

KIC 007765006

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})
007765006-01	OBS	No	6.801124	135.630432	55.5	19.015	7.6	8.3	2.26	6153	2.37	1157.69
007765006-02	OBS	No	3.406858	134.395665	32.2	20.991	8.7	6.8	2.26	6153	1.51	2910.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007765006-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007765006-02	OBS	FP	0.00	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.

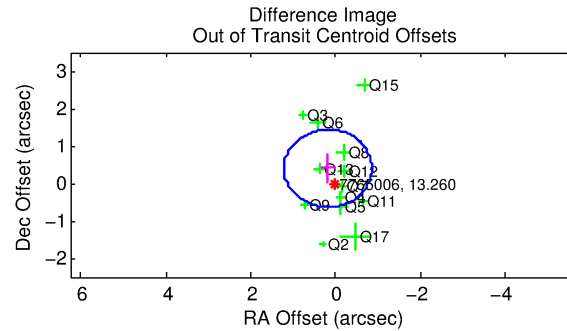
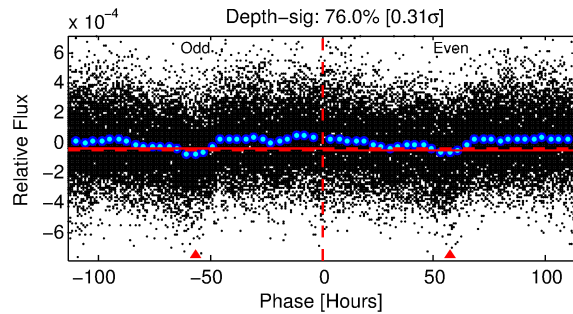
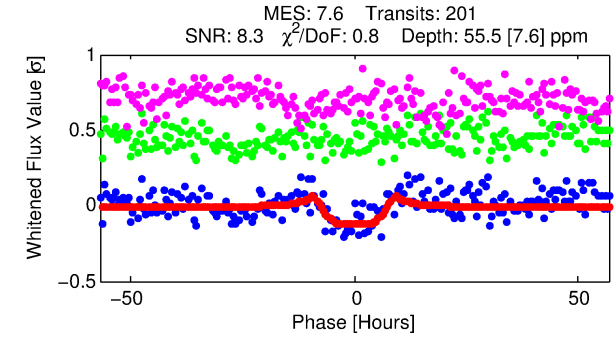
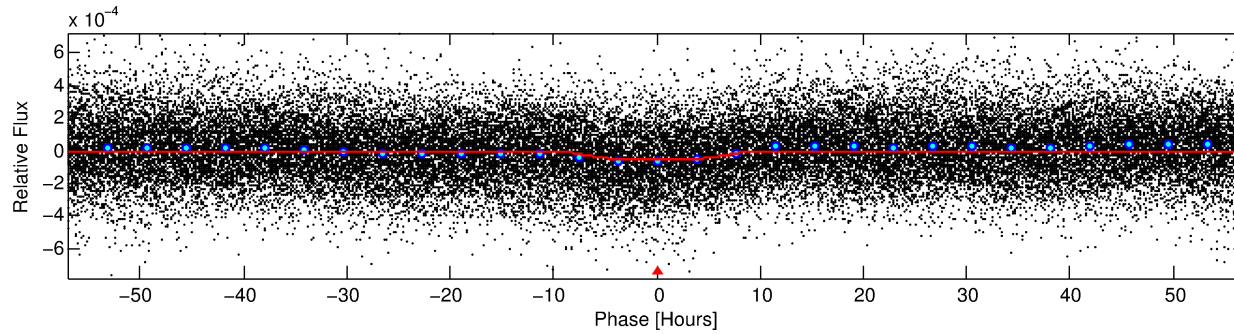
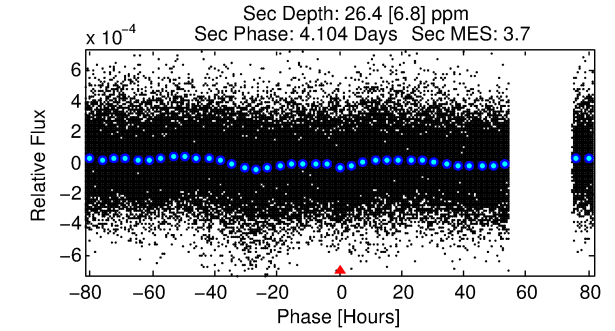
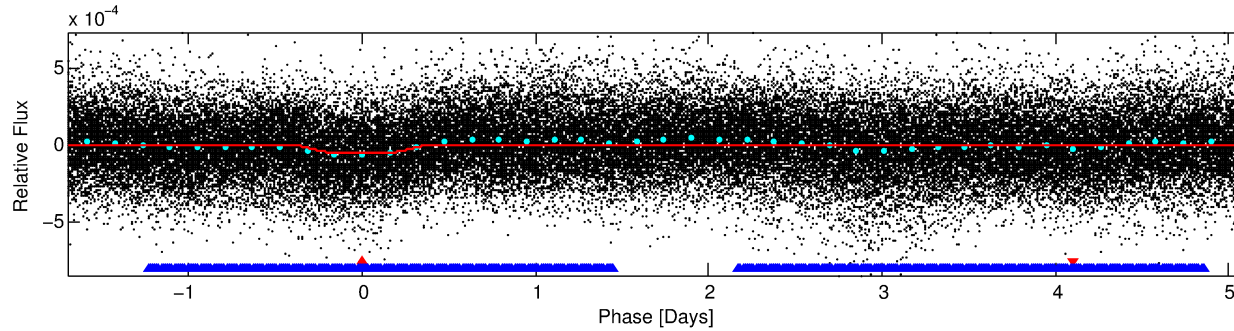
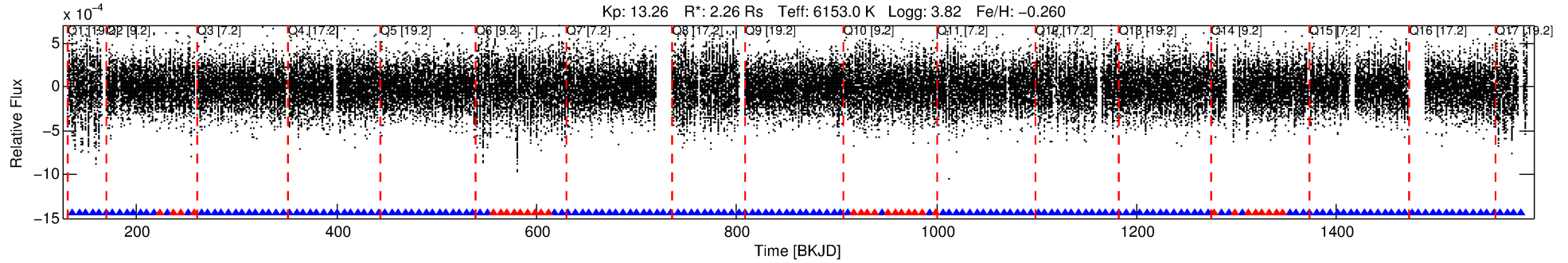
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007765006-01

No Significant Match Found

DV One-Page Summary

KIC: 7765006 Candidate: 1 of 2 Period: 6.801 d



DV Fit Results:

Period = 6.80112 [0.00028] d
Epoch = 135.6304 [0.0344] BKJD
Rp/R* = 0.0096 [0.0008]
a/R* = 1.14 [0.03]
b = 0.99 [0.00]
Seff = 1157.69 [609.70]
Teq = 1487 [196] K
Rp = 2.37 [0.84] Re
a = 0.0754 [0.0245] AU
Ag = 14.73 [8.80] [1.56σ]
Teffp = 4505 [363] K [7.32σ]

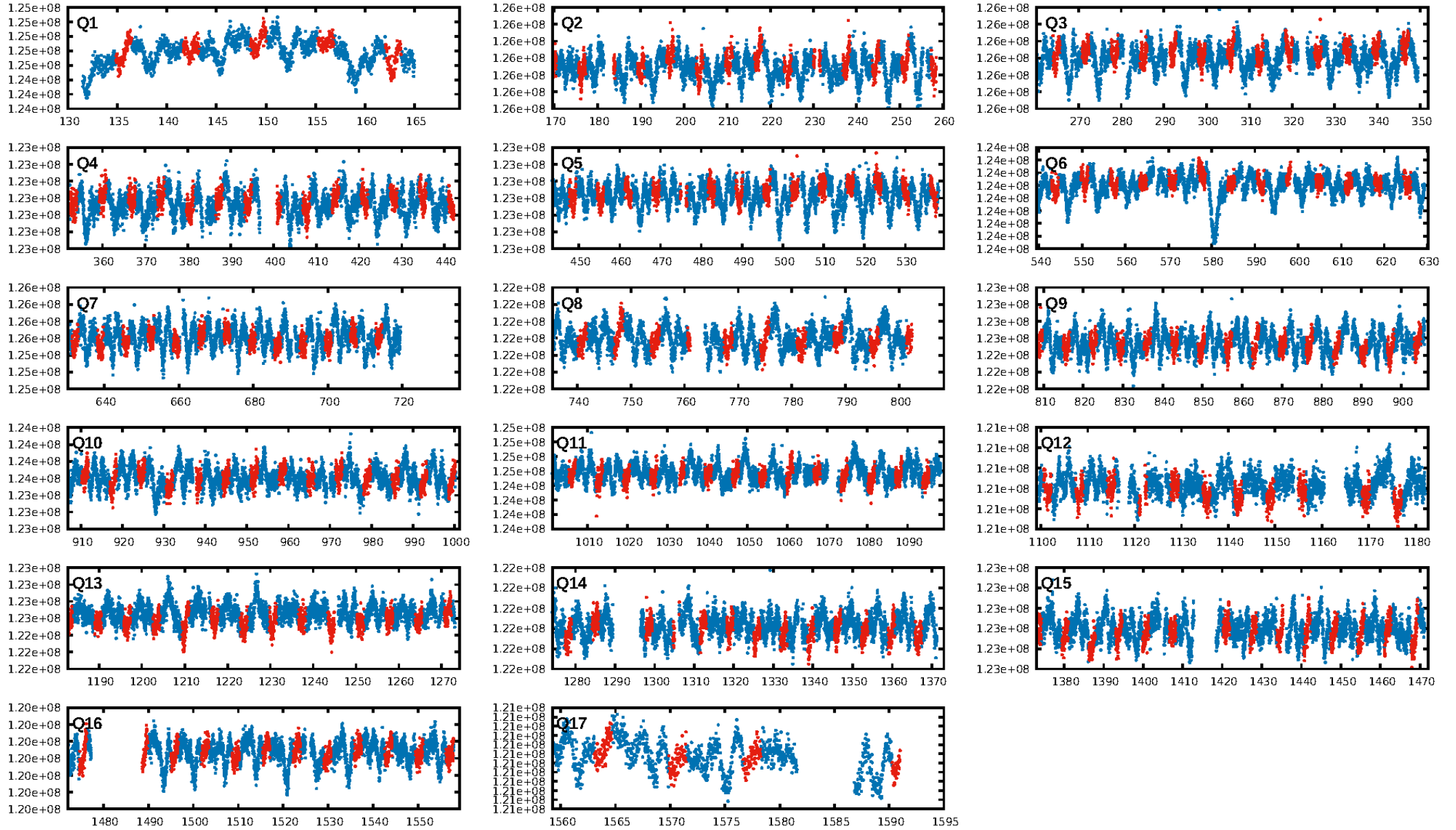
DV Diagnostic Results:

ShortPeriod-sig: 99.6% [2.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.05e-12
RollingBand-fgt: 0.83 [160/192]
GhostDiagnostic-chr: 1.508
Centroid-sig: N/A
Centroid-so: 0.349 arcsec [0.51σ]
OotOffset-rm: 0.436 arcsec [1.26σ]
KicOffset-rm: 0.437 arcsec [1.34σ]
OotOffset-st: 2/4/3/4 [13]
KicOffset-st: 2/4/3/4 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 0.00 [0/17]

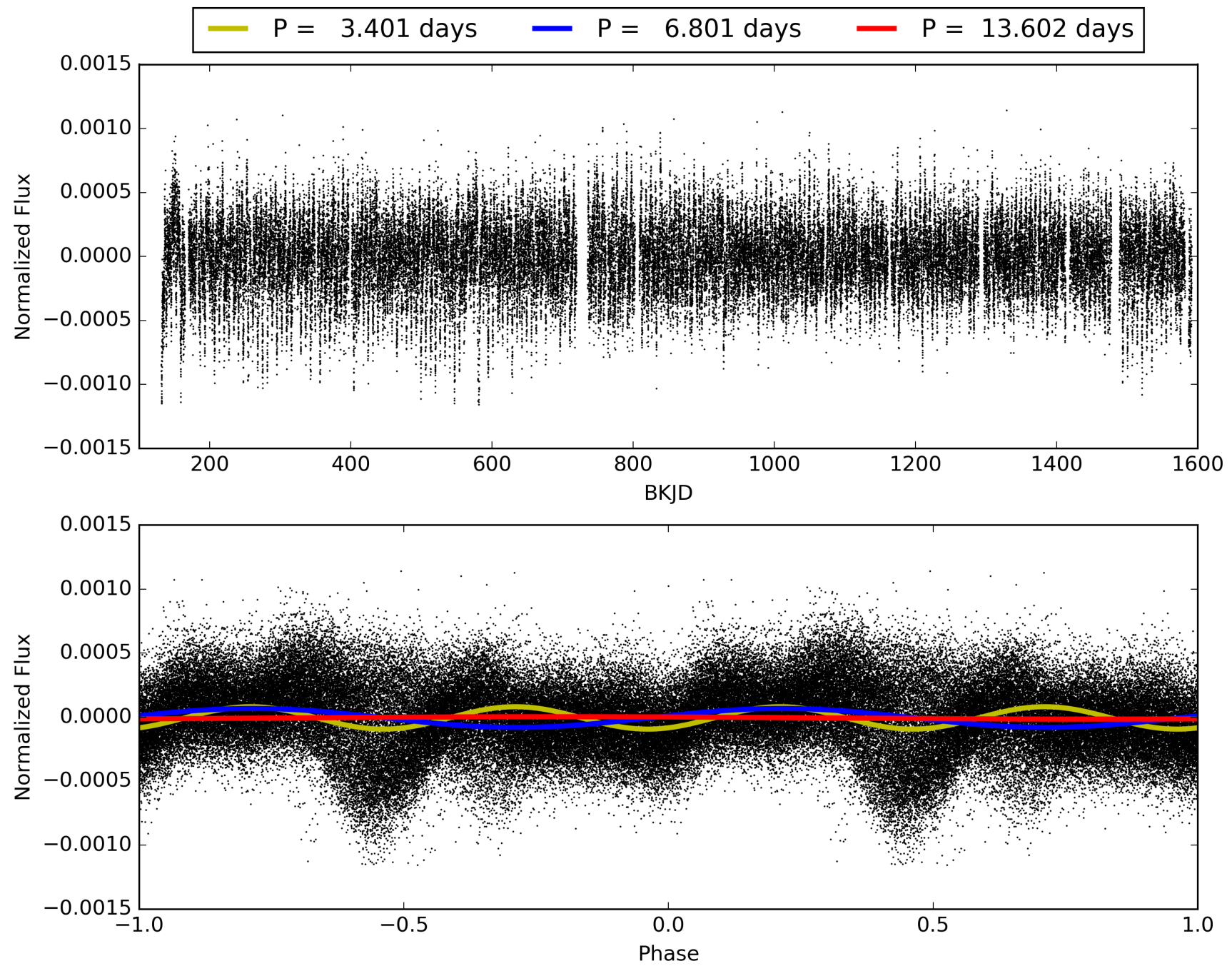
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:49:23 Z

