

KIC 007838906

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})
007838906-01	OBS	6165.01	5.614910	132.841320	2360.8	3.678	405.8	364.5	35.70	4289	352.82	0.00
007838906-02	OBS	No	5.614904	135.655745	775.7	3.767	137.8	148.1	35.70	4289	212.20	0.00
007838906-03	OBS	6165.02	35.425988	161.170320	271.6	4.216	16.0	18.8	35.70	4289	129.66	5723.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838906-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007838906-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007838906-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

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

Ephemeris Match Information For 007838906-01

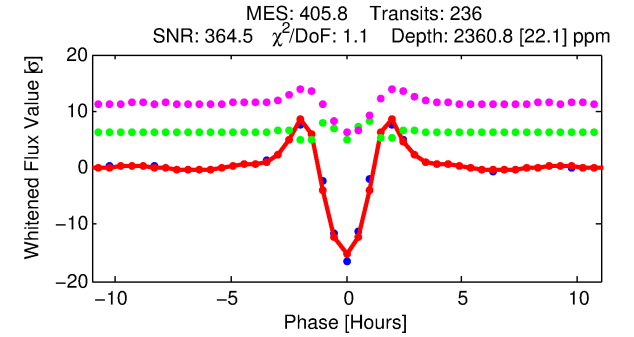
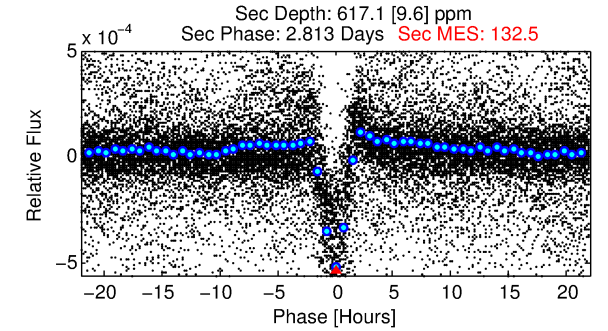
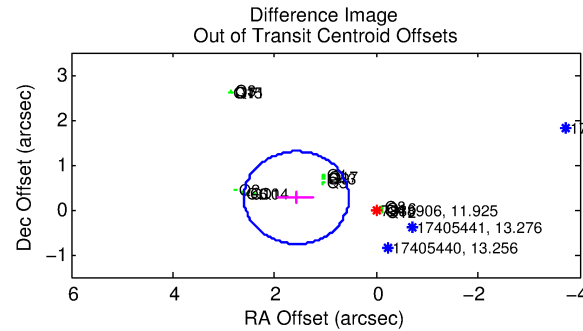
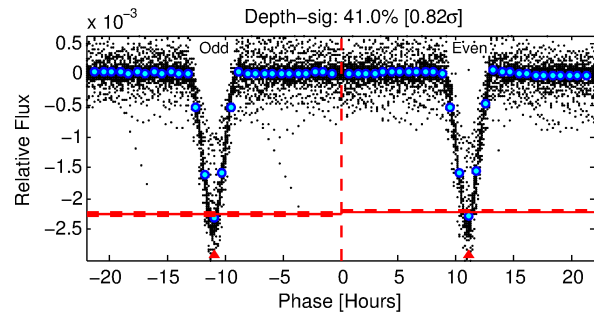
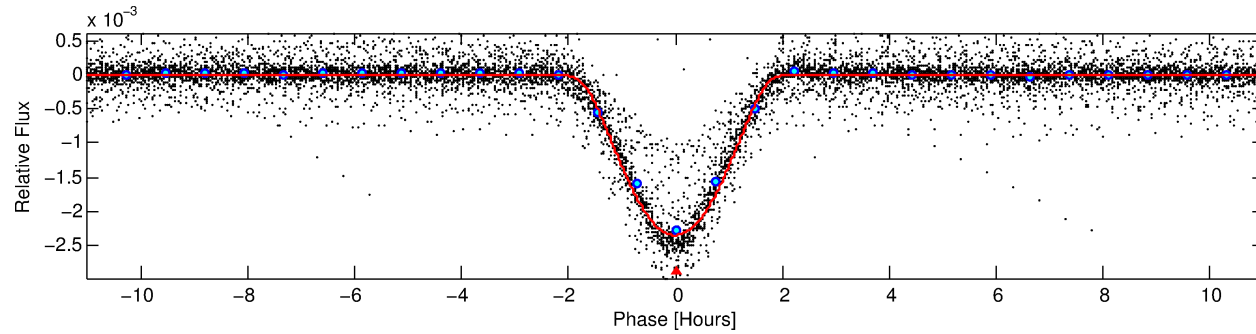
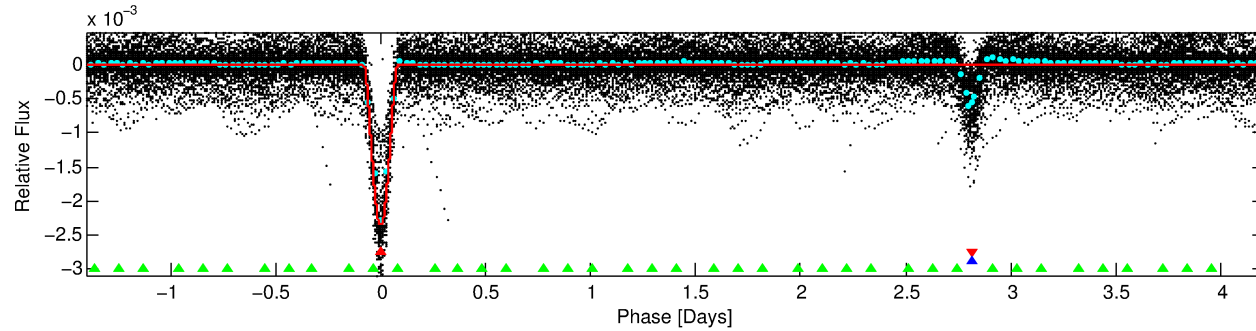
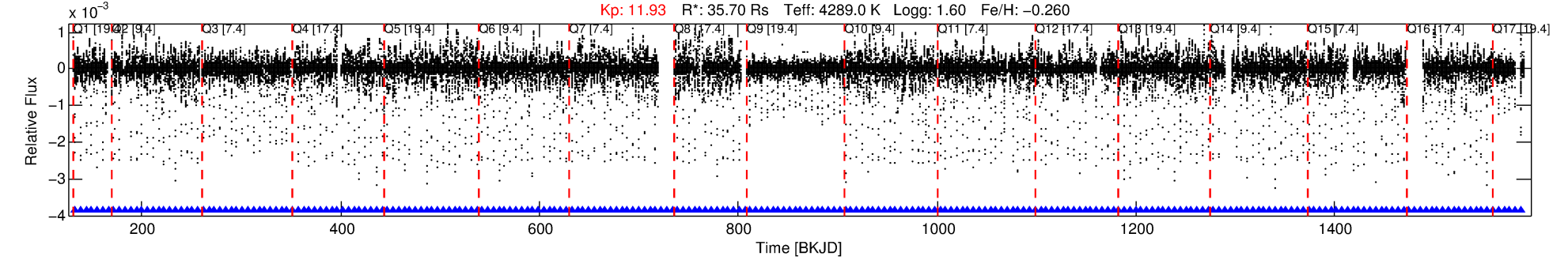
No Significant Match Found

DV One-Page Summary

KIC: 7838906 Candidate: 1 of 3 Period: 5.615 d

KOI: K06165.01 Corr: 0.991

Kp: 11.93 R*: 35.70 Rs Teff: 4289.0 K Logg: 1.60 Fe/H: -0.260



DV Fit Results:

Period = 5.61491 [0.00000] d
Epoch = 132.8413 [0.0001] BKJD
Rp/R* = 0.0906 [0.0059]
b/R* = 5.18 [0.06]
b = 1.00 [0.01]
Seff = N/A
Teq = N/A
Rp = 352.82 [79.77] Re
a = N/A
Ag = N/A
Teffp = N/A

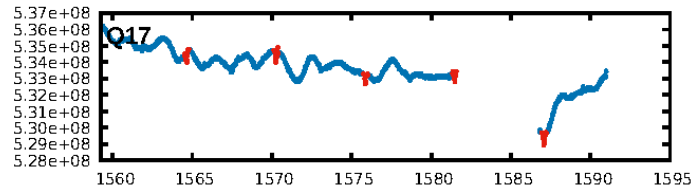
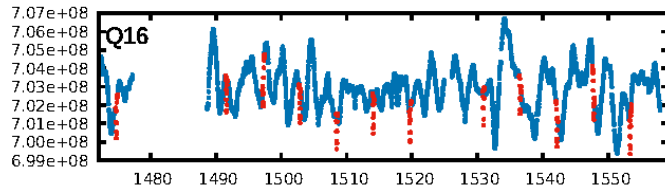
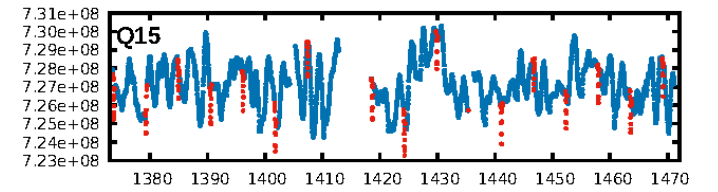
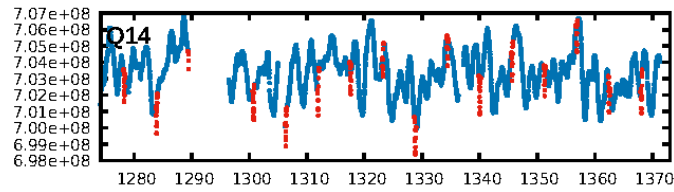
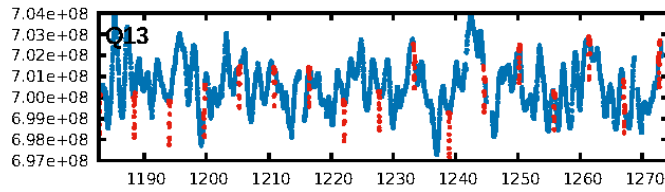
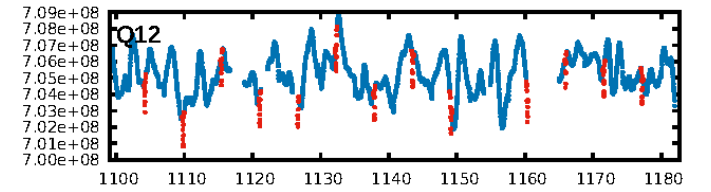
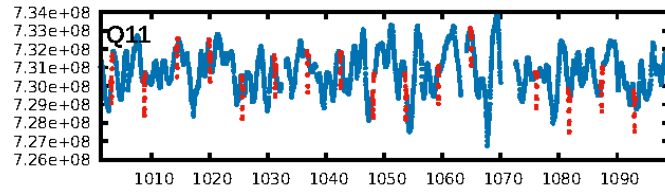
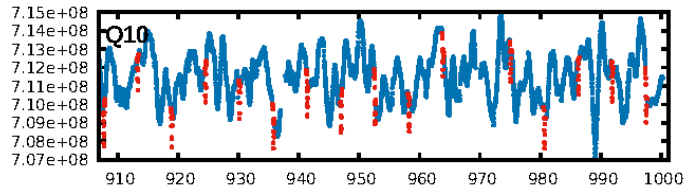
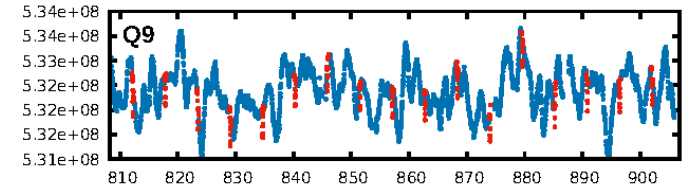
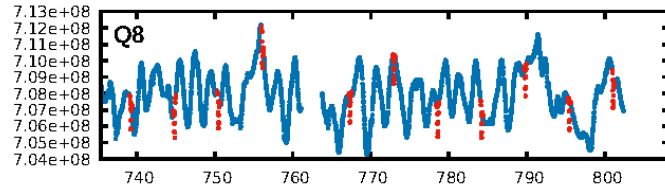
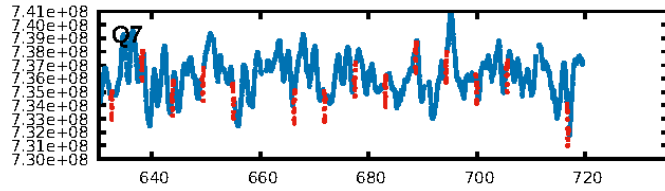
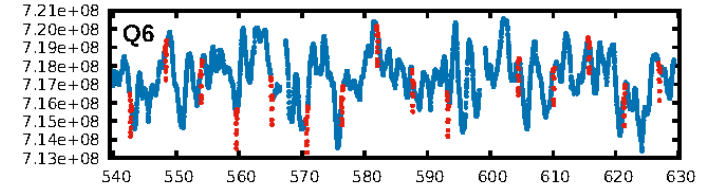
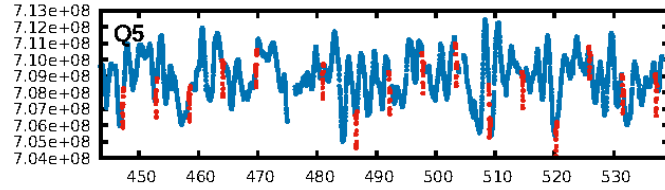
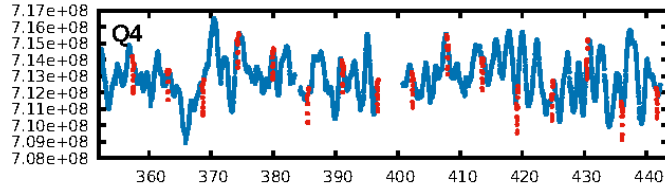
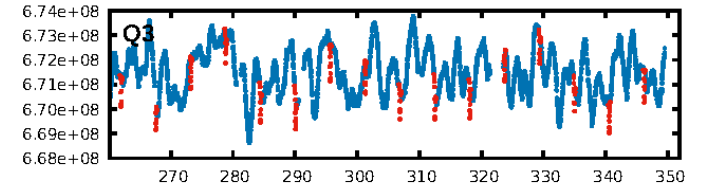
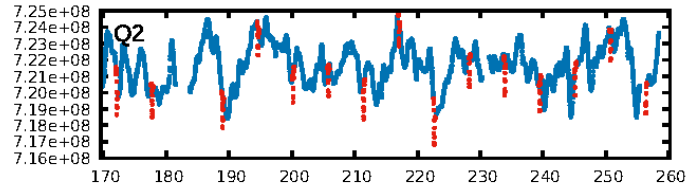
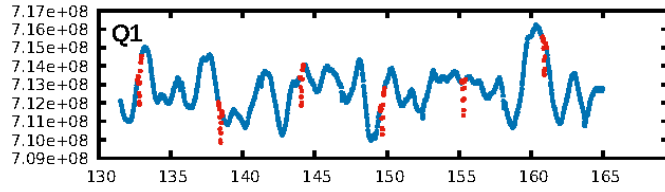
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00e]
LongPeriod-sig: 100.0% [127.87σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [225/225]
GhostDiagnostic-chr: 2.64
Centroid-sig: 1.2%
Centroid-so: 0.253 arcsec [20.46σ]
OotOffset-rm: 1.595 arcsec [4.64σ]
KicOffset-rm: 2.073 arcsec [6.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

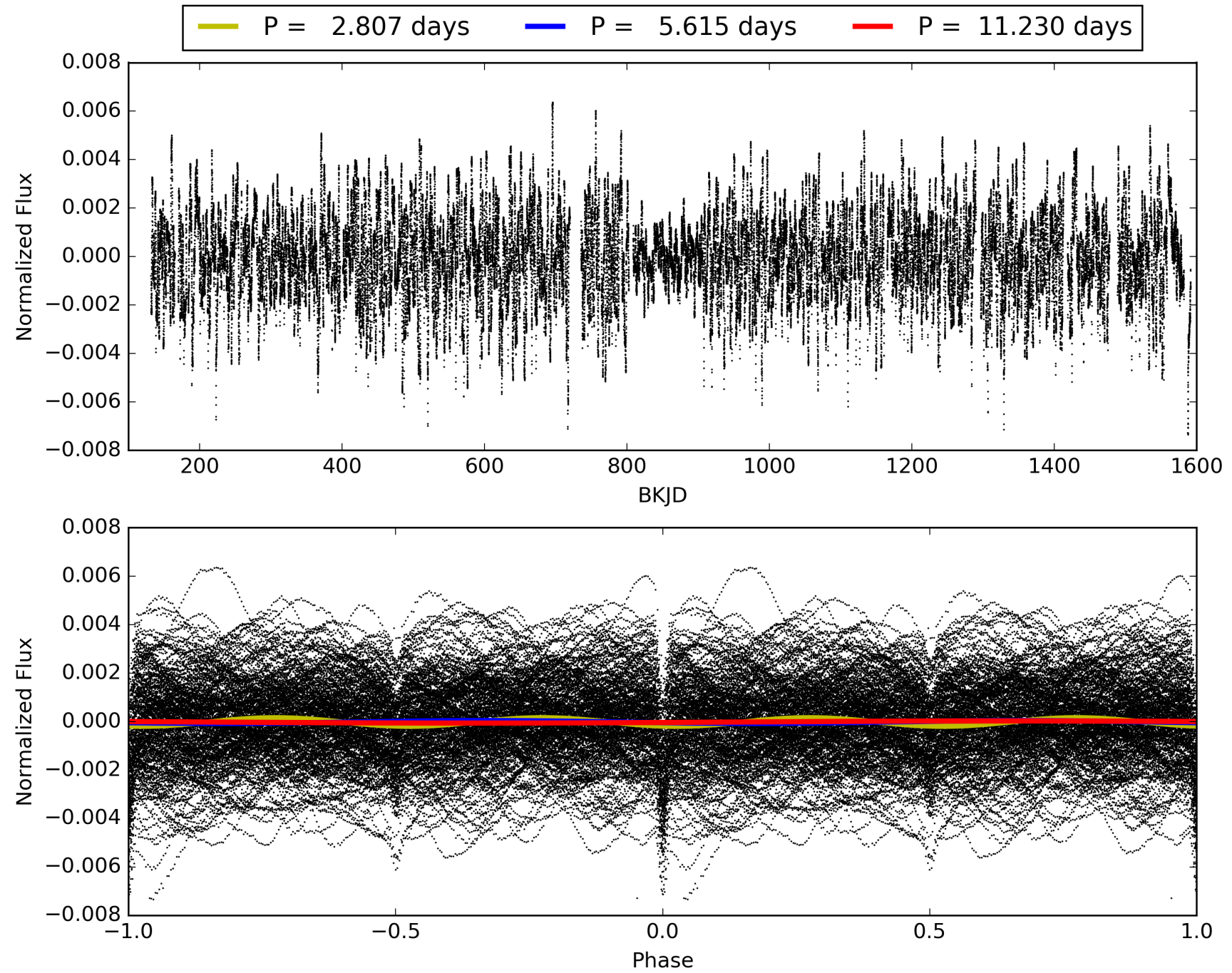
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:08:02 Z

