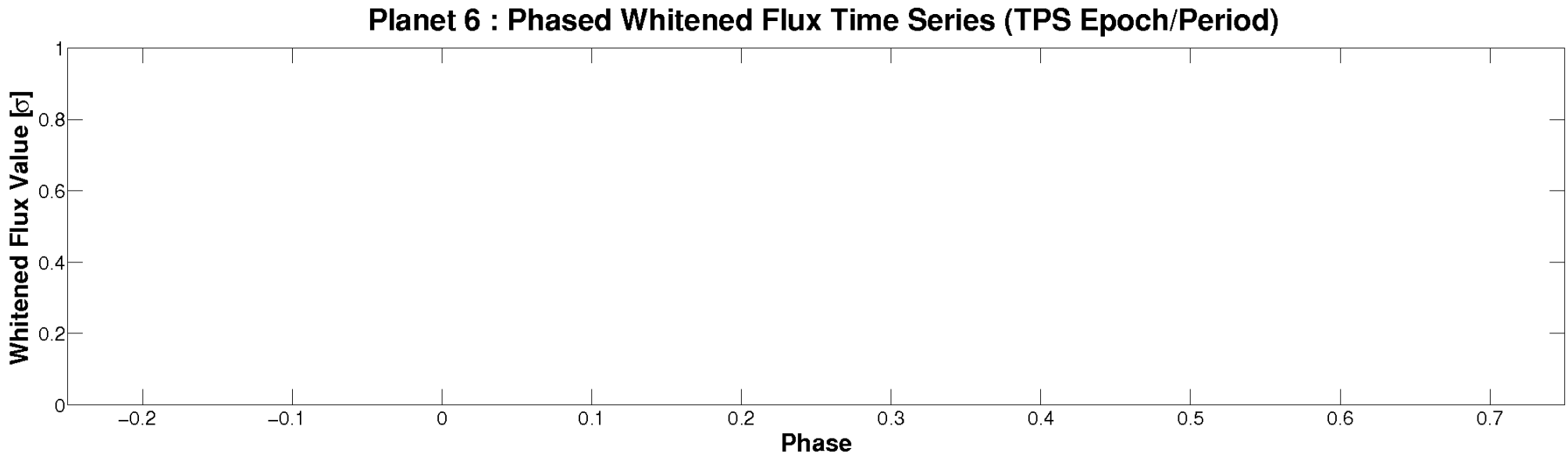

TCE 009173014-06
2.00e-04
1.50e-04
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
-2.50e-04
-3.00e-04
Flux
-0.008
-0.006
-0.004
-0.002
0
0.002
0.004
0.006
0.008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009173014-06
2.00e-04
1.50e-04
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
-2.50e-04
Flux
-0.004
-0.002
0
0.002
0.004
Phase
Odd
Even
Model Fit

