

KIC 004861736

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})
004861736-01	OBS	0634.01	6.277821	134.911749	2191.3	8.334	235.3	201.2	0.89	6077	7.77	222.75
004861736-02	OBS	No	6.277875	131.760739	273.0	7.443	31.7	36.6	0.89	6077	2.01	222.75
004861736-03	OBS	No	6.271434	137.608229	50.2	20.071	9.3	10.1	0.89	6077	0.71	223.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004861736-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
004861736-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
004861736-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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.

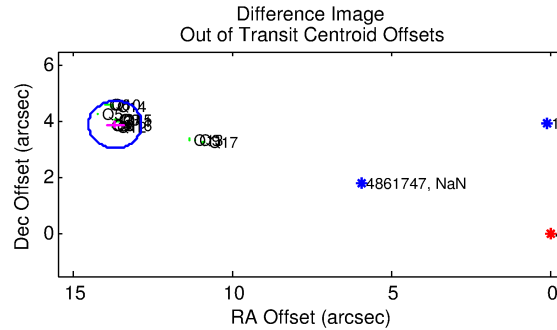
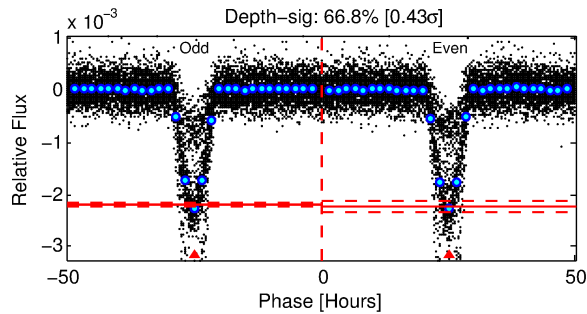
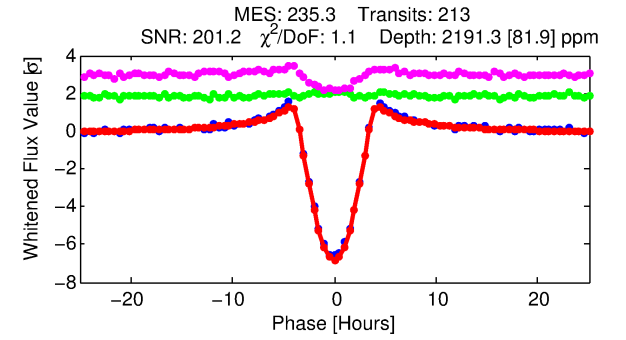
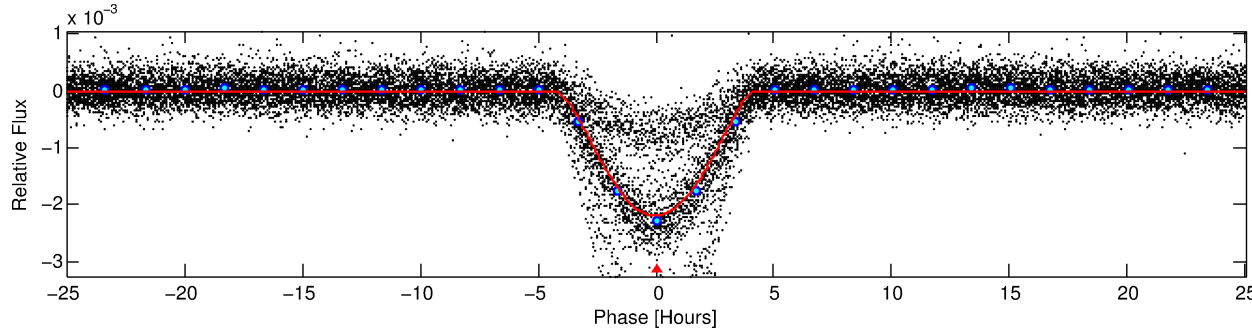
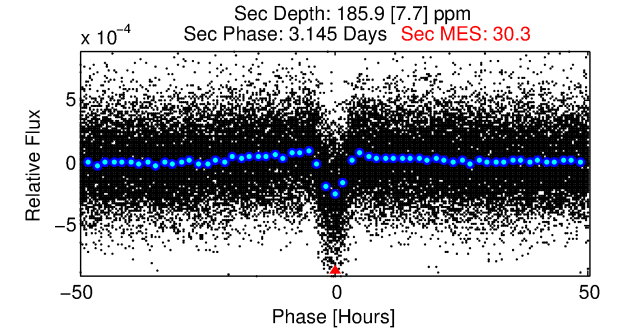
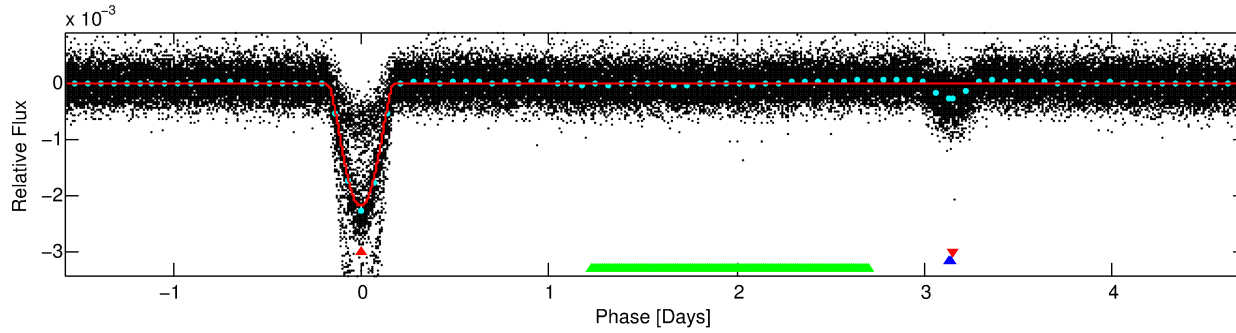
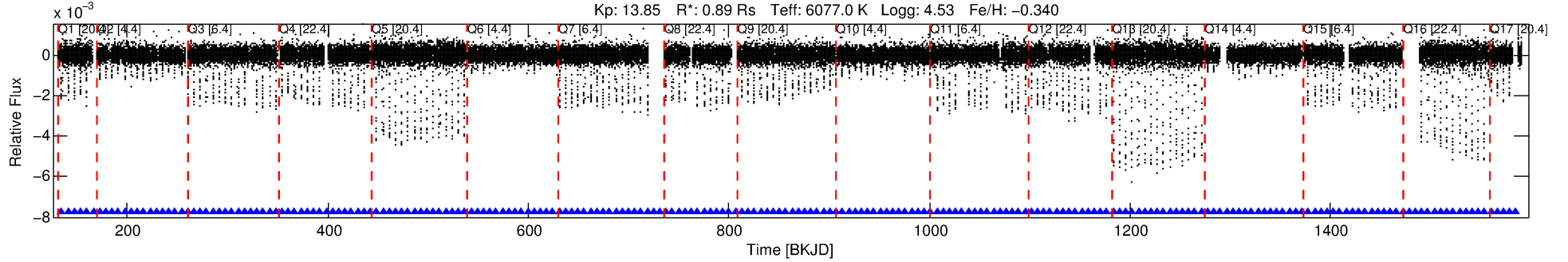
Ephemeris Match Information For 004861736-01

No Significant Match Found

DV One-Page Summary

KIC: 4861736 Candidate: 1 of 3 Period: 6.278 d
KOI: K00634.01 Corr: 0.970

Kp: 13.85 R*: 0.89 Rs Teff: 6077.0 K Logg: 4.53 Fe/H: -0.340



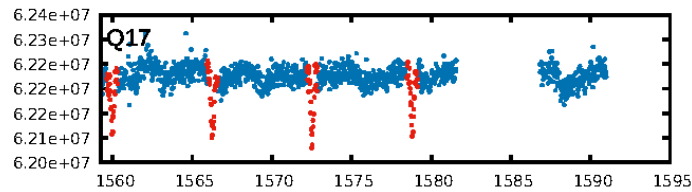
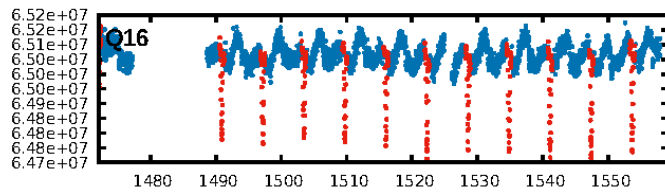
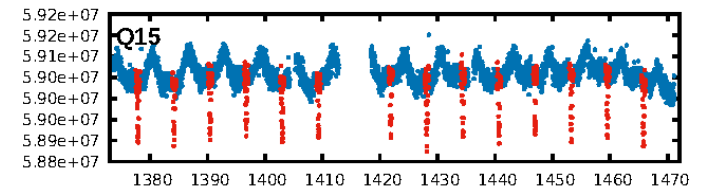
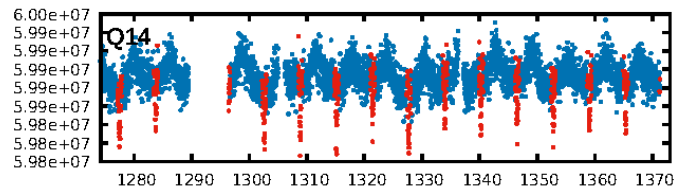
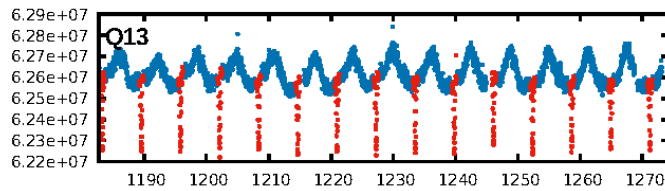
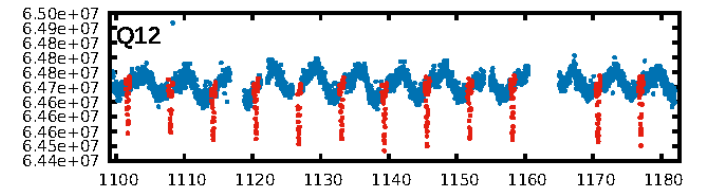
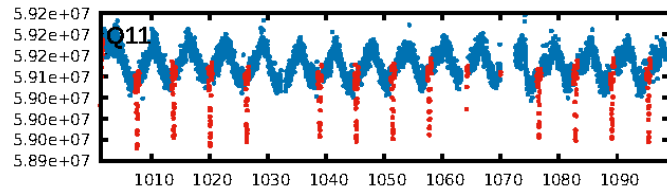
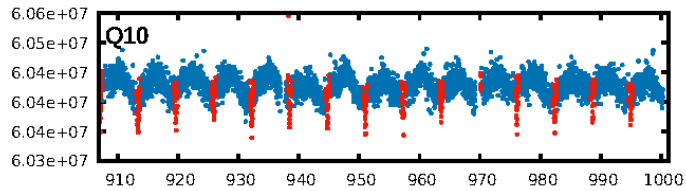
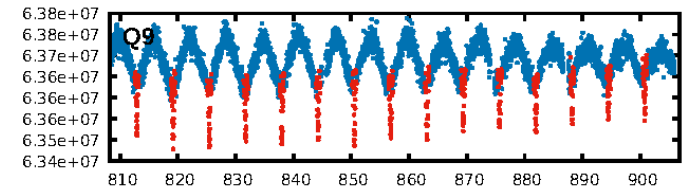
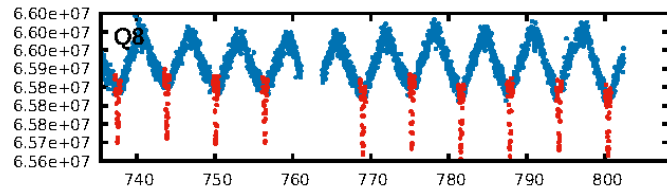
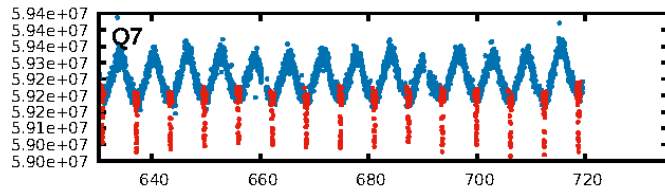
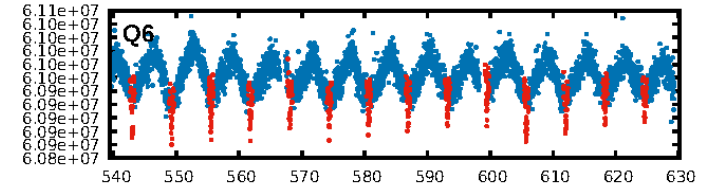
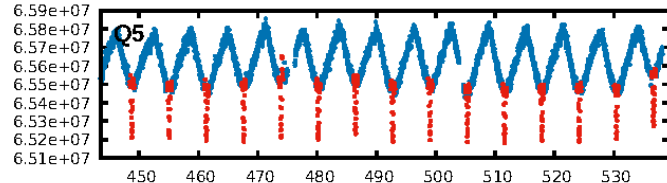
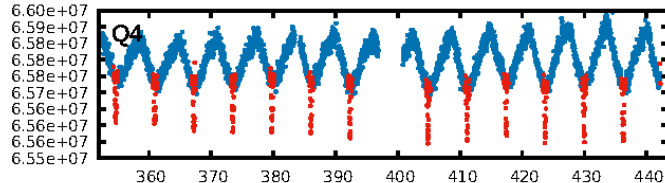
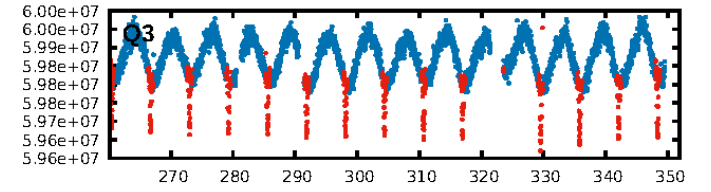
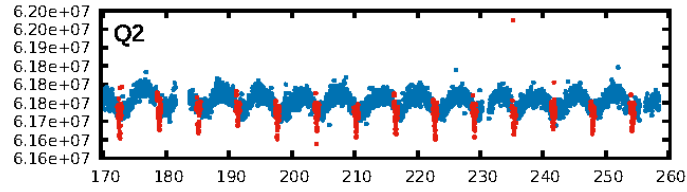
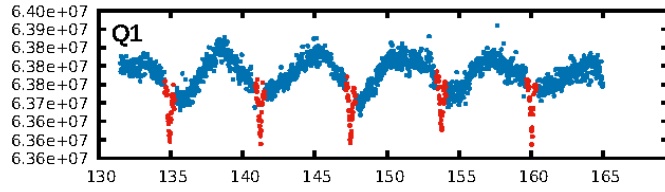
DV Fit Results:

Period = 6.27782 [0.00001] d
Epoch = 134.9117 [0.0007] BKJD
Rp/R* = 0.0799 [0.0111]
a/R* = 2.56 [0.06]
b = 1.00 [0.02]
Seff = 222.75 [89.70]
Teq = 985 [99] K
Rp = 7.77 [2.61] Re
a = 0.0660 [0.0172] AU
Ag = 7.38 [3.51] [1.82σ]
Teff = 2510 [192] K [7.07σ]

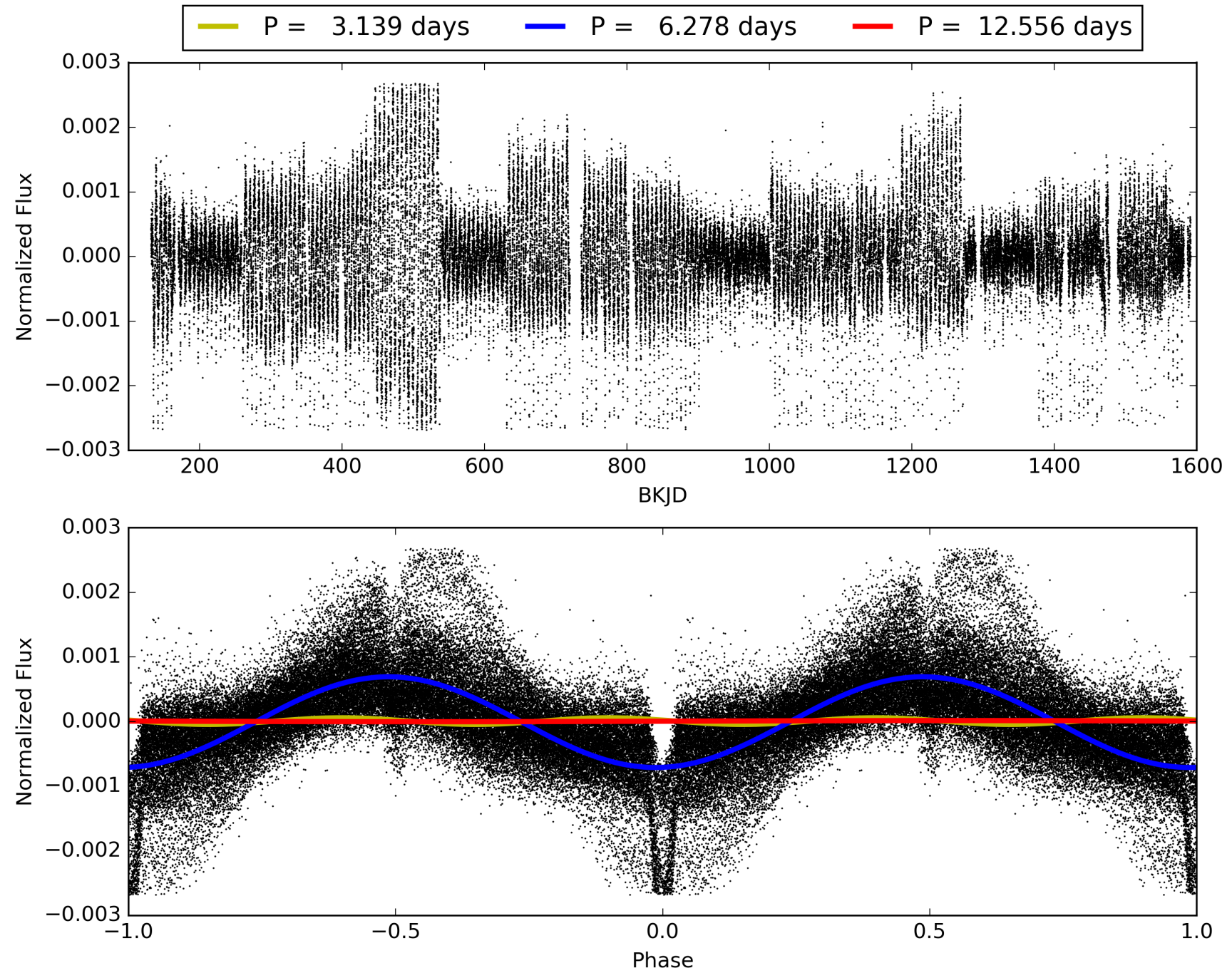
DV Diagnostic Results:

ShortPeriod-sig: 0.6% [0.01σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [204/204]
GhostDiagnostic-chr: 0.1849
Centroid-sig: 0.0%
Centroid-so: 5.898 arcsec [89.45σ]
OotOffset-rm: 14.241 arcsec [50.86σ]
KicOffset-rm: 6.160 arcsec [84.99σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004861736-01, PDC Light Curves

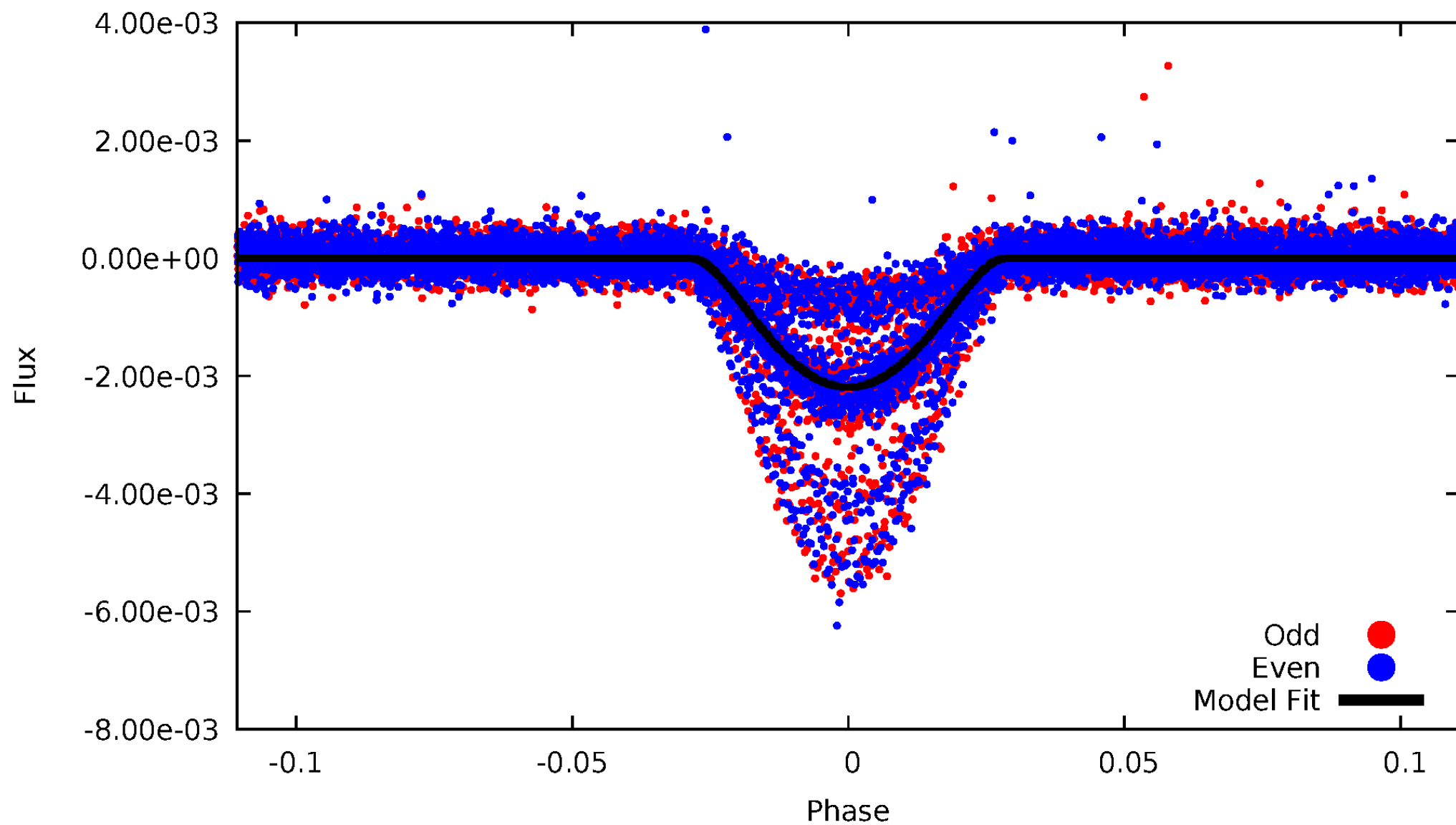


TCE 004861736-01



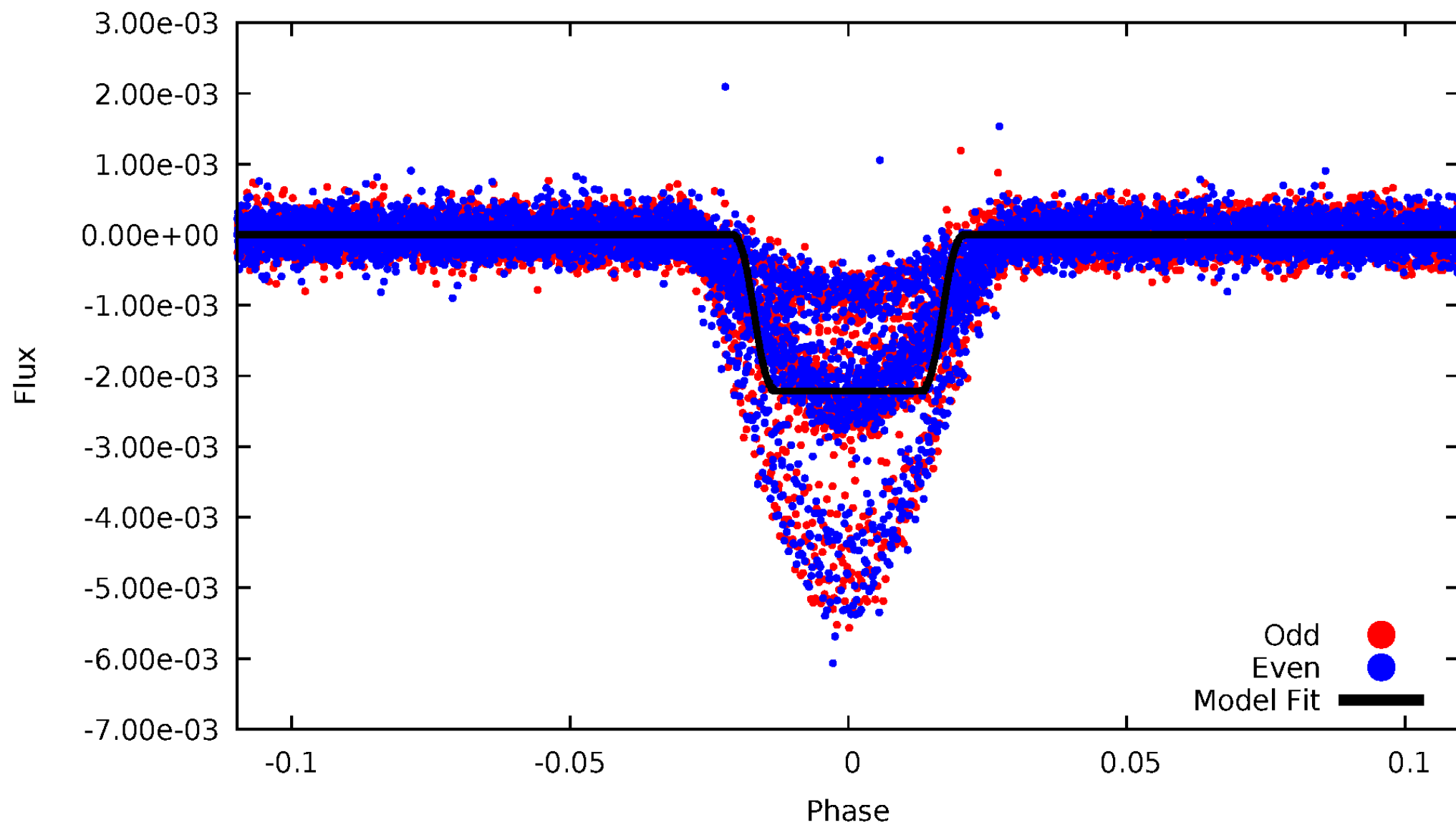
DV Odd/Even

TCE 004861736-01



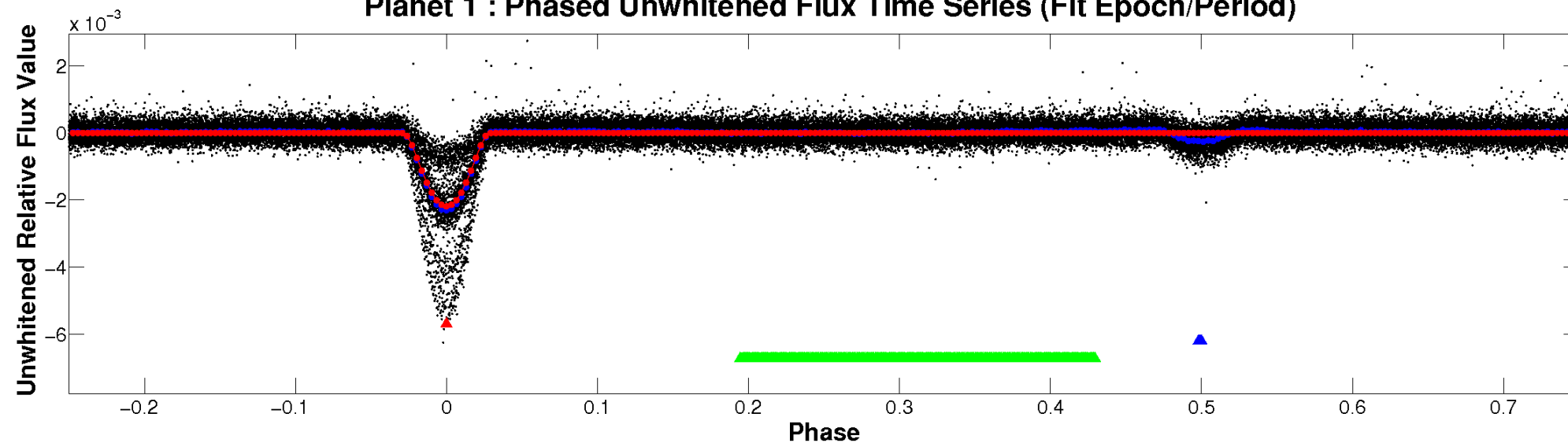
ALT Odd/Even

TCE 004861736-01

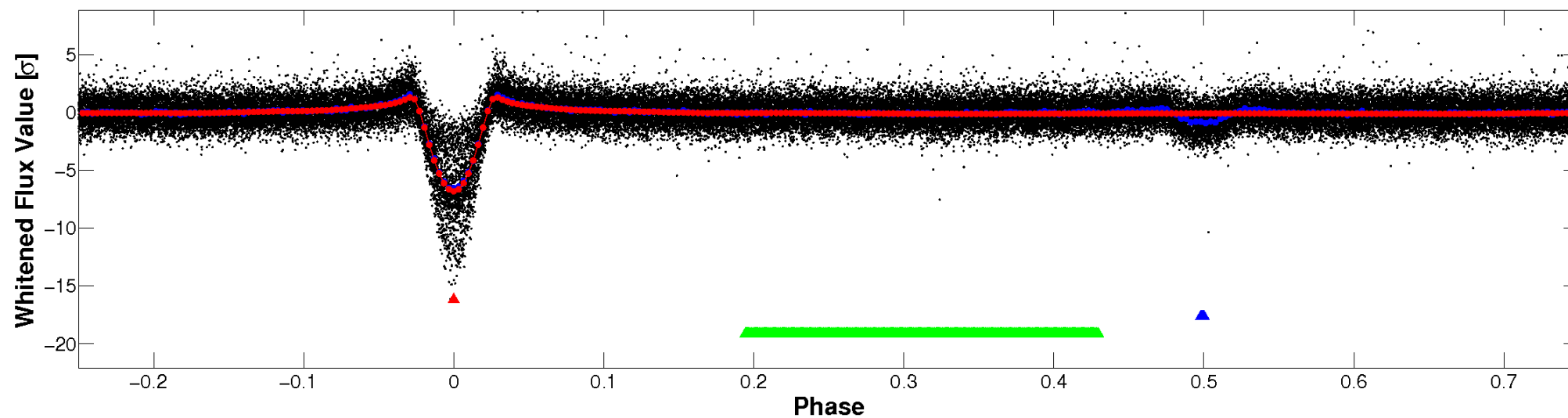


Non-Whitened Vs. Whitened Light Curve

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

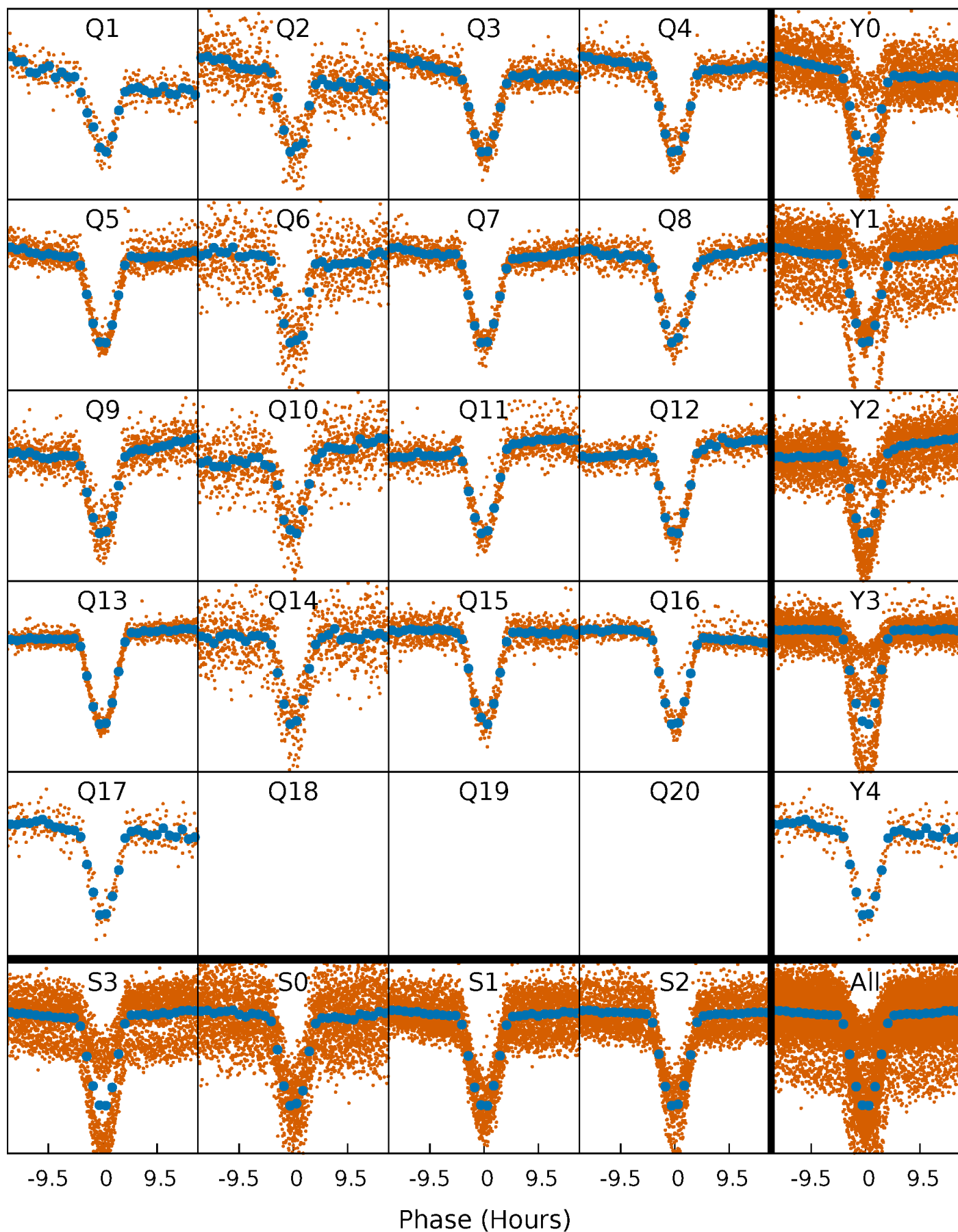


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



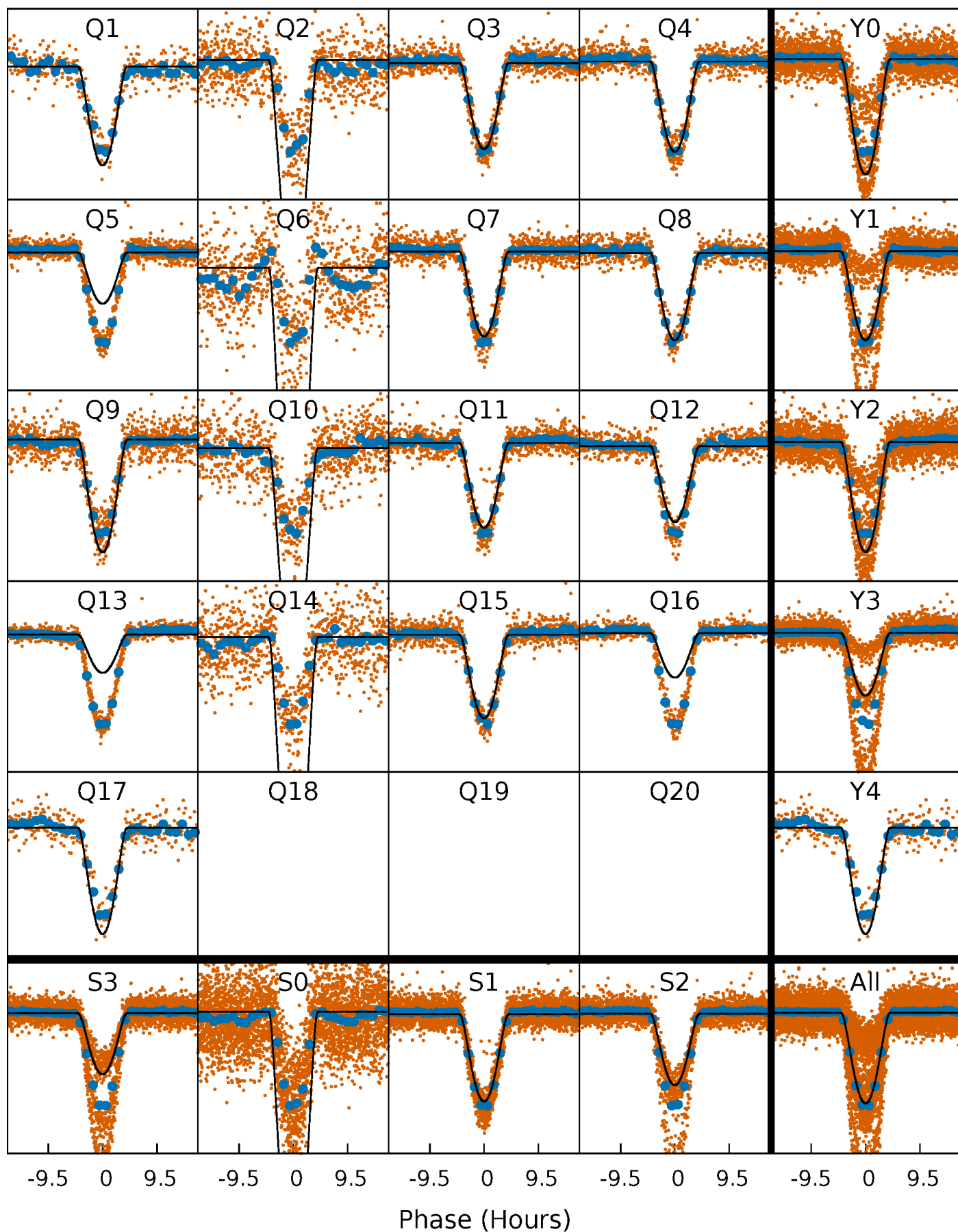
PDC Quarter-Phased Transit Curves

TCE 004861736-01 P= 6.277821 Days $T_0=134.911749$ (BKJD)



