

KIC 006290935

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})
006290935-01	OBS	4302.01	5.533317	132.152143	54.2	2.904	11.0	11.5	1.43	6170	1.24	682.23
006290935-02	OBS	No	3.422508	132.710302	25.2	3.638	7.8	7.6	1.43	6170	0.83	1294.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006290935-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
006290935-02	OBS	FP	0.05	1	0	0	0	LPP_DV

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

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

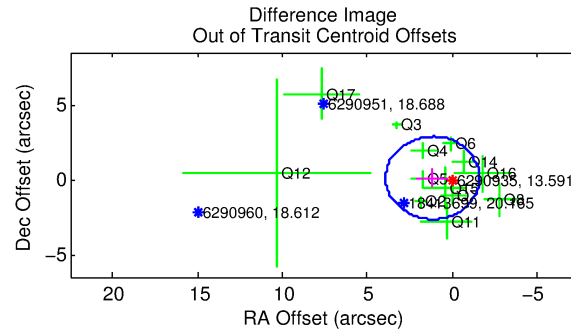
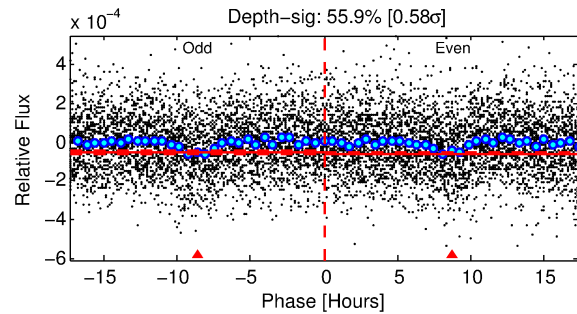
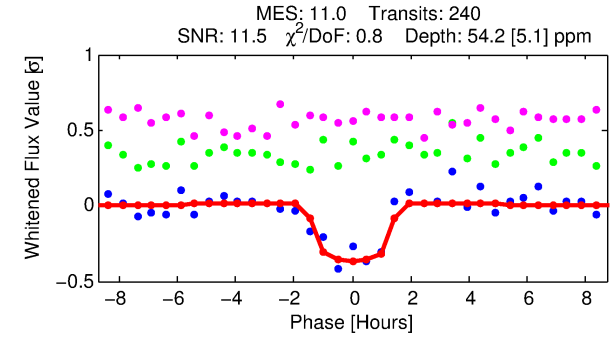
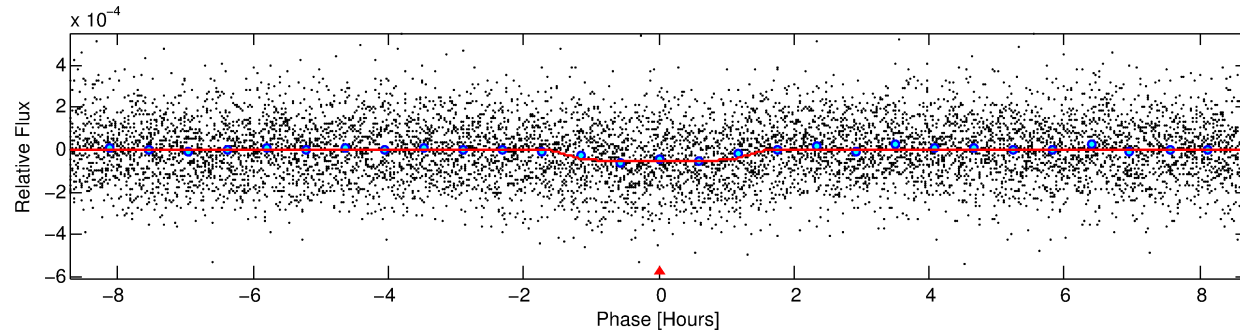
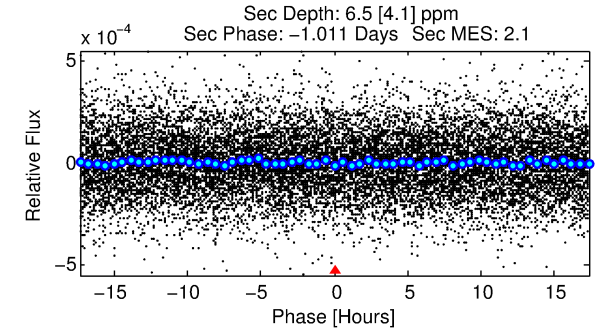
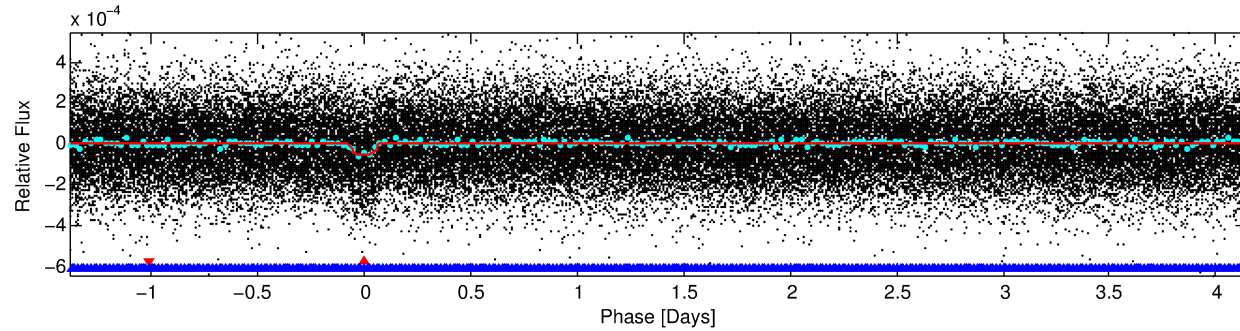
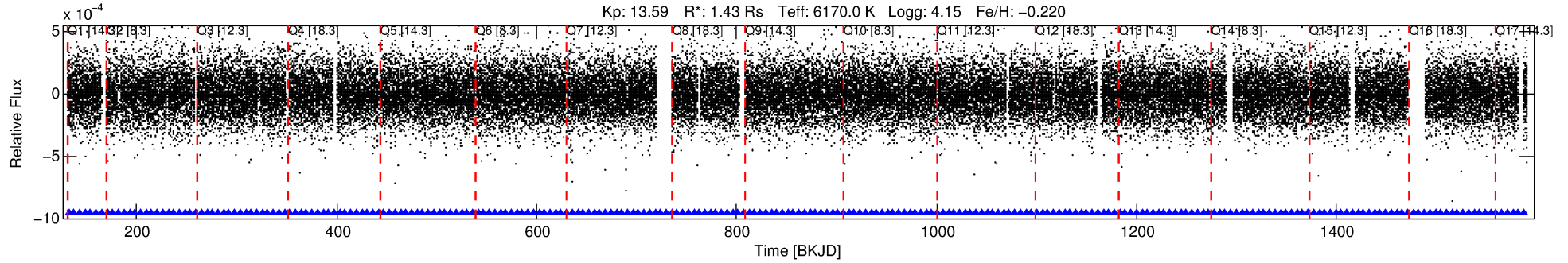
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006290935-01

No Significant Match Found

DV One-Page Summary

KIC: 6290935 Candidate: 1 of 2 Period: 5.533 d
KOI: K04302.01 Corr: 0.853



DV Fit Results:

Period = 5.53332 [0.00004] d
Epoch = 132.1521 [0.0047] BKJD
Rp/R* = 0.0080 [0.0037]
a/R* = 6.54 [16.05]
b = 0.90 [0.51]
Seff = 682.23 [200.02]
Teq = 1303 [96] K
Rp = 1.24 [0.62] Re
a = 0.0622 [0.0113] AU
Ag = 9.09 [10.45] [0.77σ]
Teffp = 3498 [975] K [2.24σ]

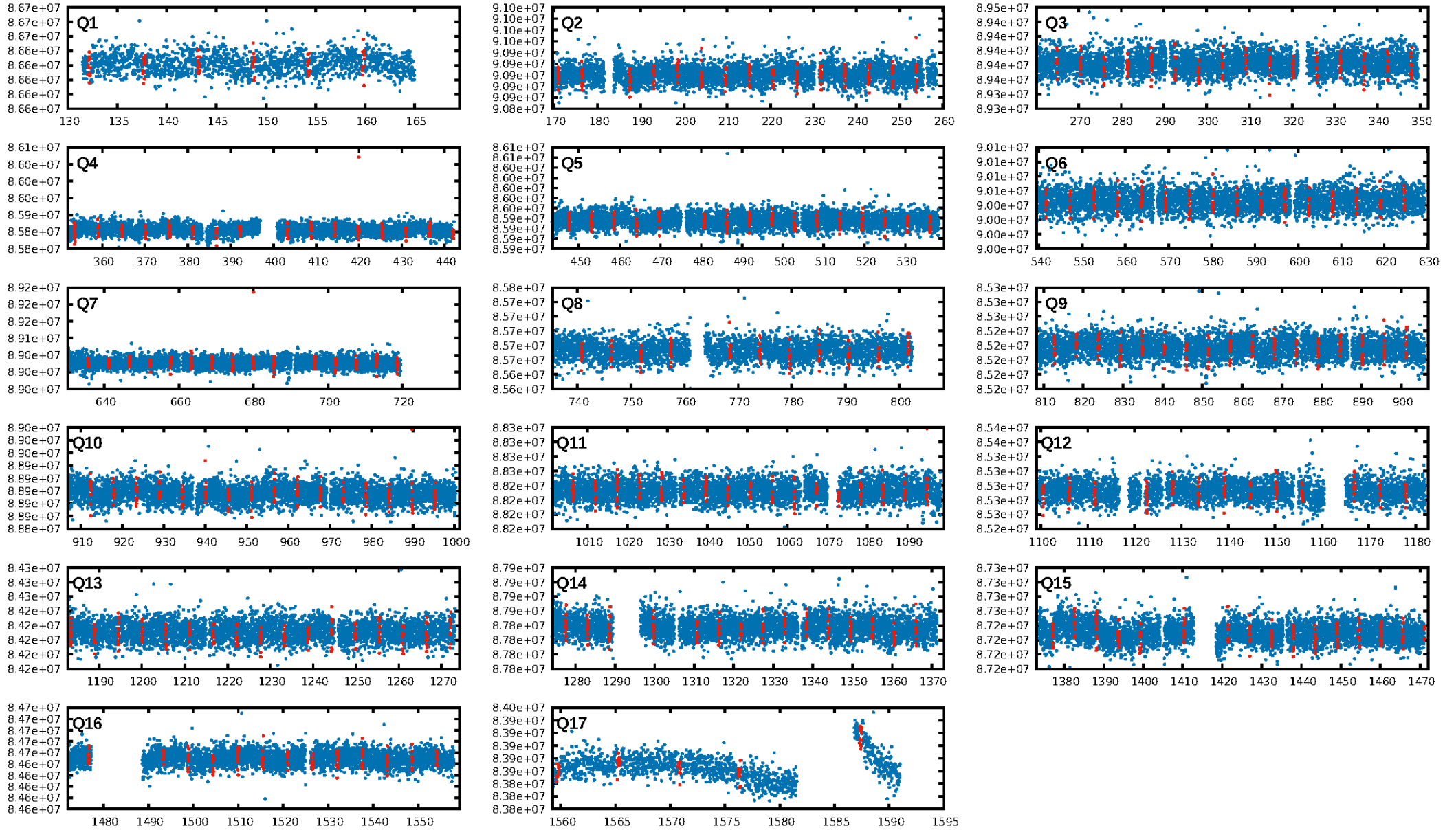
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.65e-28
RollingBand-fgt: 1.00 [229/229]
GhostDiagnostic-chr: 15.09
Centroid-sig: 79.6%
Centroid-so: 0.388 arcsec [0.38σ]
OotOffset-rm: 1.145 arcsec [1.24σ]
KicOffset-rm: 0.984 arcsec [1.04σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

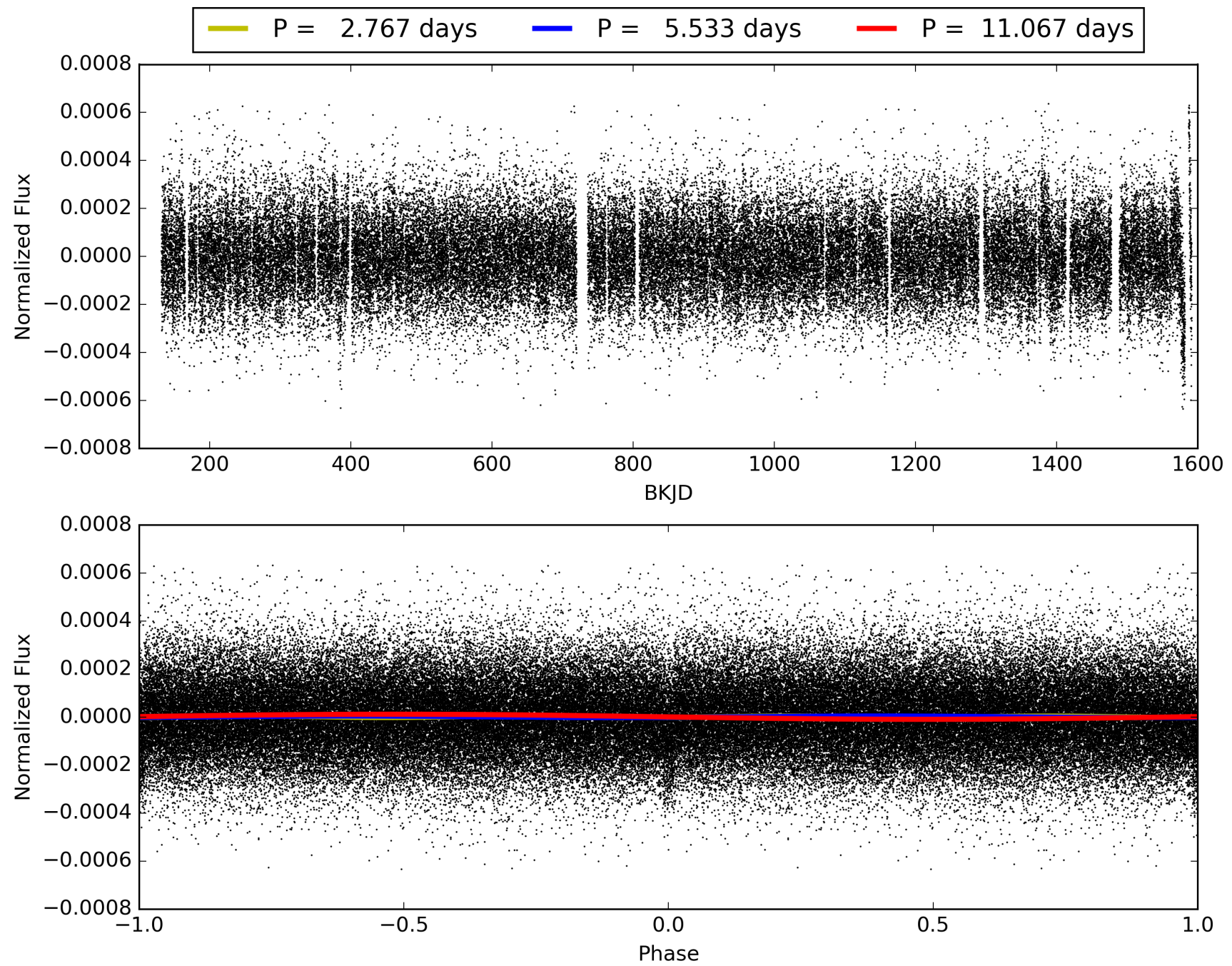
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:50:03 Z

