

KIC 010918393

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})
010918393-01	OBS	No	0.937333	131.999106	138.7	3.335	12.5	12.1	2.39	6971	3.27	27028.04
010918393-02	OBS	No	1.500045	132.160523	182.3	8.799	8.8	10.0	2.39	6971	4.33	14438.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010918393-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010918393-02	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.

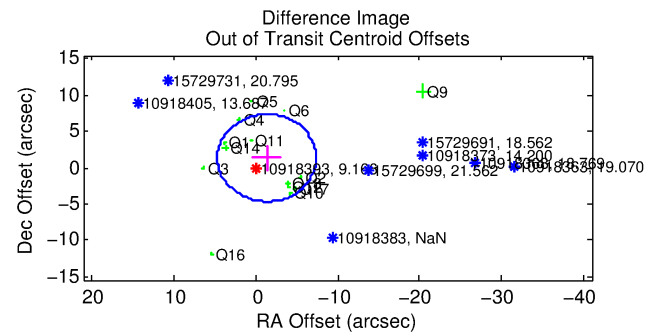
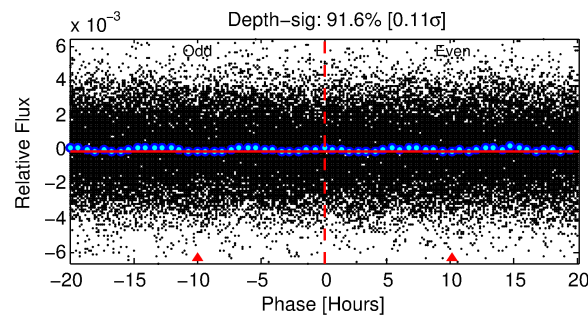
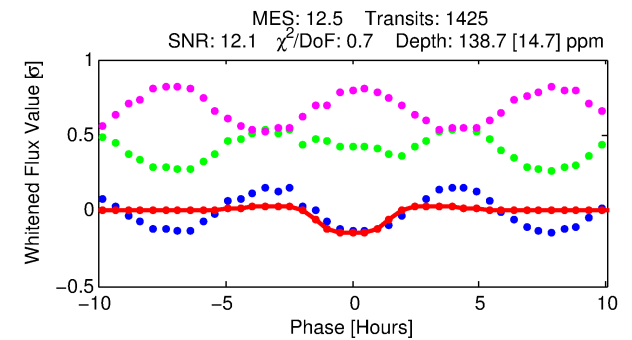
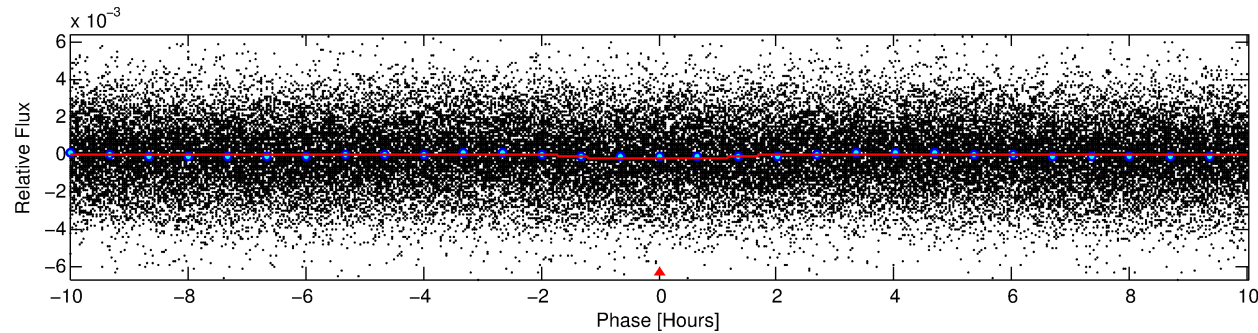
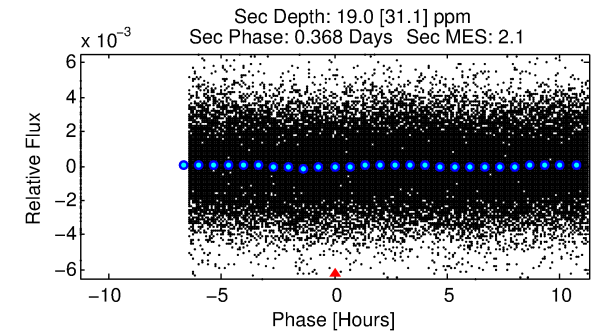
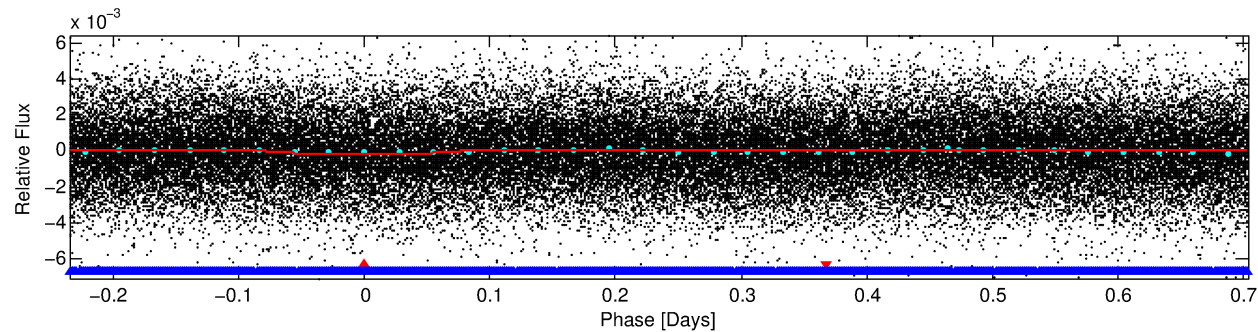
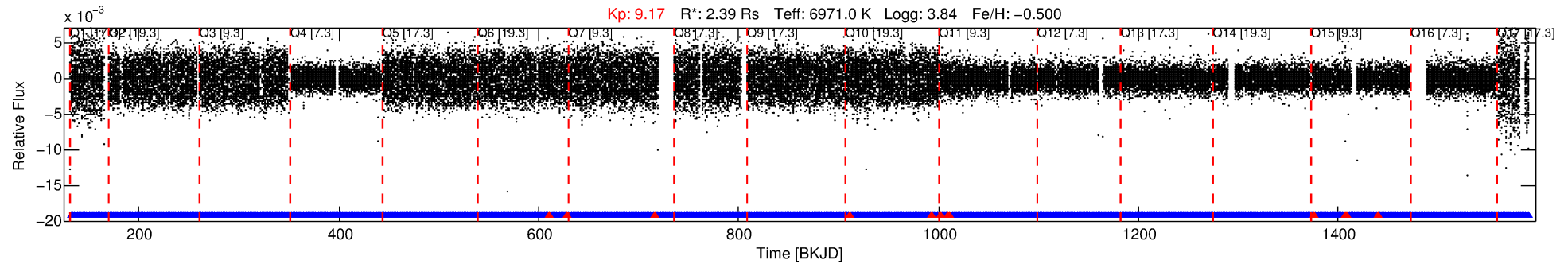
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010918393-01

No Significant Match Found

DV One-Page Summary

KIC: 10918393 Candidate: 1 of 2 Period: 0.937 d



DV Fit Results:

Period = 0.93733 [0.00001] d
Epoch = 131.9991 [0.0036] BKJD
Rp/R* = 0.0125 [0.0059]
a/R* = 1.37 [1.86]
b = 0.90 [0.62]
Seff = 27028.04 [20855.01]
Teq = 3269 [631] K
Rp = 3.27 [2.17] Re
a = 0.0211 [0.0098] AU
Ag = 0.44 [0.89] [-0.63σ]
Teffp = 4110 [1951] K [0.41σ]

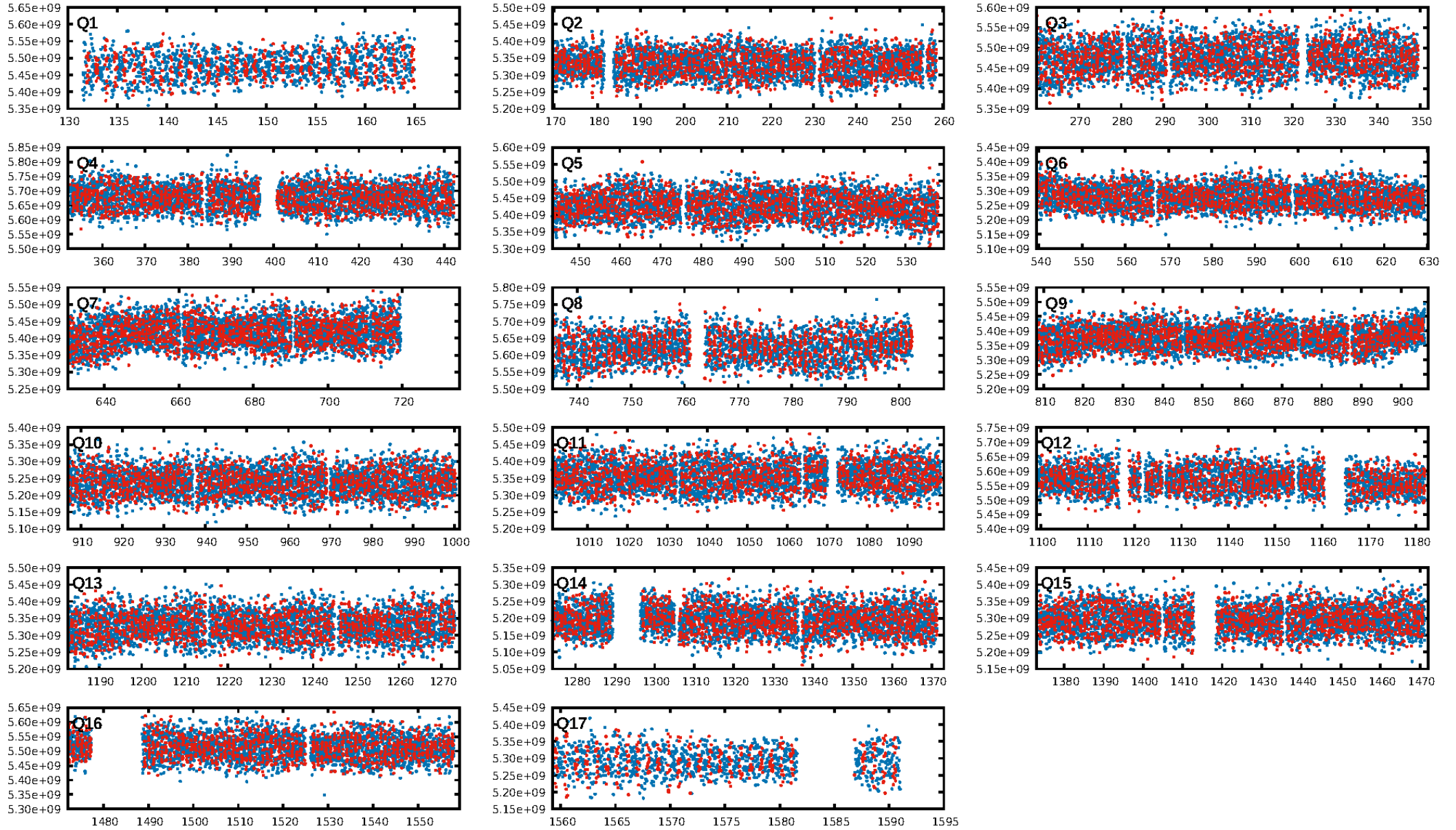
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 84.9% [1.44σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.03e-33
RollingBand-fgt: 0.99 [1348/1361]
GhostDiagnostic-chr: N/A
Centroid-sig: 1.7%
Centroid-so: 1.140 arcsec [3.37σ]
OotOffset-rm: 1.901 arcsec [0.95σ]
KicOffset-rm: 1.365 arcsec [0.93σ]
OotOffset-st: 4/2/3/5 [14]
KicOffset-st: 4/2/3/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [17/17]

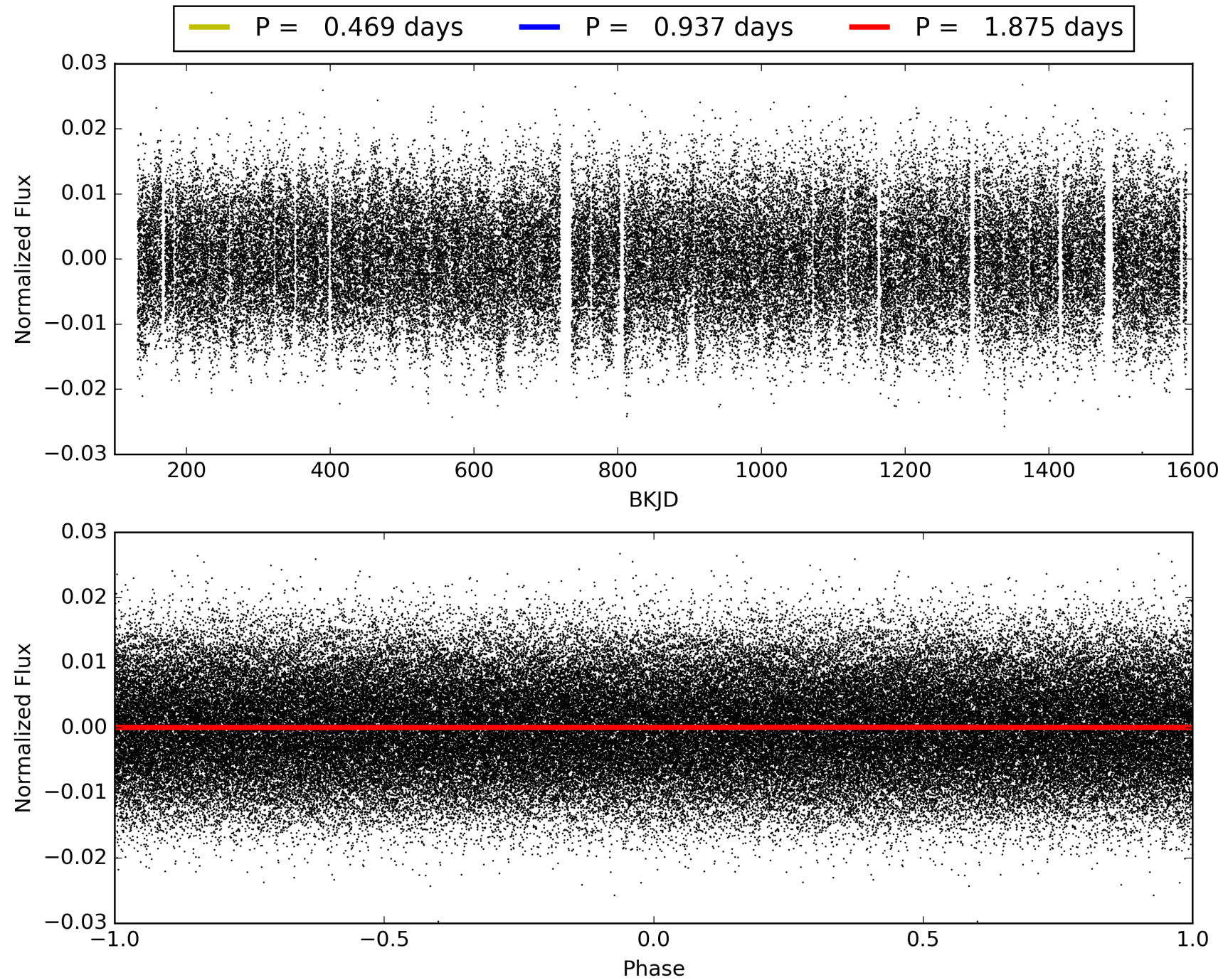
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010918393-01, PDC Light Curves

