

KIC 003425802

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})
003425802-01	OBS	No	1.196976	131.576595	10.1	2.371	9.6	8.0	2.00	8266	0.74	24759.91
003425802-02	OBS	No	1.197047	132.453359	8.3	9.617	10.9	10.7	2.00	8266	0.67	24757.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003425802-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
003425802-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—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.

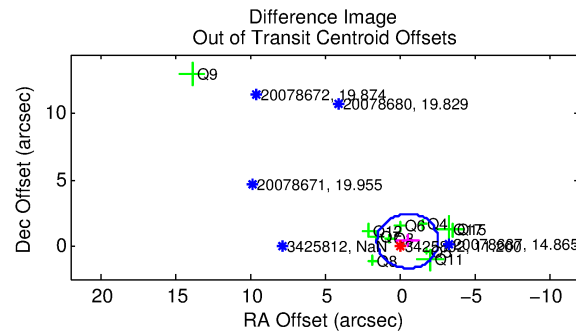
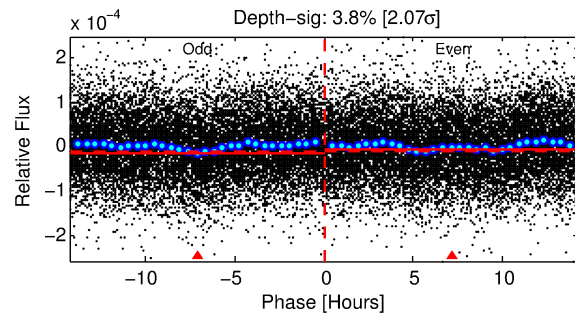
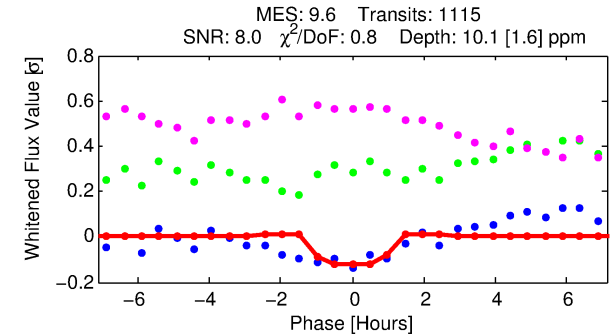
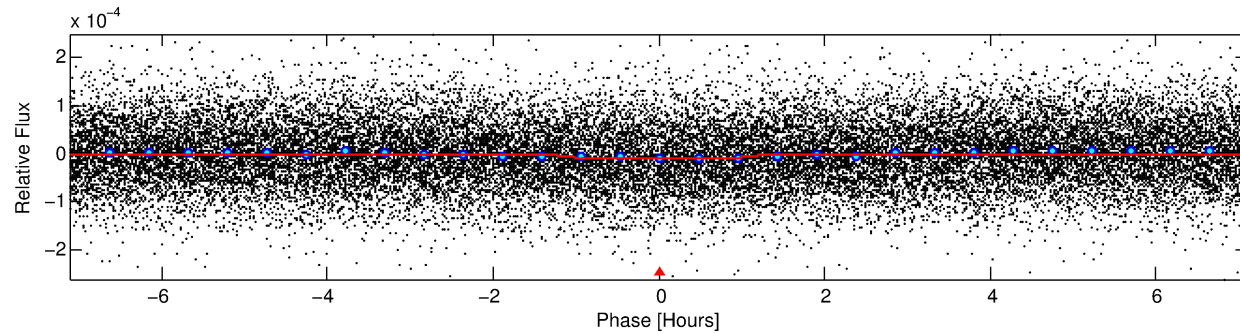
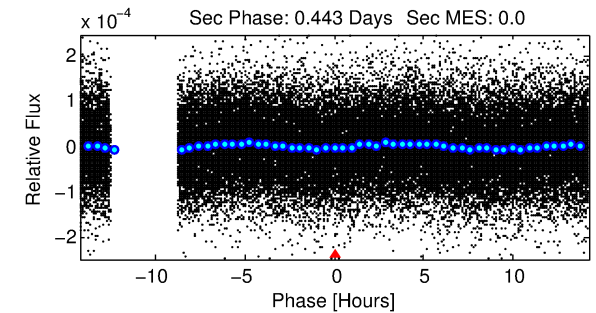
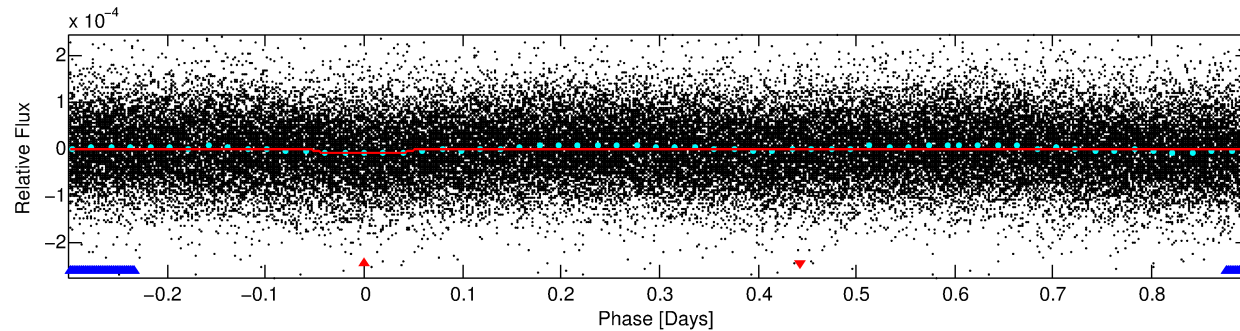
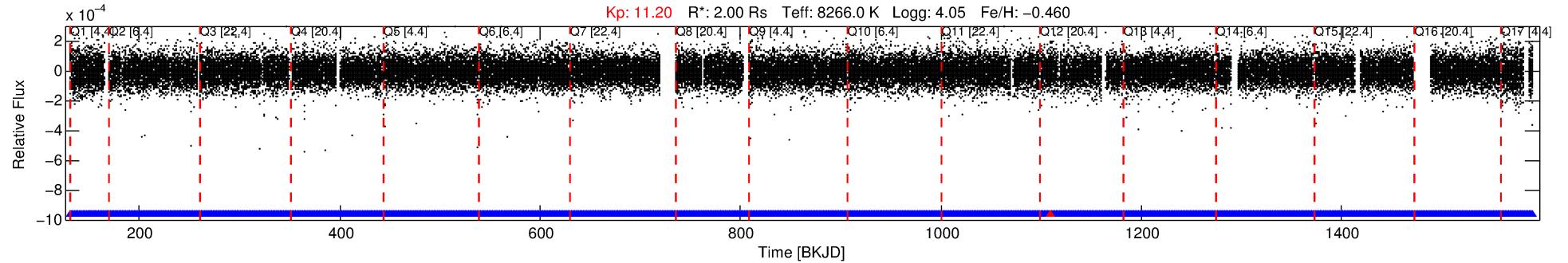
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003425802-01

No Significant Match Found

DV One-Page Summary

KIC: 3425802 Candidate: 1 of 2 Period: 1.197 d



DV Fit Results:

Period = 1.19698 [0.00001] d
Epoch = 131.5766 [0.0034] BKJD
Rp/R* = 0.0034 [0.0005]
a/R* = 1.95 [1.22]
b = 0.90 [0.18]
Seff = 24759.91 [10850.39]
Teq = 3199 [350] K
Rp = 0.74 [0.25] Re
a = 0.0260 [0.0069] AU
Ag = N/A
Teffp = N/A

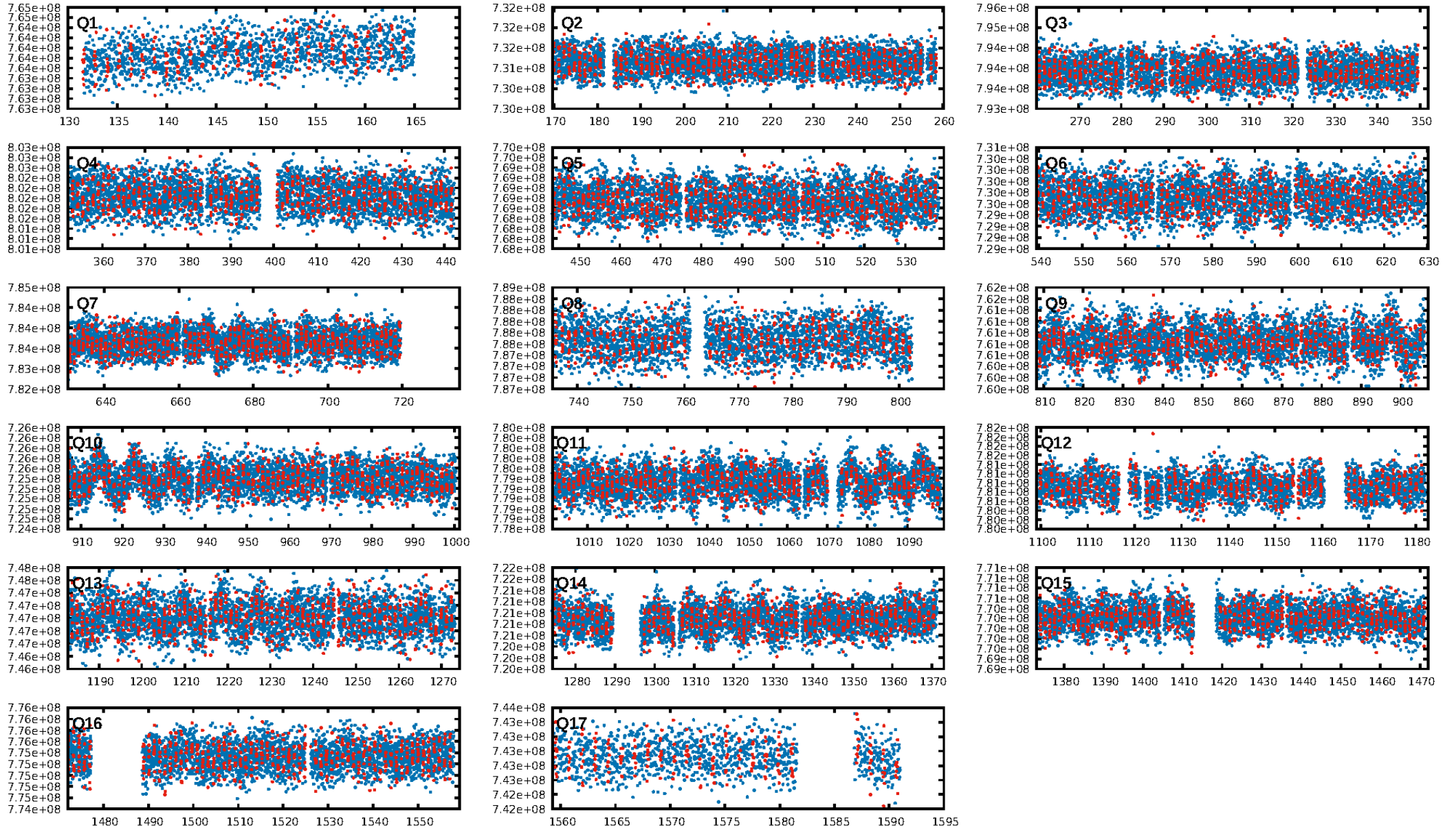
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1063/1064]
GhostDiagnostic-chr: 1.282
Centroid-sig: 0.0%
Centroid-so: 3.935 arcsec [2.71σ]
OotOffset-rm: 0.660 arcsec [0.96σ]
KicOffset-rm: 0.831 arcsec [1.38σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/17]

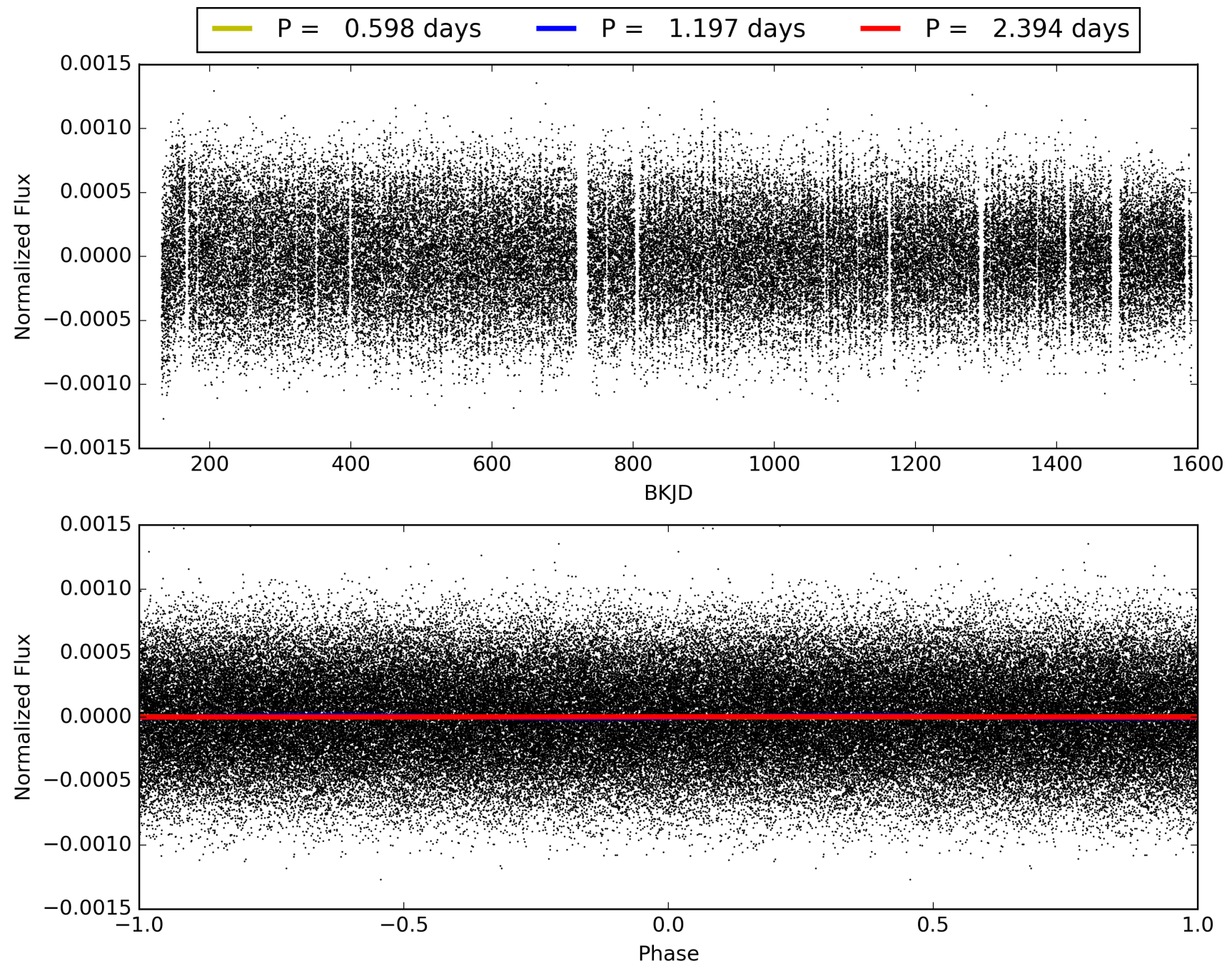
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:19:46 Z

