KIC 008460081

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 ($S_\oplus$)
008460081-01	OBS	No	0.785776	132.169228	1.5	5.733	7.8	2.9	3.79	8729	0.47	142060.93
008460081-02	OBS	No	29.087848	131.522099	181.4	0.956	21.4	16.6	3.79	8729	5.51	1151.48
008460081-03	OBS	No	27.628897	159.105985	145.7	1.130	14.1	12.7	3.79	8729	4.69	1233.26
008460081-04	OBS	No	23.869910	136.727999	143.5	1.312	18.5	14.6	3.79	8729	5.26	1498.78
008460081-05	OBS	No	111.181991	150.642448	131.2	2.000	13.0	-1.0	3.79	8729	4.42	192.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008460081-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008460081-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

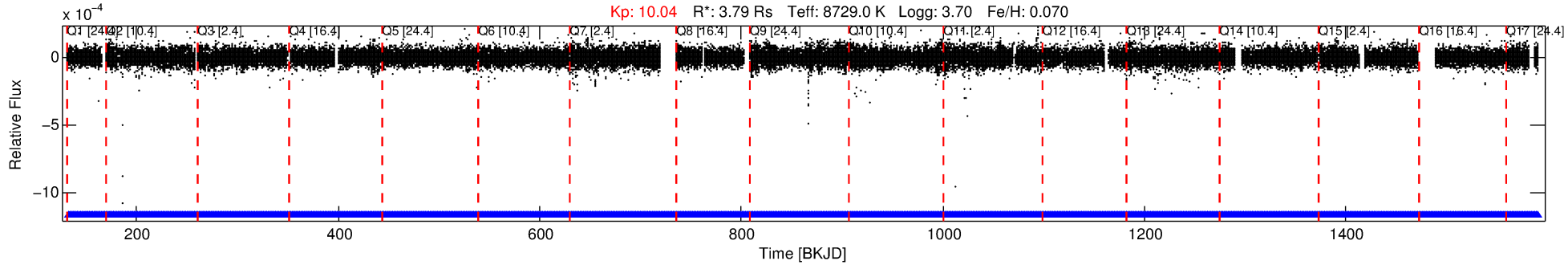
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

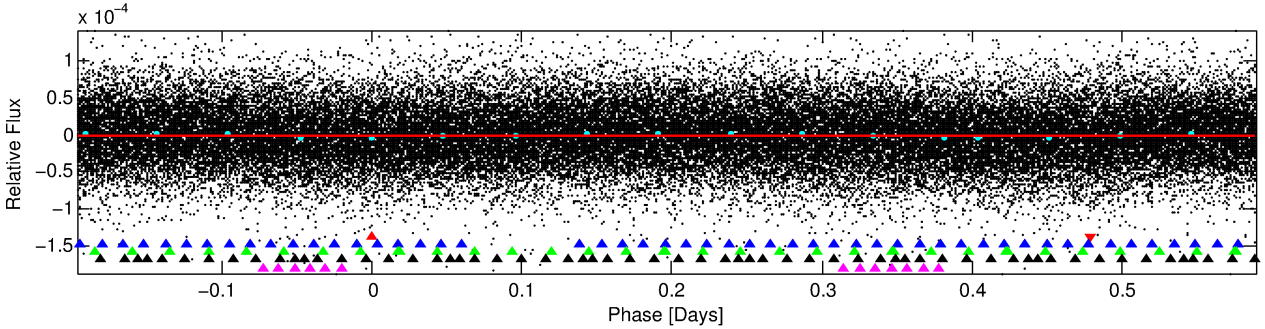
Ephemeris Match Information For 008460081-01

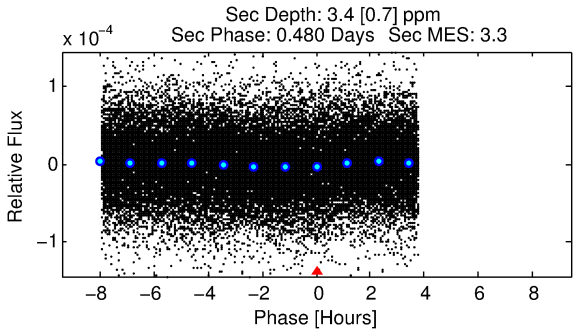
No Significant Match Found

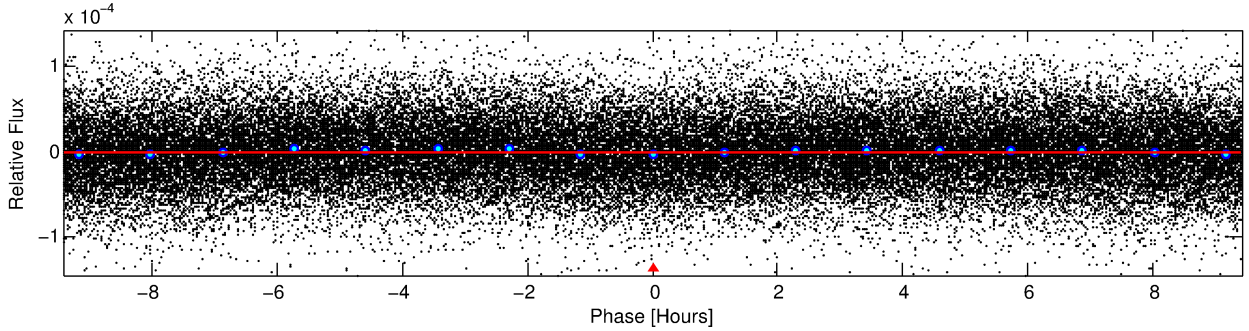
DV One-Page Summary

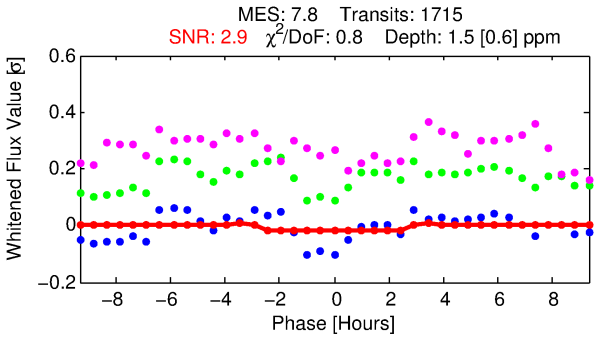
KIC: 8460081 Candidate: 1 of 5 Period: 0.786 d

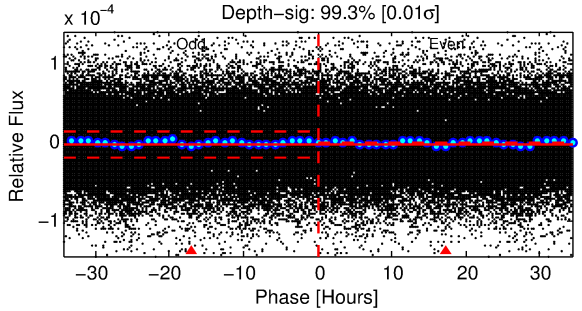


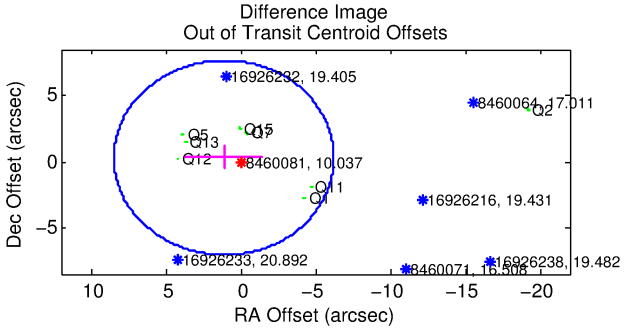












DV Fit Results:

Period = 0.78578 [0.00004] d
Epoch = 132.1692 [0.0106] BKJD
Rp/R* = 0.0011 [0.0015]
a/R* = 1.22 [3.35]
b = 0.23 [35.27]

Seff = 142060.93 [114995.02]
Teq = 4950 [1002] K
Rp = 0.47 [0.68] Re
a = 0.0229 [0.0115] AU

Ag = 4.45 [12.60] [0.27σ]
Teffp = 11118 [7576] K [0.81σ]

DV Diagnostic Results:

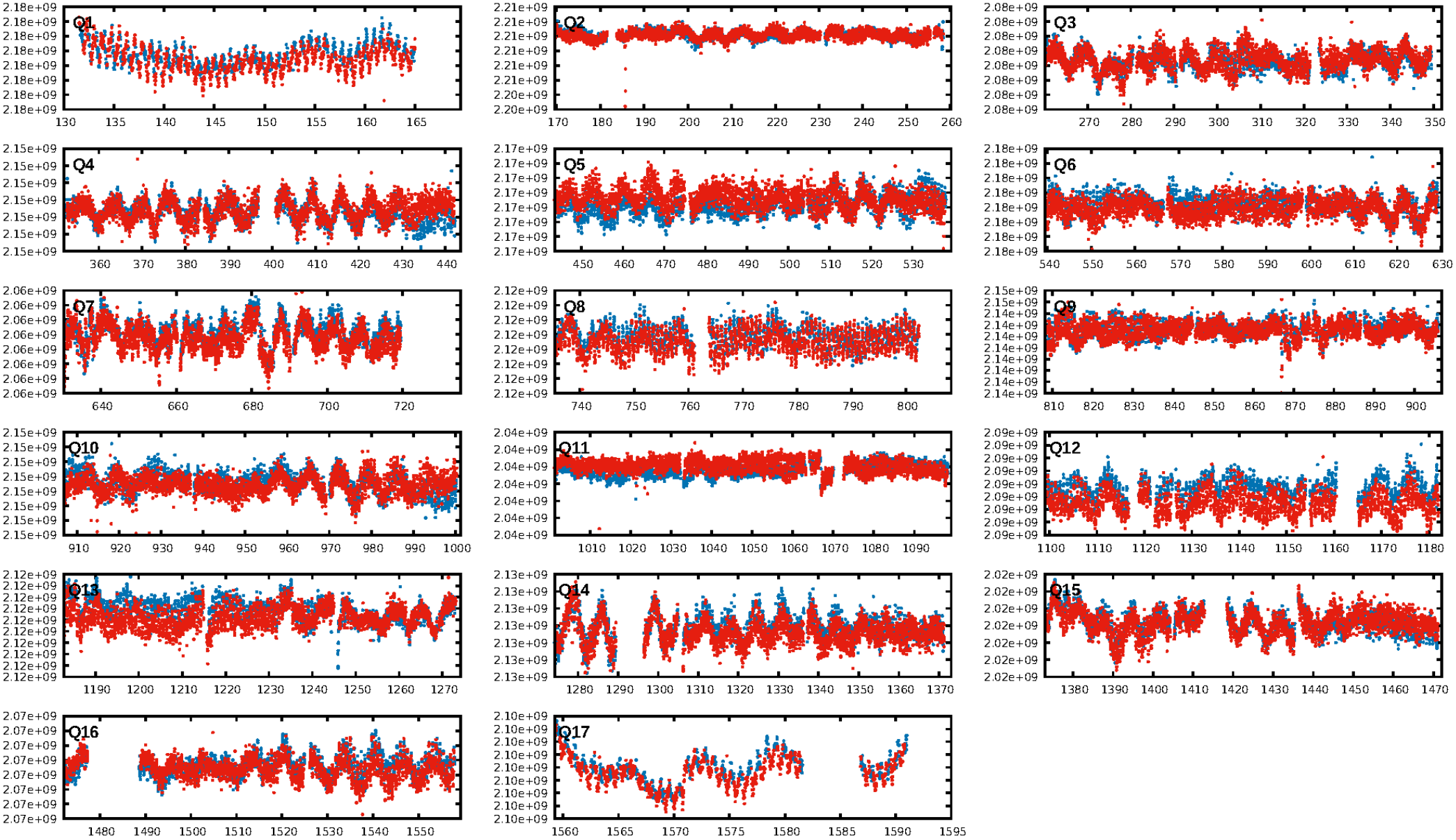
ShortPeriod−sig: N/A
LongPeriod−sig: 100.0% [94.21σ]
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 6.41e−05
RollingBand−fgt: 1.00 [1638/1638]
GhostDiagnostic−chr: N/A

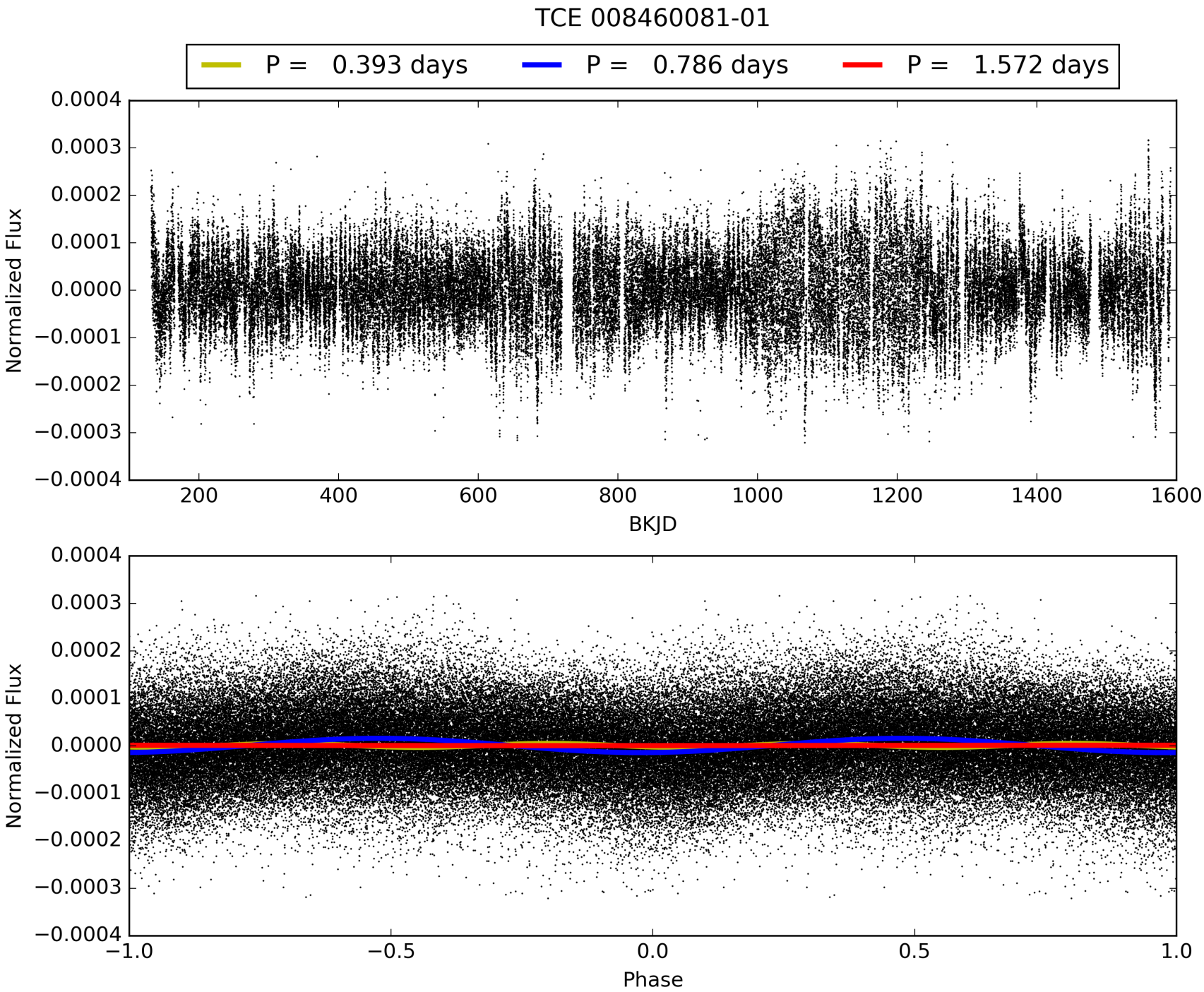
Centroid−sig: N/A
Centroid−so: N/A
OotOffset−rm: 1.153 arcsec [0.47σ]
KicOffset−rm: 1.079 arcsec [0.48σ]
OotOffset−st: 1/3/1/3 [8]
KicOffset−st: 1/3/1/3 [8]
DiffImageQuality−fgm: 0.25 [2/8]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 04:58:45 Z

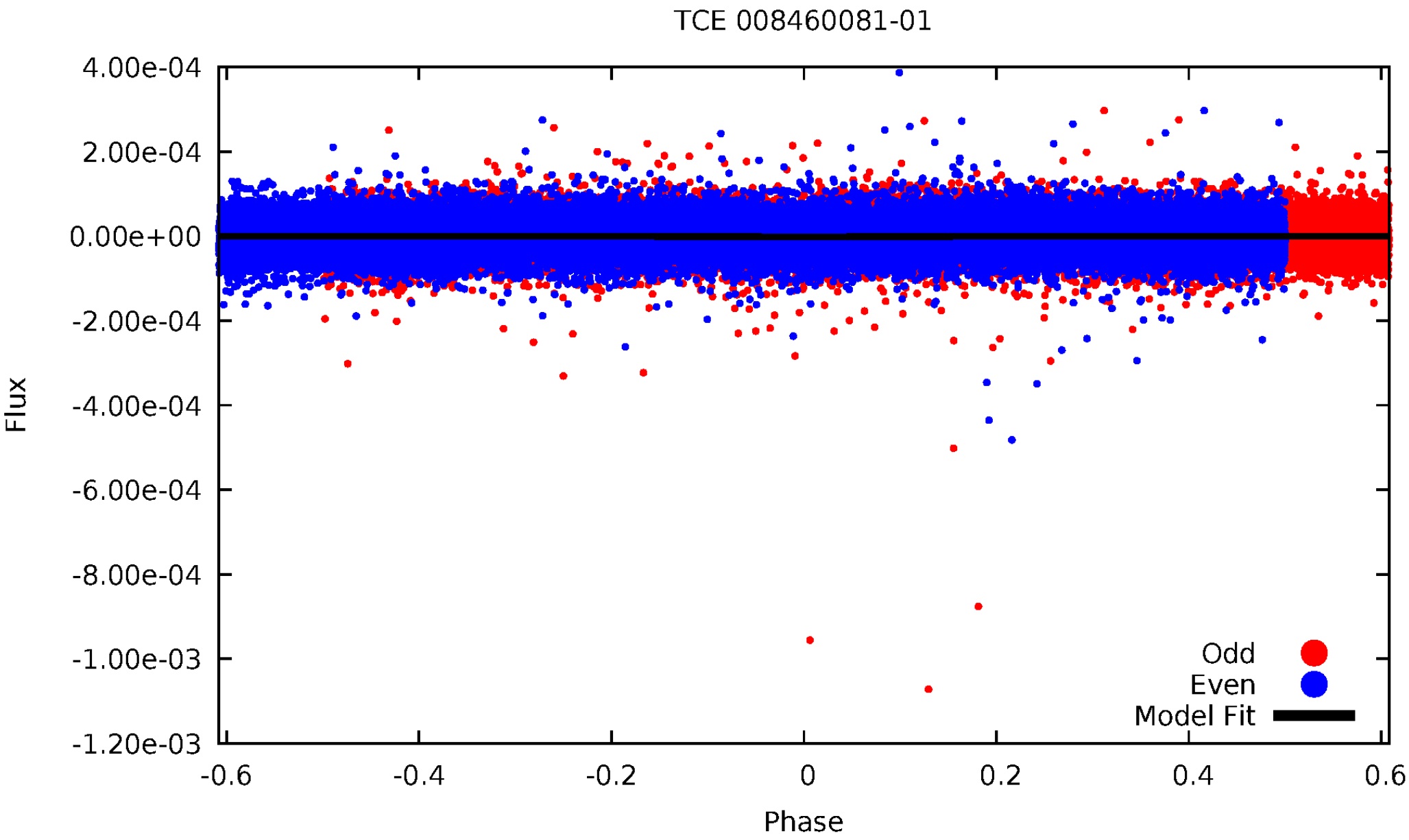
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008460081-01, PDC Light Curves




TCE 008460081-01
P = 0.393 days
P = 0.786 days
P = 1.572 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 008460081-01
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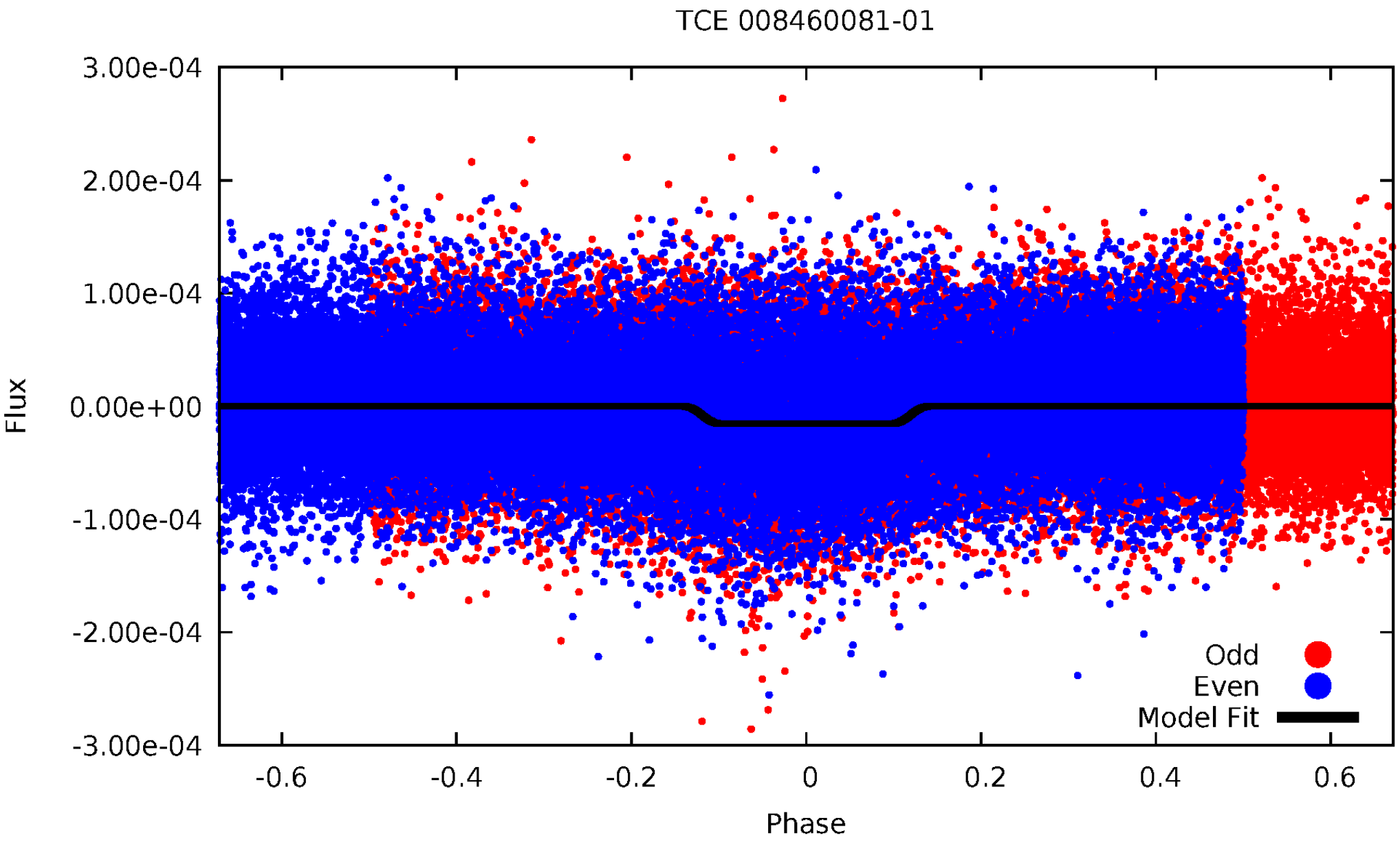
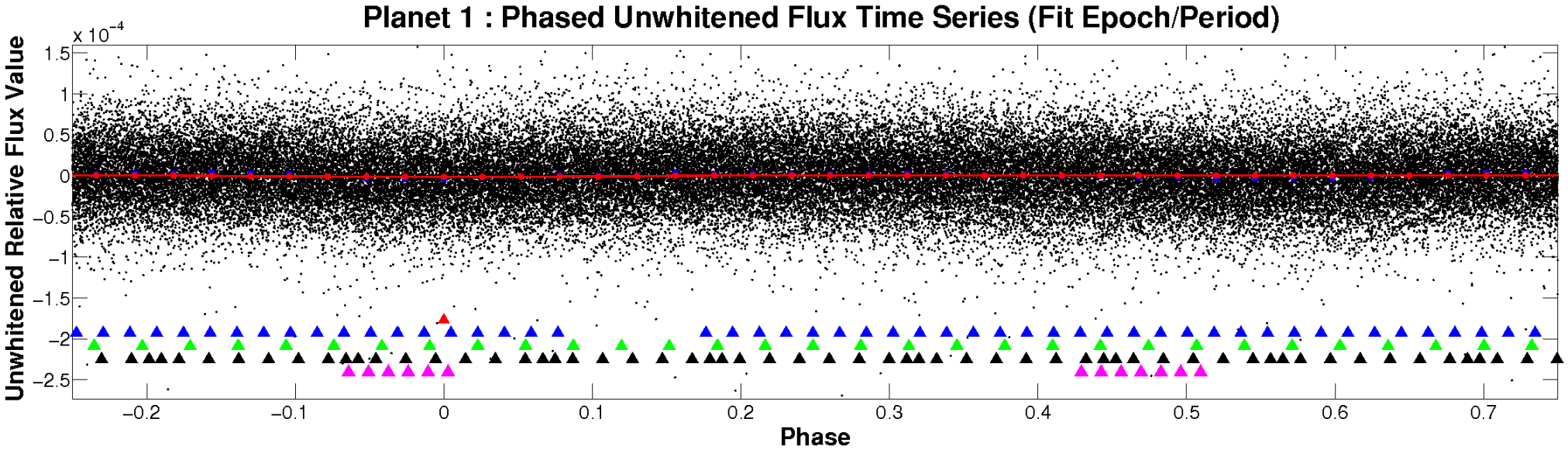
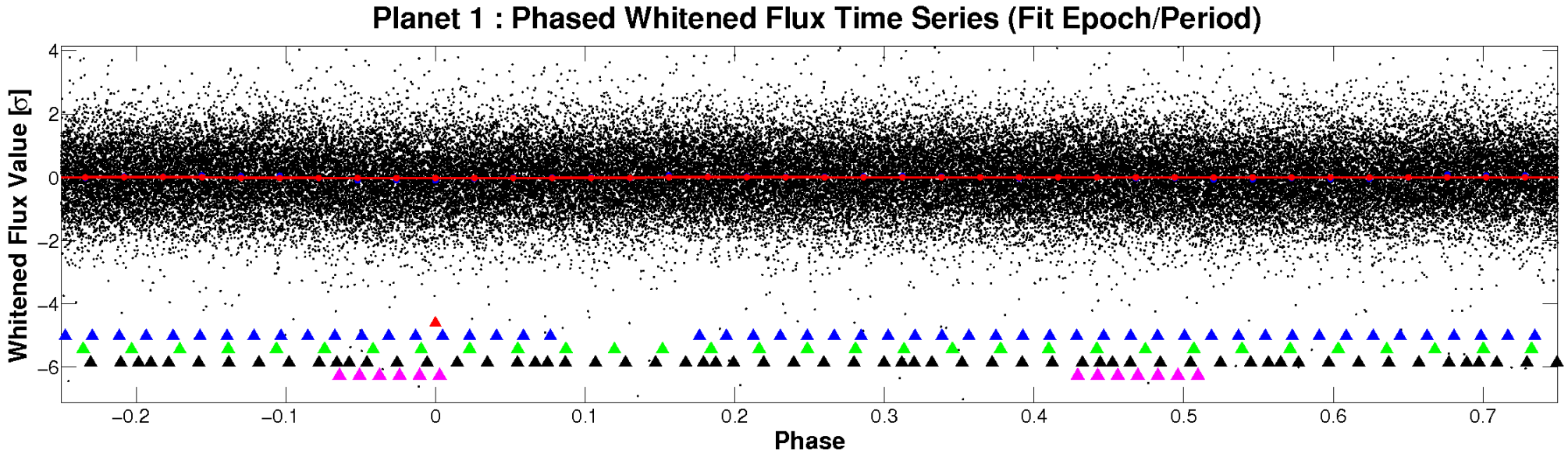
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
-1.20e-03
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008460081-01
3.00e-04
2.00e-04
1.00e-04
0.00e+00
-1.00e-04
-2.00e-04
-3.00e-04
Flux
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
Phase
Odd
Even
Model Fit

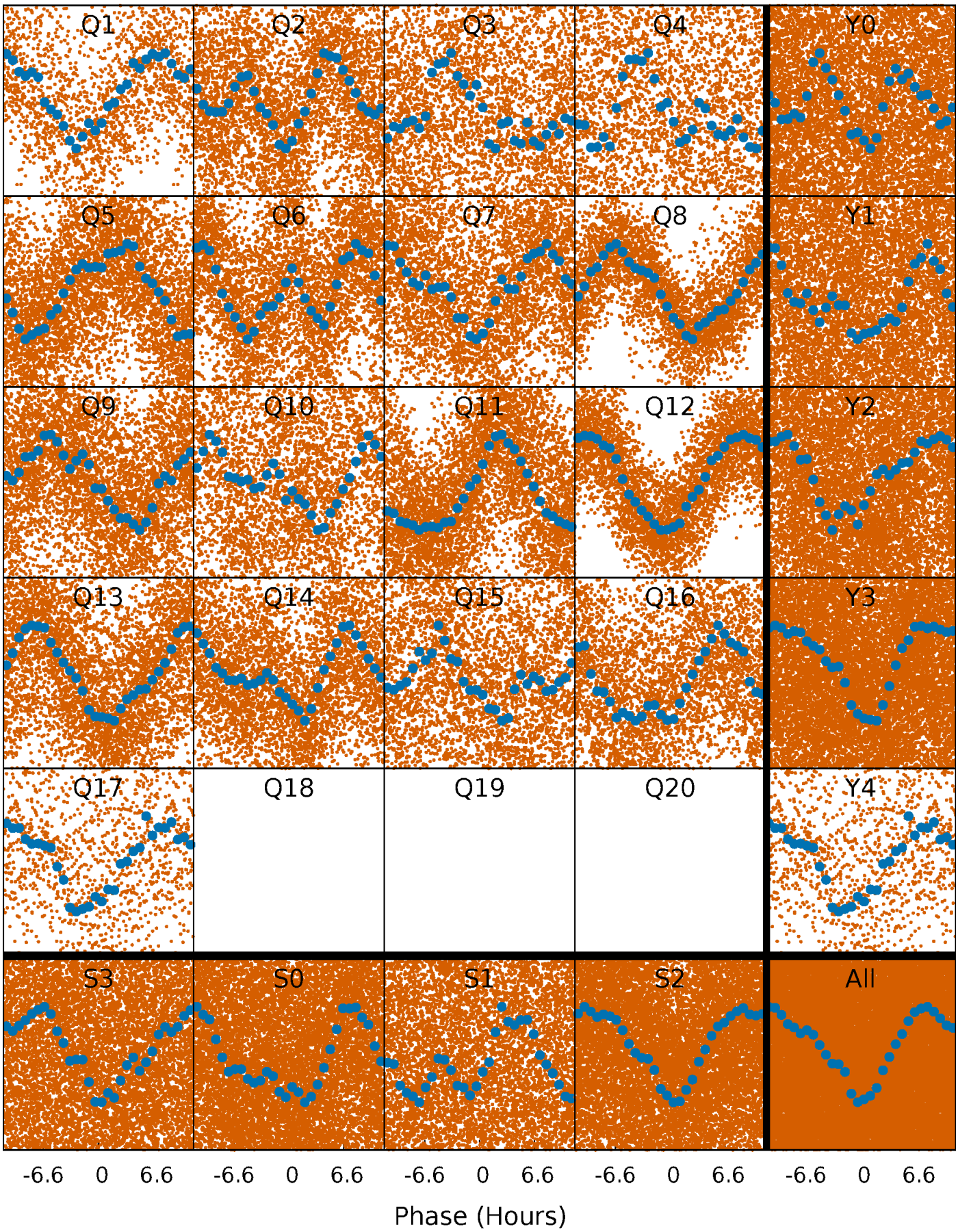
Non-Whitened Vs. Whitened Light Curve





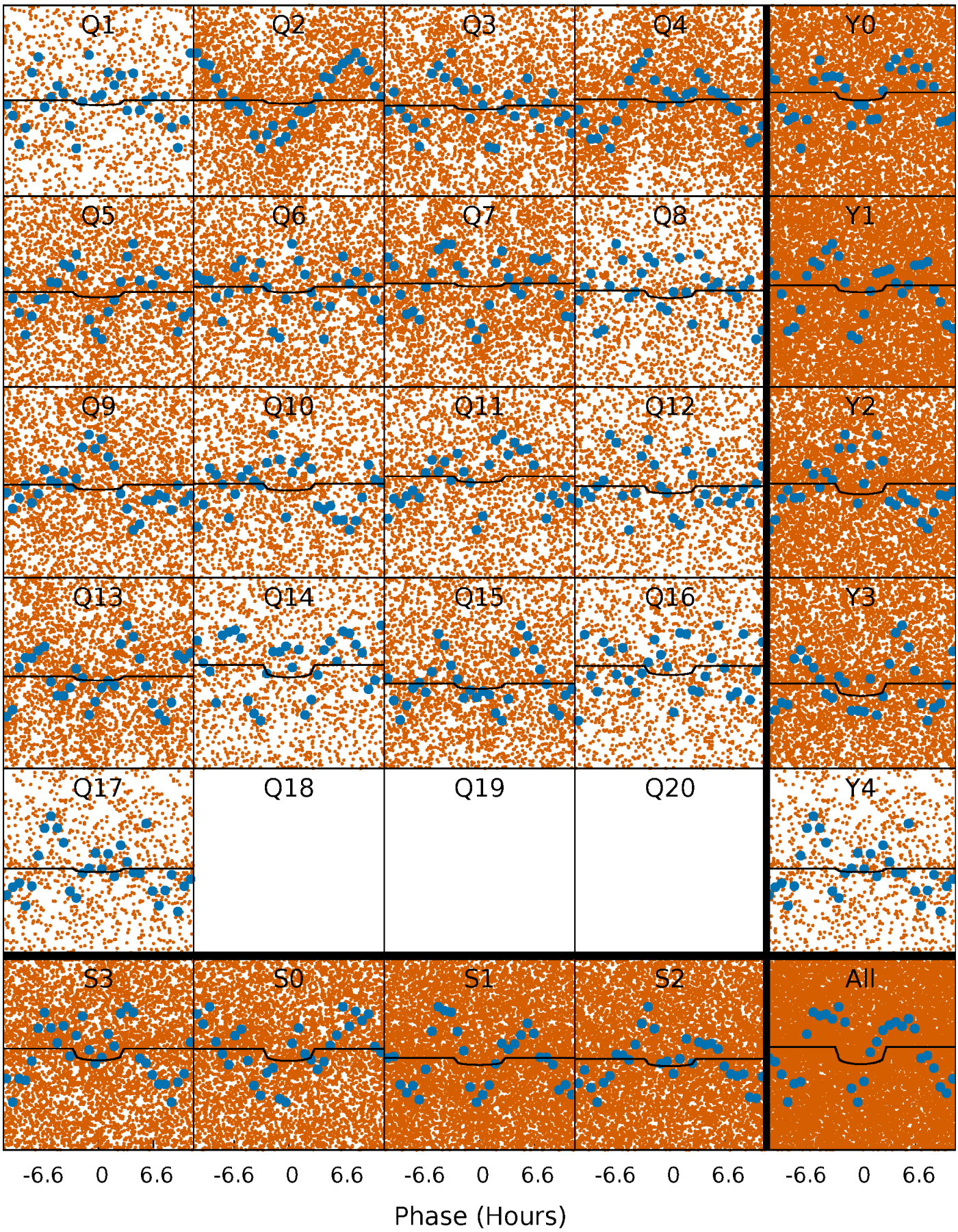
PDC Quarter-Phased Transit Curves

TCE 008460081-01 P= 0.785776 Days T_0=132.169228 (BKJD)



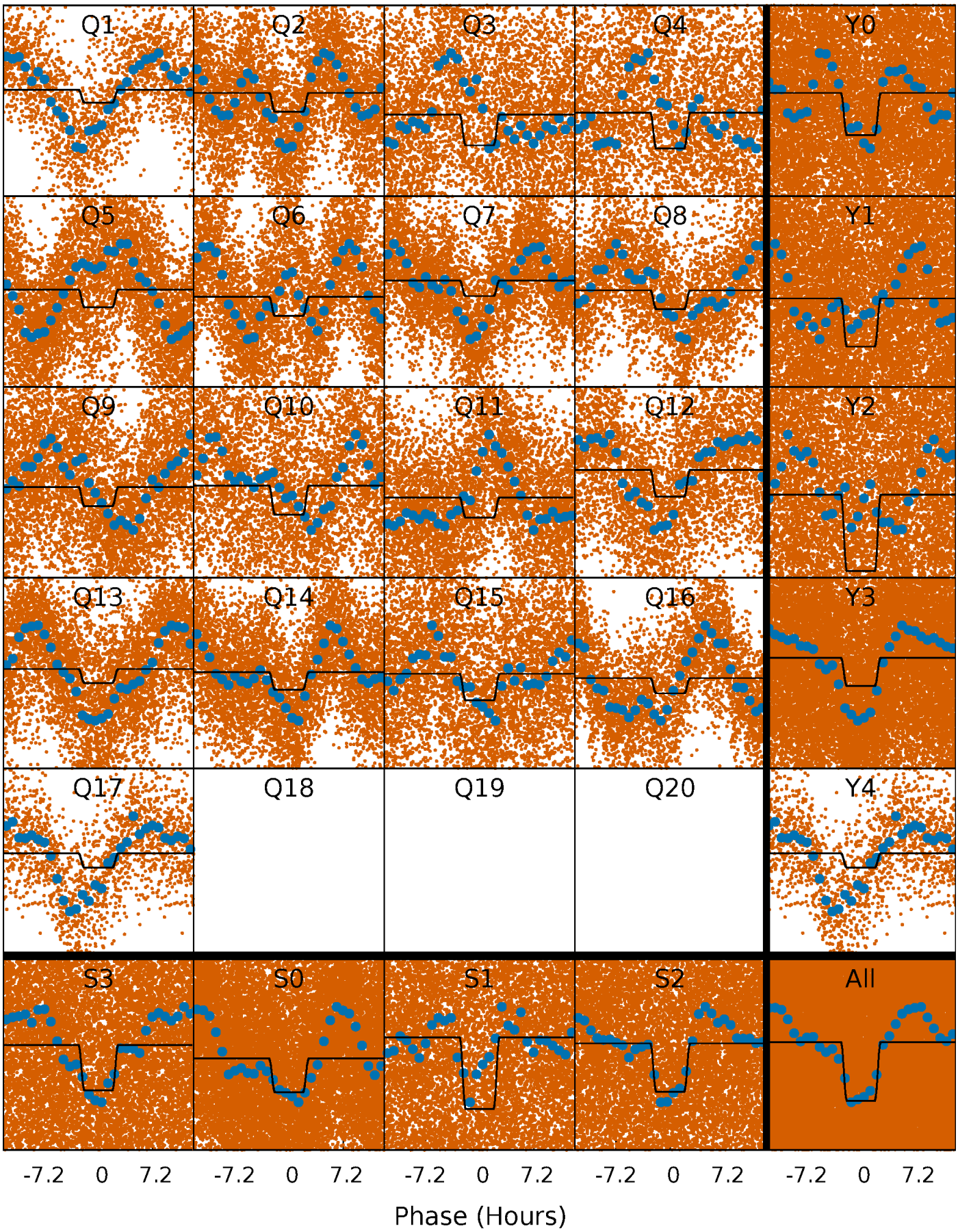
DV Quarter-Phased Transit Curves

TCE 008460081-01 P= 0.785776 Days T_0=132.169228 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

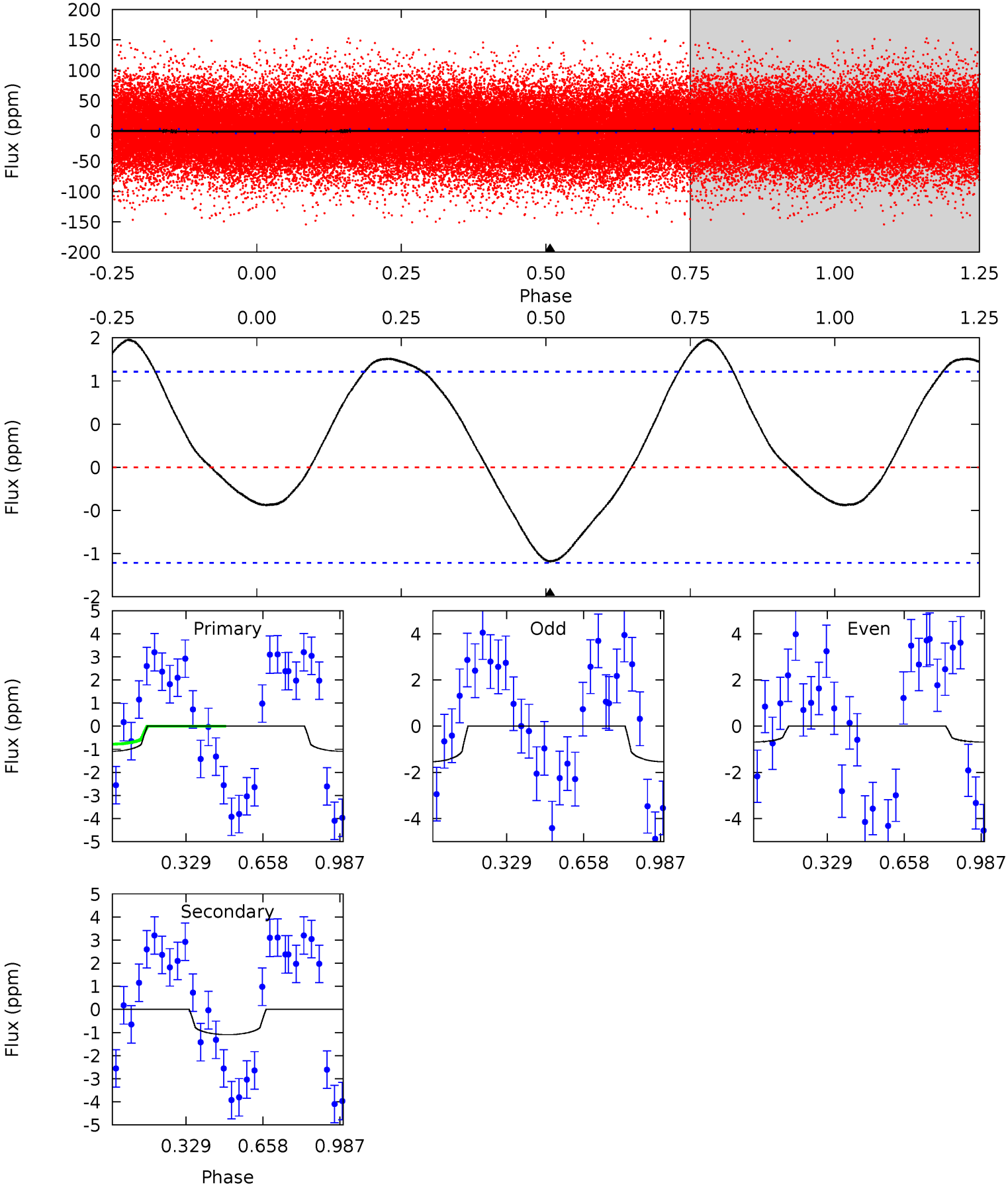
TCE 008460081-01 P= 0.785810 Days T_0=132.161502 (BKJD)



