

KIC 007299869

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})
007299869-01	OBS	No	2.172604	132.907061	76.0	6.055	9.6	9.2	2.61	8120	2.69	18640.60
007299869-02	OBS	No	0.607764	131.824166	64.4	3.266	8.9	7.9	2.61	8120	2.48	101887.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007299869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007299869-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

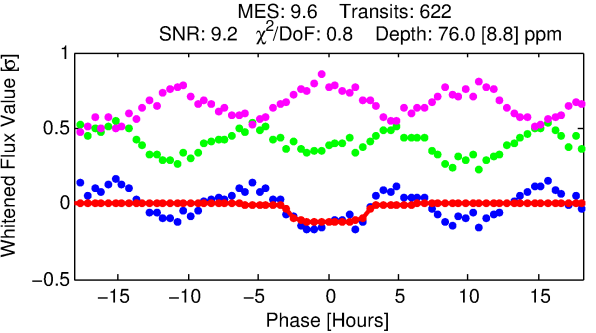
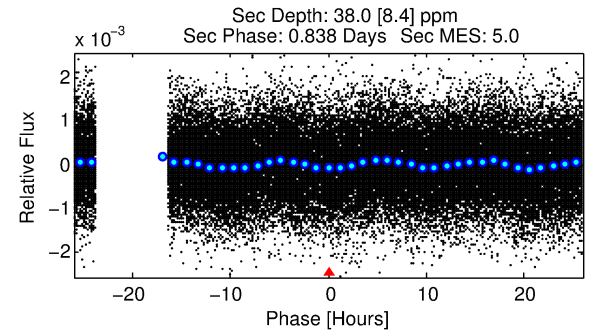
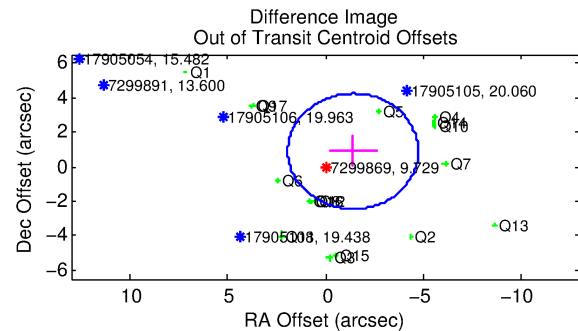
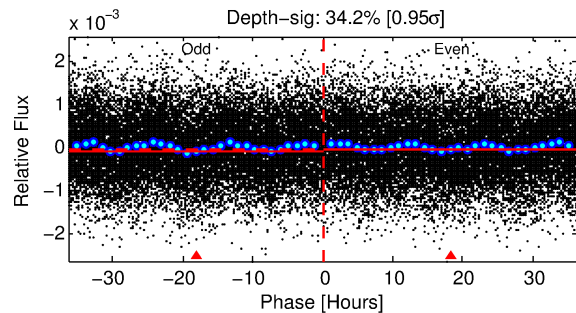
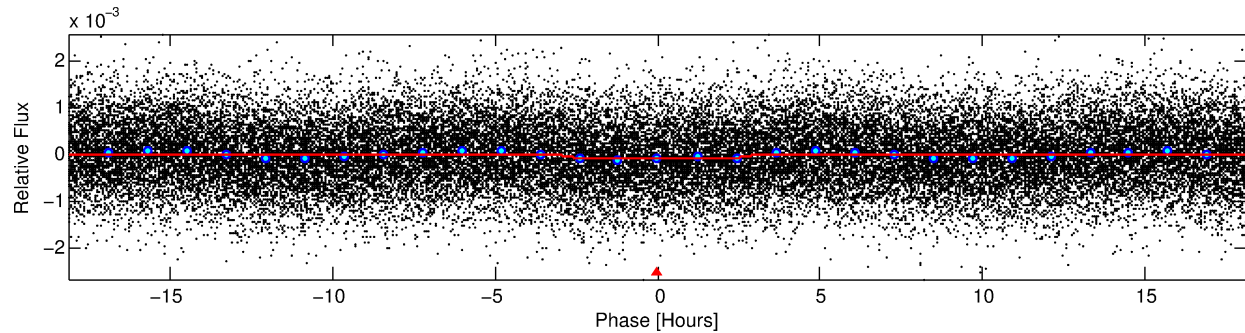
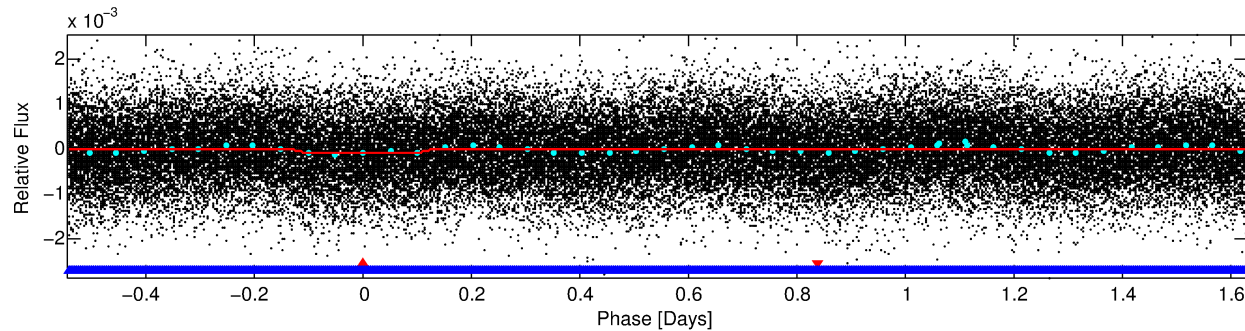
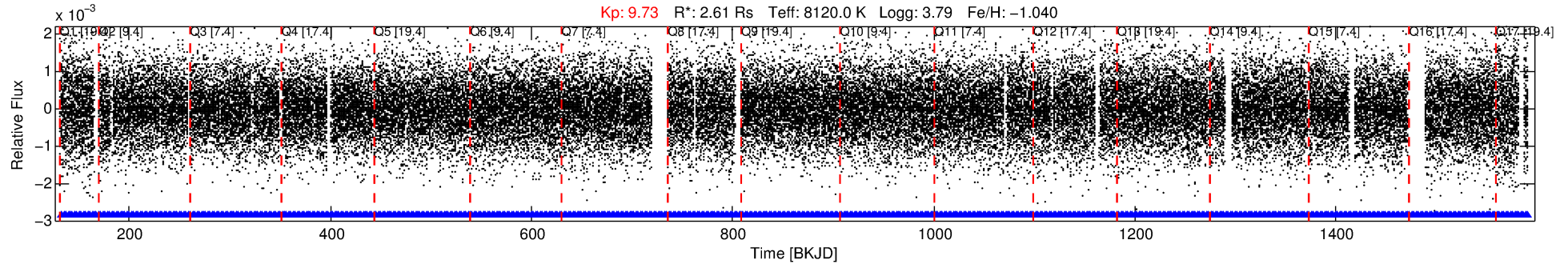
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007299869-01

No Significant Match Found

DV One-Page Summary

KIC: 7299869 Candidate: 1 of 2 Period: 2.173 d



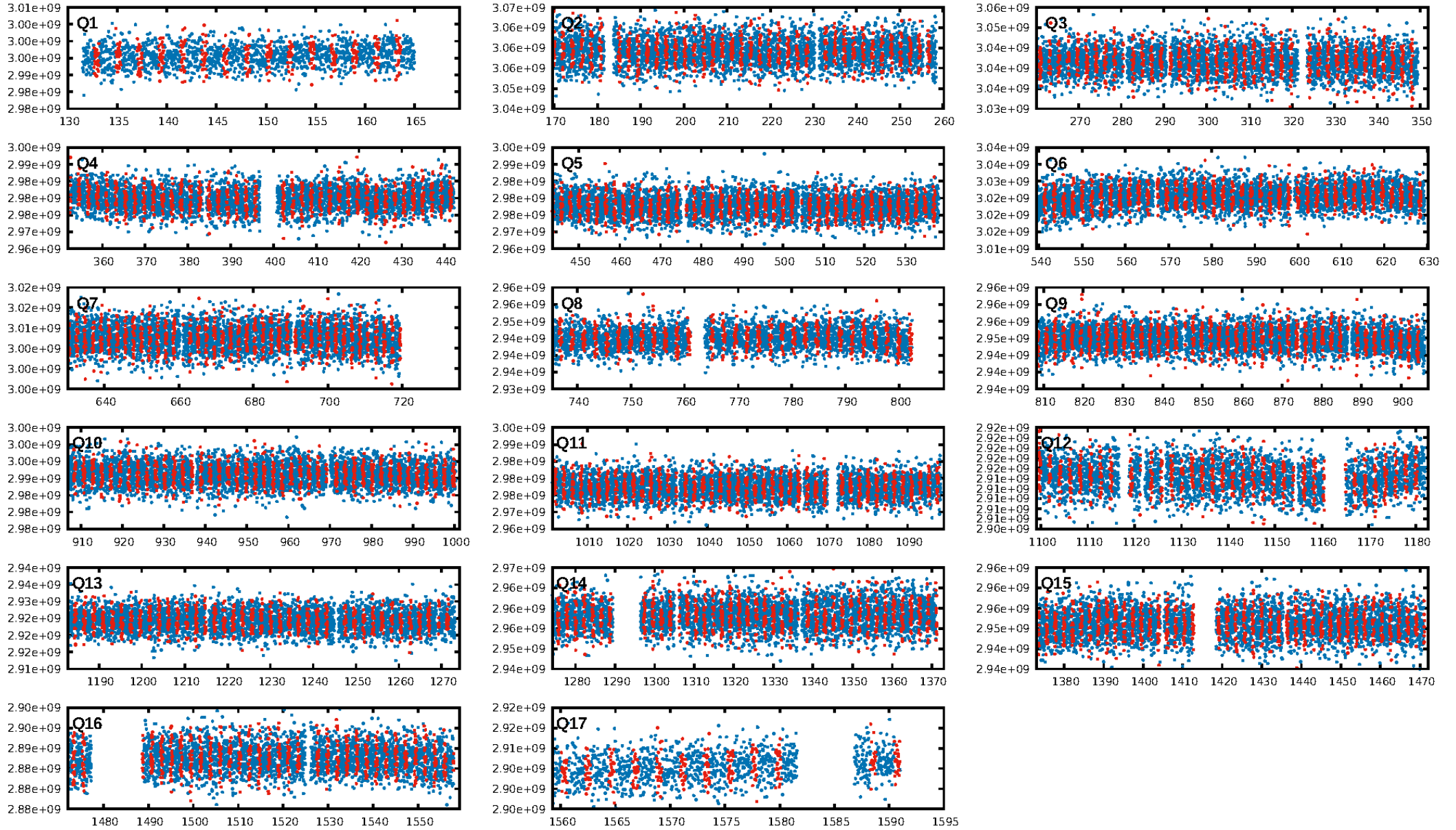
DV Fit Results:

Period = 2.17260 [0.00003] d
Epoch = 132.9071 [0.0085] BKJD
 $R_p/R^* = 0.0095$ [0.0030]
 $a/R^* = 1.49$ [1.66]
 $b = 0.92$ [0.35]
 $\text{Seff} = 18640.60$ [17038.02]
 $T_{\text{eq}} = 2979$ [681] K
 $R_p = 2.69$ [1.62] R_e
 $a = 0.0378$ [0.0203] AU
 $A_g = 4.11$ [4.64] [0.67 σ]
 $T_{\text{eff}} = 6558$ [1144] K [2.69 σ]

DV Diagnostic Results:

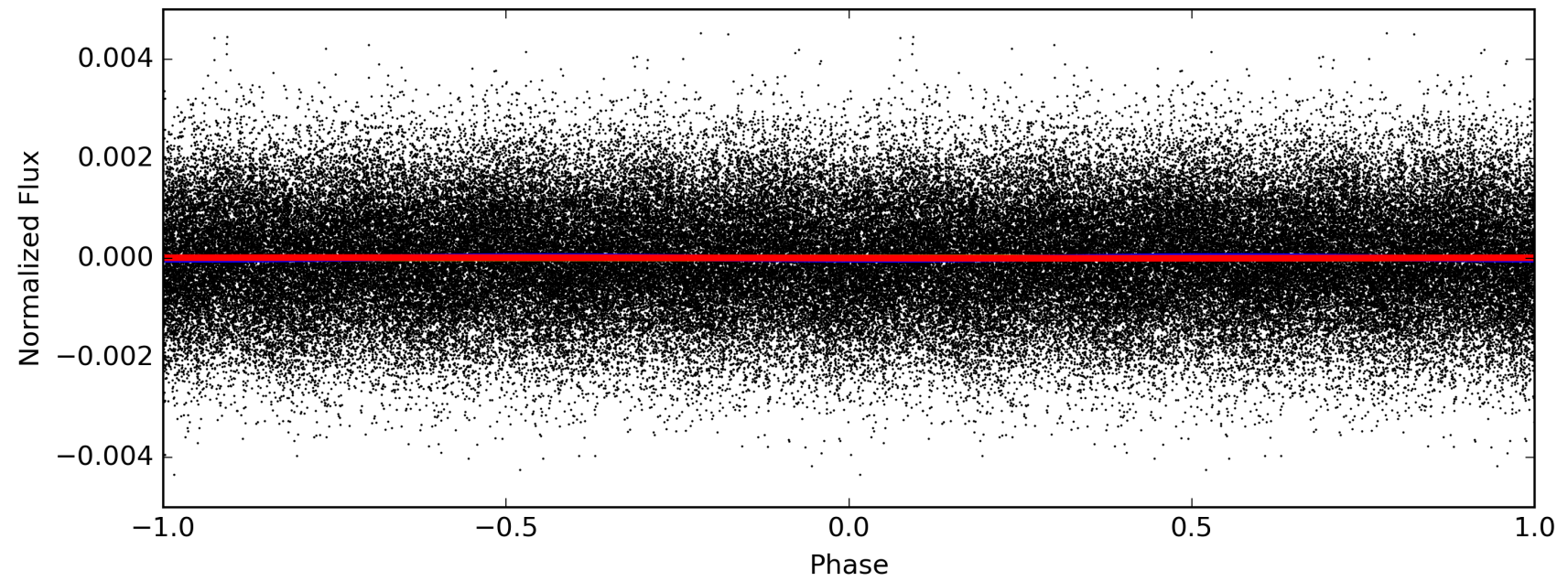
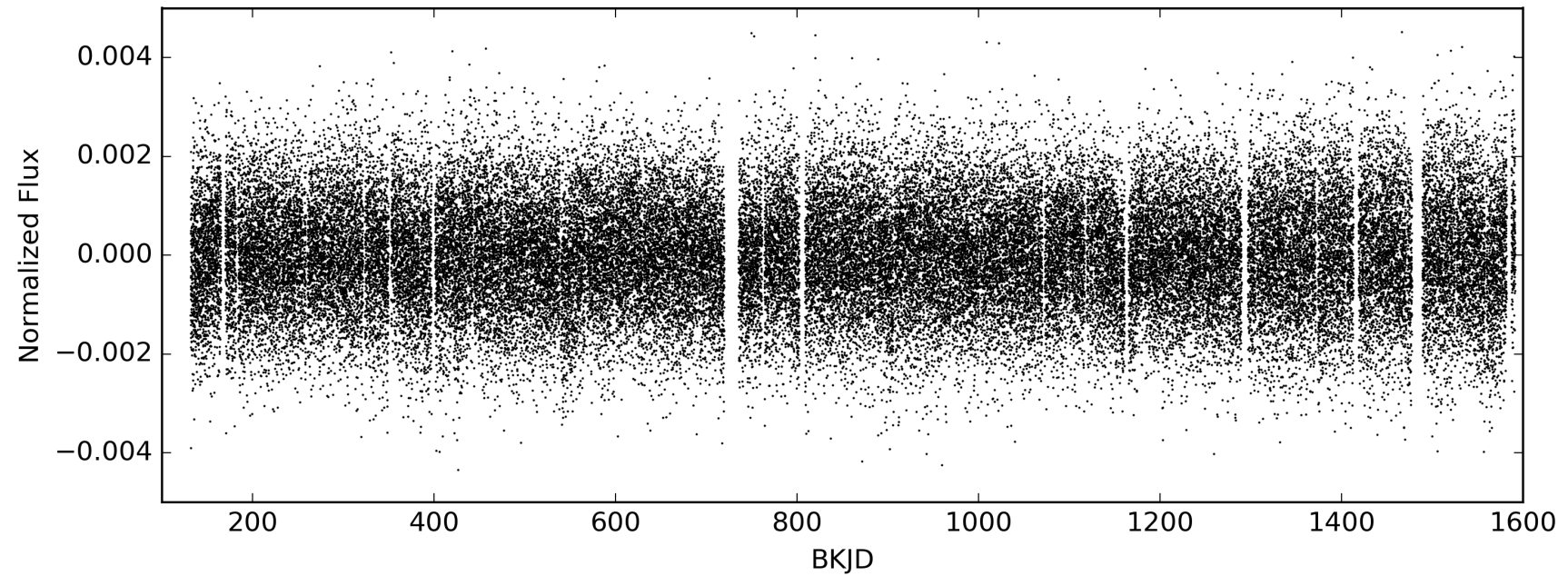
ShortPeriod-sig: 100.0% [5.46 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.68e-18
RollingBand-fgt: 1.00 [595/595]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.212 arcsec [0.84 σ]
OotOffset-rm: 1.665 arcsec [1.50 σ]
KicOffset-rm: 2.285 arcsec [2.37 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 007299869-01, PDC Light Curves