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

TCE 007765006-01, PDC Light Curves

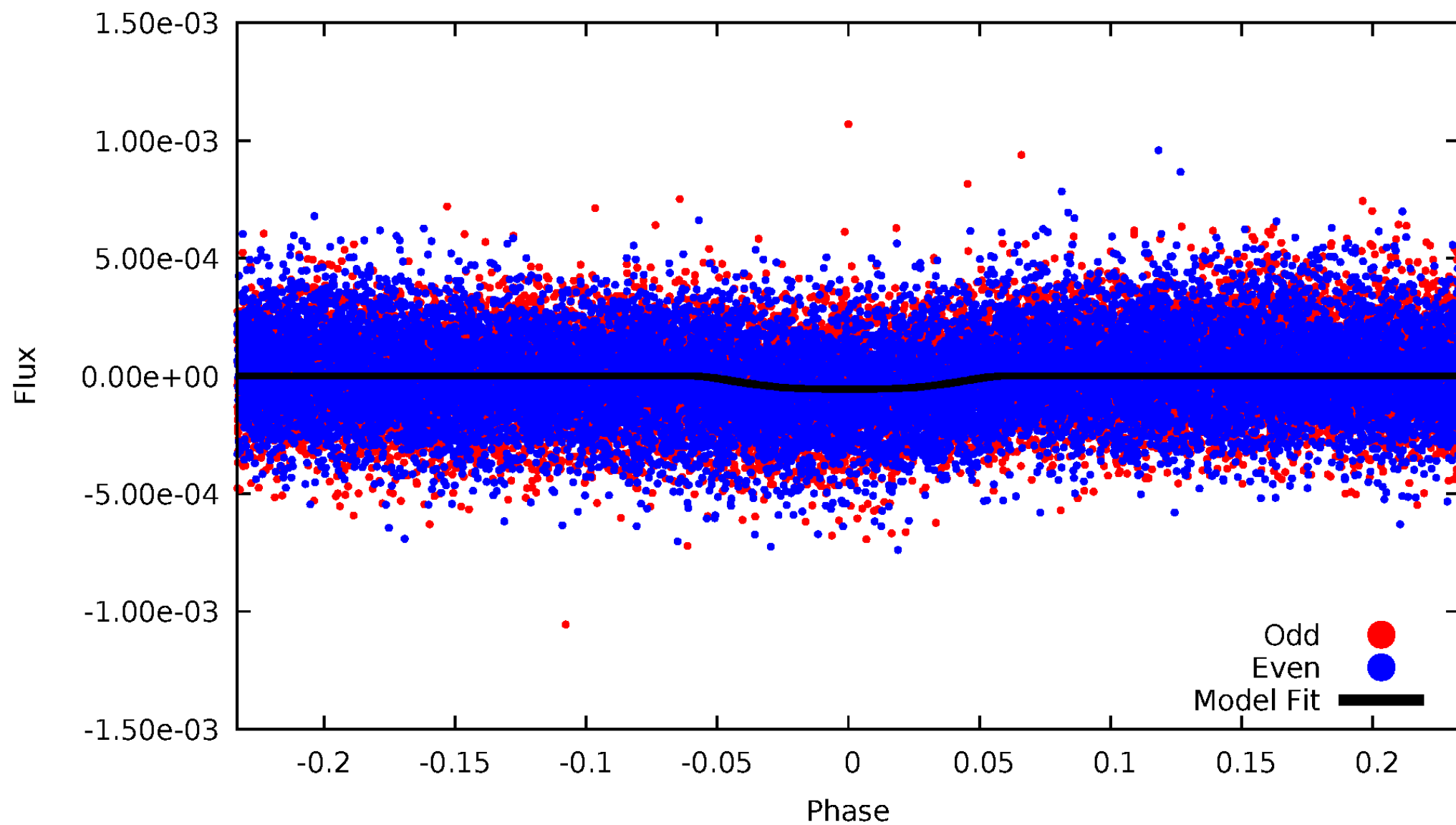


TCE 007765006-01



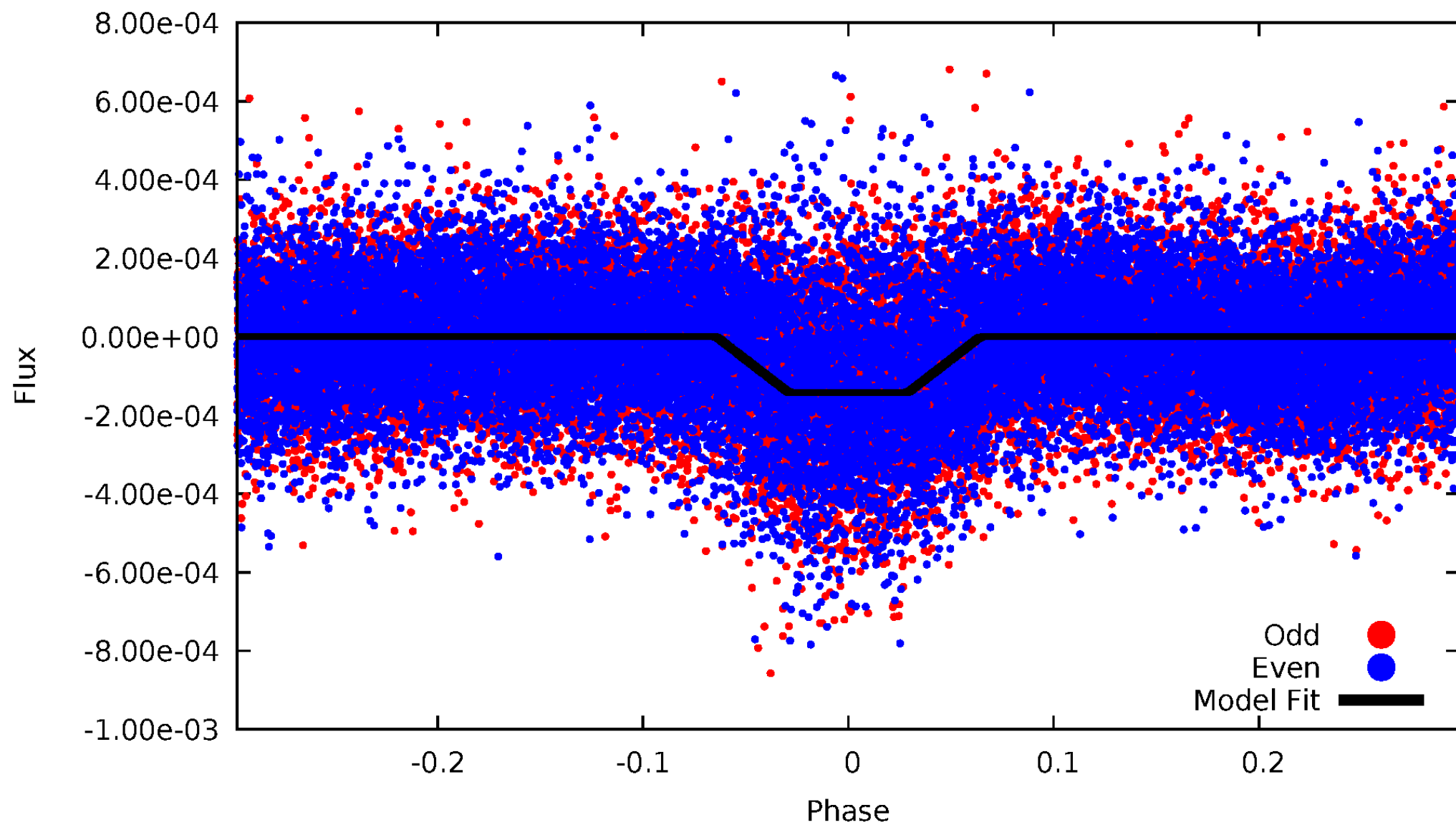
DV Odd/Even

TCE 007765006-01

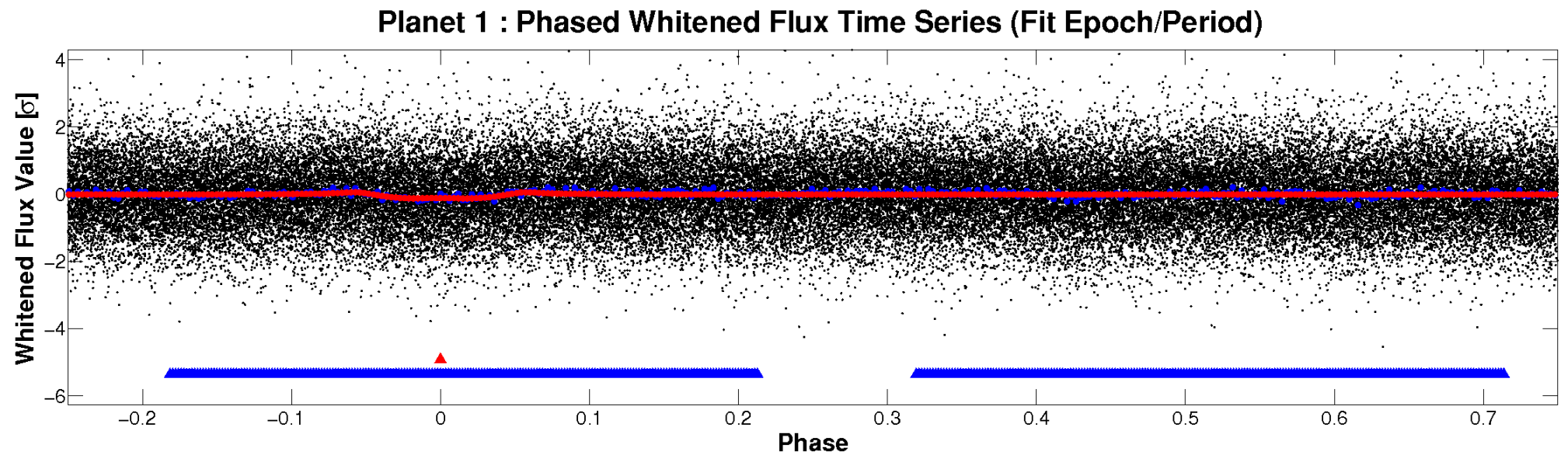
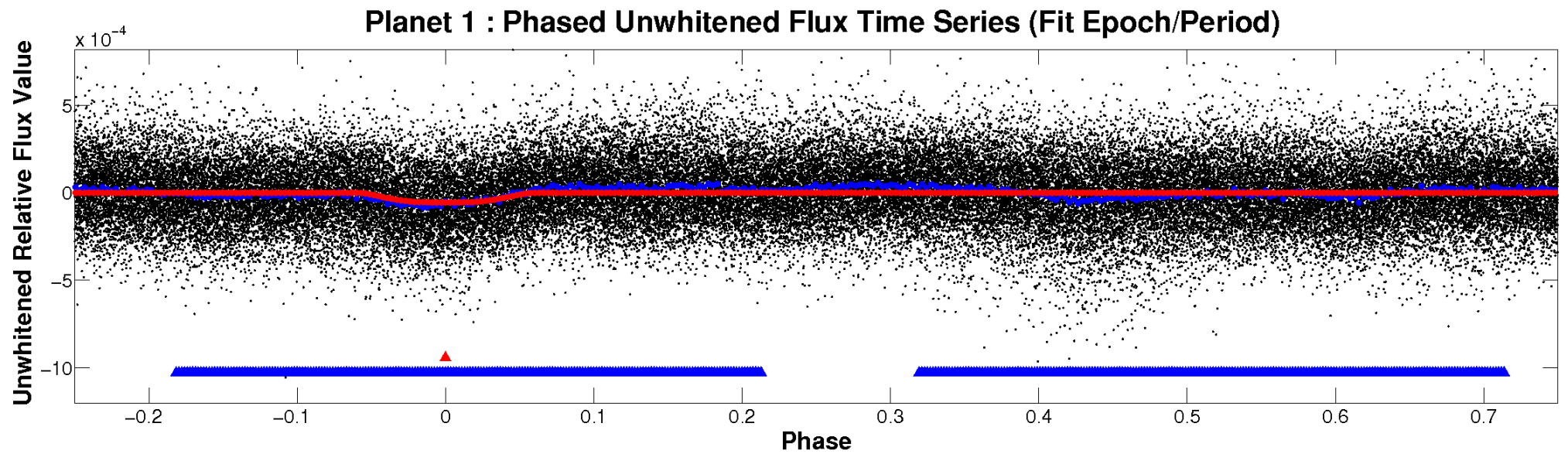


ALT Odd/Even

TCE 007765006-01

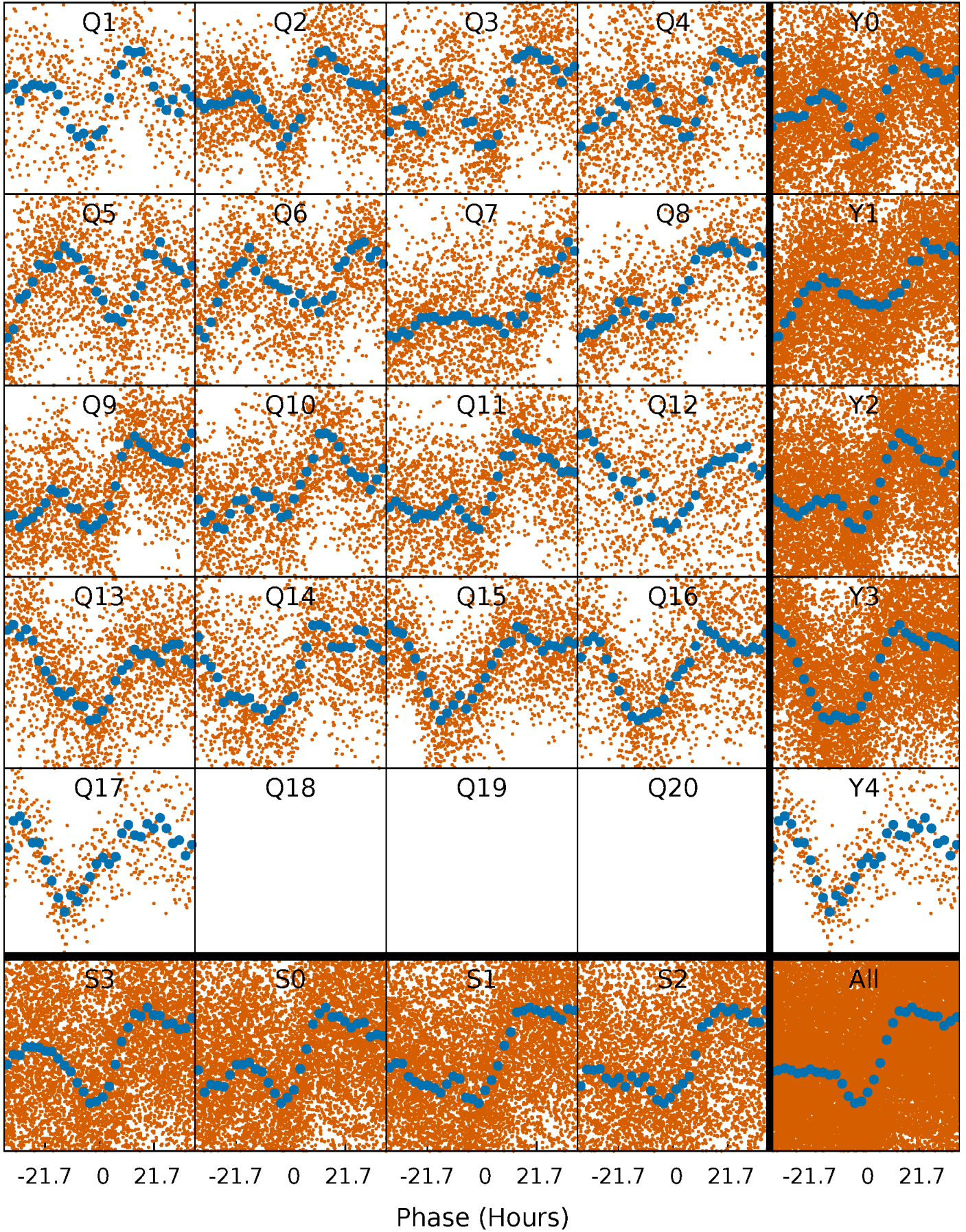


Non-Whitened Vs. Whitened Light Curve



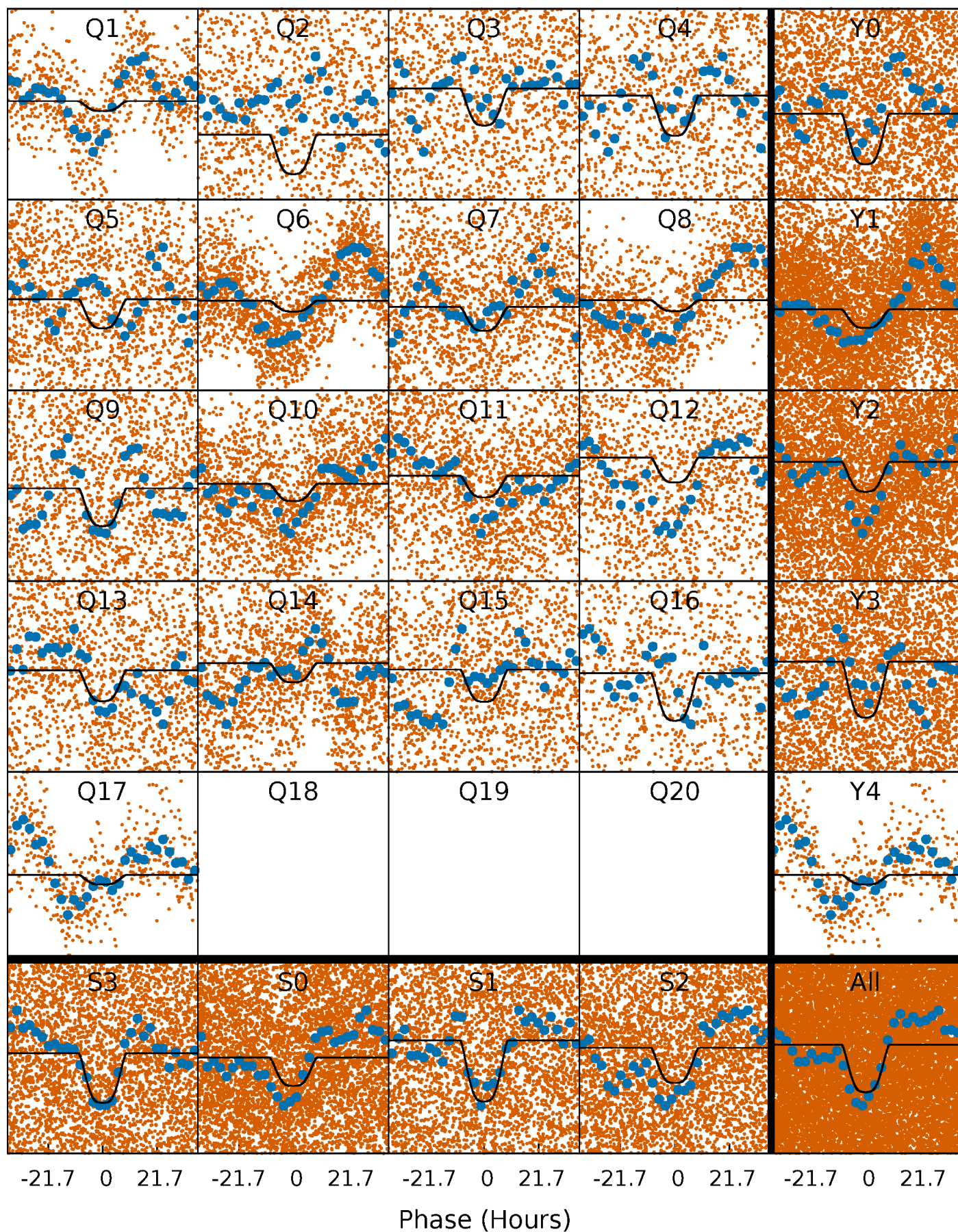
PDC Quarter-Phased Transit Curves

TCE 007765006-01 P= 6.801124 Days $T_0=135.630432$ (BKJD)