DV Model-Shift Uniqueness Test

008460081-01, P = 0.785776 Days, E = 131.383452 Days

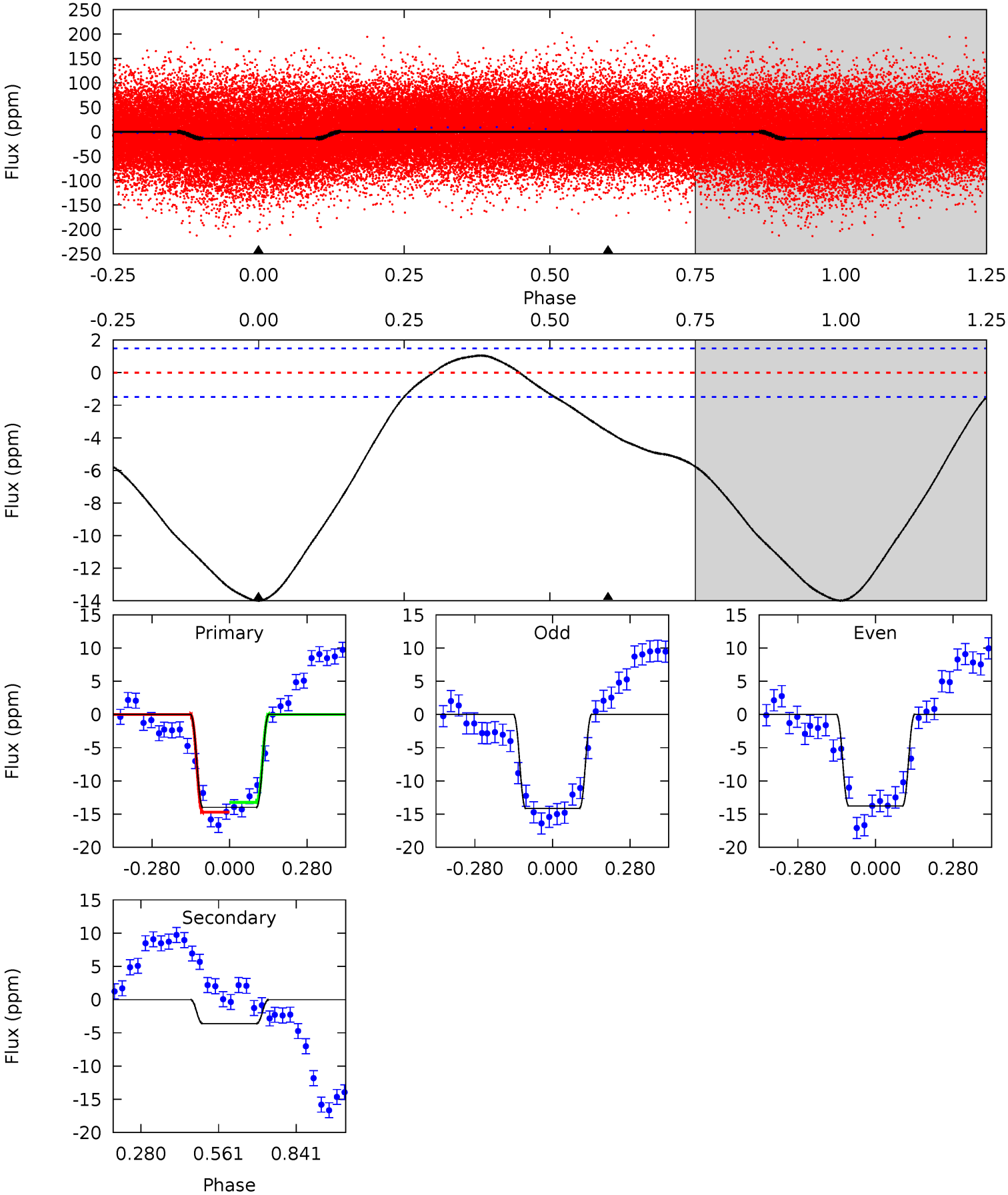
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.25	4.25	0	0	4.31	0.98	1.73	4.25	4.25	4.25	4.25	1.67	0.80	0.58	1.32



Alt Model-Shift Uniqueness Test

008460081-01, P = 0.785810 Days, E = 131.375692 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.7	10.5	0	0	4.34	1.08	2.06	40.7	40.7	10.5	10.5	0.53	0.81	0.07	2.04



Stellar Parameters For KIC 008460081

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	8729^{+240}_{-411}	$3.696^{+0.457}_{-0.152}$	$0.070^{+0.250}_{-0.600}$	$3.786^{+0.869}_{-2.029}$	$2.593^{+0.313}_{-1.002}$	$0.067^{+0.381}_{-0.025}$
	+3%/-5%	+12%/-4%	+357%/-857%	+23%/-54%	+12%/-39%	+566%/-37%
Source	KIC0	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 008460081-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1±0	$0.57^{+0.54}_{-0.38}$	6736^{+558}_{-852}	6086^{+7378}_{-9881}	$0.926^{+6.880}_{-0.682}$
Alt.	-4±0	$1.46^{+0.75}_{-0.68}$	6727^{+623}_{-829}	4640^{+2333}_{-8955}	$0.484^{+0.964}_{-0.276}$

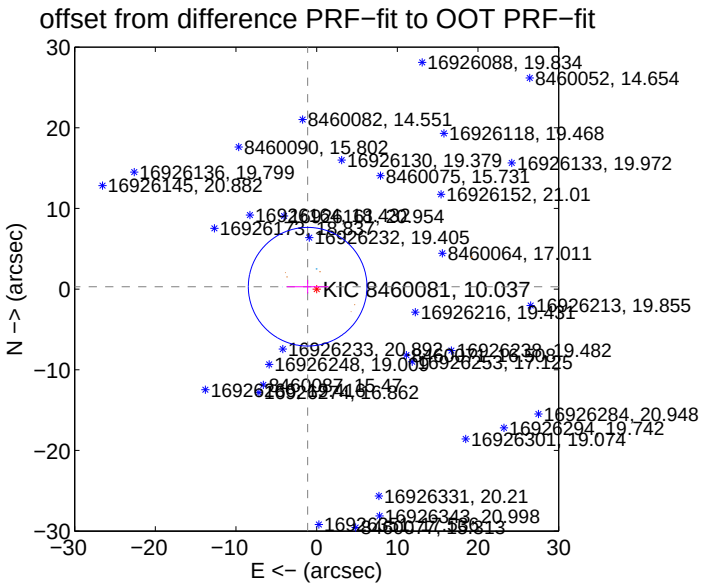
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

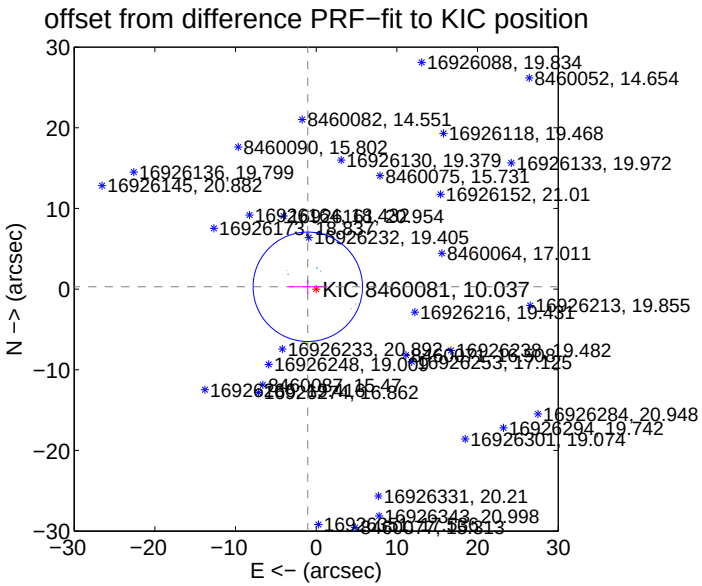
If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

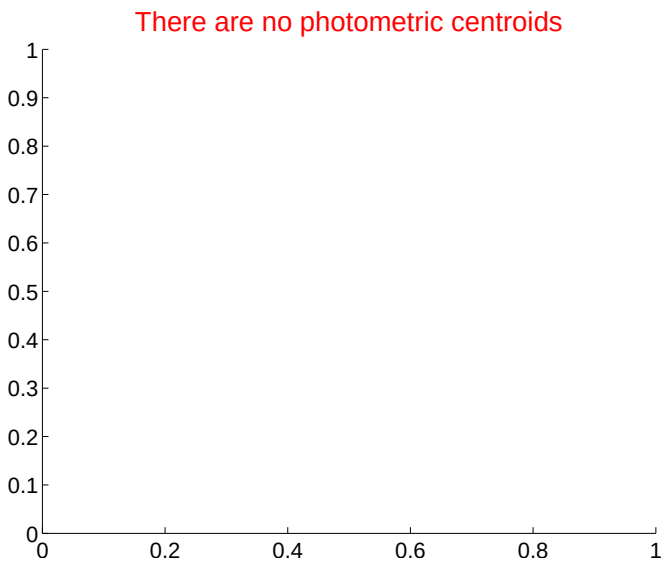
DV Centroid Data

Supplemental centroid analysis for 008460081-01. Kepler magnitude: 10.04. Transit SNR 2.89
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.153 ± 2.451	0.47	1.115 ± 2.597	0.295 ± 0.842
PRF-fit source offset from KIC position	1.079 ± 2.260	0.48	1.040 ± 2.390	0.286 ± 0.868
photometric centroid source offset	—	—	—	—

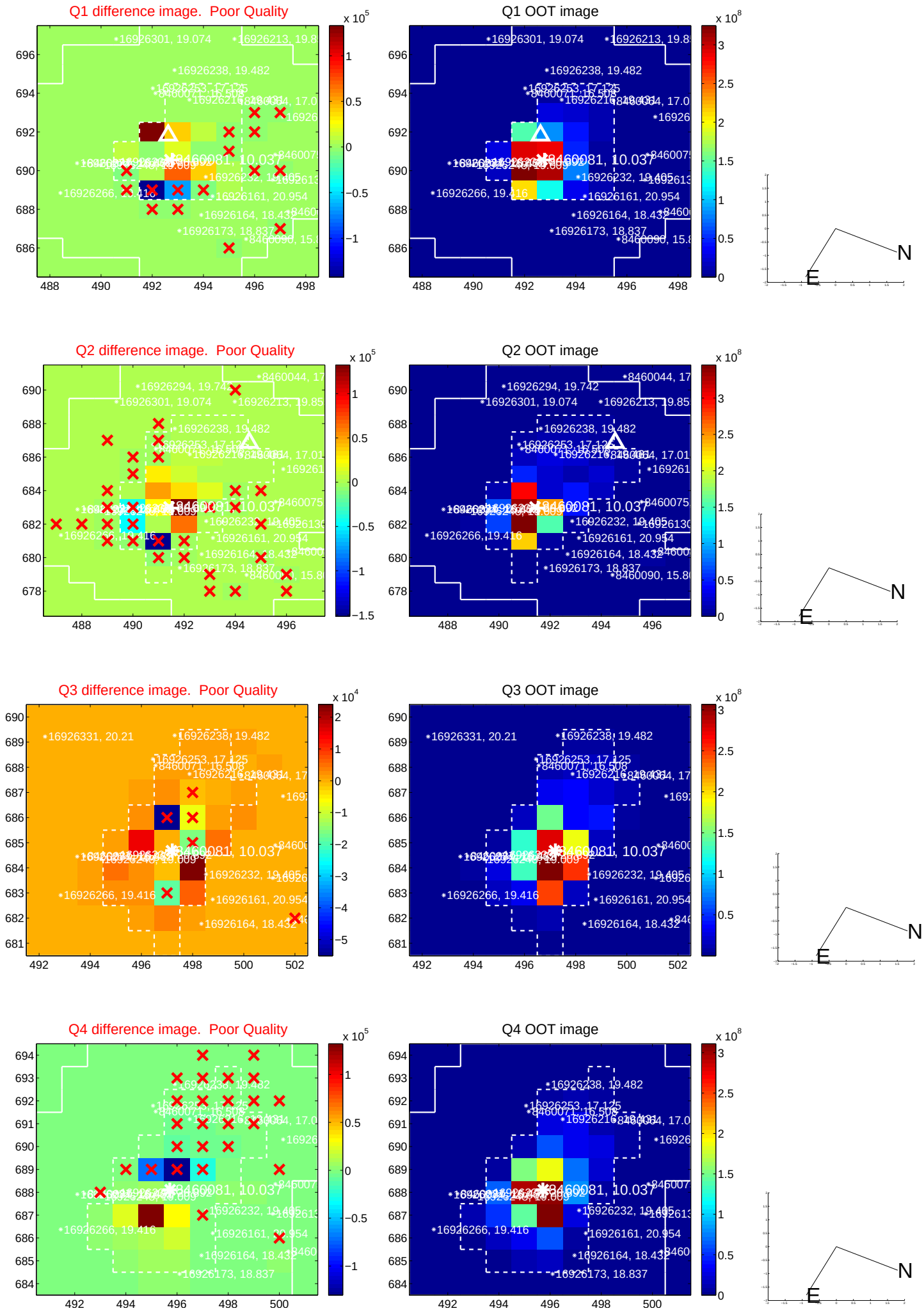




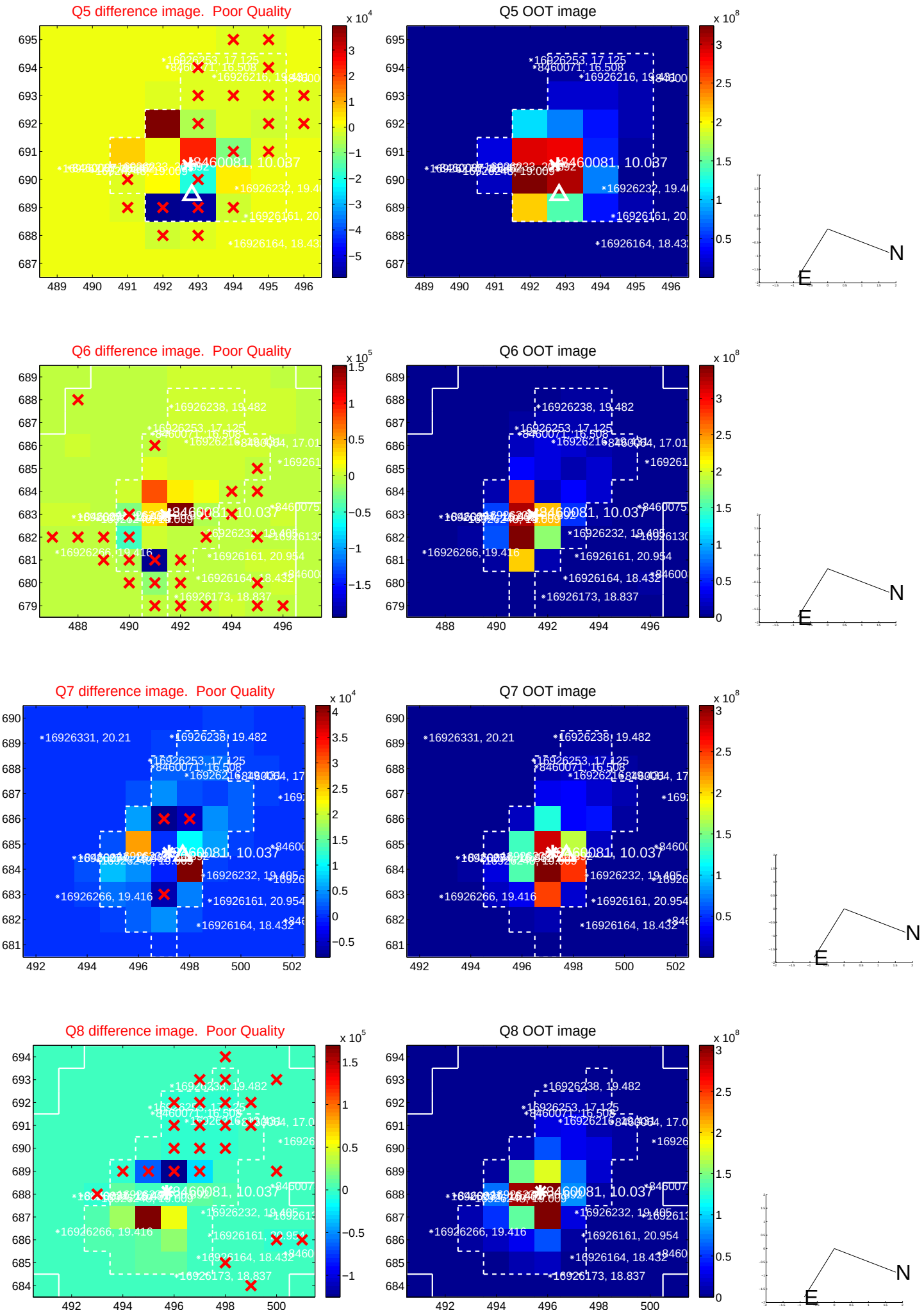


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

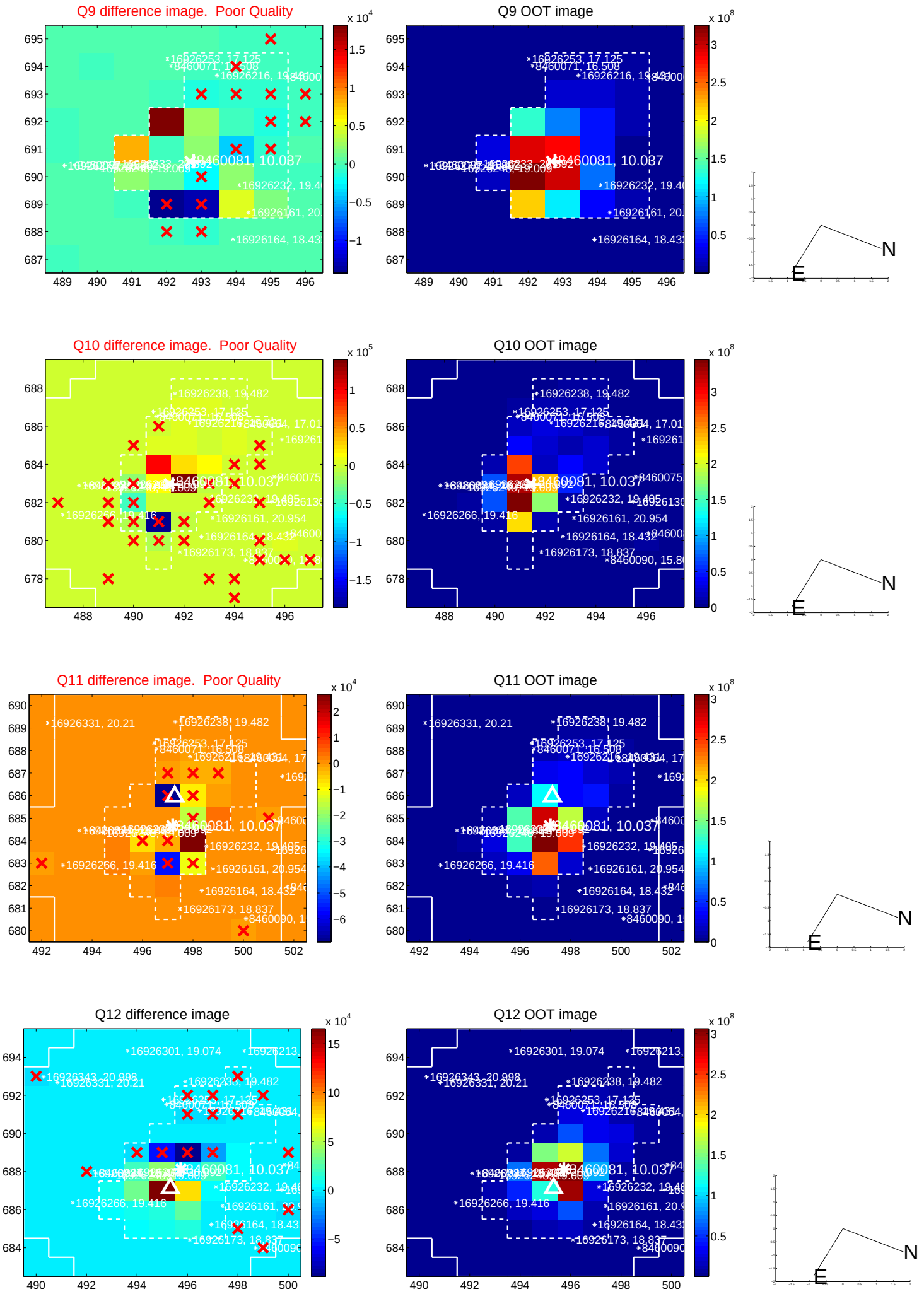
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



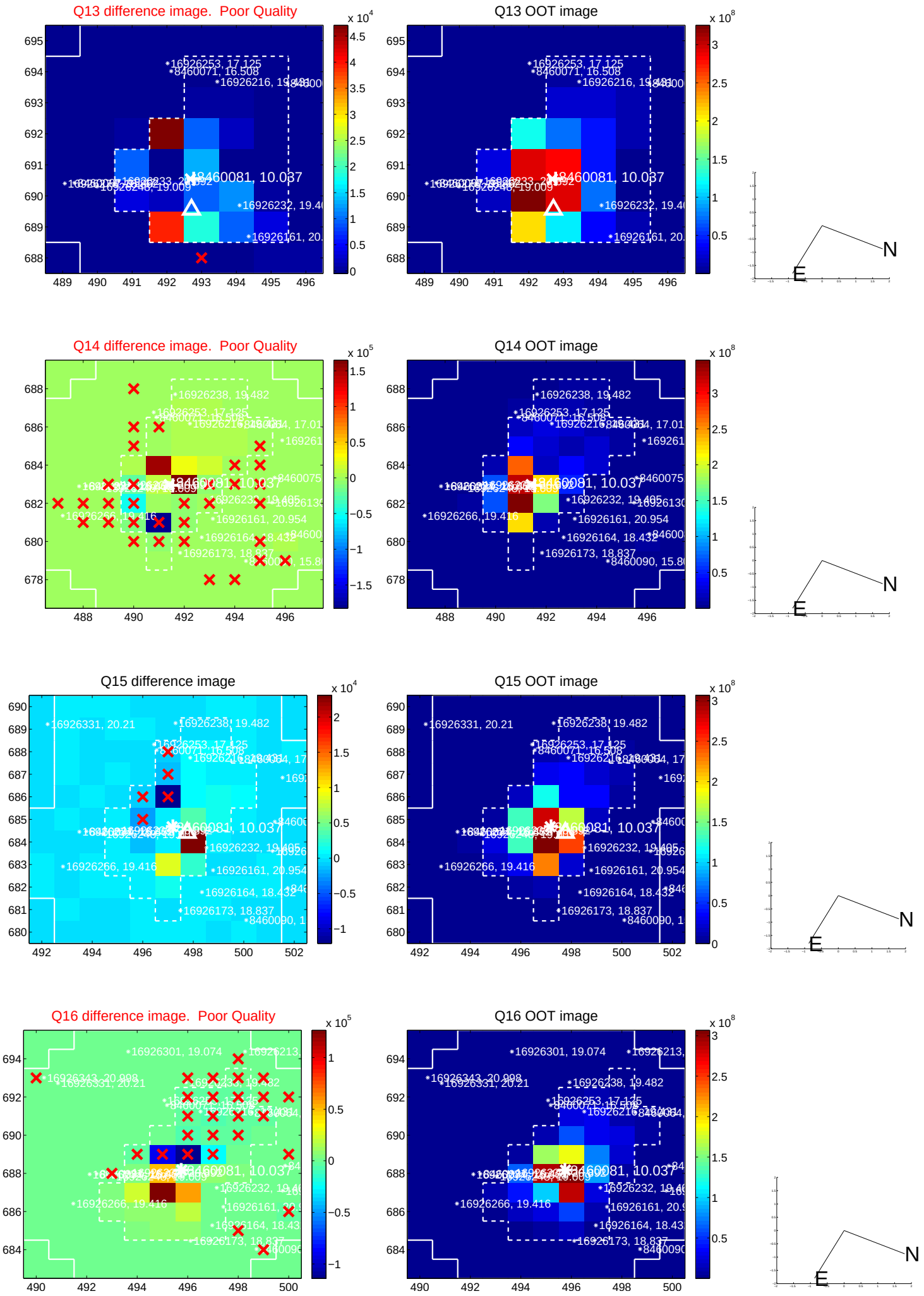
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



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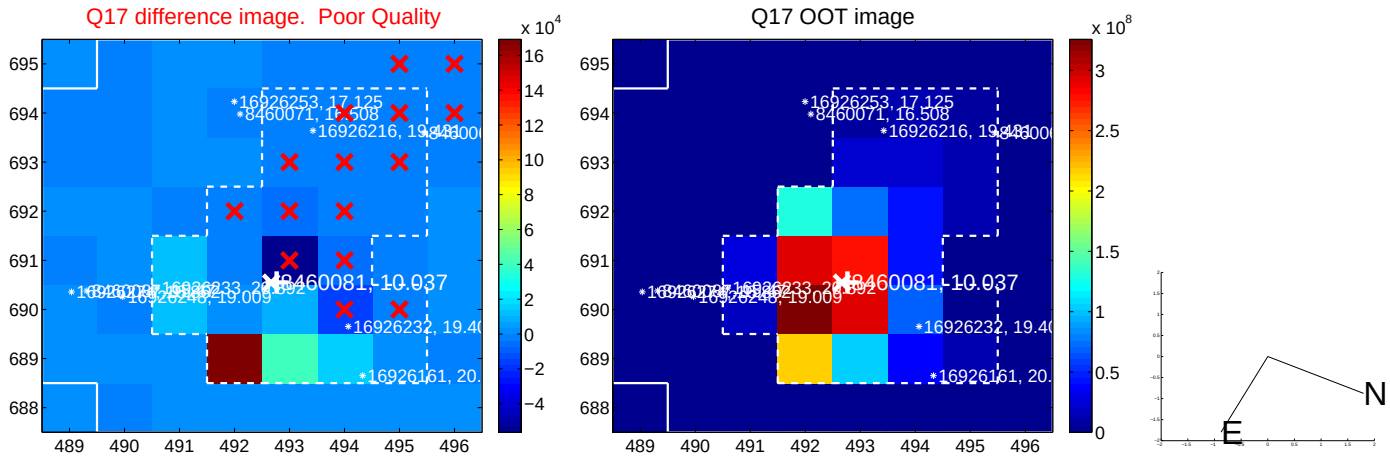
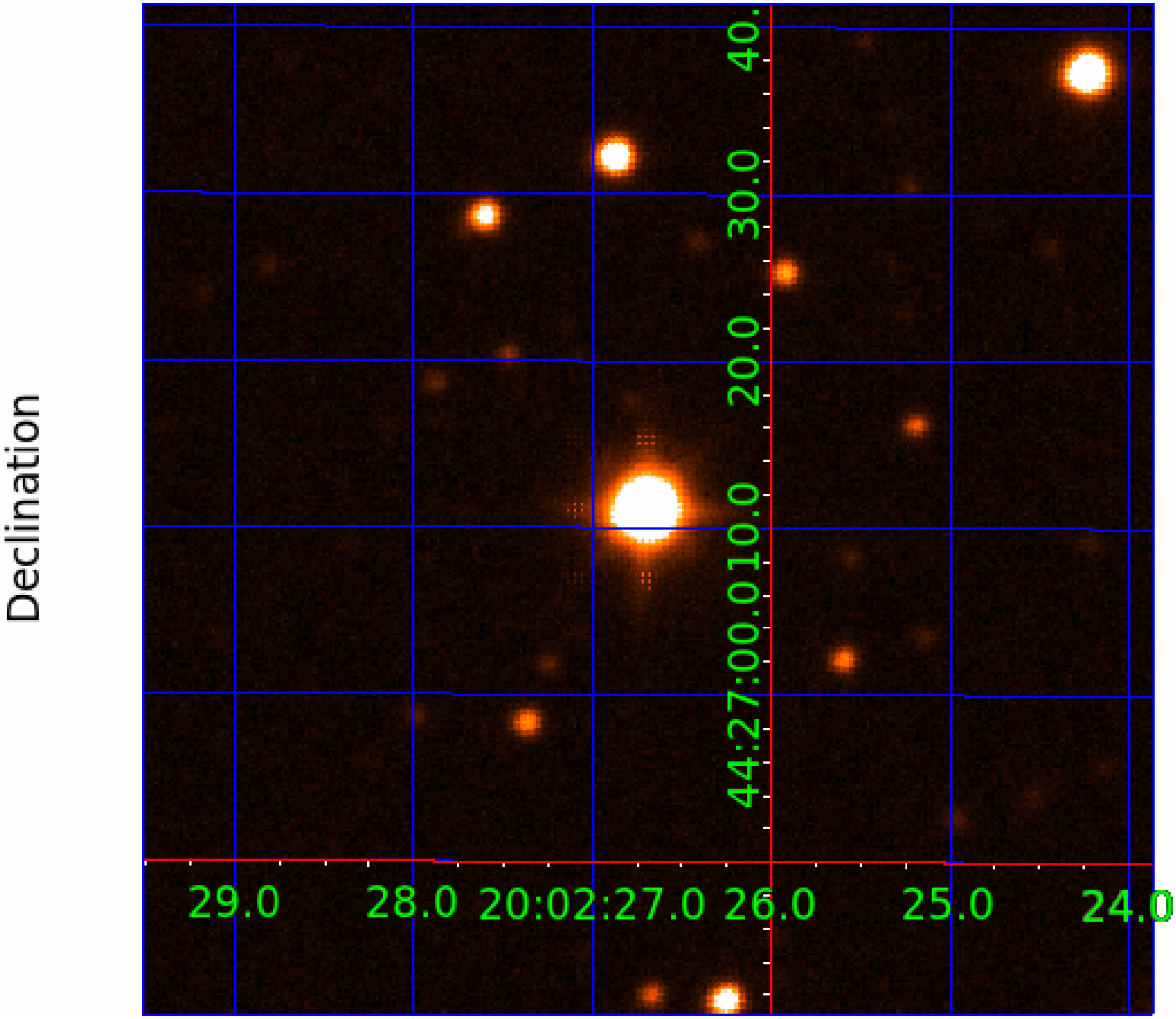


folded centroid time series figure for this object.

UKIRT Image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20.0
30.0
40.
29.0
28.0
20:02:27.0
26.0
25.0
24.0

KIC 008460081

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 ($S_\oplus$)
008460081-01	OBS	No	0.785776	132.169228	1.5	5.733	7.8	2.9	3.79	8729	0.47	142060.93
008460081-02	OBS	No	29.087848	131.522099	181.4	0.956	21.4	16.6	3.79	8729	5.51	1151.48
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008460081-04	OBS	No	23.869910	136.727999	143.5	1.312	18.5	14.6	3.79	8729	5.26	1498.78
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008460081-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008460081-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

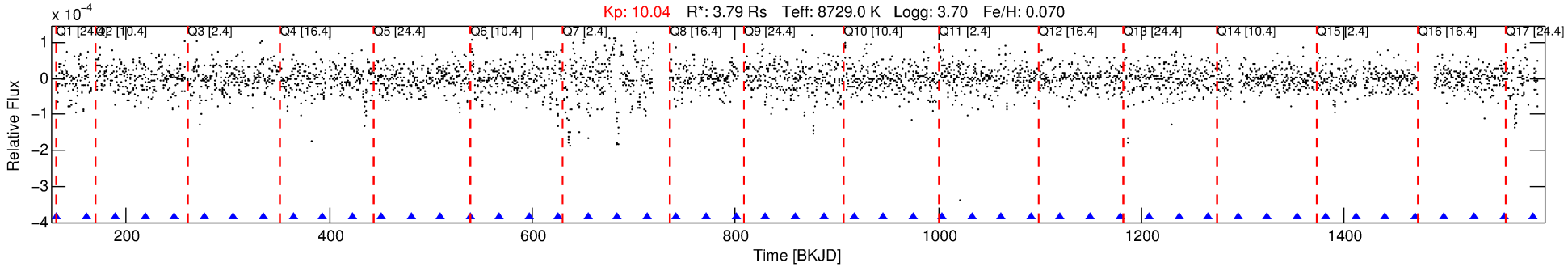
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

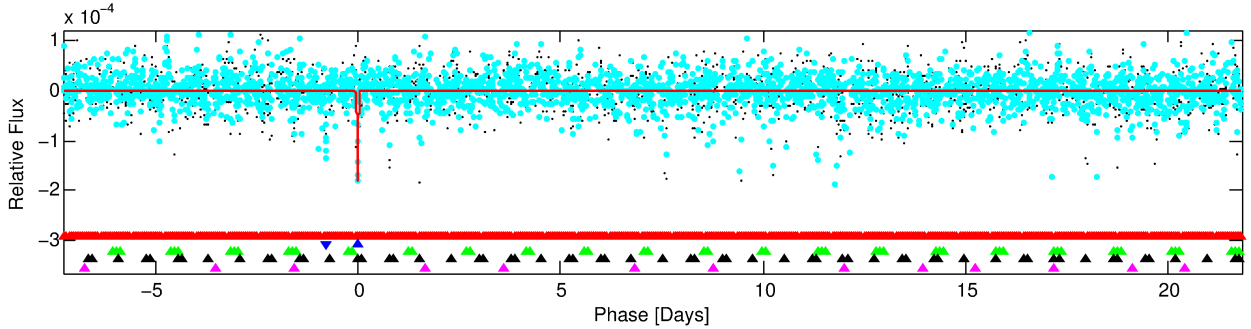
Ephemeris Match Information For 008460081-02

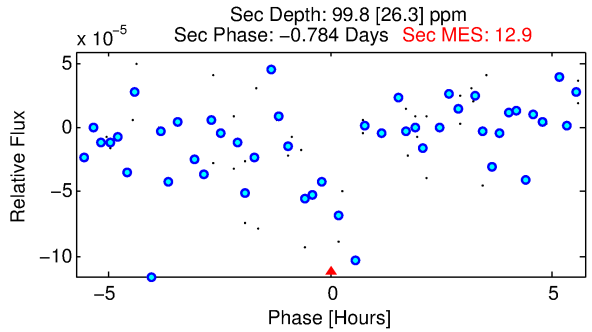
No Significant Match Found

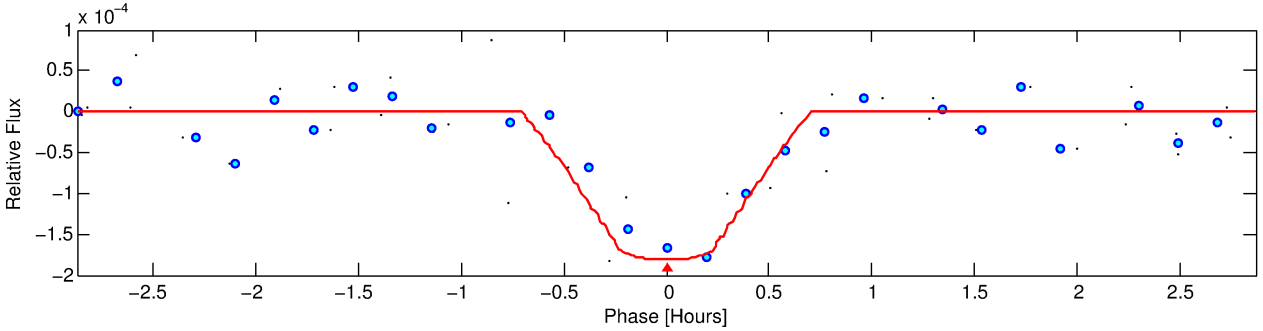
DV One-Page Summary

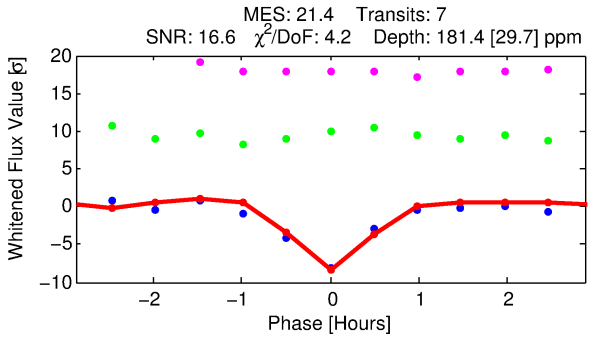
KIC: 8460081 Candidate: 2 of 5 Period: 29.088 d

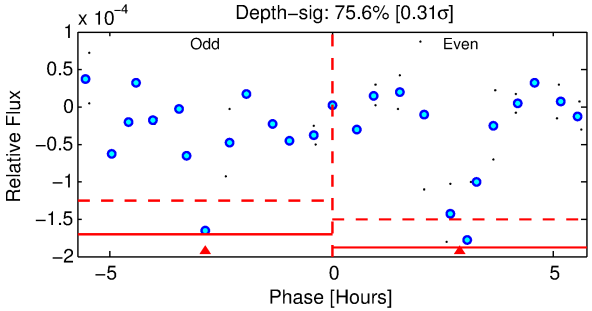


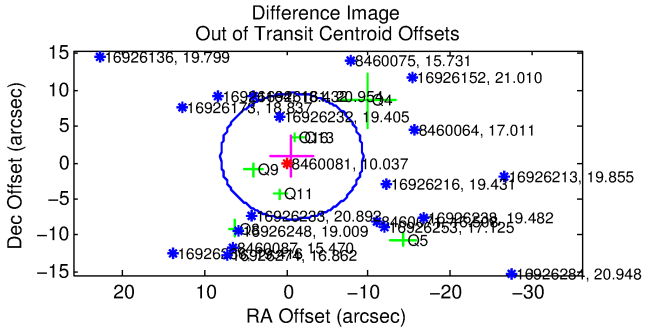












DV Fit Results:

Period = 29.08785 [0.00070] d
Epoch = 131.5221 [0.0125] BKJD
Rp/R* = 0.0133 [0.0048]
a/R* = 170.54 [372.41]
b = 0.70 [1.63]

Seff = 1151.48 [932.10]
Teq = 1485 [301] K
Rp = 5.51 [3.56] Re
a = 0.2545 [0.1274] AU

Ag = 117.04 [128.65] [0.90σ]
Teffp = 7554 [1492] K [3.99σ]

DV Diagnostic Results:

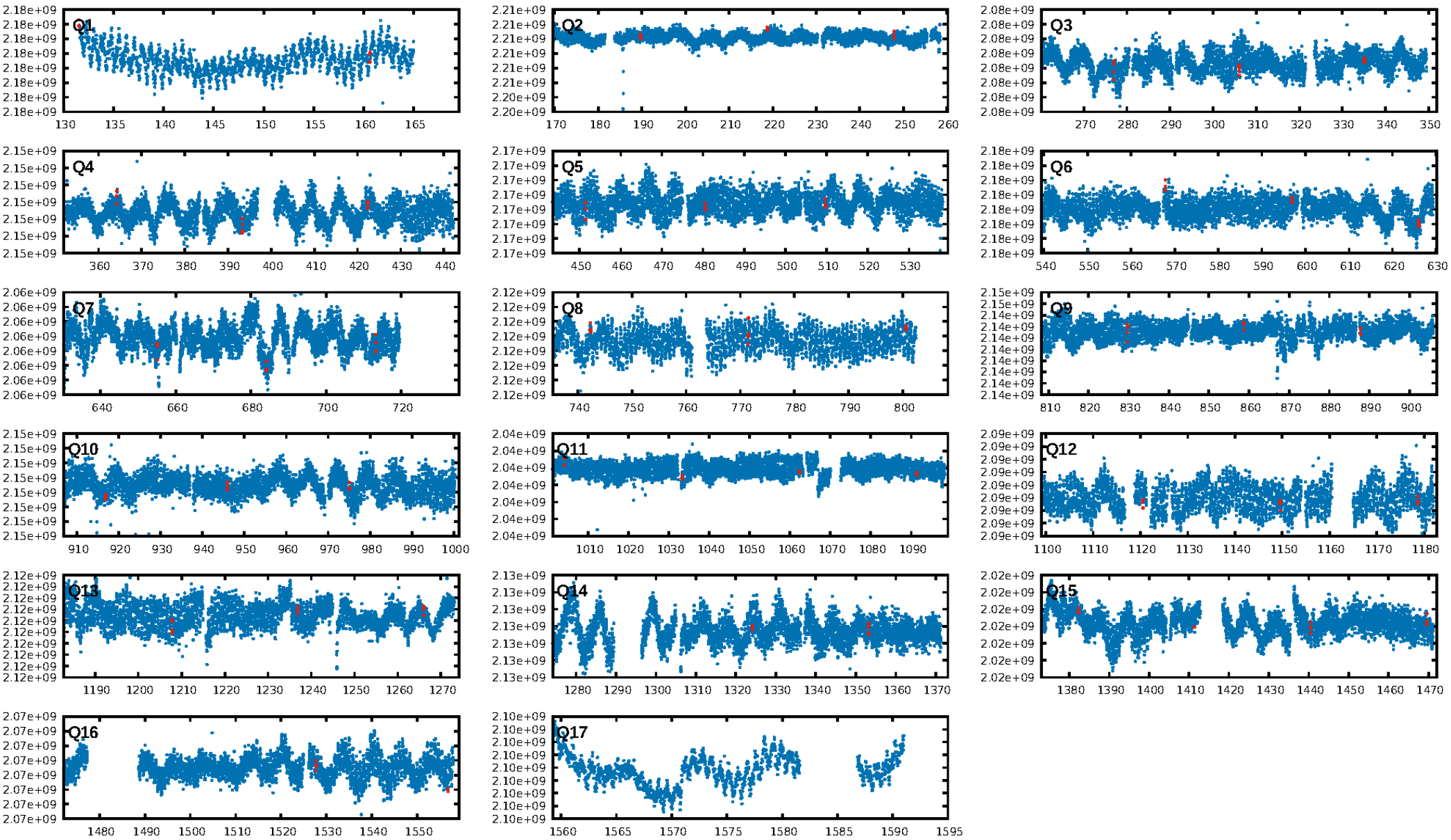
ShortPeriod−sig: 100.0% [23.66σ]
LongPeriod−sig: 100.0% [888.78σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 2.4%
Bootstrap−pfa: 1.36e−26
RollingBand−fgt: 1.00 [7/7]
GhostDiagnostic−chr: N/A

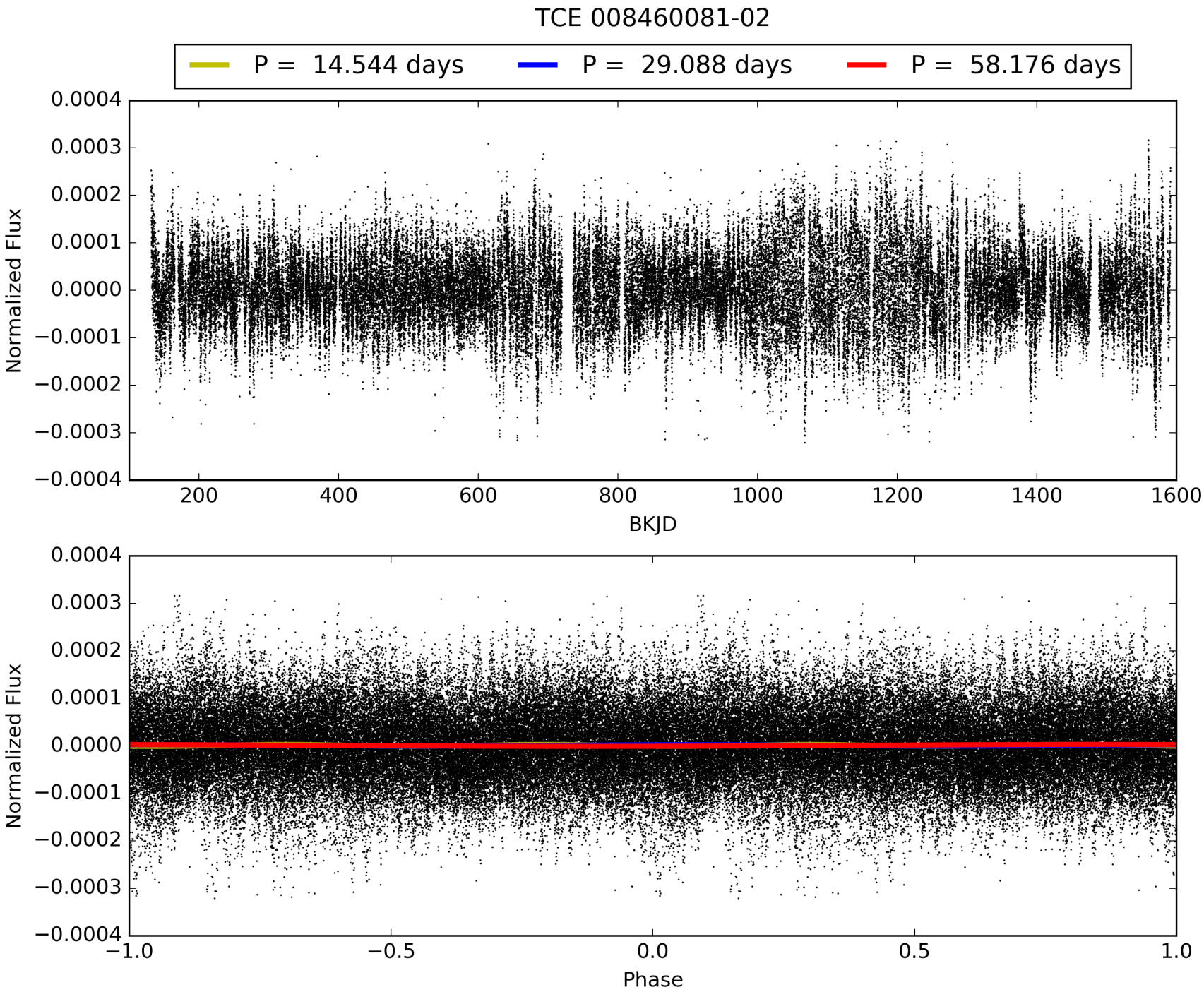
Centroid−sig: 25.1%
Centroid−so: 0.219 arcsec [0.42σ]
OotOffset−rm: 1.109 arcsec [0.38σ]
KicOffset−rm: 1.307 arcsec [0.65σ]
OotOffset−st: 0/1/3/3 [7]
KicOffset−st: 0/1/3/3 [7]
DiffImageQuality−fgm: 0.00 [0/7]
DiffImageOverlap−fno: 0.19 [3/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 04:58:56 Z

