

KIC 010252275

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})
010252275-01	OBS	3130.01	14.863906	142.959128	203.4	2.169	12.1	13.1	0.80	5159	1.38	35.08
010252275-02	OBS	3130.02	5.652450	136.980066	120.4	2.162	11.0	12.0	0.80	5159	1.04	127.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010252275-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010252275-02	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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

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

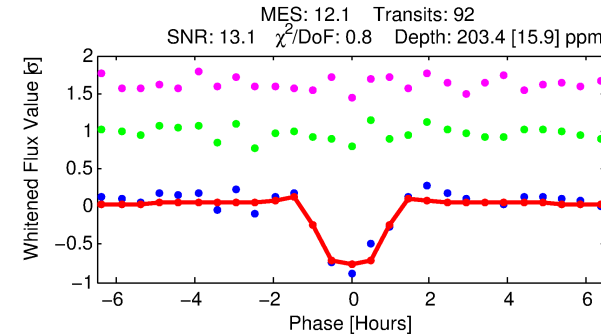
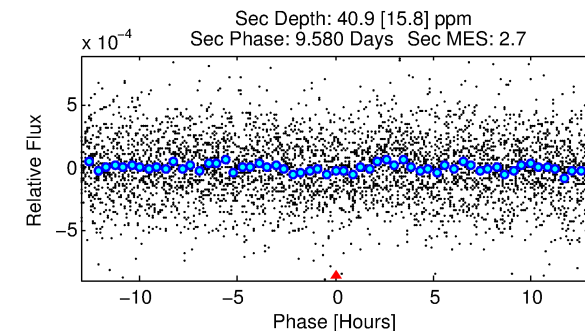
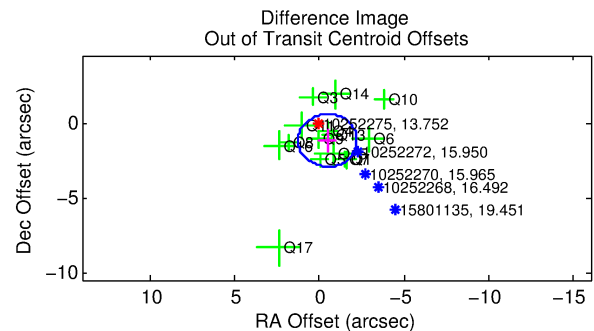
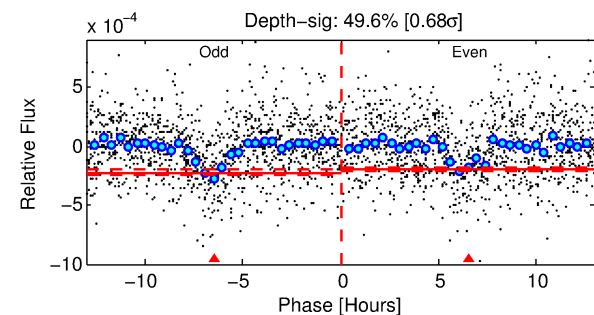
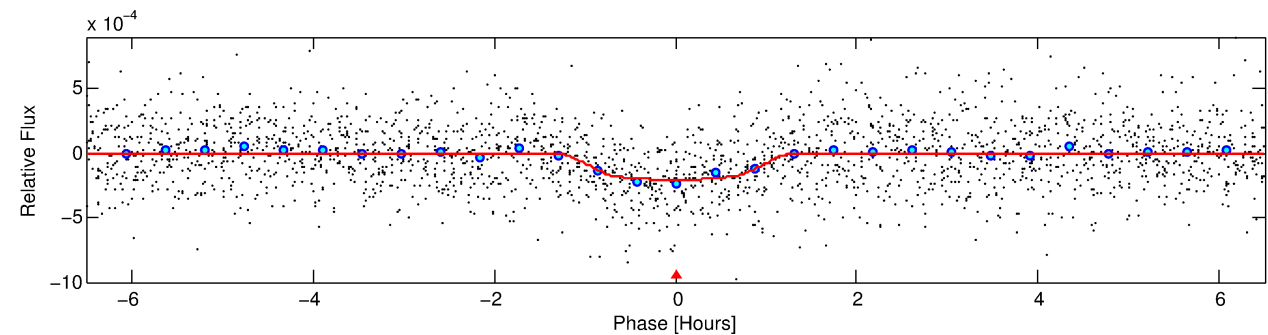
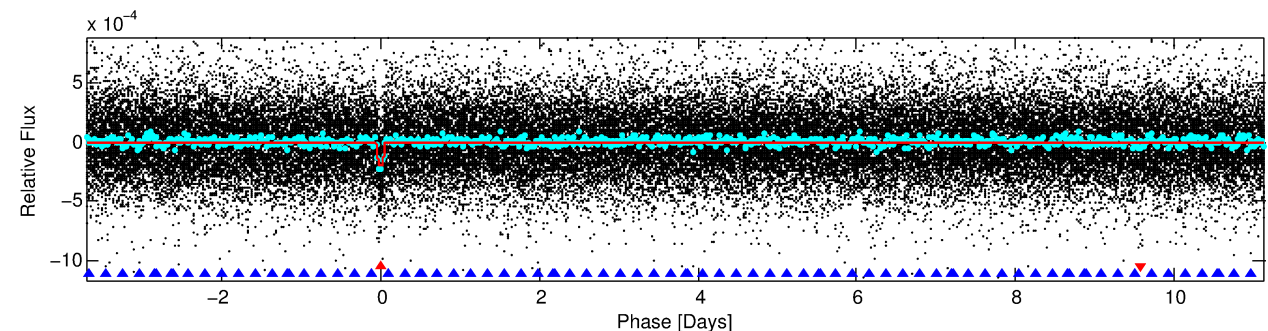
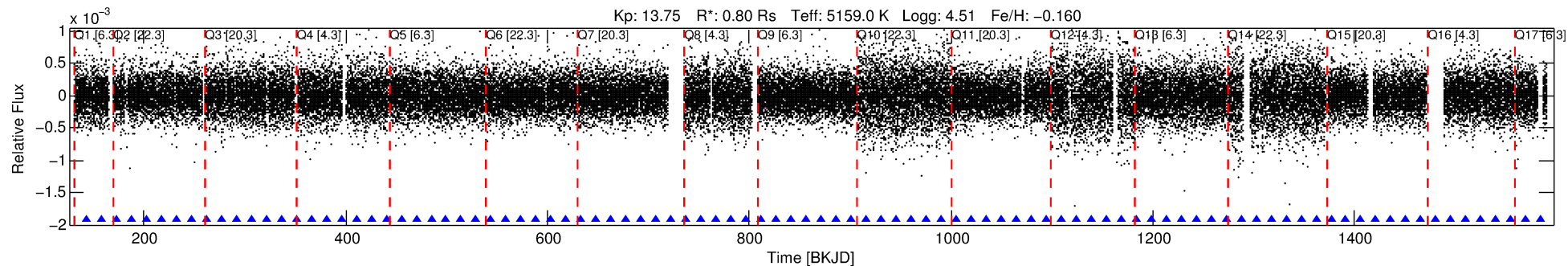
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010252275-01

No Significant Match Found

DV One-Page Summary

KIC: 10252275 Candidate: 1 of 2 Period: 14.864 d
KOI: K03130.01 Corr: 0.880



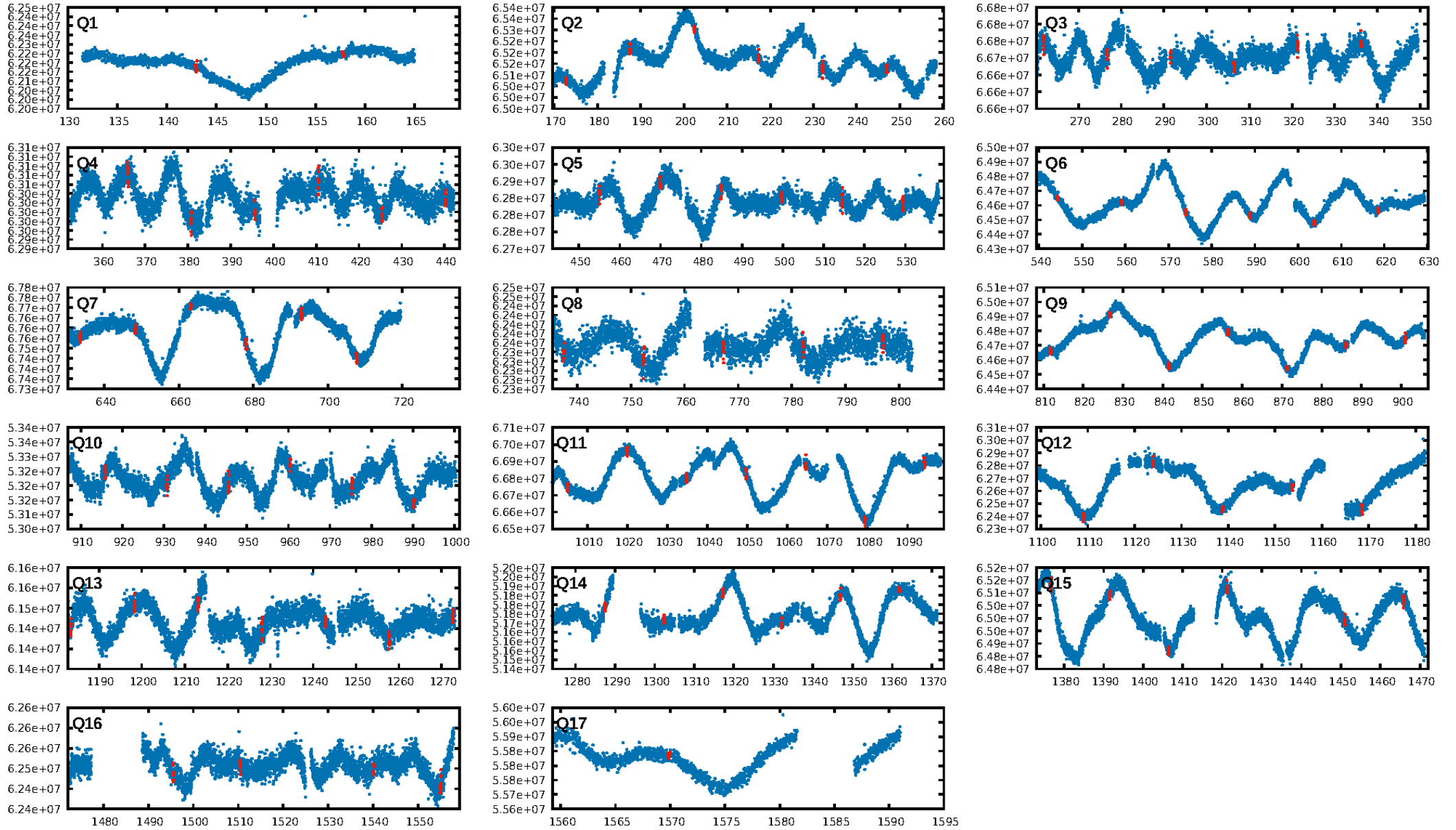
DV Fit Results:

Period = 14.86391 [0.00007] d
Epoch = 142.9591 [0.0036] BKJD
Rp/R* = 0.0158 [0.0089]
a/R* = 24.60 [57.18]
b = 0.90 [0.50]
Seff = 35.08 [7.00]
Teq = 621 [31] K
Rp = 1.38 [0.79] Re
a = 0.1076 [0.0110] AU
Ag = 136.05 [162.60] [0.83 σ]
Teffp = 3277 [975] K [2.72 σ]

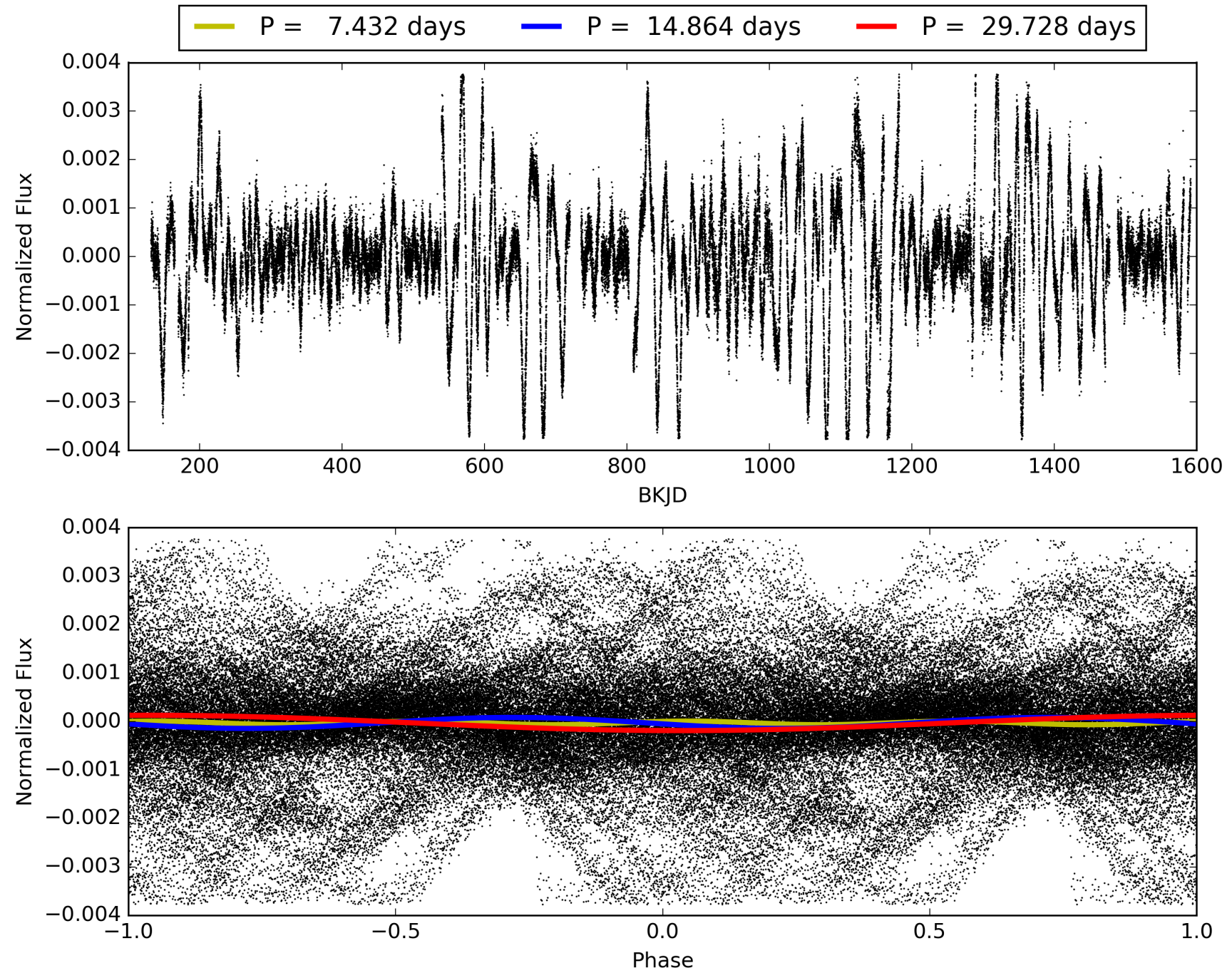
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [72.18 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.52e-33
RollingBand-fgt: 1.00 [89/89]
GhostDiagnostic-chr: 2.821
Centroid-sig: 92.6%
Centroid-so: 0.581 arcsec [0.71 σ]
OotOffset-rm: 1.270 arcsec [2.18 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-rm: 1.593 arcsec [3.11 σ]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010252275-01, PDC Light Curves

