

KIC 007943535

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})
007943535-01	OBS	6935.01	4.719338	133.514613	12012.6	2.849	2497.4	1776.6	2.06	6792	39.73	2082.93
007943535-02	OBS	No	4.719336	131.605101	6699.7	2.971	1406.5	1258.2	2.06	6792	30.10	2082.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007943535-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007943535-02	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.

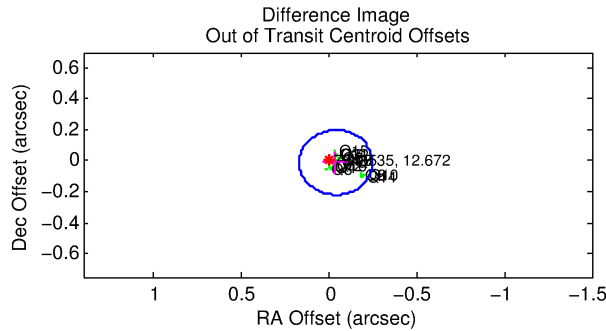
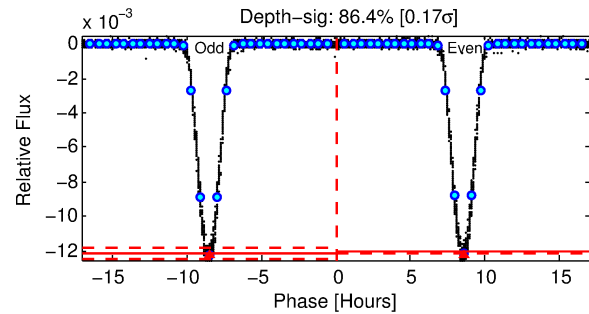
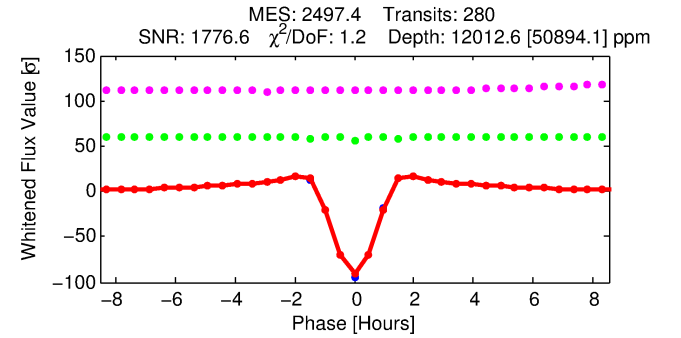
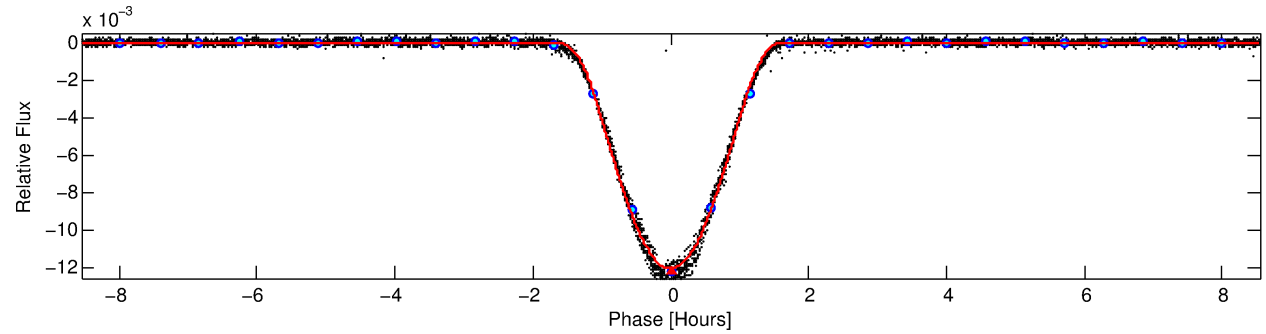
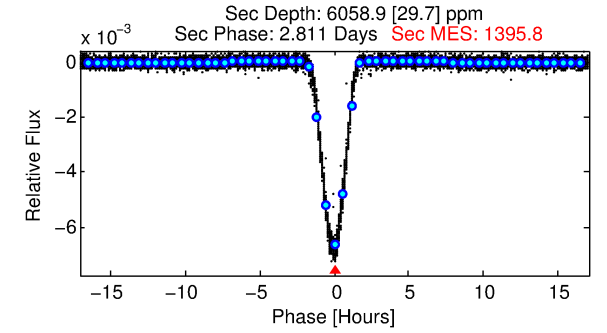
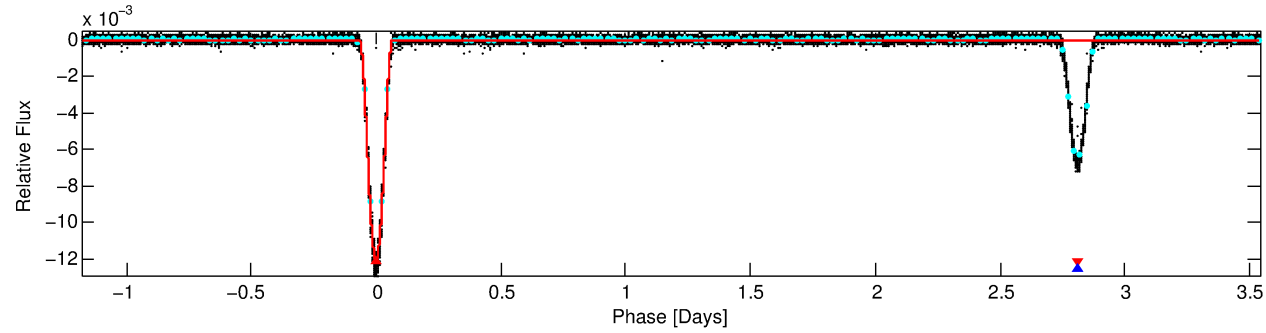
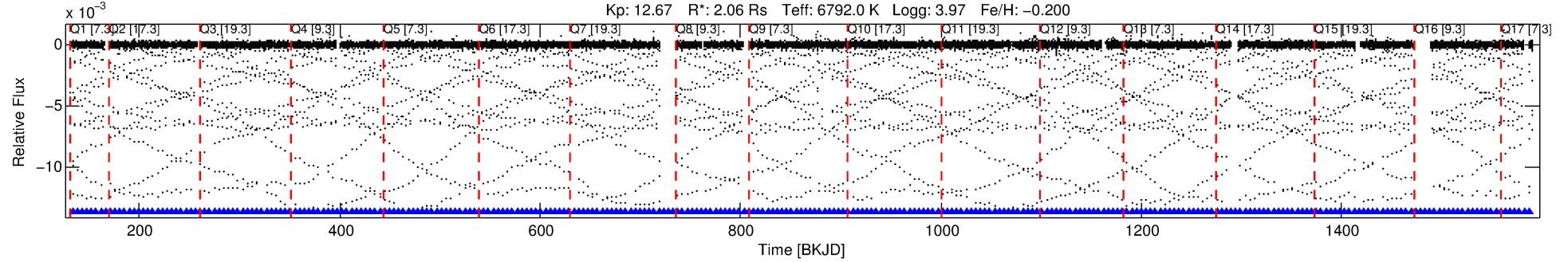
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007943535-01

No Significant Match Found

DV One-Page Summary

KIC: 7943535 Candidate: 1 of 2 Period: 4.719 d
KOI: K06935.01 Corr: 0.997



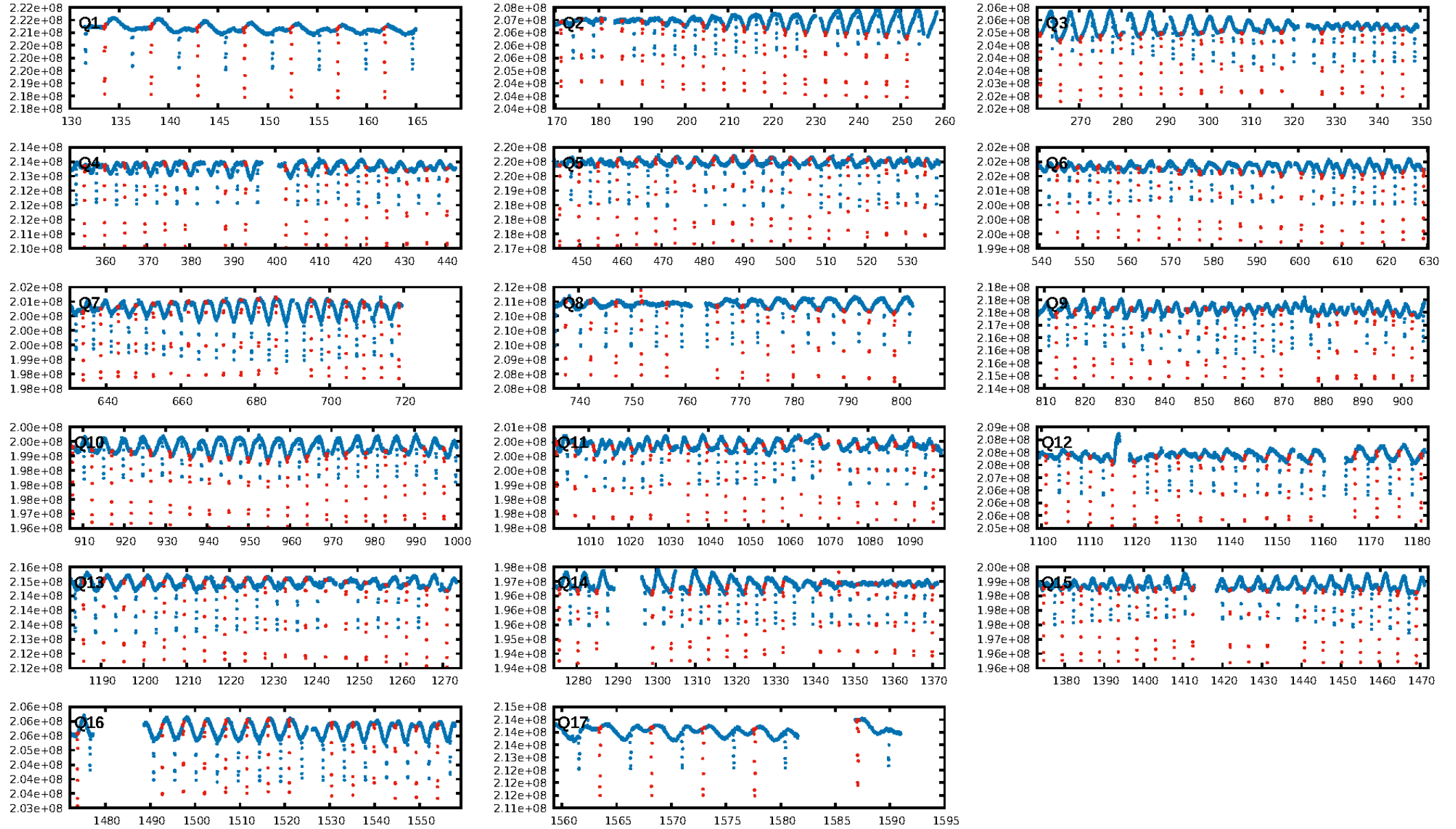
DV Fit Results:

Period = 4.71934 [0.00000] d
Epoch = 133.5146 [0.0000] BKJD
Rp/R* = 0.1769 [0.0052]
a/R* = 7.92 [0.03]
b = 1.00 [0.50]
Seff = 2082.93 [949.98]
Teq = 1723 [196] K
Rp = 39.73 [12.14] Re
a = 0.0623 [0.0174] AU
Ag = 8.19 [3.61] [1.99σ]
Teffp = 4505 [162] K [10.92σ]

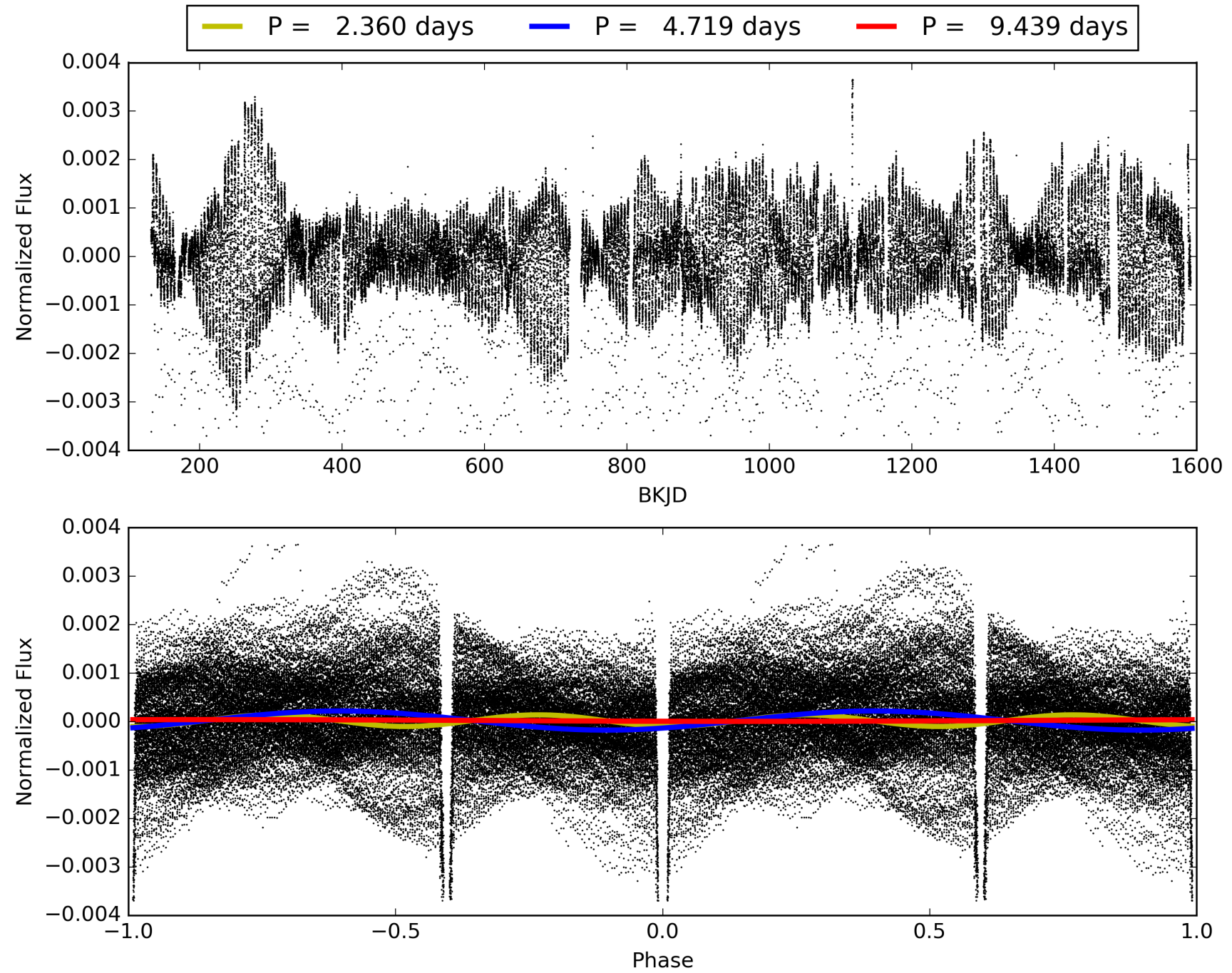
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [268/268]
GhostDiagnostic-chr: 4.367
Centroid-sig: 0.0%
Centroid-so: 0.157 arcsec [48.91σ]
OotOffset-rm: 0.040 arcsec [0.58σ]
KicOffset-rm: 0.079 arcsec [1.10σ]
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 007943535-01, PDC Light Curves

