

KIC 007760869

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})
007760869-01	OBS	No	84.243263	167.346271	53.1	1.079	13.4	25.9	1.89	6079	1.66	30.86
007760869-02	OBS	No	100.067710	174.735978	42.0	2.703	14.4	8.6	1.89	6079	1.52	24.54
007760869-03	OBS	No	190.558174	320.363495	213.5	2.076	13.6	11.0	1.89	6079	3.26	10.39
007760869-04	OBS	No	85.800773	171.509120	334.4	2.000	12.8	-1.0	1.89	6079	3.48	30.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007760869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007760869-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

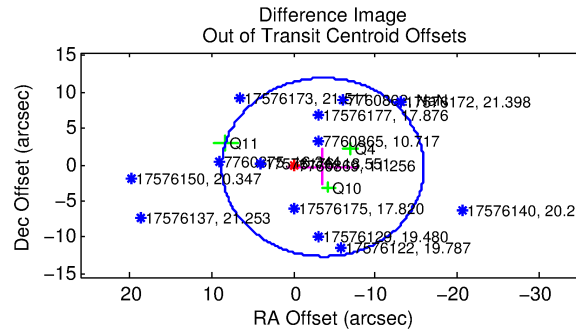
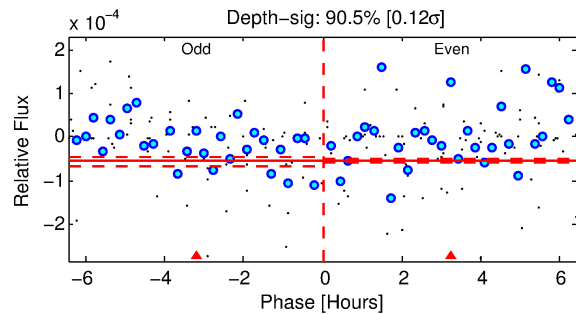
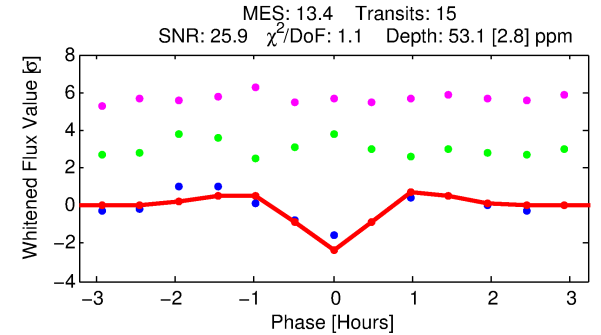
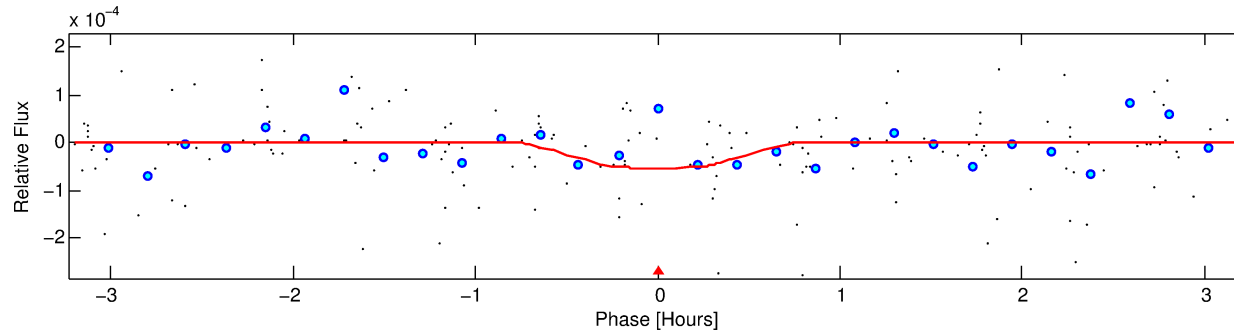
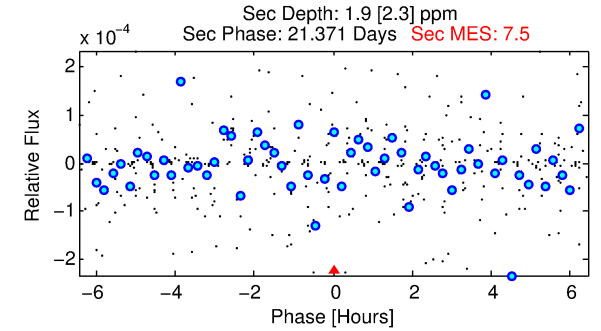
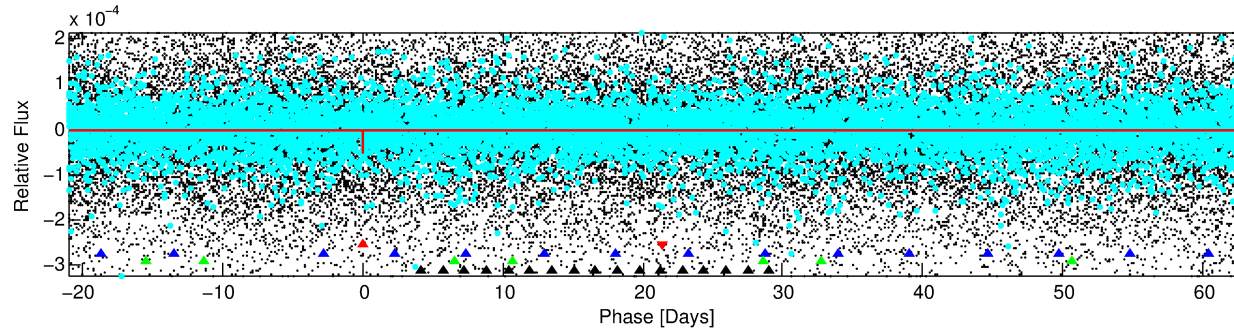
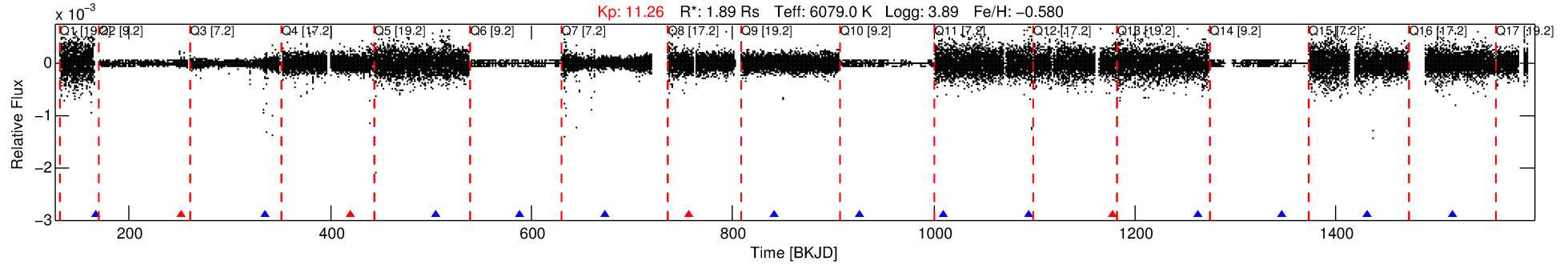
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007760869-01

No Significant Match Found

DV One-Page Summary

KIC: 7760869 Candidate: 1 of 4 Period: 84.243 d



DV Fit Results:

Period = 84.24326 [0.00021] d
Epoch = 167.3463 [0.0024] BKJD
 $R_p/R^* = 0.0080$ [0.0018]
 $a/R^* = 247.59$ [316.58]
 $b = 0.92$ [0.22]
 $\text{Seff} = 30.86$ [28.38]
 $T_{\text{eq}} = 601$ [138] K
 $R_p = 1.65$ [0.90] R_{e}
 $a = 0.3767$ [0.2027] AU
 $A_g = 52.94$ [84.66] [0.61σ]
 $T_{\text{effp}} = 2507$ [828] K [2.27σ]

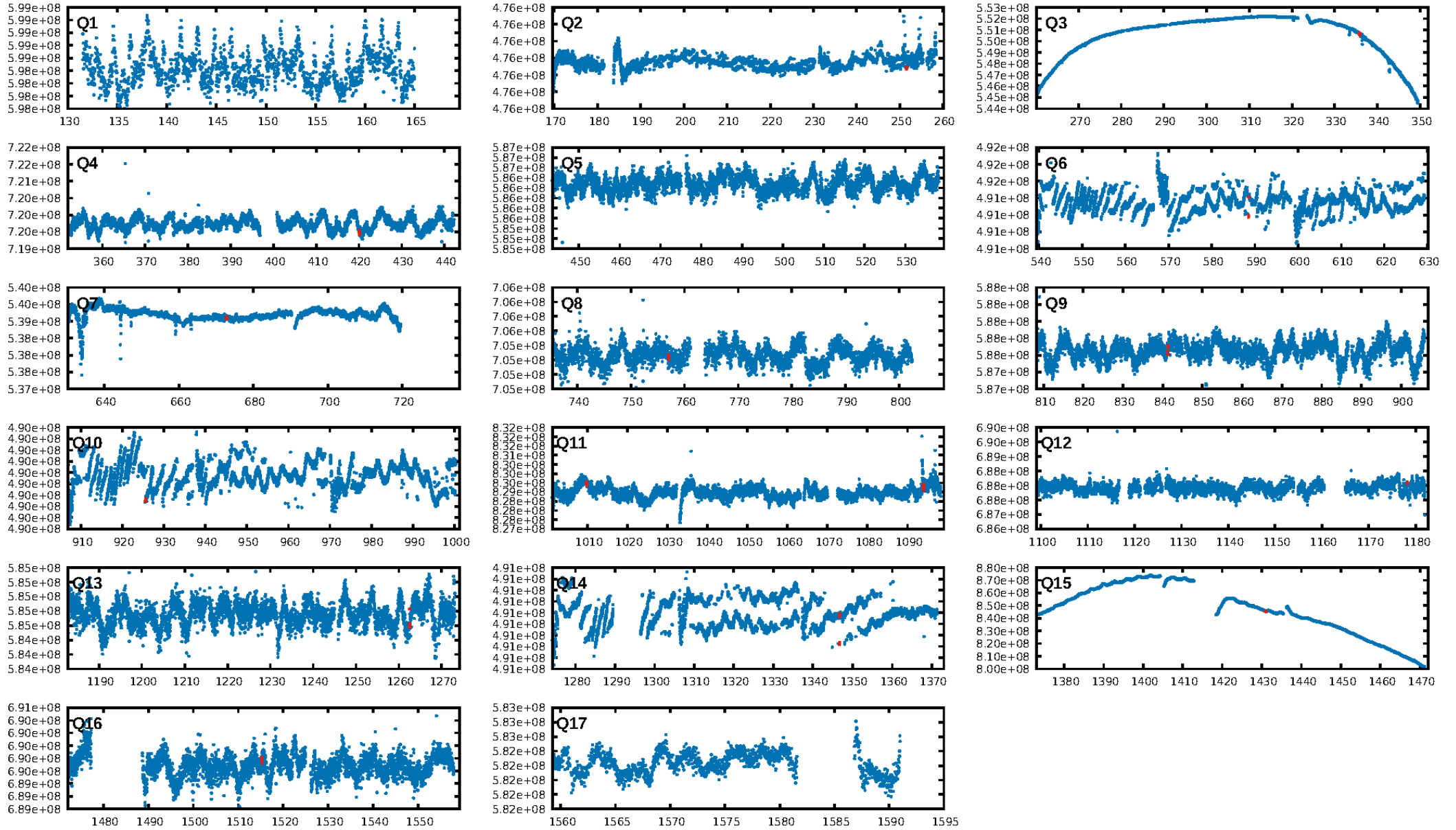
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [16.45σ]
ModelChiSquare2-sig: 62.7%
ModelChiSquareGof-sig: 94.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.73 [11/15]
GhostDiagnostic-chr: -9.791
Centroid-sig: 7.7%
Centroid-so: 2.354 arcsec [1.40σ]
OotOffset-rm: 3.592 arcsec [0.87σ]
KicOffset-rm: 4.499 arcsec [1.08σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [14/14]

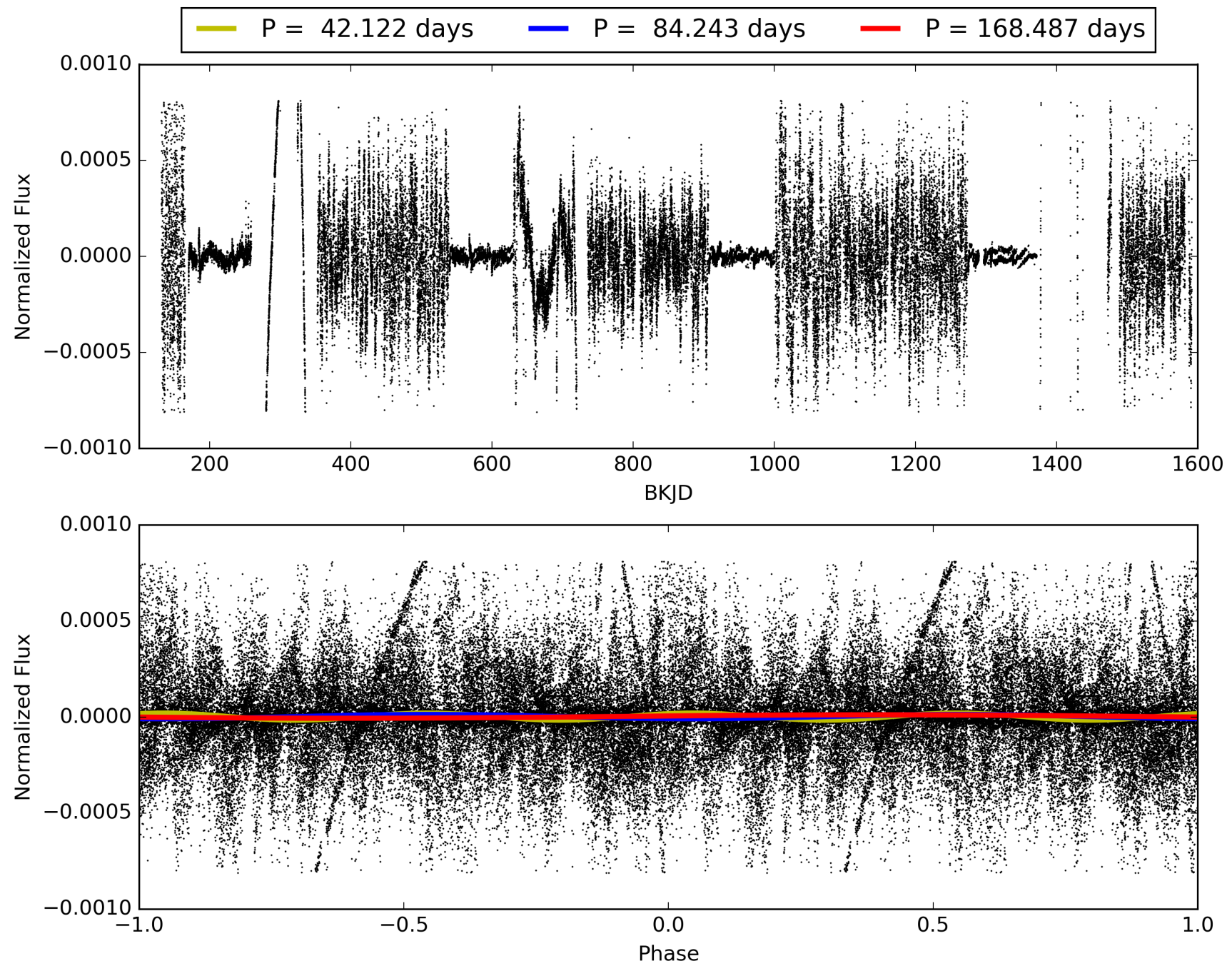
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:38:23 Z

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

TCE 007760869-01, PDC Light Curves

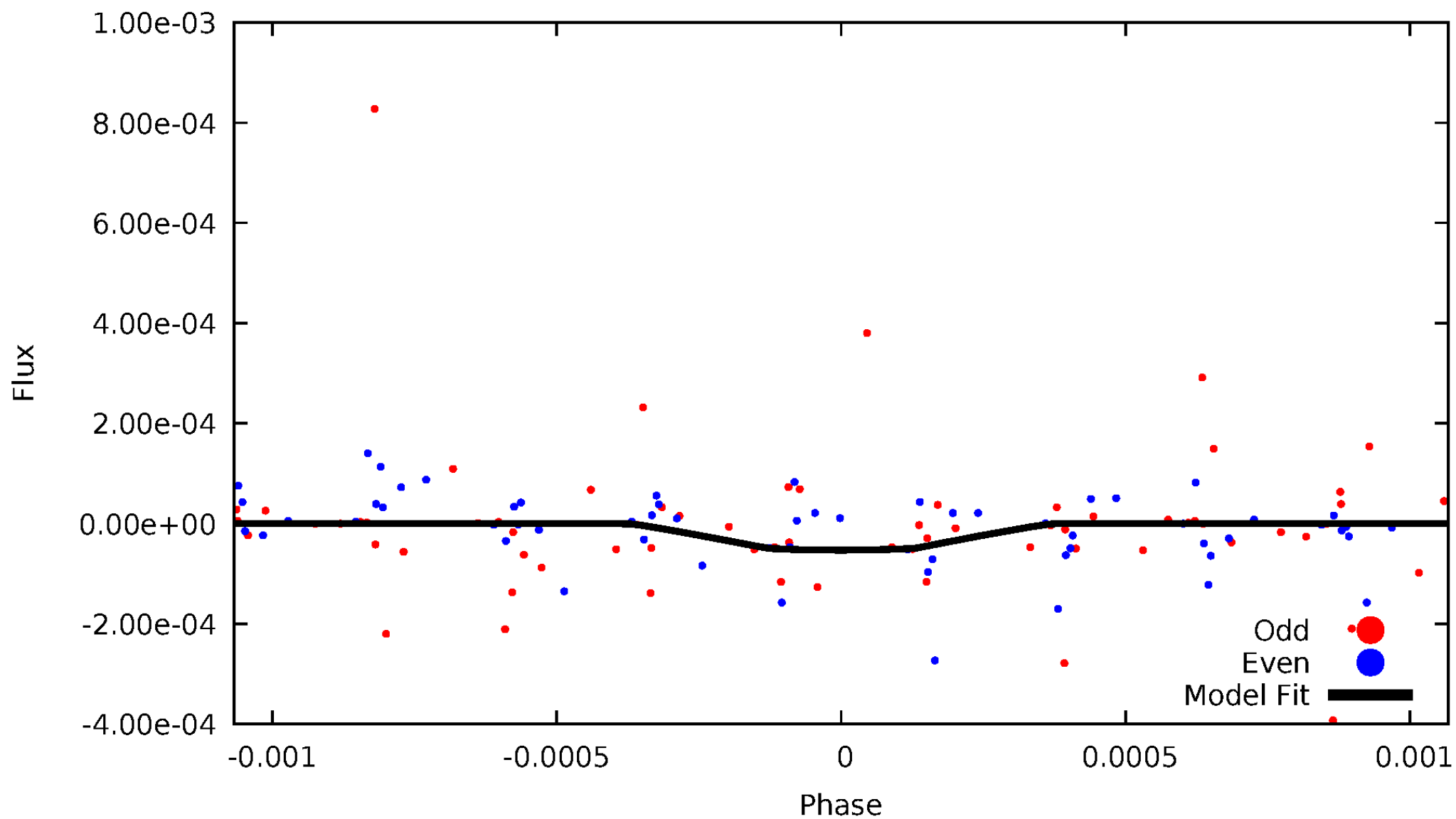


TCE 007760869-01



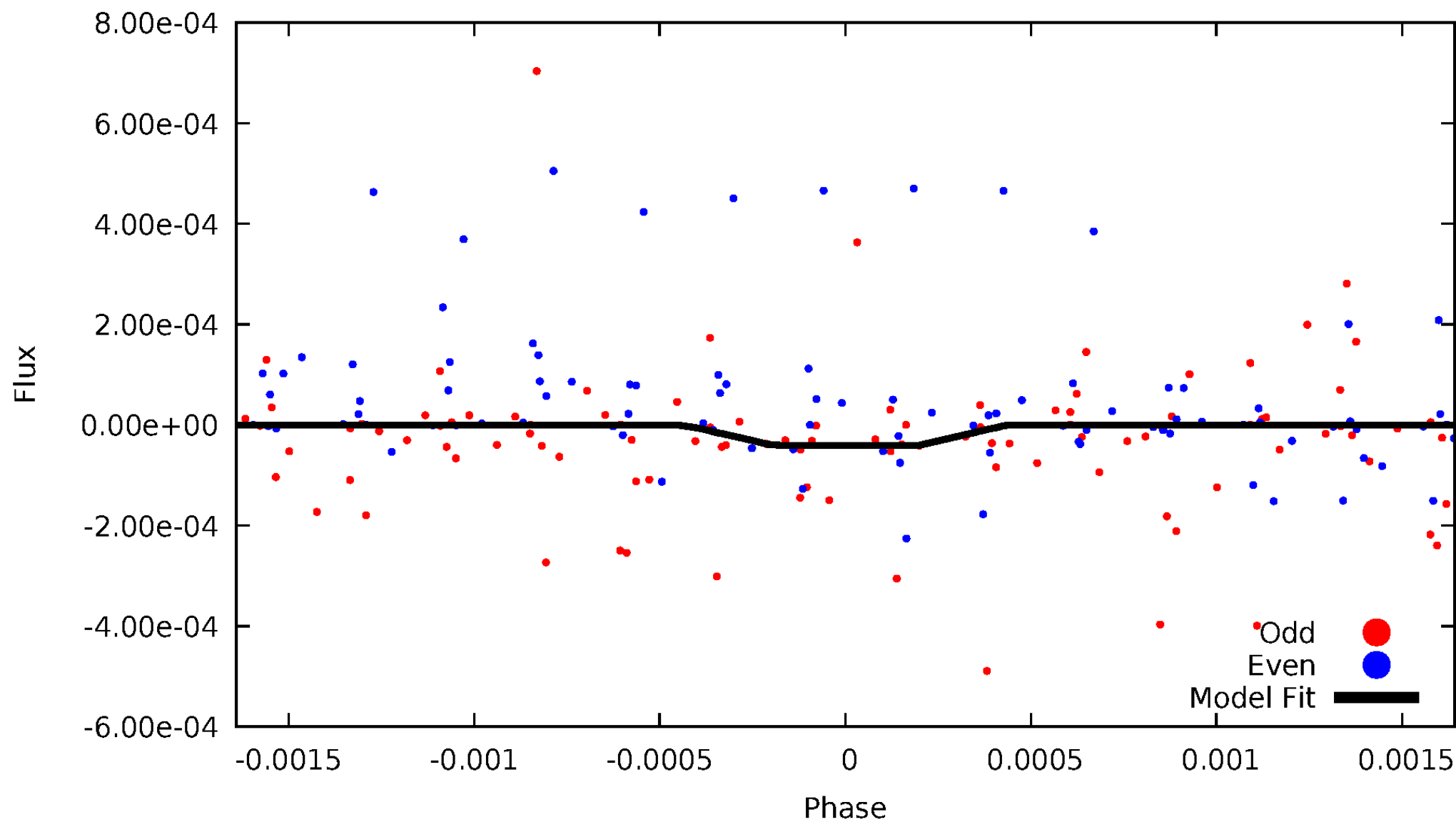
DV Odd/Even

TCE 007760869-01

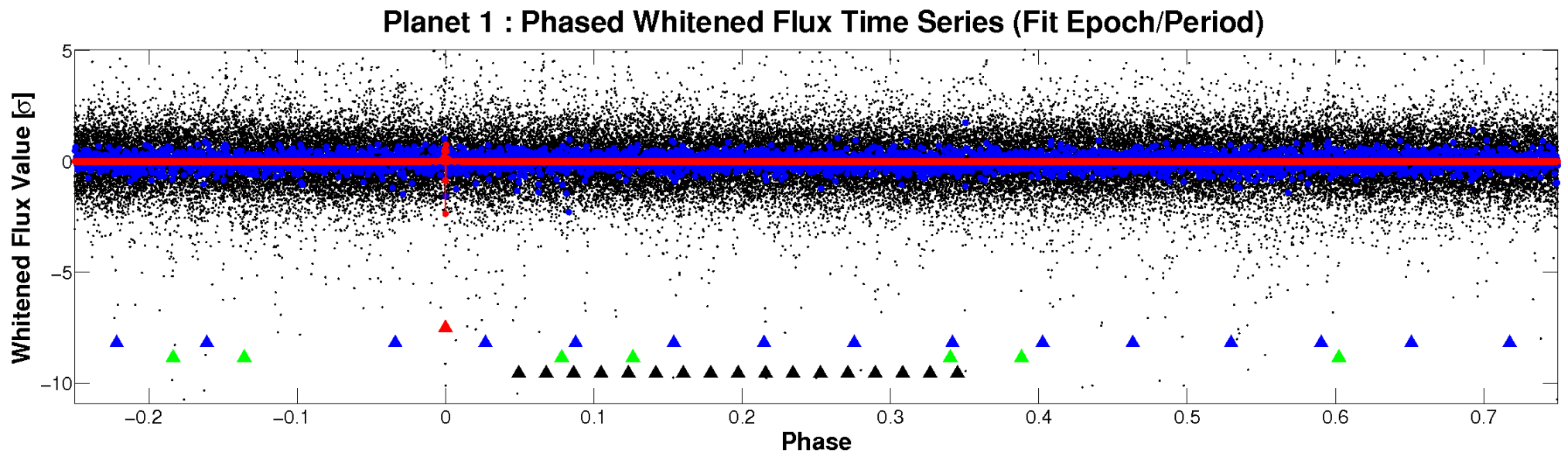
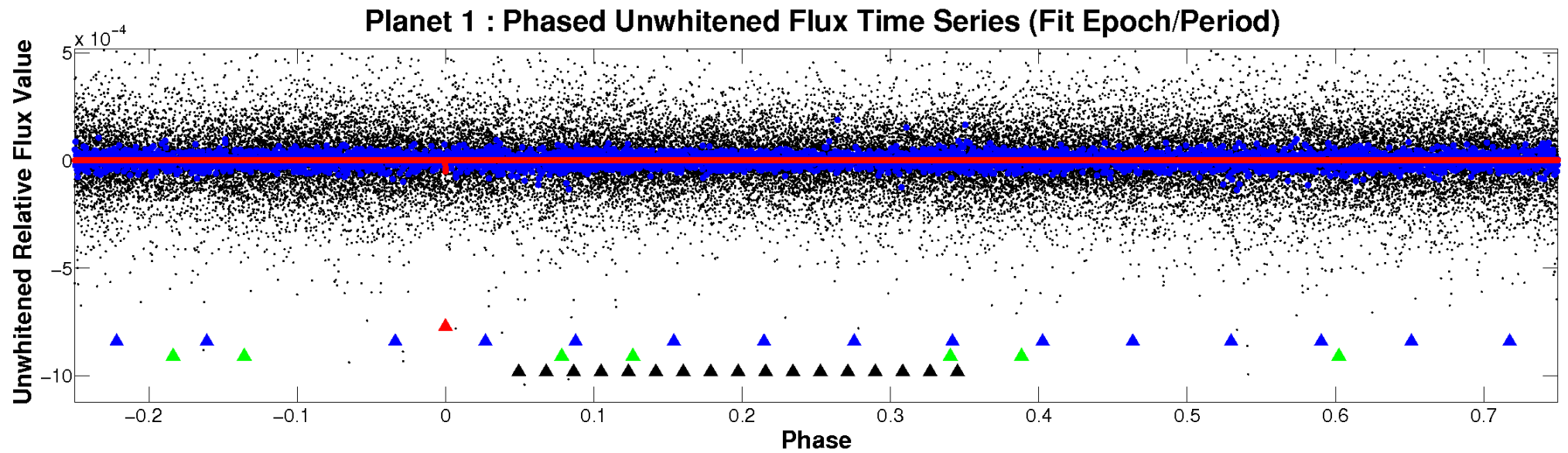


ALT Odd/Even

TCE 007760869-01

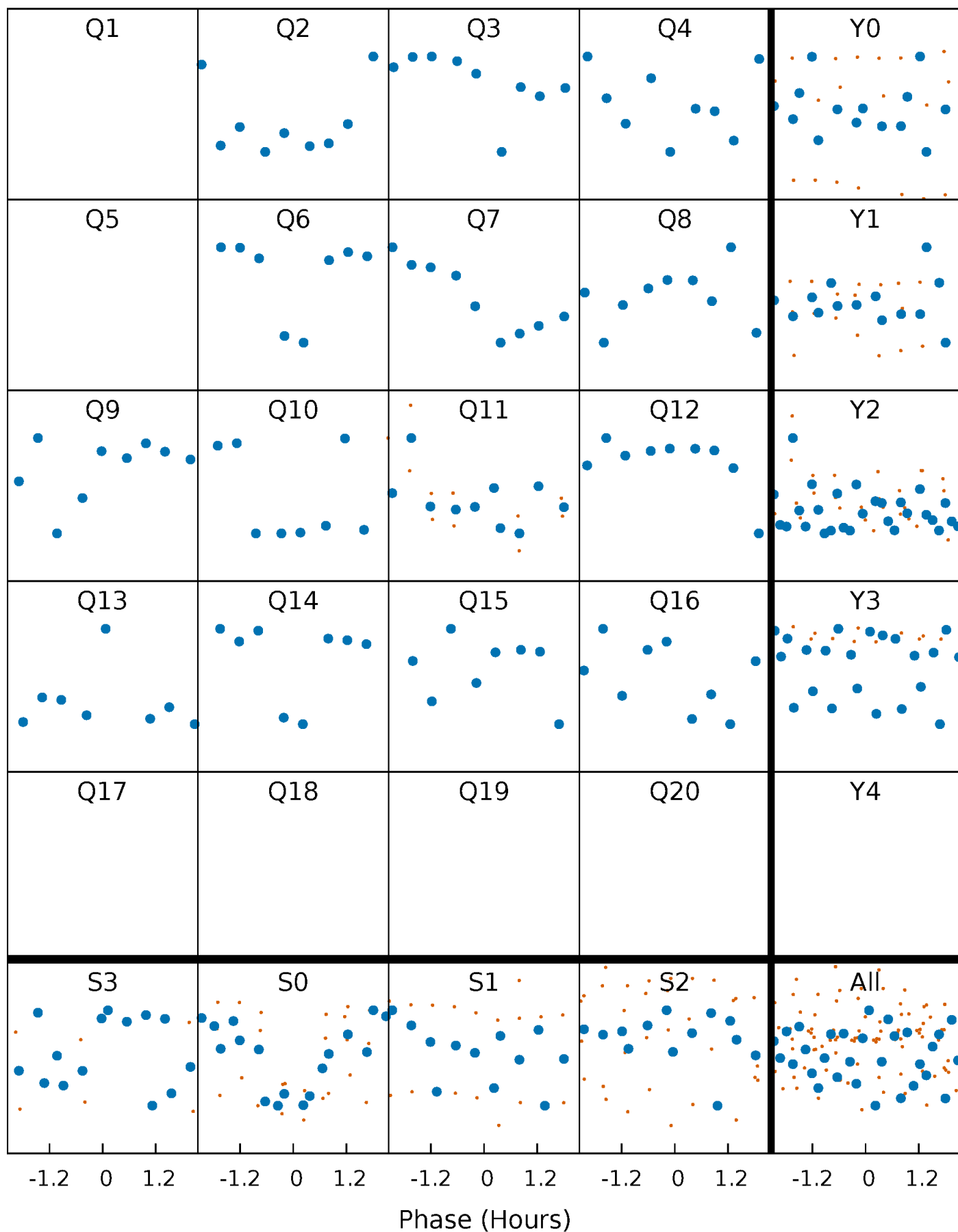


Non-Whitened Vs. Whitened Light Curve



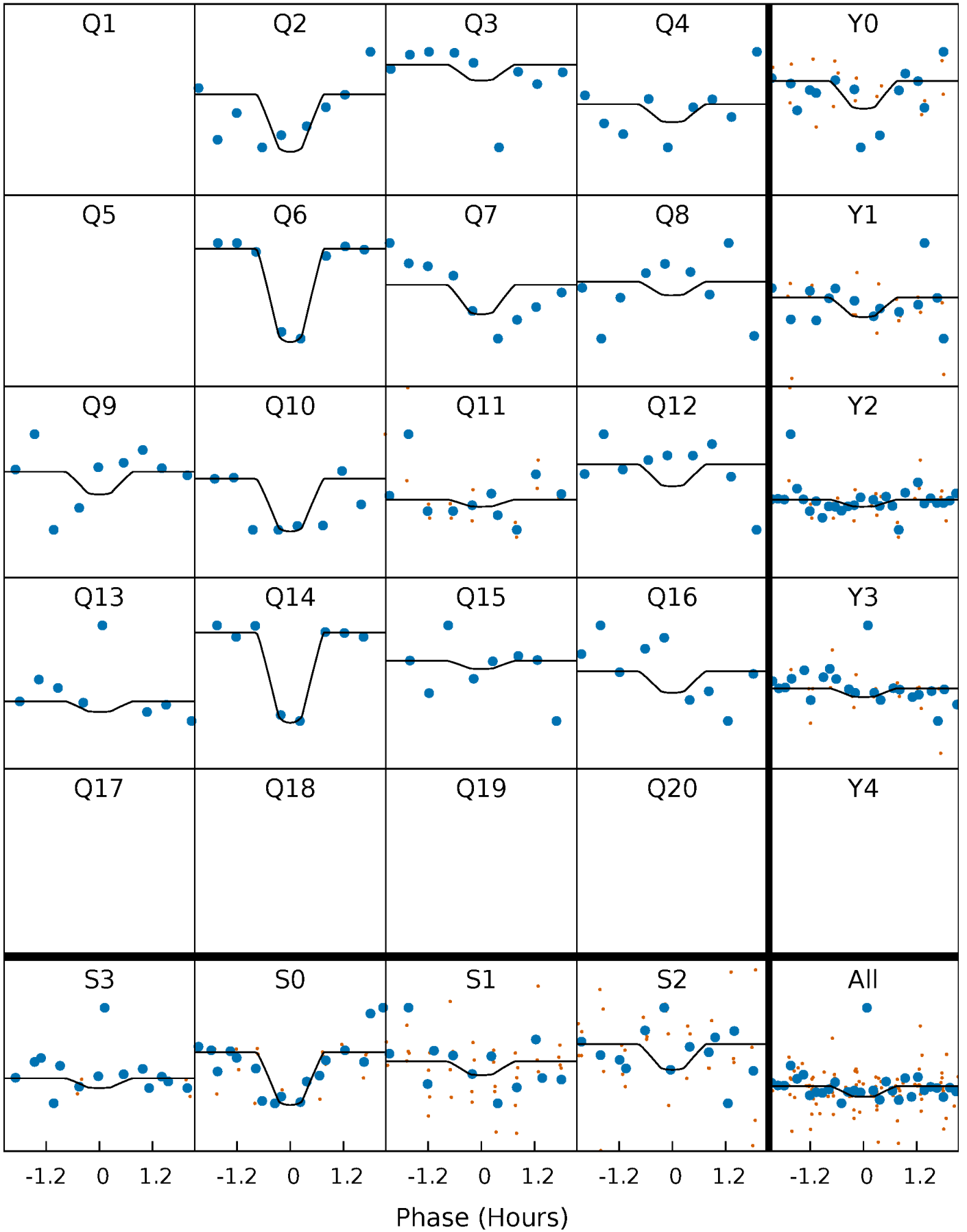
PDC Quarter-Phased Transit Curves

TCE 007760869-01 P= 84.243263 Days $T_0=167.346271$ (BKJD)



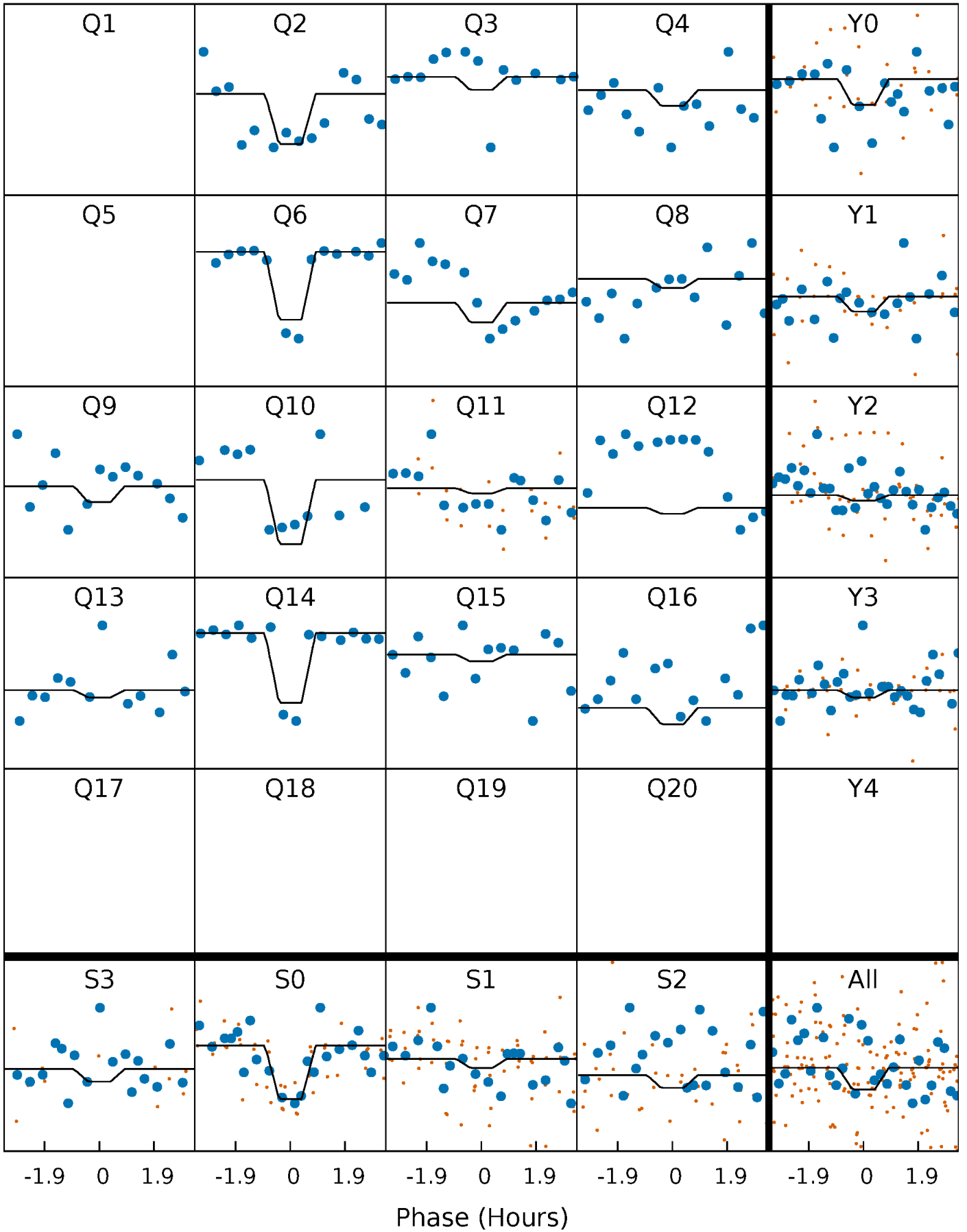
DV Quarter-Phased Transit Curves

TCE 007760869-01 P= 84.243263 Days $T_0=167.346271$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