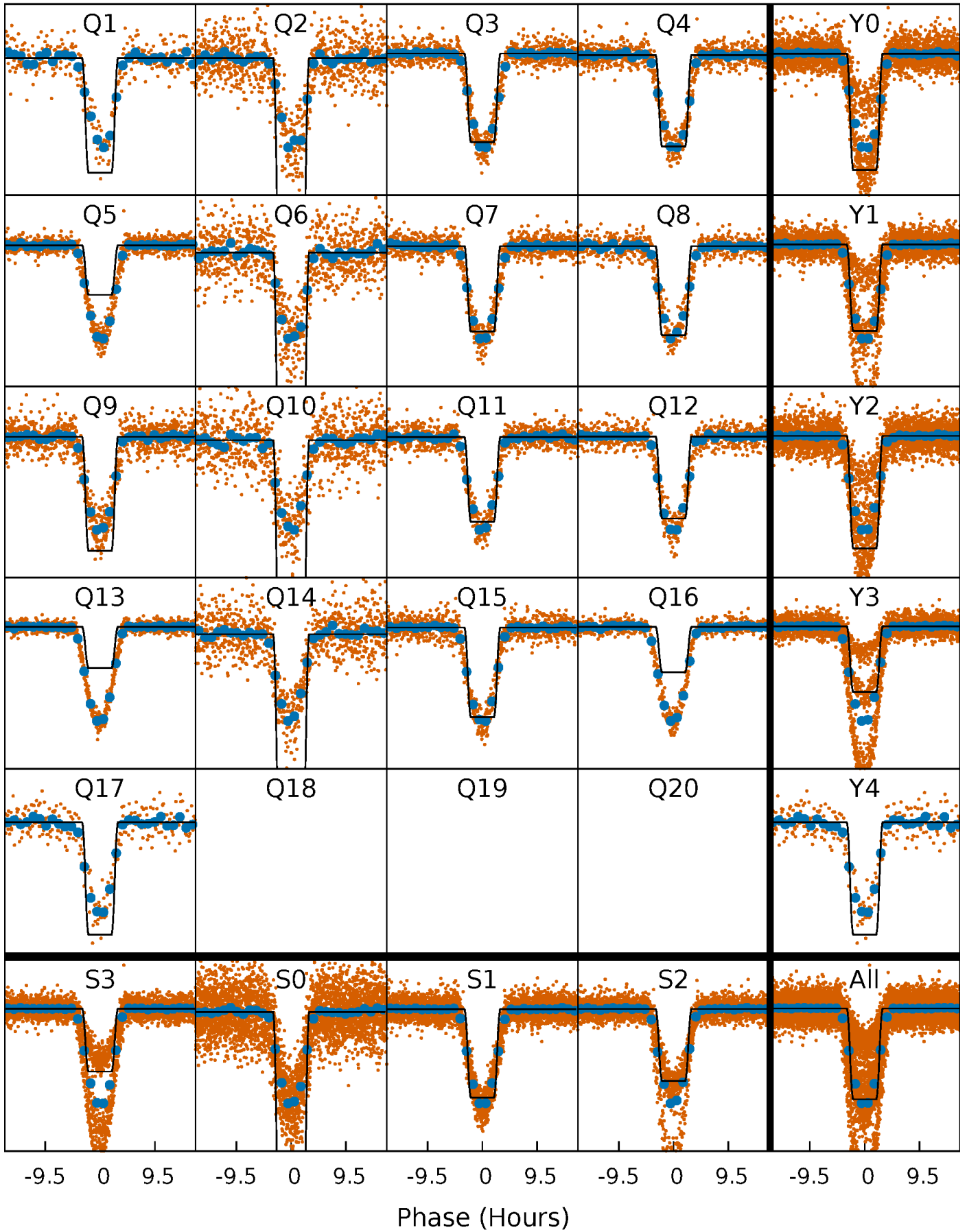
DV Quarter-Phased Transit Curves

TCE 004861736-01 P= 6.277821 Days $T_0=134.911749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

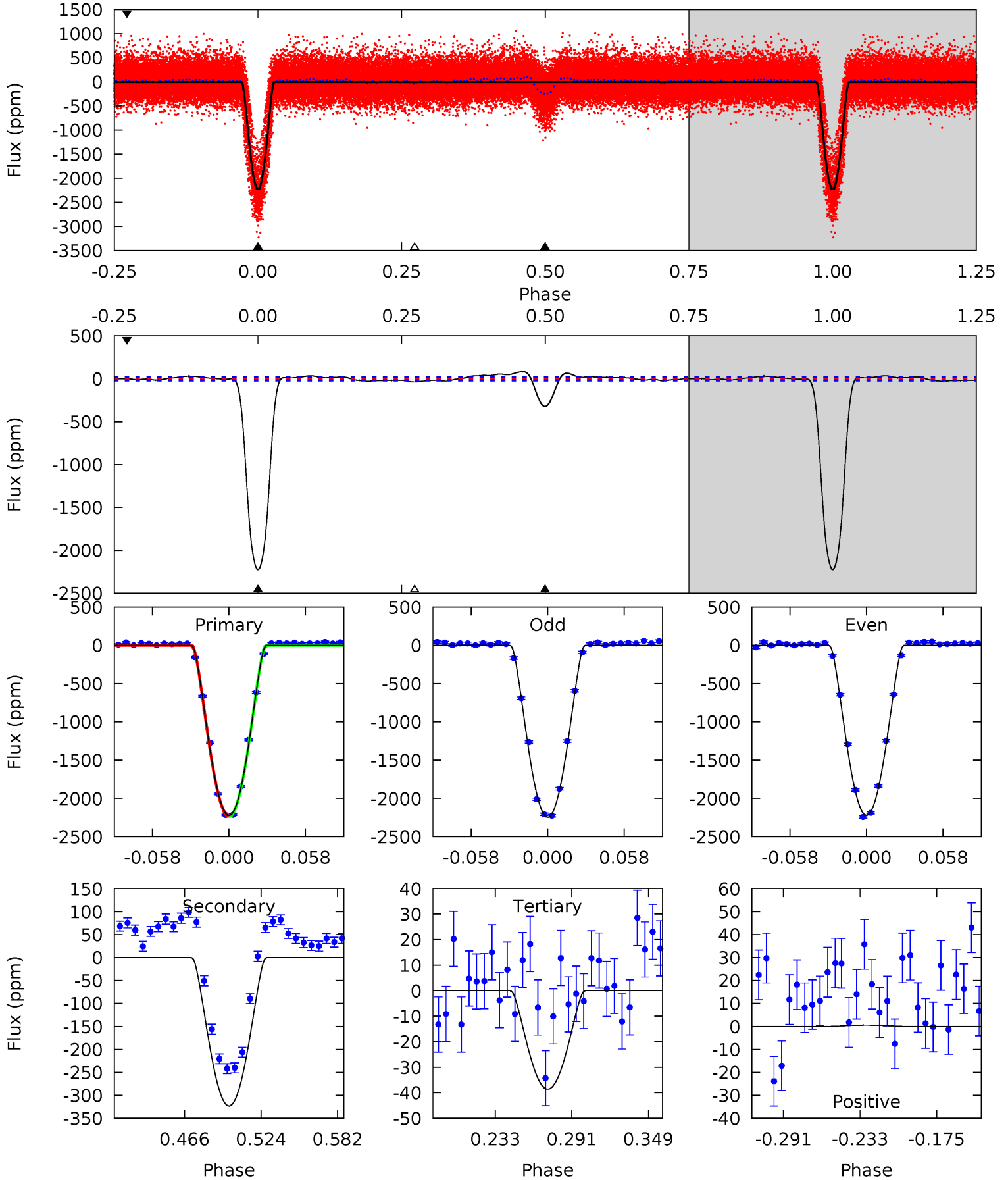
TCE 004861736-01 P= 6.277900 Days $T_0=134.902792$ (BKJD)



DV Model-Shift Uniqueness Test

004861736-01, P = 6.277821 Days, E = 128.633928 Days

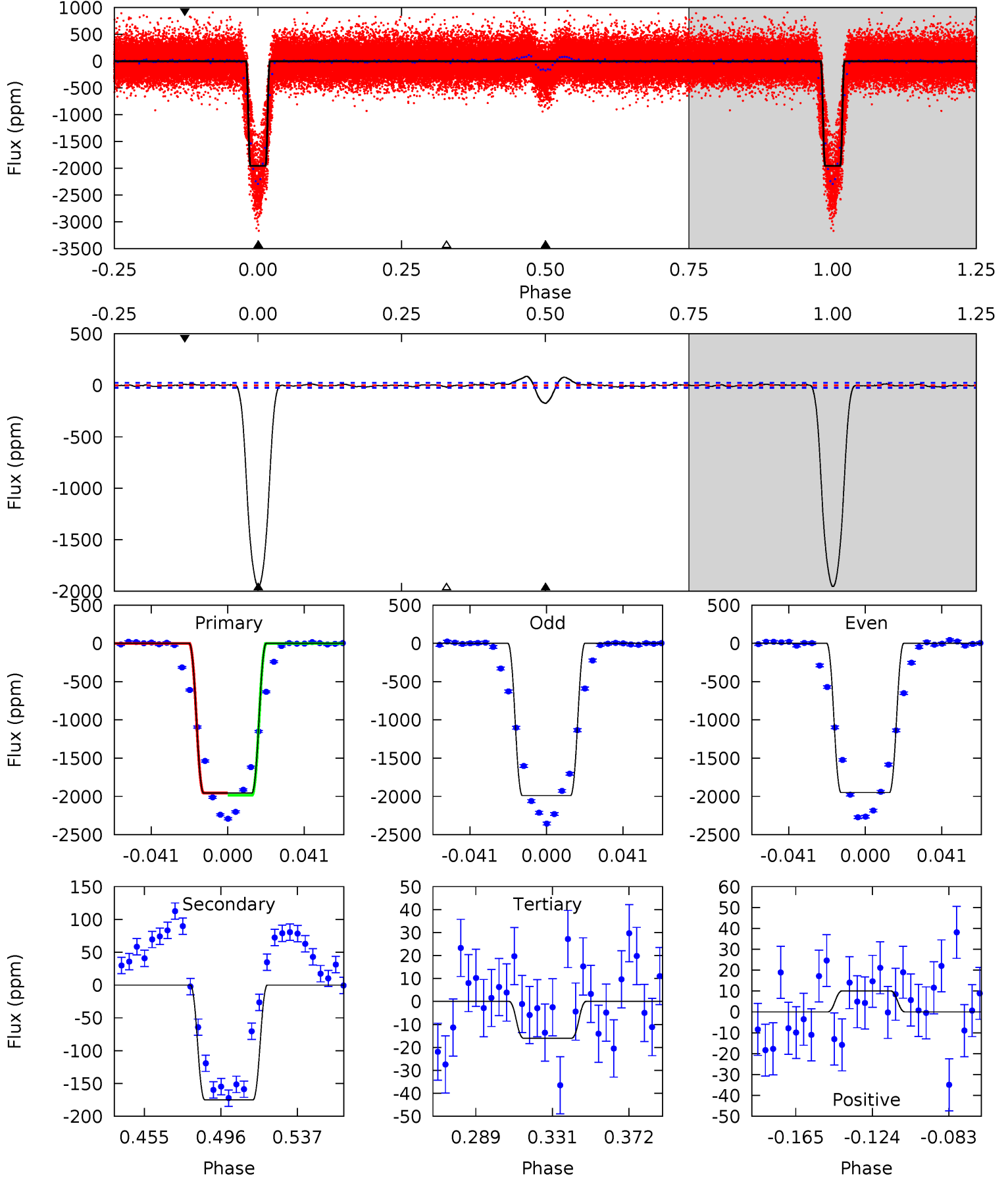
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
521.4	75.8	9.05	0.12	4.68	1.89	4.98	512.3	521.3	66.7	75.6	3.07	1.01	0.04	0.42



Alt Model-Shift Uniqueness Test

004861736-01, P = 6.277900 Days, E = 128.624892 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
384.4	34.4	3.14	1.98	4.75	2.04	2.15	381.2	382.4	31.2	32.4	3.75	1.03	0.04	0



Stellar Parameters For KIC 004861736

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+164}_{-183}	$4.526^{+0.038}_{-0.212}$	$-0.340^{+0.300}_{-0.300}$	$0.891^{+0.273}_{-0.091}$	$0.974^{+0.118}_{-0.130}$	$1.936^{+0.401}_{-1.022}$
	+3%/-3%	+1%/-5%	+88%/-88%	+31%/-10%	+12%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004861736-01 / KOI 0634.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-323 ± 4	$8.13^{+1.77}_{-1.38}$	1412^{+107}_{-62}	3395^{+176}_{-155}	11^{+5}_{-3}
Alt.	-175 ± 5	$4.84^{+1.39}_{-1.26}$	1421^{+95}_{-67}	3645^{+385}_{-252}	17^{+16}_{-6}

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

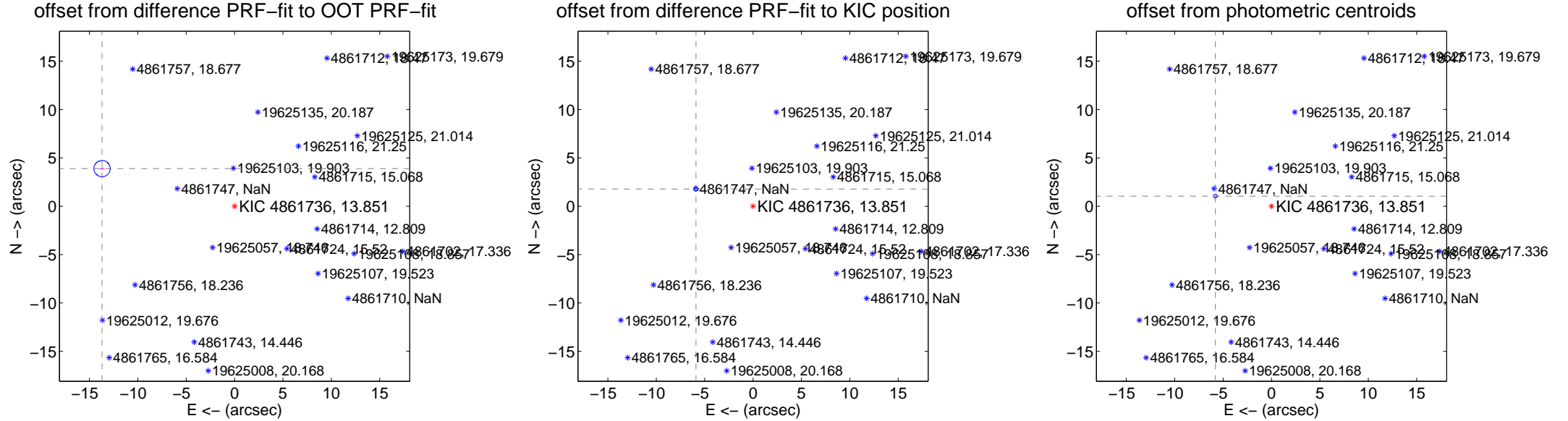
DV Centroid Data

Supplemental centroid analysis for 004861736-01. Kepler magnitude: 13.85. Transit SNR 201.24

There are 16 quarters with good PRF difference image offsets

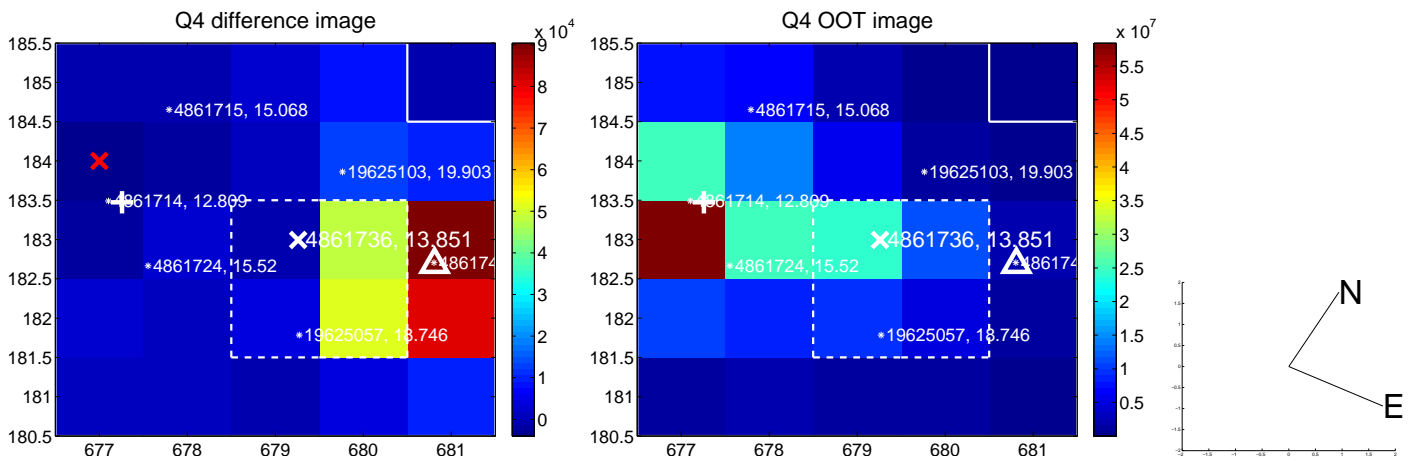
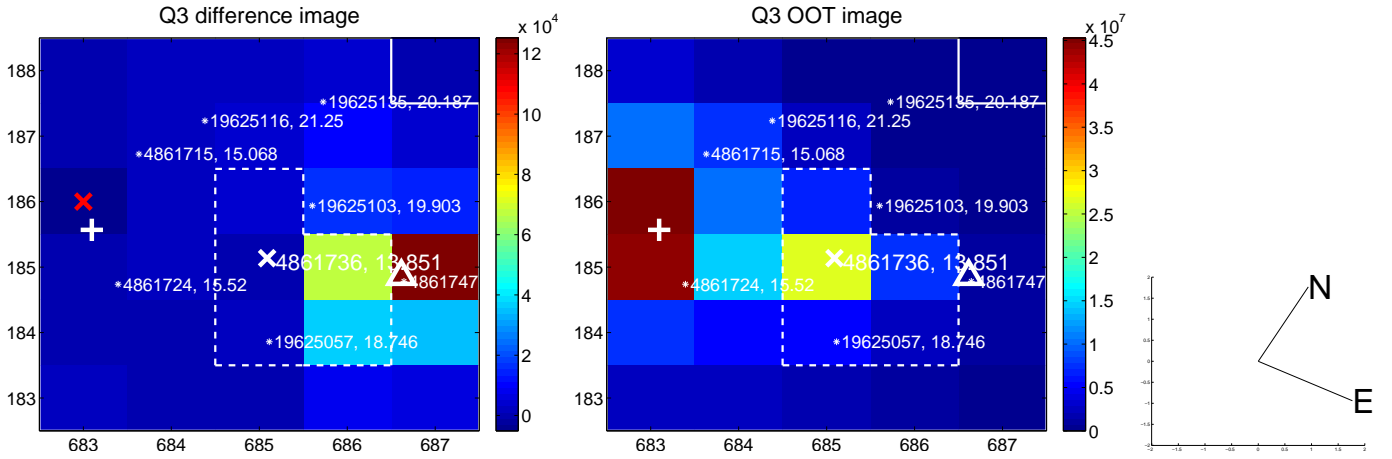
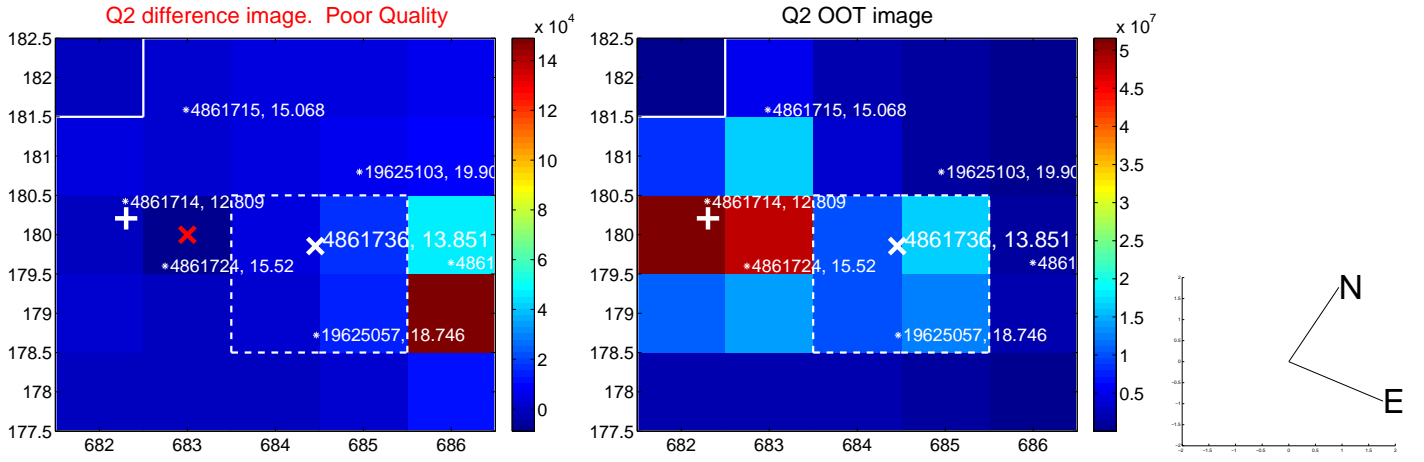
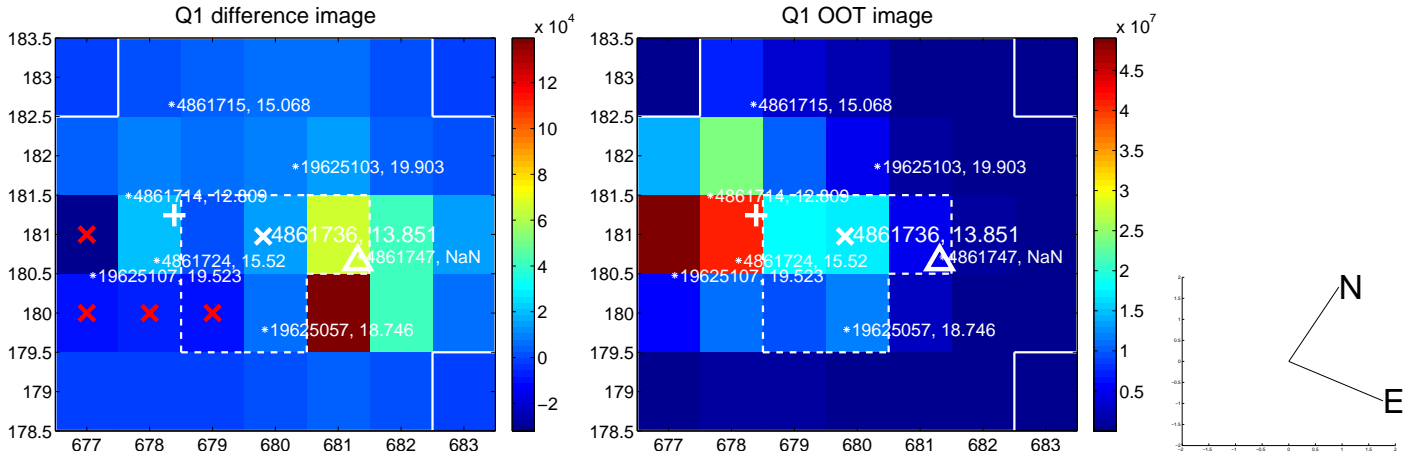
The OOT PRF centroid is offset from the target star catalog position by about 5.30 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	14.241 \pm 0.280	50.86	13.699 \pm 0.267	3.893 \pm 0.124
PRF-fit source offset from KIC position	6.160 \pm 0.072	84.99	5.898 \pm 0.072	1.776 \pm 0.070
photometric centroid source offset	5.90 \pm 0.07	89.45	5.81 \pm 0.07	1.04 \pm 0.03

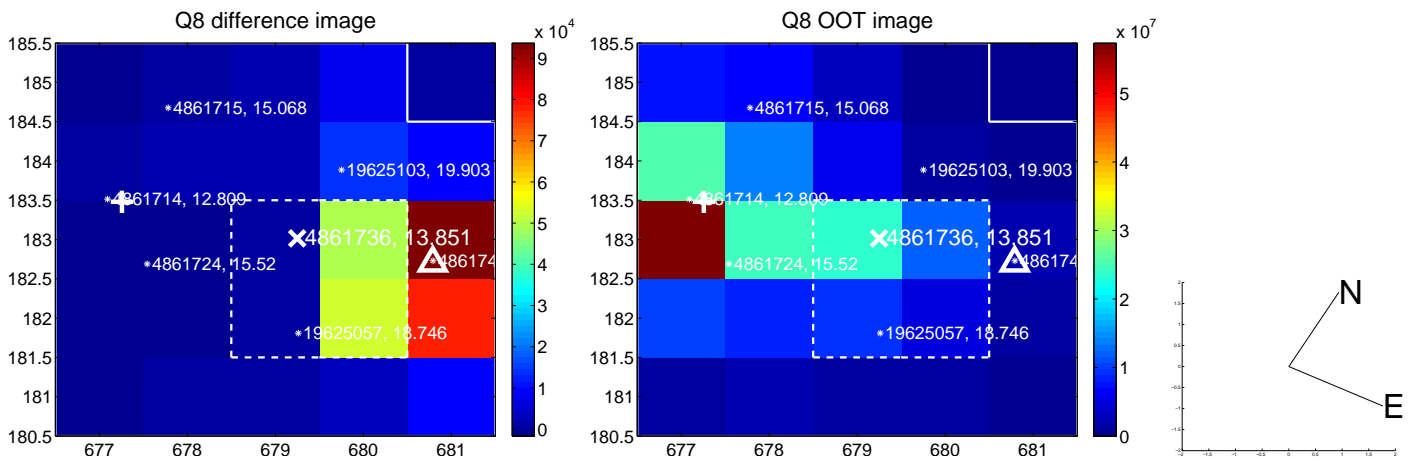
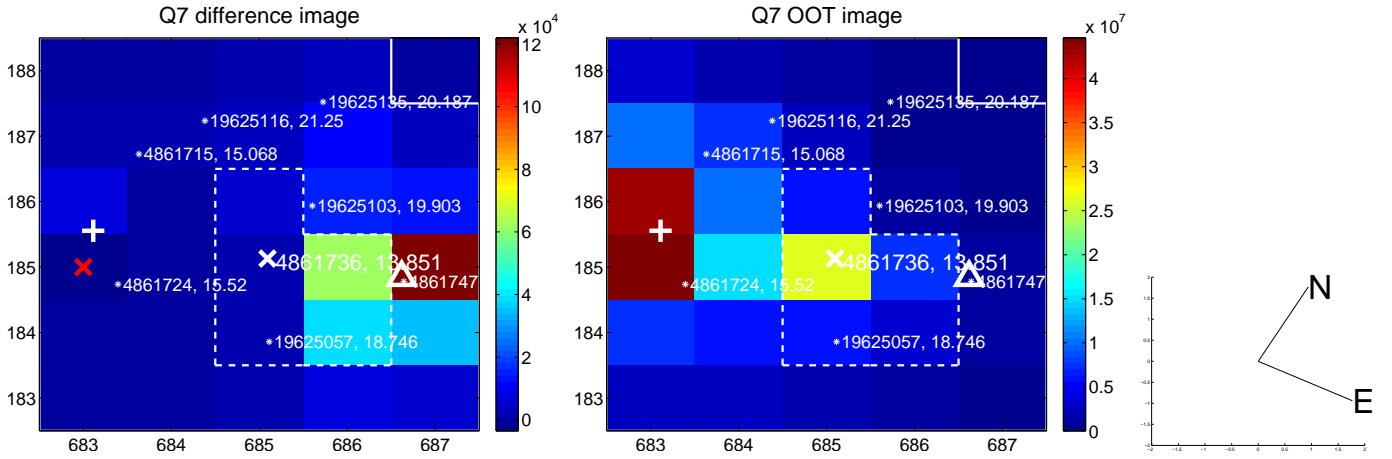
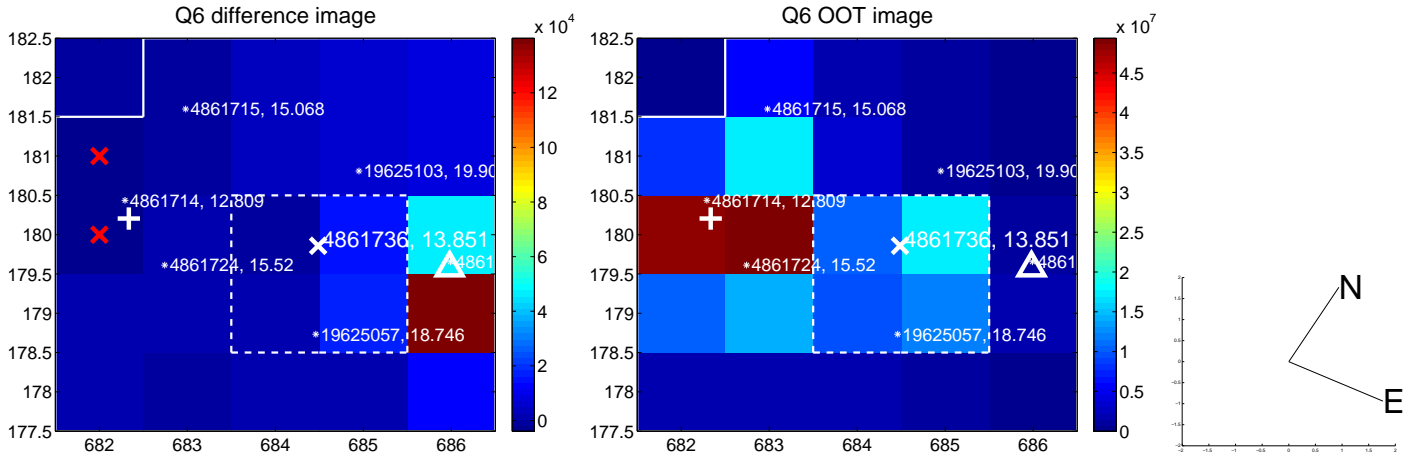
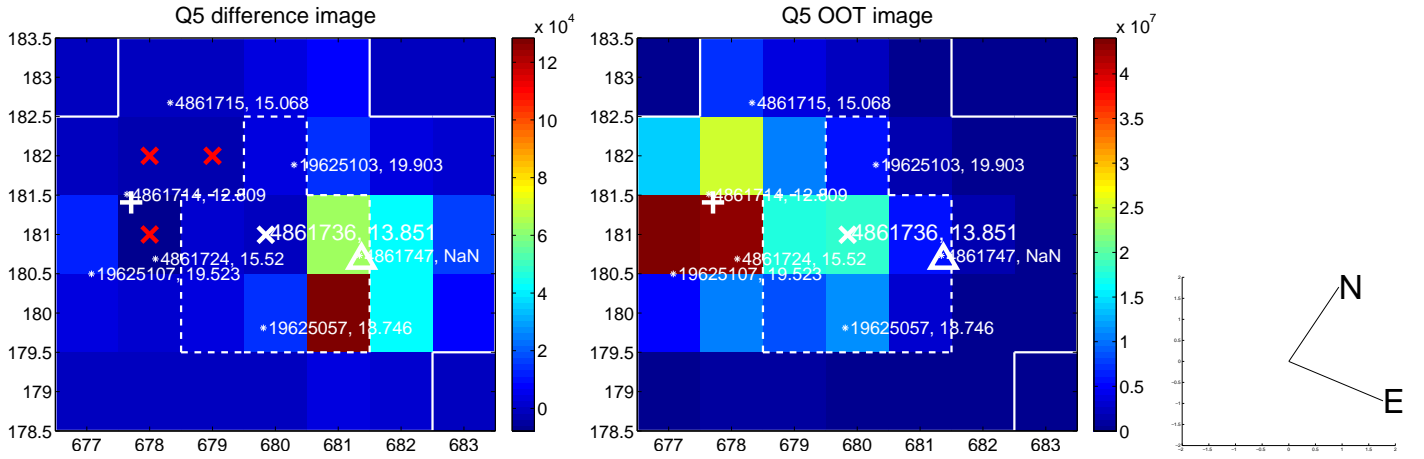