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

TCE 006290935-01, PDC Light Curves

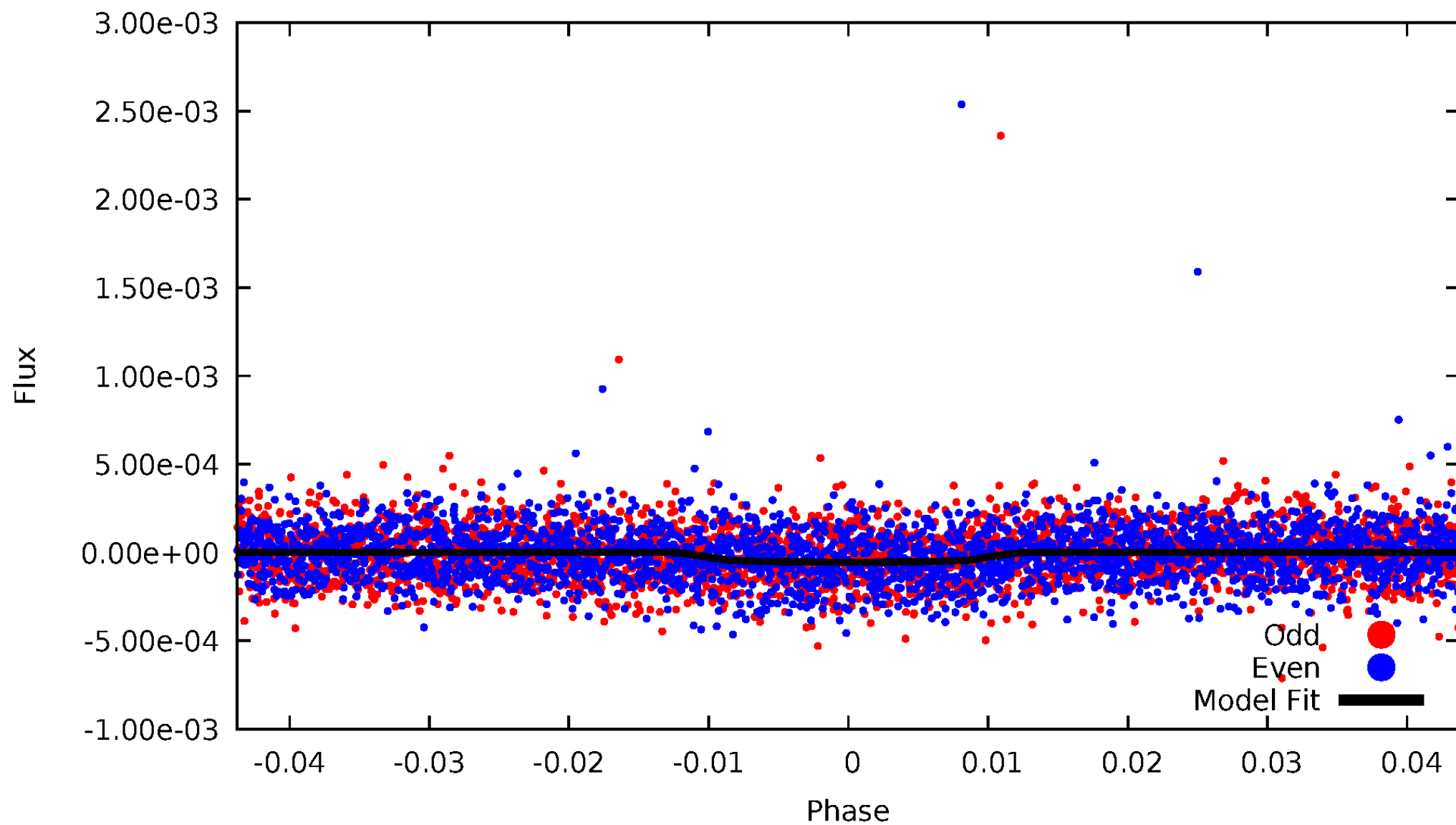


TCE 006290935-01



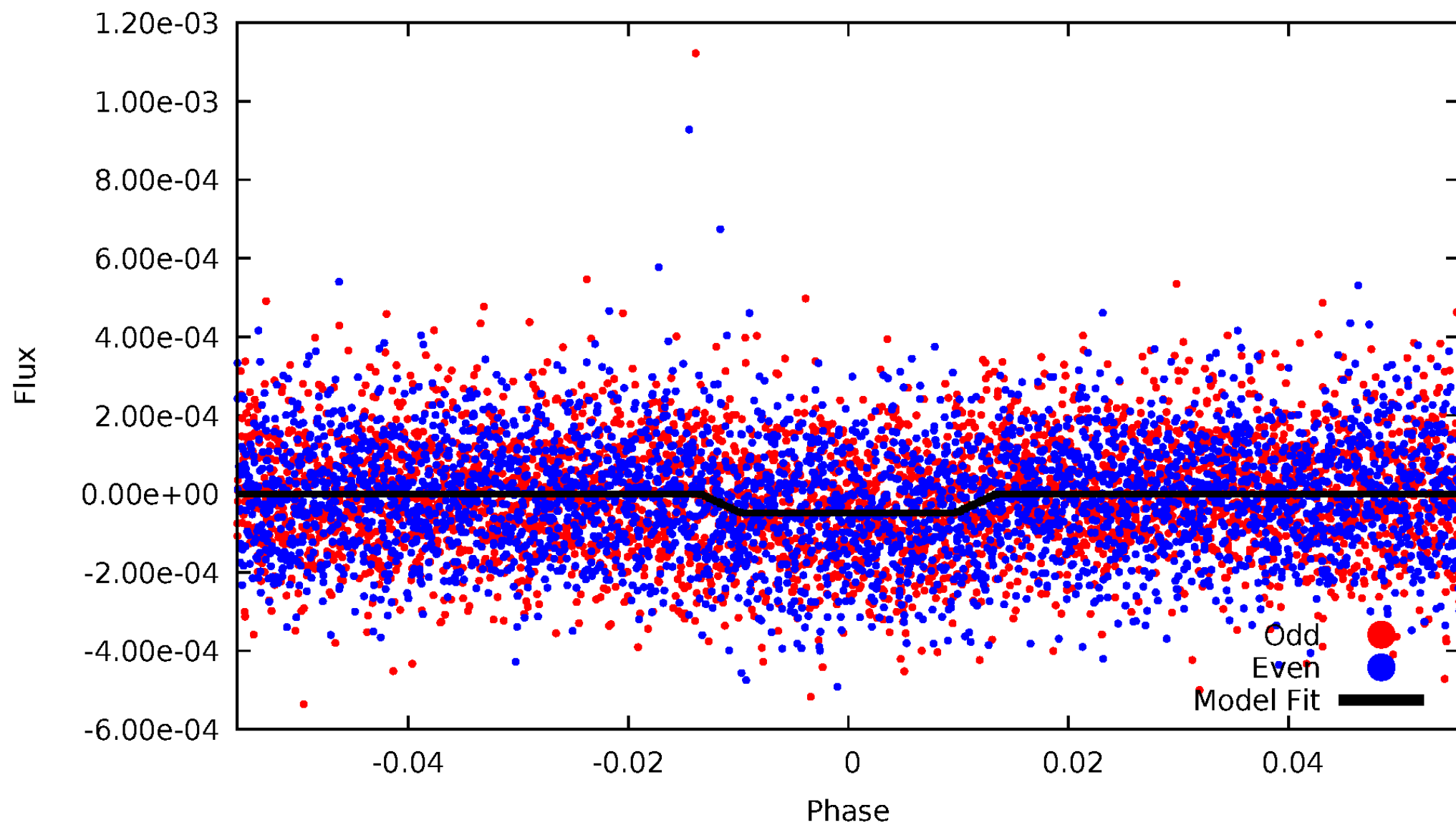
DV Odd/Even

TCE 006290935-01



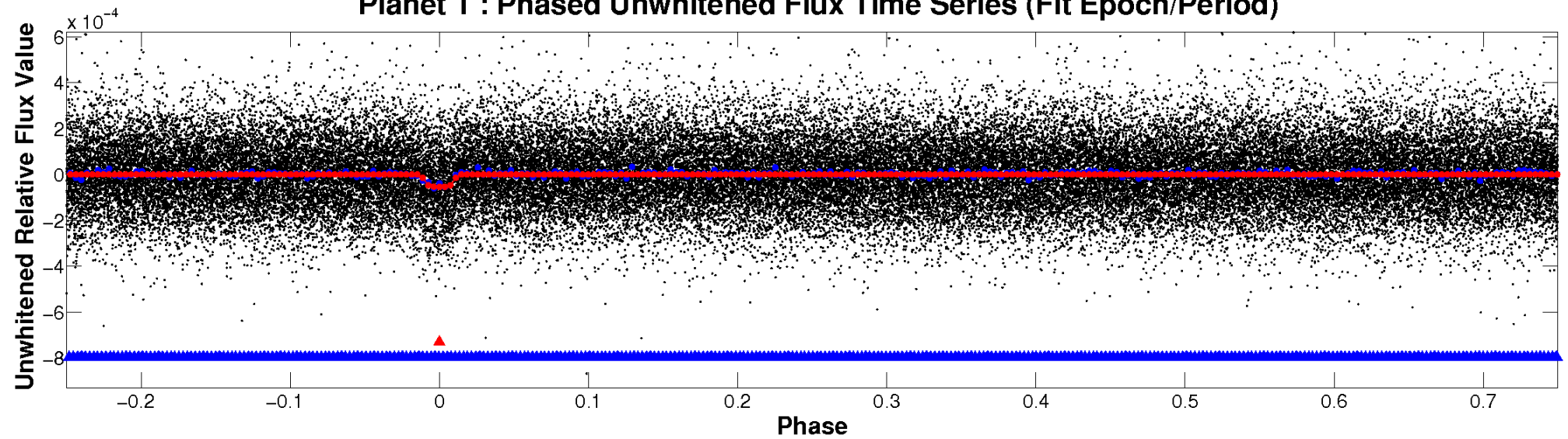
ALT Odd/Even

TCE 006290935-01

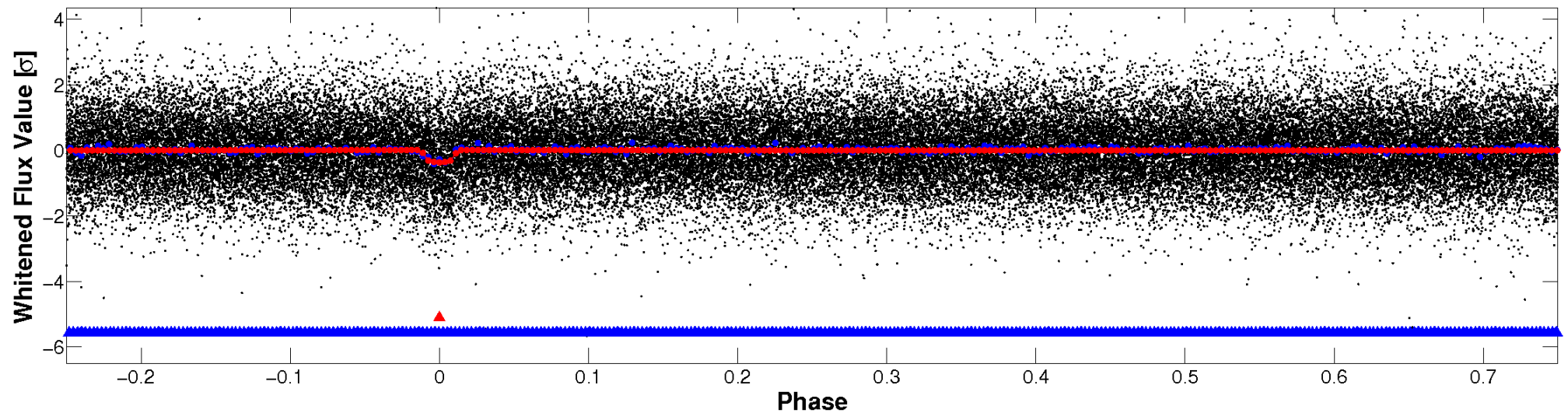


Non-Whitened Vs. Whitened Light Curve

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

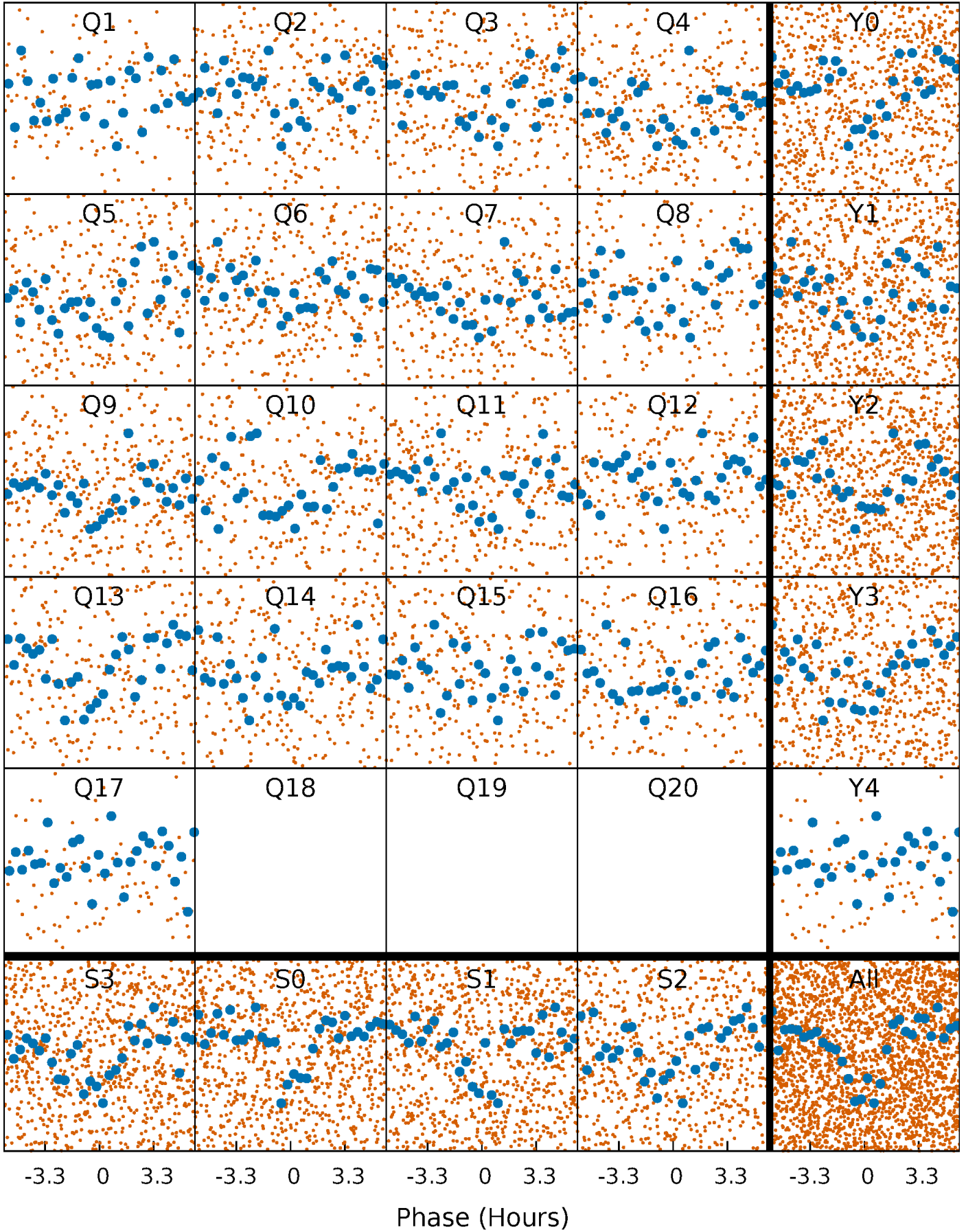


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



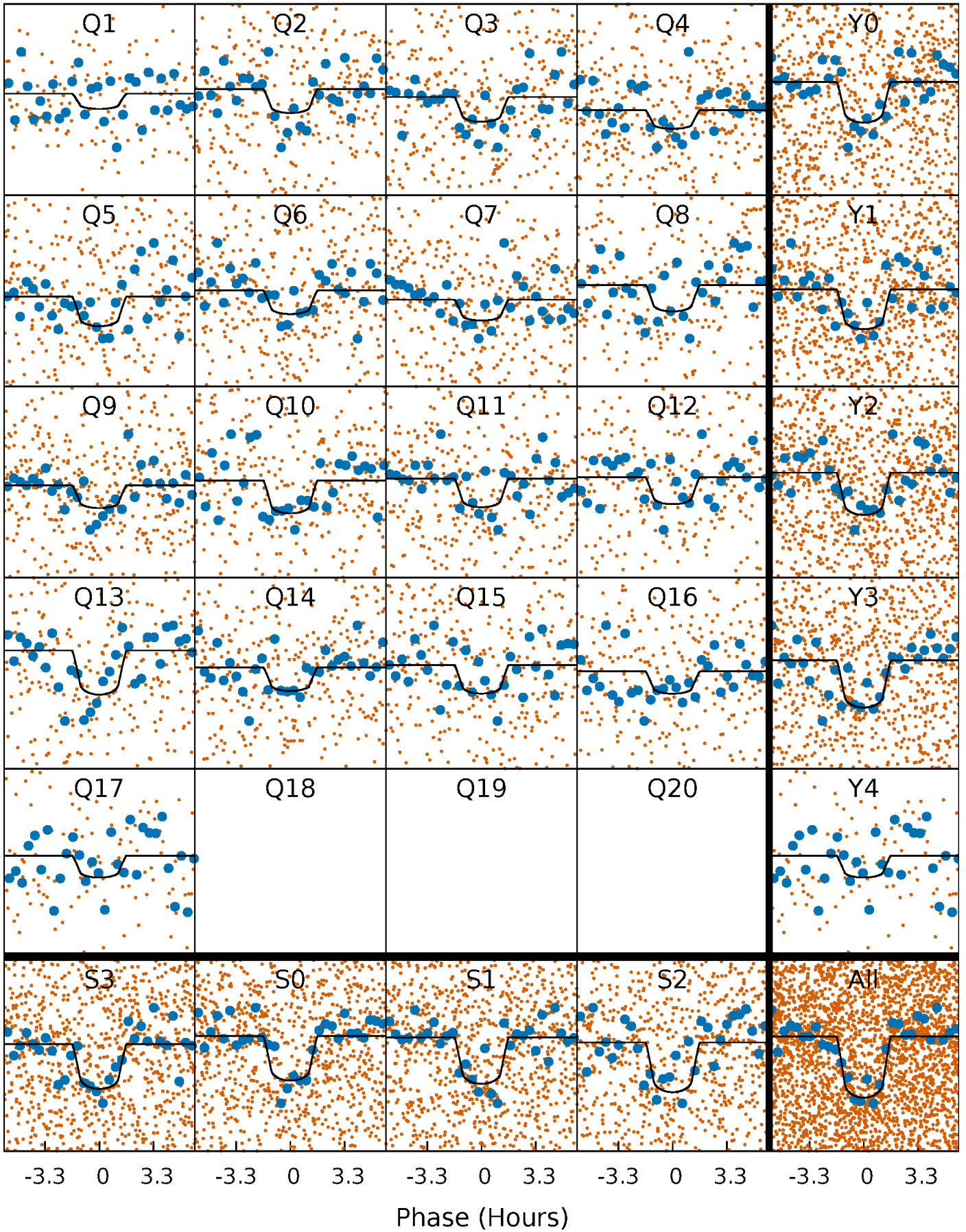
PDC Quarter-Phased Transit Curves

TCE 006290935-01 P= 5.533317 Days $T_0=132.152143$ (BKJD)



