

KIC 012885086

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})
012885086-01	OBS	No	0.500545	131.856363	23.9	2.097	11.9	15.2	2.28	8026	1.30	82005.65
012885086-02	OBS	No	1.987059	132.654393	38.9	3.726	10.1	11.6	2.28	8026	1.65	13046.29
012885086-03	OBS	No	1.928209	133.066949	48.9	23.139	9.9	21.1	2.28	8026	1.74	13579.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012885086-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
012885086-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
012885086-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

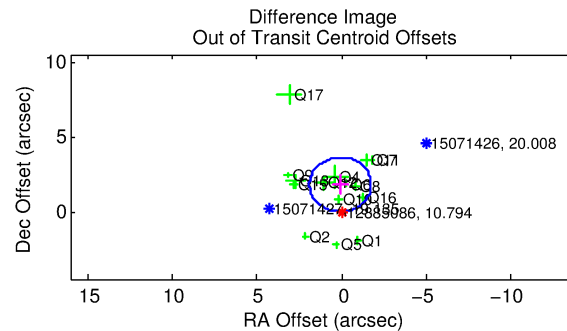
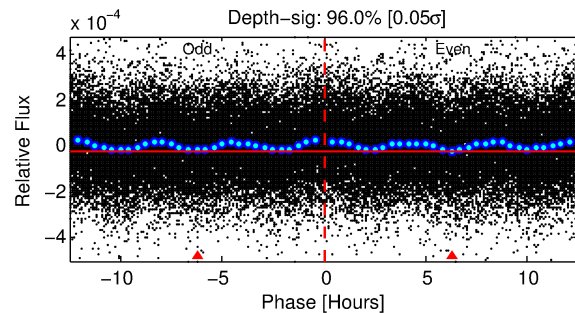
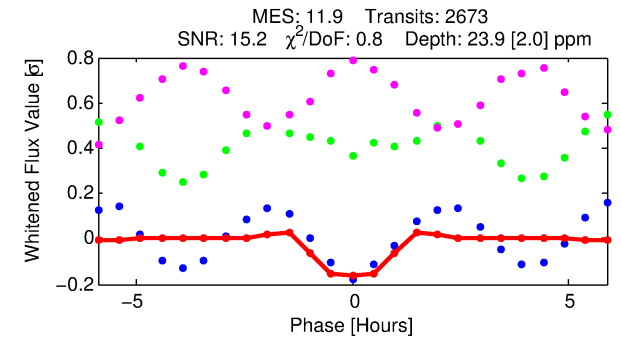
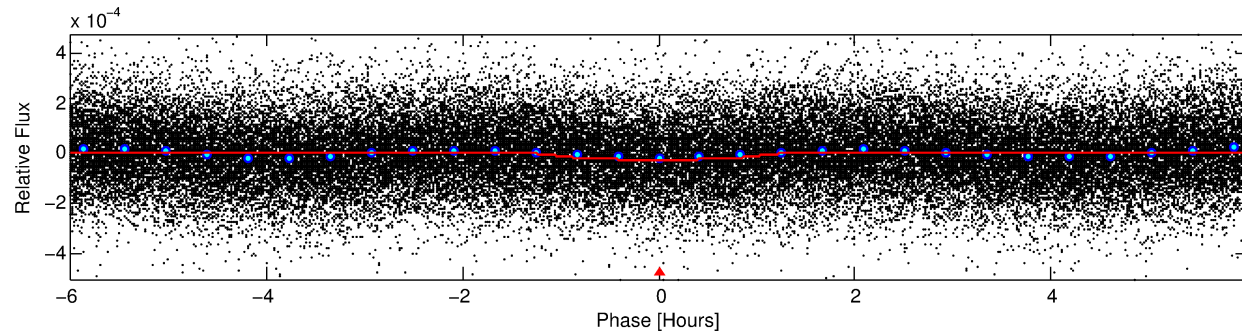
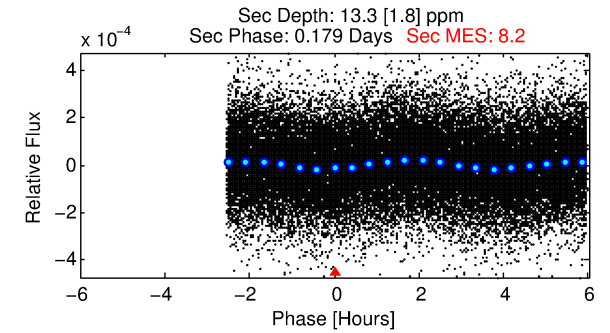
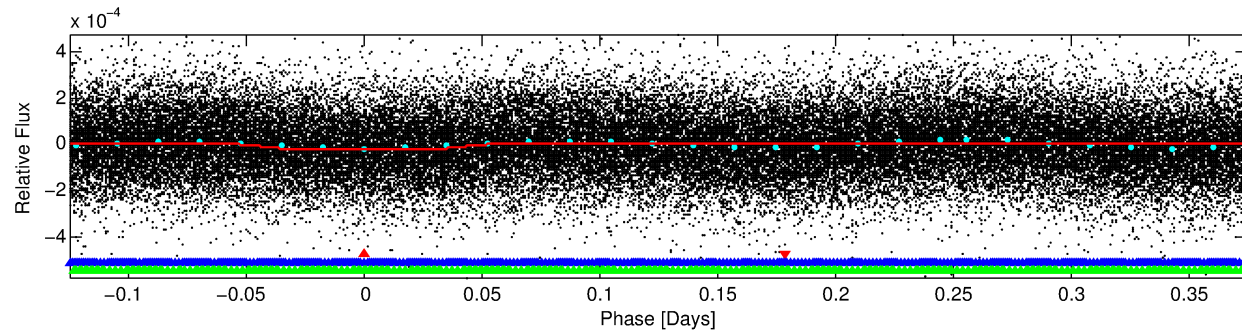
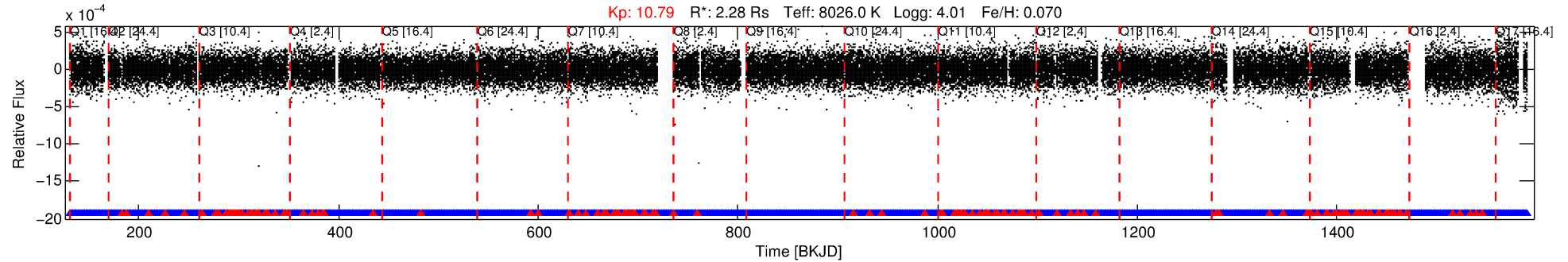
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012885086-01

No Significant Match Found

DV One-Page Summary

KIC: 12885086 Candidate: 1 of 3 Period: 0.501 d



DV Fit Results:

Period = 0.50055 [0.00001] d
Epoch = 131.8564 [0.0016] BKJD
Rp/R* = 0.0052 [0.0014]
a/R* = 1.23 [0.74]
b = 0.91 [0.35]
Seff = 82005.65 [29911.49]
Teq = 4315 [393] K
Rp = 1.30 [0.50] Re
a = 0.0154 [0.0035] AU
Ag = 1.02 [0.67] [0.03σ]
Teffp = 6703 [994] K [2.23σ]

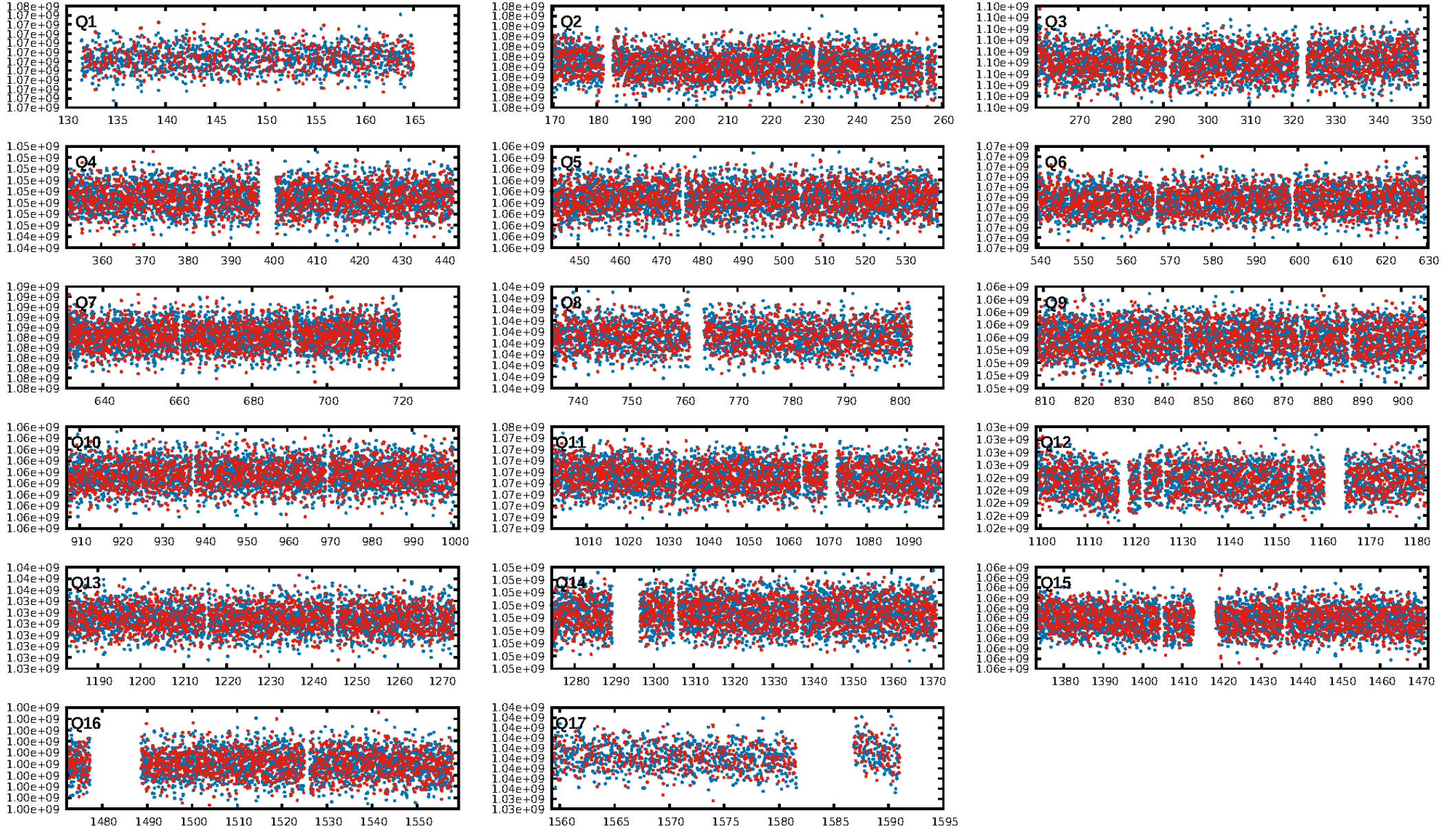
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 86.0% [1.47σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [2400/2552]
GhostDiagnostic-chr: N/A
Centroid-sig: 23.9%
Centroid-so: 0.574 arcsec [1.45σ]
OotOffset-rm: 1.804 arcsec [2.98σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-rm: 1.980 arcsec [3.24σ]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

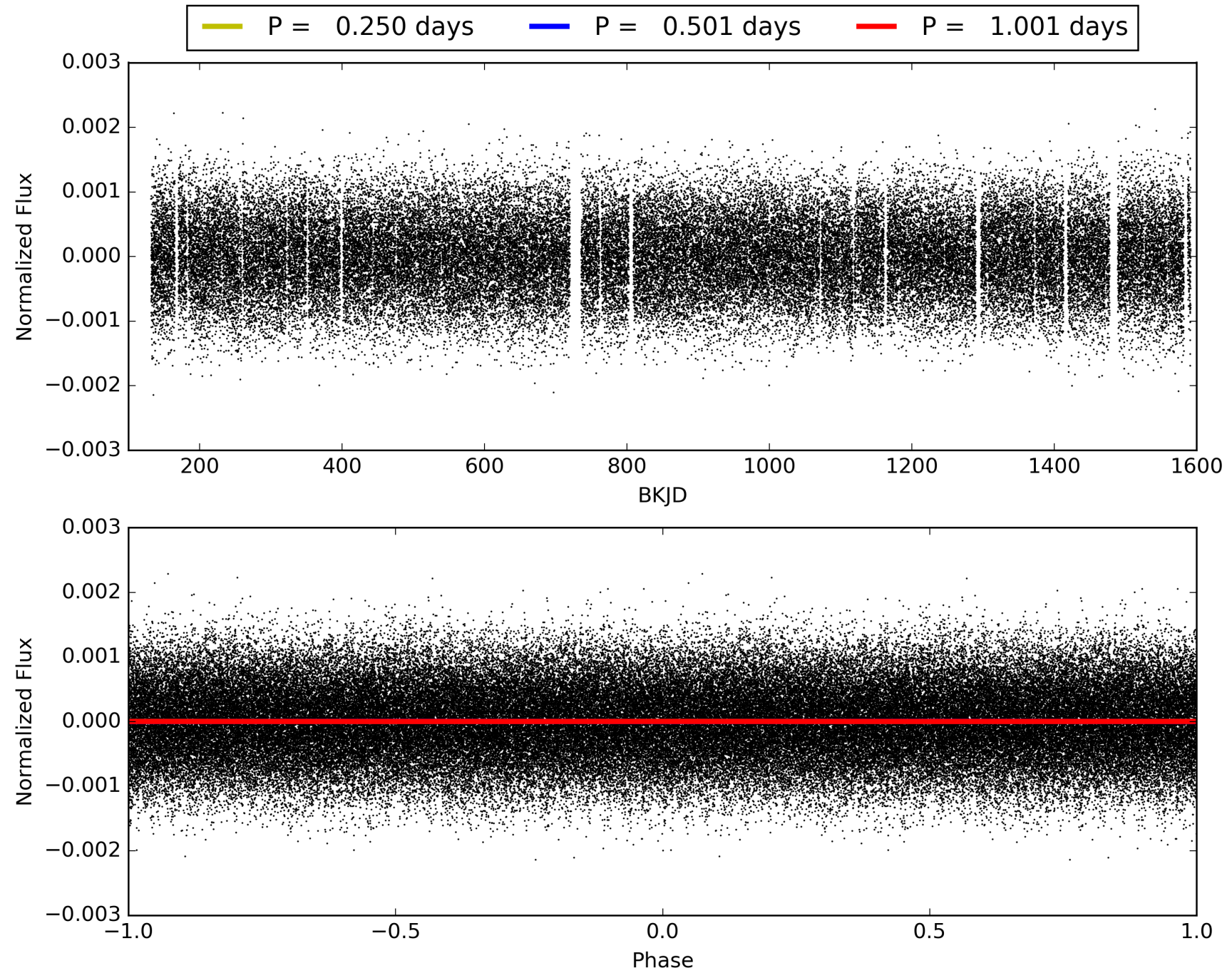
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:19:18 Z

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

TCE 012885086-01, PDC Light Curves

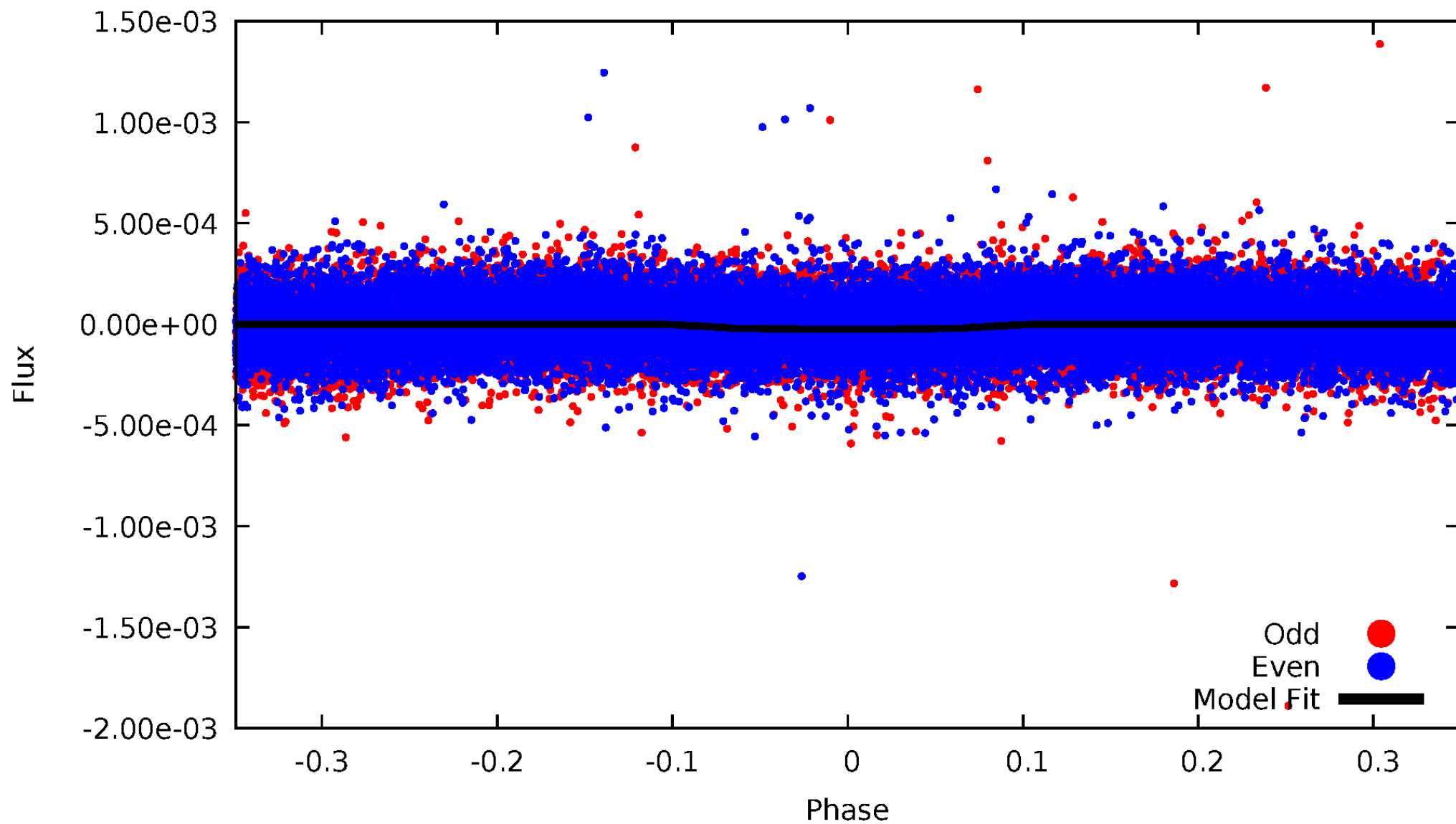


TCE 012885086-01



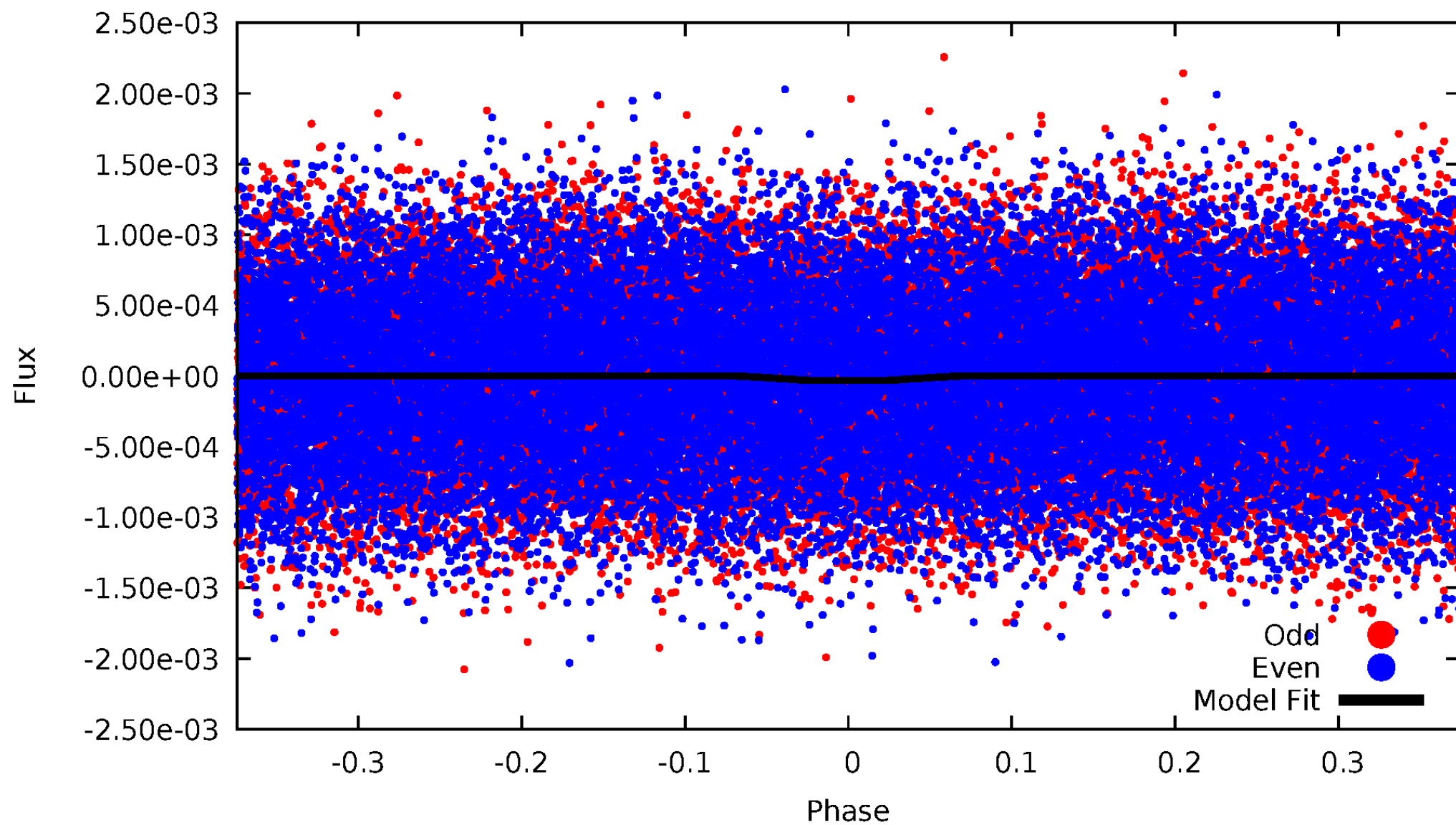
DV Odd/Even

TCE 012885086-01

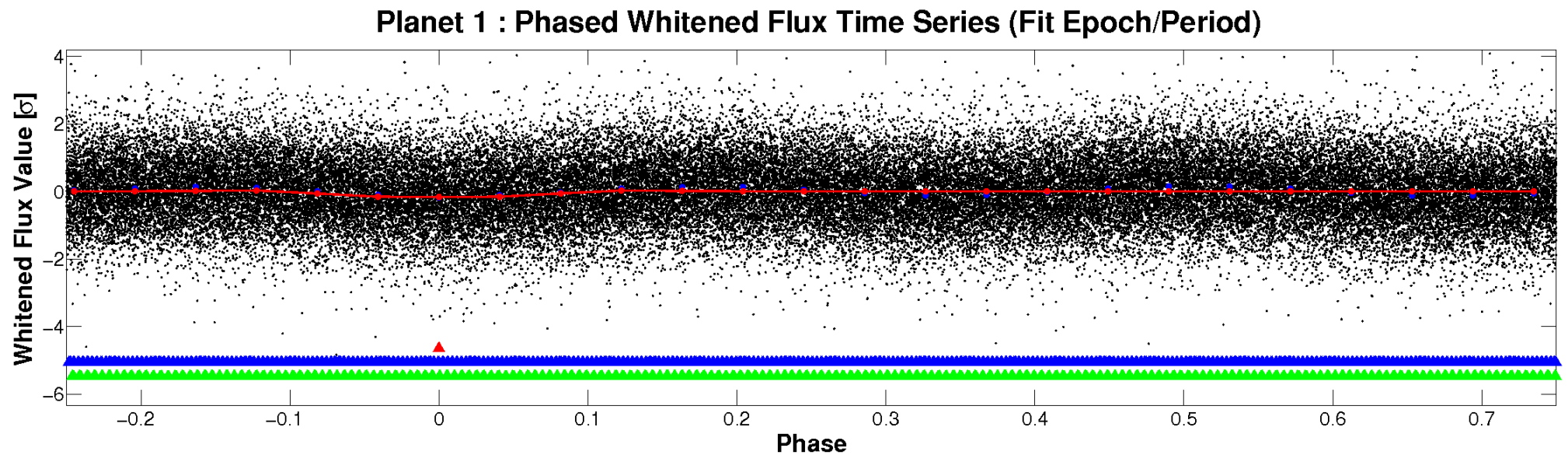
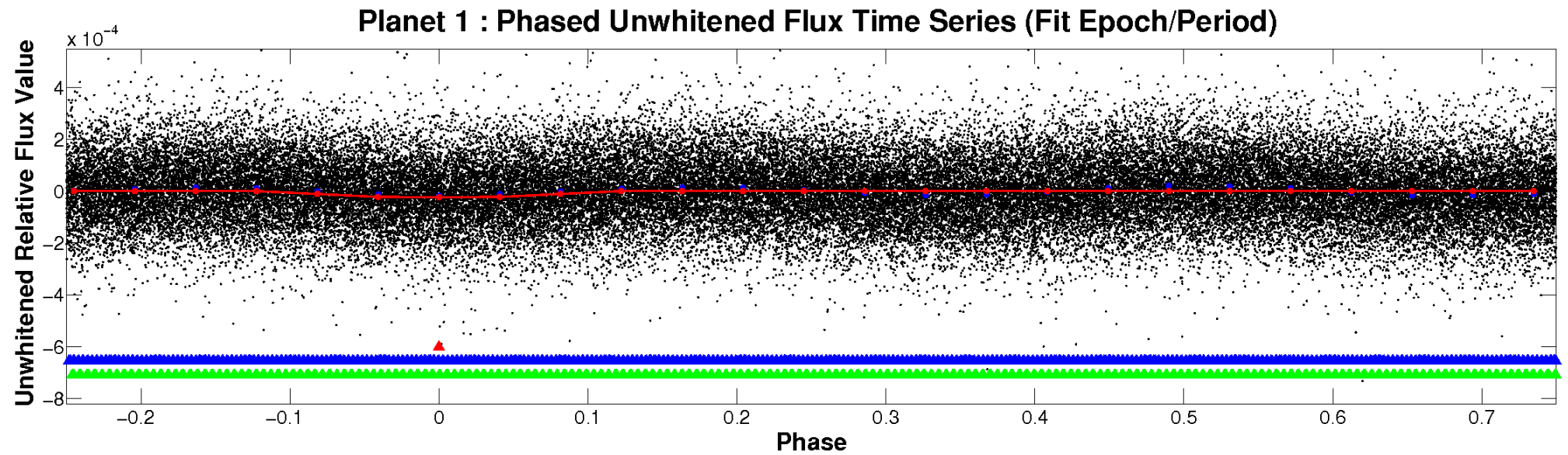