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

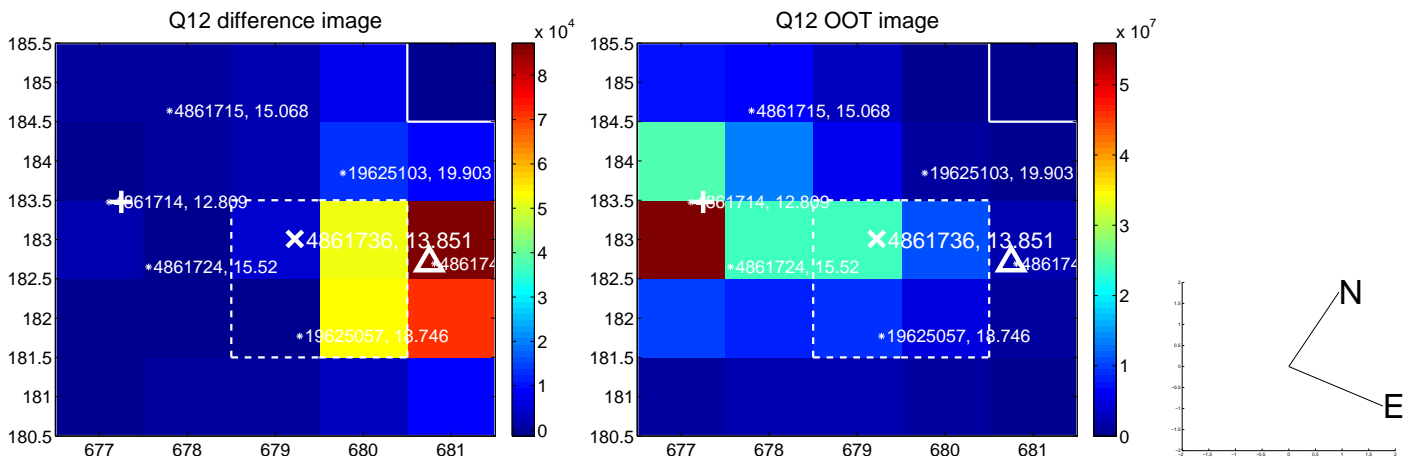
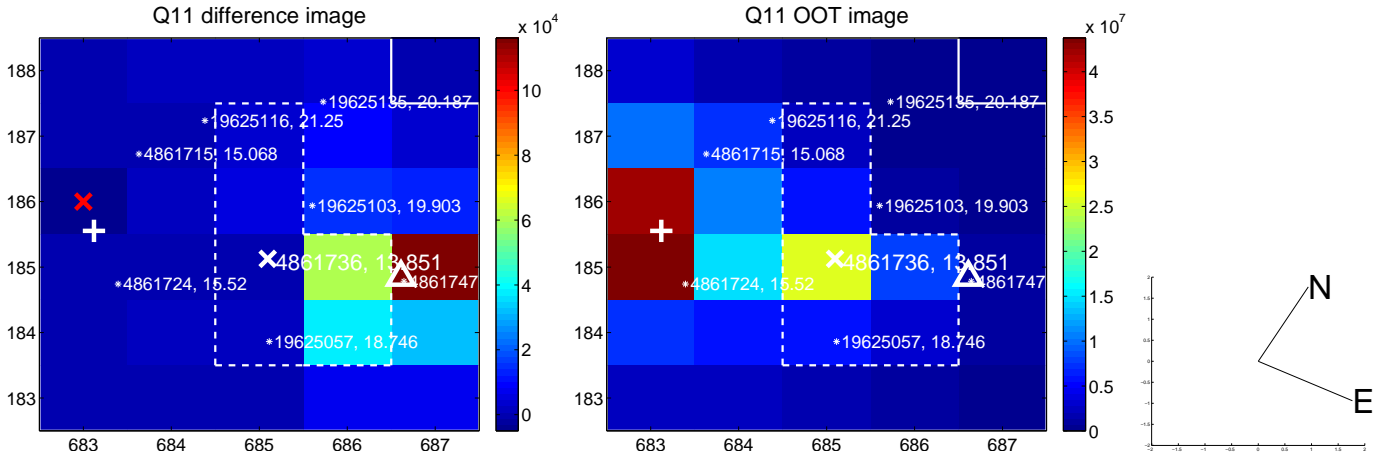
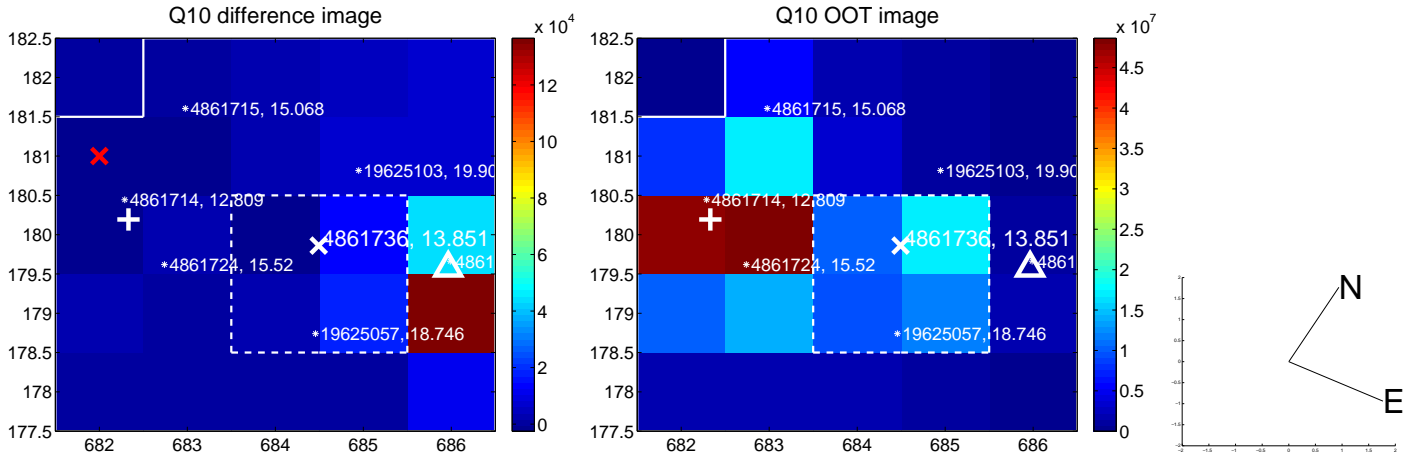
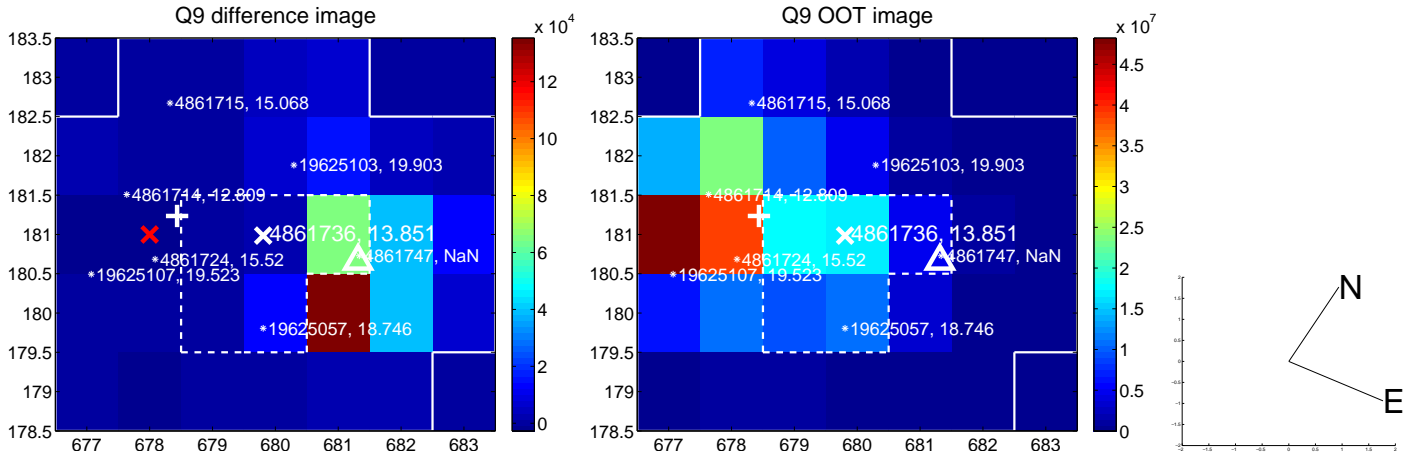
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



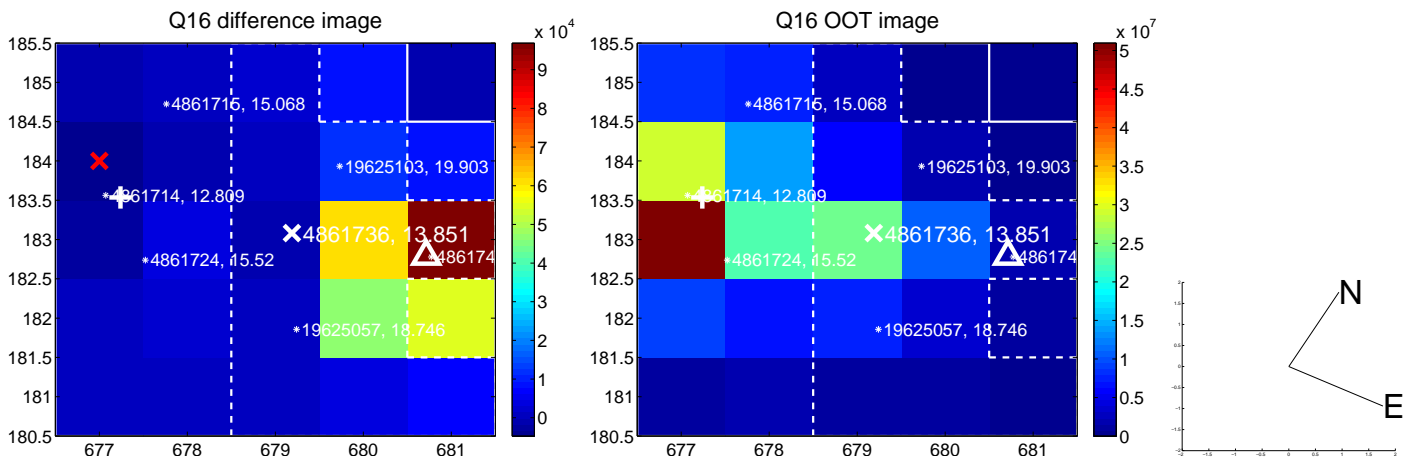
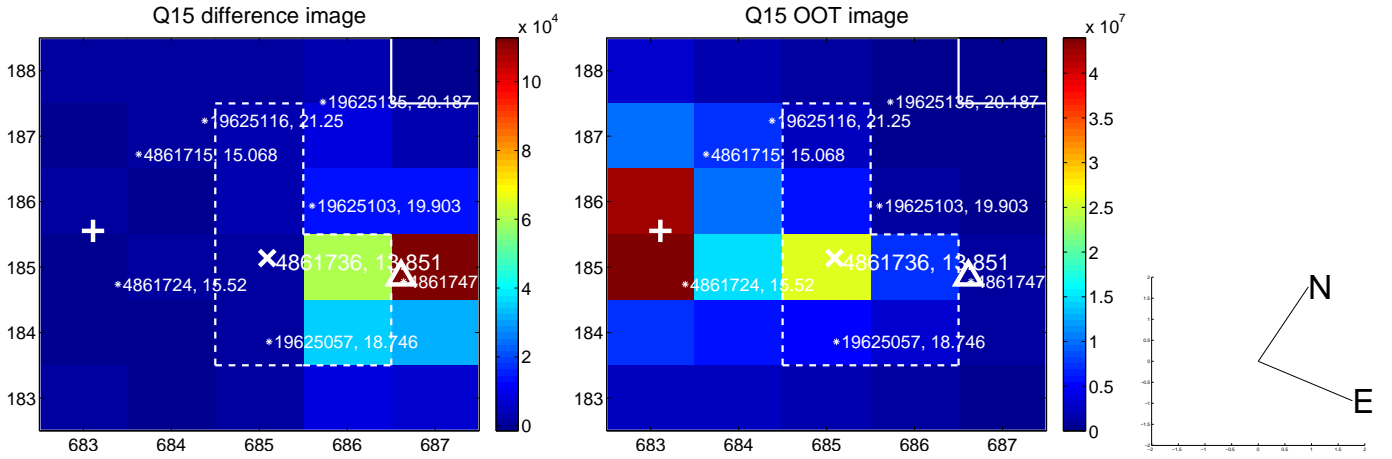
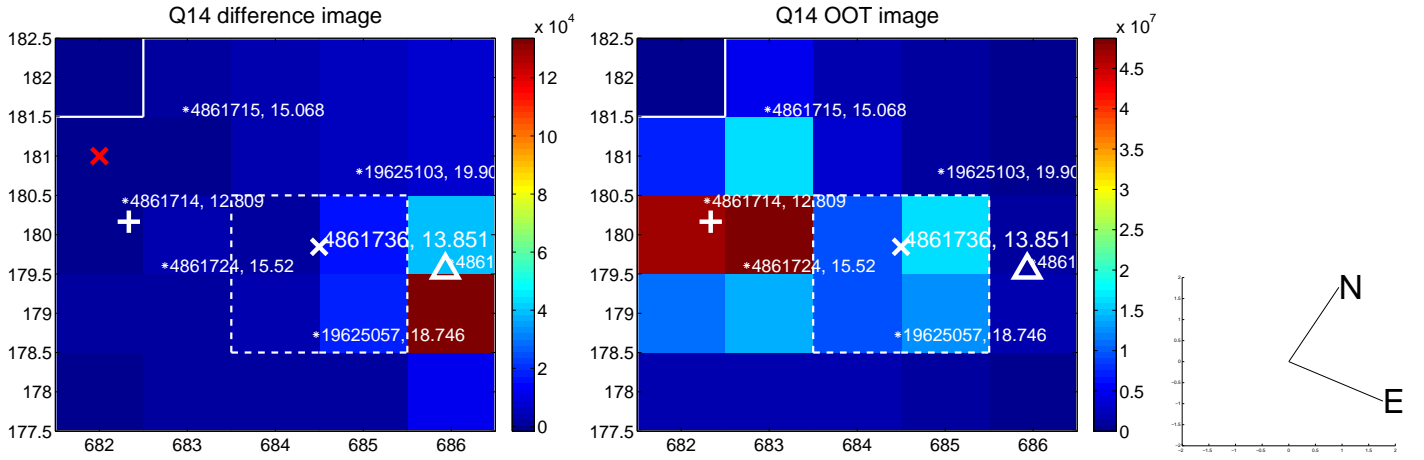
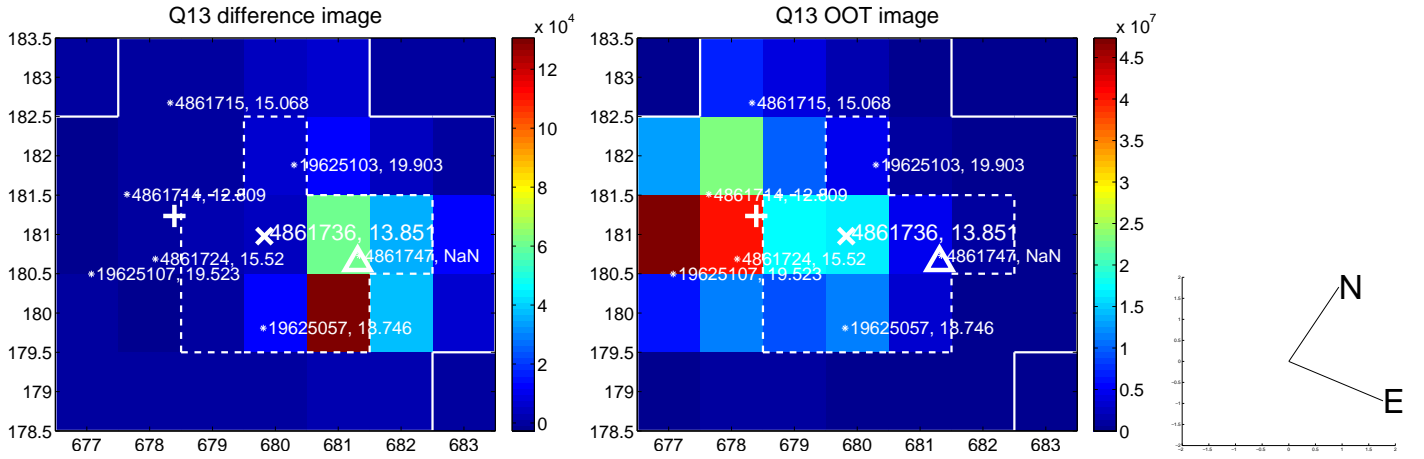
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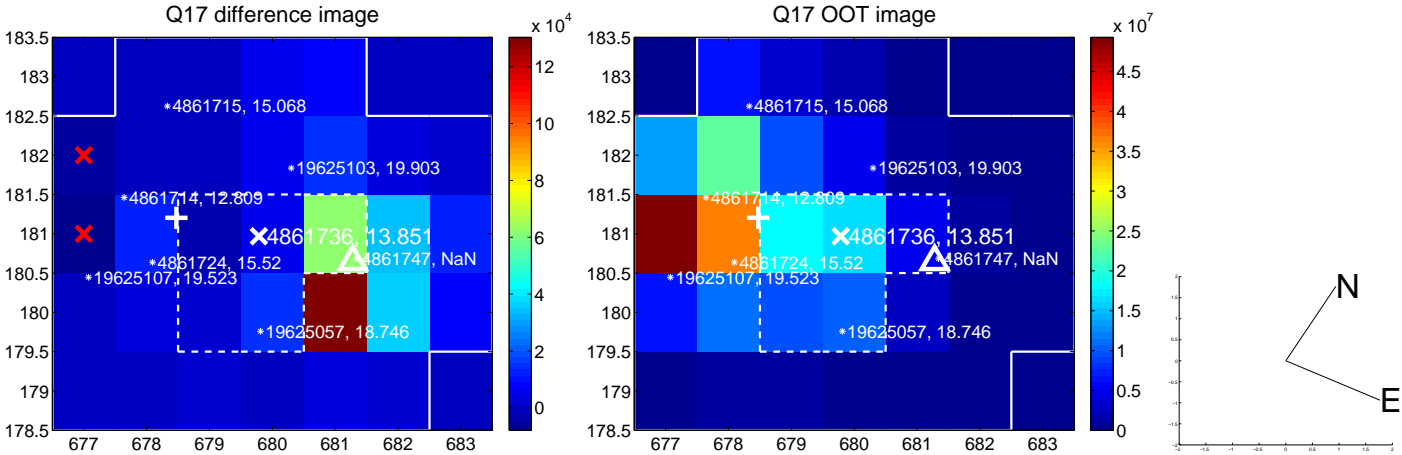
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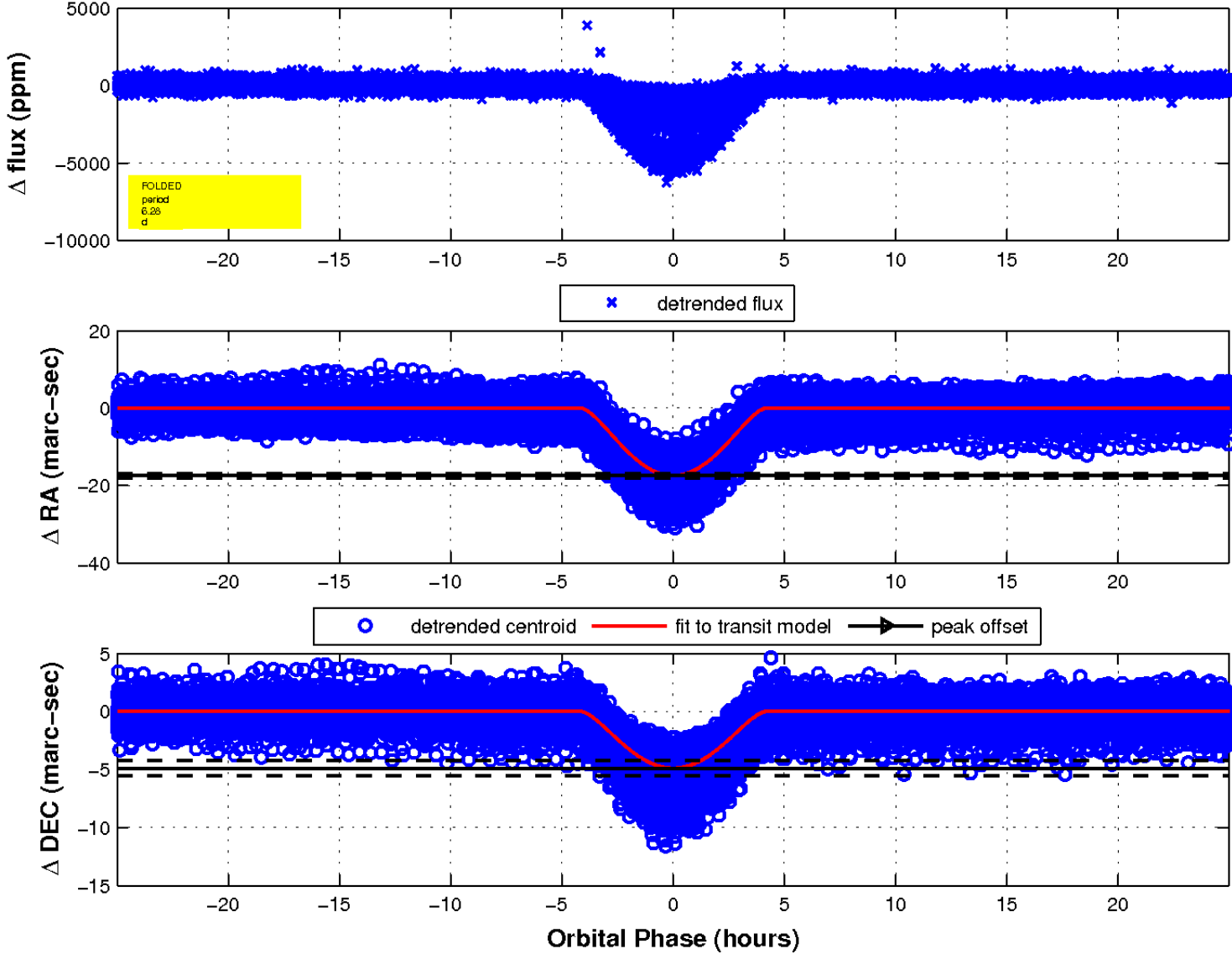
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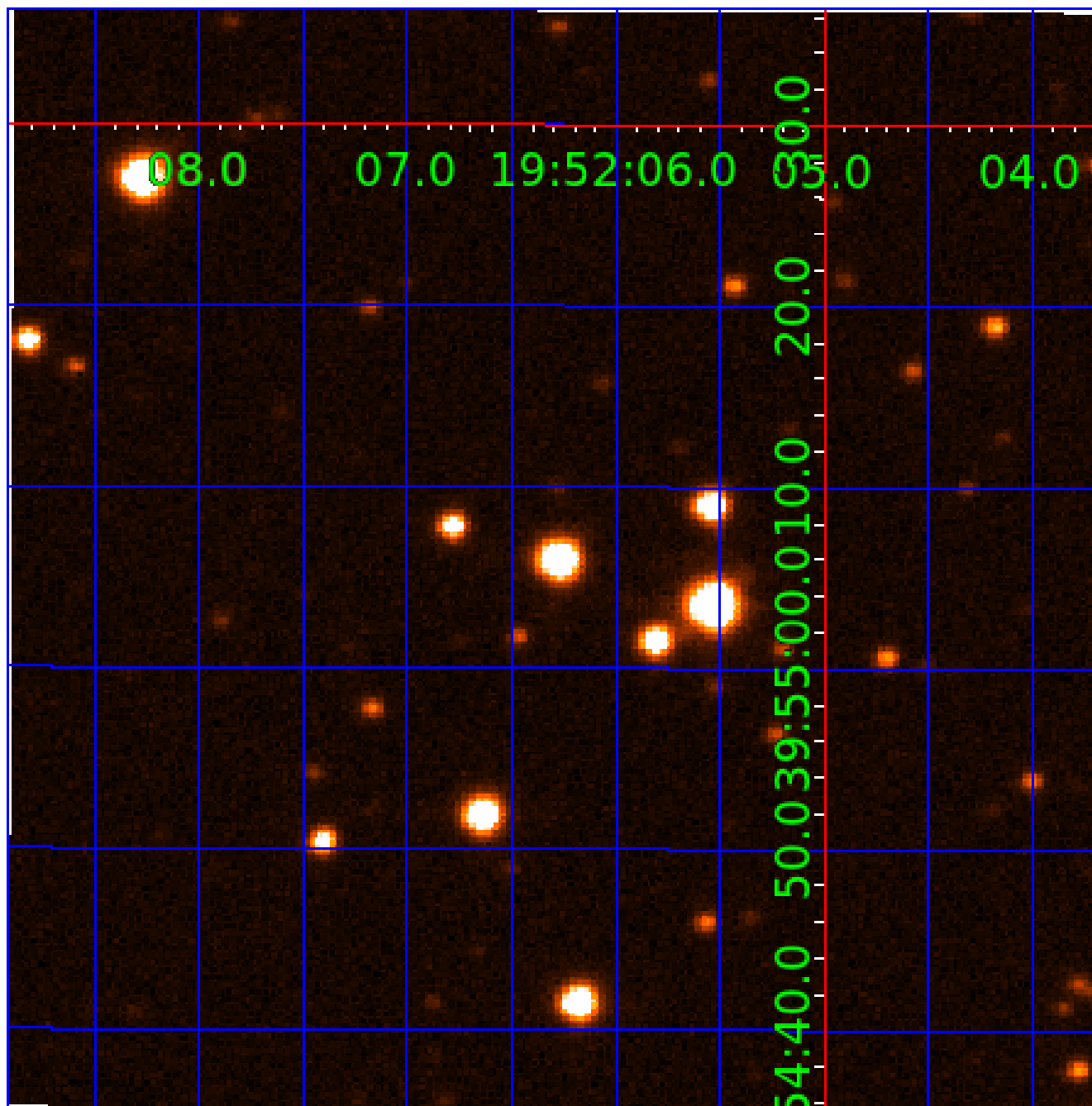


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 004861736

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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Robovetter Results

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

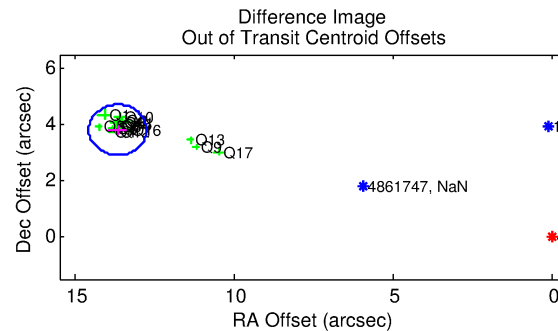
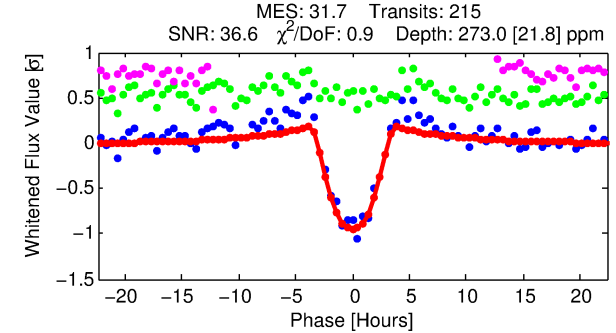
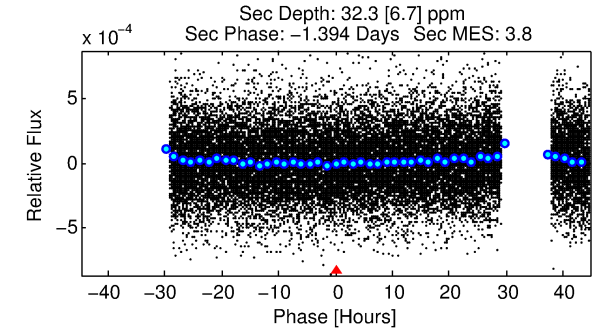
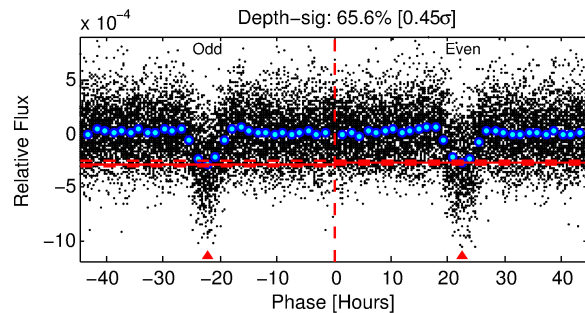
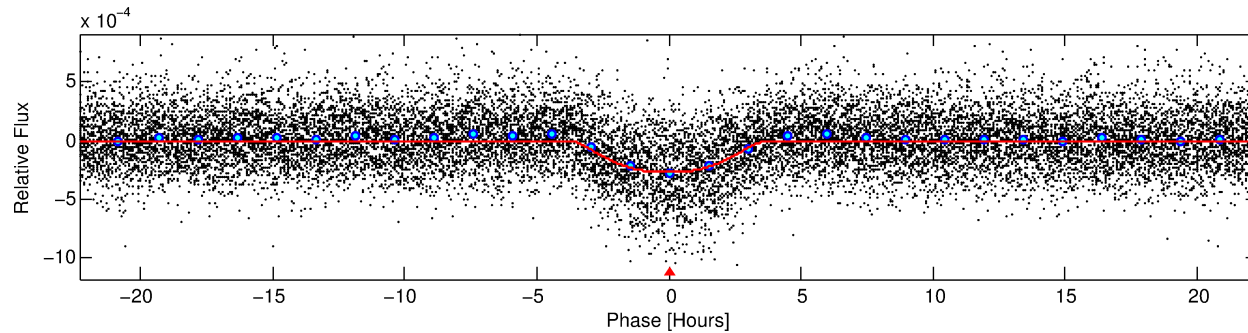
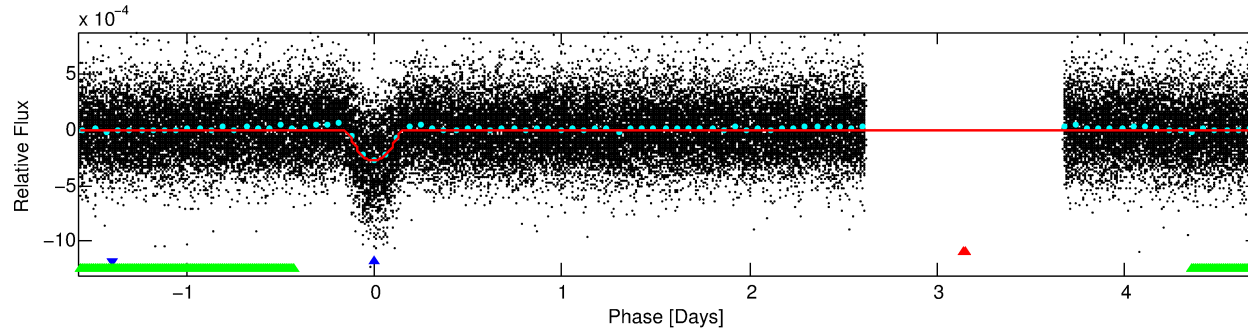
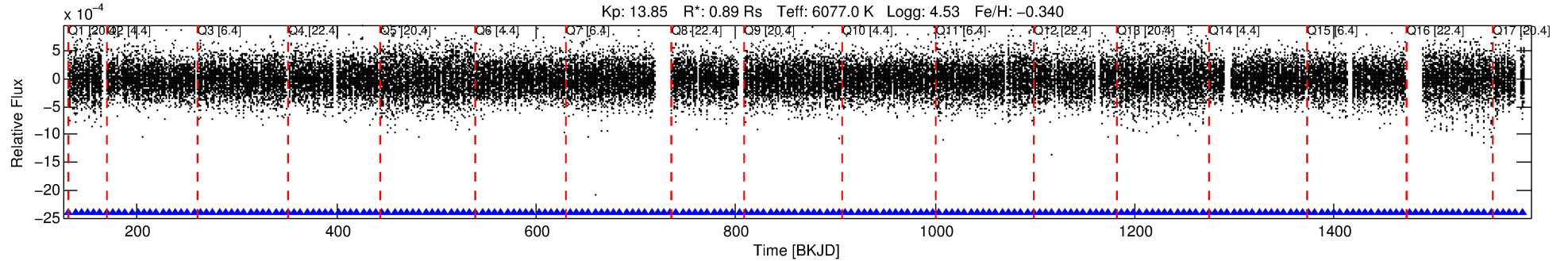
Ephemeris Match Information For 004861736-02

No Significant Match Found

DV One-Page Summary

KIC: 4861736 Candidate: 2 of 3 Period: 6.278 d
KOI: K00634 Corr: No Ephemeris Match

Kp: 13.85 R*: 0.89 Rs Teff: 6077.0 K Logg: 4.53 Fe/H: -0.340



DV Fit Results:

Period = 6.27788 [0.00003] d
Epoch = 131.7607 [0.0041] BKJD
Rp/R* = 0.0207 [0.0015]
a/R* = 2.07 [0.10]
b = 0.98 [0.00]
Seff = 222.75 [89.69]
Teq = 985 [99] K
Rp = 2.01 [0.63] Re
a = 0.0660 [0.0172] AU
Ag = 19.08 [8.75] [2.07σ]
Teff = 3183 [221] K [9.07σ]