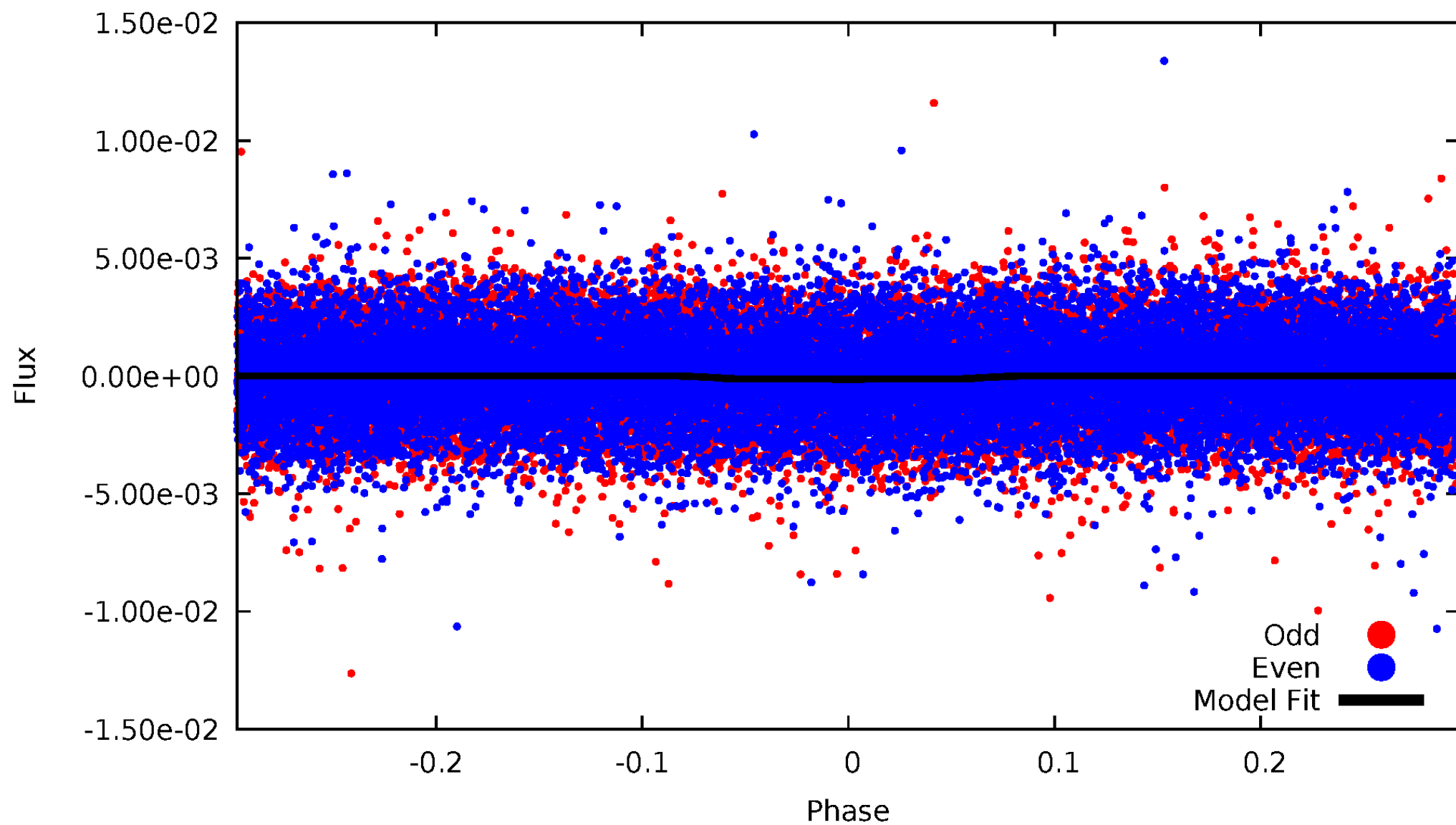


TCE 010918393-01



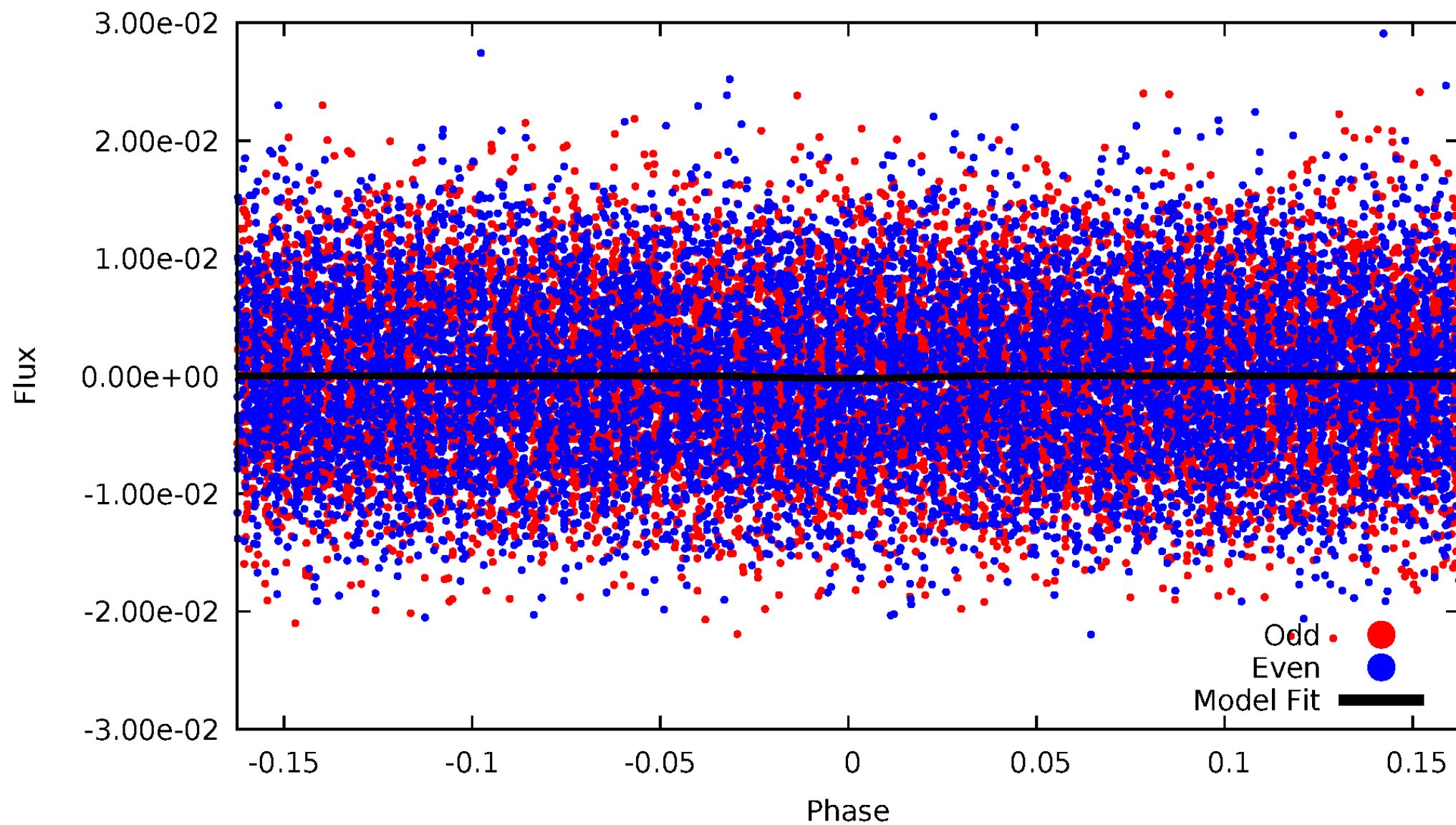
DV Odd/Even

TCE 010918393-01



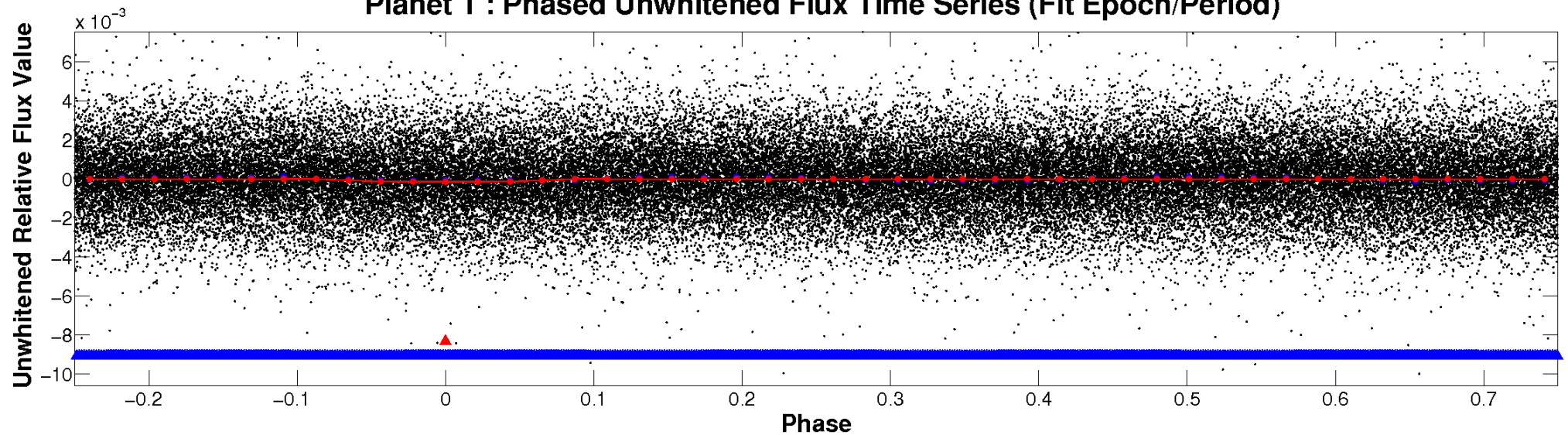
ALT Odd/Even

TCE 010918393-01

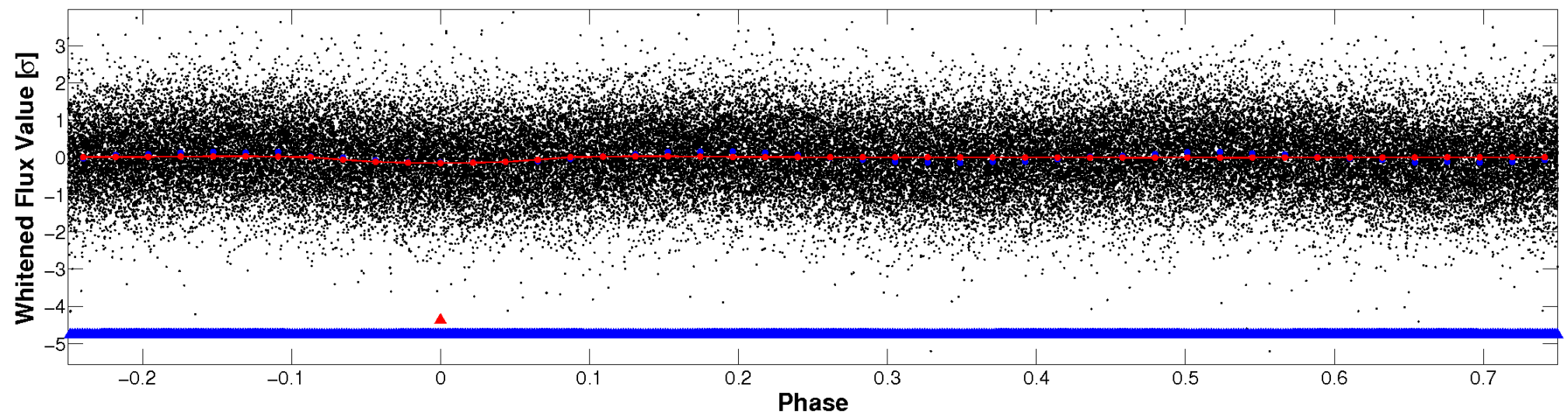


Non-Whitened Vs. Whitened Light Curve

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

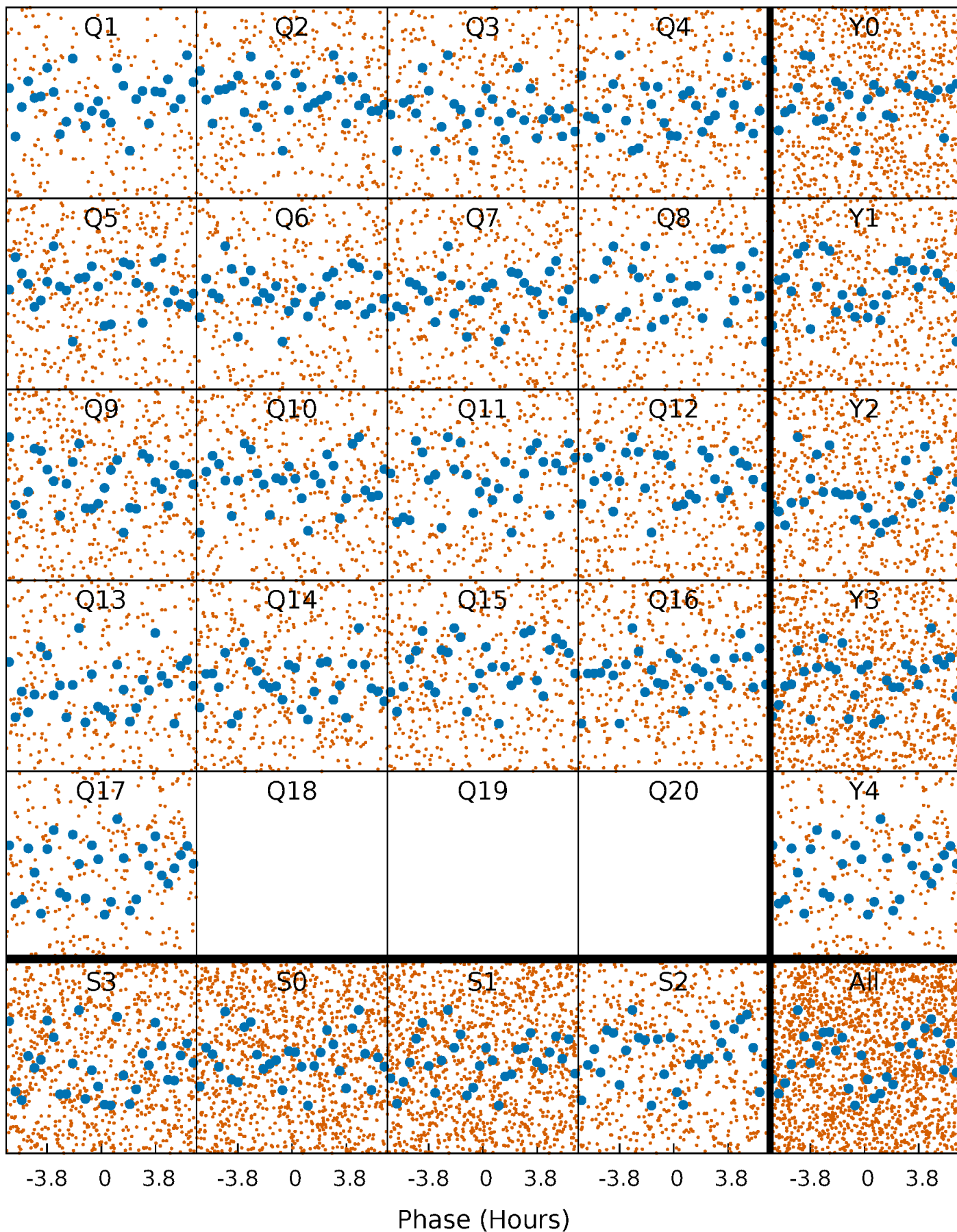


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



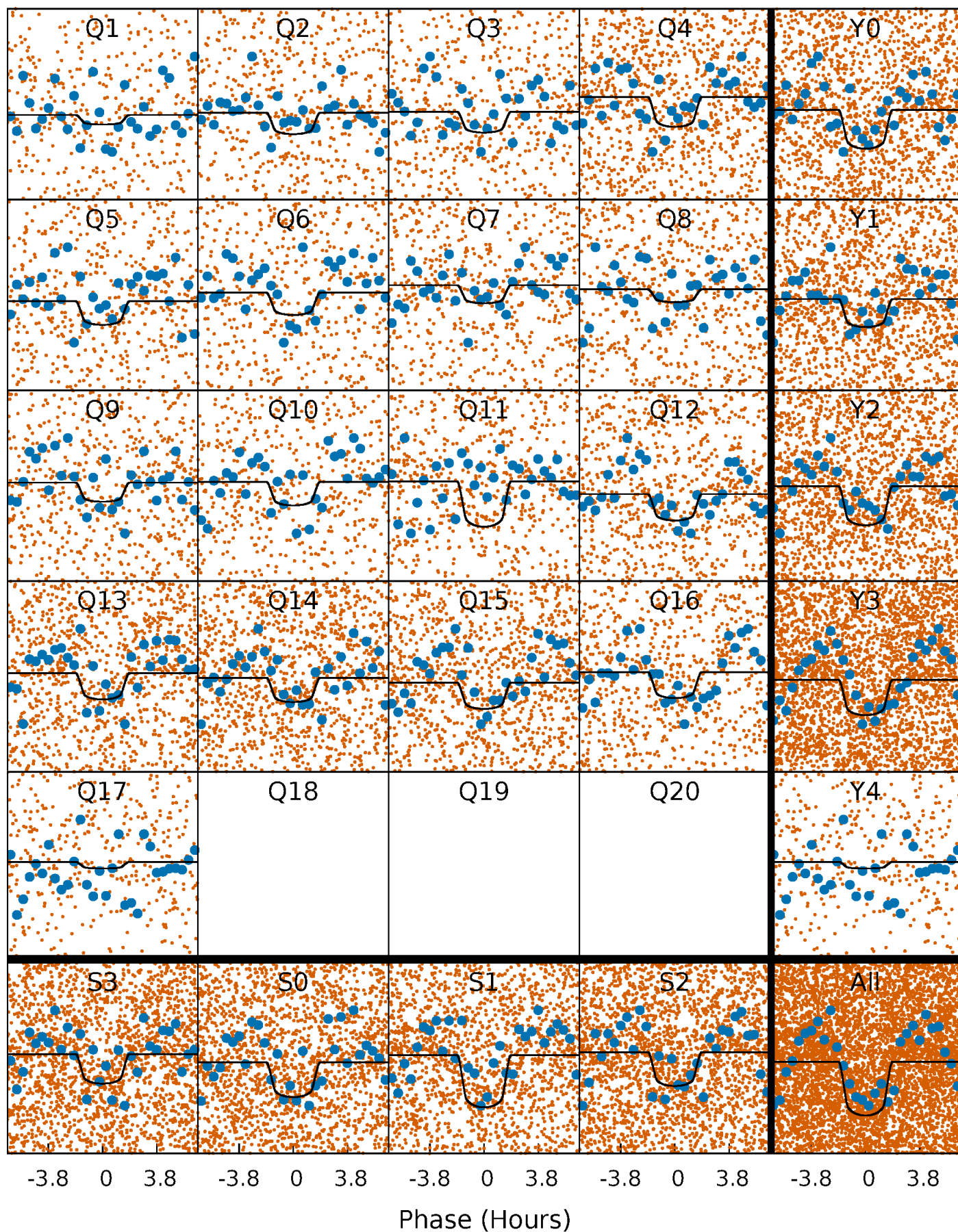
PDC Quarter-Phased Transit Curves

TCE 010918393-01 P= 0.937333 Days $T_0=131.999106$ (BKJD)



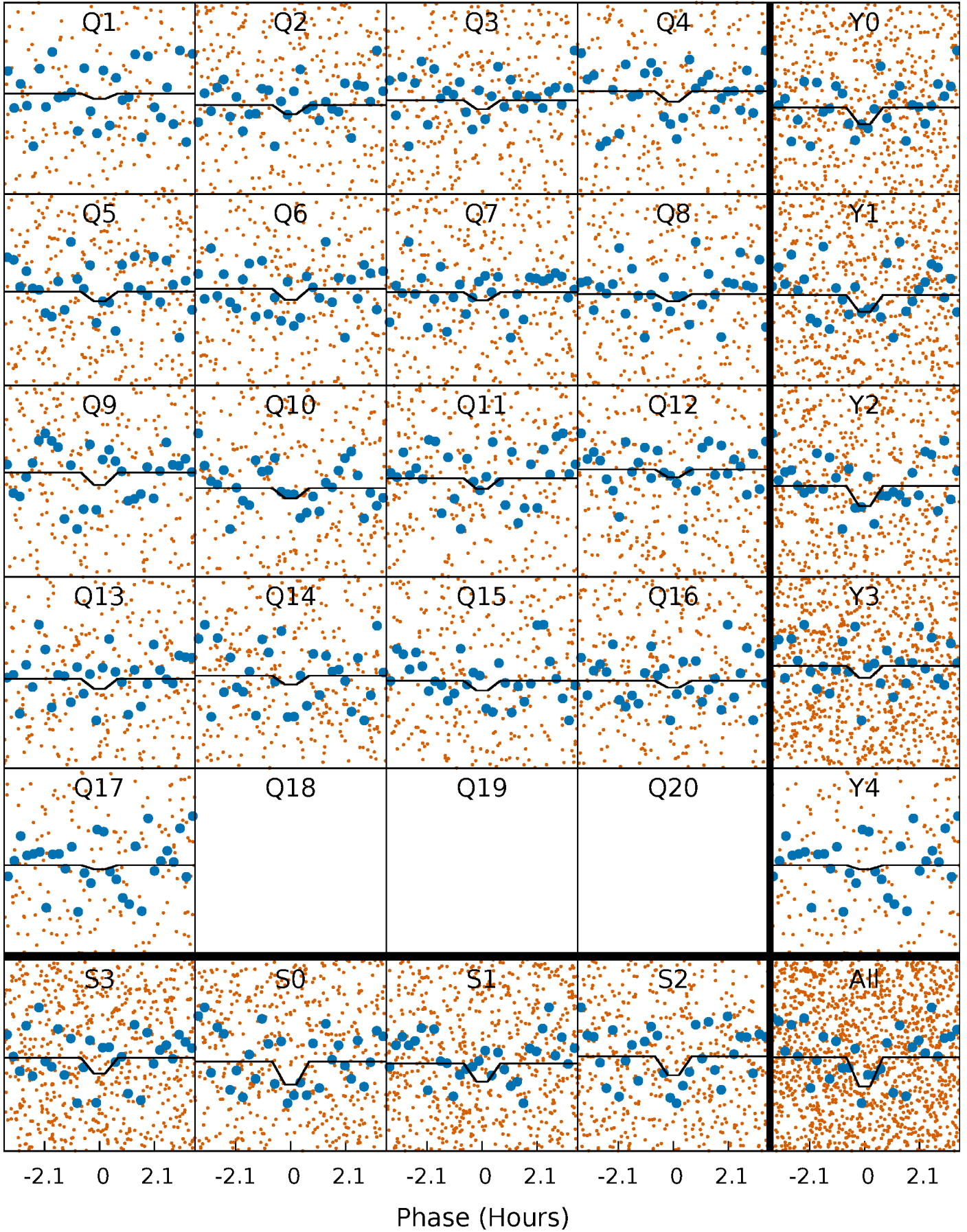
DV Quarter-Phased Transit Curves

TCE 010918393-01 P= 0.937333 Days $T_0=131.999106$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