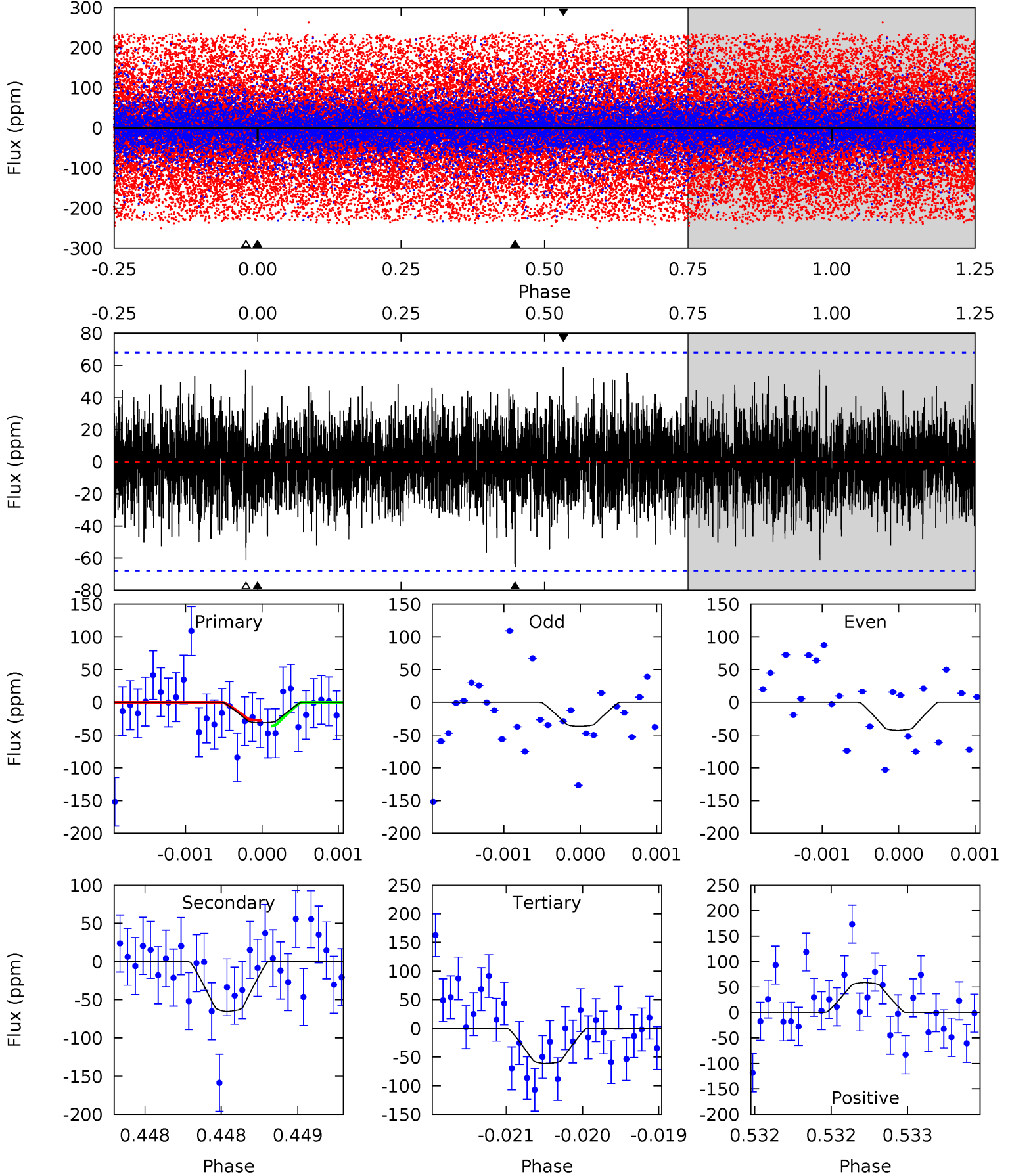
TCE 007760869-01 P= 84.243365 Days $T_0=167.346110$ (BKJD)



DV Model-Shift Uniqueness Test

007760869-01, P = 84.243263 Days, E = 83.103008 Days

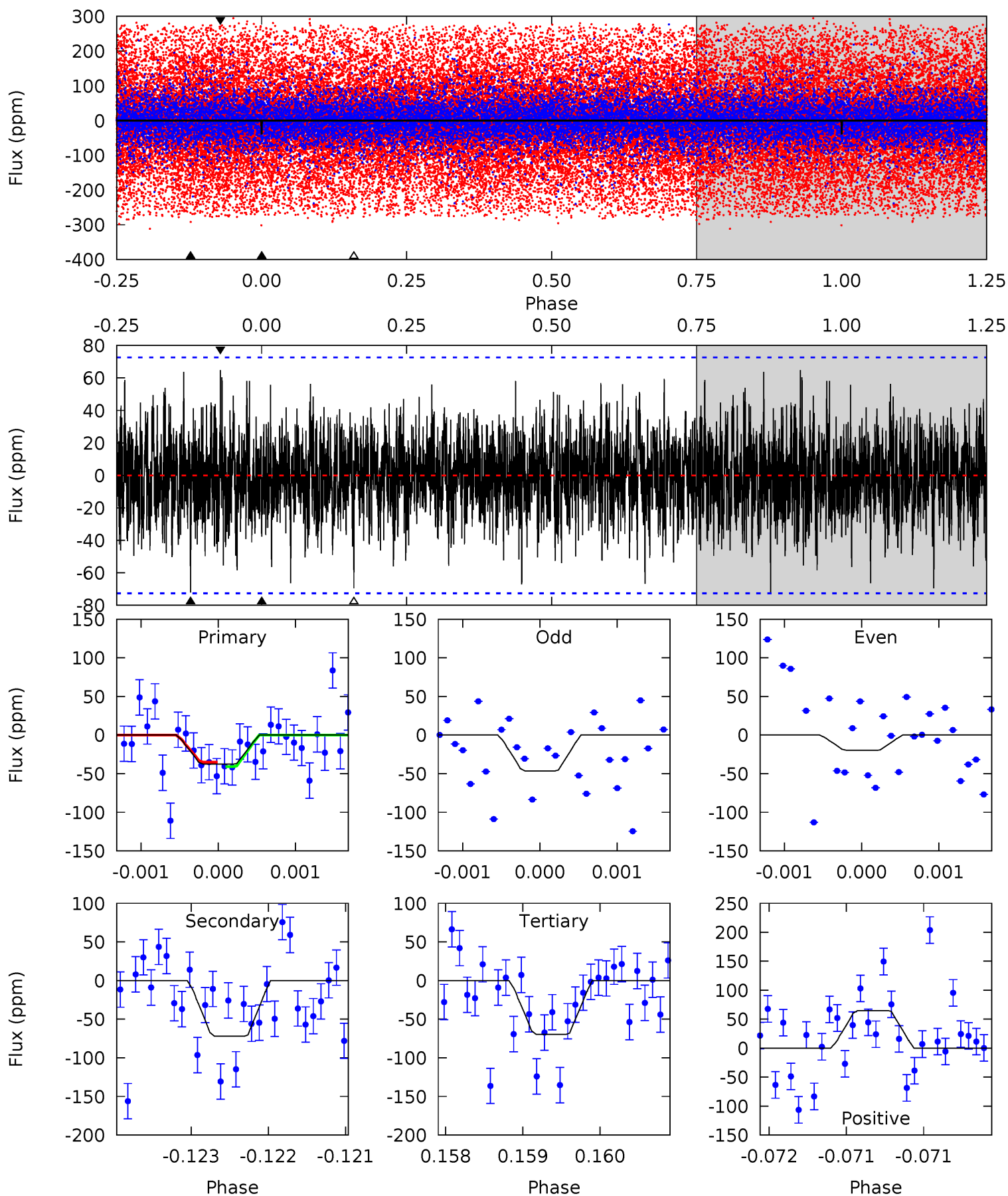
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.55	5.32	4.98	4.78	5.51	3.38	1.29	-2.43	-2.23	0.33	0.54	0.26	0.36	0.47	0.35



Alt Model-Shift Uniqueness Test

007760869-01, P = 84.243365 Days, E = 83.102745 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.84	5.43	5.25	4.89	5.48	3.34	1.41	-2.41	-2.05	0.18	0.54	1.01	-0.08	0.47	0.21



Stellar Parameters For KIC 007760869

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6079^{+200}_{-200}	$3.886^{+0.552}_{-0.138}$	$-0.580^{+0.350}_{-0.250}$	$1.892^{+0.507}_{-0.942}$	$1.004^{+0.138}_{-0.168}$	$0.209^{+1.152}_{-0.096}$
	+3%/-3%	+14%/-4%	+60%/-43%	+27%/-50%	+14%/-17%	+552%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007760869-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-65 ± 12	$1.54^{+0.52}_{-0.49}$	818^{+70}_{-116}	6044^{+842}_{-638}	2160^{+2333}_{-969}
Alt.	-72 ± 13	$1.19^{+0.53}_{-0.41}$	815^{+72}_{-109}	7007^{+1488}_{-952}	3900^{+5802}_{-1981}

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

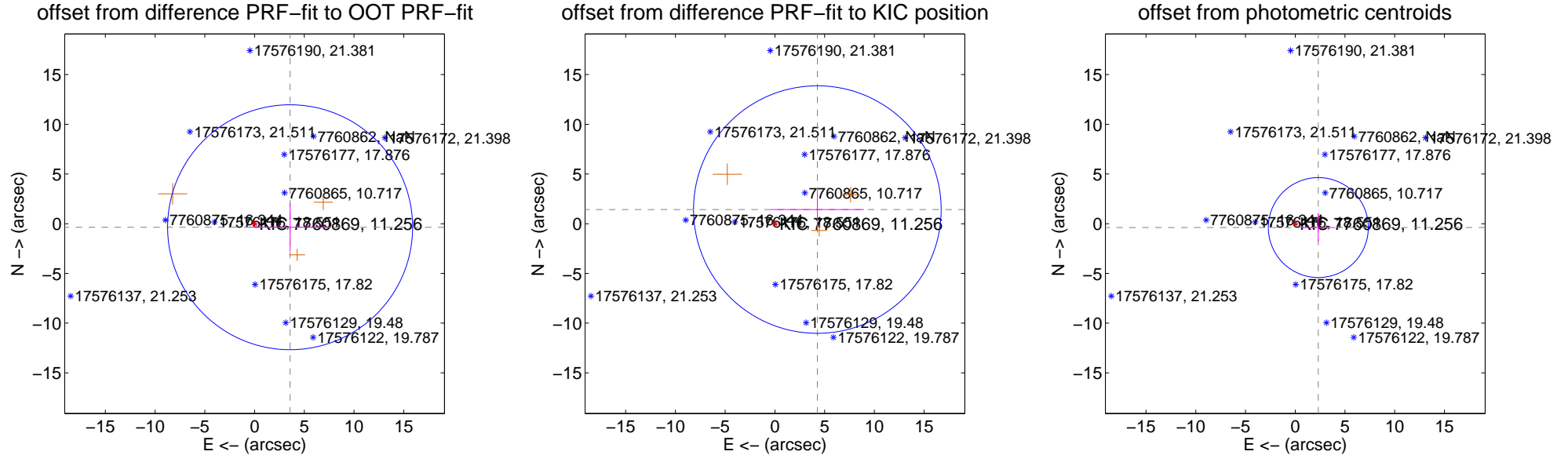
DV Centroid Data

Supplemental centroid analysis for 007760869-01. **Kepler magnitude: 11.26.** Transit SNR 25.85

There are 0 quarters with good PRF difference image offsets

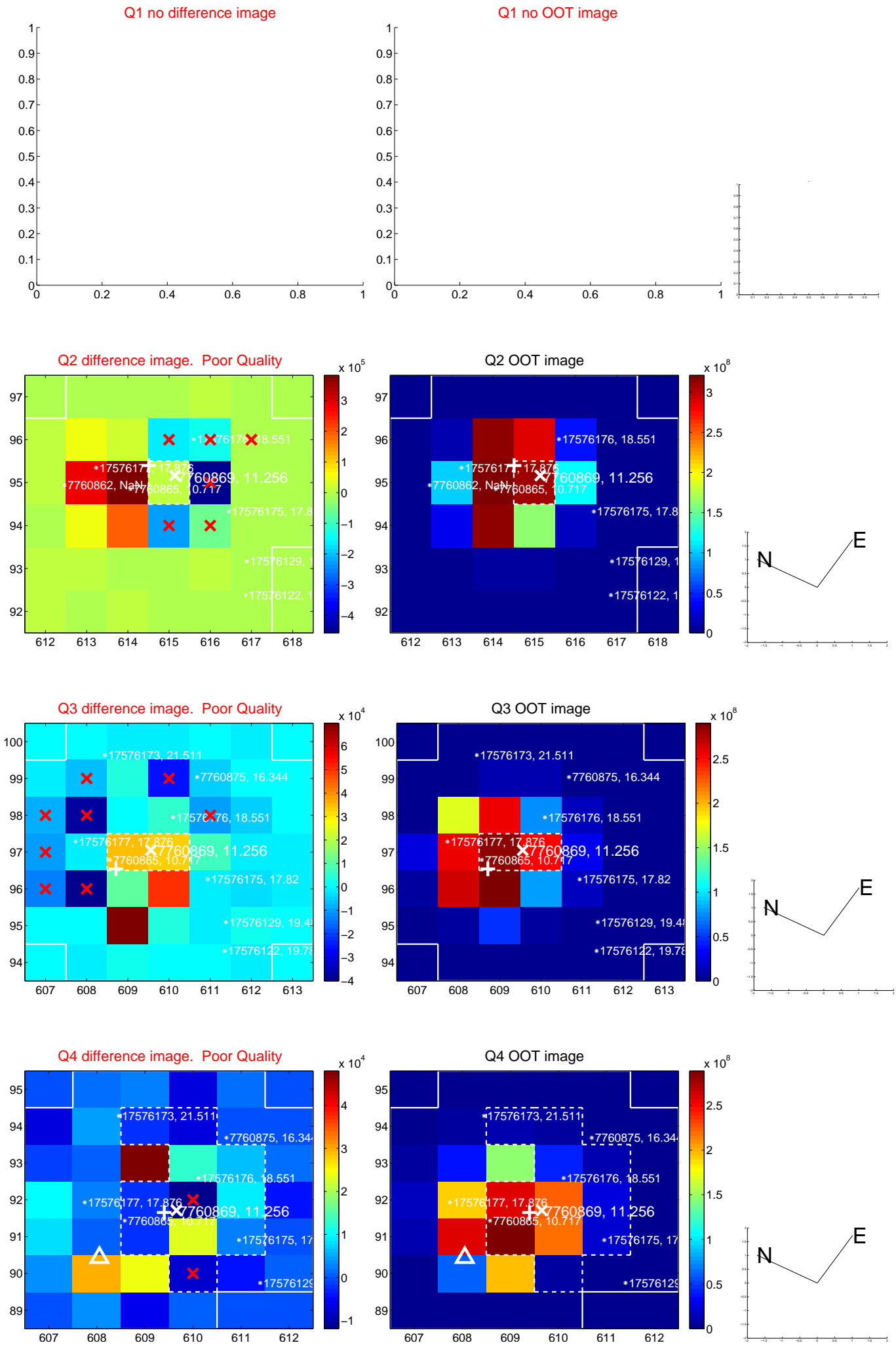
The OOT PRF centroid is offset from the target star catalog position by about 3.98 arcsec so the offset from difference PRF-fit to OOT-PRF-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.592 ± 4.106	0.87	-3.574 ± 4.119	-0.355 ± 2.432
PRF-fit source offset from KIC position	4.499 ± 4.150	1.08	-4.267 ± 4.689	1.424 ± 1.659
photometric centroid source offset	2.35 ± 1.68	1.40	-2.32 ± 1.68	-0.39 ± 1.42

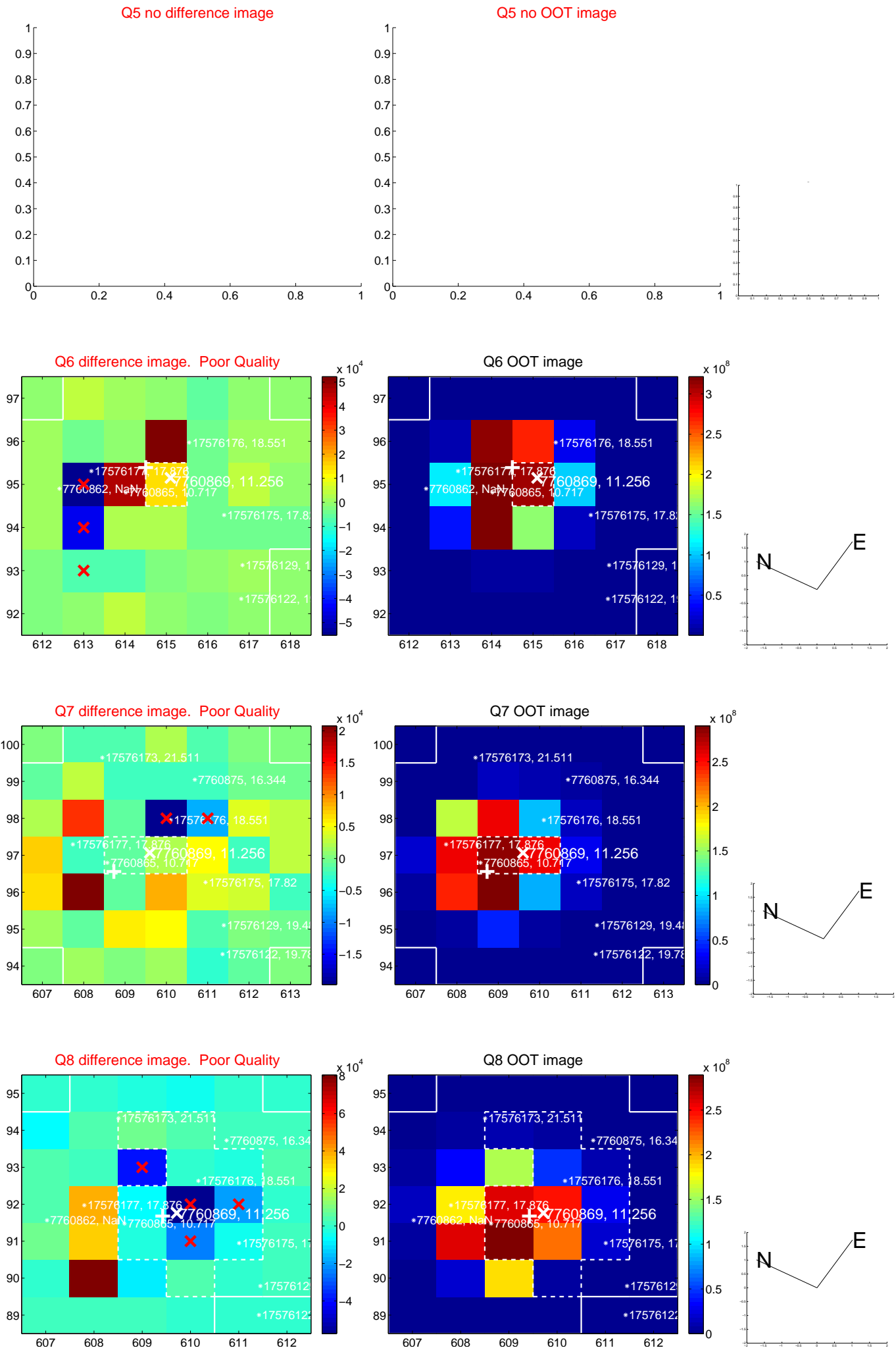


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

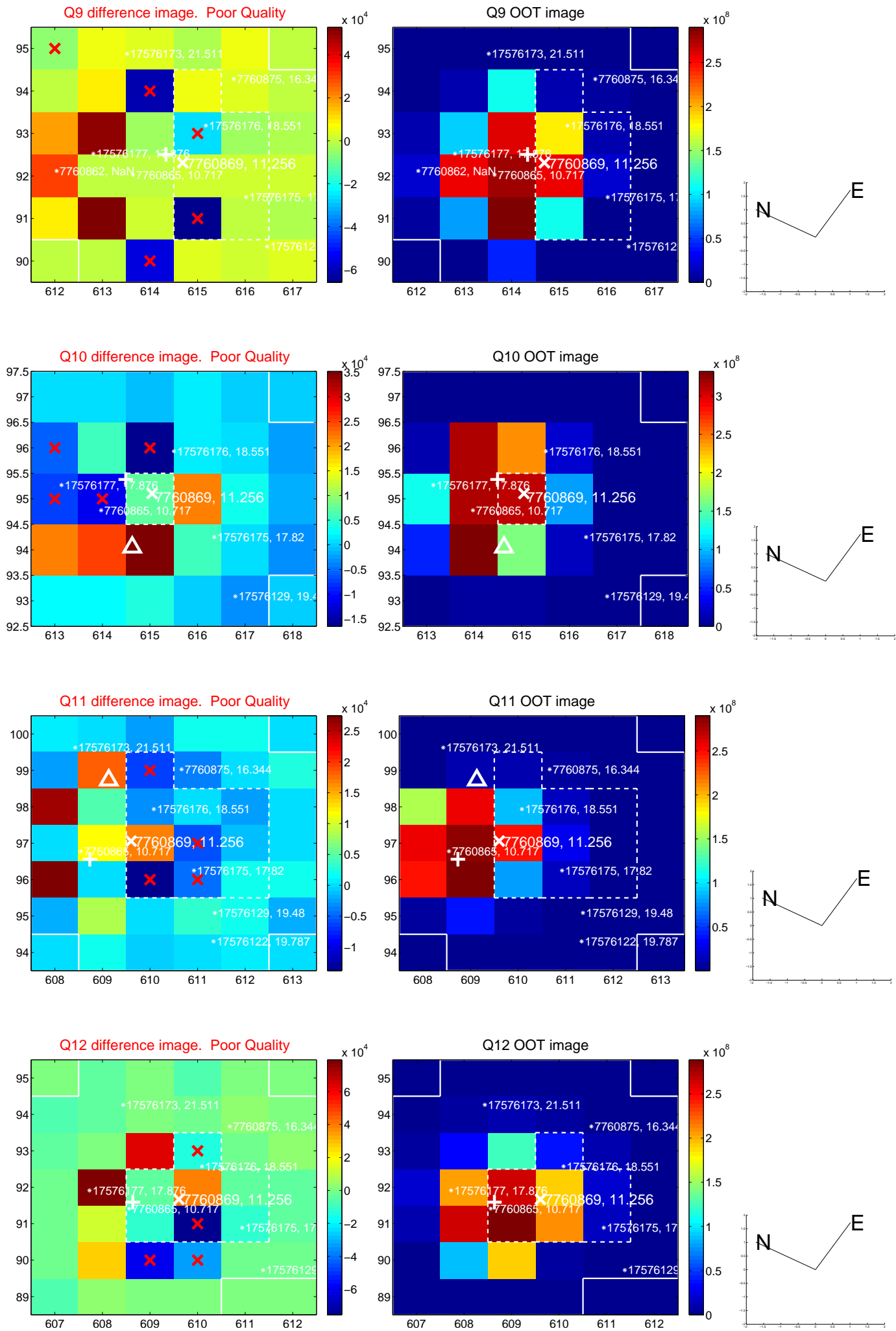
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



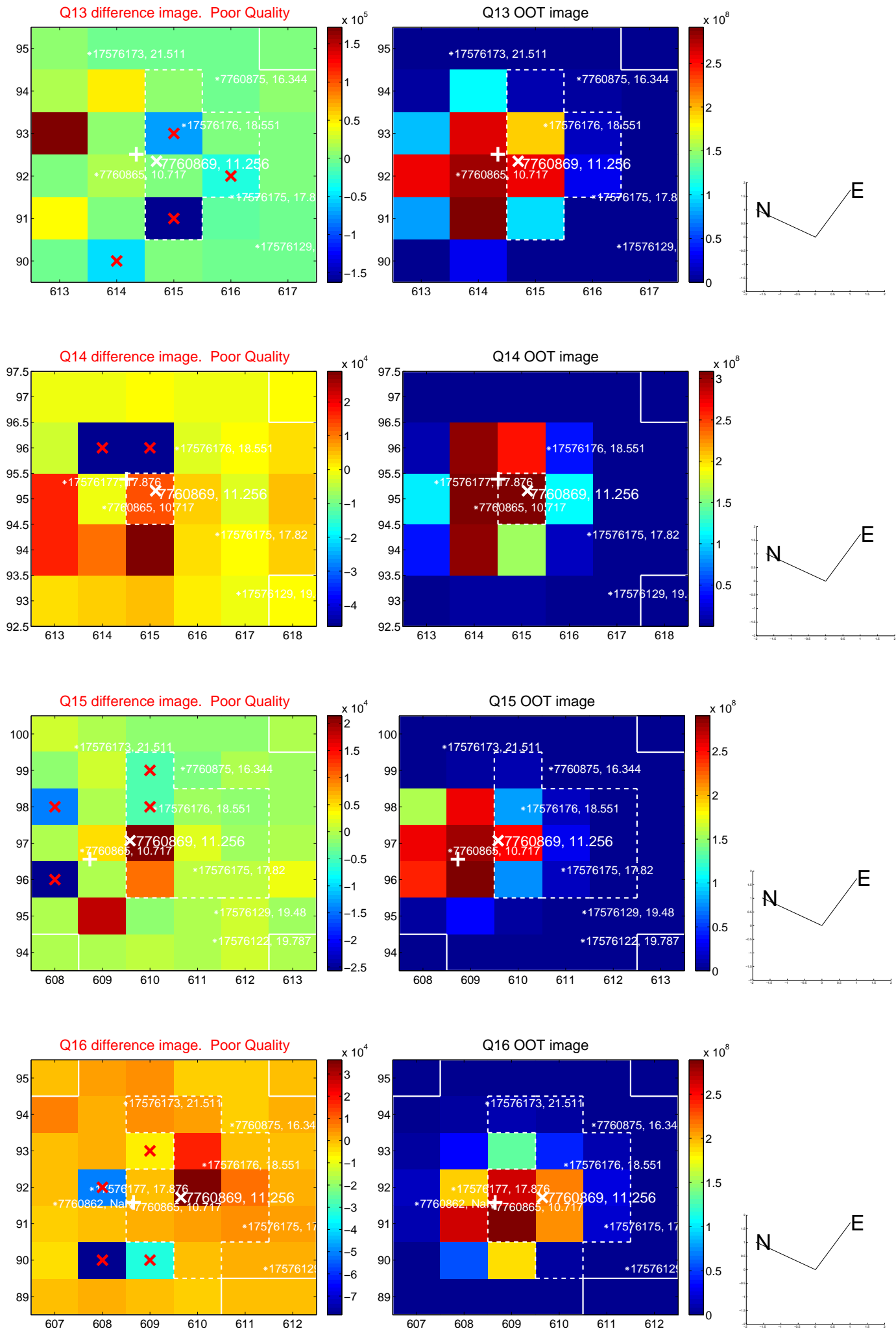
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



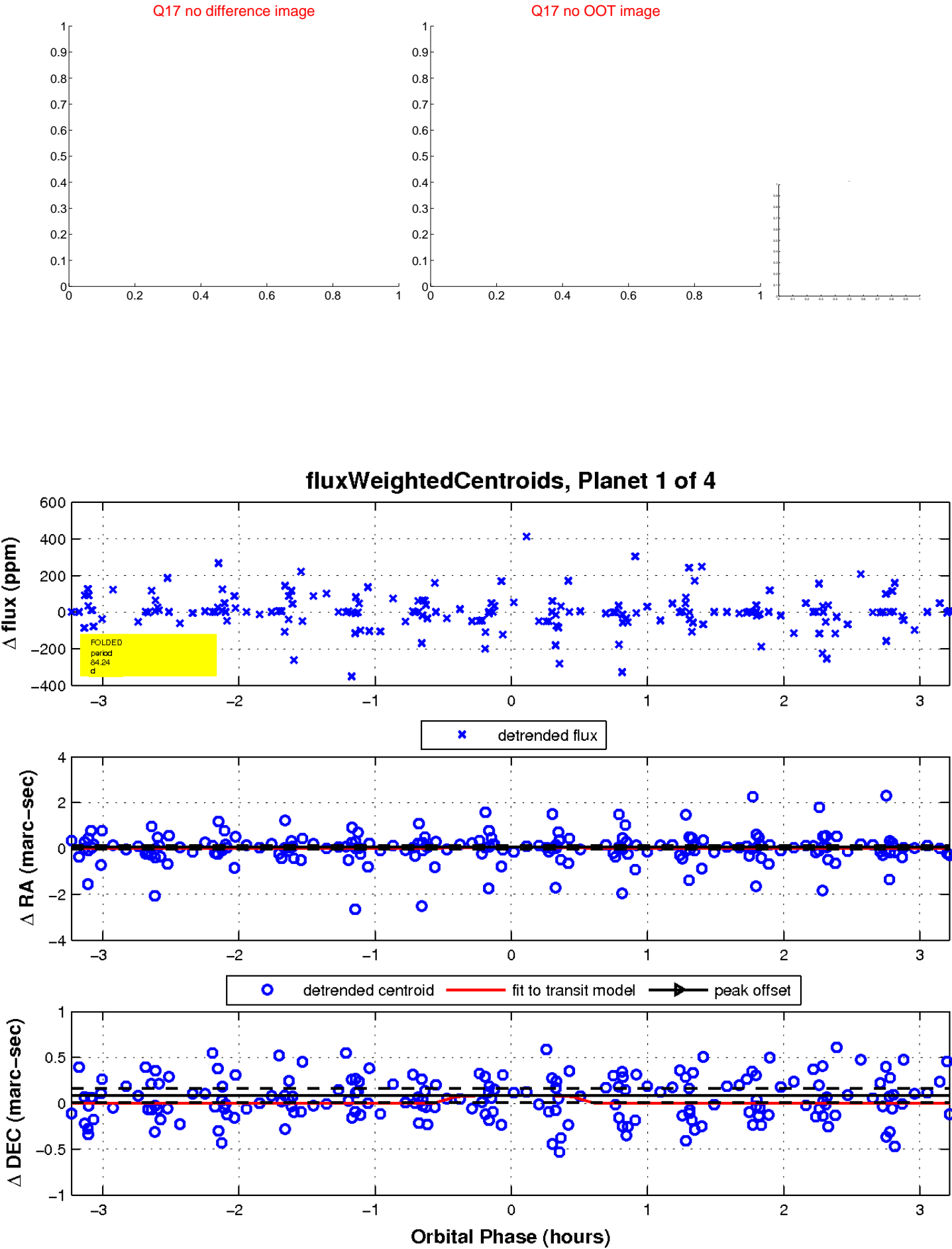
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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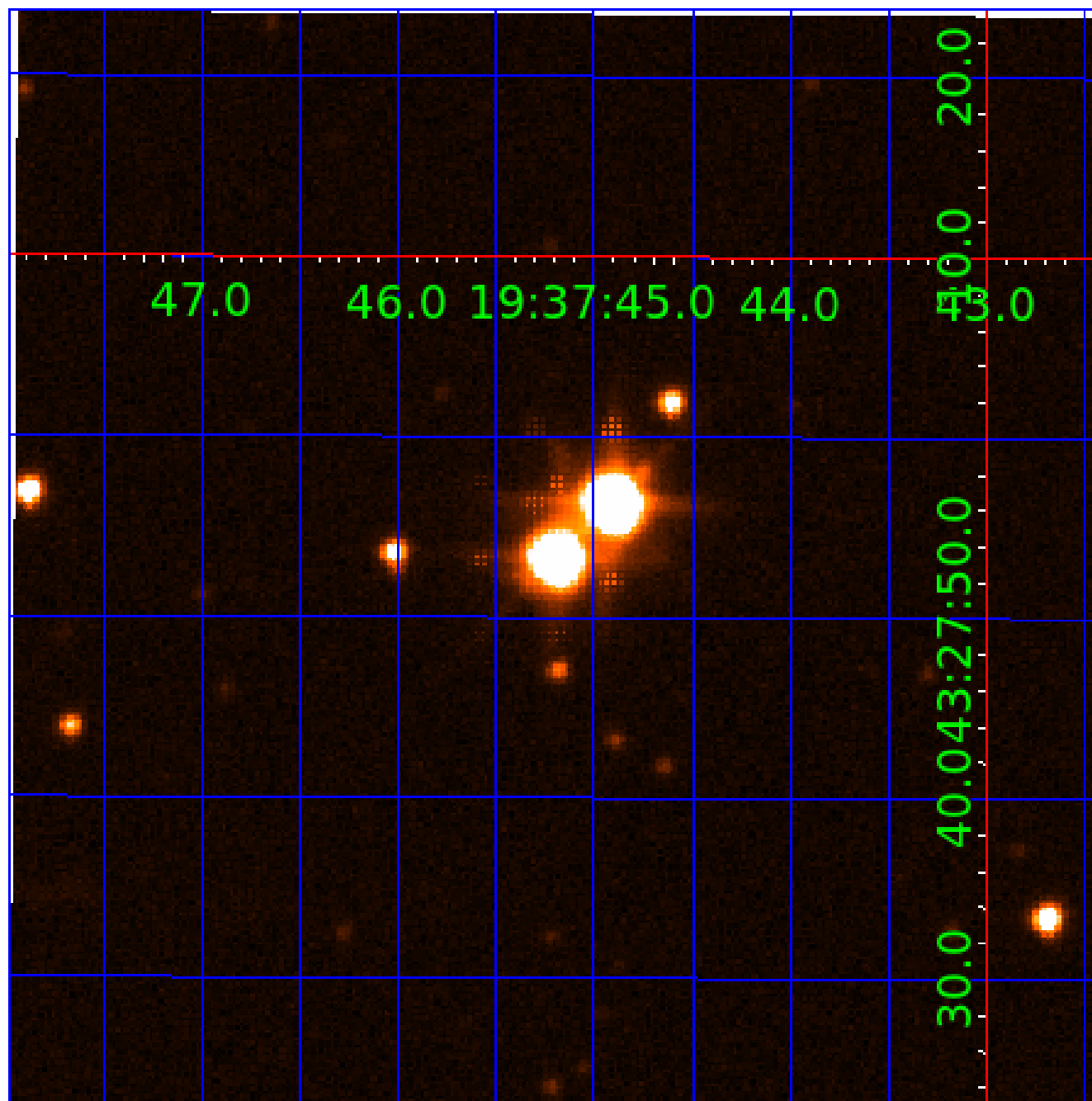


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007760869

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})
007760869-01	OBS	No	84.243263	167.346271	53.1	1.079	13.4	25.9	1.89	6079	1.66	30.86
007760869-02	OBS	No	100.067710	174.735978	42.0	2.703	14.4	8.6	1.89	6079	1.52	24.54
007760869-03	OBS	No	190.558174	320.363495	213.5	2.076	13.6	11.0	1.89	6079	3.26	10.39
007760869-04	OBS	No	85.800773	171.509120	334.4	2.000	12.8	-1.0	1.89	6079	3.48	30.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007760869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007760869-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