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

TCE 003425802-01, PDC Light Curves

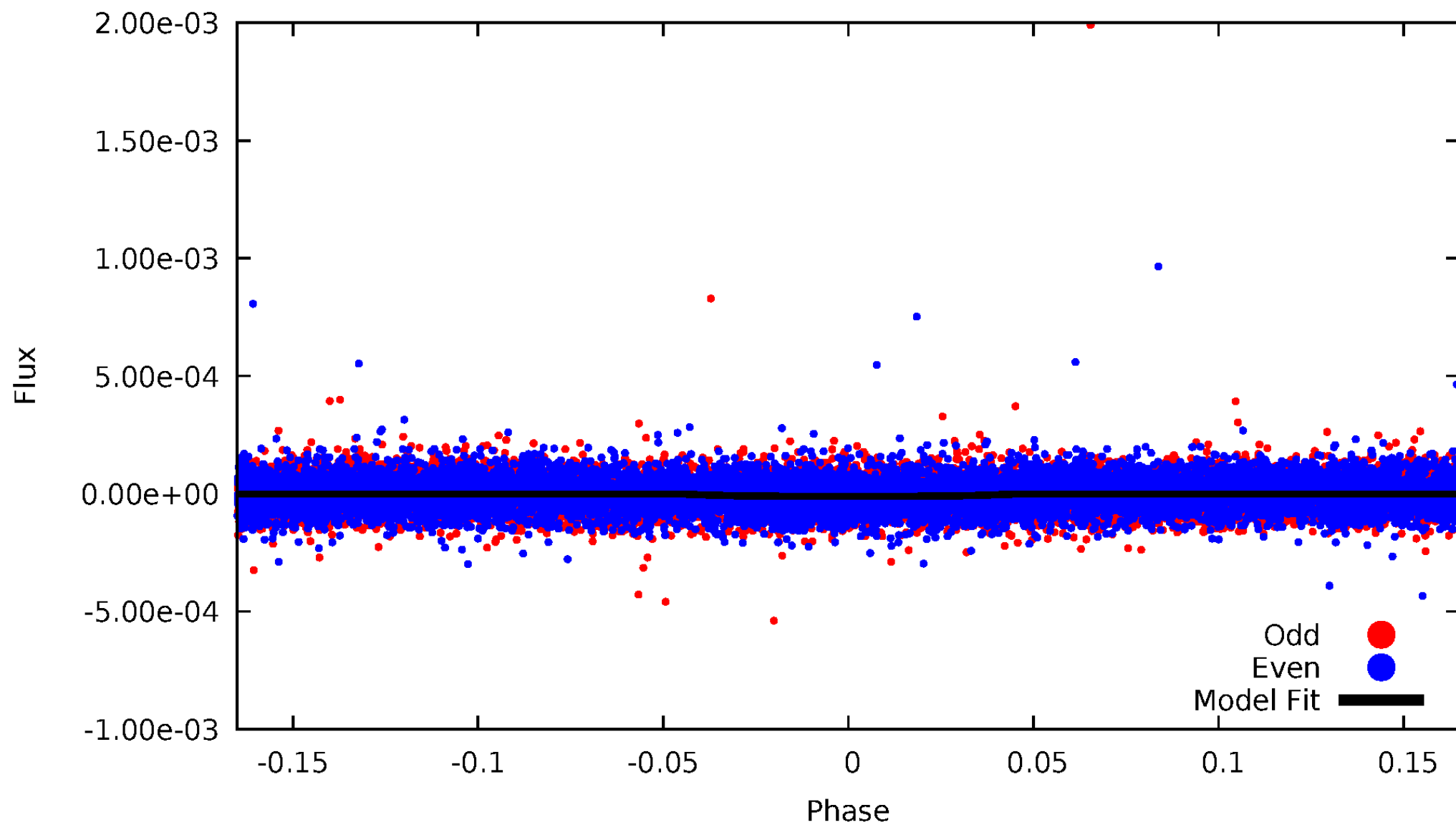


TCE 003425802-01



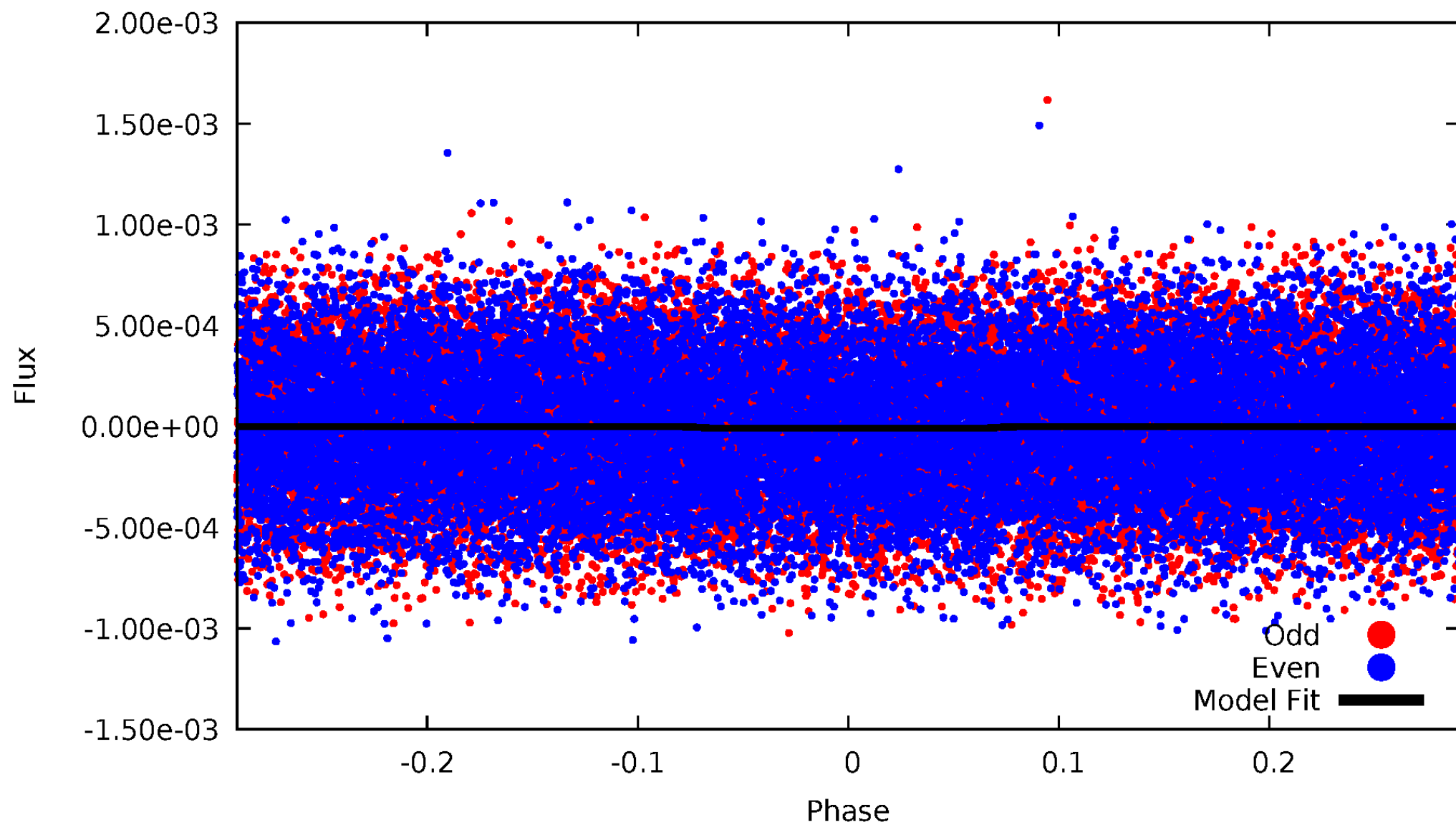
DV Odd/Even

TCE 003425802-01



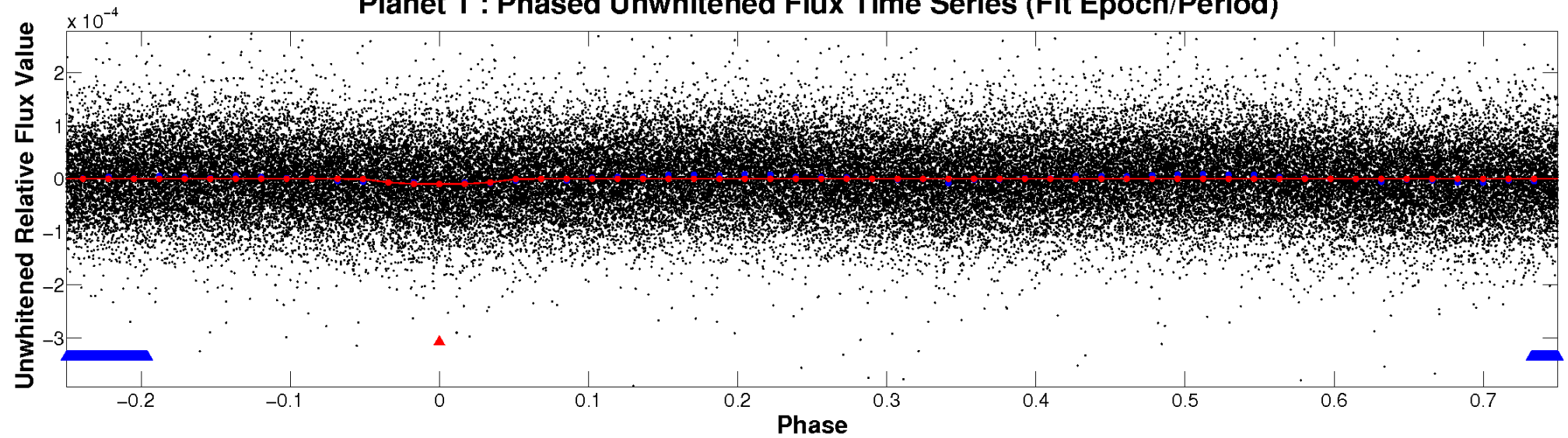
ALT Odd/Even

TCE 003425802-01

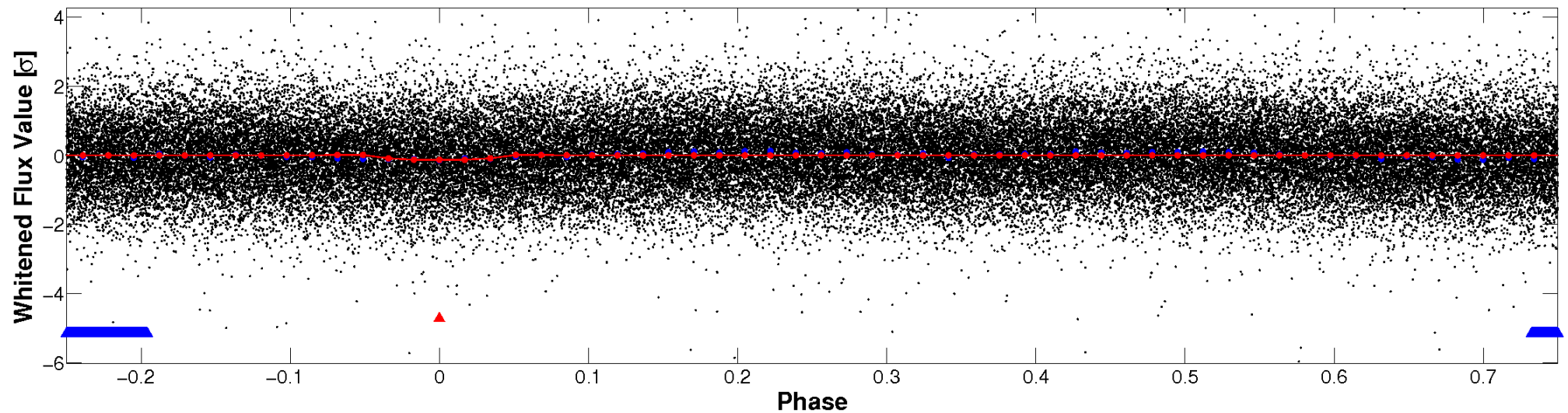


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

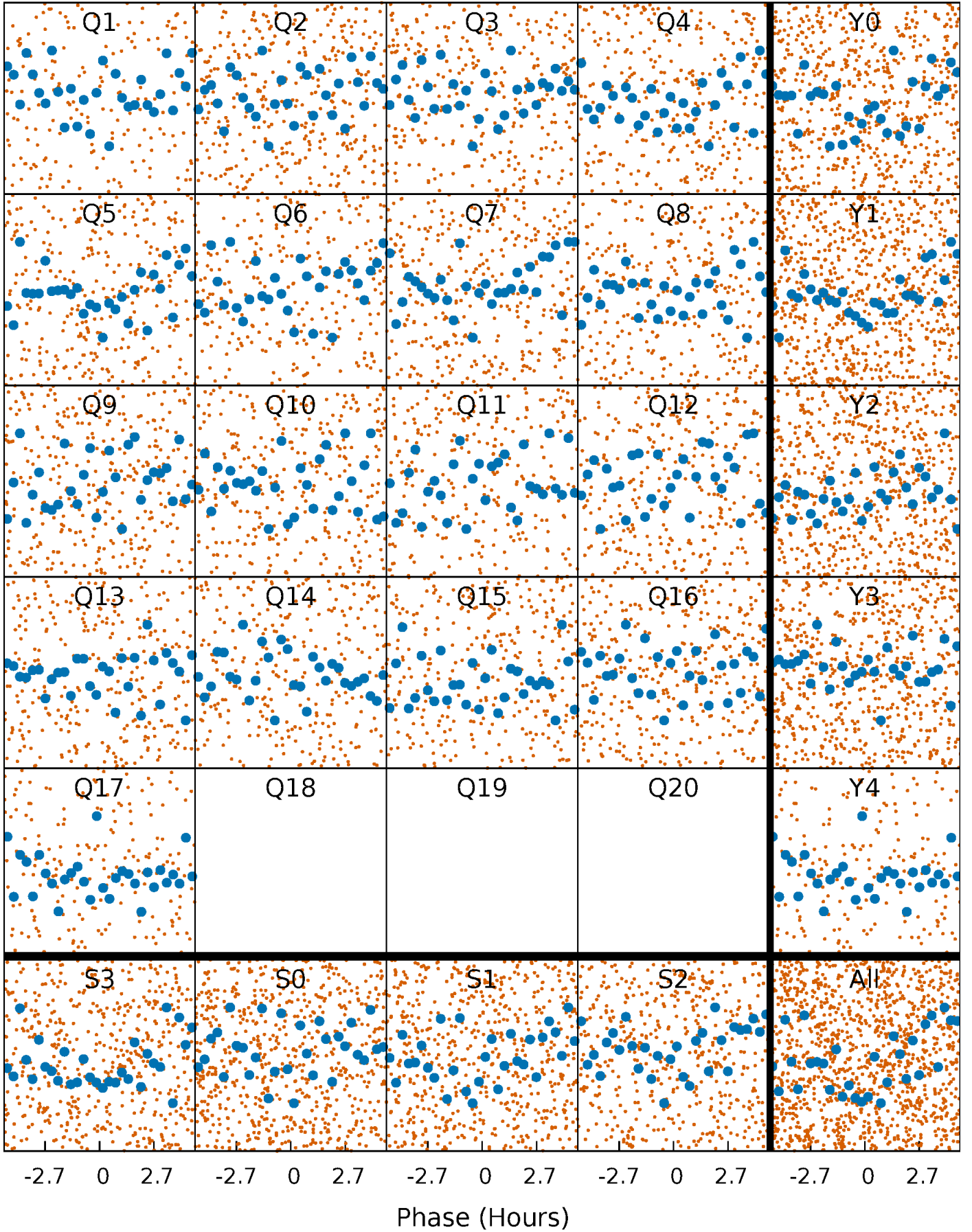


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



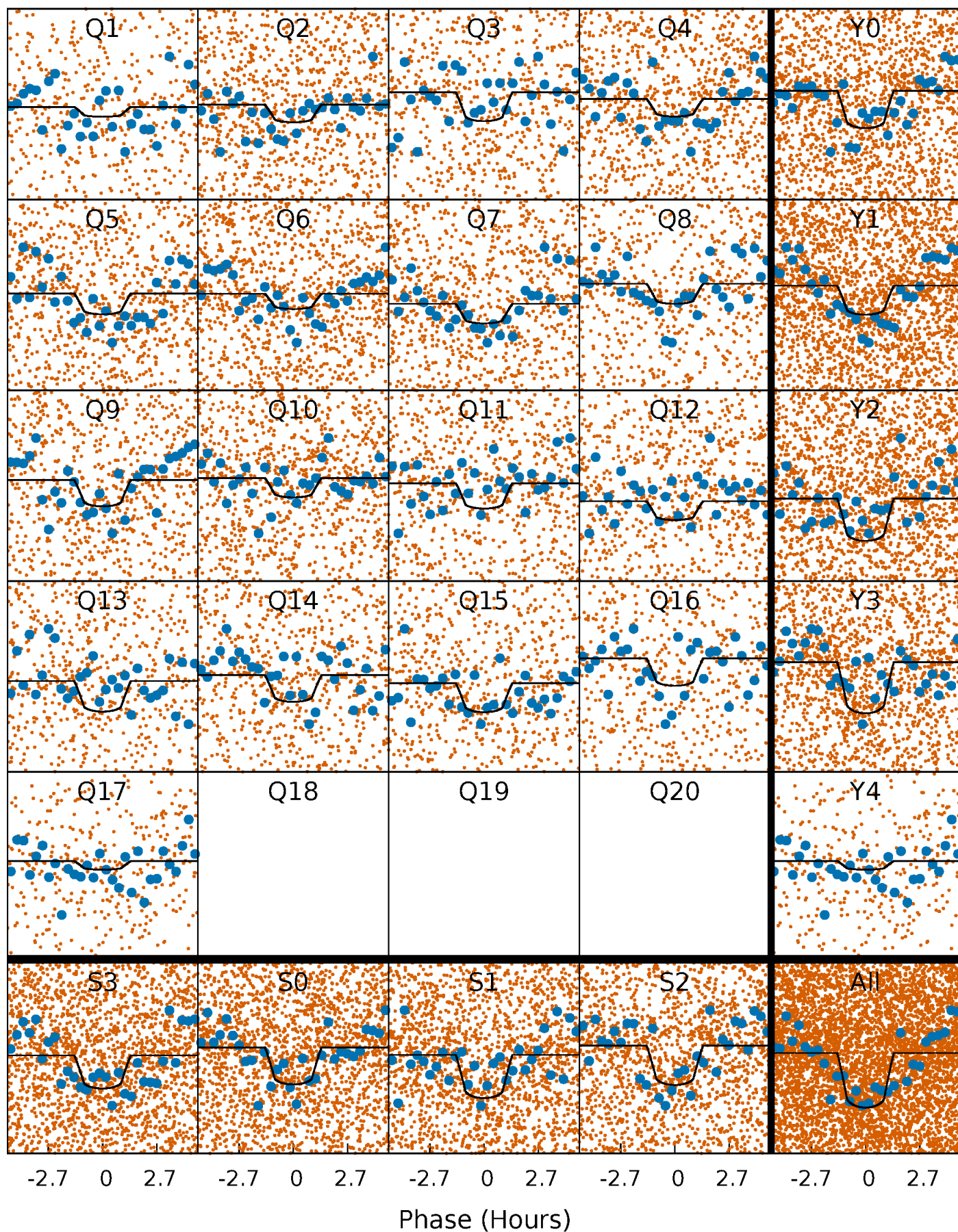
PDC Quarter-Phased Transit Curves

TCE 003425802-01 $P = 1.196976$ Days $T_0 = 131.576595$ (BKJD)



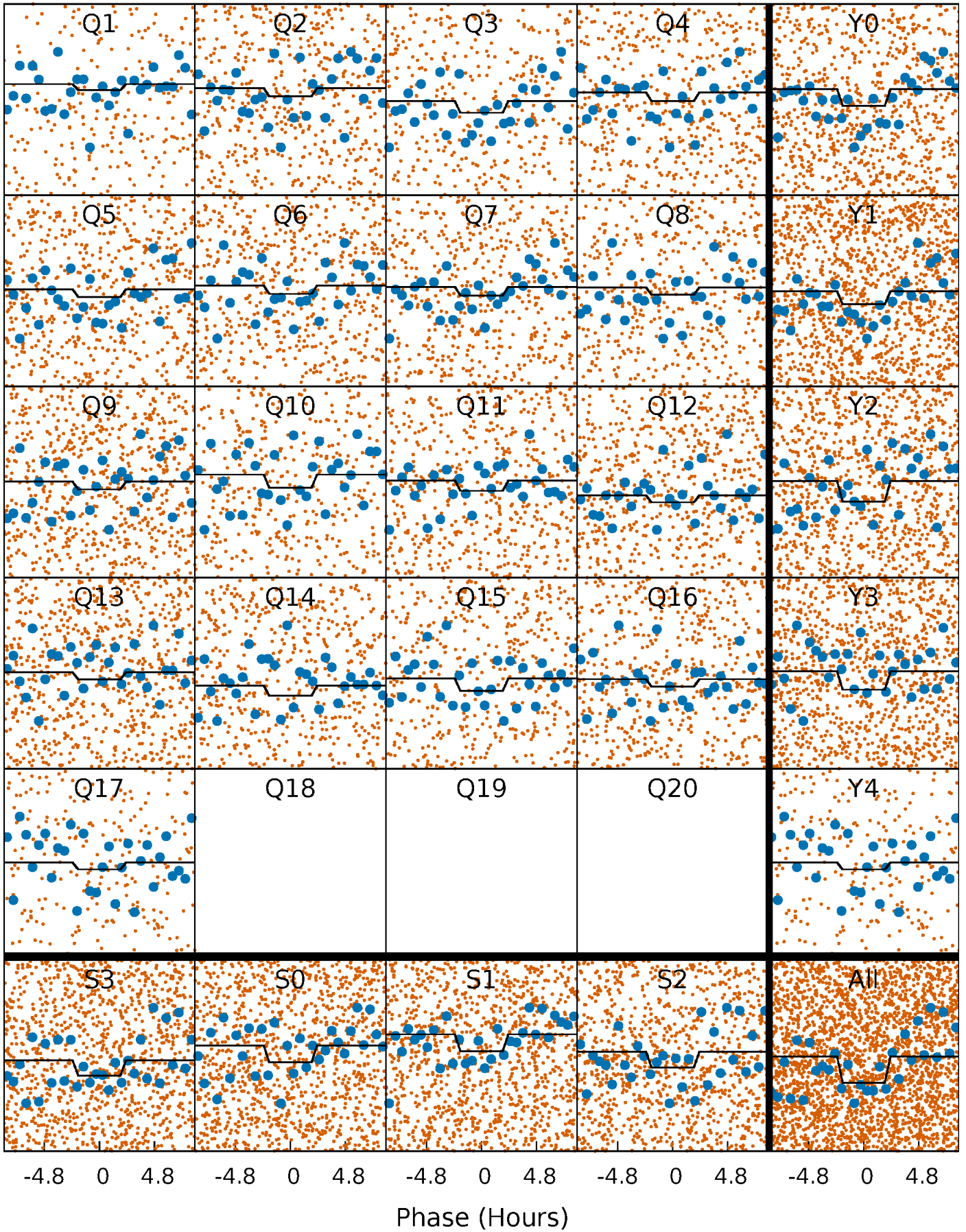
DV Quarter-Phased Transit Curves

TCE 003425802-01 P= 1.196976 Days $T_0=131.576595$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

