

KIC 010813970

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})
010813970-01	OBS	No	0.514377	131.636375	504.2	0.722	12.8	19.5	3.18	7671	7.36	0.00
010813970-02	OBS	No	0.514377	131.841914	600.6	0.806	14.4	22.2	3.18	7671	7.99	0.00
010813970-03	OBS	No	0.514369	131.533035	104.2	1.077	11.4	3.7	3.18	7671	3.43	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010813970-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010813970-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010813970-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

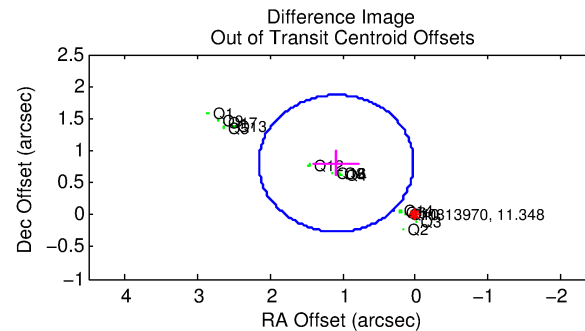
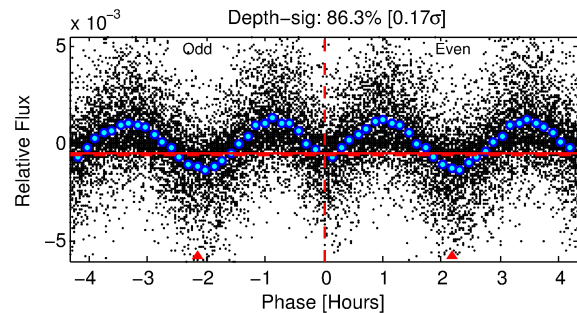
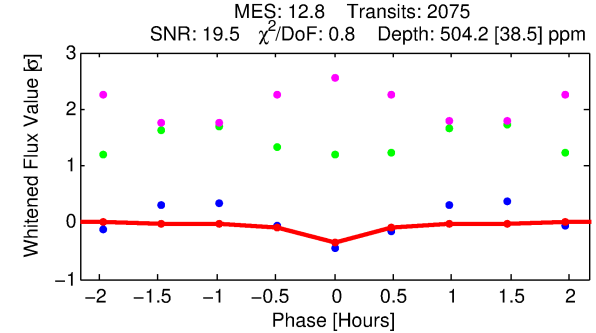
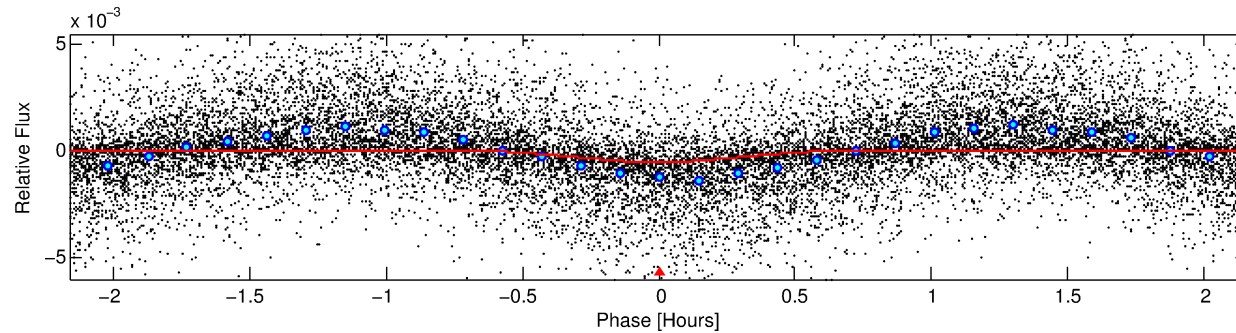
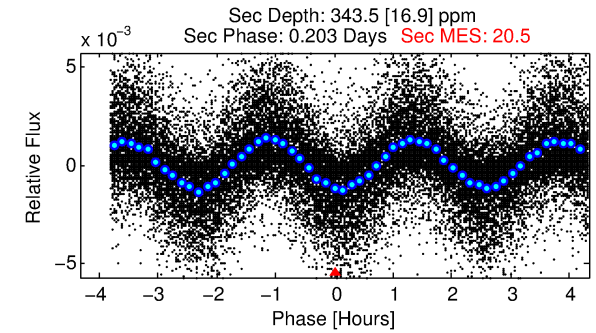
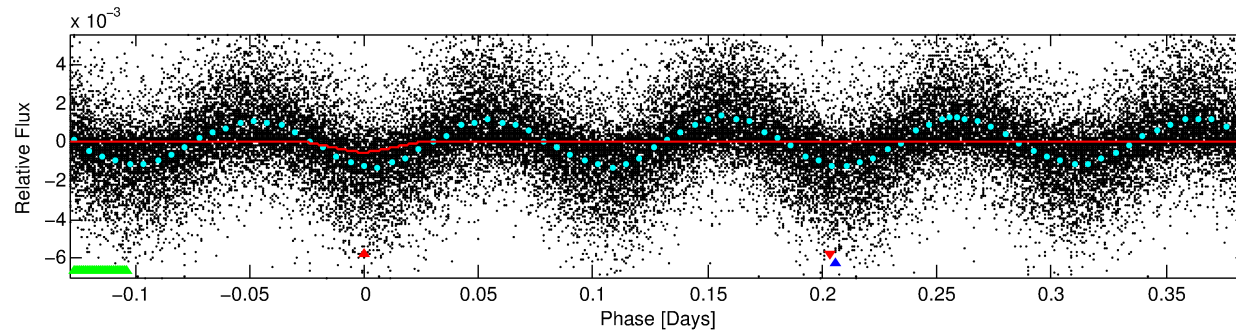
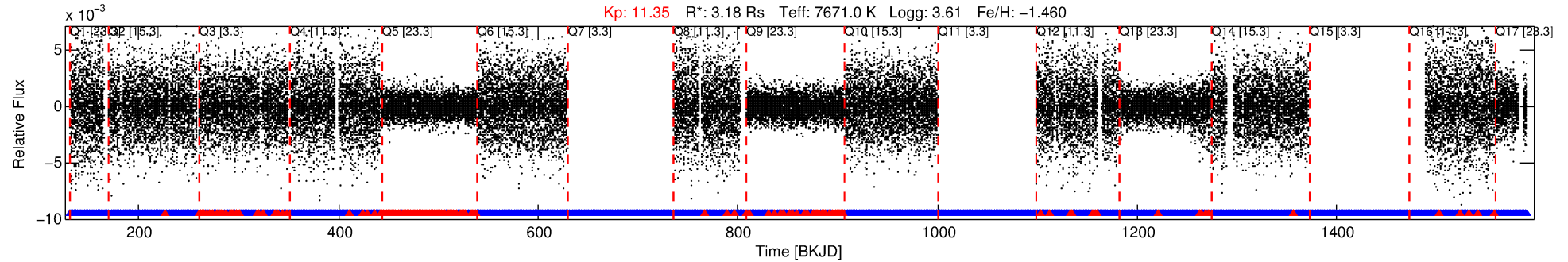
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010813970-01

No Significant Match Found

DV One-Page Summary

KIC: 10813970 Candidate: 1 of 3 Period: 0.514 d



DV Fit Results:

Period = 0.51438 [0.00001] d
Epoch = 131.6364 [0.0007] BKJD
Rp/R* = 0.0212 [0.0079]
a/R* = 5.44 [10.96]
b = 0.24 [8.12]
Seff = N/A
Teq = N/A
Rp = 7.36 [5.70] Re
a = N/A
Ag = N/A
Teffp = N/A

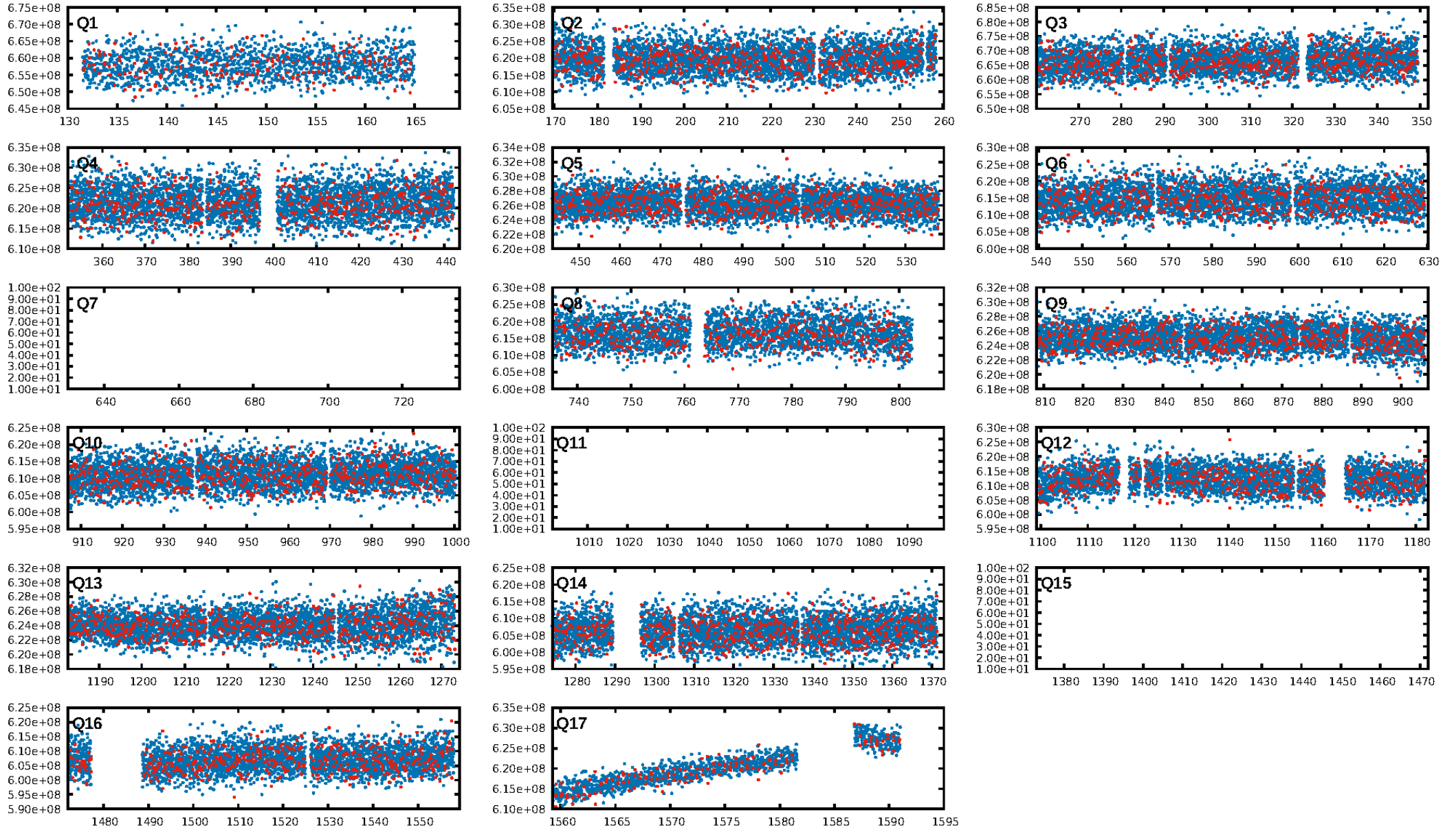
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [1752/1958]
GhostDiagnostic-chr: 114.8
Centroid-sig: 0.0%
Centroid-so: 0.107 arcsec [1.74σ]
OotOffset-rm: 1.351 arcsec [3.80σ]
KicOffset-rm: 1.554 arcsec [4.07σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

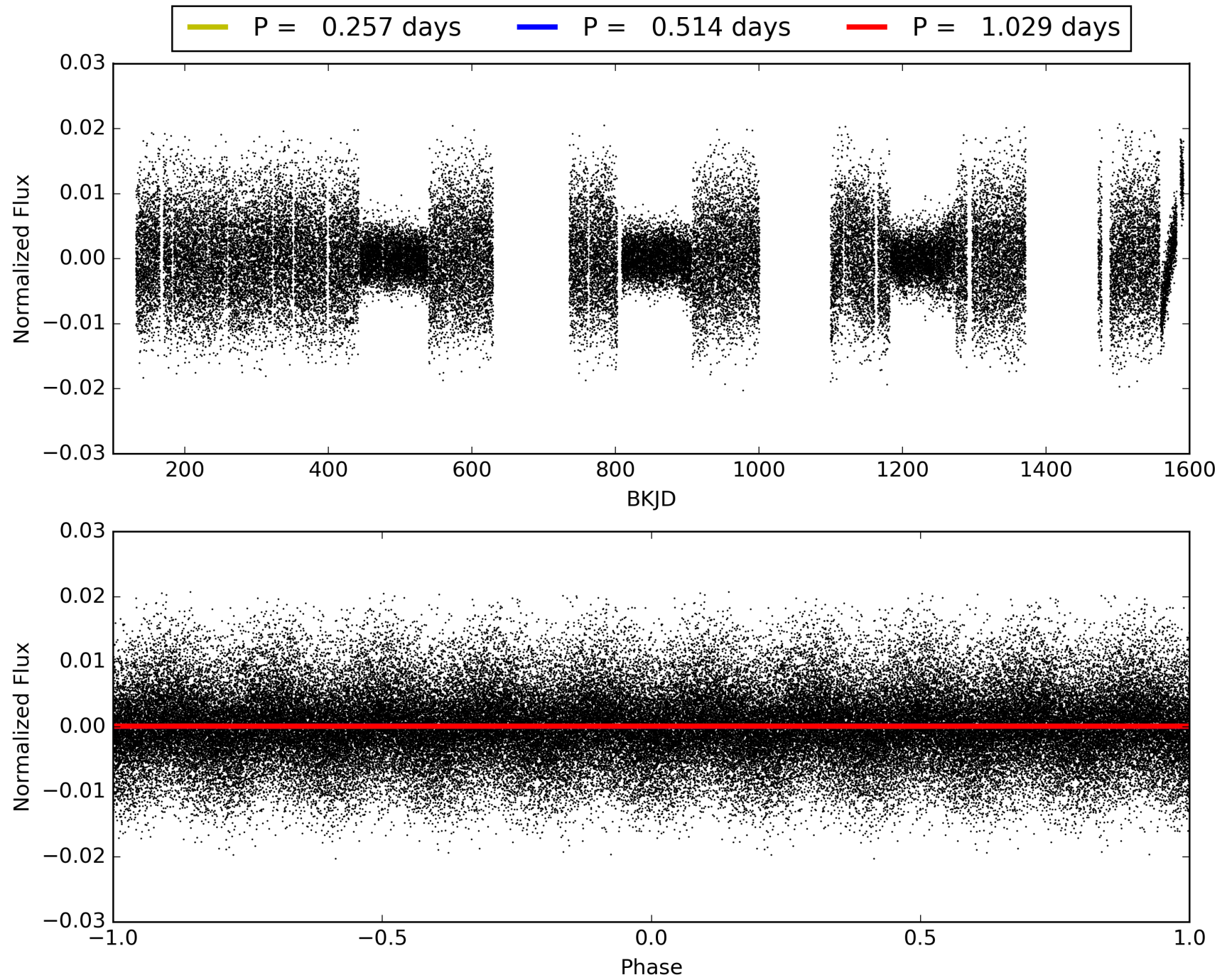
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010813970-01, PDC Light Curves

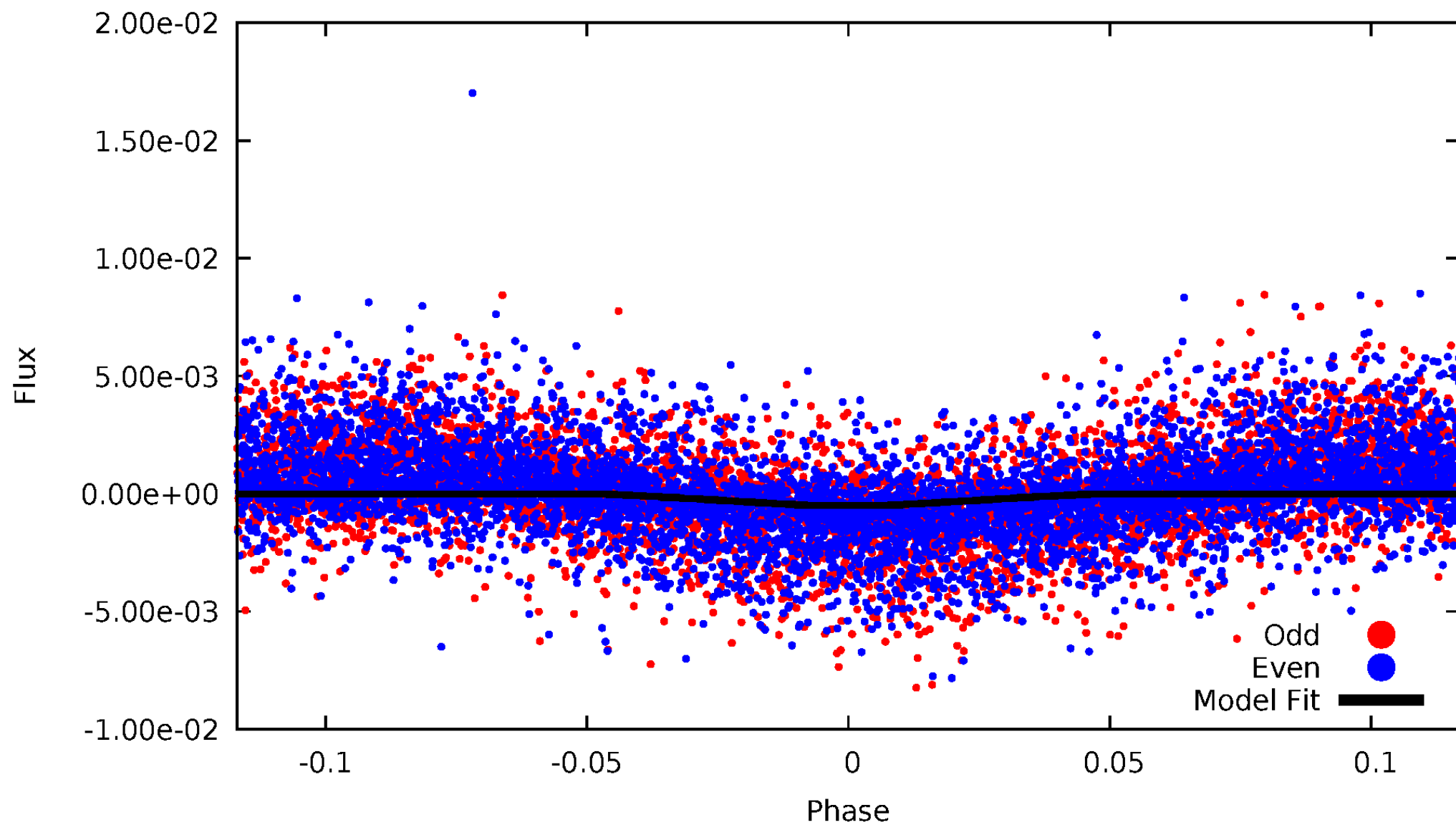


TCE 010813970-01



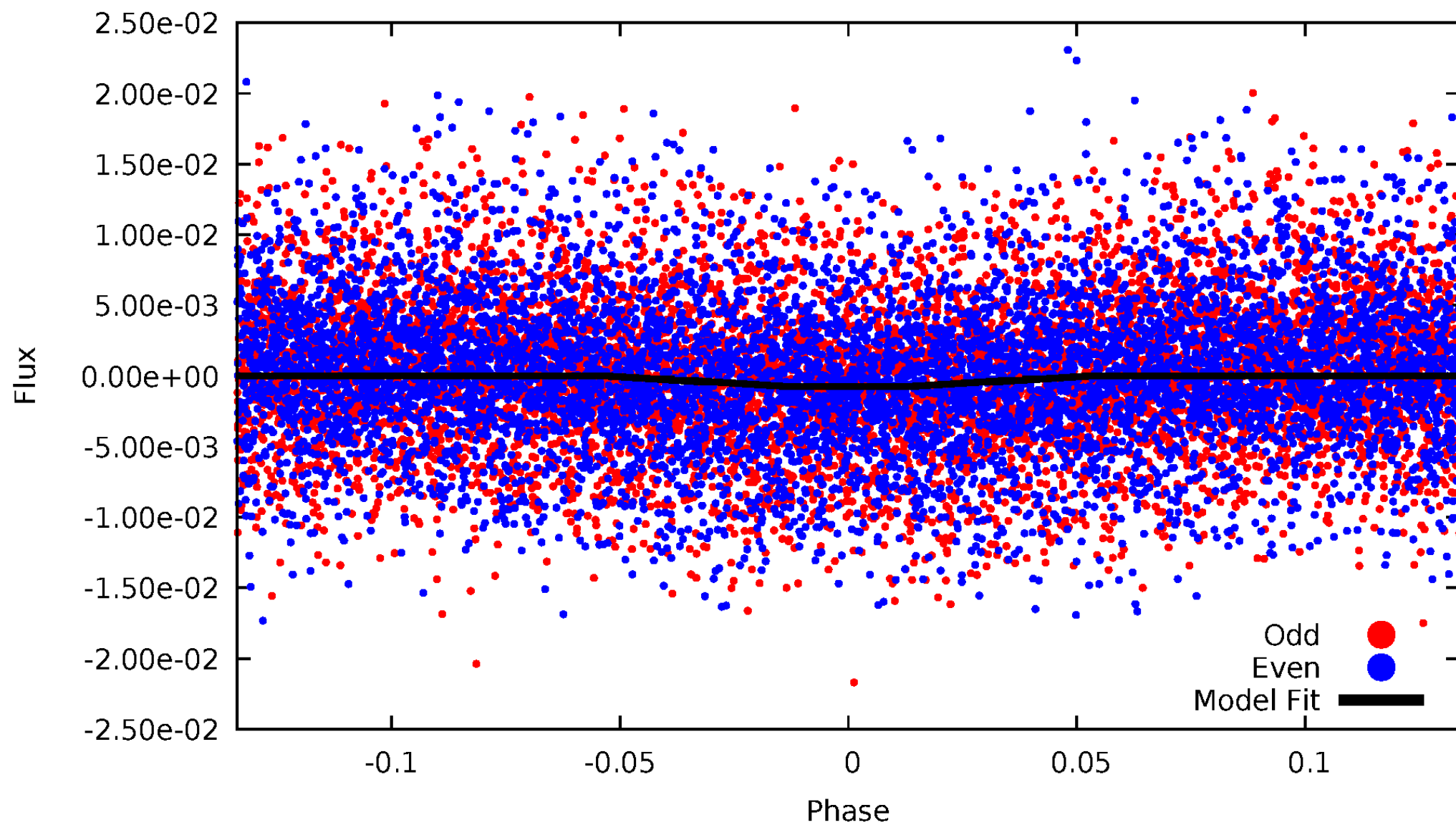
DV Odd/Even

TCE 010813970-01

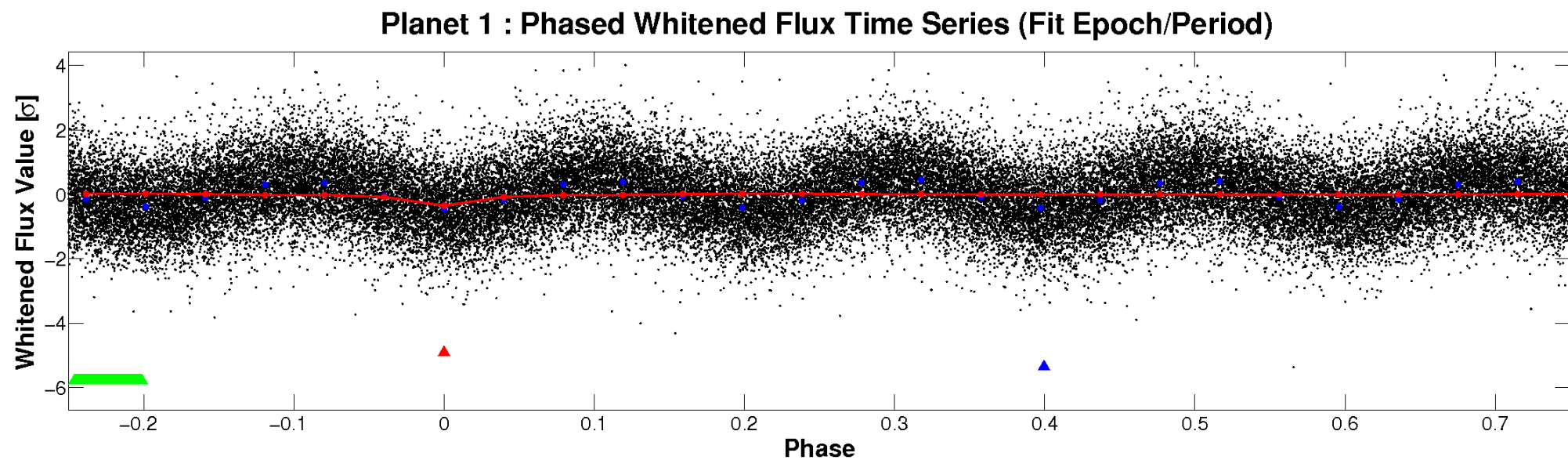
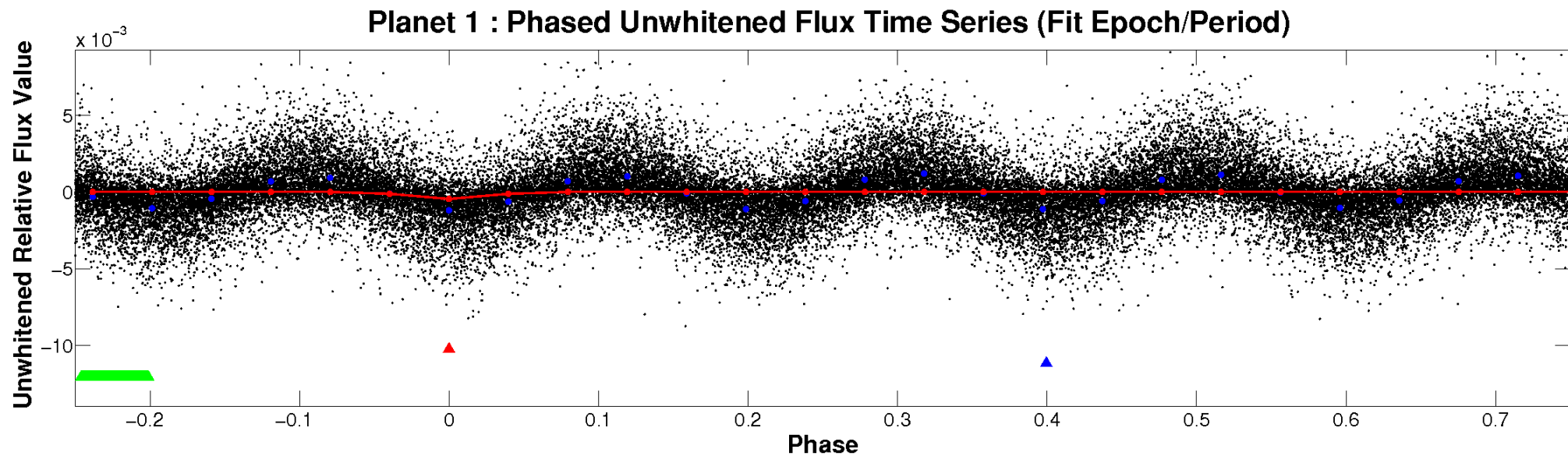