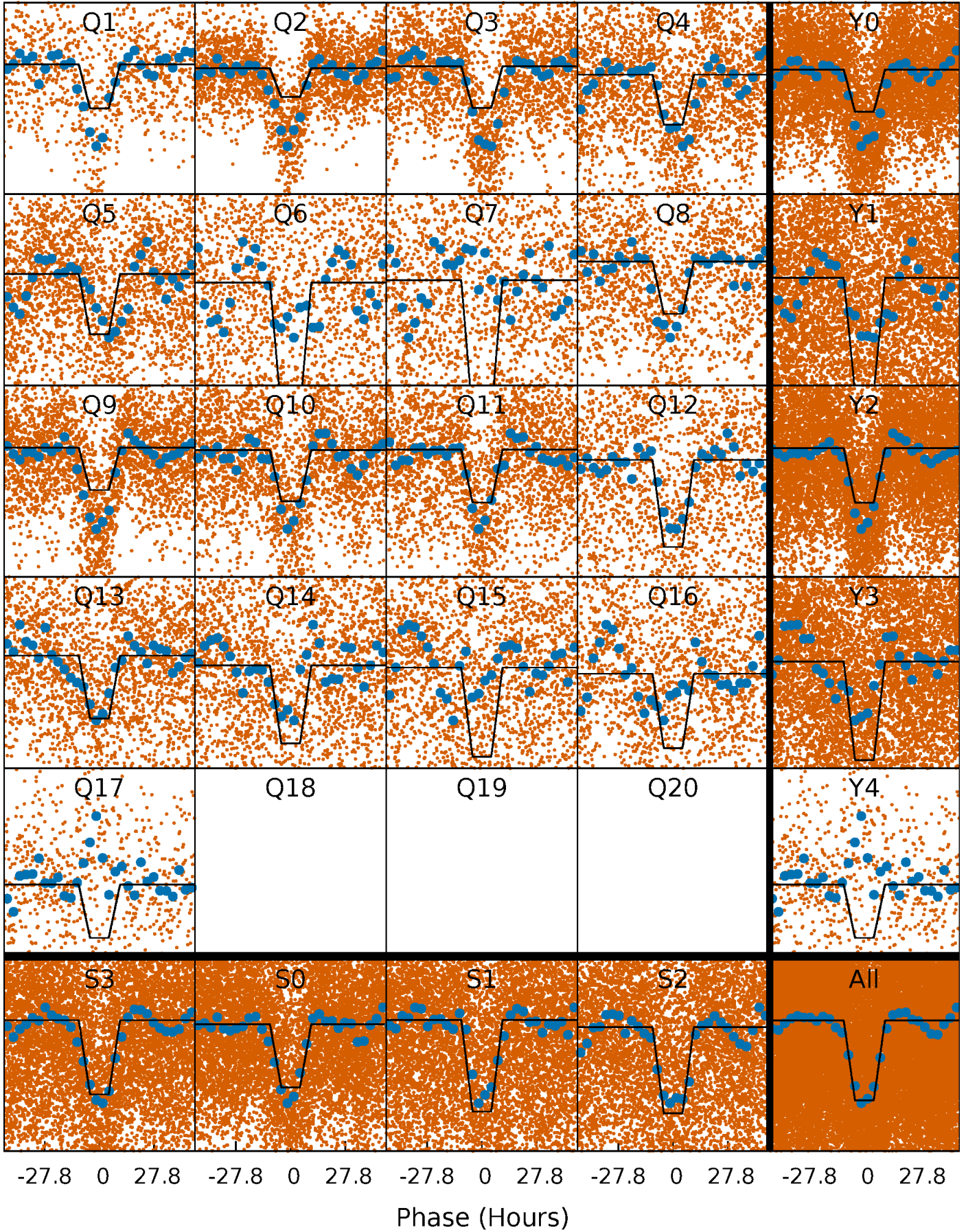
DV Quarter-Phased Transit Curves

TCE 007765006-01 P= 6.801124 Days $T_0=135.630432$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

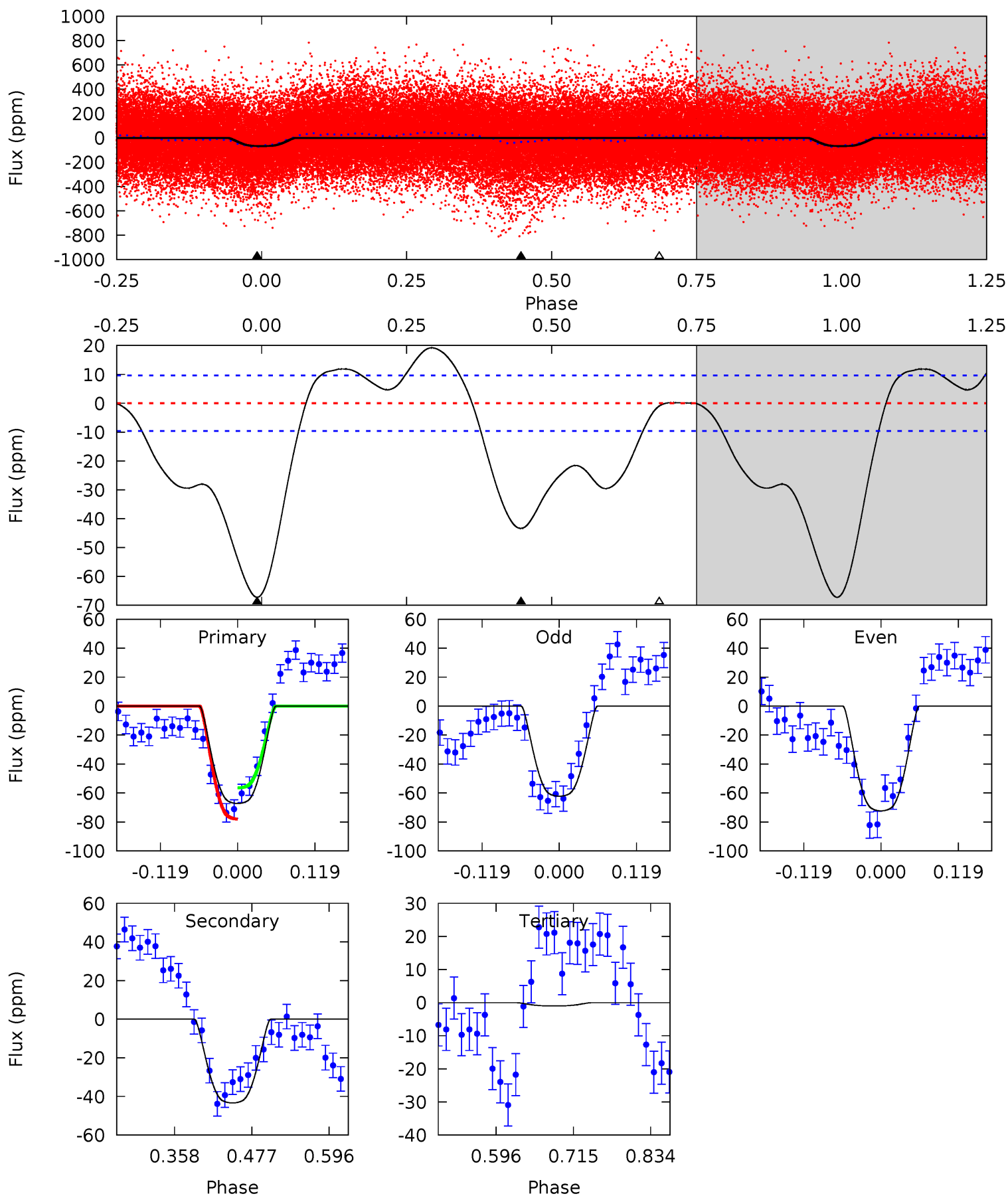
TCE 007765006-01 P= 6.800922 Days $T_0=135.624232$ (BKJD)



DV Model-Shift Uniqueness Test

007765006-01, P = 6.801124 Days, E = 128.829308 Days

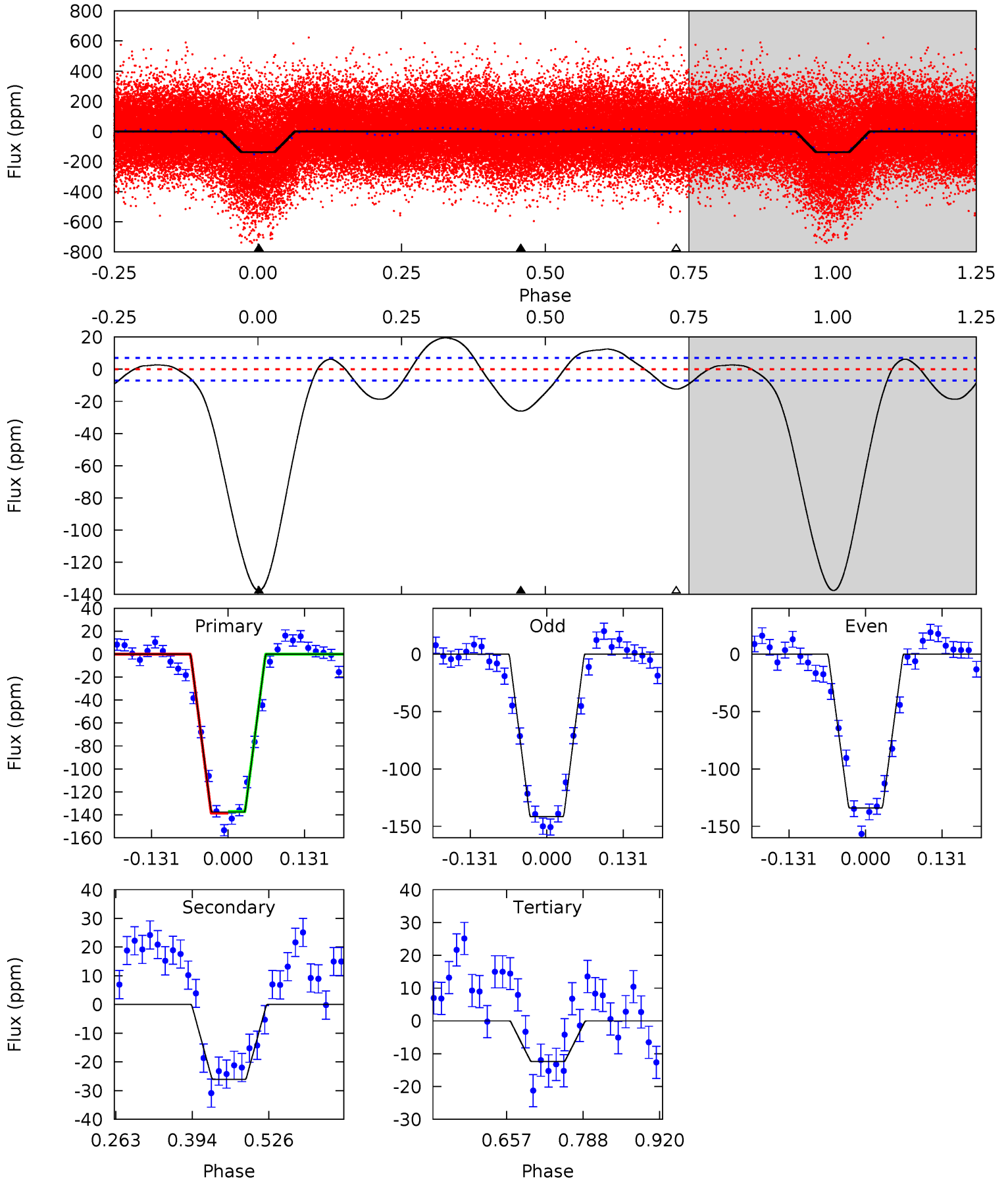
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	20.4	0.46	0	4.53	1.56	7.35	31.2	31.6	19.9	20.4	2.38	1.16	0.22	0



Alt Model-Shift Uniqueness Test

007765006-01, P = 6.800922 Days, E = 128.823310 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.9	16.7	7.92	0	4.51	1.51	6.39	80.0	87.9	8.75	16.7	2.41	1.02	0.12	0.41



Stellar Parameters For KIC 007765006

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6153^{+170}_{-170}	$3.820^{+0.300}_{-0.100}$	$-0.260^{+0.350}_{-0.300}$	$2.263^{+0.421}_{-0.782}$	$1.233^{+0.235}_{-0.235}$	$0.150^{+0.314}_{-0.047}$
	+3%/-3%	+8%/-3%	+135%/-115%	+19%/-35%	+19%/-19%	+210%/-32%
Source	PHO1	FLK73	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 007765006-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 2	$2.30^{+0.39}_{-0.42}$	2047^{+118}_{-171}	5151^{+248}_{-212}	26^{+12}_{-7}
Alt.	-26 ± 2	$2.84^{+0.44}_{-0.52}$	2038^{+123}_{-181}	4259^{+146}_{-146}	10^{+5}_{-2}

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

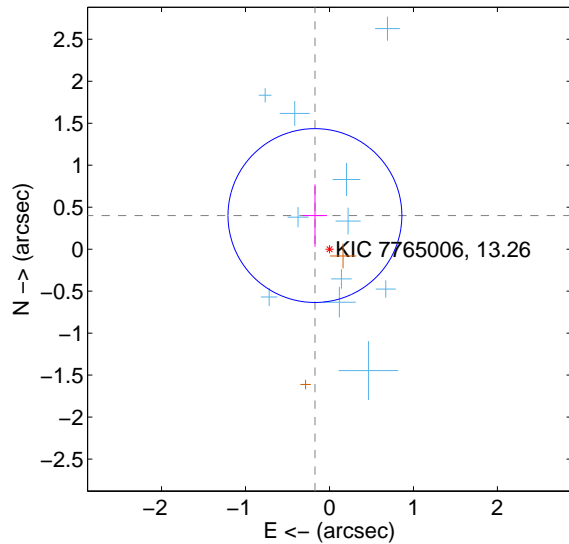
Supplemental centroid analysis for 007765006-01. Kepler magnitude: 13.26. Transit SNR 8.30

There are 11 quarters with good PRF difference image offsets

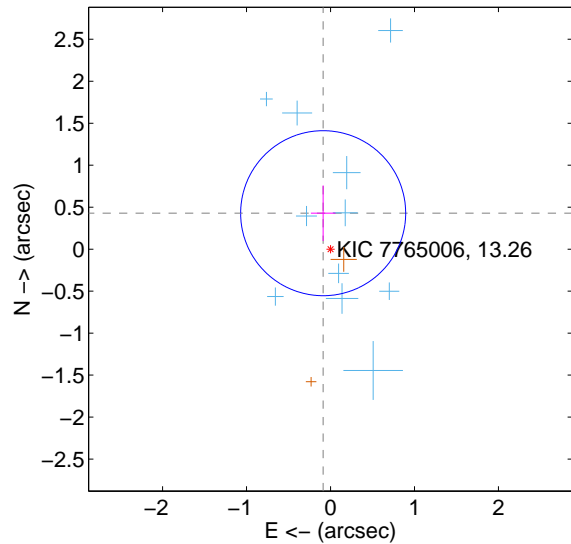
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.436 ± 0.345	1.26	0.173 ± 0.145	0.400 ± 0.371
PRF-fit source offset from KIC position	0.437 ± 0.328	1.34	0.088 ± 0.147	0.428 ± 0.331
photometric centroid source offset	0.35 ± 0.68	0.51	0.23 ± 0.65	0.26 ± 0.71

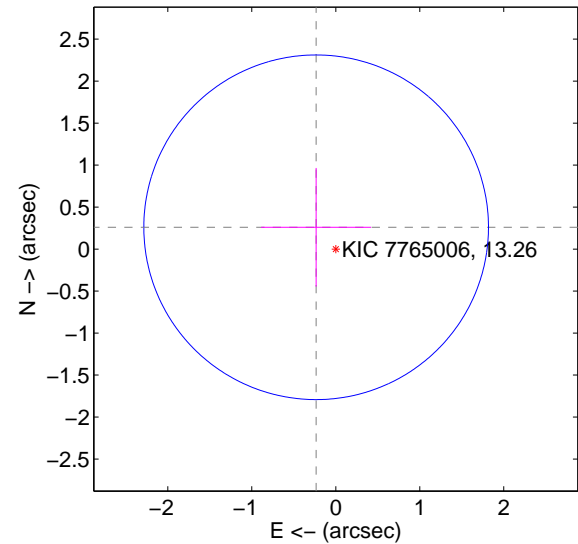
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