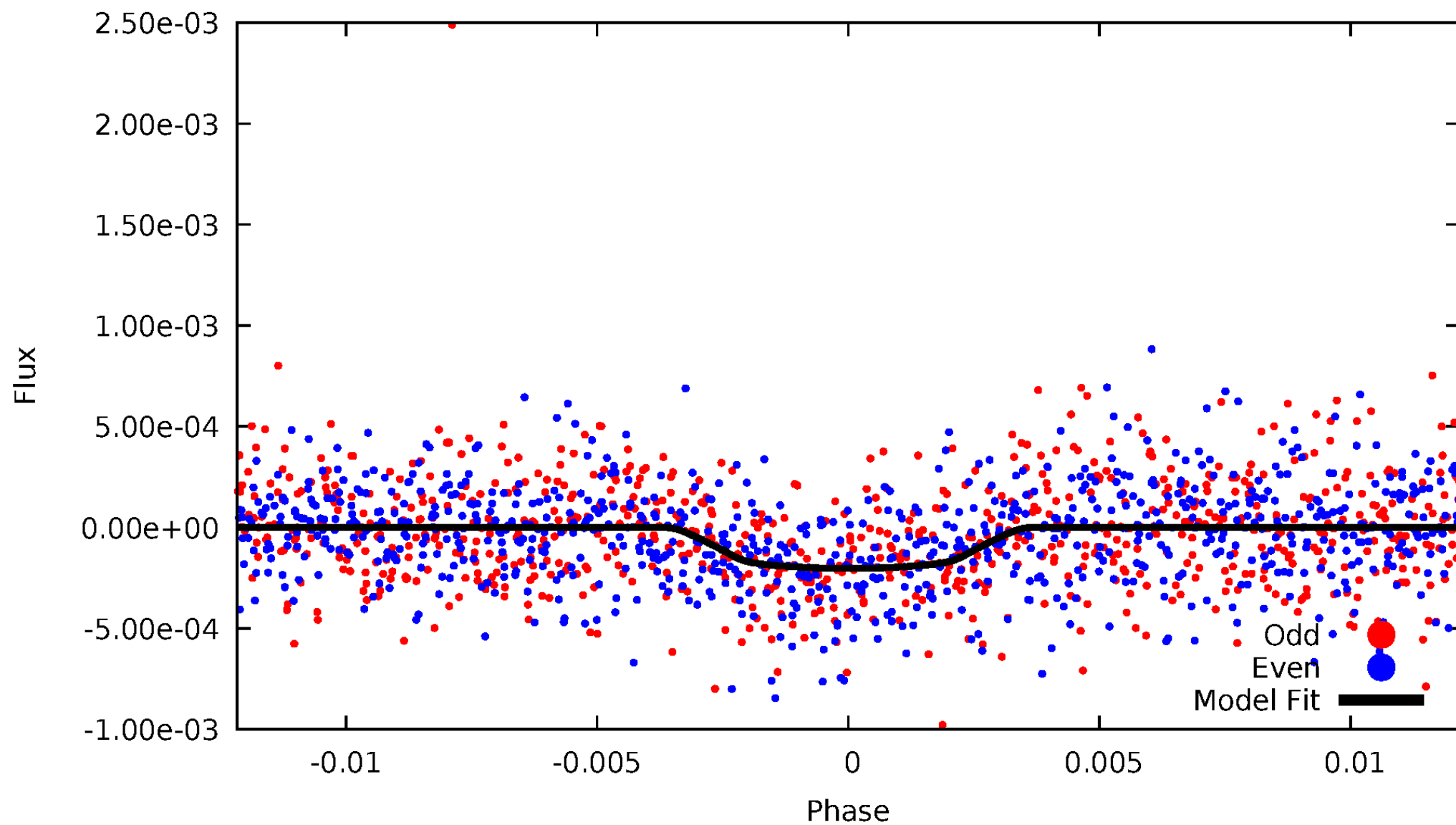


TCE 010252275-01



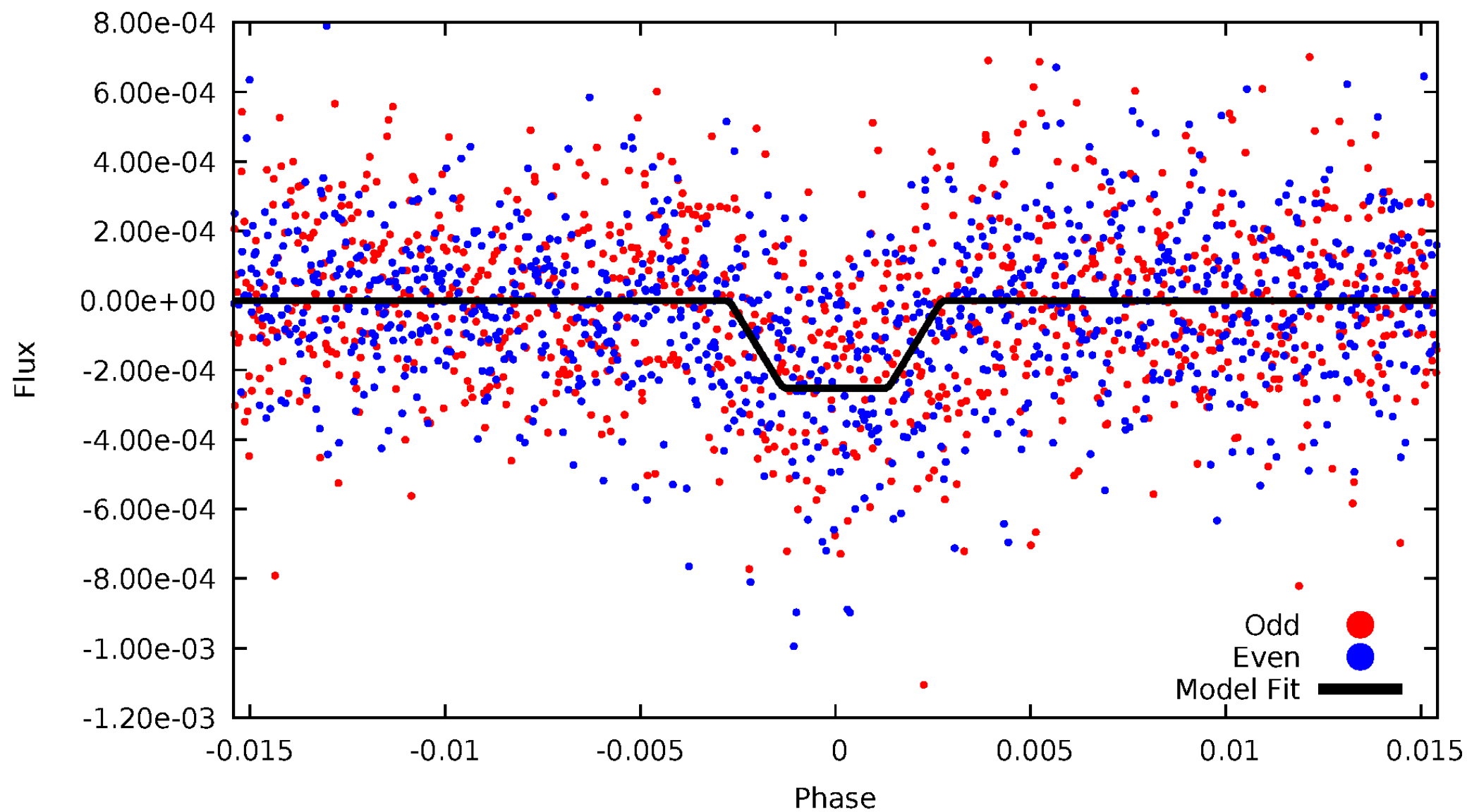
DV Odd/Even

TCE 010252275-01



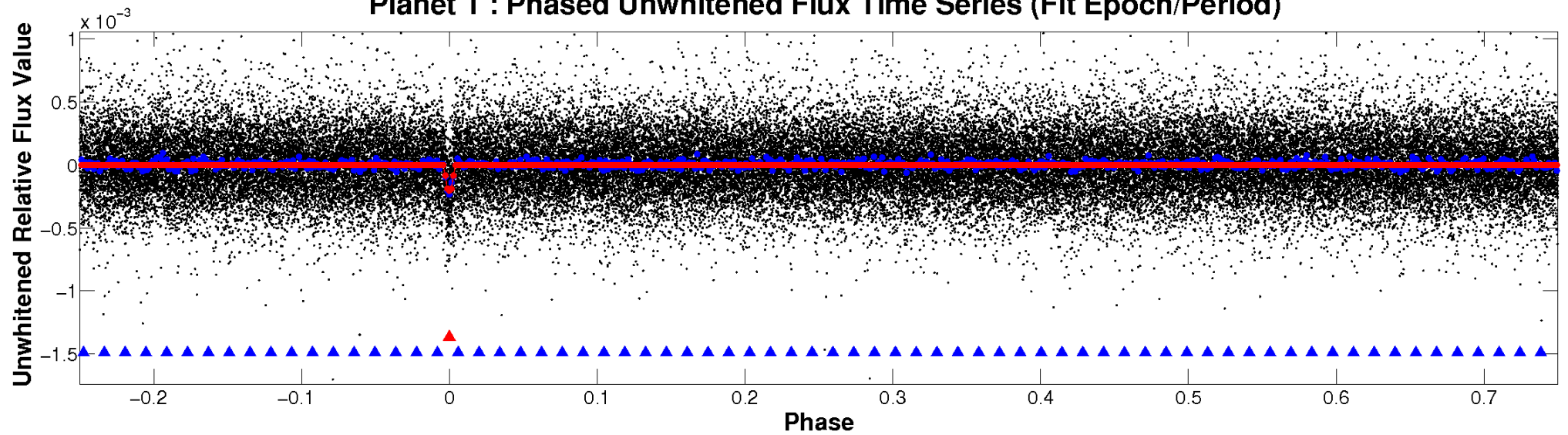
ALT Odd/Even

TCE 010252275-01

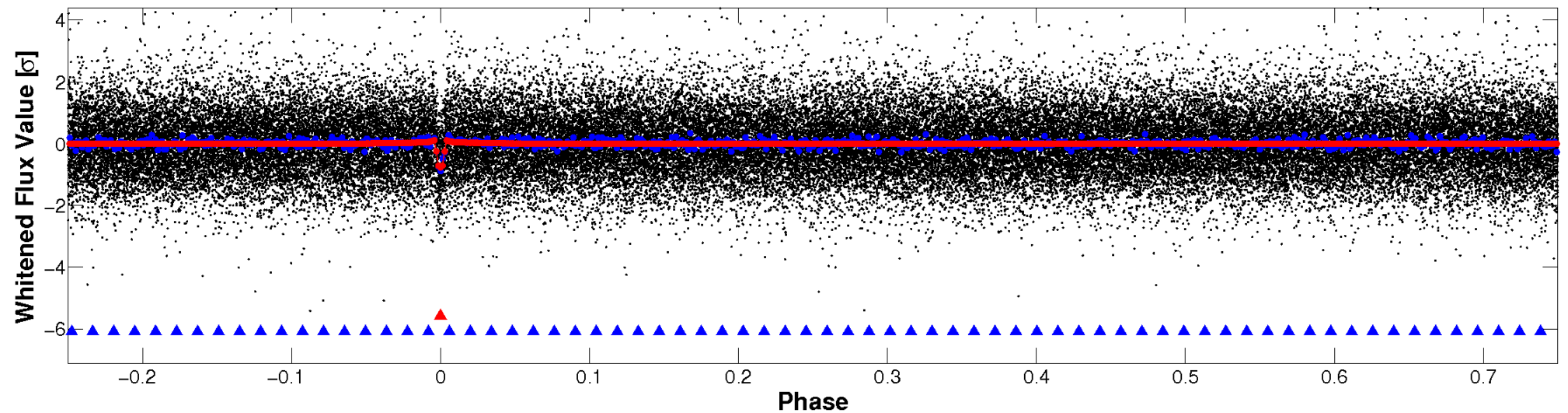


Non-Whitened Vs. Whitened Light Curve

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

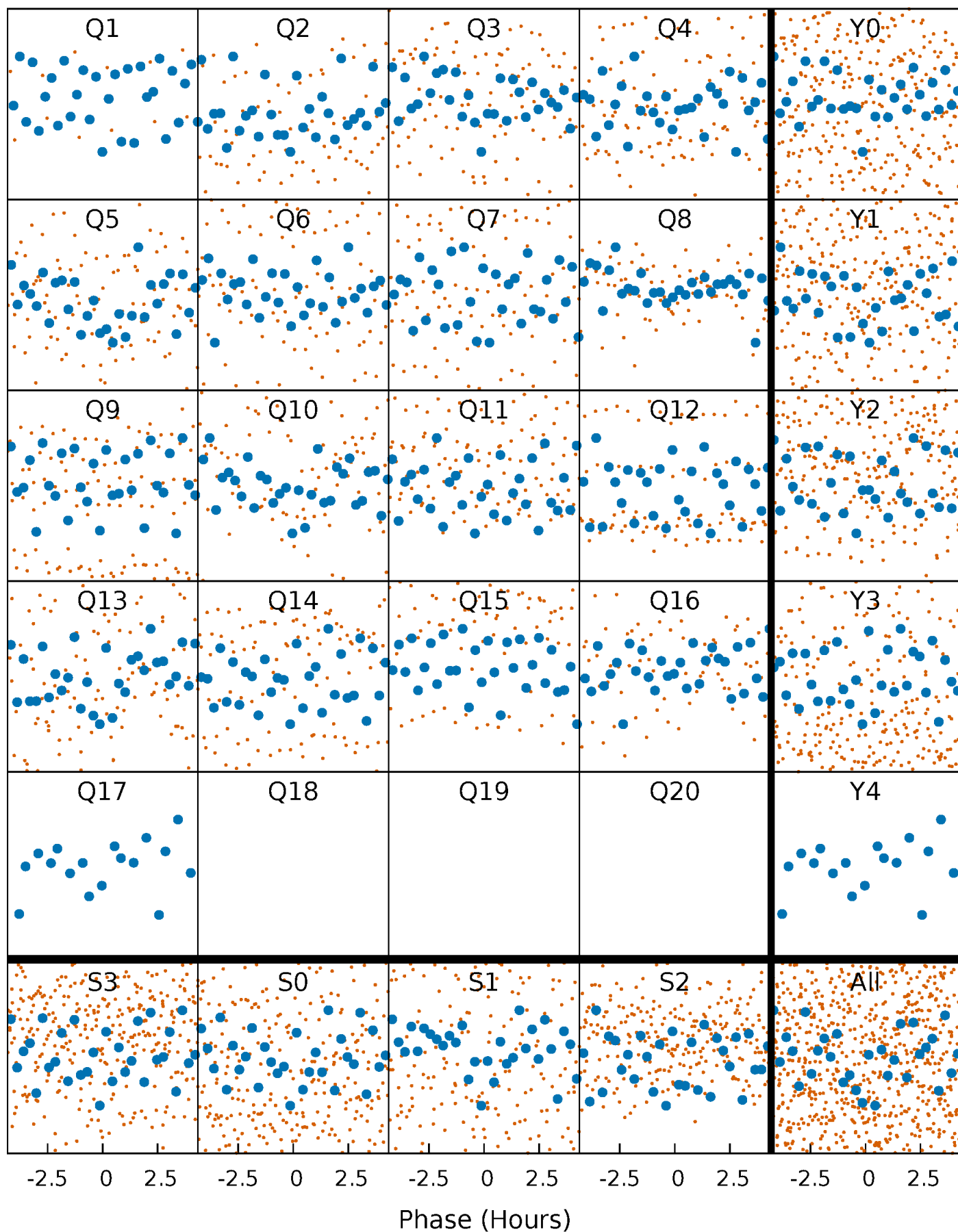


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



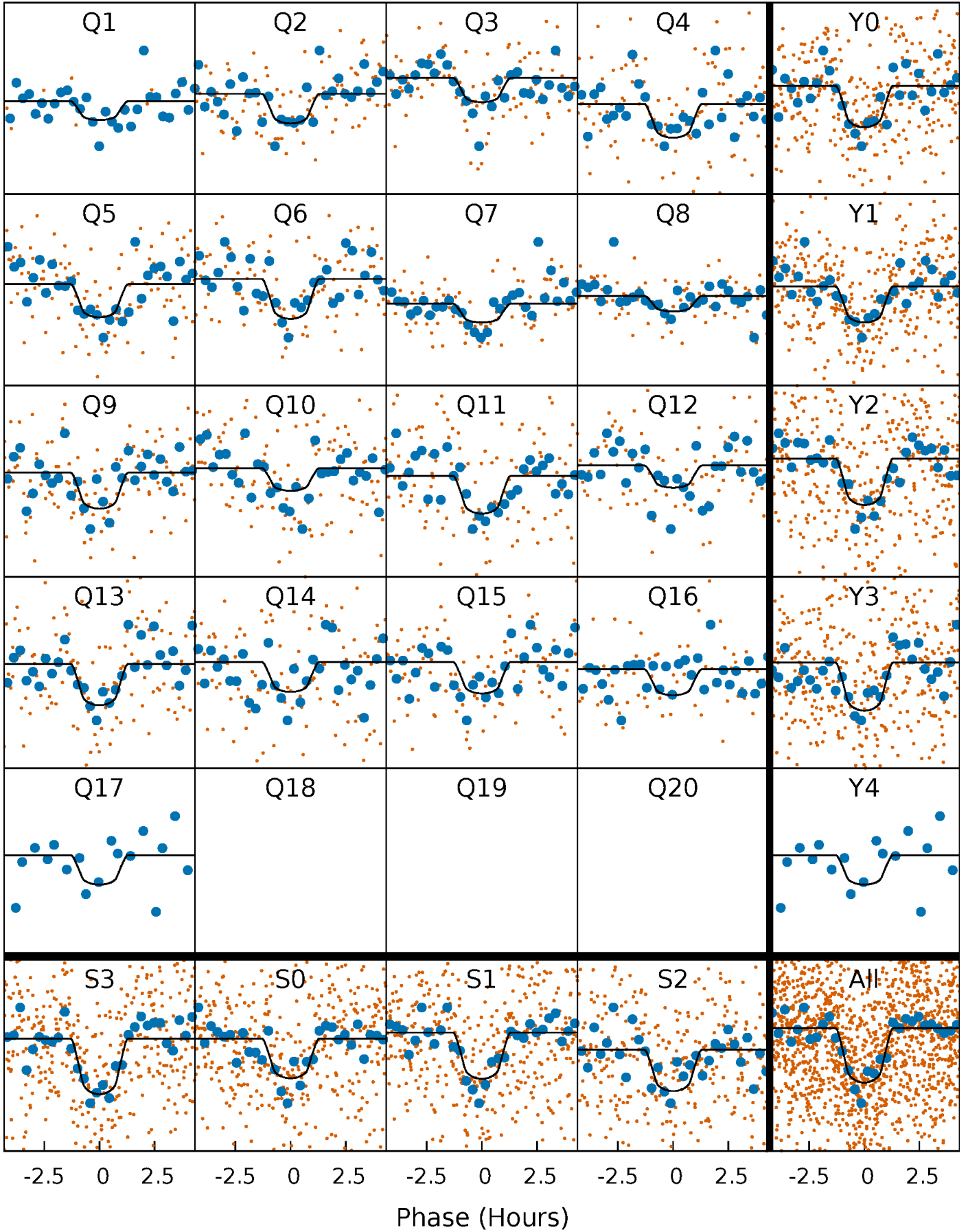
PDC Quarter-Phased Transit Curves

TCE 010252275-01 P= 14.863906 Days $T_0=142.959128$ (BKJD)



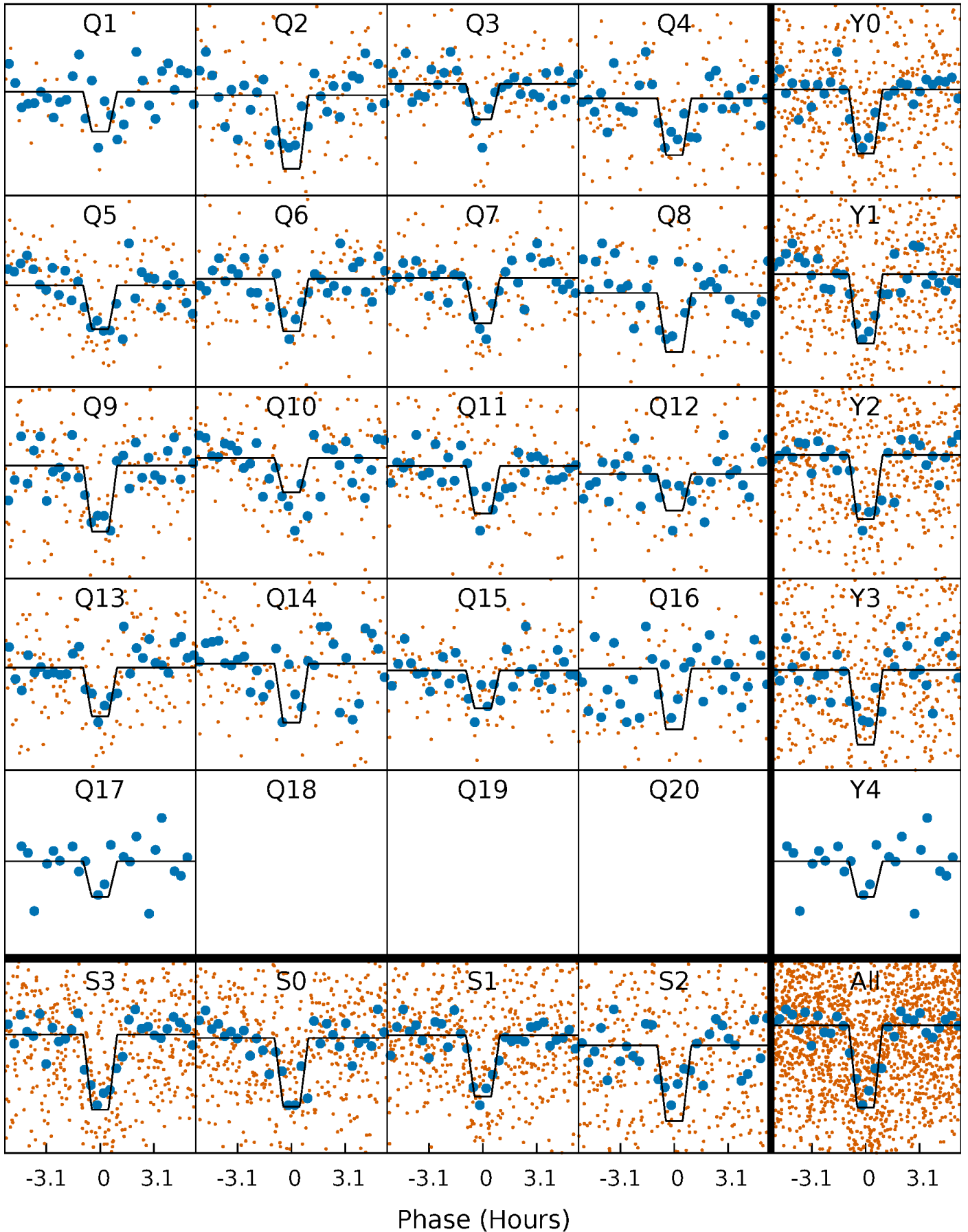
DV Quarter-Phased Transit Curves

TCE 010252275-01 P= 14.863906 Days $T_0=142.959128$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

