

KIC 007761855

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})
007761855-01	OBS	No	0.912748	131.791535	129.0	1.701	13.0	11.5	2.93	7350	3.38	45028.50
007761855-02	OBS	No	0.608495	131.652768	110.8	0.541	15.8	11.2	2.93	7350	3.69	77317.84
007761855-03	OBS	No	0.608495	131.938076	160.6	1.571	15.4	16.2	2.93	7350	4.31	77317.82
007761855-04	OBS	No	0.584245	131.554944	106.9	2.000	12.0	-1.0	2.93	7350	3.08	81625.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007761855-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007761855-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—HALO_GHOST
007761855-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
007761855-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

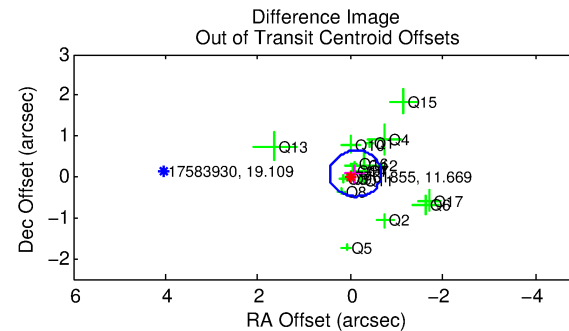
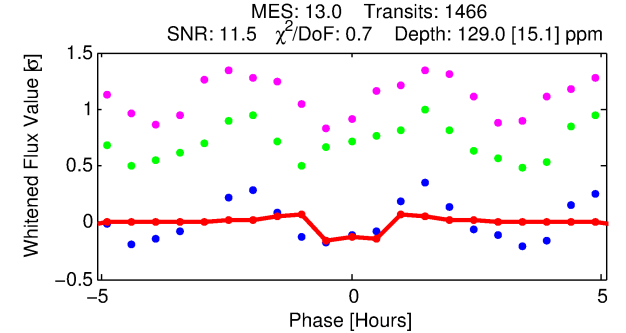
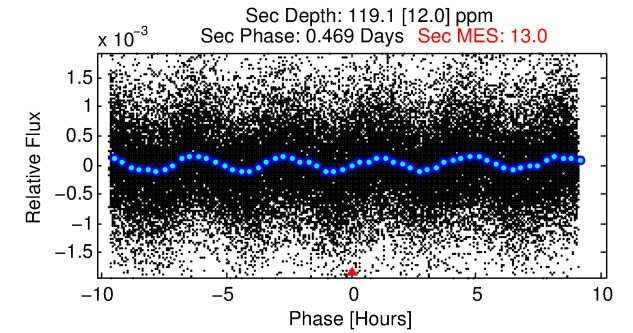
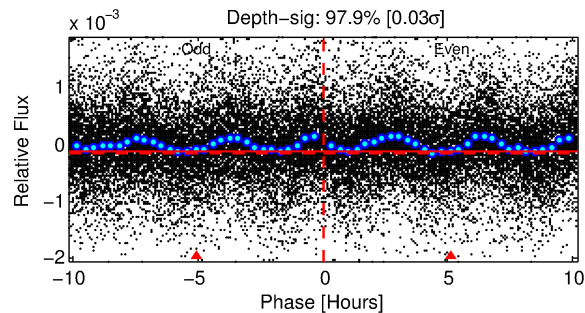
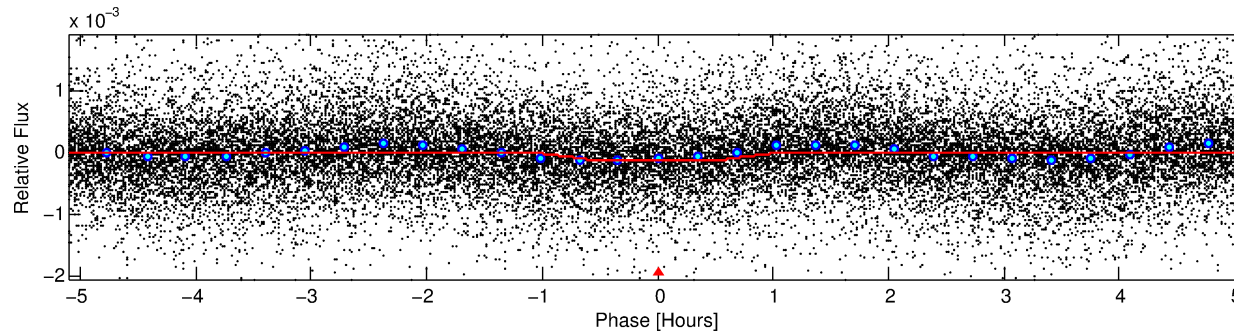
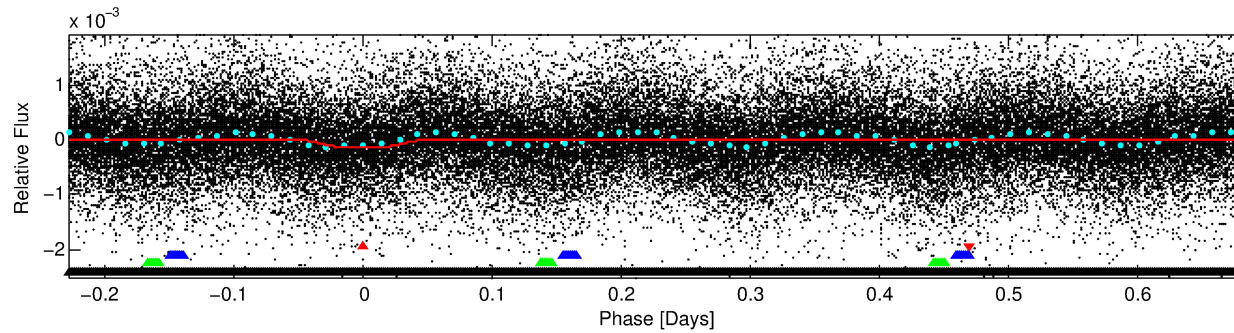
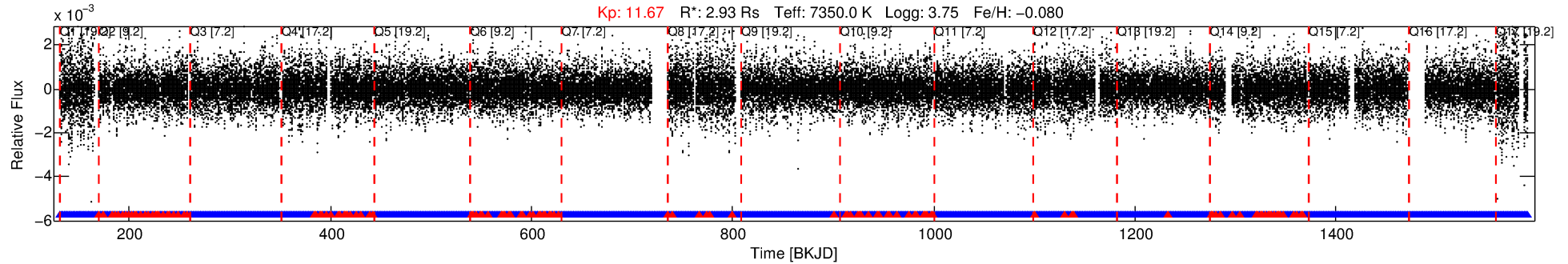
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007761855-01

No Significant Match Found

DV One-Page Summary

KIC: 7761855 Candidate: 1 of 4 Period: 0.913 d



DV Fit Results:

Period = 0.91275 [0.00001] d
Epoch = 131.7915 [0.0011] BKJD
Rp/R* = 0.0106 [0.0037]
a/R* = 4.16 [7.98]
b = 0.10 [20.26]
Seff = 45028.49 [31494.71]
Teq = 3714 [650] K
Rp = 3.38 [1.89] Re
a = 0.0223 [0.0094] AU
Ag = 2.86 [2.79] [0.67 σ]
Teffp = 7465 [1346] K [2.51 σ]

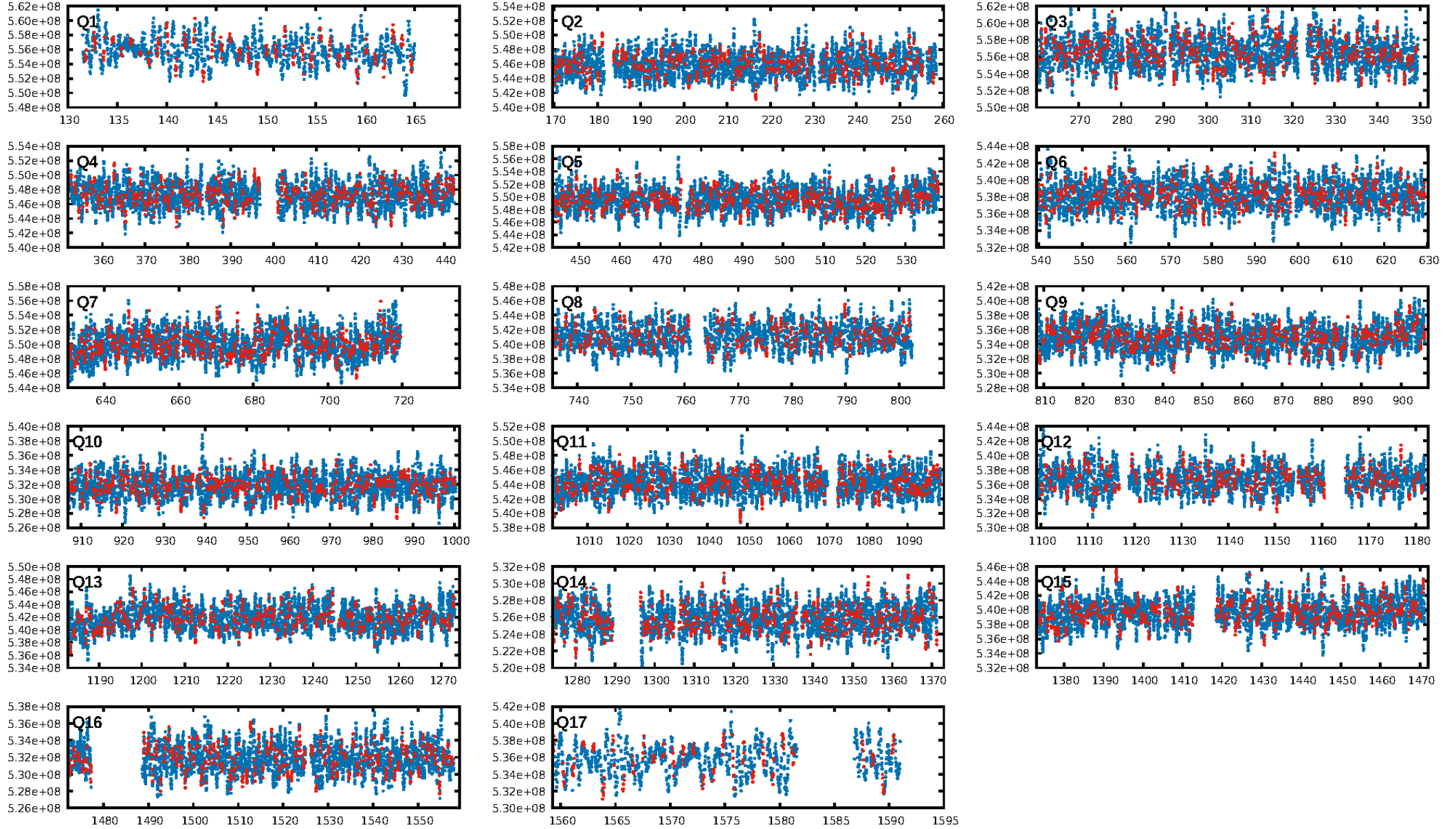
DV Diagnostic Results:

ShortPeriod-sig: 99.8% [3.15 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [1273/1400]
GhostDiagnostic-chr: 1.063
Centroid-sig: 22.9%
Centroid-so: 0.068 arcsec [0.92 σ]
OotOffset-rm: 0.130 arcsec [0.69 σ]
KicOffset-rm: 0.144 arcsec [0.71 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

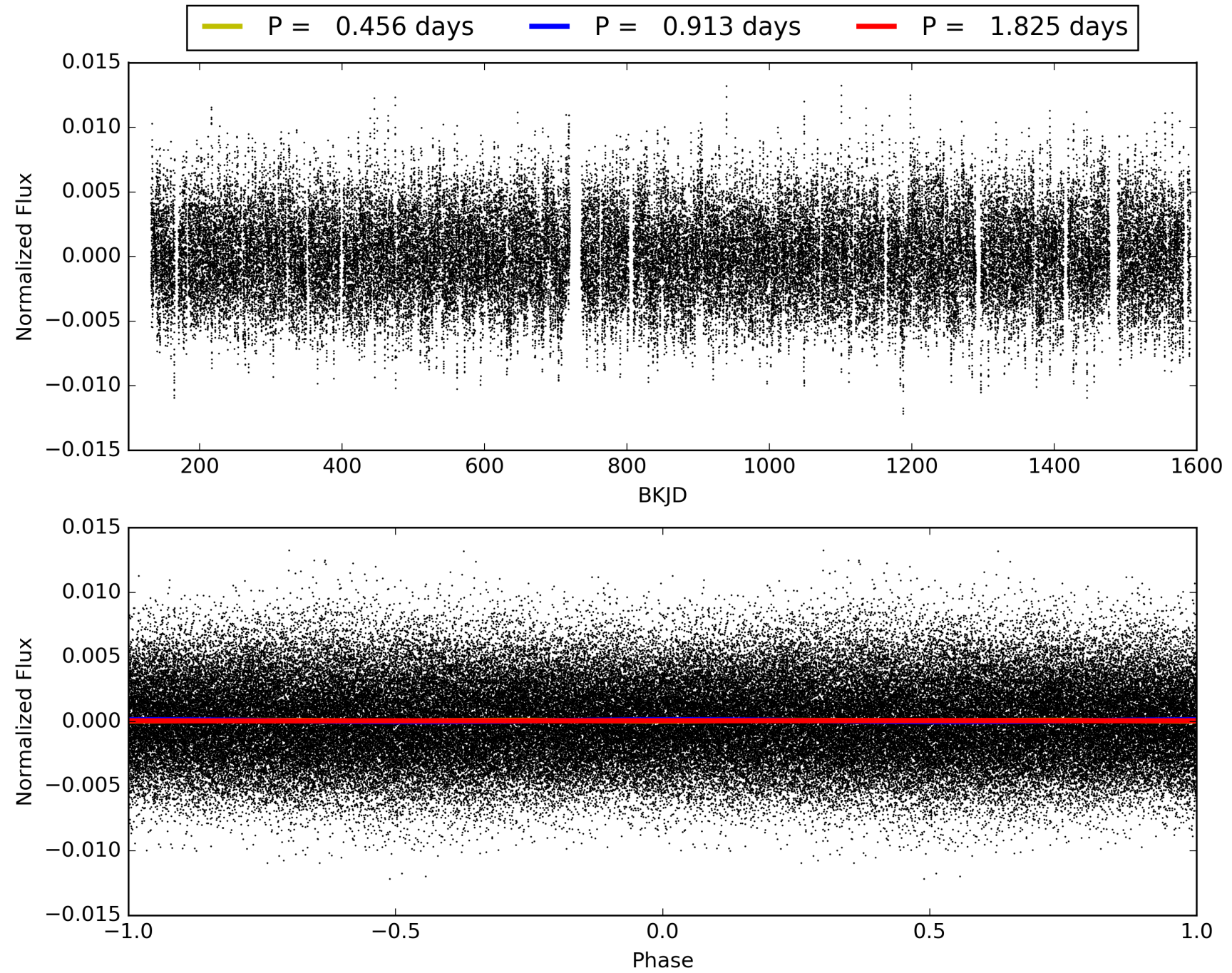
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:21:12 Z

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

TCE 007761855-01, PDC Light Curves

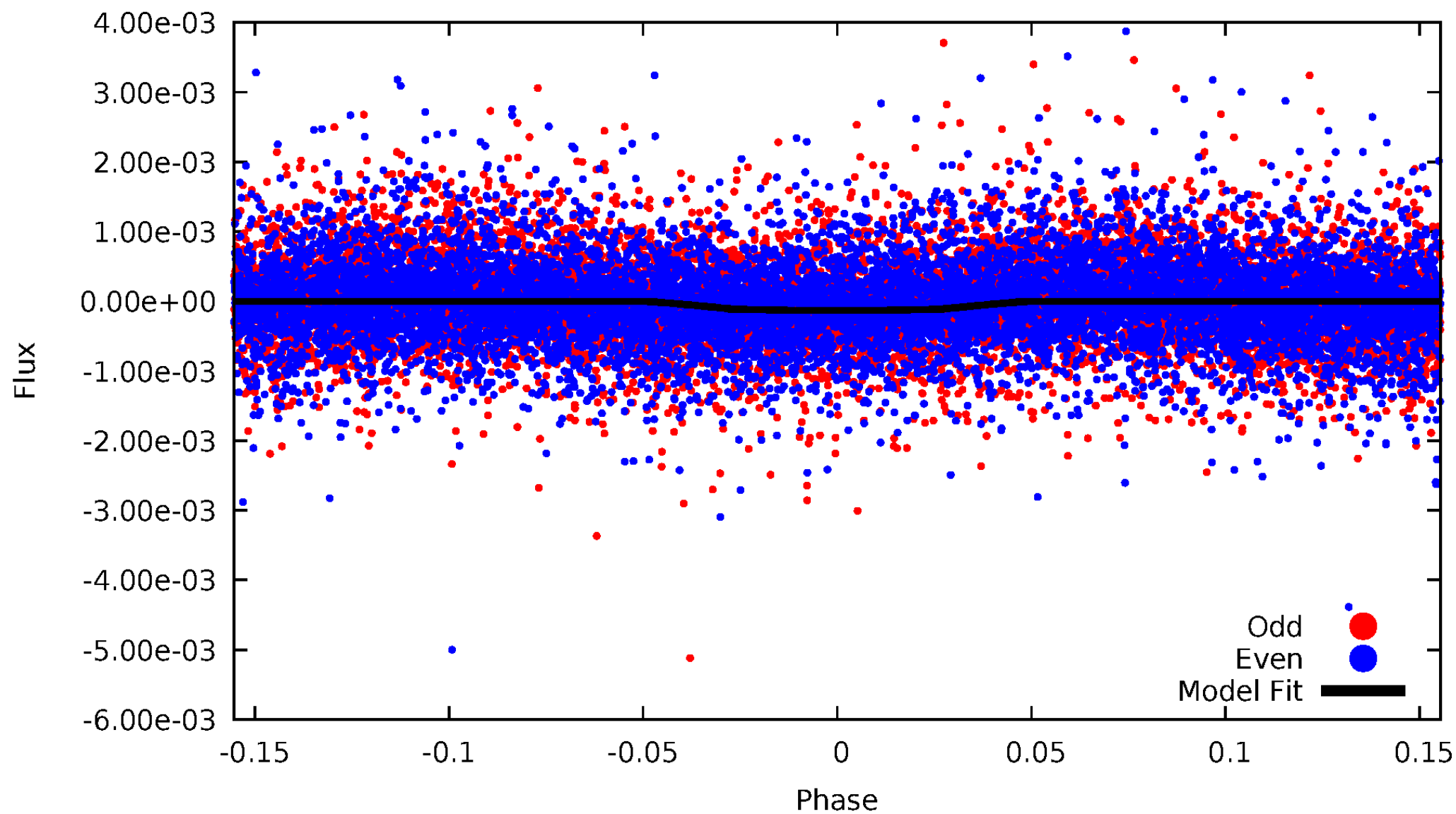


TCE 007761855-01



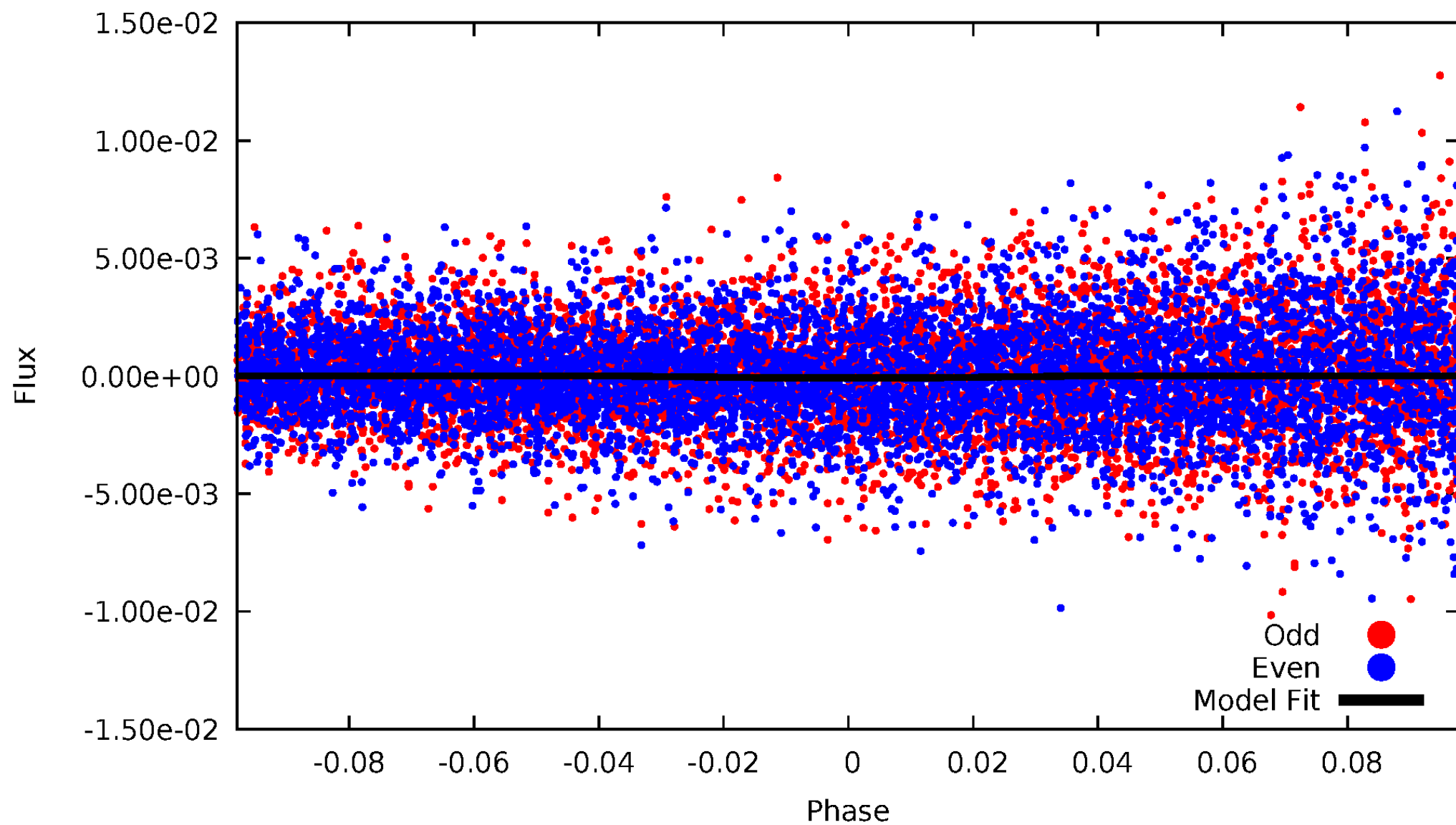
DV Odd/Even

TCE 007761855-01



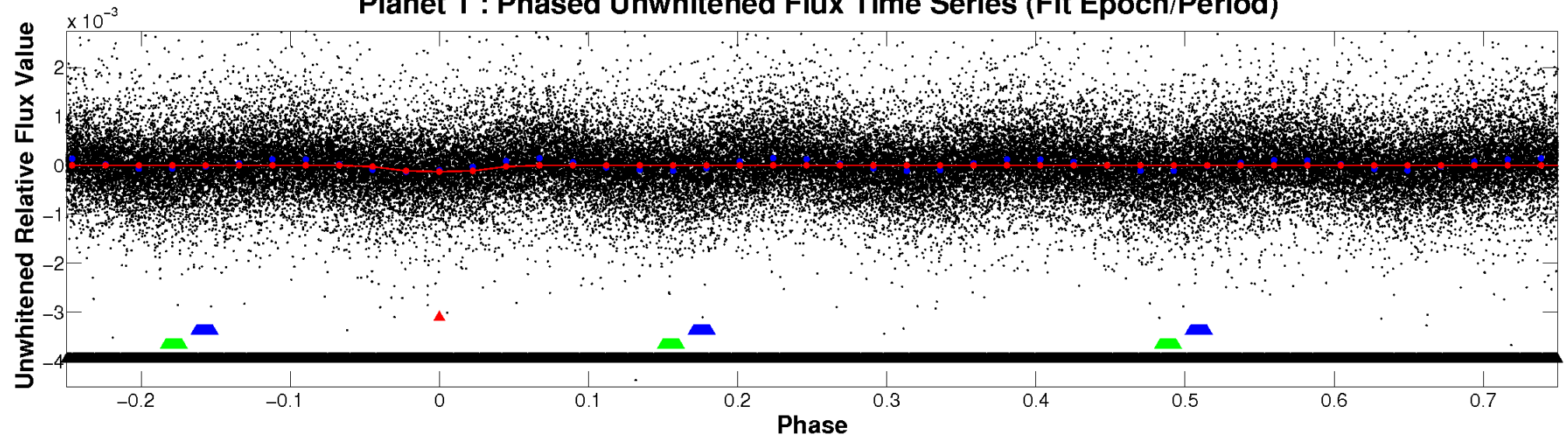
ALT Odd/Even

TCE 007761855-01

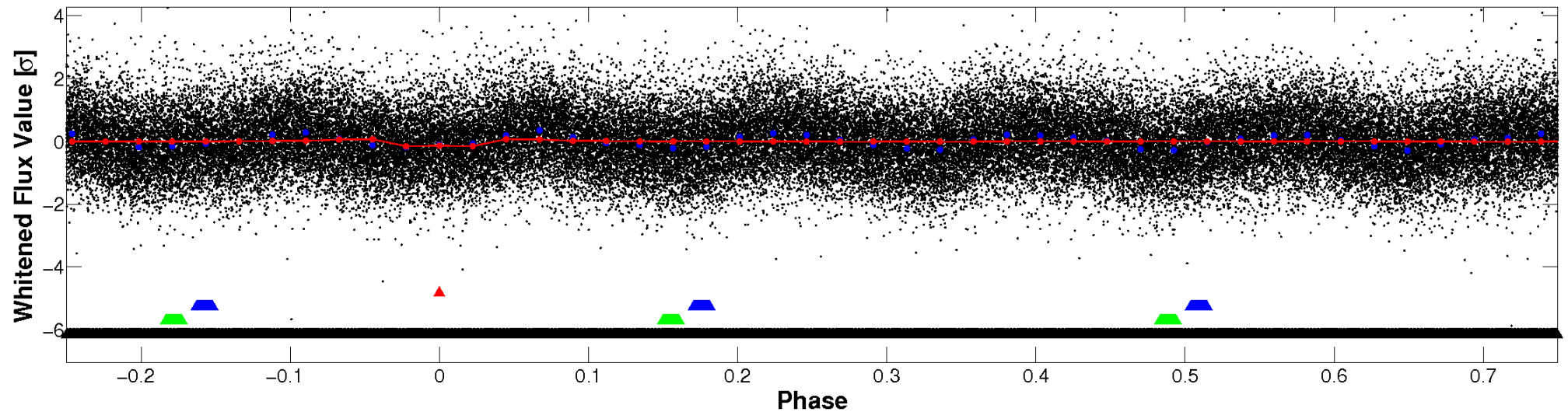


Non-Whitened Vs. Whitened Light Curve

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

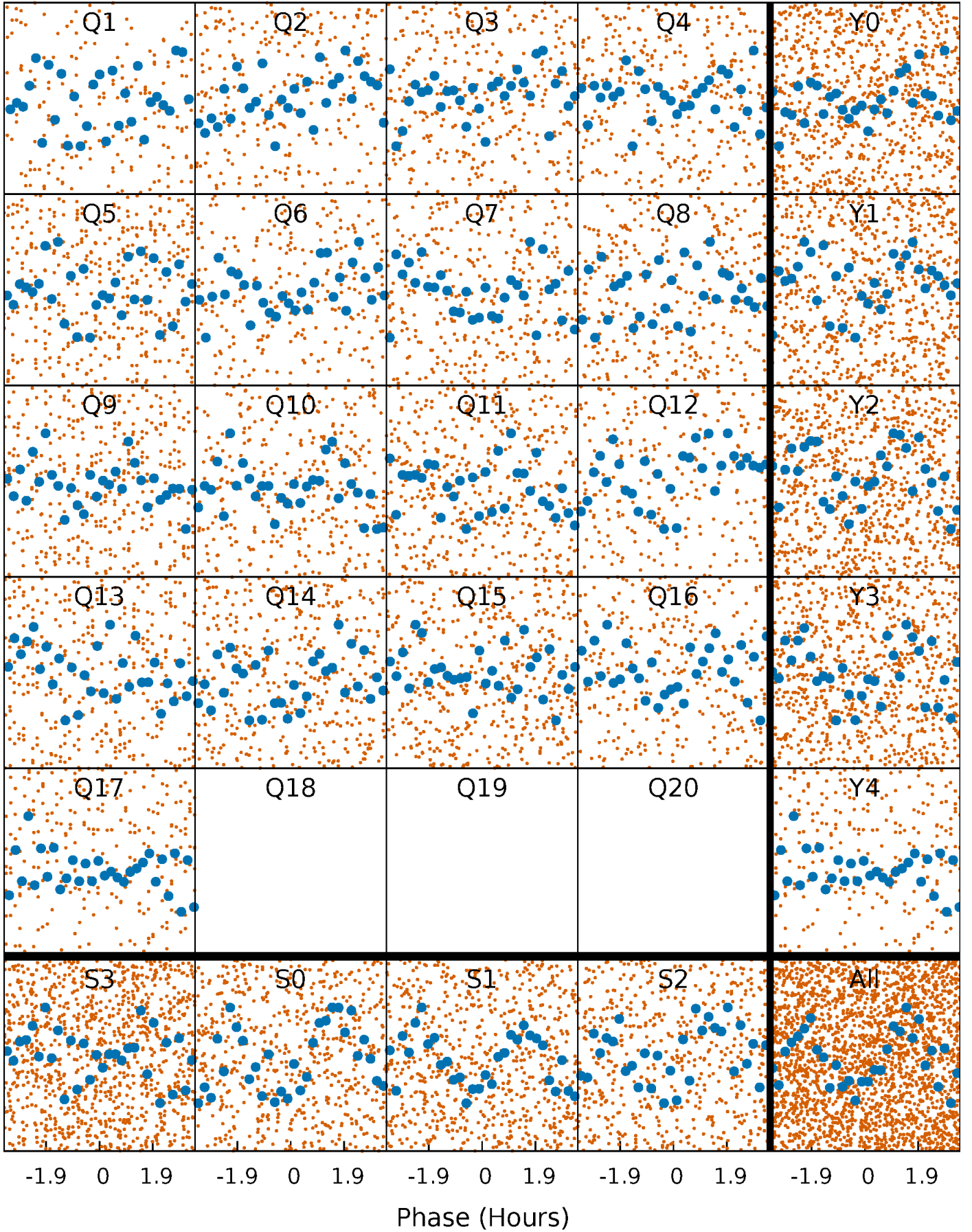


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



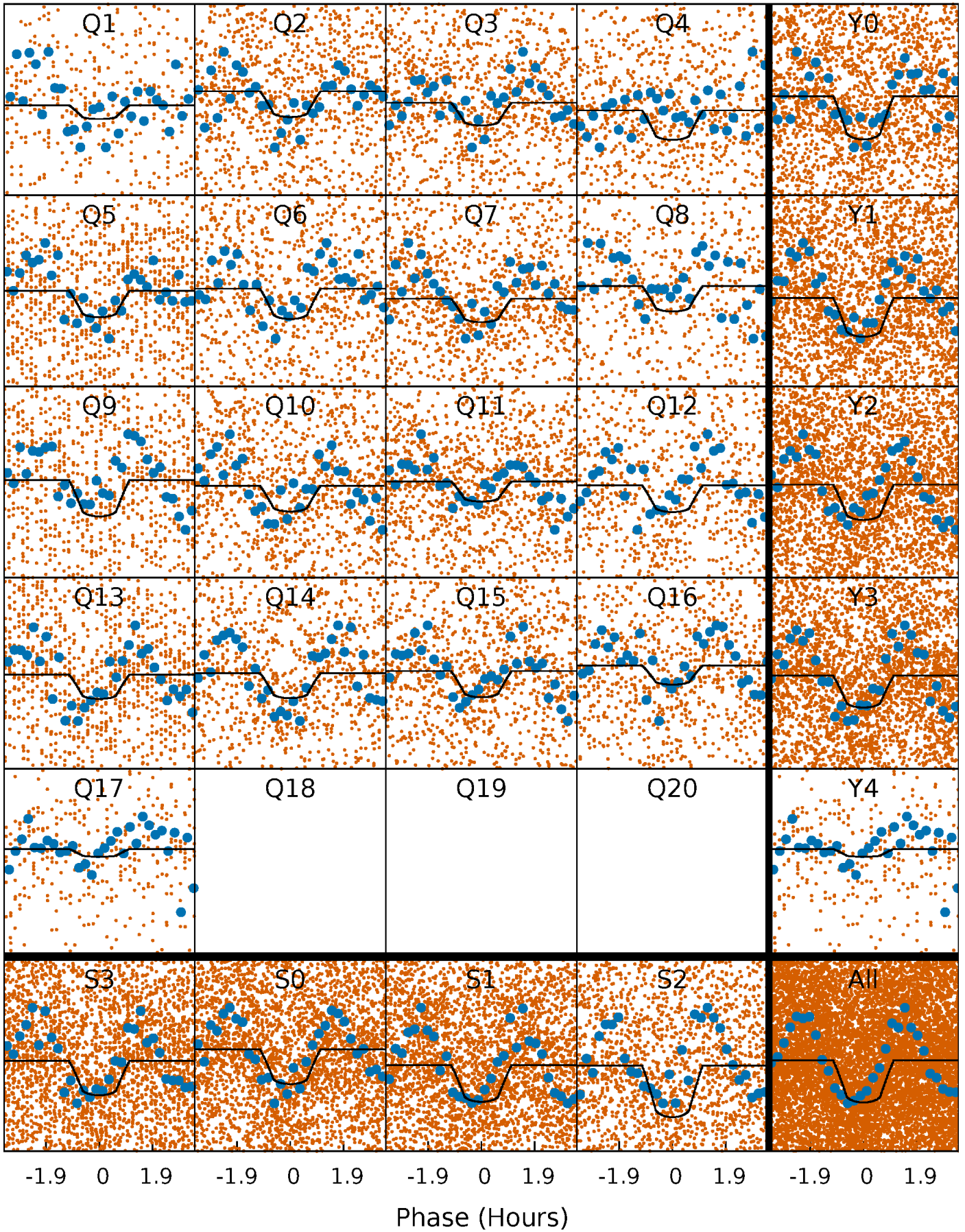
PDC Quarter-Phased Transit Curves

TCE 007761855-01 P= 0.912748 Days $T_0=131.791535$ (BKJD)



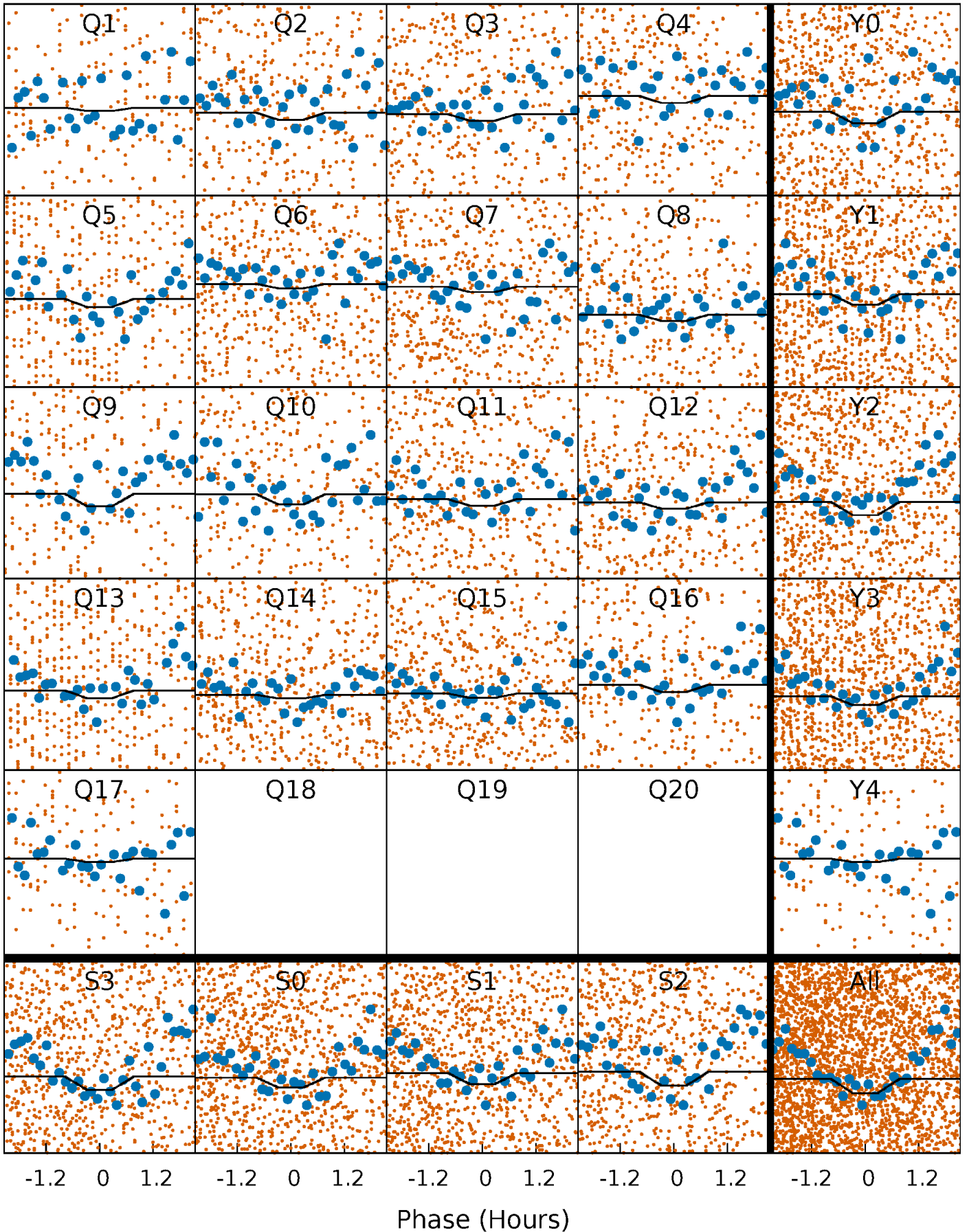
DV Quarter-Phased Transit Curves

TCE 007761855-01 P= 0.912748 Days $T_0=131.791535$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