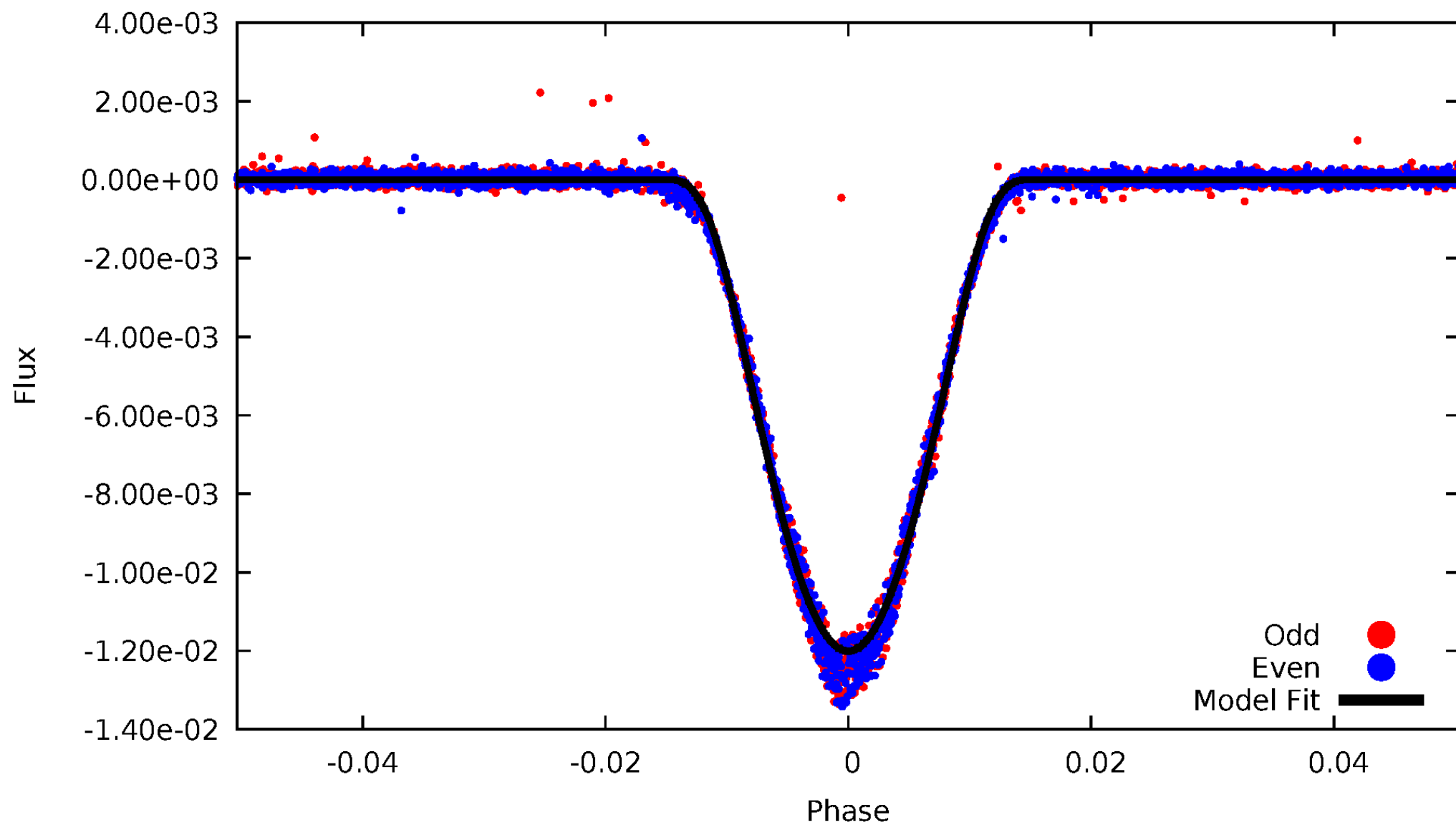


TCE 007943535-01



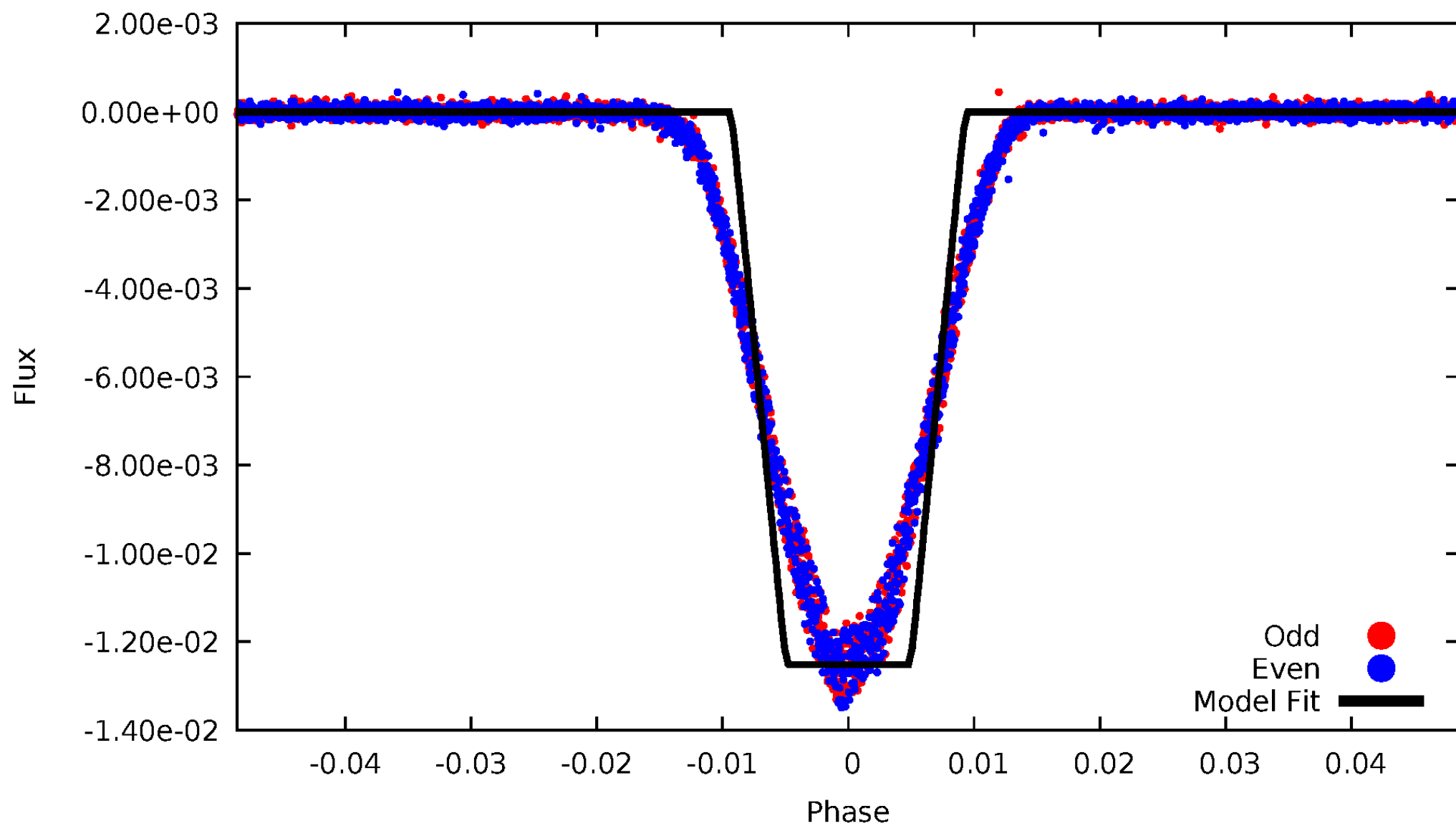
DV Odd/Even

TCE 007943535-01



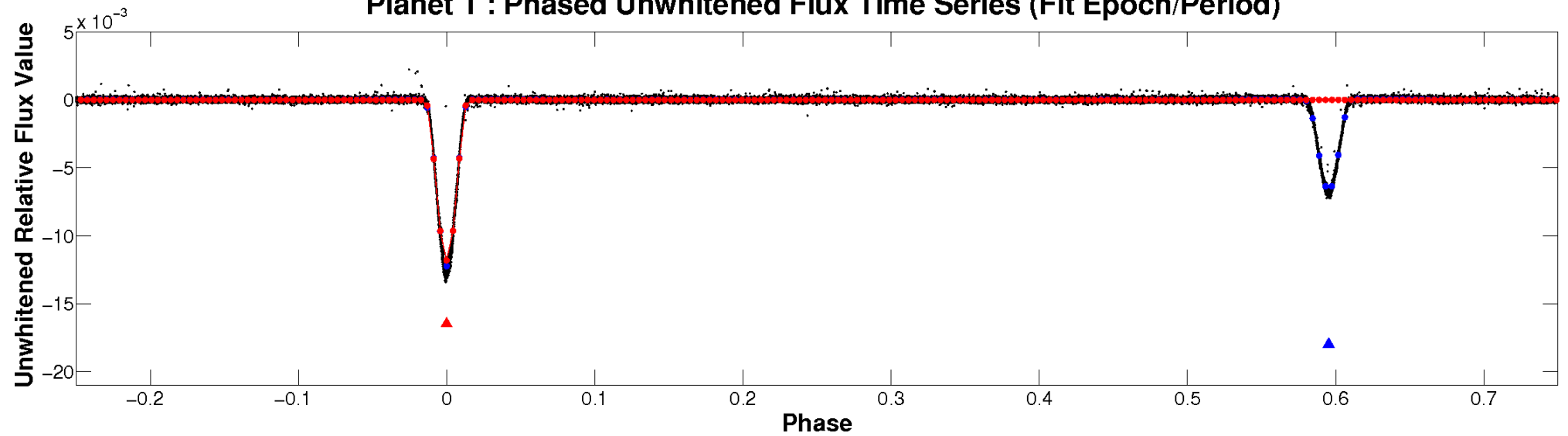
ALT Odd/Even

TCE 007943535-01

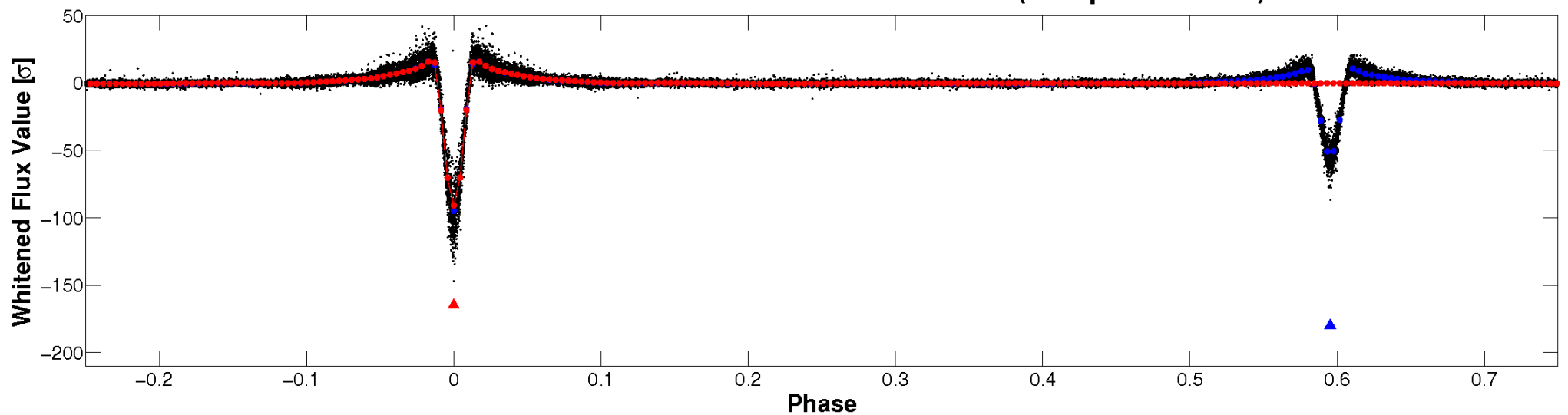


Non-Whitened Vs. Whitened Light Curve

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

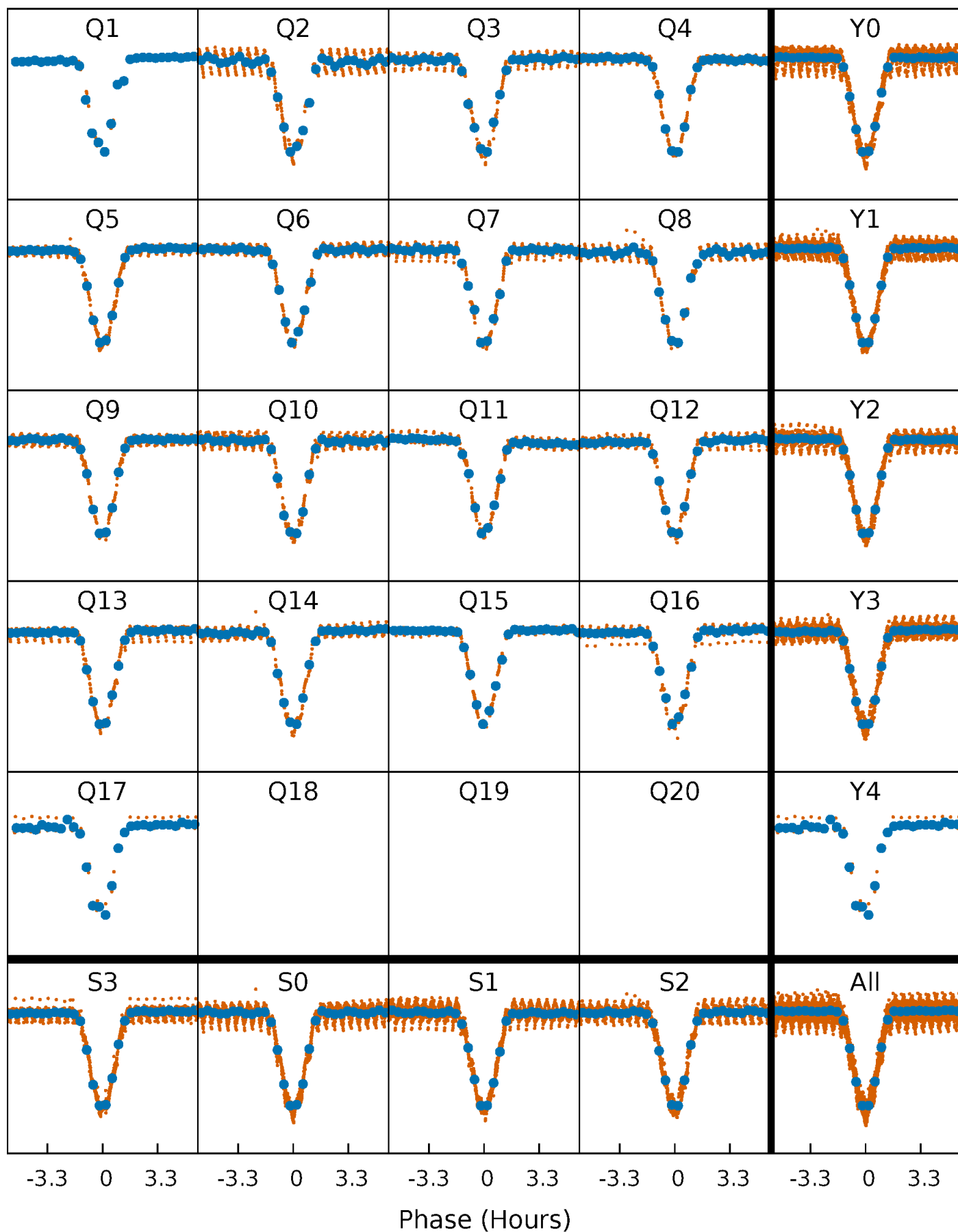


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



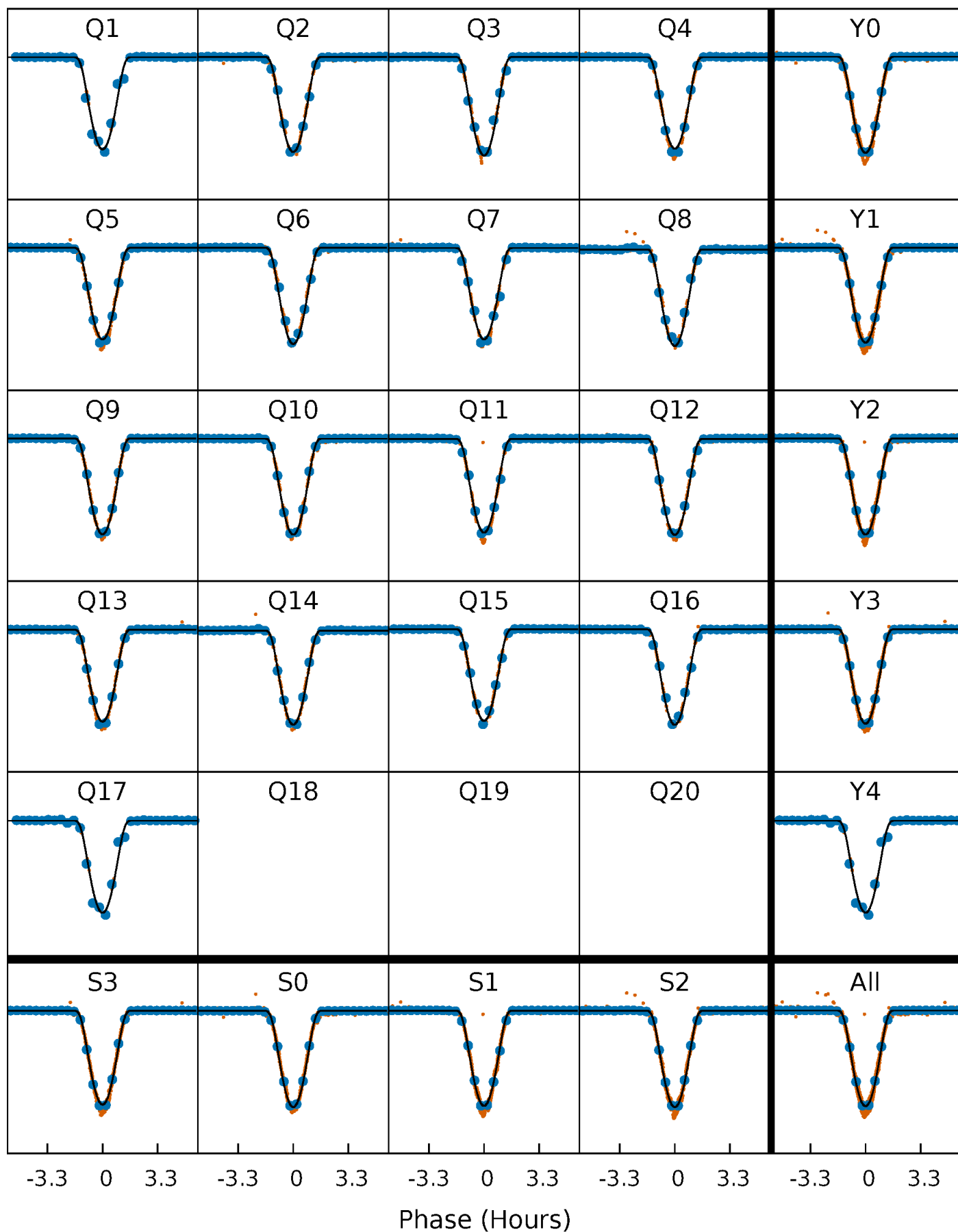
PDC Quarter-Phased Transit Curves

TCE 007943535-01 P= 4.719338 Days $T_0=133.514613$ (BKJD)