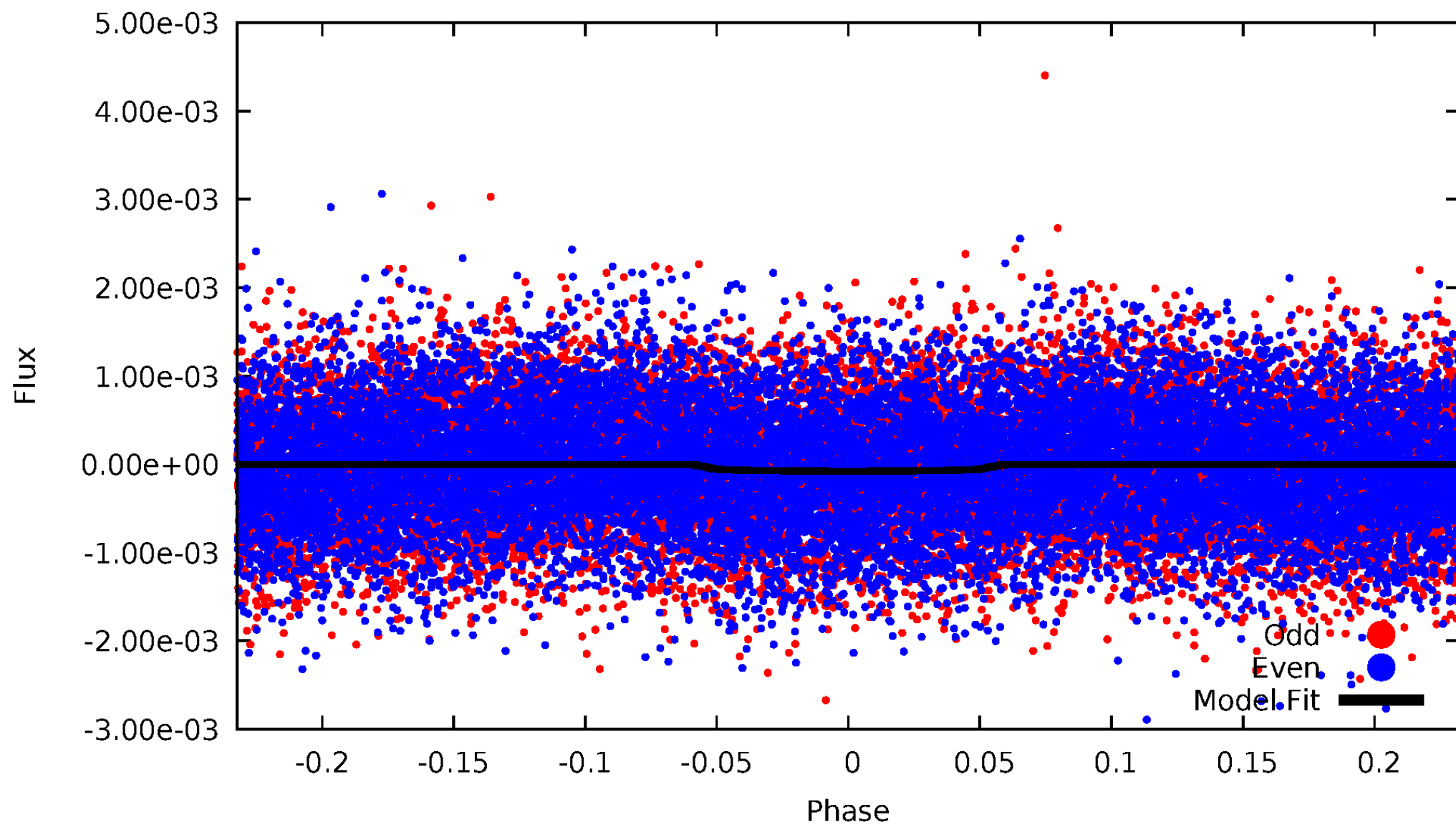
TCE 007299869-01

— P = 1.086 days — P = 2.173 days — P = 4.345 days



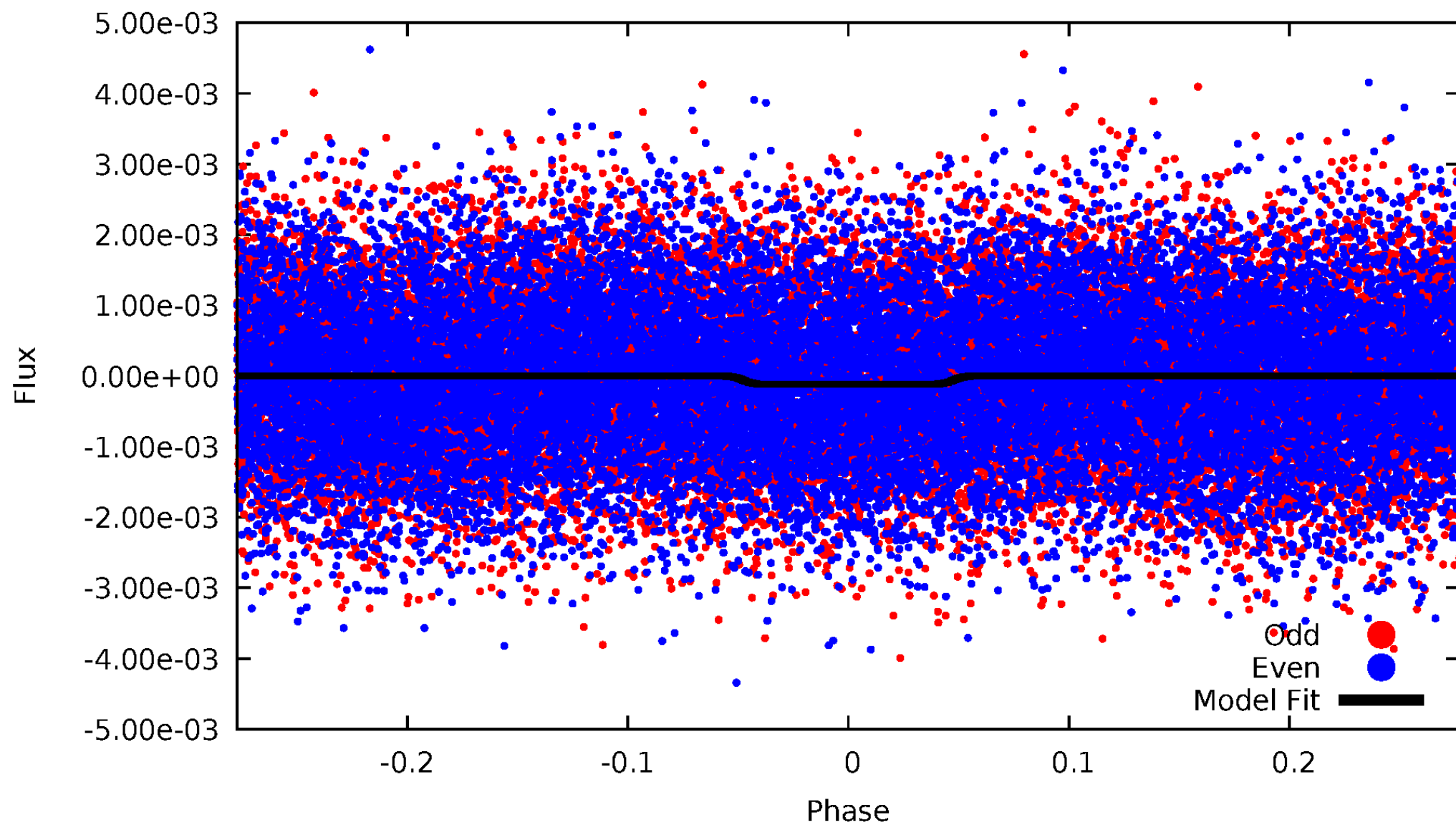
DV Odd/Even

TCE 007299869-01

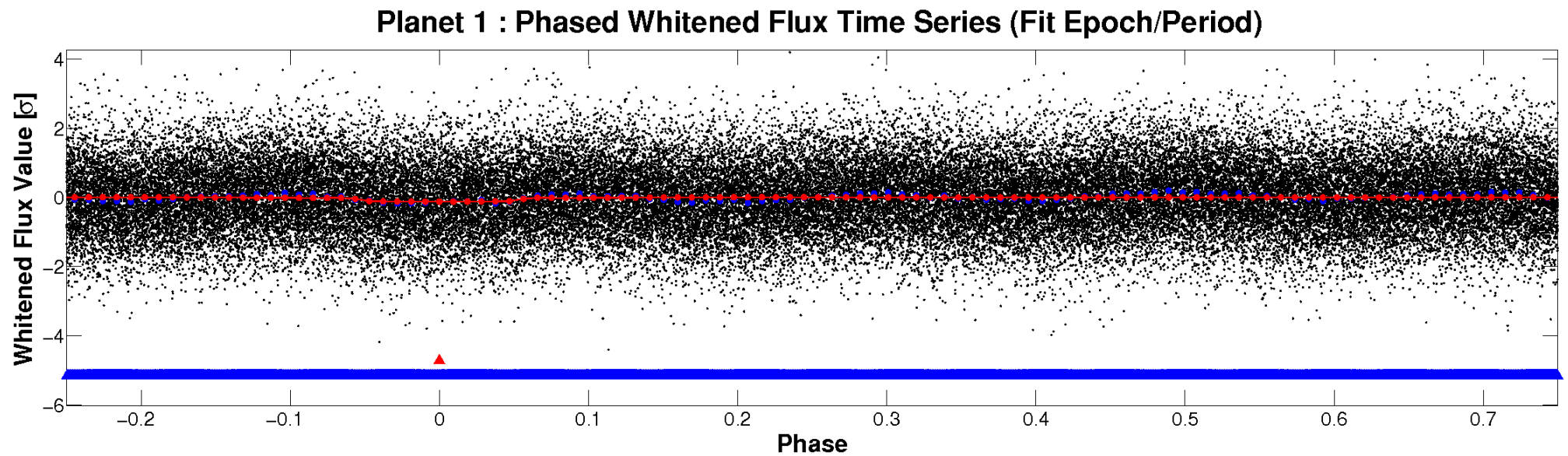
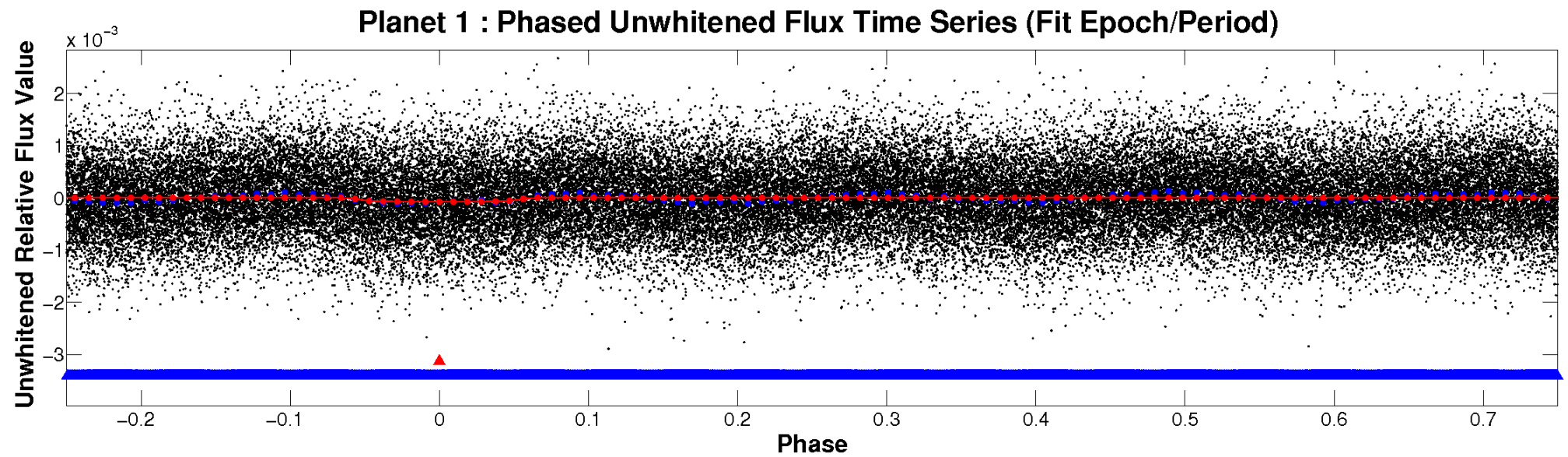


ALT Odd/Even

TCE 007299869-01

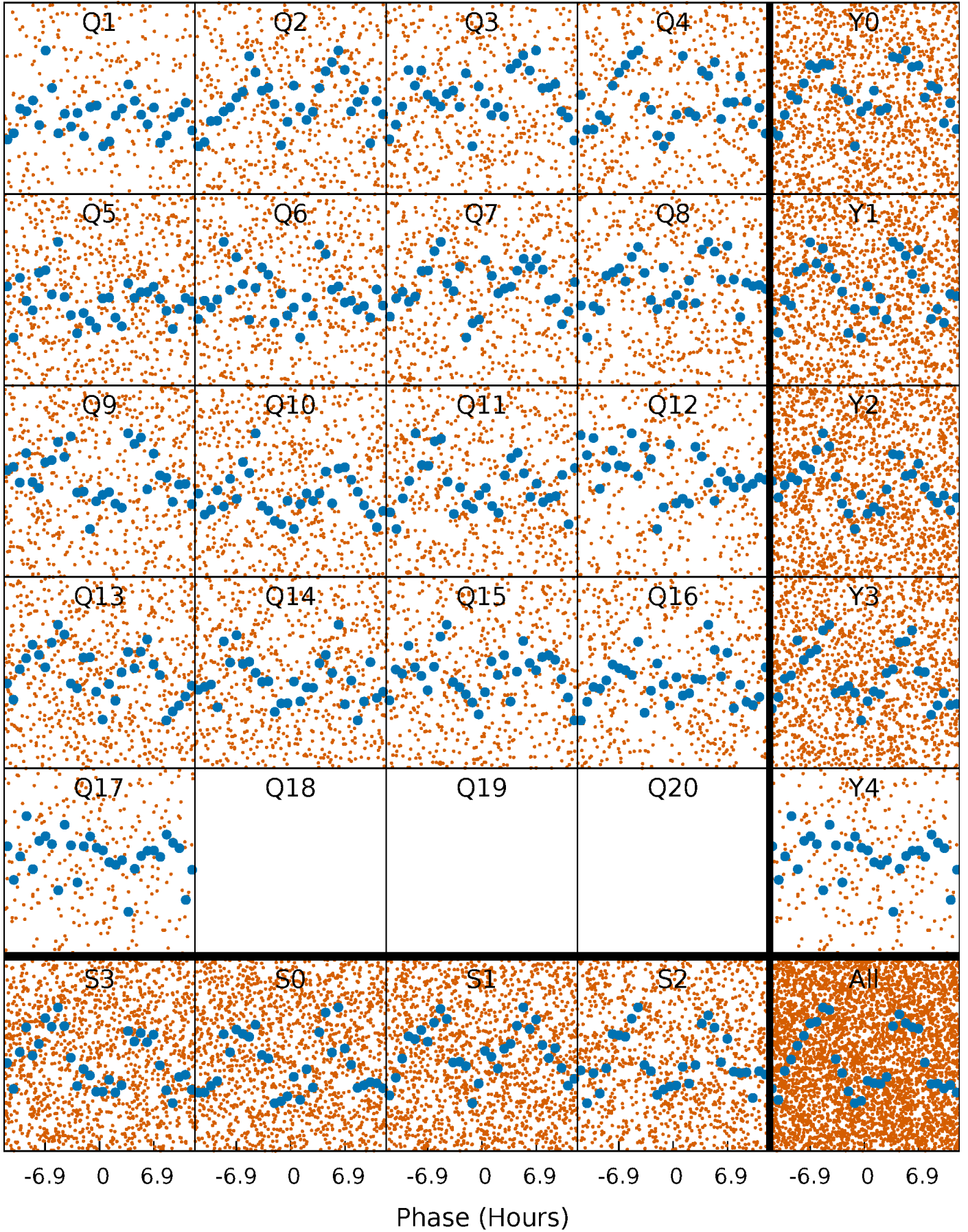


Non-Whitened Vs. Whitened Light Curve



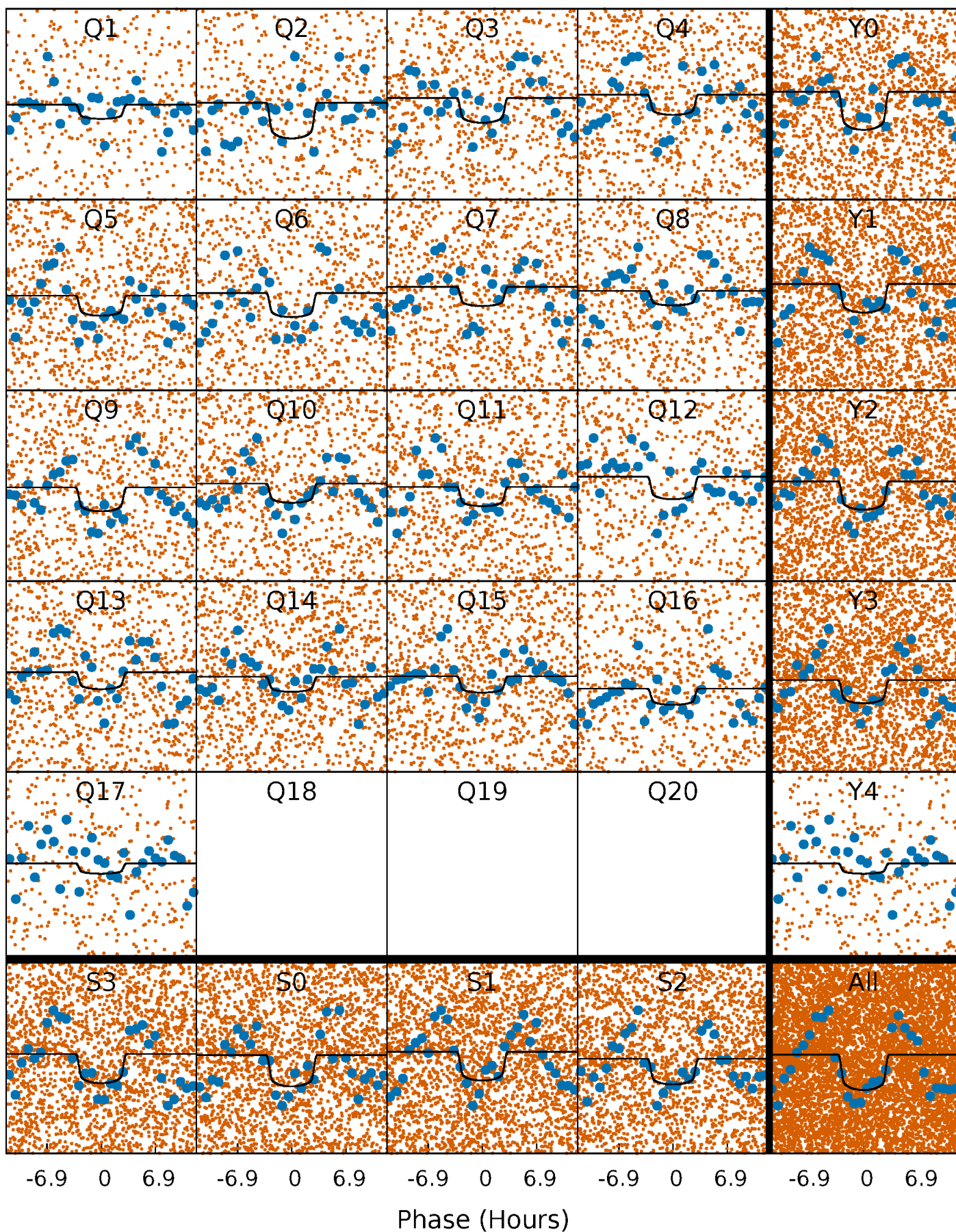
PDC Quarter-Phased Transit Curves

TCE 007299869-01 P= 2.172604 Days $T_0=132.907061$ (BKJD)



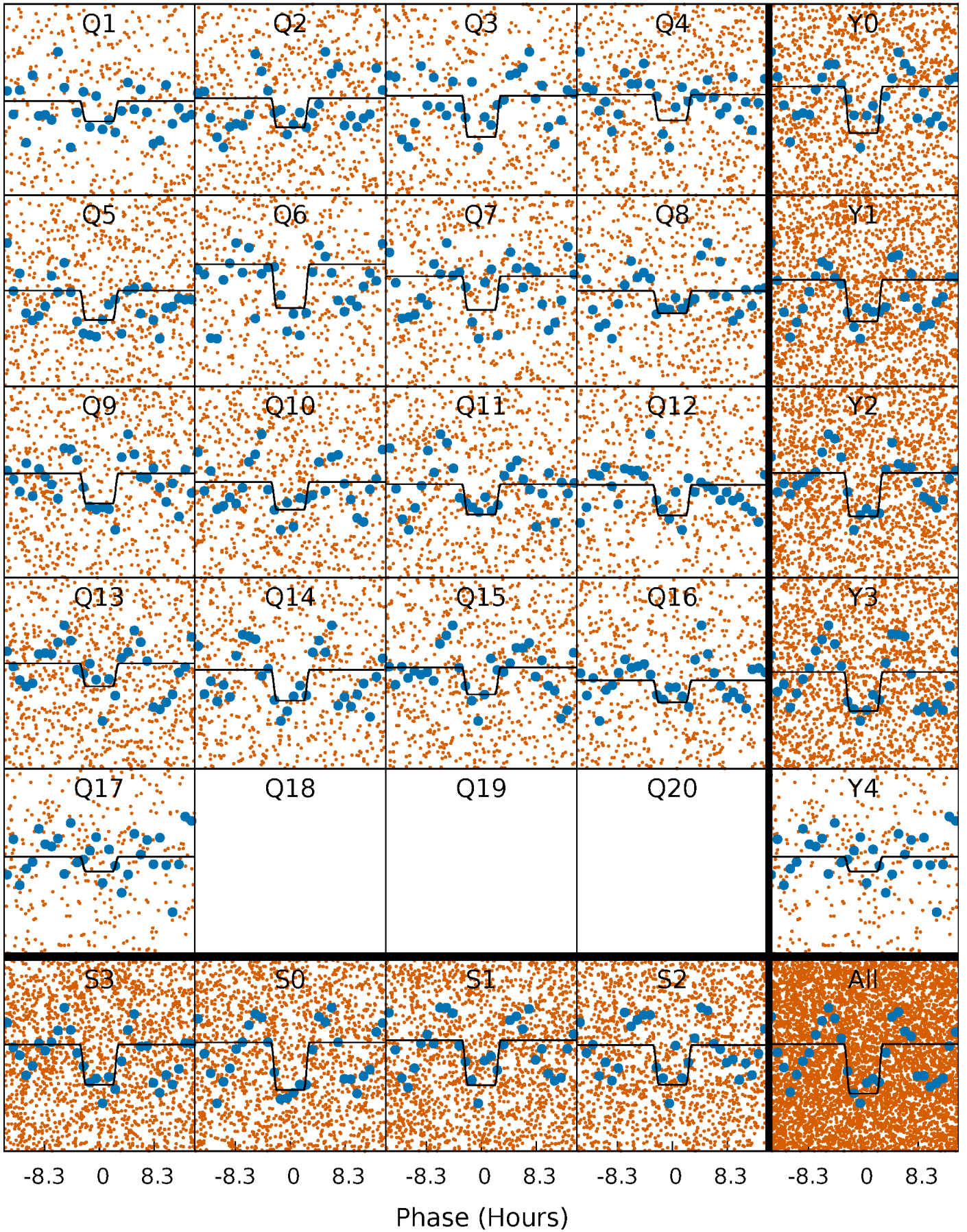
DV Quarter-Phased Transit Curves

TCE 007299869-01 P= 2.172604 Days $T_0=132.907061$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