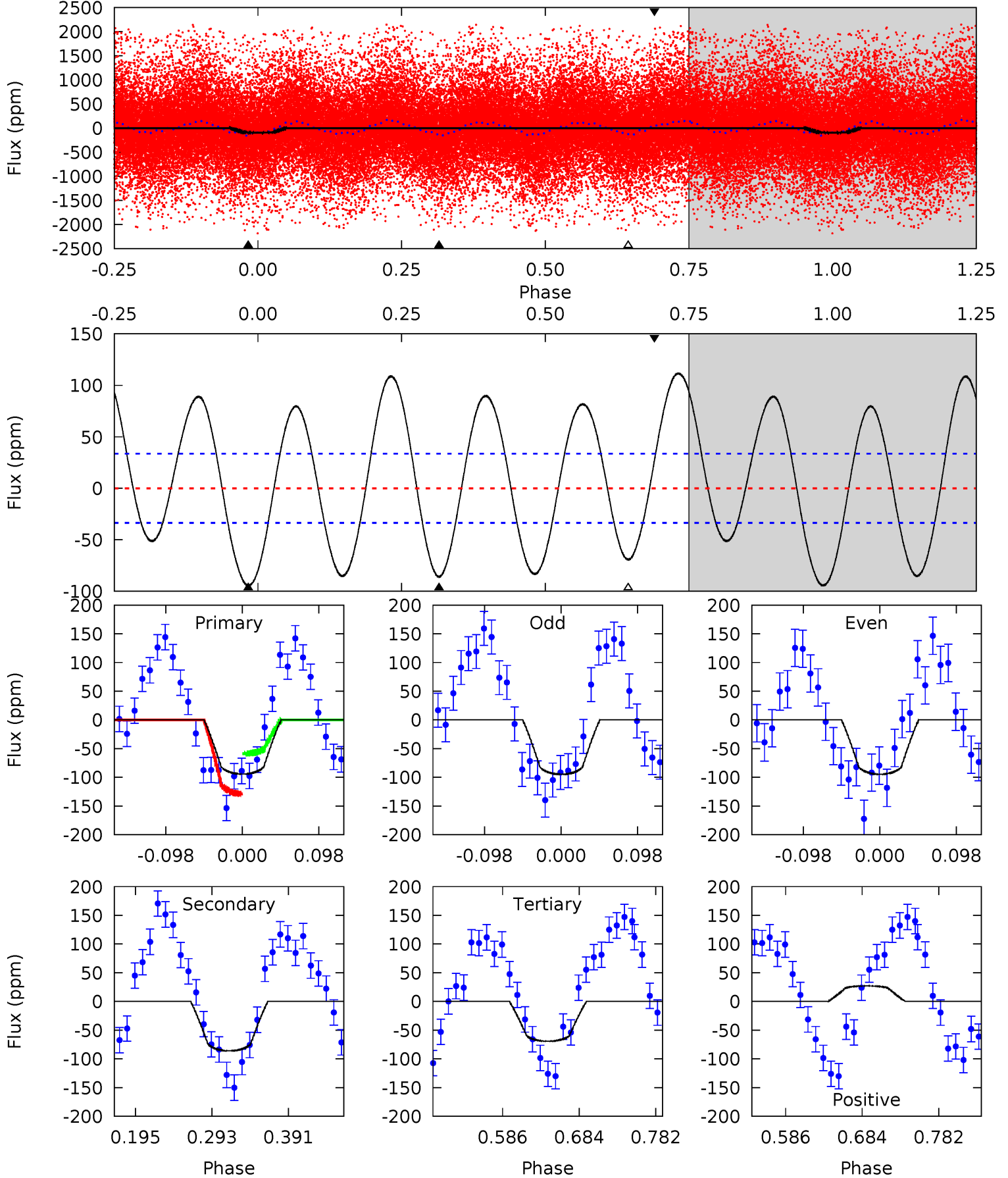
TCE 007761855-01 P= 0.912738 Days $T_0=131.787590$ (BKJD)



DV Model-Shift Uniqueness Test

007761855-01, P = 0.912748 Days, E = 130.878787 Days

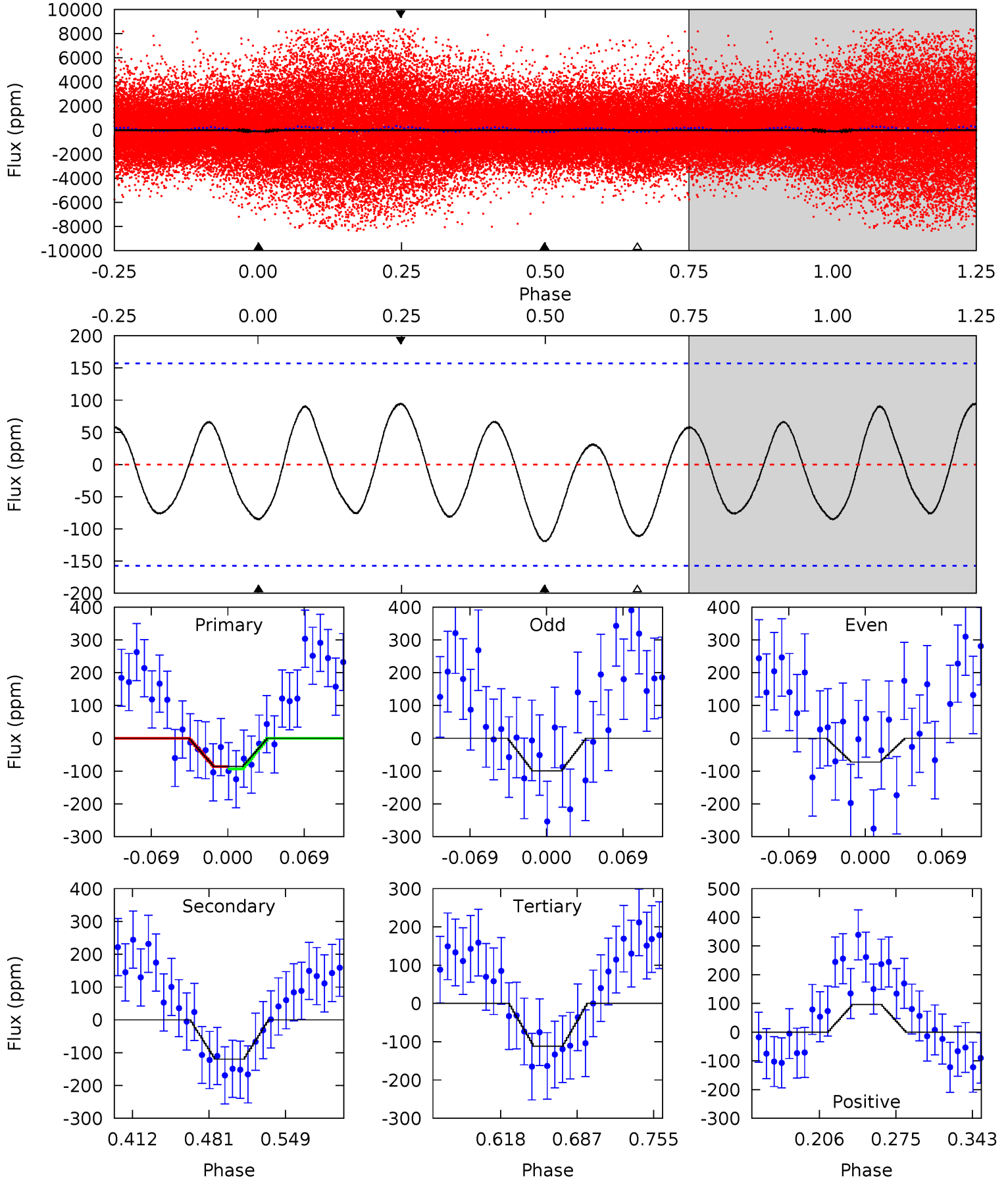
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	11.7	9.43	3.68	4.57	1.66	7.90	3.42	9.17	2.28	8.03	0.01	1.02	0.54	4.88



Alt Model-Shift Uniqueness Test

007761855-01, P = 0.912738 Days, E = 130.874852 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.54	3.54	3.30	2.83	4.64	1.82	1.70	-0.75	-0.29	0.24	0.70	0.40	0.97	0.44	0.11



Stellar Parameters For KIC 007761855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7350^{+228}_{-304}	$3.755^{+0.400}_{-0.100}$	$-0.080^{+0.200}_{-0.350}$	$2.930^{+0.427}_{-1.280}$	$1.780^{+0.194}_{-0.389}$	$0.100^{+0.336}_{-0.030}$
	+3%/-4%	+11%/-3%	+250%/-438%	+15%/-44%	+11%/-22%	+337%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007761855-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-86 ± 7	$3.05^{+1.39}_{-1.18}$	5061^{+333}_{-543}	6540^{+2300}_{-1128}	$2.507^{+4.030}_{-1.339}$
Alt.	-120 ± 34	$2.68^{+1.24}_{-1.16}$	5048^{+380}_{-476}	7873^{+3866}_{-1518}	$4.341^{+9.371}_{-2.332}$

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 $A_{obs} \gg 1.0$

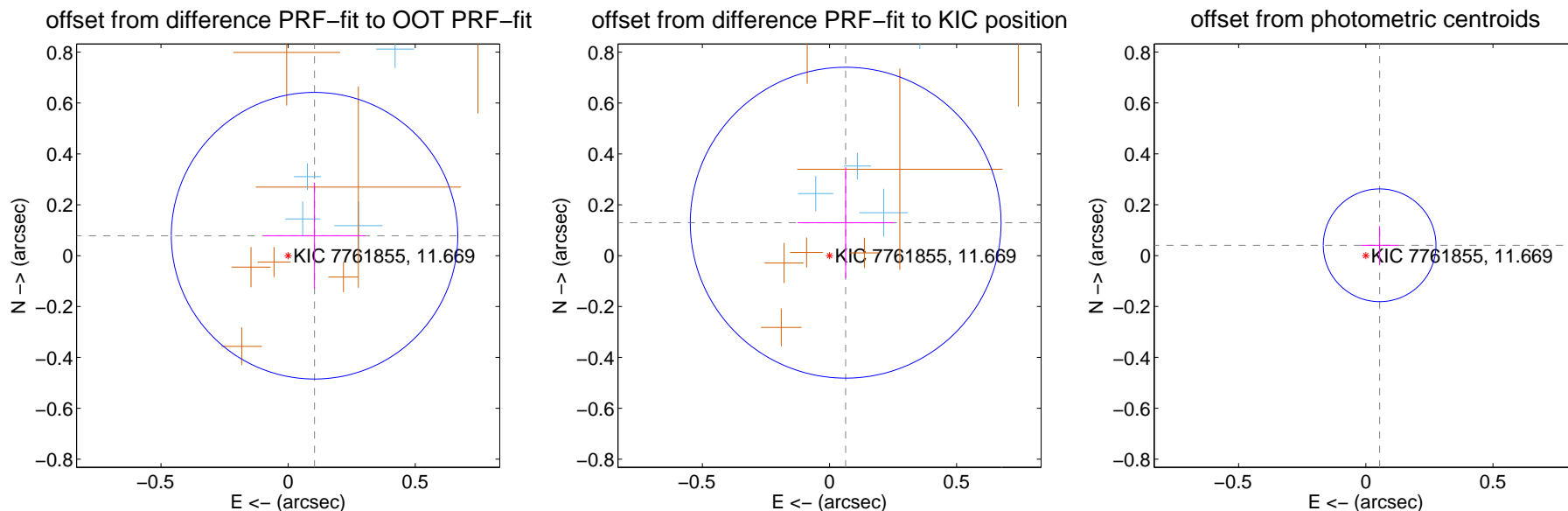
DV Centroid Data

Supplemental centroid analysis for 007761855-01. **Kepler magnitude: 11.67.** Transit SNR 11.49

There are 10 quarters with good PRF difference image offsets

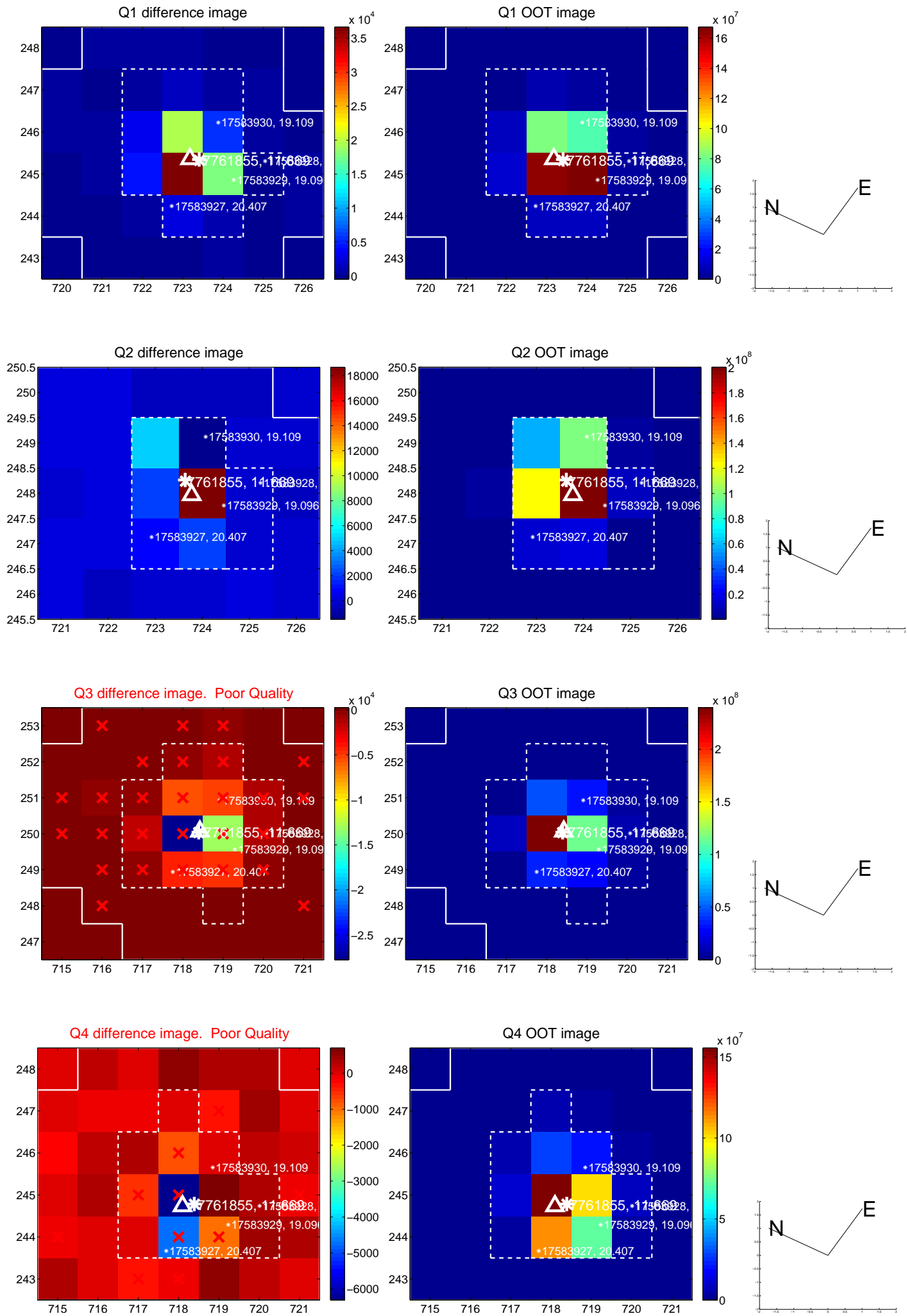
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.130 ± 0.188	0.69	-0.104 ± 0.200	0.078 ± 0.208
PRF-fit source offset from KIC position	0.144 ± 0.204	0.71	-0.064 ± 0.190	0.130 ± 0.218
photometric centroid source offset	0.07 ± 0.07	0.92	-0.05 ± 0.07	0.04 ± 0.08

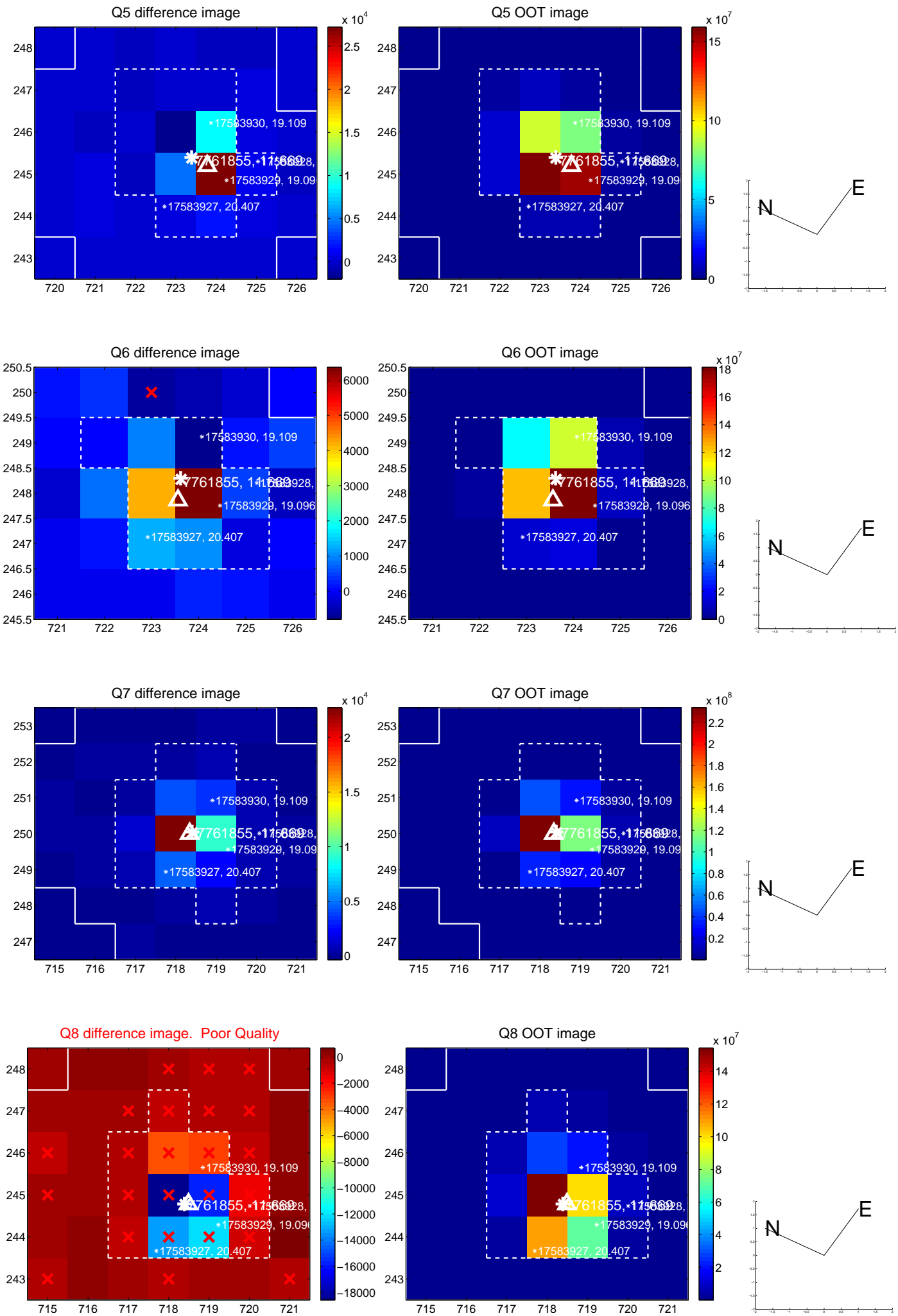


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

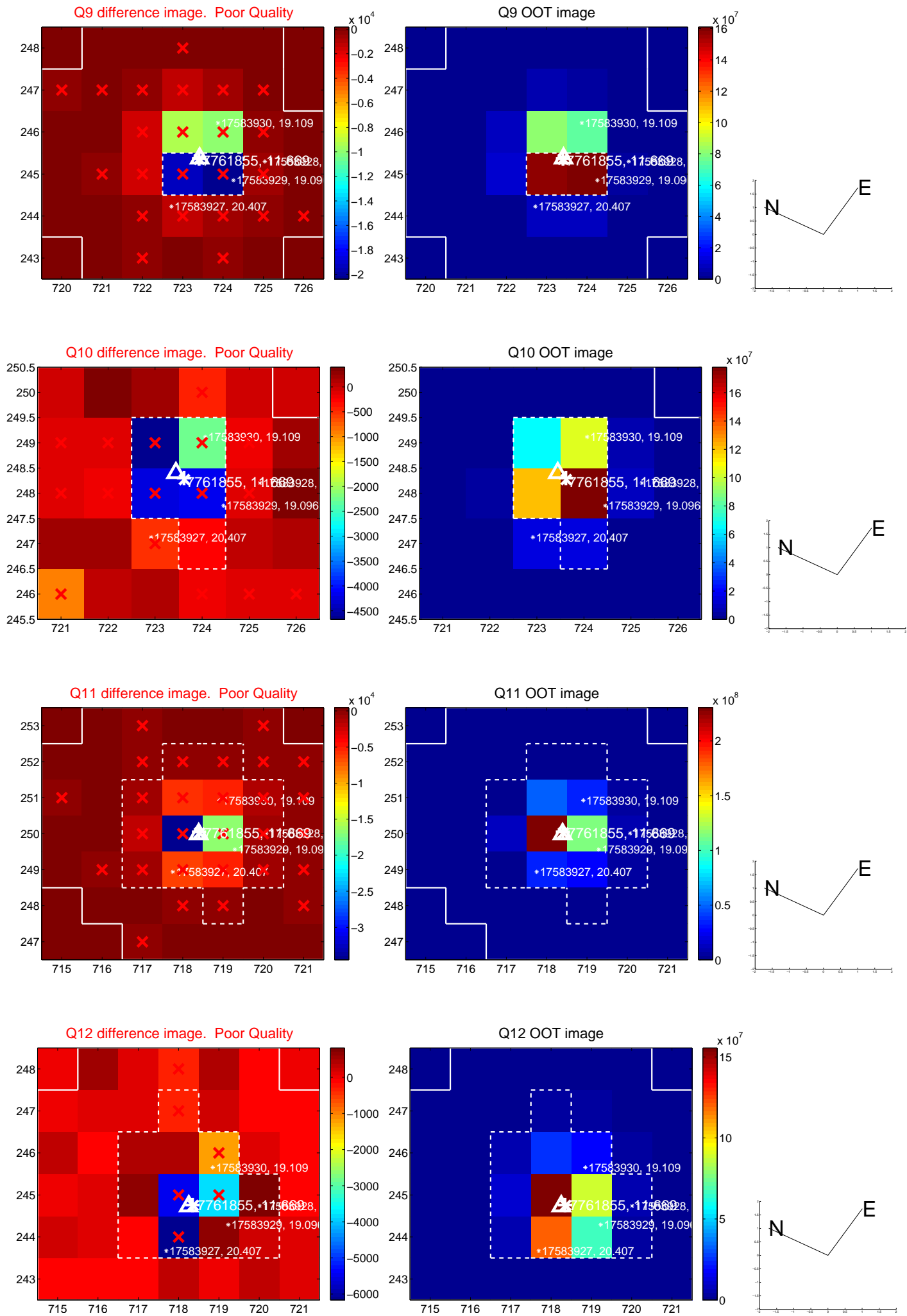
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



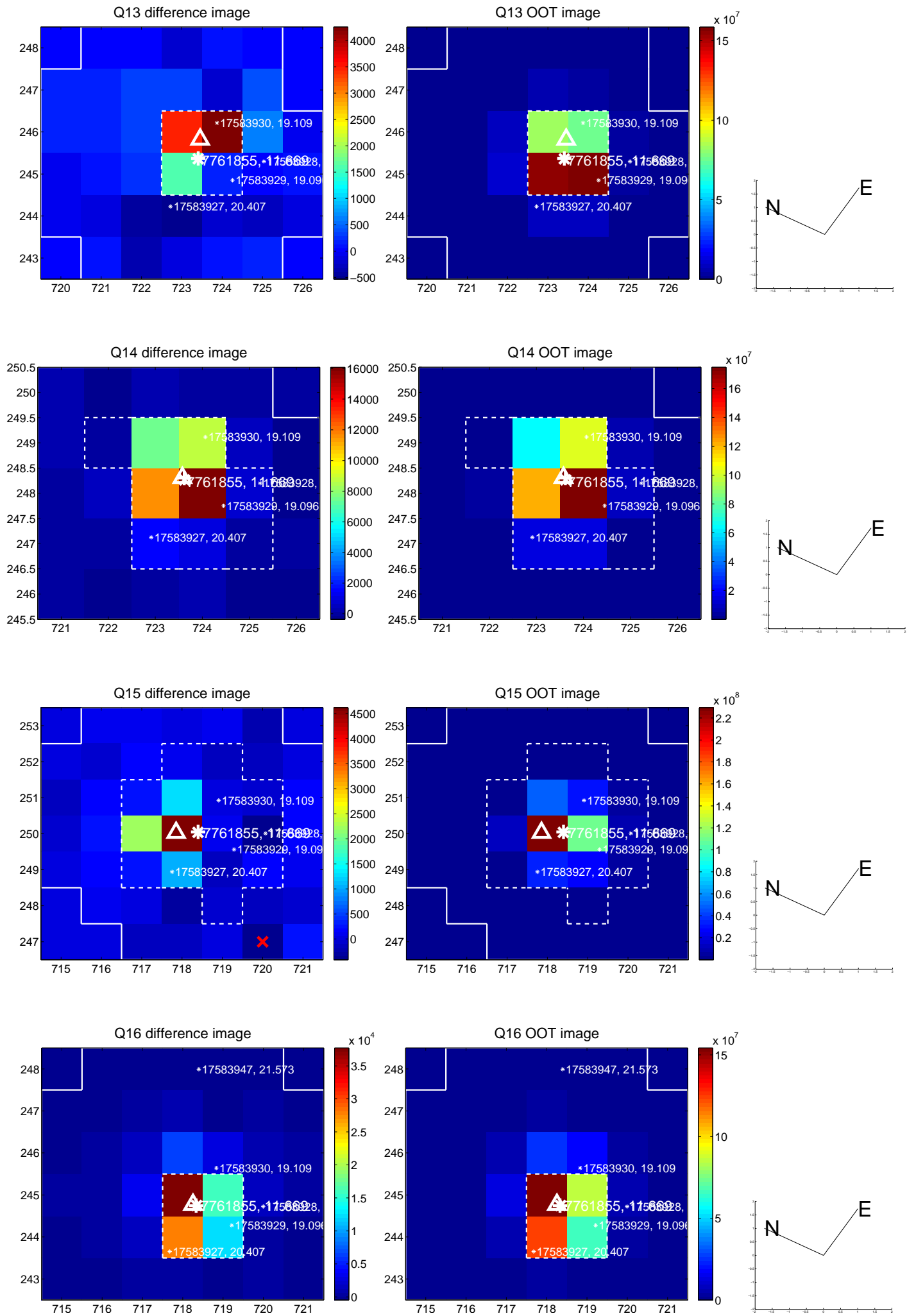
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



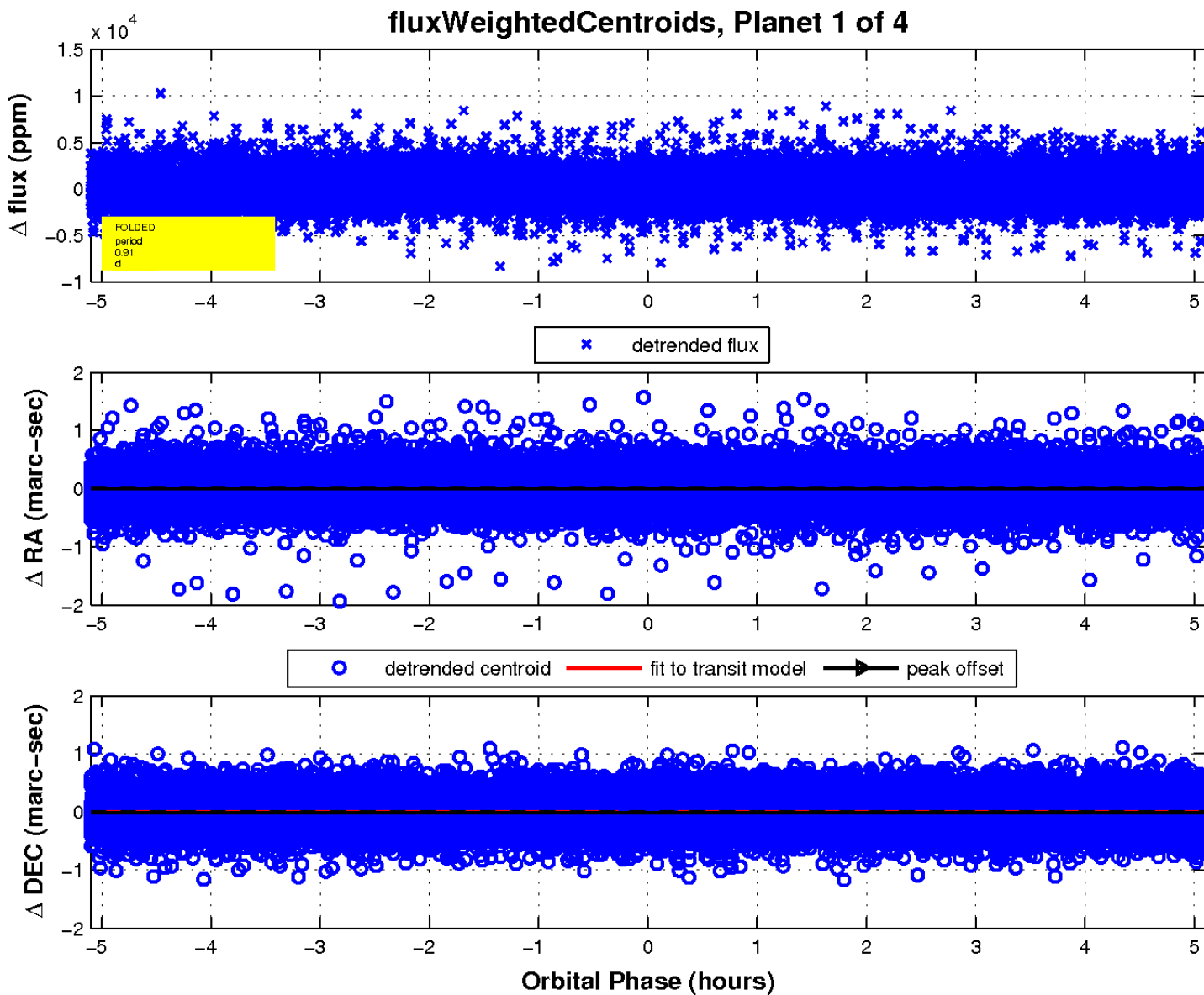
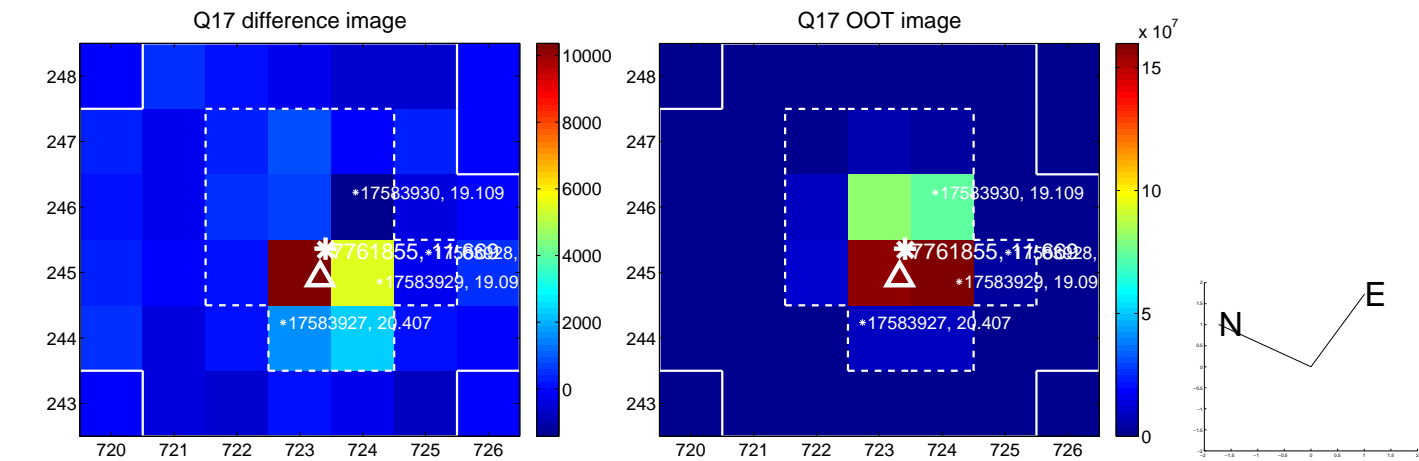
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

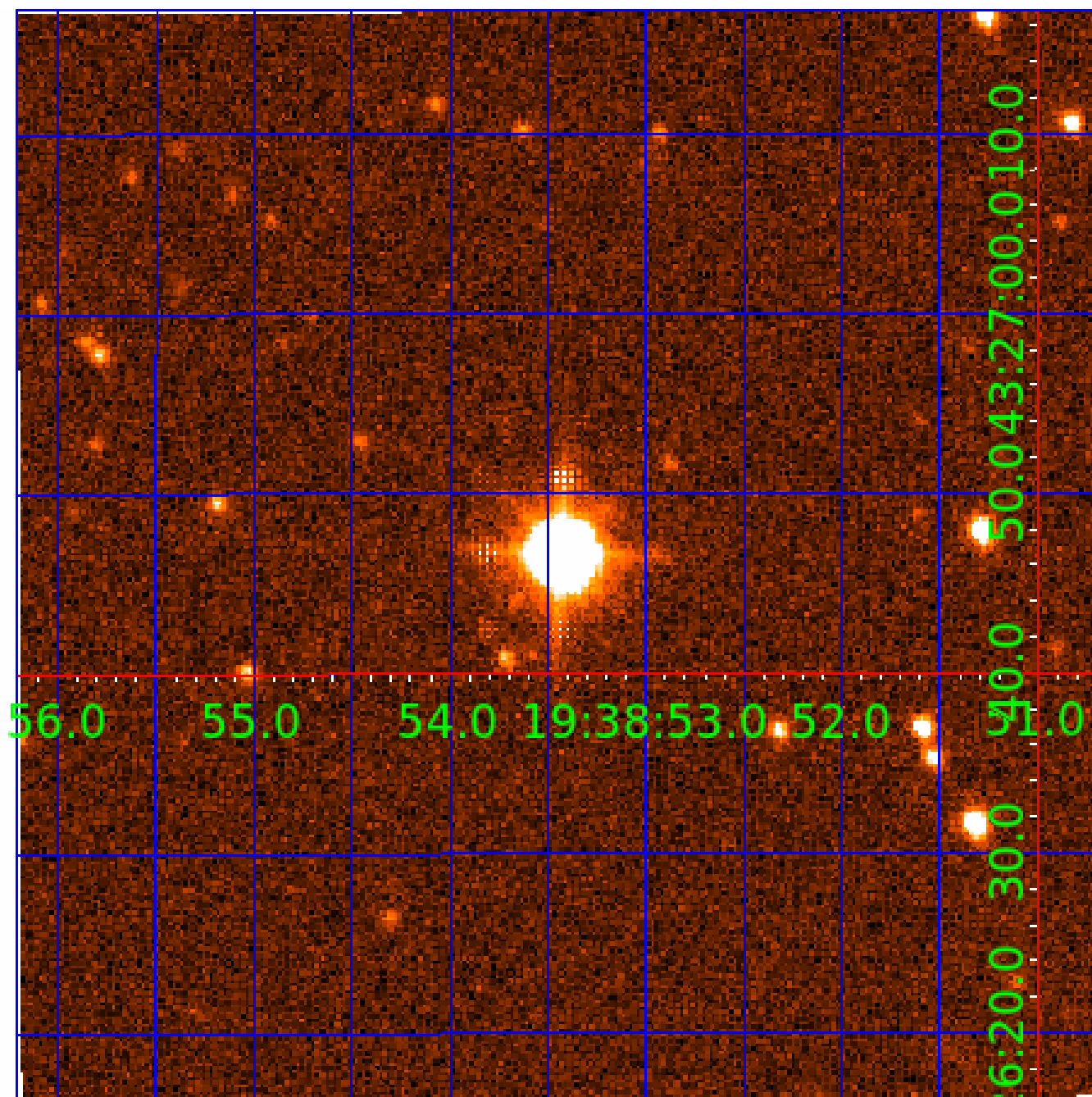


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007761855

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})
007761855-01	OBS	No	0.912748	131.791535	129.0	1.701	13.0	11.5	2.93	7350	3.38	45028.50
007761855-02	OBS	No	0.608495	131.652768	110.8	0.541	15.8	11.2	2.93	7350	3.69	77317.84
007761855-03	OBS	No	0.608495	131.938076	160.6	1.571	15.4	16.2	2.93	7350	4.31	77317.82
007761855-04	OBS	No	0.584245	131.554944	106.9	2.000	12.0	-1.0	2.93	7350	3.08	81625.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007761855-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007761855-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—HALO_GHOST
007761855-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
007761855-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