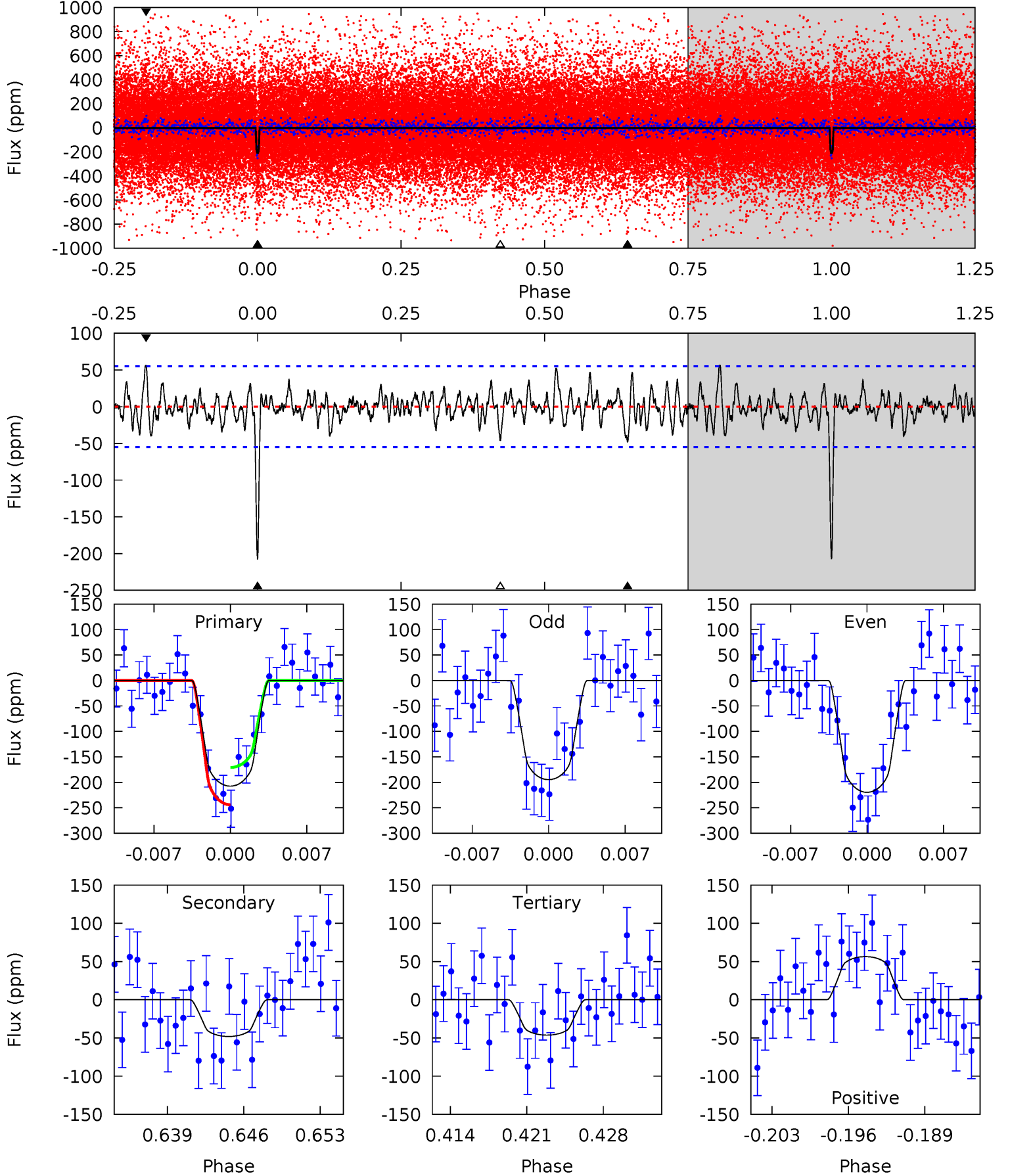
TCE 010252275-01 P= 14.863830 Days $T_0=142.957424$ (BKJD)



DV Model-Shift Uniqueness Test

010252275-01, $P = 14.863906$ Days, $E = 128.095222$ Days

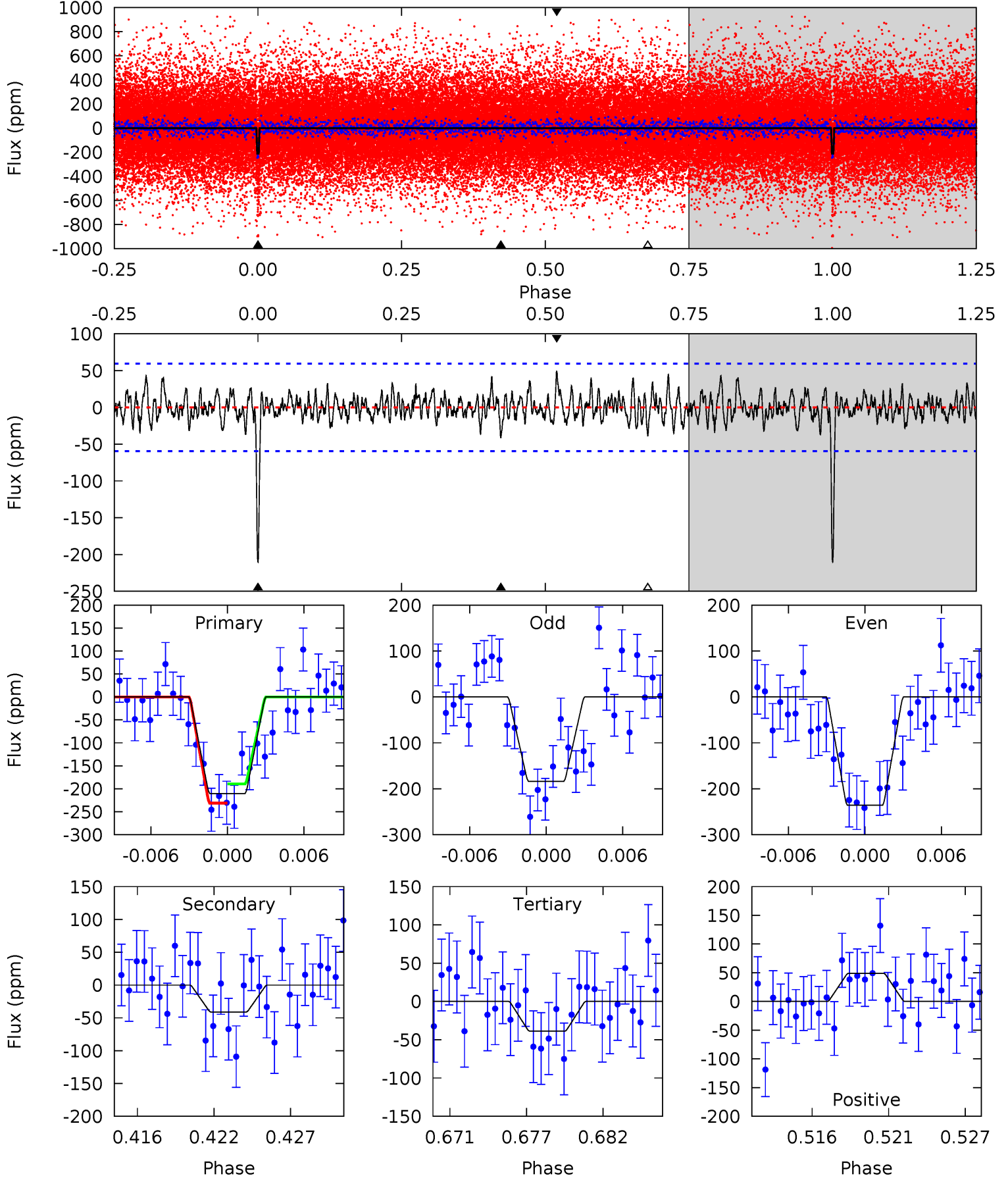
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	4.44	4.28	5.22	5.09	2.68	1.44	14.9	13.9	0.16	-0.78	1.15	1.05	0.21	3.39



Alt Model-Shift Uniqueness Test

010252275-01, $P = 14.863830$ Days, $E = 128.093594$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	3.56	3.35	4.24	5.14	2.77	1.23	14.8	13.9	0.21	-0.68	2.24	1.09	0.19	1.81



Stellar Parameters For KIC 010252275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5159^{+153}_{-153}	$4.508^{+0.093}_{-0.085}$	$-0.160^{+0.300}_{-0.300}$	$0.800^{+0.088}_{-0.088}$	$0.752^{+0.106}_{-0.057}$	$2.067^{+0.807}_{-0.489}$
	+3%/-3%	+2%/-2%	+188%/-188%	+11%/-11%	+14%/-8%	+39%/-24%
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 010252275-01 / KOI 3130.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 11	$1.44^{+0.72}_{-0.75}$	867^{+36}_{-38}	3707^{+1133}_{-492}	152^{+496}_{-91}
Alt.	-41 ± 12	$1.37^{+0.77}_{-0.67}$	869^{+40}_{-35}	3670^{+1062}_{-475}	138^{+425}_{-82}

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 $A_{obs} \gg 1.0$

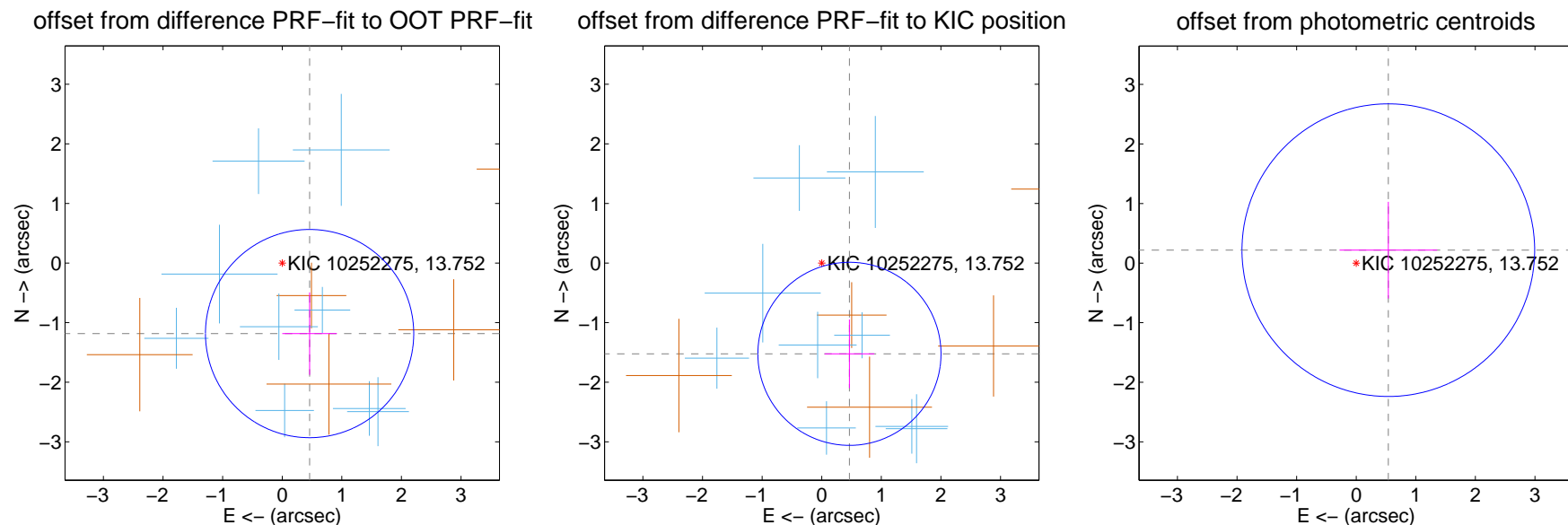
DV Centroid Data

Supplemental centroid analysis for 010252275-01. Kepler magnitude: 13.75. Transit SNR 13.15

There are 9 quarters with good PRF difference image offsets

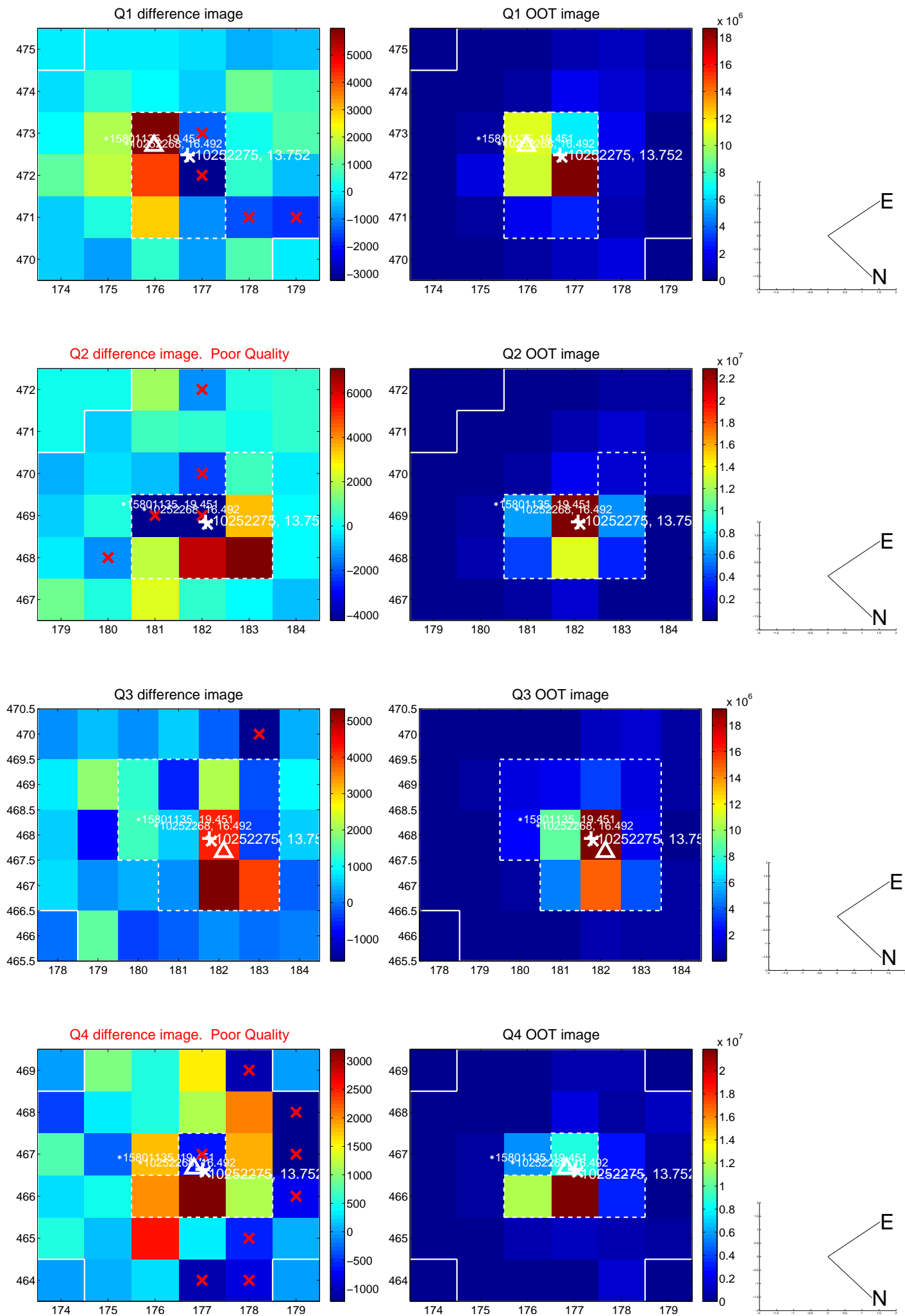
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.270 ± 0.582	2.18	-0.459 ± 0.458	-1.184 ± 0.692
PRF-fit source offset from KIC position	1.593 ± 0.512	3.11	-0.465 ± 0.417	-1.524 ± 0.576
photometric centroid source offset	0.58 ± 0.82	0.71	-0.54 ± 0.82	0.22 ± 0.81