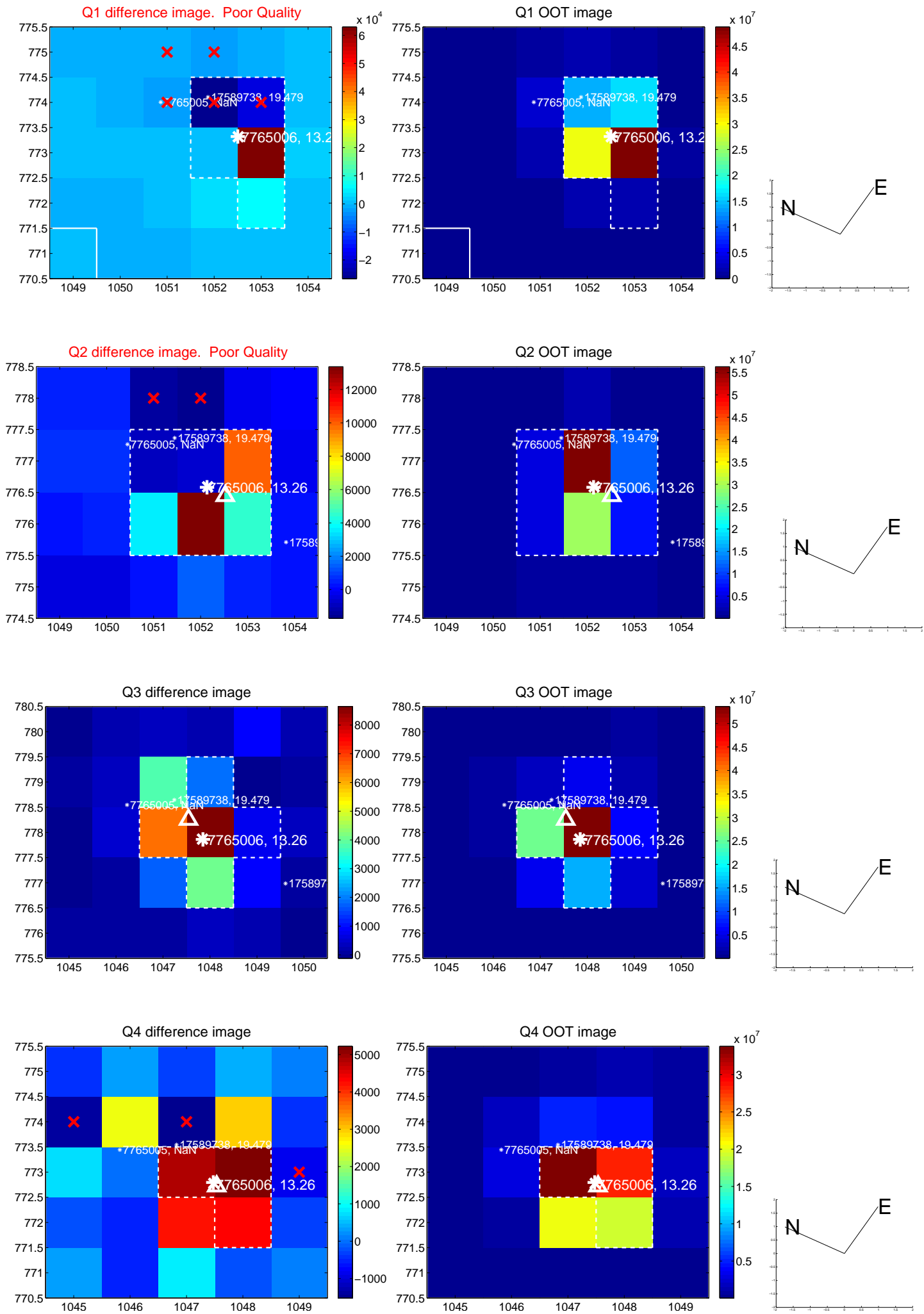


offset from photometric centroids

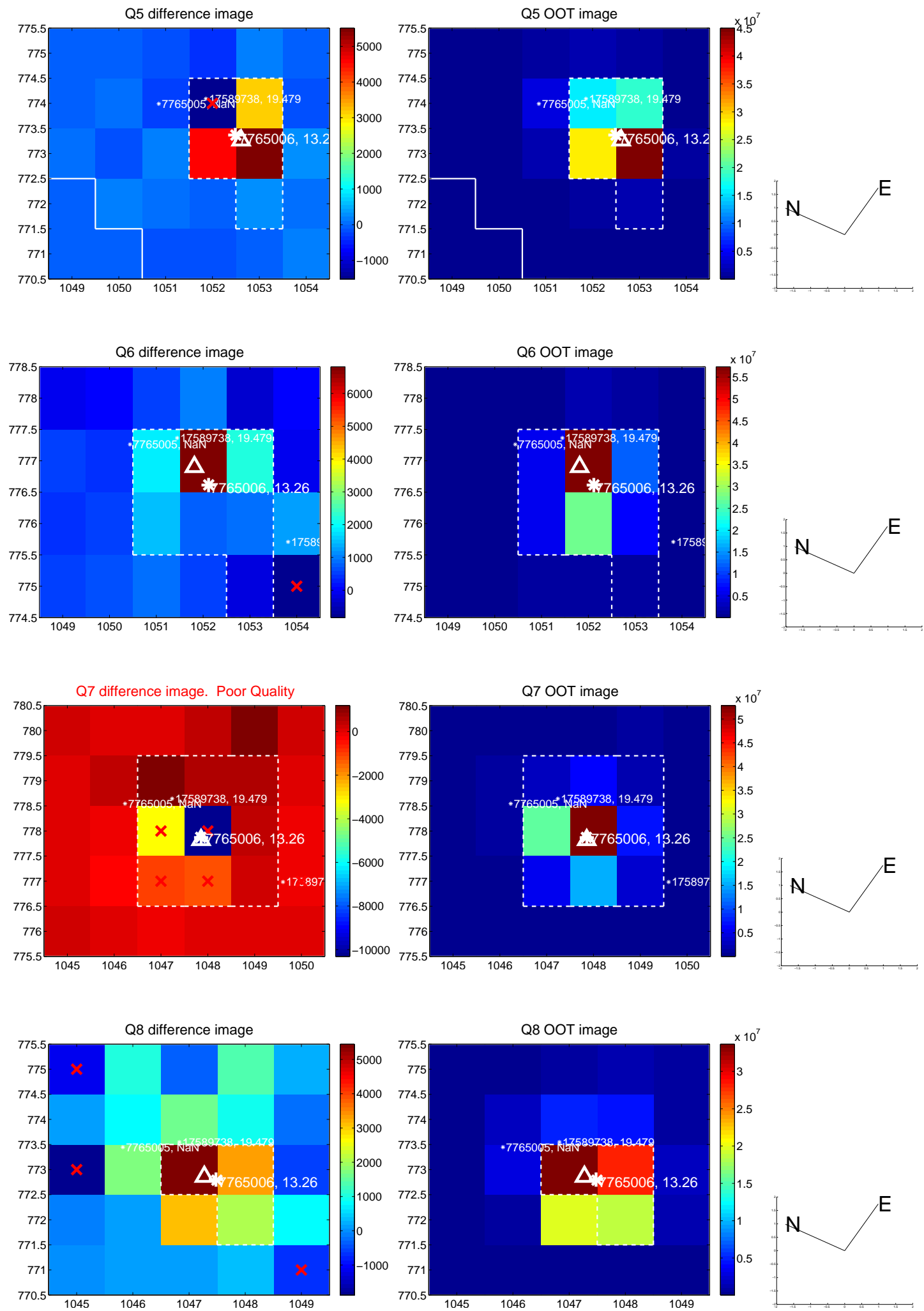


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

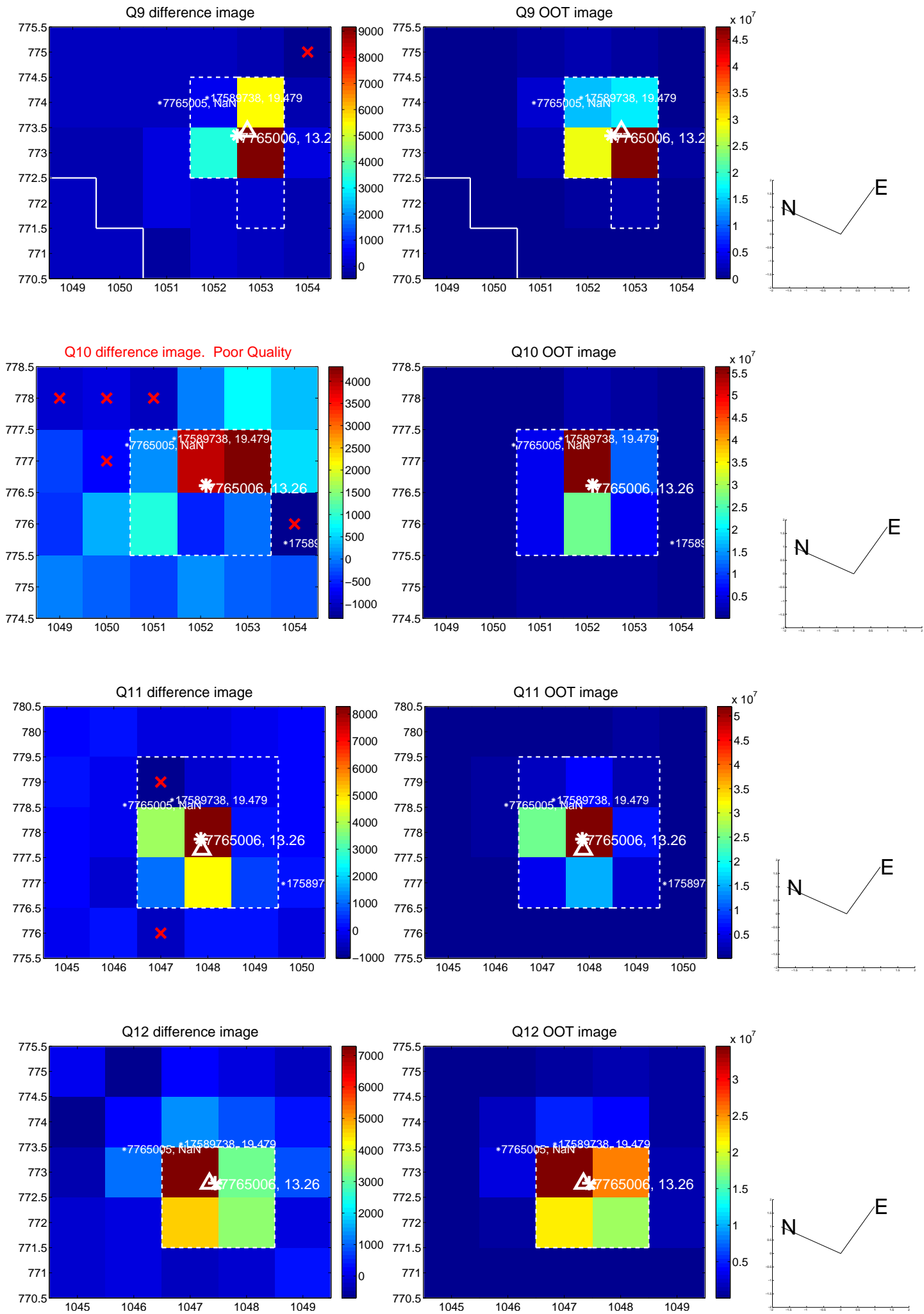
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



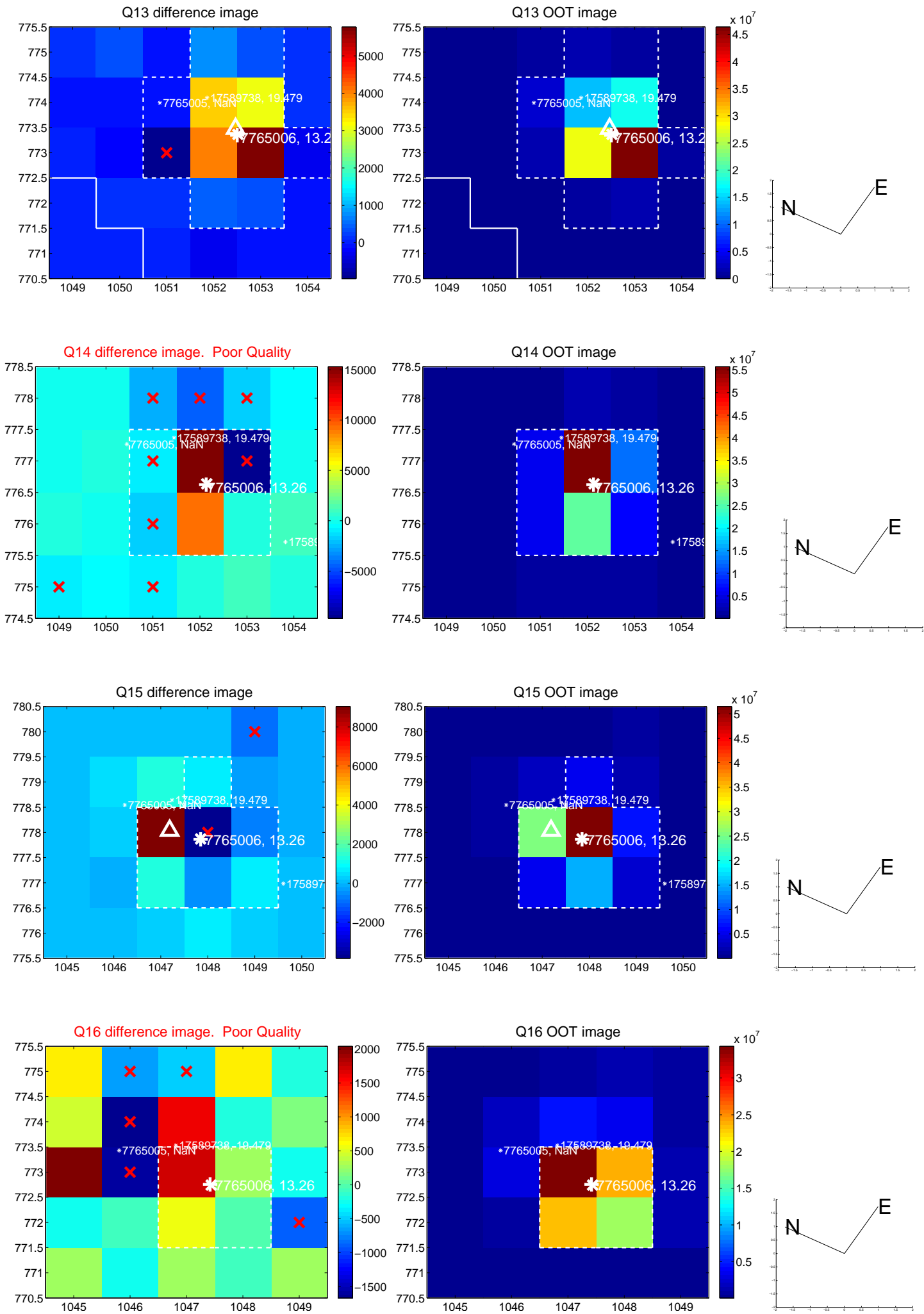
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



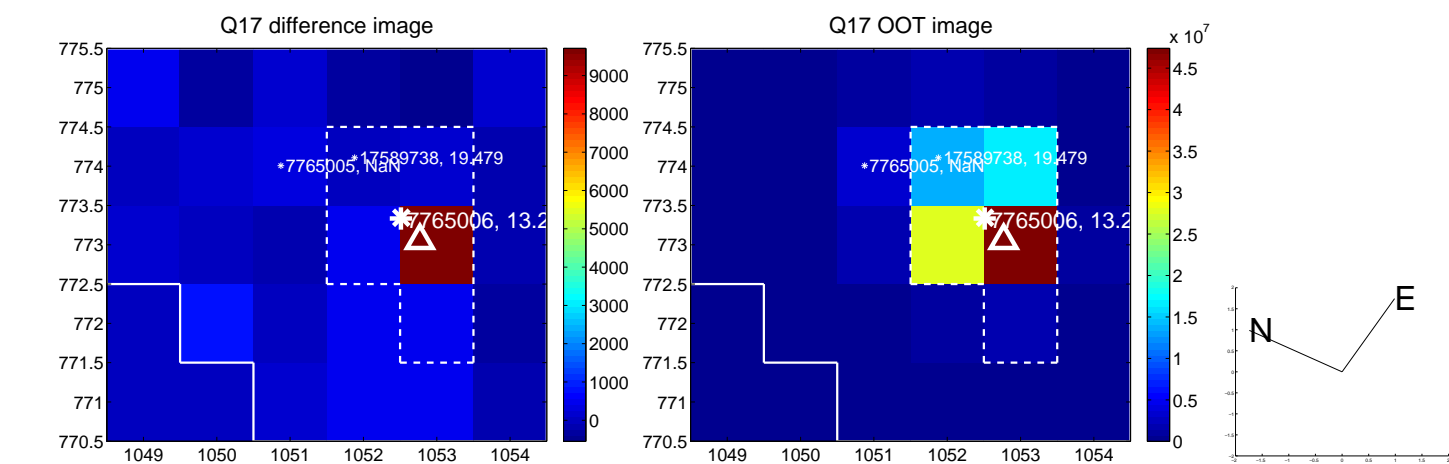
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



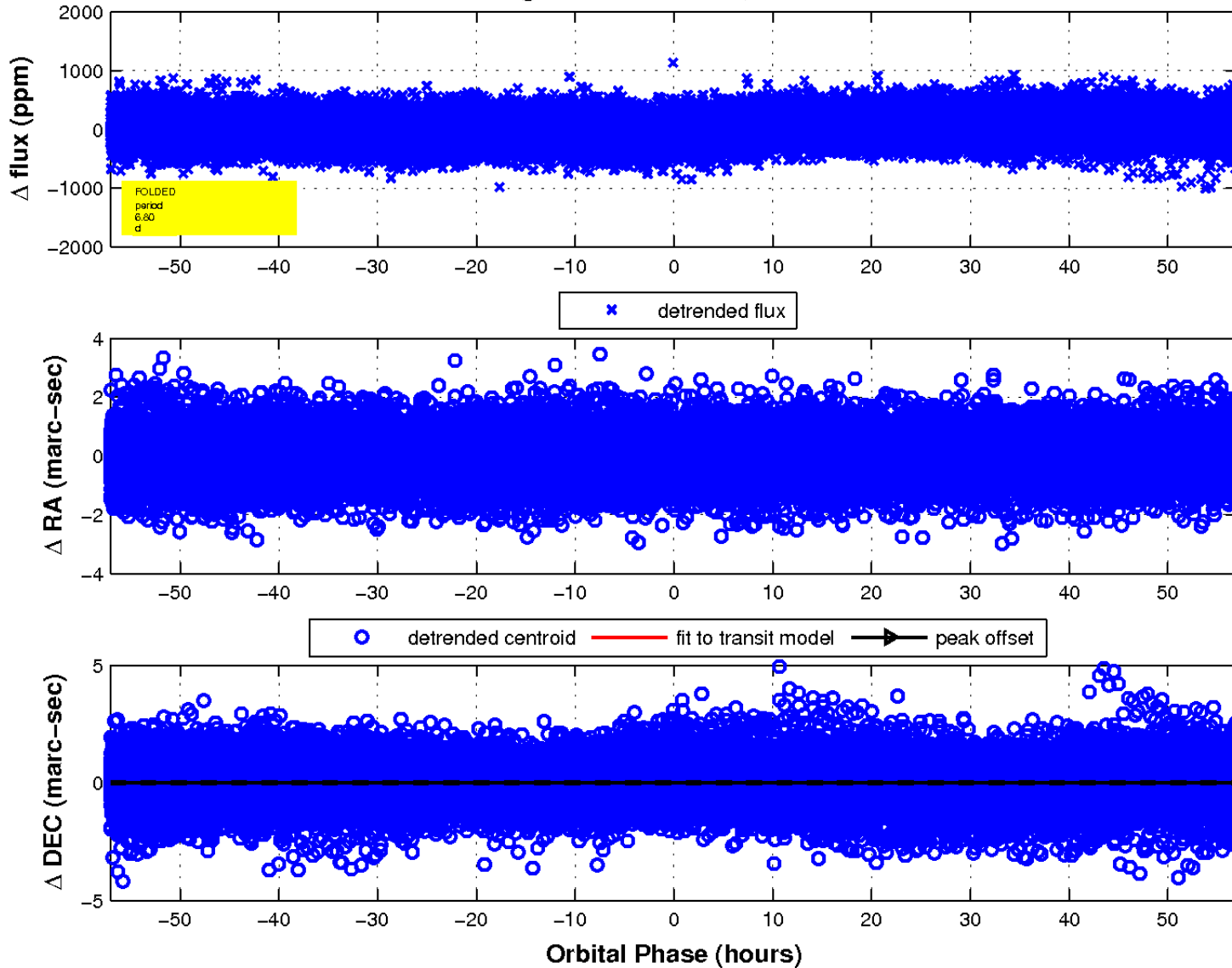
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

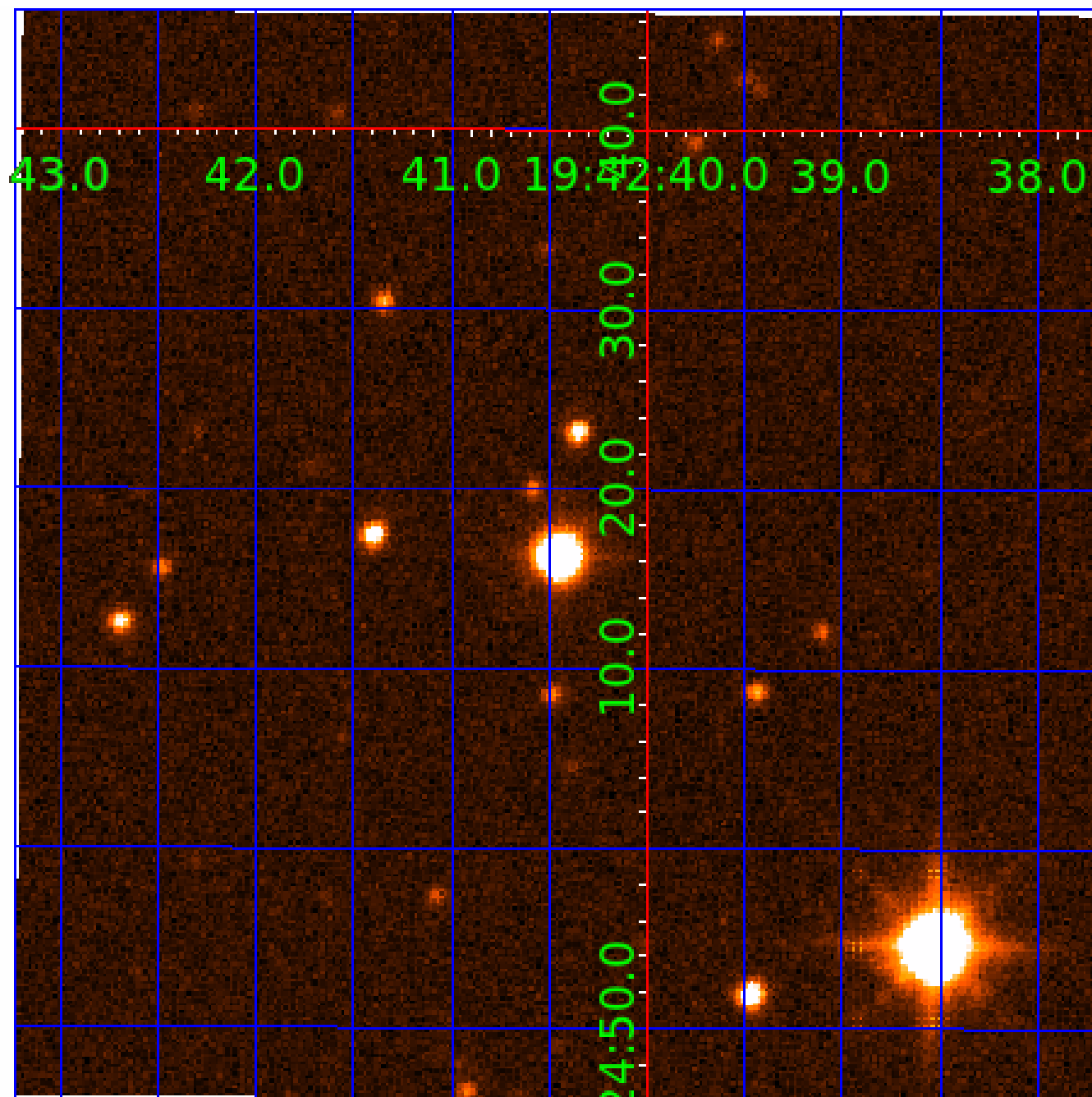


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007765006

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})
007765006-01	OBS	No	6.801124	135.630432	55.5	19.015	7.6	8.3	2.26	6153	2.37	1157.69
007765006-02	OBS	No	3.406858	134.395665	32.2	20.991	8.7	6.8	2.26	6153	1.51	2910.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007765006-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007765006-02	OBS	FP	0.00	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.

