

KIC 004948863

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})
004948863-01	OBS	6479.01	8.643527	139.836201	66466.7	3.134	2281.5	1438.1	0.75	5679	27.93	87.35
004948863-02	OBS	No	8.643558	135.536316	14224.4	3.009	518.2	448.3	0.75	5679	14.50	87.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004948863-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
004948863-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

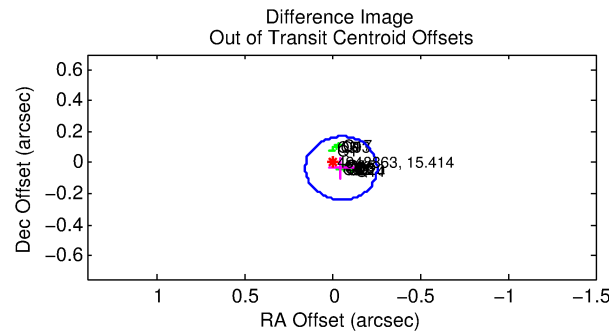
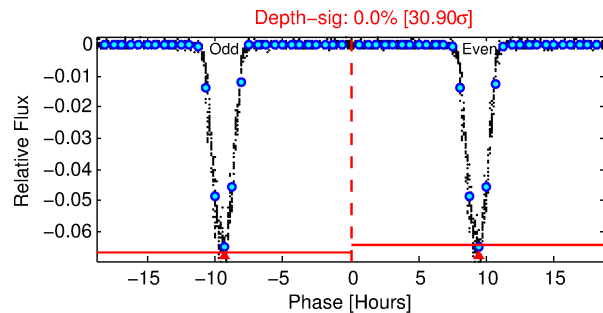
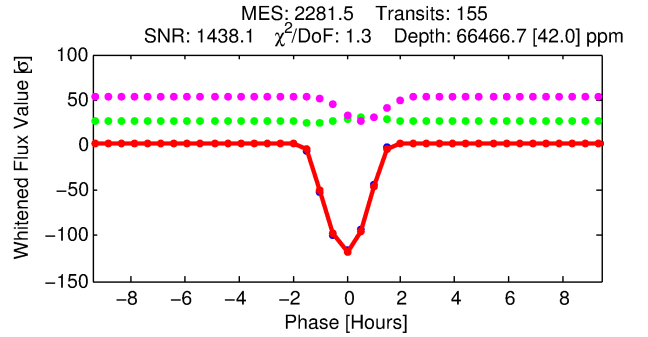
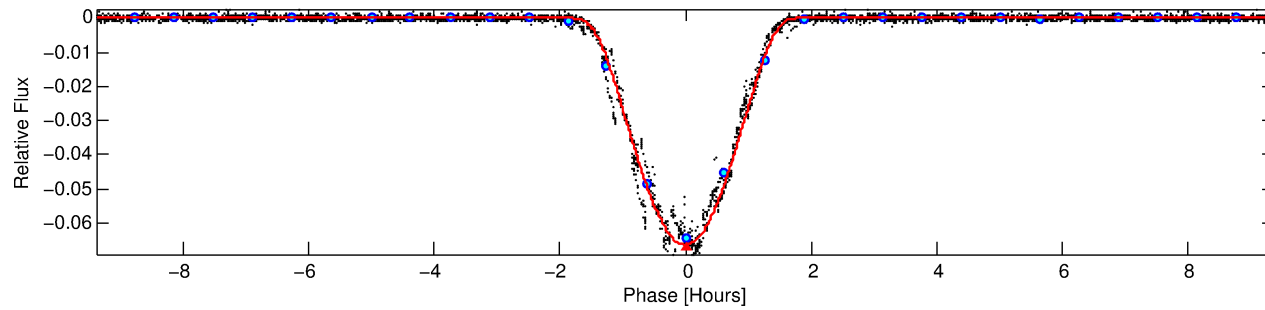
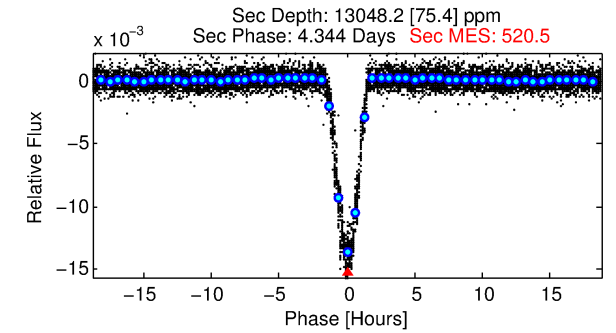
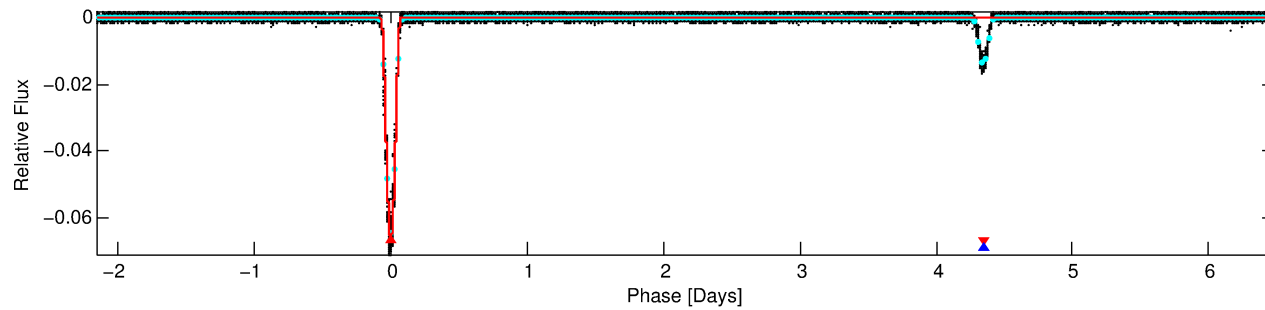
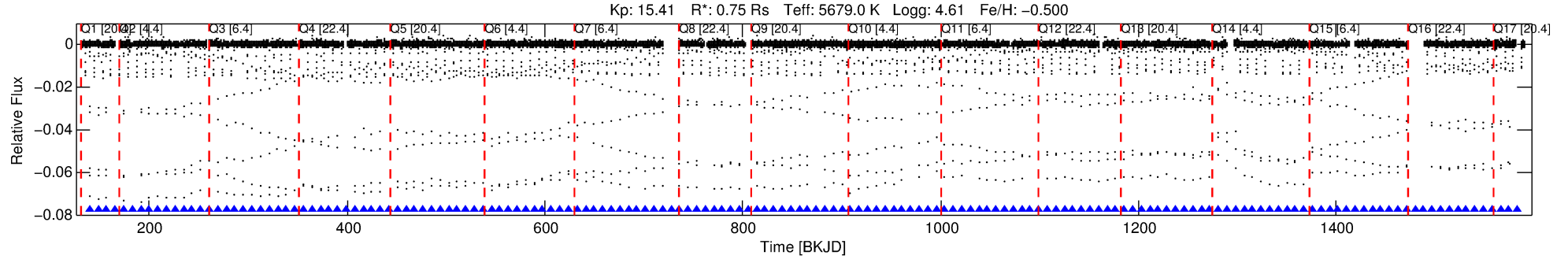
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004948863-01

No Significant Match Found

DV One-Page Summary

KIC: 4948863 Candidate: 1 of 2 Period: 8.644 d
KOI: K06479.01 Corr: 0.989



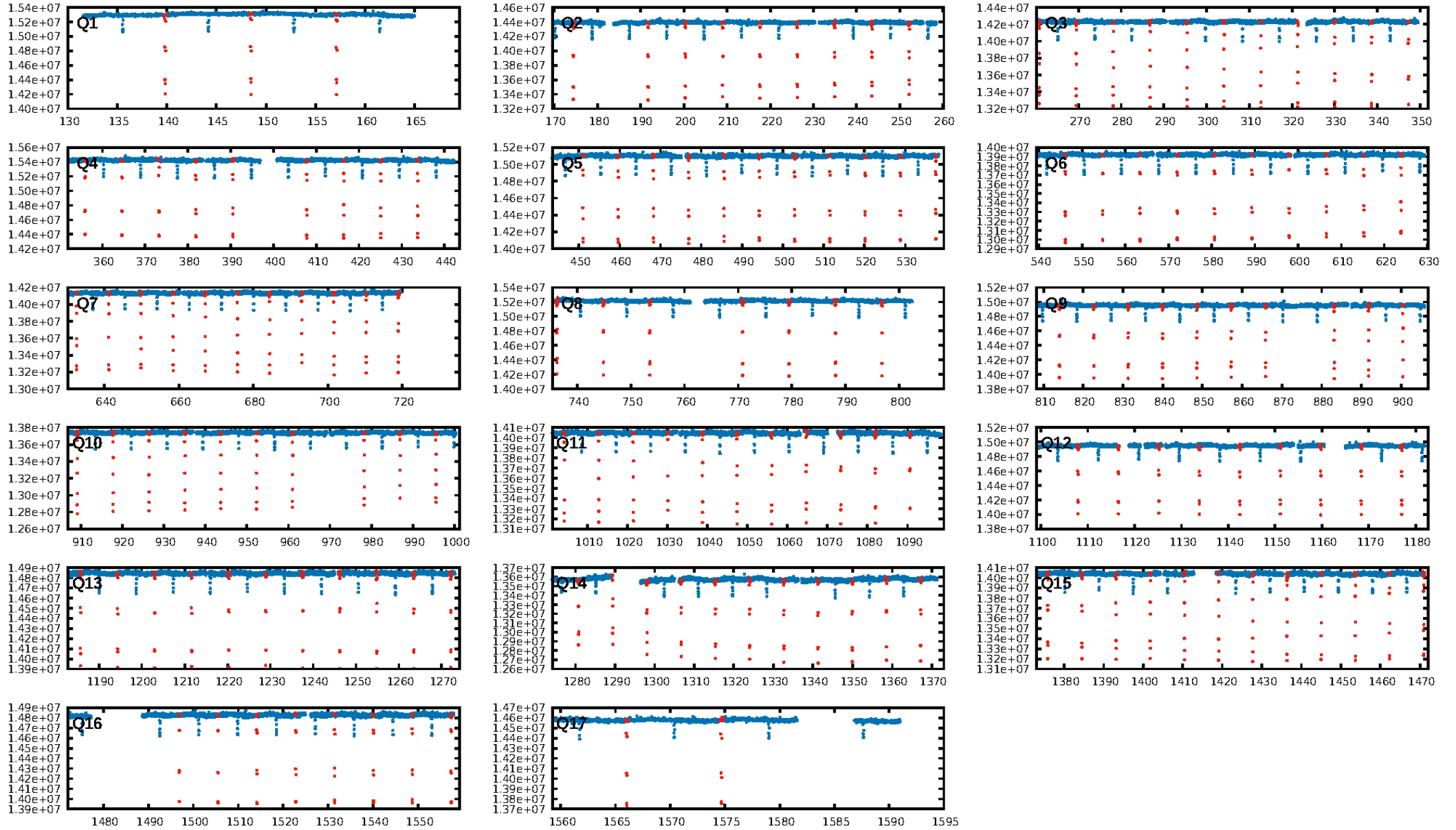
DV Fit Results:

Period = 8.64353 [0.00000] d
Epoch = 139.8362 [0.0000] BKJD
Rp/R* = 0.3426 [0.0116]
a/R* = 20.84 [0.03]
b = 0.91 [0.02]
Seff = 87.35 [24.27]
Teff = 780 [54] K
Rp = 27.93 [5.91] Re
a = 0.0772 [0.0134] AU
Ag = 54.79 [14.18] [3.79σ]
Teffp = 3279 [114] K [19.75σ]

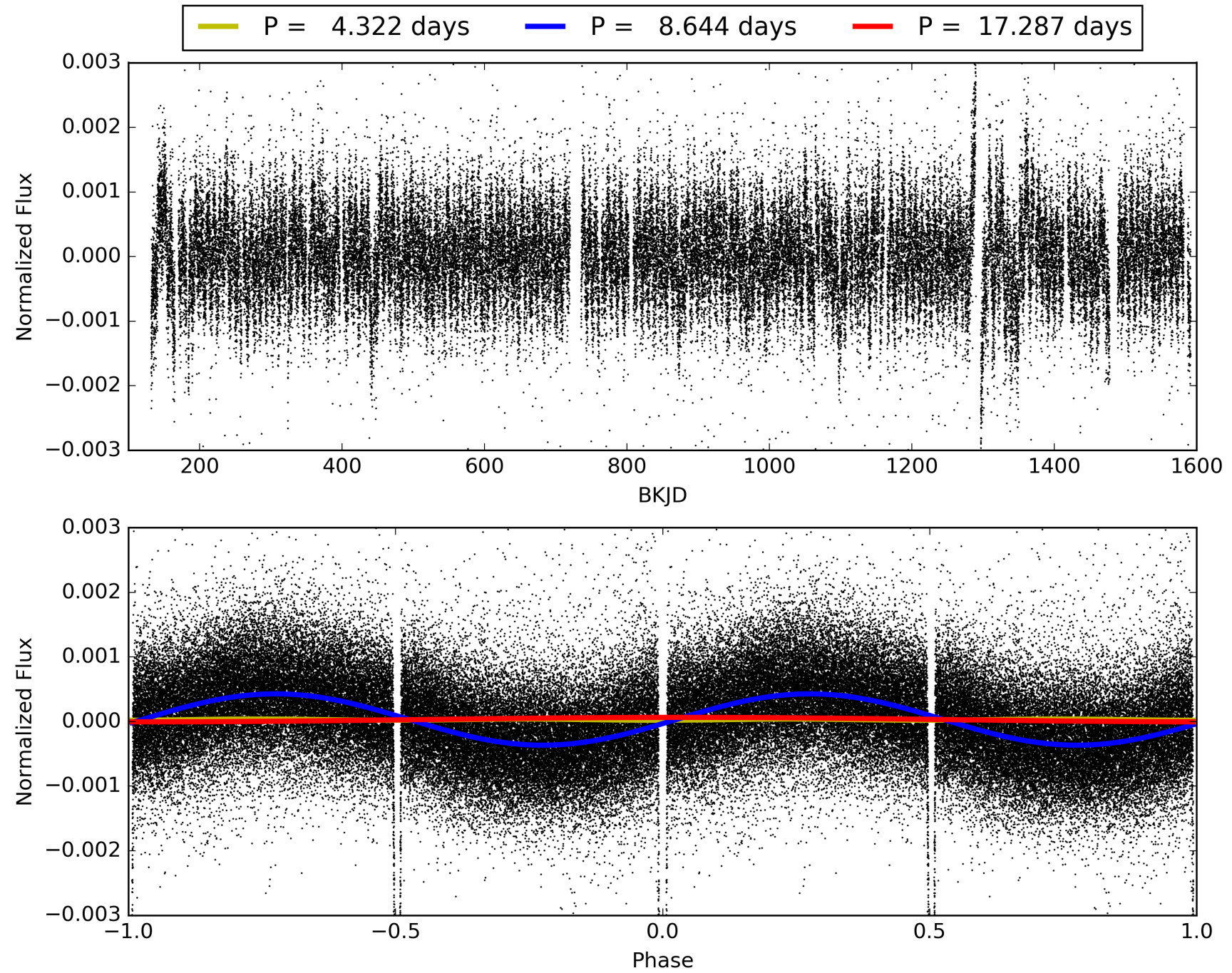
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [150/150]
GhostDiagnostic-chr: 2.937
Centroid-sig: 0.0%
Centroid-so: 0.723 arcsec [133.90σ]
OotOffset-rm: 0.061 arcsec [0.89σ]
KicOffset-rm: 0.070 arcsec [1.04σ]
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]