ALT Odd/Even

TCE 012885086-01

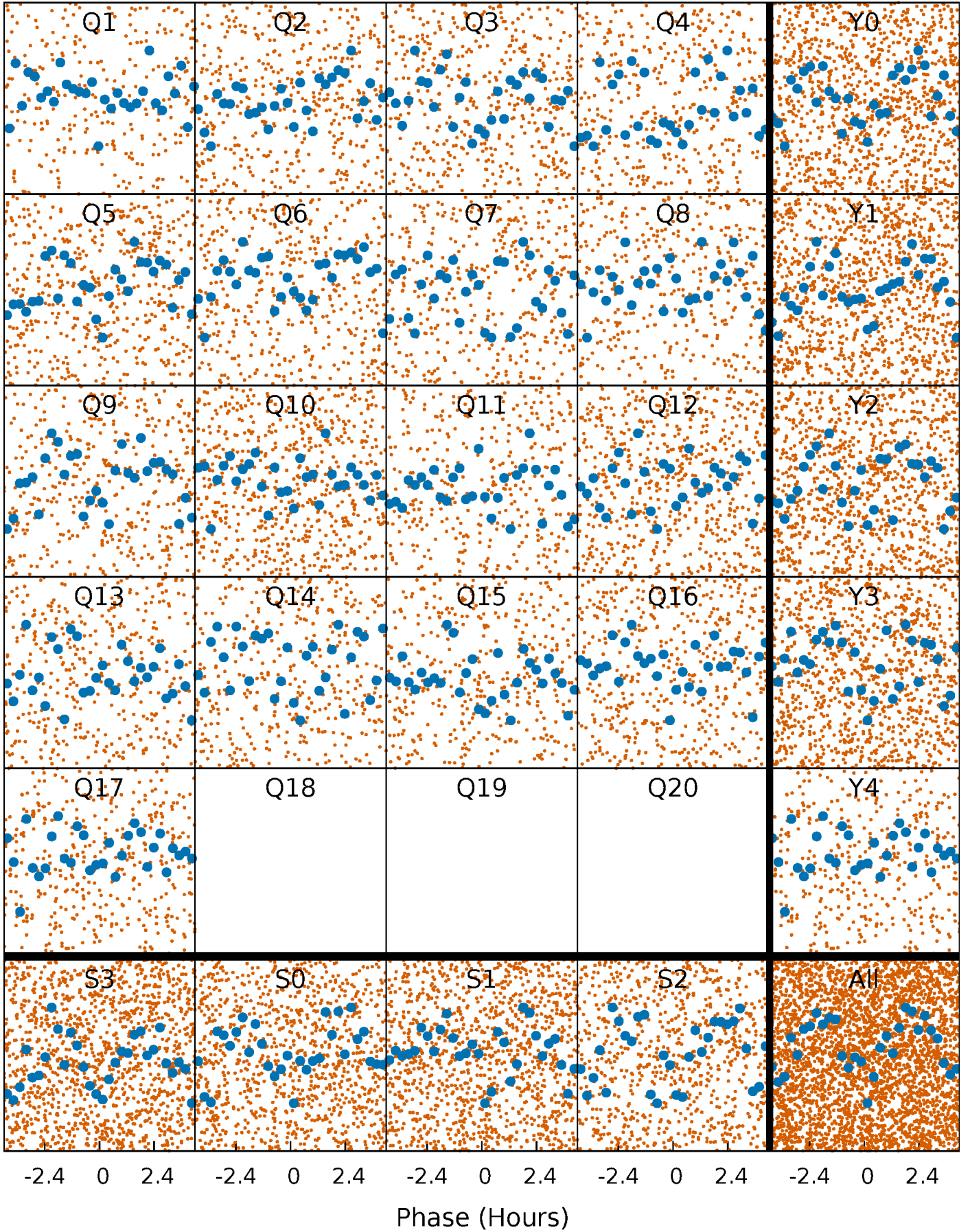


Non-Whitened Vs. Whitened Light Curve



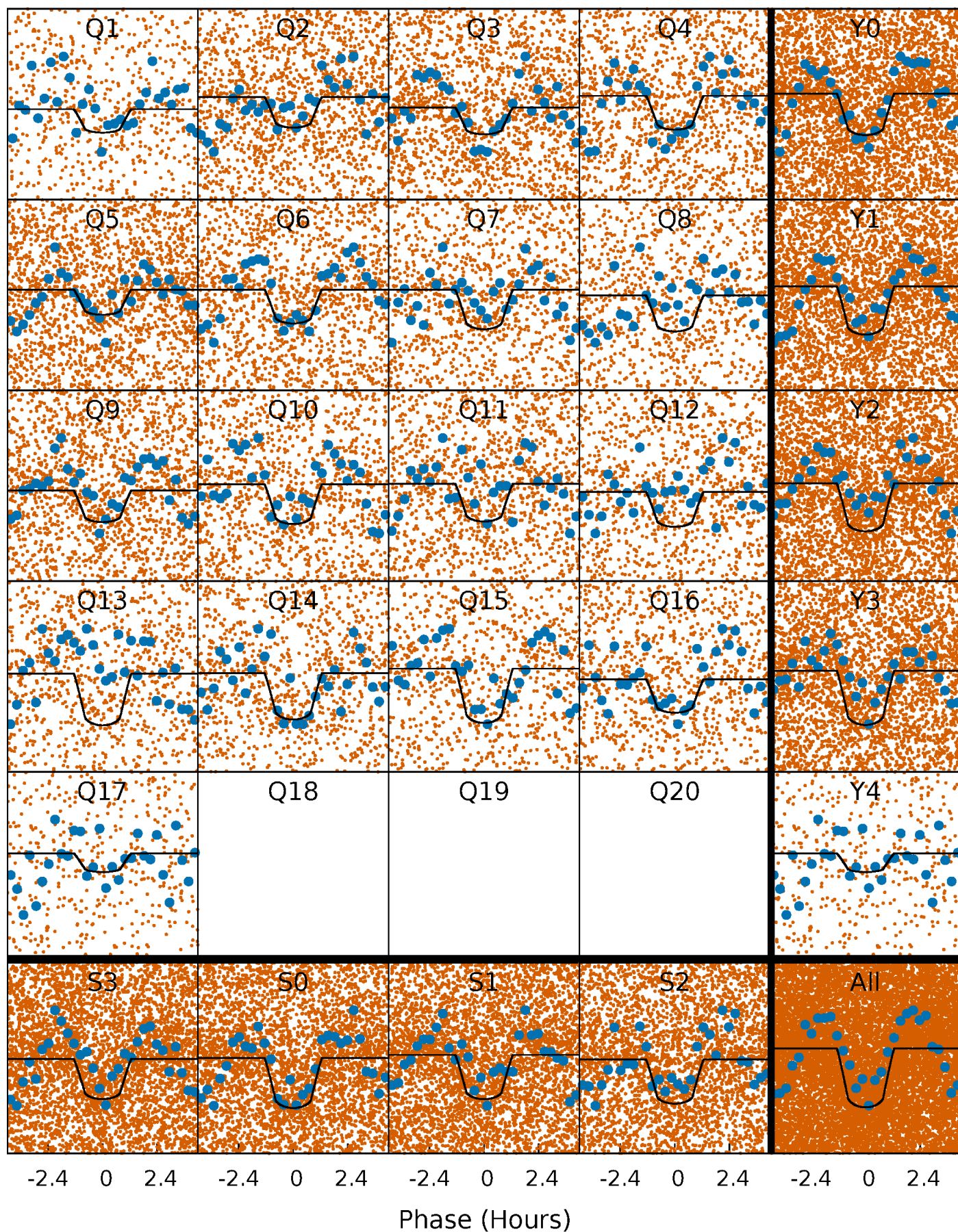
PDC Quarter-Phased Transit Curves

TCE 012885086-01 P= 0.500545 Days $T_0=131.856363$ (BKJD)



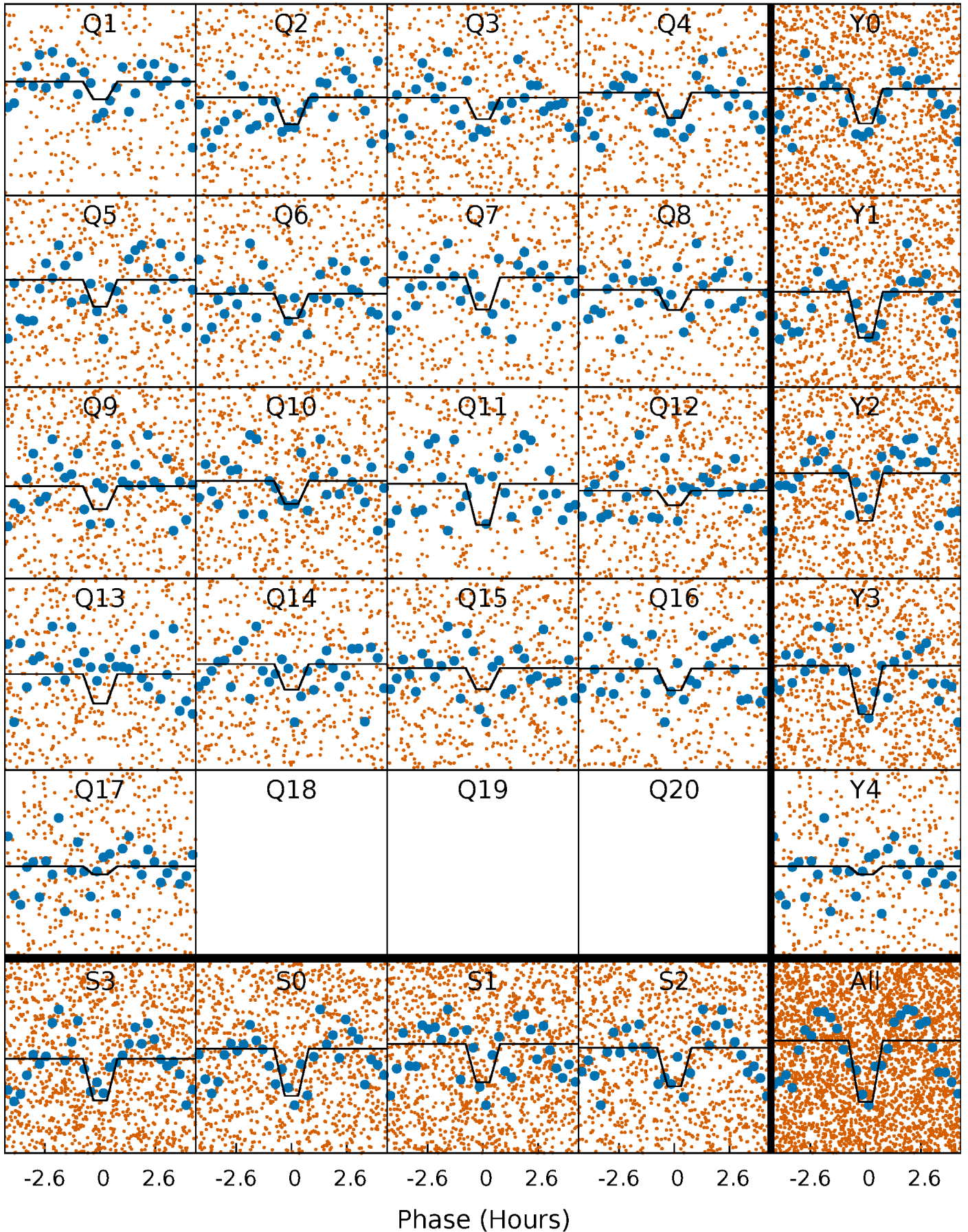
DV Quarter-Phased Transit Curves

TCE 012885086-01 P= 0.500545 Days $T_0=131.856363$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

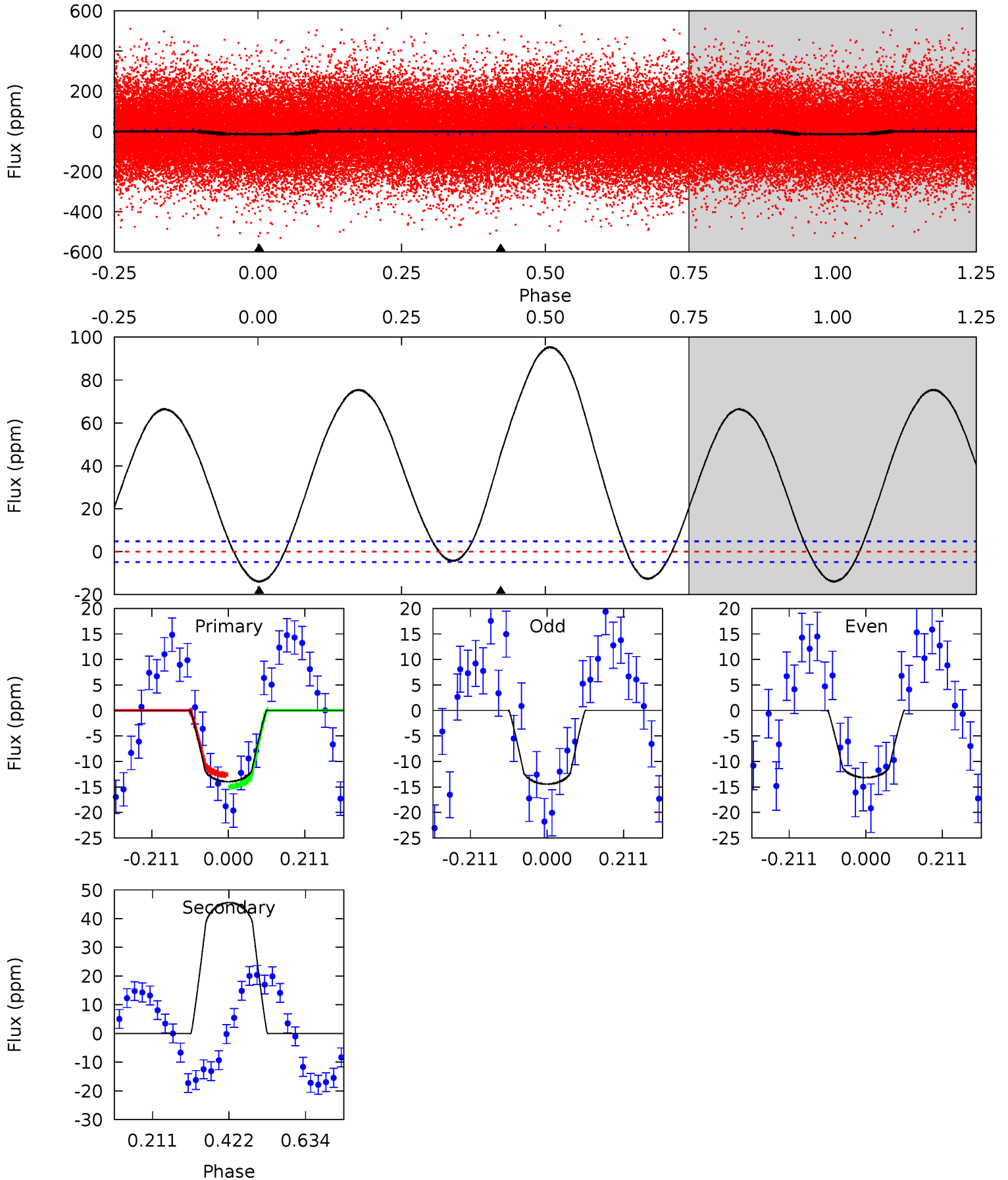
TCE 012885086-01 P= 0.500548 Days $T_0=131.854971$ (BKJD)



DV Model-Shift Uniqueness Test

012885086-01, P = 0.500545 Days, E = 131.355818 Days

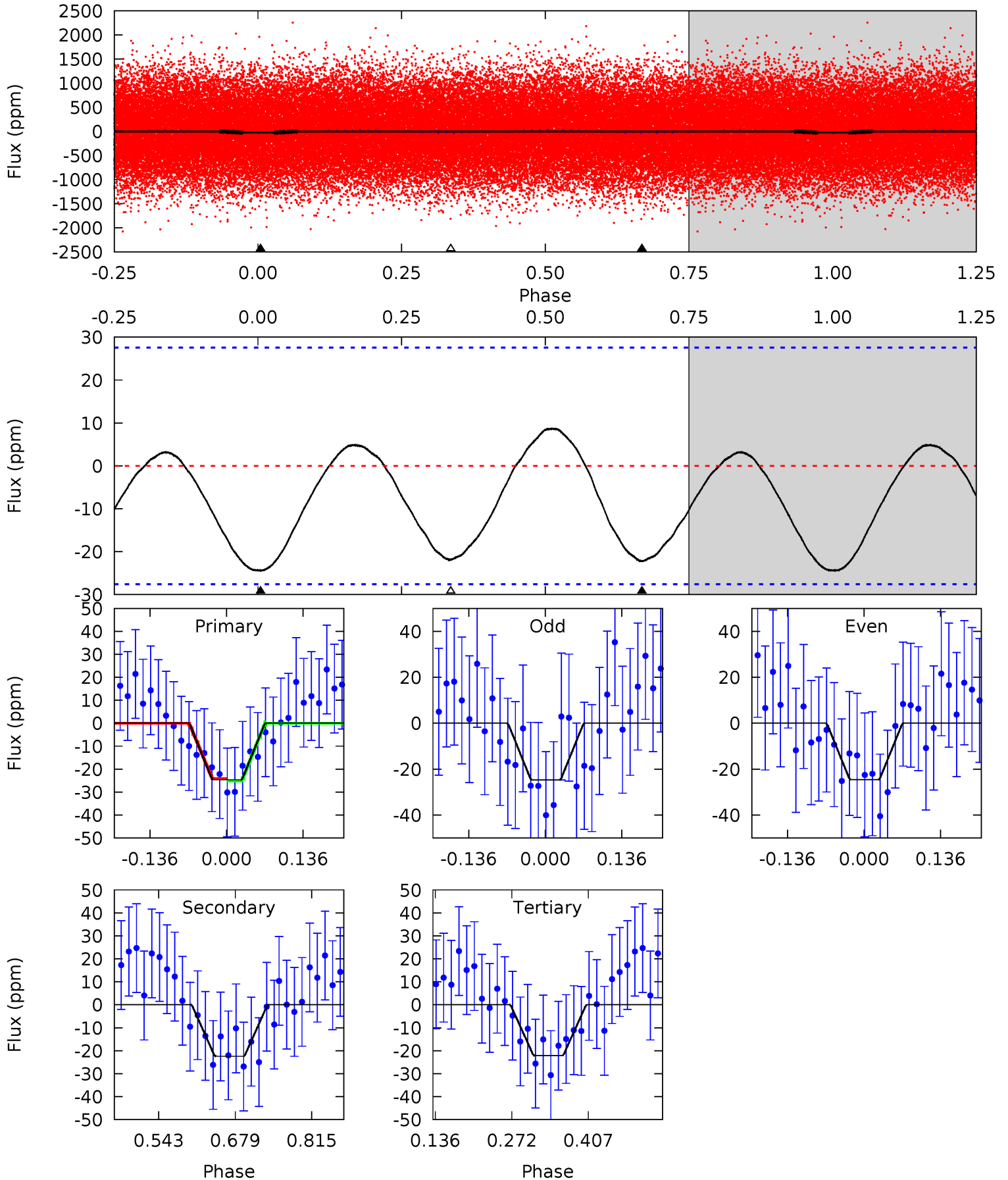
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	-41.7	0	0	4.41	1.25	17.6	12.8	12.8	-41.7	-41.7	0.59	1.04	0.87	1.07



Alt Model-Shift Uniqueness Test

012885086-01, P = 0.500548 Days, E = 131.354423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.02	3.66	3.61	0	4.50	1.49	1.62	0.41	4.02	0.05	3.66	0.01	0.86	0.26	0.08



Stellar Parameters For KIC 012885086

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8026^{+223}_{-335}	$4.007^{+0.176}_{-0.144}$	$0.070^{+0.200}_{-0.400}$	$2.282^{+0.502}_{-0.614}$	$1.929^{+0.242}_{-0.363}$	$0.229^{+0.244}_{-0.087}$
	+3%/-4%	+4%/-4%	+286%/-571%	+22%/-27%	+13%/-19%	+107%/-38%
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 012885086-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	46 ± 1	$1.30^{+0.39}_{-0.41}$	6005^{+368}_{-407}	-9652^{+1306}_{-2492}	$-3.403^{+1.329}_{-3.850}$
Alt.	-22 ± 6	$1.33^{+0.42}_{-0.38}$	6014^{+398}_{-421}	6926^{+1872}_{-1257}	$1.563^{+1.684}_{-0.711}$

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

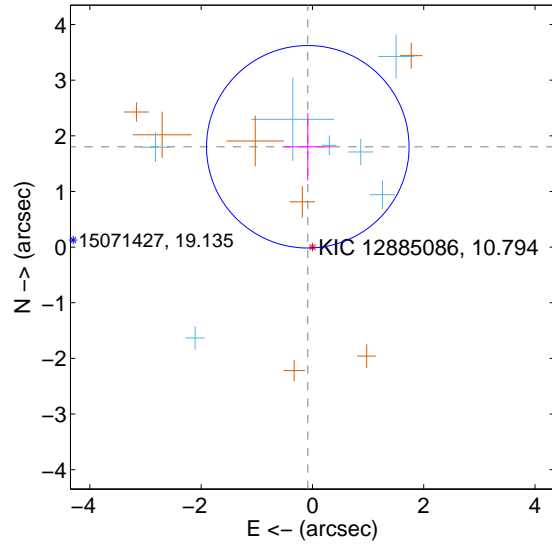
Supplemental centroid analysis for 012885086-01. **Kepler magnitude: 10.79.** Transit SNR 15.21

There are 7 quarters with good PRF difference image offsets

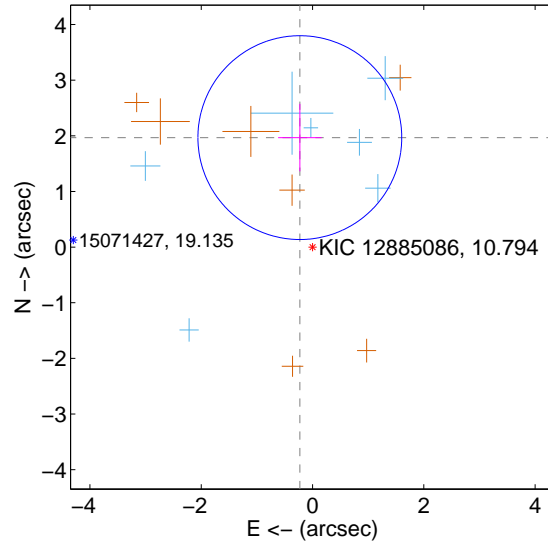
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.804 ± 0.606	2.98	0.083 ± 0.429	1.802 ± 0.603
PRF-fit source offset from KIC position	1.980 ± 0.610	3.24	0.228 ± 0.391	1.967 ± 0.605
photometric centroid source offset	0.57 ± 0.40	1.45	-0.46 ± 0.33	-0.35 ± 0.49

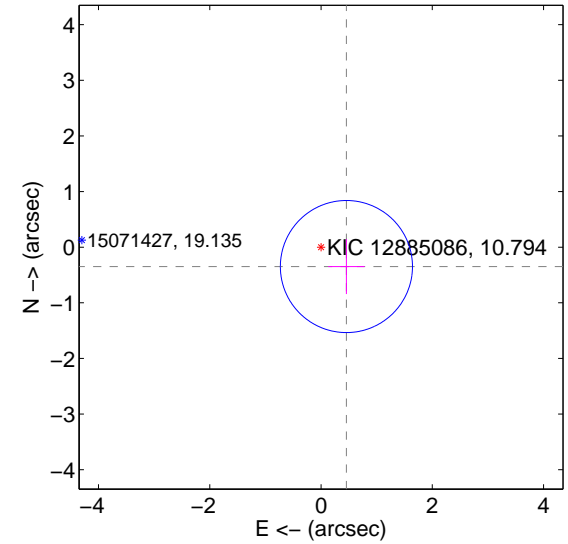
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

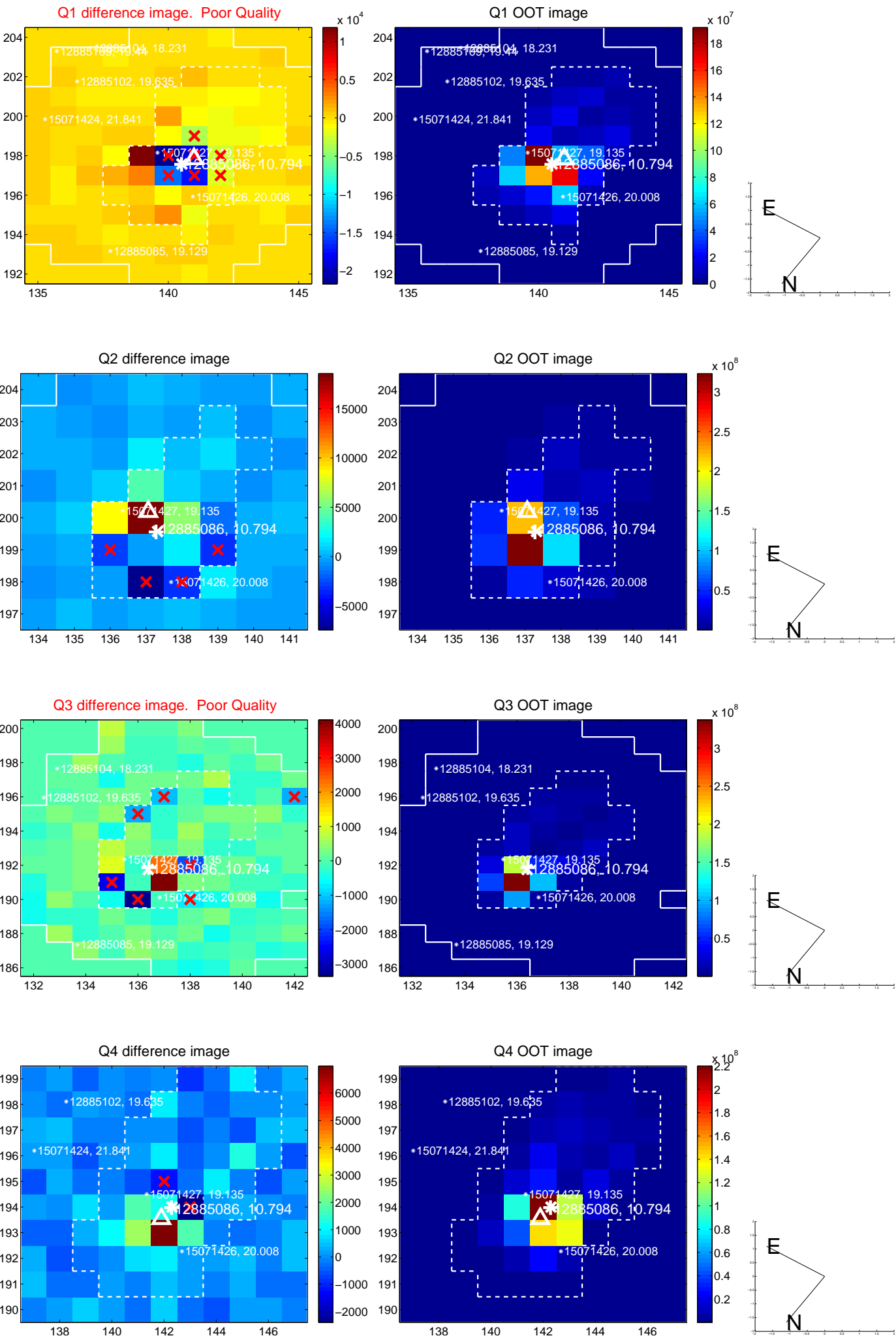


offset from photometric centroids

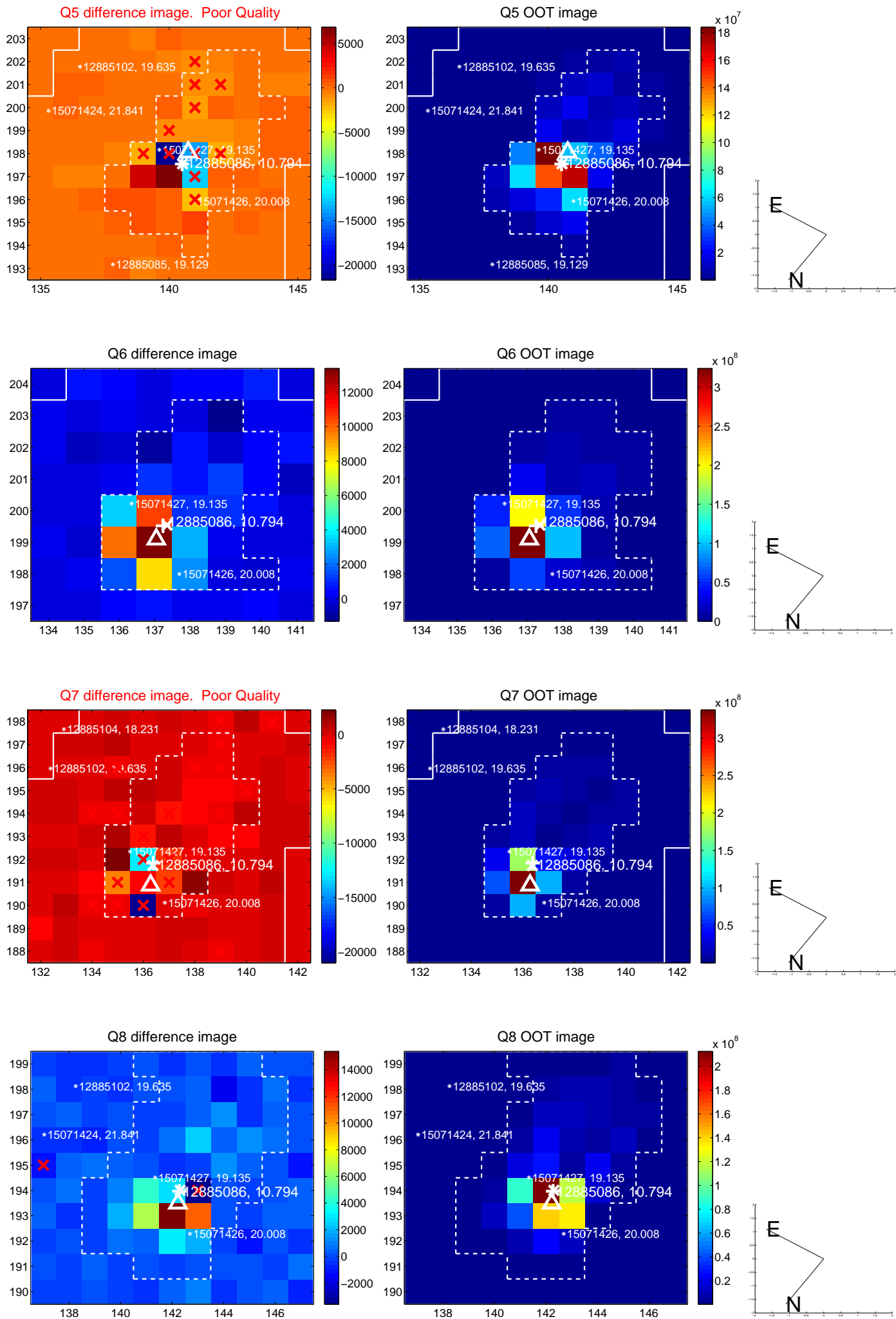


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

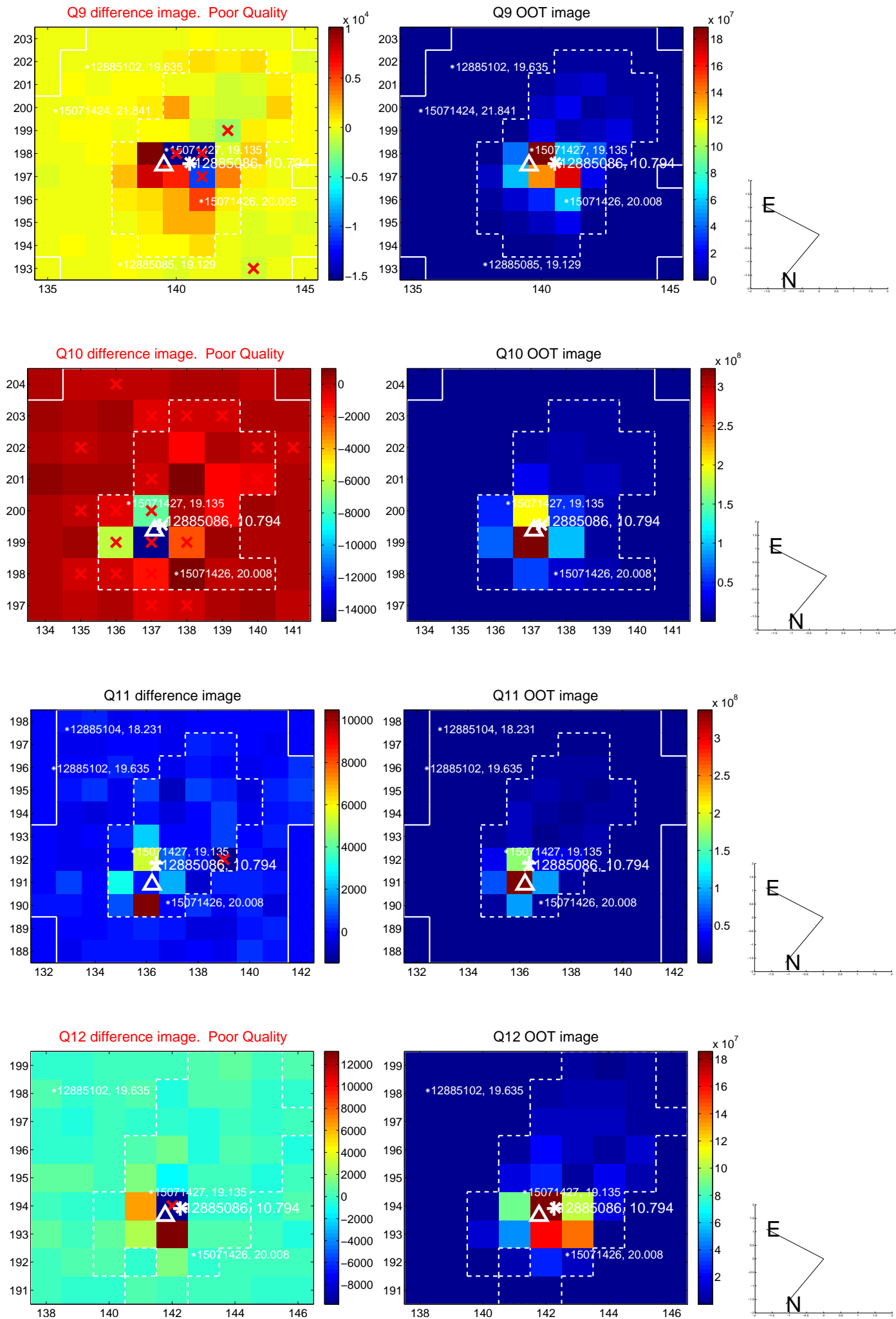
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