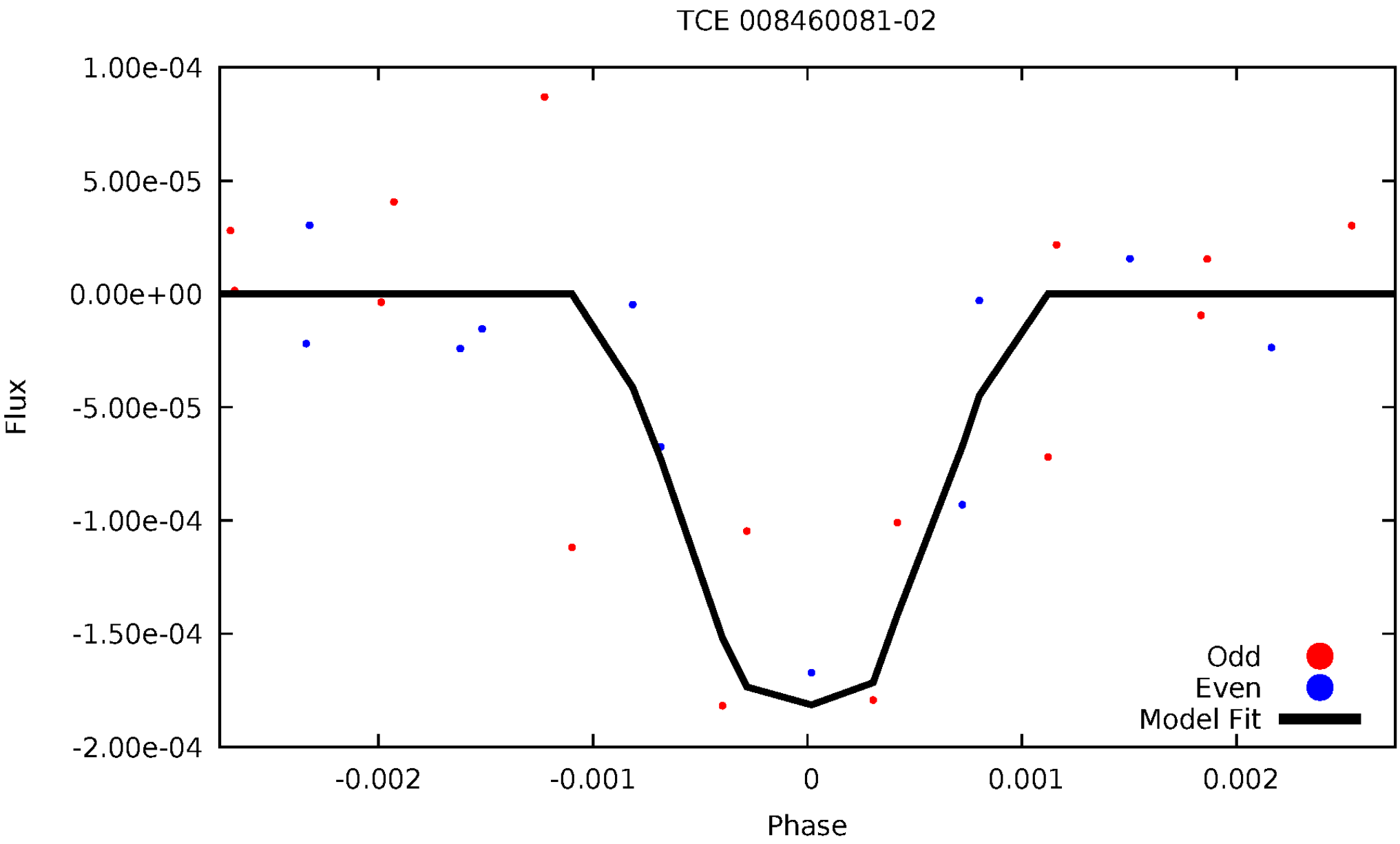
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008460081-02, PDC Light Curves

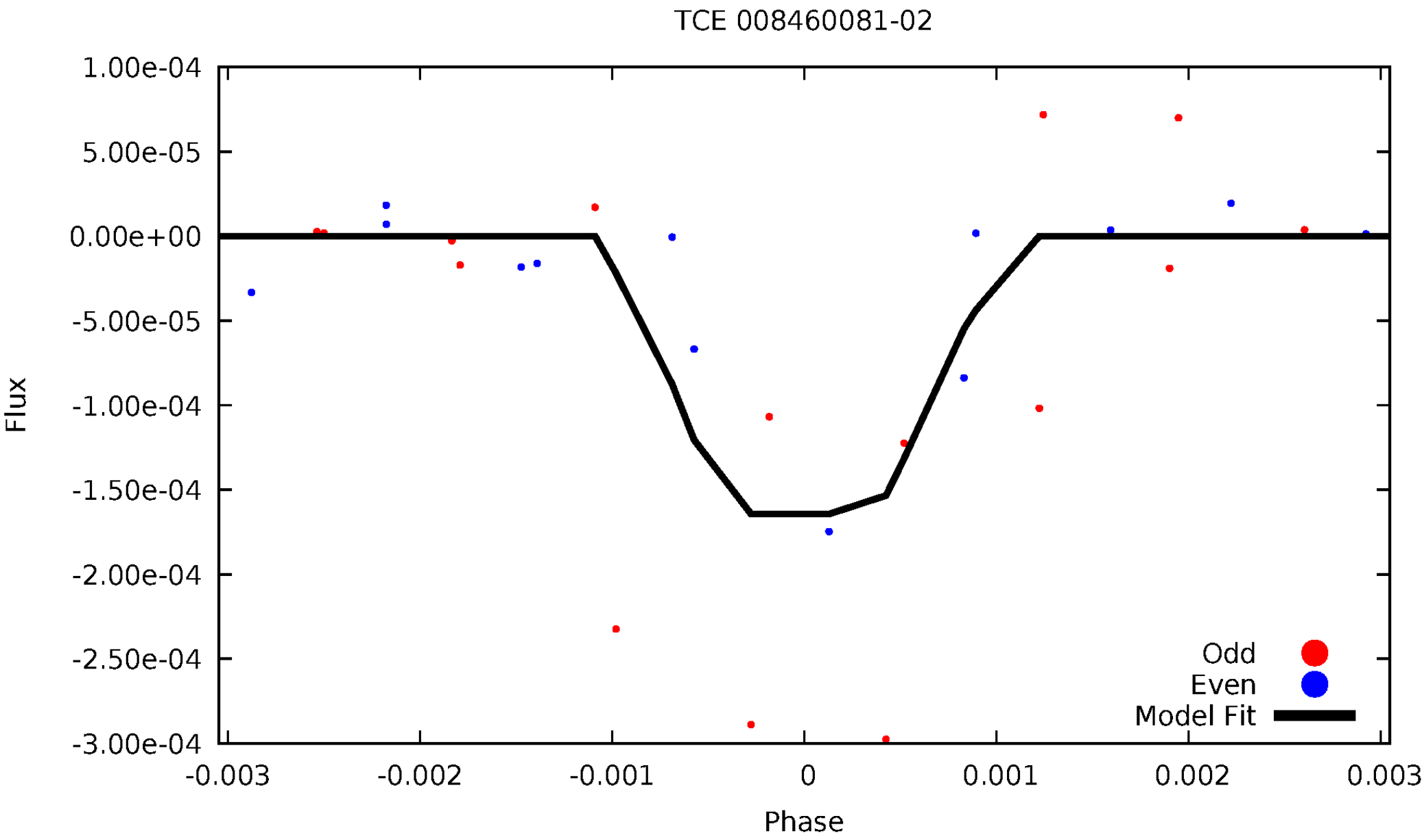



TCE 008460081-02
P = 14.544 days
P = 29.088 days
P = 58.176 days
Normalized Flux
BKJD
Normalized Flux
Phase

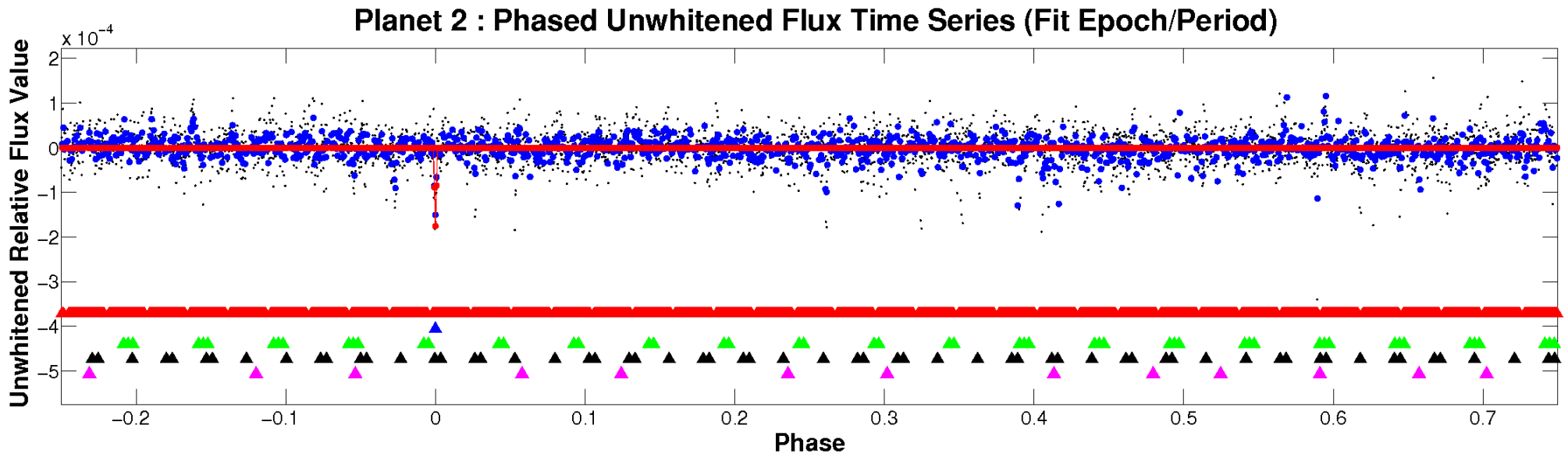
DV Odd/Even

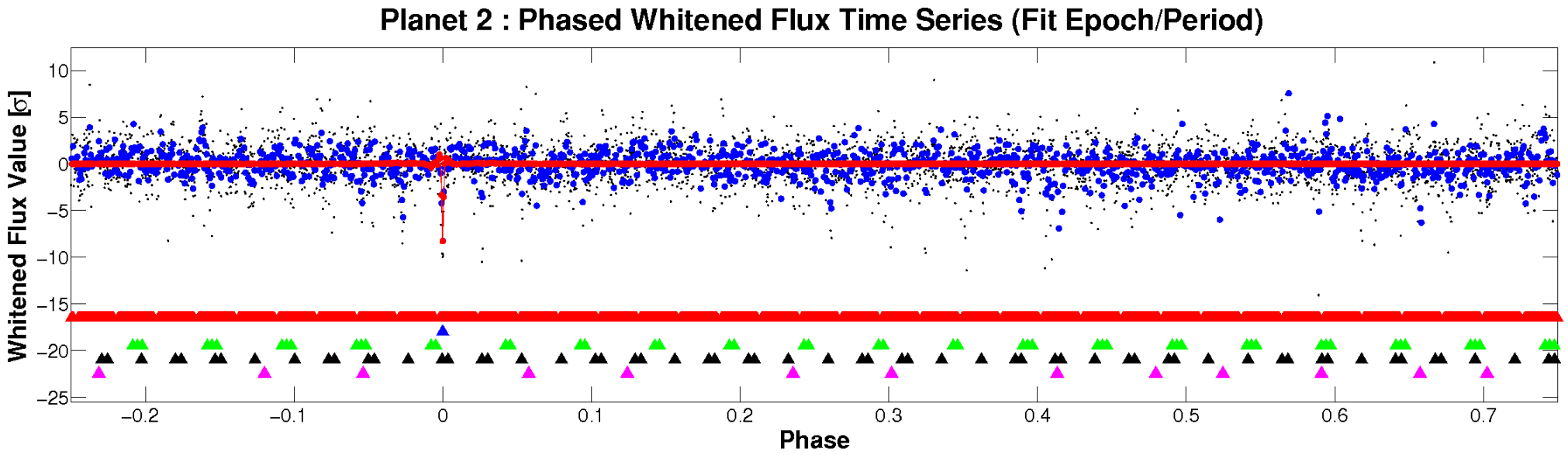

TCE 008460081-02
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008460081-02
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
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

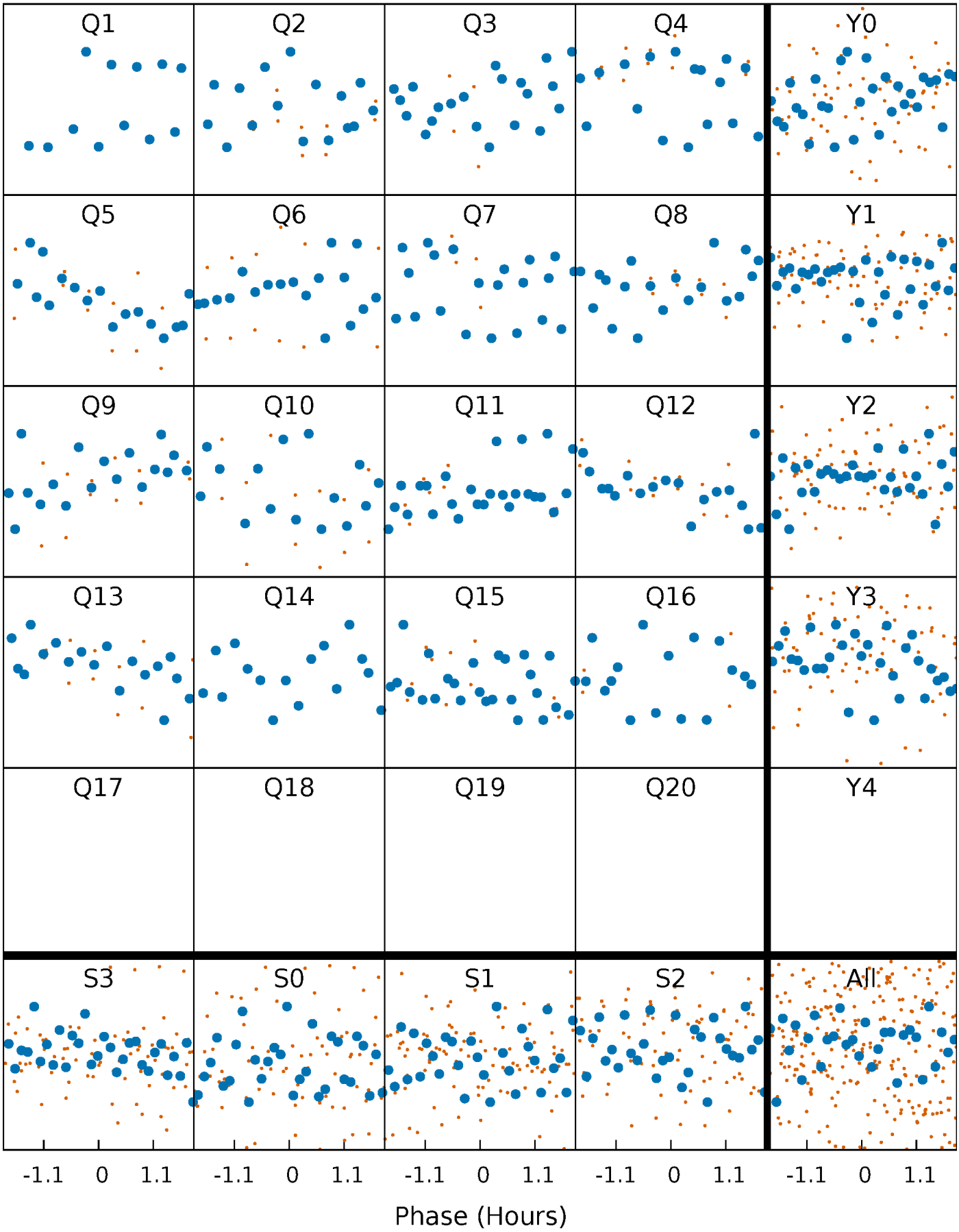
Non-Whitened Vs. Whitened Light Curve





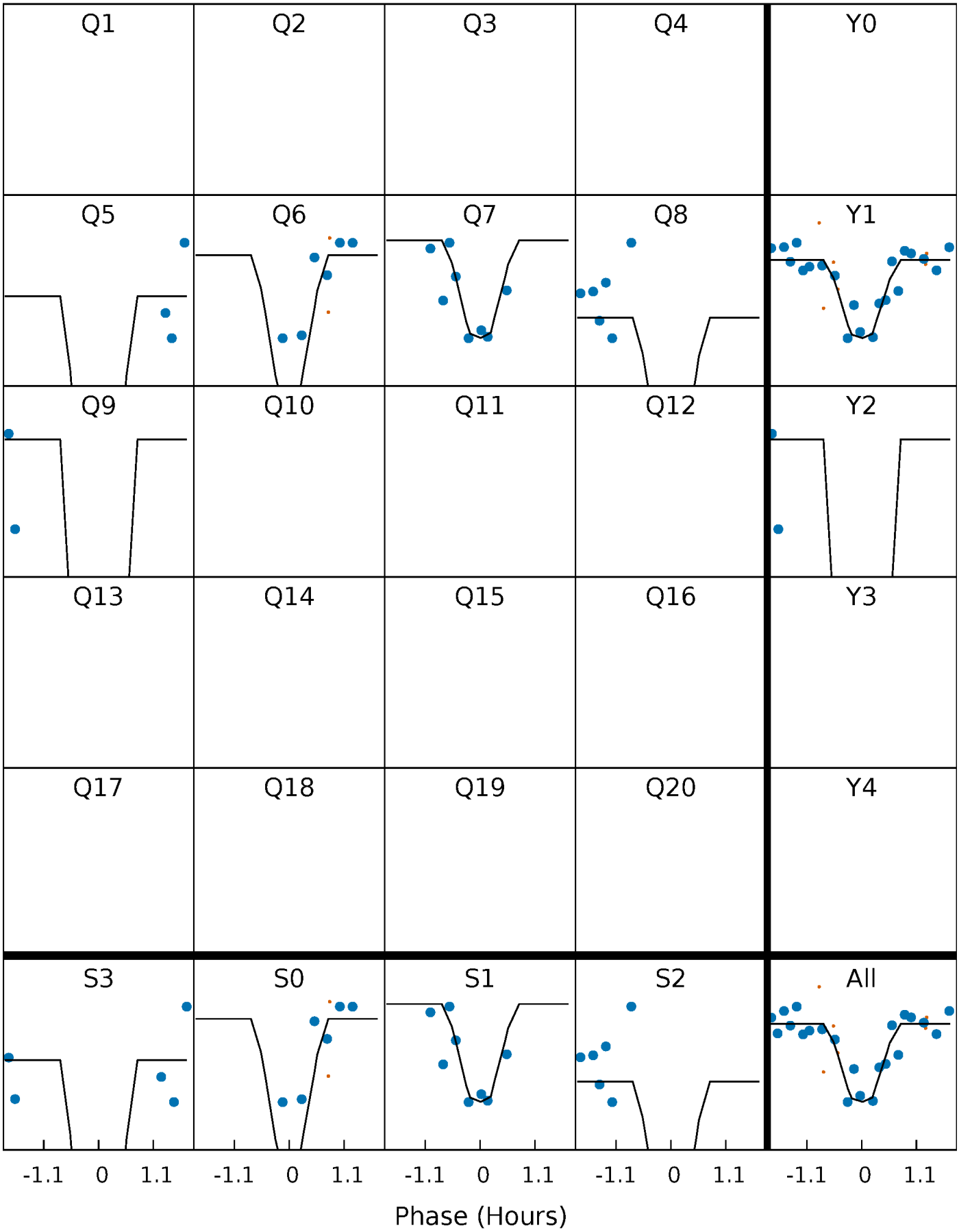
PDC Quarter-Phased Transit Curves

TCE 008460081-02 P= 29.087848 Days T_0=131.522099 (BKJD)



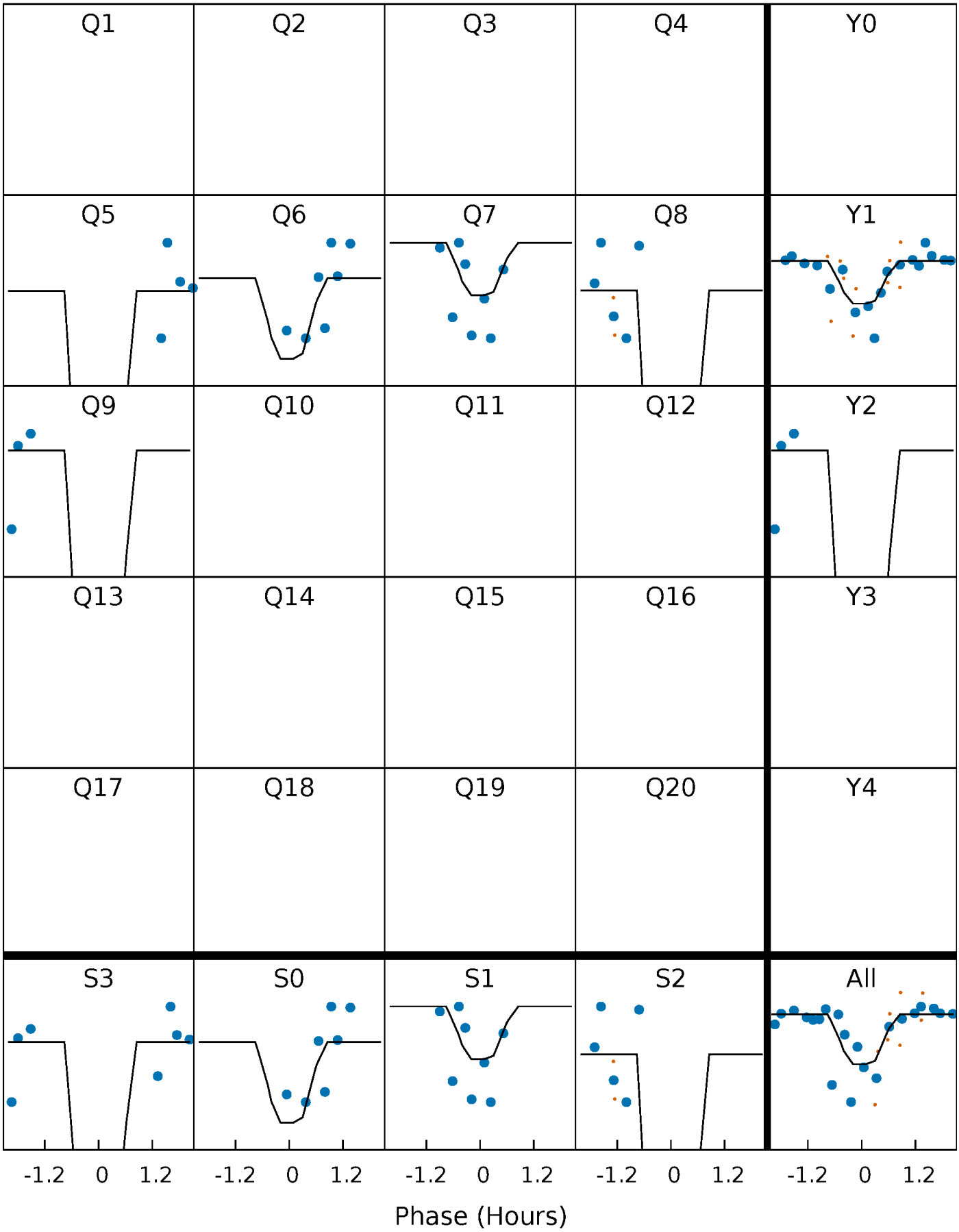
DV Quarter-Phased Transit Curves

TCE 008460081-02 P= 29.087848 Days T_0=131.522099 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

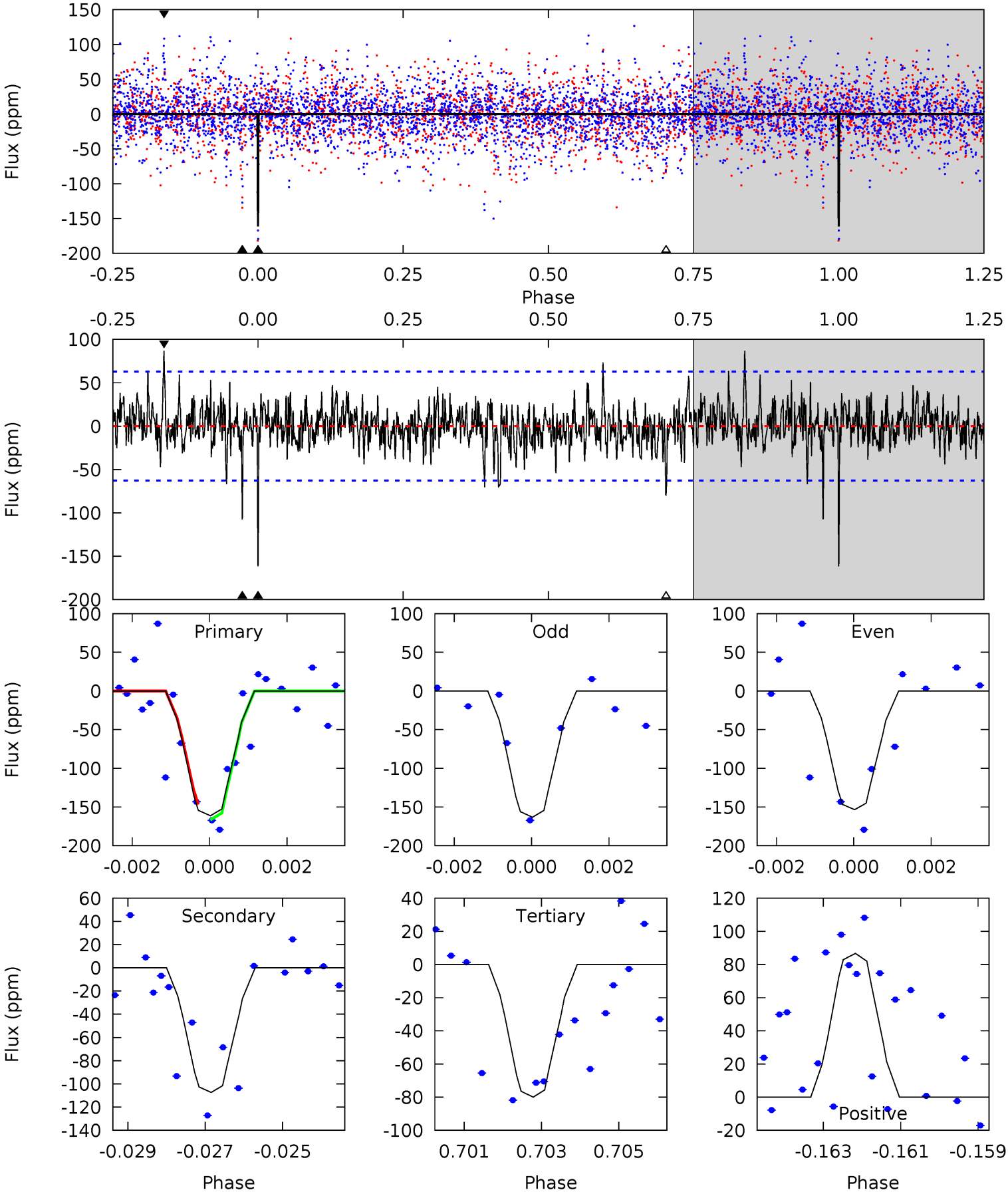
TCE 008460081-02 P= 29.087595 Days T_0=131.523474 (BKJD)



DV Model-Shift Uniqueness Test

008460081-02, P = 29.087848 Days, E = 131.522099 Days

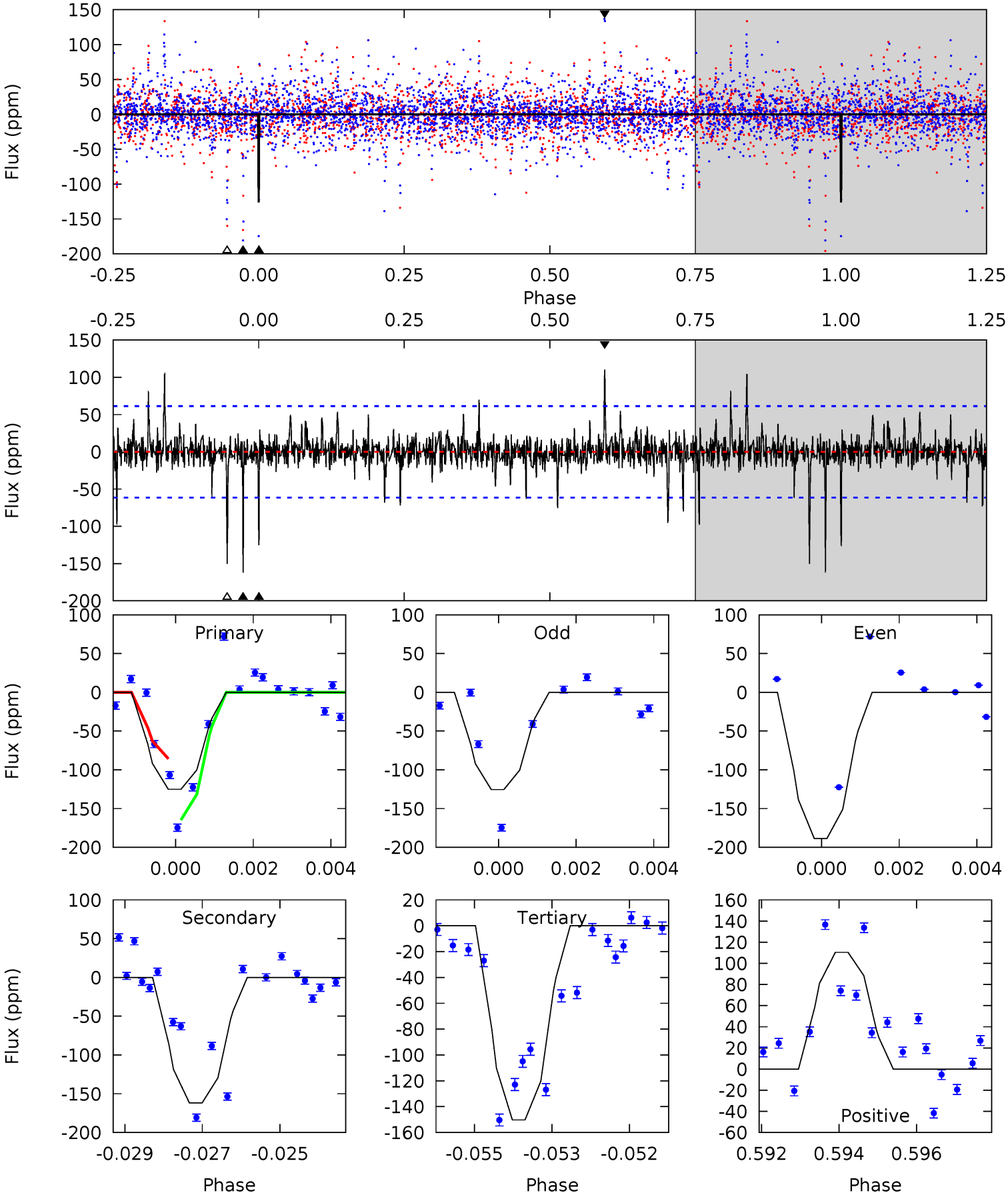
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	9.11	6.79	7.36	5.33	3.10	1.56	6.91	6.34	2.32	1.76	0.40	0.94	0.35	0.83



Alt Model-Shift Uniqueness Test

008460081-02, P = 29.087595 Days, E = 131.523474 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	14.1	13.1	9.60	5.34	3.10	1.48	-2.18	1.28	1.01	4.47	2.36	1.30	0.41	3.26



Stellar Parameters For KIC 008460081

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	8729^{+240}_{-411}	$3.696^{+0.457}_{-0.152}$	$0.070^{+0.250}_{-0.600}$	$3.786^{+0.869}_{-2.029}$	$2.593^{+0.313}_{-1.002}$	$0.067^{+0.381}_{-0.025}$
	+3%/-5%	+12%/-4%	+357%/-857%	+23%/-54%	+12%/-39%	+566%/-37%
Source	KIC0	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 008460081-02 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-107±12	$4.96^{+2.29}_{-2.14}$	2020^{+175}_{-261}	7471^{+2691}_{-1230}	154^{+272}_{-85}
Alt.	-162±12	$4.86^{+2.21}_{-2.06}$	2011^{+184}_{-260}	8668^{+3426}_{-1538}	242^{+466}_{-126}

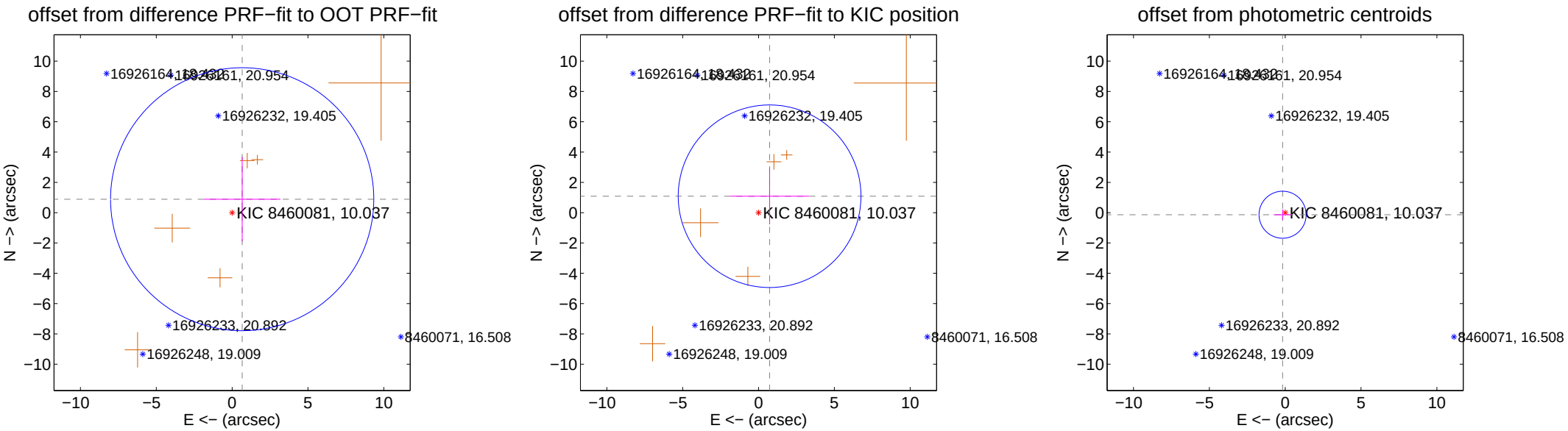
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

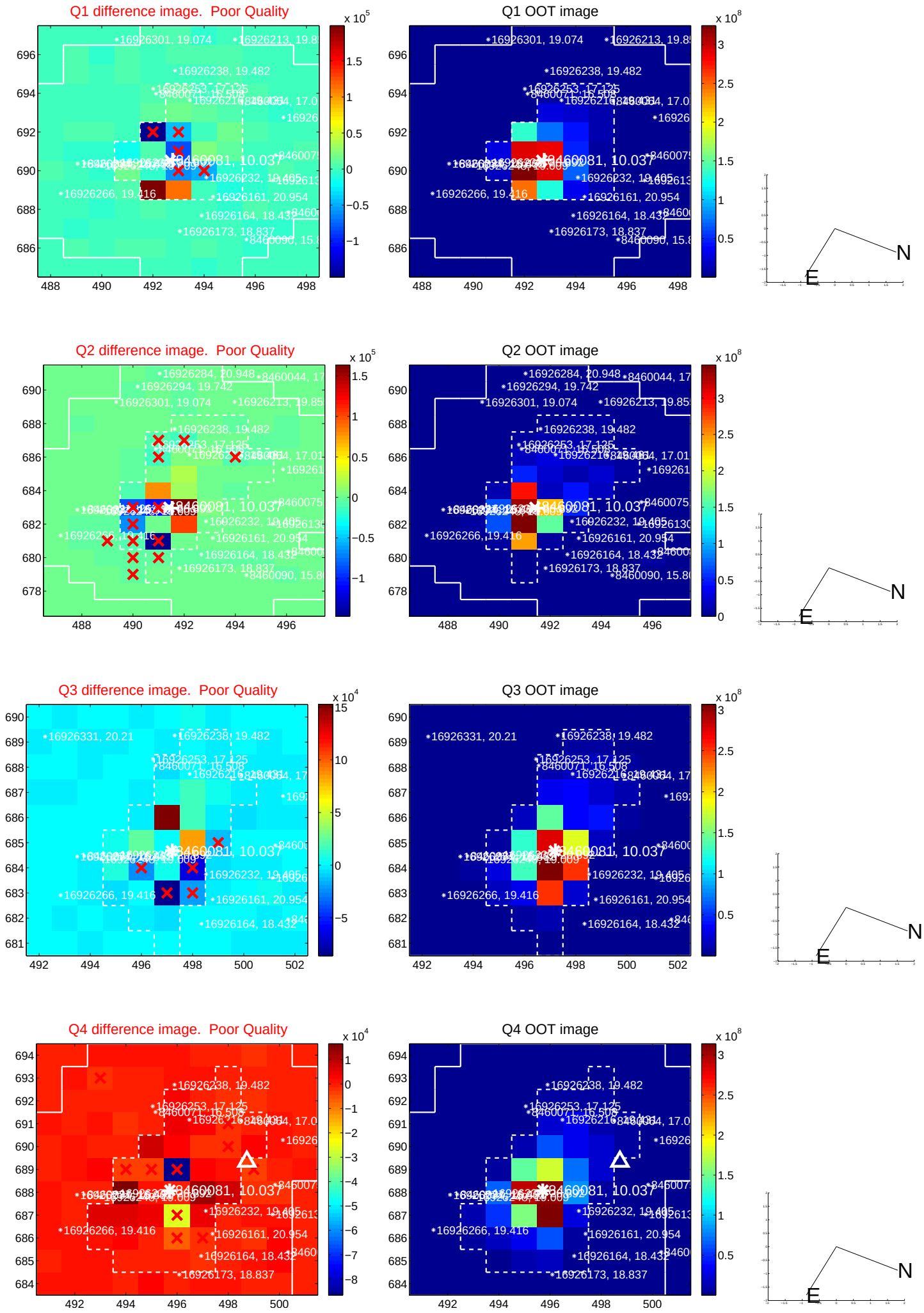
Supplemental centroid analysis for 008460081-02. Kepler magnitude: 10.04. Transit SNR 16.64
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.109 ± 2.892	0.38	-0.663 ± 2.525	0.889 ± 2.779
PRF-fit source offset from KIC position	1.307 ± 2.007	0.65	-0.730 ± 2.597	1.085 ± 1.855
photometric centroid source offset	0.22 ± 0.52	0.42	0.17 ± 0.60	-0.13 ± 0.34

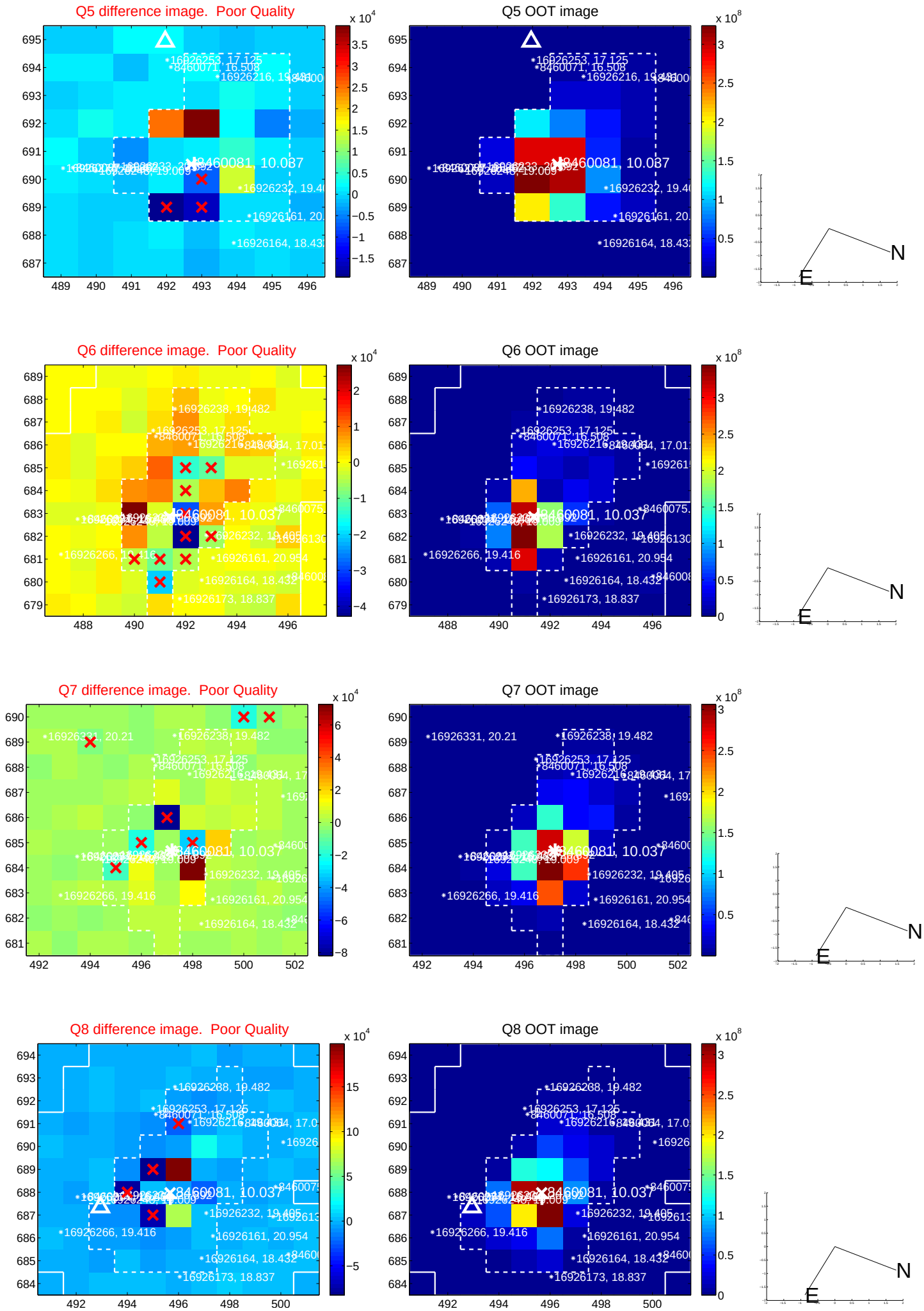


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

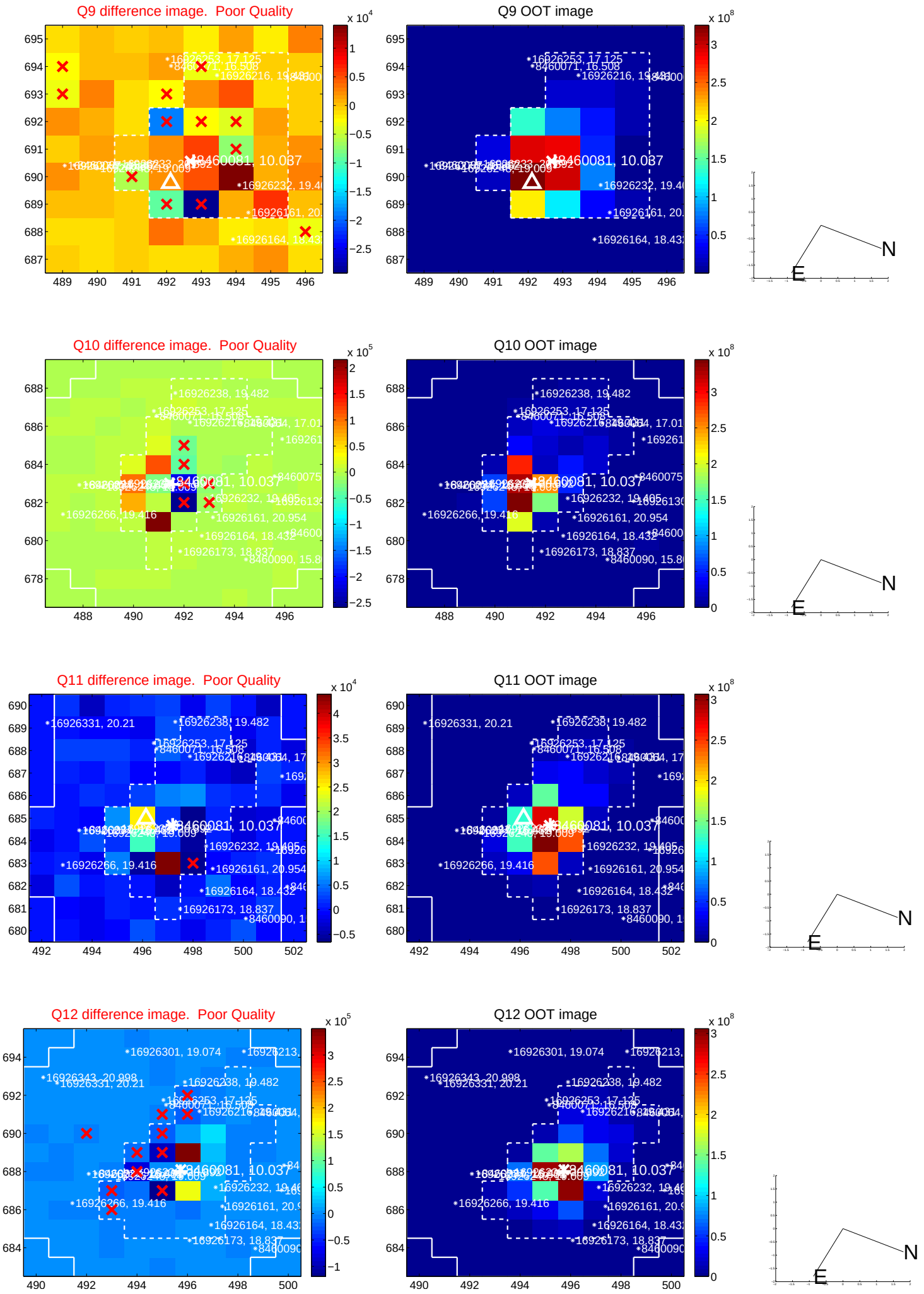
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