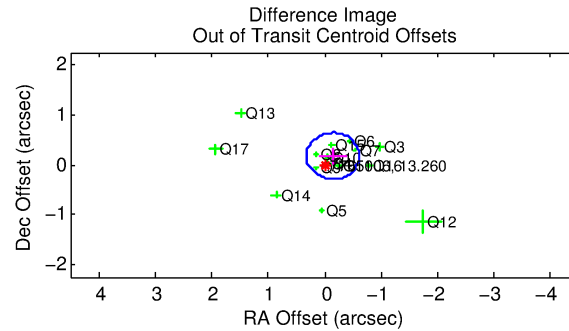
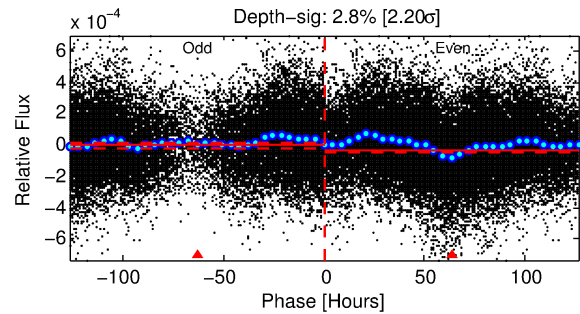
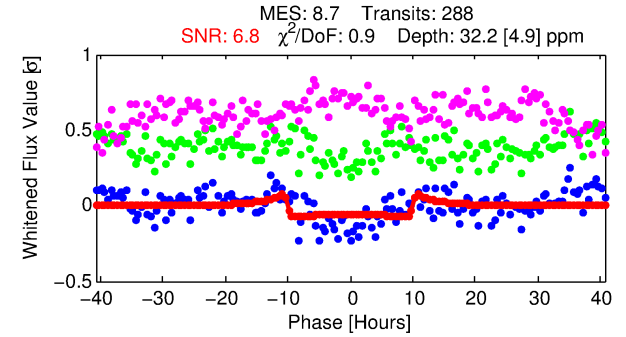
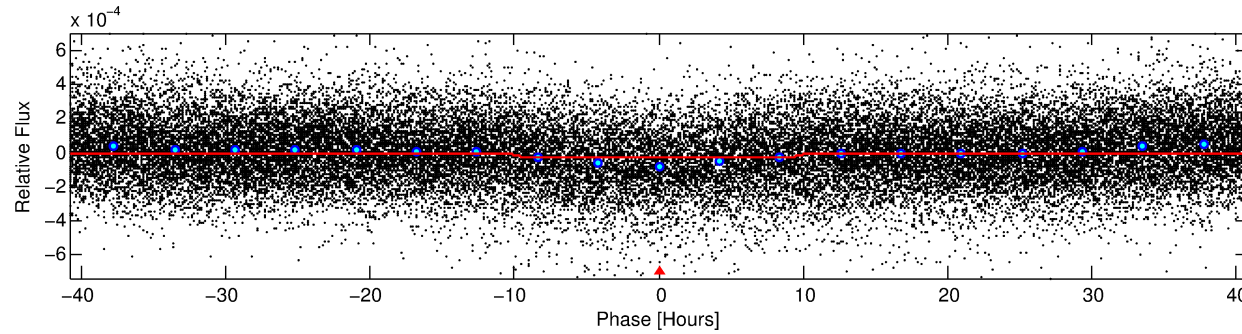
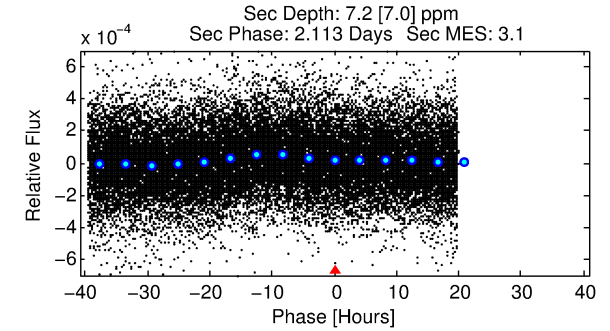
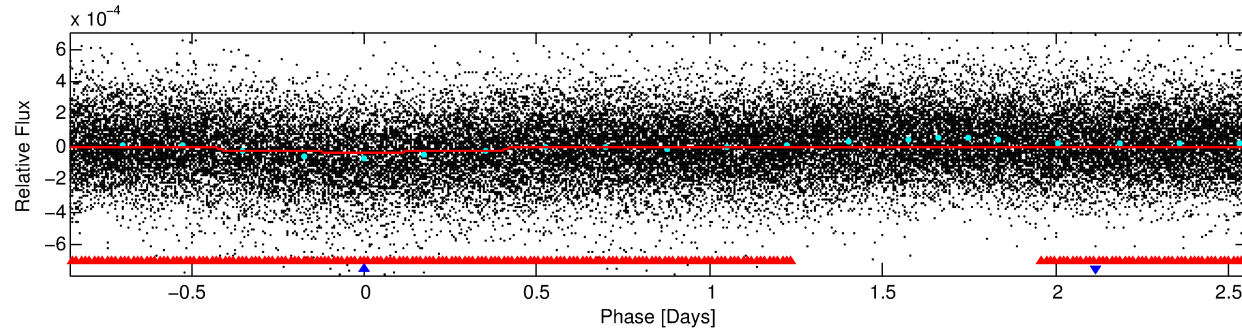
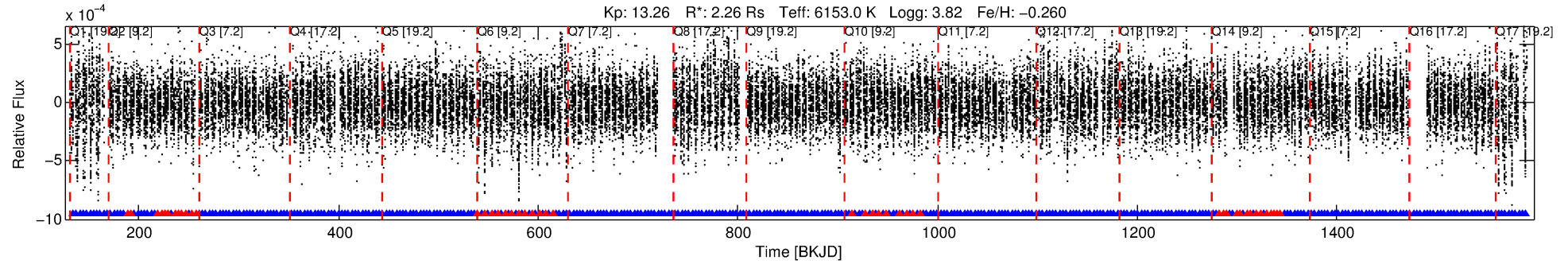
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007765006-02

No Significant Match Found

DV One-Page Summary

KIC: 7765006 Candidate: 2 of 2 Period: 3.407 d



DV Fit Results:

Period = 3.40686 [0.00006] d
Epoch = 134.3957 [0.0129] BKJD
Rp/R* = 0.0061 [0.0008]
a/R* = 1.09 [0.11]
b = 0.90 [0.13]
Seff = 2910.00 [1532.55]
Teq = 1873 [247] K
Rp = 1.51 [0.56] Re
a = 0.0475 [0.0155] AU
Ag = 3.96 [4.50] [0.66σ]
Teffp = 4085 [1039] K [2.07σ]

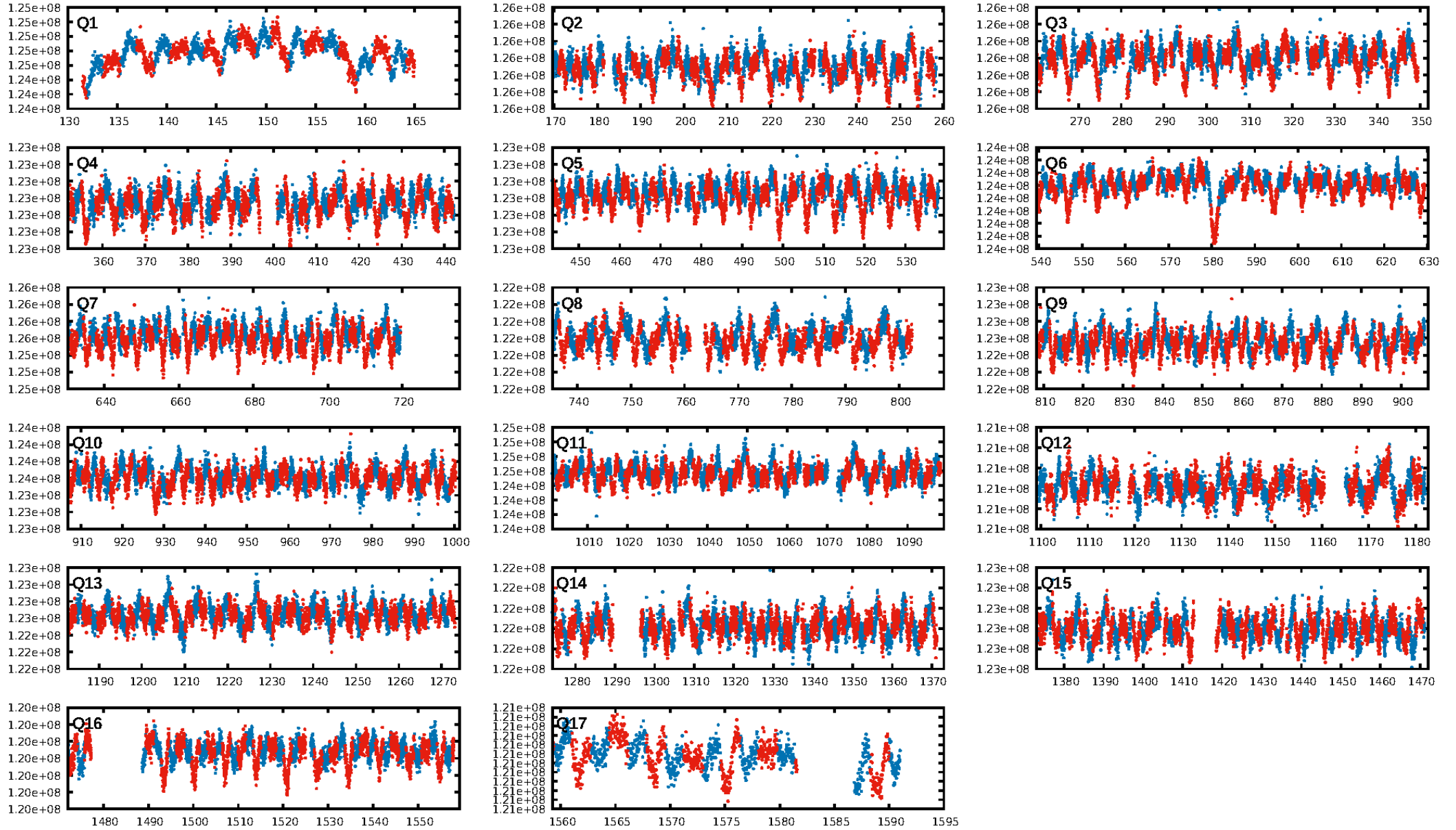
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.6% [2.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.40e-19
RollingBand-fgt: 0.83 [224/271]
GhostDiagnostic-chr: 3.293
Centroid-sig: N/A
Centroid-so: 0.704 arcsec [1.06σ]
OotOffset-rm: 0.226 arcsec [1.46σ]
KicOffset-rm: 0.246 arcsec [1.78σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

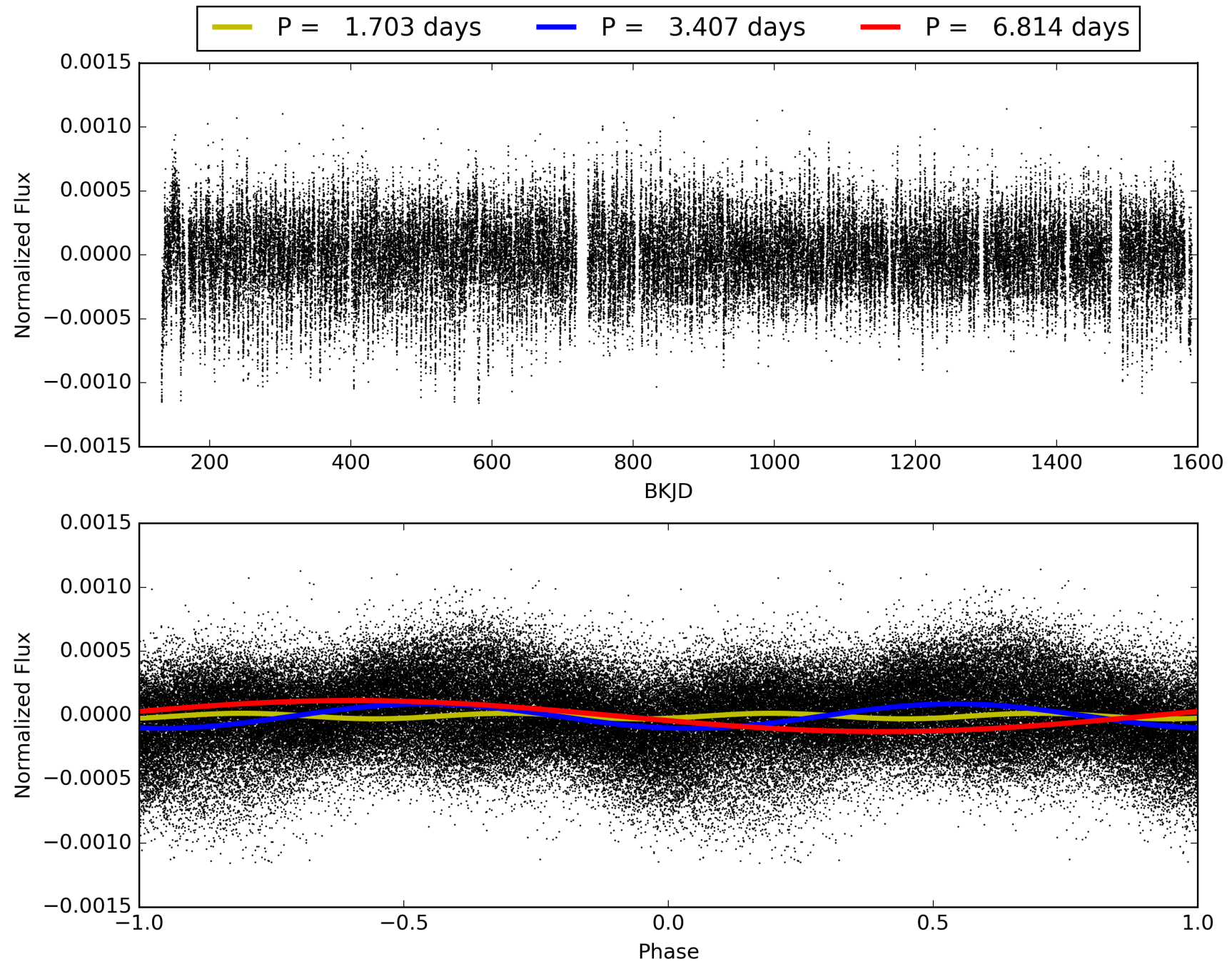
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:49:36 Z