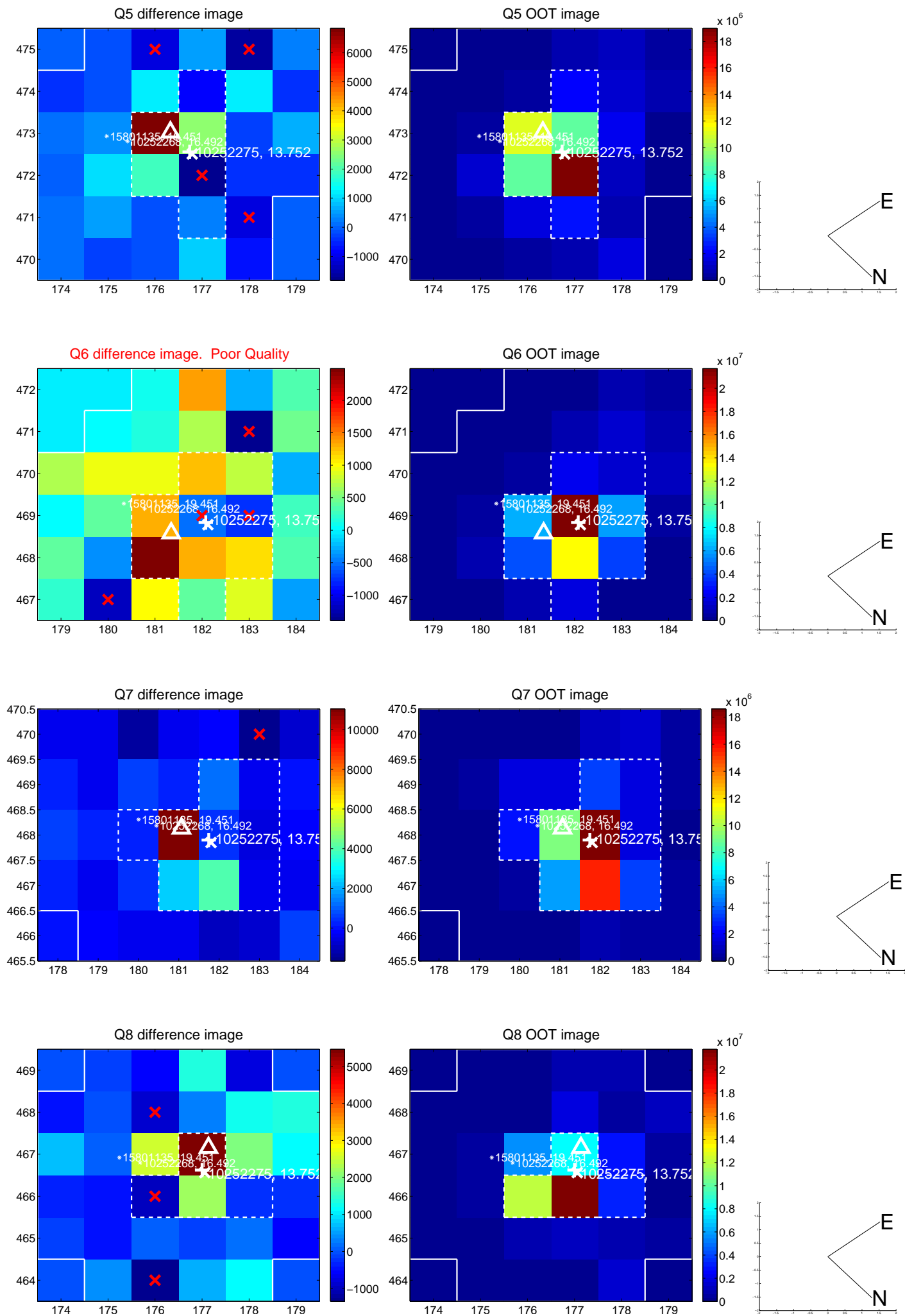


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

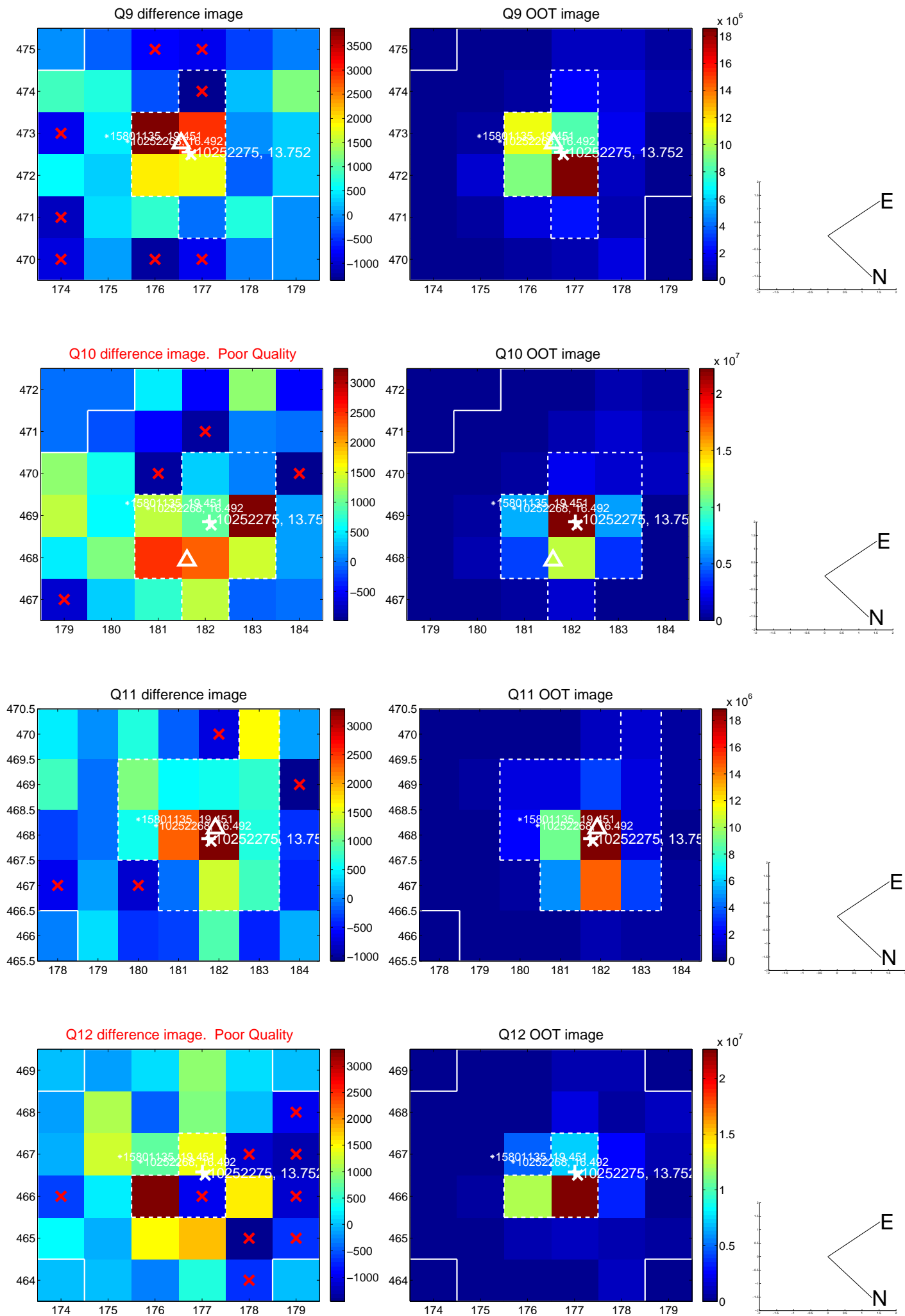
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



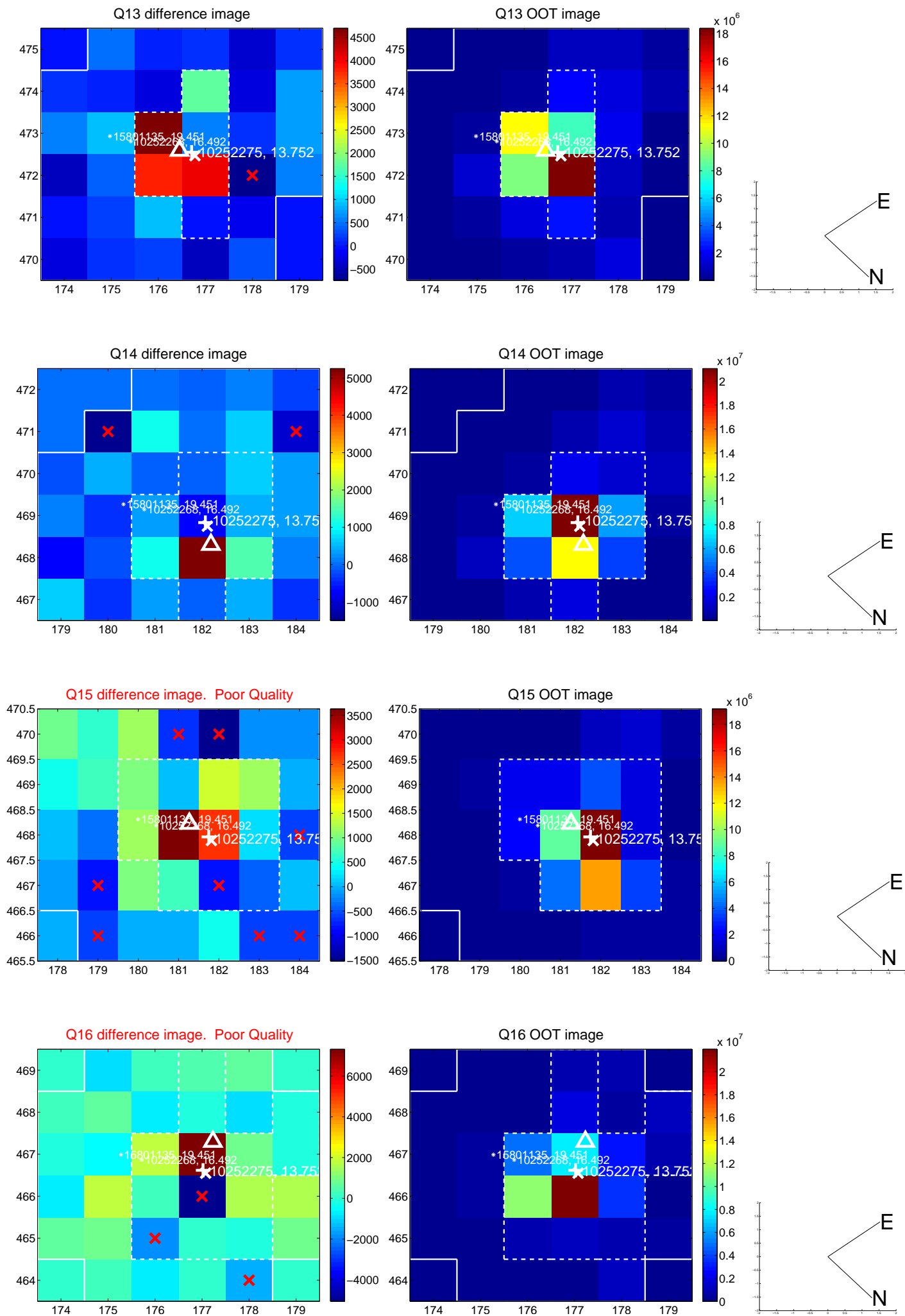
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



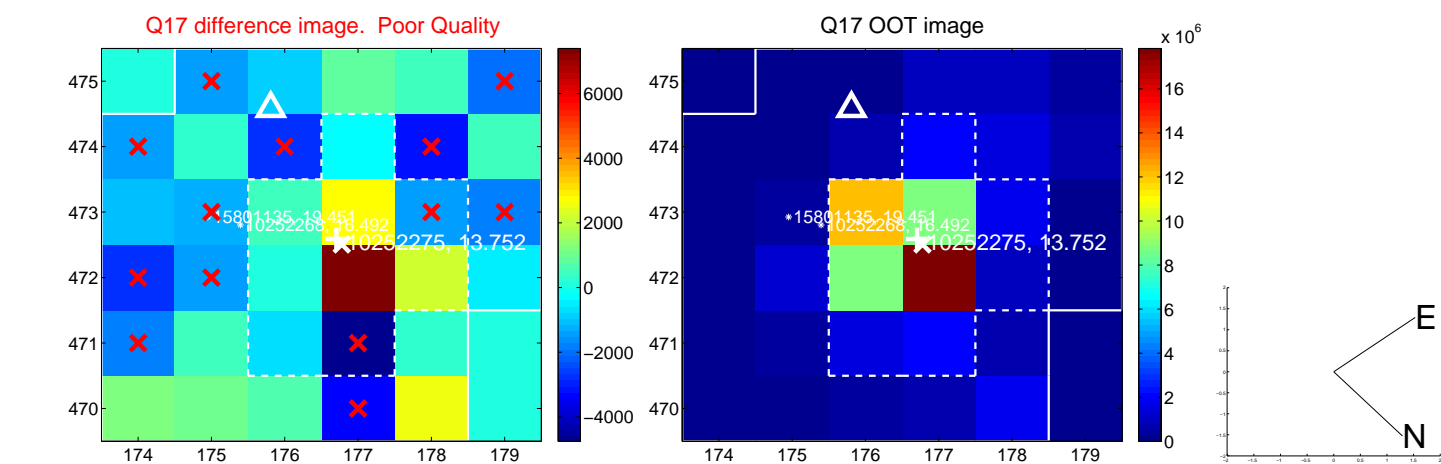
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



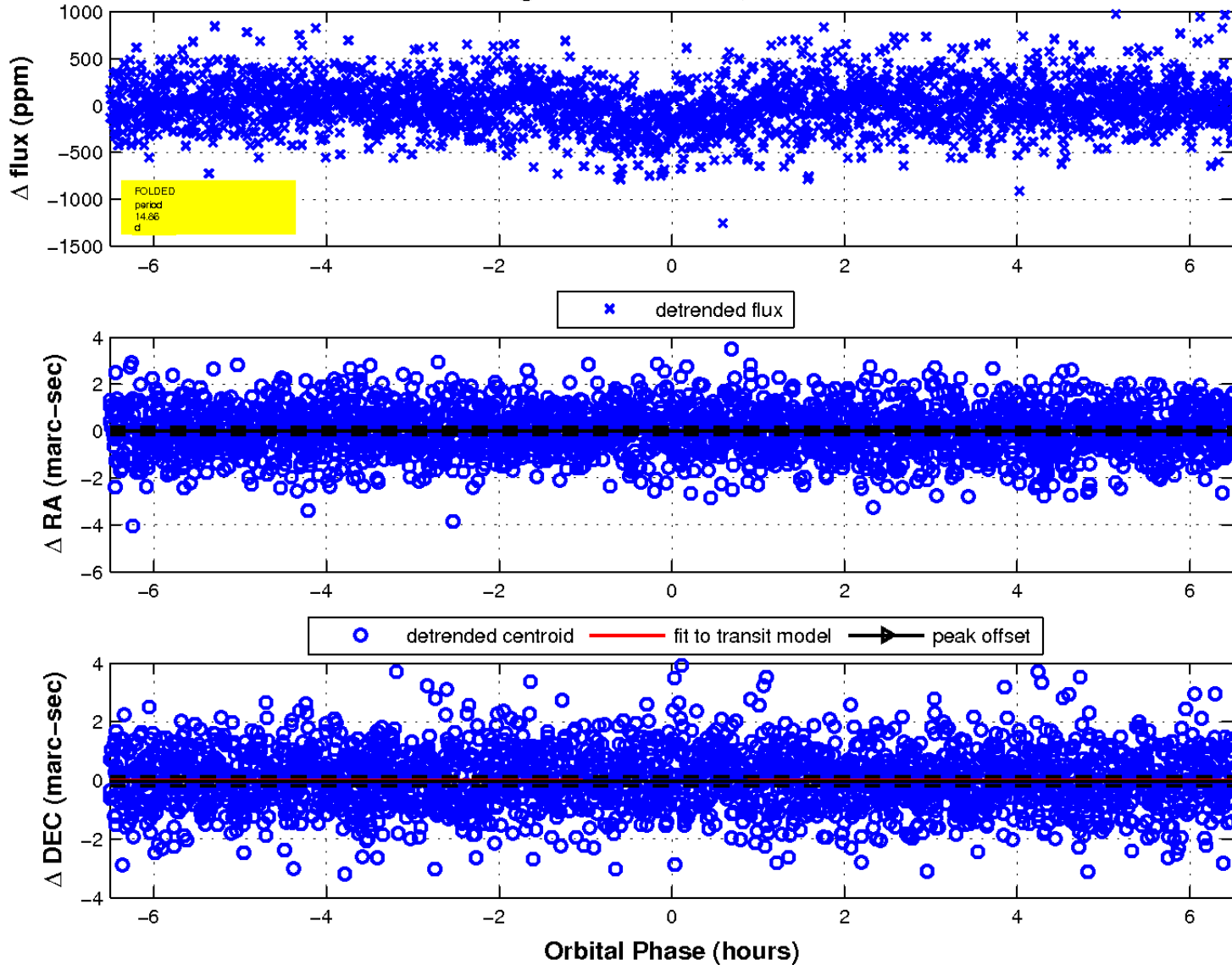
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