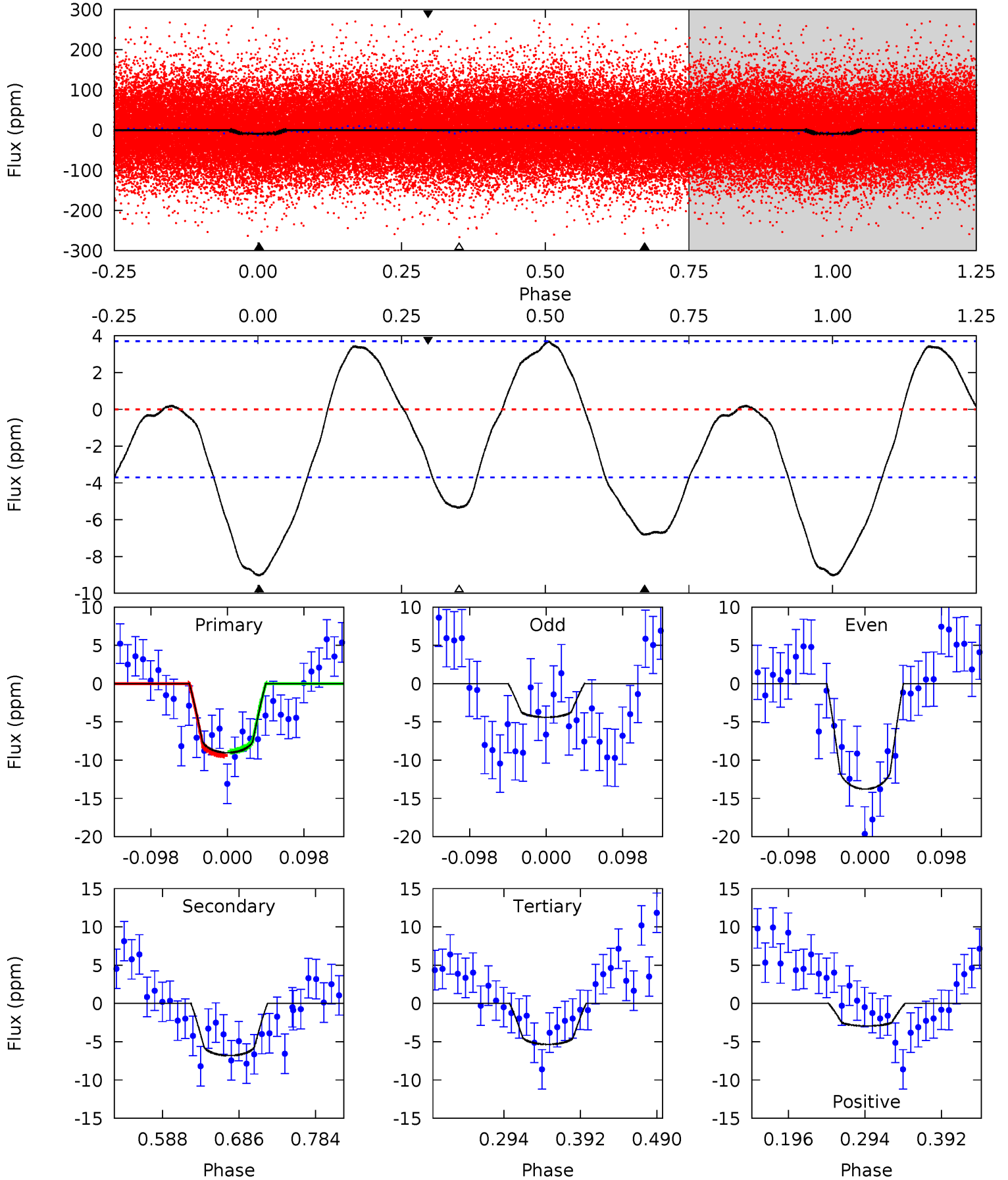
TCE 003425802-01 P= 1.196939 Days $T_0=131.572379$ (BKJD)



DV Model-Shift Uniqueness Test

003425802-01, P = 1.196976 Days, E = 130.379619 Days

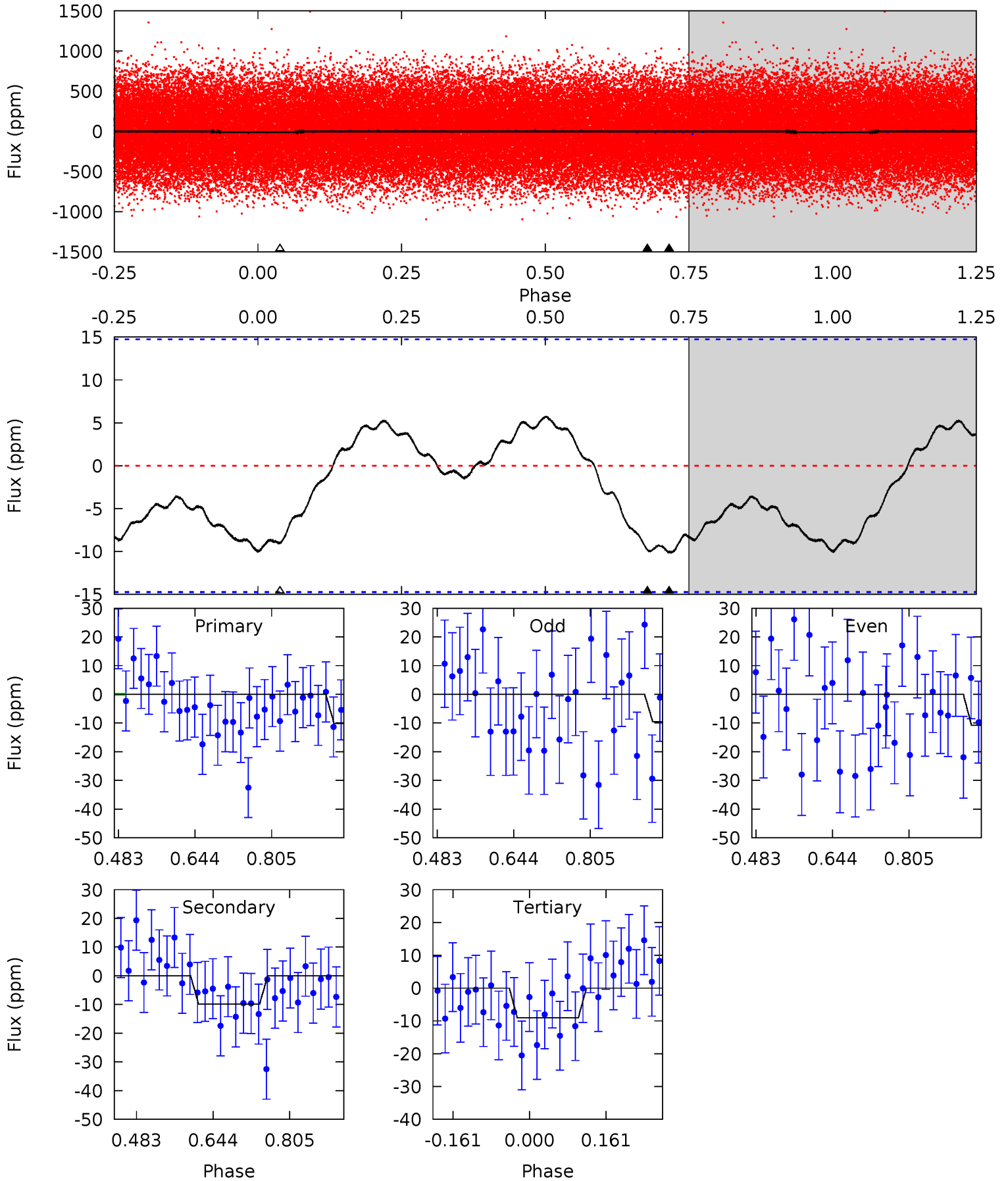
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	8.41	6.60	-3.63	4.57	1.65	3.19	4.54	14.8	1.81	12.0	5.83	1.00	0.29	0.31



Alt Model-Shift Uniqueness Test

003425802-01, P = 1.196939 Days, E = 130.375440 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.08	2.99	2.75	0	4.46	1.40	1.49	0.34	3.08	0.24	2.99	0.19	0.94	0.36	0.15



Stellar Parameters For KIC 003425802

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8266^{+236}_{-324}	$4.050^{+0.234}_{-0.126}$	$-0.460^{+0.200}_{-0.350}$	$2.003^{+0.392}_{-0.589}$	$1.641^{+0.155}_{-0.288}$	$0.288^{+0.395}_{-0.105}$
	+3%/-4%	+6%/-3%	+43%/-76%	+20%/-29%	+9%/-18%	+137%/-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 003425802-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 1	$0.72^{+0.15}_{-0.14}$	4411^{+307}_{-313}	6895^{+851}_{-604}	$4.808^{+2.661}_{-1.463}$
Alt.	-10 ± 3	$0.62^{+0.15}_{-0.13}$	4419^{+276}_{-334}	8395^{+1641}_{-1292}	$9.048^{+6.677}_{-4.115}$

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

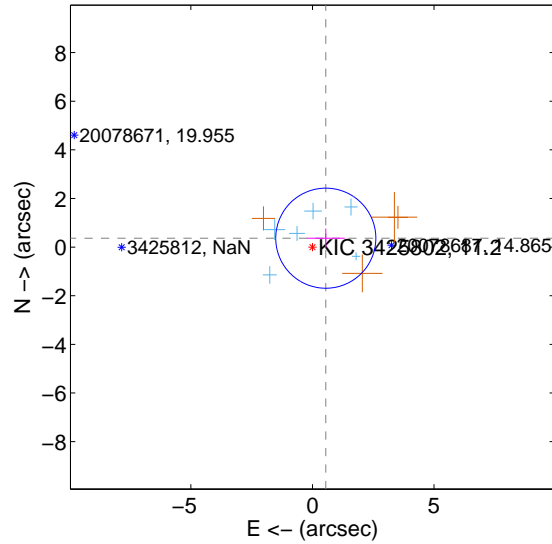
Supplemental centroid analysis for 003425802-01. **Kepler magnitude: 11.20.** Transit SNR 8.04

There are 6 quarters with good PRF difference image offsets

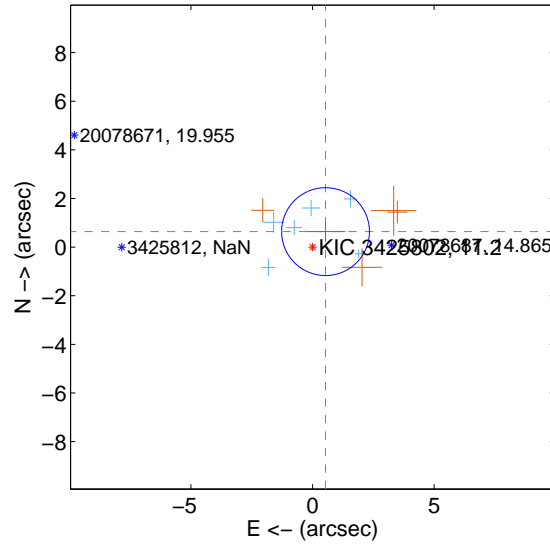
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.660 ± 0.686	0.96	-0.549 ± 0.780	0.366 ± 0.399
PRF-fit source offset from KIC position	0.831 ± 0.602	1.38	-0.535 ± 0.802	0.636 ± 0.406
photometric centroid source offset	3.93 ± 1.45	2.71	1.27 ± 1.35	3.72 ± 1.46

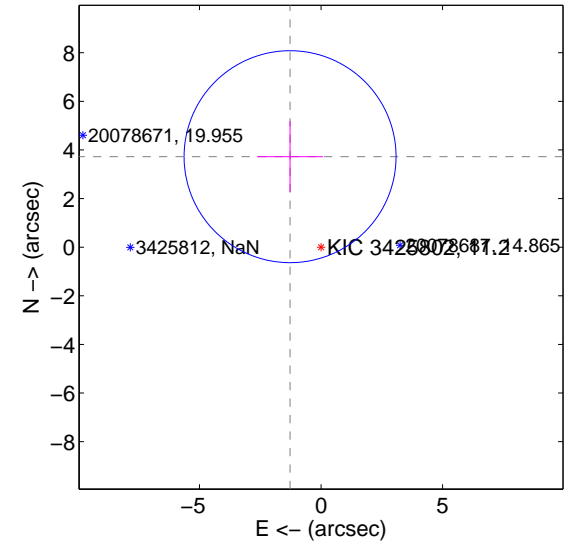
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