TCE 004948863-01, PDC Light Curves

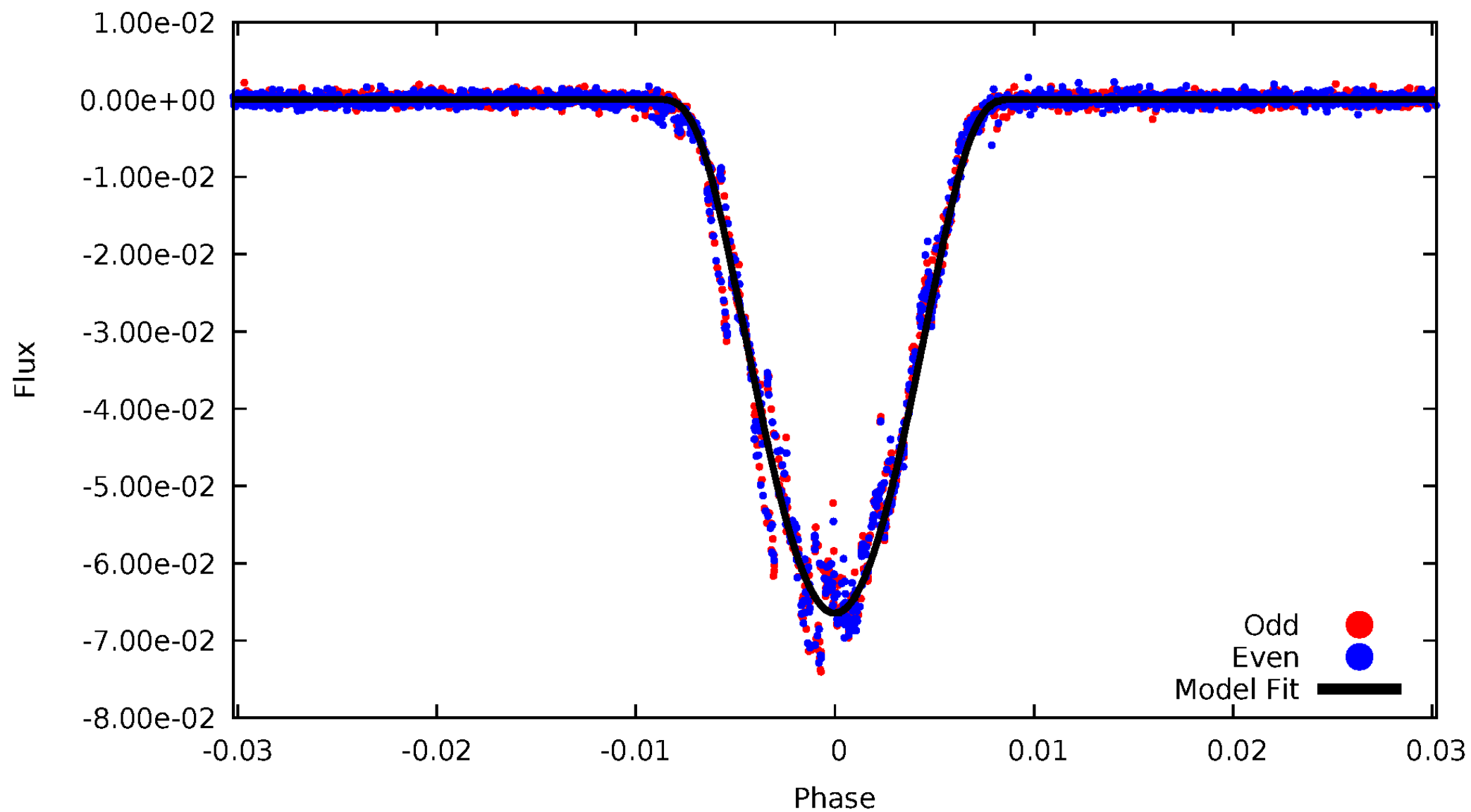


TCE 004948863-01



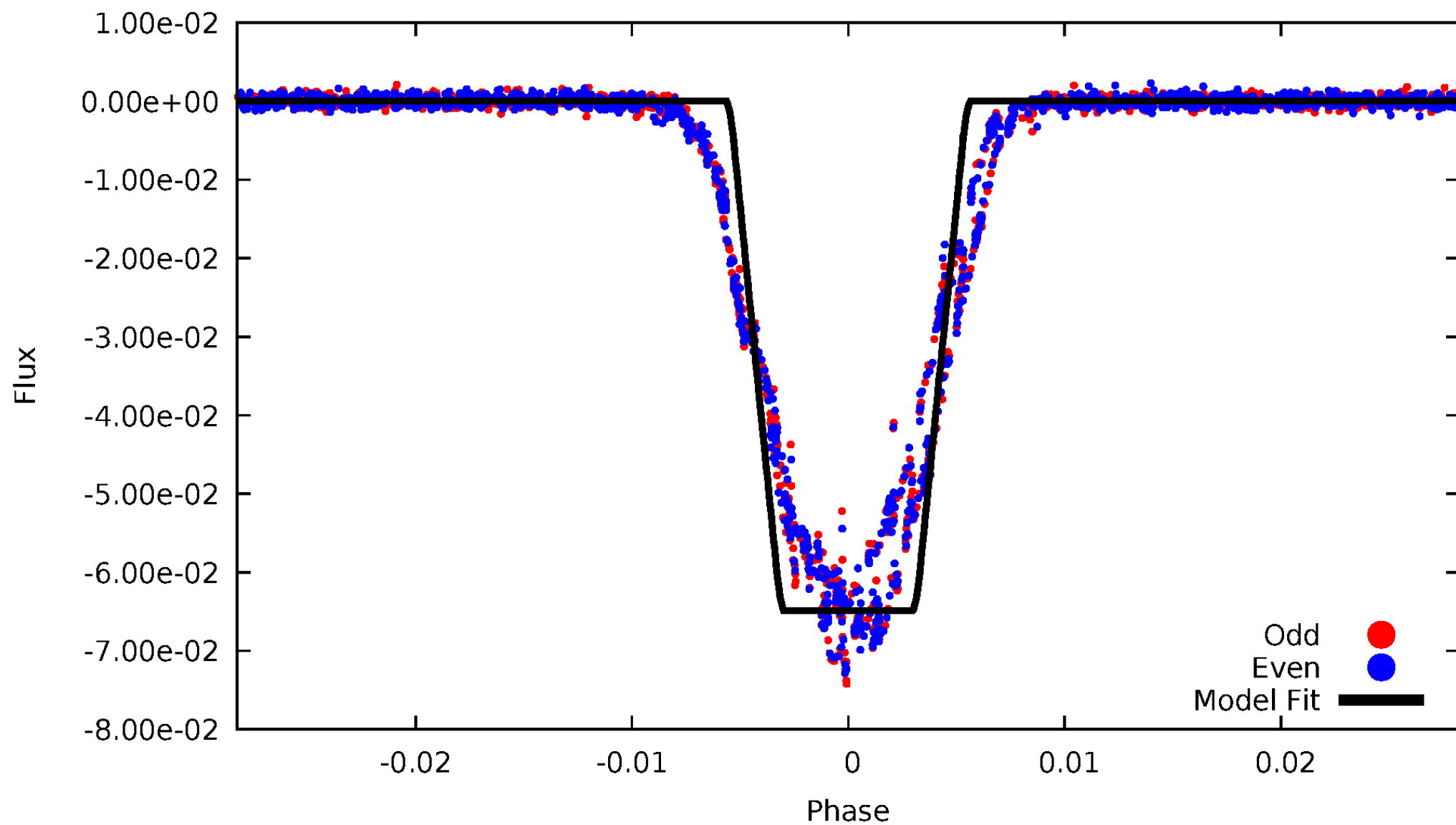
DV Odd/Even

TCE 004948863-01



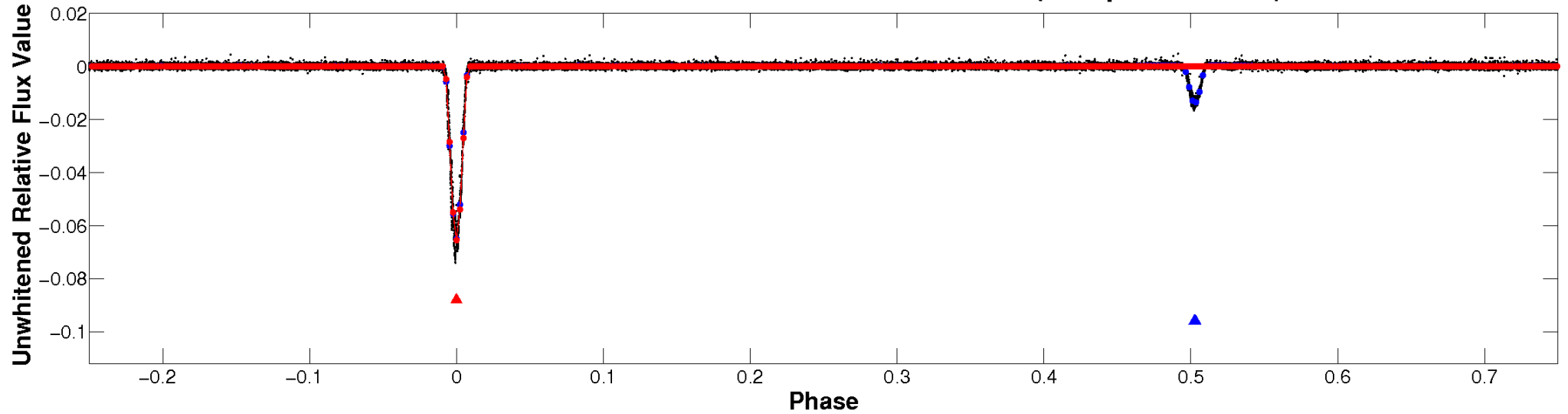
ALT Odd/Even

TCE 004948863-01

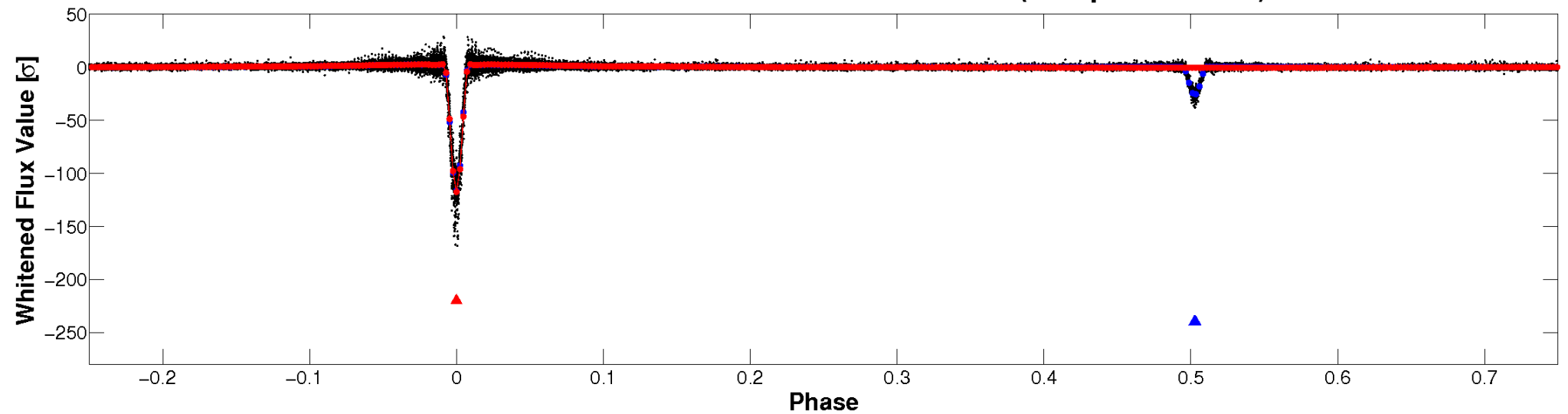


Non-Whitened Vs. Whitened Light Curve

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

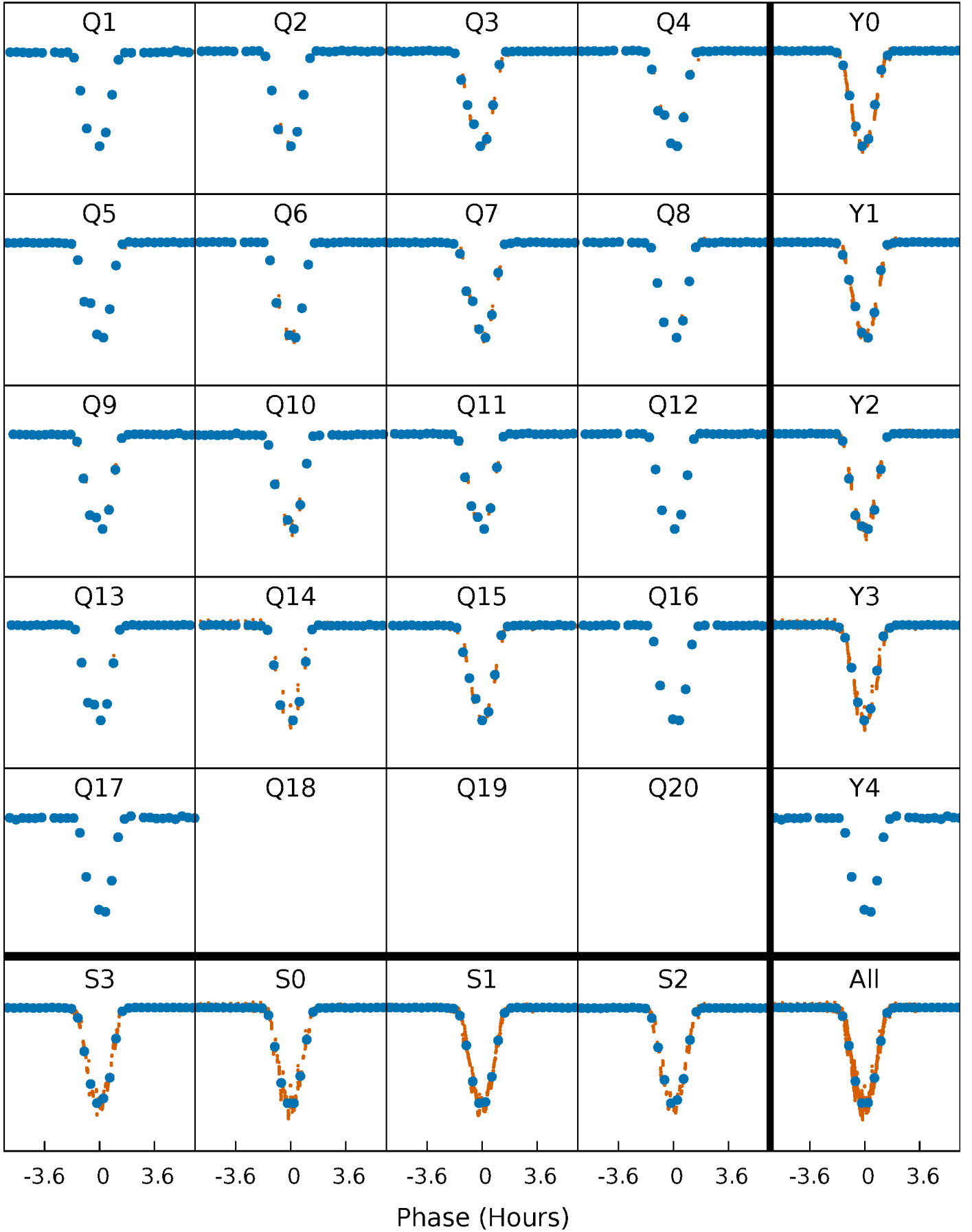


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



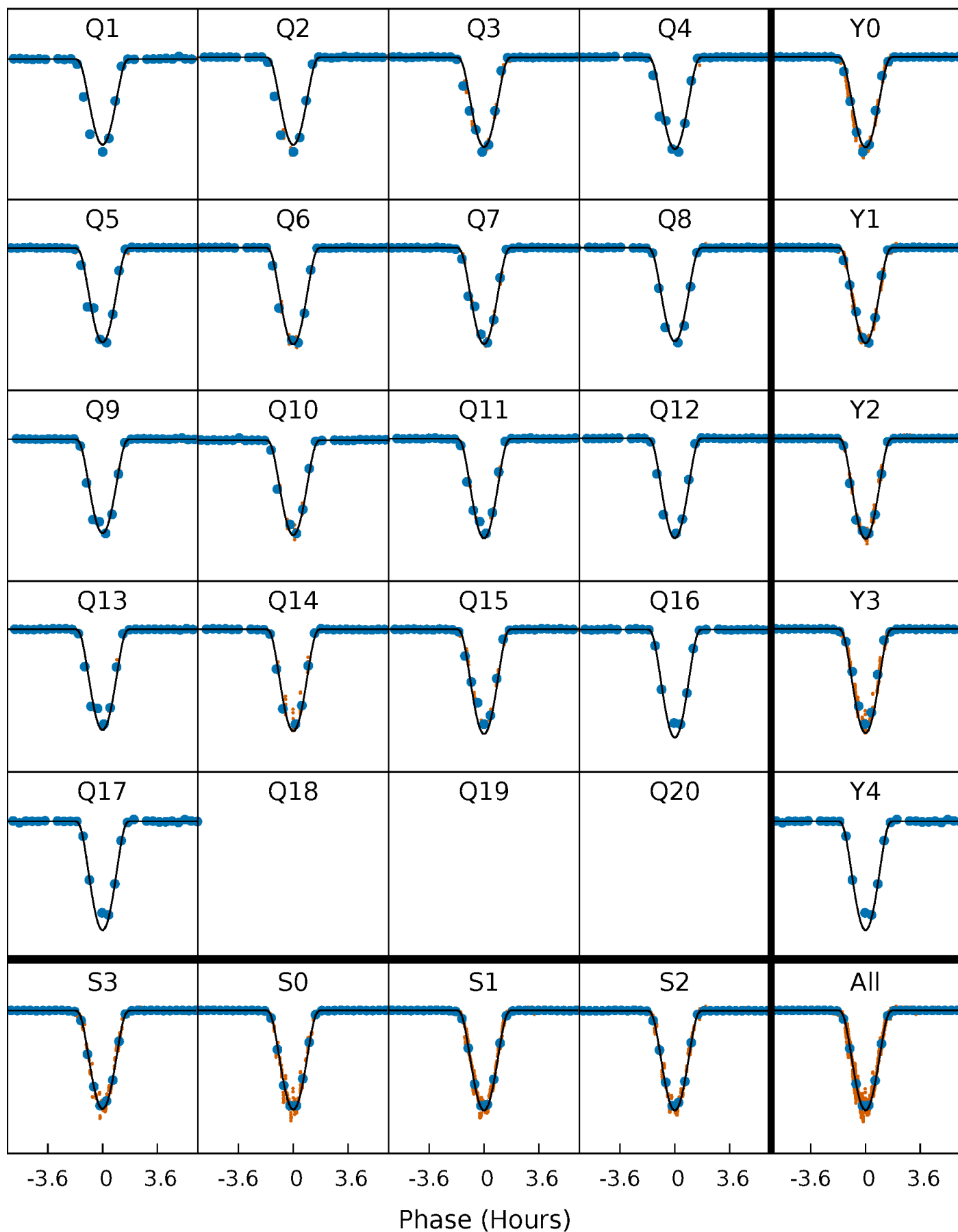
PDC Quarter-Phased Transit Curves

TCE 004948863-01 P= 8.643527 Days $T_0=139.836201$ (BKJD)



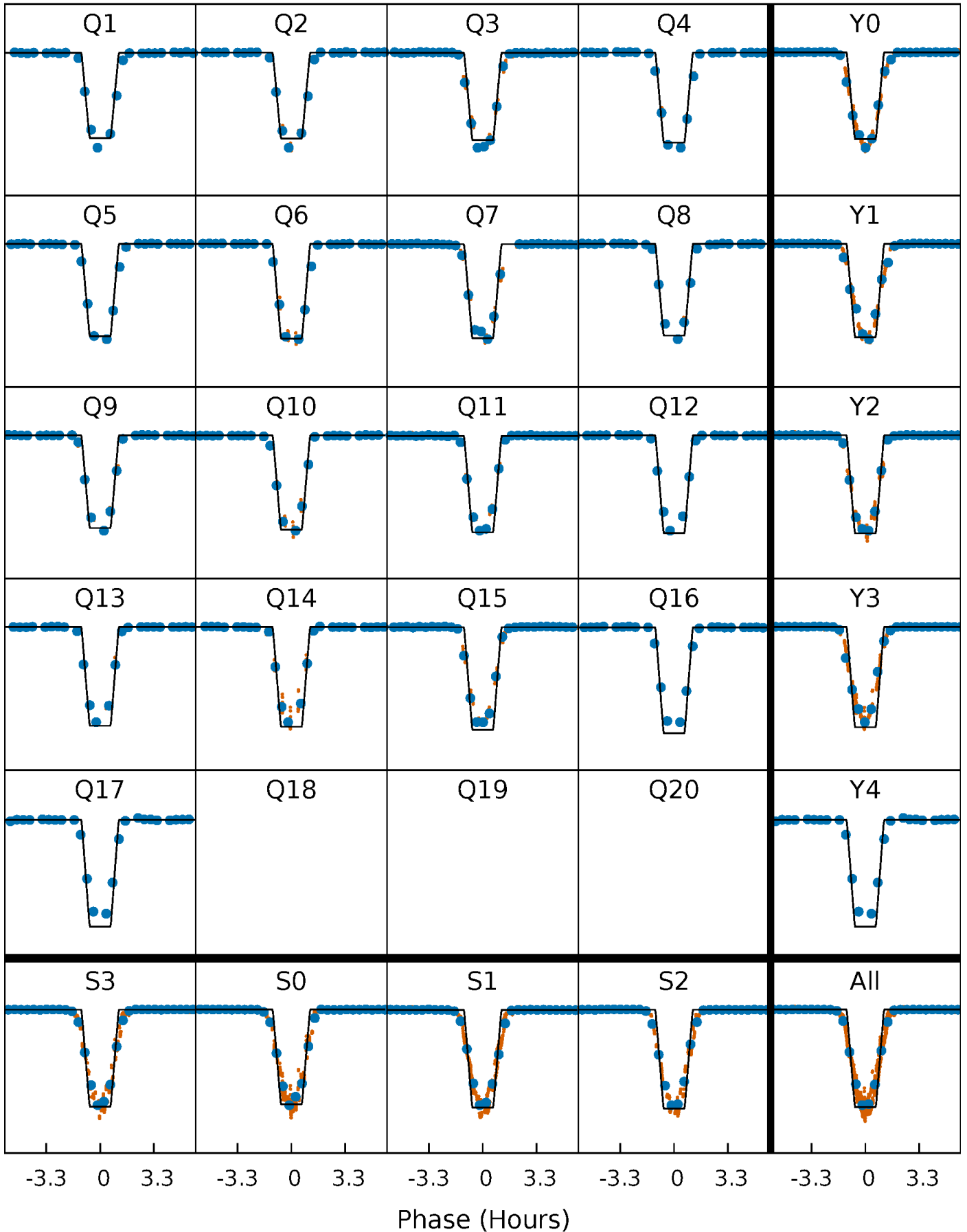
DV Quarter-Phased Transit Curves

TCE 004948863-01 P= 8.643527 Days $T_0=139.836201$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

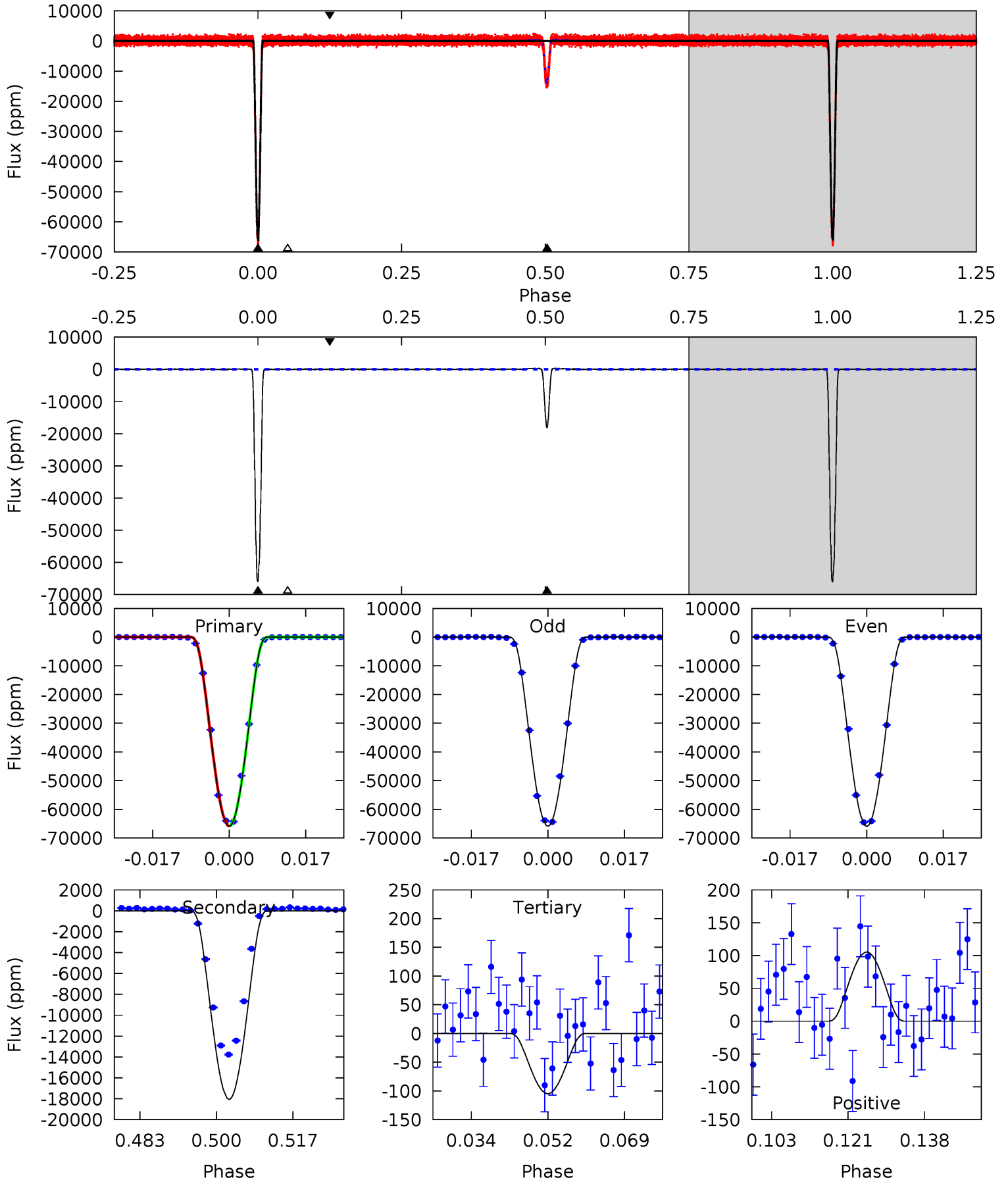
TCE 004948863-01 P= 8.643583 Days $T_0=139.830538$ (BKJD)