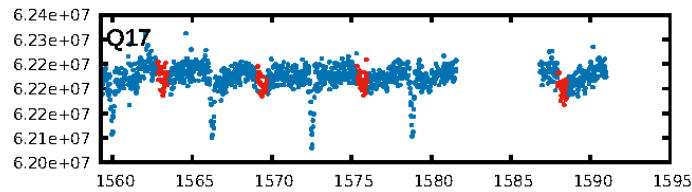
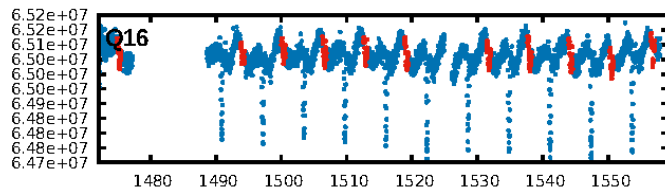
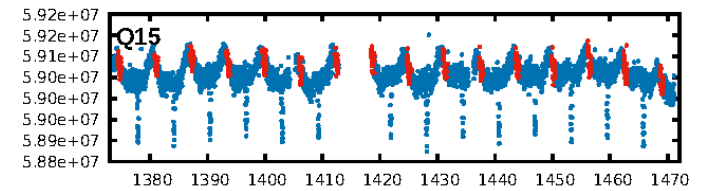
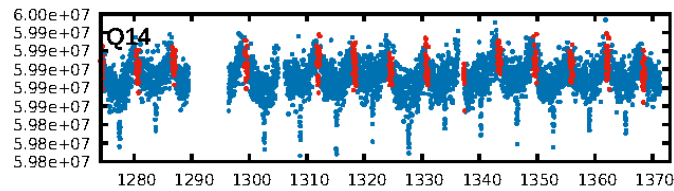
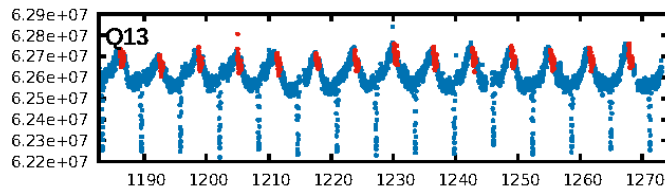
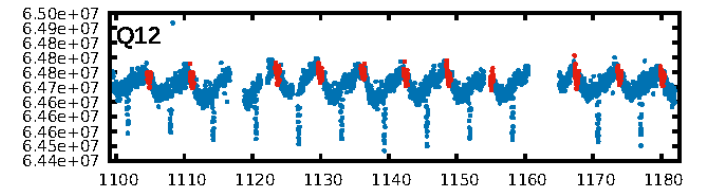
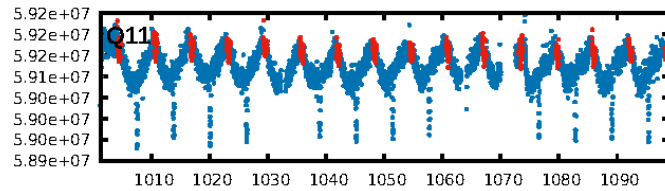
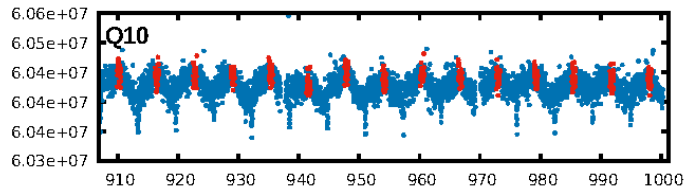
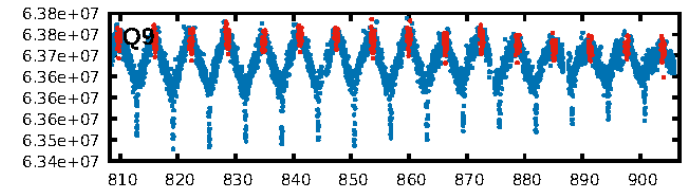
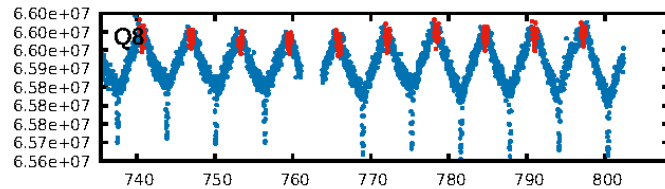
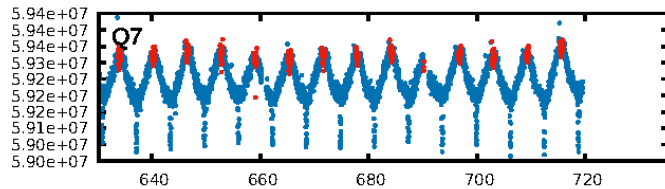
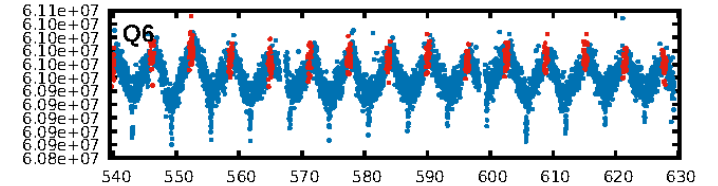
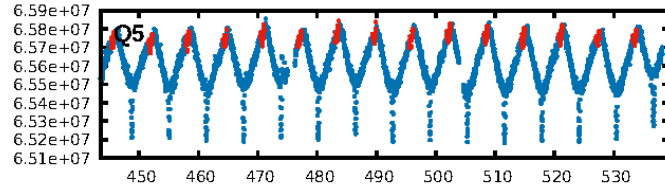
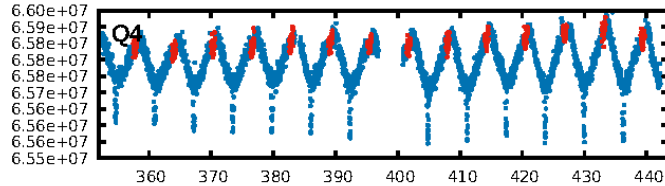
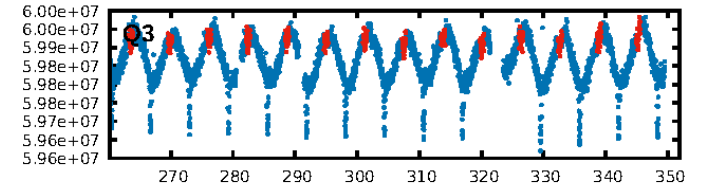
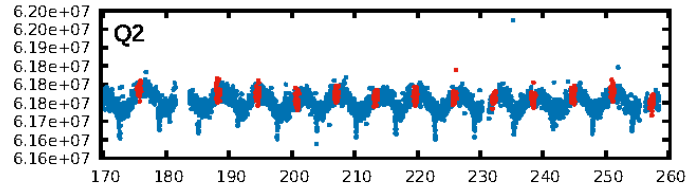
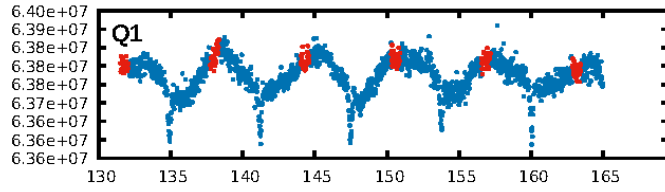
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.52e-164
RollingBand-fgt: 1.00 [205/205]
GhostDiagnostic-chr: 0.2262
Centroid-sig: 0.0%
Centroid-so: 5.353 arcsec [11.10σ]
OotOffset-rm: 14.196 arcsec [46.99σ]
KicOffset-rm: 6.097 arcsec [64.21σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.65 [11/17]

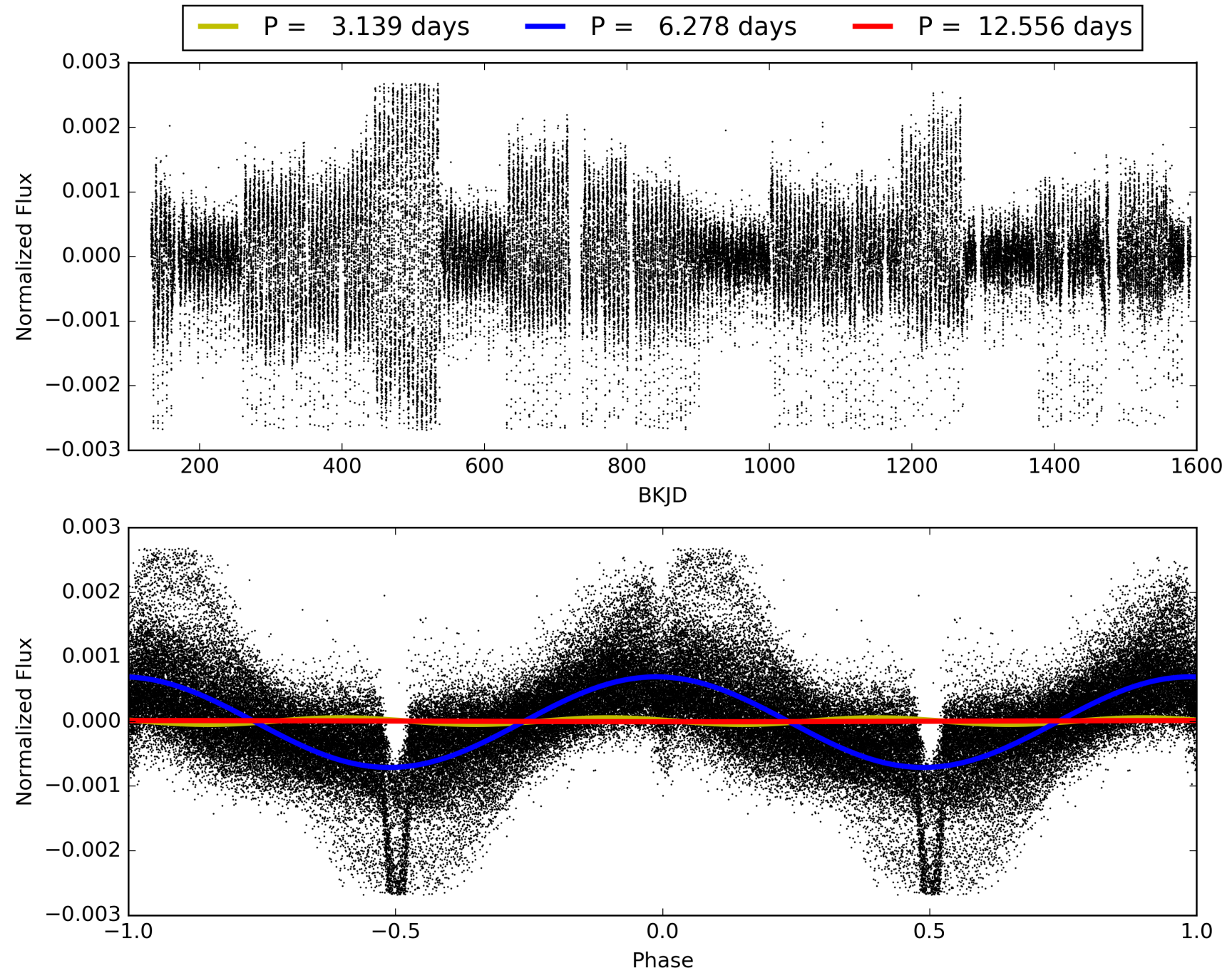
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:55:13 Z

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

TCE 004861736-02, PDC Light Curves

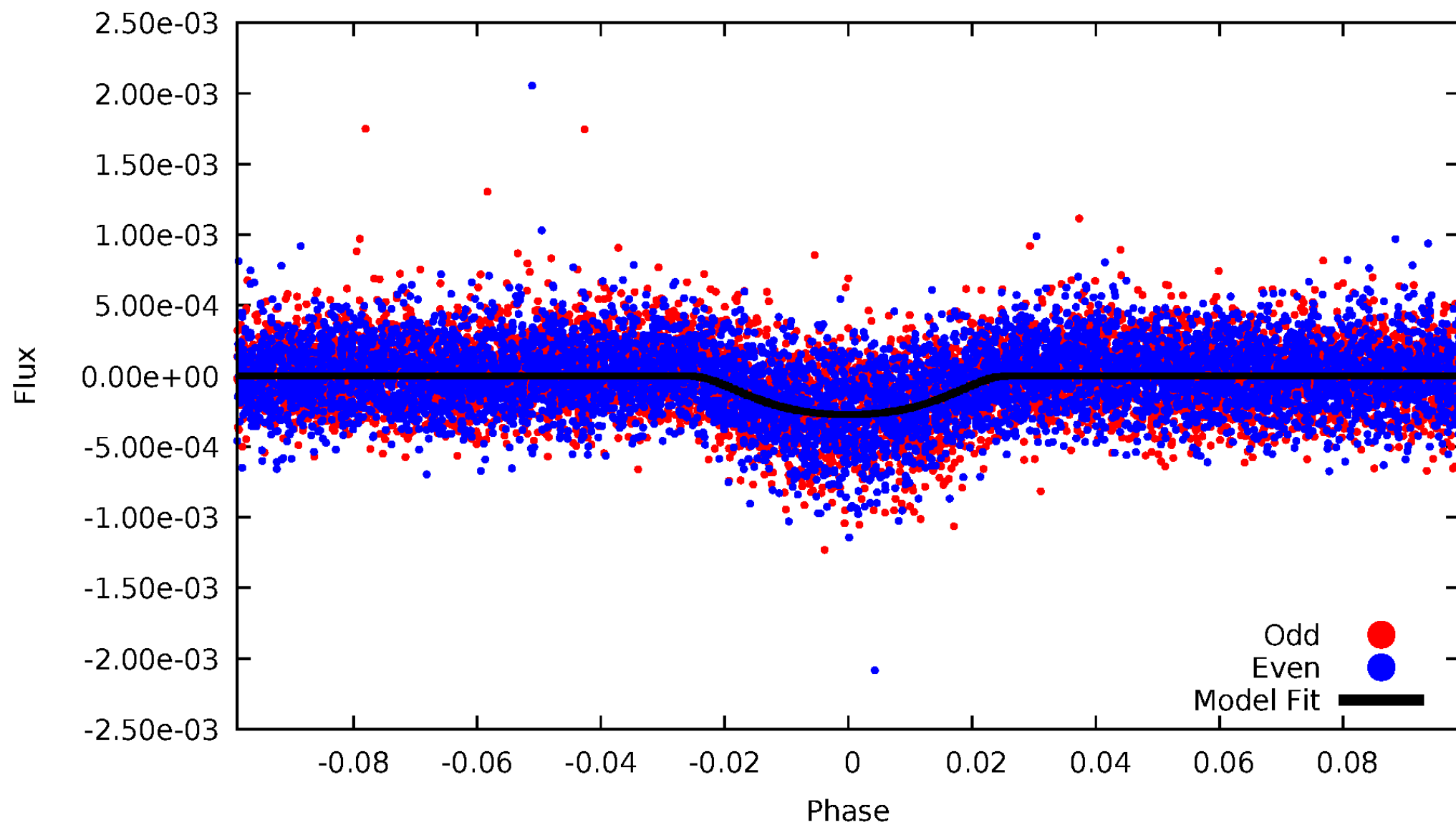


TCE 004861736-02



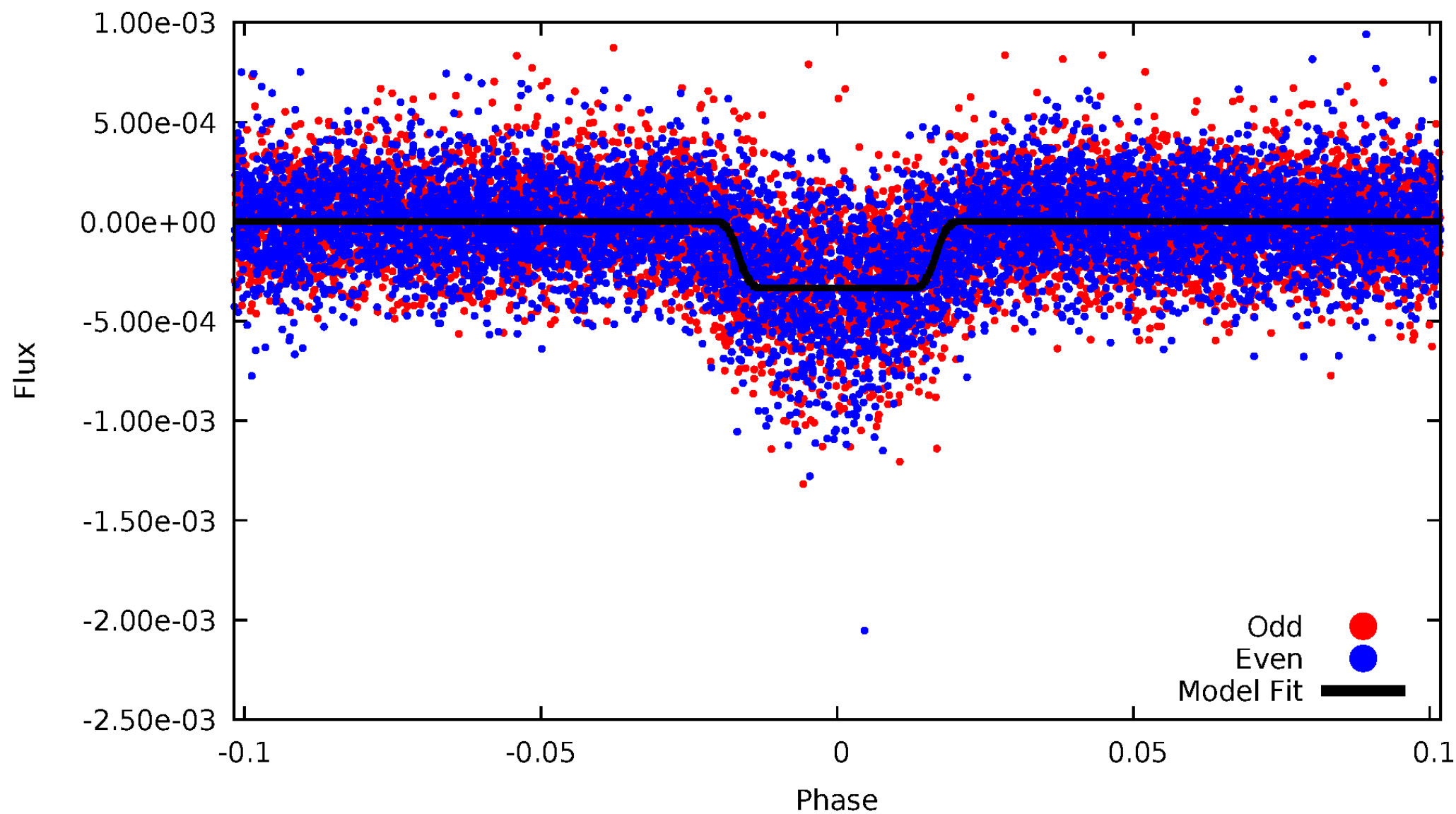
DV Odd/Even

TCE 004861736-02



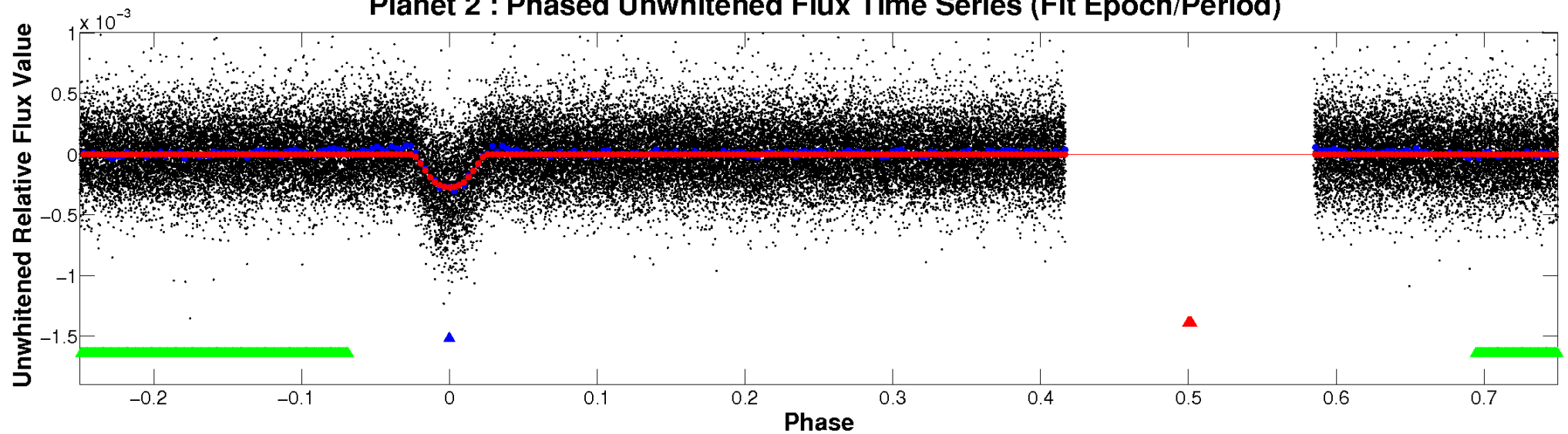
ALT Odd/Even

TCE 004861736-02

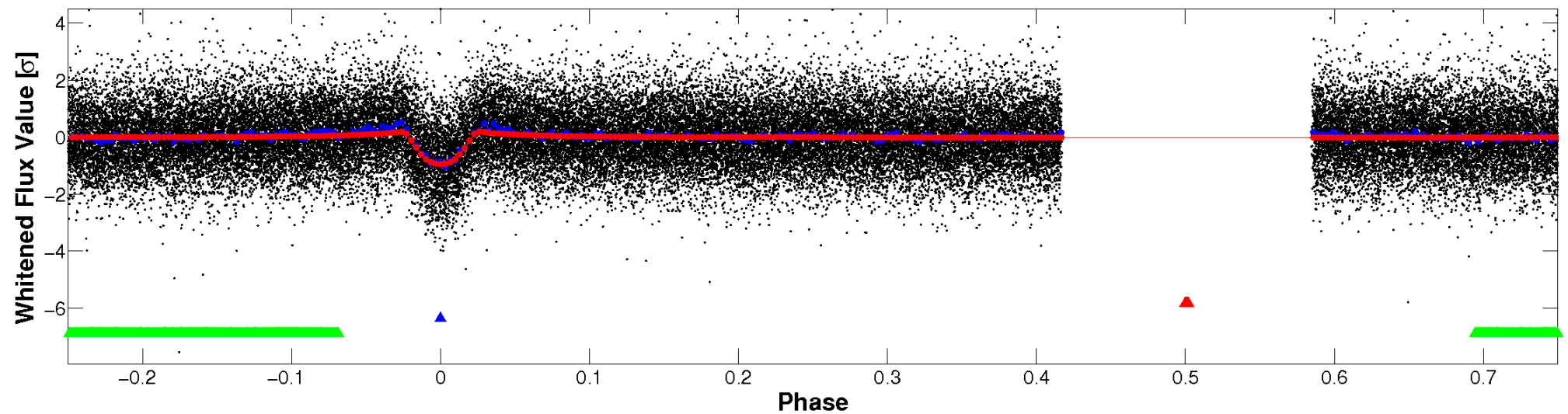


Non-Whitened Vs. Whitened Light Curve

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

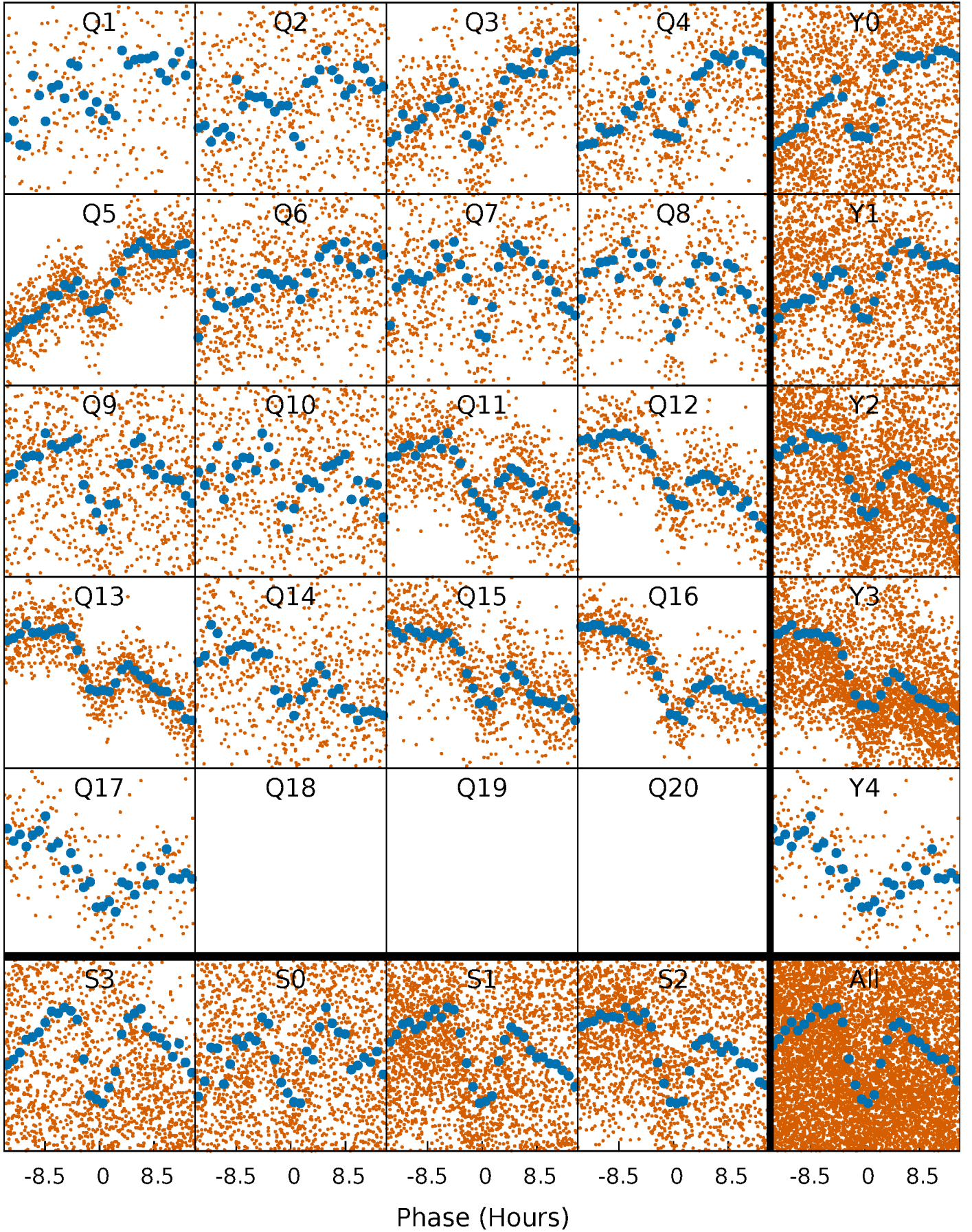


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



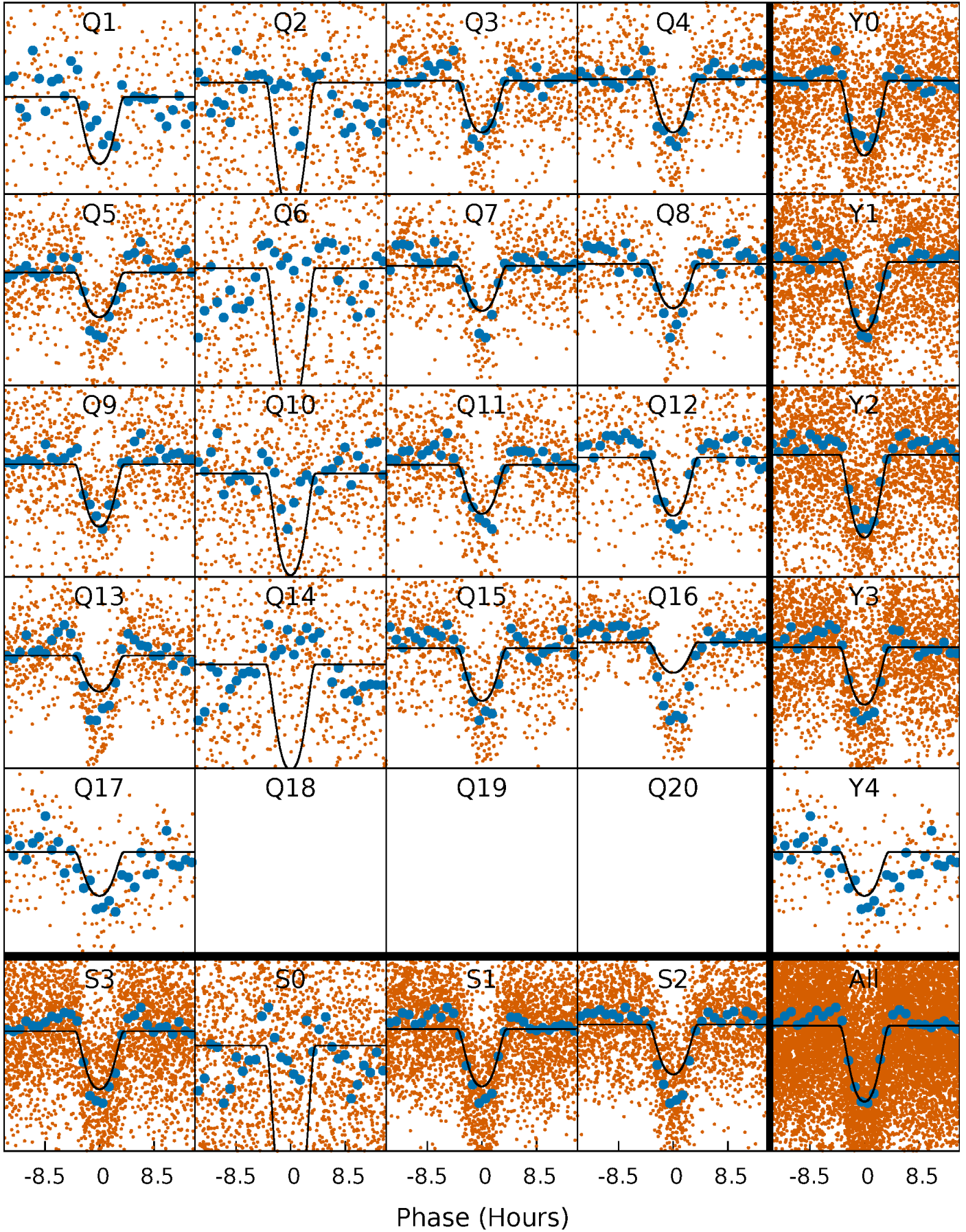
PDC Quarter-Phased Transit Curves

TCE 004861736-02 P= 6.277875 Days $T_0=131.760739$ (BKJD)



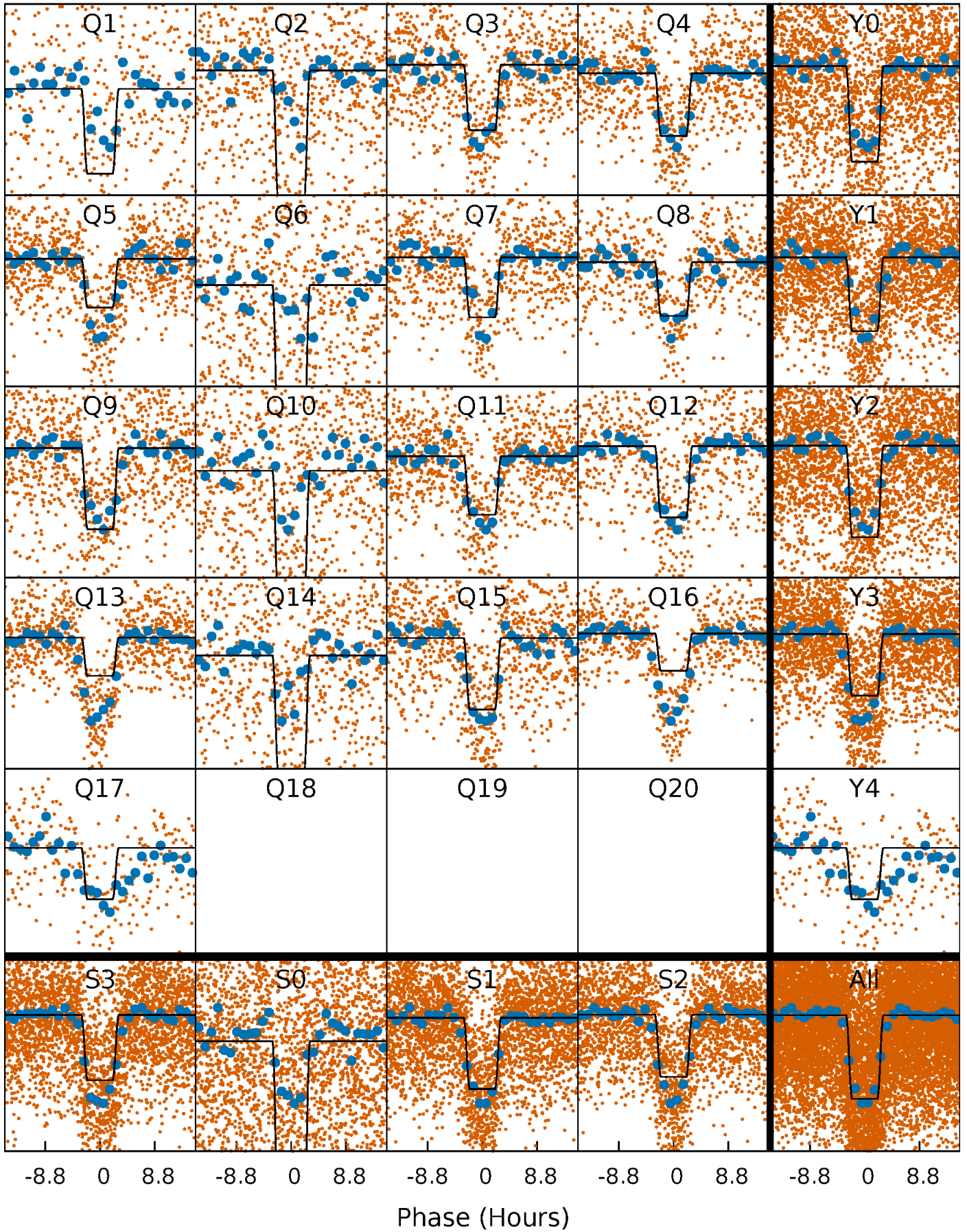
DV Quarter-Phased Transit Curves

TCE 004861736-02 $P = 6.277875$ Days $T_0 = 131.760739$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