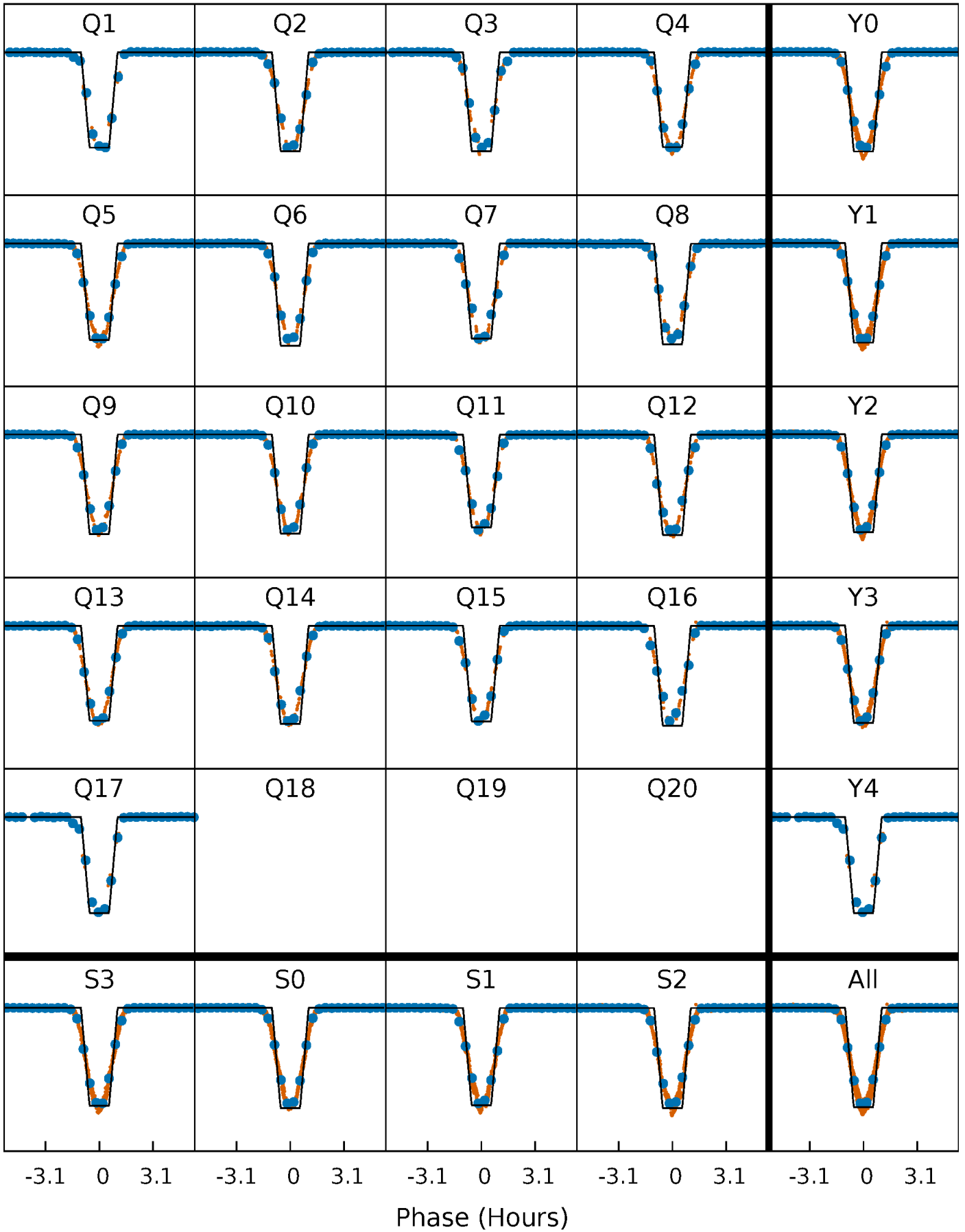
DV Quarter-Phased Transit Curves

TCE 007943535-01 P= 4.719338 Days $T_0=133.514613$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

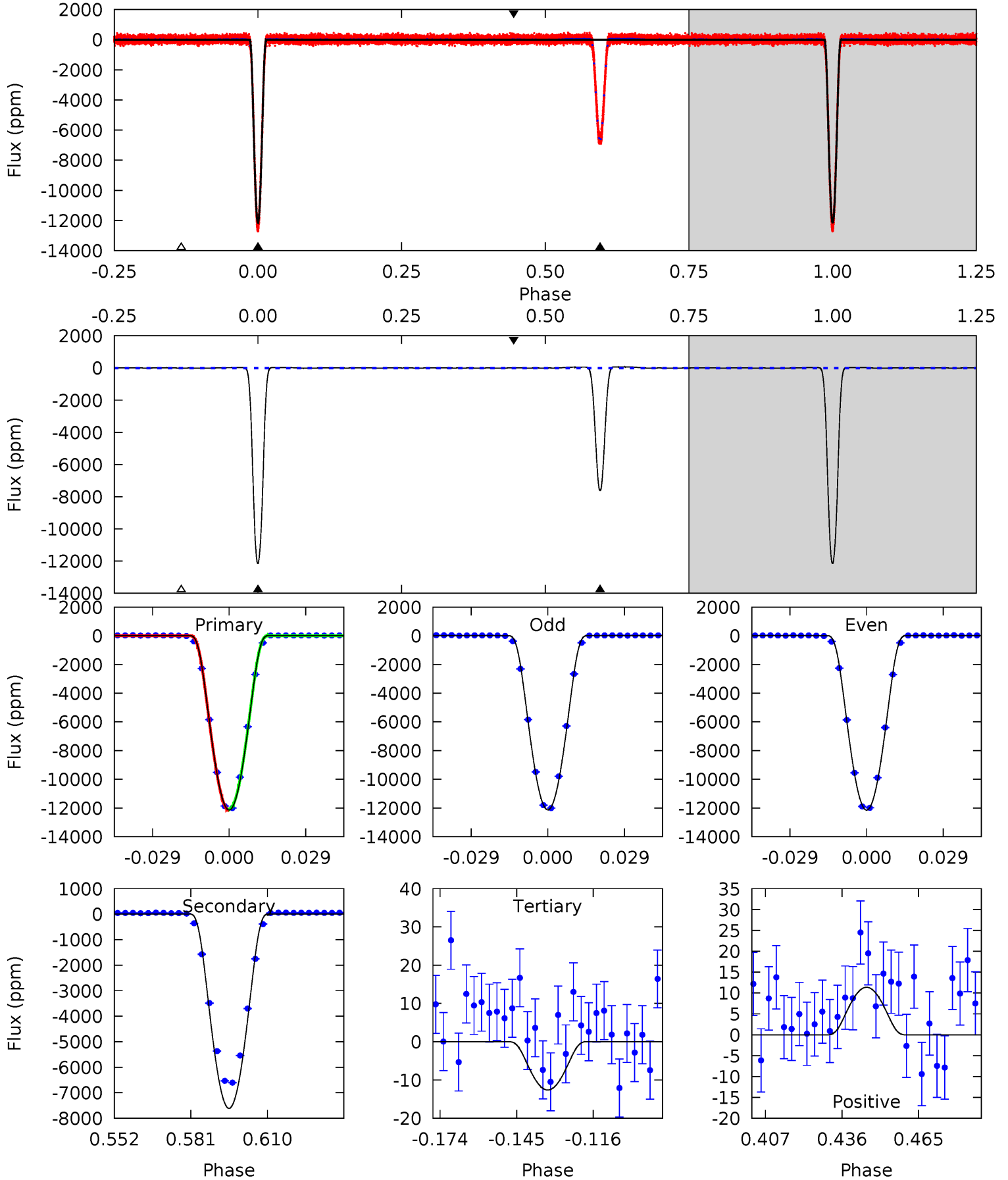
TCE 007943535-01 P= 4.719350 Days $T_0=133.512765$ (BKJD)



DV Model-Shift Uniqueness Test

007943535-01, P = 4.719338 Days, E = 128.795275 Days

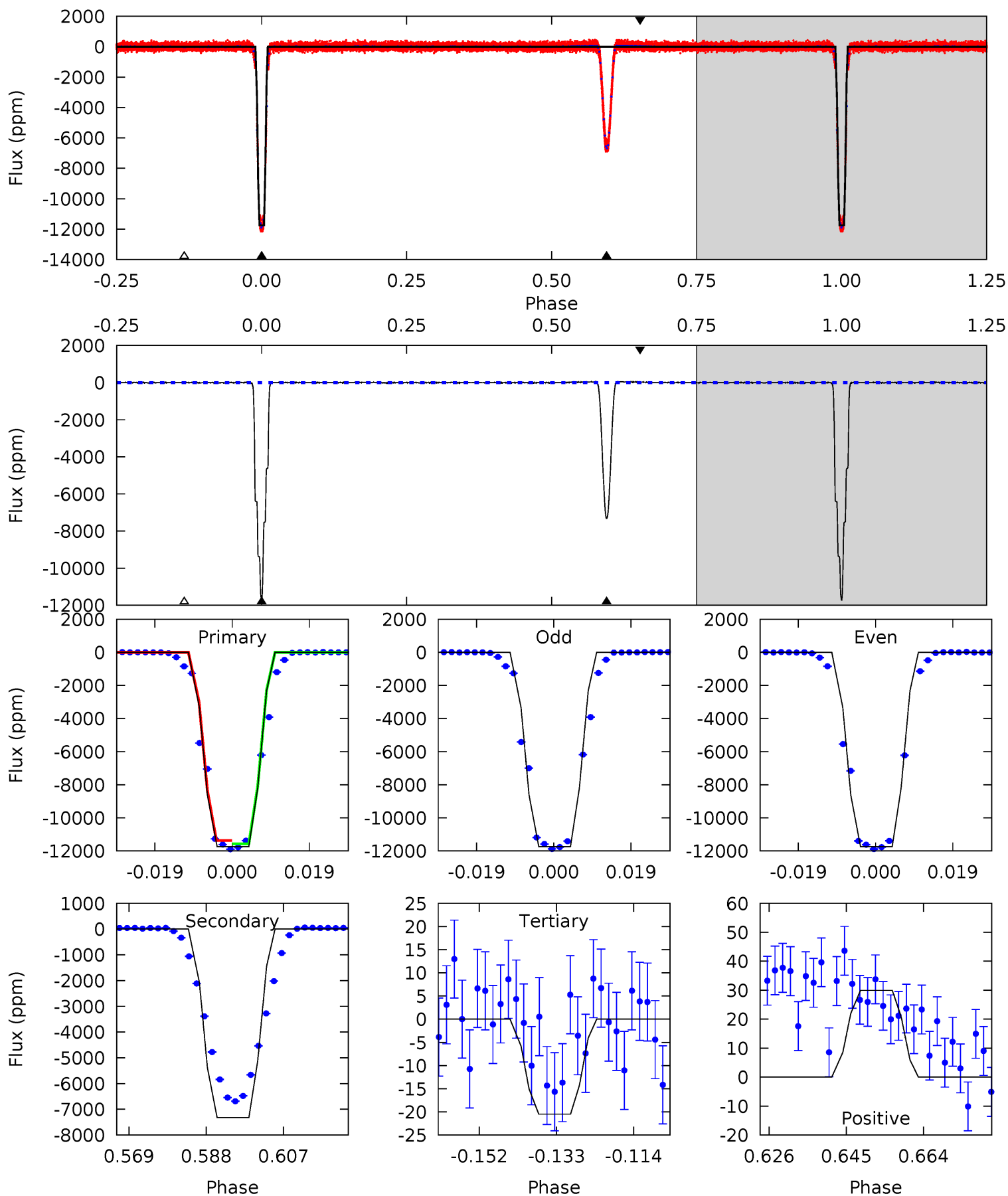
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4628	2901	4.81	4.34	4.82	2.18	6.12	4623	4623	2896	2897	3.56	1.00	0.01	0



Alt Model-Shift Uniqueness Test

007943535-01, P = 4.719350 Days, E = 128.793415 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2221	1385	3.87	5.66	4.90	2.35	2.17	2217	2215	1381	1379	0.07	1.00	0.00	0



Stellar Parameters For KIC 007943535

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6792^{+182}_{-223}	$3.971^{+0.252}_{-0.126}$	$-0.200^{+0.250}_{-0.300}$	$2.058^{+0.418}_{-0.626}$	$1.444^{+0.183}_{-0.275}$	$0.234^{+0.350}_{-0.092}$
	+3%/-3%	+6%/-3%	+125%/-150%	+20%/-30%	+13%/-19%	+150%/-39%
Source	PHO1	FLK73	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 007943535-01 / KOI 6935.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7611 ± 3	$39.33^{+4.90}_{-6.86}$	2384^{+165}_{-200}	4846^{+121}_{-127}	11^{+4}_{-2}
Alt.	-7322 ± 5	$24.78^{+3.38}_{-3.98}$	2381^{+160}_{-181}	5901^{+222}_{-201}	26^{+9}_{-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 $A_{\text{obs}} \gg 1.0$

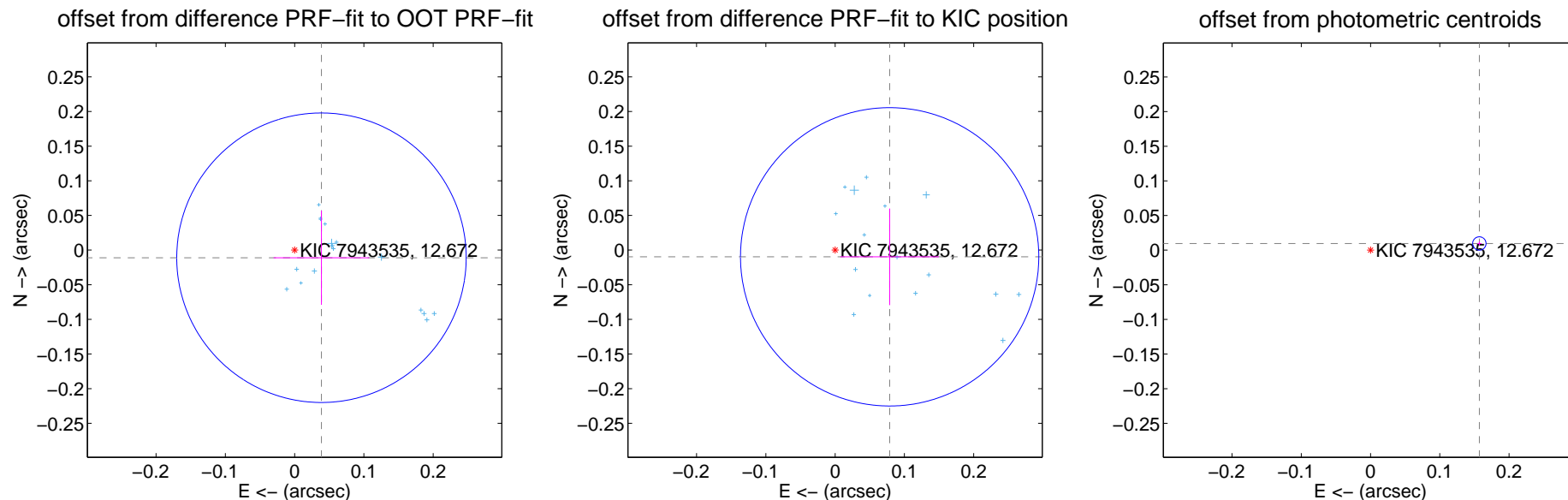
DV Centroid Data

Supplemental centroid analysis for 007943535-01. Kepler magnitude: 12.67. Transit SNR 1776.59