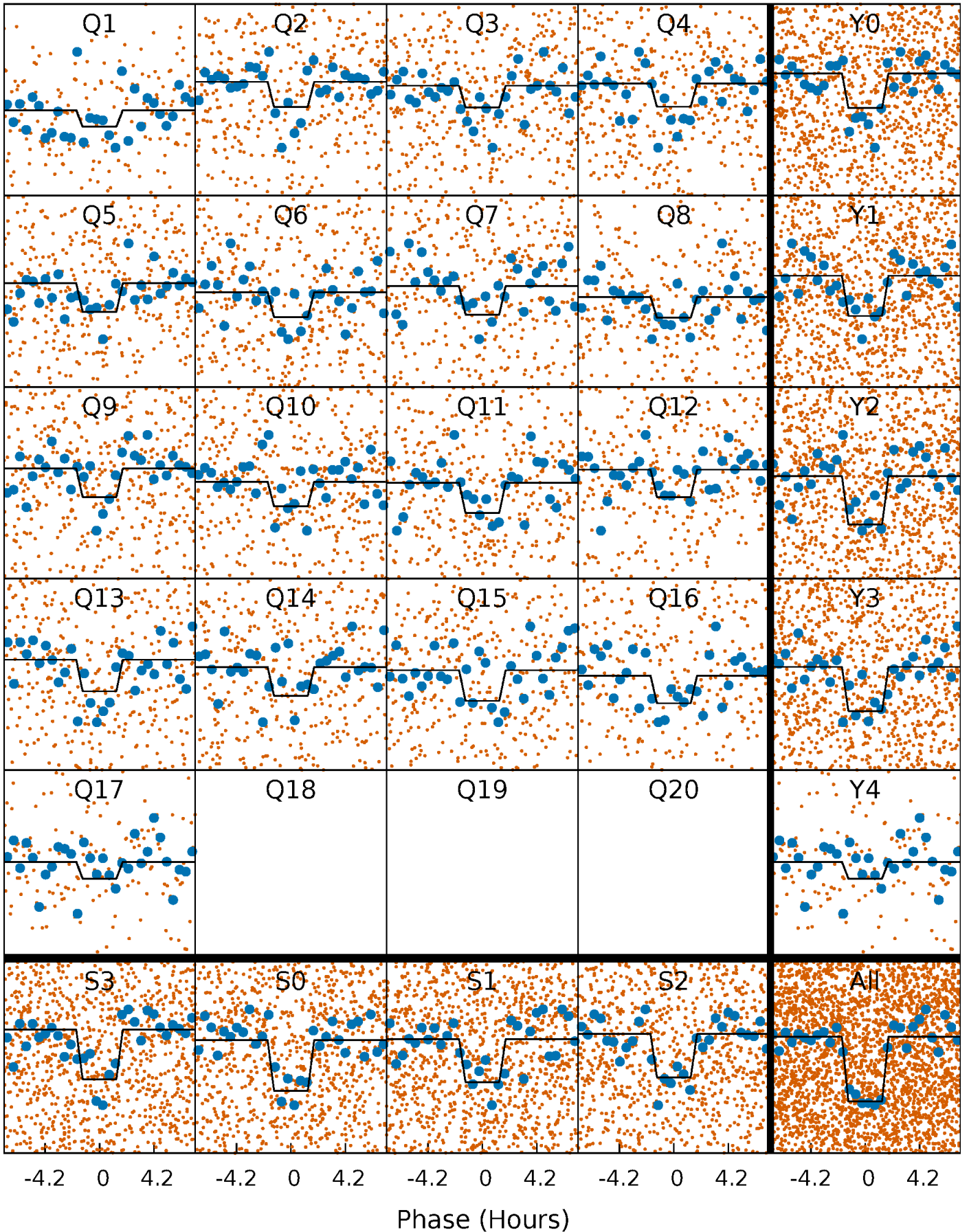
DV Quarter-Phased Transit Curves

TCE 006290935-01 P= 5.533317 Days $T_0=132.152143$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

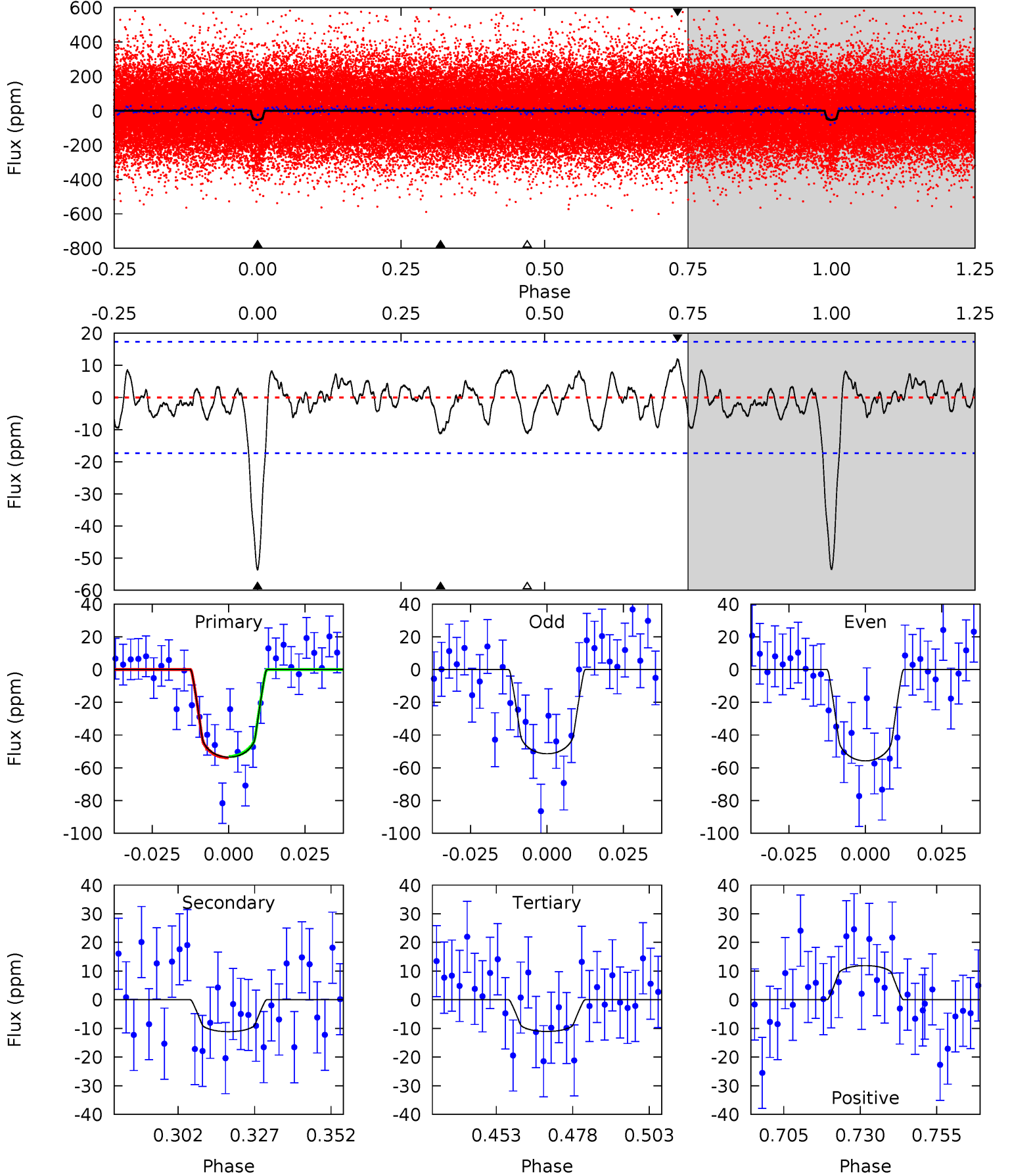
TCE 006290935-01 P= 5.533145 Days $T_0=132.164748$ (BKJD)



DV Model-Shift Uniqueness Test

006290935-01, P = 5.533317 Days, E = 126.618826 Days

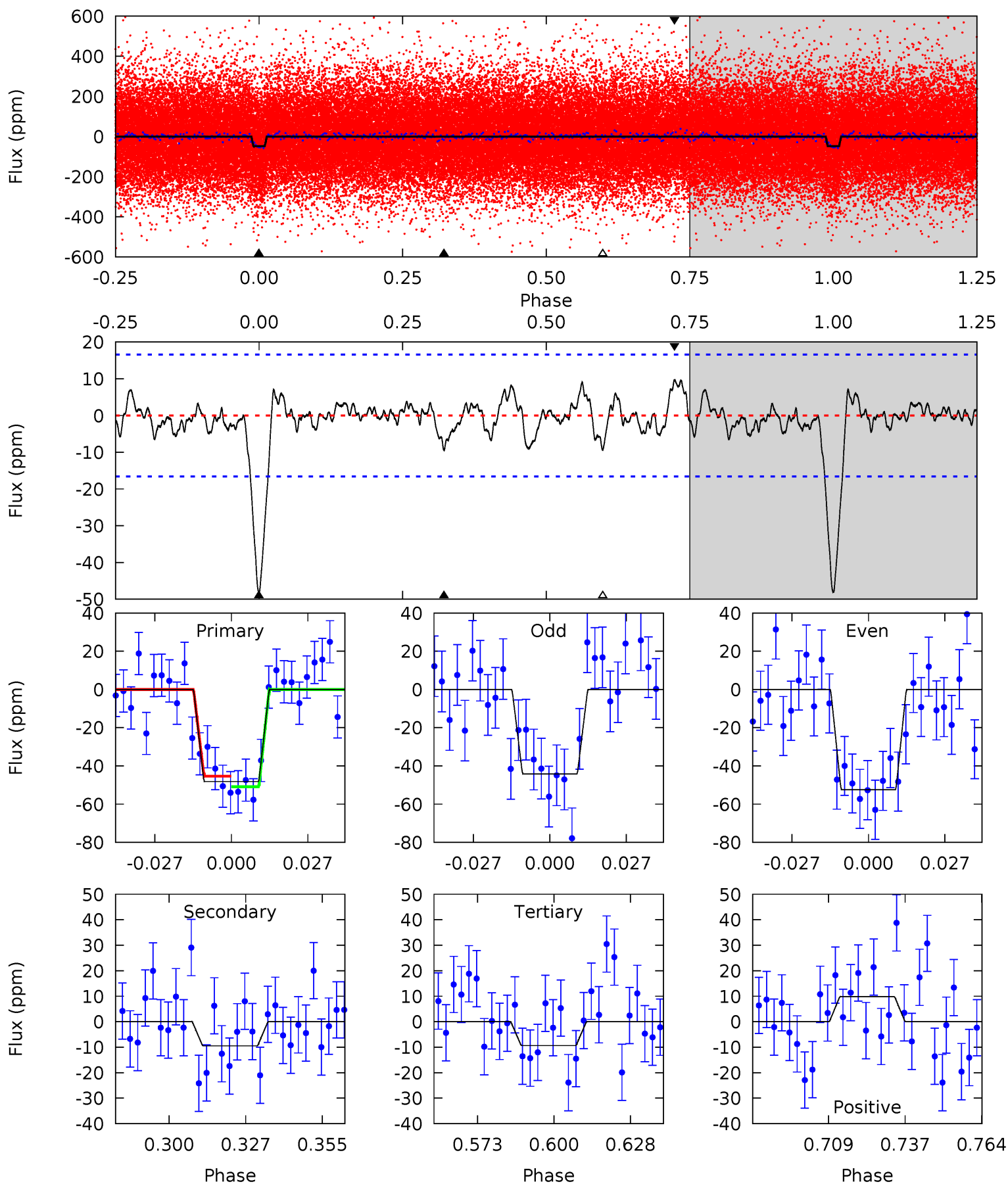
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	3.11	3.09	3.33	4.85	2.24	1.25	11.9	11.6	0.02	-0.22	0.60	1.00	0.18	0.11



Alt Model-Shift Uniqueness Test

006290935-01, P = 5.533145 Days, E = 126.631603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.77	2.73	2.86	4.83	2.21	1.02	11.3	11.2	0.04	-0.09	1.20	1.02	0.17	0.81



Stellar Parameters For KIC 006290935

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+83}_{-83}	$4.150^{+0.168}_{-0.112}$	$-0.220^{+0.150}_{-0.150}$	$1.425^{+0.248}_{-0.275}$	$1.047^{+0.094}_{-0.078}$	$0.509^{+0.463}_{-0.166}$
	+1%/-1%	+4%/-3%	+68%/-68%	+17%/-19%	+9%/-7%	+91%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006290935-01 / KOI 4302.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 4	$1.24^{+0.59}_{-0.56}$	1815^{+90}_{-100}	4190^{+1179}_{-564}	15^{+36}_{-8}
Alt.	-9 ± 3	$1.05^{+0.58}_{-0.50}$	1811^{+83}_{-95}	4293^{+1355}_{-692}	18^{+47}_{-12}

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

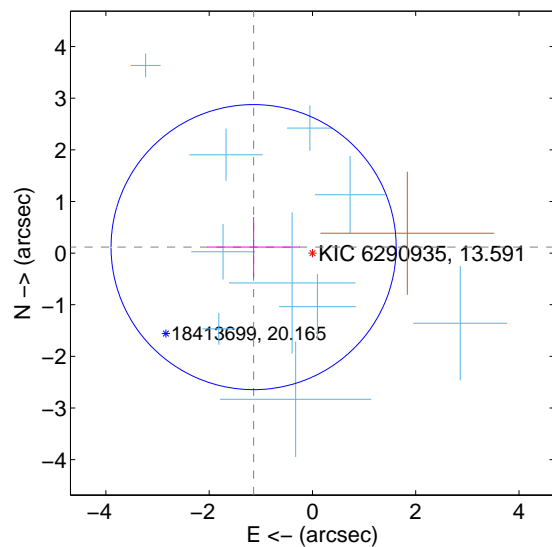
Supplemental centroid analysis for 006290935-01. Kepler magnitude: 13.59. Transit SNR 11.53

There are 10 quarters with good PRF difference image offsets

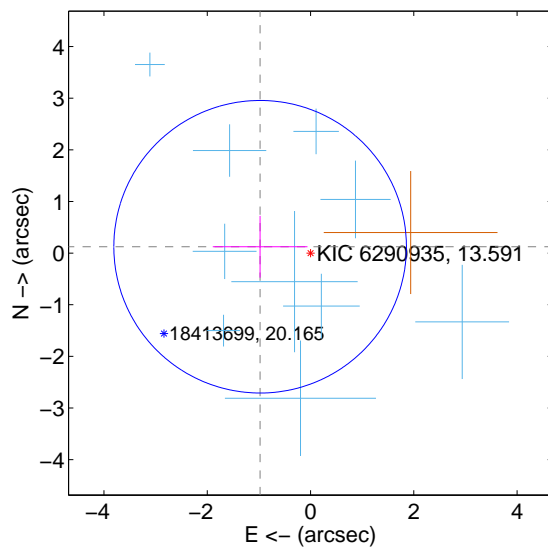
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.145 ± 0.920	1.24	1.139 ± 0.896	0.116 ± 0.582
PRF-fit source offset from KIC position	0.984 ± 0.944	1.04	0.976 ± 0.917	0.123 ± 0.598
photometric centroid source offset	0.39 ± 1.02	0.38	0.19 ± 1.08	0.34 ± 1.00

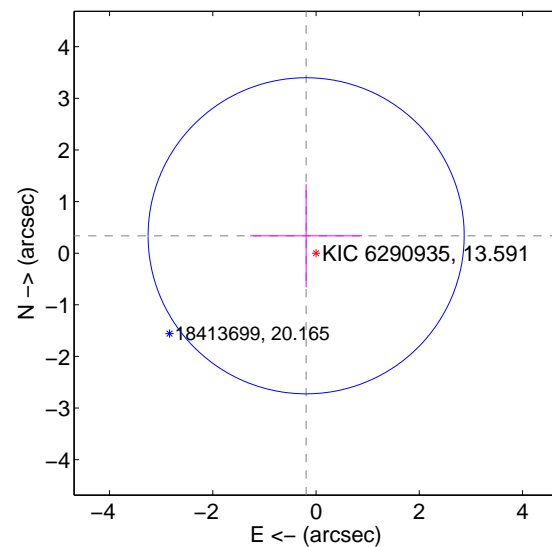
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