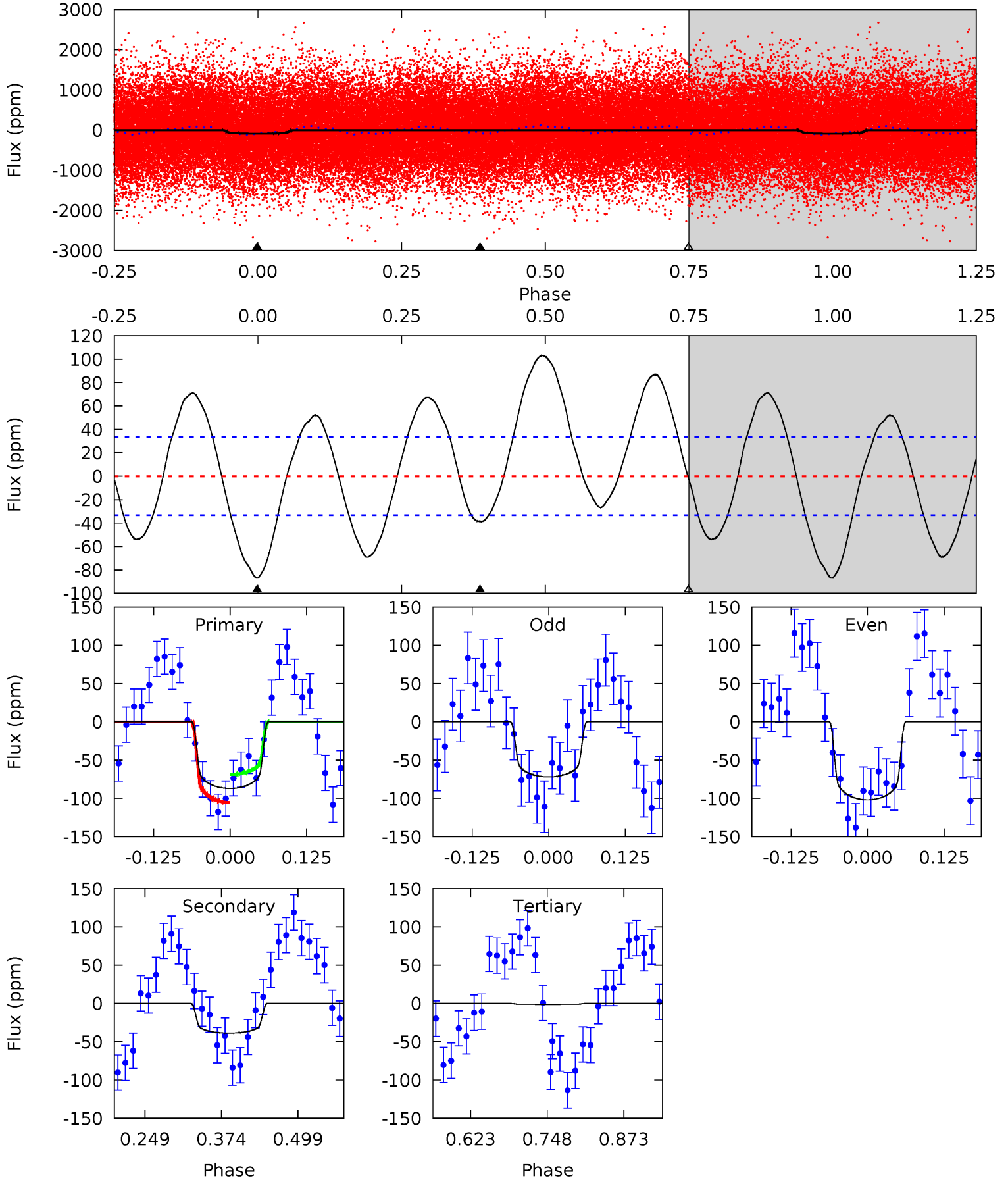
TCE 007299869-01 P= 2.172642 Days $T_0=132.885732$ (BKJD)



DV Model-Shift Uniqueness Test

007299869-01, P = 2.172604 Days, E = 130.734457 Days

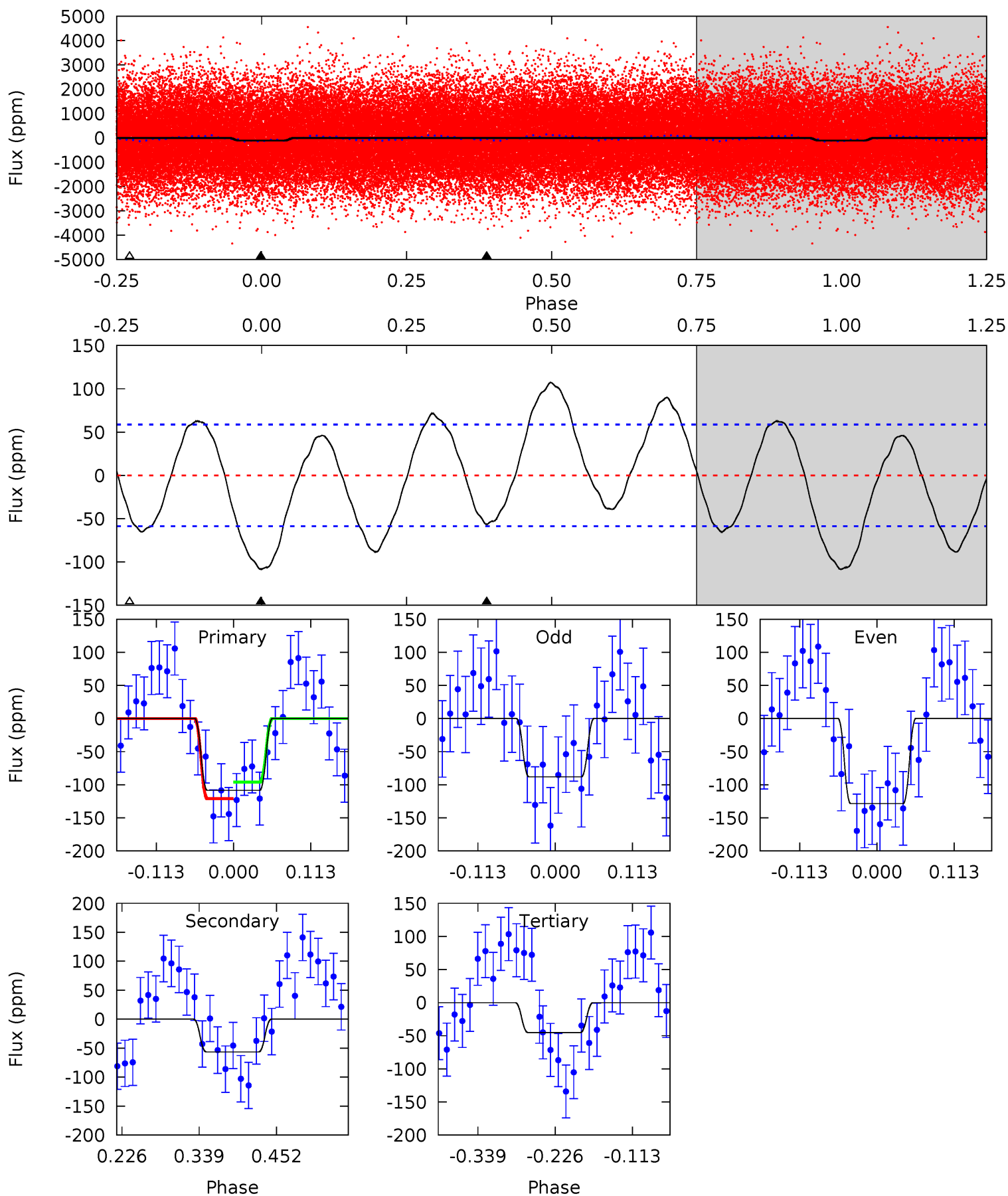
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	5.26	0.17	0	4.52	1.54	6.19	11.6	11.8	5.09	5.26	2.05	1.01	0.54	2.48



Alt Model-Shift Uniqueness Test

007299869-01, P = 2.172642 Days, E = 130.713090 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	4.38	3.49	0	4.54	1.58	4.02	4.91	8.40	0.89	4.38	1.57	1.01	0.50	0.97



Stellar Parameters For KIC 007299869

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+279}_{-307}	$3.786^{+0.544}_{-0.096}$	$-1.040^{+0.300}_{-0.350}$	$2.612^{+0.355}_{-1.330}$	$1.520^{+0.155}_{-0.361}$	$0.120^{+0.704}_{-0.038}$
	+3%/-4%	+14%/-3%	+29%/-34%	+14%/-51%	+10%/-24%	+587%/-31%
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 007299869-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-39 ± 7	$2.35^{+0.97}_{-0.93}$	4032^{+330}_{-563}	6328^{+1580}_{-910}	$5.408^{+8.825}_{-2.717}$
Alt.	-57 ± 13	$2.78^{+1.00}_{-1.02}$	4060^{+290}_{-554}	6472^{+1510}_{-927}	$5.686^{+7.716}_{-2.902}$

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 $A_{obs} \gg 1.0$

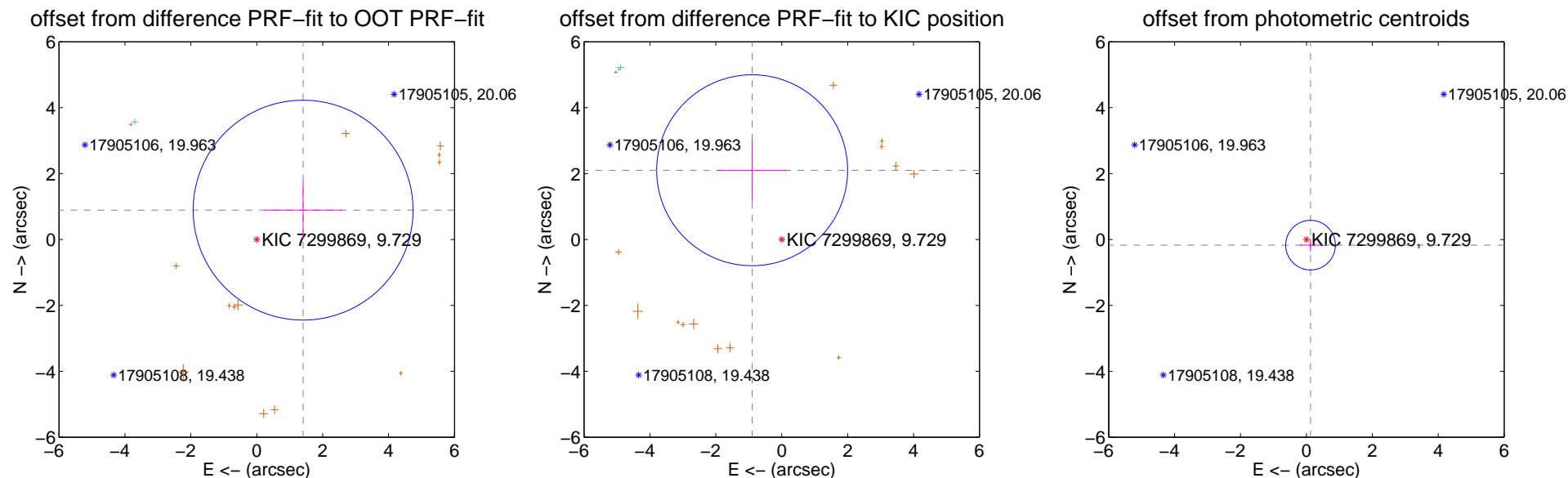
DV Centroid Data

Supplemental centroid analysis for 007299869-01. **Kepler magnitude: 9.73.** Transit SNR 9.17

There are 2 quarters with good PRF difference image offsets

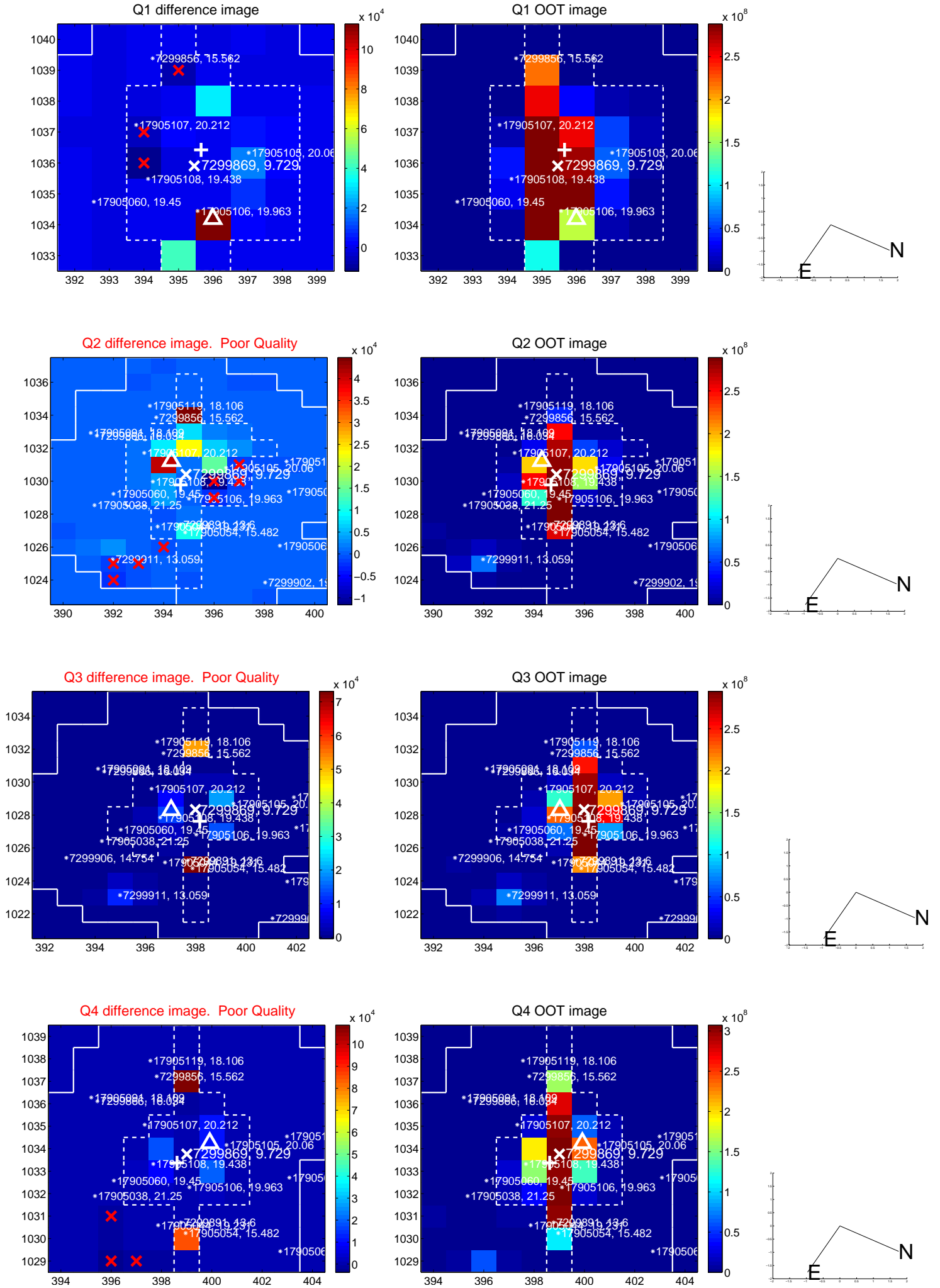
The OOT PRF centroid is offset from the target star catalog position by about 2.04 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.665 ± 1.112	1.50	-1.407 ± 1.193	0.890 ± 0.877
PRF-fit source offset from KIC position	2.285 ± 0.966	2.37	0.899 ± 1.084	2.101 ± 0.942
photometric centroid source offset	0.21 ± 0.25	0.84	-0.12 ± 0.33	-0.17 ± 0.20