ALT Odd/Even

TCE 010813970-01

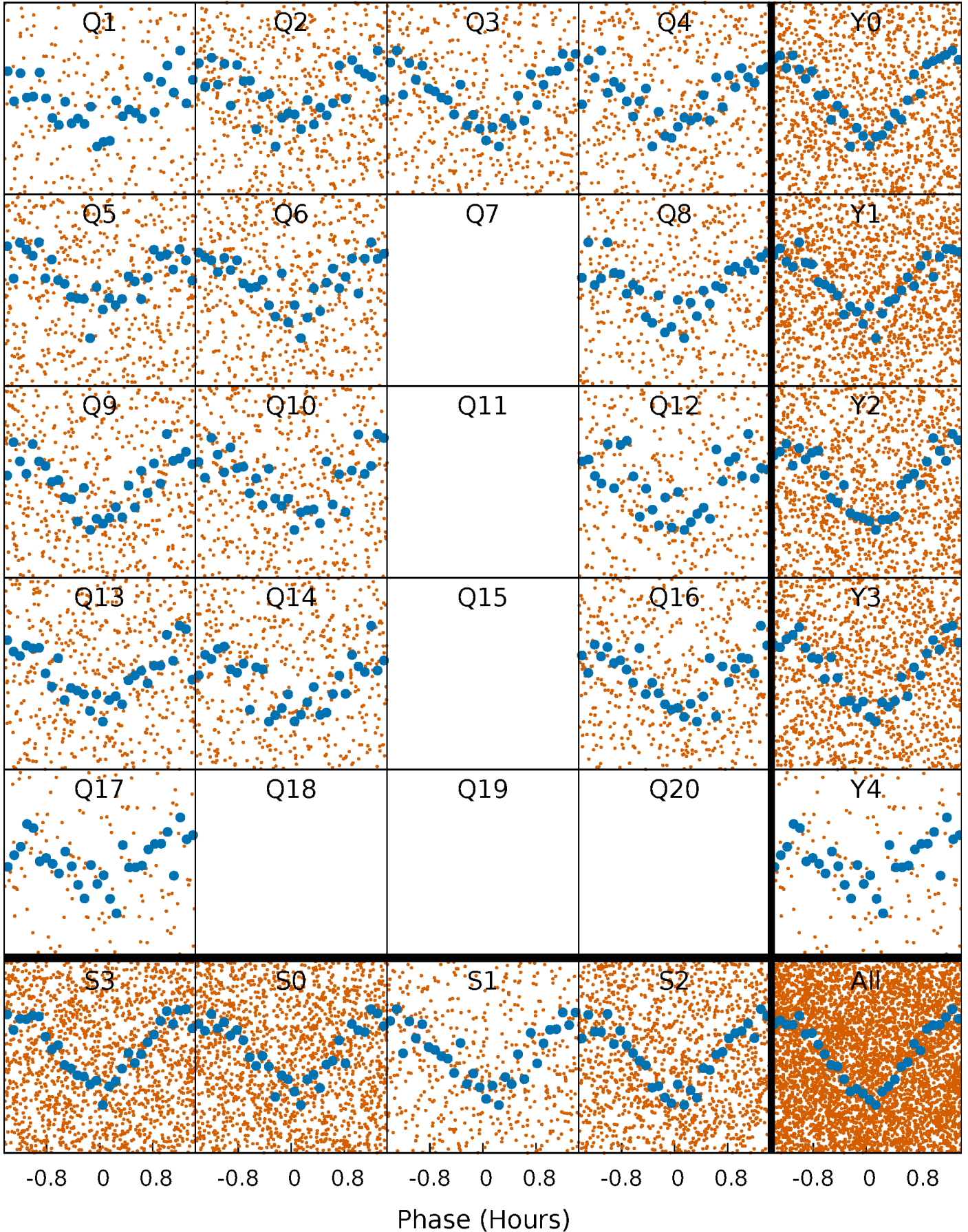


Non-Whitened Vs. Whitened Light Curve



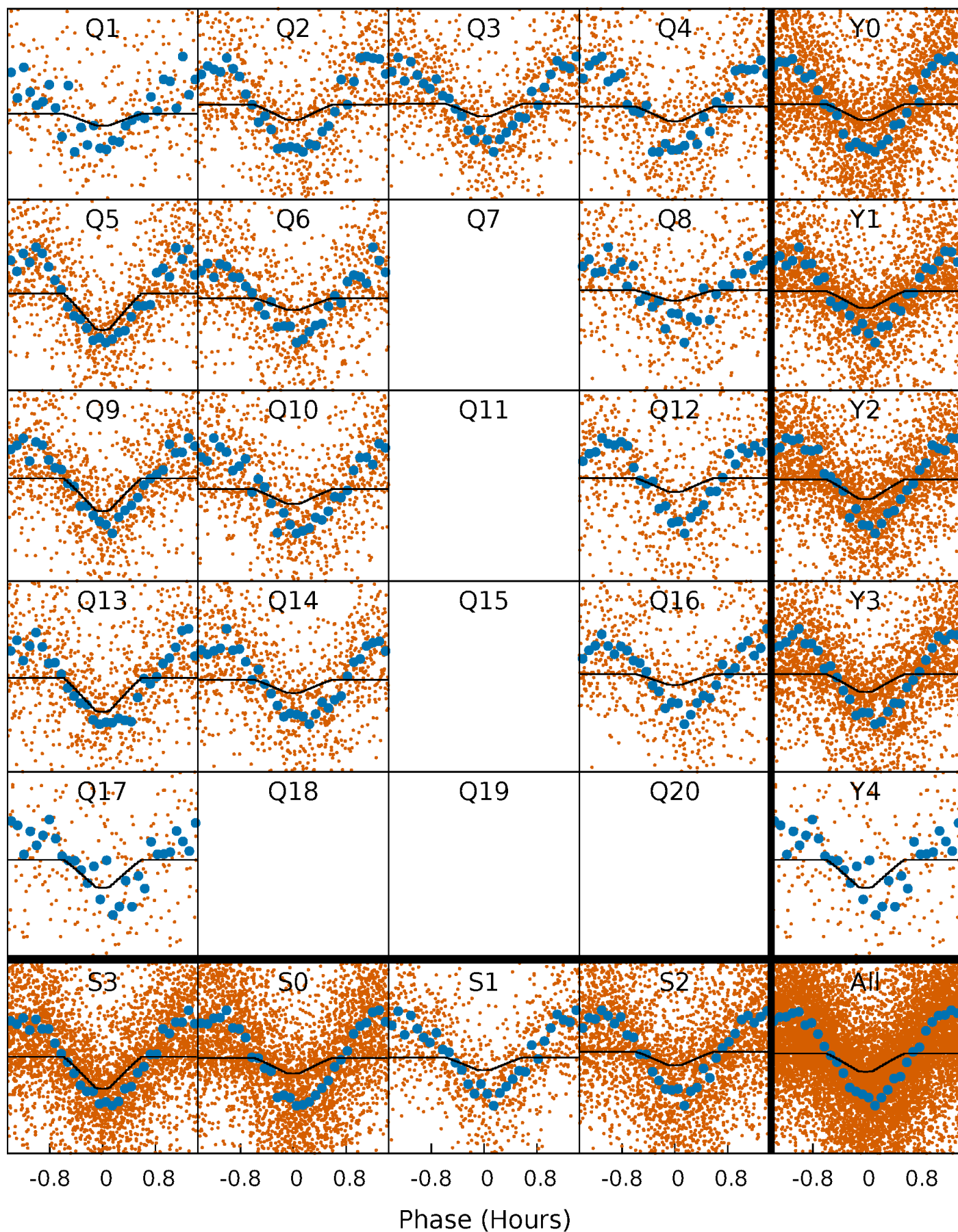
PDC Quarter-Phased Transit Curves

TCE 010813970-01 P= 0.514377 Days $T_0=131.636375$ (BKJD)



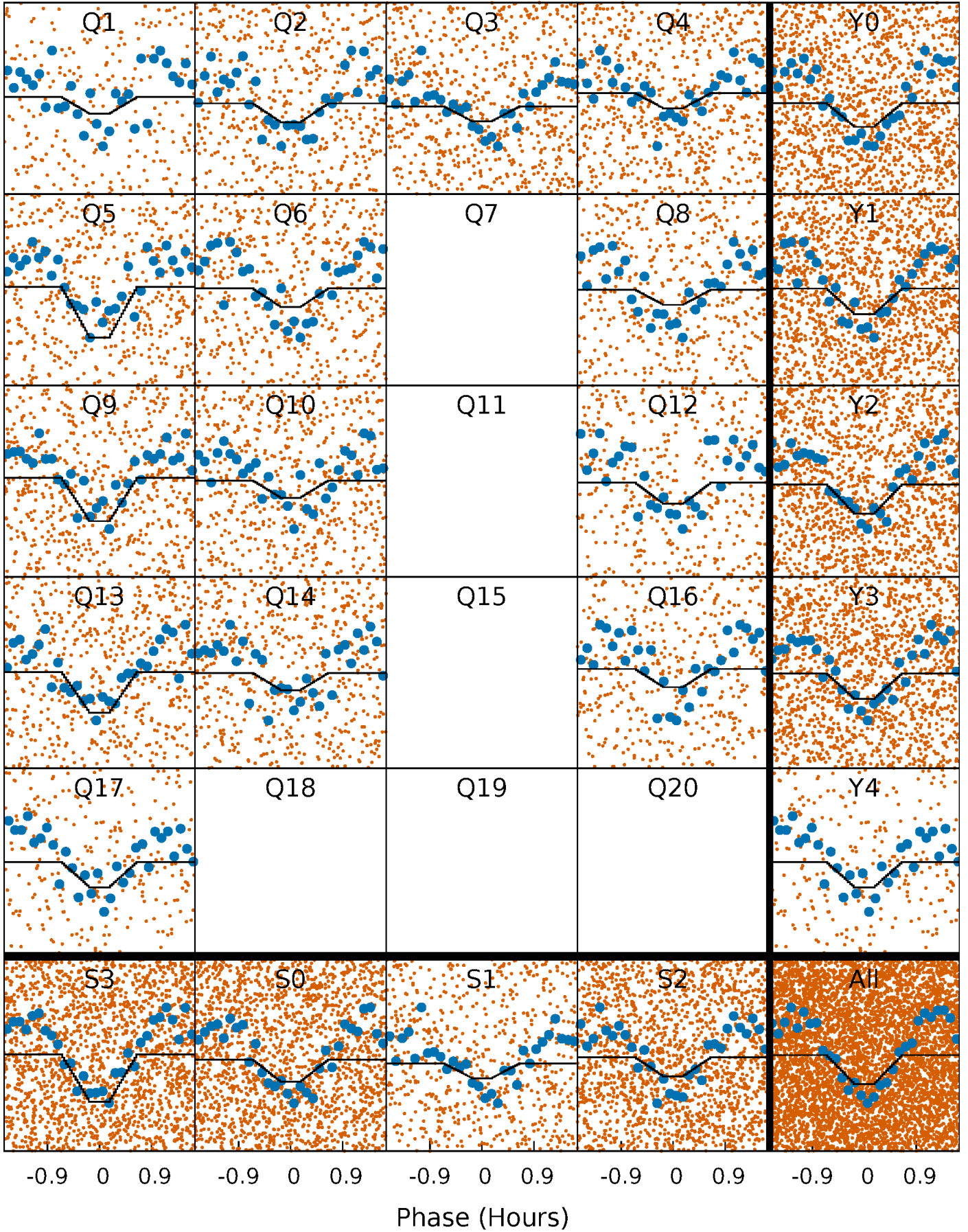
DV Quarter-Phased Transit Curves

TCE 010813970-01 P= 0.514377 Days $T_0=131.636375$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

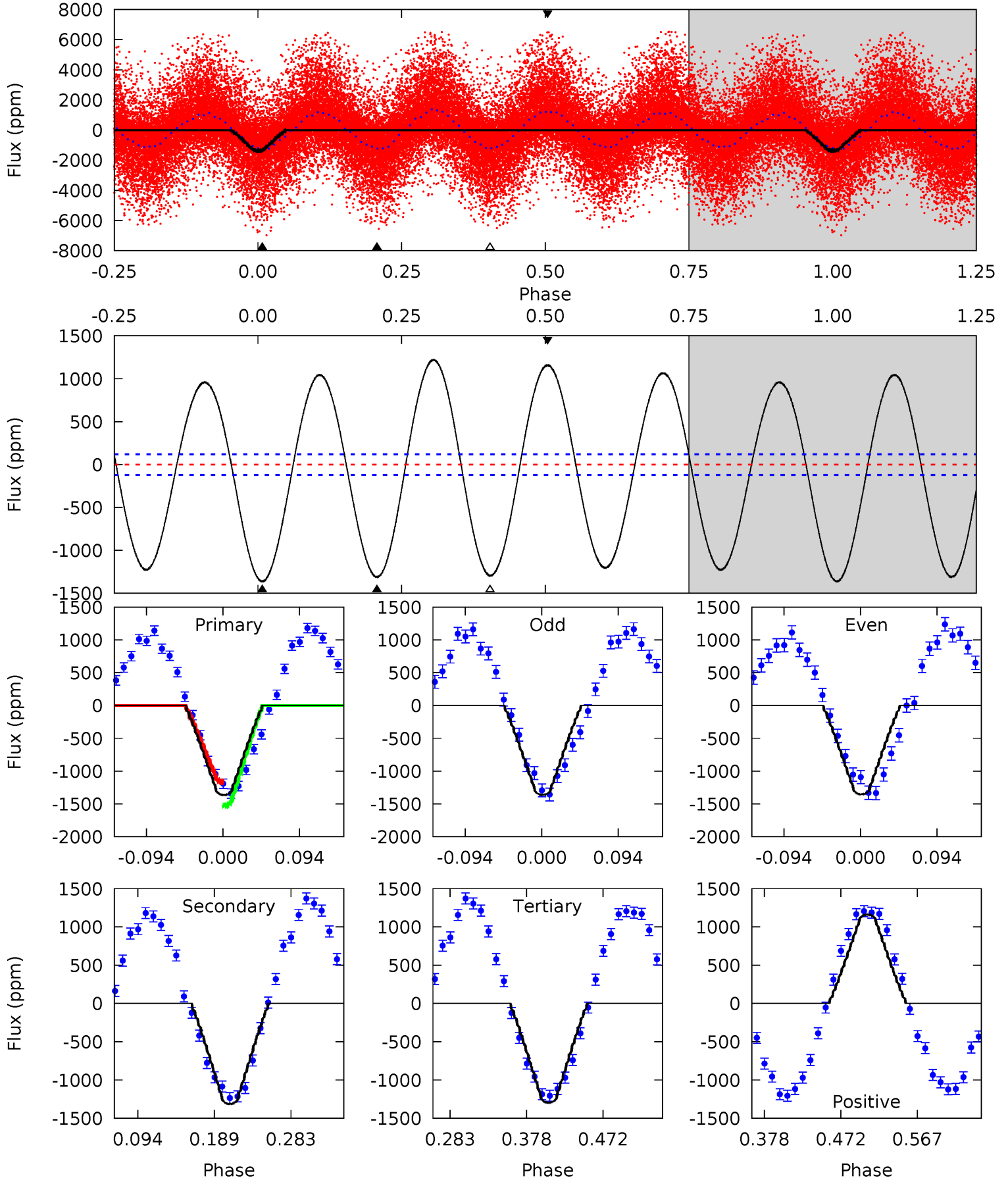
TCE 010813970-01 P= 0.514379 Days $T_0=131.635325$ (BKJD)



DV Model-Shift Uniqueness Test

010813970-01, P = 0.514377 Days, E = 131.121998 Days

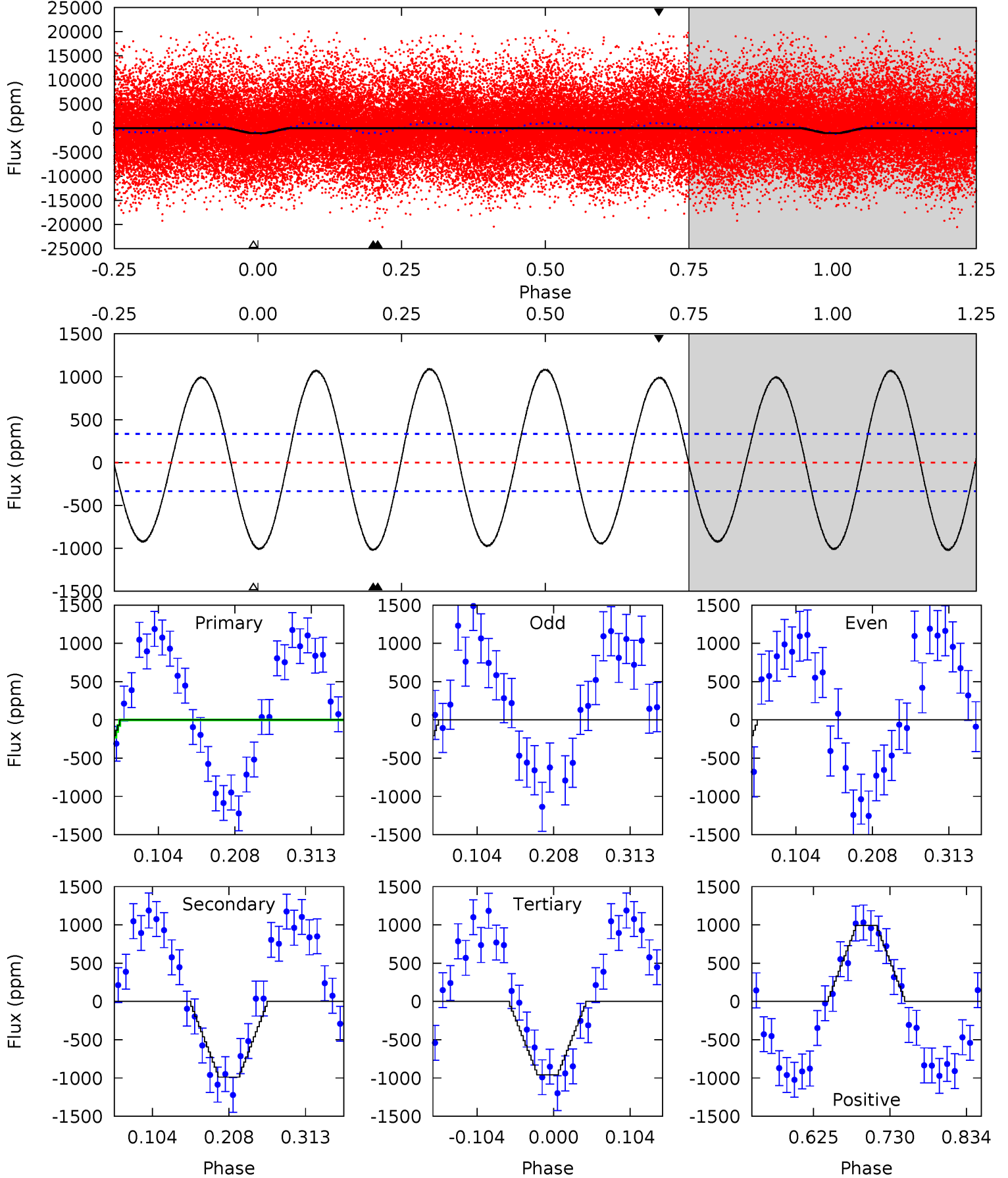
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.2	50.2	49.6	44.4	4.58	1.67	32.1	2.59	7.78	0.66	5.86	0.15	1.25	0.47	6.92



Alt Model-Shift Uniqueness Test

010813970-01, P = 0.514379 Days, E = 131.120946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	13.5	13.1	13.5	4.56	1.62	9.49	0.84	0.39	0.41	-0.05	0.08	1.15	0.52	1.25



Stellar Parameters For KIC 010813970

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7671^{+239}_{-328}	$3.609^{+0.722}_{-0.127}$	$-1.460^{+0.300}_{-0.250}$	$3.177^{+0.675}_{-2.159}$	$1.495^{+0.127}_{-0.475}$	$0.066^{+1.042}_{-0.024}$
	+3%/-4%	+20%/-4%	+21%/-17%	+21%/-68%	+8%/-32%	+1586%/-36%
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 010813970-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1312 ± 26	$6.23^{+3.43}_{-2.94}$	6703^{+660}_{-1165}	10547^{+6168}_{-2380}	$3.748^{+9.307}_{-2.153}$
Alt.	-989 ± 73	$7.98^{+3.70}_{-3.26}$	6684^{+698}_{-1078}	7814^{+2495}_{-1419}	$1.716^{+3.093}_{-0.891}$

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 $A_{obs} \gg 1.0$

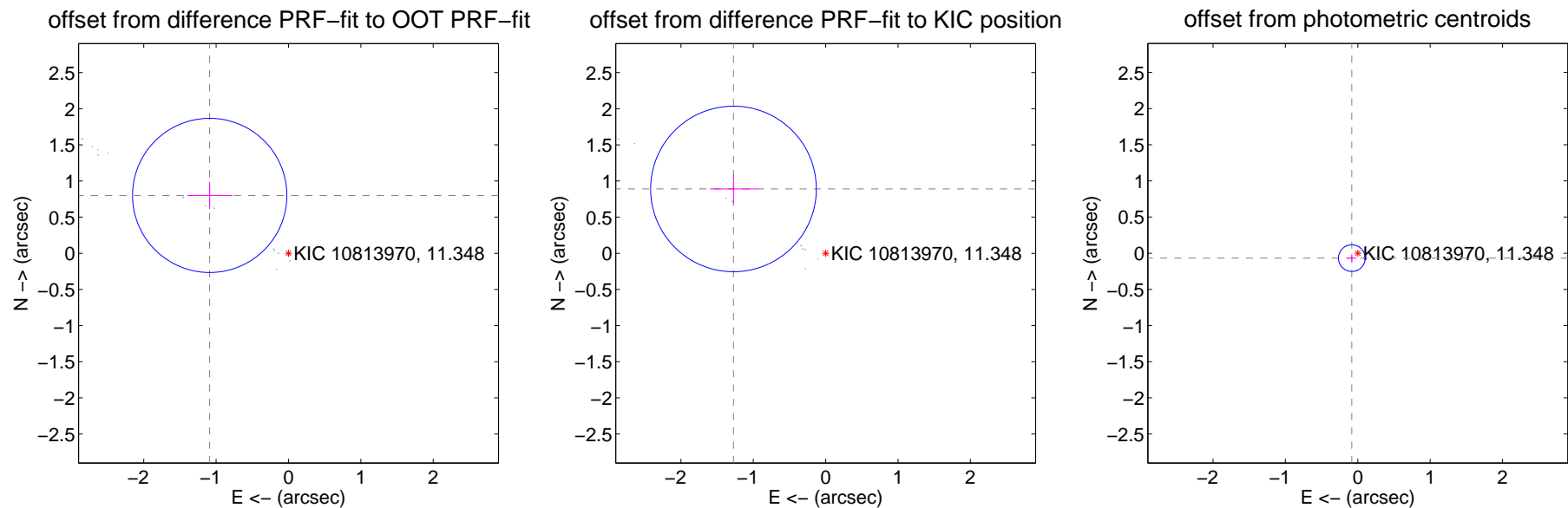
DV Centroid Data

Supplemental centroid analysis for 010813970-01. **Kepler magnitude: 11.35**. Transit SNR 19.53