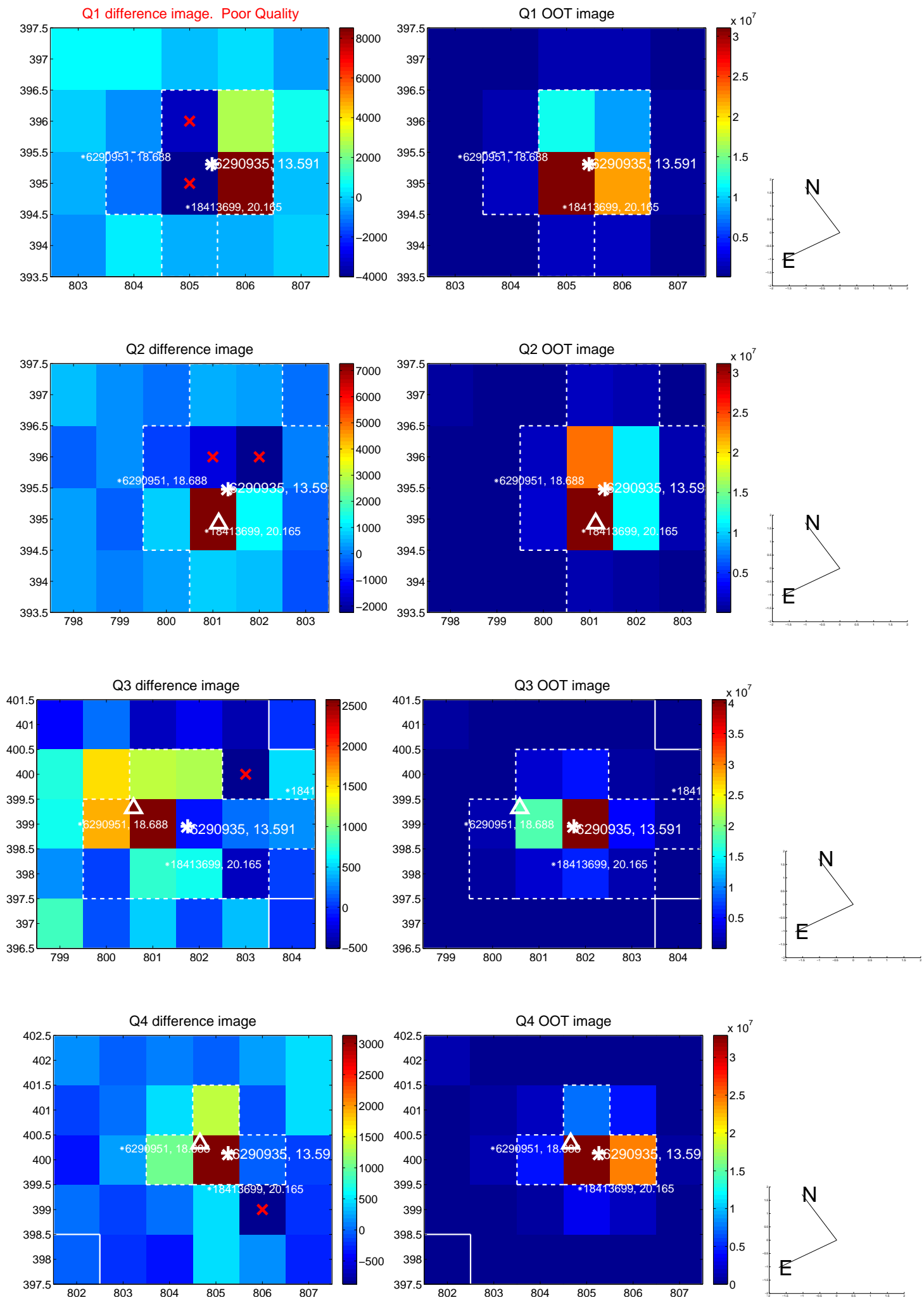


offset from photometric centroids

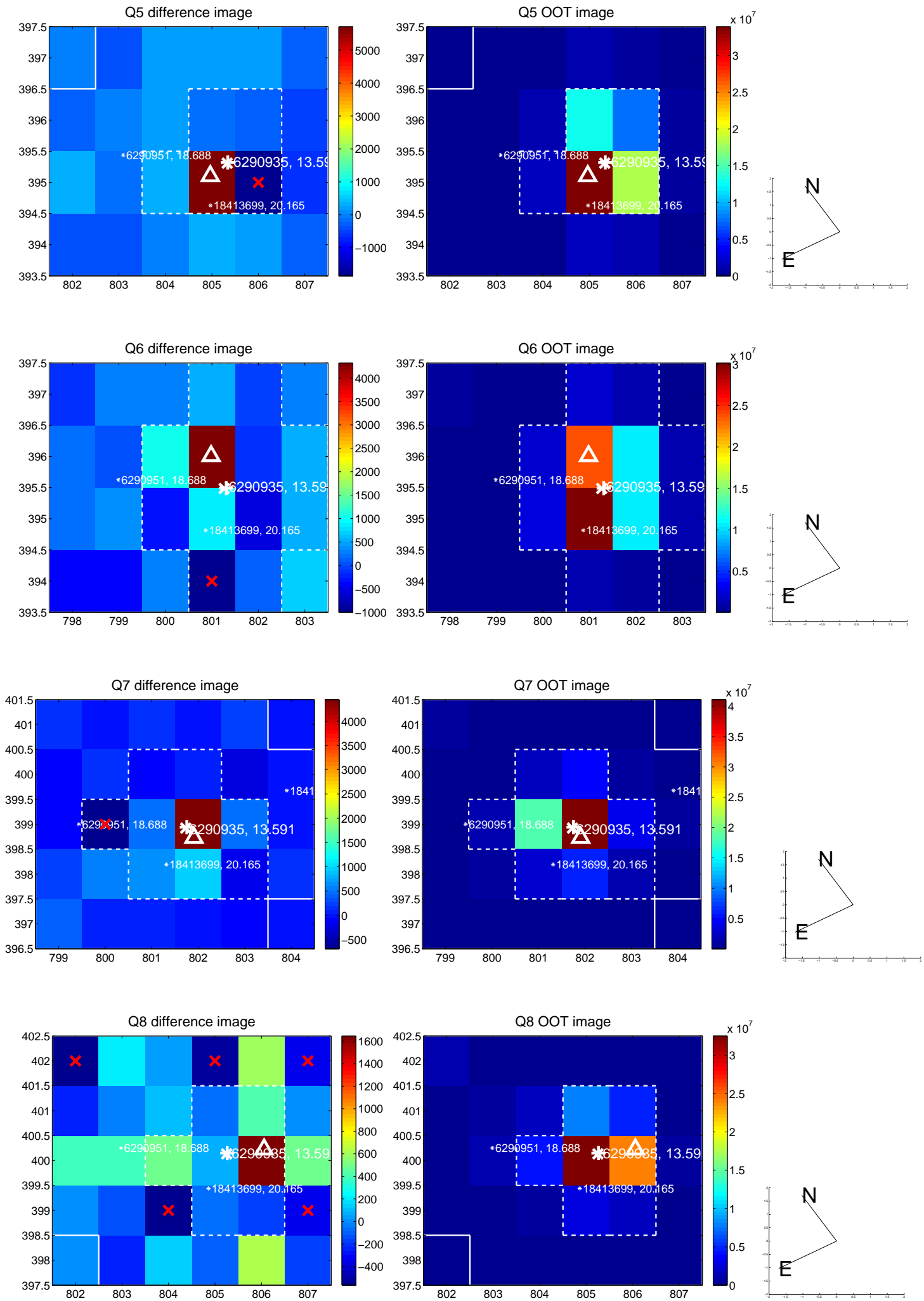


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

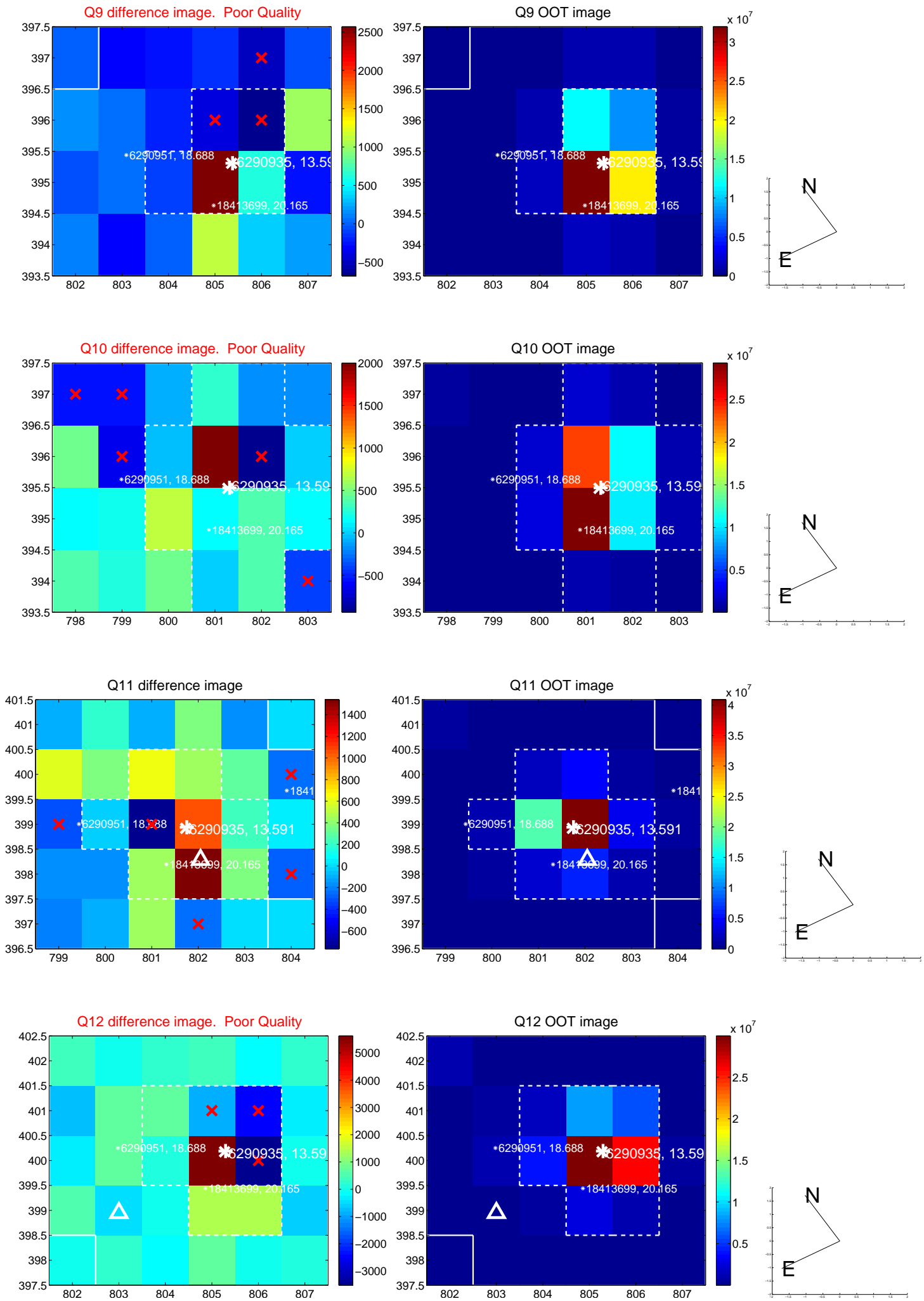
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



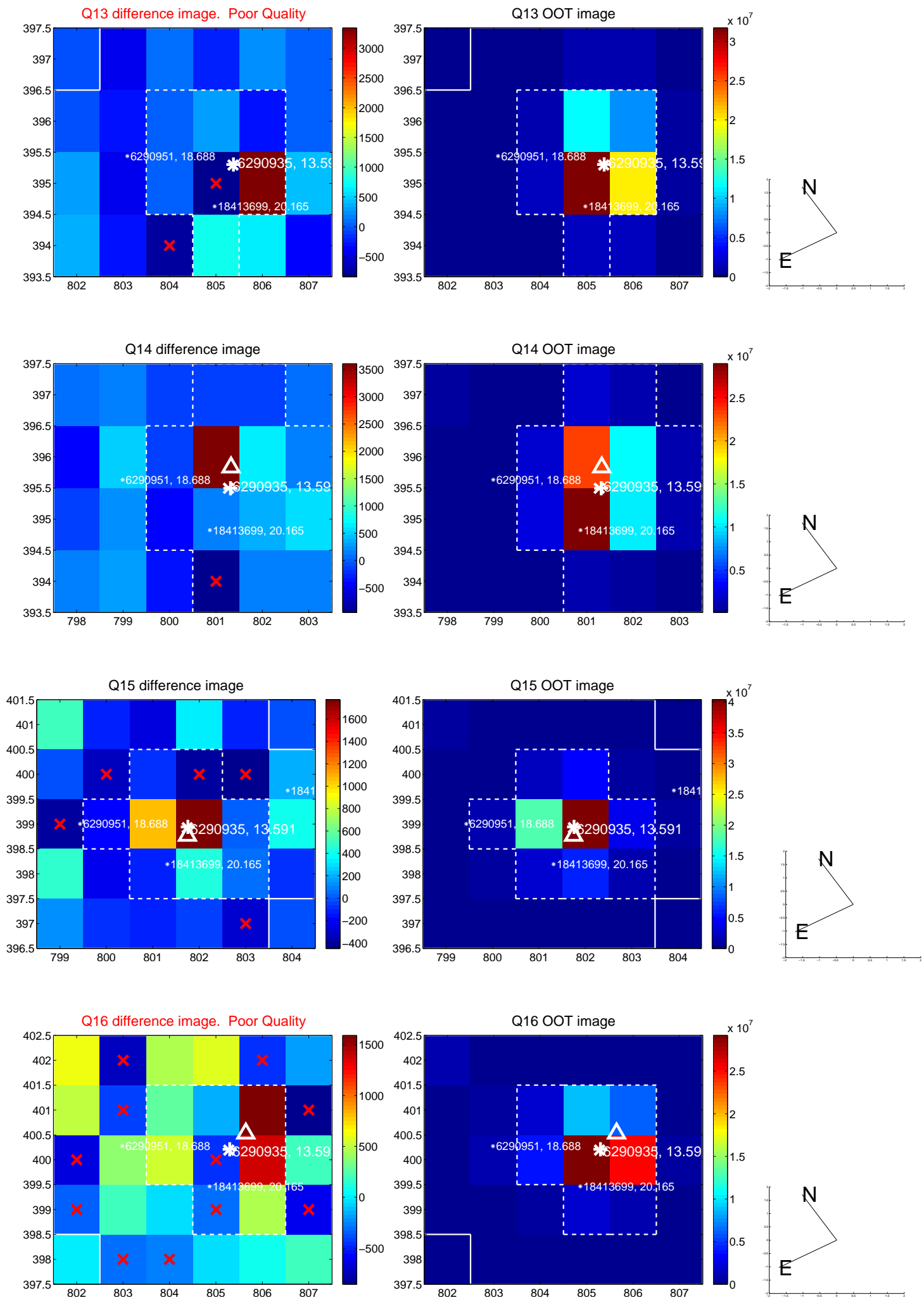
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

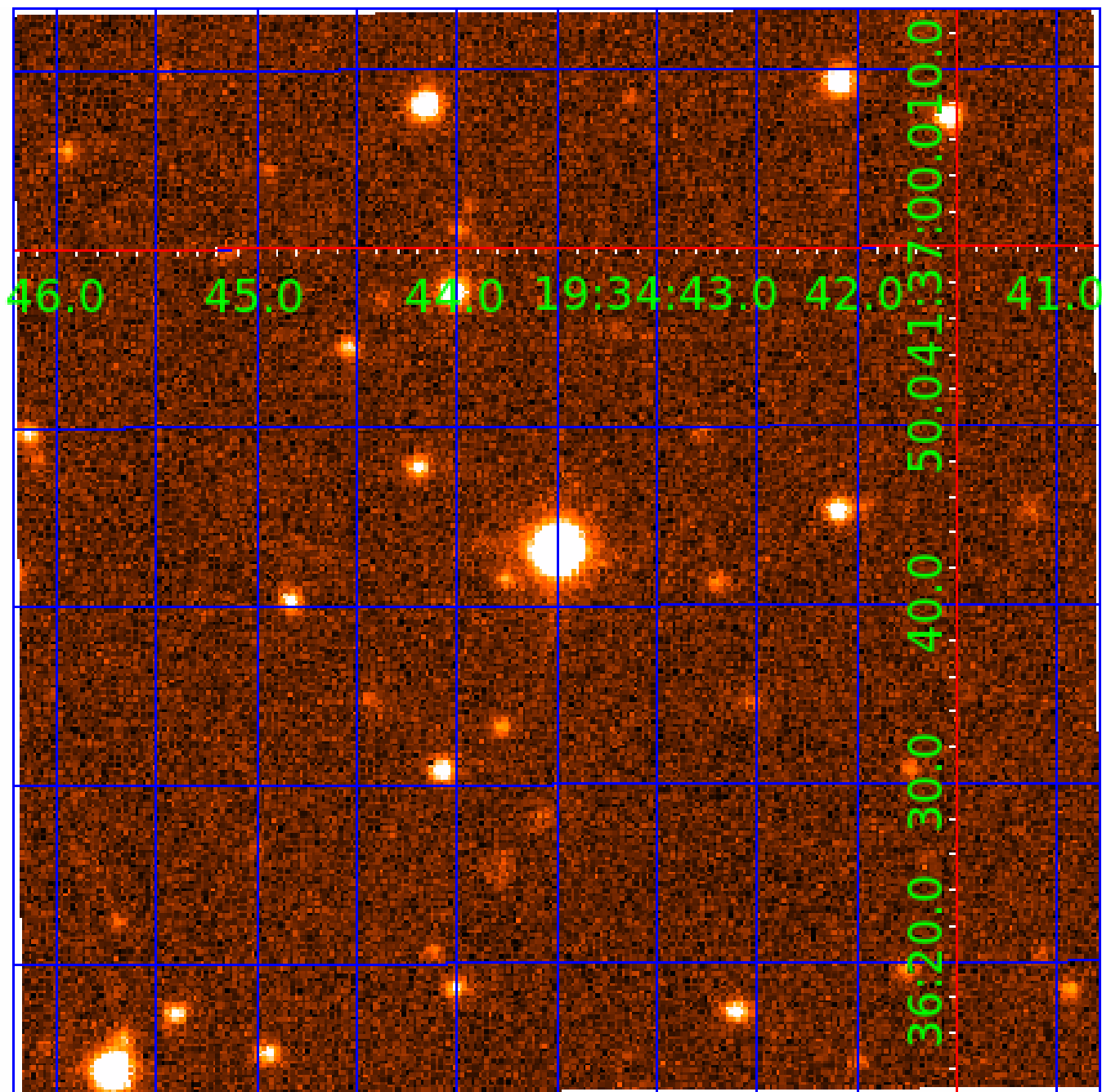


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006290935

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})
006290935-01	OBS	4302.01	5.533317	132.152143	54.2	2.904	11.0	11.5	1.43	6170	1.24	682.23
006290935-02	OBS	No	3.422508	132.710302	25.2	3.638	7.8	7.6	1.43	6170	0.83	1294.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006290935-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
006290935-02	OBS	FP	0.05	1	0	0	0	LPP_DV