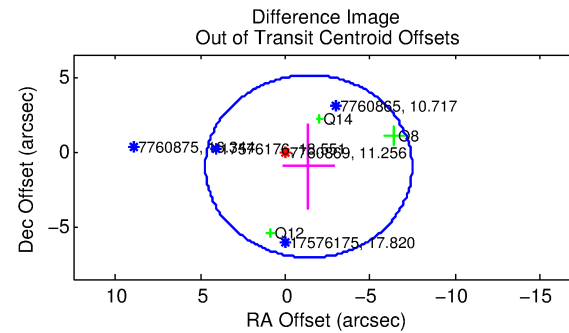
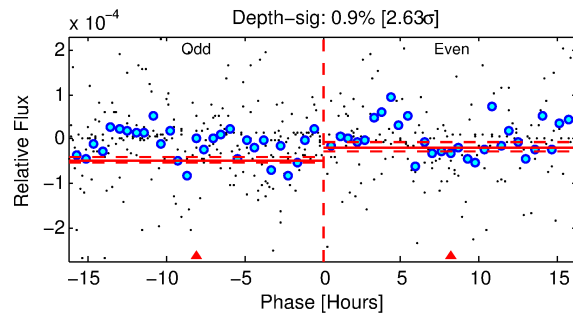
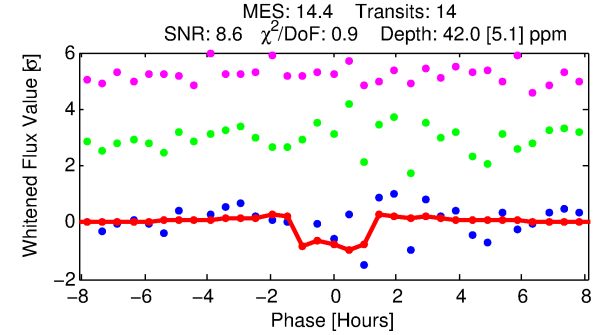
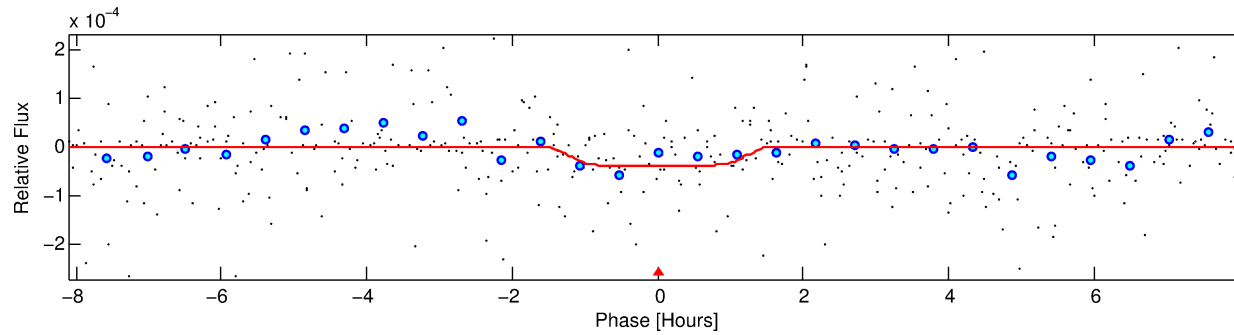
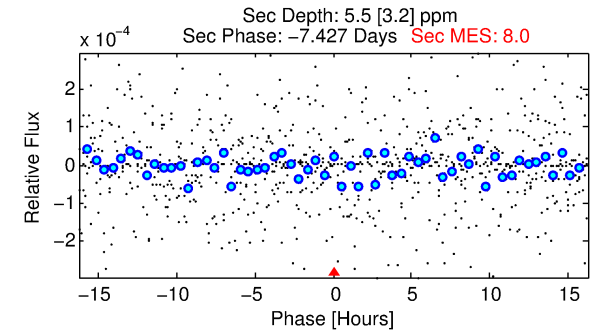
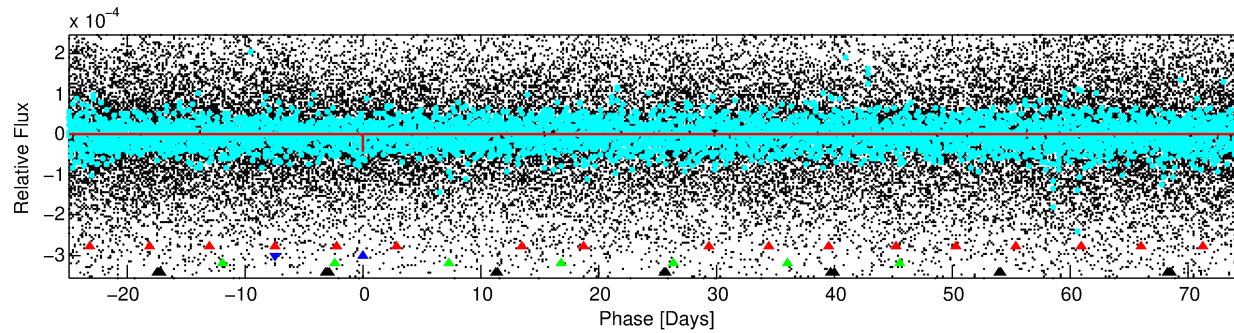
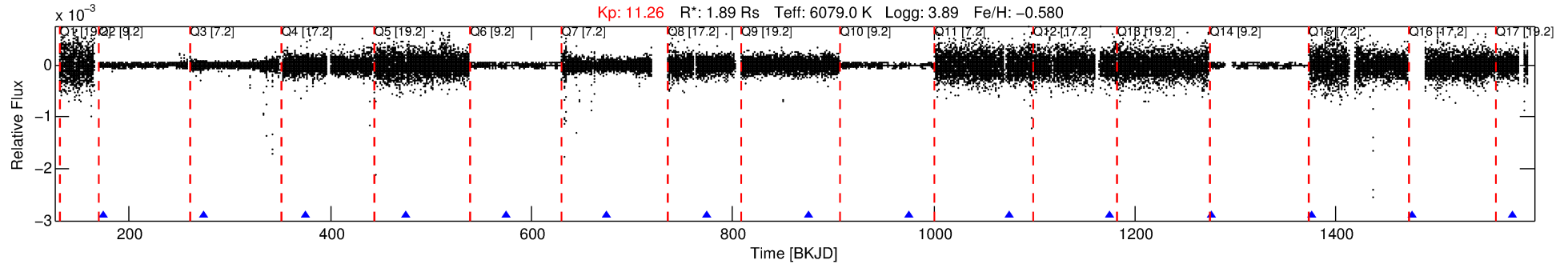
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007760869-02

No Significant Match Found

DV One-Page Summary

KIC: 7760869 Candidate: 2 of 4 Period: 100.068 d



DV Fit Results:

Period = 100.06771 [0.00054] d
Epoch = 174.7360 [0.0059] BKJD
Rp/R* = 0.0073 [0.0021]
a/R* = 96.93 [151.45]
b = 0.95 [0.17]
Seff = 24.53 [22.56]
Teq = 568 [130] K
Rp = 1.52 [0.87] Re
a = 0.4225 [0.2274] AU
Ag = 232.75 [283.53] [0.82 sigma]
Teffp = 3427 [703] K [4.00 sigma]

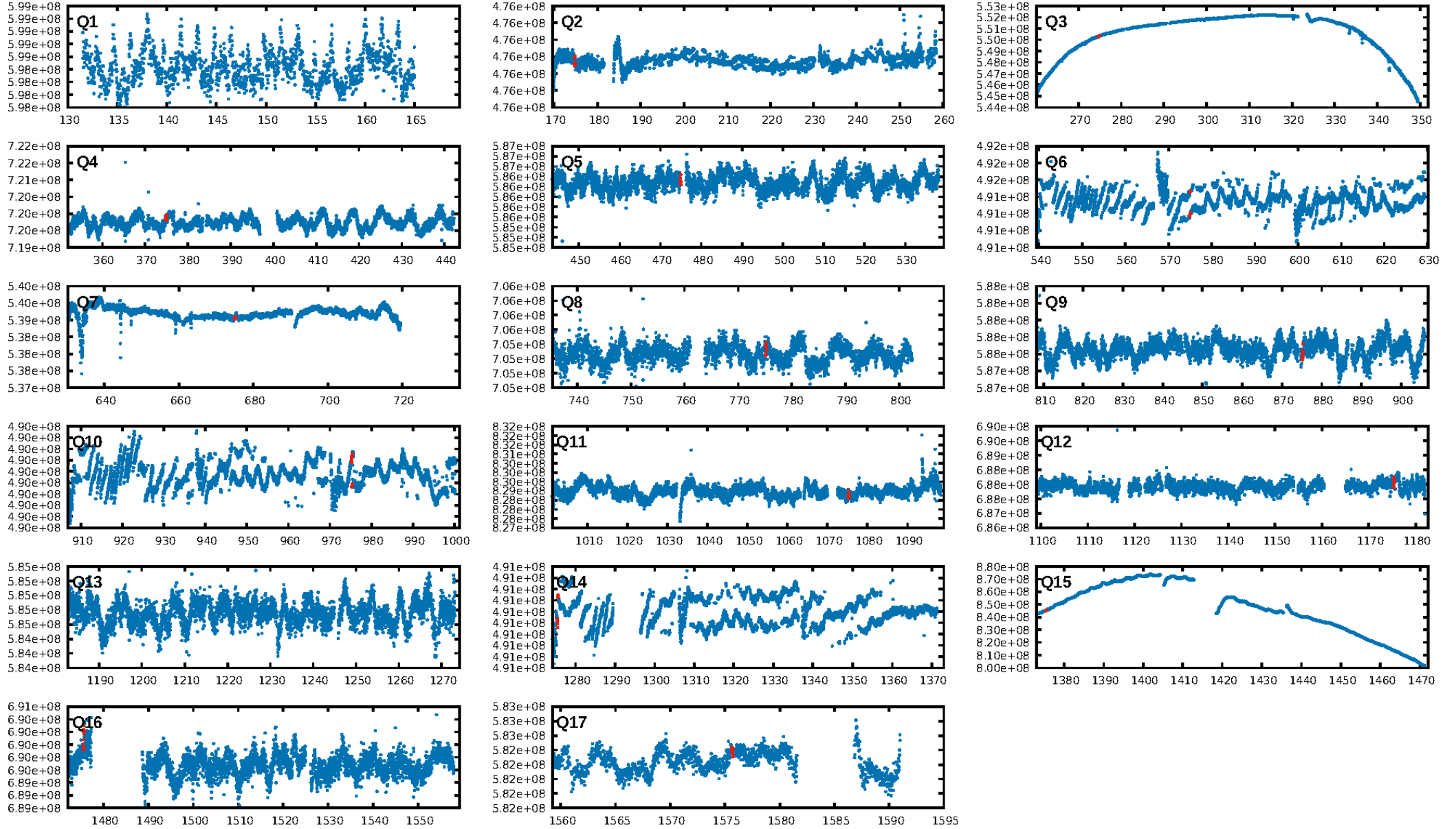
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [101.83 sigma]
LongPeriod-sig: 100.0% [637.20 sigma]
ModelChiSquare2-sig: 84.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 9.563
Centroid-sig: 32.1%
Centroid-so: 2.377 arcsec [1.74 sigma]
OotOffset-rm: 1.707 arcsec [0.84 sigma]
OotOffset-st: 1/0/2/0 [3]
KicOffset-rm: 2.616 arcsec [1.51 sigma]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [12/12]

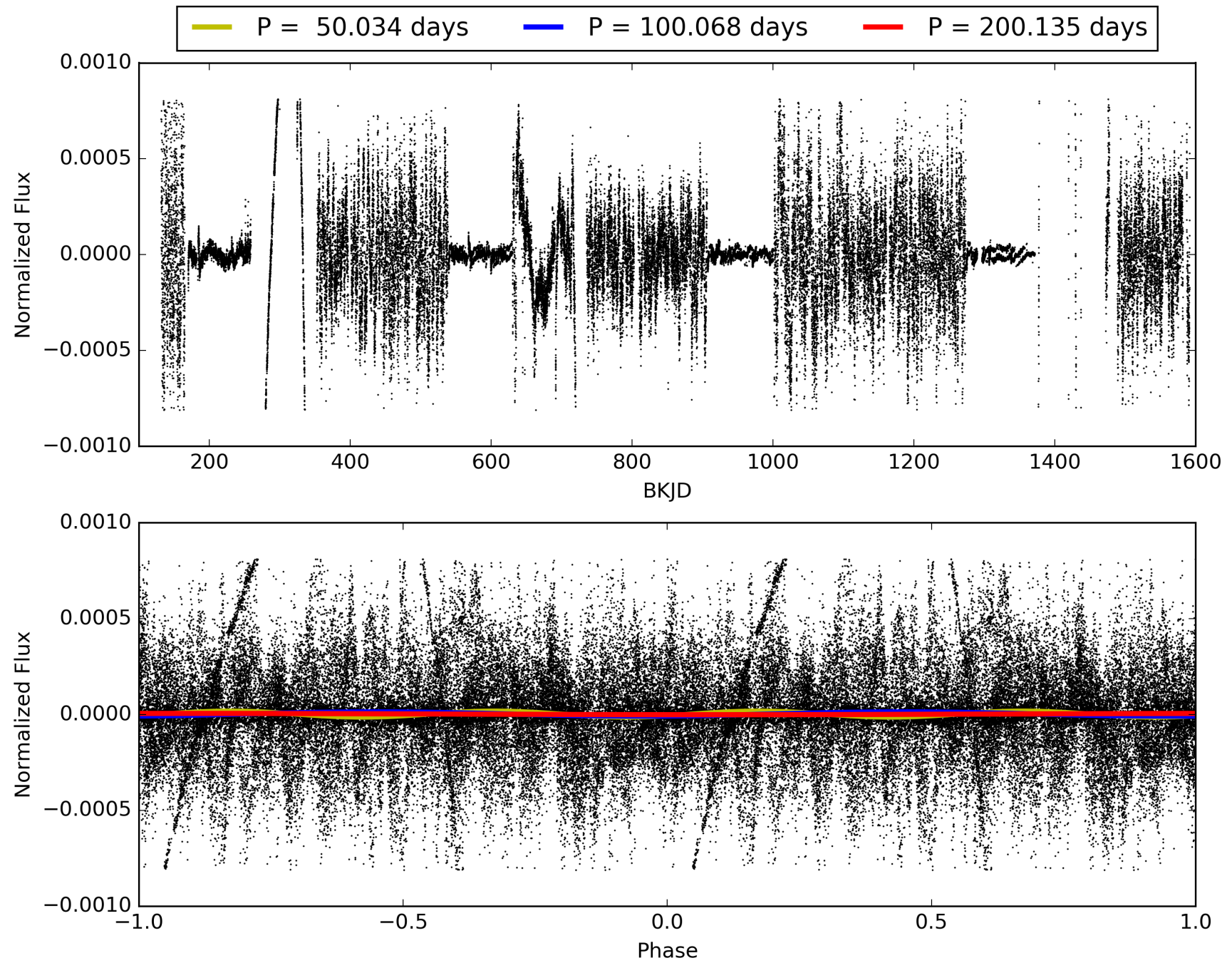
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:38:32 Z

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

TCE 007760869-02, PDC Light Curves

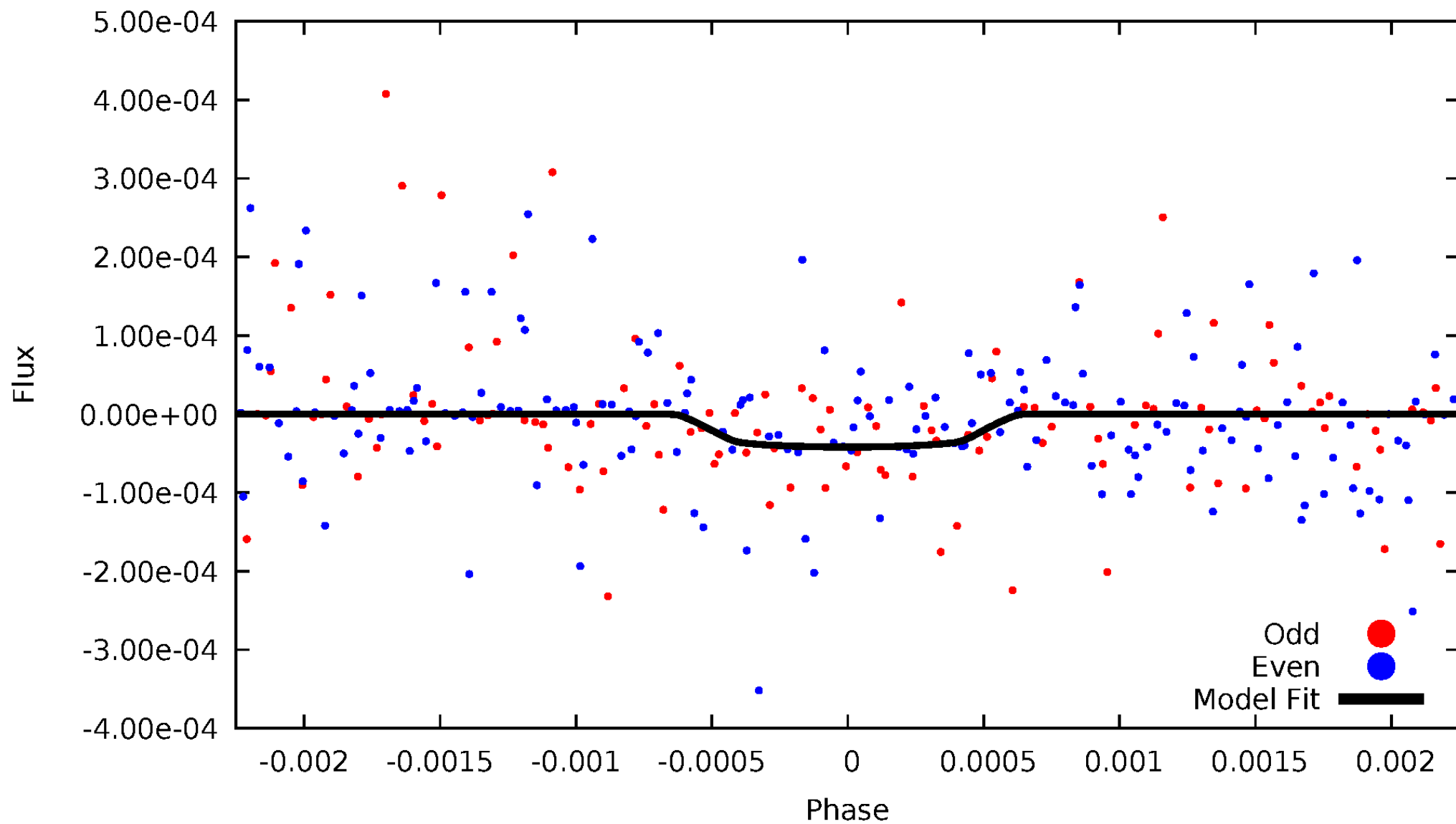


TCE 007760869-02



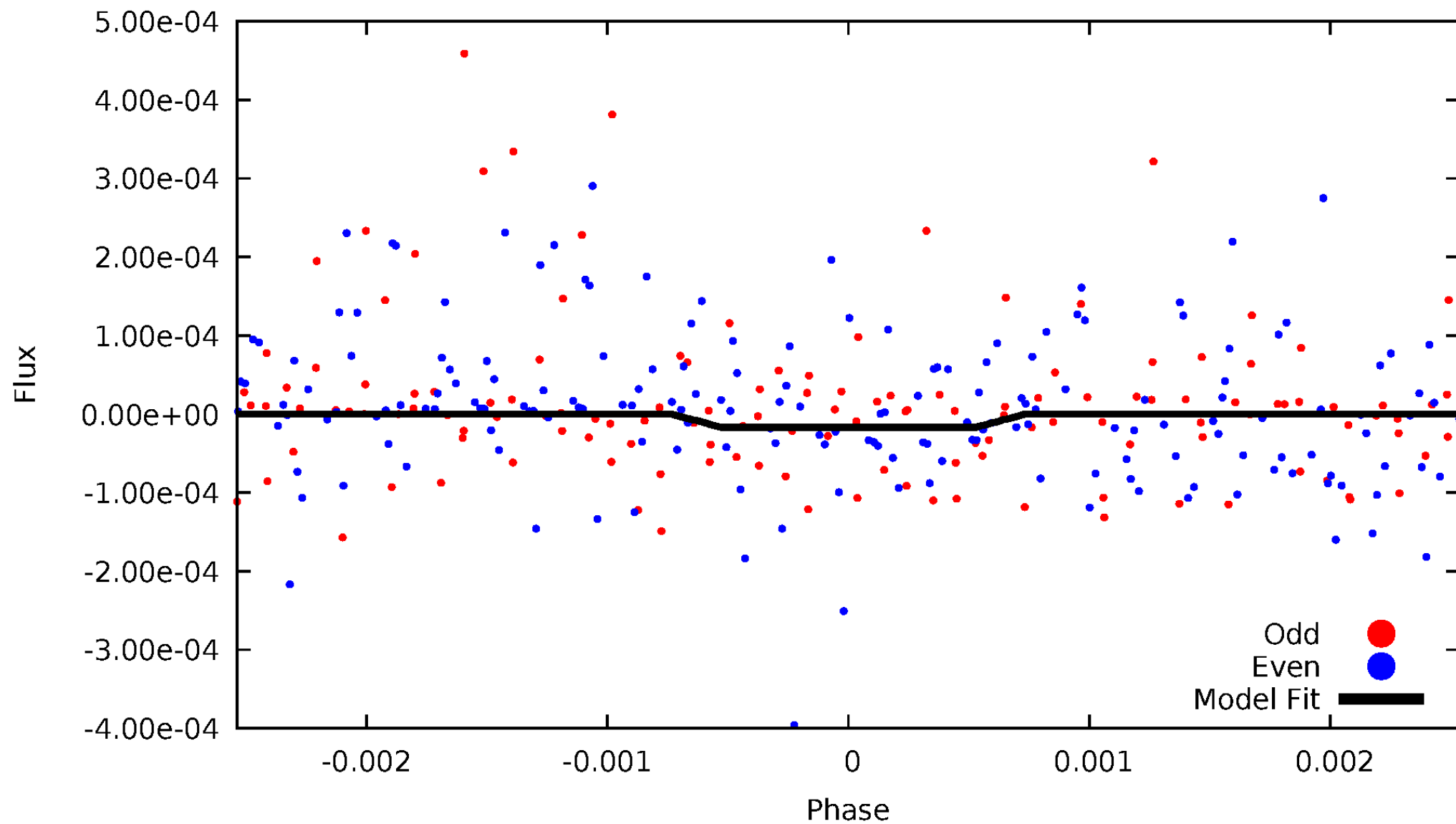
DV Odd/Even

TCE 007760869-02



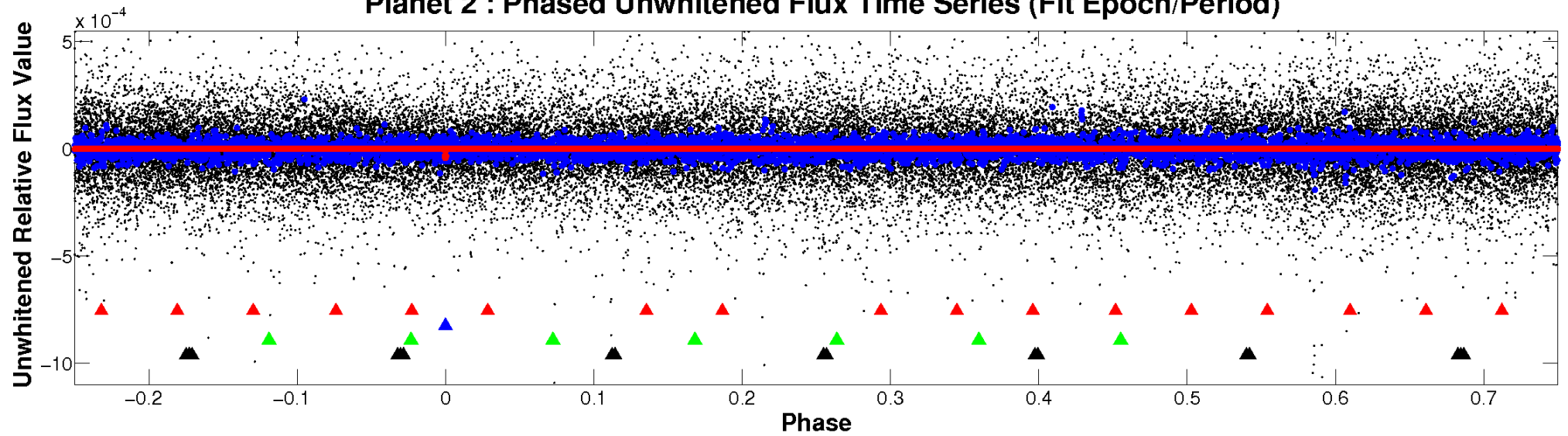
ALT Odd/Even

TCE 007760869-02

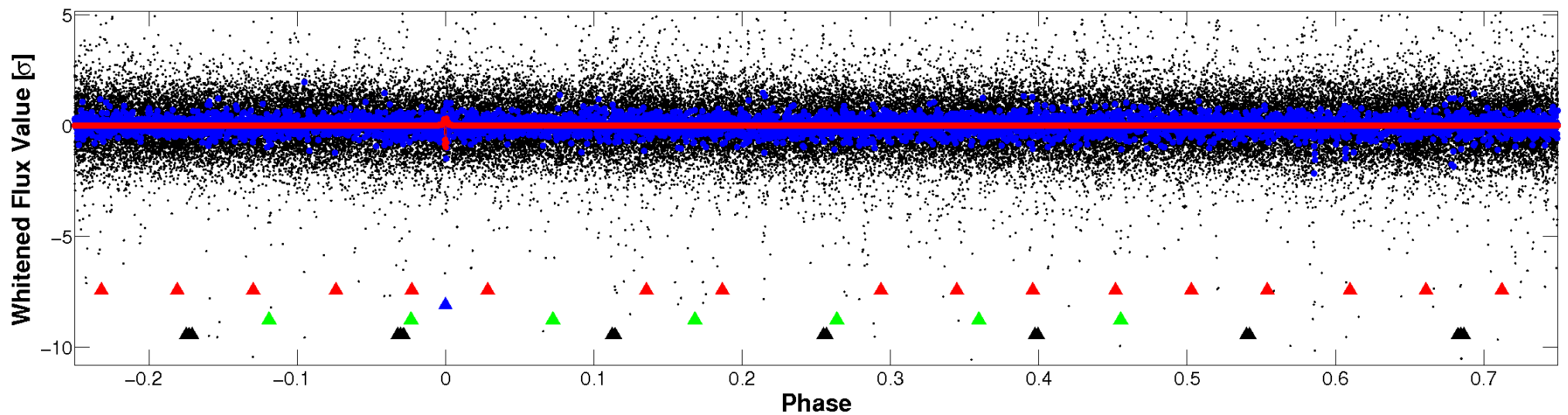


Non-Whitened Vs. Whitened Light Curve

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

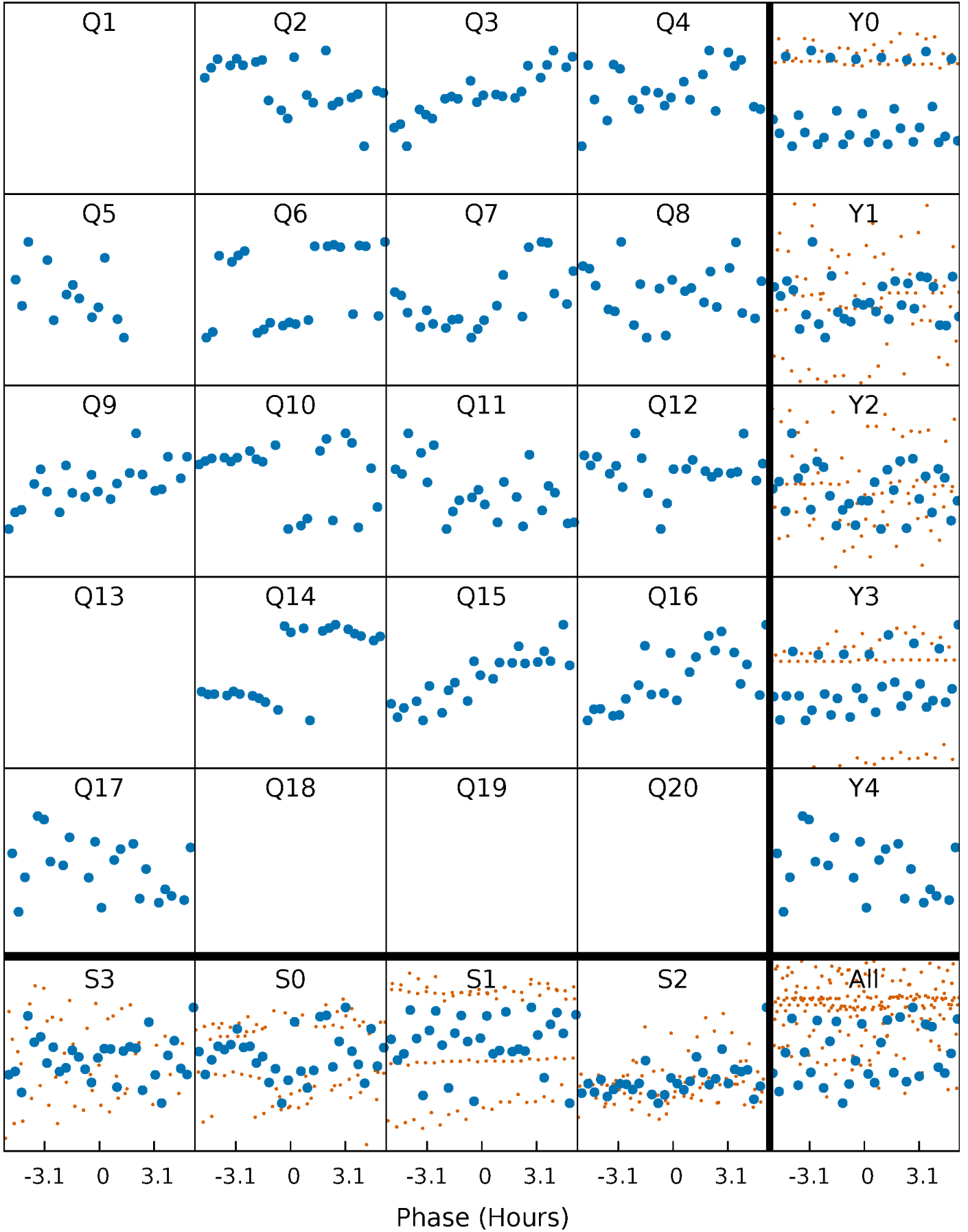


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



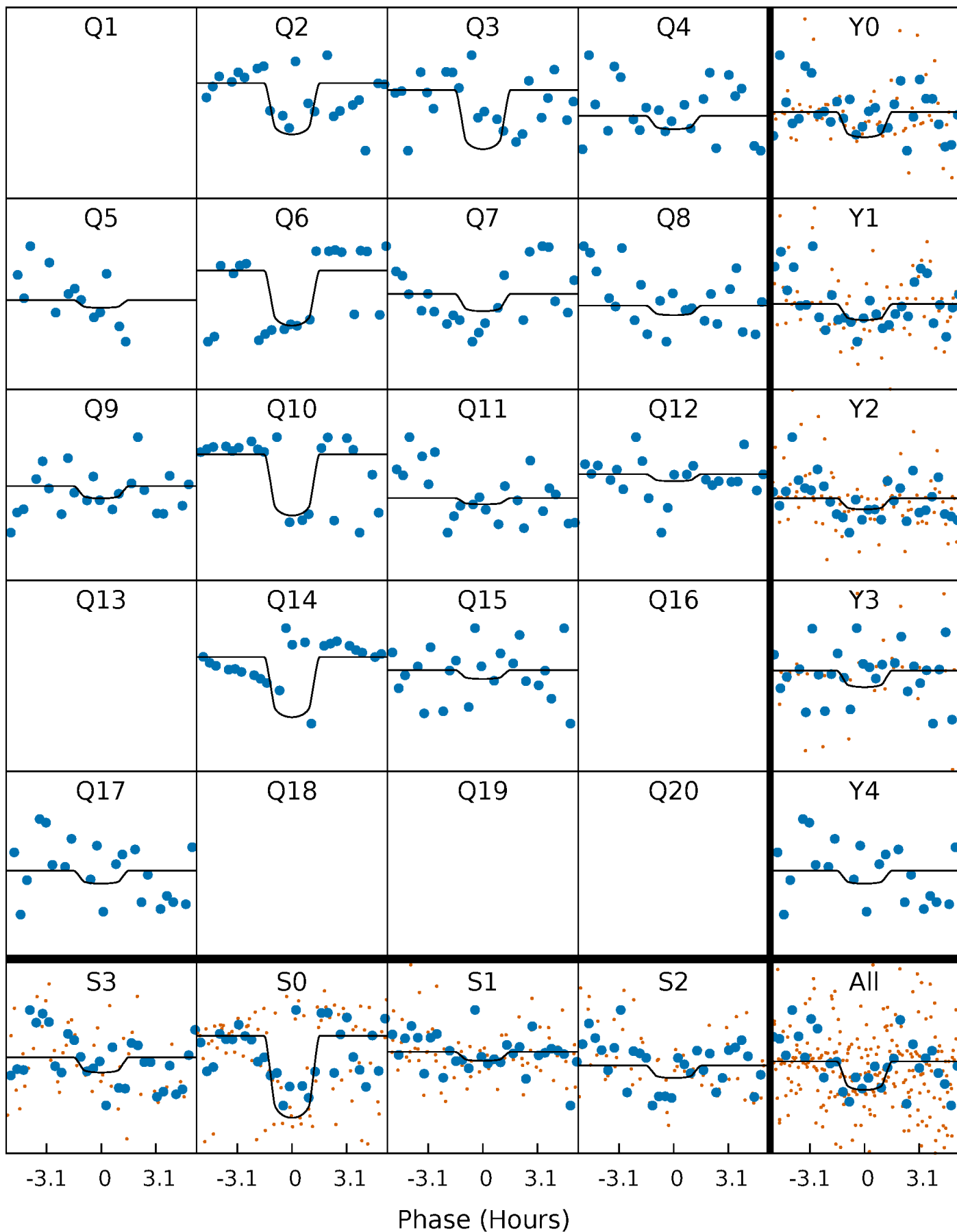
PDC Quarter-Phased Transit Curves

TCE 007760869-02 P=100.067710 Days $T_0=174.735978$ (BKJD)



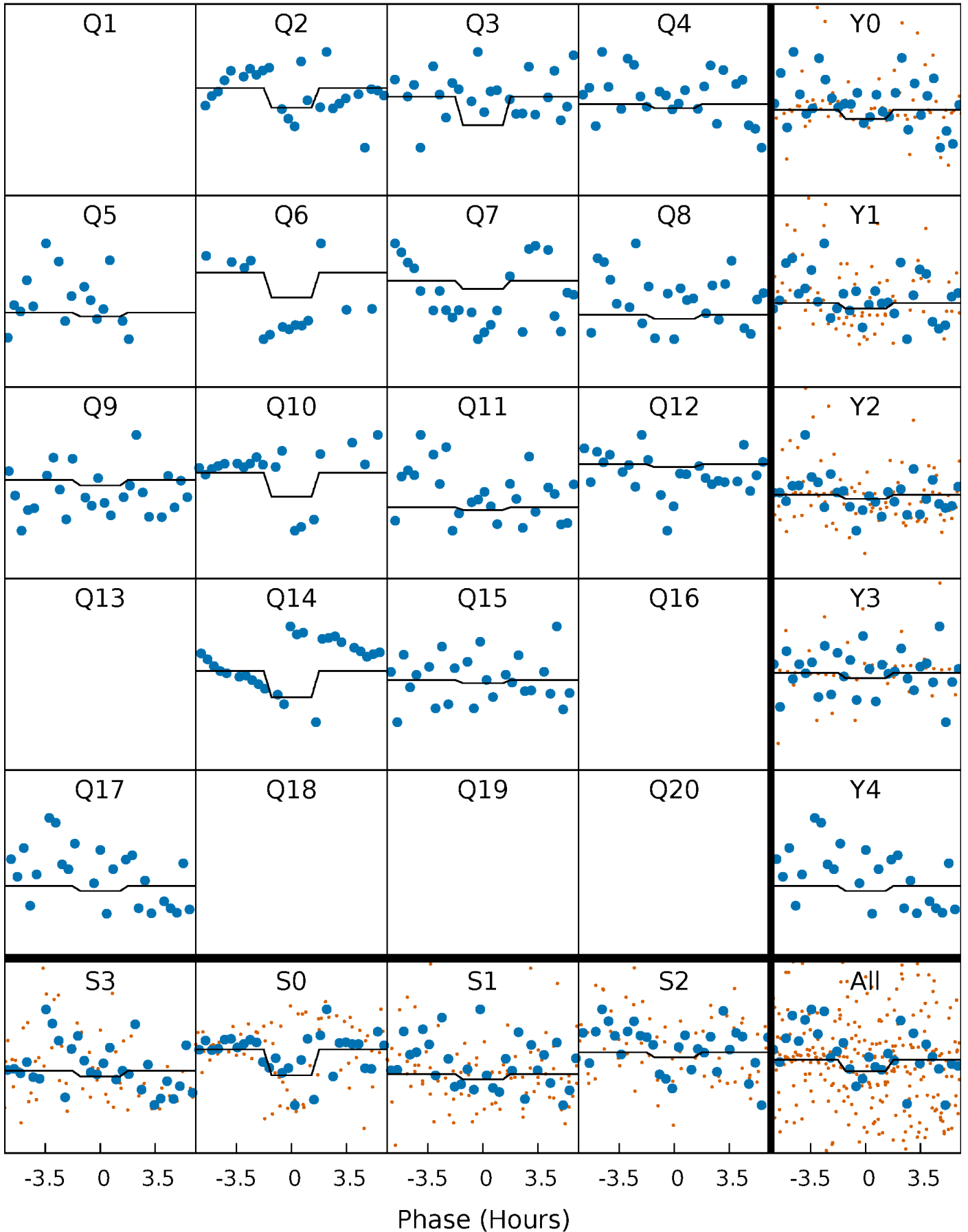
DV Quarter-Phased Transit Curves

TCE 007760869-02 P=100.067710 Days $T_0=174.735978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