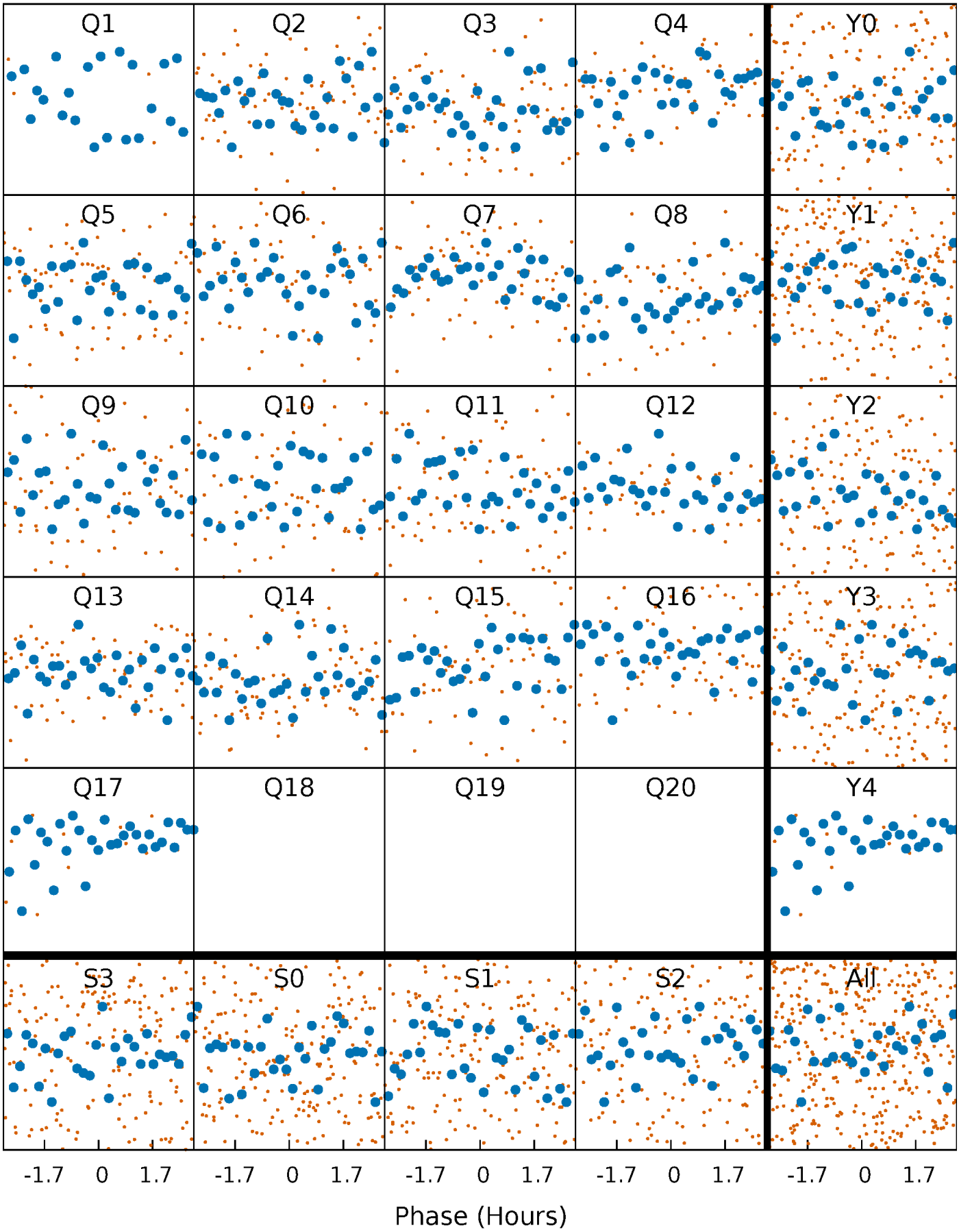
Non-Whitened Vs. Whitened Light Curve





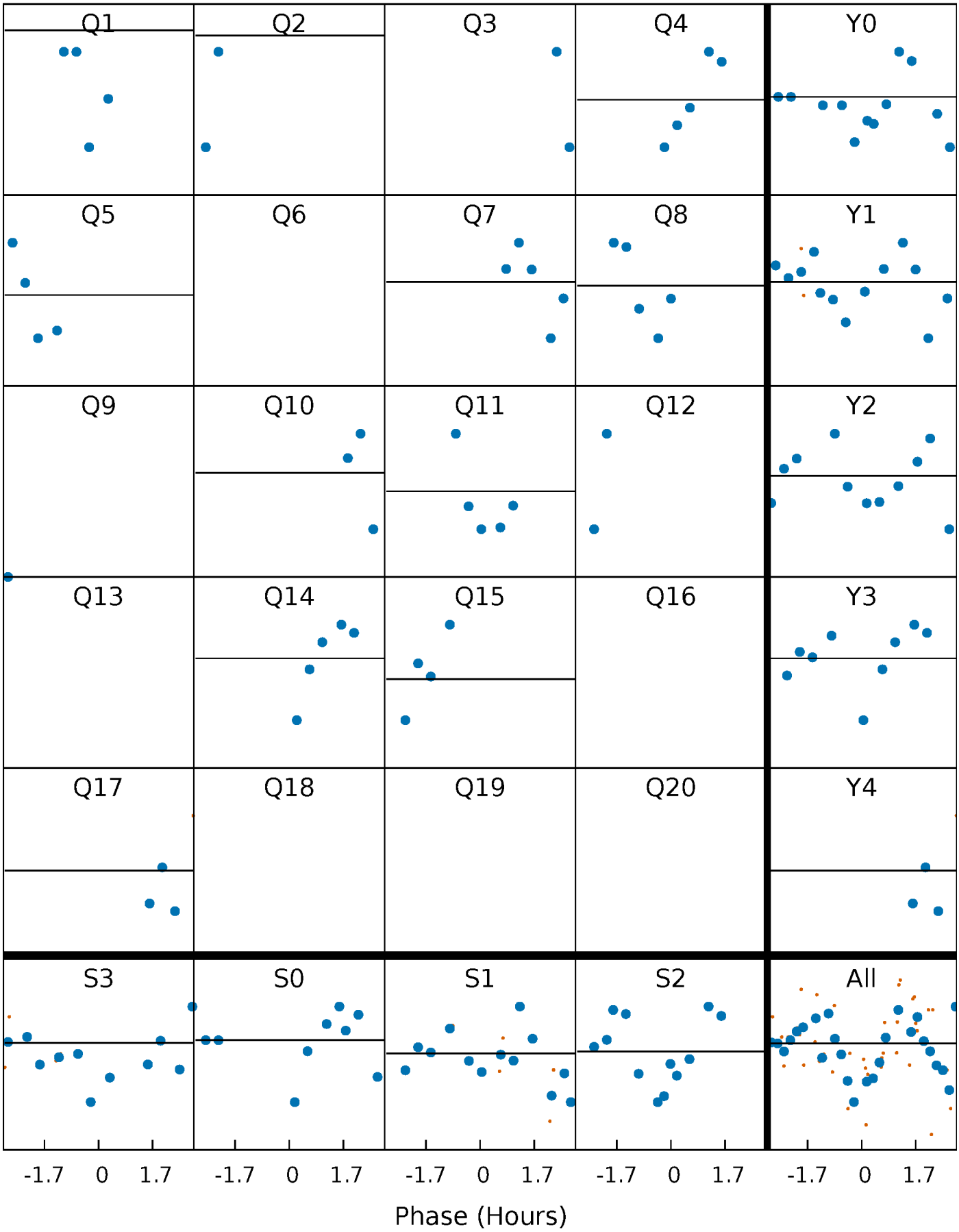
PDC Quarter-Phased Transit Curves

TCE 009173014-06 P= 14.331522 Days T_0=142.739122 (BKJD)