There are 14 quarters with good PRF difference image offsets

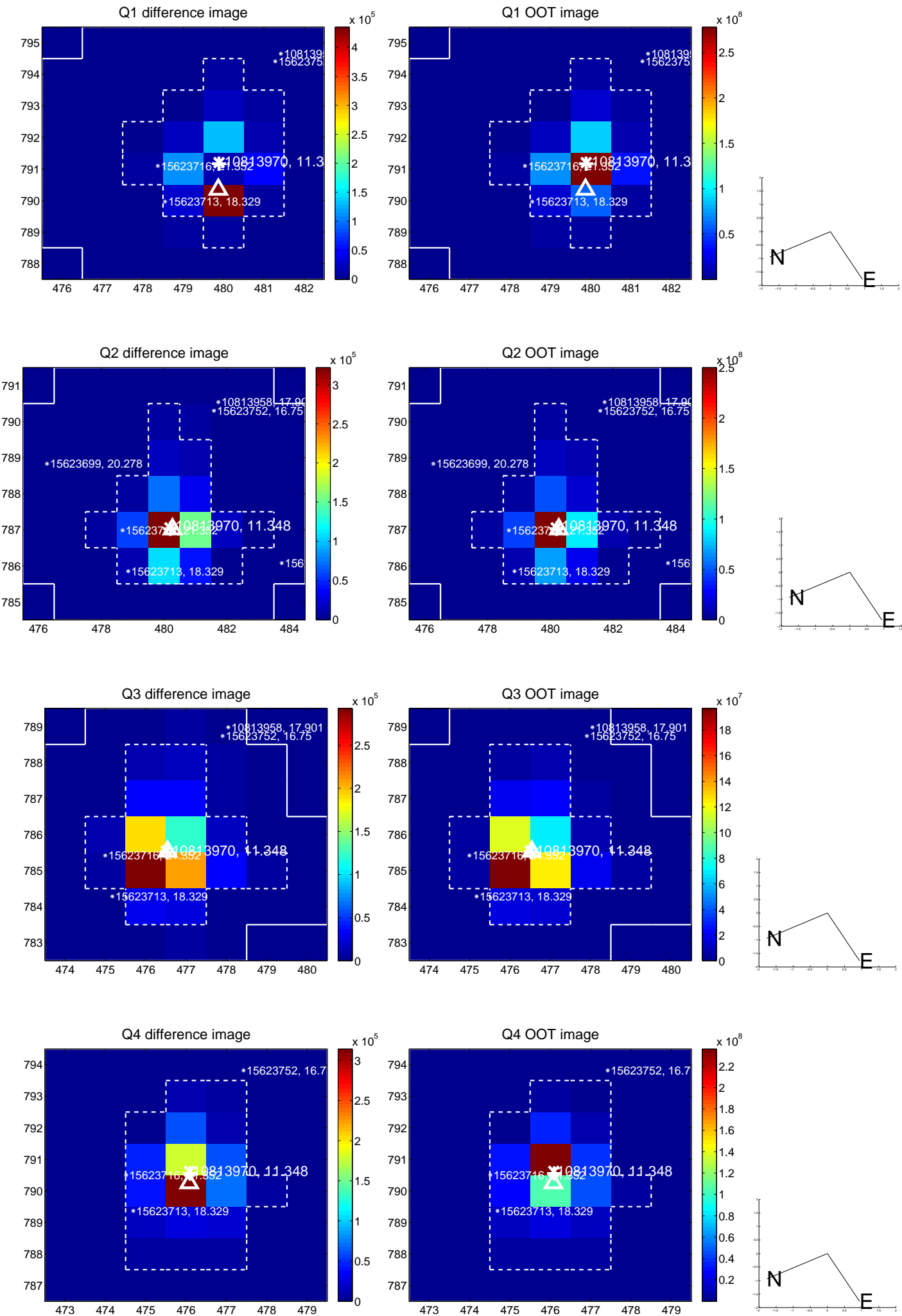
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.351 ± 0.355	3.80	1.089 ± 0.311	0.800 ± 0.189
PRF-fit source offset from KIC position	1.554 ± 0.382	4.07	1.274 ± 0.328	0.890 ± 0.208
photometric centroid source offset	0.11 ± 0.06	1.74	0.08 ± 0.07	-0.07 ± 0.05

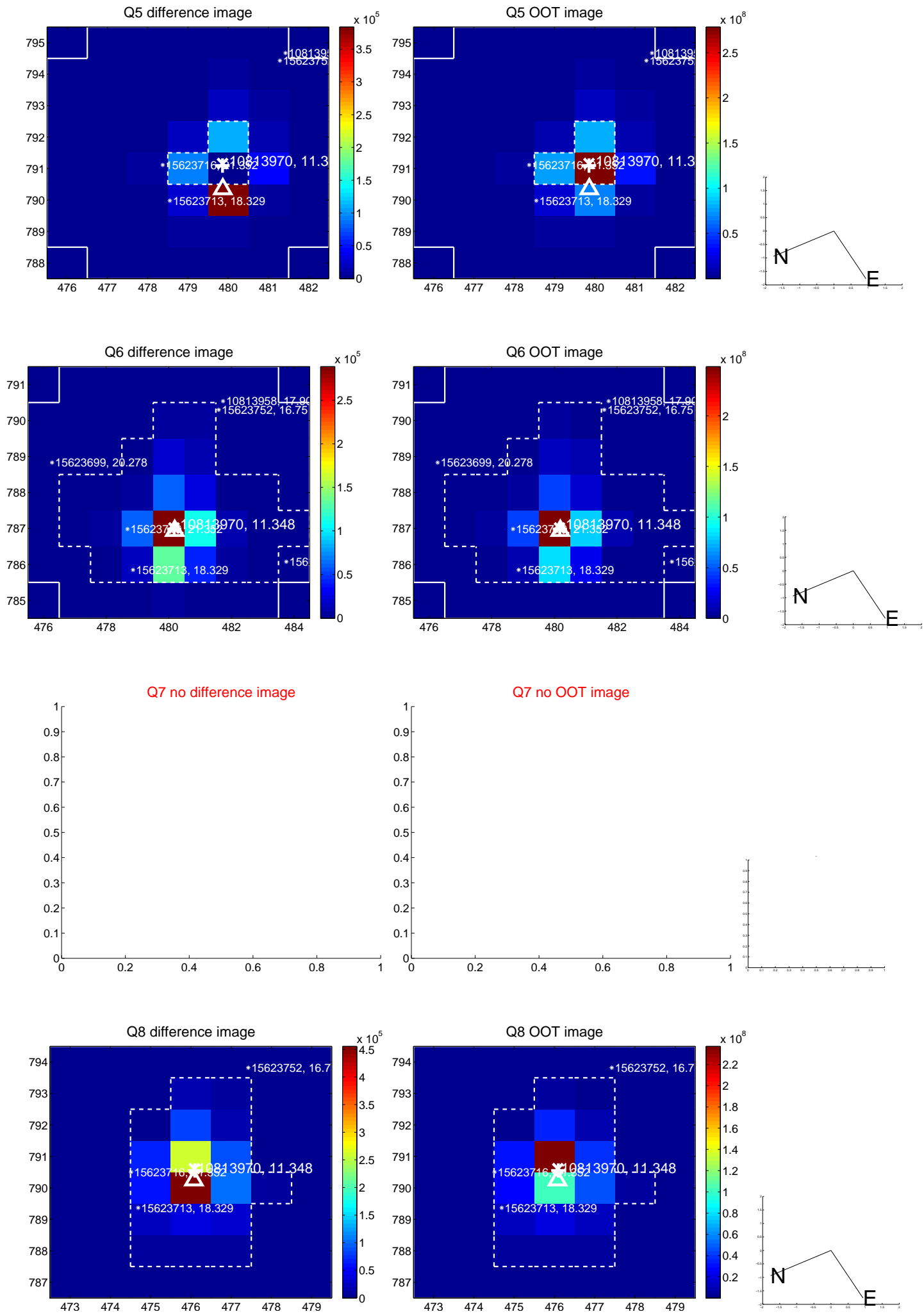


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

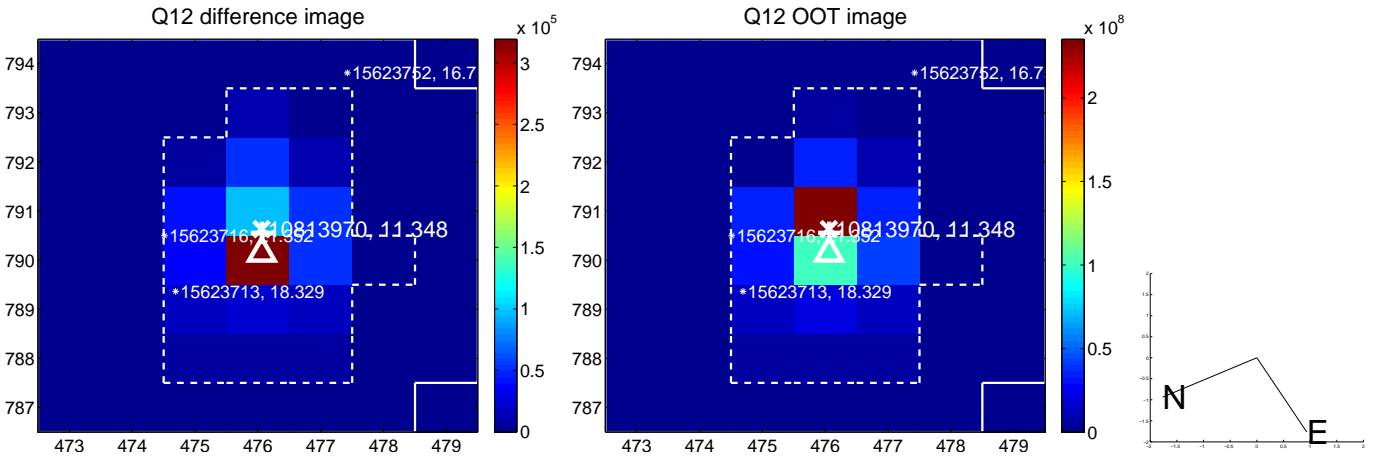
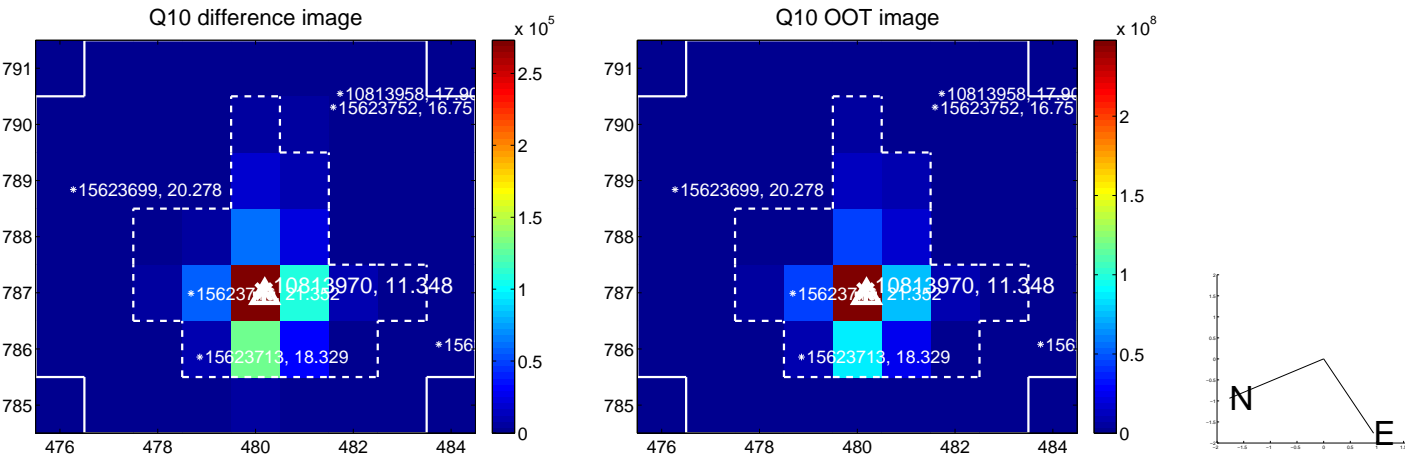
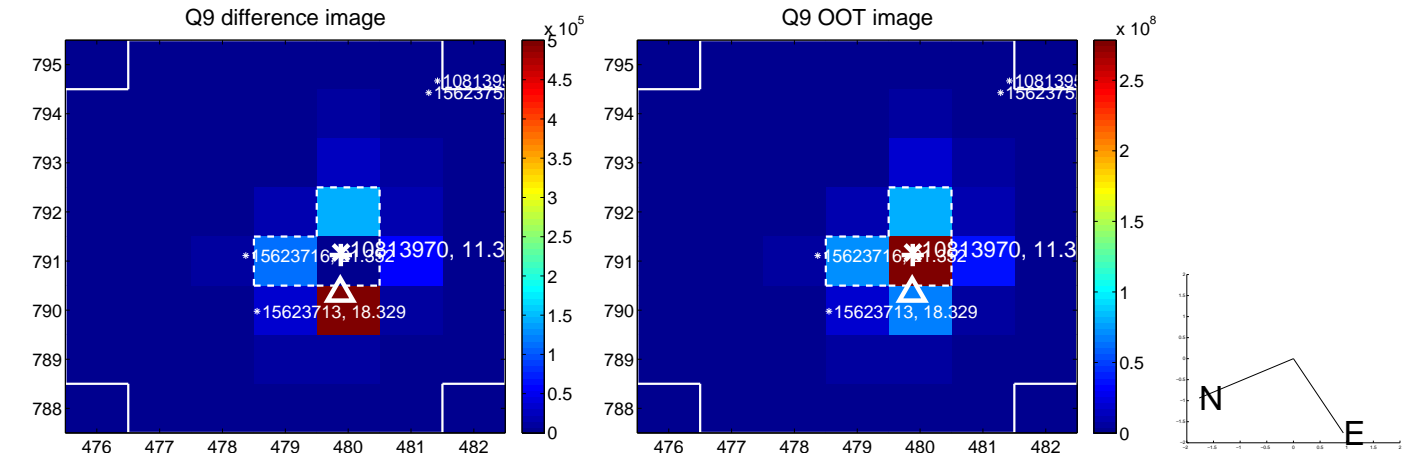
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



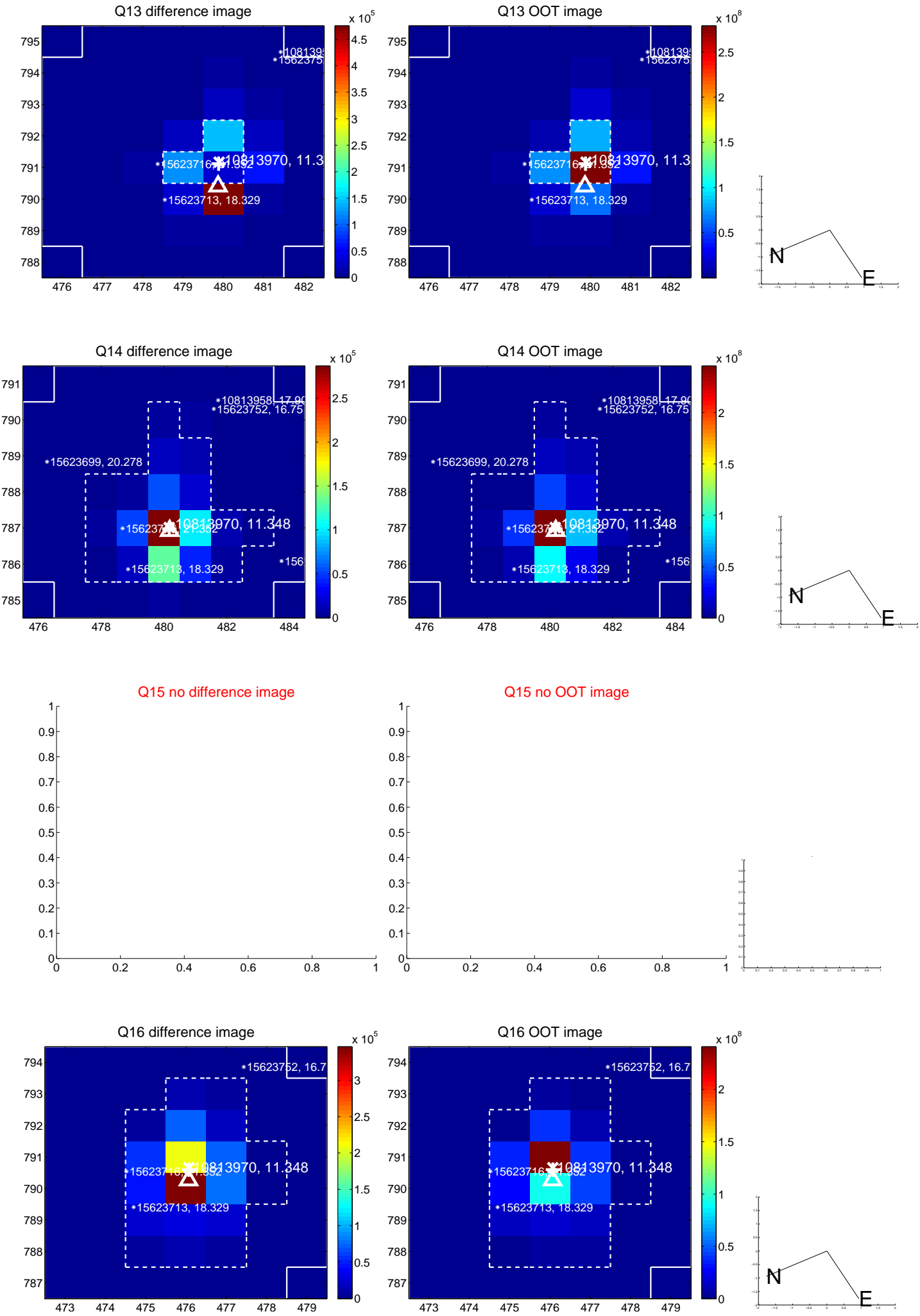
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



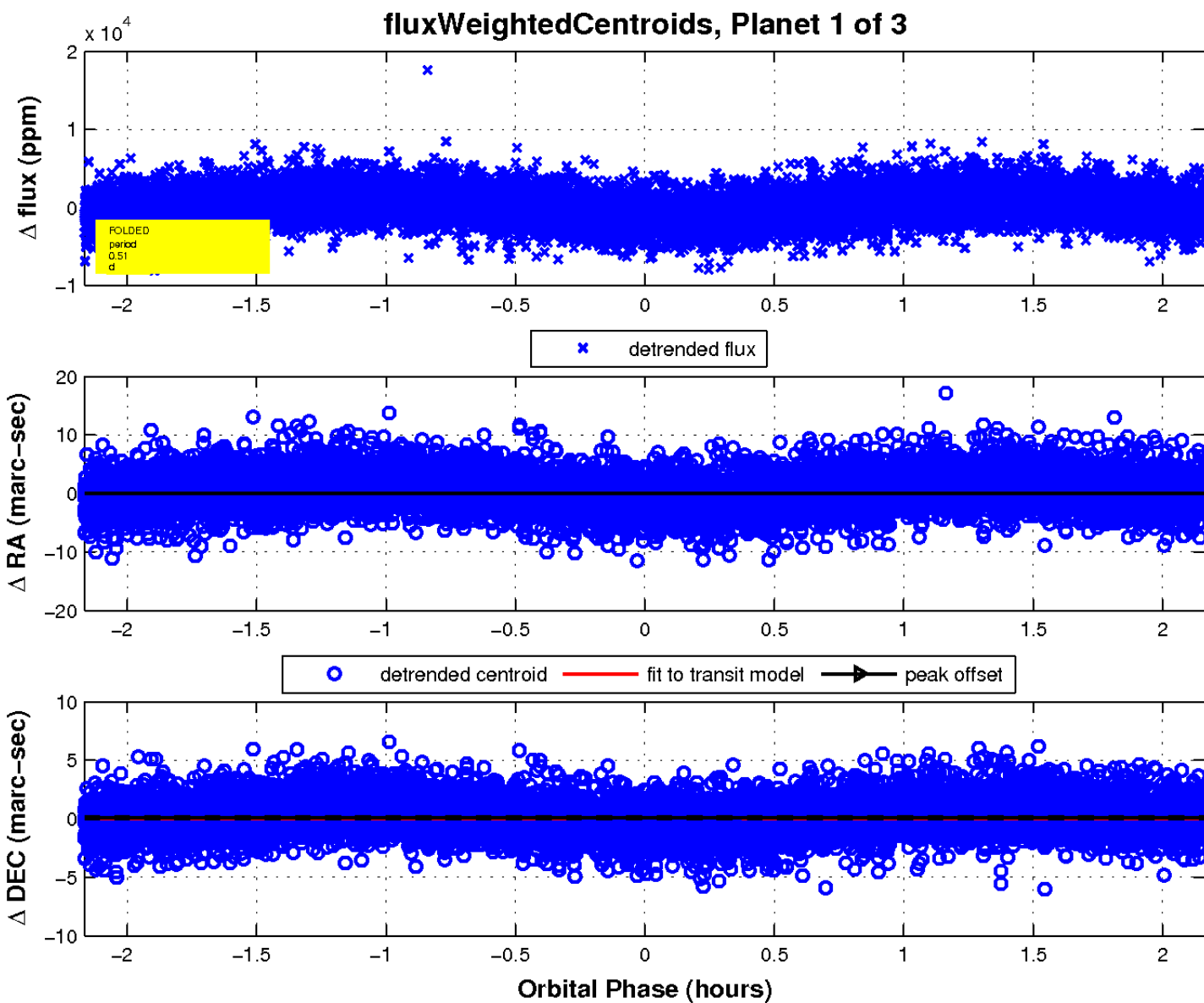
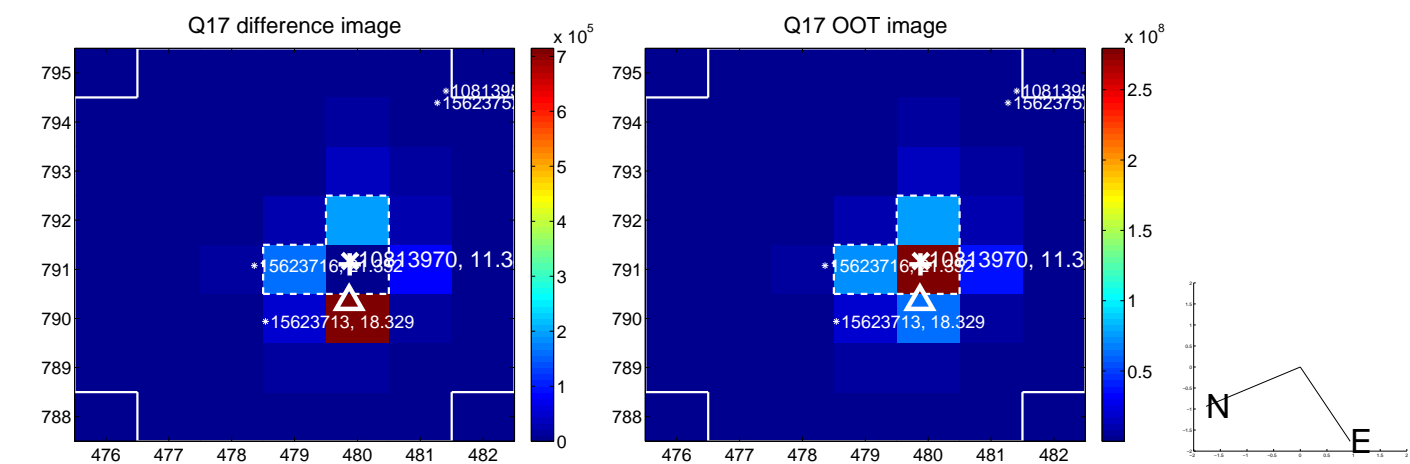
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



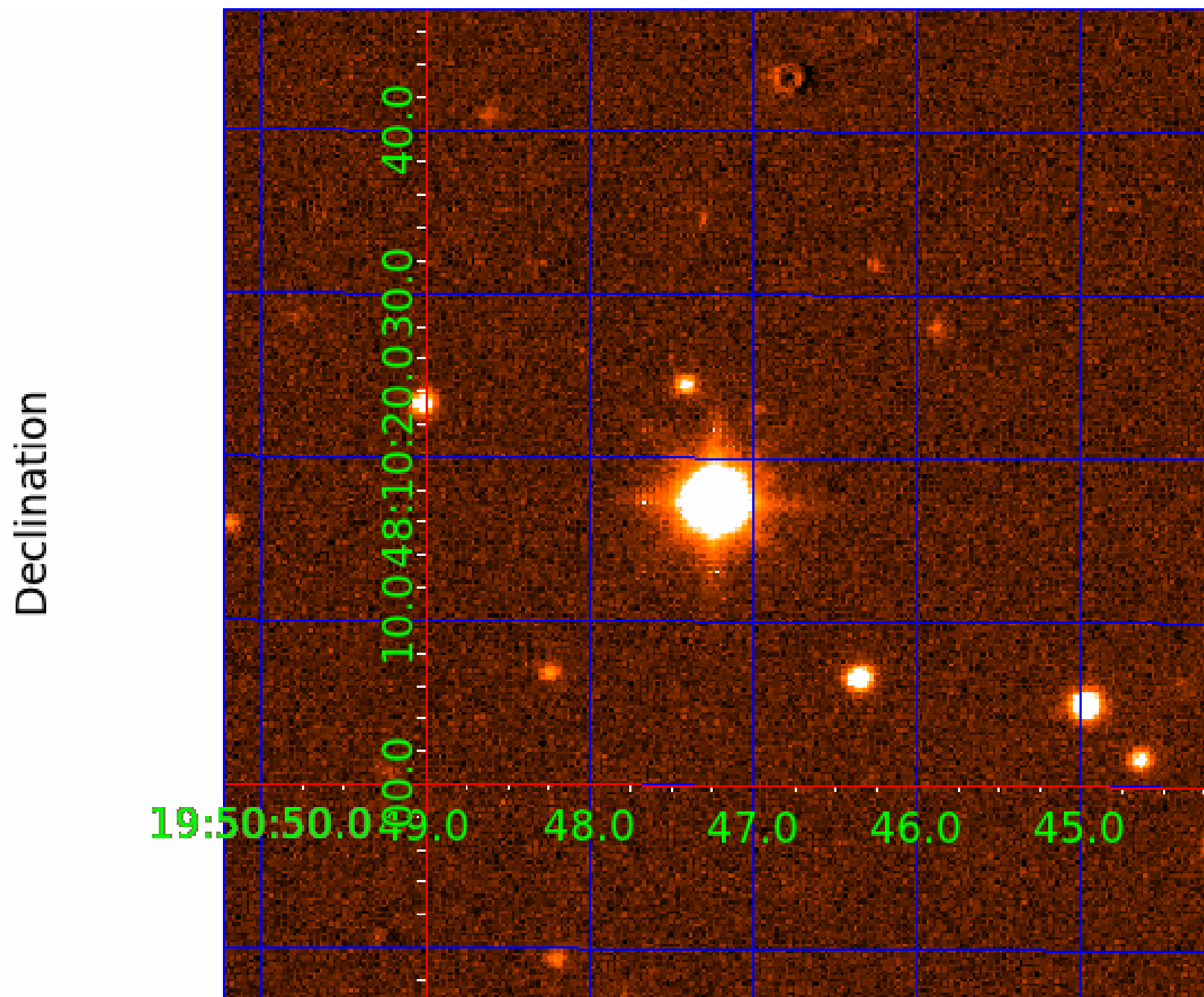
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 010813970