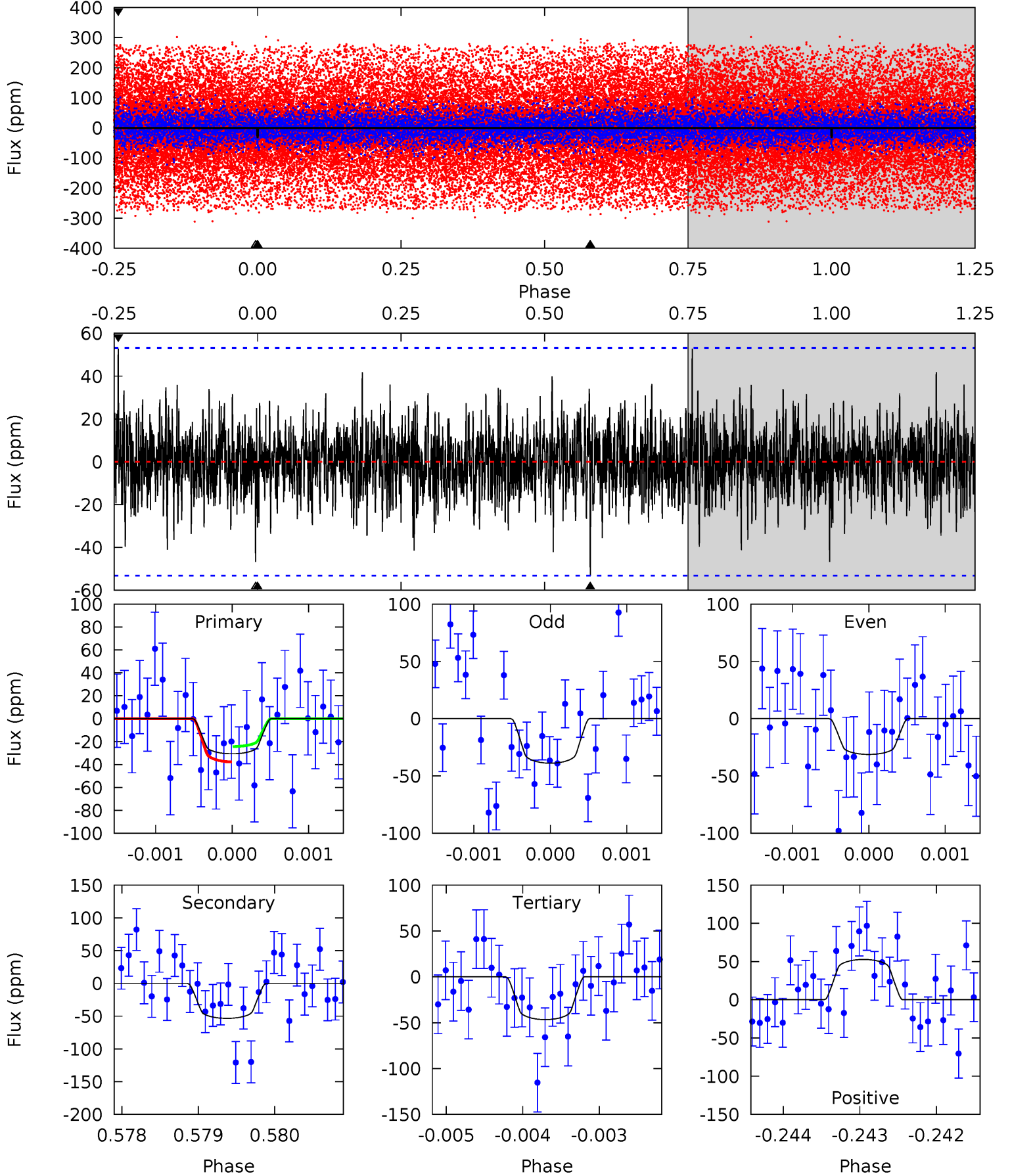
TCE 007760869-02 P=100.068037 Days $T_0=174.722364$ (BKJD)



DV Model-Shift Uniqueness Test

007760869-02, $P = 100.067710$ Days, $E = 74.668268$ Days

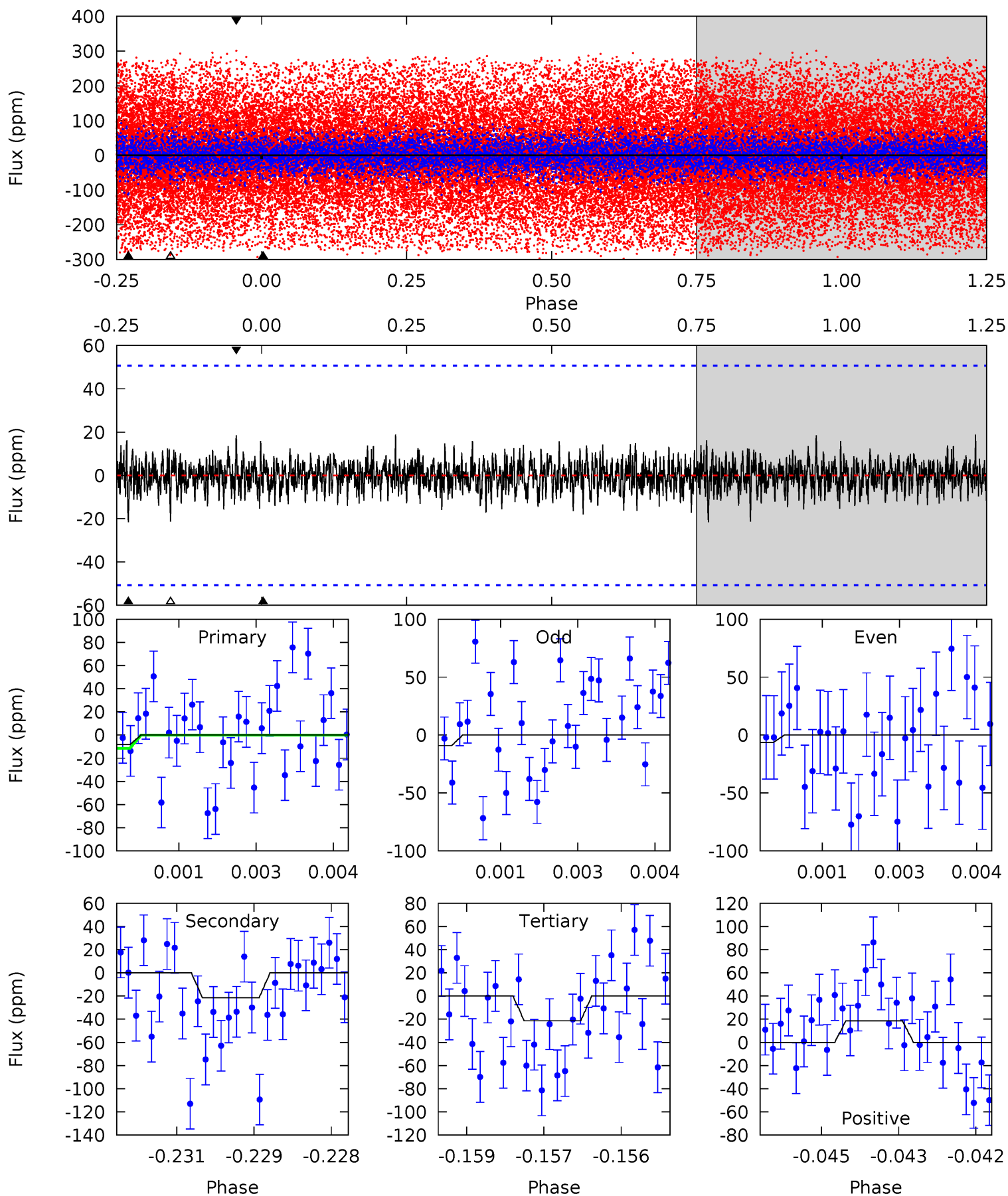
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.12	5.43	4.74	5.36	5.41	3.22	1.24	-1.63	-2.24	0.69	0.07	0.39	1.07	0.50	0.69



Alt Model-Shift Uniqueness Test

007760869-02, P = 100.068037 Days, E = 74.654327 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.86	2.29	2.26	1.97	5.39	3.19	0.59	-1.41	-1.11	0.02	0.32	0.14	-4.08	0.46	0.02



Stellar Parameters For KIC 007760869

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6079^{+200}_{-200}	$3.886^{+0.552}_{-0.138}$	$-0.580^{+0.350}_{-0.250}$	$1.892^{+0.507}_{-0.942}$	$1.004^{+0.138}_{-0.168}$	$0.209^{+1.152}_{-0.096}$
	+3%/-3%	+14%/-4%	+60%/-43%	+27%/-50%	+14%/-17%	+552%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007760869-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 10	$1.38^{+0.54}_{-0.51}$	771^{+65}_{-100}	6071^{+1185}_{-765}	2683^{+4245}_{-1320}
Alt.	-22 ± 9	$0.78^{+0.44}_{-0.38}$	768^{+65}_{-109}	6389^{+2870}_{-1405}	3437^{+10460}_{-2347}

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 $A_{obs} \gg 1.0$

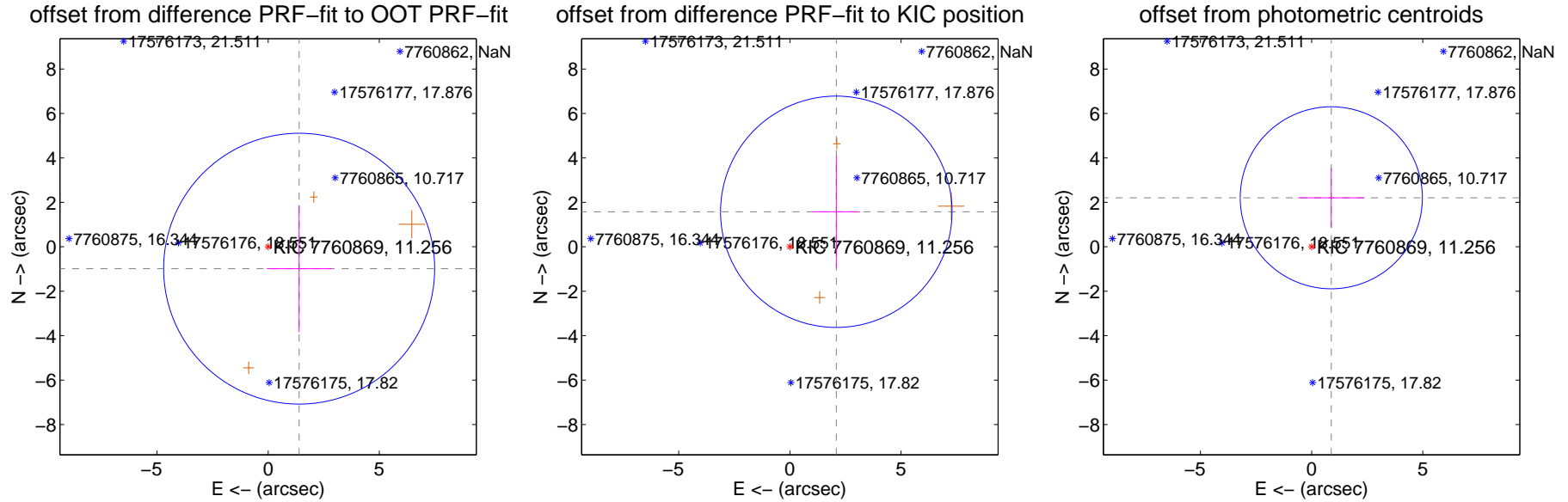
DV Centroid Data

Supplemental centroid analysis for 007760869-02. **Kepler magnitude: 11.26.** Transit SNR 8.57

There are 0 quarters with good PRF difference image offsets

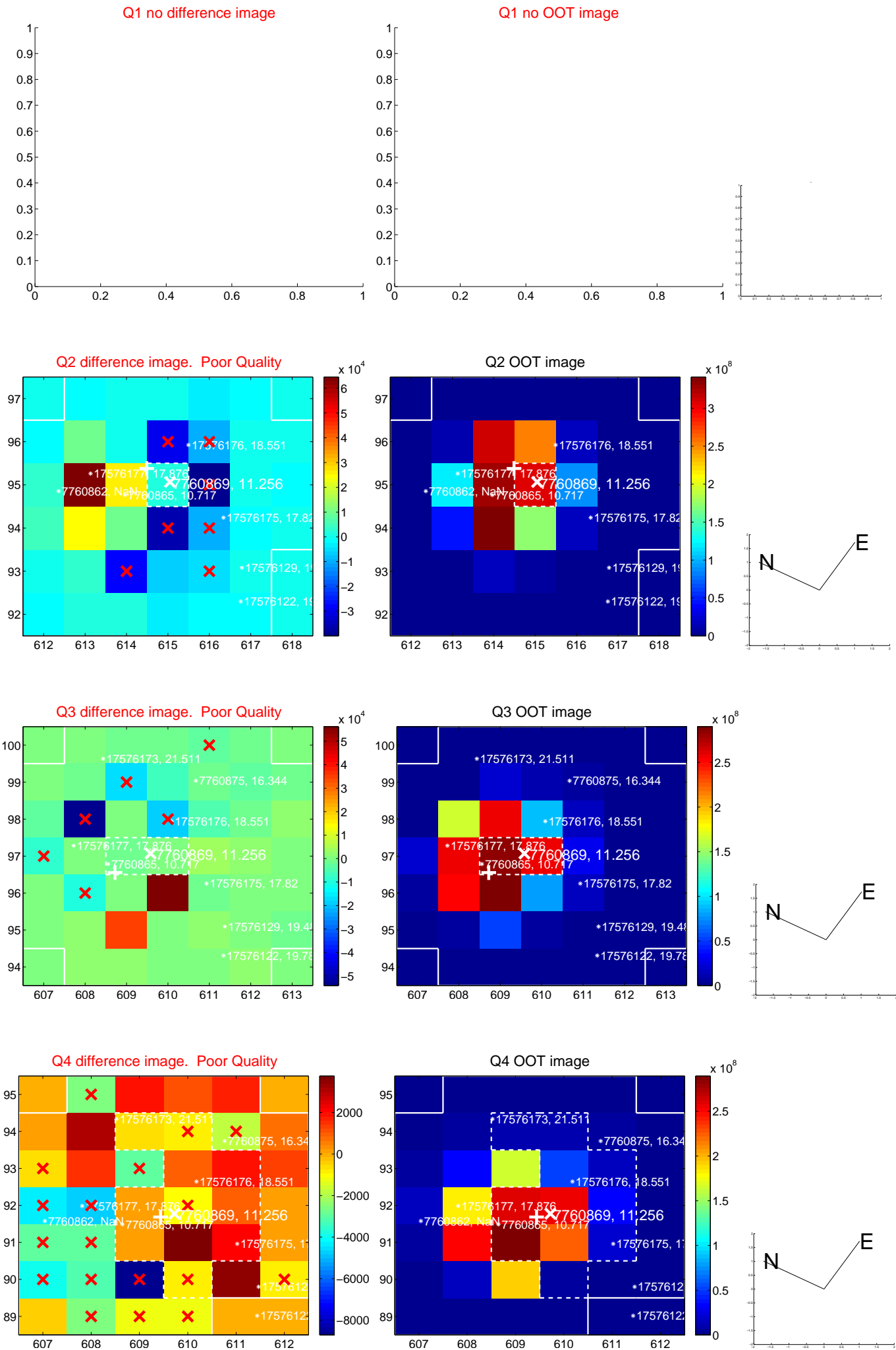
The OOT PRF centroid is offset from the target star catalog position by about 2.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.707 ± 2.031	0.84	-1.394 ± 1.451	-0.985 ± 2.859
PRF-fit source offset from KIC position	2.616 ± 1.735	1.51	-2.088 ± 1.059	1.576 ± 2.515
photometric centroid source offset	2.38 ± 1.37	1.74	-0.89 ± 1.49	2.21 ± 1.34

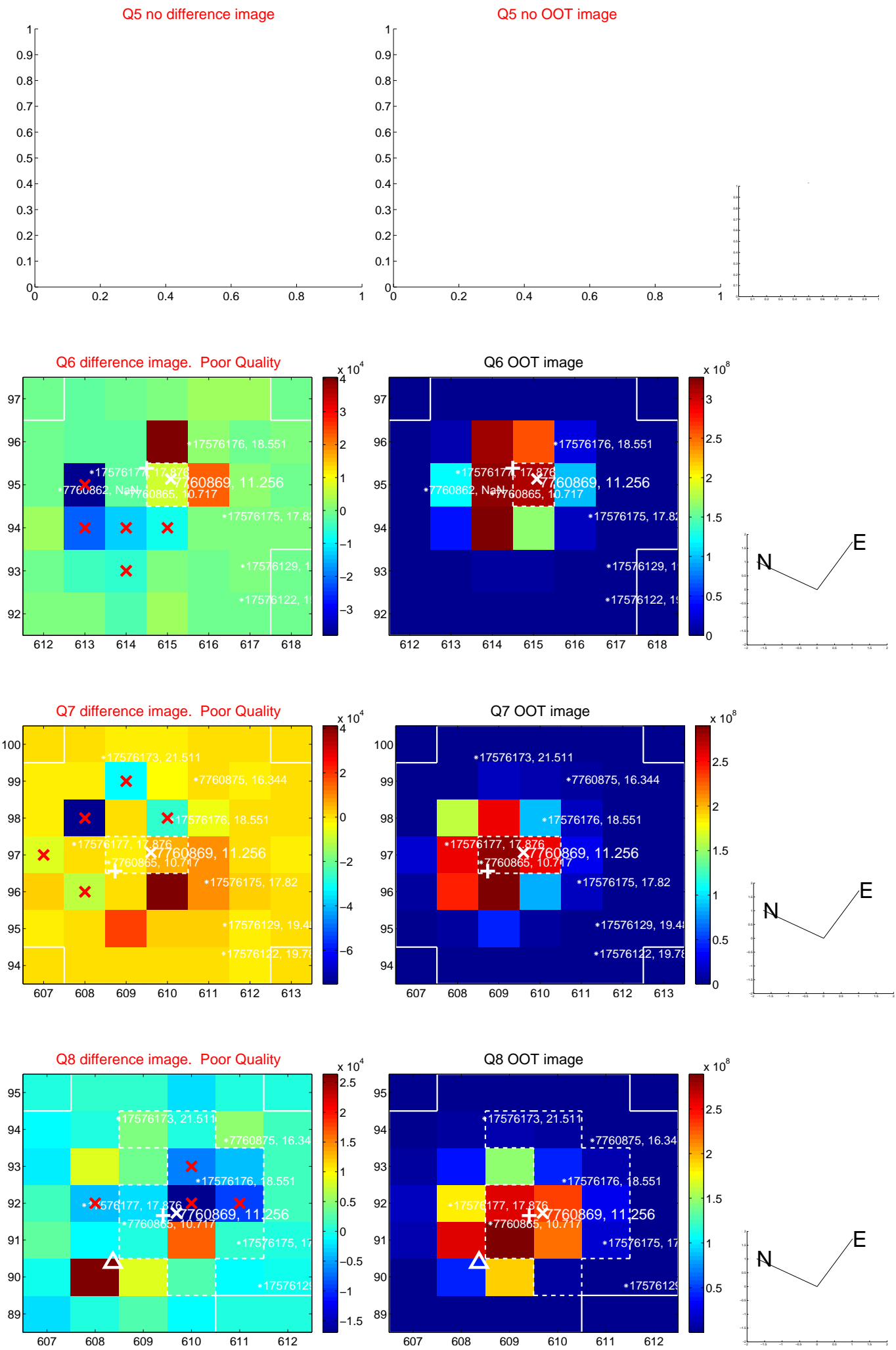


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

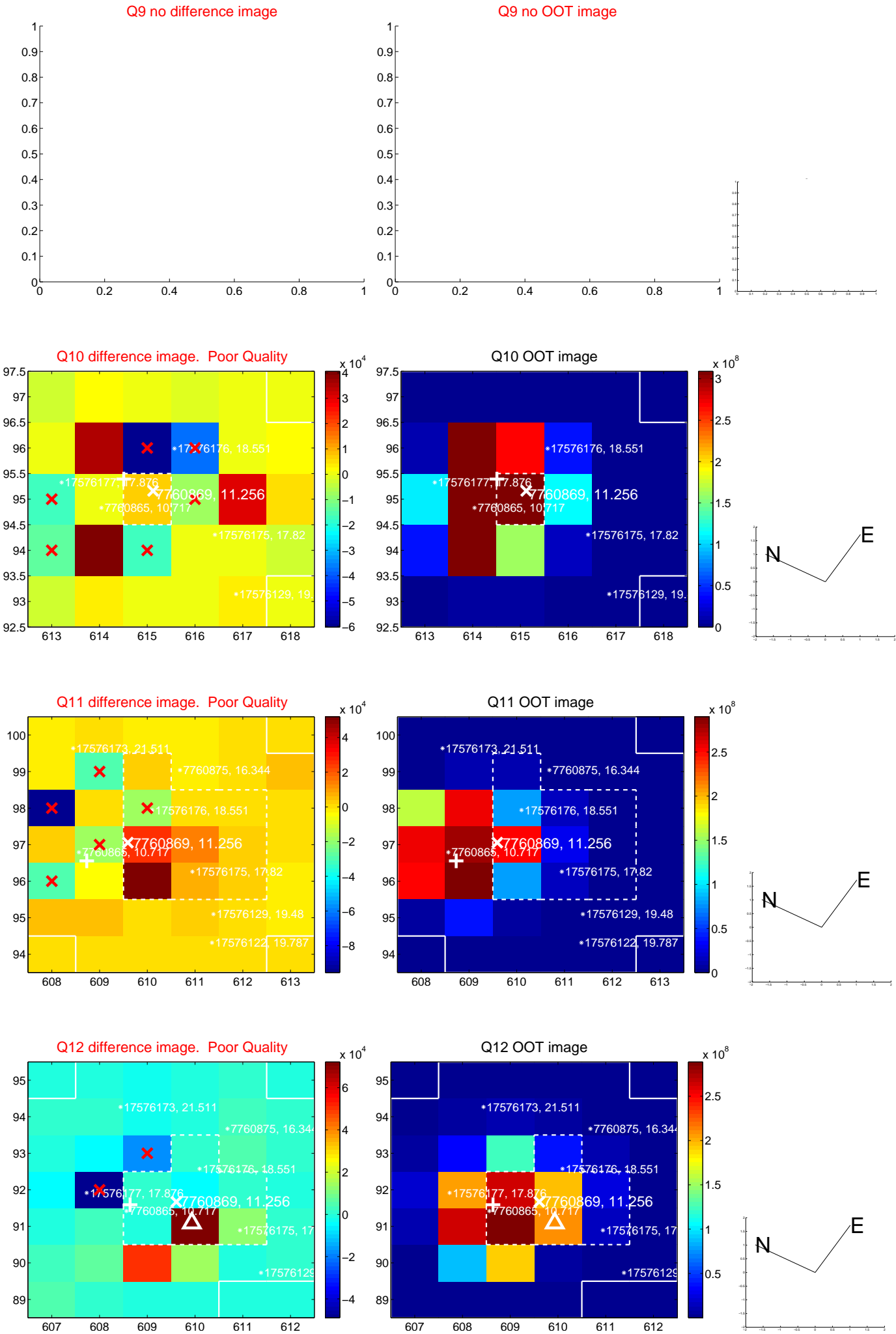
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



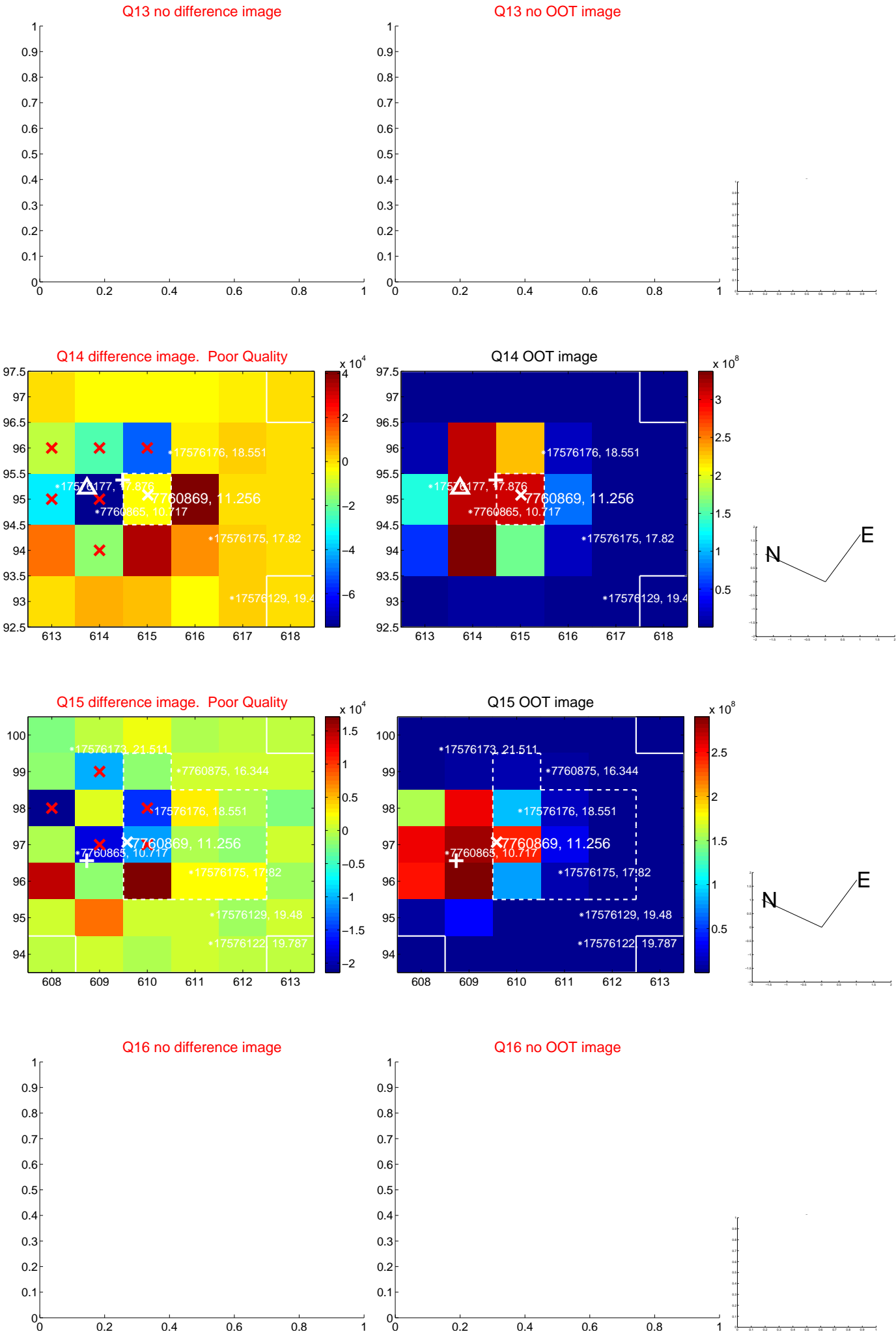
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



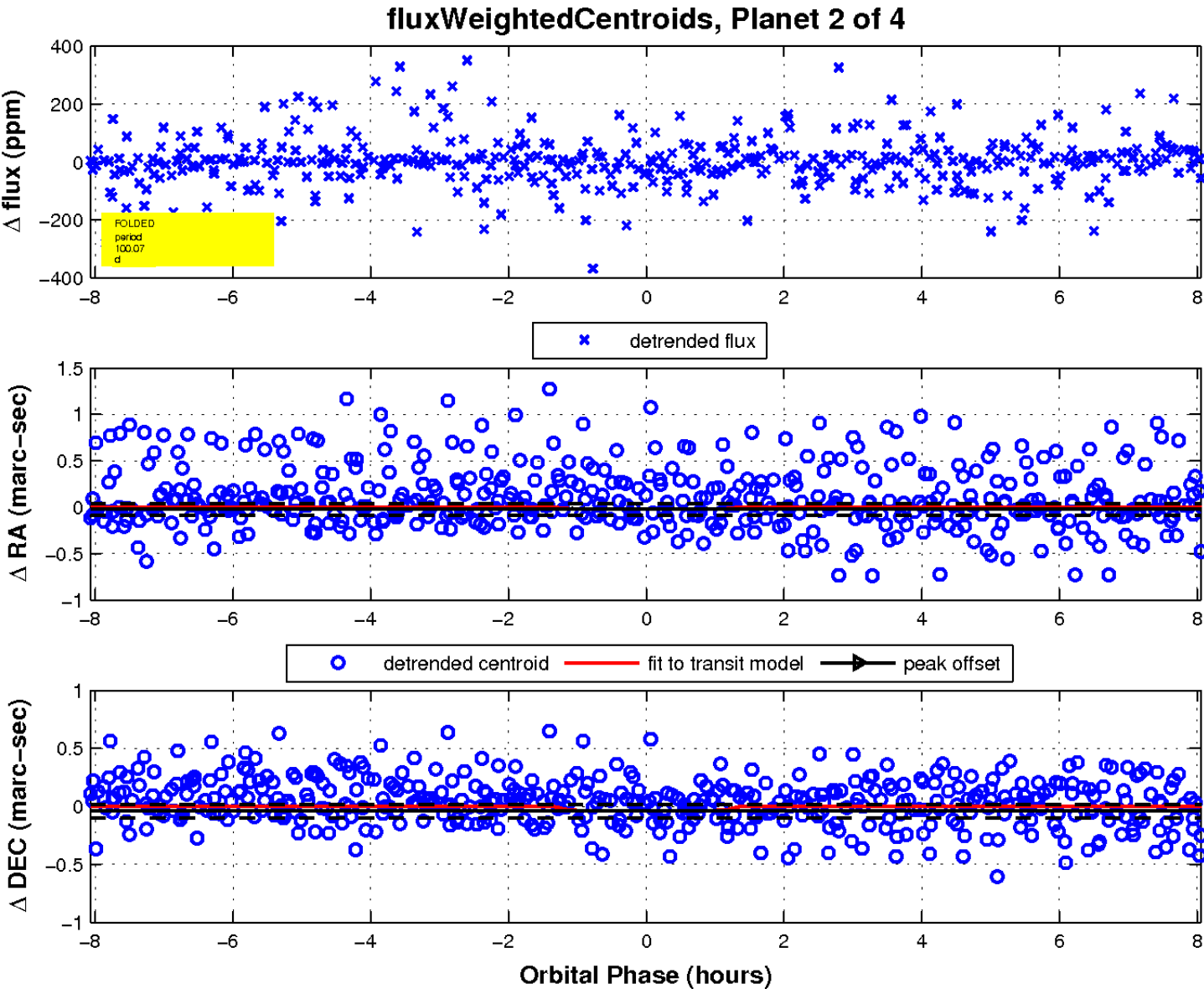
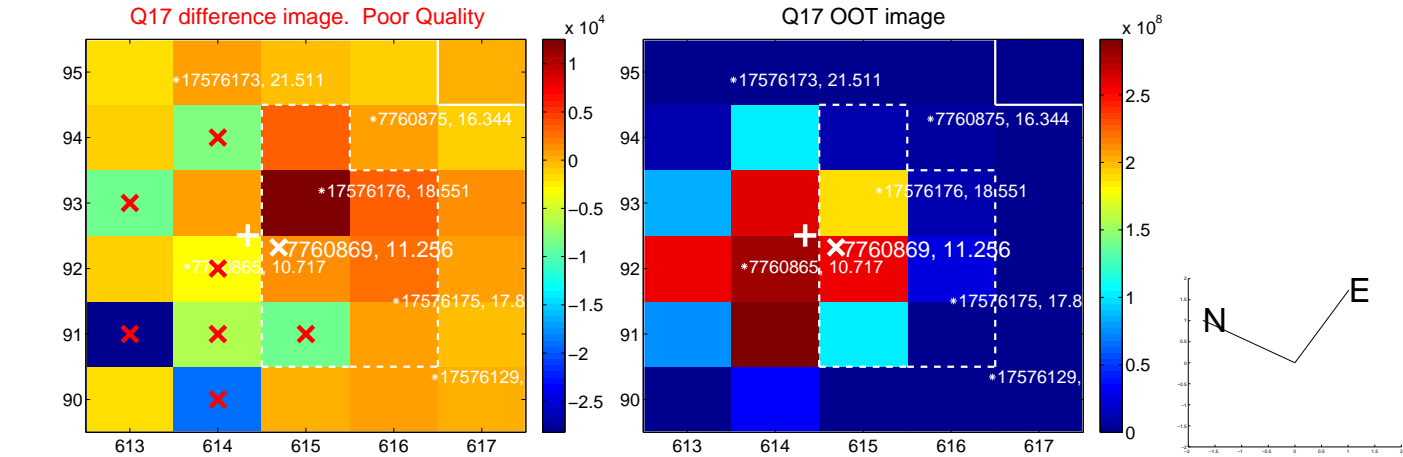
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

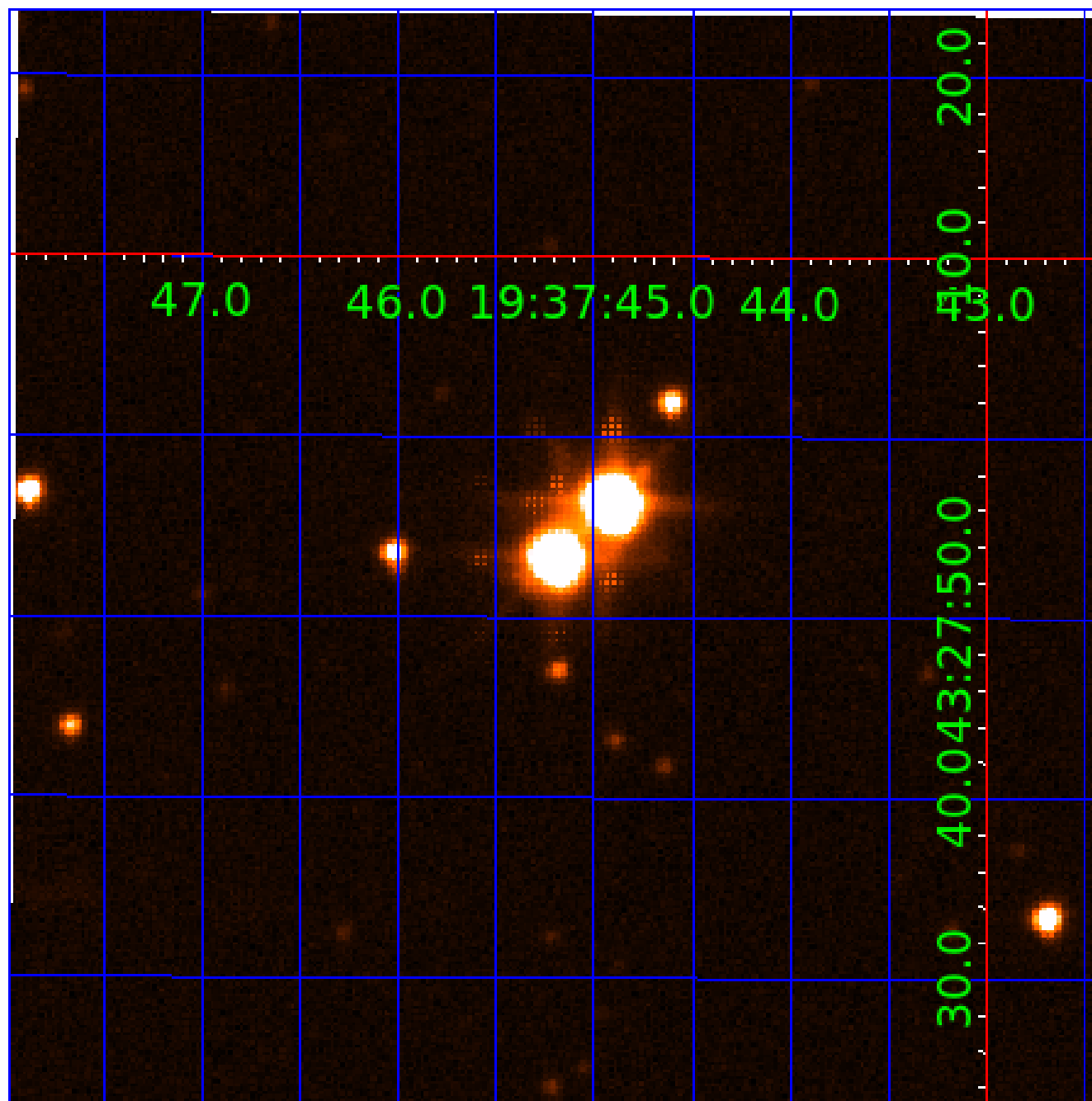


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007760869

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})
007760869-01	OBS	No	84.243263	167.346271	53.1	1.079	13.4	25.9	1.89	6079	1.66	30.86
007760869-02	OBS	No	100.067710	174.735978	42.0	2.703	14.4	8.6	1.89	6079	1.52	24.54
007760869-03	OBS	No	190.558174	320.363495	213.5	2.076	13.6	11.0	1.89	6079	3.26	10.39
007760869-04	OBS	No	85.800773	171.509120	334.4	2.000	12.8	-1.0	1.89	6079	3.48	30.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007760869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007760869-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