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

TCE 007765006-02, PDC Light Curves

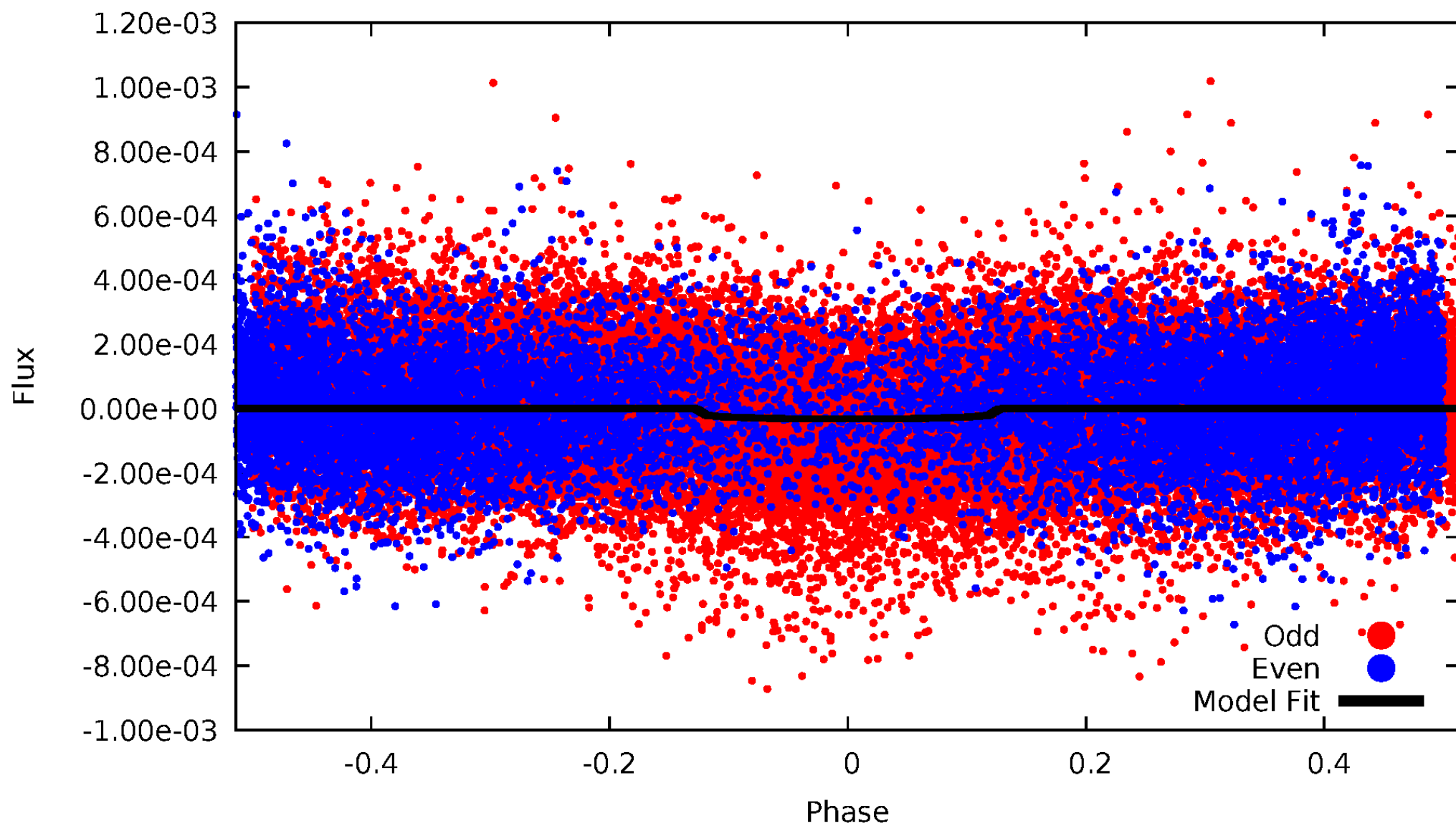


TCE 007765006-02



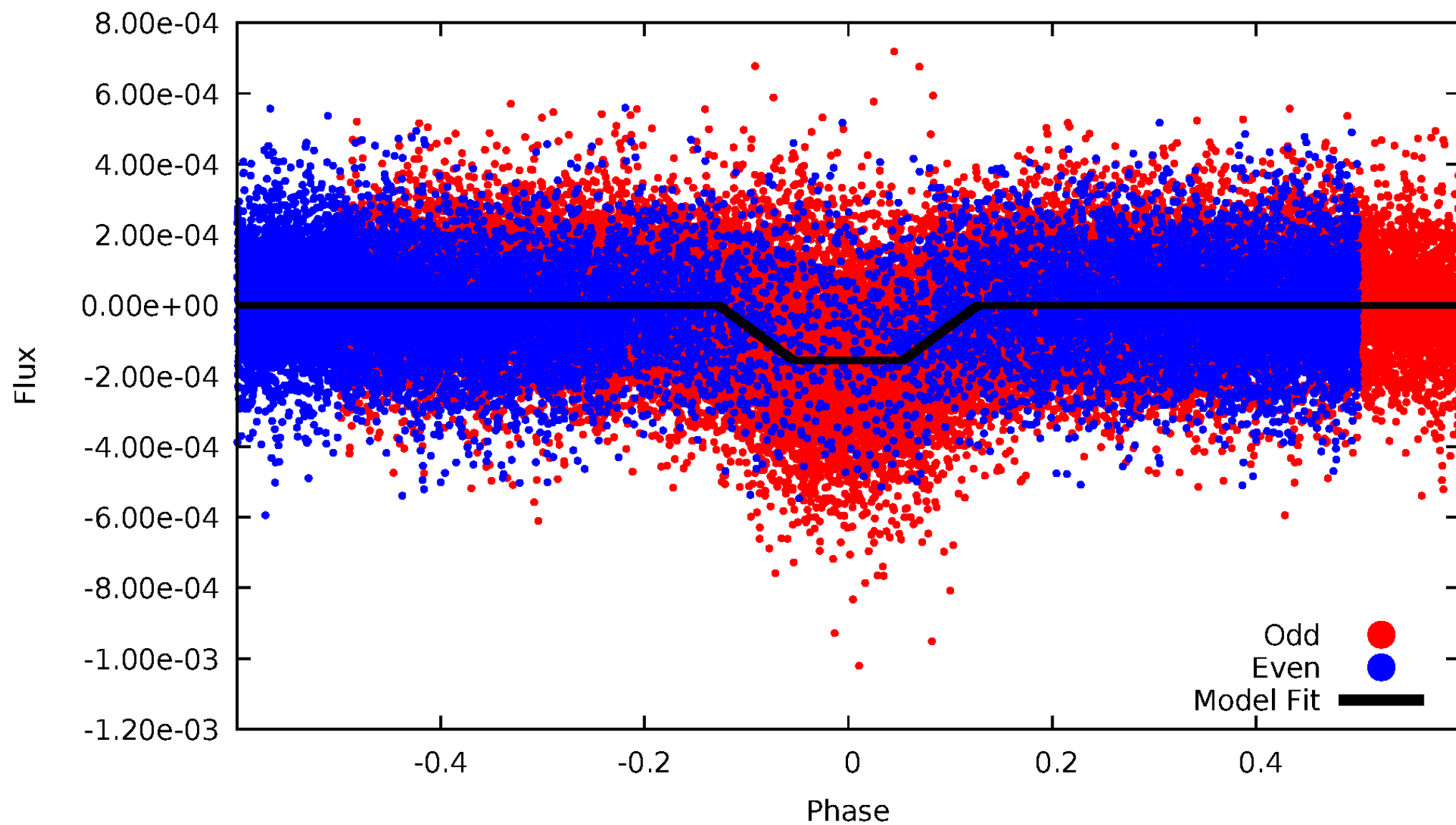
DV Odd/Even

TCE 007765006-02



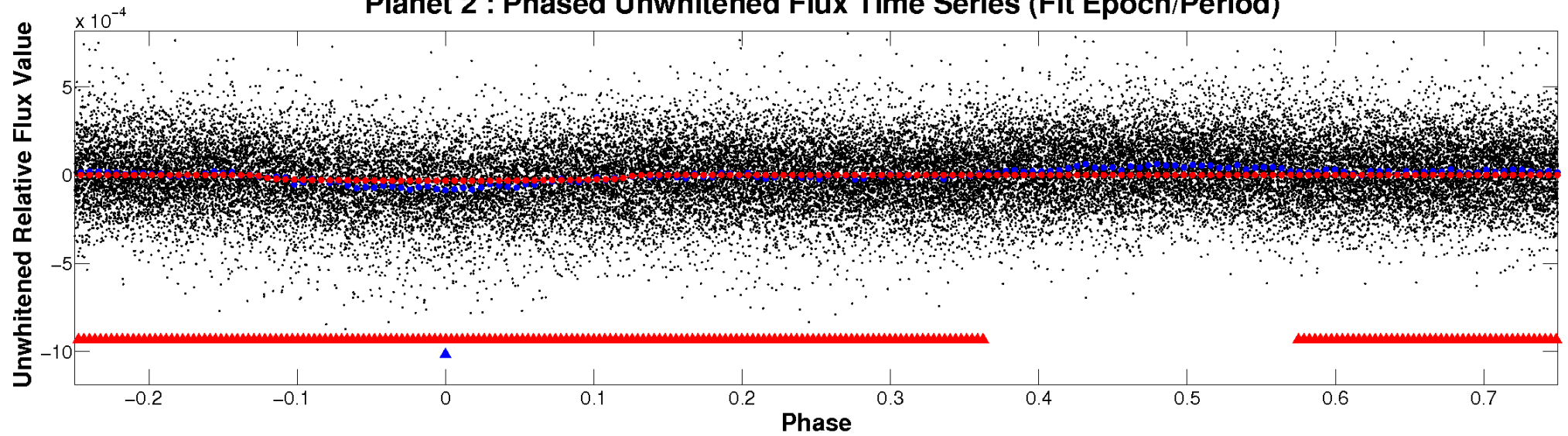
ALT Odd/Even

TCE 007765006-02

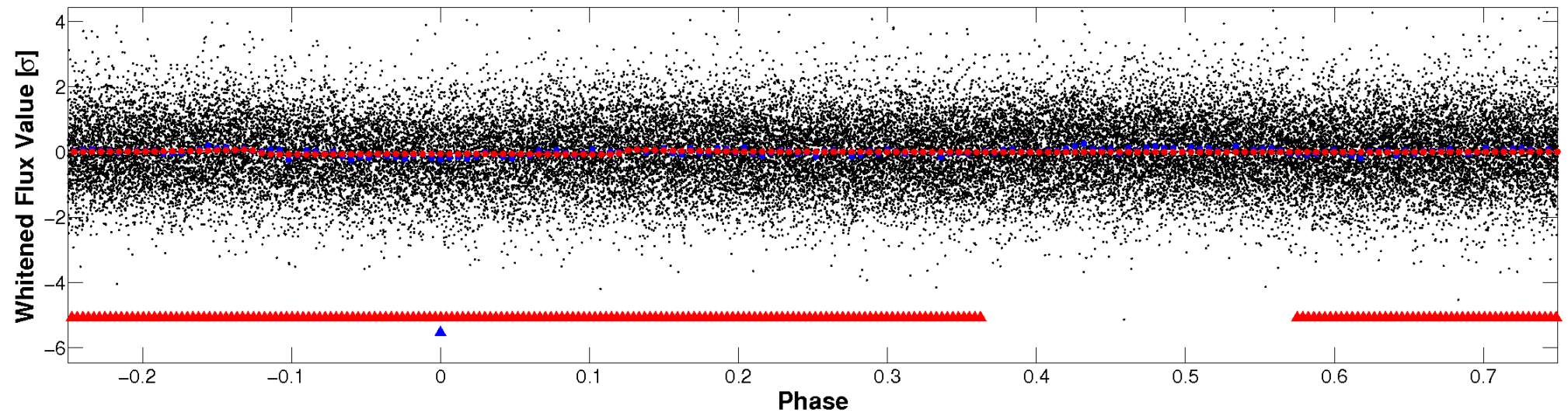


Non-Whitened Vs. Whitened Light Curve

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

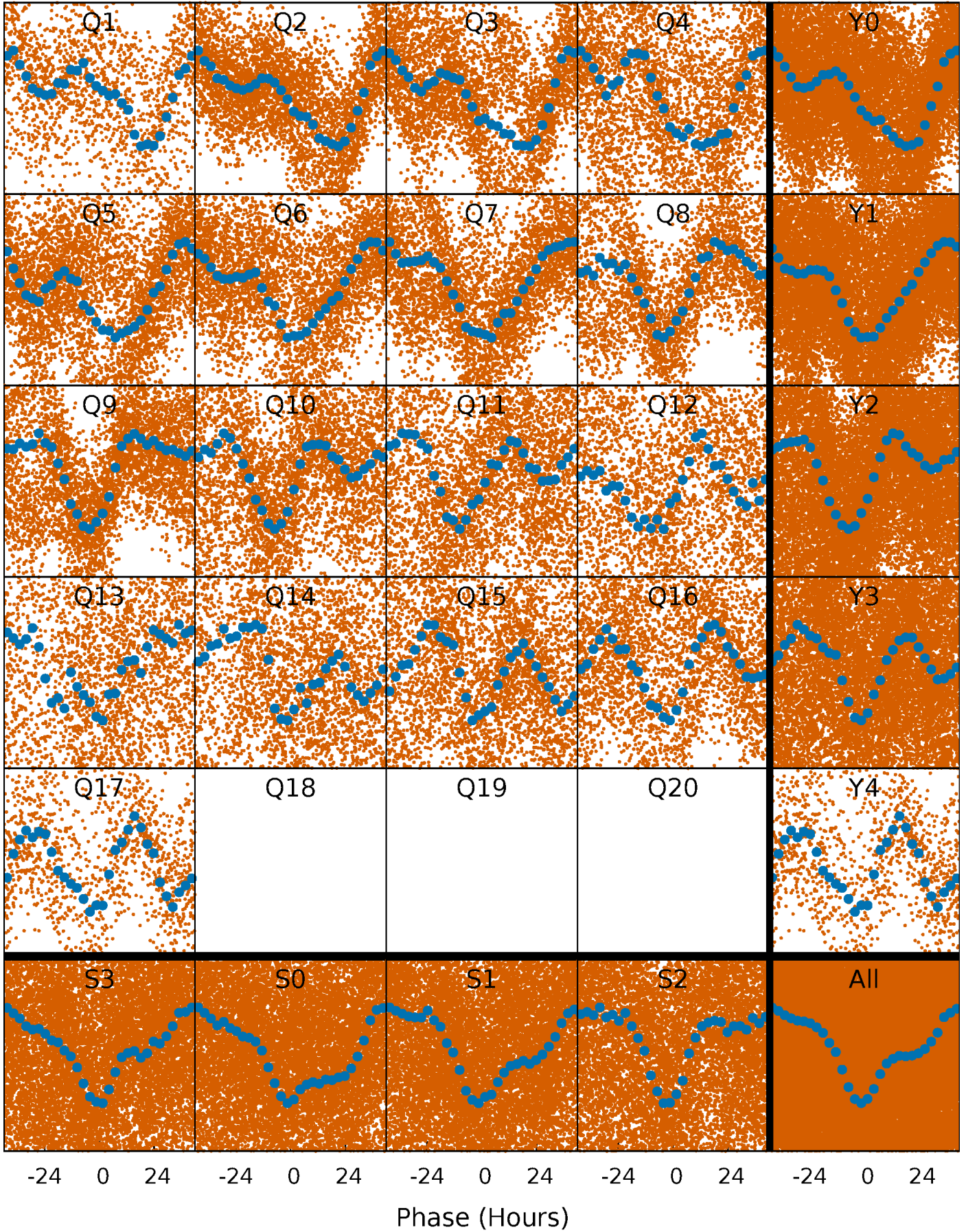


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



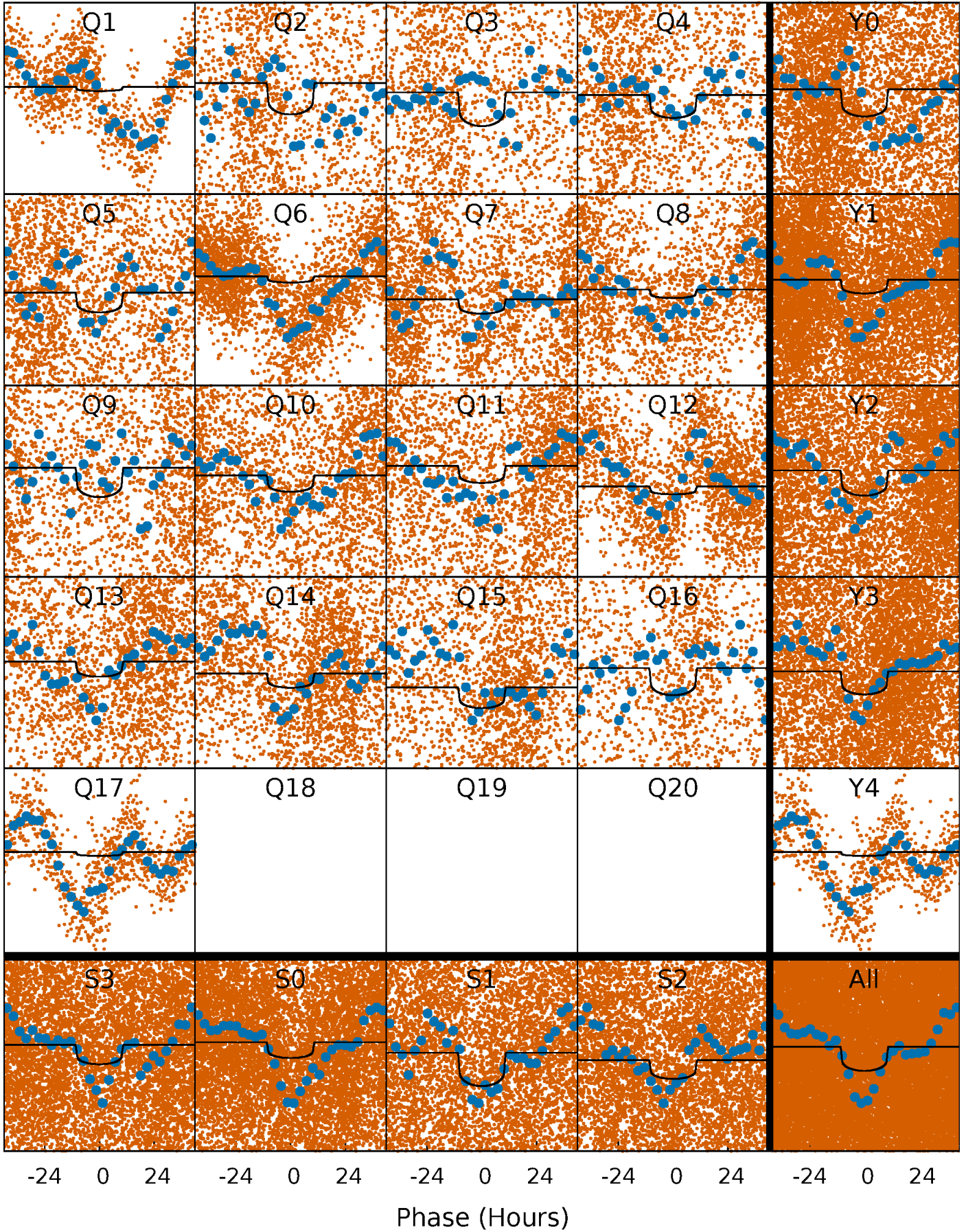
PDC Quarter-Phased Transit Curves

TCE 007765006-02 $P = 3.406858$ Days $T_0 = 134.395665$ (BKJD)



