

KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
002993589-04	OBS	No	4.467161	132.213148	61.5	3.963	9.6	7.7	1.51	7159	1.32	1486.78
002993589-05	OBS	No	6.559133	131.682869	646.7	1.500	13.2	-1.0	1.51	7159	3.90	890.89
002993589-06	OBS	No	9.832894	139.929270	346.2	0.635	10.9	13.4	1.51	7159	2.93	519.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

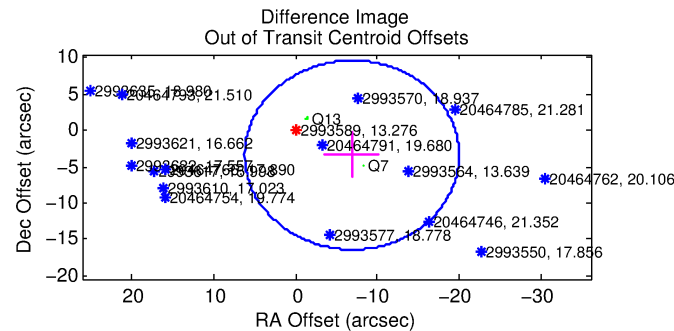
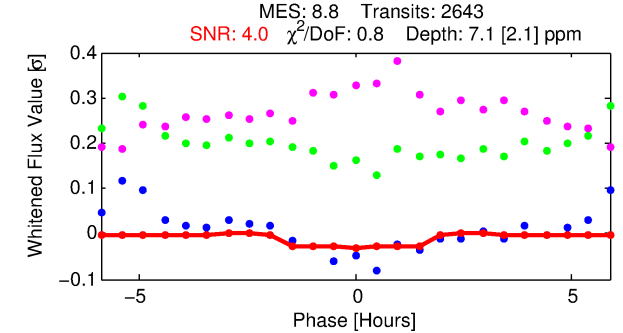
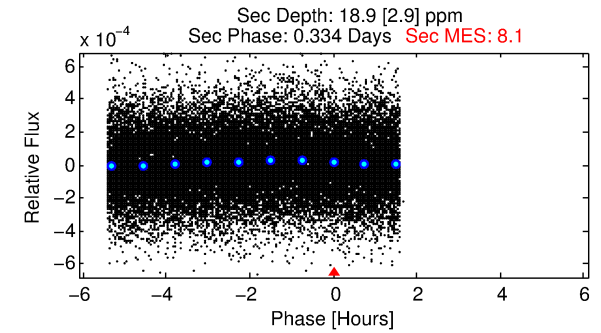
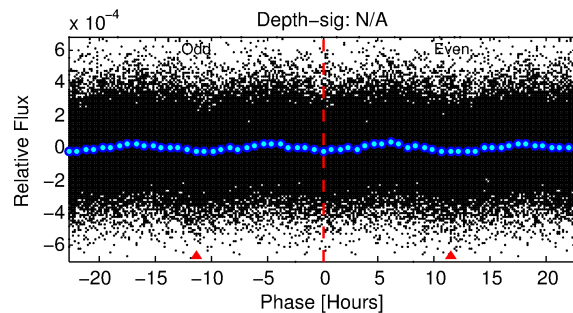
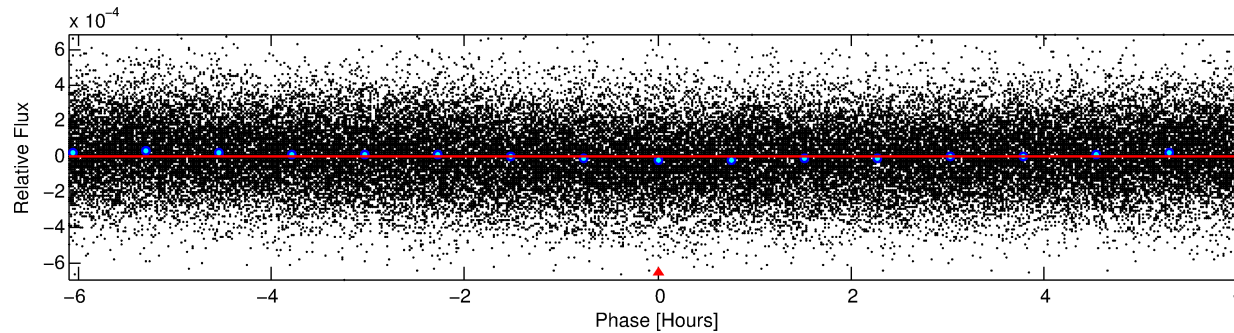
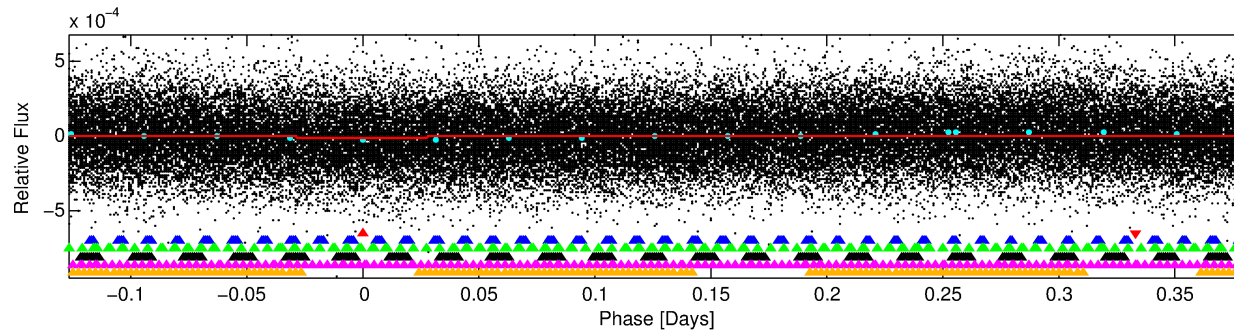
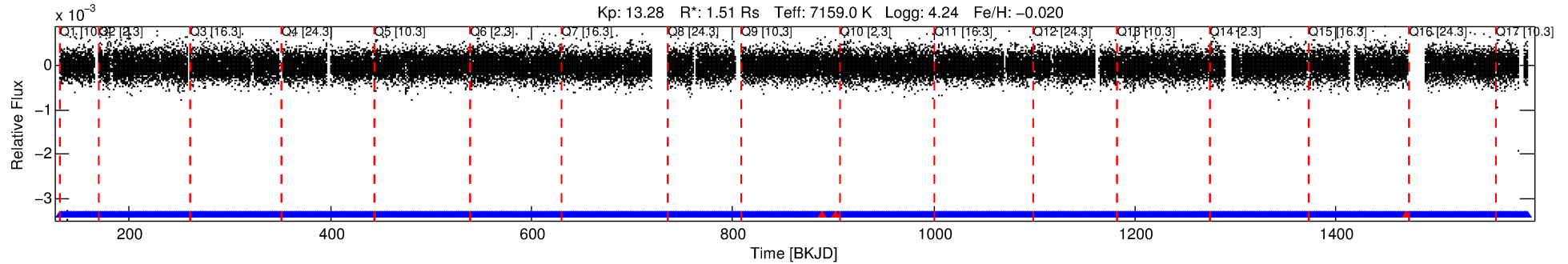
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-01

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 1 of 6 Period: 0.509 d



DV Fit Results:

Period = 0.50864 [0.00003] d
Epoch = 131.8180 [0.0088] BKJD
Rp/R* = 0.0026 [0.0025]
a/R* = 1.14 [1.49]
b = 0.61 [5.89]
Seff = 26940.62 [11701.14]
Teq = 3267 [355] K
Rp = 0.42 [0.43] Re
a = 0.0141 [0.0041] AU
Ag = 11.56 [22.68] [0.47σ]
Teffp = 9314 [4487] K [1.34σ]

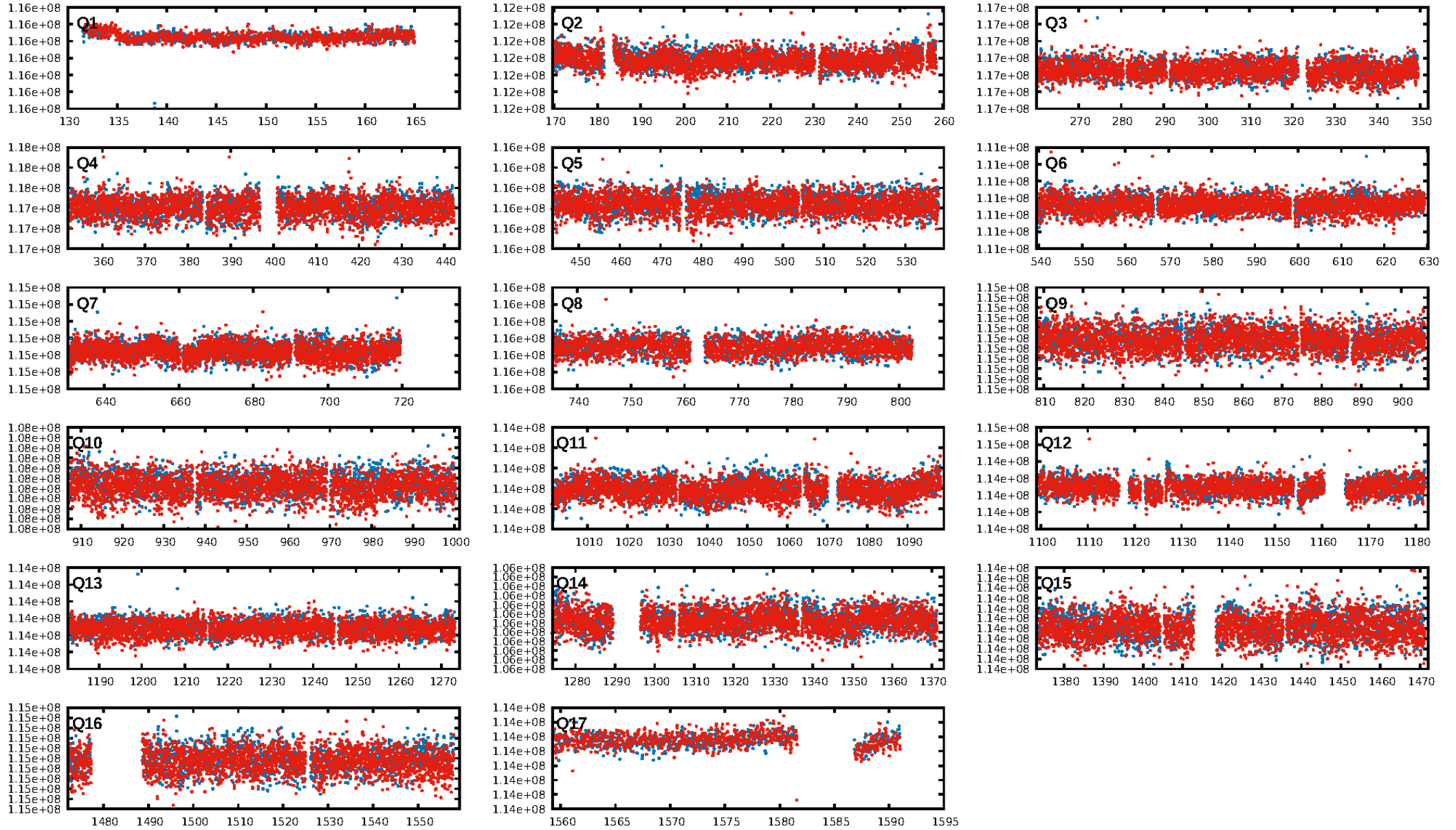
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [17.34σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.50e-10
RollingBand-fgt: 1.00 [2522/2525]
GhostDiagnostic-chr: 4.481
Centroid-sig: 50.7%
Centroid-so: 1.689 arcsec [0.67σ]
OotOffset-rm: 7.673 arcsec [1.76σ]
KicOffset-rm: 7.733 arcsec [2.06σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [17/17]

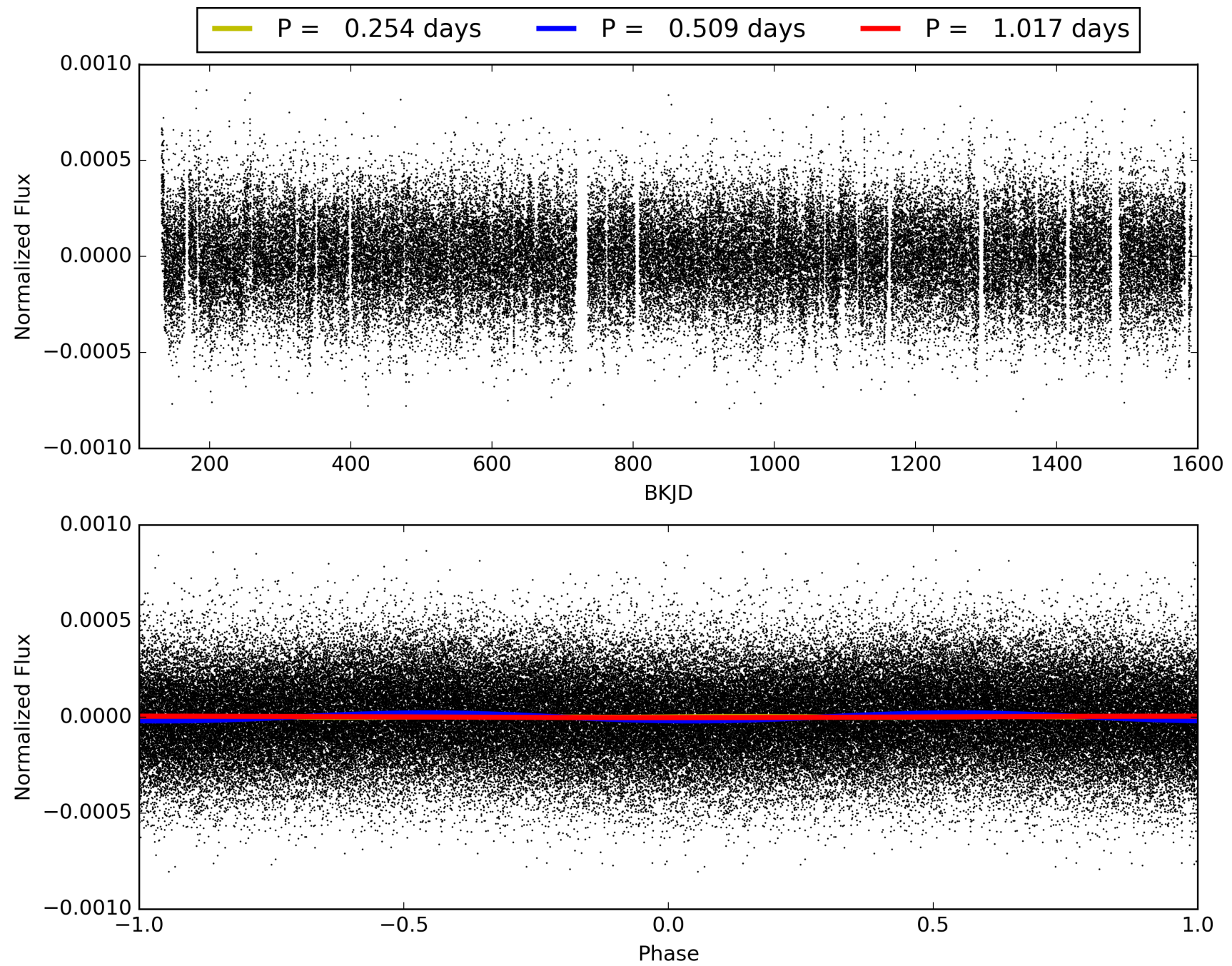
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:48:43 Z

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

TCE 002993589-01, PDC Light Curves

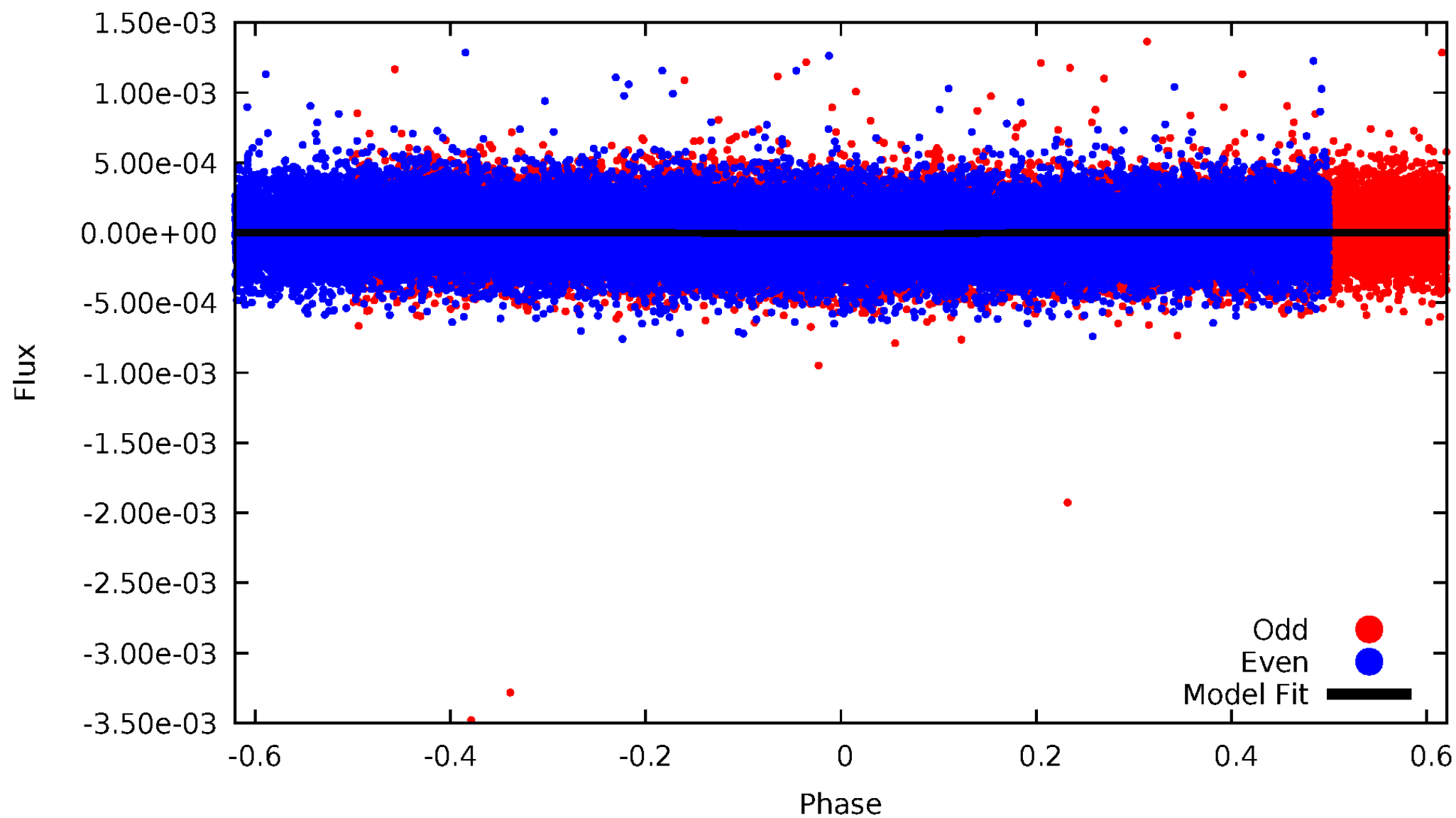


TCE 002993589-01



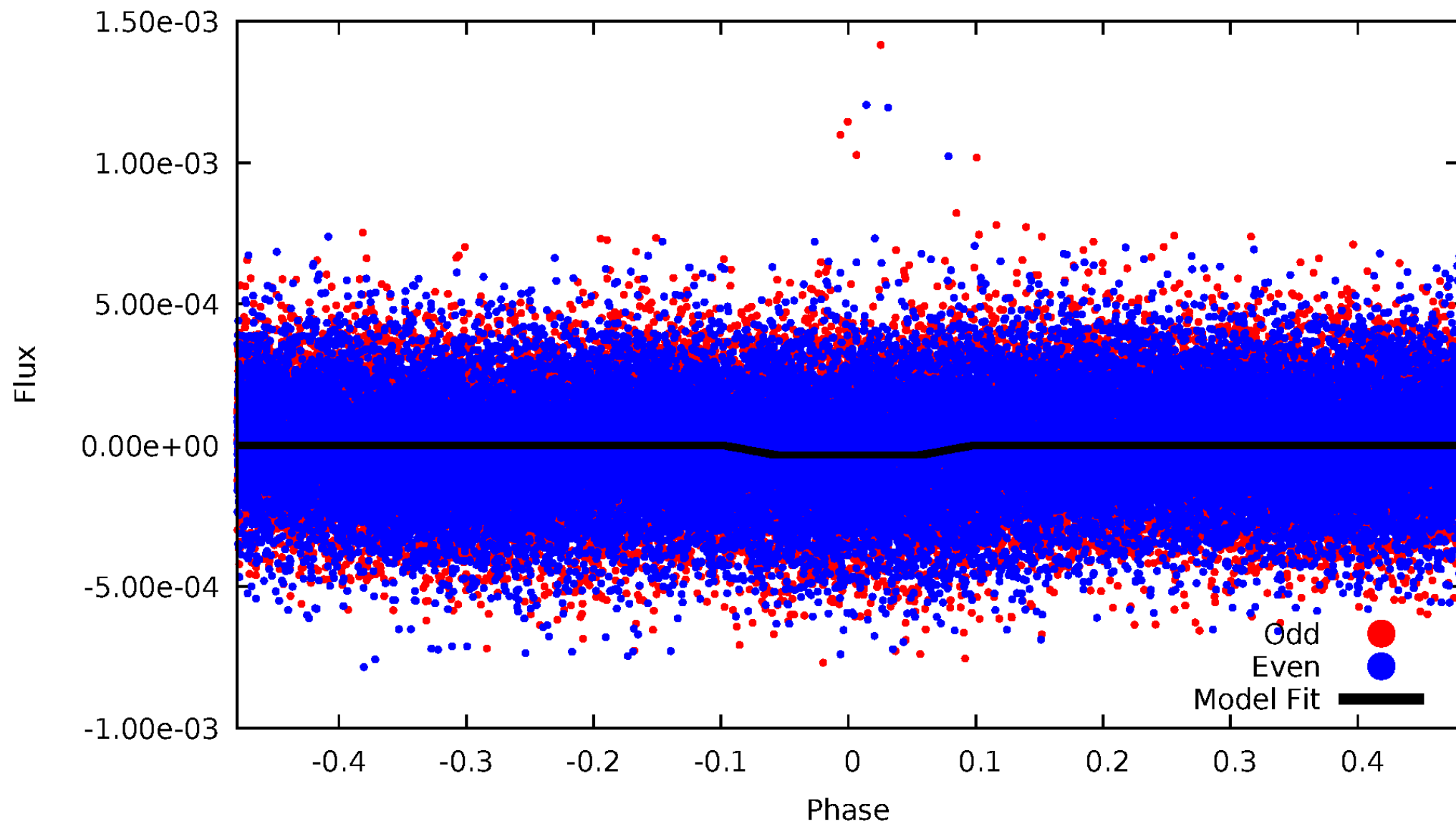
DV Odd/Even

TCE 002993589-01

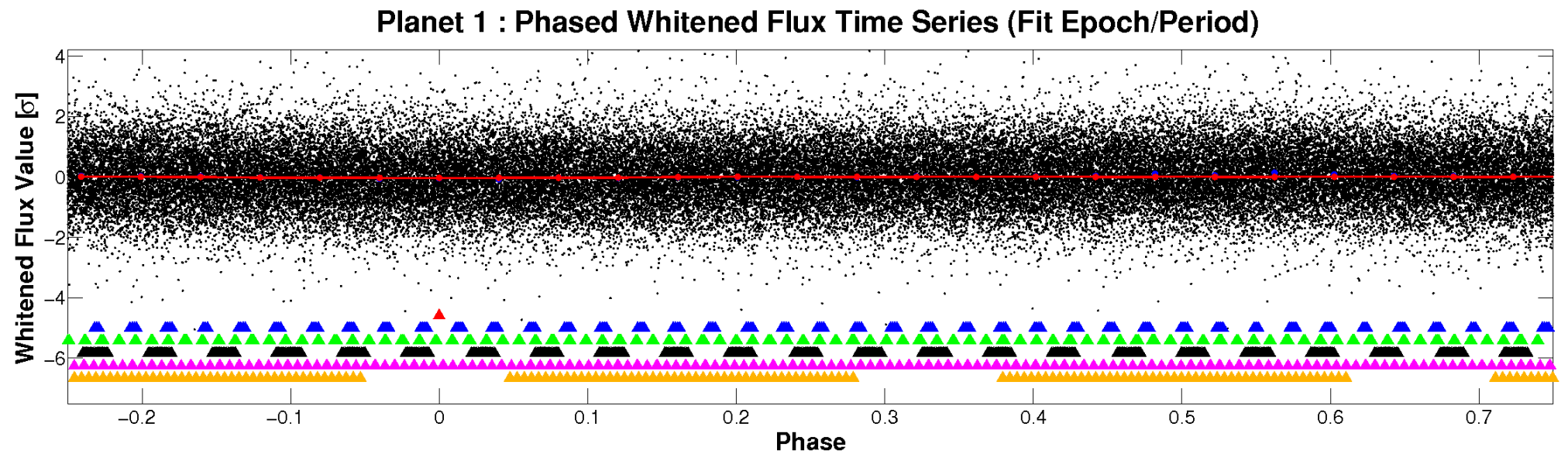
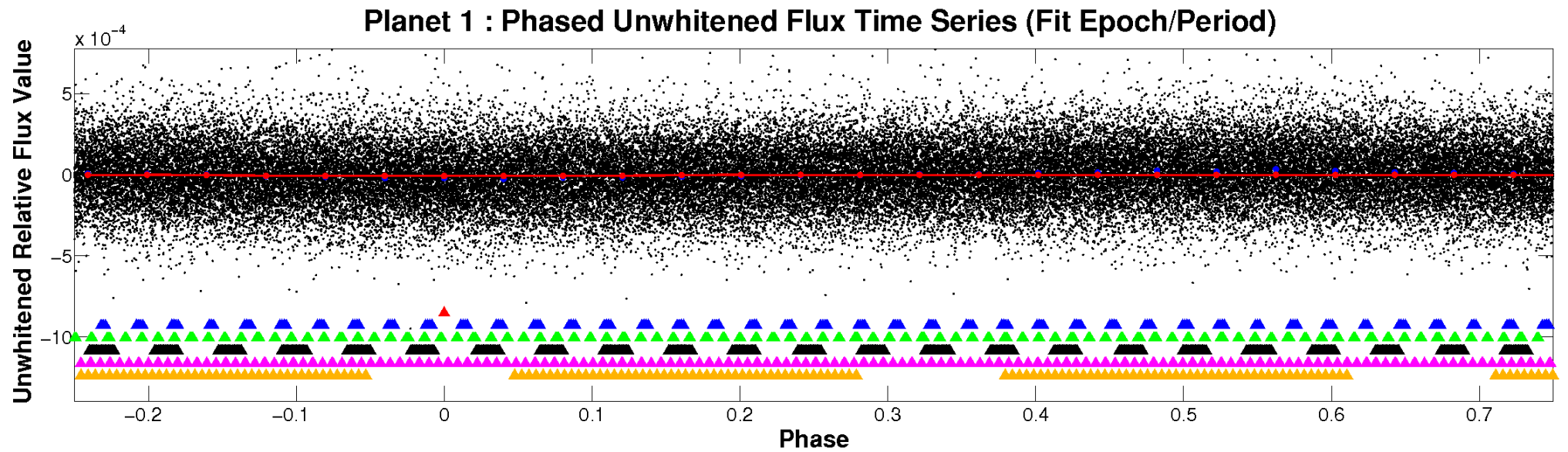


ALT Odd/Even

TCE 002993589-01

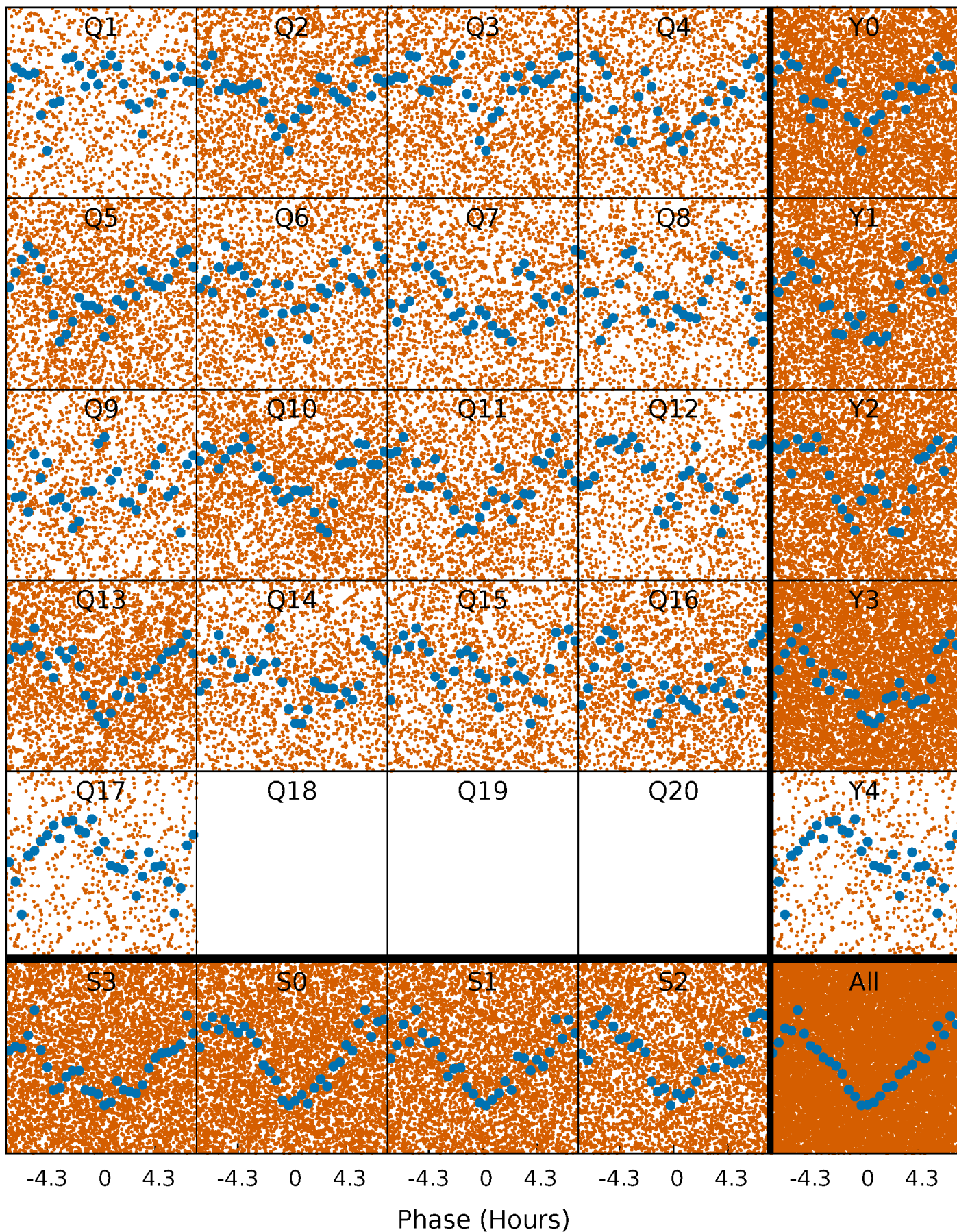


Non-Whitened Vs. Whitened Light Curve



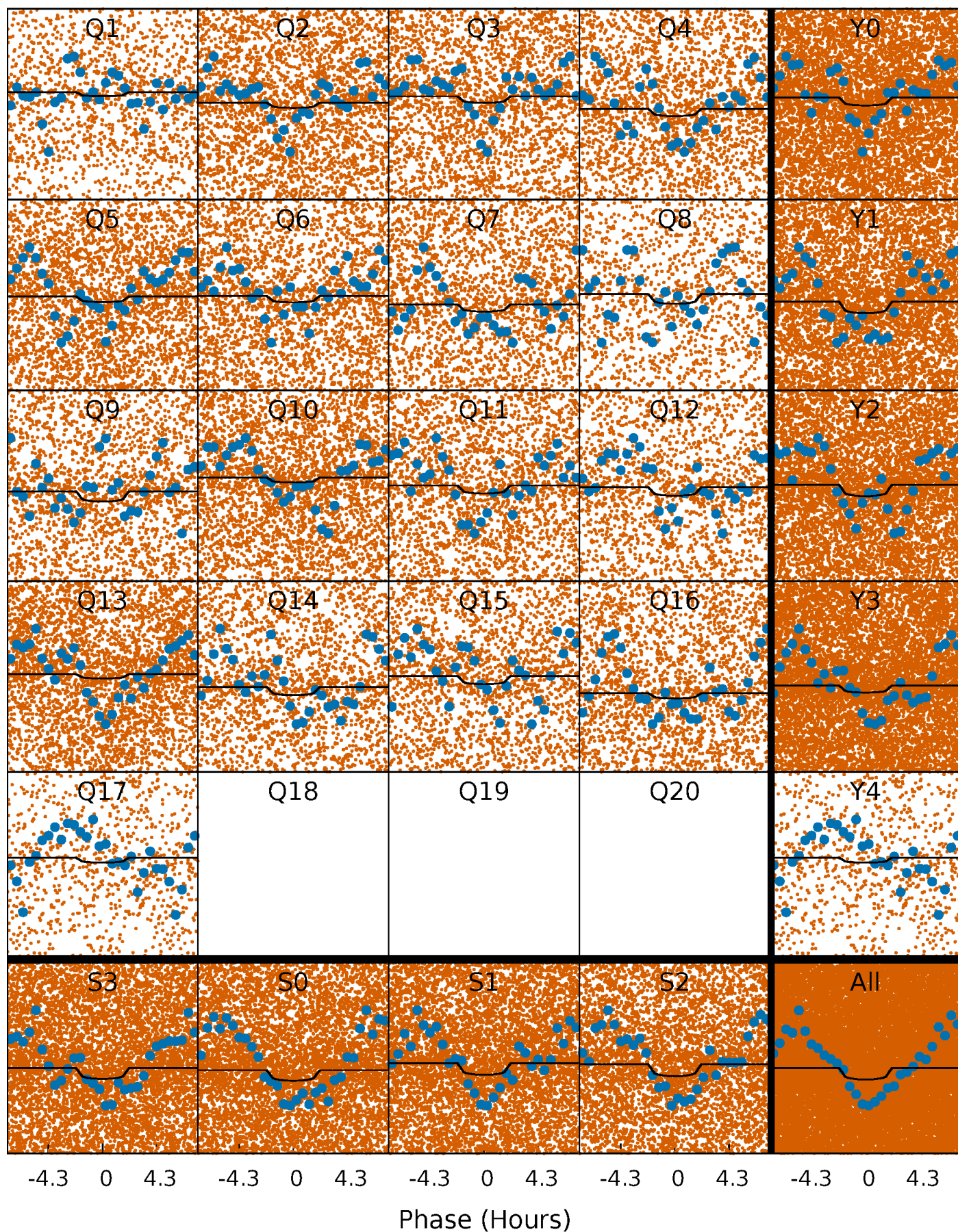
PDC Quarter-Phased Transit Curves

TCE 002993589-01 P= 0.508640 Days $T_0=131.818006$ (BKJD)



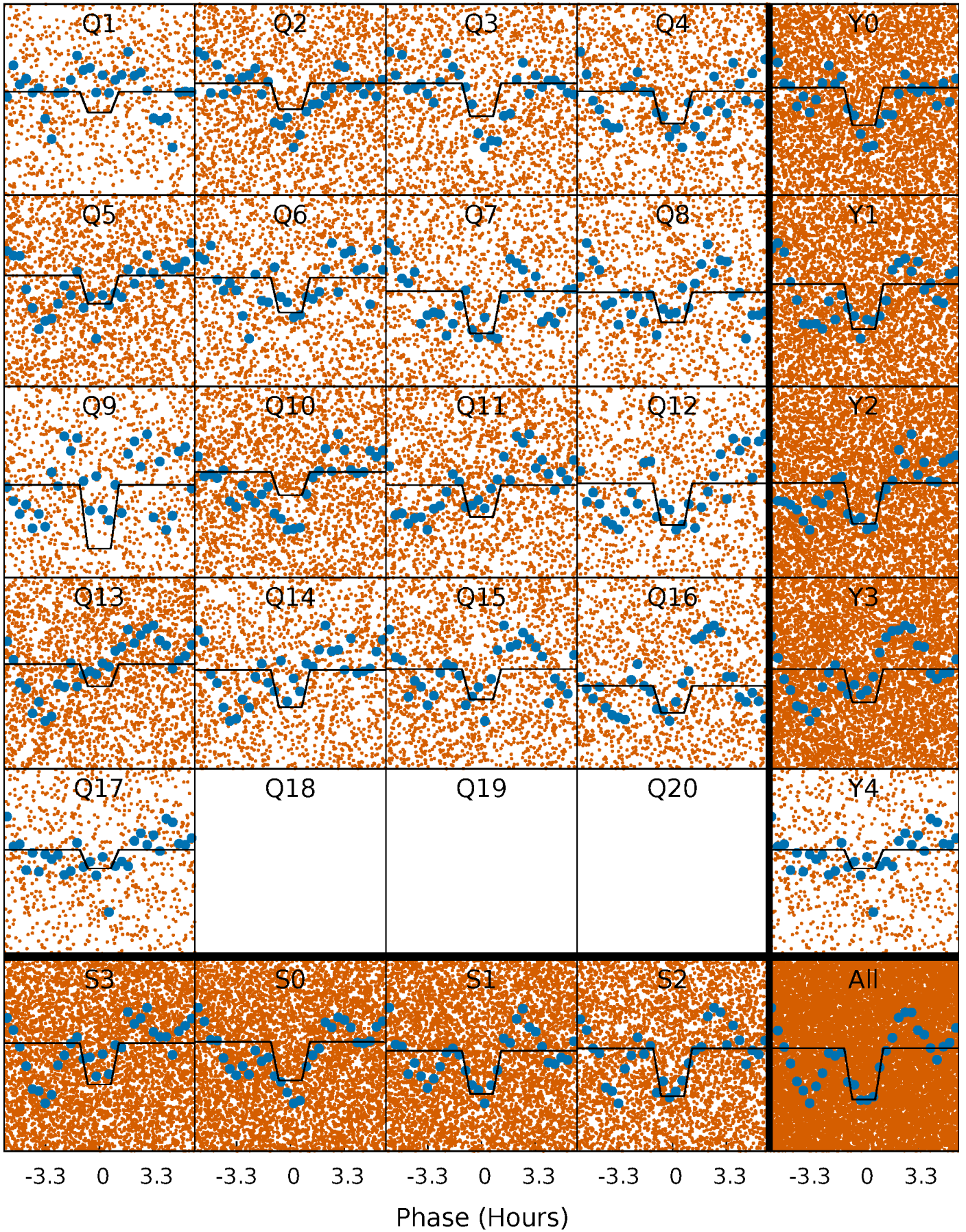
DV Quarter-Phased Transit Curves

TCE 002993589-01 P= 0.508640 Days $T_0=131.818006$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

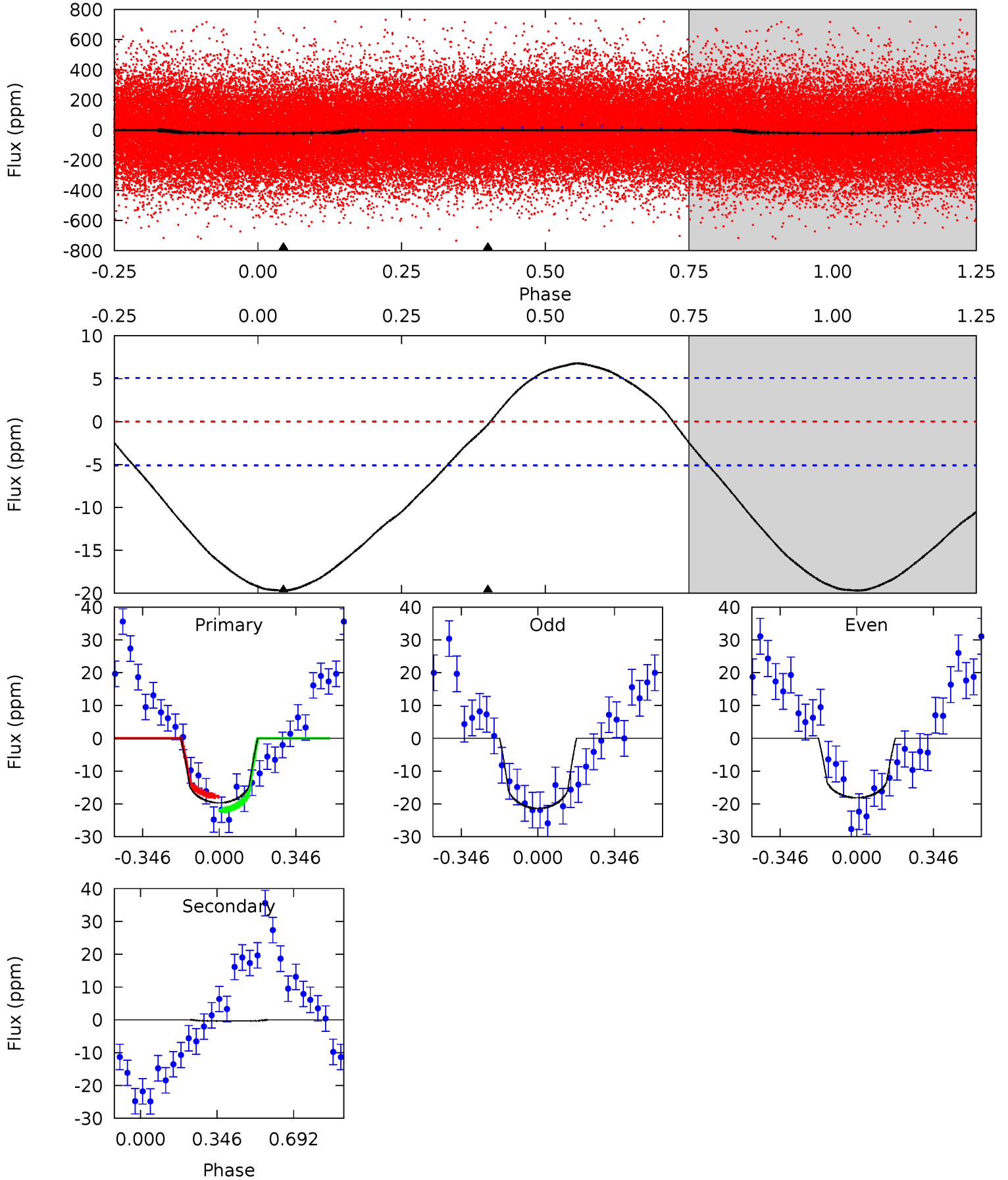
TCE 002993589-01 P= 0.508733 Days $T_0=131.770560$ (BKJD)



DV Model-Shift Uniqueness Test

002993589-01, P = 0.508640 Days, E = 131.309366 Days

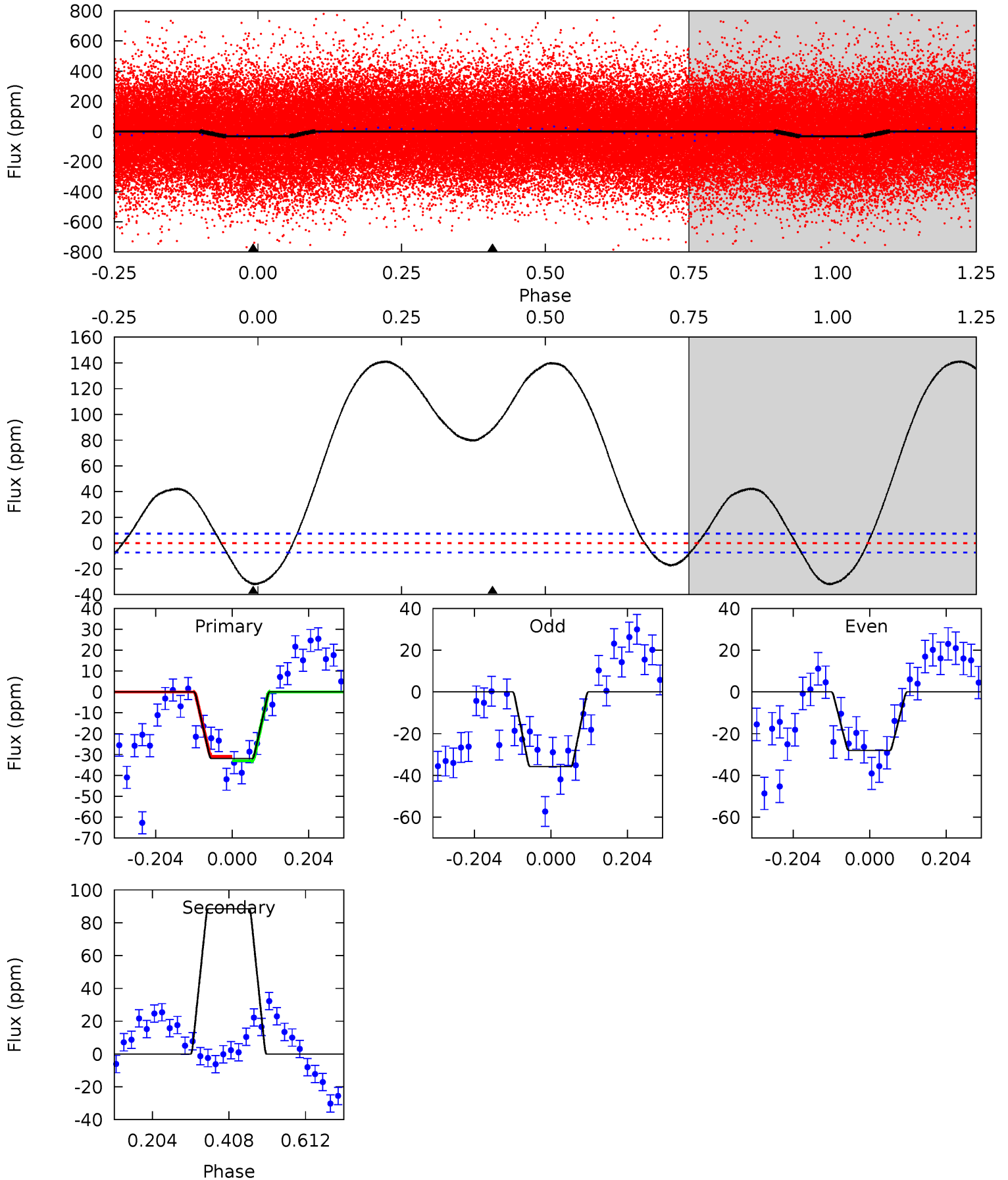
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	0.29	0	0	4.30	0.94	1.97	16.6	16.6	0.29	0.29	1.37	1.07	0.26	1.78



Alt Model-Shift Uniqueness Test

002993589-01, P = 0.508733 Days, E = 131.261827 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	-52.8	0	0	4.41	1.27	21.1	19.0	19.0	-52.8	-52.8	2.32	1.11	0.82	0.61



Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-0 ± 1	$0.51^{+0.38}_{-0.29}$	4609^{+390}_{-276}	-3804^{+8804}_{-974}	$0.106^{+1.016}_{-0.443}$
Alt.	89 ± 2	$1.00^{+0.43}_{-0.39}$	4604^{+377}_{-271}	-9653^{+1853}_{-5116}	$-9.579^{+4.800}_{-16.416}$

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

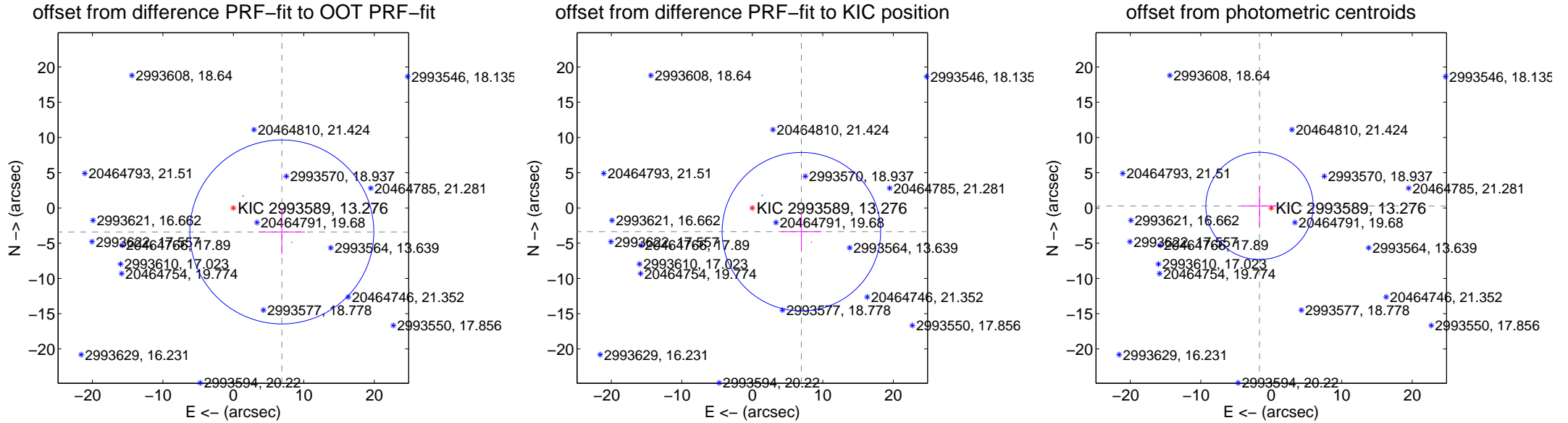
DV Centroid Data

Supplemental centroid analysis for 002993589-01. Kepler magnitude: 13.28. Transit SNR 4.02

There are 1 quarters with good PRF difference image offsets

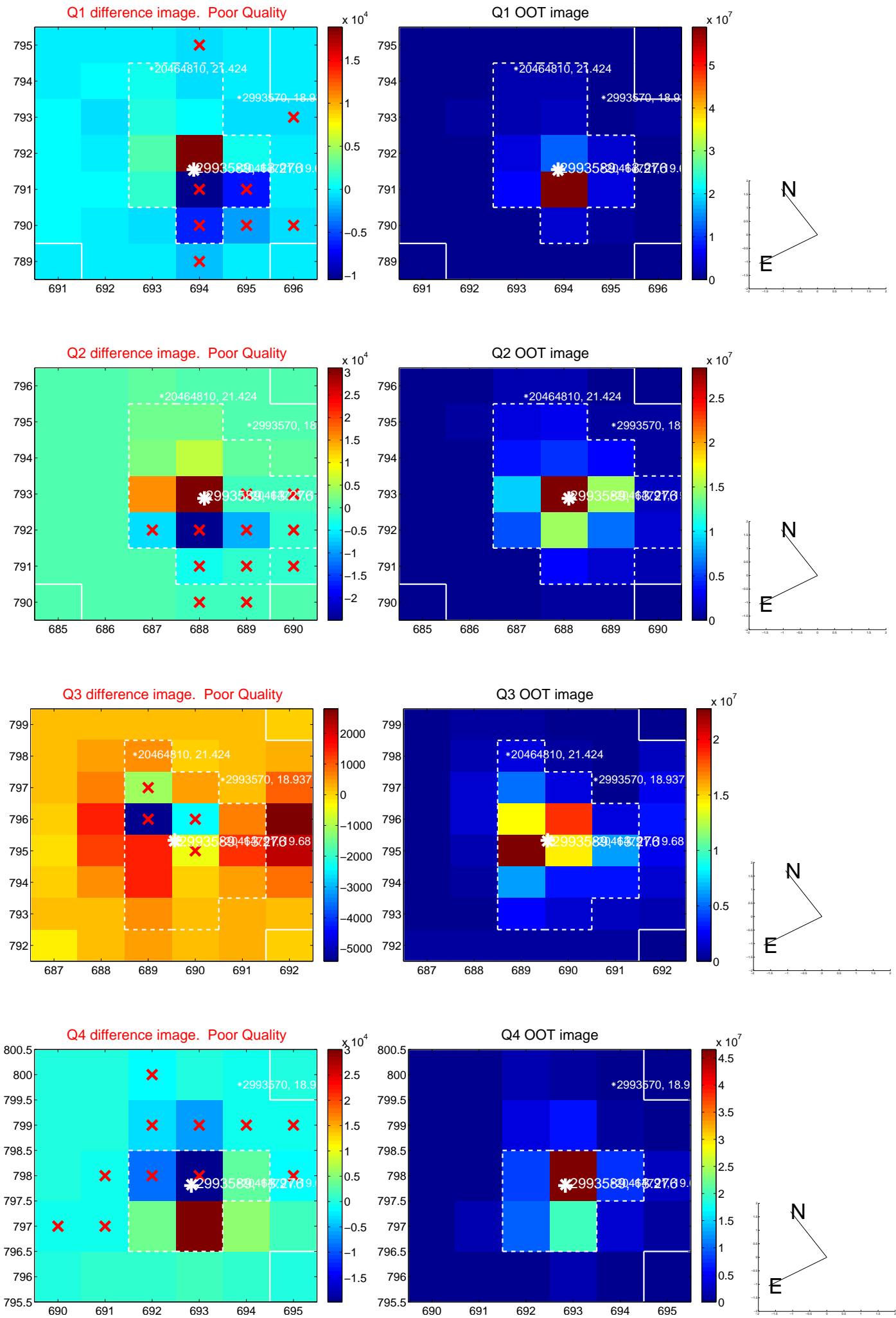
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.673 ± 4.350	1.76	-6.877 ± 3.298	-3.403 ± 3.143
PRF-fit source offset from KIC position	7.733 ± 3.748	2.06	-6.963 ± 2.854	-3.365 ± 2.709
photometric centroid source offset	1.69 ± 2.54	0.67	1.66 ± 2.53	0.29 ± 2.89