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

TCE 007838906-01, PDC Light Curves

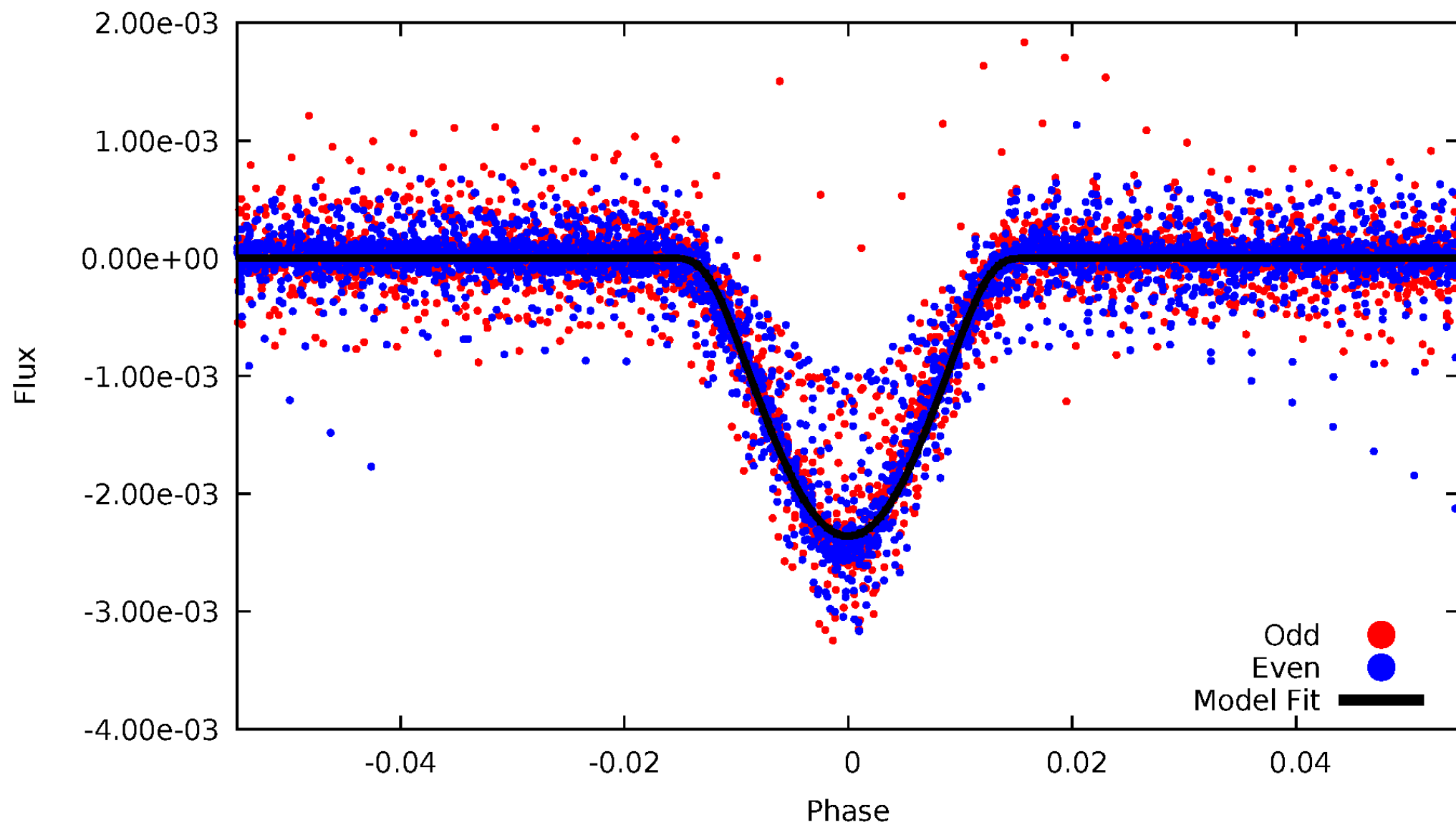


TCE 007838906-01



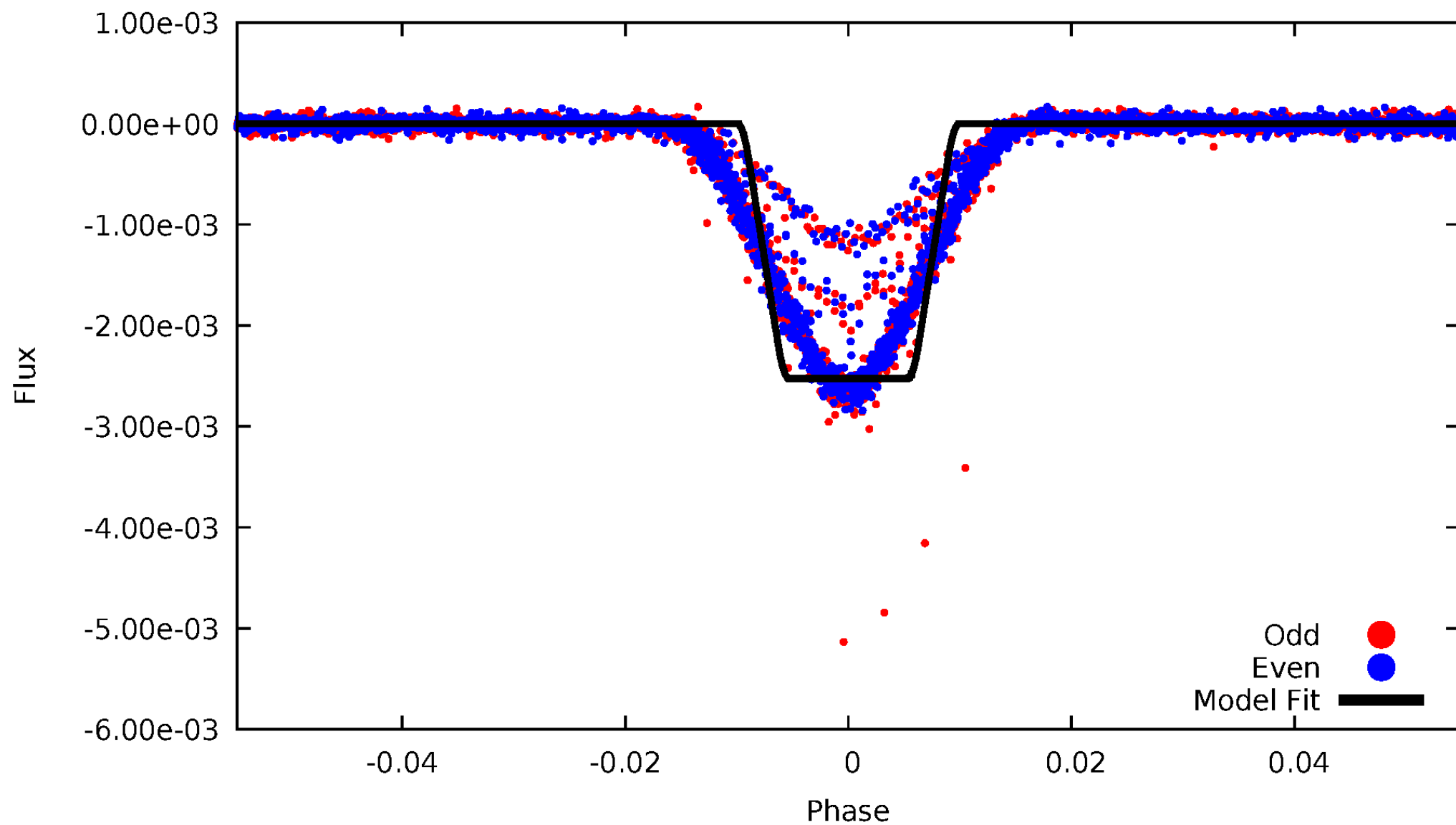
DV Odd/Even

TCE 007838906-01



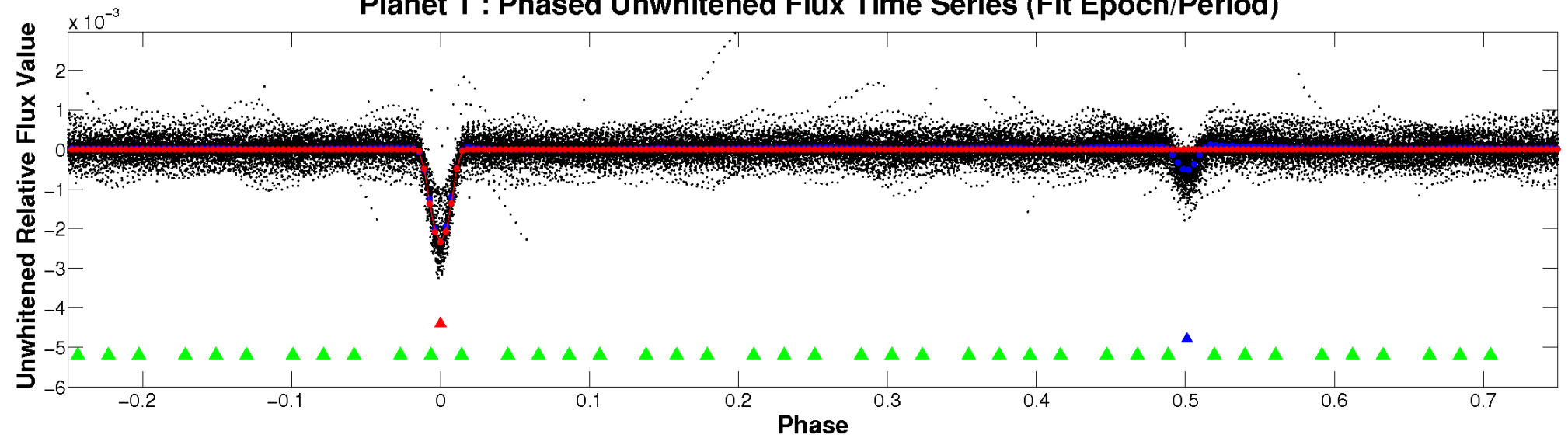
ALT Odd/Even

TCE 007838906-01

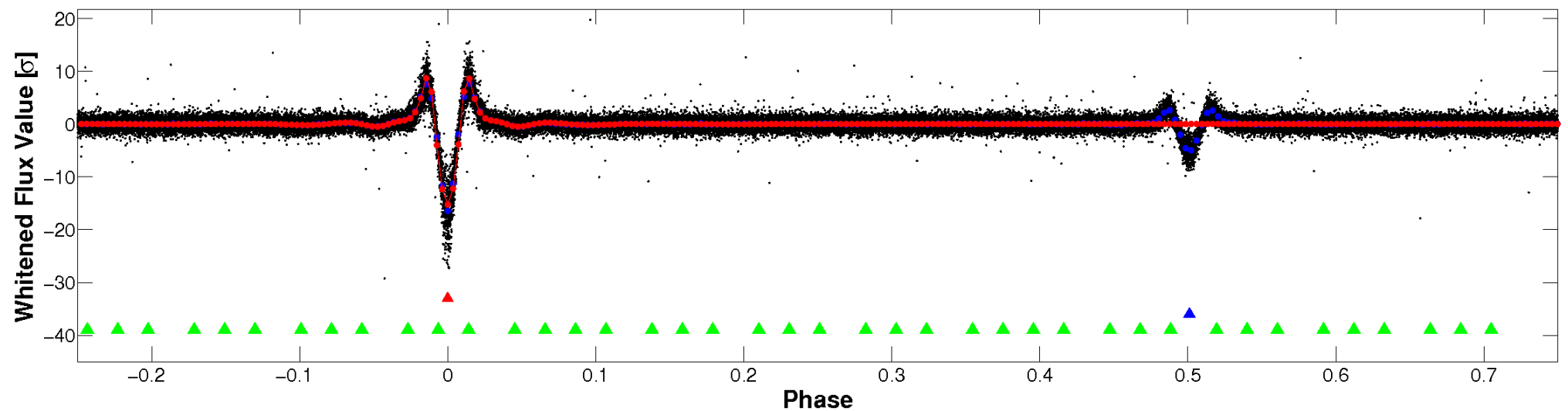


Non-Whitened Vs. Whitened Light Curve

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

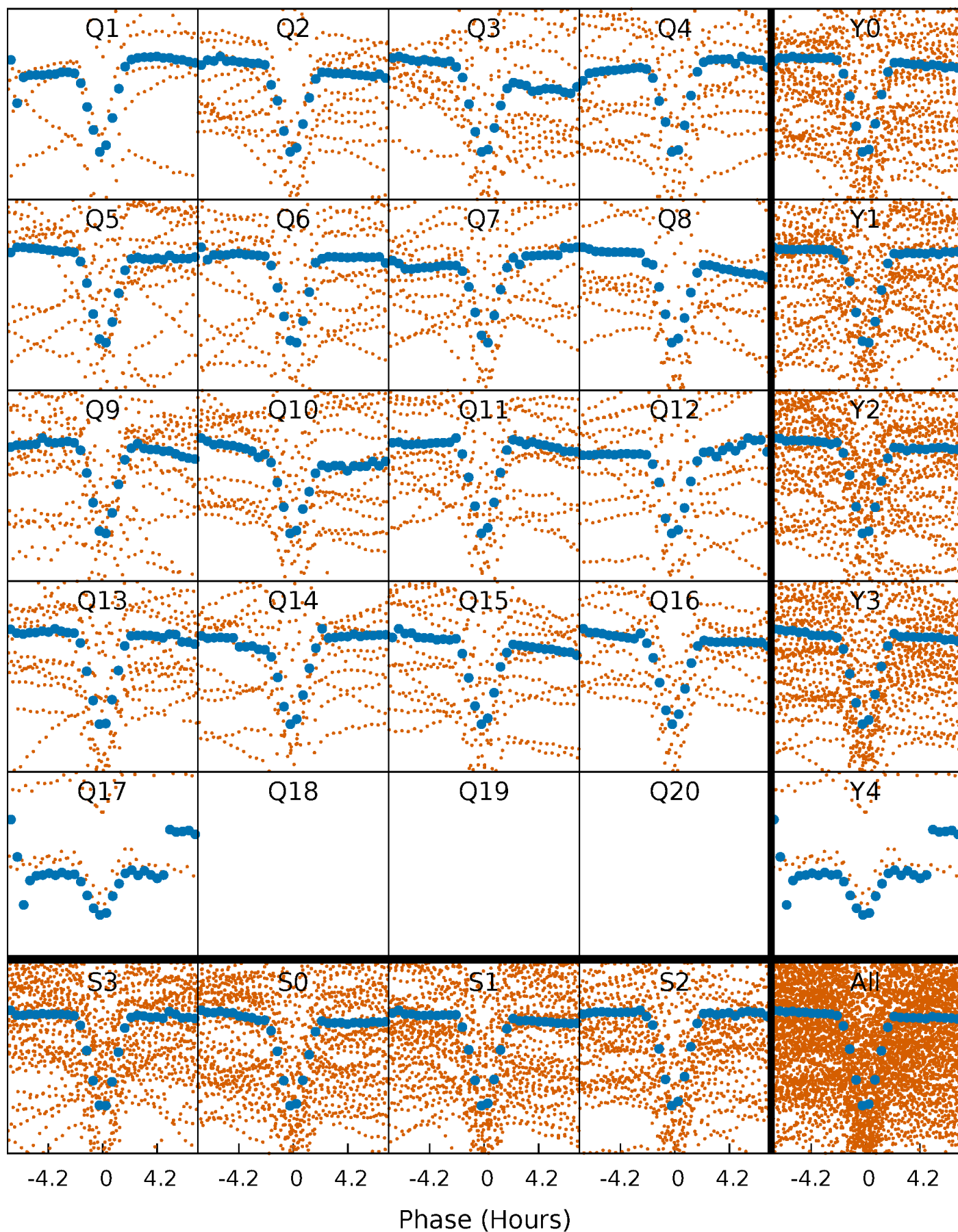


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



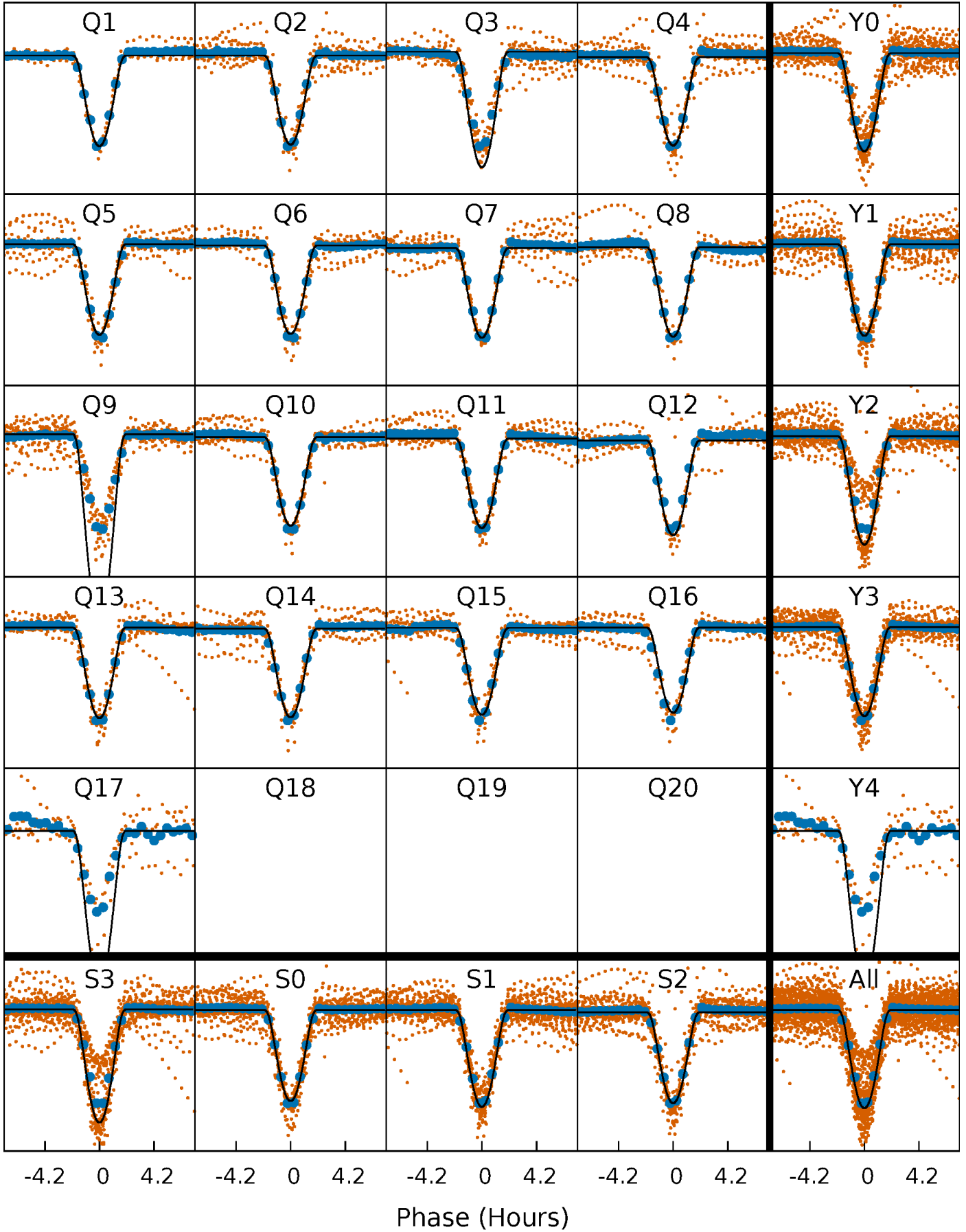
PDC Quarter-Phased Transit Curves

TCE 007838906-01 P= 5.614910 Days $T_0=132.841320$ (BKJD)



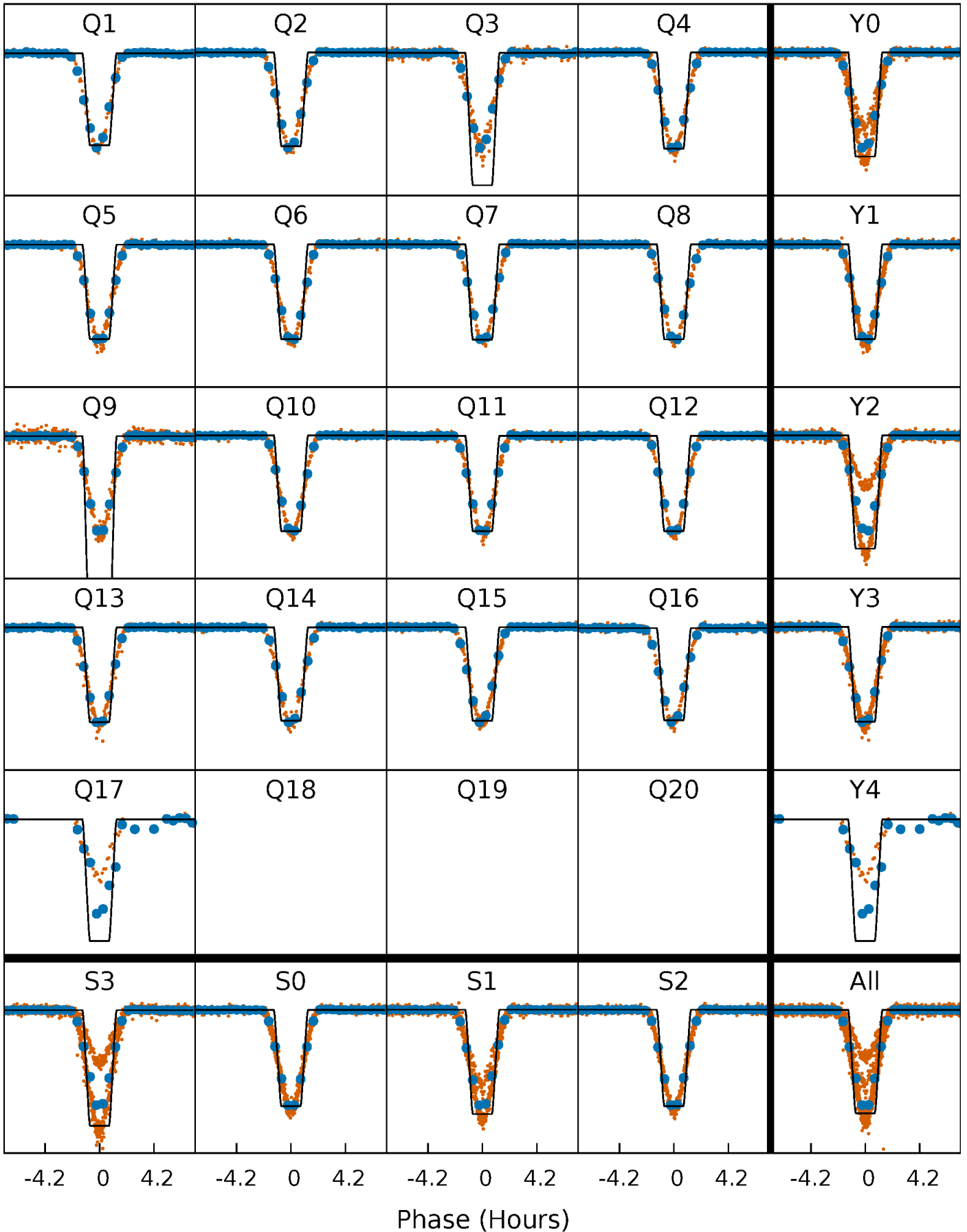
DV Quarter-Phased Transit Curves

TCE 007838906-01 P= 5.614910 Days $T_0=132.841320$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

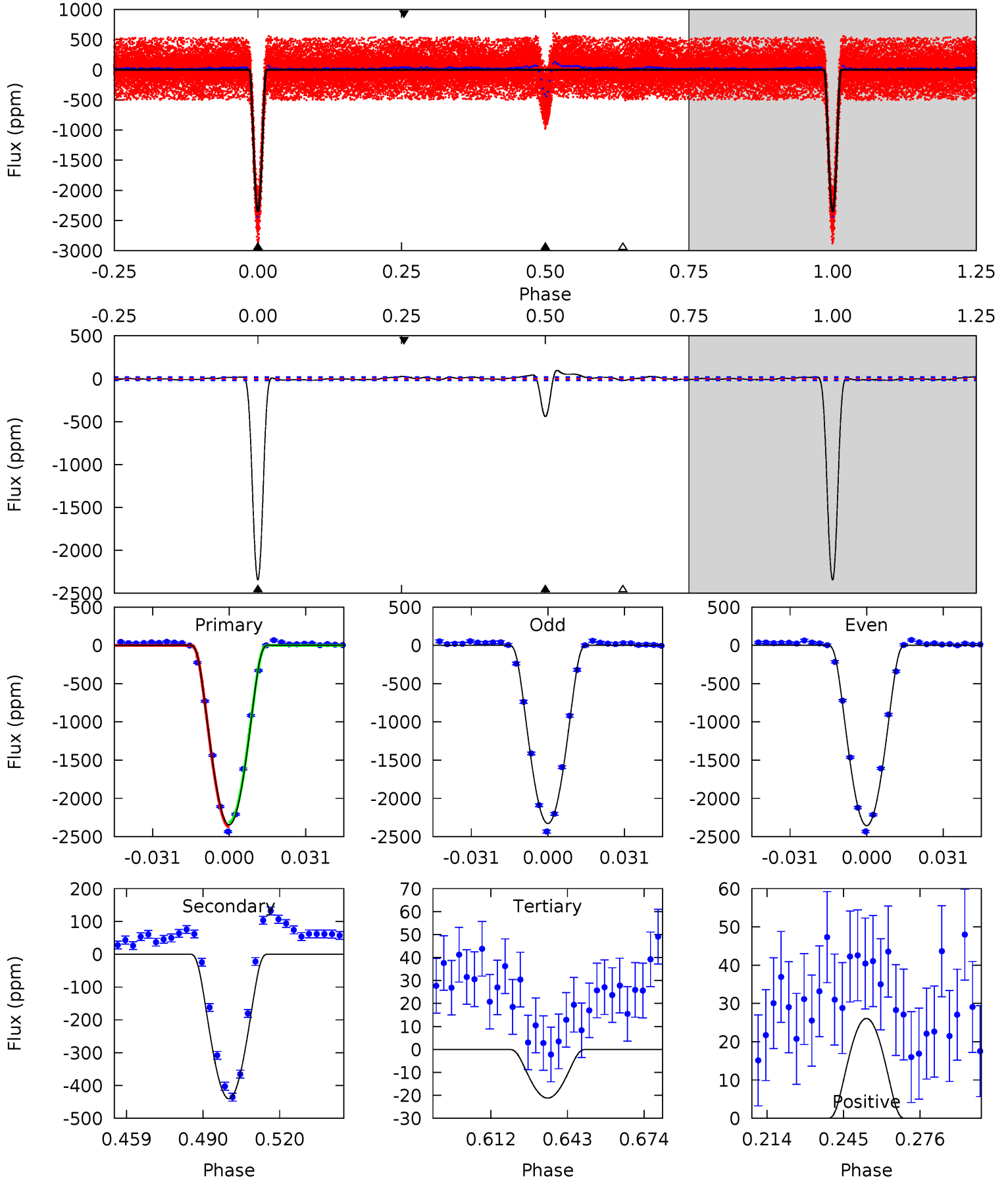
TCE 007838906-01 P= 5.614894 Days $T_0=132.842900$ (BKJD)



DV Model-Shift Uniqueness Test

007838906-01, P = 5.614910 Days, E = 127.226410 Days

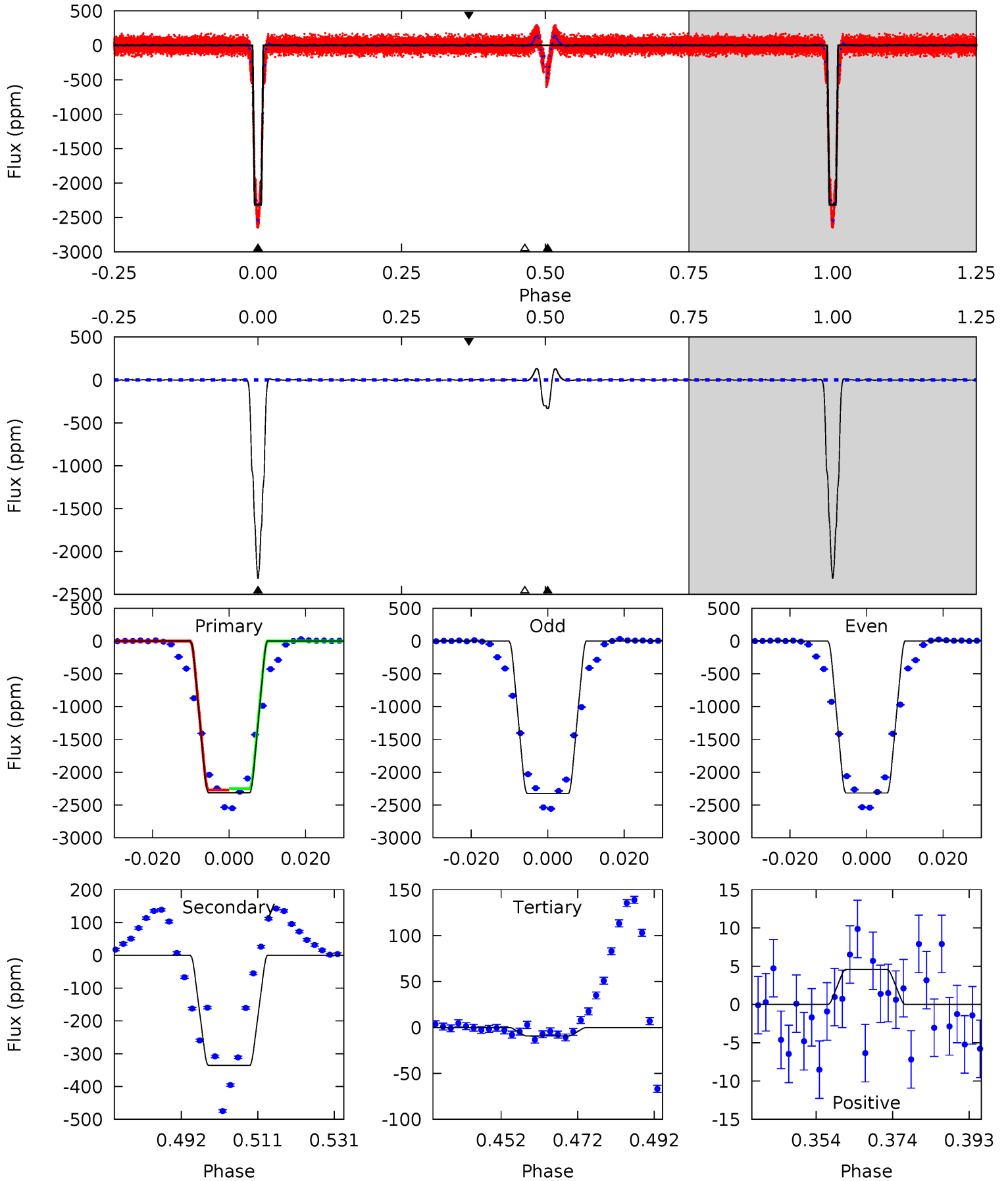
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
587.8	110.4	5.31	6.54	4.81	2.16	3.66	582.5	581.2	105.1	103.9	3.69	0.96	0.04	6.80



Alt Model-Shift Uniqueness Test

007838906-01, P = 5.614894 Days, E = 127.228006 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1289	187.1	5.19	2.55	4.89	2.33	5.06	1284	1287	181.9	184.5	1.62	0.94	0.06	4.62



Stellar Parameters For KIC 007838906

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4289^{+95}_{-116}	$1.603^{+0.033}_{-0.027}$	$-0.260^{+0.200}_{-0.250}$	$35.695^{+1.364}_{-7.731}$	$1.863^{+0.089}_{-0.713}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-2%	+77%/-96%	+4%/-22%	+5%/-38%	+34%/-7%
Source	PHO54	AST54	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 007838906-01 / KOI 6165.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-440 ± 4	$356.26^{+27.26}_{-30.53}$	5727^{+152}_{-175}	-4556^{+139}_{-127}	$0.011^{+0.002}_{-0.001}$
Alt.	-336 ± 2	$196.13^{+26.59}_{-26.26}$	5722^{+153}_{-172}	-4500^{+142}_{-120}	$0.028^{+0.009}_{-0.006}$

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

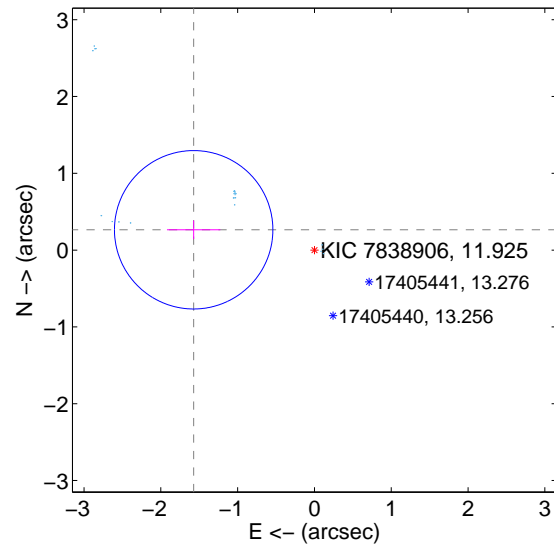
Supplemental centroid analysis for 007838906-01. **Kepler magnitude: 11.93.** Transit SNR 364.49

There are 17 quarters with good PRF difference image offsets

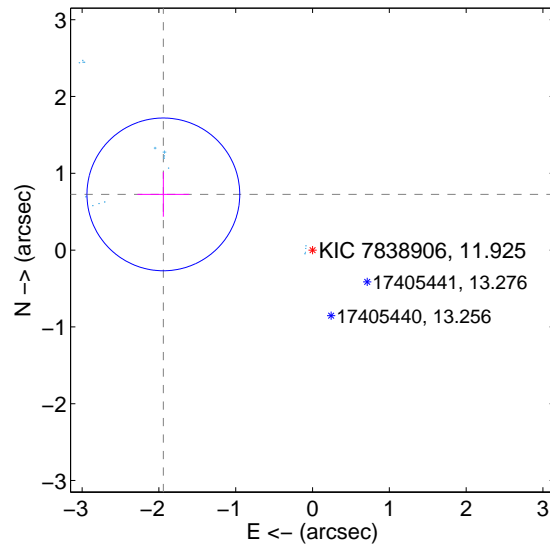
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.595 ± 0.344	4.64	1.573 ± 0.348	0.265 ± 0.121
PRF-fit source offset from KIC position	2.073 ± 0.332	6.25	1.942 ± 0.337	0.725 ± 0.291
photometric centroid source offset	0.25 ± 0.01	20.46	0.21 ± 0.01	0.14 ± 0.01

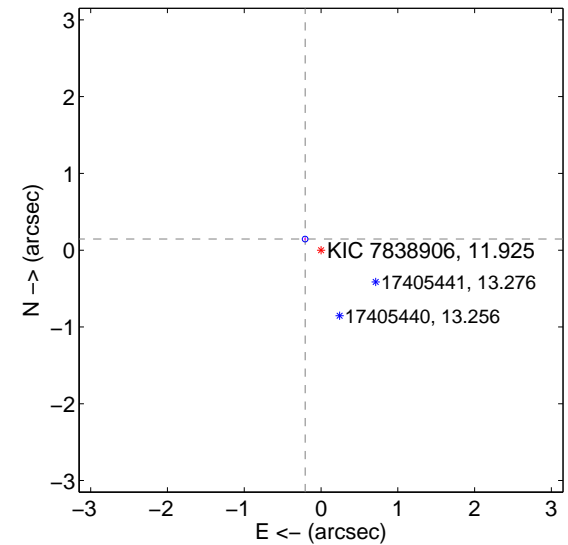
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