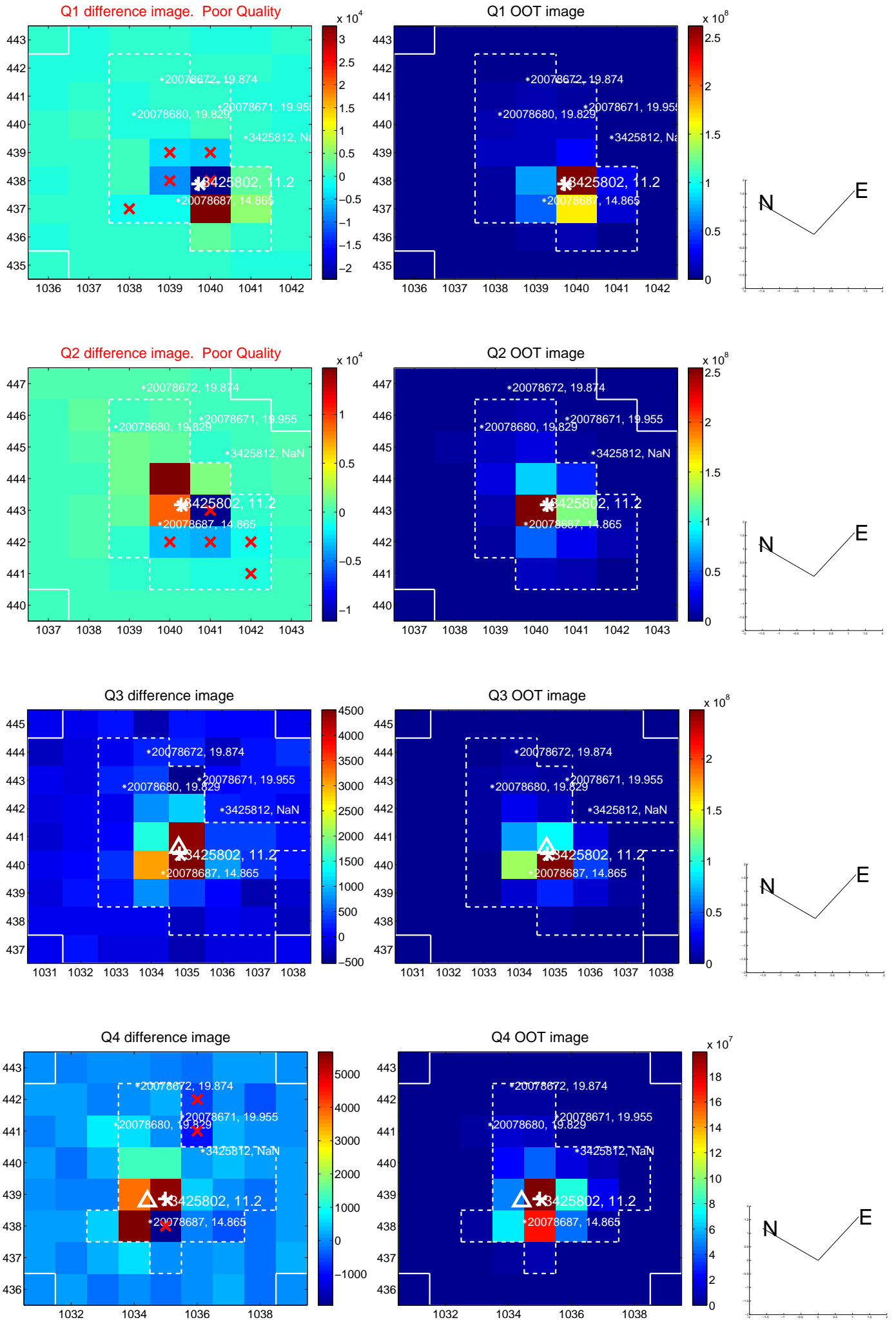


offset from photometric centroids

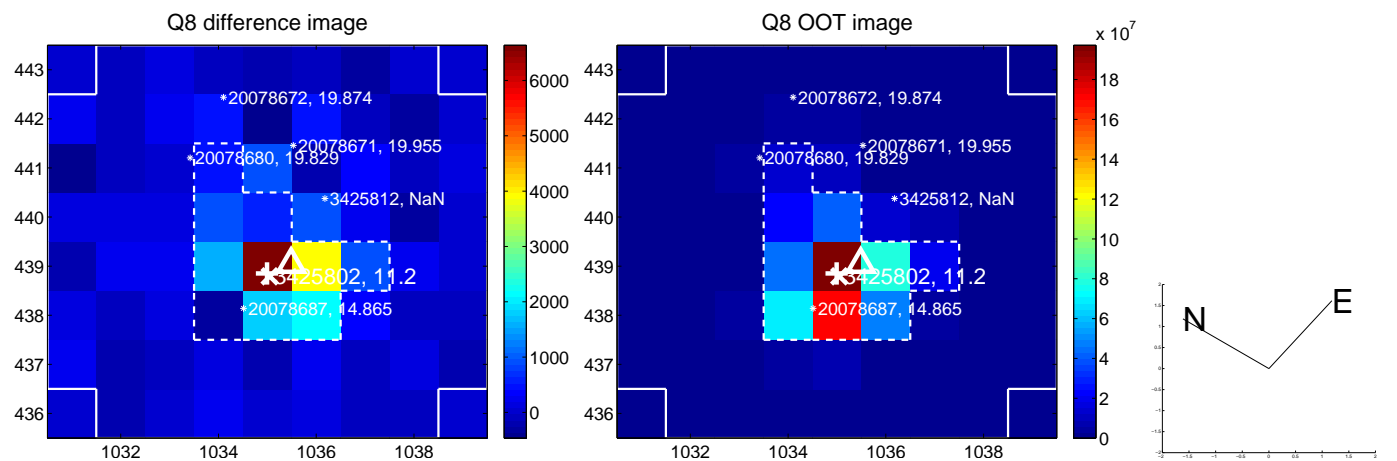
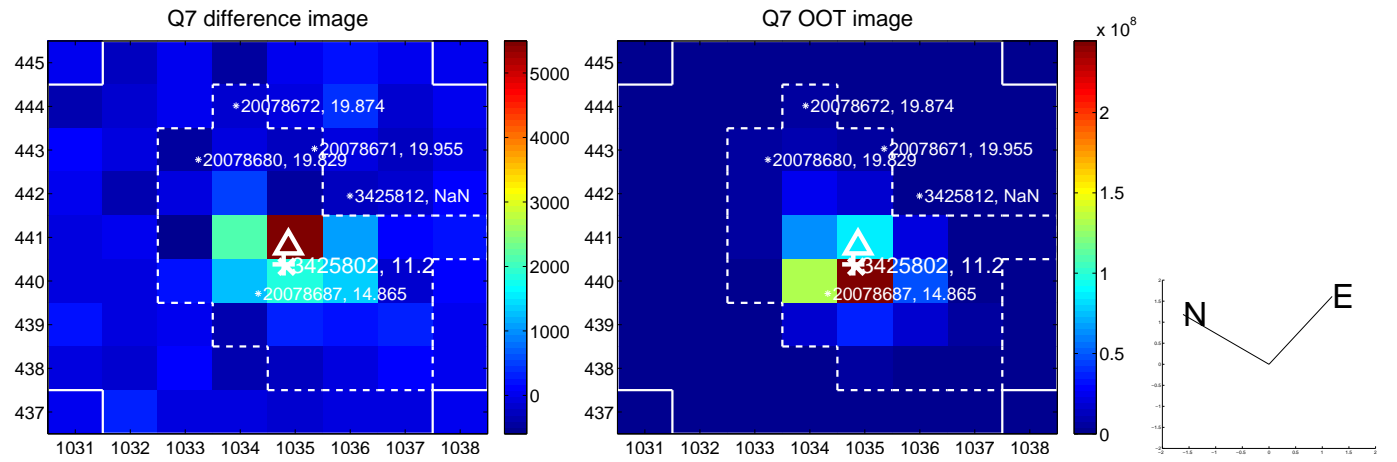
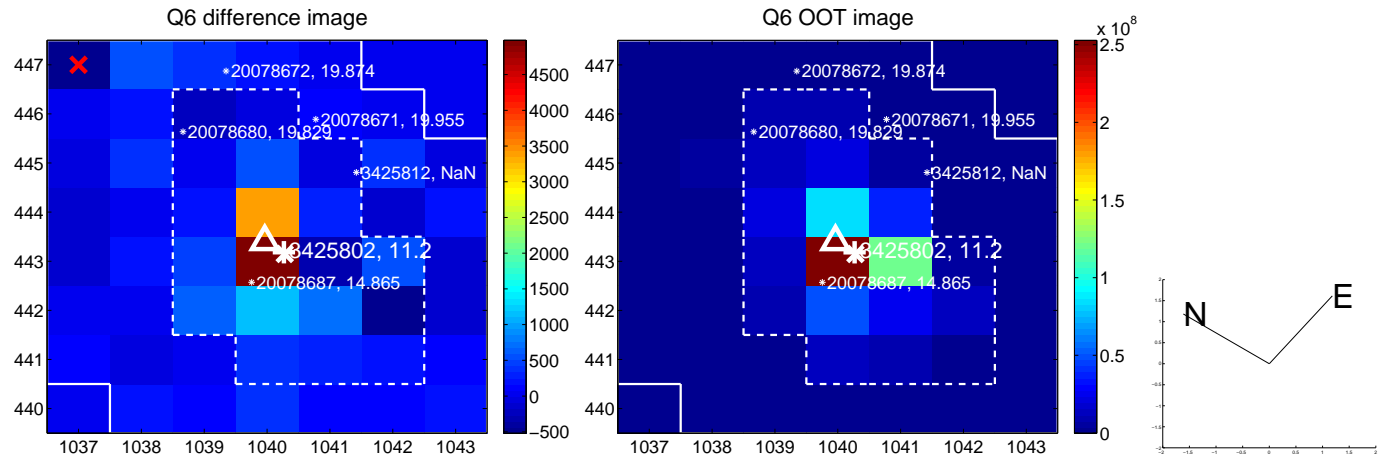
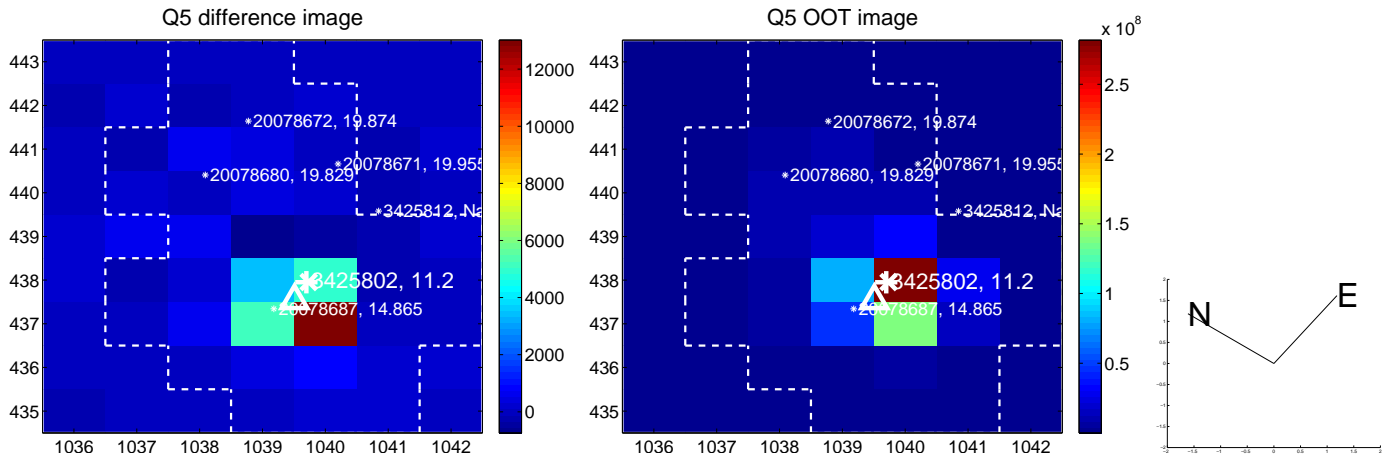


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

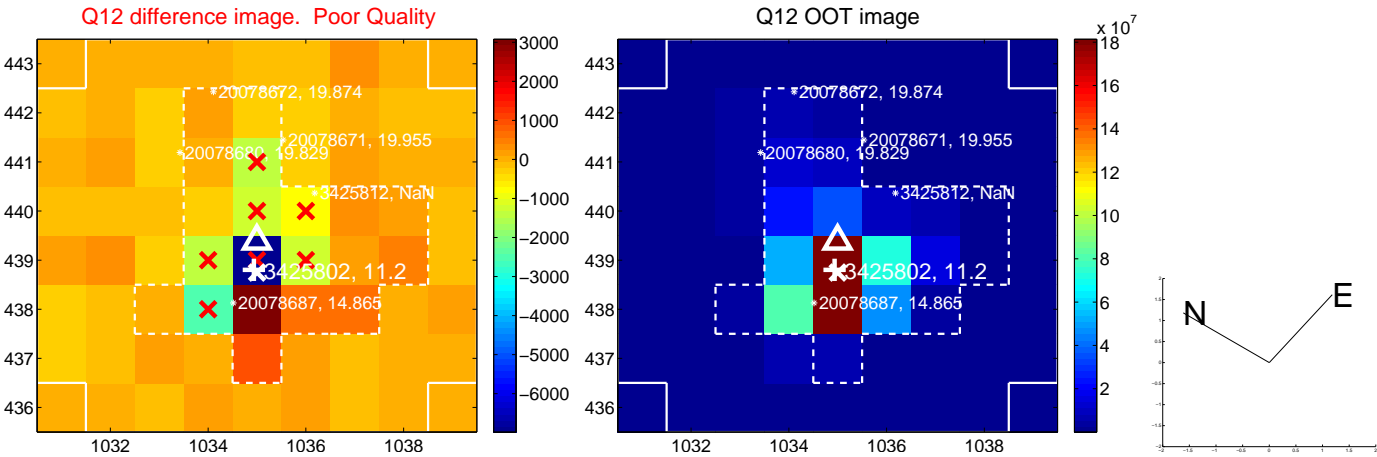
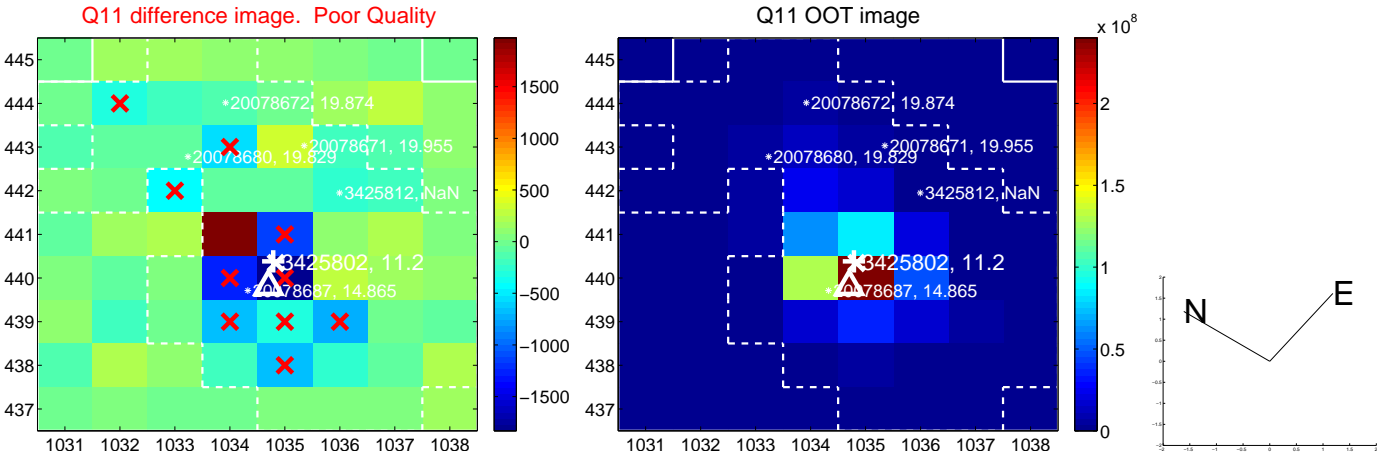
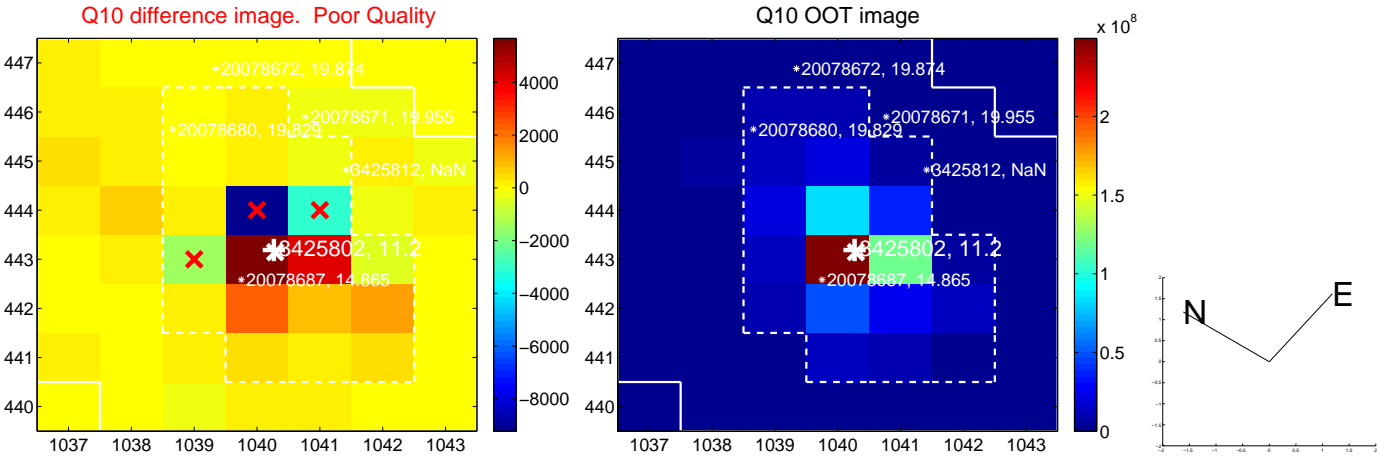
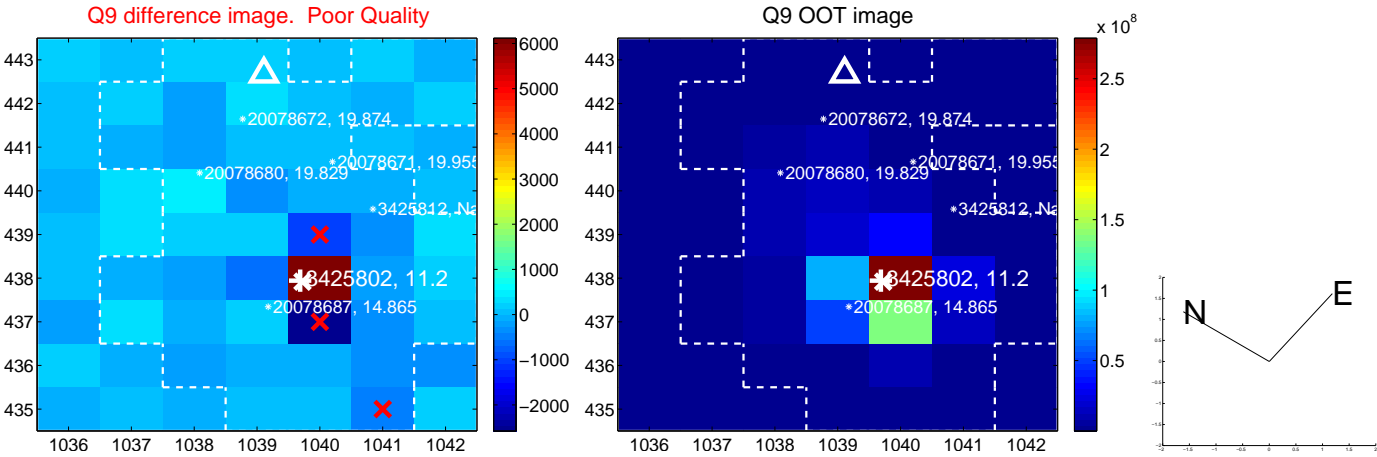
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



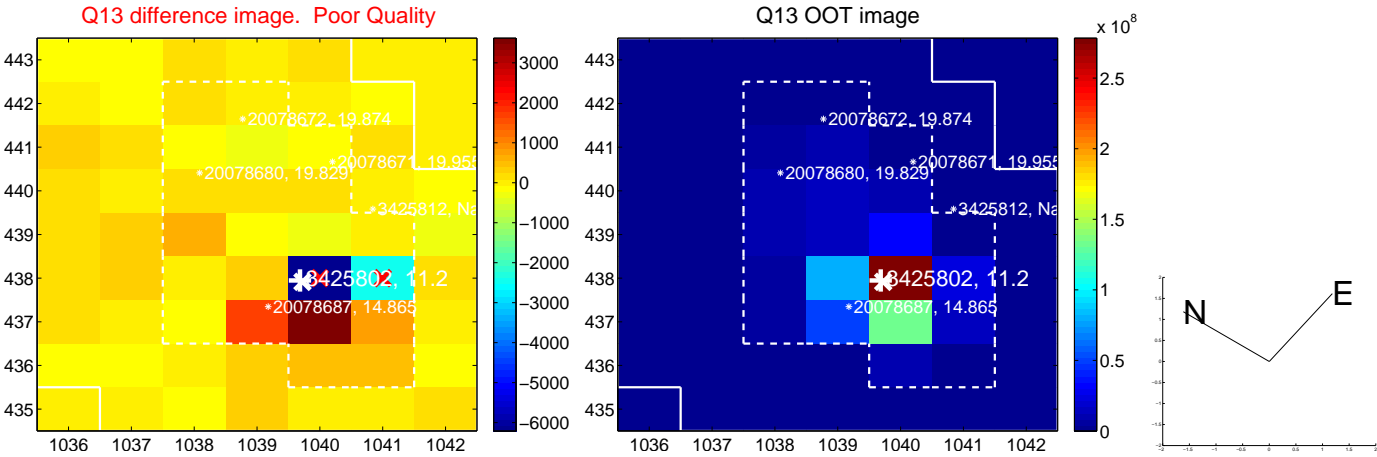
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



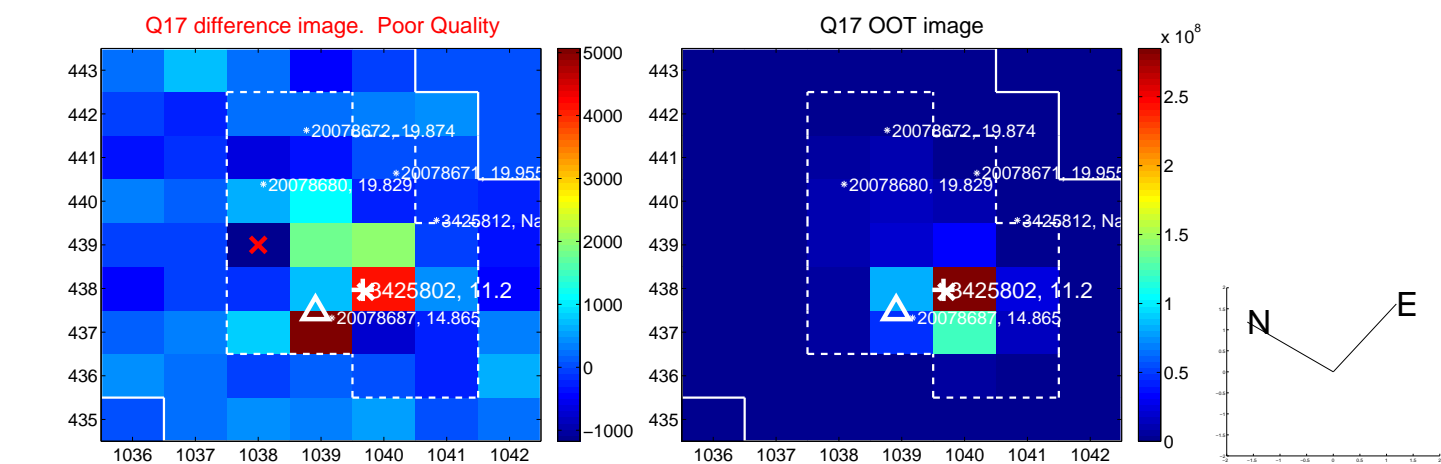
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