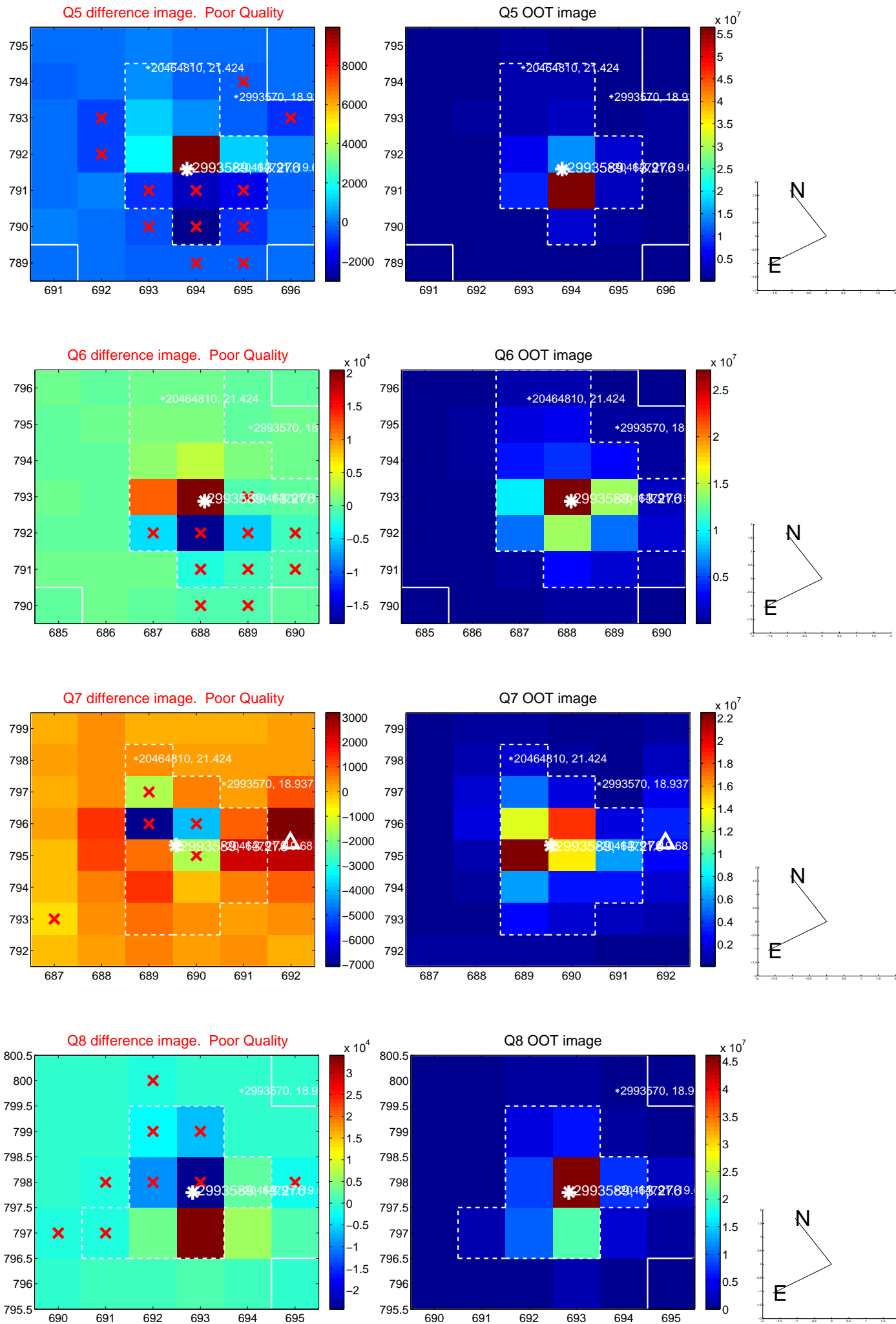


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

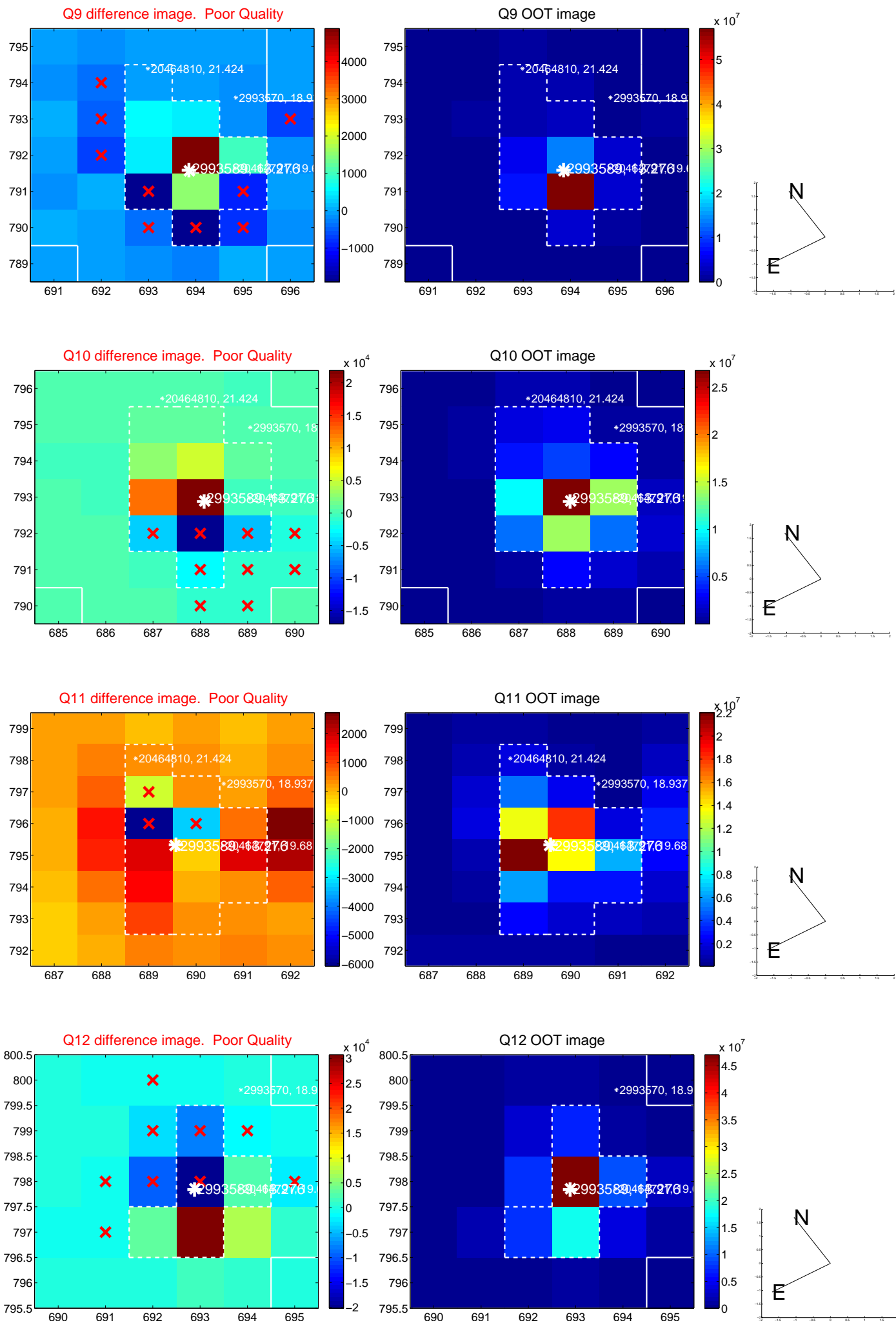
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



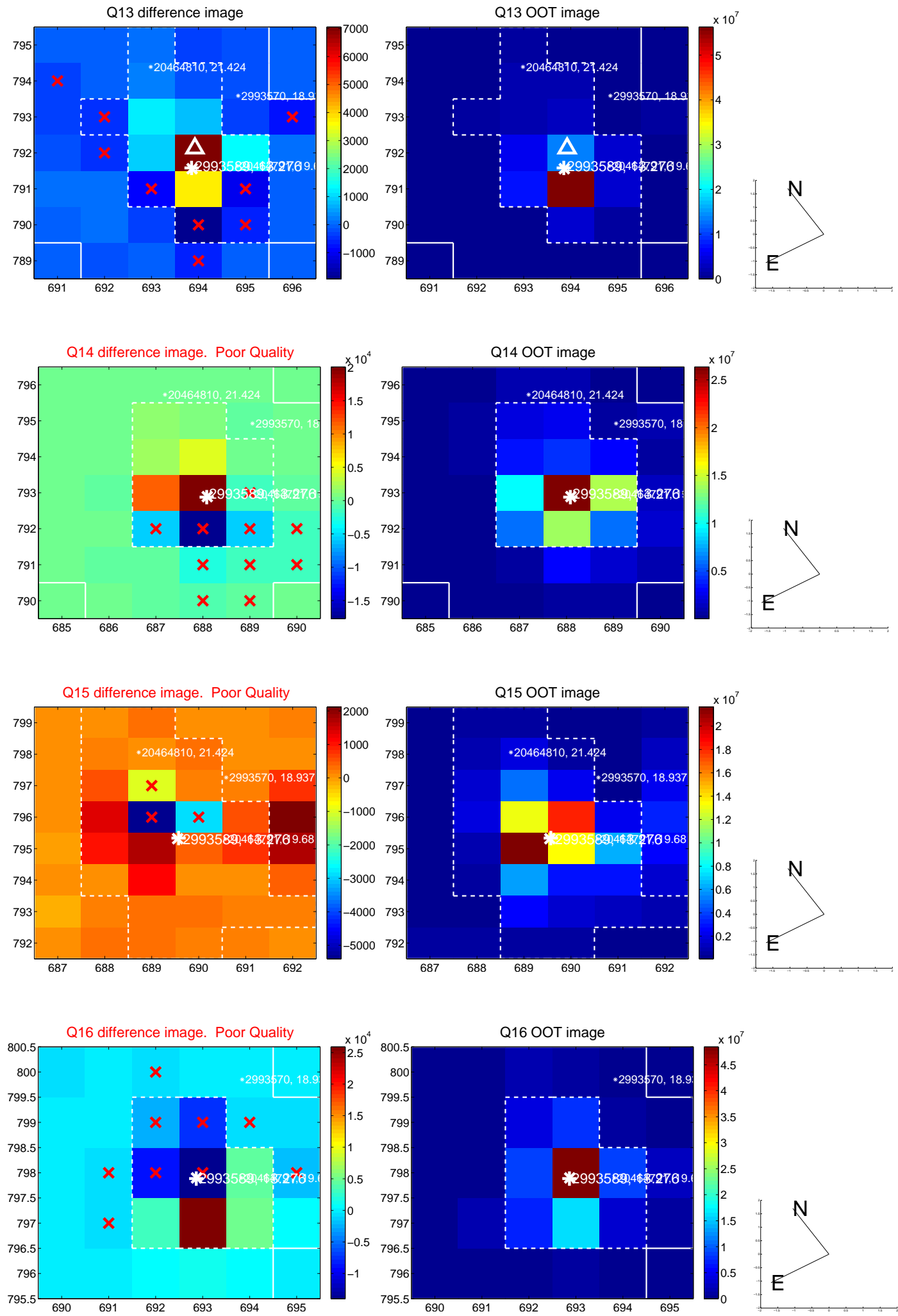
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



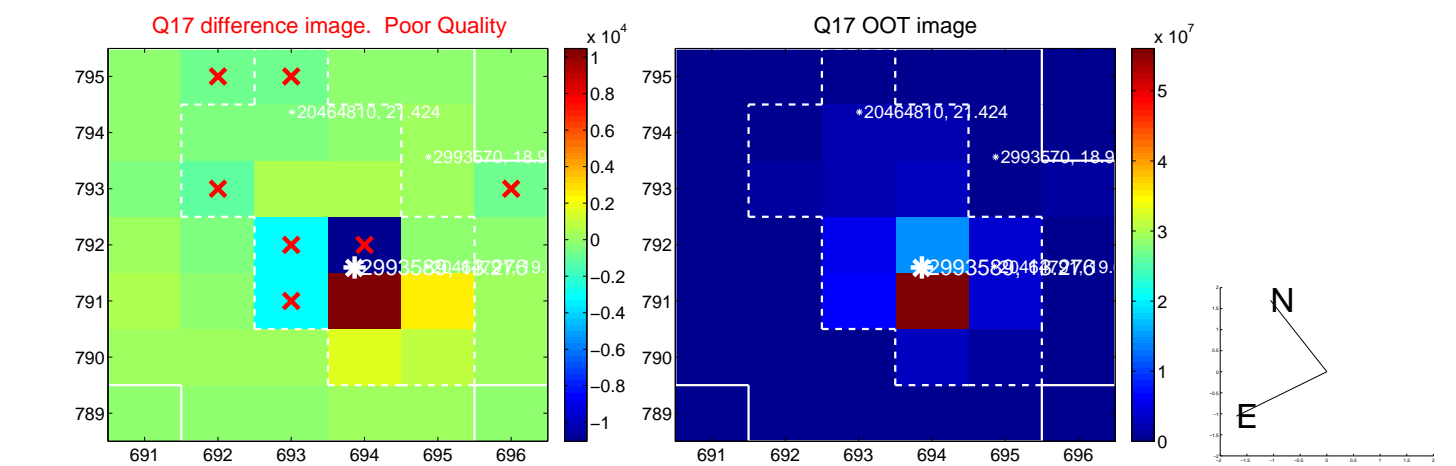
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



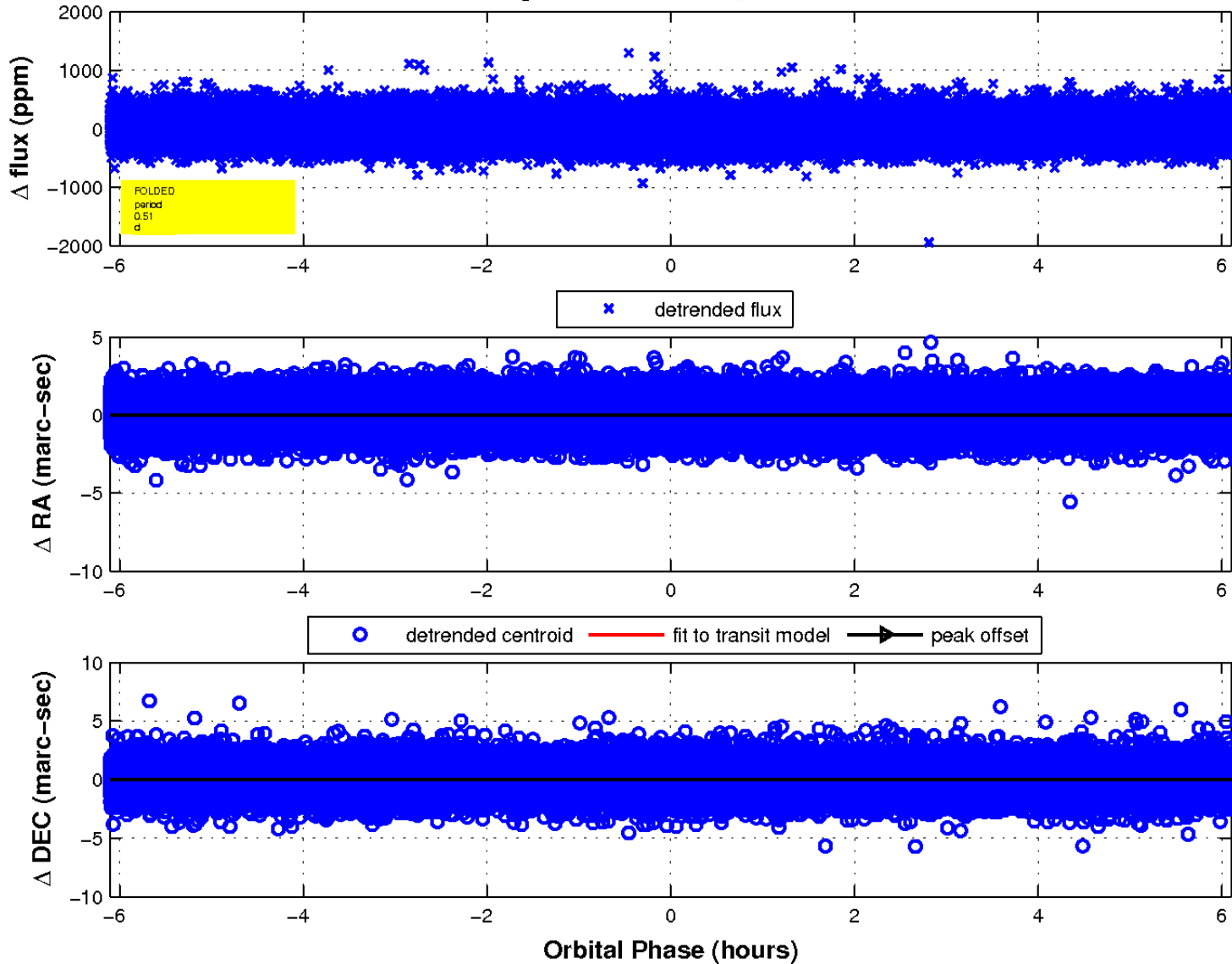
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

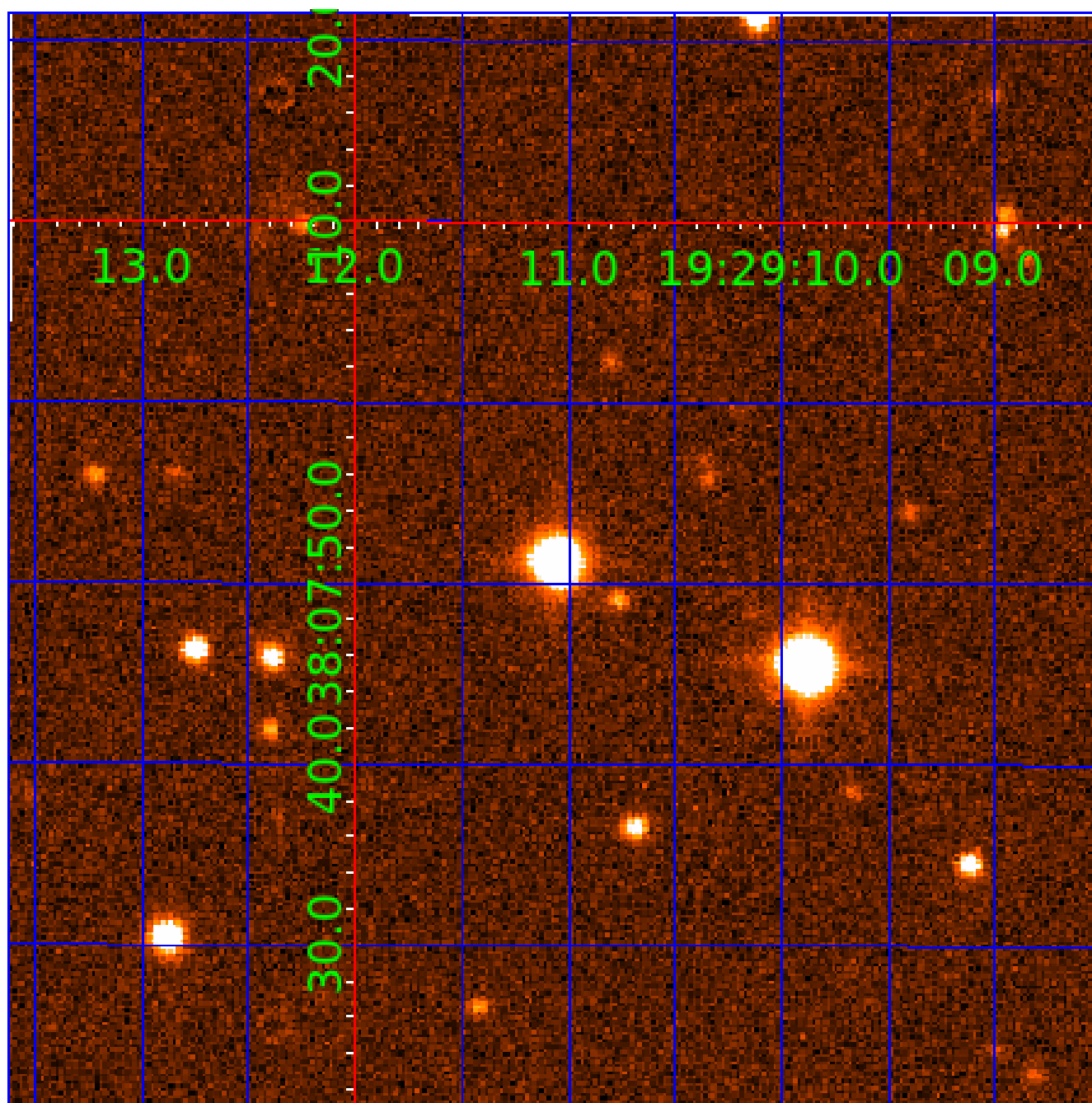


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

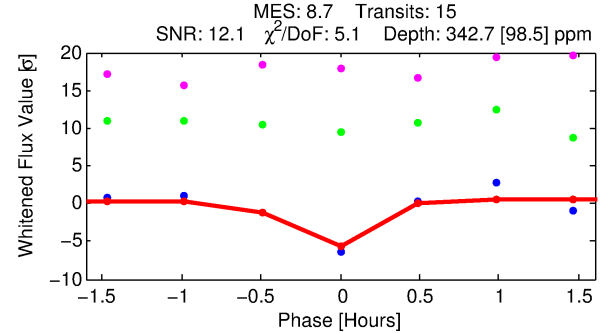
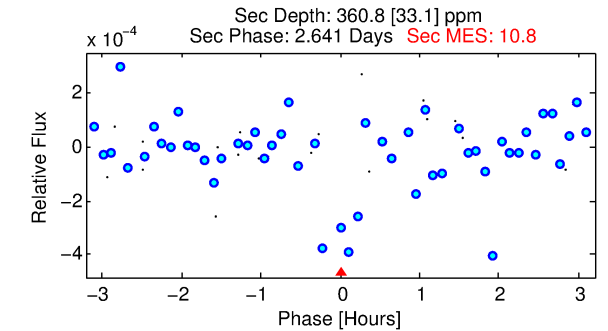
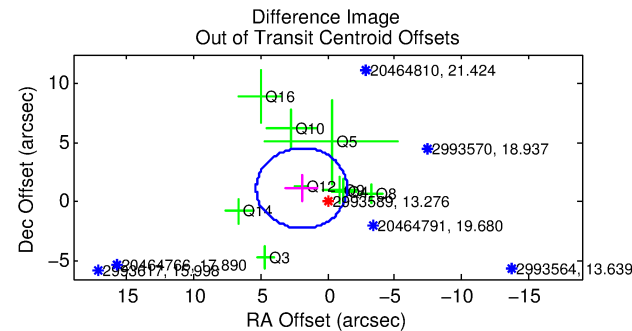
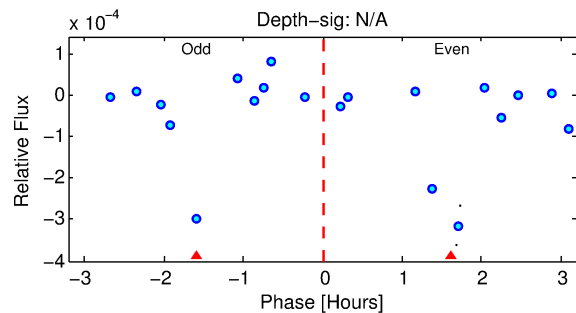
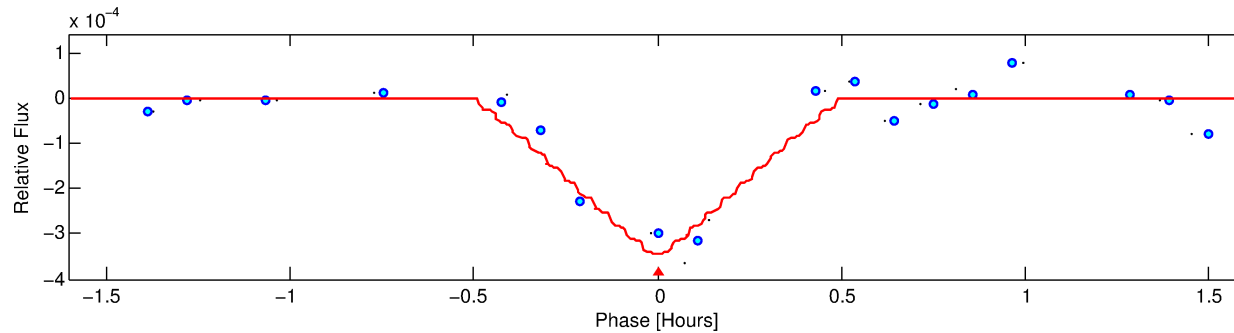
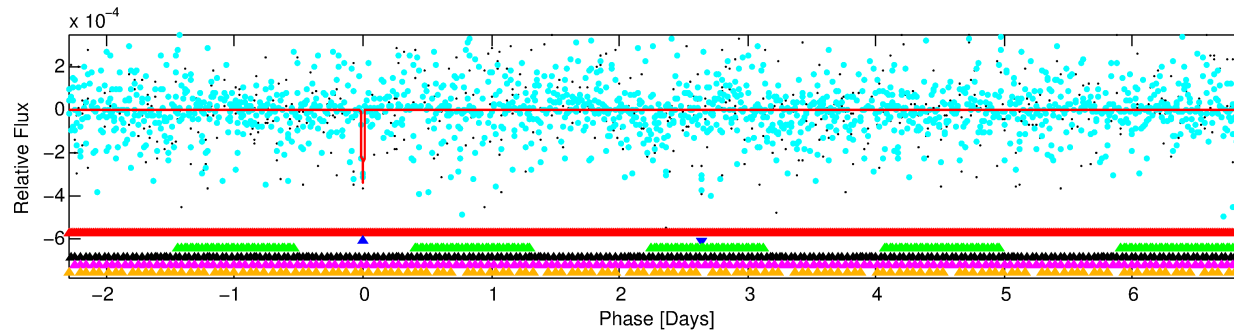
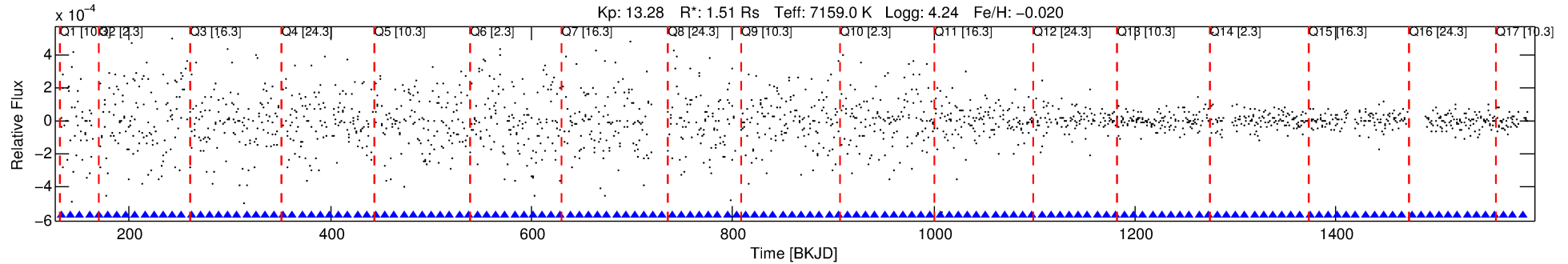
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-02

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 2 of 6 Period: 9.193 d



DV Fit Results:

Period = 9.19272 [0.00006] d
Epoch = 132.7939 [0.0063] BKJD
Rp/R* = 0.0178 [0.0877]
a/R* = 133.17 [3961.13]
b = 0.09 [335.81]
Seff = 568.02 [246.71]
Teq = 1245 [135] K
Rp = 2.93 [14.48] Re
a = 0.0972 [0.0279] AU
Ag = 218.53 [2156.98] [0.10σ]
Teffp = 7400 [18248] K [0.34σ]

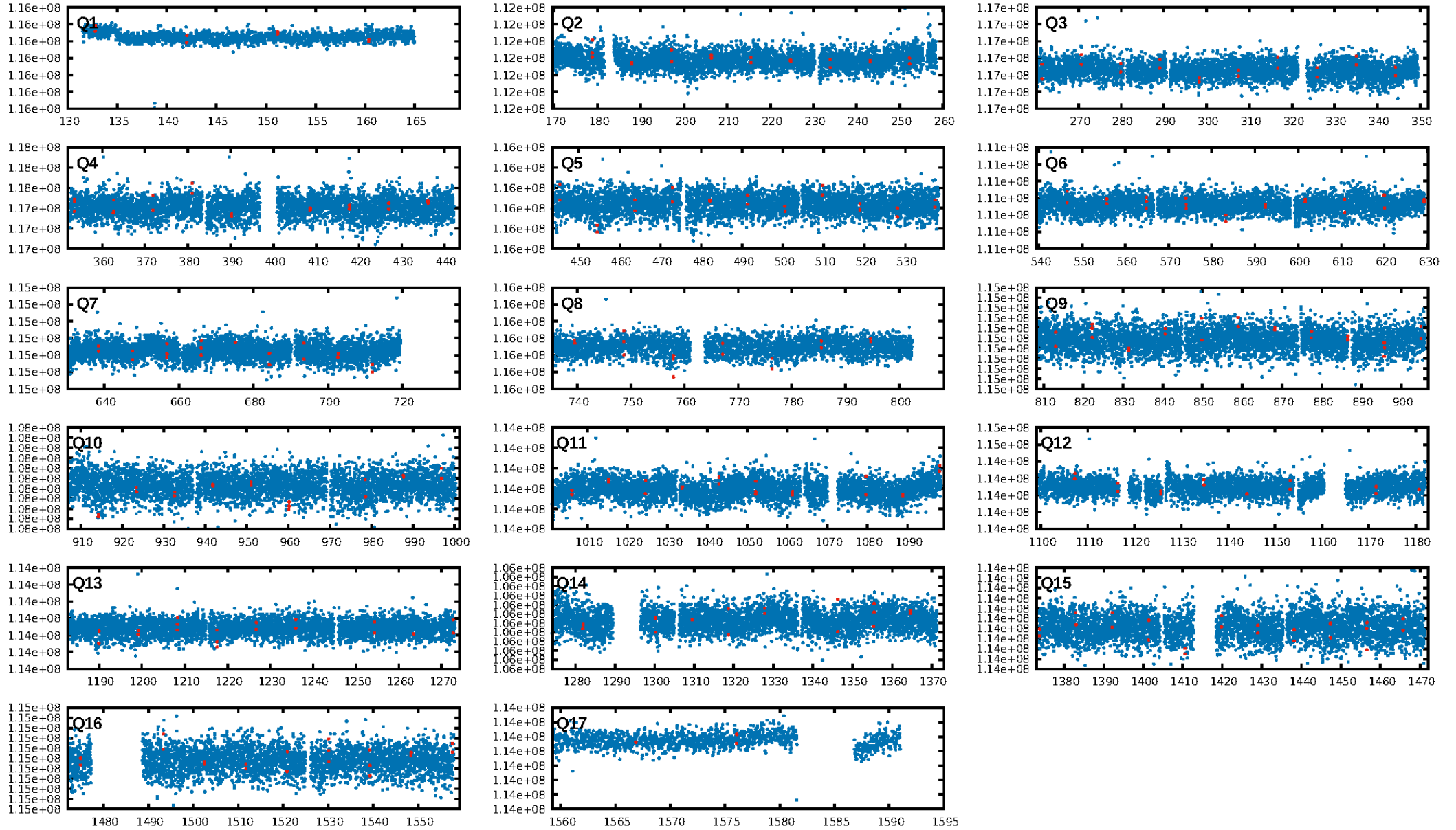
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.91σ]
LongPeriod-sig: 100.0% [18.50σ]
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 64.7%
Bootstrap-pfa: 5.50e-06
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -0.1677
Centroid-sig: 69.5%
Centroid-so: 0.539 arcsec [0.79σ]
OotOffset-rm: 2.256 arcsec [1.99σ]
OotOffset-st: 2/1/4/2 [9]
KicOffset-rm: 2.270 arcsec [2.08σ]
KicOffset-st: 2/1/4/2 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.00 [0/15]

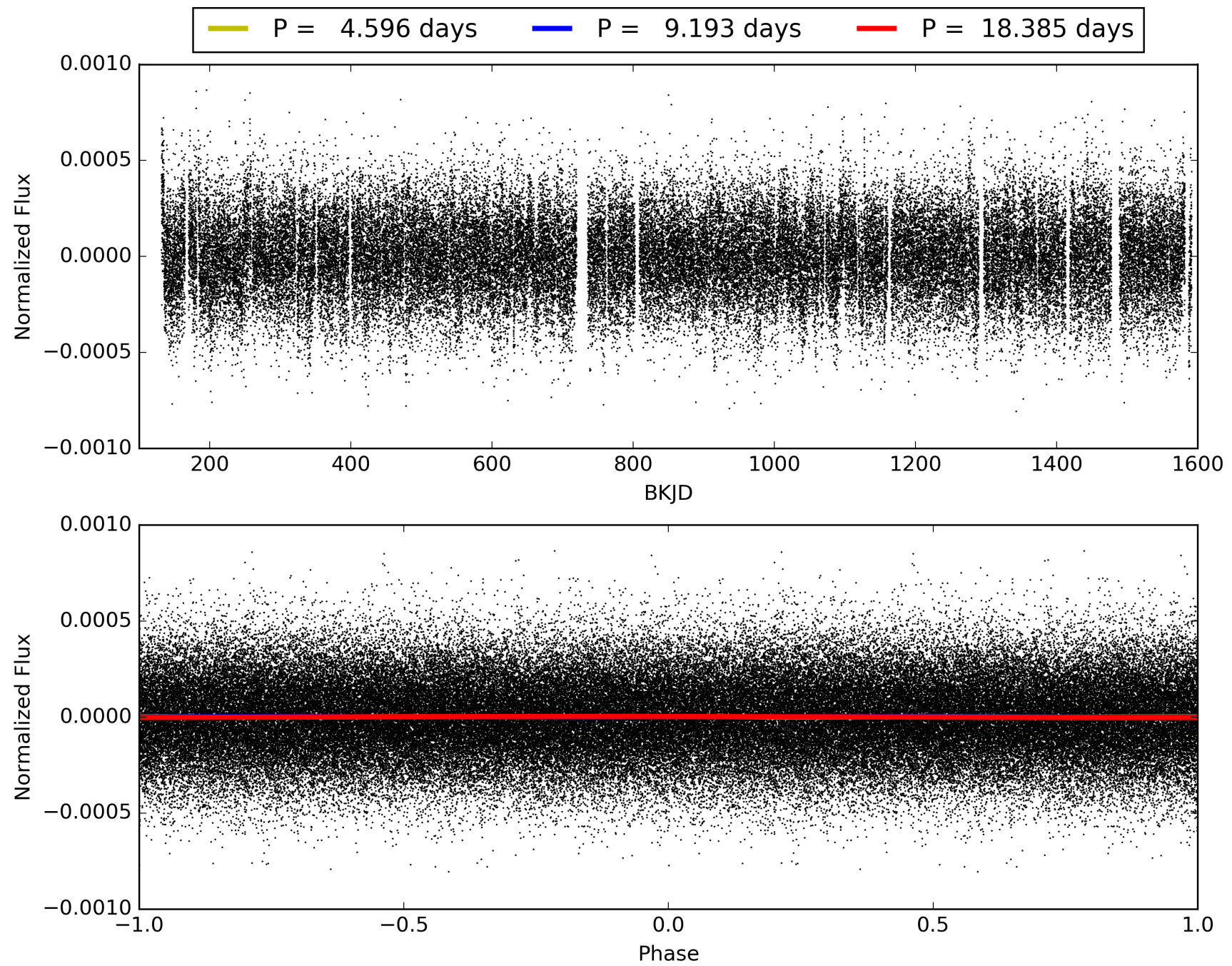
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:48:54 Z

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

TCE 002993589-02, PDC Light Curves

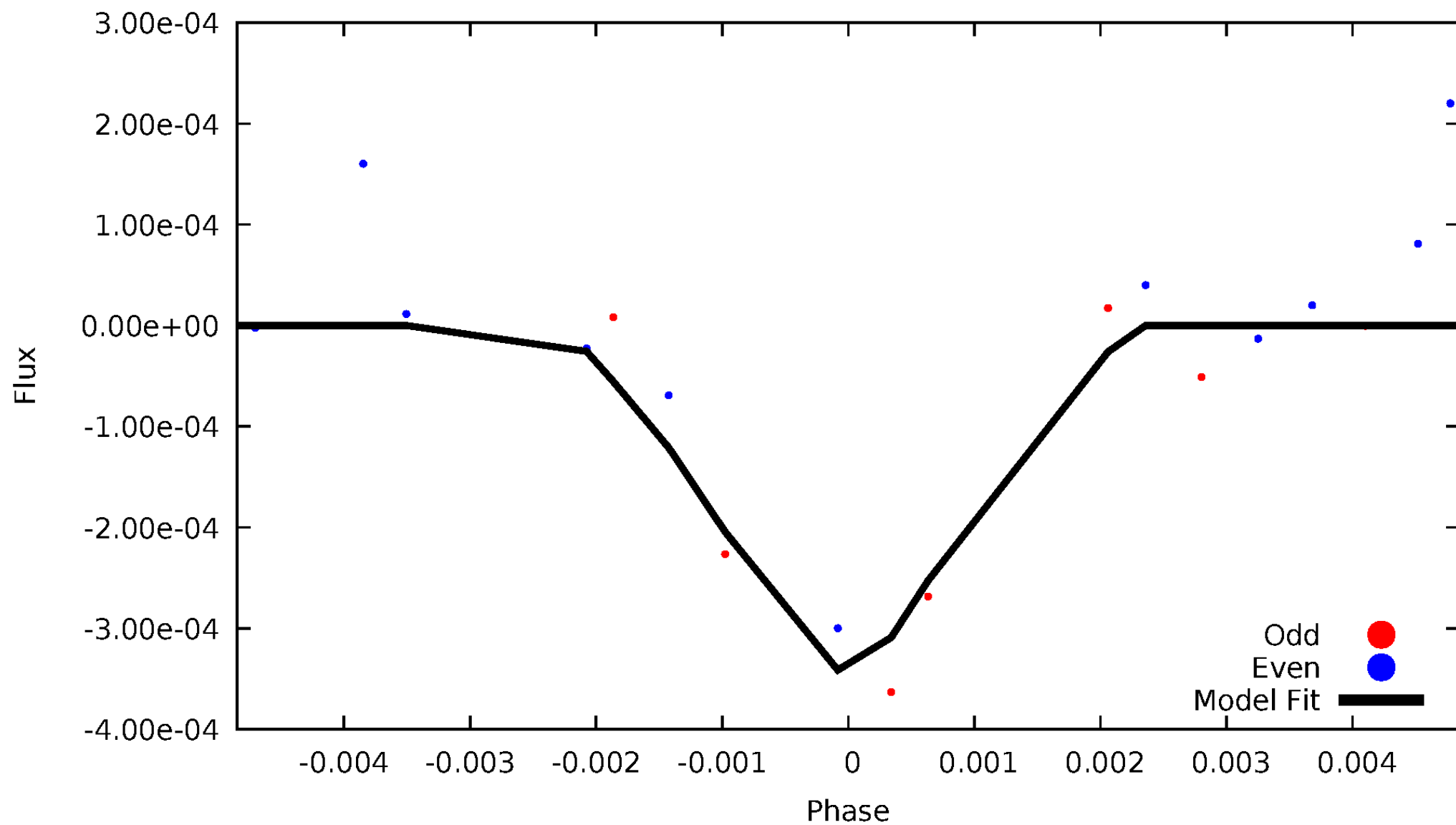


TCE 002993589-02



DV Odd/Even

TCE 002993589-02

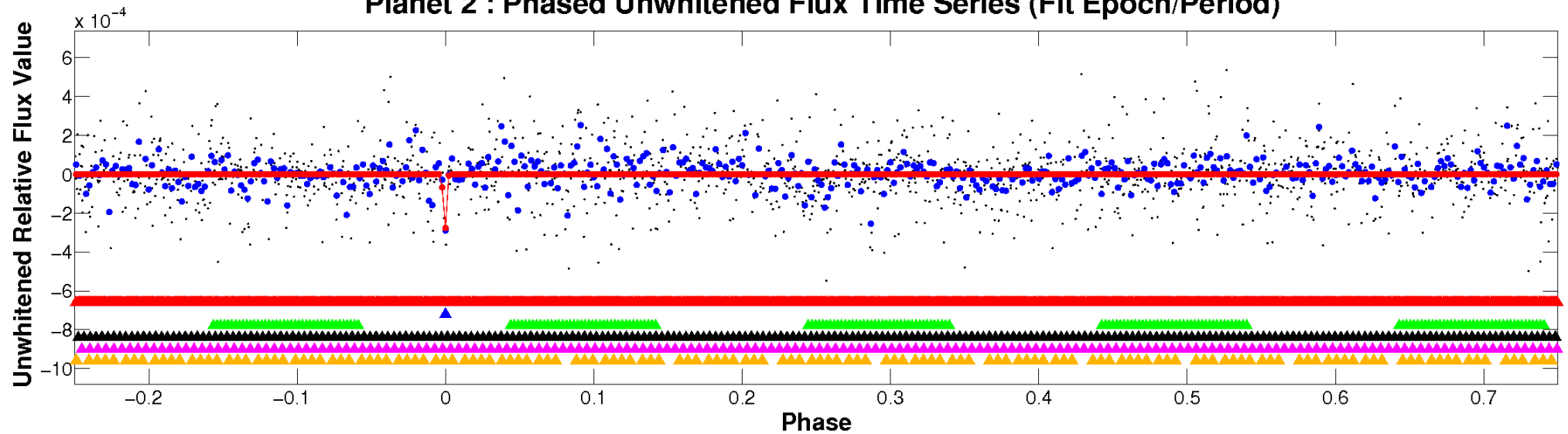


ALT Odd/Even

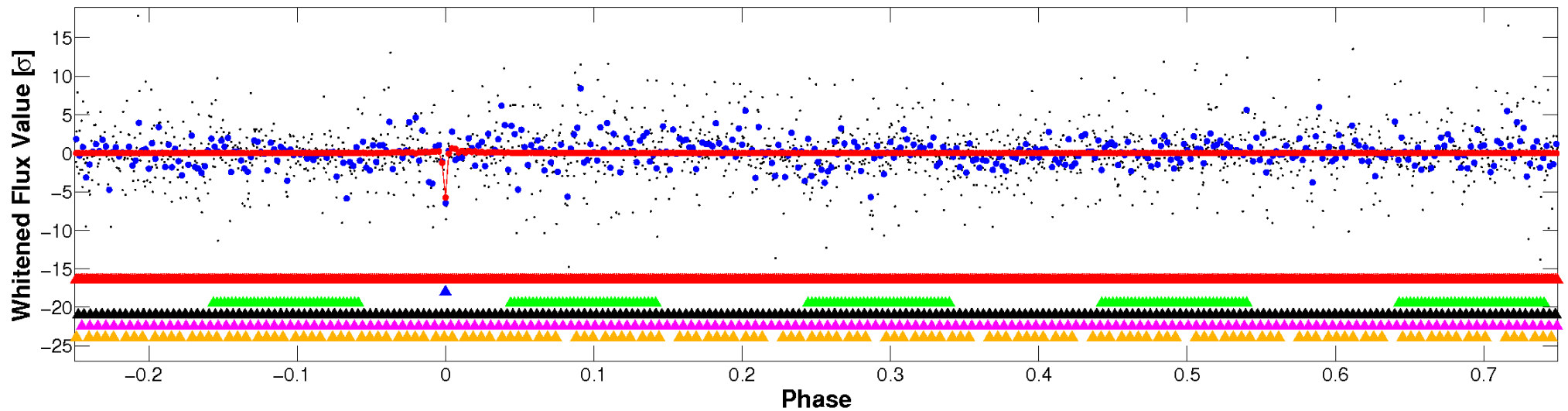
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

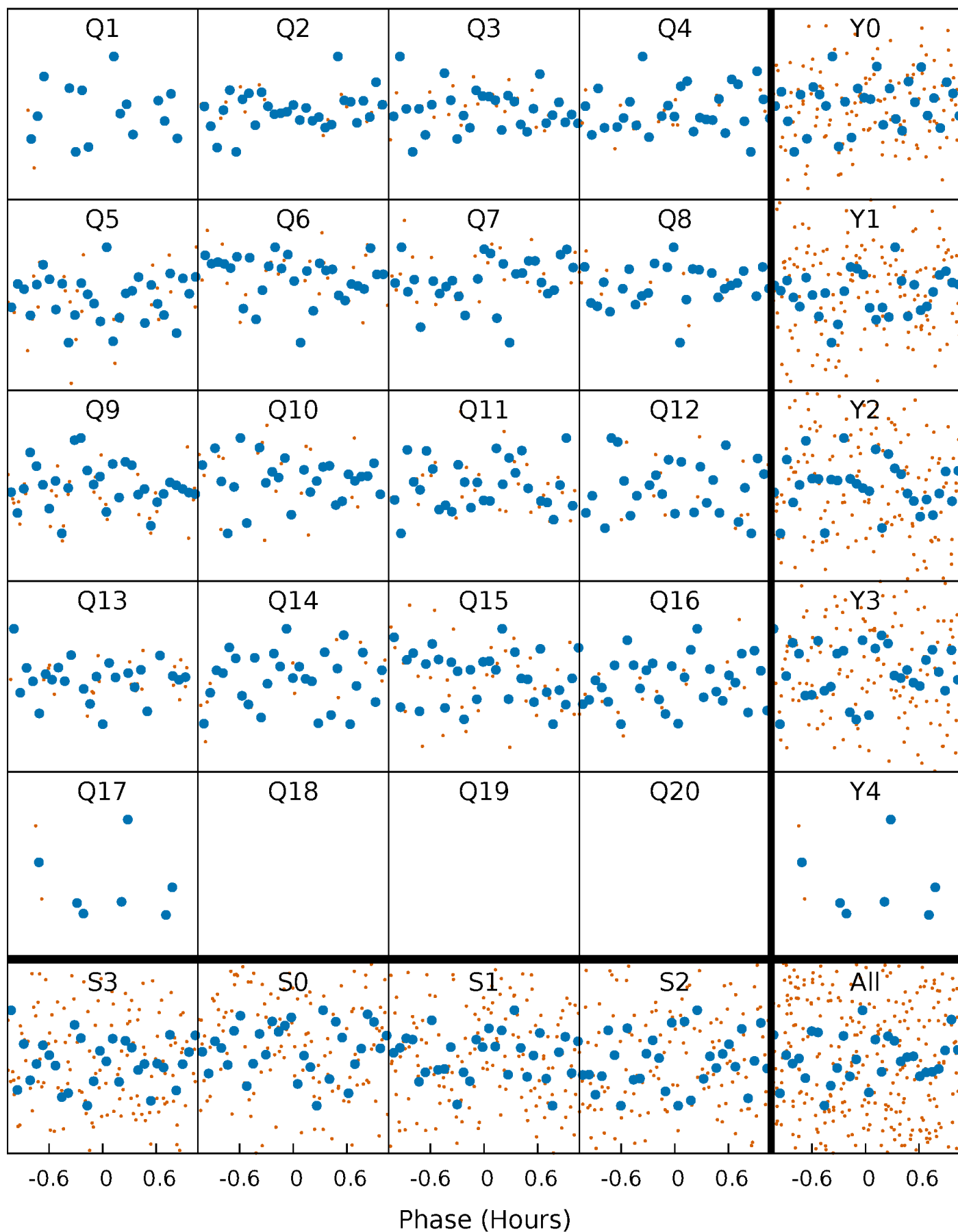


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



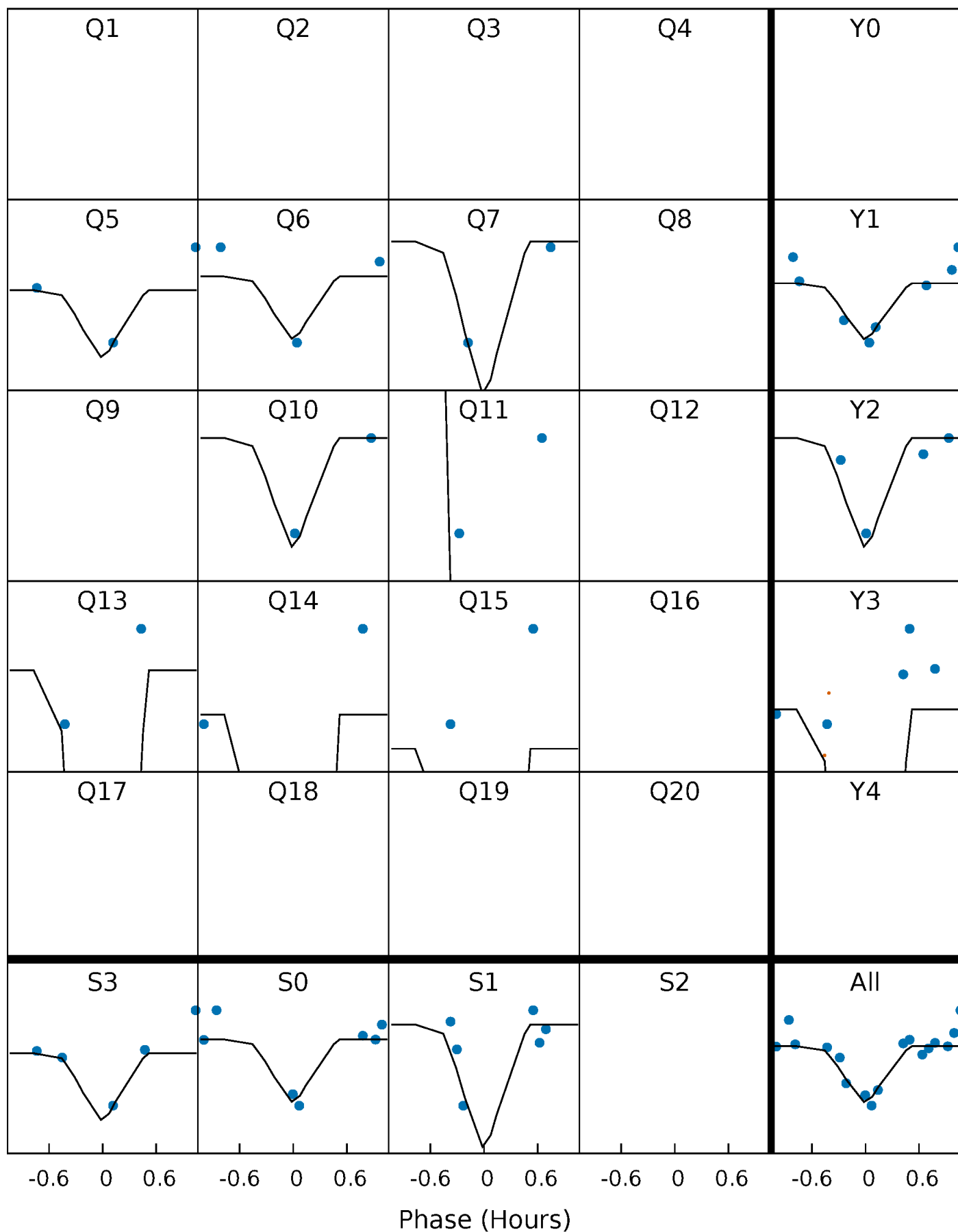
PDC Quarter-Phased Transit Curves

TCE 002993589-02 P= 9.192722 Days $T_0=132.793900$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002993589-02 P= 9.192722 Days $T_0=132.793900$ (BKJD)