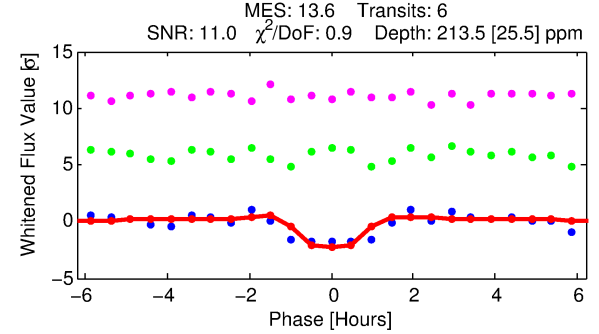
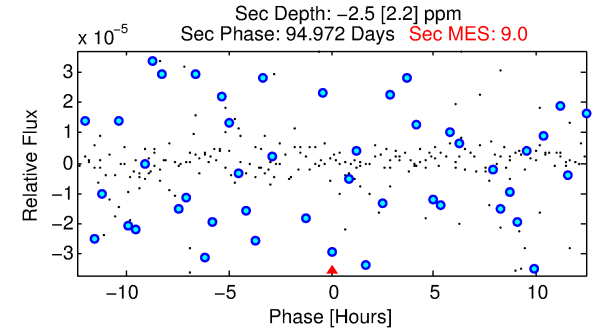
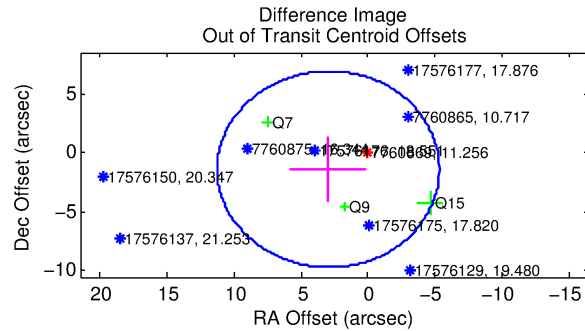
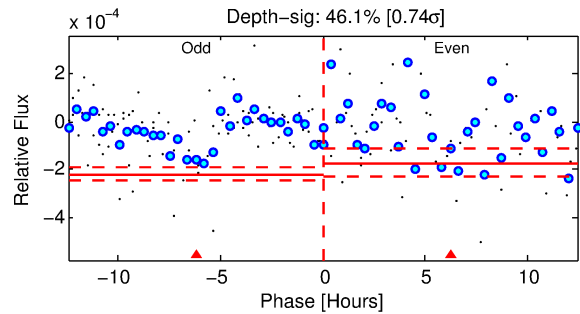
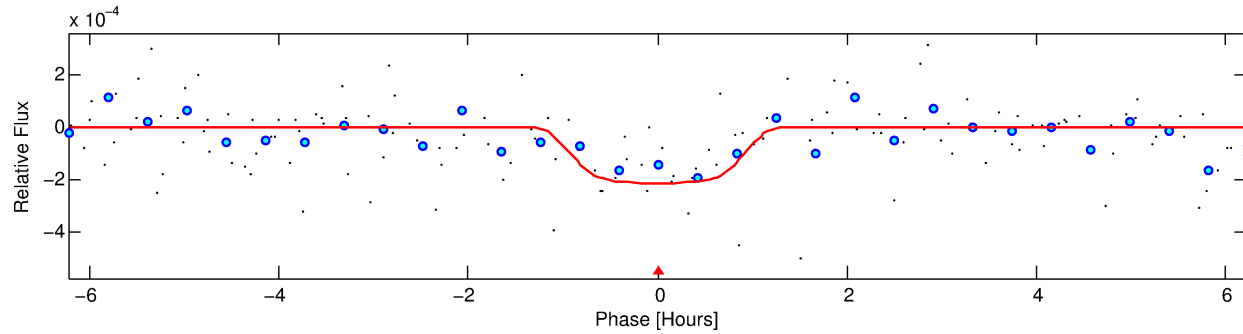
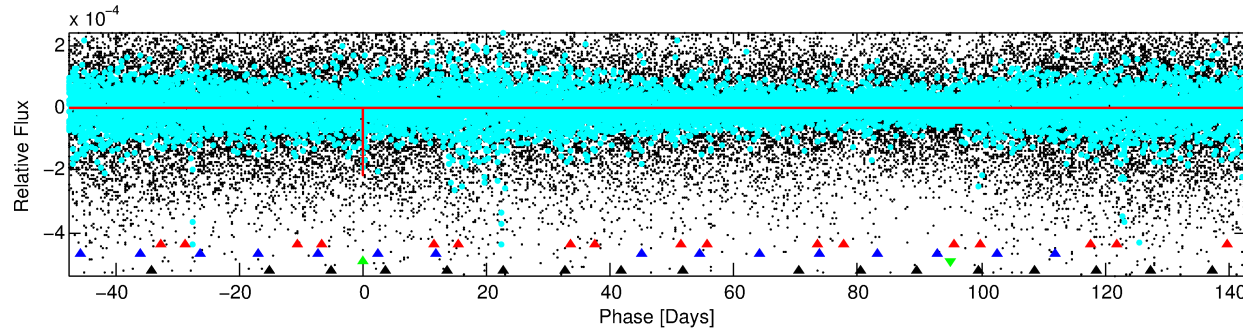
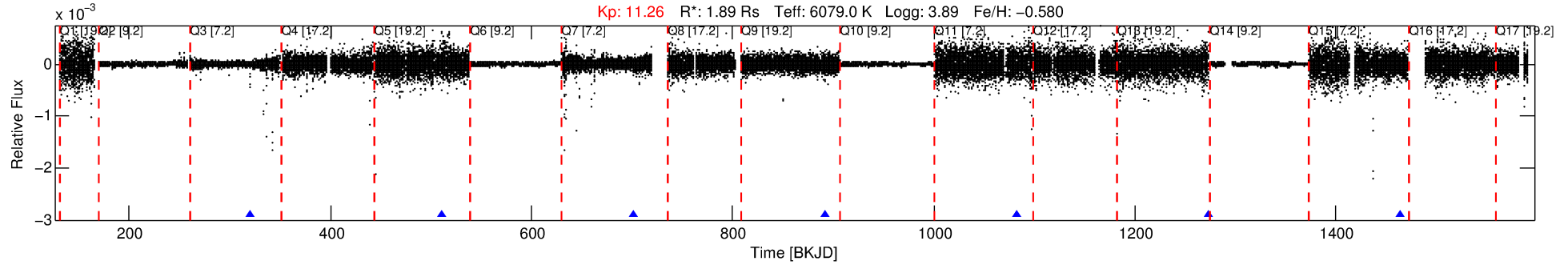
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007760869-03

No Significant Match Found

DV One-Page Summary

KIC: 7760869 Candidate: 3 of 4 Period: 190.558 d



DV Fit Results:

Period = 190.55817 [0.00144] d
Epoch = 320.3635 [0.0036] BKJD
 $R_p/R^* = 0.0158$ [0.0169]
 $a/R^* = 322.76$ [1902.42]
 $b = 0.91$ [1.19]
 $\text{Seff} = 10.39$ [9.56]
 $T_{\text{eq}} = 458$ [105] K
 $R_p = 3.26$ [3.84] R_e
 $a = 0.6491$ [0.3494] AU
 $\text{Ag} = \text{N/A}$
 $T_{\text{eff}} = \text{N/A}$

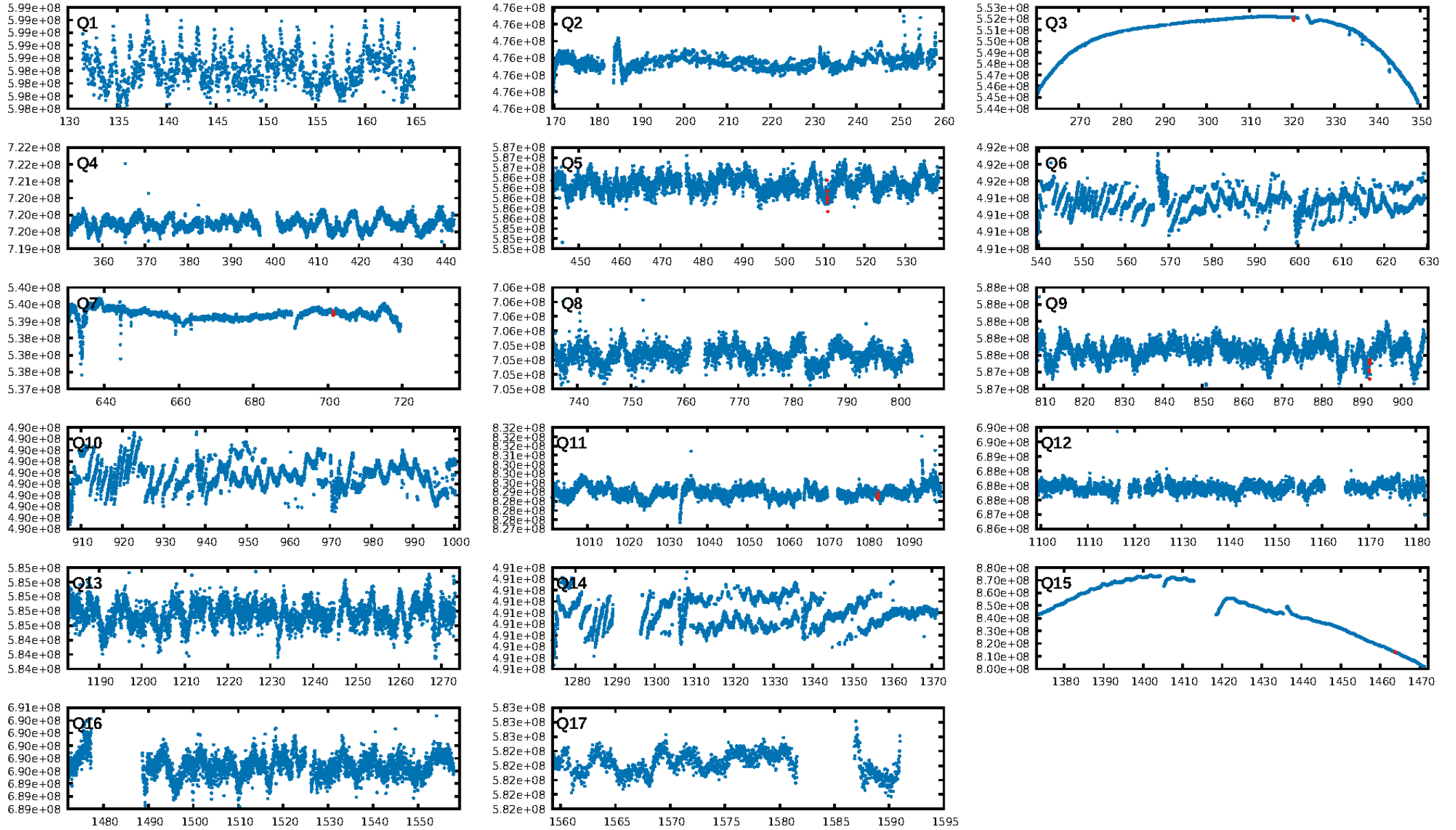
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [637.20 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 47.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.723
Centroid-sig: 57.9%
Centroid-so: 1.626 arcsec [3.88 σ]
OotOffset-rm: 3.272 arcsec [1.18 σ]
KicOffset-rm: 1.730 arcsec [0.40 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [6/6]

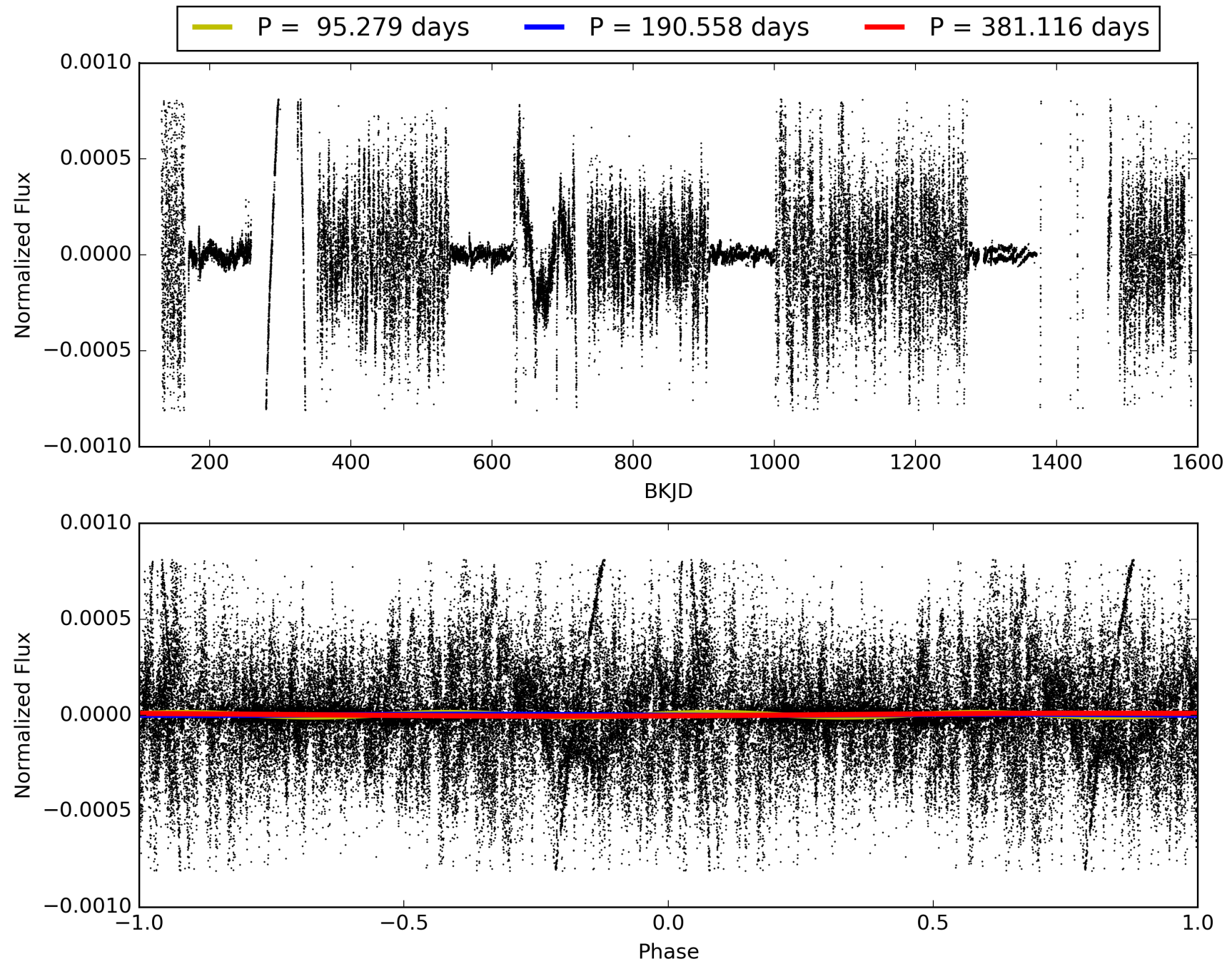
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:38:47 Z

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

TCE 007760869-03, PDC Light Curves

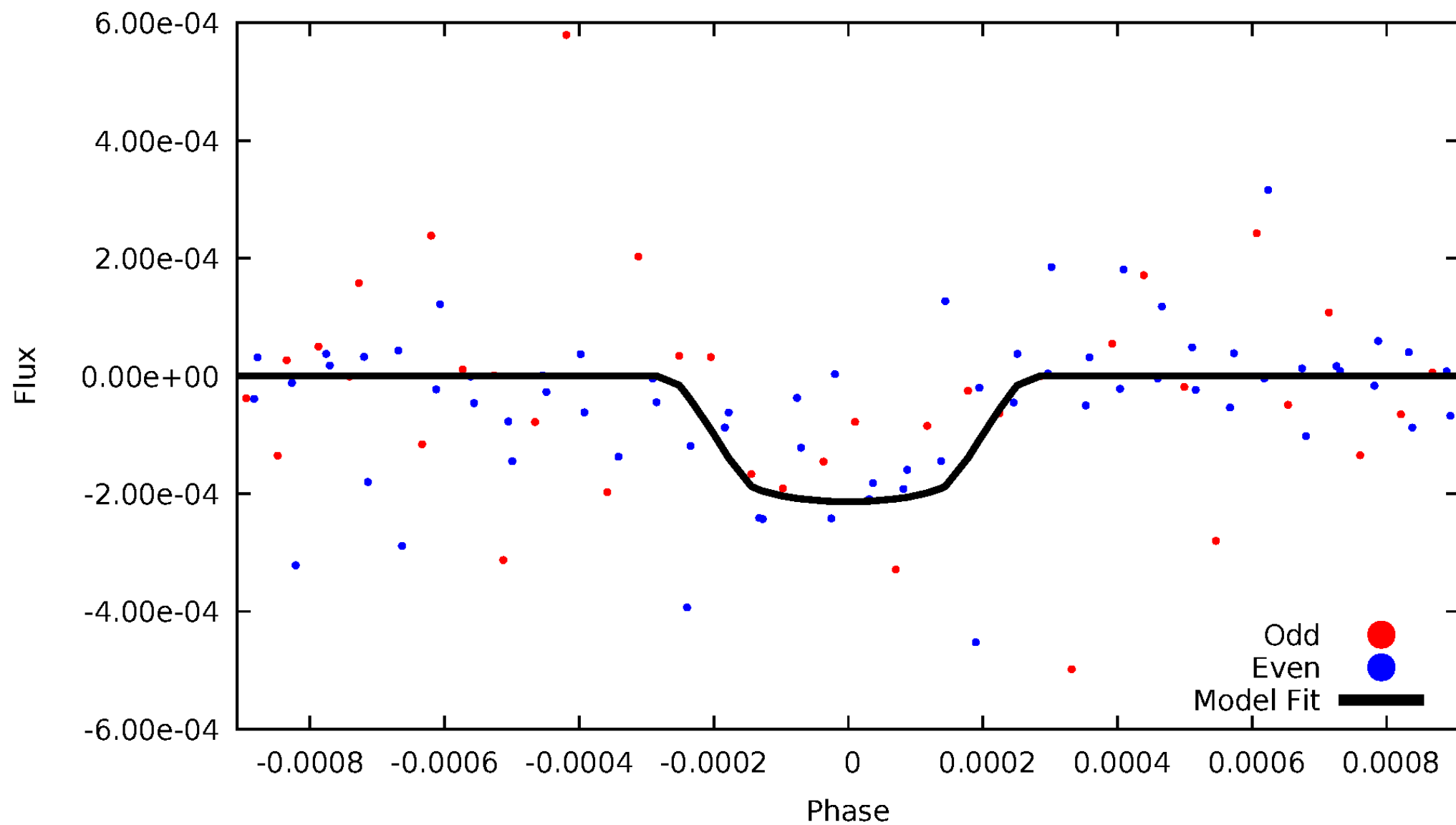


TCE 007760869-03



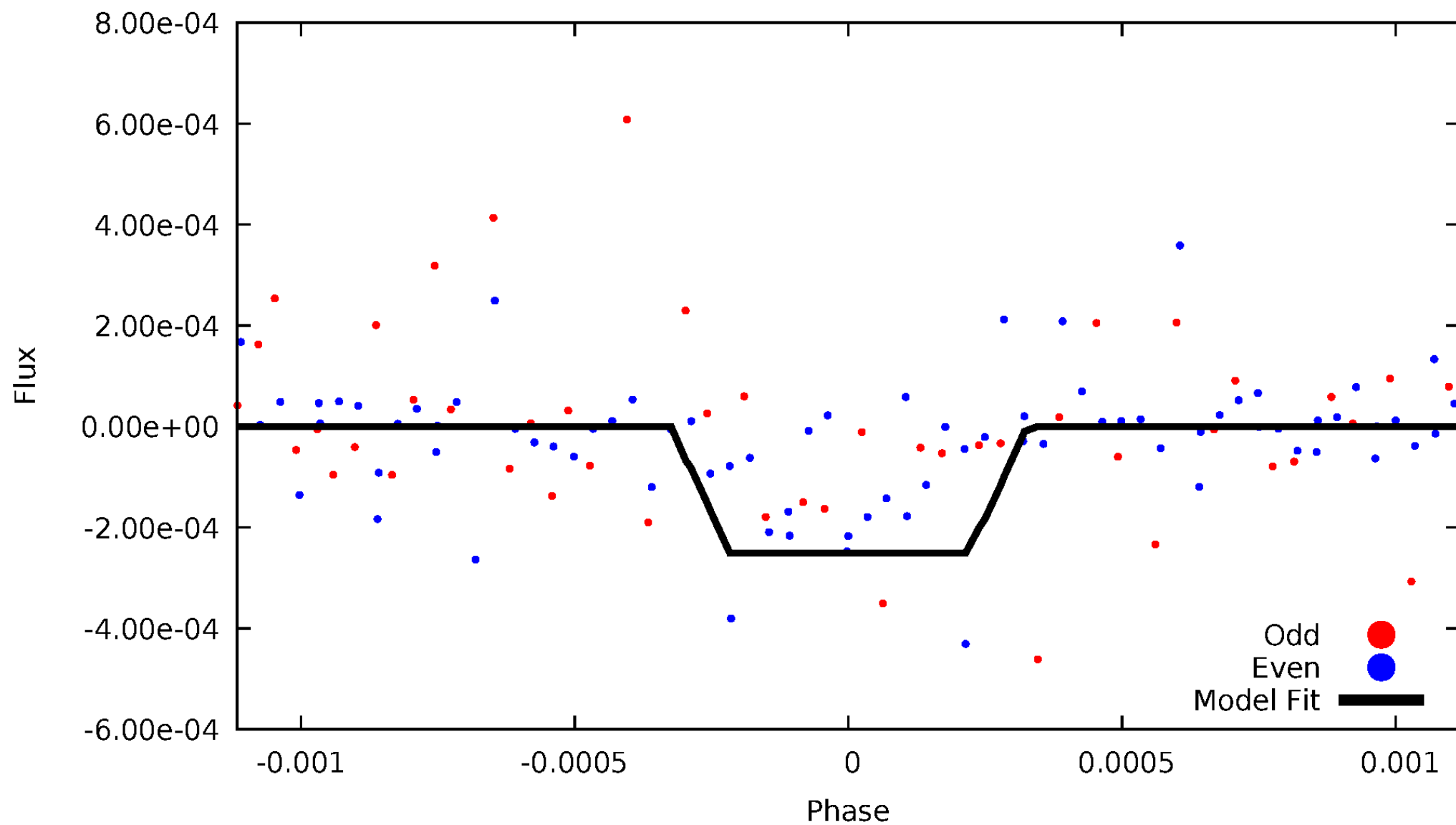
DV Odd/Even

TCE 007760869-03

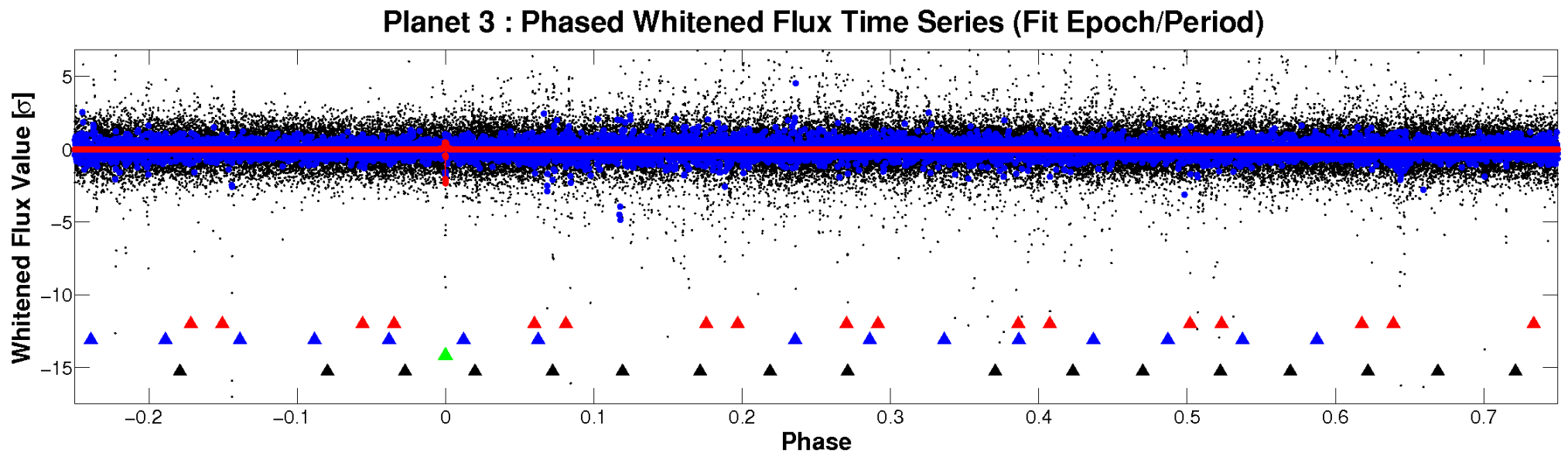
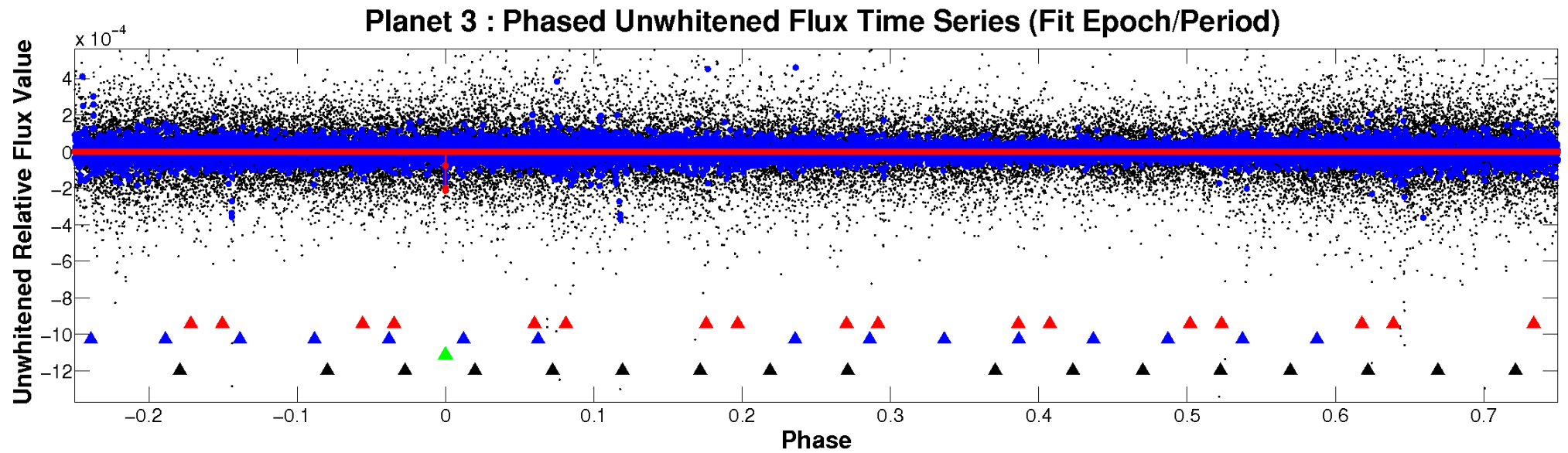


ALT Odd/Even

TCE 007760869-03

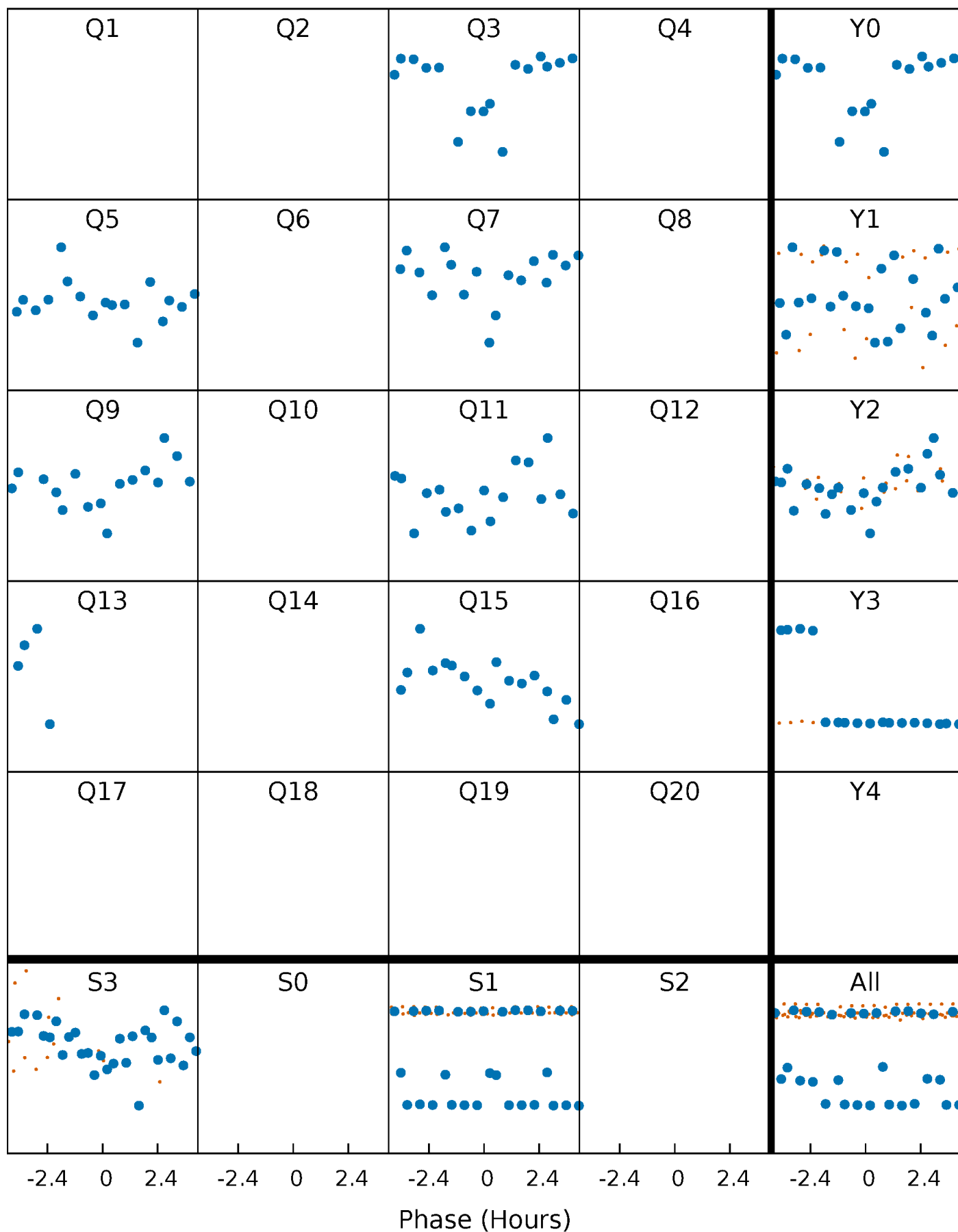


Non-Whitened Vs. Whitened Light Curve



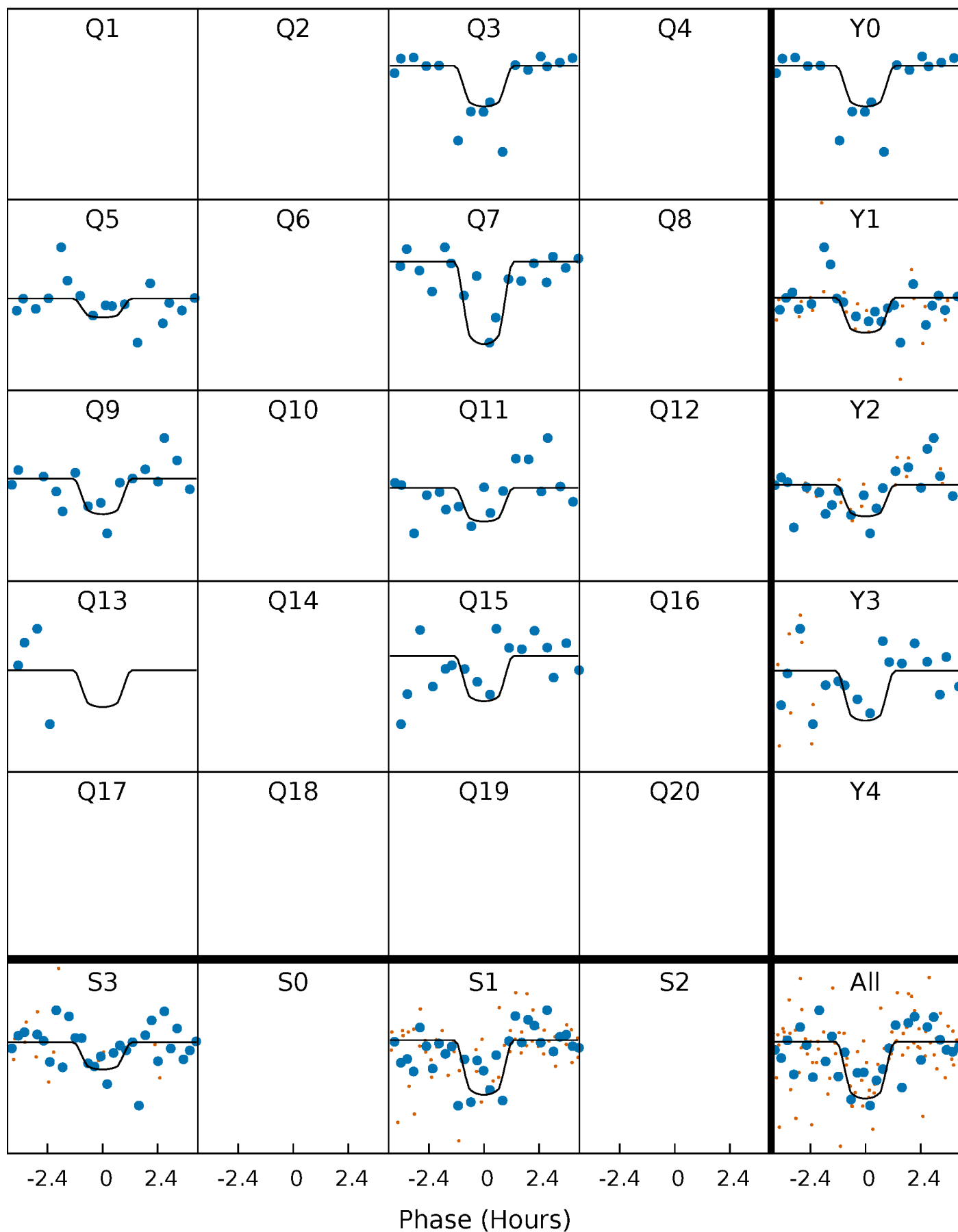
PDC Quarter-Phased Transit Curves

TCE 007760869-03 $P=190.558174$ Days $T_0=320.363495$ (BKJD)



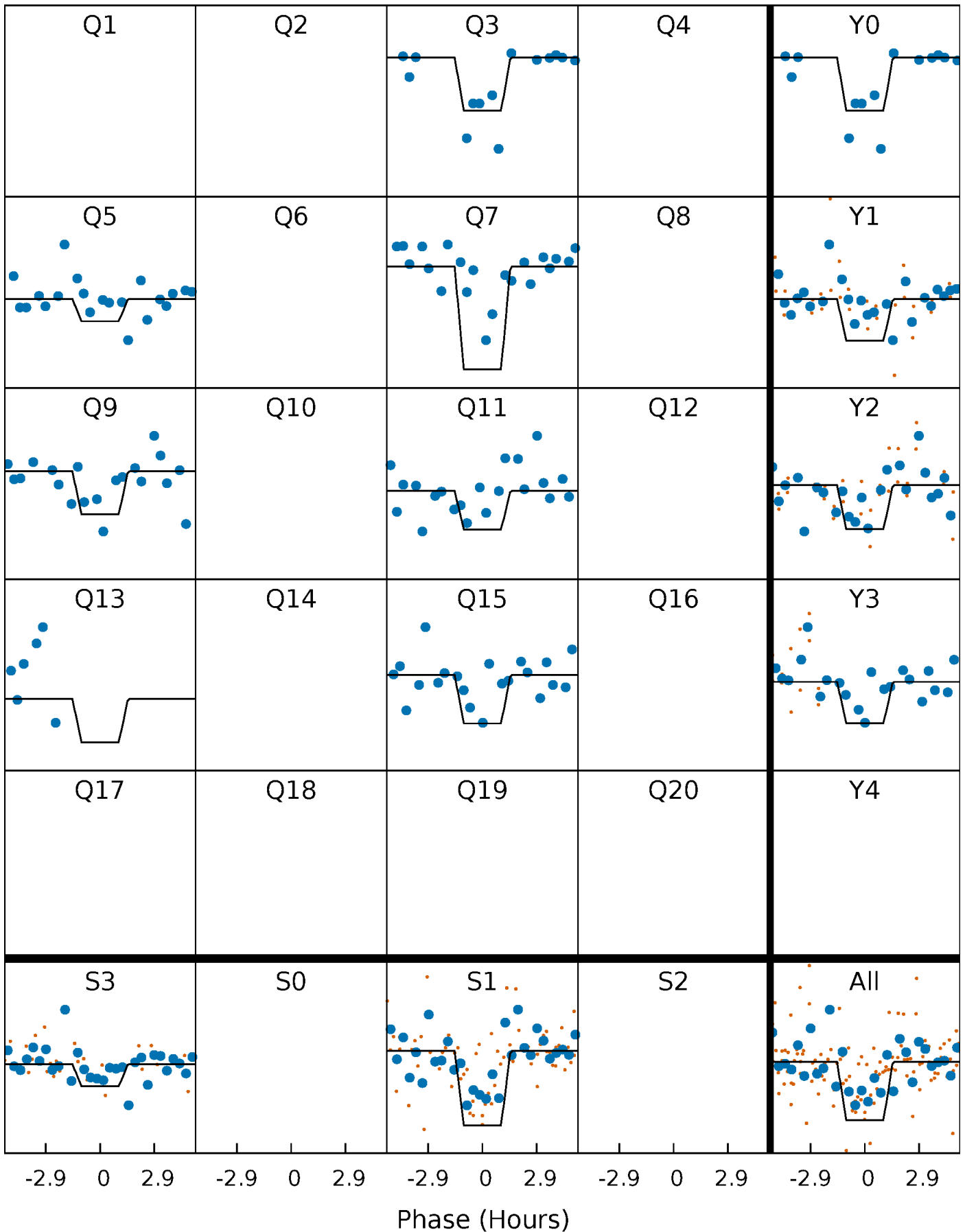
DV Quarter-Phased Transit Curves

TCE 007760869-03 $P=190.558174$ Days $T_0=320.363495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