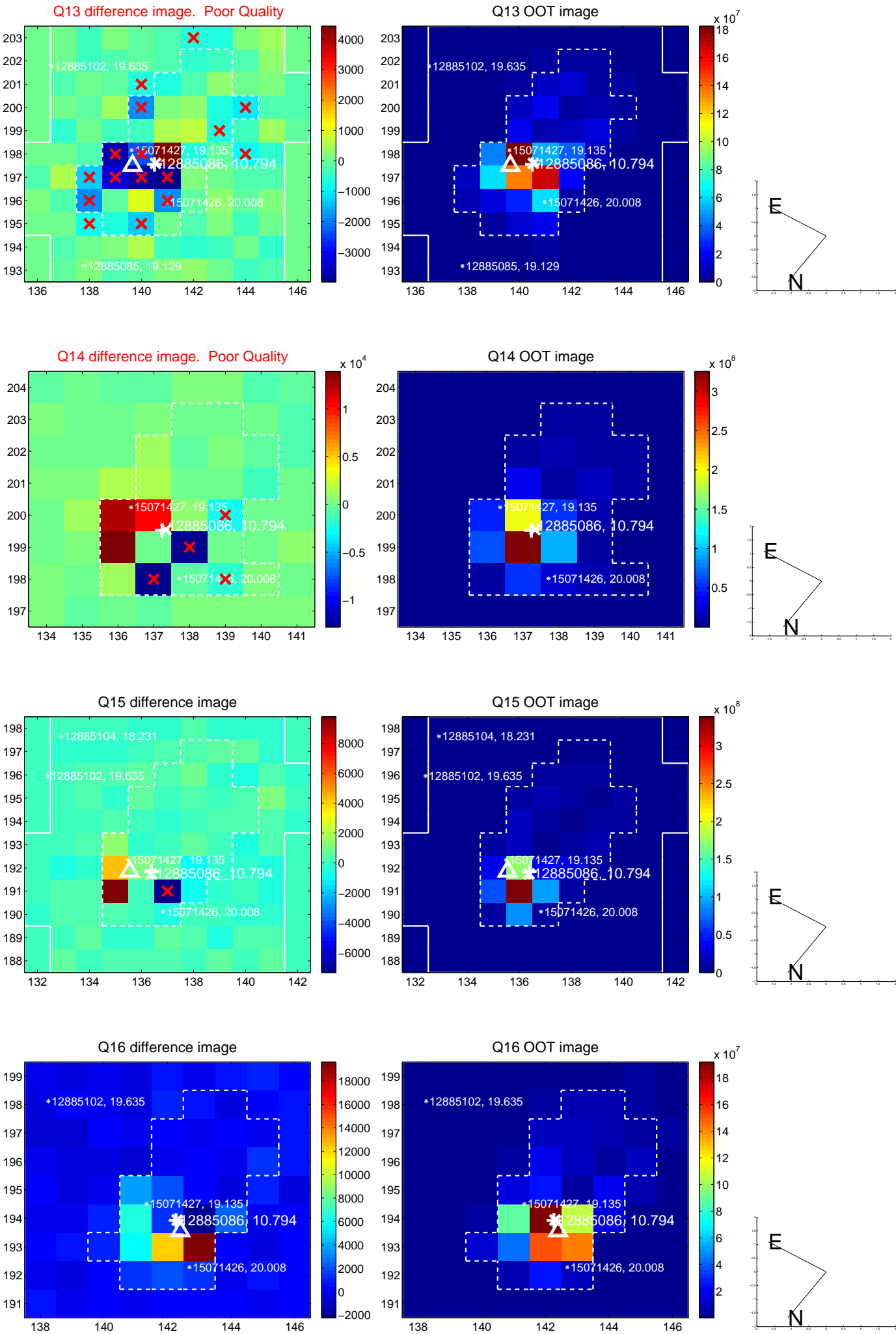
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



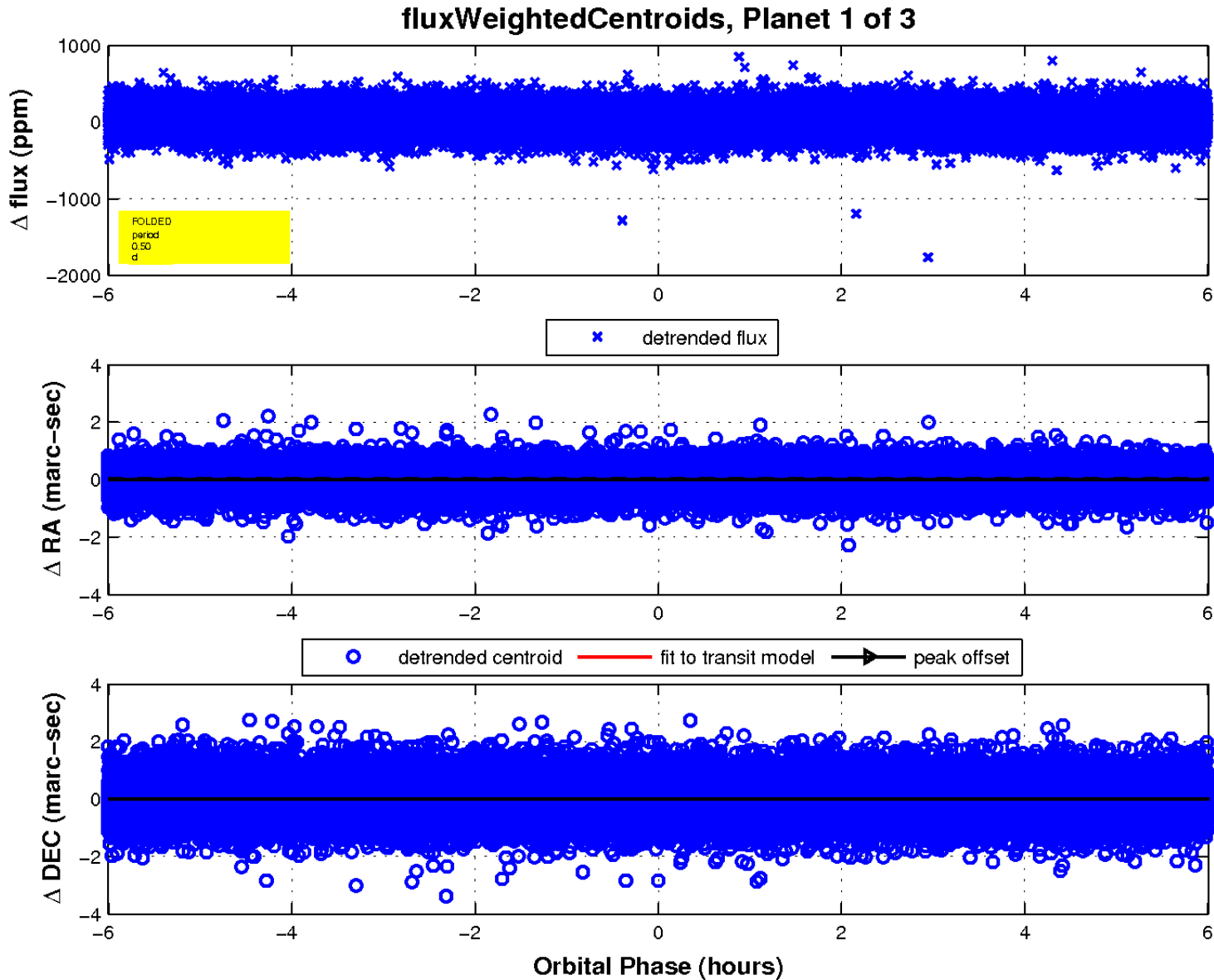
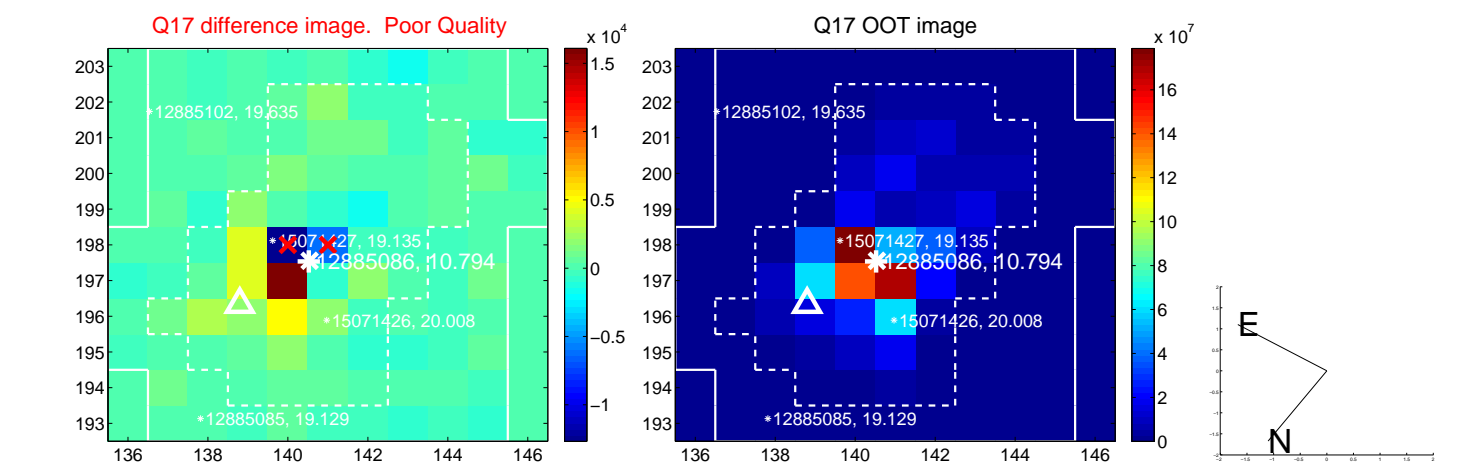
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

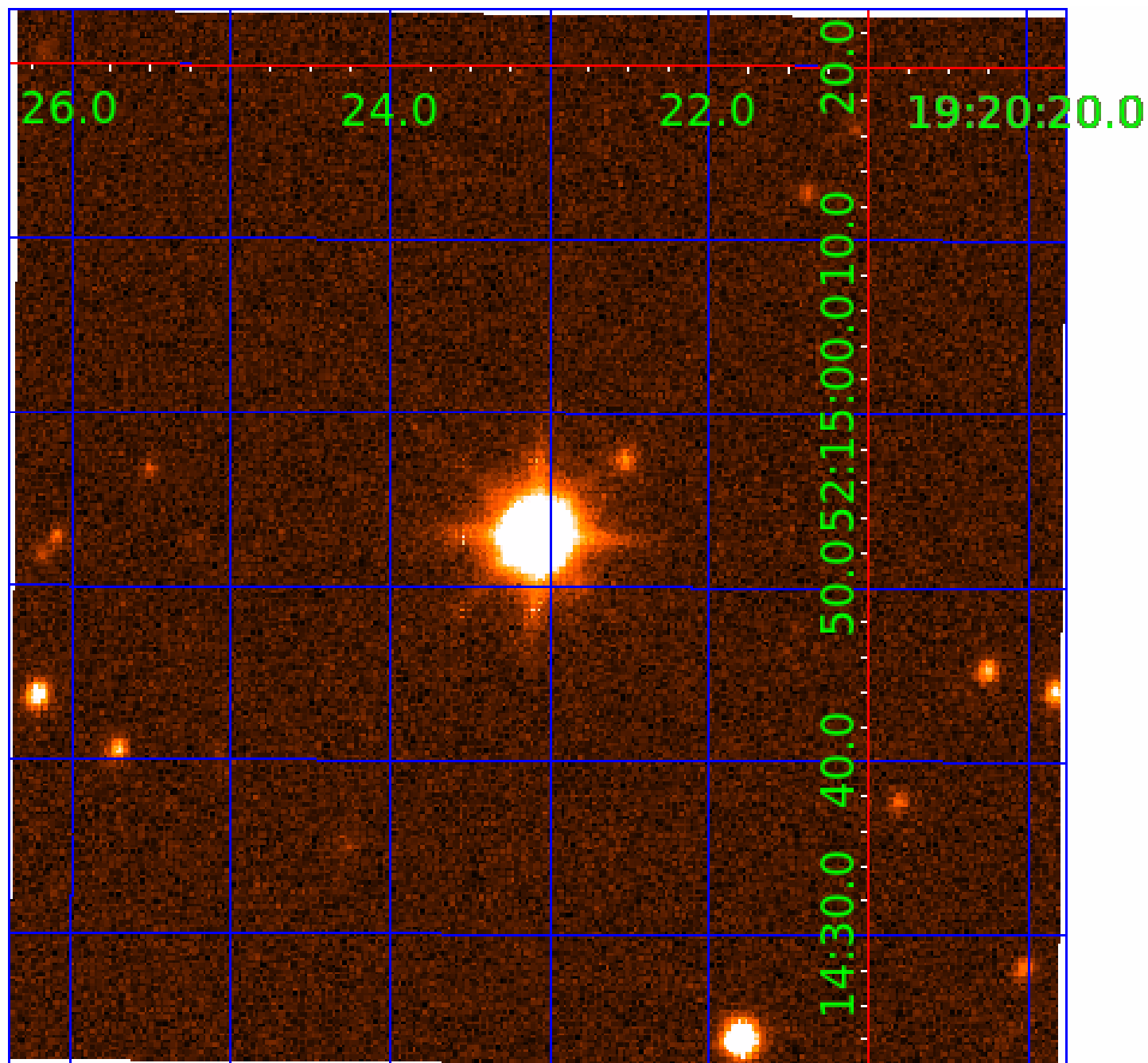


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012885086

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})
012885086-01	OBS	No	0.500545	131.856363	23.9	2.097	11.9	15.2	2.28	8026	1.30	82005.65
012885086-02	OBS	No	1.987059	132.654393	38.9	3.726	10.1	11.6	2.28	8026	1.65	13046.29
012885086-03	OBS	No	1.928209	133.066949	48.9	23.139	9.9	21.1	2.28	8026	1.74	13579.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012885086-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
012885086-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
012885086-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

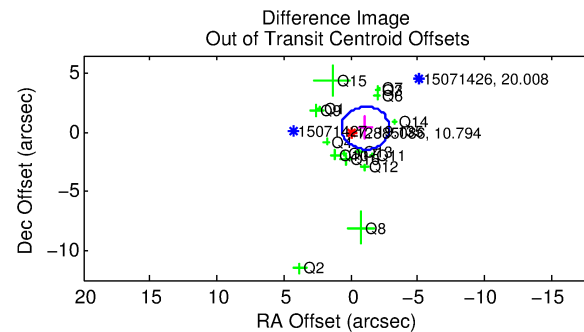
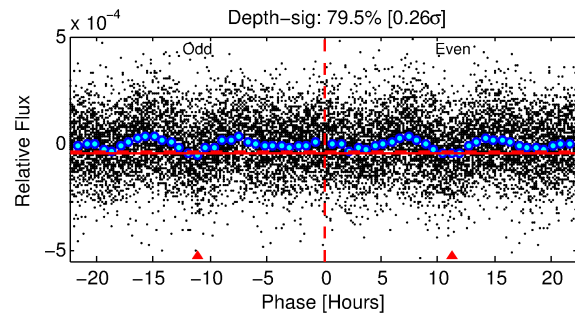
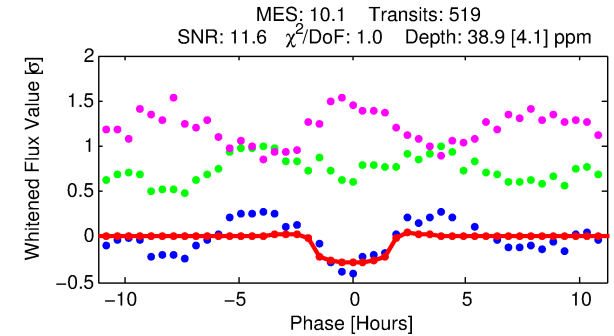
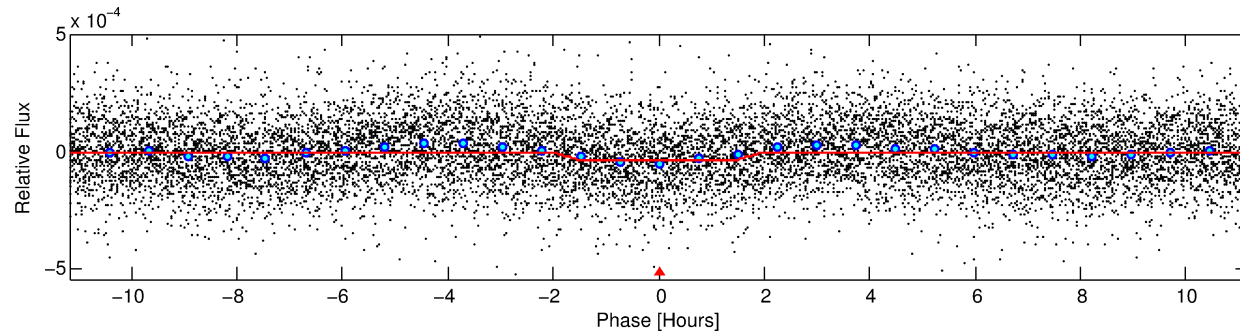
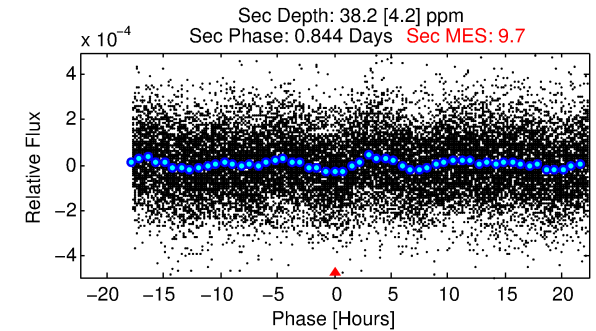
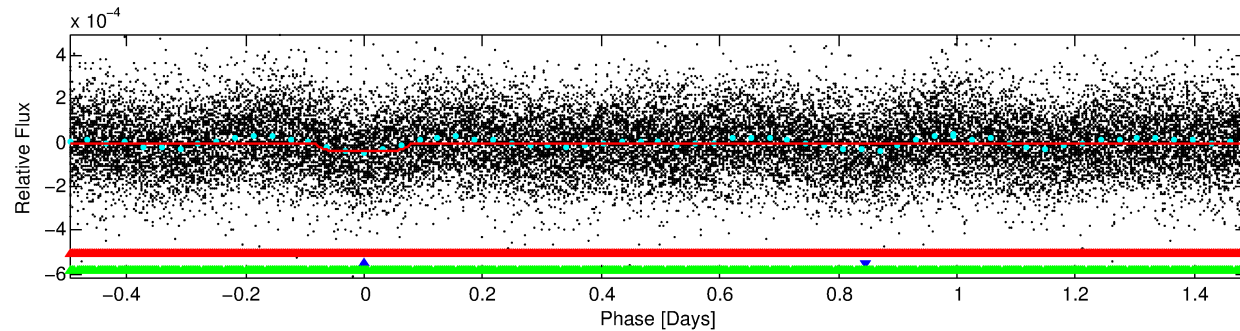
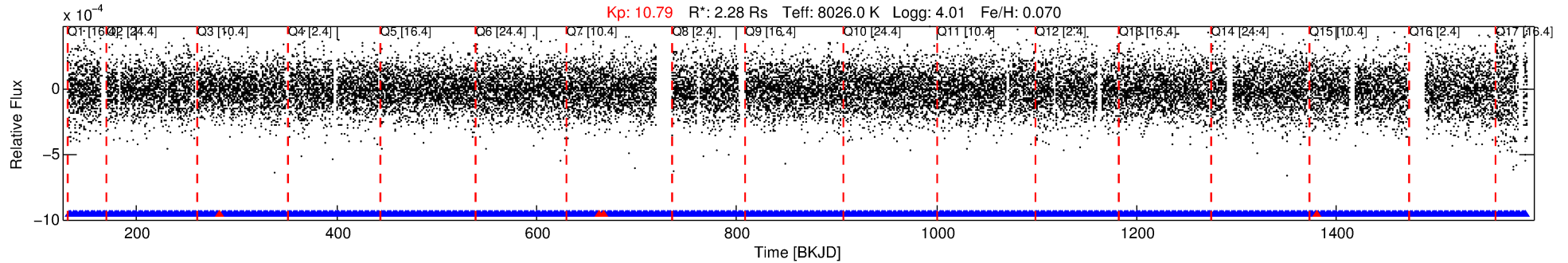
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012885086-02

No Significant Match Found

DV One-Page Summary

KIC: 12885086 Candidate: 2 of 3 Period: 1.987 d



DV Fit Results:

Period = 1.98706 [0.00002] d
Epoch = 132.6544 [0.0040] BKJD
Rp/R* = 0.0066 [0.0019]
a/R* = 2.08 [2.90]
b = 0.90 [0.40]
Seff = 13046.29 [4758.62]
Teq = 2725 [249] K
Rp = 1.65 [0.65] Re
a = 0.0385 [0.0087] AU
Ag = 11.47 [7.74] [1.35 σ]
Teffp = 7754 [1191] K [4.13 σ]

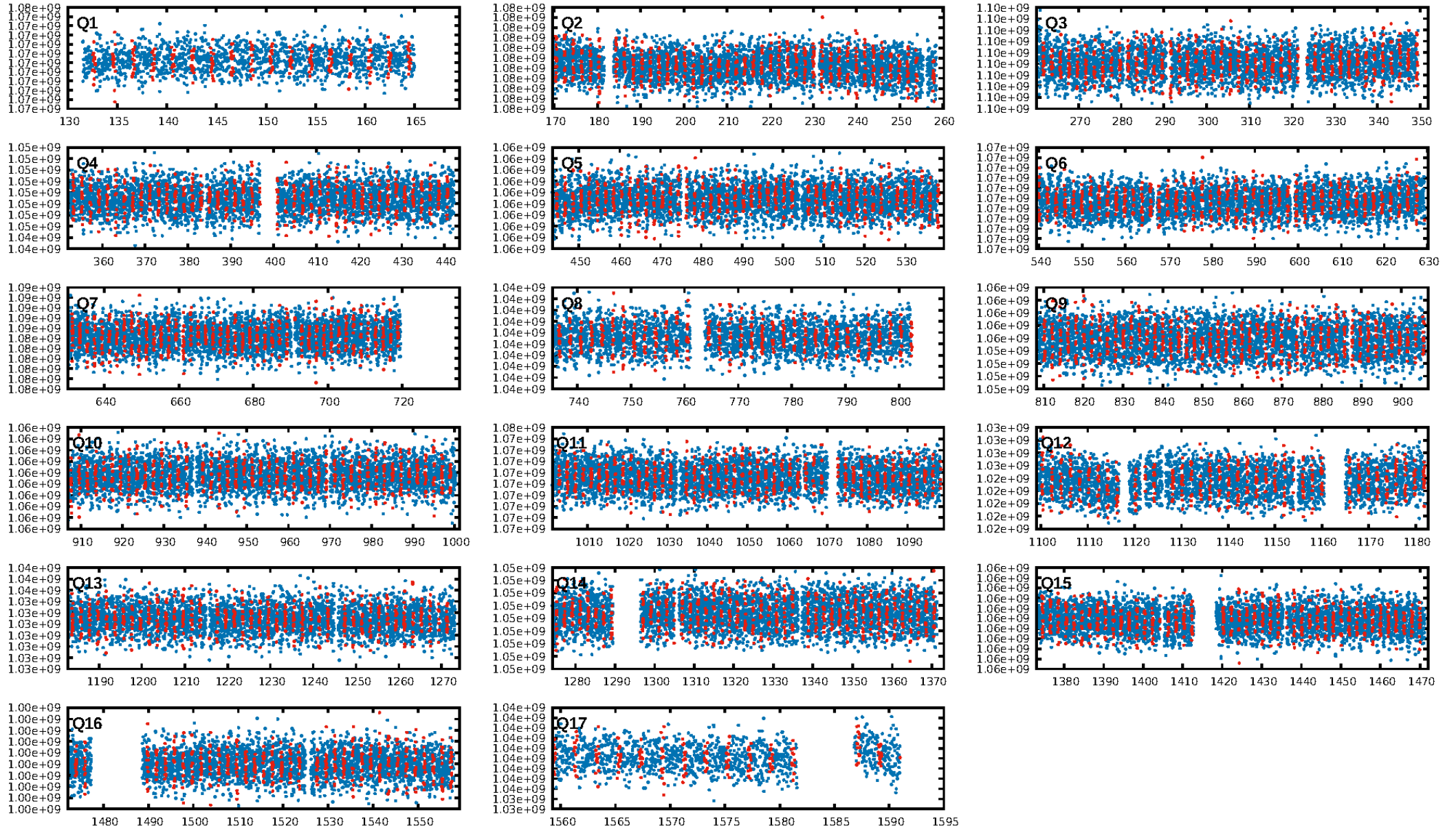
DV Diagnostic Results:

ShortPeriod-sig: 4.8% [0.06 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [485/489]
GhostDiagnostic-chr: N/A
Centroid-sig: 25.8%
Centroid-so: 0.506 arcsec [1.43 σ]
OotOffset-rm: 1.136 arcsec [1.90 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 1.077 arcsec [1.39 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.00 [0/17]

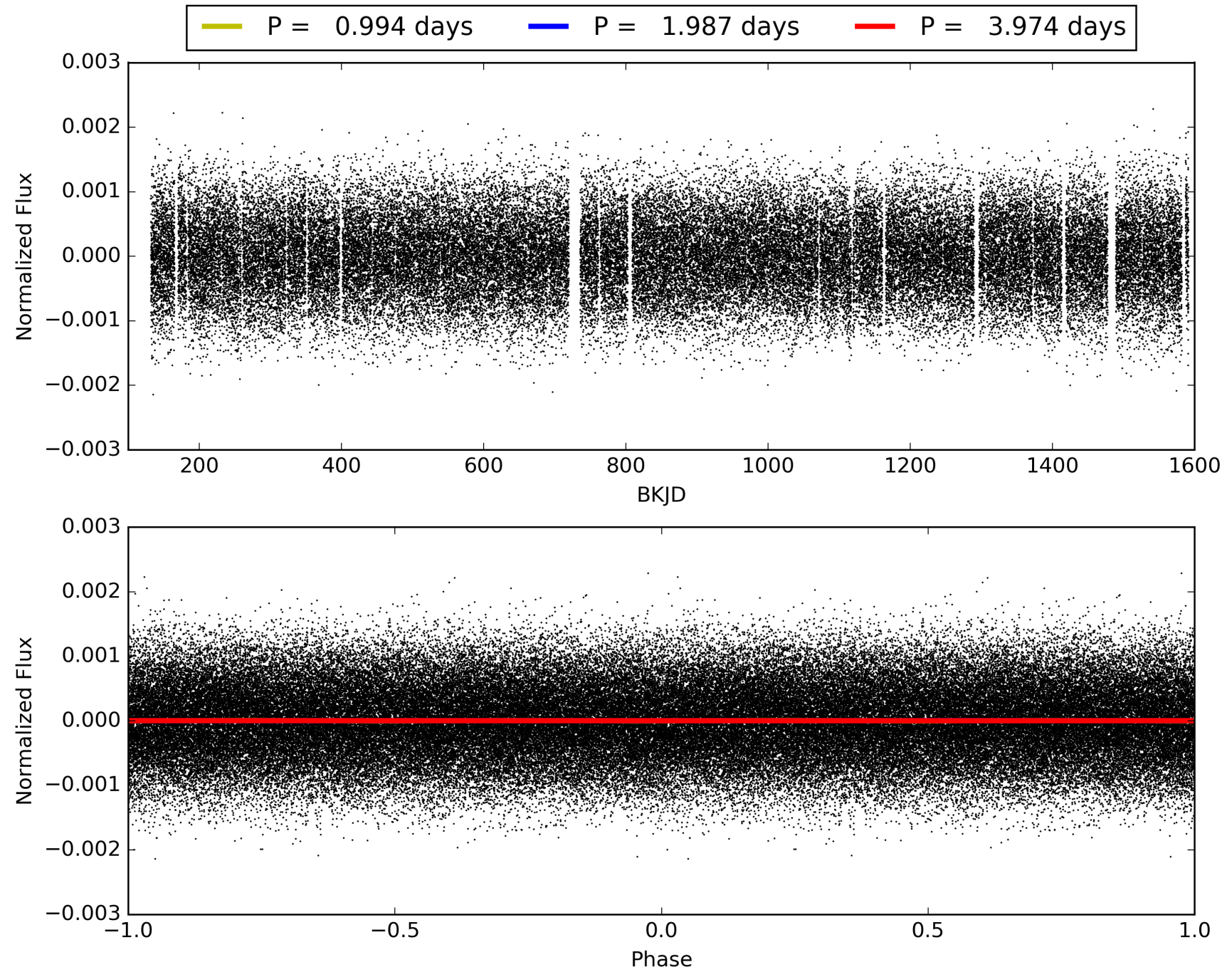
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:19:29 Z