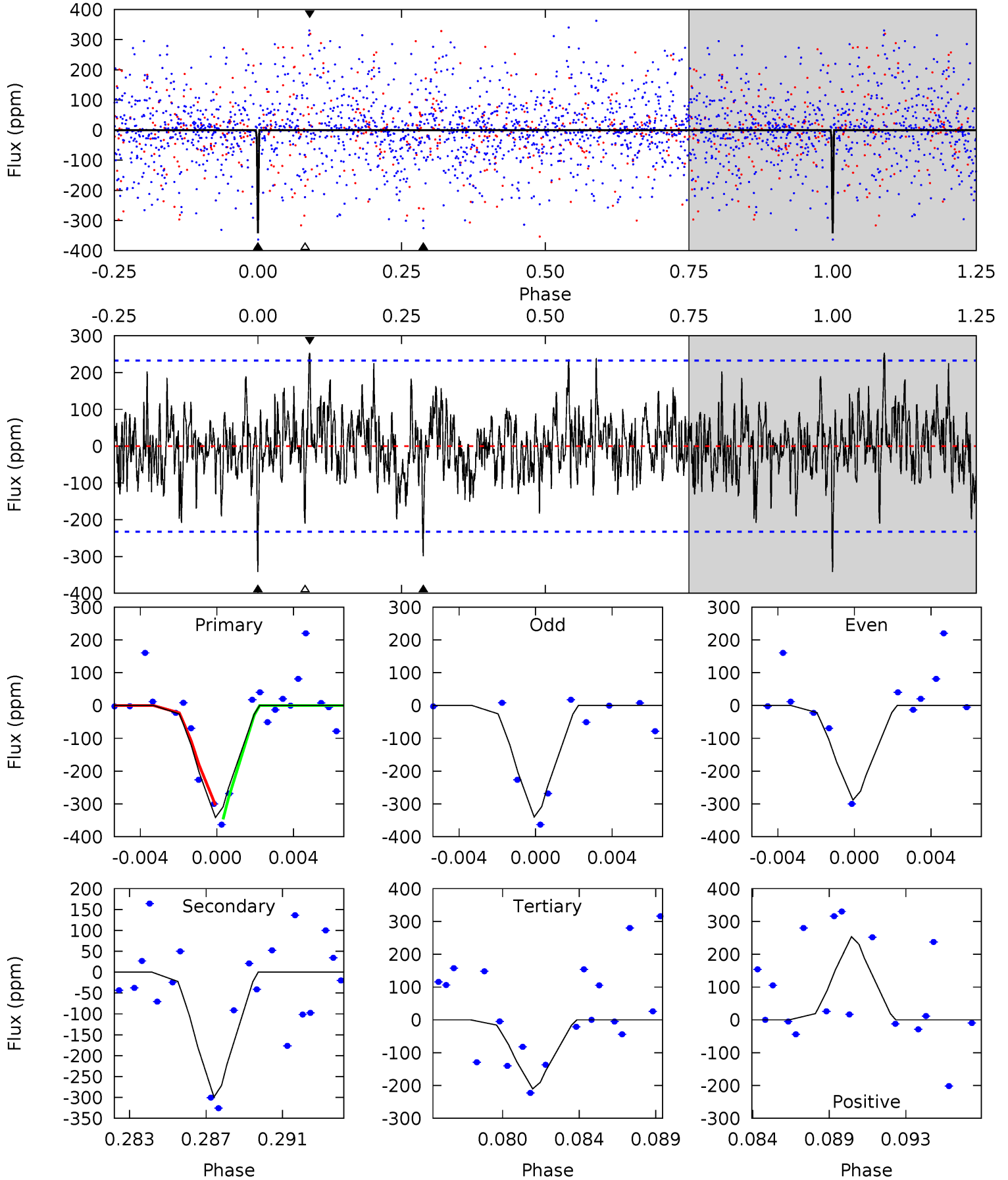


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002993589-02, P = 9.192722 Days, E = 123.601178 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.62	6.68	4.69	5.66	5.19	2.86	1.57	2.93	1.96	1.98	1.02	0.55	0	0.43	0.50



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-299 ± 45	$11.62^{+12.56}_{-7.88}$	1766^{+136}_{-113}	3893^{+2328}_{-852}	11^{+99}_{-9}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

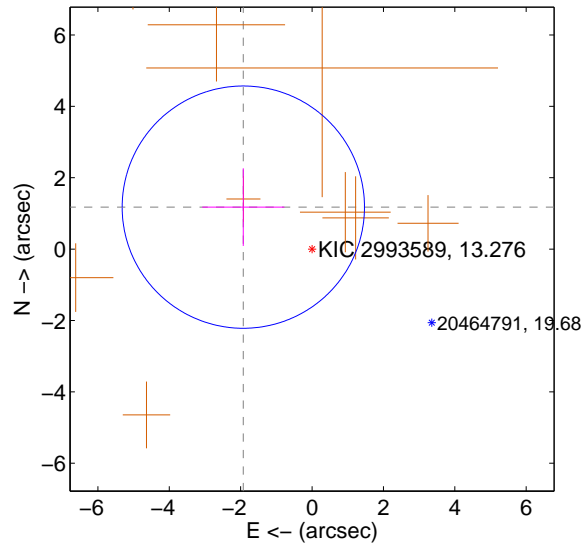
Supplemental centroid analysis for 002993589-02. Kepler magnitude: 13.28. Transit SNR 12.09

There are 0 quarters with good PRF difference image offsets

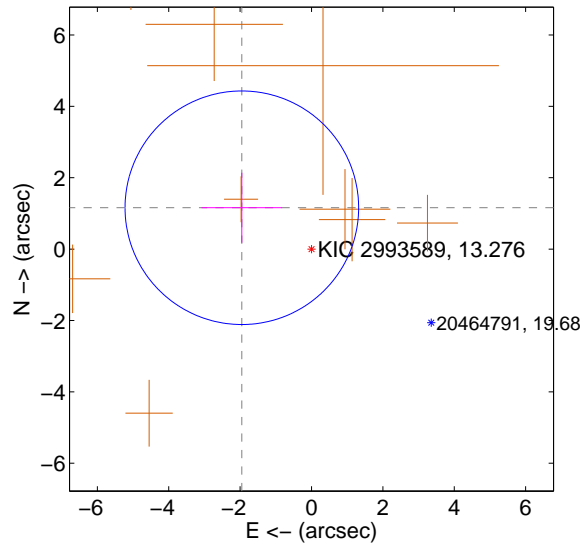
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.256 ± 1.132	1.99	1.926 ± 1.150	1.176 ± 1.088
PRF-fit source offset from KIC position	2.270 ± 1.091	2.08	1.952 ± 1.127	1.159 ± 0.979
photometric centroid source offset	0.54 ± 0.69	0.79	-0.23 ± 0.61	-0.49 ± 0.70

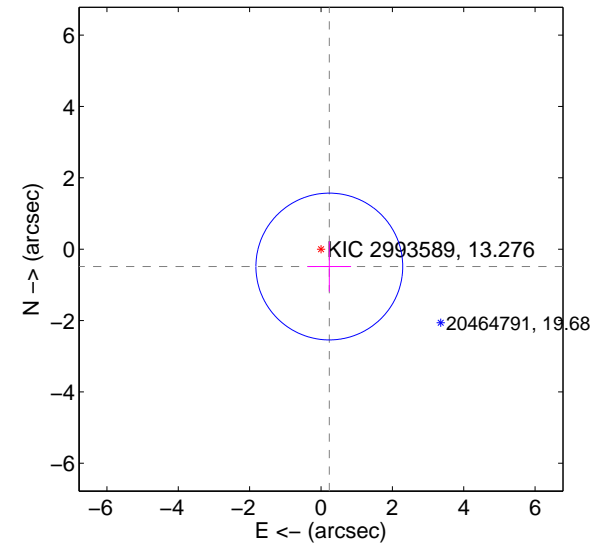
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

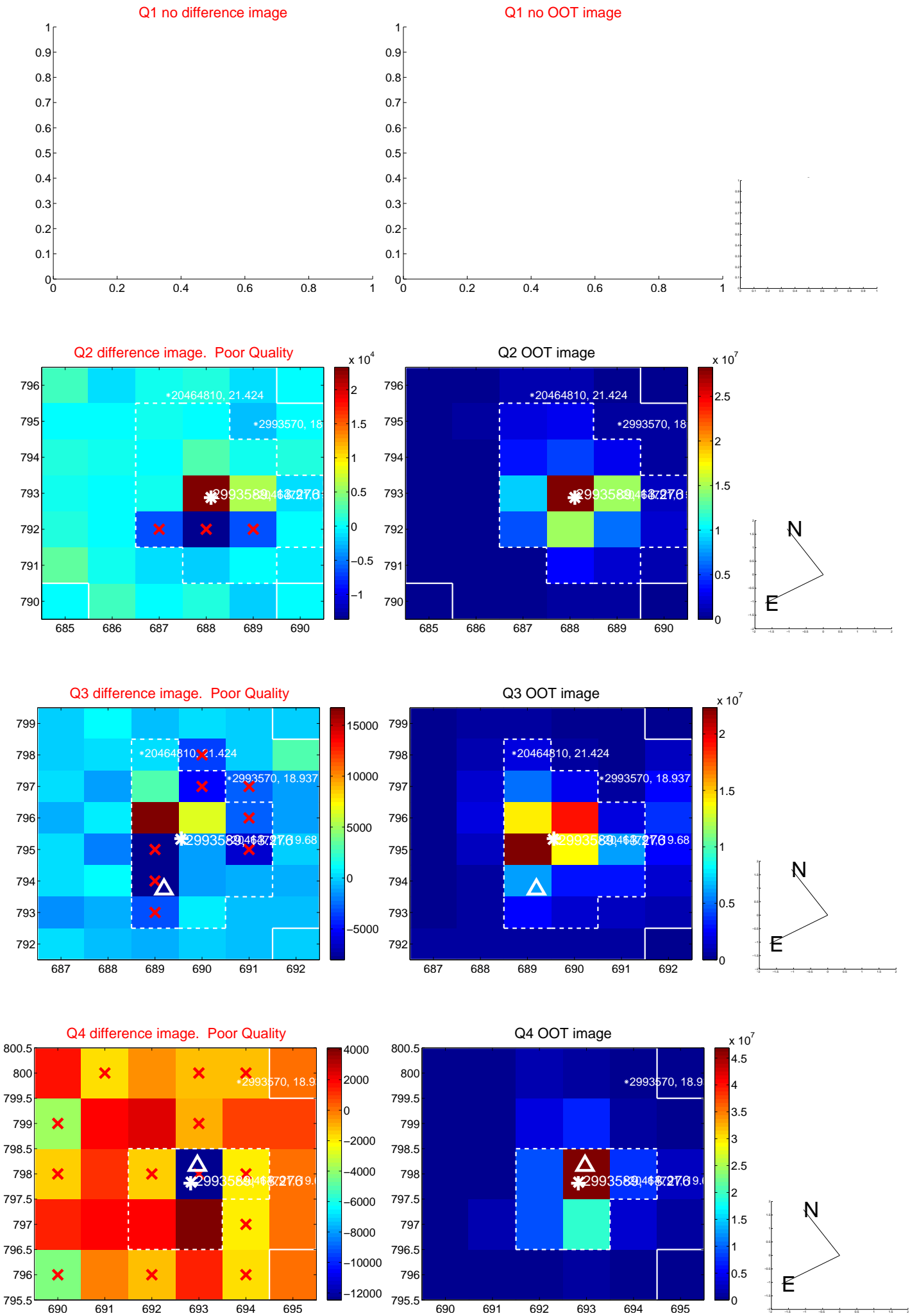


offset from photometric centroids

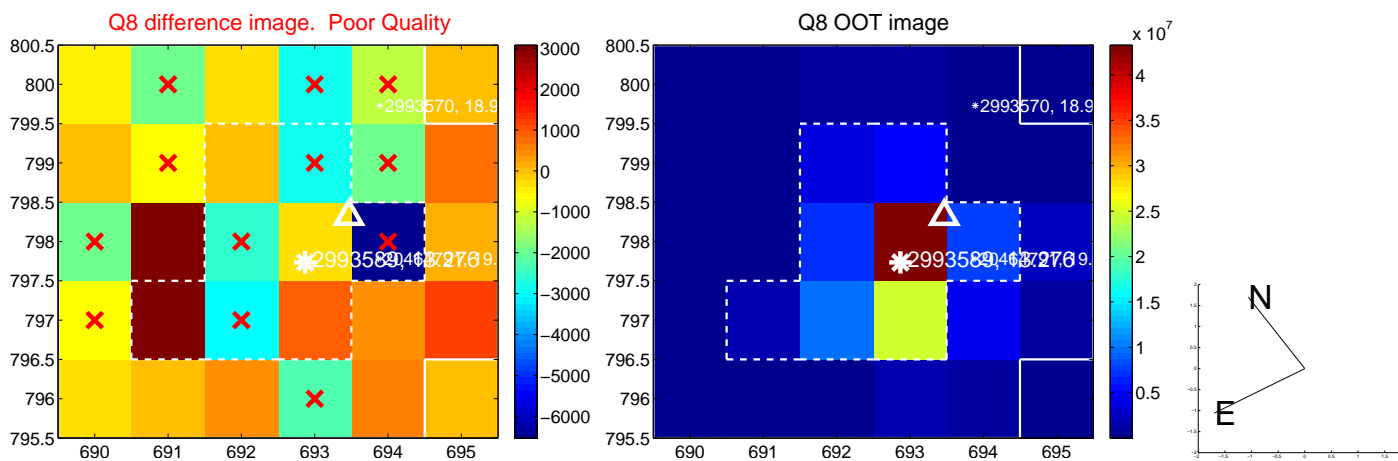
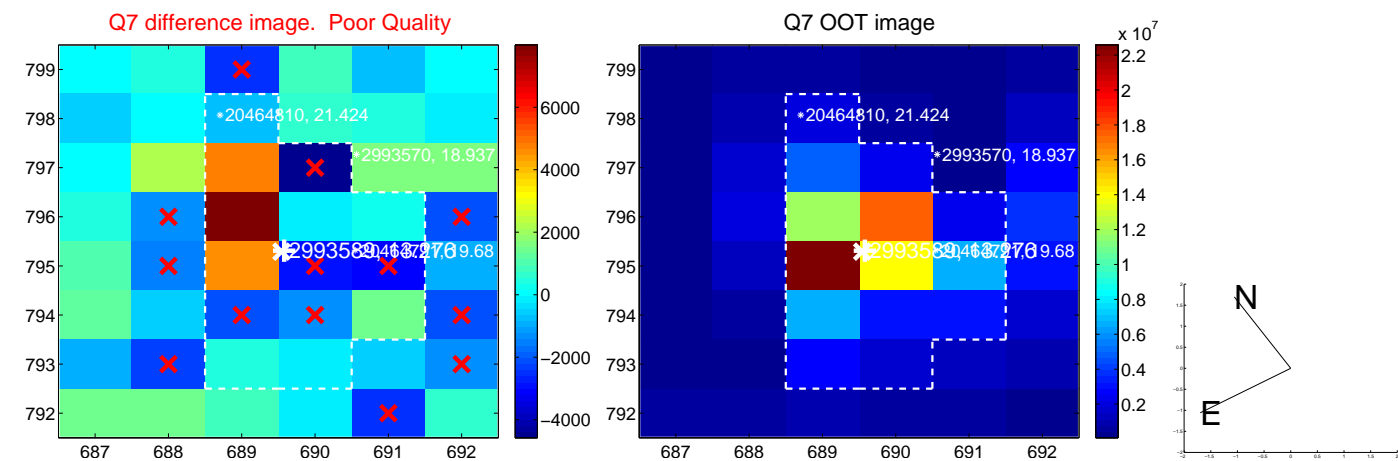
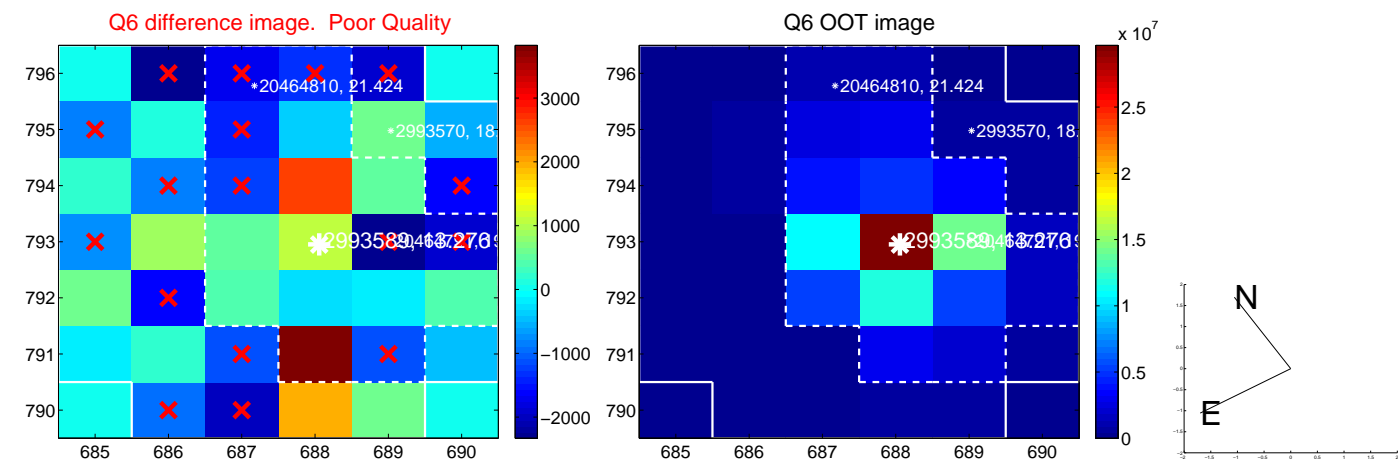
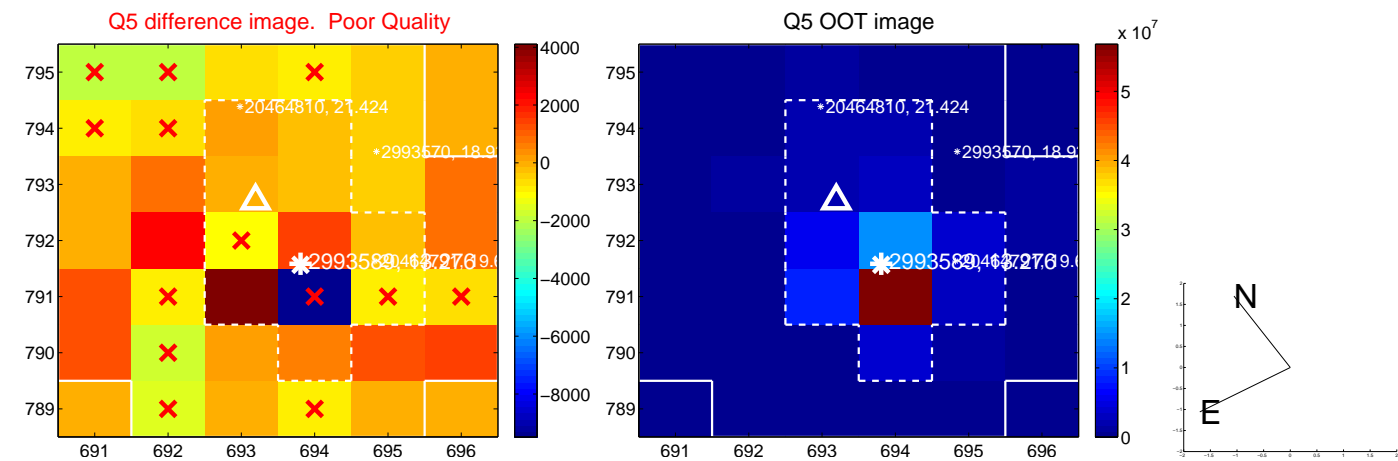


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

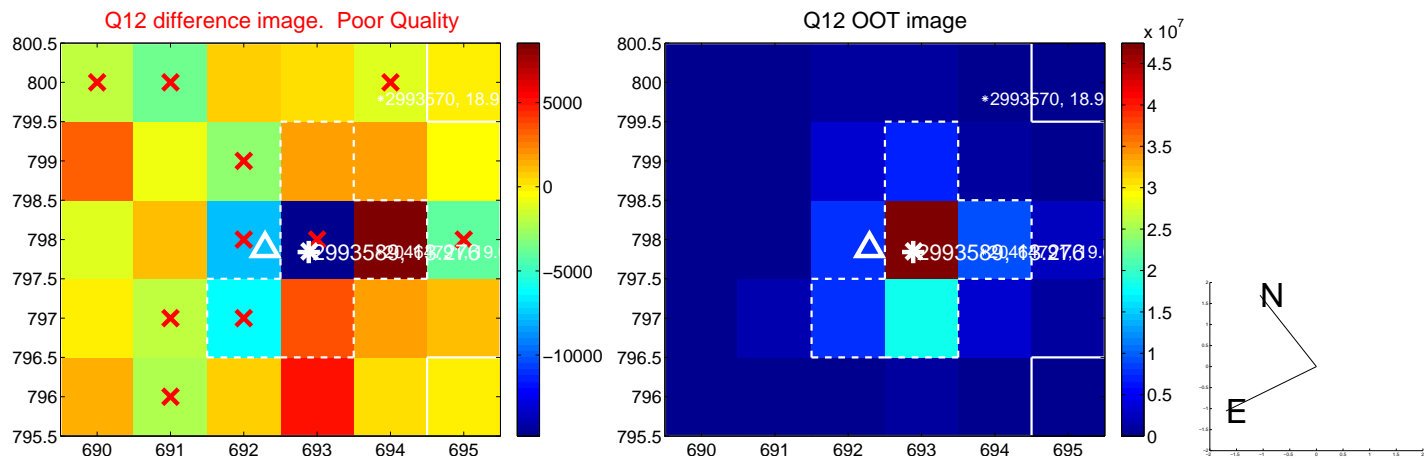
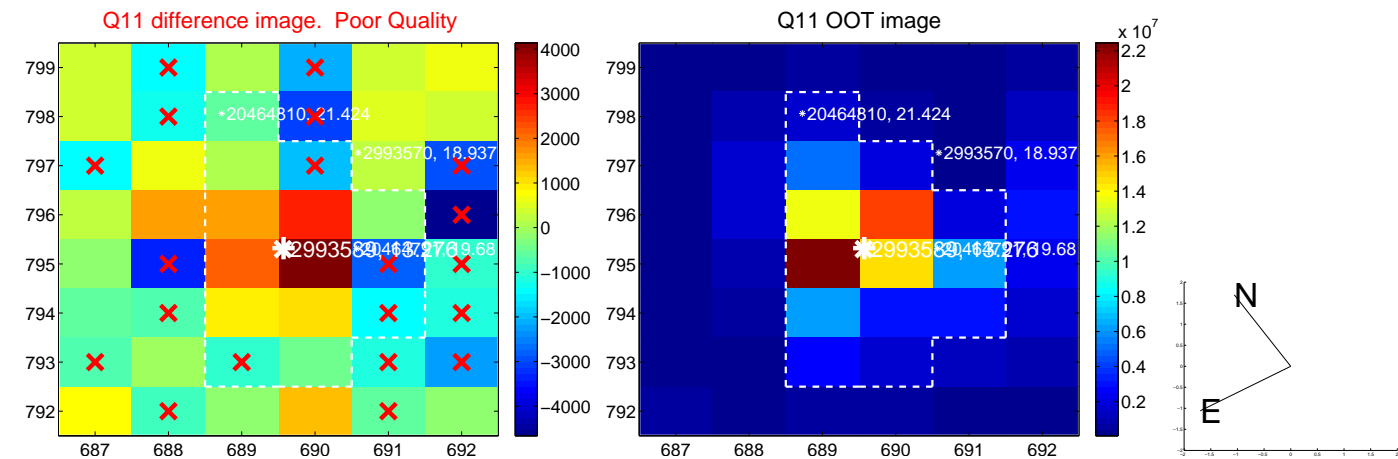
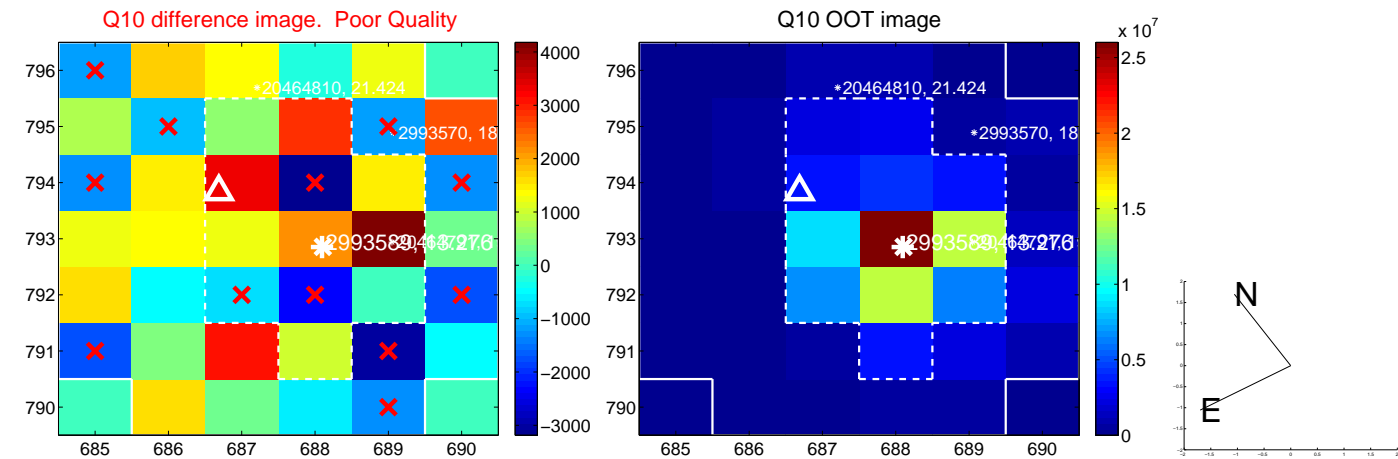
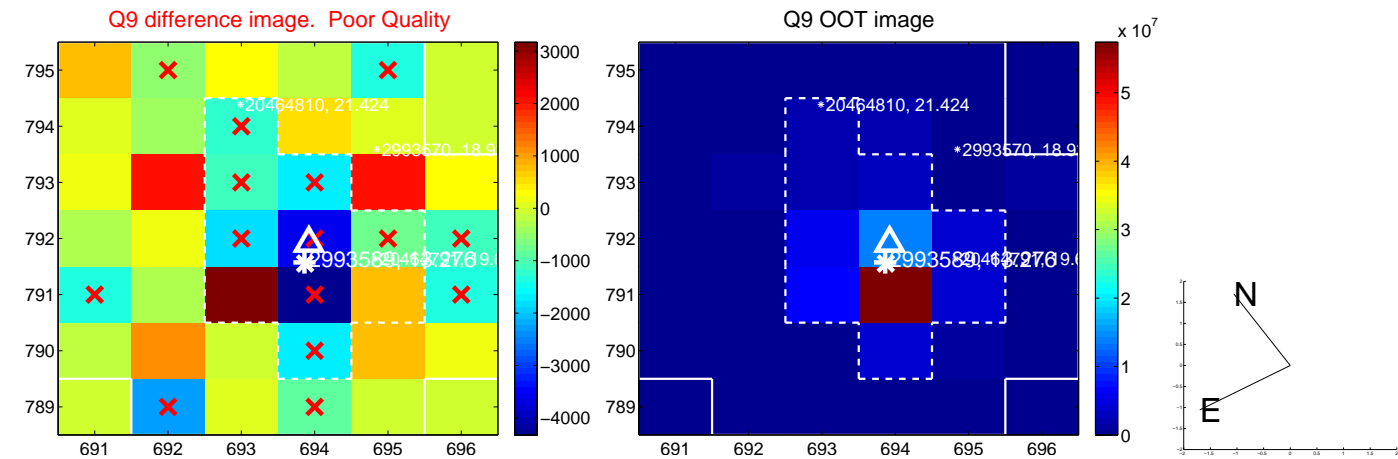
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



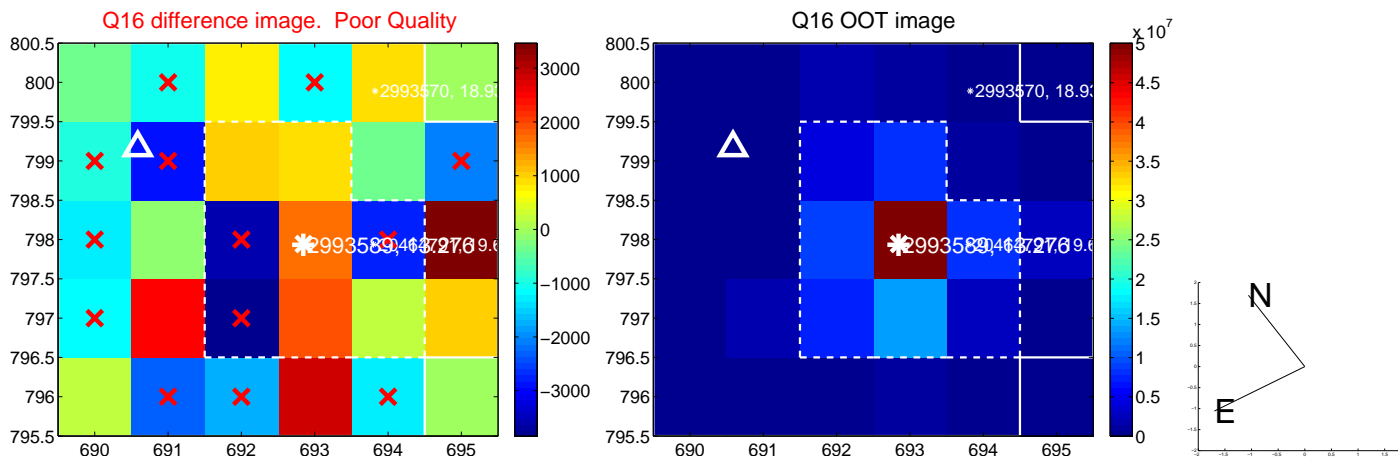
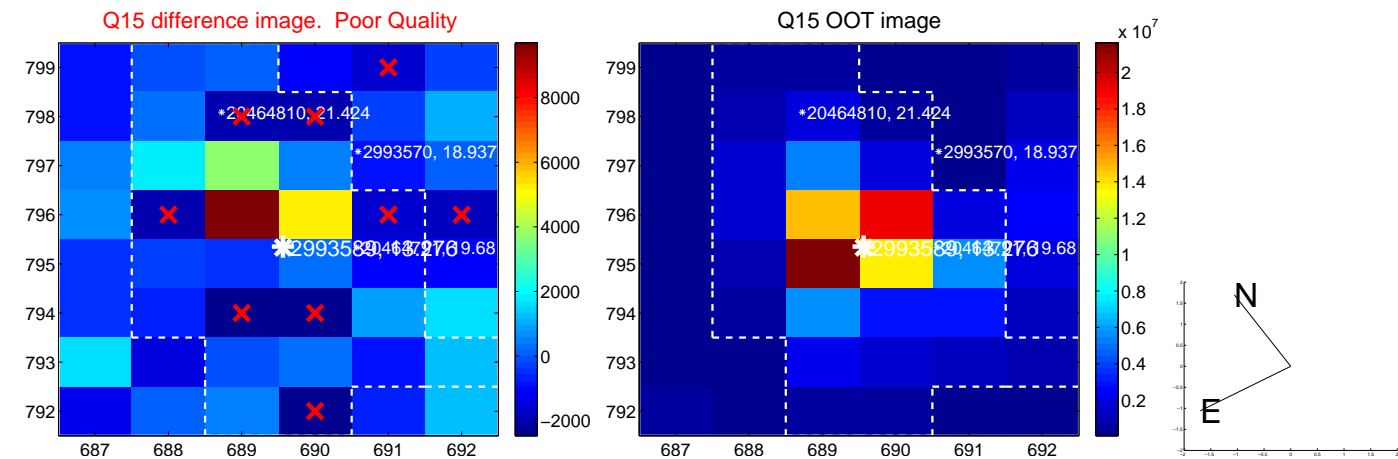
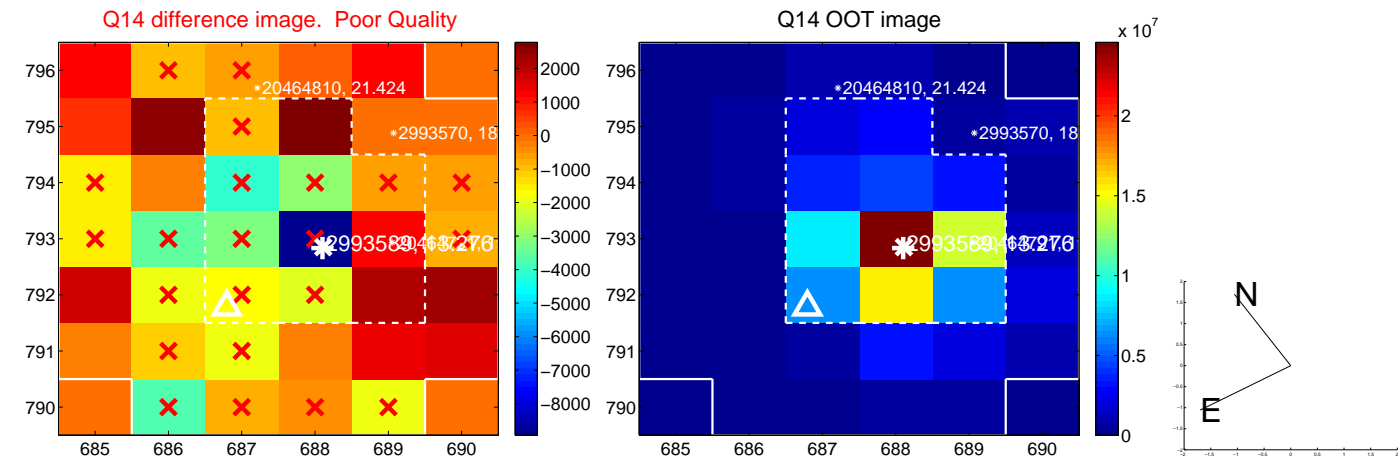
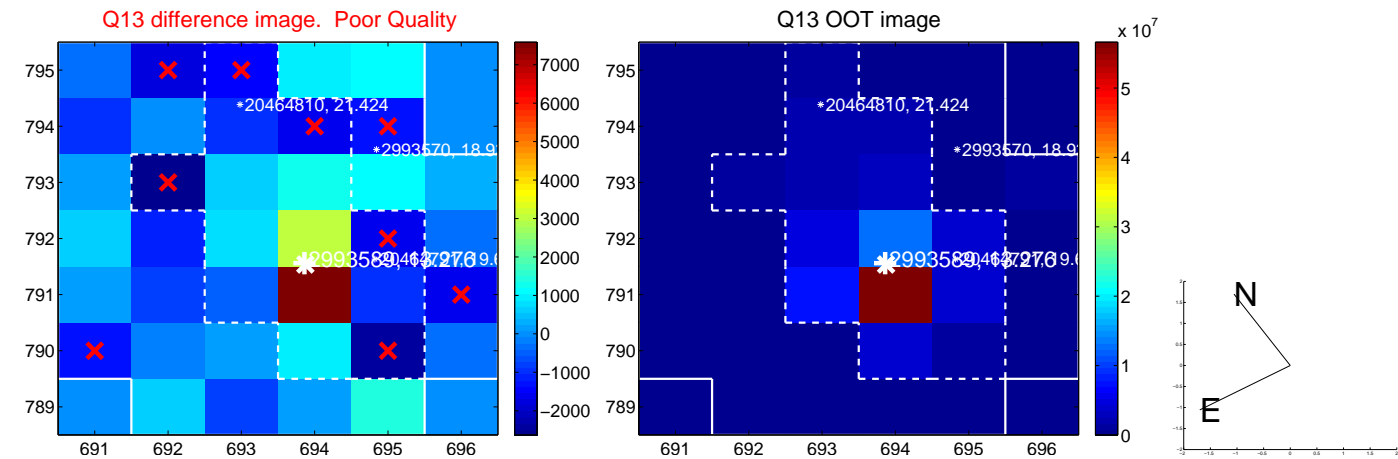
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



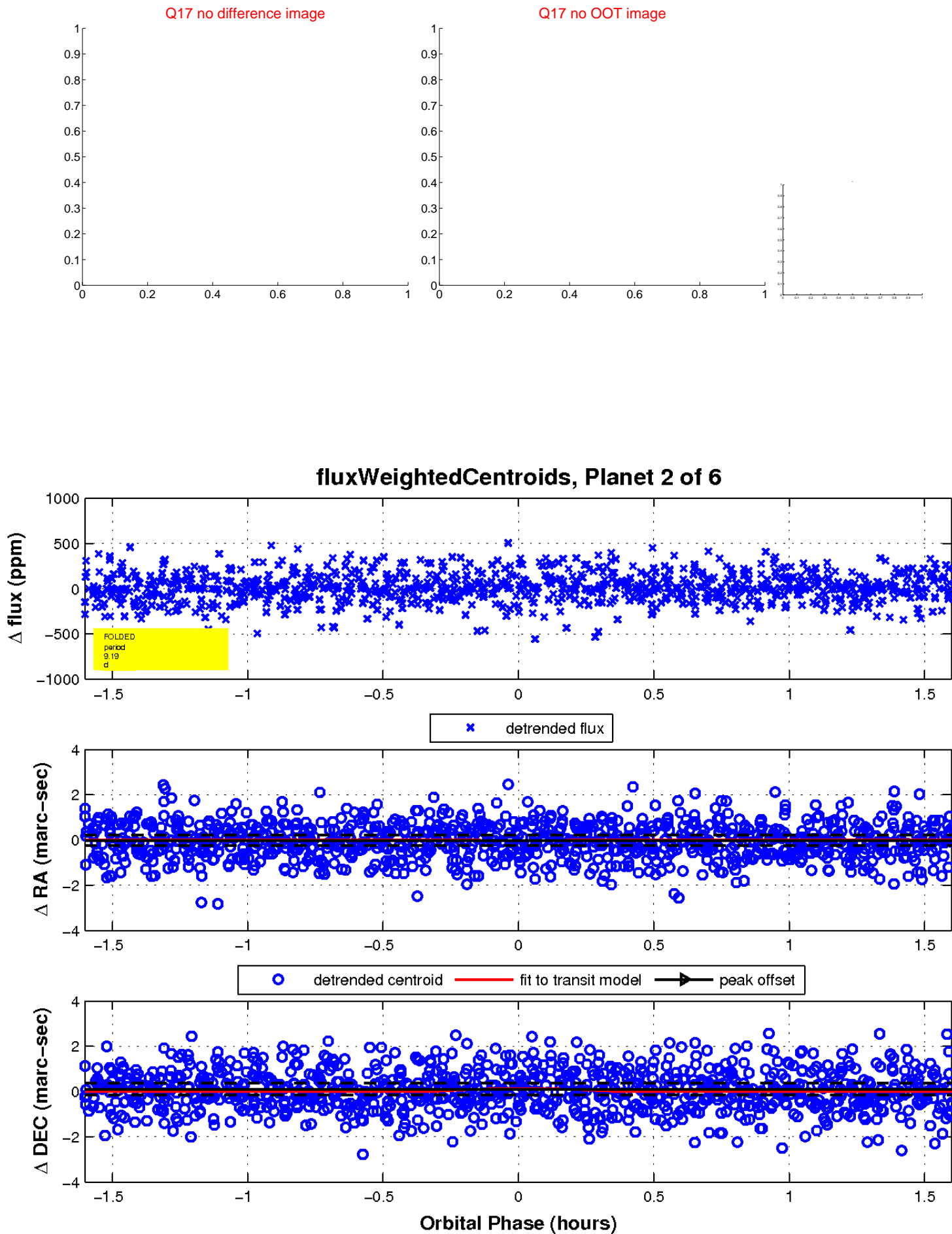
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

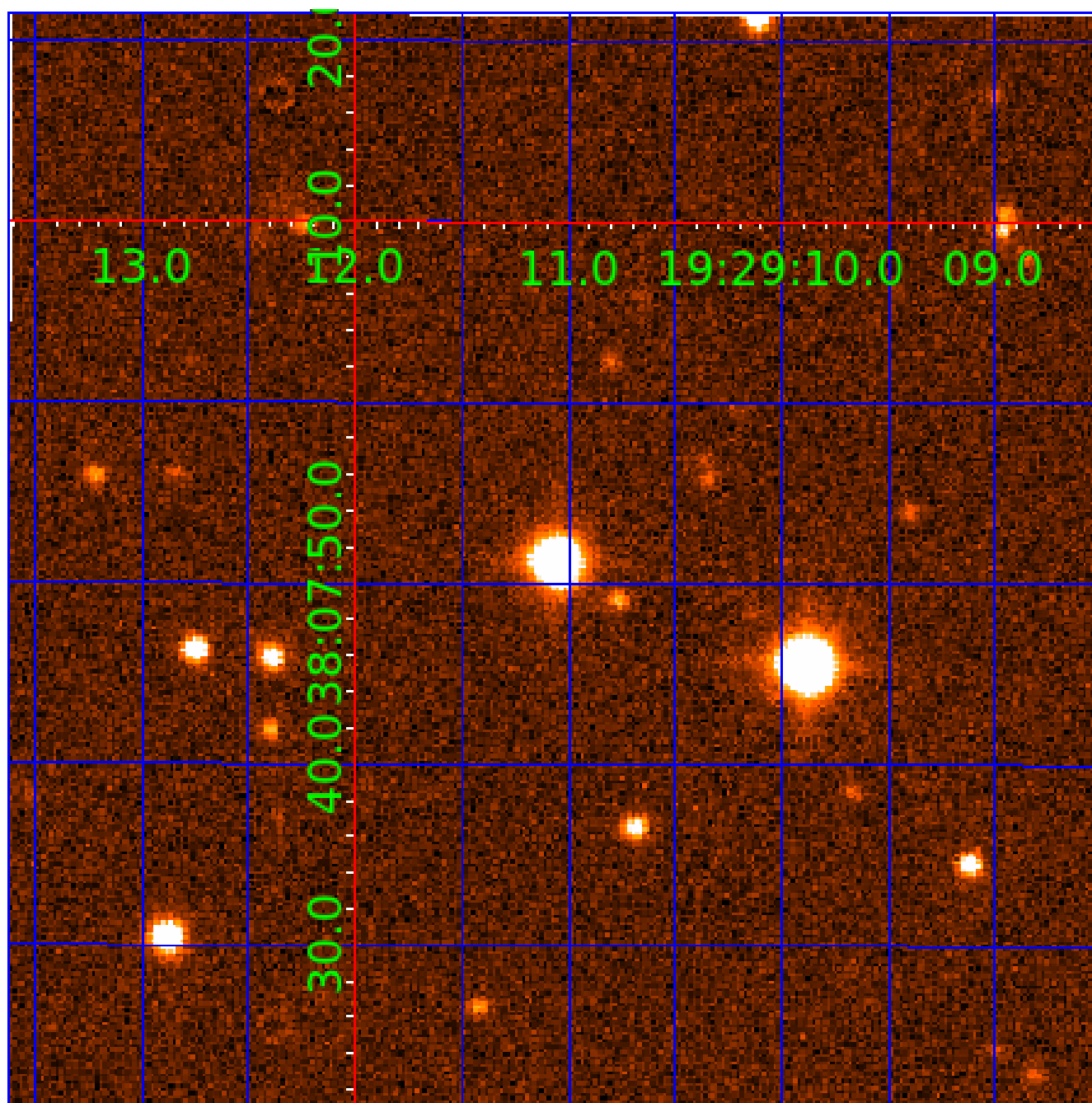


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
002993589-04	OBS	No	4.467161	132.213148	61.5	3.963	9.6	7.7	1.51	7159	1.32	1486.78
002993589-05	OBS	No	6.559133	131.682869	646.7	1.500	13.2	-1.0	1.51	7159	3.90	890.89
002993589-06	OBS	No	9.832894	139.929270	346.2	0.635	10.9	13.4	1.51	7159	2.93	519.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

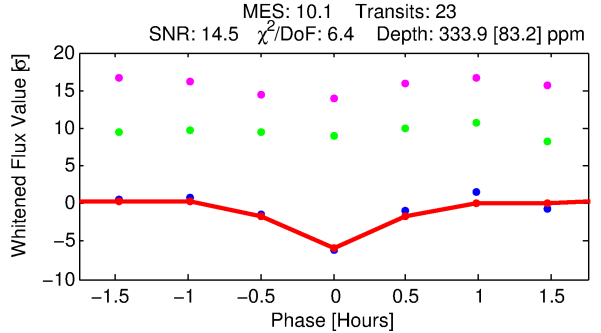
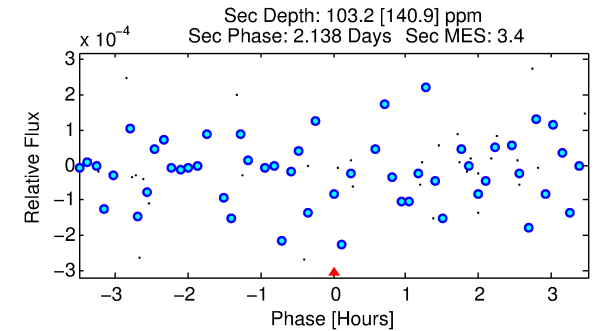
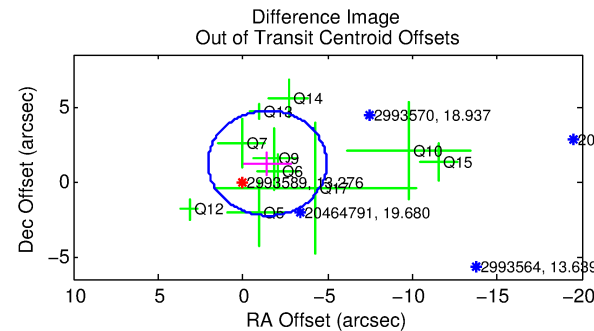
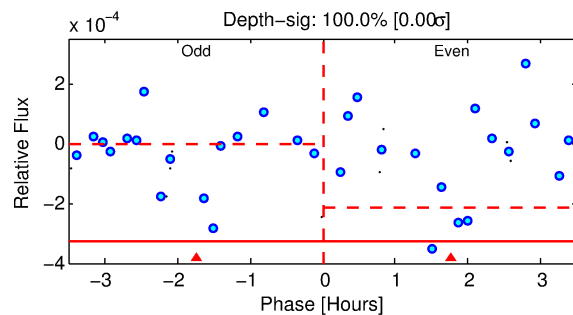
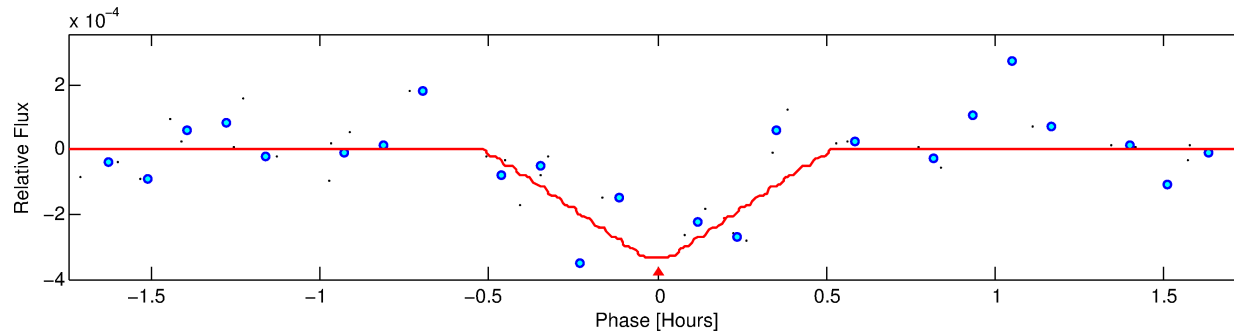
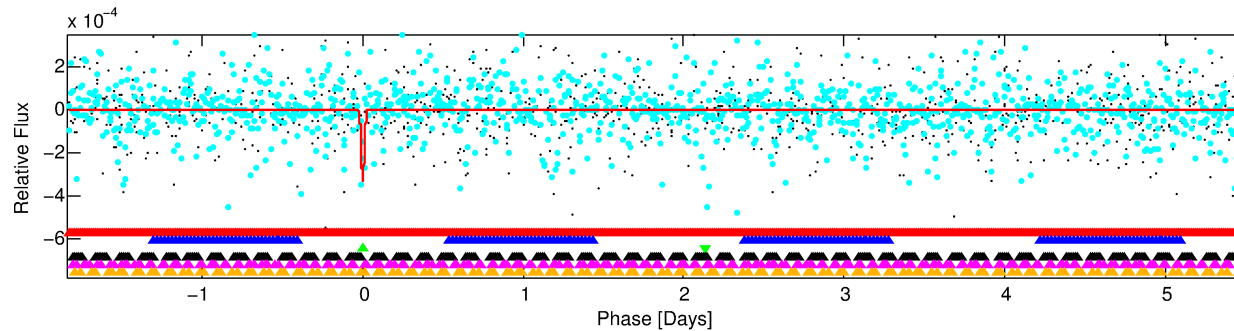
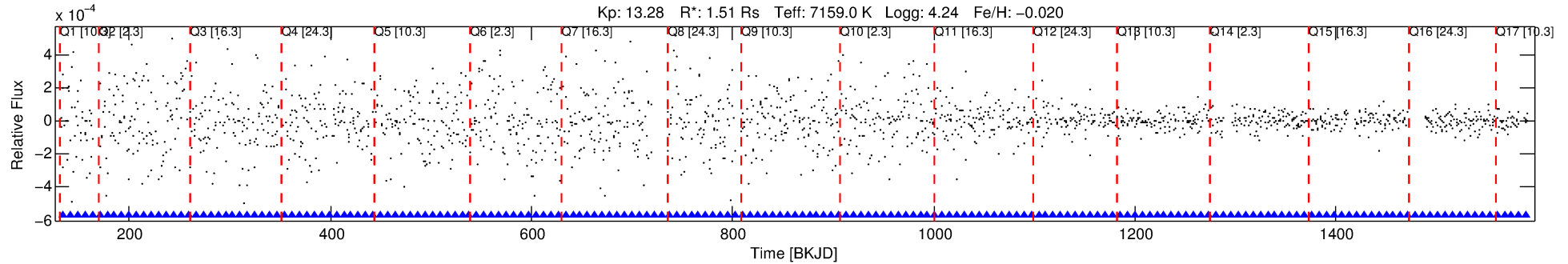
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-03

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 3 of 6 Period: 7.350 d



DV Fit Results:

Period = 7.34957 [0.00004] d
Epoch = 134.0967 [0.0031] BKJD
Rp/R* = 0.0178 [0.0249]
b = 0.50 [12.33]
Seff = 765.49 [332.48]
Teq = 1341 [146] K
Rp = 2.94 [4.23] Re
a = 0.0837 [0.0241] AU
Ag = 46.08 [144.28] [0.31 σ]
Teffp = 5403 [4201] K [0.97 σ]

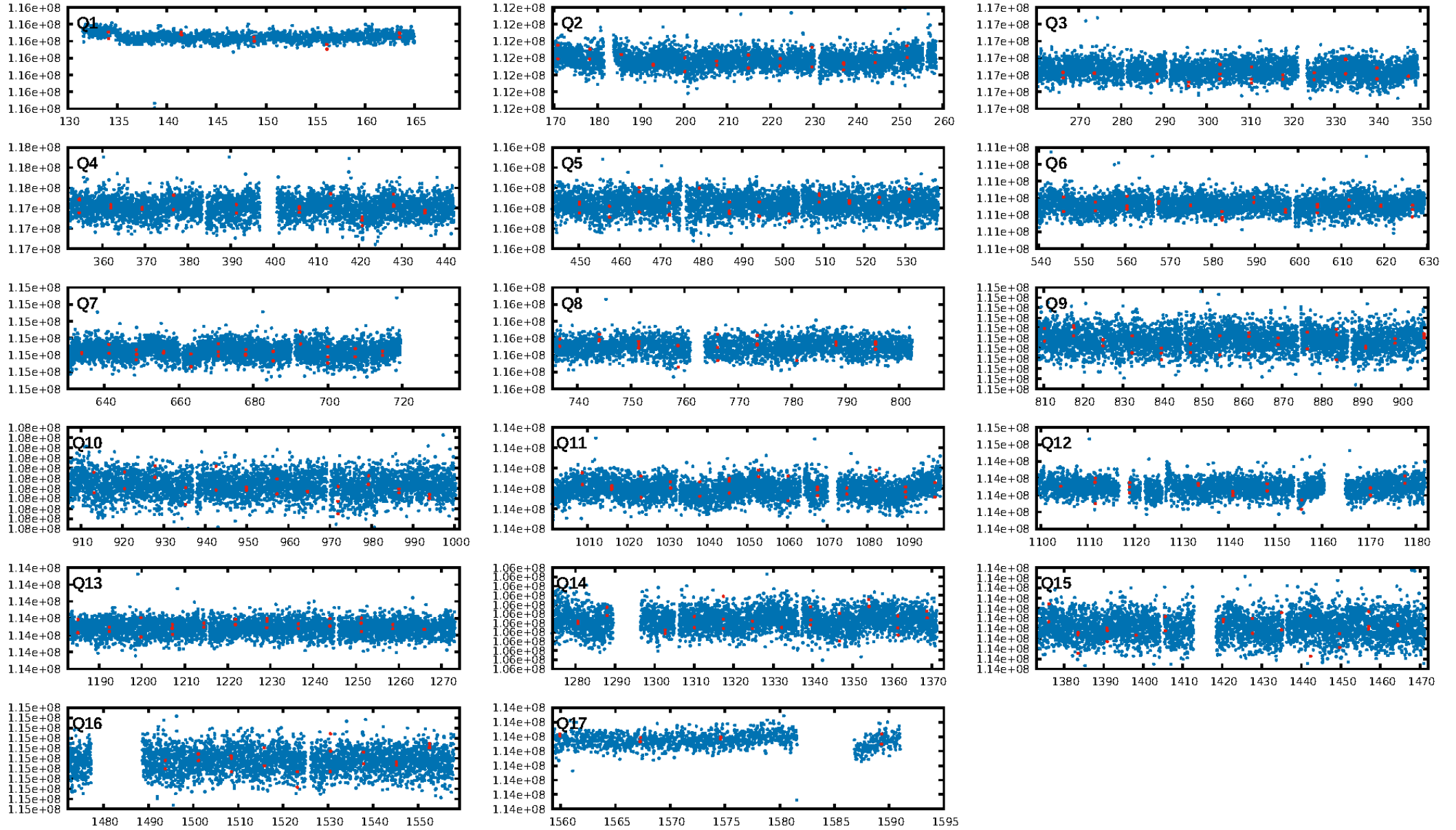
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.79 σ]
LongPeriod-sig: 100.0% [55.91 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 4.0%
Bootstrap-pfa: 3.24e-09
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: 1.592
Centroid-sig: 18.2%
Centroid-so: 0.636 arcsec [1.03 σ]
OotOffset-rm: 1.907 arcsec [1.63 σ]
KicOffset-rm: 1.977 arcsec [1.59 σ]
OotOffset-st: 3/2/1/4 [10]
KicOffset-st: 3/2/1/4 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 0.00 [0/17]