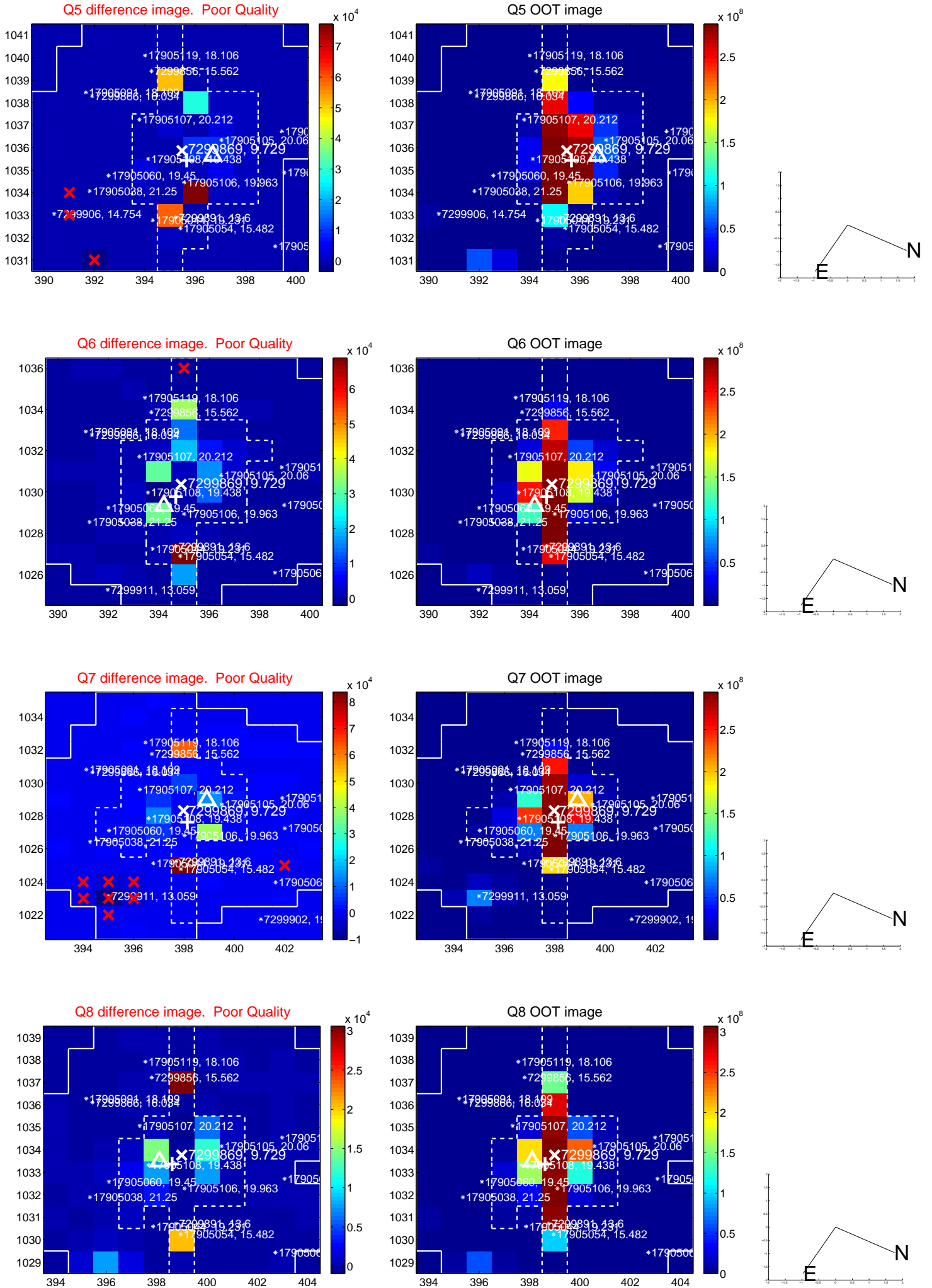


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

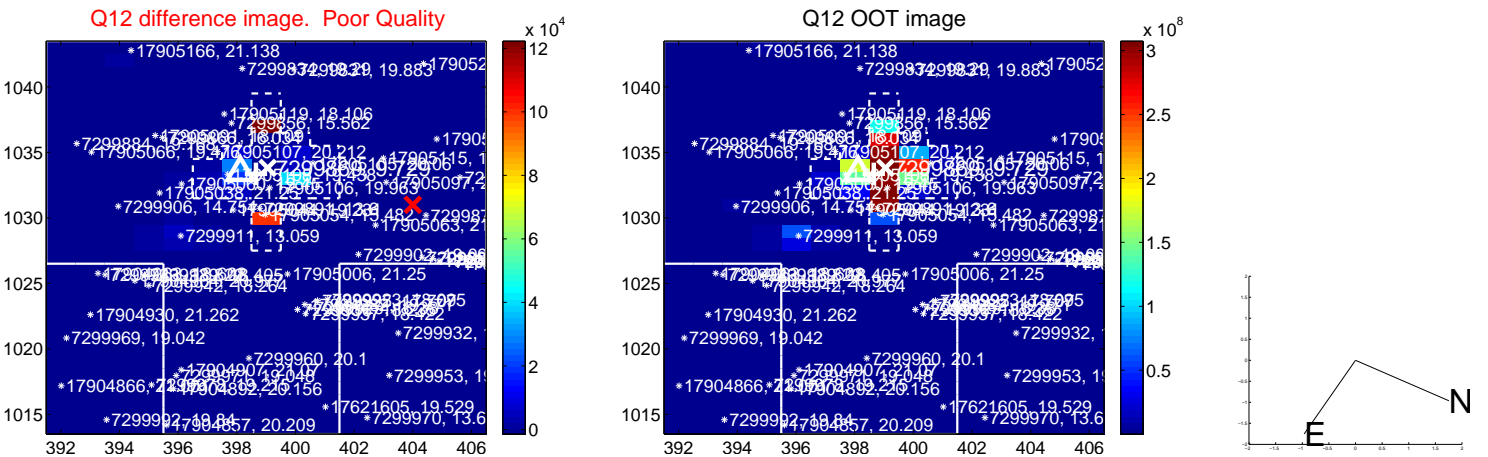
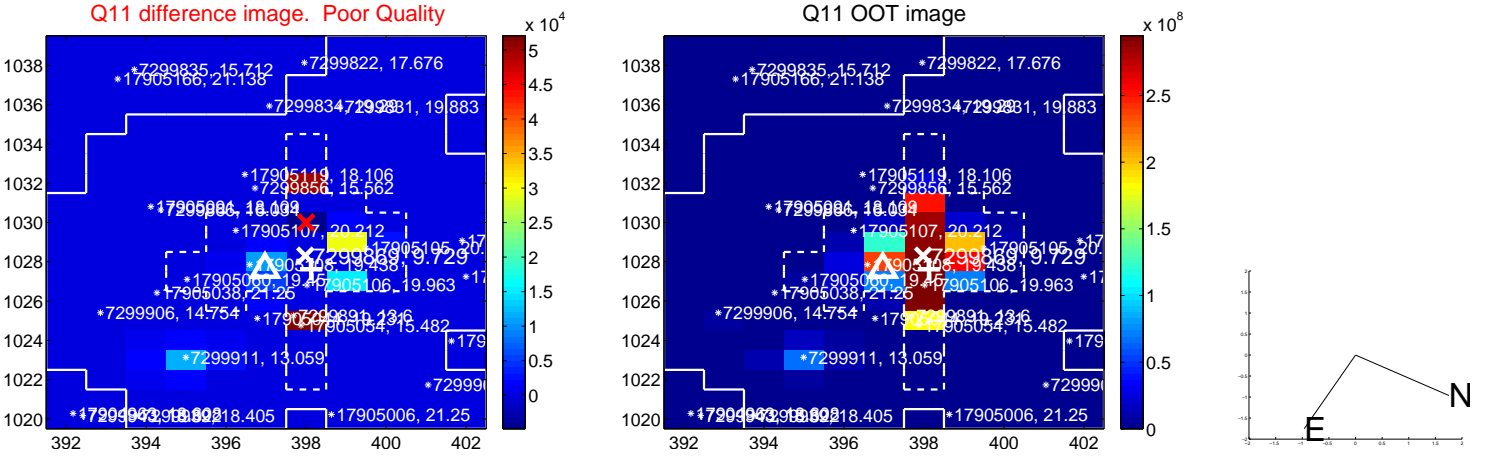
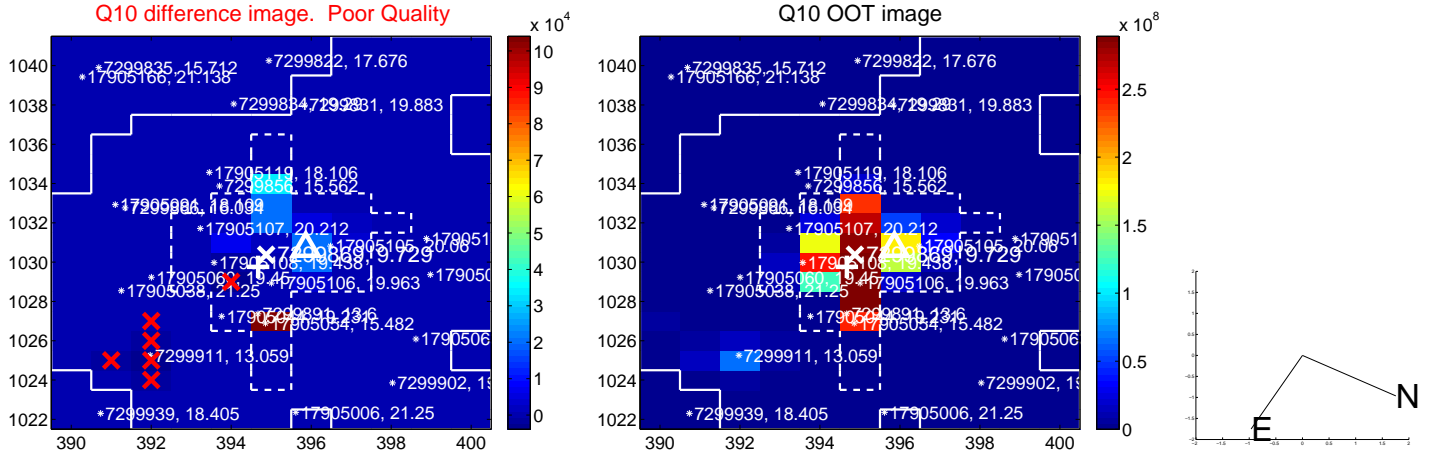
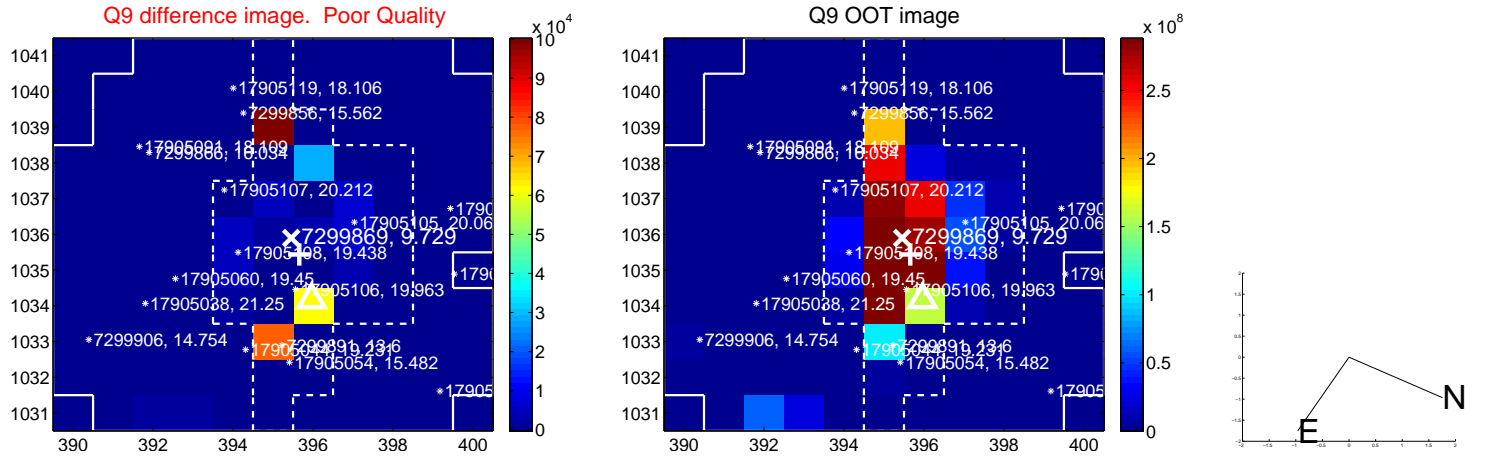
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



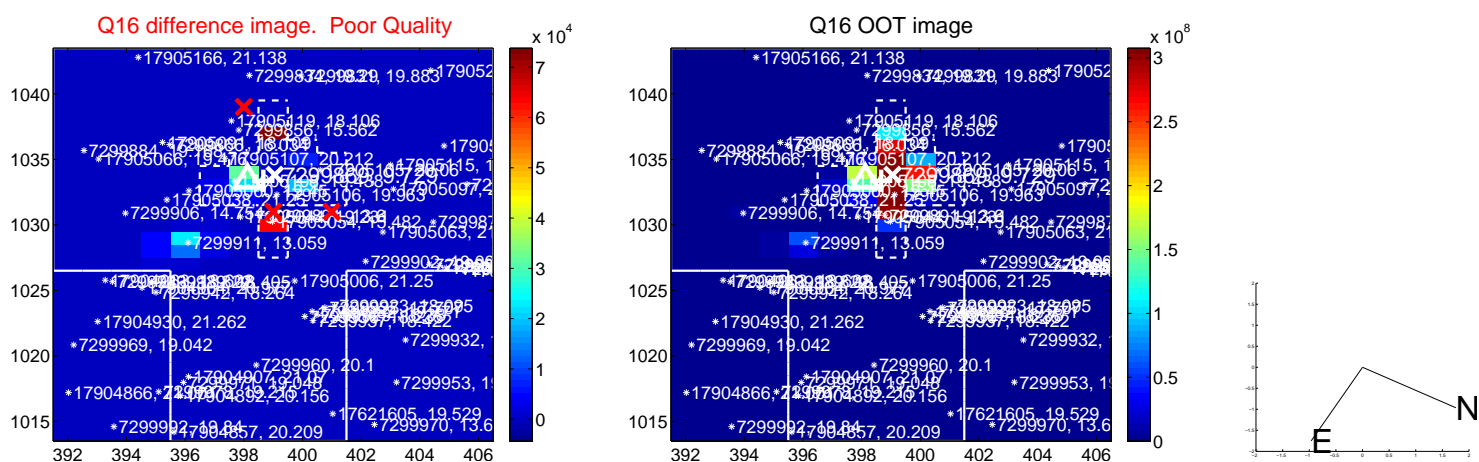
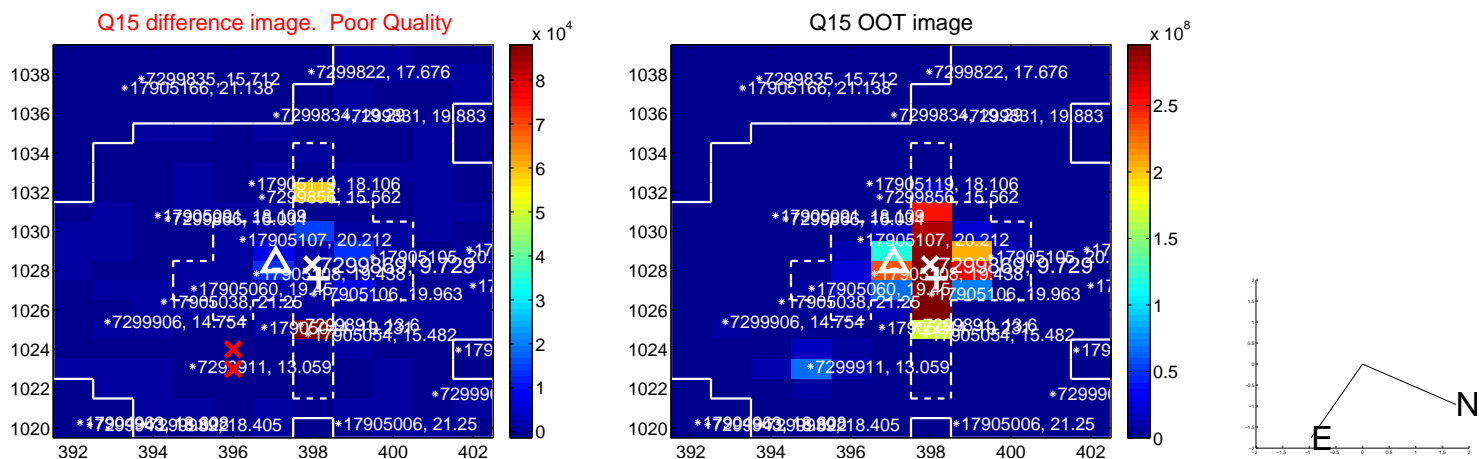
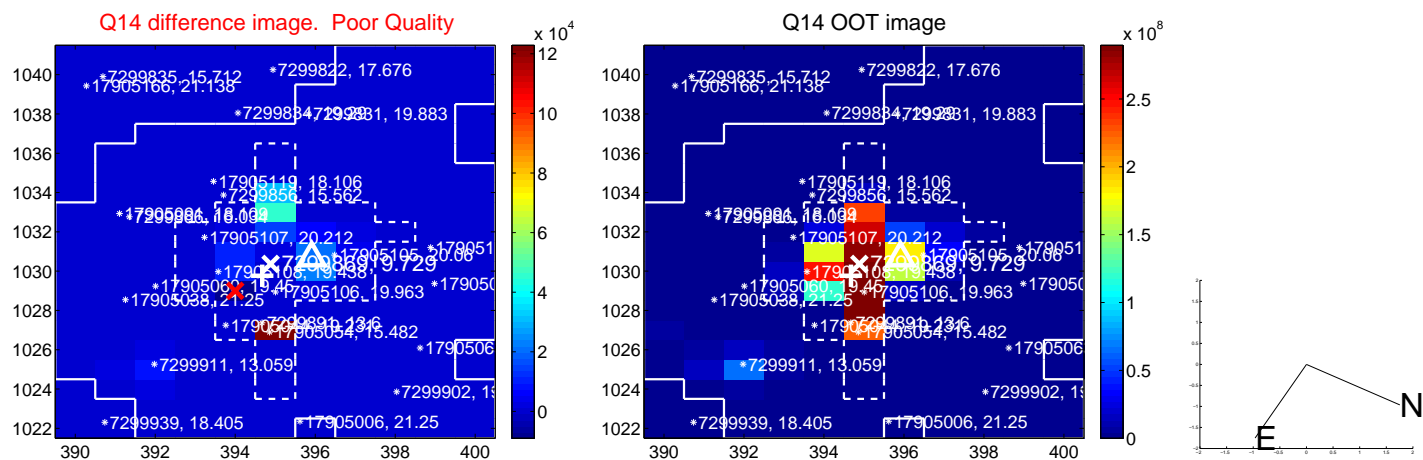
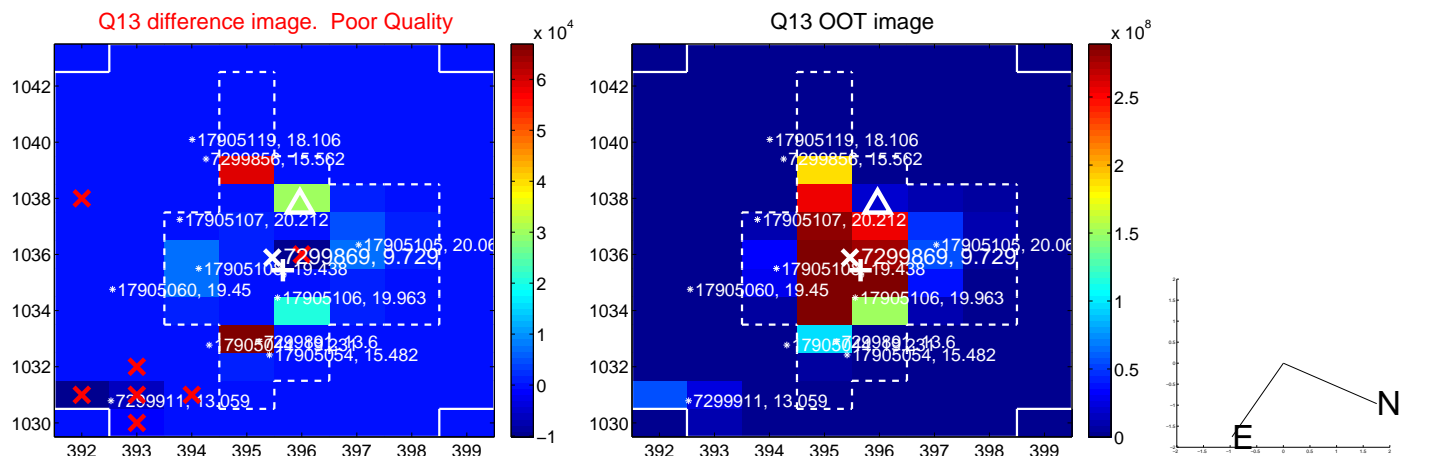
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