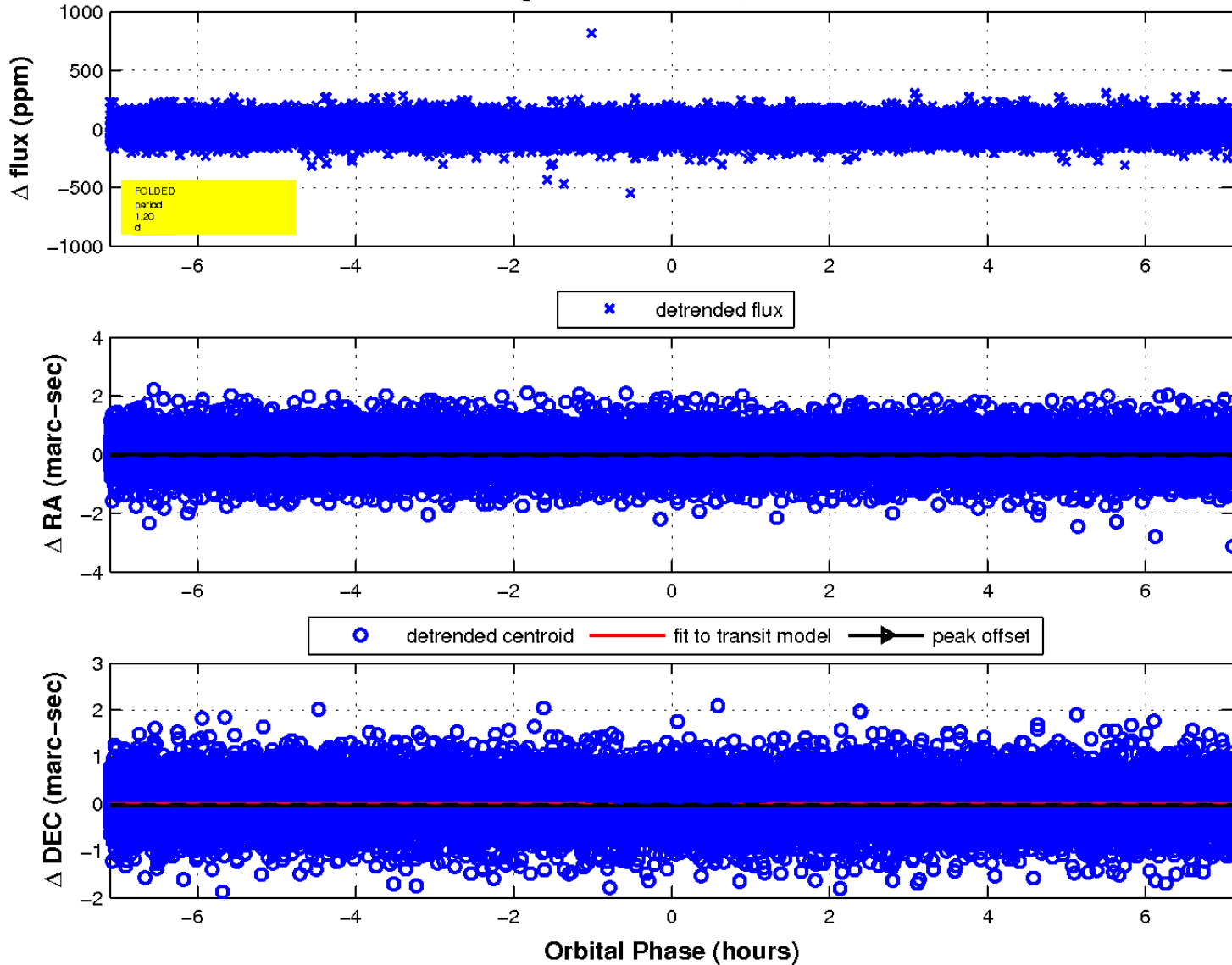
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

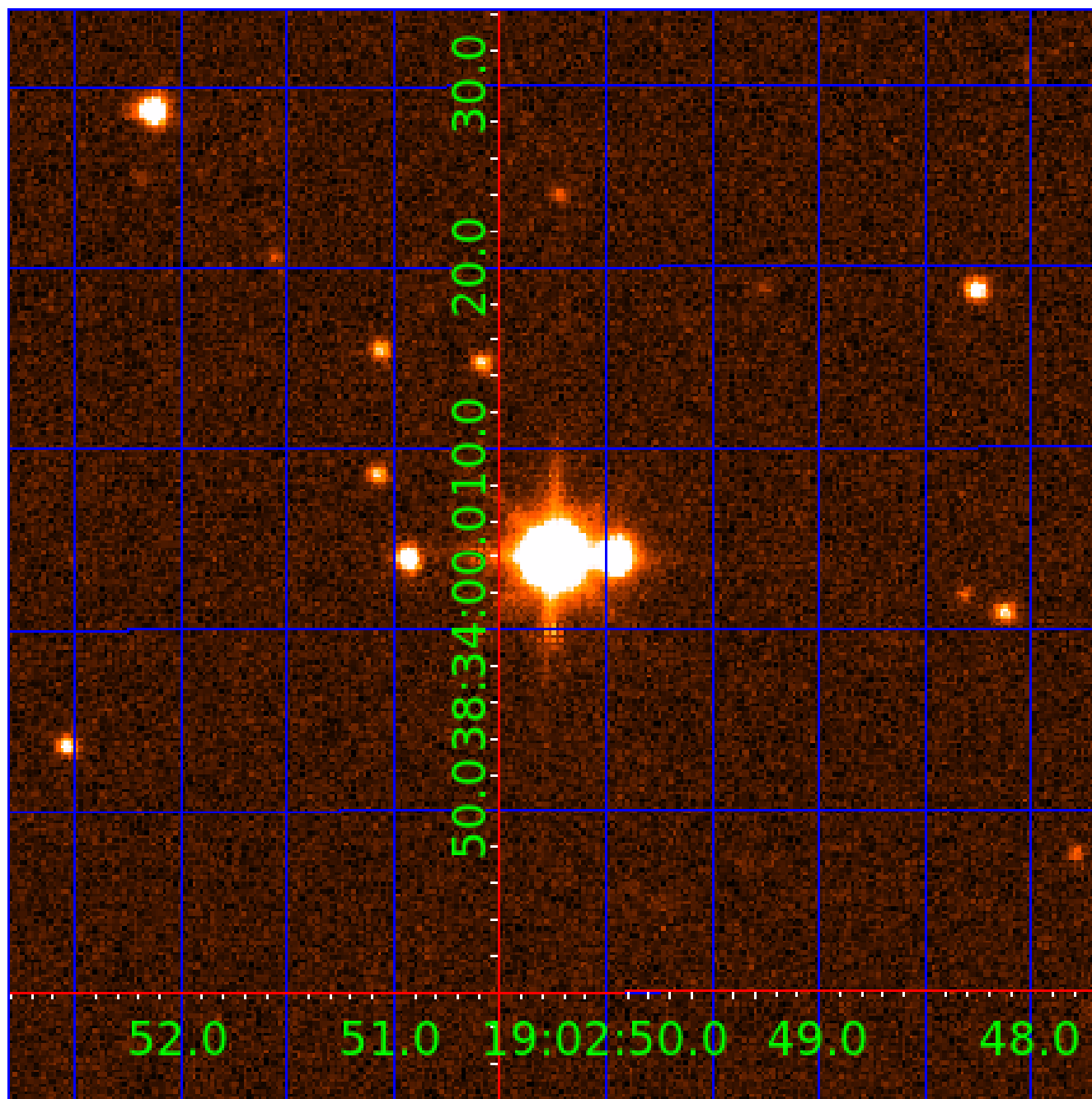


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 003425802

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})
003425802-01	OBS	No	1.196976	131.576595	10.1	2.371	9.6	8.0	2.00	8266	0.74	24759.91
003425802-02	OBS	No	1.197047	132.453359	8.3	9.617	10.9	10.7	2.00	8266	0.67	24757.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003425802-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
003425802-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—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.

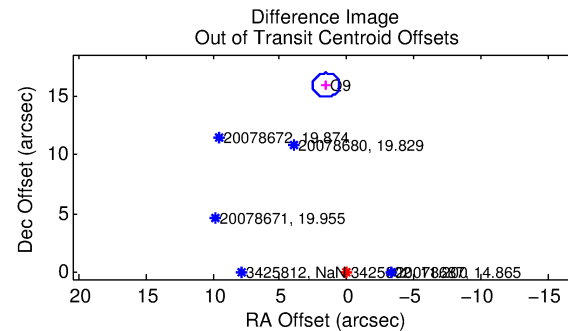
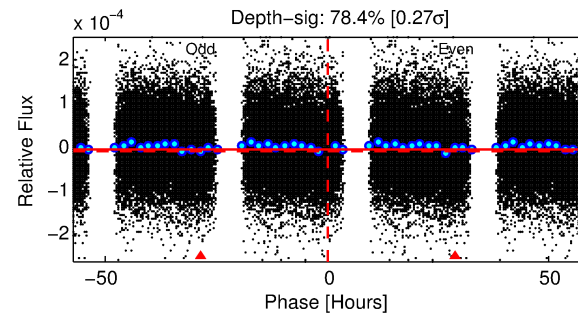
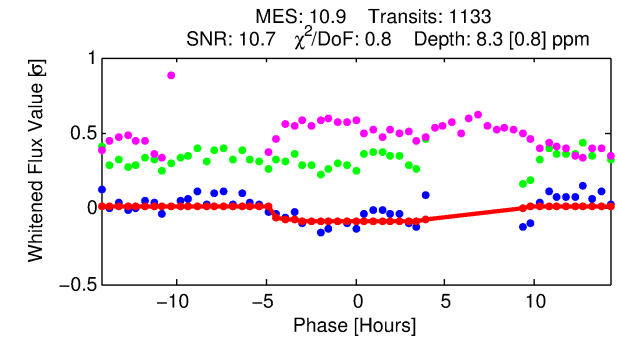
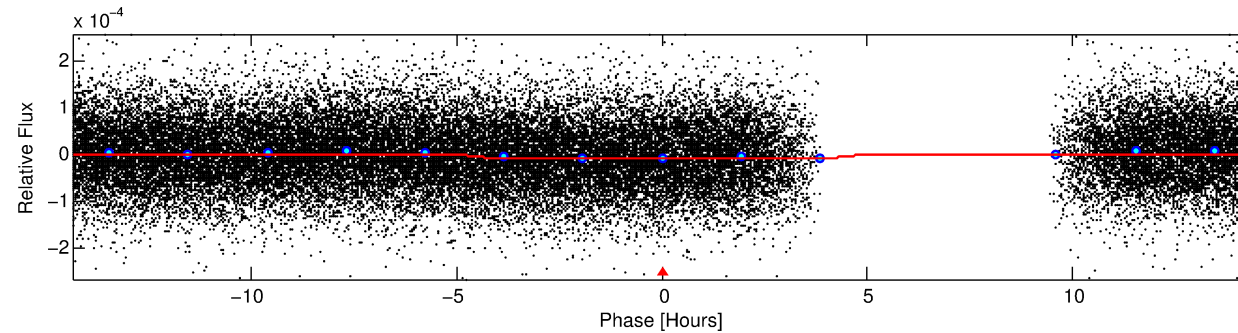
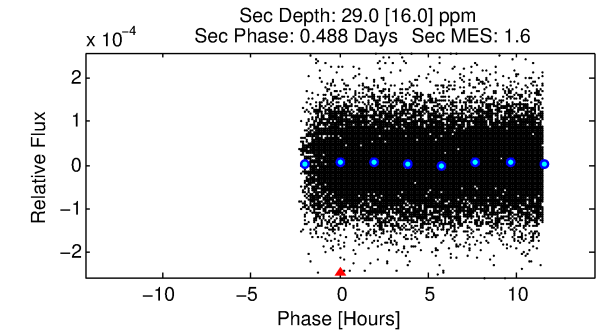
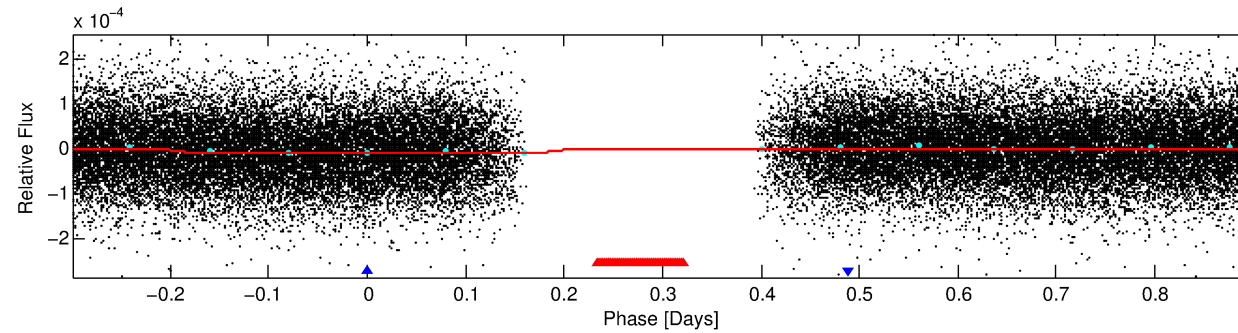
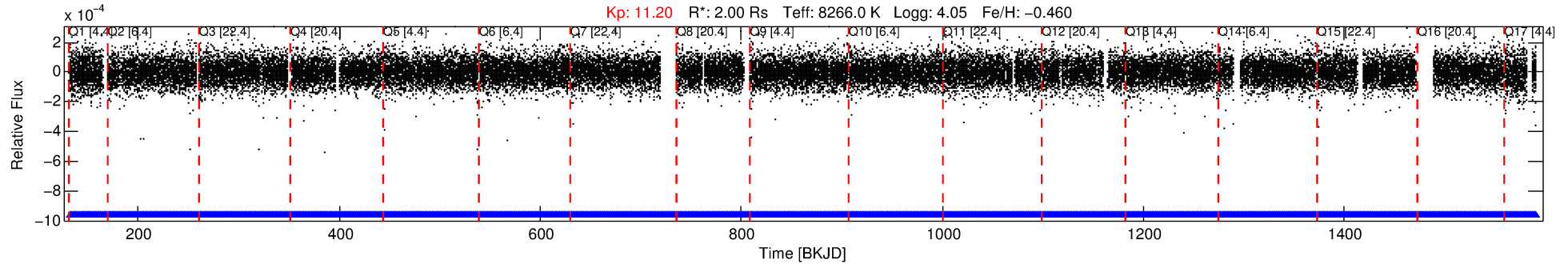
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003425802-02

No Significant Match Found

DV One-Page Summary

KIC: 3425802 Candidate: 2 of 2 Period: 1.197 d



DV Fit Results:

Period = 1.19705 [0.00003] d
Epoch = 132.4534 [0.0377] BKJD
 R_p/R^* = 0.0031 [0.0016]
 a/R^* = 1.03 [0.20]
 b = 0.91 [0.68]
 Seff = 24757.97 [10849.54]
 T_{eq} = 3199 [350] K
 R_p = 0.67 [0.41] R_{e}
 a = 0.0260 [0.0069] AU
 Ag = 23.77 [30.10] [0.76σ]
 T_{eff} = 10919 [3300] K [2.33σ]

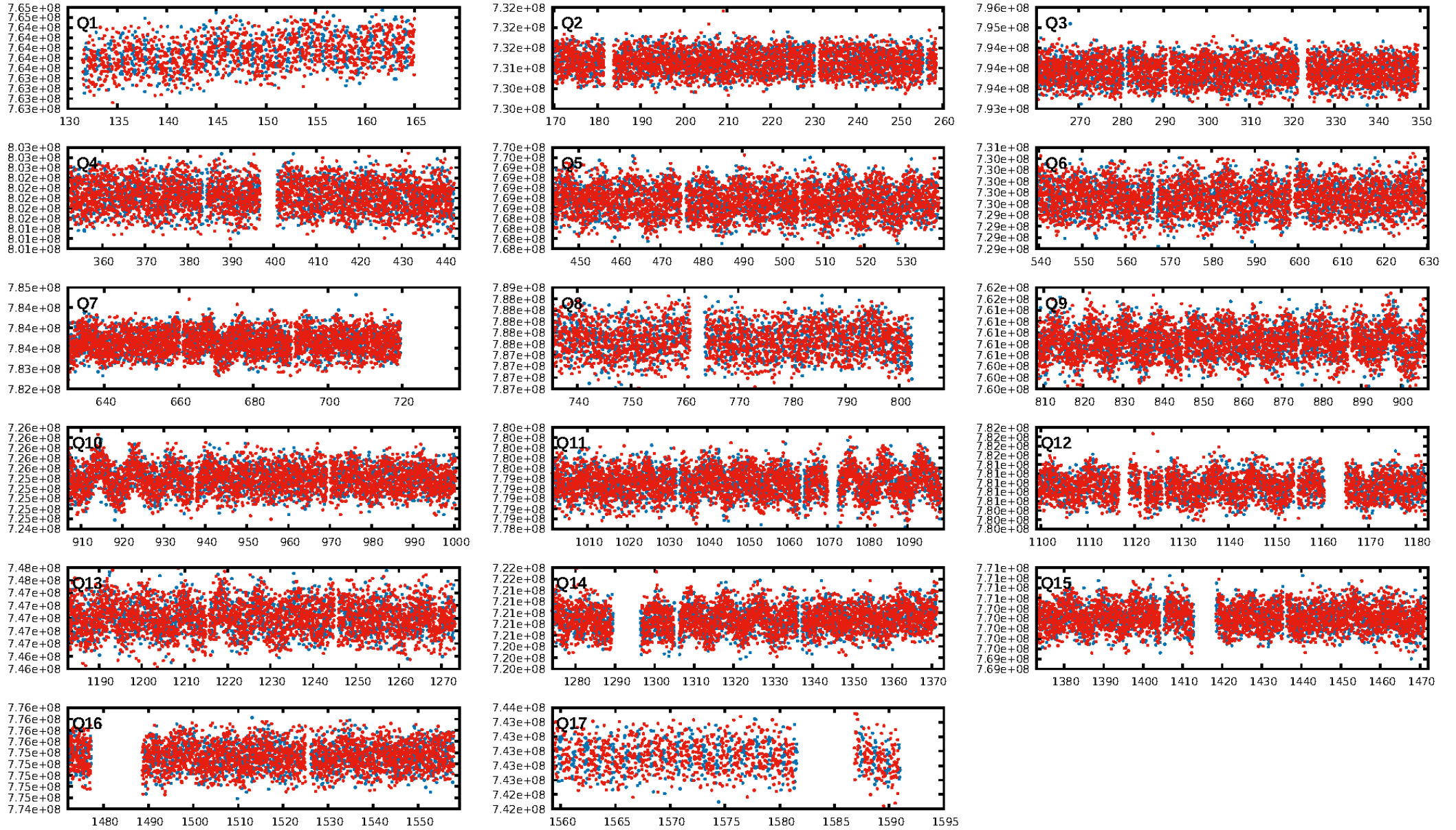
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1082/1082]
GhostDiagnostic-chr: 1.05
Centroid-sig: 0.3%
Centroid-so: 2.575 arcsec [2.18σ]
OotOffset-rm: 15.980 arcsec [46.99σ]
KicOffset-rm: 16.150 arcsec [47.49σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/17]

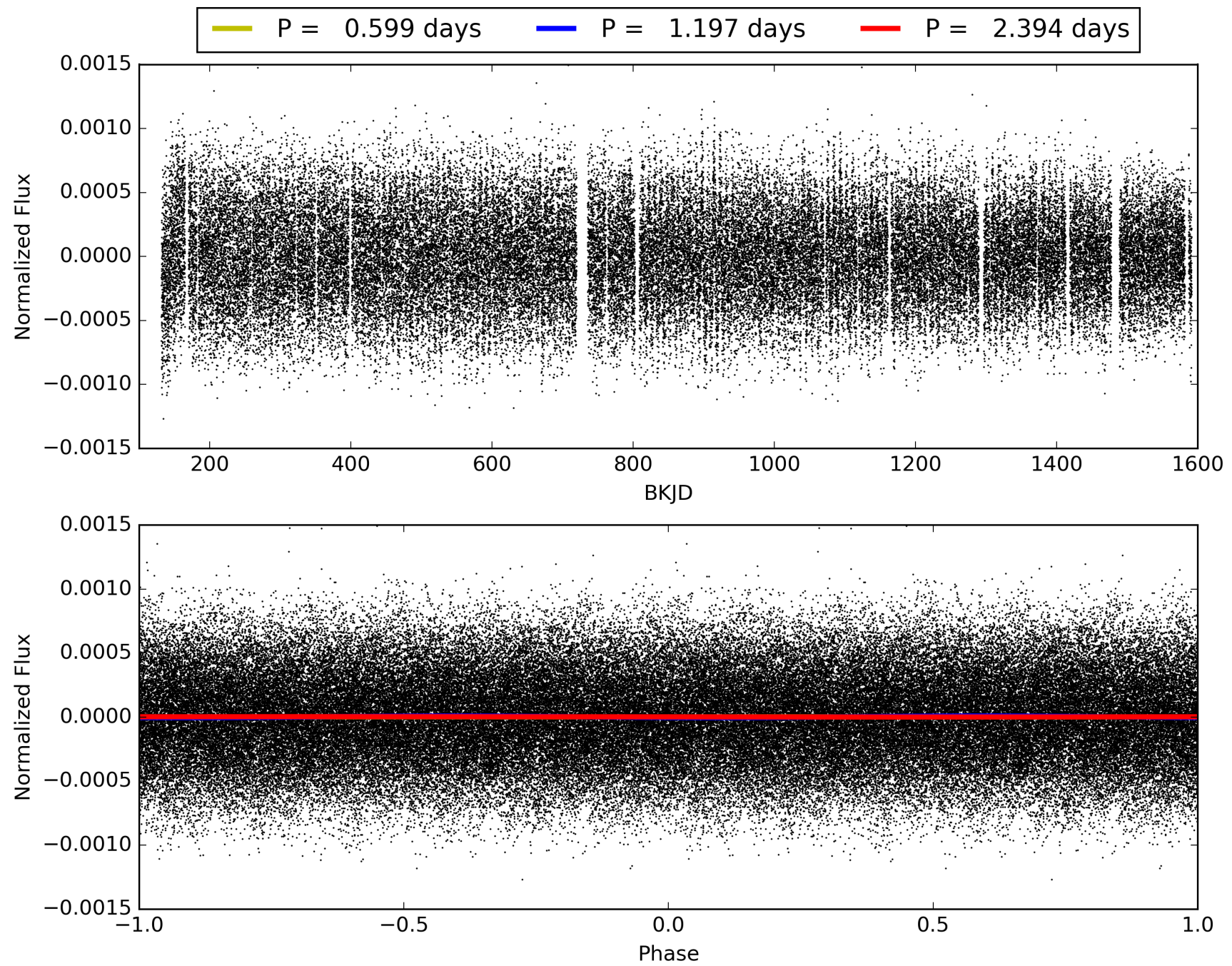
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:19:59 Z