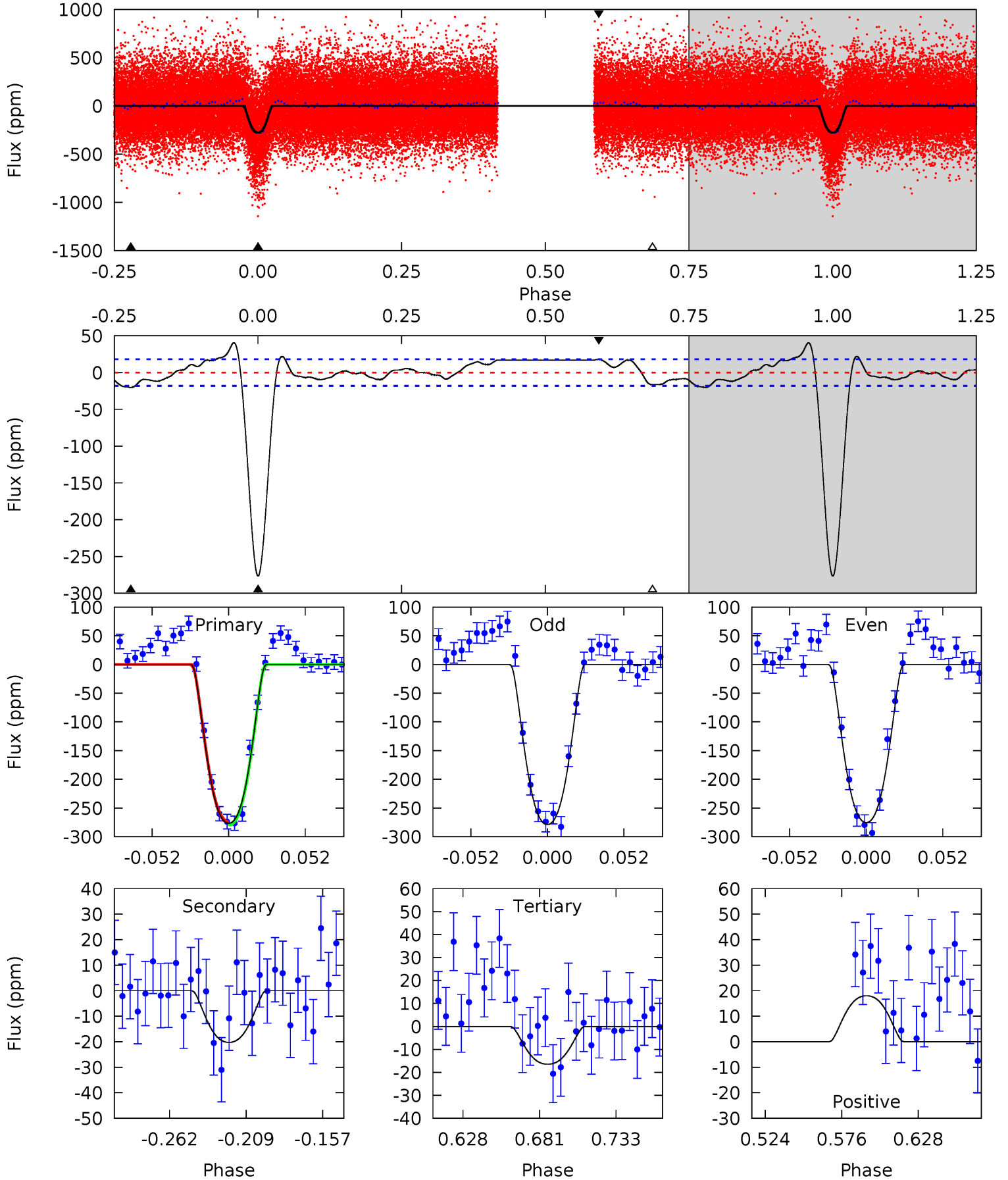
TCE 004861736-02 P= 6.277972 Days $T_0=131.750413$ (BKJD)



DV Model-Shift Uniqueness Test

004861736-02, P = 6.277875 Days, E = 125.482864 Days

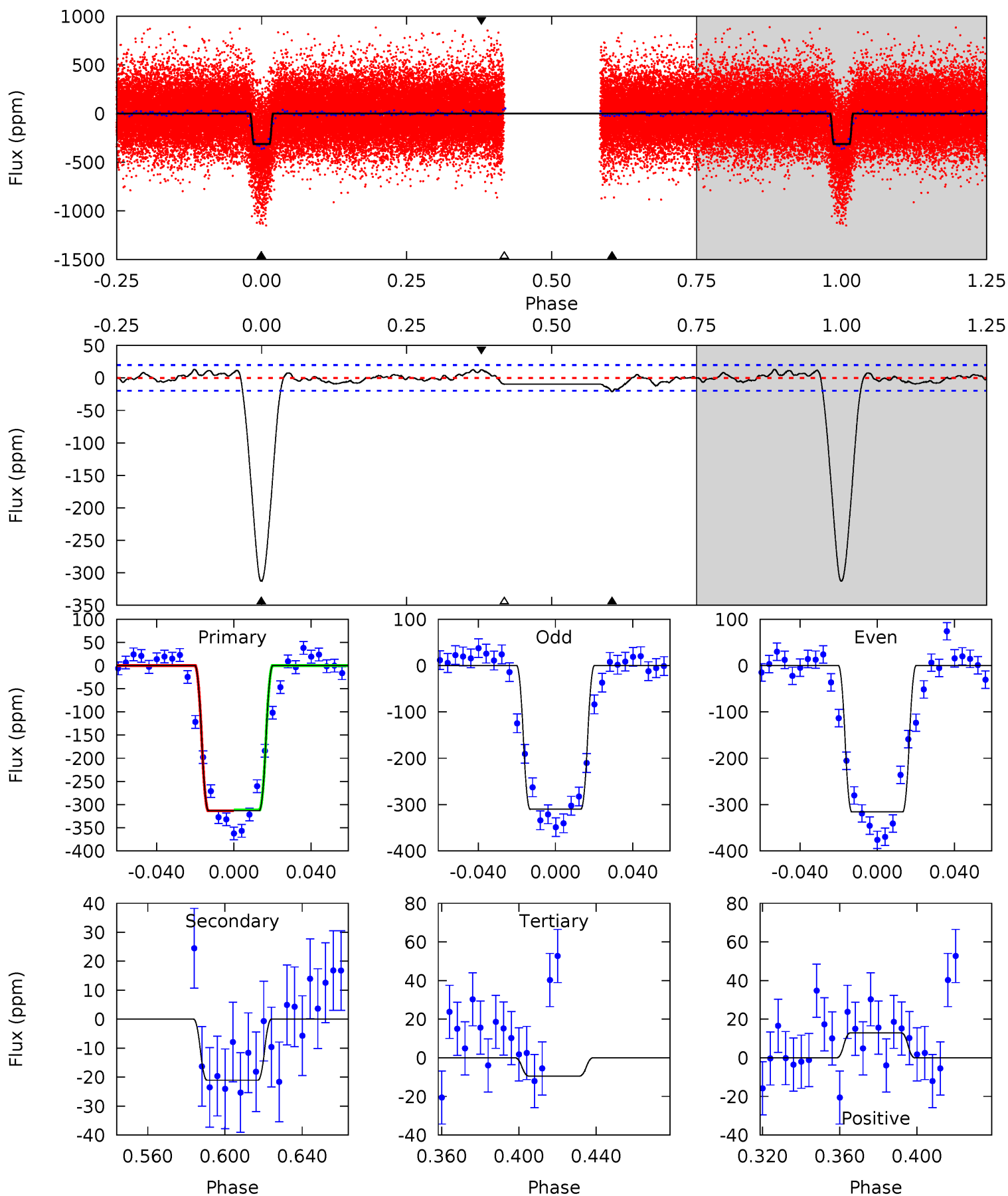
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.9	5.26	4.28	4.68	4.70	1.94	2.54	67.6	67.2	0.99	0.58	0.44	0.91	0.13	0



Alt Model-Shift Uniqueness Test

004861736-02, P = 6.277972 Days, E = 125.472441 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.2	5.07	2.27	3.11	4.75	2.05	1.28	73.0	72.1	2.79	1.96	0.73	1.02	0.04	0.25



Stellar Parameters For KIC 004861736

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+164}_{-183}	$4.526^{+0.038}_{-0.212}$	$-0.340^{+0.300}_{-0.300}$	$0.891^{+0.273}_{-0.091}$	$0.974^{+0.118}_{-0.130}$	$1.936^{+0.401}_{-1.022}$
	+3%/-3%	+1%/-5%	+88%/-88%	+31%/-10%	+12%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004861736-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 4	$2.11^{+0.37}_{-0.24}$	1417^{+92}_{-69}	3344^{+150}_{-145}	11^{+3}_{-3}
Alt.	-21 ± 4	$1.87^{+0.32}_{-0.23}$	1420^{+106}_{-69}	3507^{+166}_{-163}	14^{+5}_{-4}

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

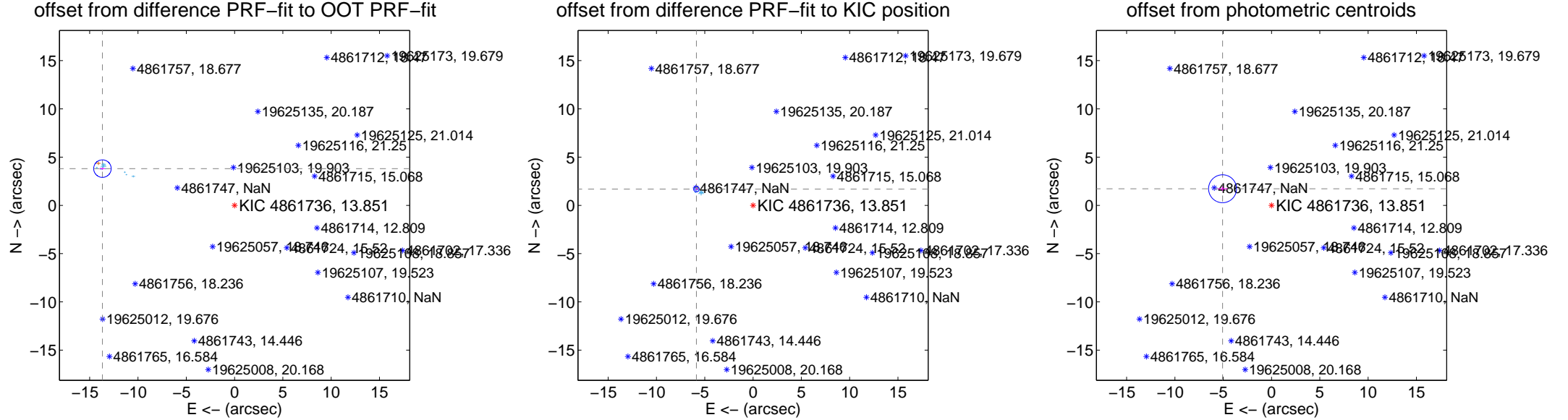
DV Centroid Data

Supplemental centroid analysis for 004861736-02. Kepler magnitude: 13.85. Transit SNR 36.60

There are 14 quarters with good PRF difference image offsets

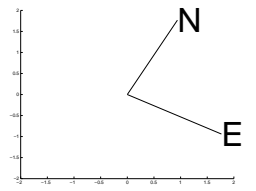
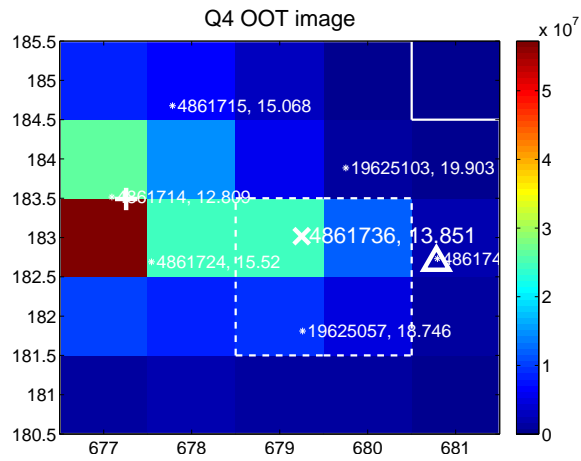
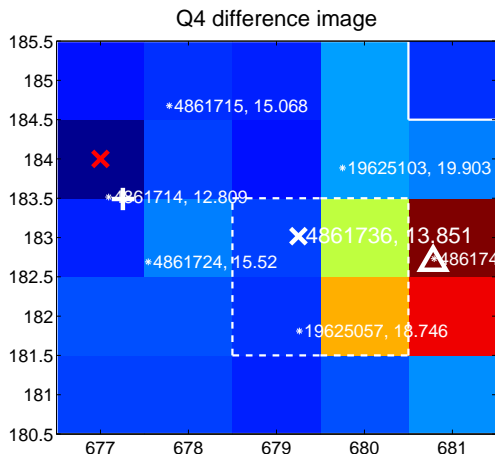
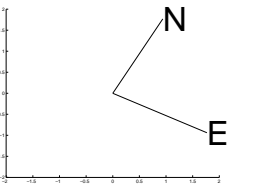
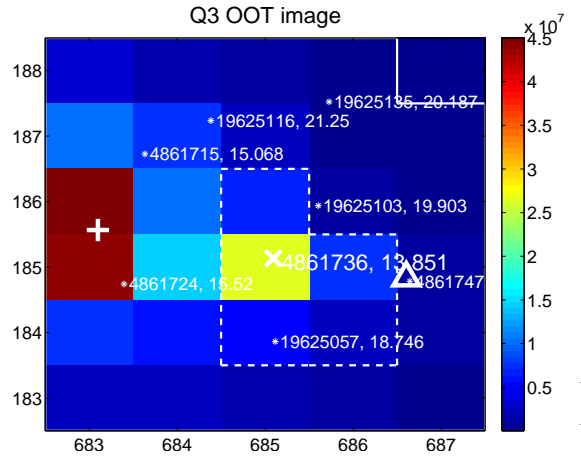
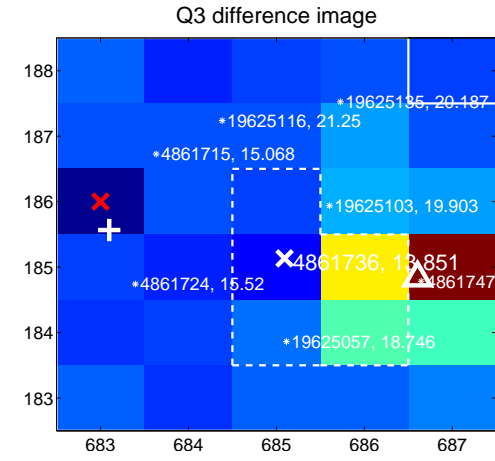
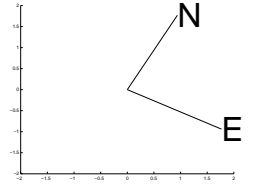
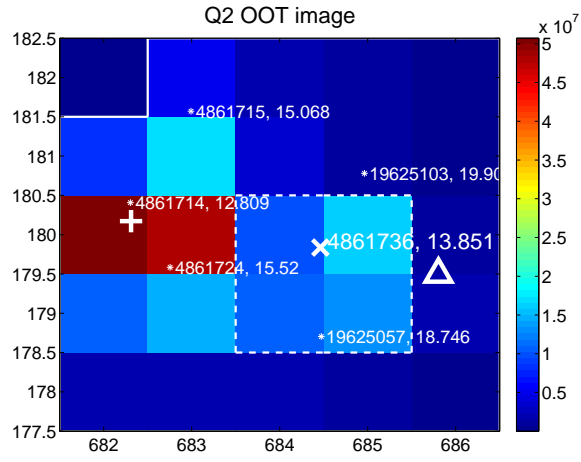
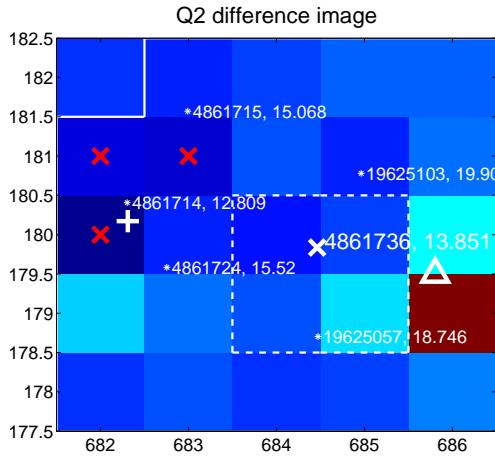
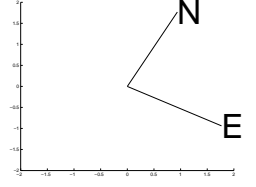
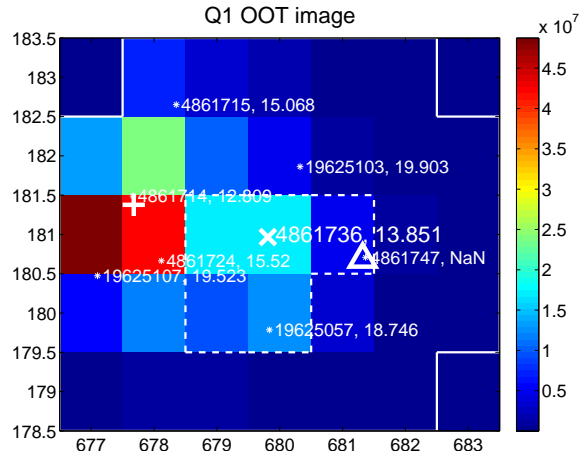
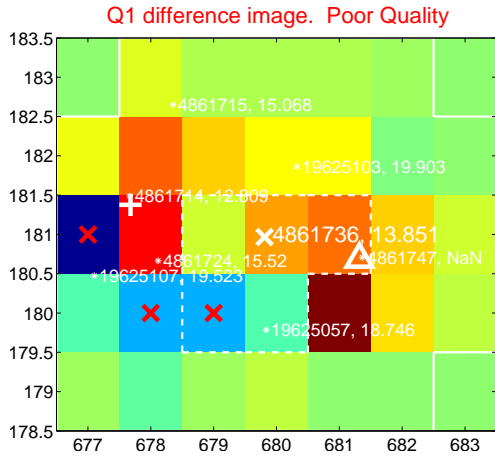
The OOT PRF centroid is offset from the target star catalog position by about 5.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	14.196 \pm 0.302	46.99	13.676 \pm 0.292	3.808 \pm 0.110
PRF-fit source offset from KIC position	6.097 \pm 0.095	64.21	5.860 \pm 0.089	1.682 \pm 0.085
photometric centroid source offset	5.35 \pm 0.48	11.10	5.07 \pm 0.50	1.72 \pm 0.24

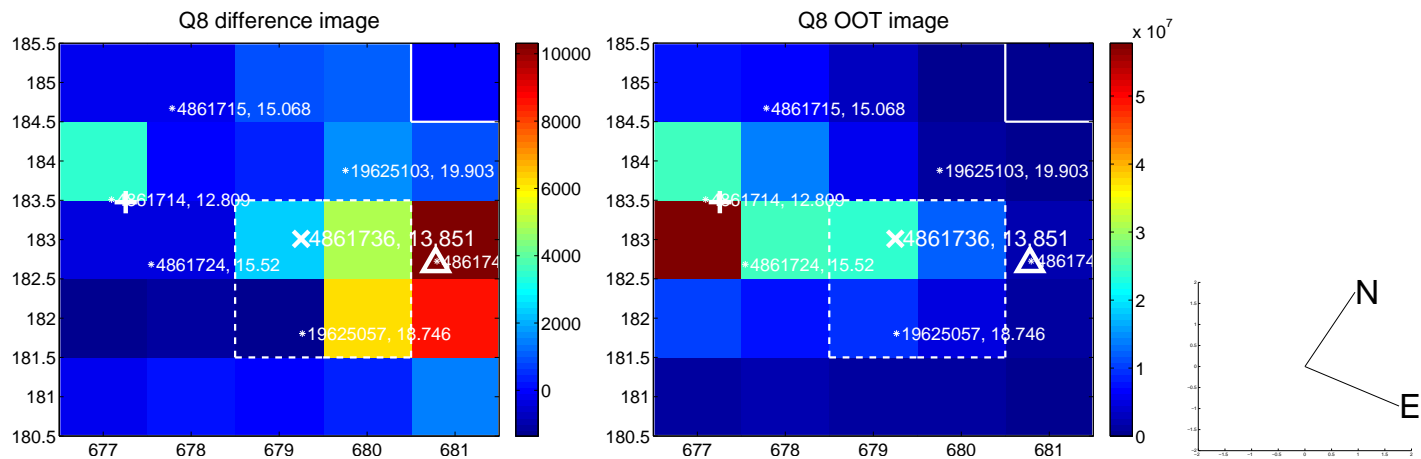
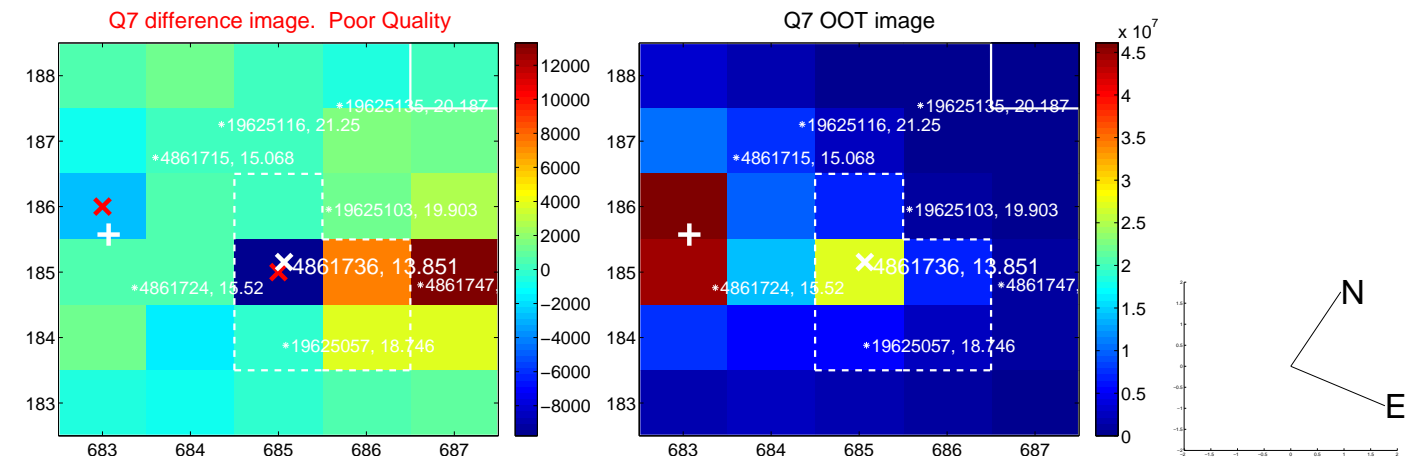
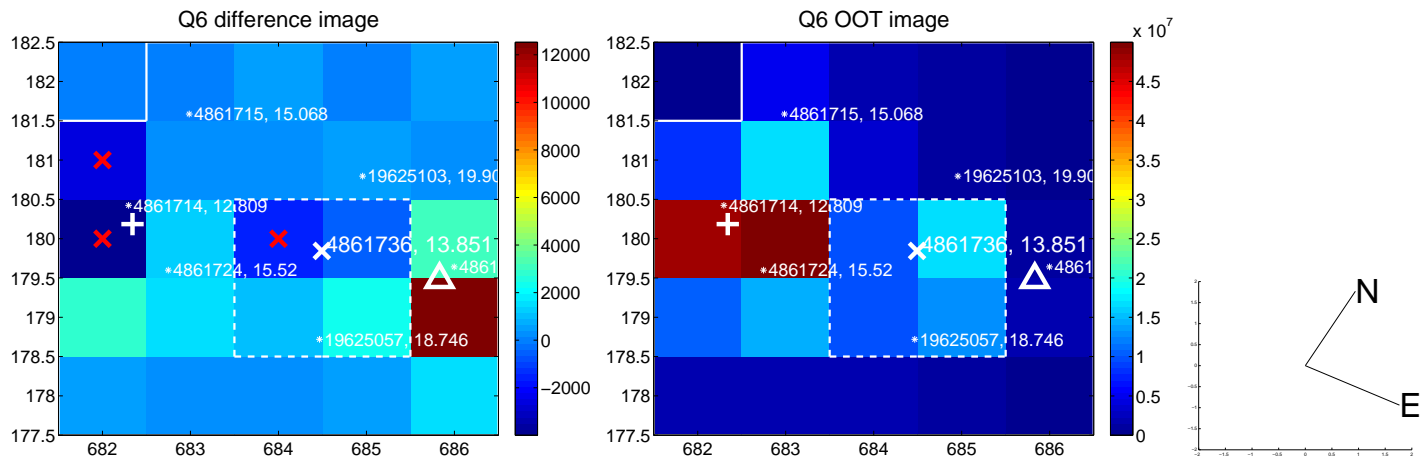
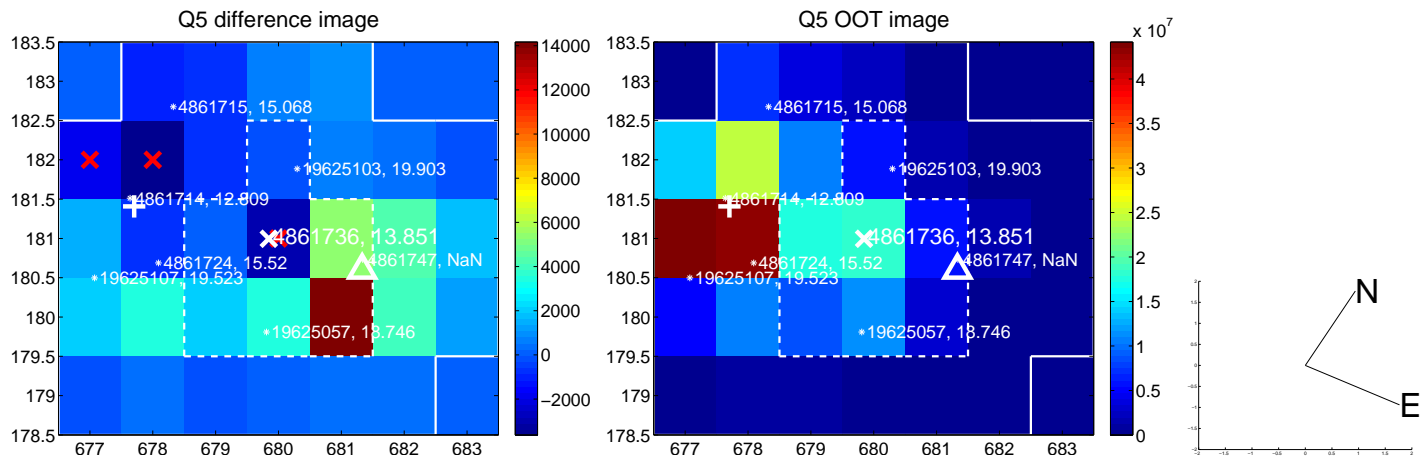


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

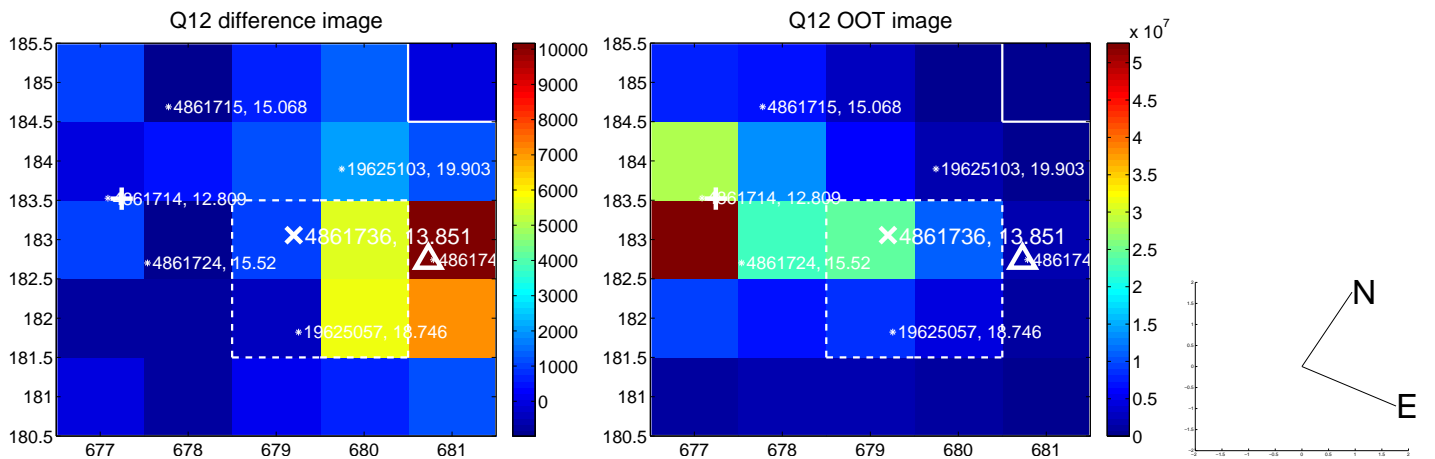
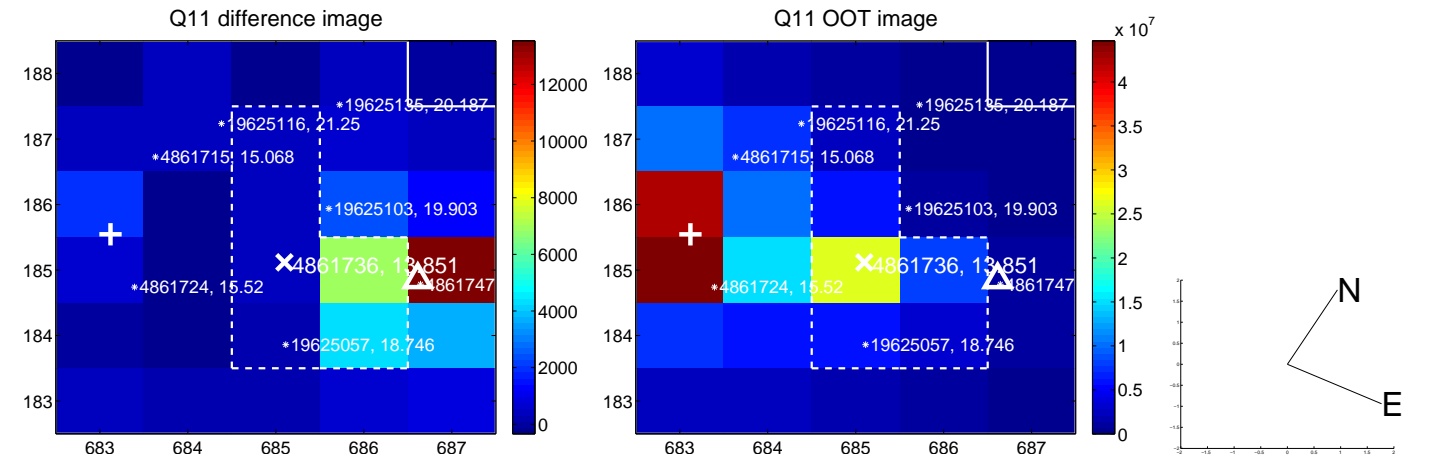
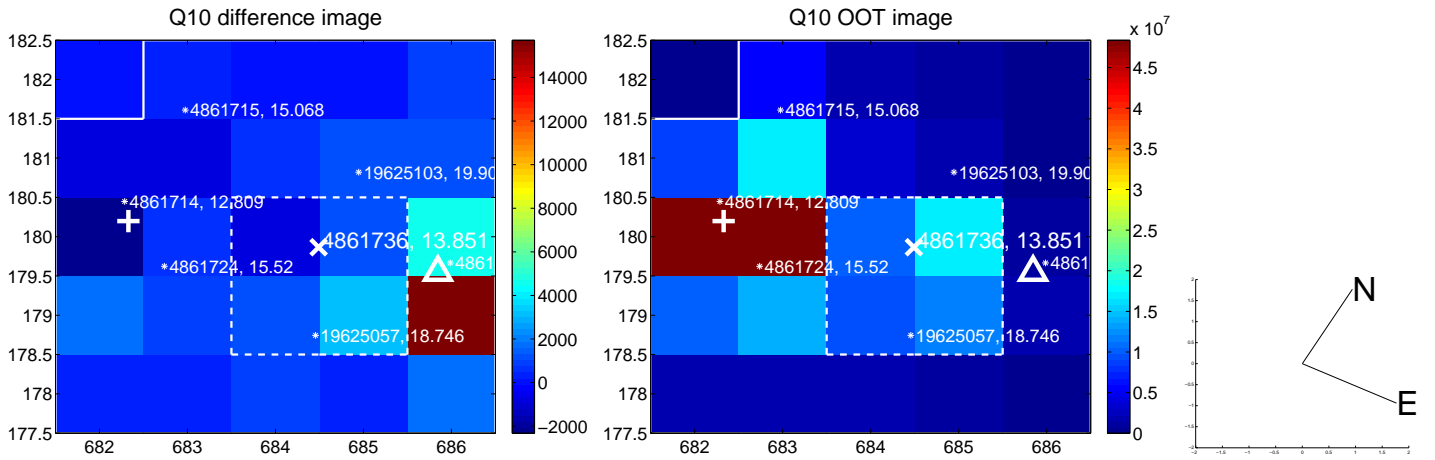
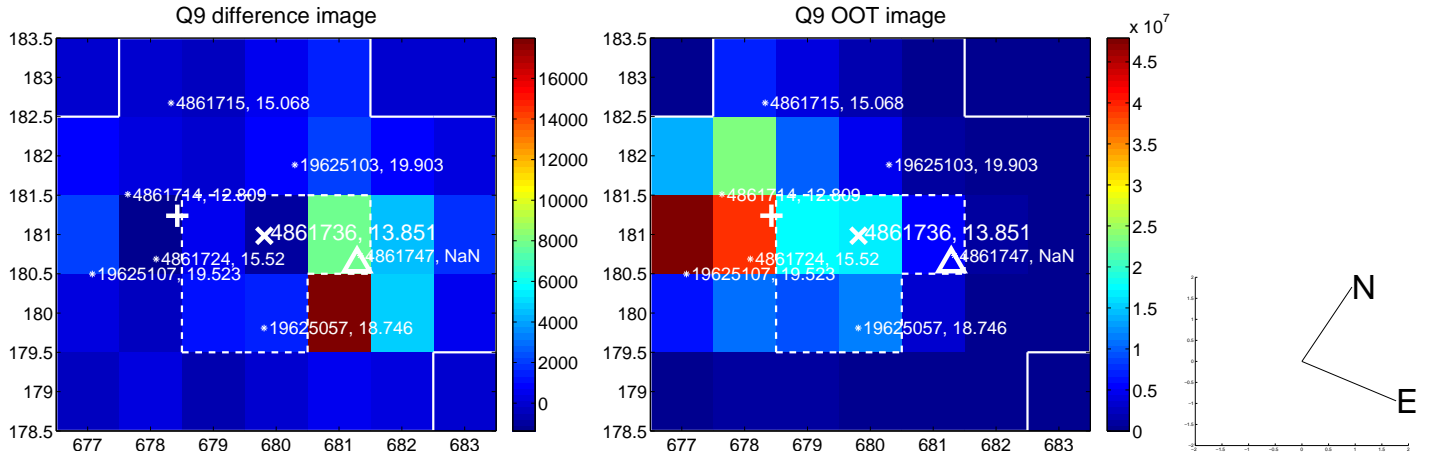
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