There are 17 quarters with good PRF difference image offsets

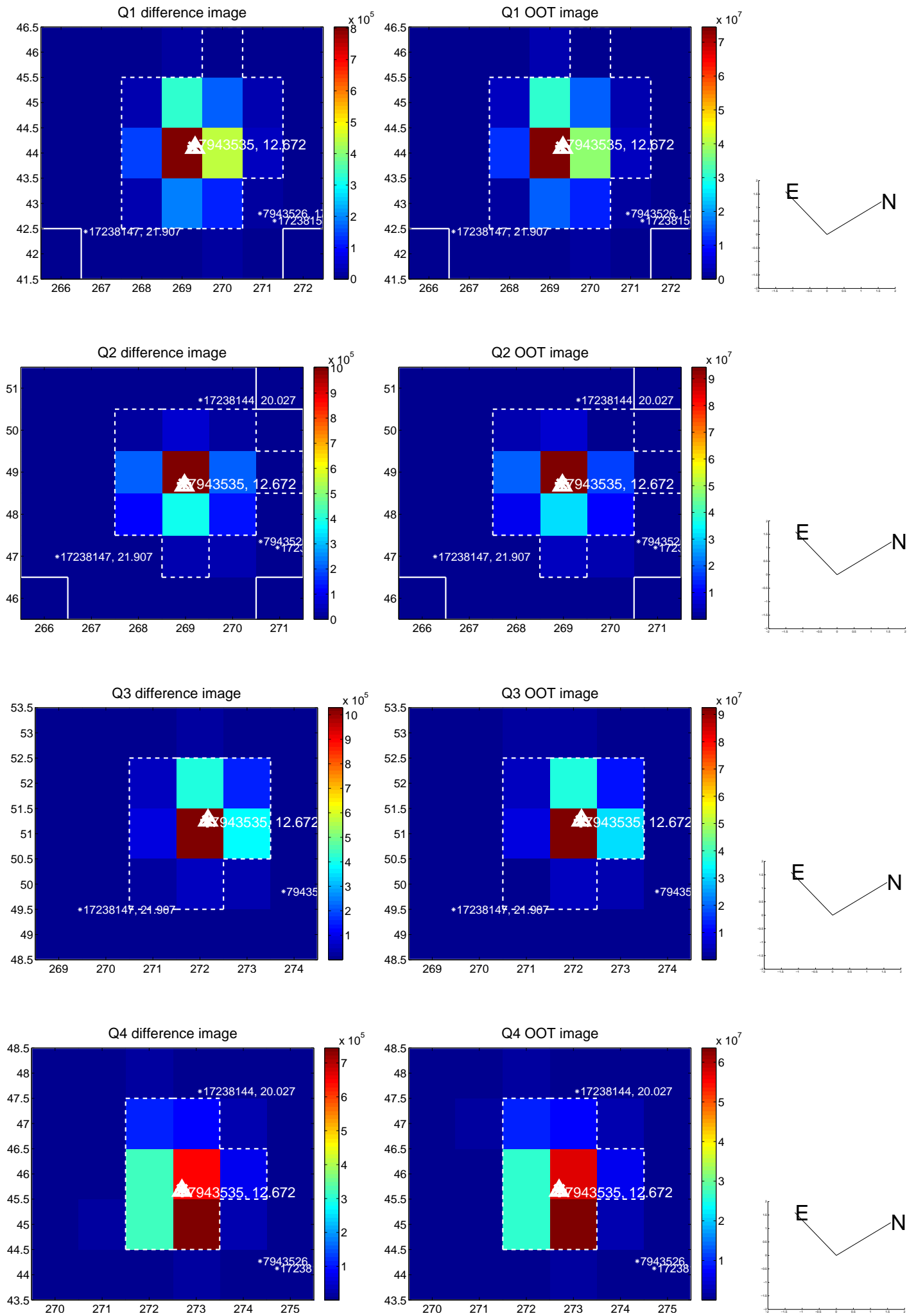
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.040 ± 0.070	0.58	-0.039 ± 0.069	-0.011 ± 0.068
PRF-fit source offset from KIC position	0.079 ± 0.072	1.10	-0.079 ± 0.071	-0.010 ± 0.070
photometric centroid source offset	0.16 ± 0.00	48.91	-0.16 ± 0.00	0.01 ± 0.00

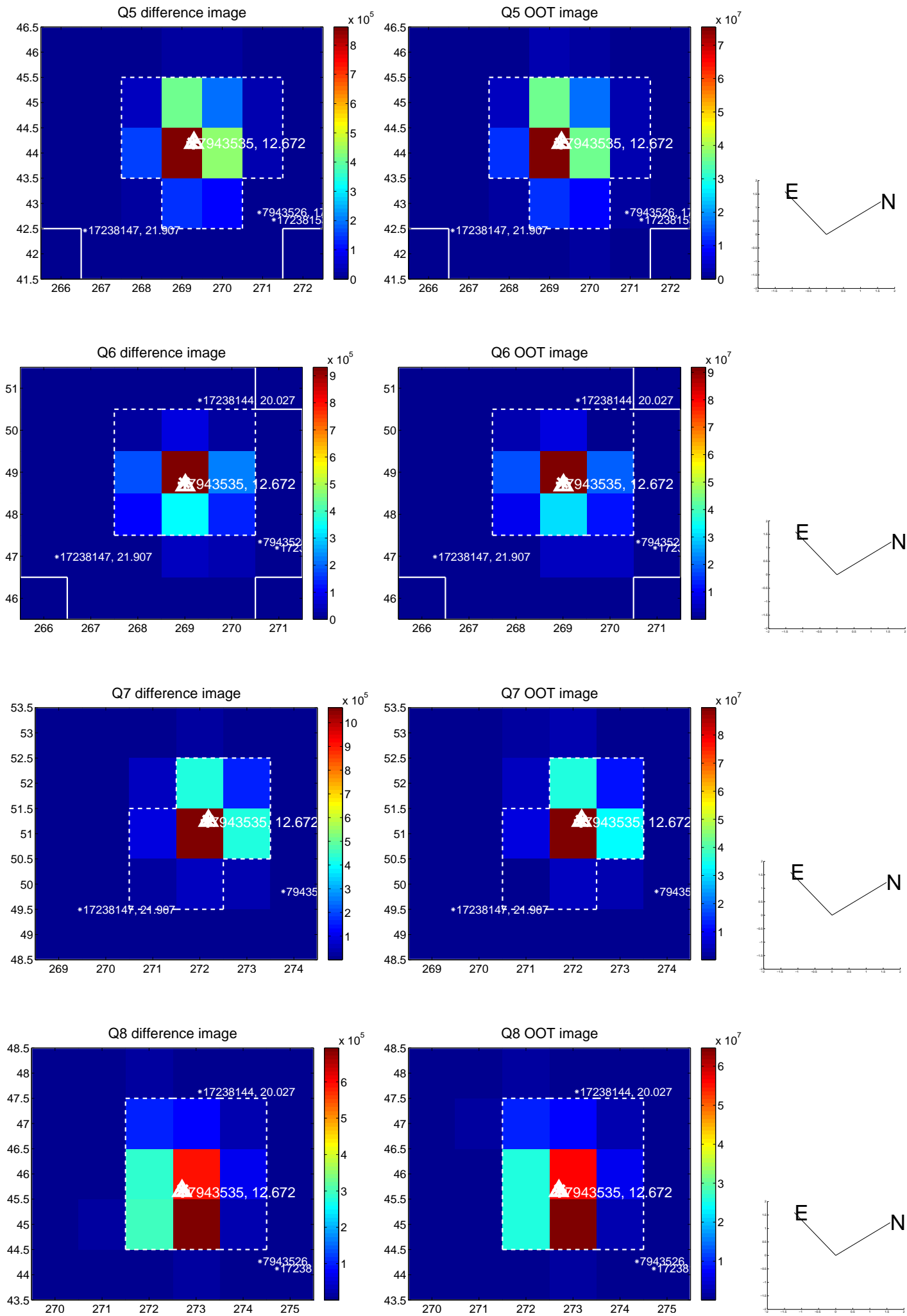


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

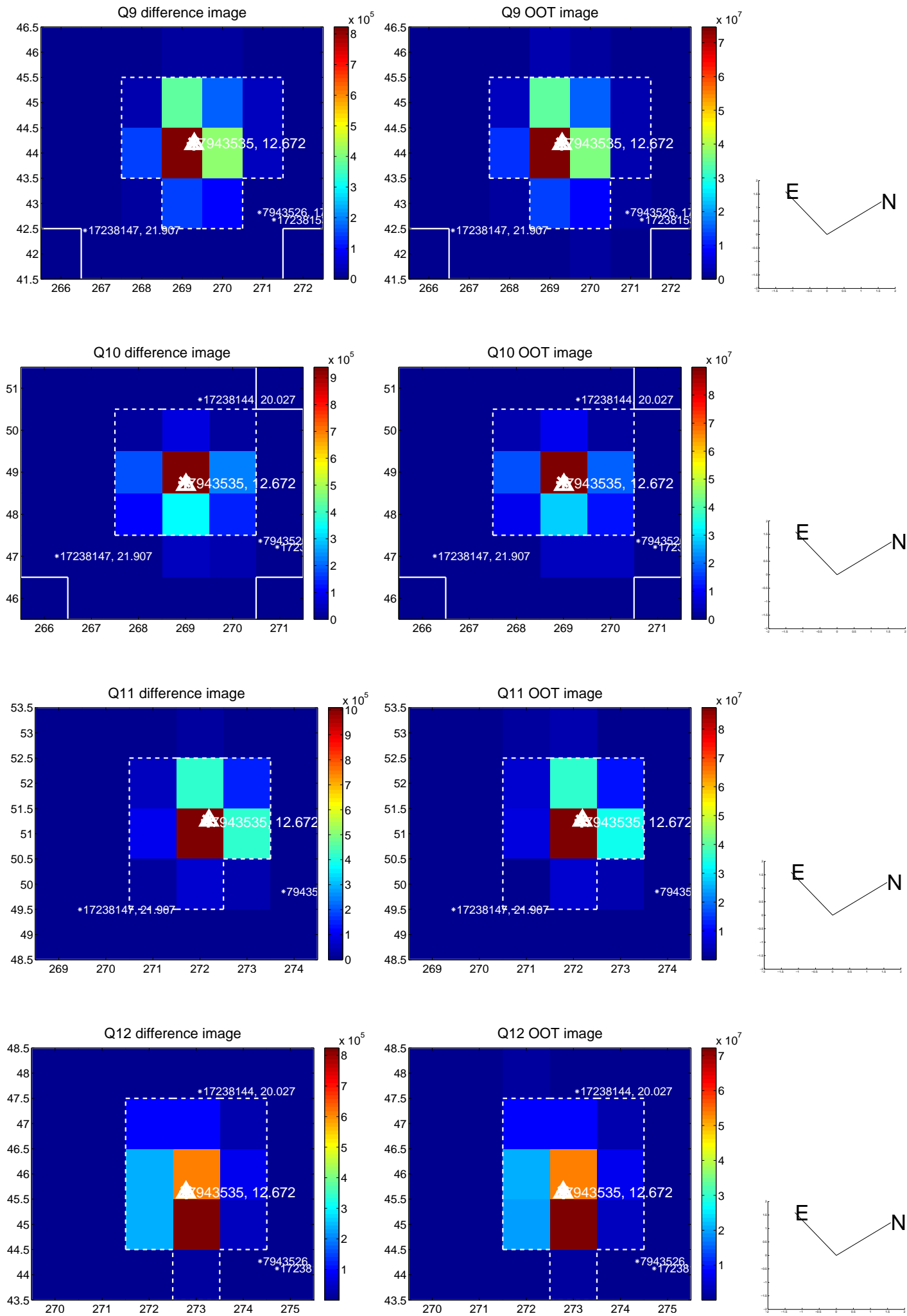
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



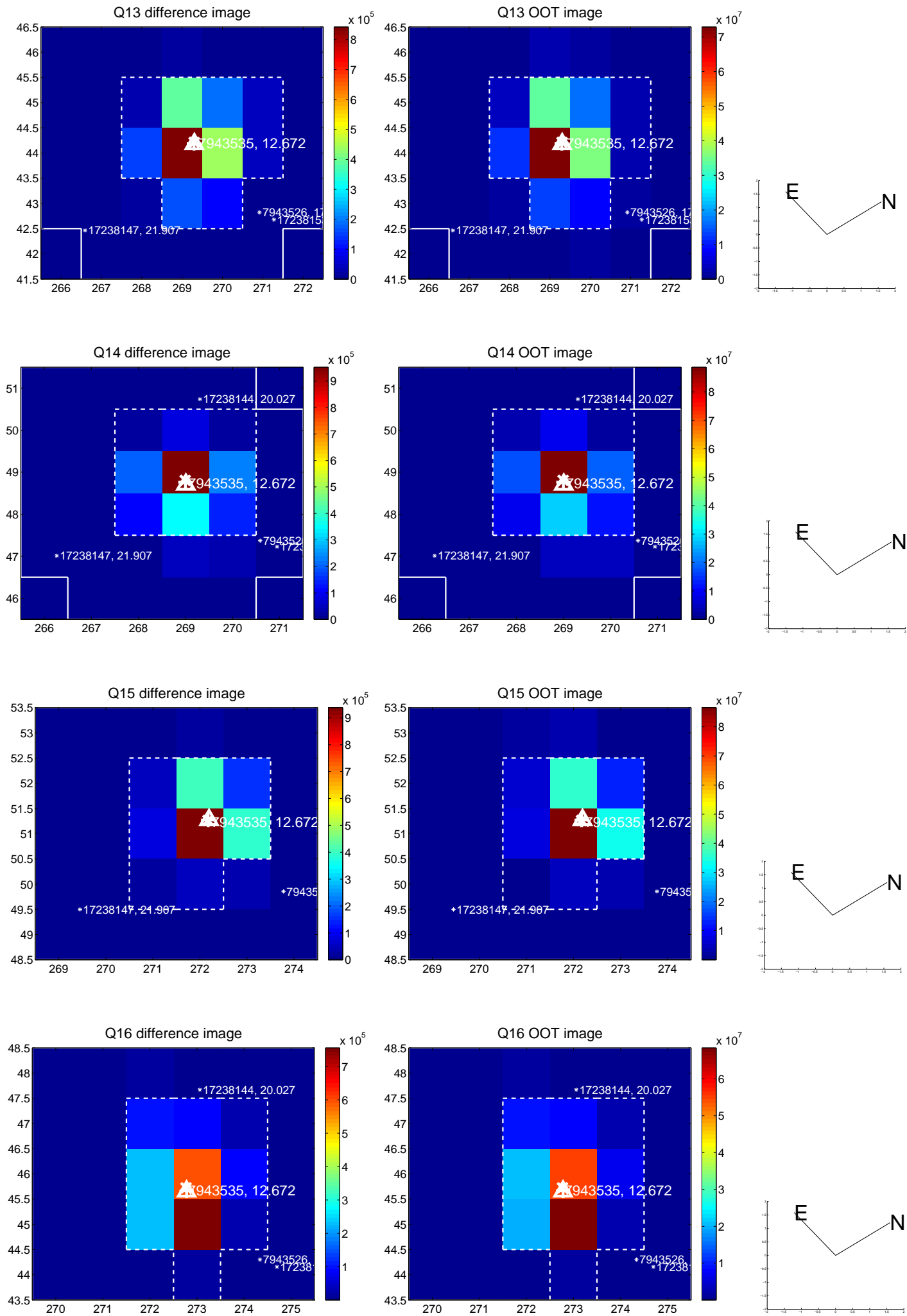
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



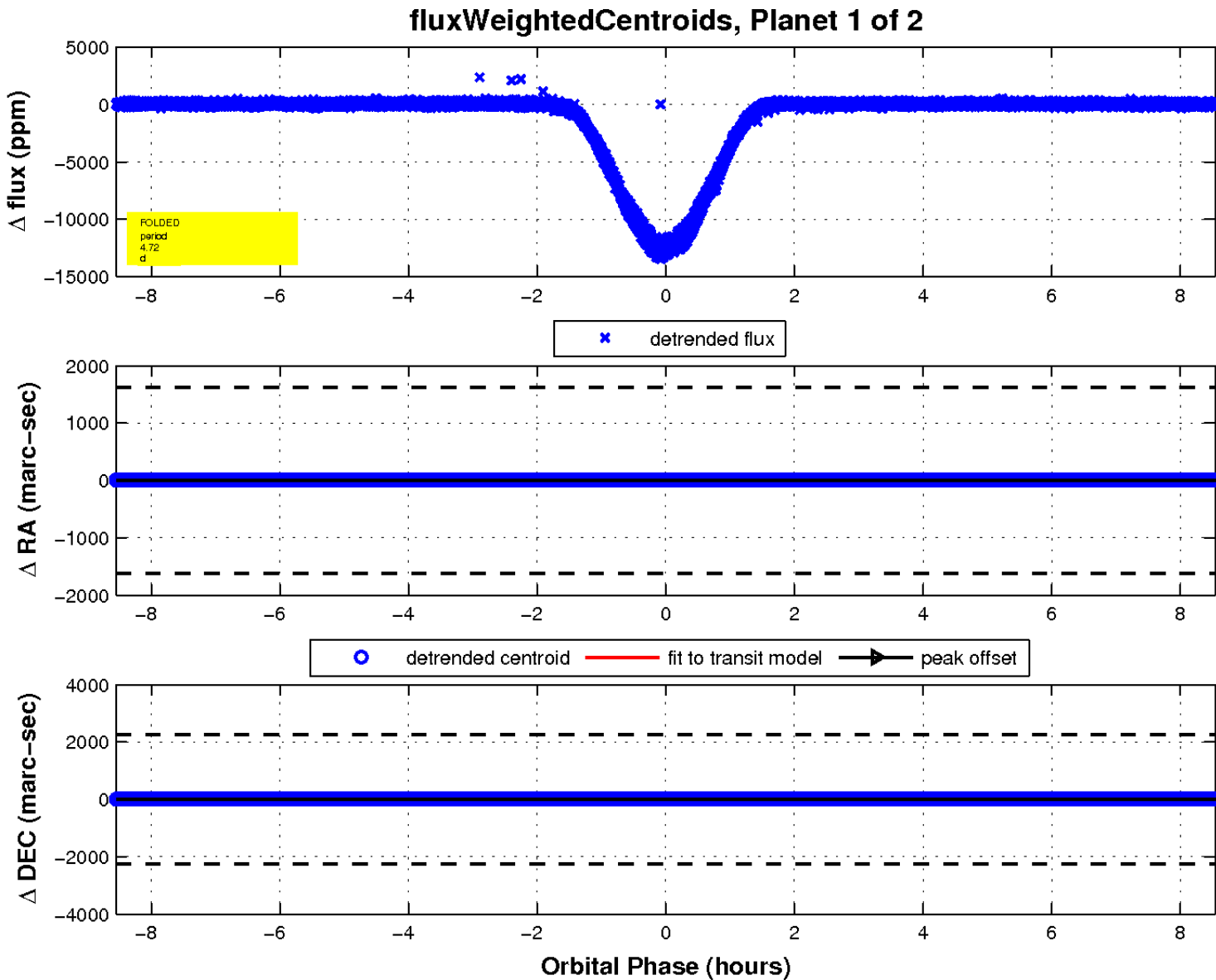
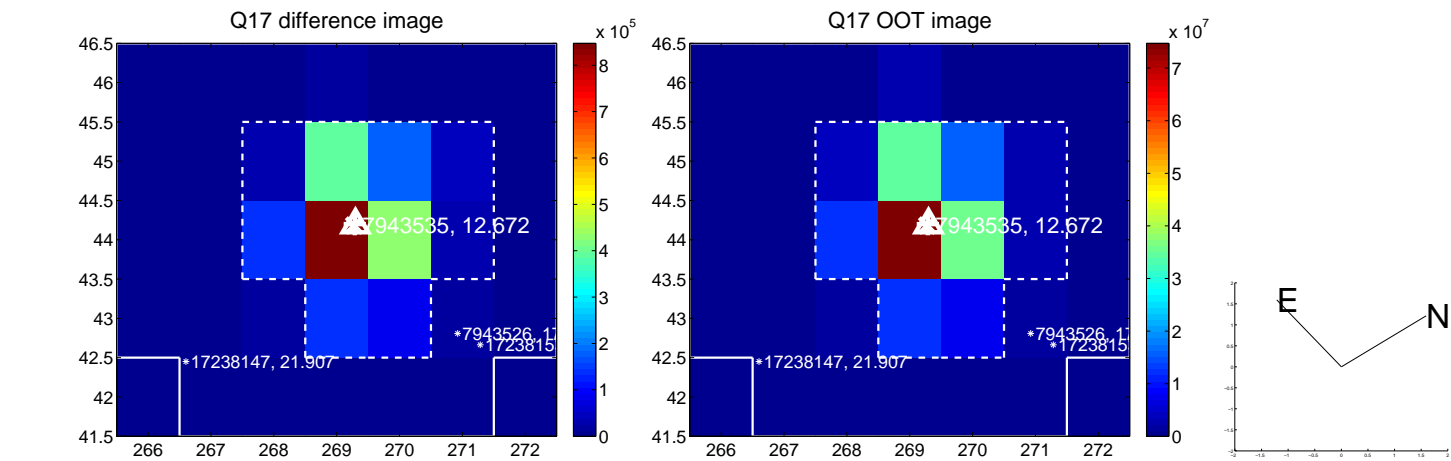
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