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

TCE 003425802-02, PDC Light Curves

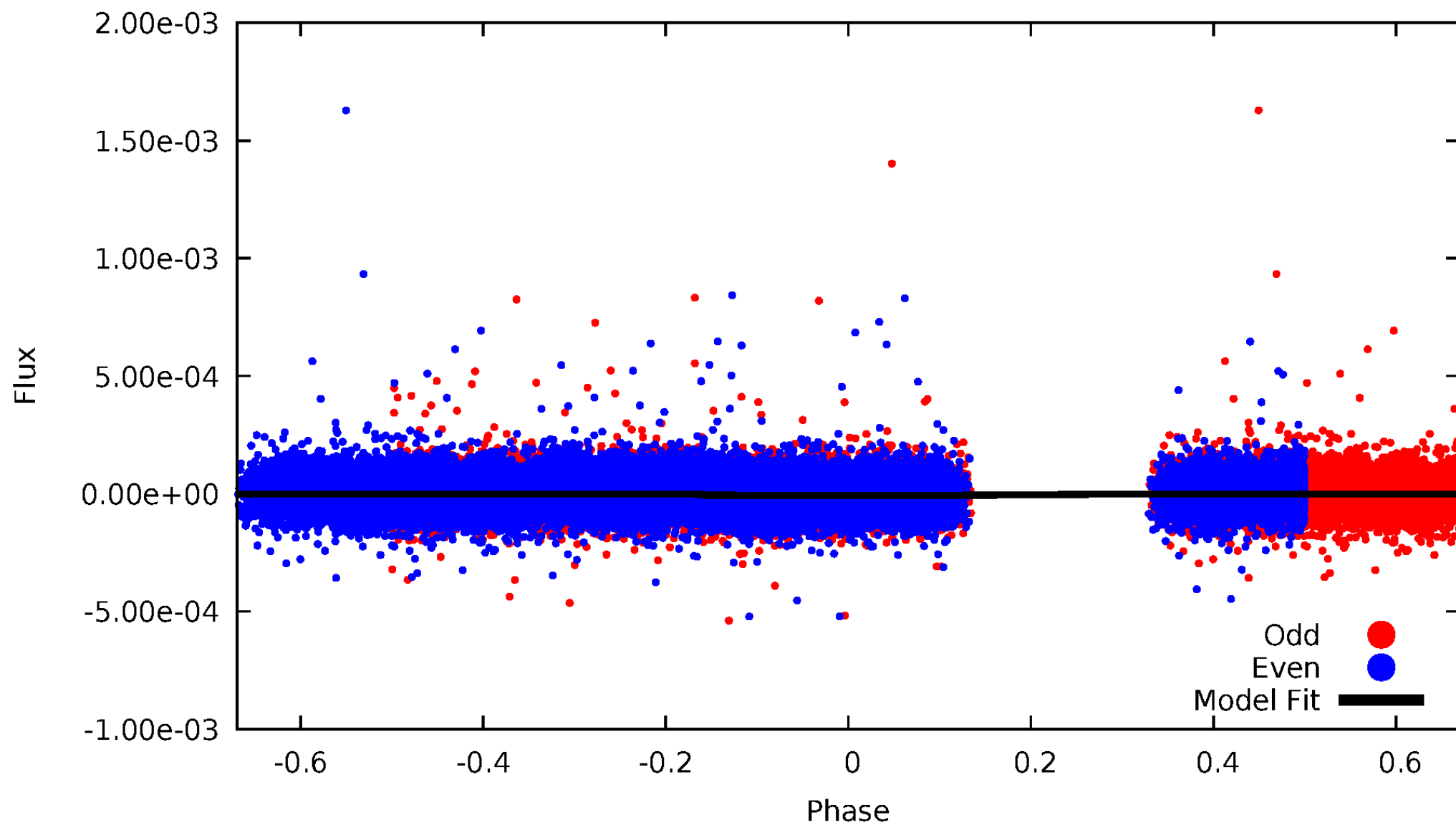


TCE 003425802-02



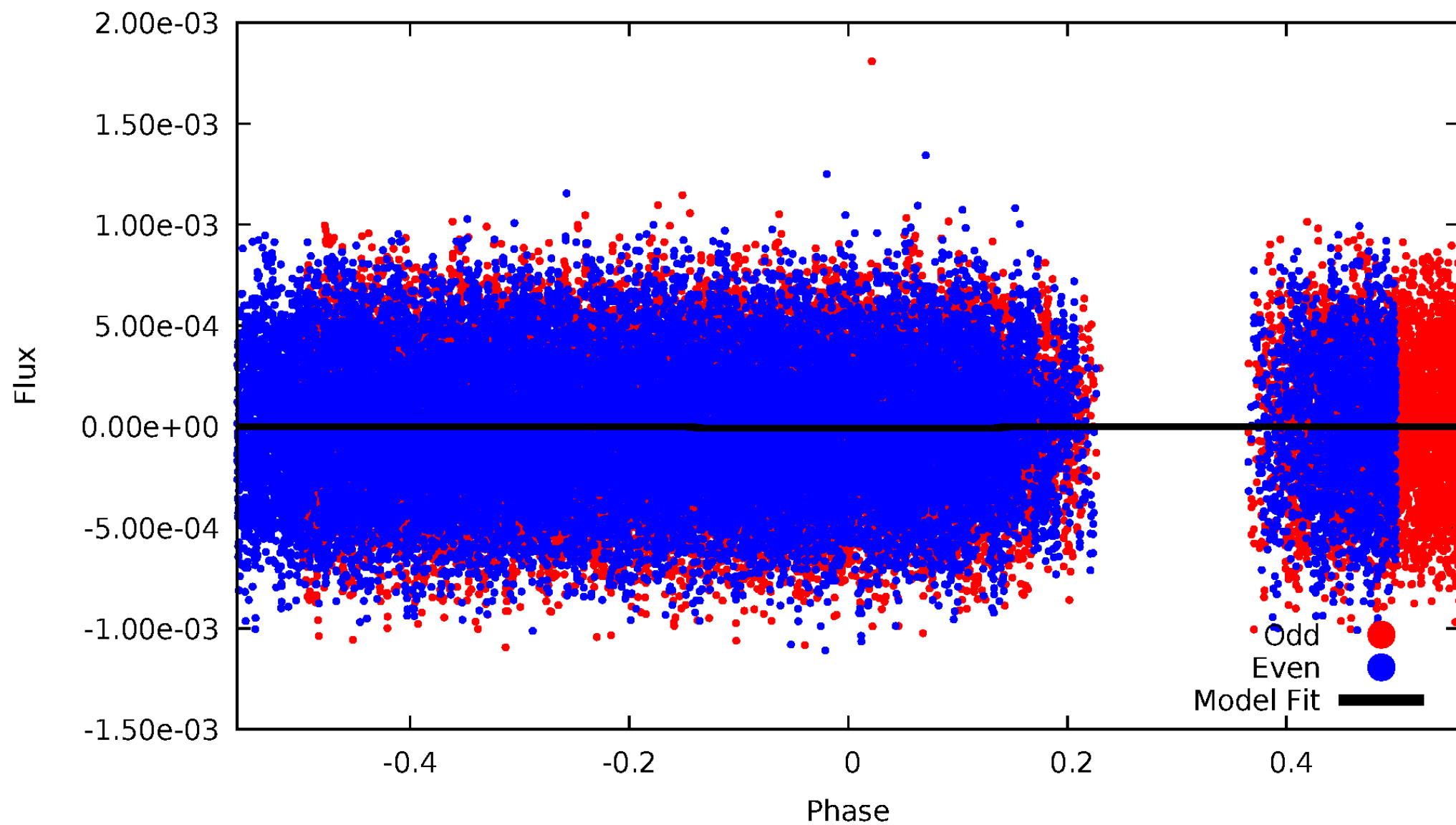
DV Odd/Even

TCE 003425802-02



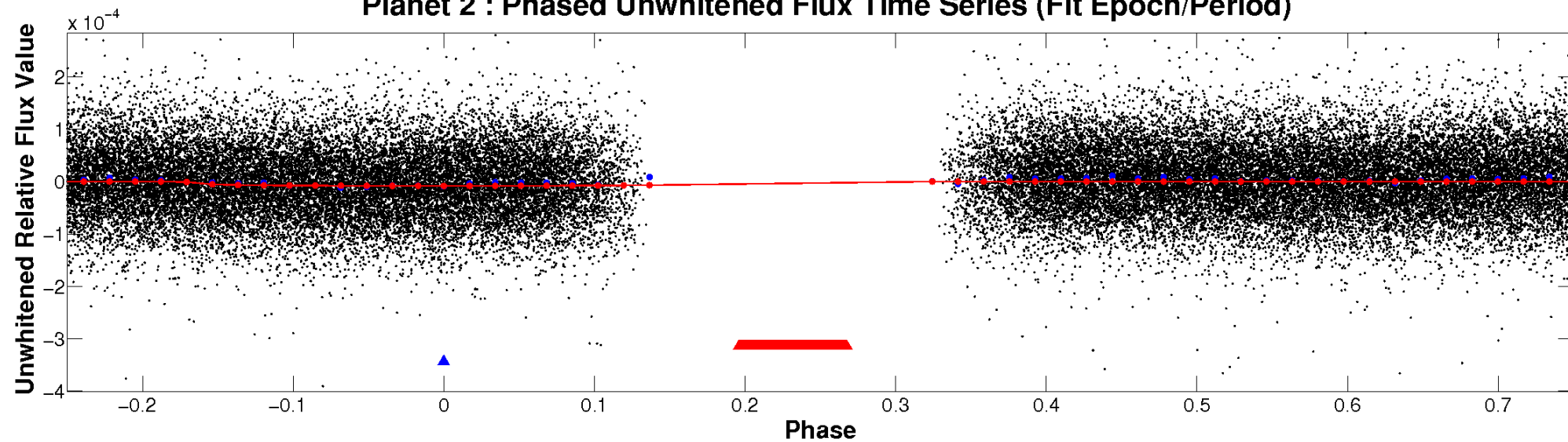
ALT Odd/Even

TCE 003425802-02

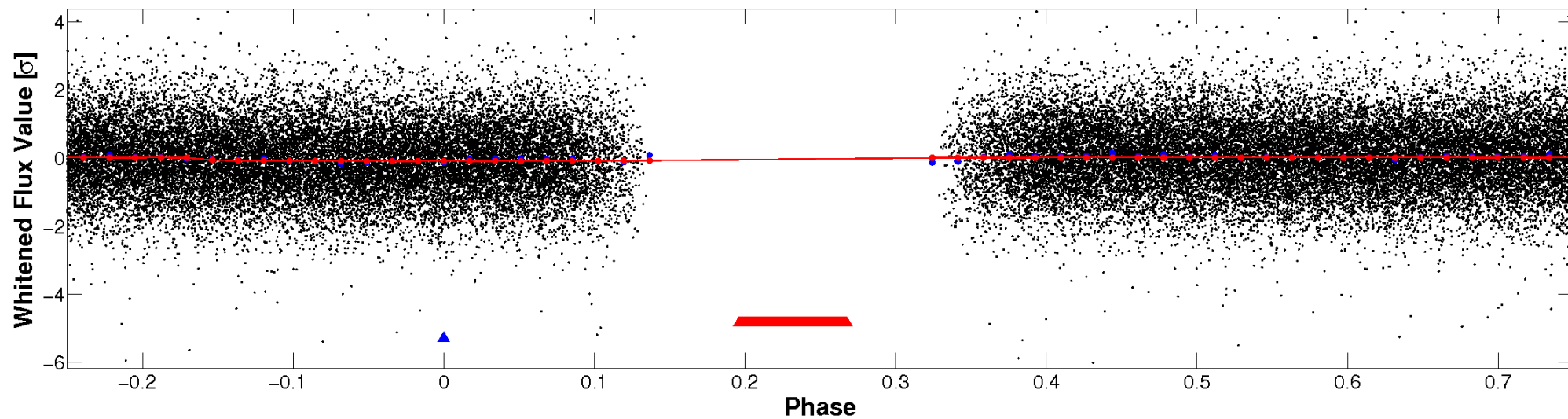


Non-Whitened Vs. Whitened Light Curve

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

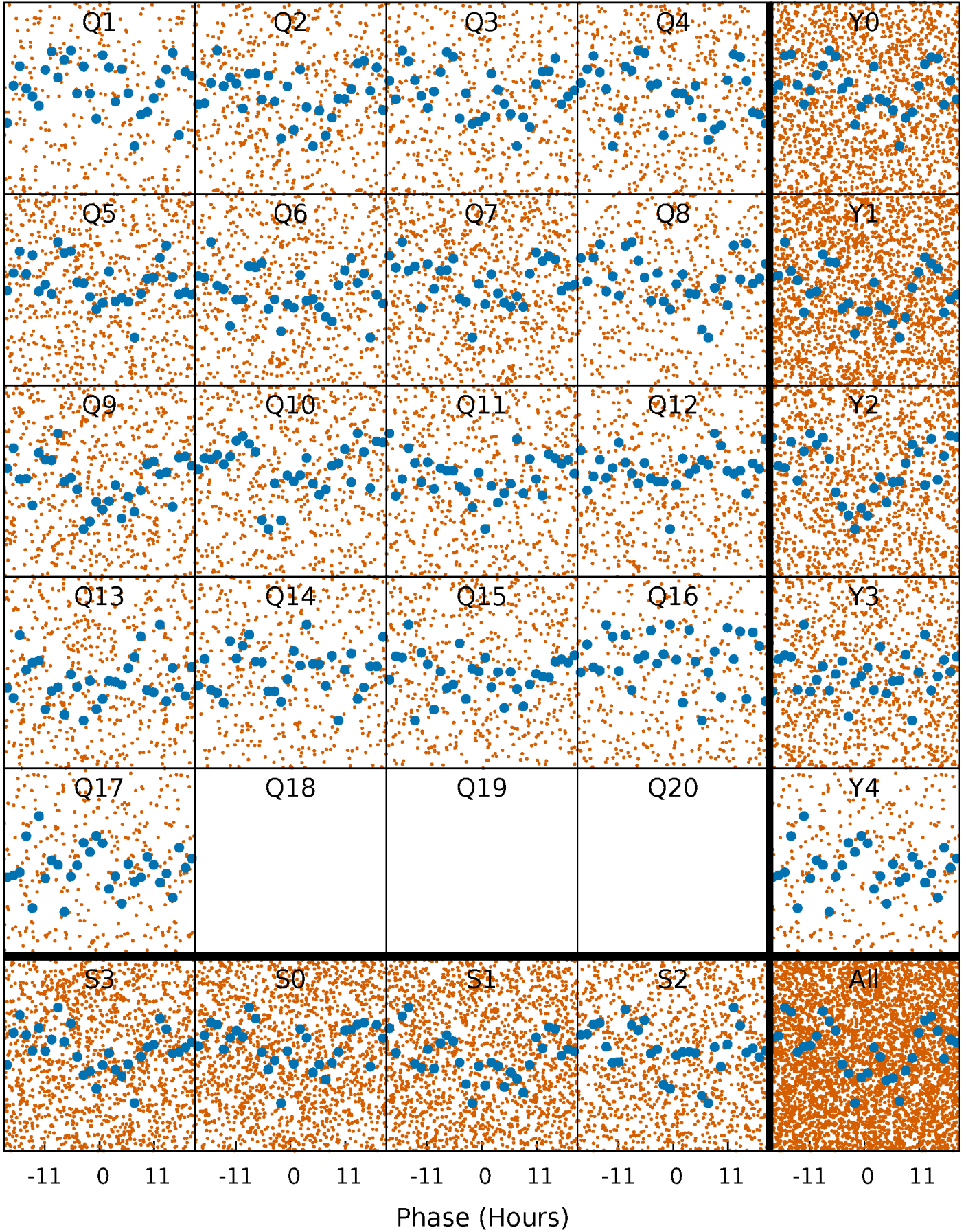


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



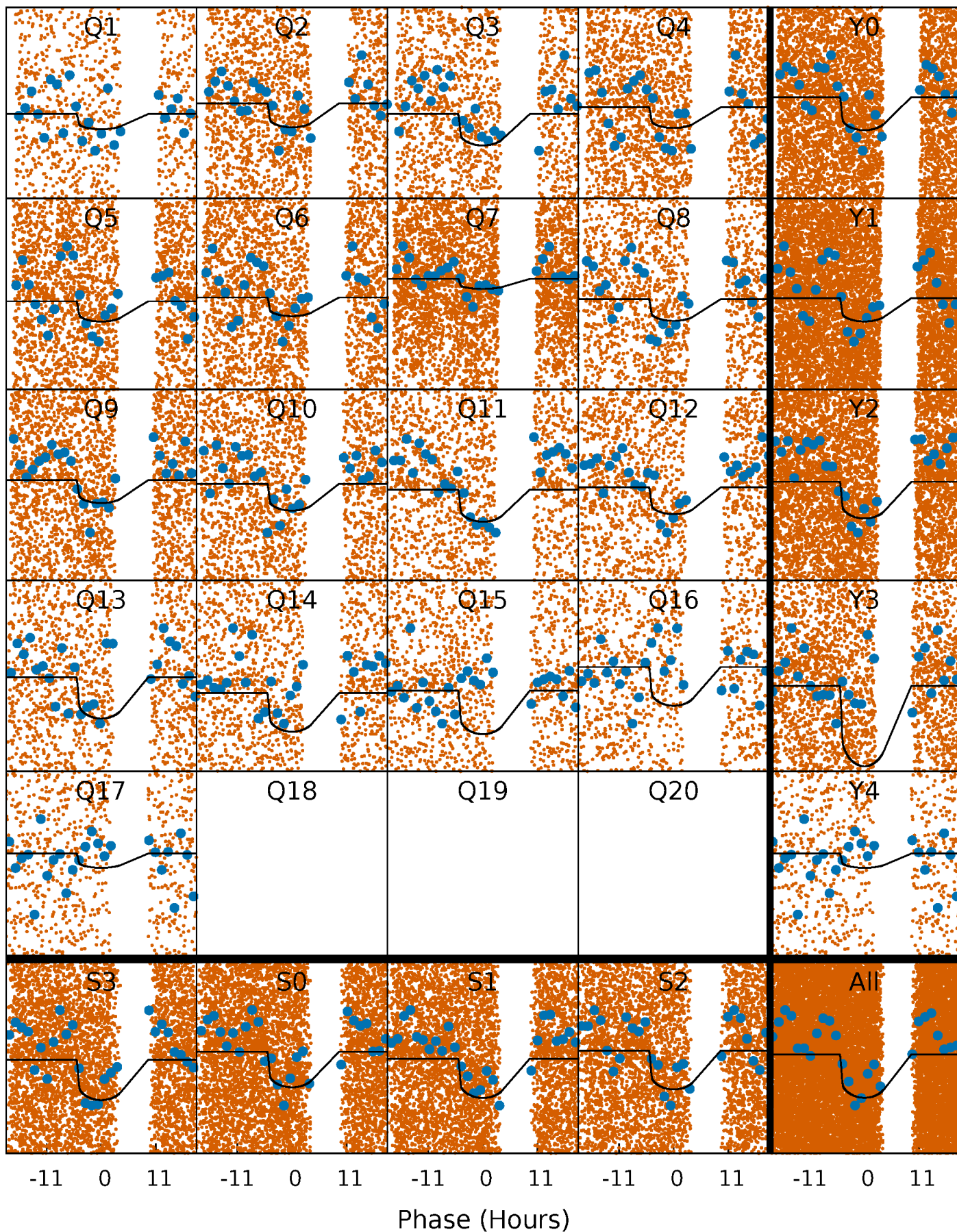
PDC Quarter-Phased Transit Curves

TCE 003425802-02 $P = 1.197047$ Days $T_0 = 132.453359$ (BKJD)