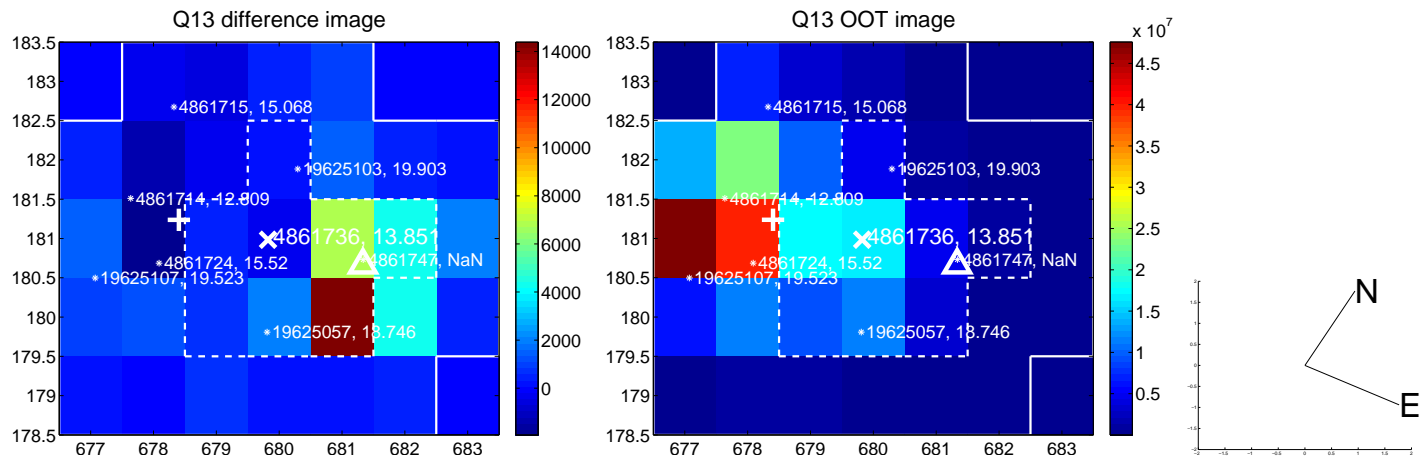
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



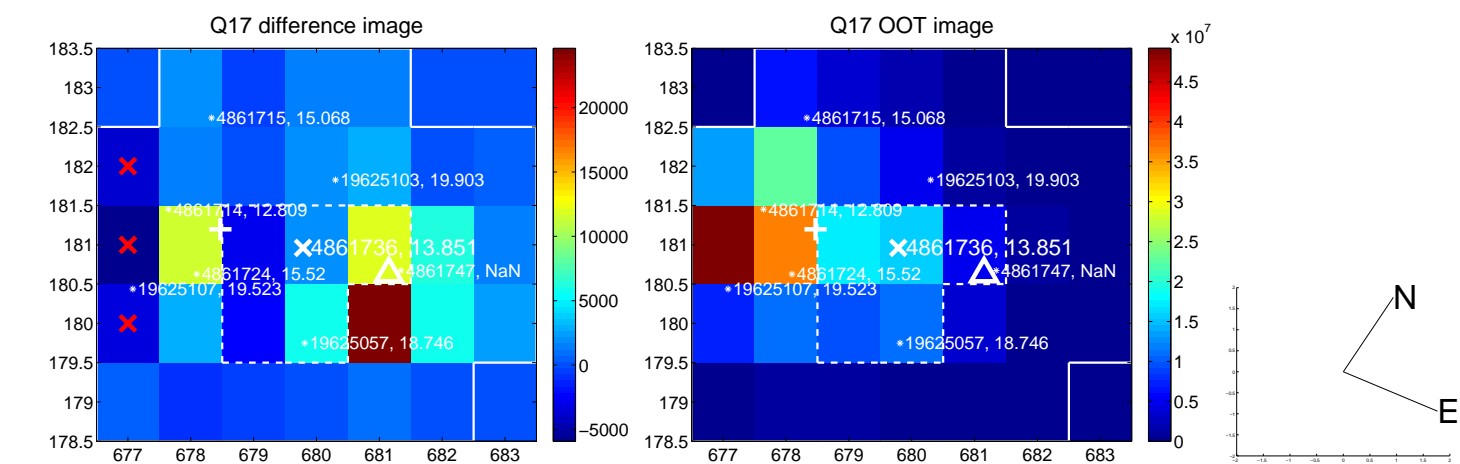
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



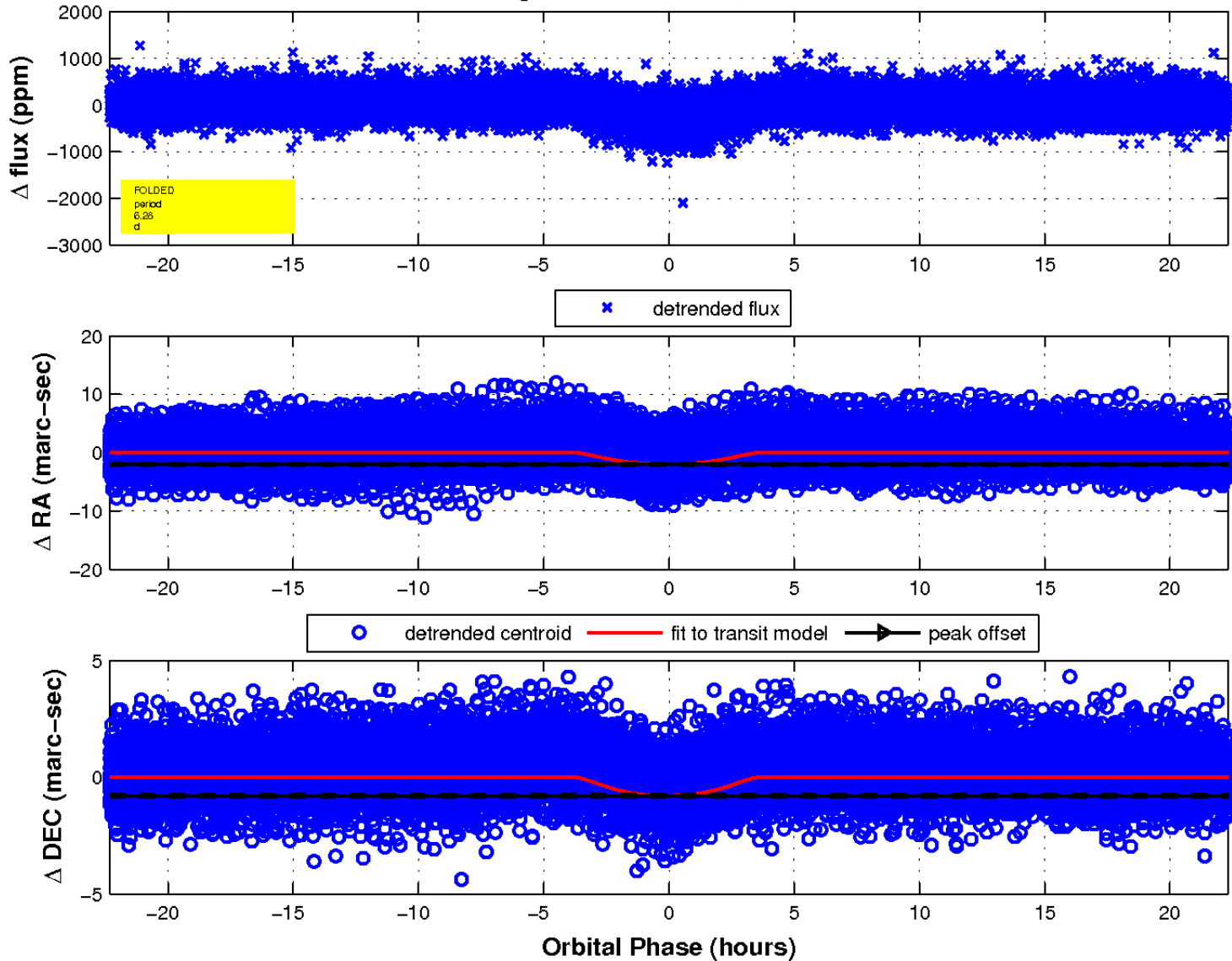
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

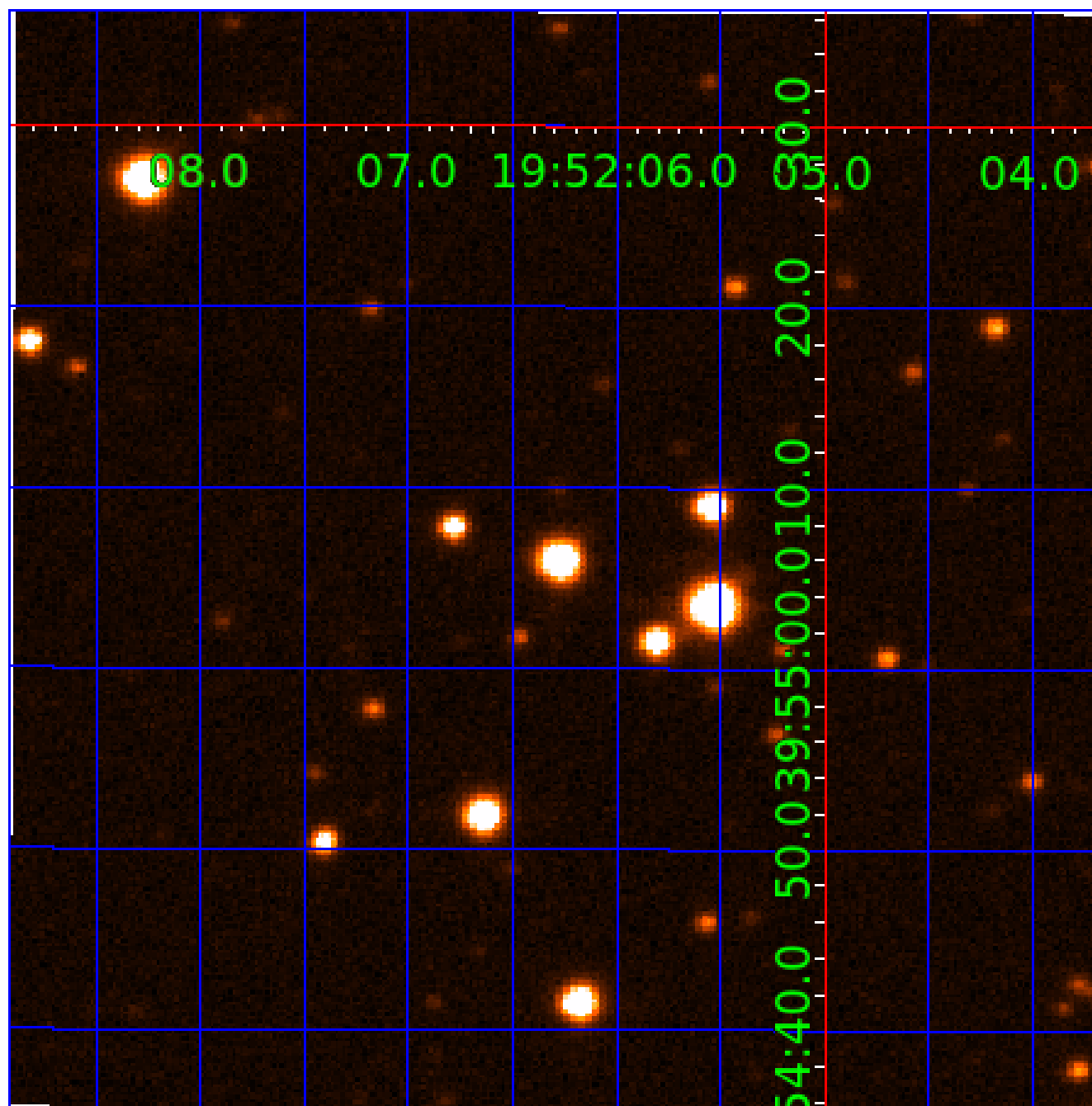


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 004861736

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})
004861736-01	OBS	0634.01	6.277821	134.911749	2191.3	8.334	235.3	201.2	0.89	6077	7.77	222.75
004861736-02	OBS	No	6.277875	131.760739	273.0	7.443	31.7	36.6	0.89	6077	2.01	222.75
004861736-03	OBS	No	6.271434	137.608229	50.2	20.071	9.3	10.1	0.89	6077	0.71	223.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004861736-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
004861736-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
004861736-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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.

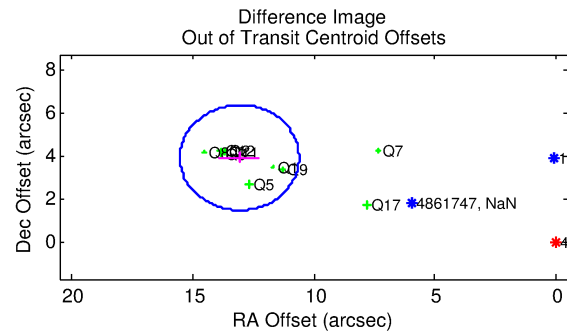
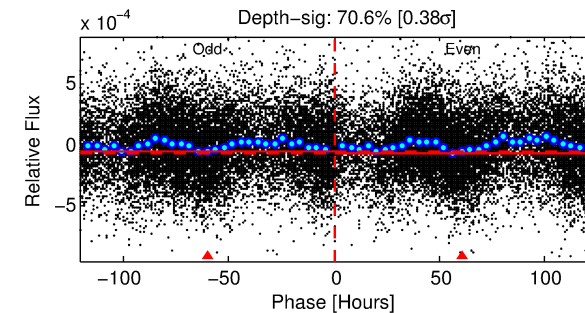
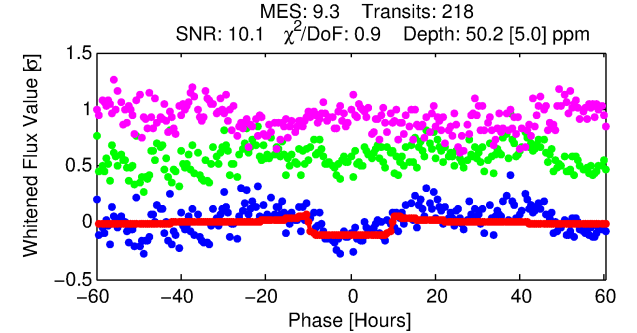
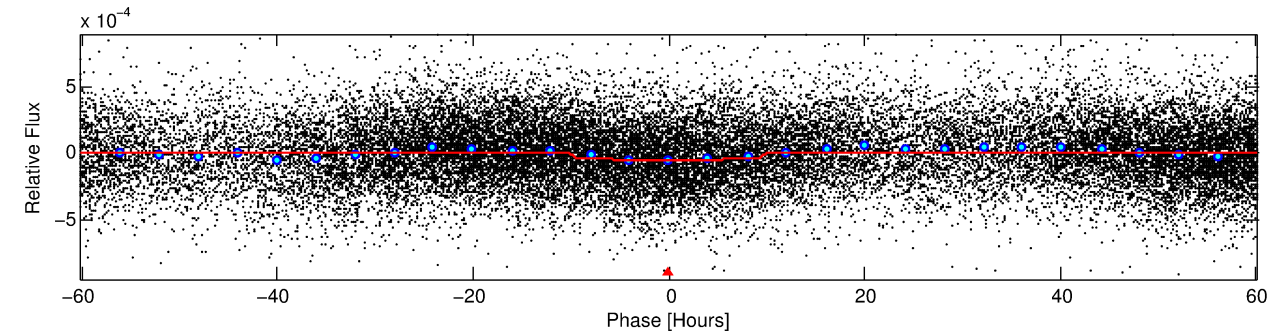
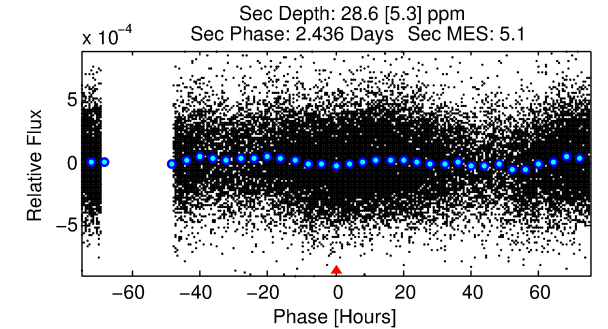
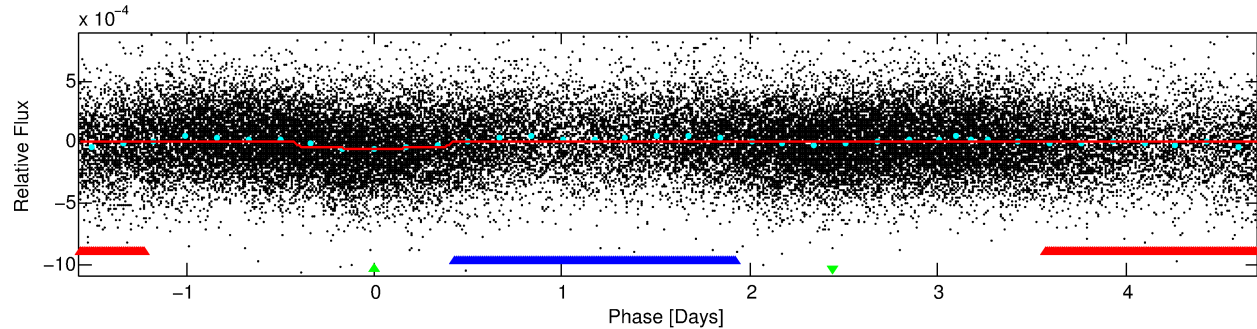
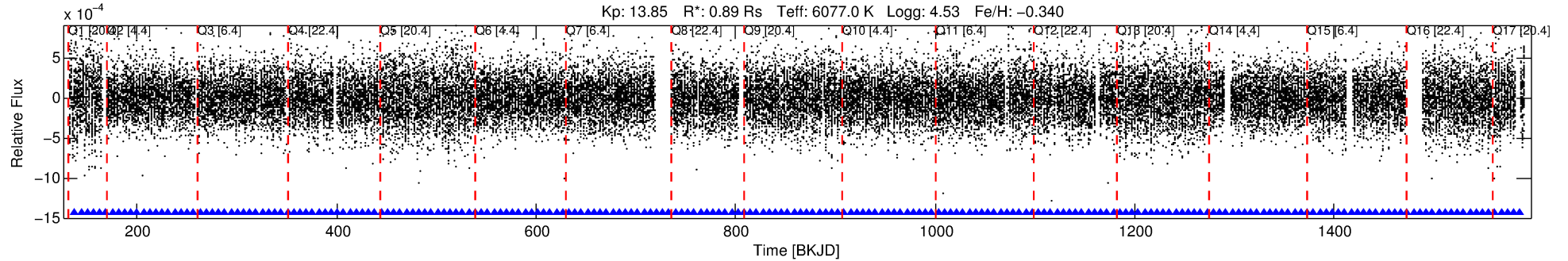
Ephemeris Match Information For 004861736-03

No Significant Match Found

DV One-Page Summary

KIC: 4861736 Candidate: 3 of 3 Period: 6.271 d
KOI: K00634 Corr: No Ephemeris Match

Kp: 13.85 R*: 0.89 Rs Teff: 6077.0 K Logg: 4.53 Fe/H: -0.340



DV Fit Results:

Period = 6.27143 [0.00014] d
Epoch = 137.6082 [0.0173] BKJD
Rp/R* = 0.0073 [0.0012]
a/R* = 1.59 [0.75]
b = 0.85 [0.26]
Seff = 223.06 [89.82]
Teq = 985 [99] K
Rp = 0.71 [0.25] Re
a = 0.0659 [0.0172] AU
Ag = 134.24 [71.07] [1.87σ]
Teff = 5186 [497] K [8.28σ]

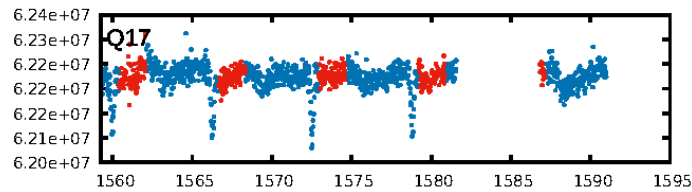
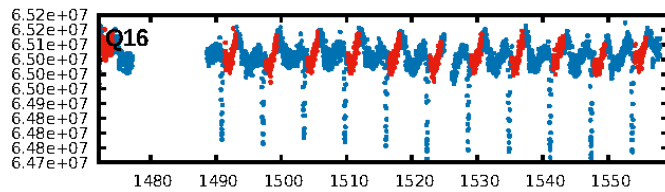
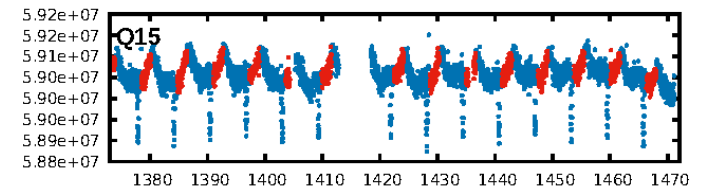
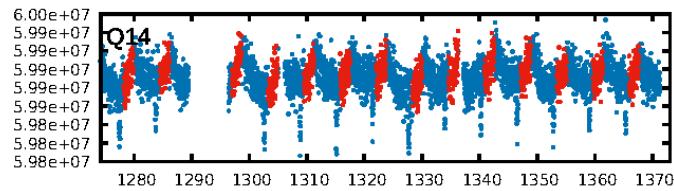
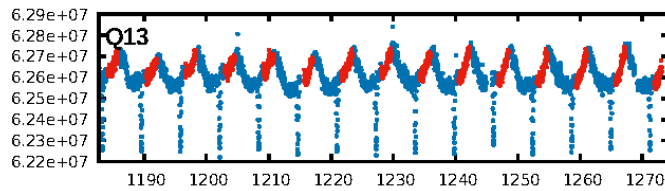
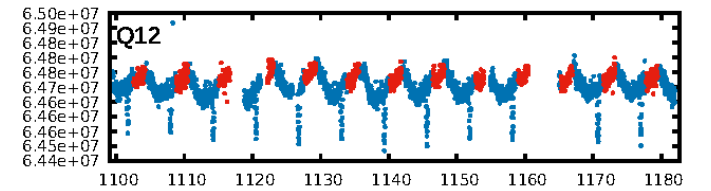
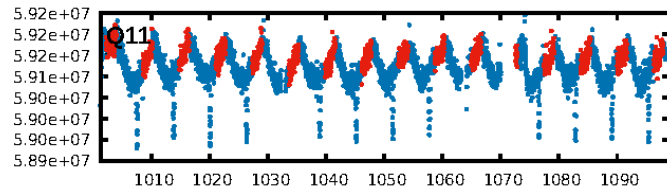
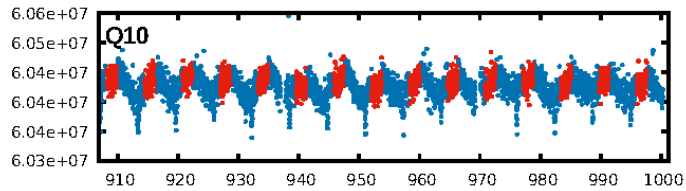
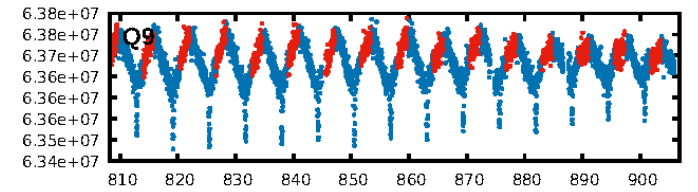
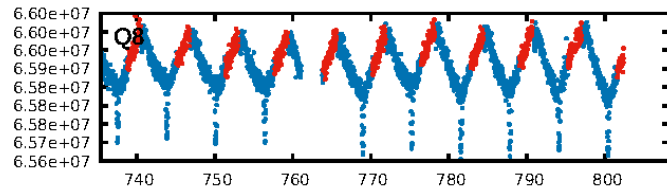
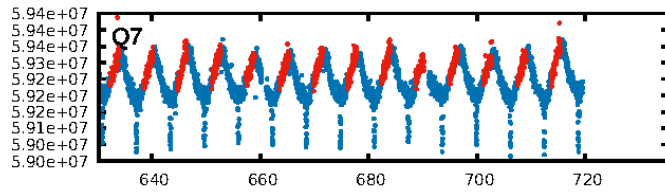
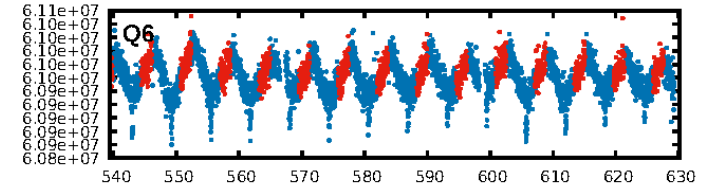
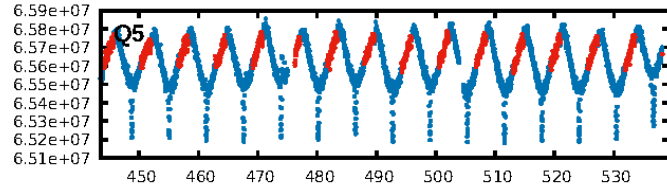
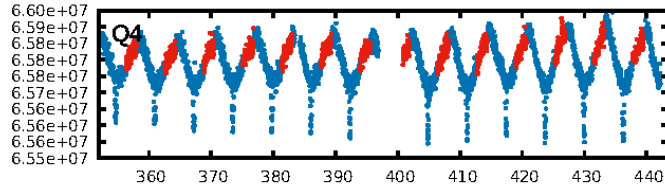
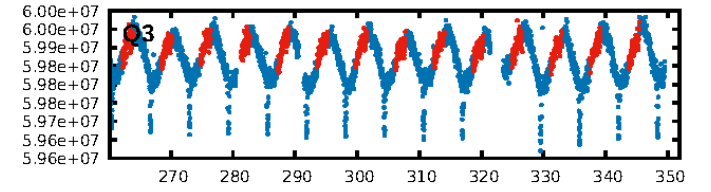
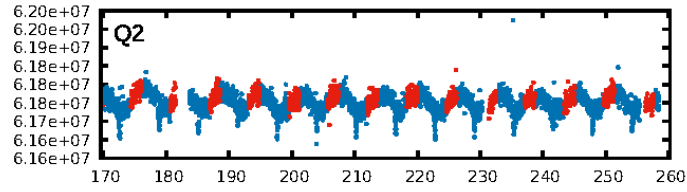
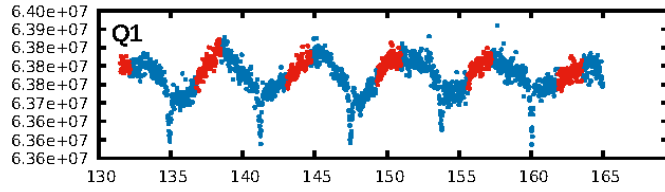
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.6% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.56e-15
RollingBand-fgt: 1.00 [209/209]
GhostDiagnostic-chr: 0.9531
Centroid-sig: 1.6%
Centroid-so: 0.324 arcsec [0.22σ]
OotOffset-rm: 13.643 arcsec [16.64σ]
KicOffset-rm: 6.220 arcsec [9.74σ]
OotOffset-st: 1/3/2/4 [10]
KicOffset-st: 1/3/2/4 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 0.06 [1/17]

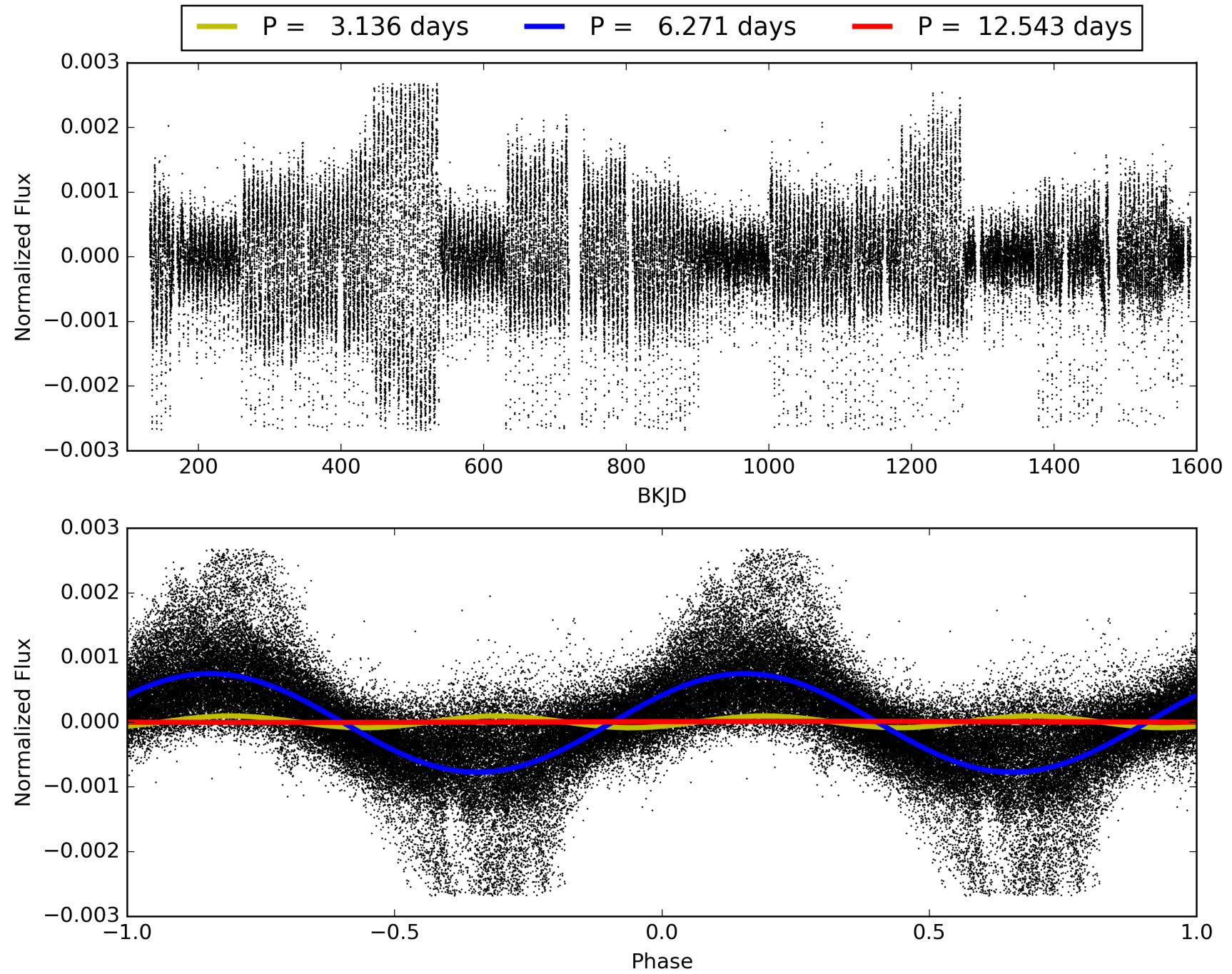
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:55:23 Z