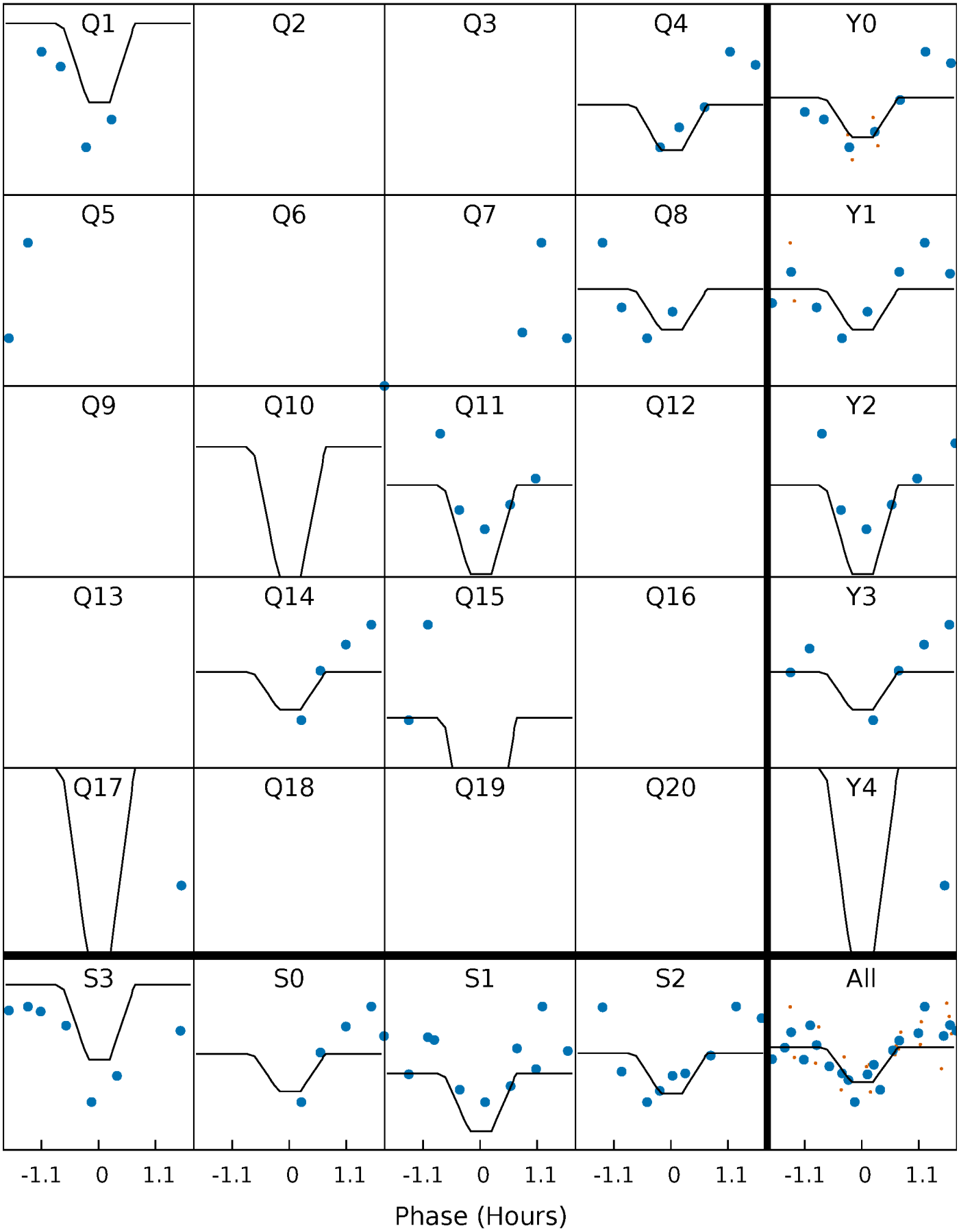
DV Quarter-Phased Transit Curves

TCE 009173014-06 P= 14.331522 Days T_0=142.739122 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

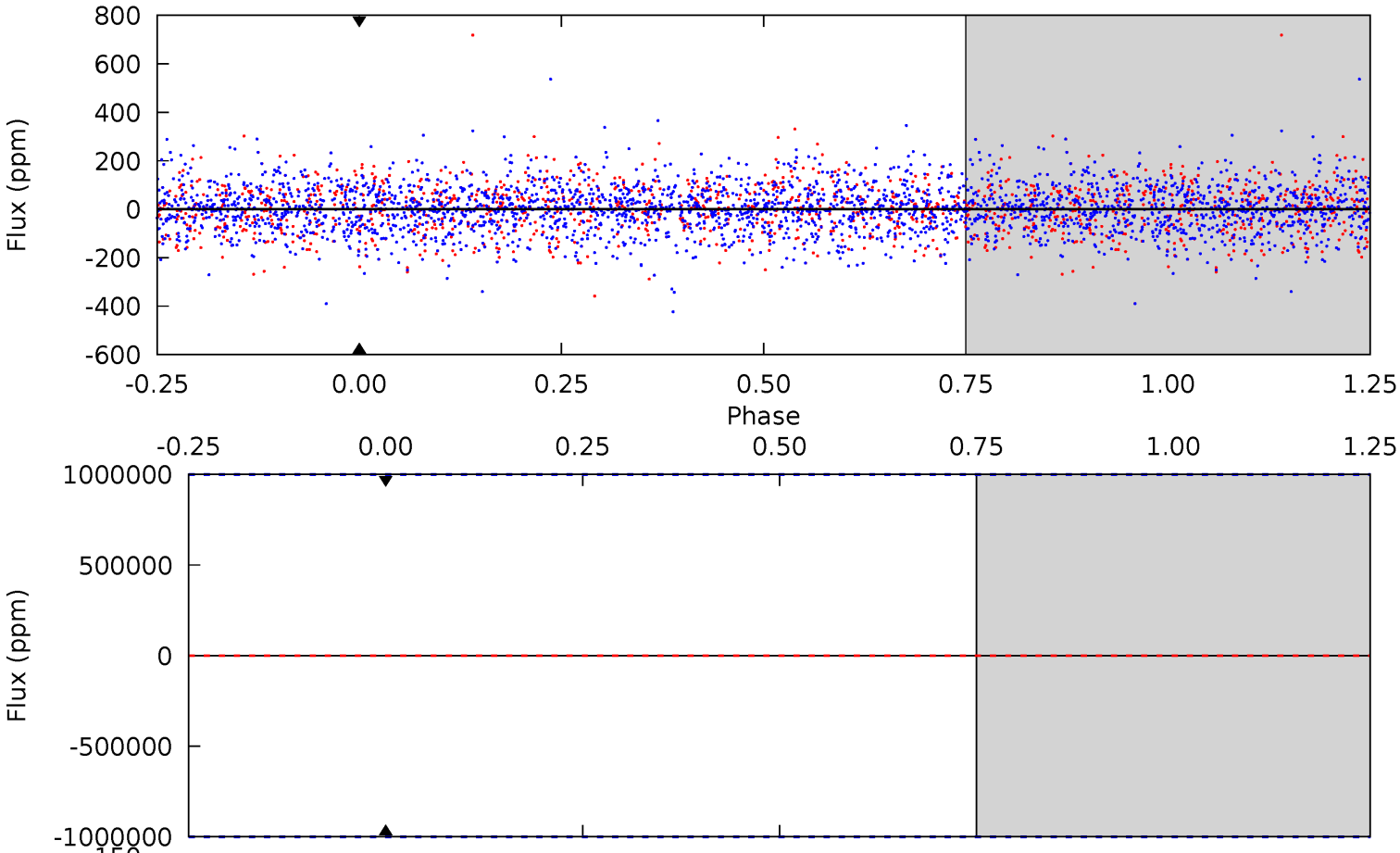
TCE 009173014-06 P= 14.331522 Days T_0=142.737798 (BKJD)

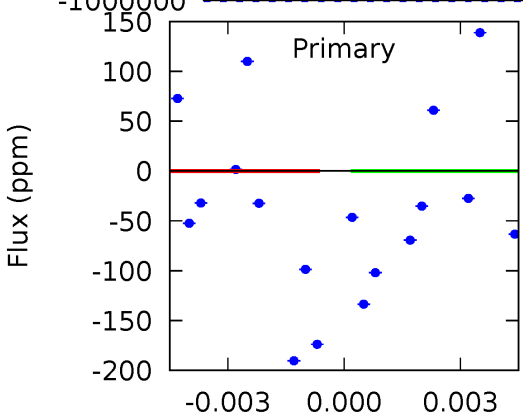


DV Model-Shift Uniqueness Test

009173014-06, P = 14.331522 Days, E = 128.407600 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