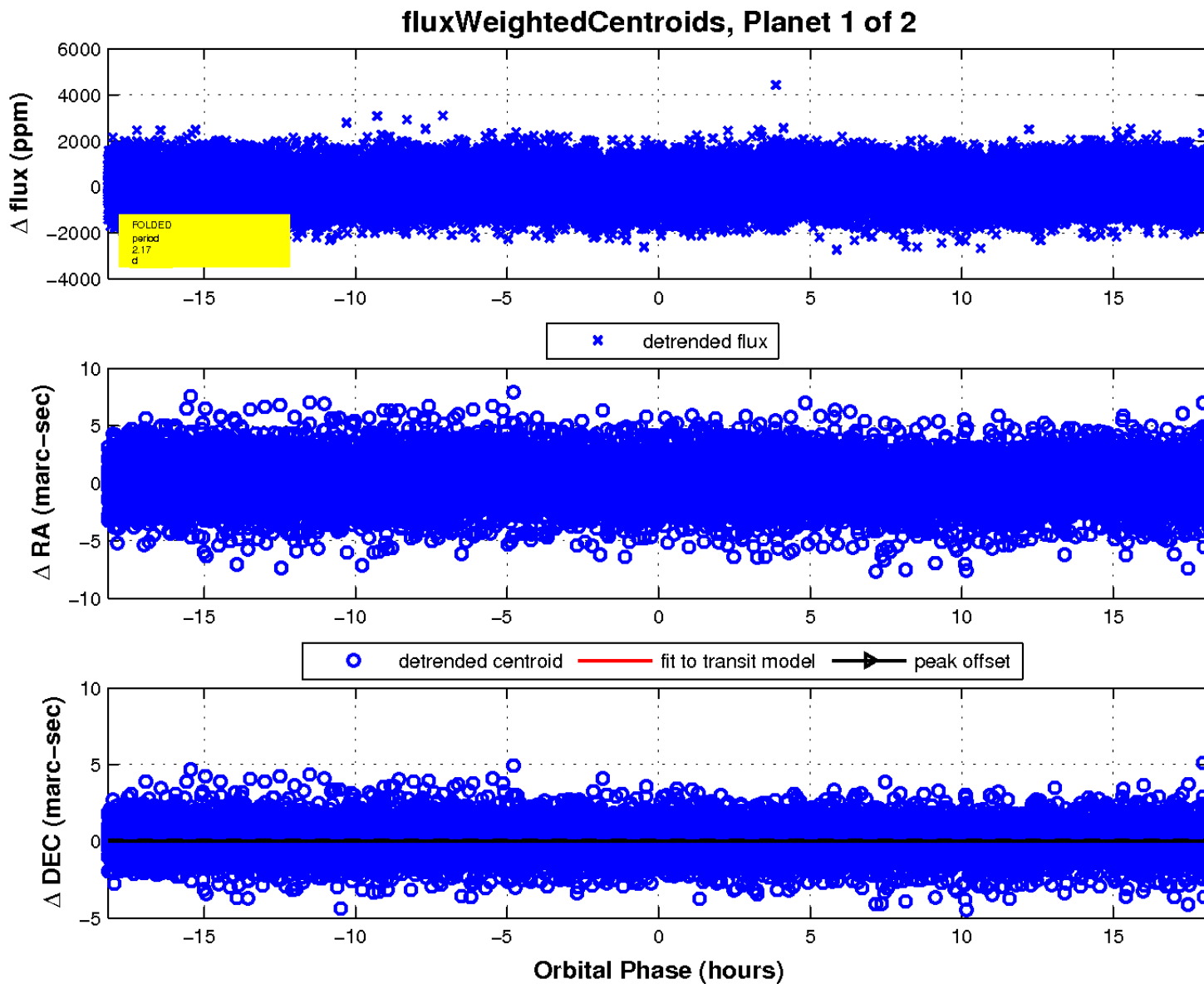
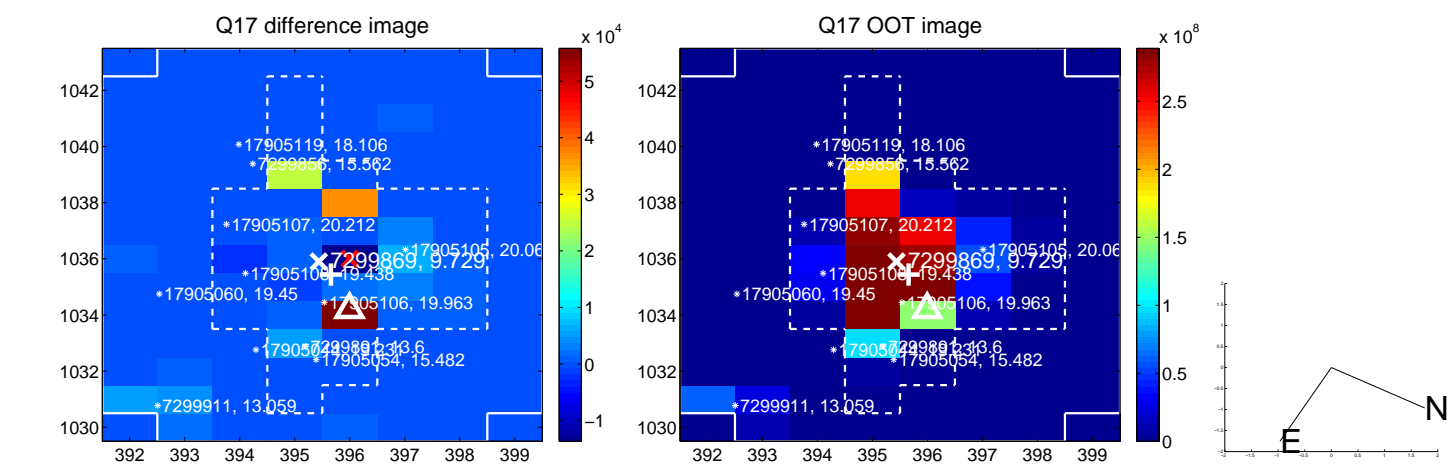
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



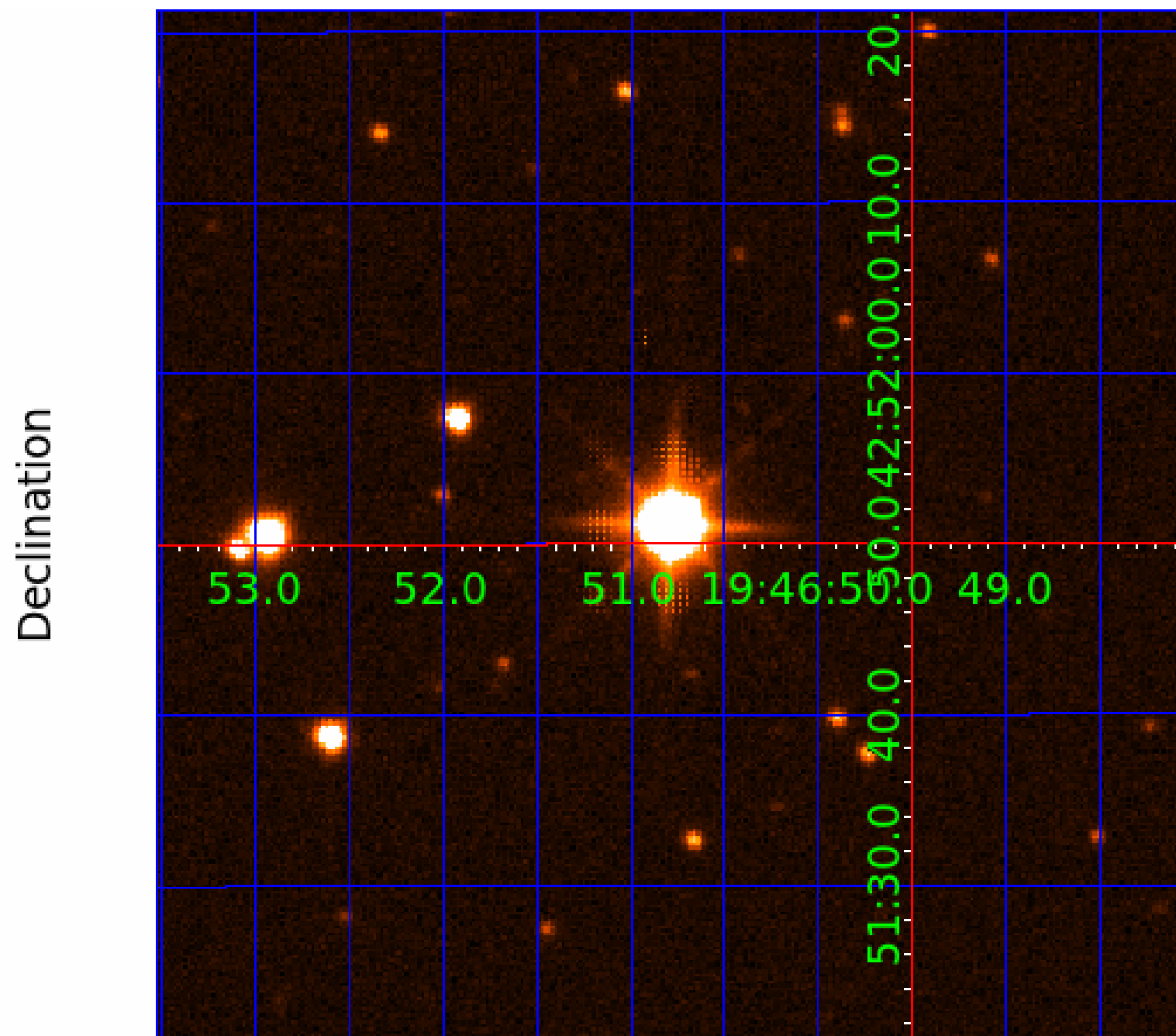
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007299869

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})
007299869-01	OBS	No	2.172604	132.907061	76.0	6.055	9.6	9.2	2.61	8120	2.69	18640.60
007299869-02	OBS	No	0.607764	131.824166	64.4	3.266	8.9	7.9	2.61	8120	2.48	101887.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007299869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007299869-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

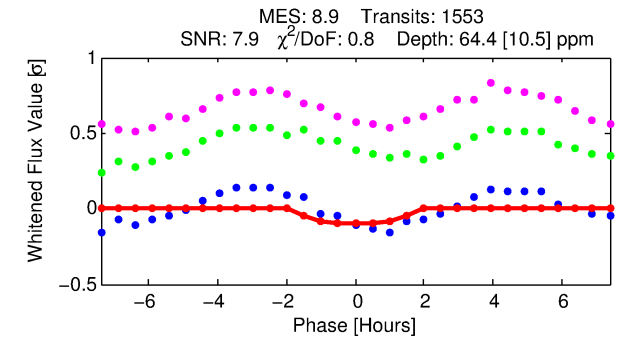
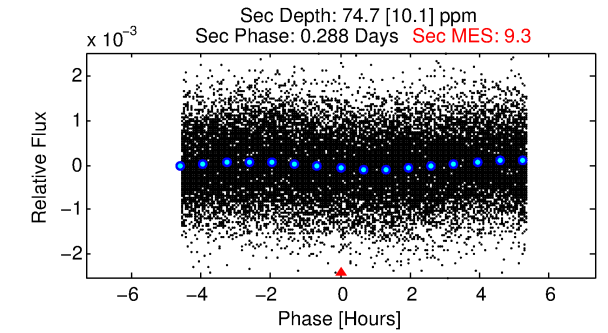
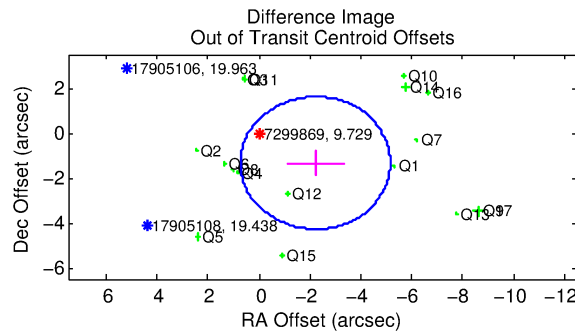
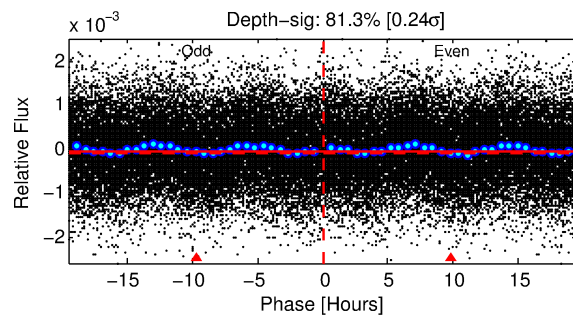
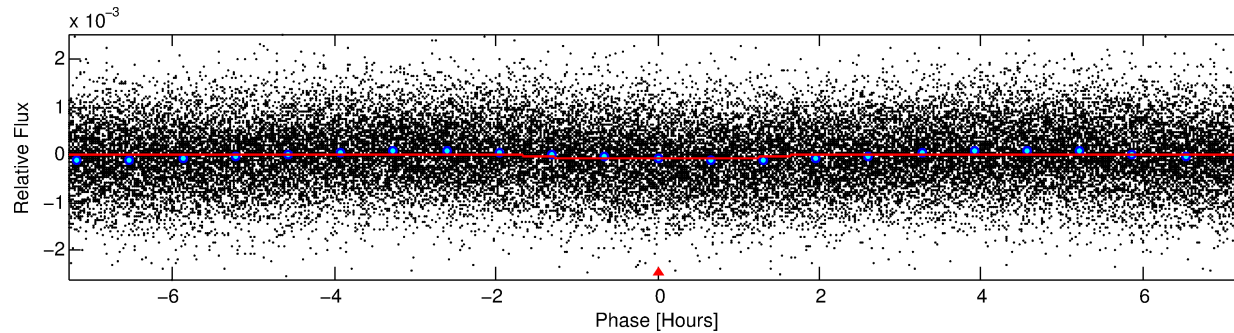
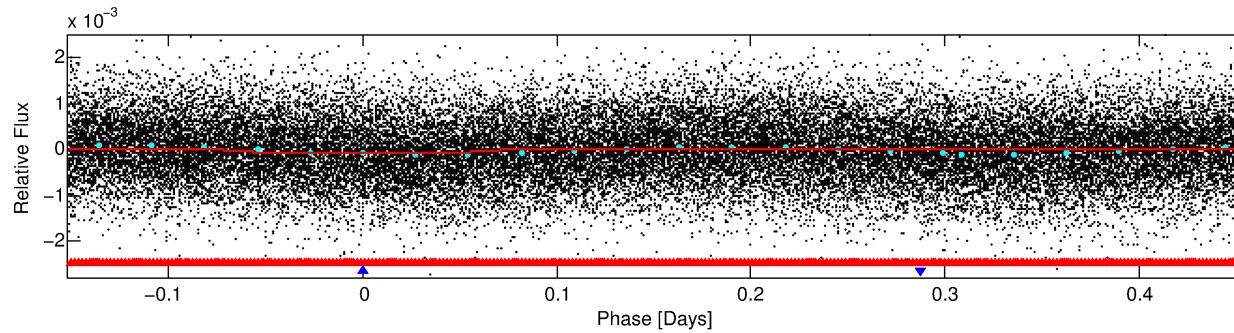
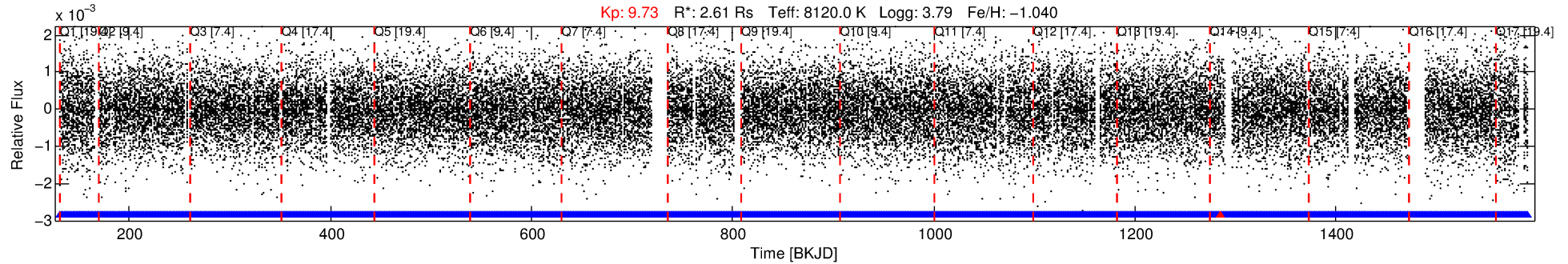
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007299869-02

No Significant Match Found

DV One-Page Summary

KIC: 7299869 Candidate: 2 of 2 Period: 0.608 d



DV Fit Results:

Period = 0.60776 [0.00001] d
Epoch = 131.8242 [0.0050] BKJD
 $R_p/R^* = 0.0087$ [0.0058]
 $a/R^* = 1.12$ [0.97]
 $b = 0.92$ [0.74]
 $\text{Seff} = 101887.54$ [93128.04]
 $T_{\text{eq}} = 4556$ [1041] K
 $R_p = 2.48$ [2.08] R_e
 $a = 0.0161$ [0.0087] AU
 $A_g = 1.74$ [2.81] [0.26 σ]
 $T_{\text{eff}} = 8089$ [2726] K [1.21 σ]

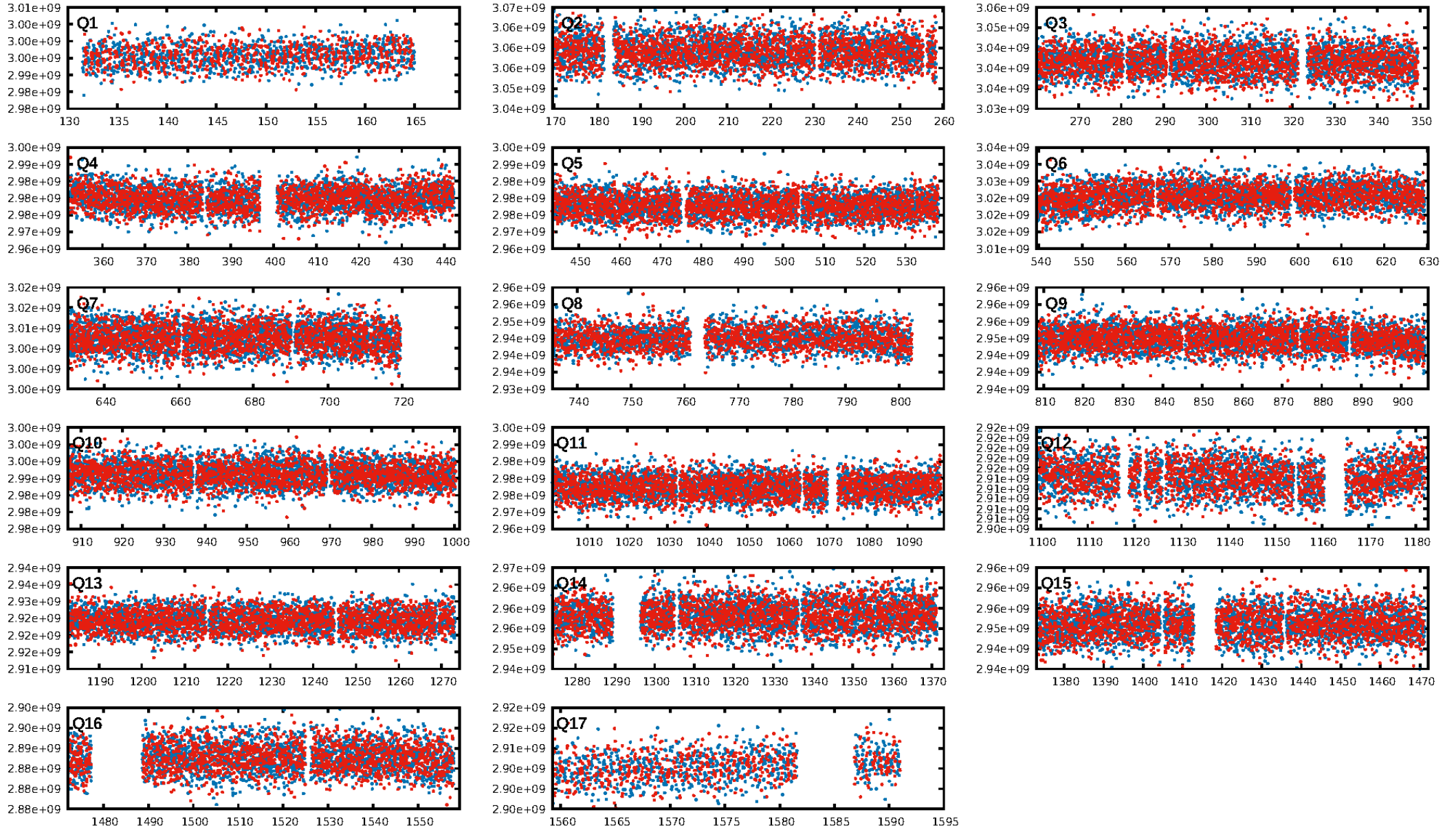
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.46 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.36e-09
RollingBand-fgt: 1.00 [1481/1482]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.611 arcsec [3.21 σ]
OotOffset-rm: 2.589 arcsec [2.64 σ]
KicOffset-rm: 0.943 arcsec [1.34 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