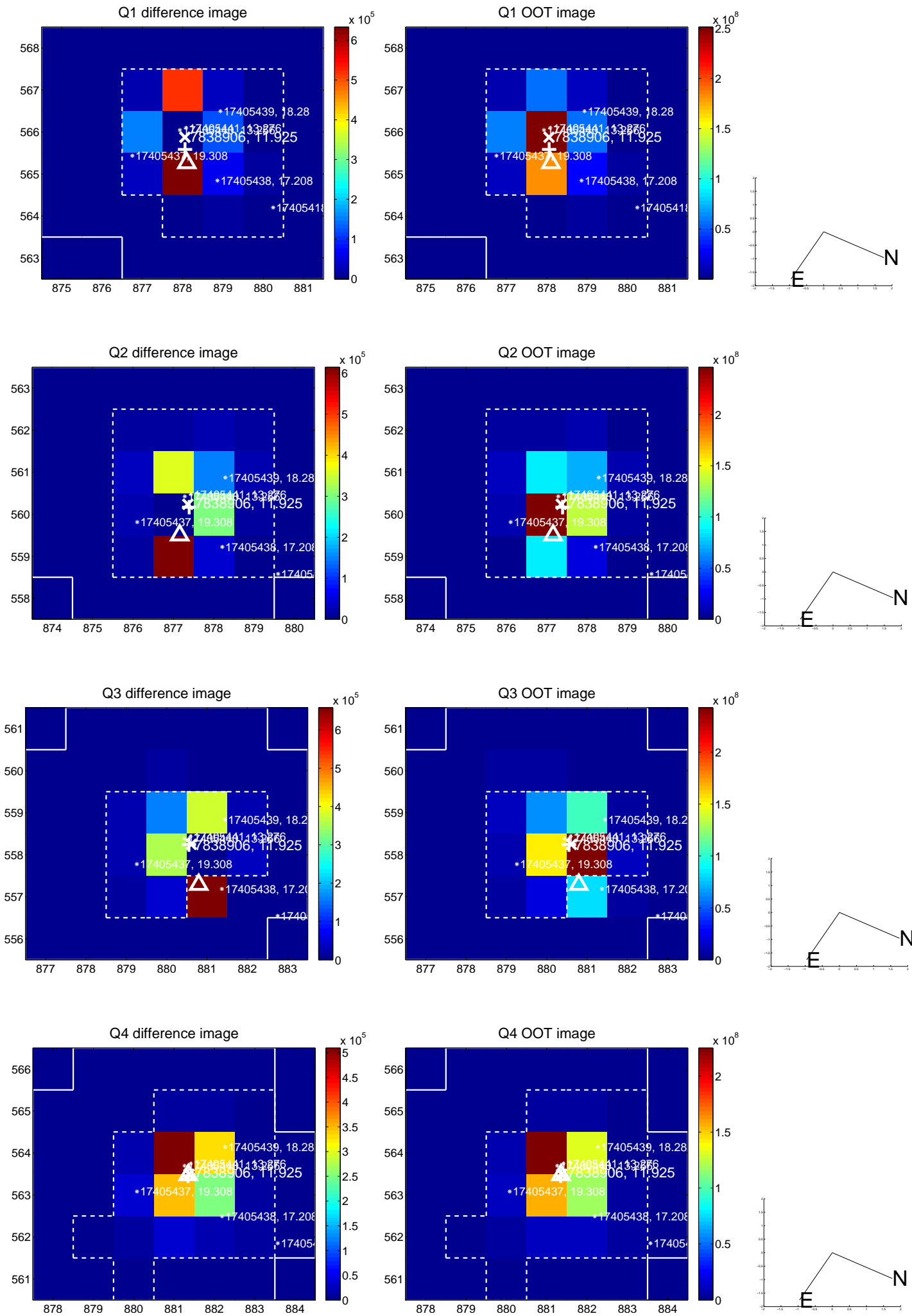


offset from photometric centroids

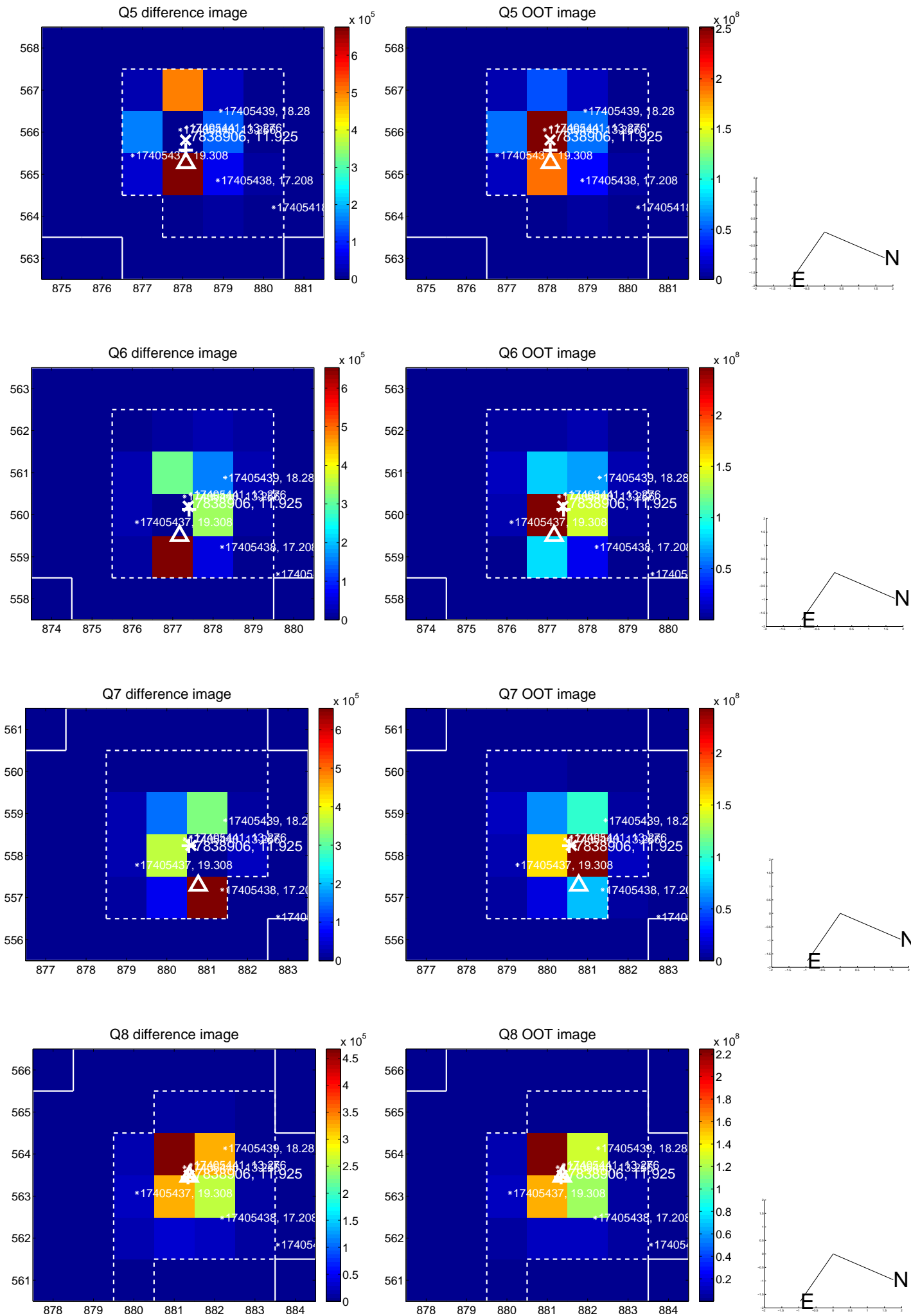


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

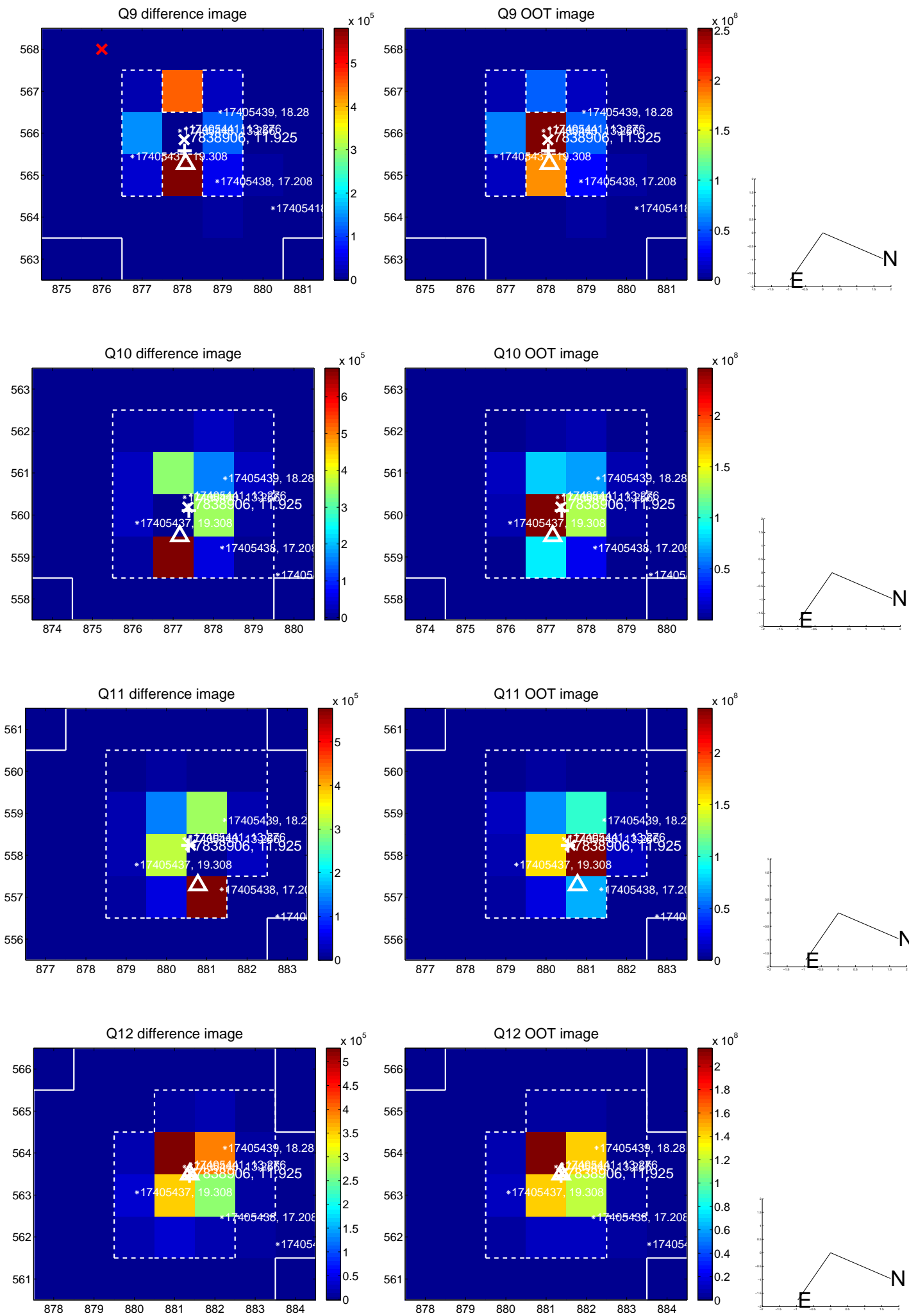
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



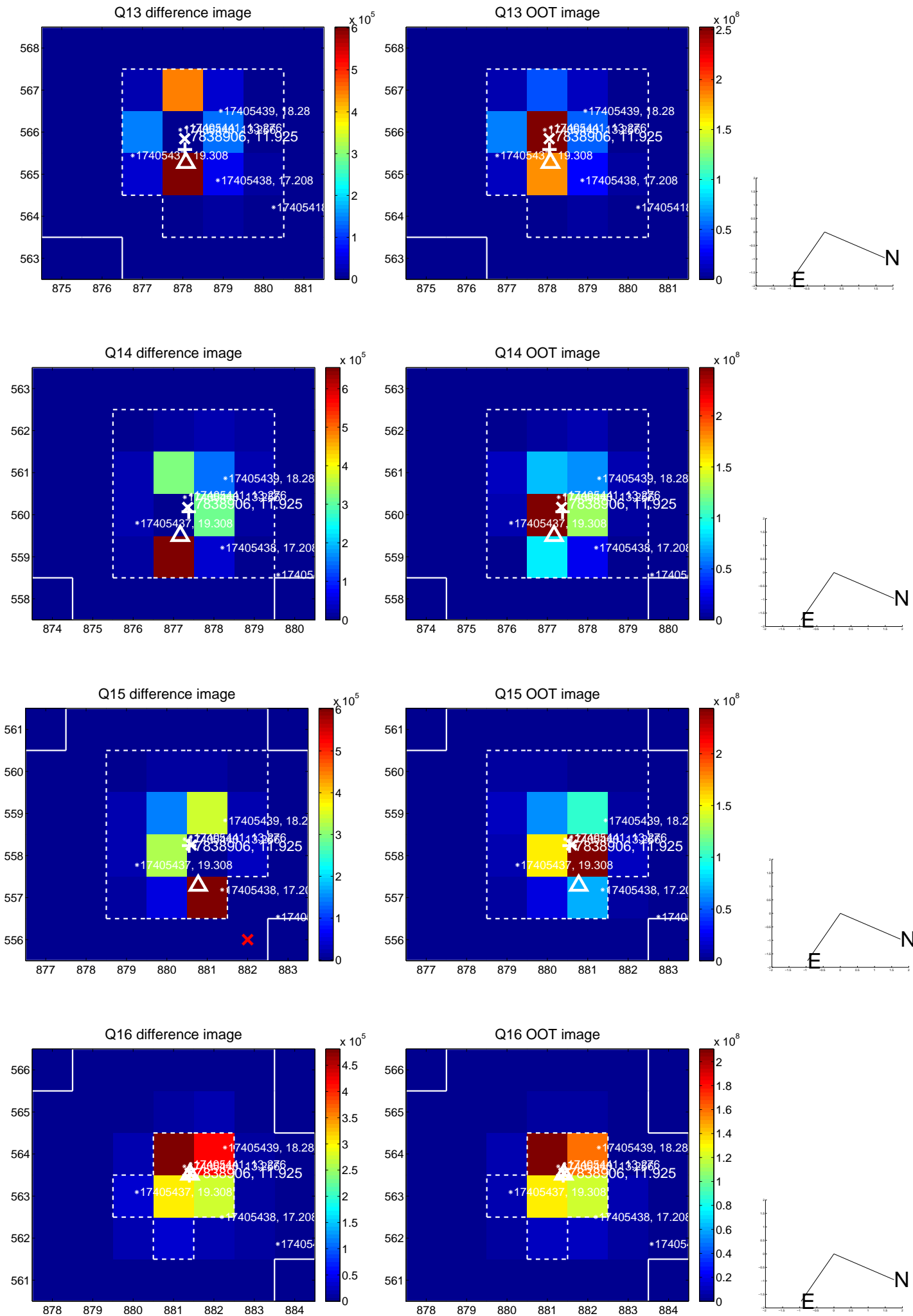
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



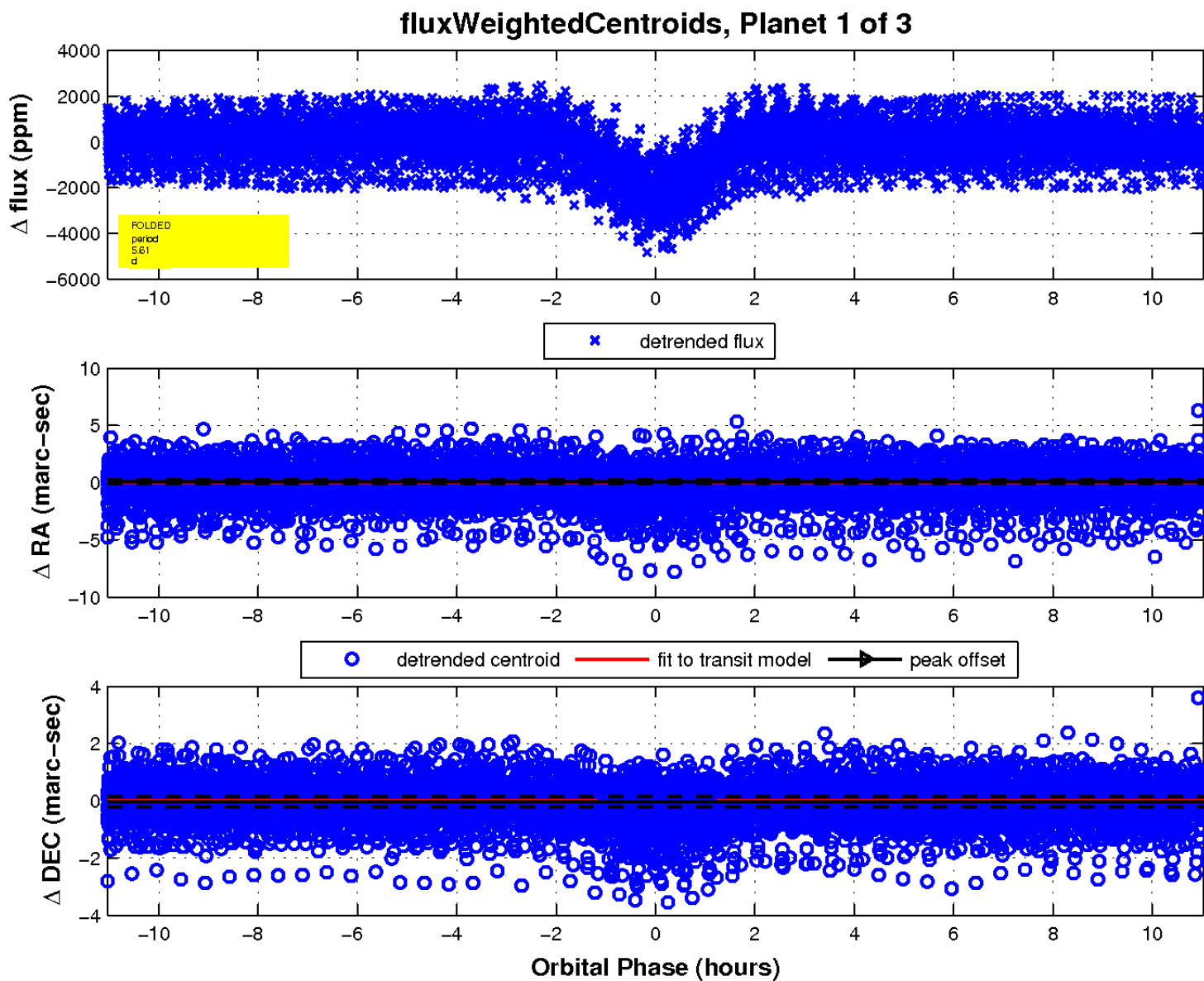
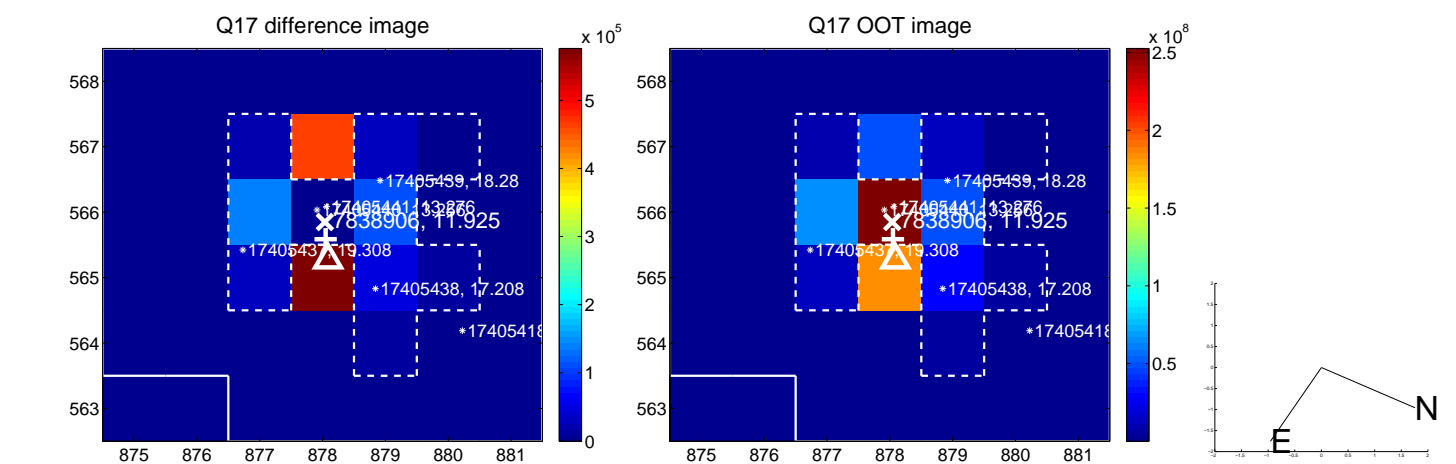
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

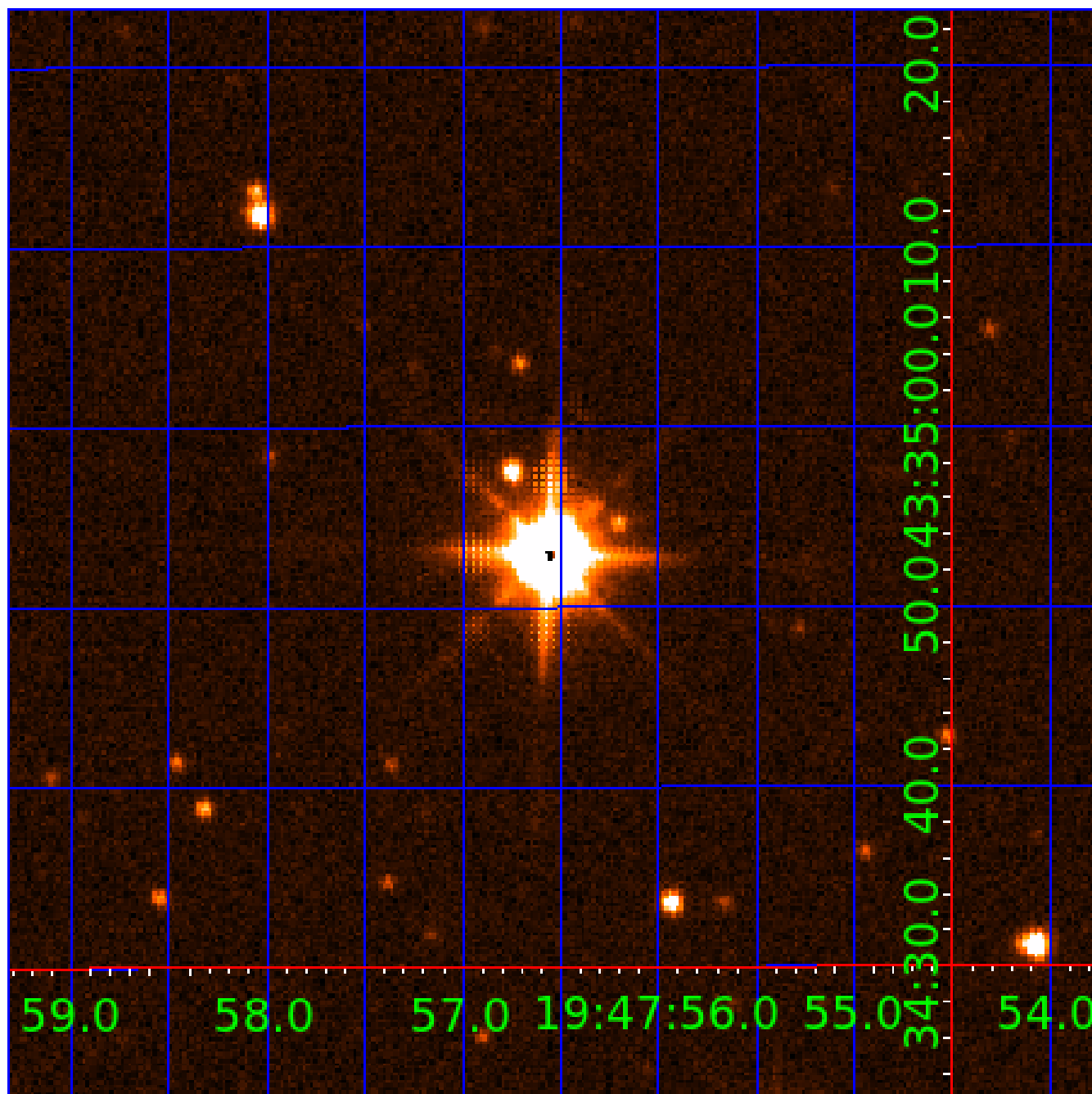


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007838906

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})
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007838906-02	OBS	No	5.614904	135.655745	775.7	3.767	137.8	148.1	35.70	4289	212.20	0.00
007838906-03	OBS	6165.02	35.425988	161.170320	271.6	4.216	16.0	18.8	35.70	4289	129.66	5723.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838906-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007838906-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007838906-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

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

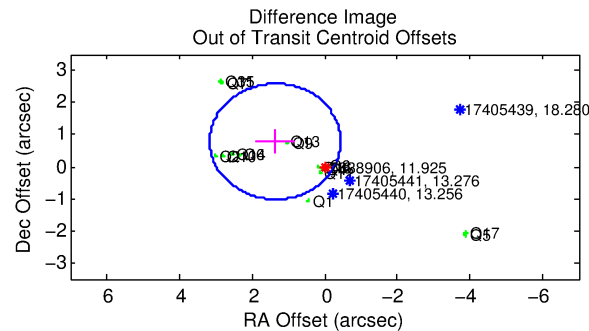
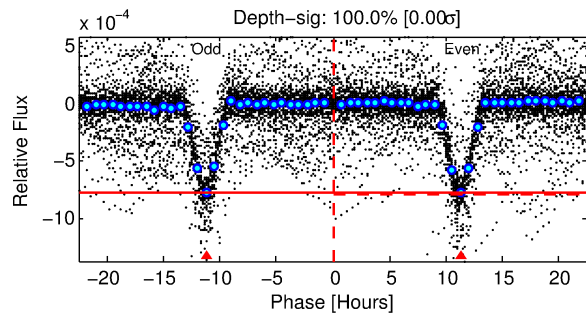
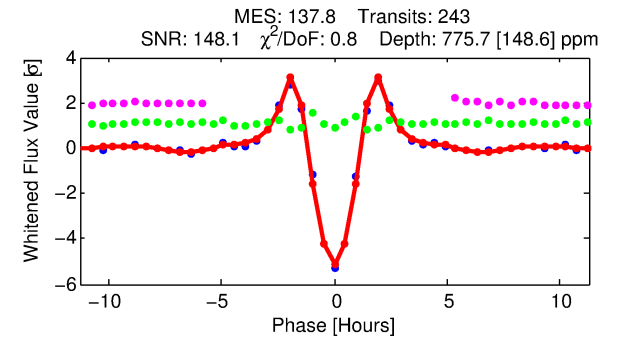
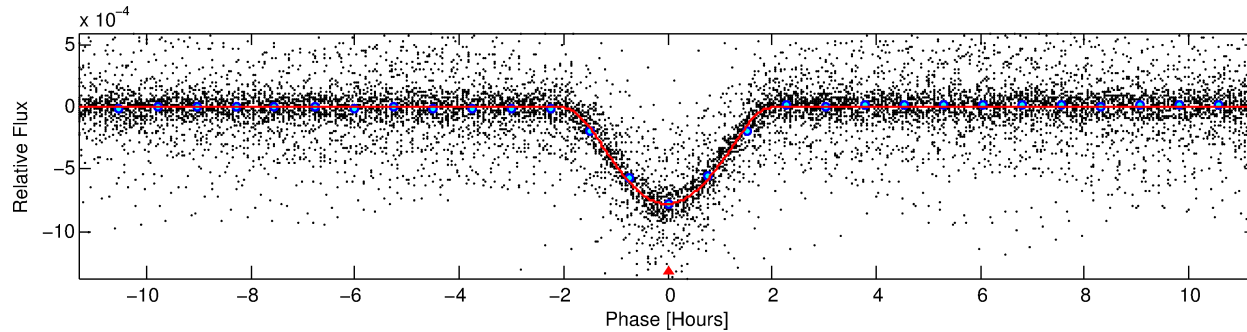
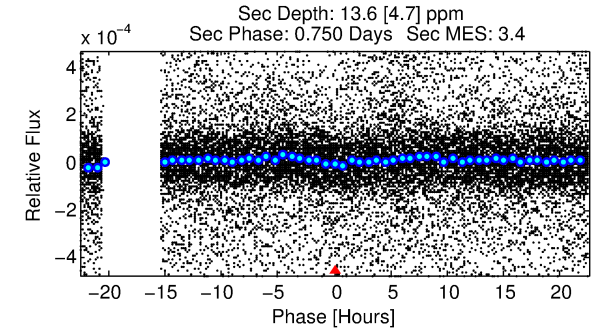
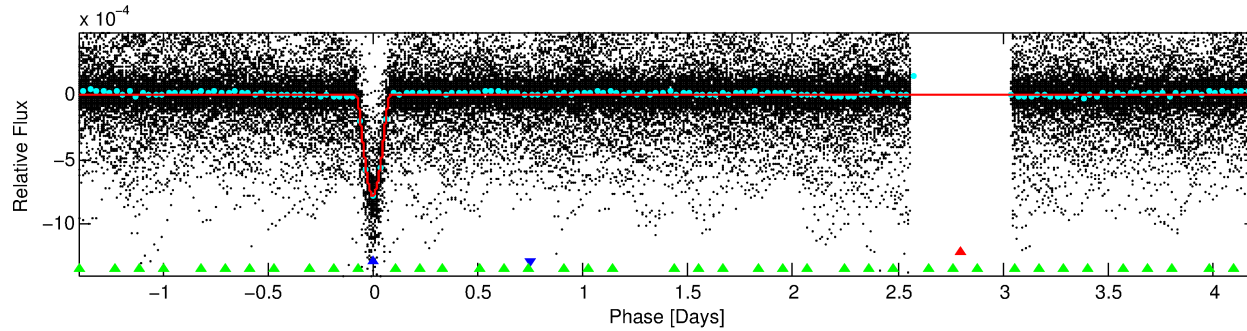
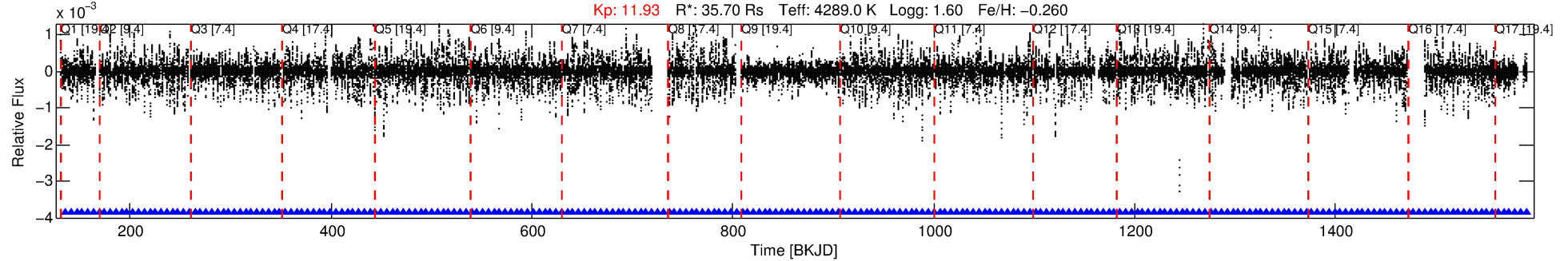
Ephemeris Match Information For 007838906-02

No Significant Match Found

DV One-Page Summary

KIC: 7838906 Candidate: 2 of 3 Period: 5.615 d
KOI: K06165 Corr: No Ephemeris Match

Kp: 11.93 R*: 35.70 Rs Teff: 4289.0 K Logg: 1.60 Fe/H: -0.260



DV Fit Results:

Period = 5.61490 [0.00000] d
Epoch = 135.6557 [0.0003] BKJD
Rp/R* = 0.0545 [0.0069]
a/R* = 3.94 [0.11]
b = 1.00 [0.02]
Seff = N/A
Teq = N/A
Rp = 212.20 [53.16] Re
a = N/A
Ag = N/A
Teffp = N/A