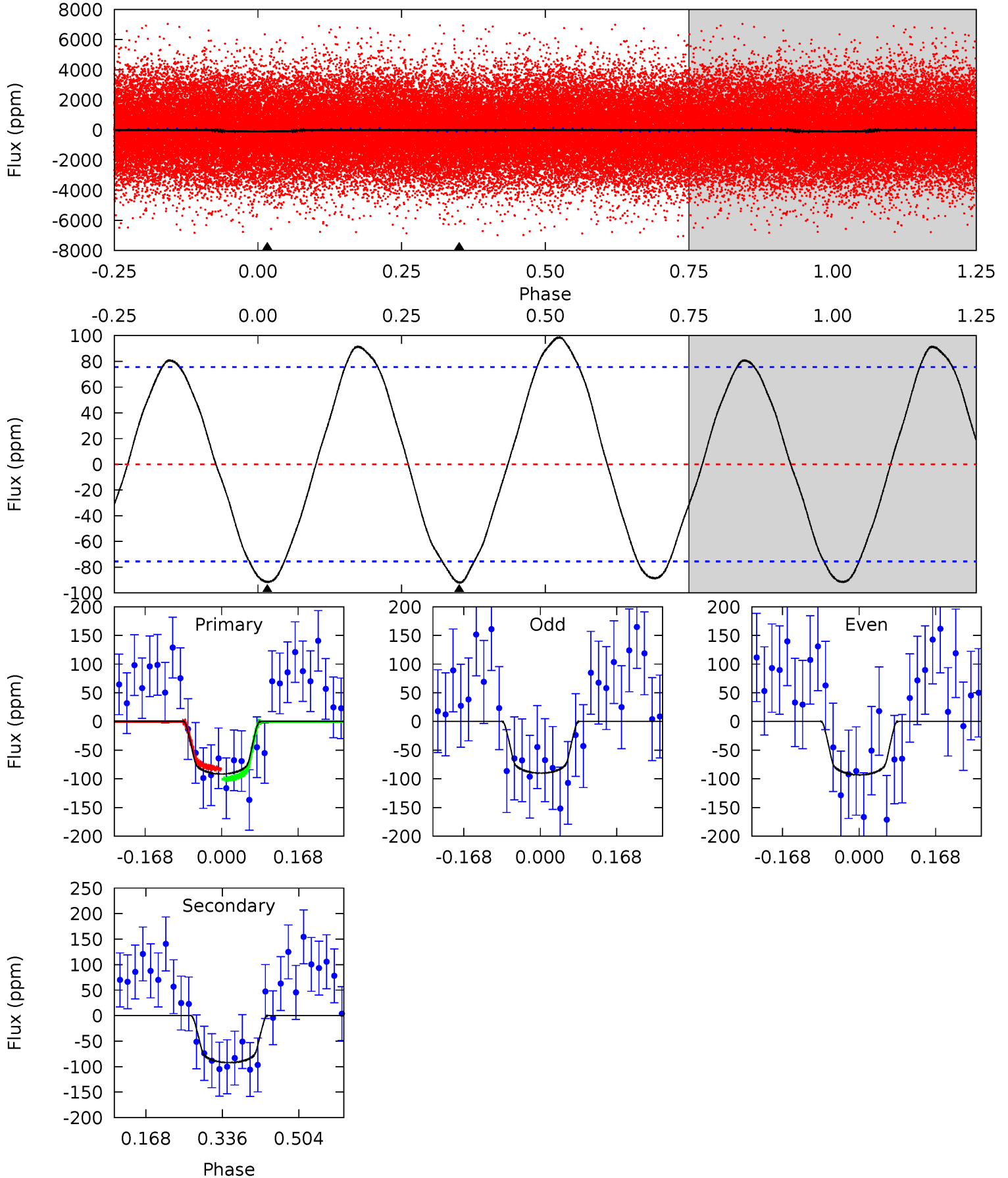
TCE 010918393-01 P= 0.937366 Days $T_0=131.987961$ (BKJD)



DV Model-Shift Uniqueness Test

010918393-01, P = 0.937333 Days, E = 131.061773 Days

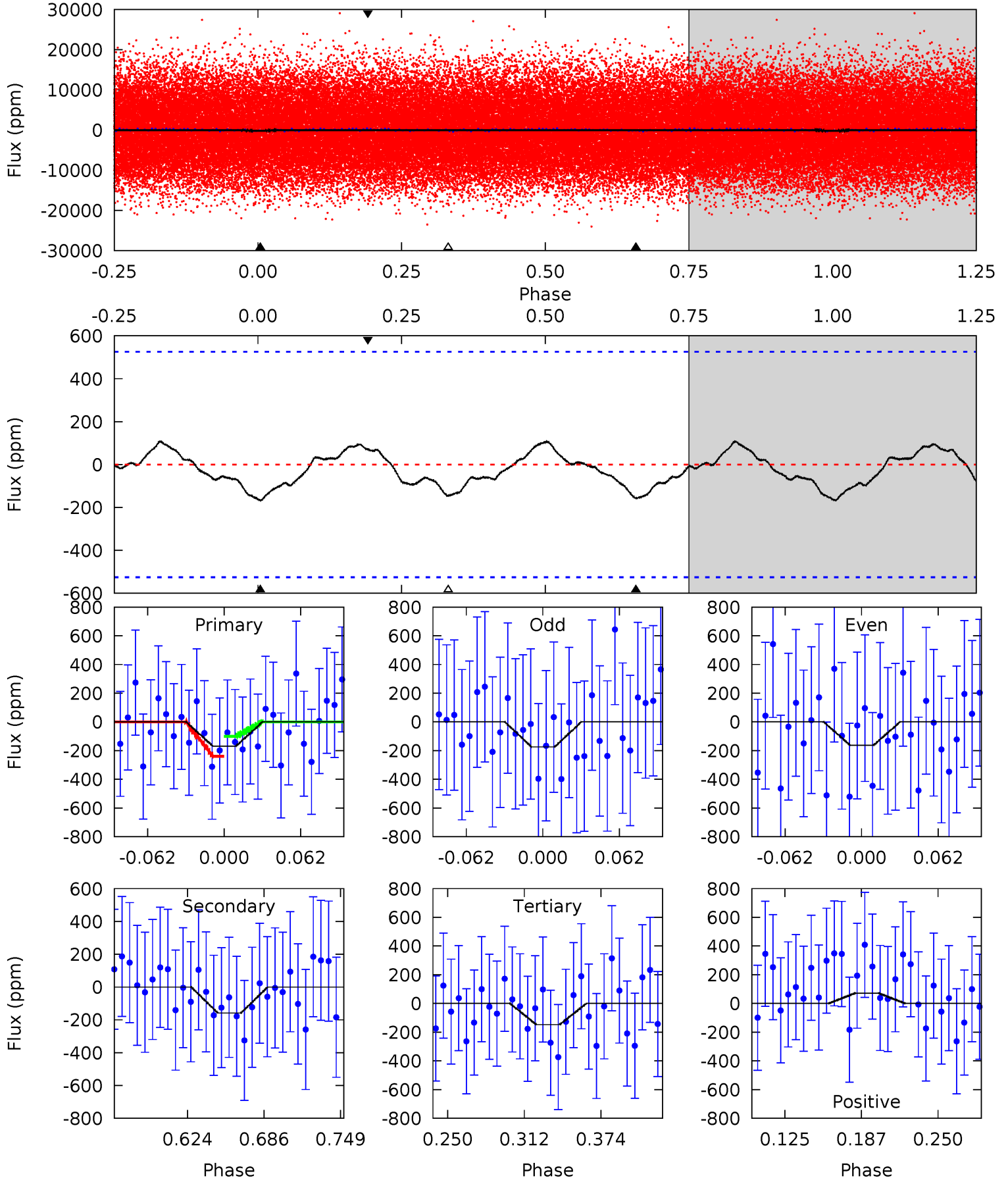
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.40	5.43	0	0	4.45	1.38	3.68	5.40	5.40	5.43	5.43	0.09	1.19	0.52	0.54



Alt Model-Shift Uniqueness Test

010918393-01, P = 0.937366 Days, E = 131.050595 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.50	1.40	1.31	0.64	4.66	1.86	0.56	0.19	0.86	0.10	0.76	0.05	0.38	0.39	0.62



Stellar Parameters For KIC 010918393

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6971^{+214}_{-285}	$3.838^{+0.448}_{-0.112}$	$-0.500^{+0.250}_{-0.300}$	$2.390^{+0.475}_{-1.109}$	$1.433^{+0.189}_{-0.351}$	$0.148^{+0.611}_{-0.049}$
	+3%/-4%	+12%/-3%	+50%/-60%	+20%/-46%	+13%/-24%	+413%/-33%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010918393-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 17	$2.91^{+1.61}_{-1.35}$	4455^{+312}_{-589}	5797^{+2519}_{-1036}	$2.542^{+6.356}_{-1.437}$
Alt.	-158 ± 113	$3.29^{+1.62}_{-1.46}$	4426^{+342}_{-594}	6290^{+3046}_{-2008}	$3.252^{+9.308}_{-2.479}$

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 $A_{obs} \gg 1.0$

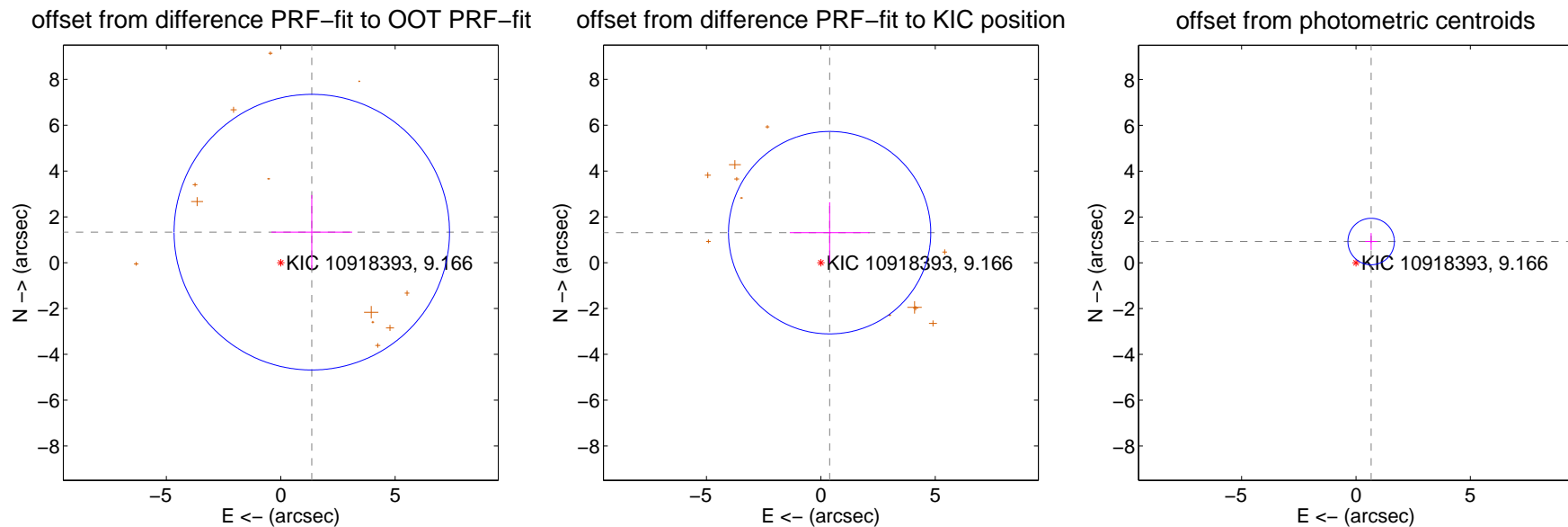
DV Centroid Data

Supplemental centroid analysis for 010918393-01. **Kepler magnitude: 9.17.** Transit SNR 12.08

There are 0 quarters with good PRF difference image offsets

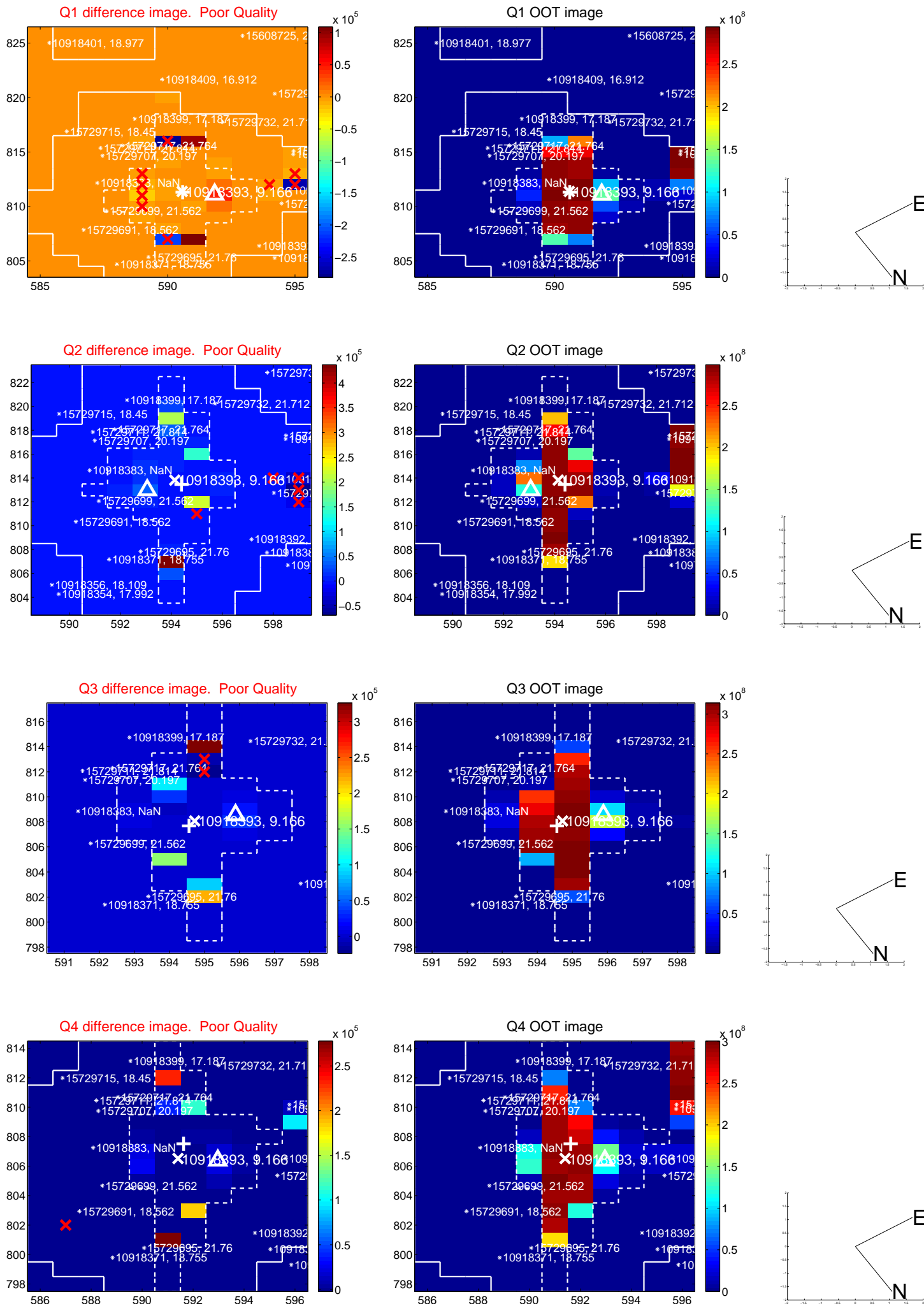
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.901 ± 2.005	0.95	-1.356 ± 1.765	1.333 ± 1.619
PRF-fit source offset from KIC position	1.365 ± 1.473	0.93	-0.383 ± 1.744	1.310 ± 1.329
photometric centroid source offset	1.14 ± 0.34	3.37	-0.66 ± 0.27	0.93 ± 0.37

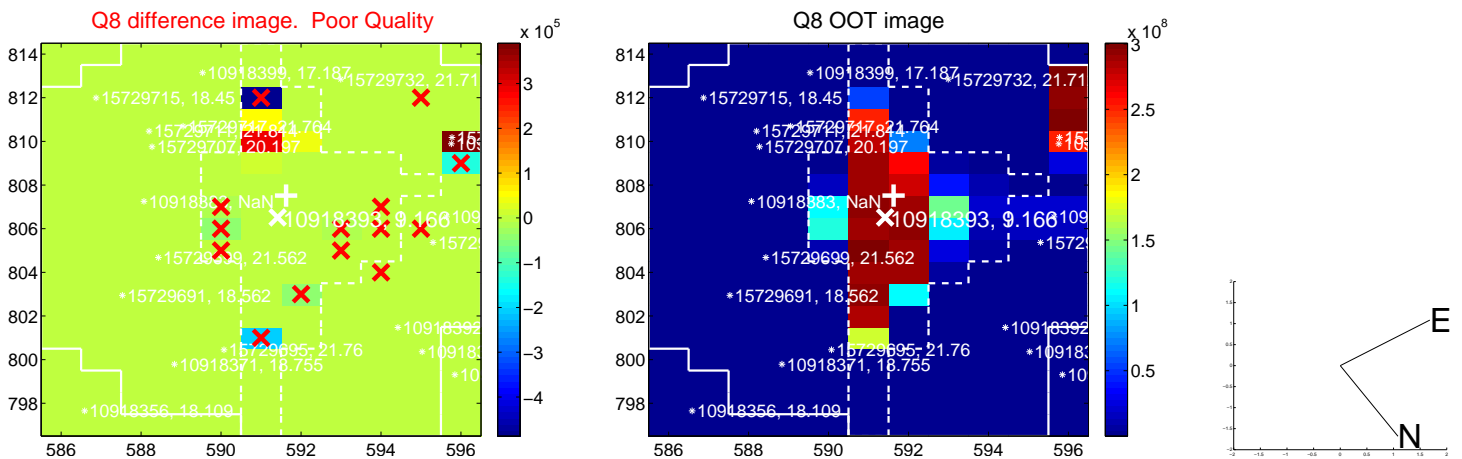
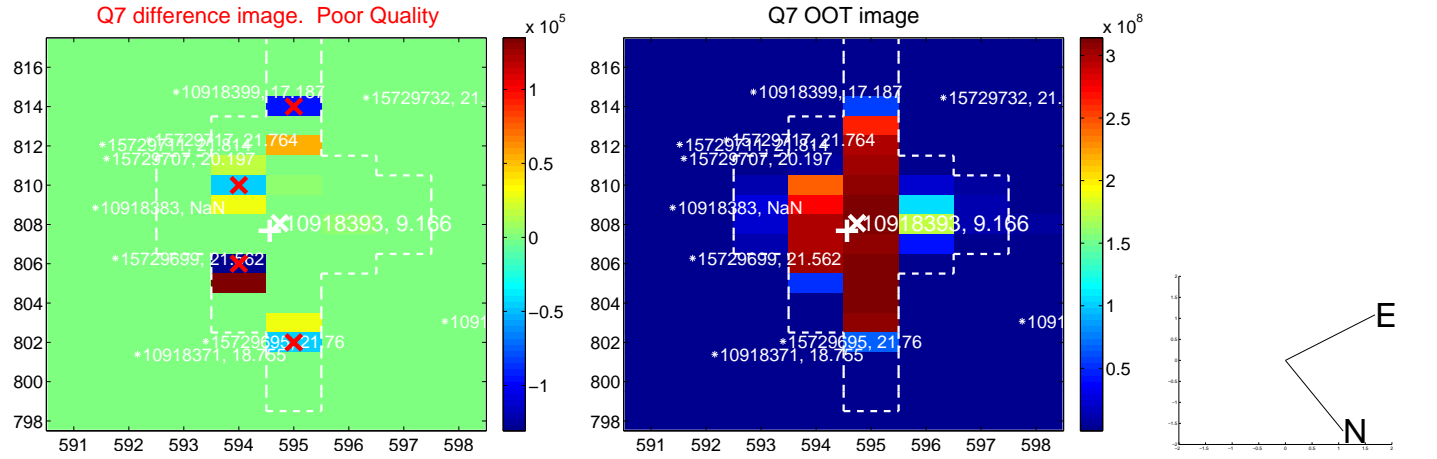
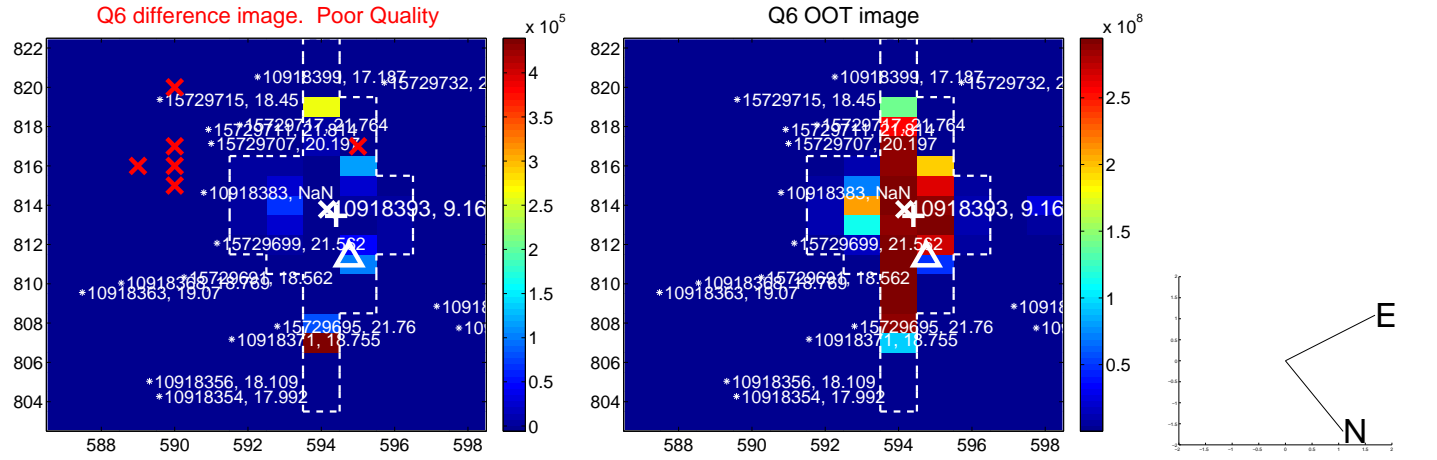
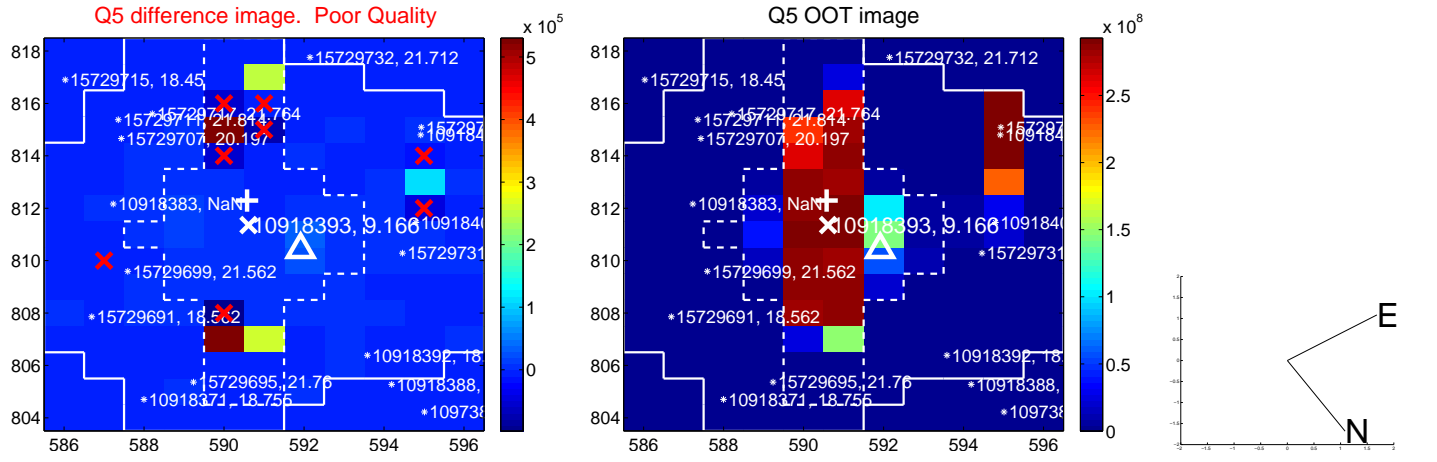