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

TCE 012885086-02, PDC Light Curves

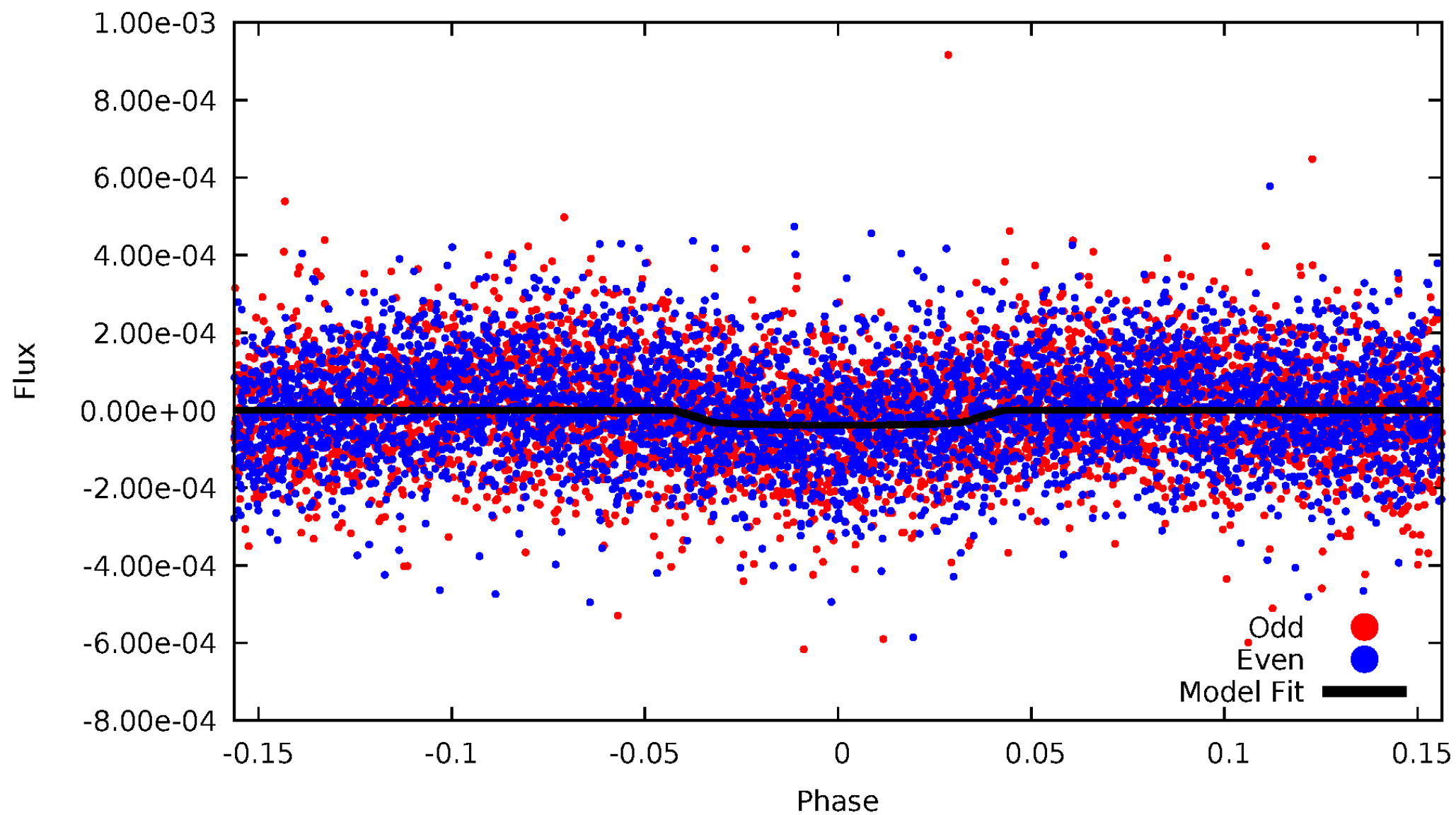


TCE 012885086-02



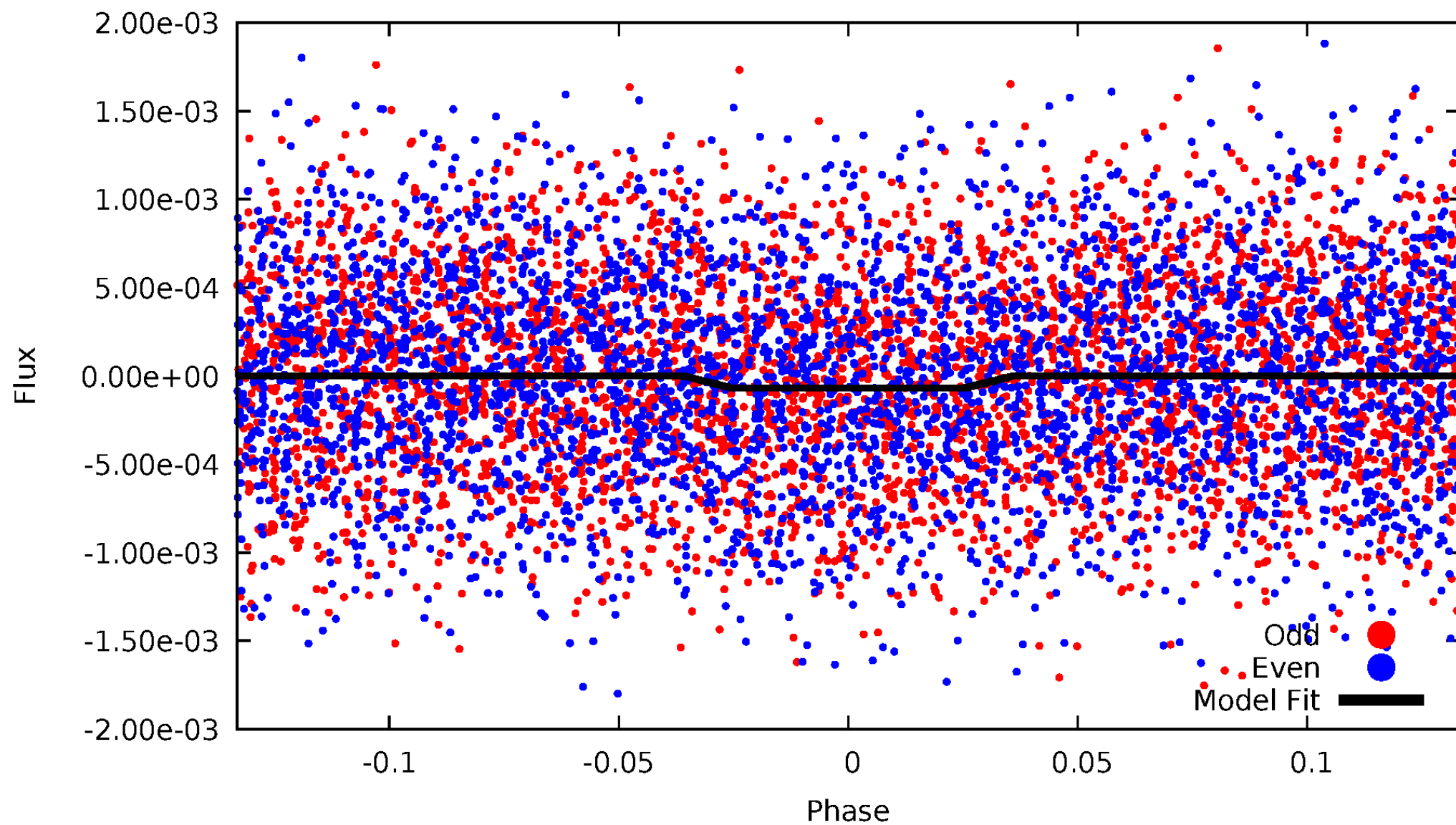
DV Odd/Even

TCE 012885086-02



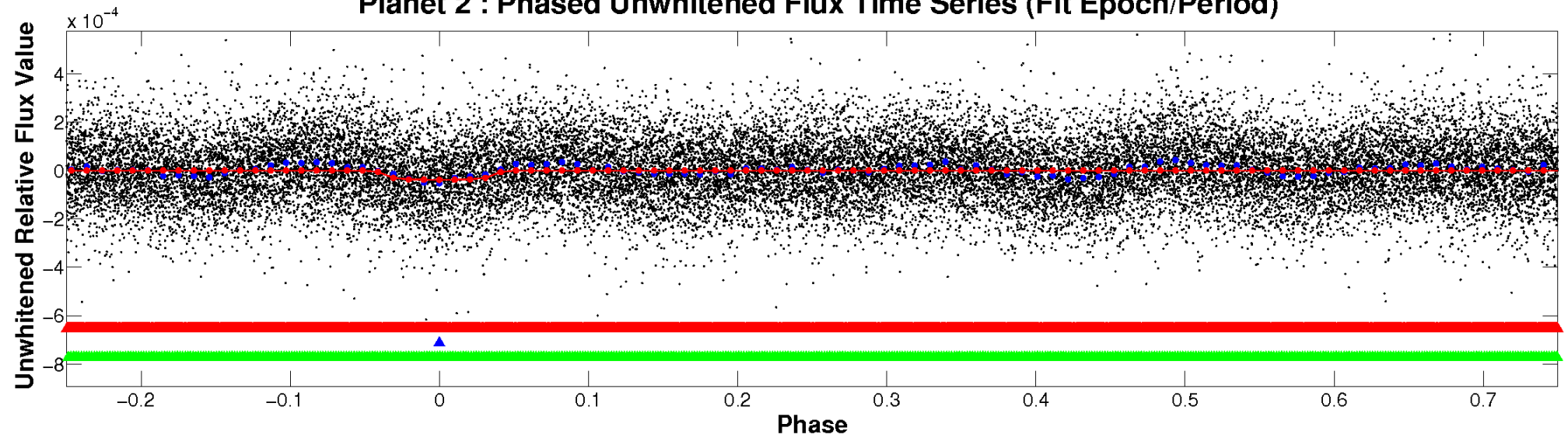
ALT Odd/Even

TCE 012885086-02

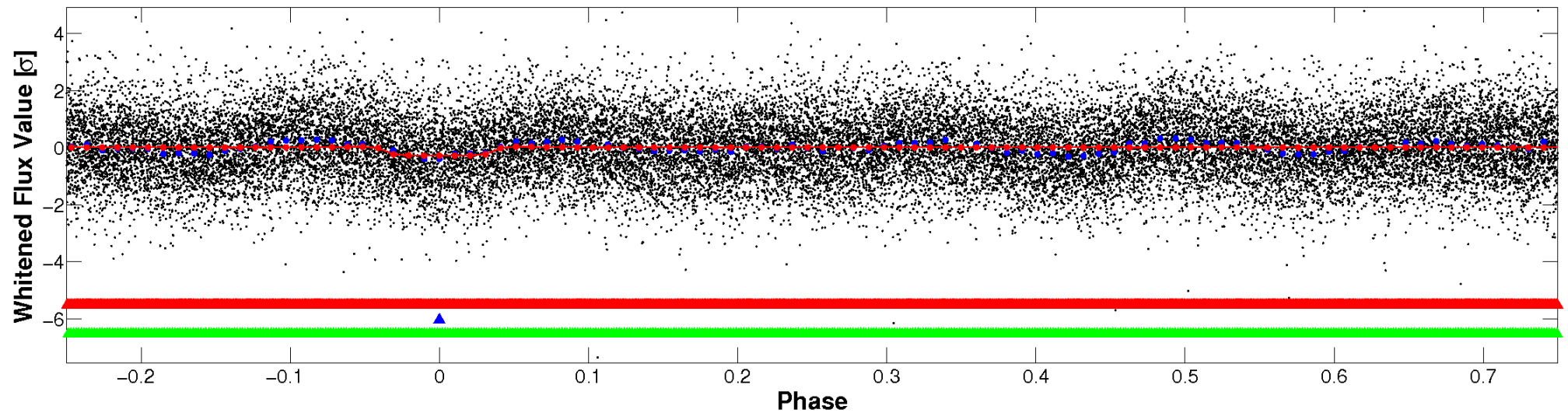


Non-Whitened Vs. Whitened Light Curve

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

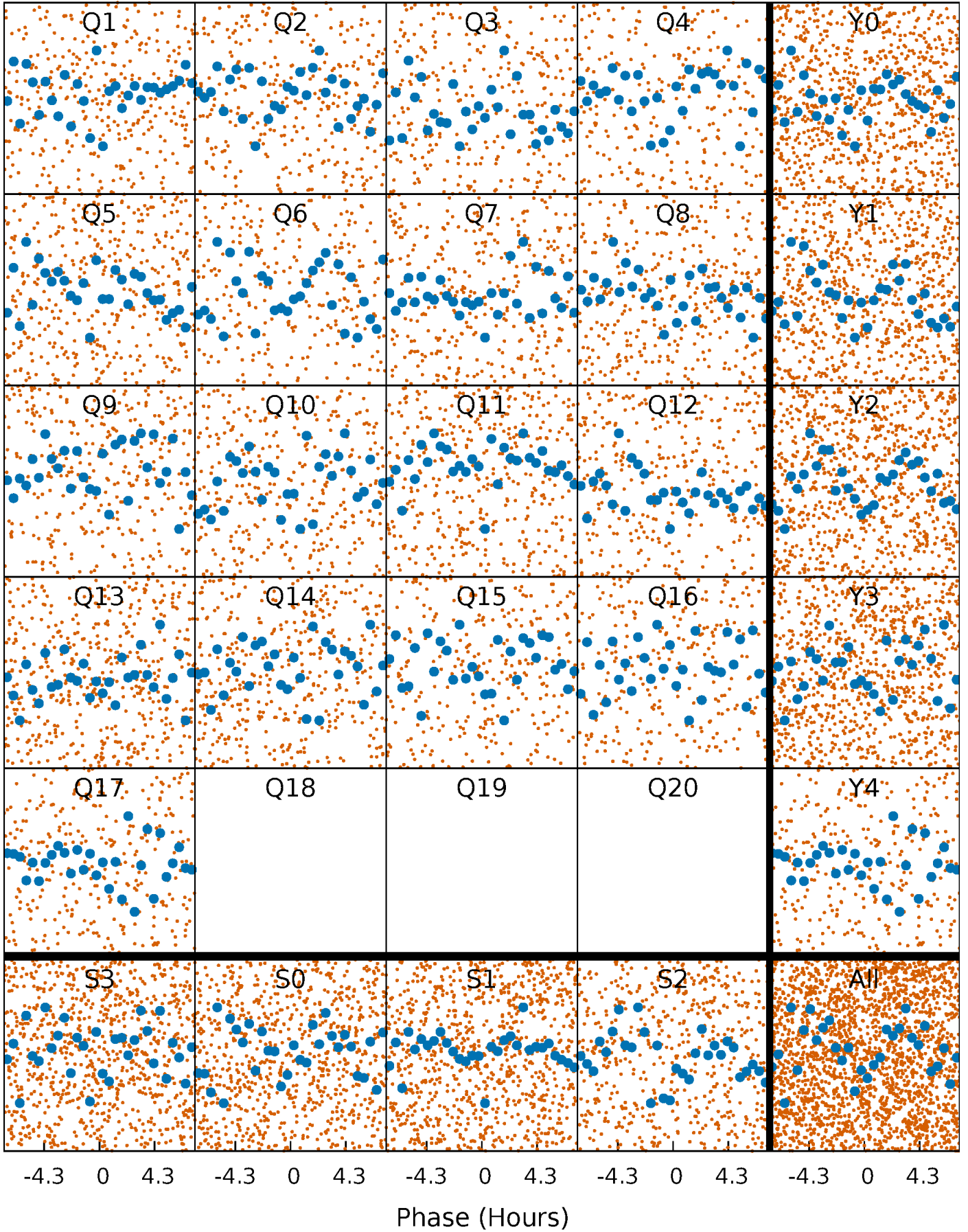


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



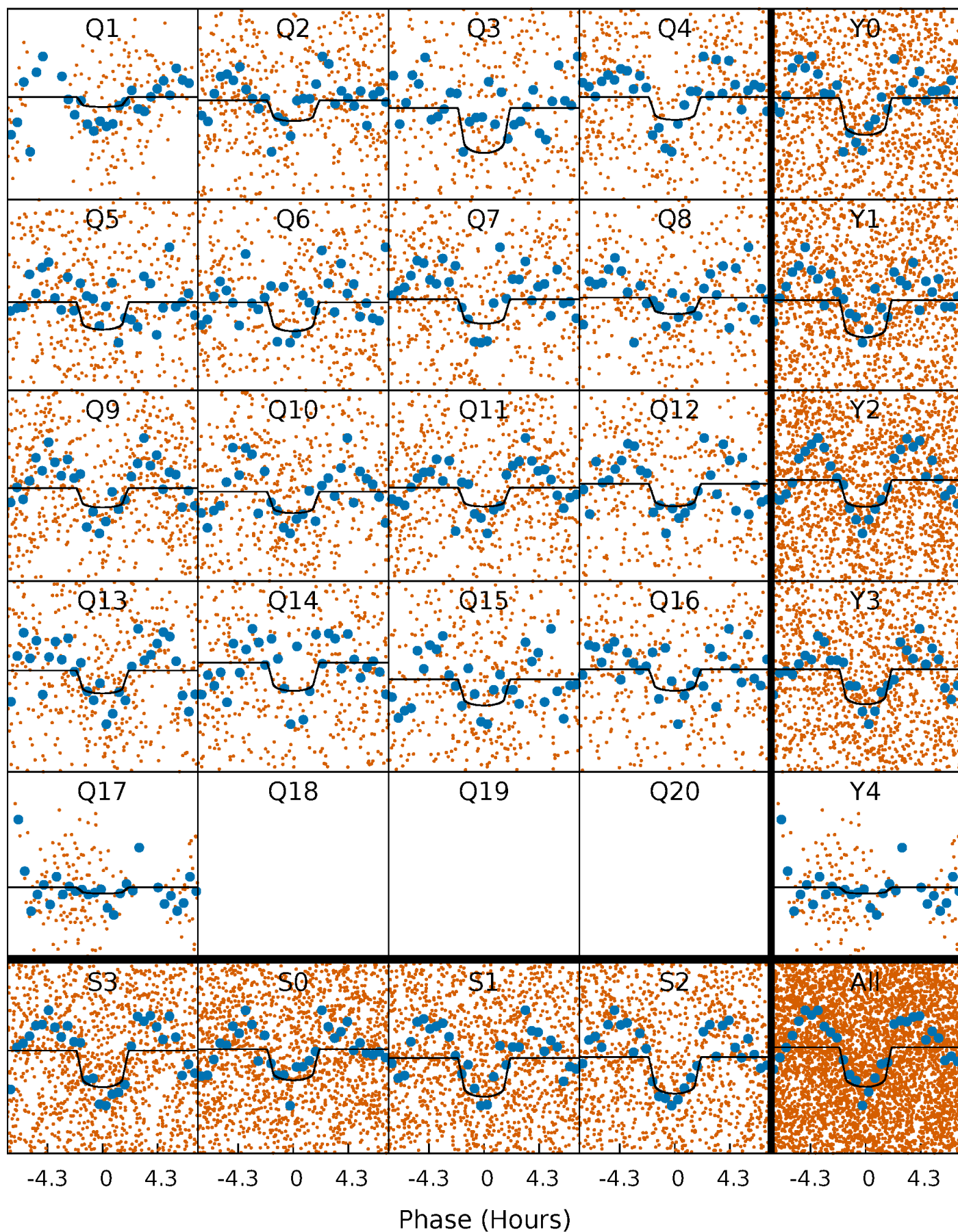
PDC Quarter-Phased Transit Curves

TCE 012885086-02 P= 1.987059 Days $T_0=132.654393$ (BKJD)



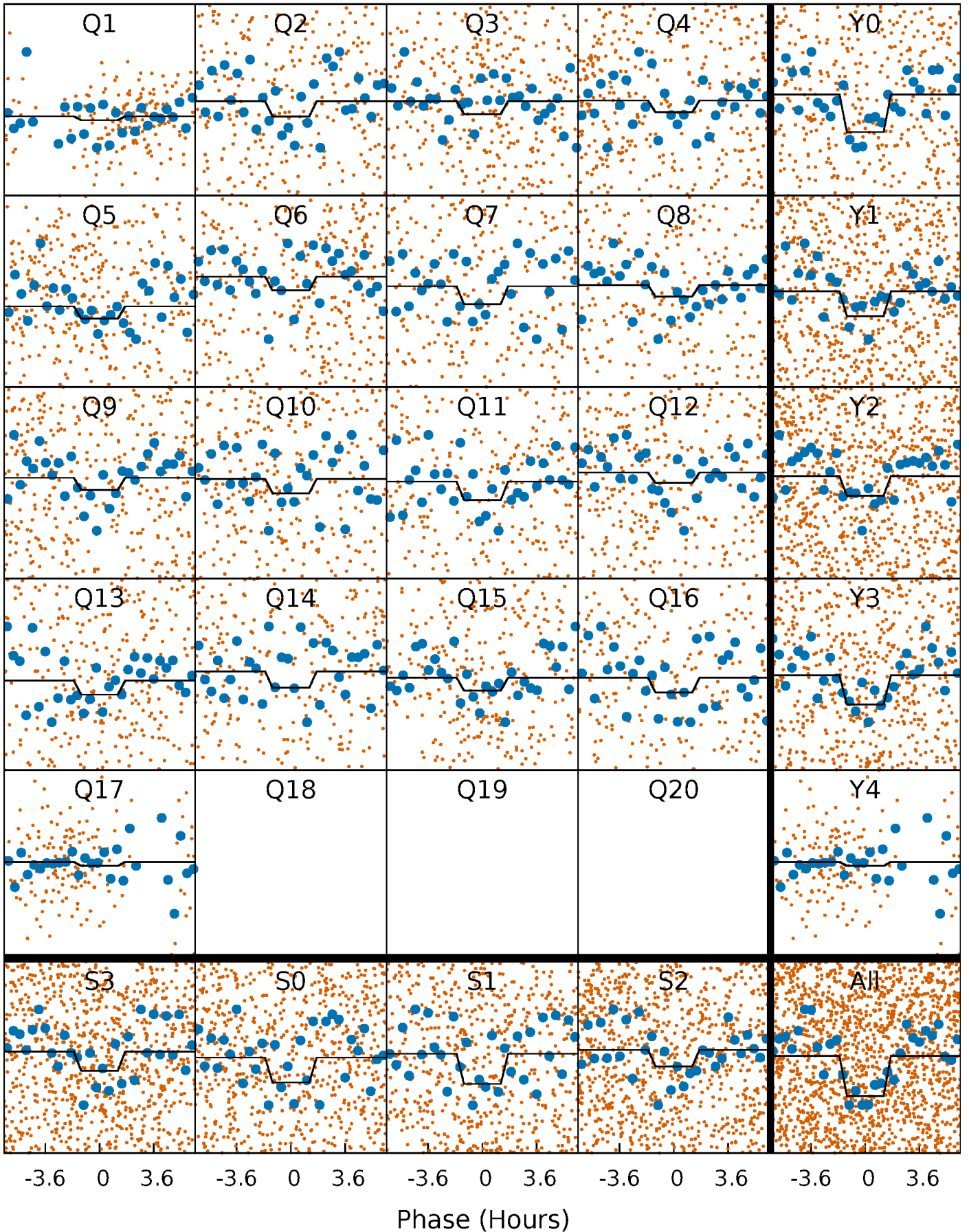
DV Quarter-Phased Transit Curves

TCE 012885086-02 P= 1.987059 Days $T_0=132.654393$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

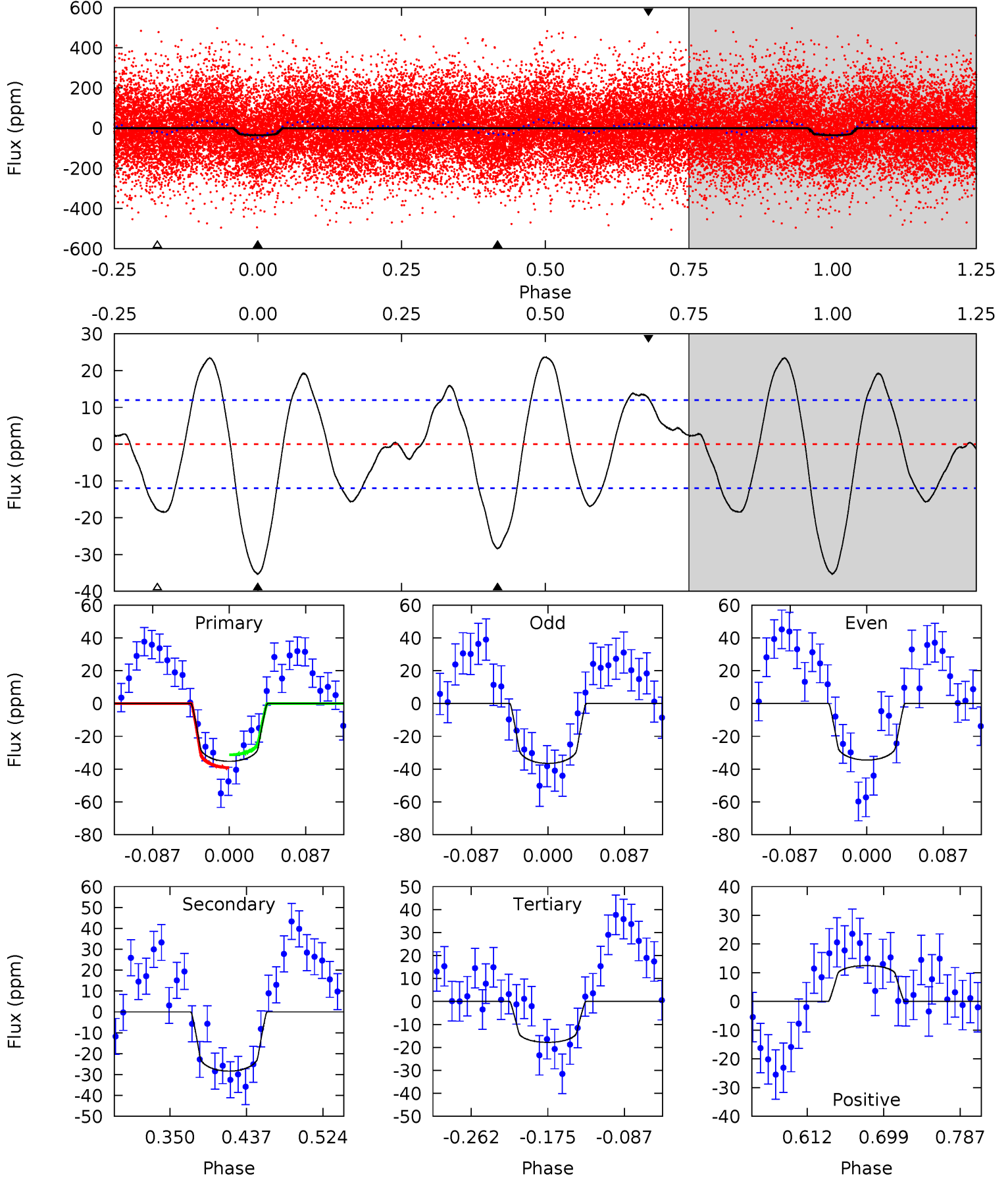
TCE 012885086-02 P= 1.987110 Days $T_0=132.629911$ (BKJD)



DV Model-Shift Uniqueness Test

012885086-02, P = 1.987059 Days, E = 130.667334 Days

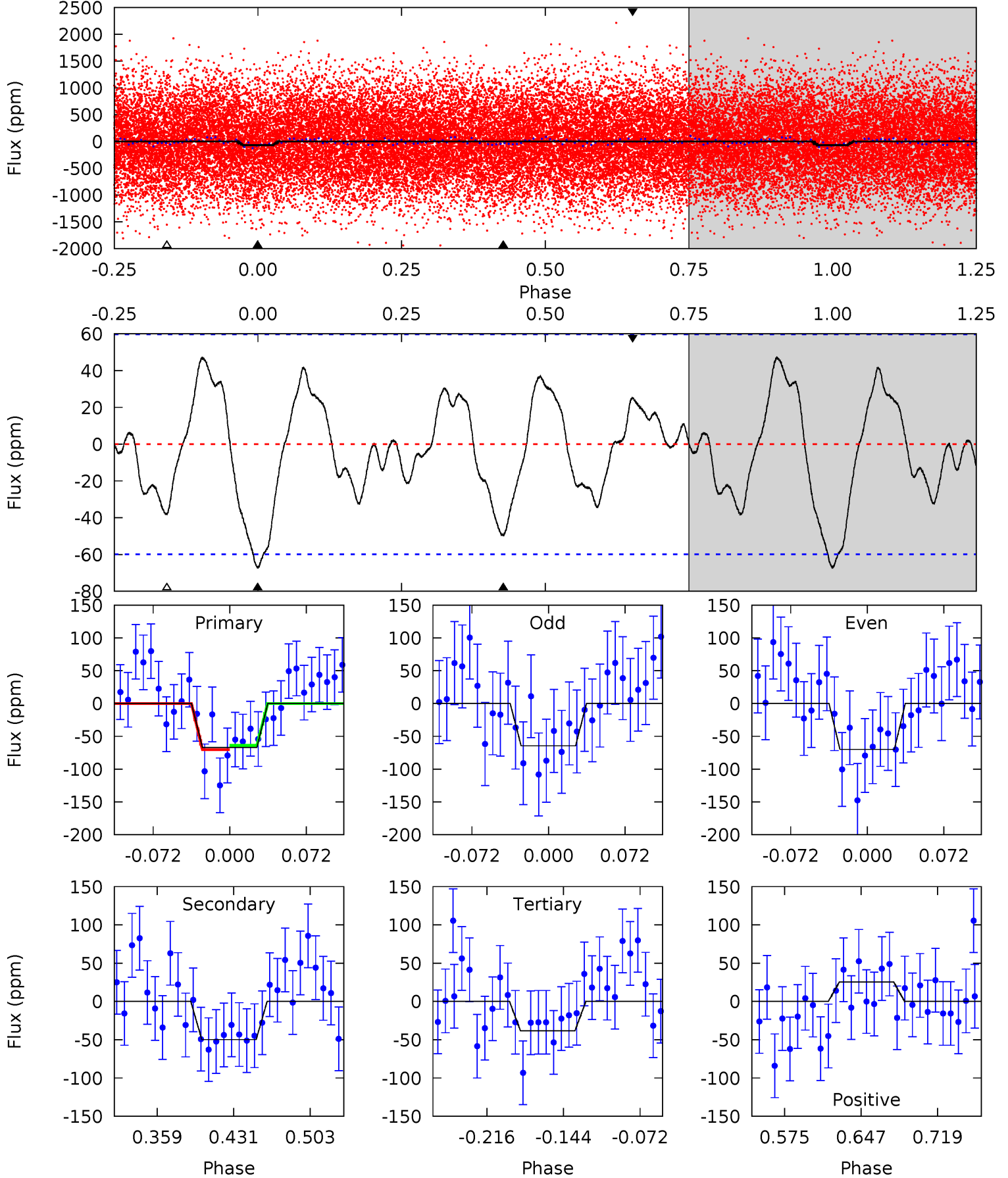
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	10.9	6.83	4.79	4.59	1.71	4.13	6.69	8.73	4.05	6.09	0.39	0.92	0.40	1.50



Alt Model-Shift Uniqueness Test

012885086-02, P = 1.987110 Days, E = 130.642801 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.20	3.85	2.97	1.96	4.63	1.80	1.60	2.23	3.24	0.88	1.89	0.21	0.80	0.41	0.25



Stellar Parameters For KIC 012885086

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8026^{+223}_{-335}	$4.007^{+0.176}_{-0.144}$	$0.070^{+0.200}_{-0.400}$	$2.282^{+0.502}_{-0.614}$	$1.929^{+0.242}_{-0.363}$	$0.229^{+0.244}_{-0.087}$
	+3%/-4%	+4%/-4%	+286%/-571%	+22%/-27%	+13%/-19%	+107%/-38%
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 012885086-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 3	$1.64^{+0.49}_{-0.55}$	3788^{+245}_{-267}	6948^{+1778}_{-878}	$8.770^{+9.794}_{-3.705}$
Alt.	-50 ± 13	$2.00^{+0.59}_{-0.52}$	3789^{+261}_{-257}	7225^{+1496}_{-999}	$9.779^{+8.897}_{-4.256}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