DV Model-Shift Uniqueness Test

004948863-01, P = 8.643527 Days, E = 131.192674 Days

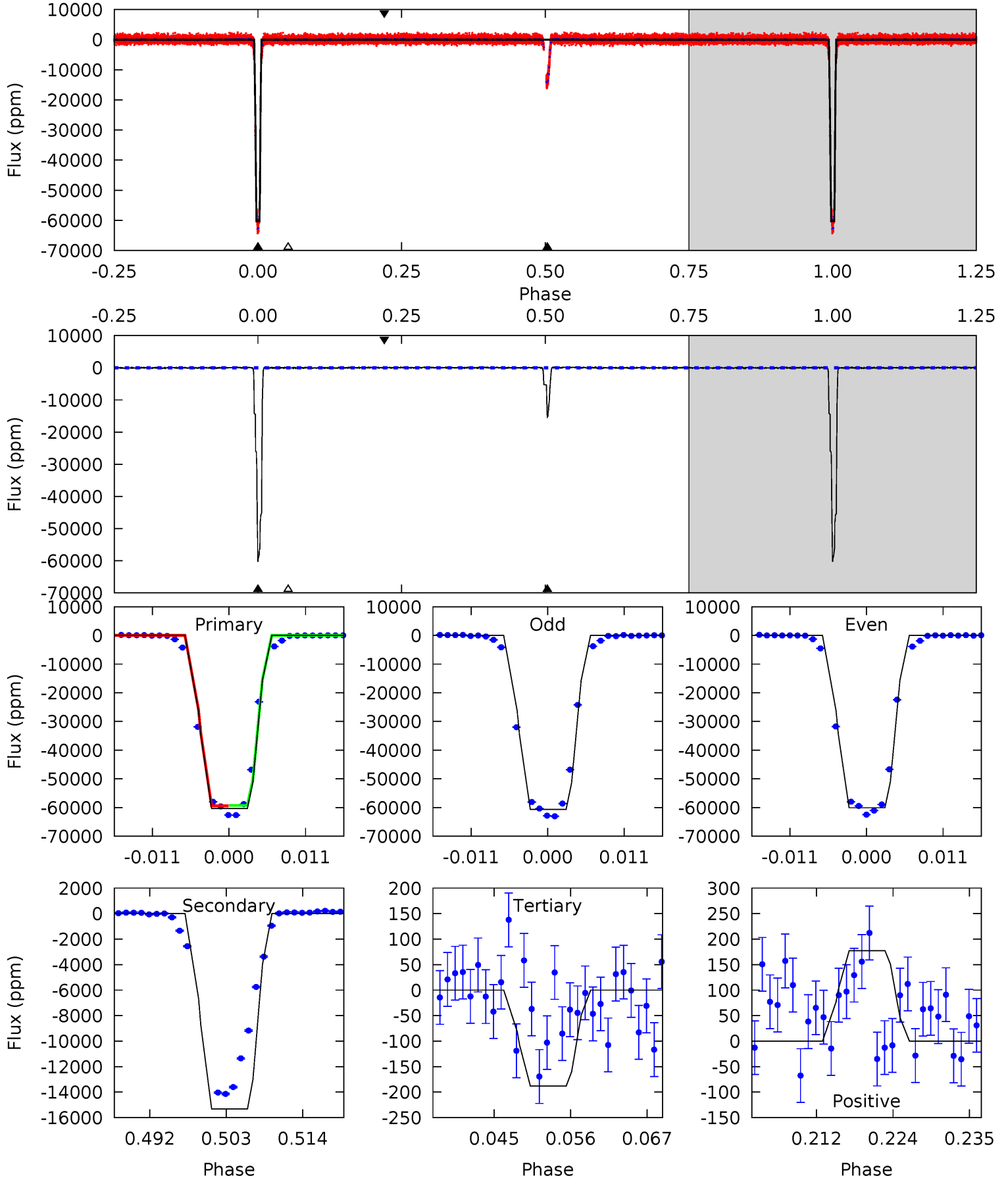
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3129	857.3	4.98	5.00	4.92	2.38	2.77	3124	3124	852.3	852.3	0.94	1.00	0.00	0.16



Alt Model-Shift Uniqueness Test

004948863-01, P = 8.643583 Days, E = 131.186955 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1422	361.3	4.44	4.18	5.00	2.54	1.36	1418	1418	356.9	357.1	6.23	1.00	0.00	1.92



Stellar Parameters For KIC 004948863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5679^{+173}_{-173}	$4.605^{+0.036}_{-0.135}$	$-0.500^{+0.300}_{-0.300}$	$0.747^{+0.156}_{-0.052}$	$0.849^{+0.079}_{-0.096}$	$2.872^{+0.405}_{-1.173}$
	+3%/-3%	+1%/-3%	+60%/-60%	+21%/-7%	+9%/-11%	+14%/-41%
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 004948863-01 / KOI 6479.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18055 ± 21	$28.88^{+3.04}_{-2.13}$	1107^{+56}_{-47}	3904^{+98}_{-96}	73^{+10}_{-12}
Alt.	-15324 ± 42	$21.58^{+2.46}_{-1.81}$	1107^{+59}_{-42}	4227^{+123}_{-127}	110^{+17}_{-20}

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

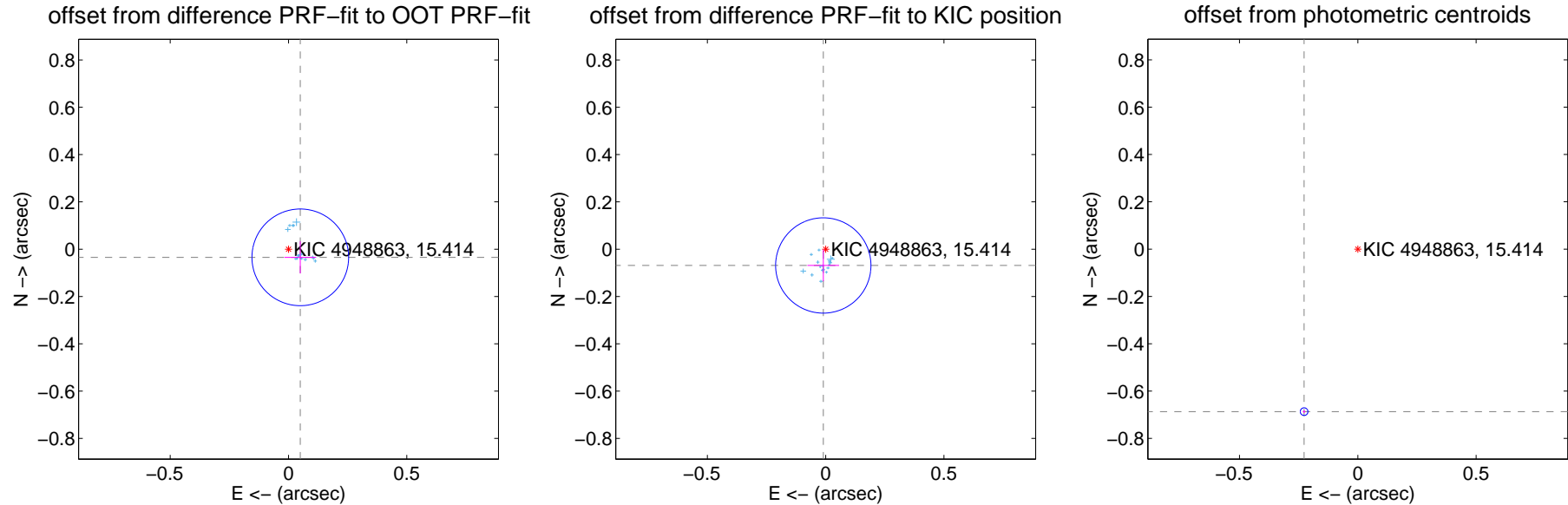
DV Centroid Data

Supplemental centroid analysis for 004948863-01. Kepler magnitude: 15.41. Transit SNR 1438.13

There are 17 quarters with good PRF difference image offsets

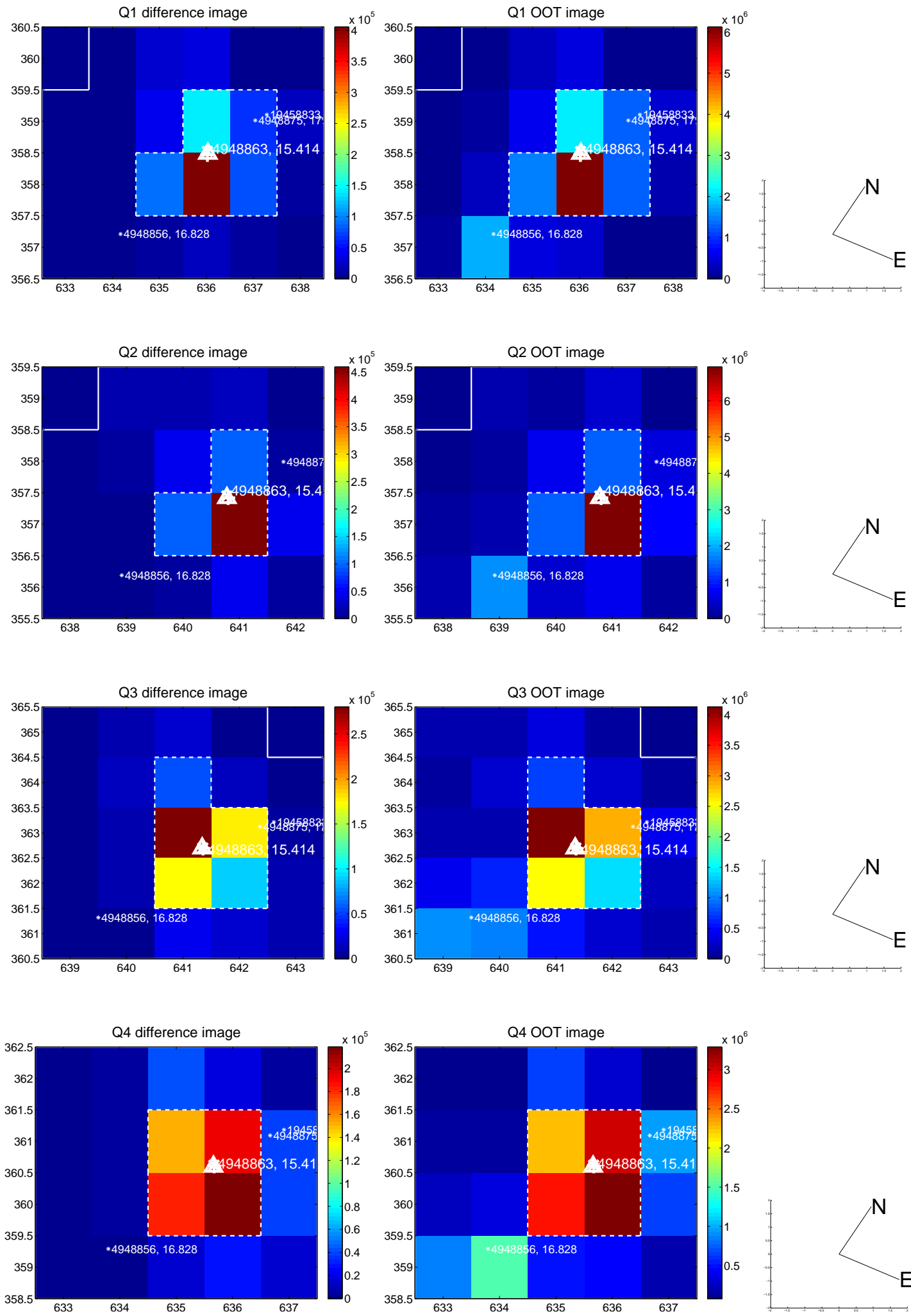
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.068	0.89	-0.050 ± 0.067	-0.034 ± 0.068
PRF-fit source offset from KIC position	0.070 ± 0.067	1.04	0.010 ± 0.067	-0.069 ± 0.067
photometric centroid source offset	0.72 ± 0.01	133.90	0.23 ± 0.01	-0.69 ± 0.01