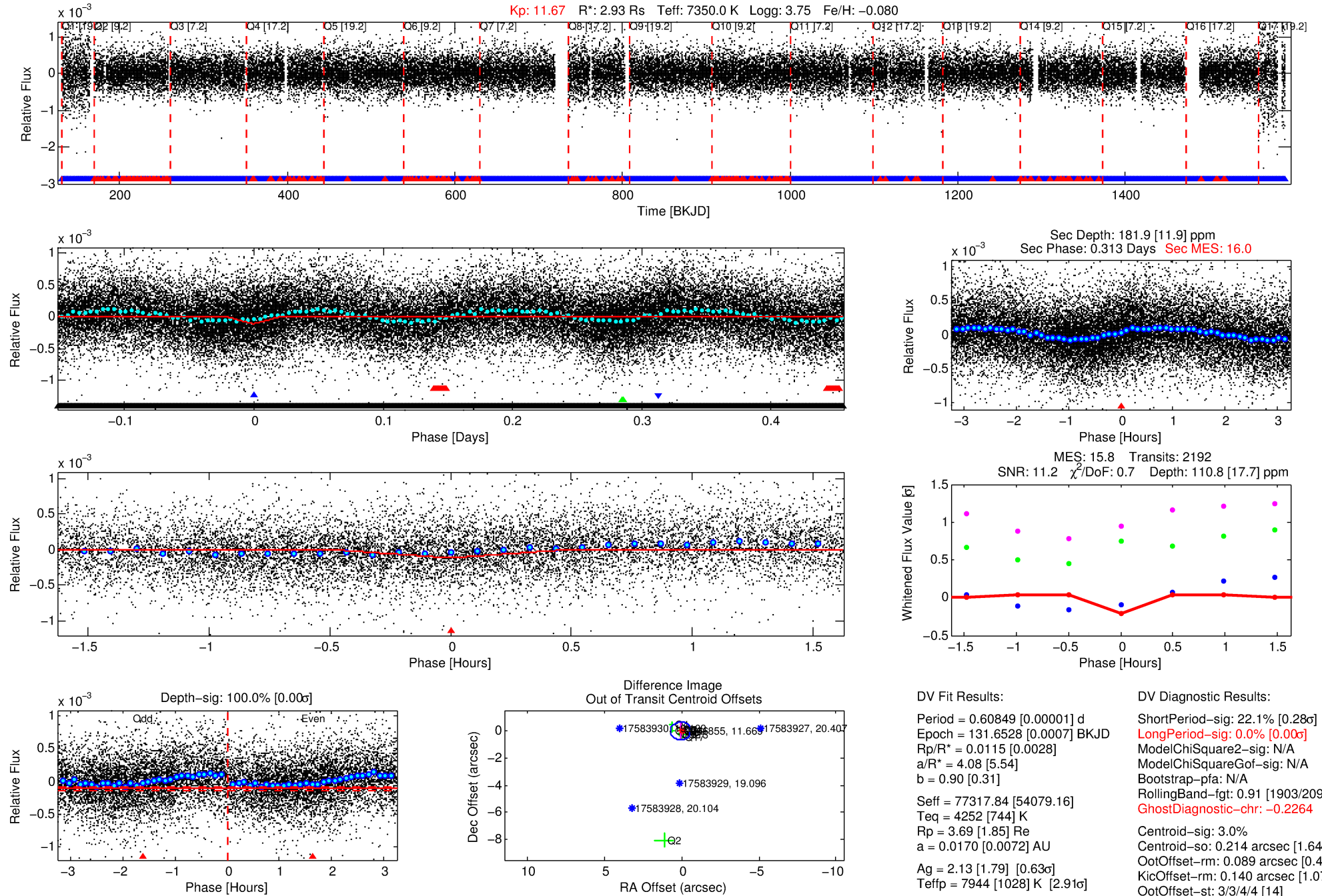
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007761855-02

No Significant Match Found

DV One-Page Summary

KIC: 7761855 Candidate: 2 of 4 Period: 0.608 d



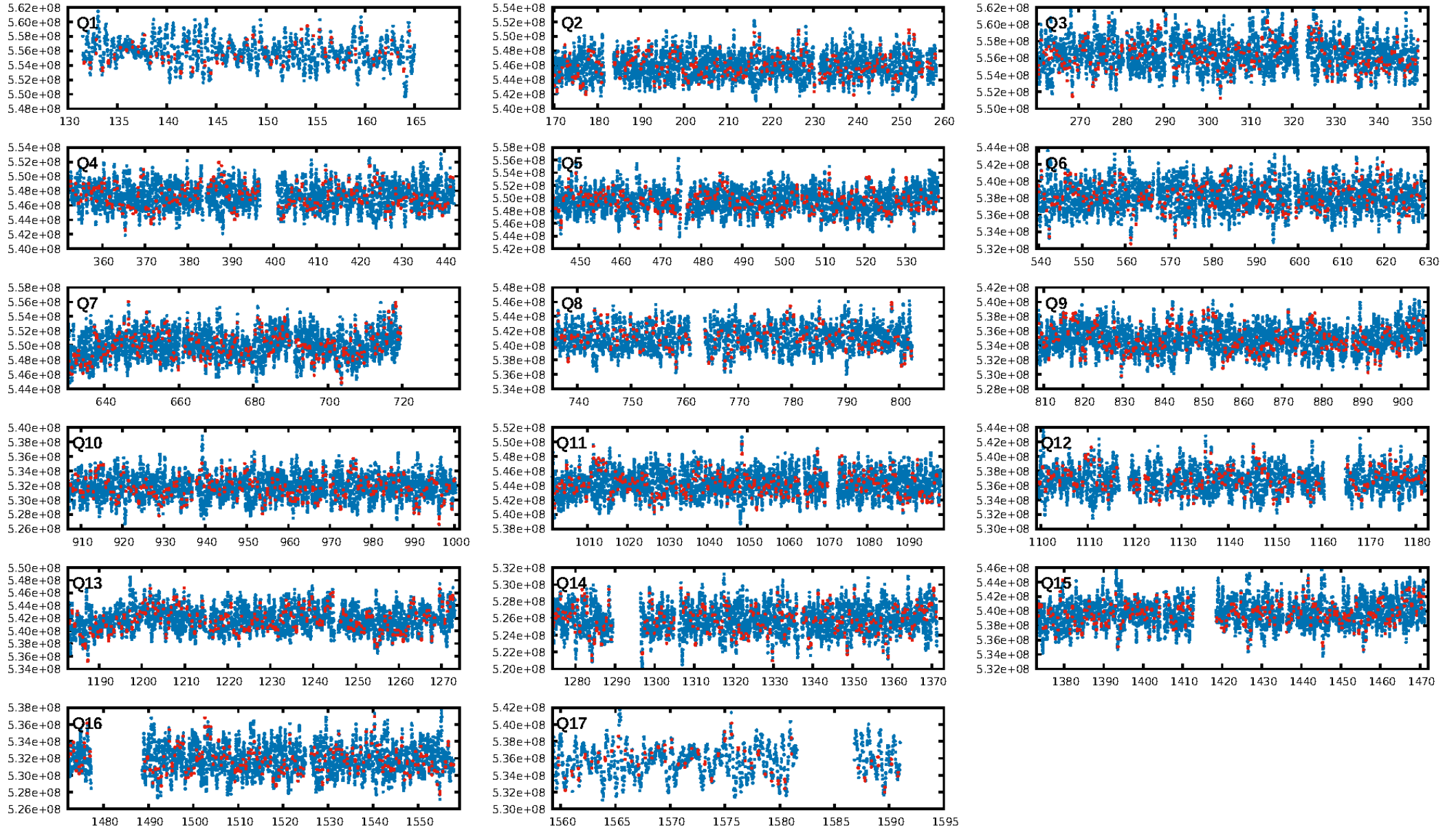
DV Fit Results:

Period = 0.60849 [0.00001] d
Epoch = 131.6528 [0.0007] BKJD
Rp/R* = 0.0115 [0.0028]
a/R* = 4.08 [5.54]
b = 0.90 [0.31]
Seff = 77317.84 [54079.16]
Teq = 4252 [744] K
Rp = 3.69 [1.85] Re
a = 0.0170 [0.0072] AU
Ag = 2.13 [1.79] [0.63σ]
Teffp = 7944 [1028] K [2.91σ]

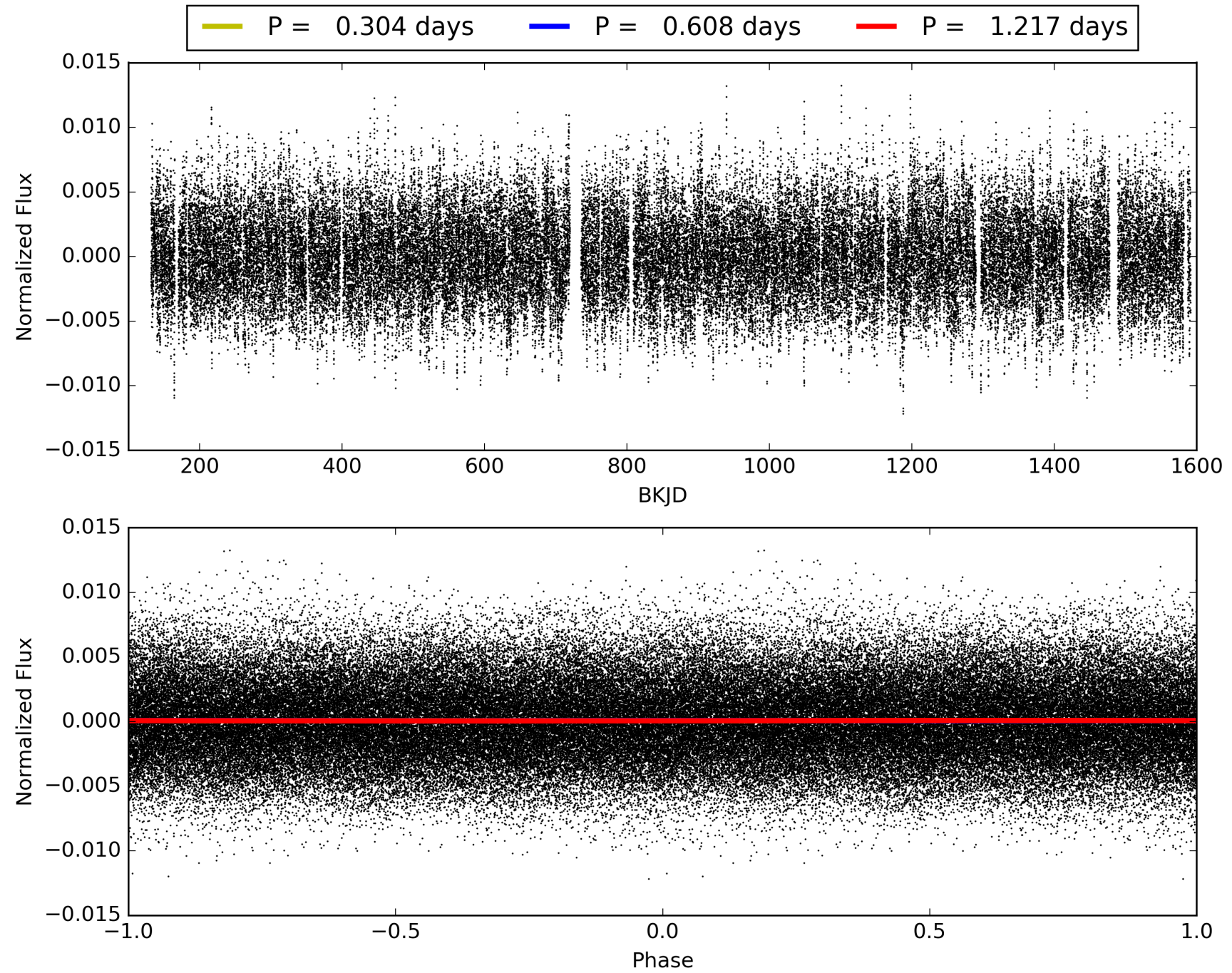
DV Diagnostic Results:

ShortPeriod-sig: 22.1% [0.28σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [1903/2094]
GhostDiagnostic-chr: -0.2264
Centroid-sig: 3.0%
Centroid-so: 0.214 arcsec [1.64σ]
OotOffset-rm: 0.089 arcsec [0.41σ]
KicOffset-rm: 0.140 arcsec [1.07σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.33 [5/15]

TCE 007761855-02, PDC Light Curves

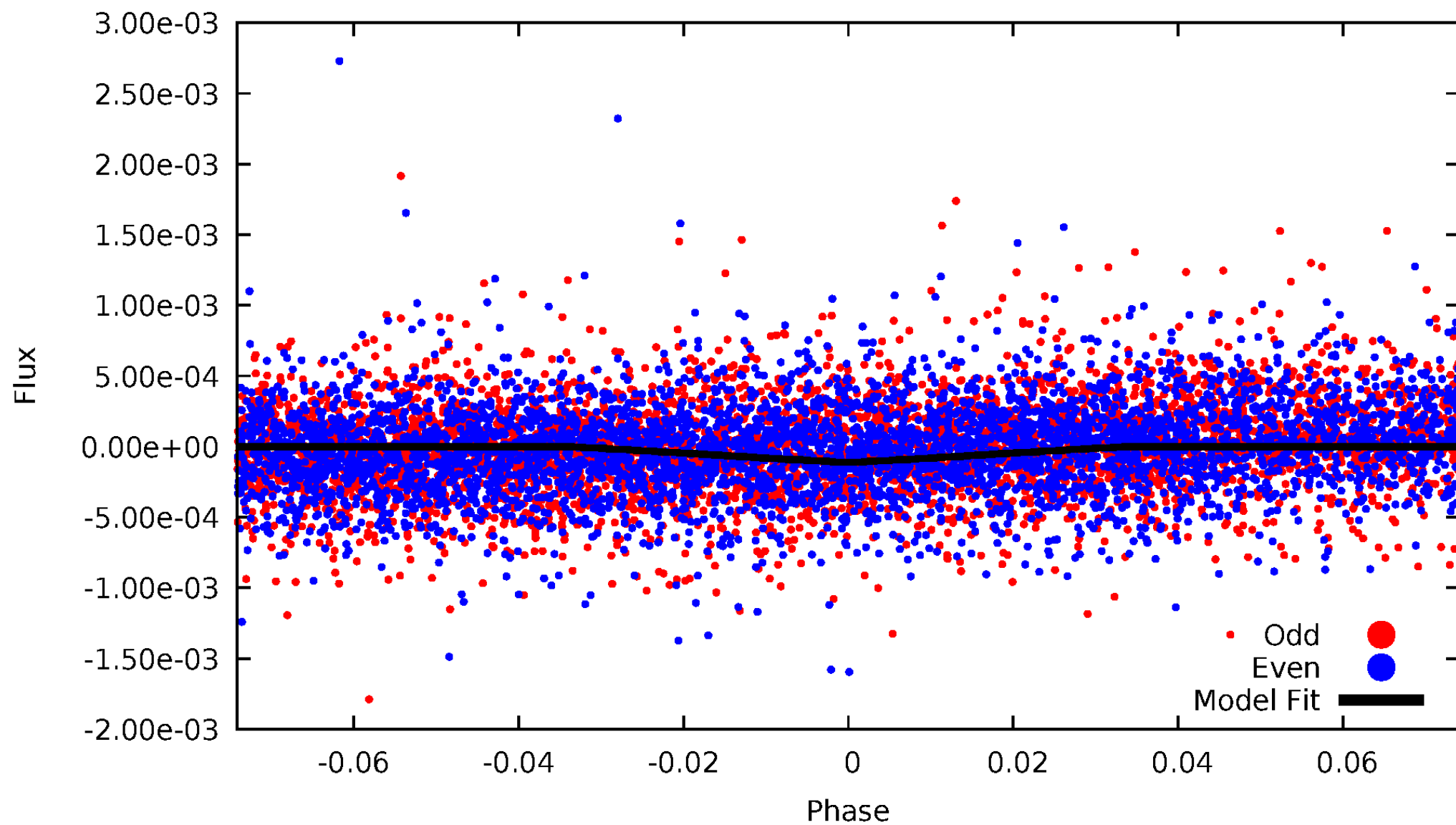


TCE 007761855-02



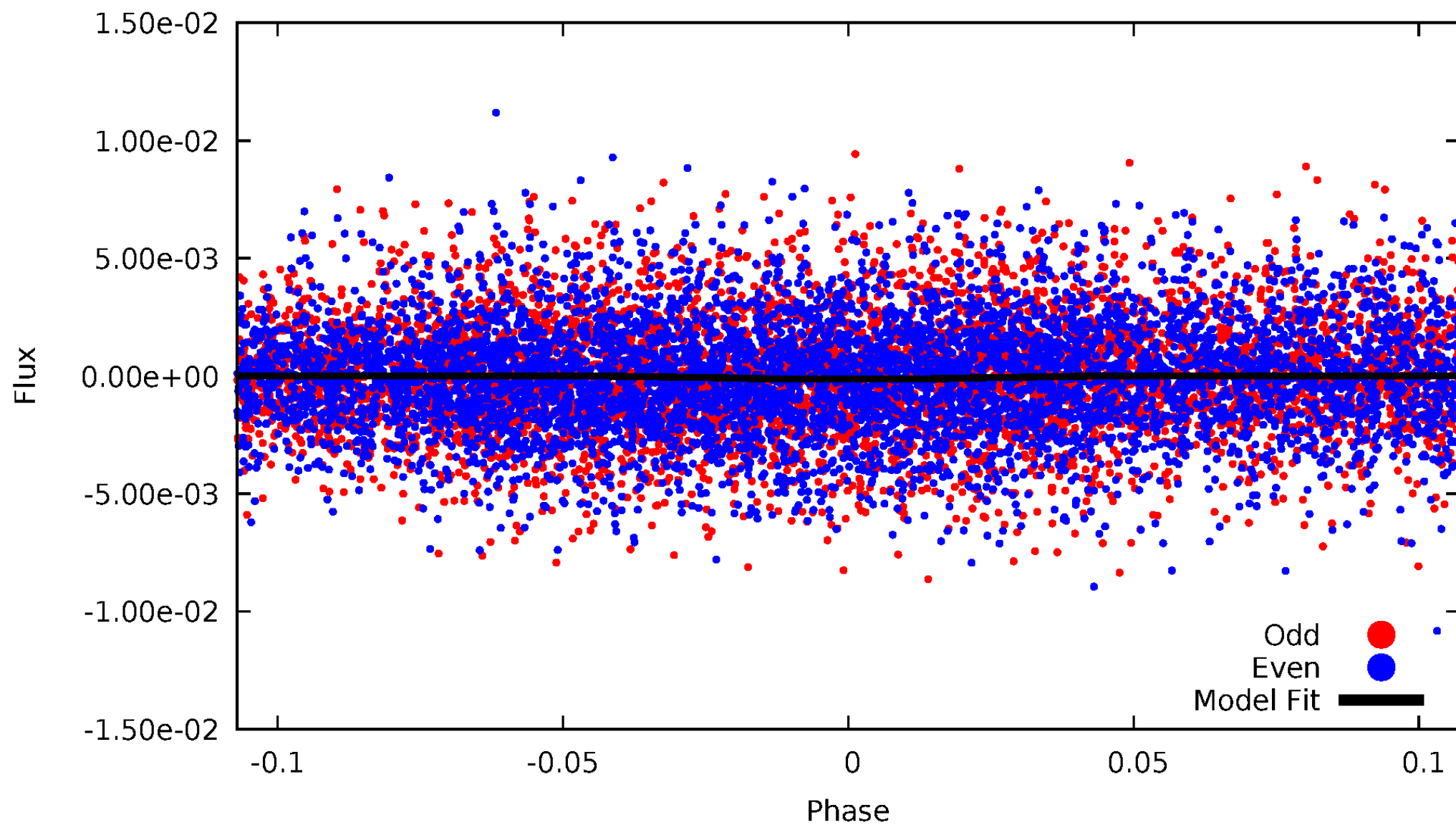
DV Odd/Even

TCE 007761855-02



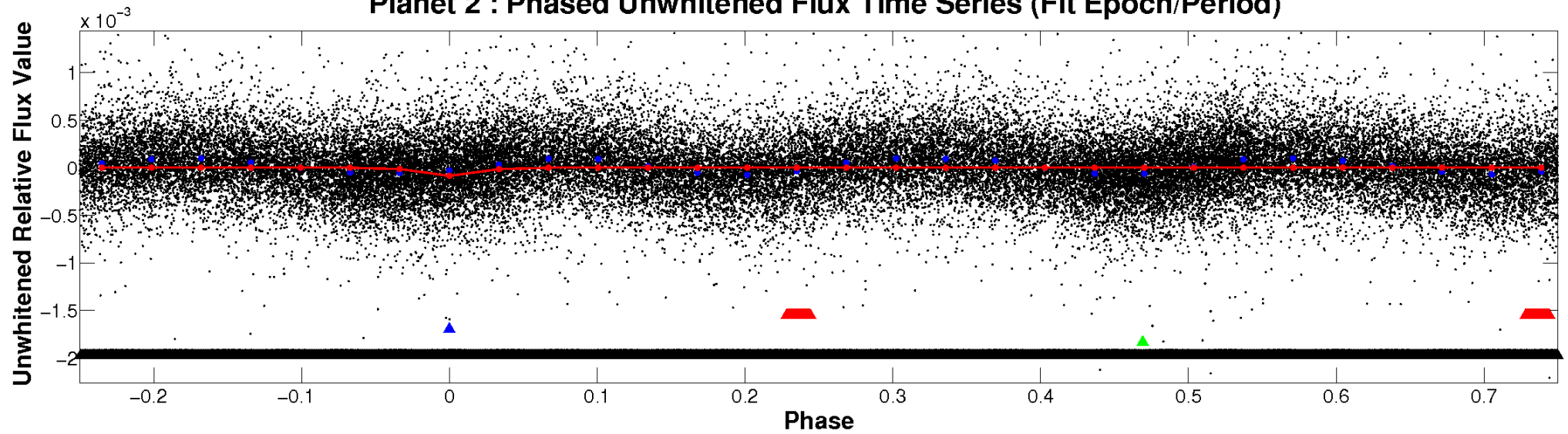
ALT Odd/Even

TCE 007761855-02

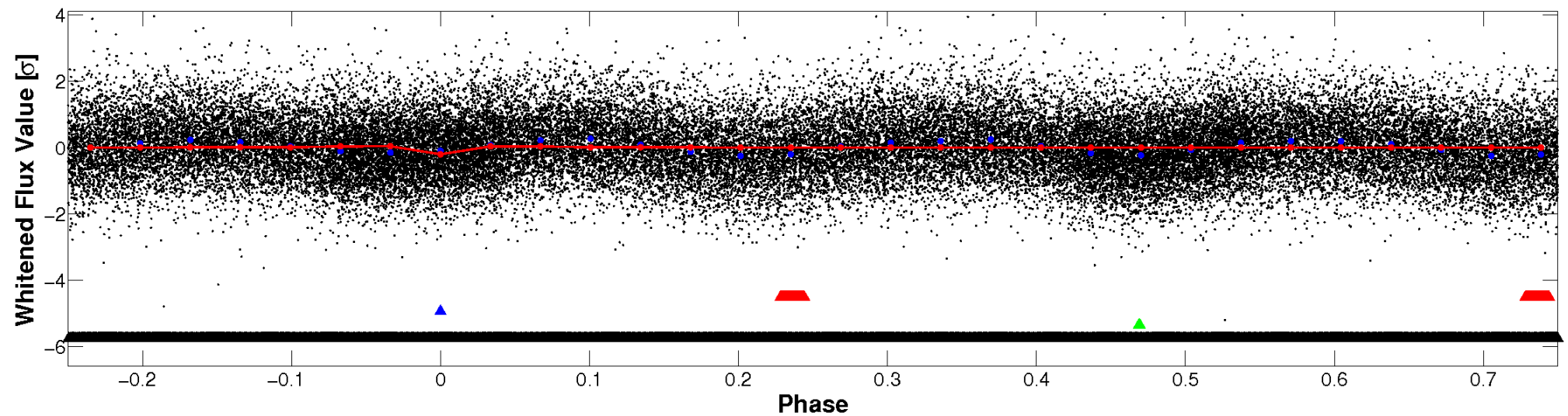


Non-Whitened Vs. Whitened Light Curve

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

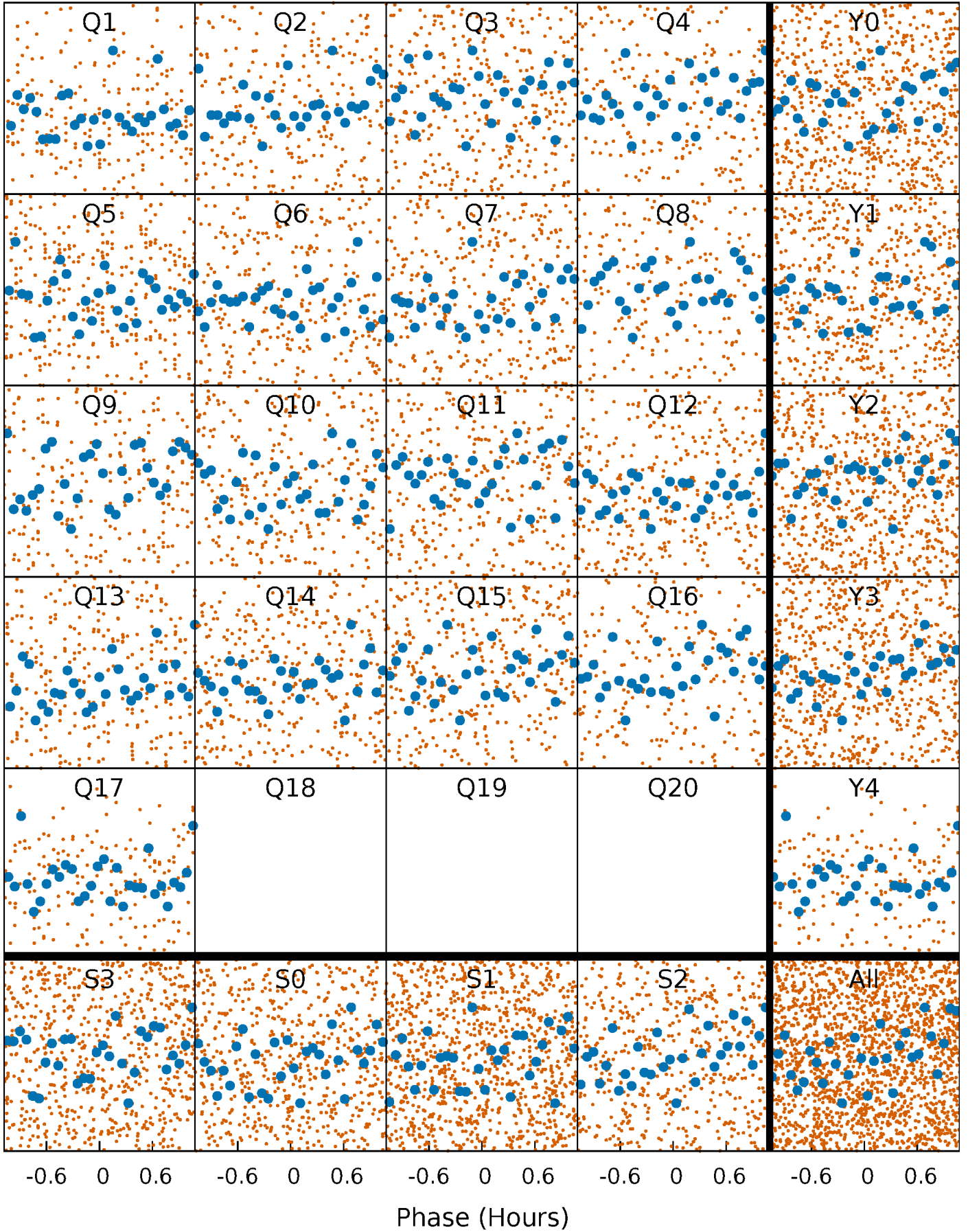


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



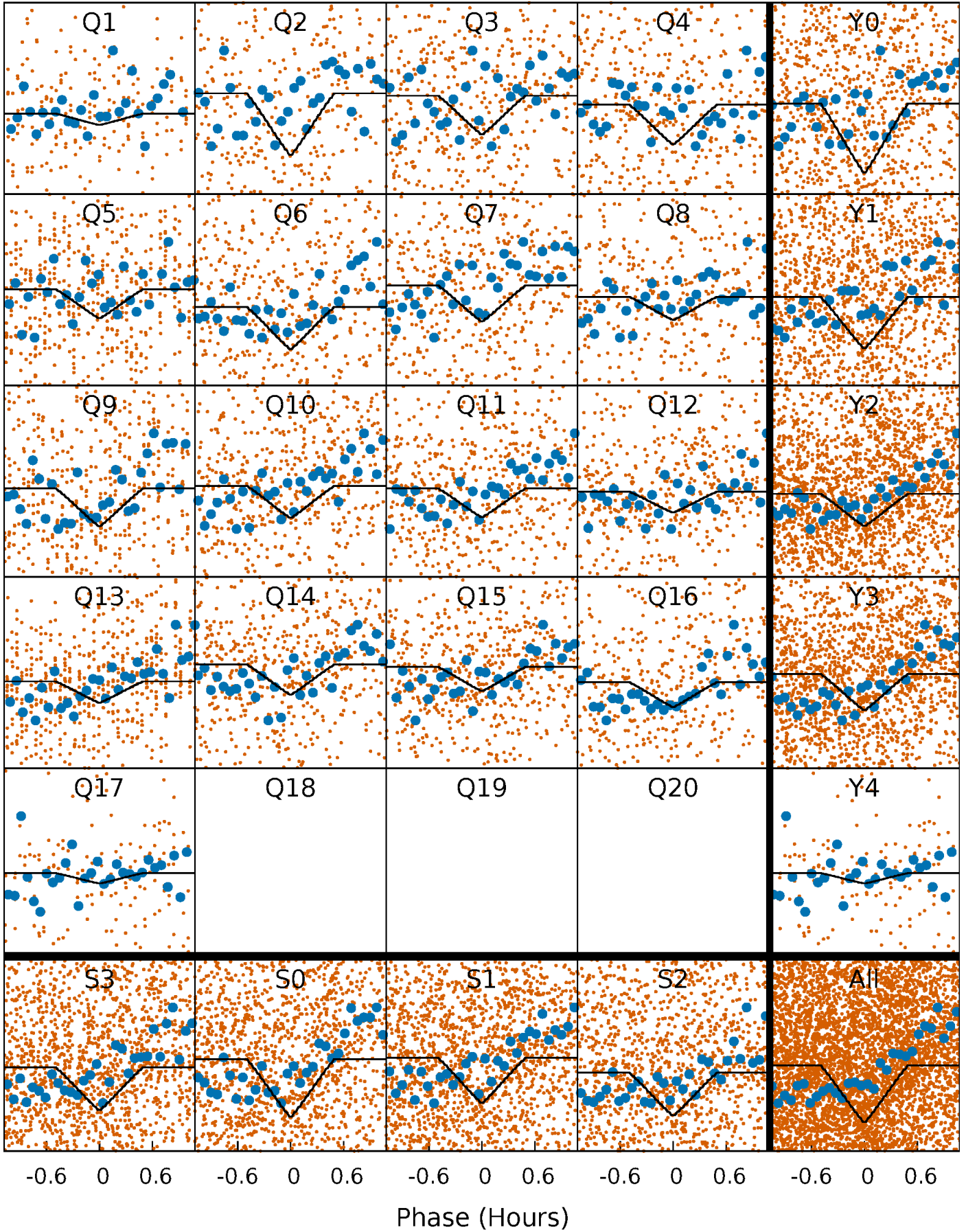
PDC Quarter-Phased Transit Curves

TCE 007761855-02 P= 0.608495 Days $T_0=131.652768$ (BKJD)



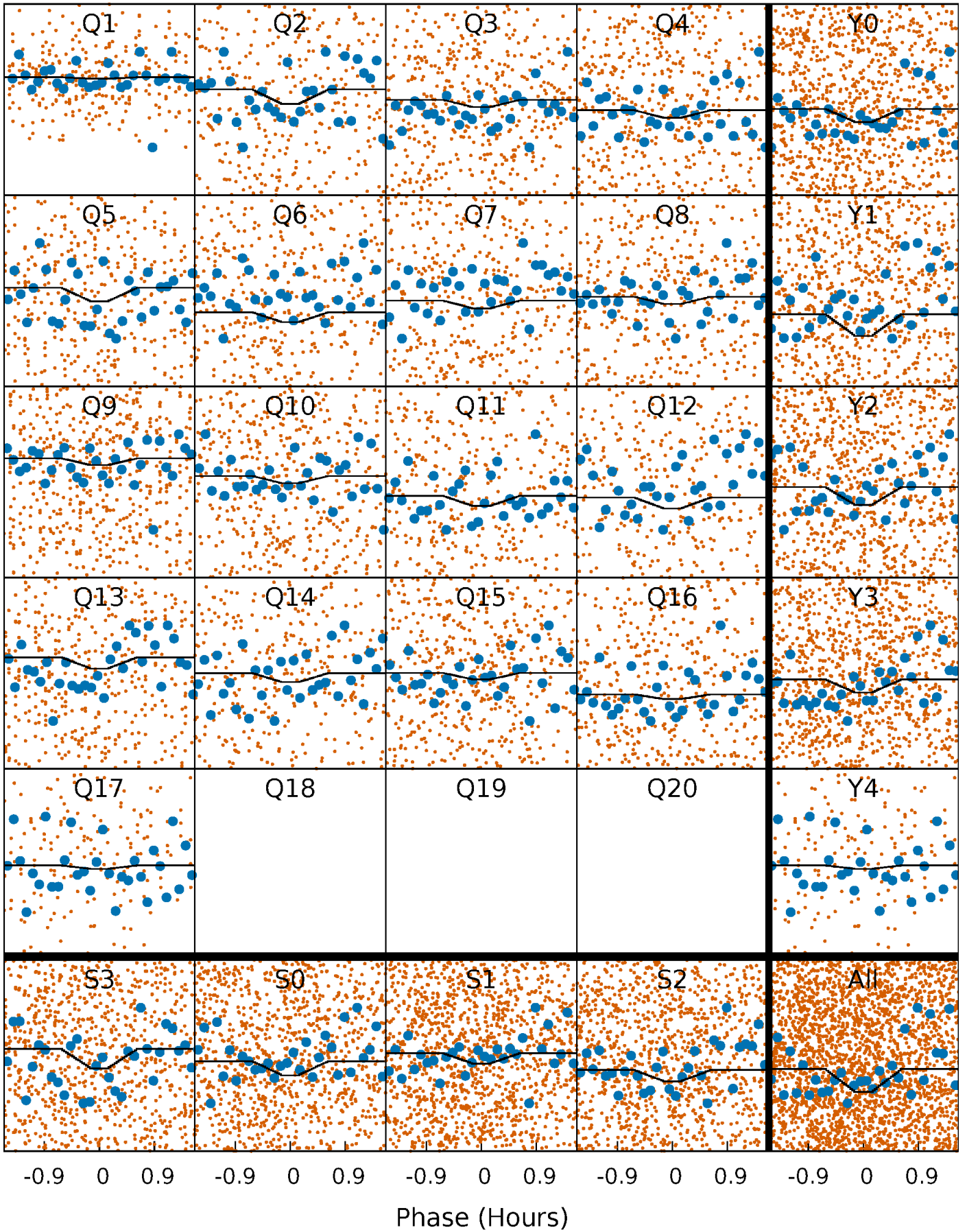
DV Quarter-Phased Transit Curves

TCE 007761855-02 P= 0.608495 Days $T_0=131.652768$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