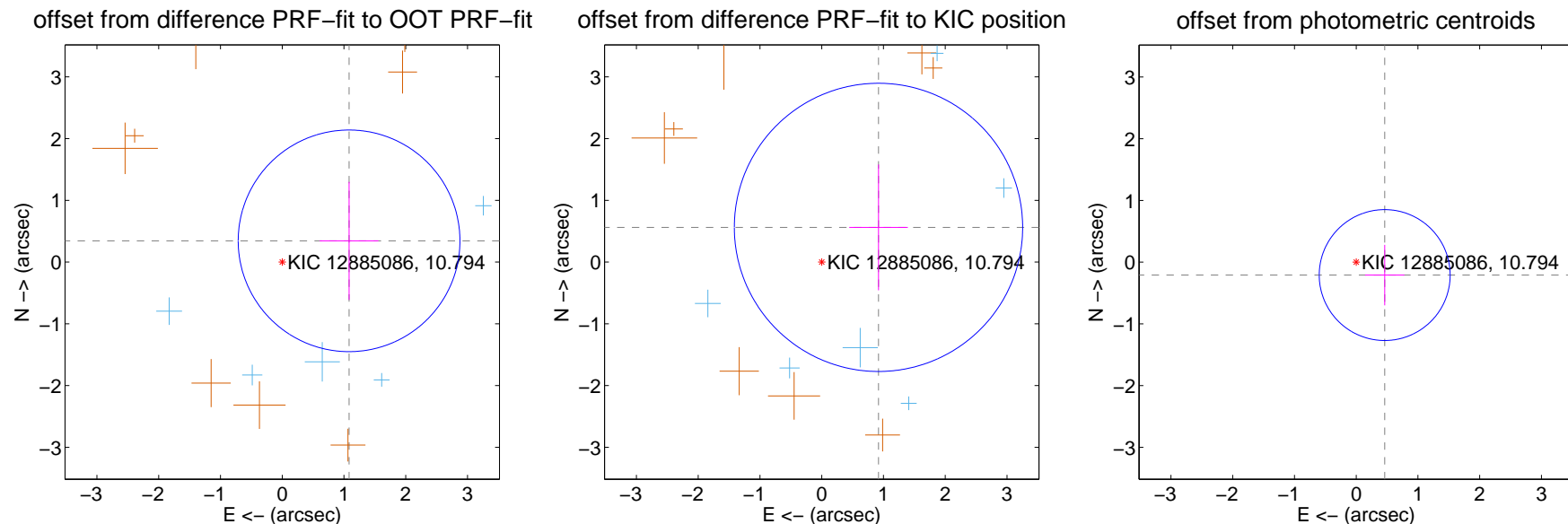
DV Centroid Data

Supplemental centroid analysis for 012885086-02. **Kepler magnitude: 10.79.** Transit SNR 11.59

There are 6 quarters with good PRF difference image offsets

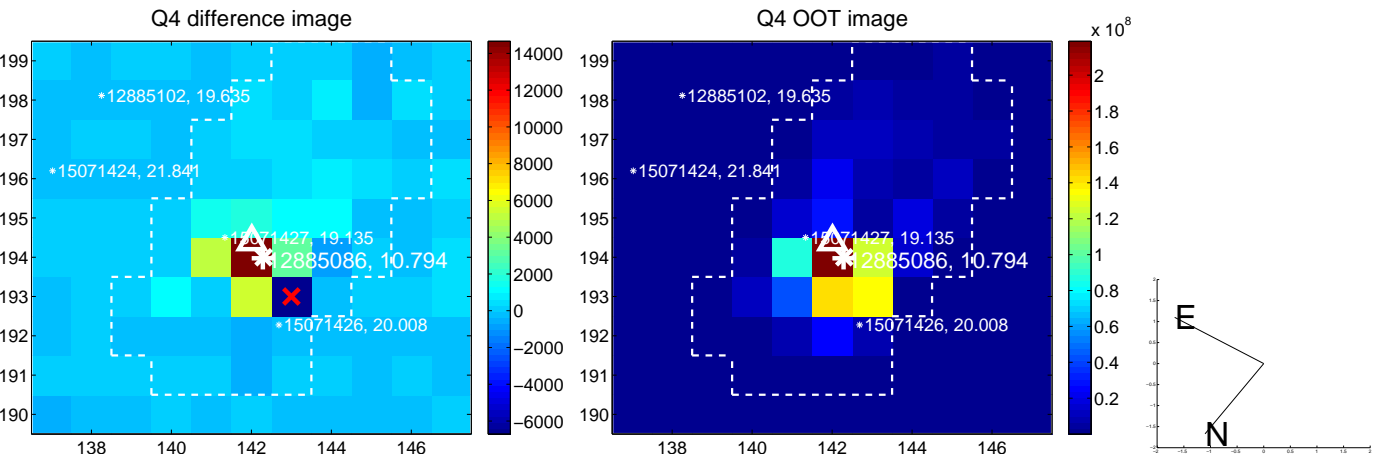
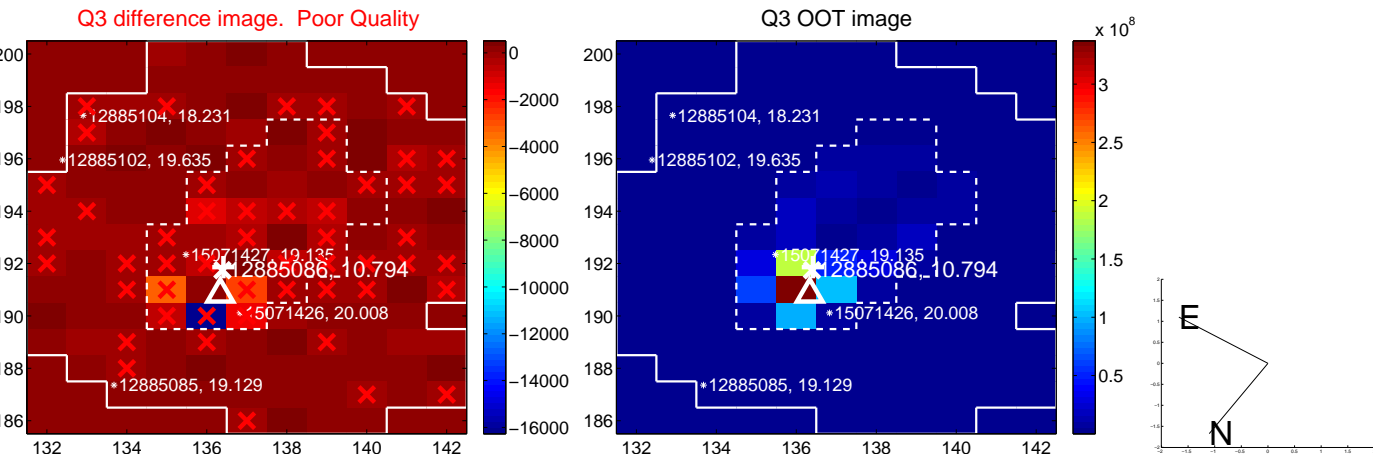
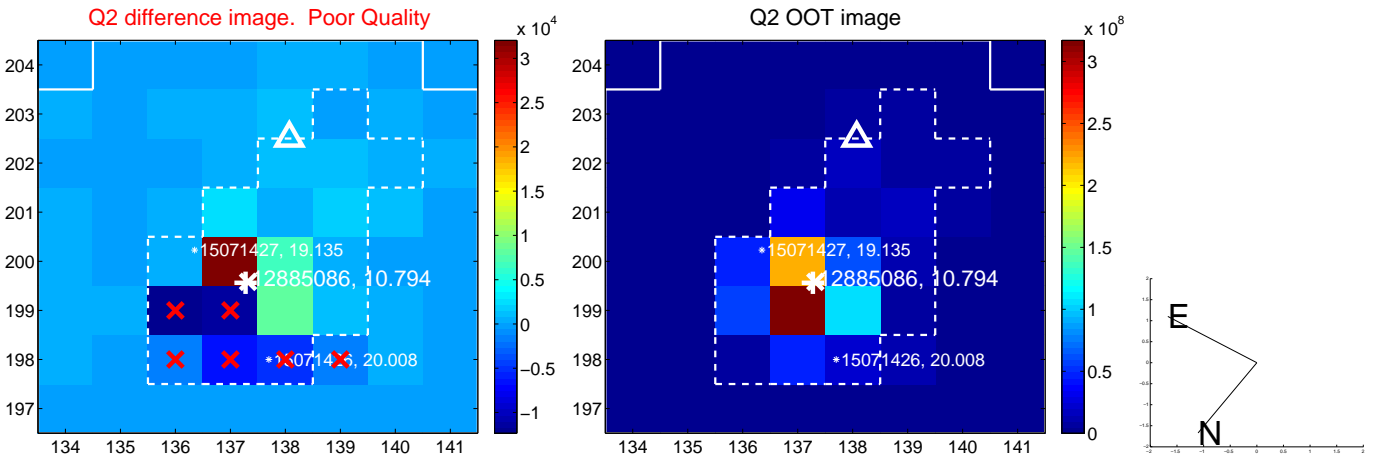
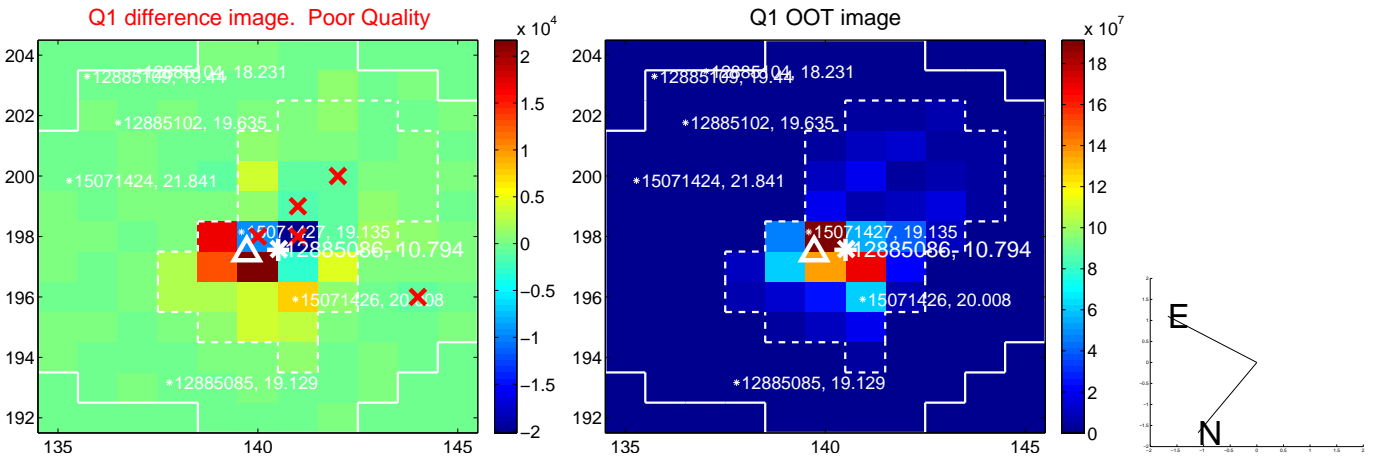
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.136 ± 0.598	1.90	-1.082 ± 0.475	0.344 ± 0.955
PRF-fit source offset from KIC position	1.077 ± 0.778	1.39	-0.919 ± 0.474	0.562 ± 1.019
photometric centroid source offset	0.51 ± 0.35	1.43	-0.46 ± 0.32	-0.21 ± 0.49

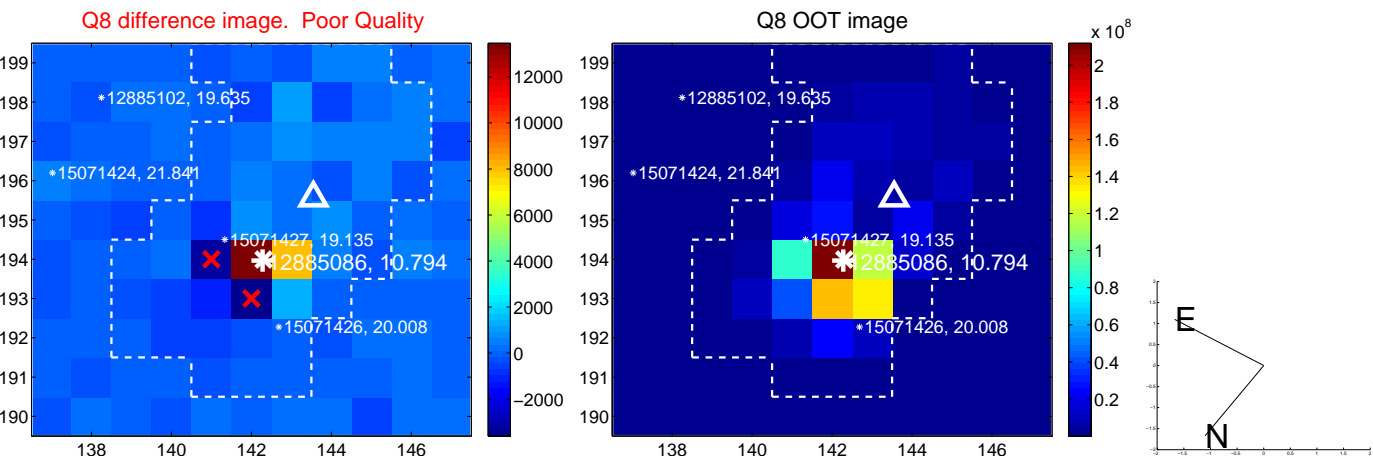
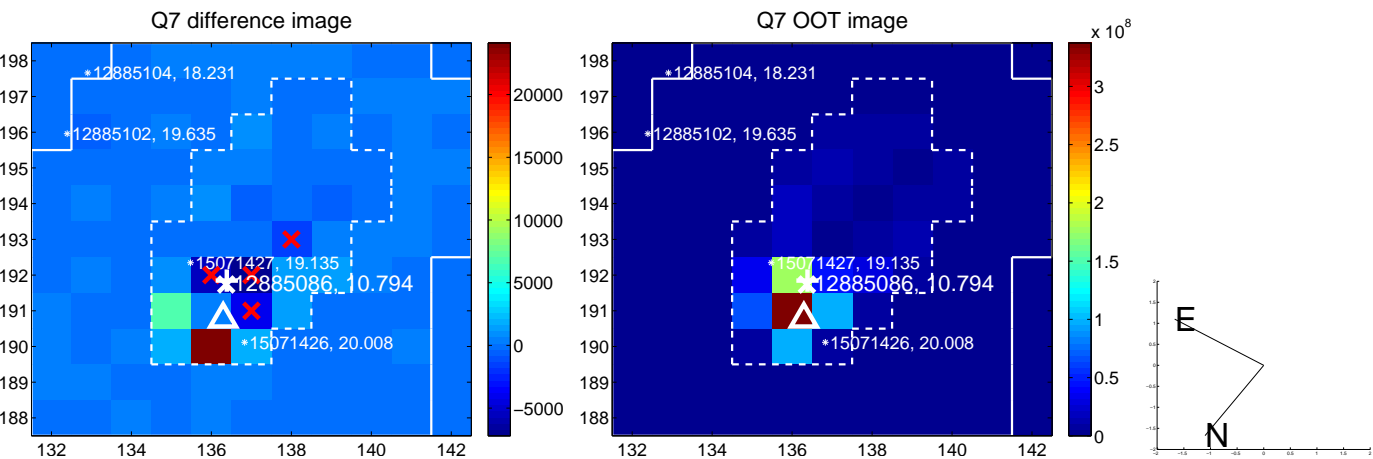
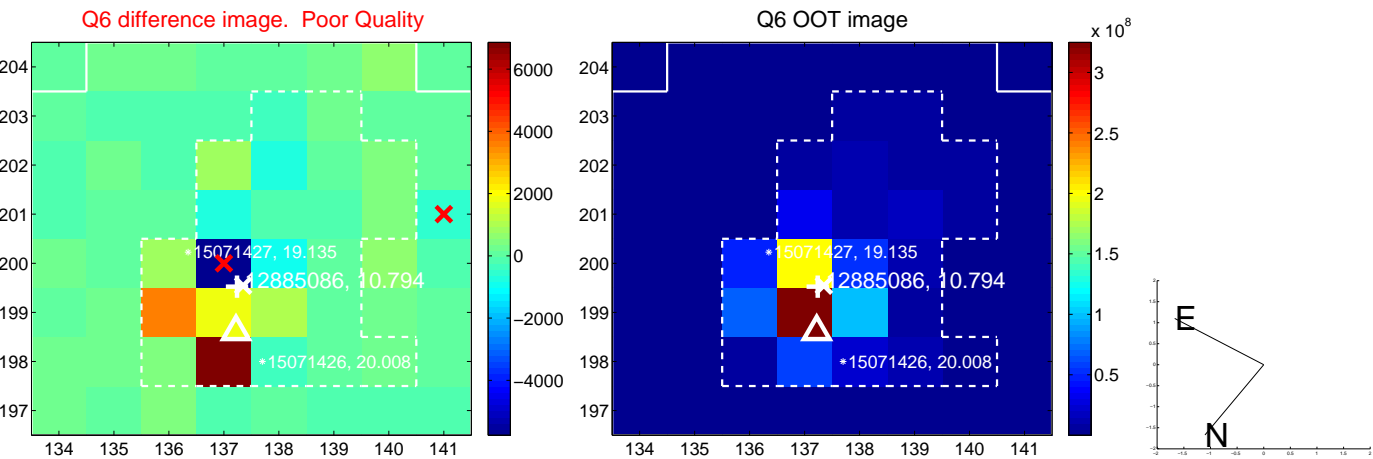
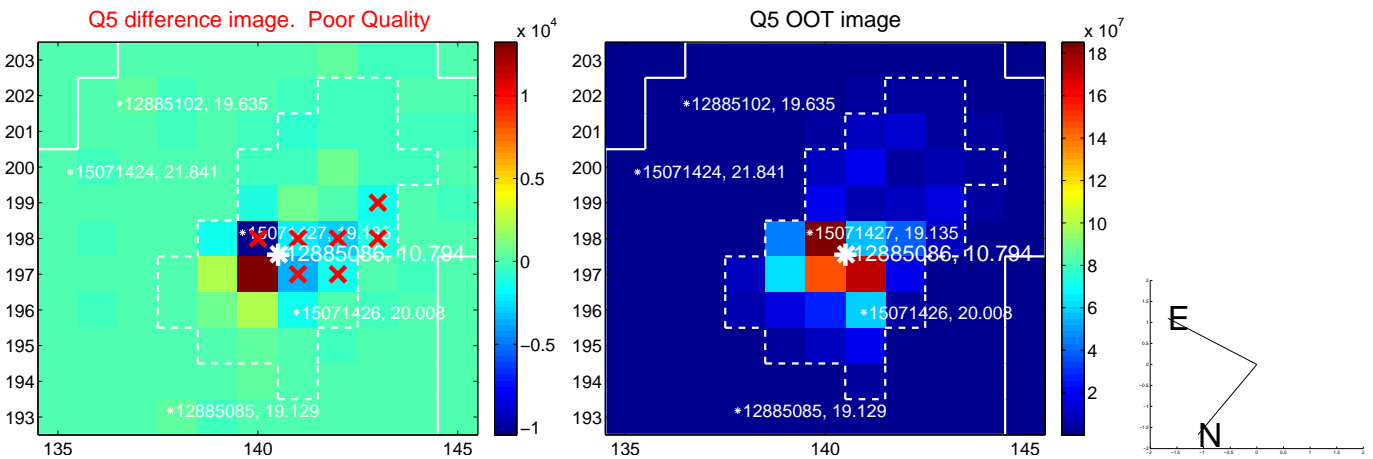


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

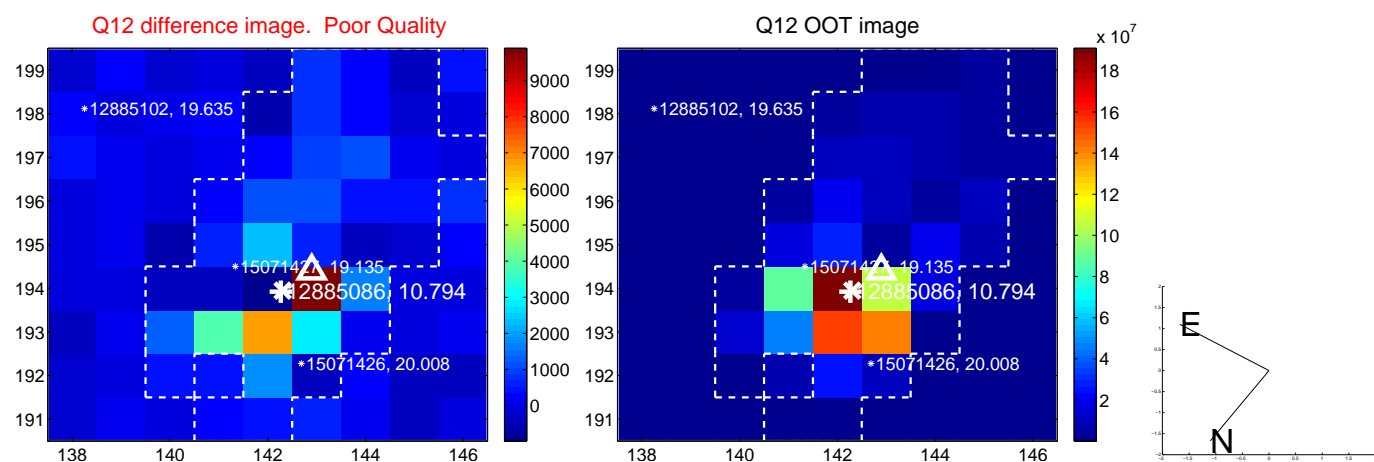
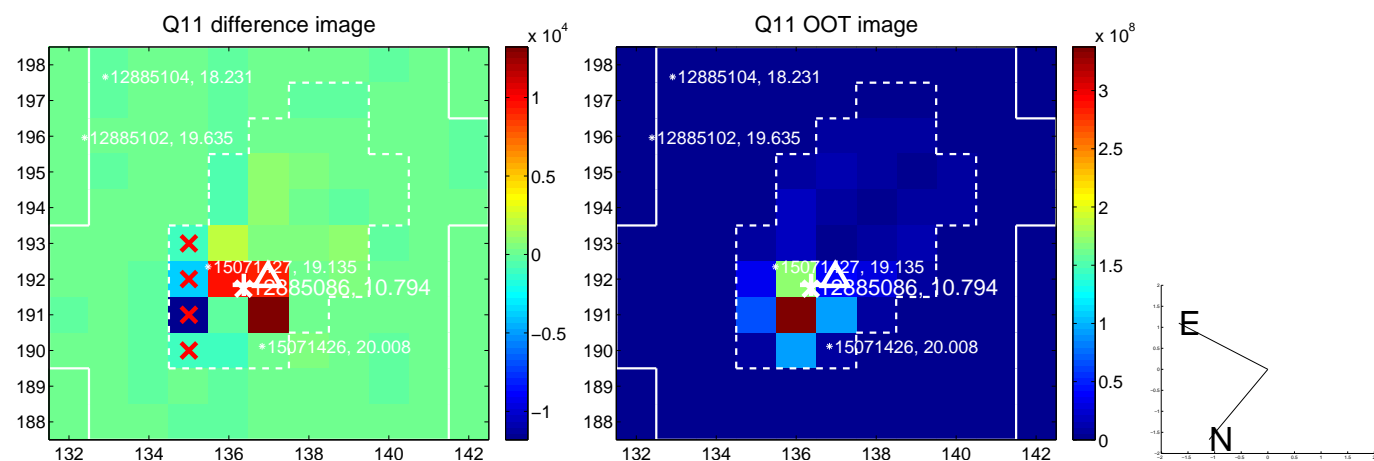
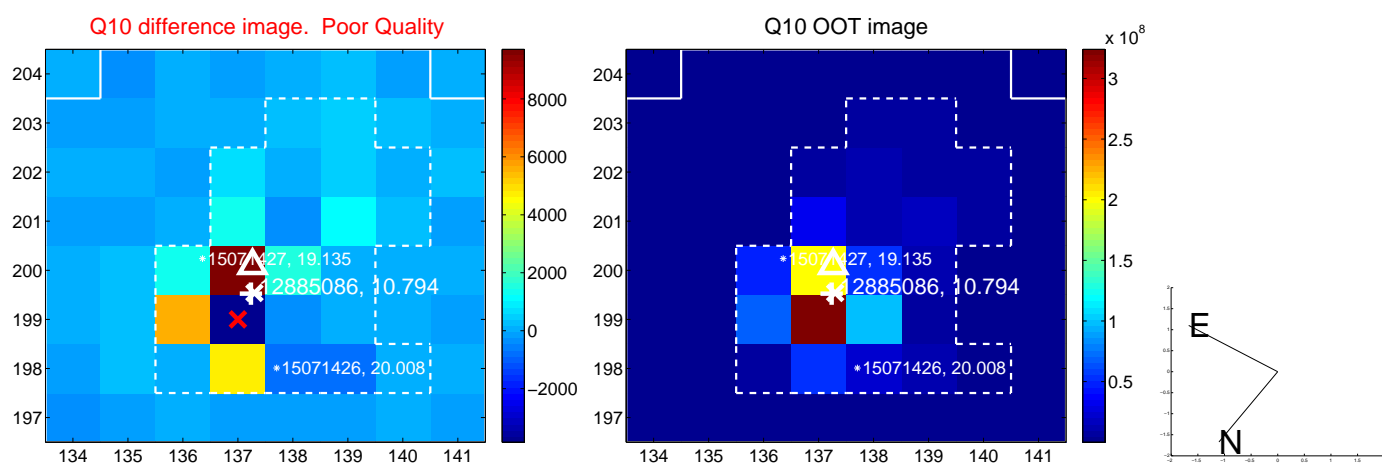
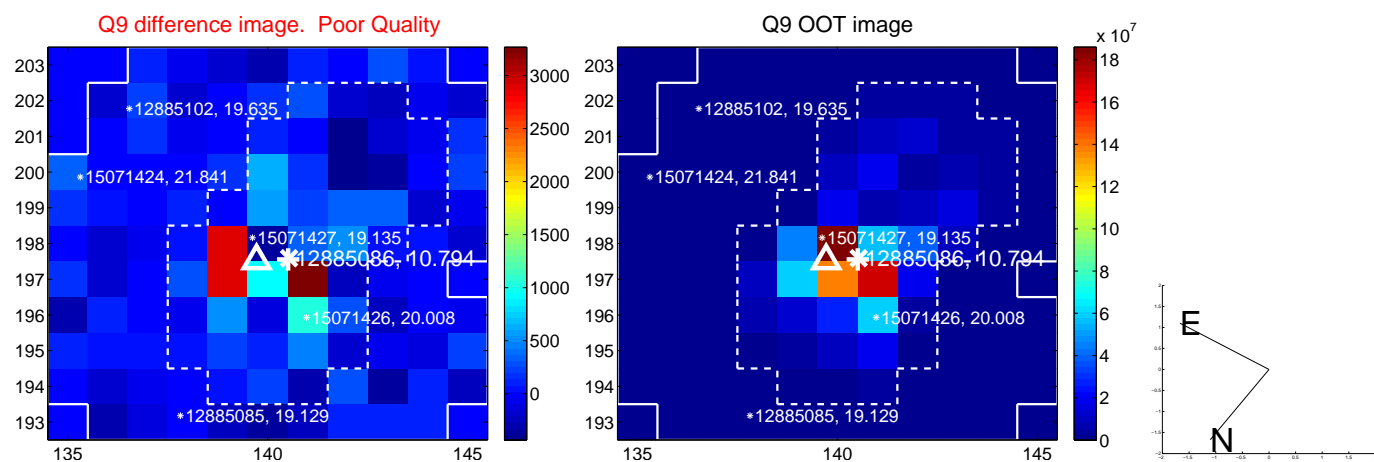
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