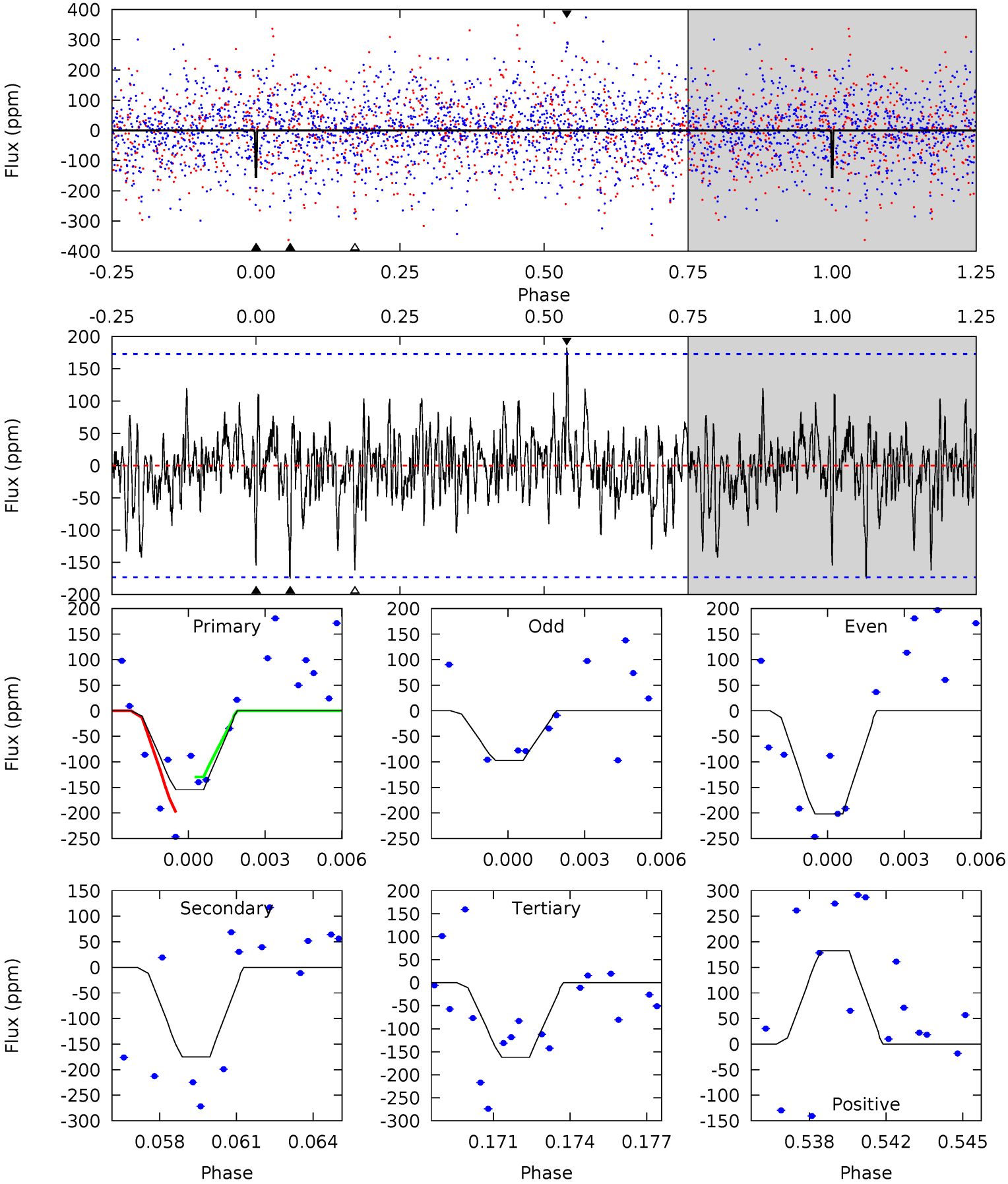




Alt Model-Shift Uniqueness Test

009173014-06, P = 14.331522 Days, E = 128.406276 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.68	5.30	4.91	5.53	5.24	2.95	1.29	-0.23	-0.85	0.39	-0.23	1.56	1.06	0.51	0.97



Stellar Parameters For KIC 009173014

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	6341^{+176}_{-176}	$3.527^{+0.376}_{-0.094}$	$-0.160^{+0.350}_{-0.300}$	$3.689^{+0.402}_{-1.507}$	$1.672^{+0.174}_{-0.405}$	$0.047^{+0.134}_{-0.014}$
	+3%/-3%	+11%/-3%	+219%/-188%	+11%/-41%	+10%/-24%	+286%/-31%
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 009173014-06 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$26.83^{+28.79}_{-19.04}$	1994^{+117}_{-179}	-5310^{+35064}_{-22830}	$-33.205^{+2927.117}_{-2506.433}$
Alt.	-175±33	$25.88^{+29.83}_{-17.93}$	1998^{+102}_{-190}	3254^{+1794}_{-803}	$2.654^{+24.703}_{-2.075}$

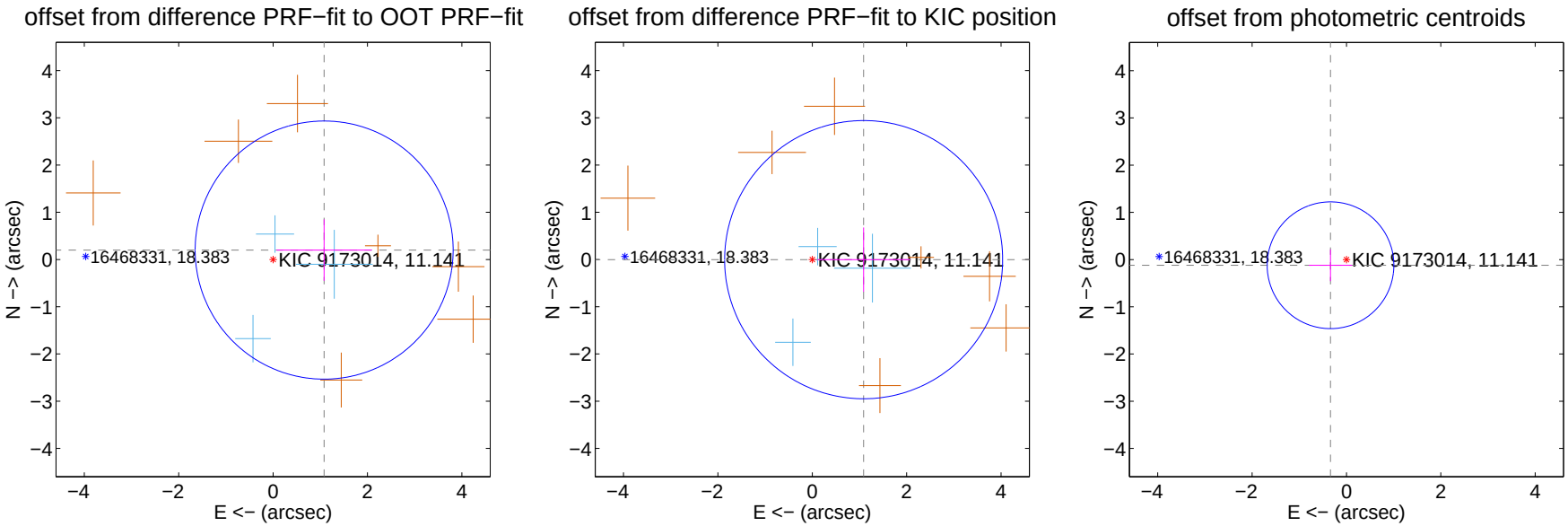
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