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

TCE 004861736-03, PDC Light Curves

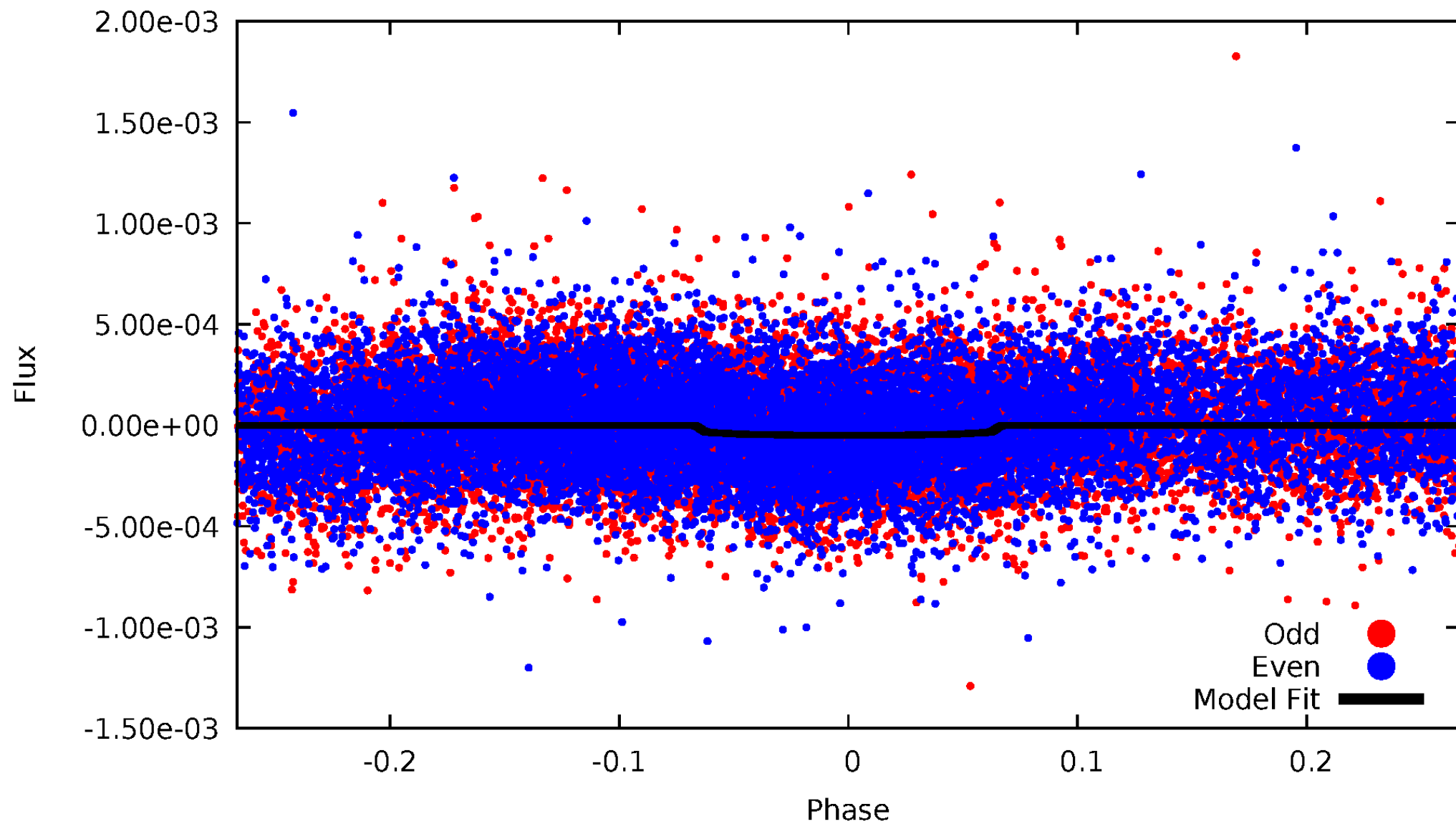


TCE 004861736-03



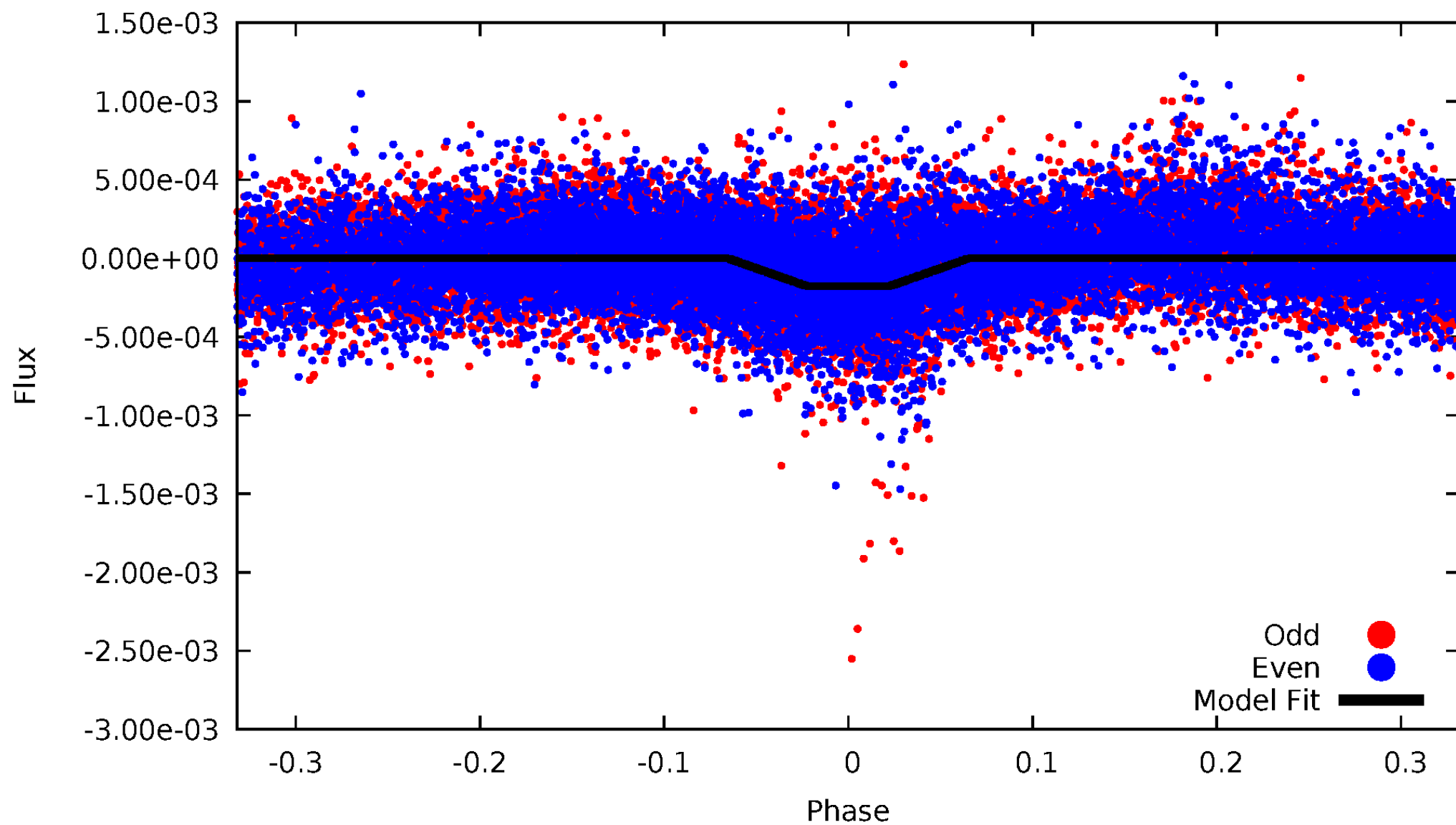
DV Odd/Even

TCE 004861736-03



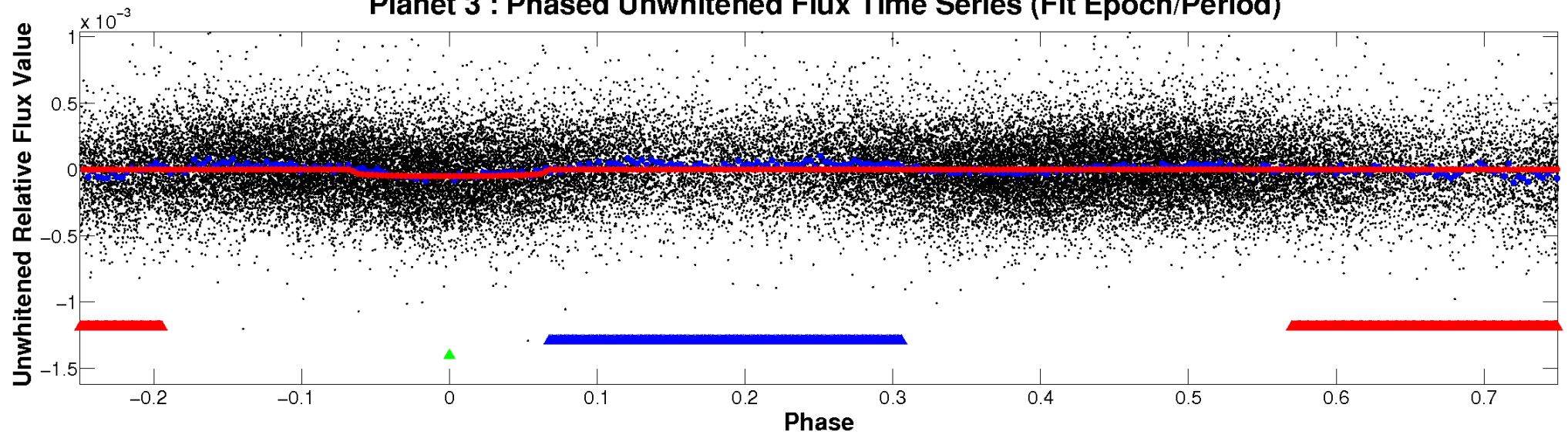
ALT Odd/Even

TCE 004861736-03

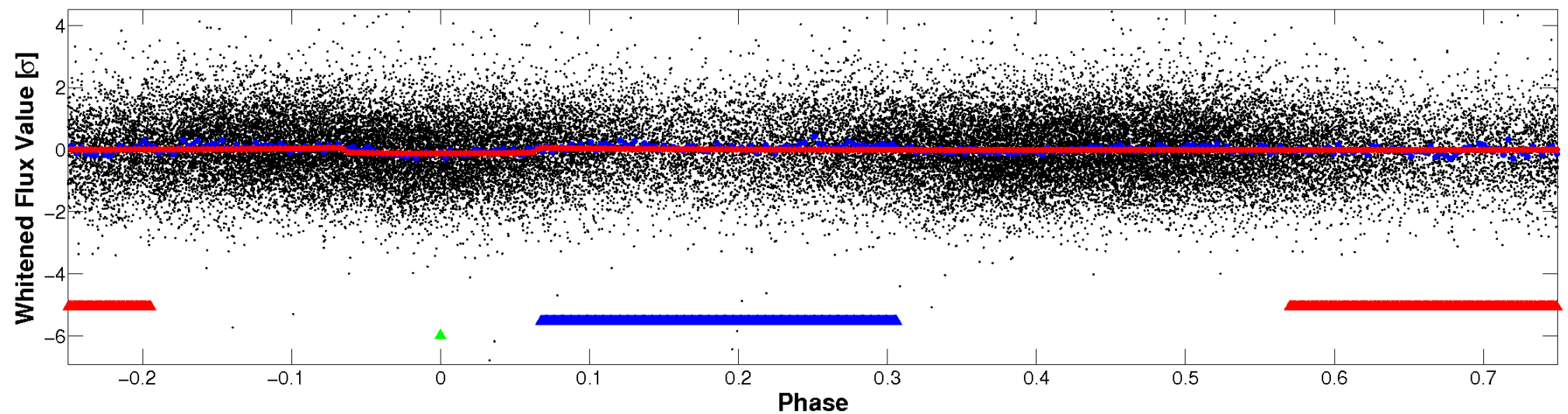


Non-Whitened Vs. Whitened Light Curve

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

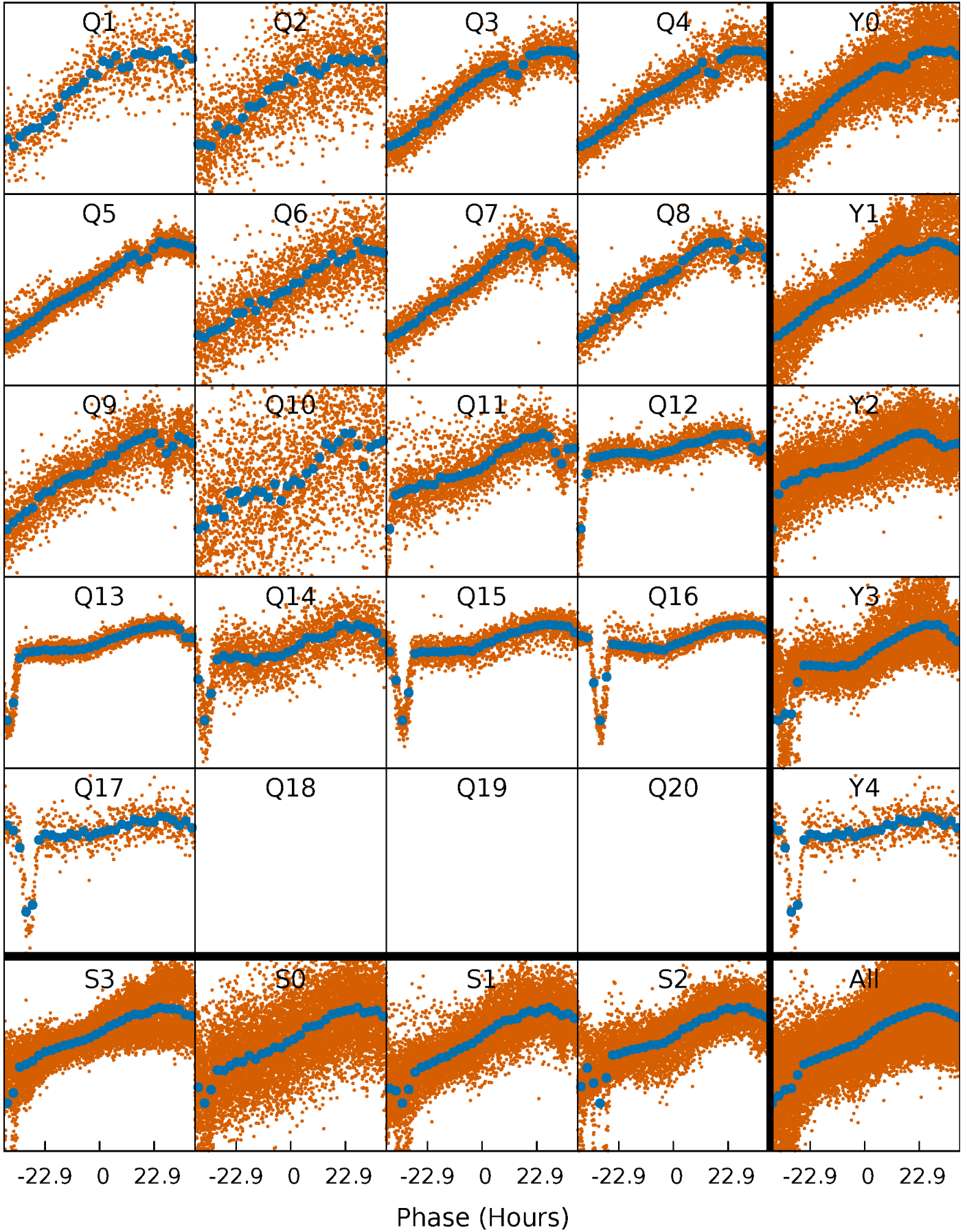


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



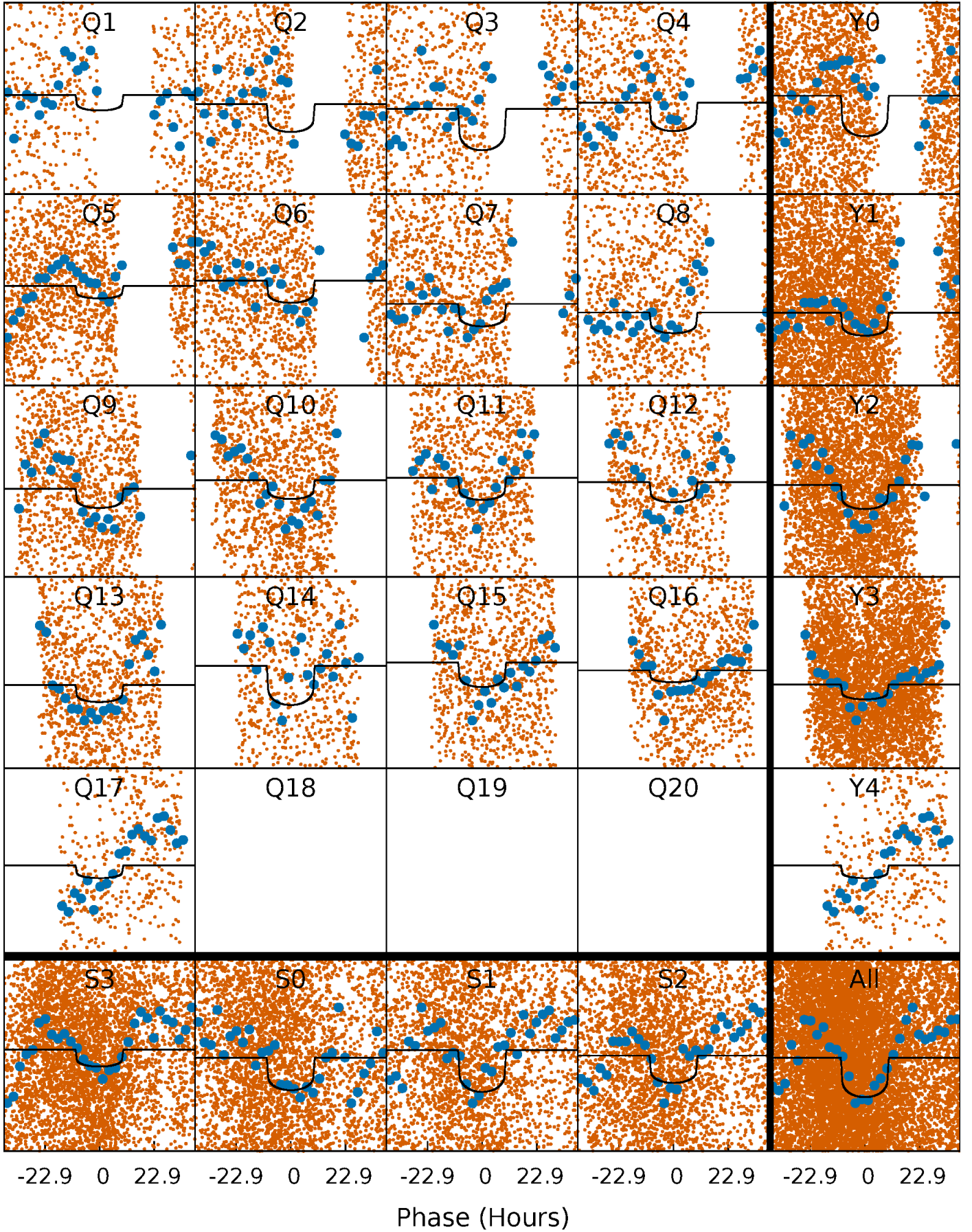
PDC Quarter-Phased Transit Curves

TCE 004861736-03 P= 6.271434 Days $T_0=137.608229$ (BKJD)



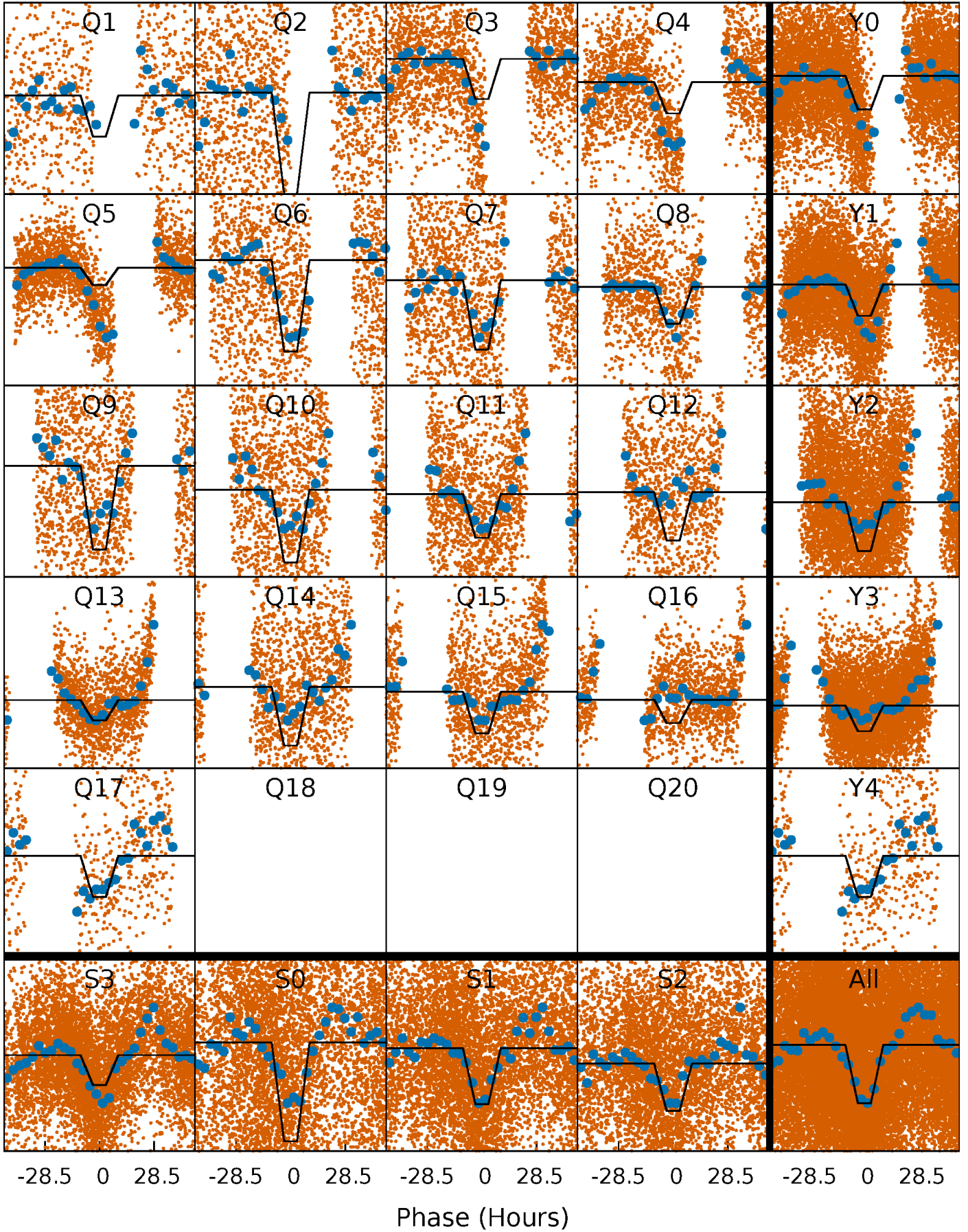
DV Quarter-Phased Transit Curves

TCE 004861736-03 P= 6.271434 Days $T_0=137.608229$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

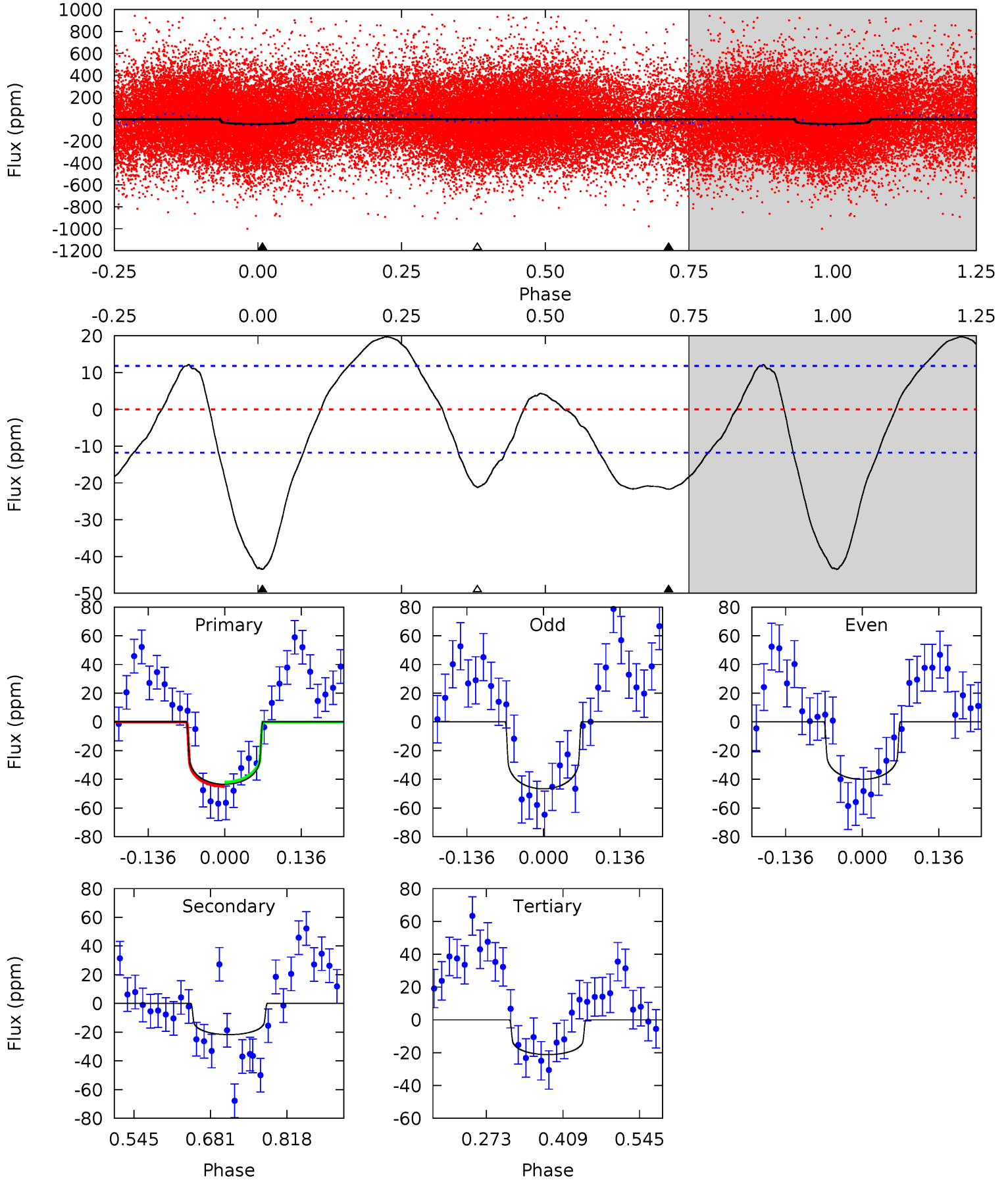
TCE 004861736-03 P= 6.270331 Days $T_0=137.698082$ (BKJD)



DV Model-Shift Uniqueness Test

004861736-03, P = 6.271434 Days, E = 131.336795 Days

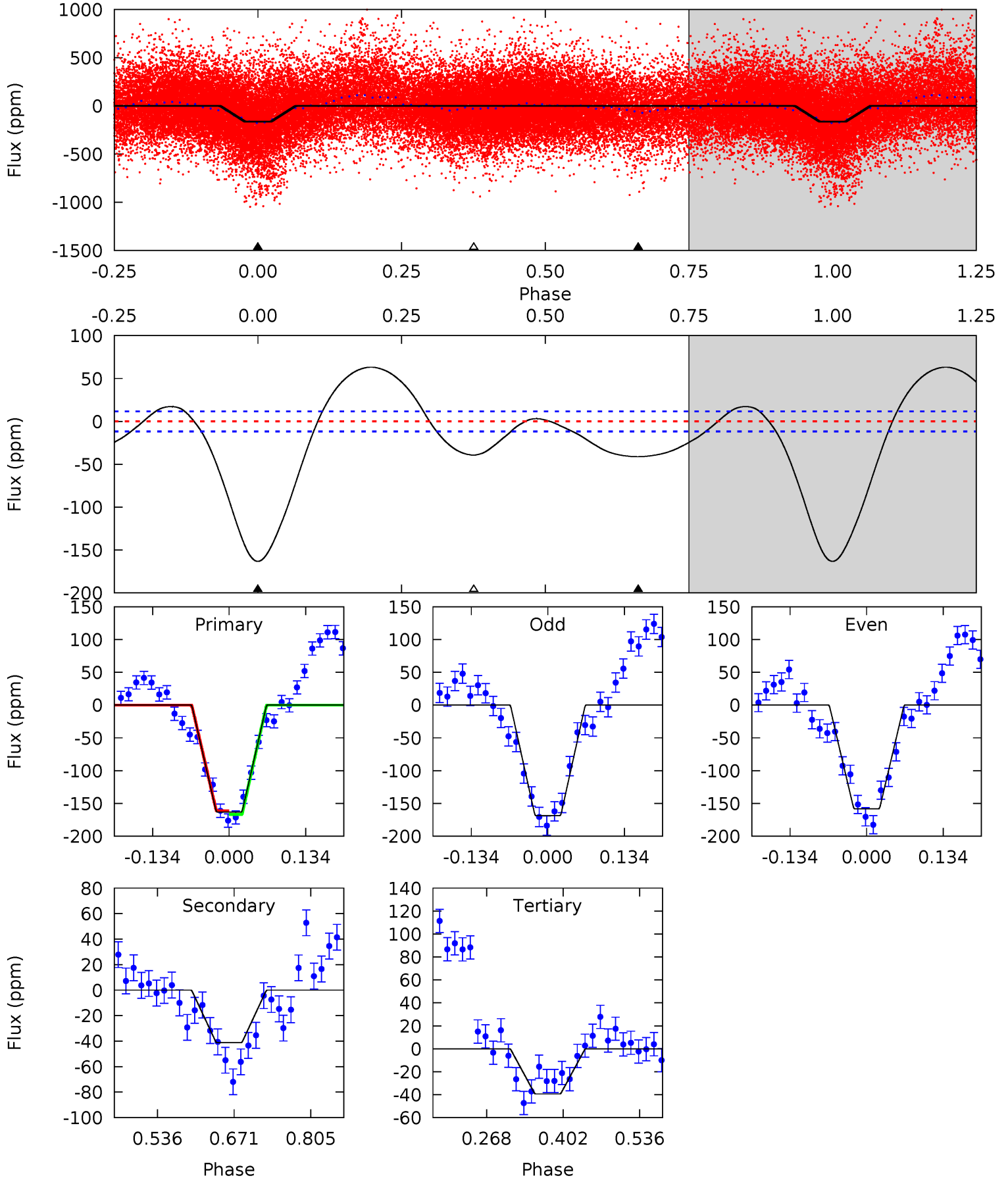
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	8.29	8.08	0	4.50	1.49	4.45	8.52	16.6	0.21	8.29	1.24	0.88	0.31	0.53



Alt Model-Shift Uniqueness Test

004861736-03, P = 6.270331 Days, E = 131.427751 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.8	15.8	15.1	0	4.50	1.50	11.7	47.6	62.8	0.71	15.8	1.97	1.33	0.28	1.03



Stellar Parameters For KIC 004861736

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+164}_{-183}	$4.526^{+0.038}_{-0.212}$	$-0.340^{+0.300}_{-0.300}$	$0.891^{+0.273}_{-0.091}$	$0.974^{+0.118}_{-0.130}$	$1.936^{+0.401}_{-1.022}$
	+3%/-3%	+1%/-5%	+88%/-88%	+31%/-10%	+12%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004861736-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 3	$0.76^{+0.16}_{-0.15}$	1414^{+106}_{-66}	4913^{+412}_{-330}	86^{+45}_{-26}
Alt.	-41 ± 3	$1.36^{+0.25}_{-0.17}$	1422^{+91}_{-71}	4424^{+204}_{-180}	52^{+15}_{-14}

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

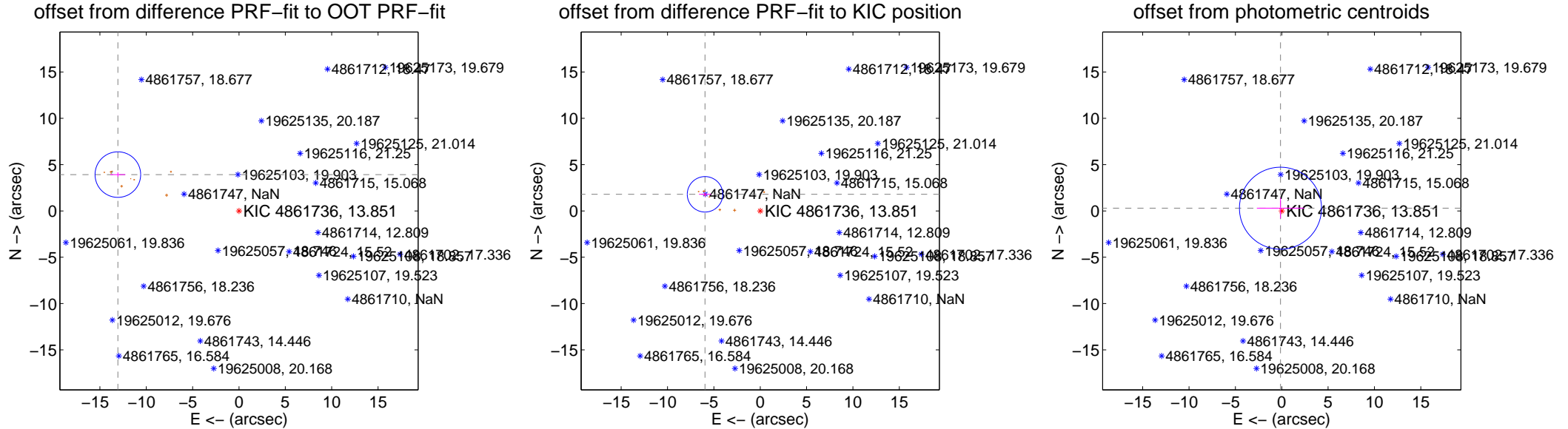
DV Centroid Data

Supplemental centroid analysis for 004861736-03. Kepler magnitude: 13.85. Transit SNR 10.06

There are 1 quarters with good PRF difference image offsets

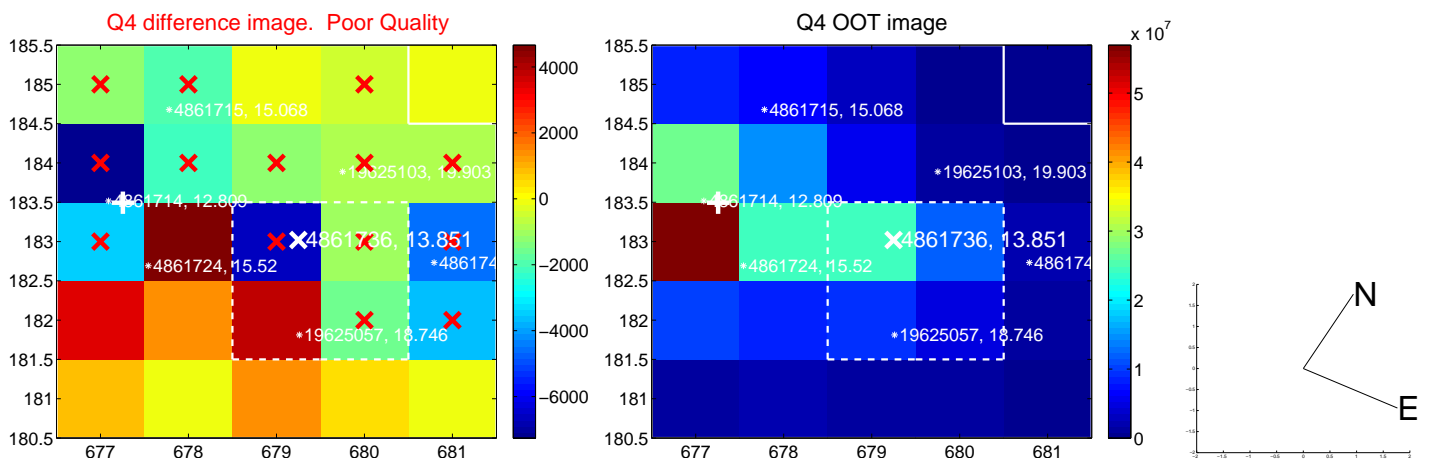
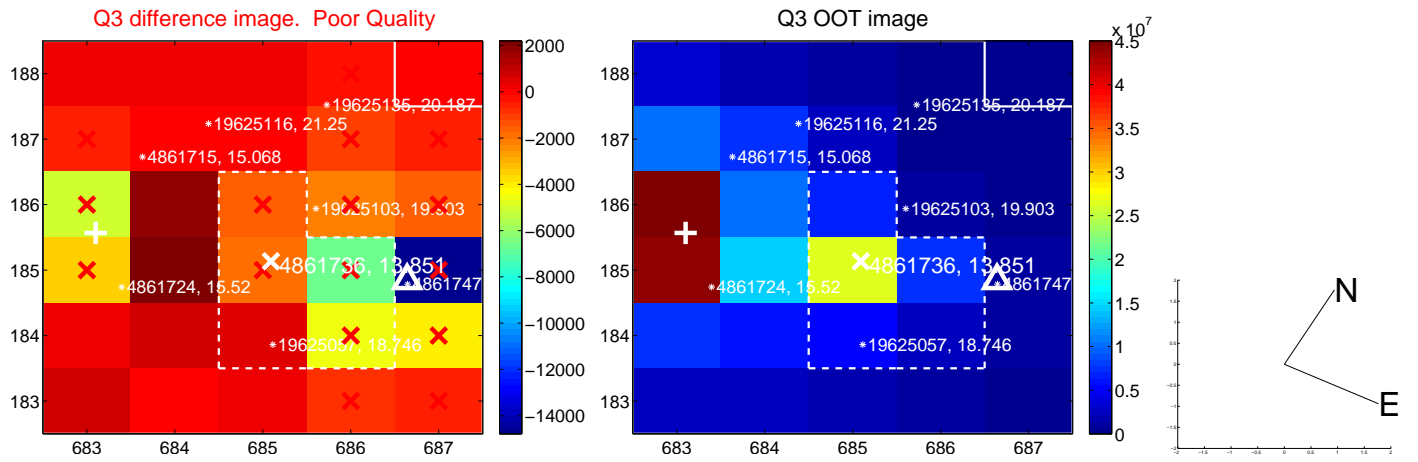
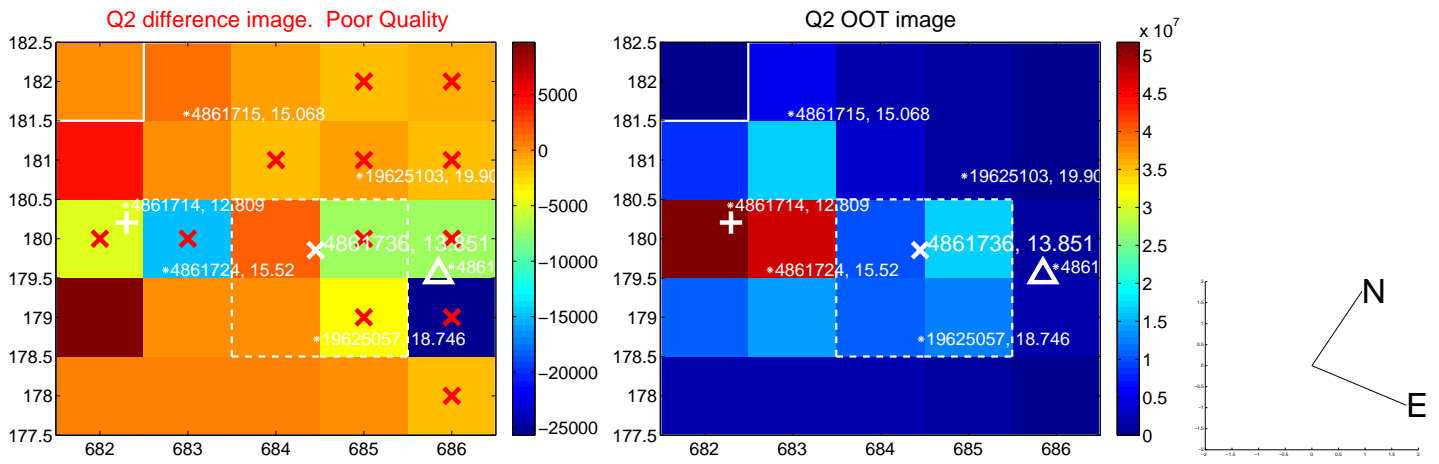
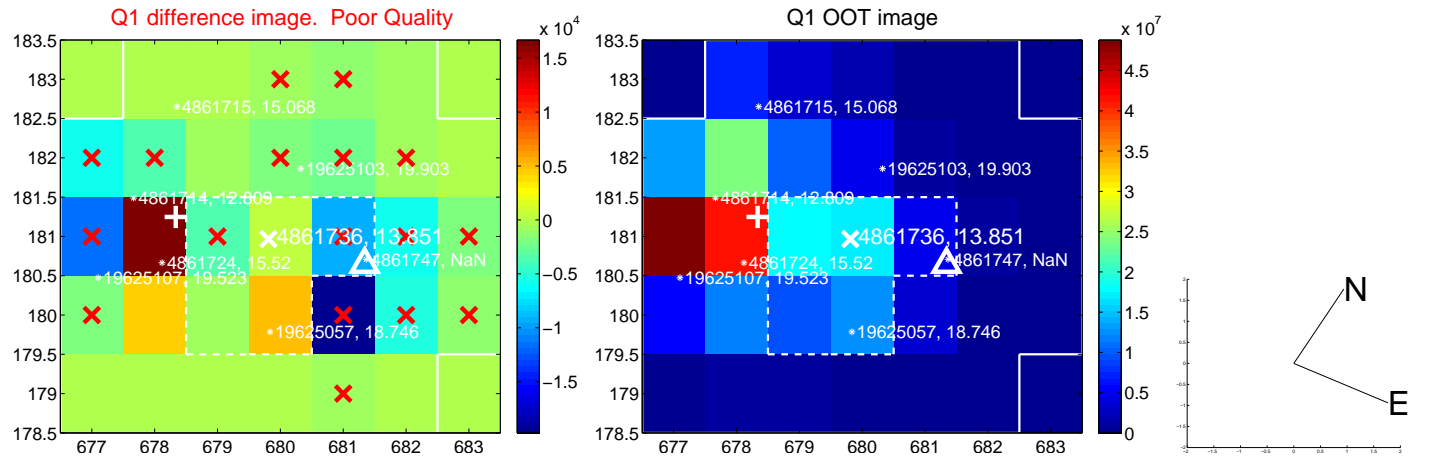
The OOT PRF centroid is offset from the target star catalog position by about 5.30 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	13.643 \pm 0.820	16.64	13.067 \pm 0.810	3.923 \pm 0.248
PRF-fit source offset from KIC position	6.220 \pm 0.638	9.74	5.955 \pm 0.650	1.794 \pm 0.238
photometric centroid source offset	0.32 \pm 1.48	0.22	0.14 \pm 2.55	0.29 \pm 1.11