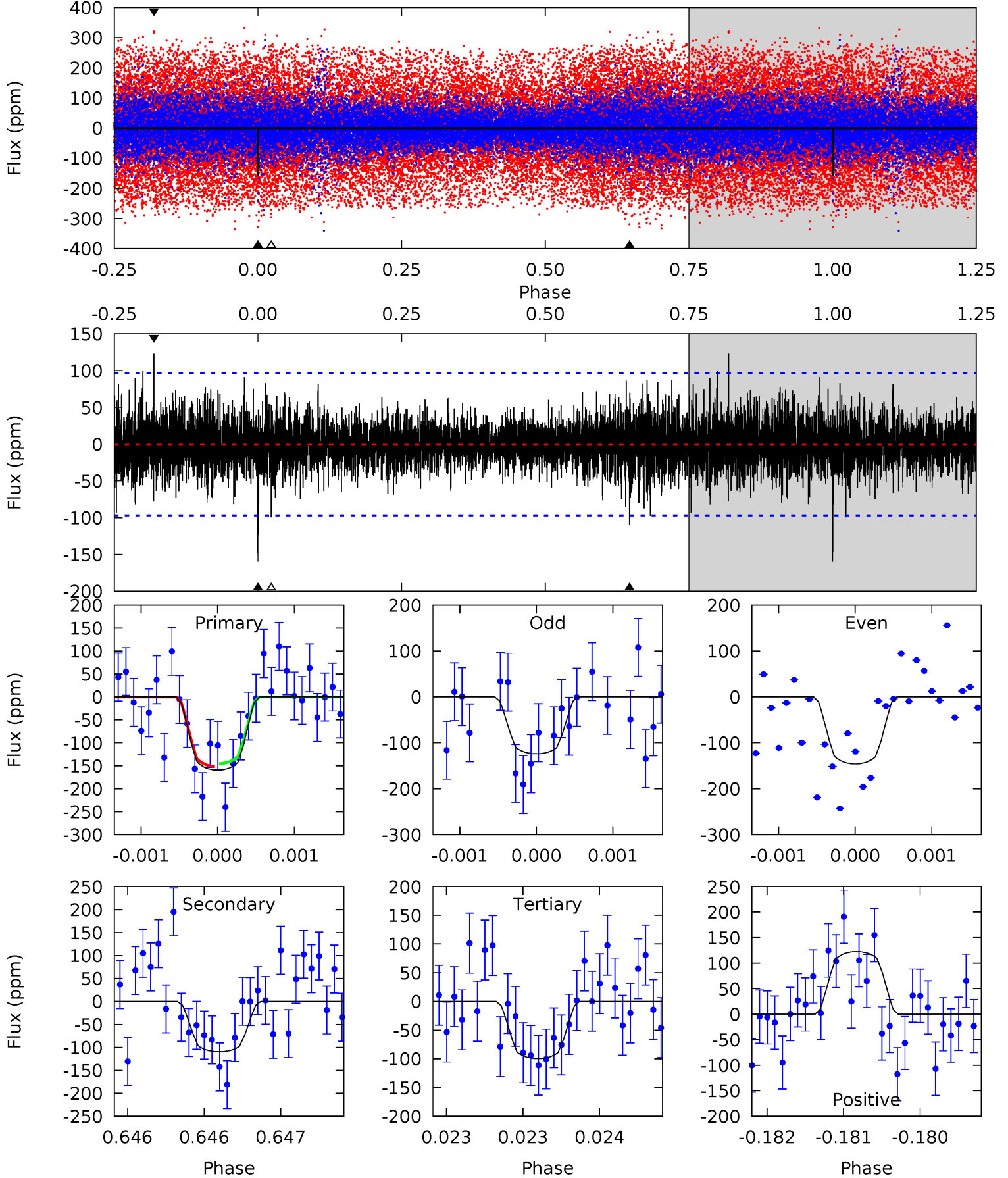
TCE 007760869-03 P=190.560218 Days $T_0=320.358682$ (BKJD)



DV Model-Shift Uniqueness Test

007760869-03, P = 190.558174 Days, E = 129.805321 Days

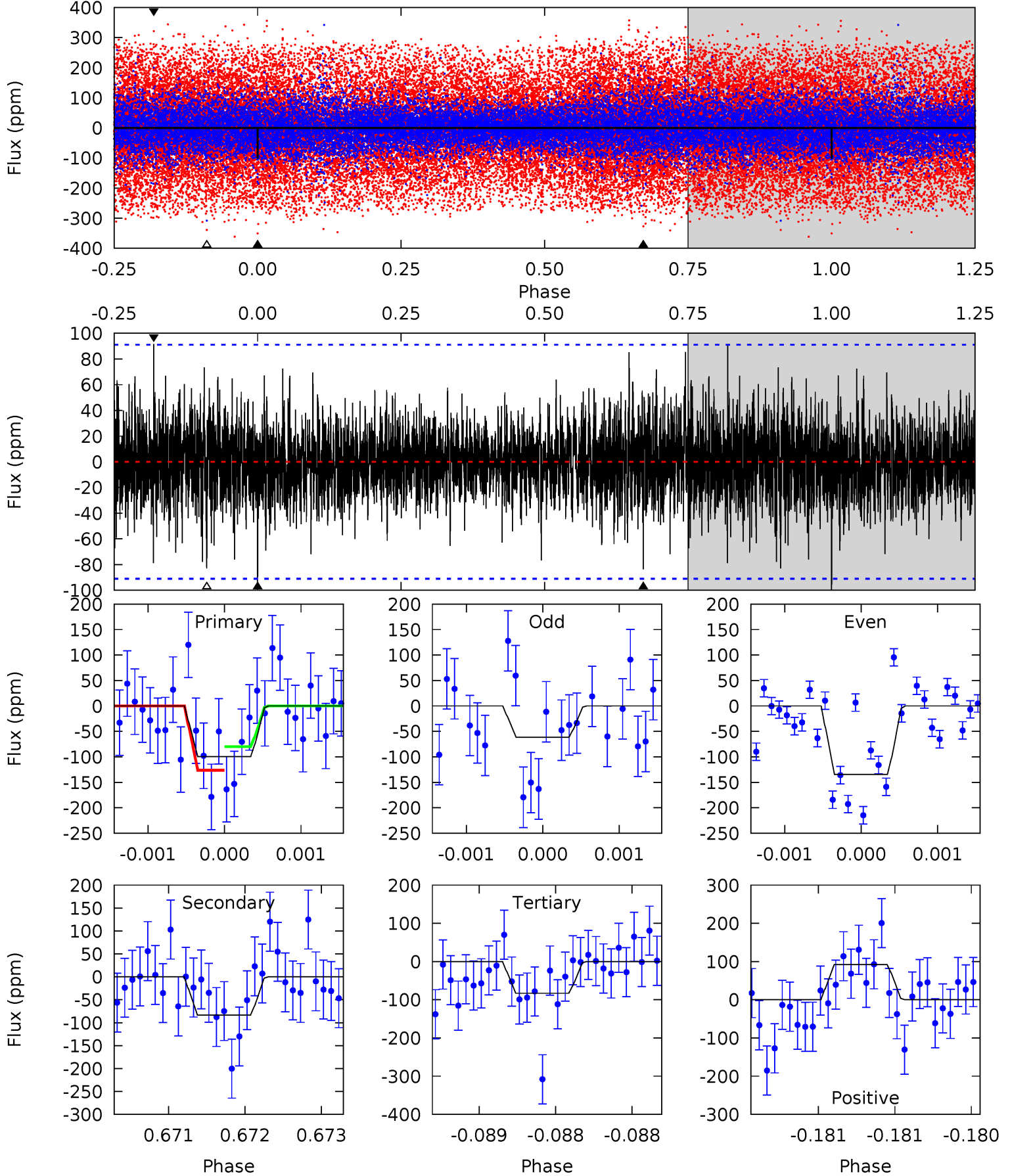
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	6.29	5.71	7.06	5.56	3.47	1.33	3.45	2.10	0.57	-0.77	0.67	1.19	0.44	0.19



Alt Model-Shift Uniqueness Test

007760869-03, P = 190.560218 Days, E = 129.798464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.04	5.09	5.04	5.57	5.54	3.42	1.27	1.00	0.47	0.04	-0.49	2.27	1.34	0.48	1.44



Stellar Parameters For KIC 007760869

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6079^{+200}_{-200}	$3.886^{+0.552}_{-0.138}$	$-0.580^{+0.350}_{-0.250}$	$1.892^{+0.507}_{-0.942}$	$1.004^{+0.138}_{-0.168}$	$0.209^{+1.152}_{-0.096}$
	+3%/-3%	+14%/-4%	+60%/-43%	+27%/-50%	+14%/-17%	+552%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007760869-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-109 ± 17	$3.40^{+3.18}_{-2.22}$	620^{+57}_{-80}	4696^{+2985}_{-941}	2169^{+15970}_{-1597}
Alt.	-84 ± 16	$3.40^{+3.20}_{-2.15}$	625^{+50}_{-84}	4426^{+2366}_{-837}	1596^{+10649}_{-1151}

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 $A_{obs} \gg 1.0$

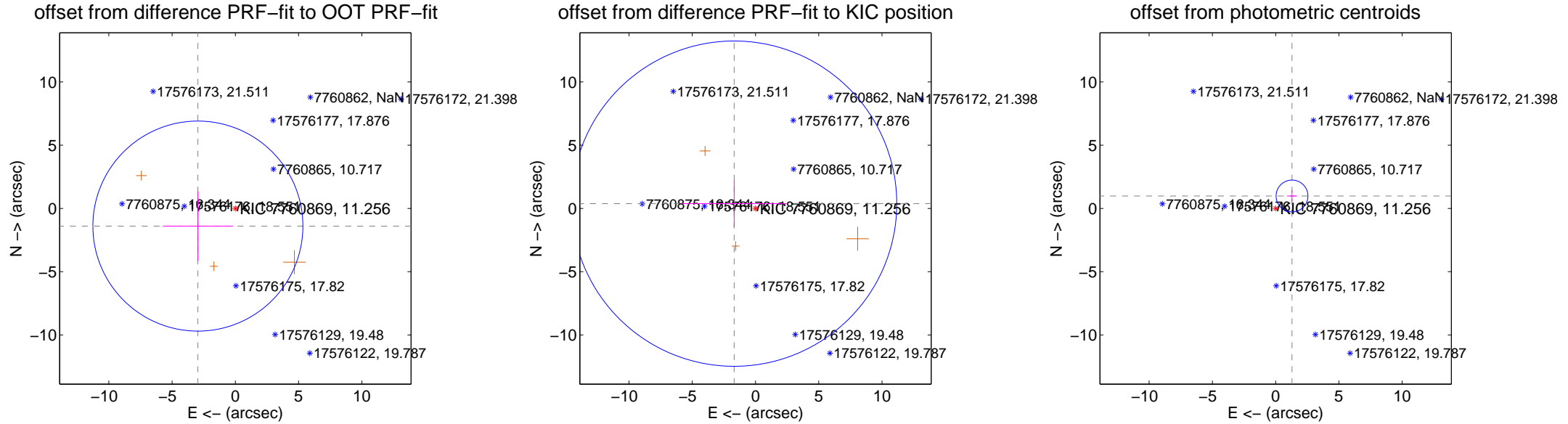
DV Centroid Data

Supplemental centroid analysis for 007760869-03. **Kepler magnitude: 11.26.** Transit SNR 10.98

There are 0 quarters with good PRF difference image offsets

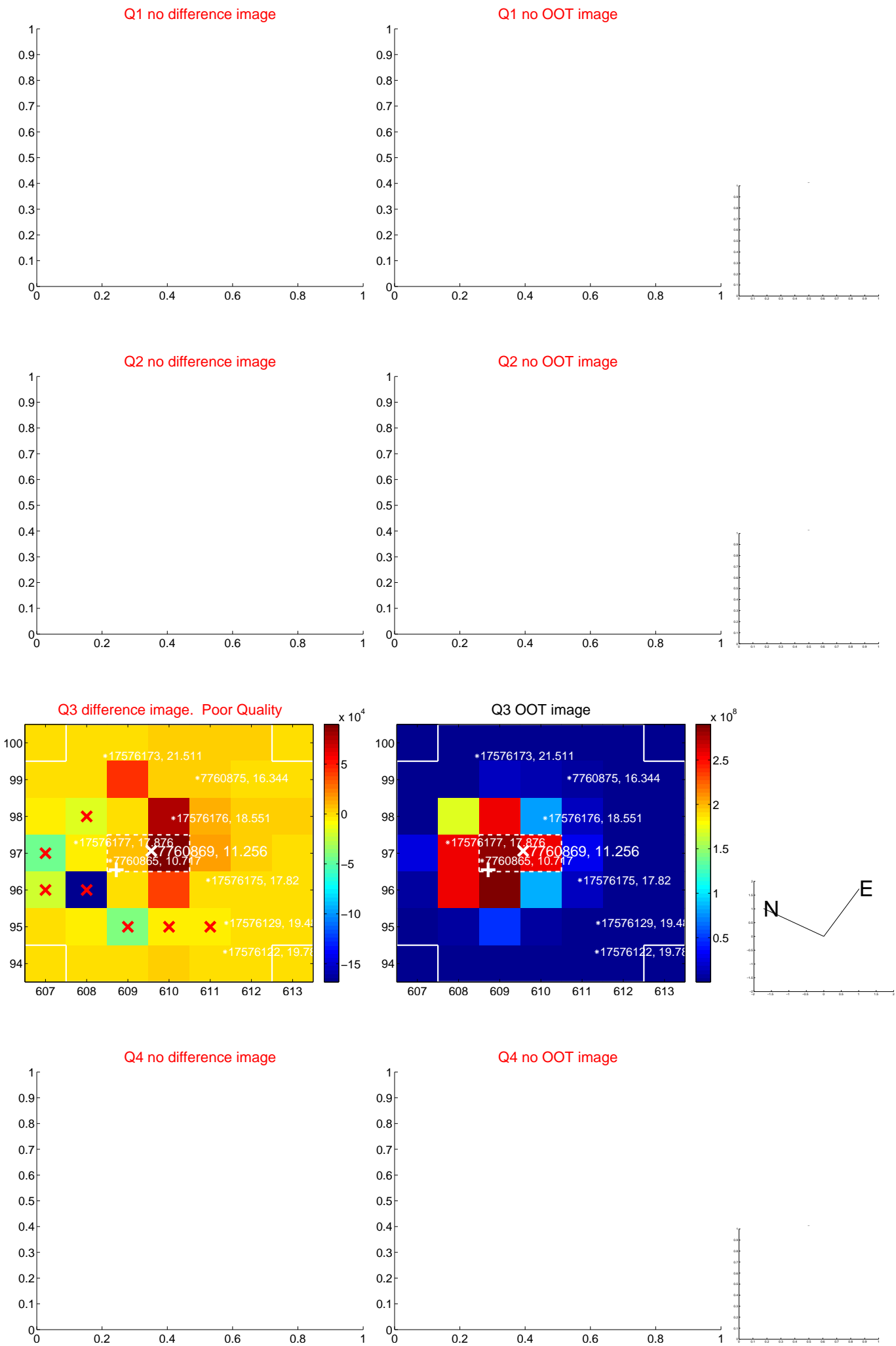
The OOT PRF centroid is offset from the target star catalog position by about 3.88 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.272 ± 2.766	1.18	2.959 ± 2.771	-1.395 ± 2.743
PRF-fit source offset from KIC position	1.730 ± 4.284	0.40	1.688 ± 4.136	0.379 ± 1.843
photometric centroid source offset	1.63 ± 0.42	3.88	-1.29 ± 0.40	0.98 ± 0.45

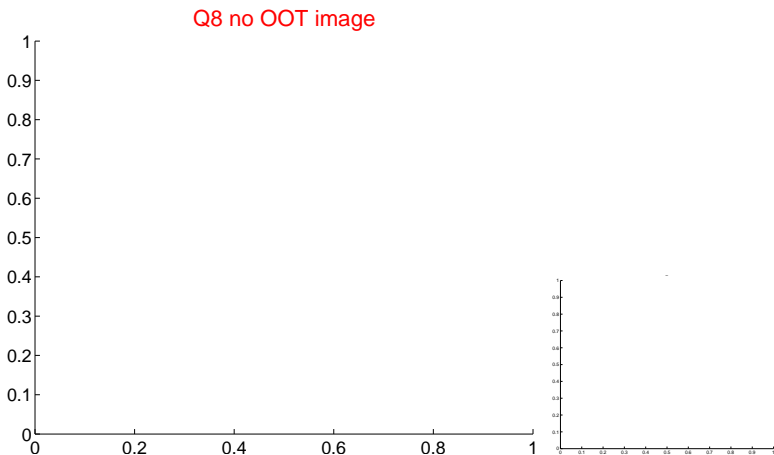
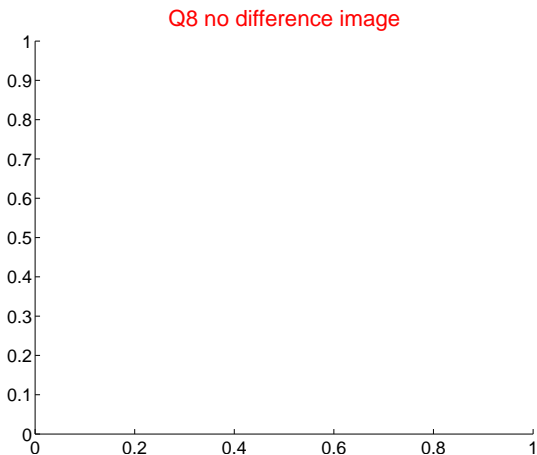
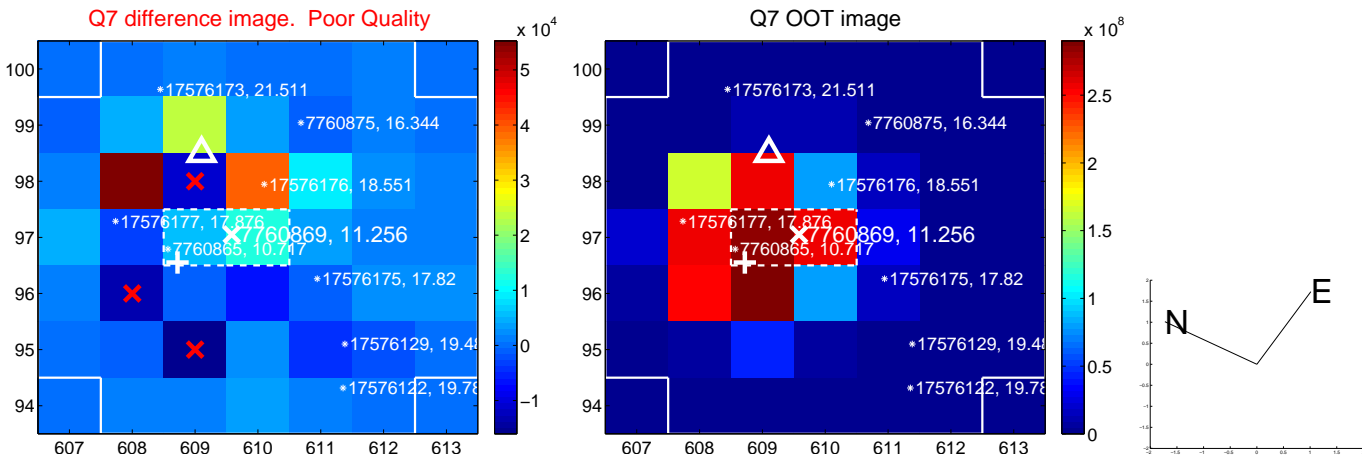
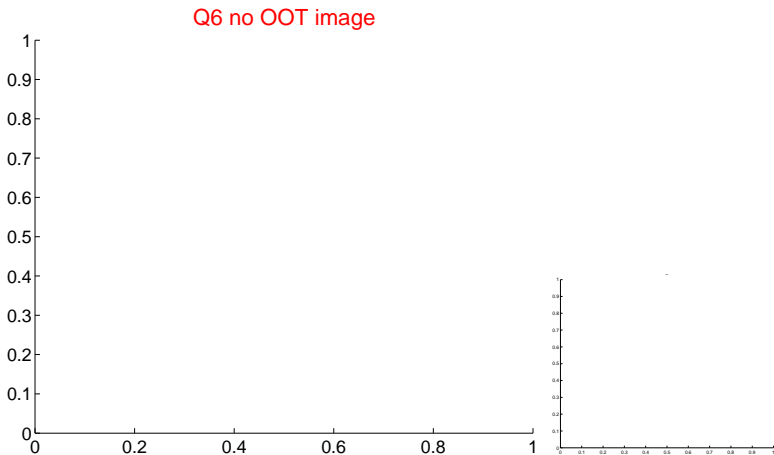
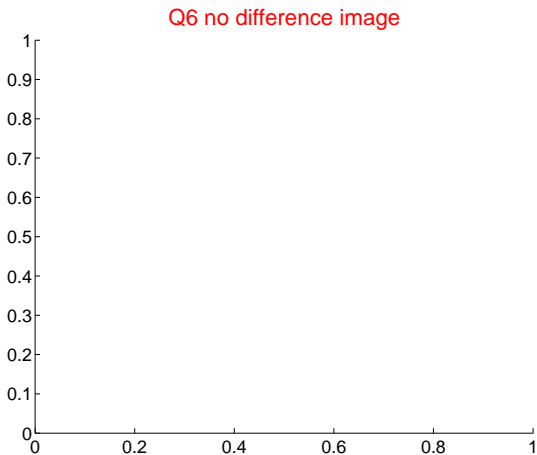
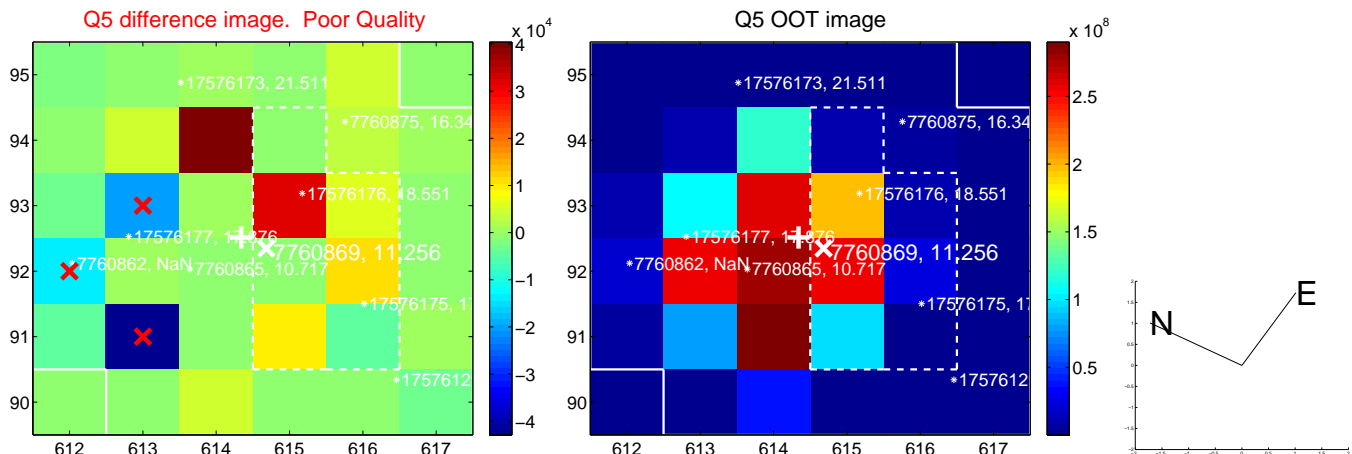


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

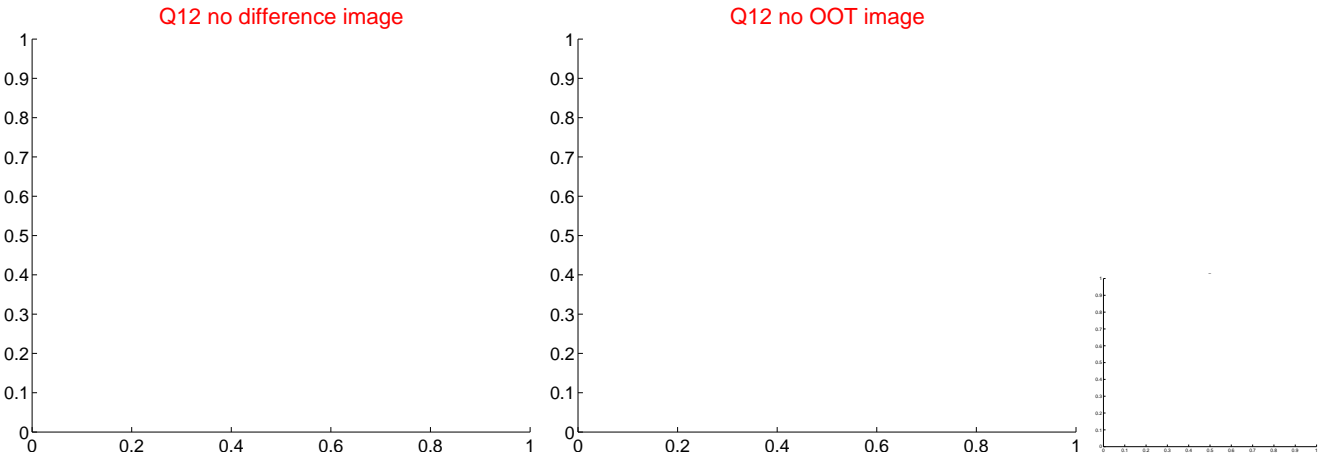
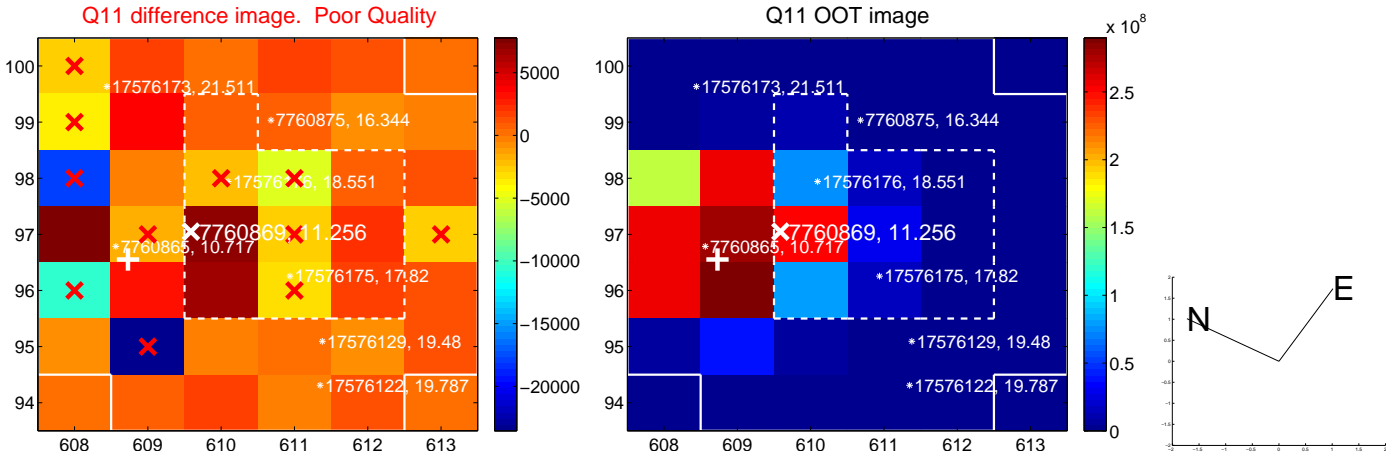
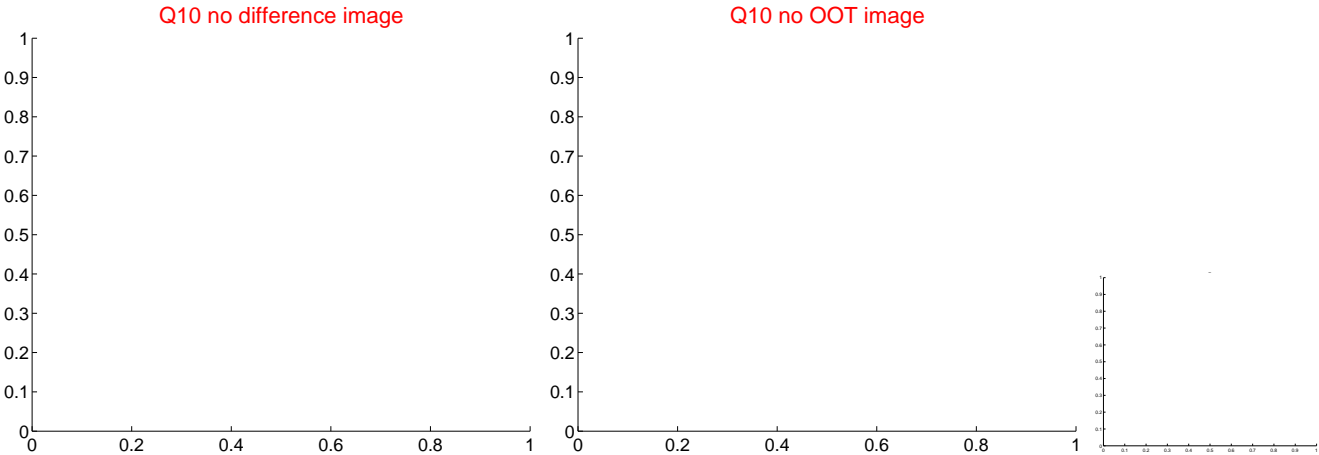
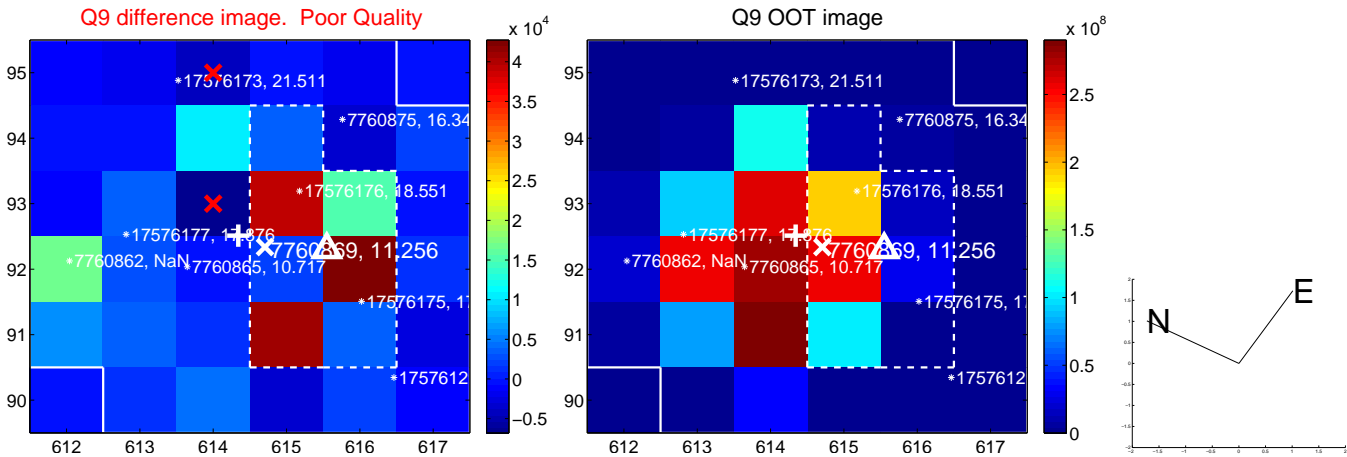
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



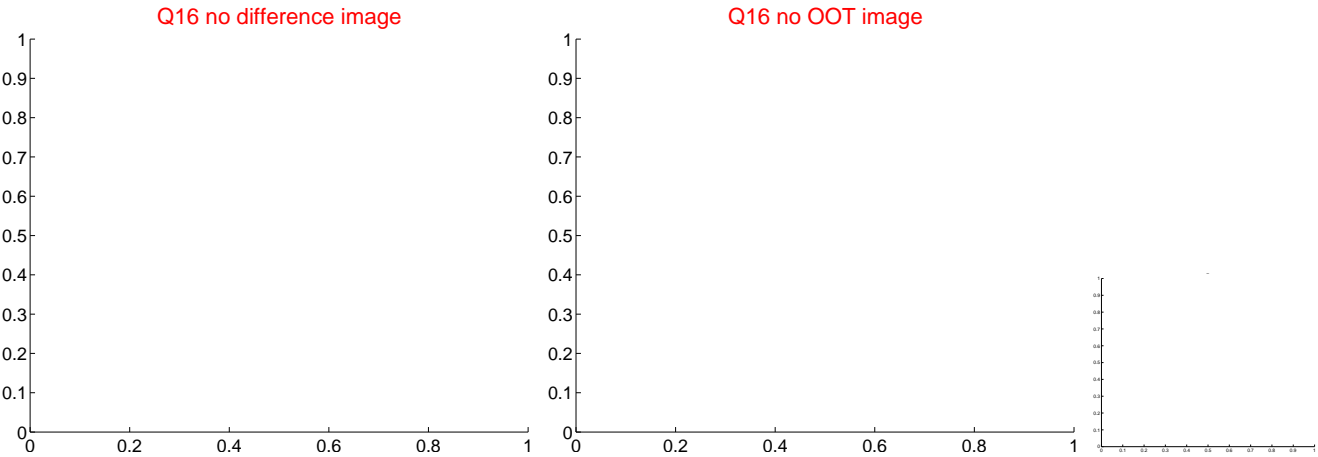
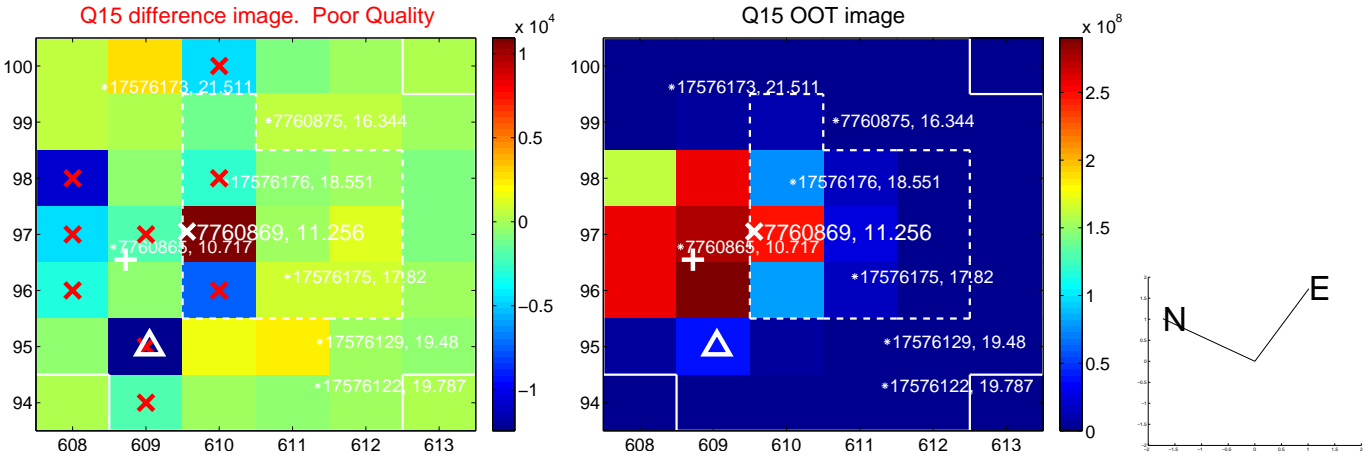
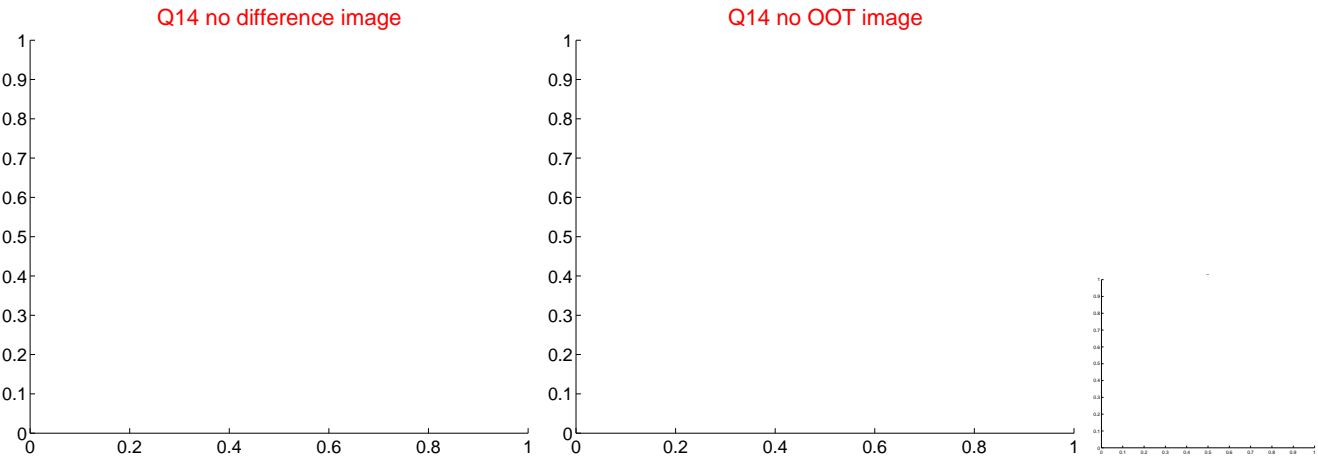
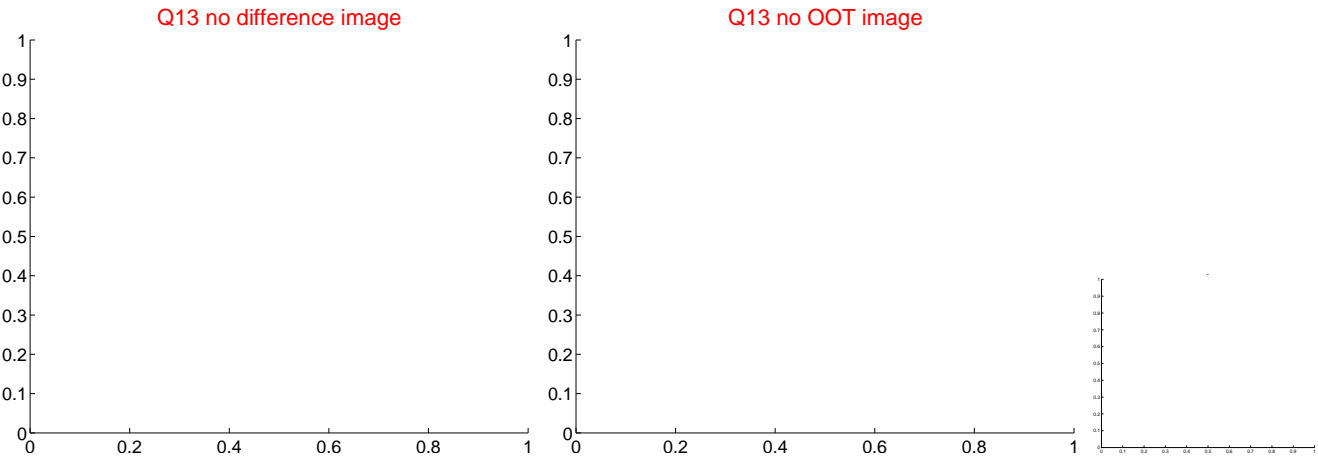
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