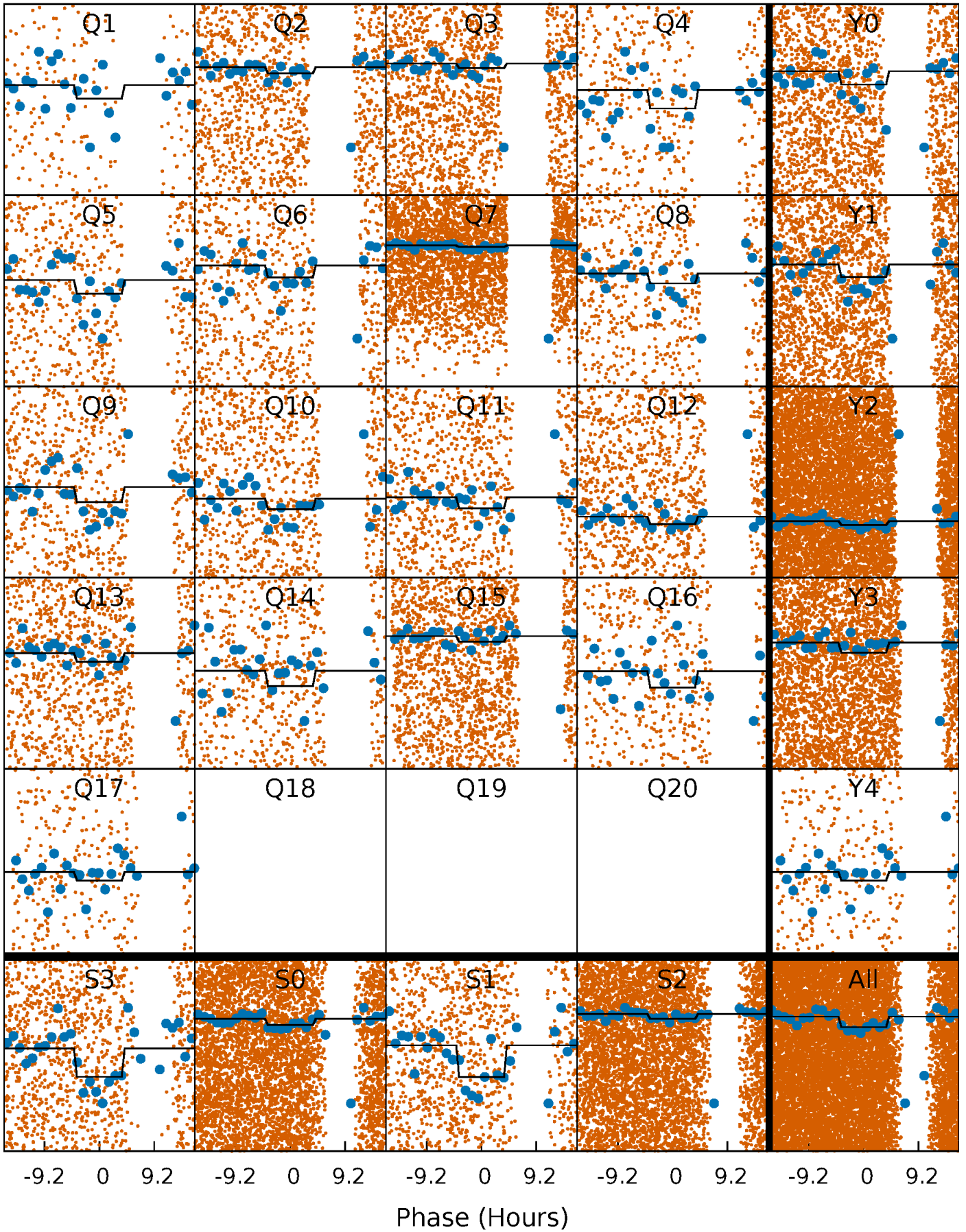
DV Quarter-Phased Transit Curves

TCE 003425802-02 $P = 1.197047$ Days $T_0 = 132.453359$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

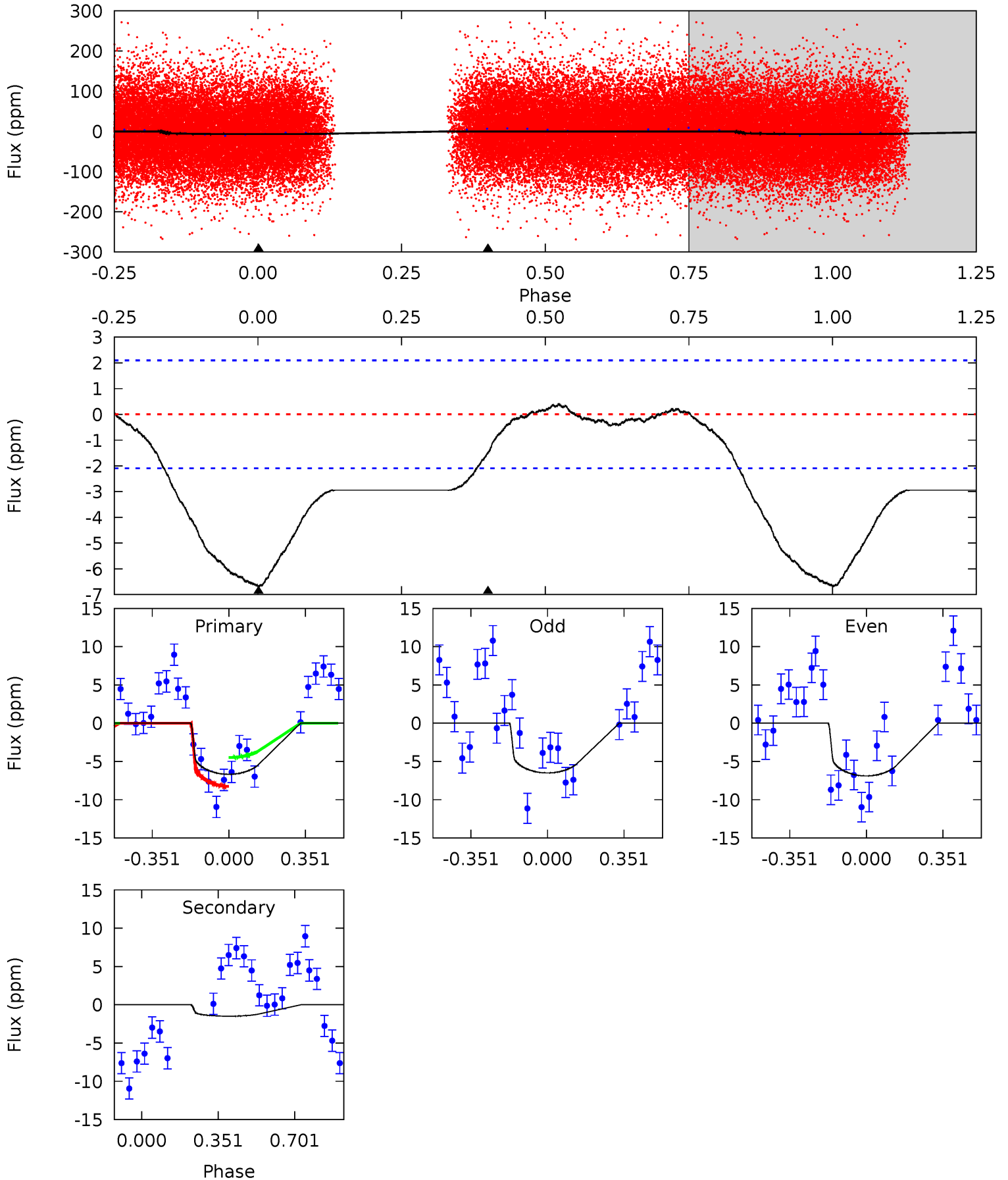
TCE 003425802-02 P= 1.196847 Days $T_0=132.497615$ (BKJD)



DV Model-Shift Uniqueness Test

003425802-02, P = 1.197047 Days, E = 131.256312 Days

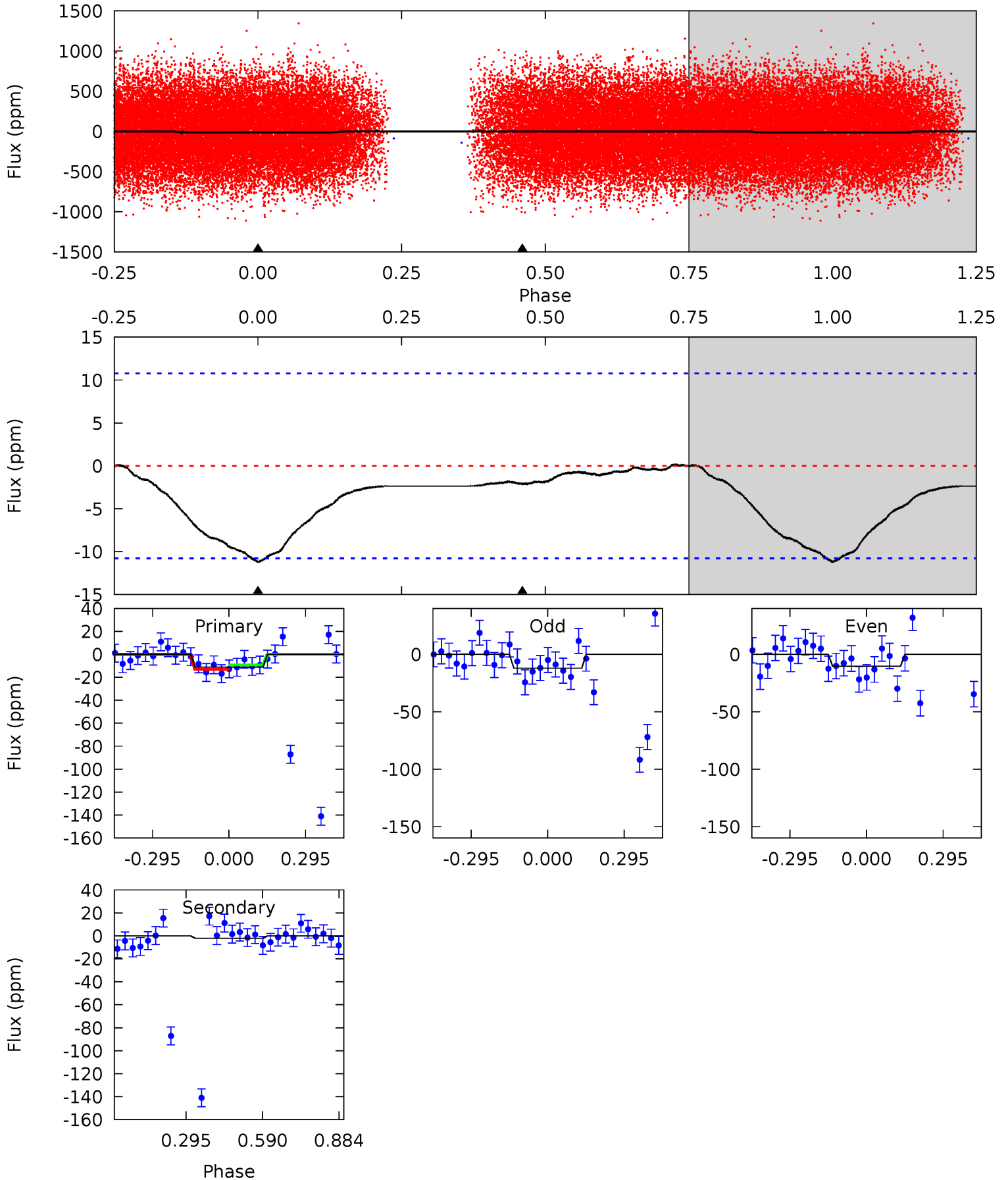
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	3.06	0	0	4.29	0.93	0.31	13.7	13.7	3.06	3.06	0.40	0.84	0.06	3.70



Alt Model-Shift Uniqueness Test

003425802-02, P = 1.196847 Days, E = 131.300768 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.50	0.86	0	0	4.33	1.05	0.09	4.50	4.50	0.86	0.86	0.34	0.85	0.01	0.77



Stellar Parameters For KIC 003425802

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8266^{+236}_{-324}	$4.050^{+0.234}_{-0.126}$	$-0.460^{+0.200}_{-0.350}$	$2.003^{+0.392}_{-0.589}$	$1.641^{+0.155}_{-0.288}$	$0.288^{+0.395}_{-0.105}$
	+3%/-4%	+6%/-3%	+43%/-76%	+20%/-29%	+9%/-18%	+137%/-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 003425802-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 0	$0.65^{+0.39}_{-0.34}$	4418^{+317}_{-380}	4745^{+2262}_{-1327}	$1.236^{+3.821}_{-0.807}$
Alt.	-2 ± 2	$0.68^{+0.36}_{-0.35}$	4399^{+297}_{-340}	4902^{+2888}_{-9250}	$1.394^{+5.773}_{-1.665}$

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 $A_{obs} \gg 1.0$

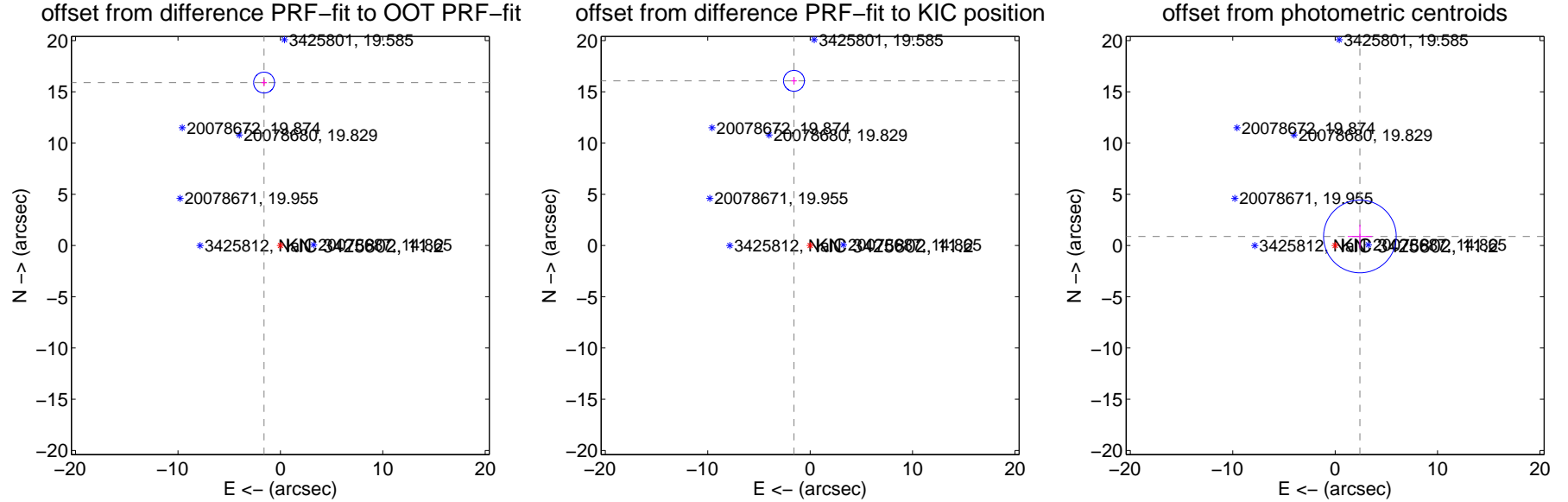
DV Centroid Data

Supplemental centroid analysis for 003425802-02. **Kepler magnitude: 11.20.** Transit SNR 10.68