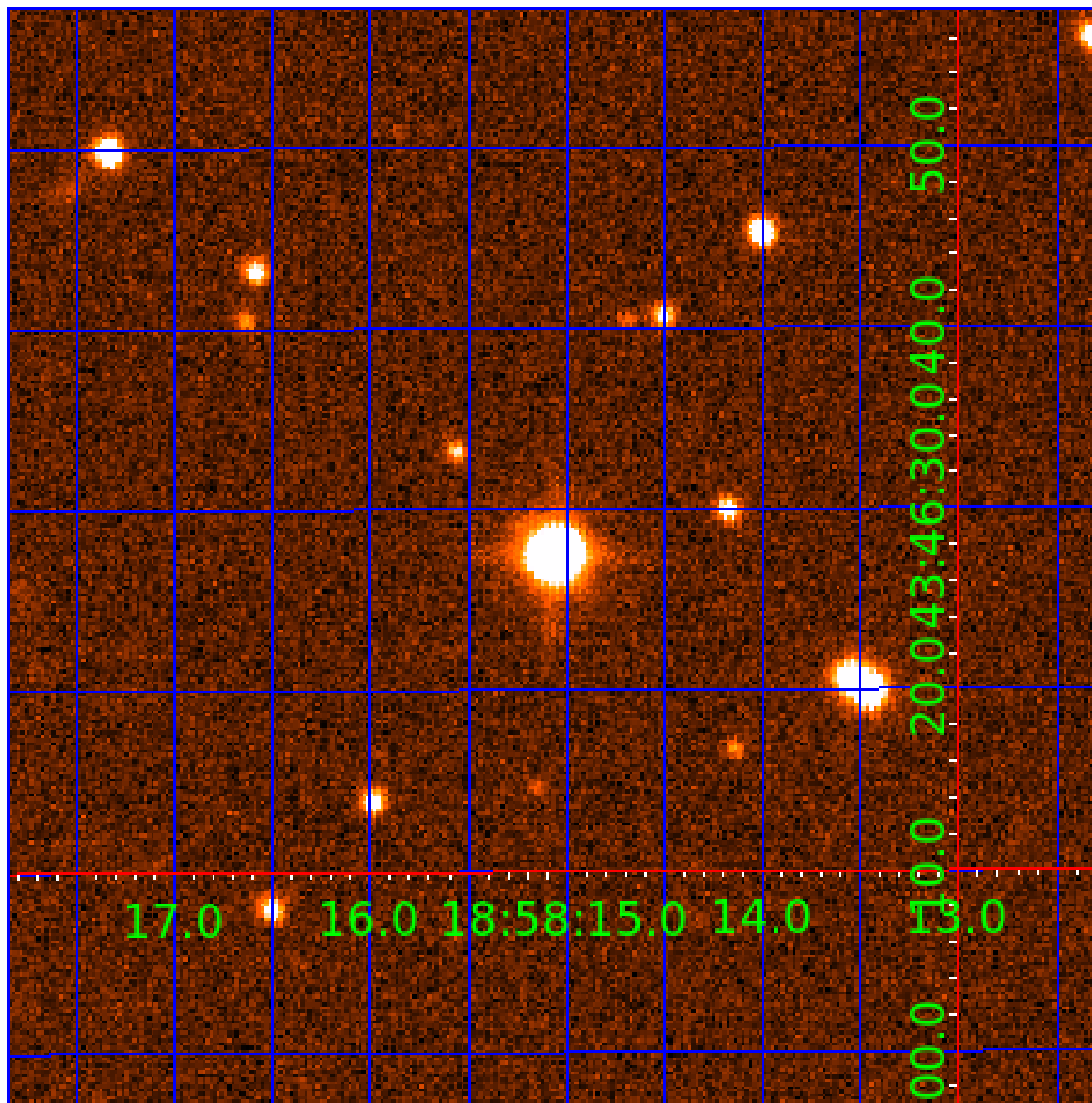


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007943535

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})
007943535-01	OBS	6935.01	4.719338	133.514613	12012.6	2.849	2497.4	1776.6	2.06	6792	39.73	2082.93
007943535-02	OBS	No	4.719336	131.605101	6699.7	2.971	1406.5	1258.2	2.06	6792	30.10	2082.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007943535-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007943535-02	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.

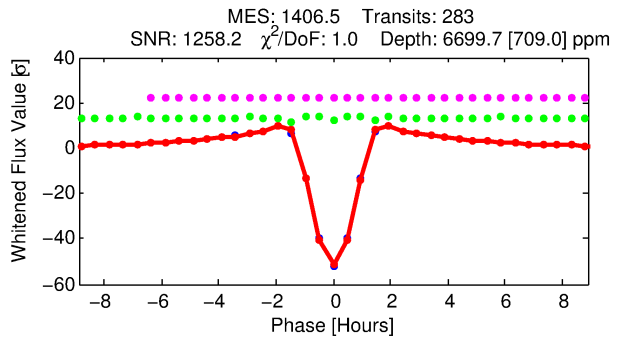
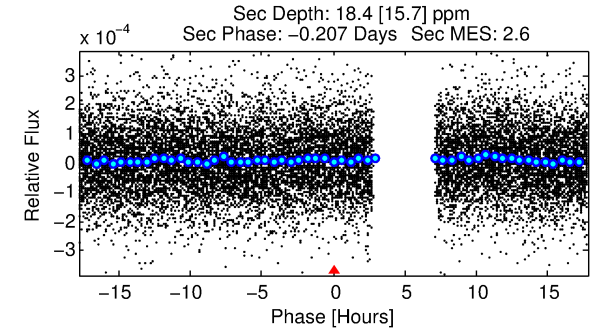
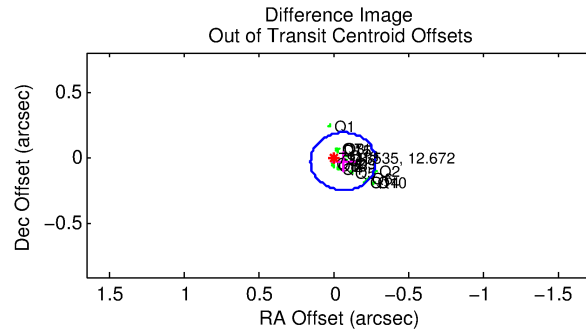
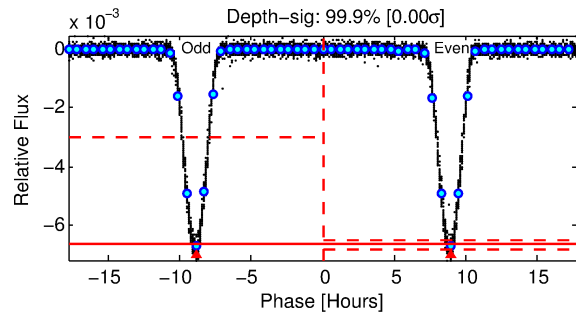
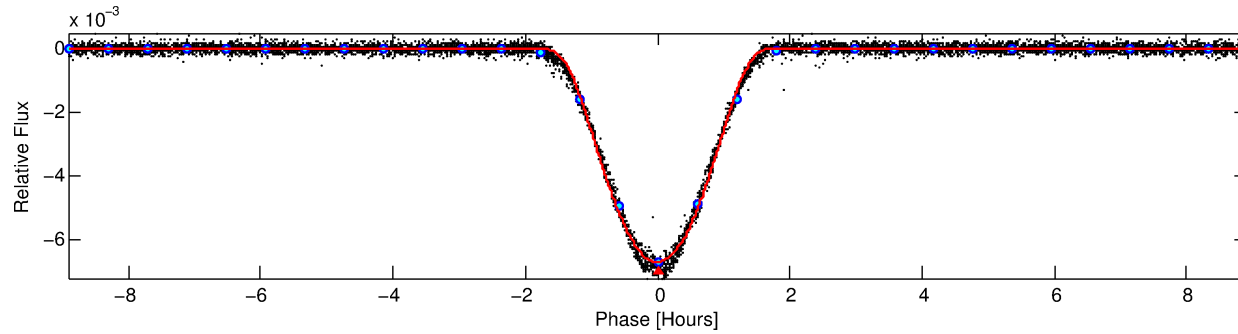
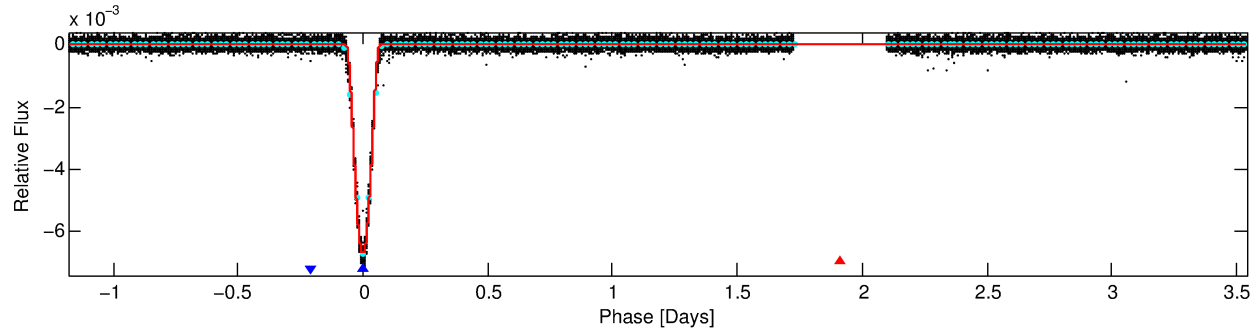
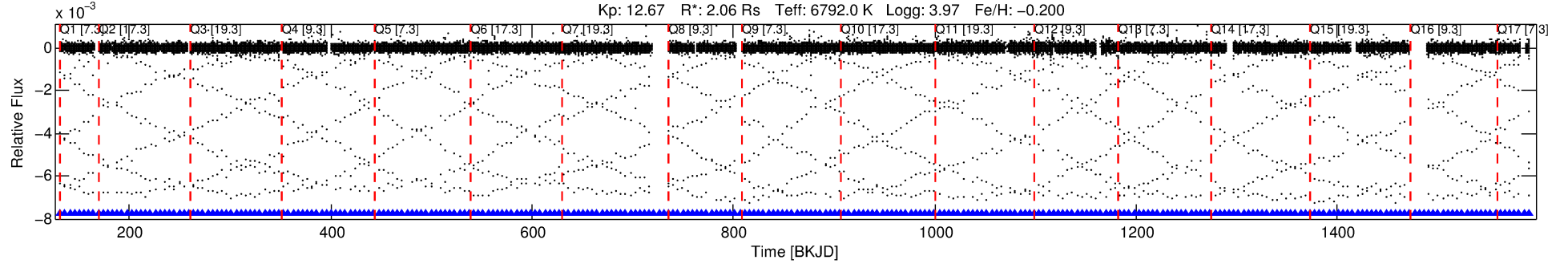
Ephemeris Match Information For 007943535-02

No Significant Match Found

DV One-Page Summary

KIC: 7943535 Candidate: 2 of 2 Period: 4.719 d
KOI: K06935 Corr: No Ephemeris Match

Kp: 12.67 R*: 2.06 Rs Teff: 6792.0 K Logg: 3.97 Fe/H: -0.200



DV Fit Results:

Period = 4.71934 [0.00000] d
Epoch = 131.6051 [0.0000] BKJD
Rp/R* = 0.1340 [0.0053]
a/R* = 6.57 [0.04]
b = 1.00 [0.00]
Seff = 2082.93 [949.99]
Teff = 1723 [196] K
Rp = 30.10 [9.23] Re
a = 0.0623 [0.0174] AU
Ag = 0.04 [0.04] [-23.00σ]
Teffp = 1215 [263] K [-1.55σ]

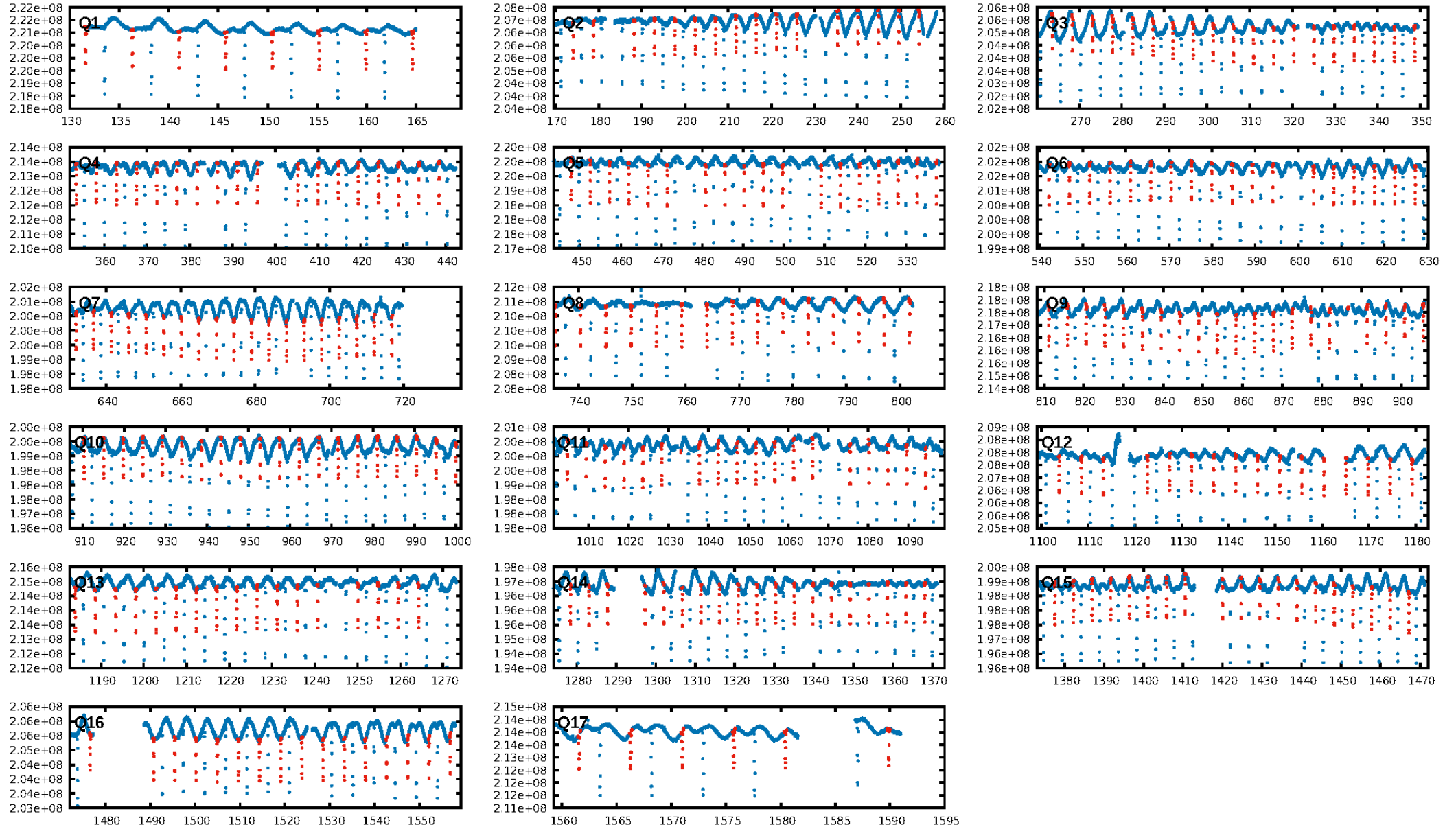
DV Diagnostic Results:

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 [269/269]
GhostDiagnostic-chr: 5.267
Centroid-sig: 0.0%
Centroid-so: 0.180 arcsec [32.26σ]
OotOffset-rm: 0.072 arcsec [0.99σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.112 arcsec [1.49σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

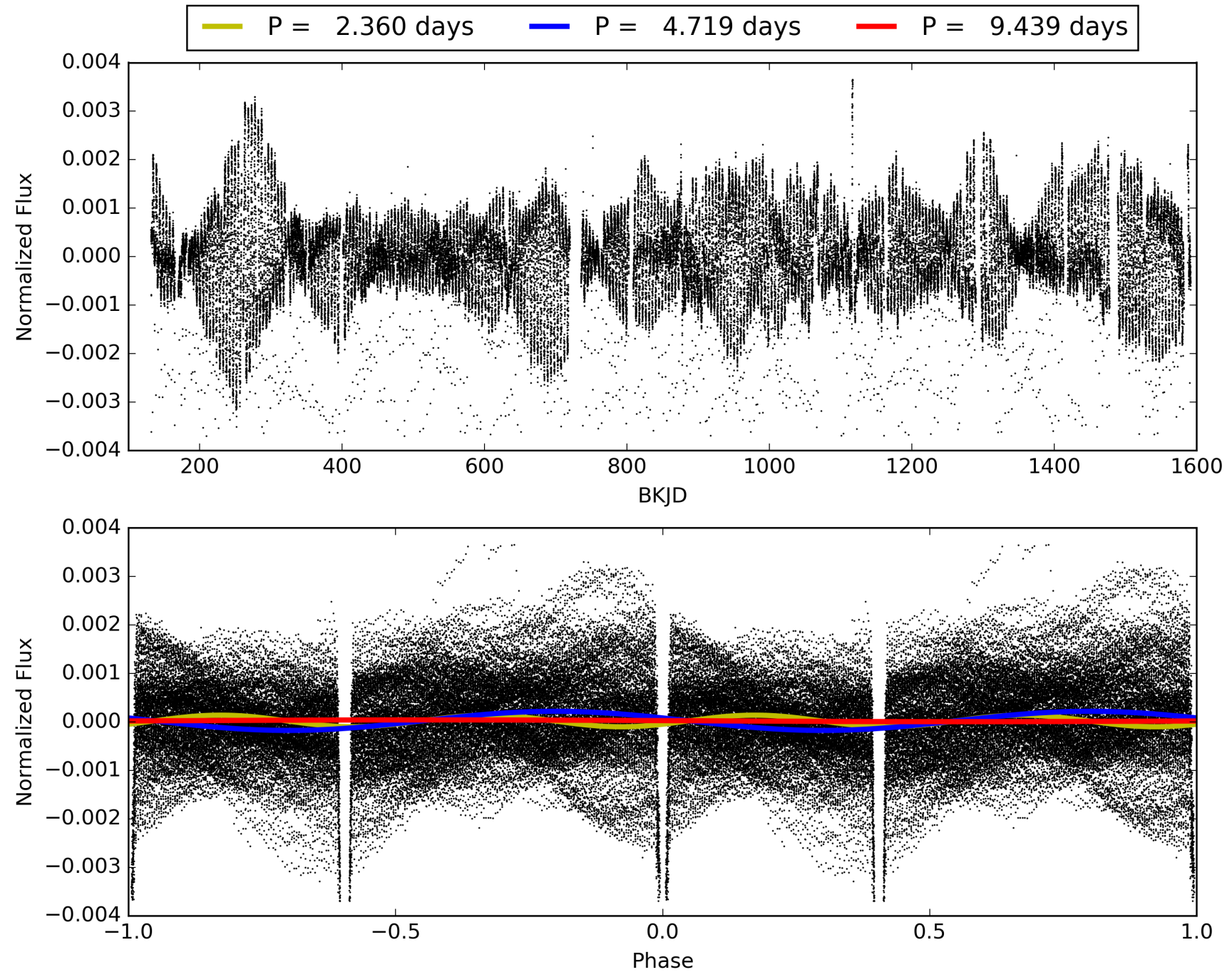
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:53:48 Z