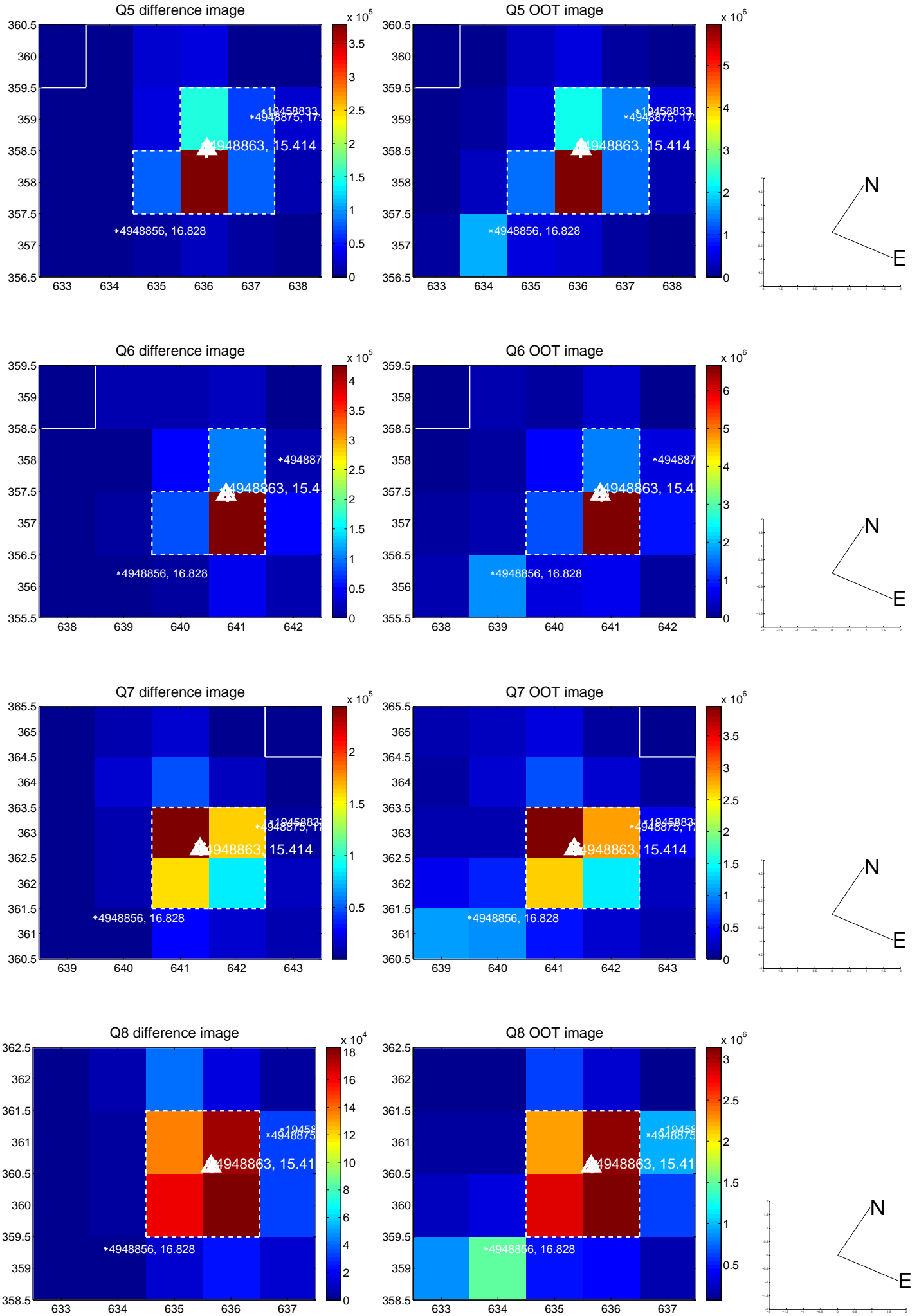


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

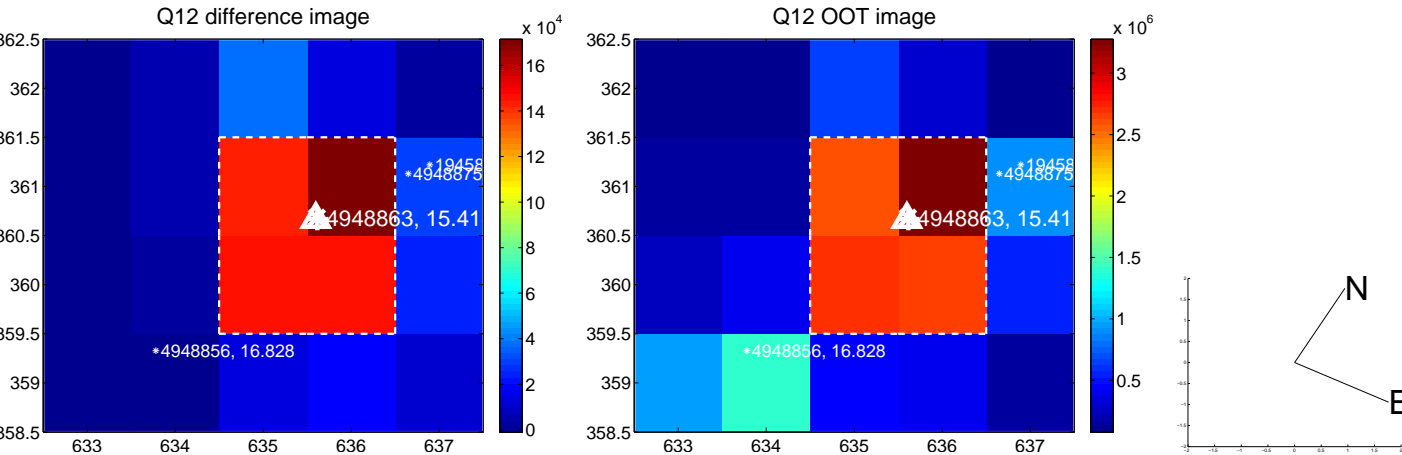
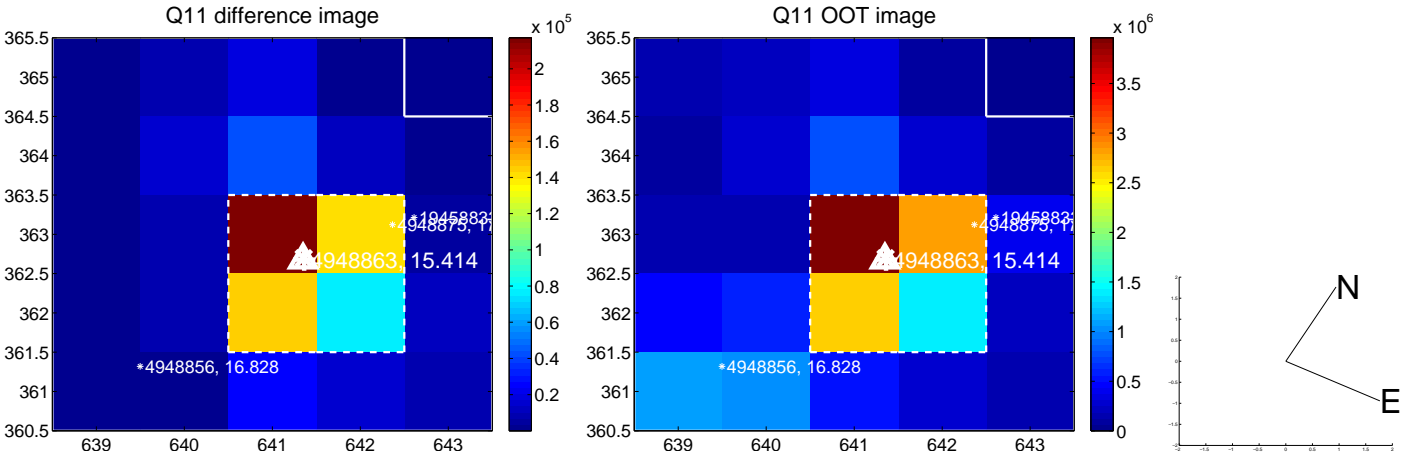
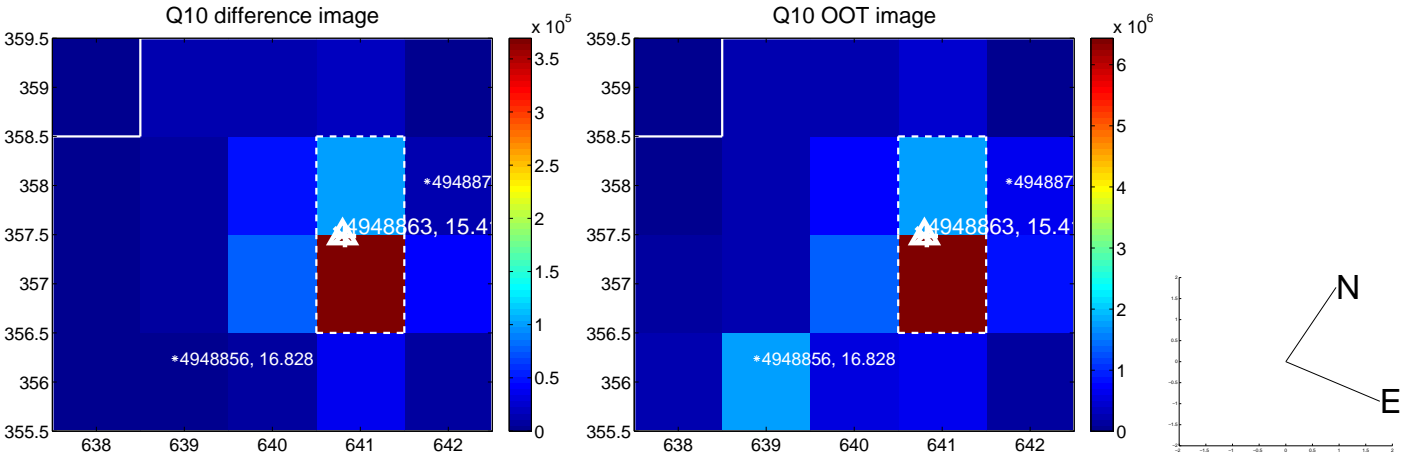
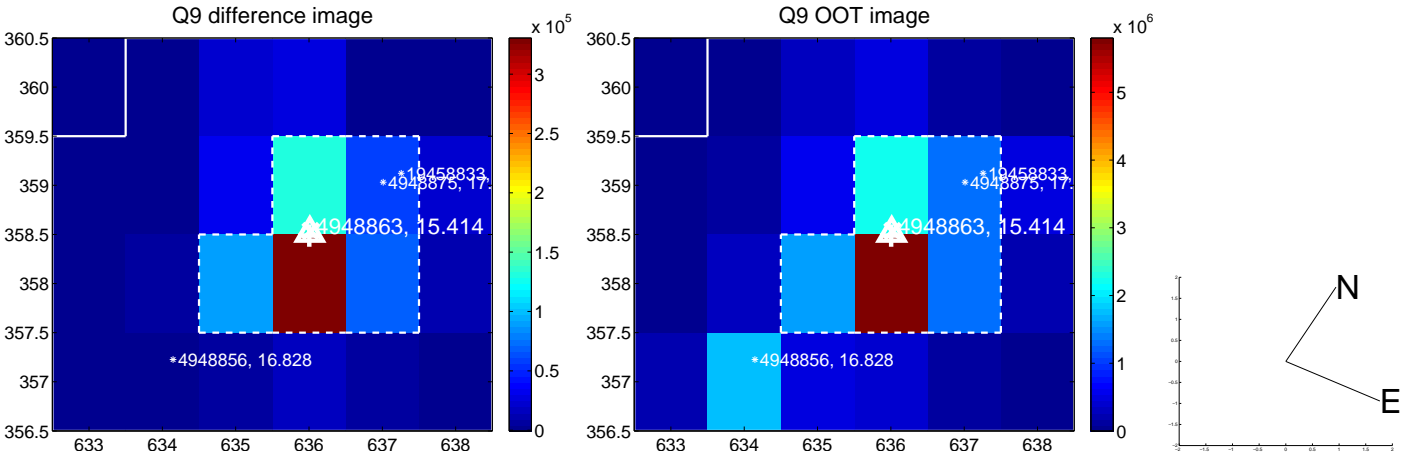
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



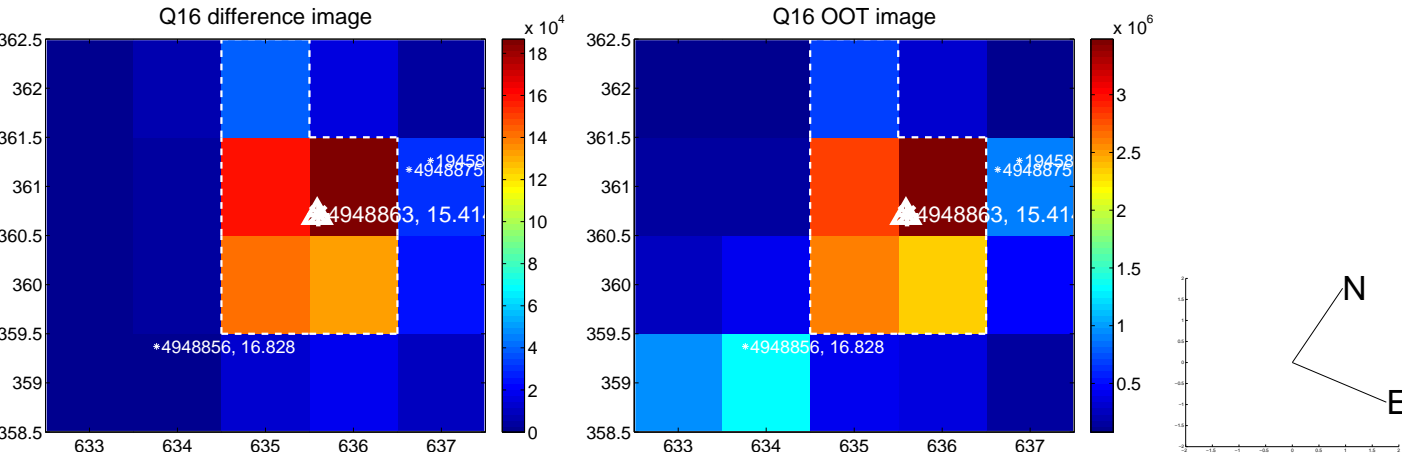
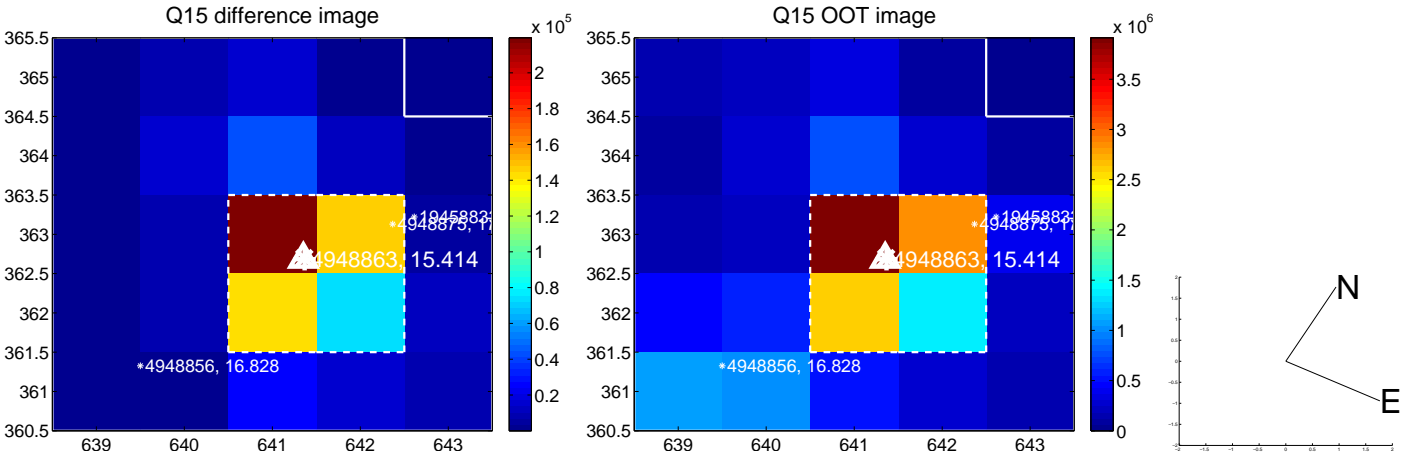
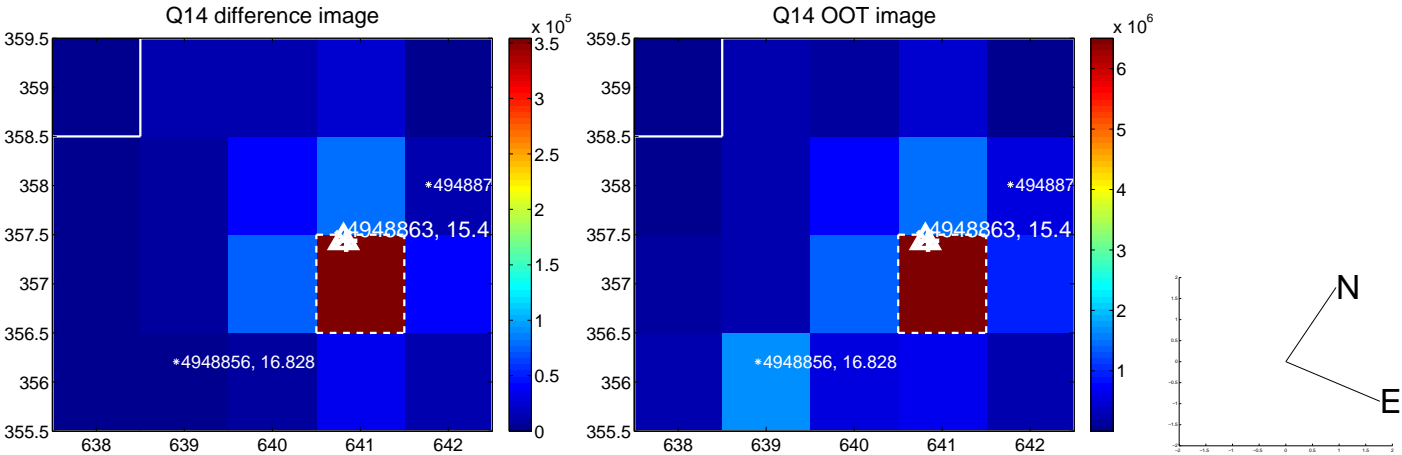
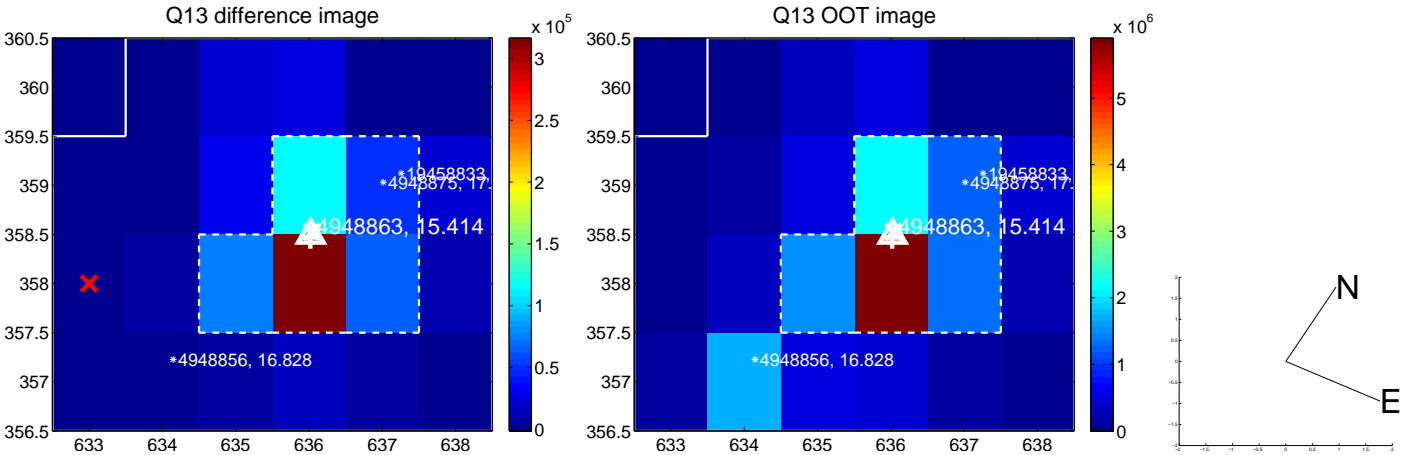
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



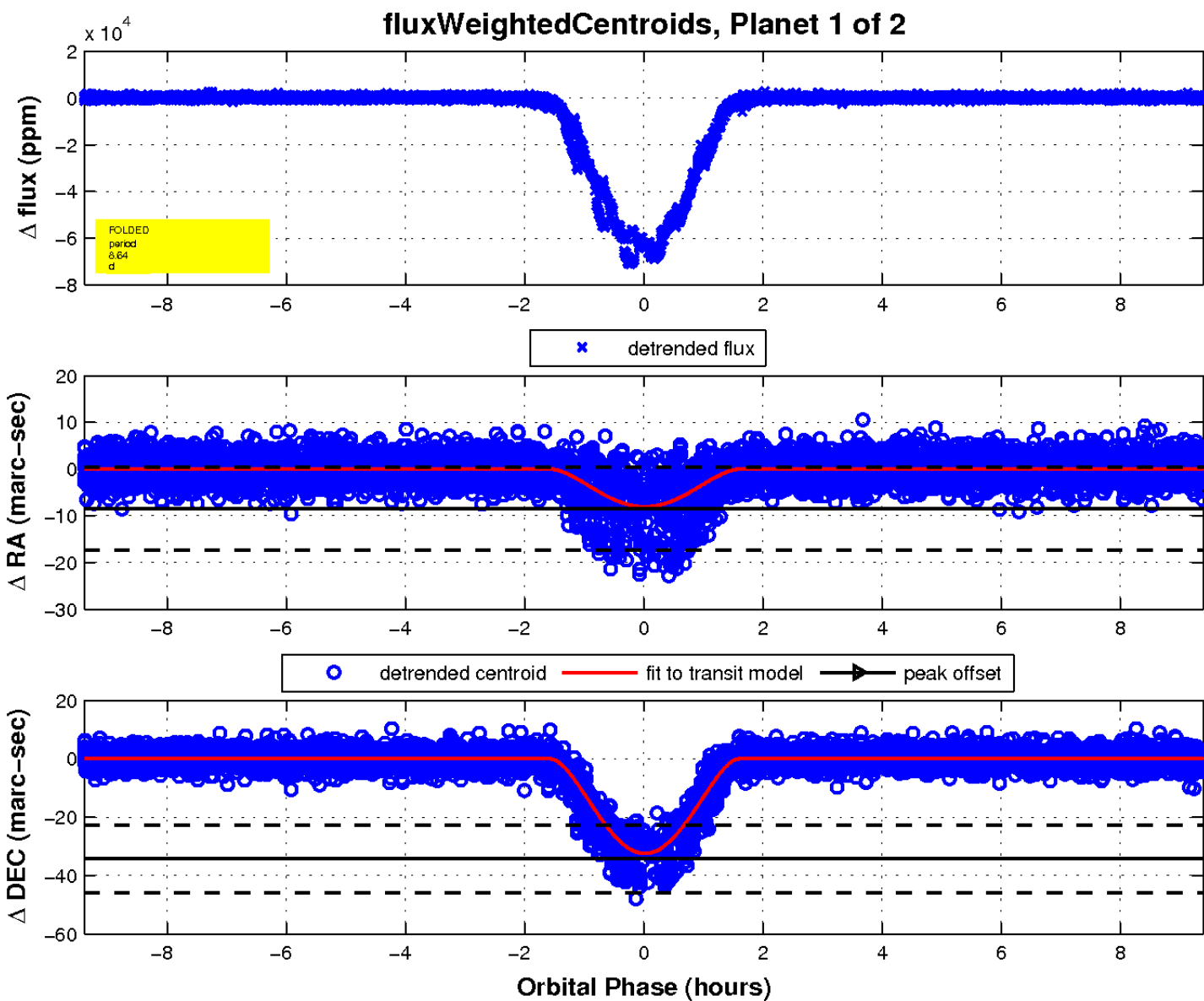
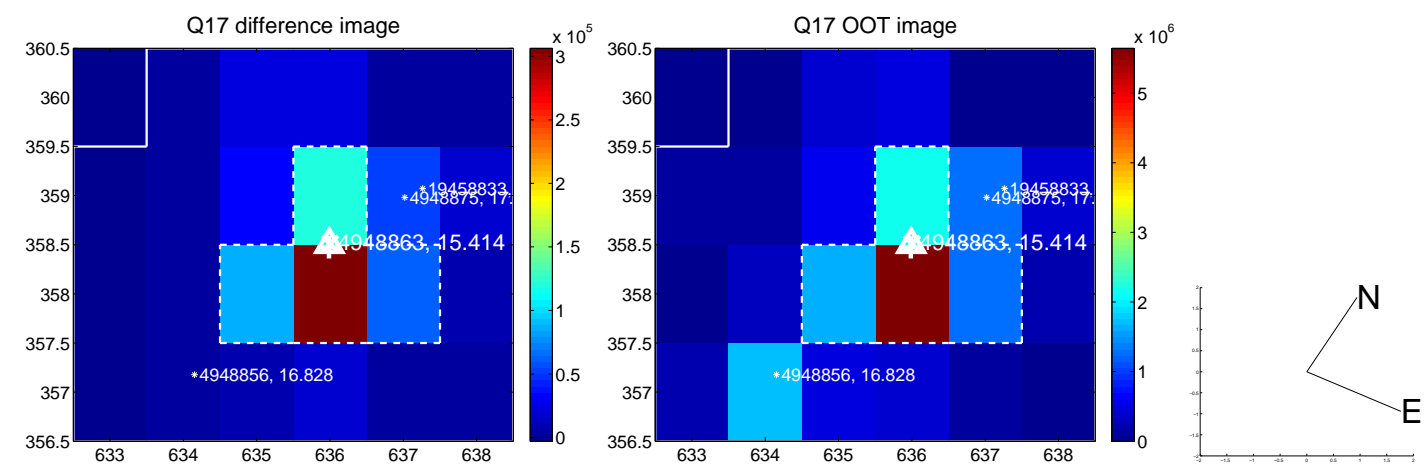
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