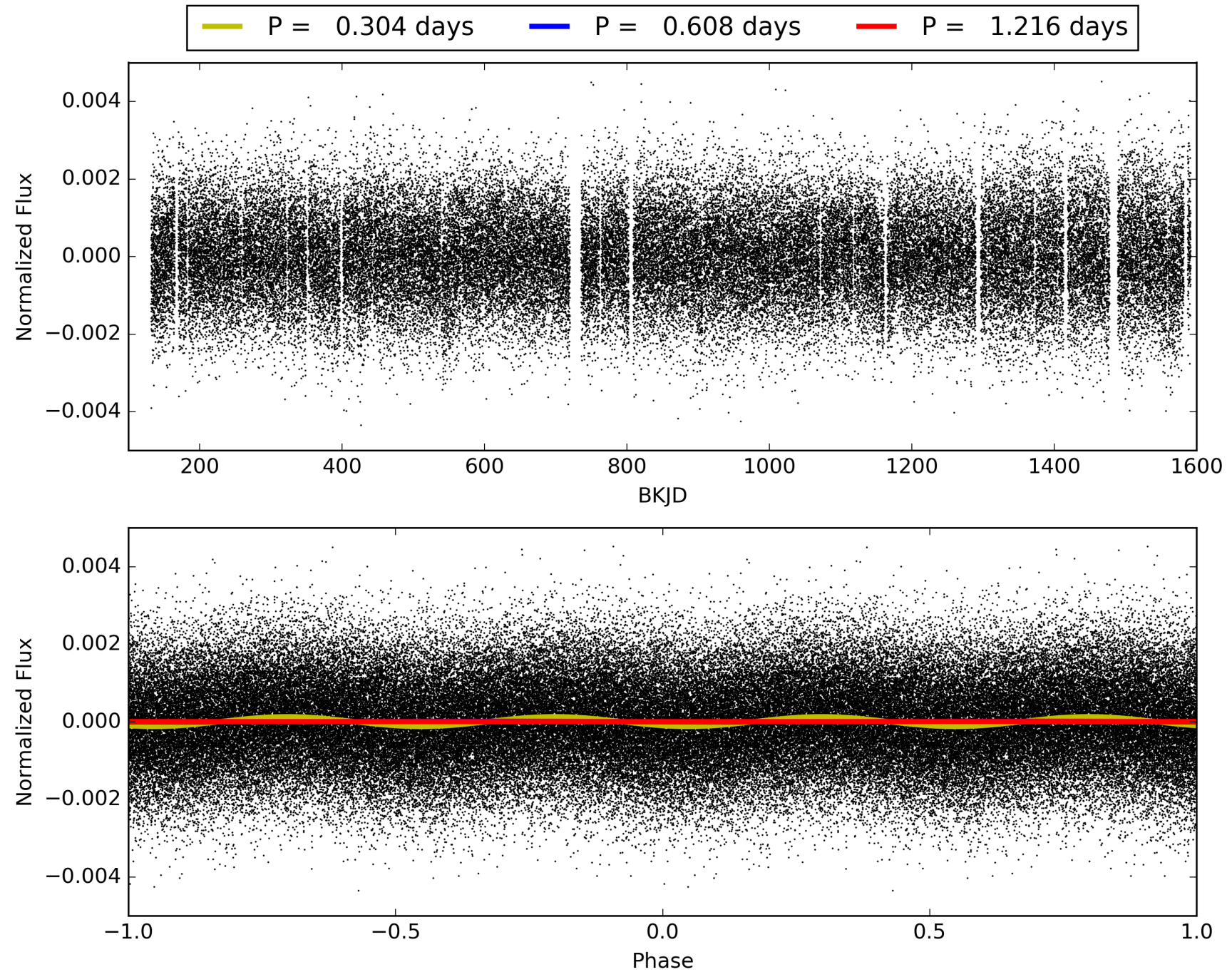
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:02:03 Z