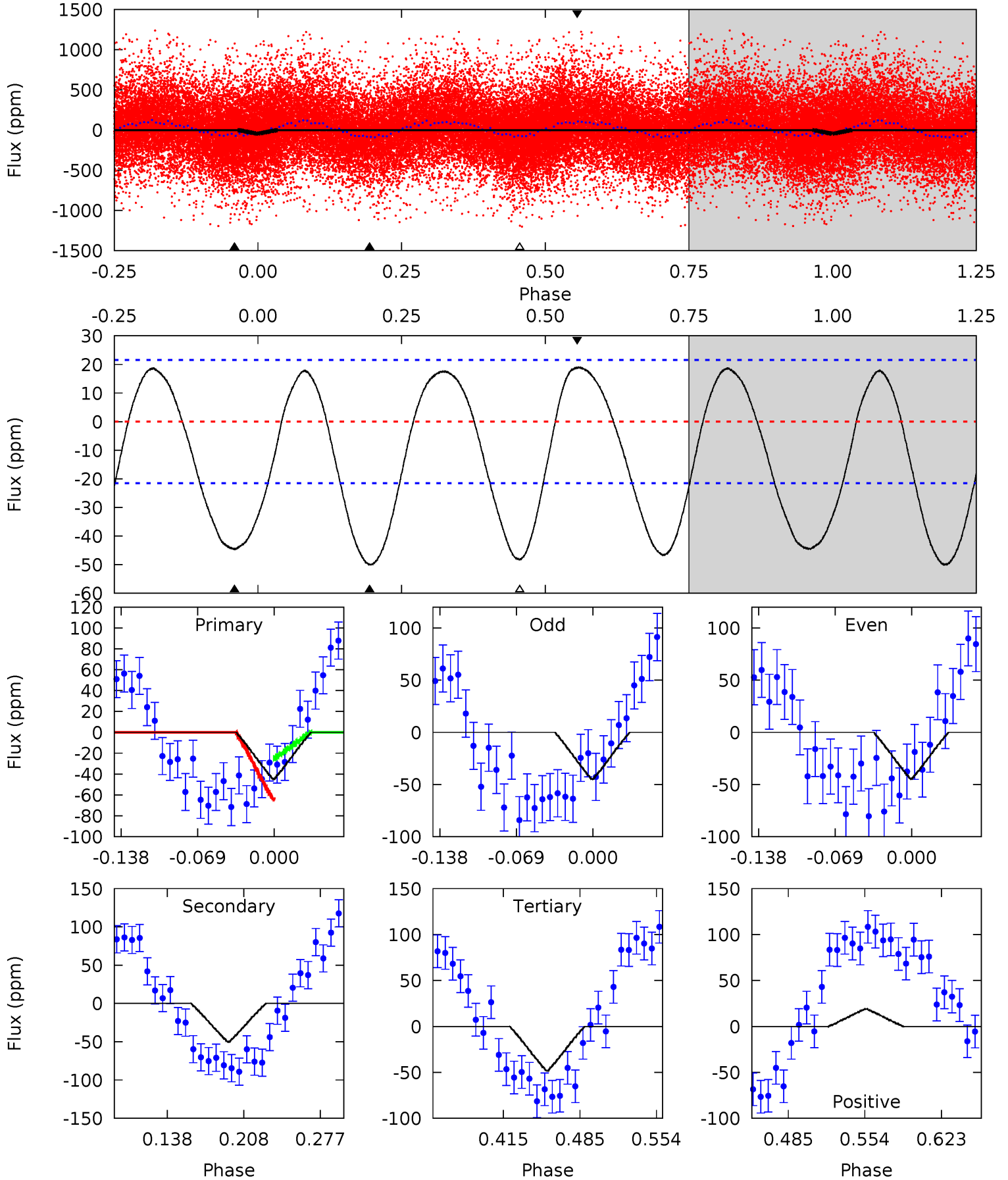
TCE 007761855-02 P= 0.608495 Days $T_0=131.652768$ (BKJD)



DV Model-Shift Uniqueness Test

007761855-02, P = 0.608495 Days, E = 131.044273 Days

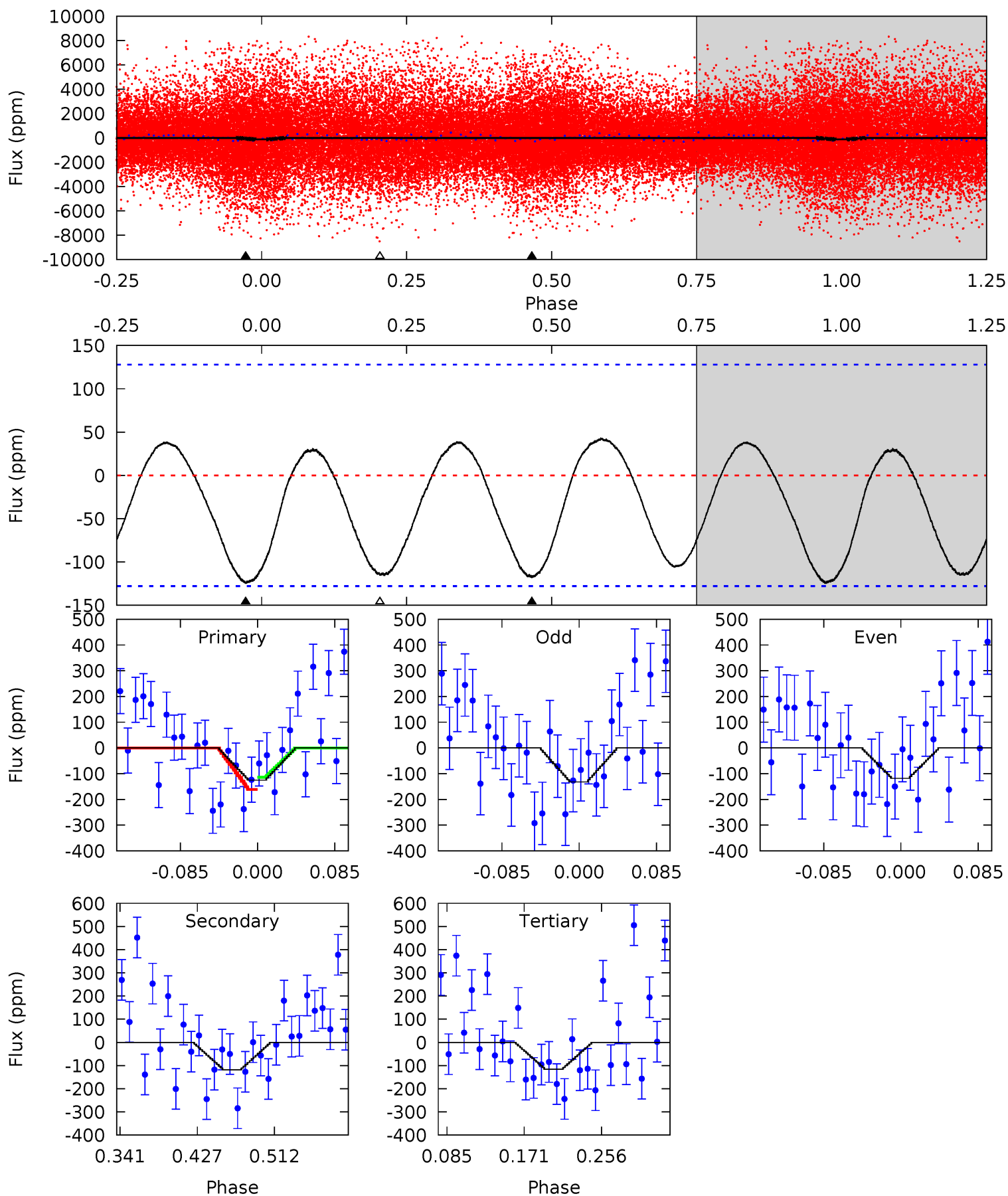
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.62	10.8	10.4	4.09	4.64	1.82	4.85	-0.78	5.53	0.39	6.70	0.04	0.75	0.27	4.18



Alt Model-Shift Uniqueness Test

007761855-02, P = 0.608495 Days, E = 131.044273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.49	4.26	4.16	0	4.60	1.72	1.88	0.33	4.49	0.10	4.26	0.25	0.75	0.26	0.85



Stellar Parameters For KIC 007761855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7350^{+228}_{-304}	$3.755^{+0.400}_{-0.100}$	$-0.080^{+0.200}_{-0.350}$	$2.930^{+0.427}_{-1.280}$	$1.780^{+0.194}_{-0.389}$	$0.100^{+0.336}_{-0.030}$
	+3%/-4%	+11%/-3%	+250%/-438%	+15%/-44%	+11%/-22%	+337%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007761855-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-50 ± 5	$3.31^{+1.06}_{-0.97}$	5788^{+378}_{-673}	5038^{+1100}_{-1003}	$0.737^{+0.701}_{-0.328}$
Alt.	-119 ± 28	$3.42^{+1.12}_{-1.06}$	5828^{+392}_{-631}	6645^{+1545}_{-1106}	$1.557^{+1.756}_{-0.692}$

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

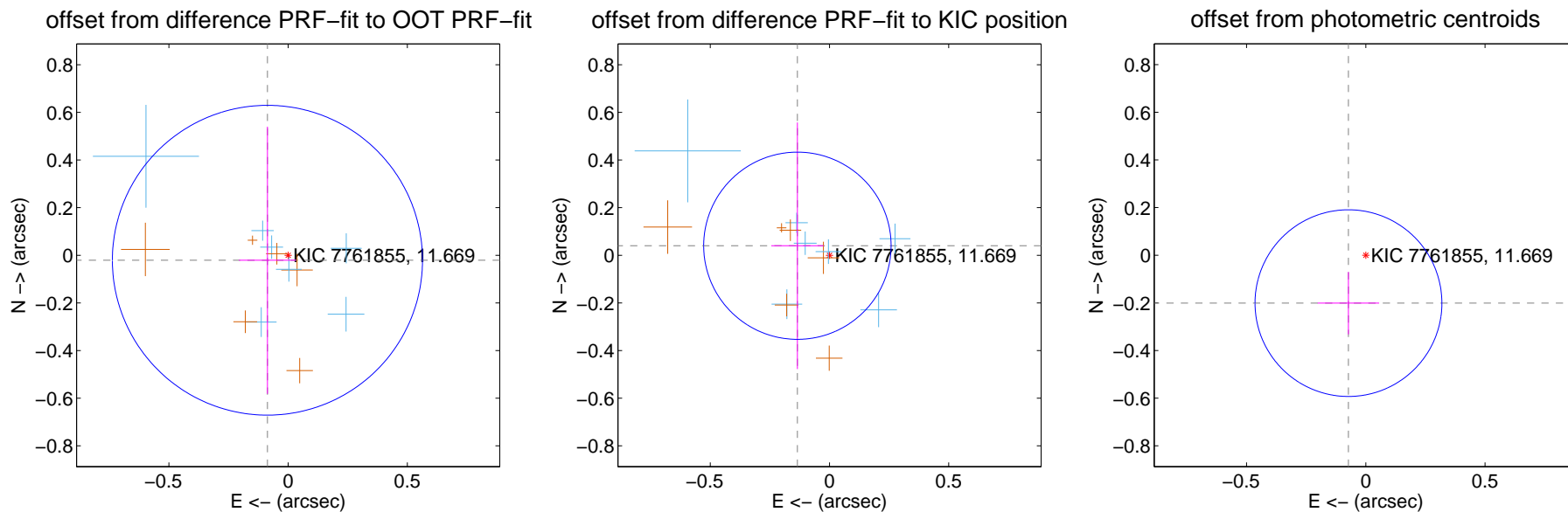
DV Centroid Data

Supplemental centroid analysis for 007761855-02. **Kepler magnitude: 11.67.** Transit SNR 11.16

There are 7 quarters with good PRF difference image offsets

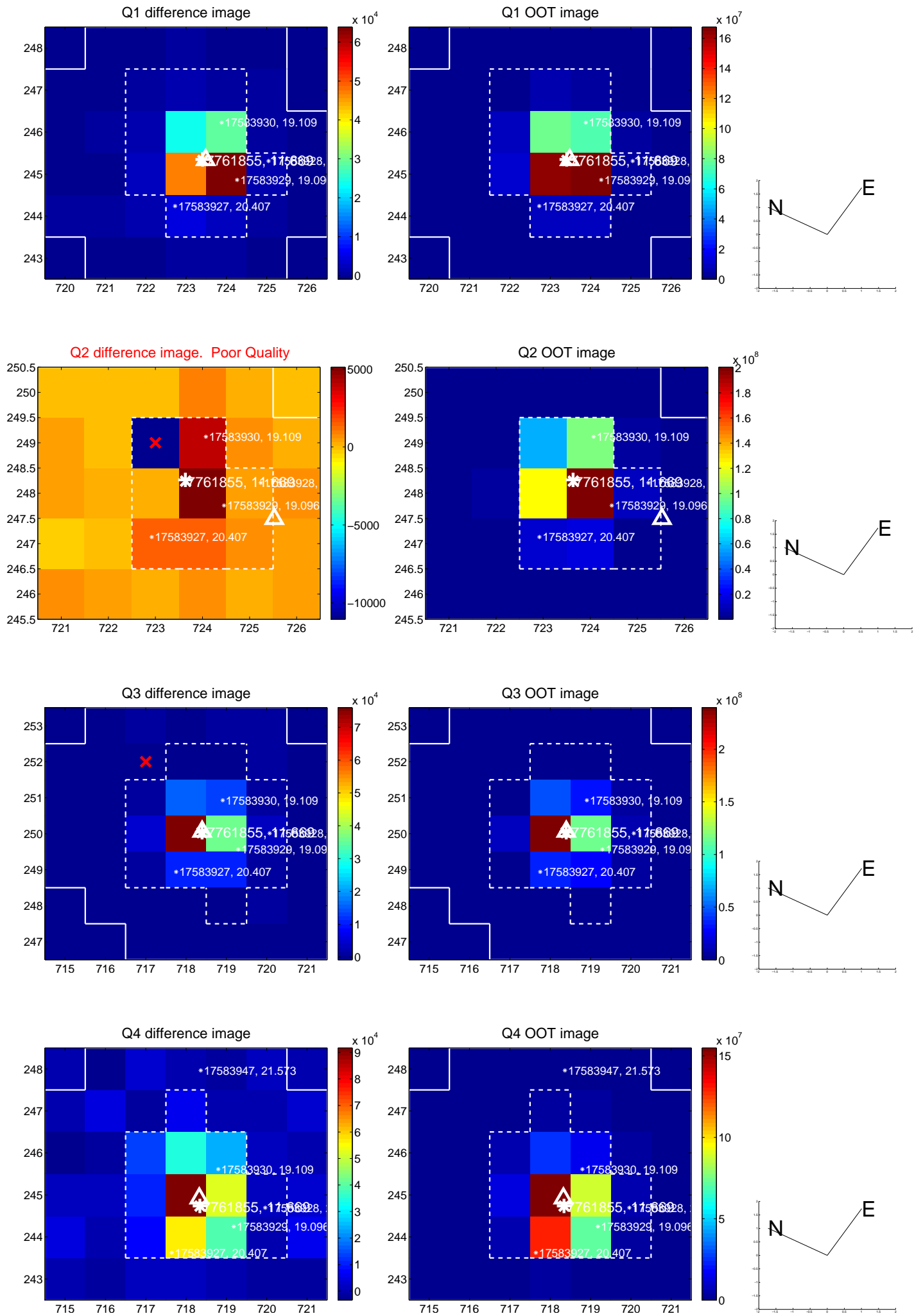
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.217	0.41	0.087 ± 0.119	-0.021 ± 0.561
PRF-fit source offset from KIC position	0.140 ± 0.131	1.07	0.135 ± 0.110	0.040 ± 0.518
photometric centroid source offset	0.21 ± 0.13	1.64	0.07 ± 0.13	-0.20 ± 0.13

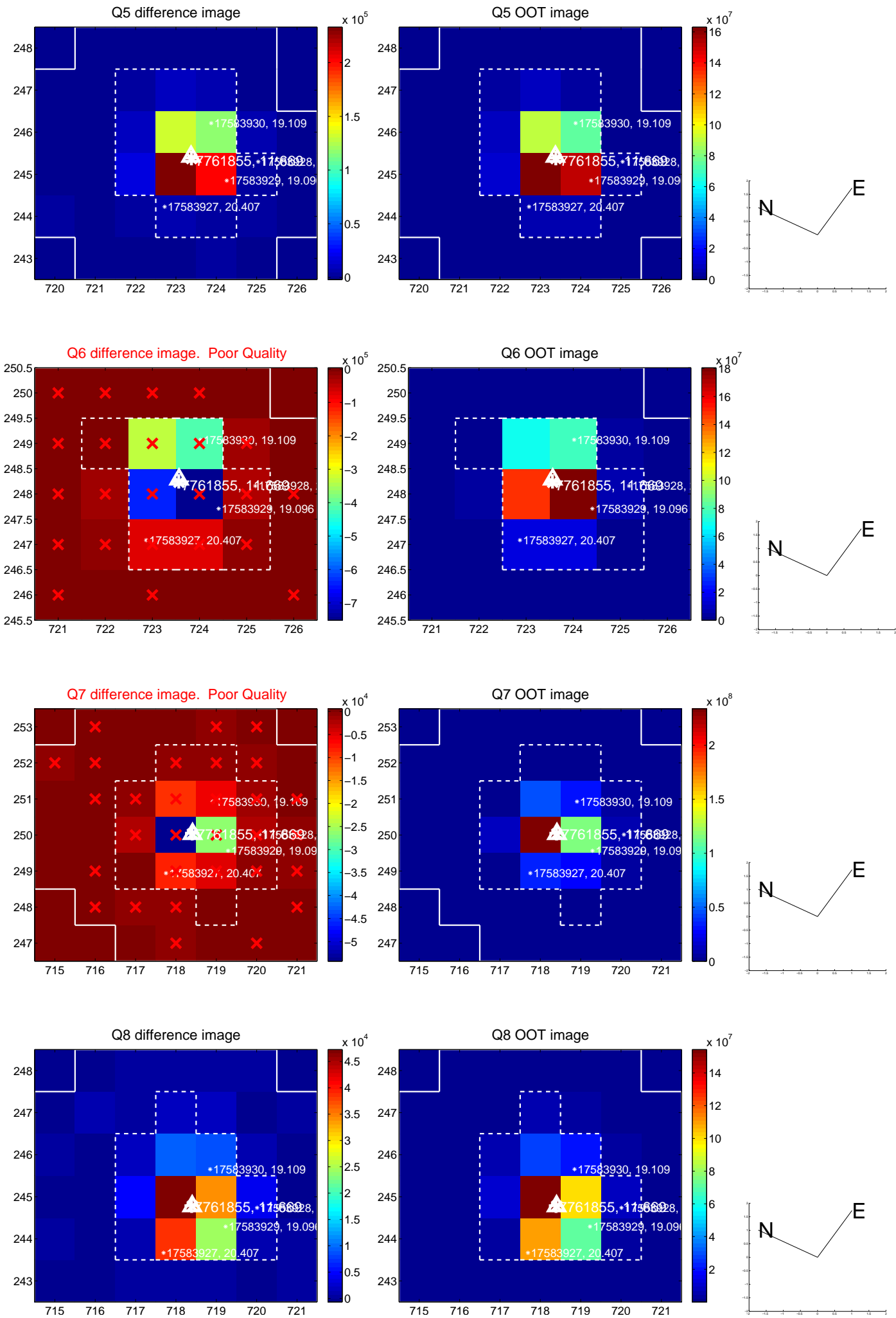


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

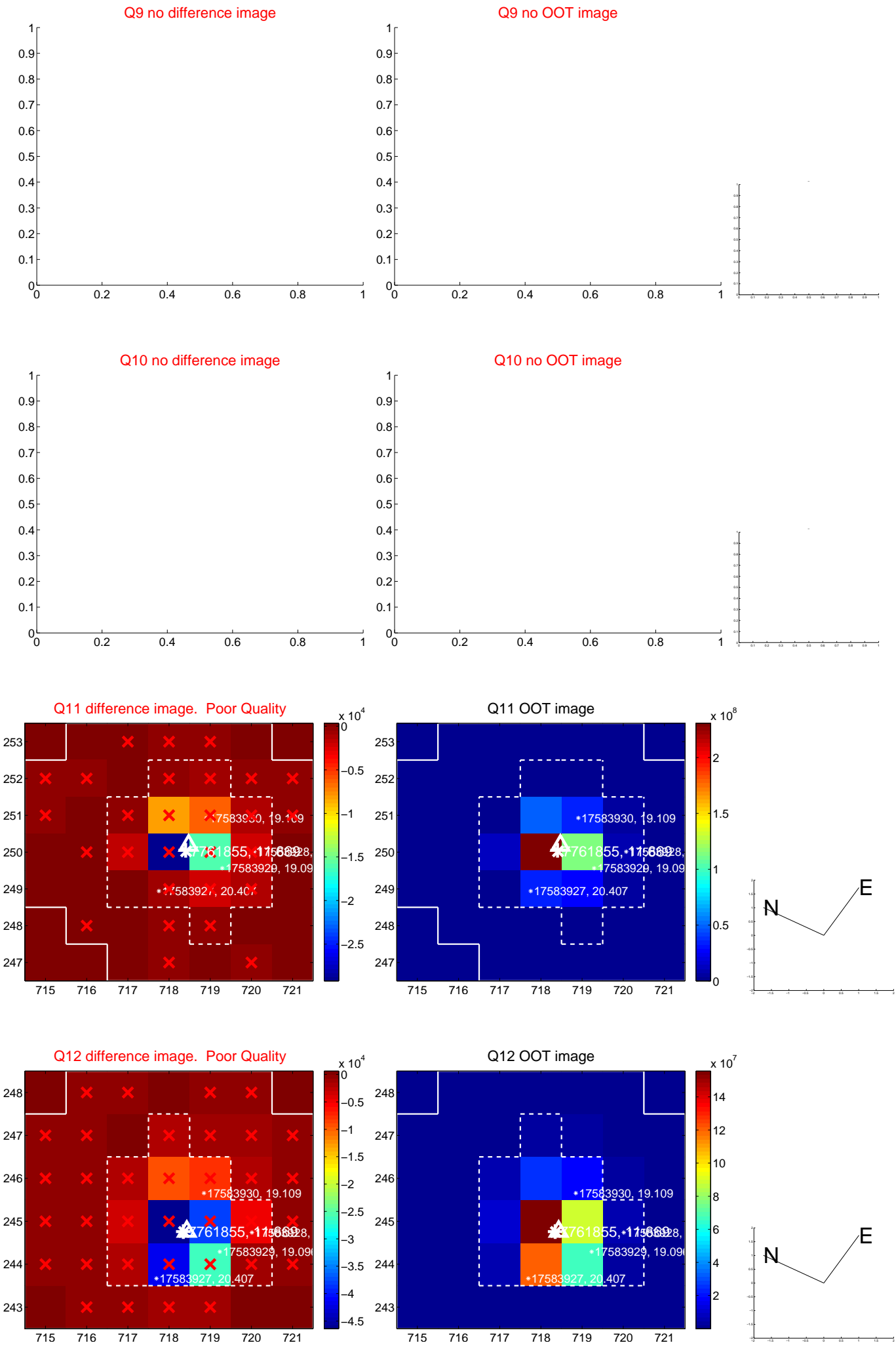
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



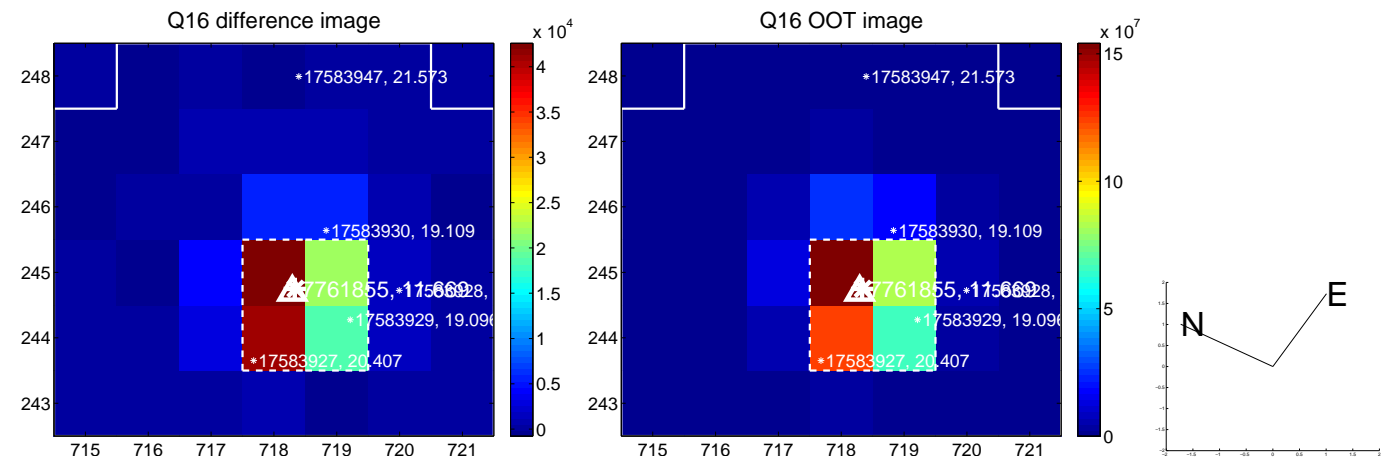
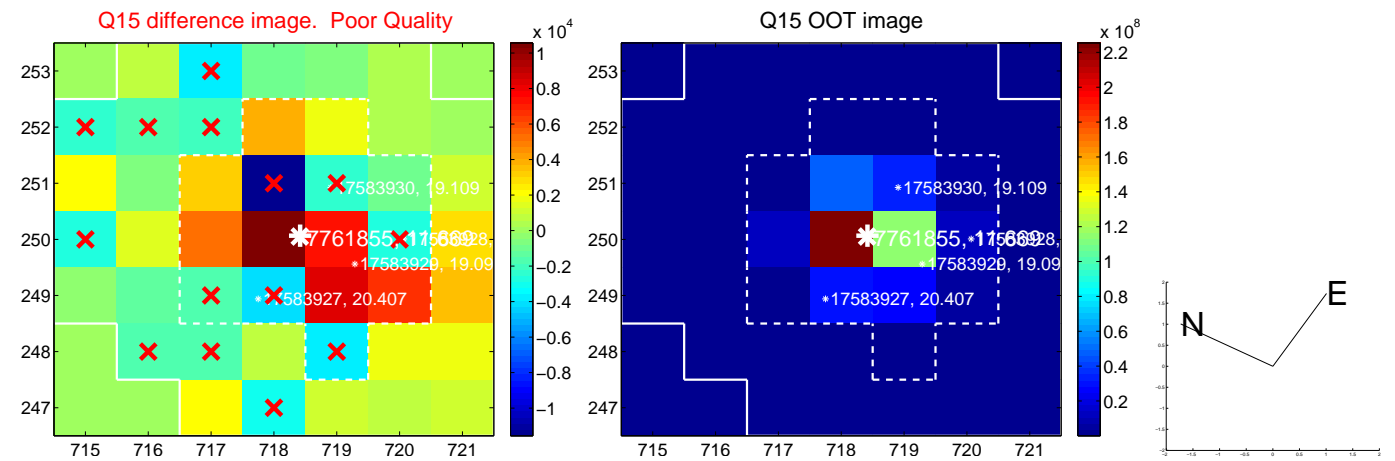
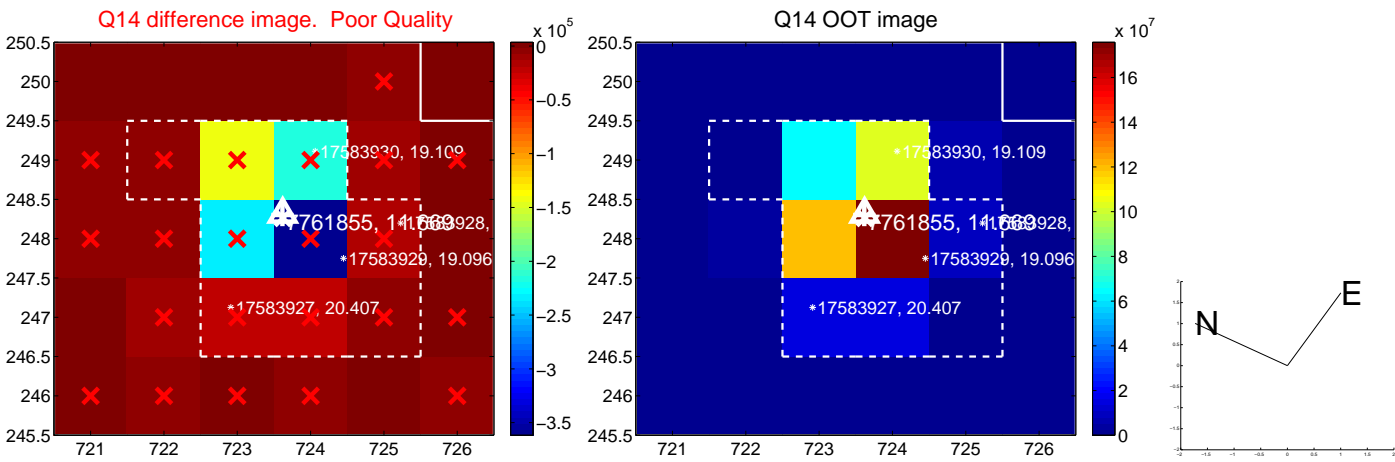
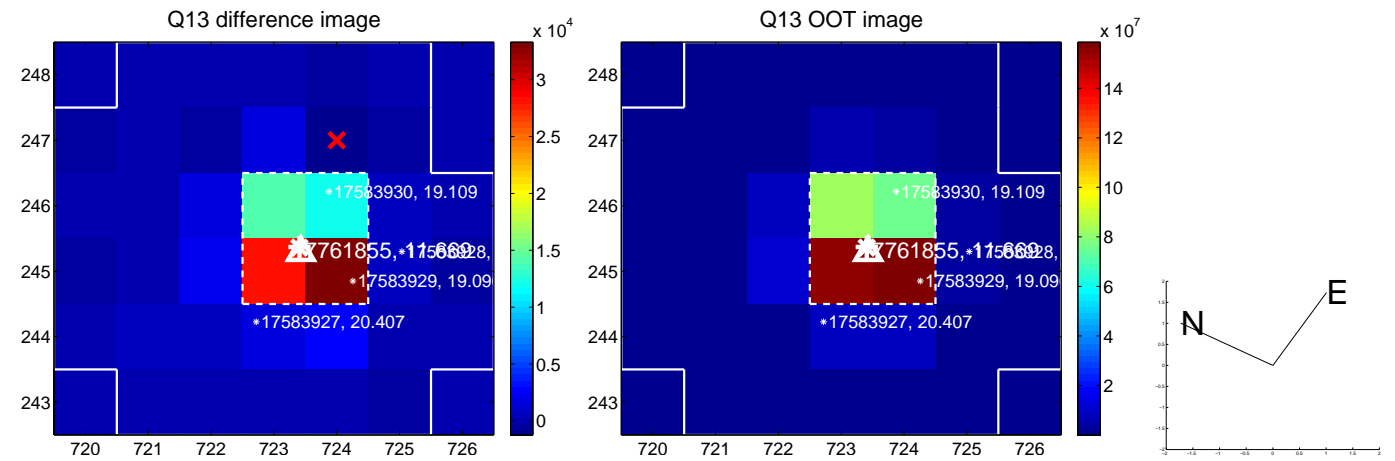
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



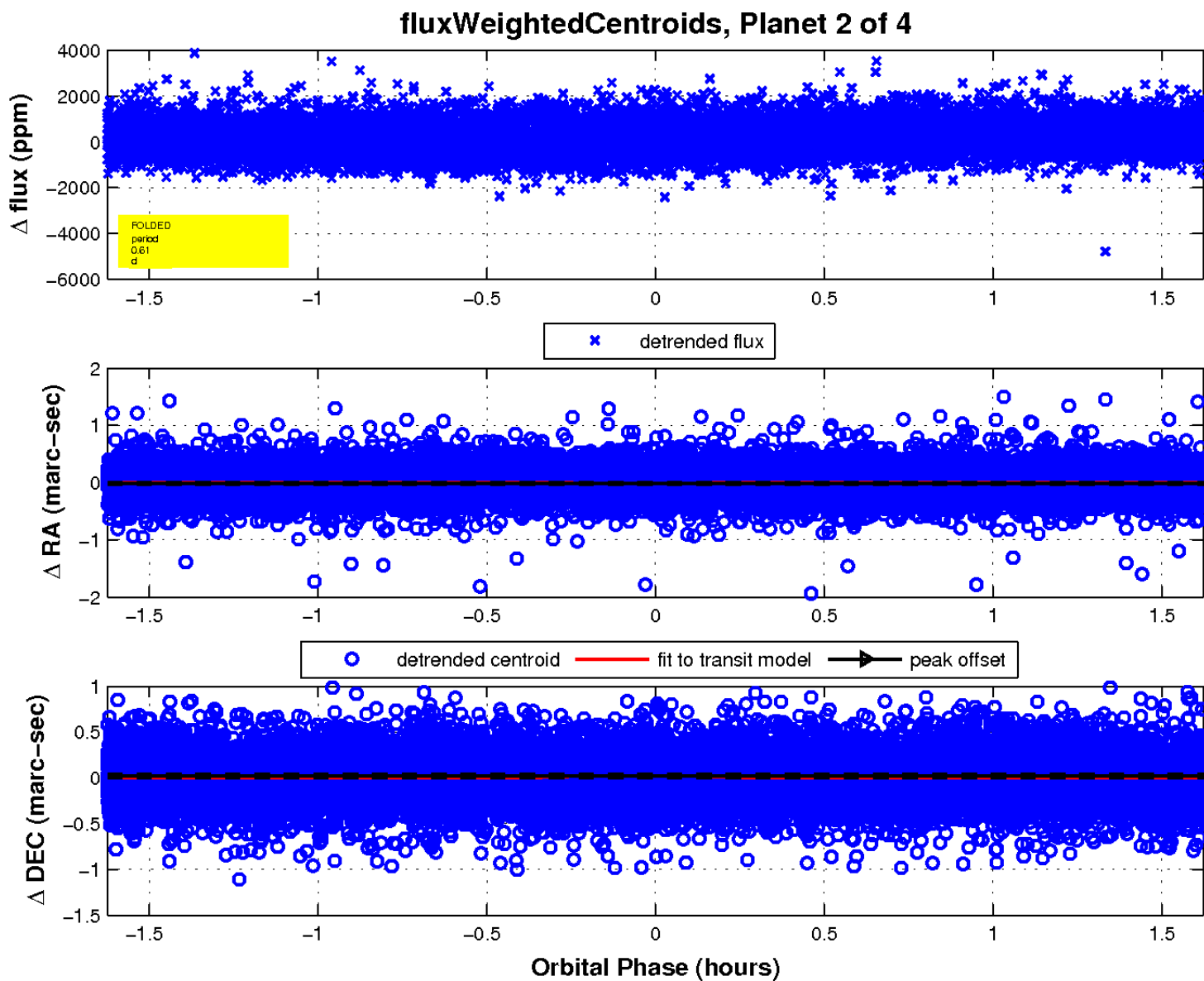
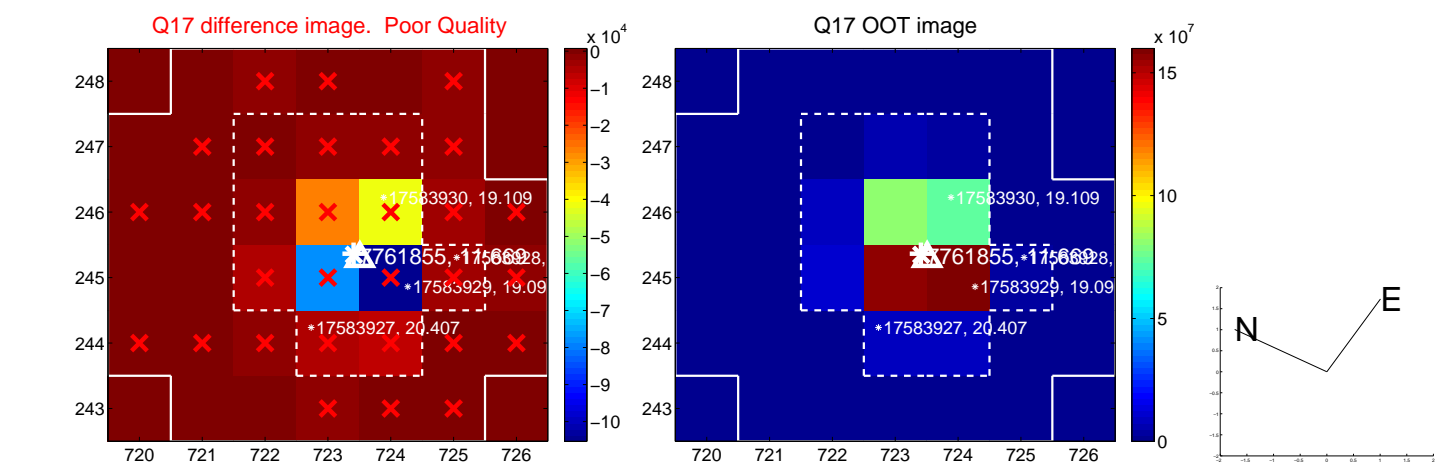
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