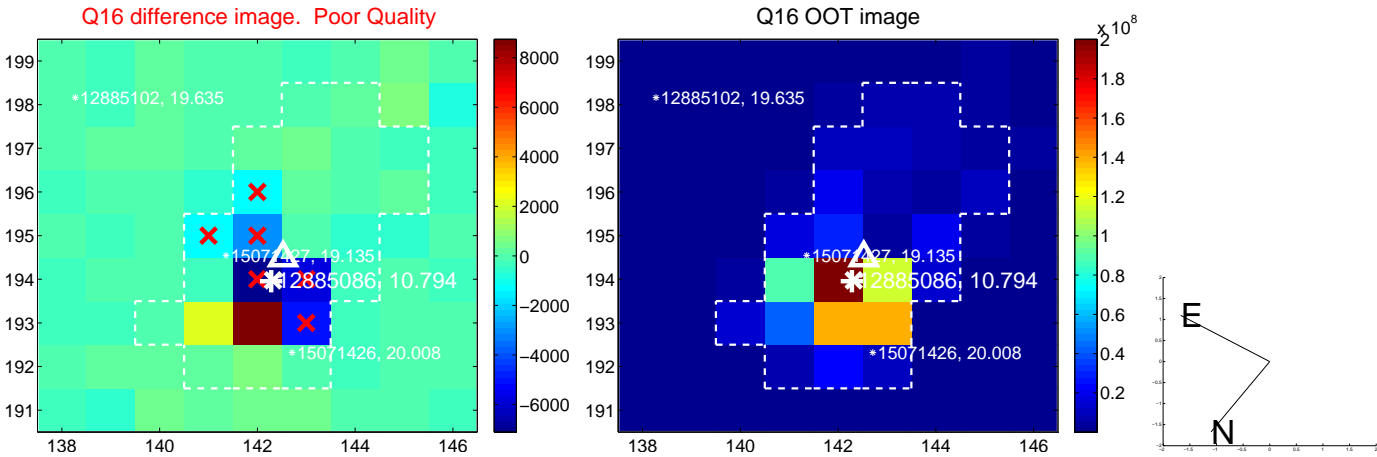
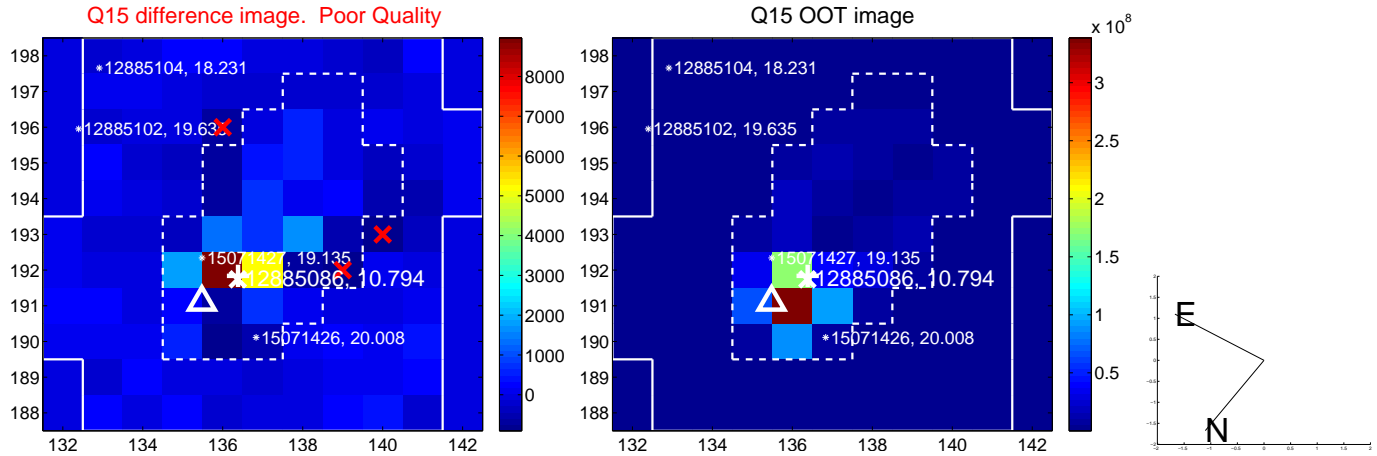
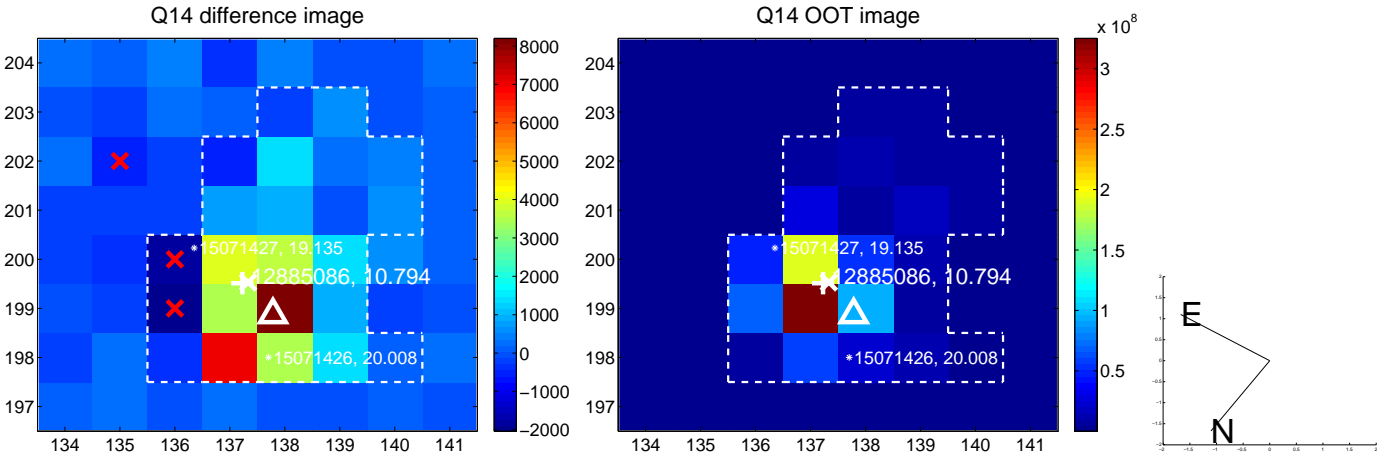
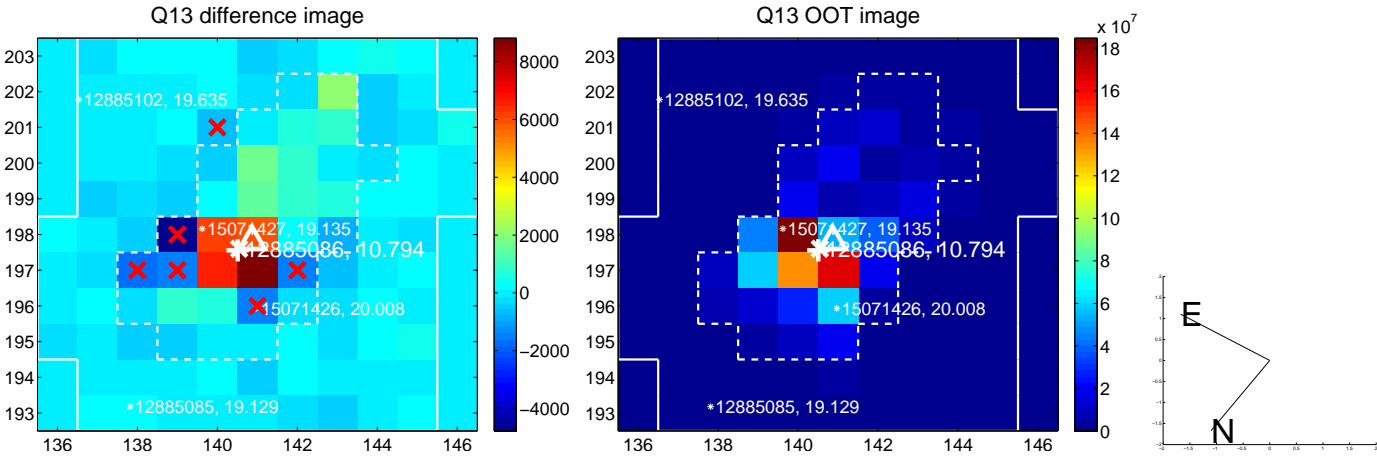
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



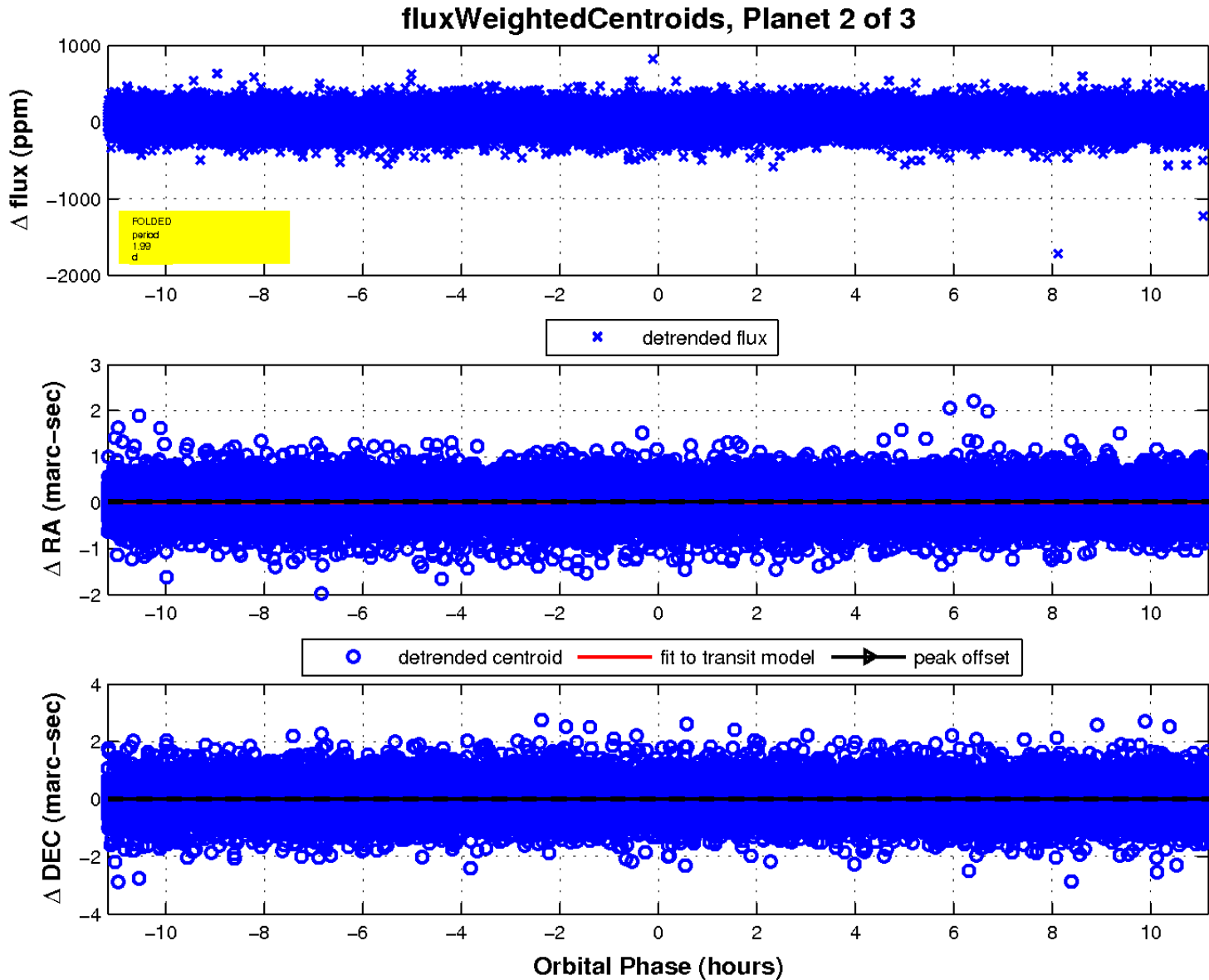
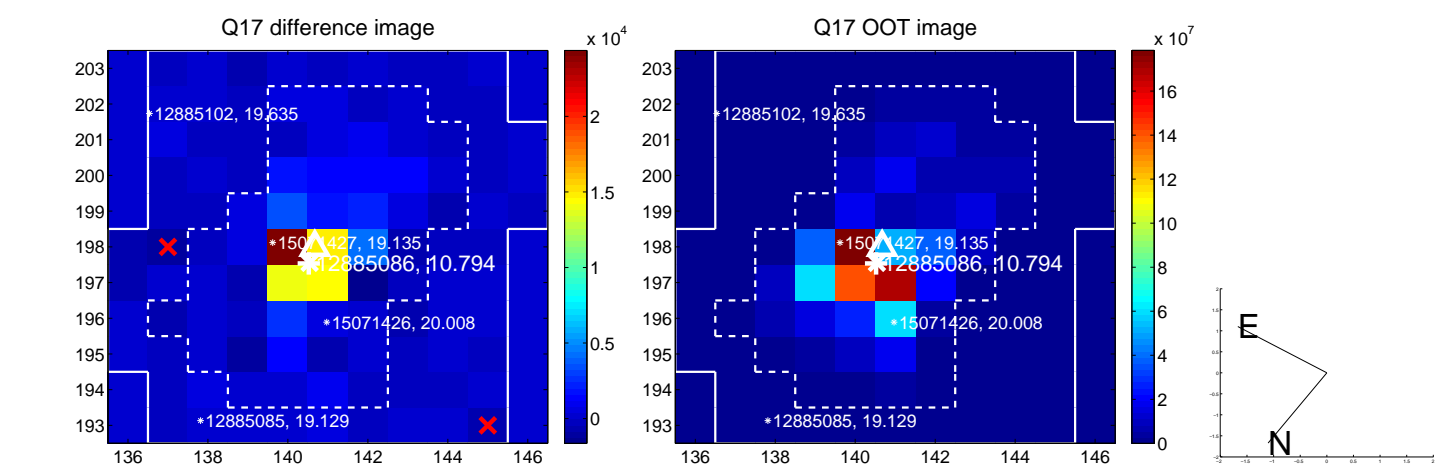
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

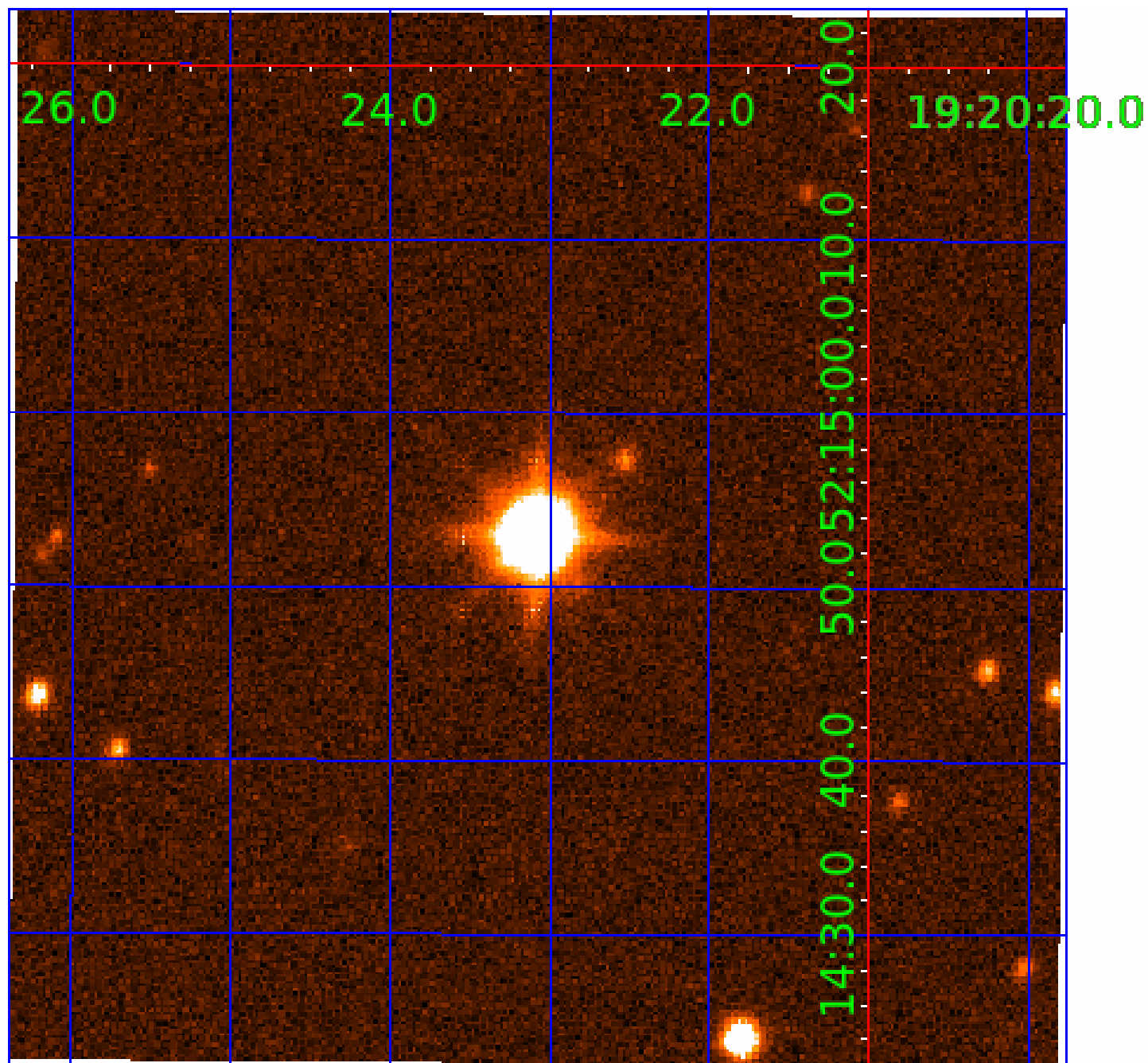


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012885086

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})
012885086-01	OBS	No	0.500545	131.856363	23.9	2.097	11.9	15.2	2.28	8026	1.30	82005.65
012885086-02	OBS	No	1.987059	132.654393	38.9	3.726	10.1	11.6	2.28	8026	1.65	13046.29
012885086-03	OBS	No	1.928209	133.066949	48.9	23.139	9.9	21.1	2.28	8026	1.74	13579.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012885086-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
012885086-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
012885086-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

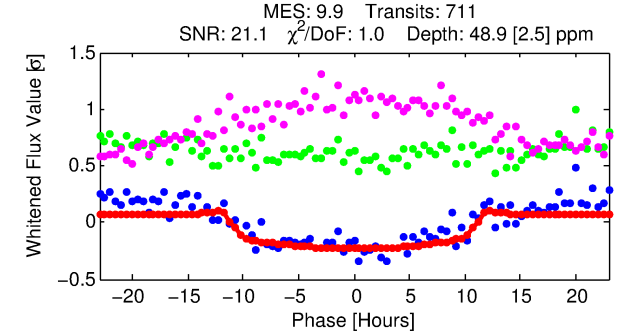
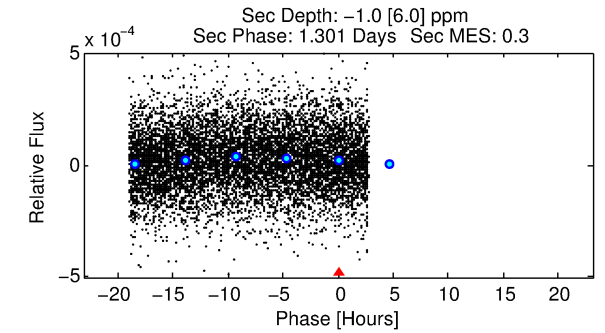
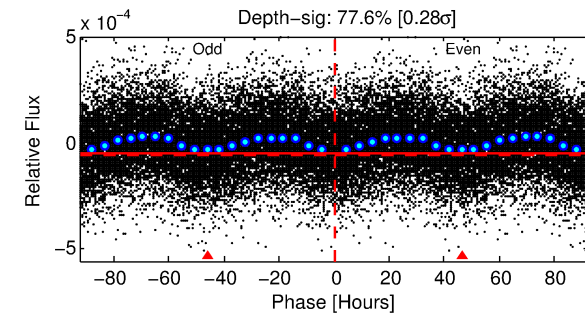
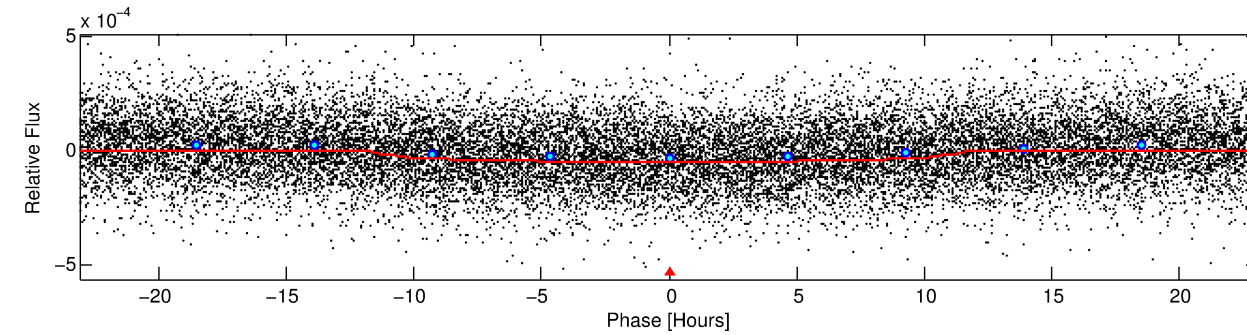
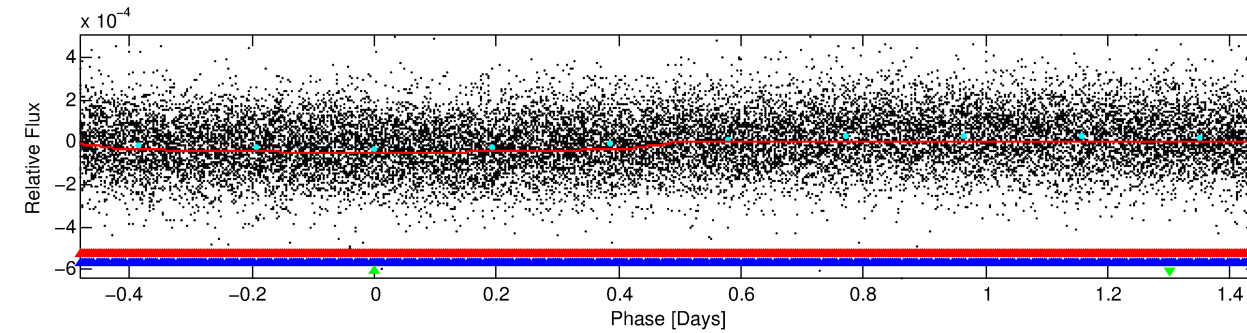
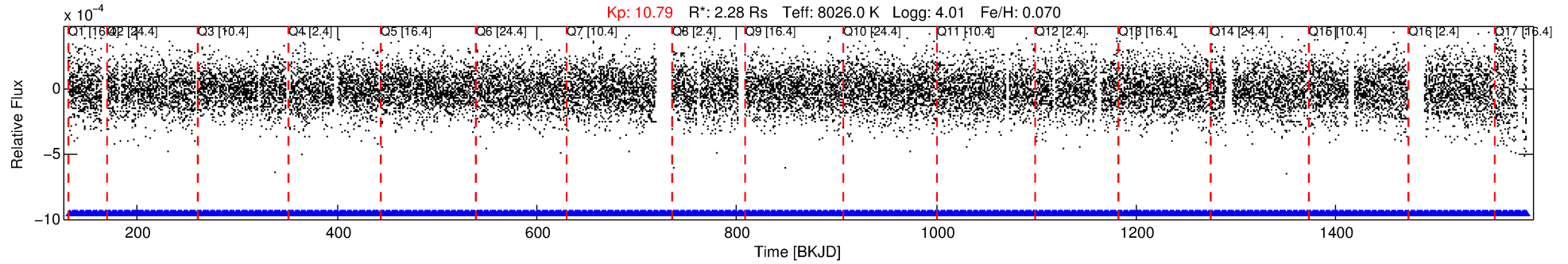
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012885086-03

No Significant Match Found

DV One-Page Summary

KIC: 12885086 Candidate: 3 of 3 Period: 1.928 d



DV Fit Results:

Period = 1.92821 [0.00003] d
Epoch = 133.0669 [0.0099] BKJD
Rp/R* = 0.0070 [0.0006]
a/R* = 1.00 [0.00]
b = 0.77 [0.26]
Seff = 13579.88 [4953.25]
Teq = 2753 [251] K
Rp = 1.74 [0.49] Re
a = 0.0378 [0.0085] AU
Ag = N/A
Teffp = N/A

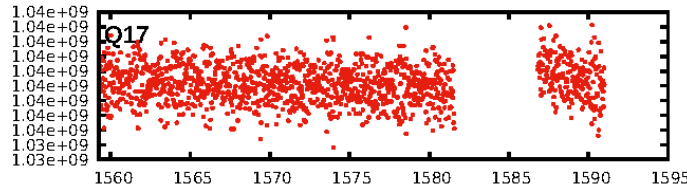
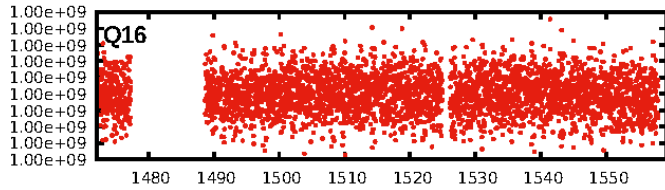
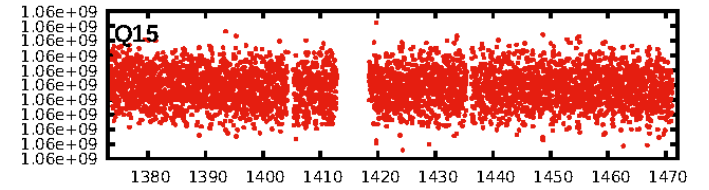
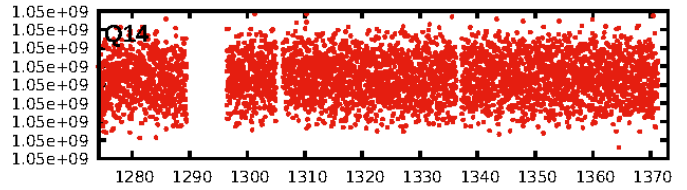
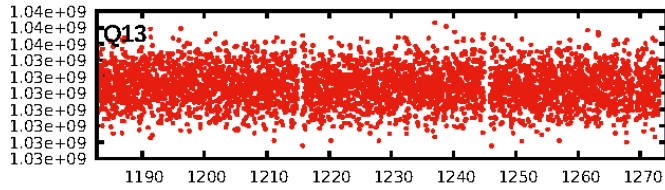
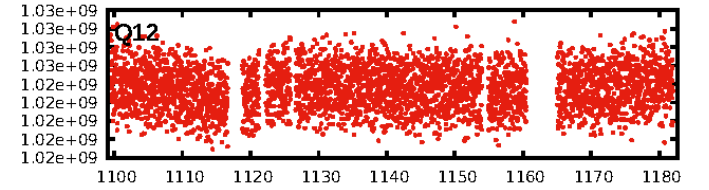
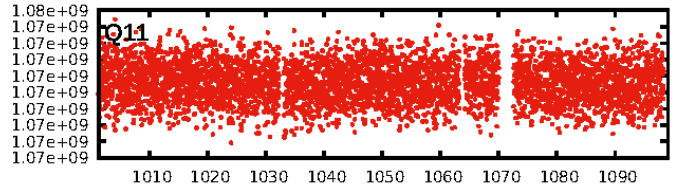
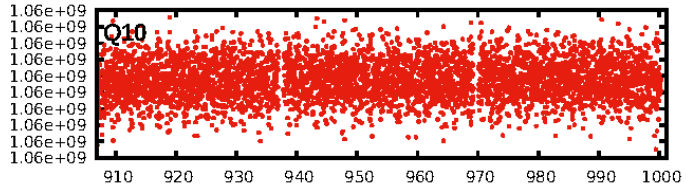
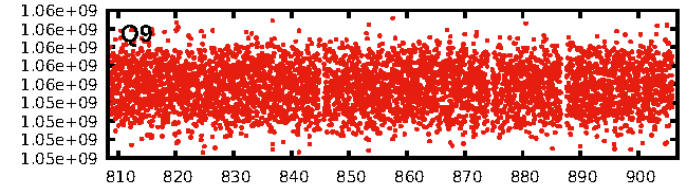
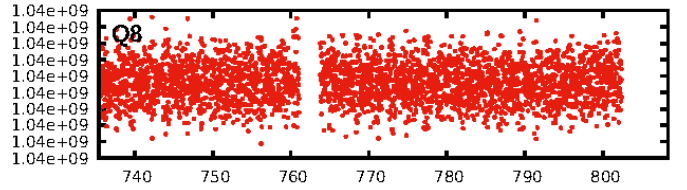
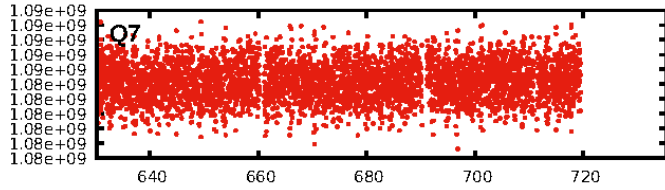
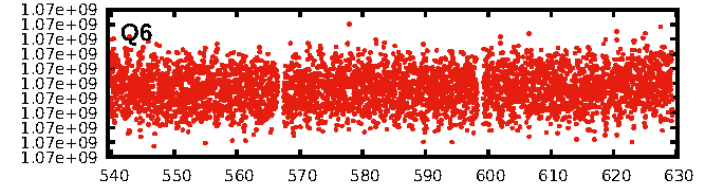
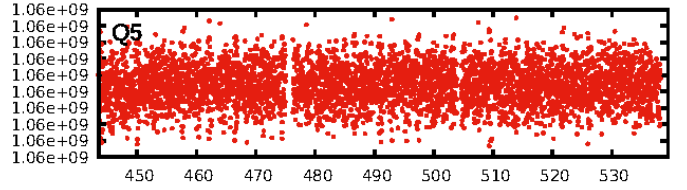
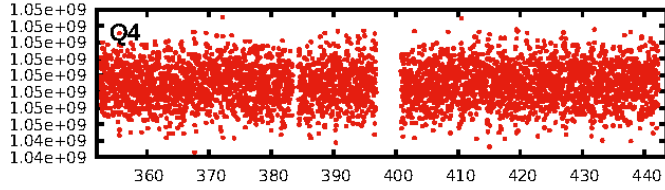
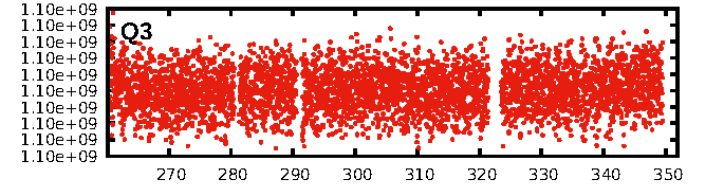
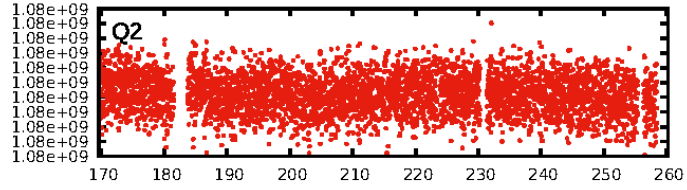
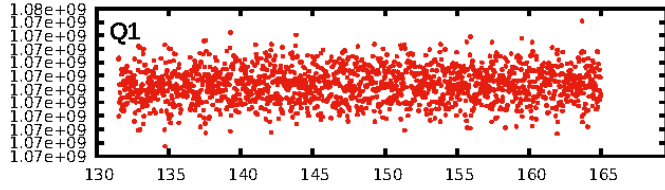
DV Diagnostic Results:

ShortPeriod-sig: 86.0% [1.47 σ]
LongPeriod-sig: 4.8% [0.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [679/679]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.2%
Centroid-so: 0.657 arcsec [2.79 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