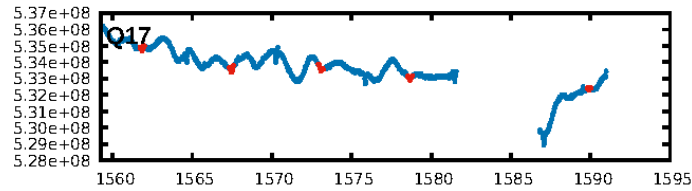
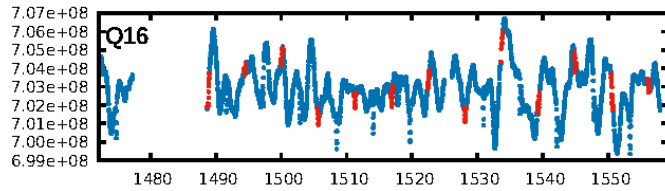
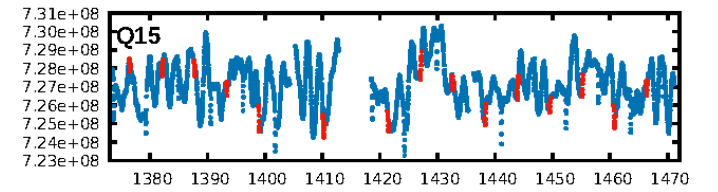
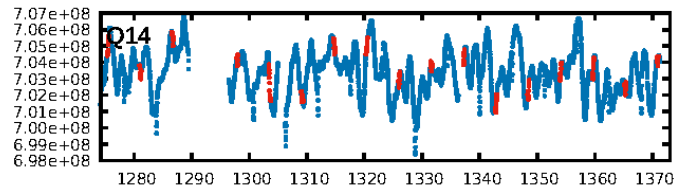
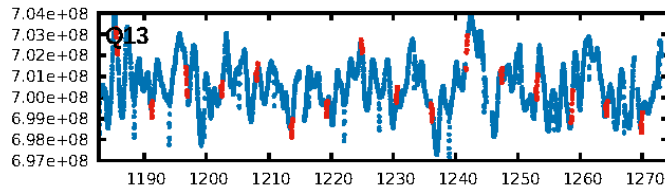
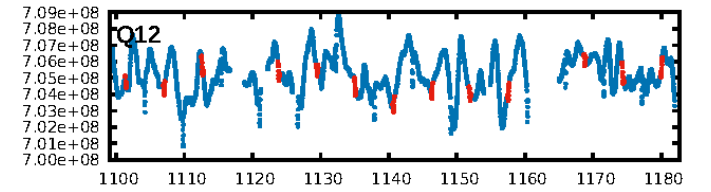
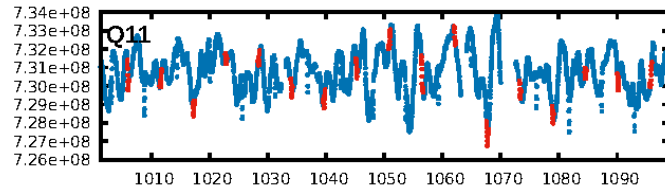
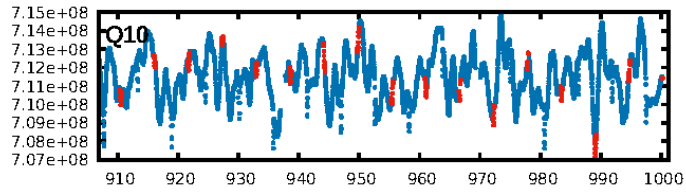
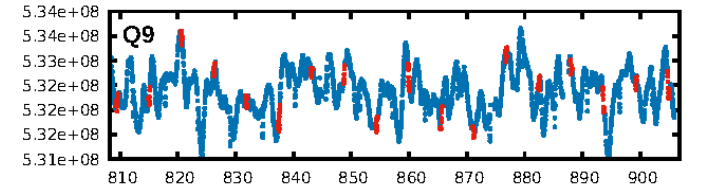
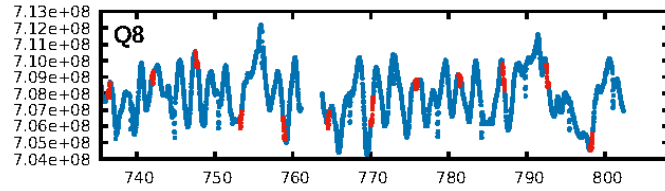
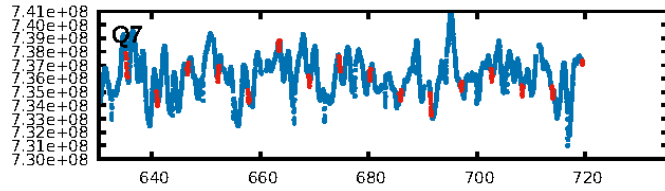
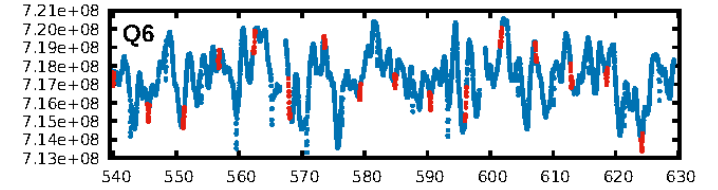
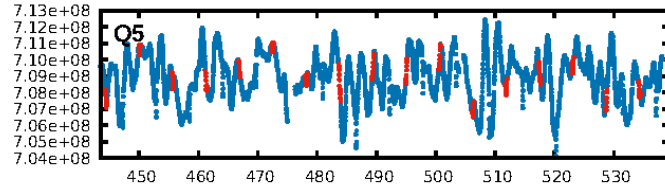
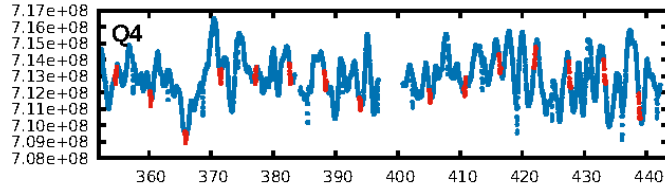
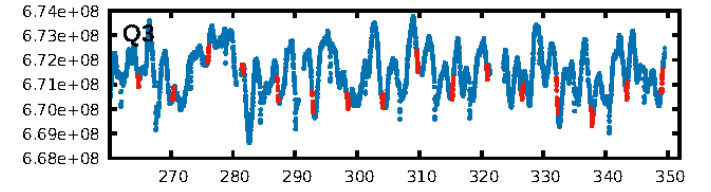
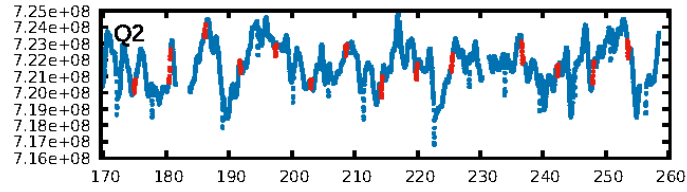
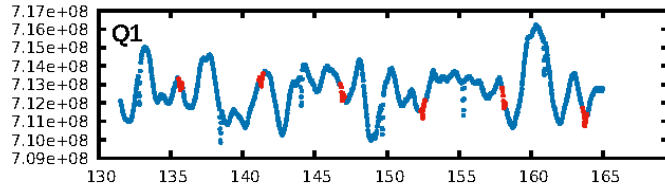
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [232/232]
GhostDiagnostic-chr: 2.135
Centroid-sig: 0.3%
Centroid-so: 0.310 arcsec [8.71σ]
OotOffset-rm: 1.572 arcsec [2.62σ]
KicOffset-rm: 1.856 arcsec [3.65σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

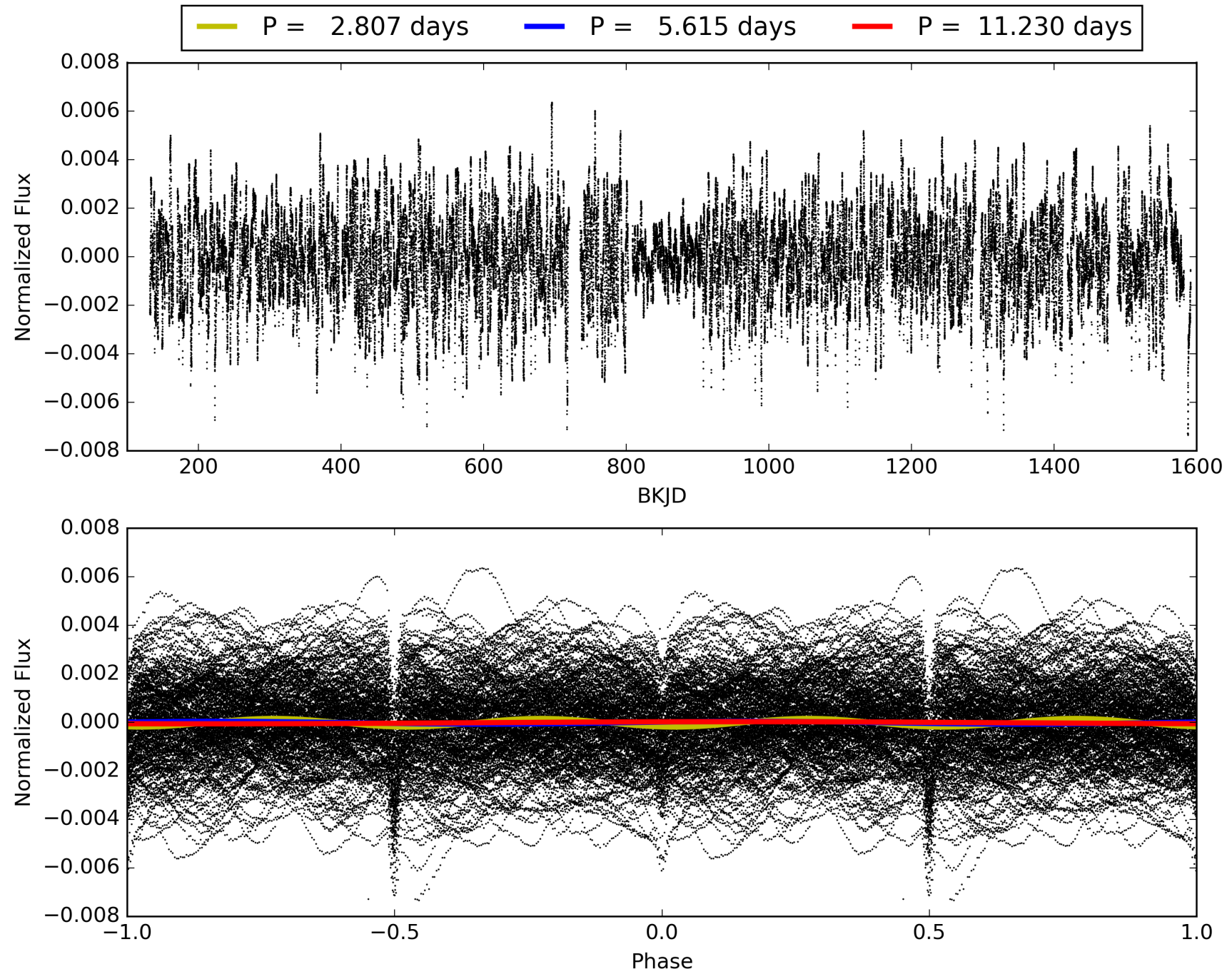
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:08:09 Z

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

TCE 007838906-02, PDC Light Curves

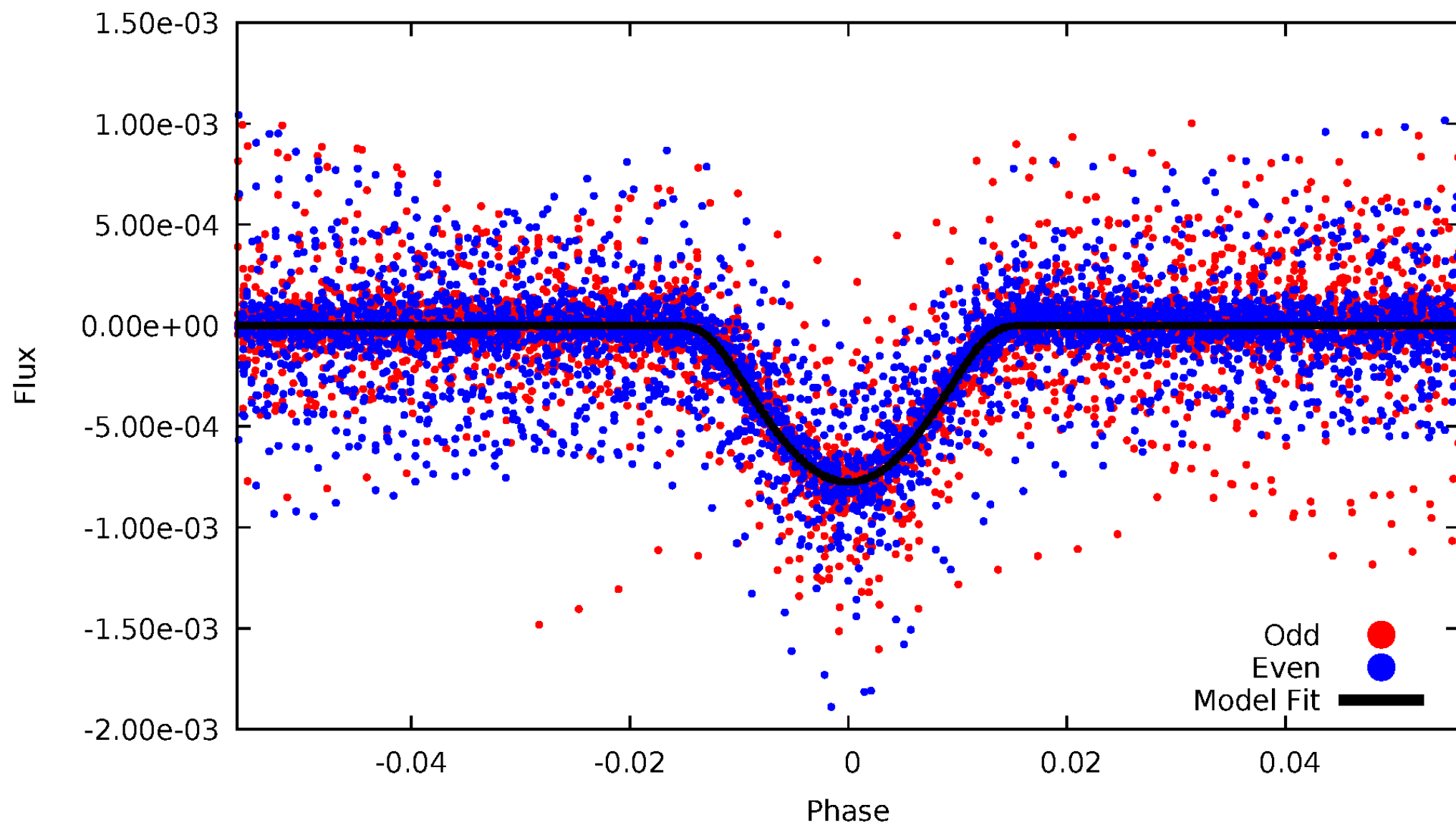


TCE 007838906-02



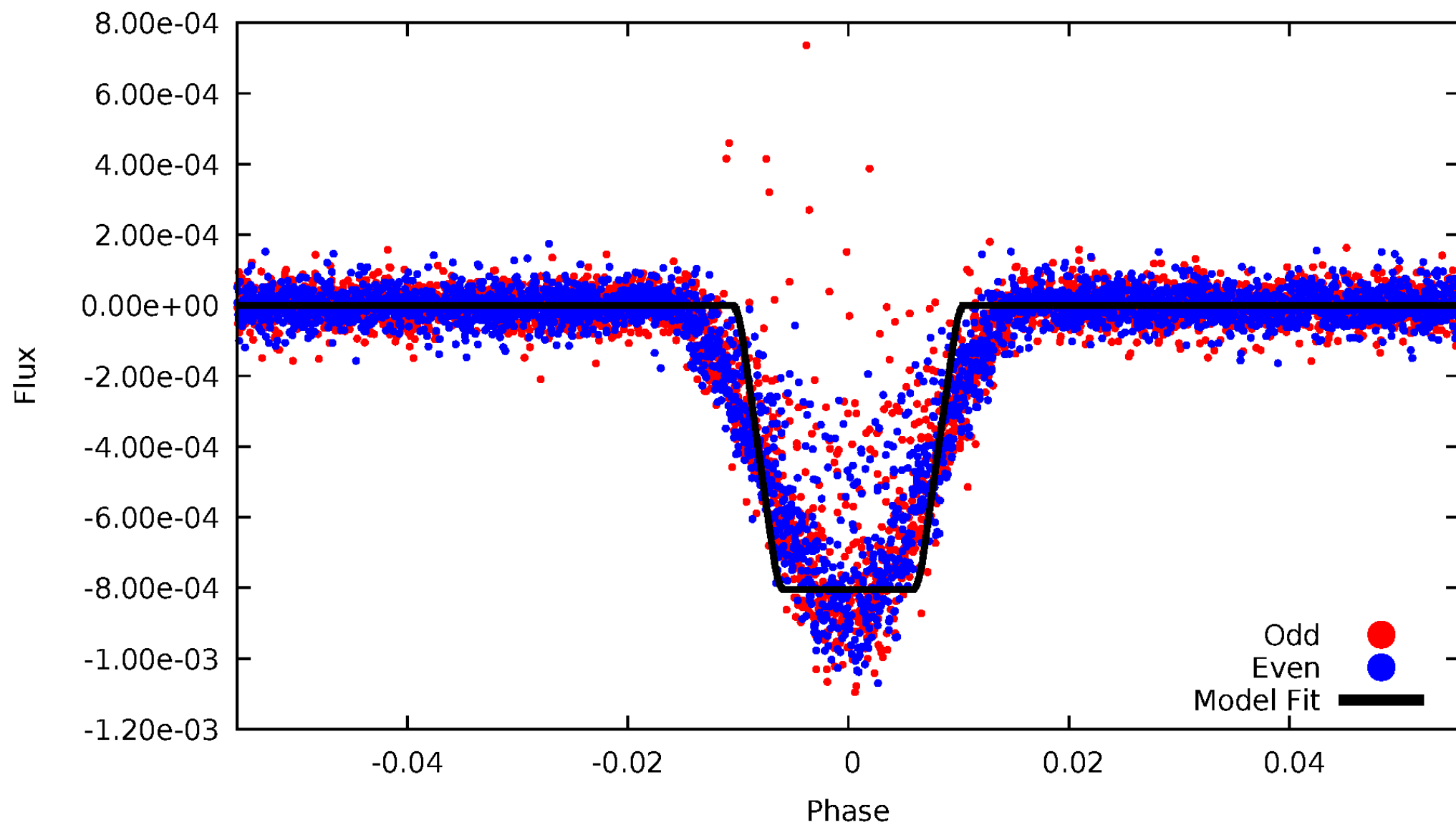
DV Odd/Even

TCE 007838906-02



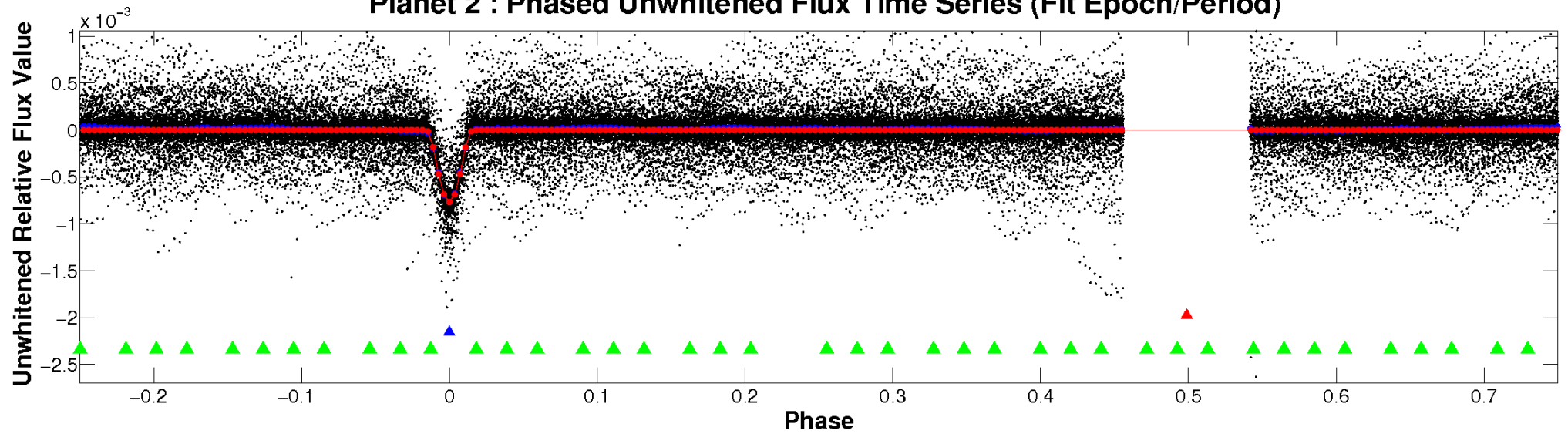
ALT Odd/Even

TCE 007838906-02

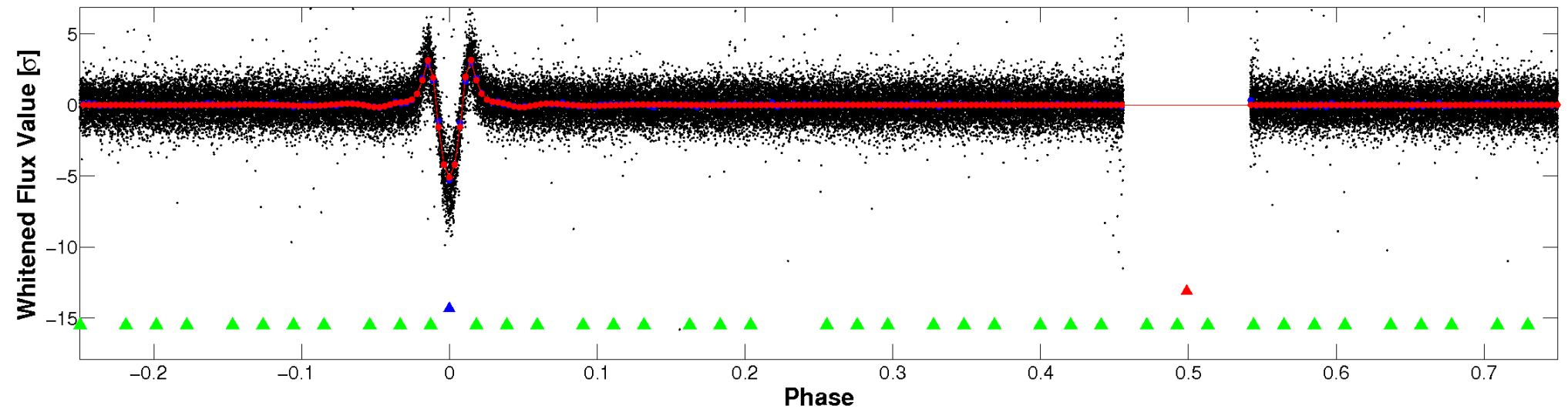


Non-Whitened Vs. Whitened Light Curve

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

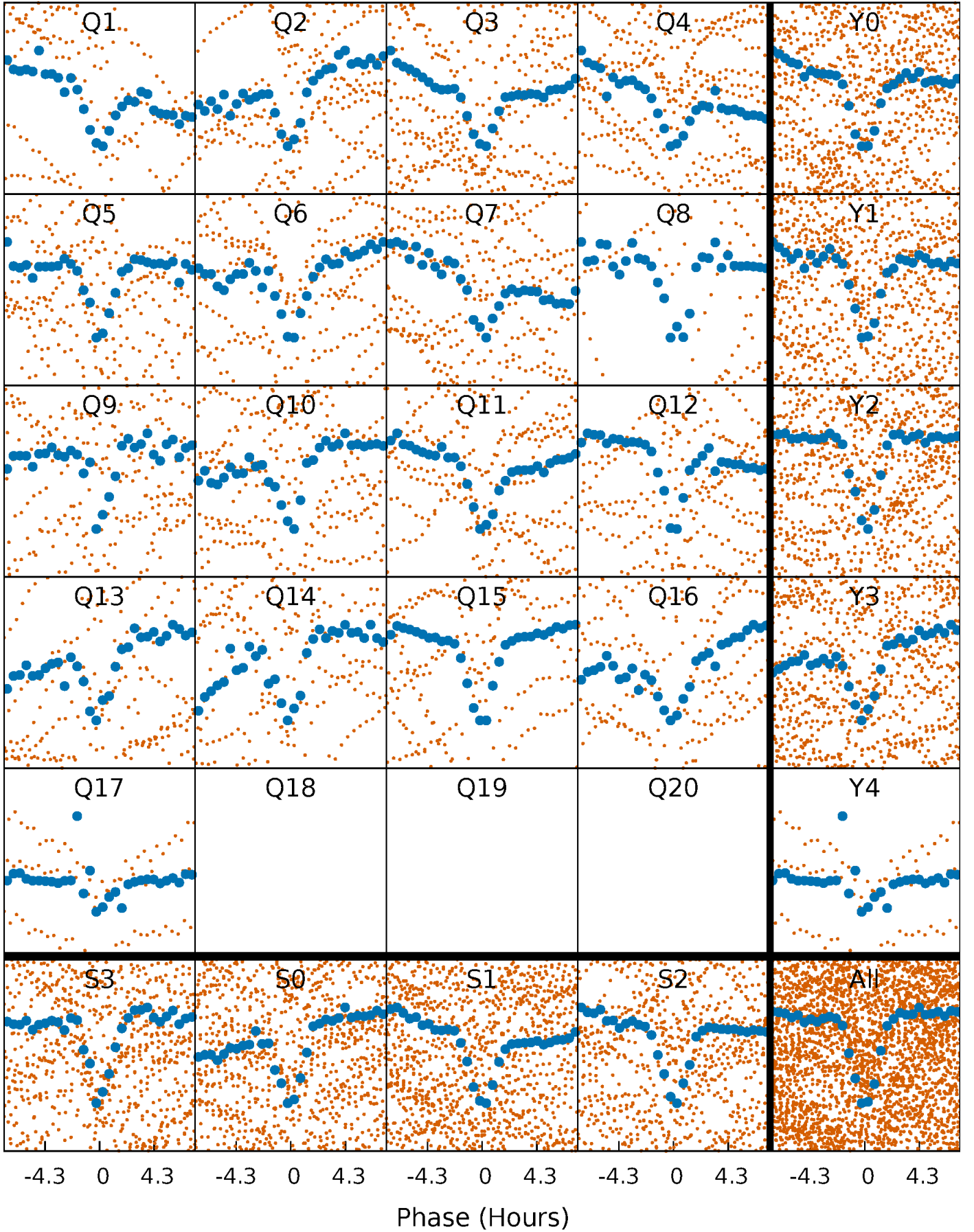


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



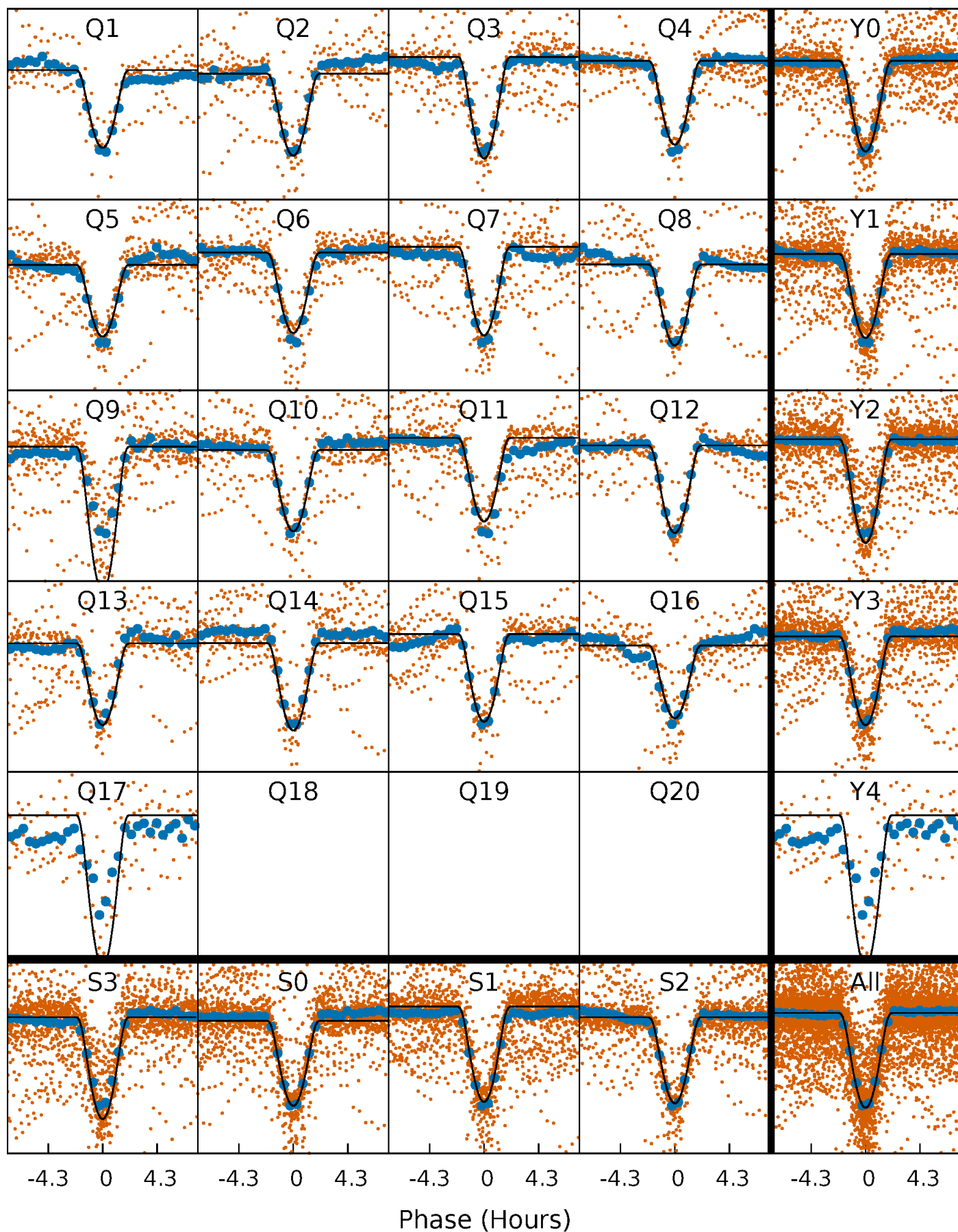
PDC Quarter-Phased Transit Curves

TCE 007838906-02 P= 5.614904 Days $T_0=135.655745$ (BKJD)



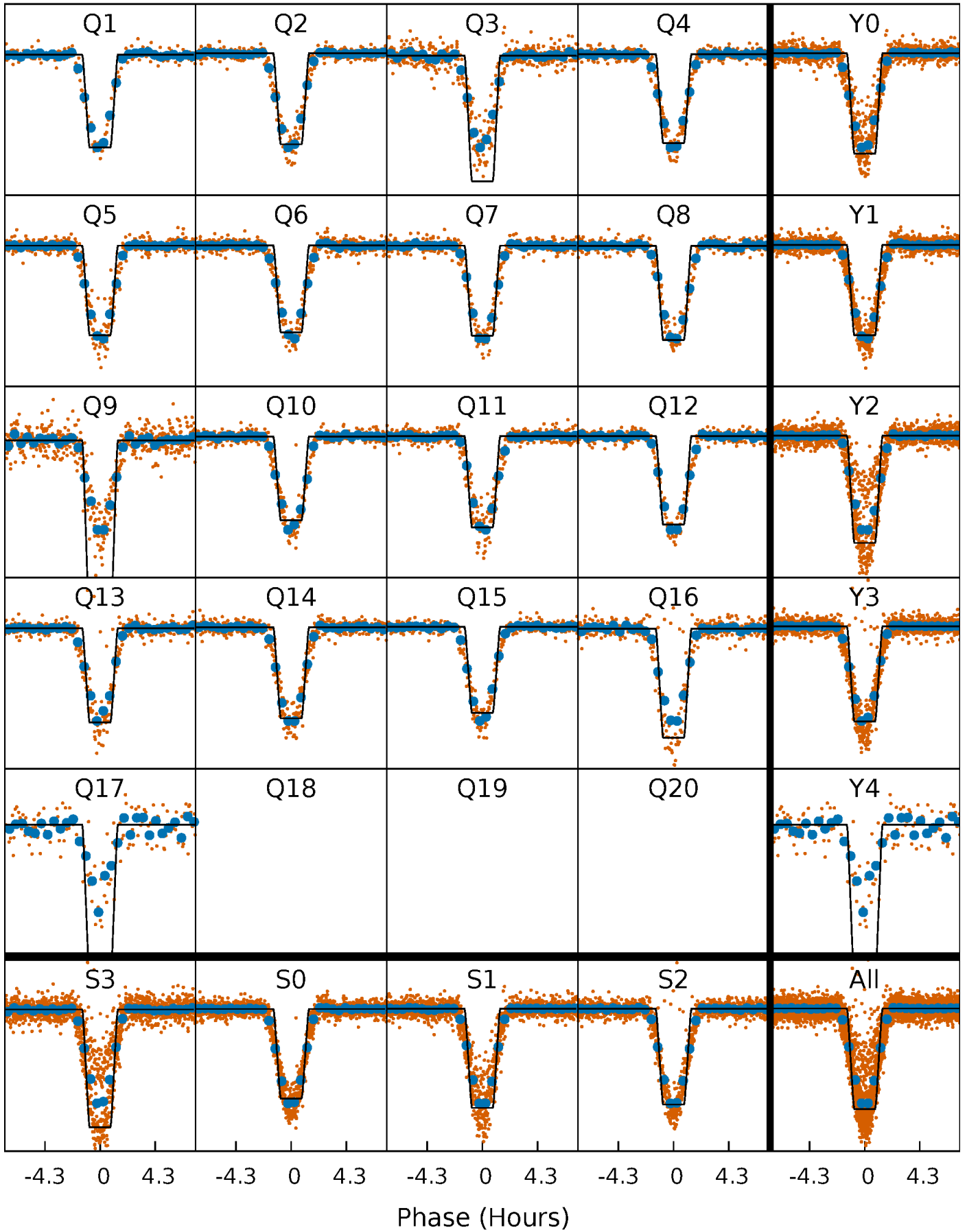
DV Quarter-Phased Transit Curves

TCE 007838906-02 P= 5.614904 Days $T_0=135.655745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