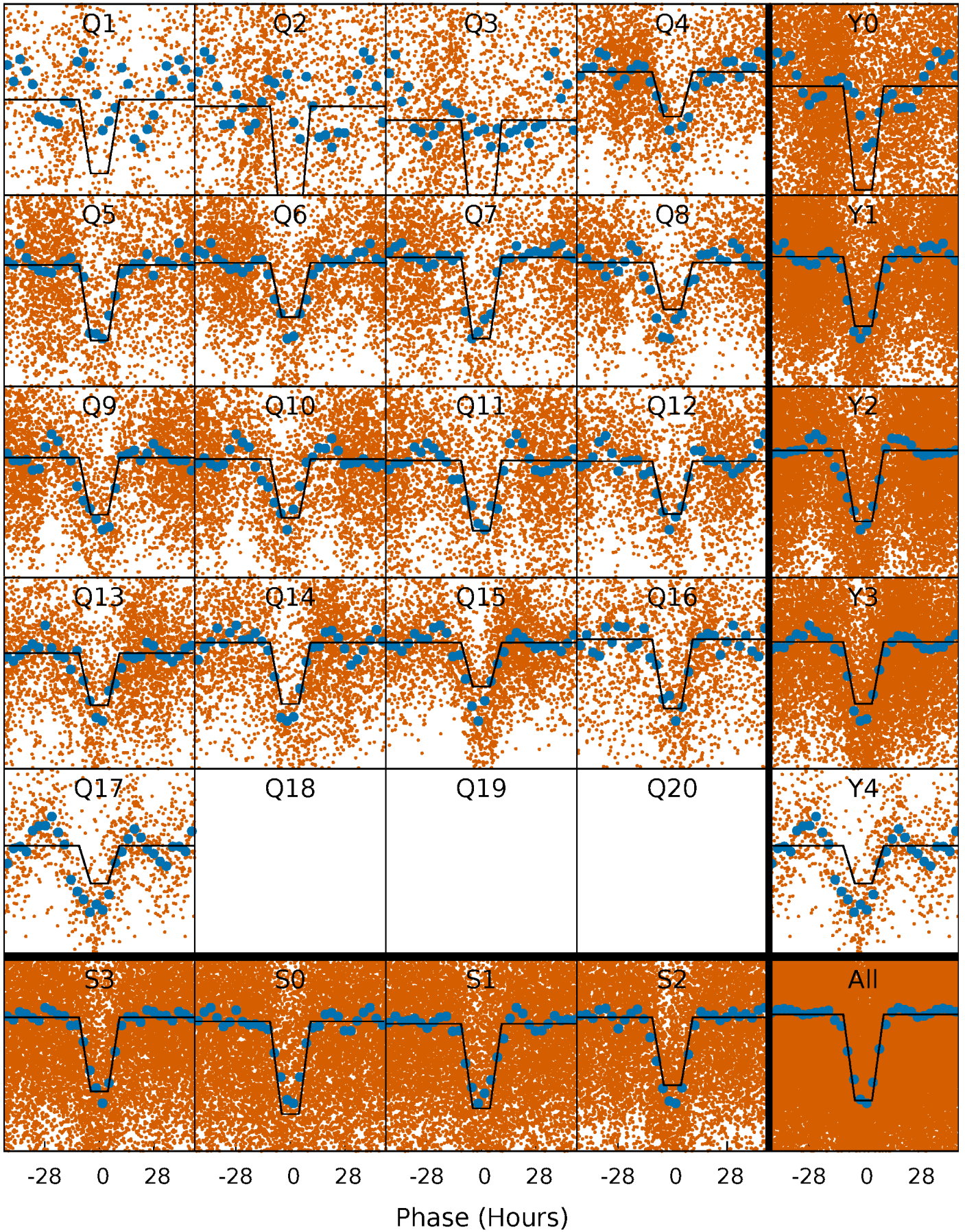
DV Quarter-Phased Transit Curves

TCE 007765006-02 P= 3.406858 Days $T_0=134.395665$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

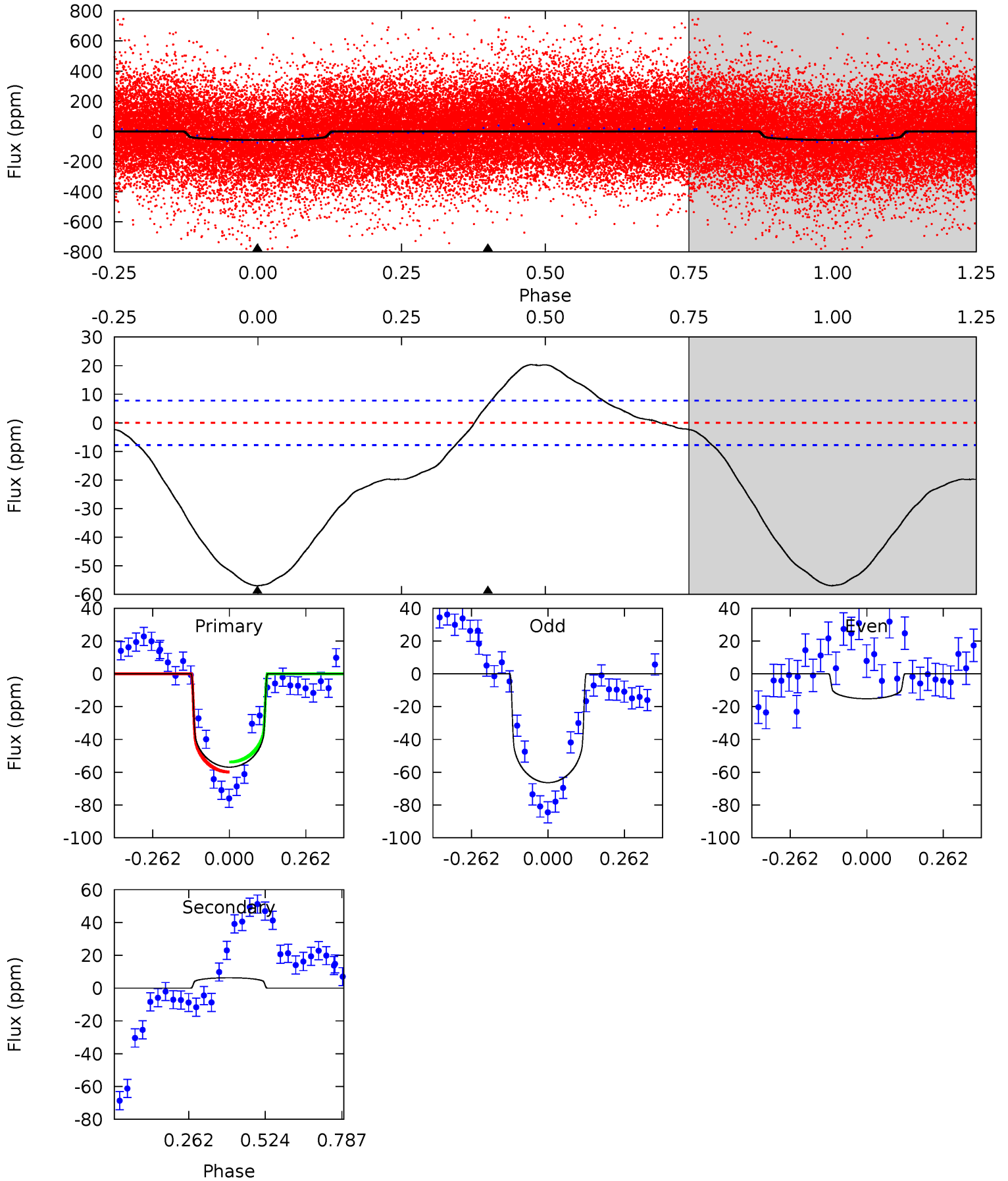
TCE 007765006-02 $P = 3.406677$ Days $T_0 = 134.387051$ (BKJD)



DV Model-Shift Uniqueness Test

007765006-02, P = 3.406858 Days, E = 130.988807 Days

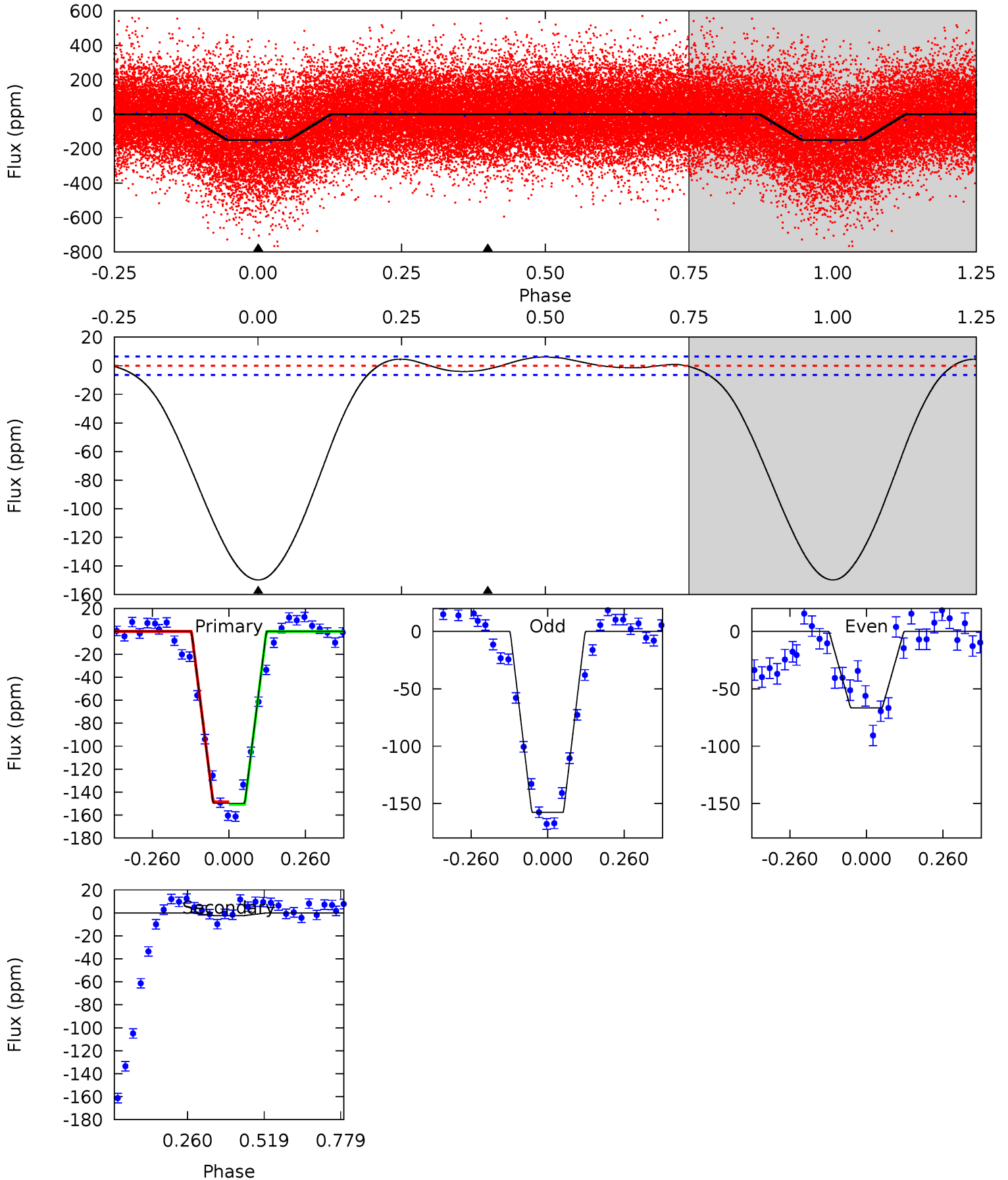
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.9	-3.54	0	0	4.36	1.12	0.79	31.9	31.9	-3.54	-3.54	10.3	1.06	0.26	1.62



Alt Model-Shift Uniqueness Test

007765006-02, P = 3.406677 Days, E = 130.980374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.2	1.55	0	0	4.36	1.13	0.56	101.2	101.2	1.55	1.55	19.3	1.08	0.04	0.77



Stellar Parameters For KIC 007765006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6153^{+170}_{-170}	$3.820^{+0.300}_{-0.100}$	$-0.260^{+0.350}_{-0.300}$	$2.263^{+0.421}_{-0.782}$	$1.233^{+0.235}_{-0.235}$	$0.150^{+0.314}_{-0.047}$
	+3%/-3%	+8%/-3%	+135%/-115%	+19%/-35%	+19%/-19%	+210%/-32%
Source	PHO1	FLK73	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 007765006-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	6 ± 2	$1.43^{+0.32}_{-0.29}$	2577^{+161}_{-228}	-4273^{+281}_{-345}	$-3.769^{+1.416}_{-2.723}$
Alt.	-2 ± 1	$2.98^{+0.47}_{-0.55}$	2565^{+161}_{-215}	2074^{+732}_{-4786}	$0.322^{+0.287}_{-0.219}$

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

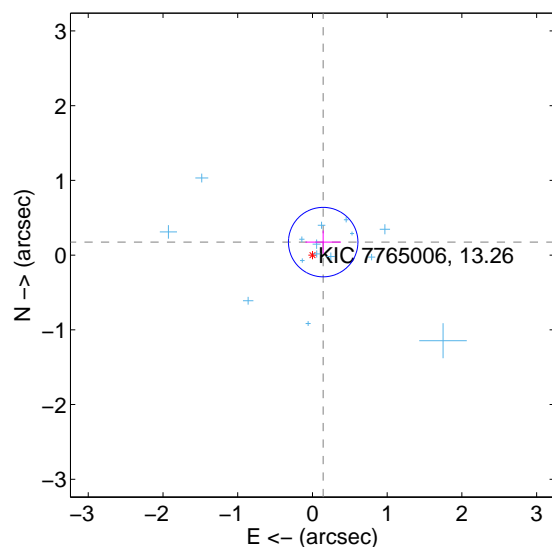
Supplemental centroid analysis for 007765006-02. Kepler magnitude: 13.26. Transit SNR 6.78

There are 15 quarters with good PRF difference image offsets

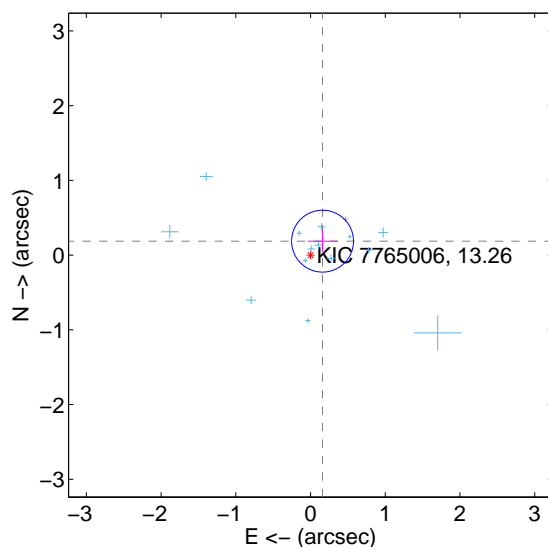
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.226 ± 0.155	1.46	-0.144 ± 0.238	0.174 ± 0.155
PRF-fit source offset from KIC position	0.246 ± 0.138	1.78	-0.161 ± 0.200	0.187 ± 0.147
photometric centroid source offset	0.70 ± 0.67	1.06	-0.45 ± 0.62	-0.54 ± 0.69

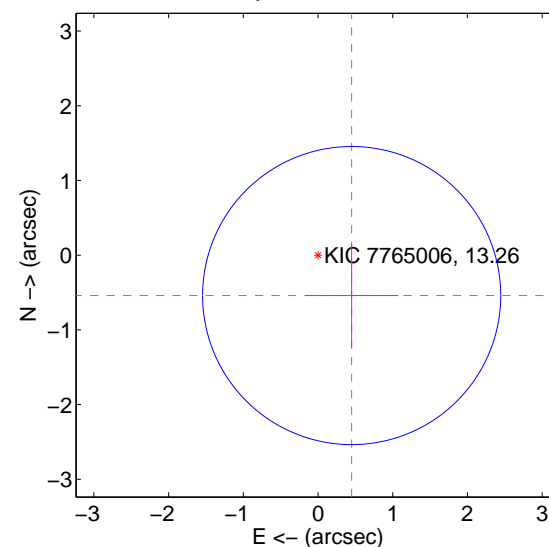
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