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})
010813970-01	OBS	No	0.514377	131.636375	504.2	0.722	12.8	19.5	3.18	7671	7.36	0.00
010813970-02	OBS	No	0.514377	131.841914	600.6	0.806	14.4	22.2	3.18	7671	7.99	0.00
010813970-03	OBS	No	0.514369	131.533035	104.2	1.077	11.4	3.7	3.18	7671	3.43	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010813970-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010813970-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010813970-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

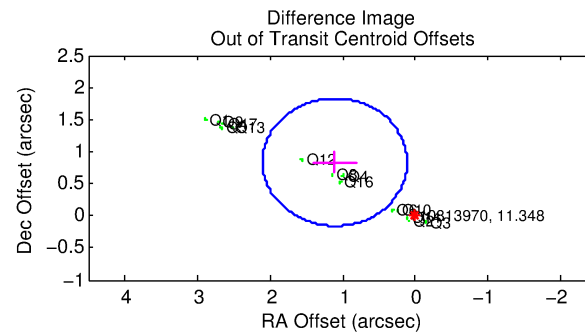
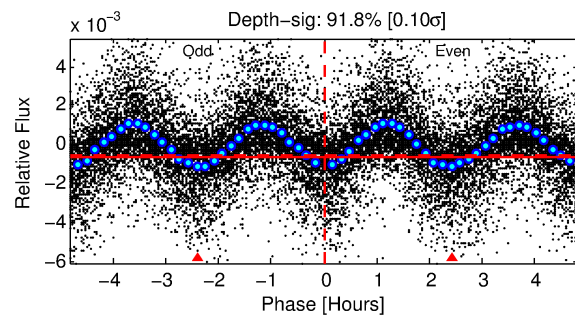
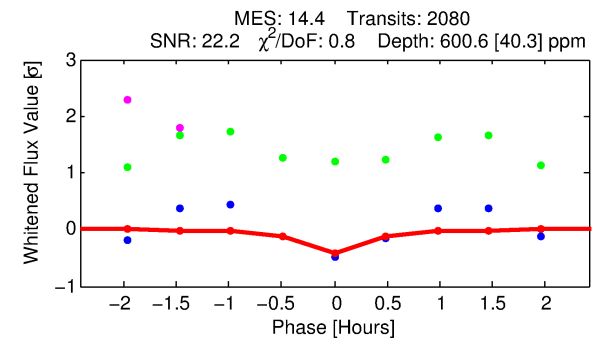
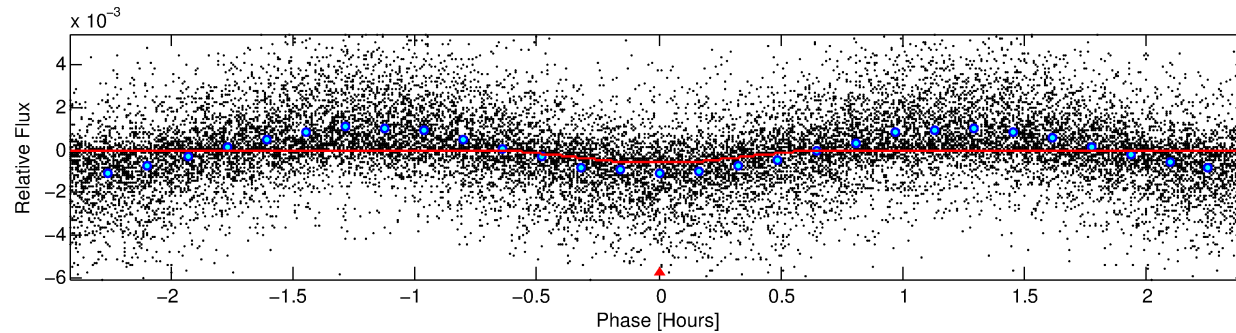
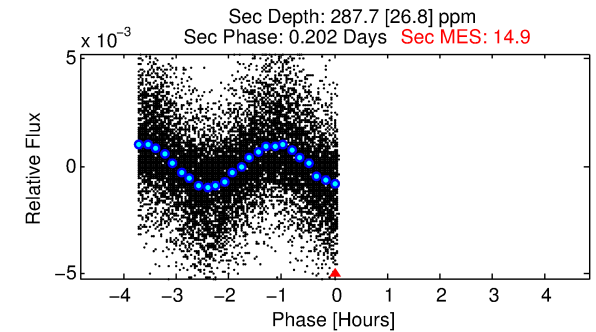
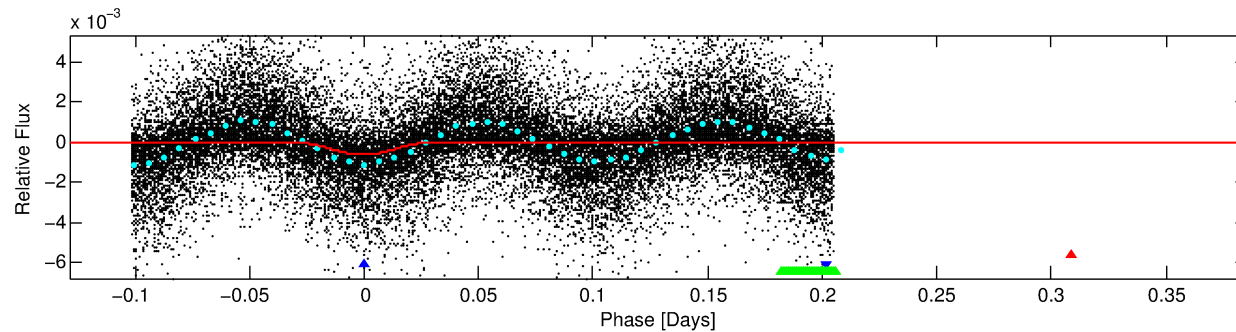
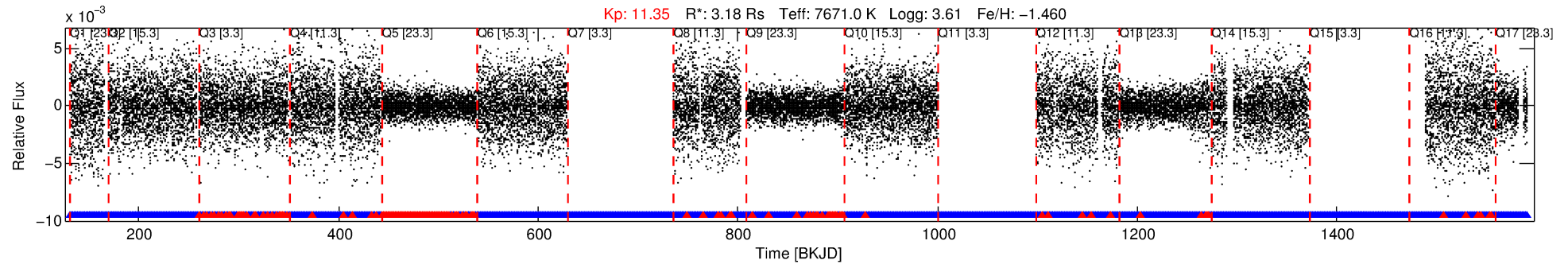
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010813970-02

No Significant Match Found

DV One-Page Summary

KIC: 10813970 Candidate: 2 of 3 Period: 0.514 d



DV Fit Results:

Period = 0.51438 [0.00001] d
Epoch = 131.8419 [0.0006] BKJD
Rp/R* = 0.0230 [0.0075]
a/R* = 4.95 [8.63]
b = 0.18 [9.73]
Seff = N/A
Teq = N/A
Rp = 7.99 [6.02] Re
a = N/A
Ag = N/A
Teffp = N/A

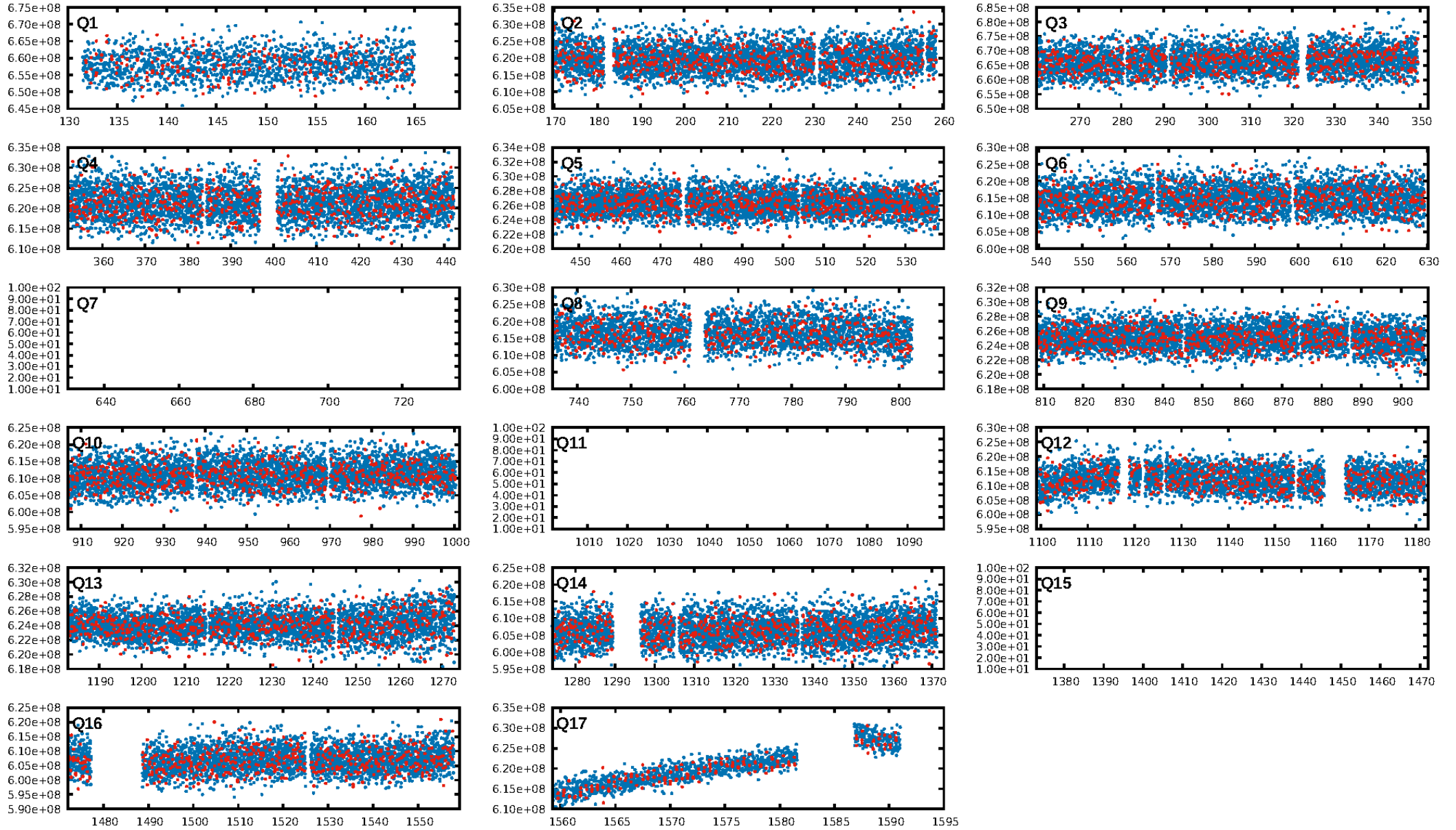
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [1762/1963]
GhostDiagnostic-chr: 77.42
Centroid-sig: 97.7%
Centroid-so: 0.128 arcsec [2.60σ]
OotOffset-rm: 1.387 arcsec [4.19σ]
KicOffset-rm: 1.587 arcsec [4.63σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

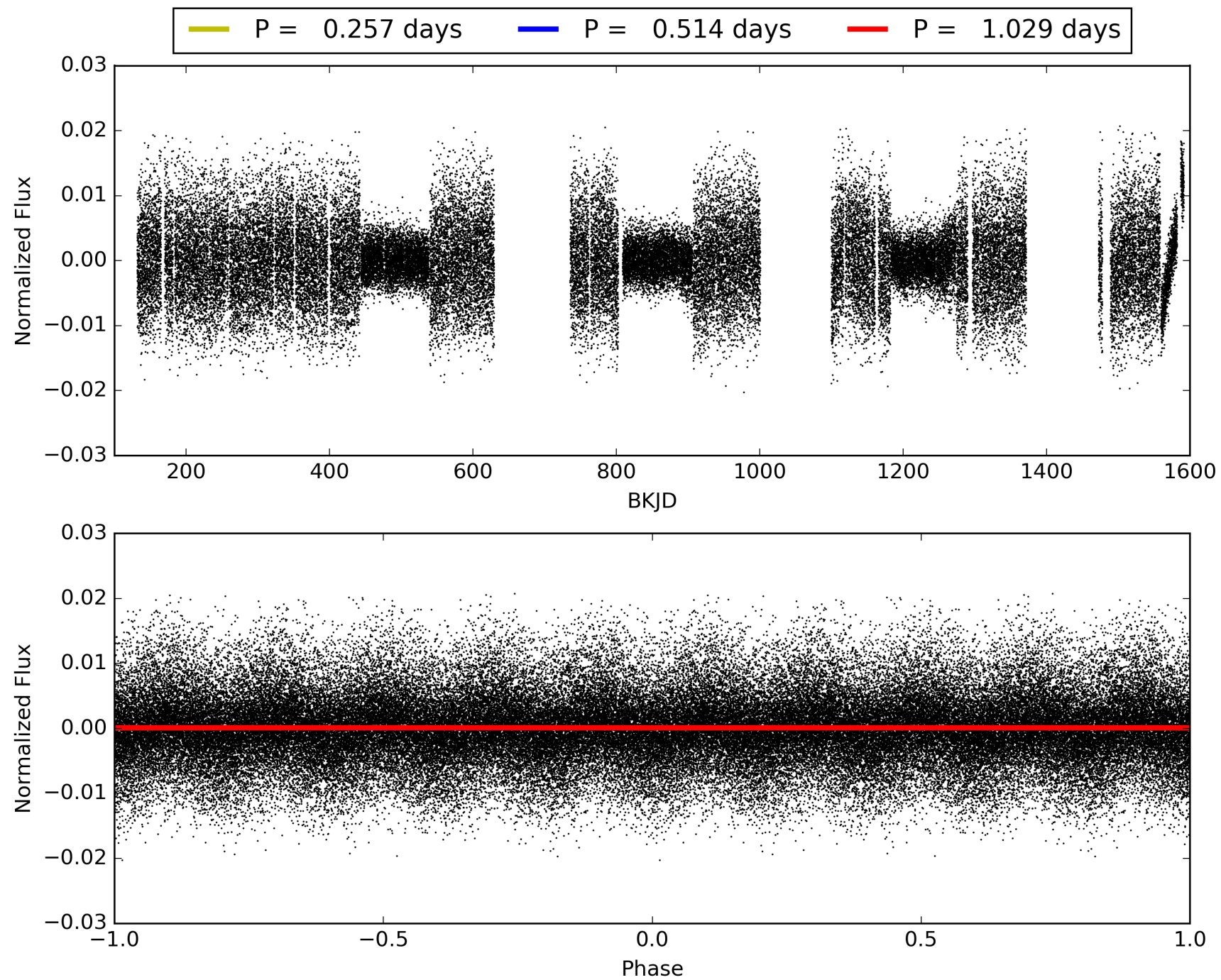
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:13:21 Z