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

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

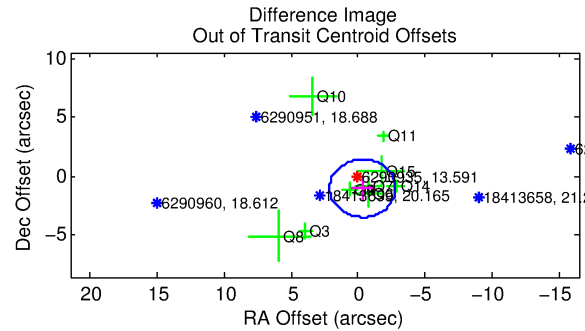
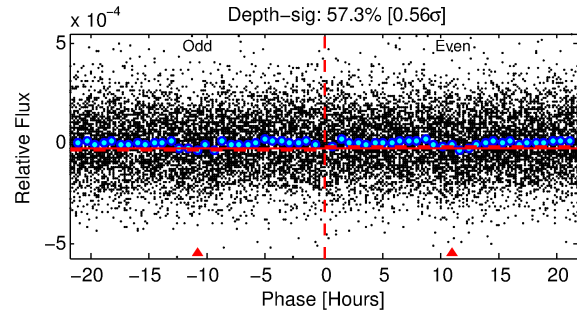
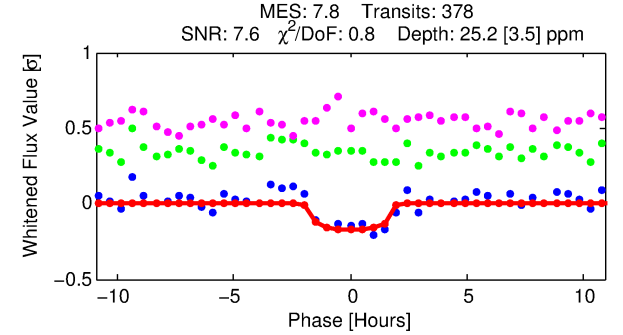
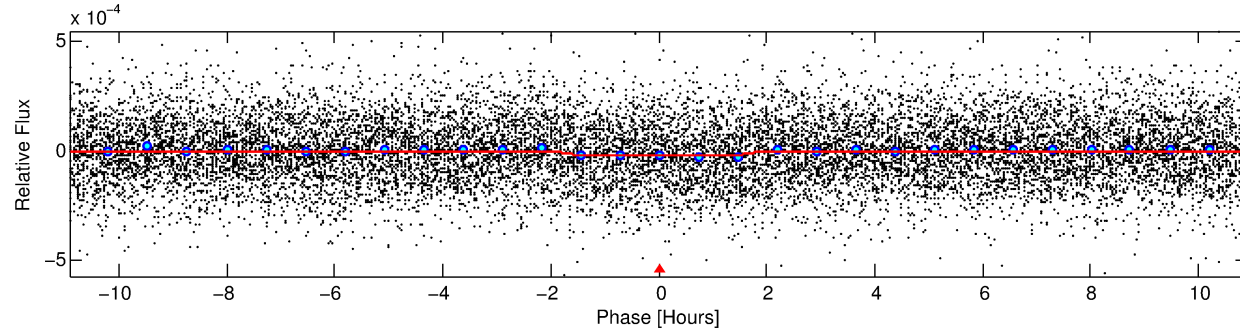
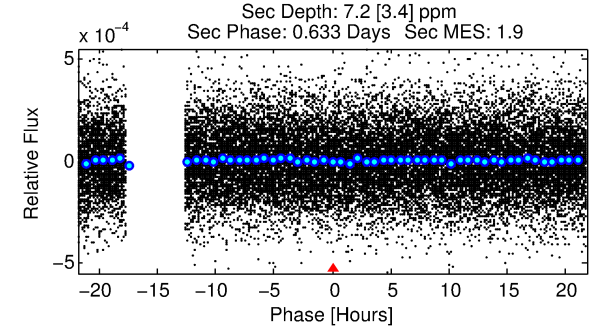
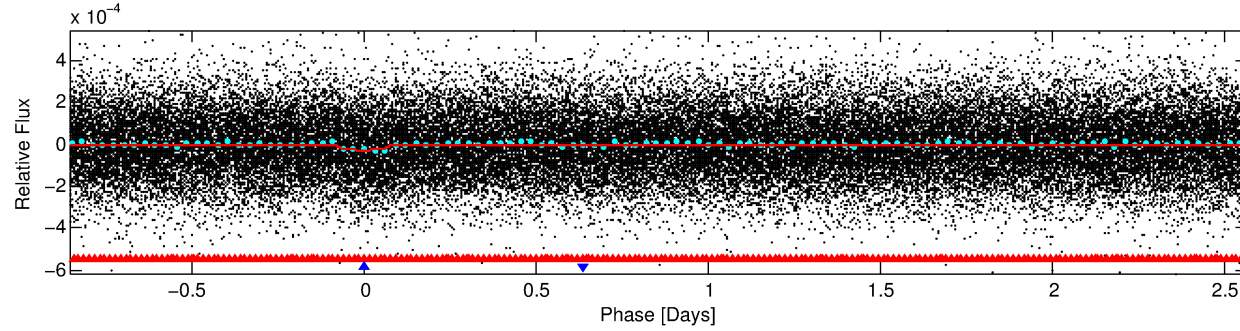
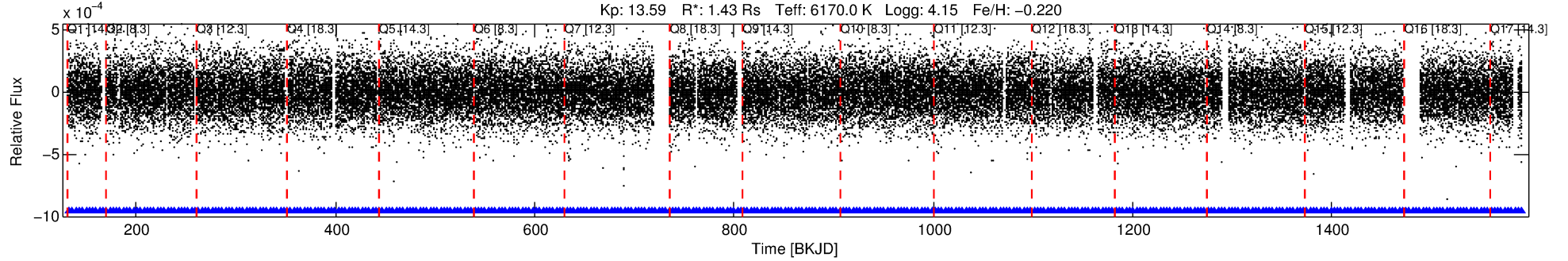
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006290935-02

No Significant Match Found

DV One-Page Summary

KIC: 6290935 Candidate: 2 of 2 Period: 3.423 d
KOI: K04302 Corr: No Ephemeris Match



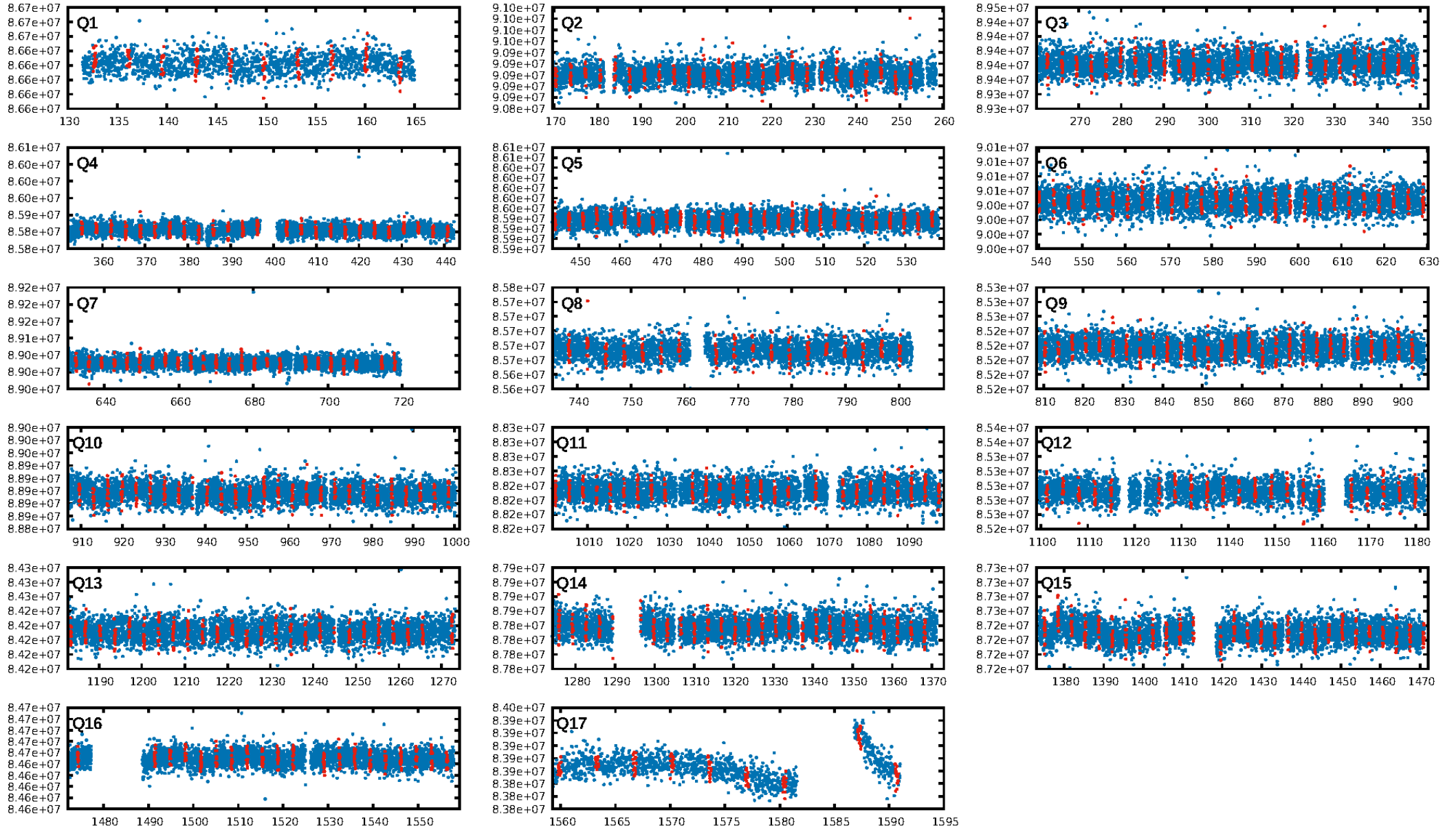
DV Fit Results:

Period = 3.42251 [0.00004] d
Epoch = 132.7103 [0.0072] BKJD
Rp/R* = 0.0054 [0.0027]
a/R* = 3.45 [8.65]
b = 0.89 [0.63]
Seff = 1294.55 [379.54]
Teq = 1530 [112] K
Rp = 0.84 [0.45] Re
a = 0.0451 [0.0082] AU
Ag = 11.64 [13.39] [0.79σ]
Teffp = 4368 [1217] K [2.32σ]

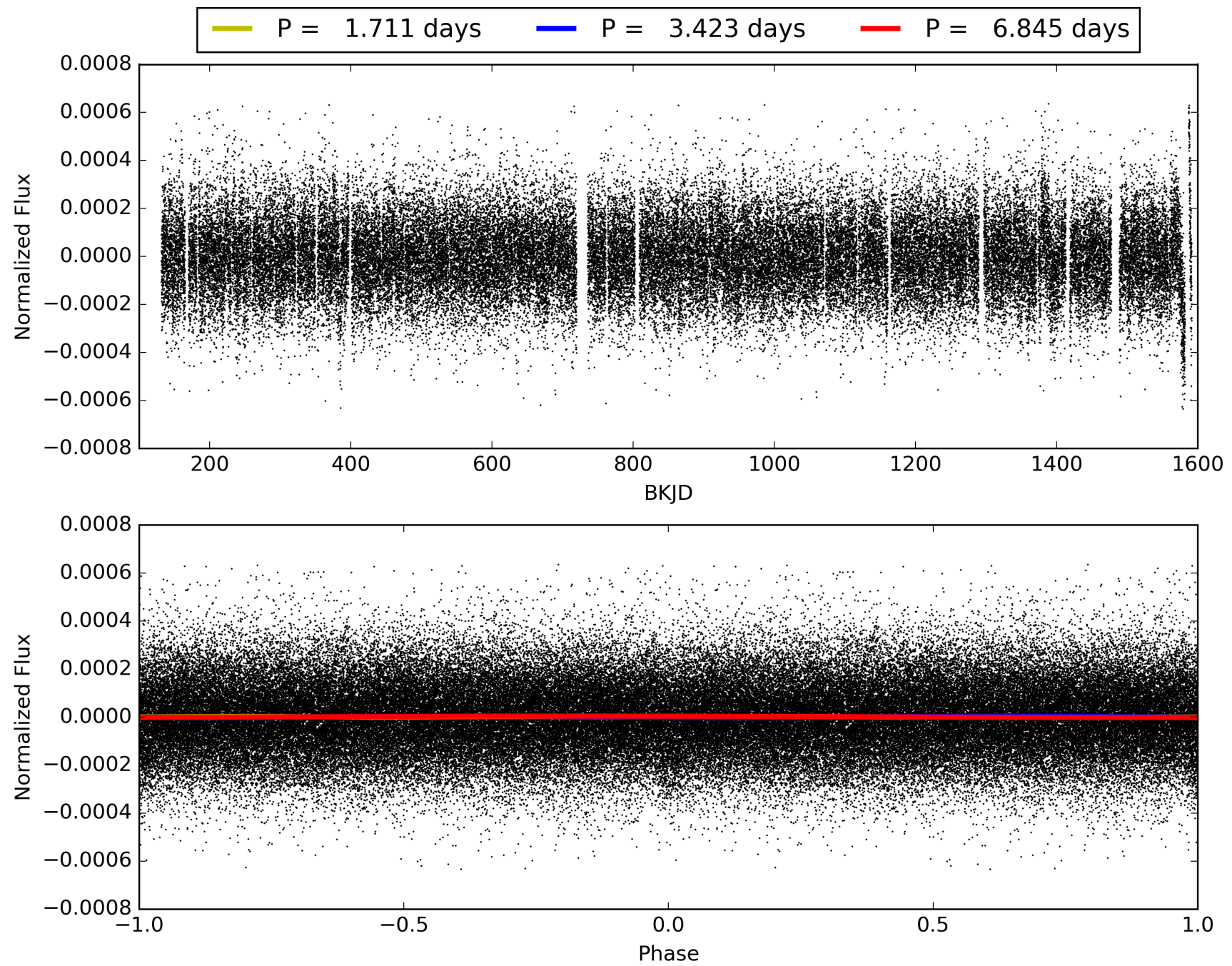
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [10.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.21e-15
RollingBand-fgt: 1.00 [359/359]
GhostDiagnostic-chr: 6.712
Centroid-sig: 21.7%
Centroid-so: 1.869 arcsec [1.17σ]
OotOffset-rm: 1.050 arcsec [1.29σ]
KicOffset-rm: 1.105 arcsec [1.22σ]
OotOffset-st: 3/4/2/1 [10]
KicOffset-st: 3/4/2/1 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006290935-02, PDC Light Curves