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

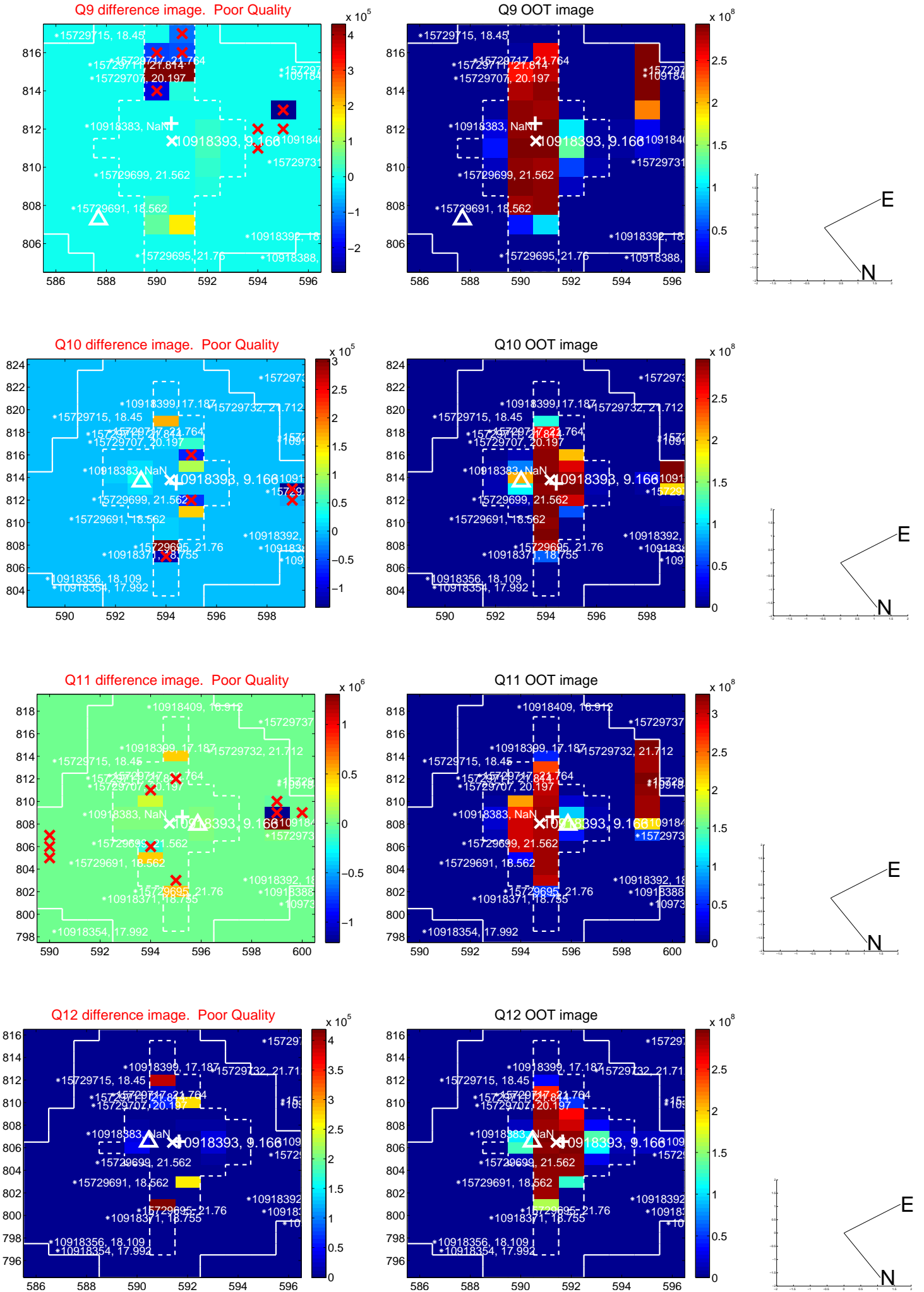
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



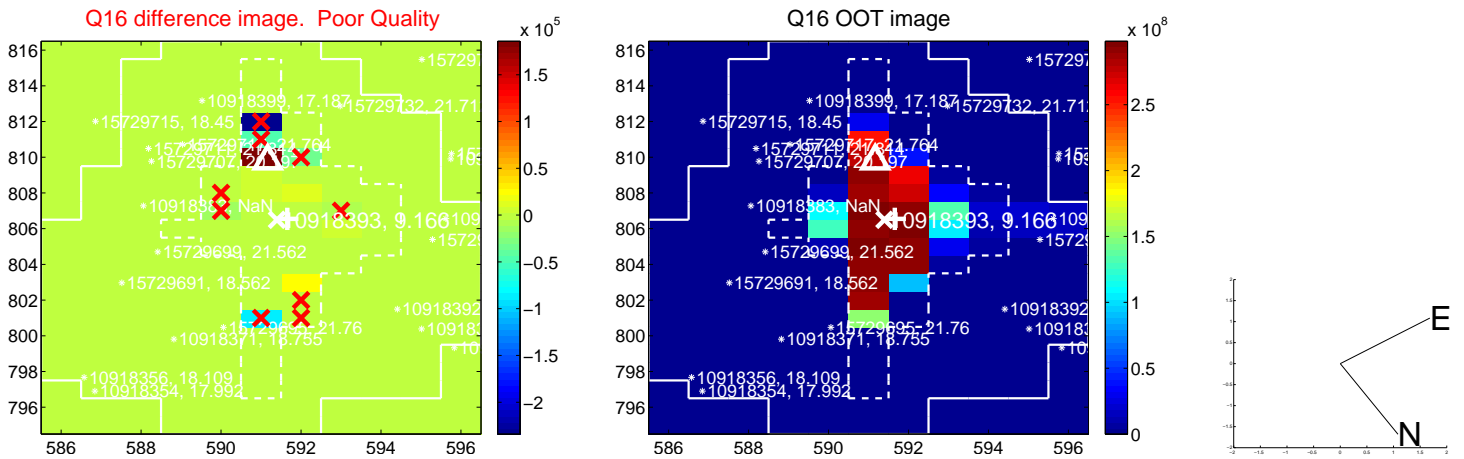
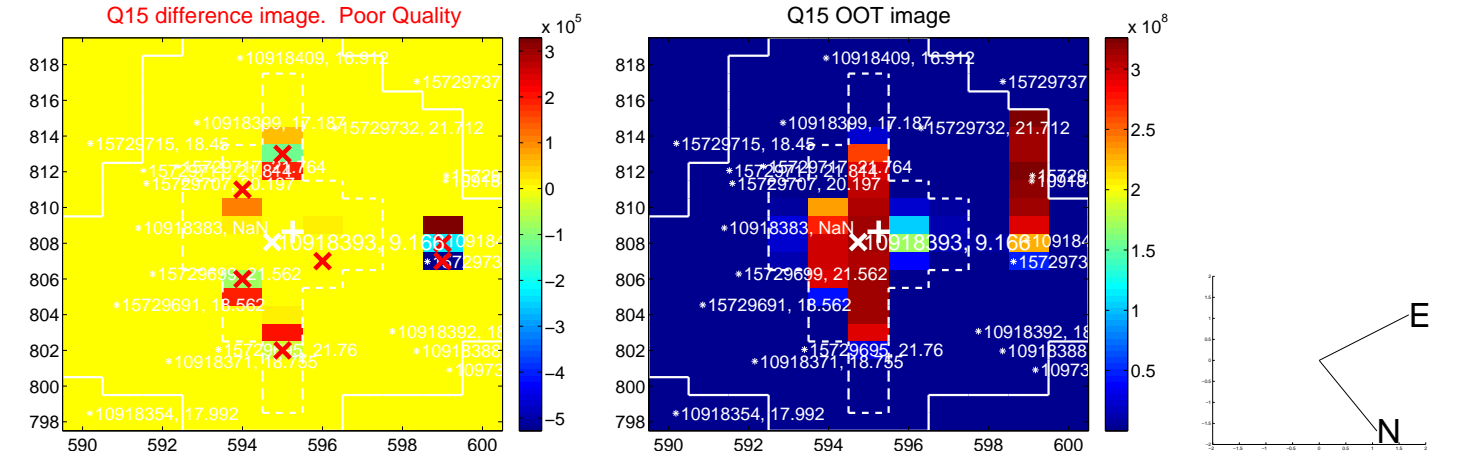
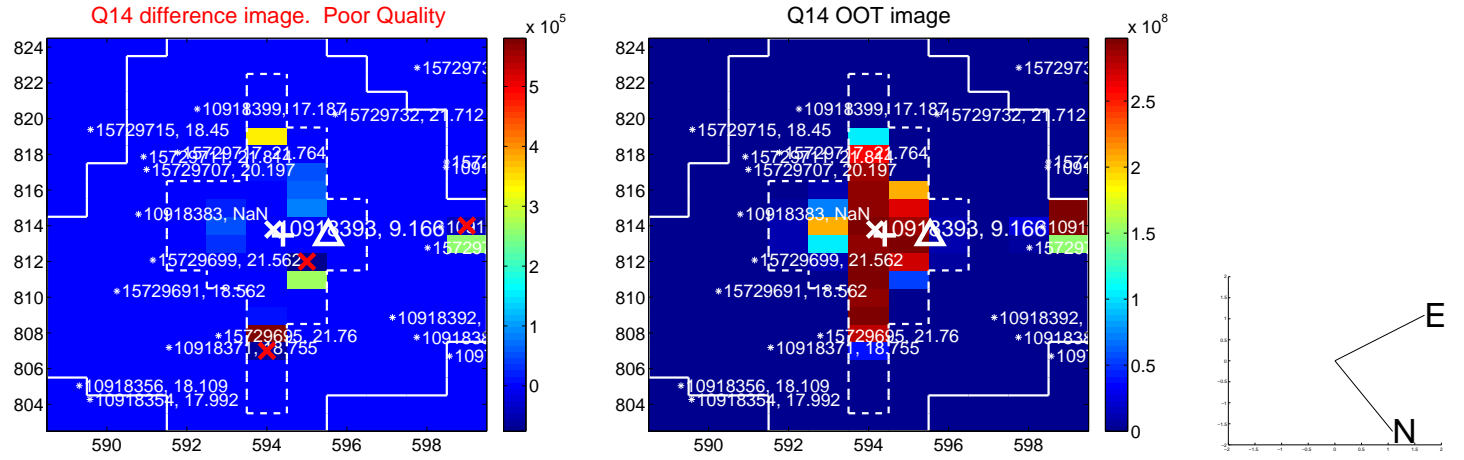
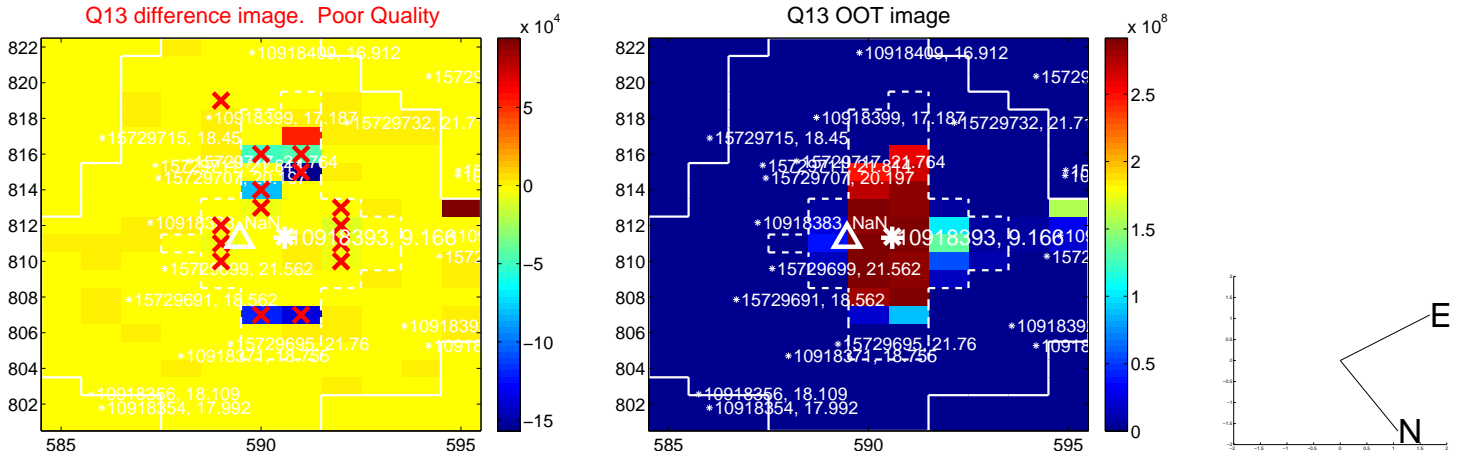
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



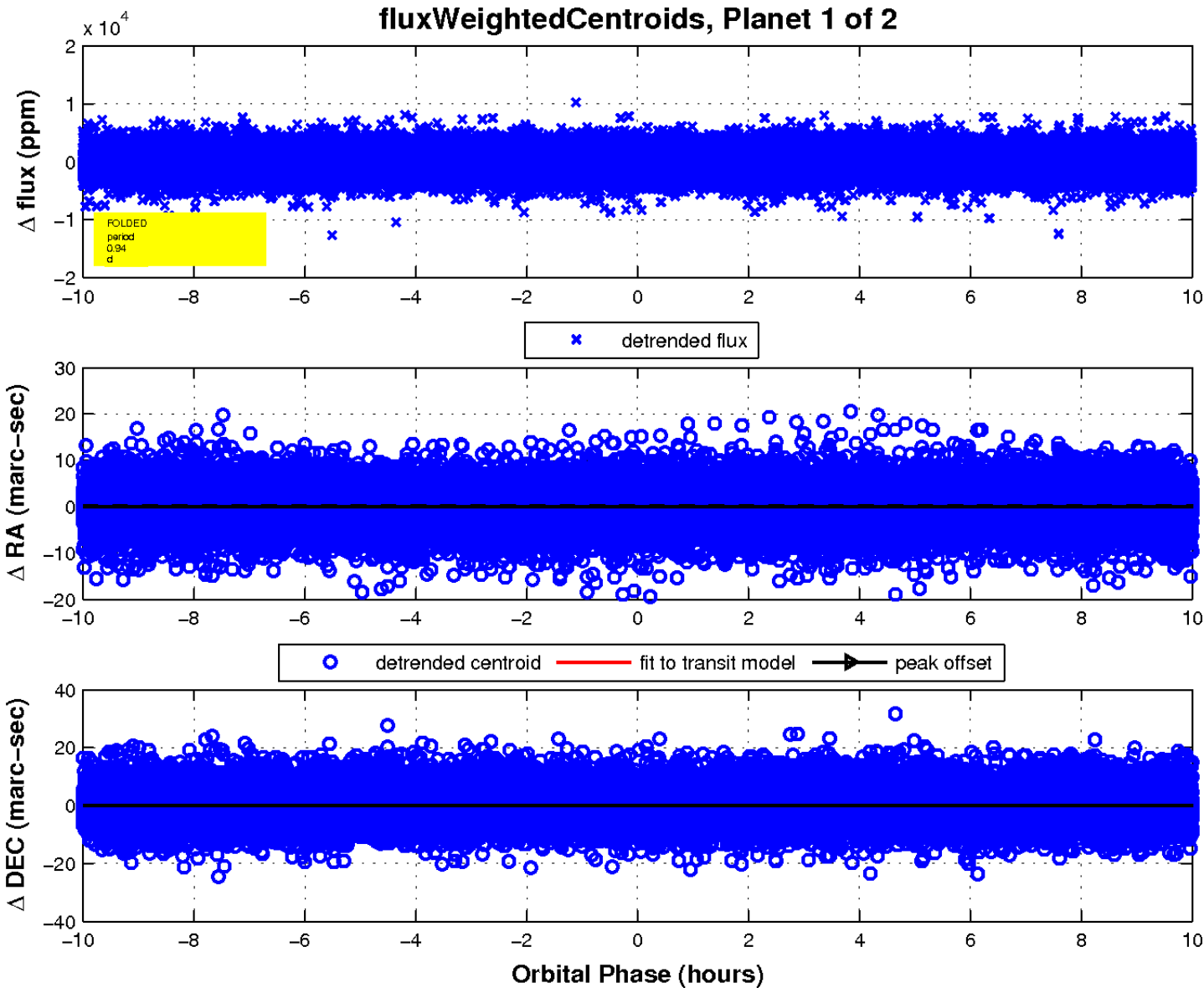
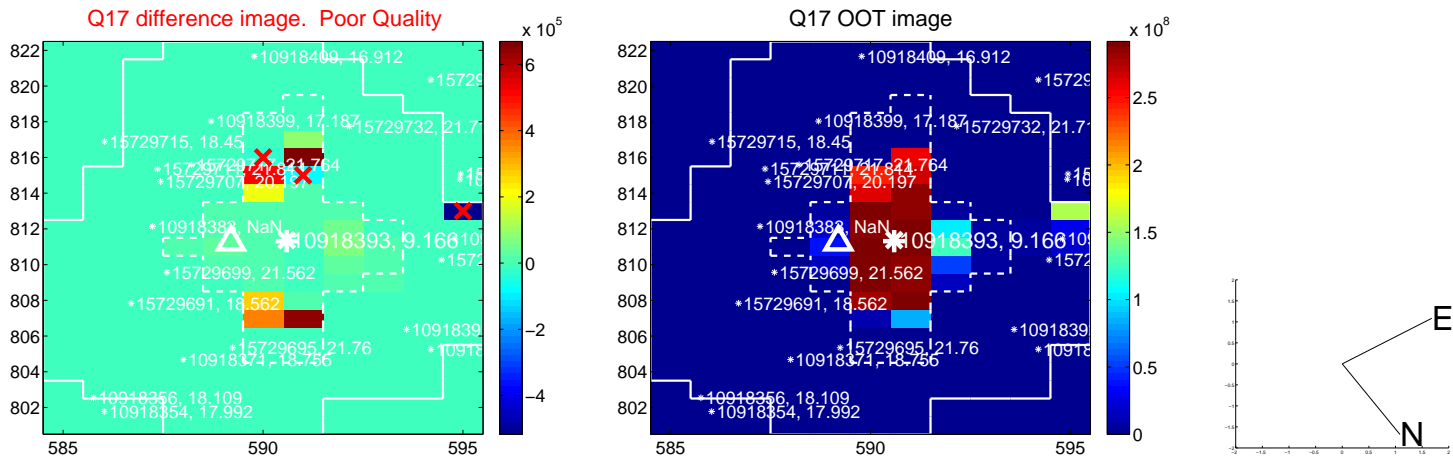
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