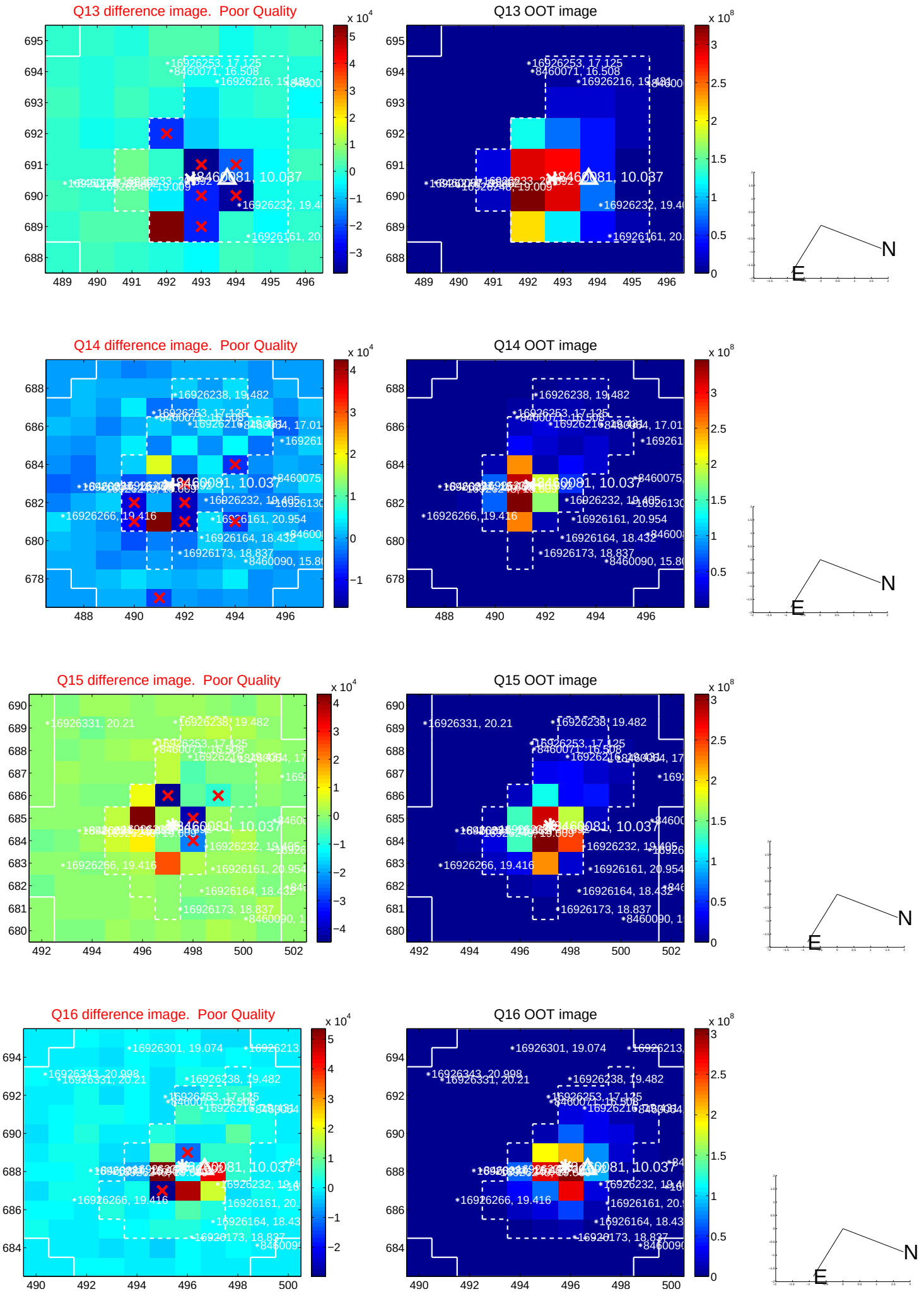
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



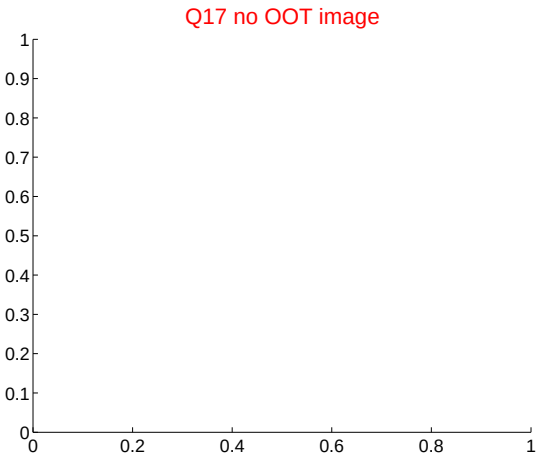
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

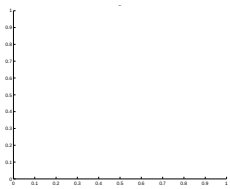


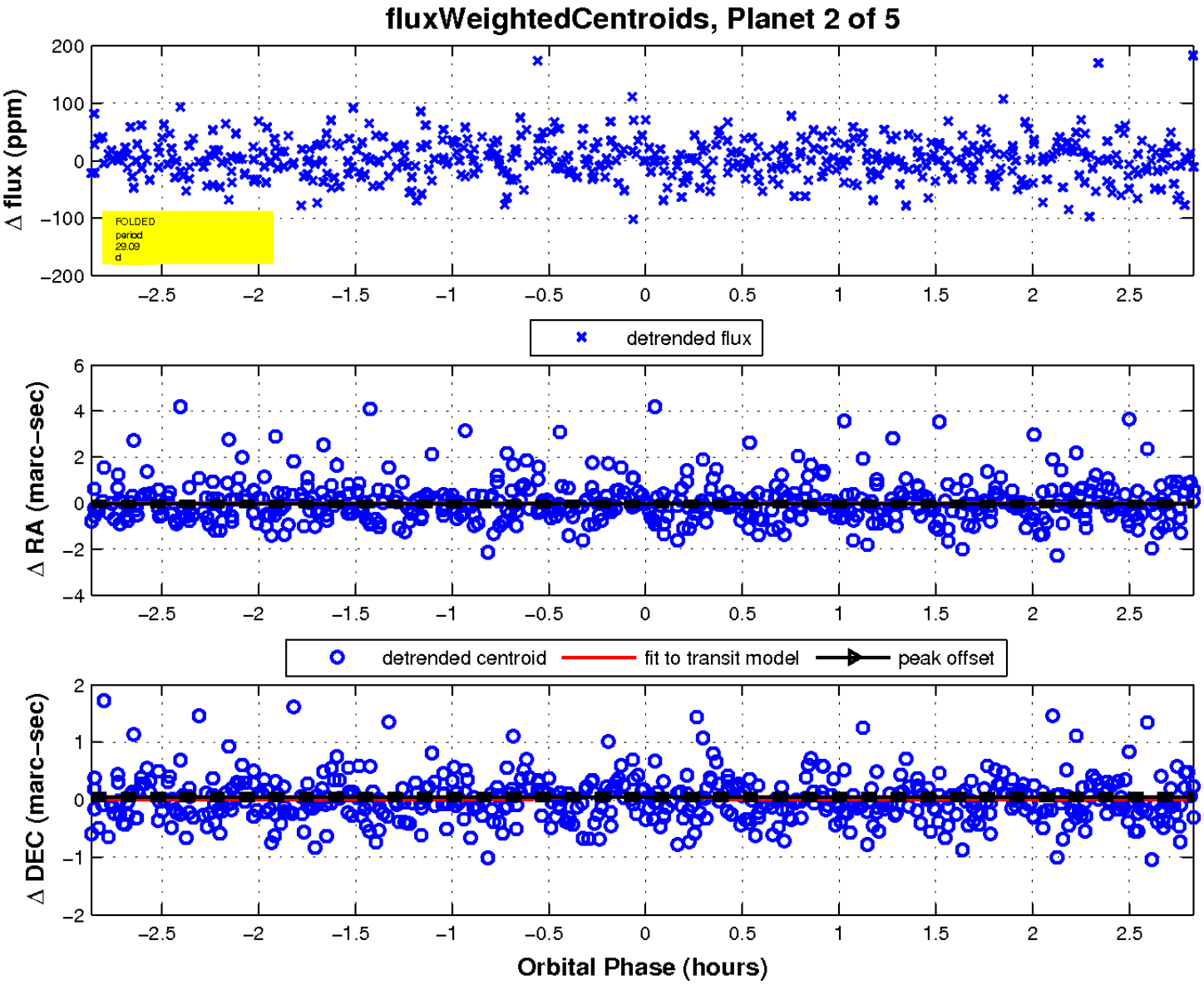
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



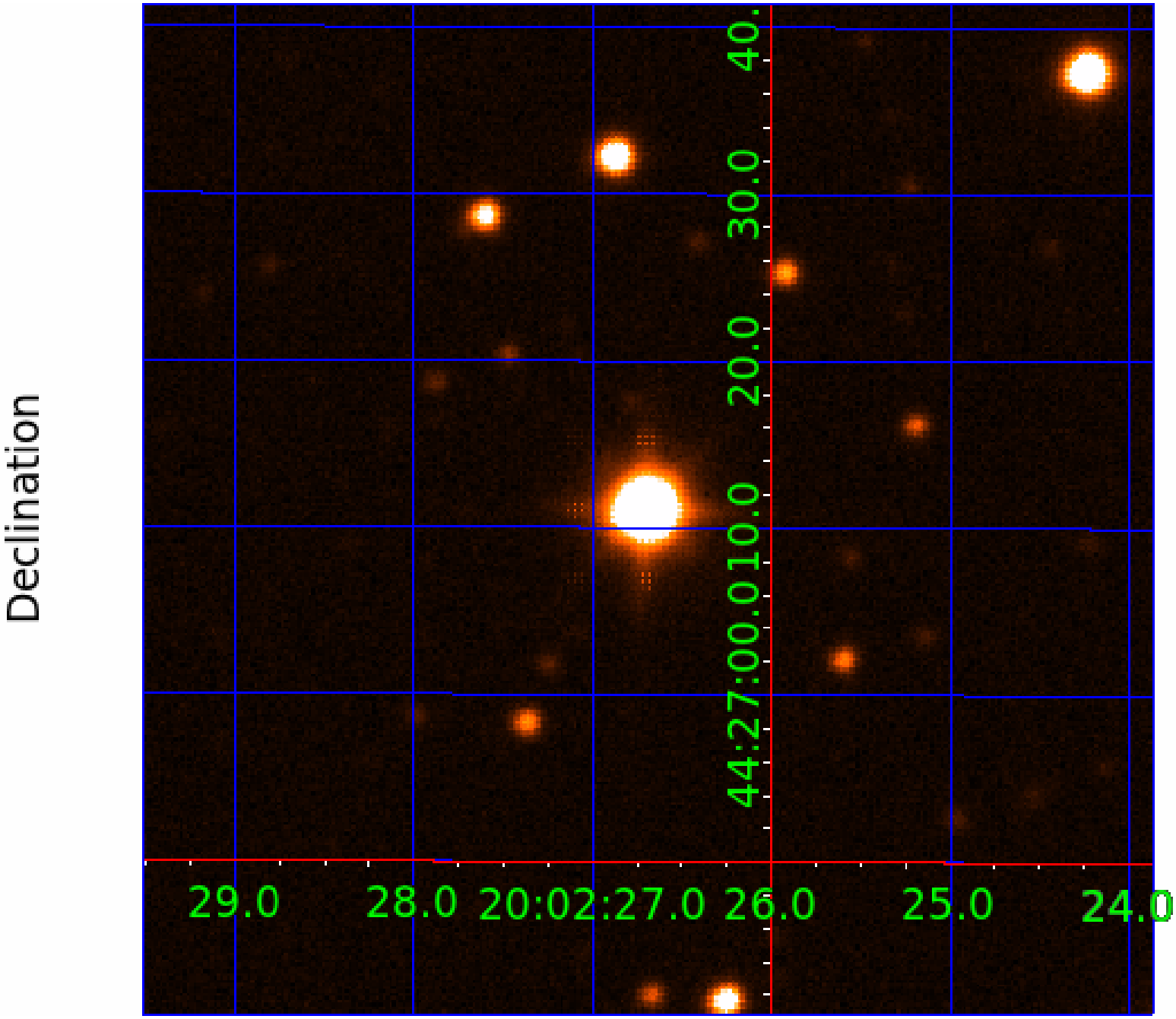
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image


Declination
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10.0
20.0
30.0
40.
29.0
28.0
20:02:27.0
26.0
25.0
24.0

KIC 008460081

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 ($S_\oplus$)
008460081-01	OBS	No	0.785776	132.169228	1.5	5.733	7.8	2.9	3.79	8729	0.47	142060.93
008460081-02	OBS	No	29.087848	131.522099	181.4	0.956	21.4	16.6	3.79	8729	5.51	1151.48
008460081-03	OBS	No	27.628897	159.105985	145.7	1.130	14.1	12.7	3.79	8729	4.69	1233.26
008460081-04	OBS	No	23.869910	136.727999	143.5	1.312	18.5	14.6	3.79	8729	5.26	1498.78
008460081-05	OBS	No	111.181991	150.642448	131.2	2.000	13.0	-1.0	3.79	8729	4.42	192.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008460081-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008460081-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

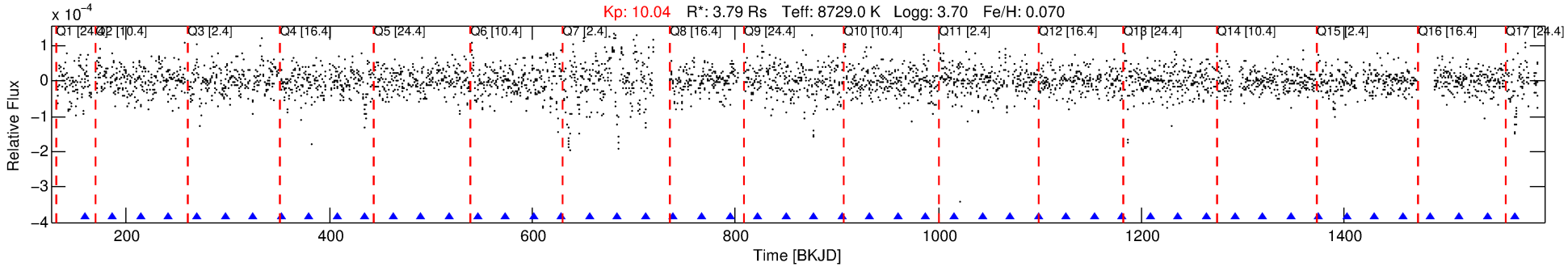
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

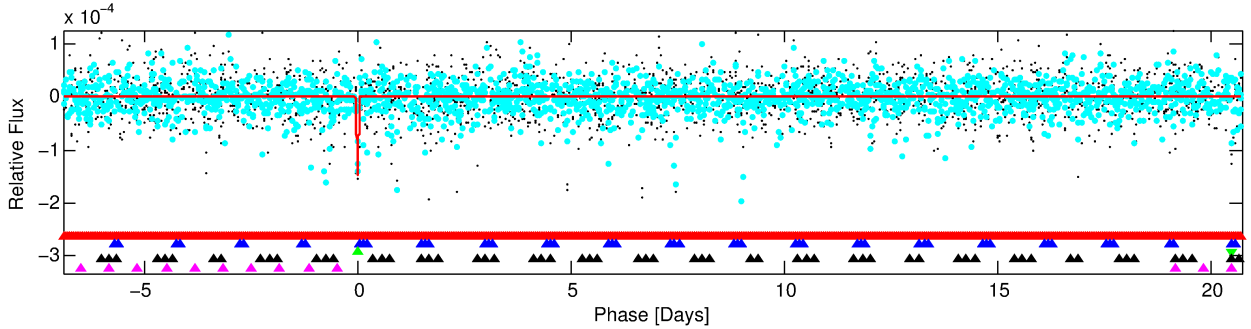
Ephemeris Match Information For 008460081-03

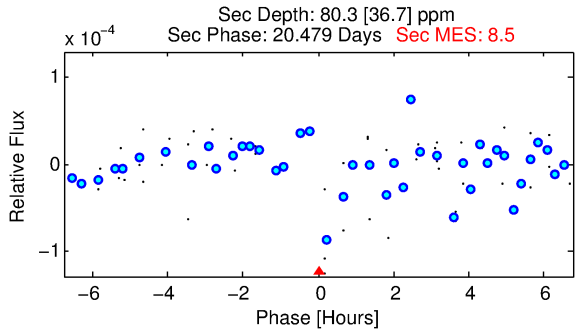
No Significant Match Found

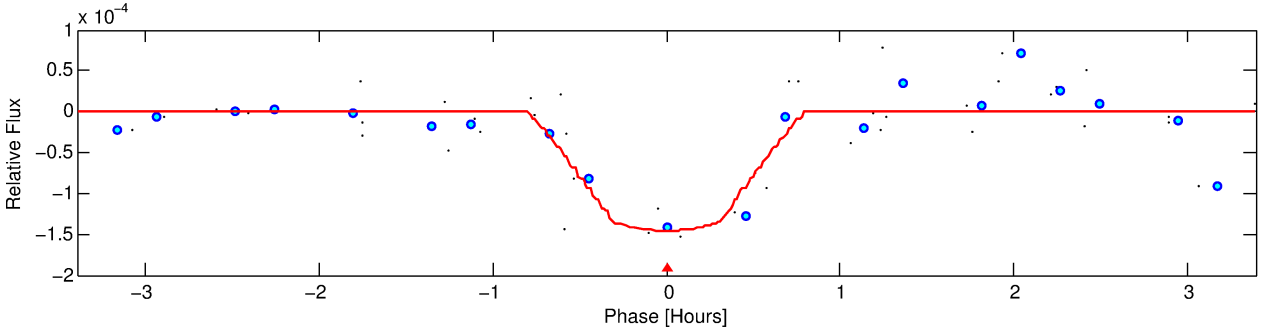
DV One-Page Summary

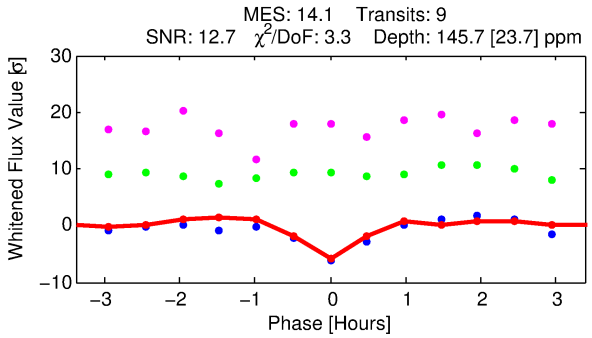
KIC: 8460081 Candidate: 3 of 5 Period: 27.629 d

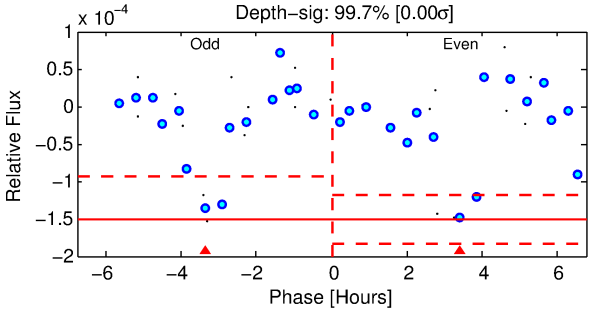


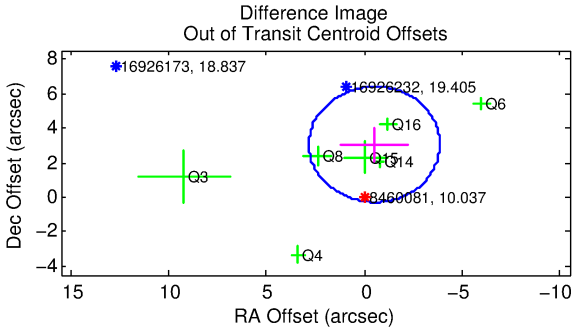












DV Fit Results:

Period = 27.62890 [0.00014] d
Epoch = 159.1060 [0.0040] BKJD
Rp/R* = 0.0113 [0.0161]
a/R* = 184.22 [1622.66]
b = 0.22 [37.44]

Seff = 1233.26 [998.30]
Teq = 1511 [306] K
Rp = 4.69 [7.12] Re
a = 0.2459 [0.1231] AU

Ag = 121.50 [362.50] [0.33σ]
Teffp = 7757 [5593] K [1.12σ]

DV Diagnostic Results:

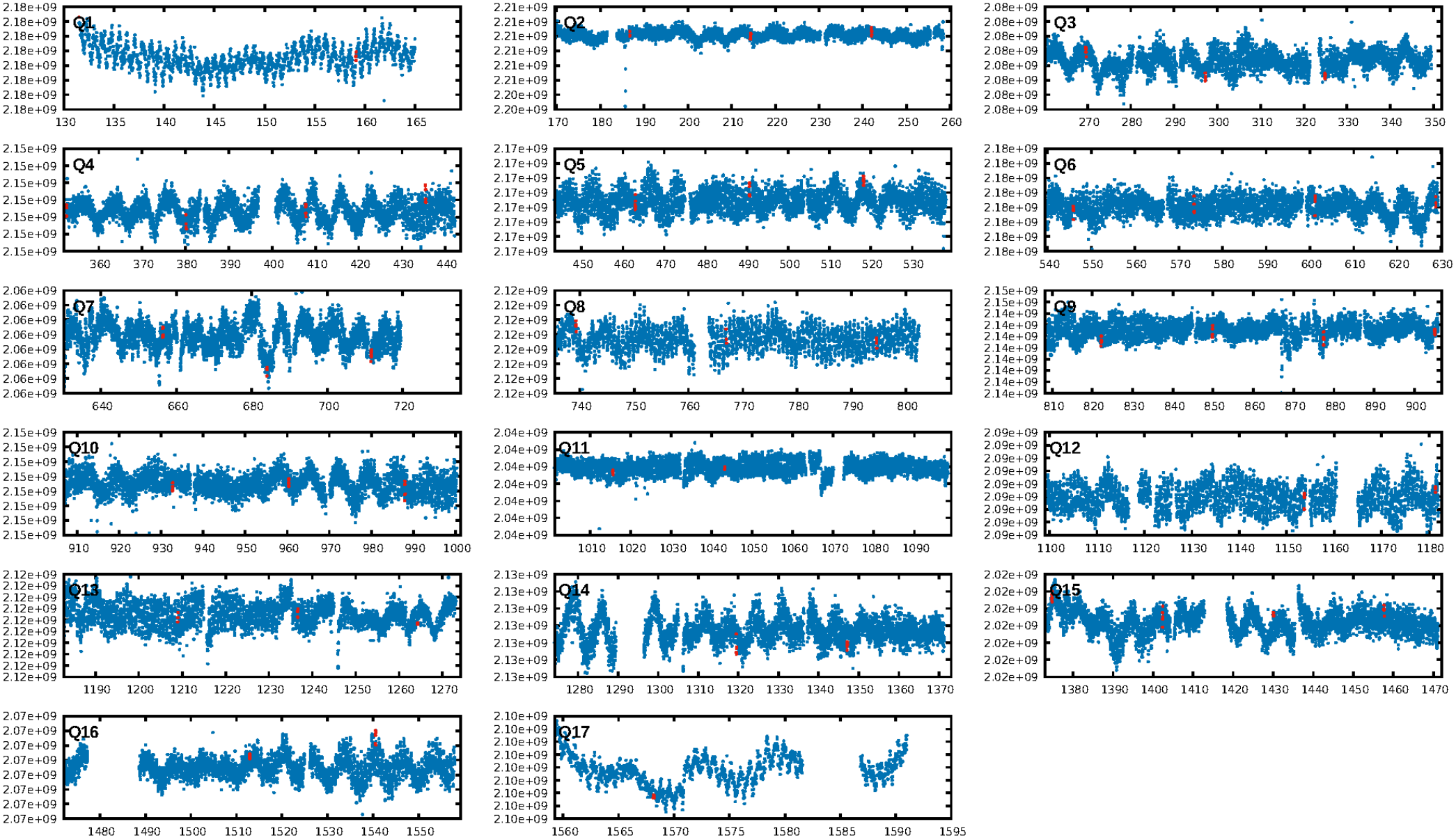
ShortPeriod−sig: 100.0% [52.11σ]
LongPeriod−sig: 100.0% [23.66σ]
ModelChiSquare2−sig: 4.8%
ModelChiSquareGof−sig: 64.0%
Bootstrap−pfa: 4.50e−16
RollingBand−fgt: 1.00 [8/8]
GhostDiagnostic−chr: N/A

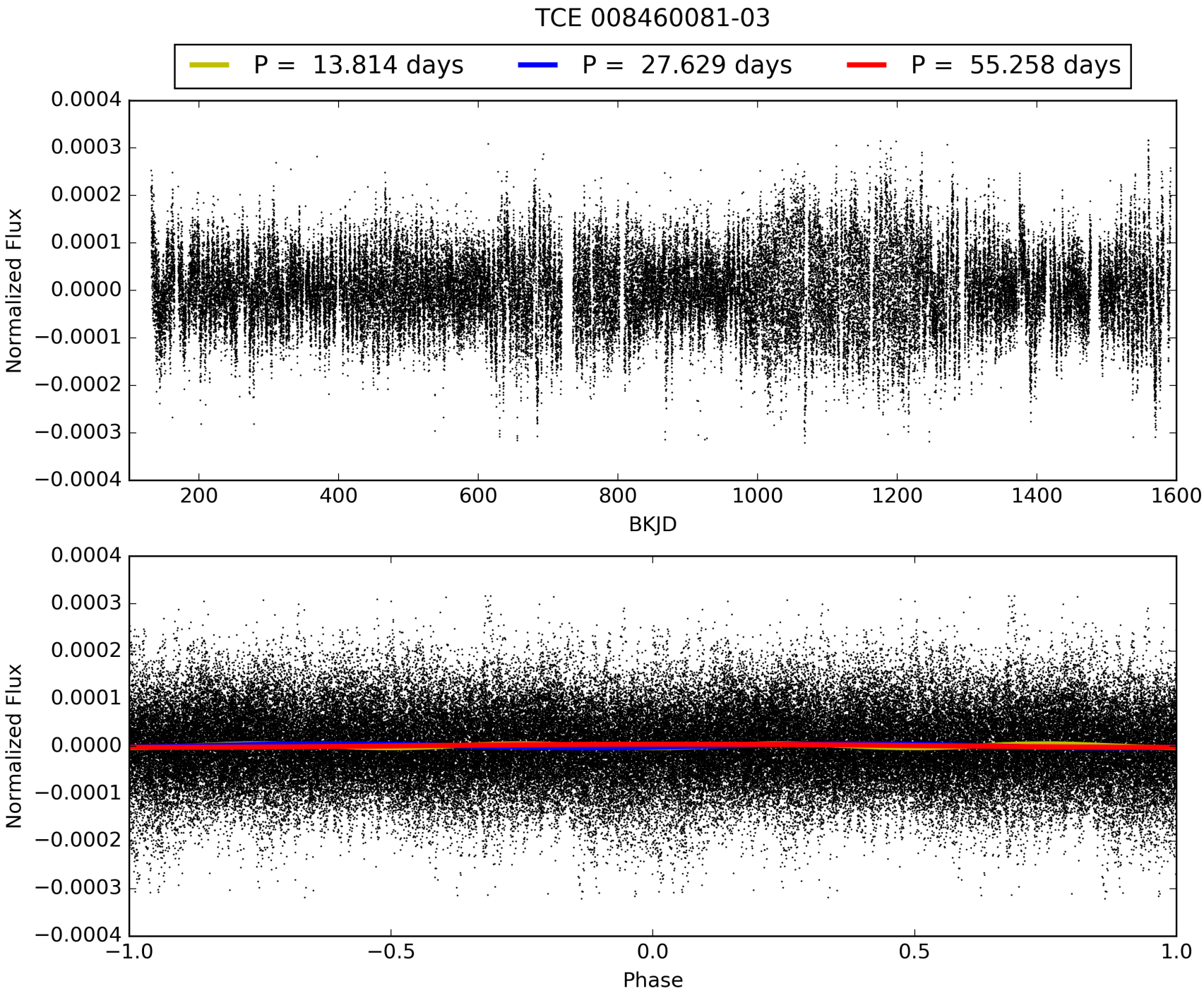
Centroid−sig: 4.3%
Centroid−so: 1.261 arcsec [1.86σ]
OotOffset−rm: 3.097 arcsec [2.78σ]
KicOffset−rm: 2.590 arcsec [1.84σ]
OotOffset−st: 2/2/3/0 [7]
KicOffset−st: 2/2/3/0 [7]
DiffImageQuality−fgm: 0.14 [1/7]
DiffImageOverlap−fno: 0.41 [7/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 04:59:00 Z

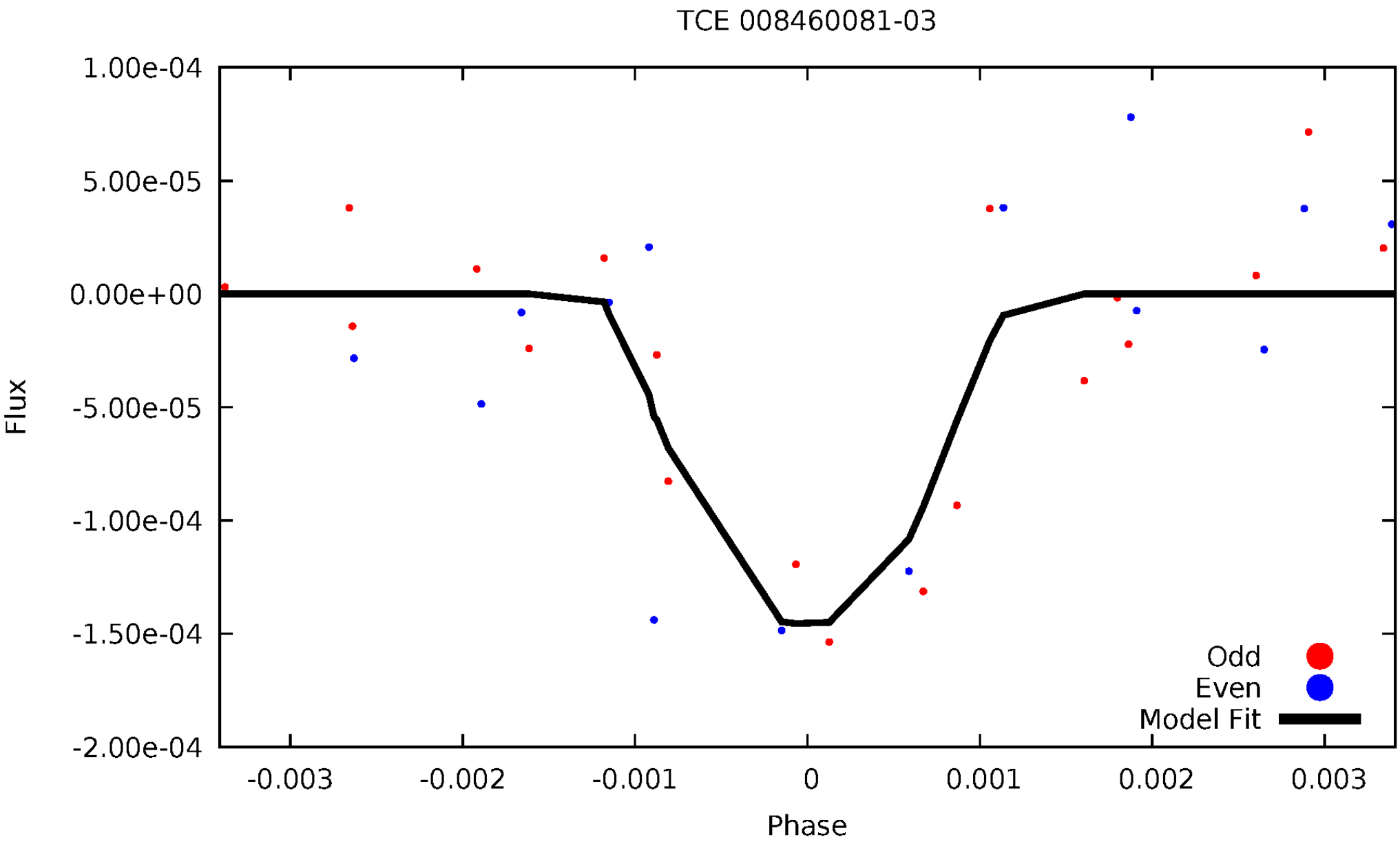
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008460081-03, PDC Light Curves




TCE 008460081-03
P = 13.814 days
P = 27.629 days
P = 55.258 days
Normalized Flux
BKJD
Normalized Flux
Phase

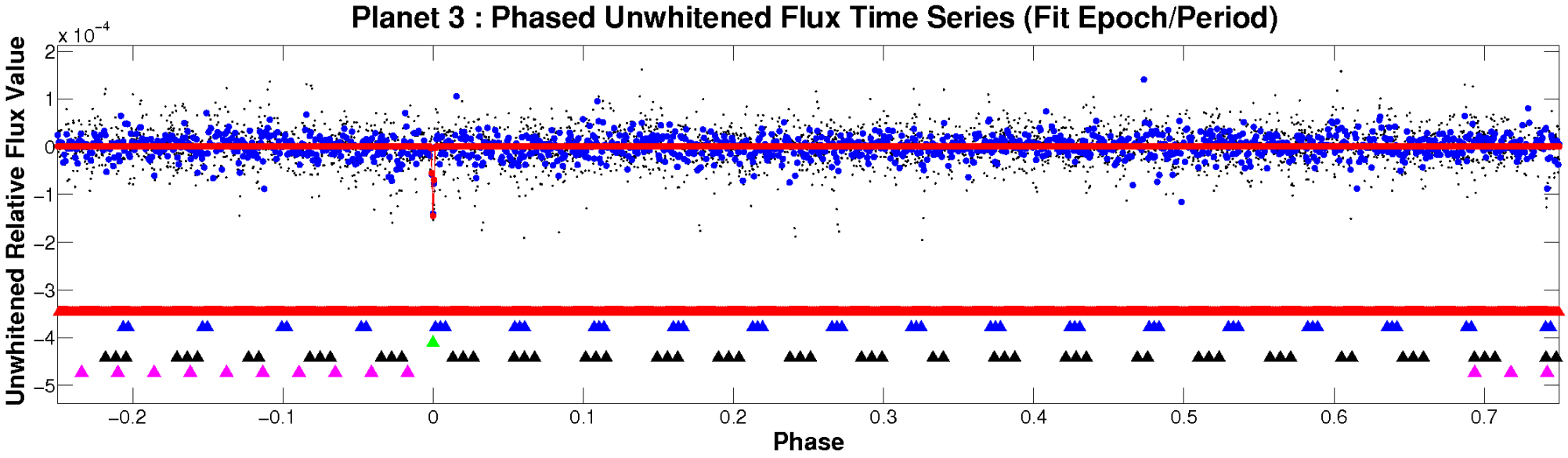
DV Odd/Even

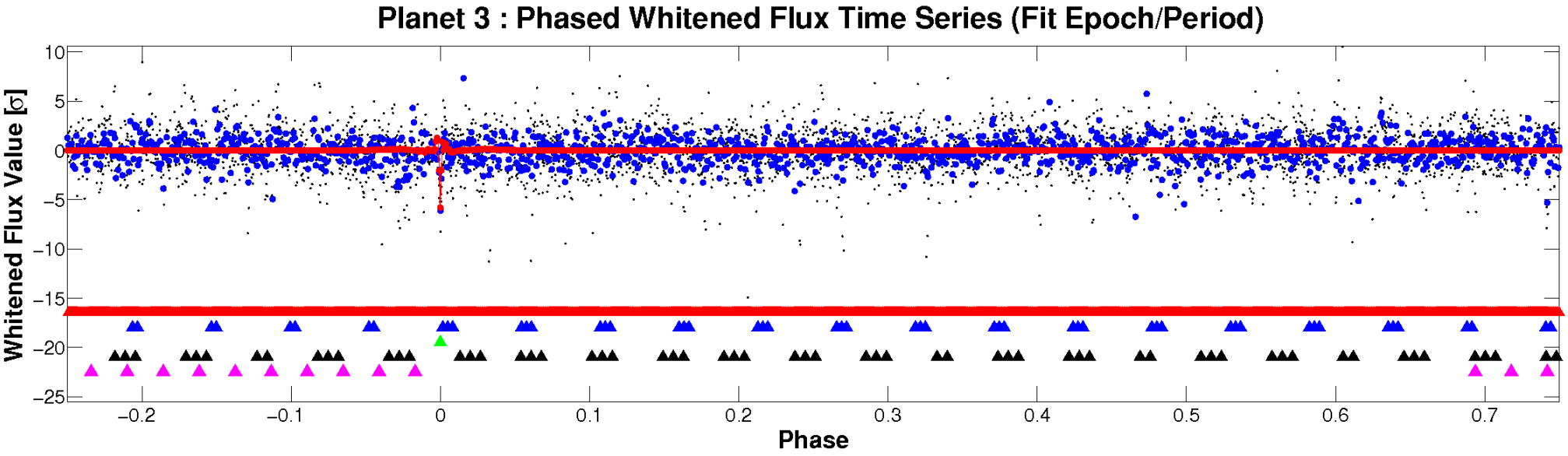

TCE 008460081-03
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
Flux
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
Phase
Odd
Even
Model Fit

ALT Odd/Even

This plot does not exist for this TCE.