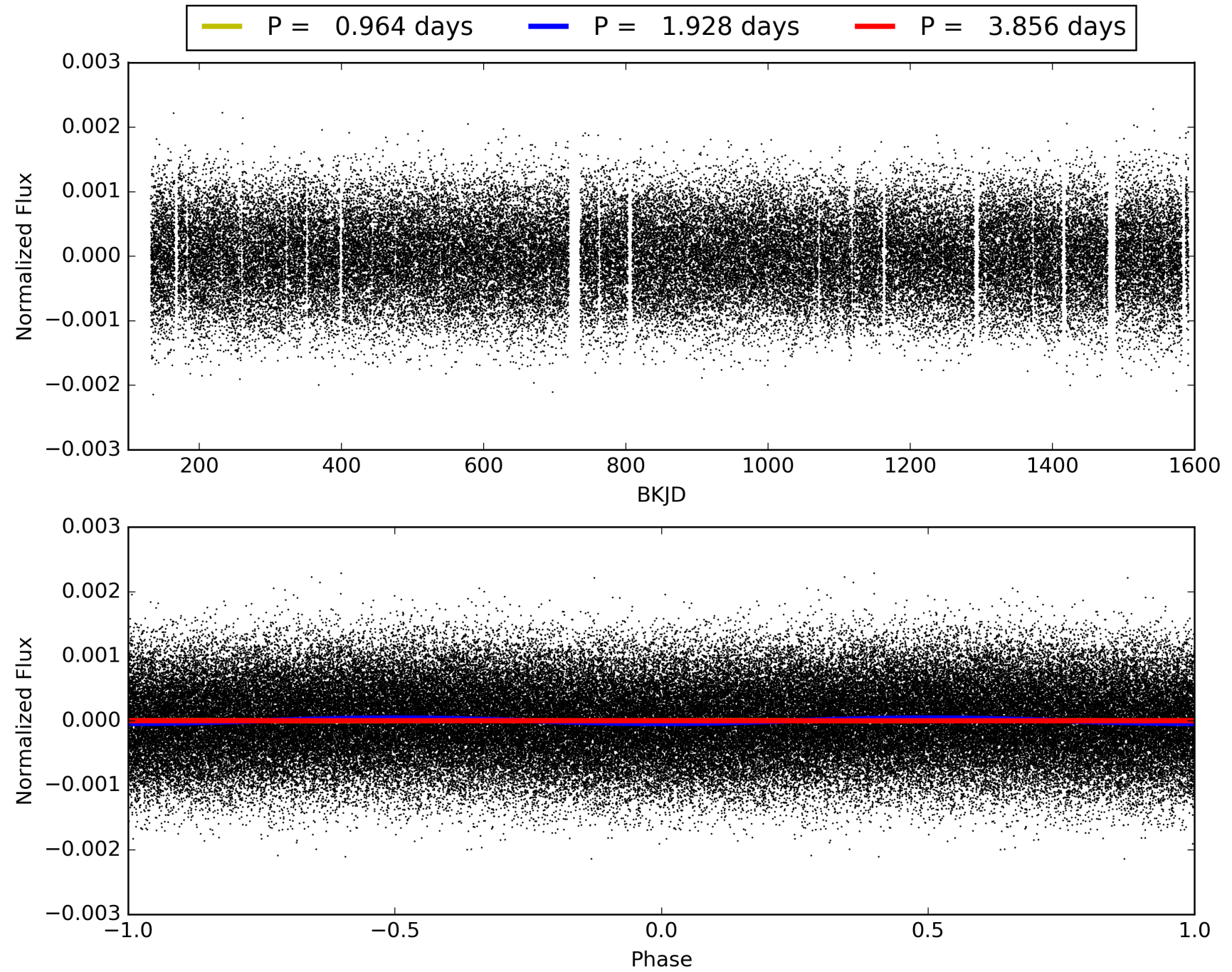
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:19:42 Z

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

TCE 012885086-03, PDC Light Curves

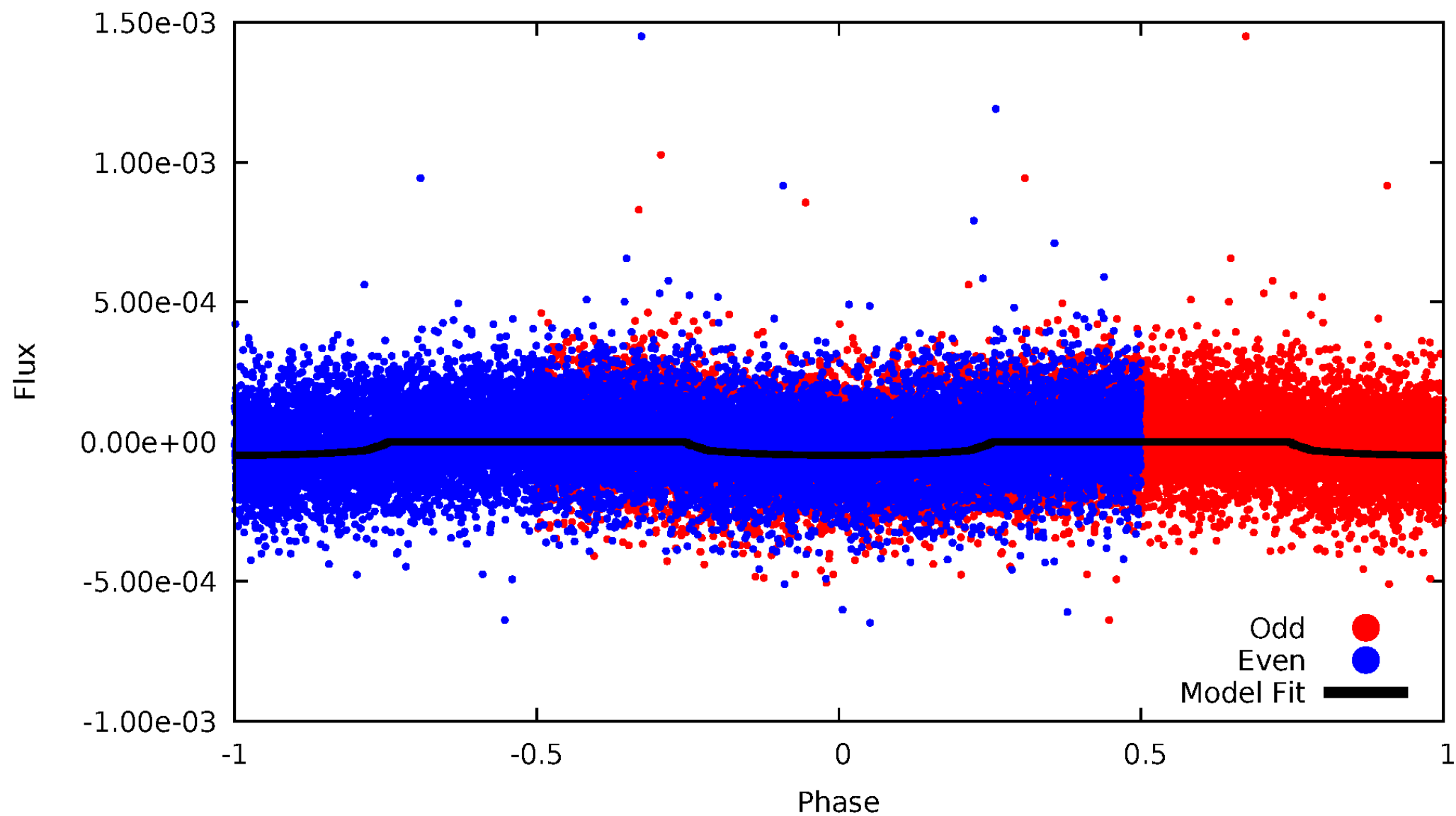


TCE 012885086-03



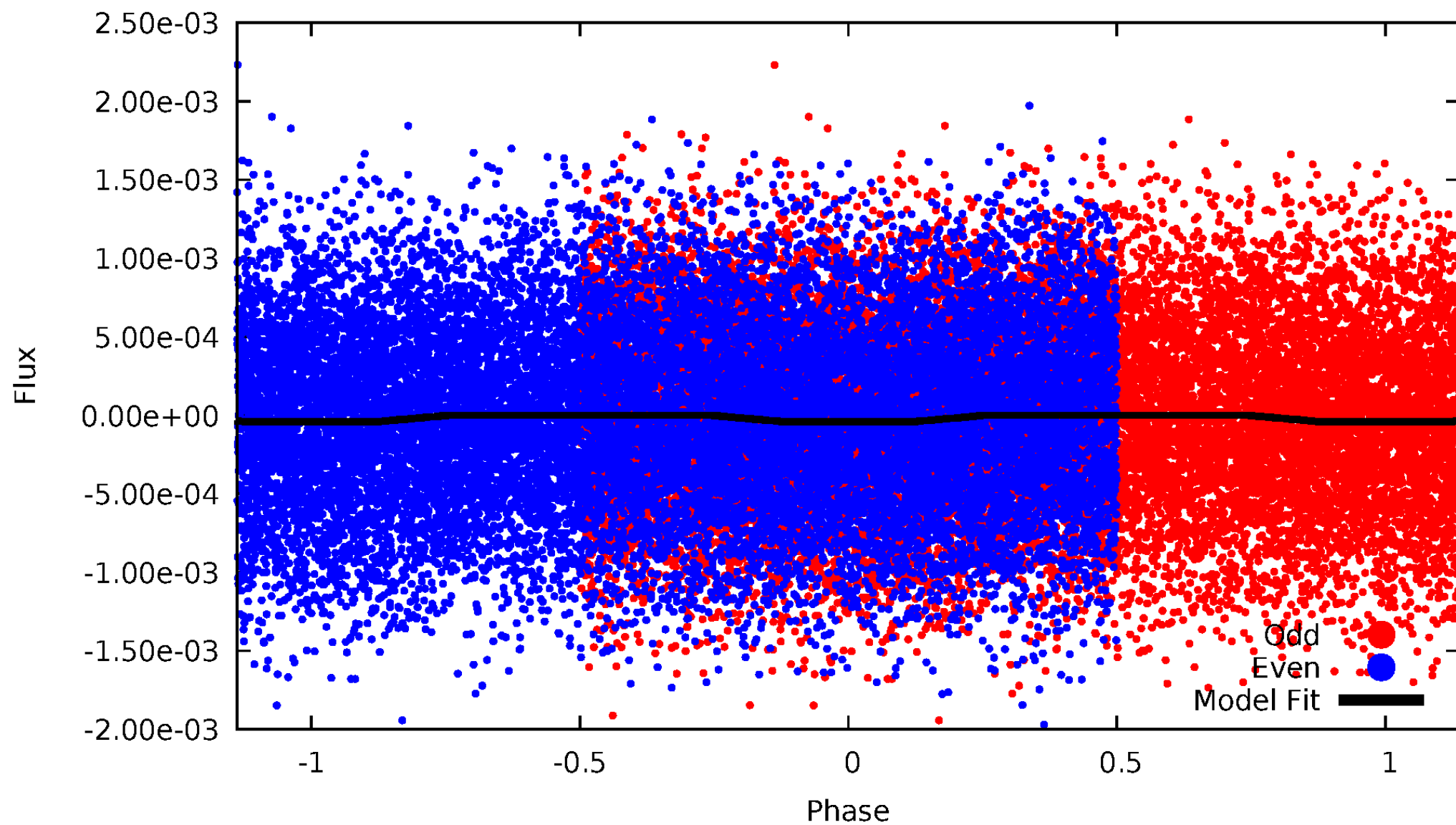
DV Odd/Even

TCE 012885086-03



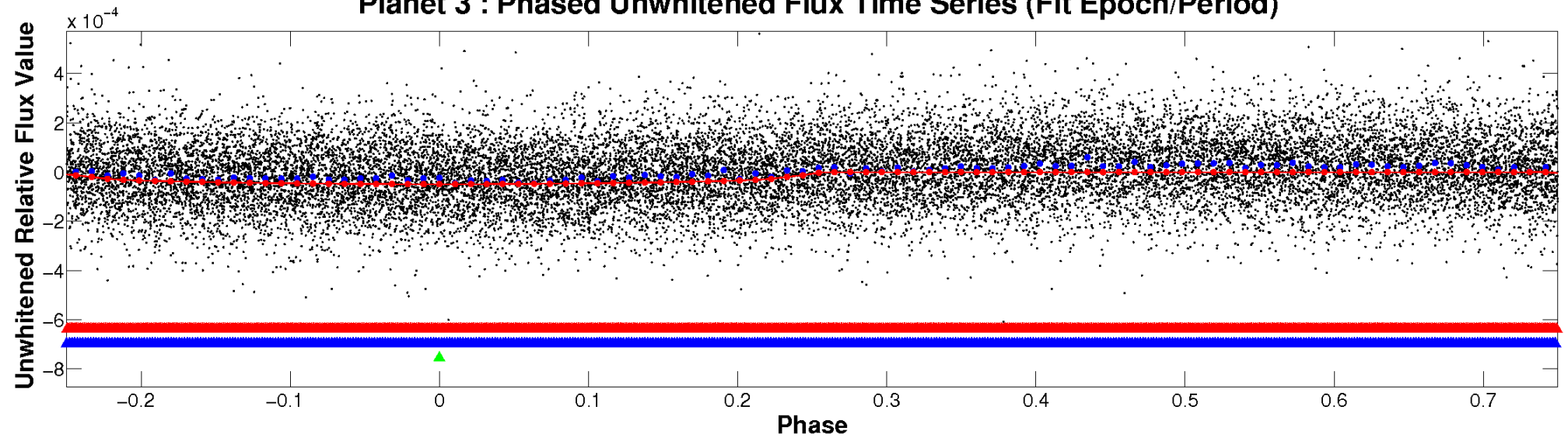
ALT Odd/Even

TCE 012885086-03

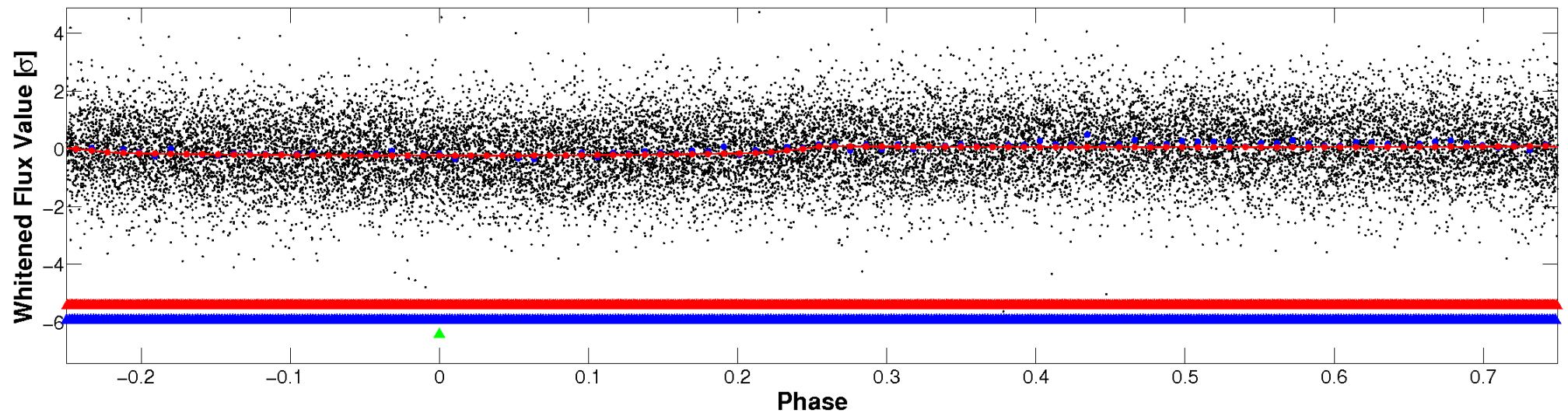


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

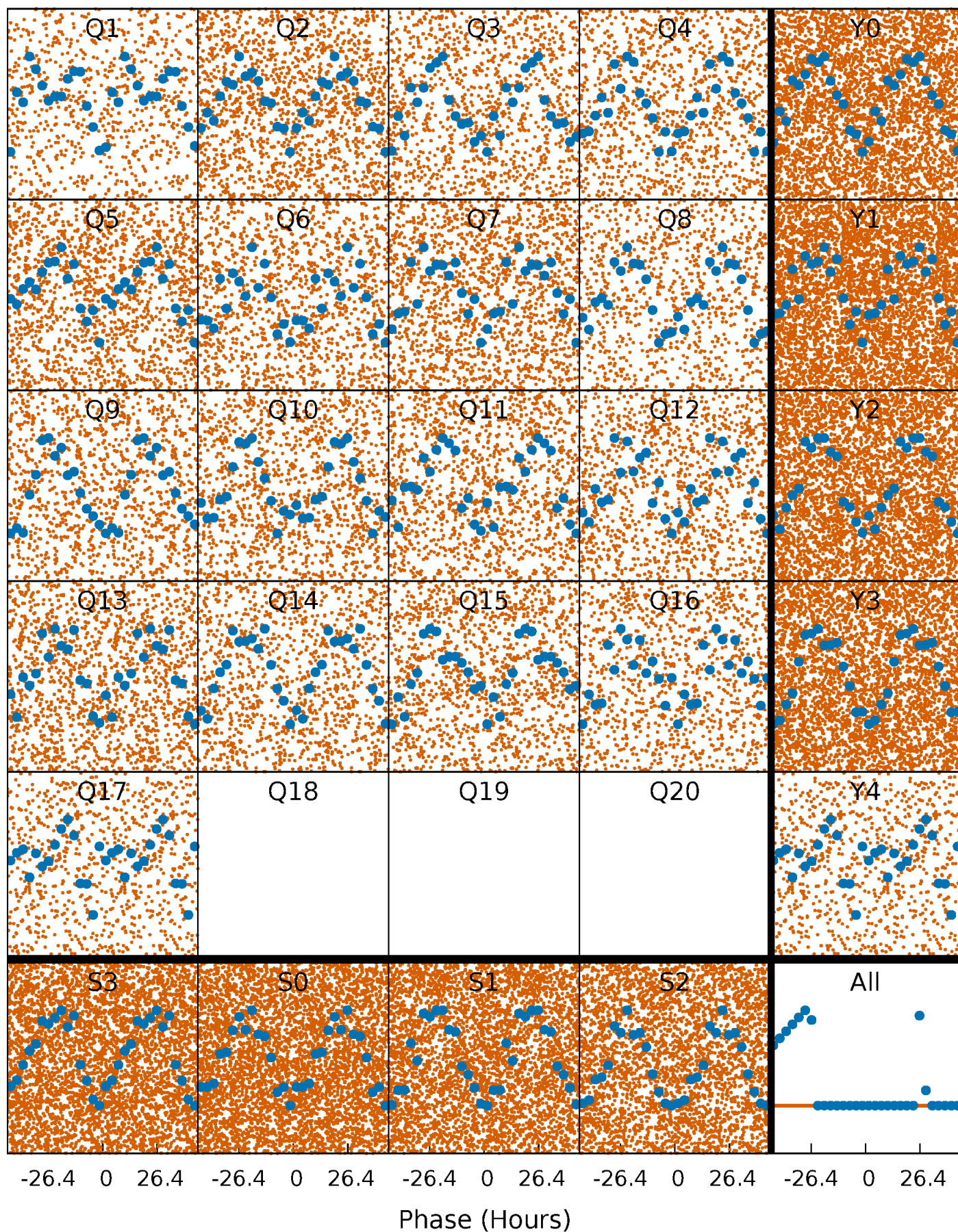


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



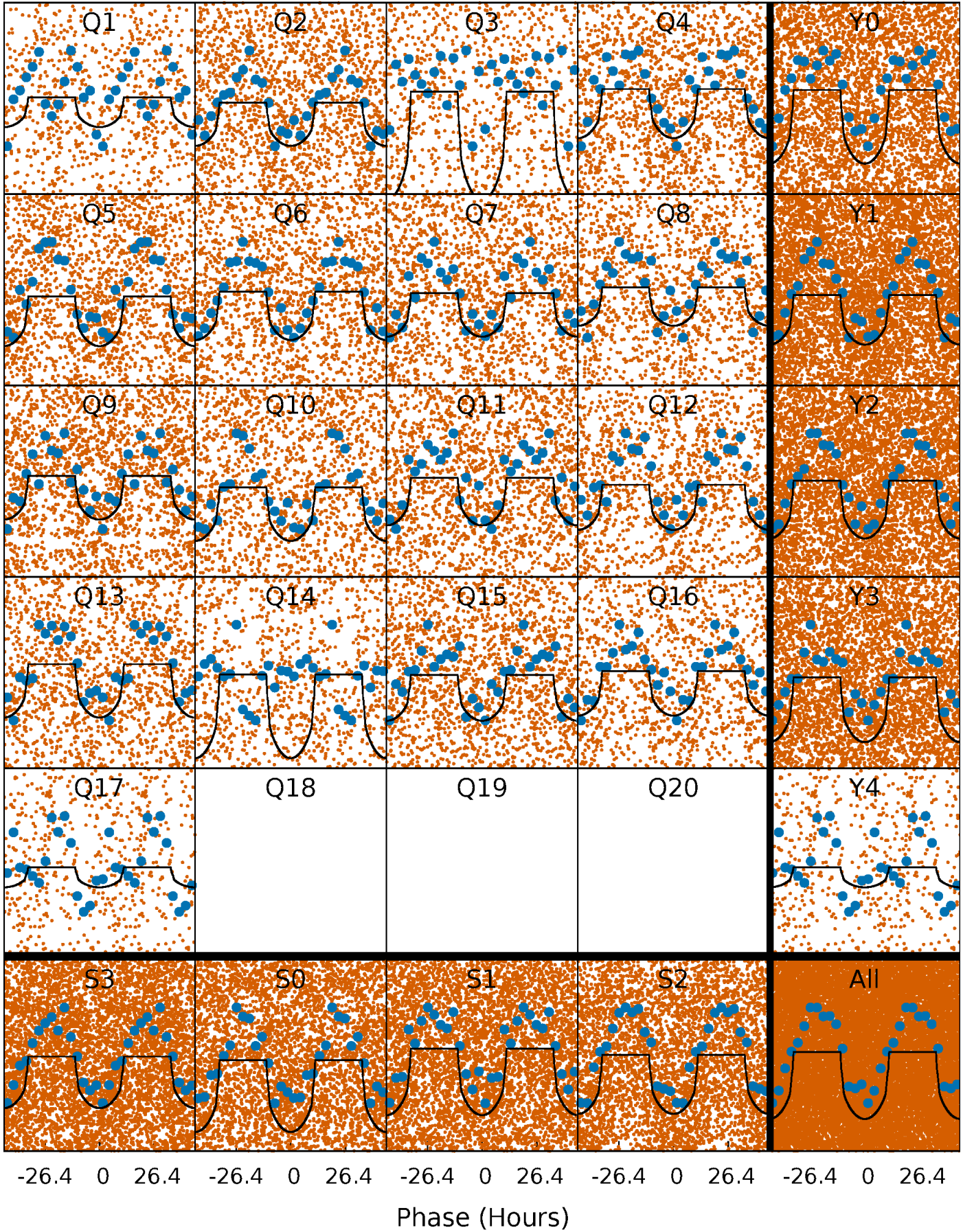
PDC Quarter-Phased Transit Curves

TCE 012885086-03 P= 1.928209 Days $T_0=133.066949$ (BKJD)



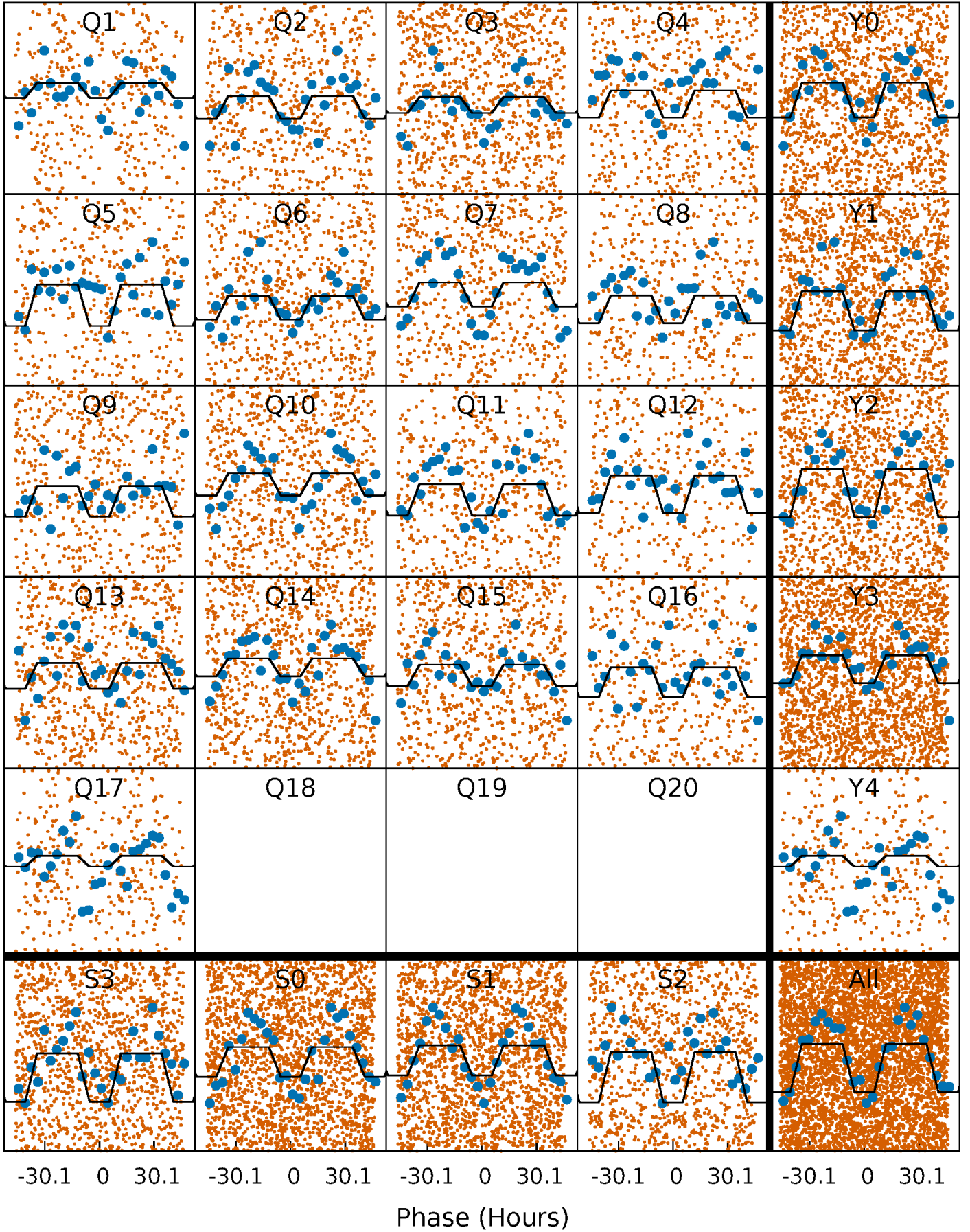
DV Quarter-Phased Transit Curves

TCE 012885086-03 P= 1.928209 Days $T_0=133.066949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

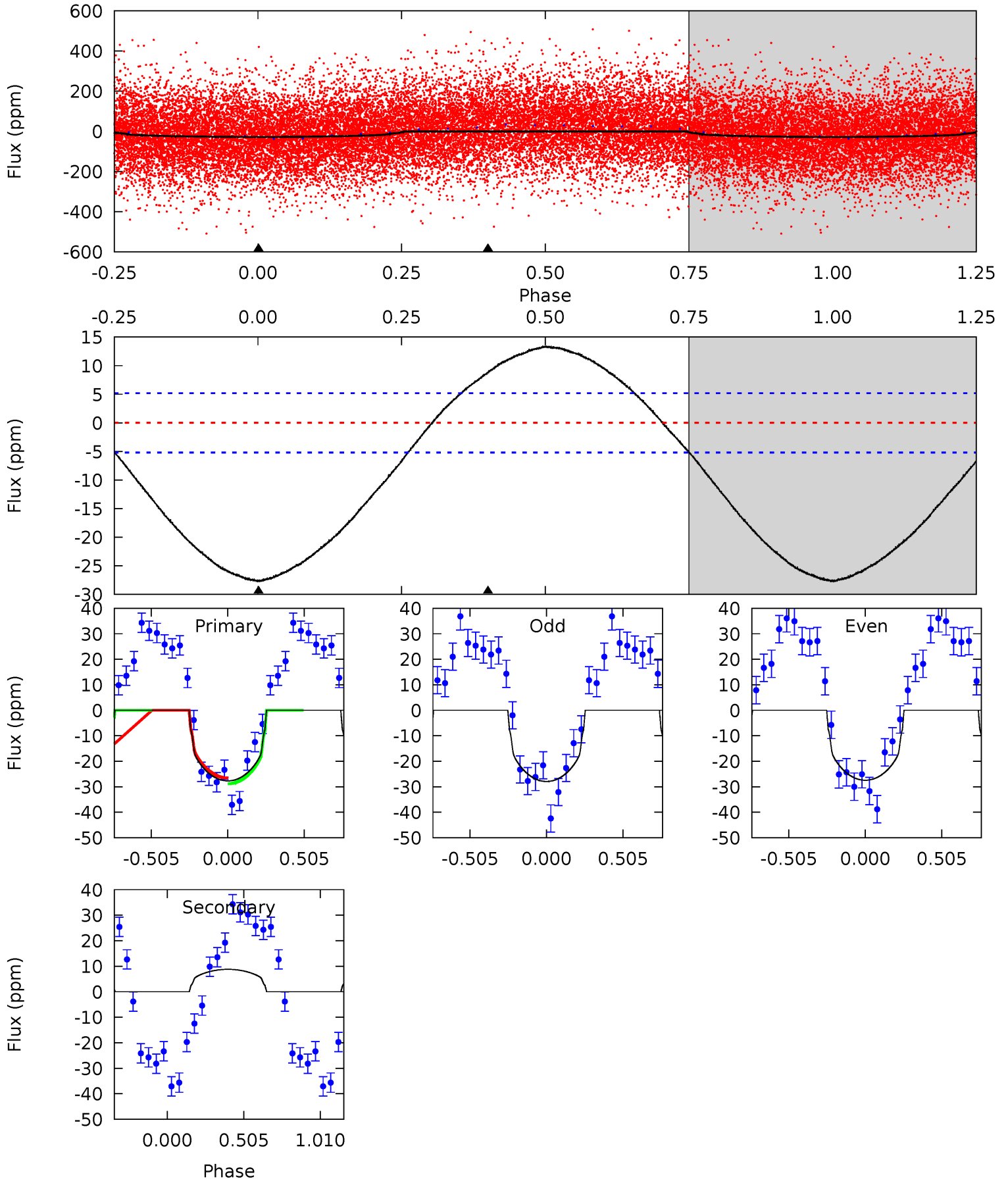
TCE 012885086-03 P= 1.928104 Days $T_0=133.091070$ (BKJD)