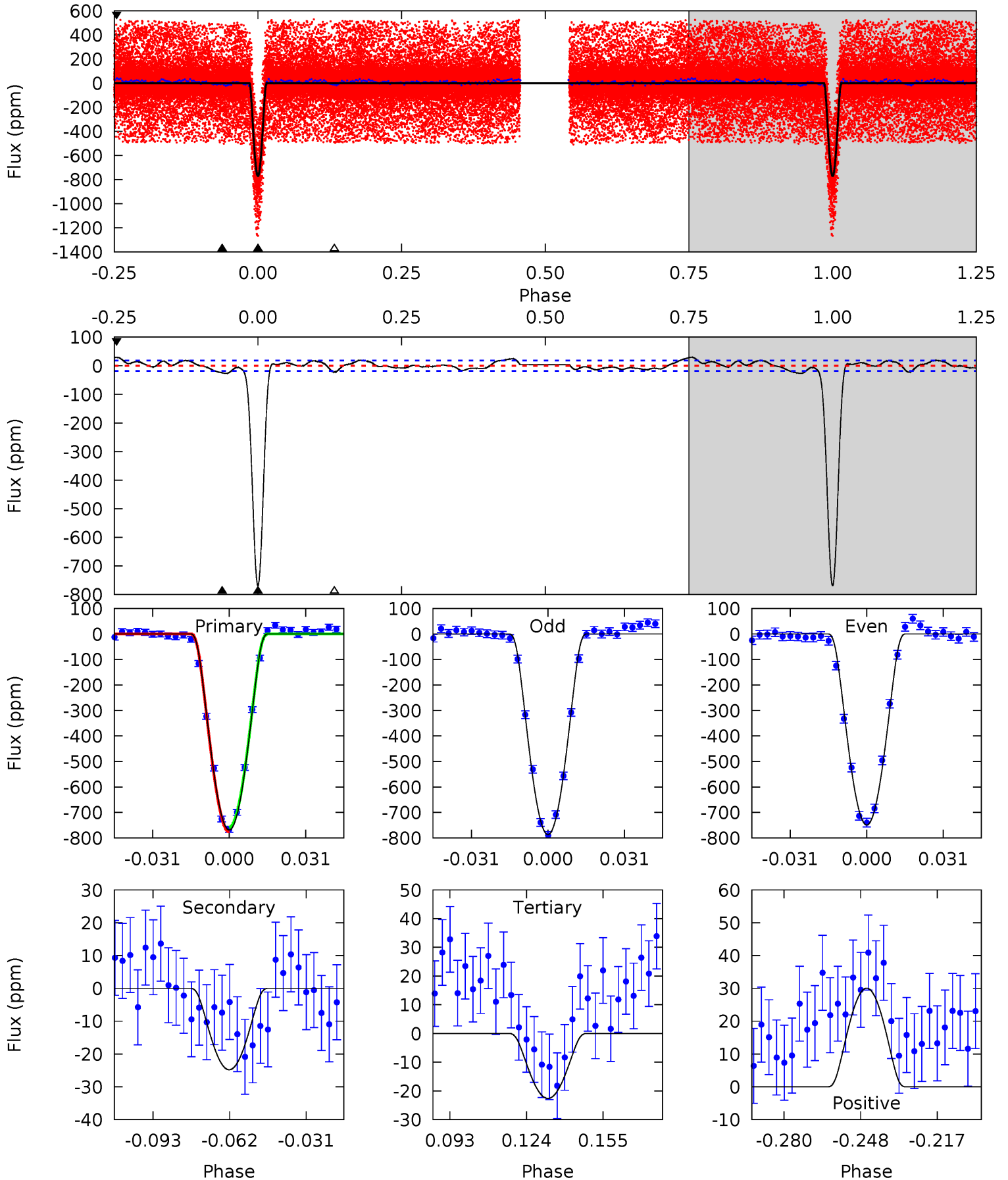
TCE 007838906-02 P= 5.614894 Days $T_0=135.657160$ (BKJD)



DV Model-Shift Uniqueness Test

007838906-02, P = 5.614904 Days, E = 130.040841 Days

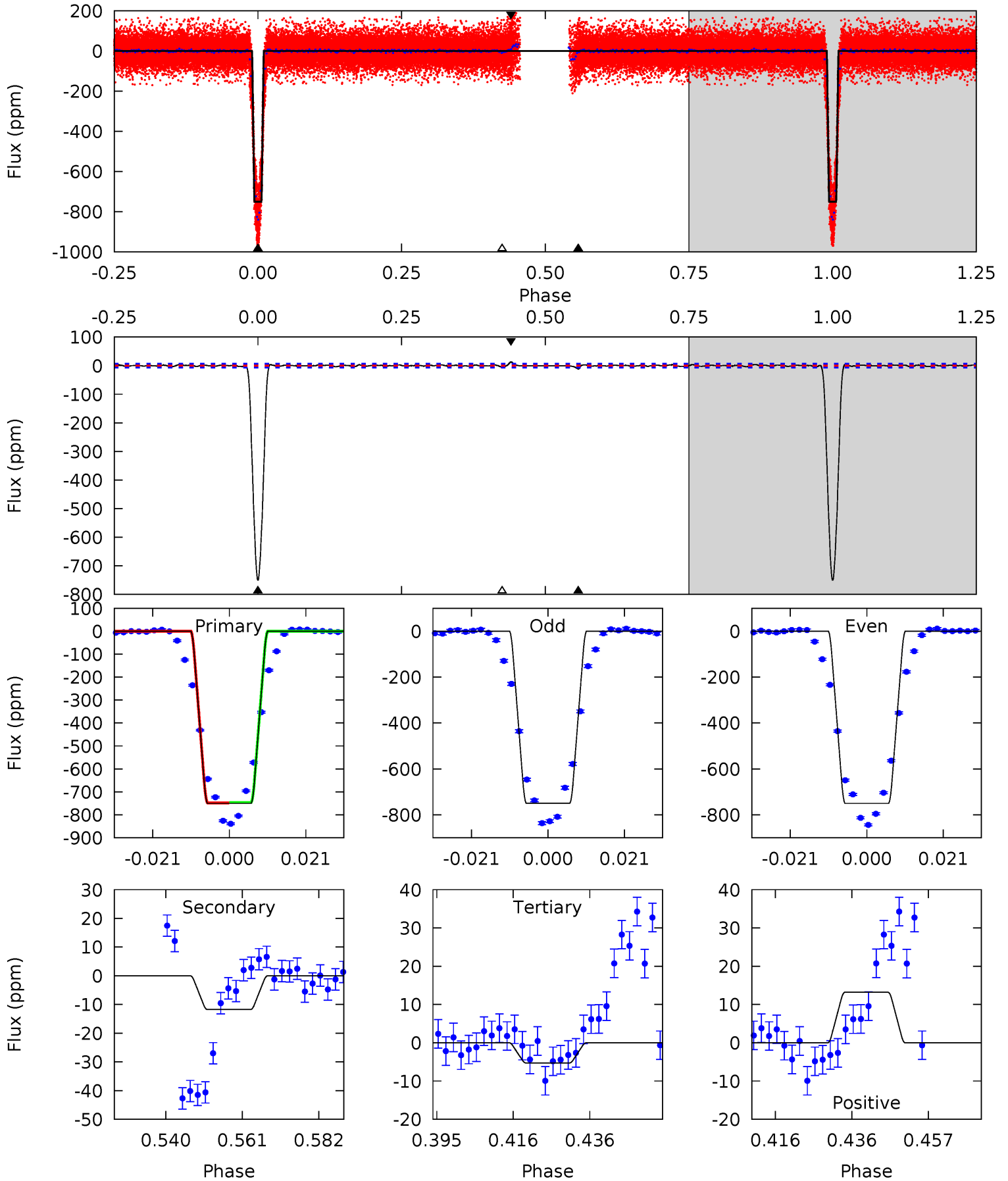
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
201.9	6.52	5.95	7.89	4.80	2.16	2.96	195.9	194.0	0.57	-1.38	5.09	1.00	0.04	2.40



Alt Model-Shift Uniqueness Test

007838906-02, P = 5.614894 Days, E = 130.042266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
557.4	8.74	3.93	9.80	4.88	2.31	1.31	553.5	547.6	4.81	-1.07	0.37	0.94	0.02	0



Stellar Parameters For KIC 007838906

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4289^{+95}_{-116}	$1.603^{+0.033}_{-0.027}$	$-0.260^{+0.200}_{-0.250}$	$35.695^{+1.364}_{-7.731}$	$1.863^{+0.089}_{-0.713}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-2%	+77%/-96%	+4%/-22%	+5%/-38%	+34%/-7%
Source	PHO54	AST54	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 007838906-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 4	$212.28^{+31.57}_{-28.35}$	5733^{+148}_{-175}	-4592^{+142}_{-121}	$0.002^{+0.001}_{-0.000}$
Alt.	-12 ± 1	$109.78^{+28.70}_{-27.88}$	5710^{+166}_{-162}	-4569^{+132}_{-128}	$0.003^{+0.002}_{-0.001}$

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

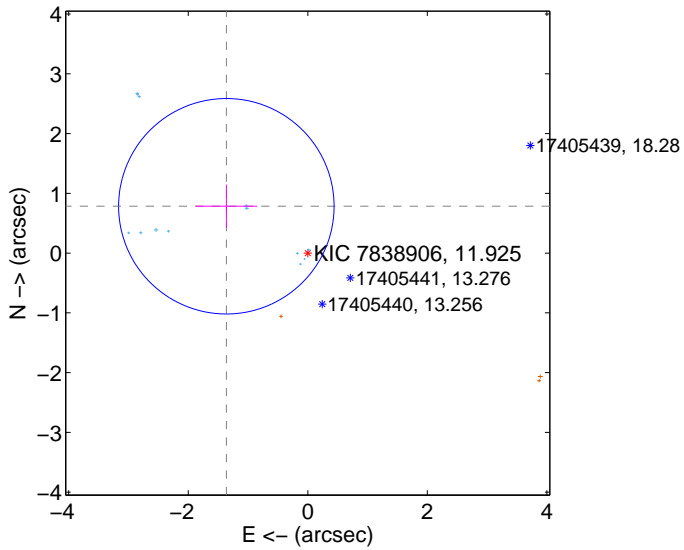
Supplemental centroid analysis for 007838906-02. **Kepler magnitude: 11.93.** Transit SNR 148.09

There are 14 quarters with good PRF difference image offsets

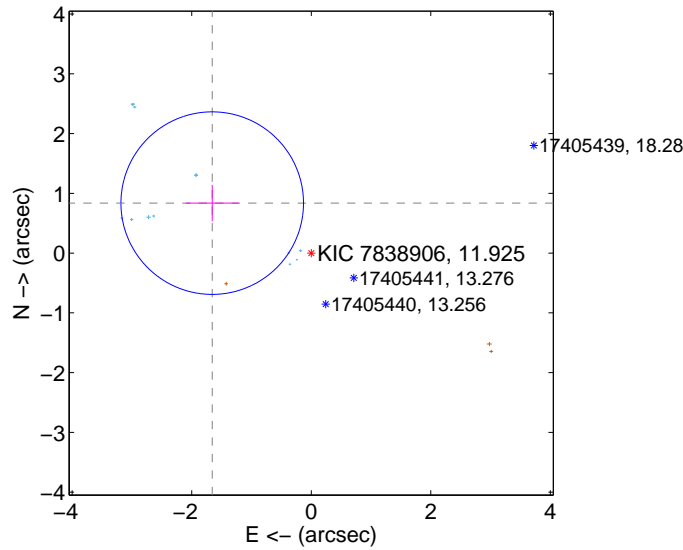
The direct PRF centroid is offset from the target star catalog position by about 1.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.572 ± 0.601	2.62	1.362 ± 0.516	0.784 ± 0.363
PRF-fit source offset from KIC position	1.856 ± 0.509	3.65	1.657 ± 0.443	0.836 ± 0.305
photometric centroid source offset	0.31 ± 0.04	8.71	0.25 ± 0.04	0.19 ± 0.03

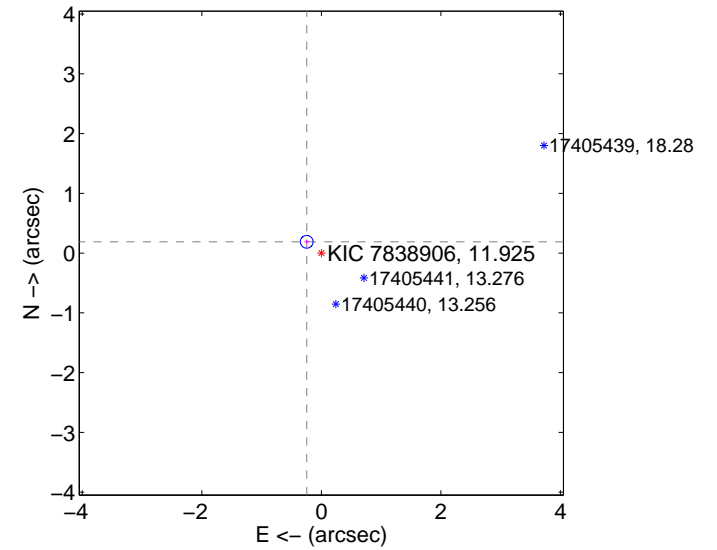
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

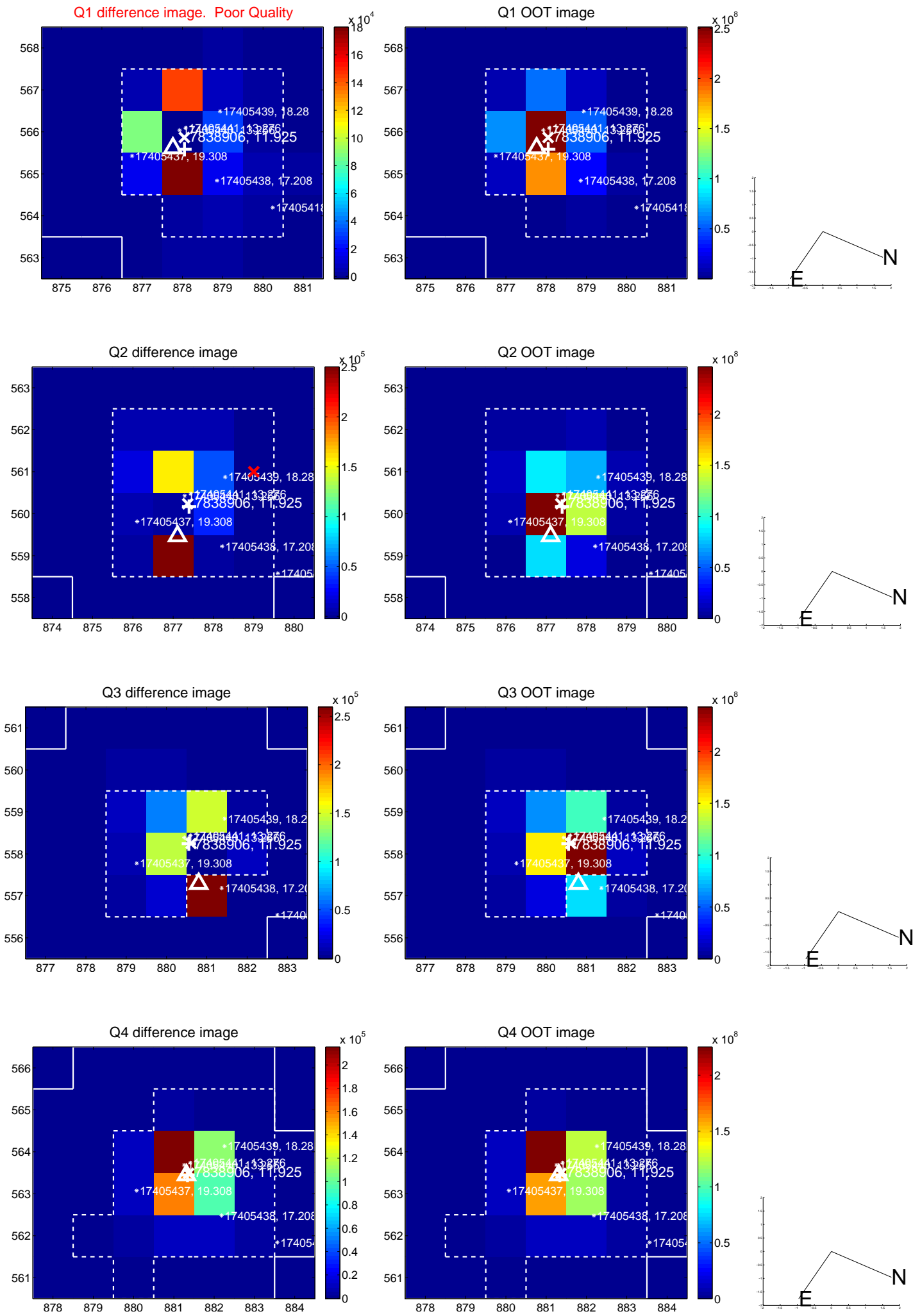


offset from photometric centroids

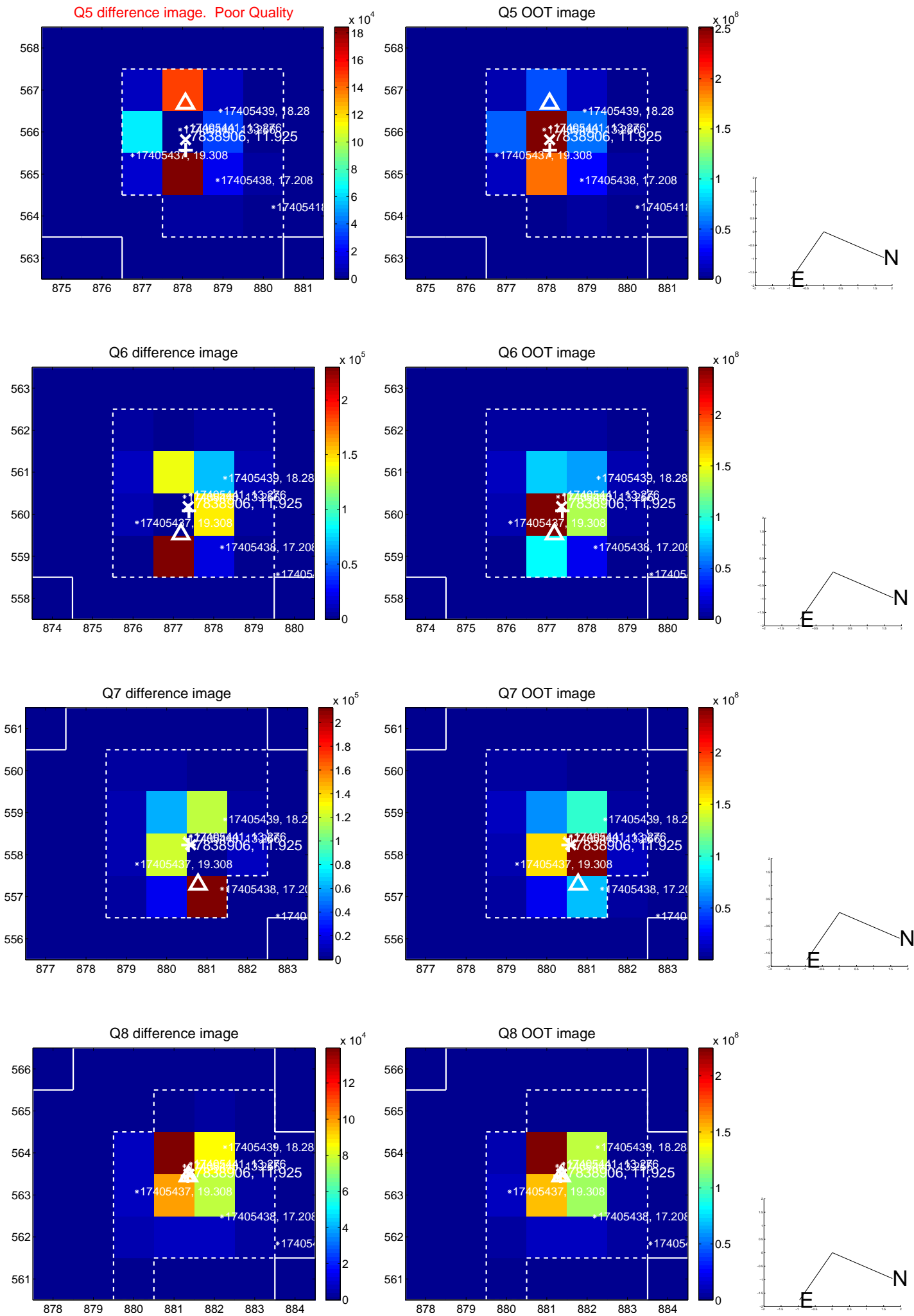


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

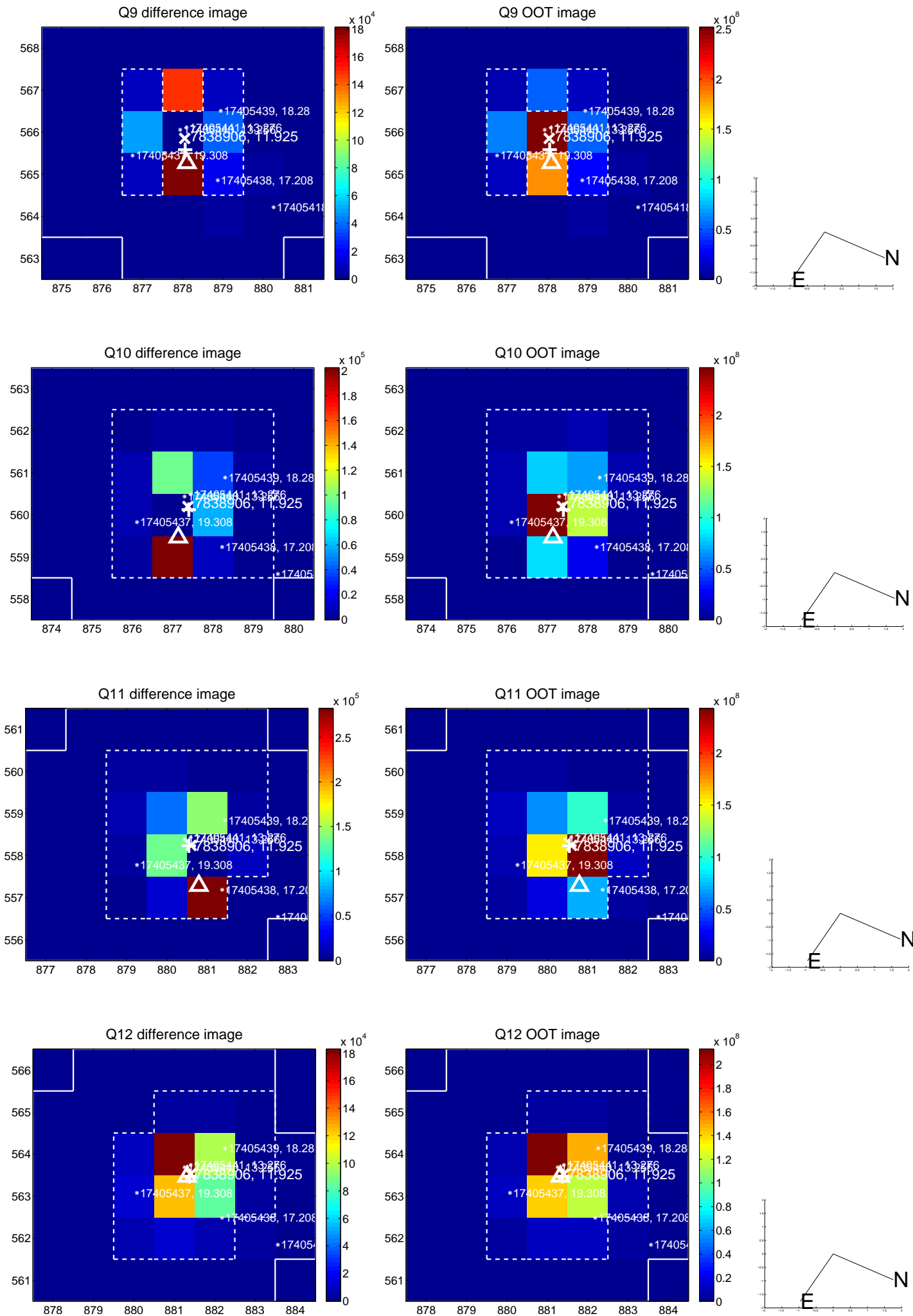
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



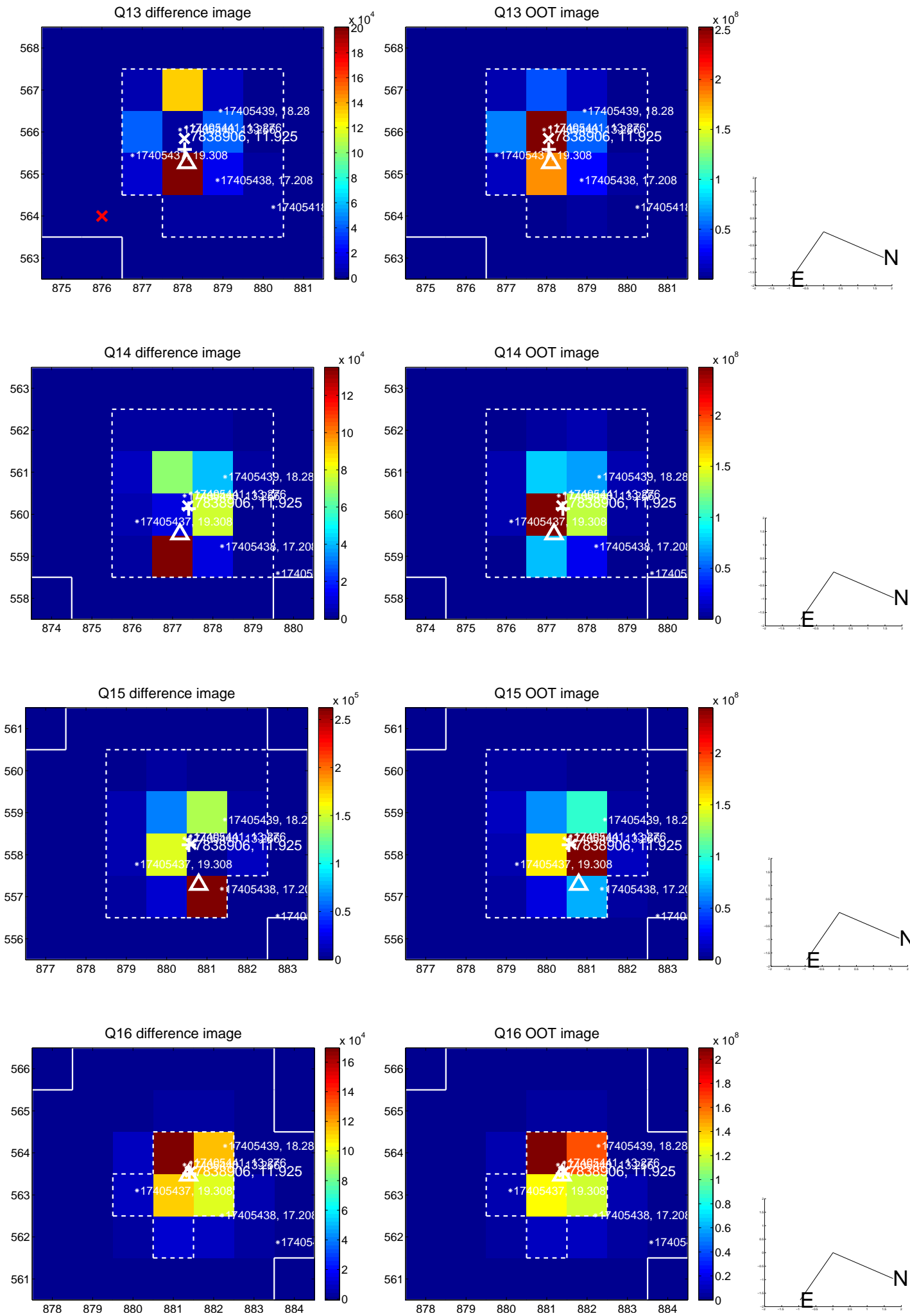
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