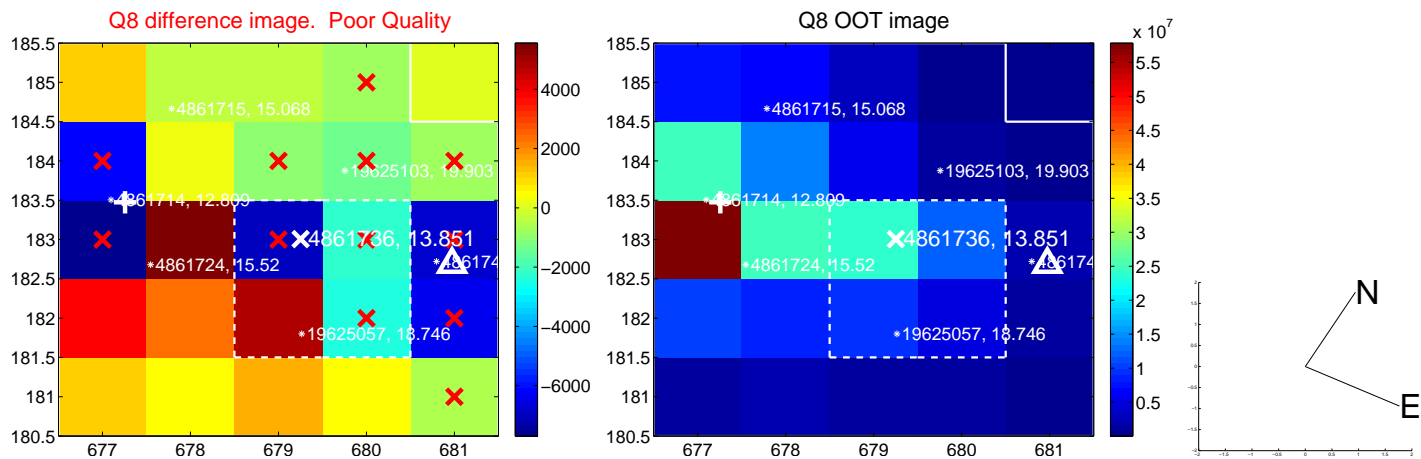
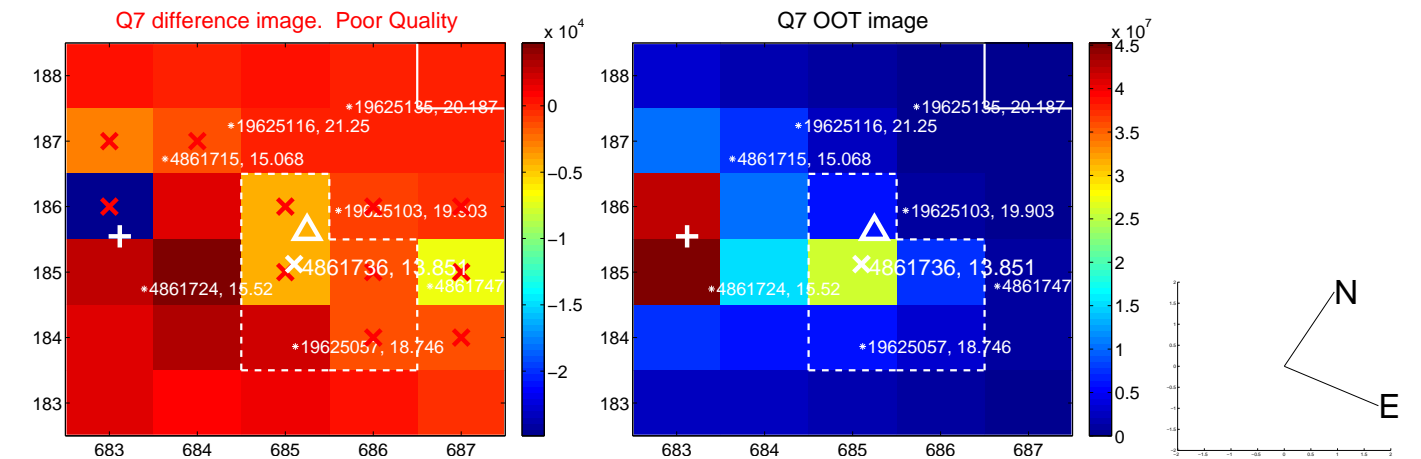
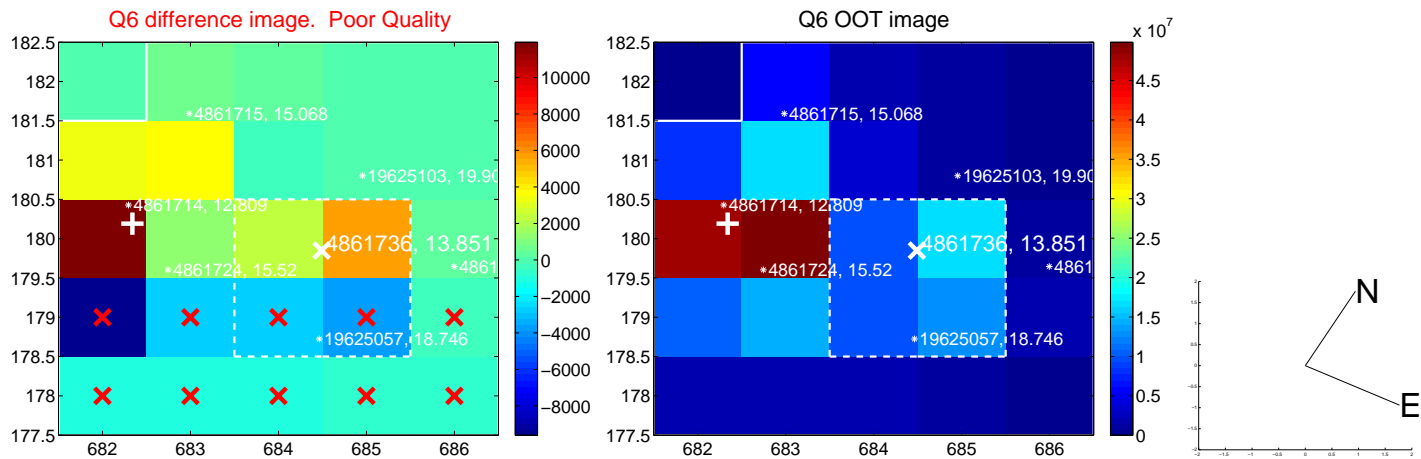
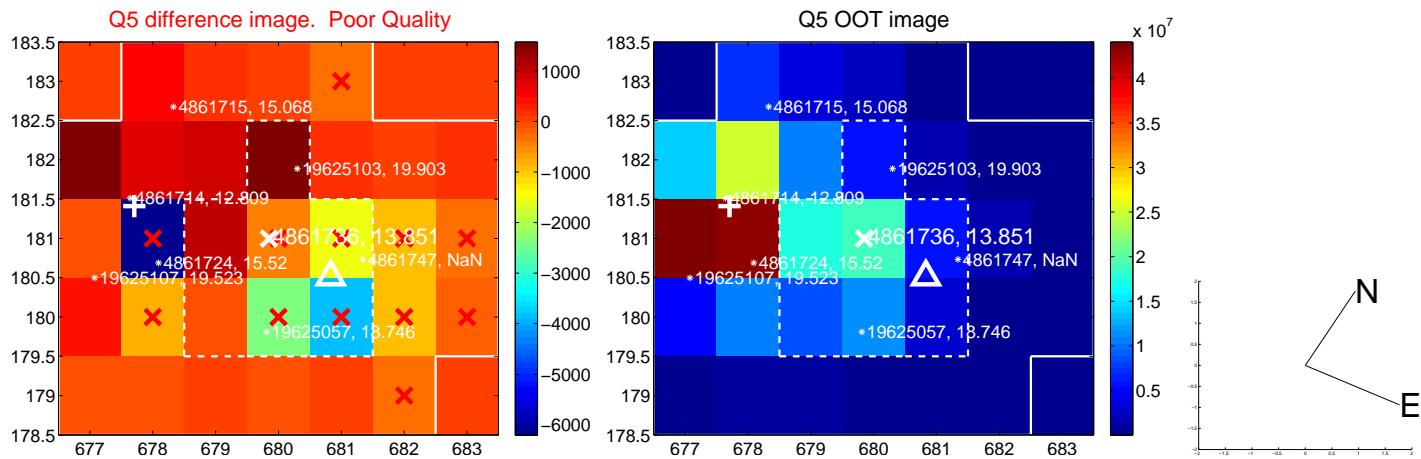


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

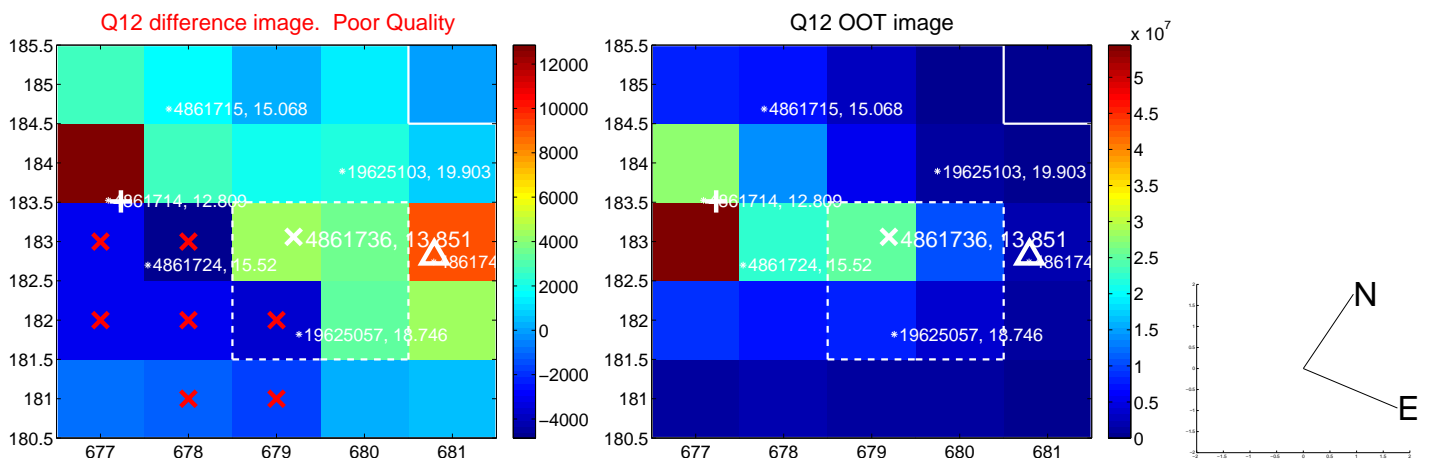
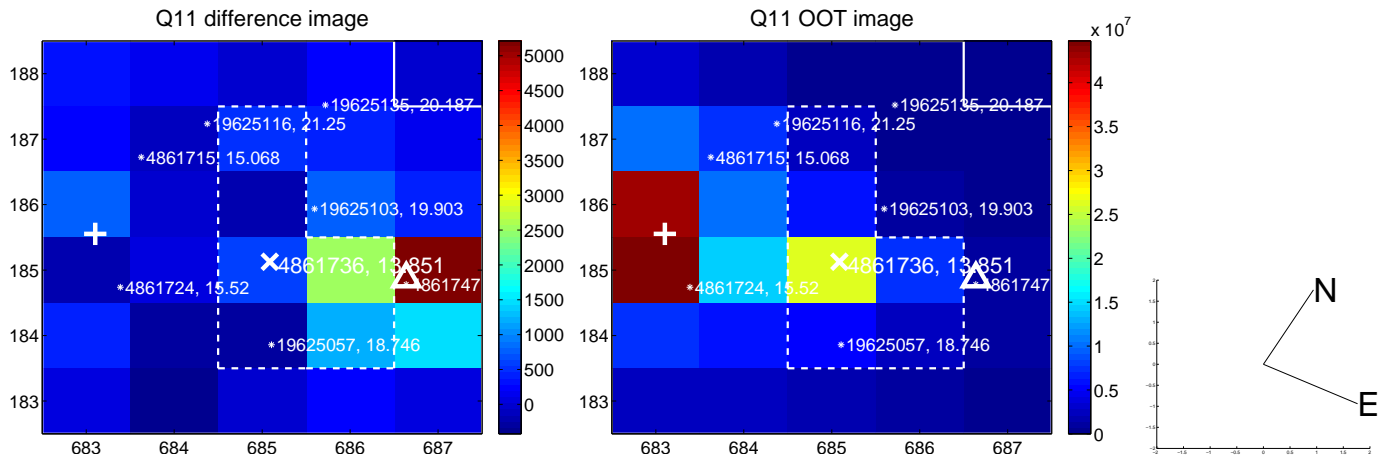
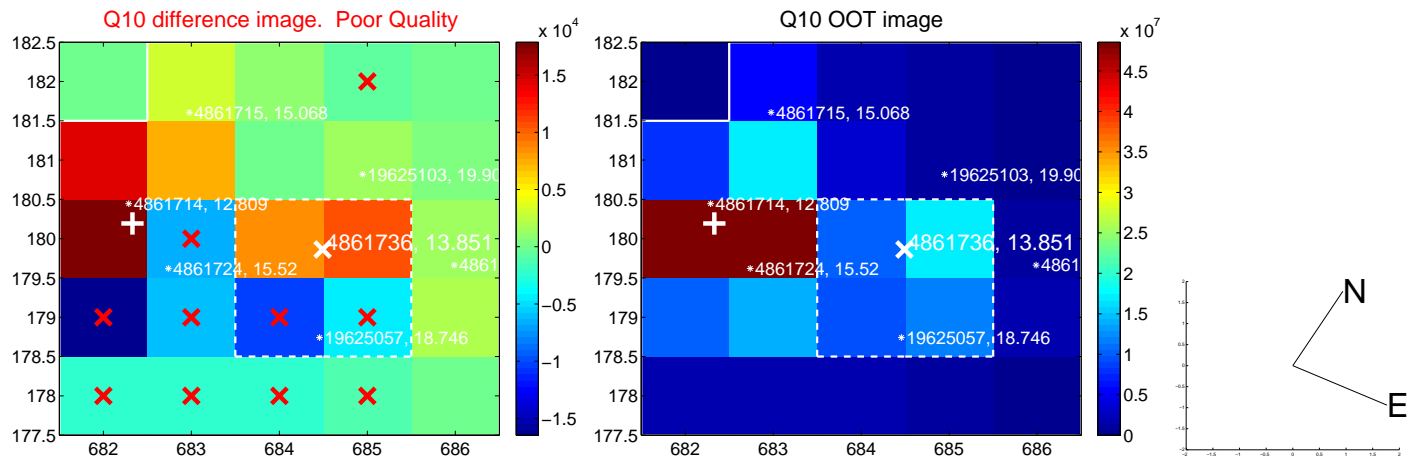
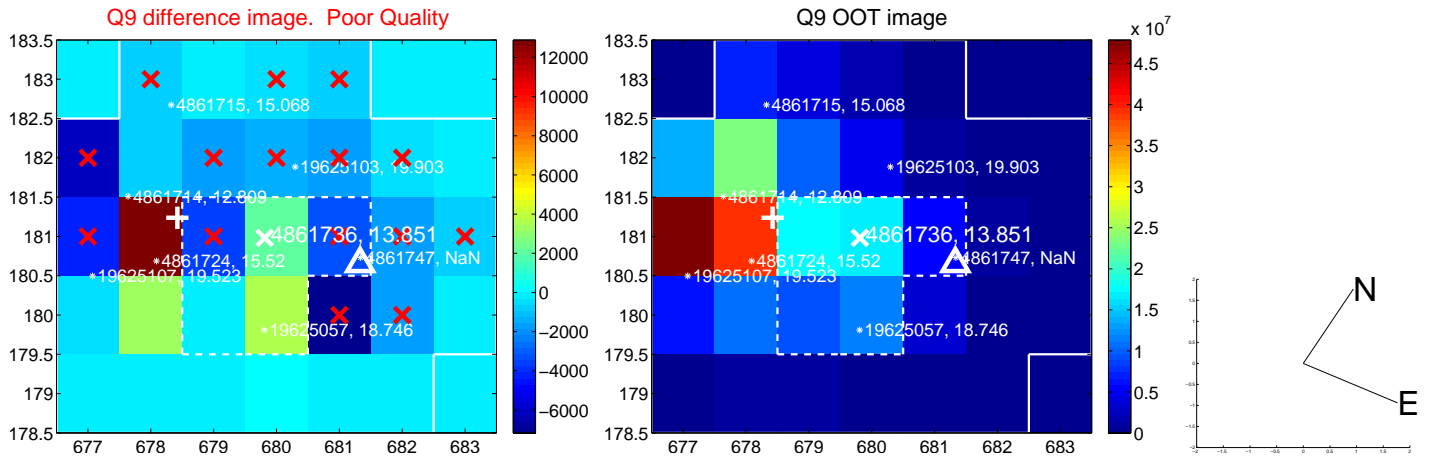
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



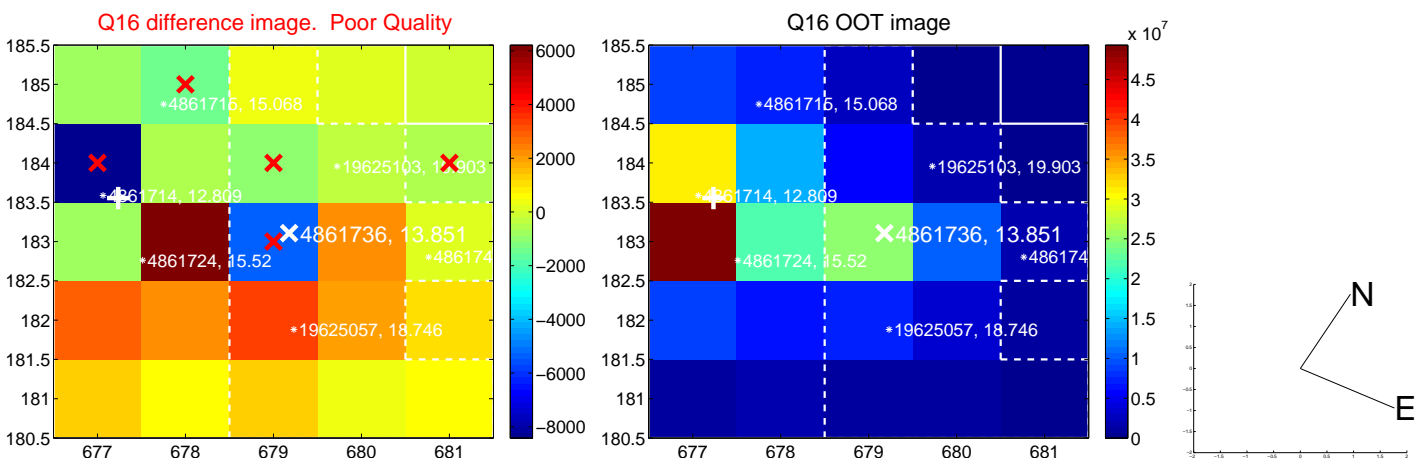
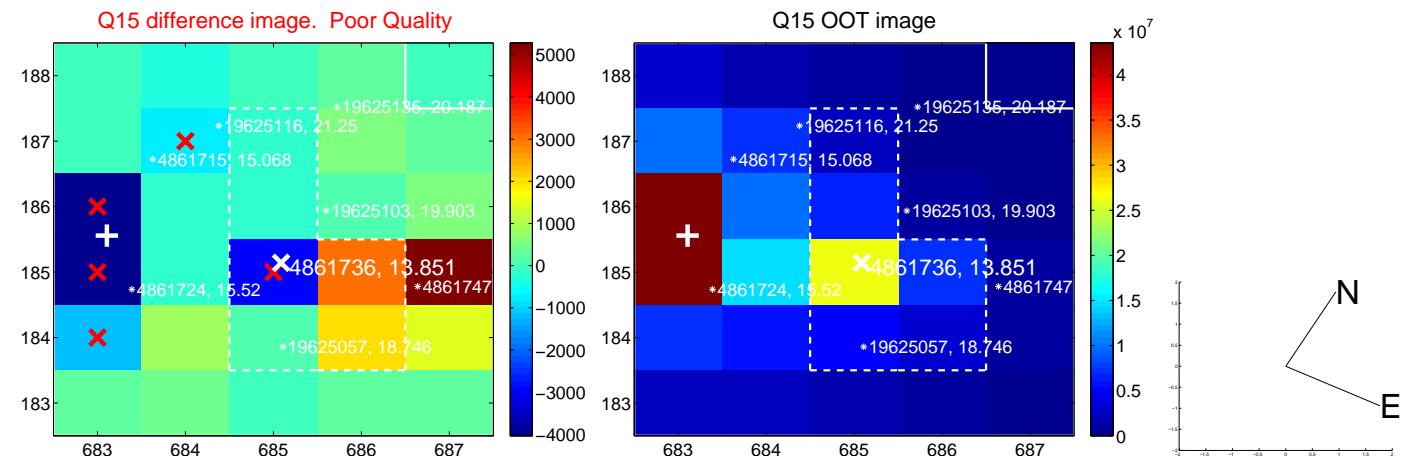
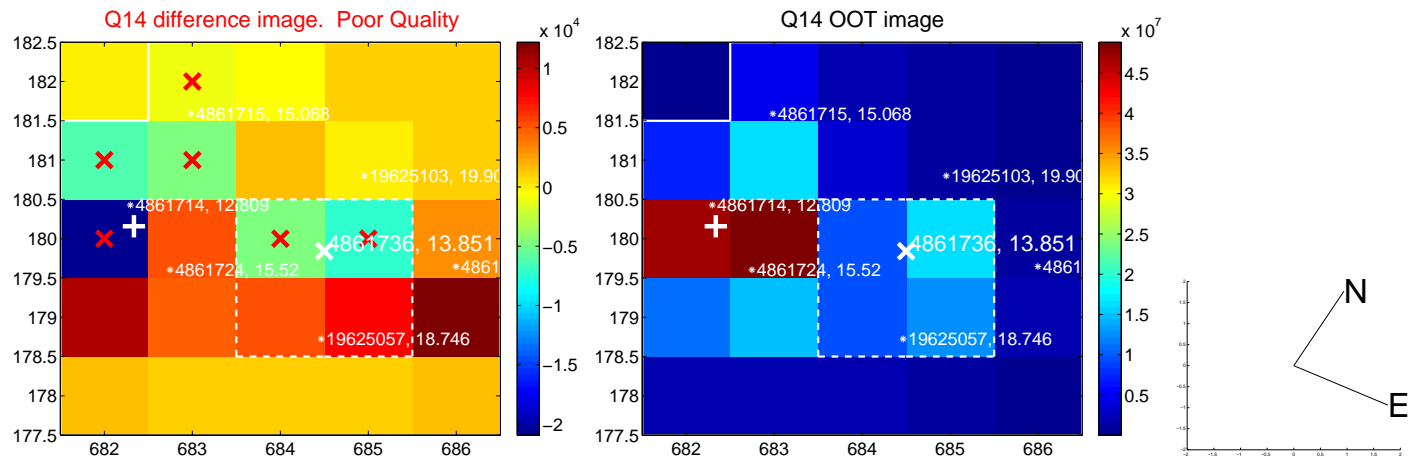
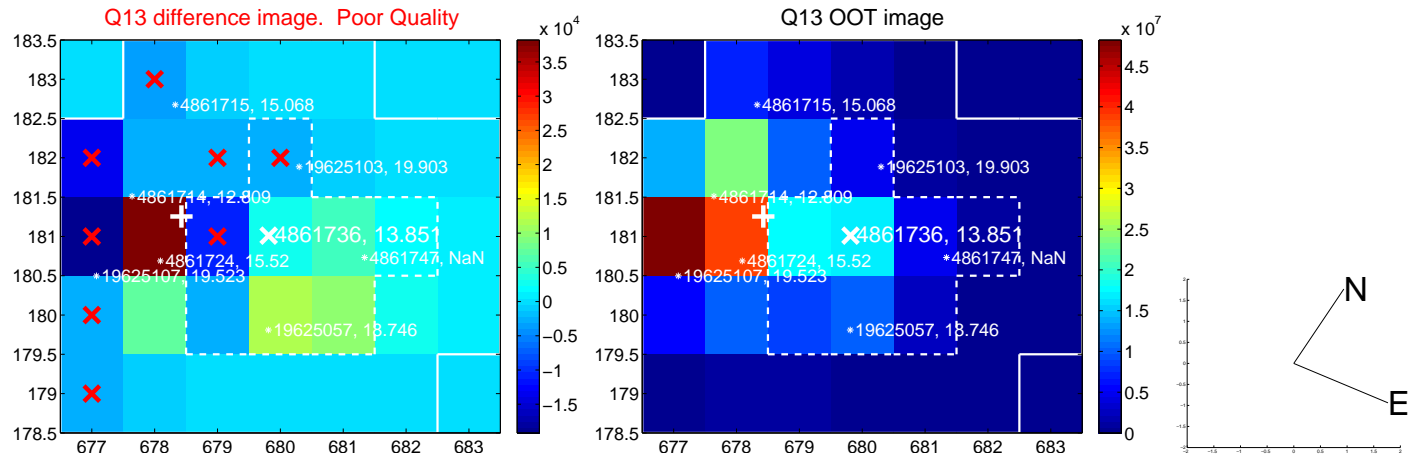
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



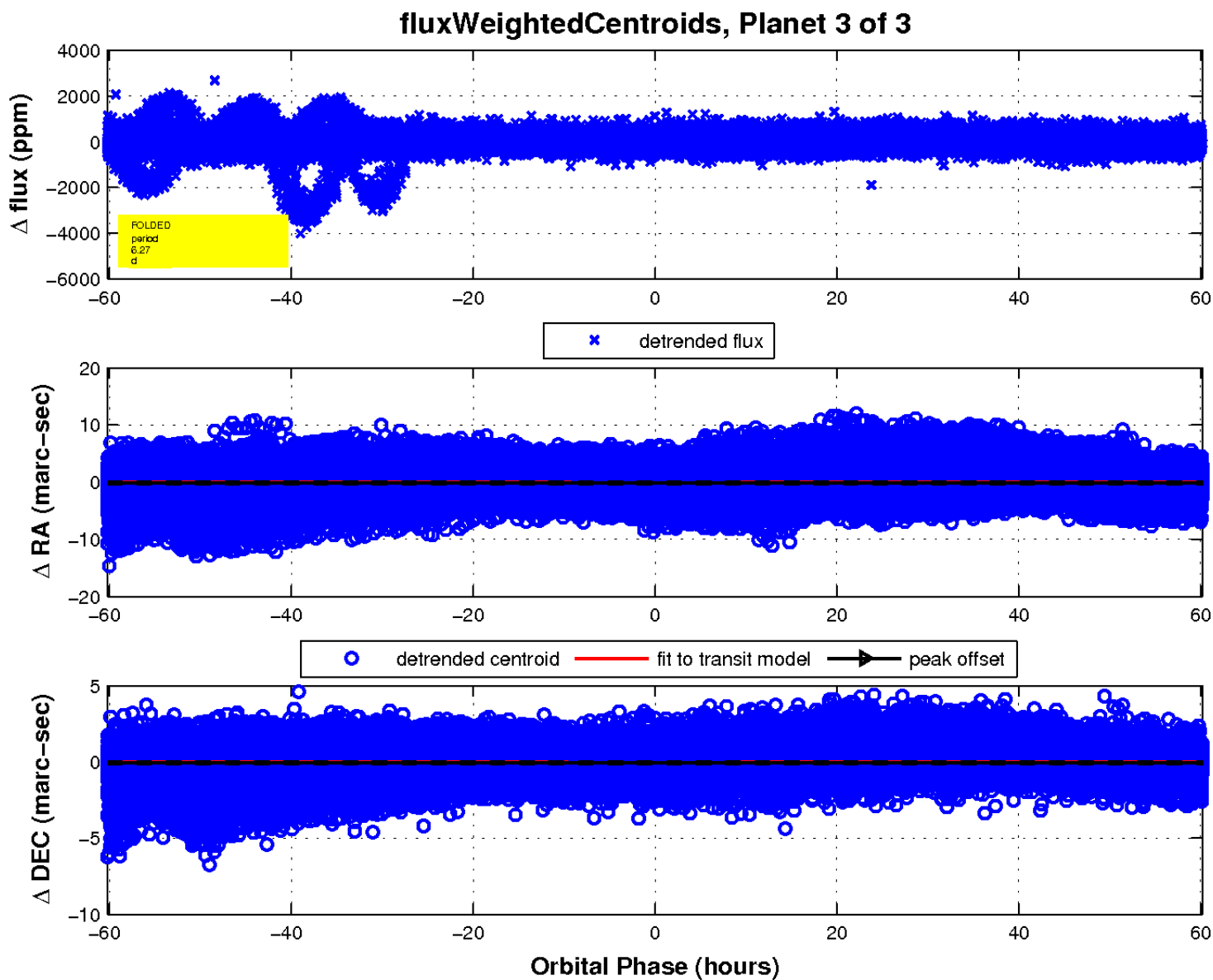
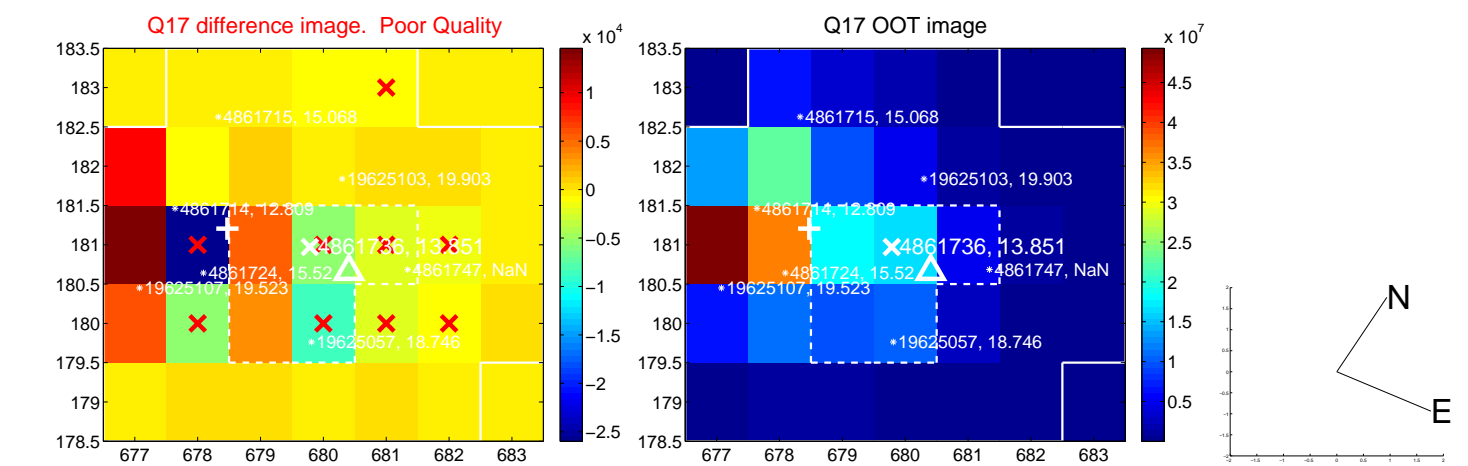
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