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

TCE 007943535-02, PDC Light Curves

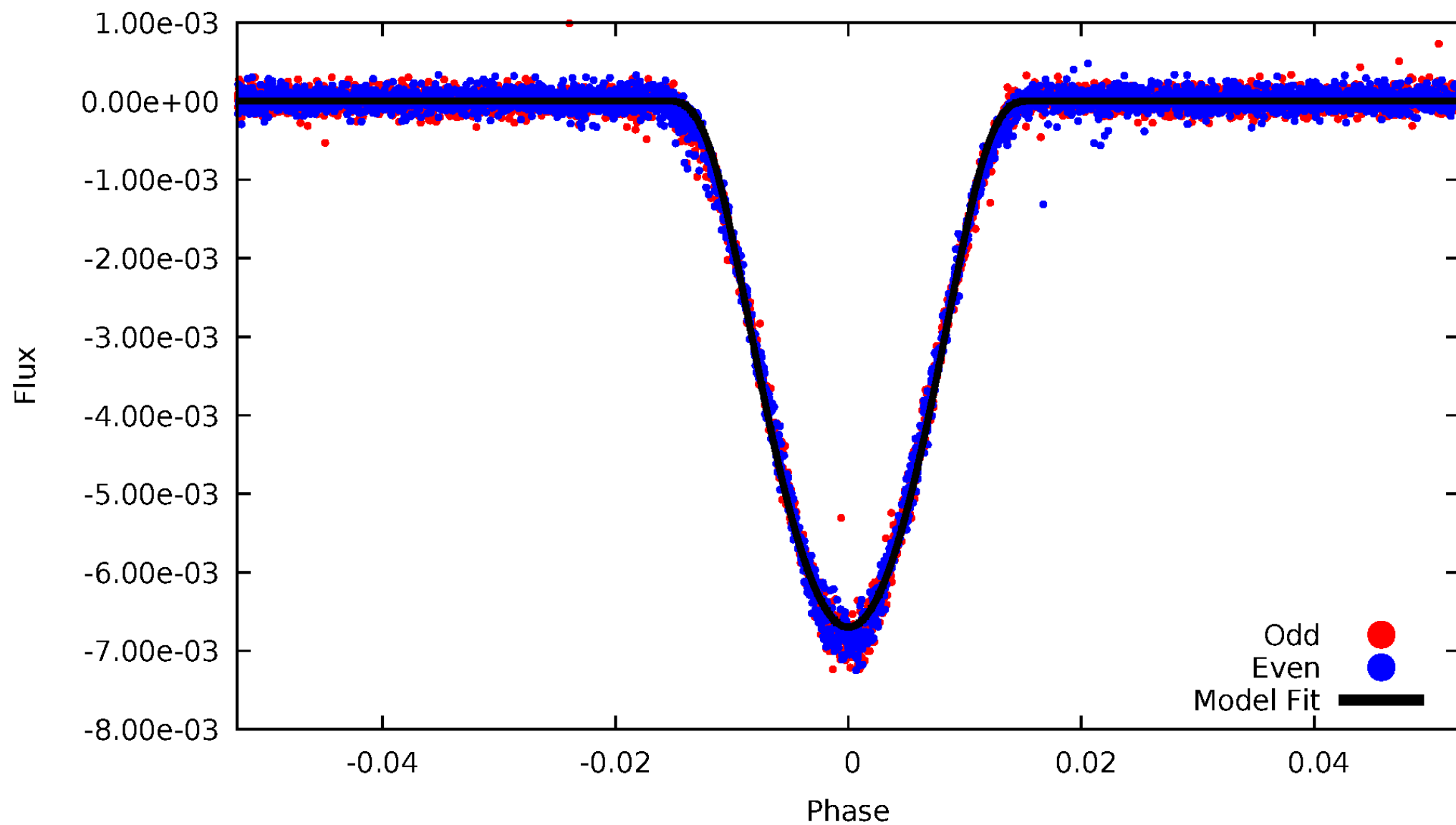


TCE 007943535-02



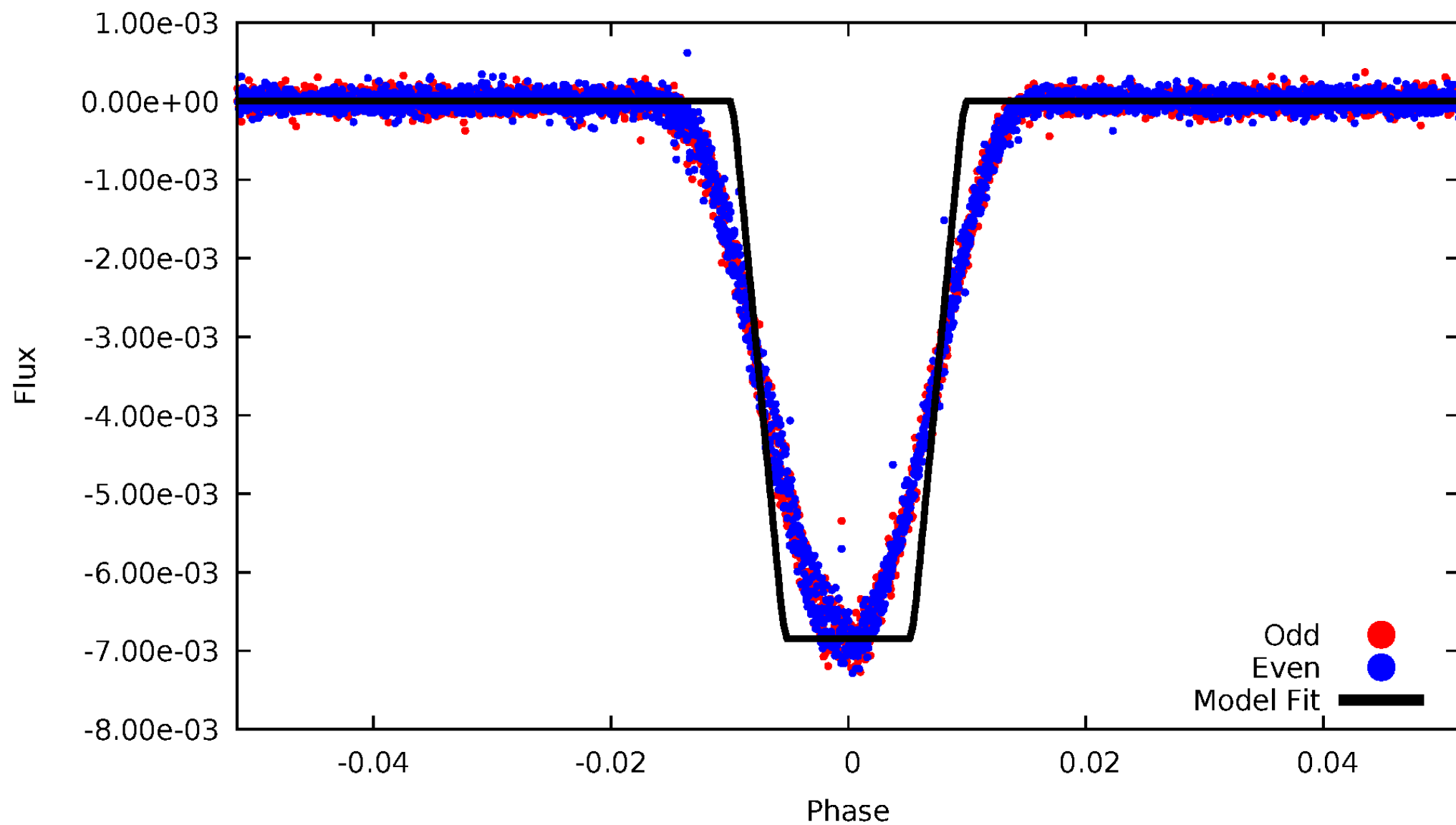
DV Odd/Even

TCE 007943535-02



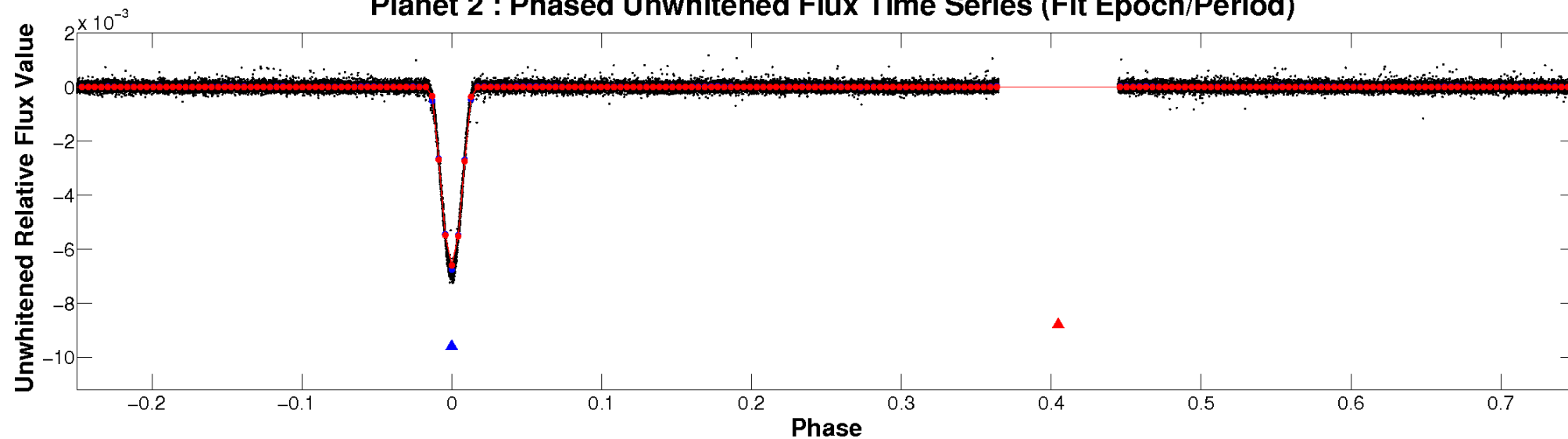
ALT Odd/Even

TCE 007943535-02

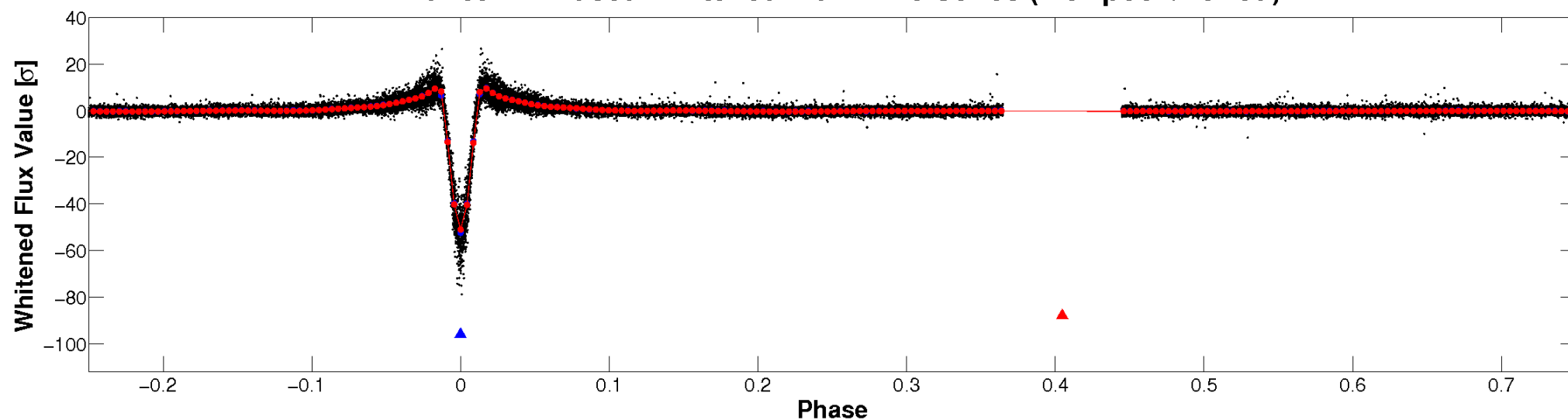


Non-Whitened Vs. Whitened Light Curve

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

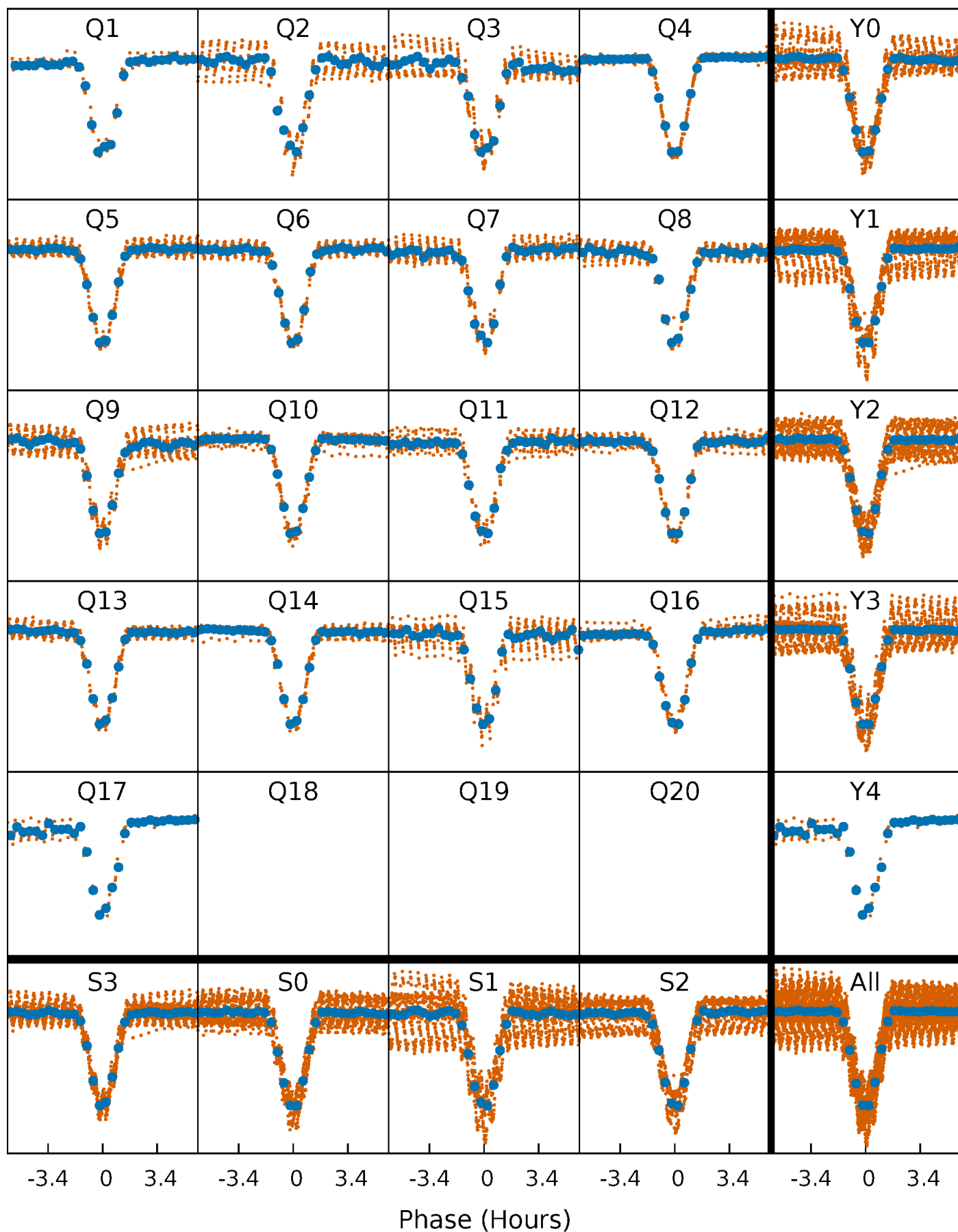


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



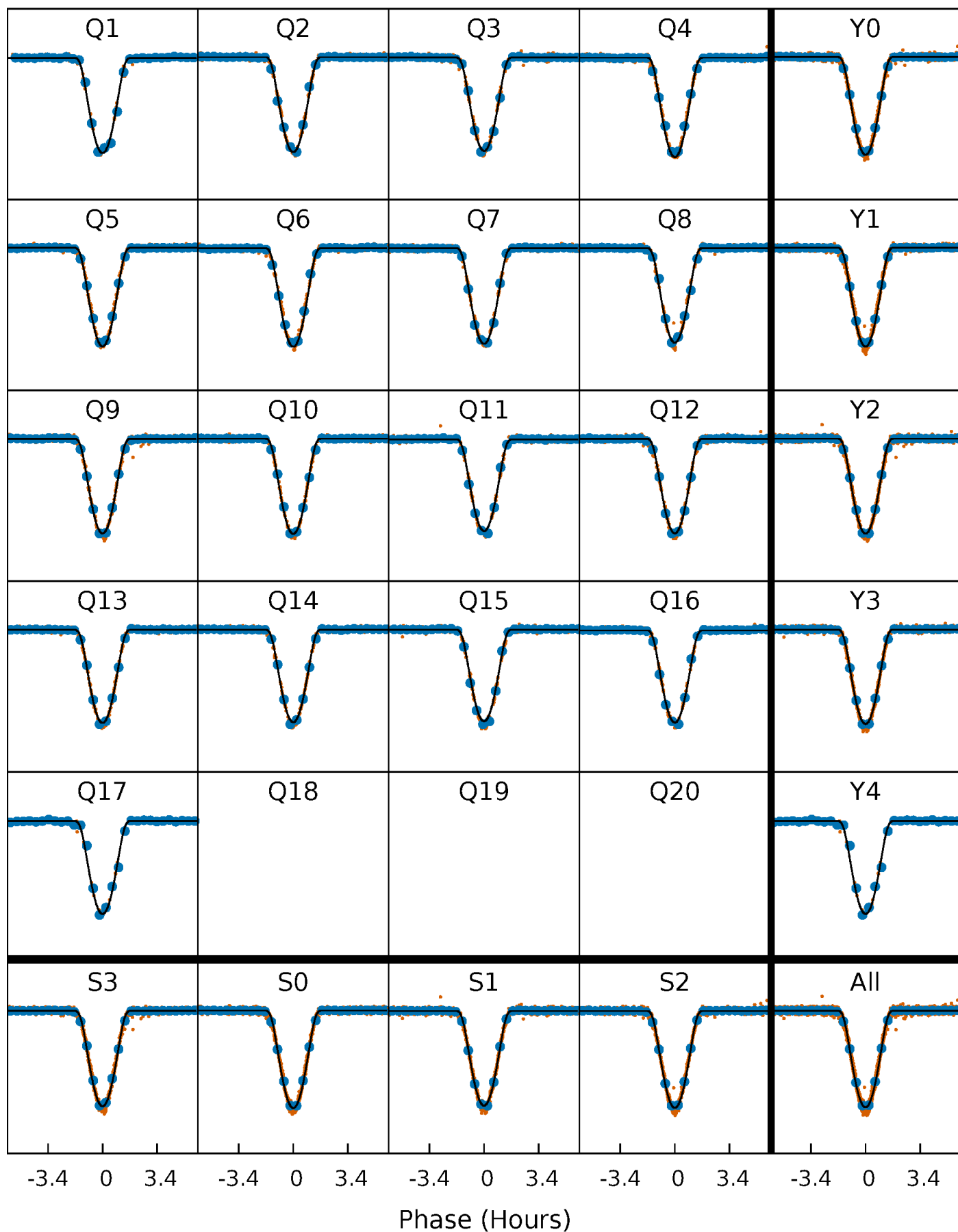
PDC Quarter-Phased Transit Curves

TCE 007943535-02 P= 4.719336 Days $T_0=131.605101$ (BKJD)



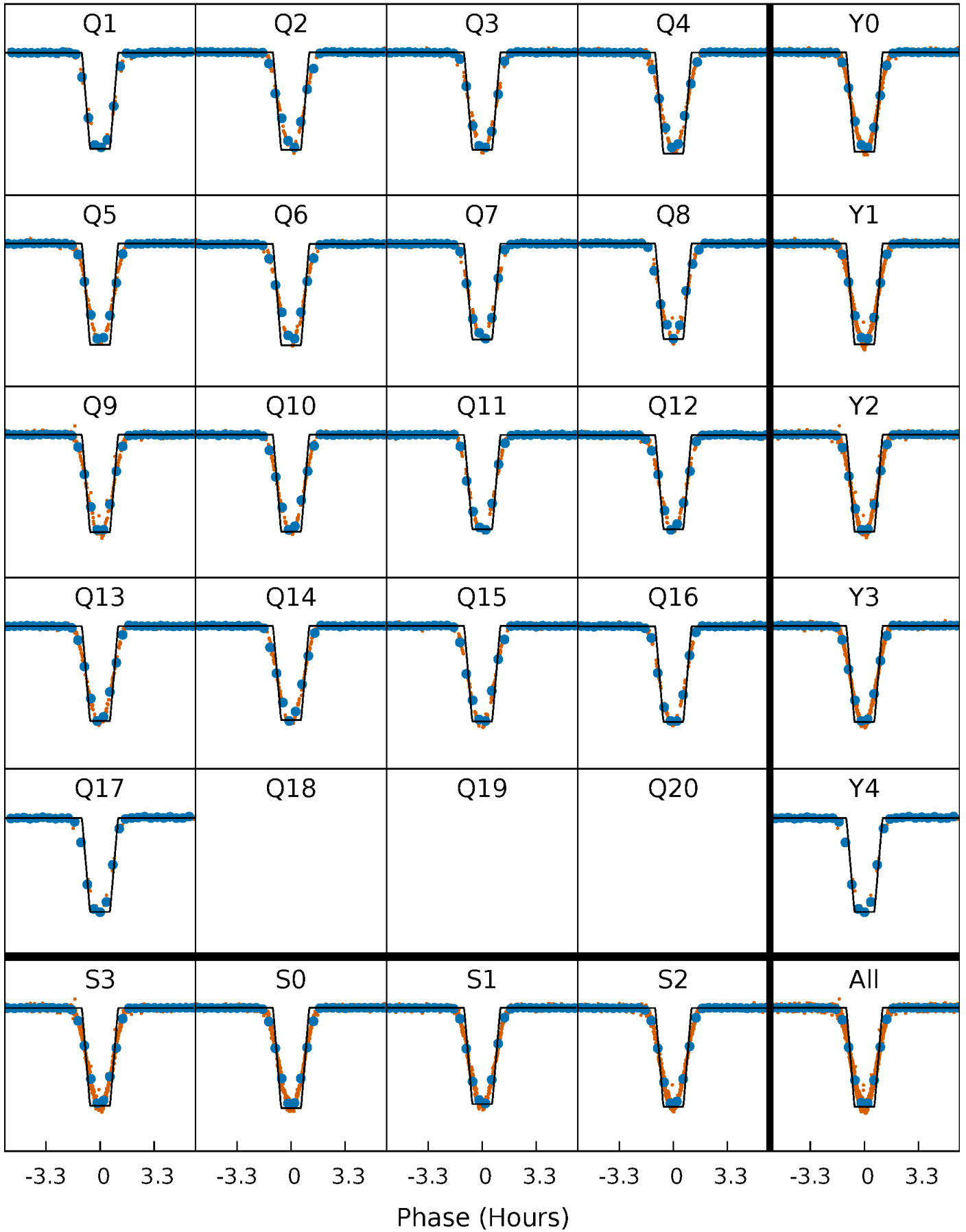
DV Quarter-Phased Transit Curves

TCE 007943535-02 P= 4.719336 Days $T_0=131.605101$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

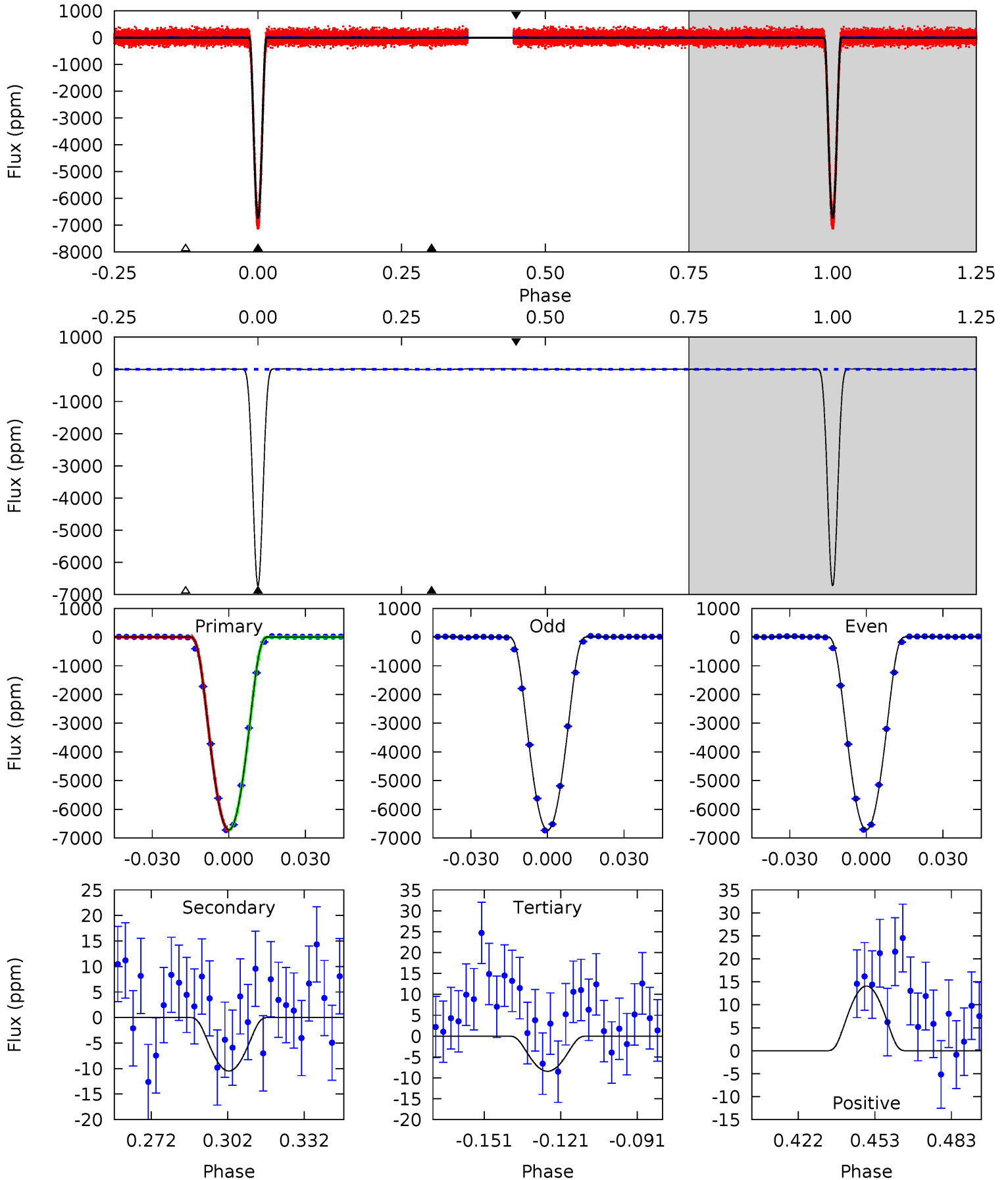
TCE 007943535-02 P= 4.719350 Days $T_0=131.602895$ (BKJD)



DV Model-Shift Uniqueness Test

007943535-02, P = 4.719336 Days, E = 126.885765 Days

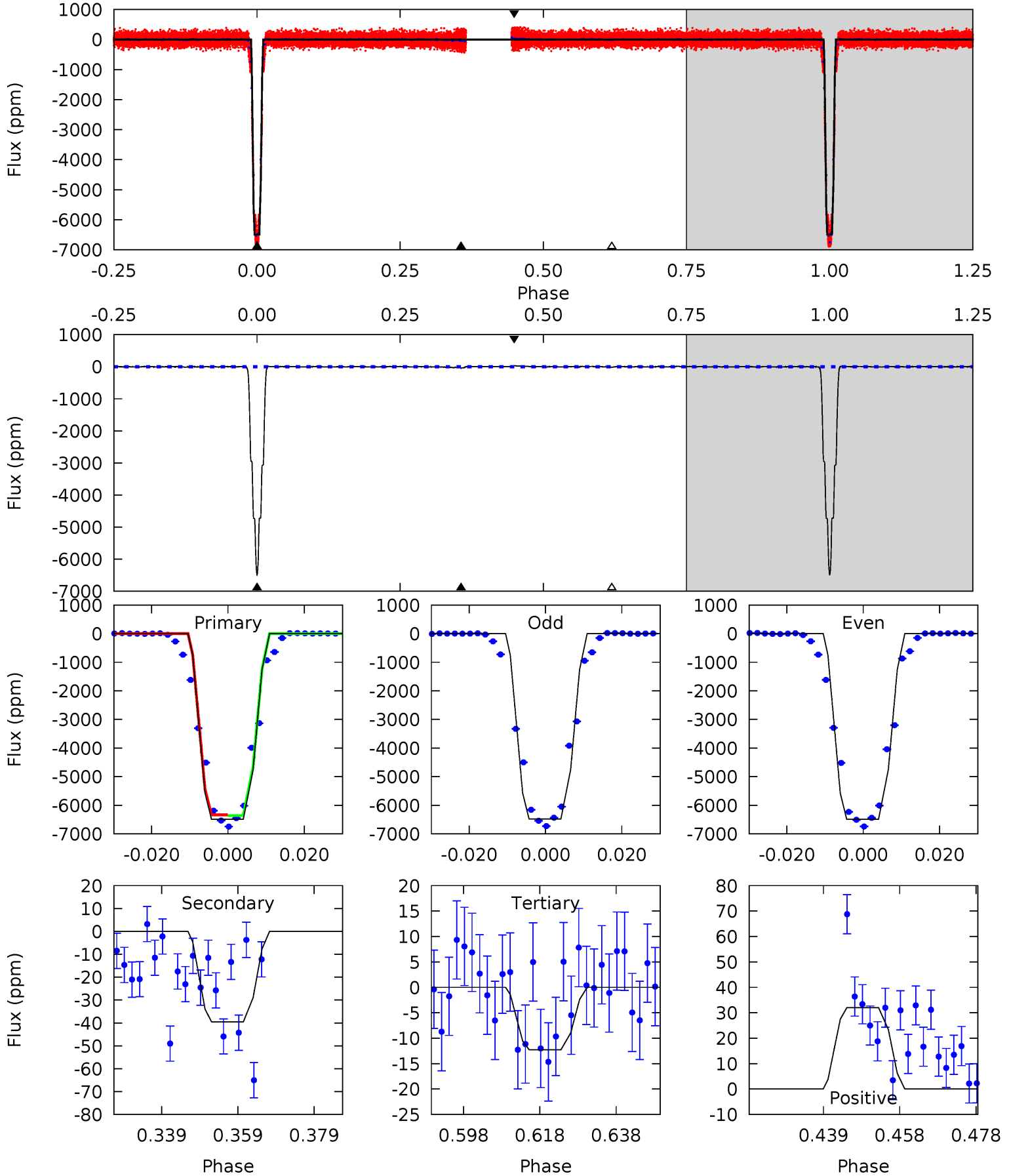
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2860	4.46	3.59	5.99	4.81	2.17	2.39	2856	2854	0.88	-1.53	2.07	1.00	0.00	1.25