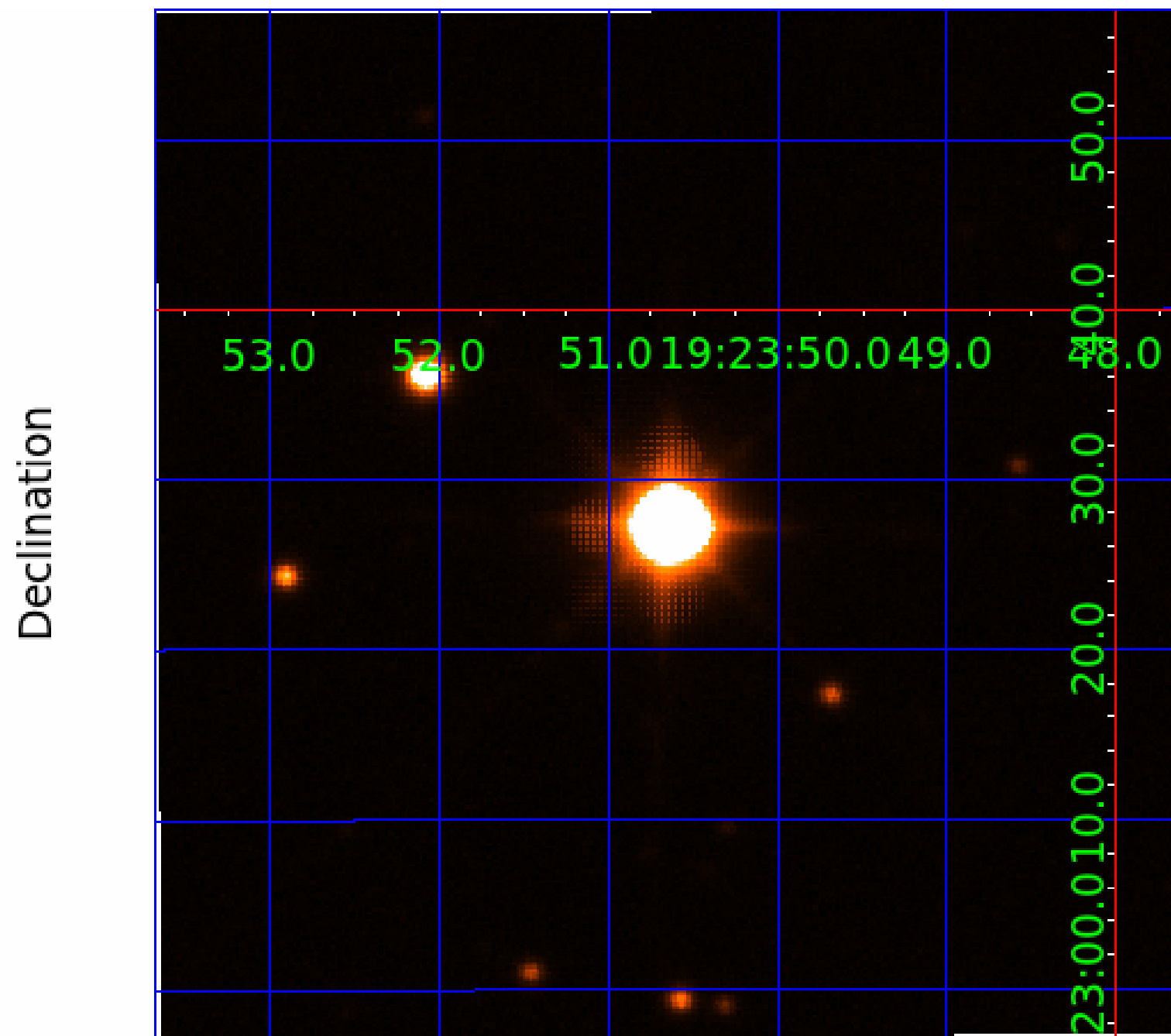
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010918393

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})
010918393-01	OBS	No	0.937333	131.999106	138.7	3.335	12.5	12.1	2.39	6971	3.27	27028.04
010918393-02	OBS	No	1.500045	132.160523	182.3	8.799	8.8	10.0	2.39	6971	4.33	14438.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010918393-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010918393-02	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.

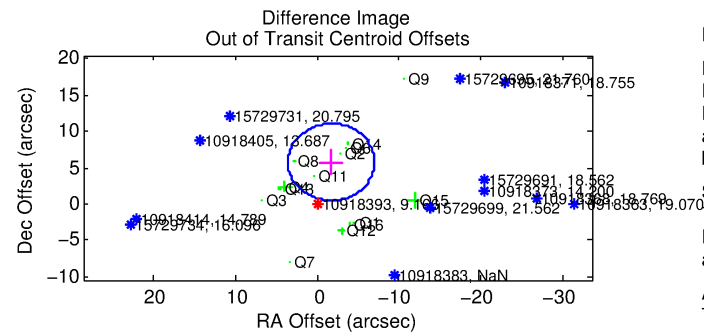
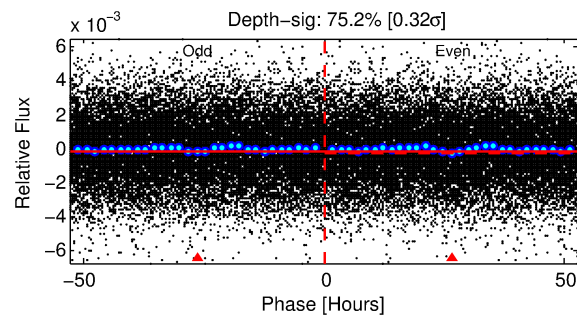
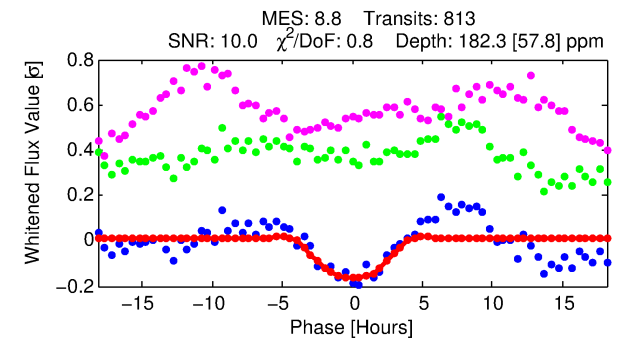
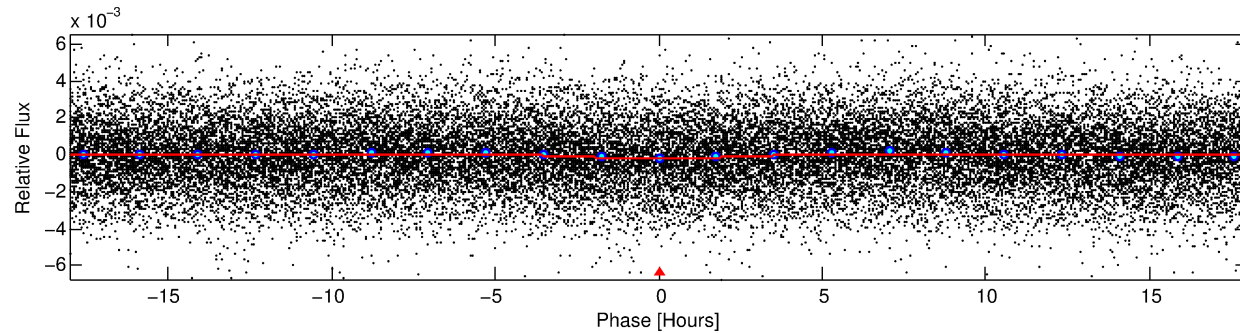
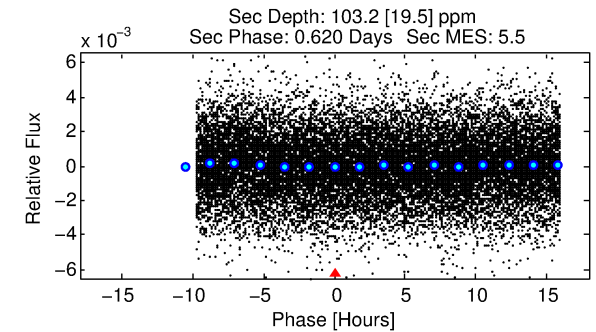
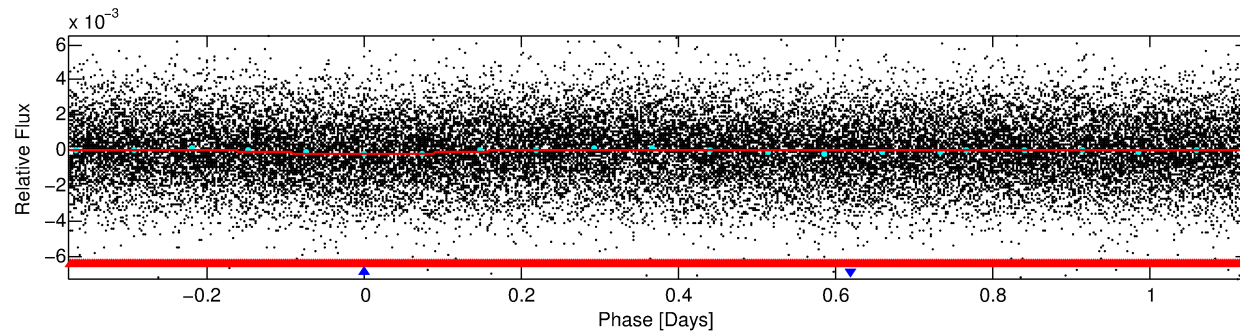
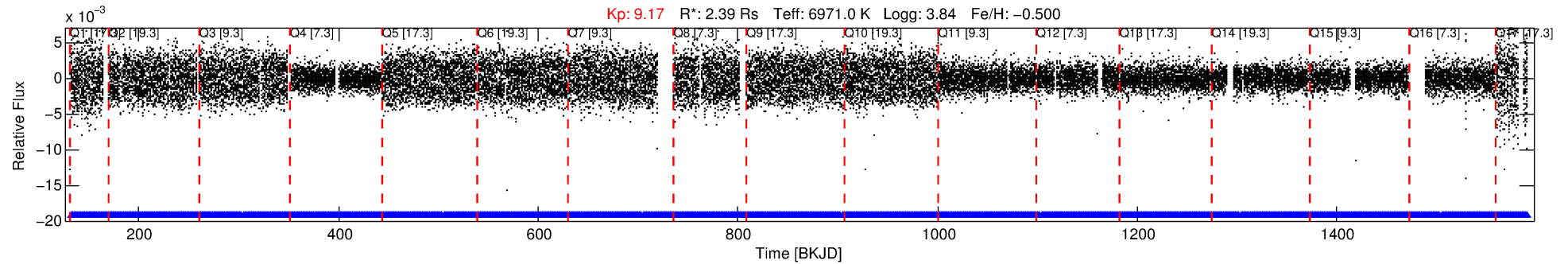
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010918393-02

No Significant Match Found

DV One-Page Summary

KIC: 10918393 Candidate: 2 of 2 Period: 1.500 d



DV Fit Results:

Period = 1.50004 [0.00003] d
Epoch = 132.1605 [0.0159] BKJD
Rp/R* = 0.0166 [0.0042]
a/R* = 1.05 [0.02]
b = 0.98 [0.02]
Seff = 14438.91 [11141.15]
Teq = 2795 [539] K
Rp = 4.33 [2.29] Re
a = 0.0289 [0.0134] AU
Ag = 2.53 [2.34] [0.65σ]
Teffp = 5450 [763] K [2.84σ]

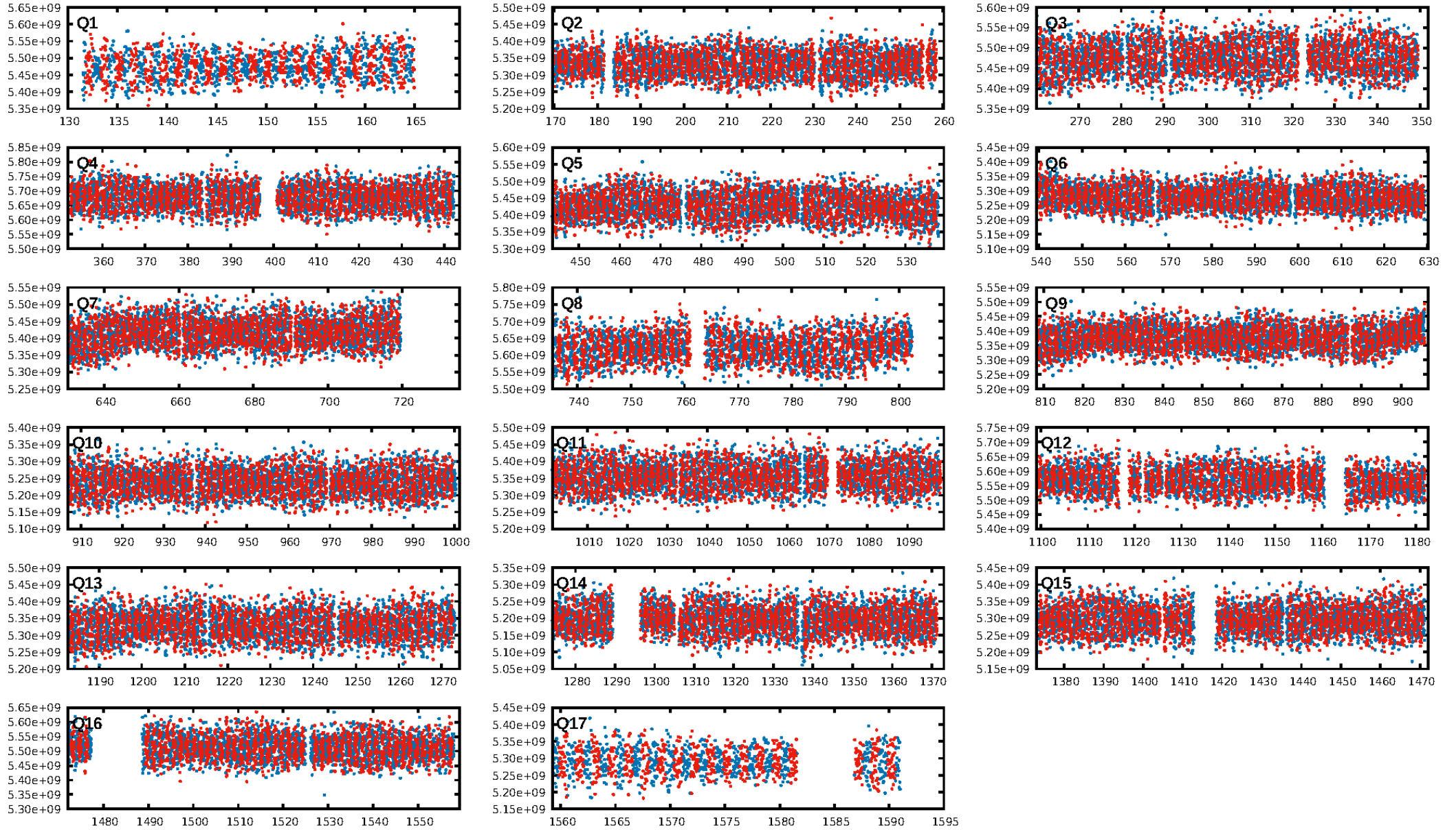
DV Diagnostic Results:

ShortPeriod-sig: 84.9% [1.44σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.33e-22
RollingBand-fgt: 1.00 [777/777]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.9%
Centroid-so: 1.096 arcsec [3.73σ]
OotOffset-rm: 6.011 arcsec [3.41σ]
KicOffset-rm: 3.437 arcsec [2.24σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/17]

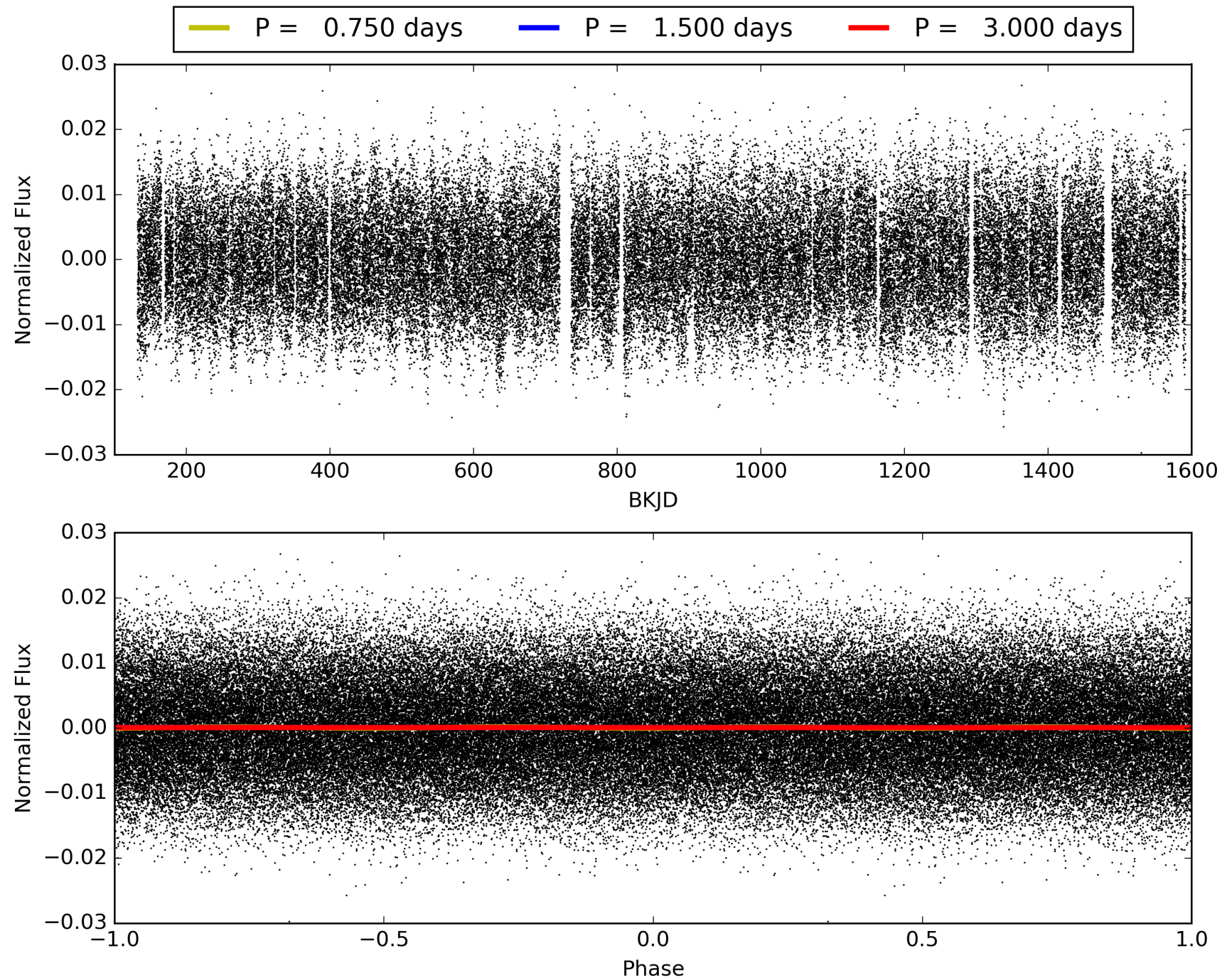
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:20:27 Z