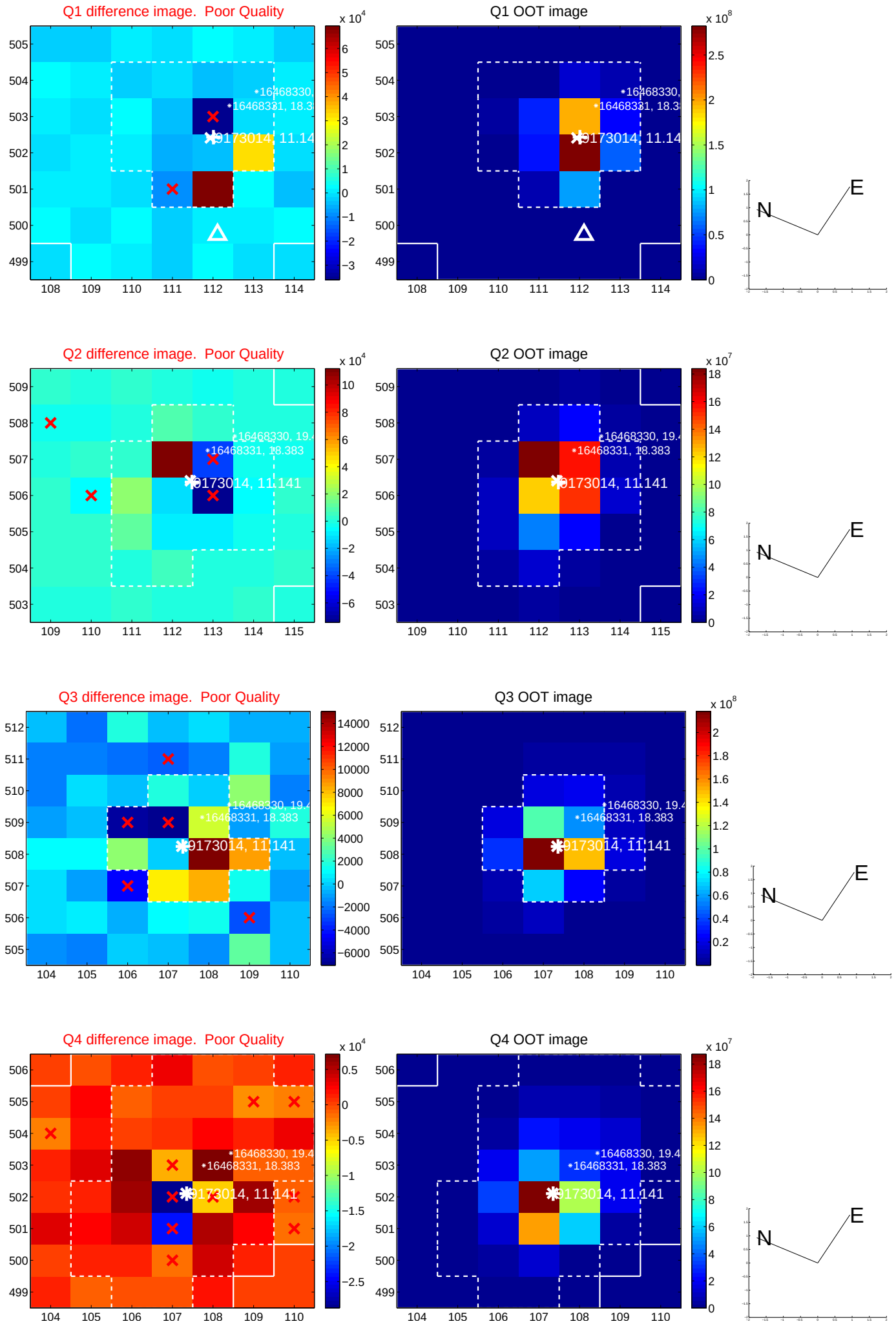
Supplemental centroid analysis for 009173014-06. Kepler magnitude: 11.14. Transit SNR -1.00
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.100 ± 0.911	1.21	-1.082 ± 1.009	0.199 ± 0.650
PRF-fit source offset from KIC position	1.088 ± 0.982	1.11	-1.088 ± 0.980	-0.004 ± 0.681
photometric centroid source offset	0.36 ± 0.45	0.80	0.34 ± 0.46	-0.12 ± 0.33