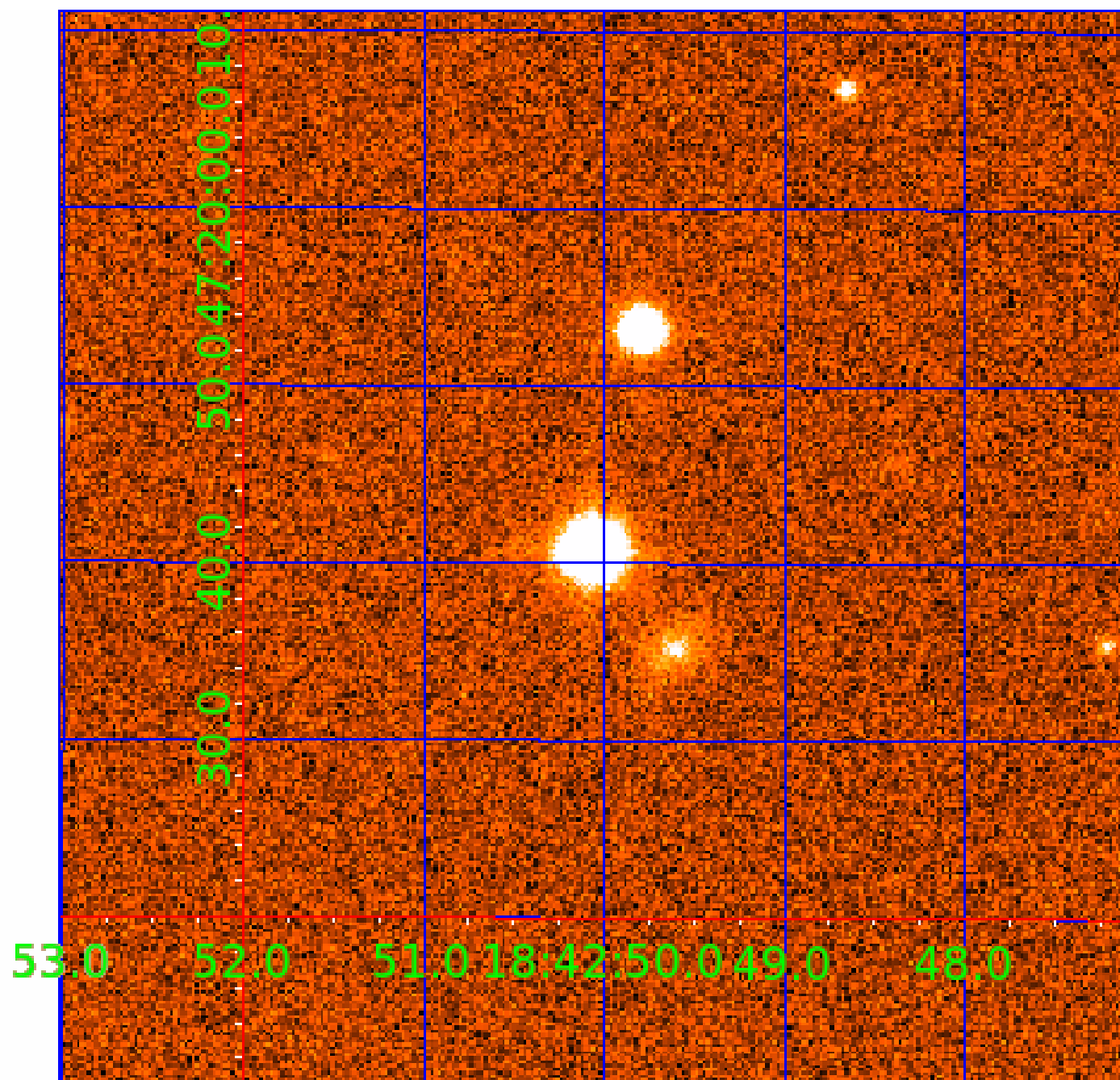


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 010252275

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})
010252275-01	OBS	3130.01	14.863906	142.959128	203.4	2.169	12.1	13.1	0.80	5159	1.38	35.08
010252275-02	OBS	3130.02	5.652450	136.980066	120.4	2.162	11.0	12.0	0.80	5159	1.04	127.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010252275-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
010252275-02	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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 010252275-02

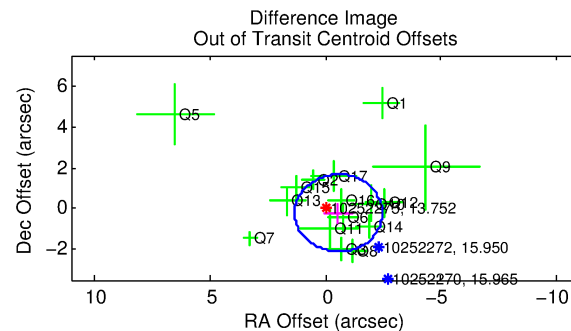
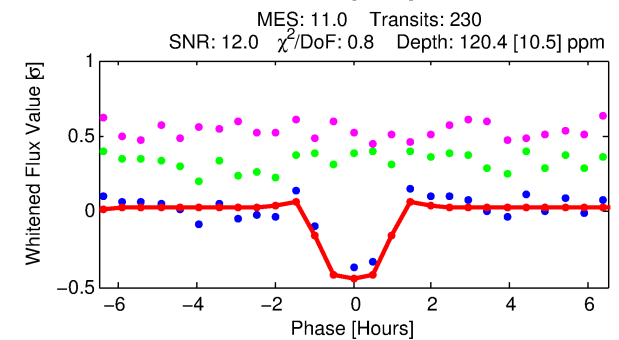
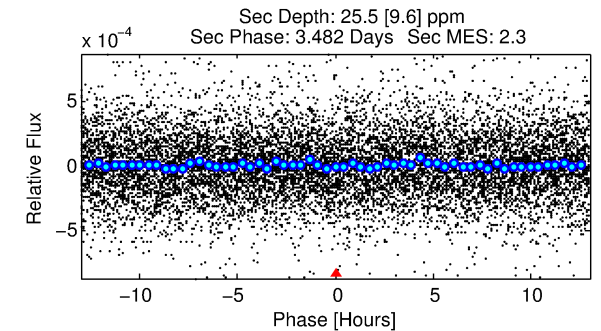
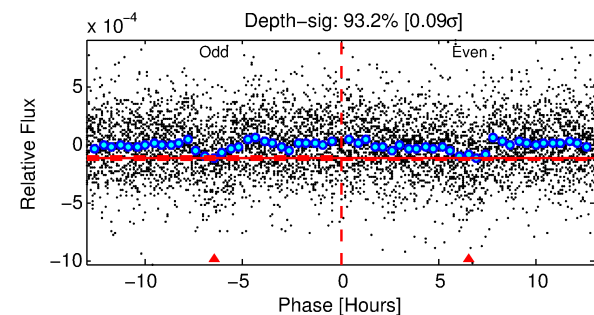
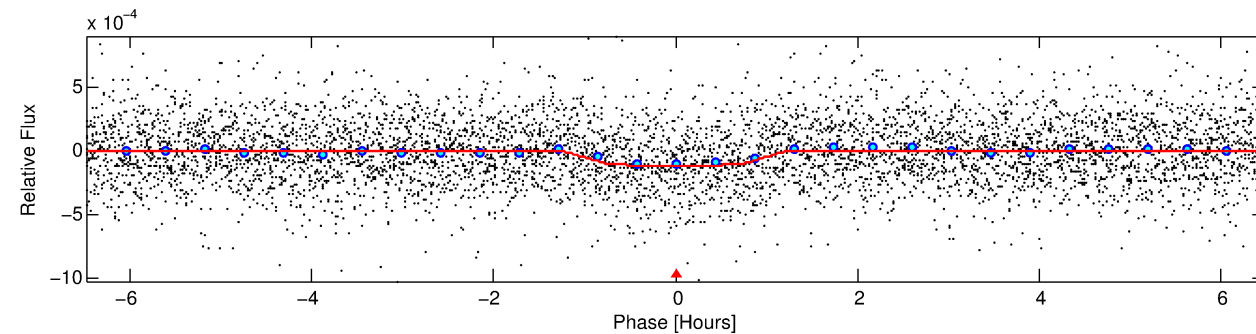
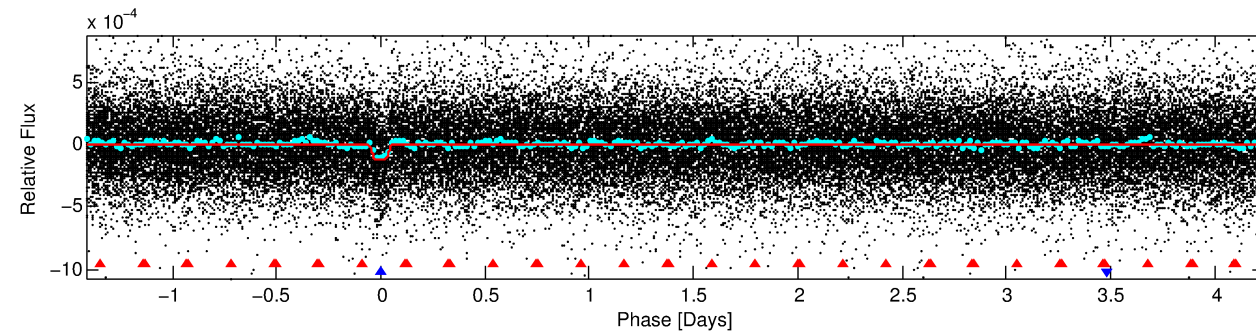
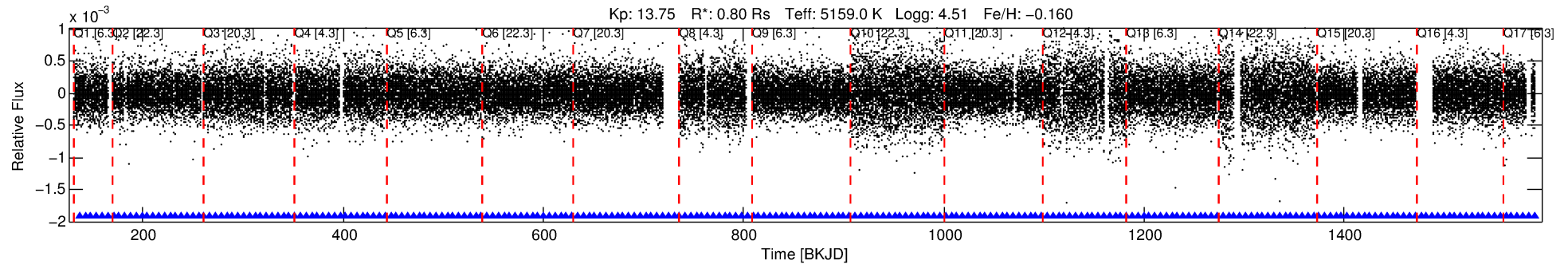
No Significant Match Found

DV One-Page Summary

KIC: 10252275 Candidate: 2 of 2 Period: 5.652 d

KOI: K03130.02 Corr: 0.962

Kp: 13.75 R*: 0.80 Rs Teff: 5159.0 K Logg: 4.51 Fe/H: -0.160



DV Fit Results:

Period = 5.65245 [0.00003] d
Epoch = 136.9801 [0.0033] BKJD
Rp/R* = 0.0119 [0.0091]
a/R* = 10.03 [30.95]
b = 0.88 [0.82]
Seff = 127.32 [25.41]
Teff = 857 [43] K
Rp = 1.04 [0.80] Re
a = 0.0565 [0.0058] AU
Ag = 41.22 [65.01] [0.62σ]
Teffp = 3356 [1320] K [1.89σ]

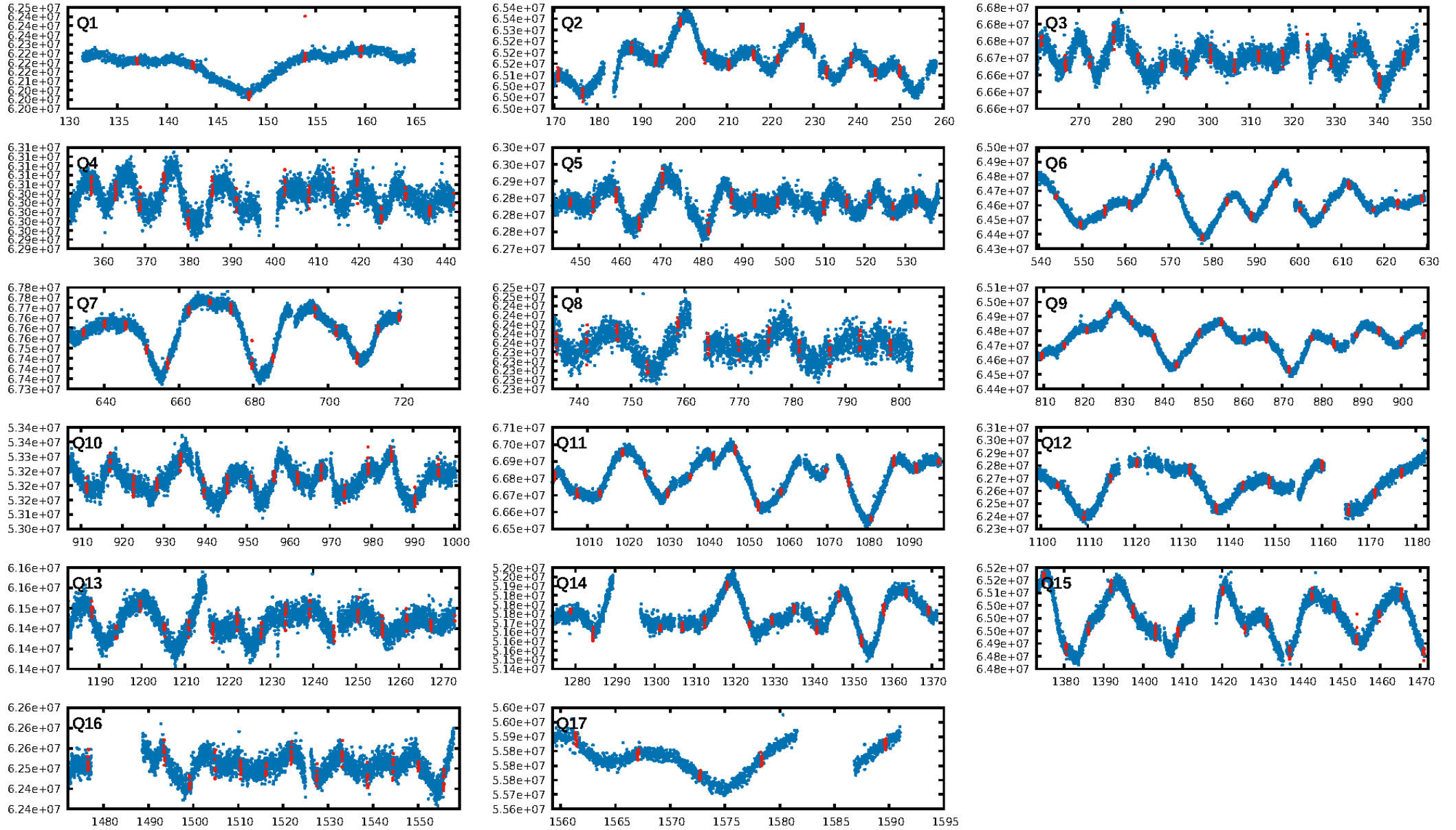
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [72.18σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.89e-27
RollingBand-fgt: 1.00 [220/220]
GhostDiagnostic-chr: 3.995
Centroid-sig: 22.2%
Centroid-so: 0.620 arcsec [0.71σ]
OotOffset-rm: 0.602 arcsec [0.95σ]
KicOffset-rm: 0.794 arcsec [1.43σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

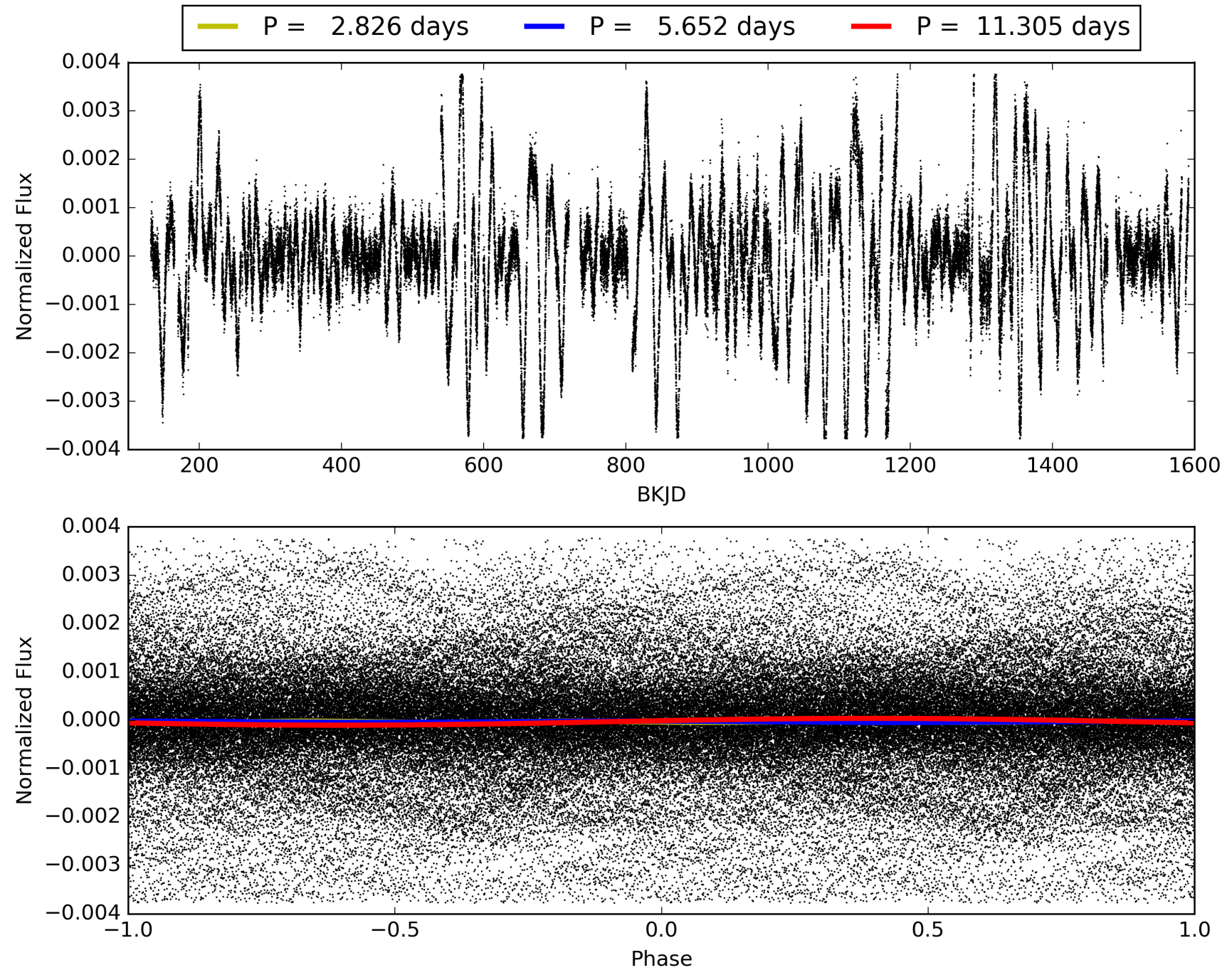
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:07:03 Z