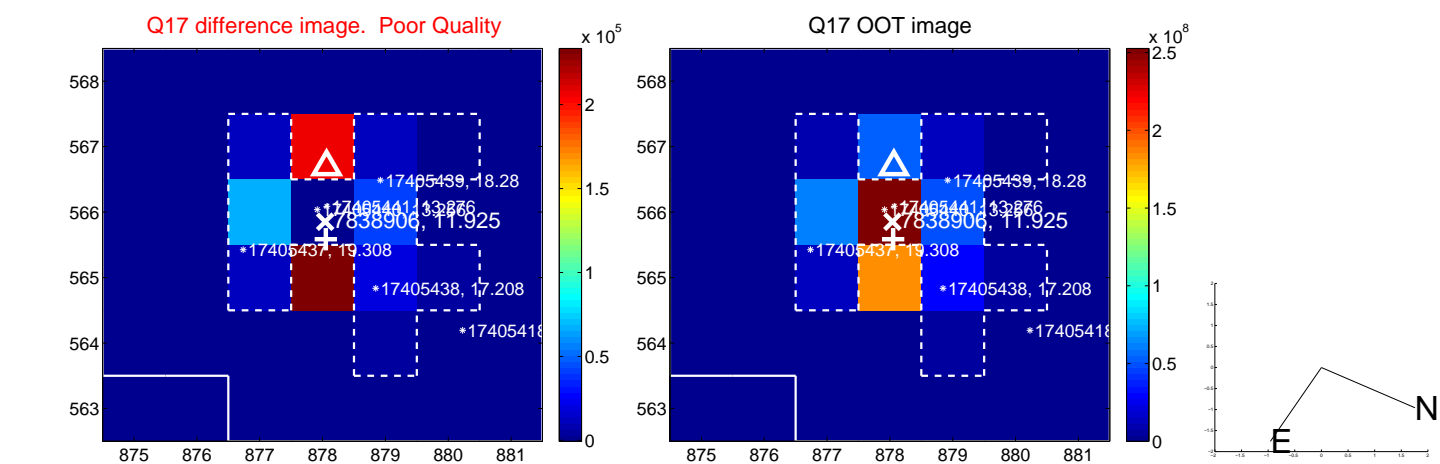
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



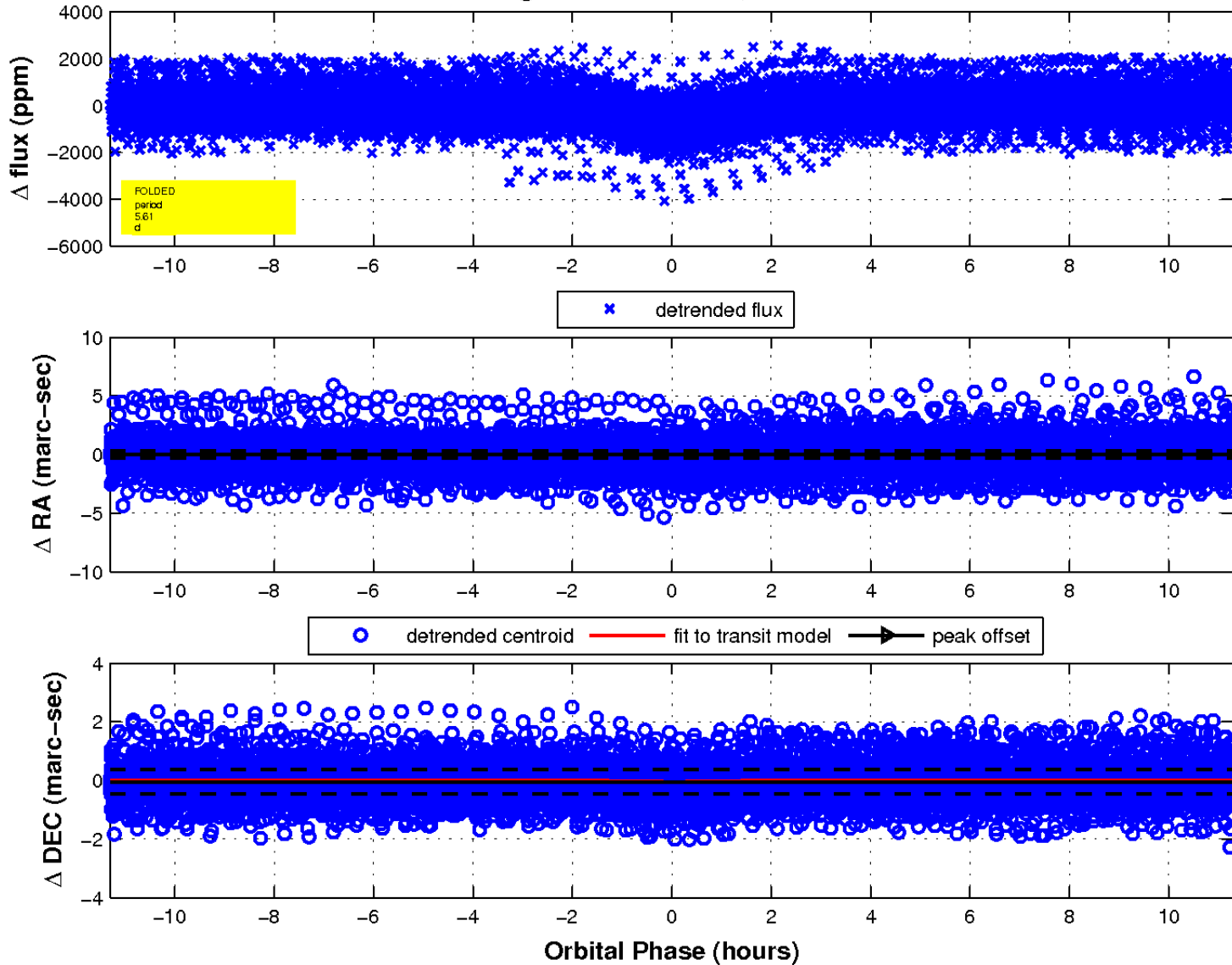
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

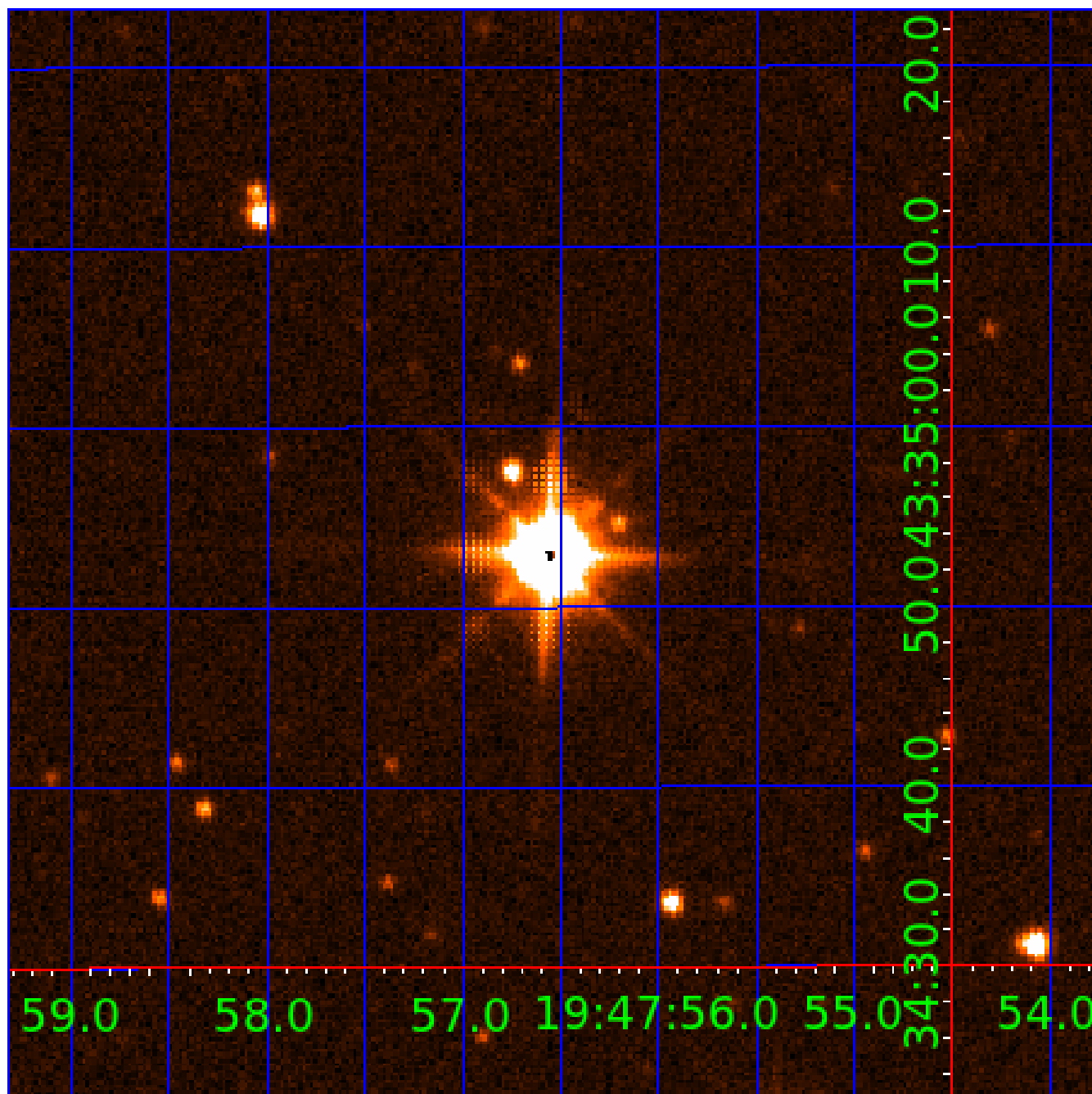


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 007838906

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})
007838906-01	OBS	6165.01	5.614910	132.841320	2360.8	3.678	405.8	364.5	35.70	4289	352.82	0.00
007838906-02	OBS	No	5.614904	135.655745	775.7	3.767	137.8	148.1	35.70	4289	212.20	0.00
007838906-03	OBS	6165.02	35.425988	161.170320	271.6	4.216	16.0	18.8	35.70	4289	129.66	5723.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838906-01	OBS	FP	0.00	0	1	1	0	PLANET_IN_STAR—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007838906-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007838906-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

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

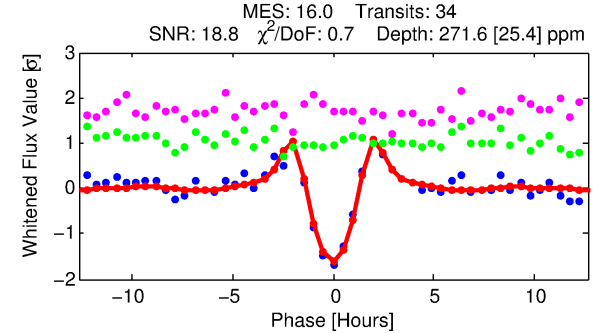
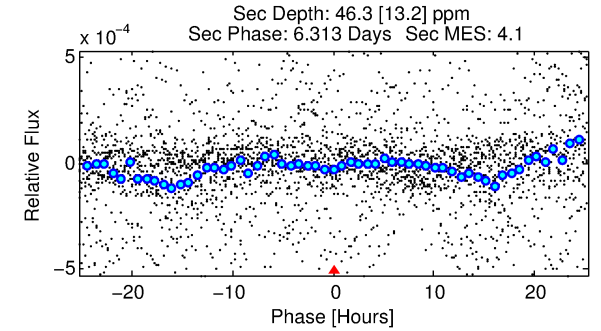
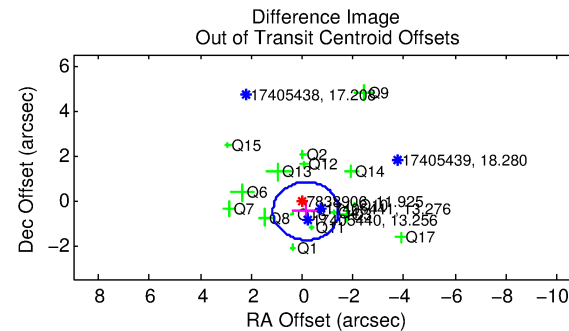
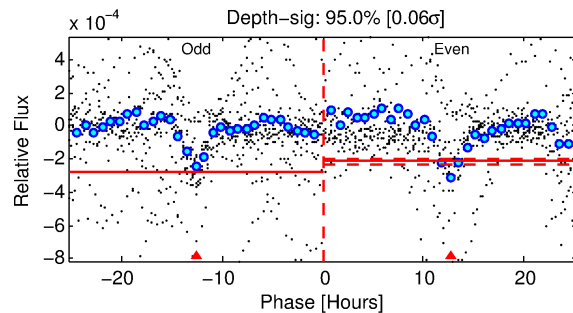
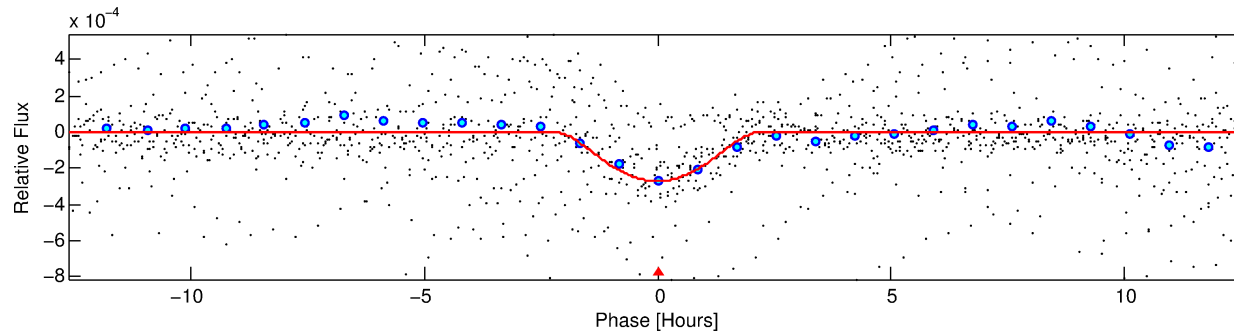
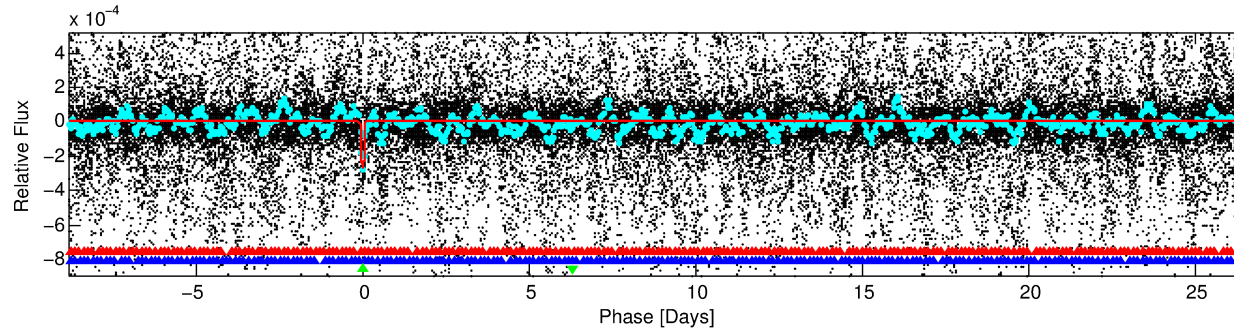
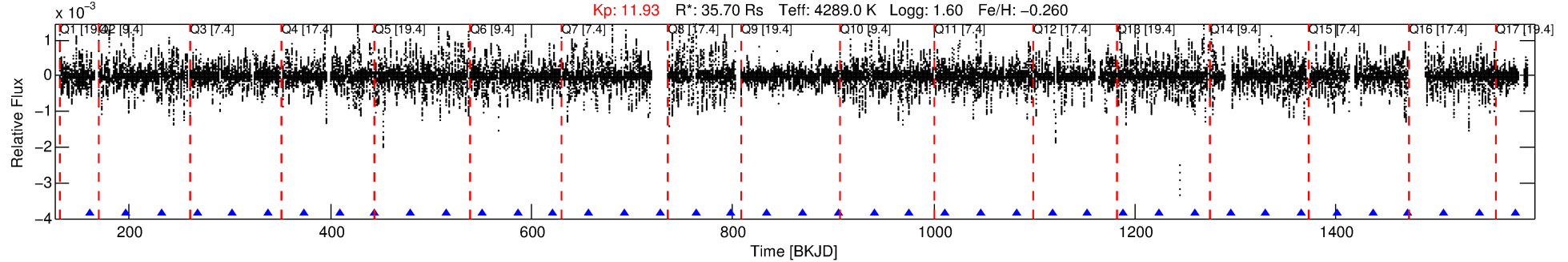
Ephemeris Match Information For 007838906-03

No Significant Match Found

DV One-Page Summary

KIC: 7838906 Candidate: 3 of 3 Period: 35.426 d
KOI: K06165.02 Corr: 0.984

Kp: 11.93 R*: 35.70 Rs Teff: 4289.0 K Logg: 1.60 Fe/H: -0.260



DV Fit Results:

Period = 35.42599 [0.00012] d
Epoch = 161.1703 [0.0028] BKJD
Rp/R* = 0.0333 [0.0251]
a/R* = 16.83 [3.21]
b = 1.00 [0.04]
Seff = 5723.05 [1072.49]
Teq = 2218 [104] K
Rp = 129.65 [101.69] Re
a = 0.2598 [0.0381] AU
Ag = 0.10 [0.16] [-5.70σ]
Teffp = 1939 [746] K [-0.37σ]

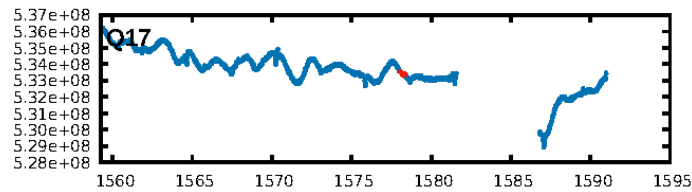
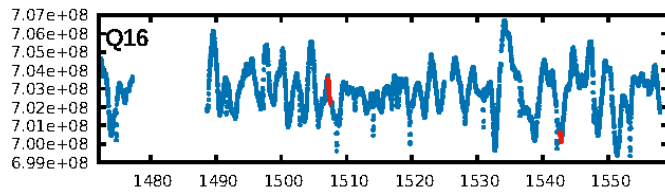
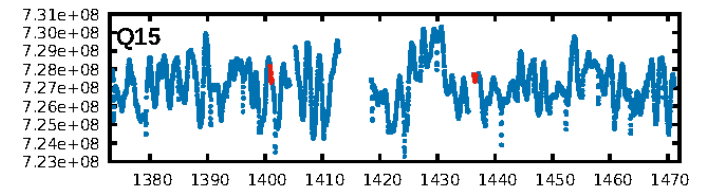
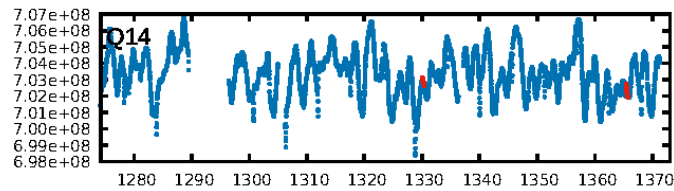
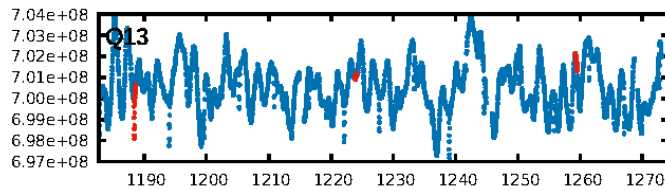
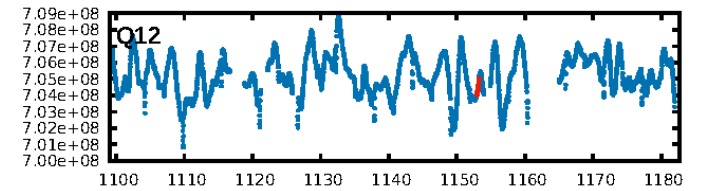
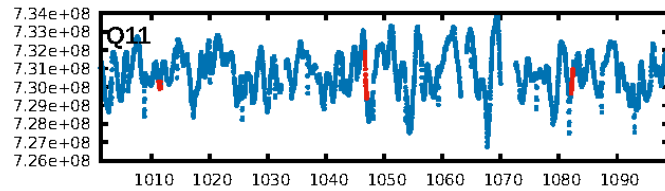
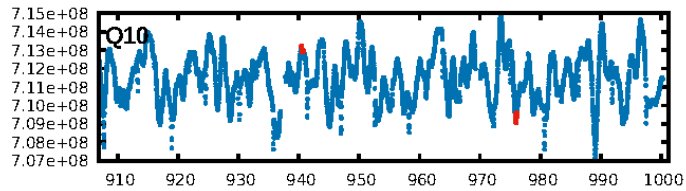
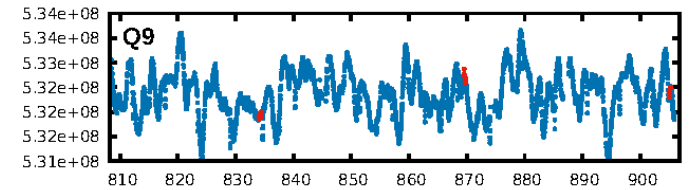
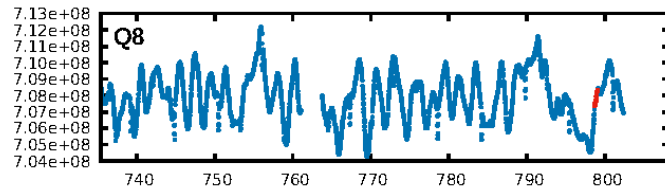
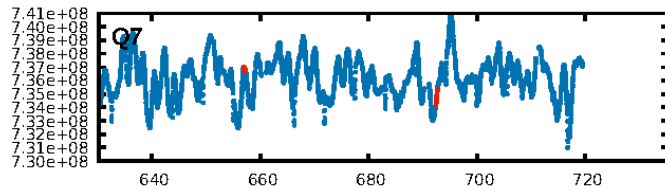
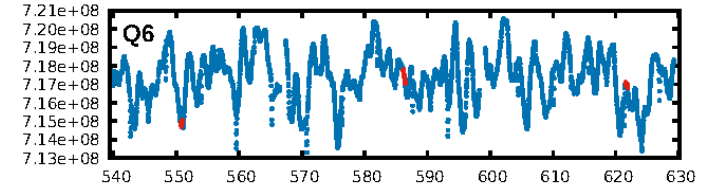
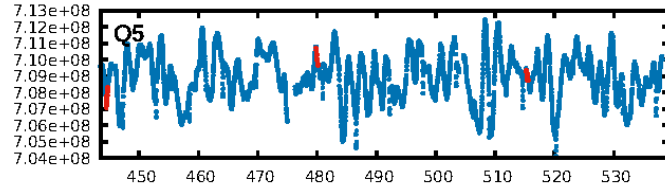
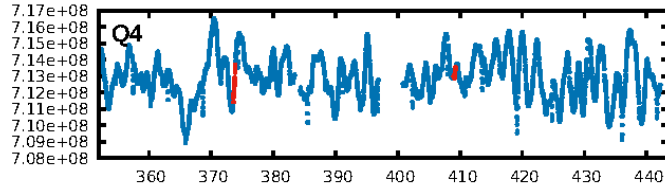
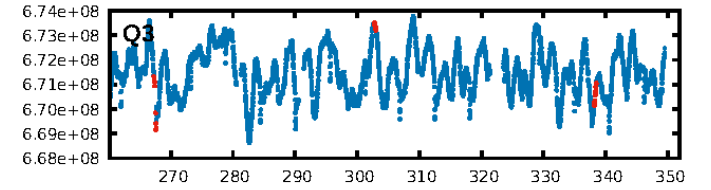
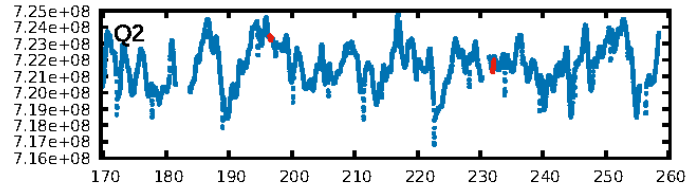
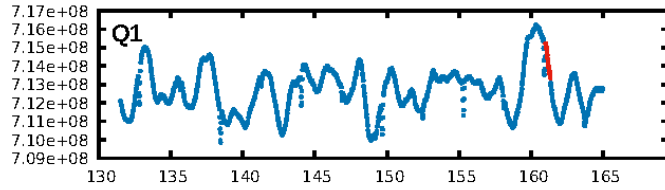
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.87σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.68e-41
RollingBand-fgt: 1.00 [32/32]
GhostDiagnostic-chr: 2.052
Centroid-sig: 18.0%
Centroid-so: 0.580 arcsec [2.12σ]
OotOffset-rm: 0.496 arcsec [1.15σ]
KicOffset-rm: 0.383 arcsec [0.82σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.94 [16/17]

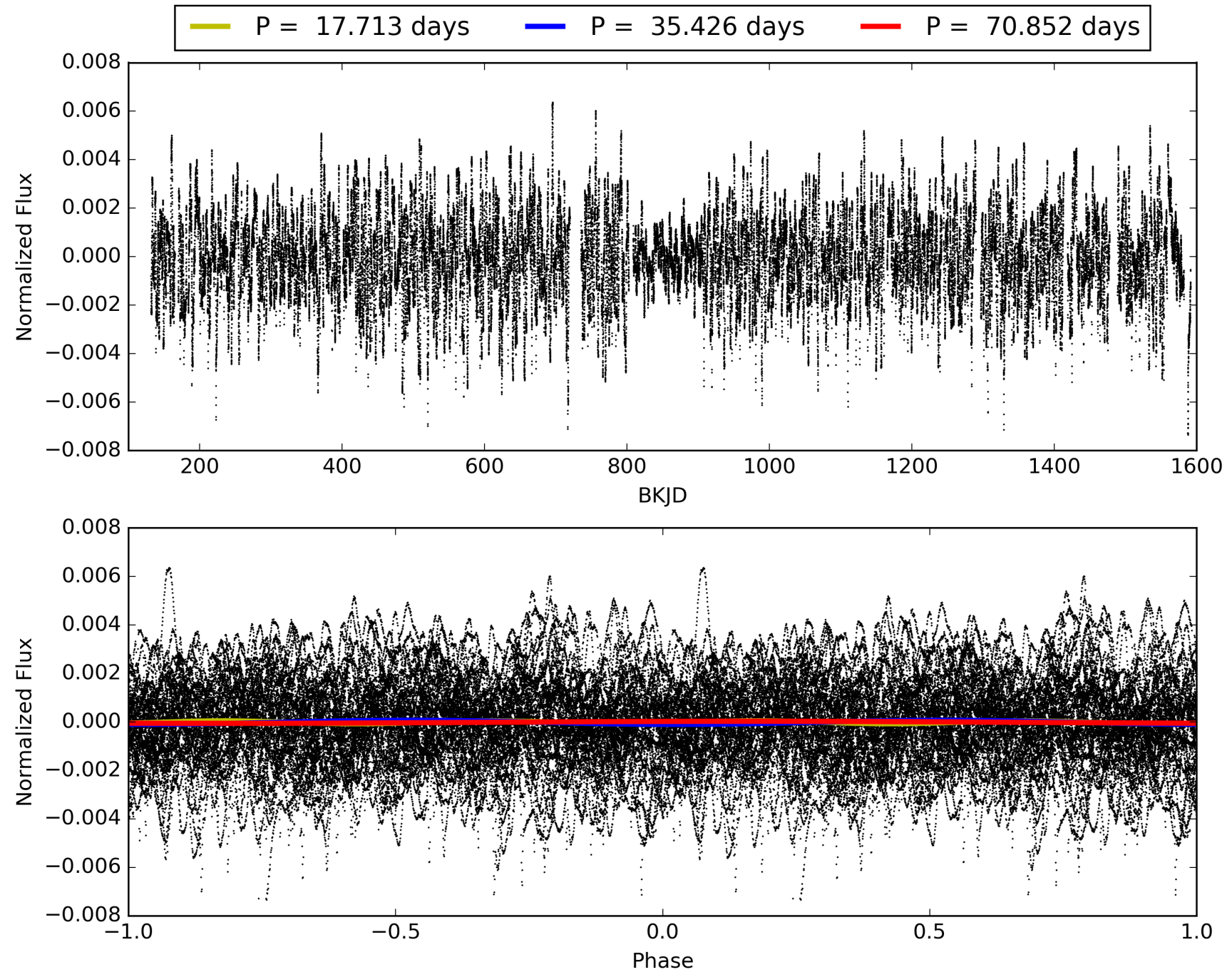
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:08:16 Z