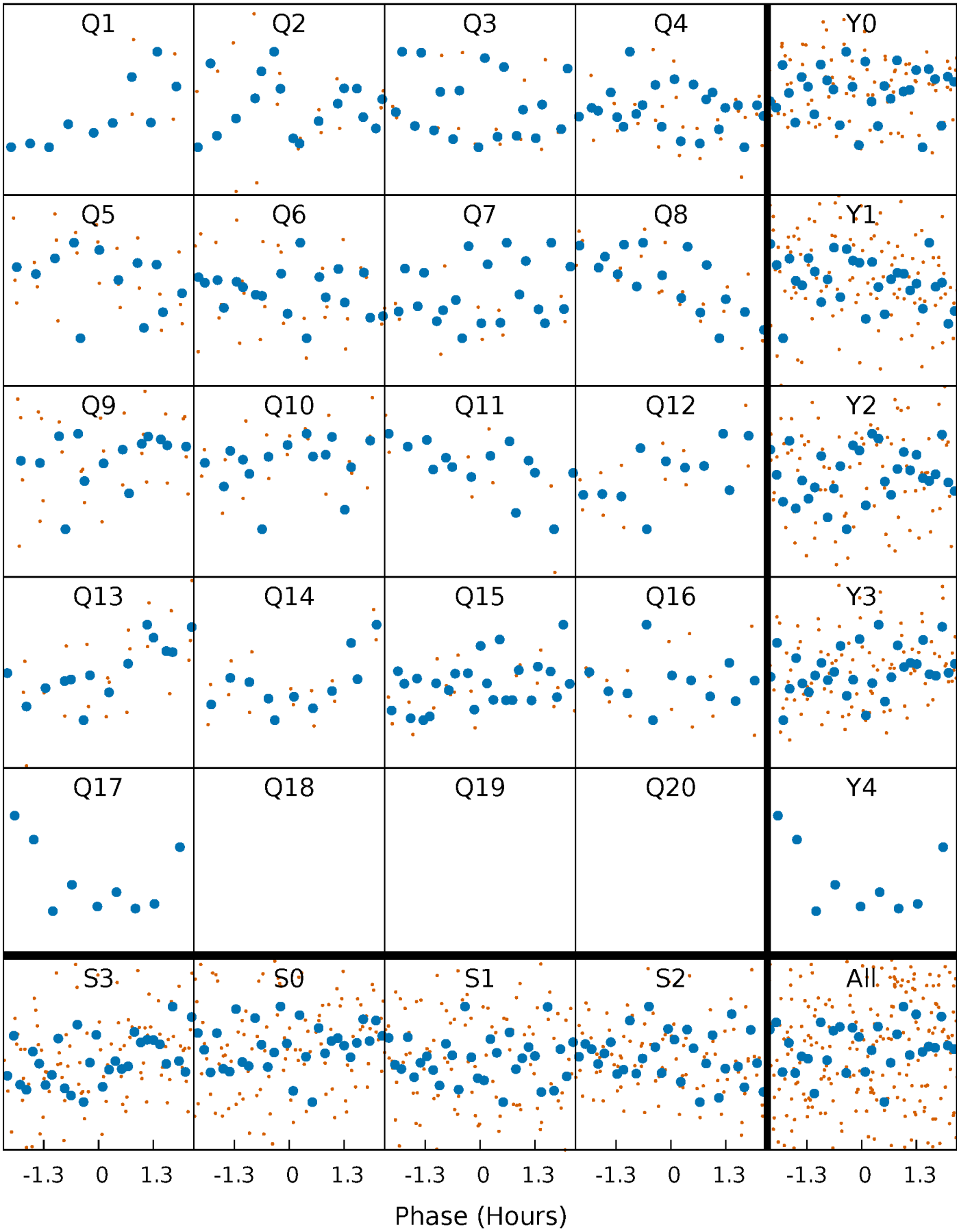
Non-Whitened Vs. Whitened Light Curve





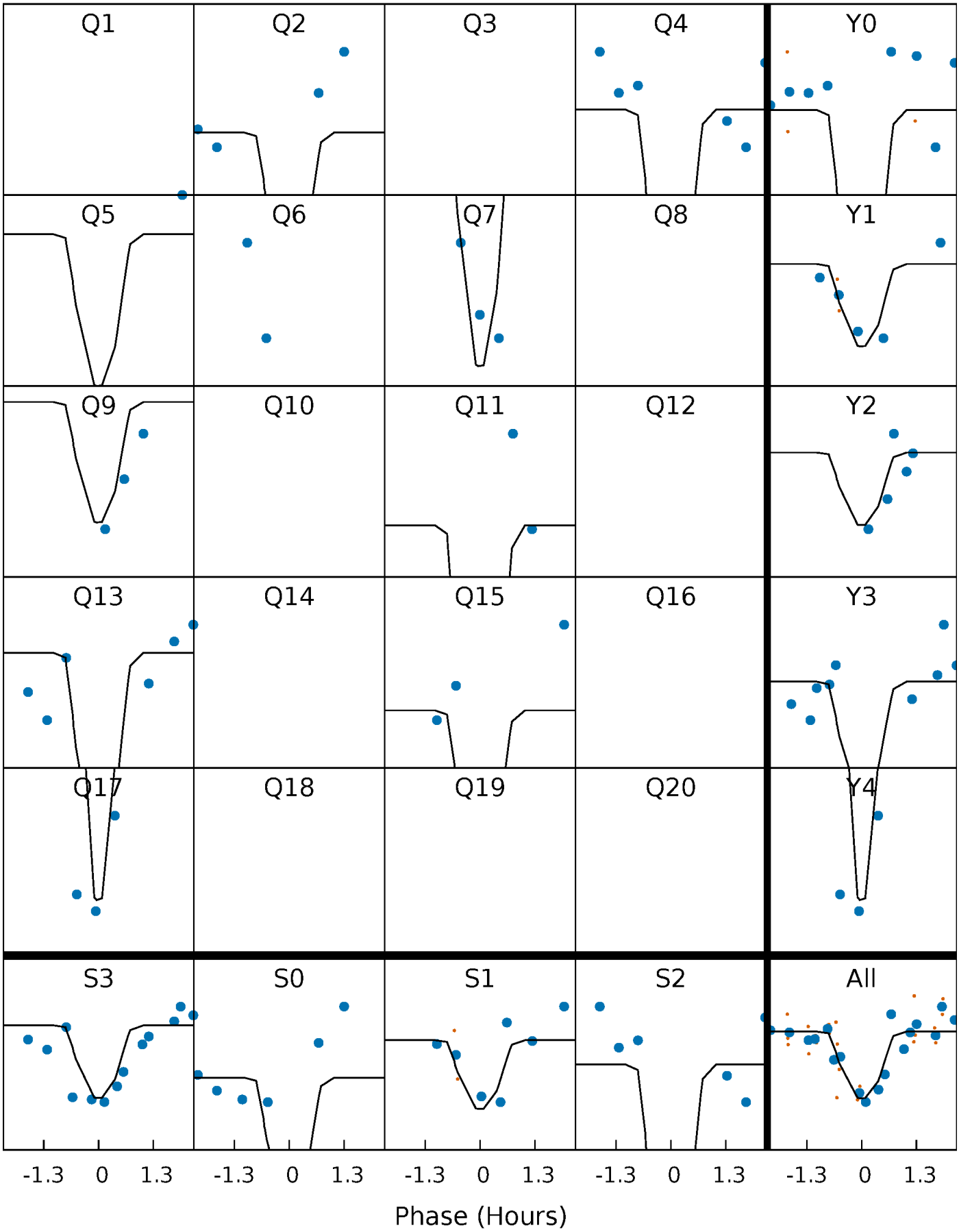
PDC Quarter-Phased Transit Curves

TCE 008460081-03 P= 27.628897 Days T_0=159.105985 (BKJD)



DV Quarter-Phased Transit Curves

TCE 008460081-03 P= 27.628897 Days T_0=159.105985 (BKJD)

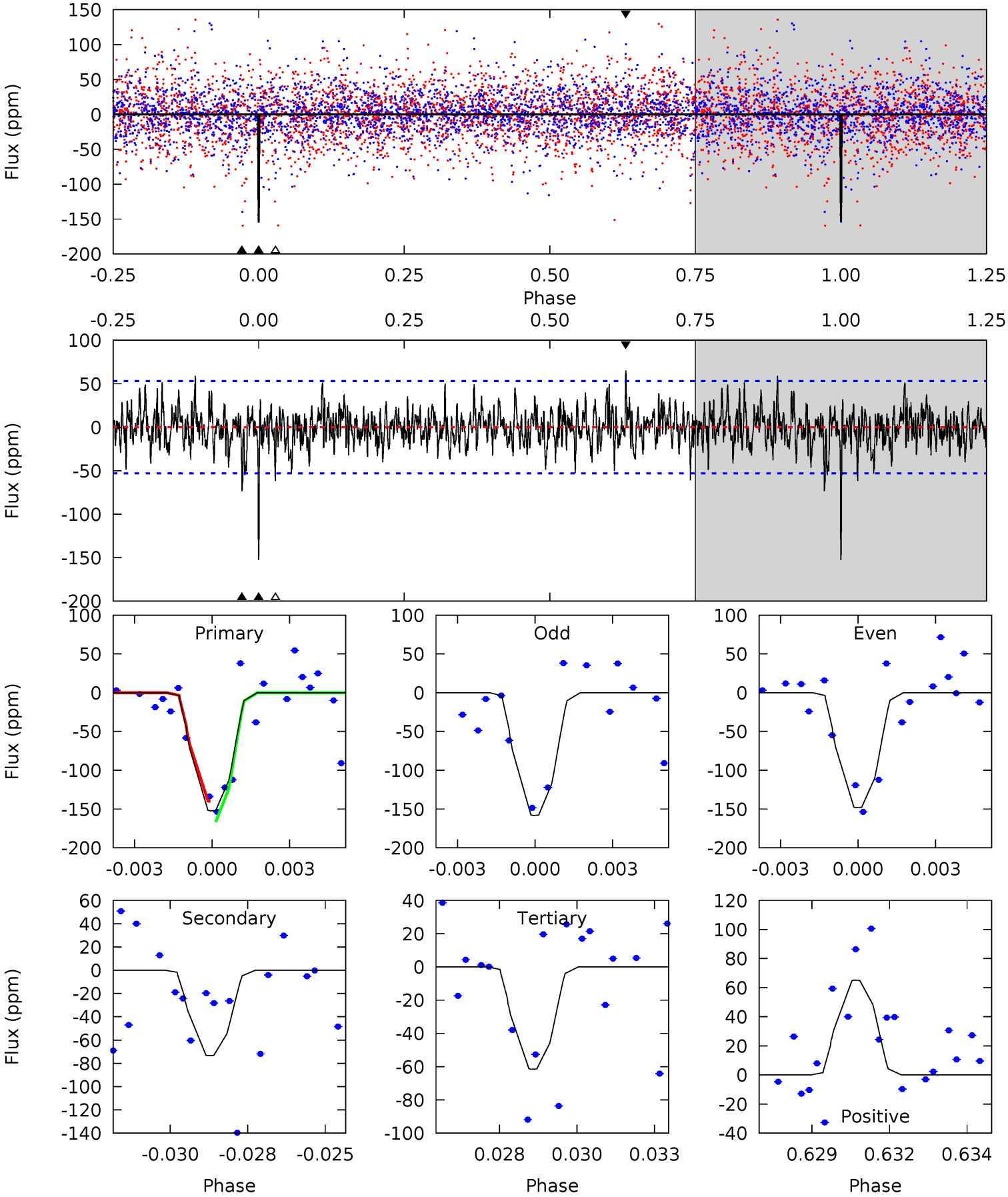


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008460081-03, P = 27.628897 Days, E = 131.477088 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	7.29	6.11	6.47	5.27	2.99	1.68	9.01	8.66	1.18	0.82	0.49	0.98	0.30	1.32



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008460081

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	8729^{+240}_{-411}	$3.696^{+0.457}_{-0.152}$	$0.070^{+0.250}_{-0.600}$	$3.786^{+0.869}_{-2.029}$	$2.593^{+0.313}_{-1.002}$	$0.067^{+0.381}_{-0.025}$
	+3%/-5%	+12%/-4%	+357%/-857%	+23%/-54%	+12%/-39%	+566%/-37%
Source	KIC0	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 008460081-03 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-73±10	$5.71^{+6.64}_{-3.77}$	2061^{+174}_{-272}	6064^{+6251}_{-1518}	70^{+544}_{-54}
Alt.	N/A	N/A	N/A	N/A	N/A

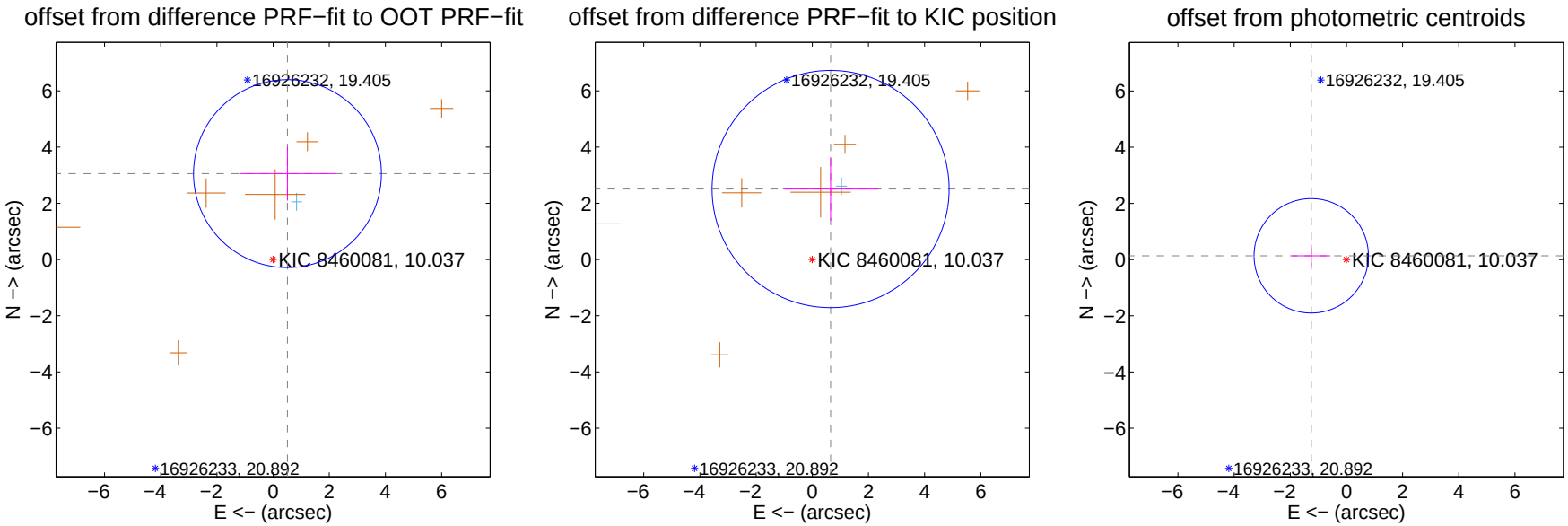
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

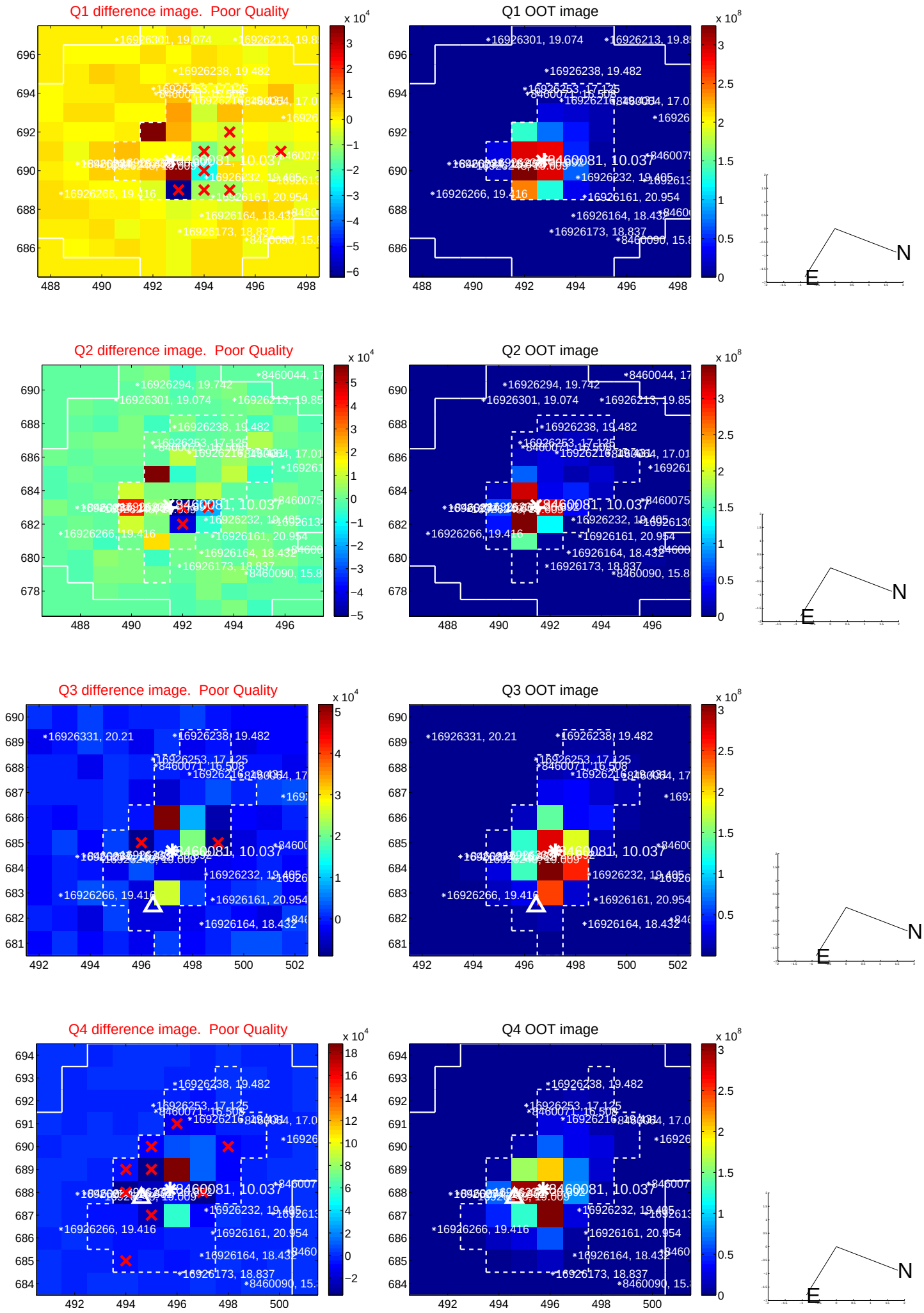
Supplemental centroid analysis for 008460081-03. Kepler magnitude: 10.04. Transit SNR 12.67
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.097 ± 1.115	2.78	-0.511 ± 1.717	3.054 ± 0.958
PRF-fit source offset from KIC position	2.590 ± 1.406	1.84	-0.652 ± 1.694	2.507 ± 1.134
photometric centroid source offset	1.26 ± 0.68	1.86	1.25 ± 0.68	0.13 ± 0.39

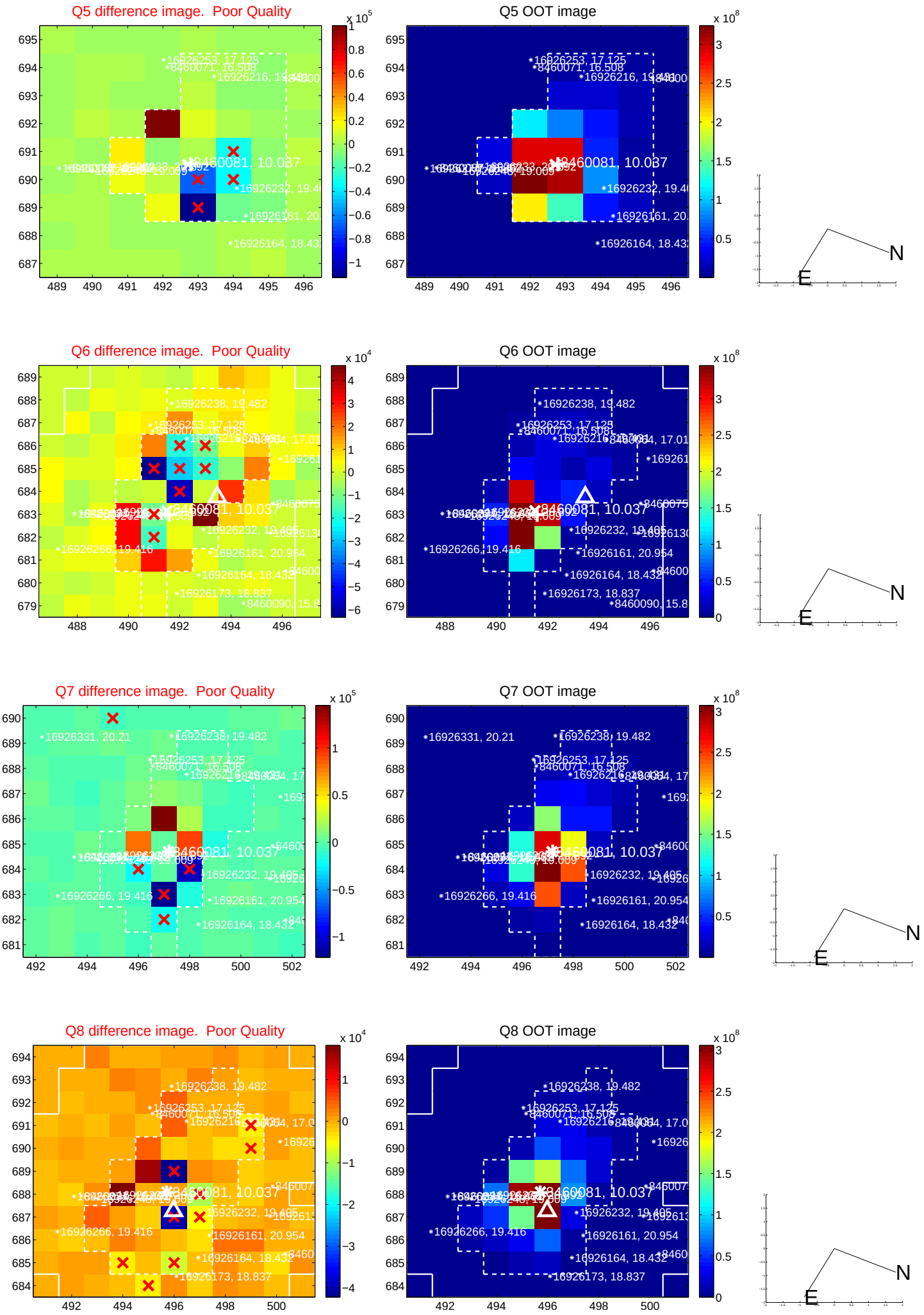


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

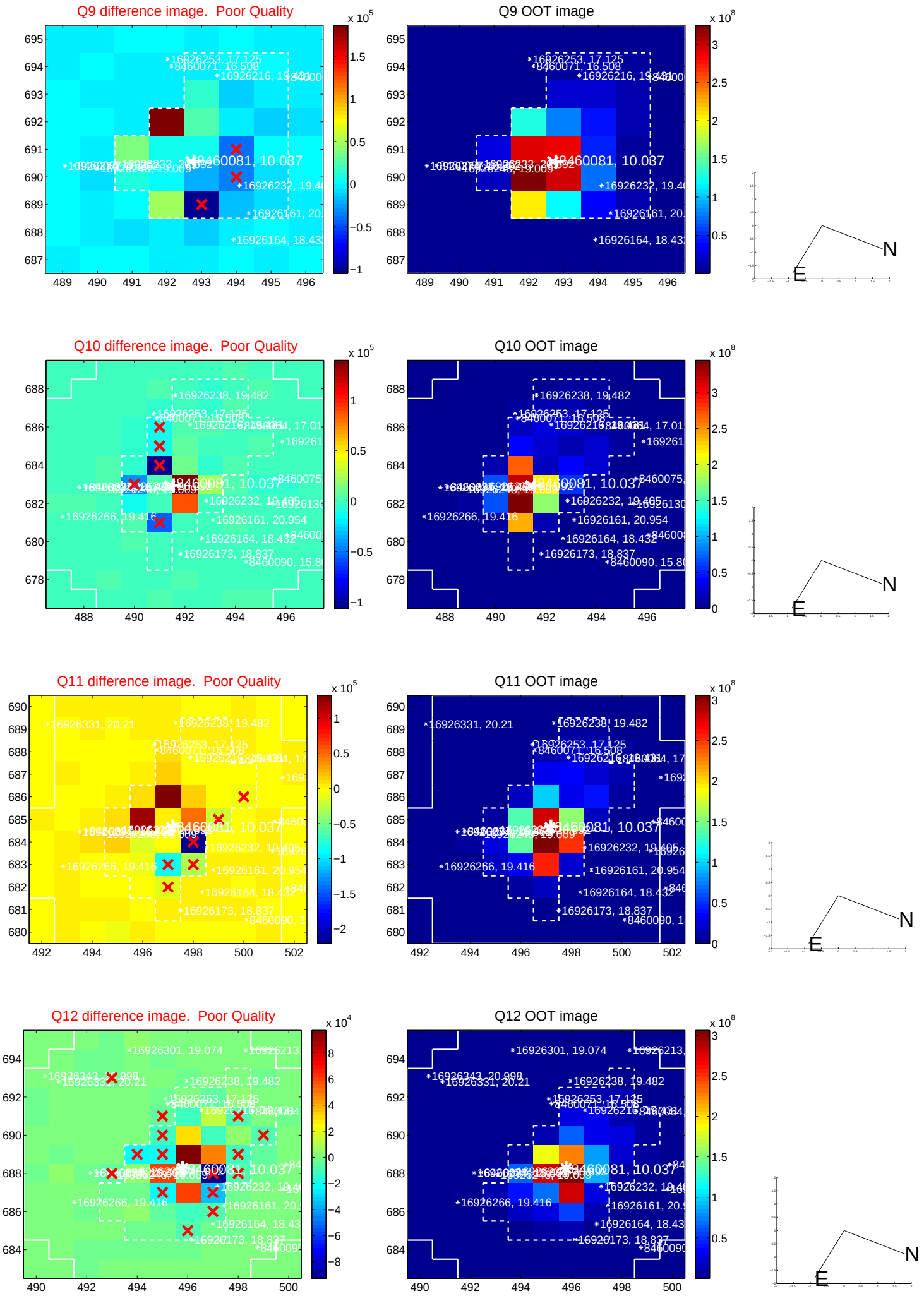
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



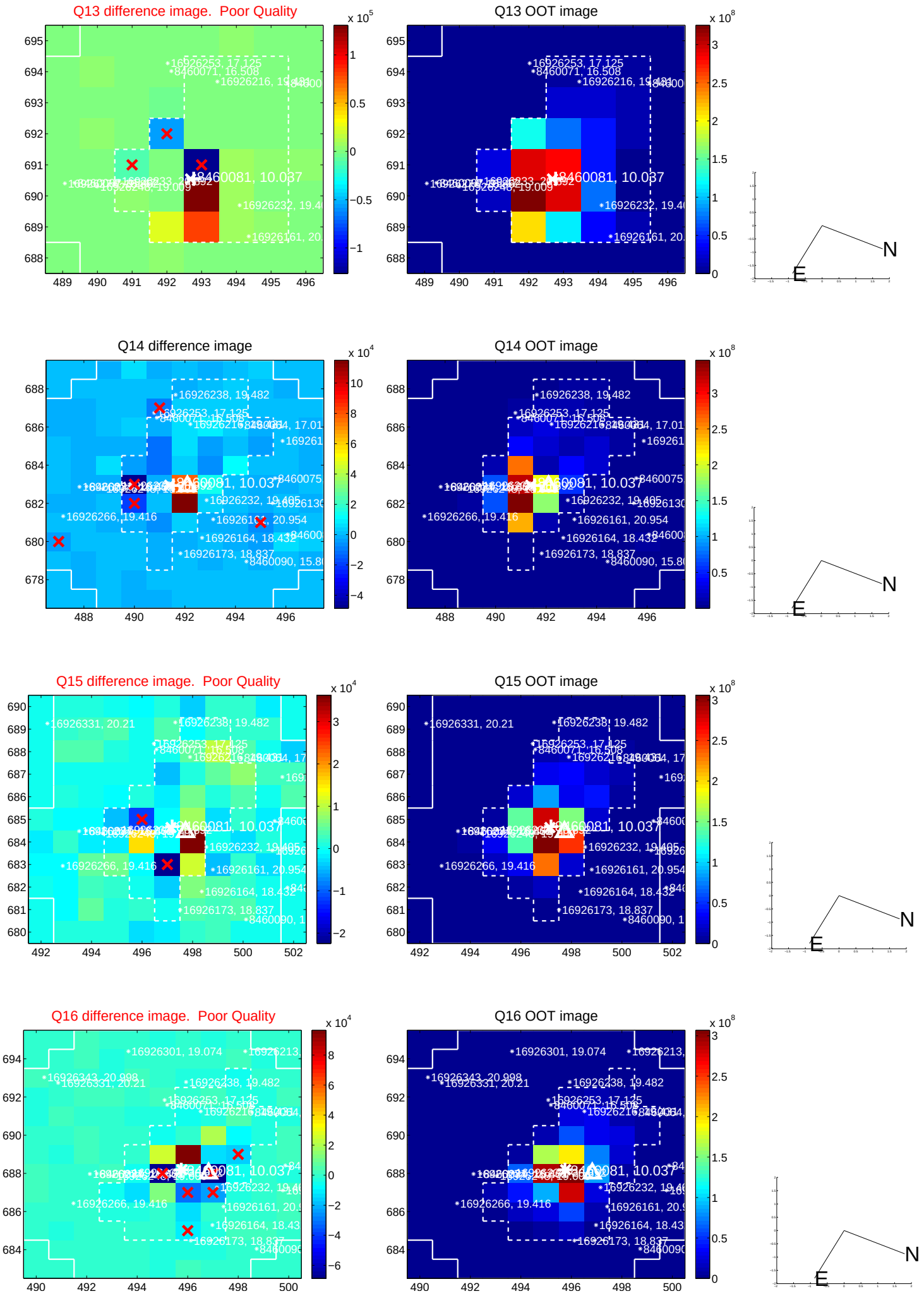
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



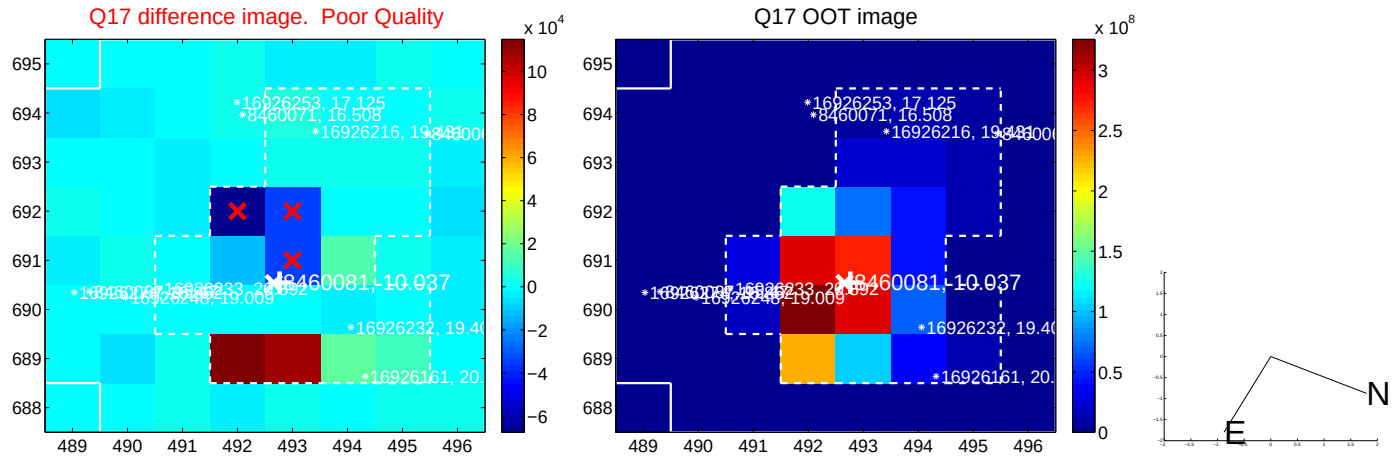
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

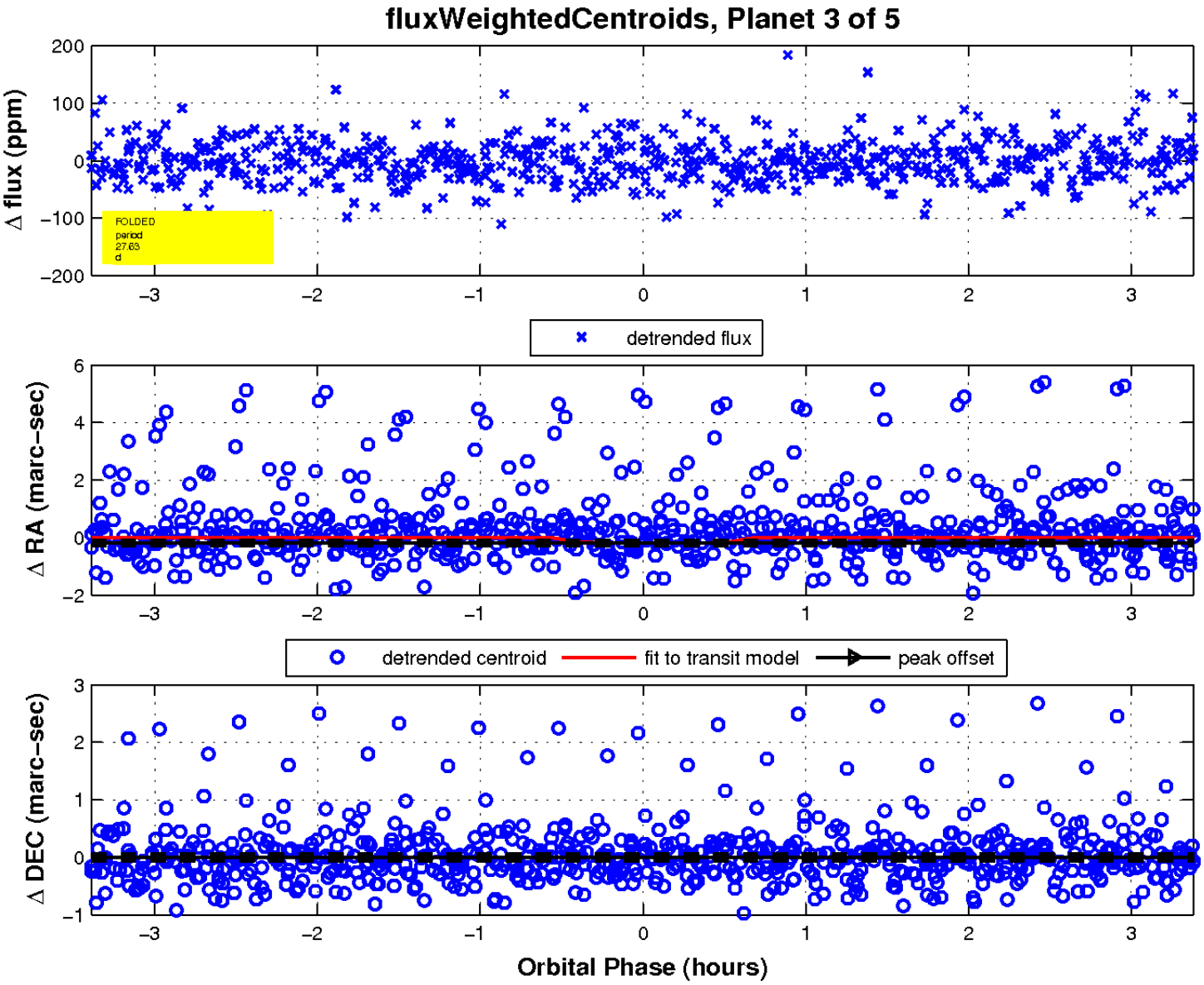


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

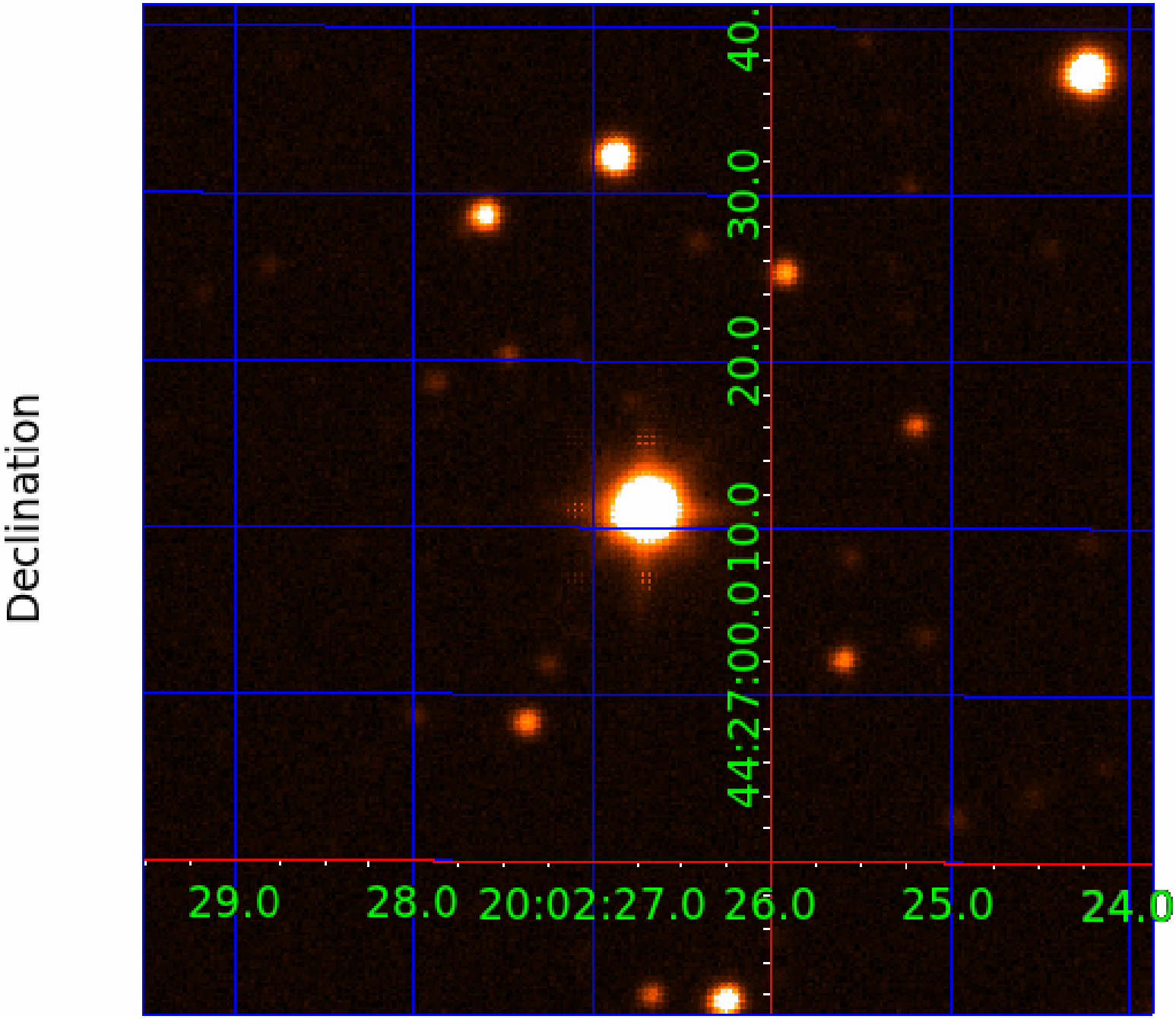


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
44:27:00.0
10.0
20.0
30.0
40.
29.0
28.0
20:02:27.0
26.0
25.0
24.0

KIC 008460081

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 ($S_\oplus$)
008460081-01	OBS	No	0.785776	132.169228	1.5	5.733	7.8	2.9	3.79	8729	0.47	142060.93
008460081-02	OBS	No	29.087848	131.522099	181.4	0.956	21.4	16.6	3.79	8729	5.51	1151.48
008460081-03	OBS	No	27.628897	159.105985	145.7	1.130	14.1	12.7	3.79	8729	4.69	1233.26
008460081-04	OBS	No	23.869910	136.727999	143.5	1.312	18.5	14.6	3.79	8729	5.26	1498.78
008460081-05	OBS	No	111.181991	150.642448	131.2	2.000	13.0	-1.0	3.79	8729	4.42	192.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008460081-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008460081-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

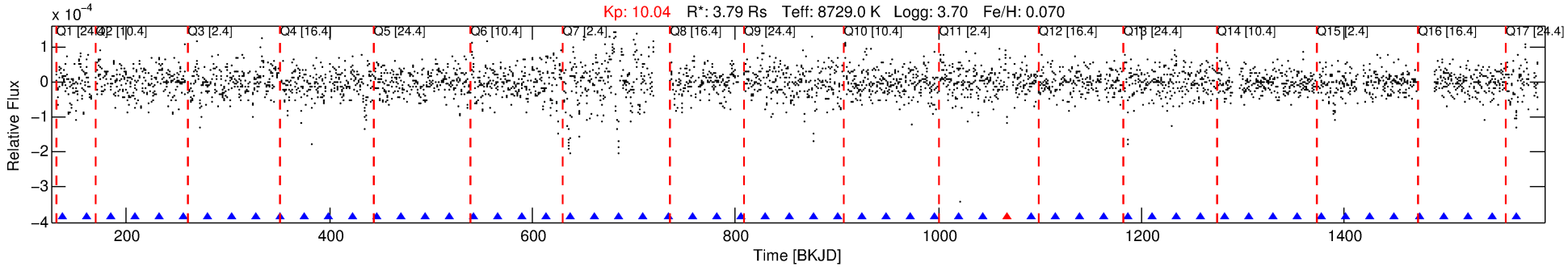
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

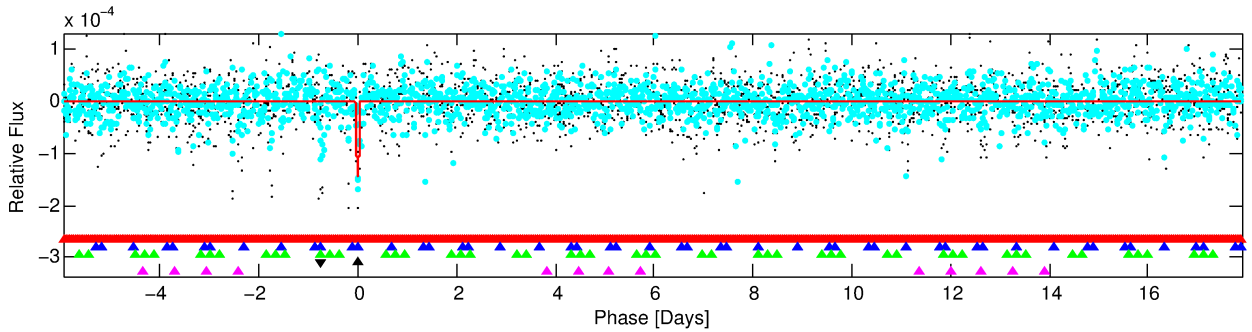
Ephemeris Match Information For 008460081-04

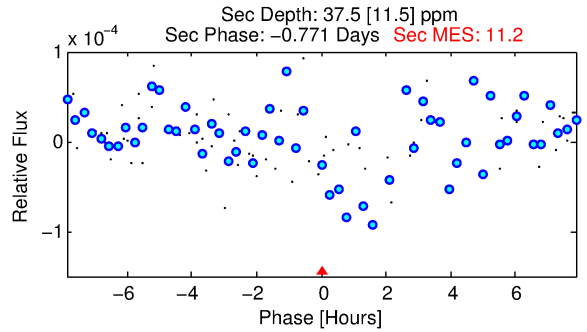
No Significant Match Found

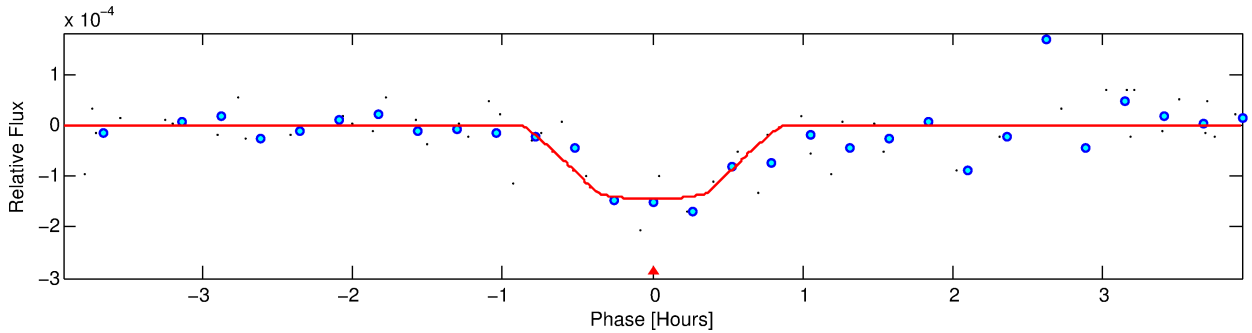
DV One-Page Summary

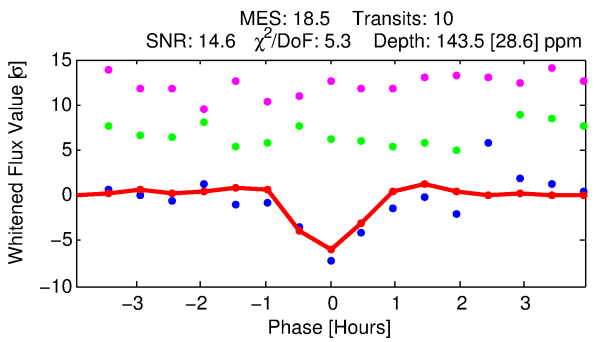
KIC: 8460081 Candidate: 4 of 5 Period: 23.870 d

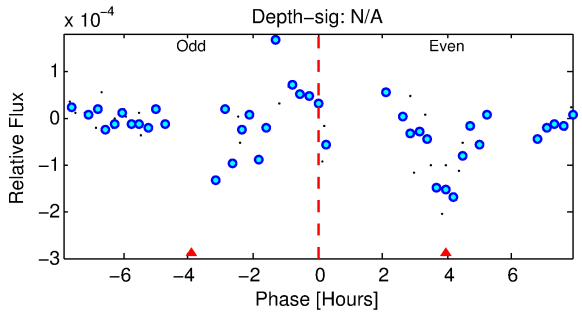


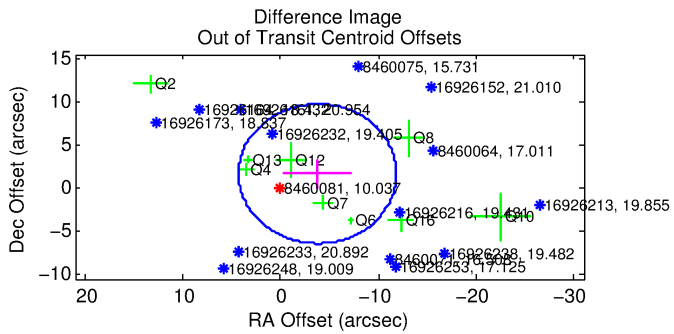












DV Fit Results:

Period = 23.86991 [0.00017] d
Epoch = 136.7280 [0.0049] BKJD
Rp/R* = 0.0127 [0.0092]
a/R* = 64.55 [324.82]
b = 0.90 [1.08]

Seff = 1498.78 [1213.23]
Teq = 1587 [321] K
Rp = 5.26 [4.74] Re
a = 0.2230 [0.1117] AU

Ag = 37.09 [62.18] [0.58σ]
Teffp = 6054 [2258] K [1.96σ]

DV Diagnostic Results:

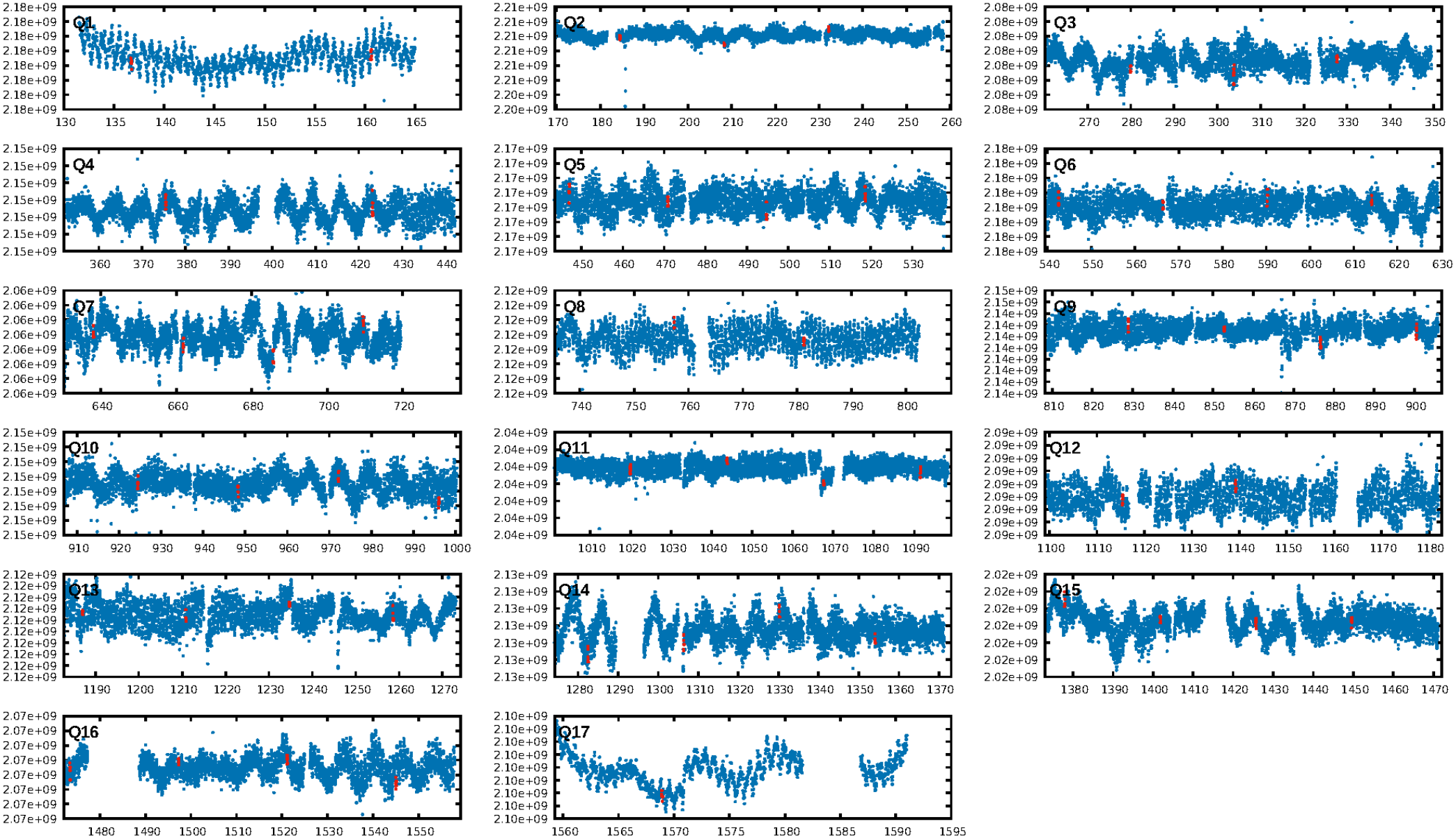
ShortPeriod−sig: 100.0% [94.21σ]
LongPeriod−sig: 100.0% [52.11σ]
ModelChiSquare2−sig: 0.0%
ModelChiSquareGof−sig: 86.5%
Bootstrap−pfa: 2.42e−26
RollingBand−fgt: 0.89 [8/9]
GhostDiagnostic−chr: N/A

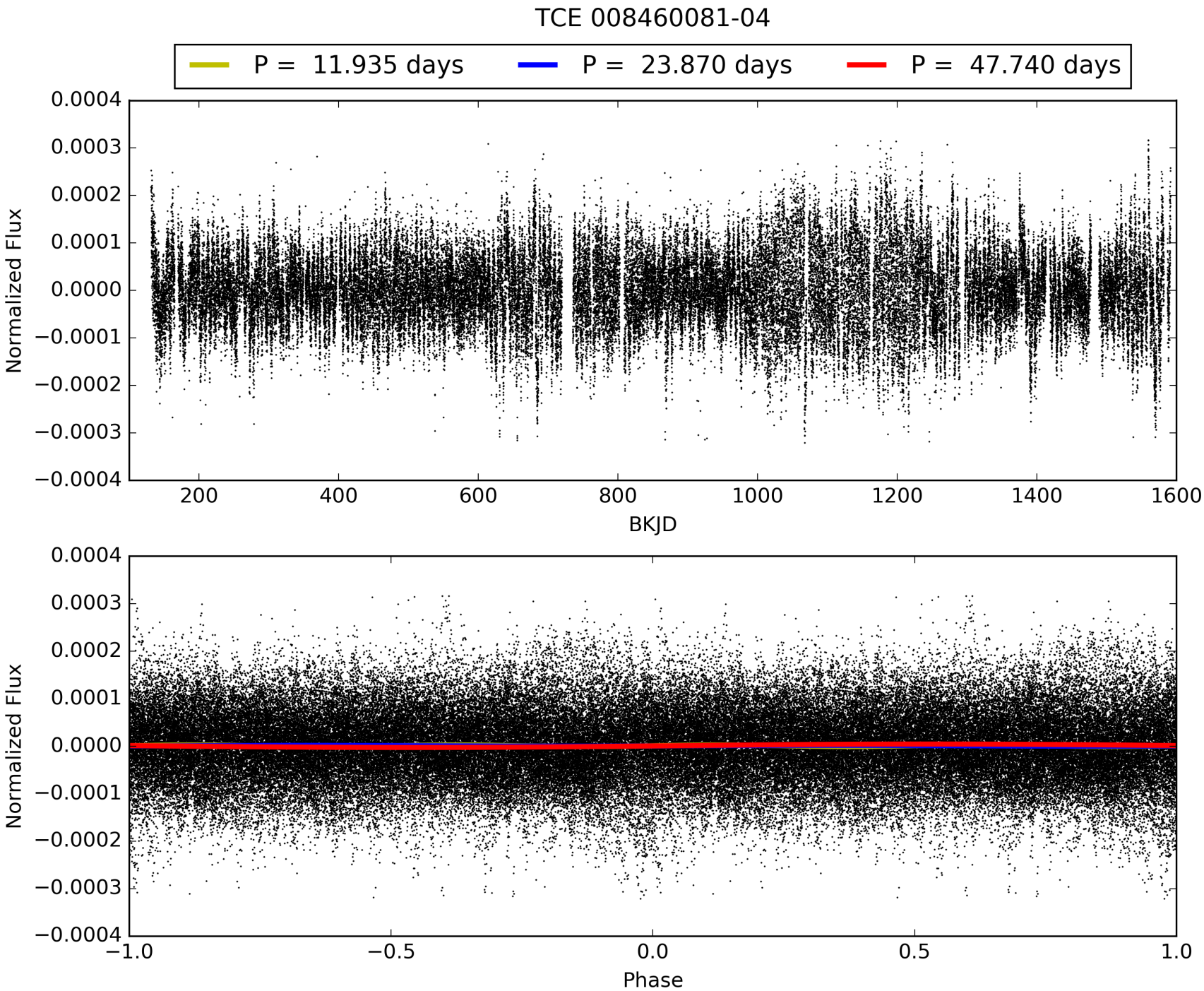
Centroid−sig: 1.8%
Centroid−so: 1.108 arcsec [1.91σ]
OotOffset−rm: 4.132 arcsec [1.54σ]
KicOffset−rm: 4.048 arcsec [1.50σ]
OotOffset−st: 3/1/4/1 [9]
KicOffset−st: 3/1/4/1 [9]
DiffImageQuality−fgm: 0.11 [1/9]
DiffImageOverlap−fno: 0.47 [8/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 04:59:03 Z

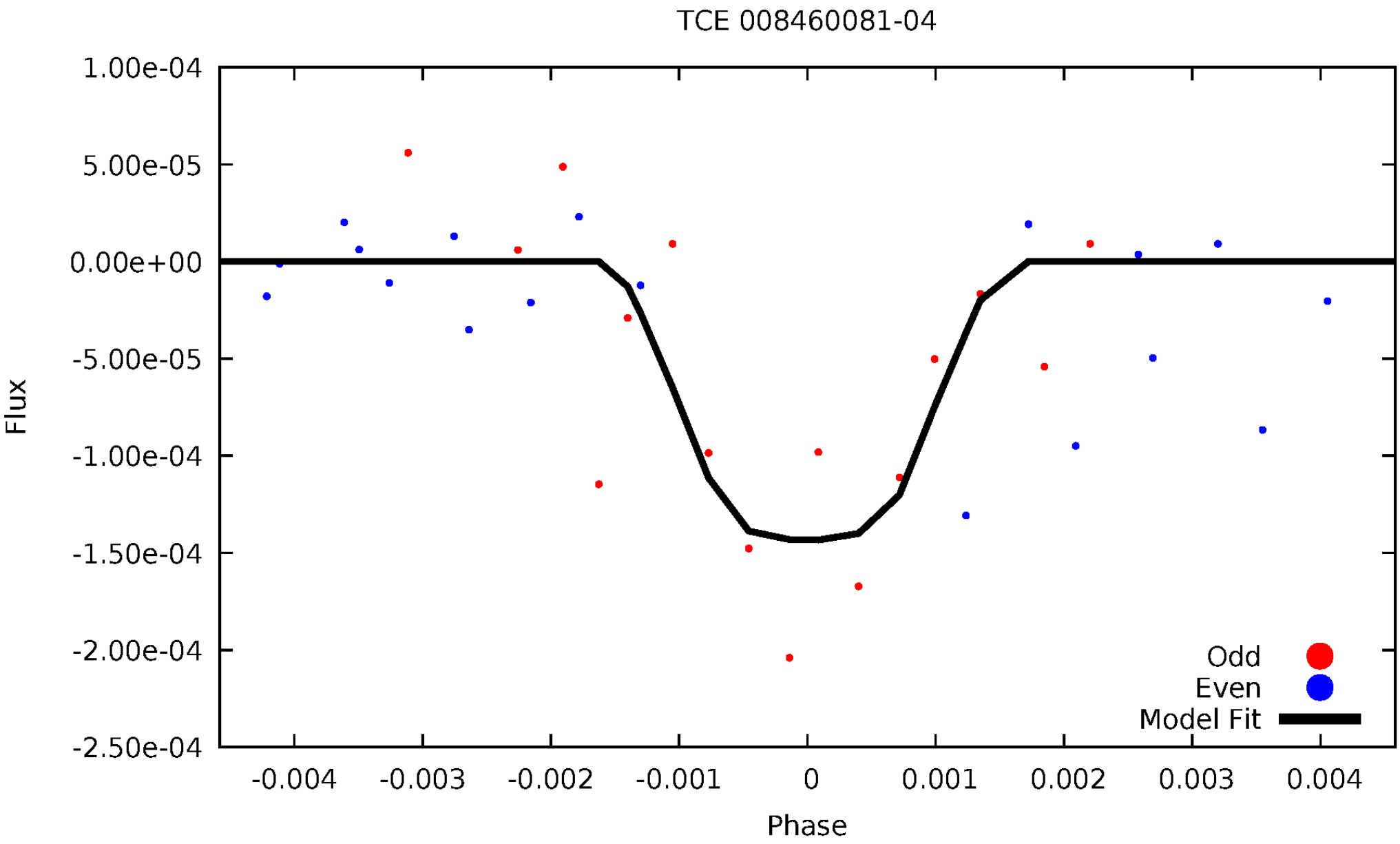
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008460081-04, PDC Light Curves




TCE 008460081-04
P = 11.935 days
P = 23.870 days
P = 47.740 days
Normalized Flux
BKJD
Normalized Flux
Phase

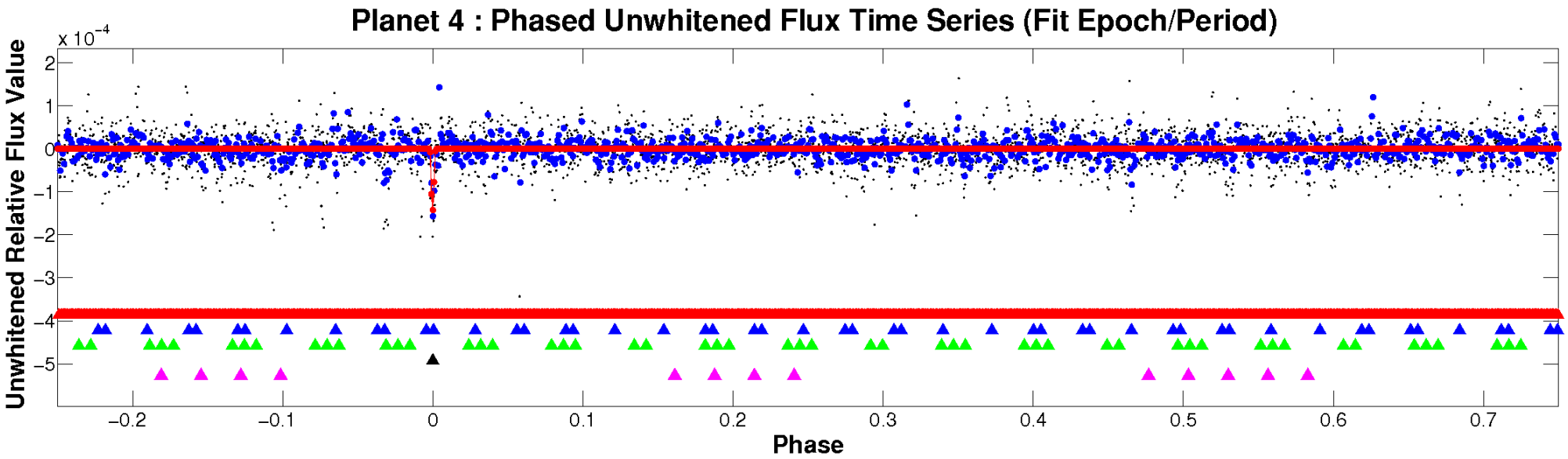
DV Odd/Even

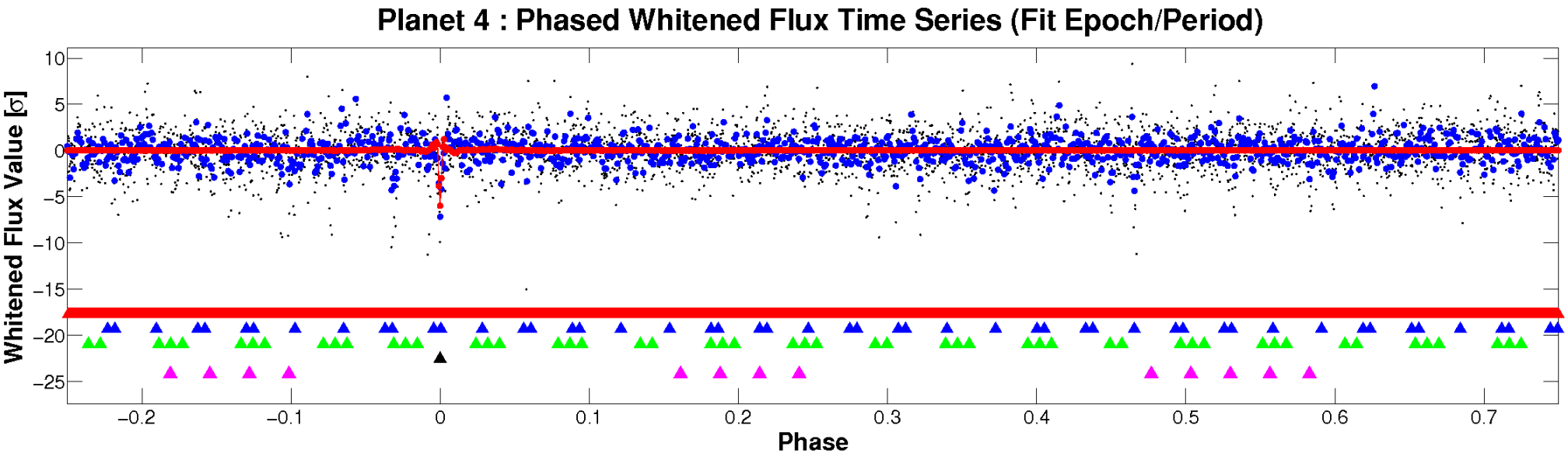

TCE 008460081-04
1.00e-04
5.00e-05
0.00e+00
-5.00e-05
-1.00e-04
-1.50e-04
-2.00e-04
-2.50e-04
Flux
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
Phase
Odd
Even
Model Fit

ALT Odd/Even

This plot does not exist for this TCE.

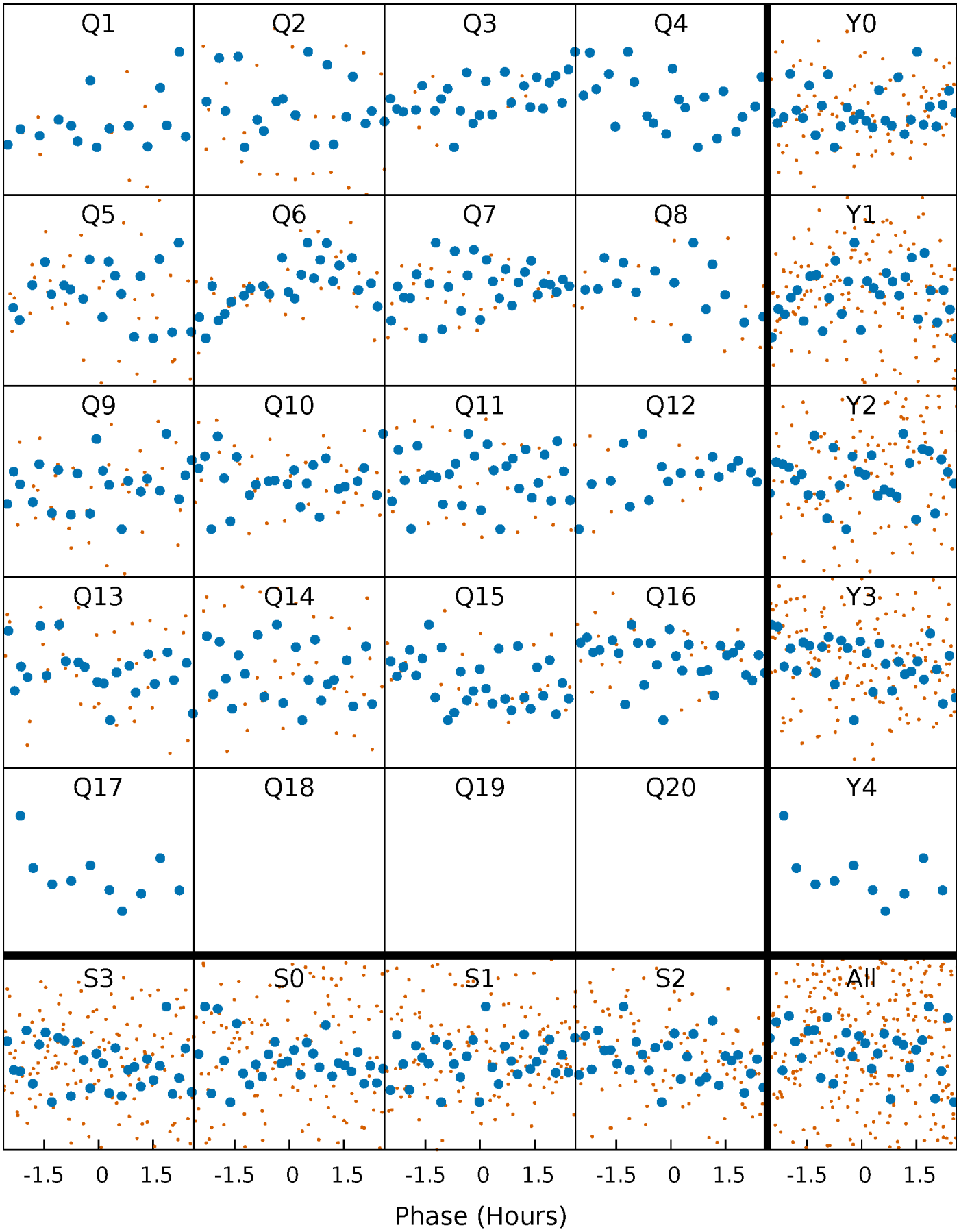
Non-Whitened Vs. Whitened Light Curve





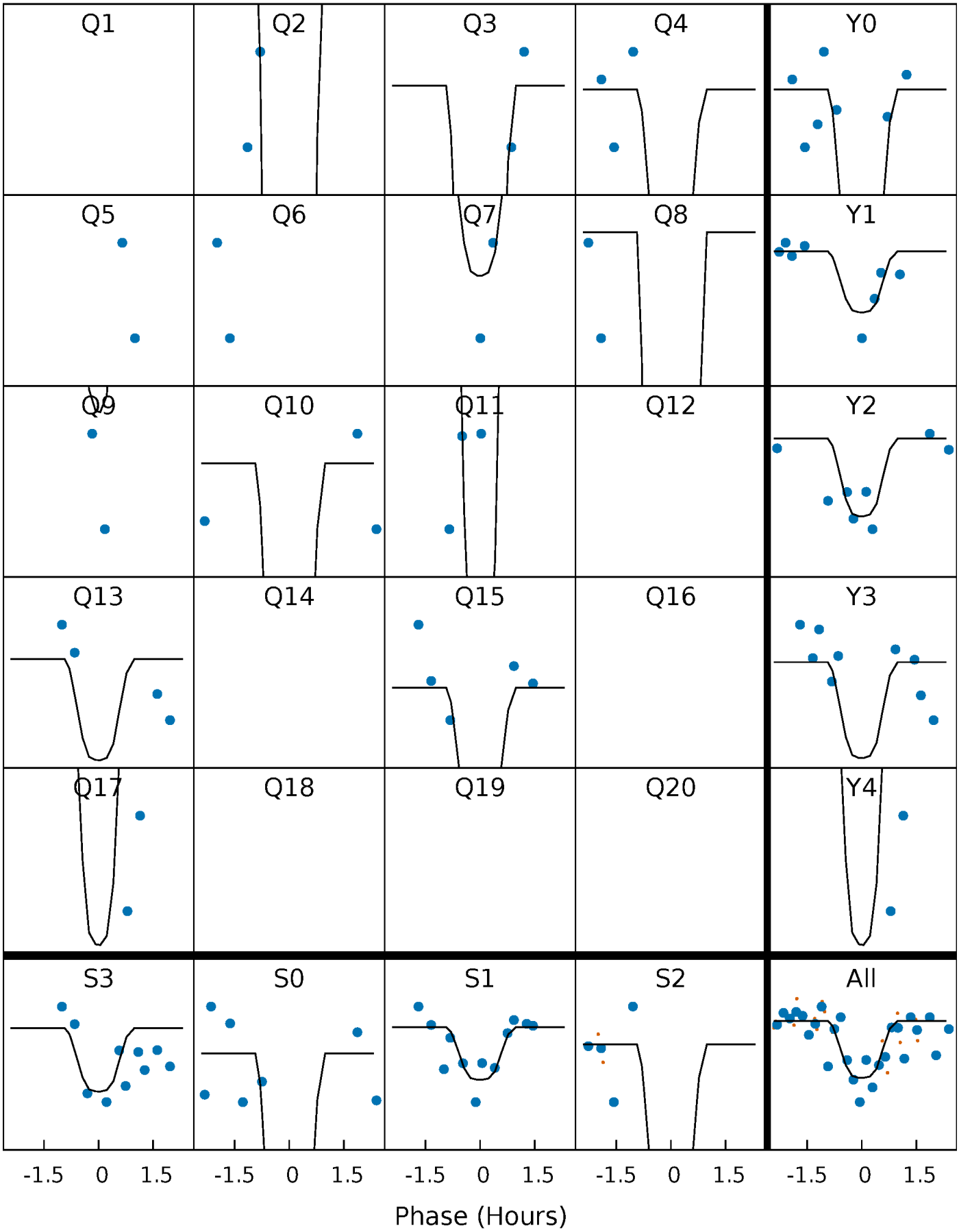
PDC Quarter-Phased Transit Curves

TCE 008460081-04 P= 23.869910 Days T_0=136.727999 (BKJD)



DV Quarter-Phased Transit Curves

TCE 008460081-04 P= 23.869910 Days T_0=136.727999 (BKJD)

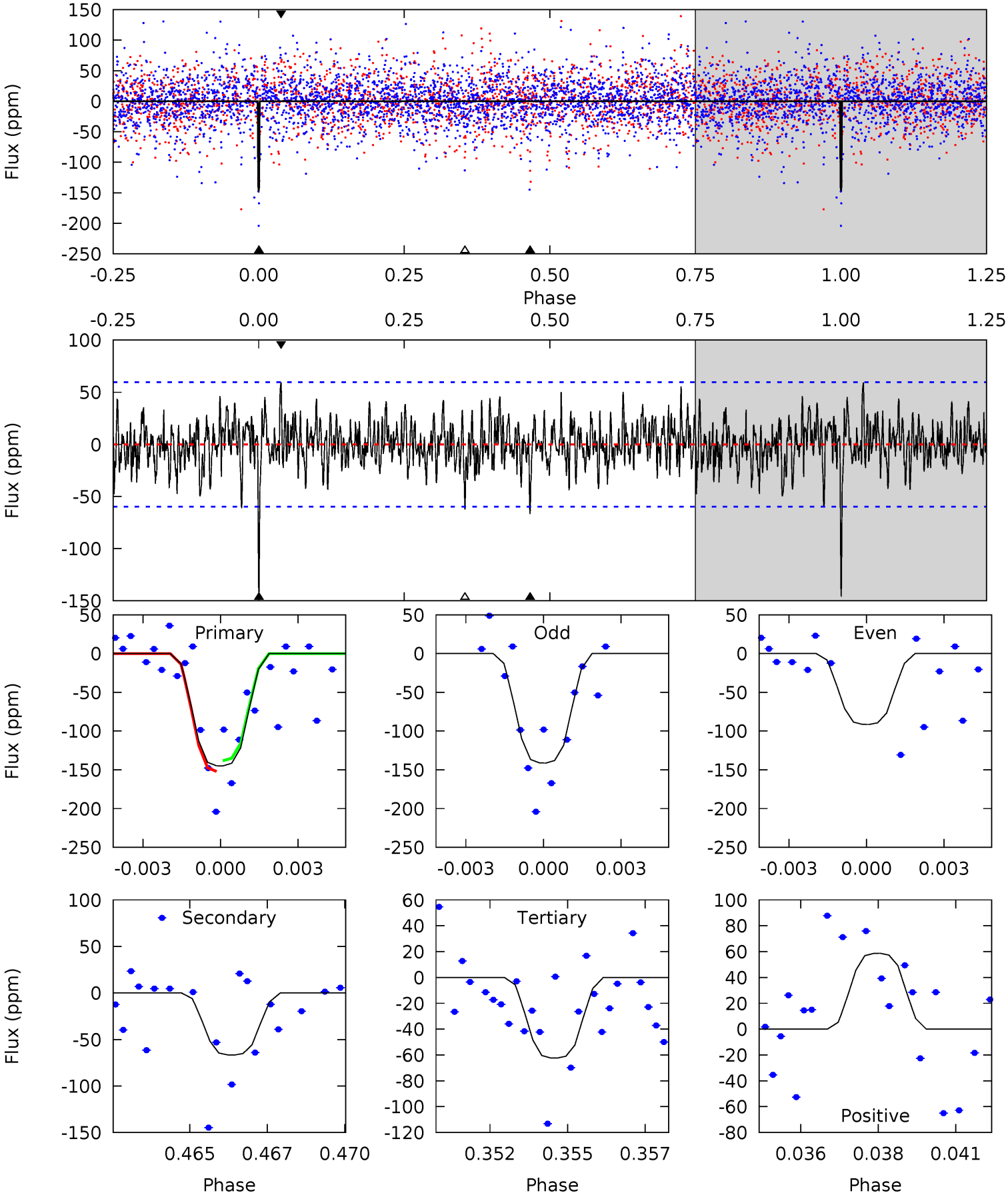


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008460081-04, P = 23.869910 Days, E = 112.858089 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	5.89	5.51	5.18	5.27	2.99	1.53	7.29	7.61	0.38	0.71	1.75	0.92	0.29	0.61



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008460081

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	8729^{+240}_{-411}	$3.696^{+0.457}_{-0.152}$	$0.070^{+0.250}_{-0.600}$	$3.786^{+0.869}_{-2.029}$	$2.593^{+0.313}_{-1.002}$	$0.067^{+0.381}_{-0.025}$
	+3%/-5%	+12%/-4%	+357%/-857%	+23%/-54%	+12%/-39%	+566%/-37%
Source	KIC0	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 008460081-04 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67±11	$4.98^{+3.91}_{-2.90}$	2158^{+189}_{-280}	6395^{+5043}_{-1366}	71^{+322}_{-48}
Alt.	N/A	N/A	N/A	N/A	N/A

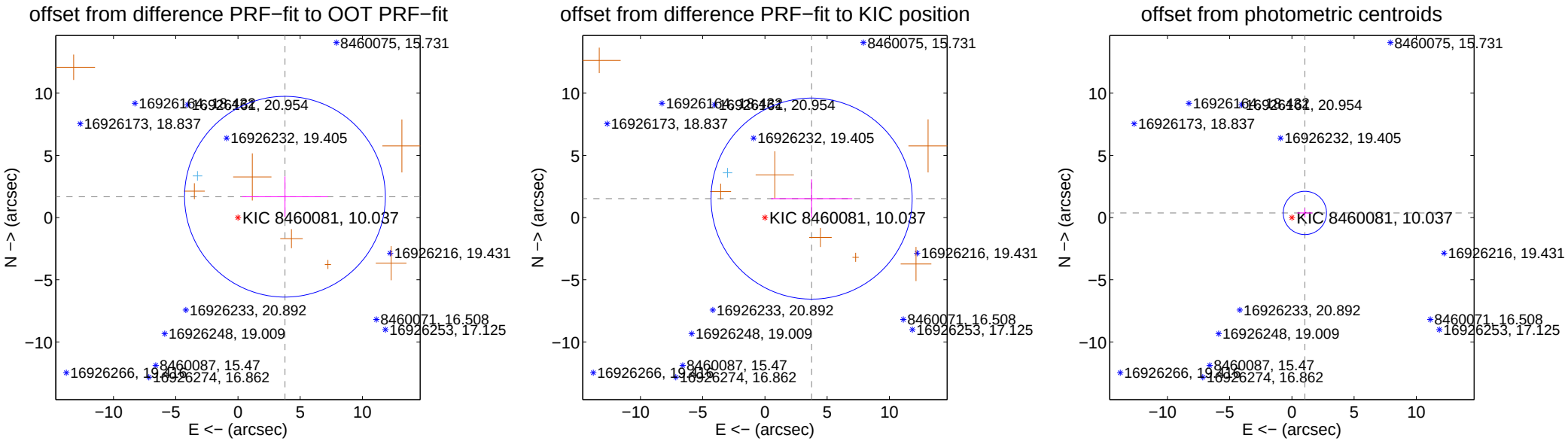
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

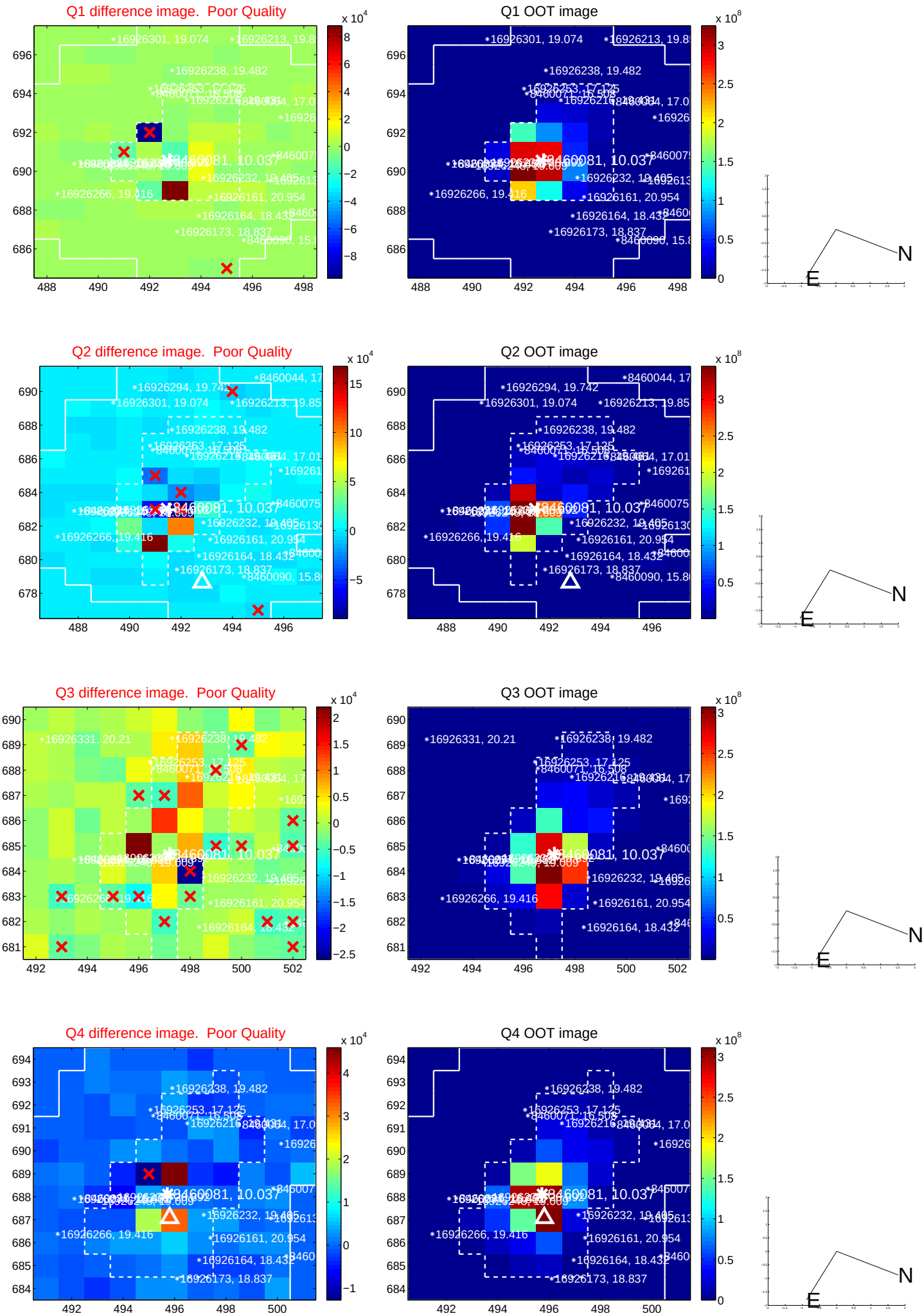
Supplemental centroid analysis for 008460081-04. Kepler magnitude: 10.04. Transit SNR 14.59
There are 1 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.132 ± 2.689	1.54	-3.777 ± 3.443	1.675 ± 1.633
PRF-fit source offset from KIC position	4.048 ± 2.693	1.50	-3.750 ± 3.269	1.524 ± 1.546
photometric centroid source offset	1.11 ± 0.58	1.91	-1.04 ± 0.60	0.37 ± 0.37

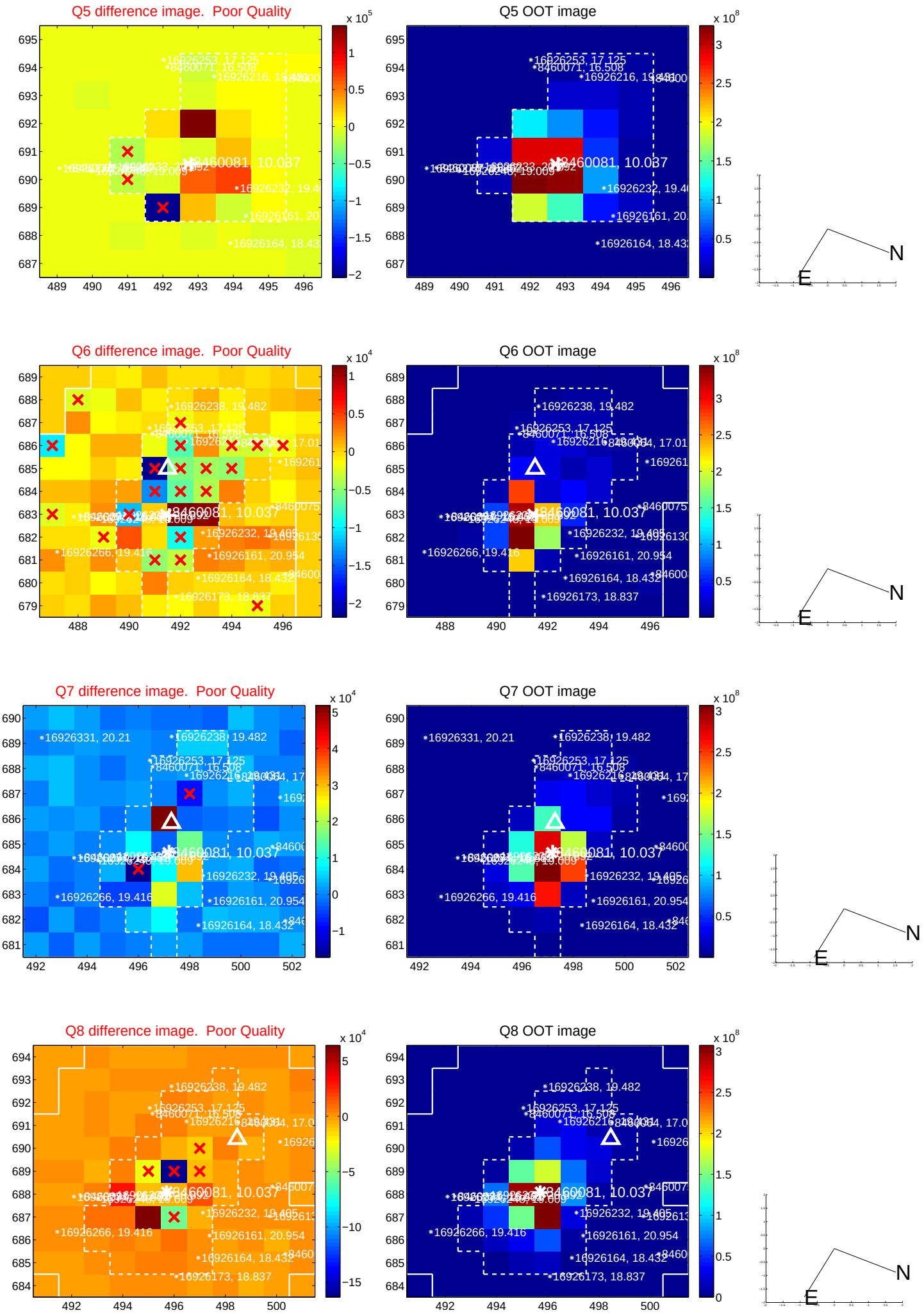


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

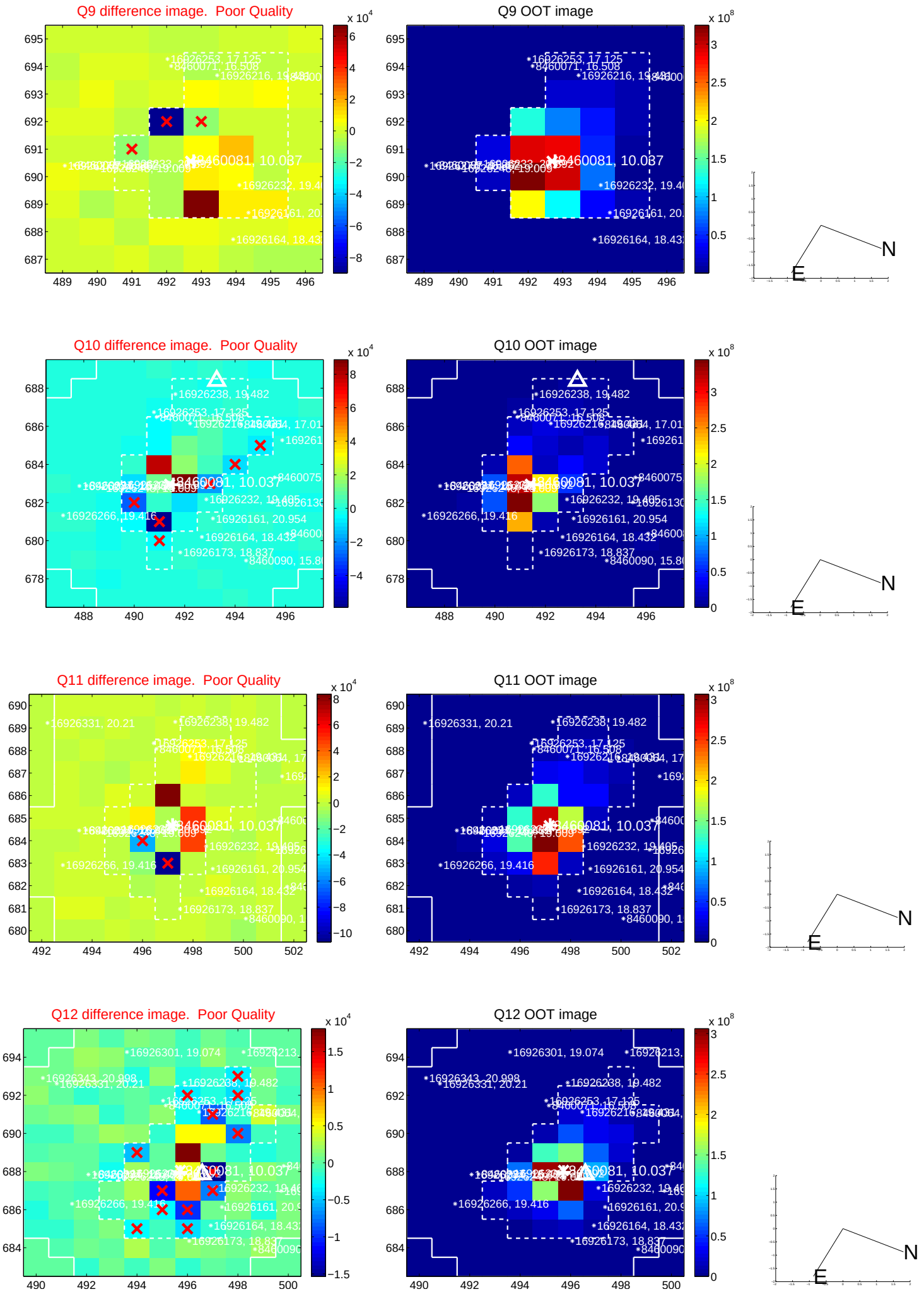
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



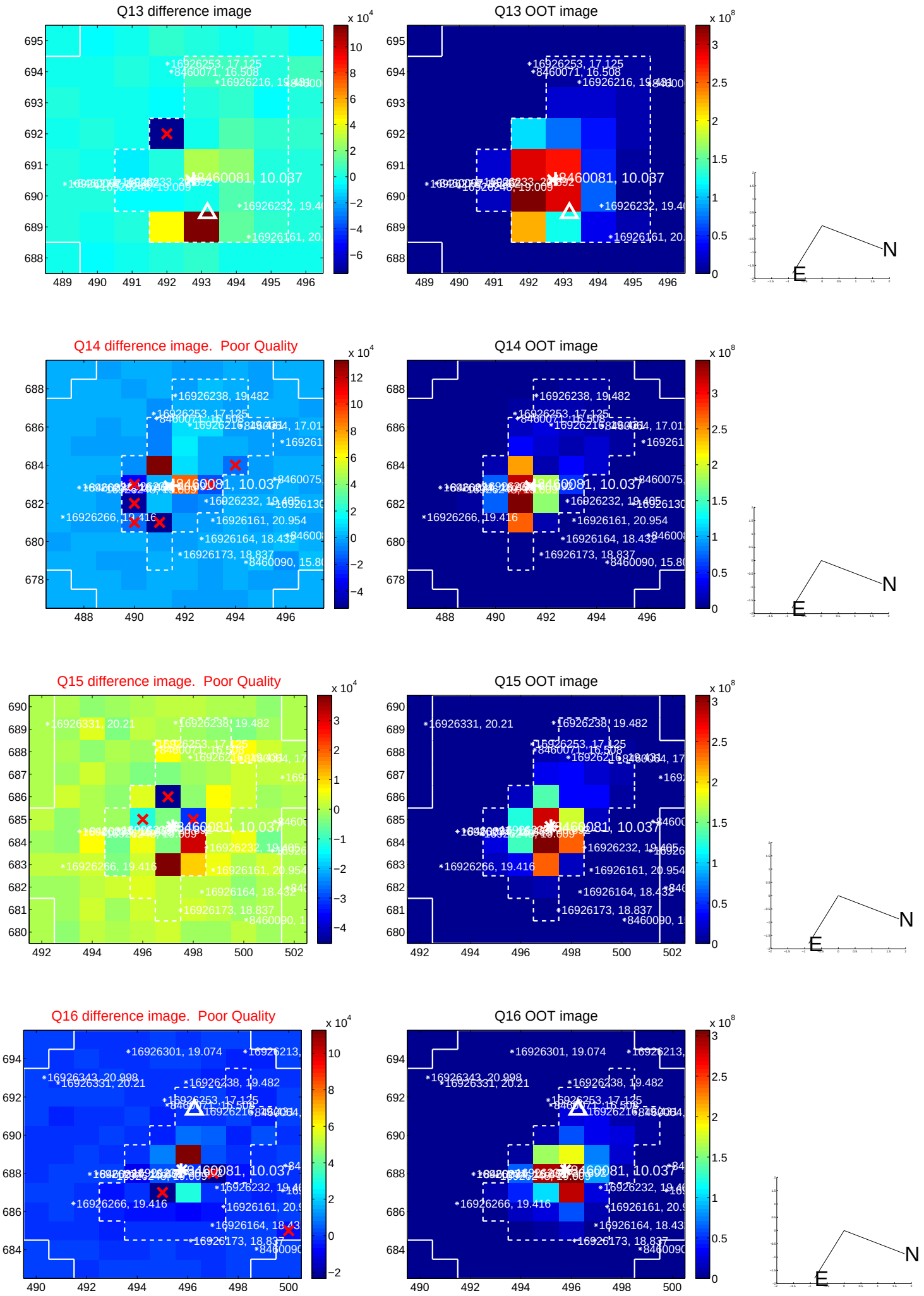
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