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

TCE 010918393-02, PDC Light Curves

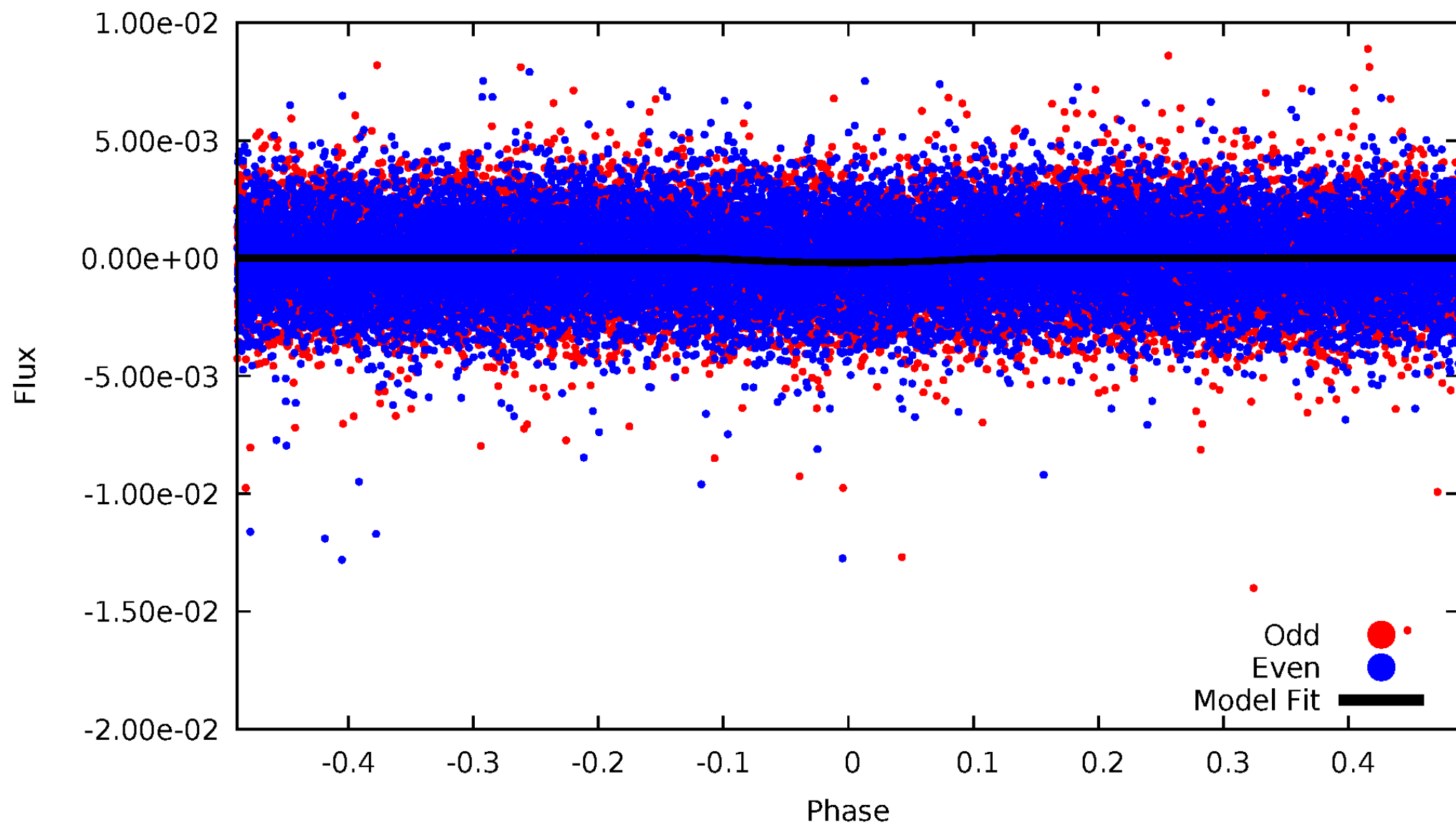


TCE 010918393-02



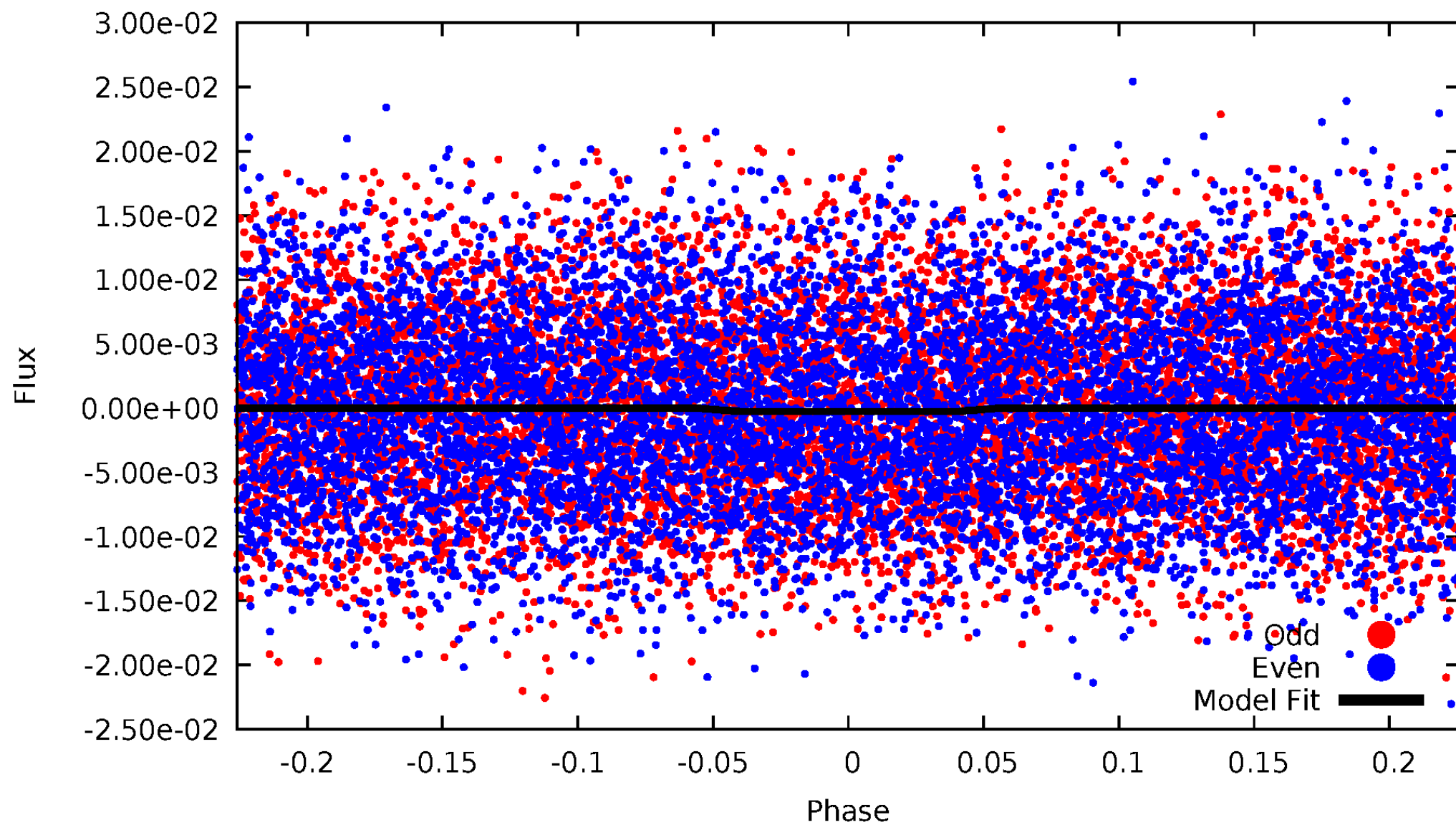
DV Odd/Even

TCE 010918393-02



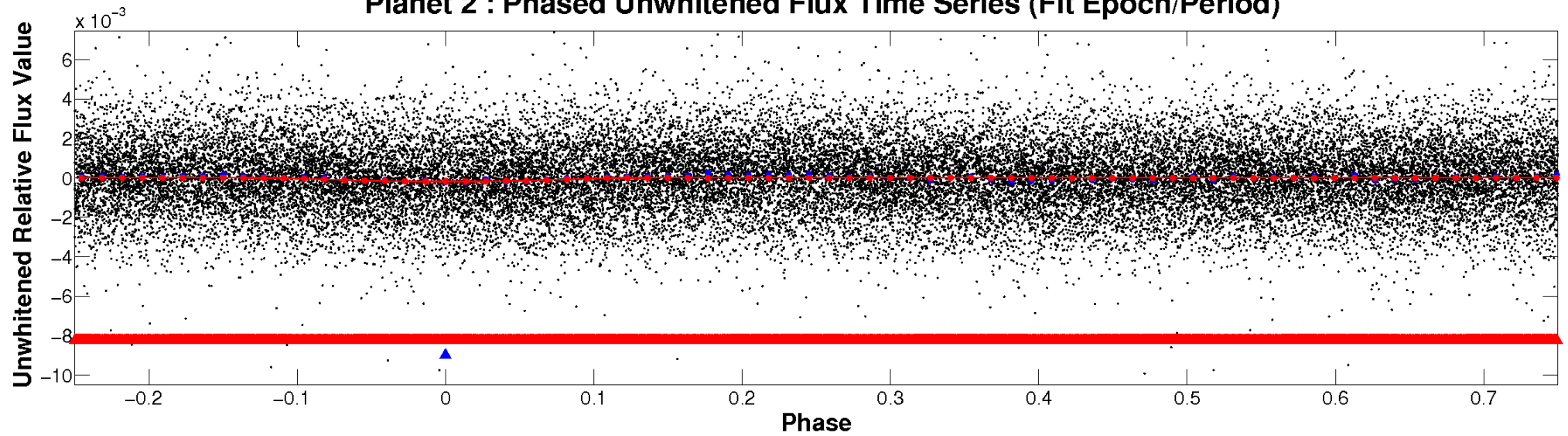
ALT Odd/Even

TCE 010918393-02

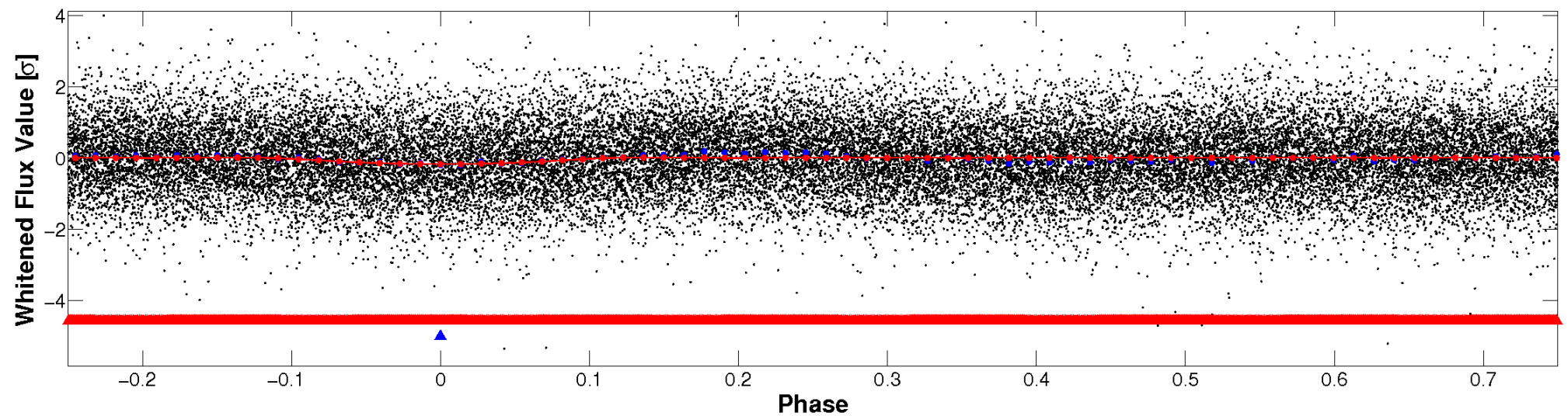


Non-Whitened Vs. Whitened Light Curve

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

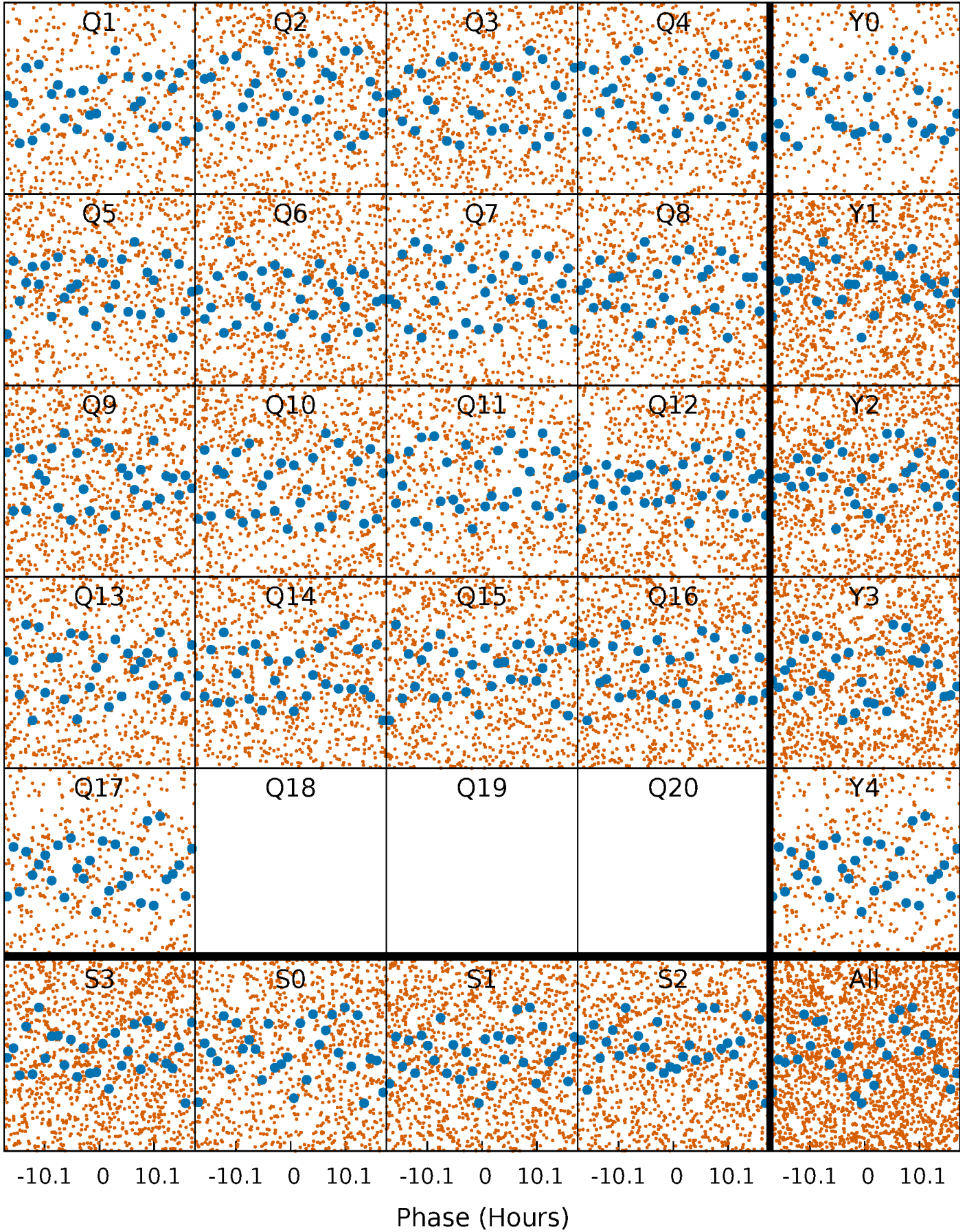


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



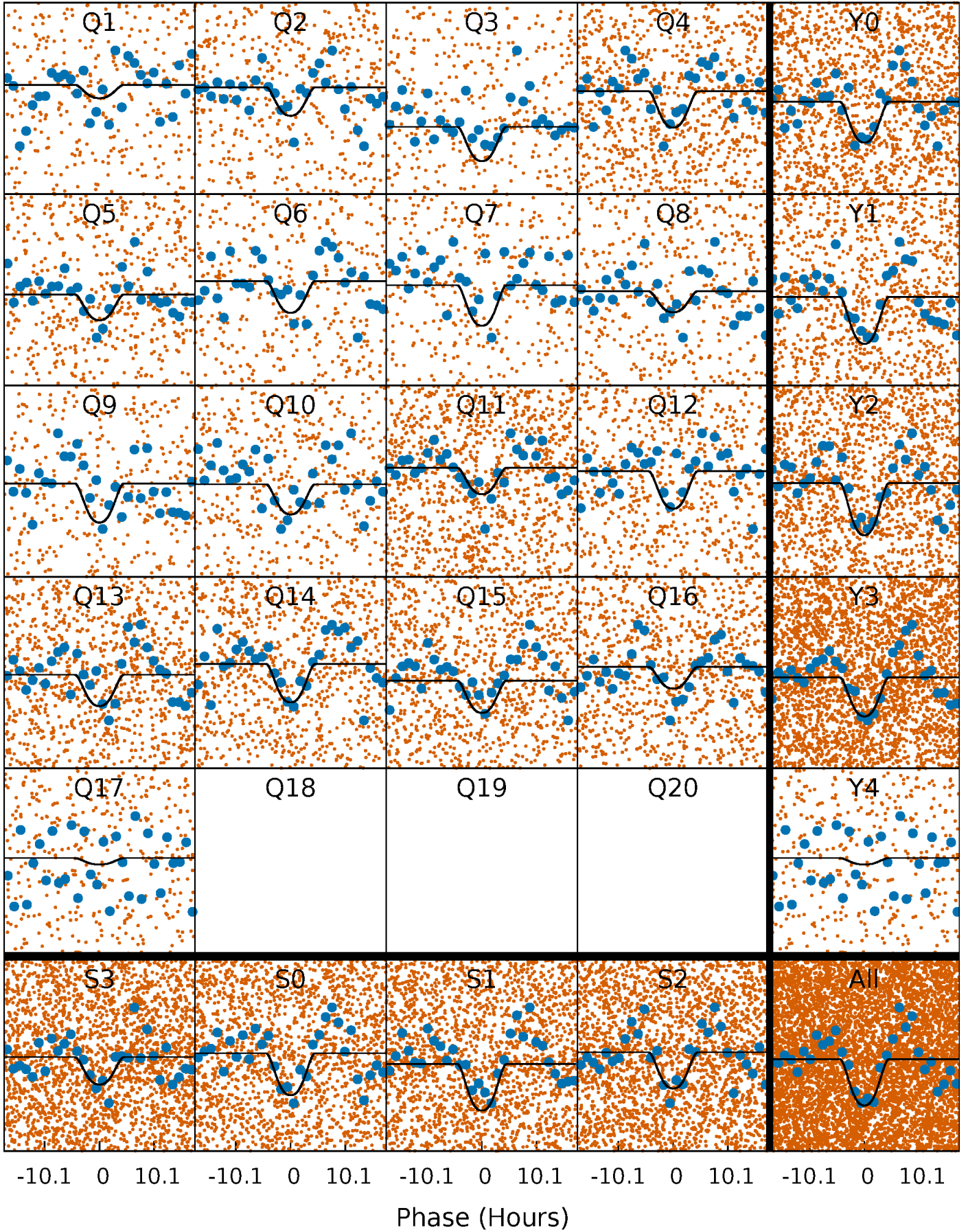
PDC Quarter-Phased Transit Curves

TCE 010918393-02 P= 1.500045 Days $T_0=132.160523$ (BKJD)