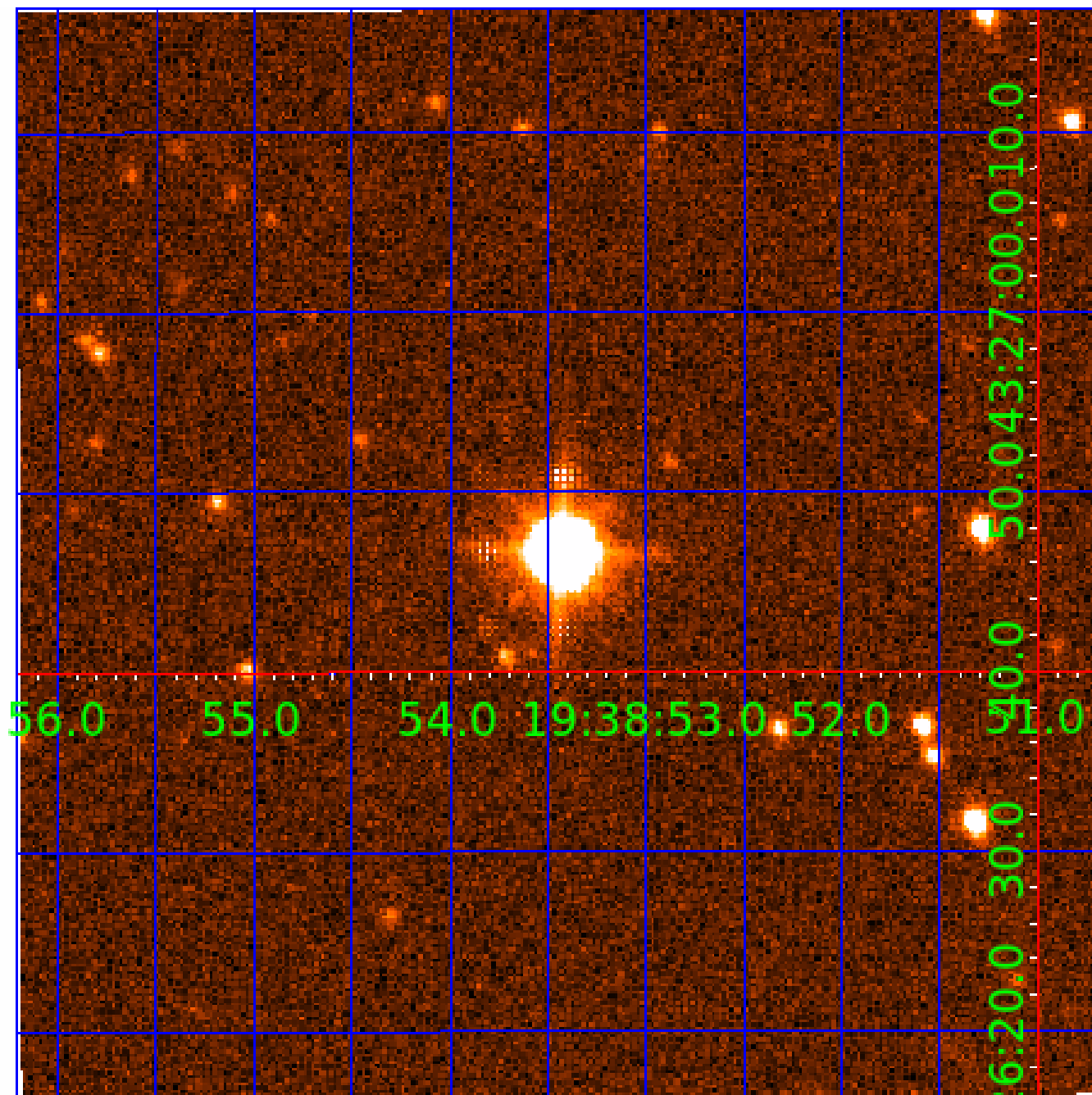


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007761855

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})
007761855-01	OBS	No	0.912748	131.791535	129.0	1.701	13.0	11.5	2.93	7350	3.38	45028.50
007761855-02	OBS	No	0.608495	131.652768	110.8	0.541	15.8	11.2	2.93	7350	3.69	77317.84
007761855-03	OBS	No	0.608495	131.938076	160.6	1.571	15.4	16.2	2.93	7350	4.31	77317.82
007761855-04	OBS	No	0.584245	131.554944	106.9	2.000	12.0	-1.0	2.93	7350	3.08	81625.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007761855-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007761855-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—HALO_GHOST
007761855-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
007761855-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

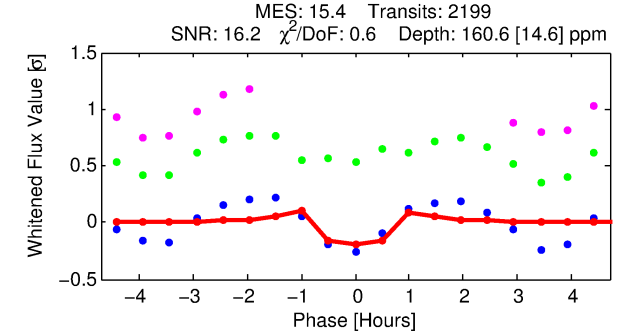
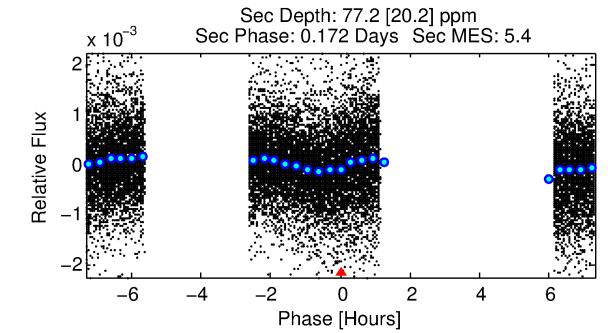
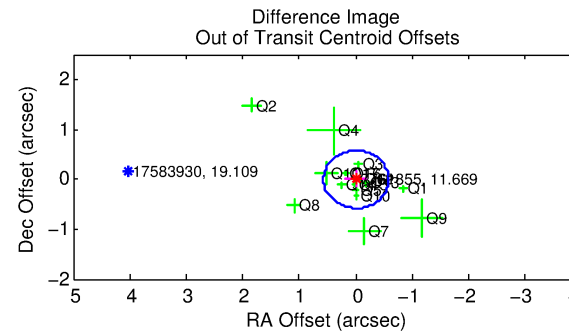
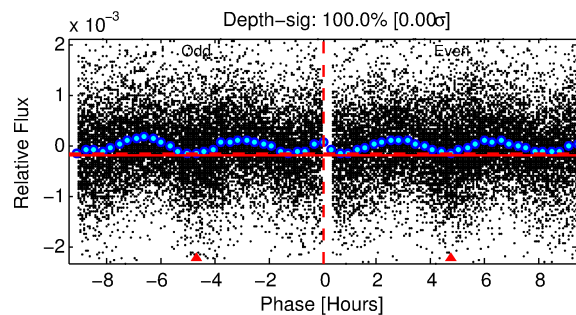
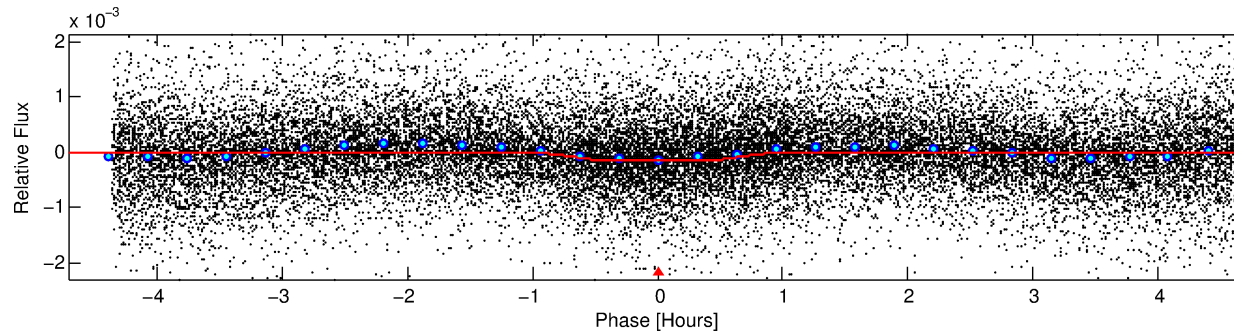
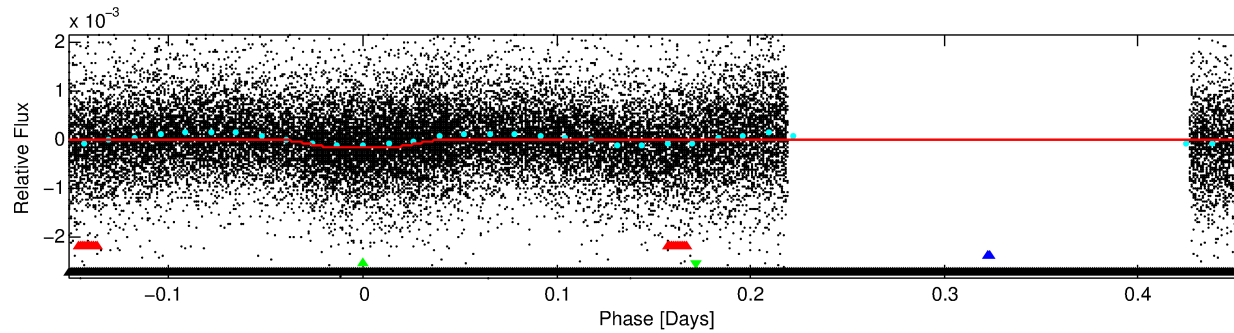
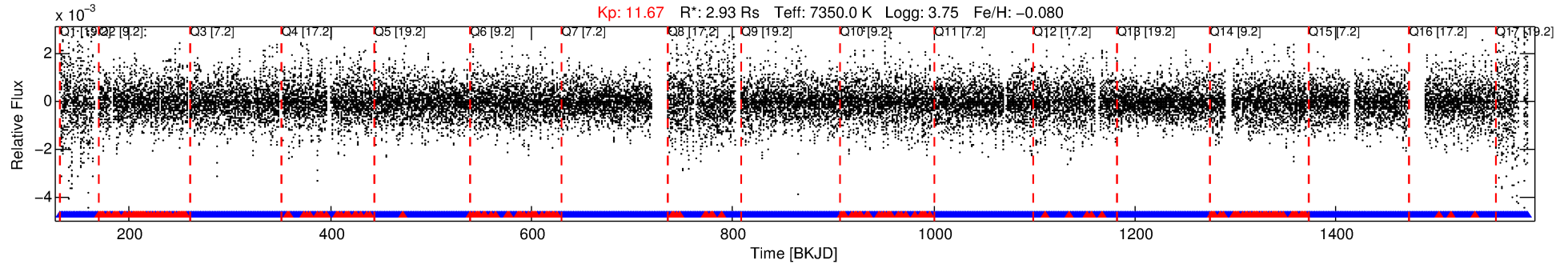
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007761855-03

No Significant Match Found

DV One-Page Summary

KIC: 7761855 Candidate: 3 of 4 Period: 0.608 d



DV Fit Results:

Period = 0.60849 [0.00001] d
Epoch = 131.9381 [0.0008] BKJD
 R_p/R^* = 0.0135 [0.0026]
 a/R^* = 1.67 [1.26]
 b = 0.90 [0.25]
 Seff = 77317.82 [54079.14]
 T_{eq} = 4252 [744] K
 R_p = 4.31 [2.06] R_e
 a = 0.0170 [0.0072] AU
 A_g = 0.66 [0.54] [-0.62 σ]
 T_{eff} = 5932 [729] K [1.61 σ]

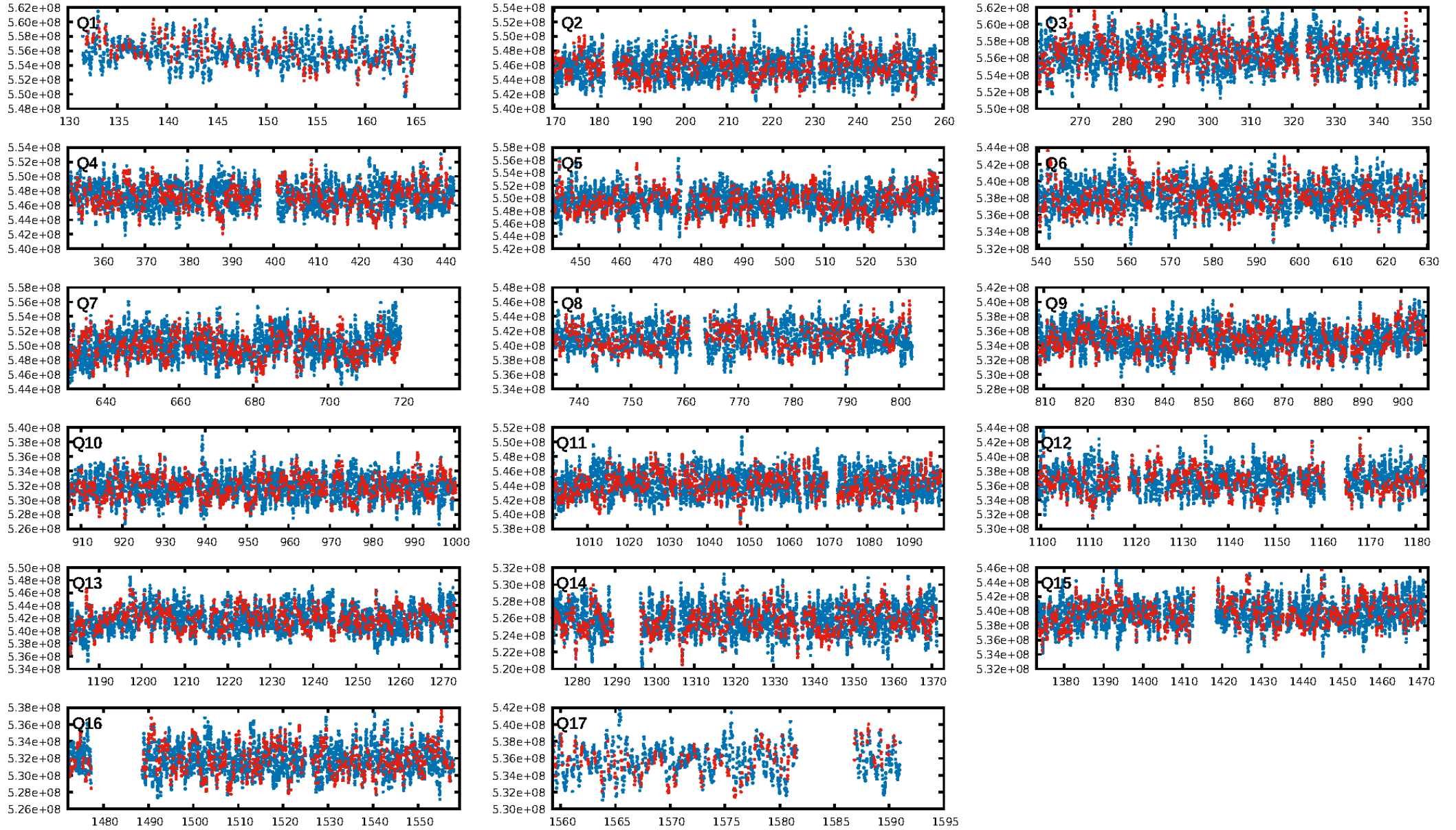
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 99.8% [3.15 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [1899/2100]
GhostDiagnostic-chr: 1.48
Centroid-sig: 4.5%
Centroid-so: 0.051 arcsec [0.98 σ]
OotOffset-rm: 0.006 arcsec [0.03 σ]
KicOffset-rm: 0.061 arcsec [0.32 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.59 [10/17]

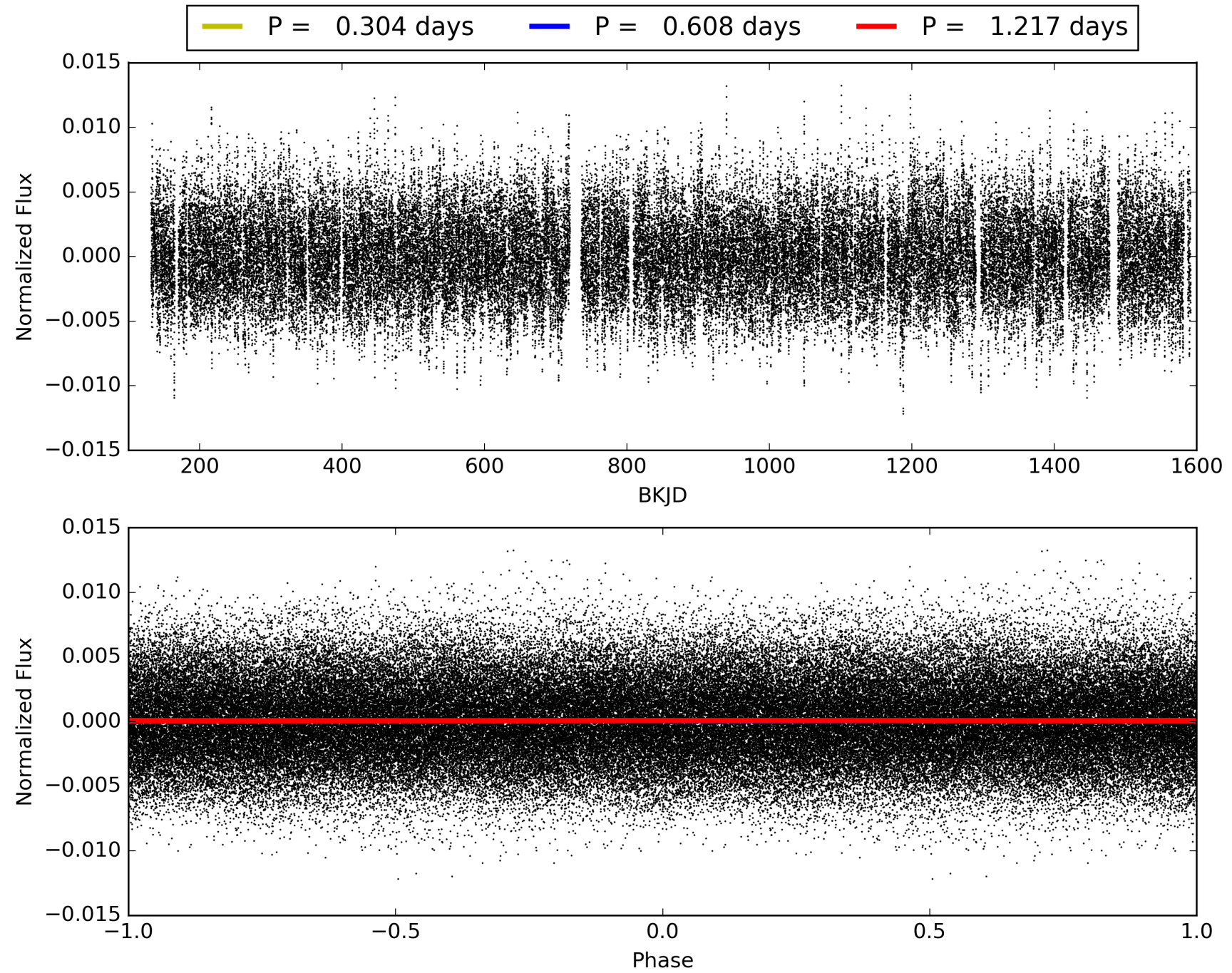
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:21:32 Z

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

TCE 007761855-03, PDC Light Curves

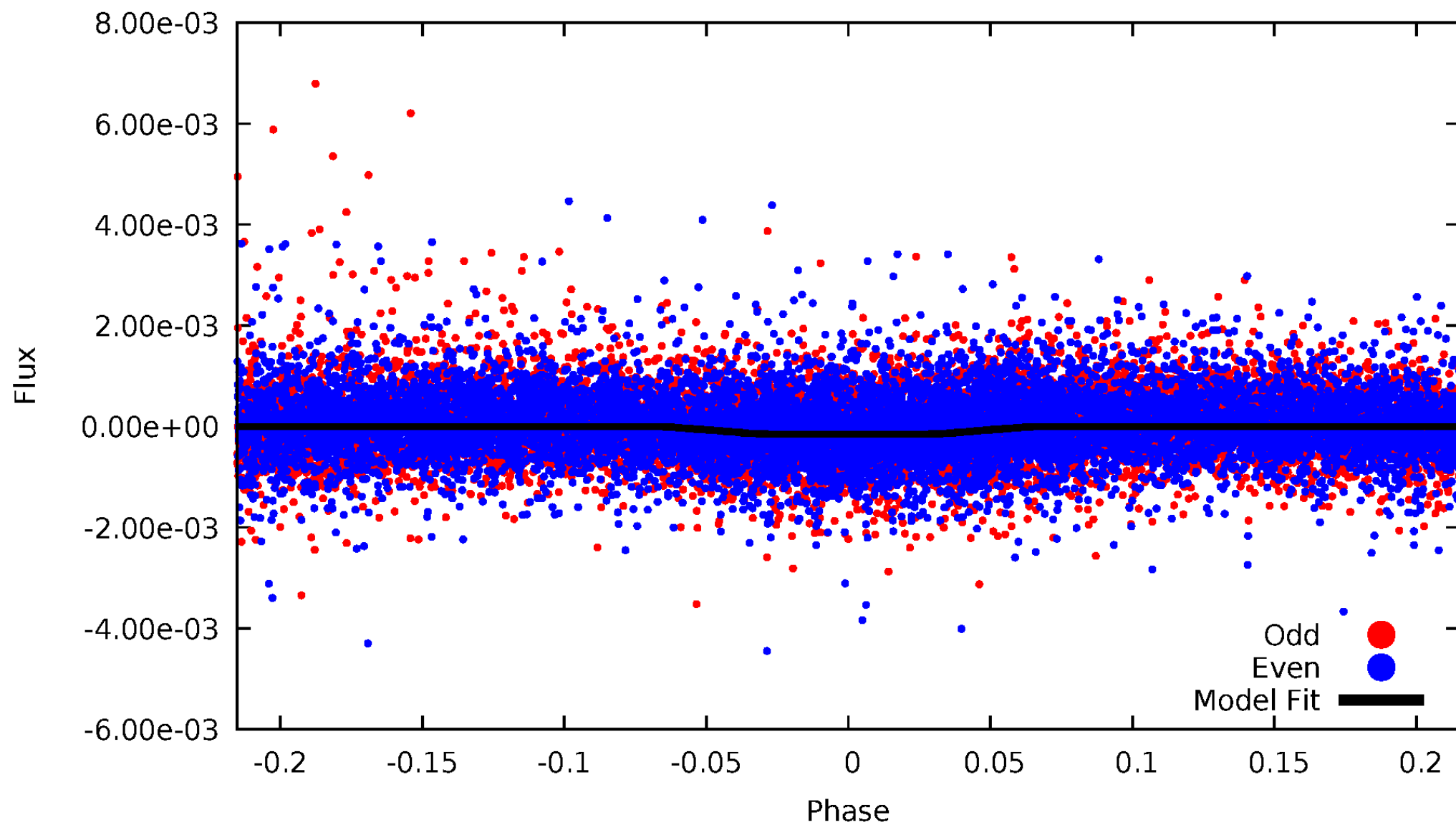


TCE 007761855-03



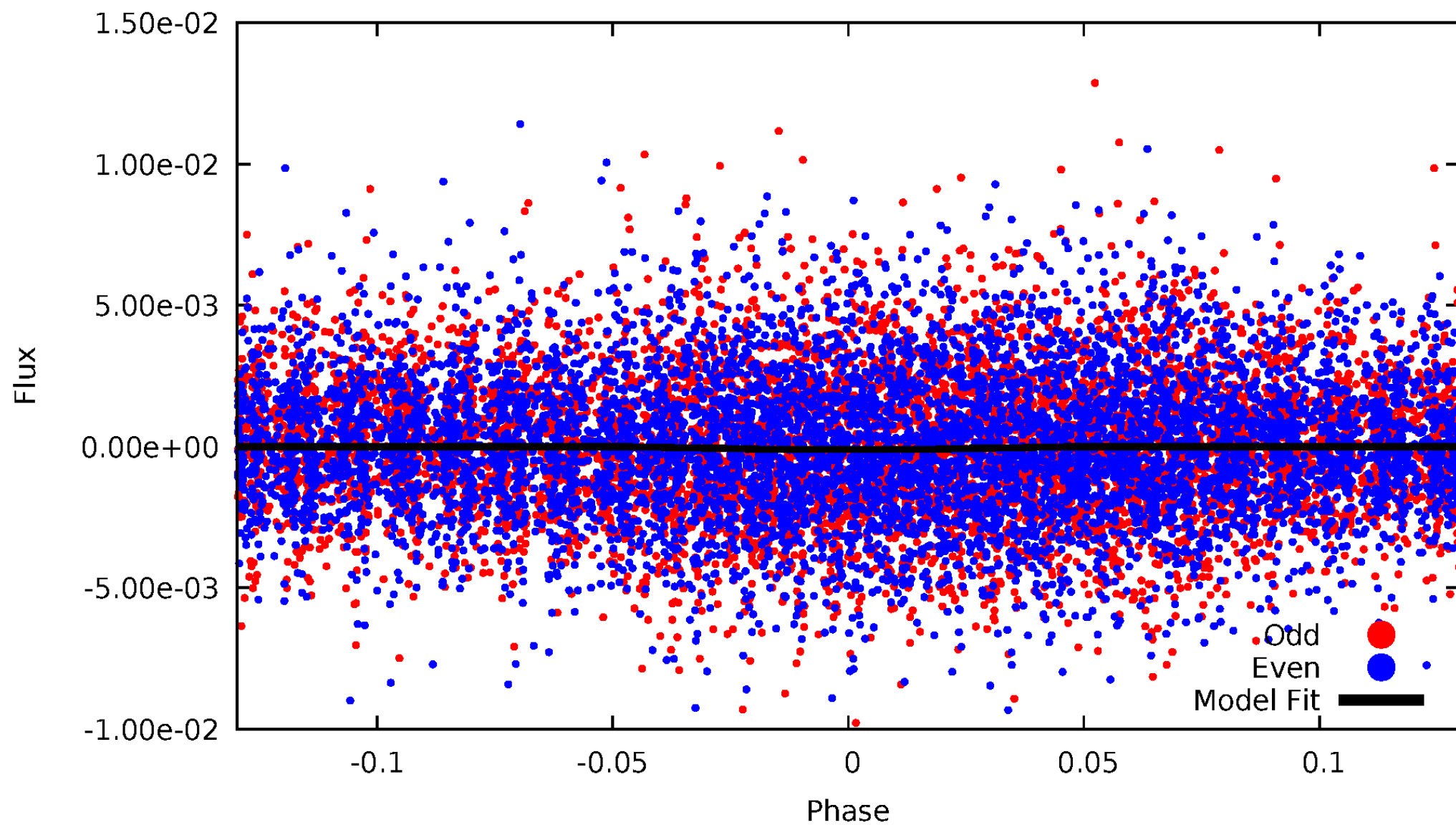
DV Odd/Even

TCE 007761855-03



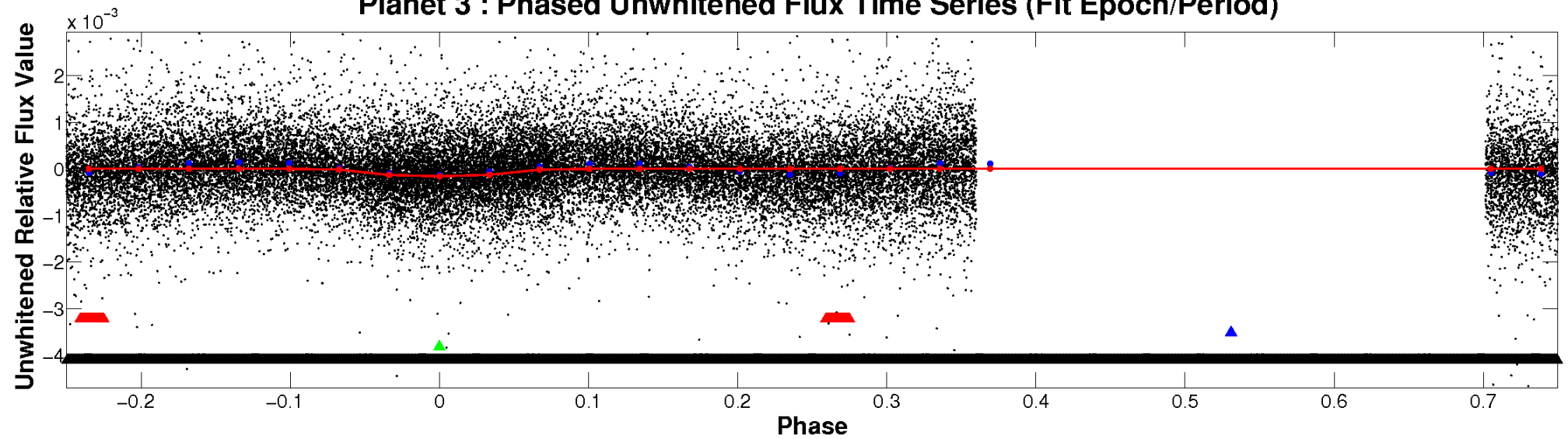
ALT Odd/Even

TCE 007761855-03

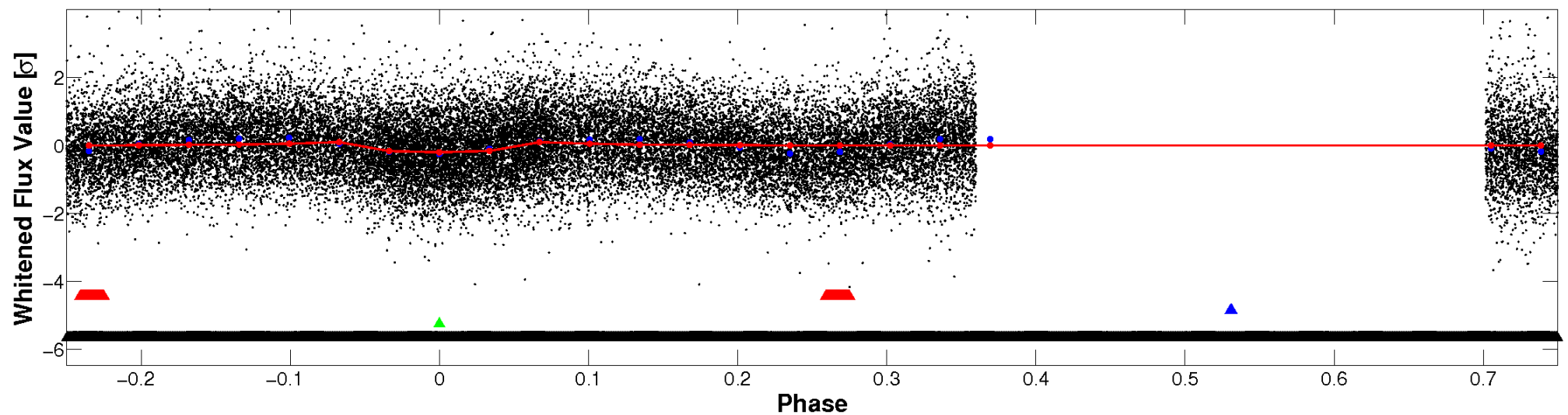


Non-Whitened Vs. Whitened Light Curve

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

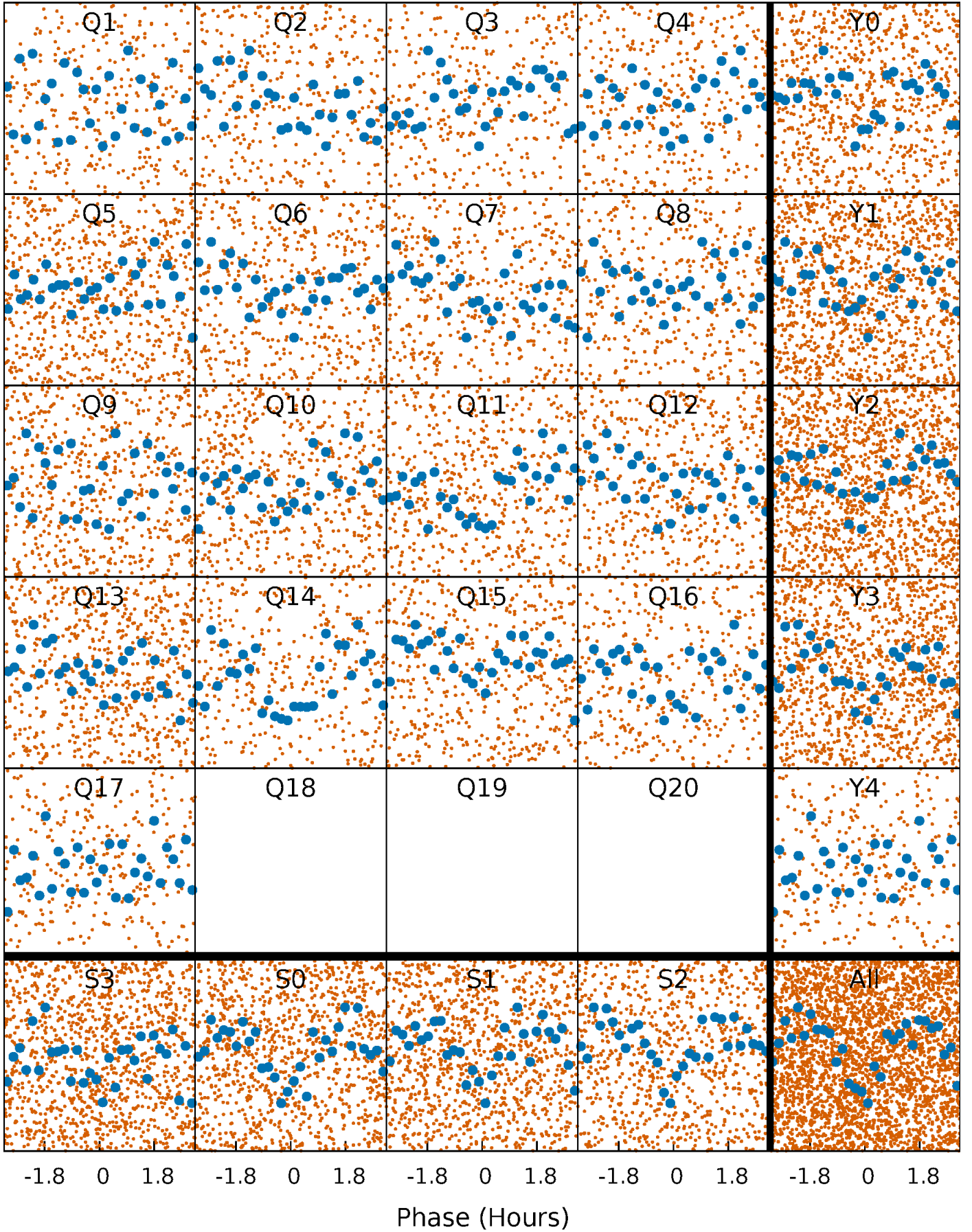


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



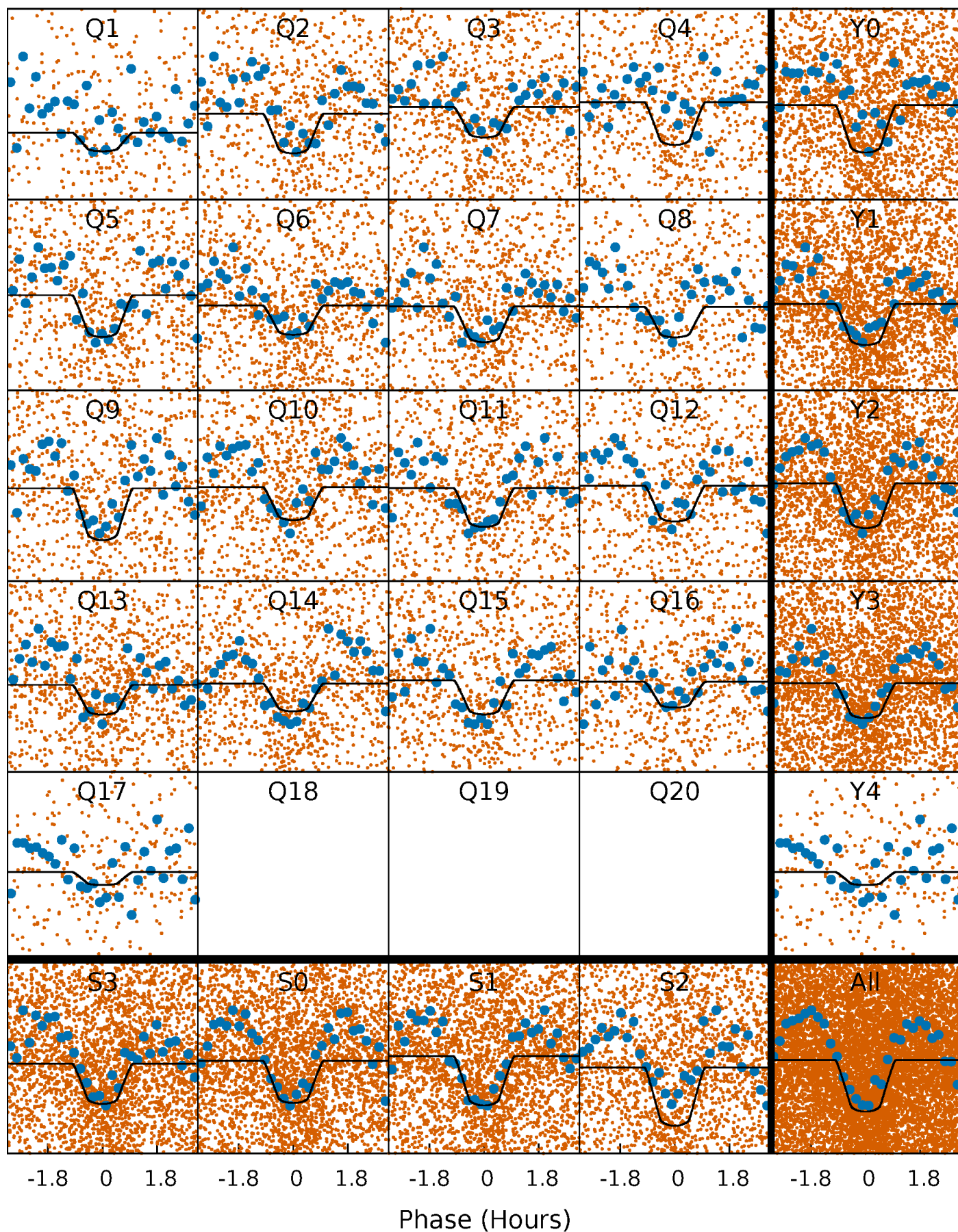
PDC Quarter-Phased Transit Curves

TCE 007761855-03 P= 0.608495 Days $T_0=131.938076$ (BKJD)