DV Model-Shift Uniqueness Test

012885086-03, P = 1.928209 Days, E = 131.138740 Days

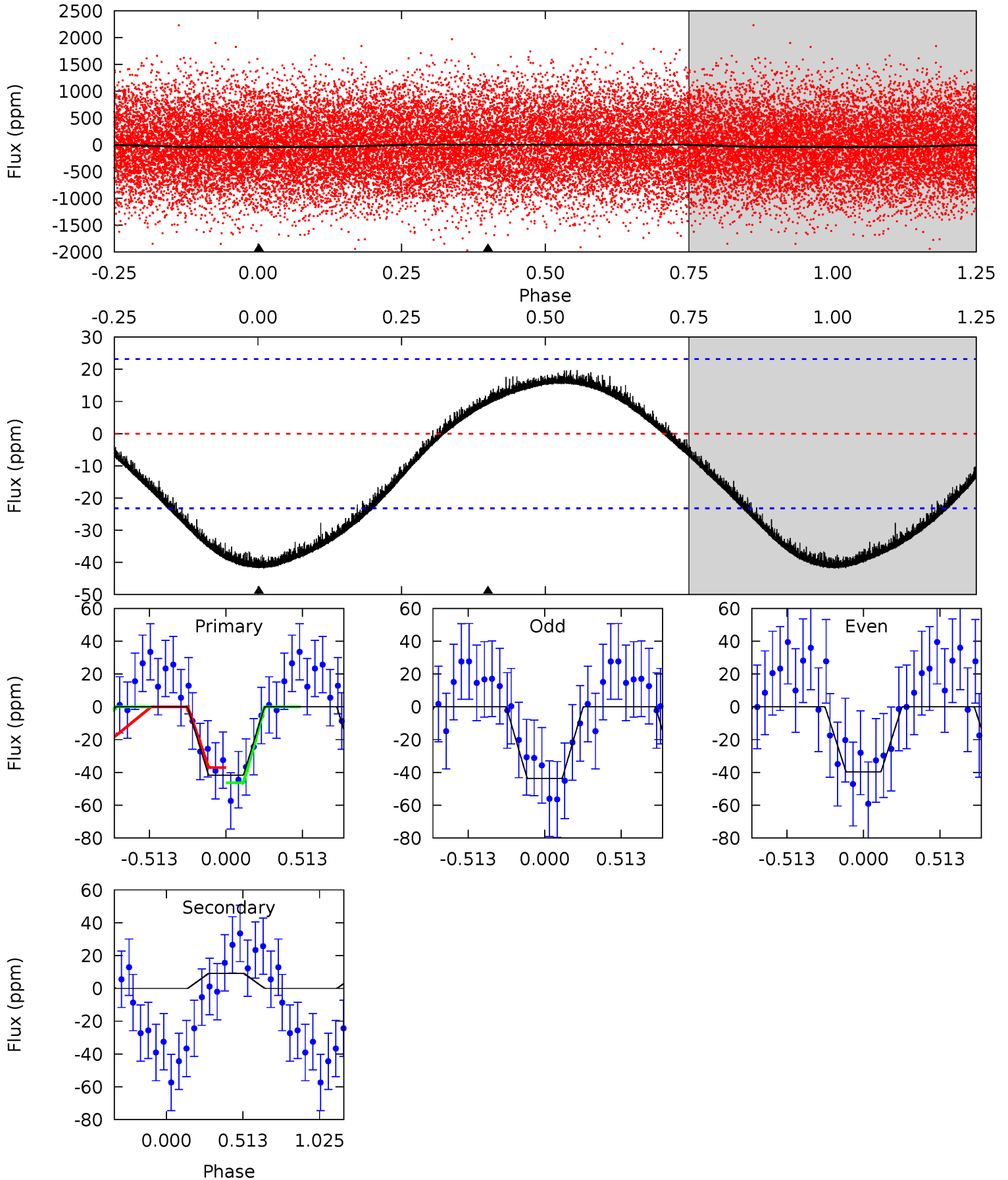
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	-7.12	0	0	4.21	0.67	2.72	22.5	22.5	-7.12	-7.12	0.19	0.99	0.33	0.93



Alt Model-Shift Uniqueness Test

012885086-03, P = 1.928104 Days, E = 131.162966 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.57	-1.66	0	0	4.21	0.65	0.84	7.57	7.57	-1.66	-1.66	0.37	0.89	0.32	0.85



Stellar Parameters For KIC 012885086

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8026^{+223}_{-335}	$4.007^{+0.176}_{-0.144}$	$0.070^{+0.200}_{-0.400}$	$2.282^{+0.502}_{-0.614}$	$1.929^{+0.242}_{-0.363}$	$0.229^{+0.244}_{-0.087}$
	+3%/-4%	+4%/-4%	+286%/-571%	+22%/-27%	+13%/-19%	+107%/-38%
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 012885086-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	9 ± 1	$1.72^{+0.28}_{-0.26}$	3822^{+244}_{-259}	-5277^{+252}_{-279}	$-2.335^{+0.659}_{-0.879}$
Alt.	9 ± 6	$1.59^{+0.30}_{-0.24}$	3823^{+256}_{-283}	-5477^{+831}_{-680}	$-2.711^{+1.628}_{-2.296}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

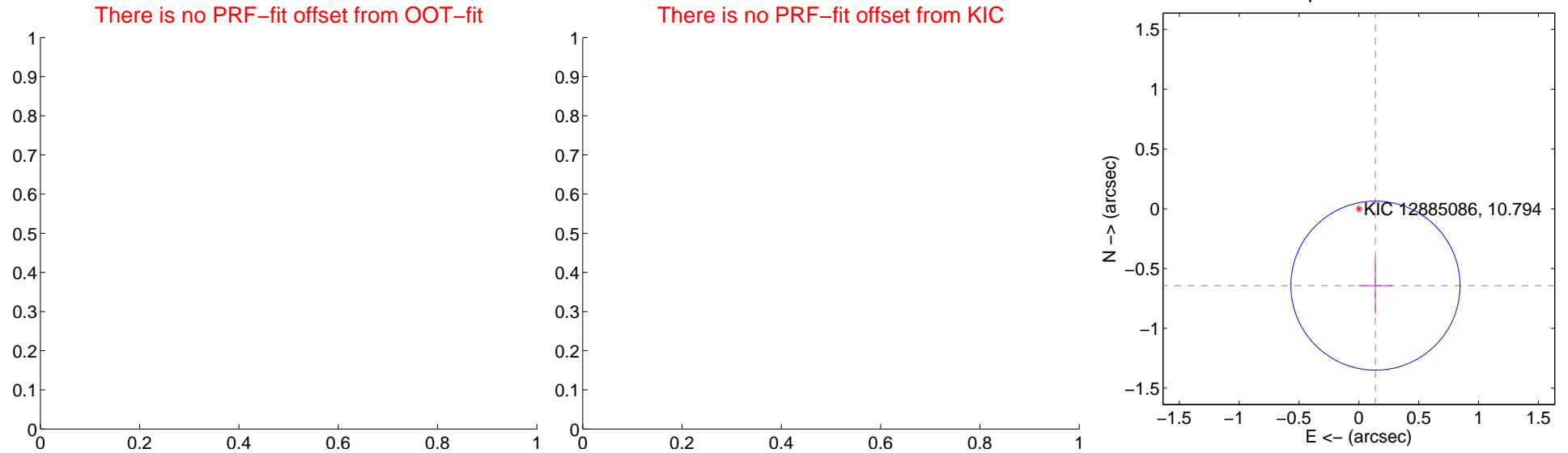
DV Centroid Data

Supplemental centroid analysis for 012885086-03. **Kepler magnitude: 10.79.** Transit SNR 21.07

There are 0 quarters with good PRF difference image offsets

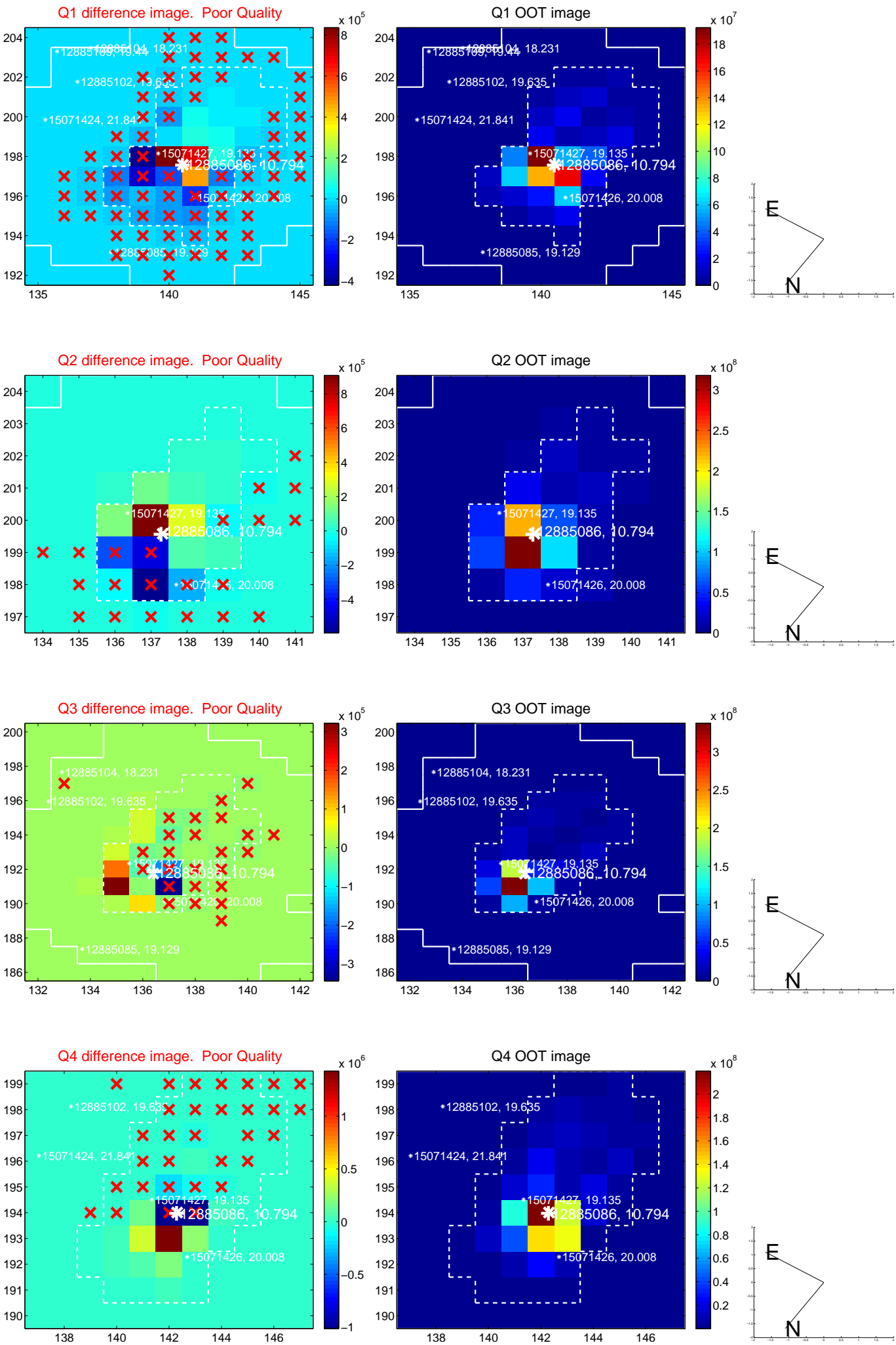
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.66 ± 0.24	2.79	-0.14 ± 0.14	-0.64 ± 0.24

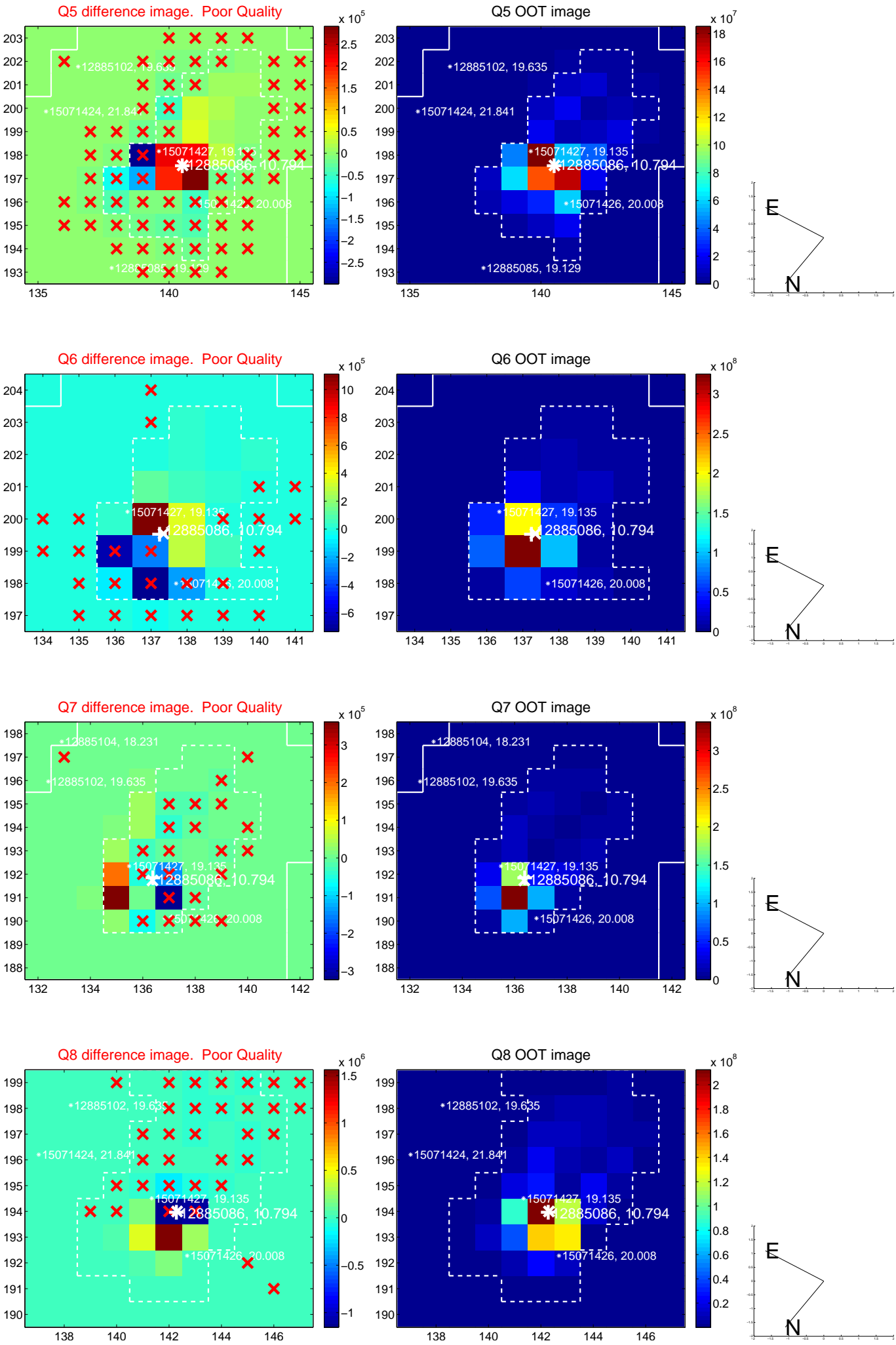


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

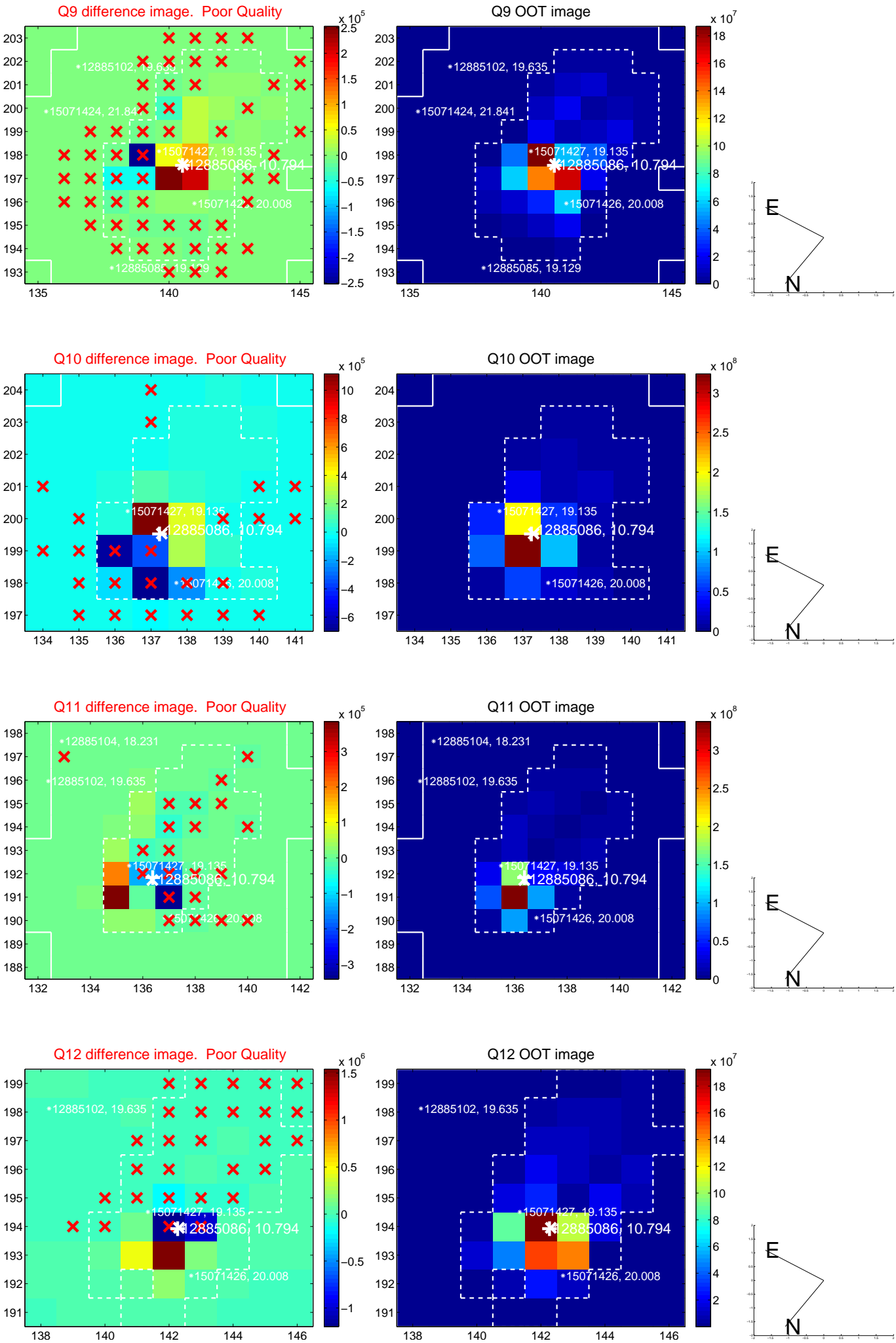
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



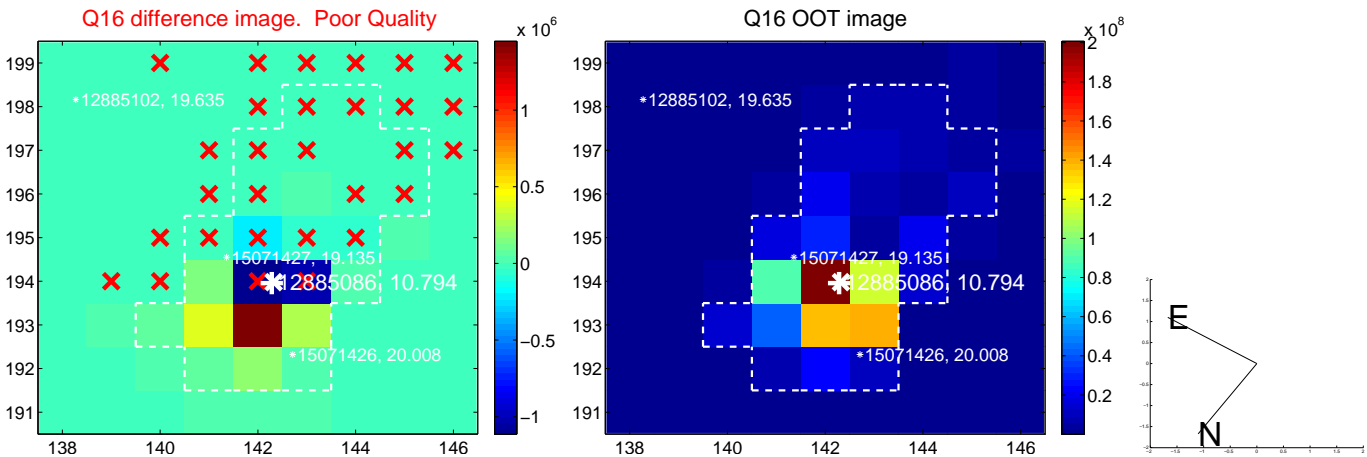
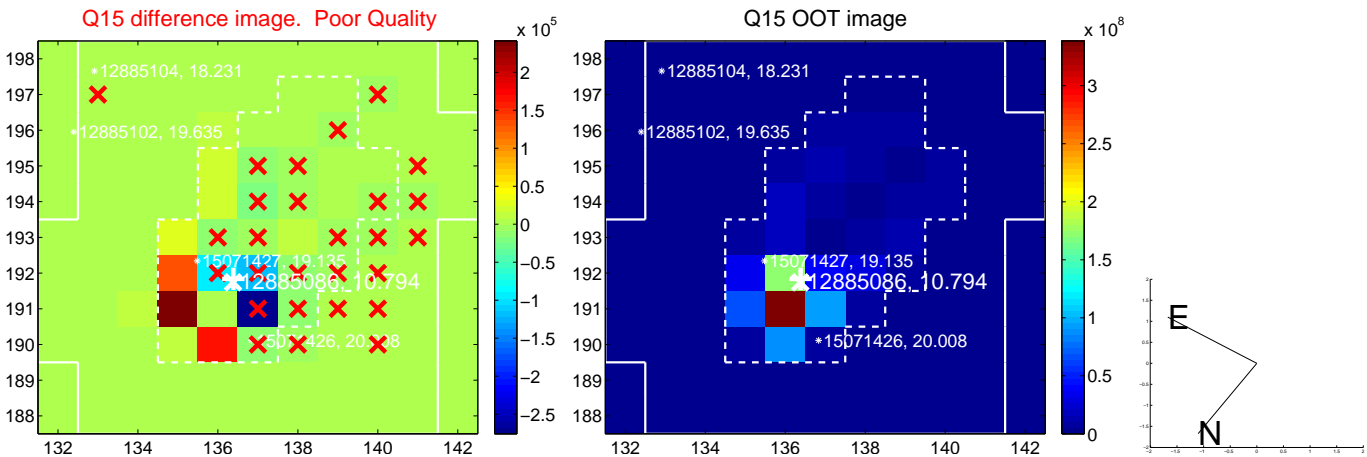
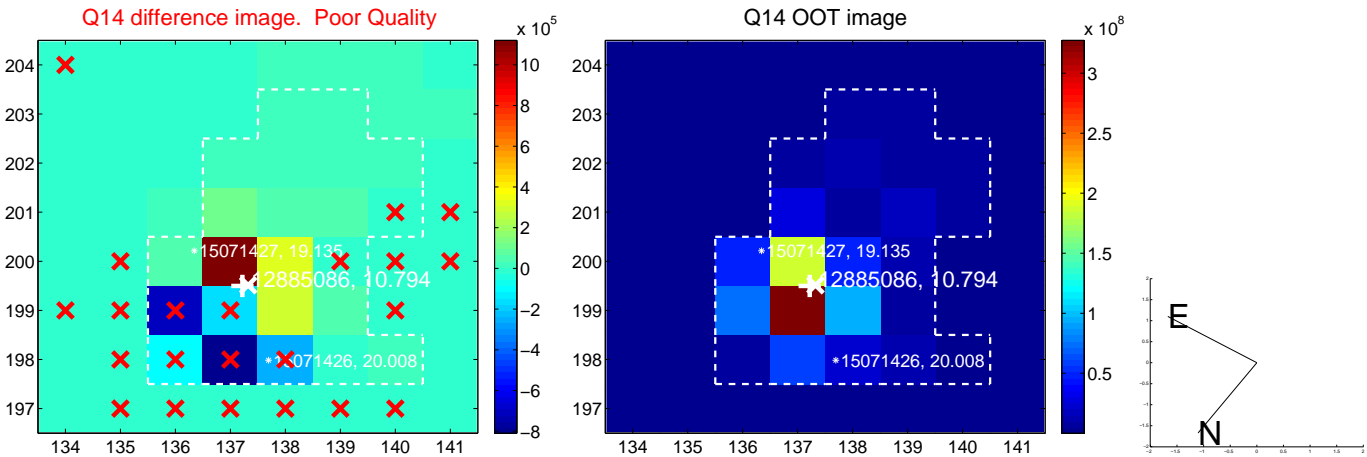
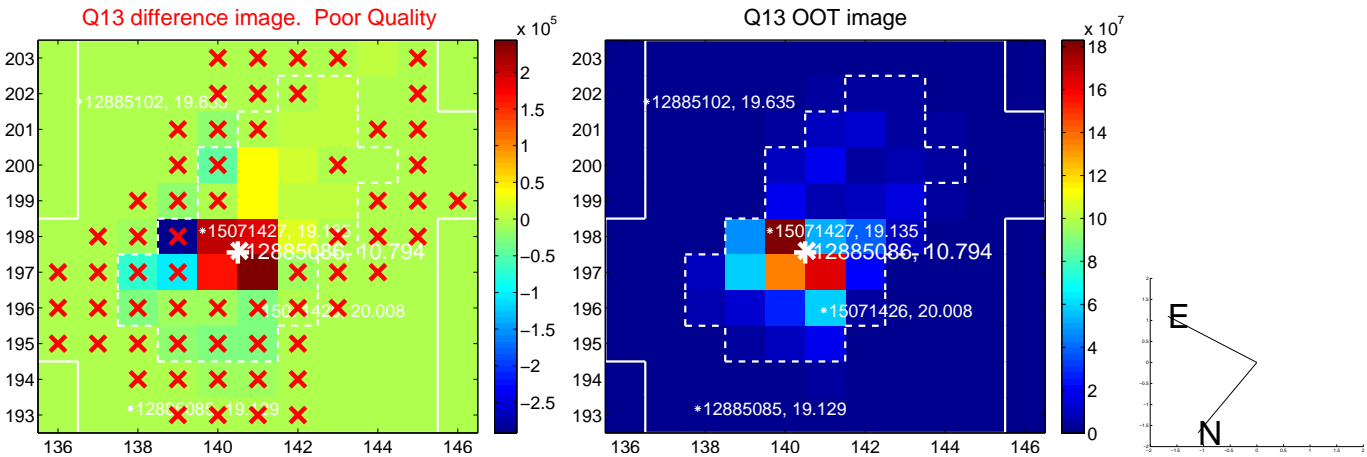
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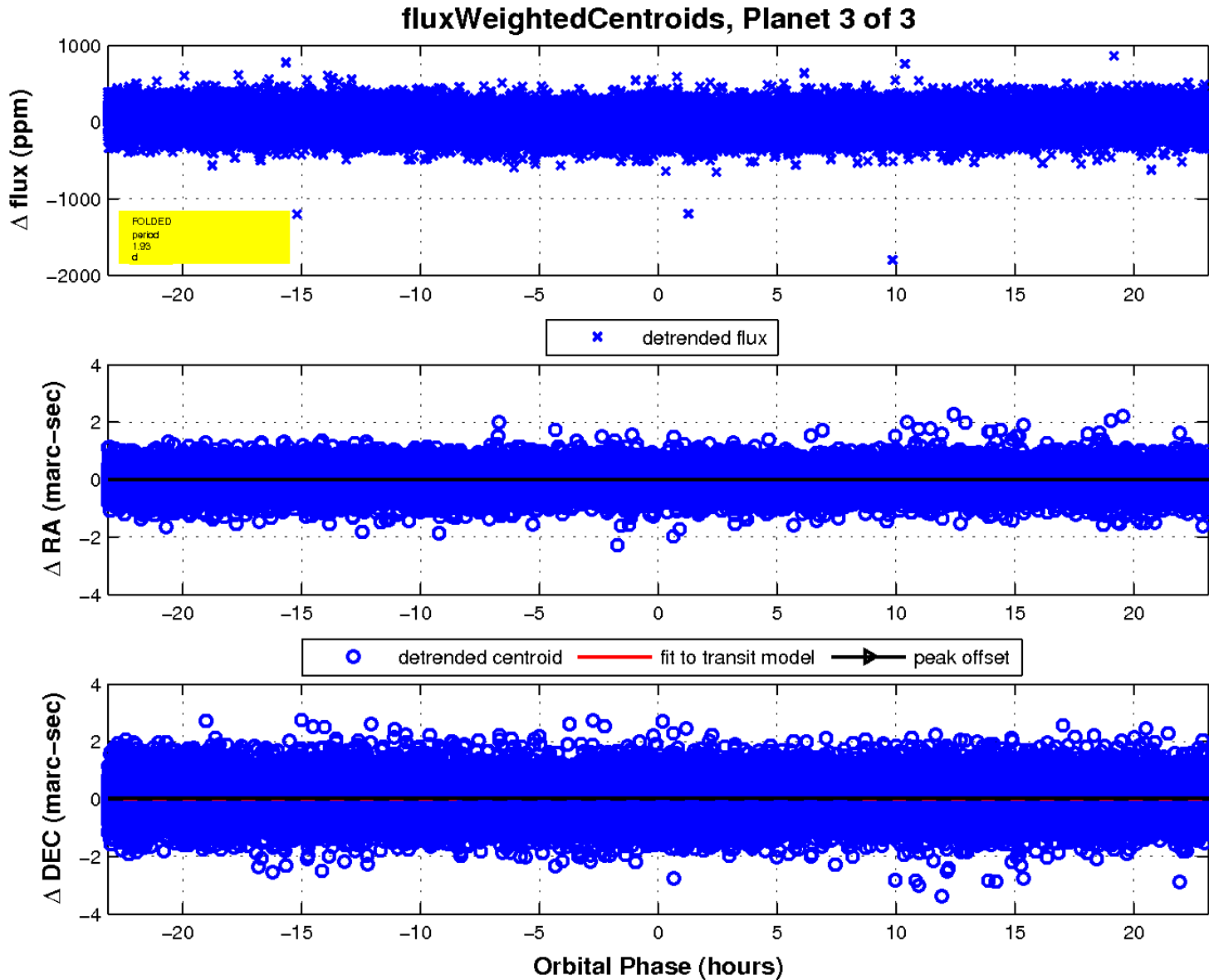
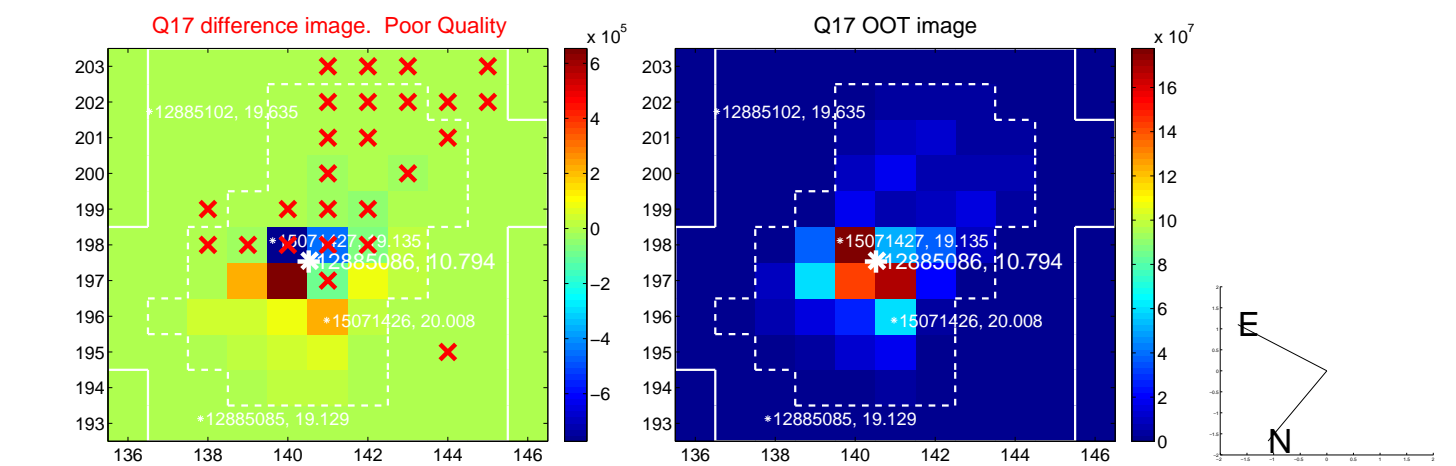
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