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

TCE 010813970-02, PDC Light Curves

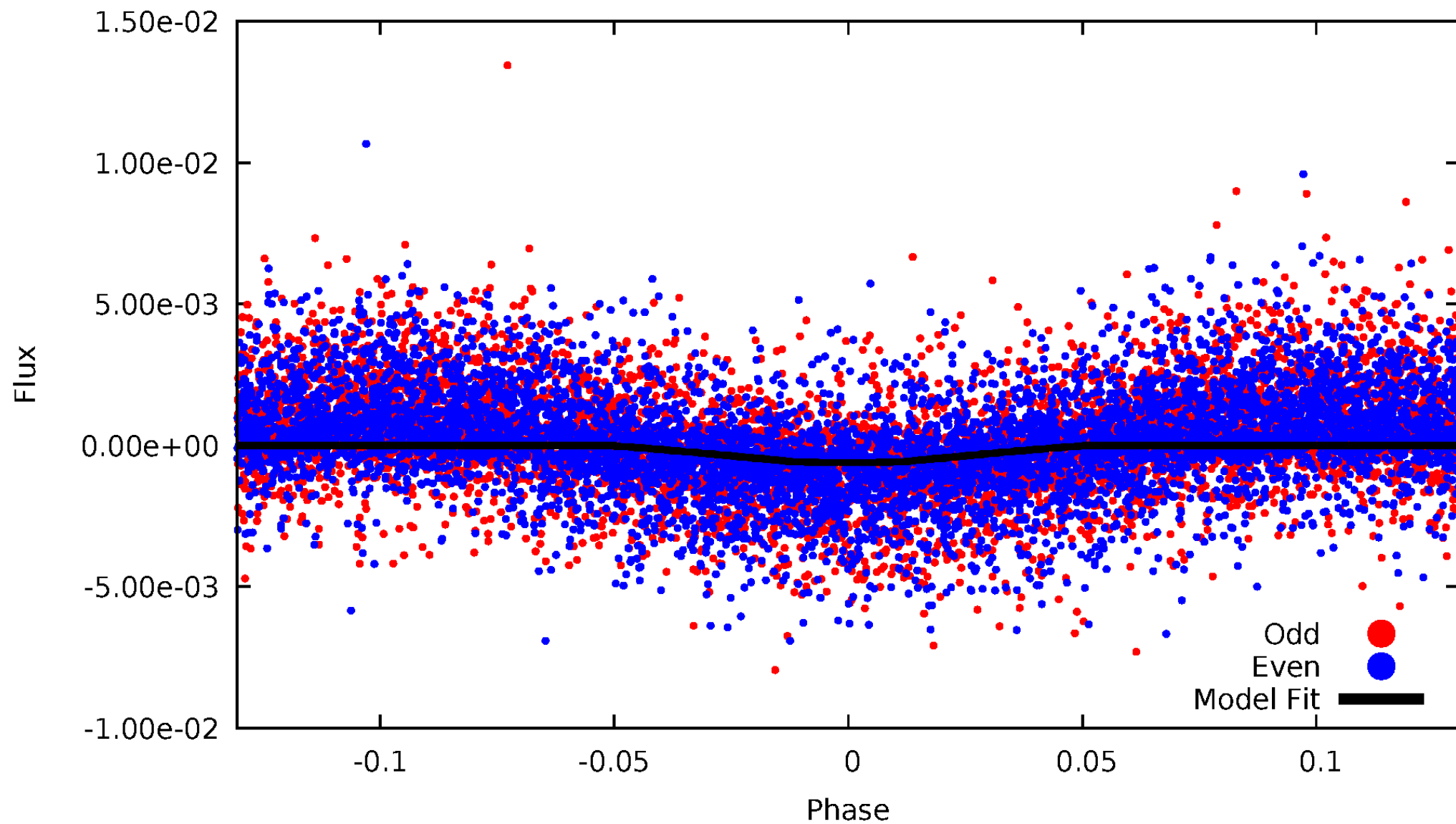


TCE 010813970-02



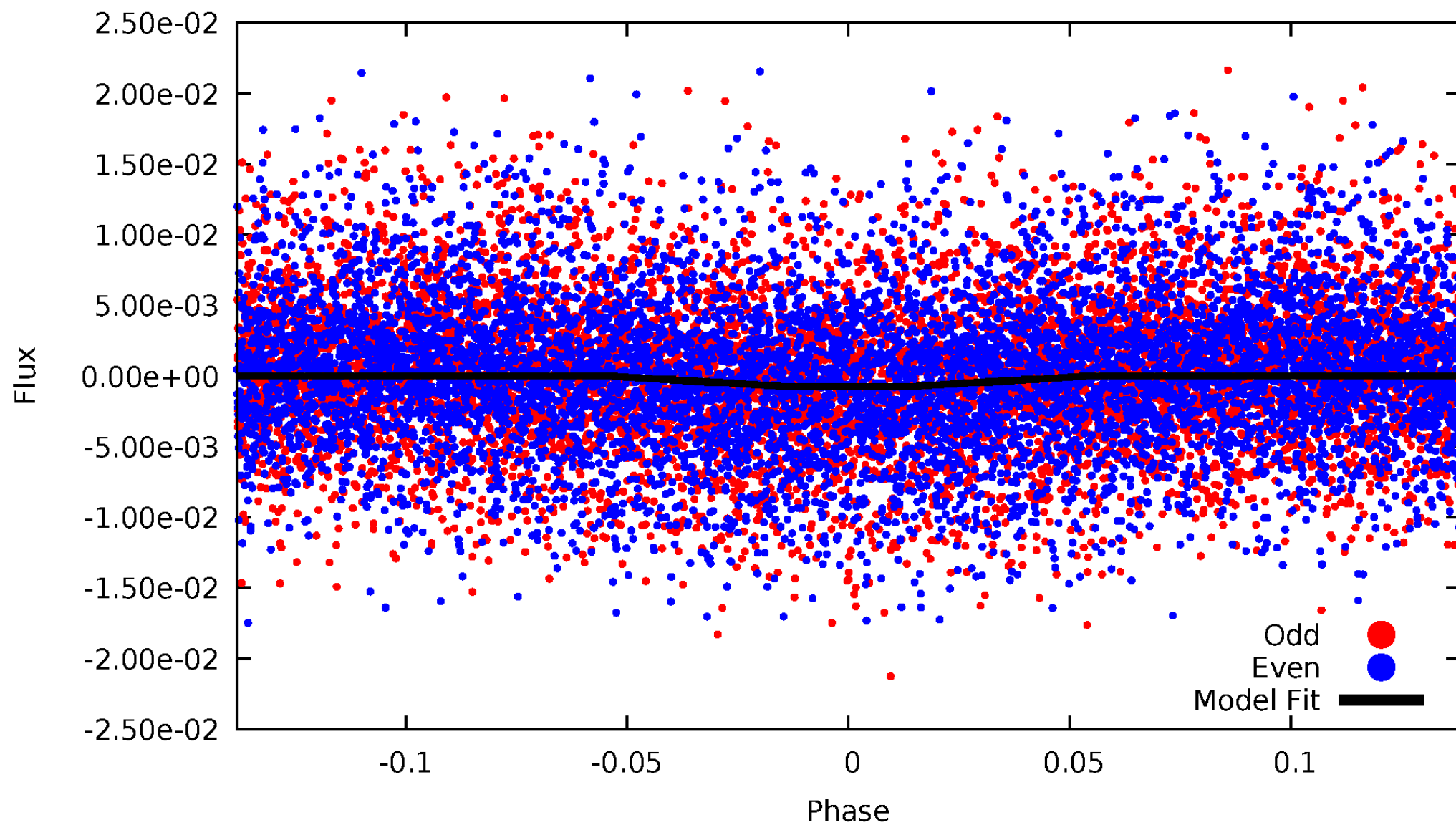
DV Odd/Even

TCE 010813970-02



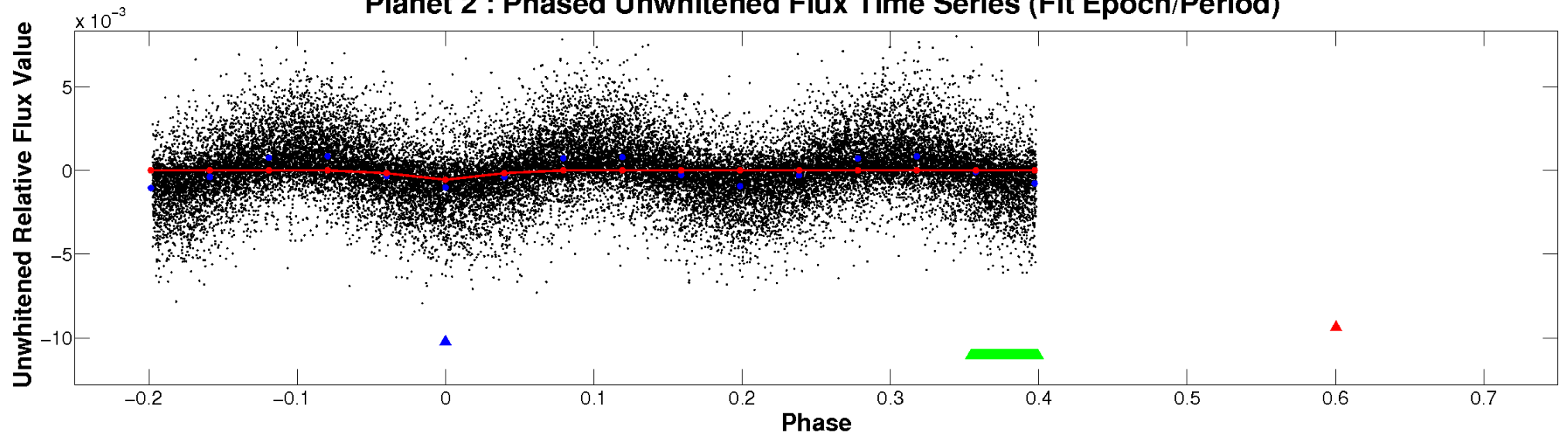
ALT Odd/Even

TCE 010813970-02

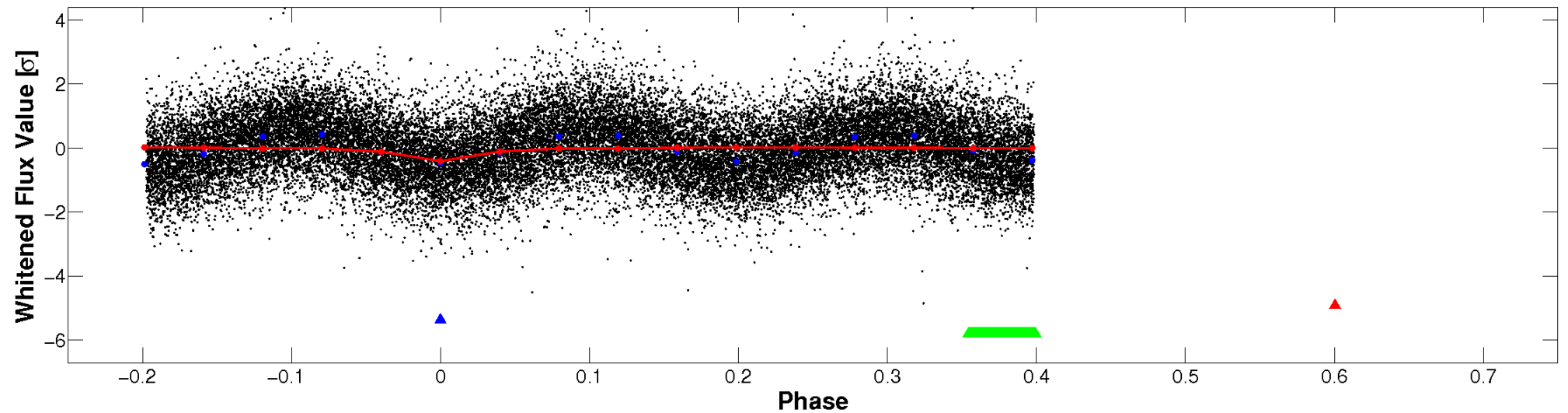


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

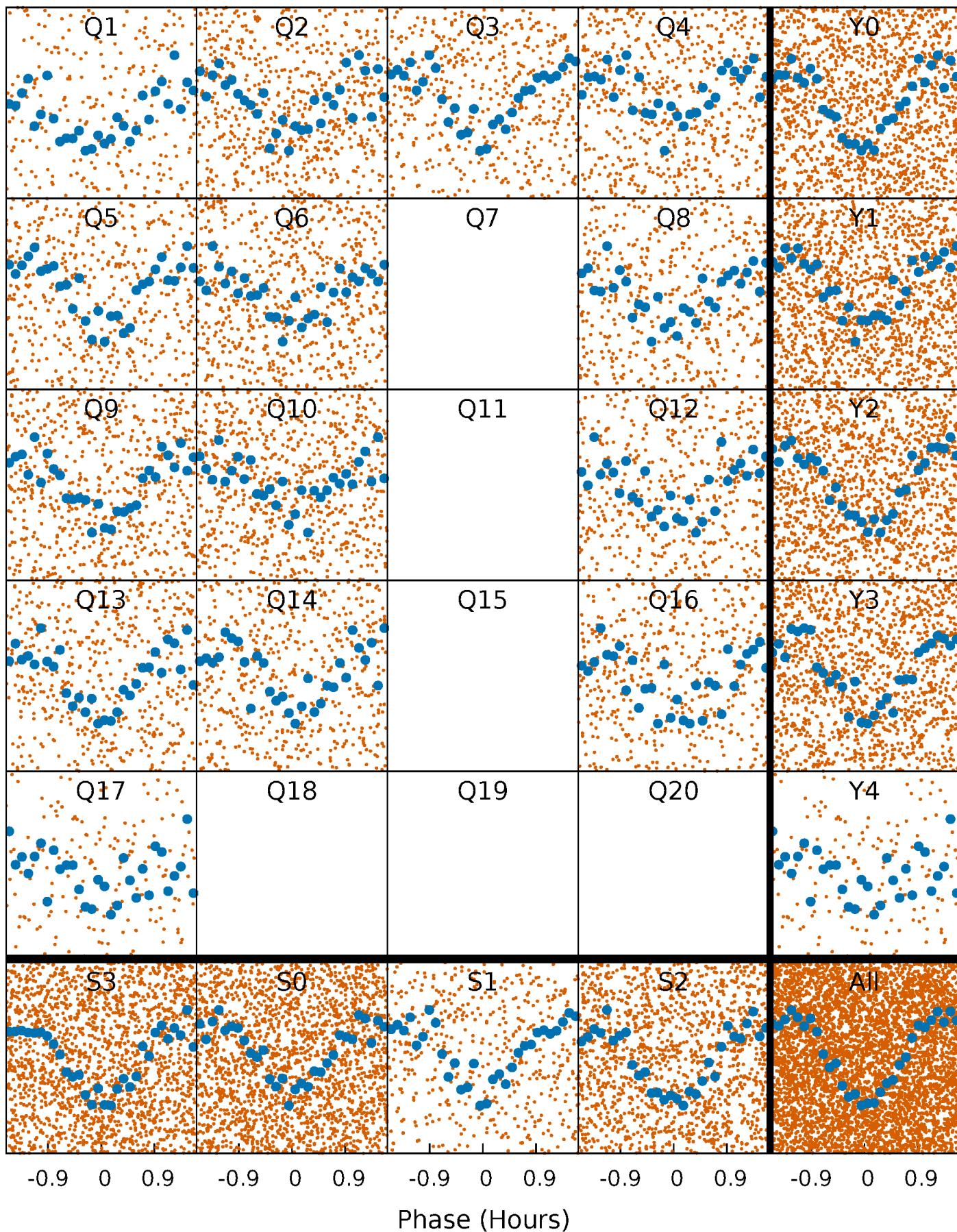


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



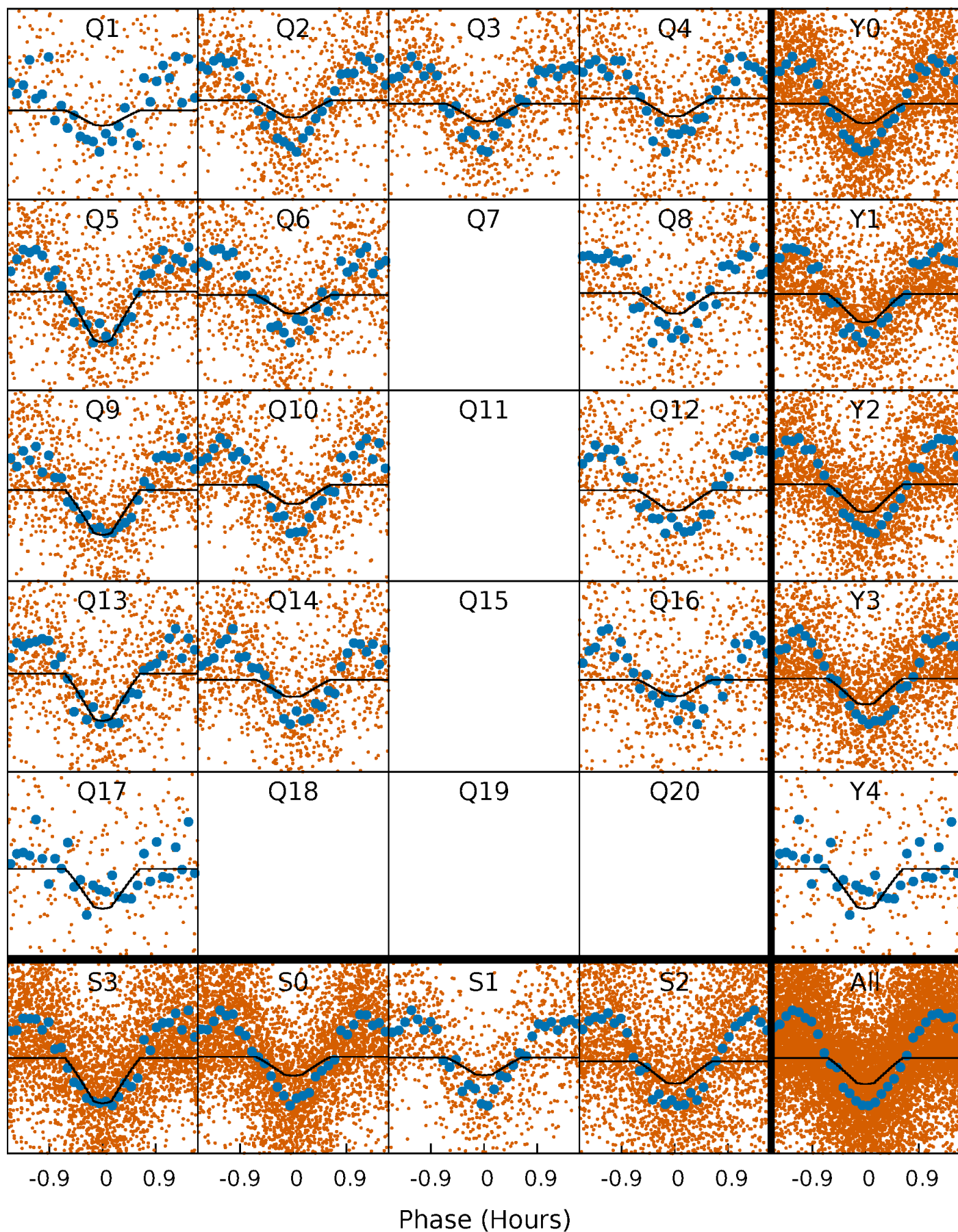
PDC Quarter-Phased Transit Curves

TCE 010813970-02 P= 0.514377 Days $T_0=131.841914$ (BKJD)



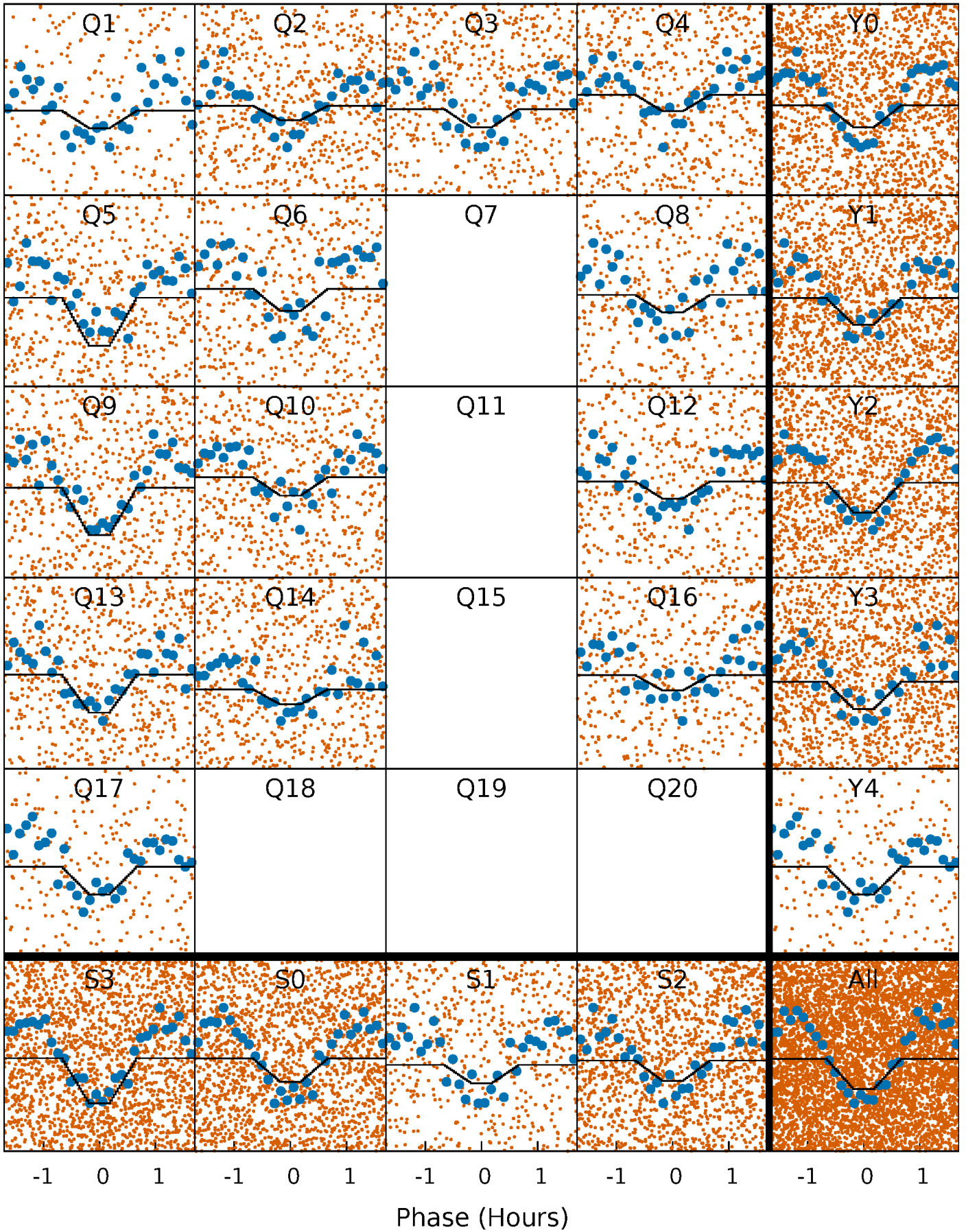
DV Quarter-Phased Transit Curves

TCE 010813970-02 P= 0.514377 Days $T_0=131.841914$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

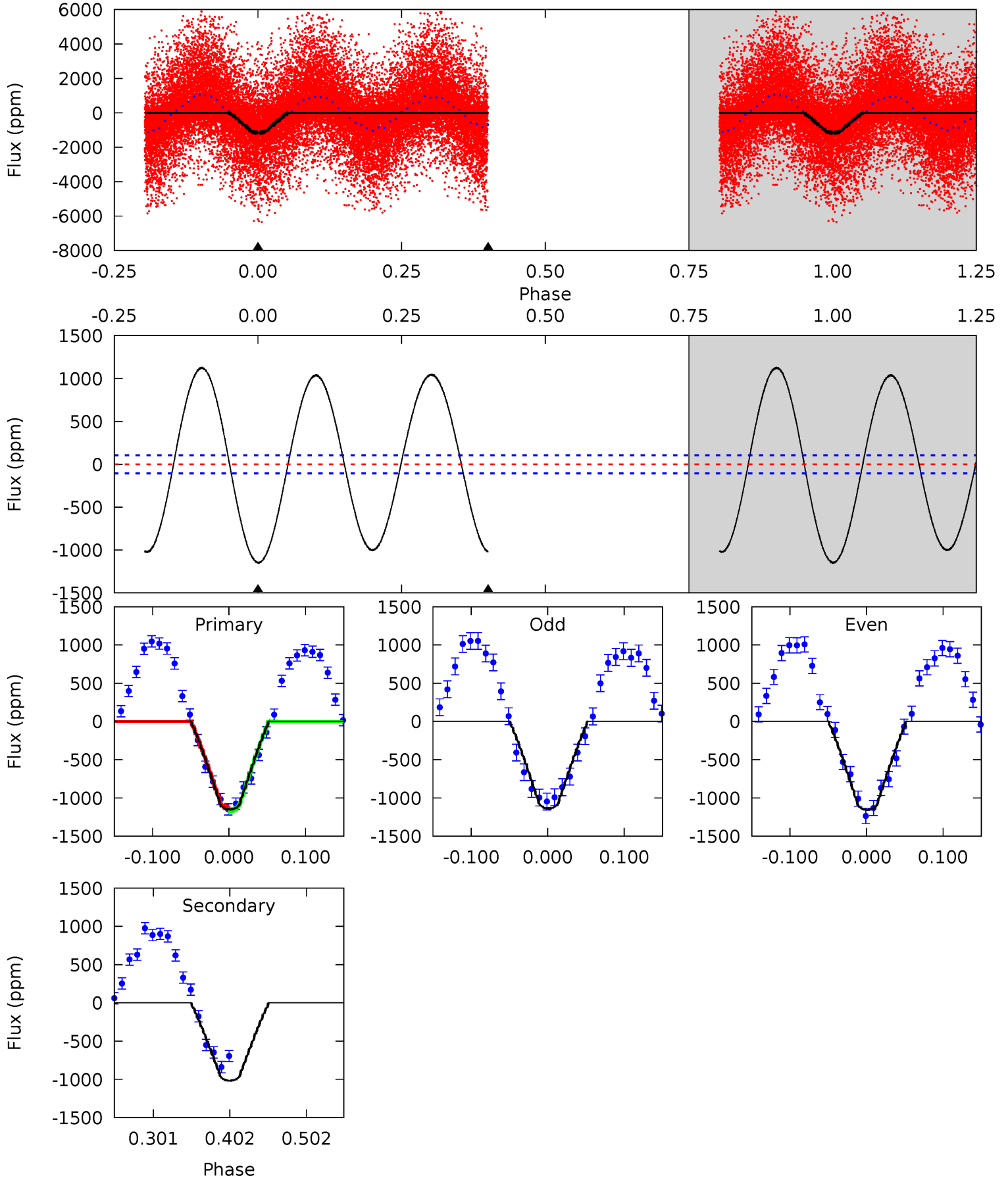
TCE 010813970-02 P= 0.514379 Days $T_0=131.841603$ (BKJD)



DV Model-Shift Uniqueness Test

010813970-02, P = 0.514377 Days, E = 131.327537 Days

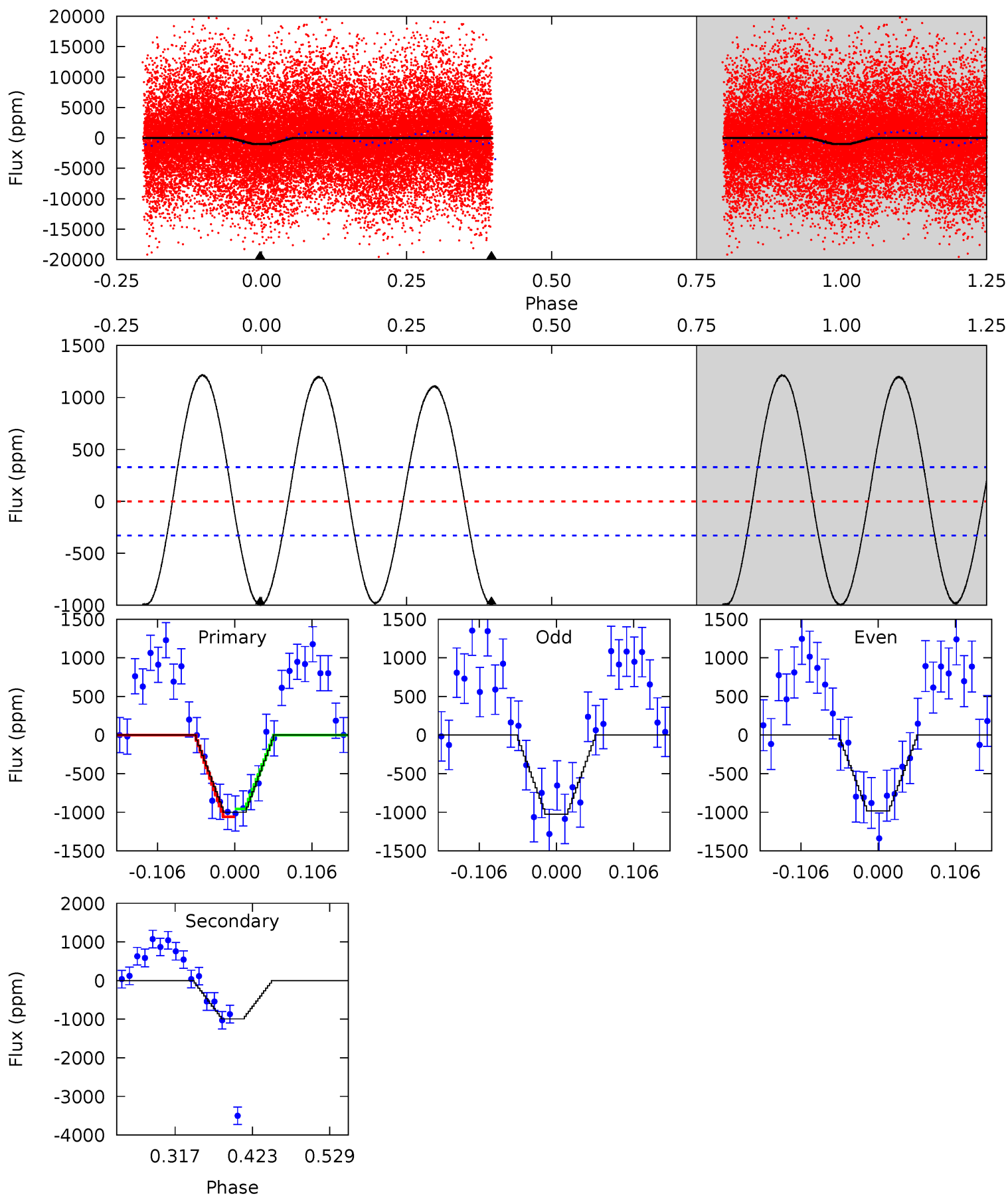
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.4	43.7	0	0	4.56	1.64	31.5	49.4	49.4	43.7	43.7	0.42	1.20	0.49	0.47



Alt Model-Shift Uniqueness Test

010813970-02, P = 0.514379 Days, E = 131.327224 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	13.8	0	0	4.55	1.62	10.3	13.9	13.9	13.8	13.8	0.29	1.02	0.55	0.69



Stellar Parameters For KIC 010813970

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7671^{+239}_{-328}	$3.609^{+0.722}_{-0.127}$	$-1.460^{+0.300}_{-0.250}$	$3.177^{+0.675}_{-2.159}$	$1.495^{+0.127}_{-0.475}$	$0.066^{+1.042}_{-0.024}$
	+3%/-4%	+20%/-4%	+21%/-17%	+21%/-68%	+8%/-32%	+1586%/-36%
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 010813970-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1016 ± 23	$6.83^{+3.35}_{-2.95}$	6711^{+697}_{-1128}	8971^{+3238}_{-1818}	$2.442^{+4.934}_{-1.336}$
Alt.	-993 ± 72	$8.02^{+3.25}_{-3.15}$	6792^{+594}_{-1242}	7945^{+2366}_{-1452}	$1.713^{+2.724}_{-0.838}$

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

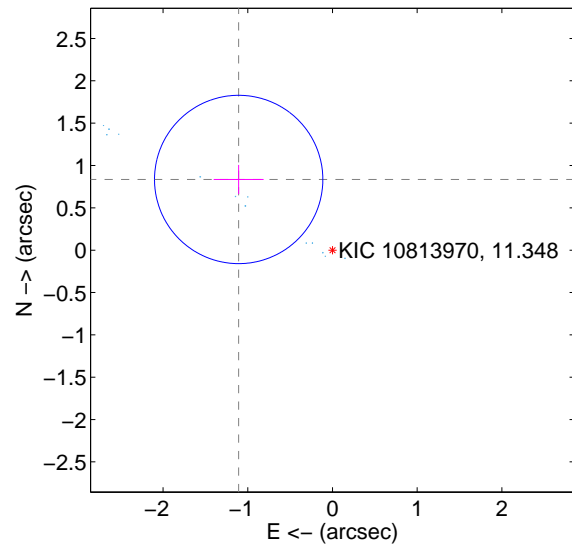
Supplemental centroid analysis for 010813970-02. **Kepler magnitude: 11.35**. Transit SNR 22.20

There are 14 quarters with good PRF difference image offsets

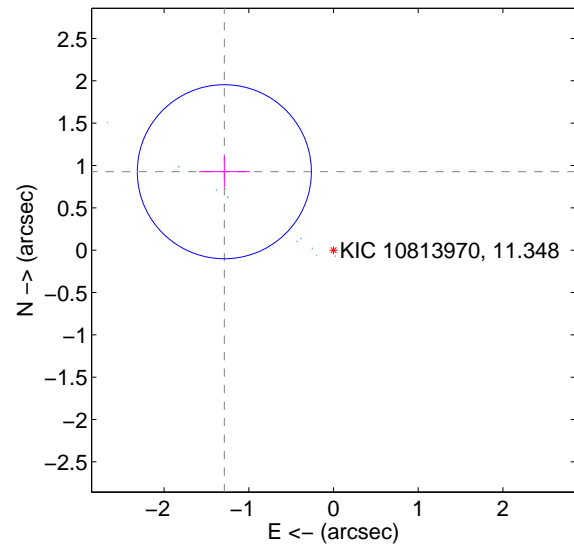
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.387 ± 0.331	4.19	1.108 ± 0.295	0.835 ± 0.172
PRF-fit source offset from KIC position	1.587 ± 0.343	4.63	1.289 ± 0.299	0.926 ± 0.182
photometric centroid source offset	0.13 ± 0.05	2.60	0.10 ± 0.05	0.08 ± 0.04

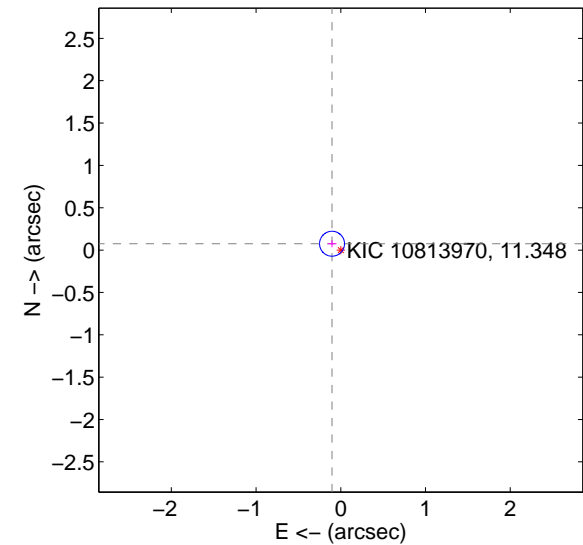
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