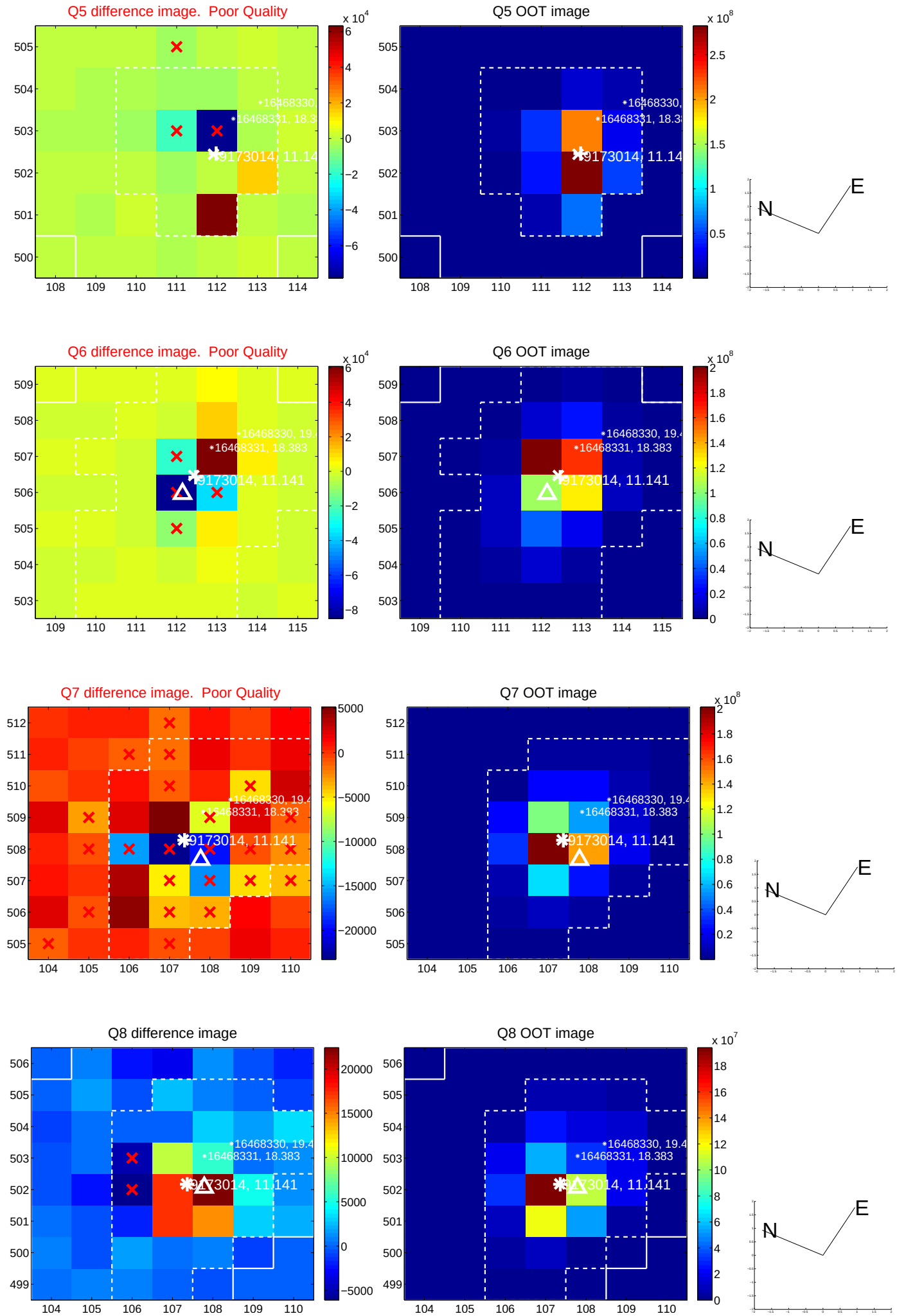


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

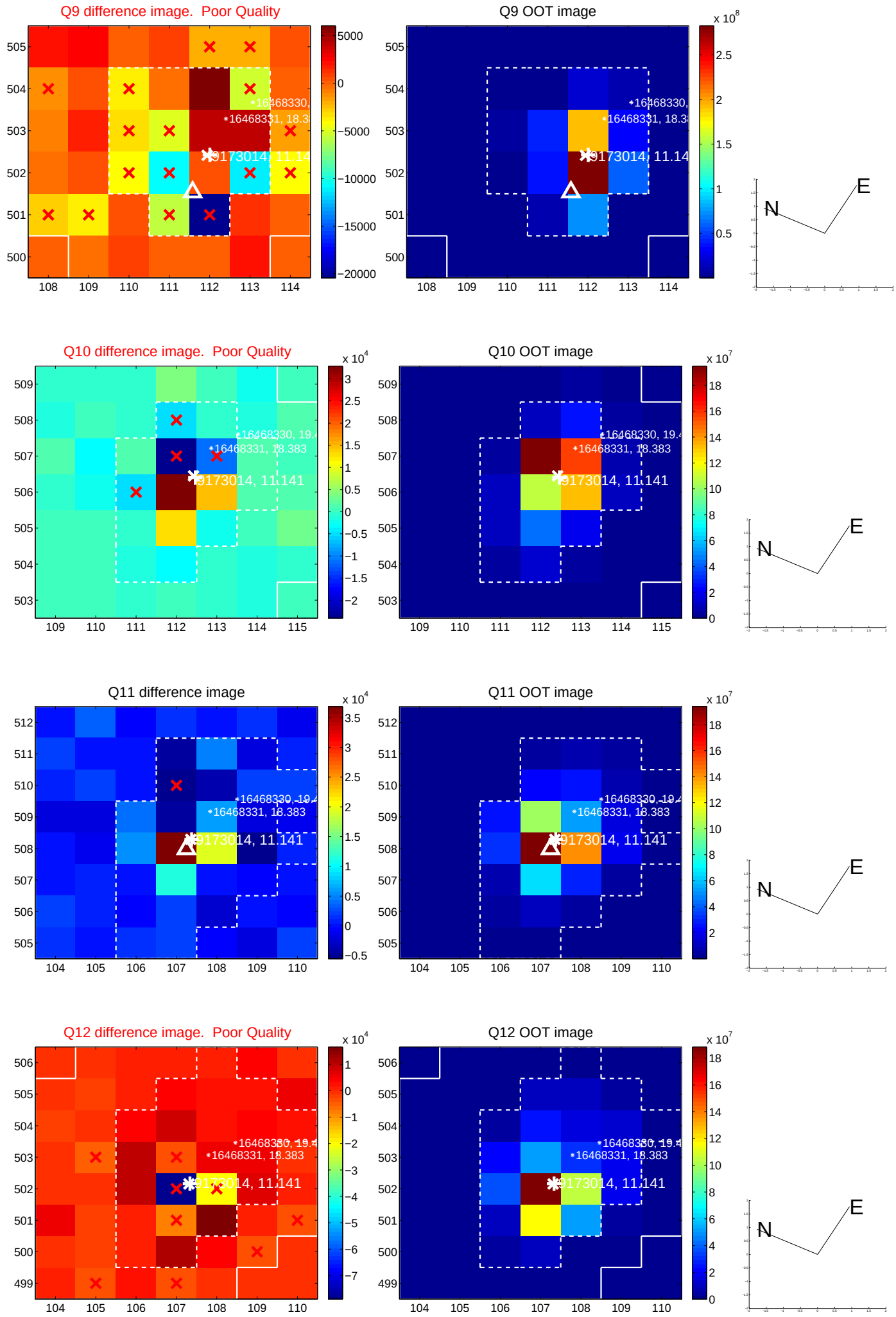
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