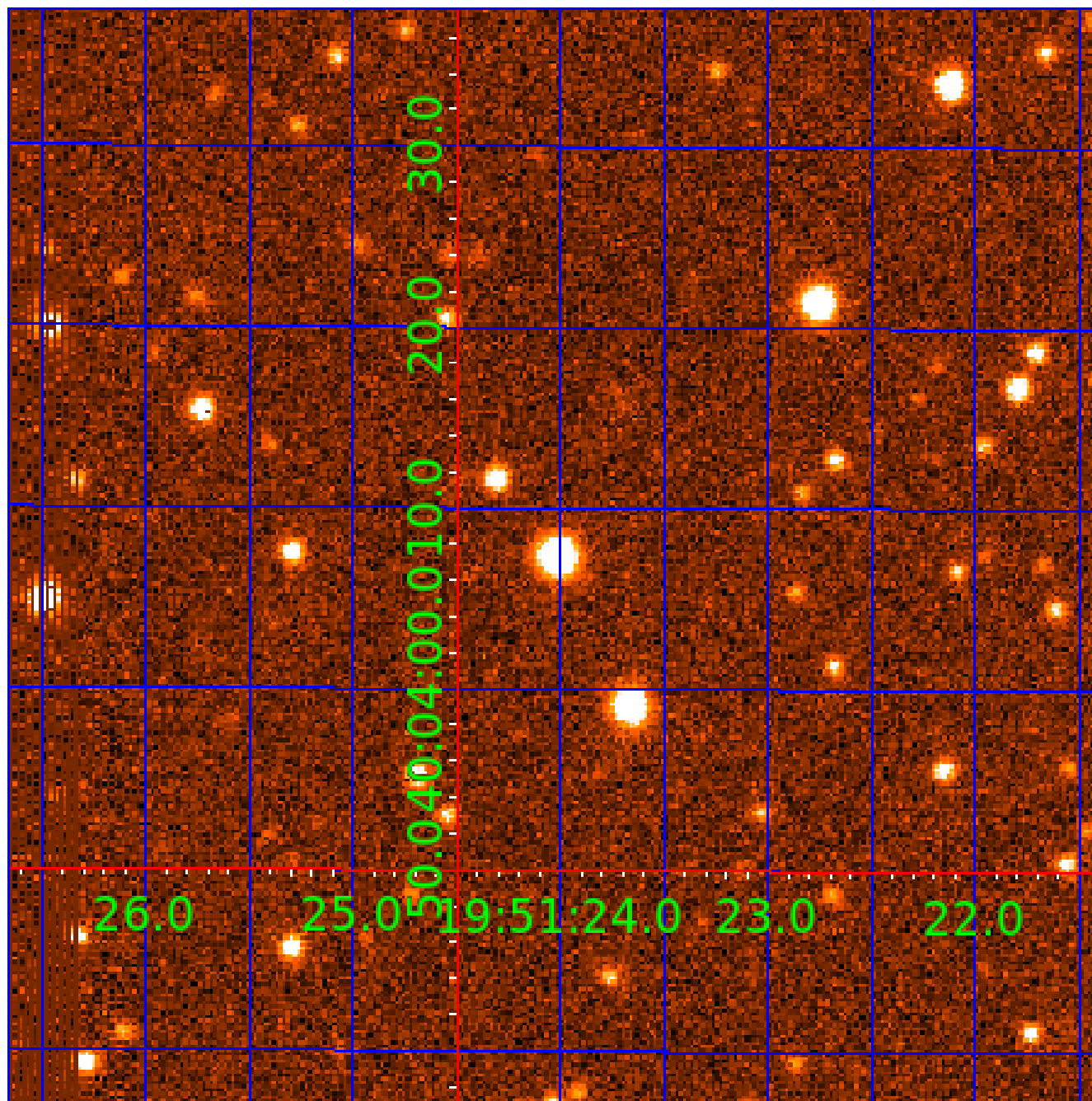


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004948863

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})
004948863-01	OBS	6479.01	8.643527	139.836201	66466.7	3.134	2281.5	1438.1	0.75	5679	27.93	87.35
004948863-02	OBS	No	8.643558	135.536316	14224.4	3.009	518.2	448.3	0.75	5679	14.50	87.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004948863-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
004948863-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

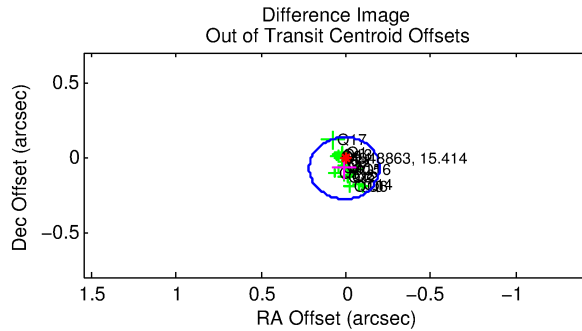
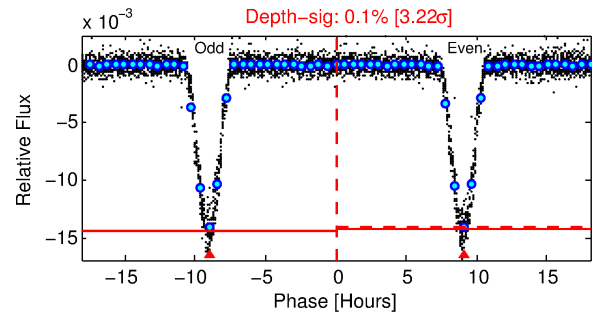
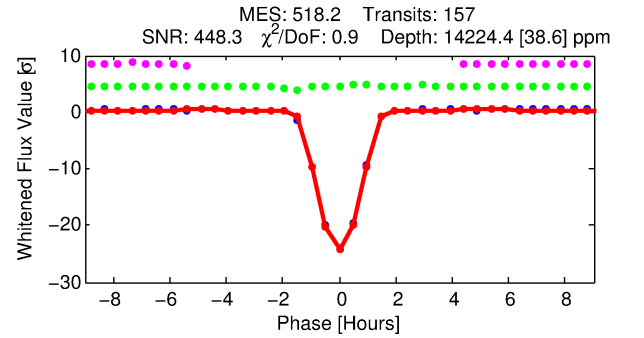
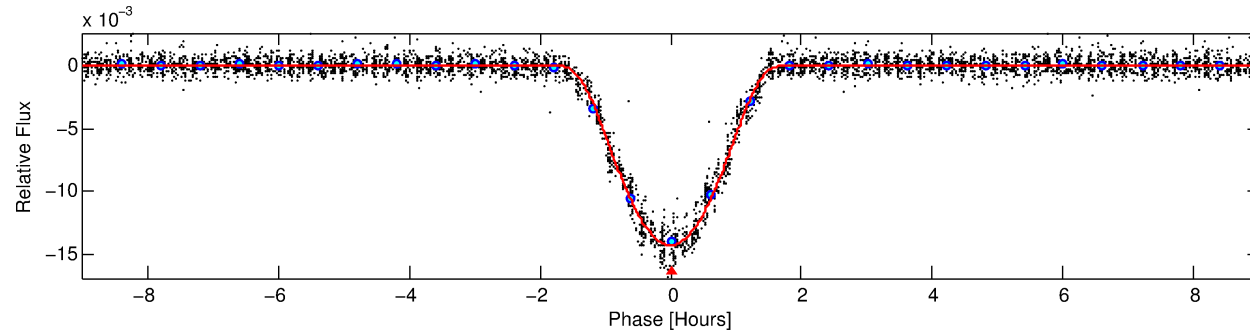
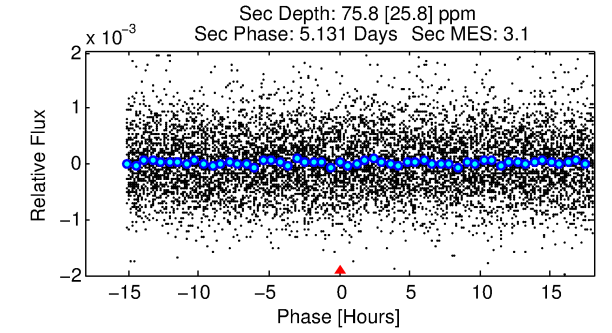
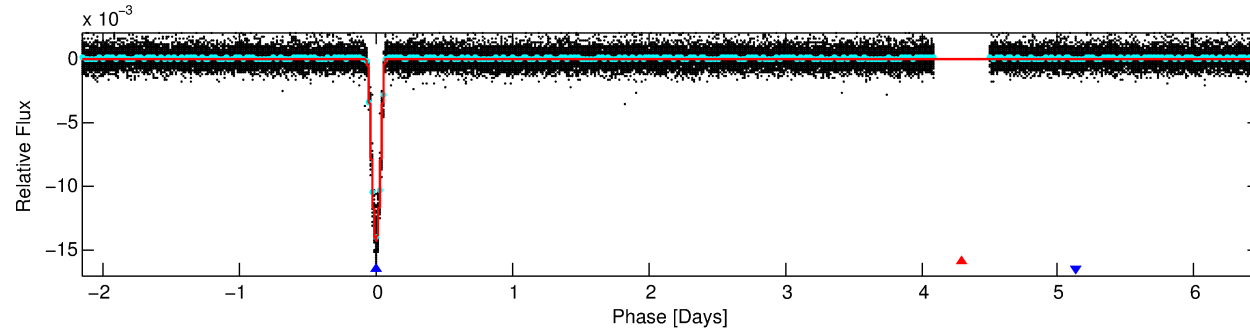
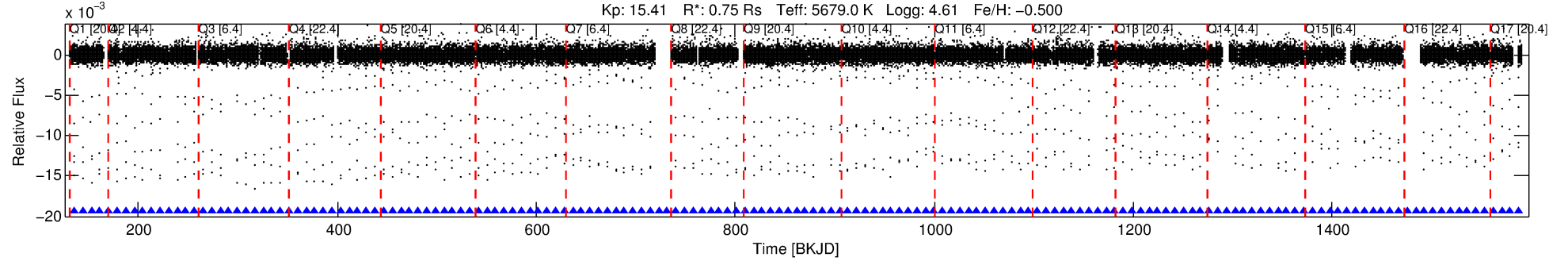
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004948863-02

No Significant Match Found

DV One-Page Summary

KIC: 4948863 Candidate: 2 of 2 Period: 8.644 d
KOI: K06479 Corr: No Ephemeris Match



DV Fit Results:

Period = 8.64356 [0.00000] d
Epoch = 135.5363 [0.0002] BKJD
Rp/R* = 0.1779 [0.0184]
a/R* = 14.55 [0.24]
b = 0.97 [0.03]
Seff = 87.35 [24.27]
Teq = 780 [54] K
Rp = 14.50 [3.38] Re
a = 0.0772 [0.0134] AU
Ag = 1.18 [0.55] [0.32 σ]
Teffp = 1256 [131] K [3.37 σ]

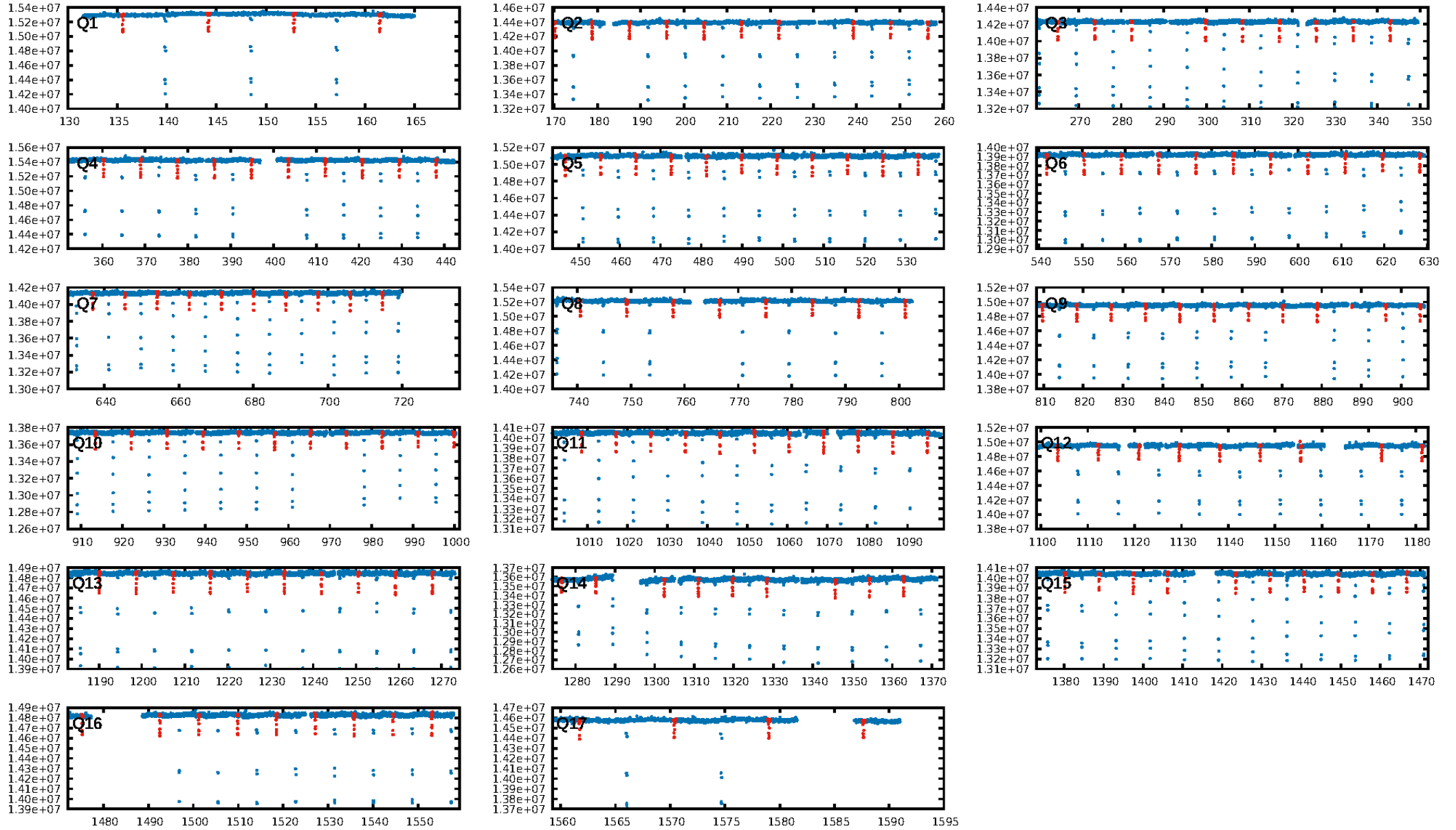
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [149/149]
GhostDiagnostic-chr: 3.681
Centroid-sig: 0.0%
Centroid-so: 0.611 arcsec [24.30 σ]
OotOffset-rm: 0.074 arcsec [1.07 σ]
KicOffset-rm: 0.146 arcsec [2.13 σ]
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]

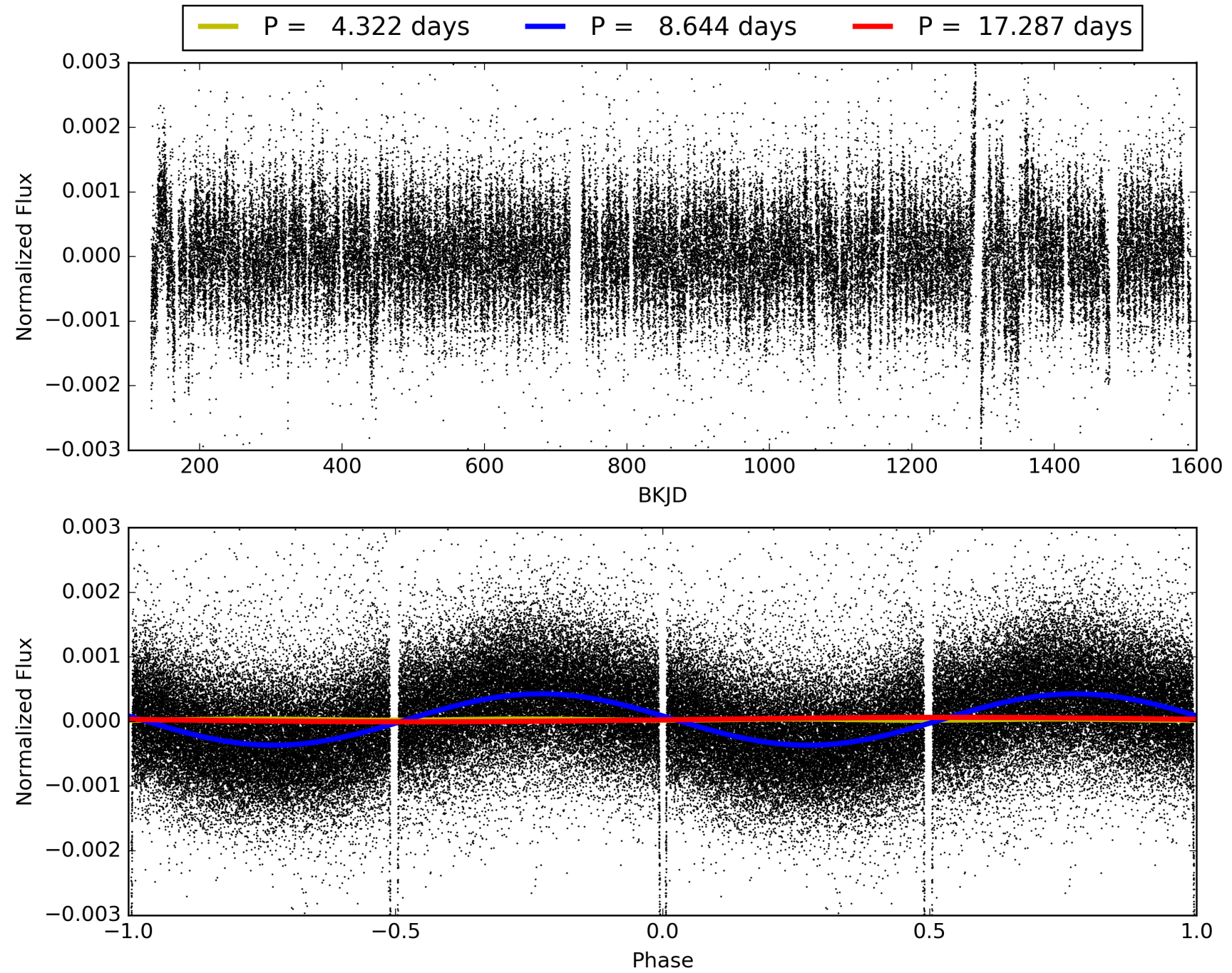
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:31:42 Z