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

TCE 010252275-02, PDC Light Curves

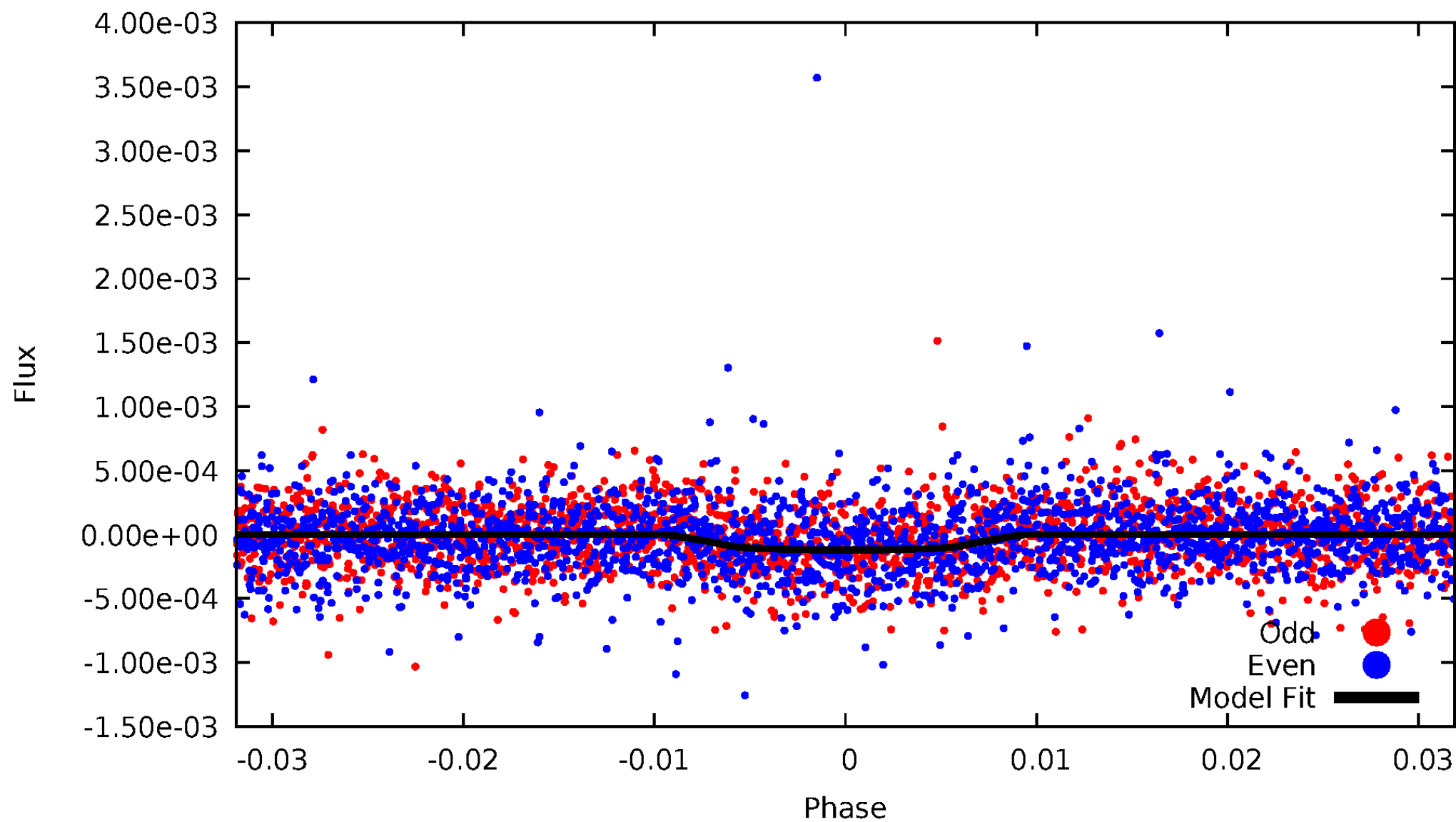


TCE 010252275-02



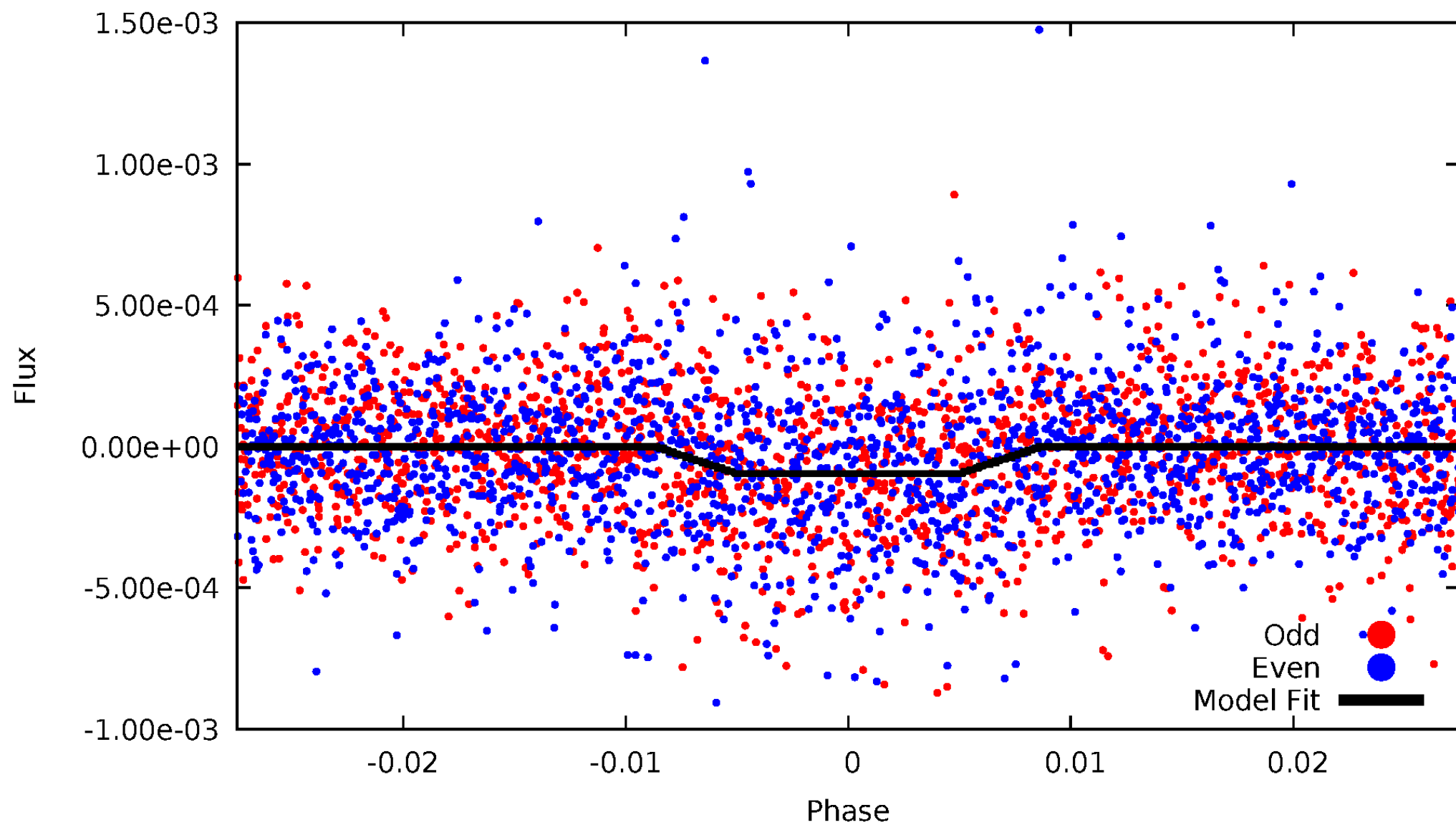
DV Odd/Even

TCE 010252275-02



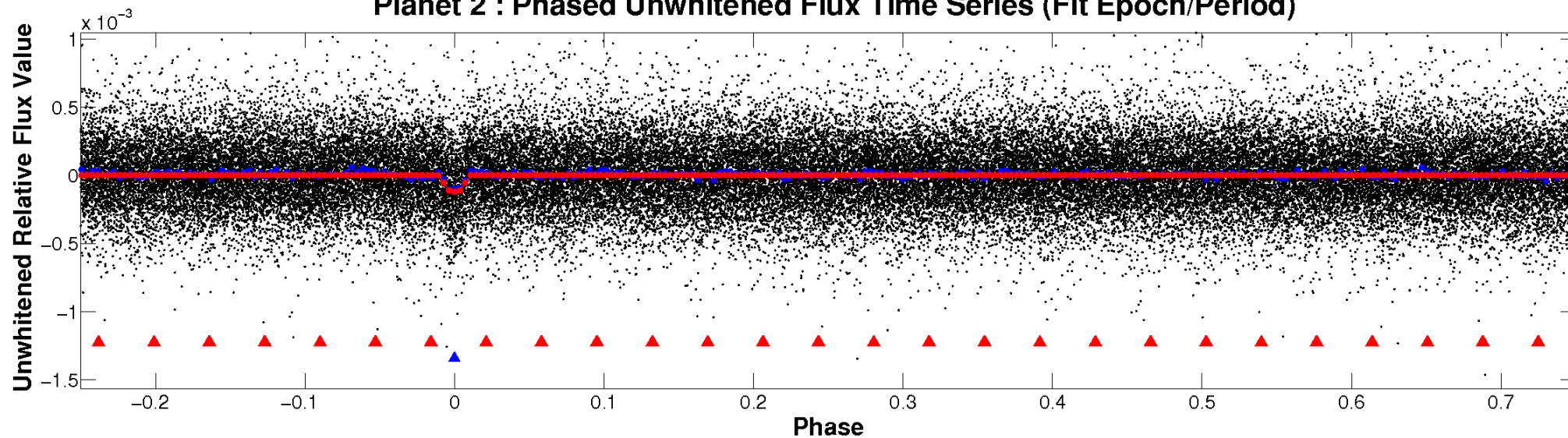
ALT Odd/Even

TCE 010252275-02

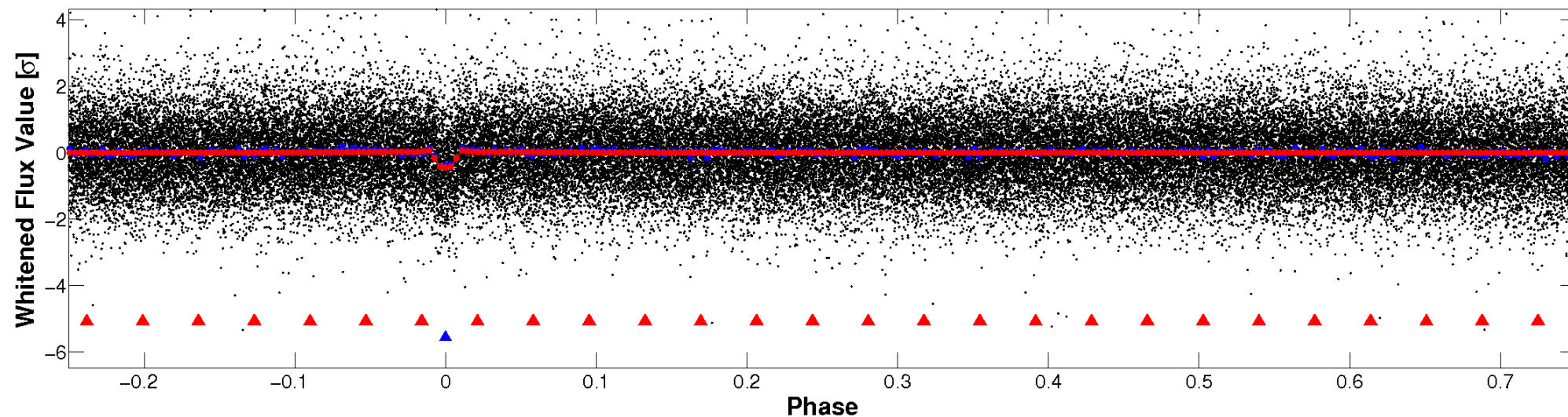


Non-Whitened Vs. Whitened Light Curve

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

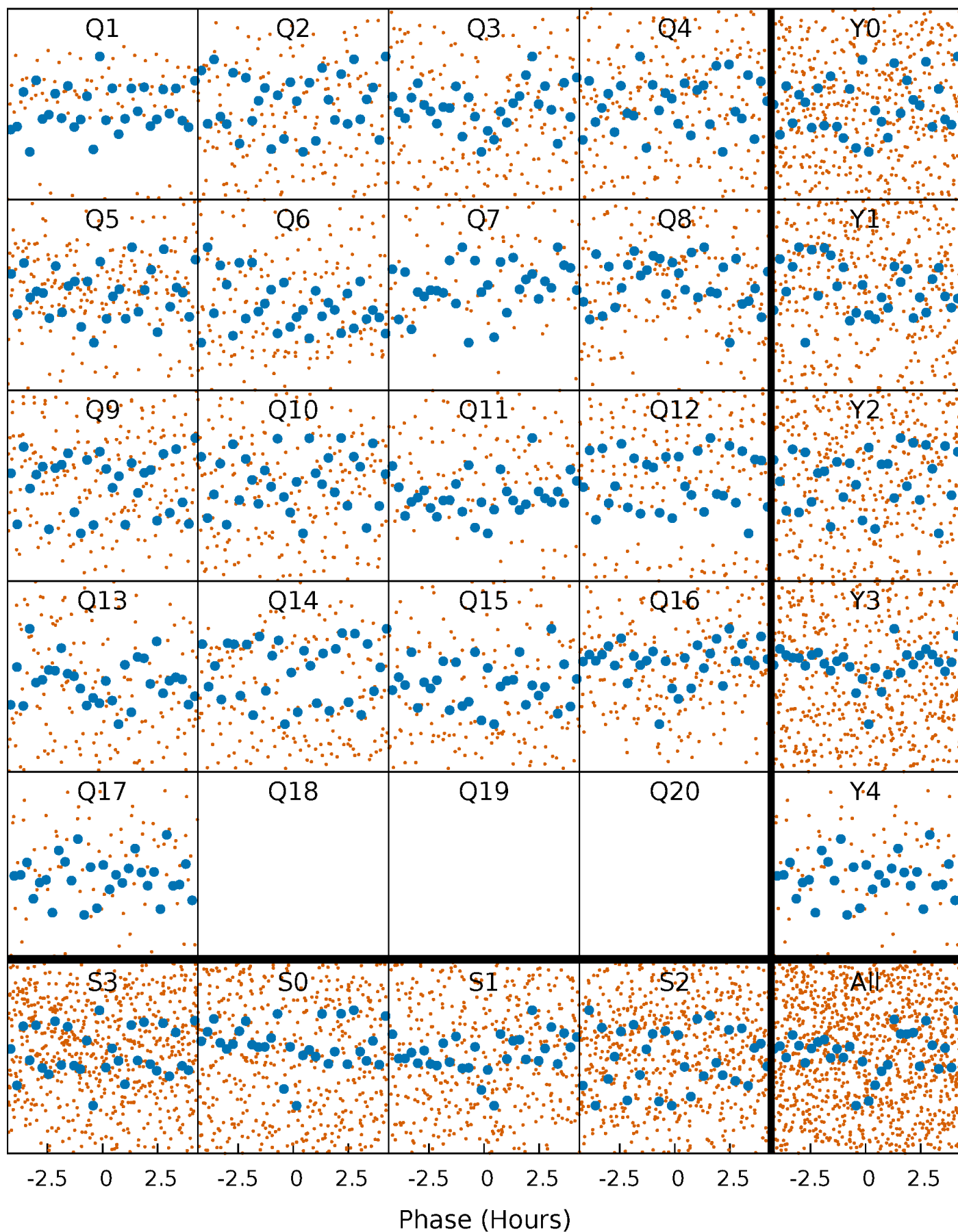


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



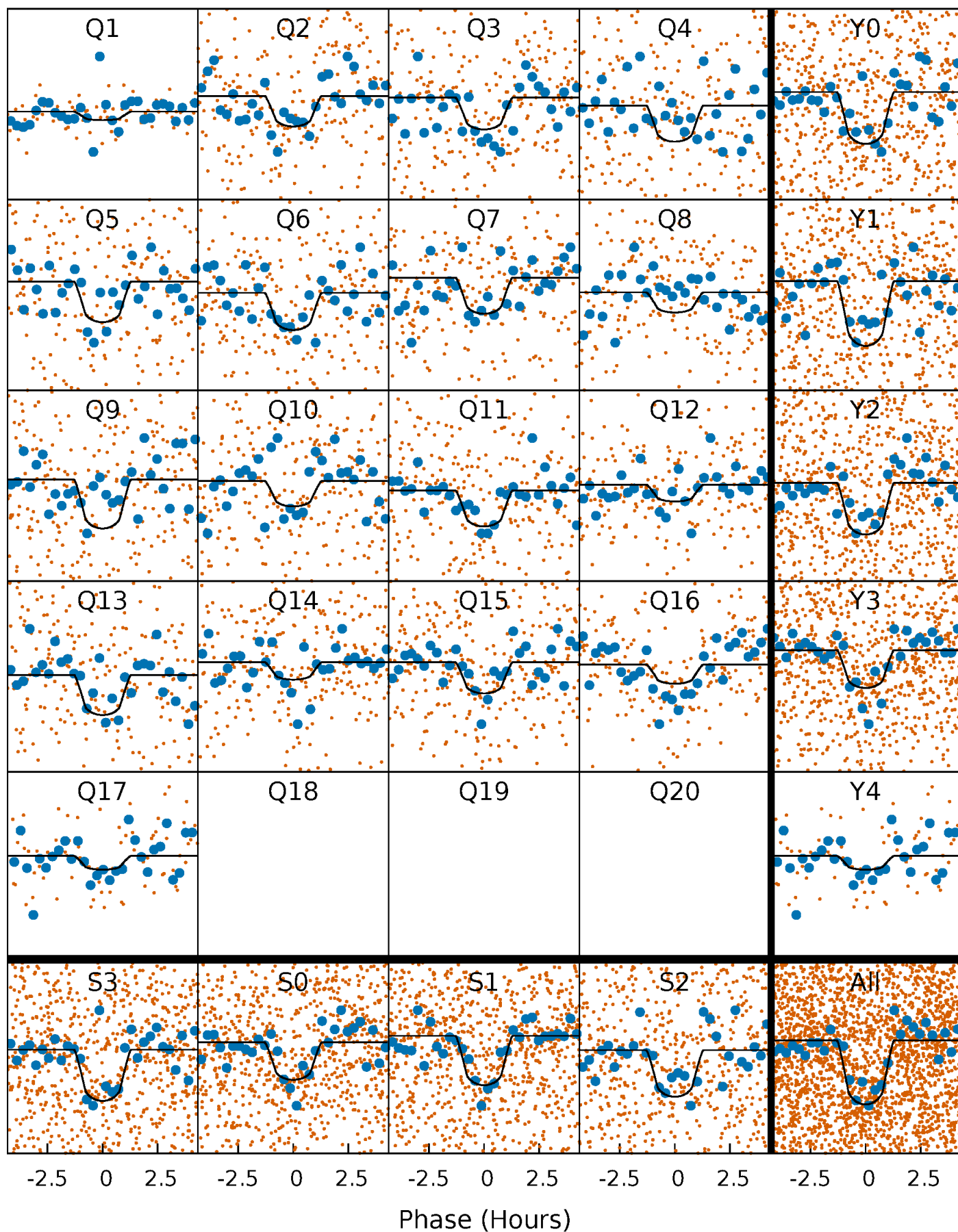
PDC Quarter-Phased Transit Curves

TCE 010252275-02 P= 5.652450 Days $T_0=136.980065$ (BKJD)