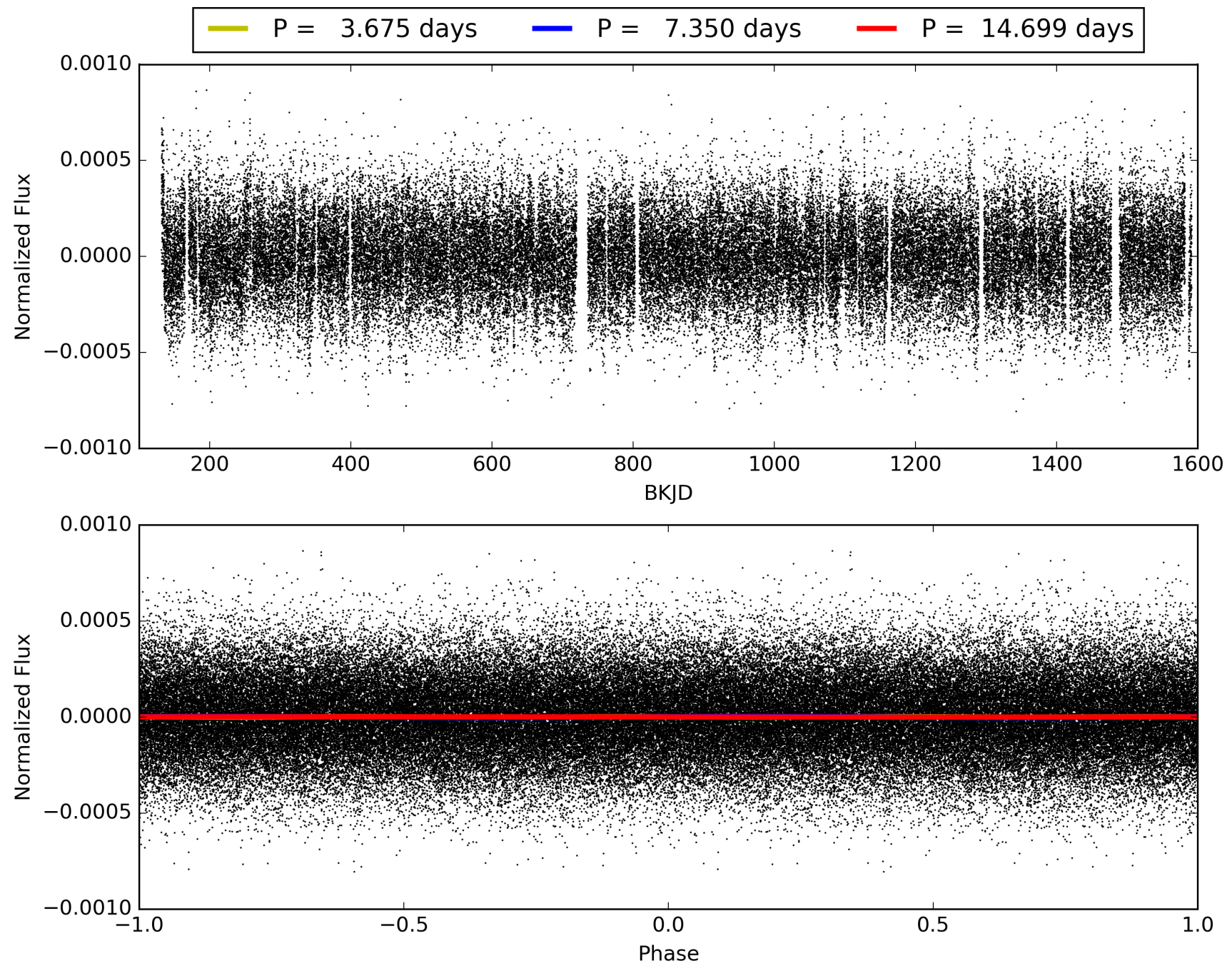
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:48:58 Z

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

TCE 002993589-03, PDC Light Curves

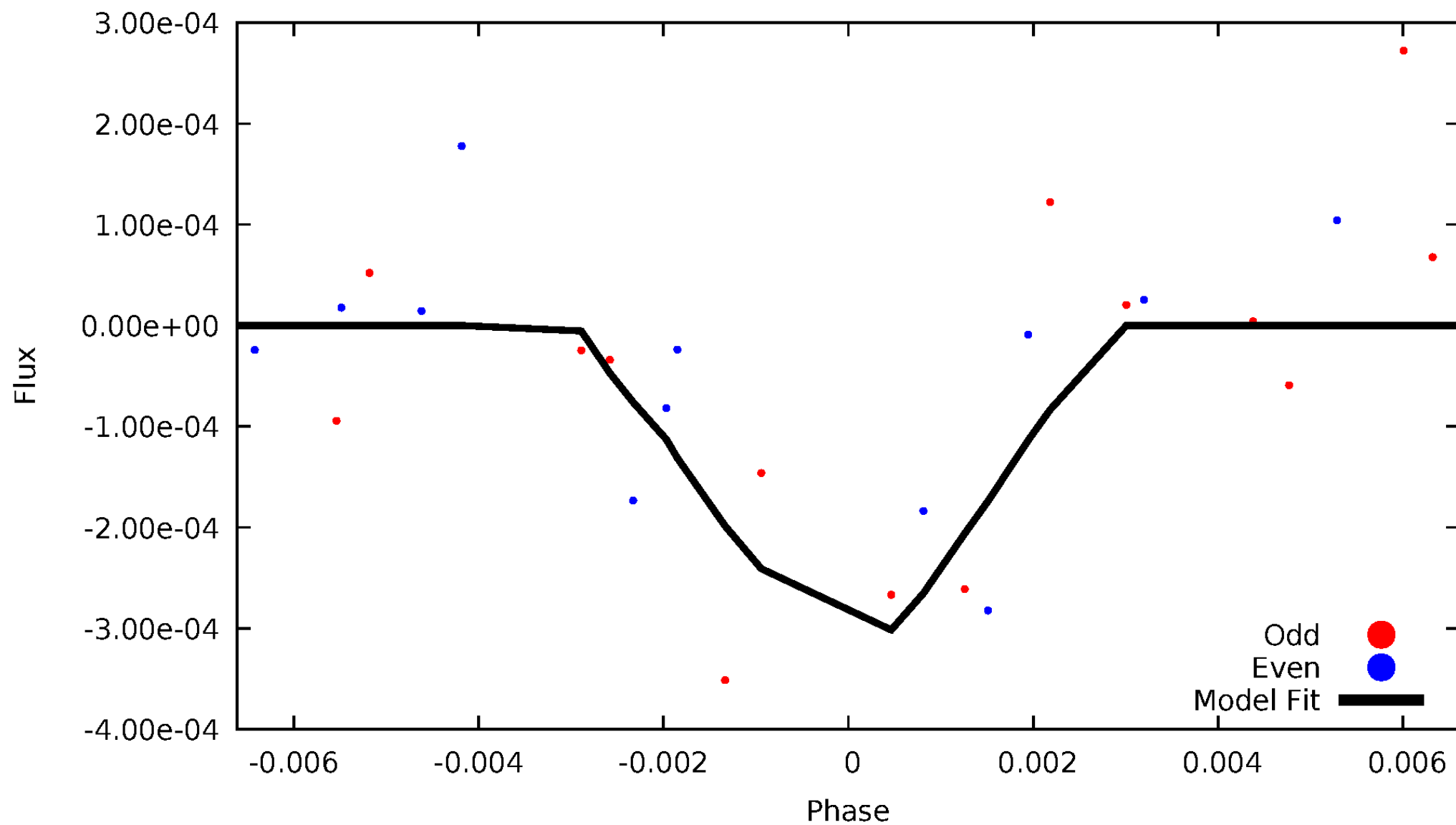


TCE 002993589-03



DV Odd/Even

TCE 002993589-03

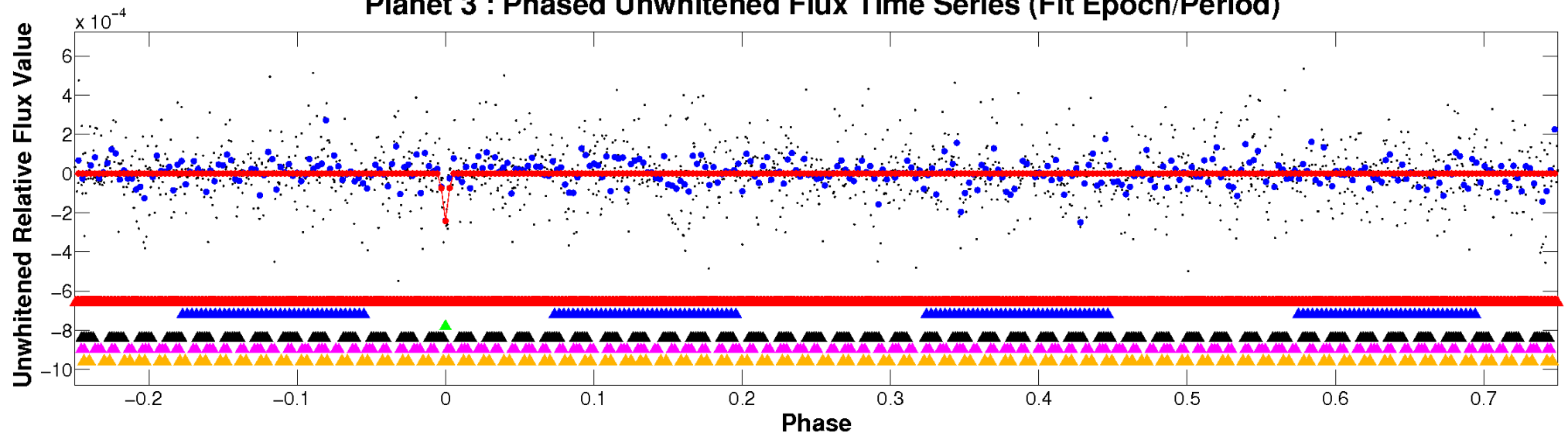


ALT Odd/Even

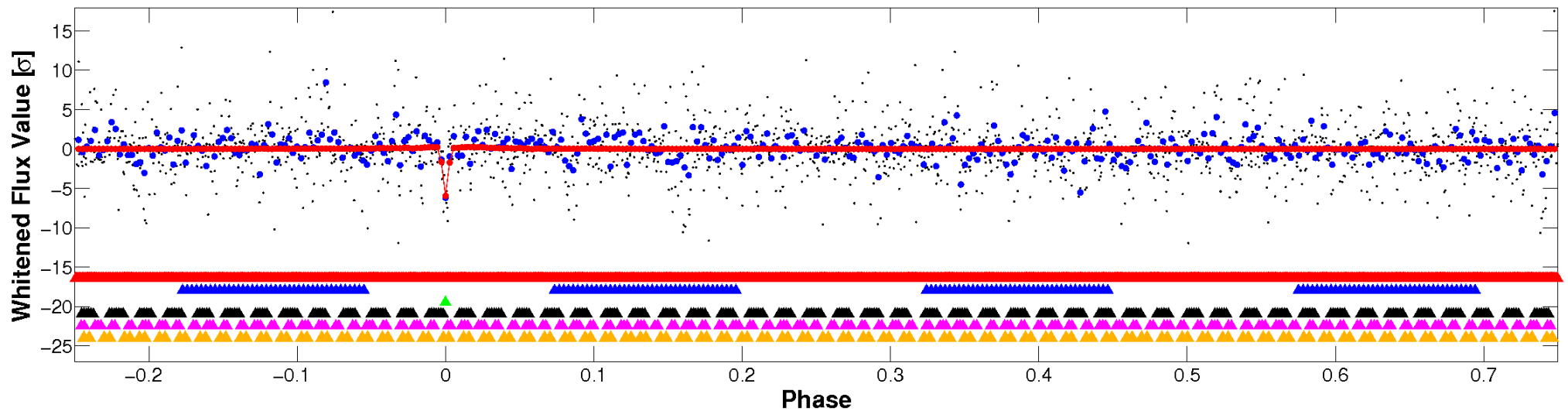
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

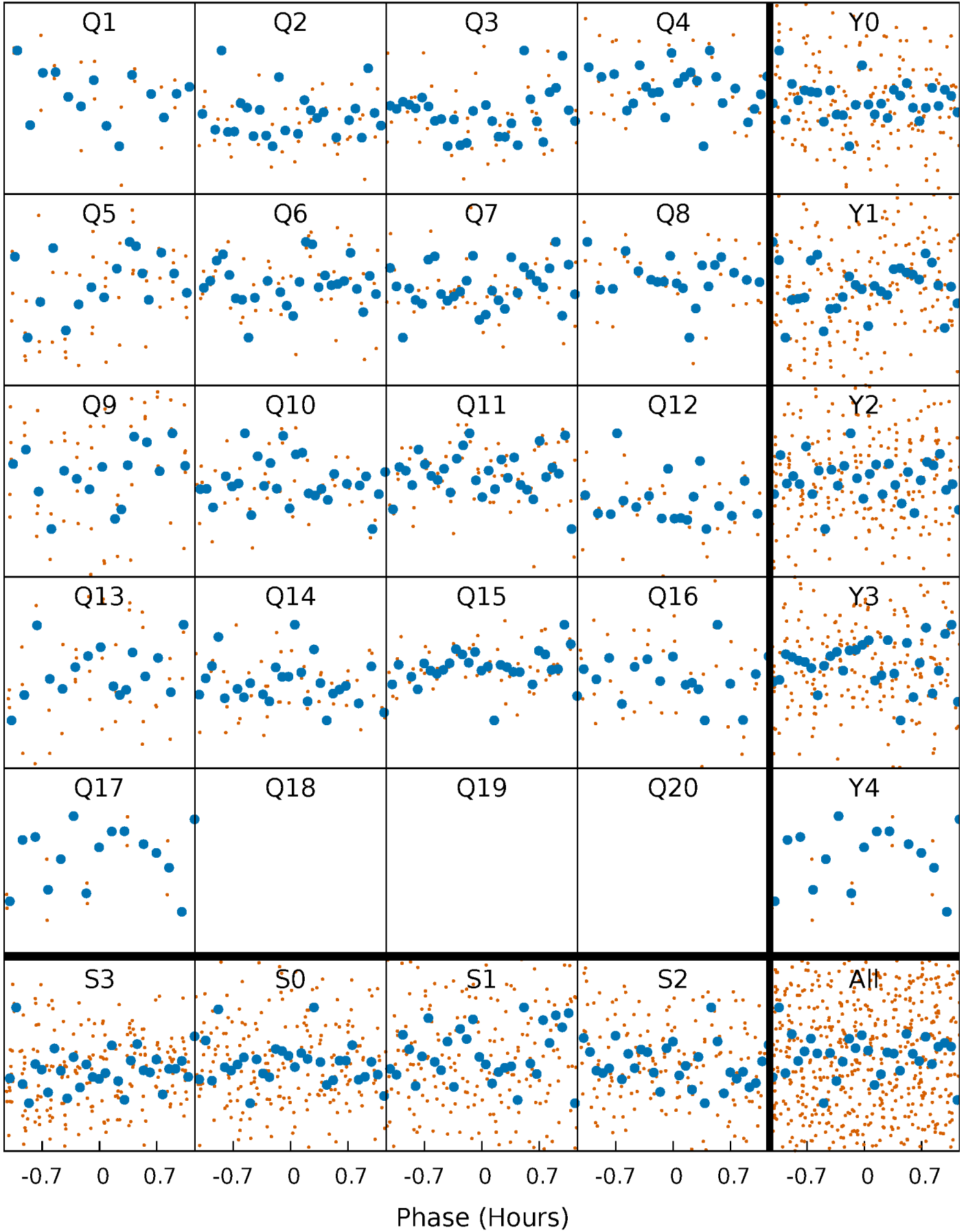


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



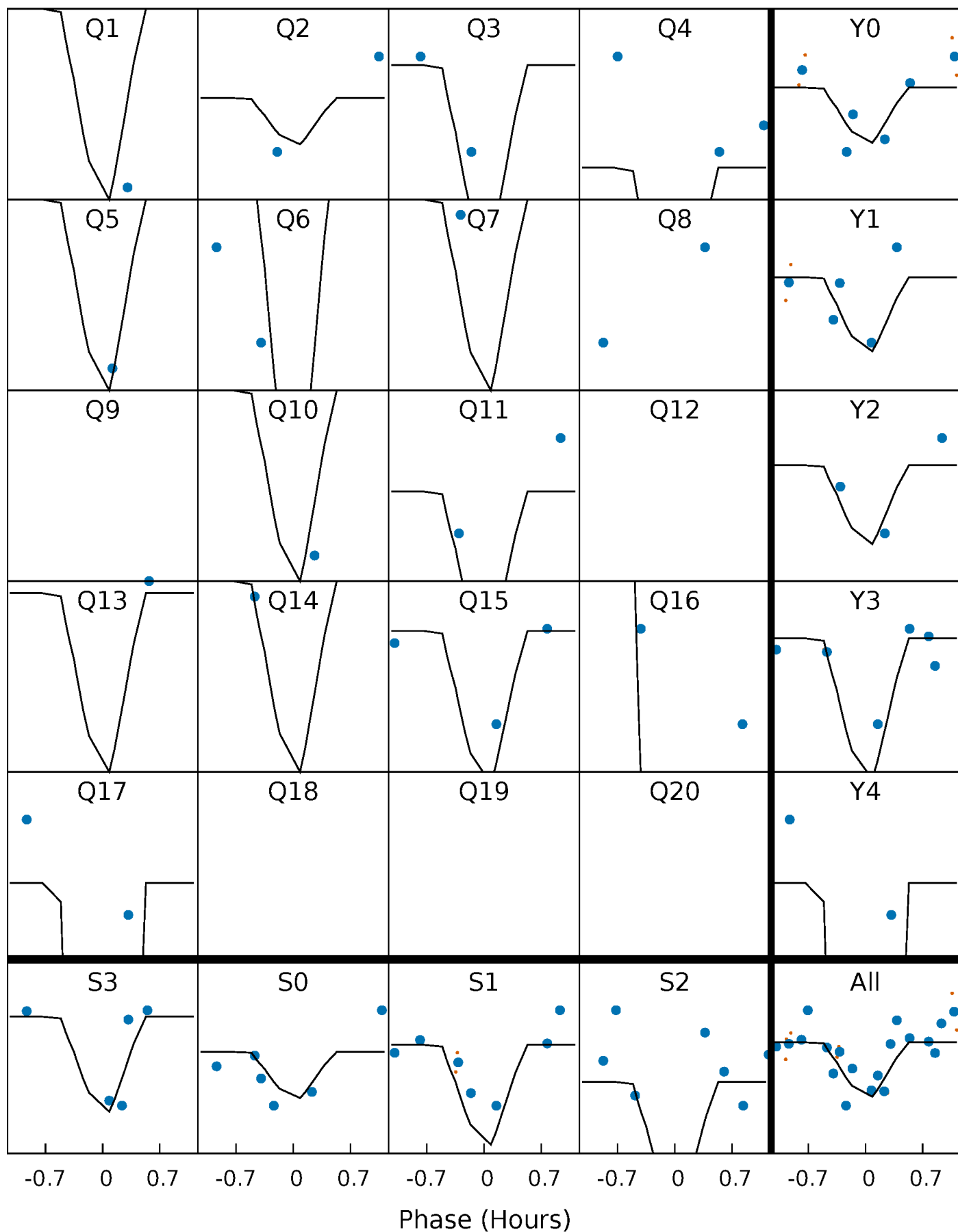
PDC Quarter-Phased Transit Curves

TCE 002993589-03 P= 7.349570 Days $T_0=134.096650$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002993589-03 P= 7.349570 Days $T_0=134.096650$ (BKJD)

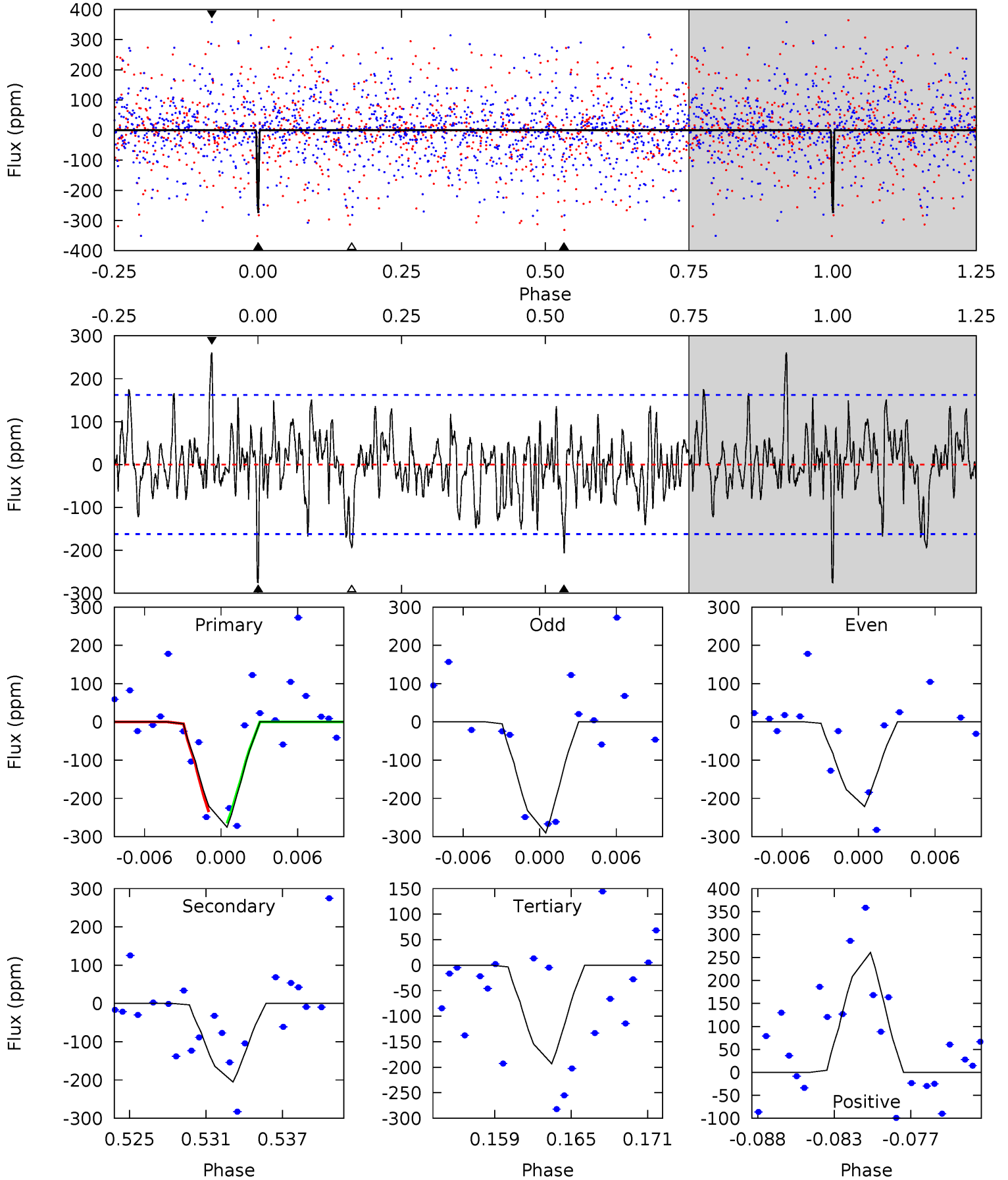


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002993589-03, P = 7.349570 Days, E = 126.747080 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.71	6.49	6.11	8.26	5.13	2.75	1.89	2.60	0.45	0.39	-1.77	1.10	0	0.49	0.48



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-205 ± 32	$4.03^{+4.21}_{-2.69}$	1902^{+136}_{-114}	5474^{+4802}_{-1343}	48^{+389}_{-36}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

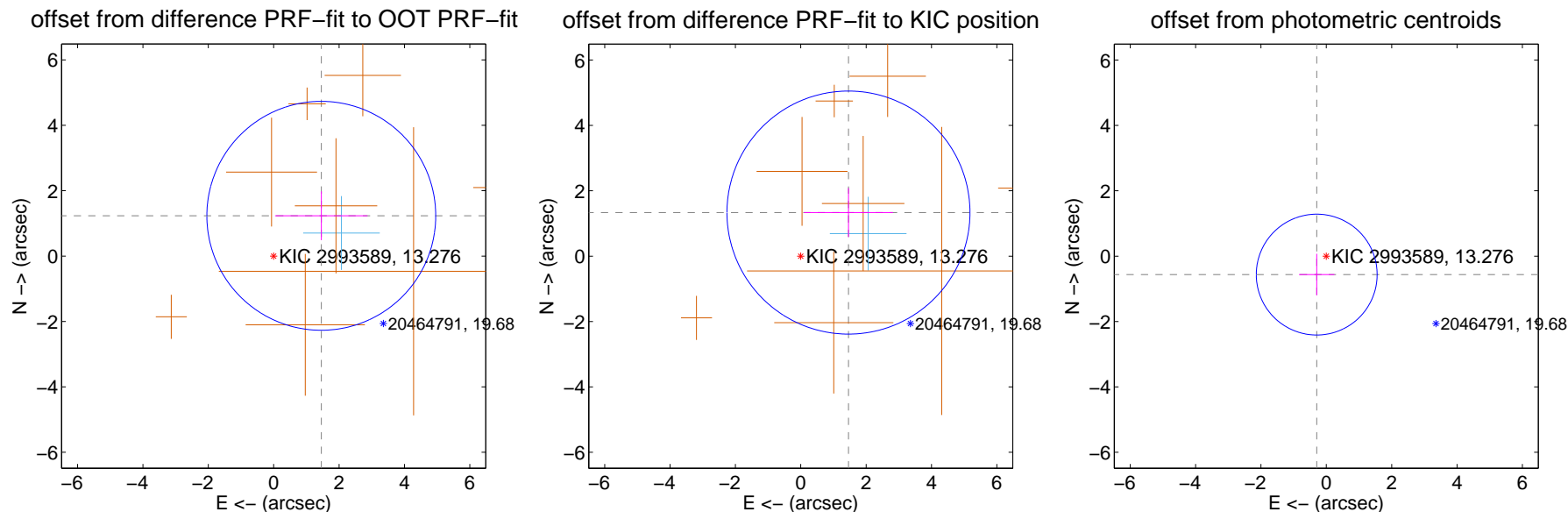
DV Centroid Data

Supplemental centroid analysis for 002993589-03. Kepler magnitude: 13.28. Transit SNR 14.51

There are 1 quarters with good PRF difference image offsets

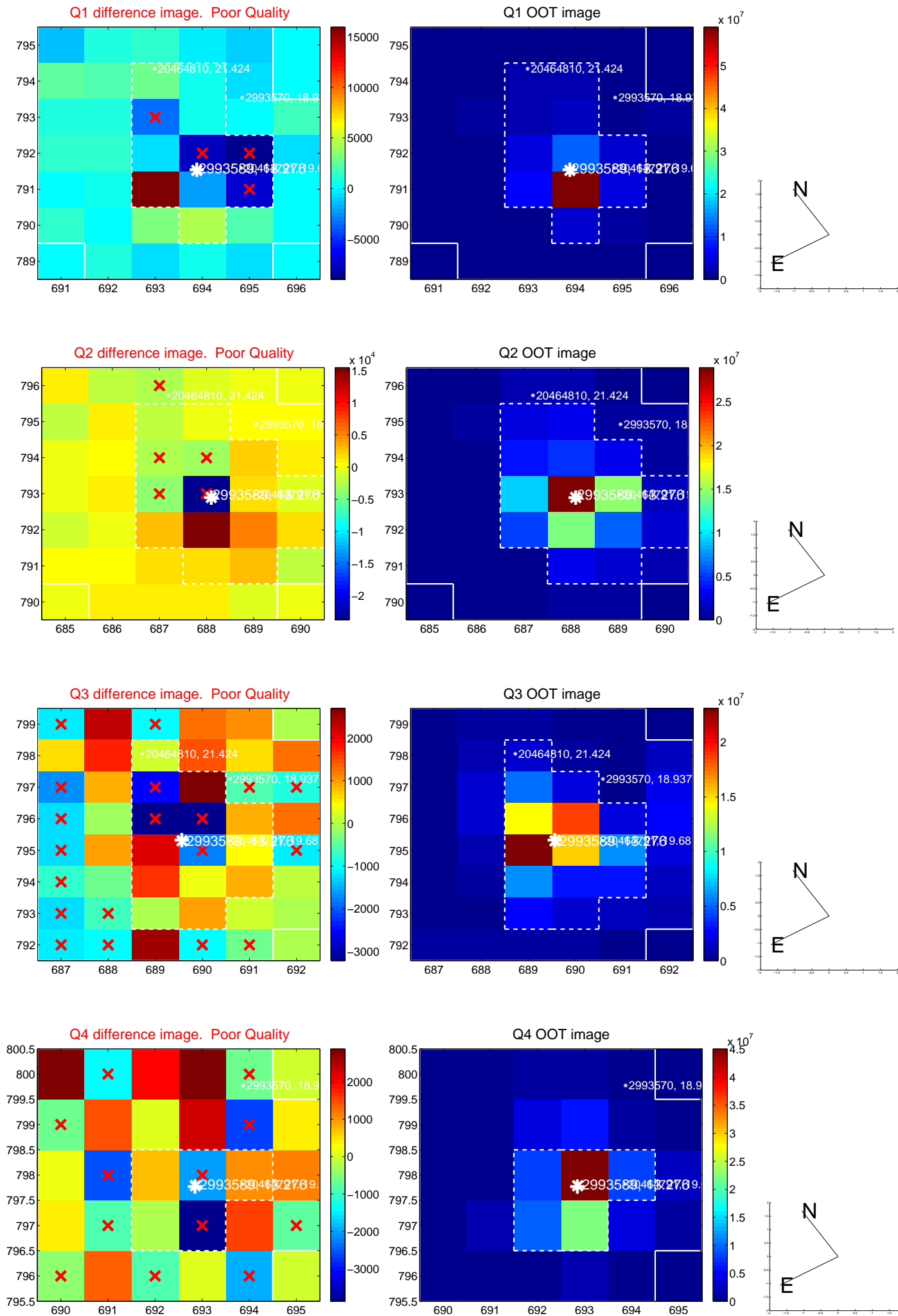
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.907 ± 1.167	1.63	-1.456 ± 1.415	1.232 ± 0.746
PRF-fit source offset from KIC position	1.977 ± 1.240	1.59	-1.459 ± 1.362	1.333 ± 0.747
photometric centroid source offset	0.64 ± 0.62	1.03	0.29 ± 0.54	-0.56 ± 0.64

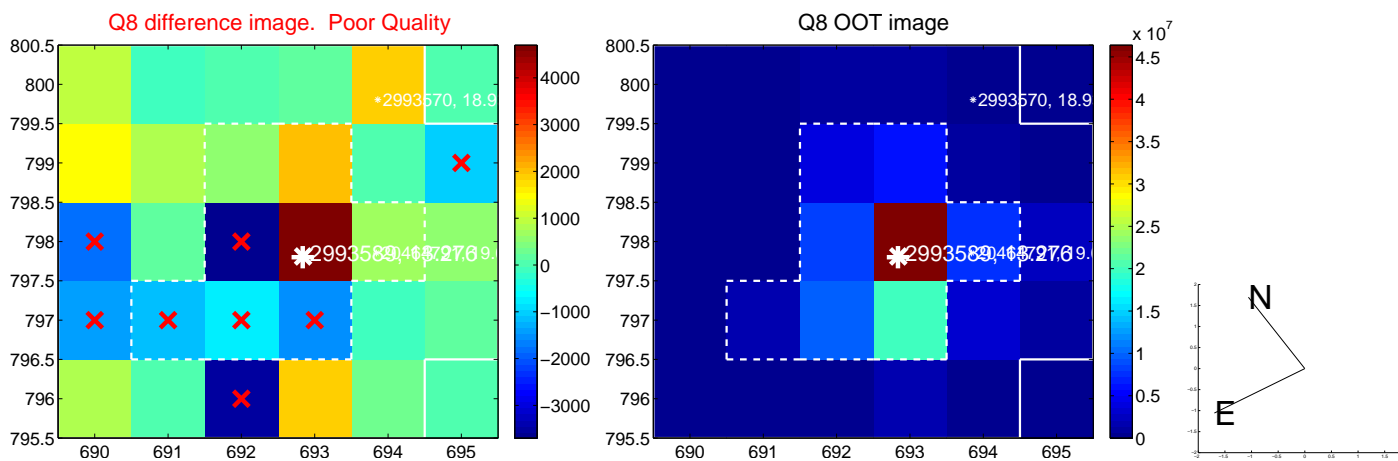
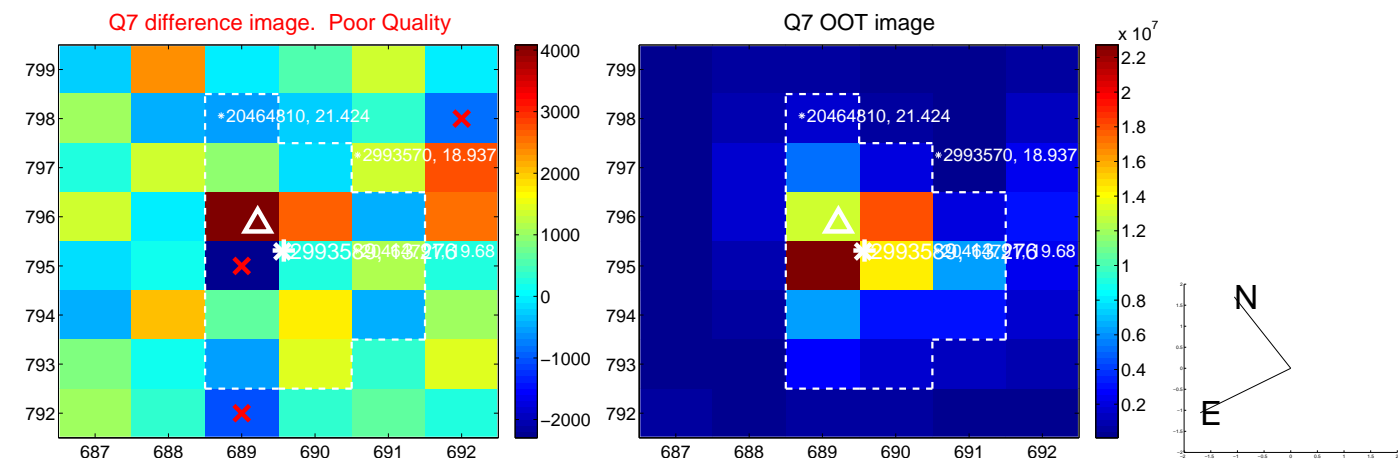
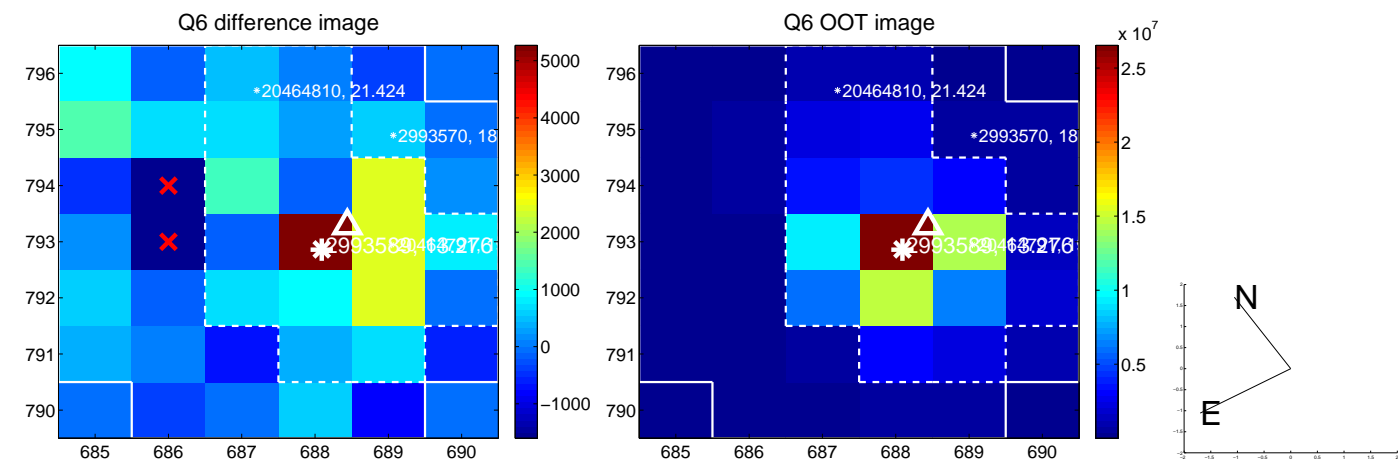
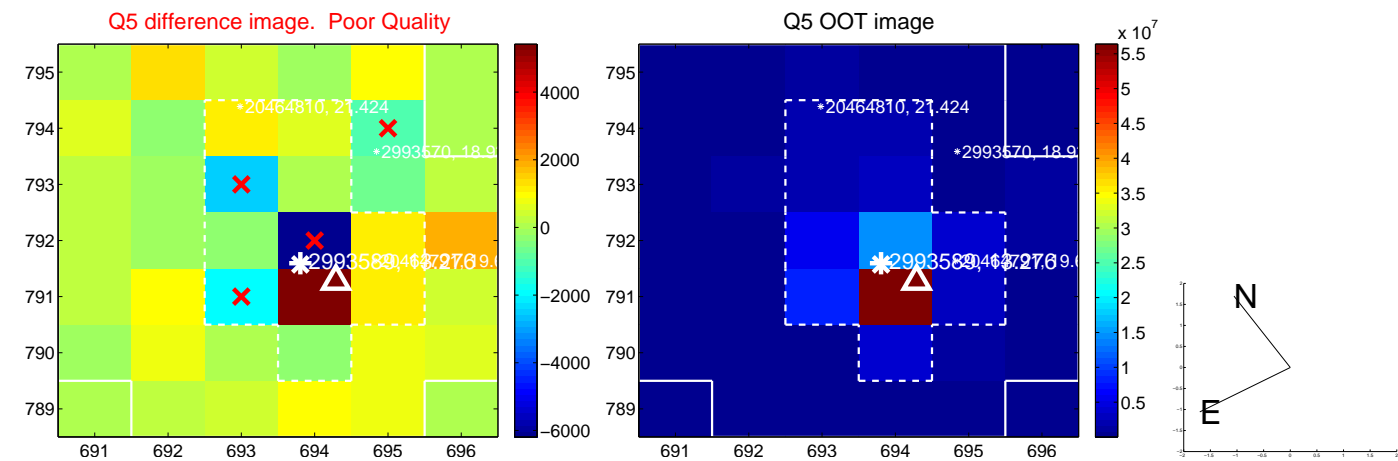


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

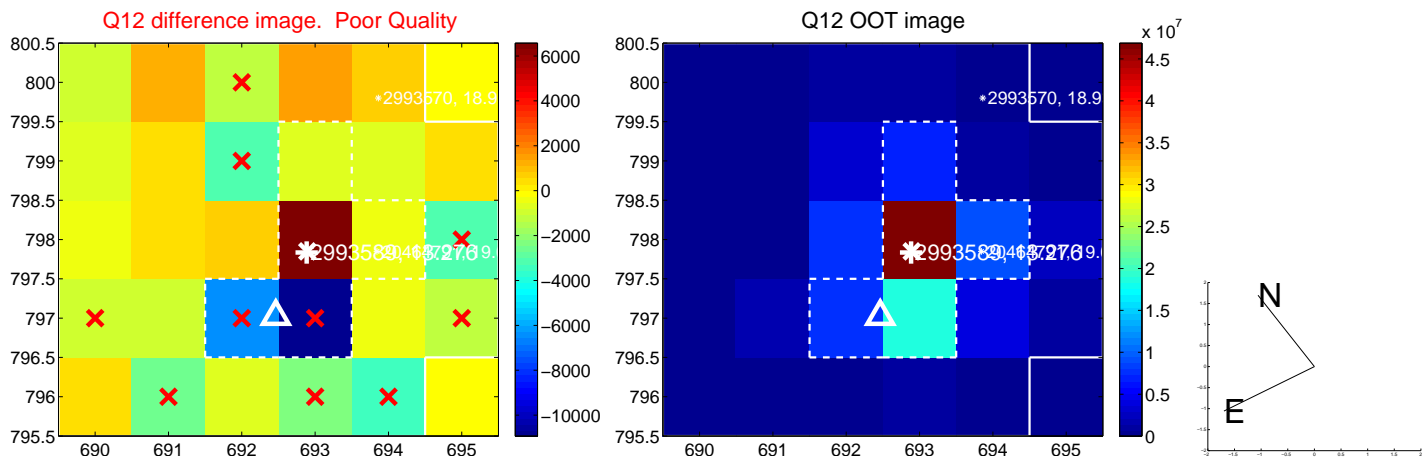
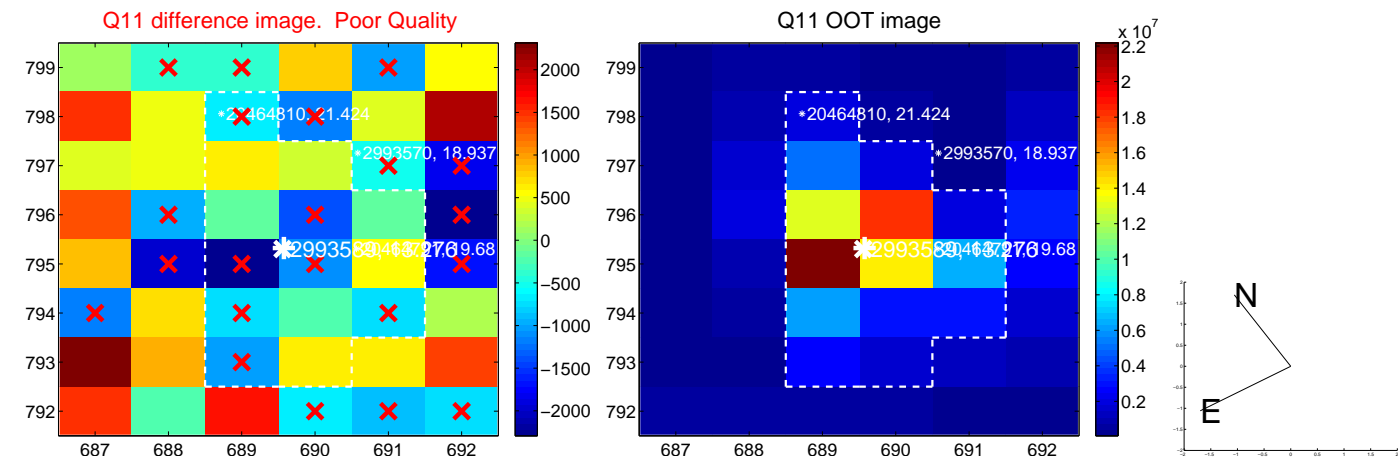
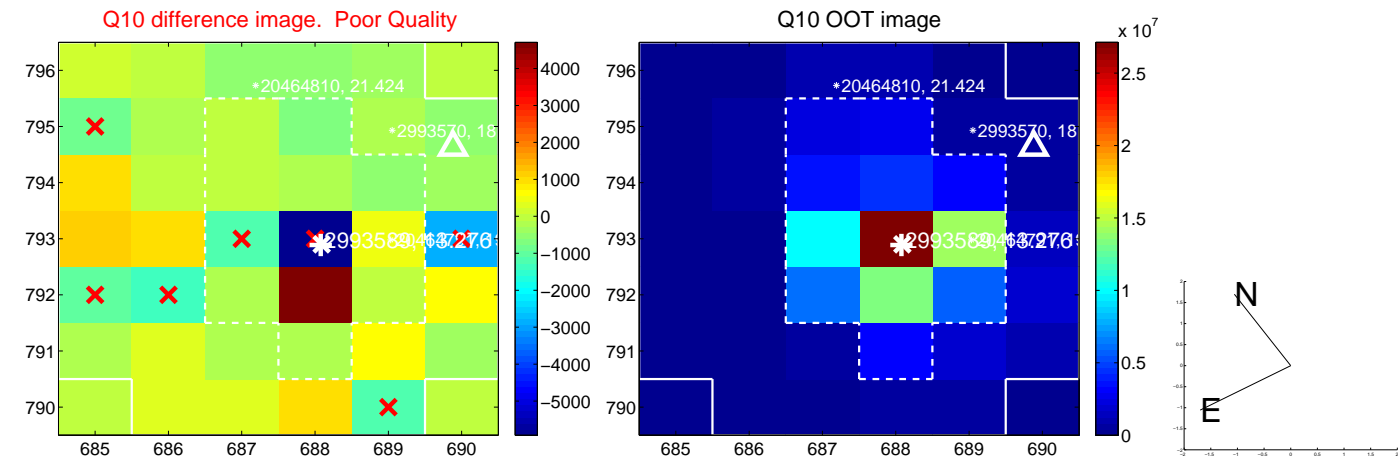
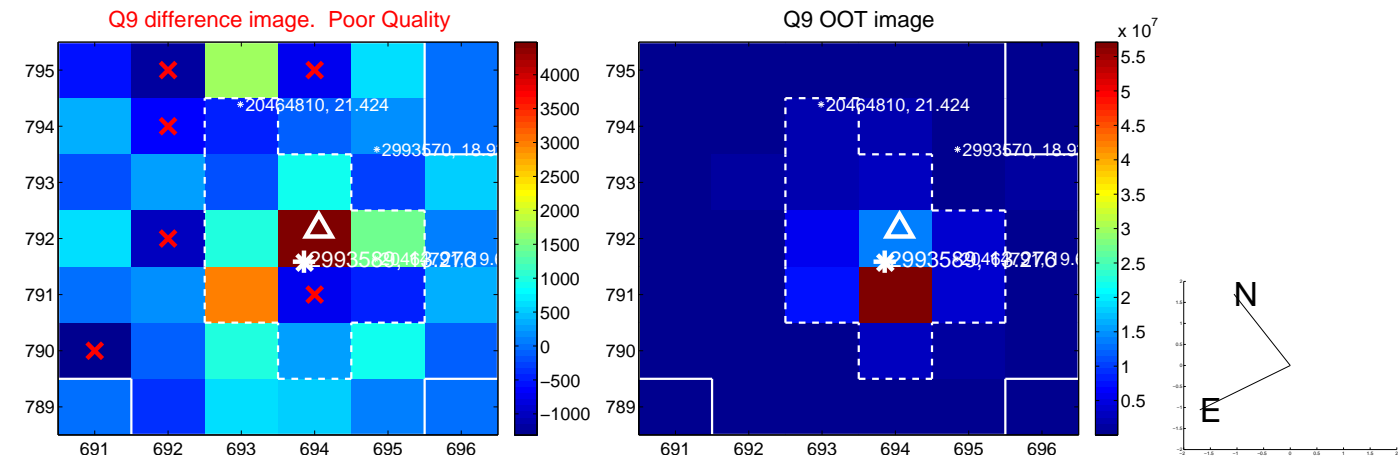
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



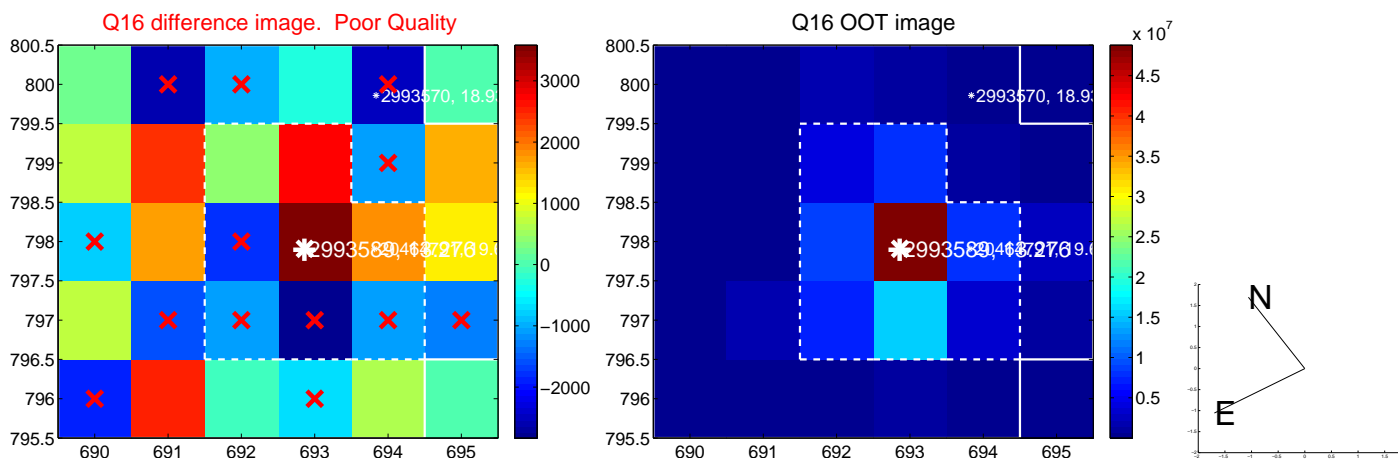
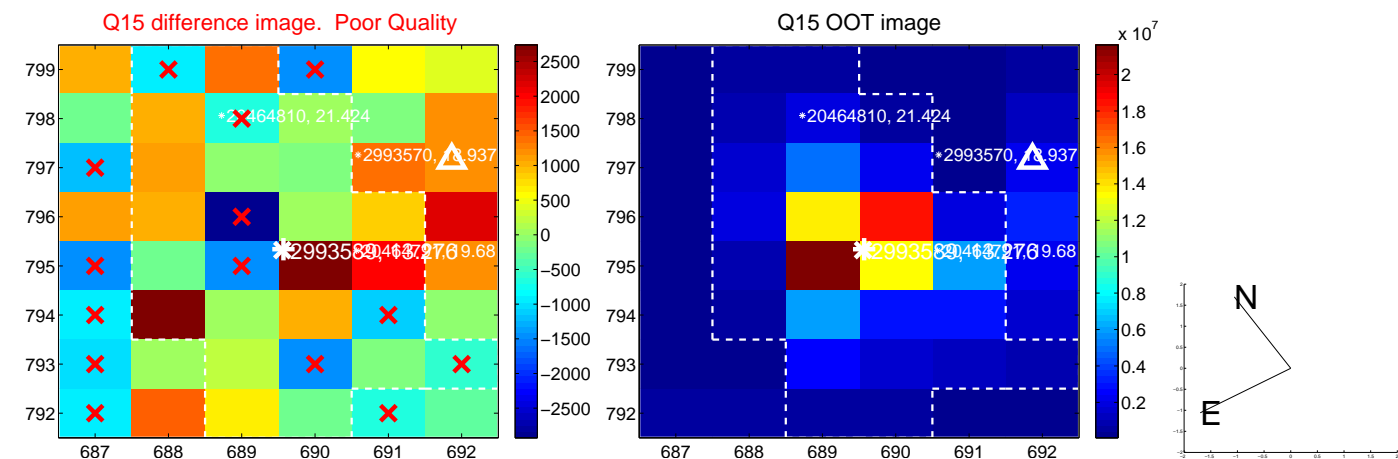
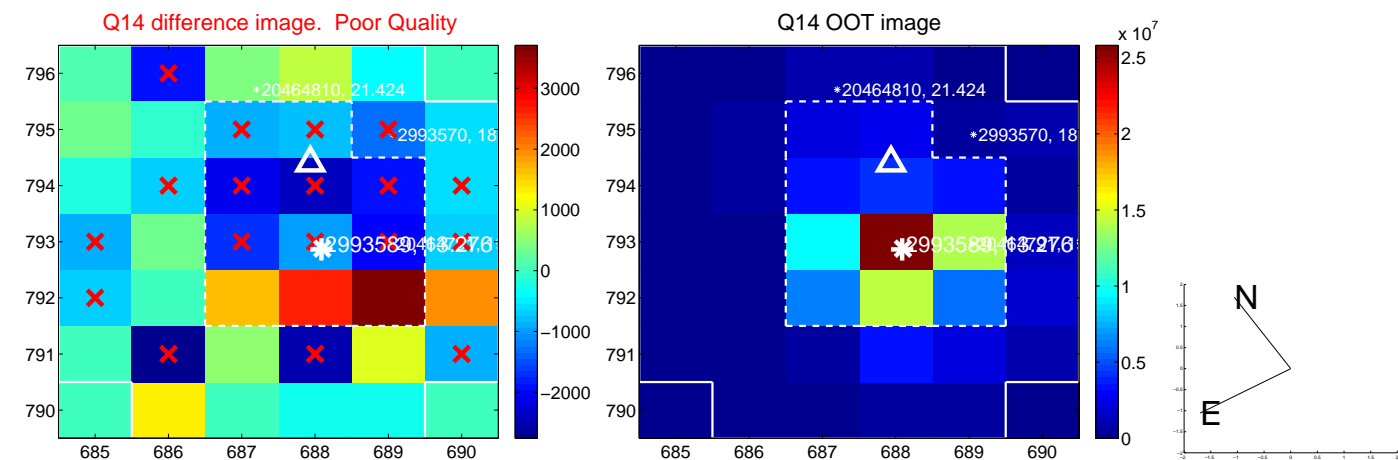
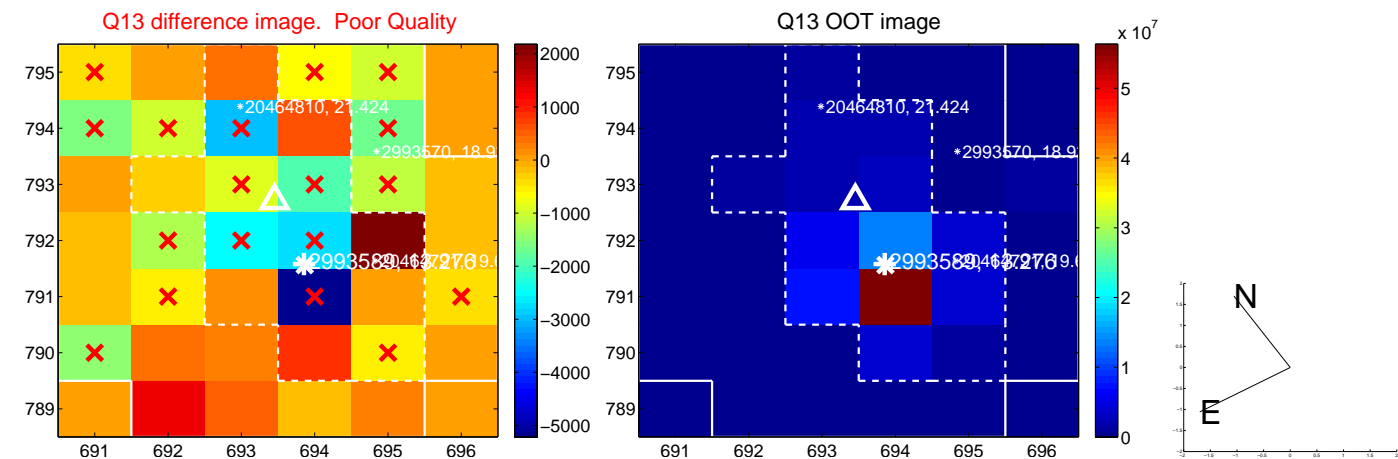
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