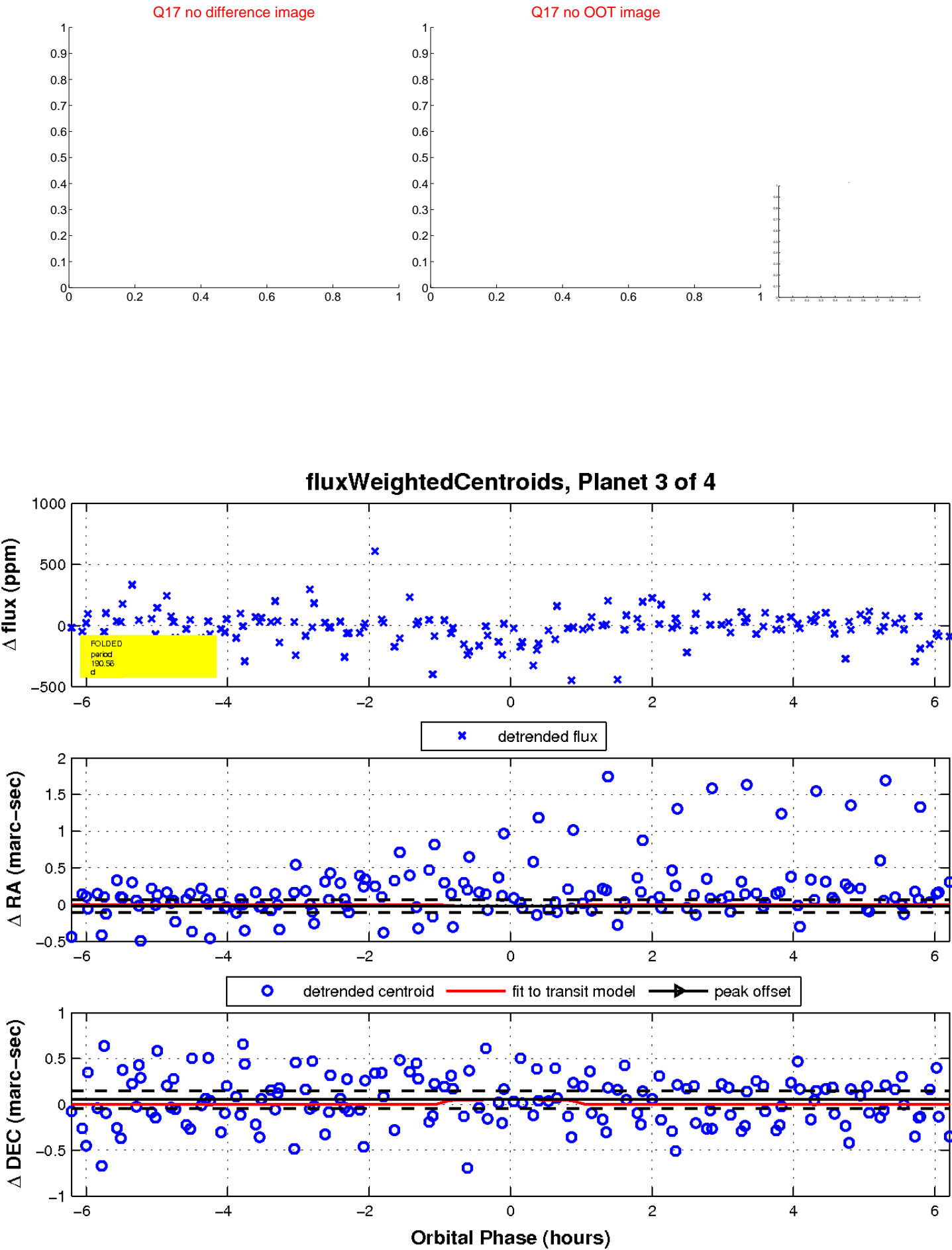
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

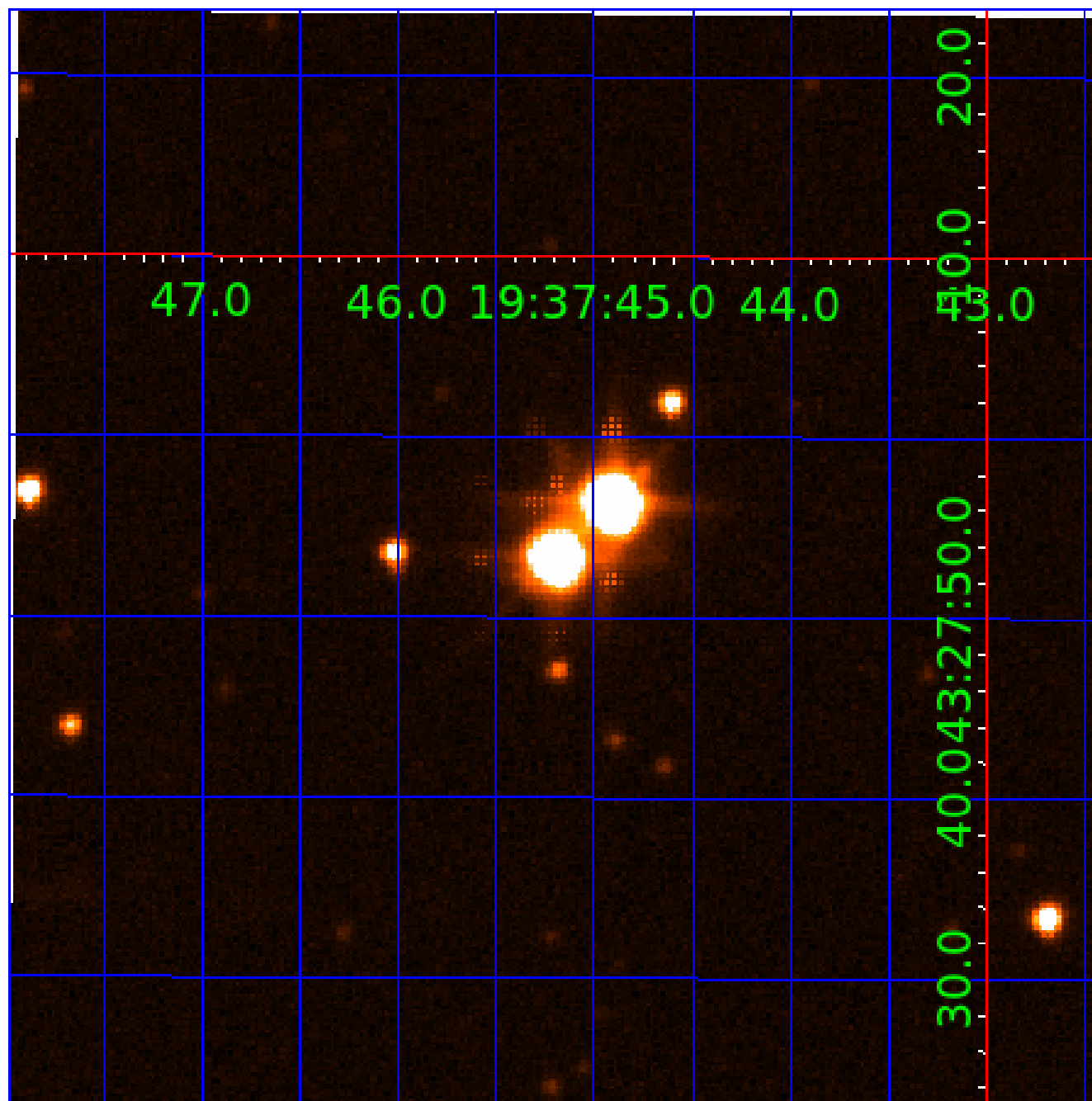


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007760869

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})
007760869-01	OBS	No	84.243263	167.346271	53.1	1.079	13.4	25.9	1.89	6079	1.66	30.86
007760869-02	OBS	No	100.067710	174.735978	42.0	2.703	14.4	8.6	1.89	6079	1.52	24.54
007760869-03	OBS	No	190.558174	320.363495	213.5	2.076	13.6	11.0	1.89	6079	3.26	10.39
007760869-04	OBS	No	85.800773	171.509120	334.4	2.000	12.8	-1.0	1.89	6079	3.48	30.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007760869-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007760869-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007760869-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

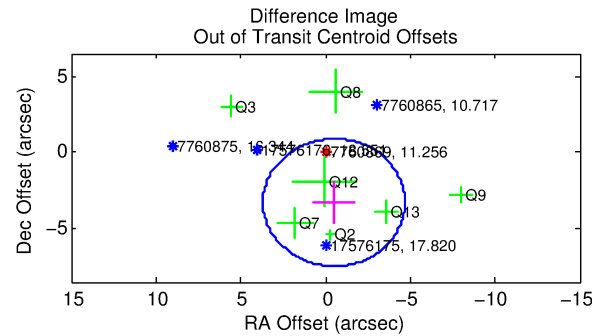
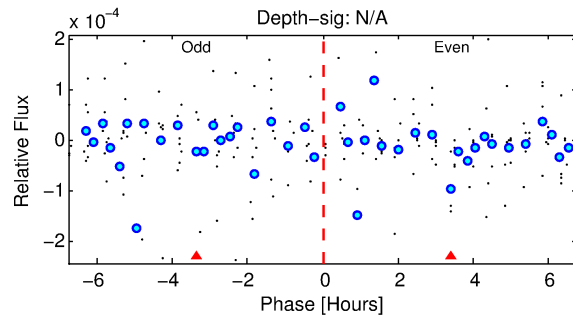
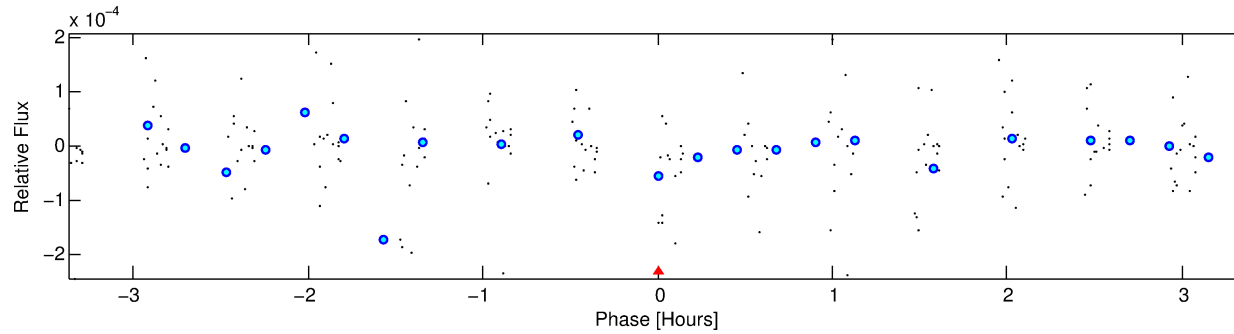
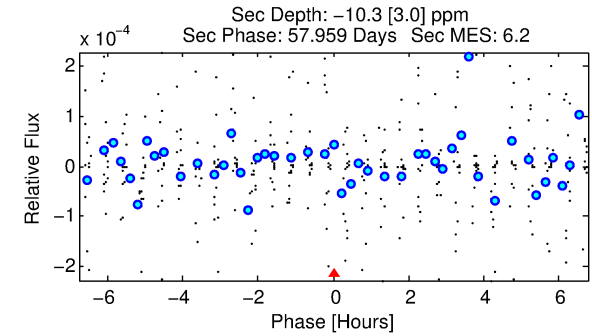
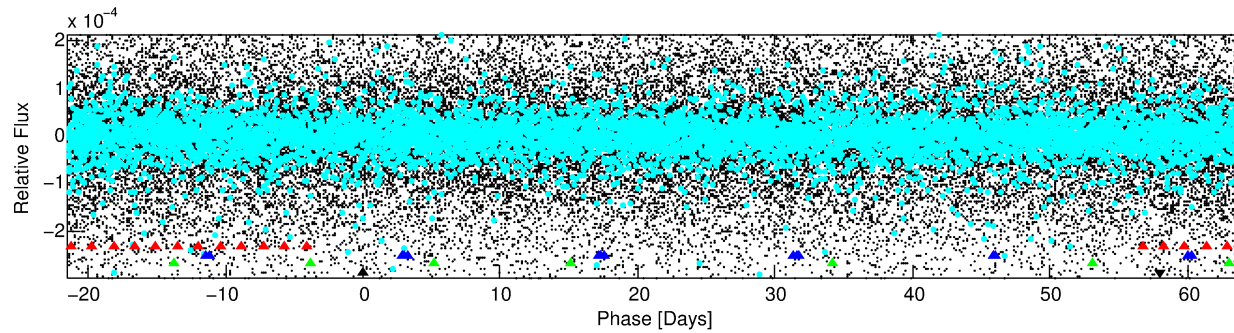
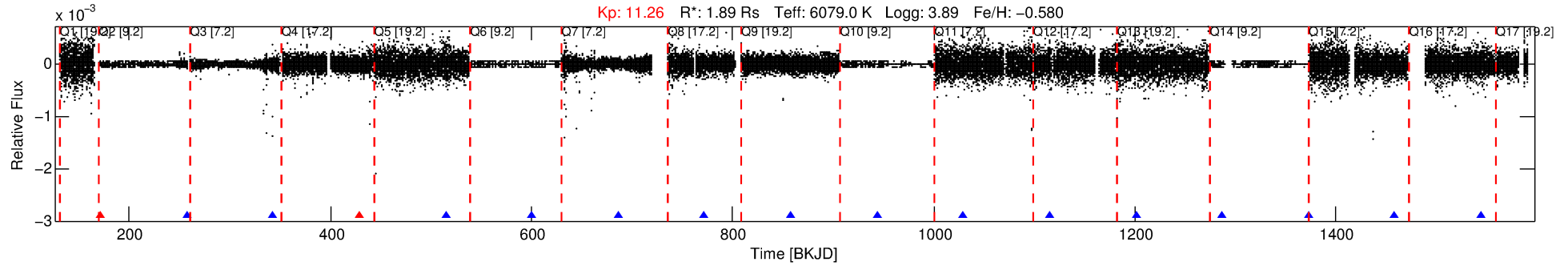
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007760869-04

No Significant Match Found

DV One-Page Summary

KIC: 7760869 Candidate: 4 of 4 Period: 85.801 d



TPS TCE Results:

Period = 85.80077 d
Epoch = 171.5091 BKJD

DV fit results are unavailable

DV Diagnostic Results:

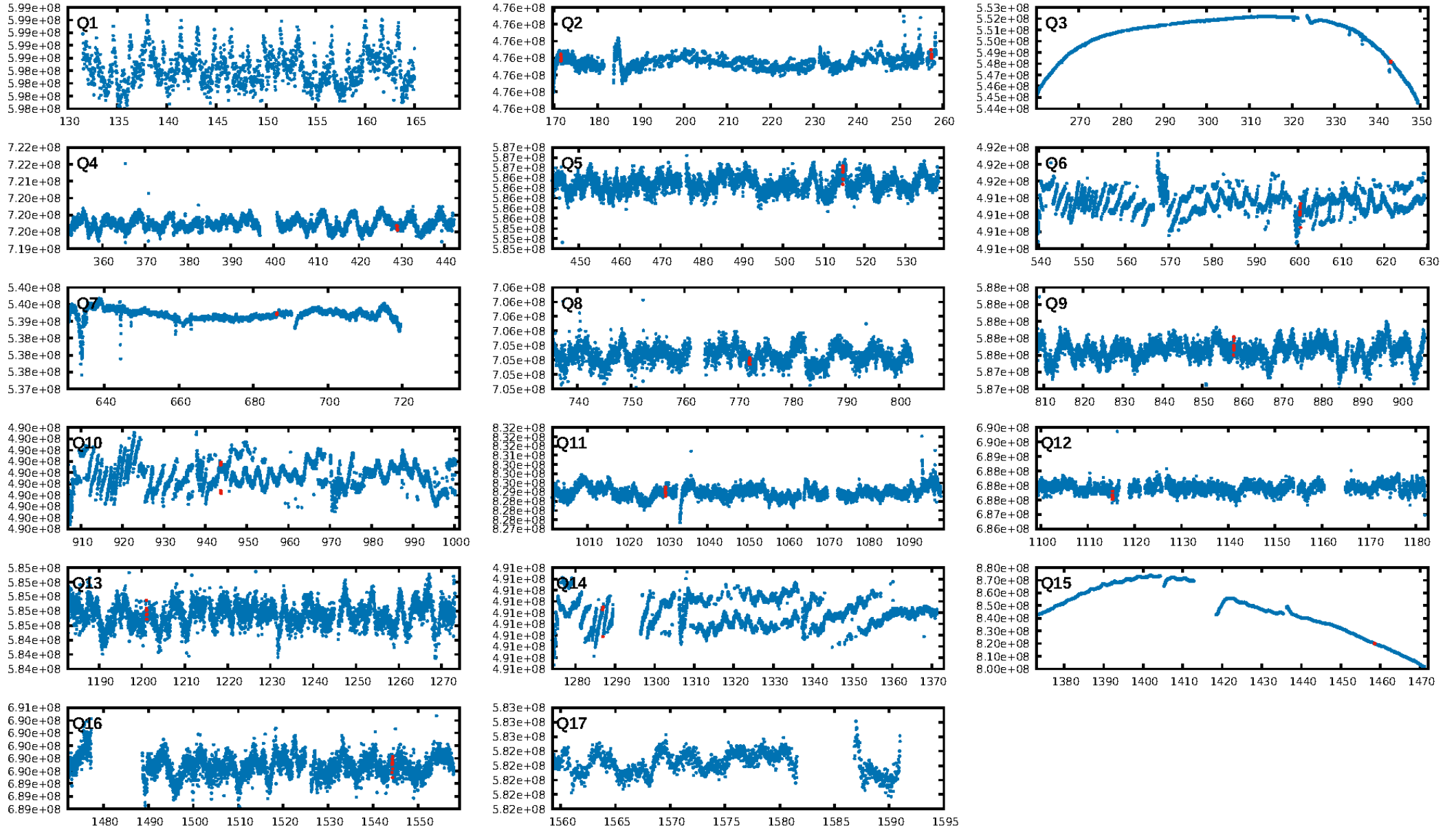
ShortPeriod-sig: 100.0% [16.45 σ]
LongPeriod-sig: 100.0% [101.83 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [14/16]
GhostDiagnostic-chr: 1.153

Centroid-sig: 2.8%
Centroid-so: 2.209 arcsec [0.78 σ]
OotOffset-rm: 3.321 arcsec [2.38 σ]
KicOffset-rm: 2.122 arcsec [1.55 σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 0.00 [0/7]
DiffImageOverlap-fno: 1.00 [15/15]

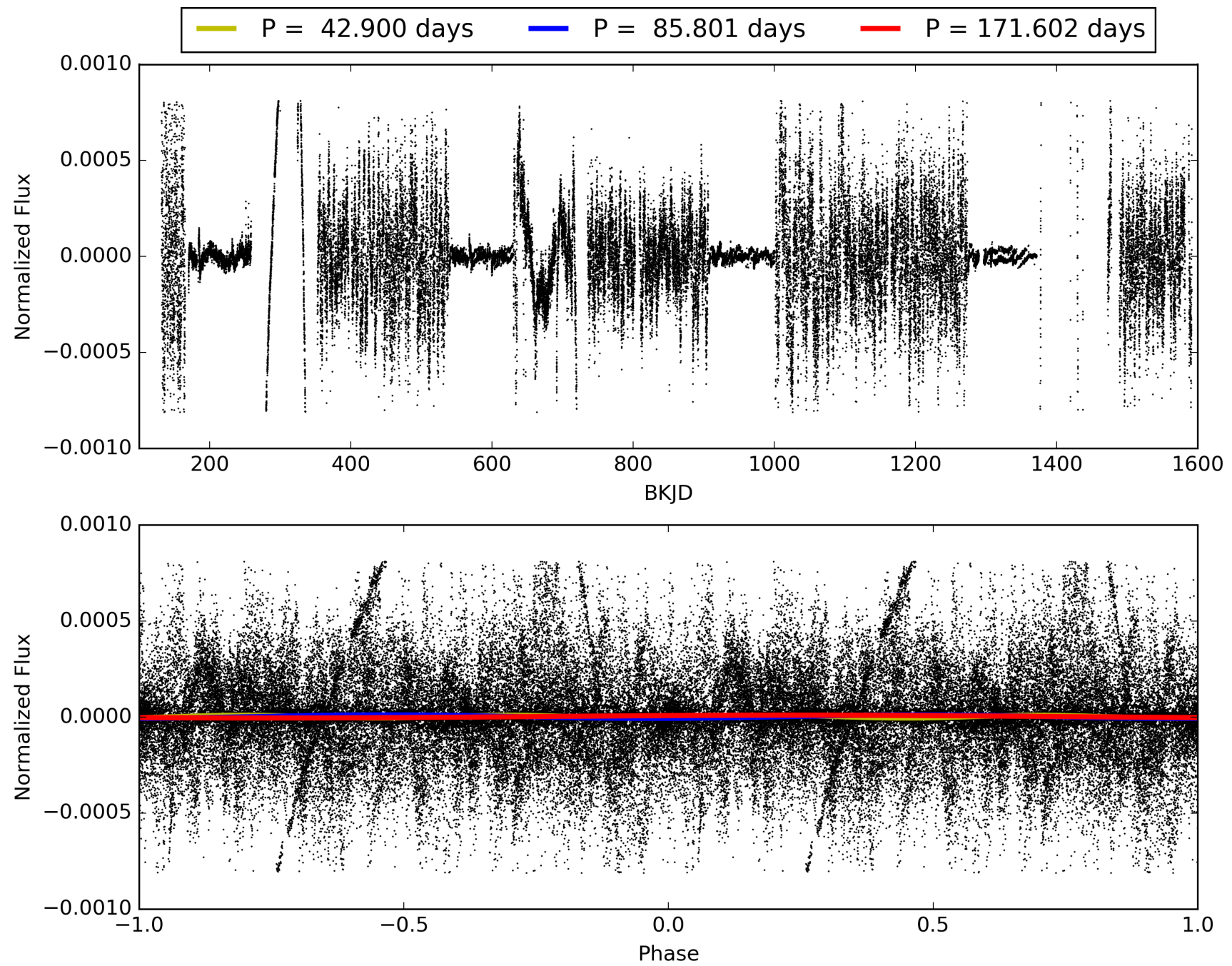
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:39:00 Z

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

TCE 007760869-04, PDC Light Curves

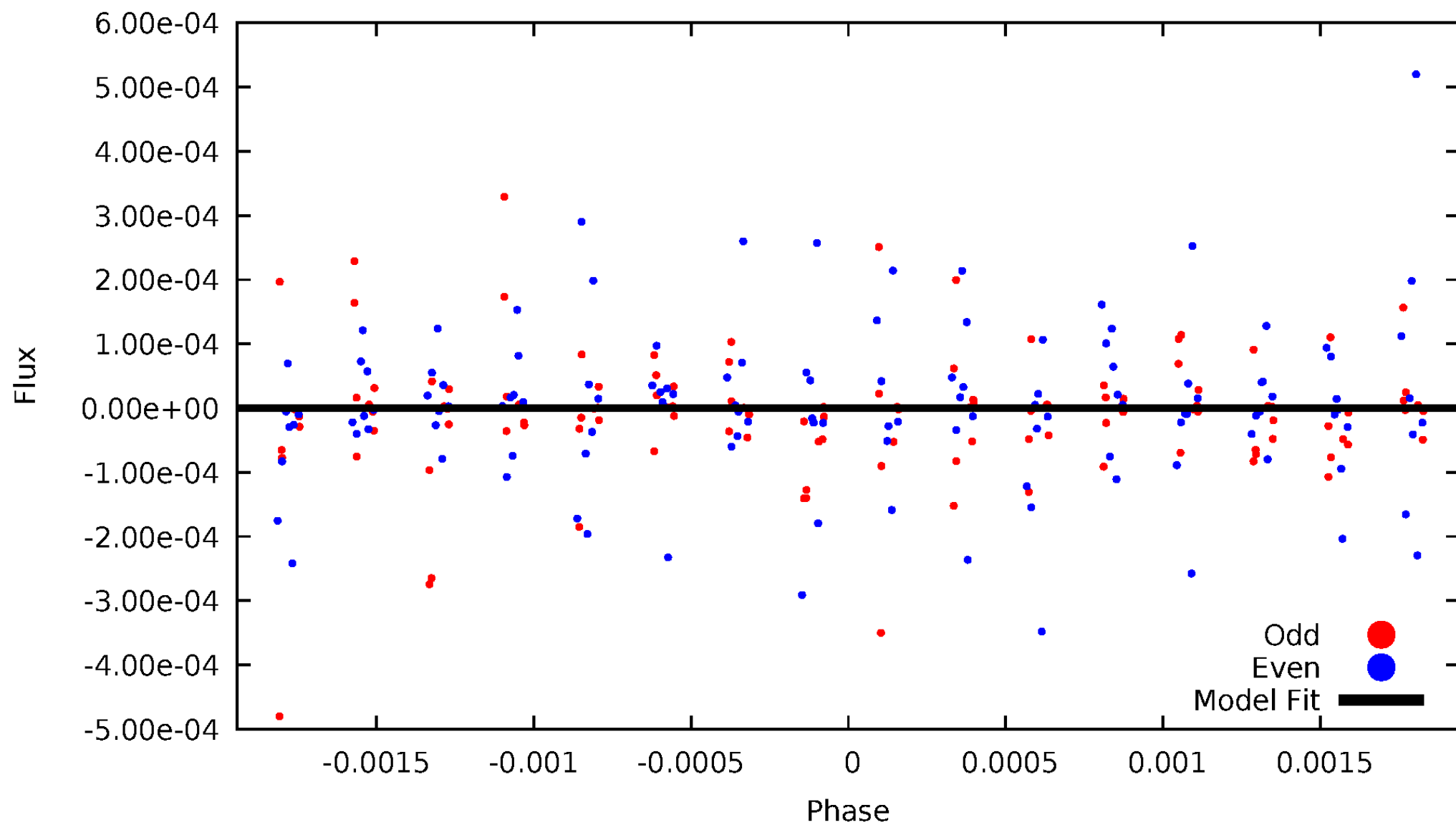


TCE 007760869-04



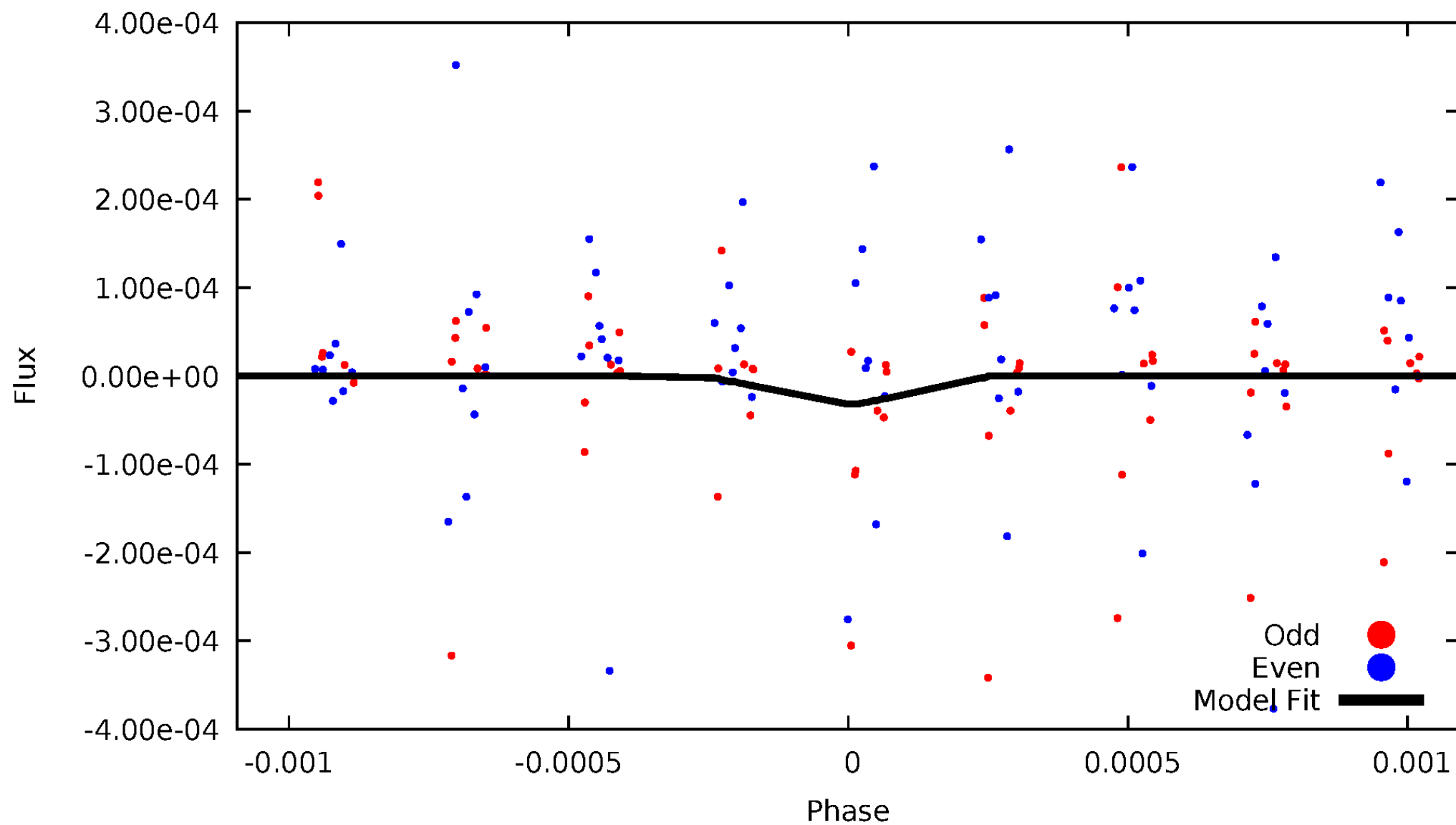
DV Odd/Even

TCE 007760869-04



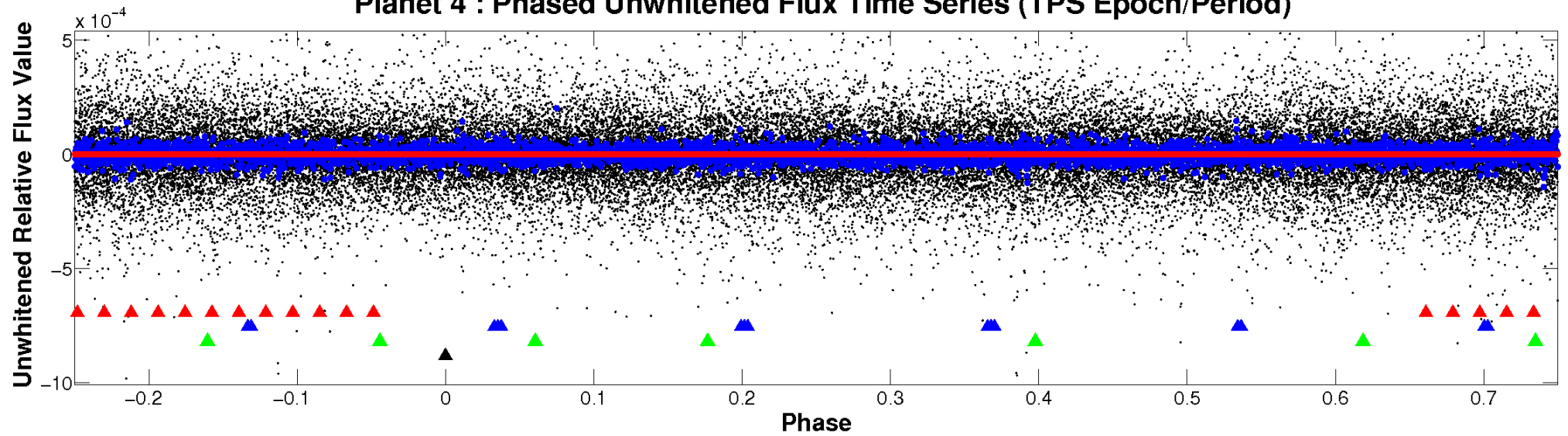
ALT Odd/Even

TCE 007760869-04

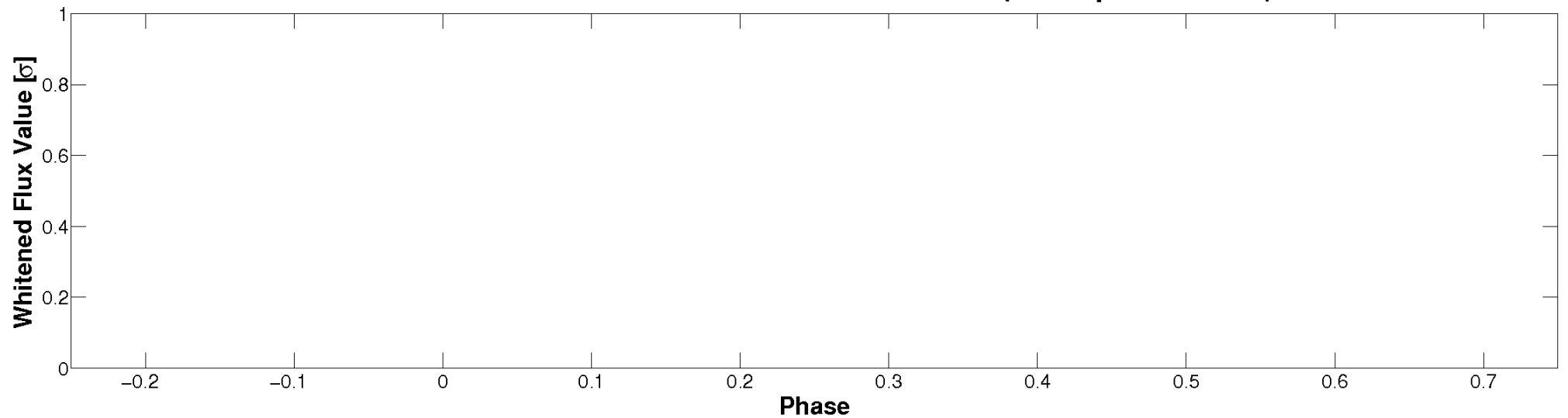


Non-Whitened Vs. Whitened Light Curve

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

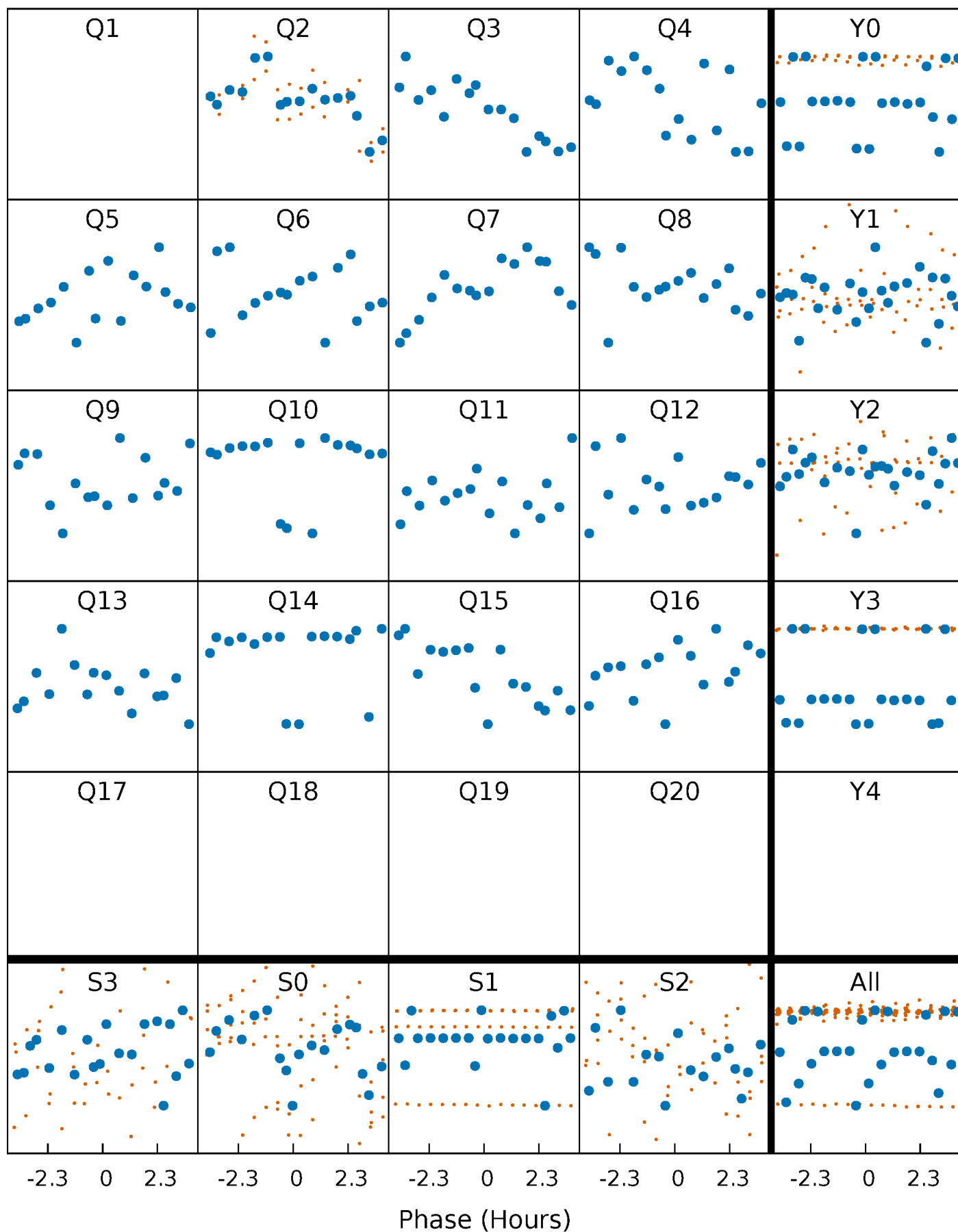


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



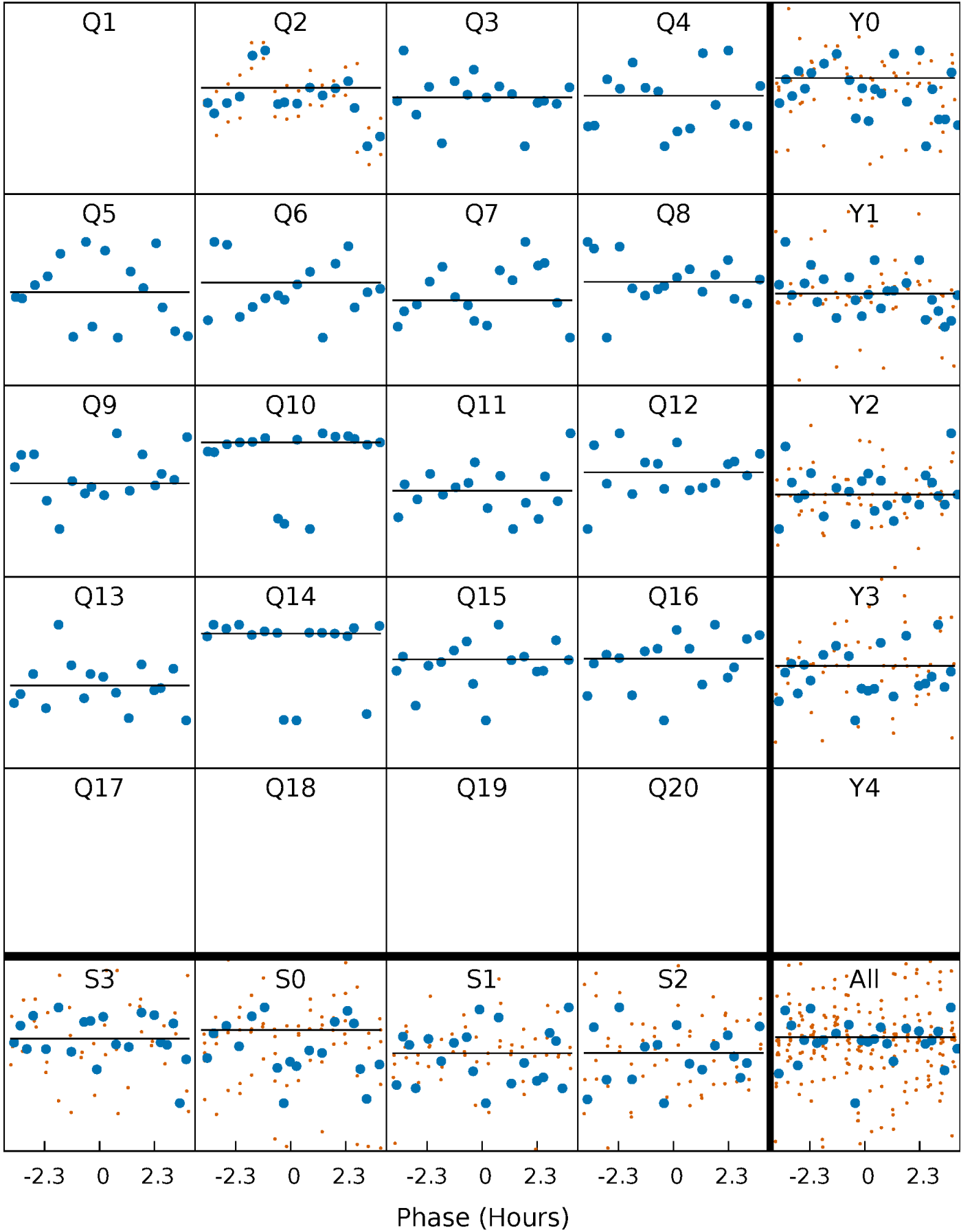
PDC Quarter-Phased Transit Curves

TCE 007760869-04 P= 85.800773 Days $T_0=171.509120$ (BKJD)