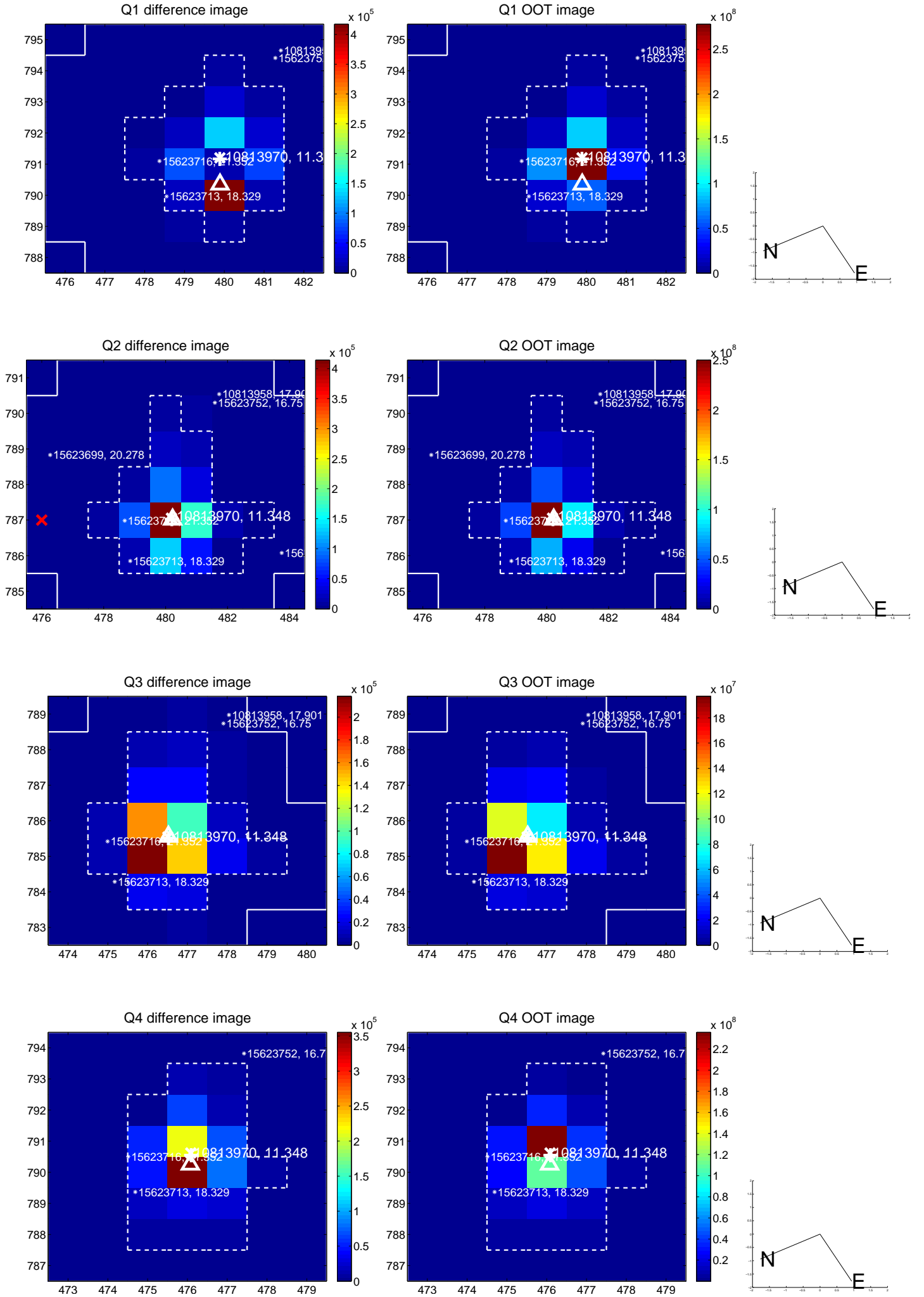


offset from photometric centroids

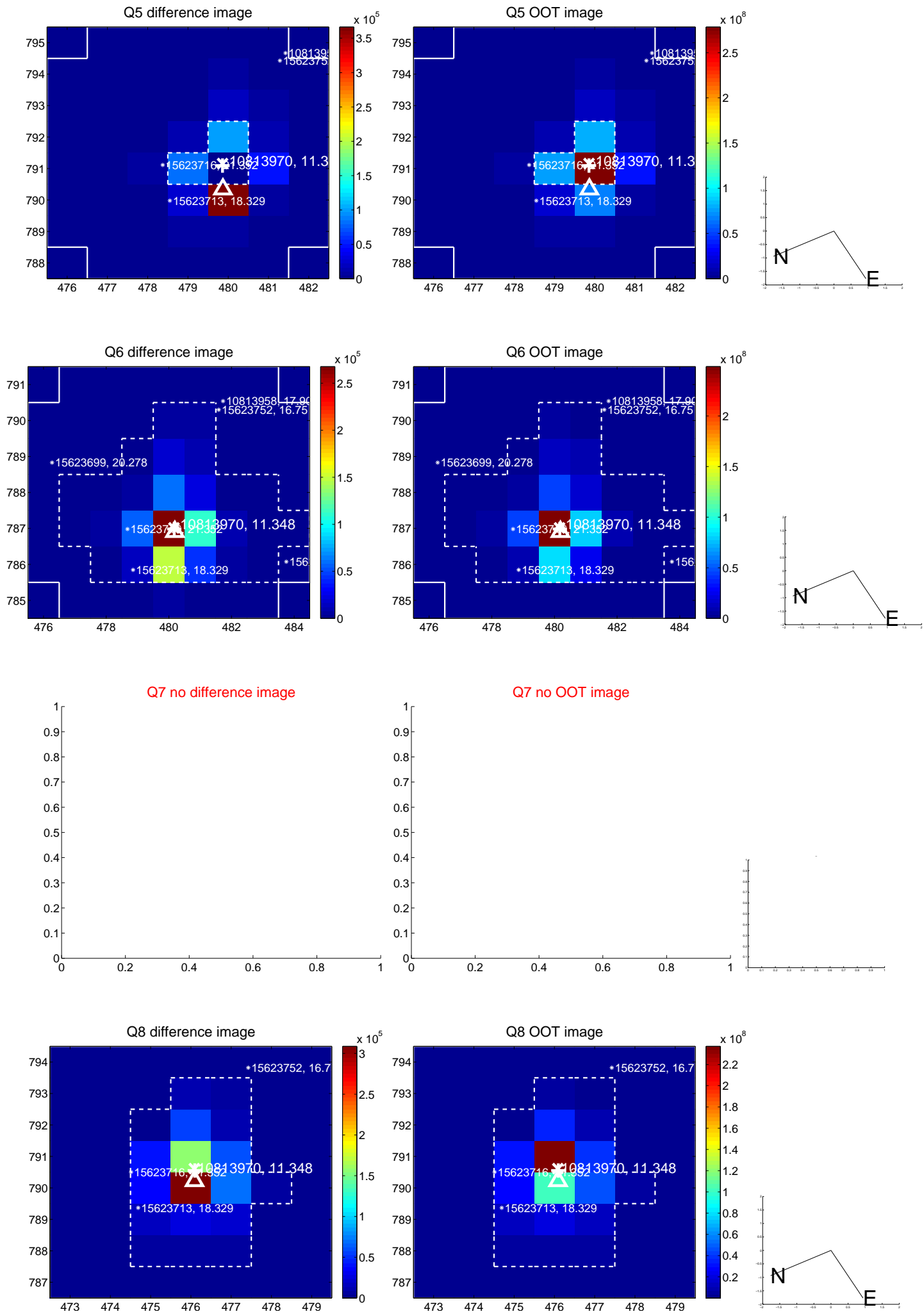


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

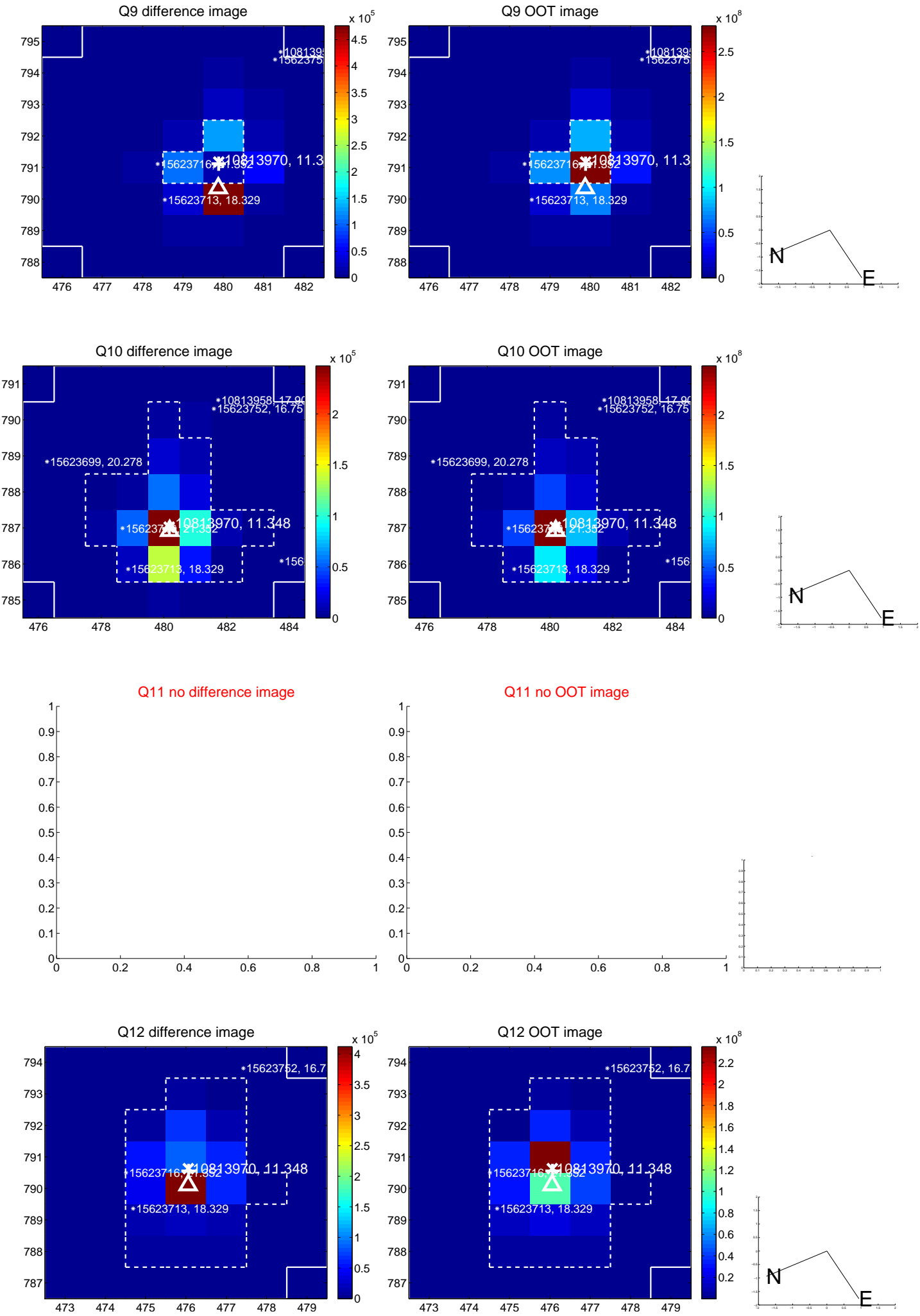
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



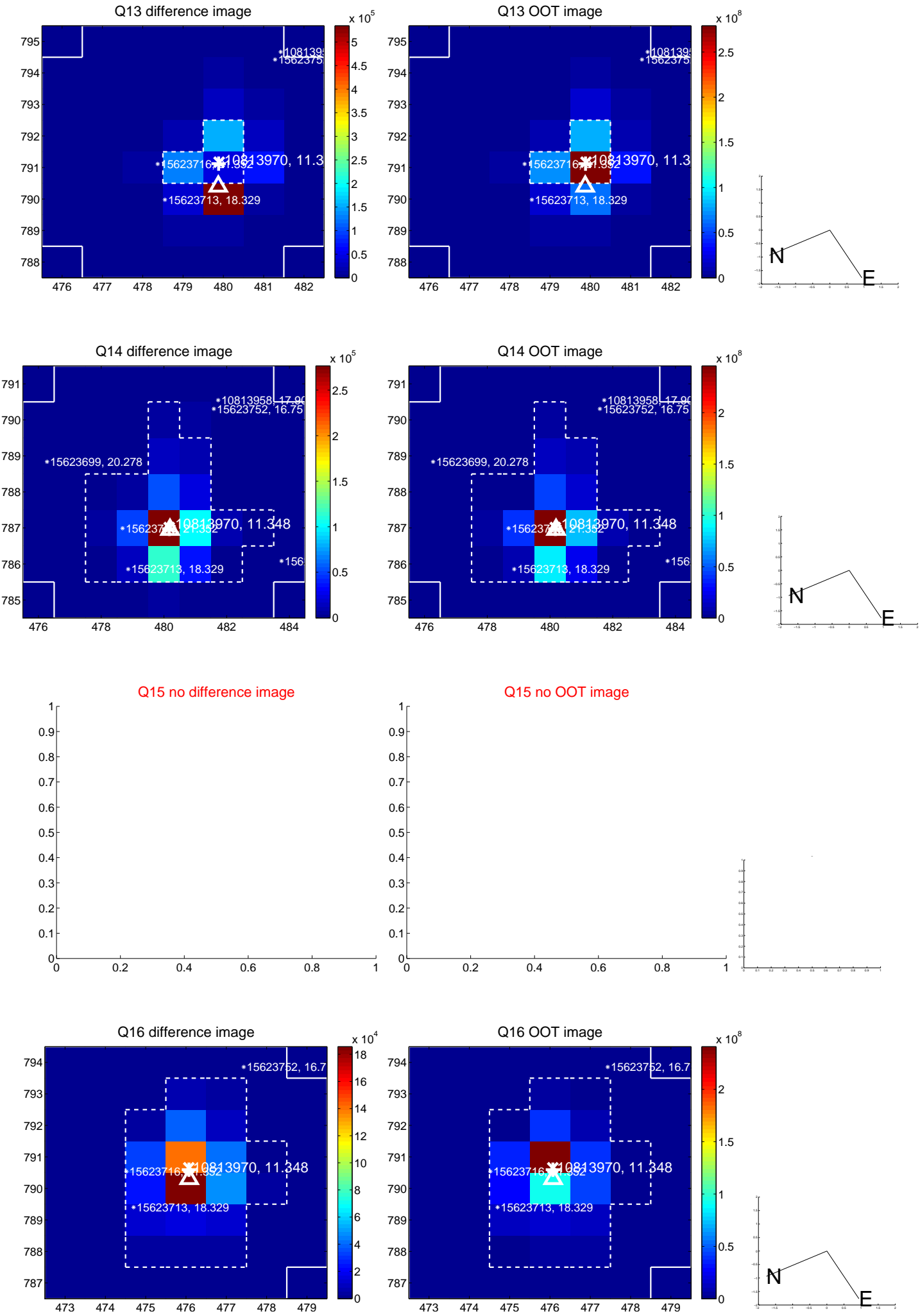
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



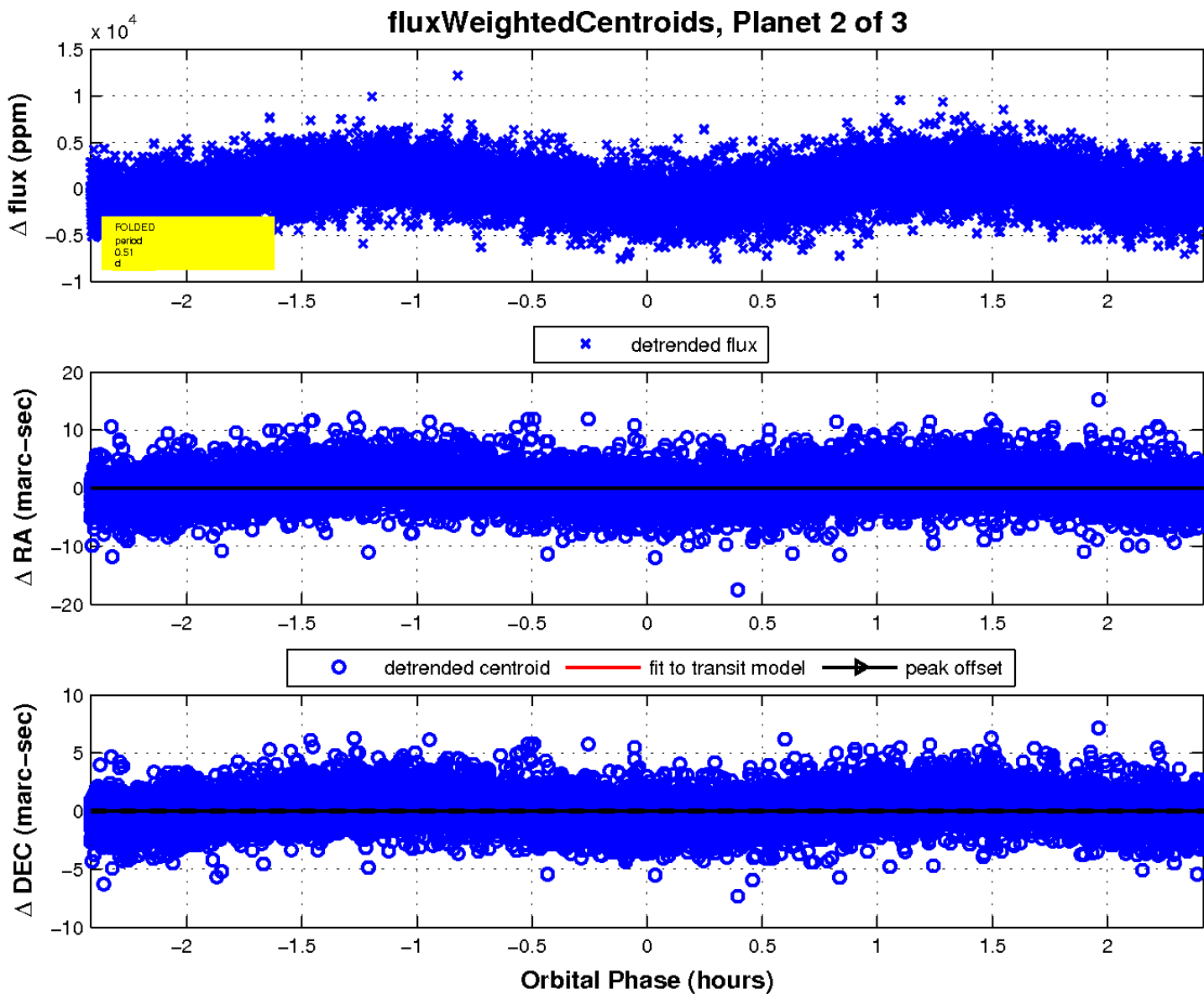
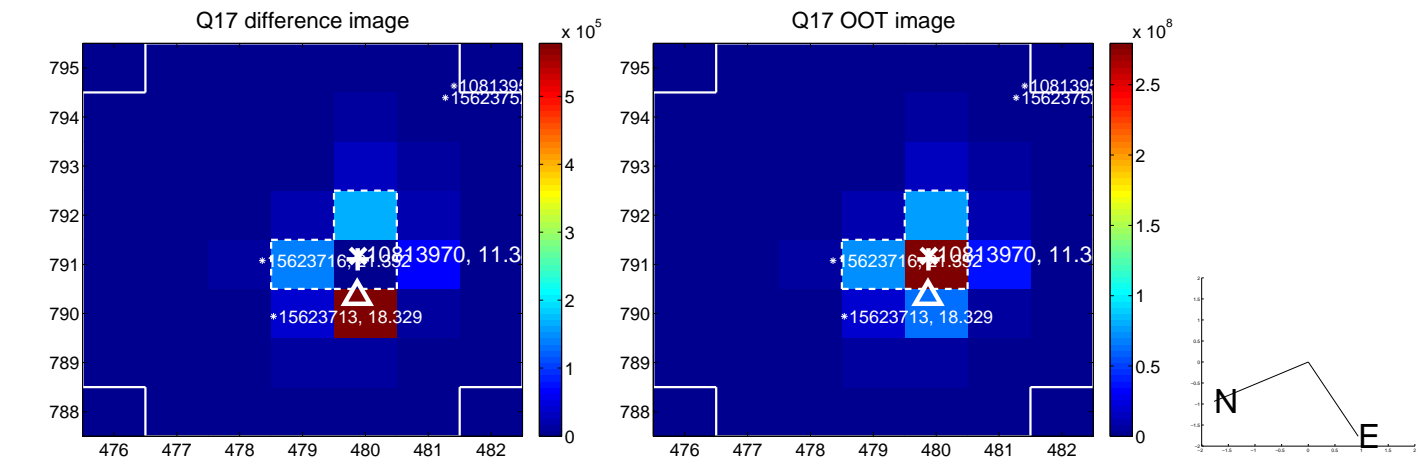
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



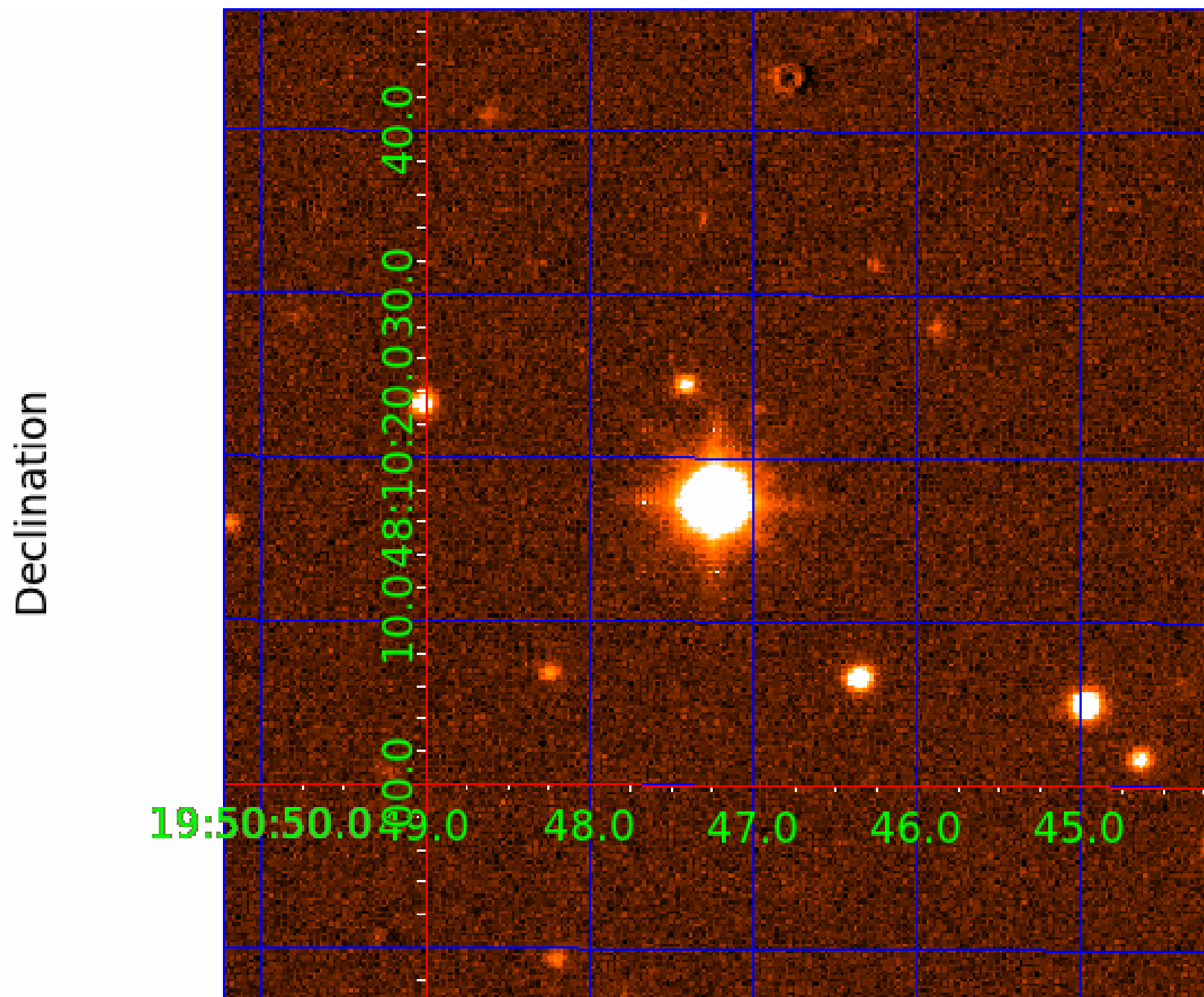
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 010813970

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})
010813970-01	OBS	No	0.514377	131.636375	504.2	0.722	12.8	19.5	3.18	7671	7.36	0.00
010813970-02	OBS	No	0.514377	131.841914	600.6	0.806	14.4	22.2	3.18	7671	7.99	0.00
010813970-03	OBS	No	0.514369	131.533035	104.2	1.077	11.4	3.7	3.18	7671	3.43	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010813970-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010813970-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010813970-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