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

TCE 004948863-02, PDC Light Curves

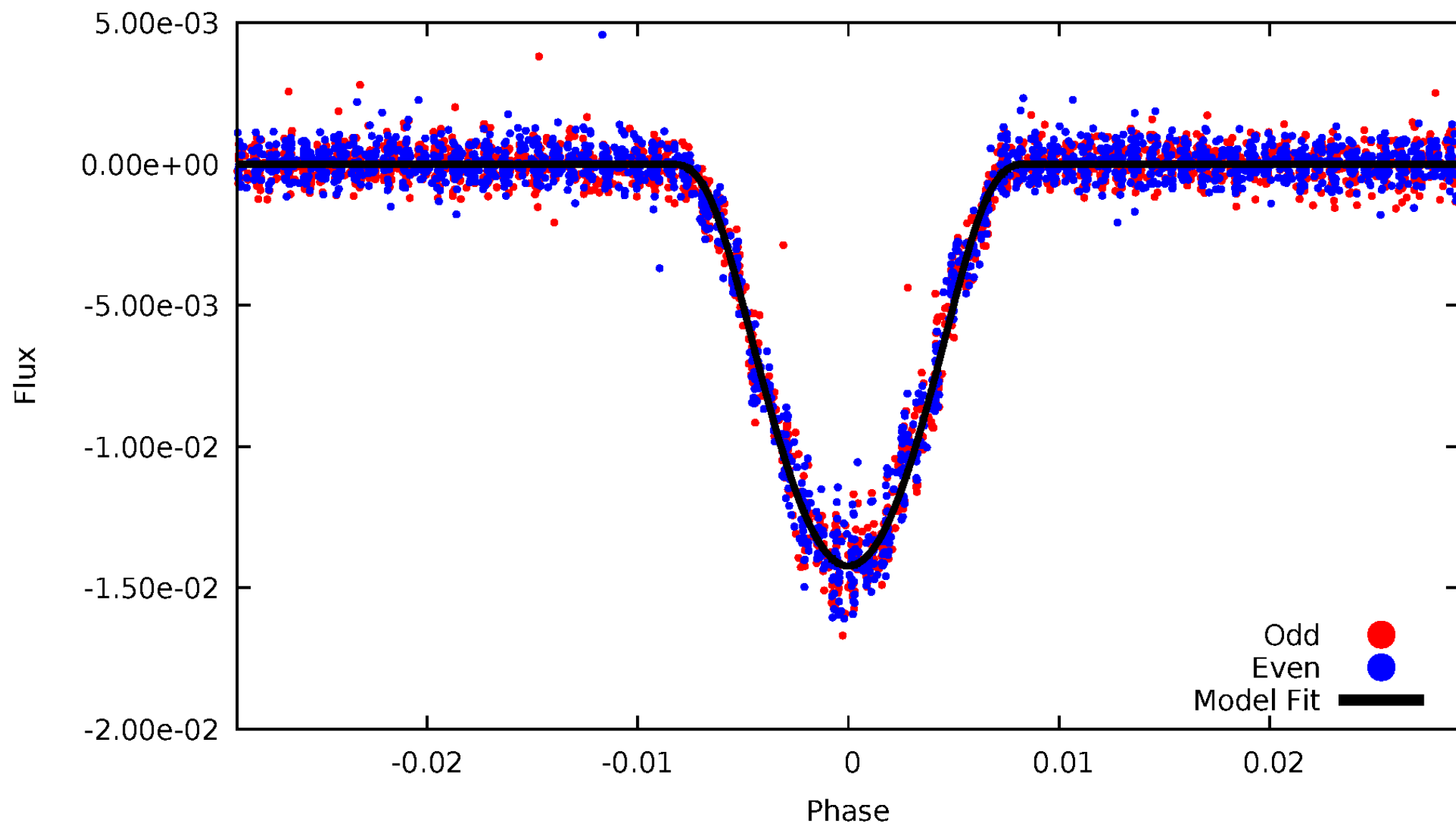


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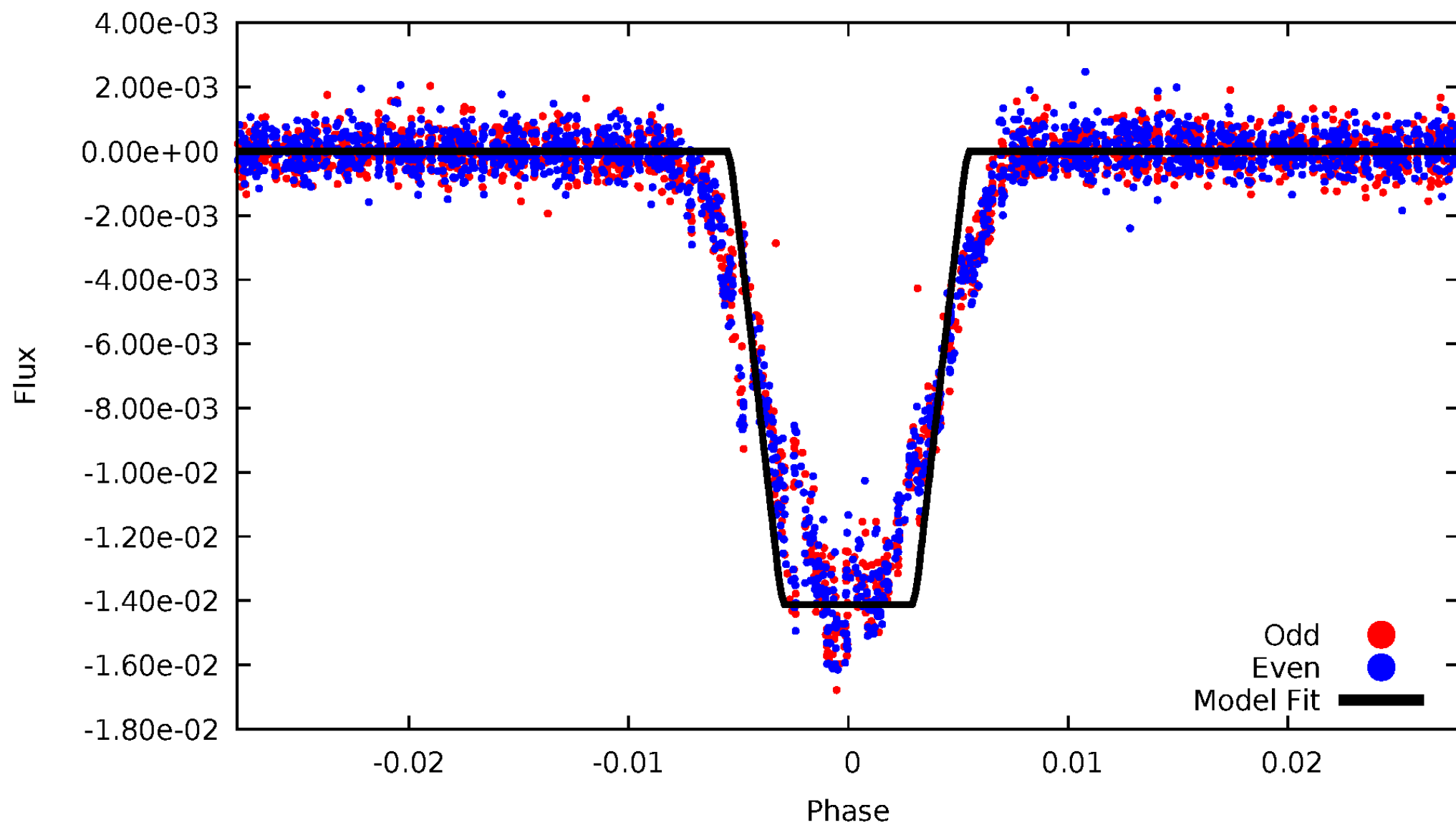
DV Odd/Even

TCE 004948863-02



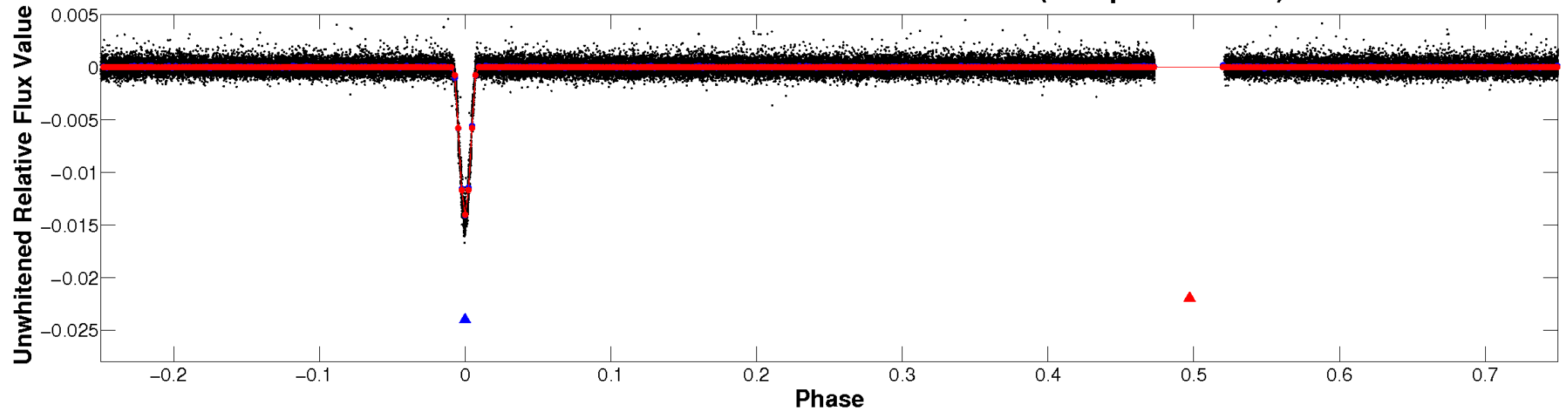
ALT Odd/Even

TCE 004948863-02

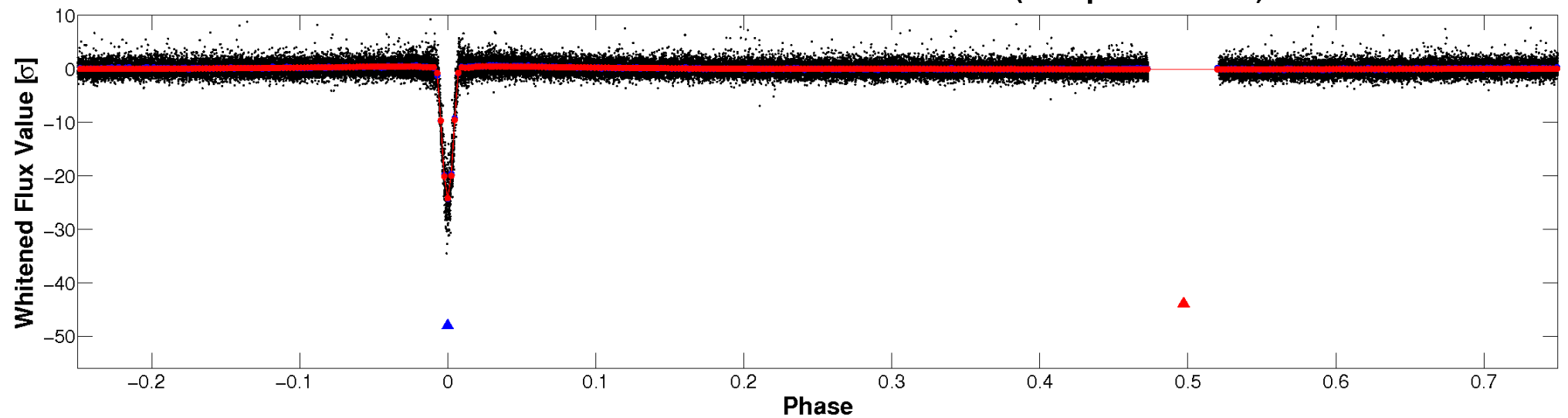


Non-Whitened Vs. Whitened Light Curve

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

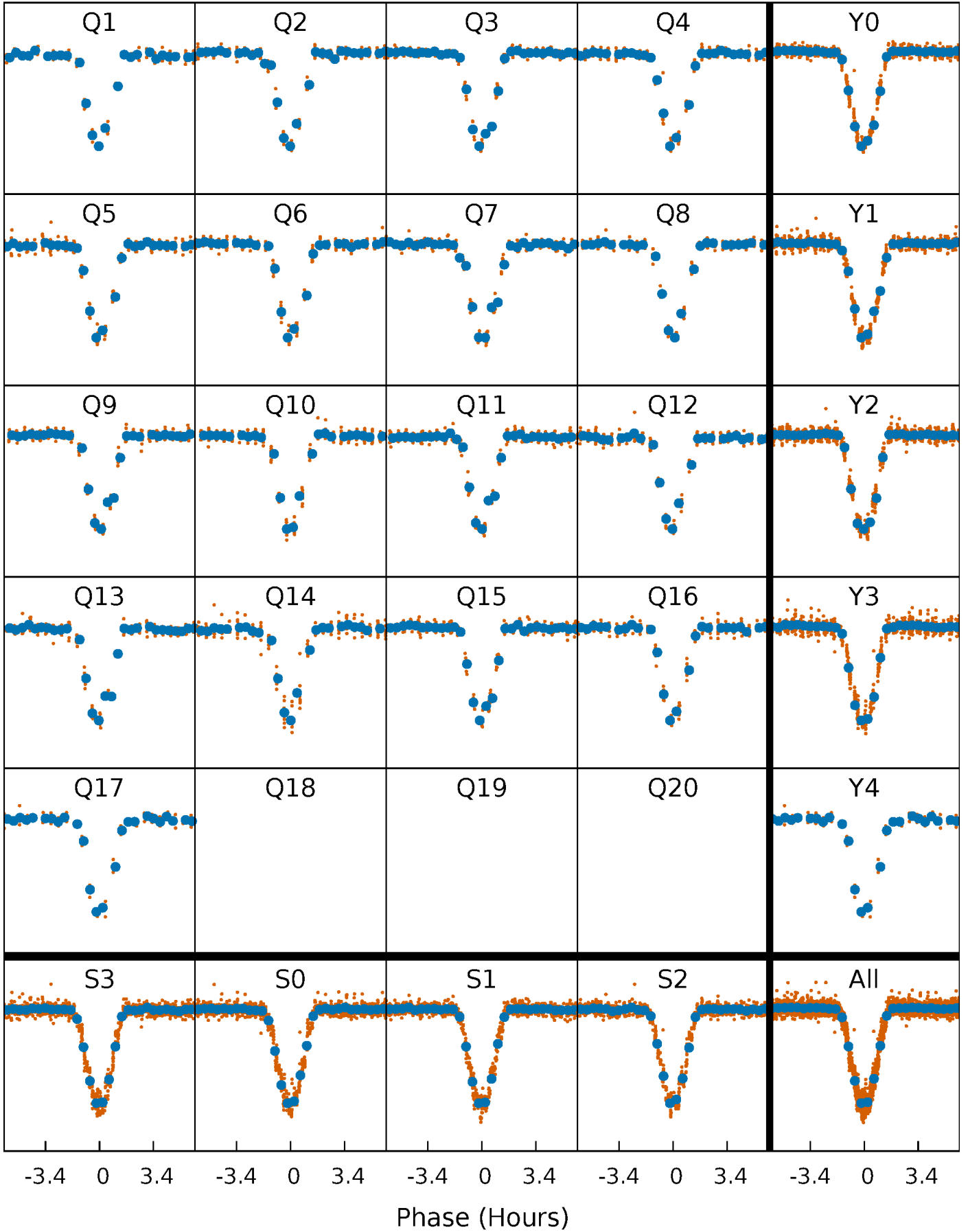


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



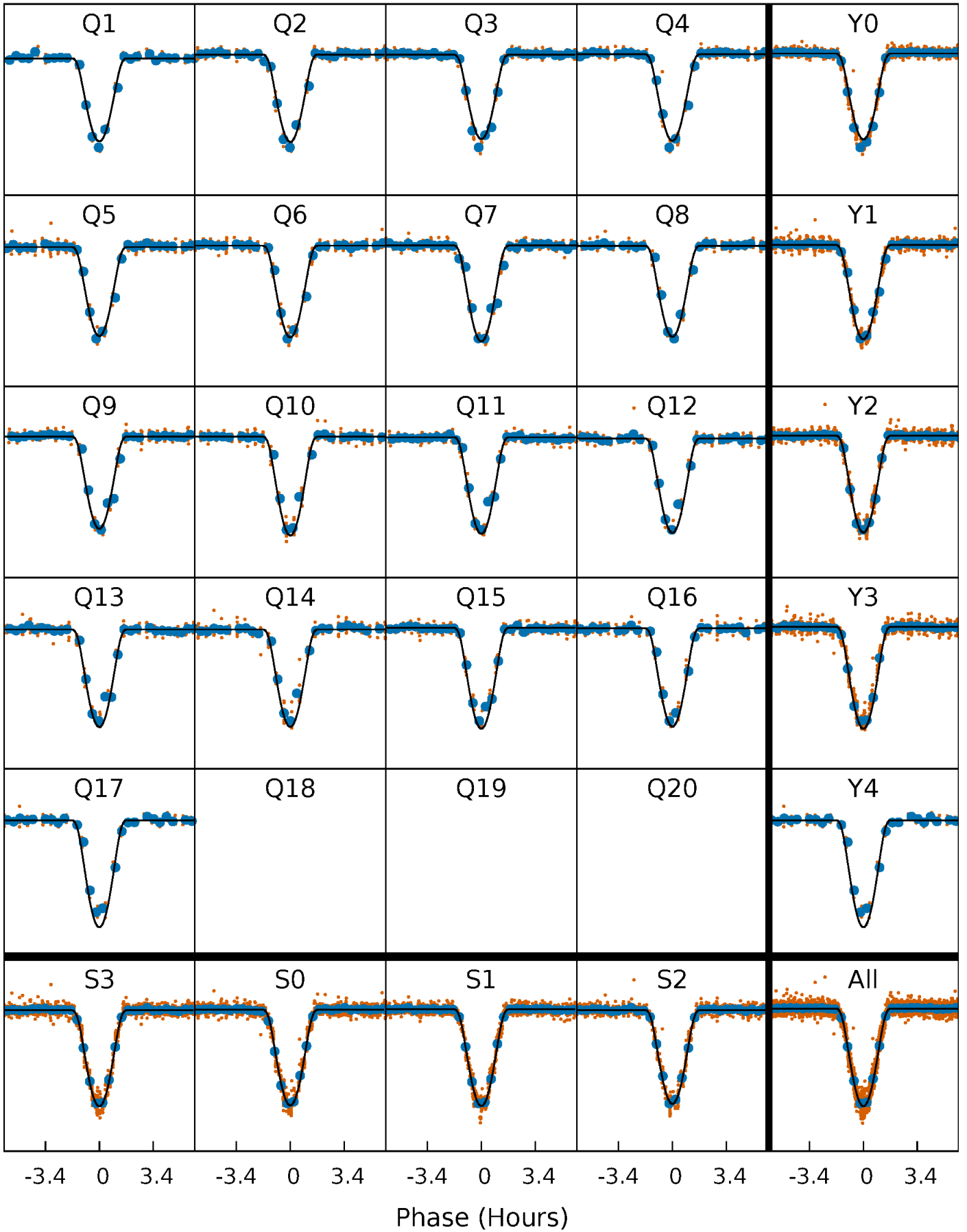
PDC Quarter-Phased Transit Curves

TCE 004948863-02 P= 8.643558 Days $T_0=135.536316$ (BKJD)



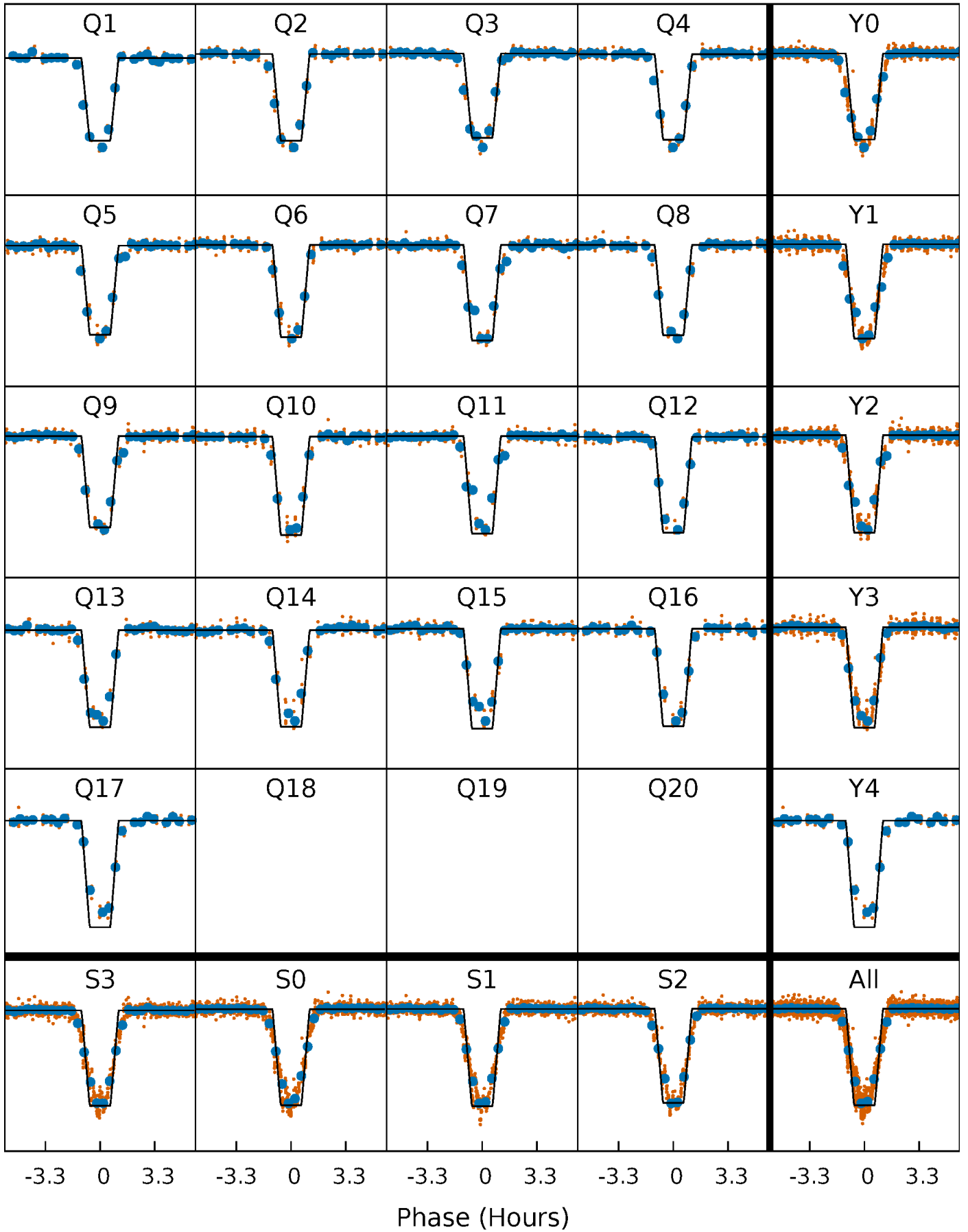
DV Quarter-Phased Transit Curves

TCE 004948863-02 P= 8.643558 Days $T_0=135.536316$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