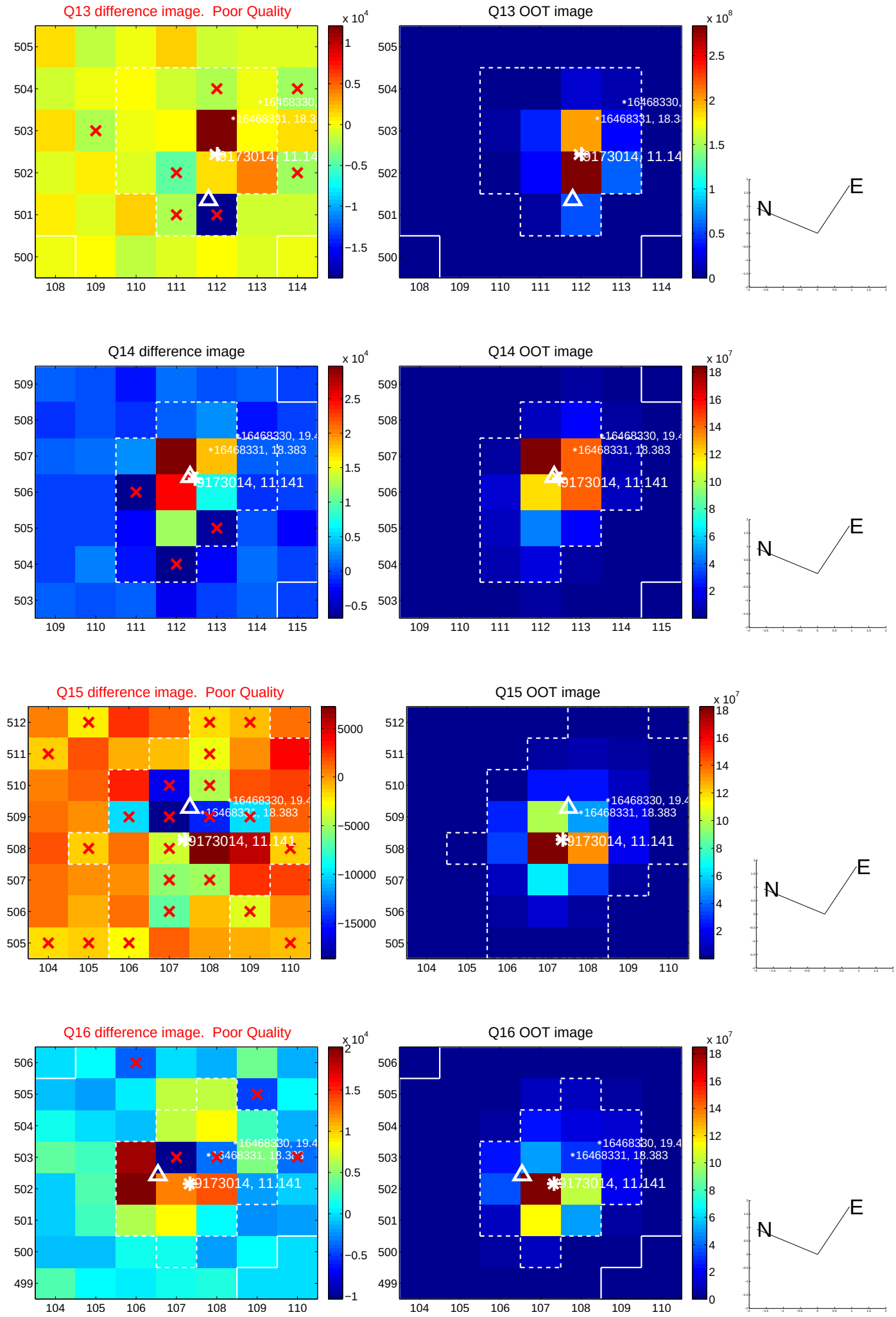
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



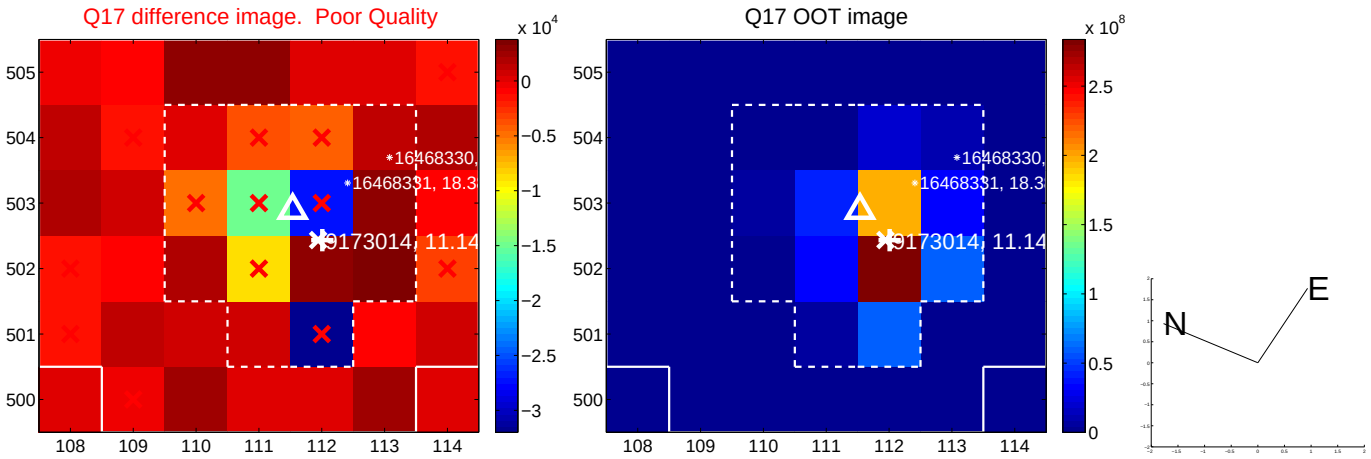
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