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

TCE 007838906-03, PDC Light Curves

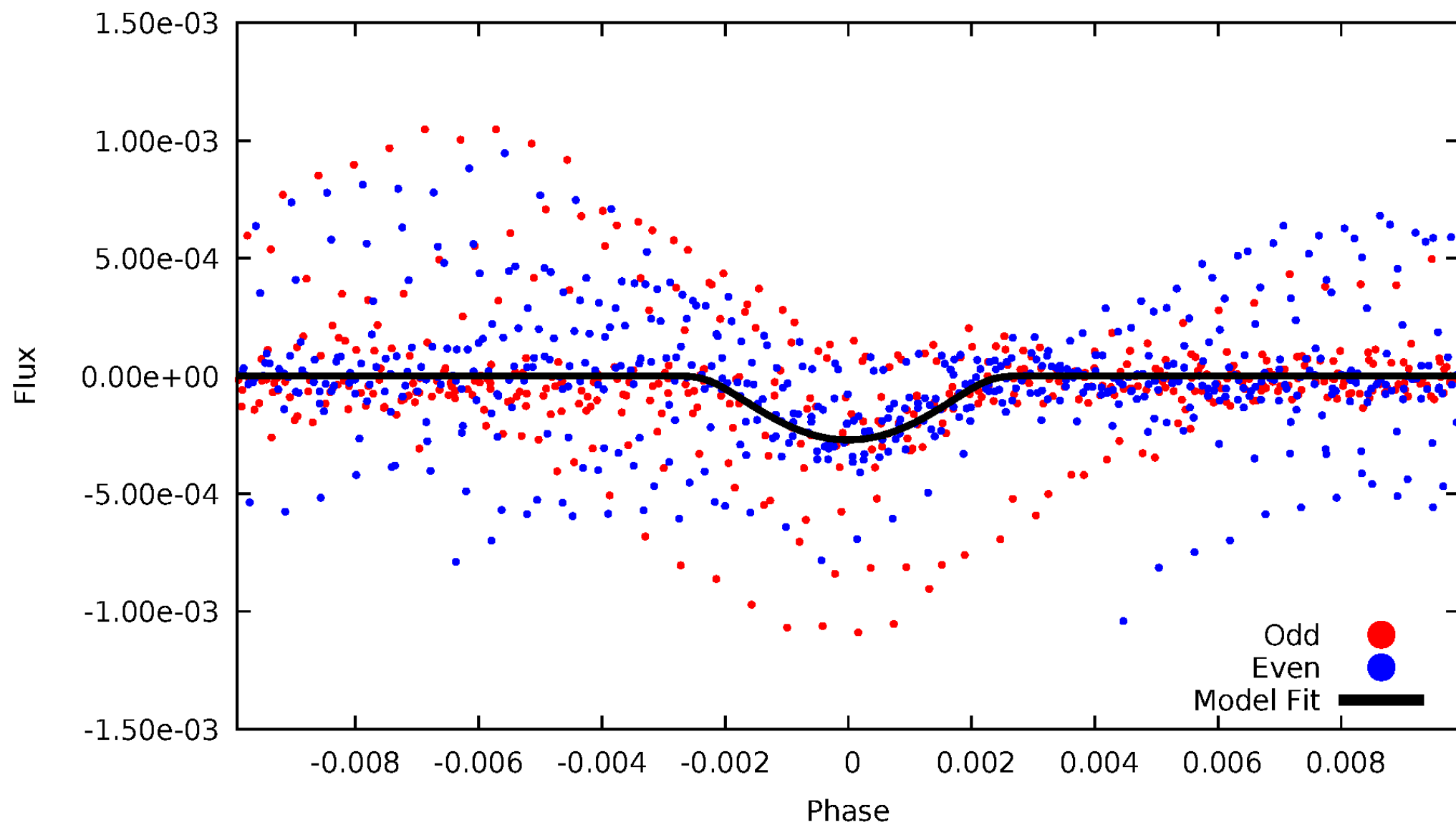


TCE 007838906-03



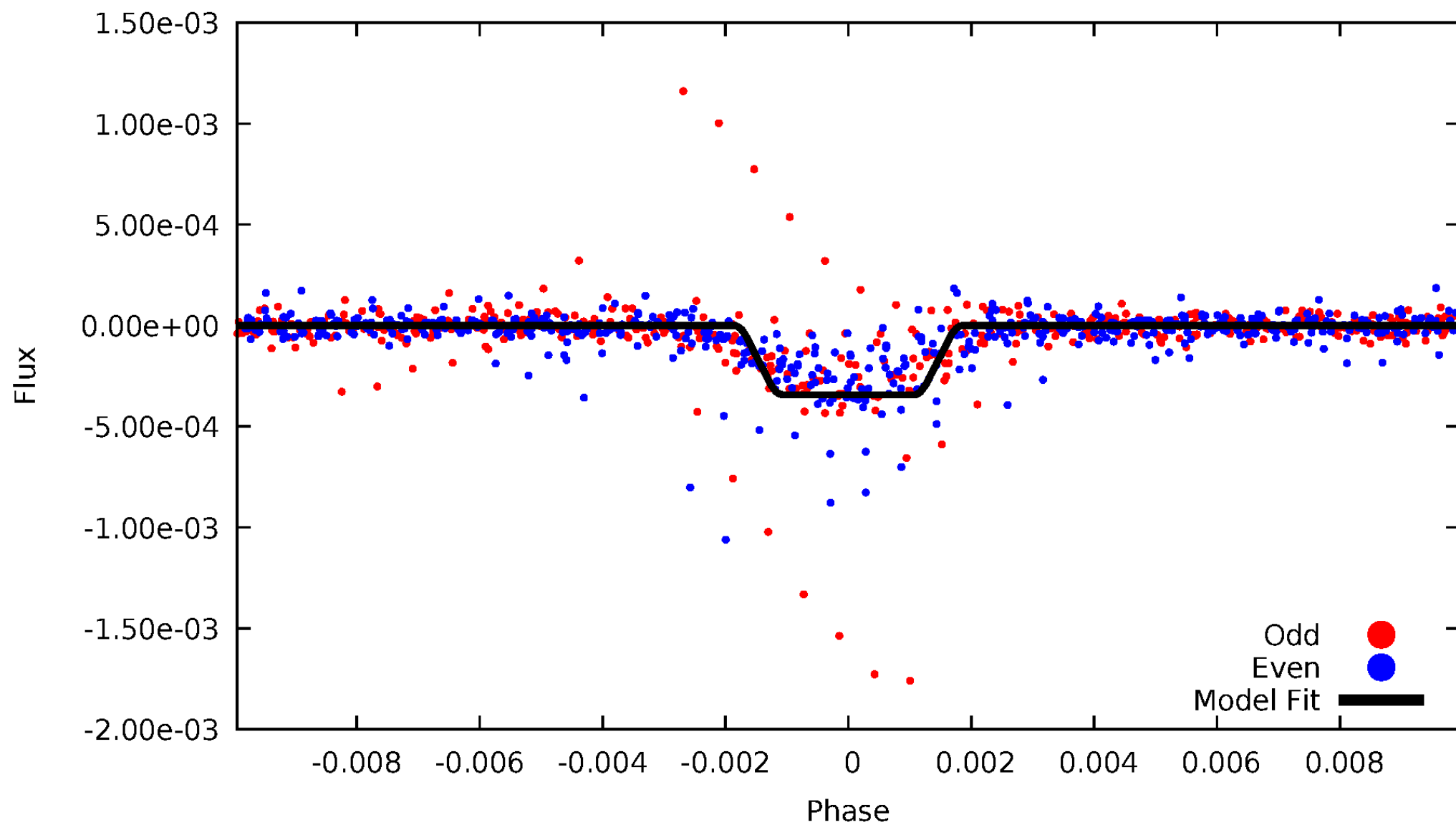
DV Odd/Even

TCE 007838906-03

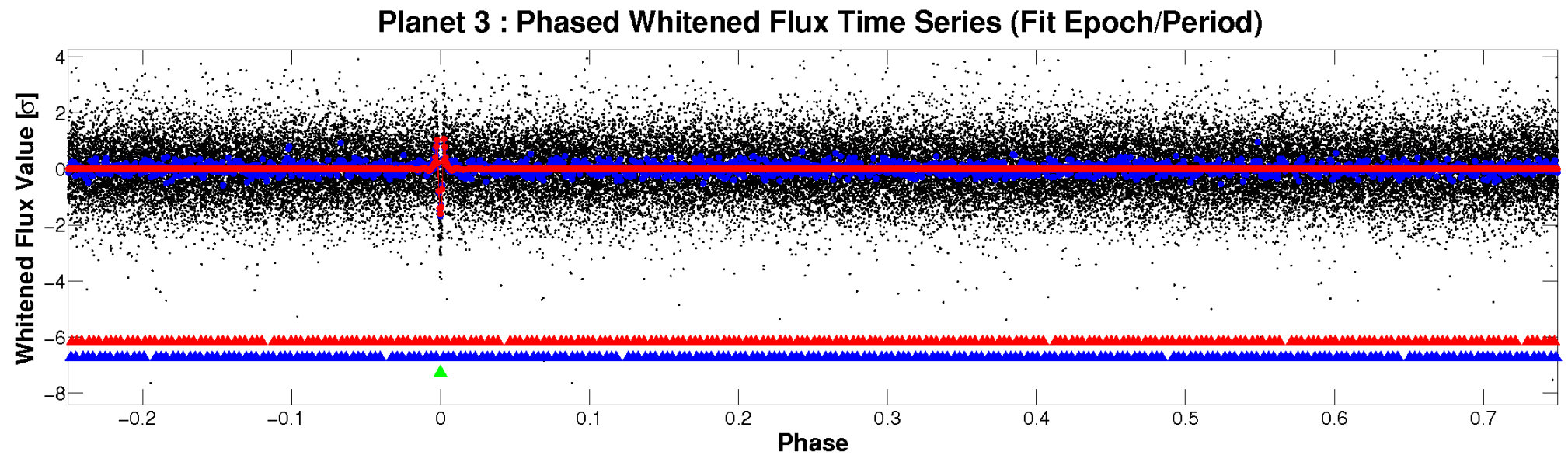
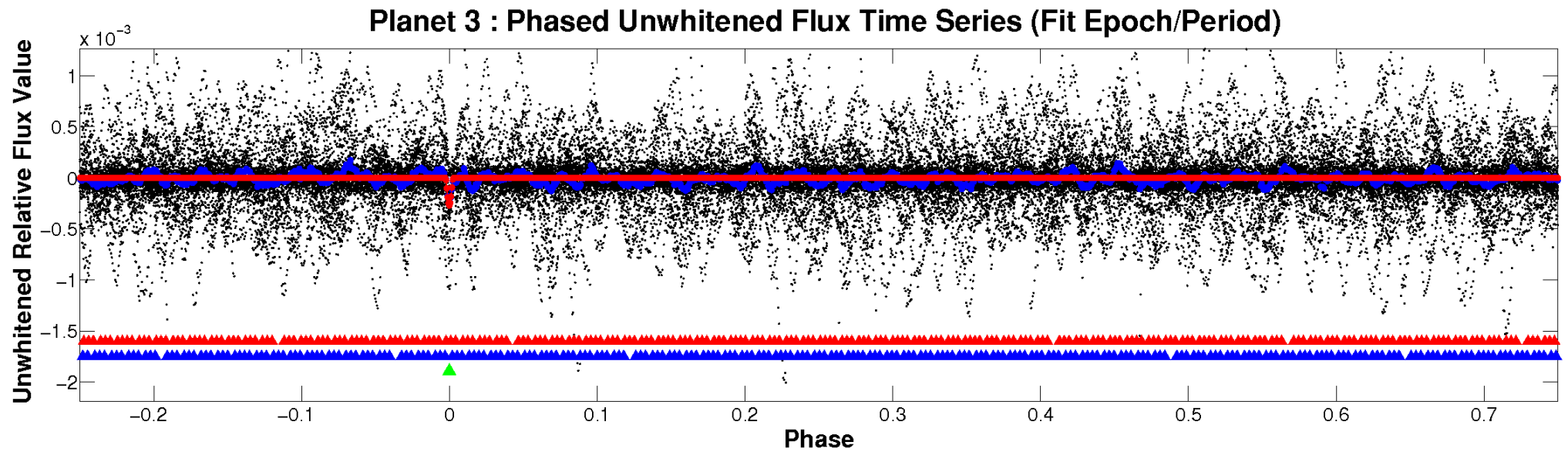


ALT Odd/Even

TCE 007838906-03

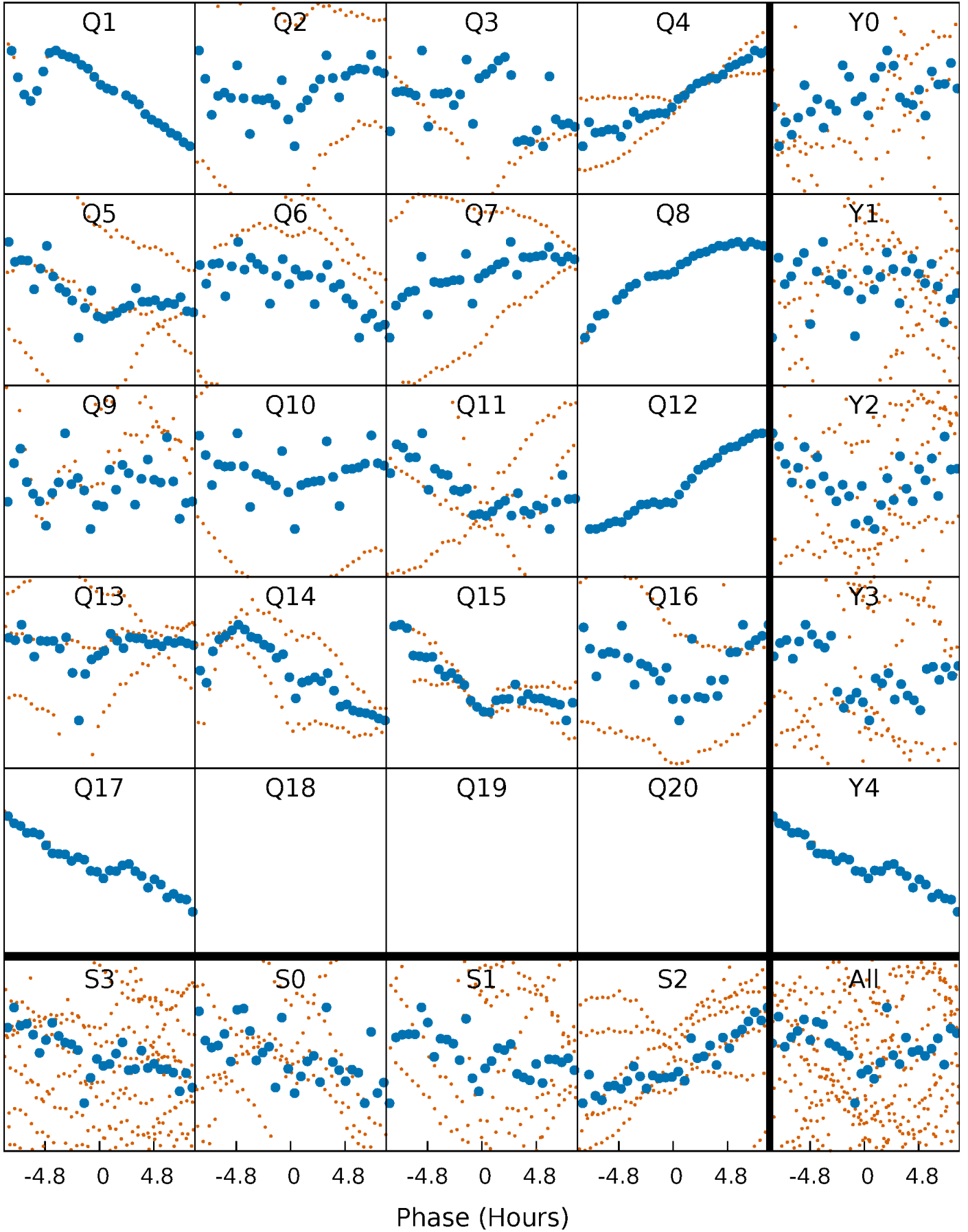


Non-Whitened Vs. Whitened Light Curve



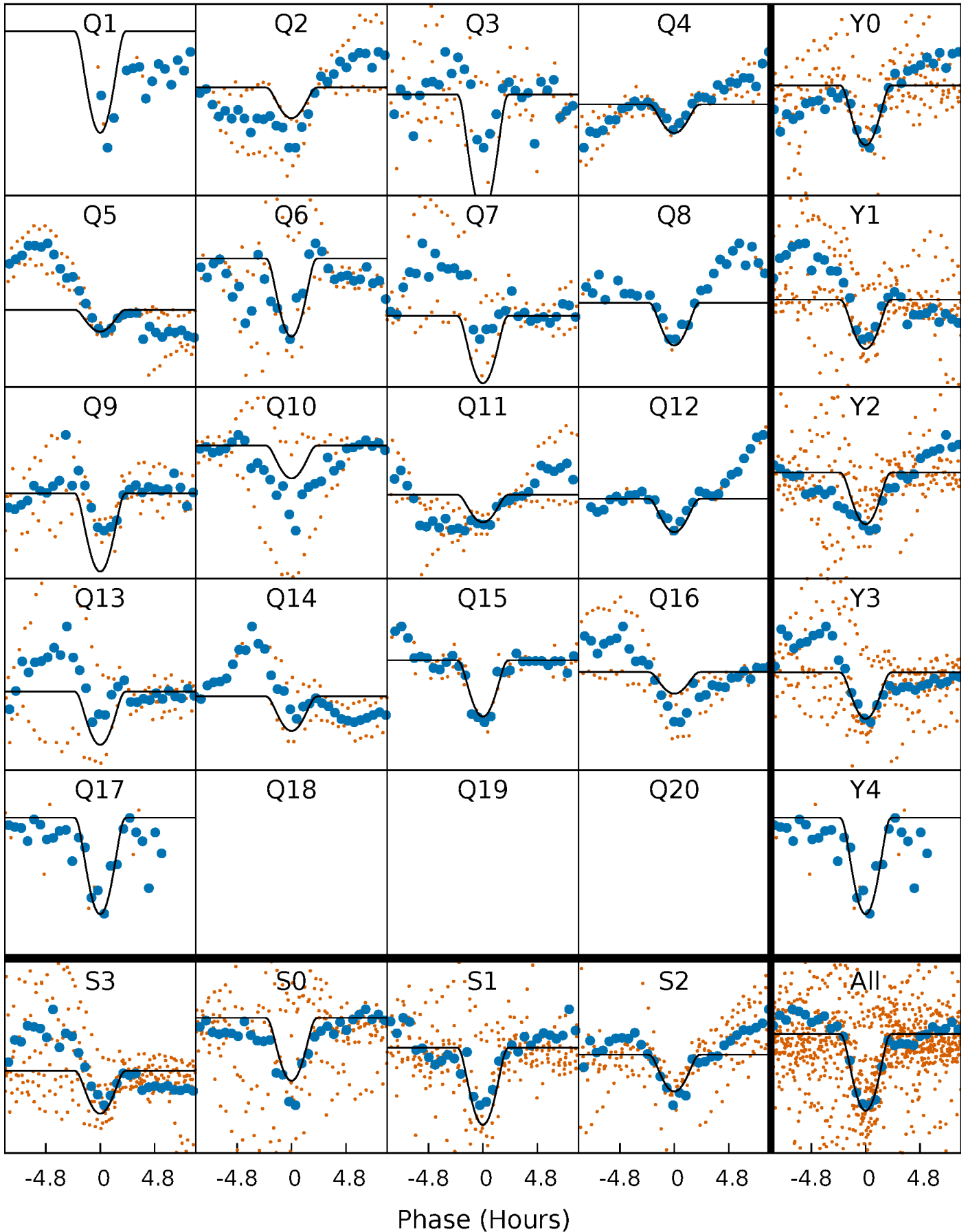
PDC Quarter-Phased Transit Curves

TCE 007838906-03 P= 35.425988 Days $T_0=161.170320$ (BKJD)



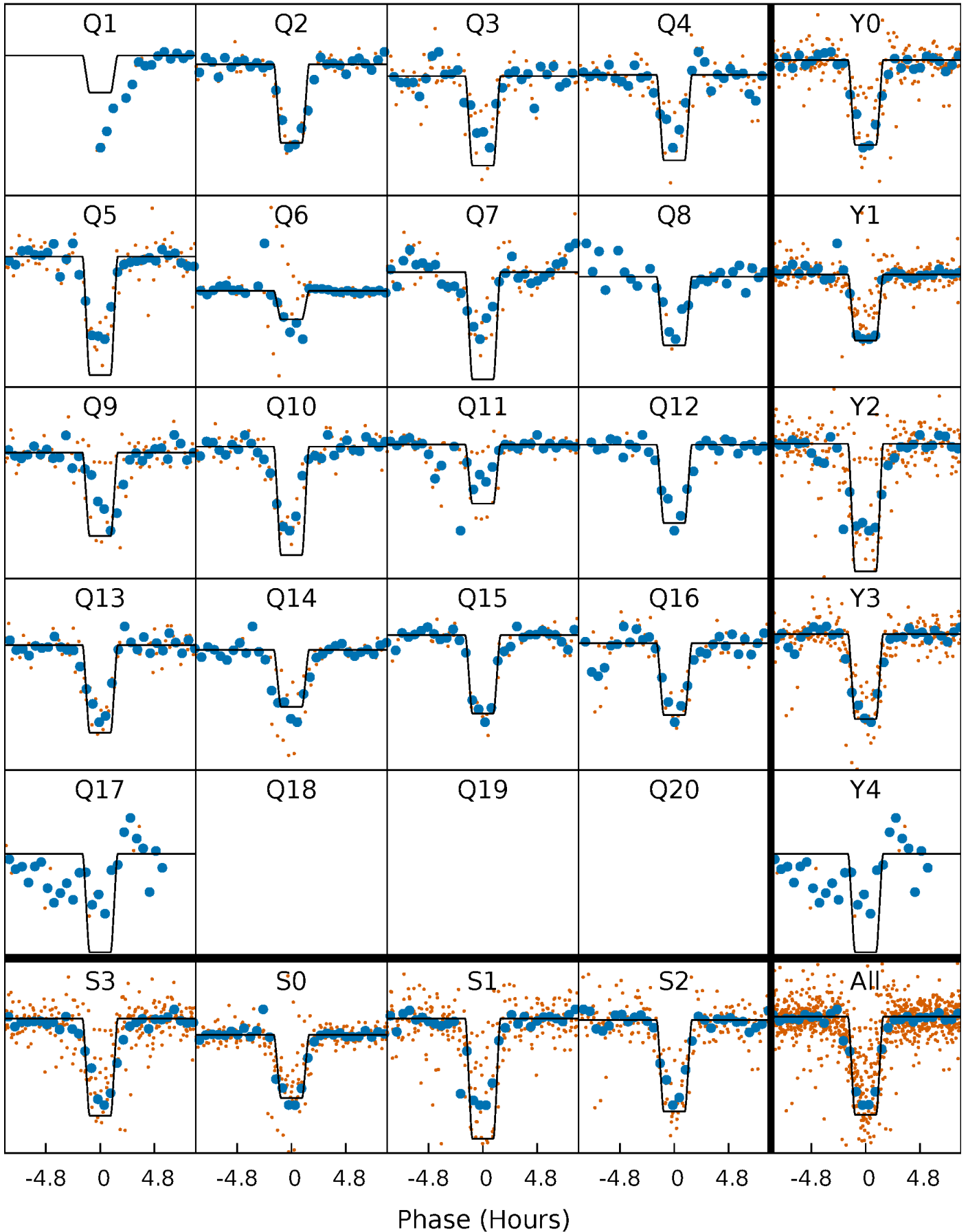
DV Quarter-Phased Transit Curves

TCE 007838906-03 P= 35.425988 Days $T_0=161.170320$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

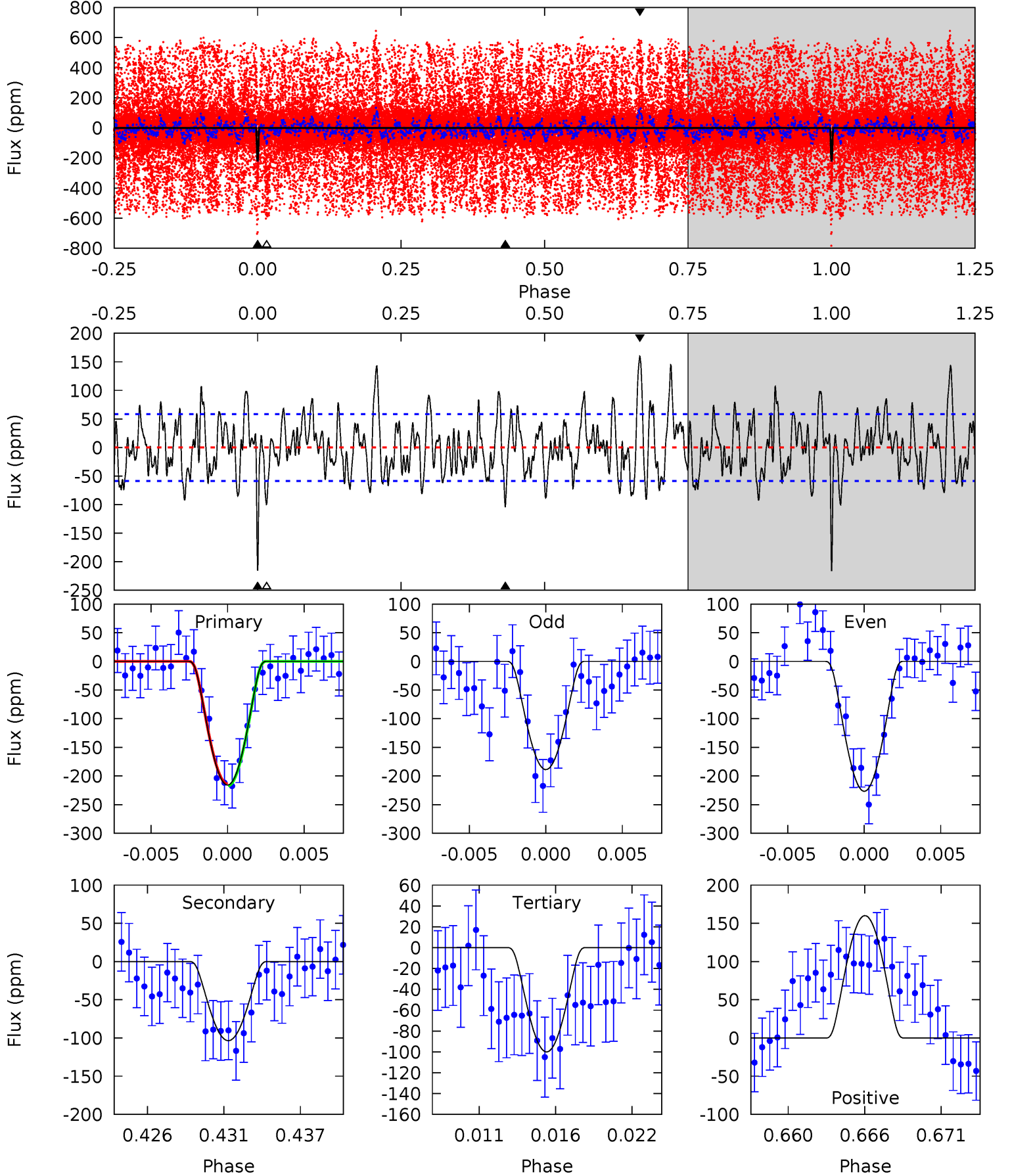
TCE 007838906-03 $P = 35.425882$ Days $T_0 = 161.172706$ (BKJD)



DV Model-Shift Uniqueness Test

007838906-03, $P = 35.425988$ Days, $E = 125.744332$ Days

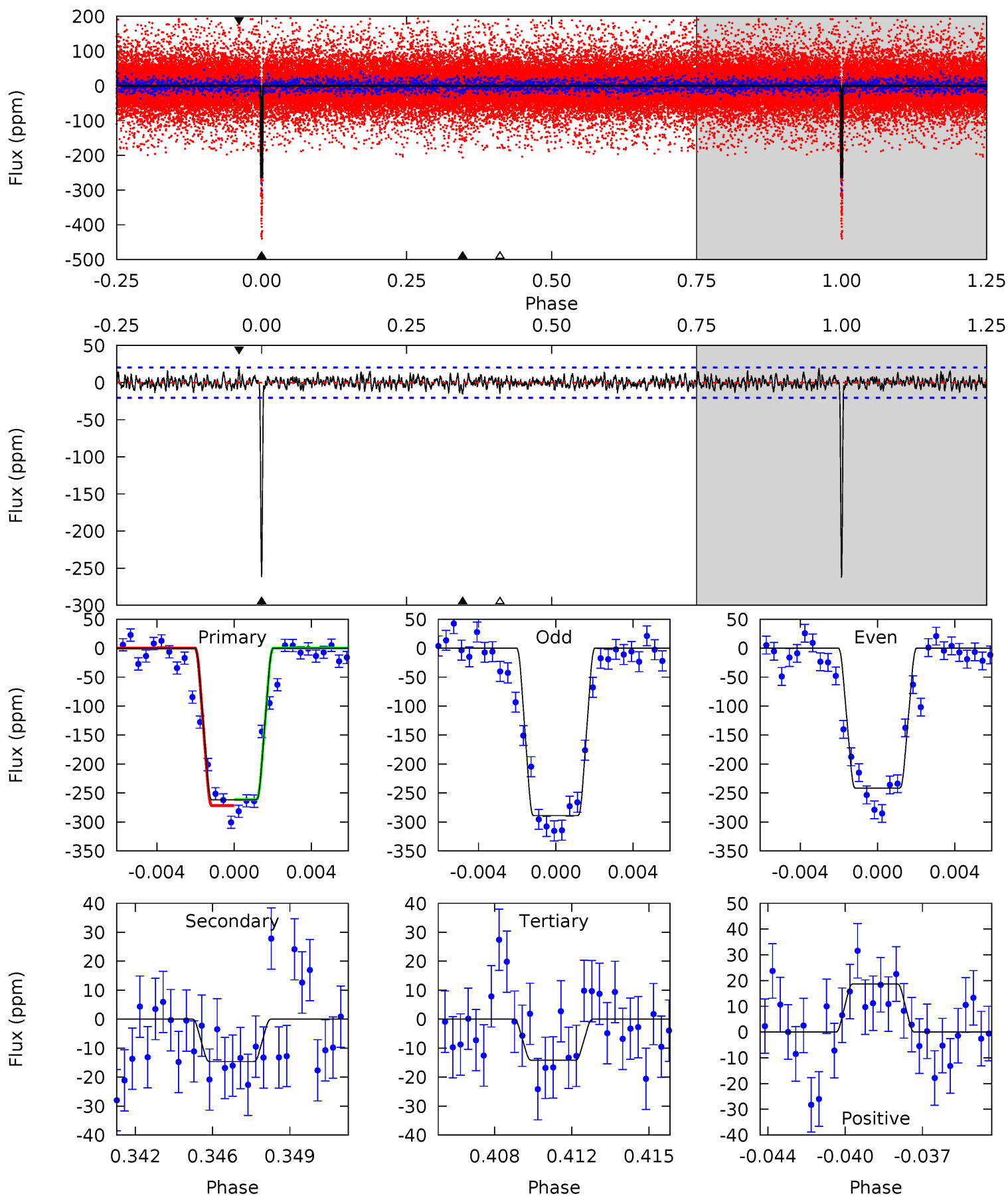
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	9.09	8.78	14.0	5.14	2.78	3.91	10.2	4.89	0.31	-4.96	1.66	1.38	0.43	0.16