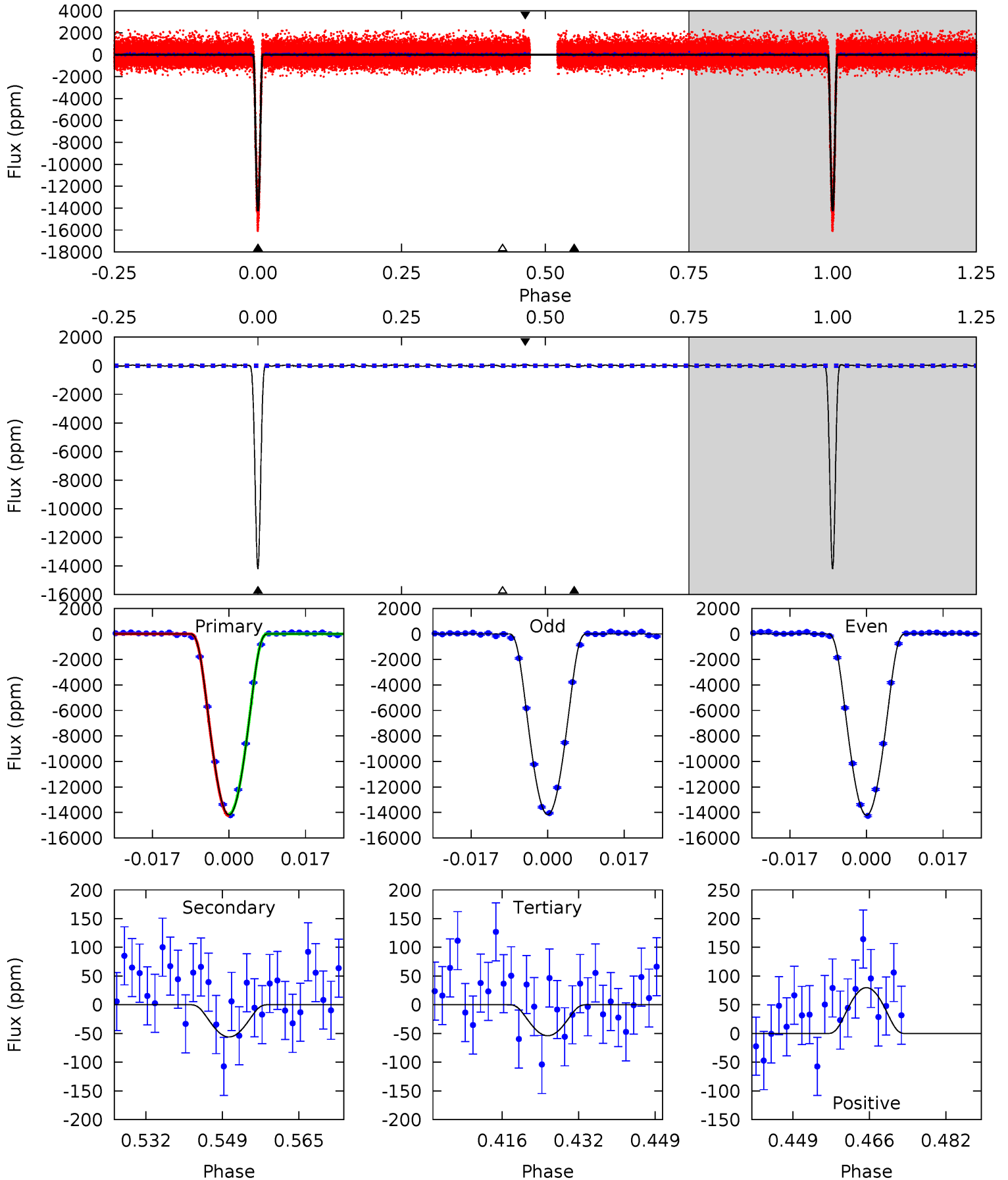
TCE 004948863-02 $P = 8.643512$ Days $T_0 = 135.539560$ (BKJD)



DV Model-Shift Uniqueness Test

004948863-02, P = 8.643558 Days, E = 126.892758 Days

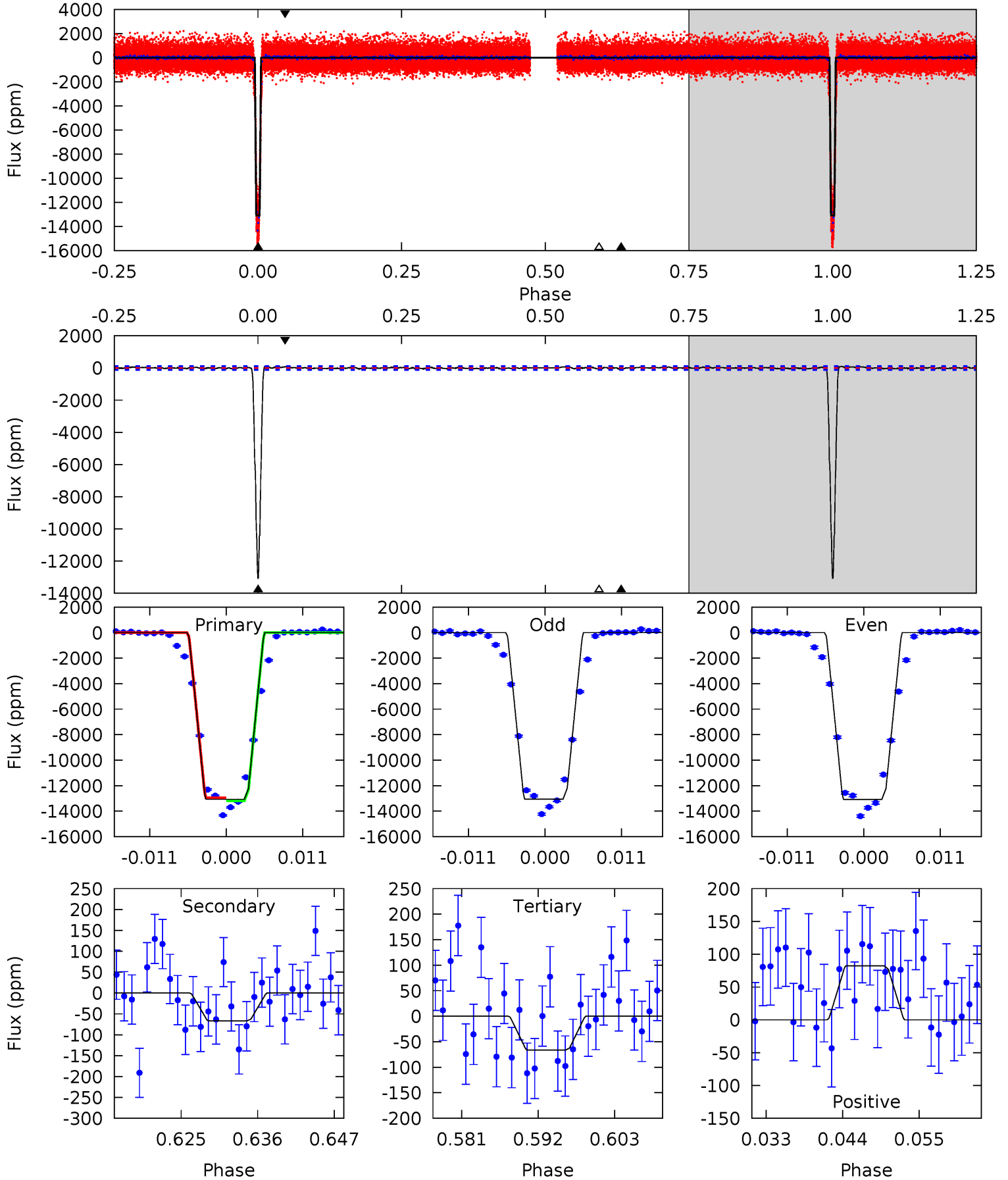
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
866.4	3.42	3.29	4.87	4.93	2.39	1.48	863.1	861.5	0.13	-1.45	1.54	0.99	0.01	3.85



Alt Model-Shift Uniqueness Test

004948863-02, P = 8.643512 Days, E = 126.896048 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
588.1	3.01	3.00	3.71	5.01	2.54	1.26	585.2	584.4	0.02	-0.69	0.50	0.99	0.01	4.89



Stellar Parameters For KIC 004948863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5679^{+173}_{-173}	$4.605^{+0.036}_{-0.135}$	$-0.500^{+0.300}_{-0.300}$	$0.747^{+0.156}_{-0.052}$	$0.849^{+0.079}_{-0.096}$	$2.872^{+0.405}_{-1.173}$
	+3%/-3%	+1%/-3%	+60%/-60%	+21%/-7%	+9%/-11%	+14%/-41%
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 004948863-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 16	$15.11^{+2.22}_{-1.93}$	1110^{+54}_{-45}	2025^{+118}_{-140}	$0.796^{+0.356}_{-0.265}$
Alt.	-67 ± 22	$10.00^{+1.64}_{-1.68}$	1108^{+53}_{-46}	2344^{+149}_{-158}	$2.191^{+1.319}_{-0.888}$

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 $A_{obs} \gg 1.0$

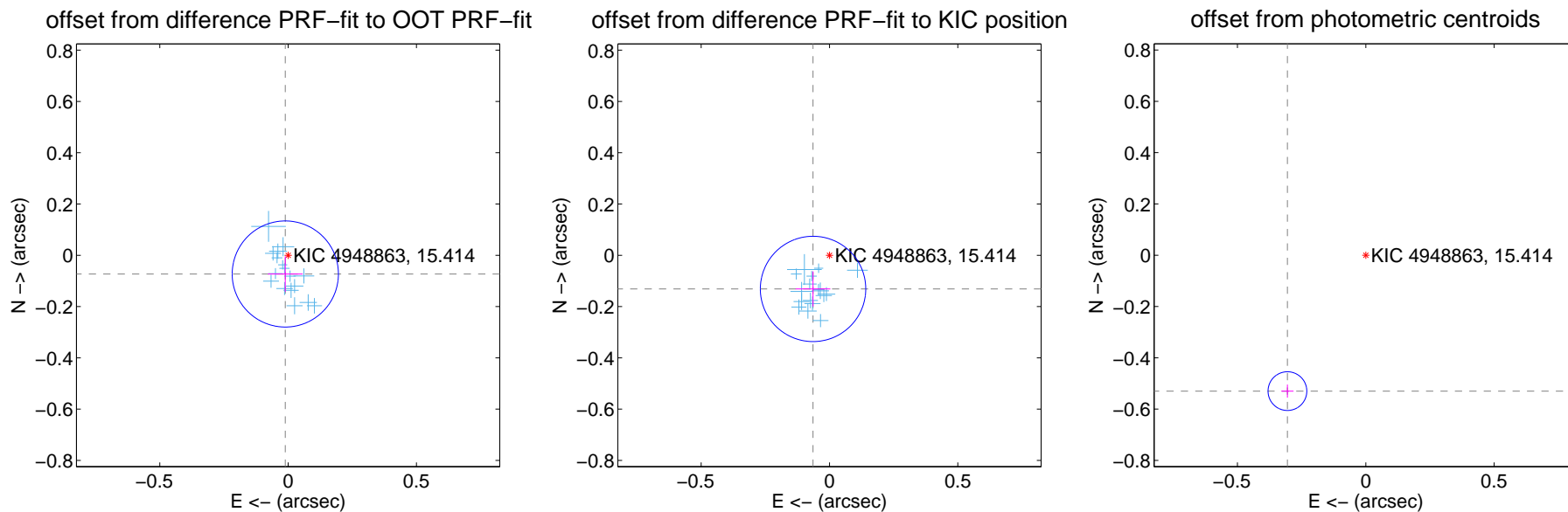
DV Centroid Data

Supplemental centroid analysis for 004948863-02. Kepler magnitude: 15.41. Transit SNR 448.34

There are 17 quarters with good PRF difference image offsets

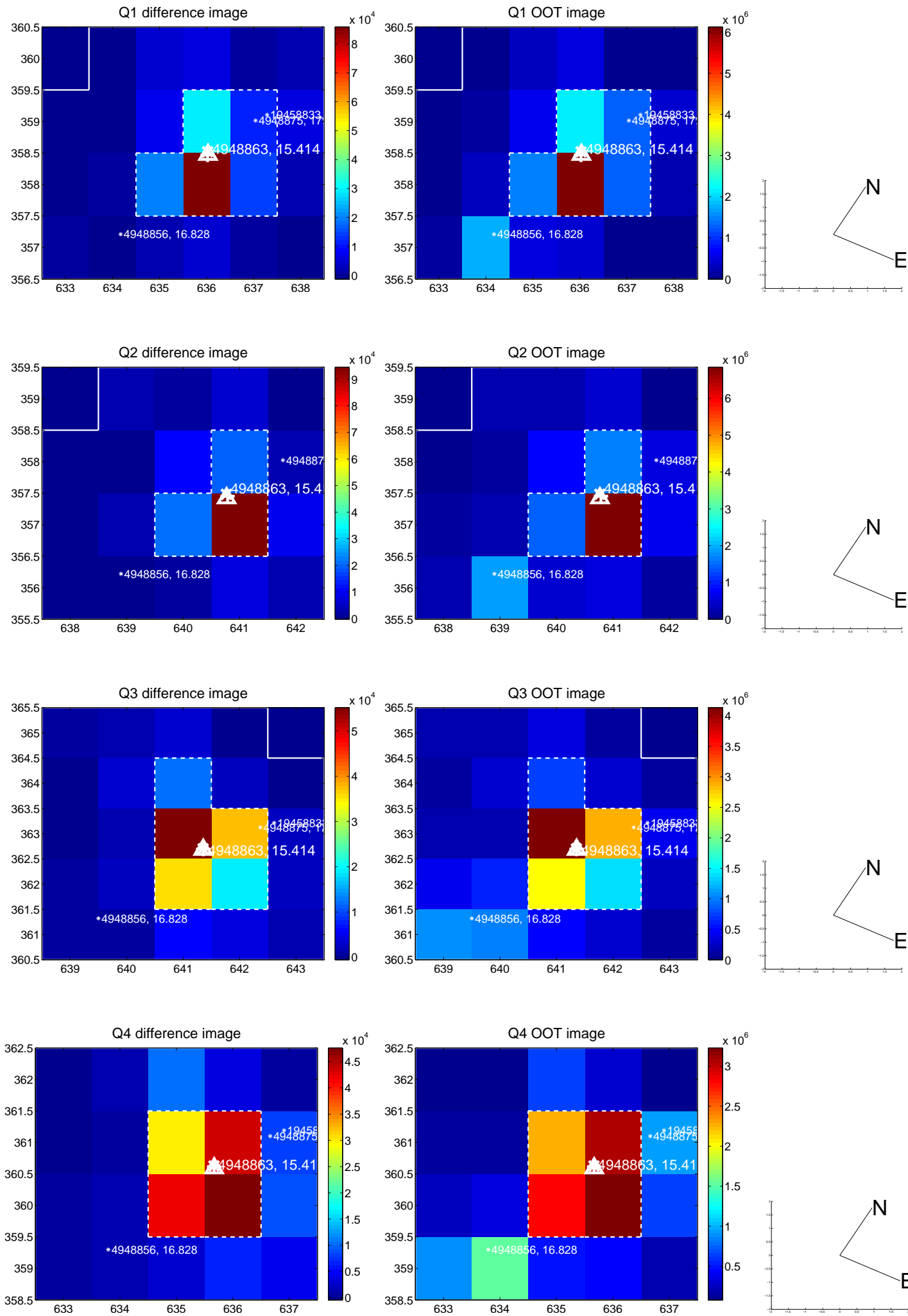
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.069	1.07	0.011 ± 0.068	-0.073 ± 0.069
PRF-fit source offset from KIC position	0.146 ± 0.068	2.13	0.064 ± 0.068	-0.131 ± 0.069
photometric centroid source offset	0.61 ± 0.03	24.30	0.31 ± 0.02	-0.53 ± 0.03