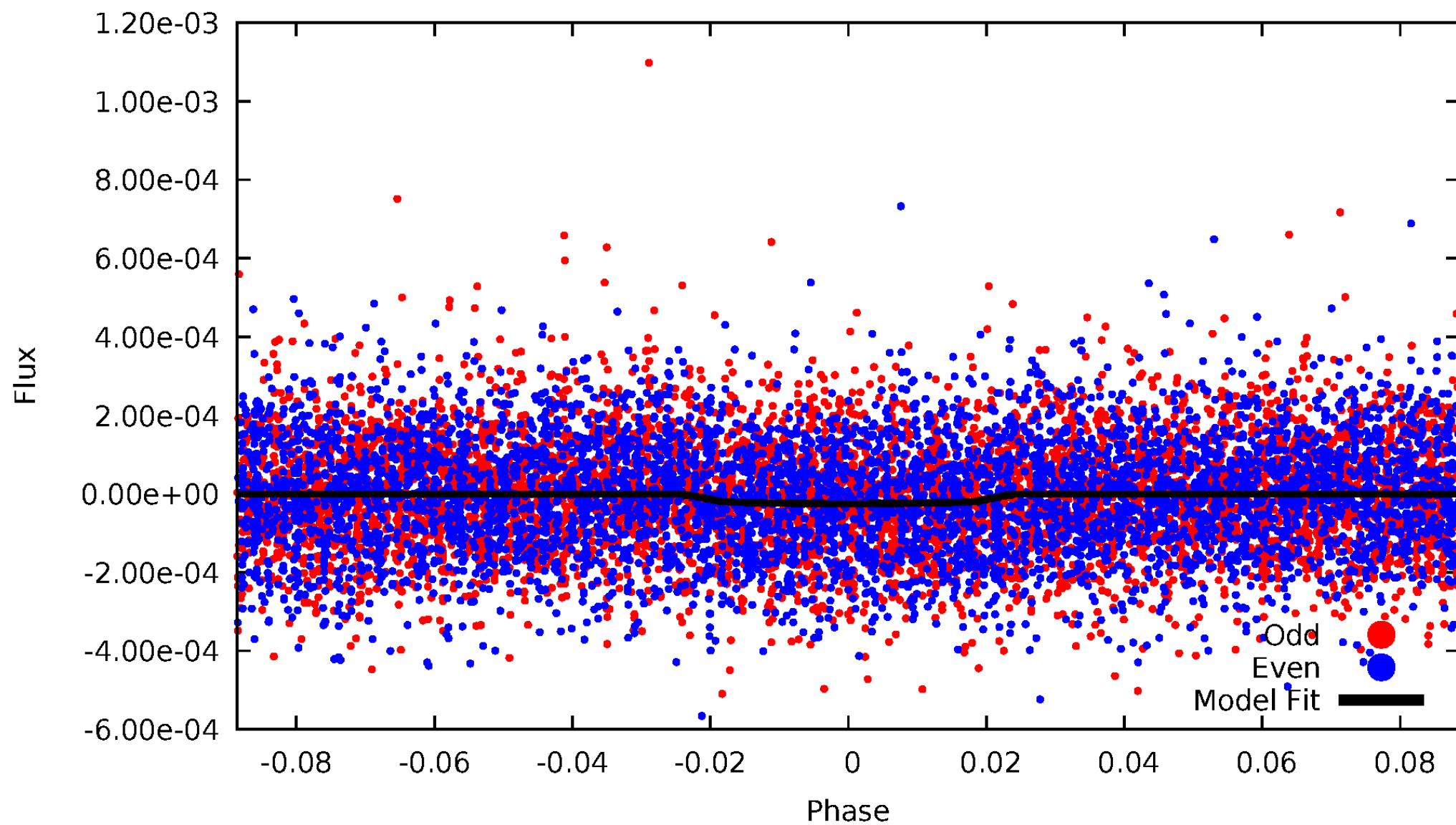


TCE 006290935-02



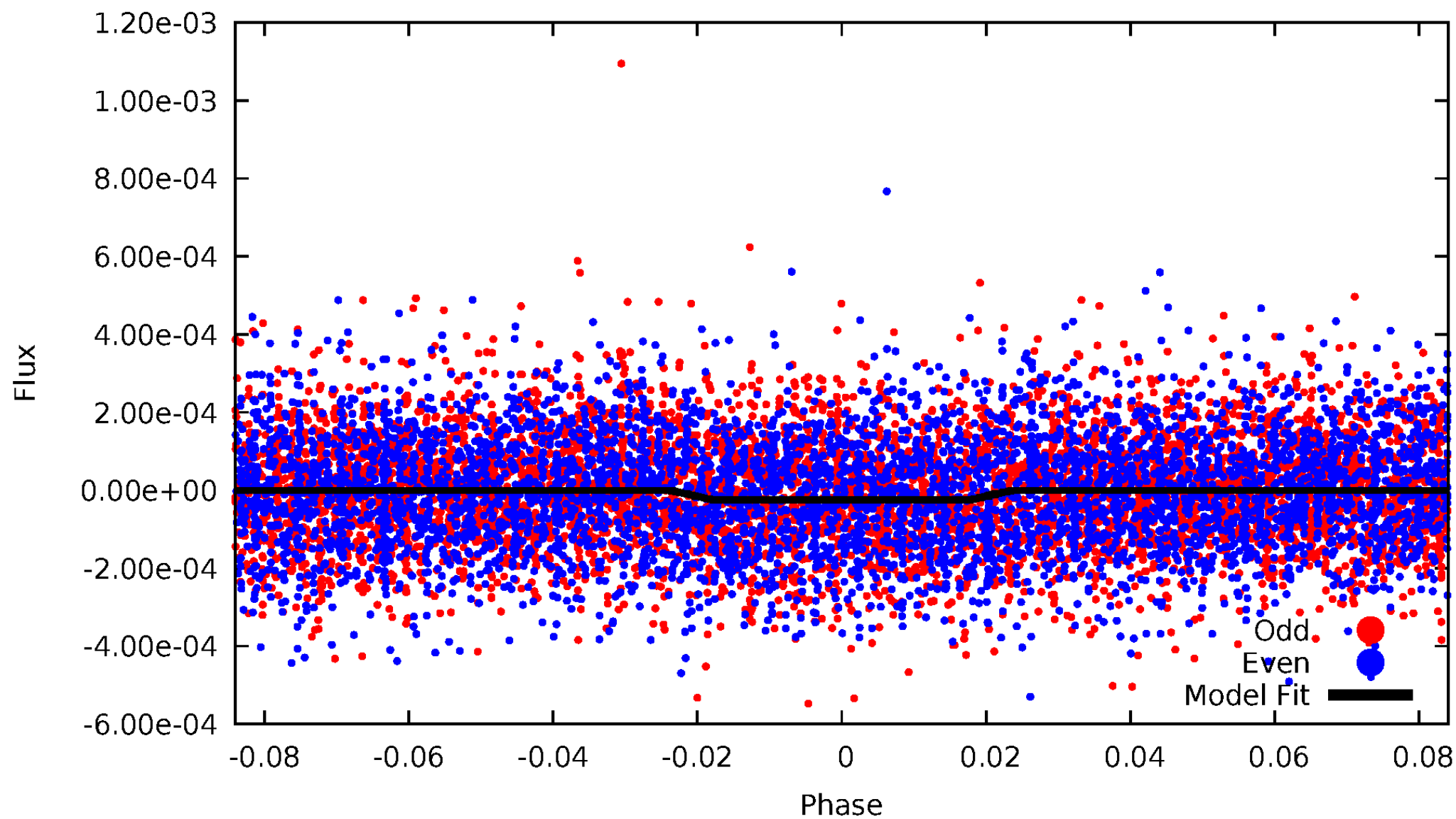
DV Odd/Even

TCE 006290935-02



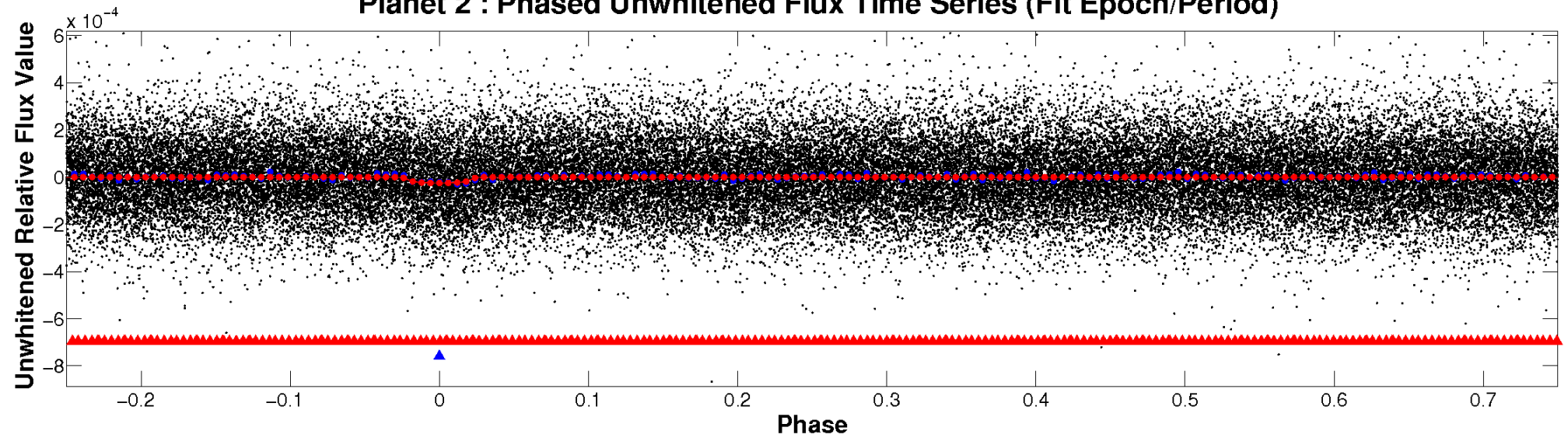
ALT Odd/Even

TCE 006290935-02

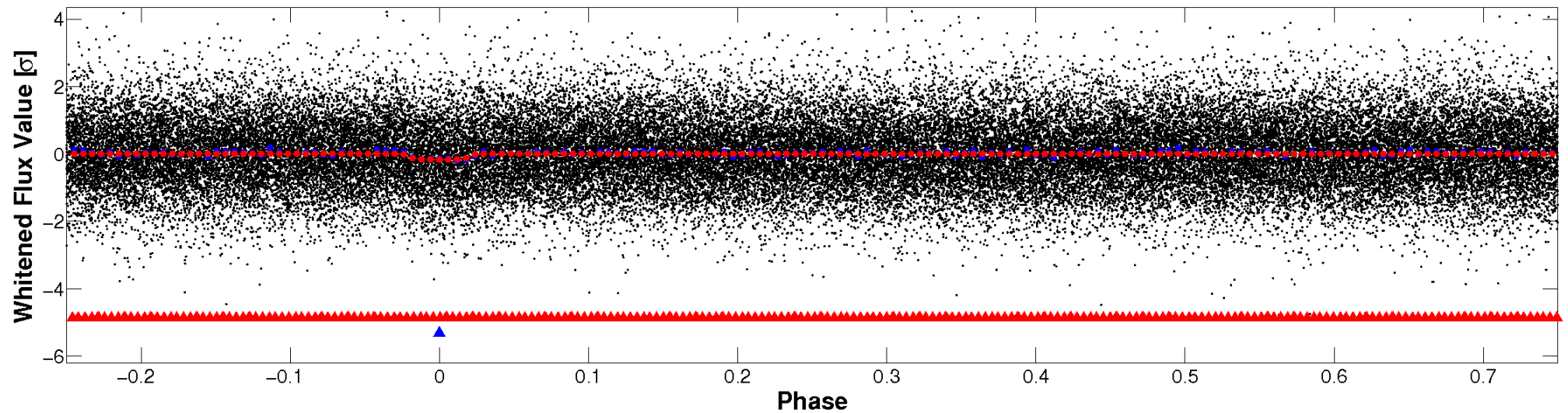


Non-Whitened Vs. Whitened Light Curve

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

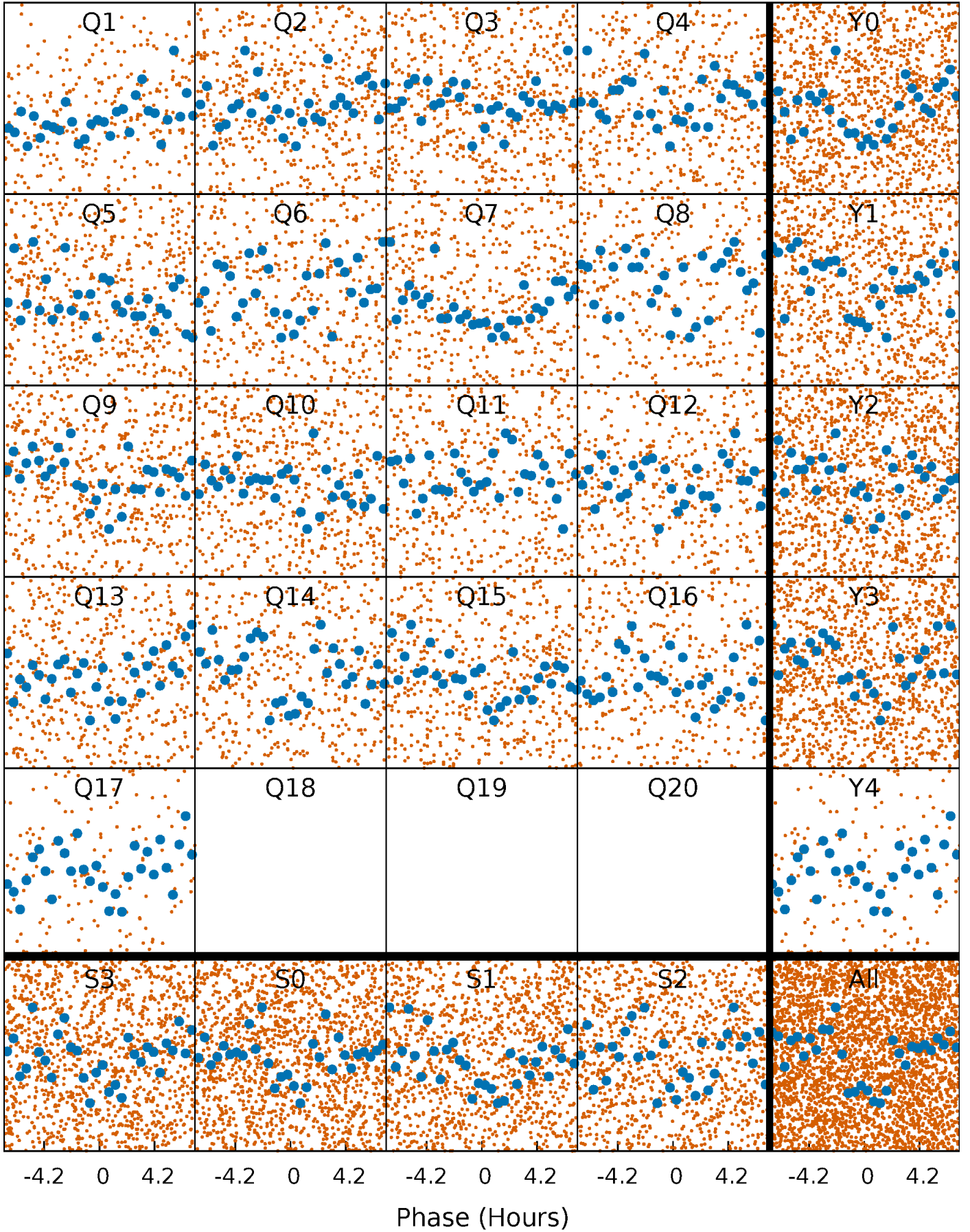


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



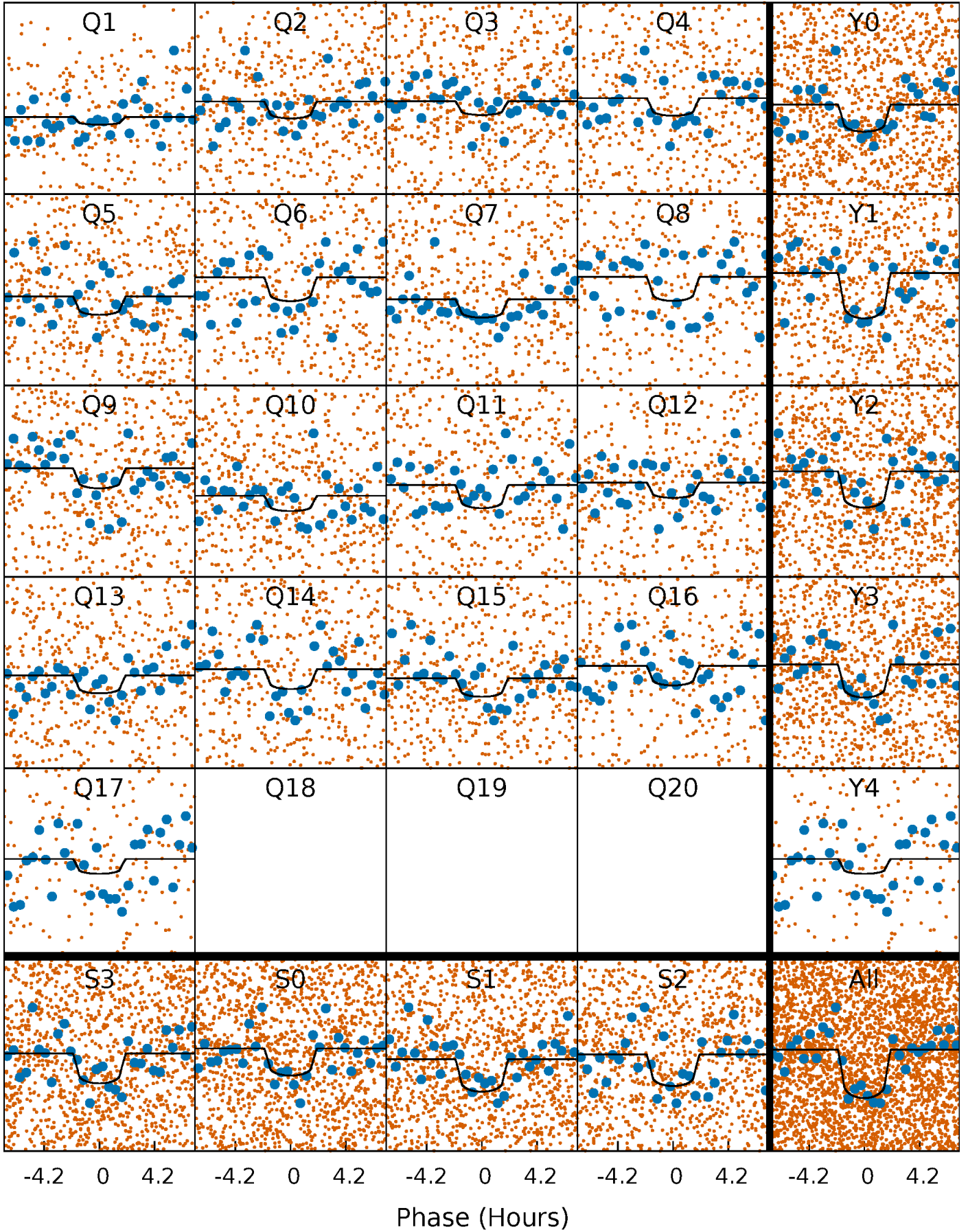
PDC Quarter-Phased Transit Curves

TCE 006290935-02 P= 3.422508 Days $T_0=132.710303$ (BKJD)