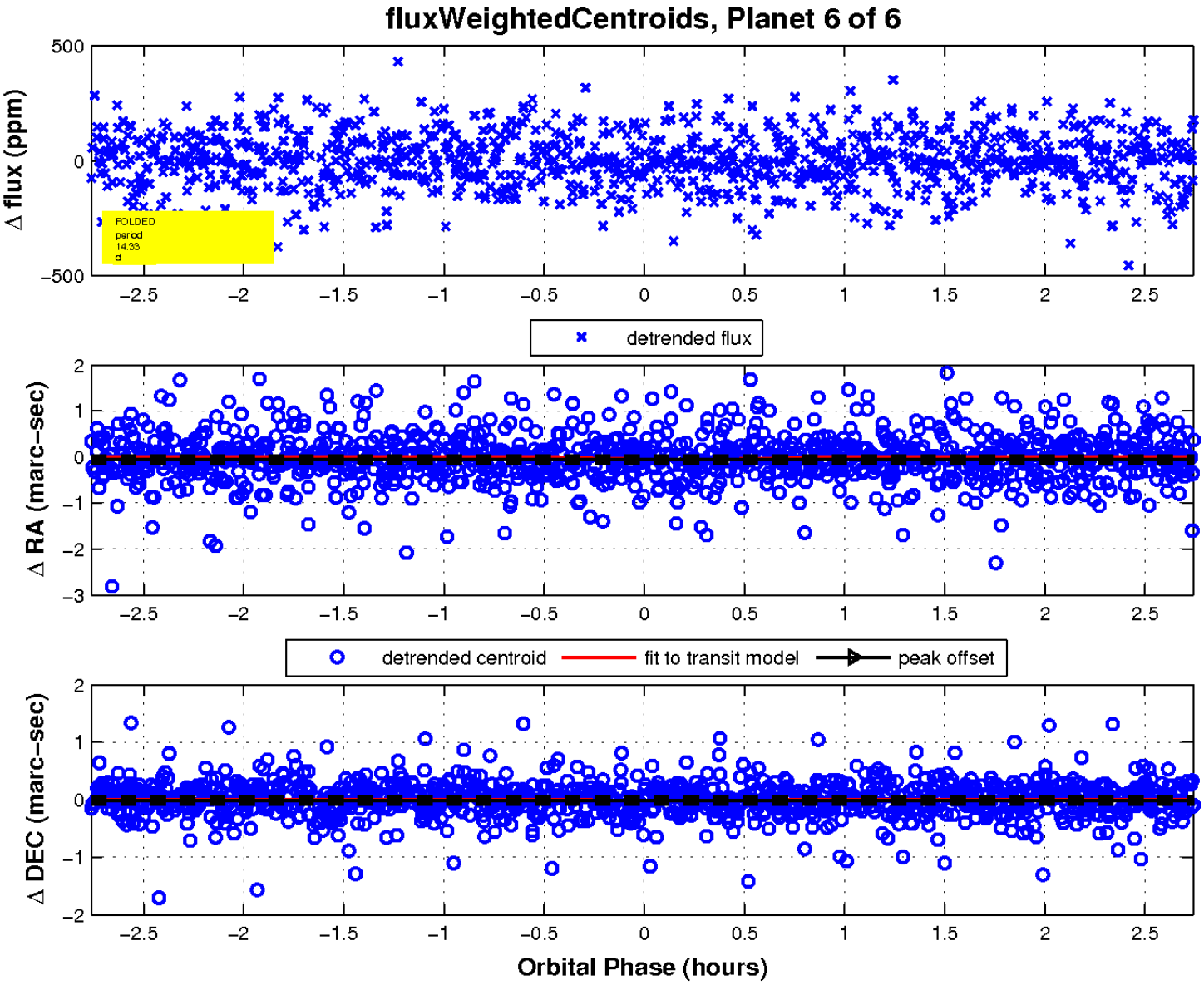


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

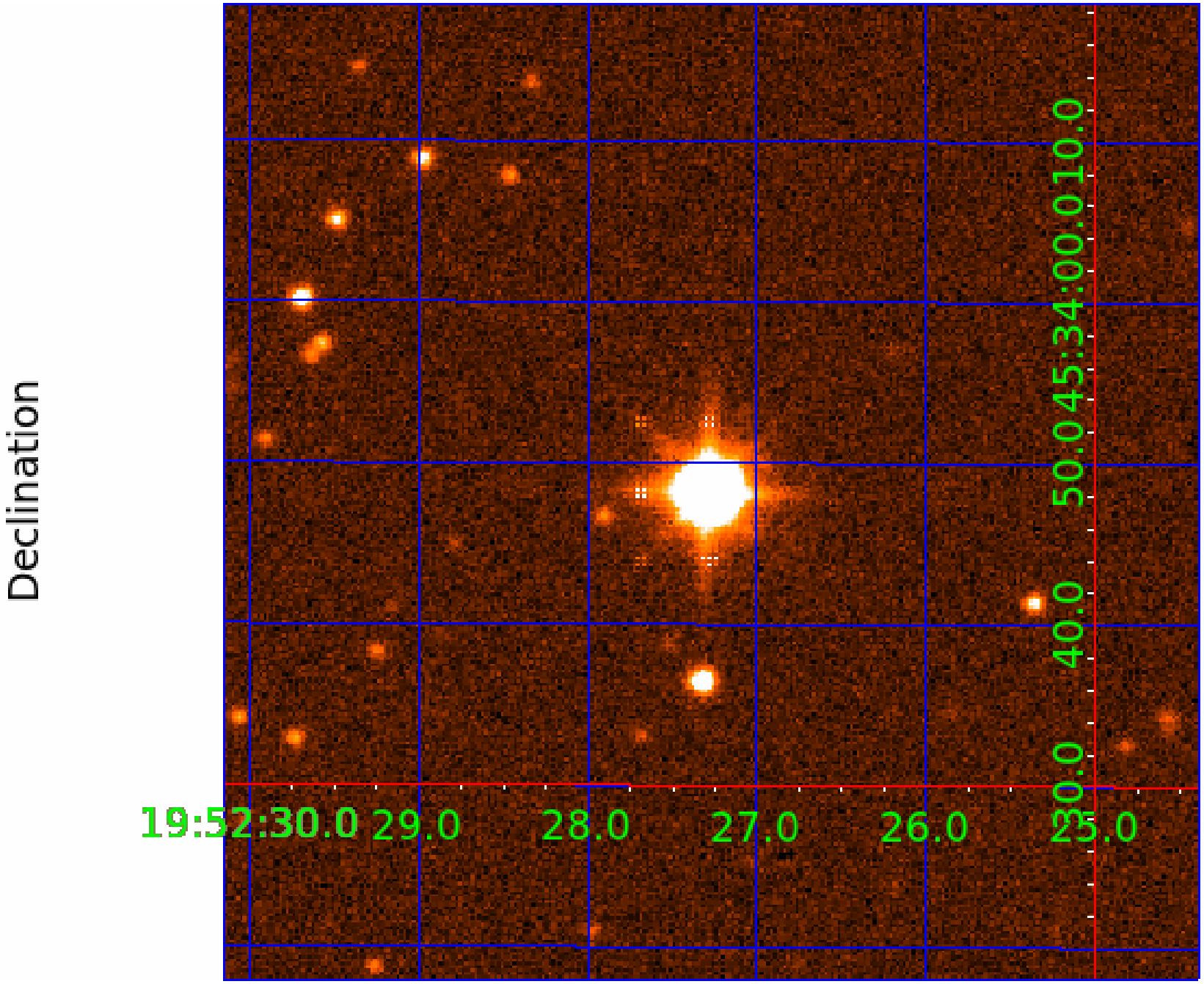


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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