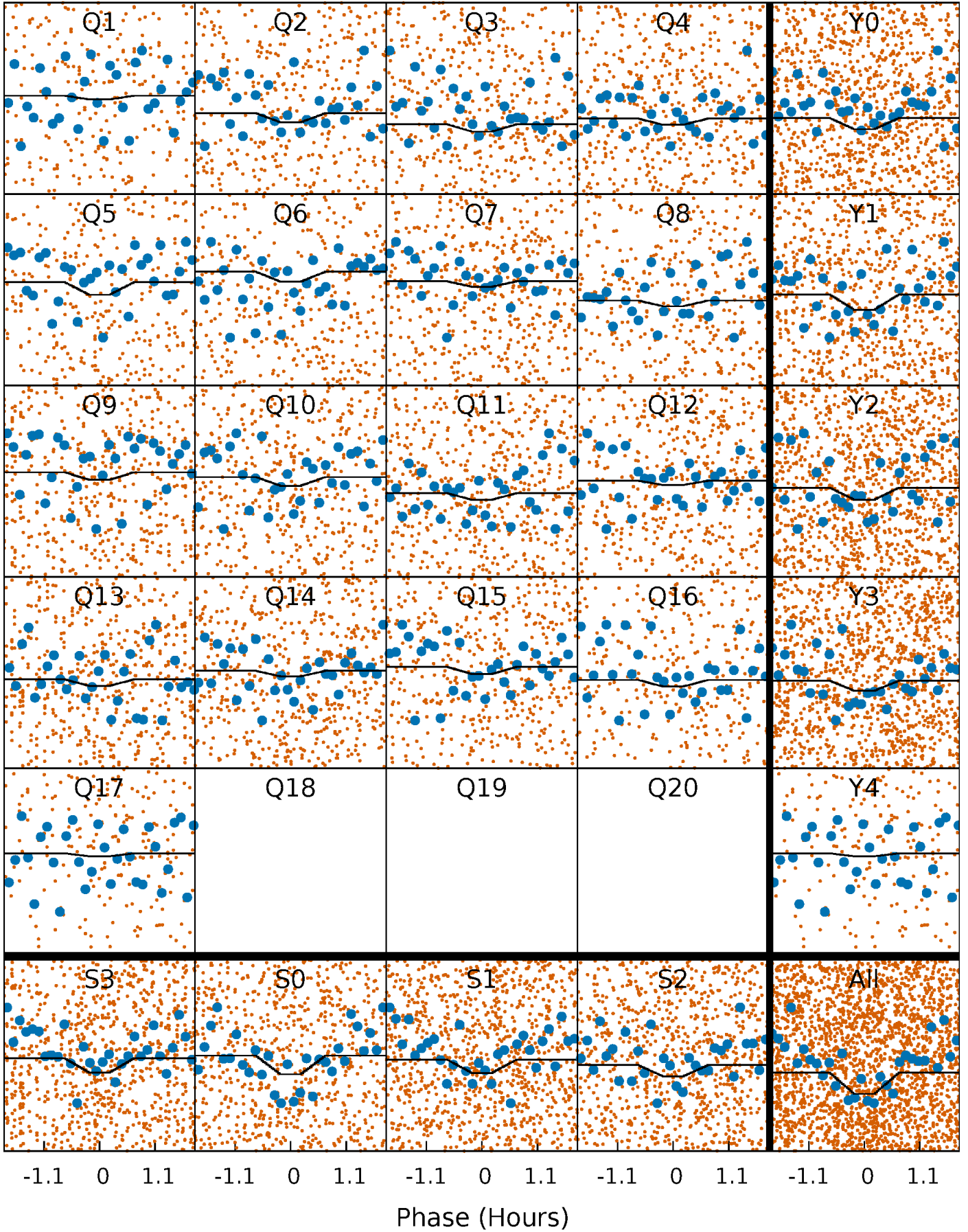
DV Quarter-Phased Transit Curves

TCE 007761855-03 P= 0.608495 Days $T_0=131.938076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

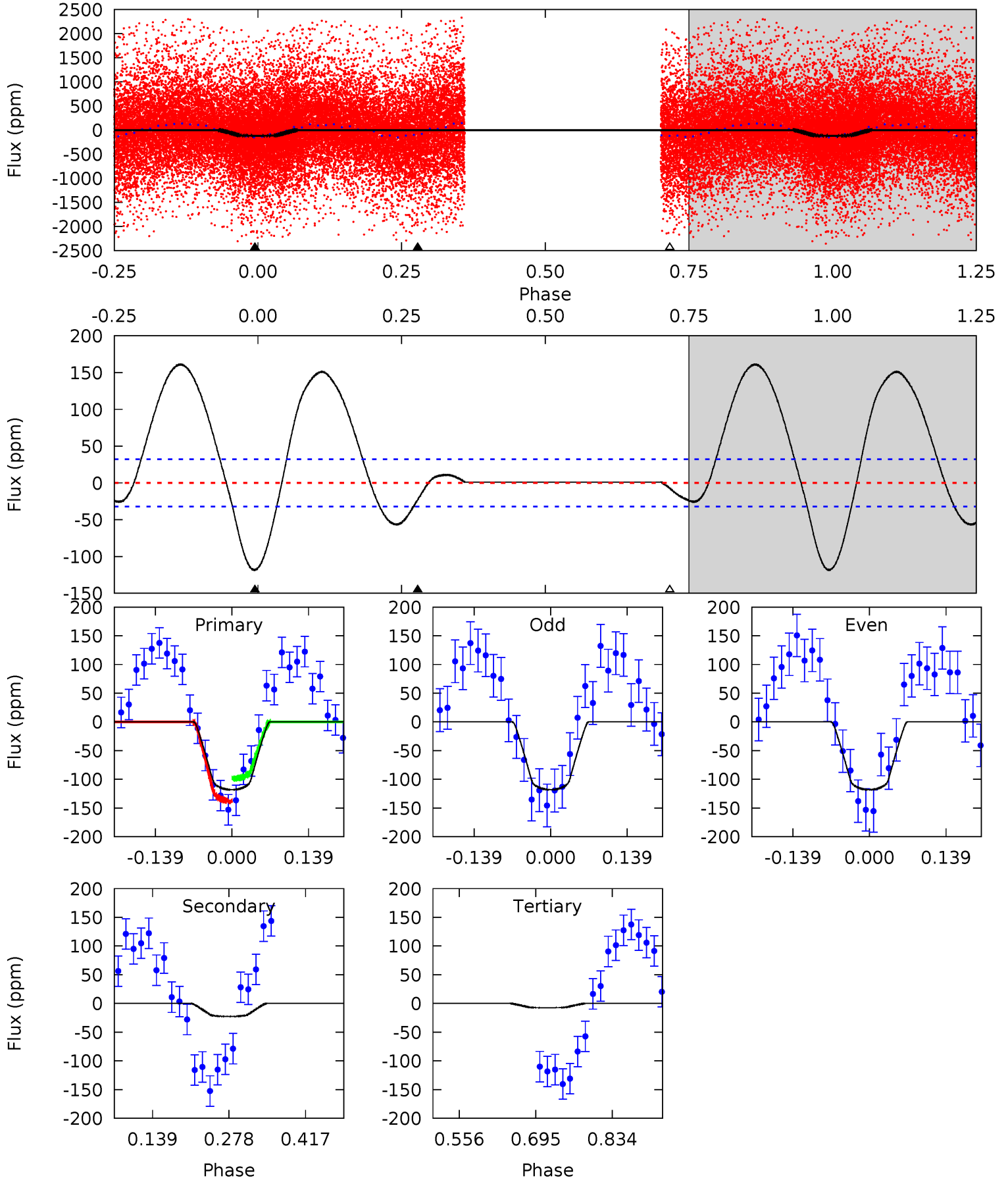
TCE 007761855-03 P= 0.608490 Days $T_0=131.939809$ (BKJD)



DV Model-Shift Uniqueness Test

007761855-03, P = 0.608495 Days, E = 131.329581 Days

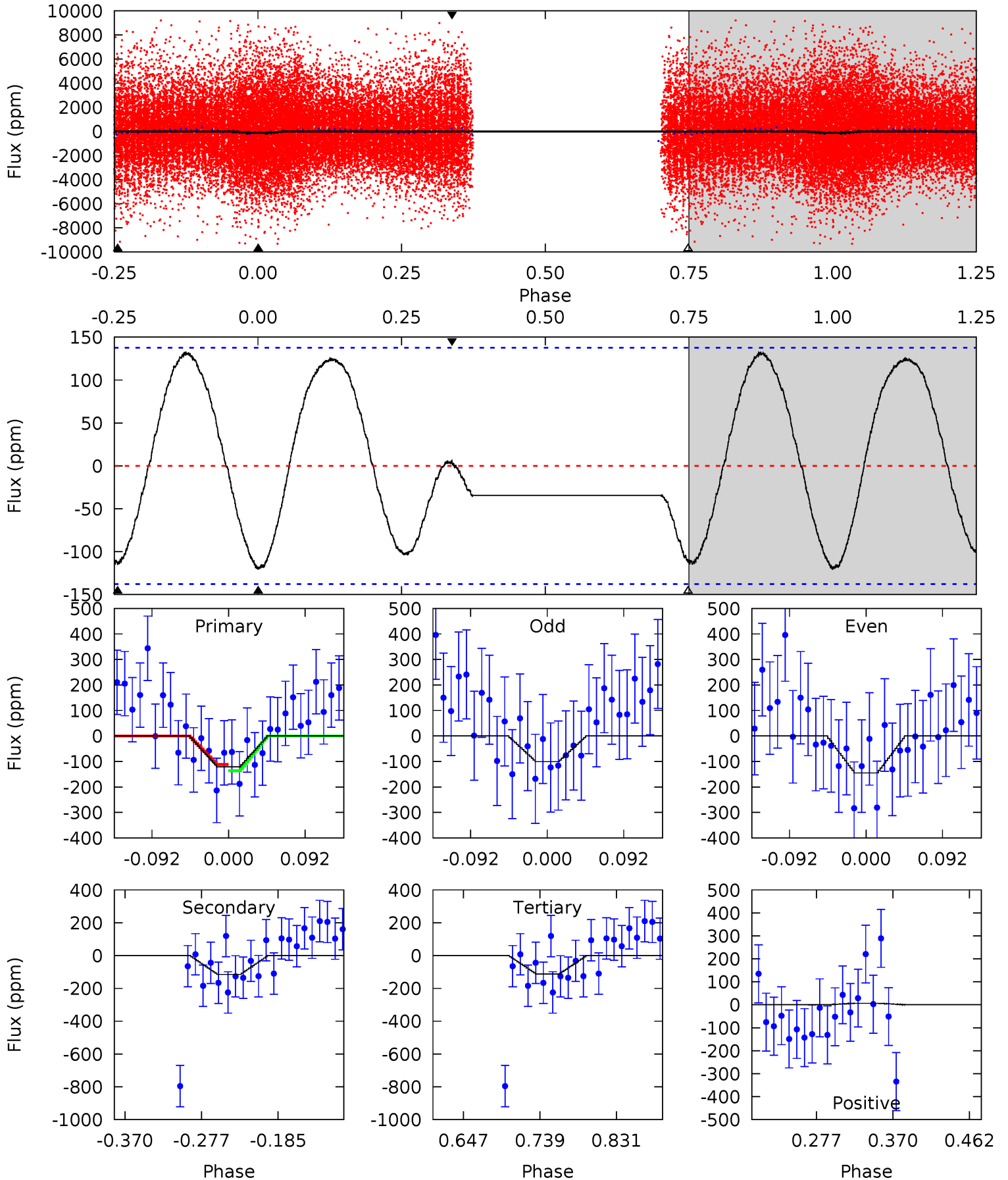
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	3.16	1.05	0	4.50	1.48	8.86	15.4	16.5	2.11	3.16	0.01	0.91	0.58	2.96



Alt Model-Shift Uniqueness Test

007761855-03, P = 0.608490 Days, E = 131.331319 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.02	3.82	3.75	0.22	4.58	1.68	2.82	0.27	3.80	0.07	3.60	0.73	0.40	0.52	0.41



Stellar Parameters For KIC 007761855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7350^{+228}_{-304}	$3.755^{+0.400}_{-0.100}$	$-0.080^{+0.200}_{-0.350}$	$2.930^{+0.427}_{-1.280}$	$1.780^{+0.194}_{-0.389}$	$0.100^{+0.336}_{-0.030}$
	+3%/-4%	+11%/-3%	+250%/-438%	+15%/-44%	+11%/-22%	+337%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007761855-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 7	$4.09^{+1.06}_{-1.02}$	5850^{+384}_{-592}	-3752^{+7519}_{-747}	$0.216^{+0.187}_{-0.098}$
Alt.	-115 ± 30	$3.05^{+0.94}_{-0.99}$	5828^{+374}_{-644}	7162^{+1752}_{-1134}	$1.991^{+2.195}_{-0.872}$

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

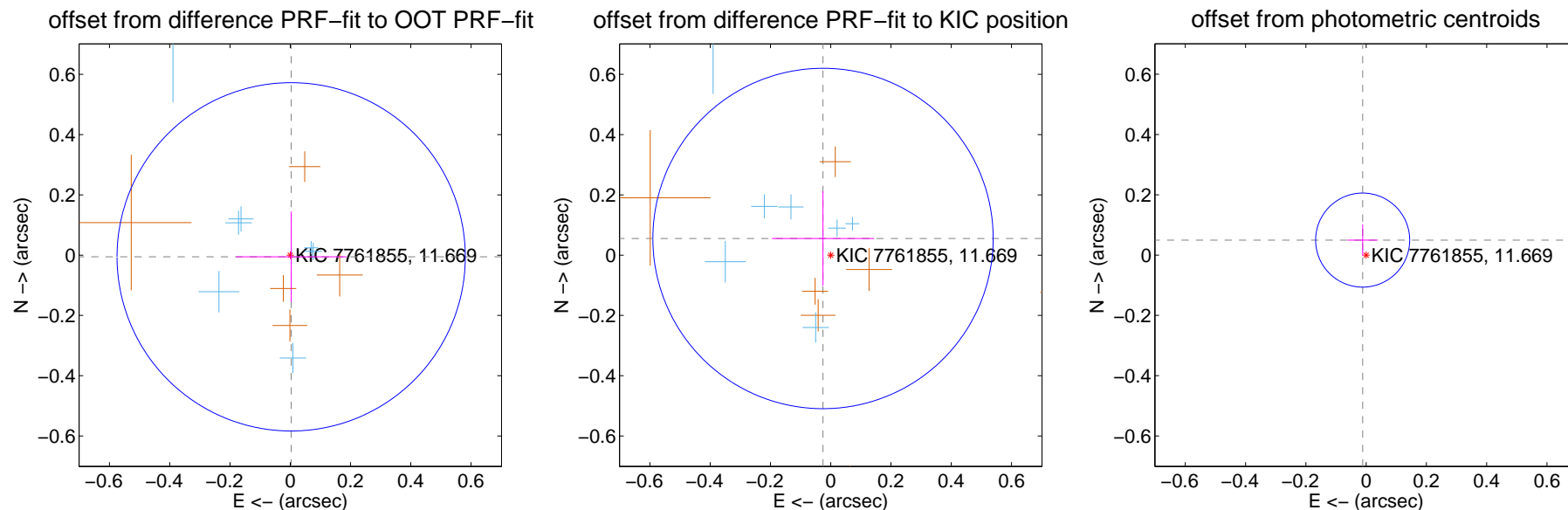
DV Centroid Data

Supplemental centroid analysis for 007761855-03. **Kepler magnitude: 11.67.** Transit SNR 16.15

There are 10 quarters with good PRF difference image offsets

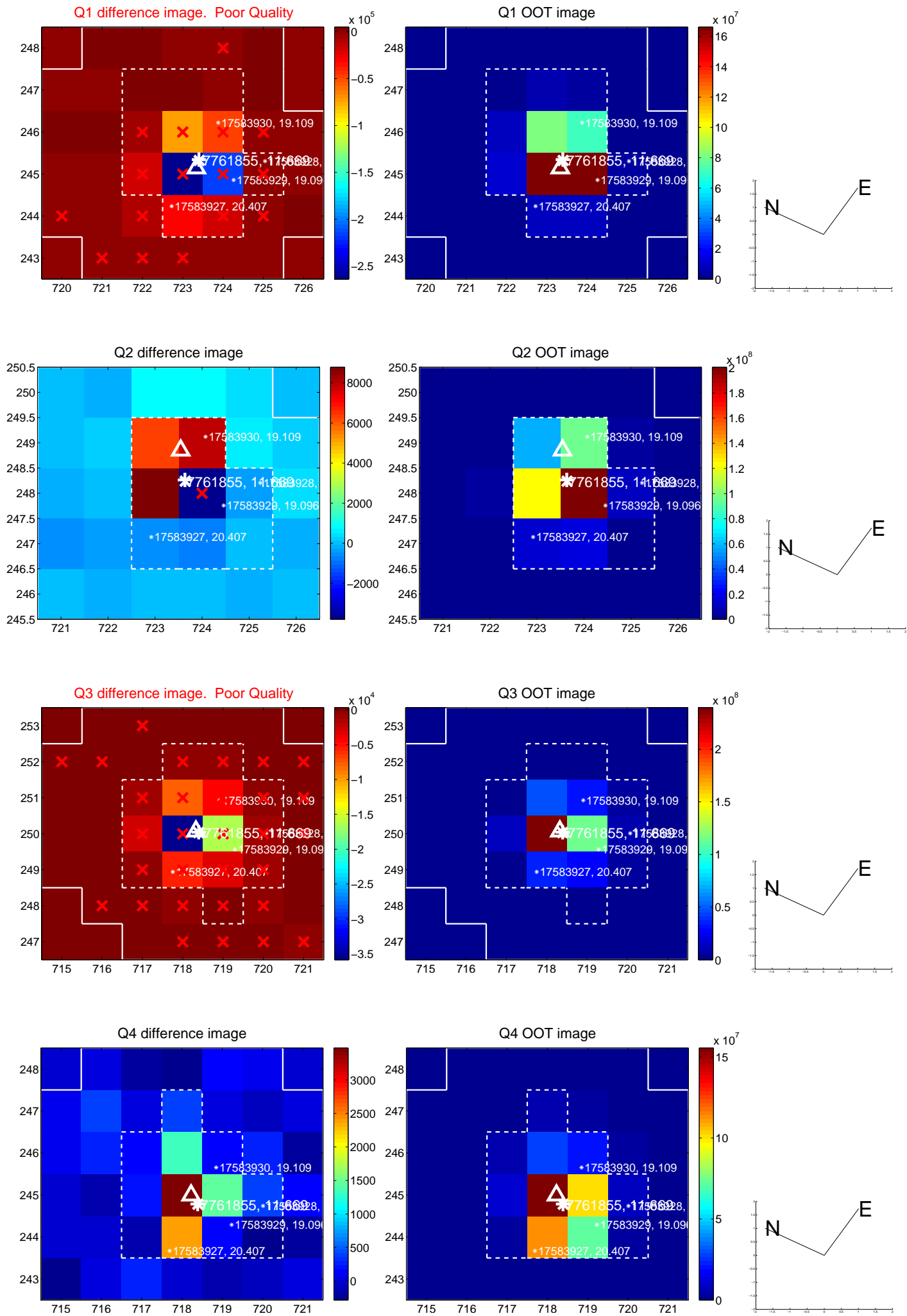
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.193	0.03	-0.003 ± 0.184	-0.006 ± 0.150
PRF-fit source offset from KIC position	0.061 ± 0.188	0.32	0.026 ± 0.170	0.055 ± 0.157
photometric centroid source offset	0.05 ± 0.05	0.98	0.01 ± 0.05	0.05 ± 0.05

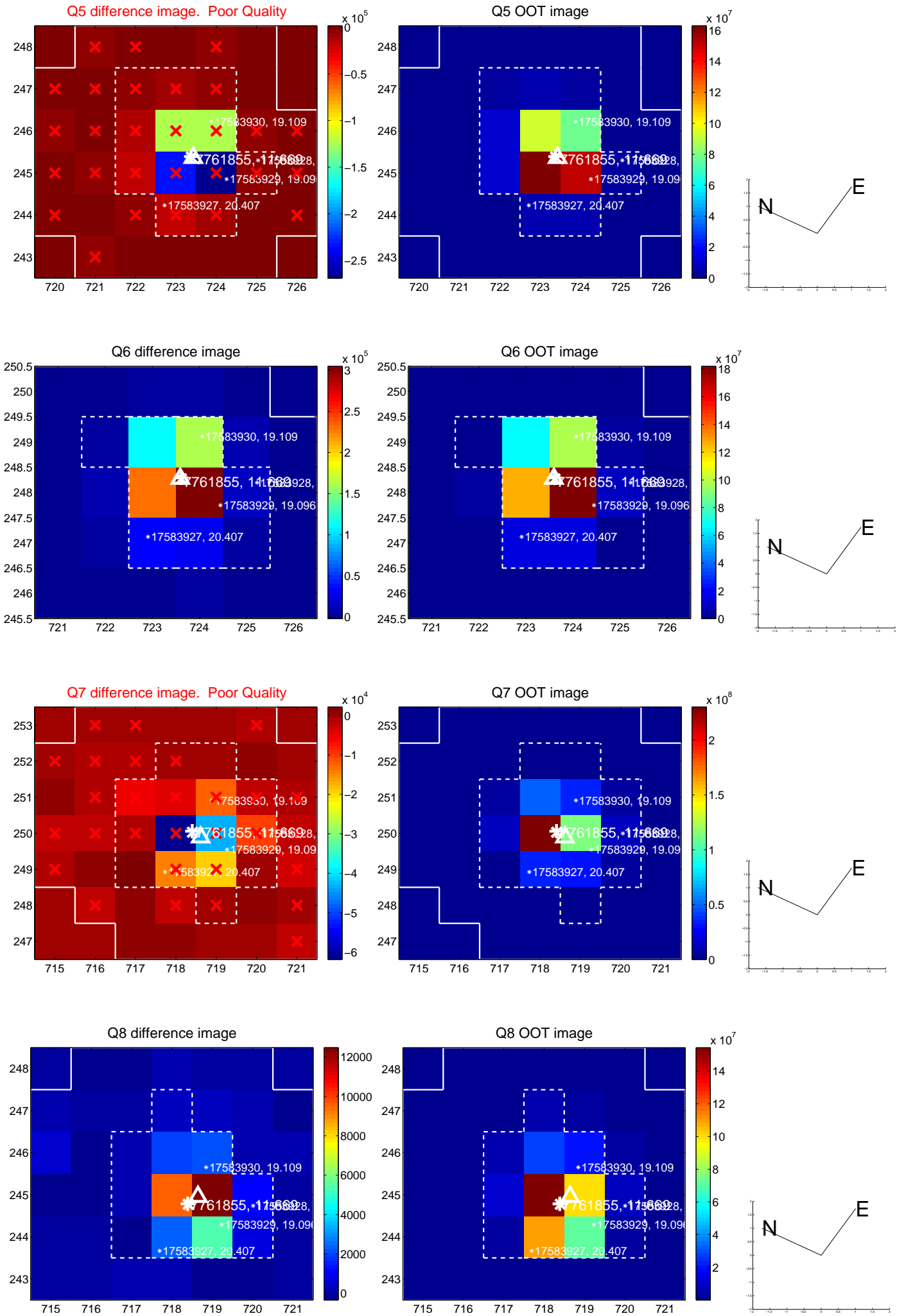


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

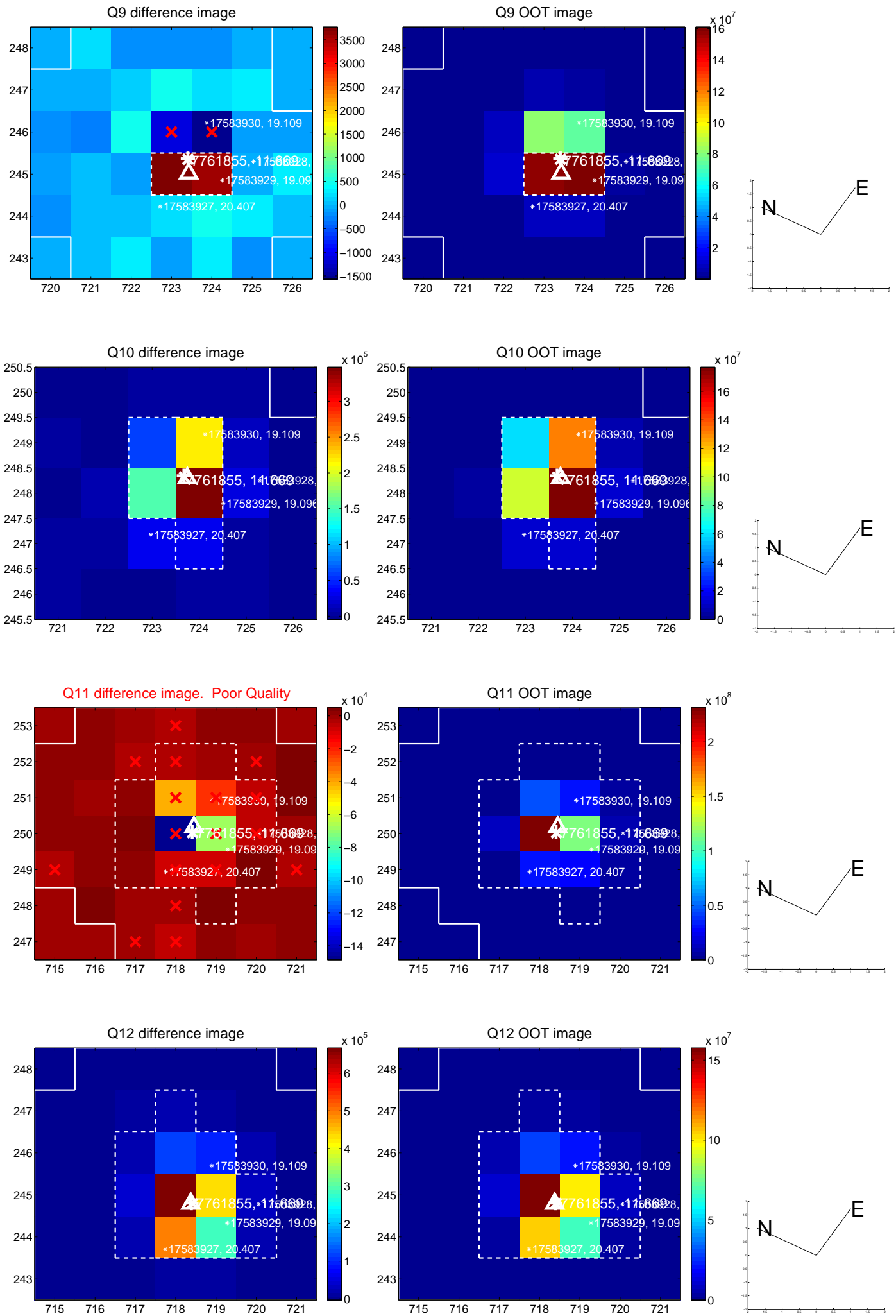
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



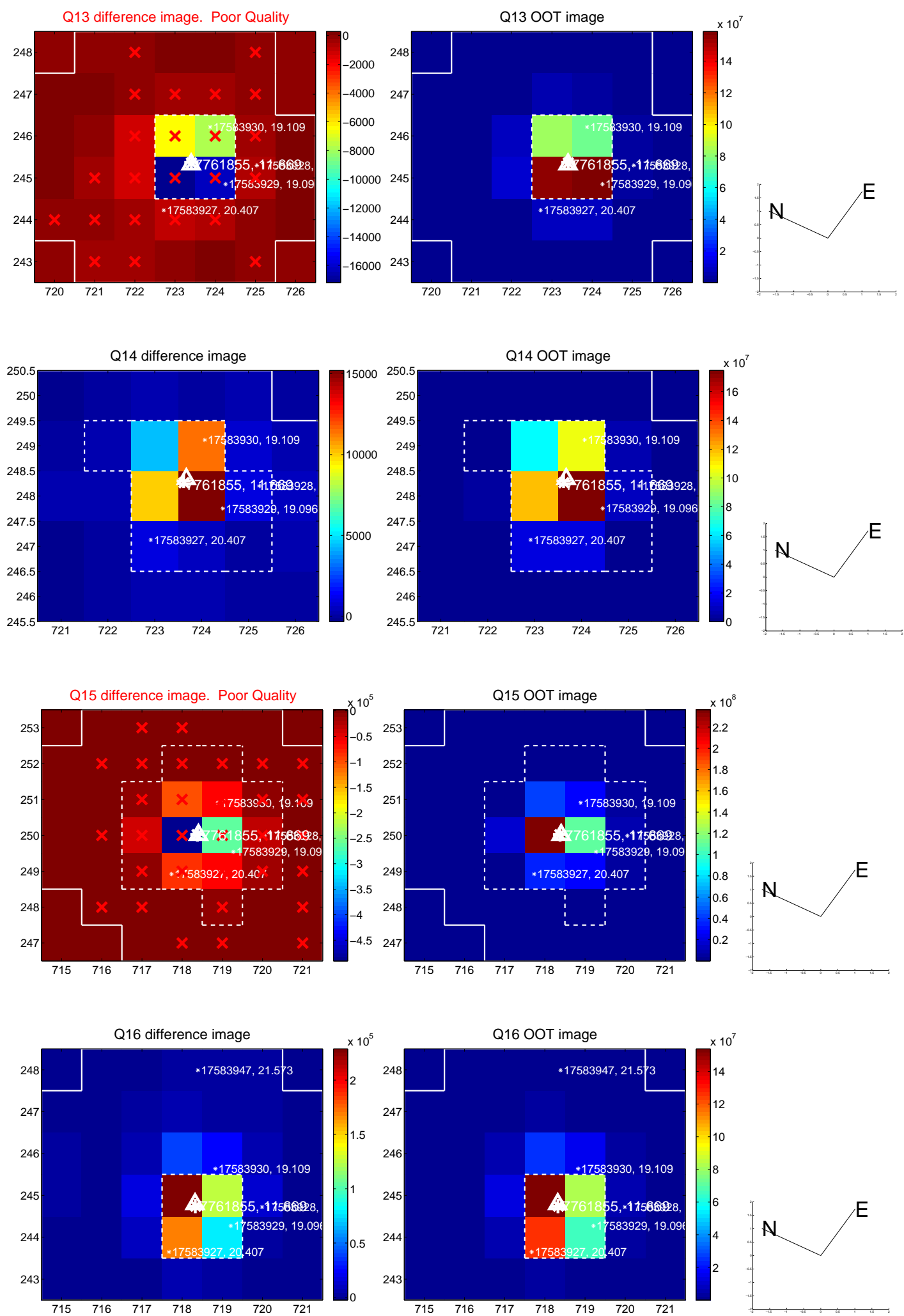
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



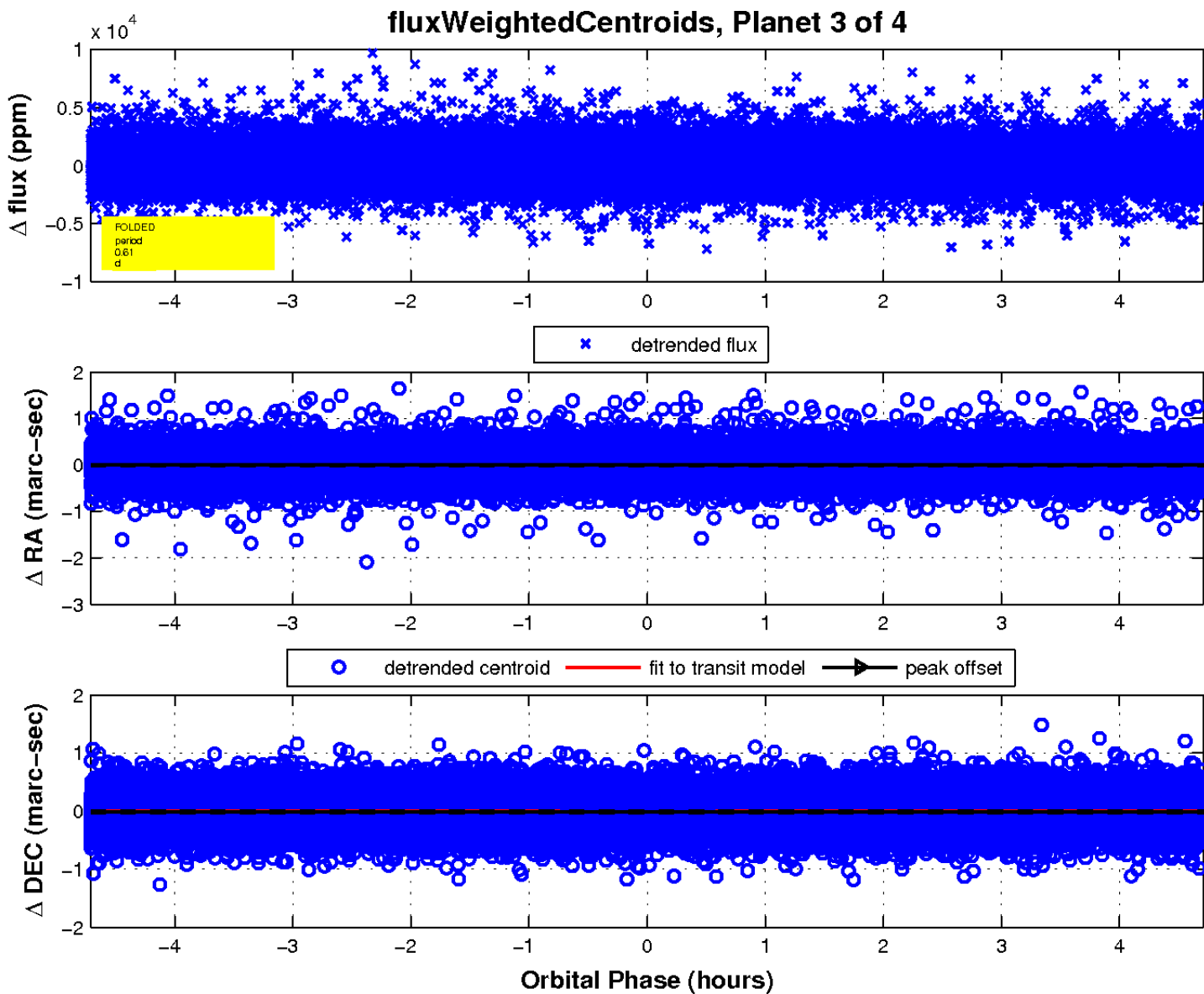
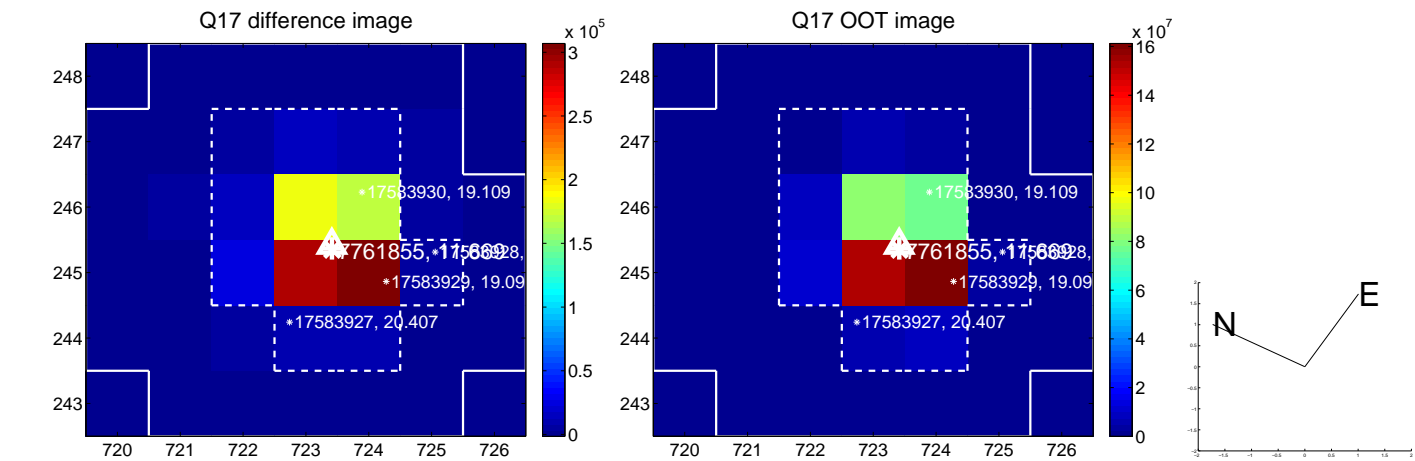
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