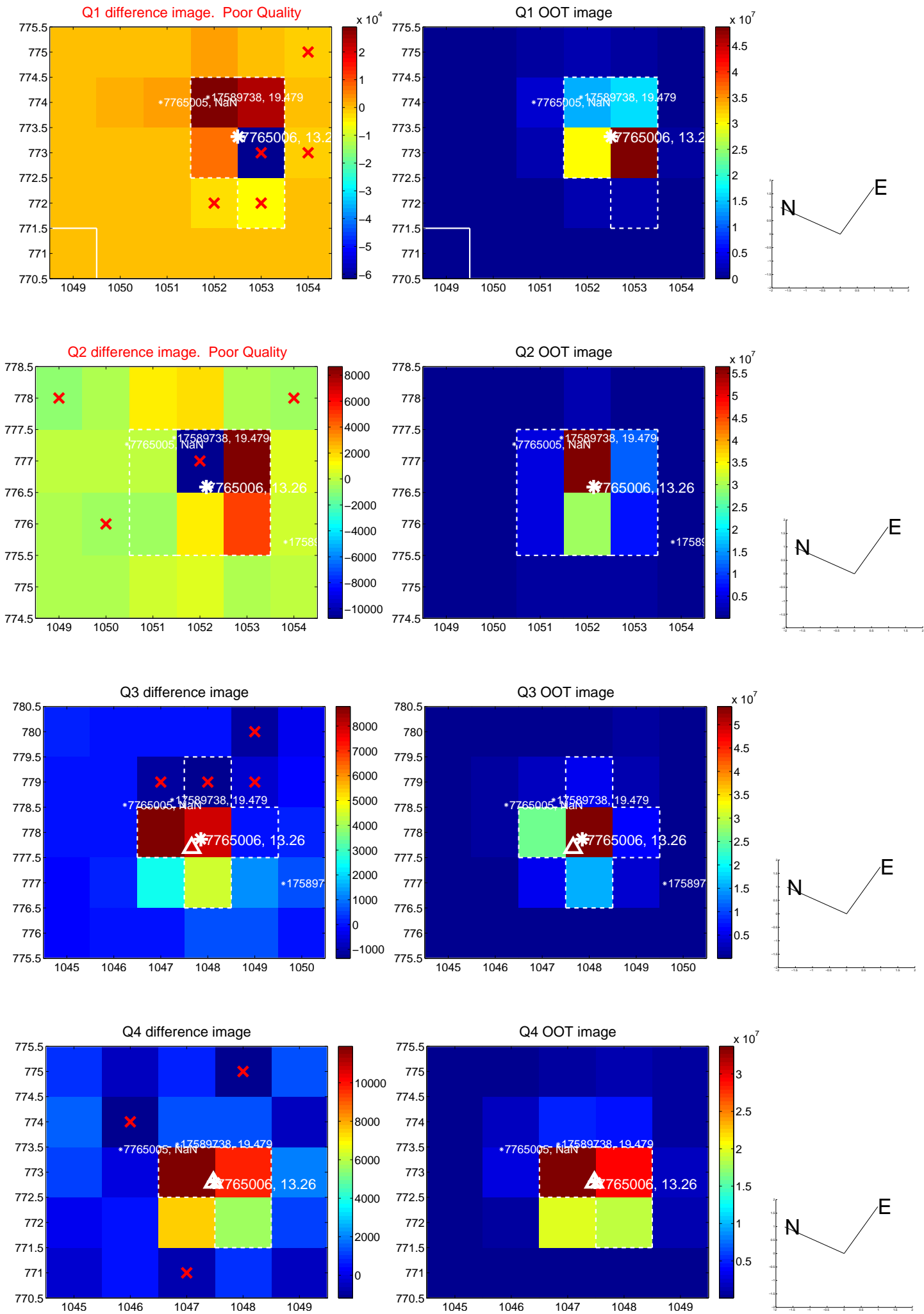


offset from photometric centroids

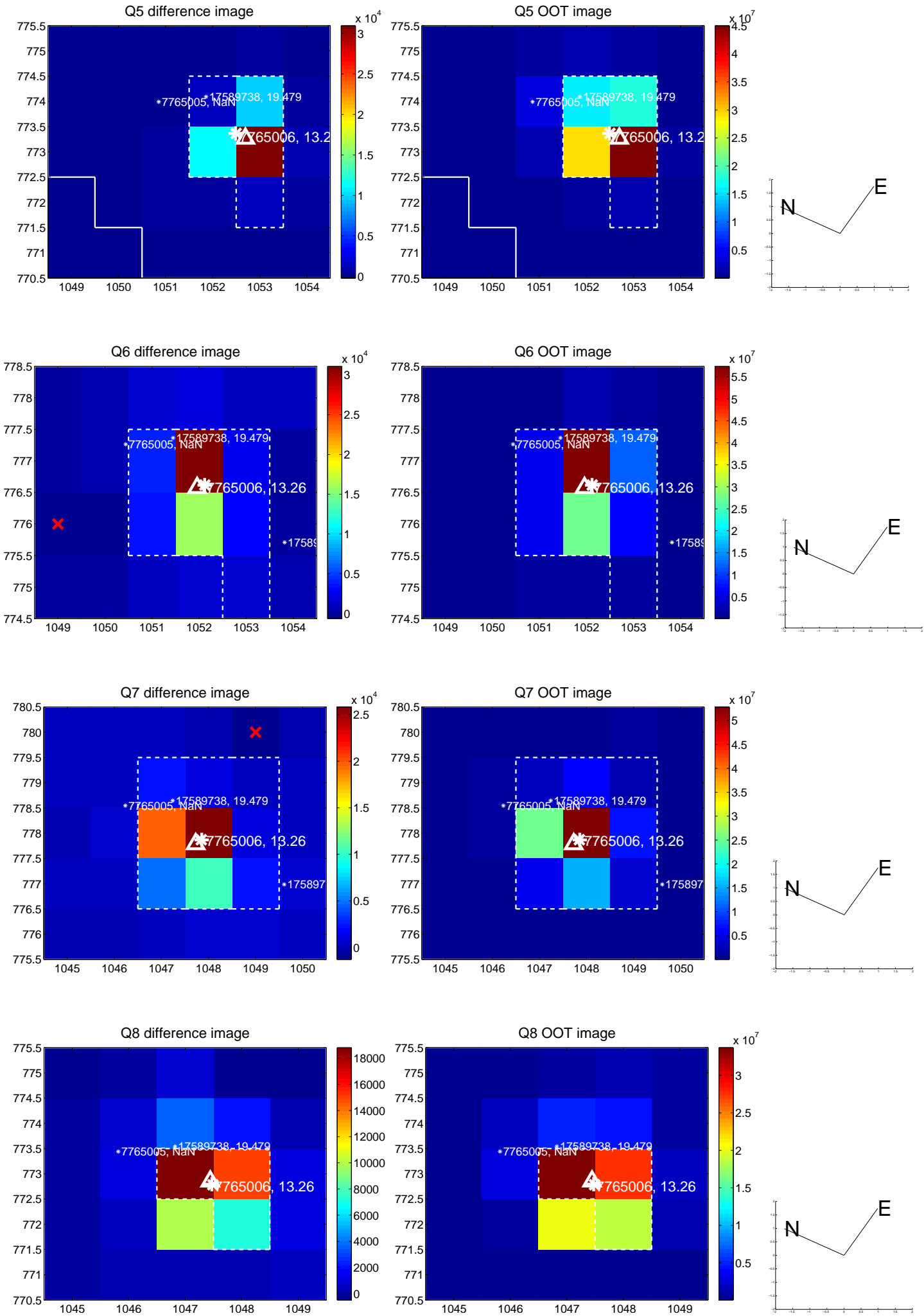


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

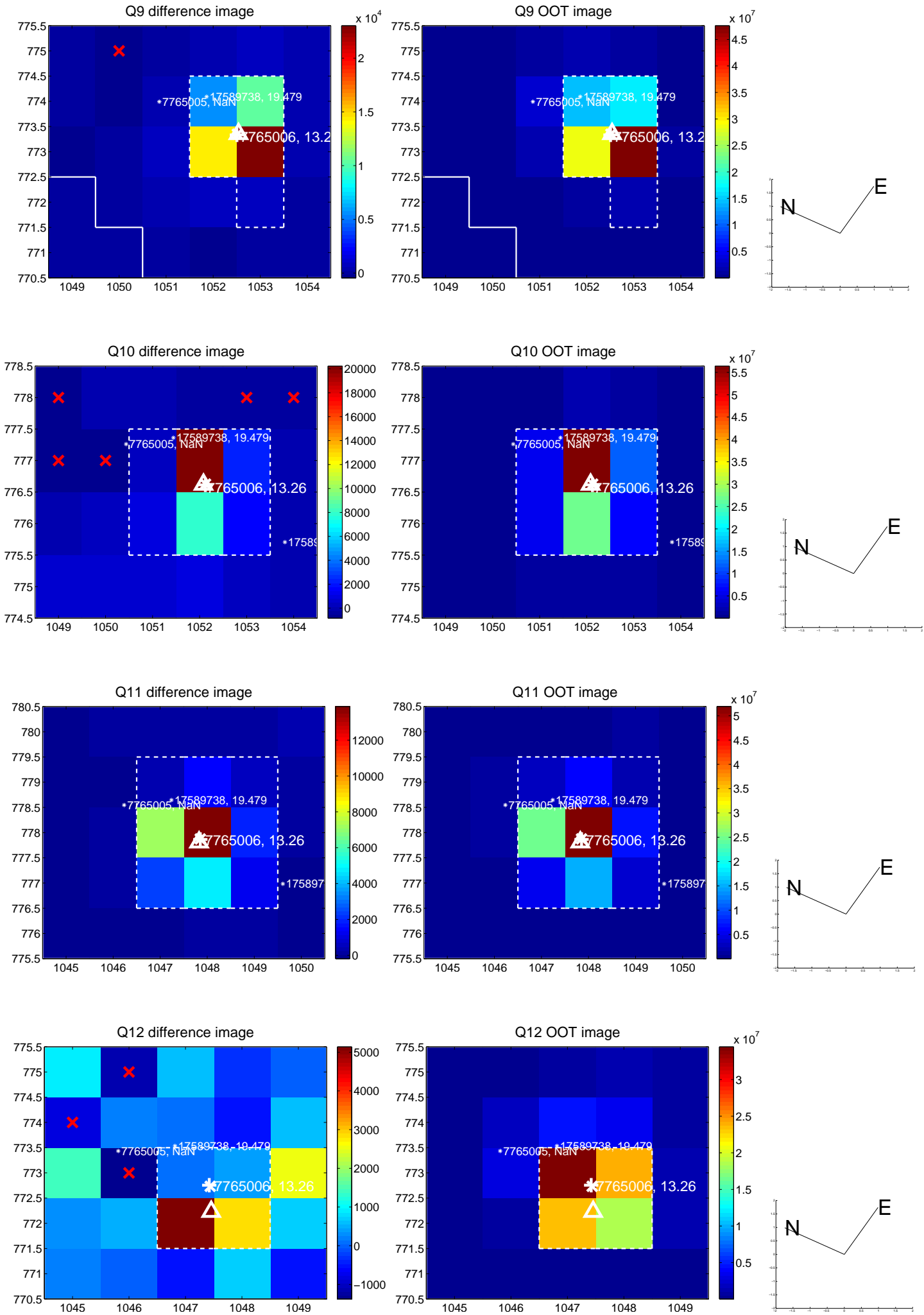
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



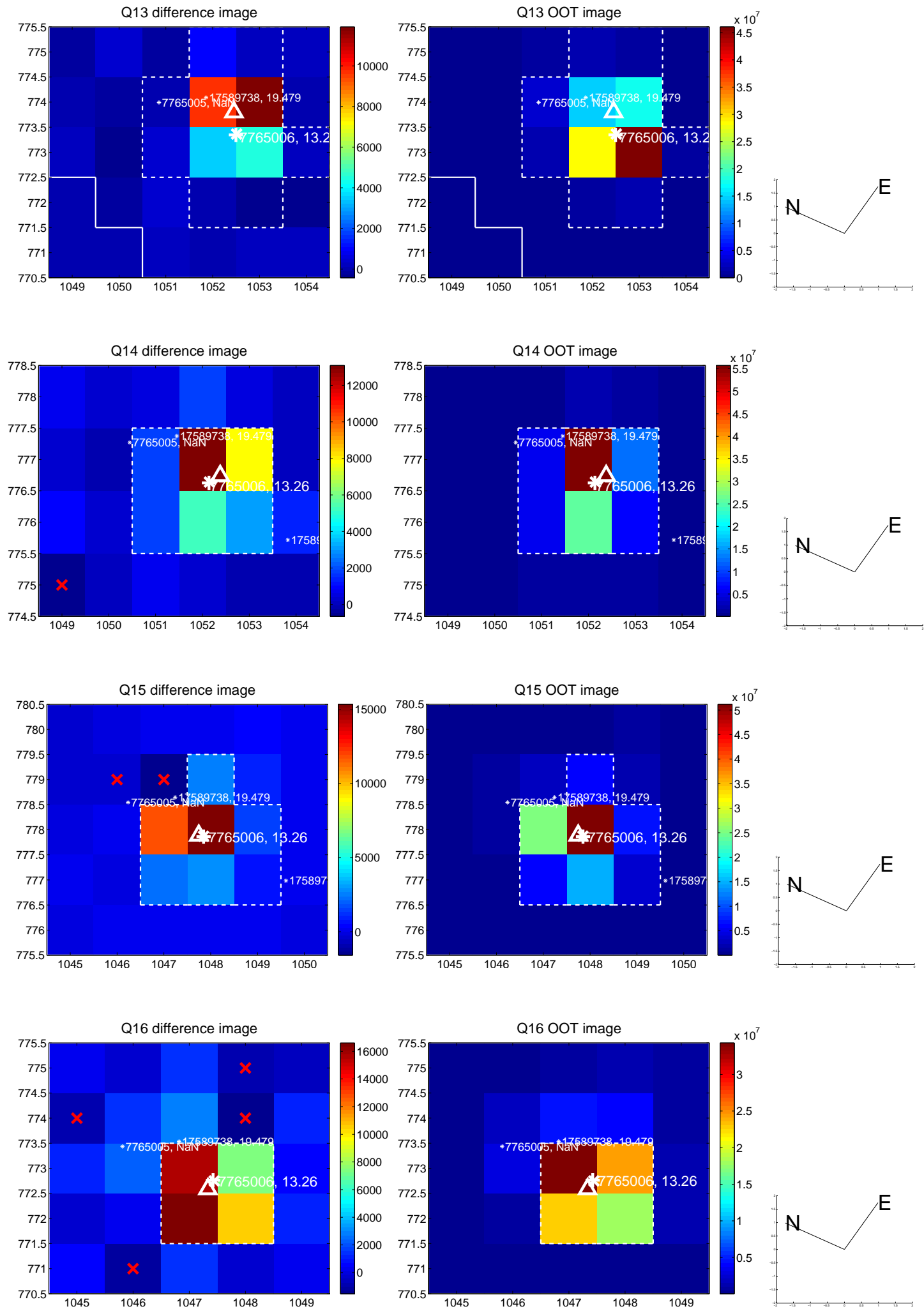
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



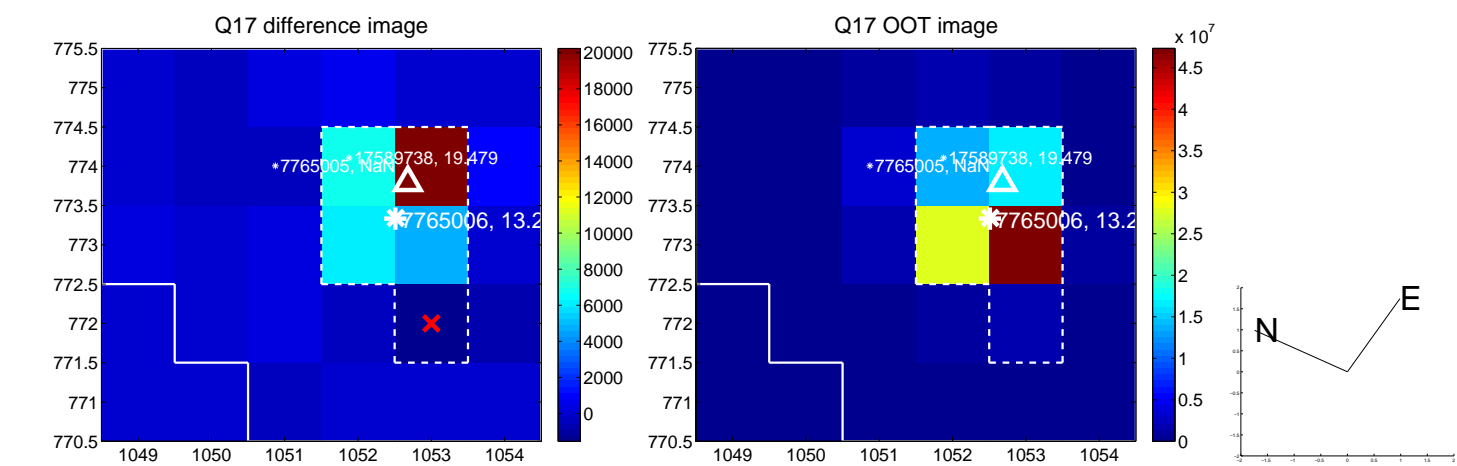
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



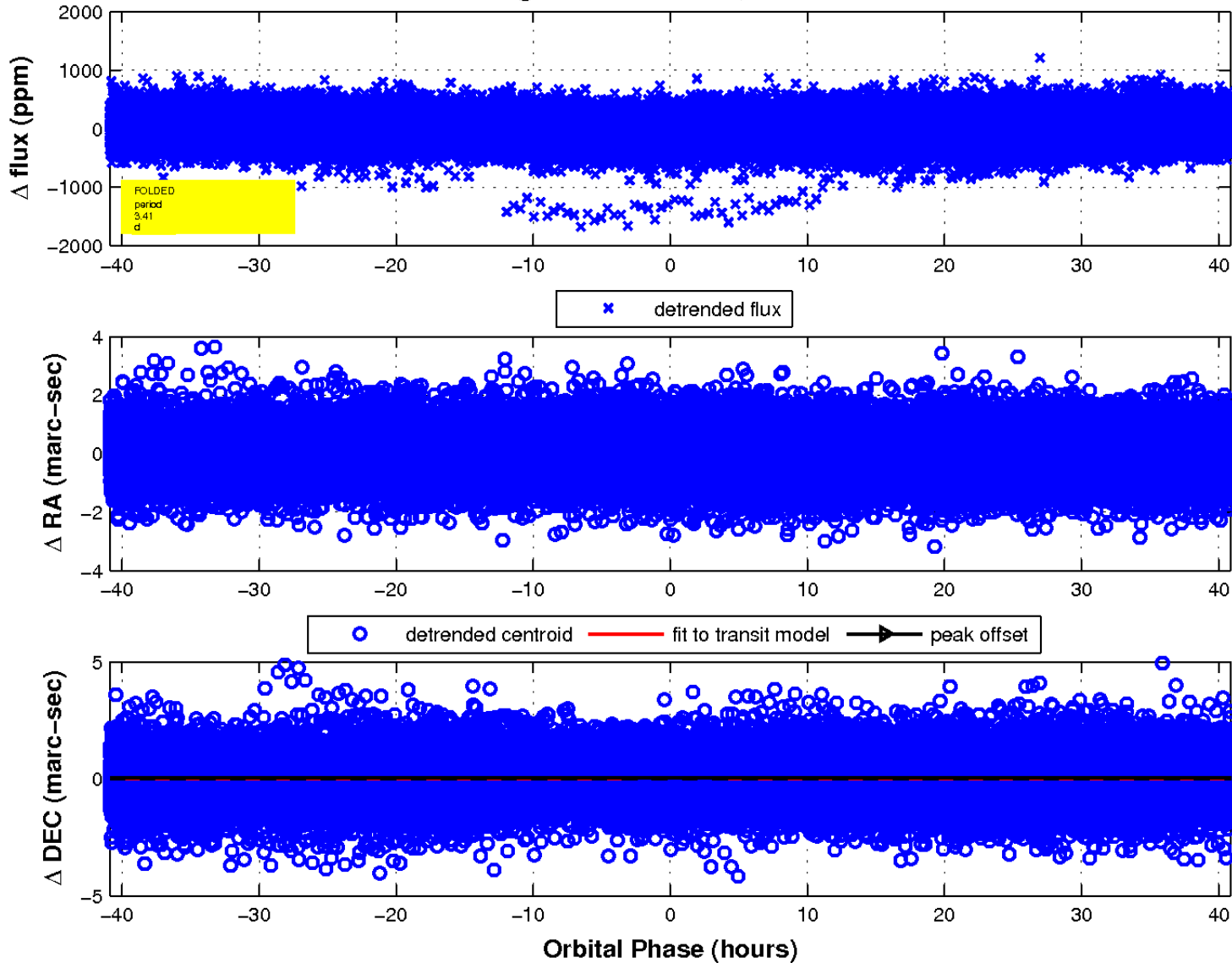
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