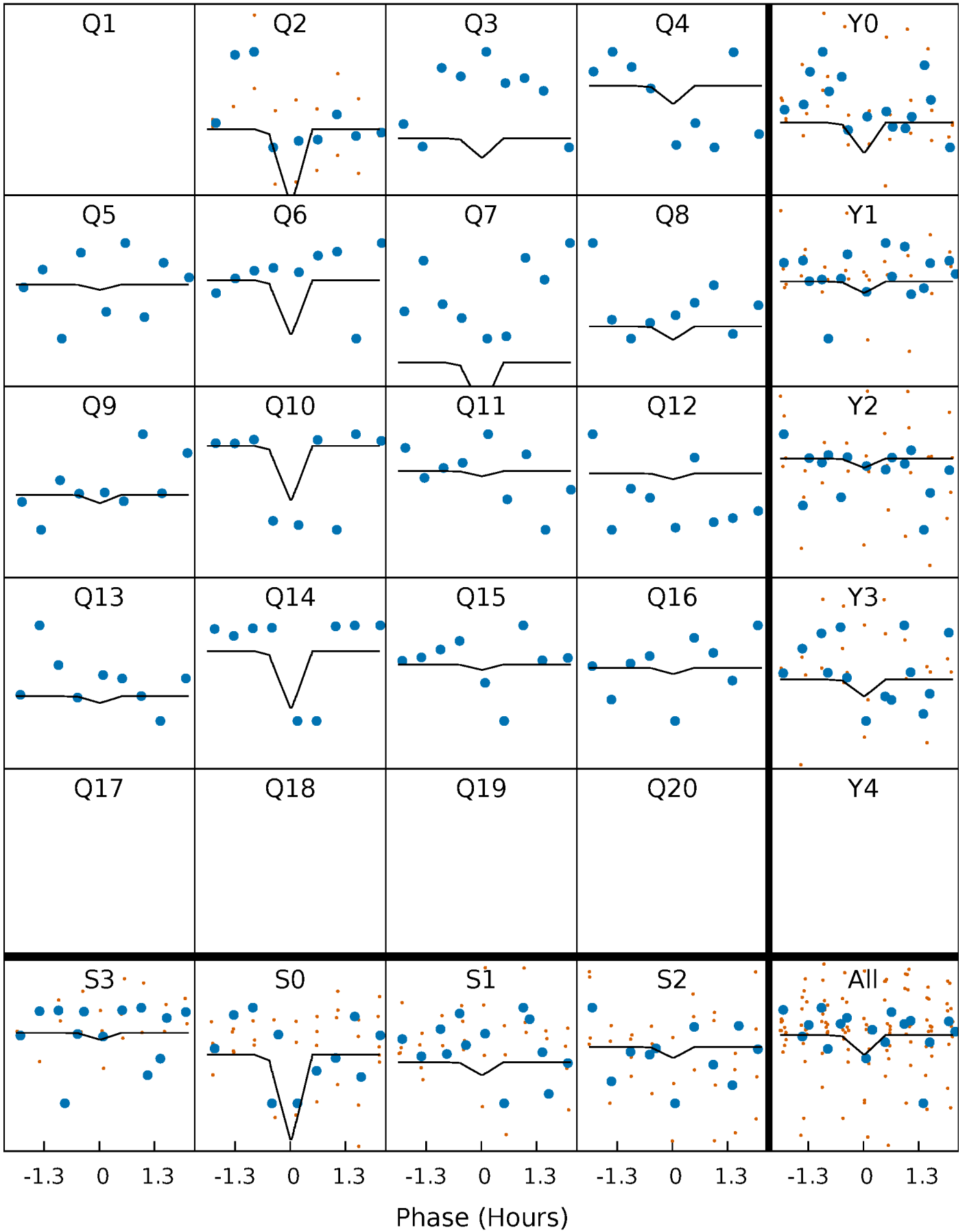
DV Quarter-Phased Transit Curves

TCE 007760869-04 $P = 85.800773$ Days $T_0 = 171.509120$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

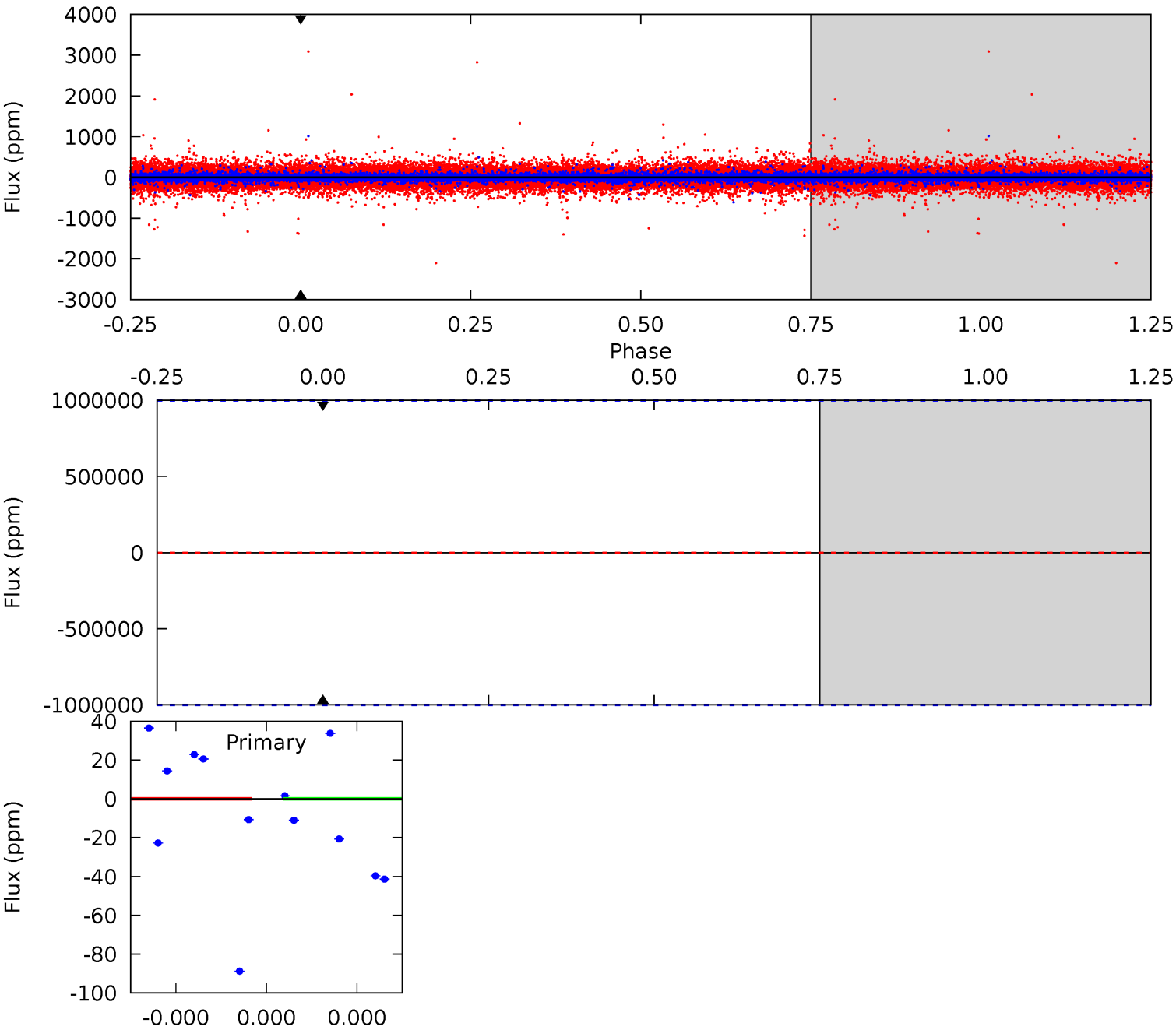
TCE 007760869-04 P= 85.800773 Days $T_0=171.496595$ (BKJD)



DV Model-Shift Uniqueness Test

007760869-04, P = 85.800773 Days, E = 85.708347 Days

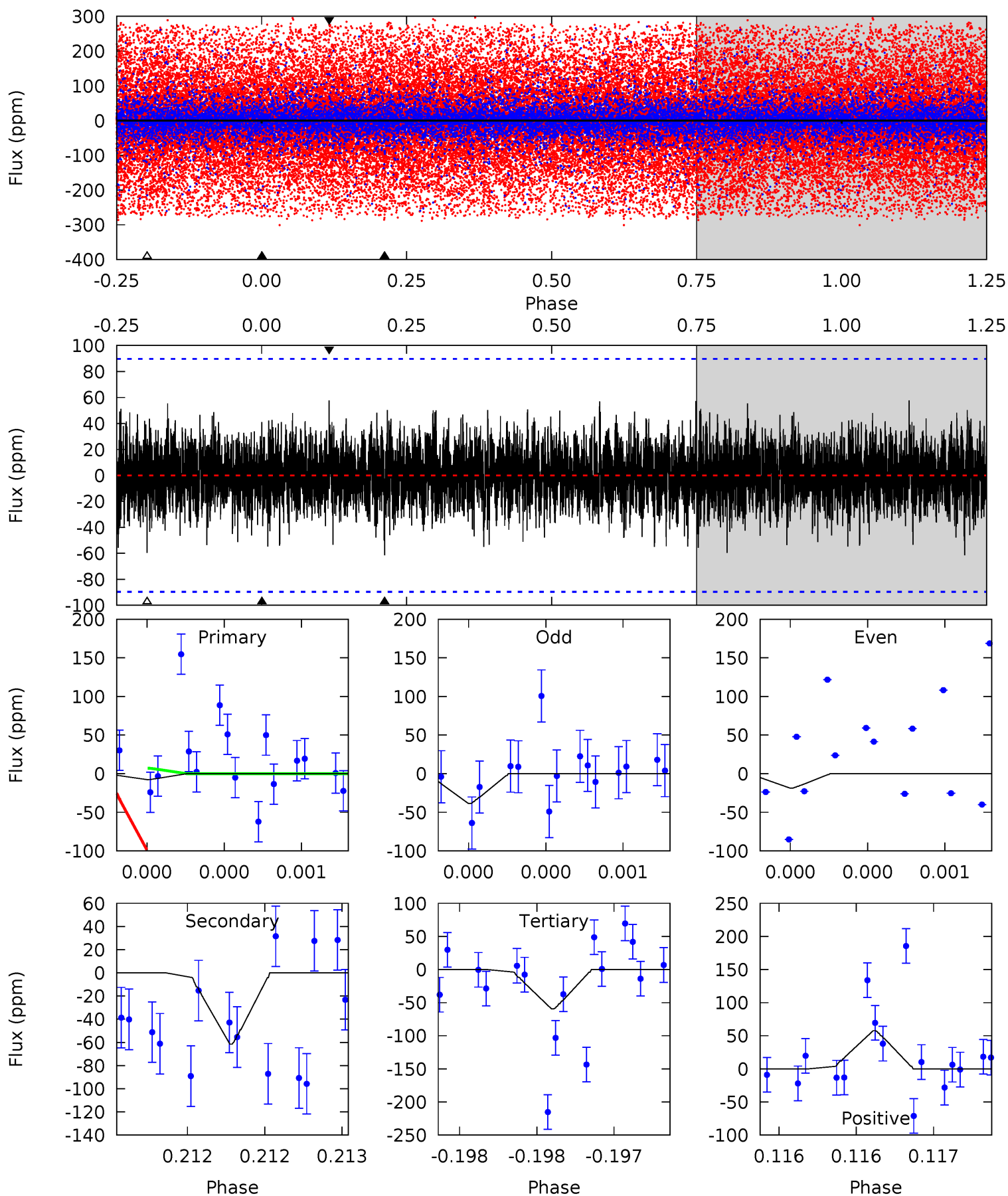
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007760869-04, P = 85.800773 Days, E = 85.695822 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.48	3.83	3.70	3.59	5.58	3.49	0.97	-3.23	-3.11	0.12	0.24	0.63	1.87	0.48	2.90



Stellar Parameters For KIC 007760869

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6079^{+200}_{-200}	$3.886^{+0.552}_{-0.138}$	$-0.580^{+0.350}_{-0.250}$	$1.892^{+0.507}_{-0.942}$	$1.004^{+0.138}_{-0.168}$	$0.209^{+1.152}_{-0.096}$
	+3%/-3%	+14%/-4%	+60%/-43%	+27%/-50%	+14%/-17%	+552%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007760869-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$13.15^{+15.47}_{-8.64}$	810^{+70}_{-108}	3646^{+18502}_{-25748}	116^{+74475}_{-70851}
Alt.	-61 ± 16	$12.94^{+15.24}_{-9.58}$	816^{+68}_{-115}	2779^{+1333}_{-482}	29^{+371}_{-23}

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 $A_{obs} \gg 1.0$

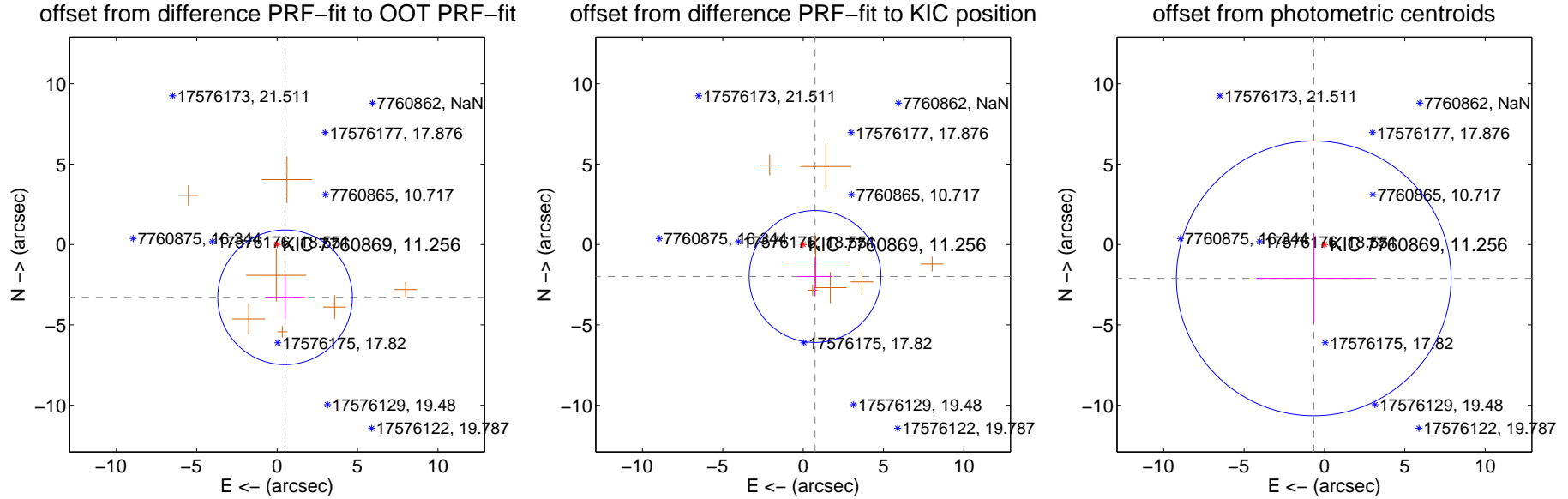
DV Centroid Data

Supplemental centroid analysis for 007760869-04. **Kepler magnitude: 11.26.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

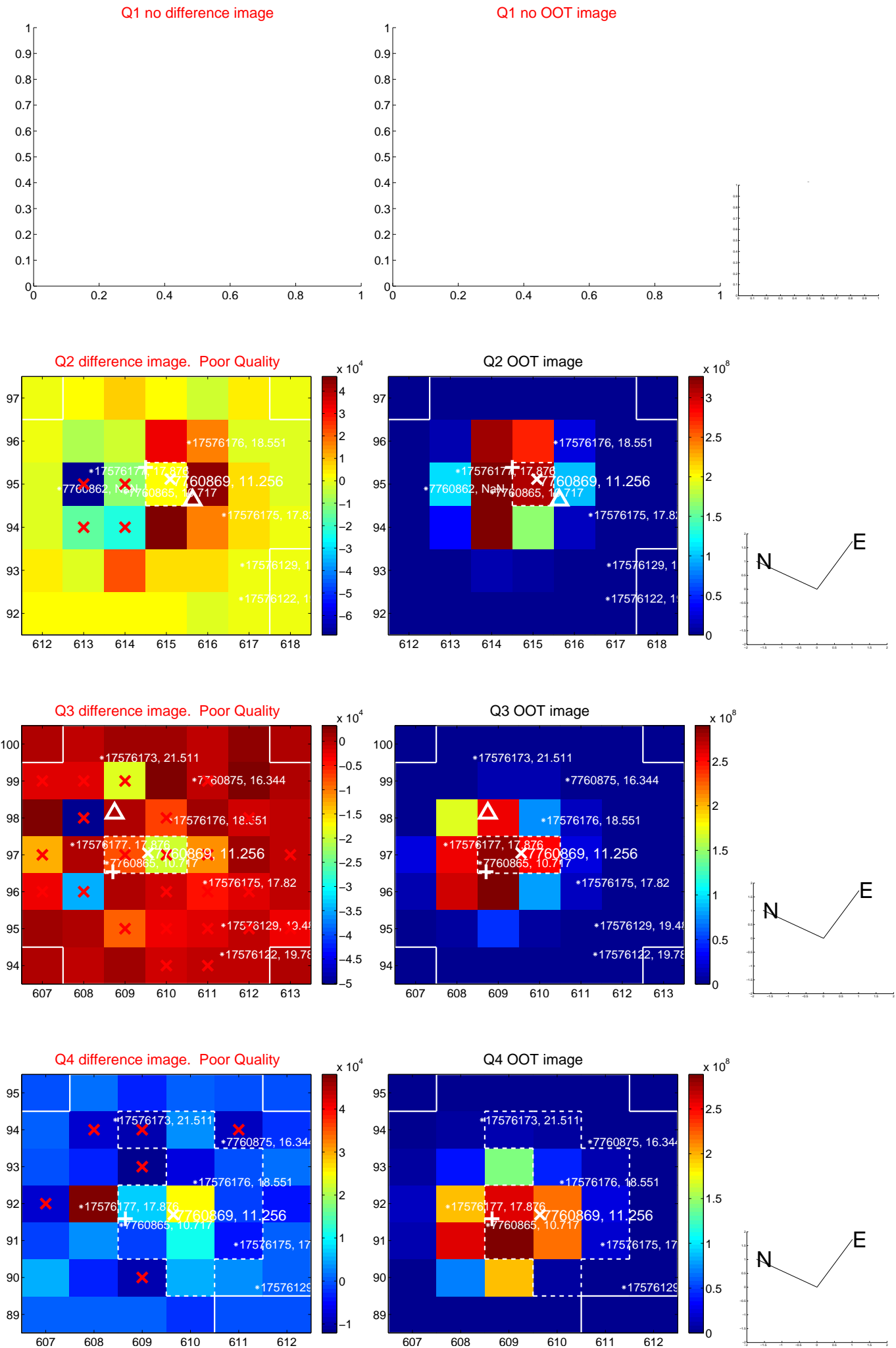
The direct PRF centroid is offset from the target star catalog position by about 1.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.321 ± 1.396	2.38	-0.496 ± 1.231	-3.284 ± 1.328
PRF-fit source offset from KIC position	2.122 ± 1.367	1.55	-0.741 ± 1.109	-1.989 ± 1.198
photometric centroid source offset	2.21 ± 2.85	0.78	0.67 ± 3.55	-2.11 ± 2.77

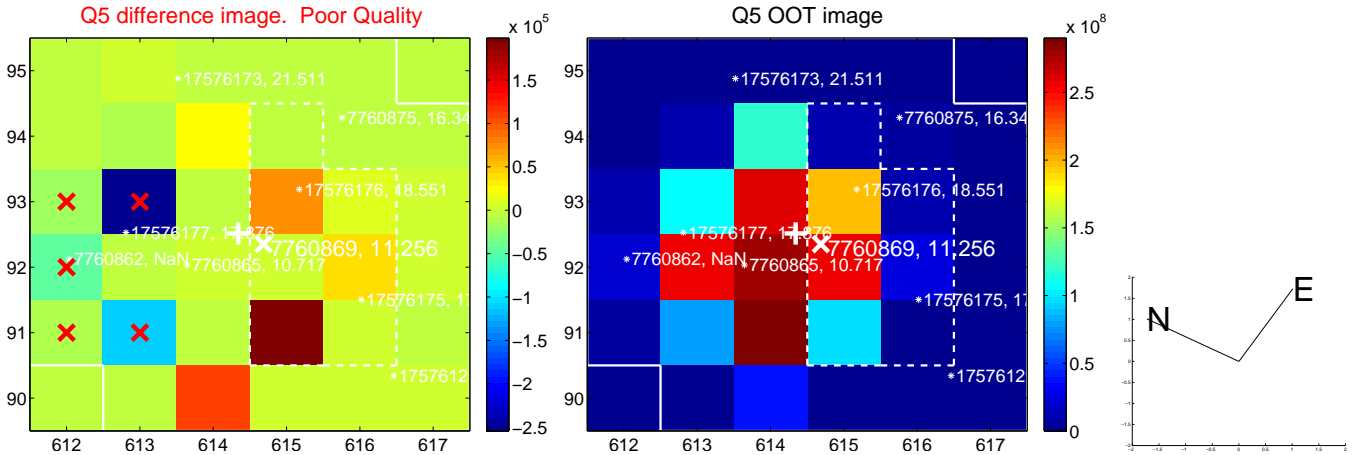


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

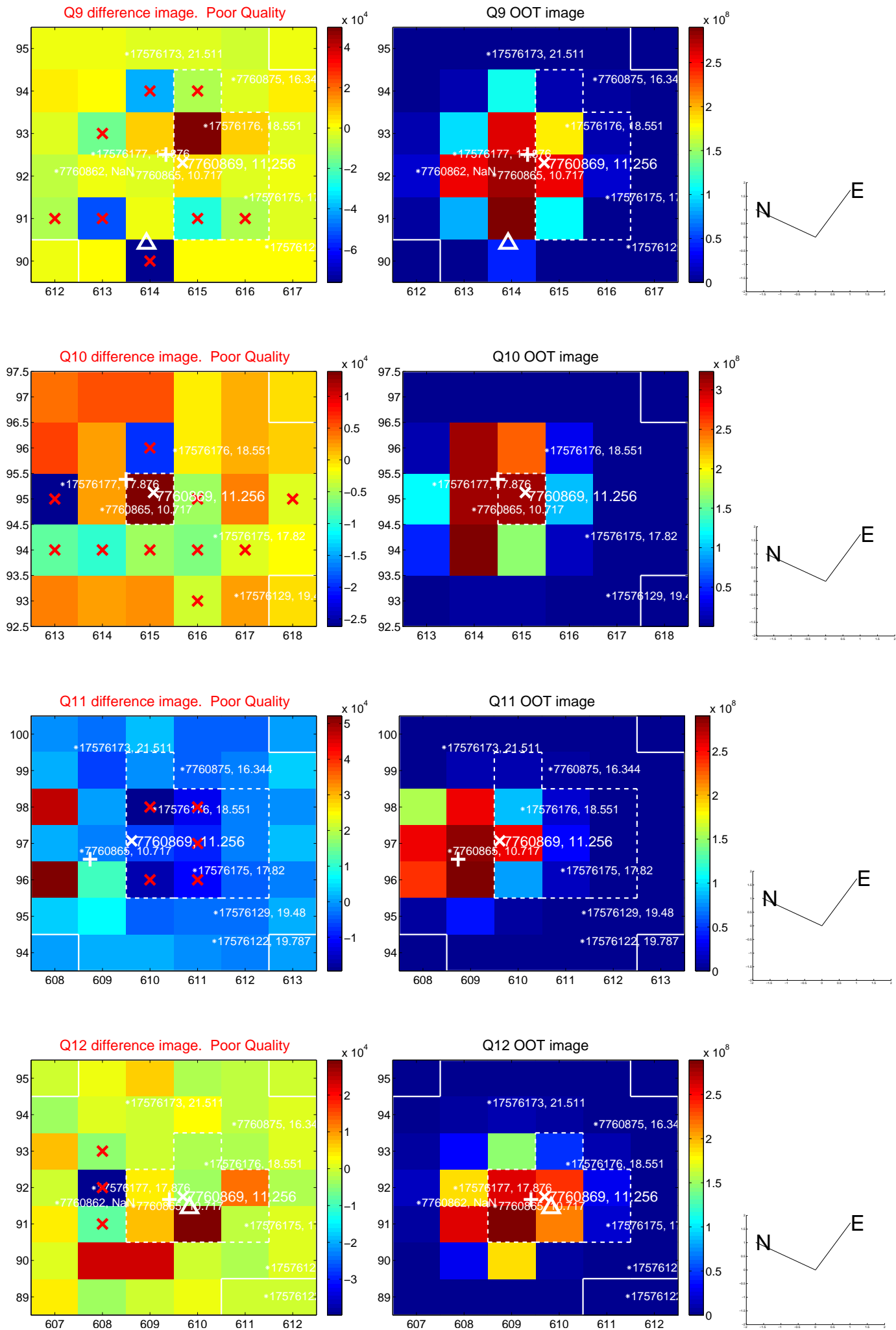
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



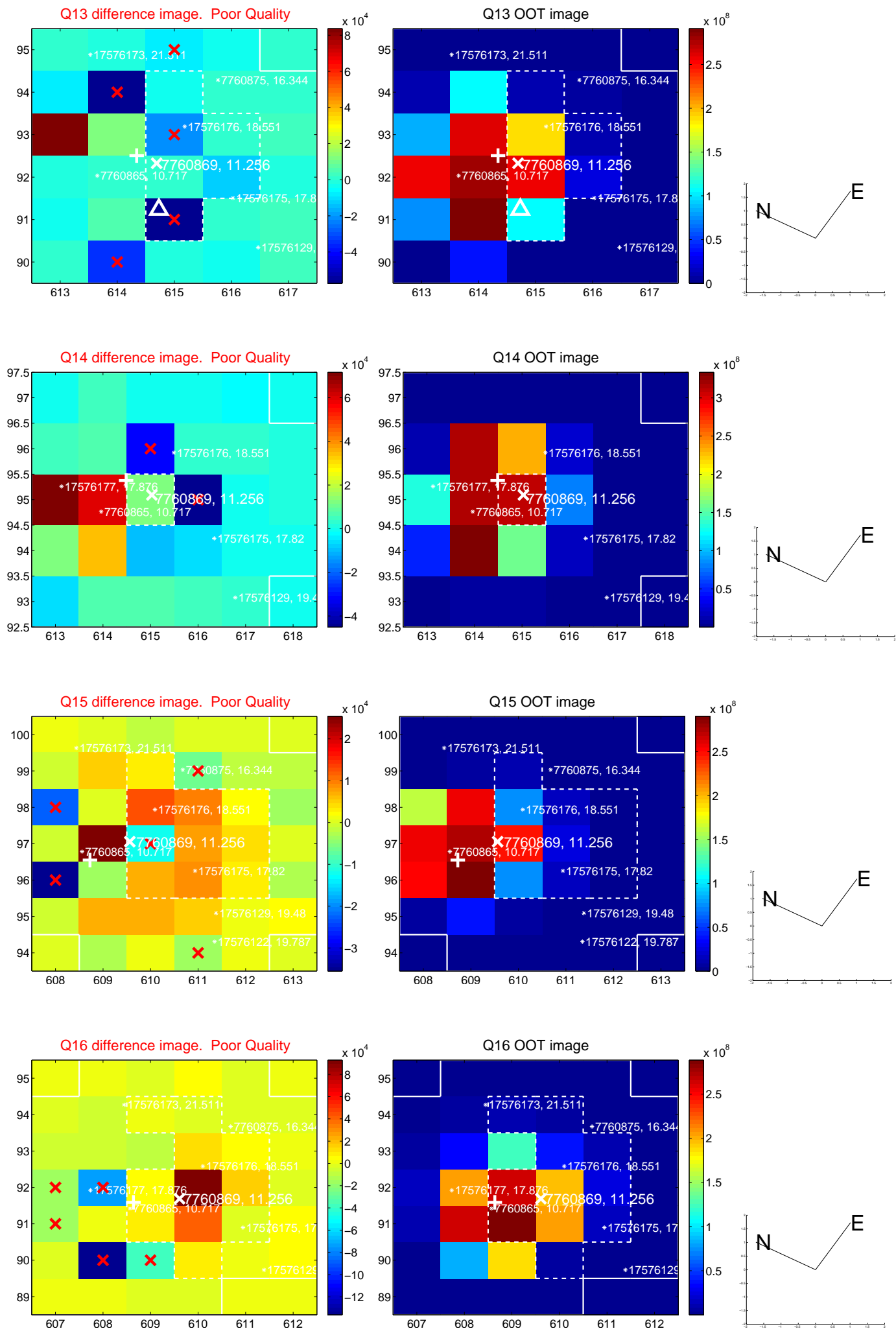
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



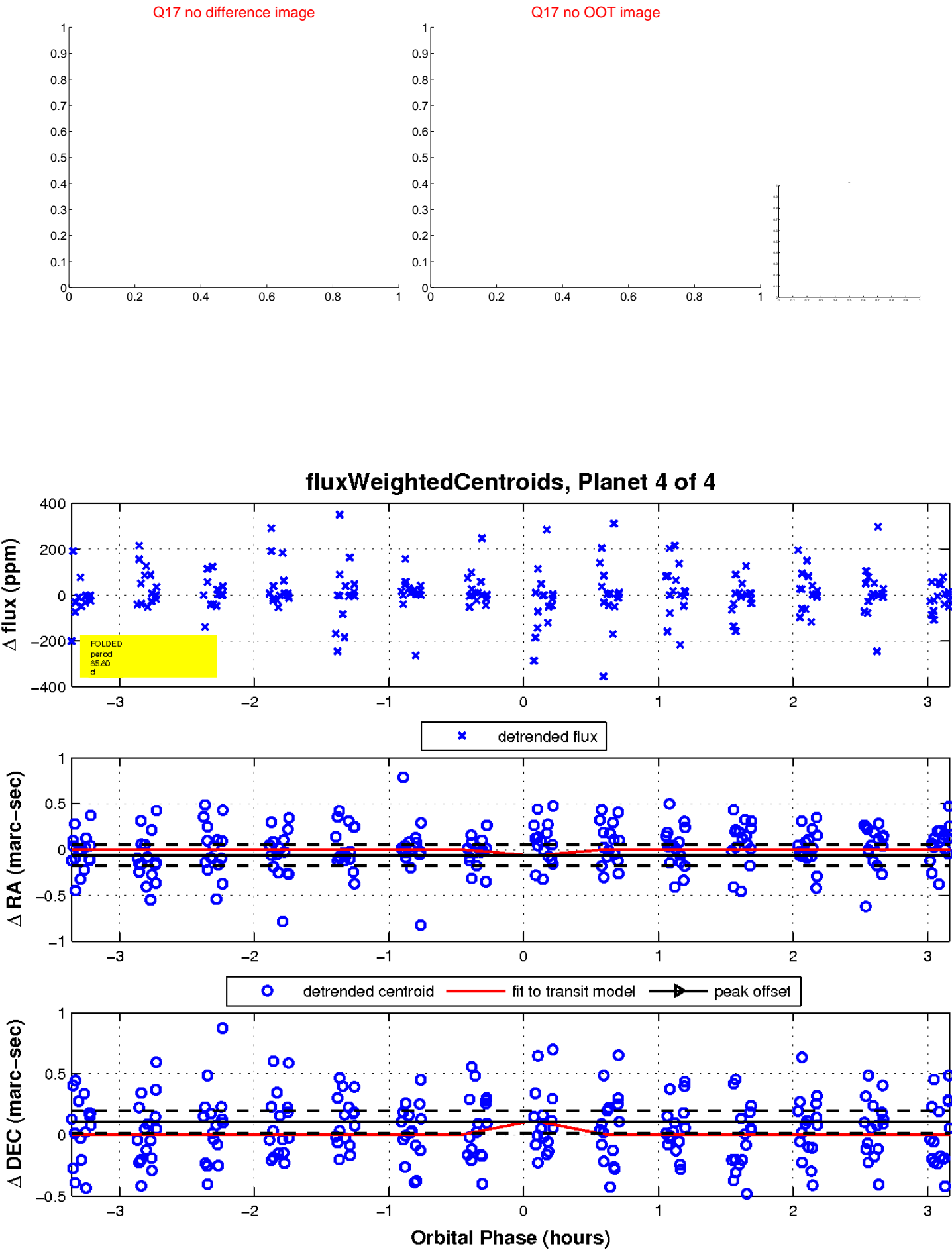
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