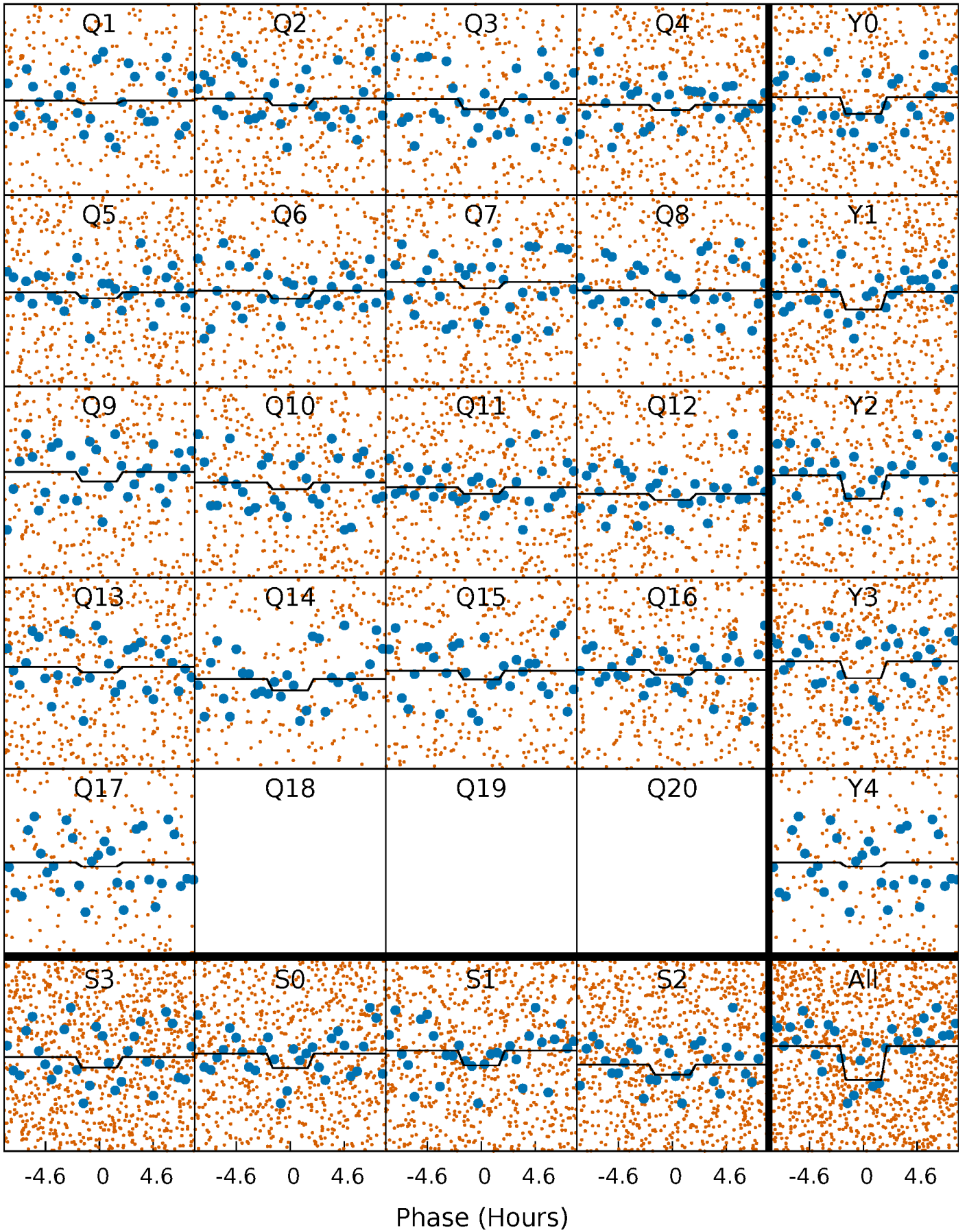
DV Quarter-Phased Transit Curves

TCE 010918393-02 P= 1.500045 Days $T_0=132.160523$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

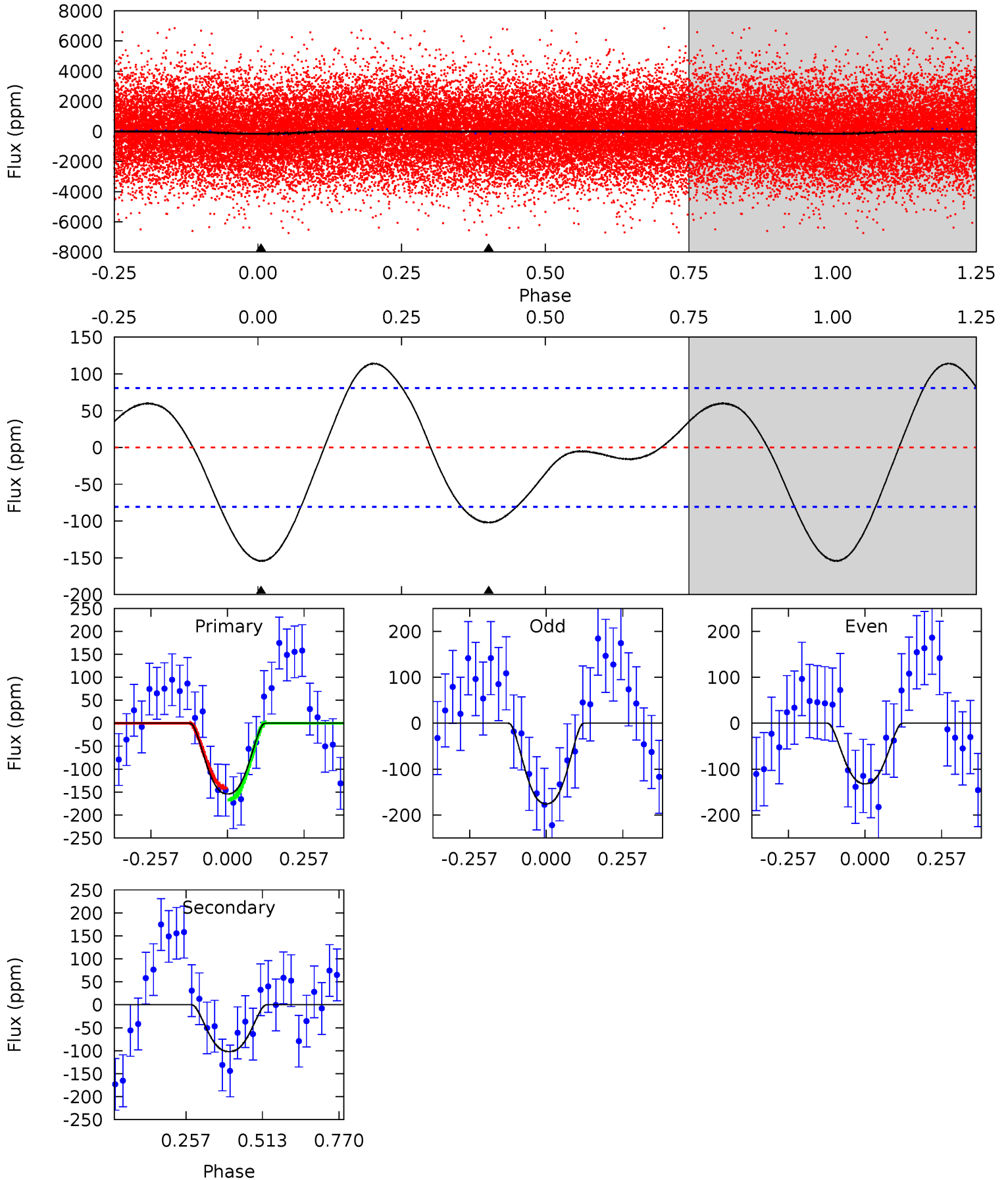
TCE 010918393-02 P= 1.500046 Days $T_0=132.164087$ (BKJD)



DV Model-Shift Uniqueness Test

010918393-02, P = 1.500045 Days, E = 130.660478 Days

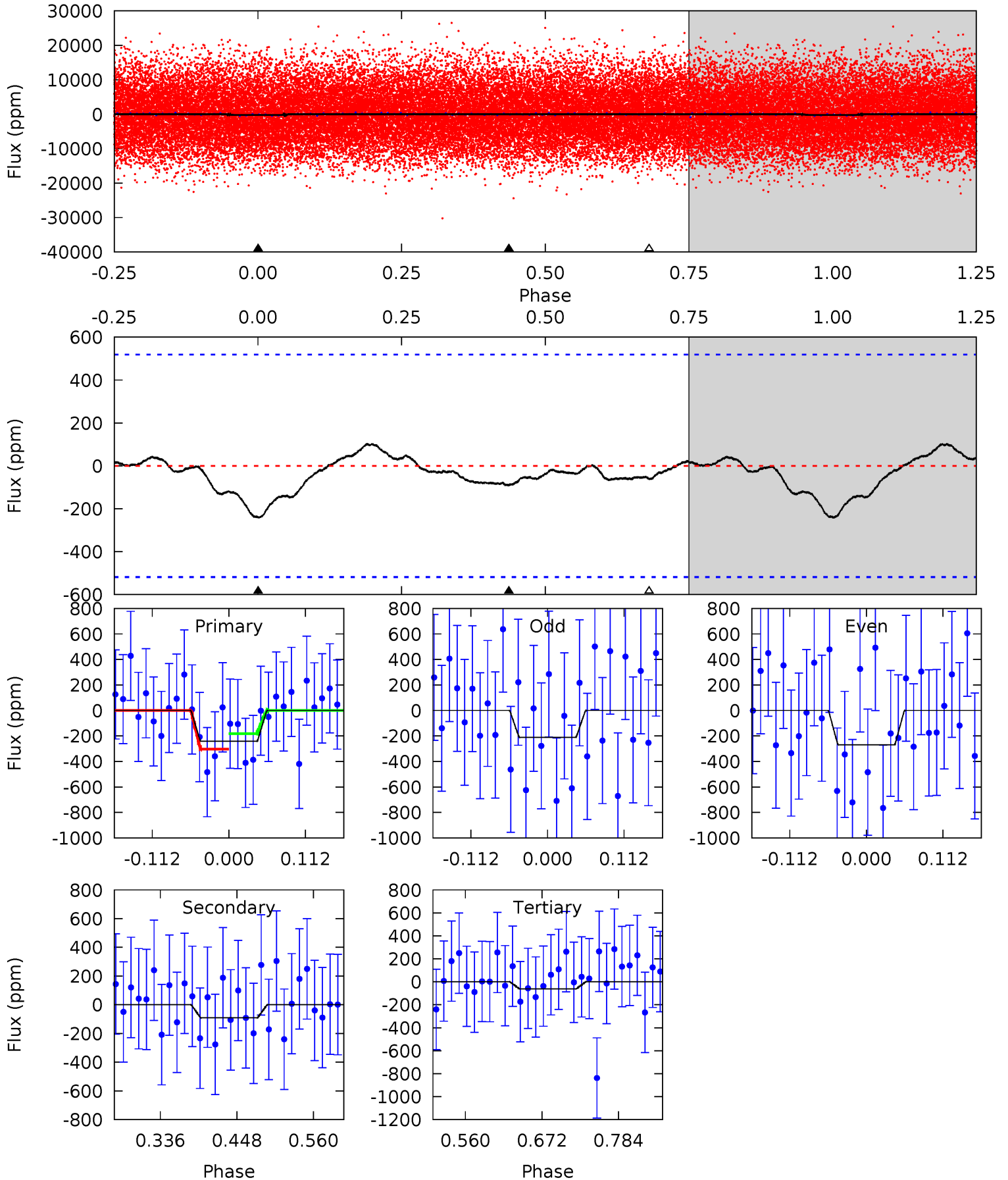
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	5.51	0	0	4.36	1.13	0.88	8.33	8.33	5.51	5.51	1.19	-0.08	0.42	0.69



Alt Model-Shift Uniqueness Test

010918393-02, P = 1.500046 Days, E = 130.664041 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.11	0.79	0.53	0	4.54	1.59	0.37	1.58	2.11	0.26	0.79	0.26	0.70	0.30	0.53



Stellar Parameters For KIC 010918393

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6971^{+214}_{-285}	$3.838^{+0.448}_{-0.112}$	$-0.500^{+0.250}_{-0.300}$	$2.390^{+0.475}_{-1.109}$	$1.433^{+0.189}_{-0.351}$	$0.148^{+0.611}_{-0.049}$
	+3%/-4%	+12%/-3%	+50%/-60%	+20%/-46%	+13%/-24%	+413%/-33%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010918393-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-102 ± 19	$3.93^{+1.45}_{-1.25}$	3790^{+286}_{-476}	5259^{+881}_{-630}	$3.004^{+3.170}_{-1.395}$
Alt.	-90 ± 114	$3.68^{+1.43}_{-1.24}$	3779^{+304}_{-462}	5091^{+1930}_{-9683}	$2.485^{+7.043}_{-3.442}$

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 $A_{\text{obs}} \gg 1.0$

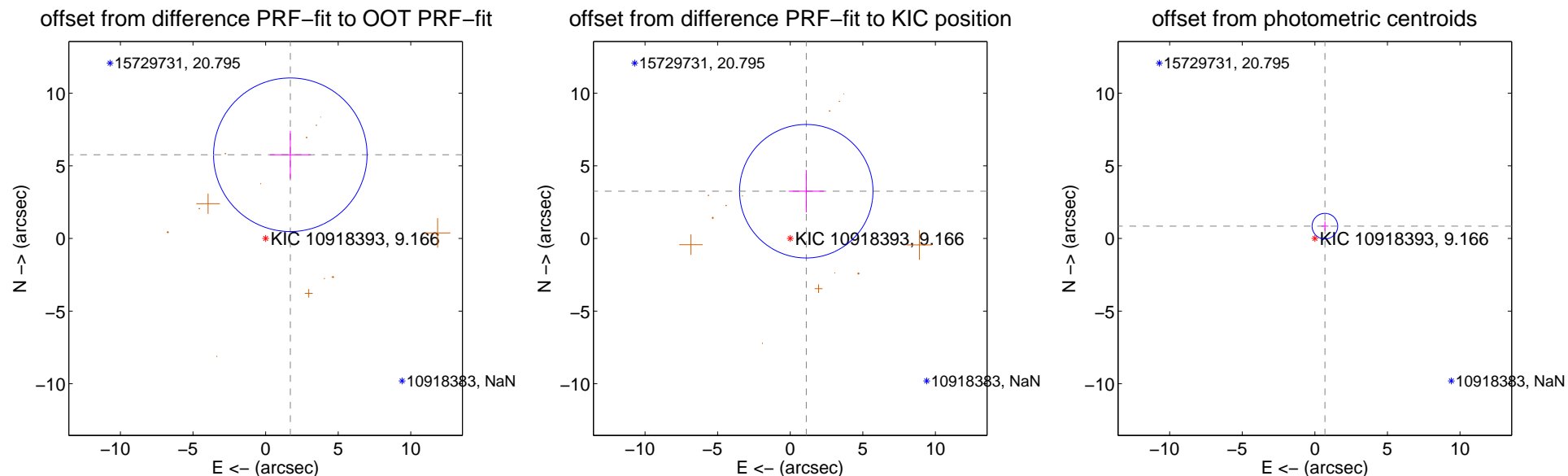
DV Centroid Data

Supplemental centroid analysis for 010918393-02. **Kepler magnitude: 9.17.** Transit SNR 9.98

There are 0 quarters with good PRF difference image offsets

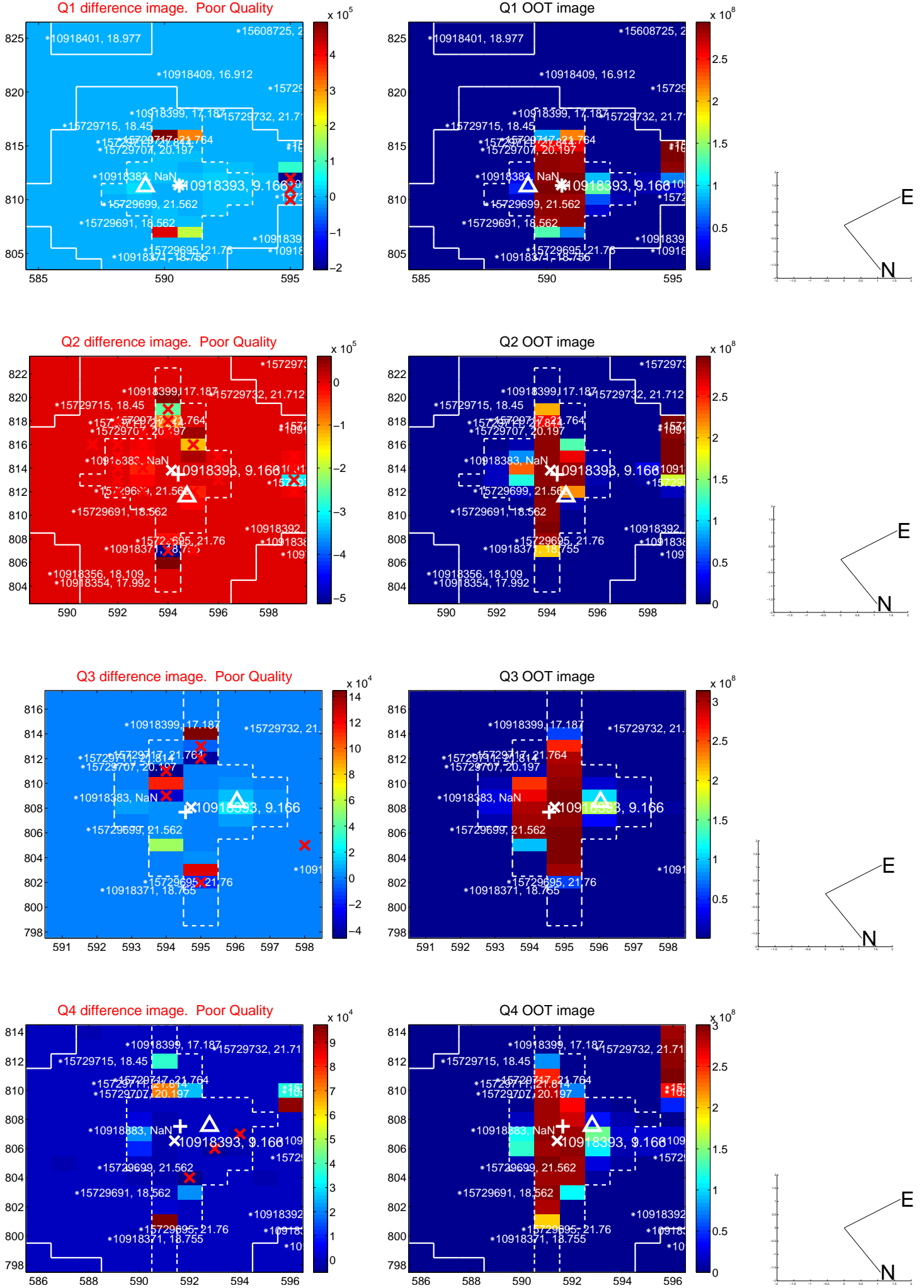
The direct PRF centroid is offset from the target star catalog position by about 1.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.011 ± 1.763	3.41	-1.702 ± 1.400	5.765 ± 1.641
PRF-fit source offset from KIC position	3.437 ± 1.532	2.24	-1.106 ± 1.215	3.255 ± 1.454
photometric centroid source offset	1.10 ± 0.29	3.73	-0.69 ± 0.24	0.85 ± 0.32