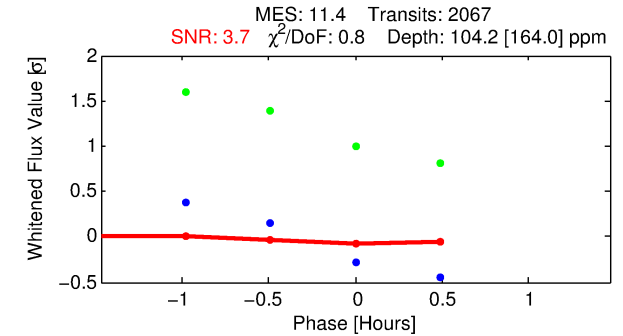
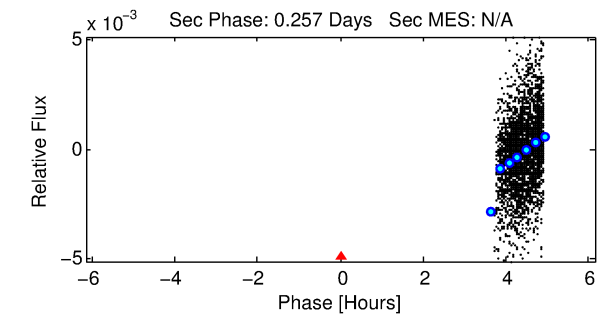
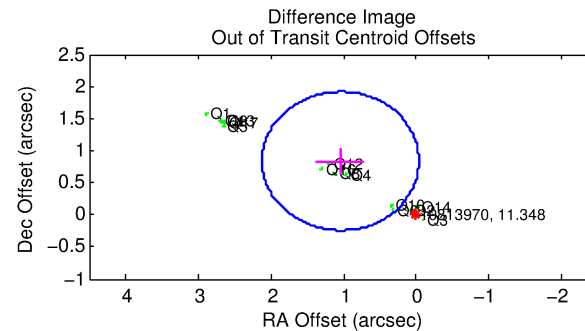
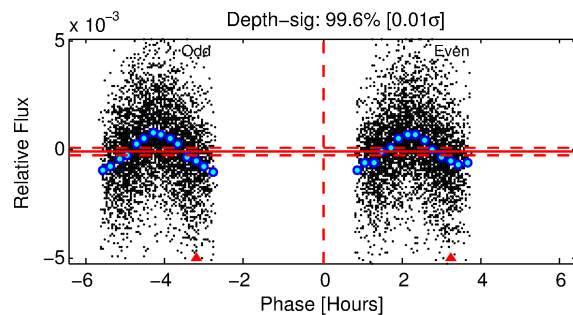
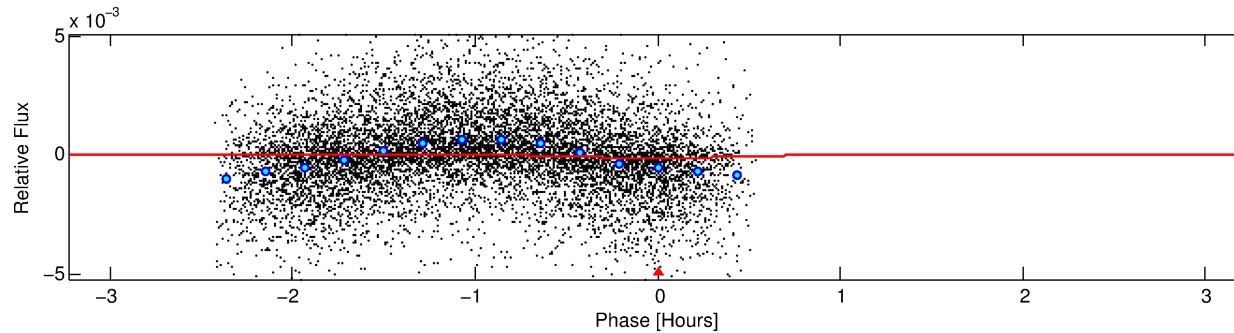
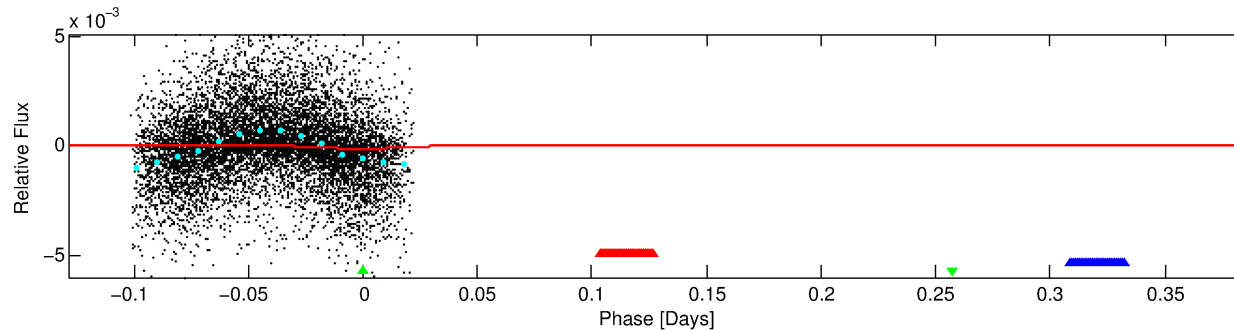
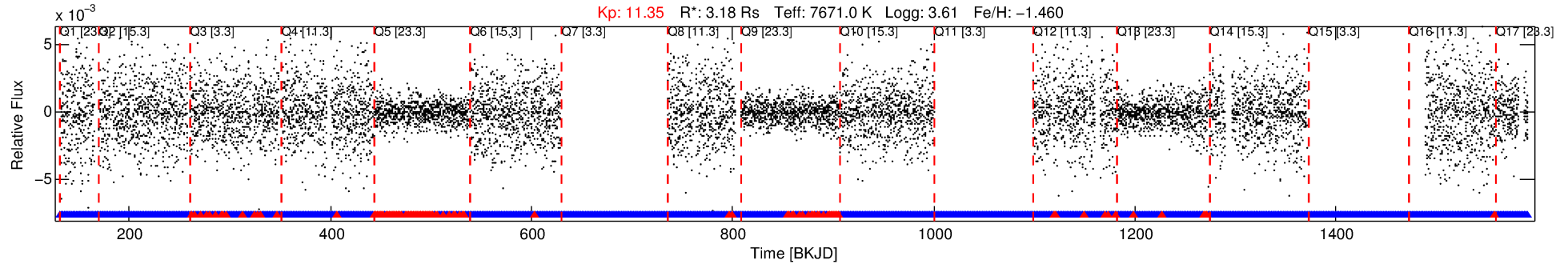
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010813970-03

No Significant Match Found

DV One-Page Summary

KIC: 10813970 Candidate: 3 of 3 Period: 0.514 d



DV Fit Results:

Period = 0.51437 [0.00016] d
Epoch = 131.5330 [0.0080] BKJD
 $R_p/R^* = 0.0099$ [0.0143]
 $a/R^* = 3.04$ [18.90]
 $b = 0.61$ [7.25]
 $\text{Seff} = \text{N/A}$
 $\text{Teq} = \text{N/A}$
 $R_p = 3.43$ [5.48] R_e
 $a = \text{N/A}$

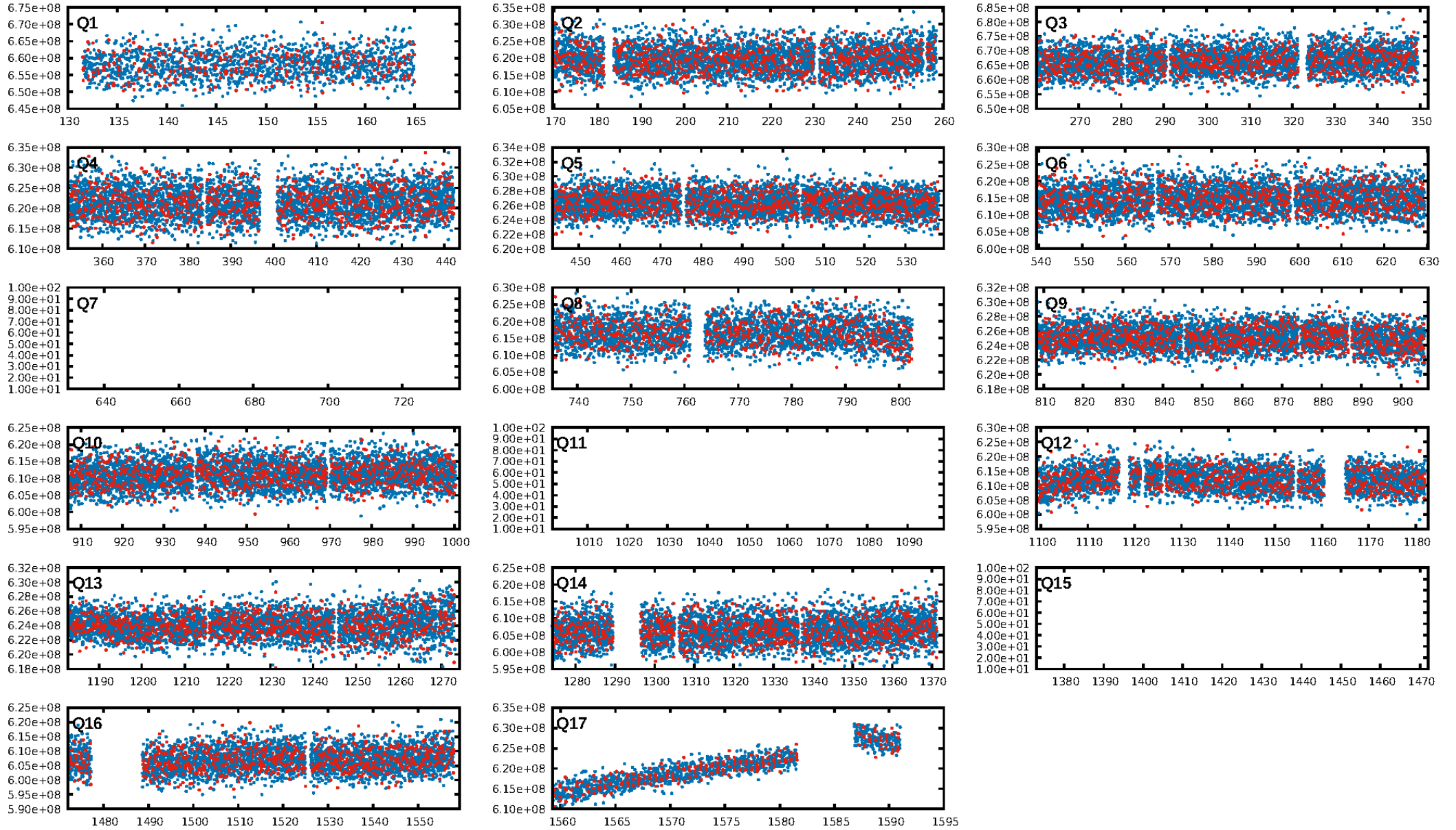
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [1809/1949]
GhostDiagnostic-chr: 3.843
Centroid-sig: 0.0%
Centroid-so: 0.674 arcsec [2.64 σ]
OotOffset-rm: 1.337 arcsec [3.71 σ]
KicOffset-rm: 1.525 arcsec [3.99 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 0.00 [0/14]

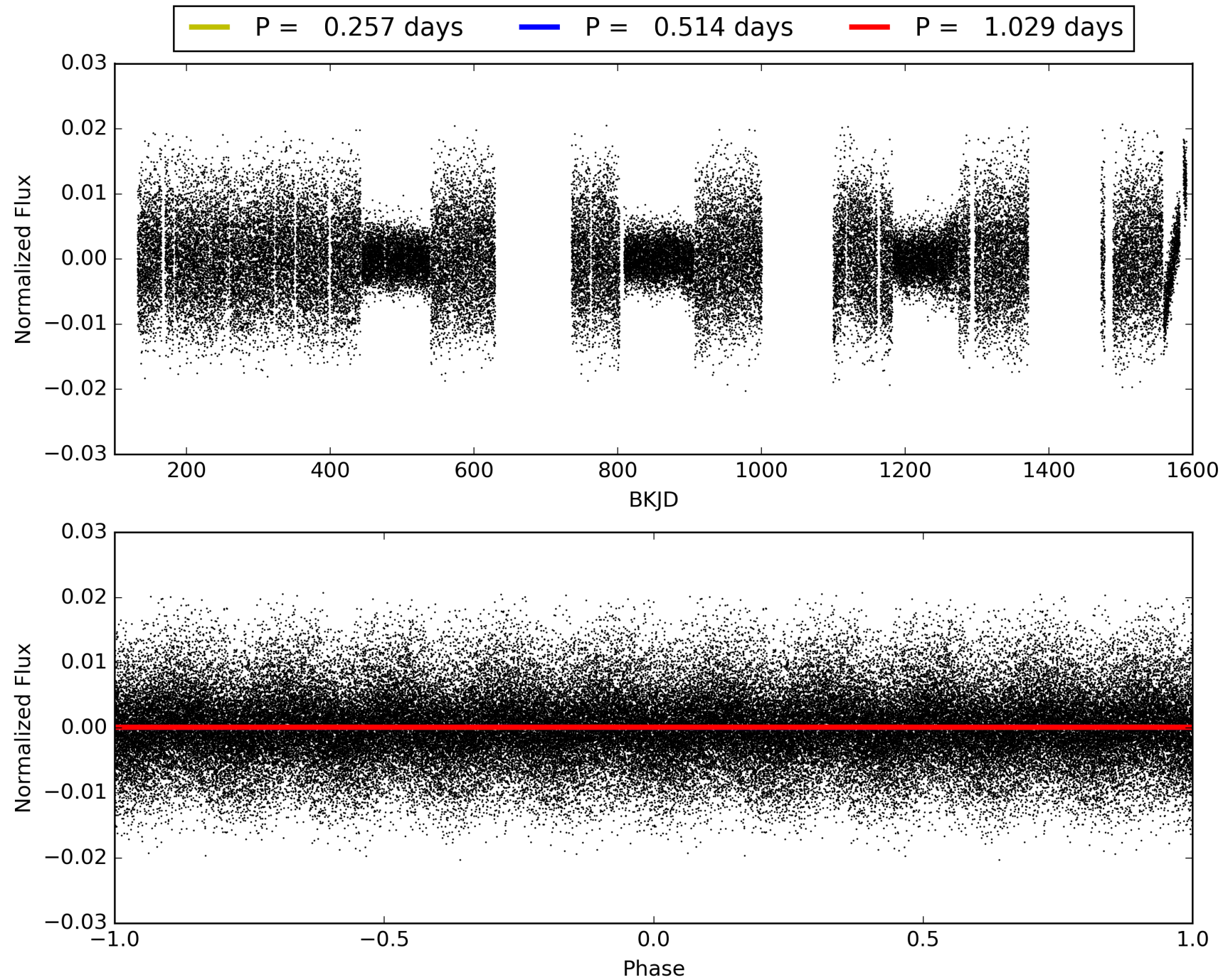
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:13:28 Z

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

TCE 010813970-03, PDC Light Curves

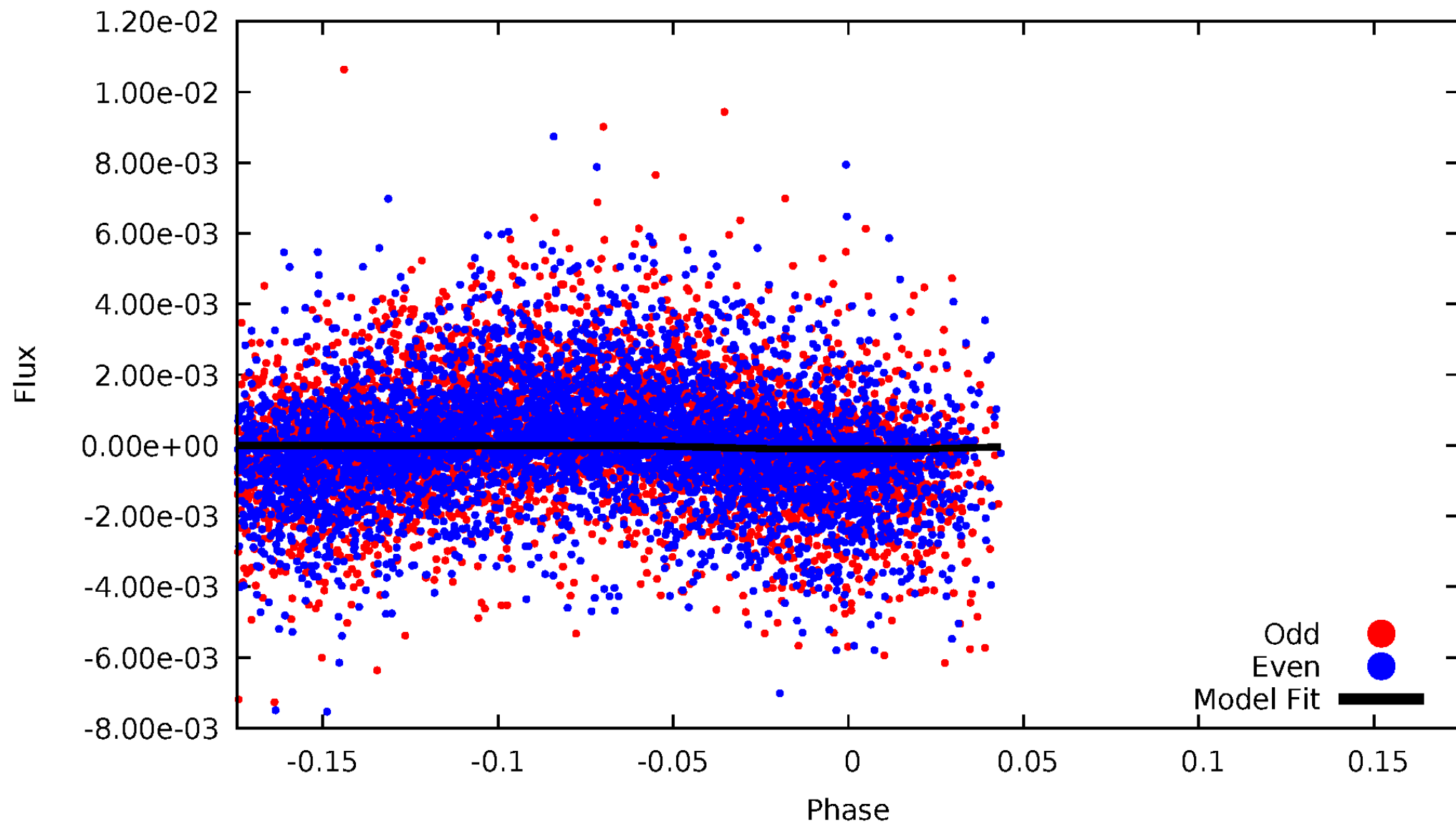


TCE 010813970-03



DV Odd/Even

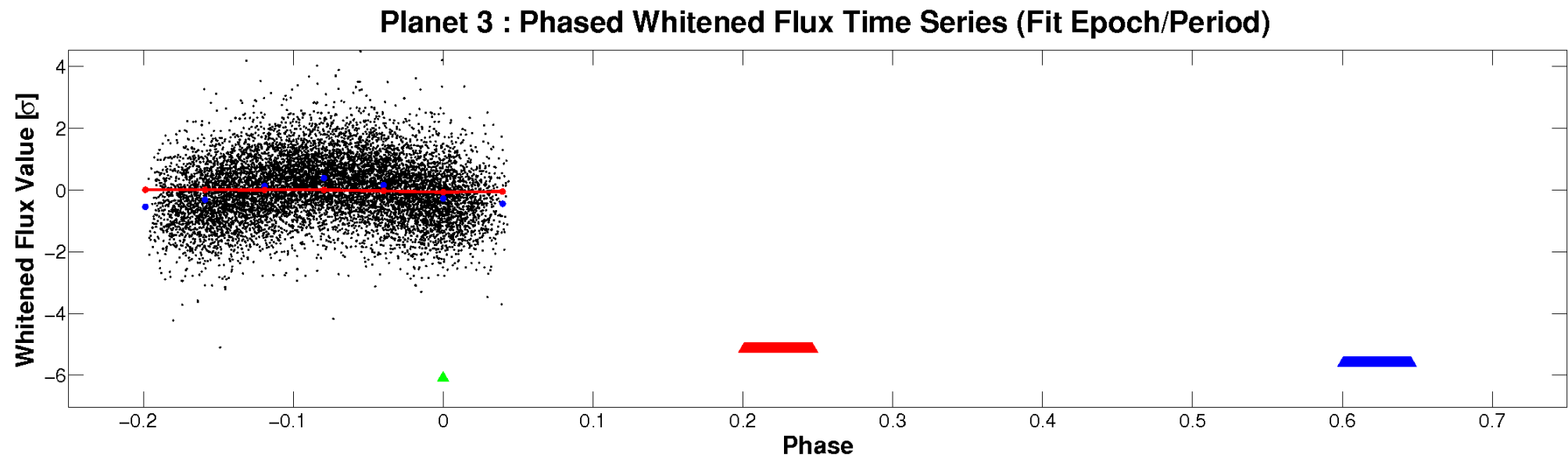
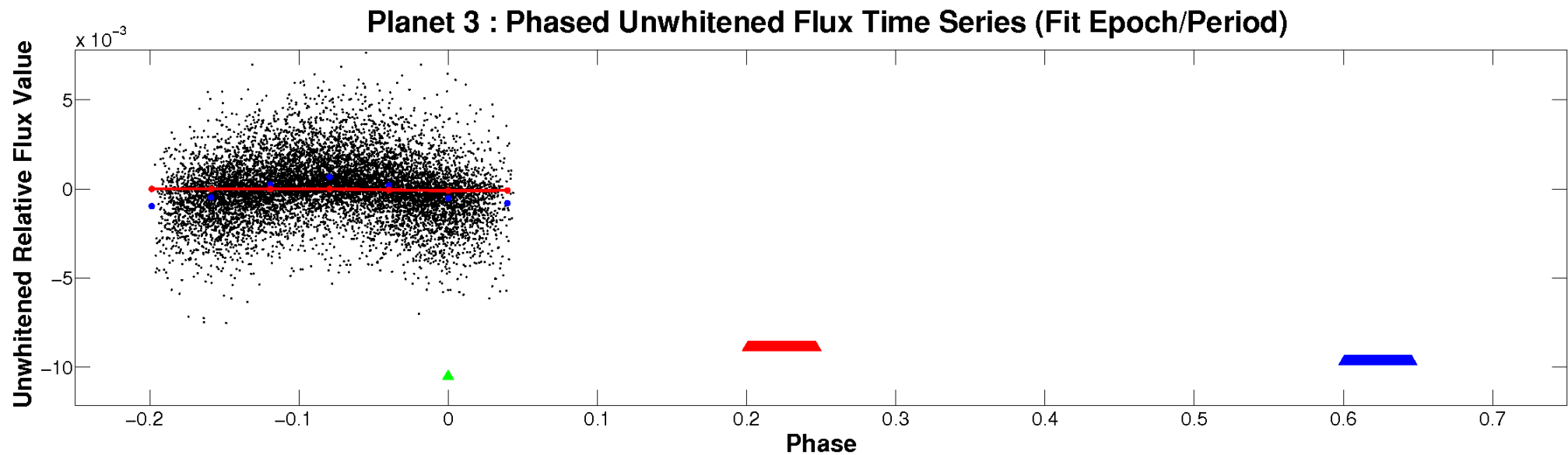
TCE 010813970-03



ALT Odd/Even

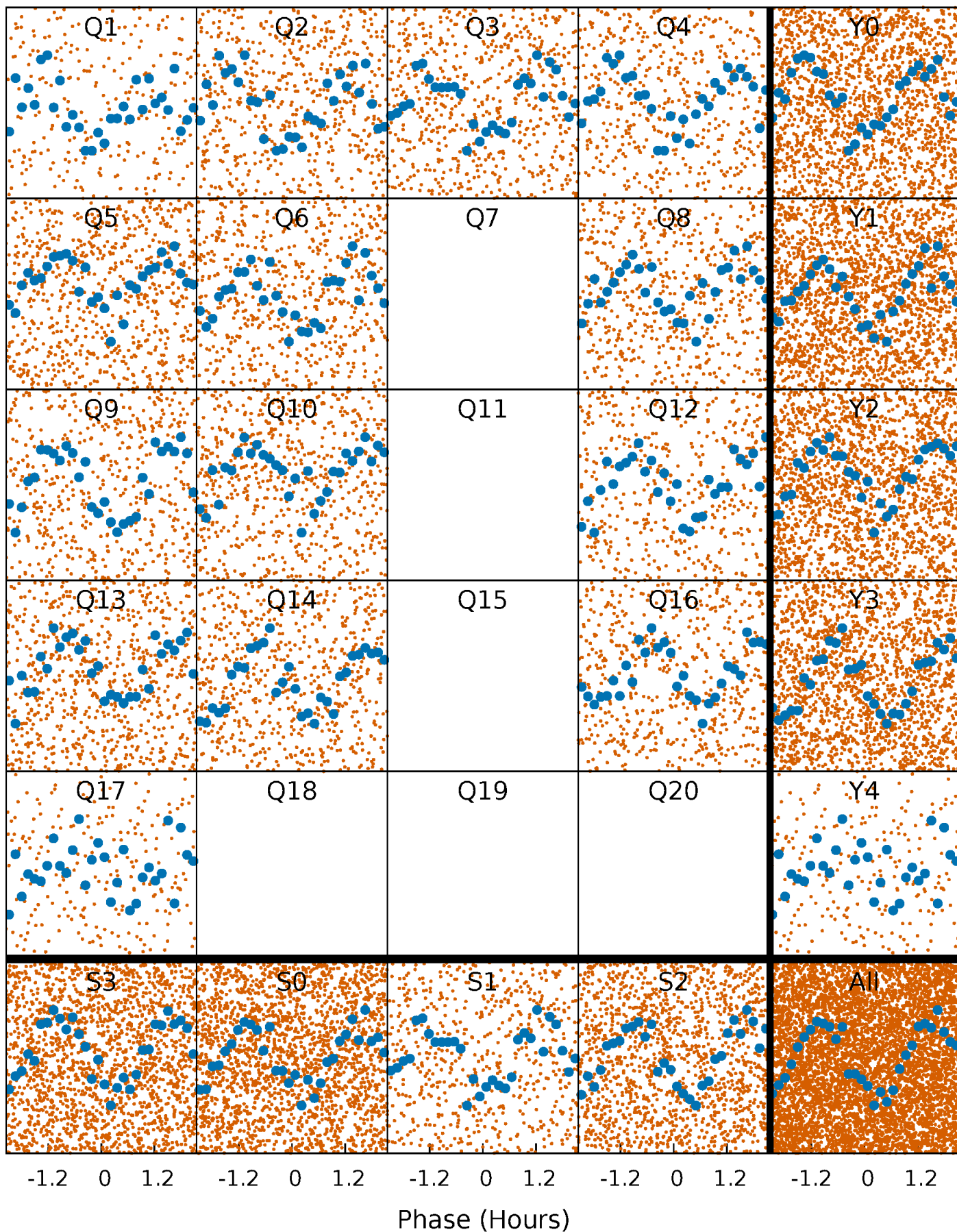
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