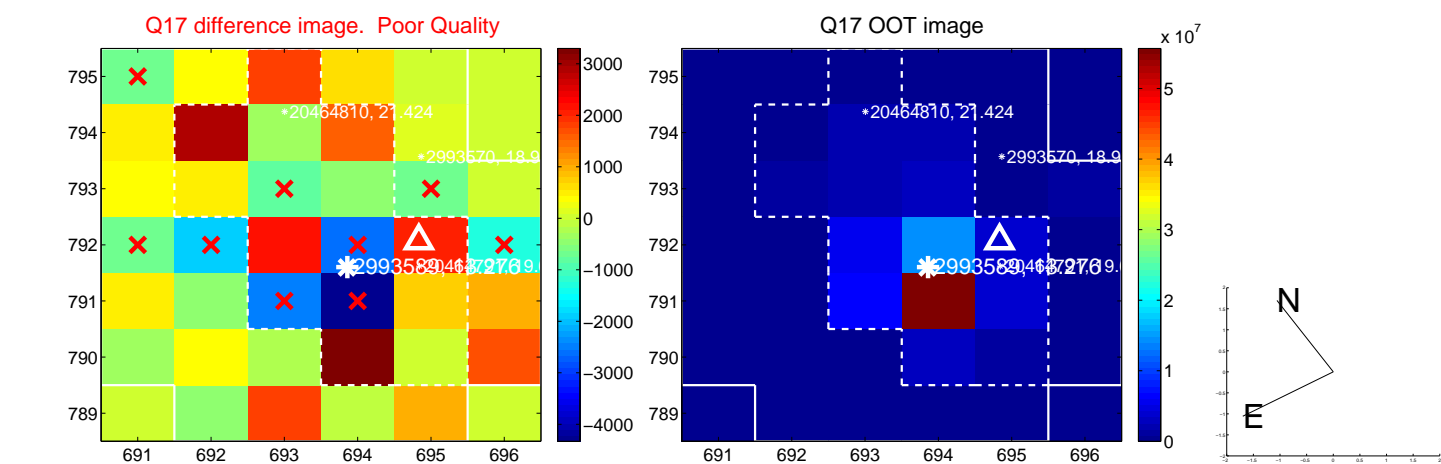
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



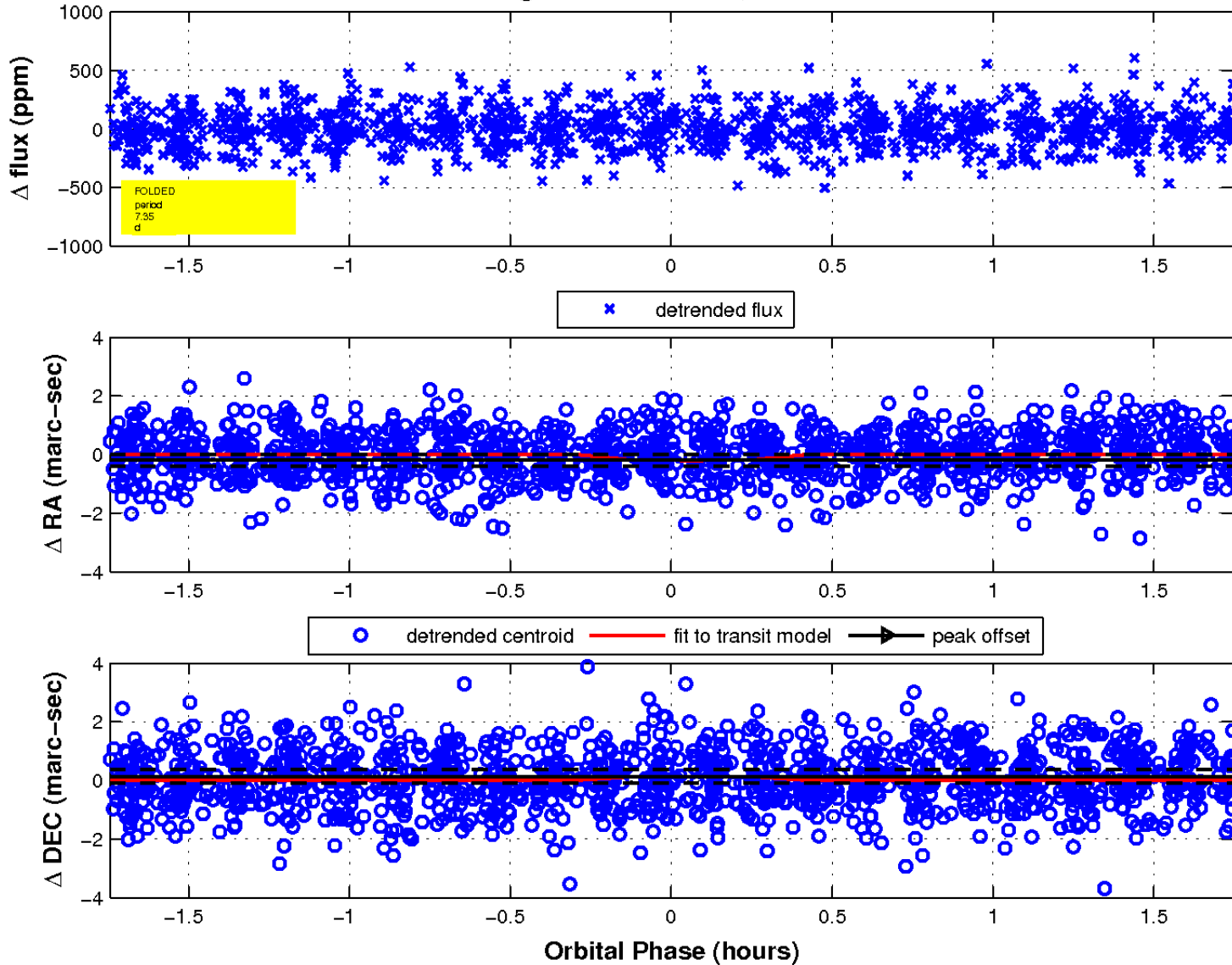
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

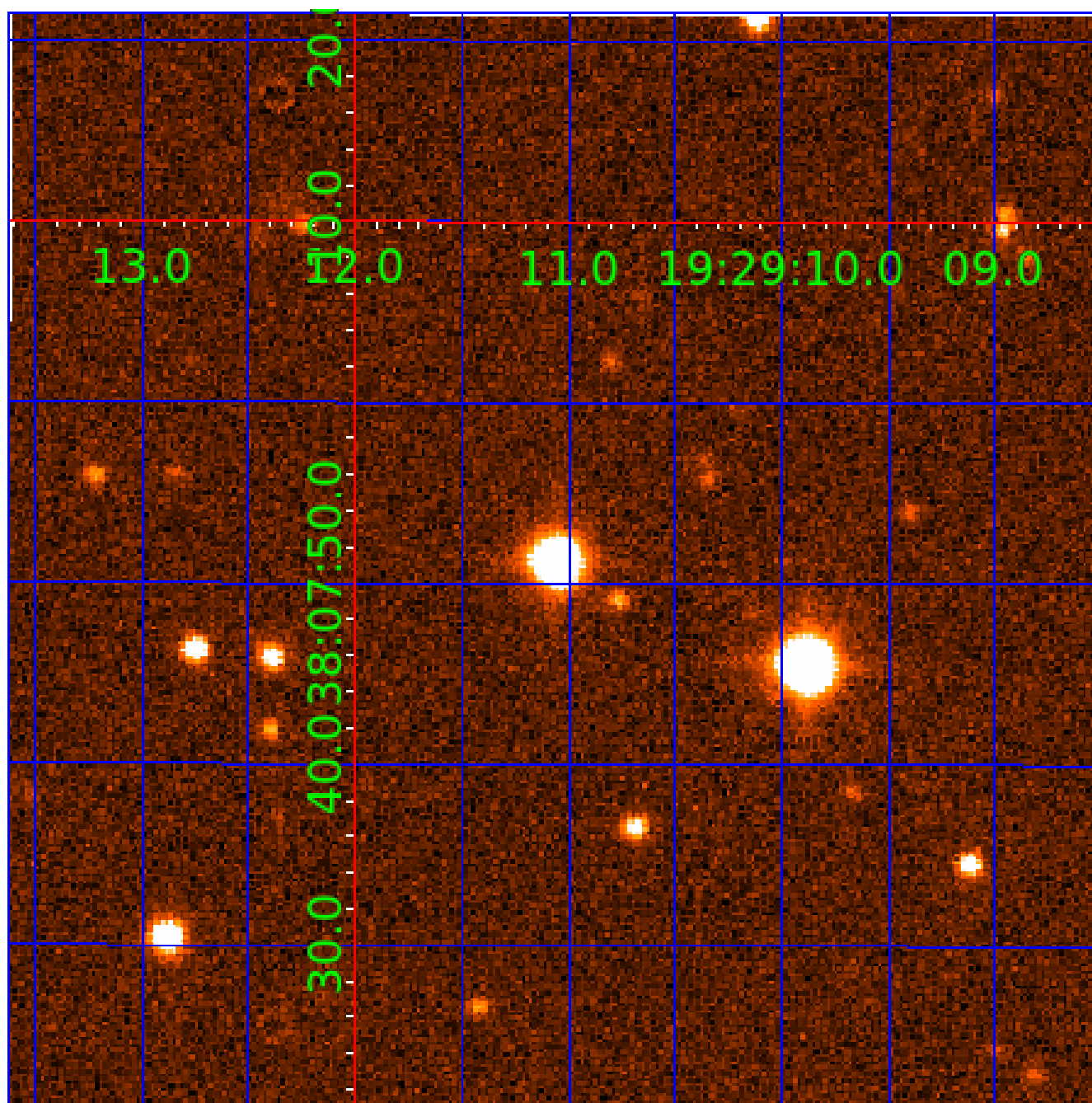


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
002993589-04	OBS	No	4.467161	132.213148	61.5	3.963	9.6	7.7	1.51	7159	1.32	1486.78
002993589-05	OBS	No	6.559133	131.682869	646.7	1.500	13.2	-1.0	1.51	7159	3.90	890.89
002993589-06	OBS	No	9.832894	139.929270	346.2	0.635	10.9	13.4	1.51	7159	2.93	519.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

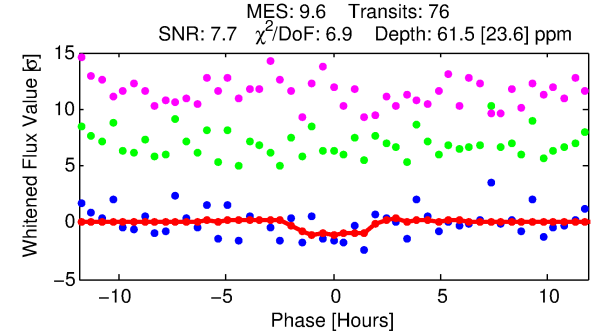
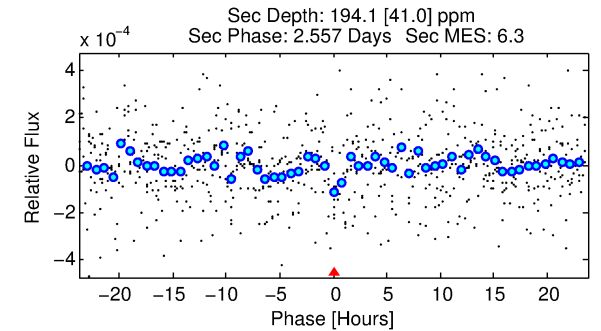
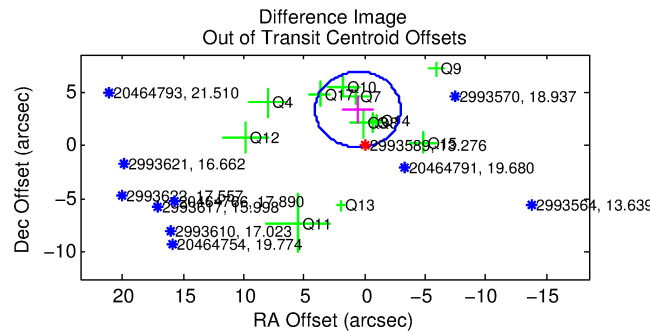
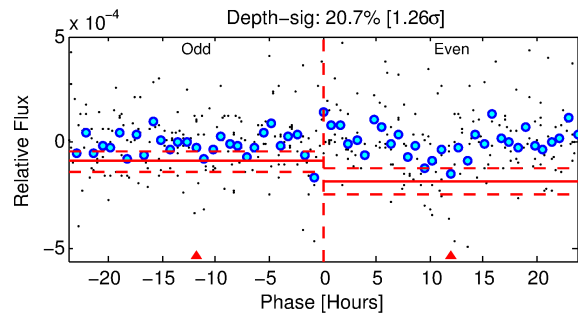
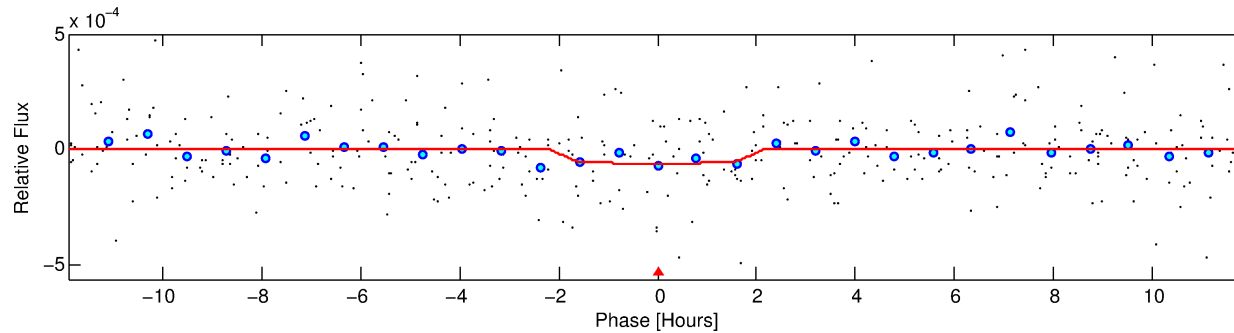
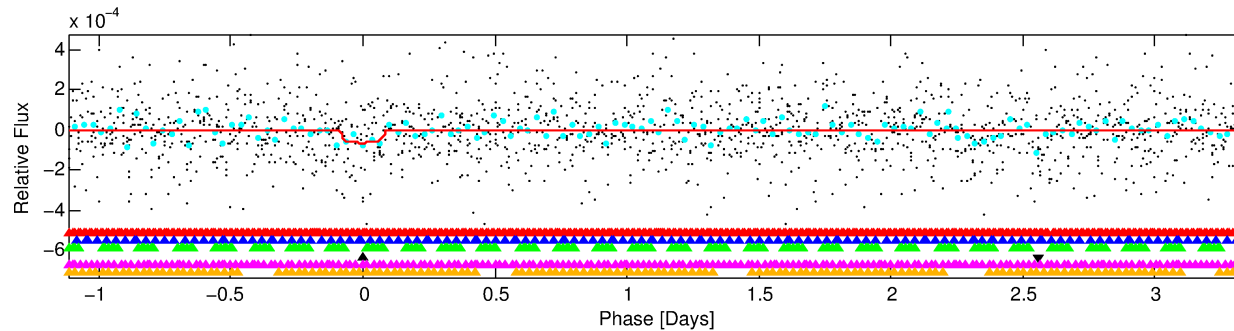
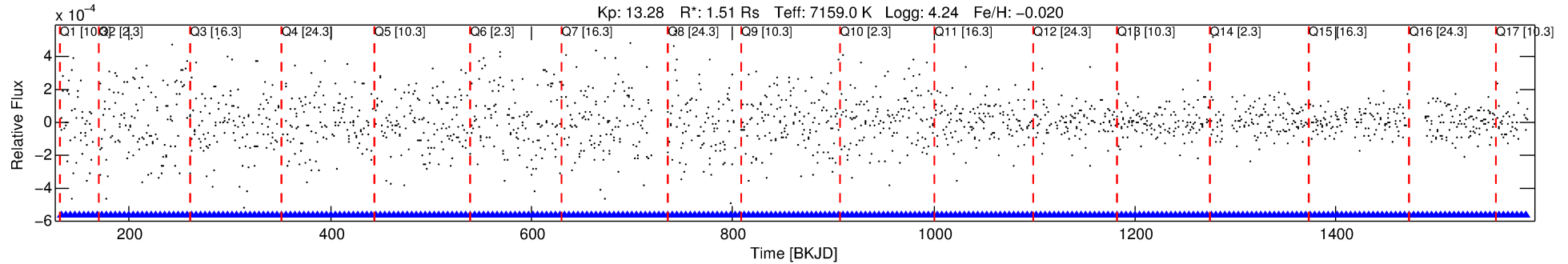
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-04

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 4 of 6 Period: 4.467 d



DV Fit Results:

Period = 4.46716 [0.00014] d
Epoch = 132.2131 [0.0220] BKJD
Rp/R* = 0.0080 [0.0125]
a/R* = 5.10 [46.91]
b = 0.82 [3.79]
Seff = 1486.78 [645.75]
Teq = 1583 [172] K
Rp = 1.32 [2.11] Re
a = 0.0601 [0.0173] AU
Ag = 222.39 [701.55] [0.32 σ]
Teffp = 9454 [7406] K [1.06 σ]

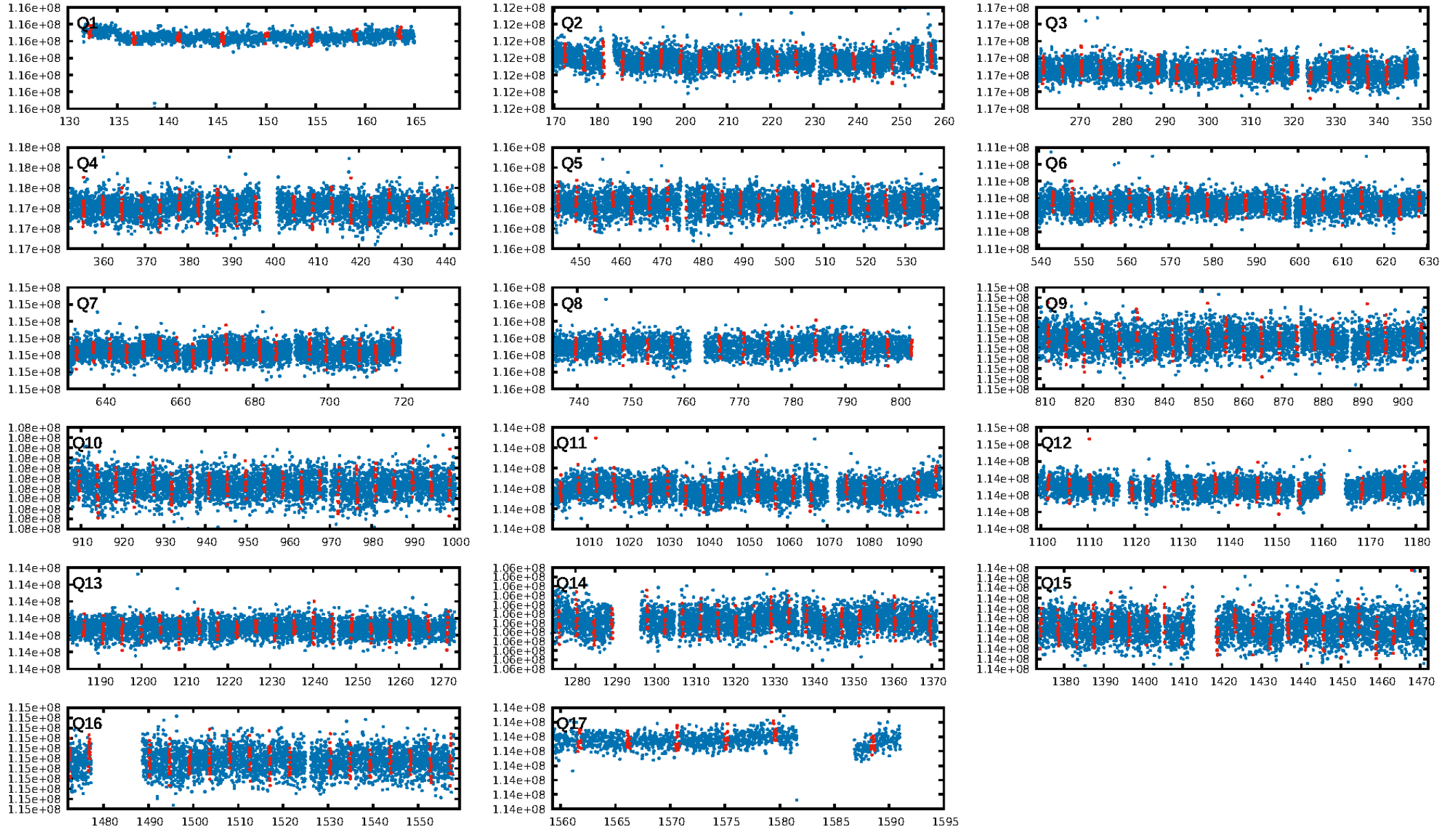
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.34 σ]
LongPeriod-sig: 100.0% [11.85 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.59e-10
RollingBand-fgt: 1.00 [74/74]
GhostDiagnostic-chr: 0.9915
Centroid-sig: 0.0%
Centroid-so: 3.554 arcsec [3.59 σ]
OotOffset-rm: 3.377 arcsec [2.86 σ]
KicOffset-rm: 3.362 arcsec [3.05 σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.00 [0/17]

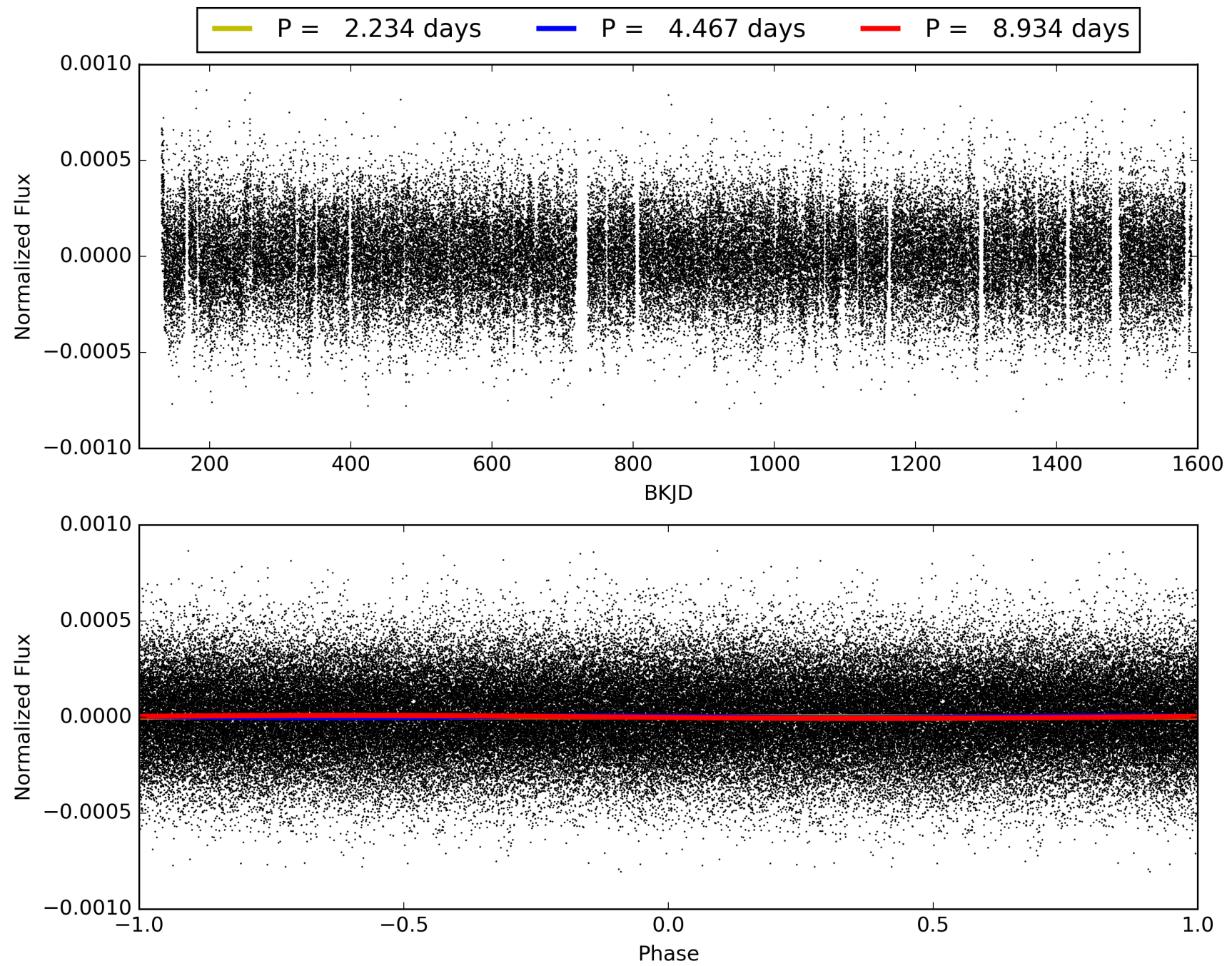
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:49:01 Z

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

TCE 002993589-04, PDC Light Curves

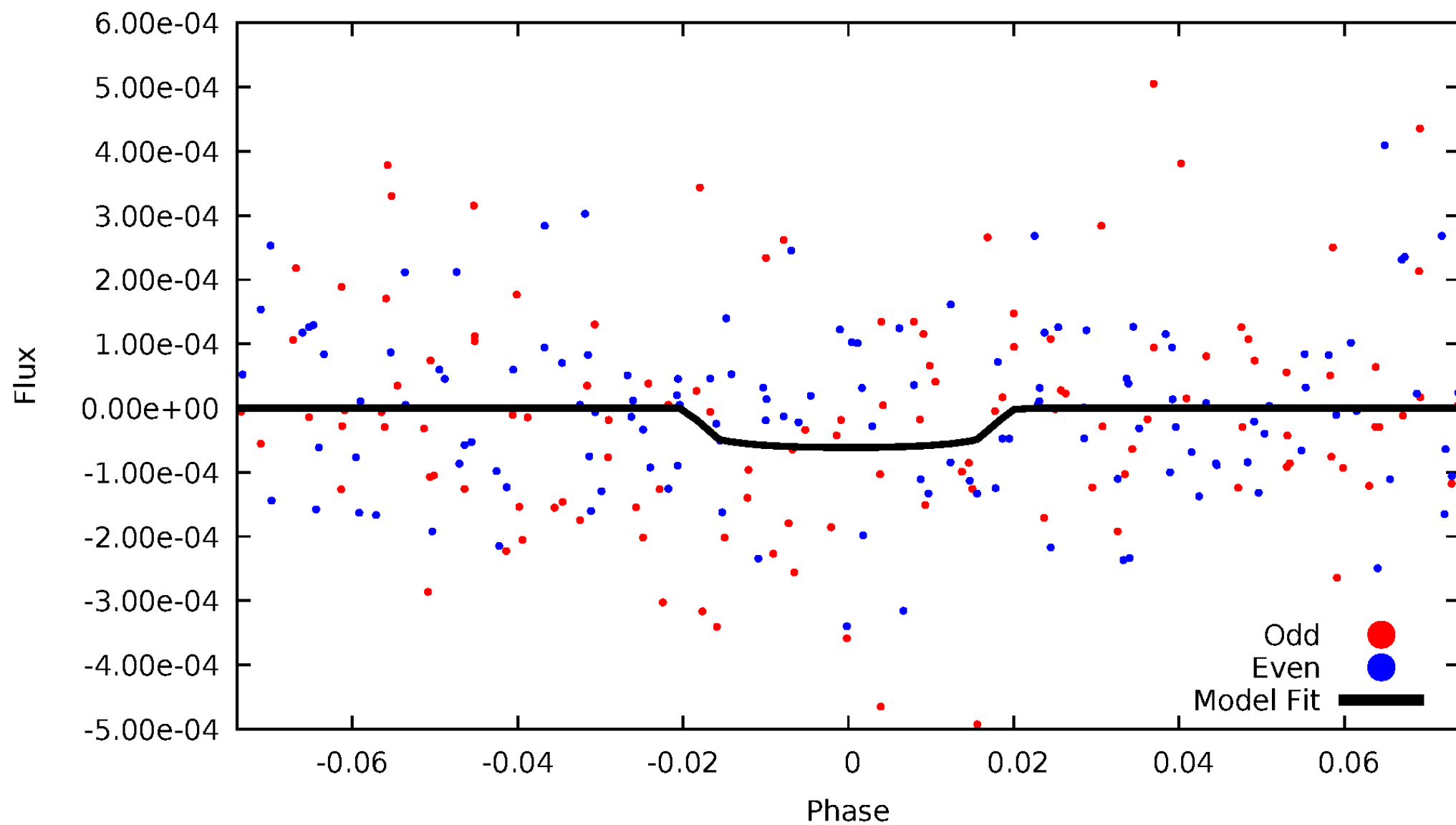


TCE 002993589-04



DV Odd/Even

TCE 002993589-04

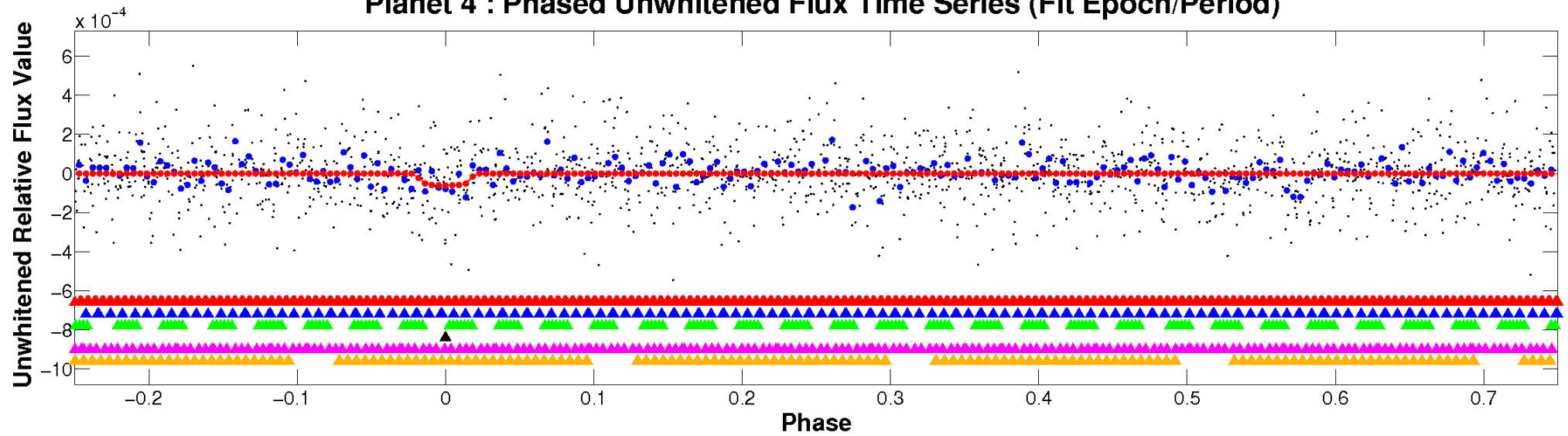


ALT Odd/Even

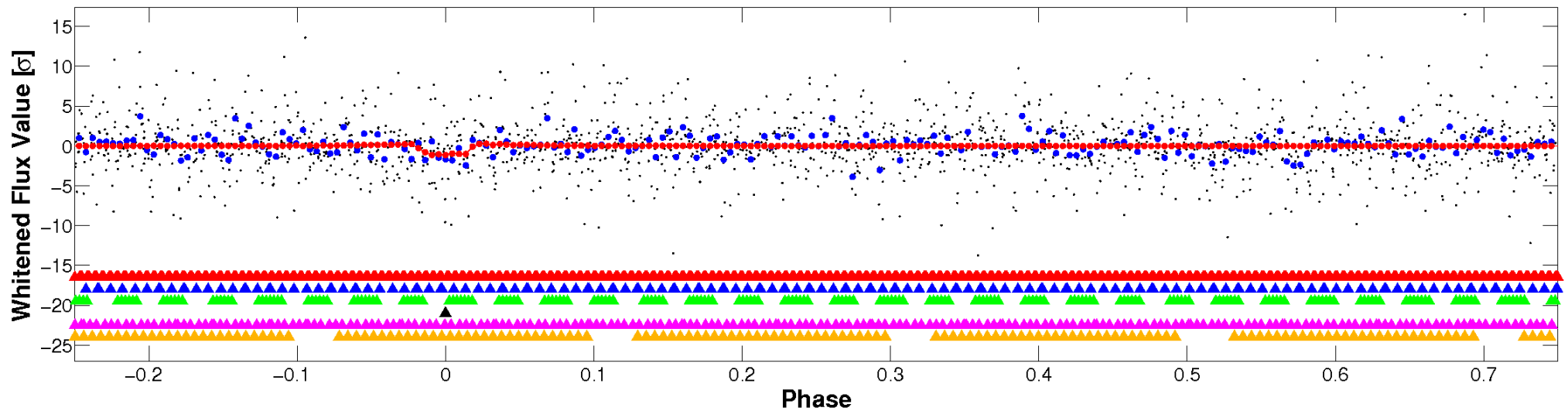
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

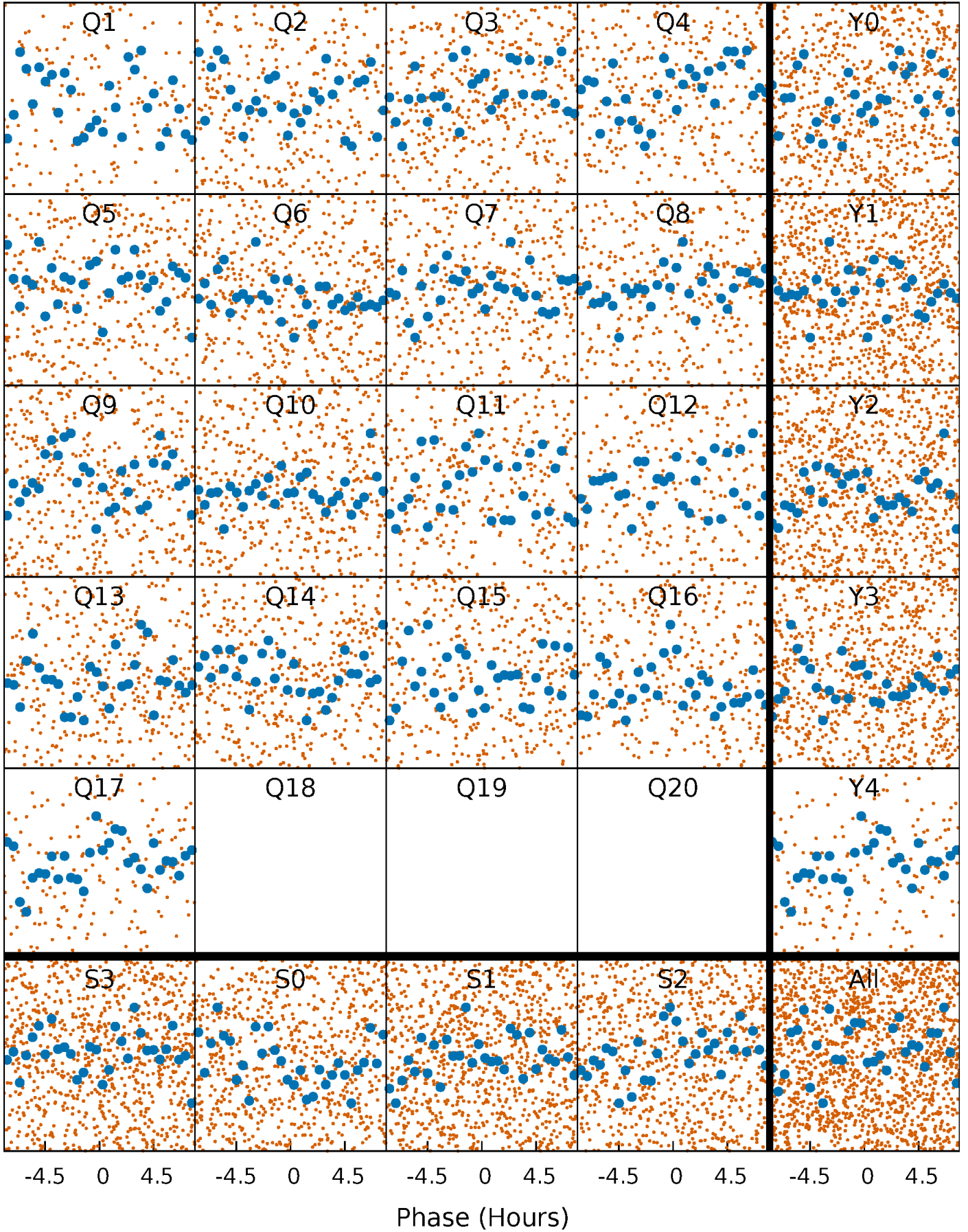


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



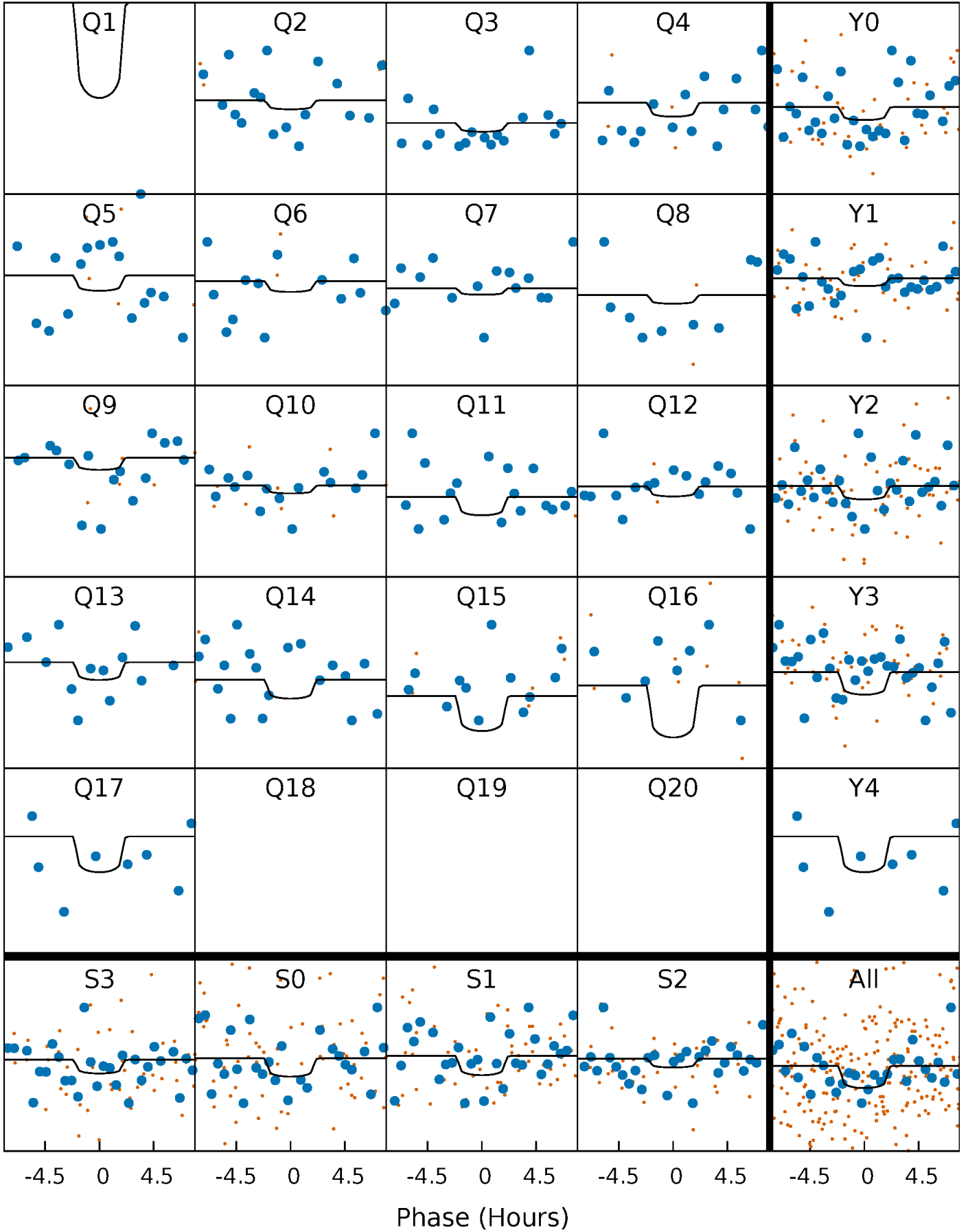
PDC Quarter-Phased Transit Curves

TCE 002993589-04 $P = 4.467161$ Days $T_0 = 132.213148$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002993589-04 P= 4.467161 Days $T_0=132.213148$ (BKJD)

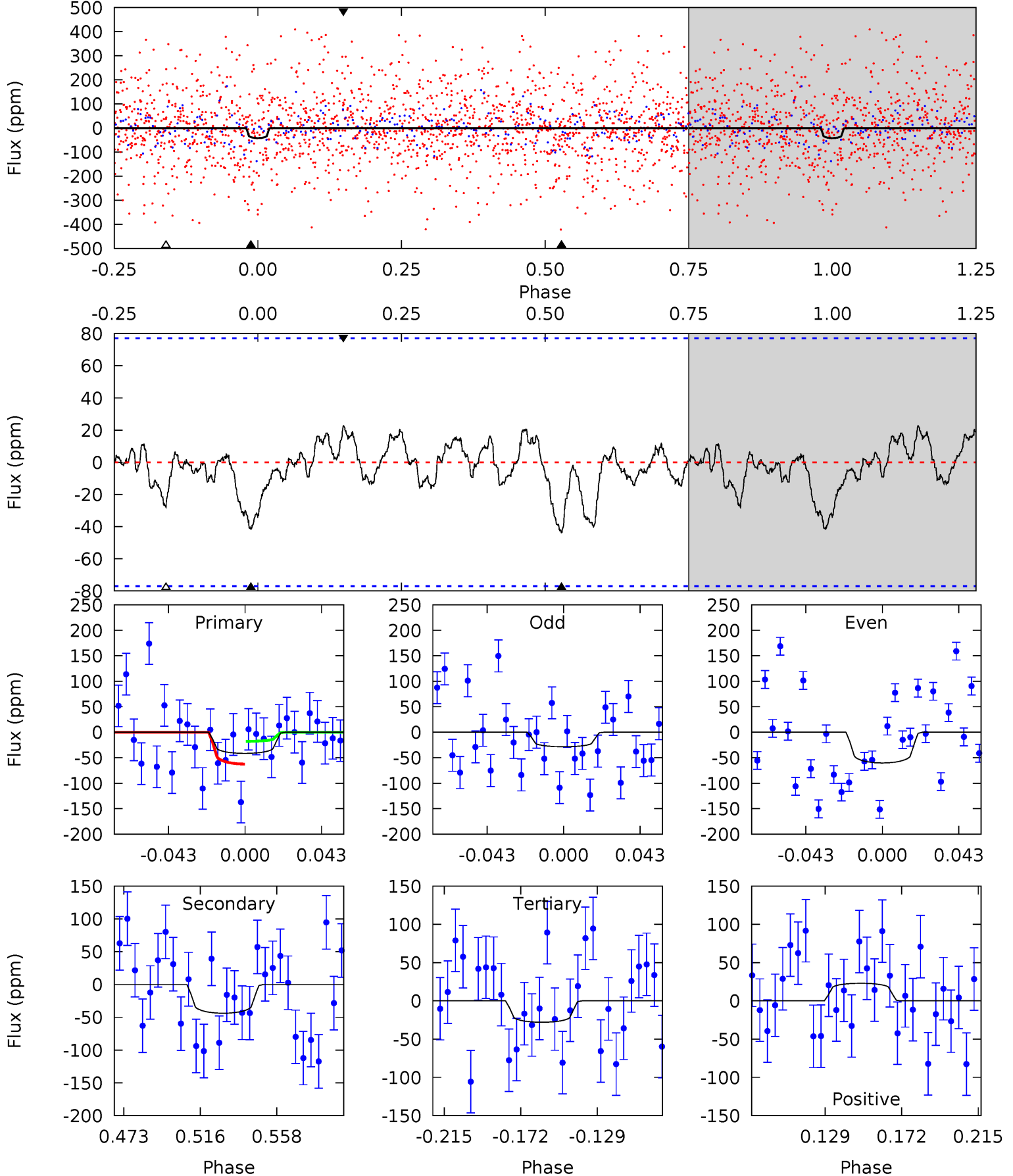


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002993589-04, P = 4.467161 Days, E = 132.213148 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.55	2.69	1.72	1.41	4.74	2.02	0.67	0.83	1.14	0.98	1.28	0.99	0	0.34	1.40



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-44 ± 16	$2.18^{+1.76}_{-1.46}$	2241^{+172}_{-137}	5099^{+3873}_{-1128}	17^{+137}_{-12}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

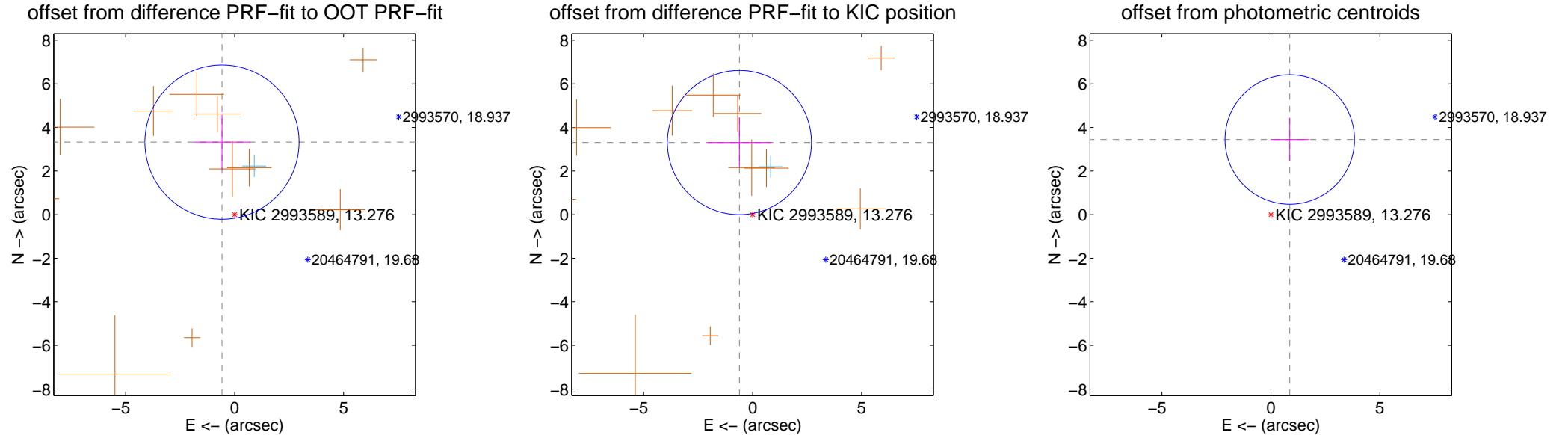
DV Centroid Data

Supplemental centroid analysis for 002993589-04. Kepler magnitude: 13.28. Transit SNR 7.71

There are 1 quarters with good PRF difference image offsets

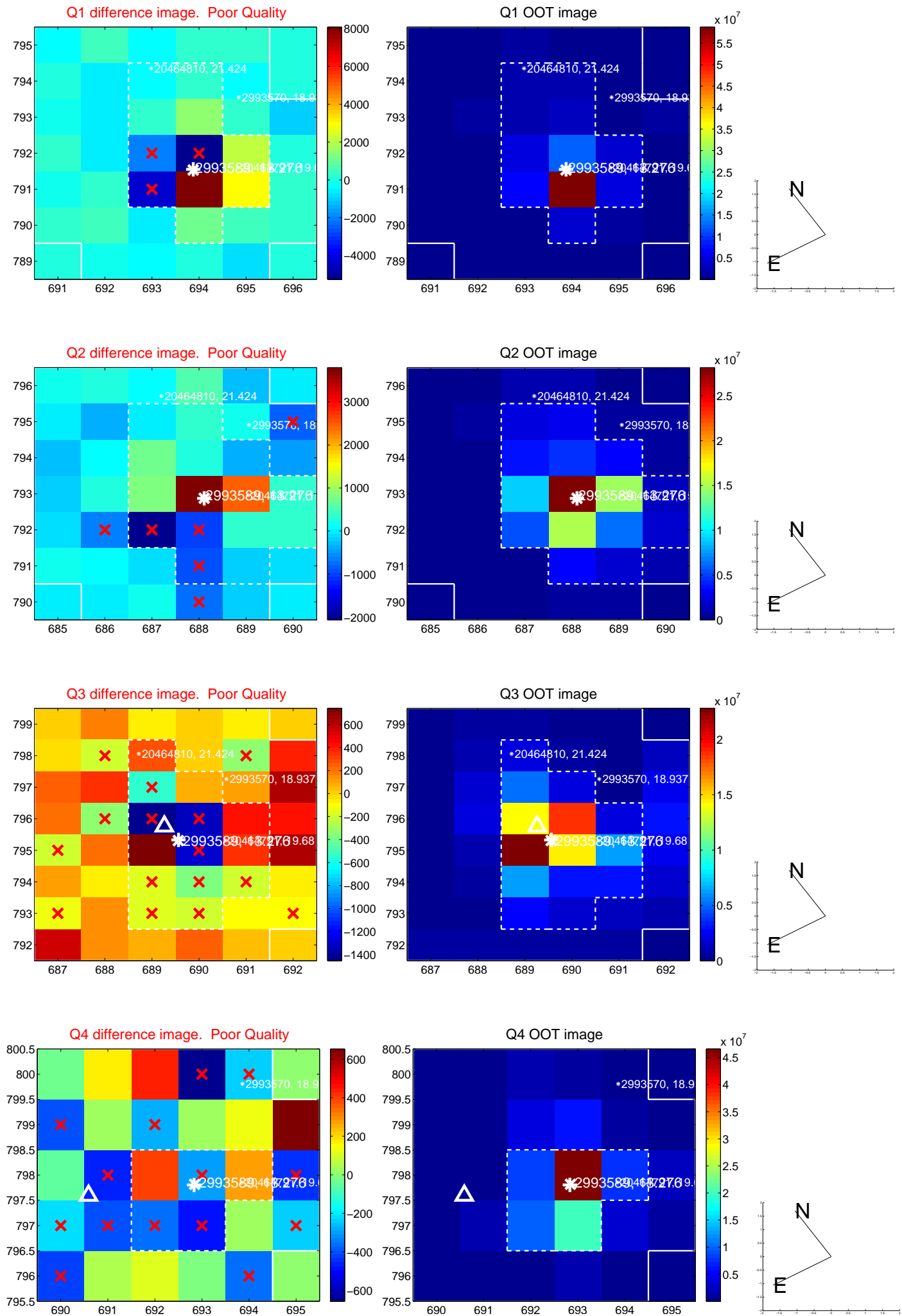
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.377 ± 1.179	2.86	0.580 ± 1.301	3.327 ± 1.252
PRF-fit source offset from KIC position	3.362 ± 1.102	3.05	0.606 ± 1.448	3.307 ± 1.157
photometric centroid source offset	3.55 ± 0.99	3.59	-0.87 ± 0.88	3.45 ± 1.00