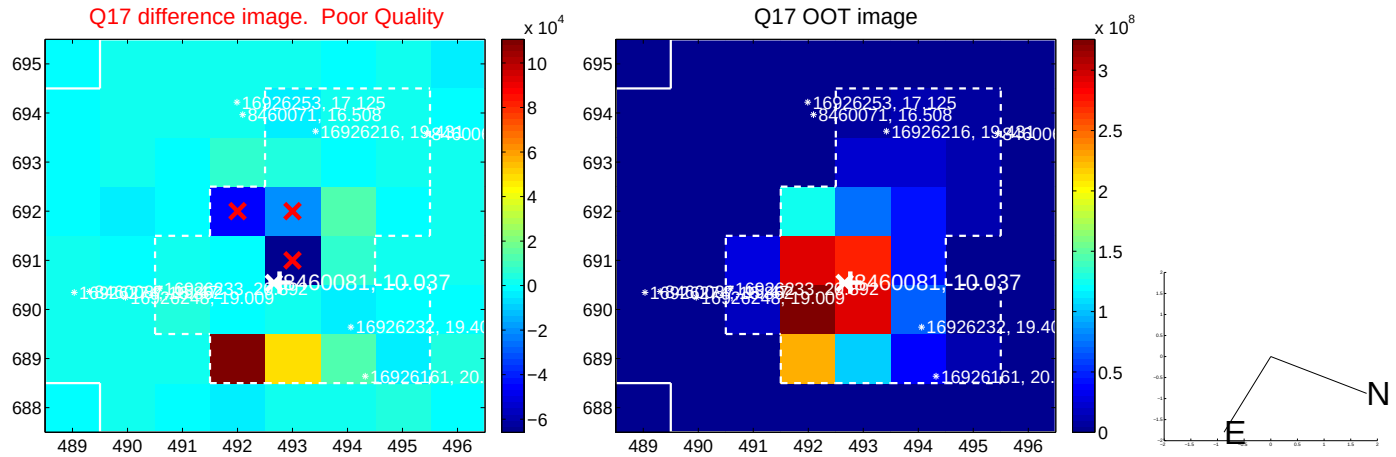
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

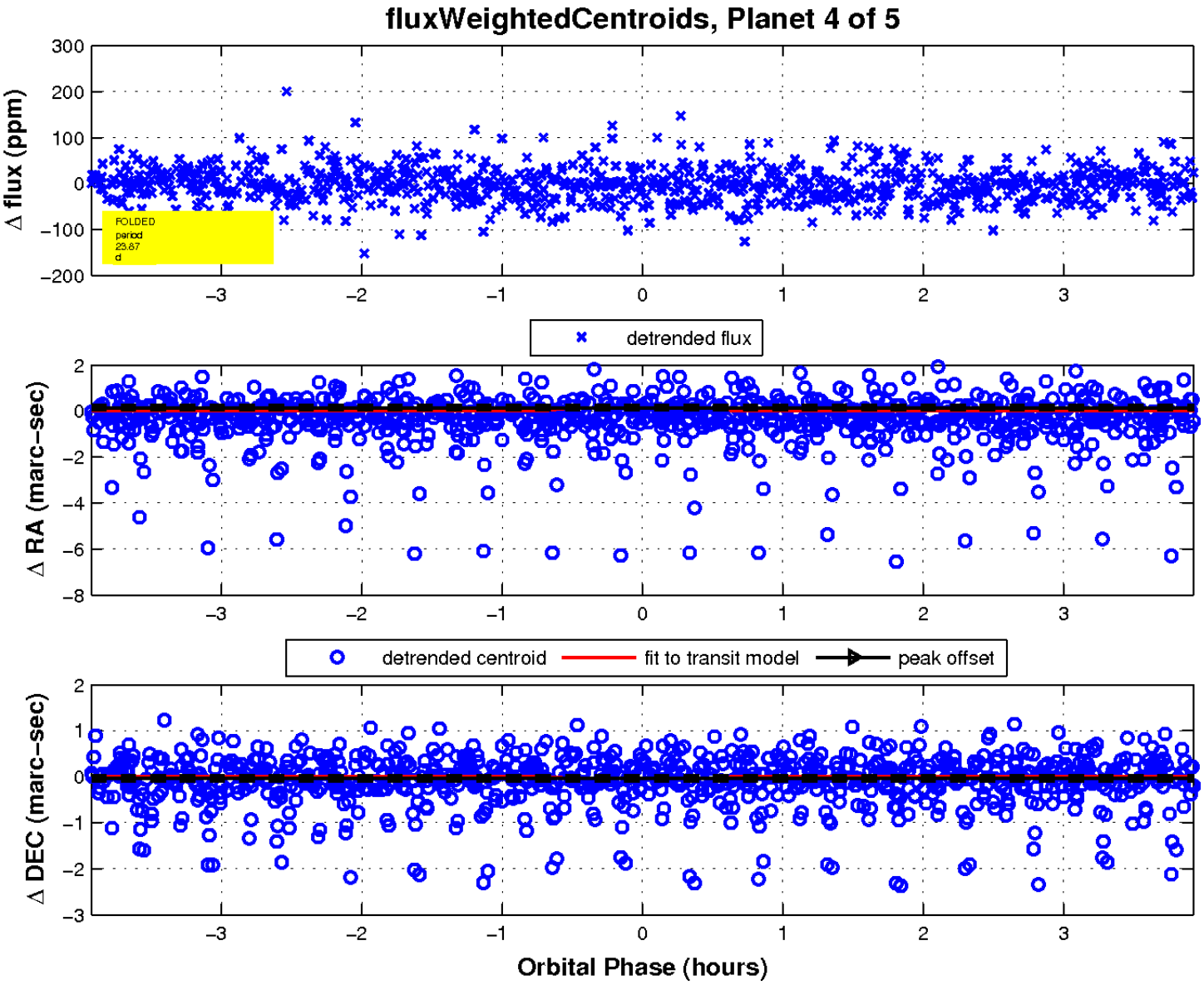


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

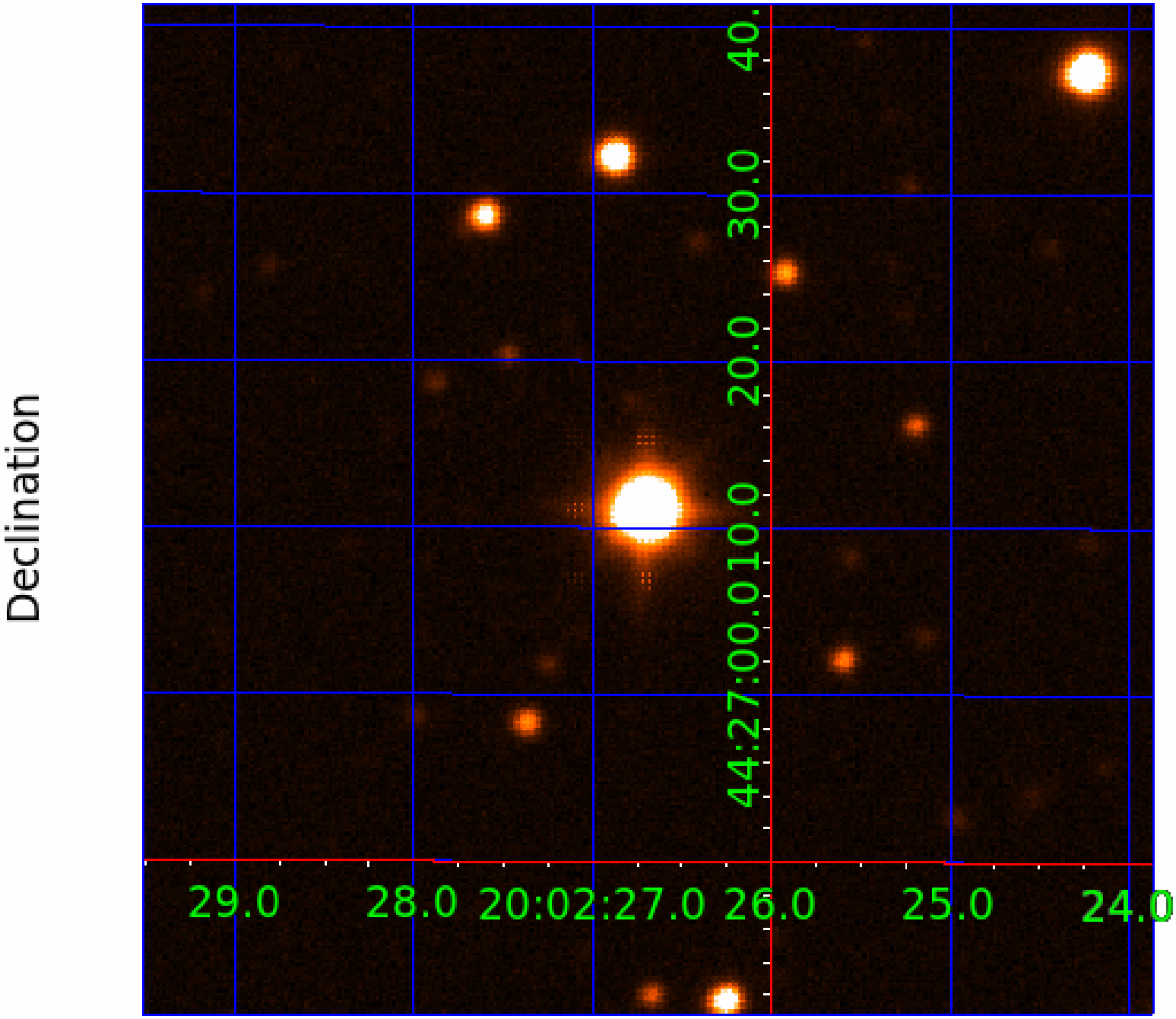


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
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24.0

KIC 008460081

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 ($S_\oplus$)
008460081-01	OBS	No	0.785776	132.169228	1.5	5.733	7.8	2.9	3.79	8729	0.47	142060.93
008460081-02	OBS	No	29.087848	131.522099	181.4	0.956	21.4	16.6	3.79	8729	5.51	1151.48
008460081-03	OBS	No	27.628897	159.105985	145.7	1.130	14.1	12.7	3.79	8729	4.69	1233.26
008460081-04	OBS	No	23.869910	136.727999	143.5	1.312	18.5	14.6	3.79	8729	5.26	1498.78
008460081-05	OBS	No	111.181991	150.642448	131.2	2.000	13.0	-1.0	3.79	8729	4.42	192.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008460081-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008460081-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008460081-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

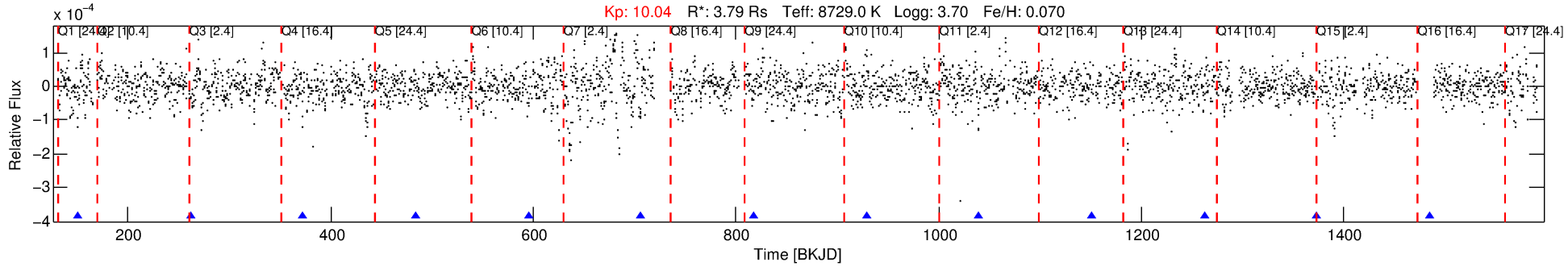
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

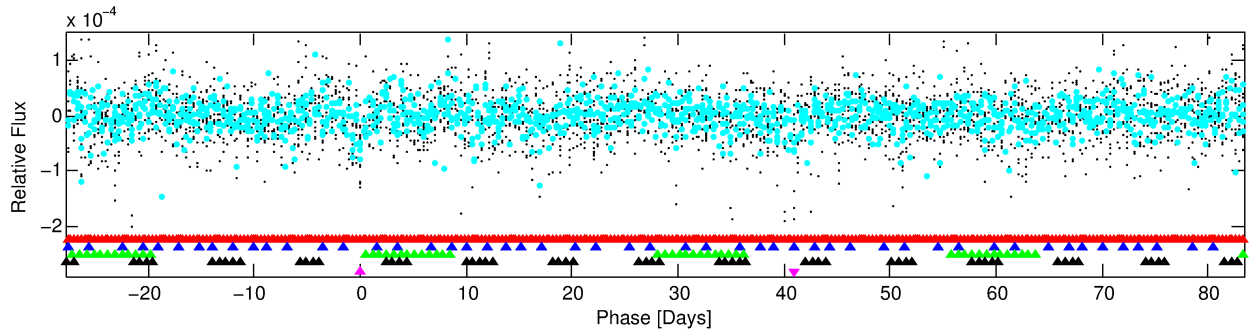
Ephemeris Match Information For 008460081-05

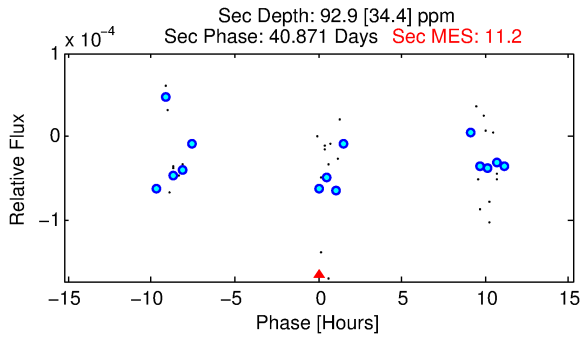
No Significant Match Found

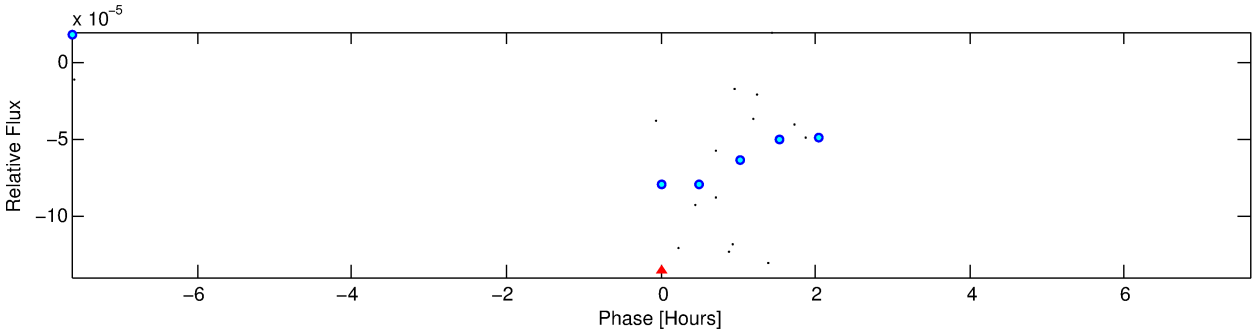
DV One-Page Summary

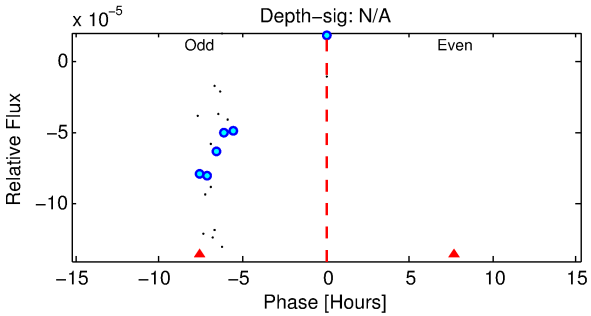
KIC: 8460081 Candidate: 5 of 5 Period: 111.182 d

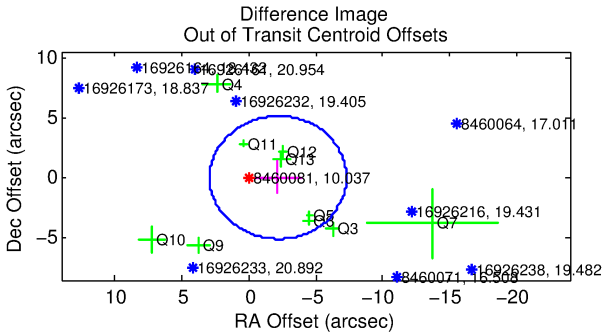












TPS TCE Results:

Period = 111.18199 d
Epoch = 150.6424 BKJD

DV fit results are unavailable

DV Diagnostic Results:

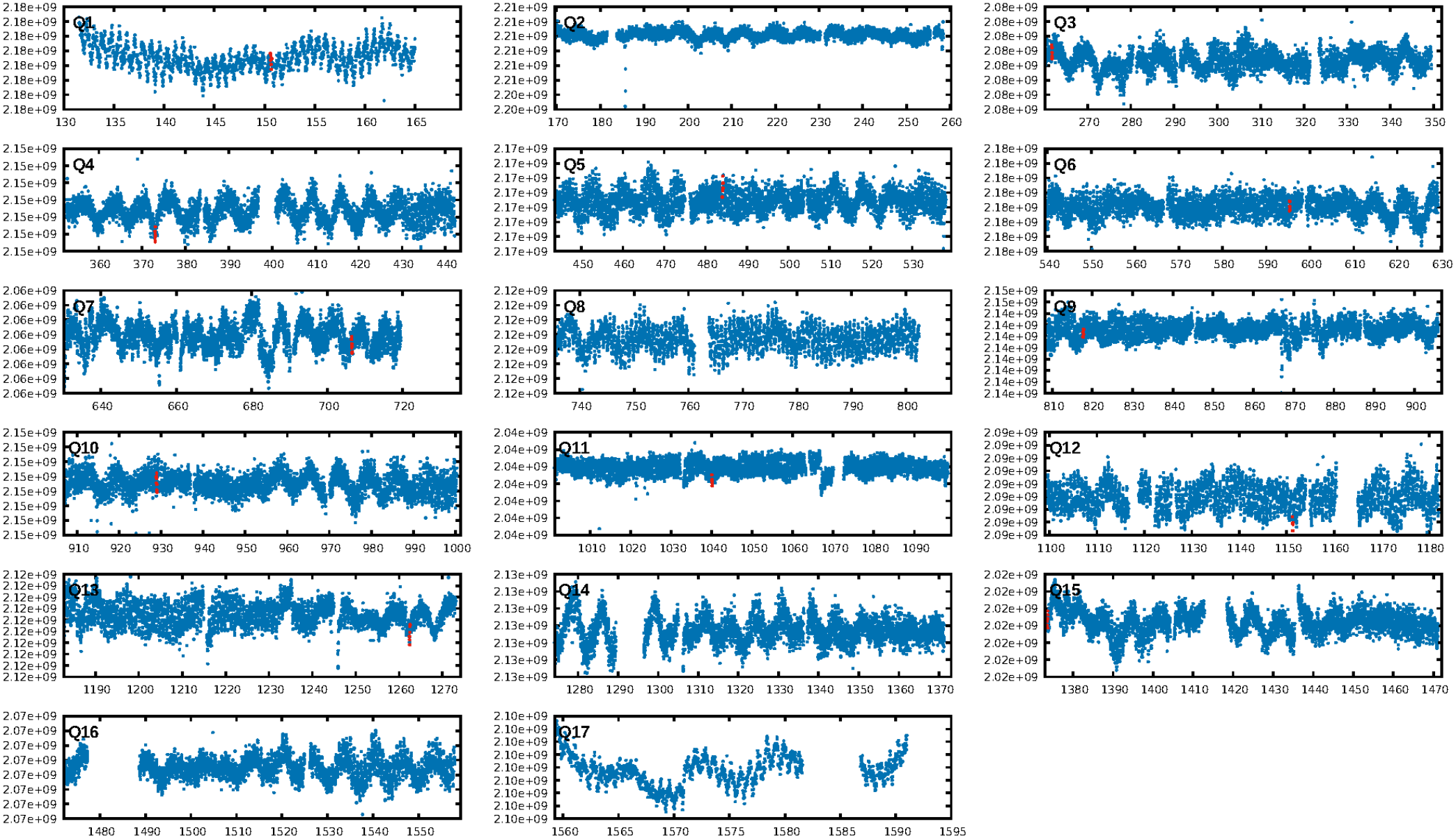
ShortPeriod−sig: 100.0% [888.78σ]
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 4.87e−13
RollingBand−fgt: 1.00 [5/5]
GhostDiagnostic−chr: N/A

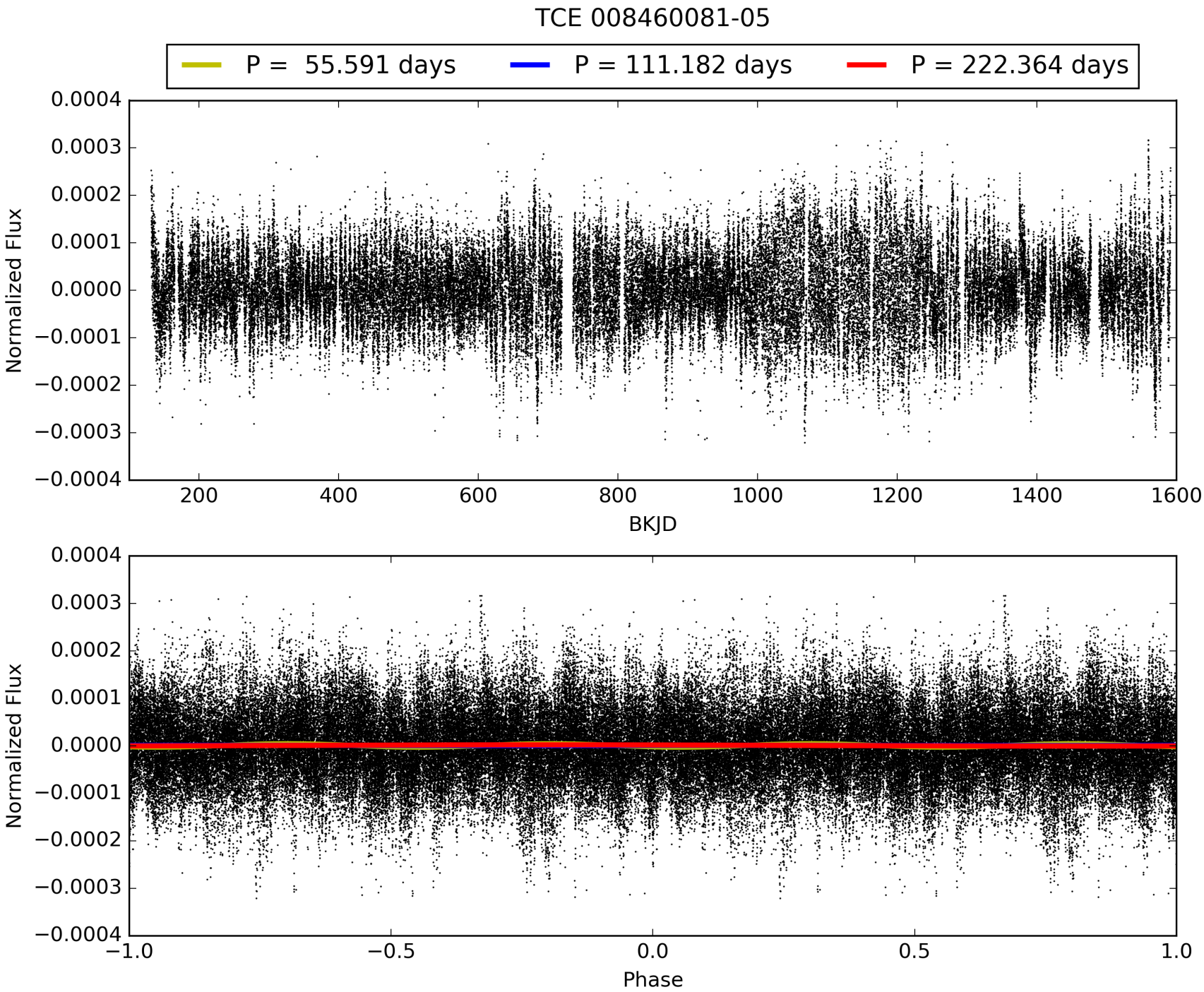
Centroid−sig: 5.5%
Centroid−so: 2.221 arcsec [1.36σ]
OotOffset−rm: 2.185 arcsec [1.28σ]
KicOffset−rm: 2.266 arcsec [1.39σ]
OotOffset−st: 2/3/2/3 [10]
KicOffset−st: 2/3/2/3 [10]
DiffImageQuality−fgm: 0.20 [2/10]
DiffImageOverlap−fno: 0.00 [0/11]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 04:59:06 Z

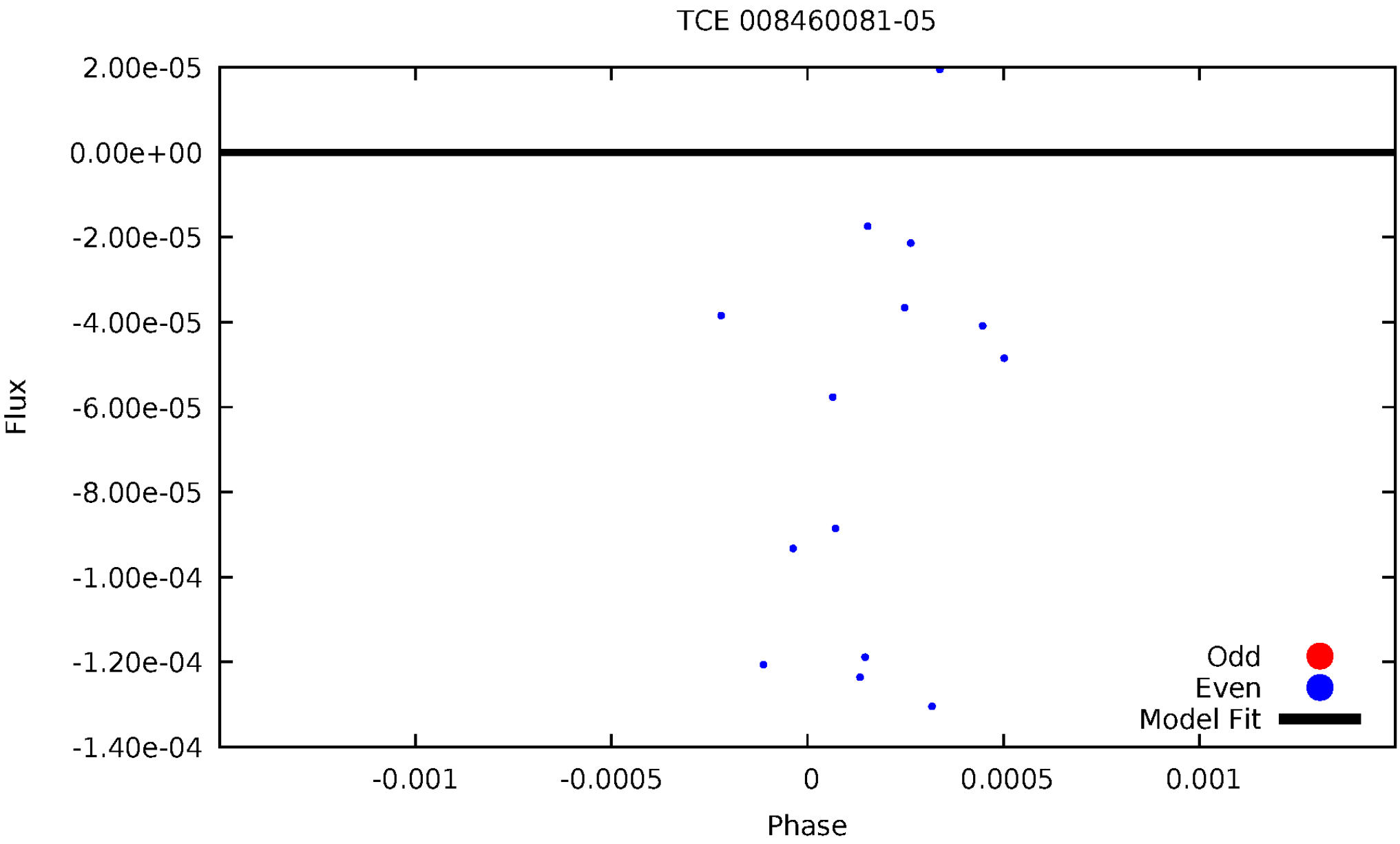
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008460081-05, PDC Light Curves




TCE 008460081-05
P = 55.591 days
P = 111.182 days
P = 222.364 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 008460081-05
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0.00e+00
-2.00e-05
-4.00e-05
-6.00e-05
-8.00e-05
-1.00e-04
-1.20e-04
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Flux
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0
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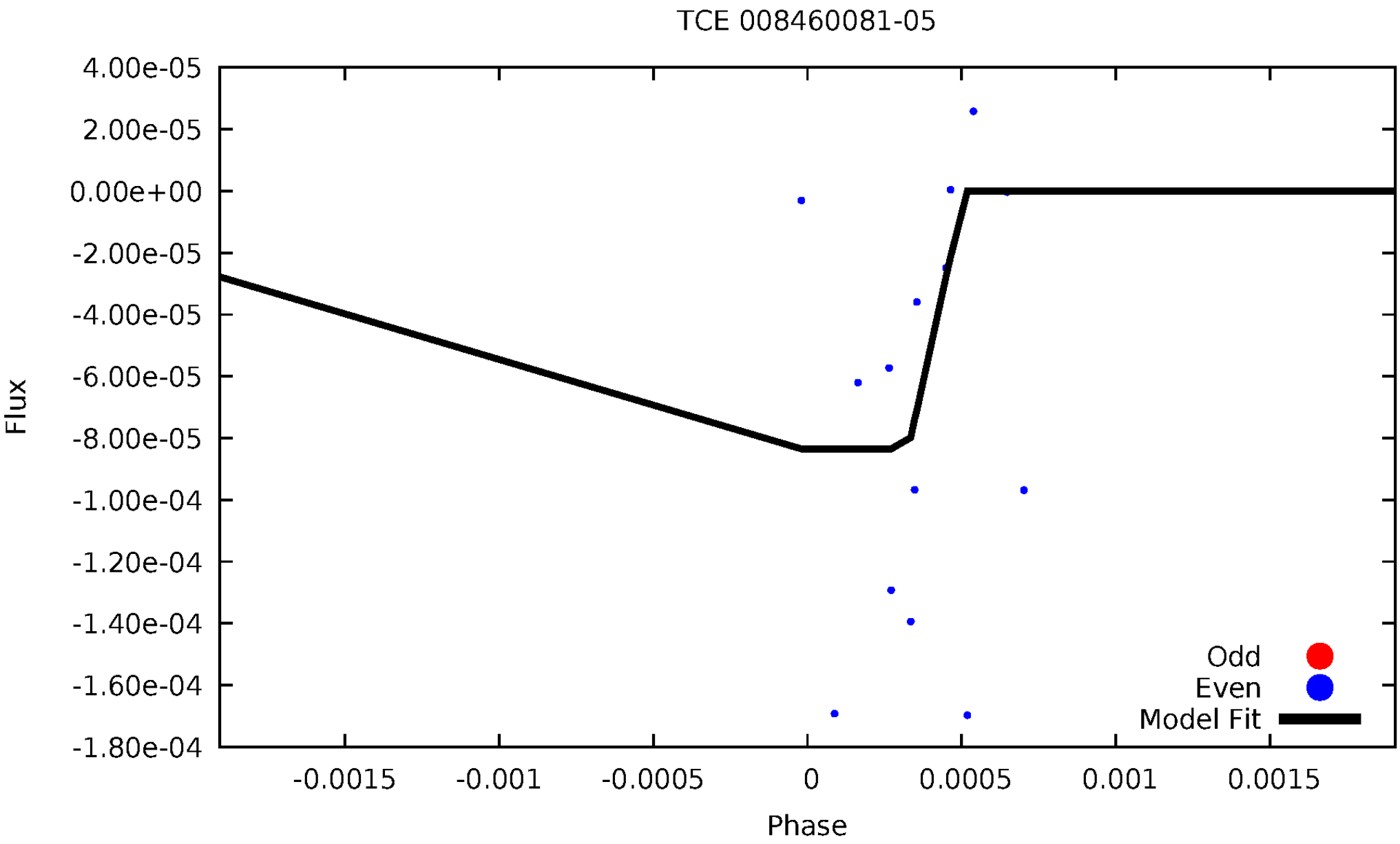
0.001
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 008460081-05
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-1.00e-04
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Flux
-0.0015
-0.001
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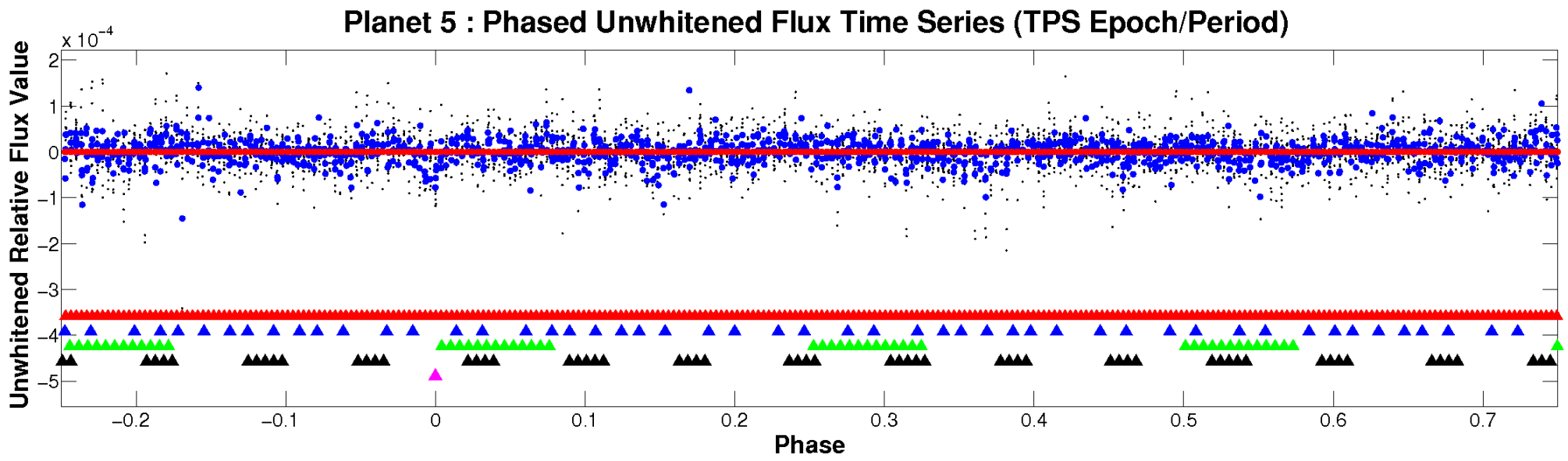
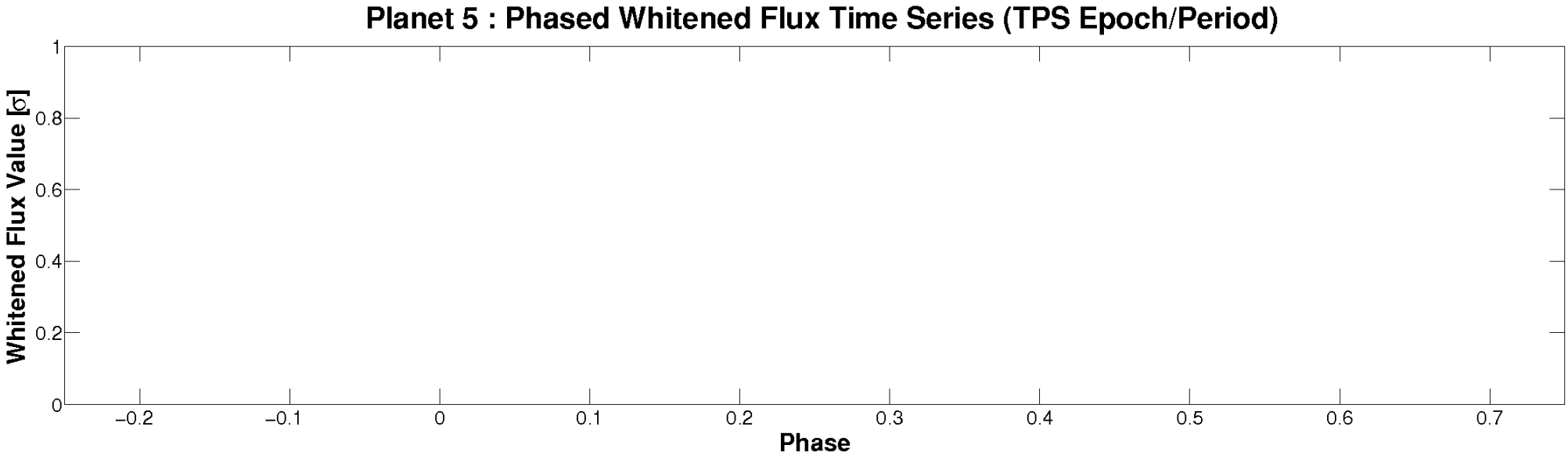
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

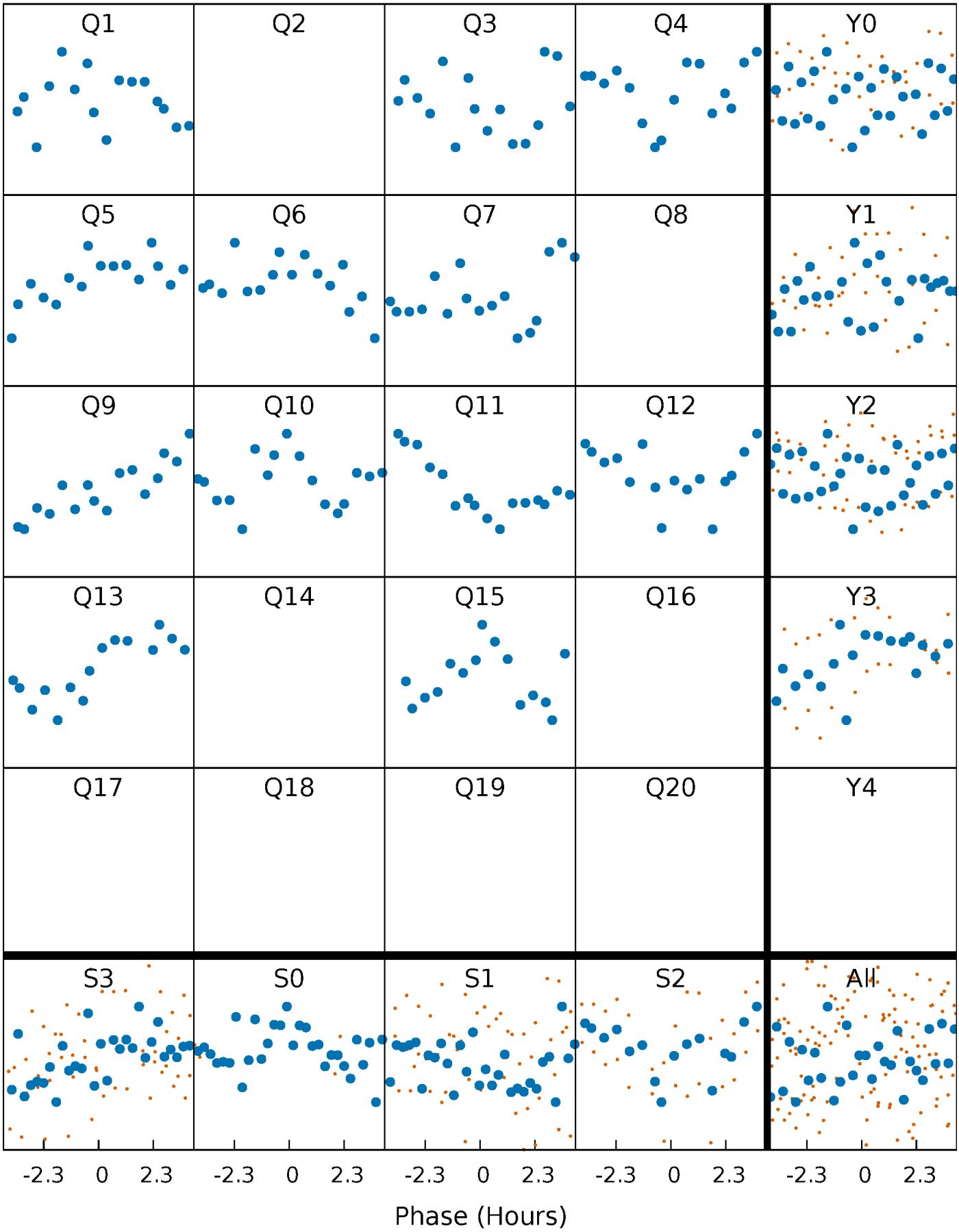
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 008460081-05 P=111.181991 Days T_0=150.642448 (BKJD)



DV Quarter-Phased Transit Curves

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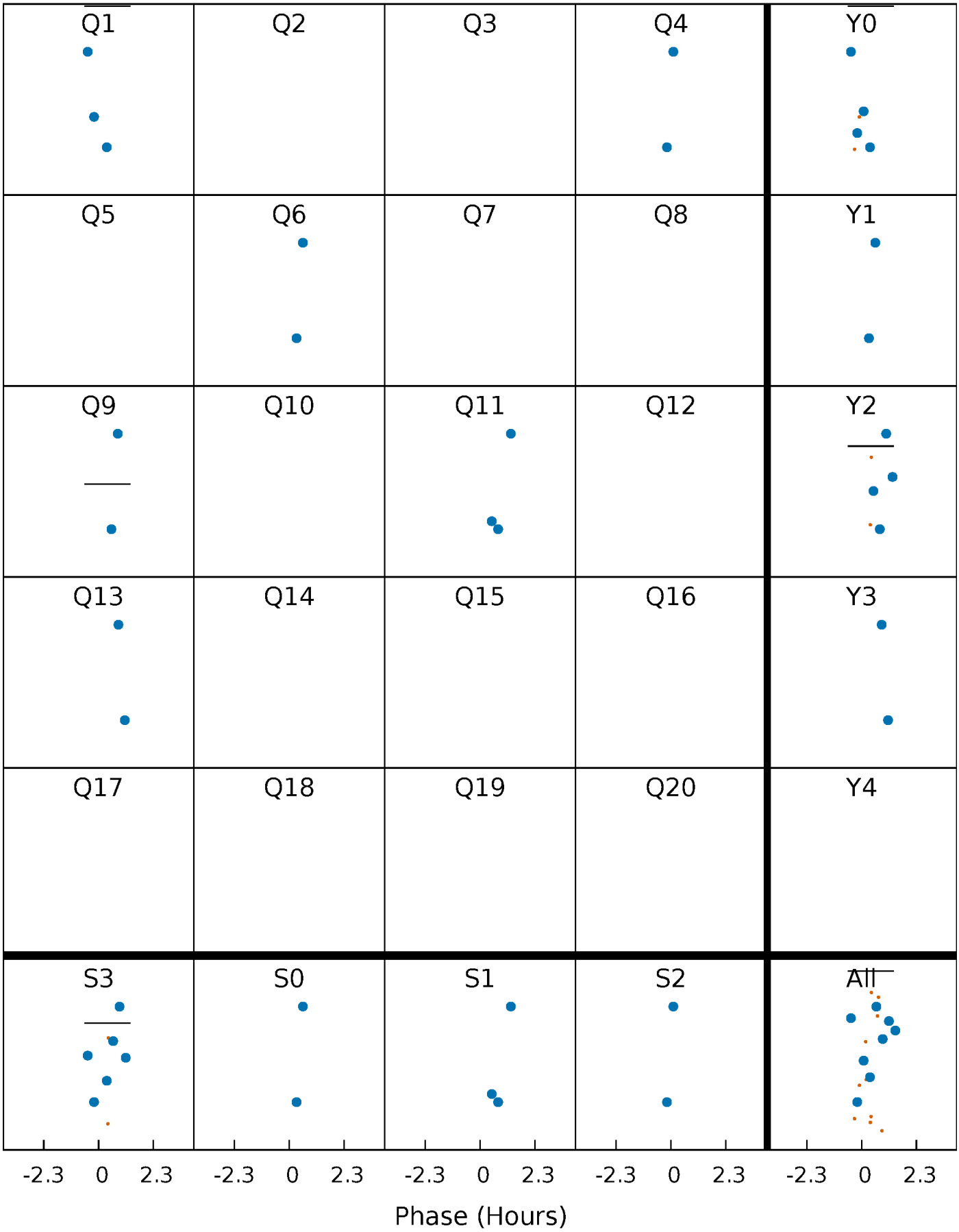