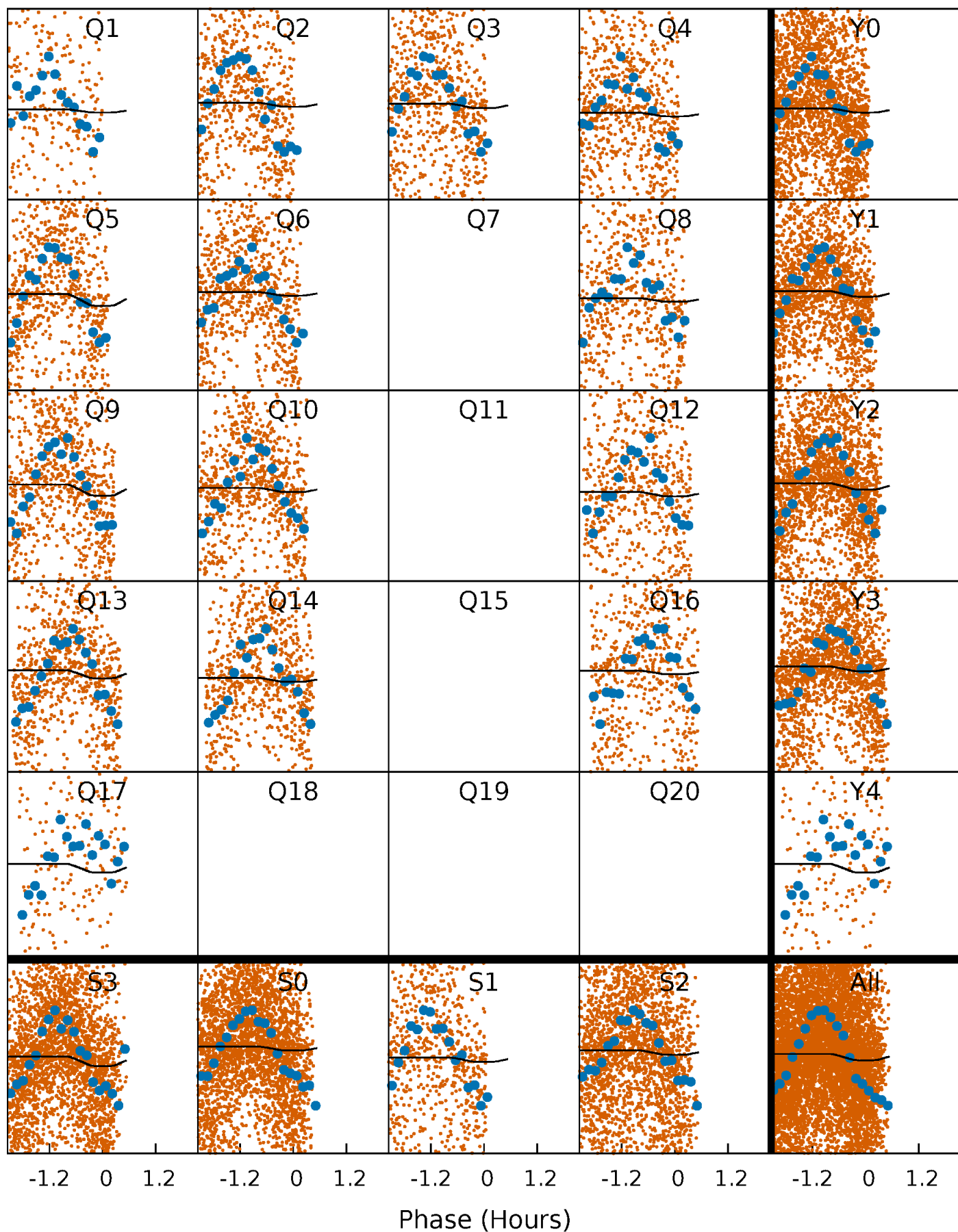
PDC Quarter-Phased Transit Curves

TCE 010813970-03 P= 0.514369 Days $T_0=131.533035$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010813970-03 P= 0.514369 Days $T_0=131.533035$ (BKJD)

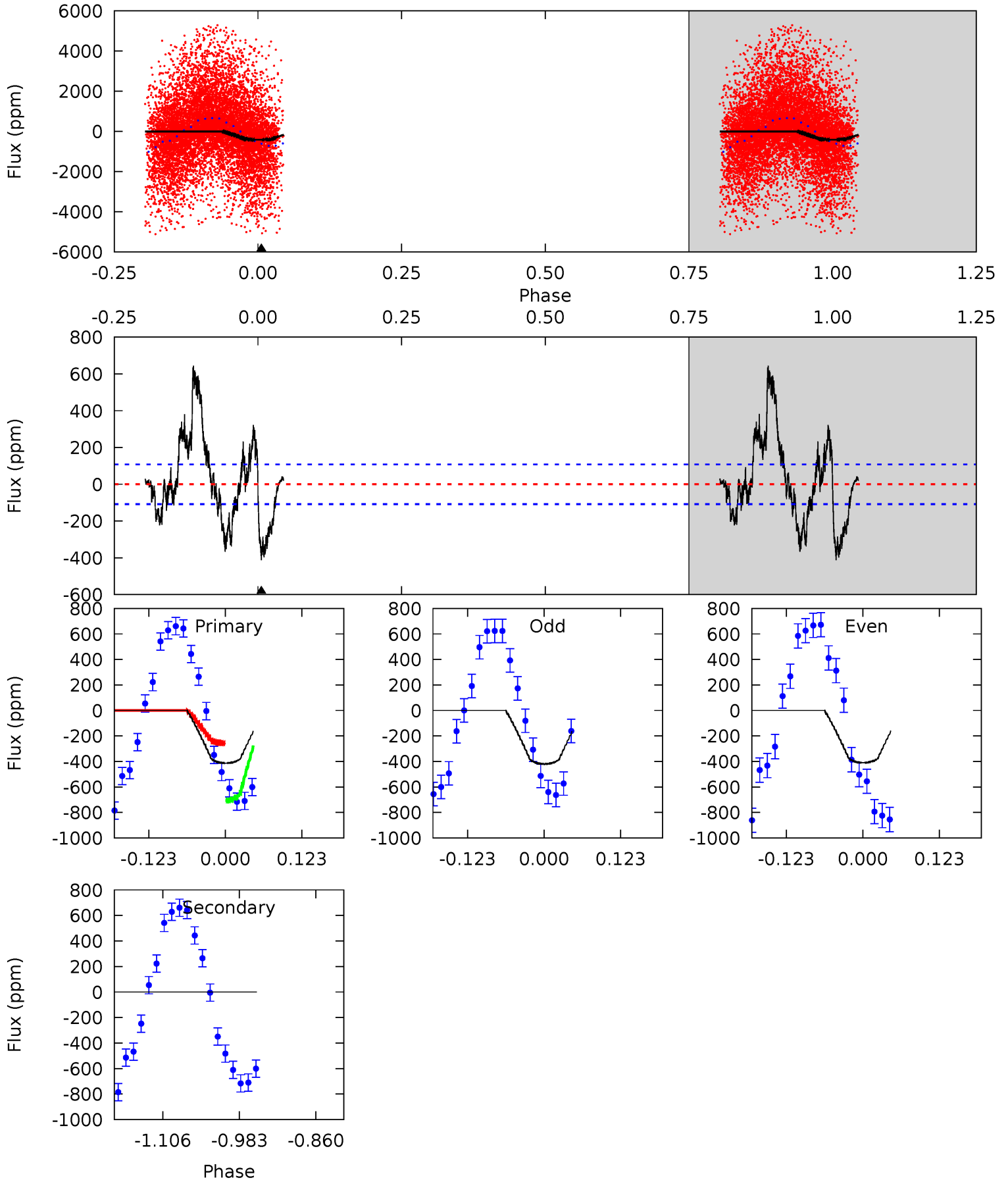


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010813970-03, P = 0.514369 Days, E = 131.018666 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	0	0	0	4.52	1.54	6.62	17.3	17.3	0	0	0.21	1.22	0.61	7.83



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010813970

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7671^{+239}_{-328}	$3.609^{+0.722}_{-0.127}$	$-1.460^{+0.300}_{-0.250}$	$3.177^{+0.675}_{-2.159}$	$1.495^{+0.127}_{-0.475}$	$0.066^{+1.042}_{-0.024}$
	+3%/-4%	+20%/-4%	+21%/-17%	+21%/-68%	+8%/-32%	+1586%/-36%
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 010813970-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 24	$4.46^{+4.09}_{-3.05}$	6802^{+617}_{-1057}	-5504^{+1910}_{-878}	$0.001^{+0.247}_{-0.238}$
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 $A_{obs} \gg 1.0$

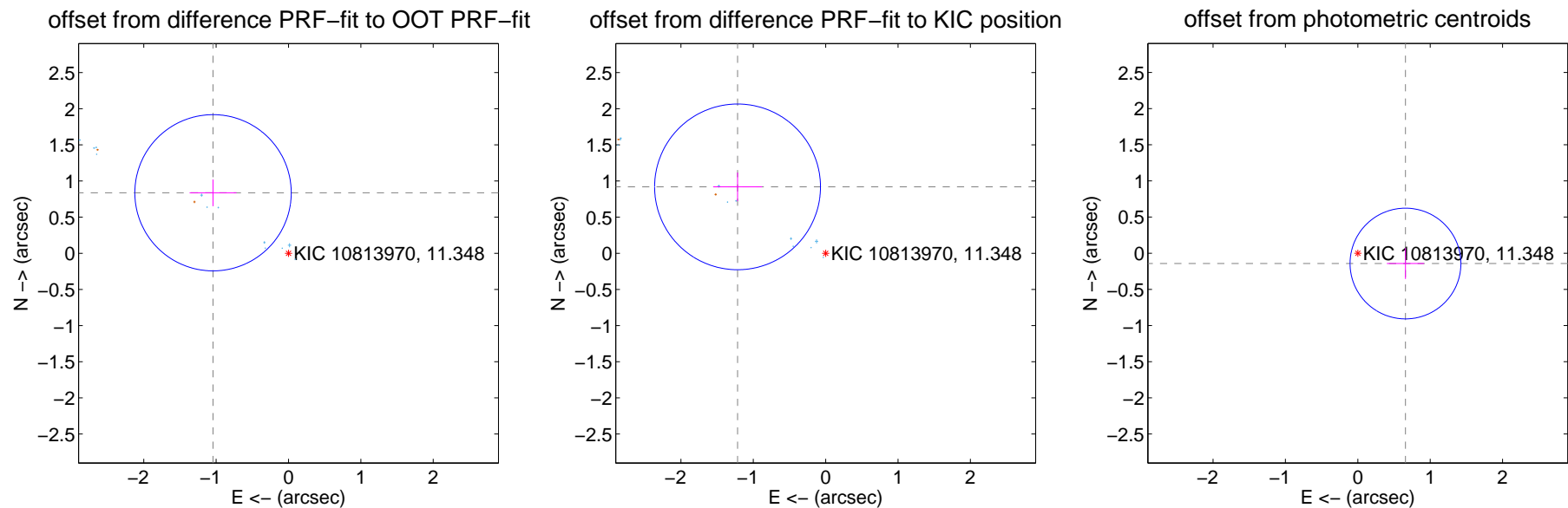
DV Centroid Data

Supplemental centroid analysis for 010813970-03. **Kepler magnitude: 11.35.** Transit SNR 3.69

There are 12 quarters with good PRF difference image offsets

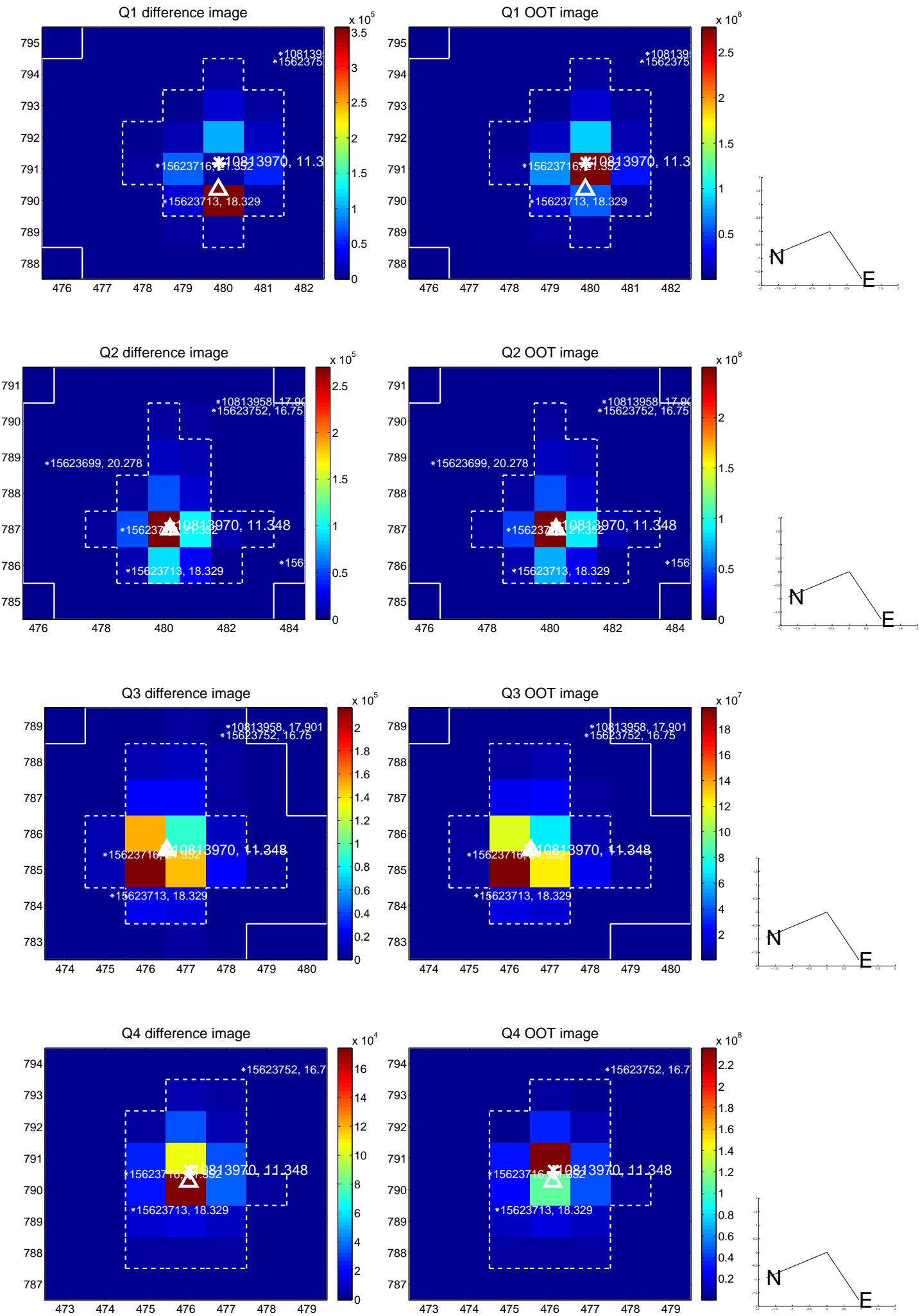
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.337 ± 0.360	3.71	1.043 ± 0.324	0.837 ± 0.184
PRF-fit source offset from KIC position	1.525 ± 0.382	3.99	1.218 ± 0.338	0.919 ± 0.198
photometric centroid source offset	0.67 ± 0.26	2.64	-0.66 ± 0.26	-0.14 ± 0.21

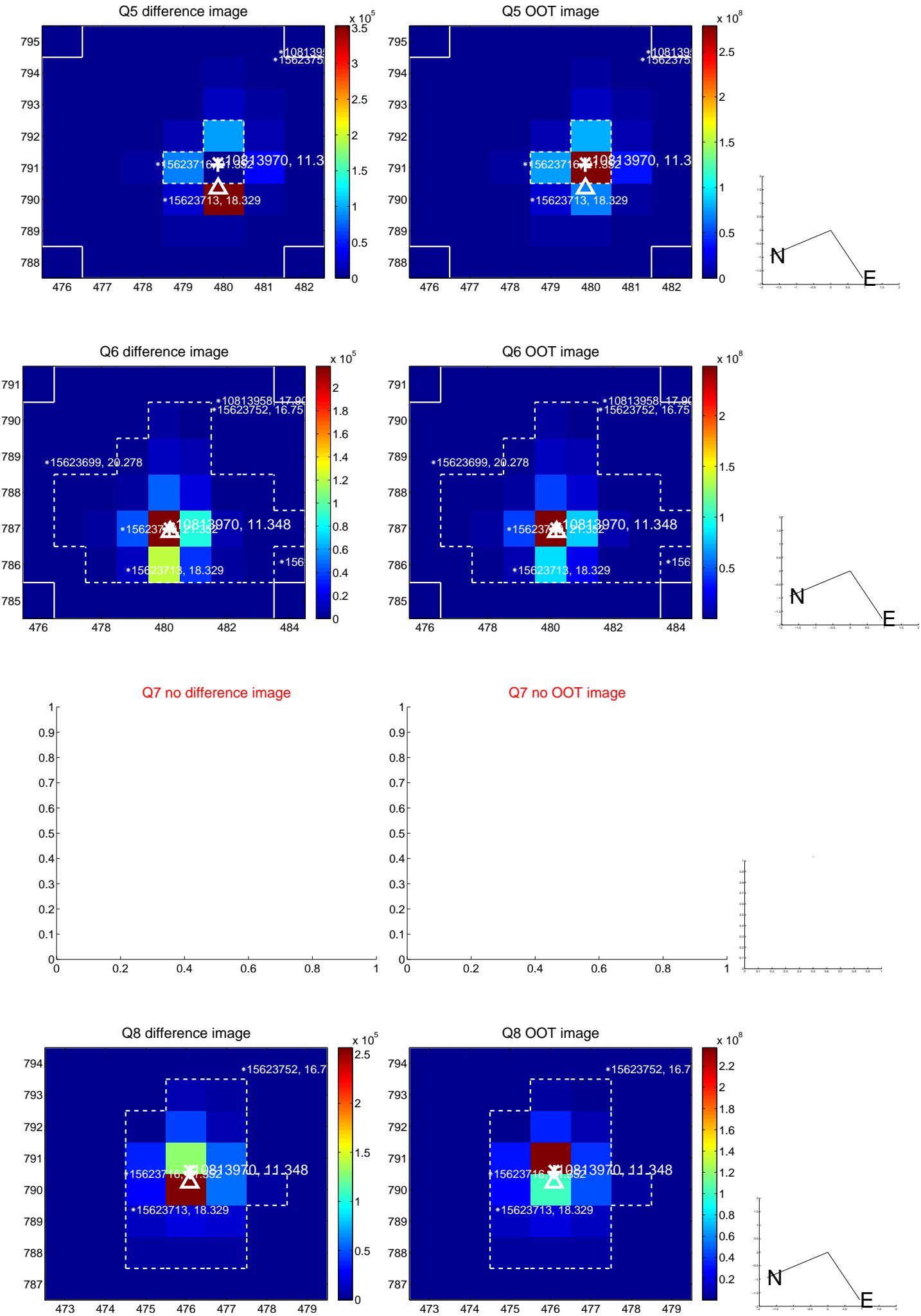


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

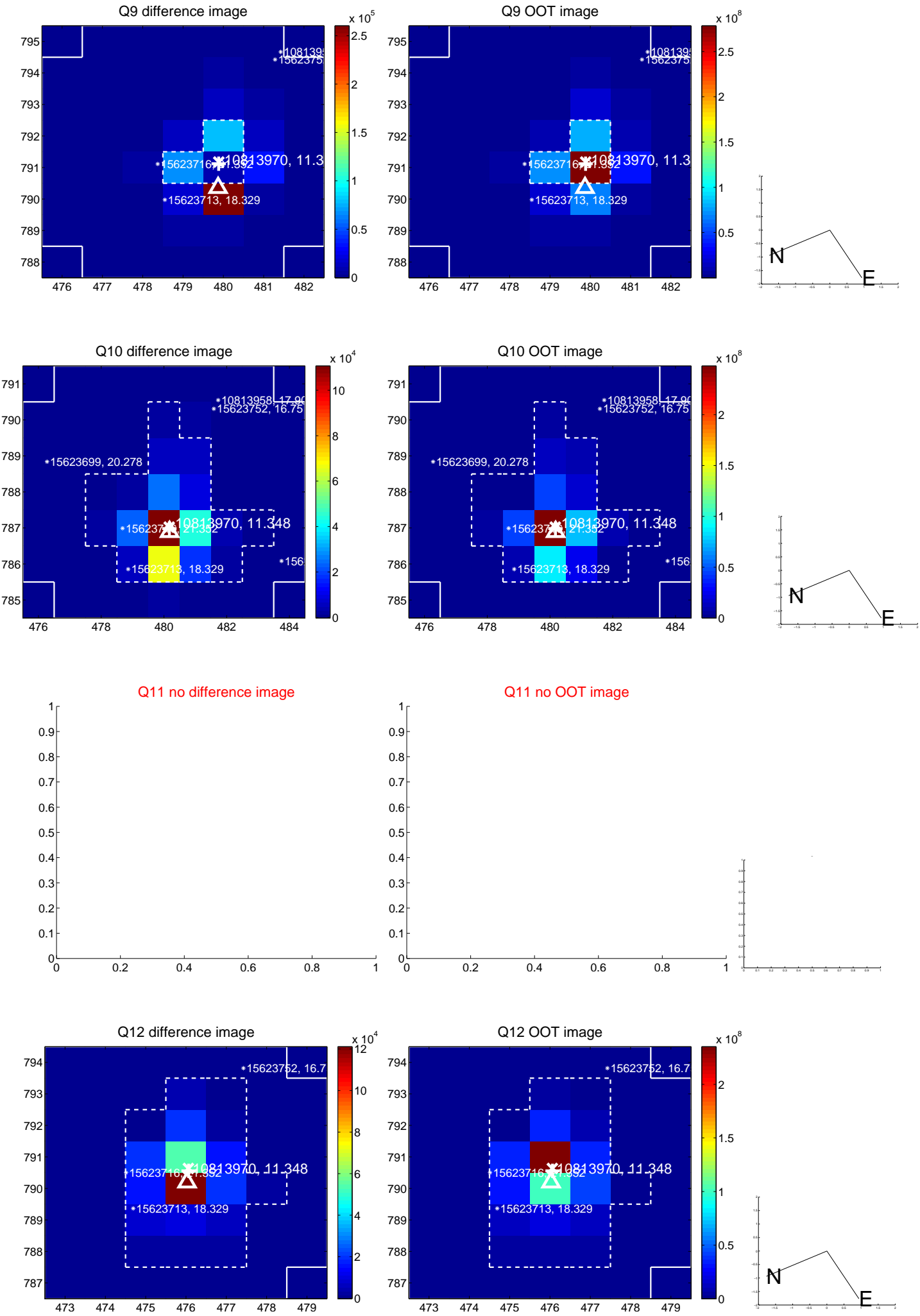
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



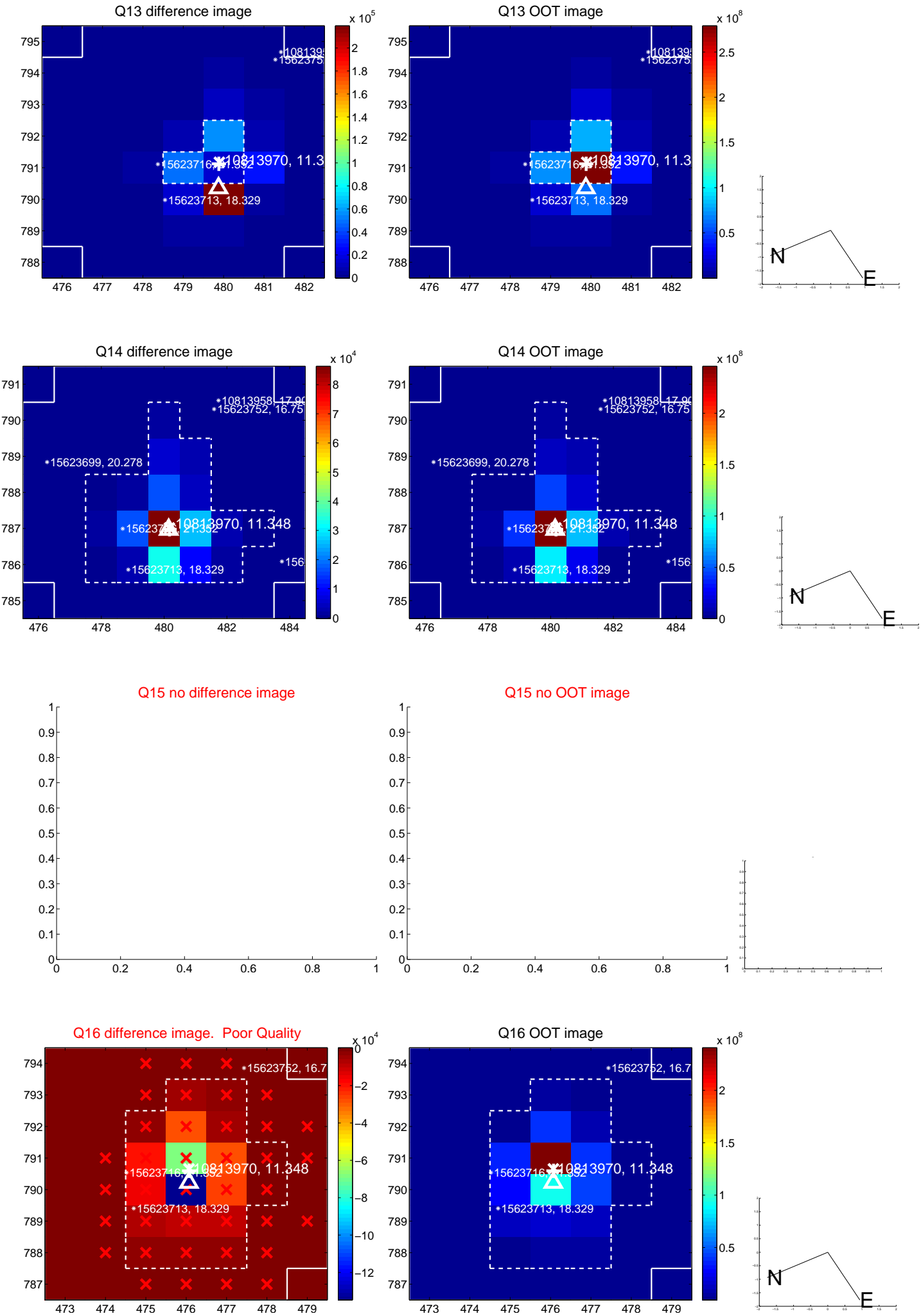
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