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

TCE 007299869-02, PDC Light Curves

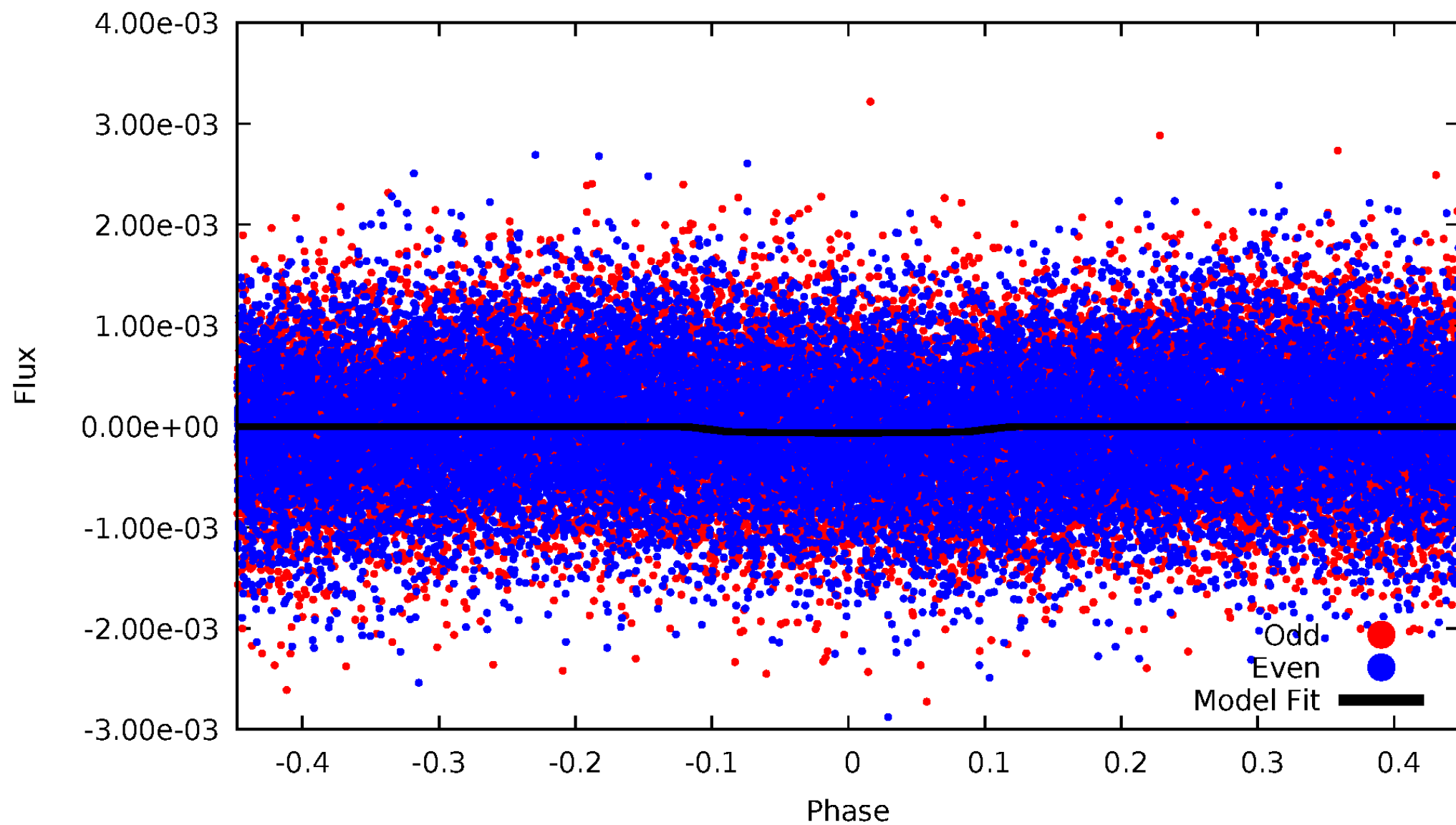


TCE 007299869-02



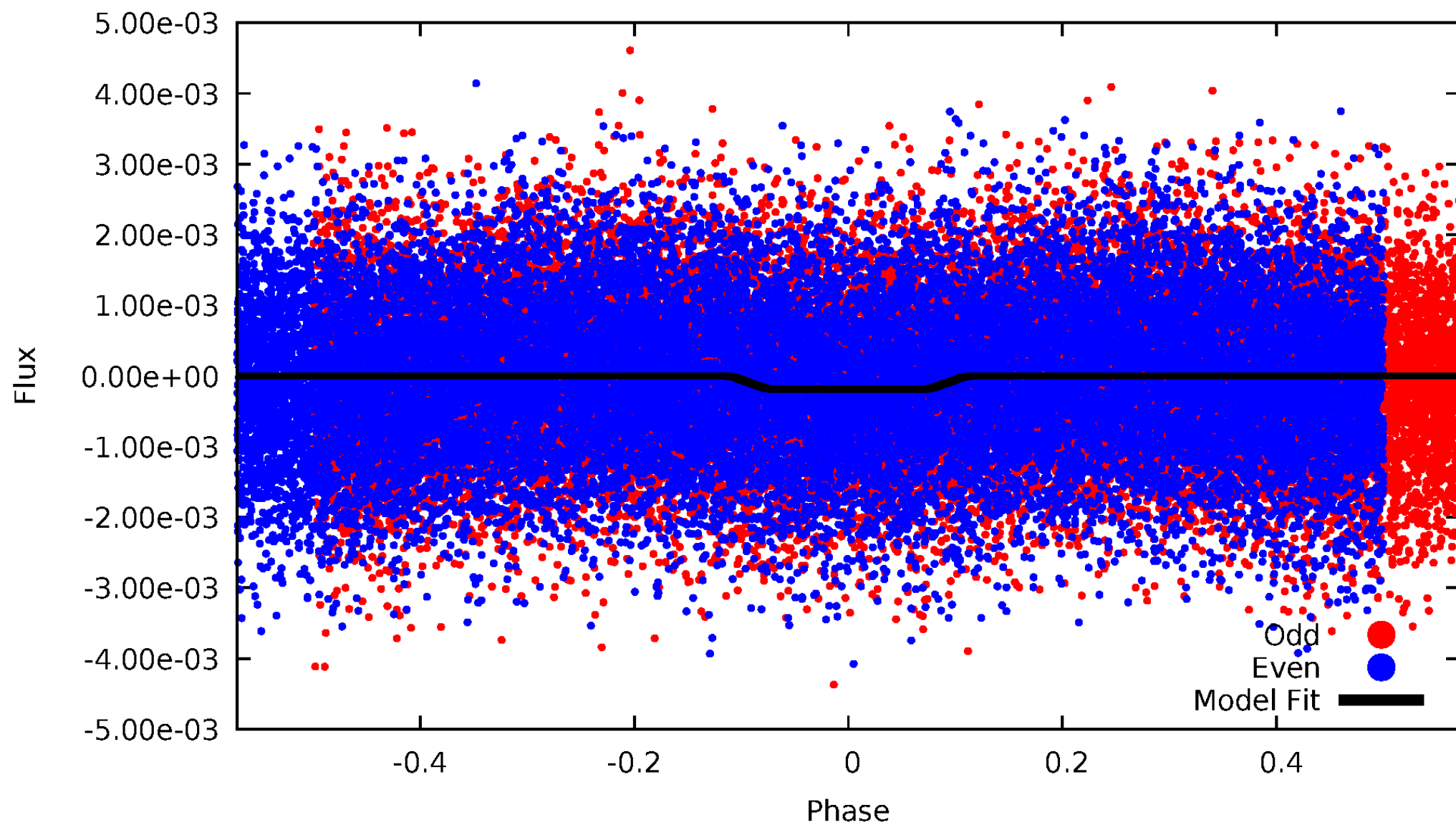
DV Odd/Even

TCE 007299869-02



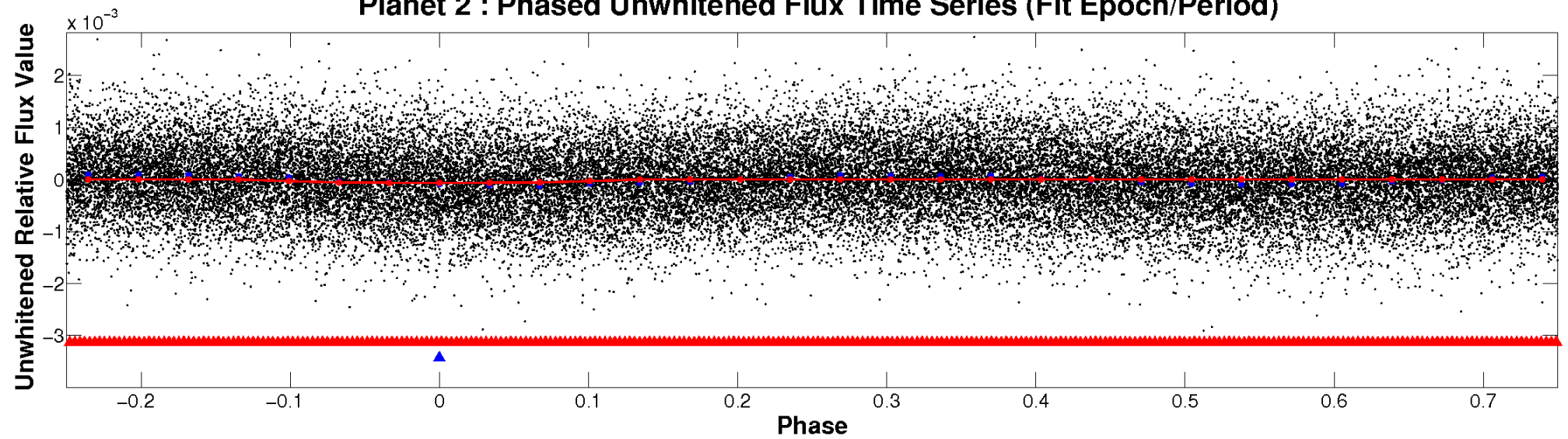
ALT Odd/Even

TCE 007299869-02

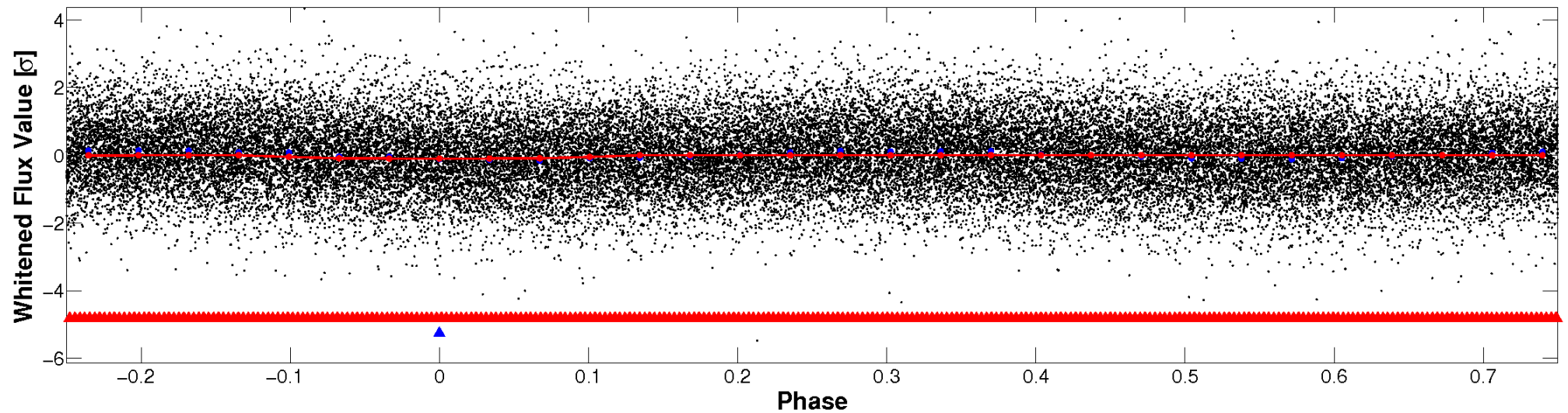


Non-Whitened Vs. Whitened Light Curve

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

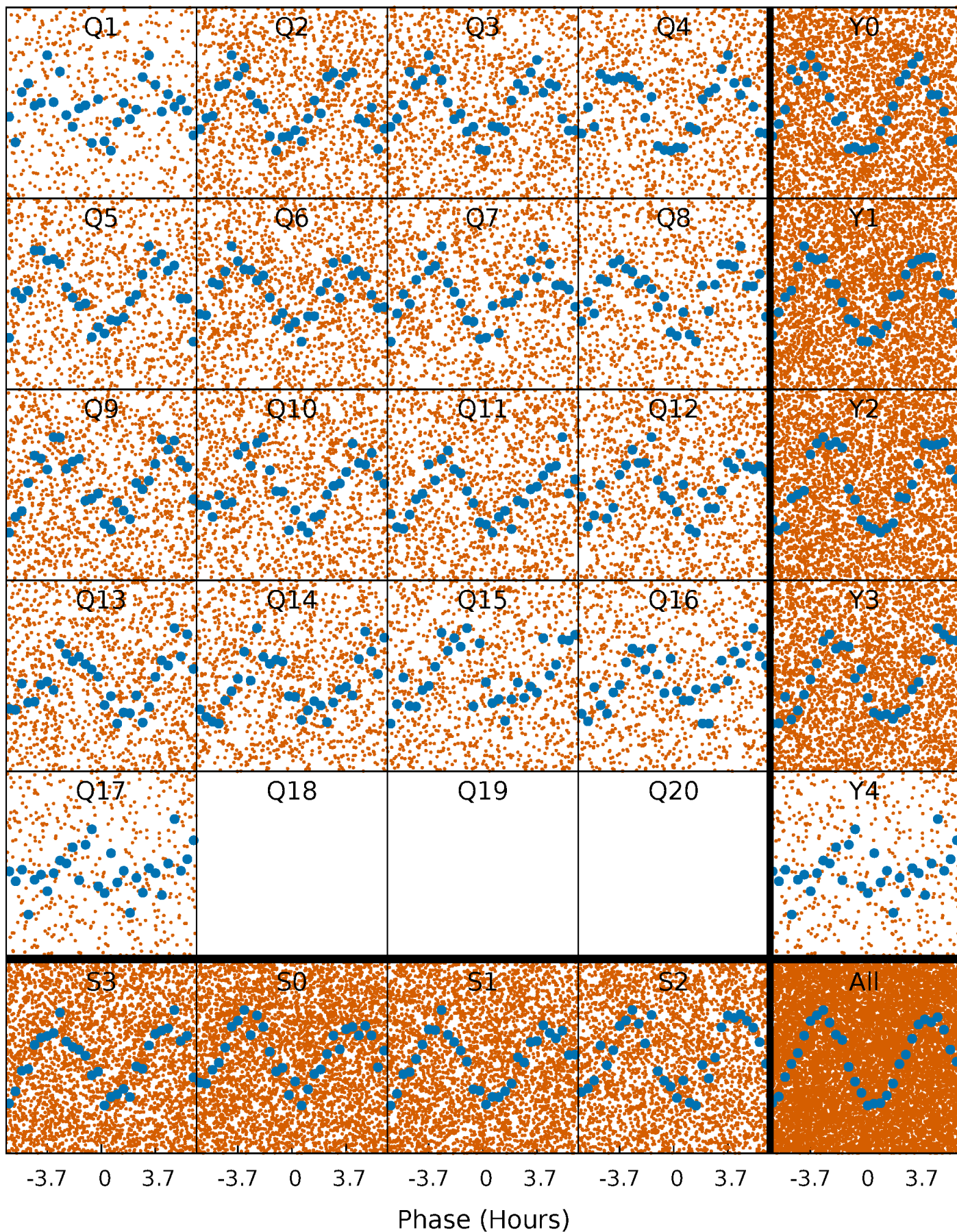


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



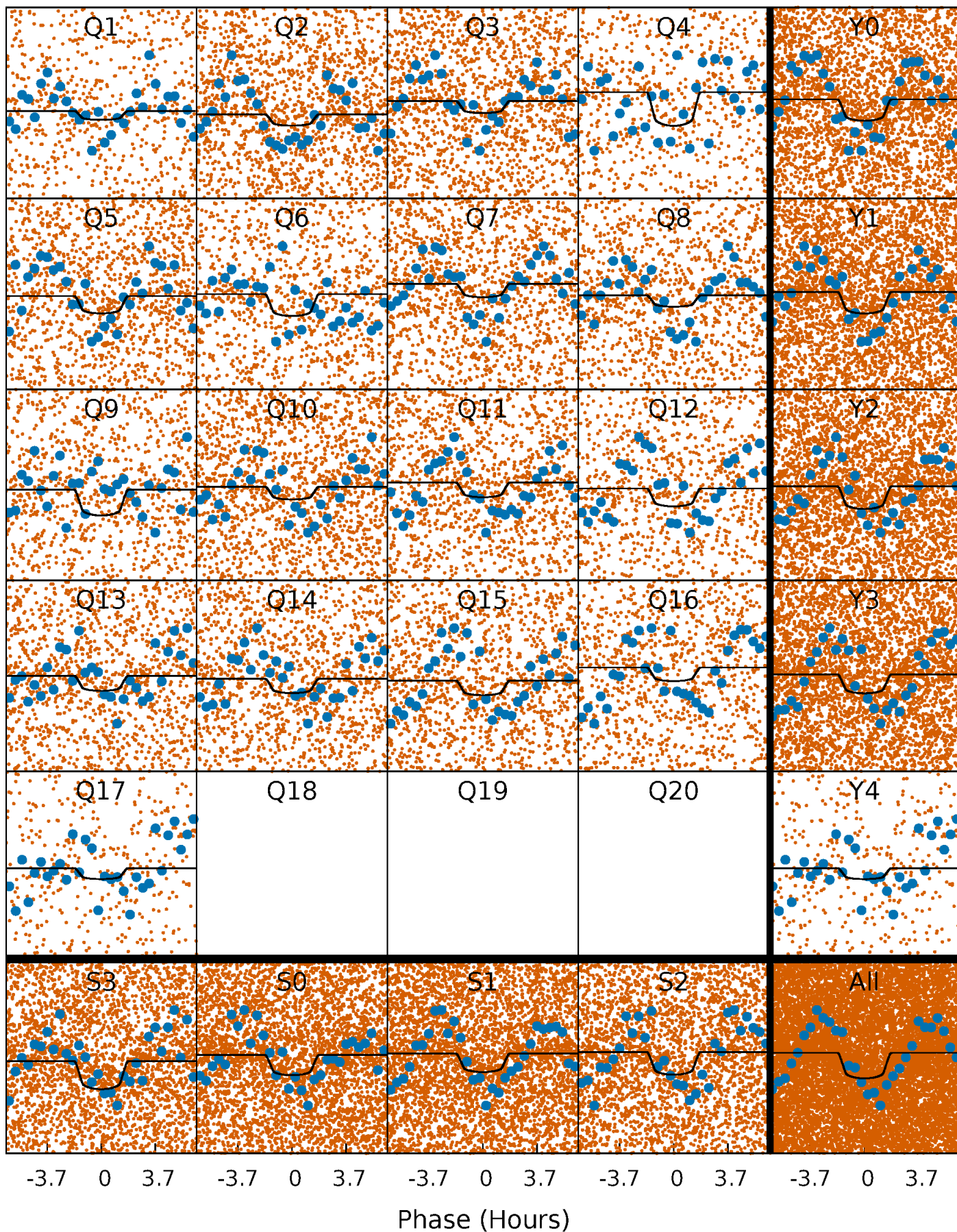
PDC Quarter-Phased Transit Curves

TCE 007299869-02 P= 0.607764 Days $T_0=131.824166$ (BKJD)



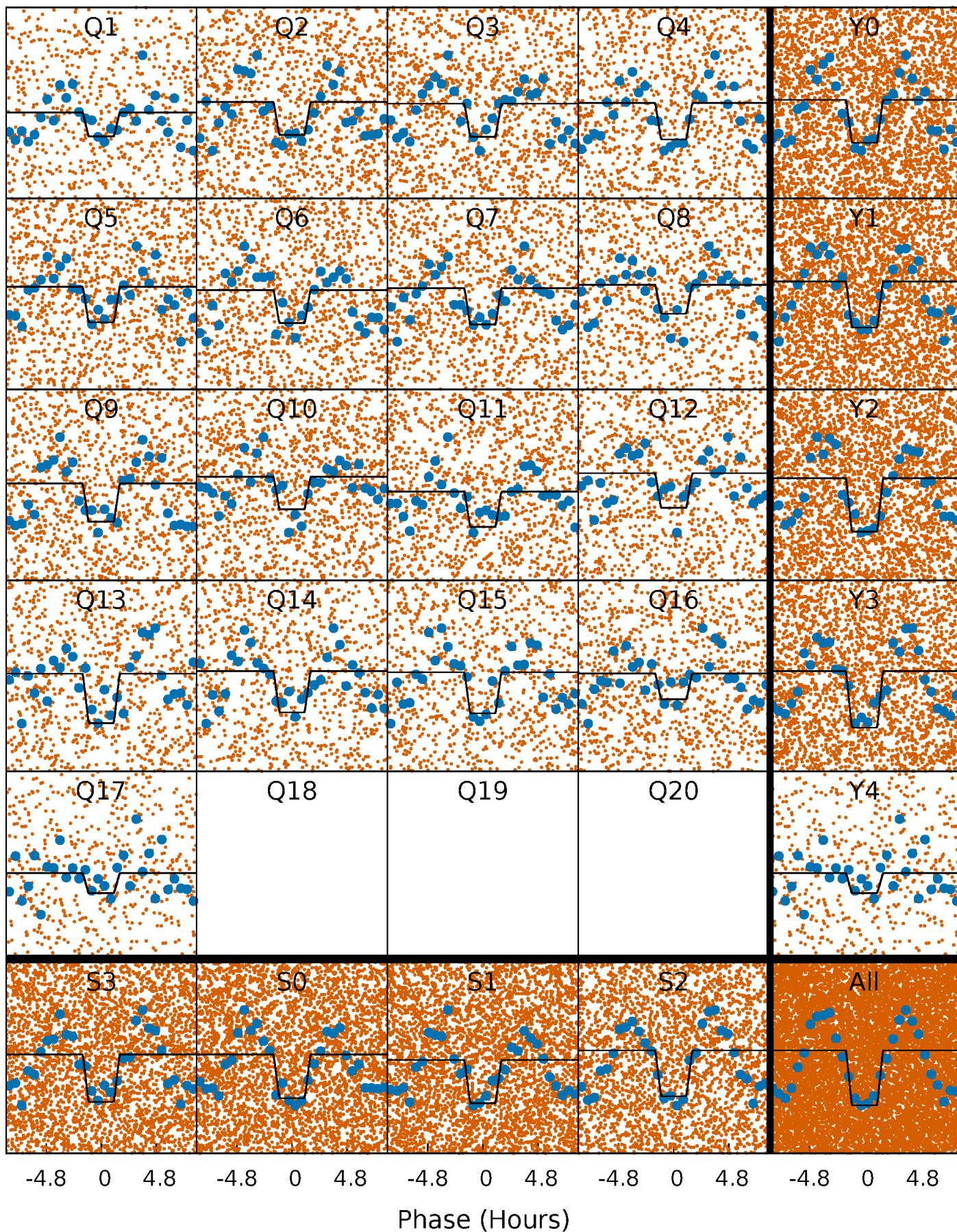
DV Quarter-Phased Transit Curves

TCE 007299869-02 $P = 0.607764$ Days $T_0 = 131.824166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

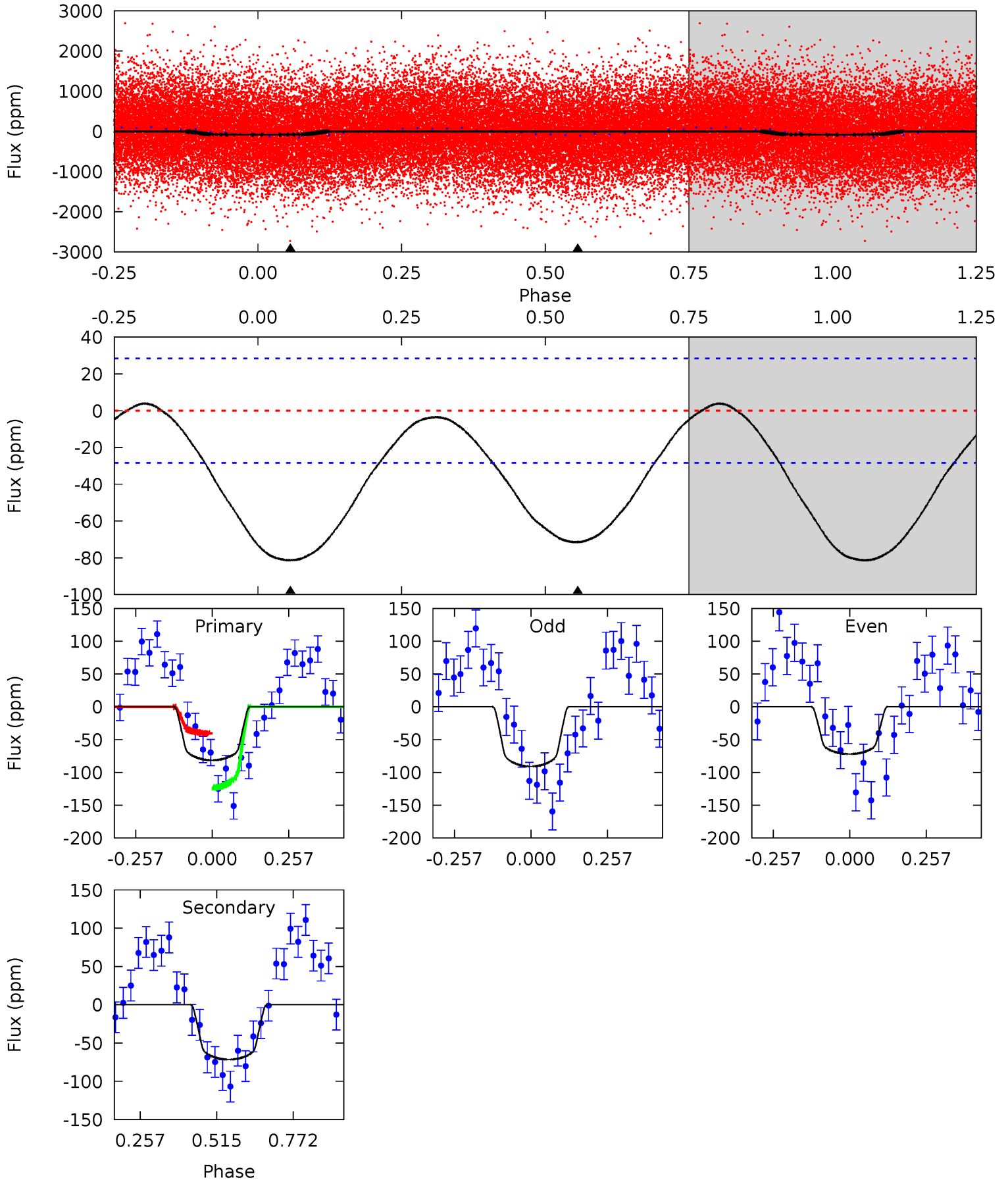
TCE 007299869-02 P= 0.607800 Days $T_0=131.811046$ (BKJD)



DV Model-Shift Uniqueness Test

007299869-02, P = 0.607764 Days, E = 131.216402 Days

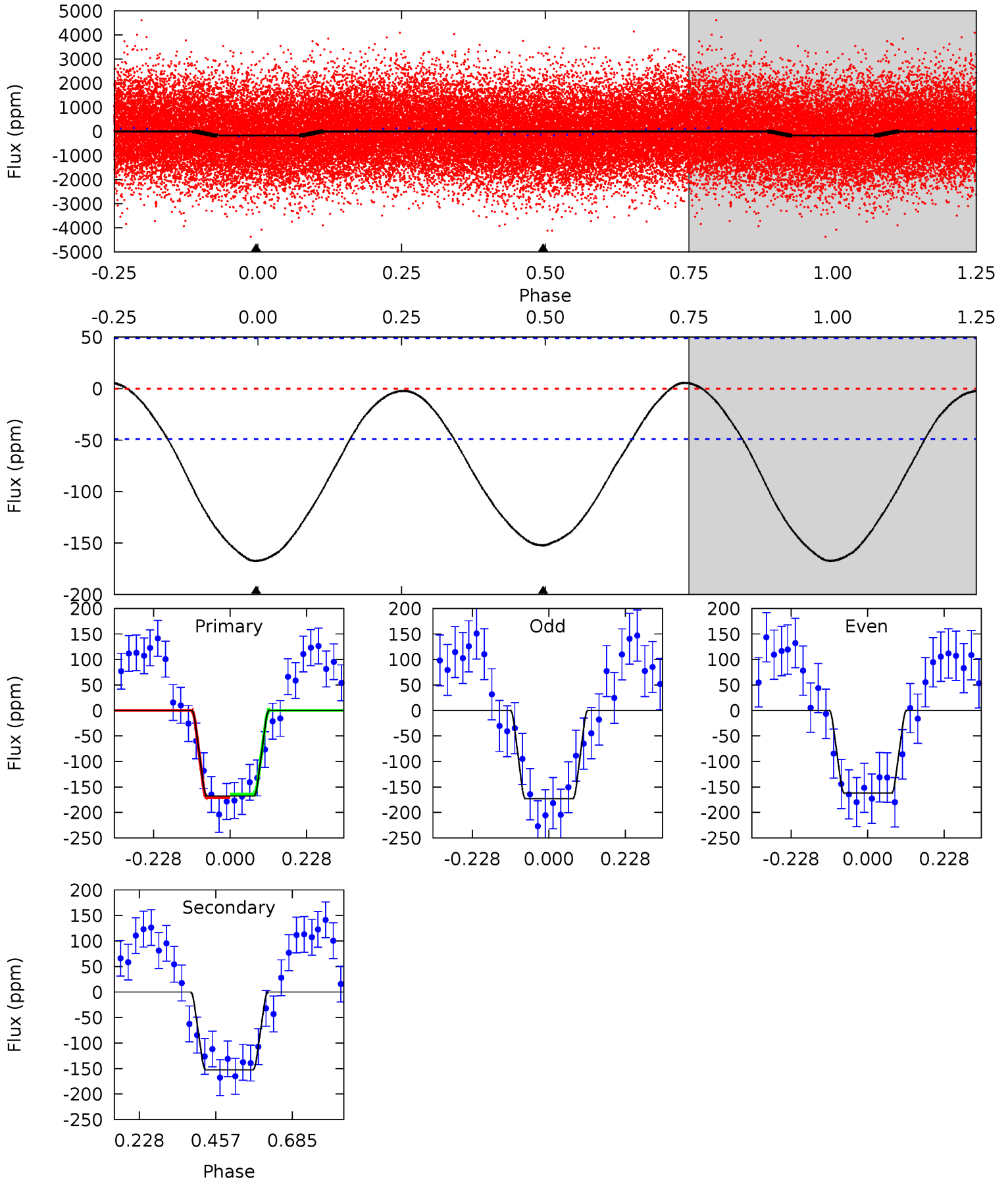
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	11.0	0	0	4.36	1.13	0.55	12.5	12.5	11.0	11.0	1.47	1.04	0.05	6.46



Alt Model-Shift Uniqueness Test

007299869-02, P = 0.607800 Days, E = 131.203246 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	13.6	0	0	4.39	1.20	0.37	15.0	15.0	13.6	13.6	0.49	1.02	0.03	0.29



Stellar Parameters For KIC 007299869

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+279}_{-307}	$3.786^{+0.544}_{-0.096}$	$-1.040^{+0.300}_{-0.350}$	$2.612^{+0.355}_{-1.330}$	$1.520^{+0.155}_{-0.361}$	$0.120^{+0.704}_{-0.038}$
	+3%/-4%	+14%/-3%	+29%/-34%	+14%/-51%	+10%/-24%	+587%/-31%
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 007299869-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-72 ± 7	$2.18^{+1.67}_{-1.21}$	6172^{+471}_{-827}	7370^{+6821}_{-2118}	$2.063^{+8.407}_{-1.365}$
Alt.	-152 ± 11	$3.37^{+1.81}_{-1.64}$	6163^{+477}_{-817}	7259^{+4192}_{-1606}	$1.919^{+5.286}_{-1.092}$

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 $A_{obs} \gg 1.0$

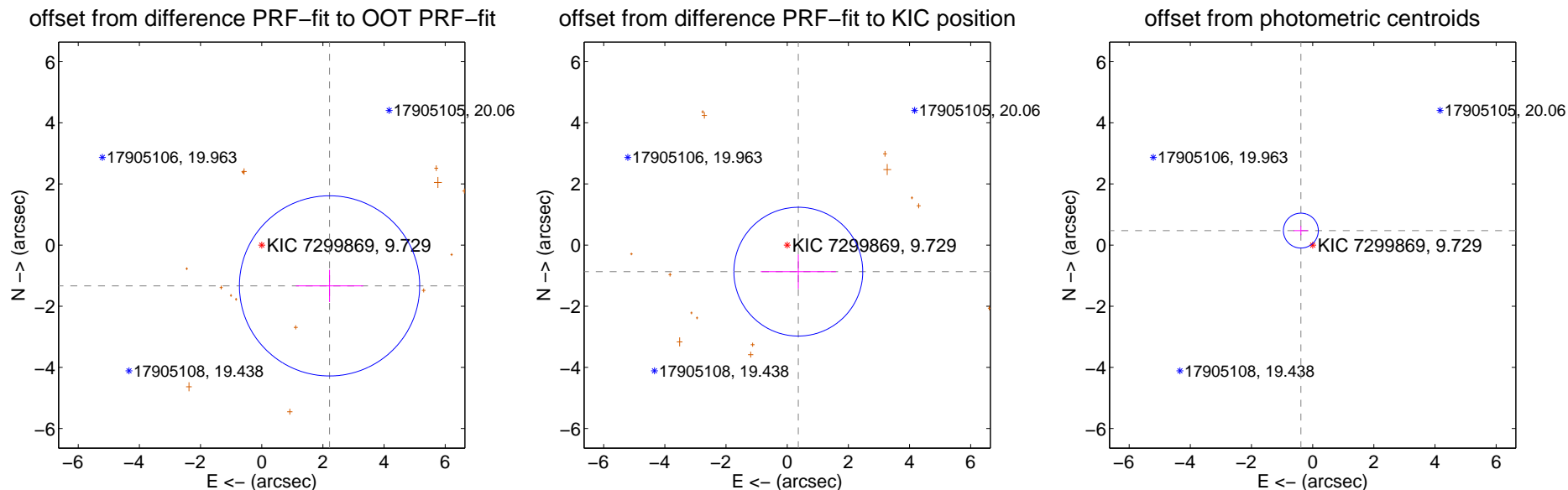
DV Centroid Data

Supplemental centroid analysis for 007299869-02. **Kepler magnitude: 9.73.** Transit SNR 7.88