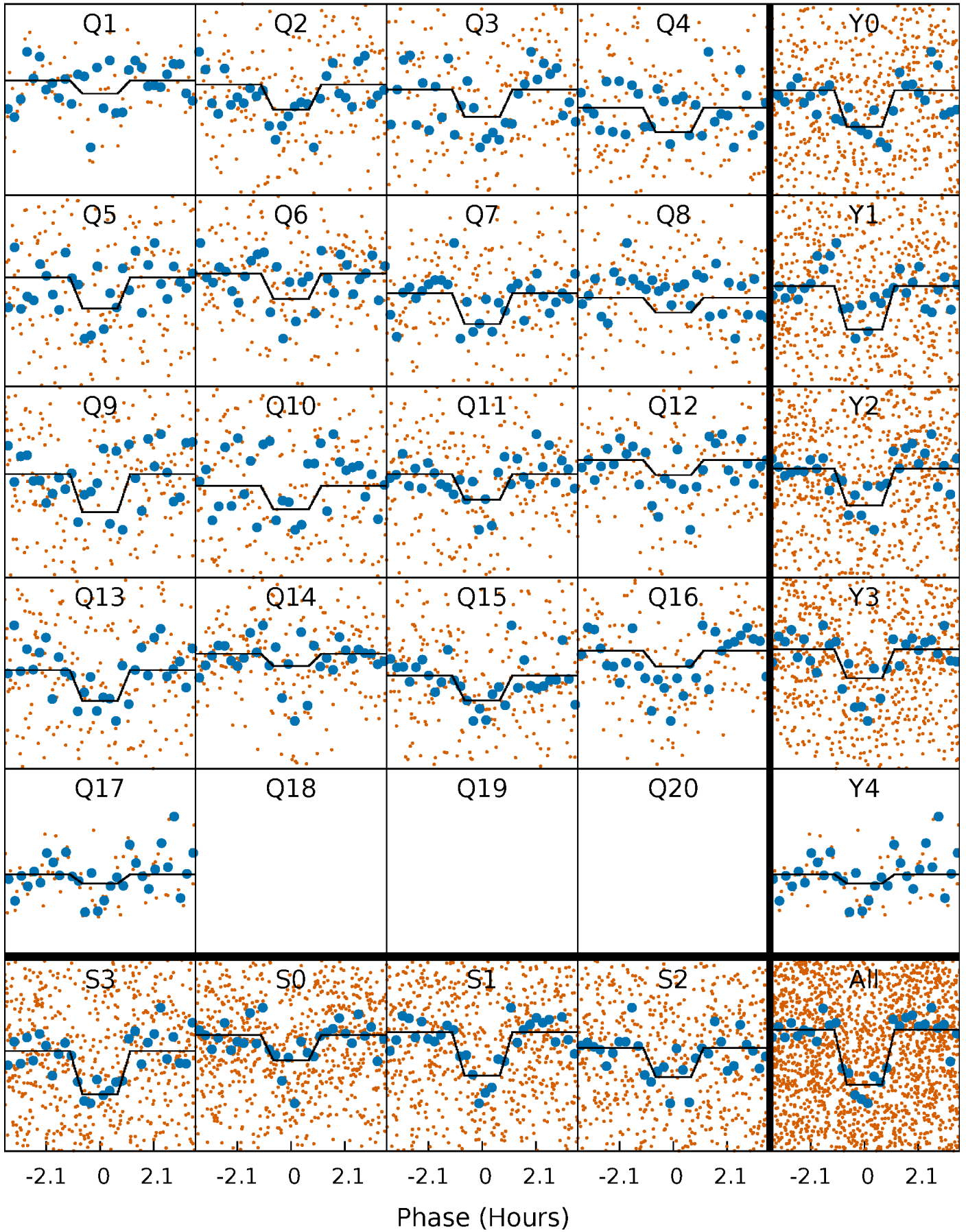
DV Quarter-Phased Transit Curves

TCE 010252275-02 $P = 5.652450$ Days $T_0 = 136.980065$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

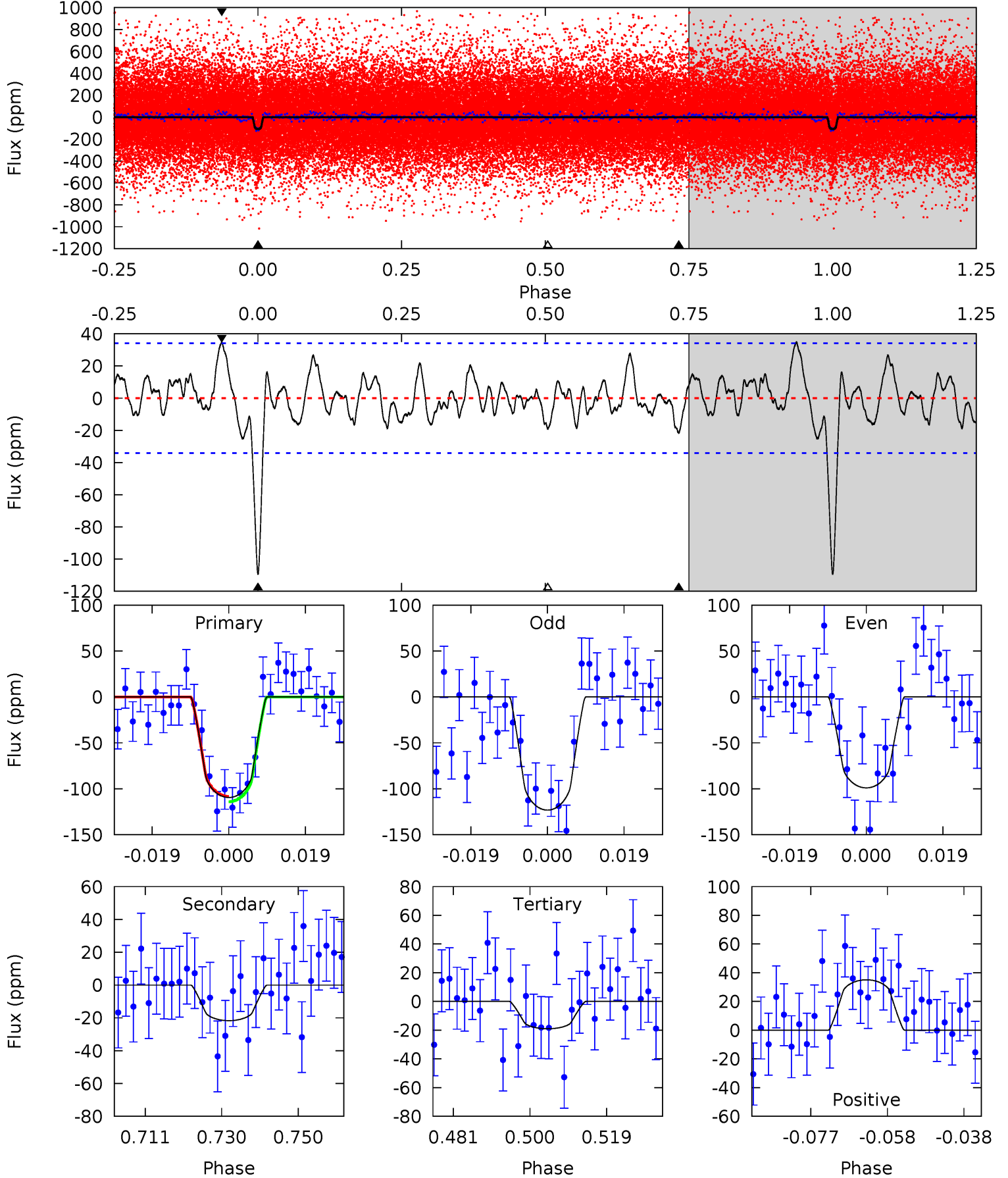
TCE 010252275-02 $P = 5.652491$ Days $T_0 = 136.975563$ (BKJD)



DV Model-Shift Uniqueness Test

010252275-02, P = 5.652450 Days, E = 131.327615 Days

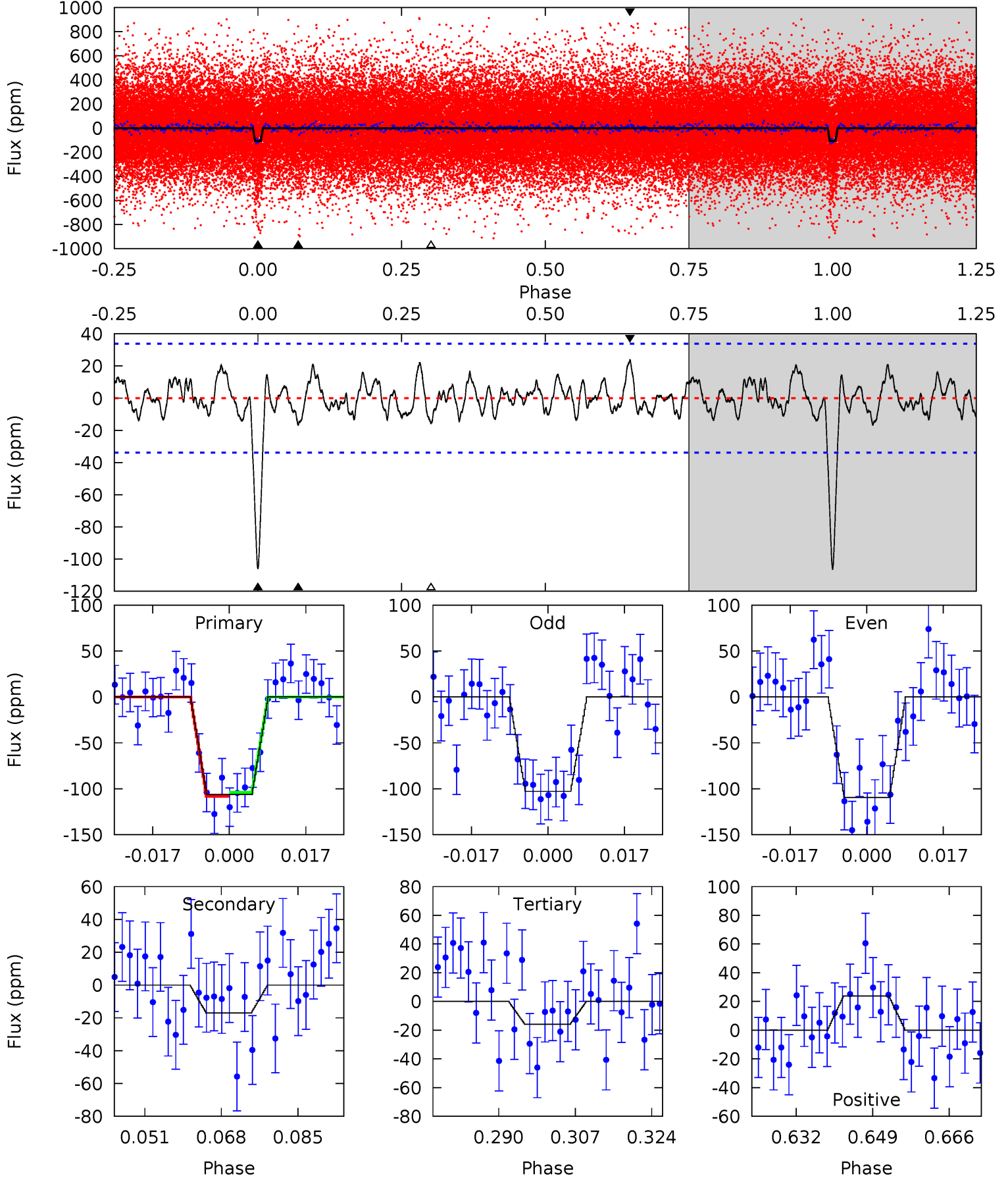
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.11	2.73	5.03	4.90	2.34	1.51	13.0	10.7	0.38	-1.92	1.74	1.01	0.24	0.41



Alt Model-Shift Uniqueness Test

010252275-02, P = 5.652491 Days, E = 131.323072 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	2.46	2.31	3.47	4.92	2.39	1.17	13.1	12.0	0.15	-1.00	0.49	0.94	0.18	0.32



Stellar Parameters For KIC 010252275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5159^{+153}_{-153}	$4.508^{+0.093}_{-0.085}$	$-0.160^{+0.300}_{-0.300}$	$0.800^{+0.088}_{-0.088}$	$0.752^{+0.106}_{-0.057}$	$2.067^{+0.807}_{-0.489}$
	+3%/-3%	+2%/-2%	+188%/-188%	+11%/-11%	+14%/-8%	+39%/-24%
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 010252275-02 / KOI 3130.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 7	$1.13^{+0.76}_{-0.64}$	1196^{+53}_{-51}	3555^{+1170}_{-599}	30^{+123}_{-21}
Alt.	-17 ± 7	$1.01^{+0.76}_{-0.58}$	1197^{+50}_{-52}	3484^{+1311}_{-613}	28^{+133}_{-20}

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

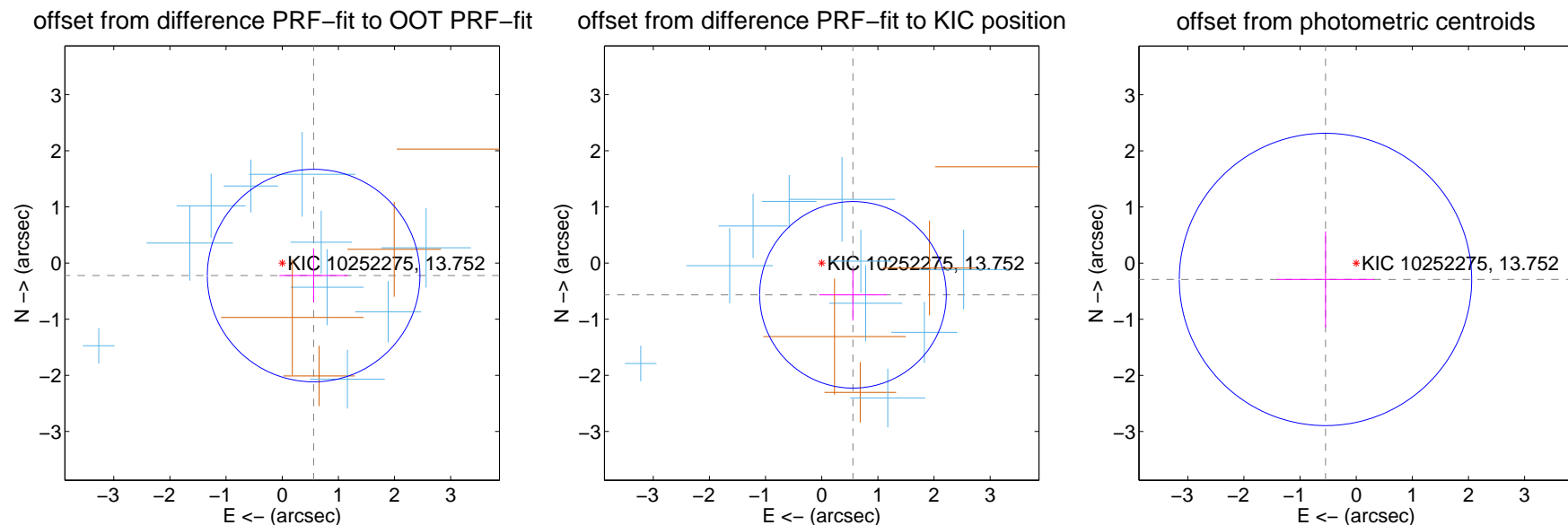
DV Centroid Data

Supplemental centroid analysis for 010252275-02. Kepler magnitude: 13.75. Transit SNR 11.99

There are 10 quarters with good PRF difference image offsets

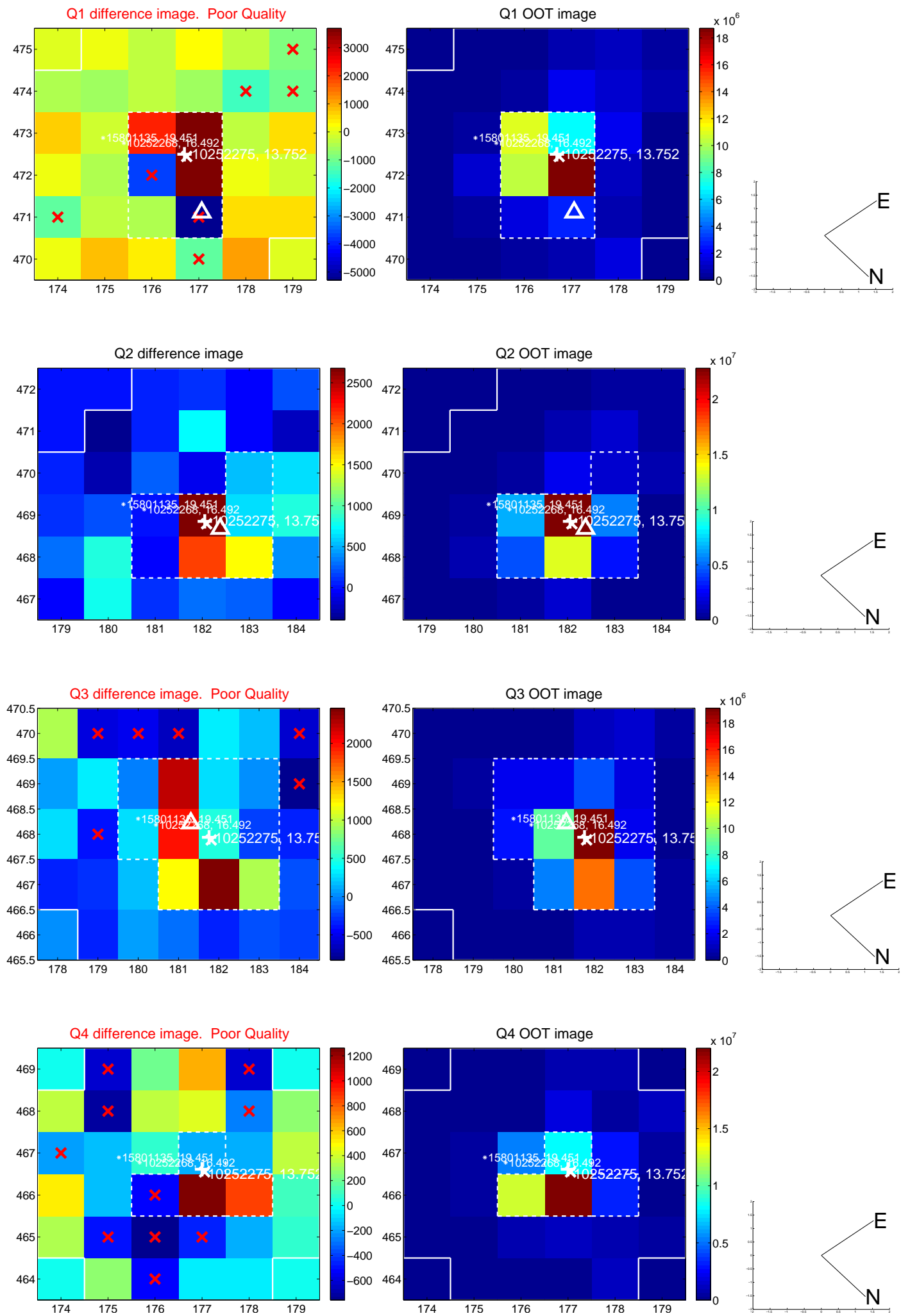
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.602 ± 0.631	0.95	-0.559 ± 0.609	-0.223 ± 0.479
PRF-fit source offset from KIC position	0.794 ± 0.554	1.43	-0.557 ± 0.604	-0.566 ± 0.458
photometric centroid source offset	0.62 ± 0.87	0.71	0.55 ± 0.87	-0.29 ± 0.86