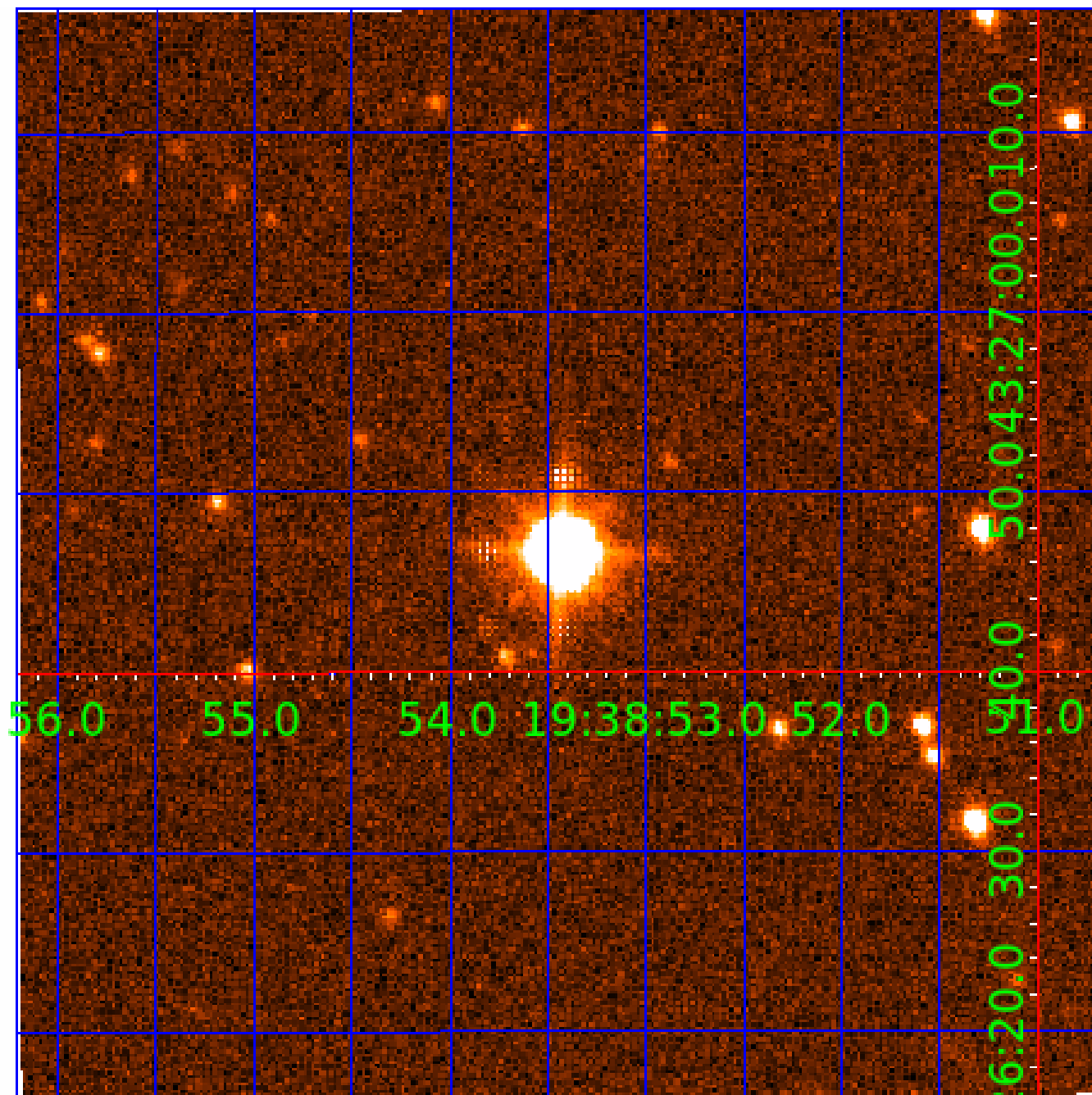


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007761855

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})
007761855-01	OBS	No	0.912748	131.791535	129.0	1.701	13.0	11.5	2.93	7350	3.38	45028.50
007761855-02	OBS	No	0.608495	131.652768	110.8	0.541	15.8	11.2	2.93	7350	3.69	77317.84
007761855-03	OBS	No	0.608495	131.938076	160.6	1.571	15.4	16.2	2.93	7350	4.31	77317.82
007761855-04	OBS	No	0.584245	131.554944	106.9	2.000	12.0	-1.0	2.93	7350	3.08	81625.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007761855-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007761855-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—HALO_GHOST
007761855-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
007761855-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

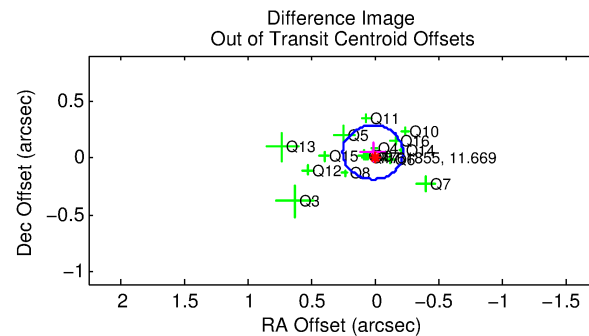
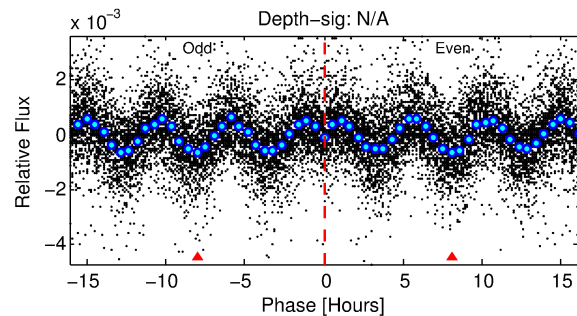
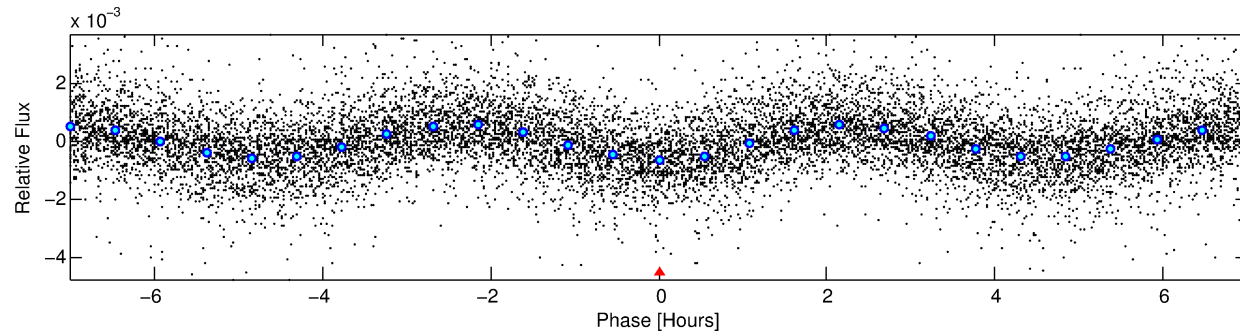
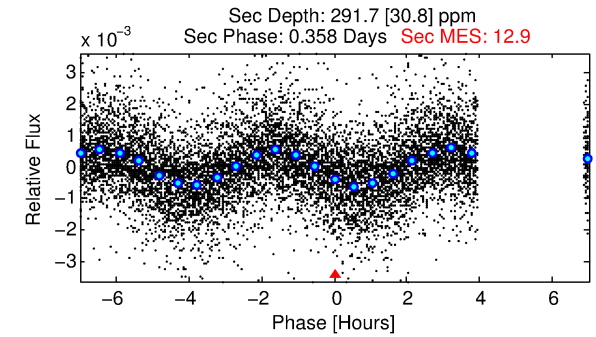
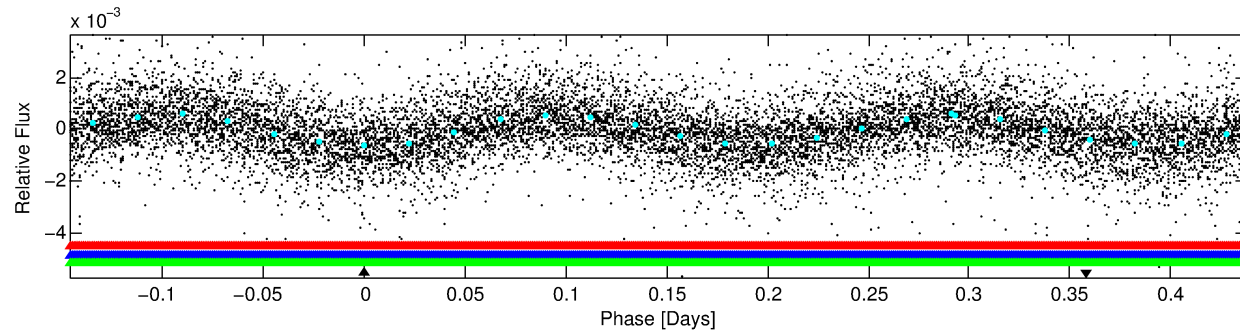
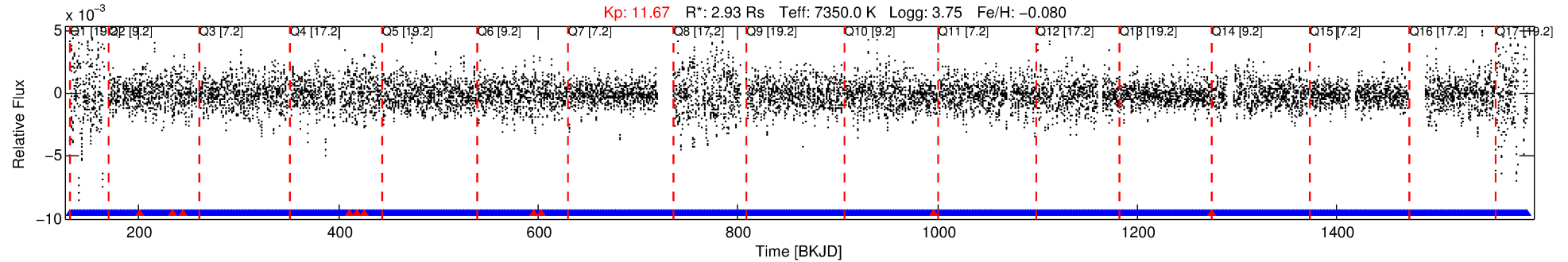
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007761855-04

No Significant Match Found

DV One-Page Summary

KIC: 7761855 Candidate: 4 of 4 Period: 0.584 d



TPS TCE Results:

Period = 0.58425 d
Epoch = 131.5549 BKJD

DV fit results are unavailable

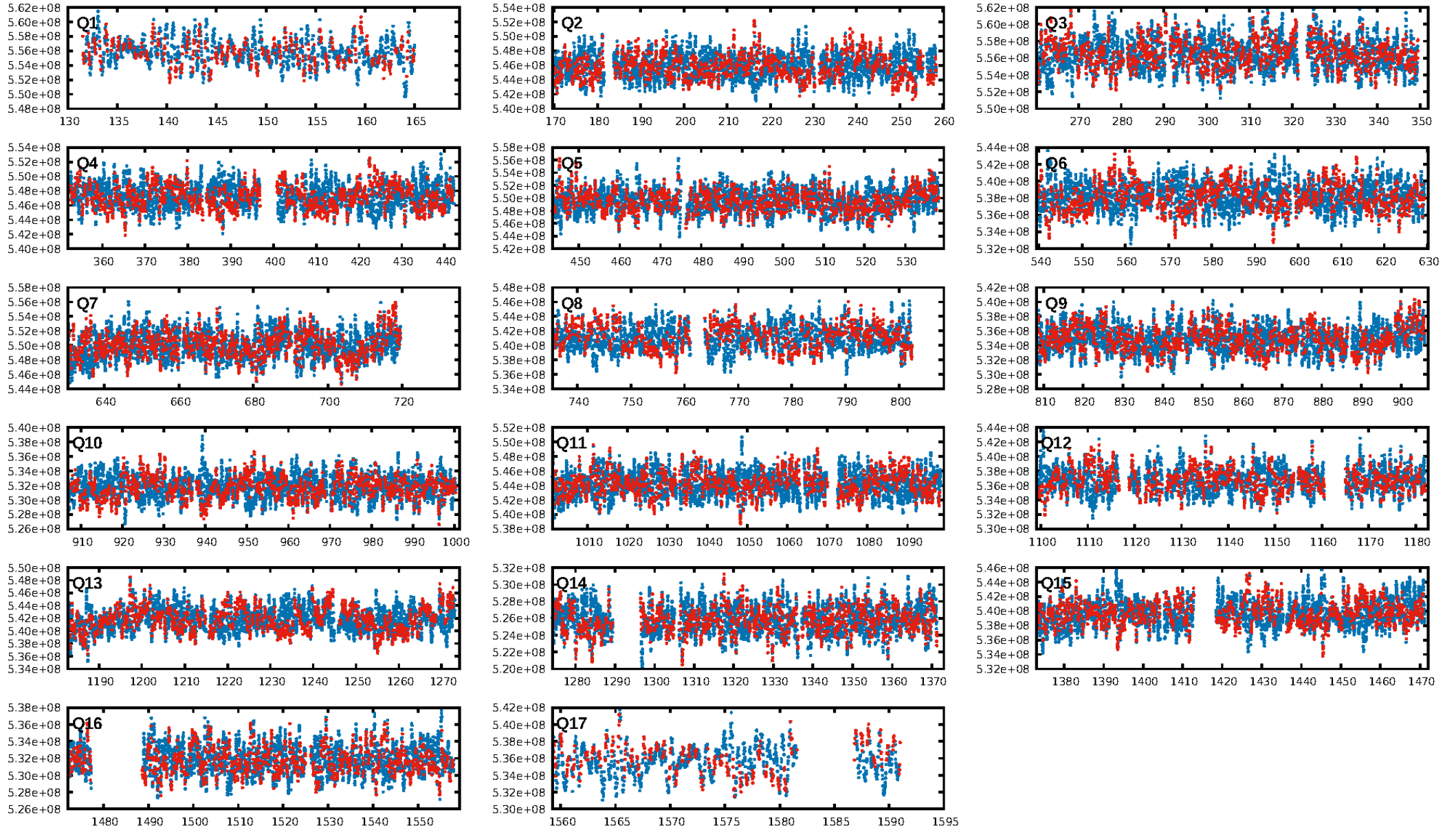
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 22.1% [0.28 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [958/969]
GhostDiagnostic-chr: -1.098
Centroid-sig: 66.1%
Centroid-so: 0.020 arcsec [2.79 σ]
OotOffset-rm: 0.055 arcsec [0.70 σ]
KicOffset-rm: 0.125 arcsec [1.59 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 0.00 [0/17]

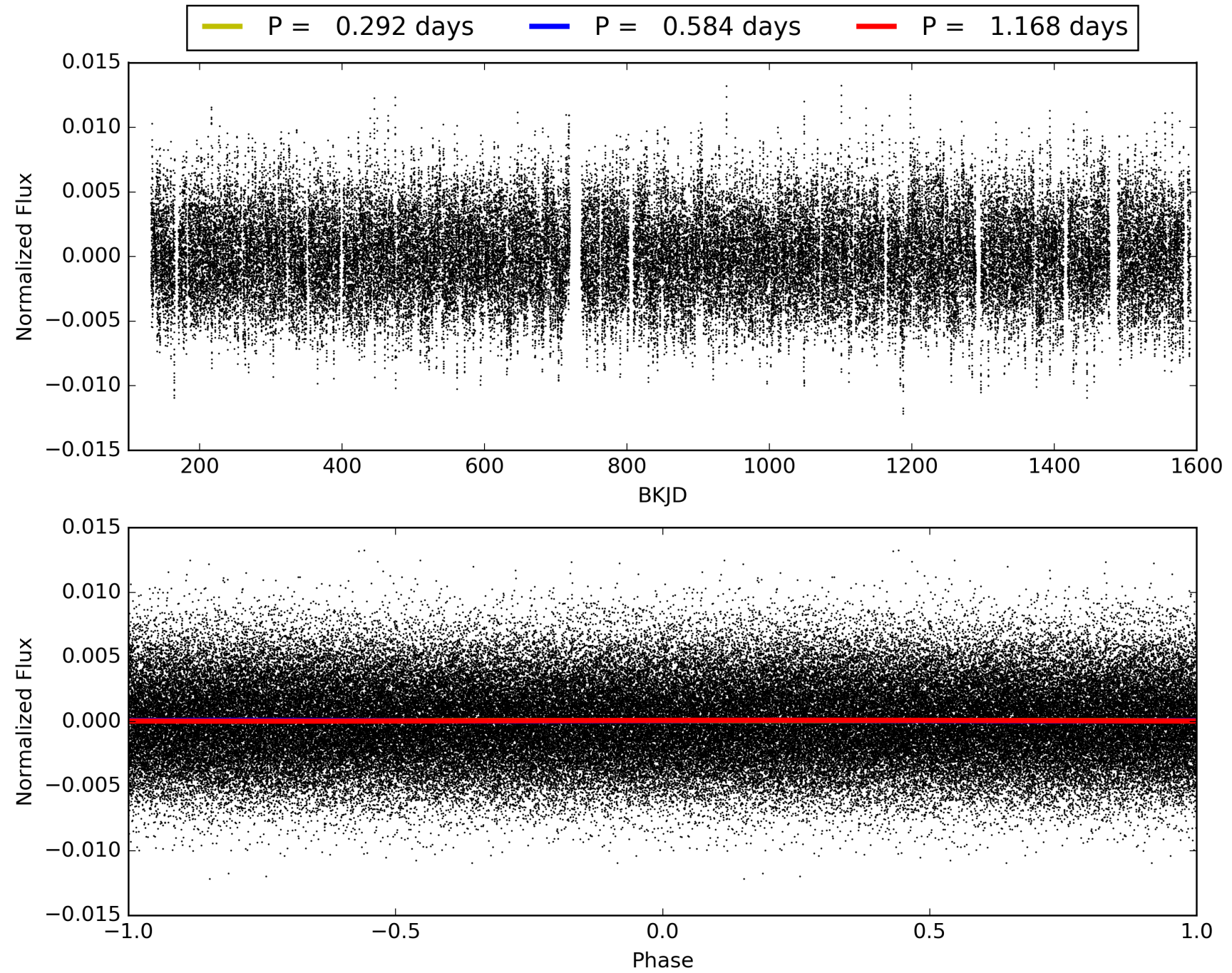
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007761855-04, PDC Light Curves

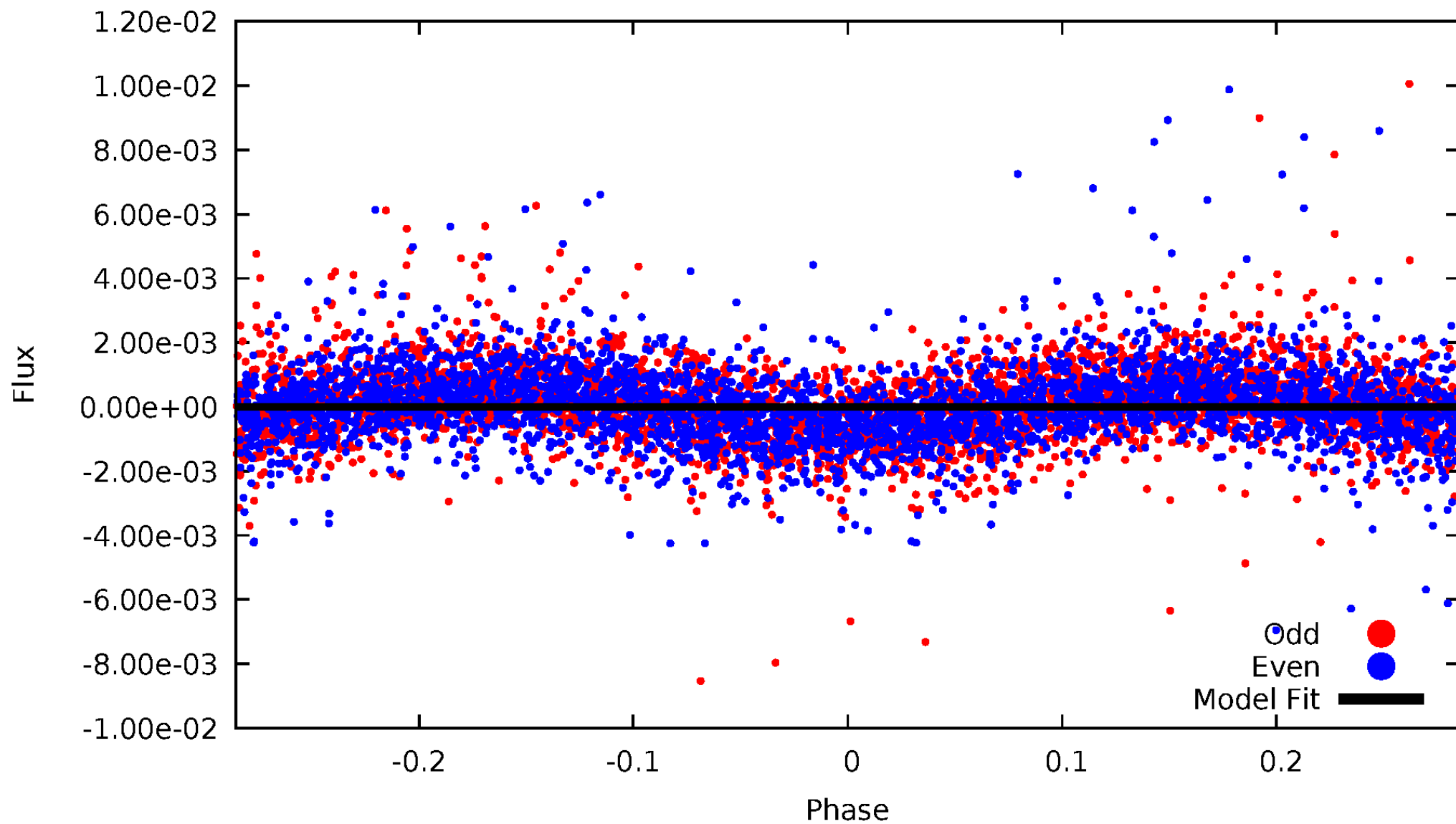


TCE 007761855-04



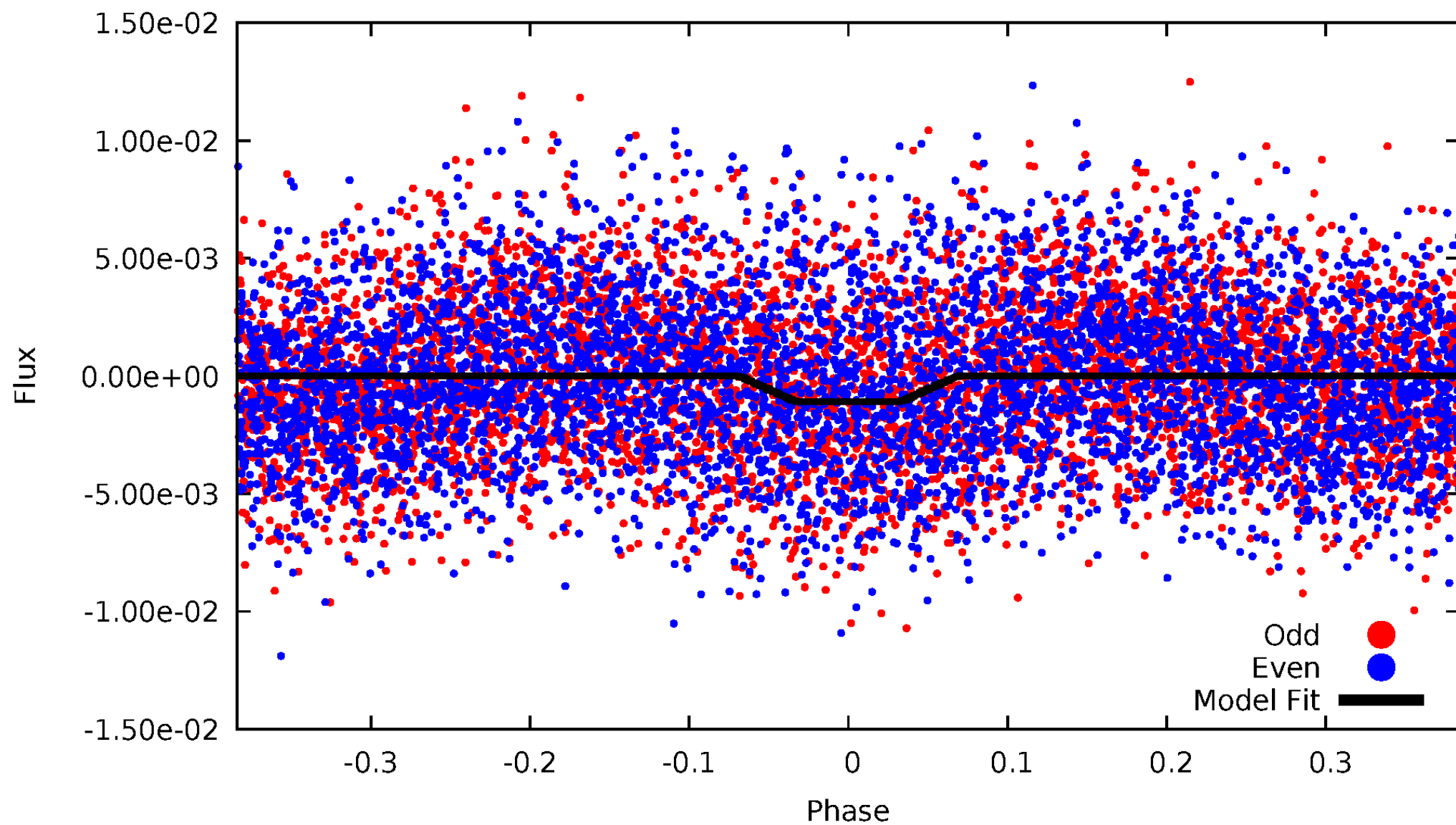
DV Odd/Even

TCE 007761855-04



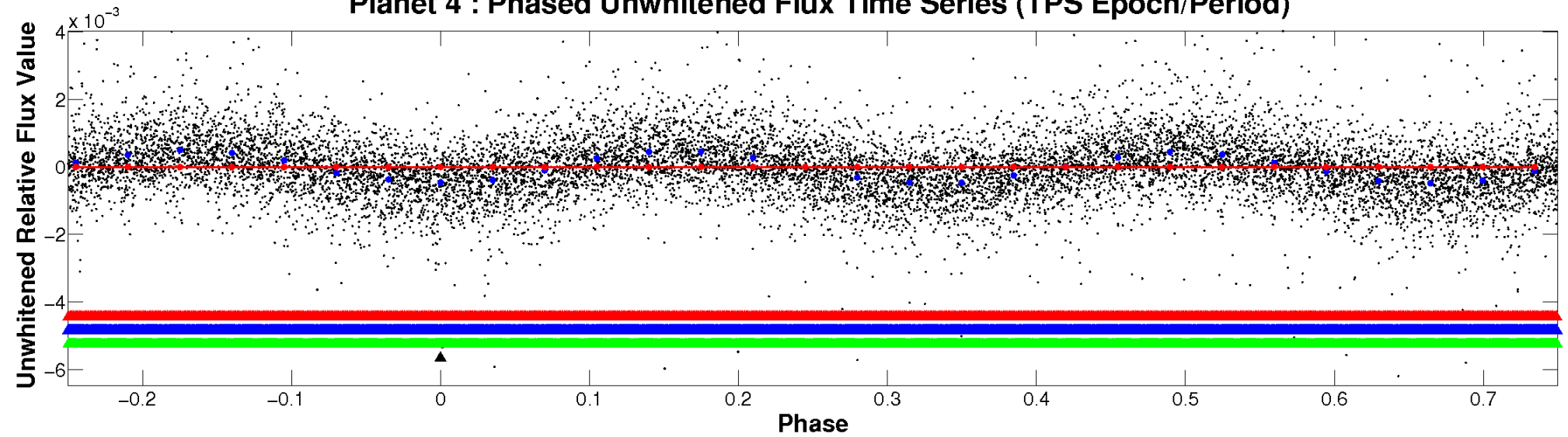
ALT Odd/Even

TCE 007761855-04



Non-Whitened Vs. Whitened Light Curve

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

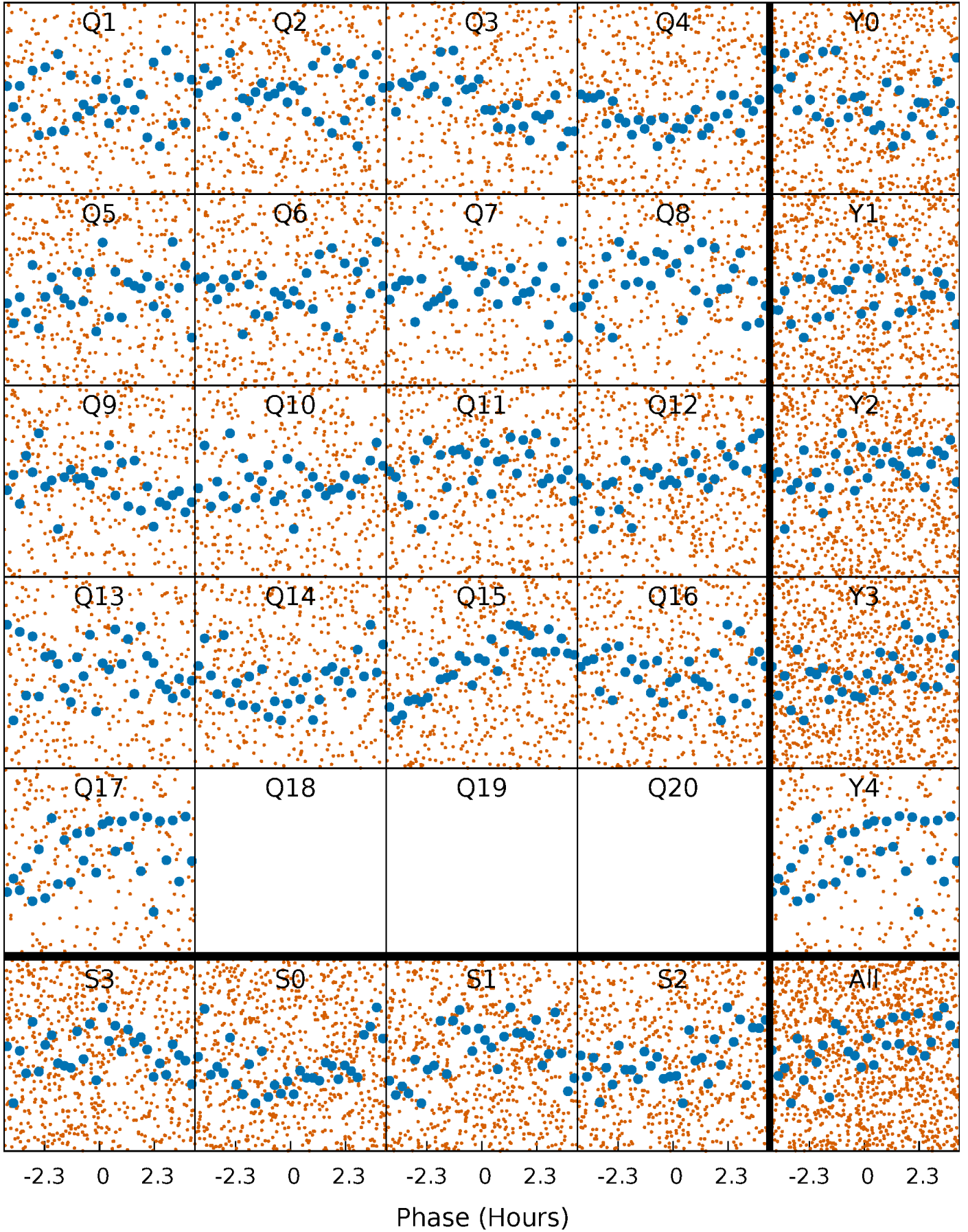


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



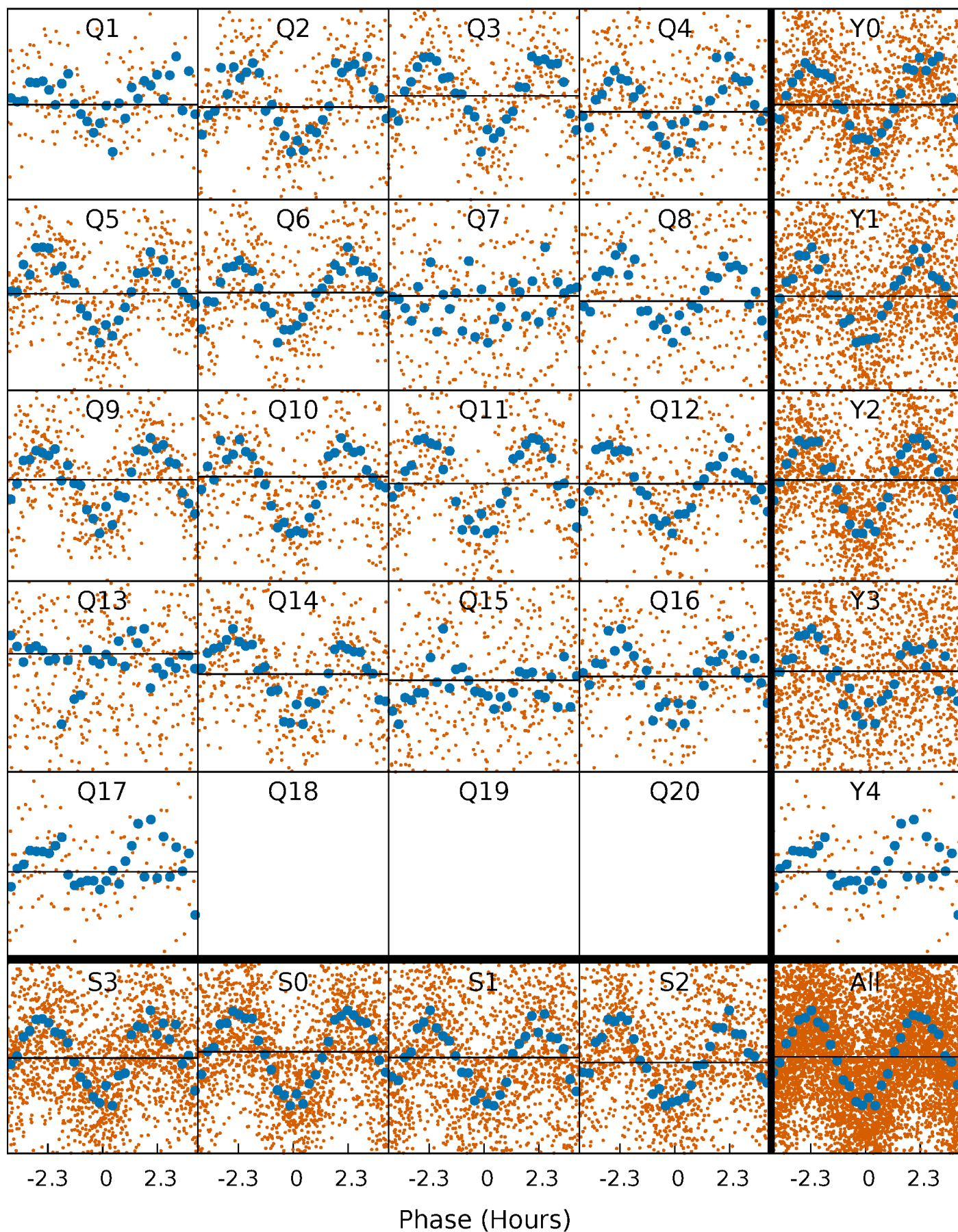
PDC Quarter-Phased Transit Curves

TCE 007761855-04 P= 0.584245 Days $T_0=131.554944$ (BKJD)



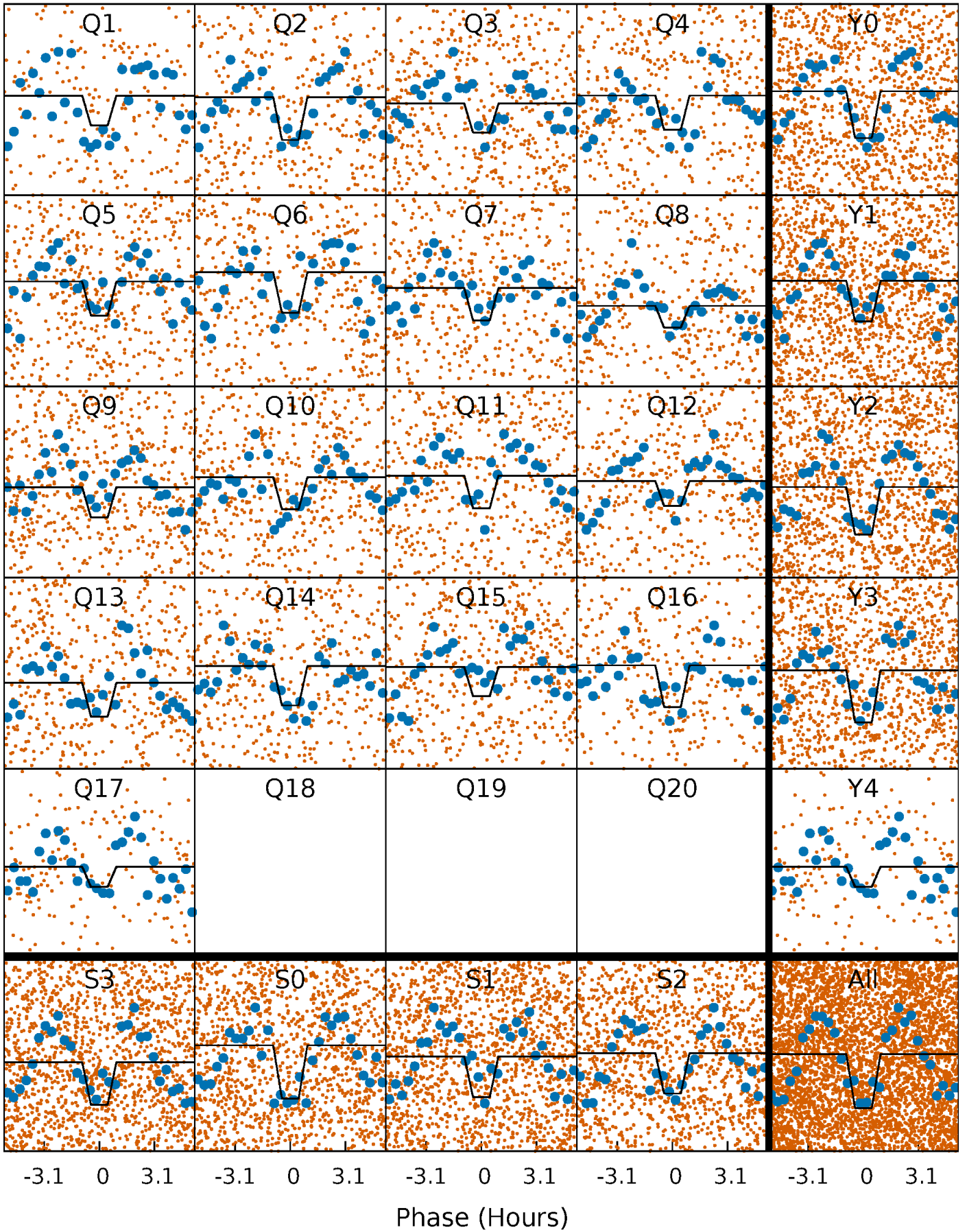
DV Quarter-Phased Transit Curves

TCE 007761855-04 P= 0.584245 Days $T_0=131.554944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