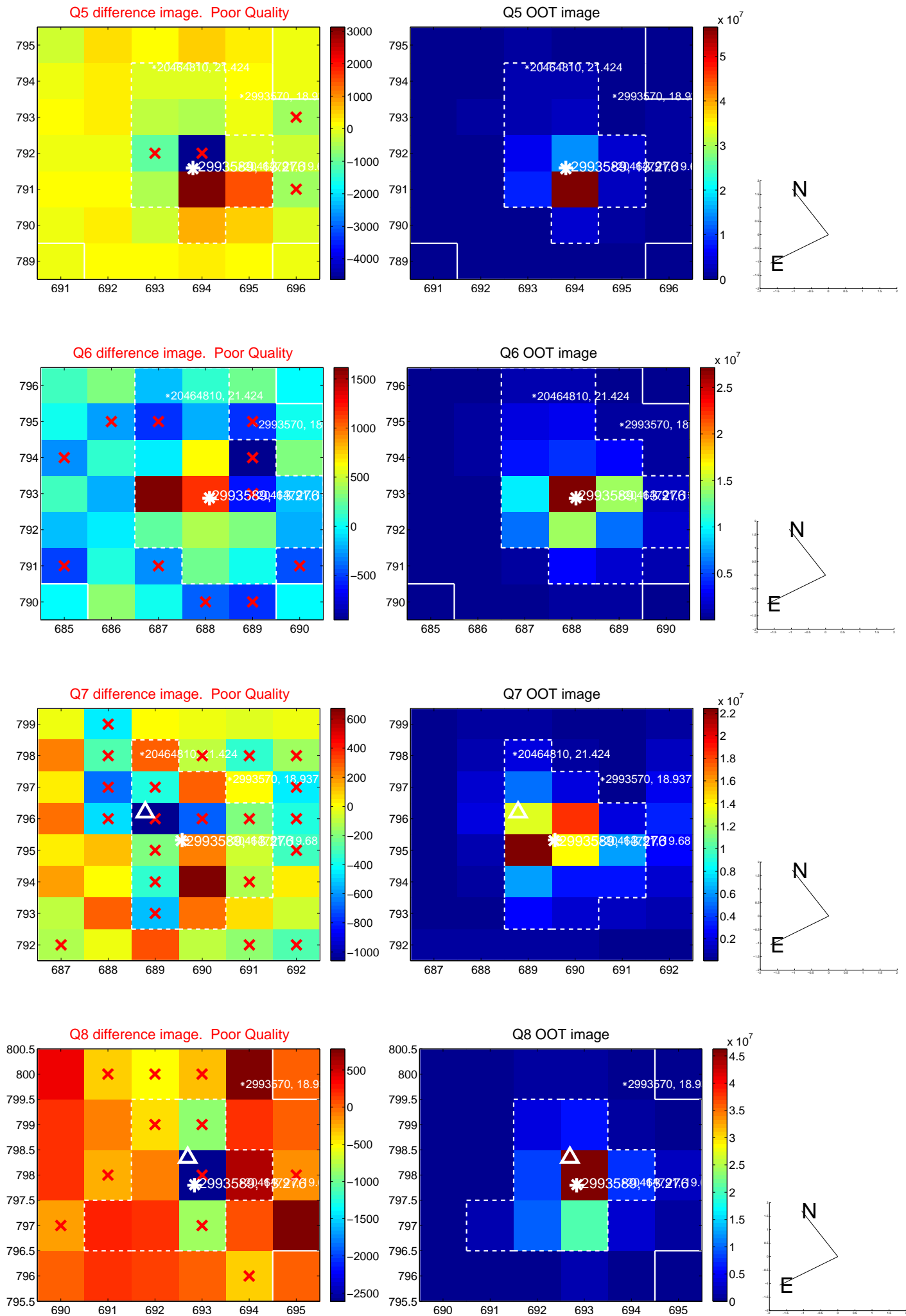


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

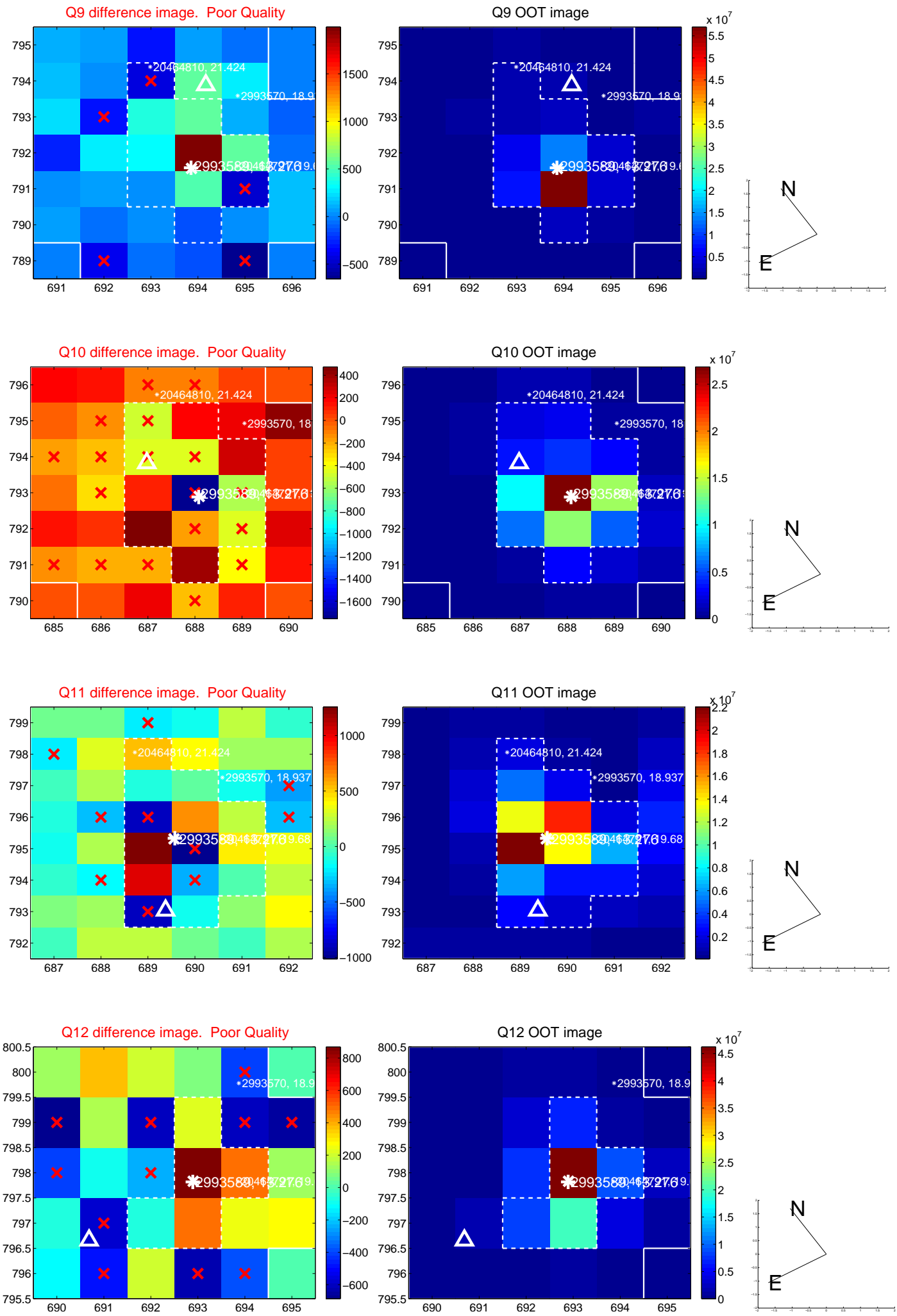
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



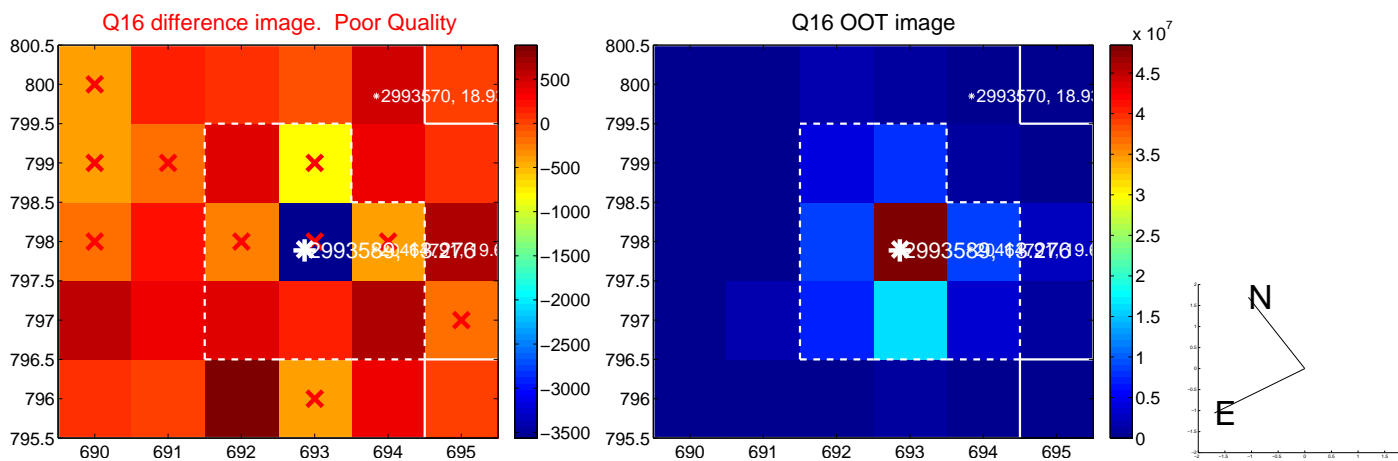
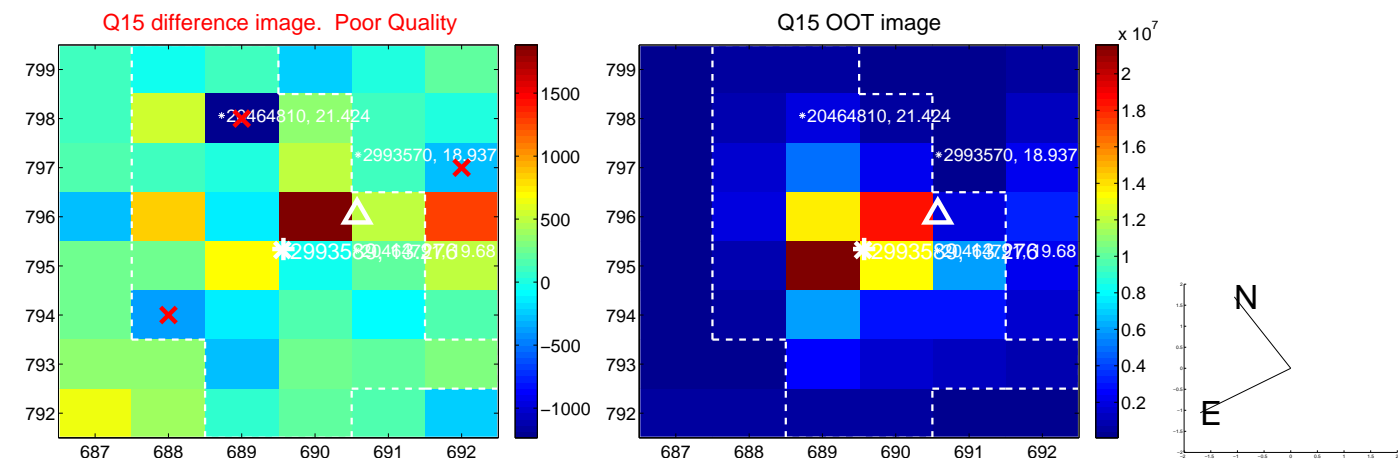
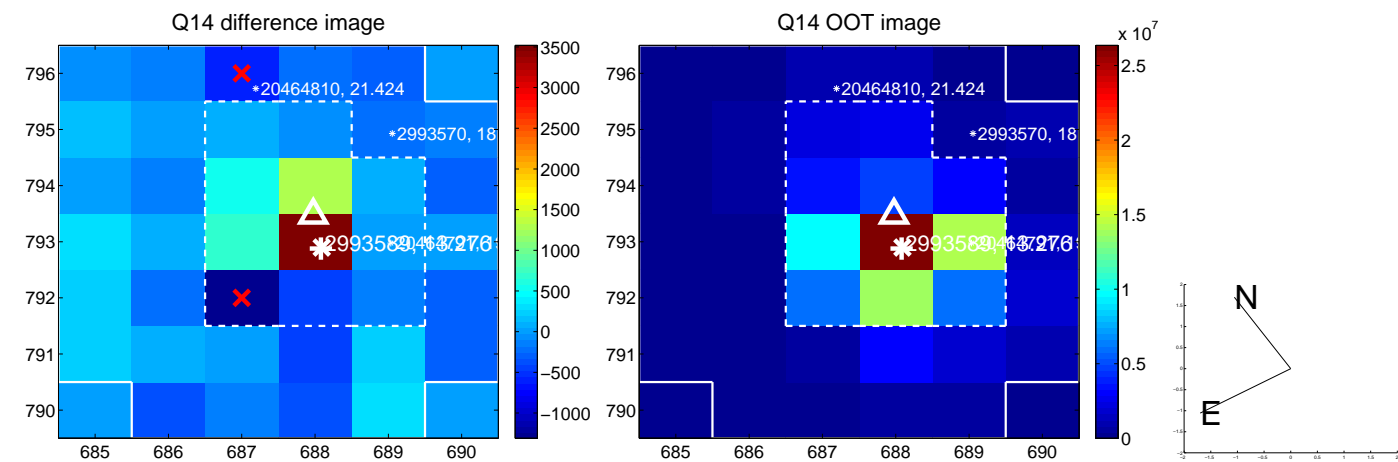
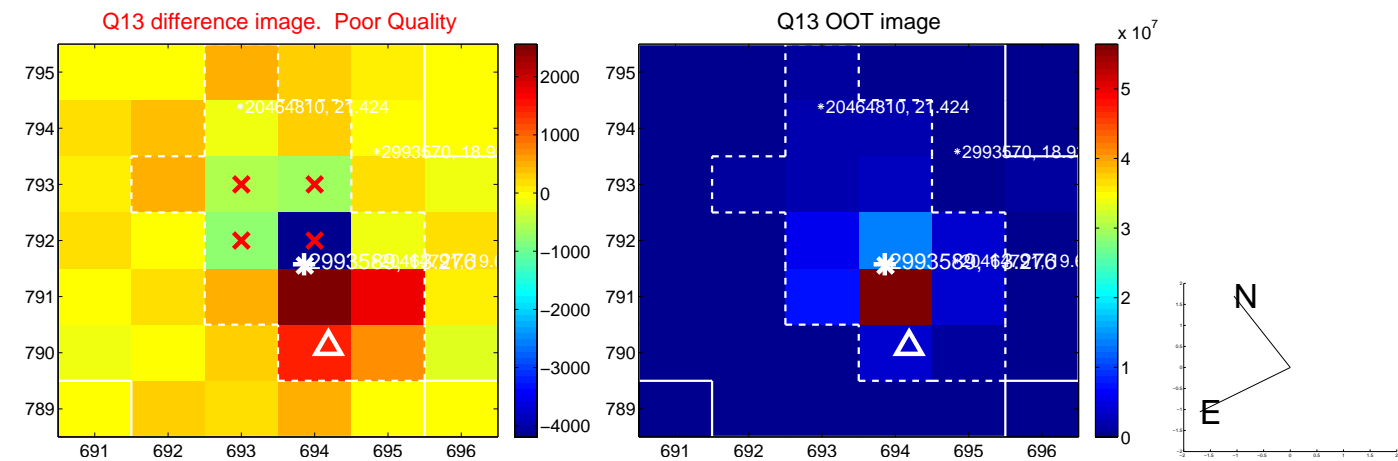
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



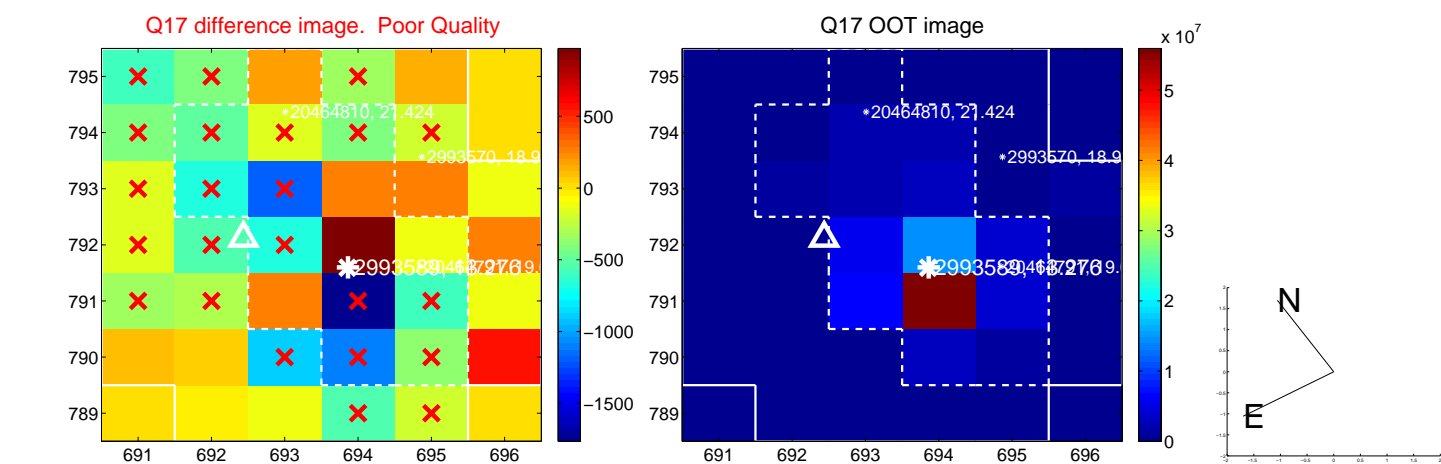
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



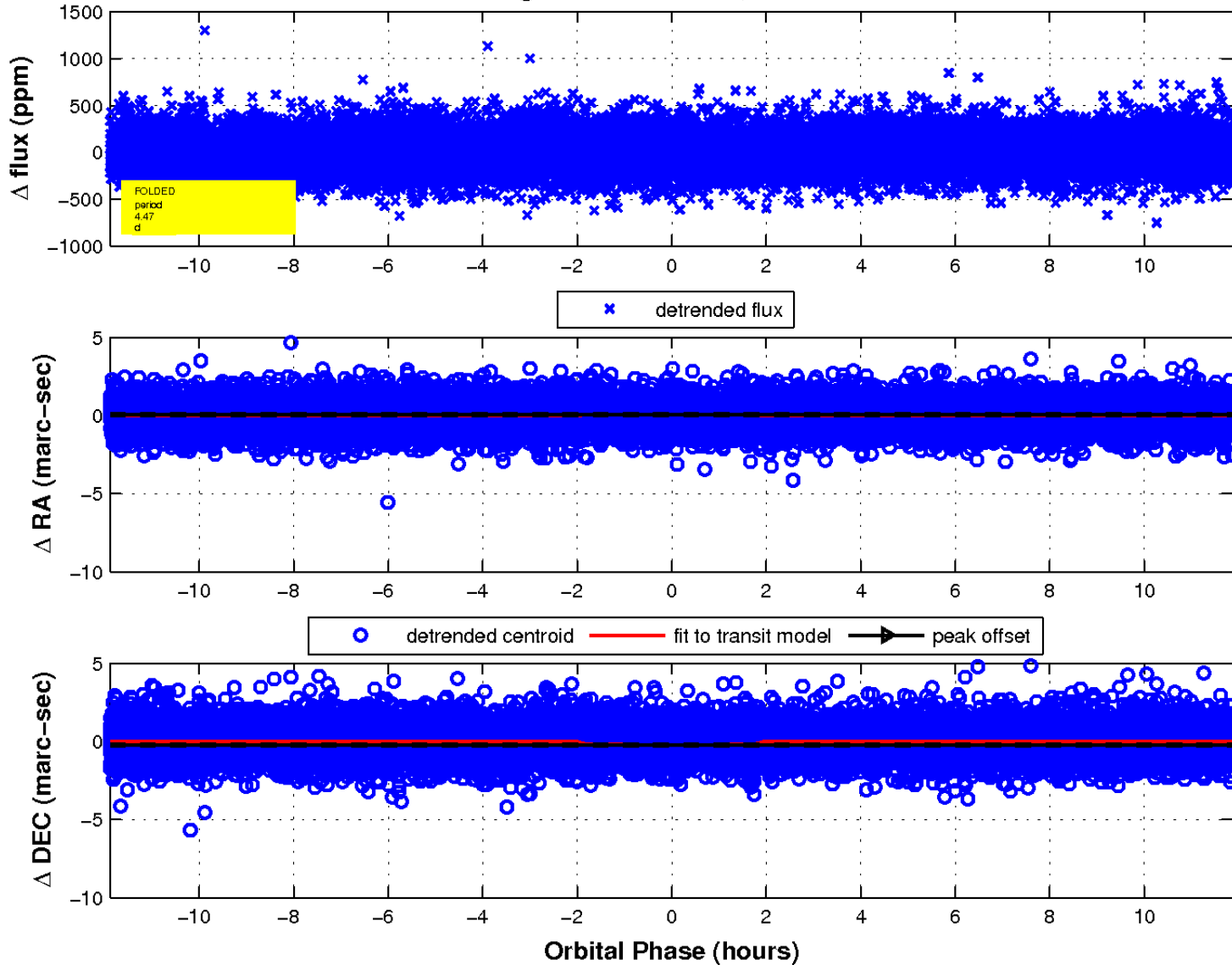
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

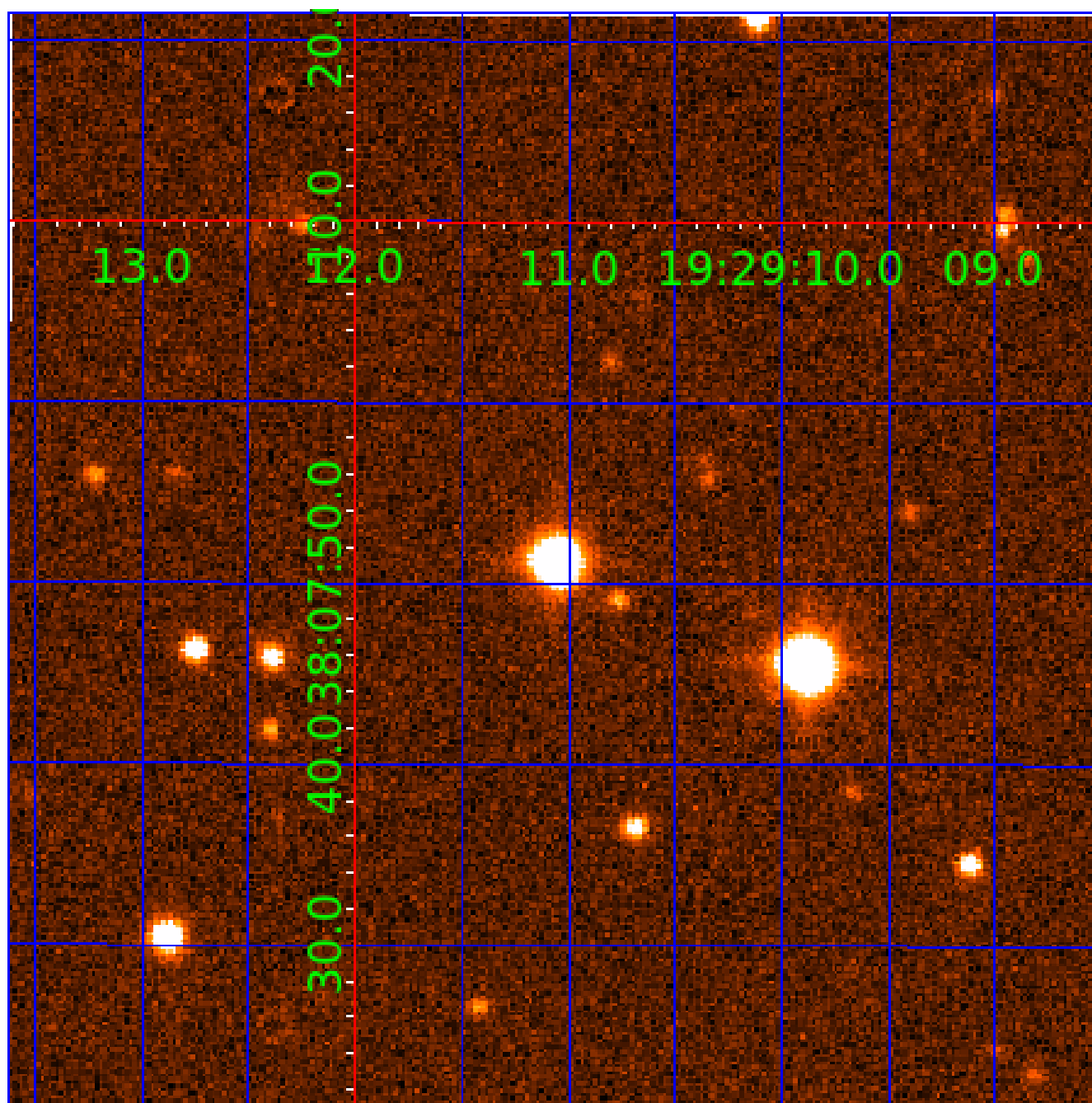


fluxWeightedCentroids, Planet 4 of 6



UKIRT Image

Declination



KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
002993589-04	OBS	No	4.467161	132.213148	61.5	3.963	9.6	7.7	1.51	7159	1.32	1486.78
002993589-05	OBS	No	6.559133	131.682869	646.7	1.500	13.2	-1.0	1.51	7159	3.90	890.89
002993589-06	OBS	No	9.832894	139.929270	346.2	0.635	10.9	13.4	1.51	7159	2.93	519.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

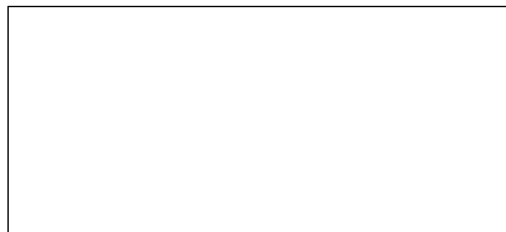
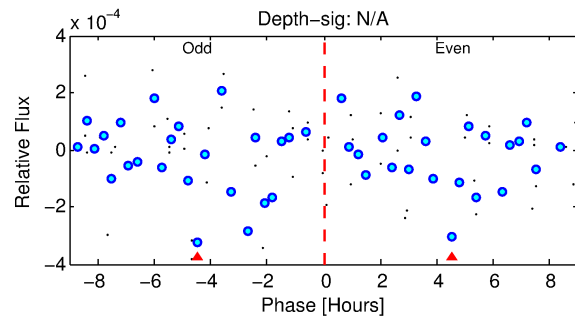
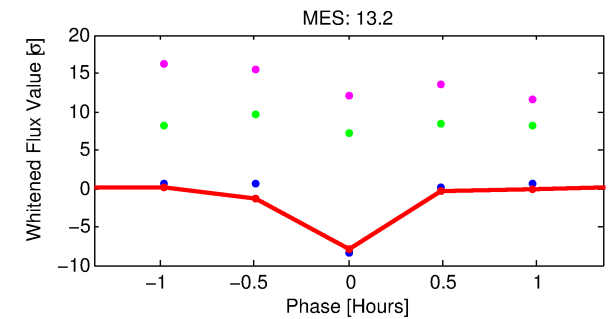
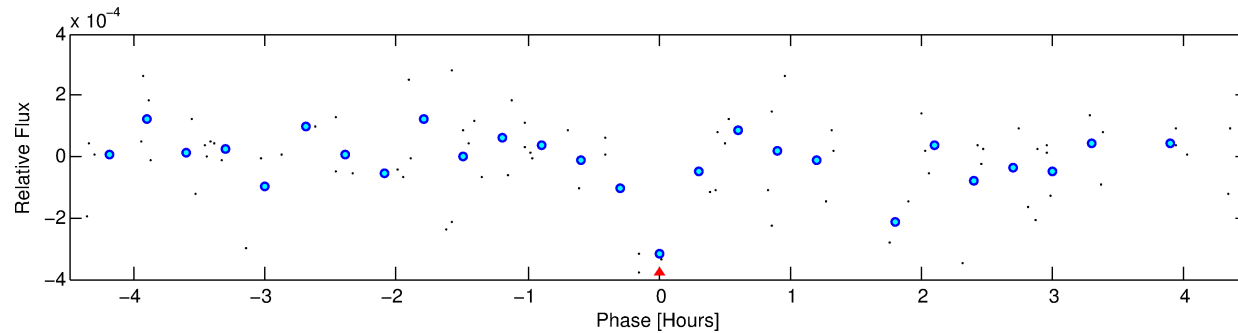
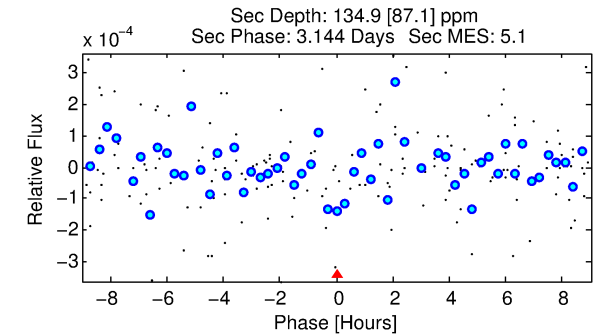
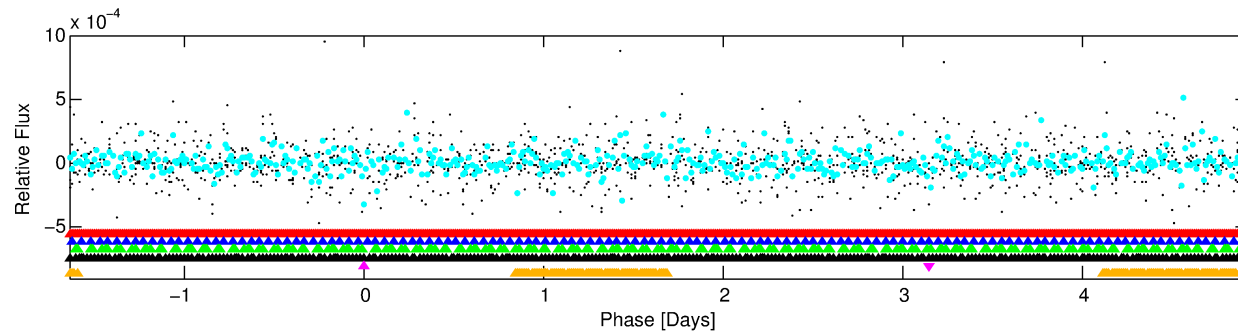
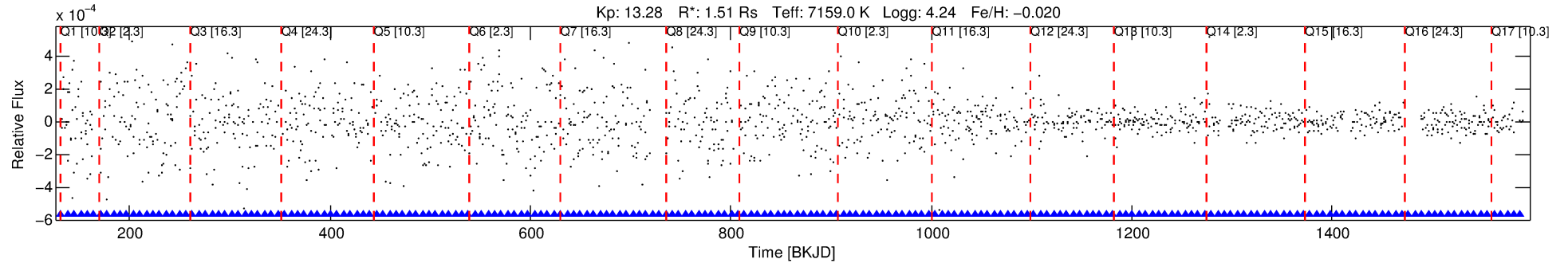
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-05

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 5 of 6 Period: 6.559 d



TPS TCE Results:

Period = 6.55913 d
Epoch = 131.6829 BKJD

DV fit results are unavailable

DV Diagnostic Results:

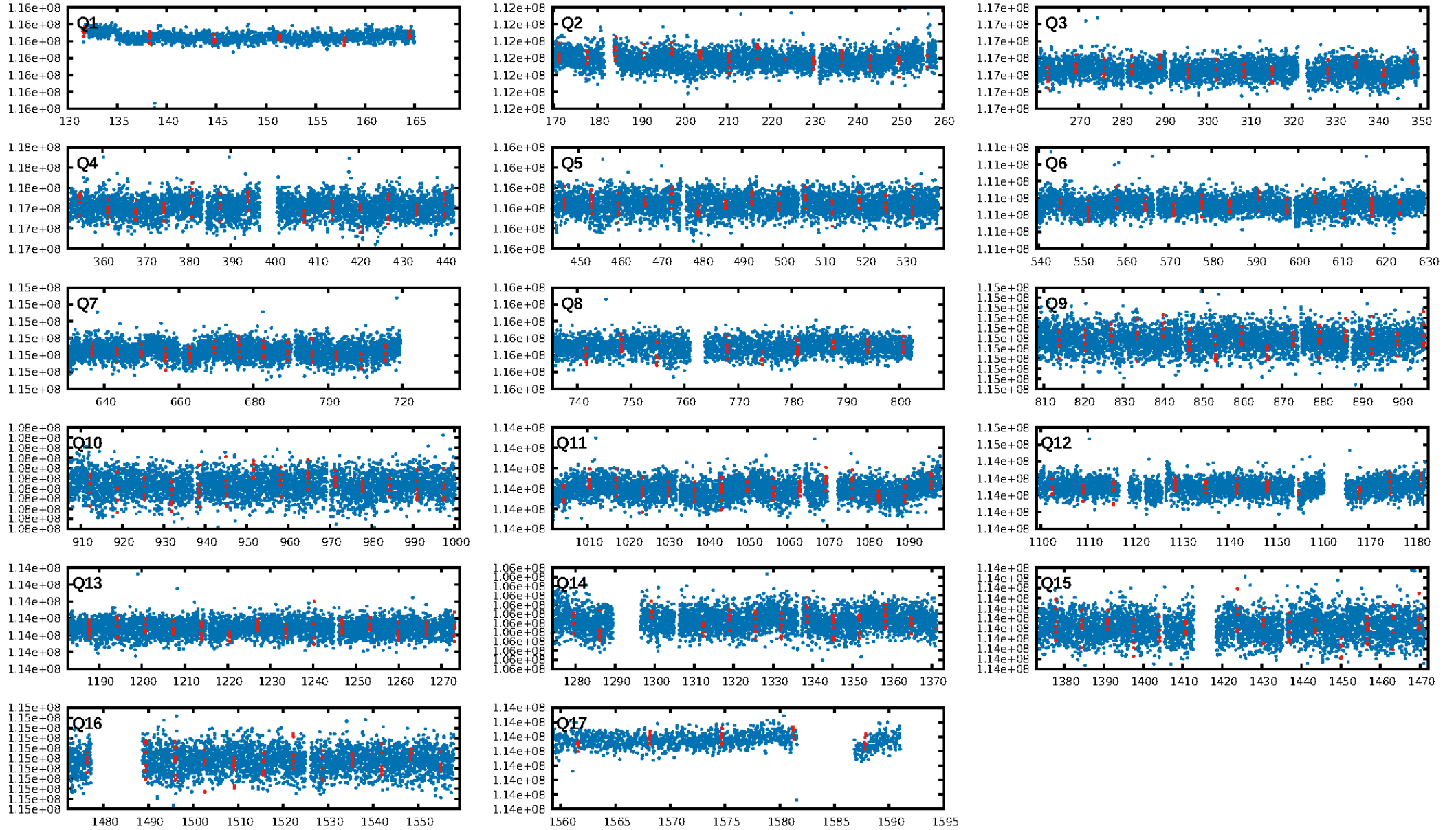
ShortPeriod-sig: 100.0% [11.85σ]
LongPeriod-sig: 100.0% [11.79σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 7.35e-11
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-rm: N/A
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

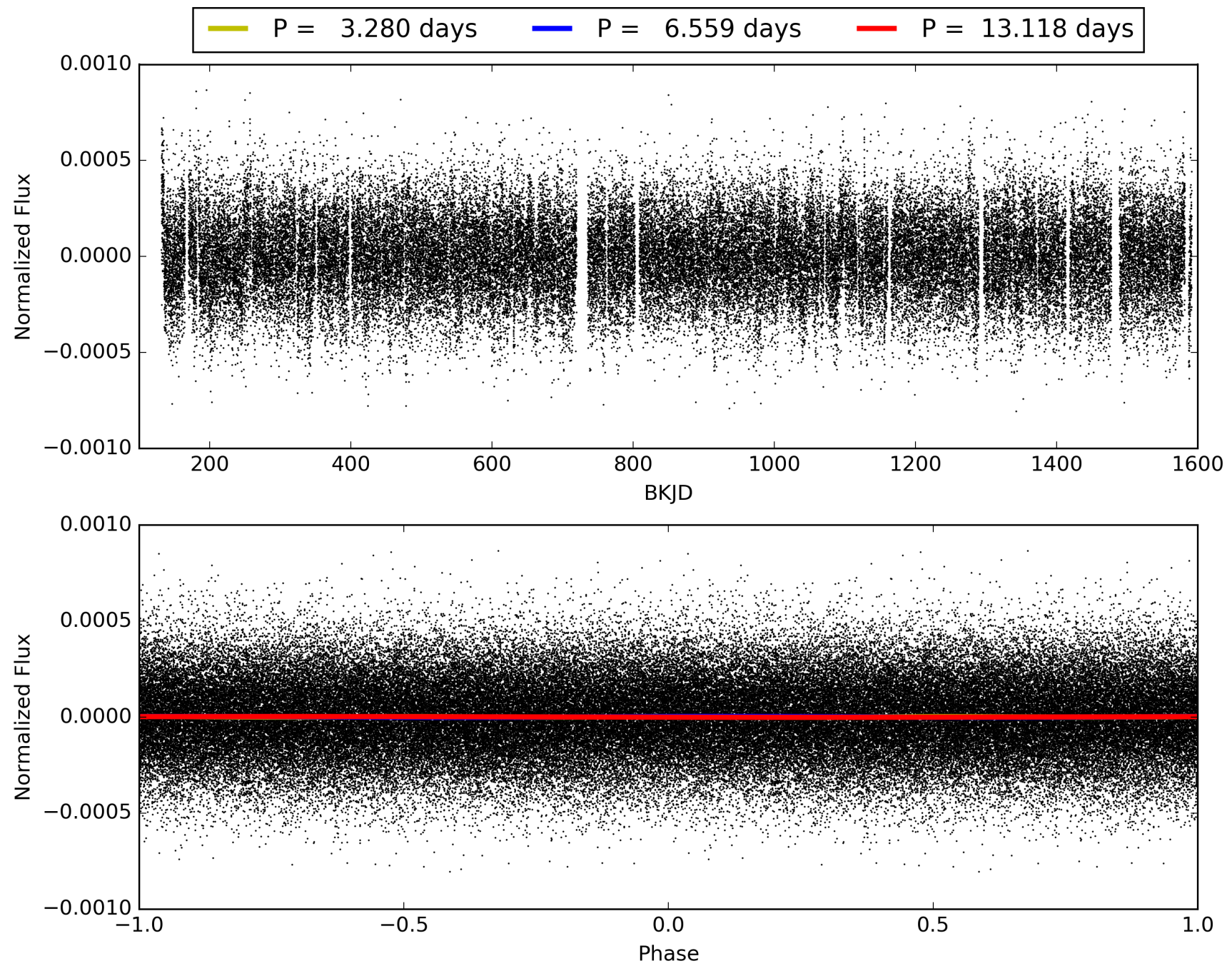
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:49:03 Z

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

TCE 002993589-05, PDC Light Curves

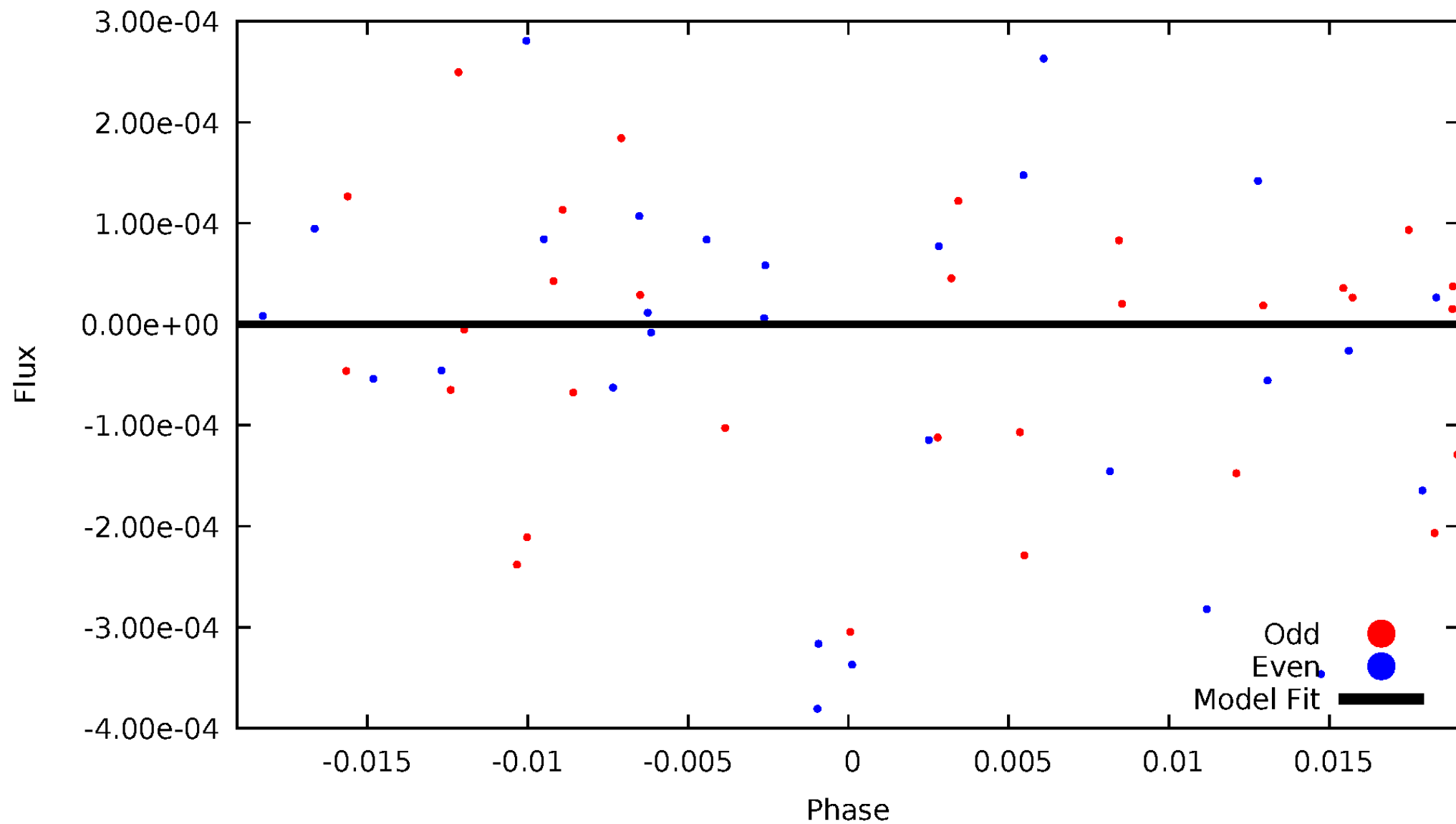


TCE 002993589-05



DV Odd/Even

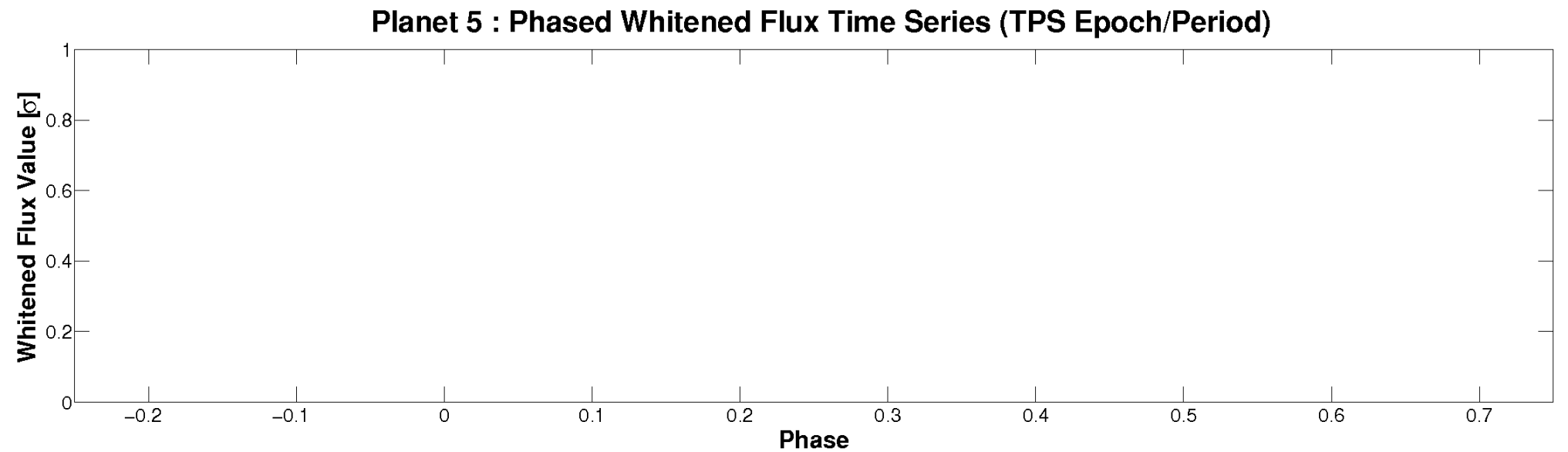
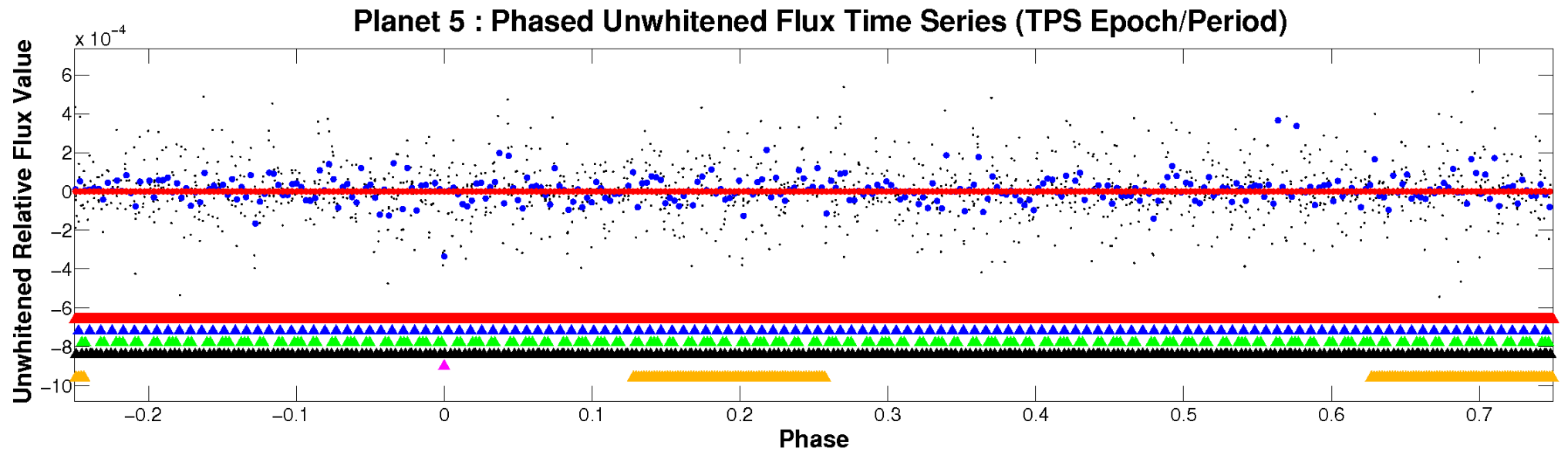
TCE 002993589-05



ALT Odd/Even

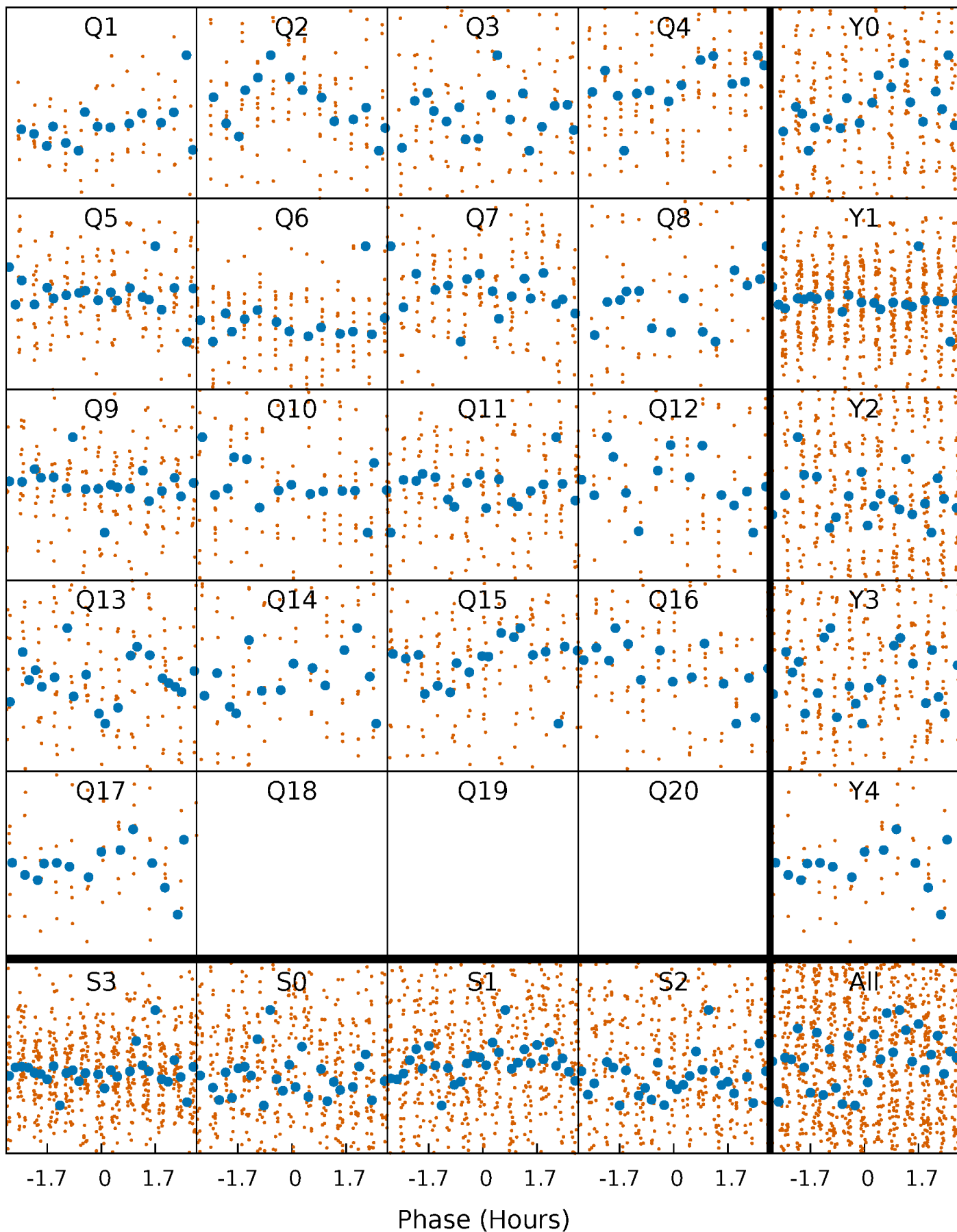
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