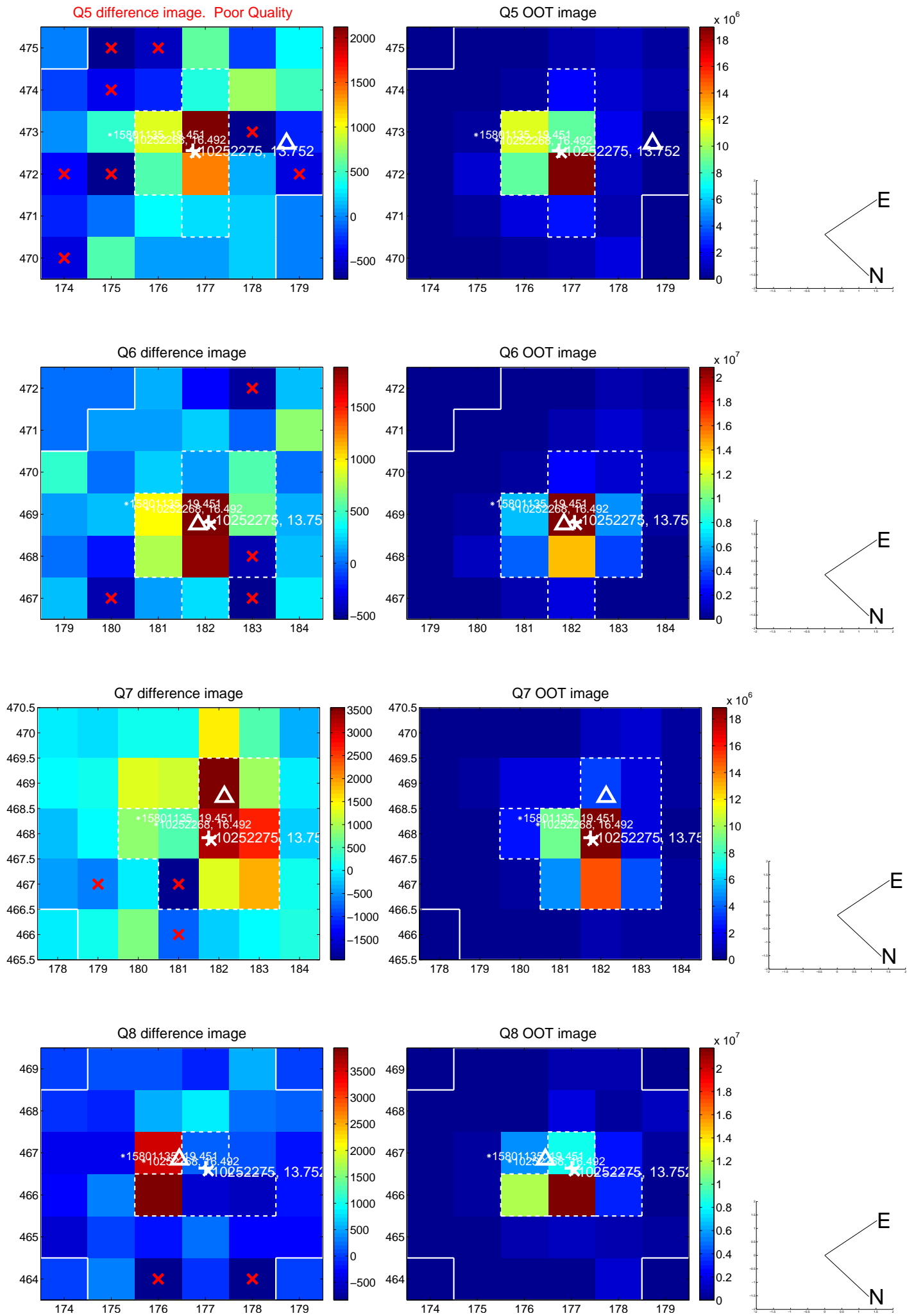


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

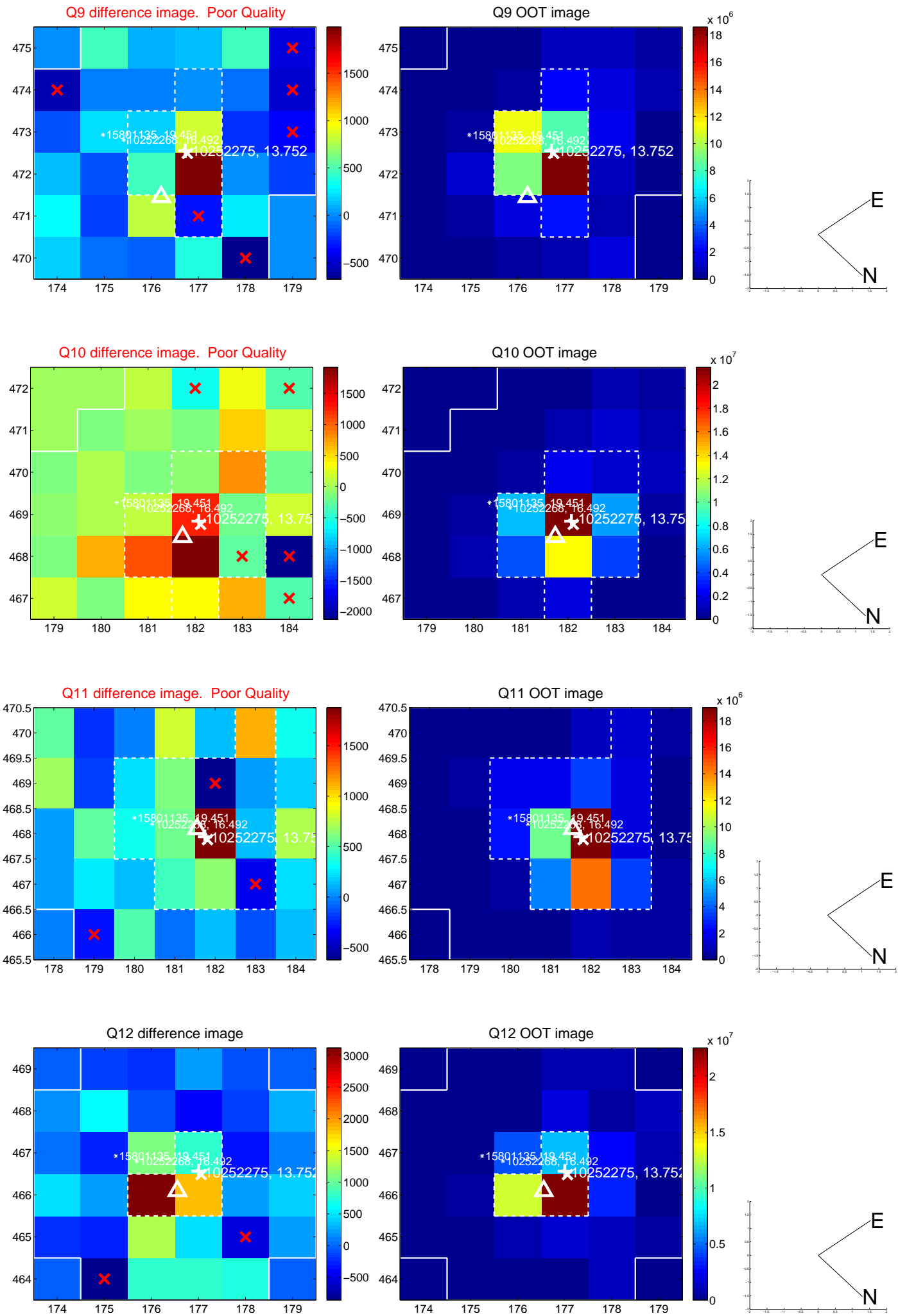
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



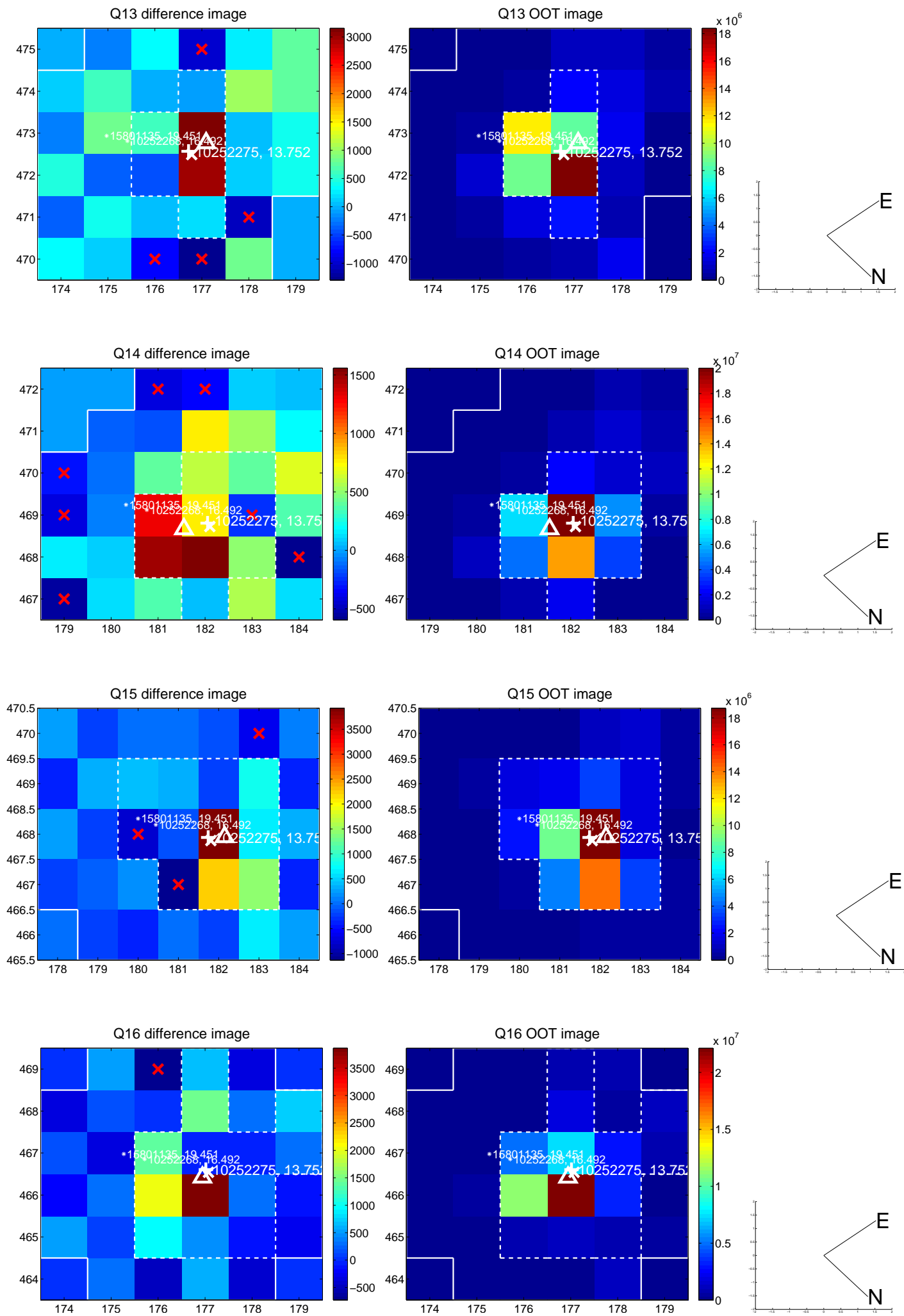
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



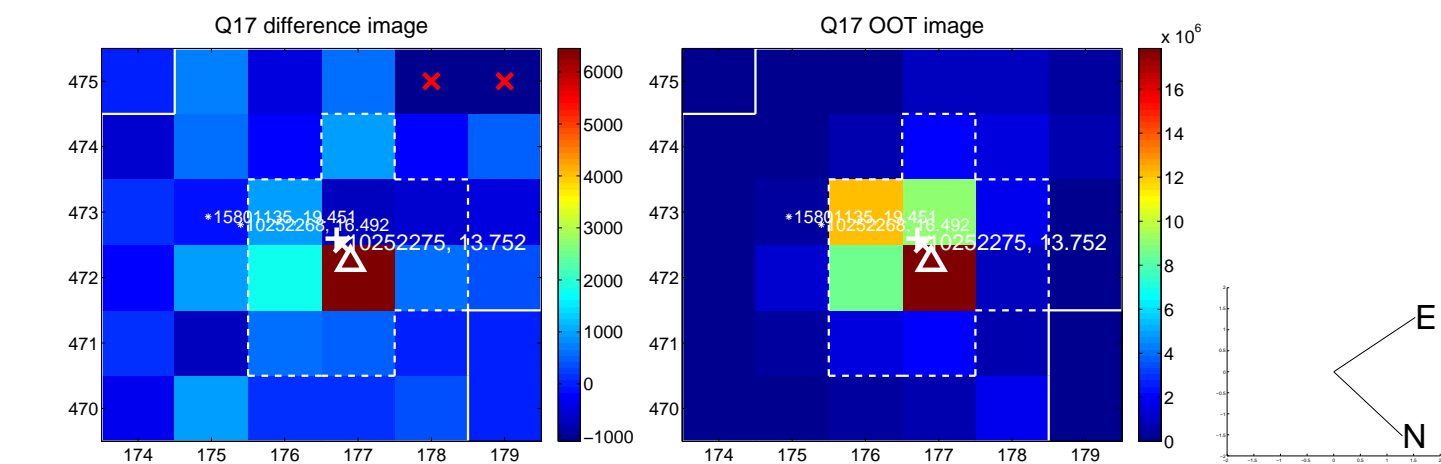
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



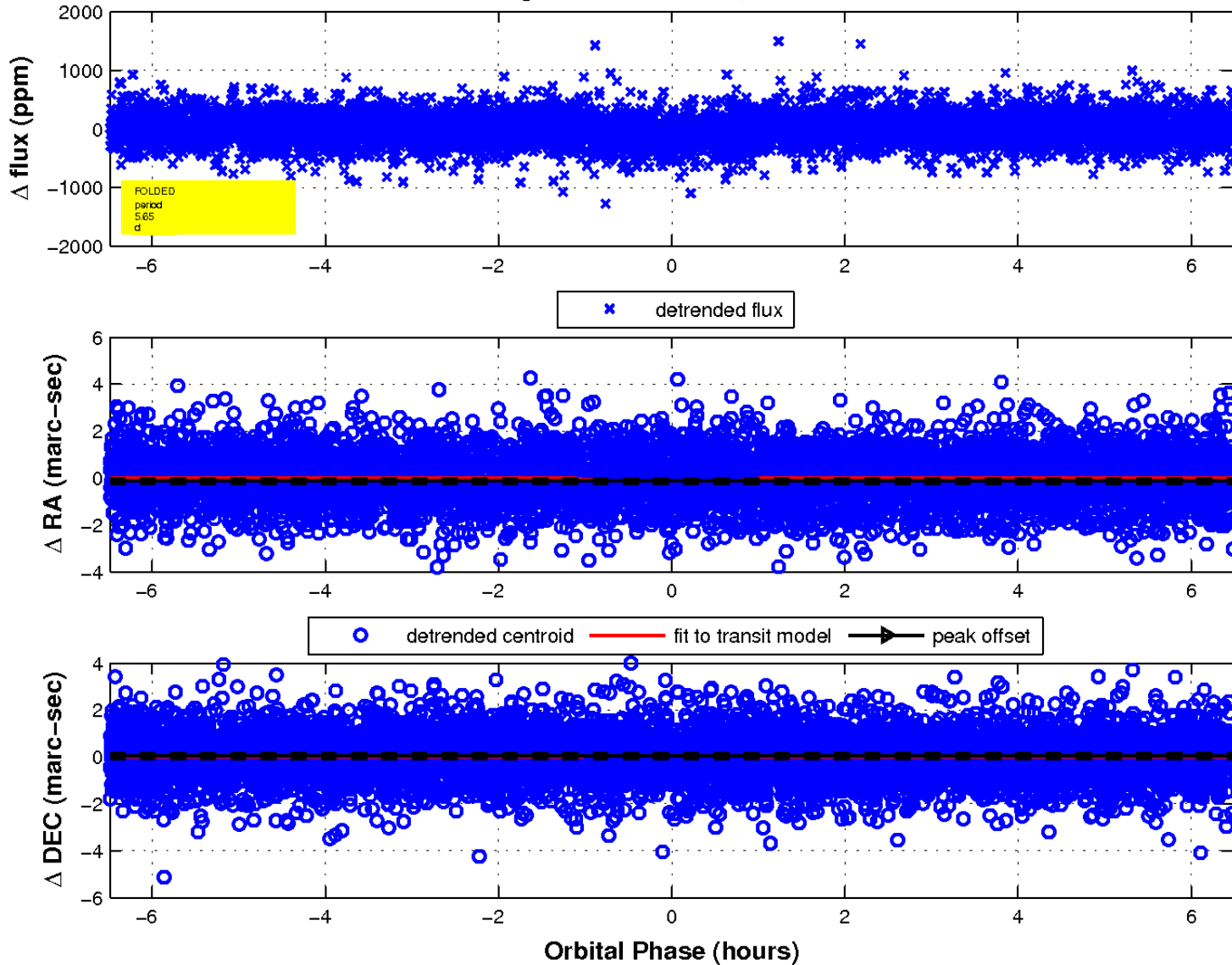
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