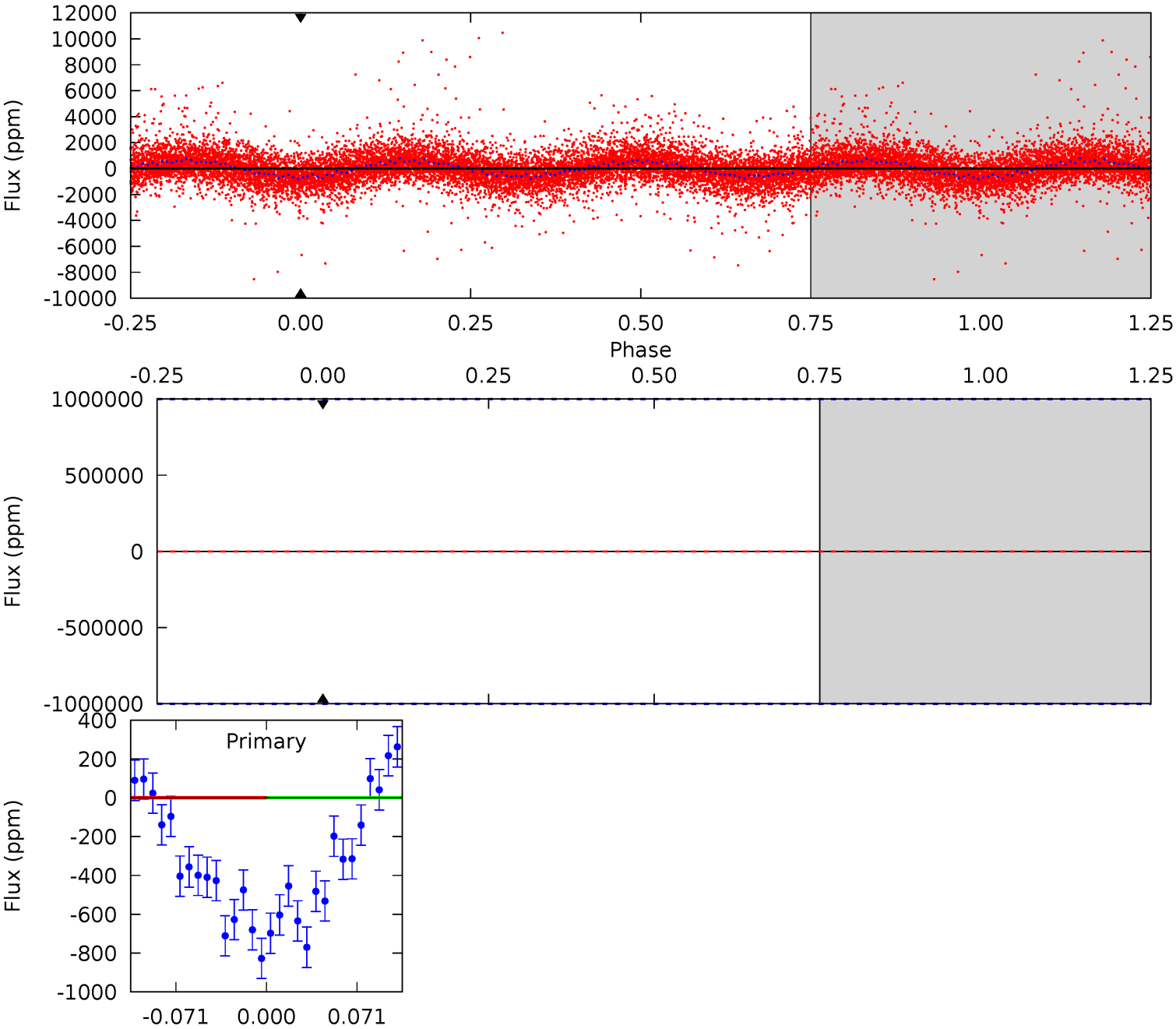
TCE 007761855-04 P= 0.584245 Days $T_0=131.554589$ (BKJD)



DV Model-Shift Uniqueness Test

007761855-04, P = 0.584245 Days, E = 130.970699 Days

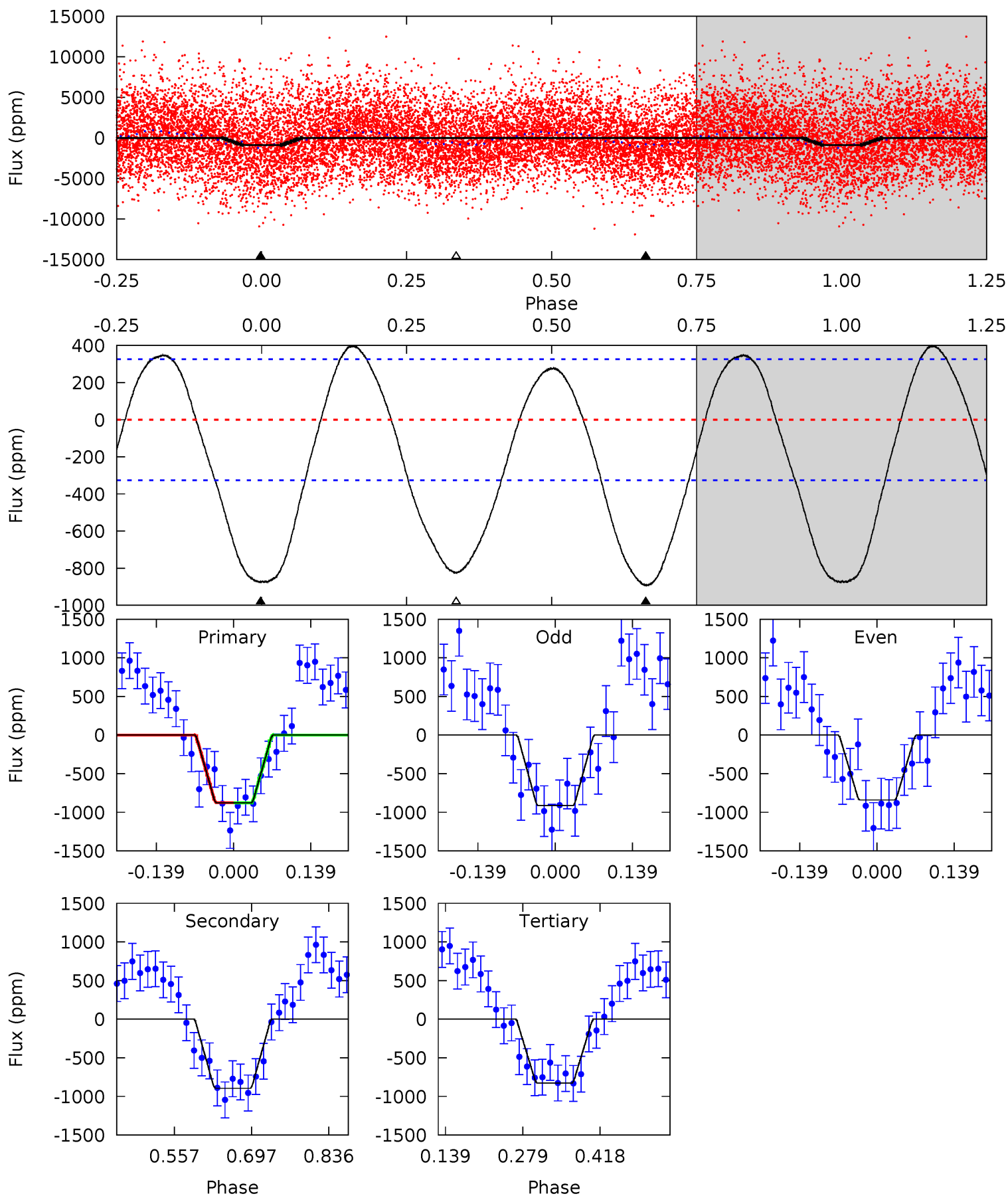
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007761855-04, P = 0.584245 Days, E = 130.970344 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	12.3	11.4	0	4.49	1.48	5.93	0.70	12.1	0.94	12.3	0.51	0.78	0.31	0.01



Stellar Parameters For KIC 007761855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7350^{+228}_{-304}	$3.755^{+0.400}_{-0.100}$	$-0.080^{+0.200}_{-0.350}$	$2.930^{+0.427}_{-1.280}$	$1.780^{+0.194}_{-0.389}$	$0.100^{+0.336}_{-0.030}$
	+3%/-4%	+11%/-3%	+250%/-438%	+15%/-44%	+11%/-22%	+337%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007761855-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$20.34^{+22.54}_{-14.89}$	5882^{+408}_{-618}	-6785^{+46120}_{-41343}	$-0.962^{+58.147}_{-77.219}$
Alt.	-894 ± 73	$24.56^{+25.14}_{-17.10}$	5892^{+379}_{-615}	-3677^{+10896}_{-1041}	$0.220^{+2.184}_{-0.164}$

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 $A_{obs} \gg 1.0$

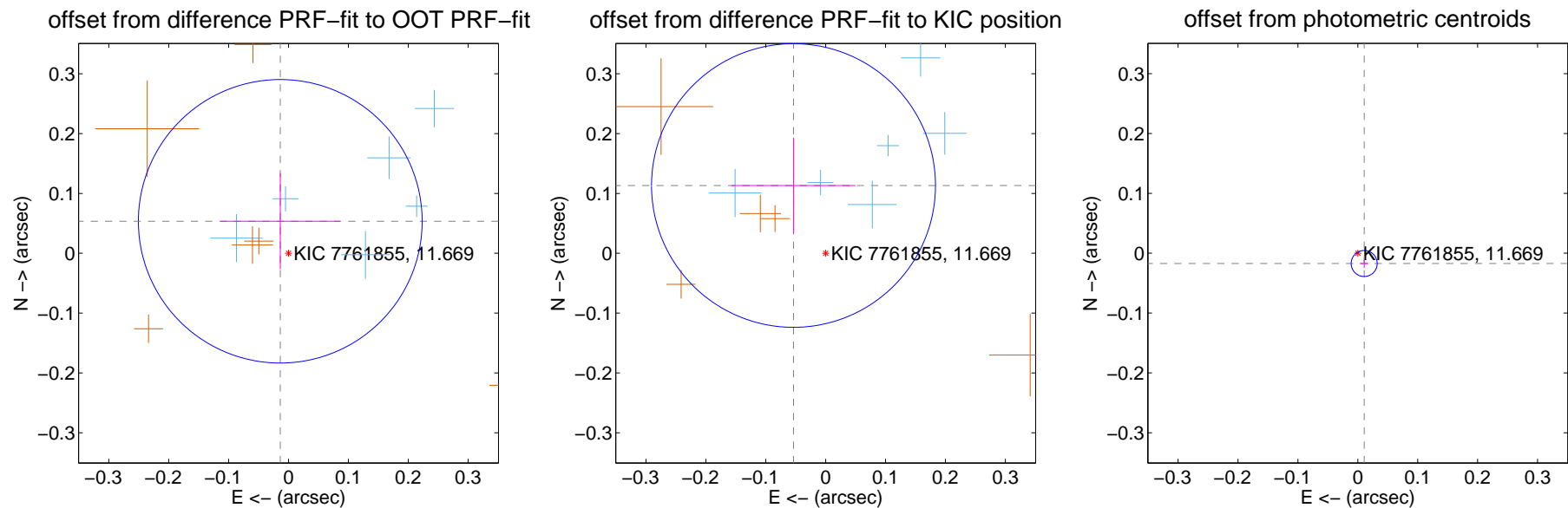
DV Centroid Data

Supplemental centroid analysis for 007761855-04. **Kepler magnitude: 11.67.** Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

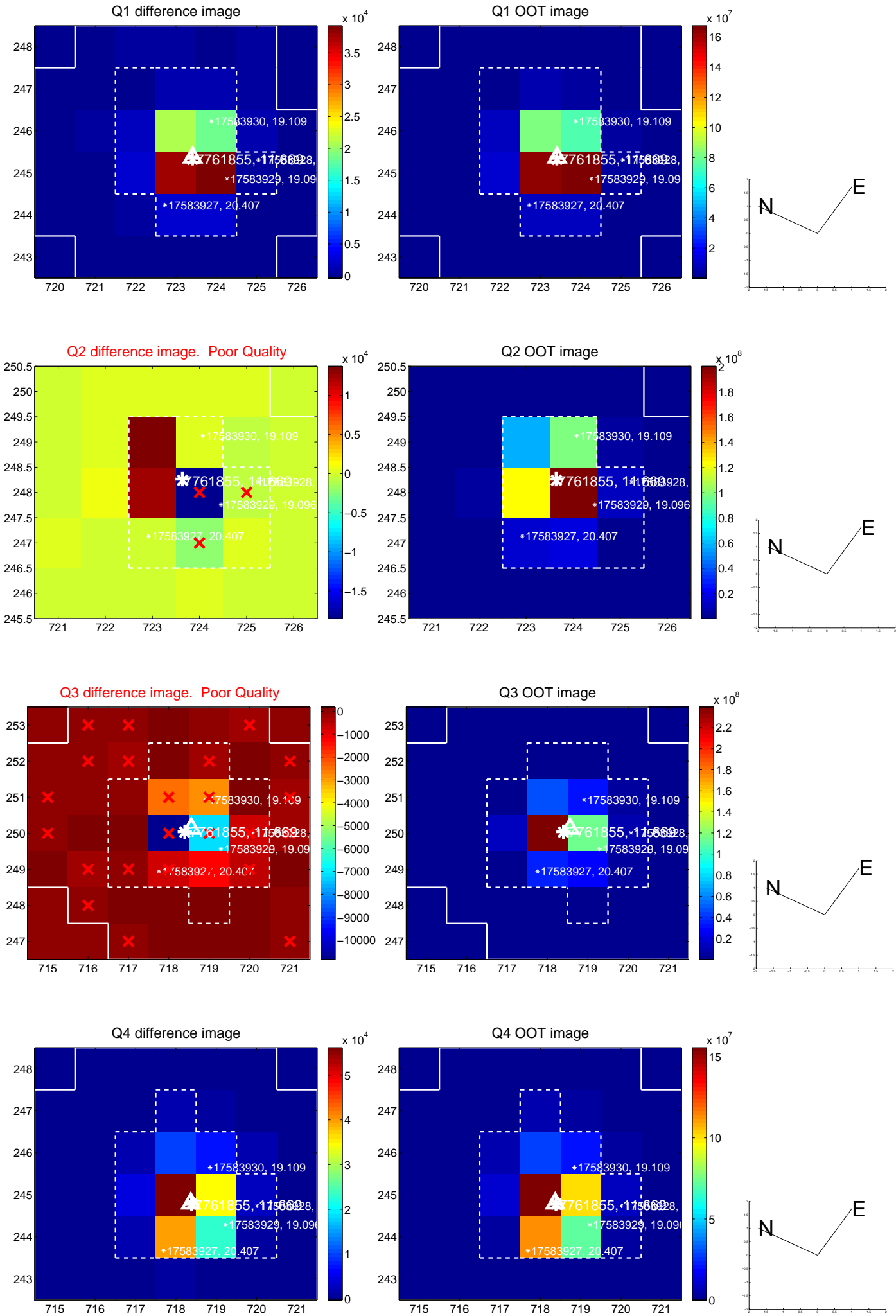
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.079	0.70	0.014 ± 0.100	0.053 ± 0.080
PRF-fit source offset from KIC position	0.125 ± 0.079	1.59	0.054 ± 0.103	0.113 ± 0.080
photometric centroid source offset	0.02 ± 0.01	2.79	-0.01 ± 0.01	-0.02 ± 0.01

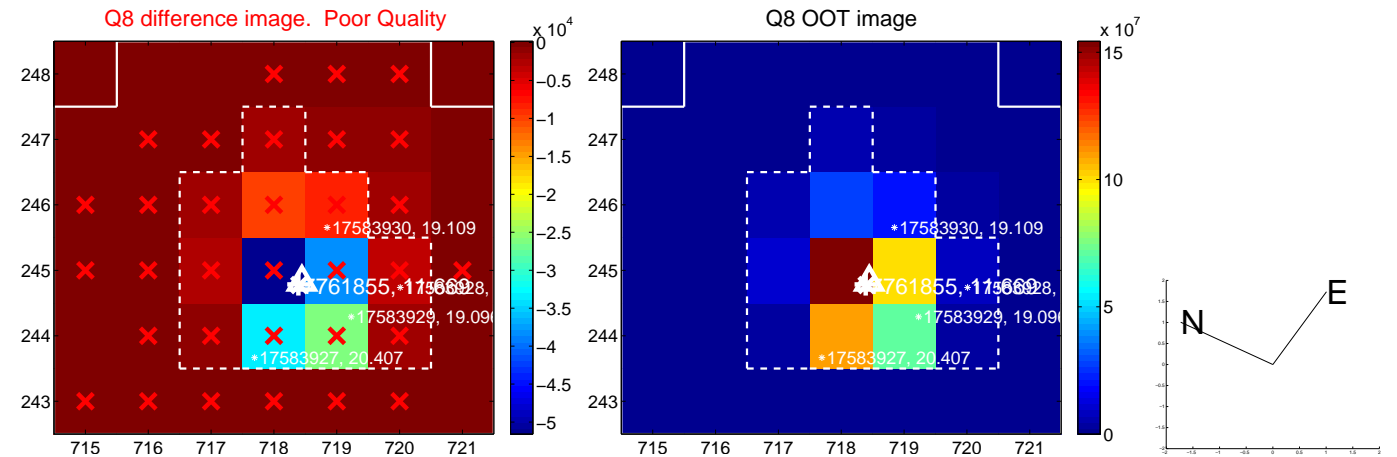
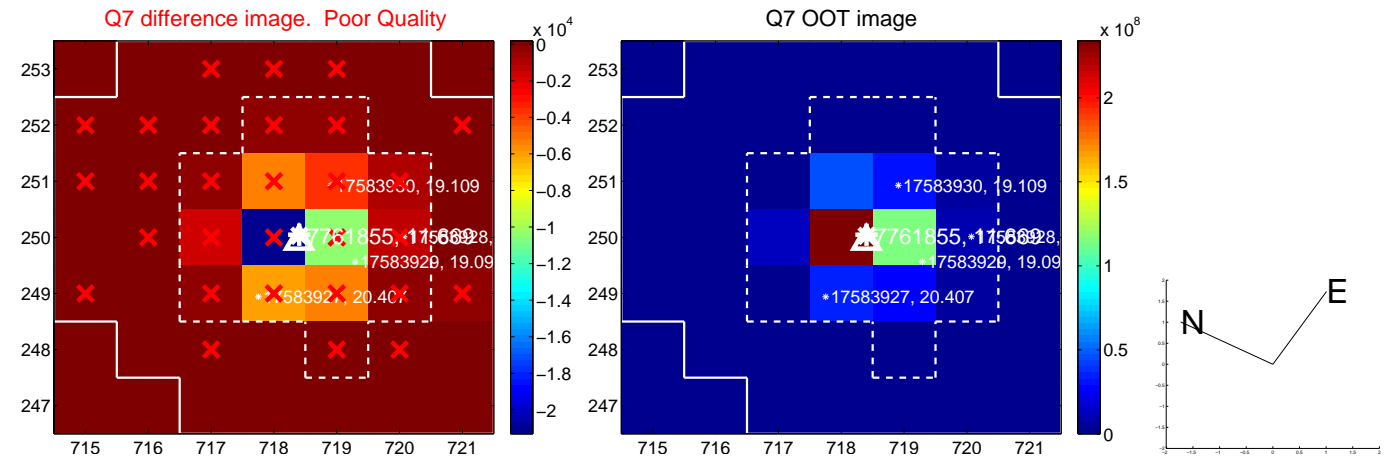
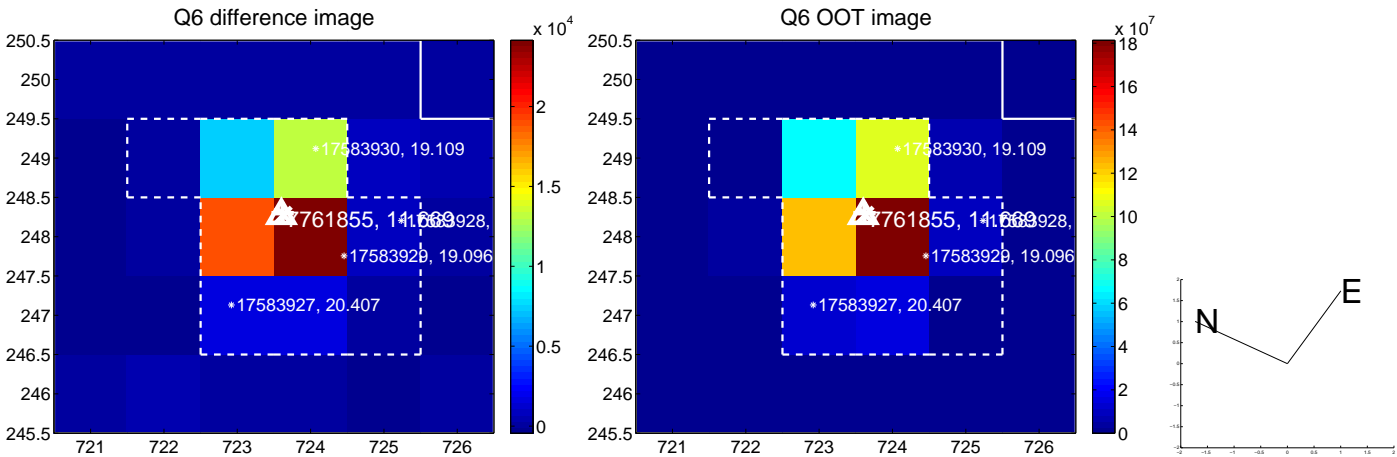
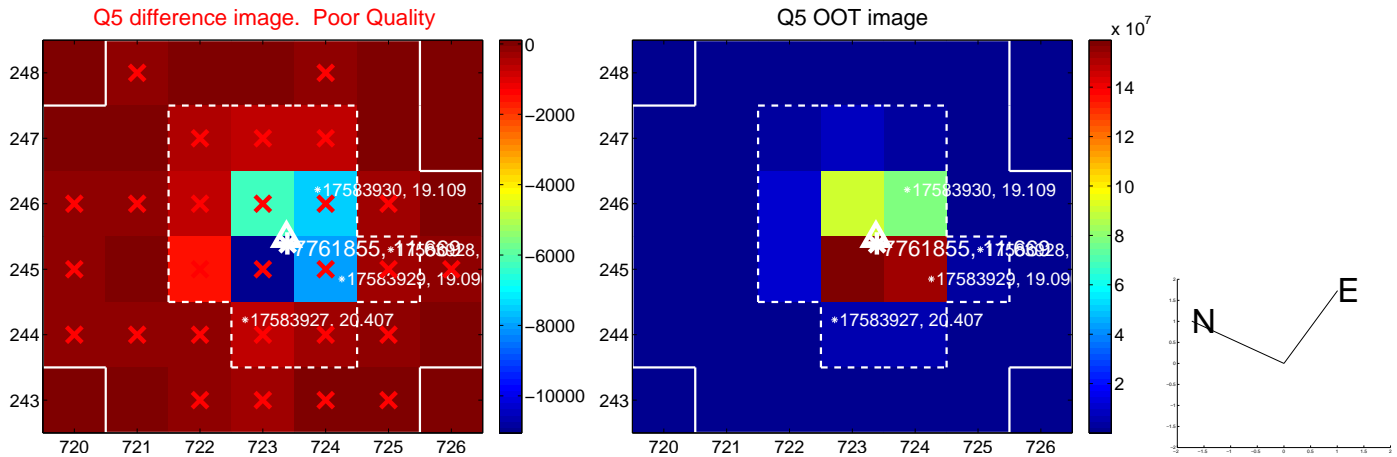


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

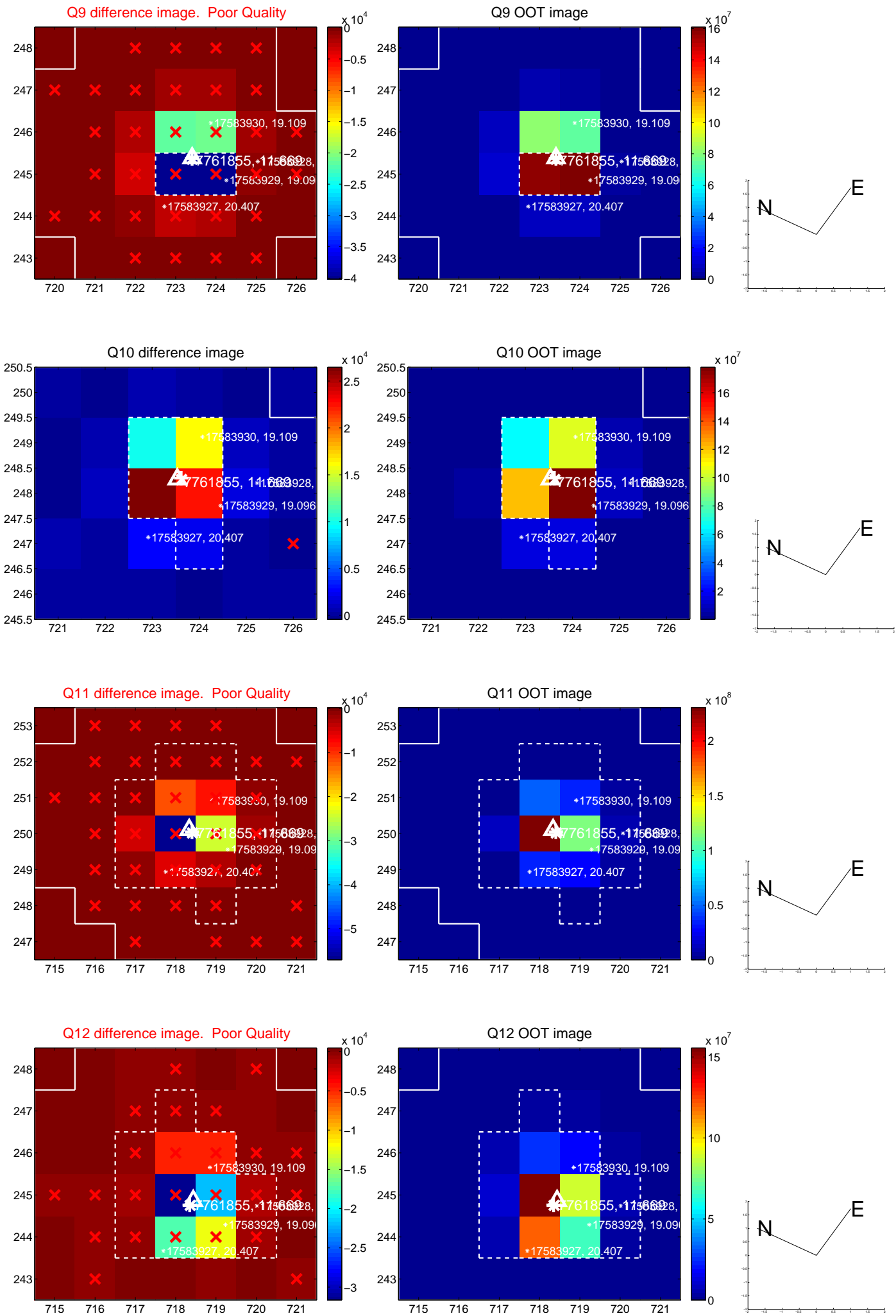
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



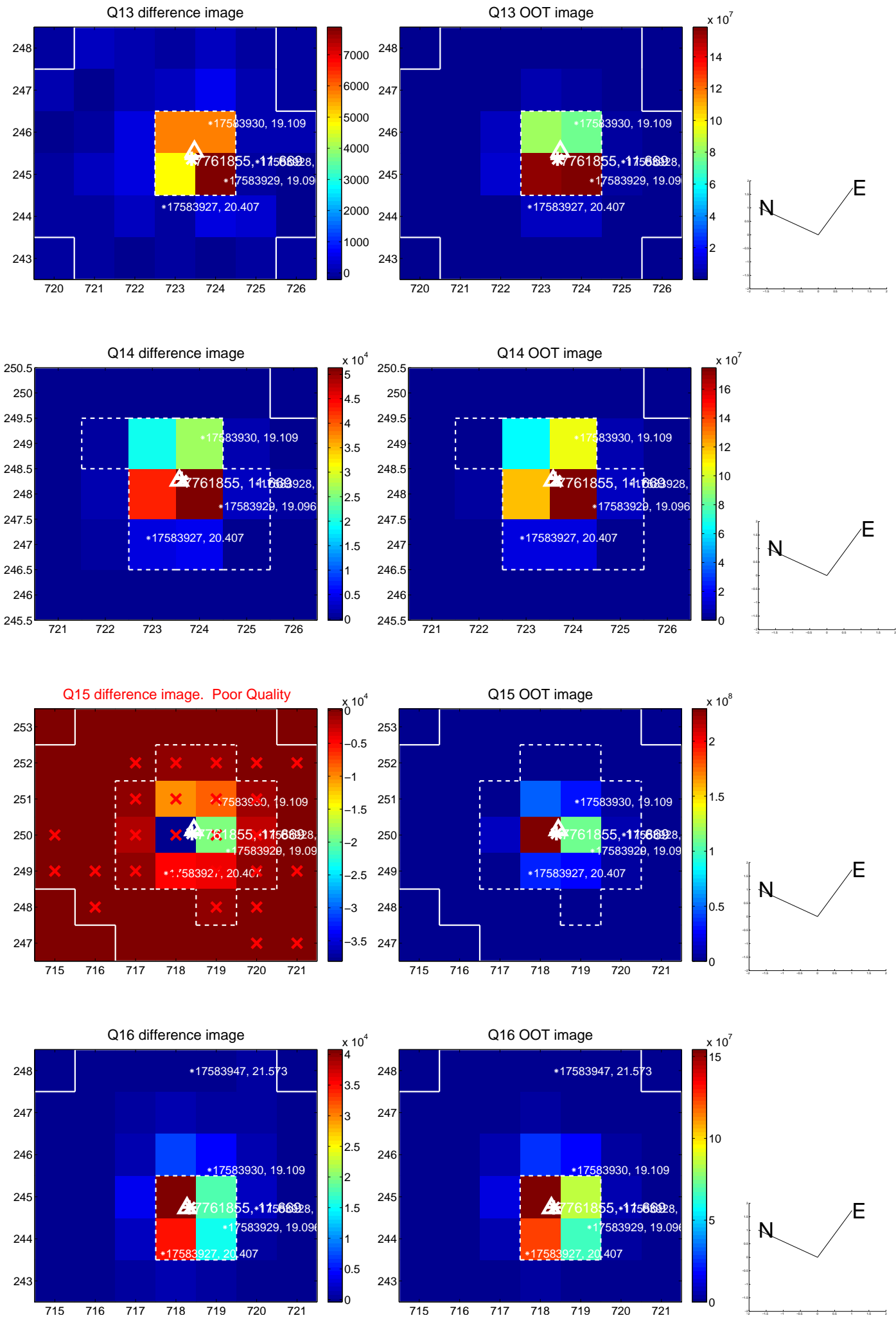
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



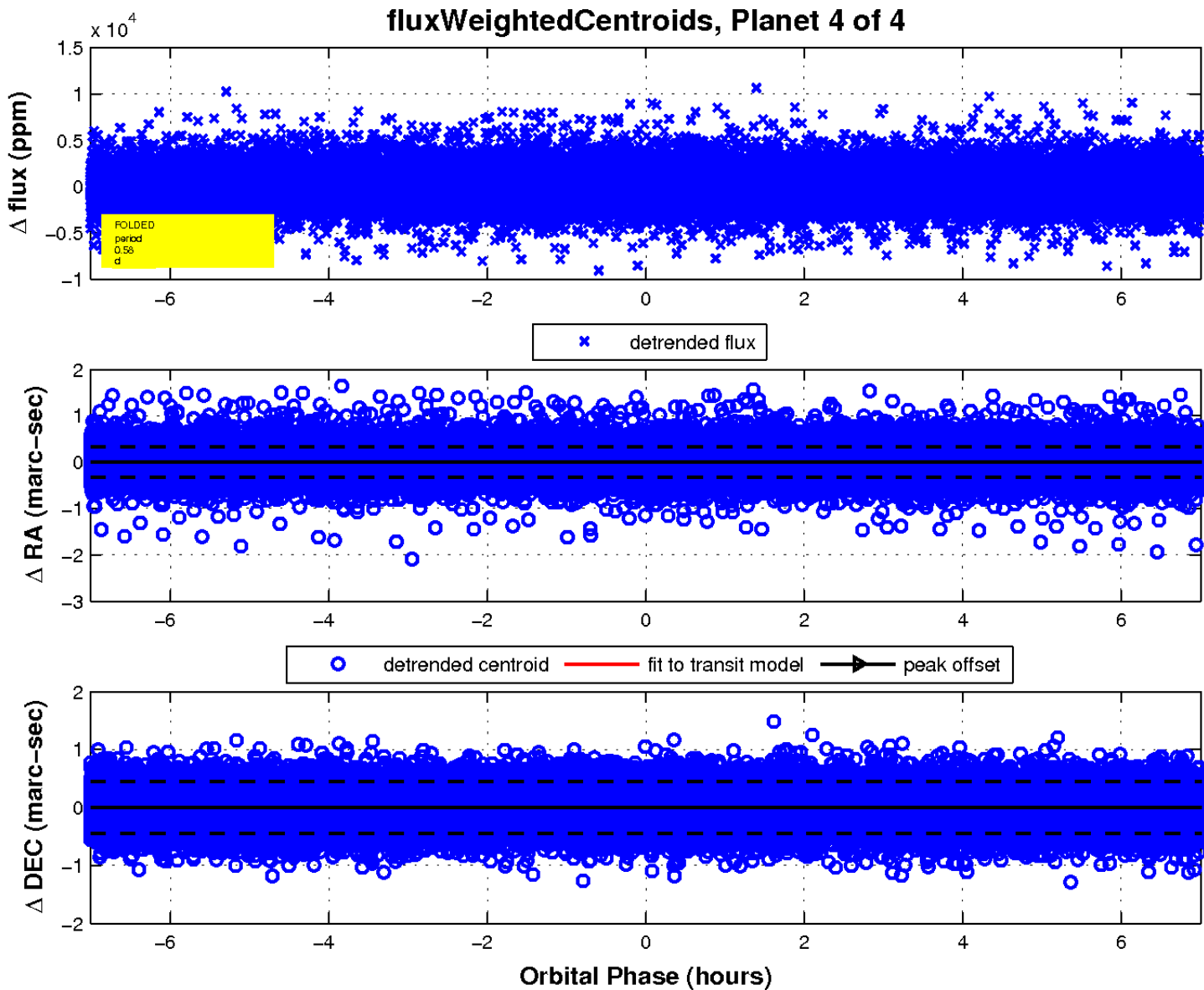
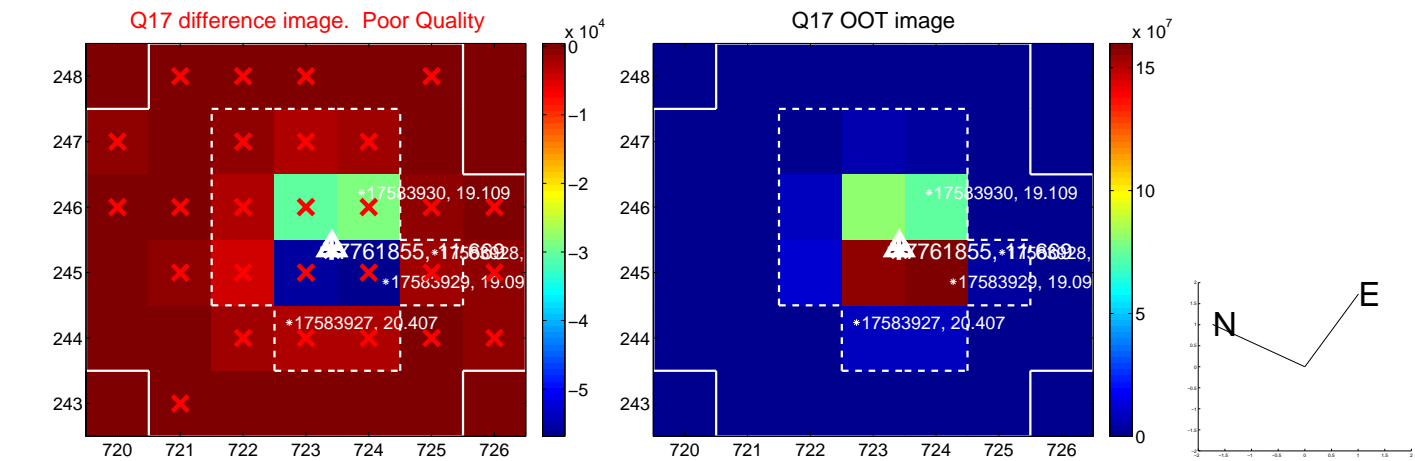
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