There are 0 quarters with good PRF difference image offsets

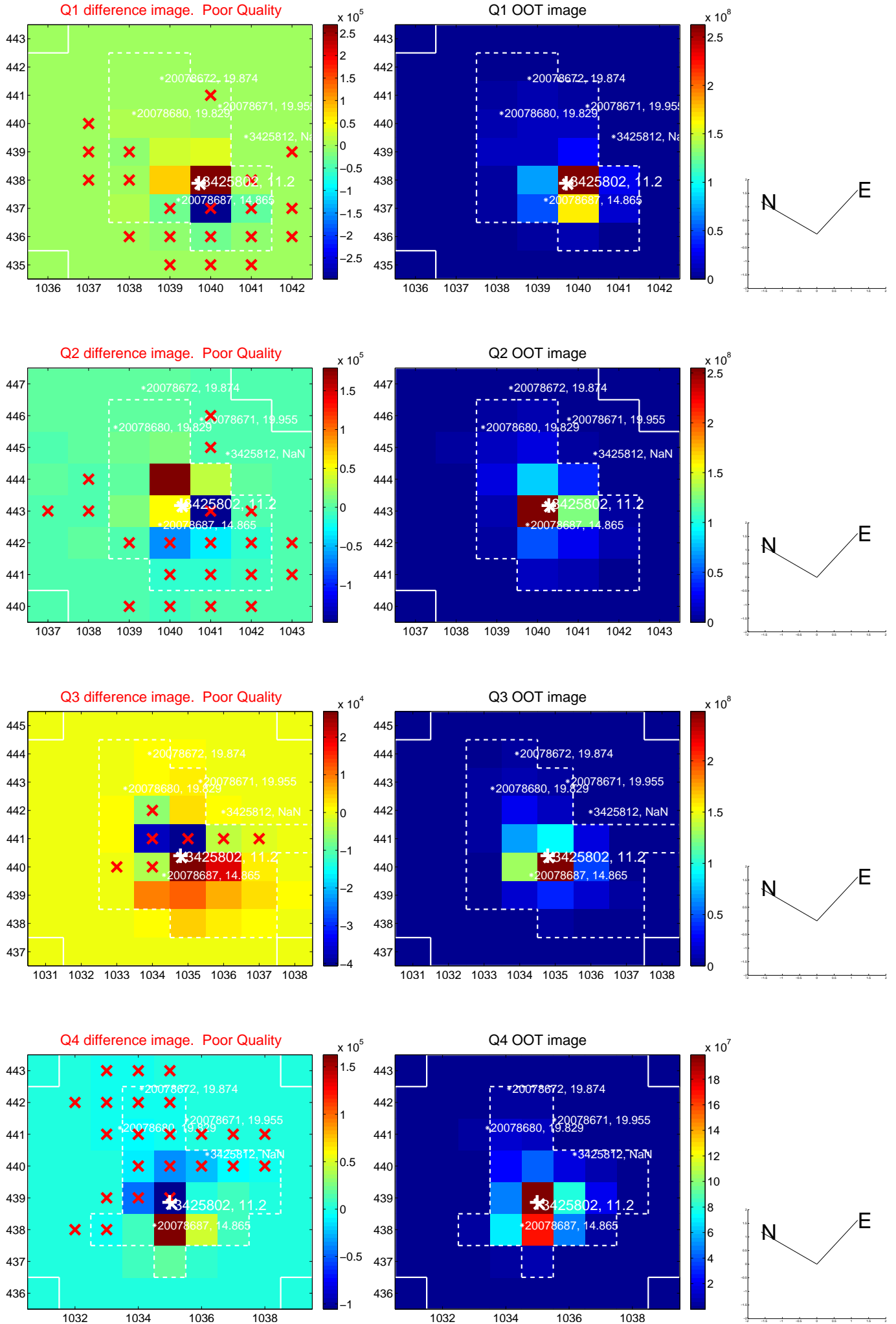
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.980 ± 0.340	46.99	1.593 ± 0.264	15.900 ± 0.341
PRF-fit source offset from KIC position	16.150 ± 0.340	47.49	1.582 ± 0.264	16.073 ± 0.341
photometric centroid source offset	2.57 ± 1.18	2.18	-2.42 ± 1.19	0.89 ± 1.15

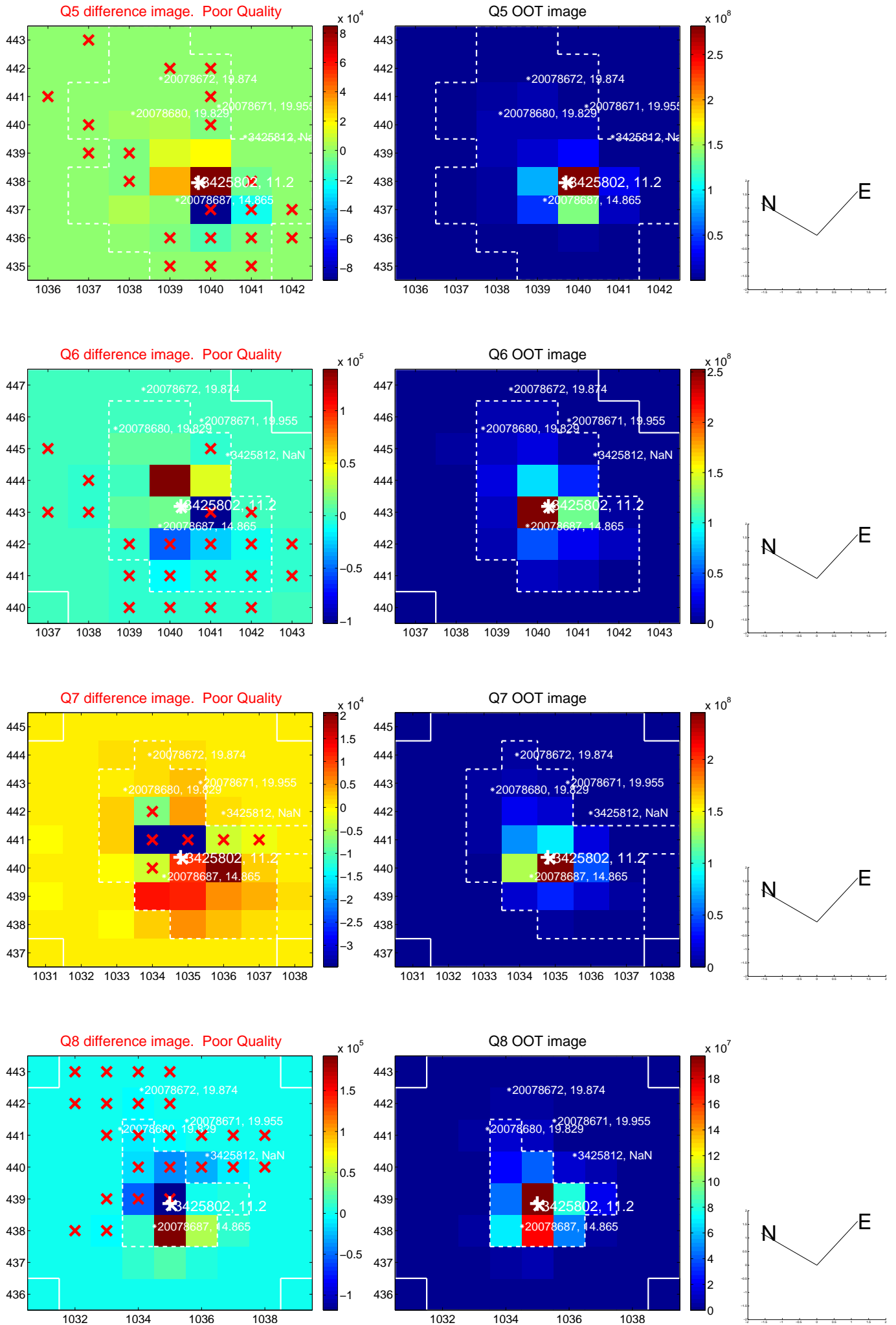


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

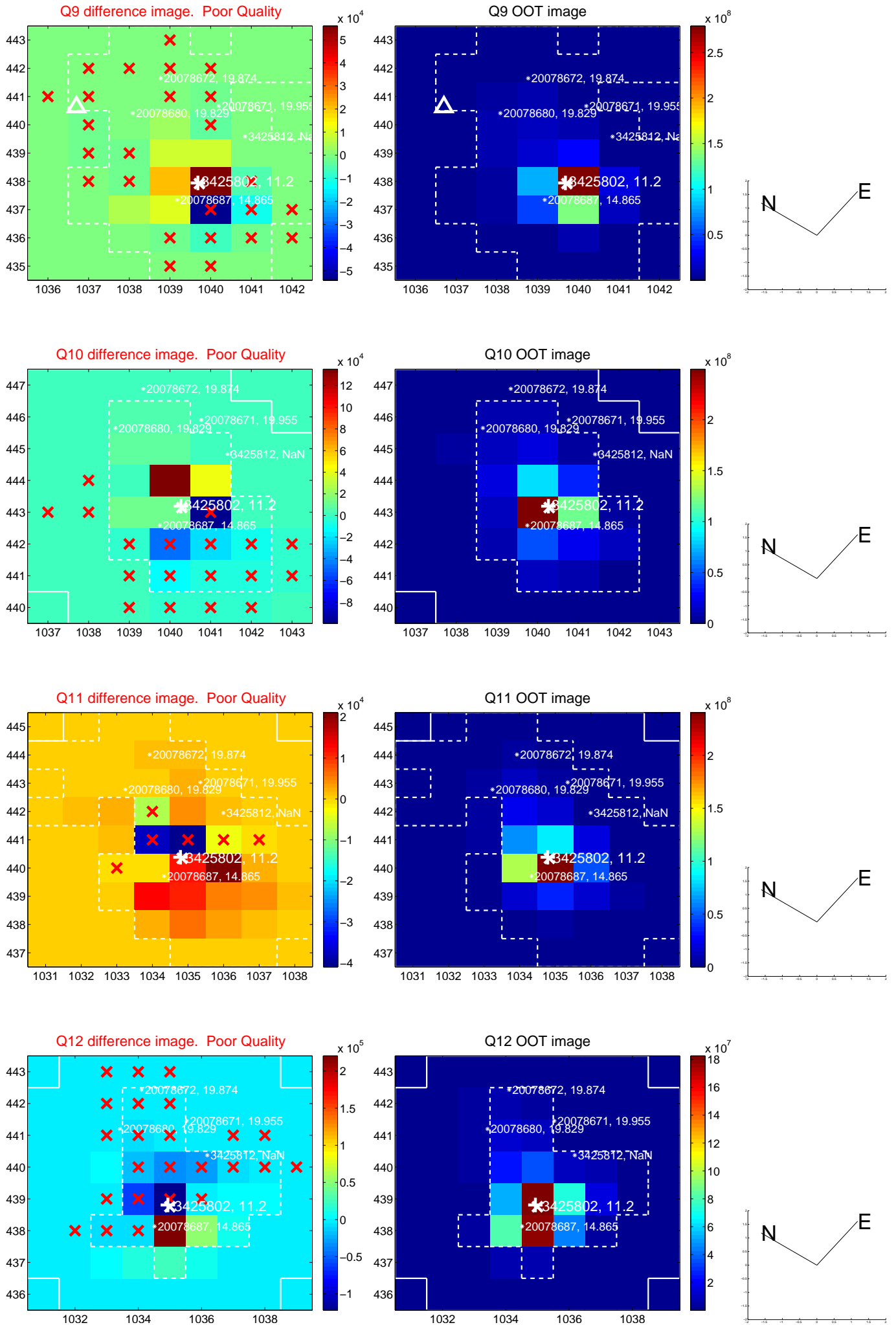
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



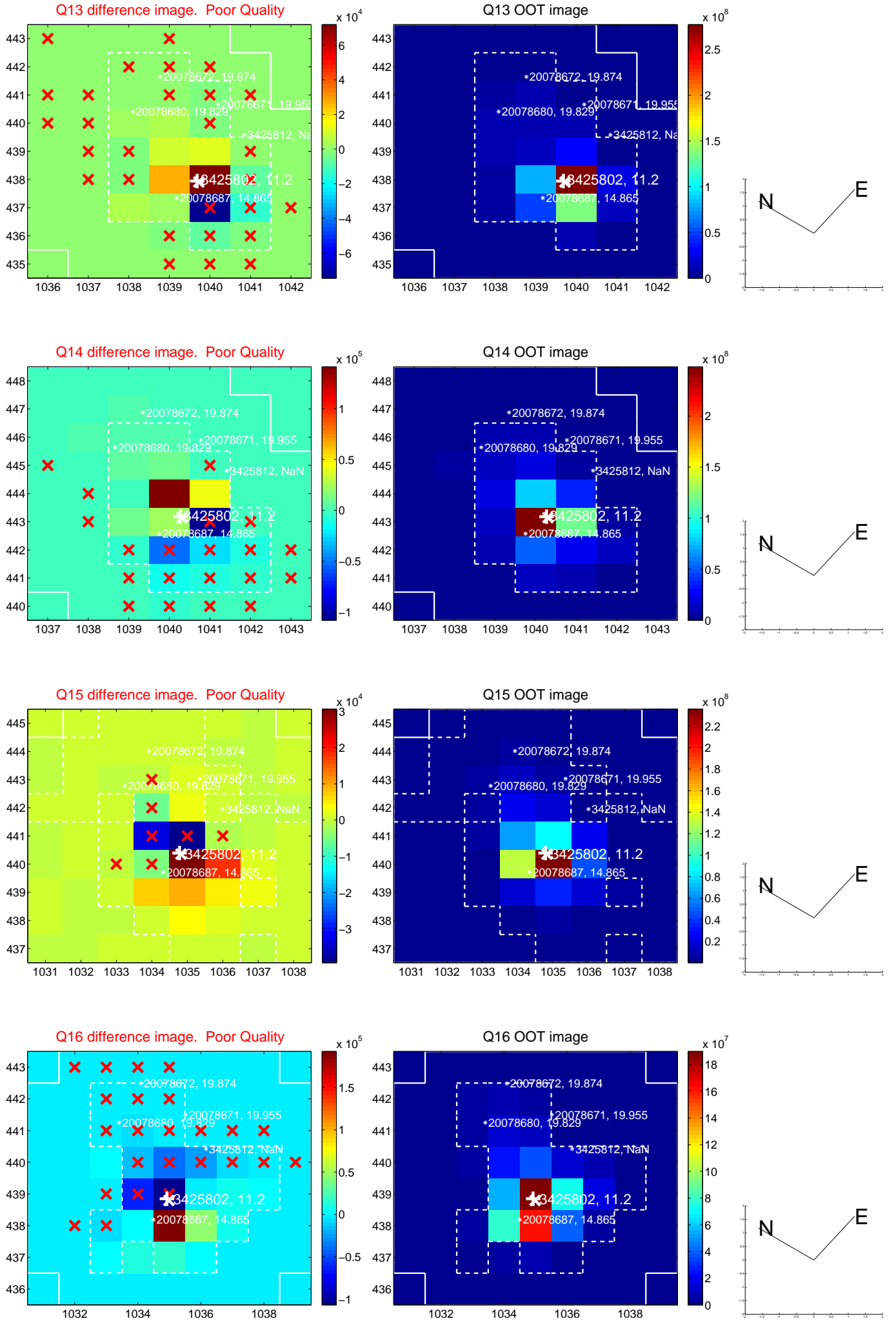
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



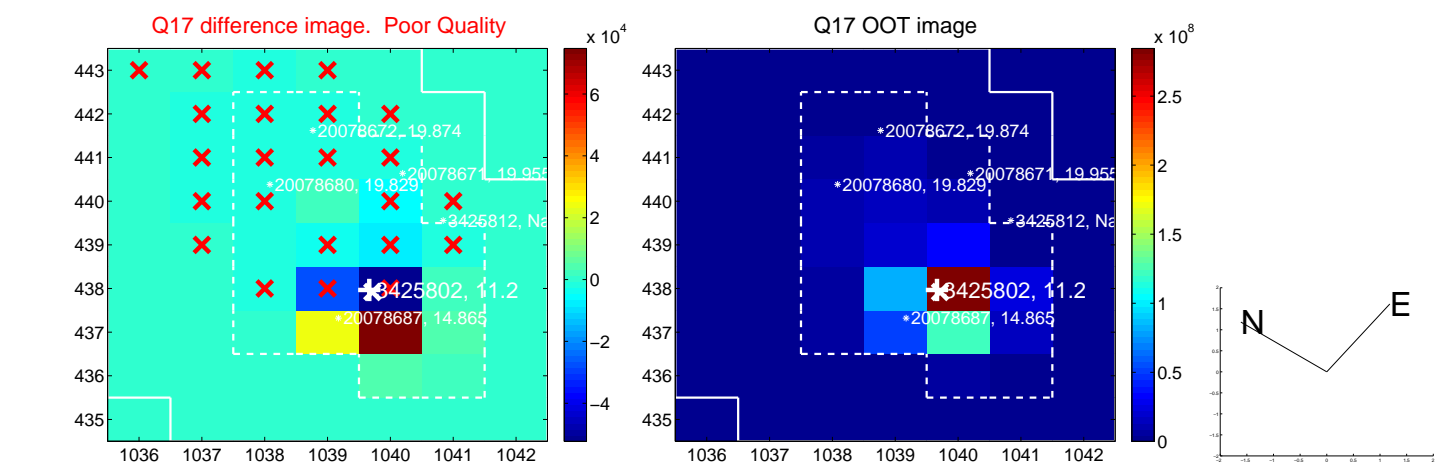
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



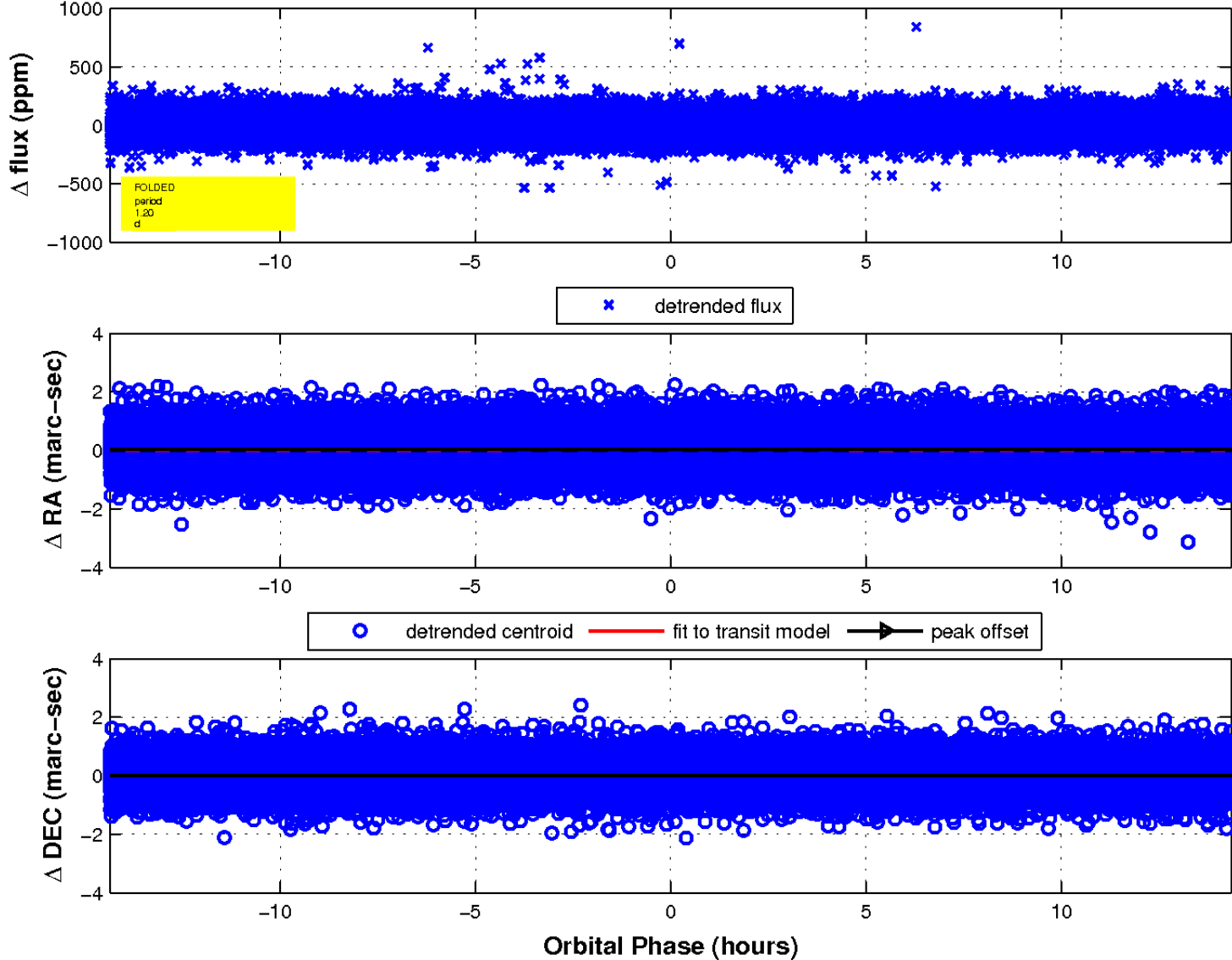
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