Alt. Detrend Quarter-Phased Transit Curves

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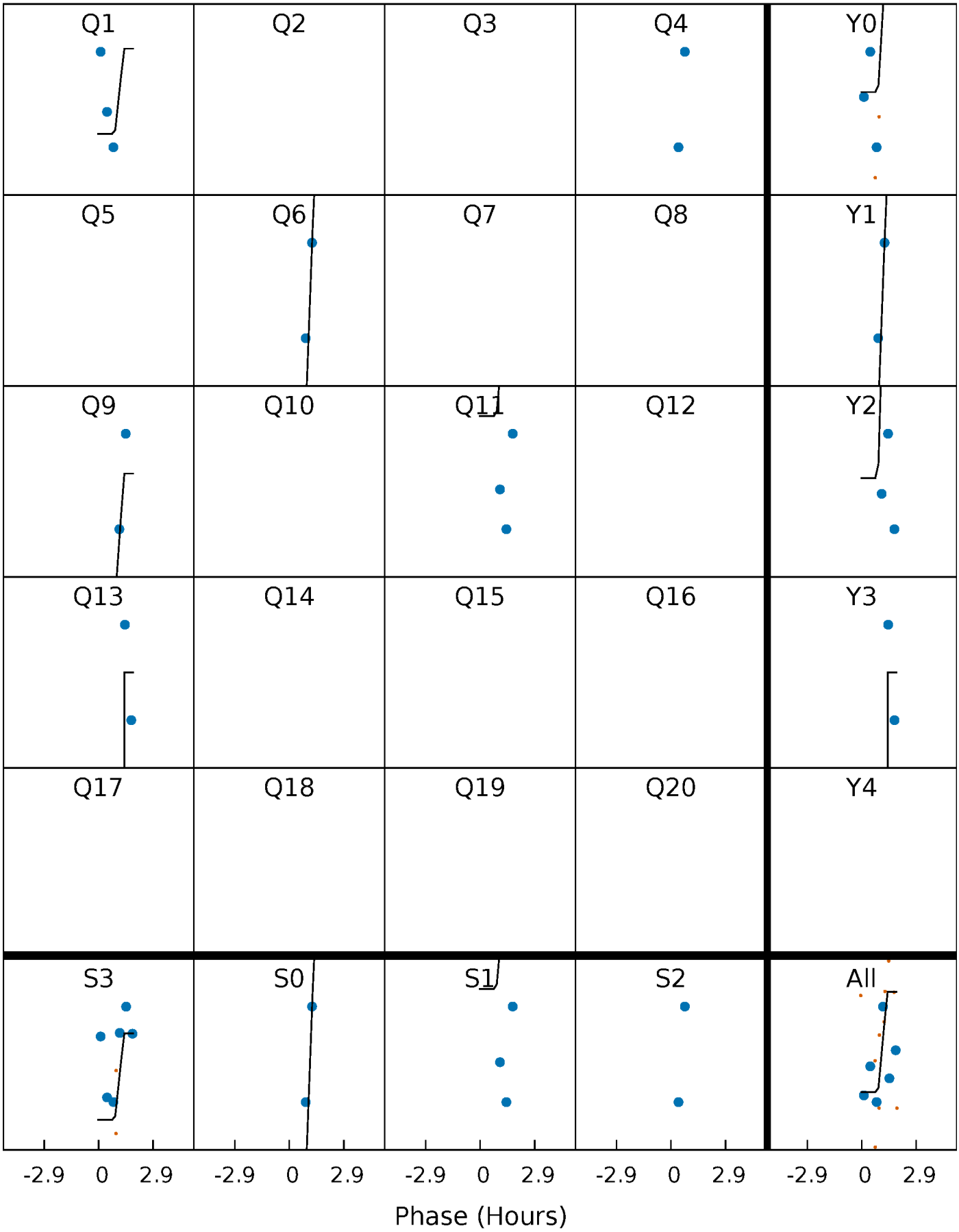
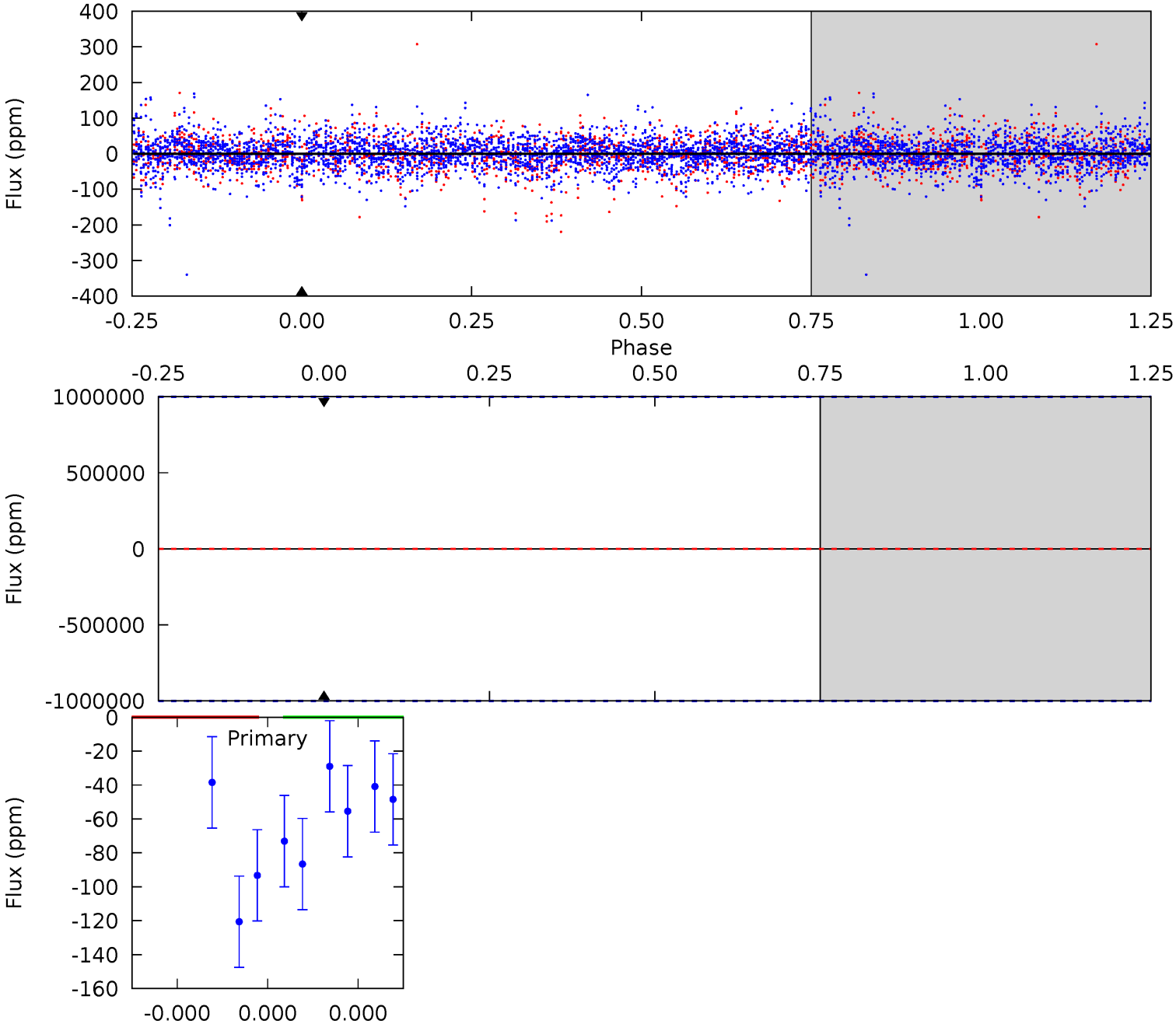


DV Model-Shift Uniqueness Test

008460081-05, P = 111.181991 Days, E = 39.460457 Days

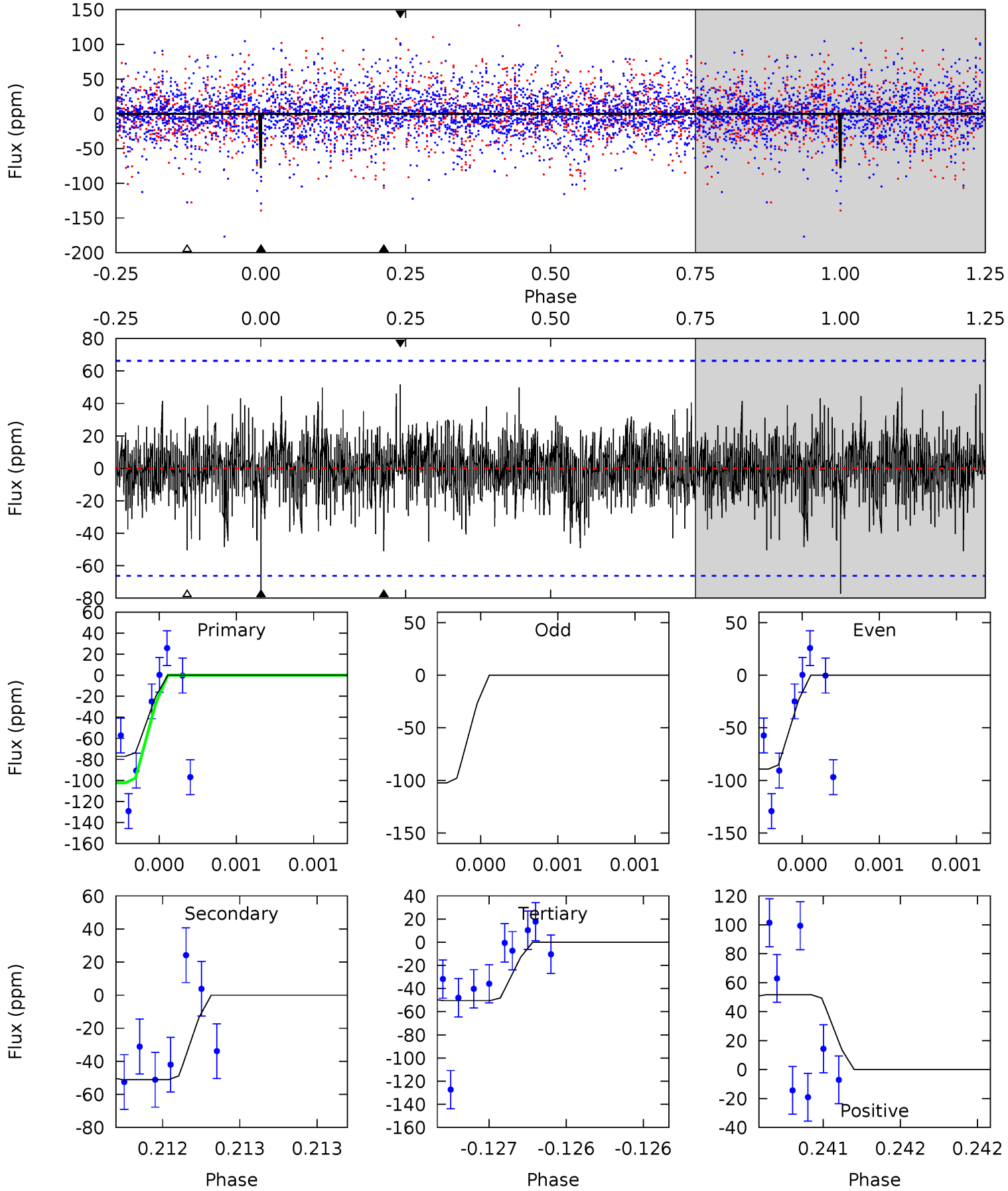
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008460081-05, P = 111.181991 Days, E = 39.438143 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.50	4.30	4.25	4.35	5.58	3.49	1.09	2.25	2.15	0.05	-0.05	0.75	1.48	0.40	0.00



Stellar Parameters For KIC 008460081

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	8729^{+240}_{-411}	$3.696^{+0.457}_{-0.152}$	$0.070^{+0.250}_{-0.600}$	$3.786^{+0.869}_{-2.029}$	$2.593^{+0.313}_{-1.002}$	$0.067^{+0.381}_{-0.025}$
	+3%/-5%	+12%/-4%	+357%/-857%	+23%/-54%	+12%/-39%	+566%/-37%
Source	KIC0	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 008460081-05 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0±1000000	$25.03^{+31.21}_{-17.95}$	1294^{+112}_{-175}	6001^{+78969}_{-69575}	293^{+74769}_{-60071}
Alt.	-51±12	$27.44^{+31.62}_{-19.77}$	1295^{+115}_{-168}	3197^{+1609}_{-617}	14^{+163}_{-11}

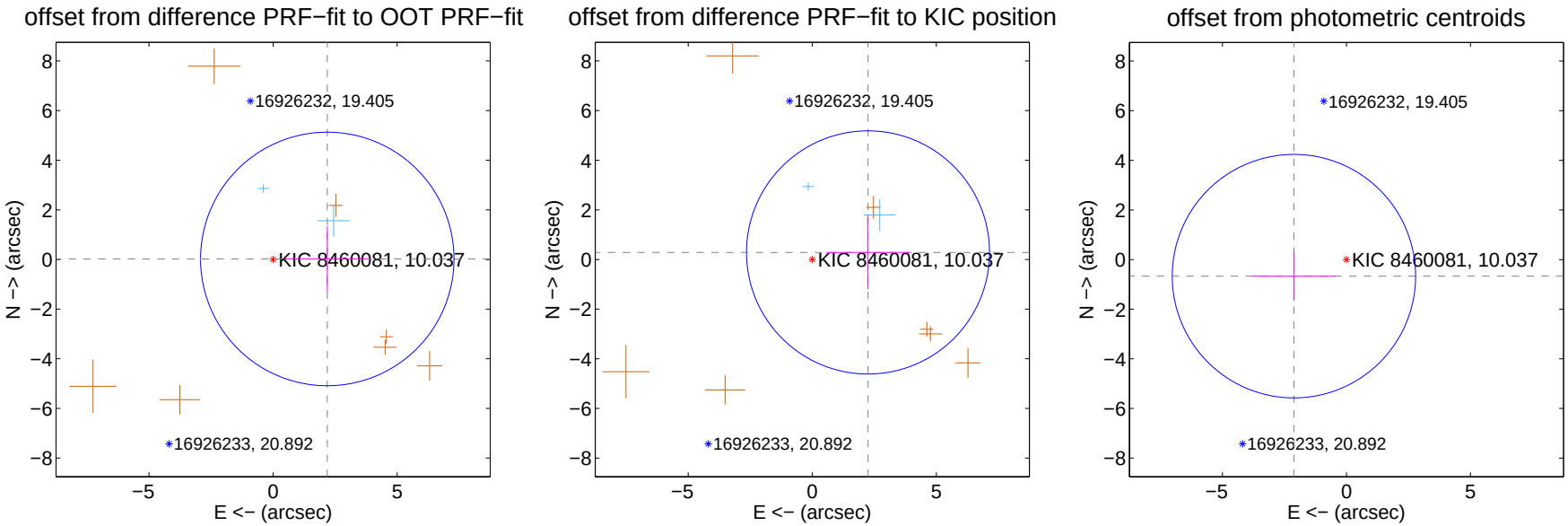
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

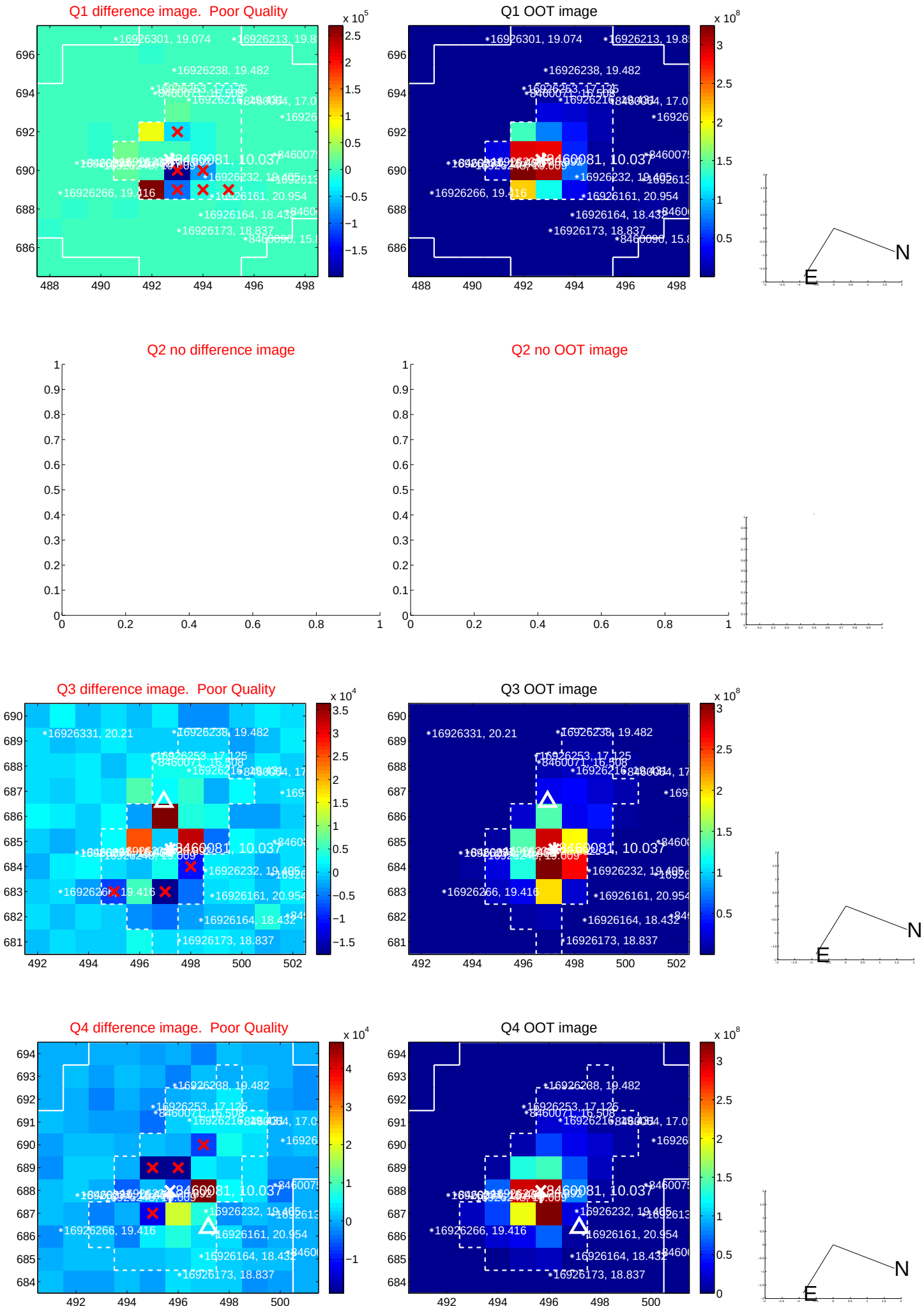
Supplemental centroid analysis for 008460081-05. Kepler magnitude: 10.04. Transit SNR -1.00
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.185 ± 1.703	1.28	-2.185 ± 1.705	0.022 ± 1.317
PRF-fit source offset from KIC position	2.266 ± 1.633	1.39	-2.248 ± 1.675	0.285 ± 1.485
photometric centroid source offset	2.22 ± 1.64	1.36	2.12 ± 1.69	-0.67 ± 0.98

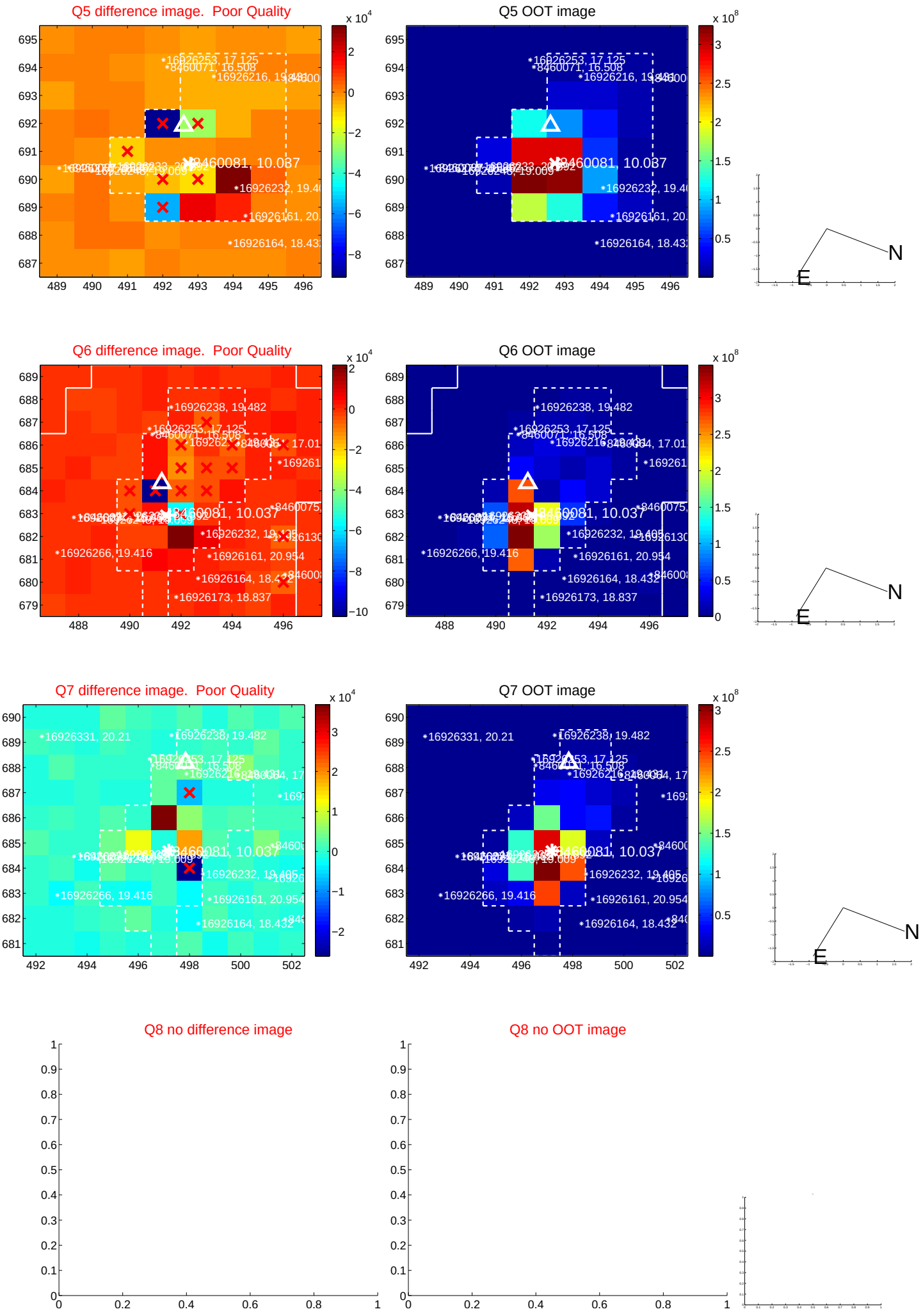


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

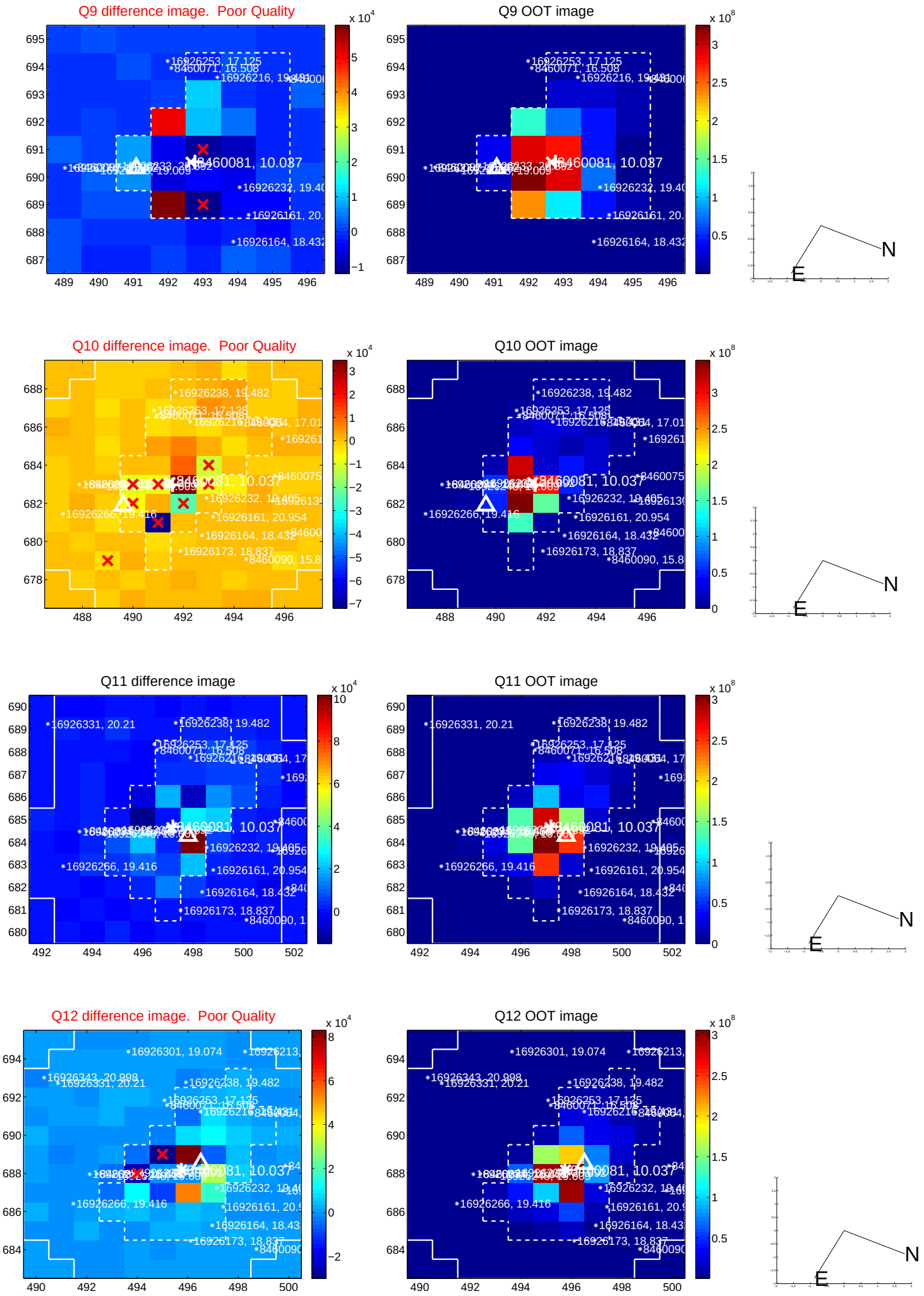
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



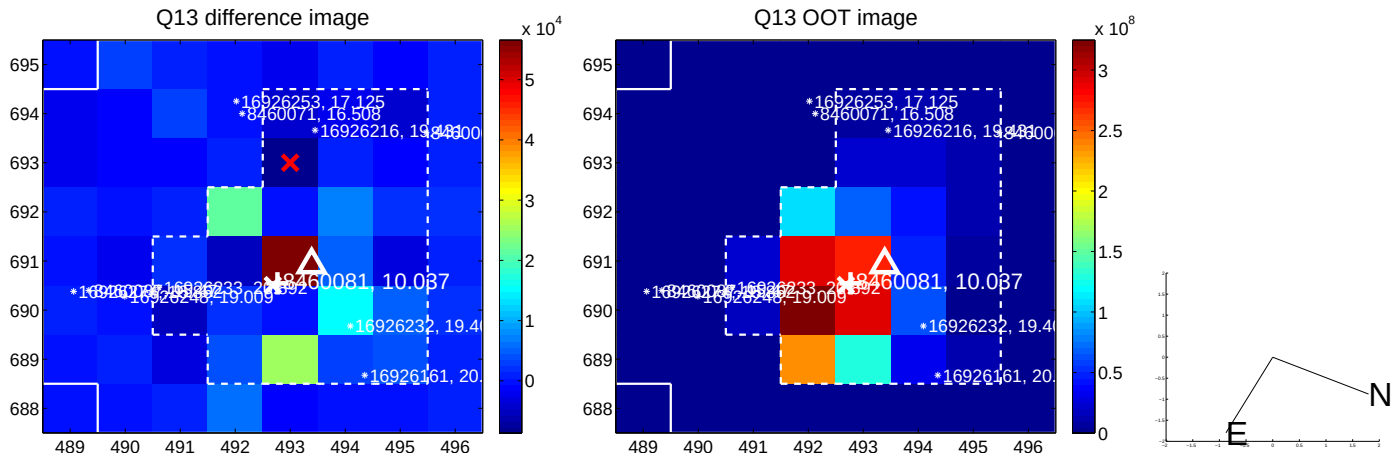
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

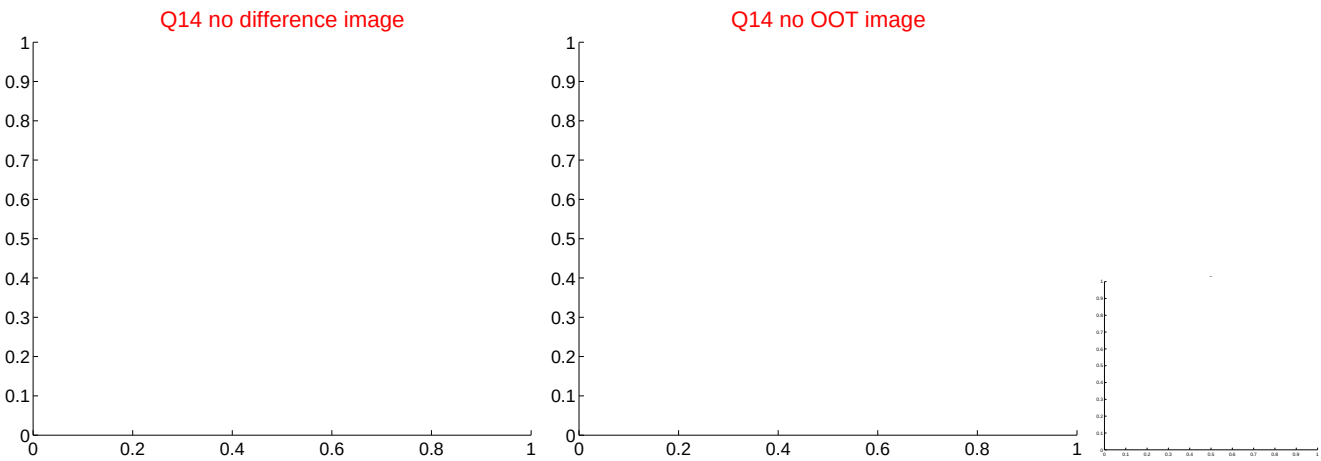


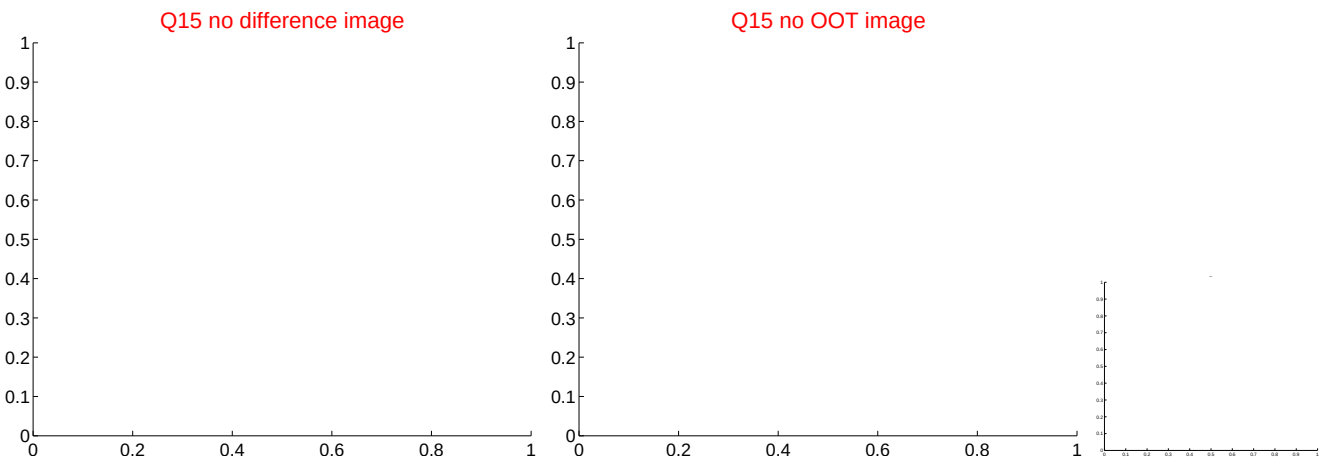
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

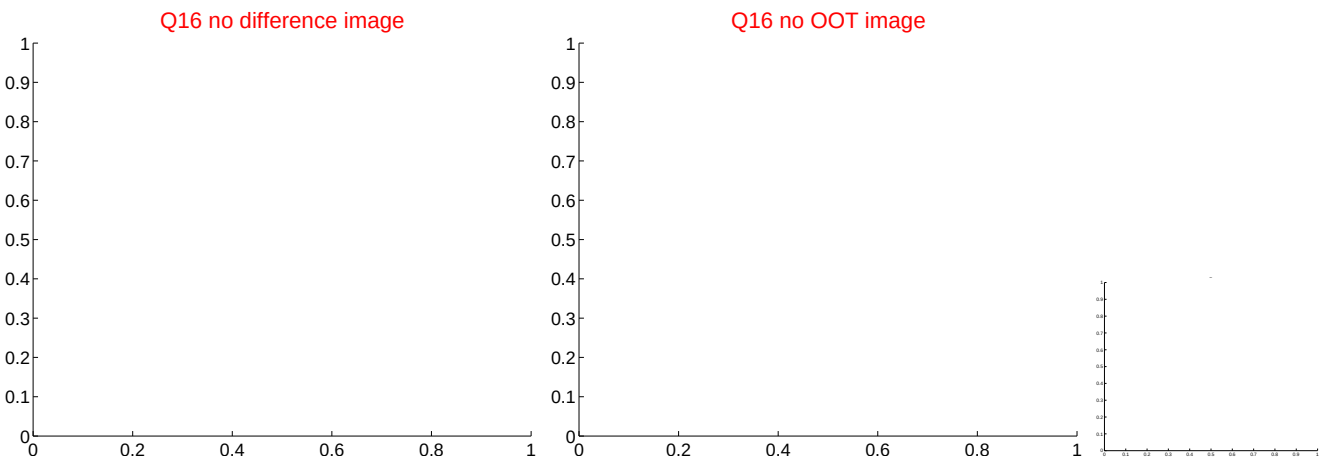


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

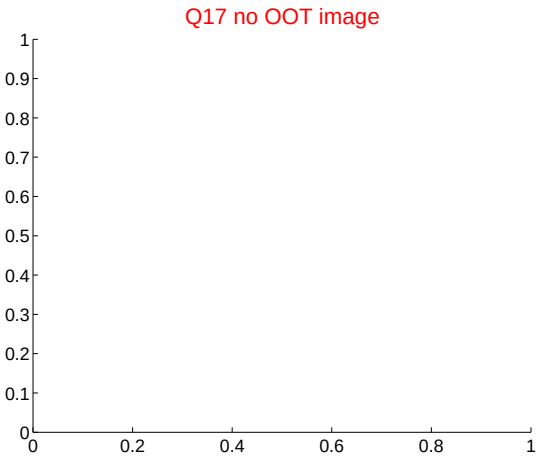


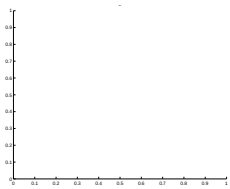


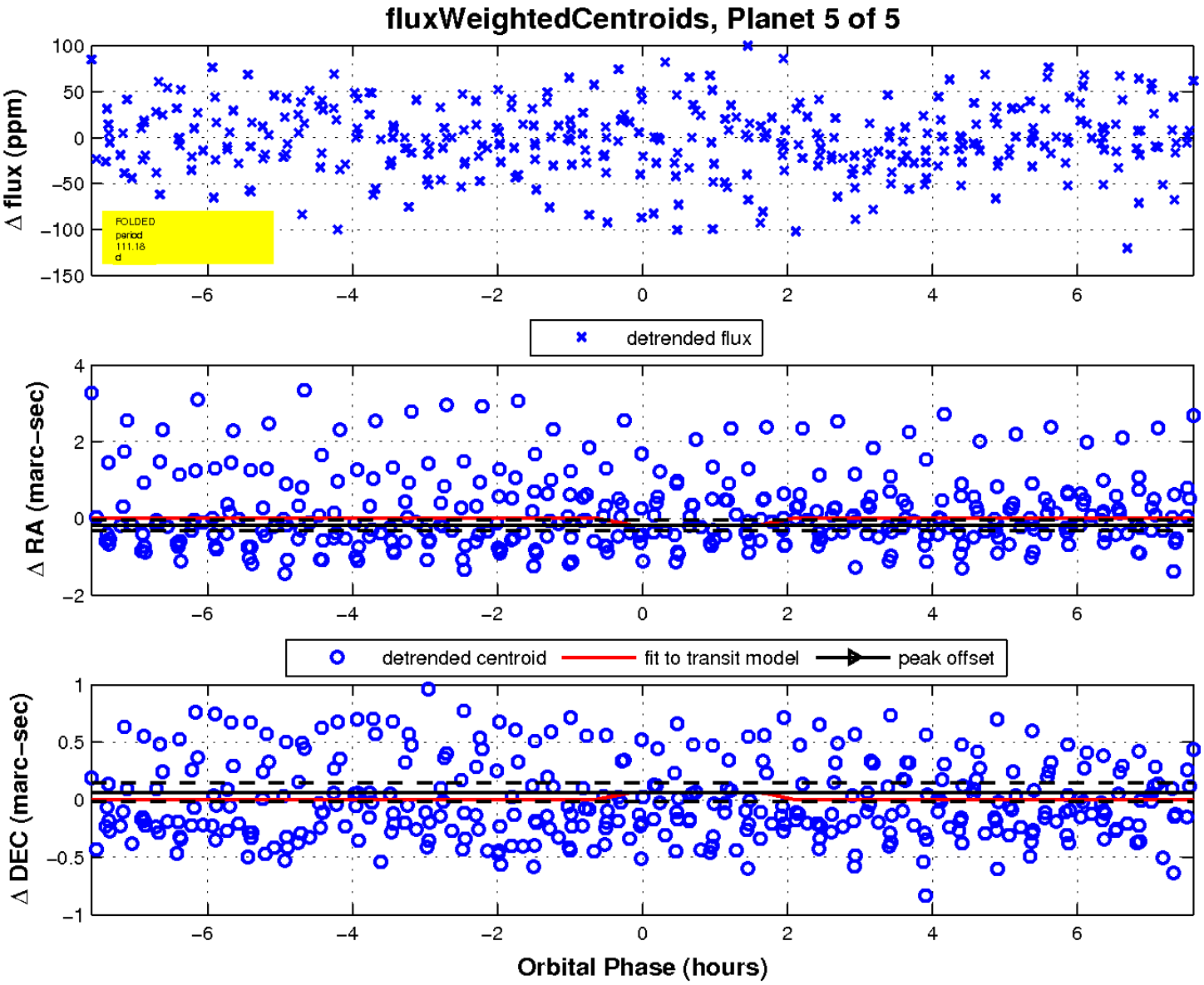




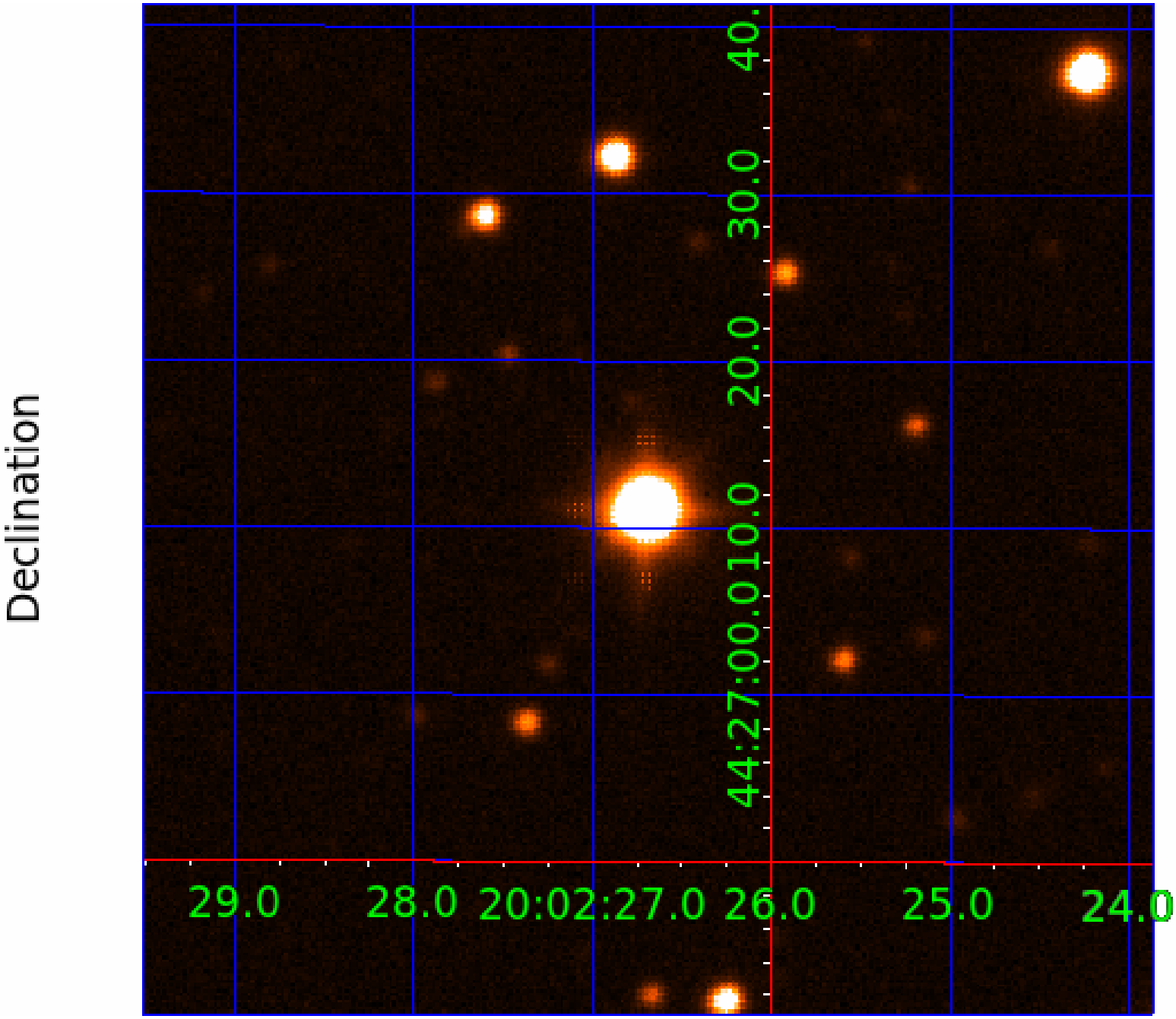
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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