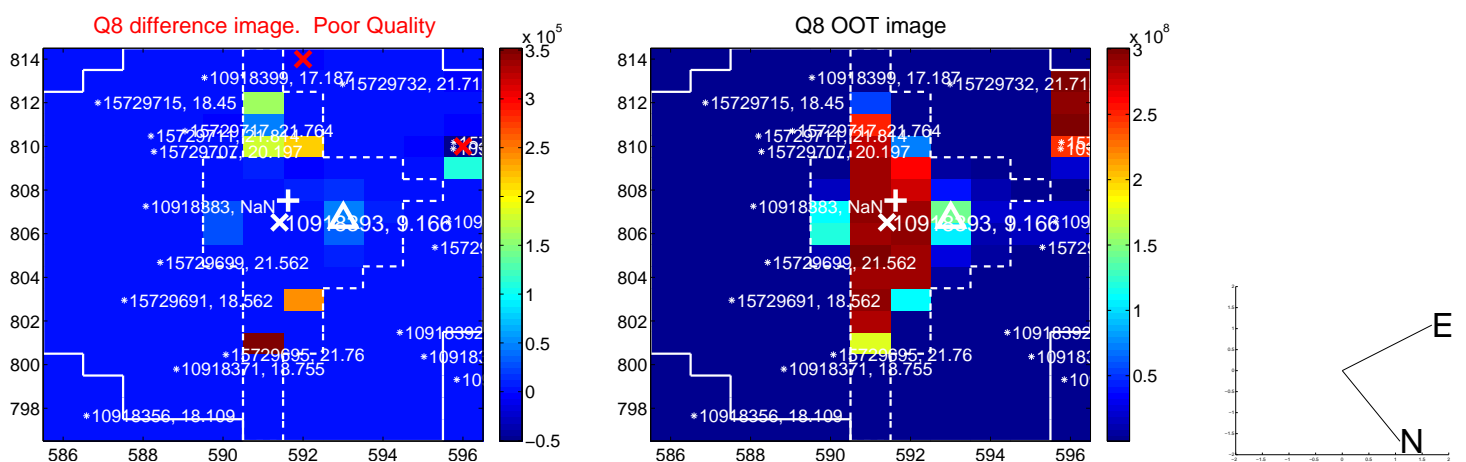
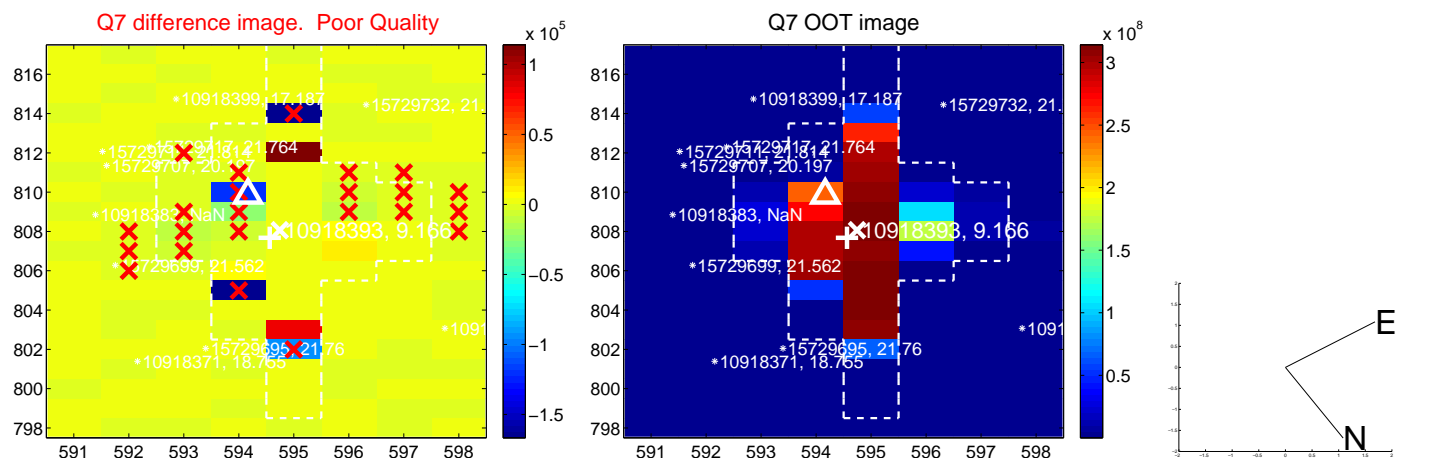
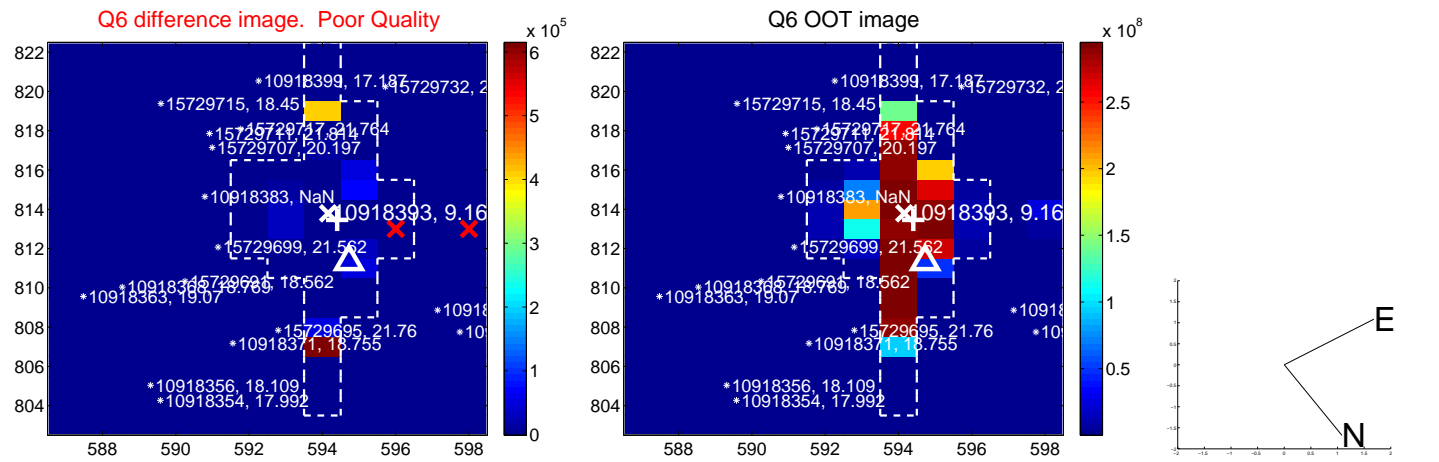
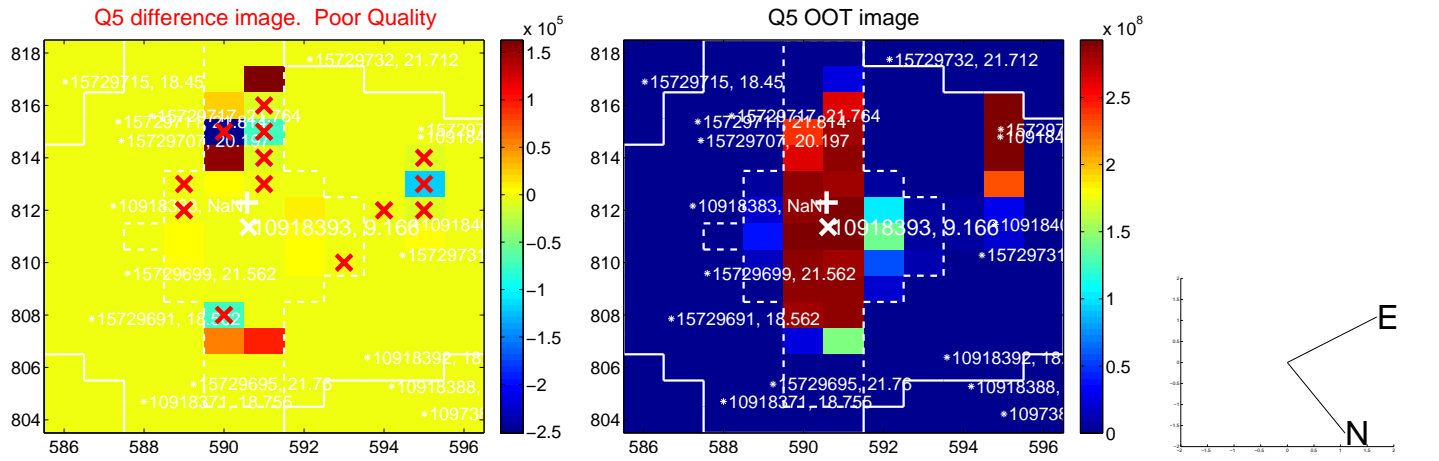


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

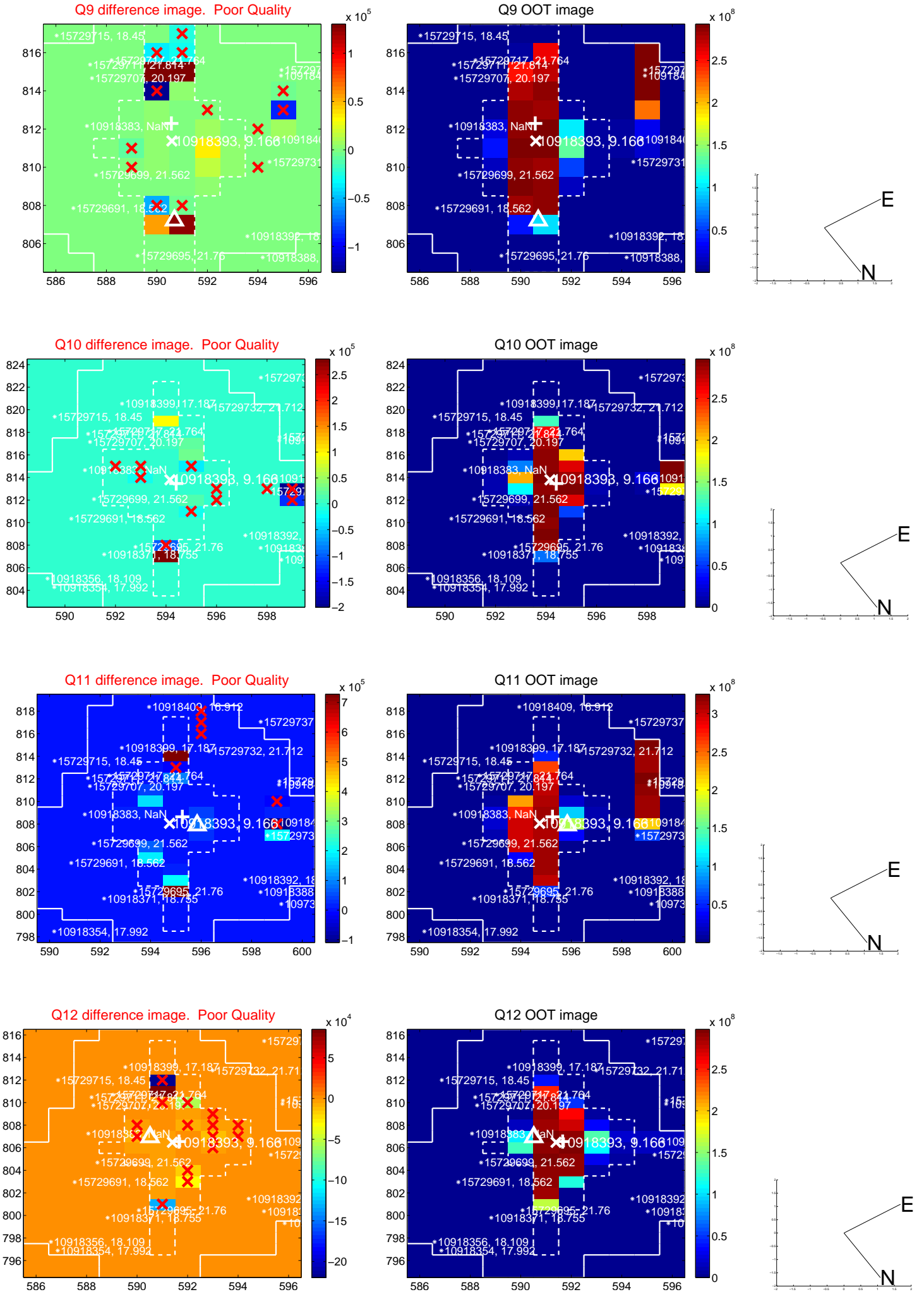
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



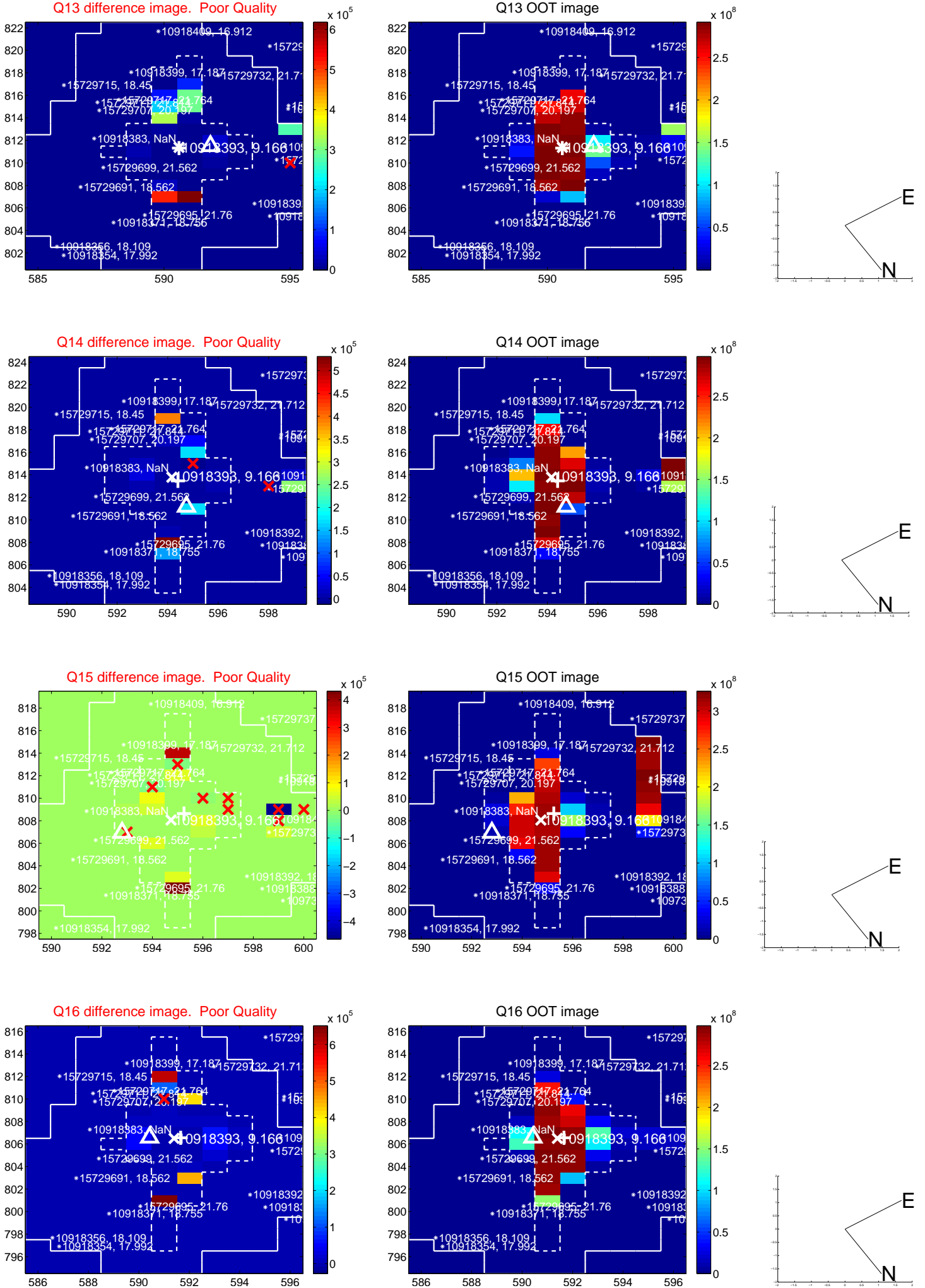
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



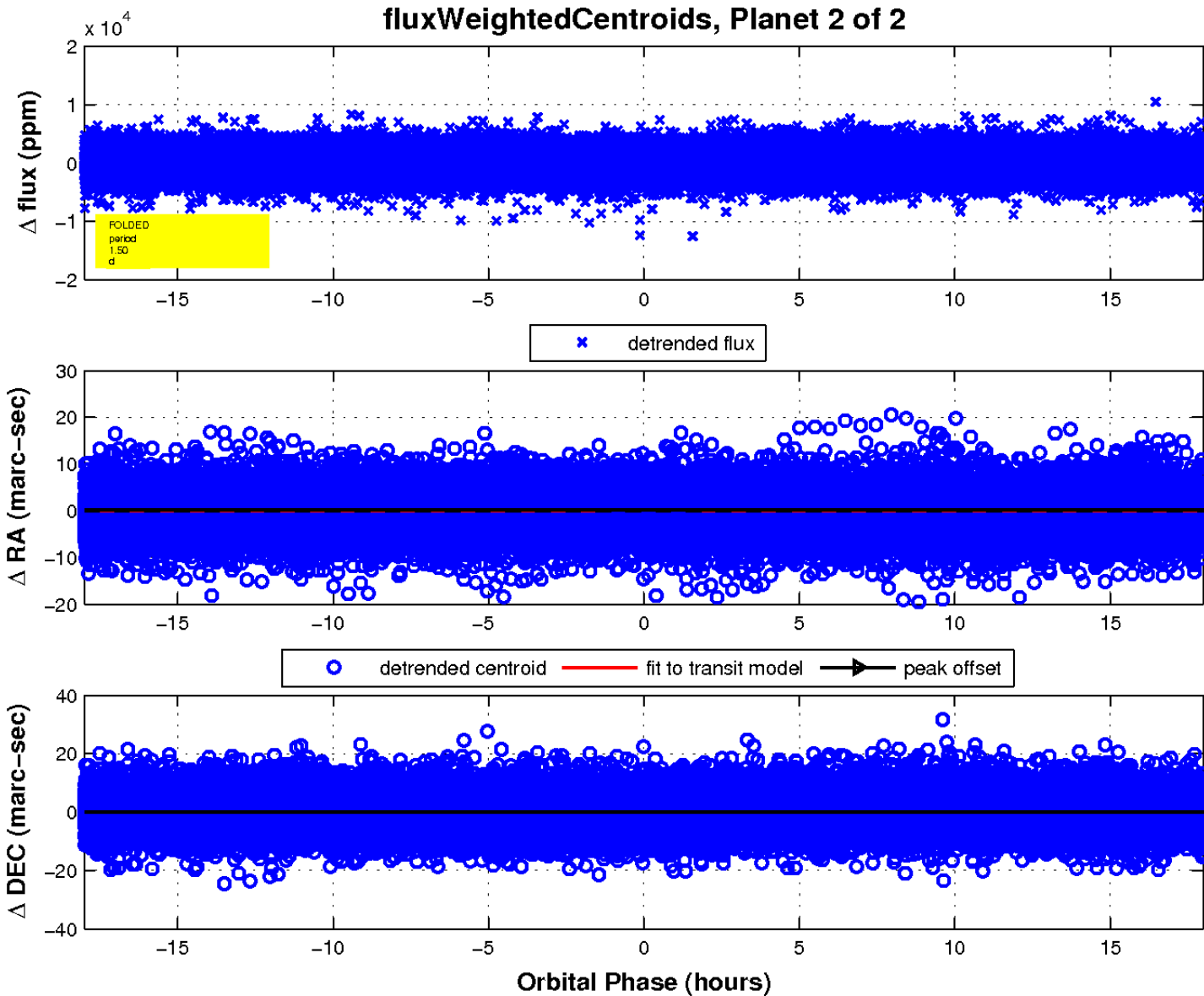
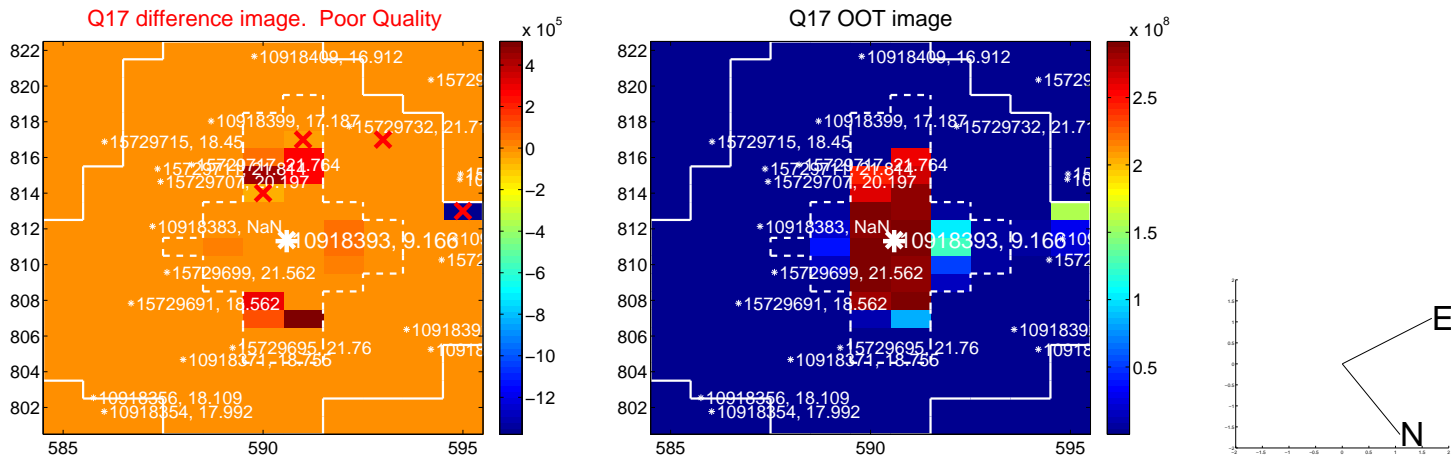
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