Alt Model-Shift Uniqueness Test

007838906-03, P = 35.425882 Days, E = 125.746824 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.8	3.74	3.61	4.77	5.21	2.90	1.26	63.2	62.1	0.12	-1.03	6.03	1.15	0.07	1.34



Stellar Parameters For KIC 007838906

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4289^{+95}_{-116}	$1.603^{+0.033}_{-0.027}$	$-0.260^{+0.200}_{-0.250}$	$35.695^{+1.364}_{-7.731}$	$1.863^{+0.089}_{-0.713}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-2%	+77%/-96%	+4%/-22%	+5%/-38%	+34%/-7%
Source	PHO54	AST54	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 007838906-03 / KOI 6165.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-104 ± 11	$136.68^{+99.65}_{-83.93}$	3096^{+78}_{-95}	-2603^{+6335}_{-335}	$0.204^{+1.212}_{-0.134}$
Alt.	-15 ± 4	$100.59^{+84.57}_{-64.61}$	3094^{+85}_{-90}	-2943^{+5532}_{-99}	$0.052^{+0.354}_{-0.037}$

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 $A_{obs} \gg 1.0$

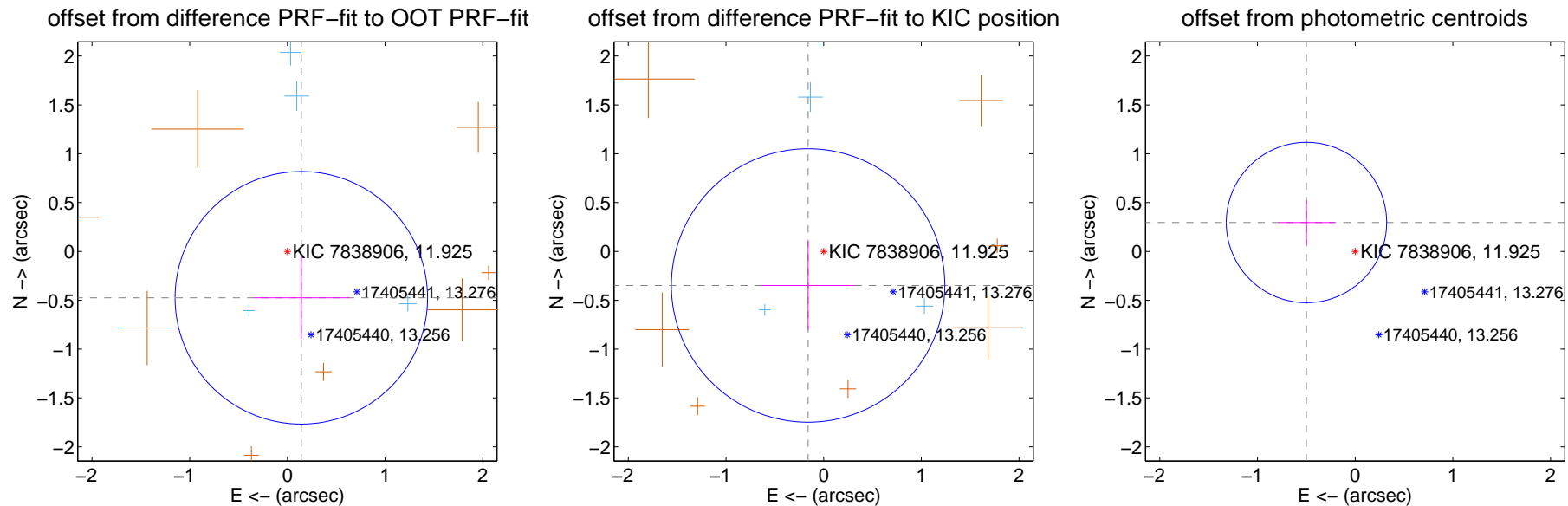
DV Centroid Data

Supplemental centroid analysis for 007838906-03. **Kepler magnitude: 11.93.** Transit SNR 18.77

There are 6 quarters with good PRF difference image offsets

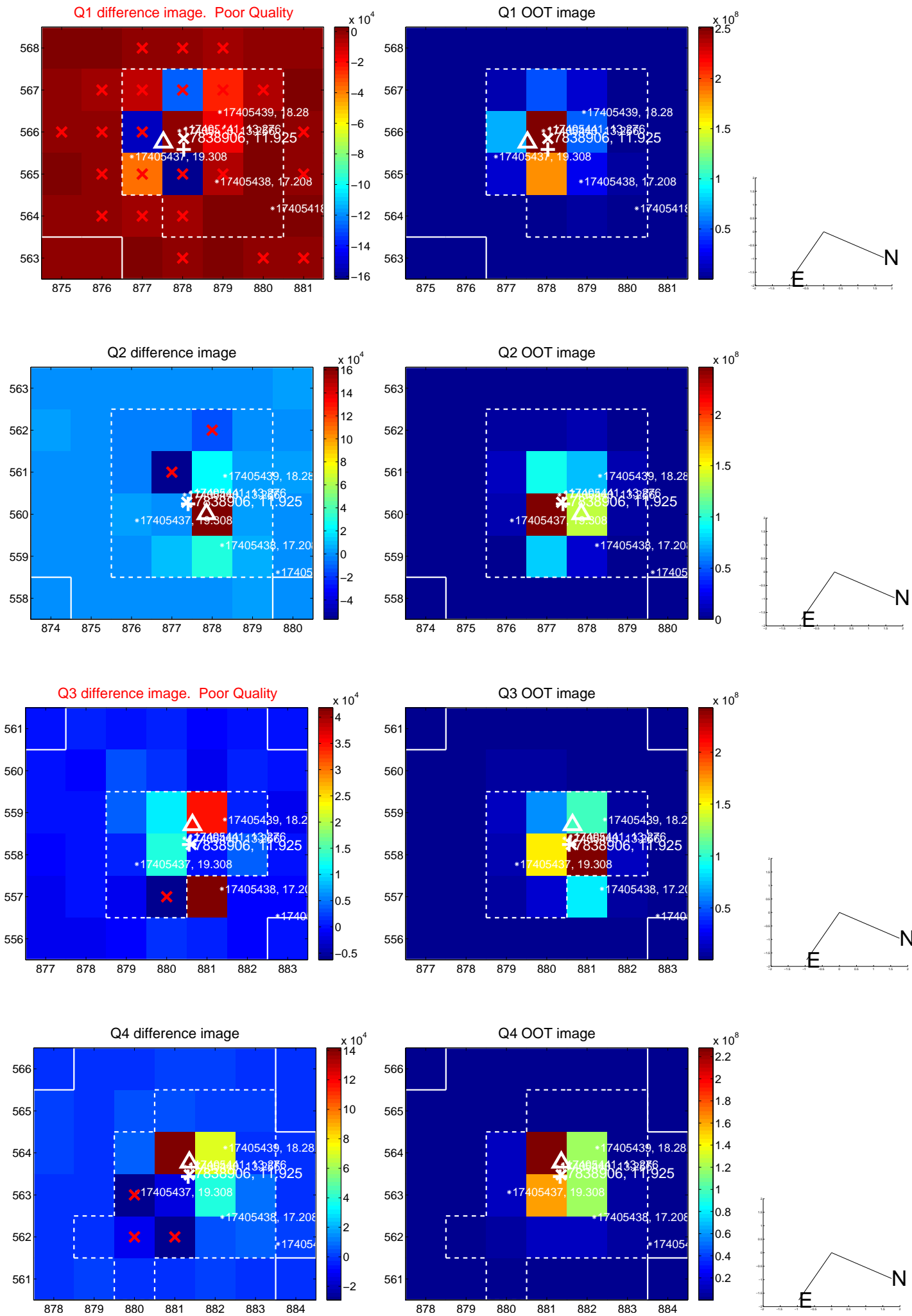
The direct PRF centroid is offset from the target star catalog position by about 1.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.496 ± 0.431	1.15	-0.143 ± 0.486	-0.475 ± 0.418
PRF-fit source offset from KIC position	0.383 ± 0.467	0.82	0.159 ± 0.480	-0.349 ± 0.453
photometric centroid source offset	0.58 ± 0.27	2.12	0.50 ± 0.29	0.30 ± 0.23

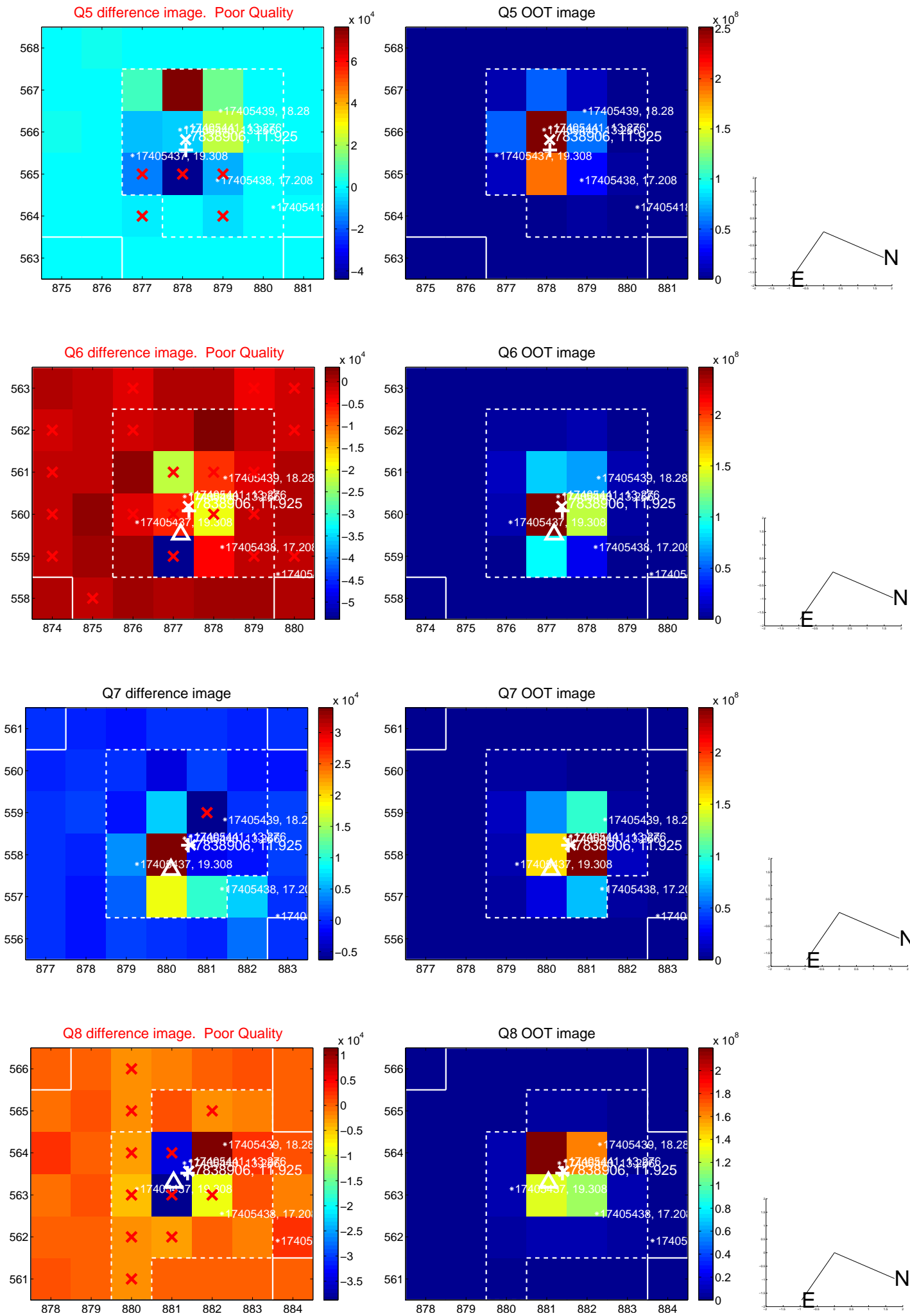


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

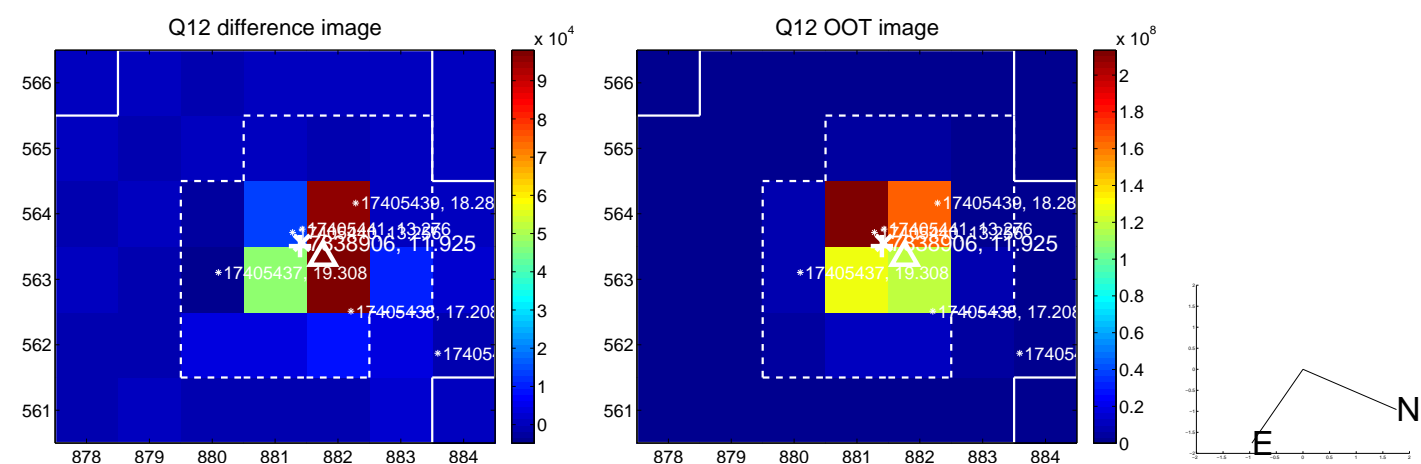
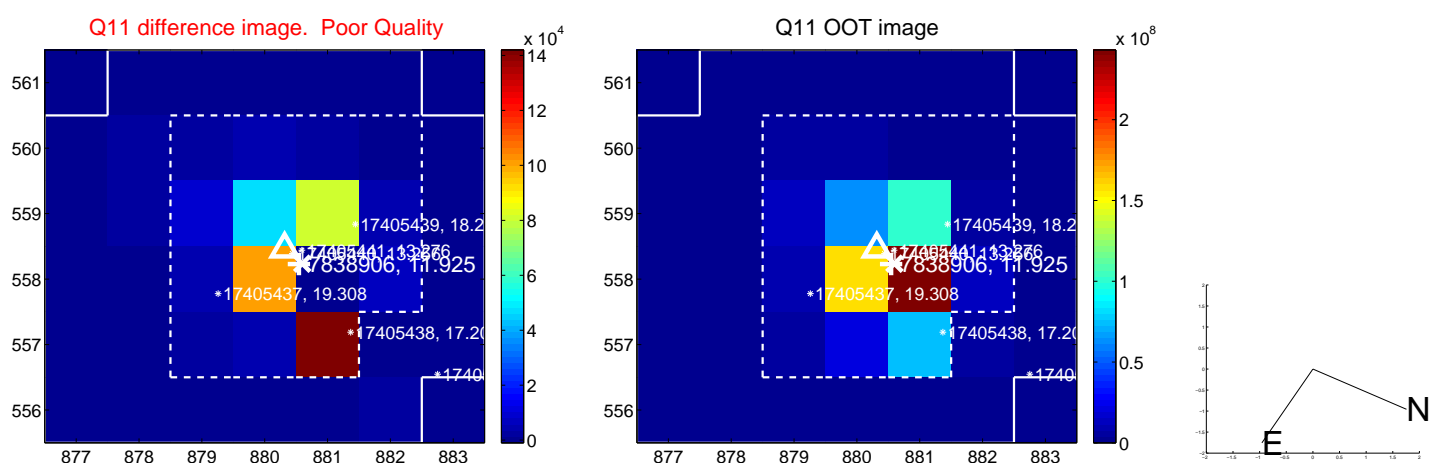
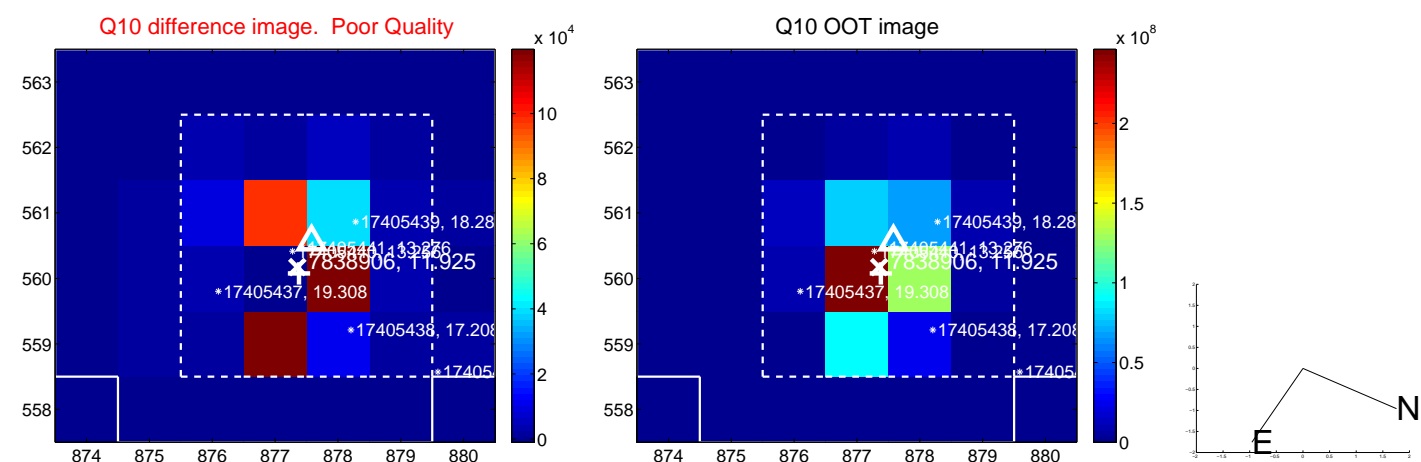
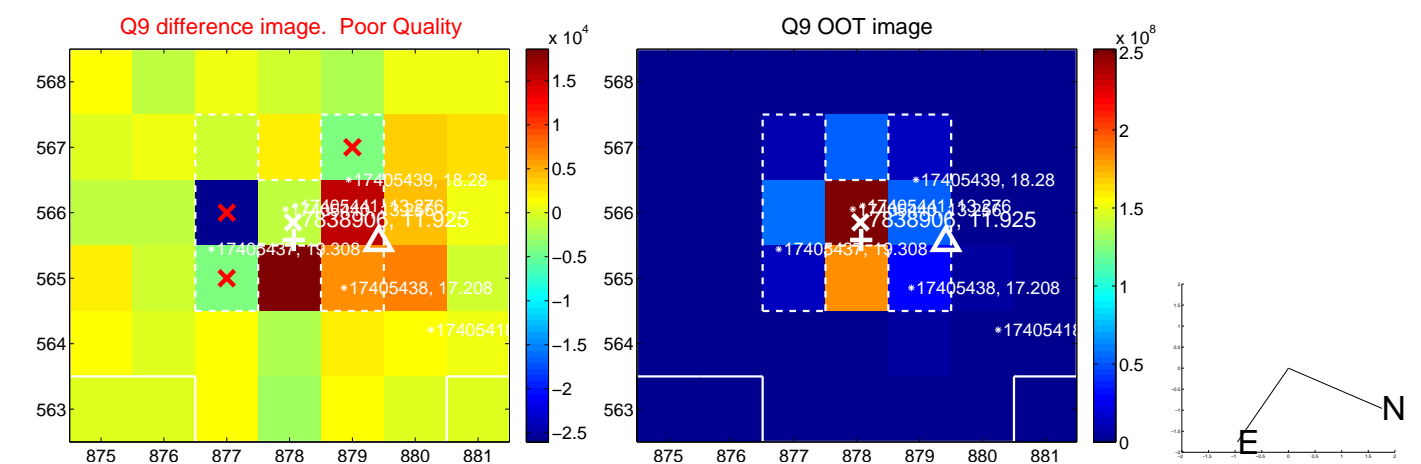
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



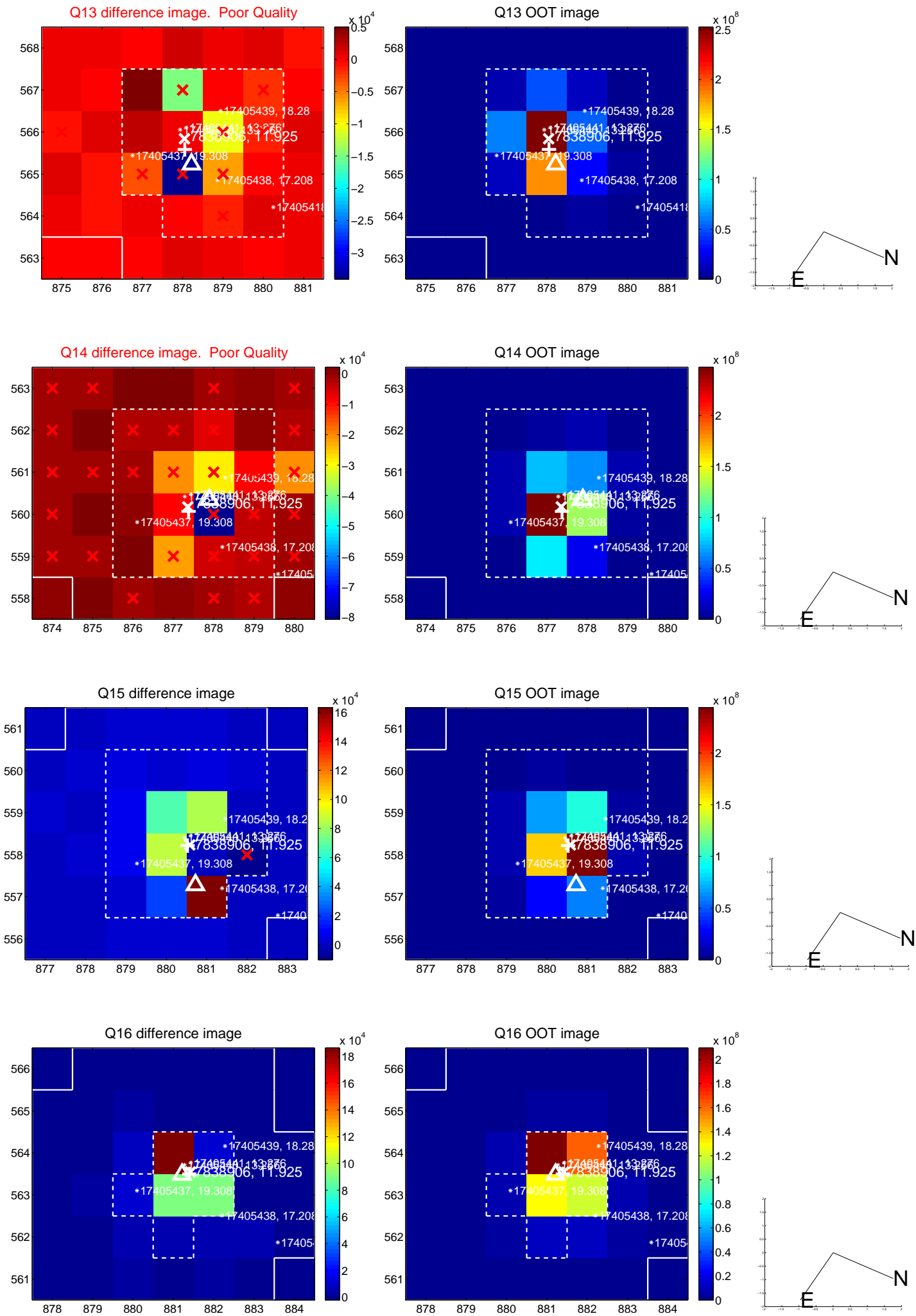
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



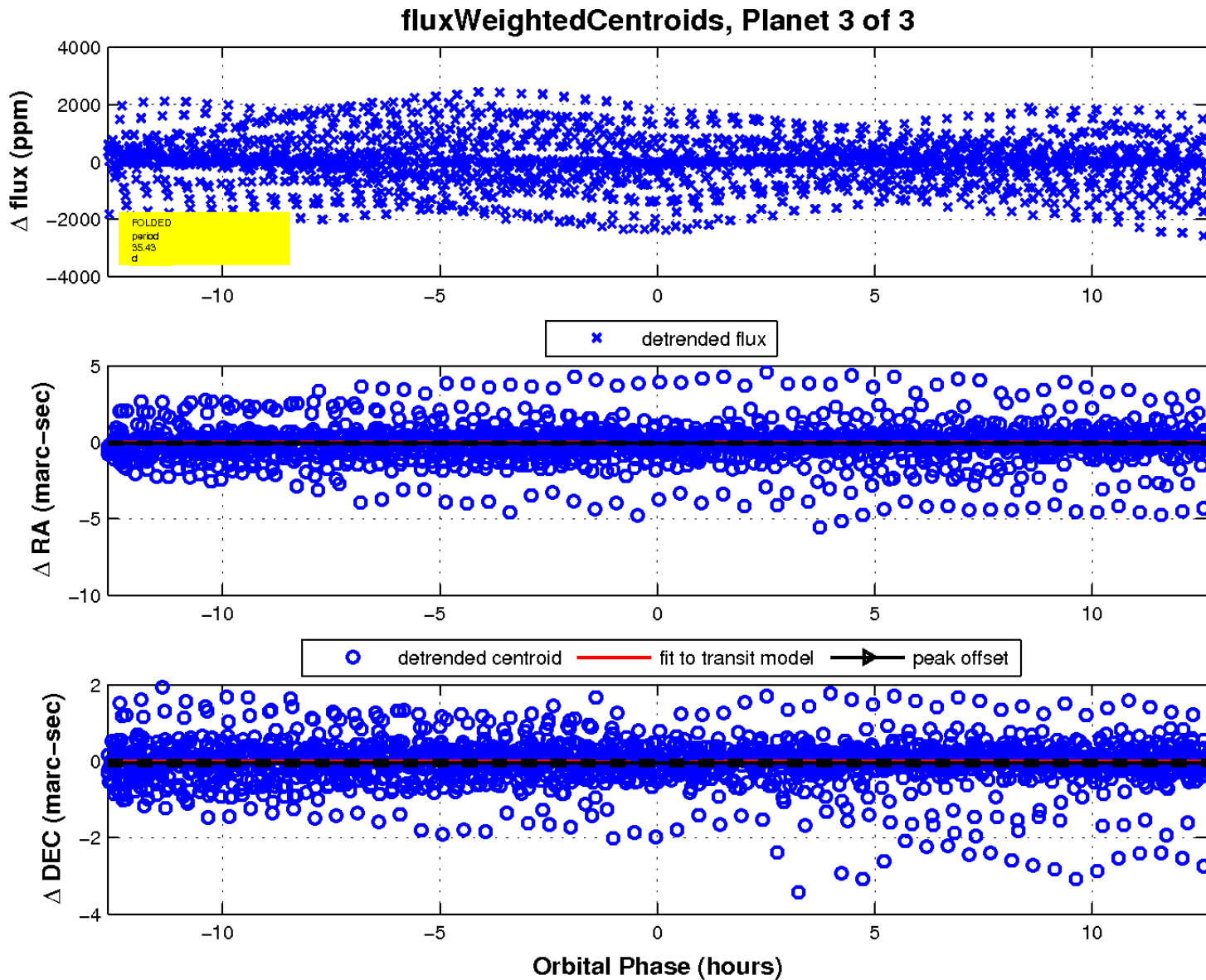
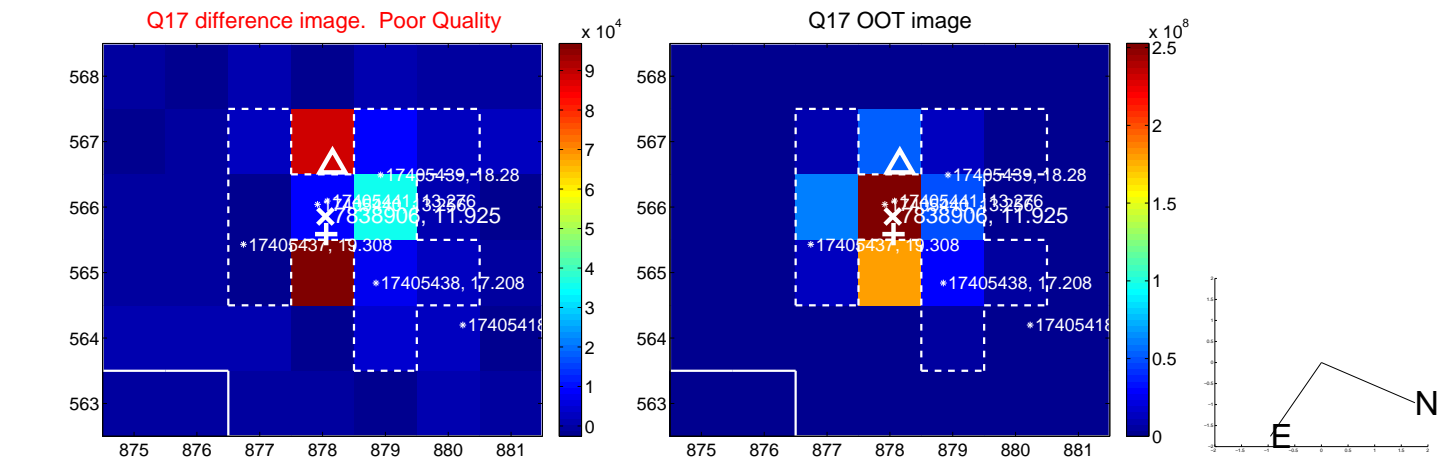
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