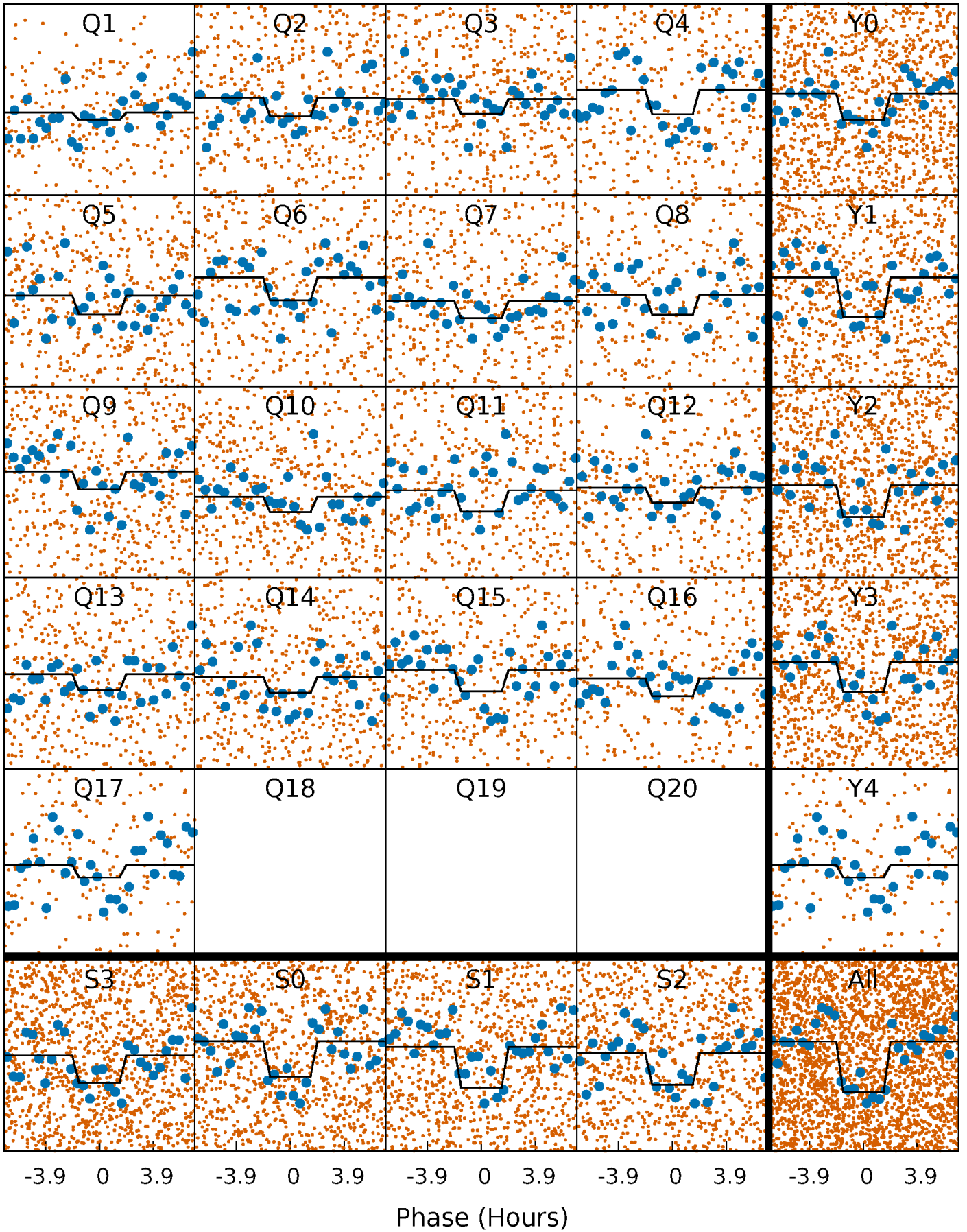
DV Quarter-Phased Transit Curves

TCE 006290935-02 P= 3.422508 Days $T_0=132.710303$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

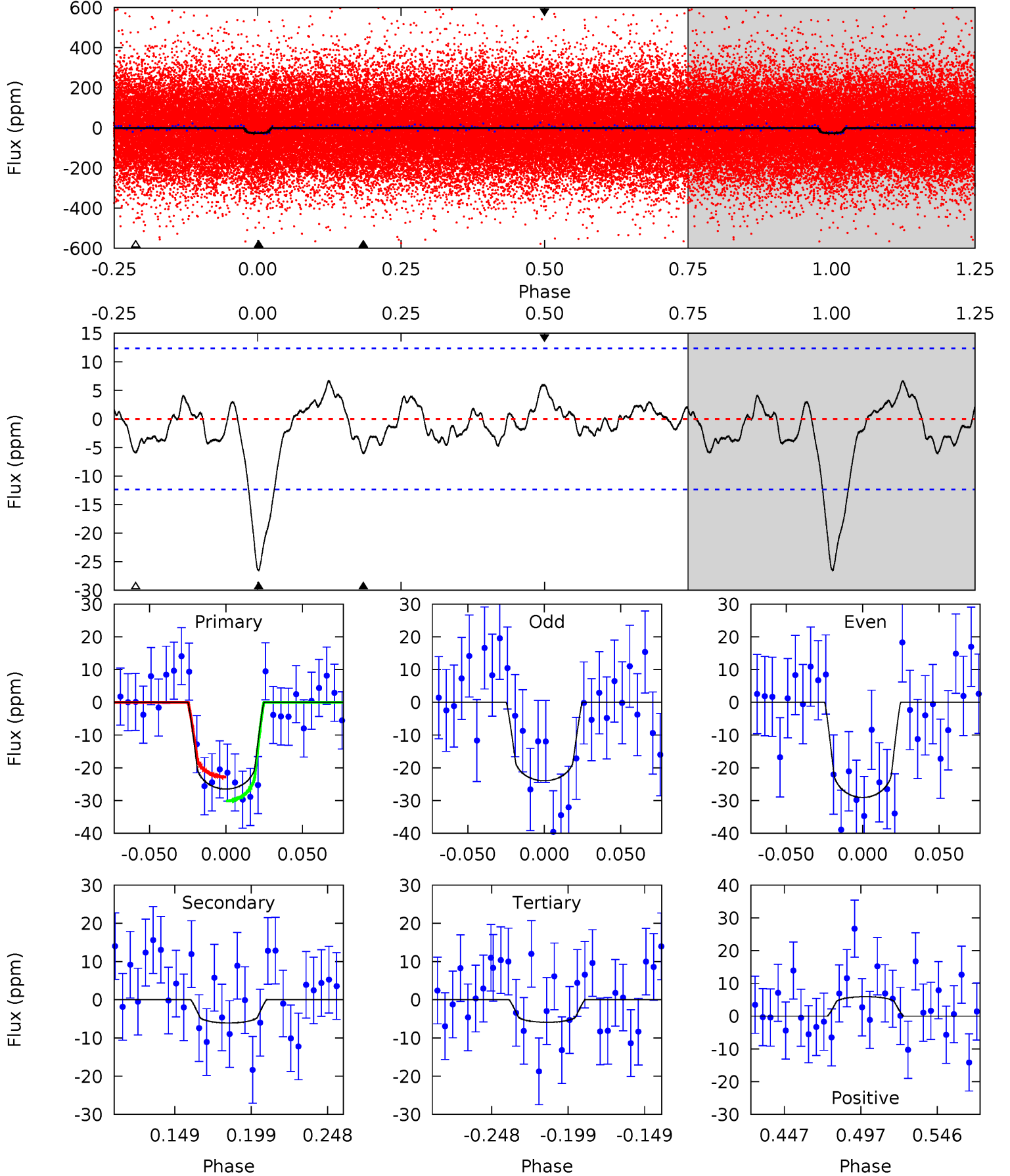
TCE 006290935-02 P= 3.422500 Days $T_0=132.716242$ (BKJD)



DV Model-Shift Uniqueness Test

006290935-02, P = 3.422508 Days, E = 129.287795 Days

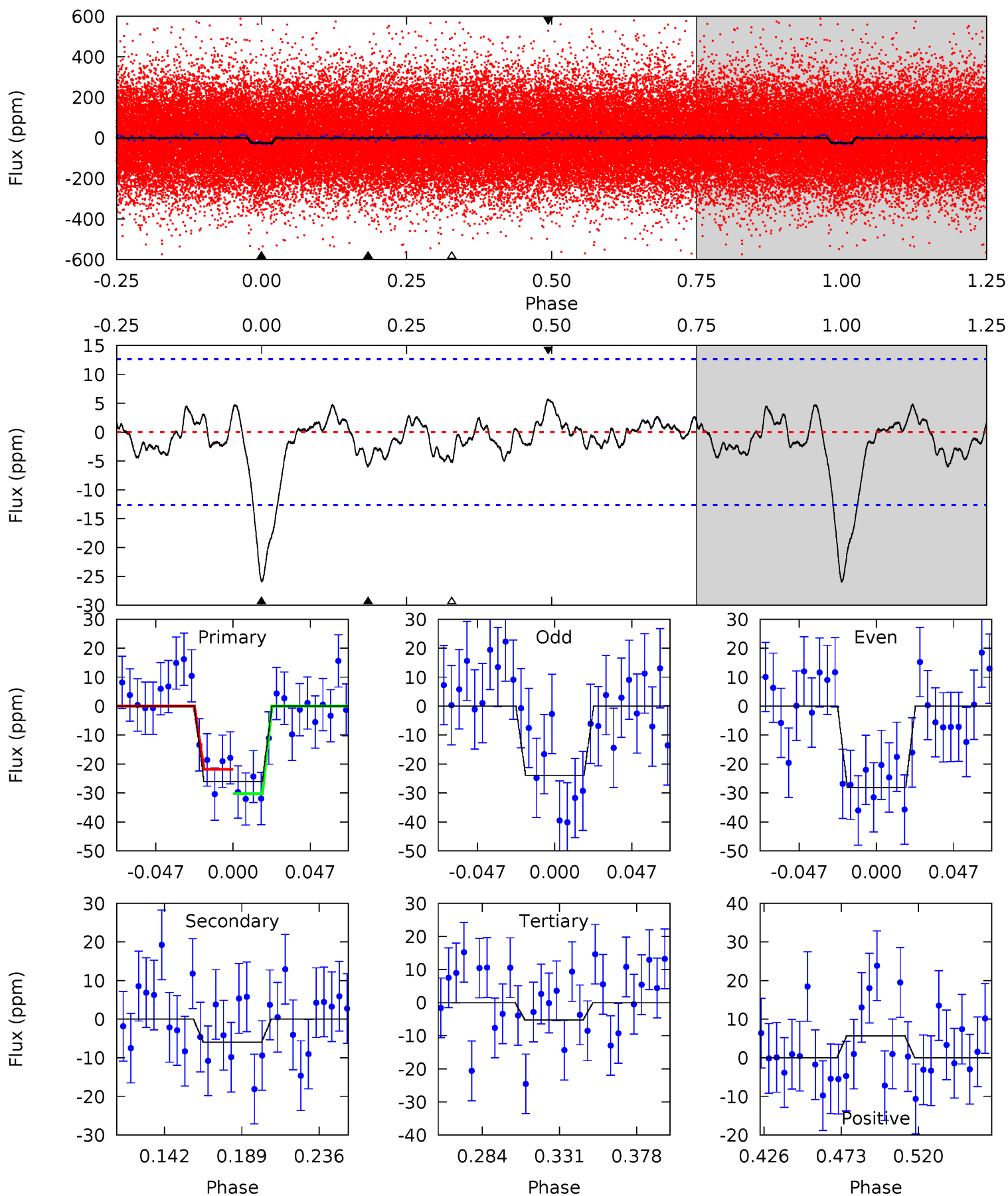
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.32	2.25	2.26	4.71	1.96	0.99	7.85	7.84	0.07	0.05	0.98	0.94	0.20	1.40



Alt Model-Shift Uniqueness Test

006290935-02, P = 3.422500 Days, E = 129.293742 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.70	2.22	1.94	2.11	4.72	1.98	0.83	7.76	7.59	0.28	0.11	0.79	1.05	0.18	1.56



Stellar Parameters For KIC 006290935

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6170^{+83}_{-83}	$4.150^{+0.168}_{-0.112}$	$-0.220^{+0.150}_{-0.150}$	$1.425^{+0.248}_{-0.275}$	$1.047^{+0.094}_{-0.078}$	$0.509^{+0.463}_{-0.166}$
	+1%/-1%	+4%/-3%	+68%/-68%	+17%/-19%	+9%/-7%	+91%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006290935-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 3	$0.82^{+0.43}_{-0.39}$	2121^{+100}_{-111}	4324^{+1443}_{-704}	$9.615^{+29.175}_{-6.040}$
Alt.	-6 ± 3	$0.81^{+0.43}_{-0.40}$	2129^{+102}_{-107}	4319^{+1573}_{-697}	$9.773^{+29.819}_{-6.233}$

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

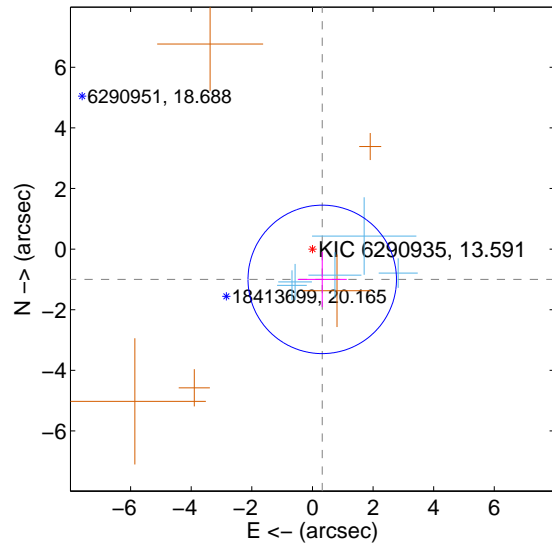
Supplemental centroid analysis for 006290935-02. Kepler magnitude: 13.59. Transit SNR 7.59

There are 5 quarters with good PRF difference image offsets

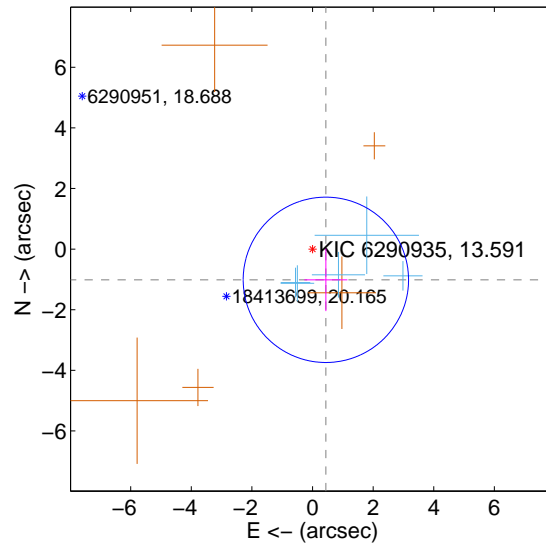
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.050 ± 0.816	1.29	-0.323 ± 0.807	-0.999 ± 0.911
PRF-fit source offset from KIC position	1.105 ± 0.909	1.22	-0.440 ± 0.711	-1.014 ± 1.030
photometric centroid source offset	1.87 ± 1.59	1.17	1.73 ± 1.61	0.71 ± 1.48

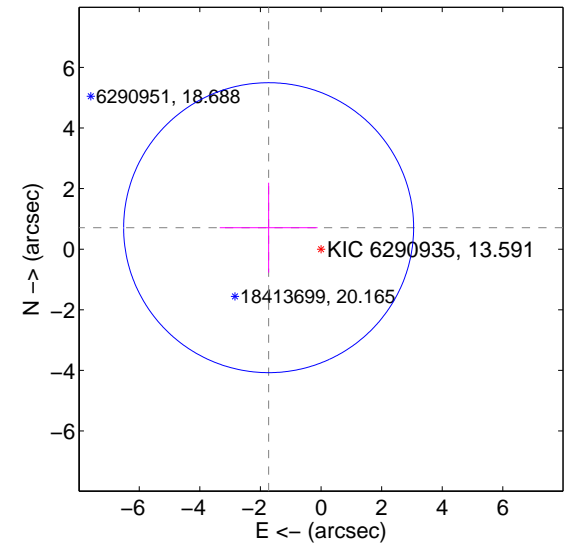
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