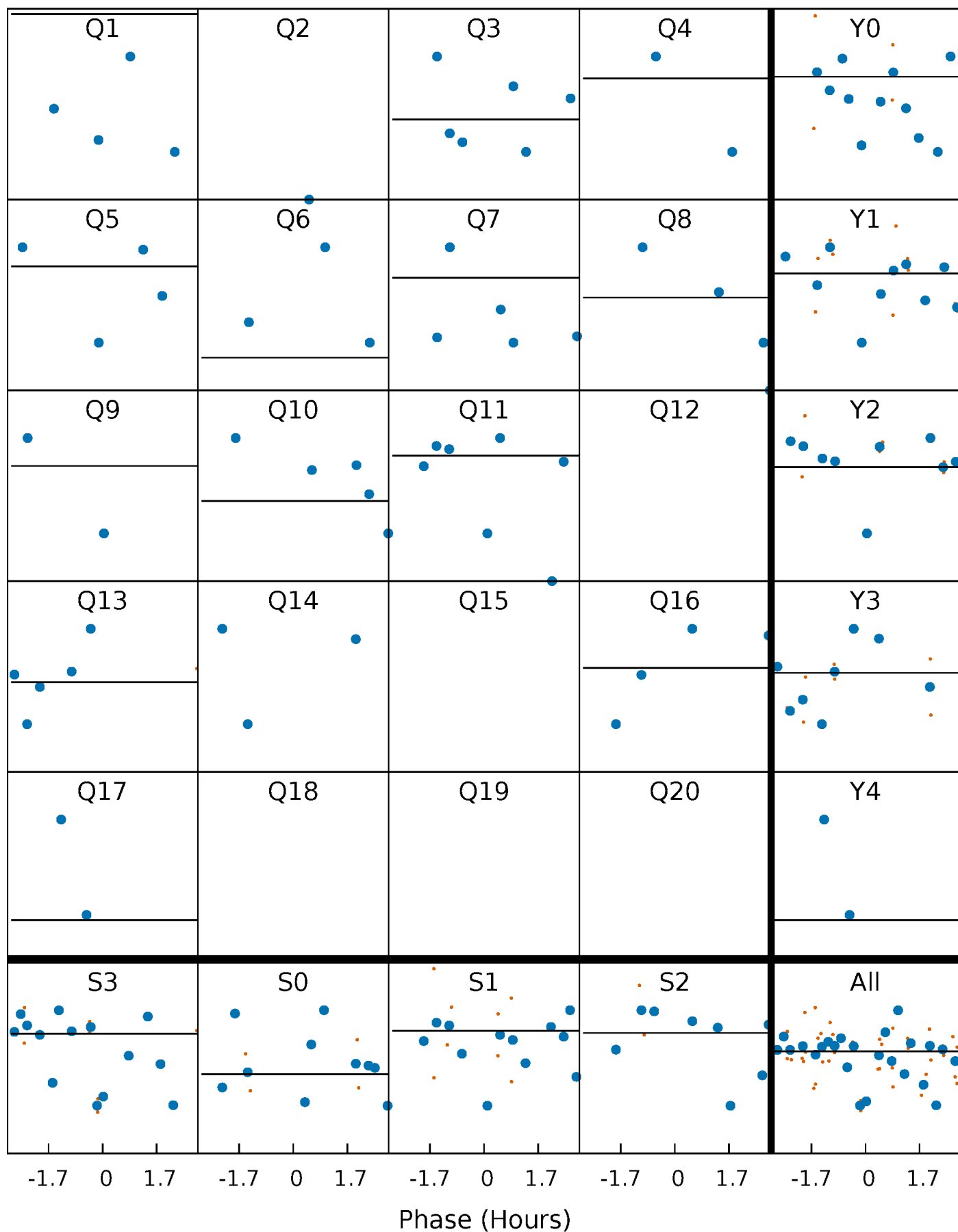
PDC Quarter-Phased Transit Curves

TCE 002993589-05 P= 6.559133 Days $T_0=131.682869$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002993589-05 P= 6.559133 Days $T_0=131.682869$ (BKJD)

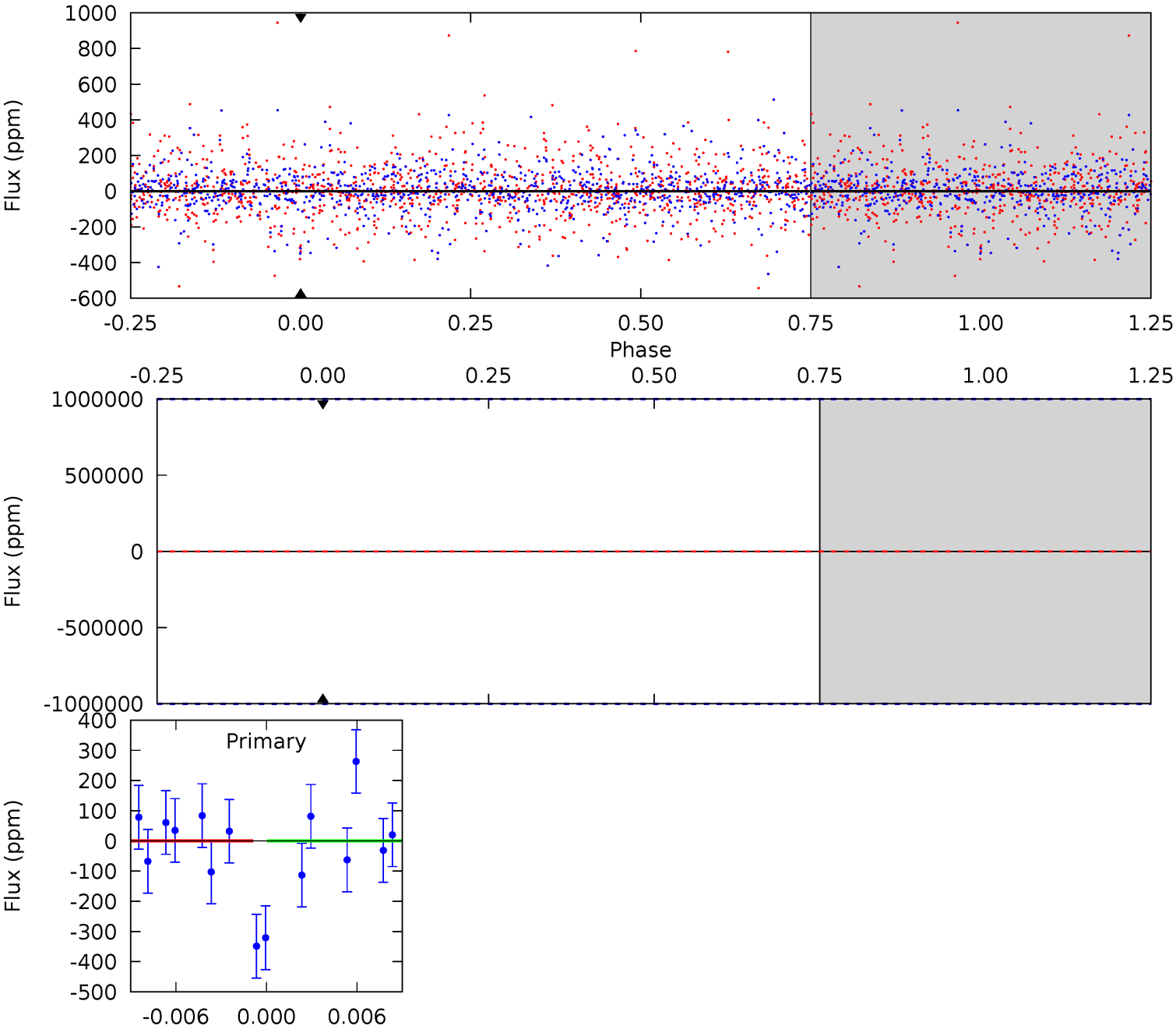


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002993589-05, P = 6.559133 Days, E = 131.682869 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$12.96^{+14.51}_{-8.88}$	1974^{+158}_{-125}	-5573^{+37432}_{-24463}	$-44.030^{+3346.753}_{-2926.762}$
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

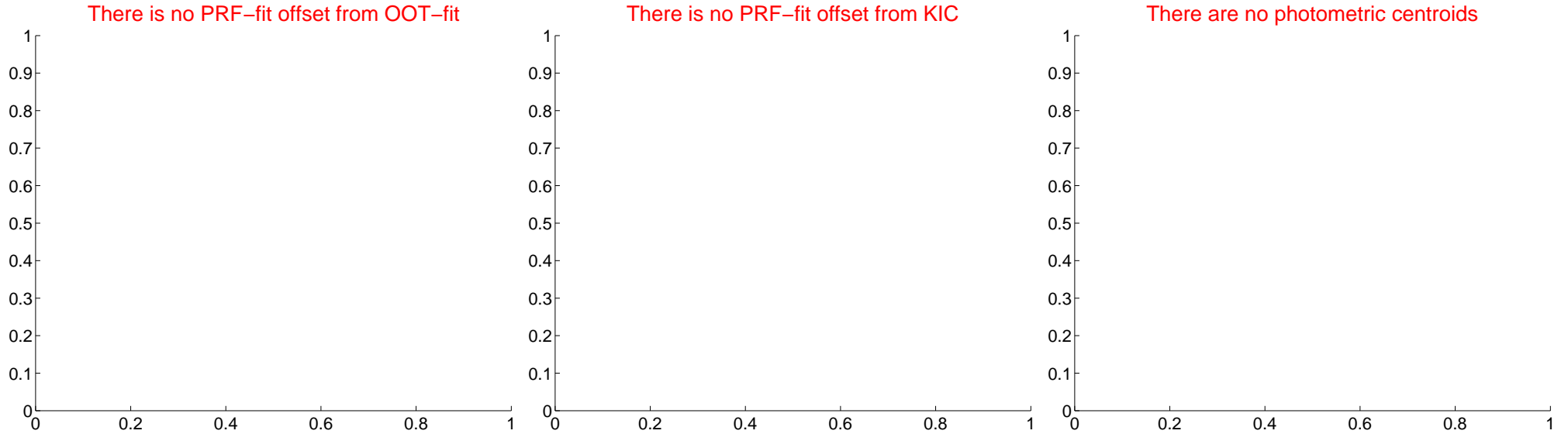
DV Centroid Data

Supplemental centroid analysis for 002993589-05. Kepler magnitude: 13.28. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

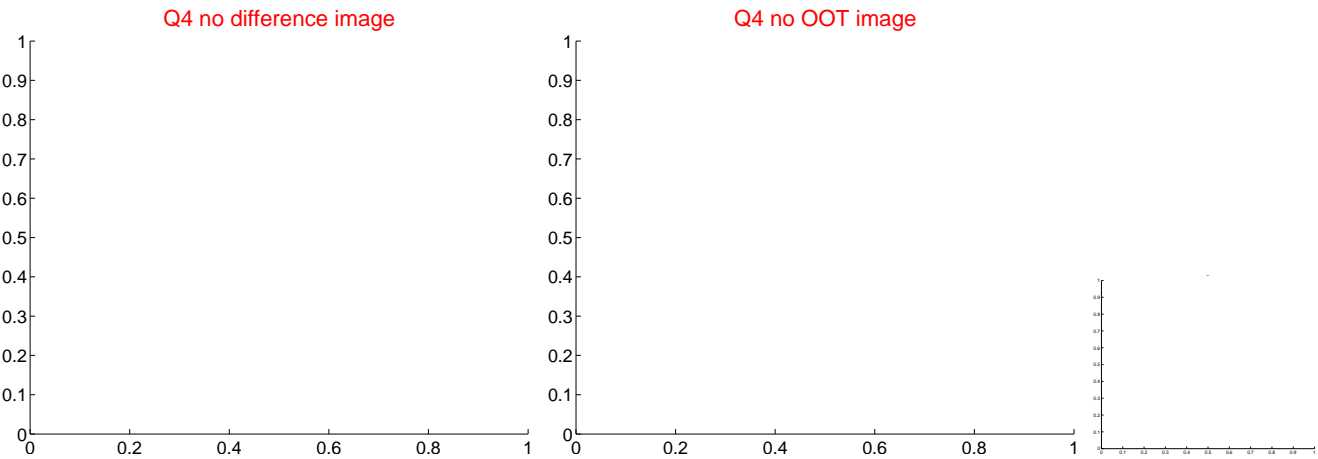
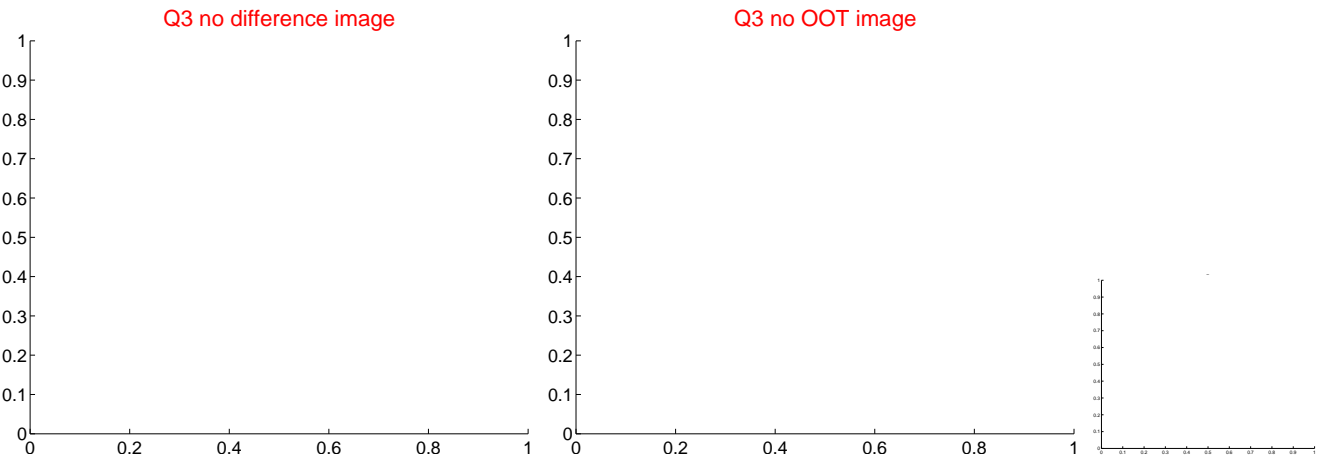
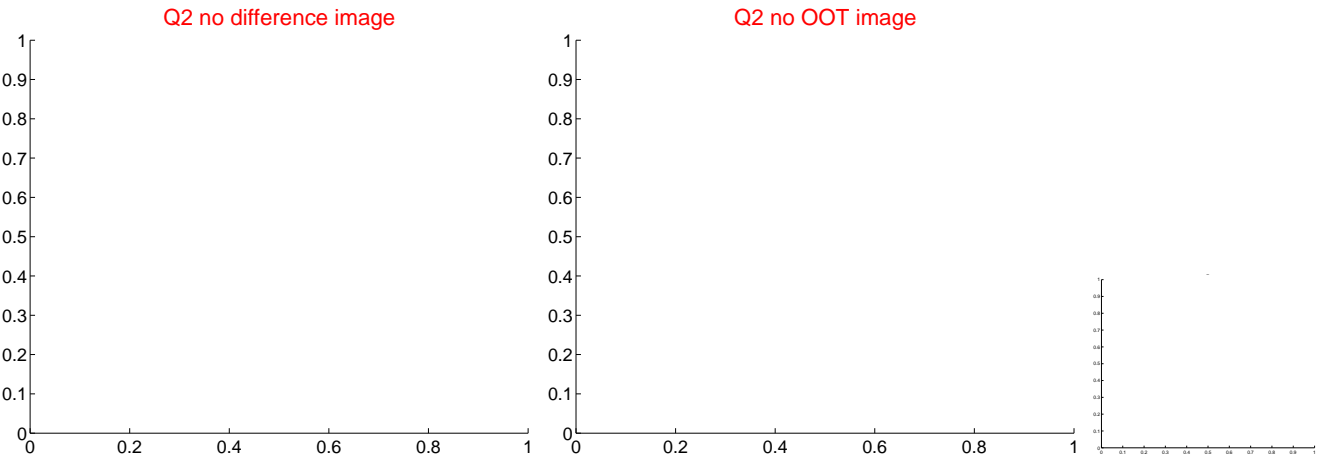
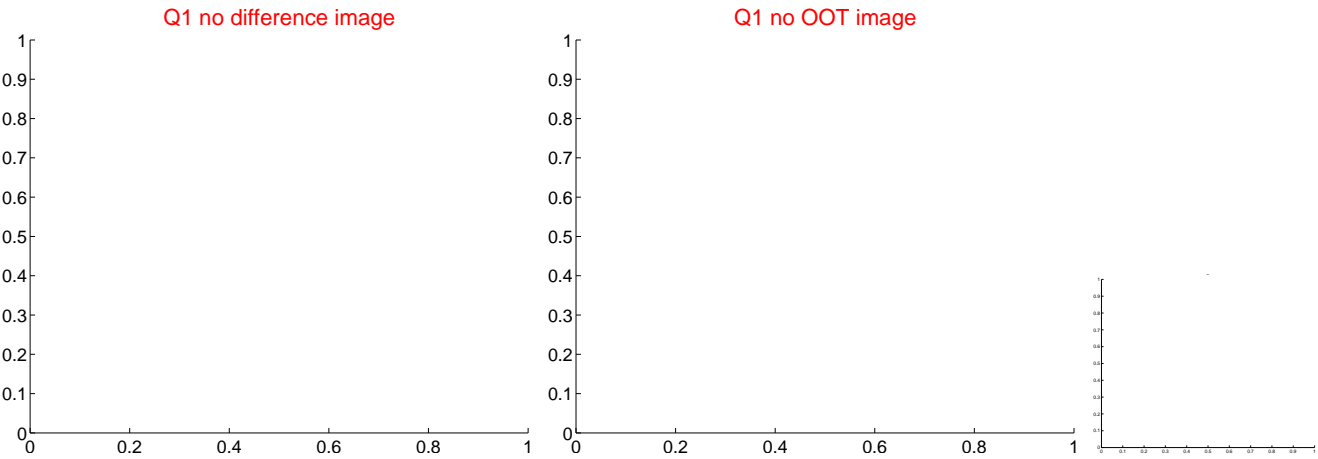
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	—	—	—	—



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.

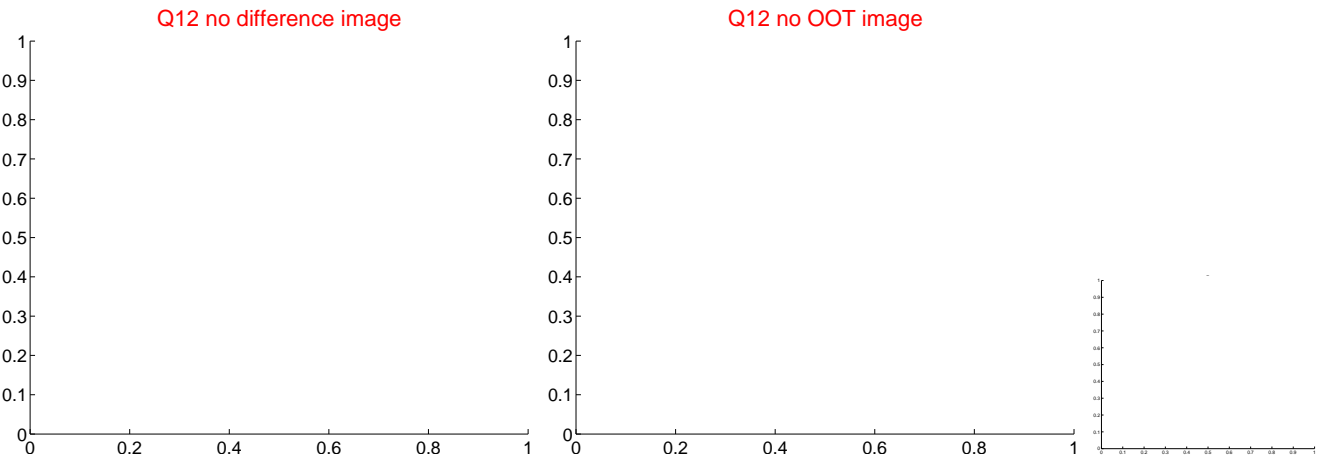
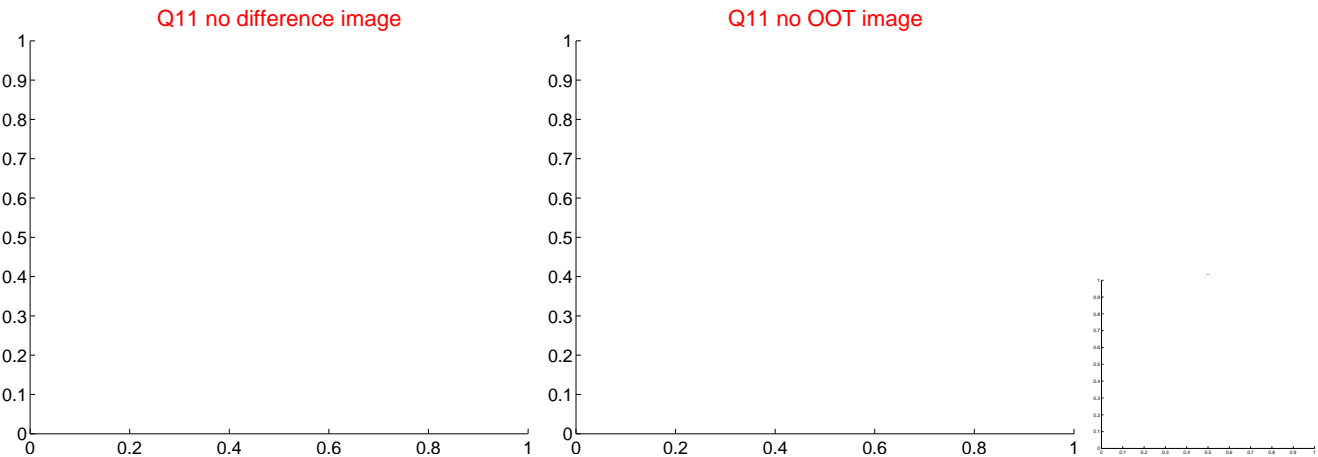
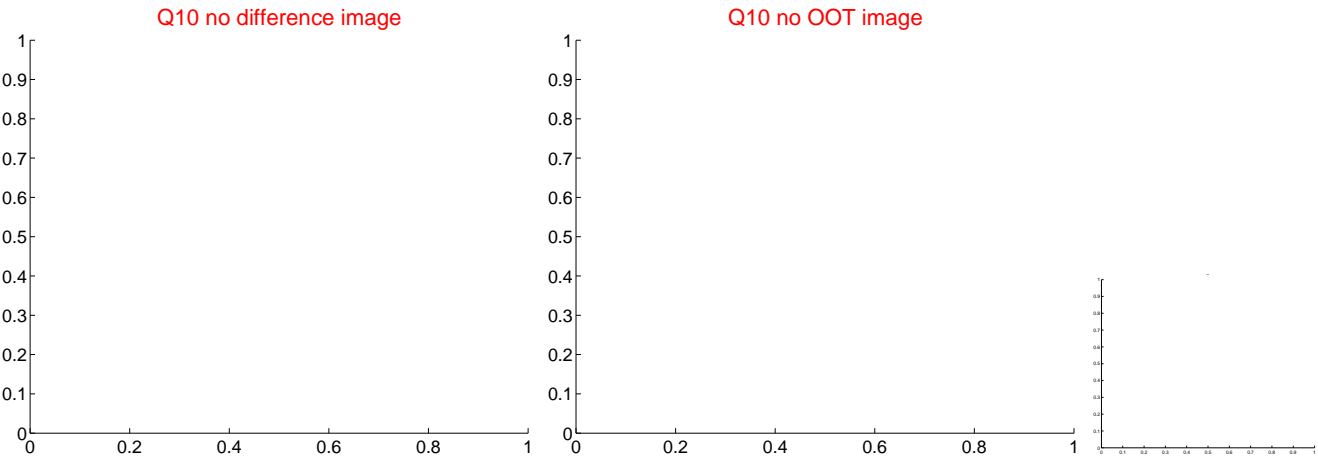
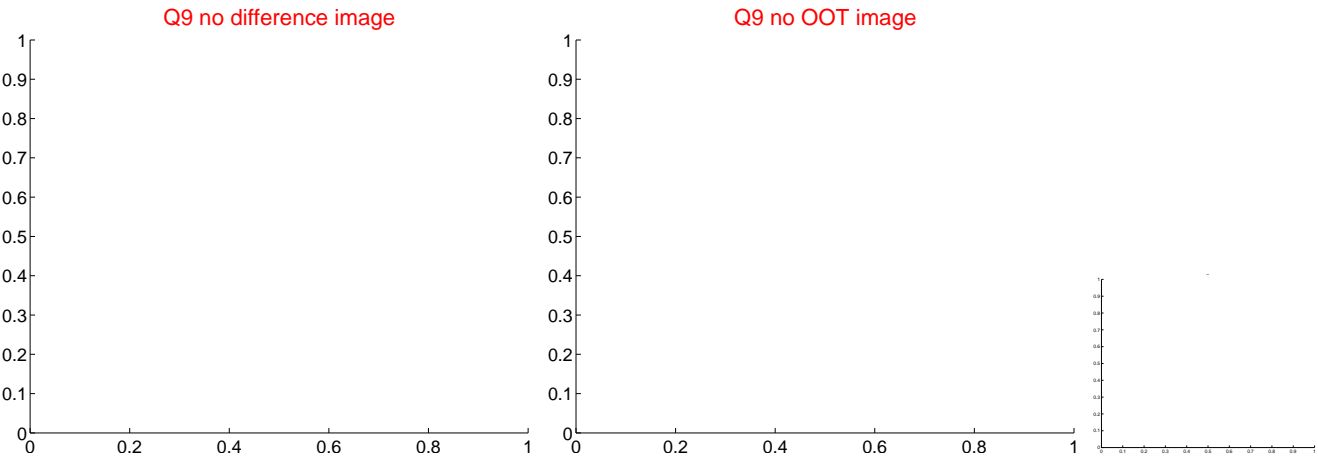
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



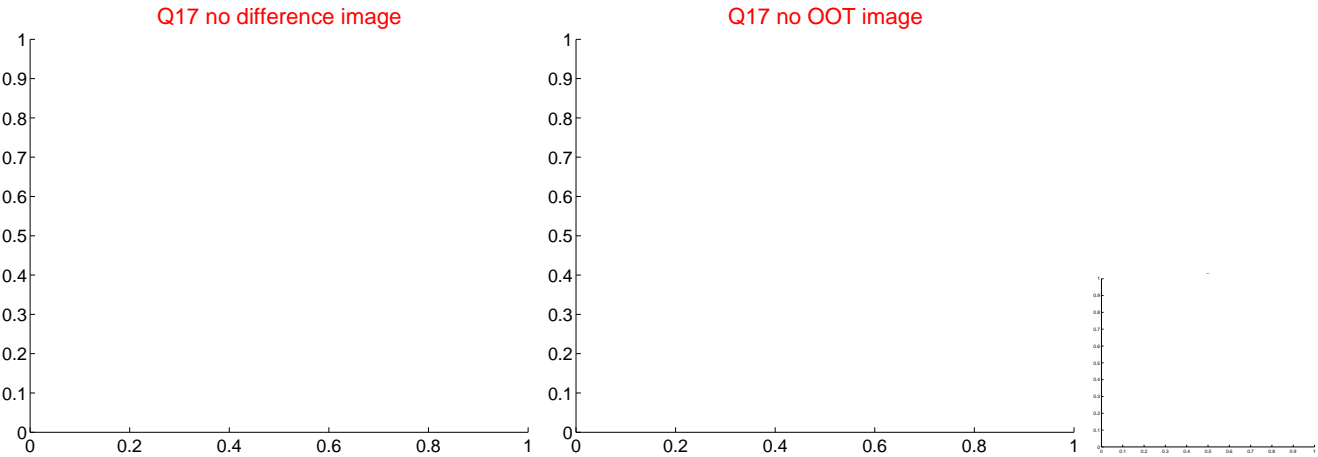
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



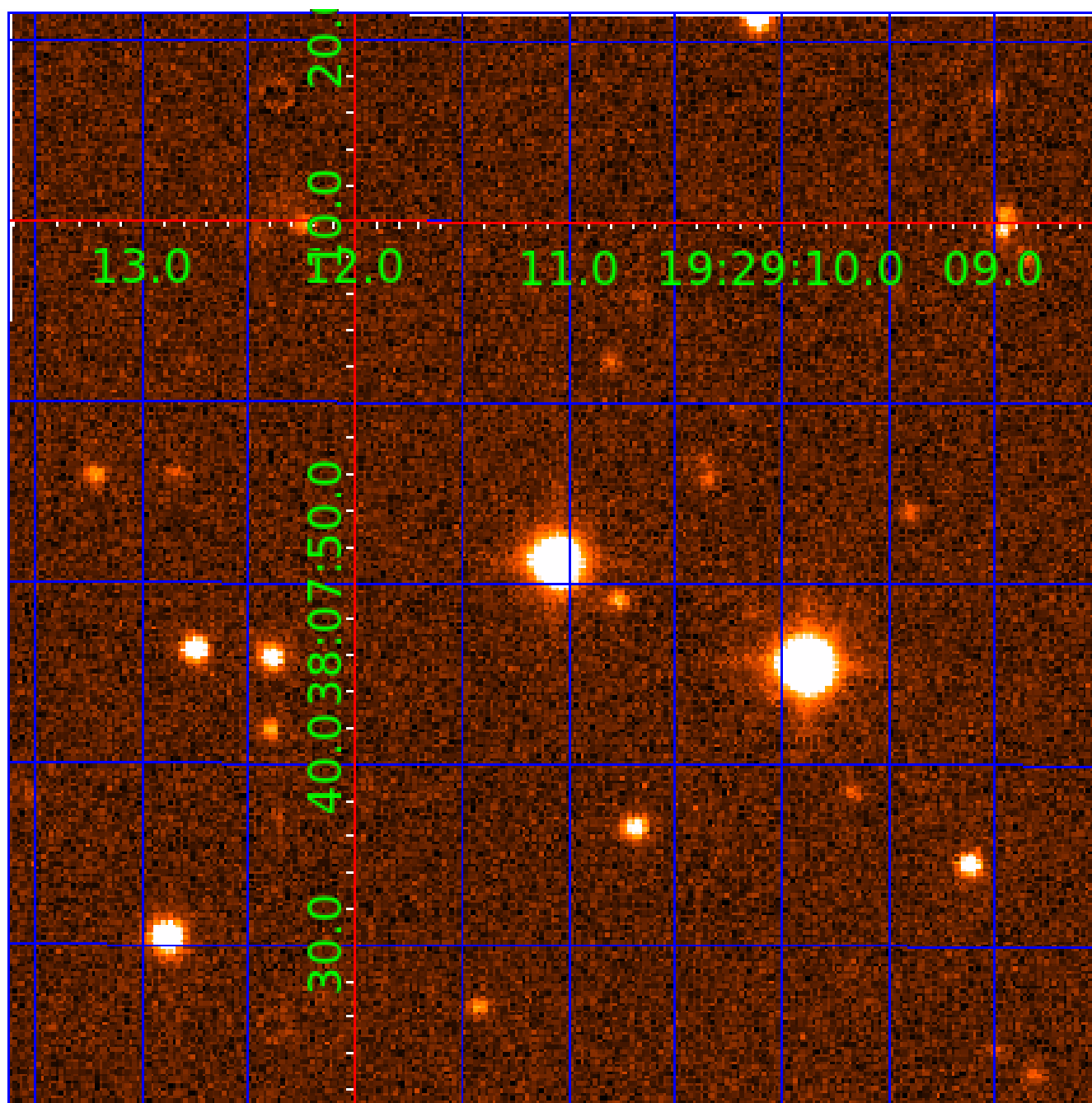
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 002993589

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})
002993589-01	OBS	No	0.508640	131.818006	7.1	3.786	8.8	4.0	1.51	7159	0.42	26940.62
002993589-02	OBS	No	9.192722	132.793900	342.7	0.535	8.7	12.1	1.51	7159	2.93	568.02
002993589-03	OBS	No	7.349570	134.096650	333.9	0.583	10.1	14.5	1.51	7159	2.94	765.49
002993589-04	OBS	No	4.467161	132.213148	61.5	3.963	9.6	7.7	1.51	7159	1.32	1486.78
002993589-05	OBS	No	6.559133	131.682869	646.7	1.500	13.2	-1.0	1.51	7159	3.90	890.89
002993589-06	OBS	No	9.832894	139.929270	346.2	0.635	10.9	13.4	1.51	7159	2.93	519.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002993589-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
002993589-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS—HALO_GHOST
002993589-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
002993589-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
002993589-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

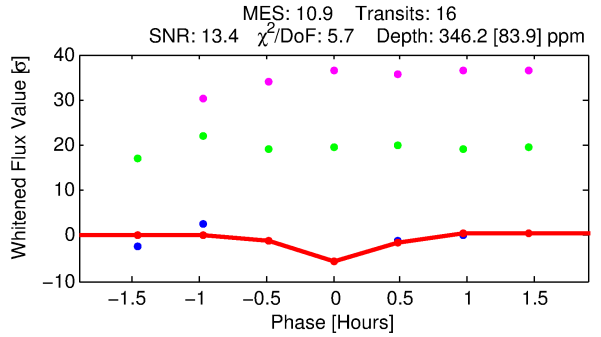
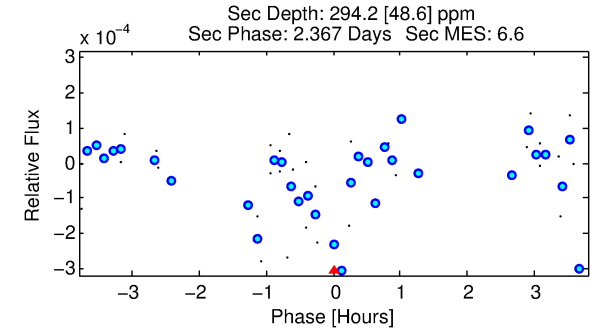
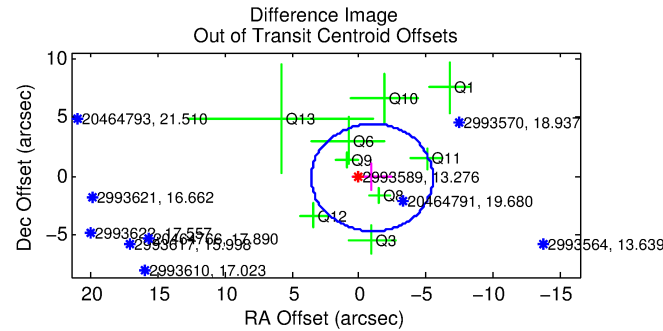
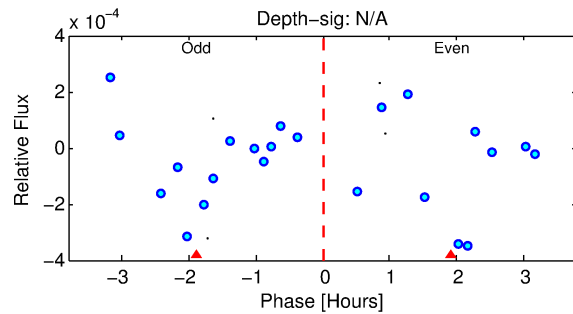
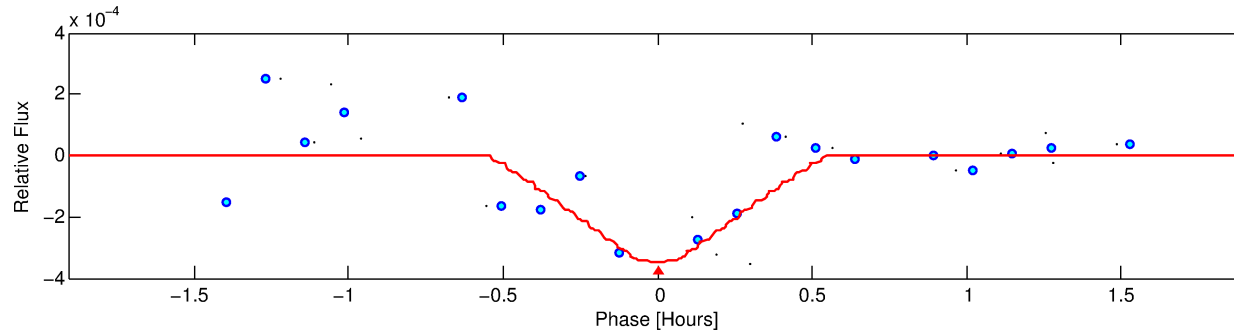
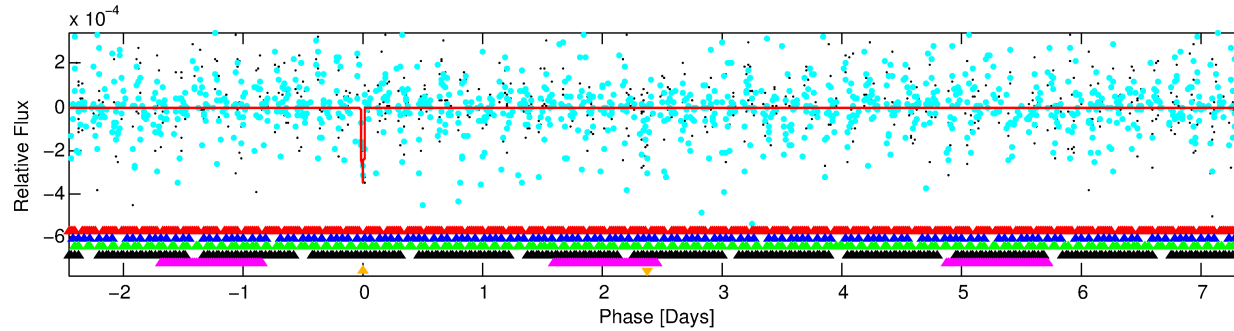
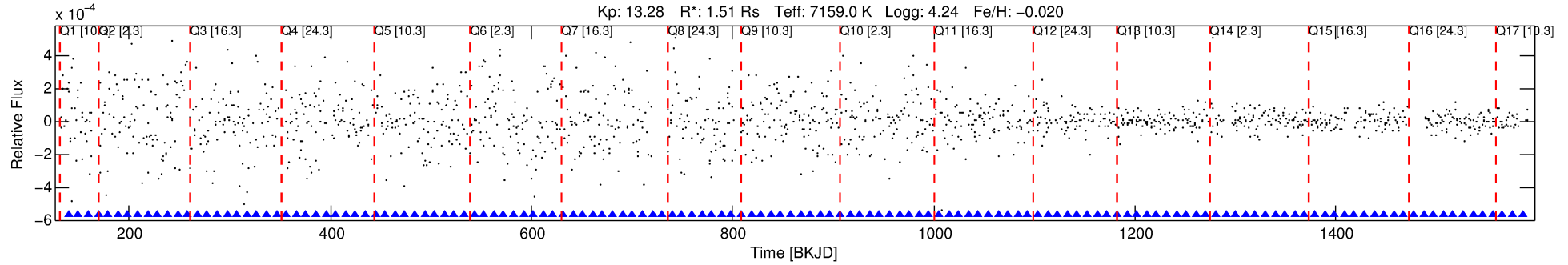
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002993589-06

No Significant Match Found

DV One-Page Summary

KIC: 2993589 Candidate: 6 of 6 Period: 9.833 d



DV Fit Results:

Period = 9.83289 [0.00012] d
Epoch = 139.9293 [0.0087] BKJD
Rp/R* = 0.0178 [0.2133]
a/R* = 115.29 [8077.65]
b = 0.29 [221.92]
Seff = 519.25 [225.53]
Teq = 1217 [132] K
Rp = 2.93 [35.17] Re
a = 0.1017 [0.0292] AU
Ag = 195.31 [4692.42] [0.04σ]
Teffp = 7035 [42253] K [0.14σ]

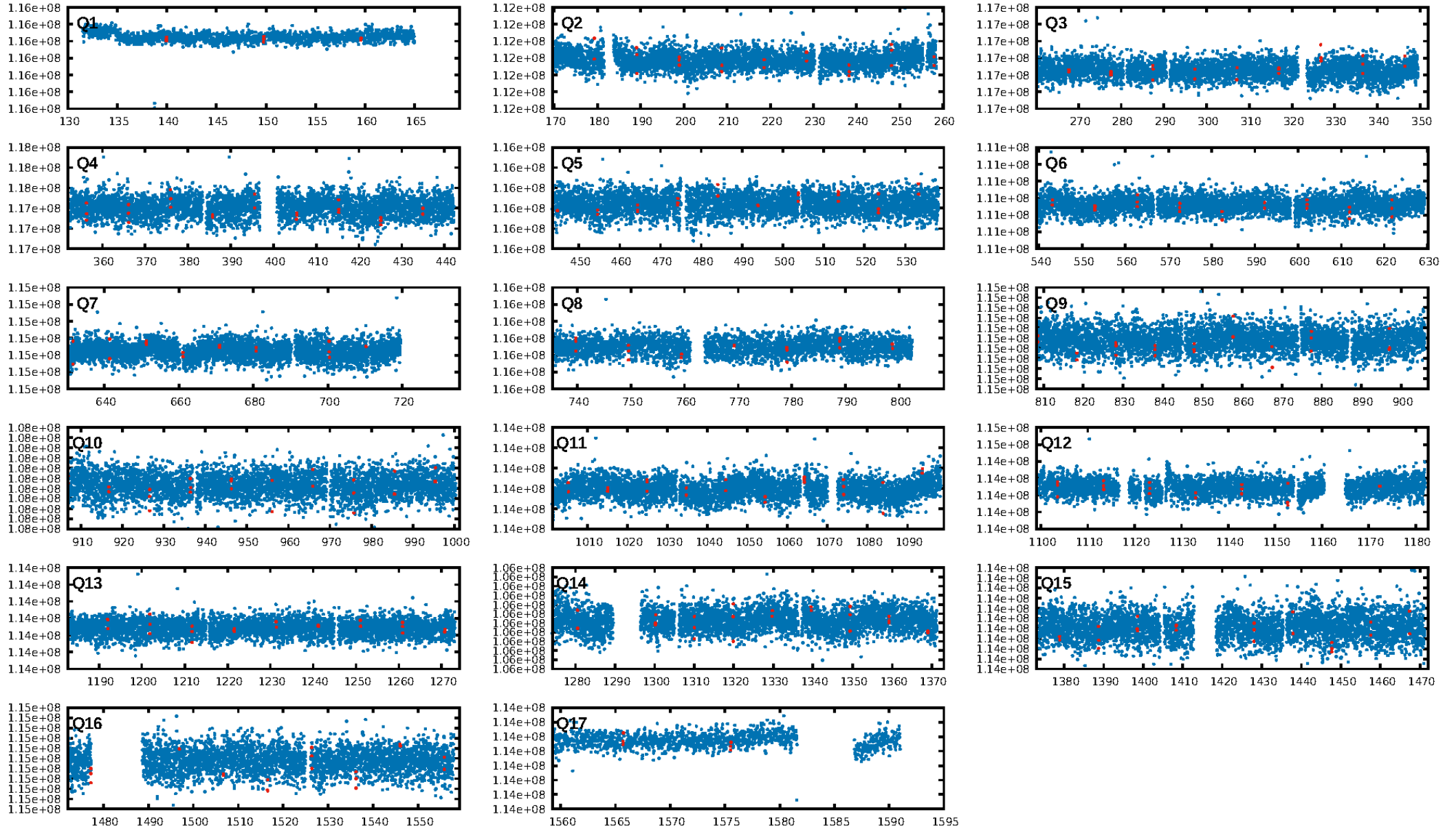
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 1.4%
Bootstrap-pfa: 6.80e-08
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 1.744
Centroid-sig: 14.4%
Centroid-so: 0.783 arcsec [1.28σ]
OotOffset-rm: 0.986 arcsec [0.65σ]
KicOffset-rm: 0.958 arcsec [0.62σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.00 [0/17]

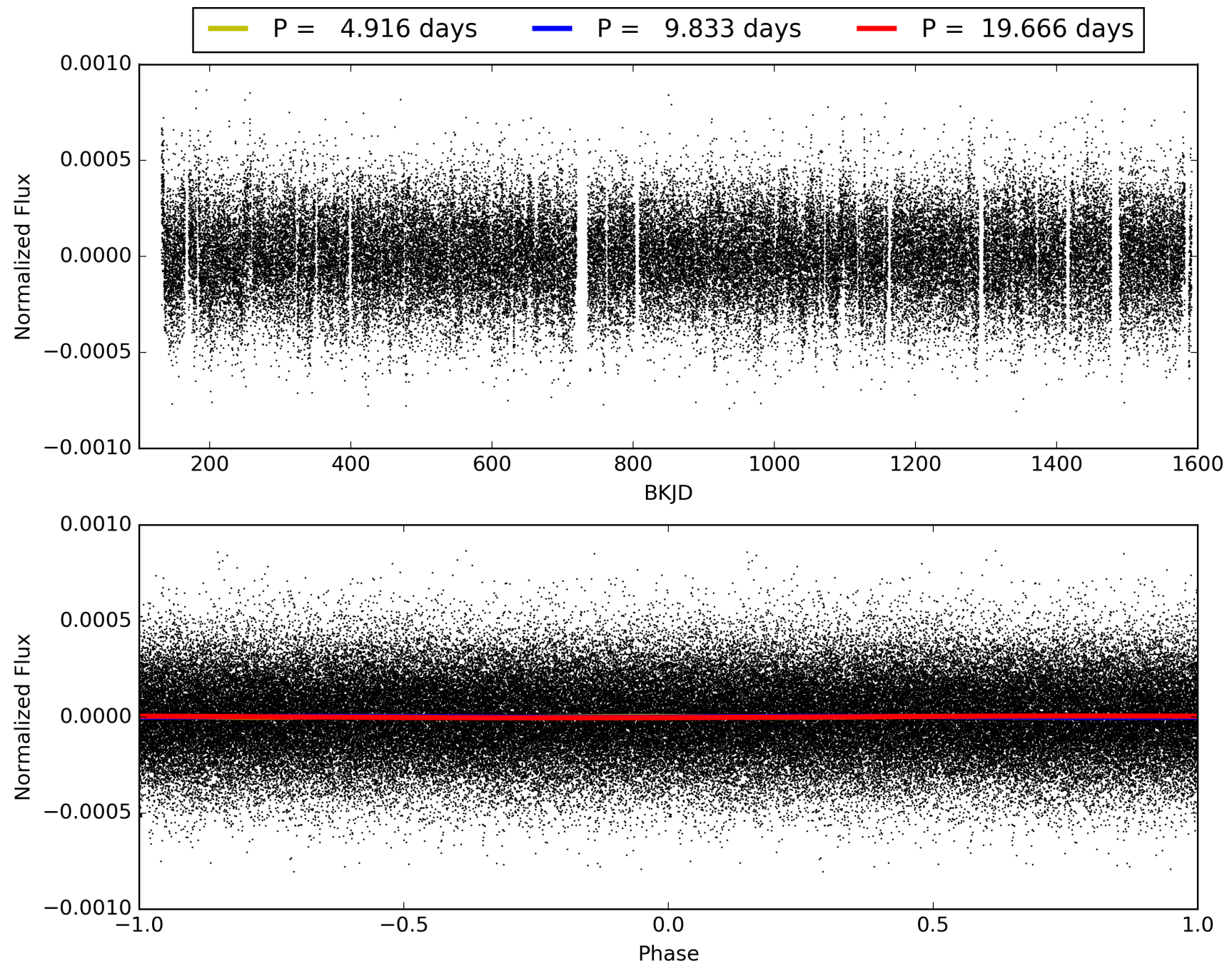
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:49:06 Z

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

TCE 002993589-06, PDC Light Curves

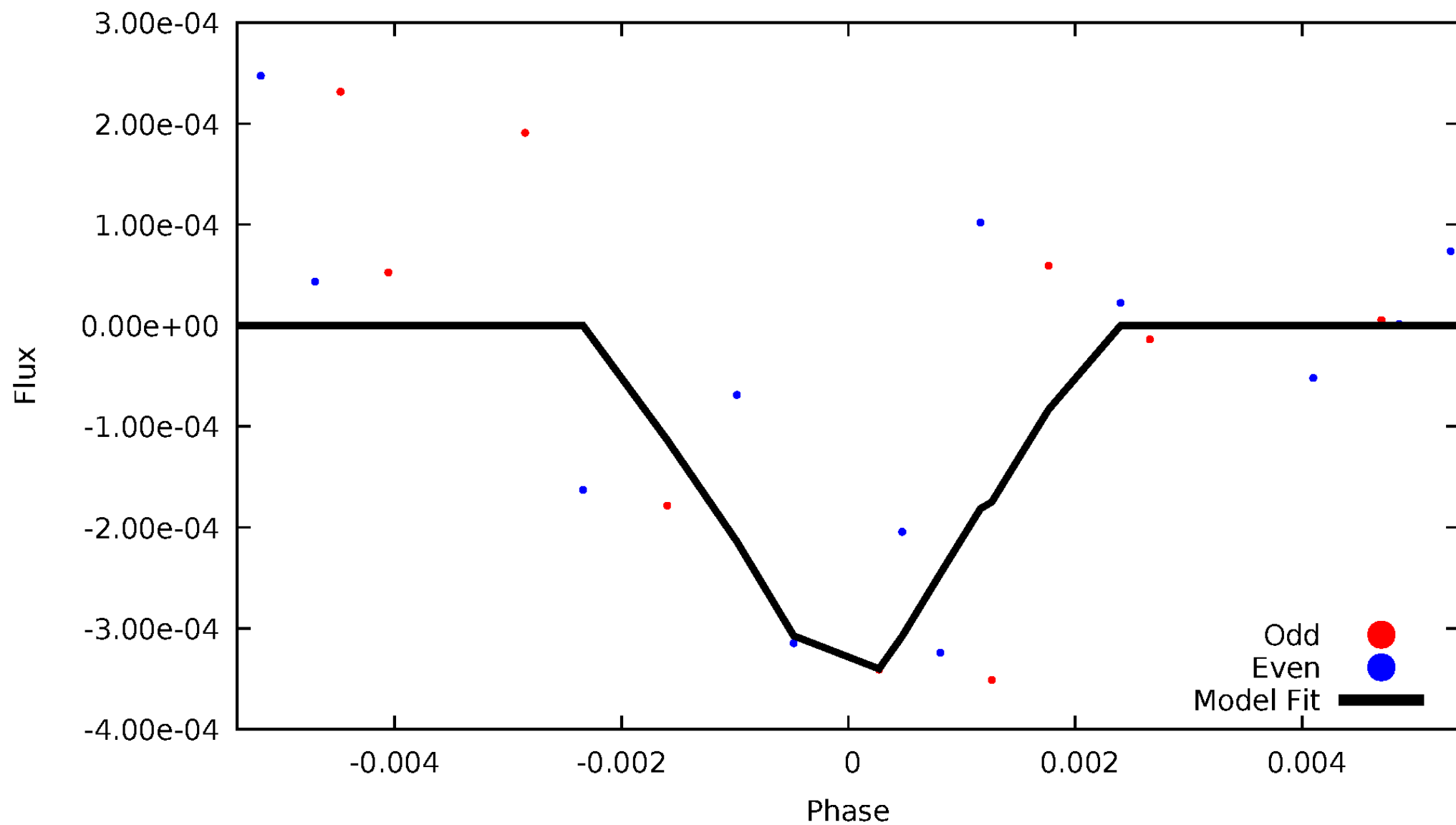


TCE 002993589-06



DV Odd/Even

TCE 002993589-06

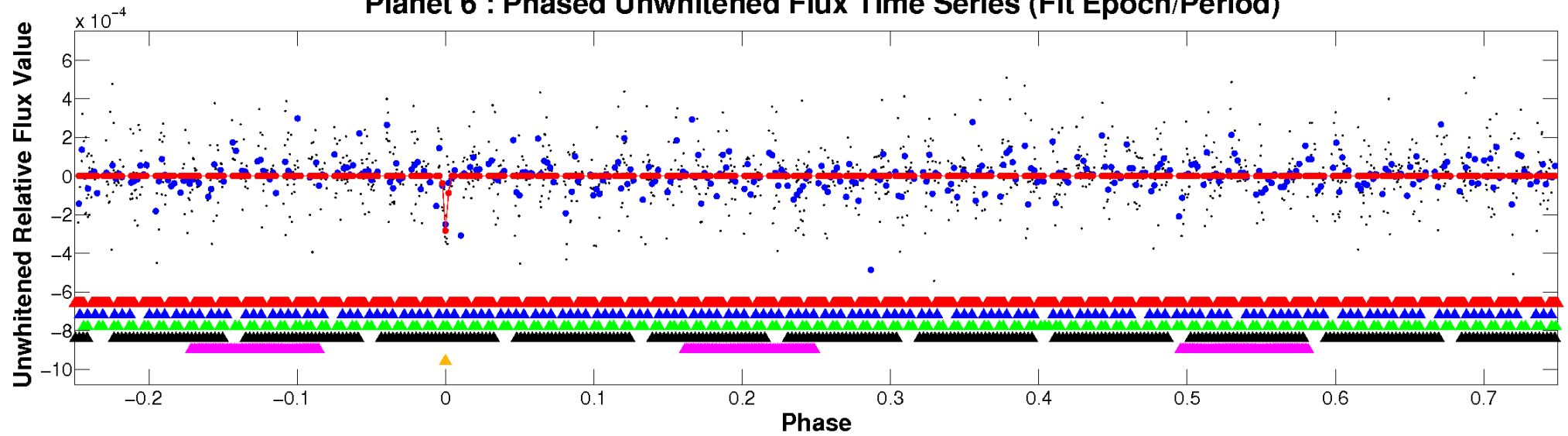


ALT Odd/Even

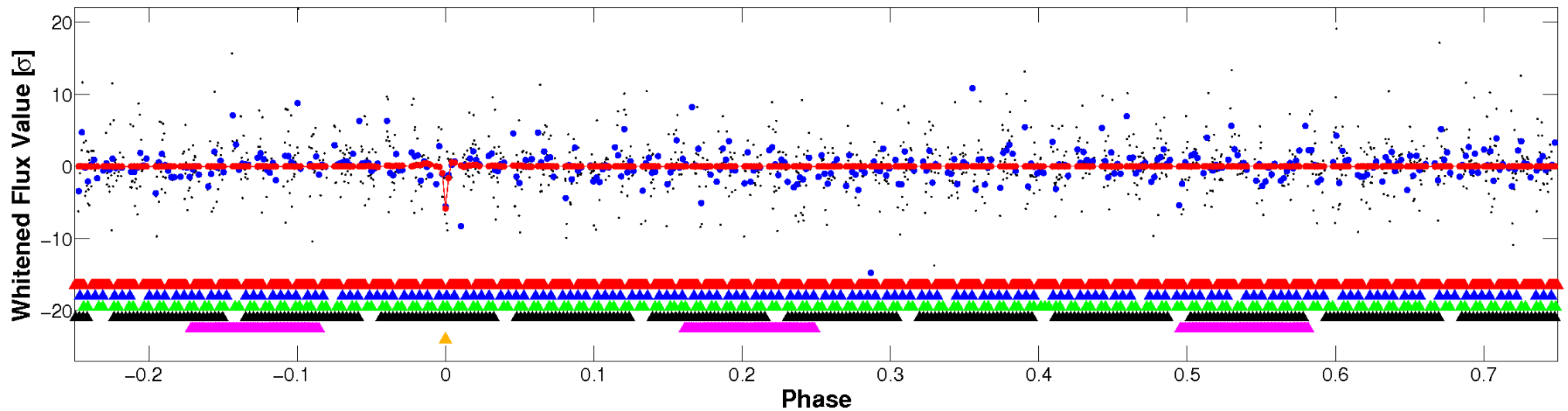
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