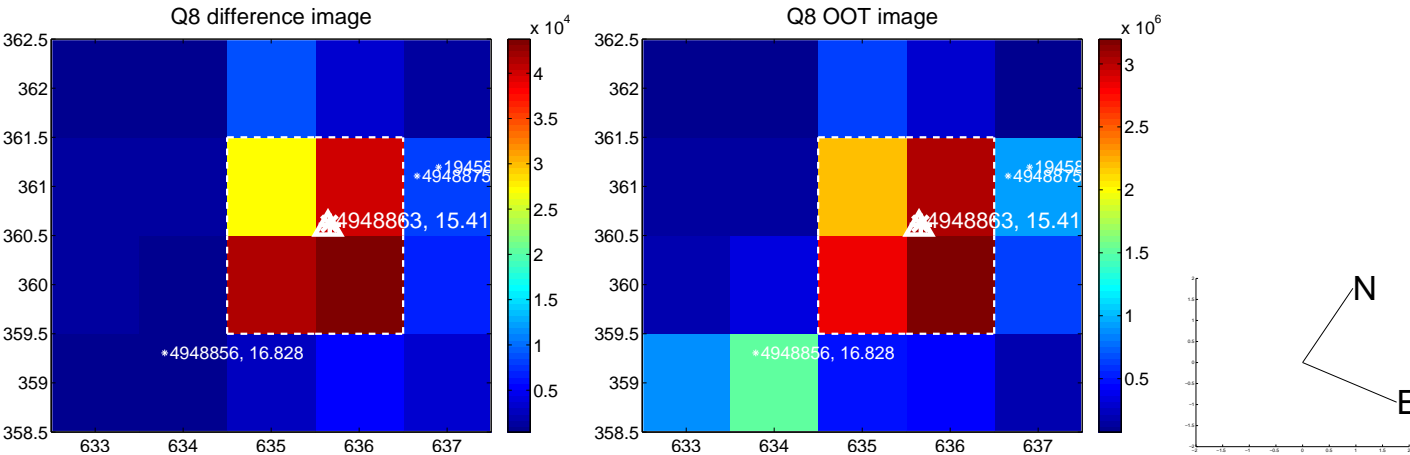
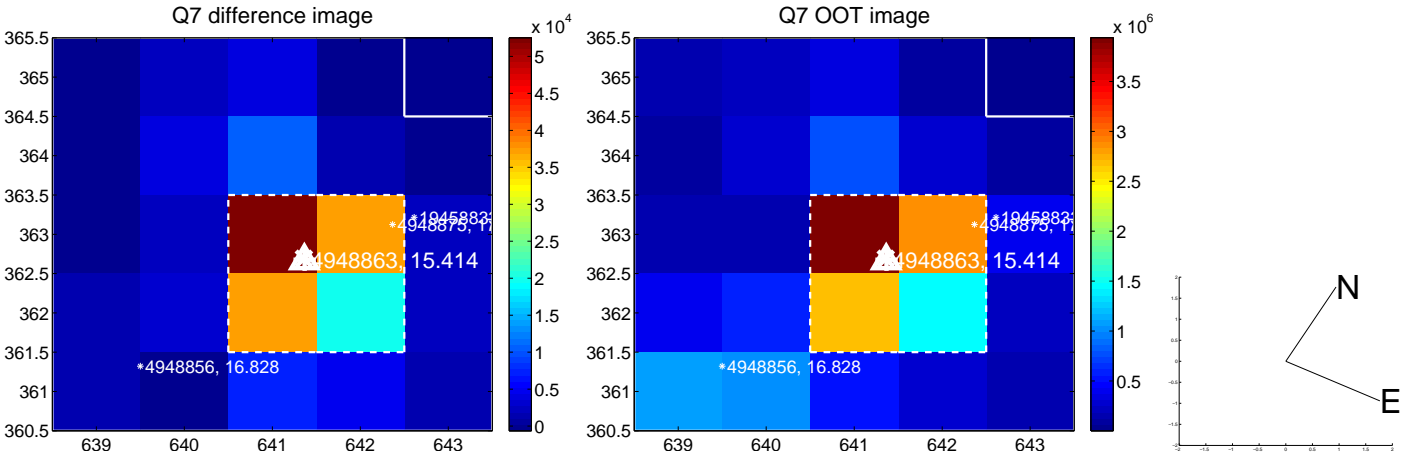
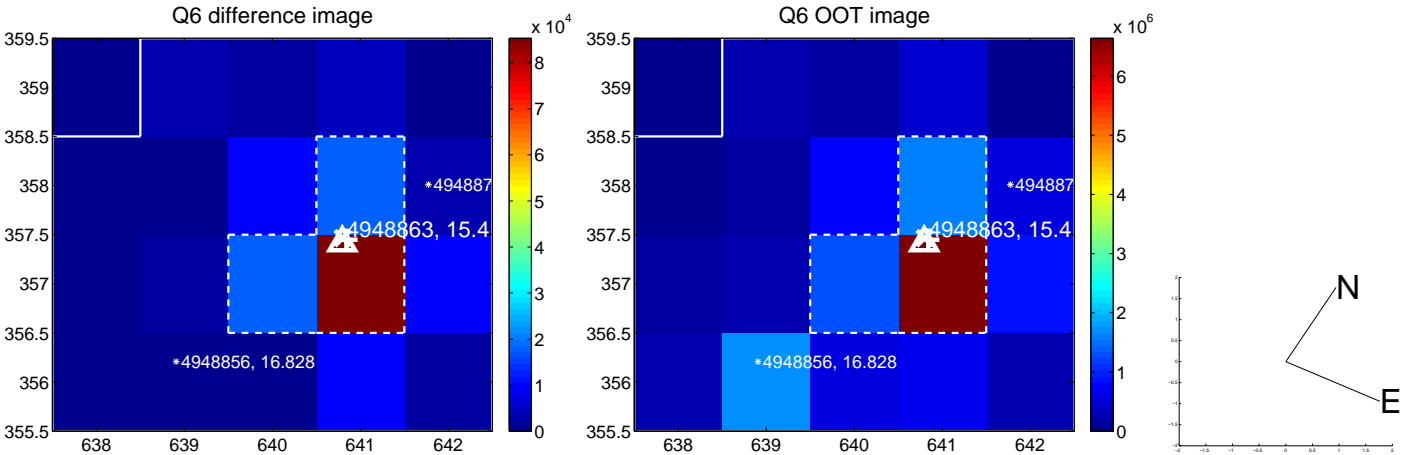
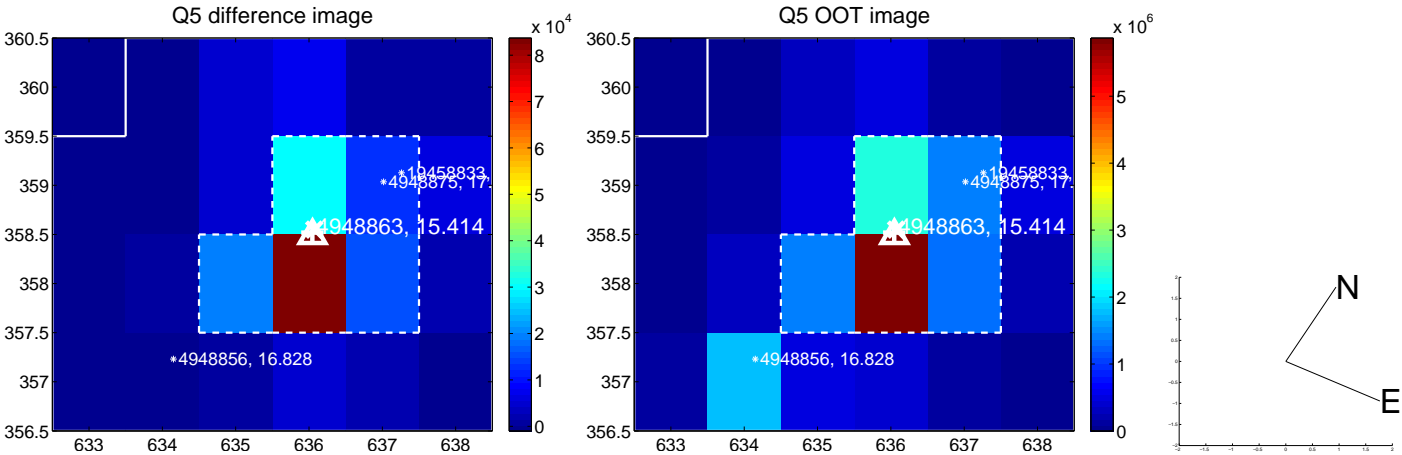


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

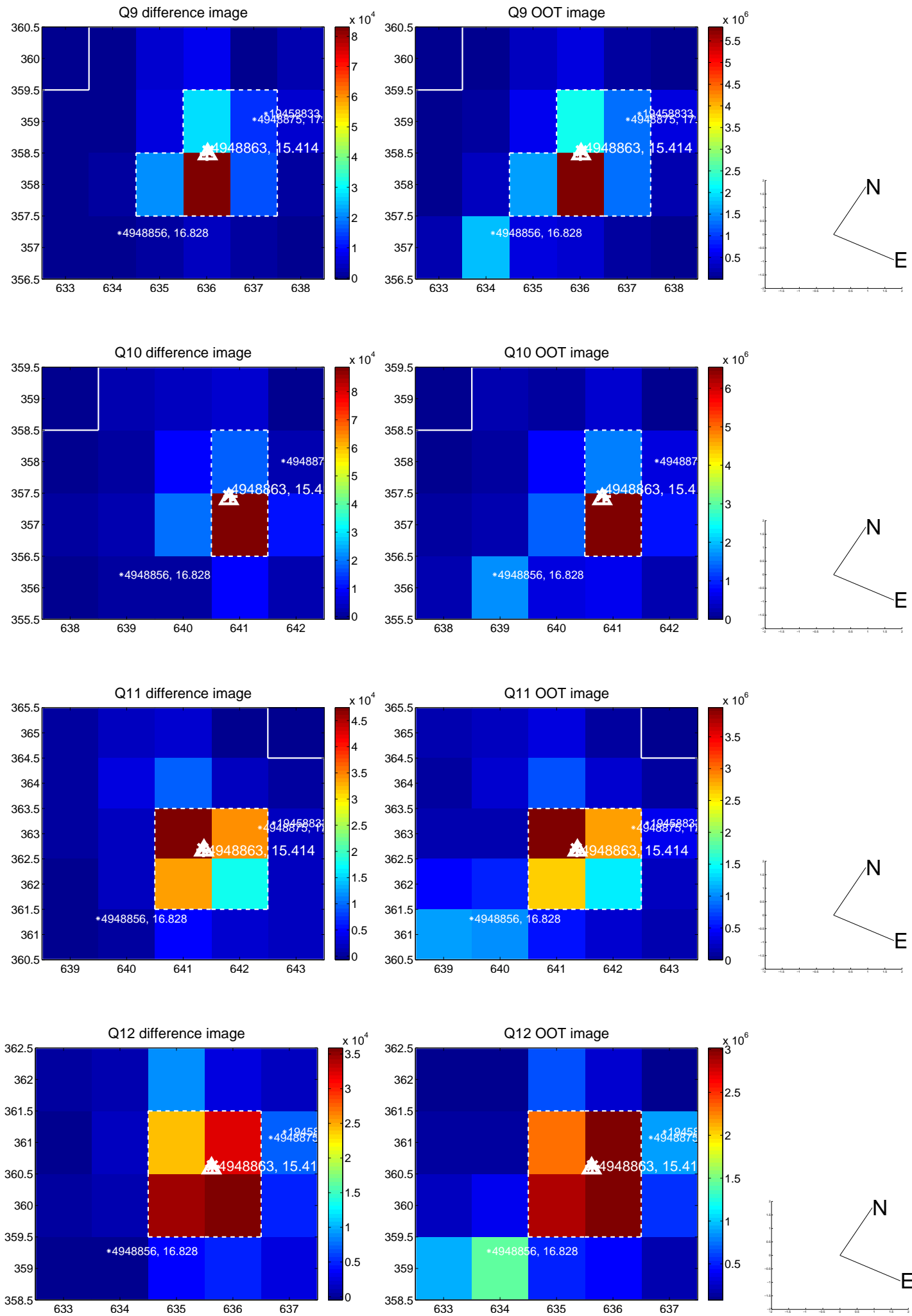
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



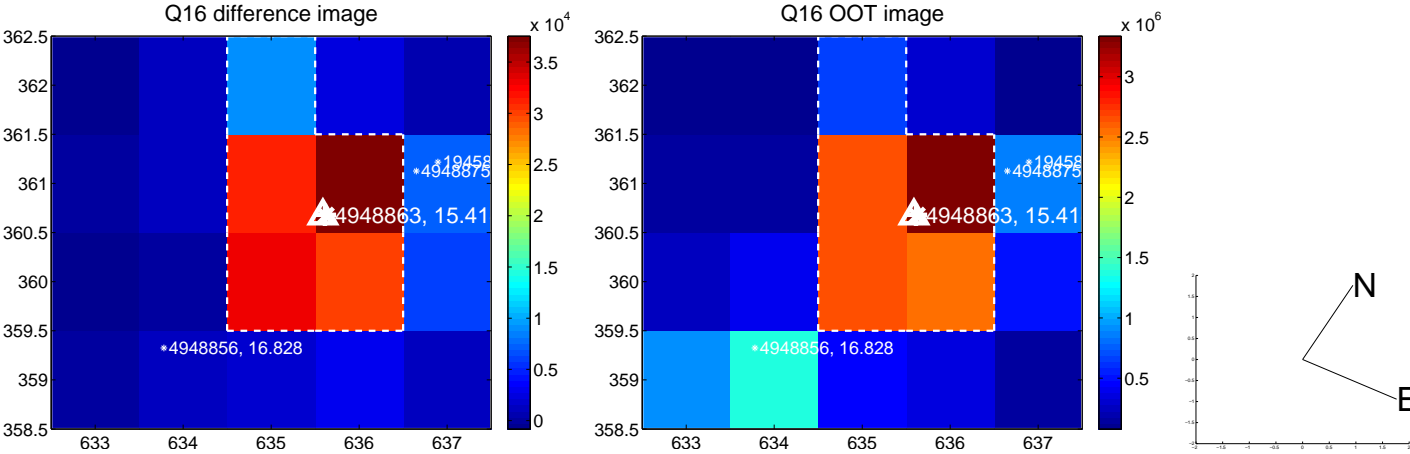
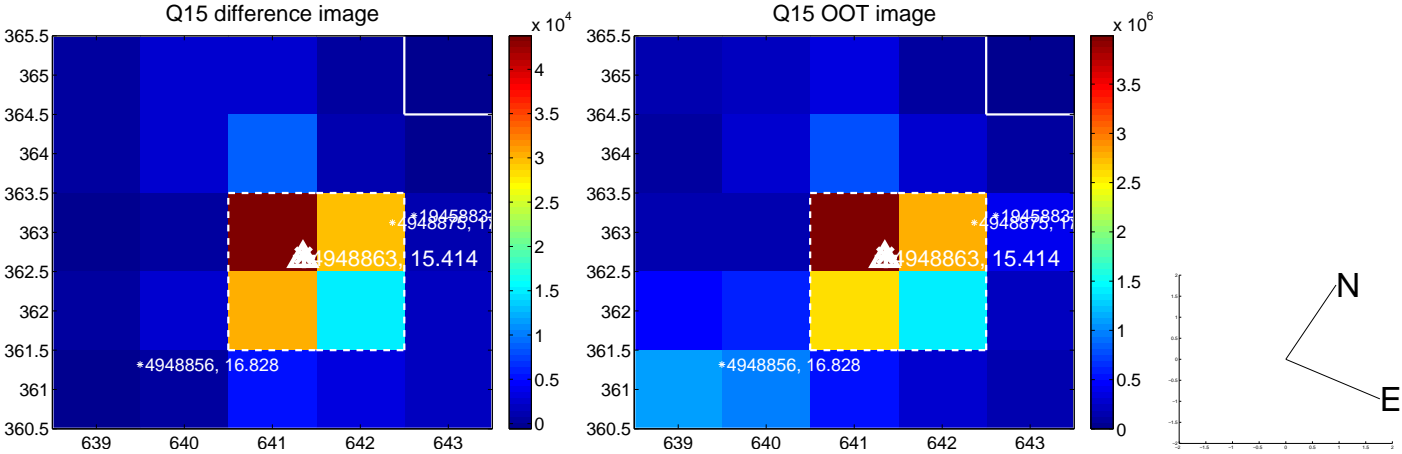
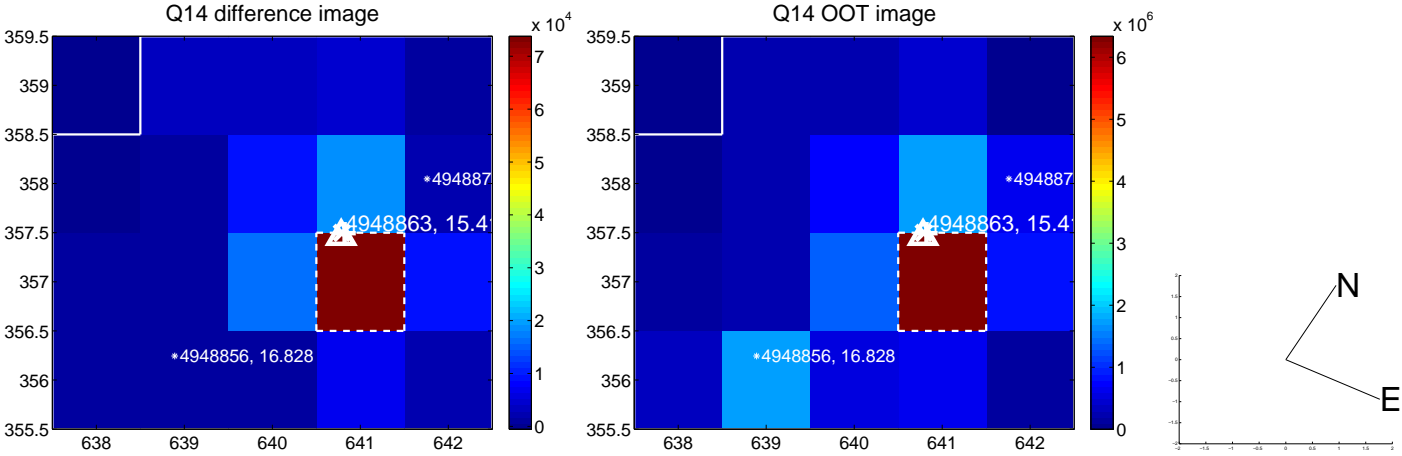
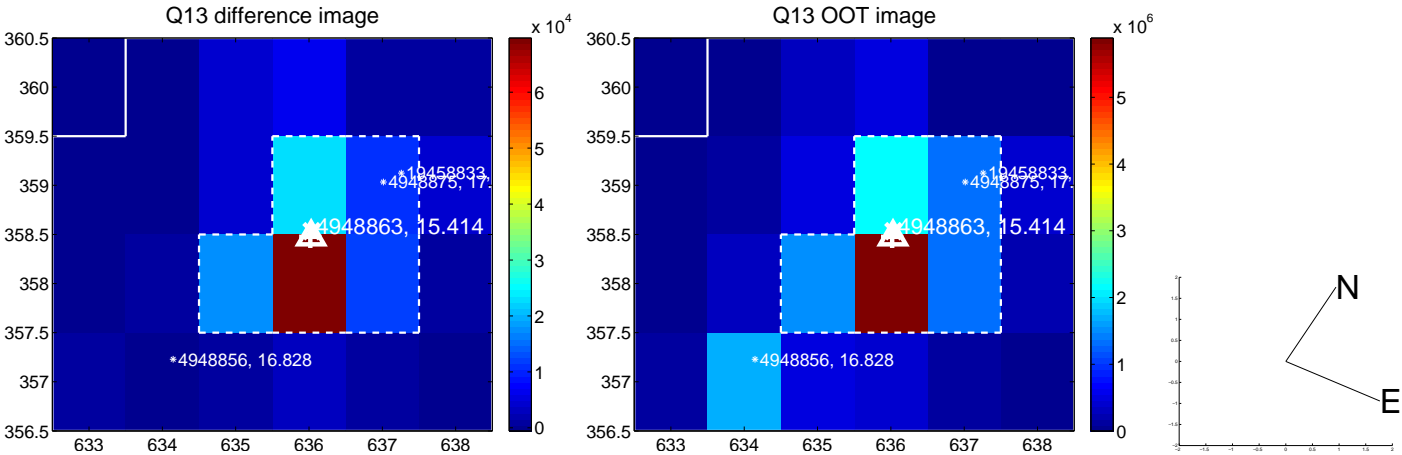
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



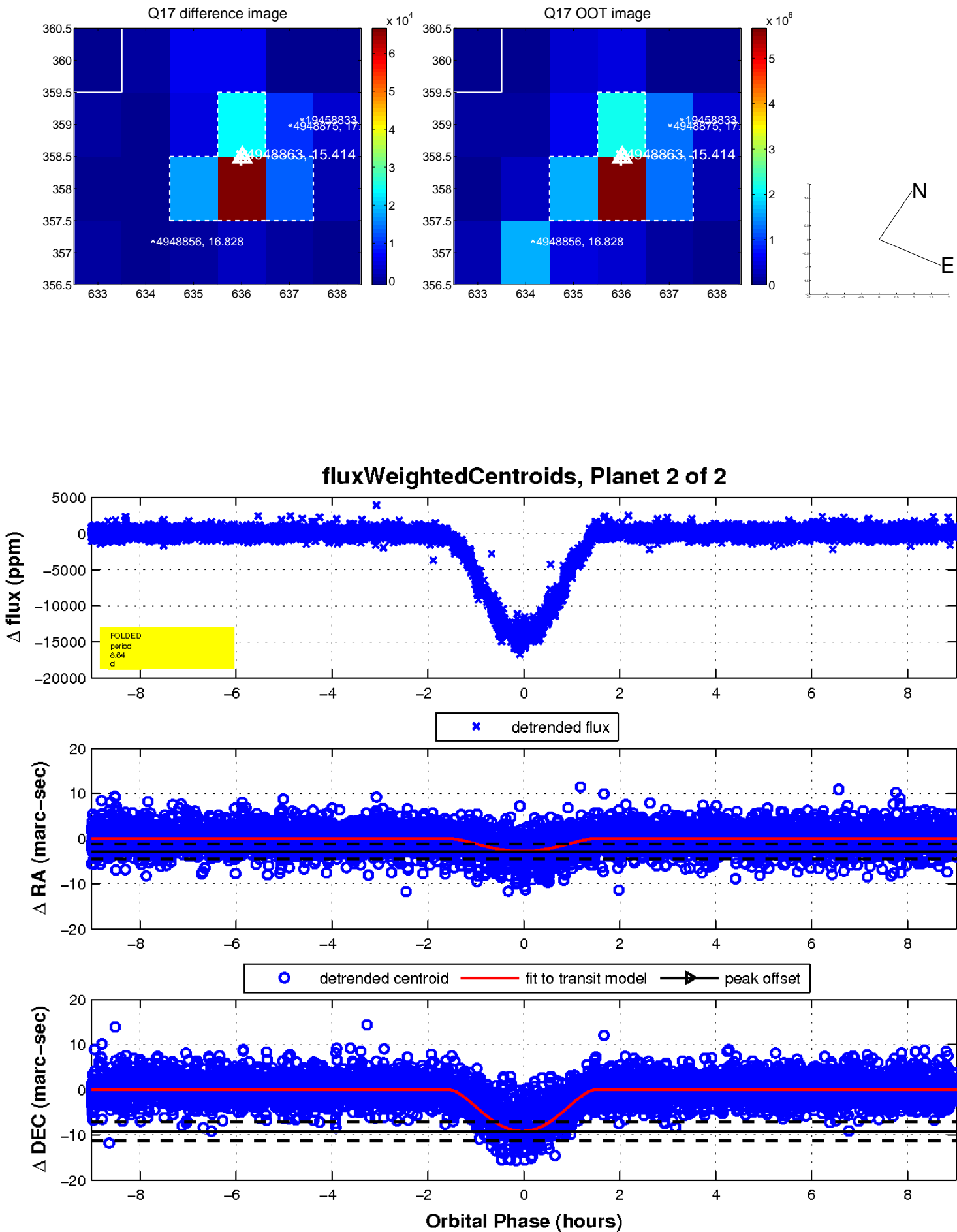
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UKIRT Image

Declination