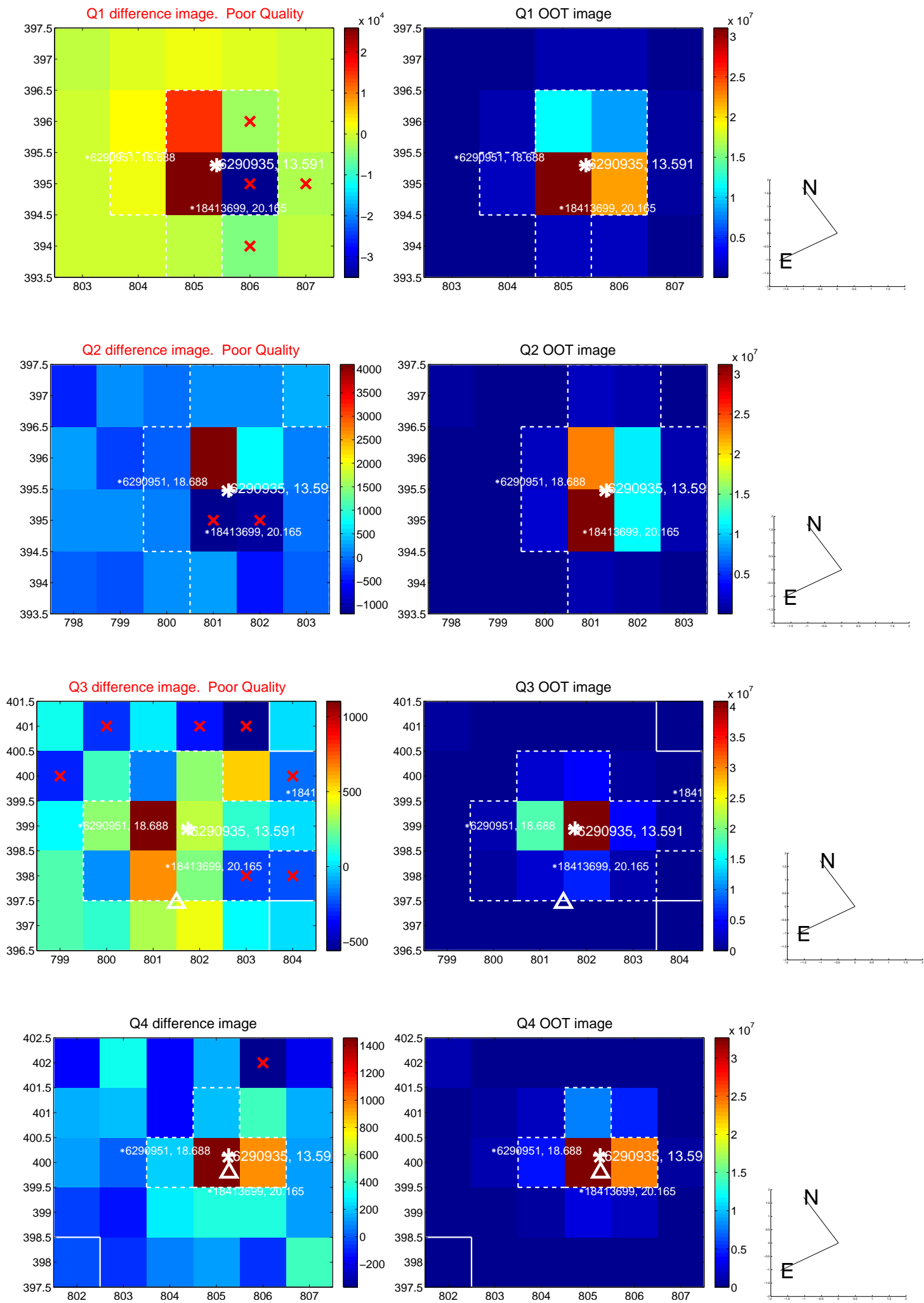


offset from photometric centroids

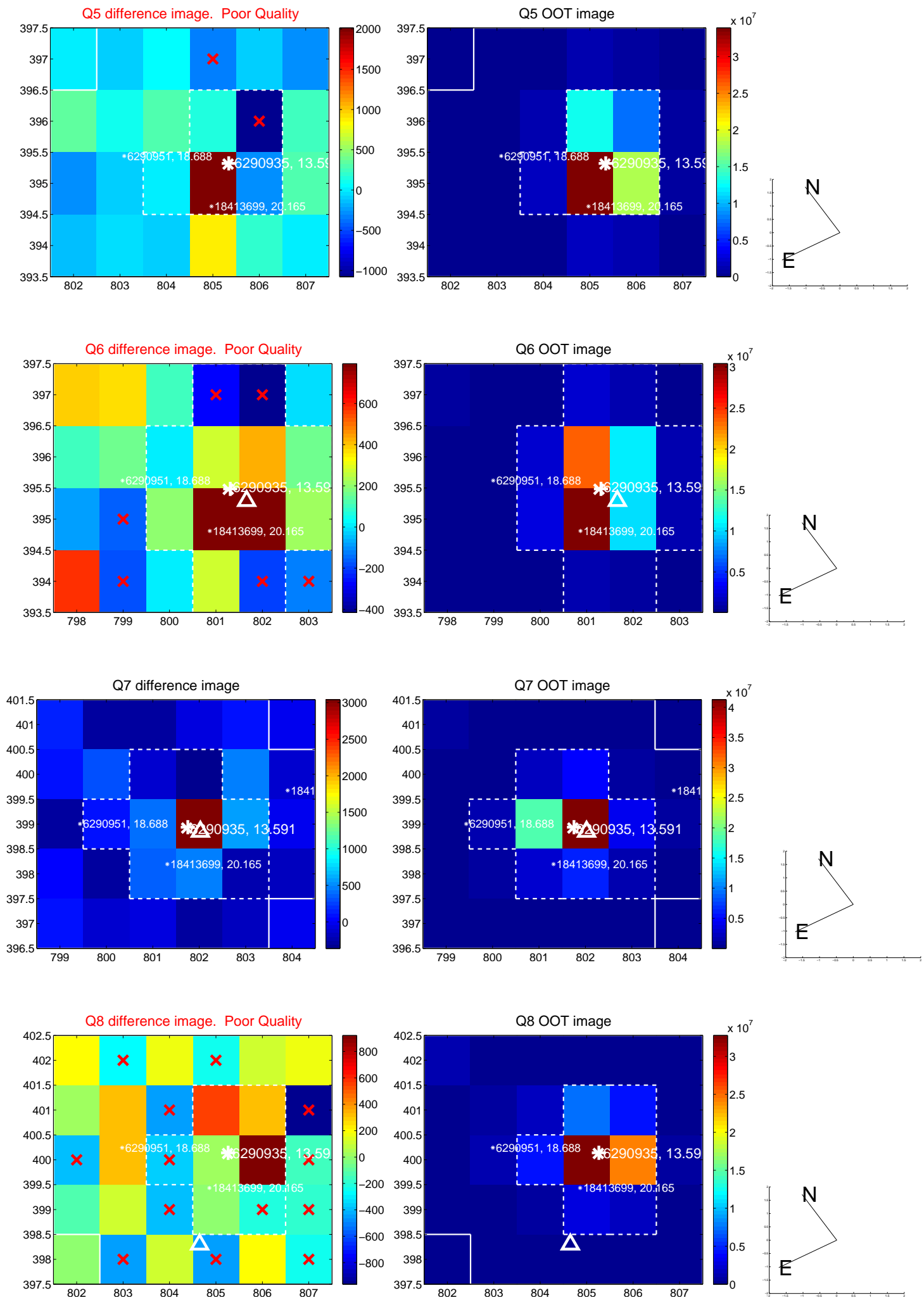


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

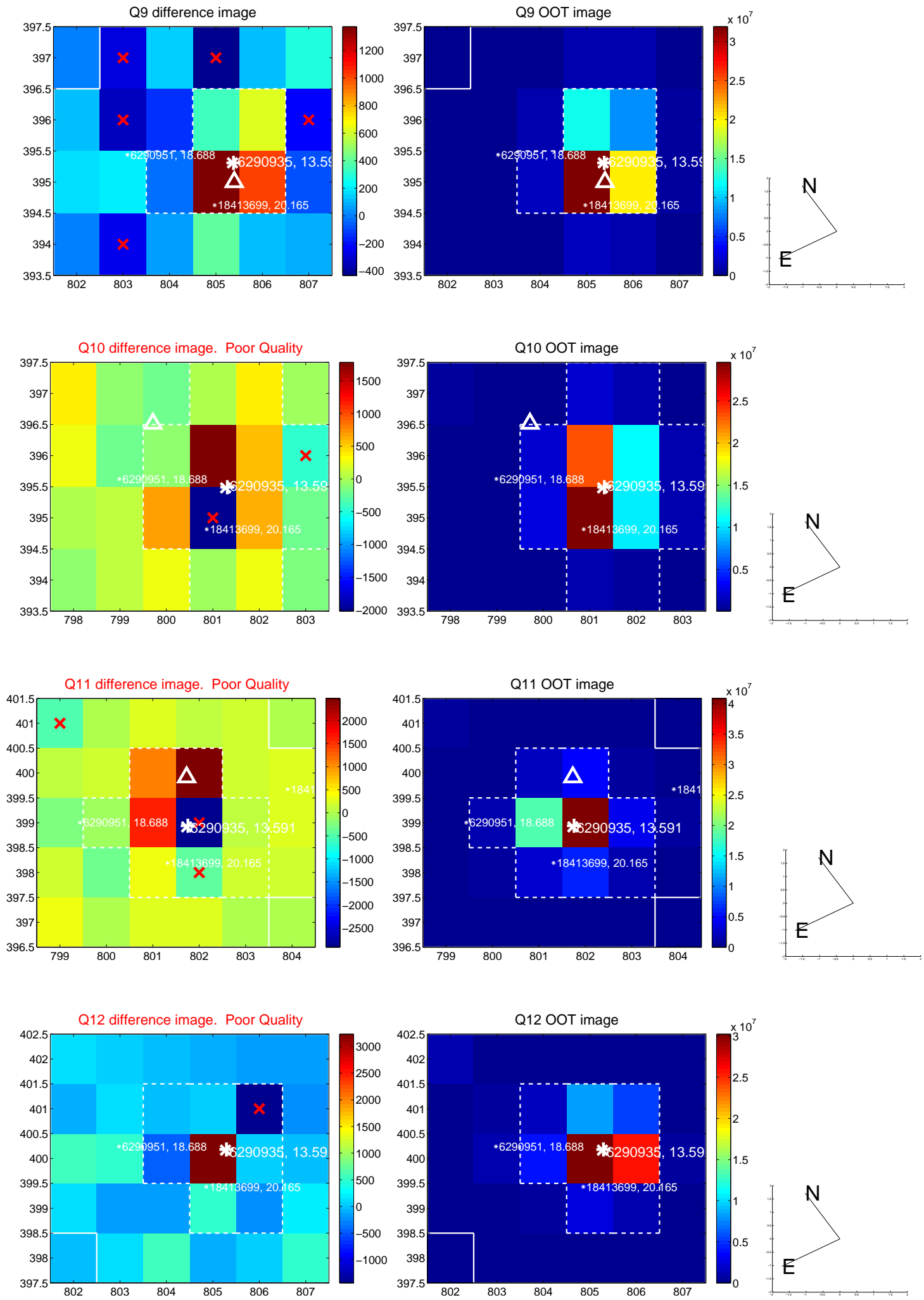
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



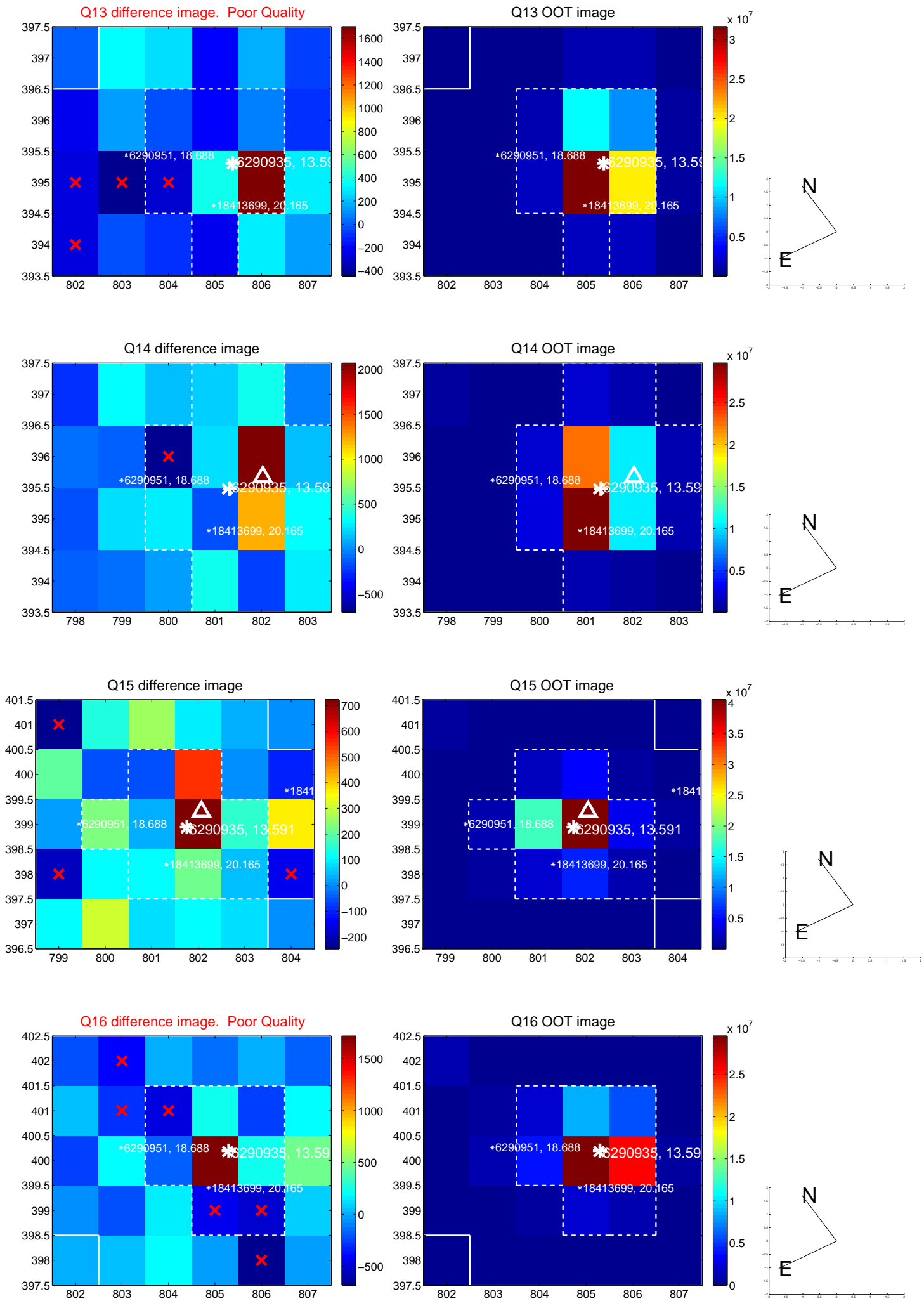
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



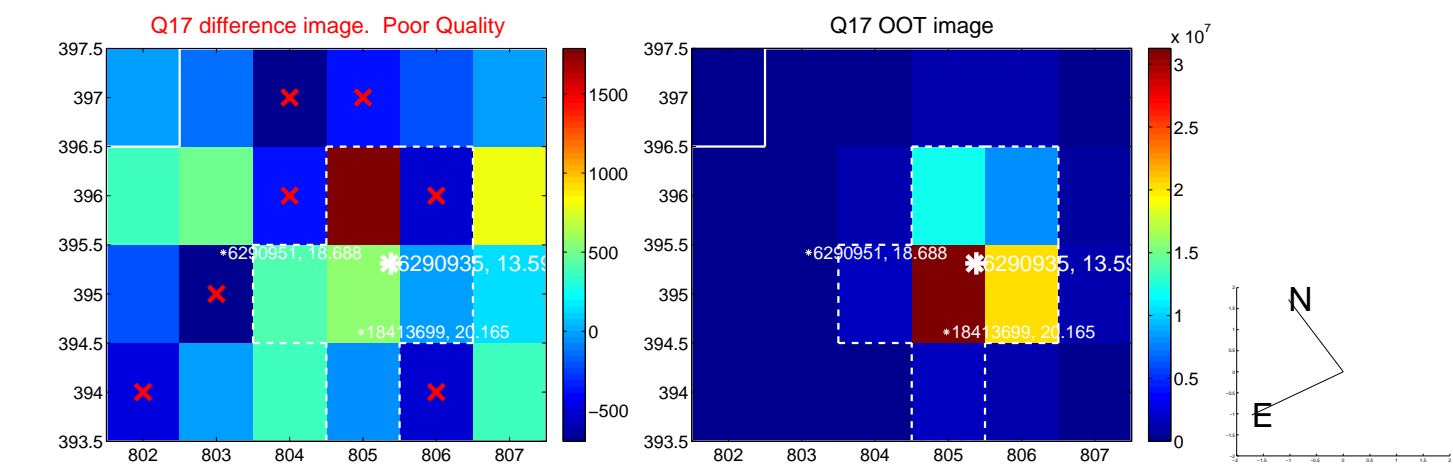
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



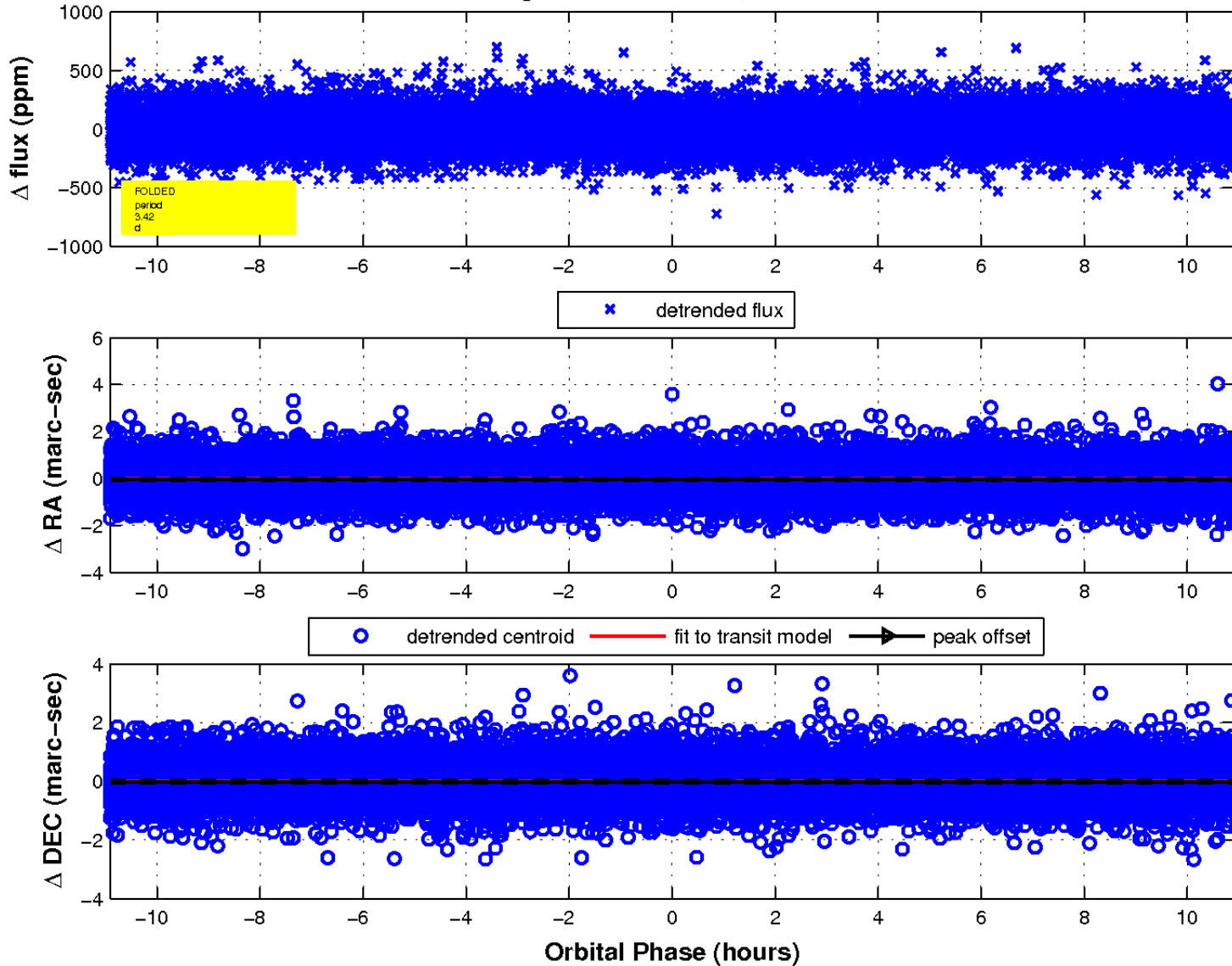
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