There are 0 quarters with good PRF difference image offsets

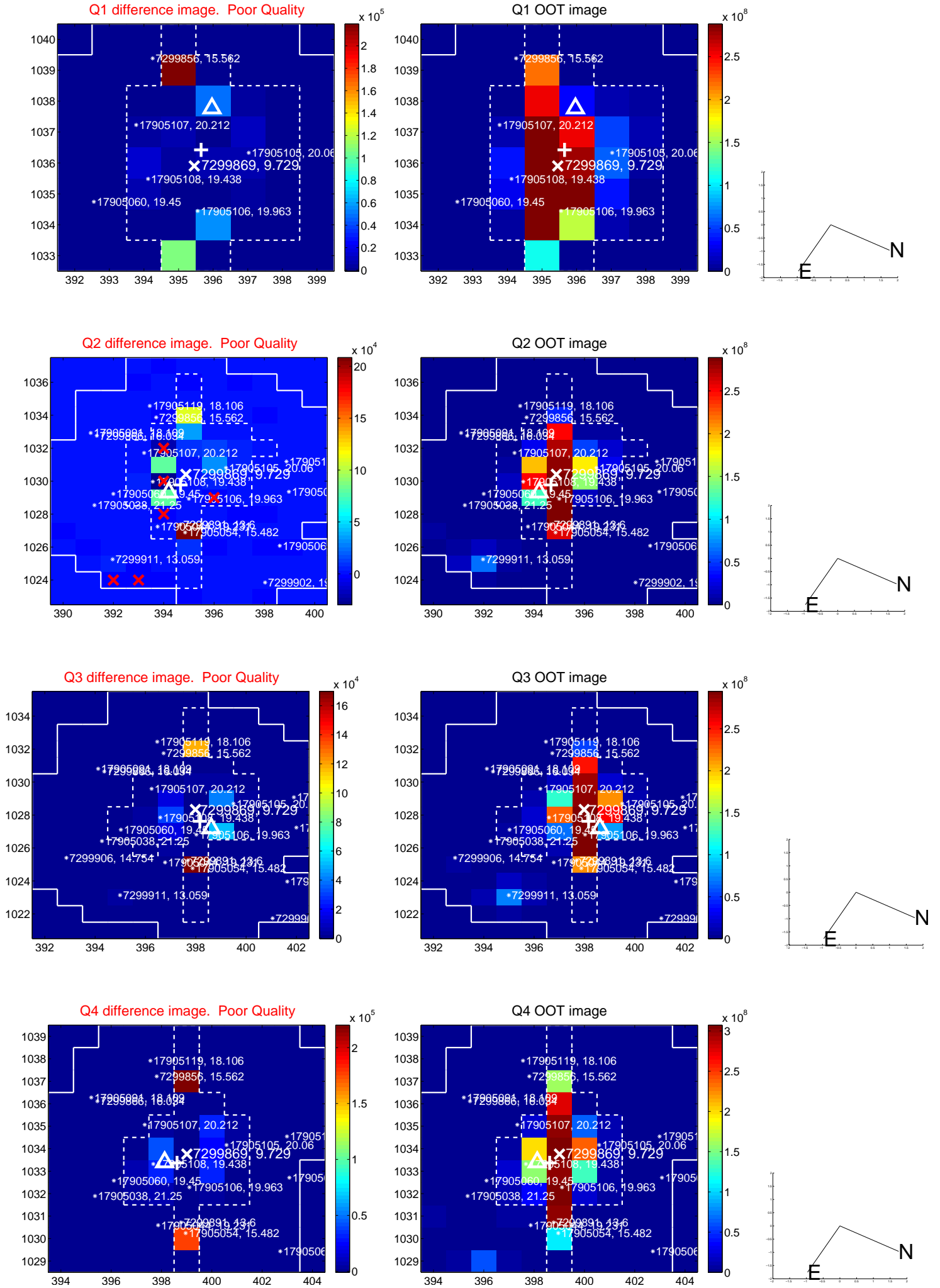
The OOT PRF centroid is offset from the target star catalog position by about 2.03 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.589 ± 0.983	2.64	-2.219 ± 1.102	-1.335 ± 0.528
PRF-fit source offset from KIC position	0.943 ± 0.702	1.34	-0.364 ± 1.229	-0.870 ± 0.562
photometric centroid source offset	0.61 ± 0.19	3.21	0.39 ± 0.24	0.47 ± 0.15

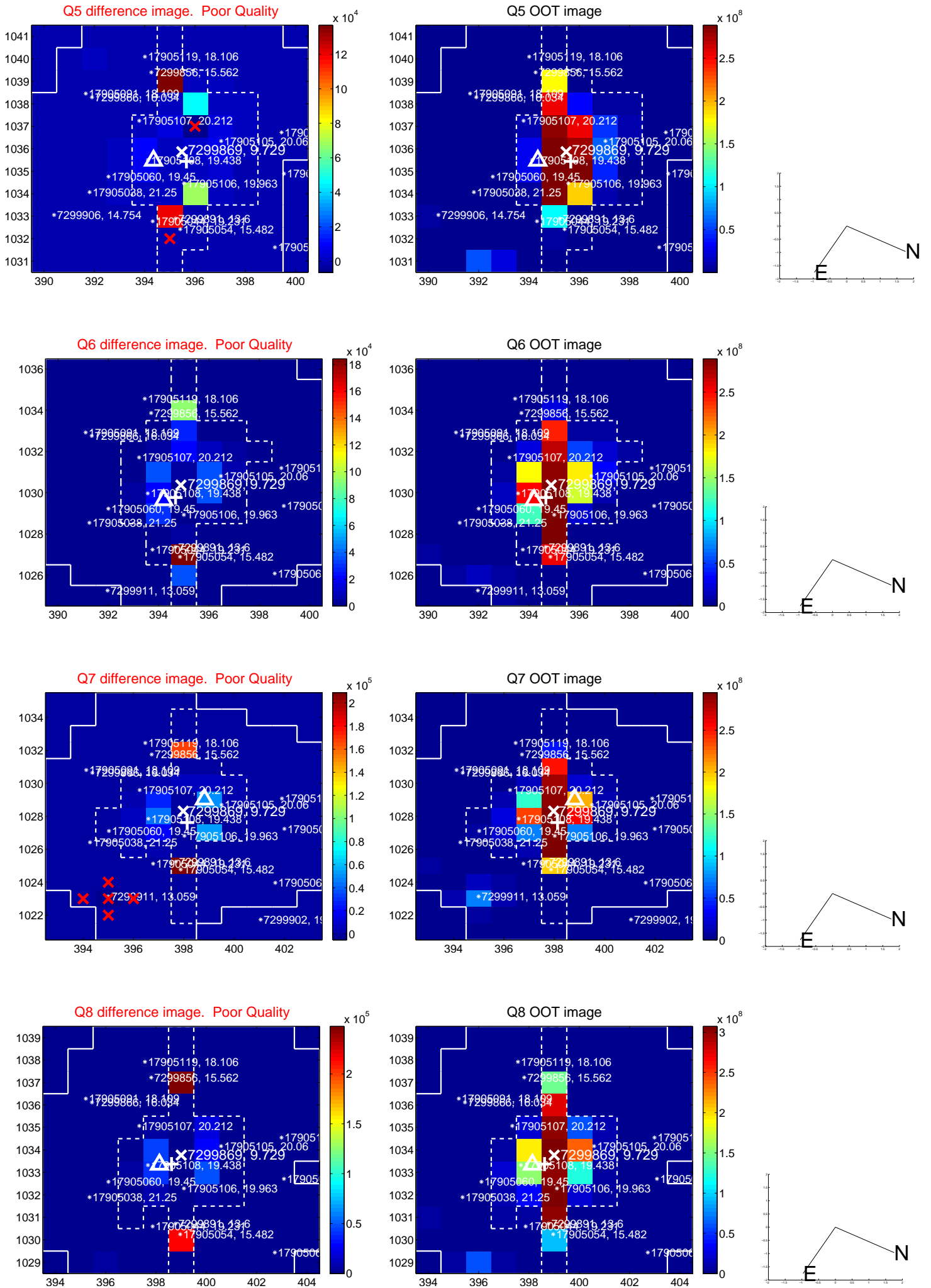


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

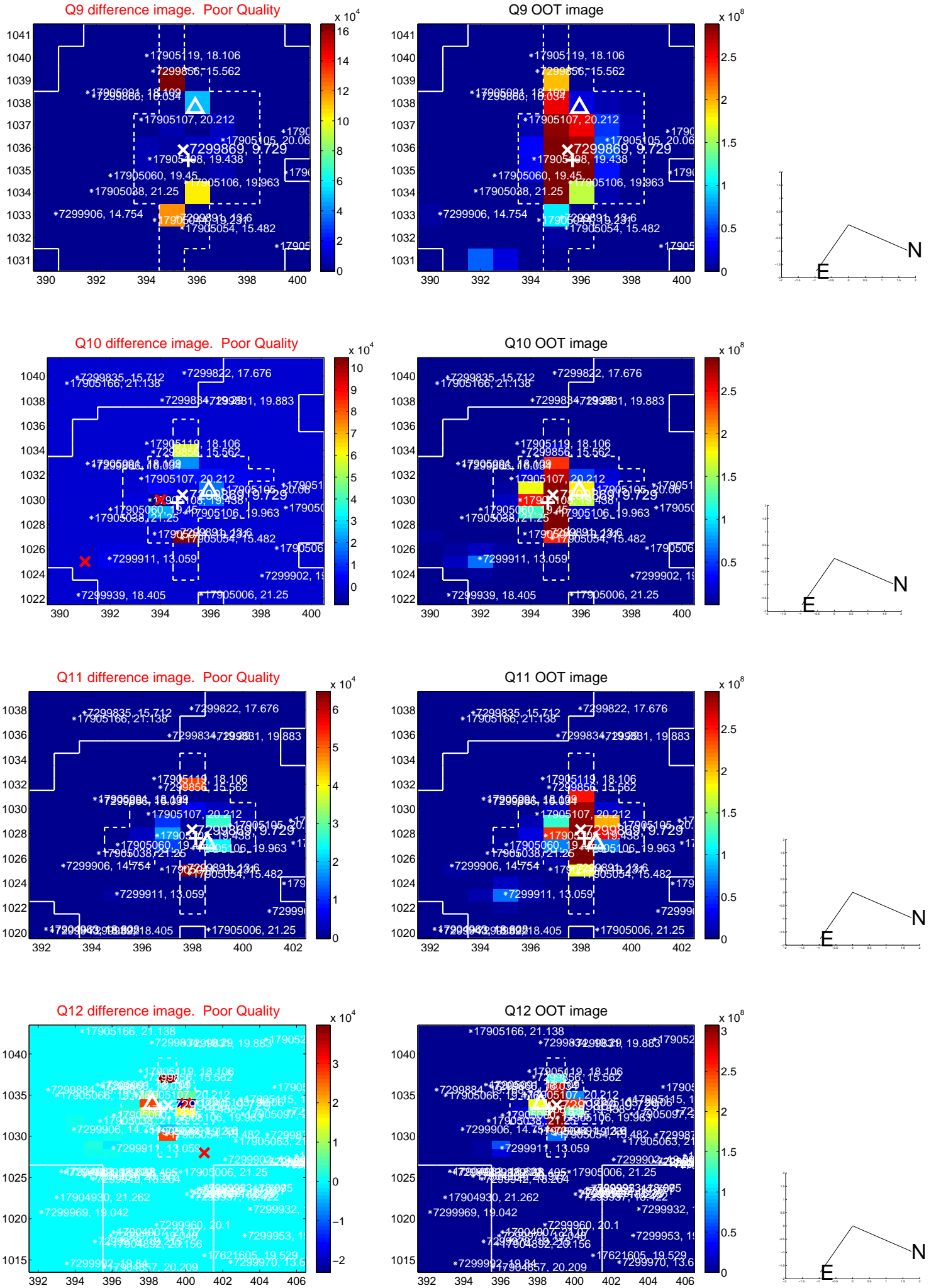
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



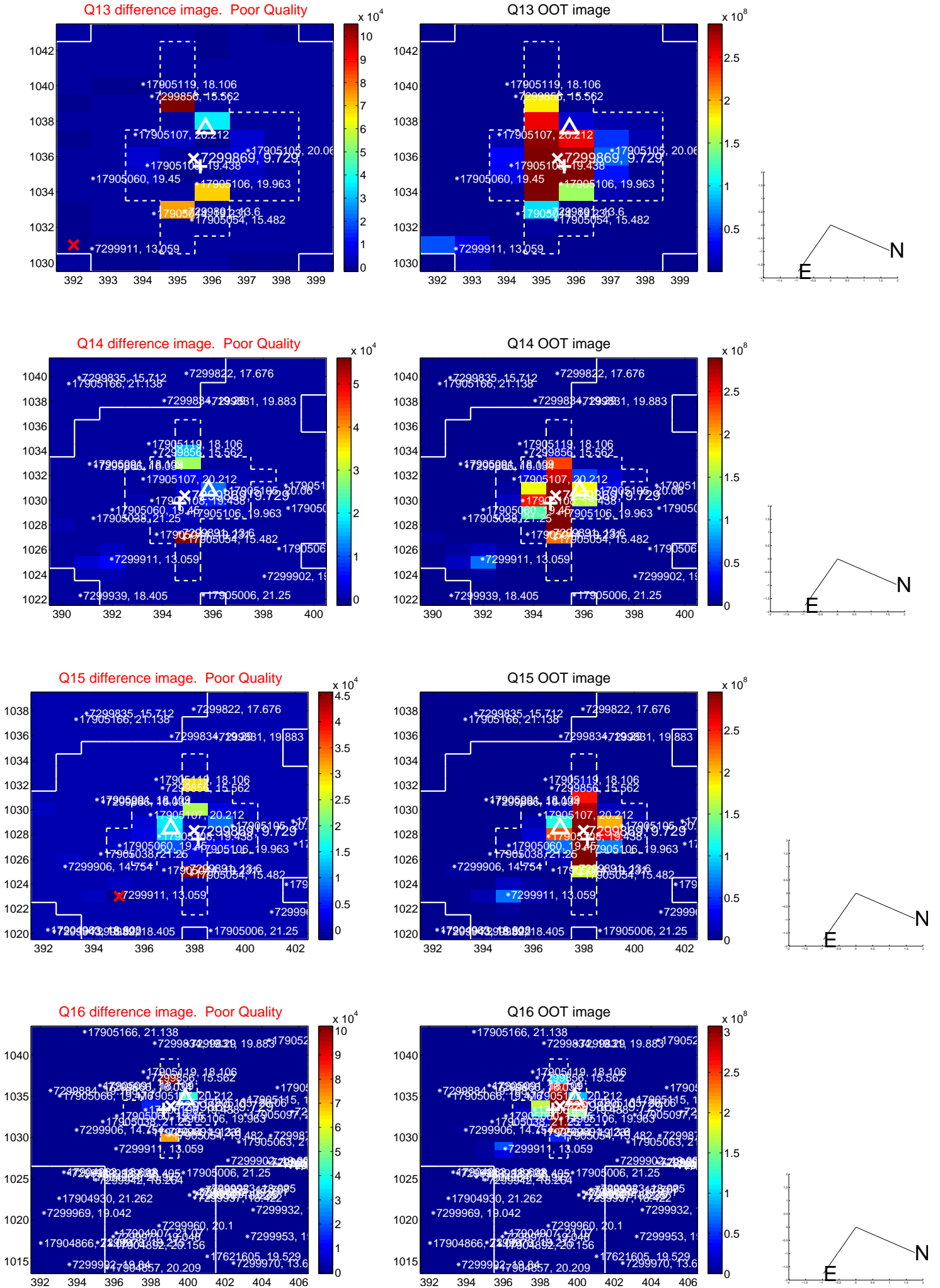
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



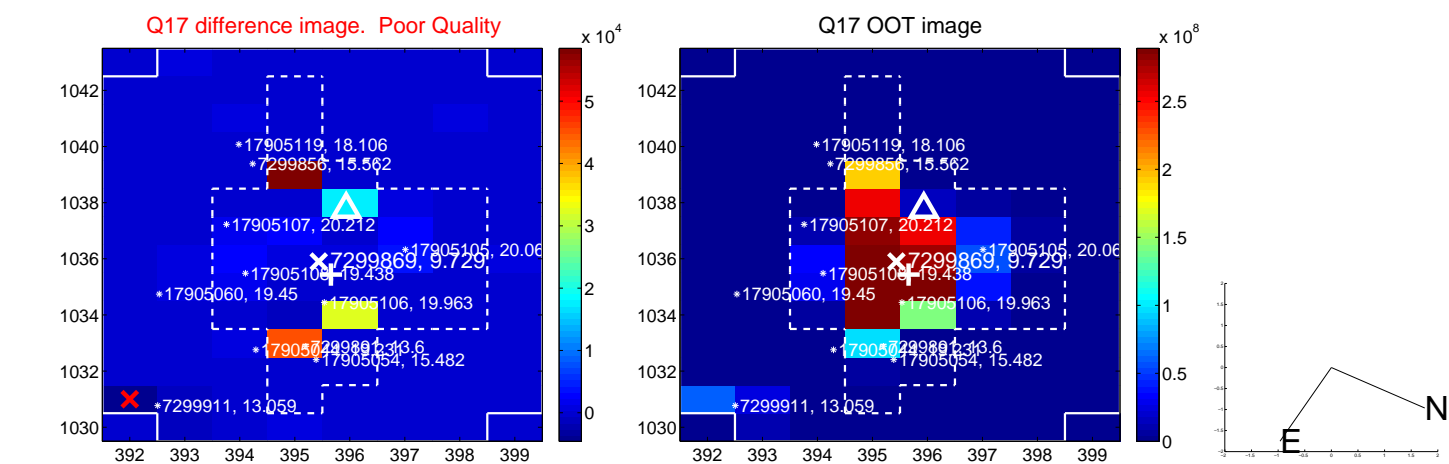
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



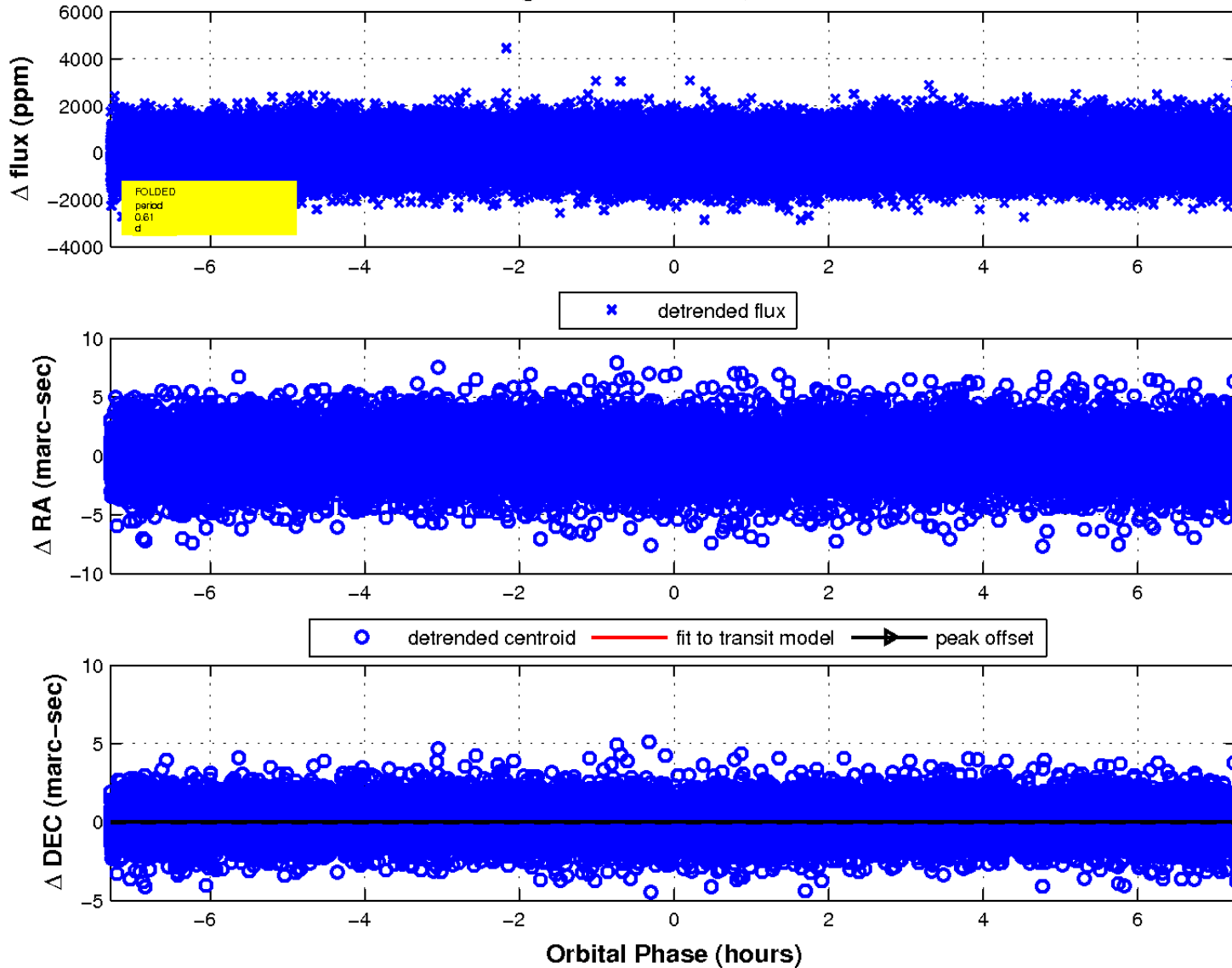
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