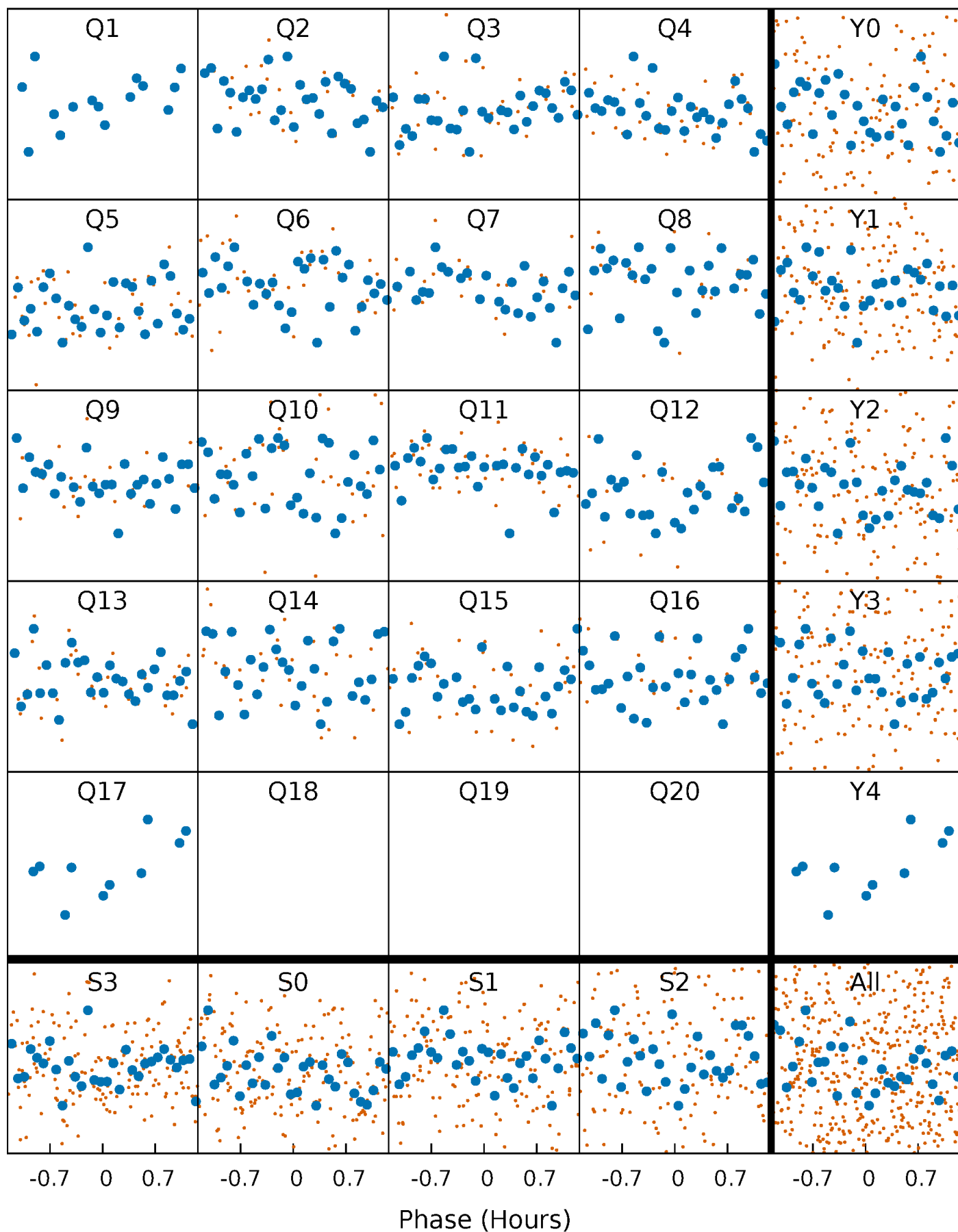


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



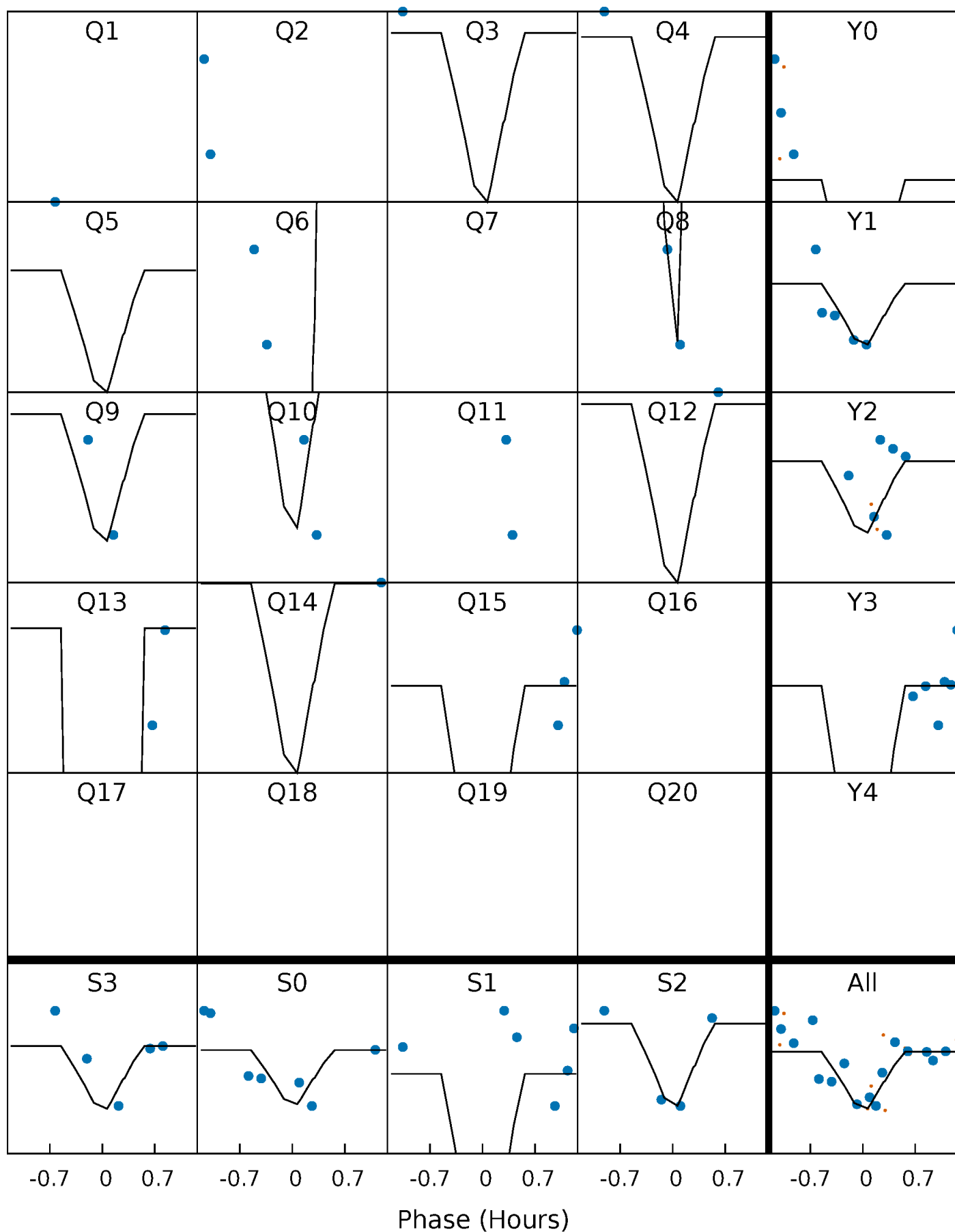
PDC Quarter-Phased Transit Curves

TCE 002993589-06 P= 9.832894 Days $T_0=139.929270$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002993589-06 P= 9.832894 Days $T_0=139.929270$ (BKJD)

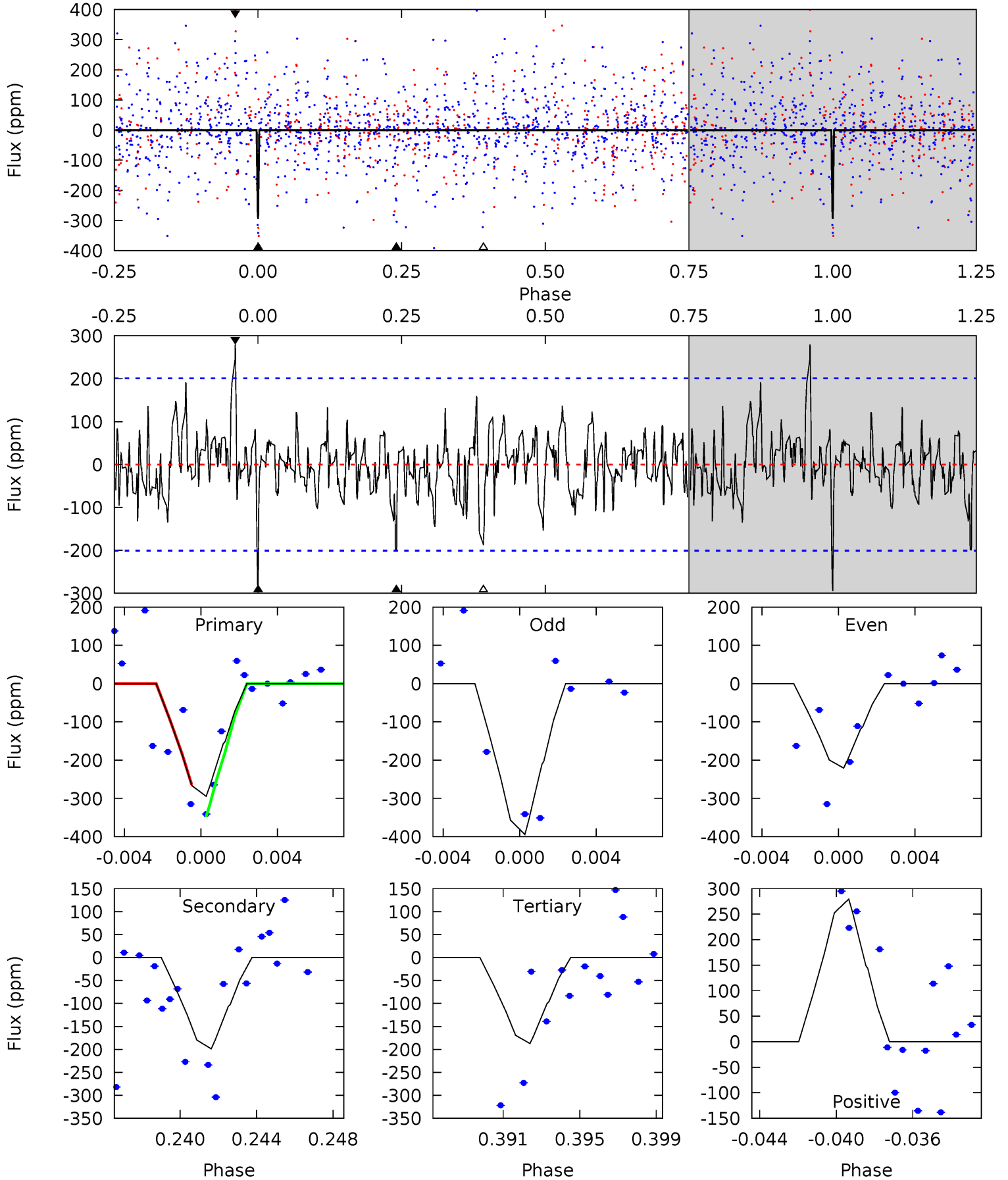


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002993589-06, P = 9.832894 Days, E = 130.096376 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.62	5.14	4.85	7.23	5.20	2.88	1.45	2.77	0.39	0.30	-2.09	2.07	0	0.49	0.90



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002993589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7159^{+200}_{-300}	$4.241^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.510^{+0.539}_{-0.231}$	$1.448^{+0.218}_{-0.196}$	$0.593^{+0.248}_{-0.332}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-14%	+42%/-56%
Source	PHO1	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 002993589-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-199 ± 39	$26.17^{+30.62}_{-18.35}$	1723^{+136}_{-106}	2779^{+1401}_{-844}	$1.641^{+15.859}_{-1.285}$
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

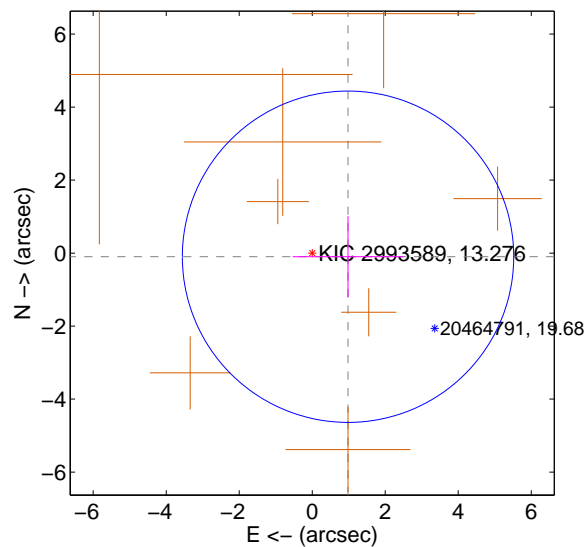
Supplemental centroid analysis for 002993589-06. Kepler magnitude: 13.28. Transit SNR 13.41

There are 0 quarters with good PRF difference image offsets

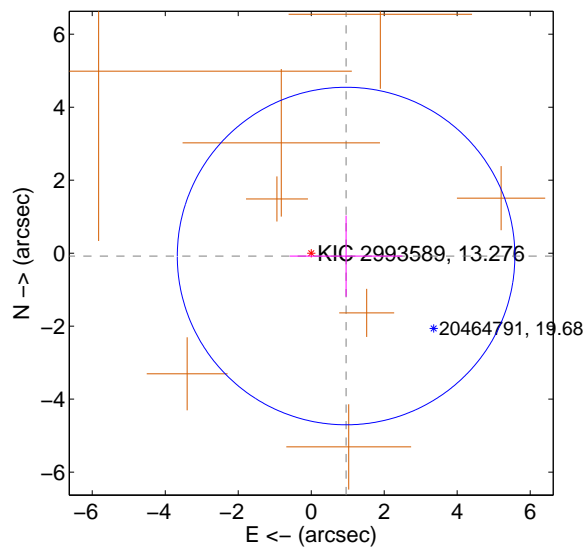
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.986 ± 1.513	0.65	-0.981 ± 1.517	-0.100 ± 1.111
PRF-fit source offset from KIC position	0.958 ± 1.542	0.62	-0.955 ± 1.544	-0.079 ± 1.111
photometric centroid source offset	0.78 ± 0.61	1.28	-0.65 ± 0.58	0.43 ± 0.67

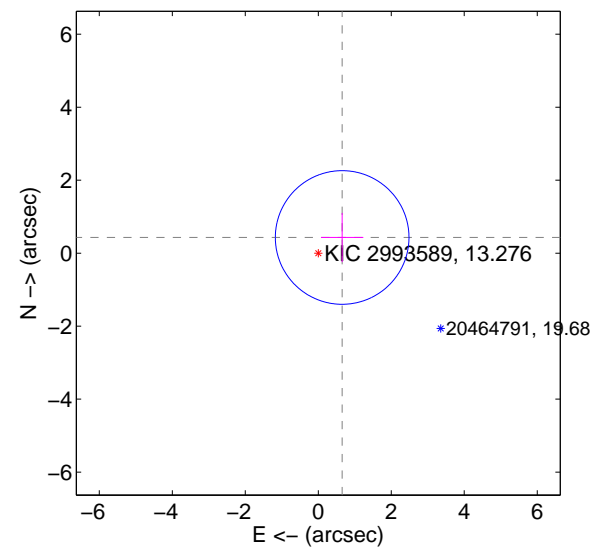
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

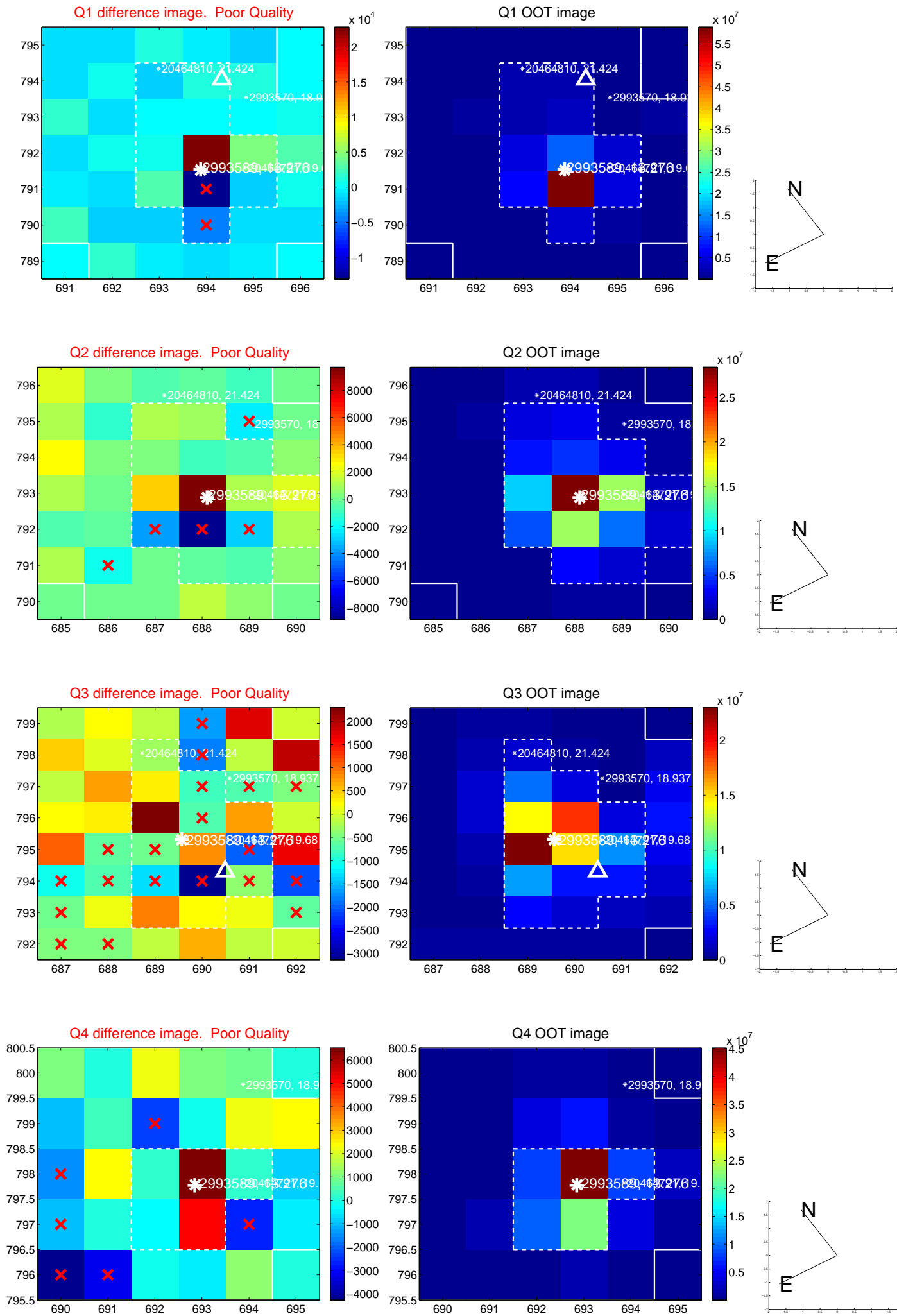


offset from photometric centroids

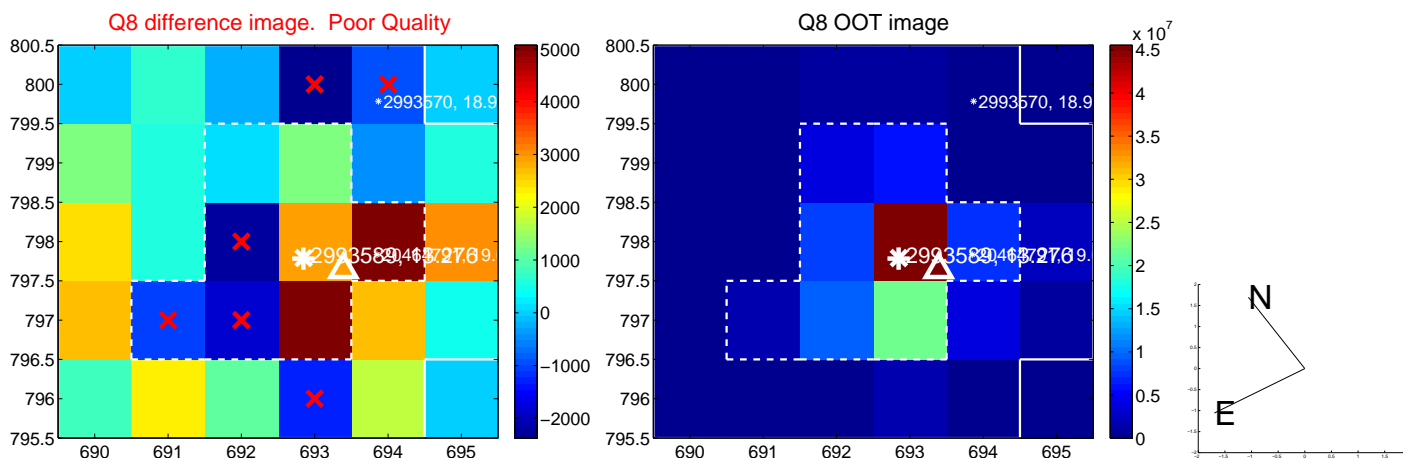
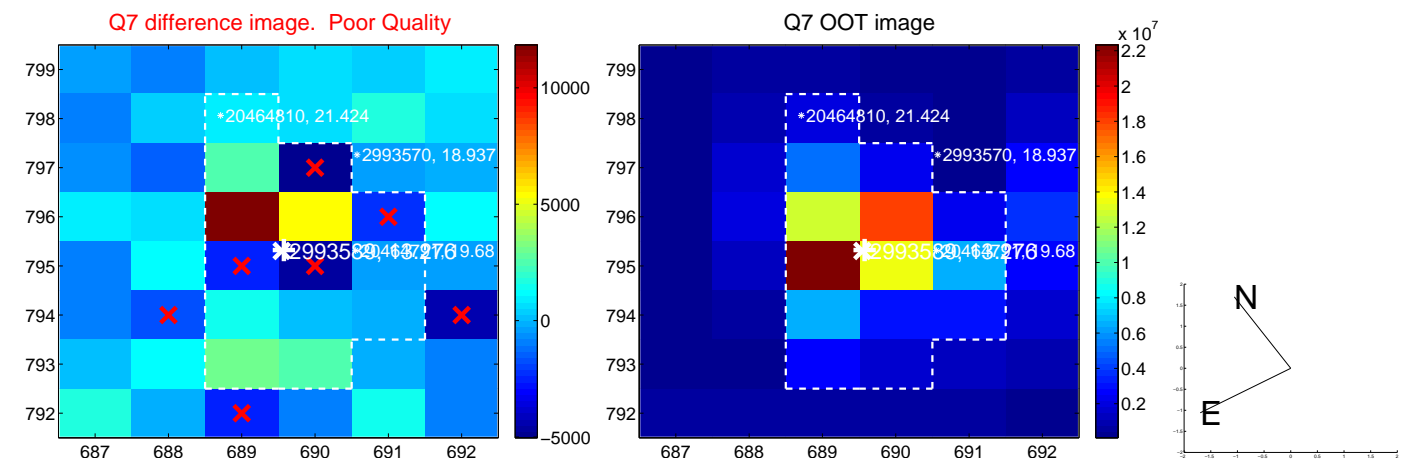
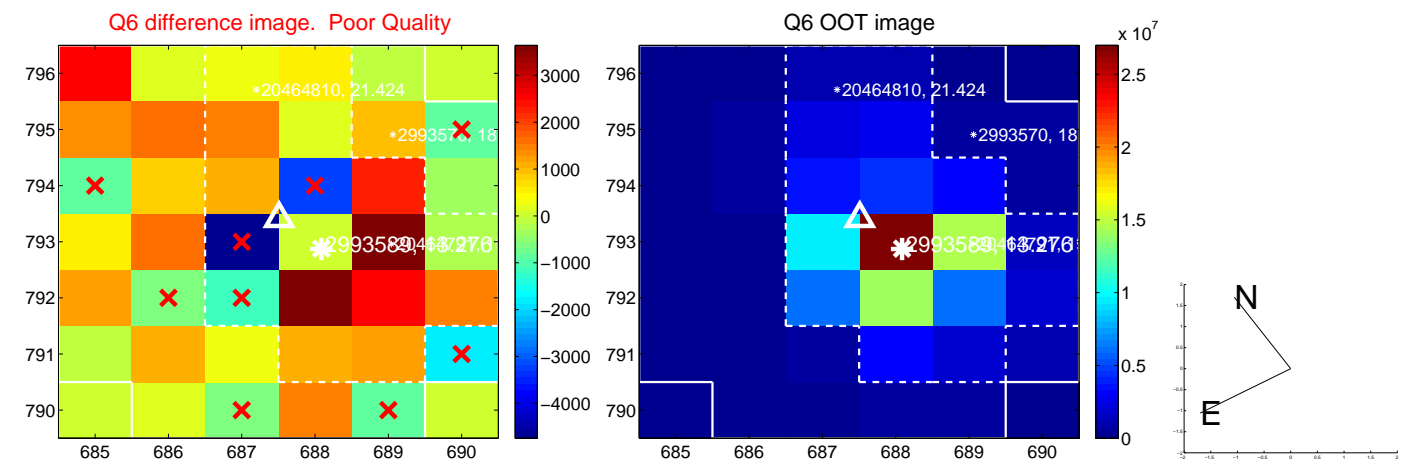
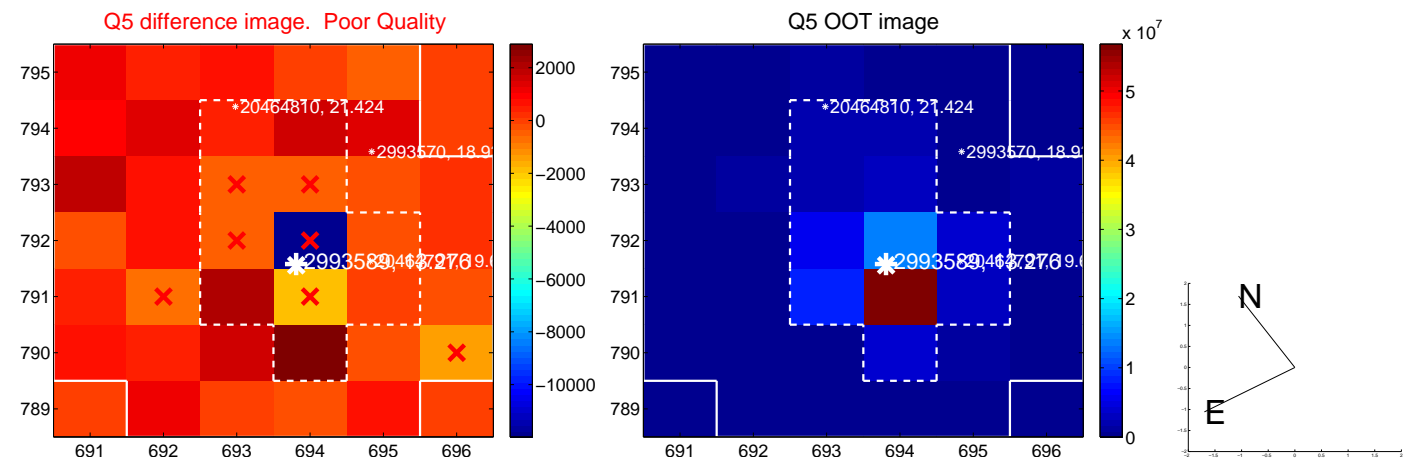


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

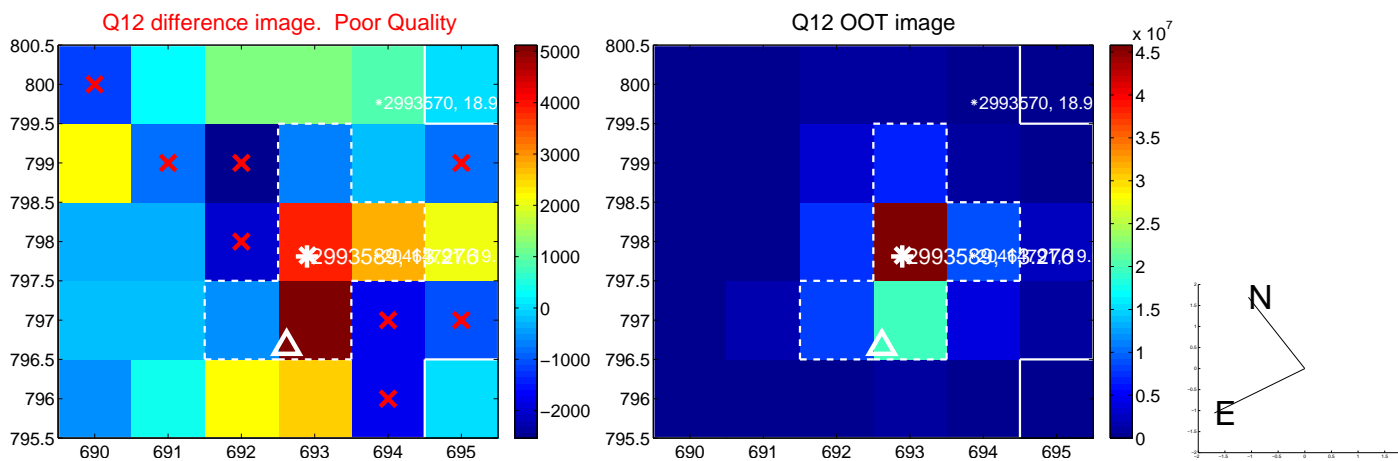
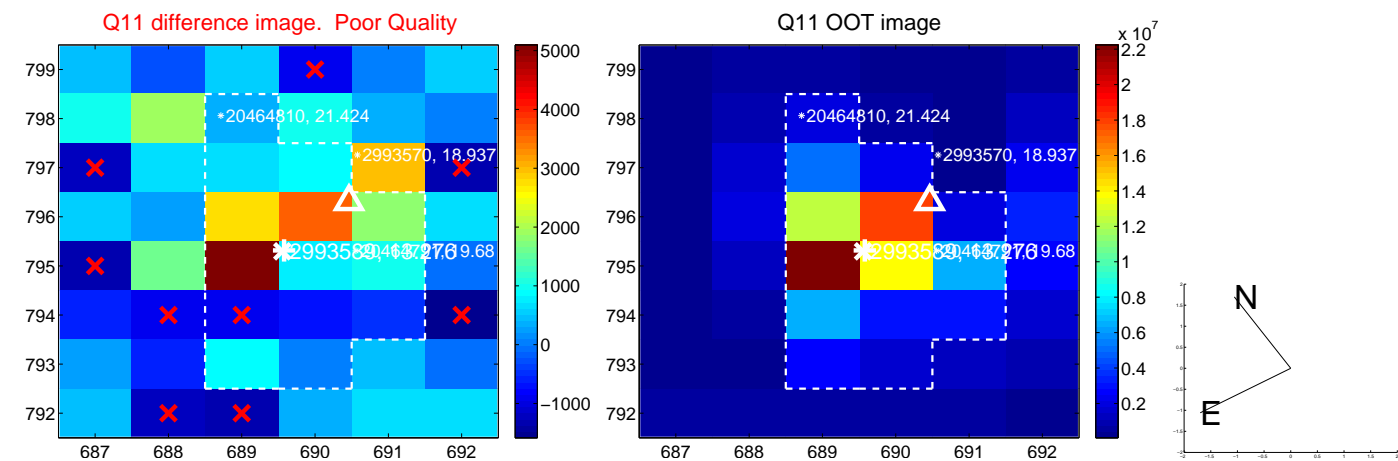
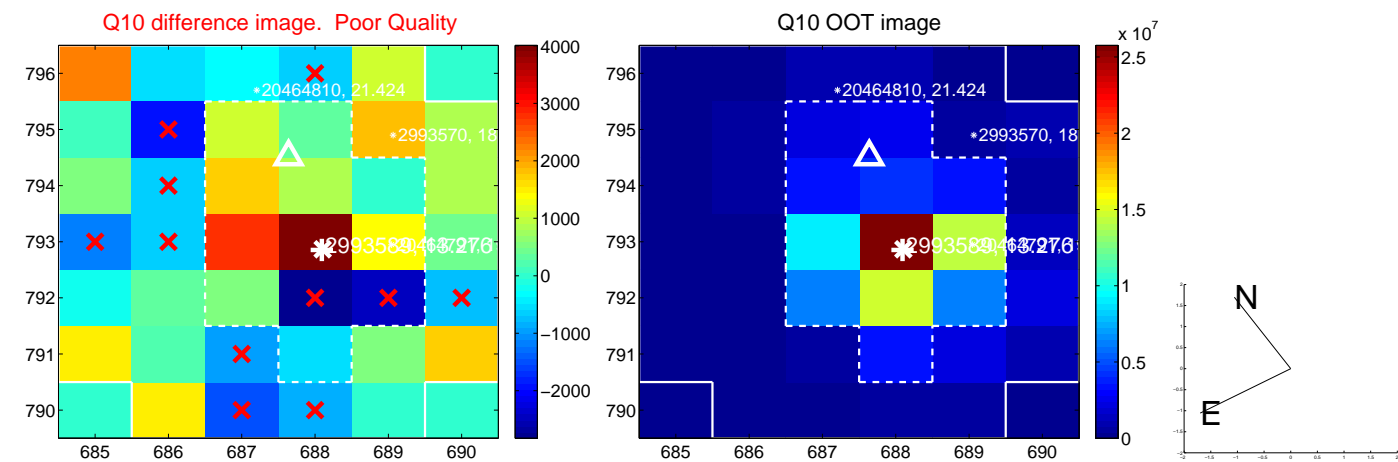
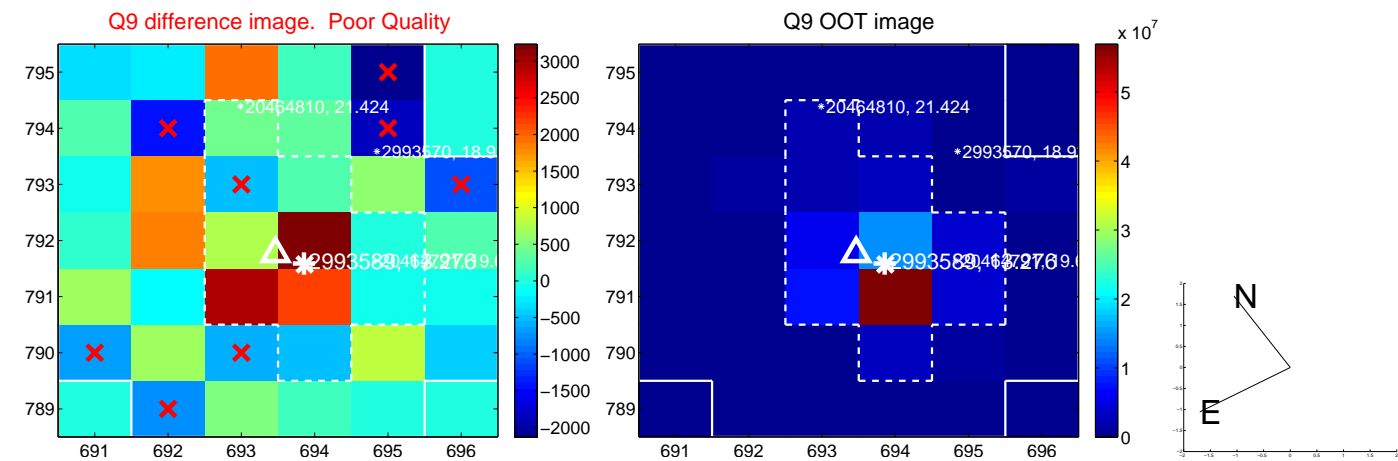
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



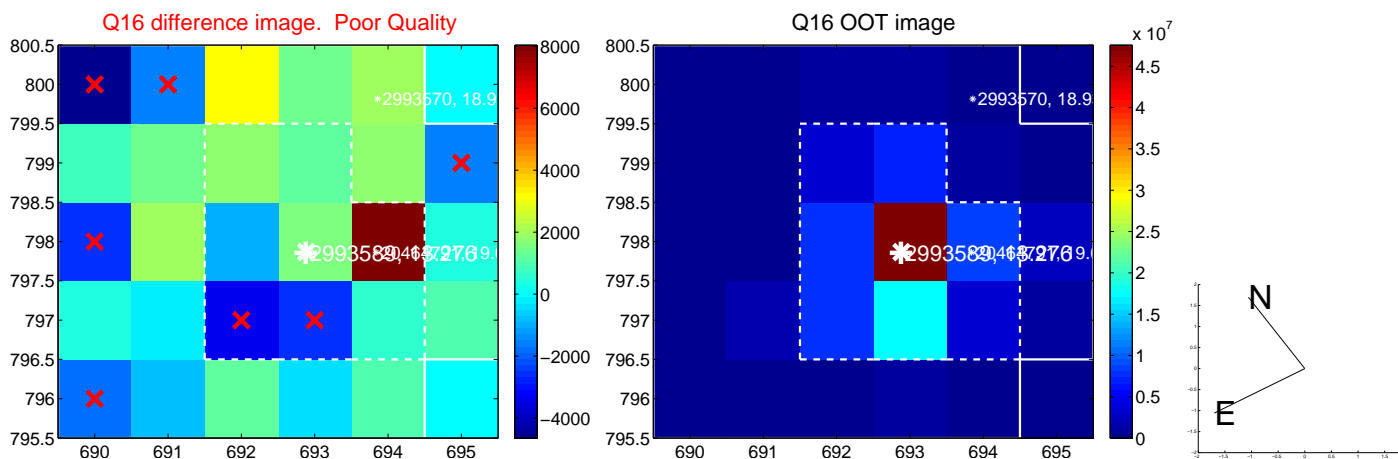
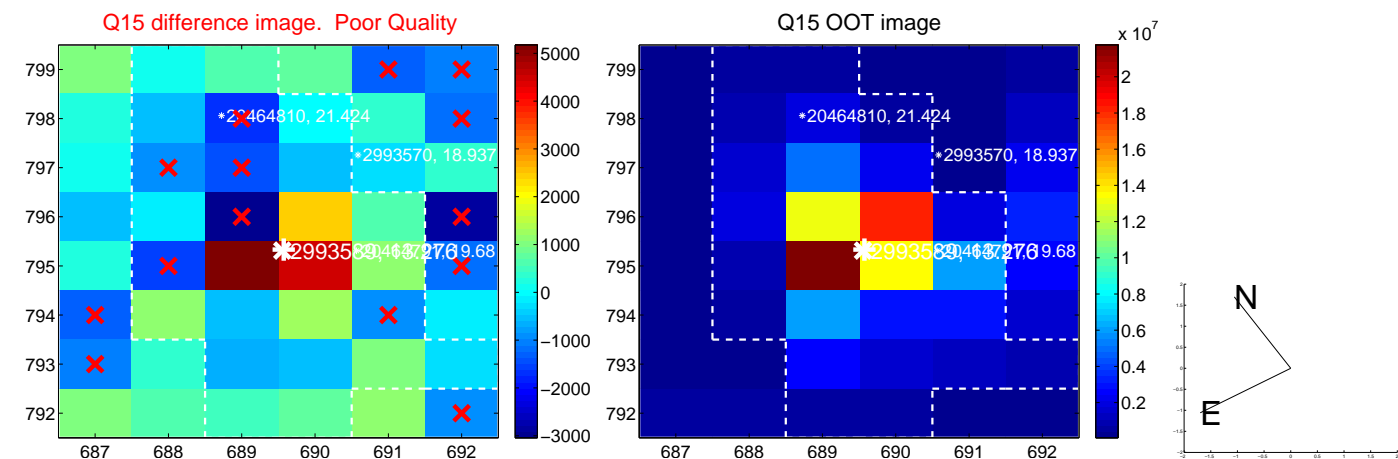
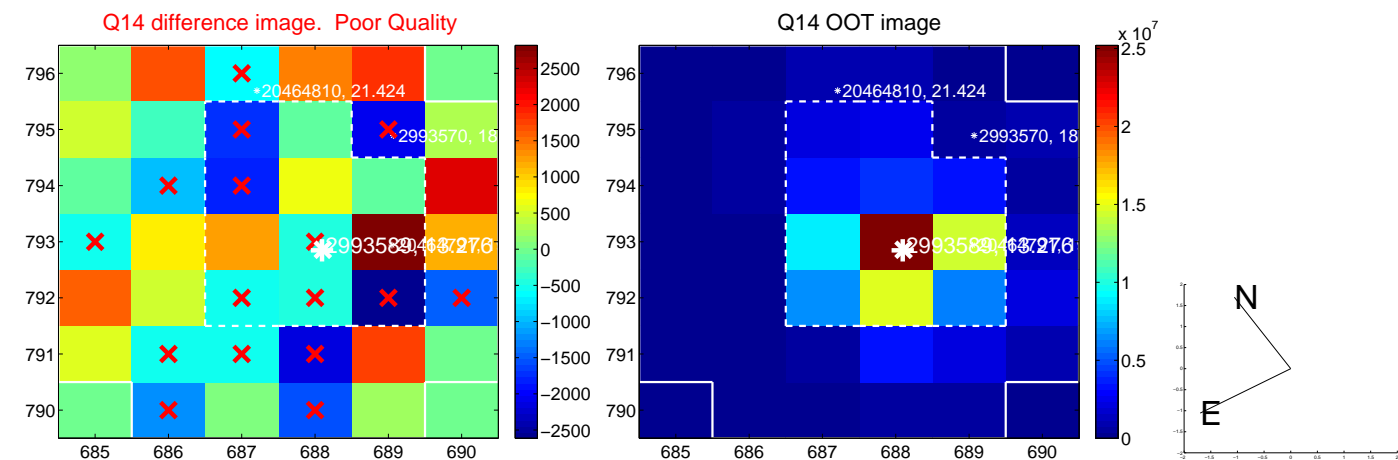
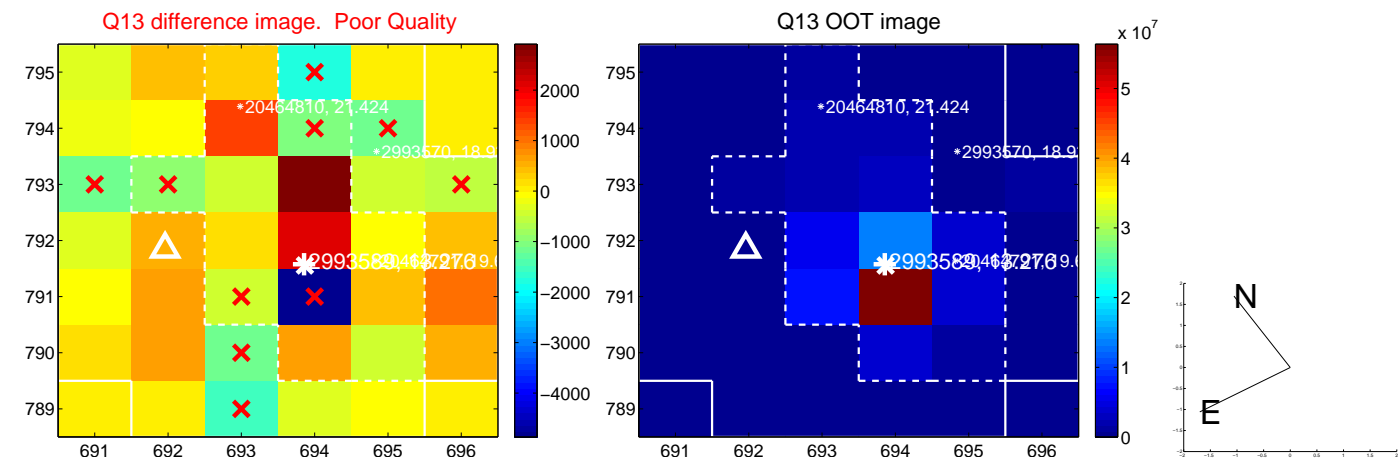
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



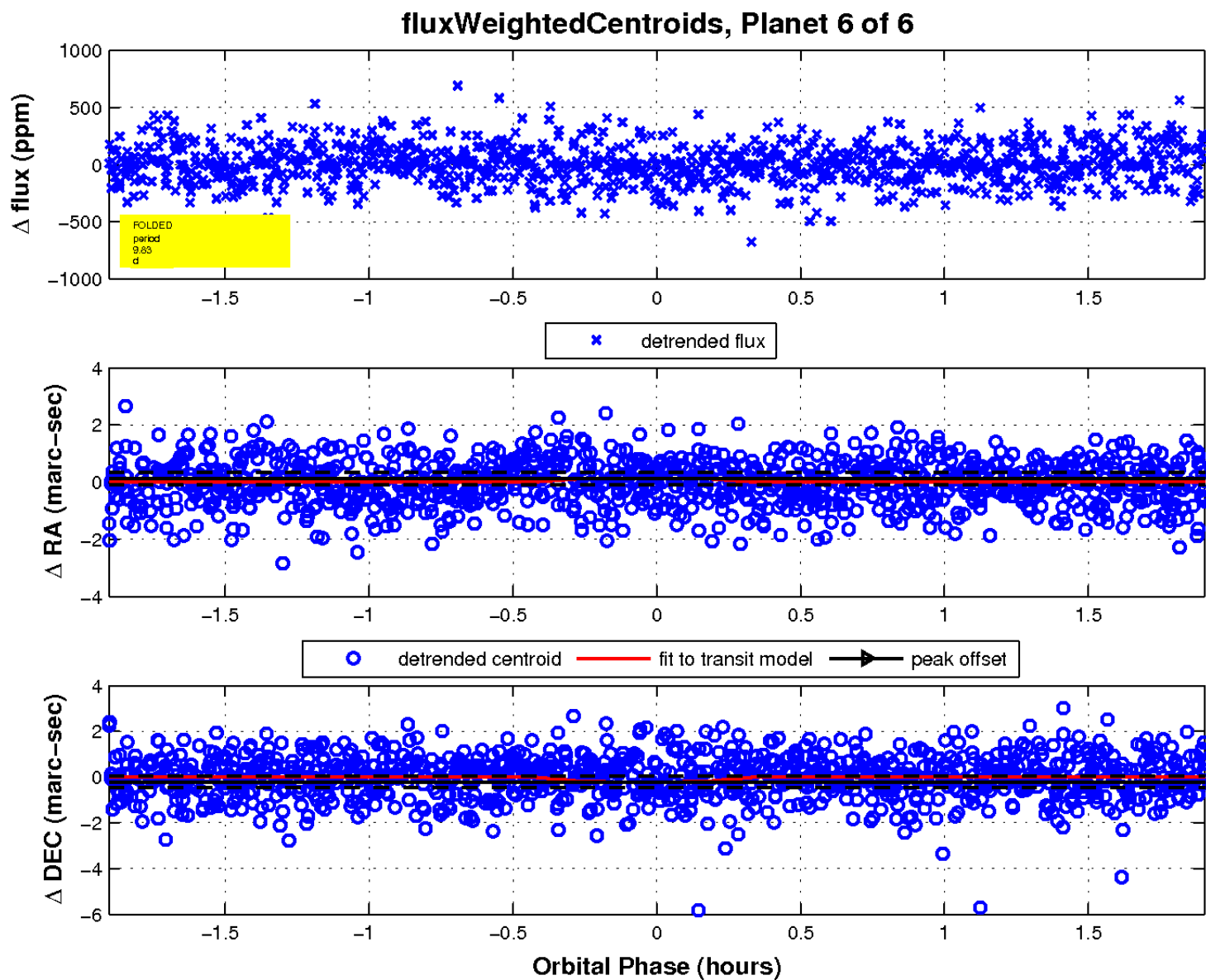
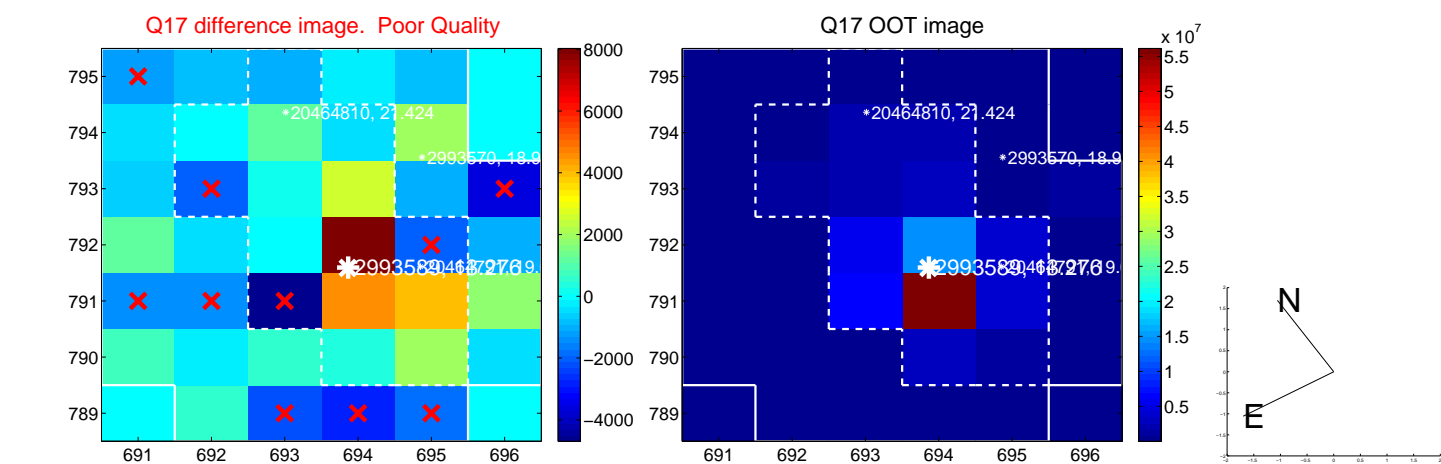
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