Alt Model-Shift Uniqueness Test

007943535-02, P = 4.719350 Days, E = 126.883545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1698	10.3	3.21	8.36	4.89	2.33	1.63	1694	1689	7.13	1.97	1.21	1.00	0.00	0



Stellar Parameters For KIC 007943535

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6792^{+182}_{-223}	$3.971^{+0.252}_{-0.126}$	$-0.200^{+0.250}_{-0.300}$	$2.058^{+0.418}_{-0.626}$	$1.444^{+0.183}_{-0.275}$	$0.234^{+0.350}_{-0.092}$
	+3%/-3%	+6%/-3%	+125%/-150%	+20%/-30%	+13%/-19%	+150%/-39%
Source	PHO1	FLK73	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 007943535-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 2	$29.58^{+3.87}_{-5.03}$	2374^{+169}_{-188}	-2686^{+121}_{-100}	$0.026^{+0.011}_{-0.008}$
Alt.	-40 ± 4	$18.22^{+2.71}_{-3.16}$	2376^{+160}_{-193}	-2185^{+4358}_{-268}	$0.252^{+0.109}_{-0.062}$

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

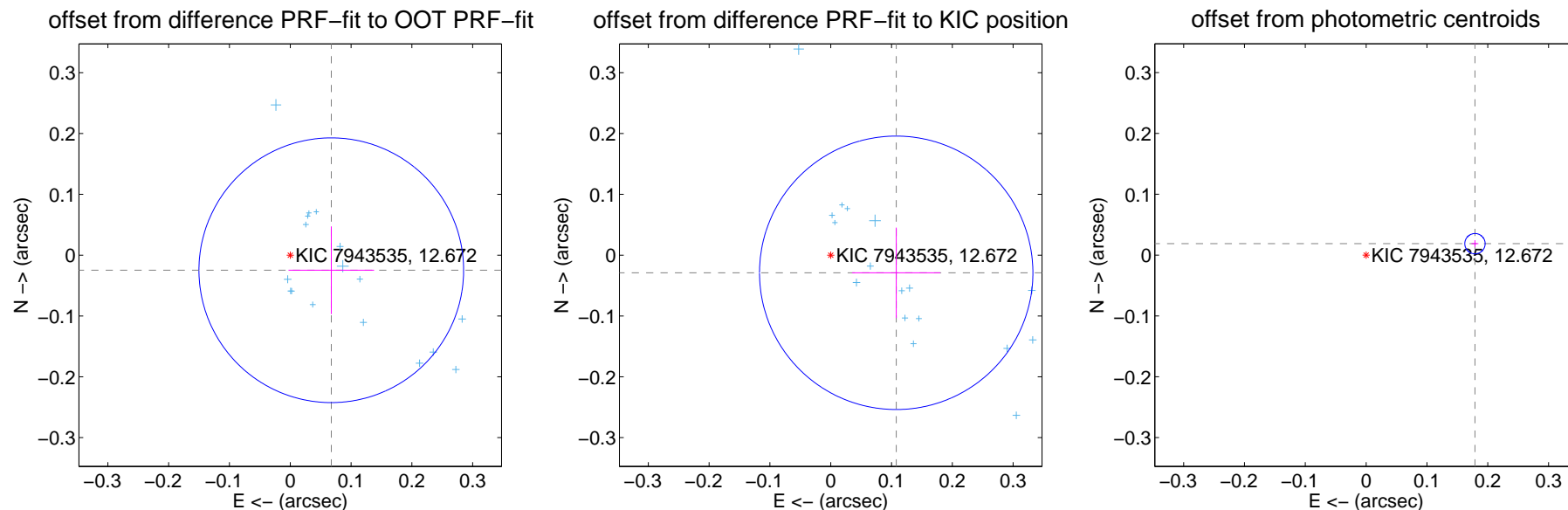
DV Centroid Data

Supplemental centroid analysis for 007943535-02. Kepler magnitude: 12.67. Transit SNR 1258.21

There are 17 quarters with good PRF difference image offsets

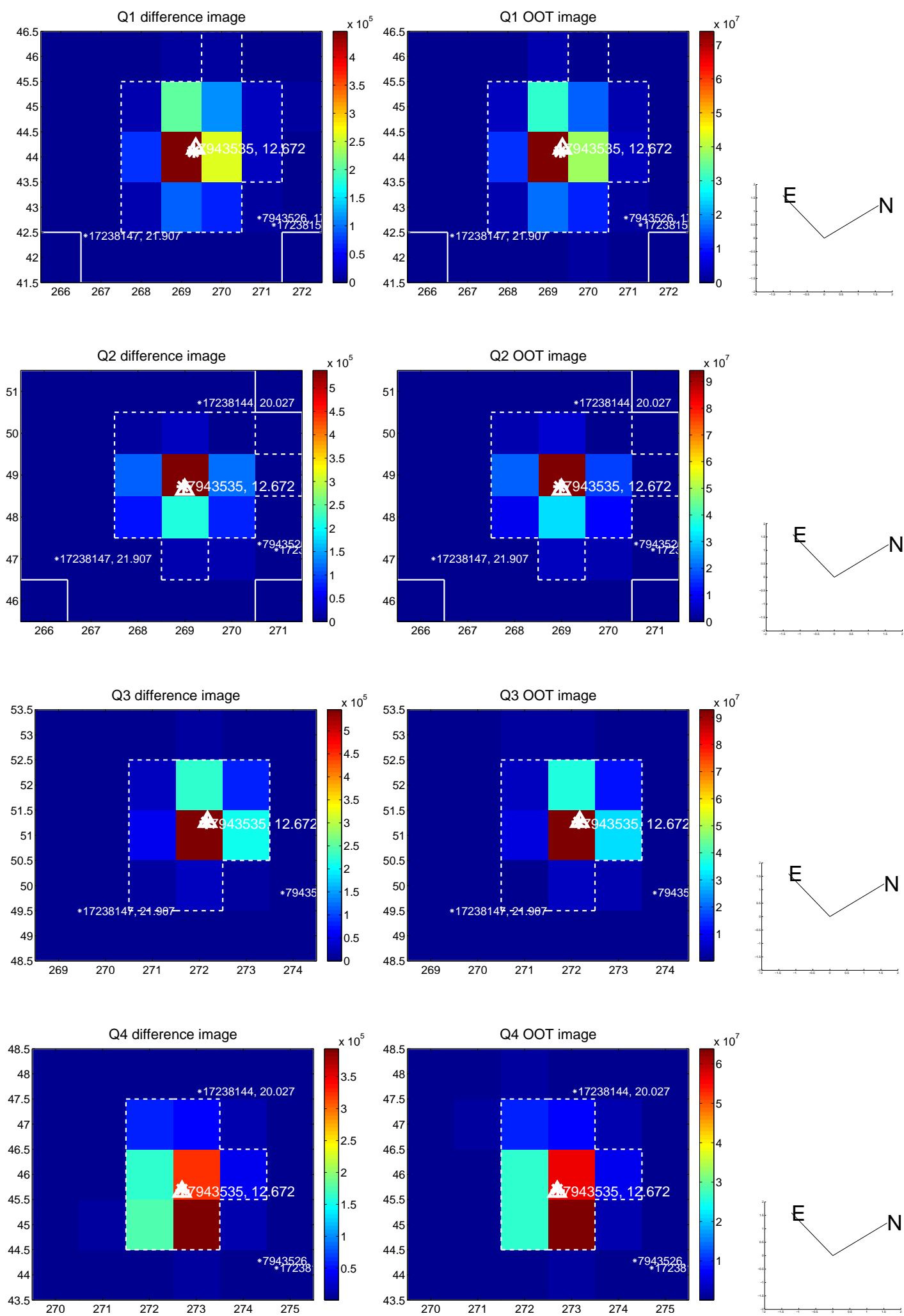
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.073	0.99	-0.067 ± 0.070	-0.025 ± 0.072
PRF-fit source offset from KIC position	0.112 ± 0.075	1.49	-0.108 ± 0.072	-0.029 ± 0.074
photometric centroid source offset	0.18 ± 0.01	32.26	-0.18 ± 0.01	0.02 ± 0.01

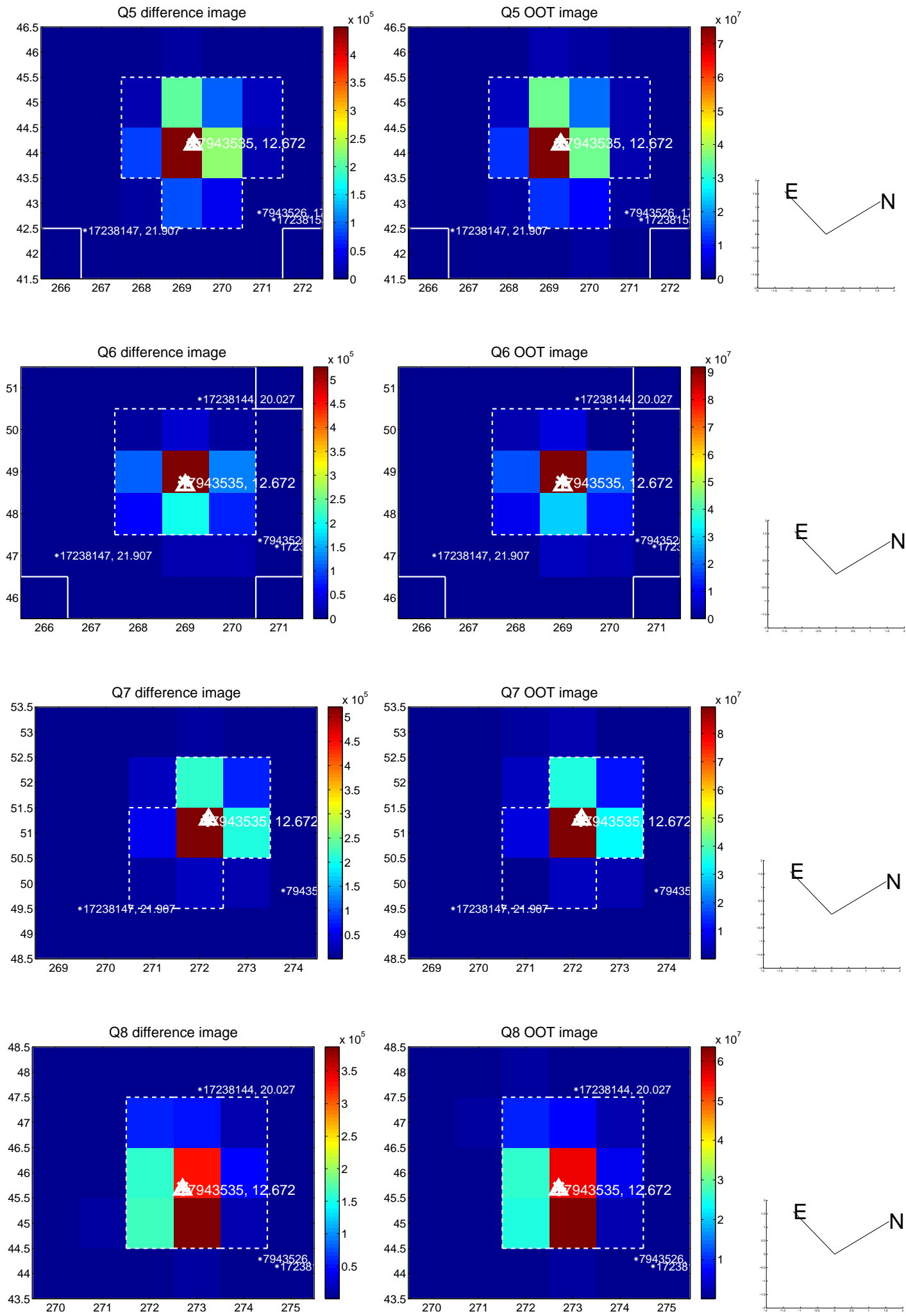


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

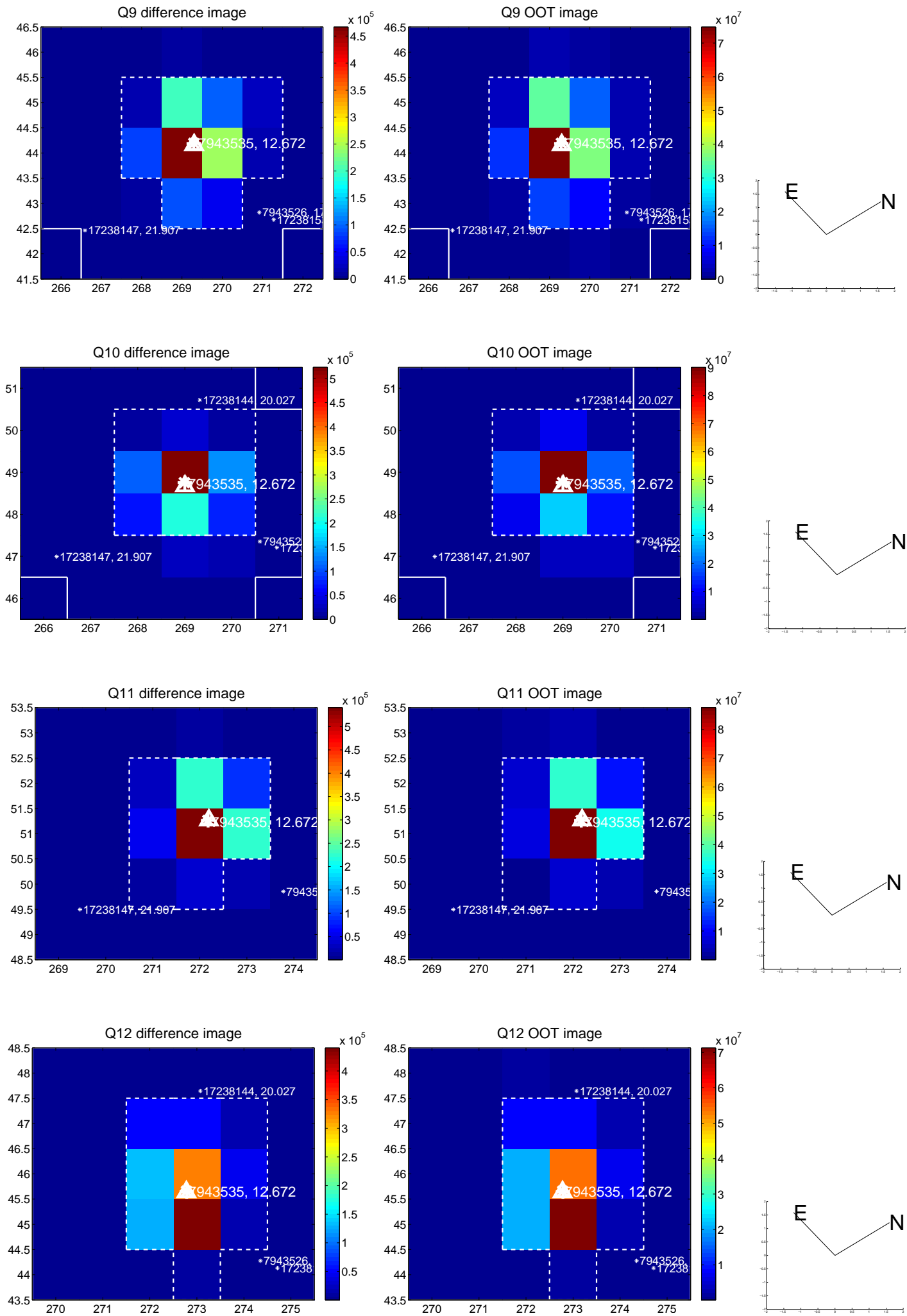
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



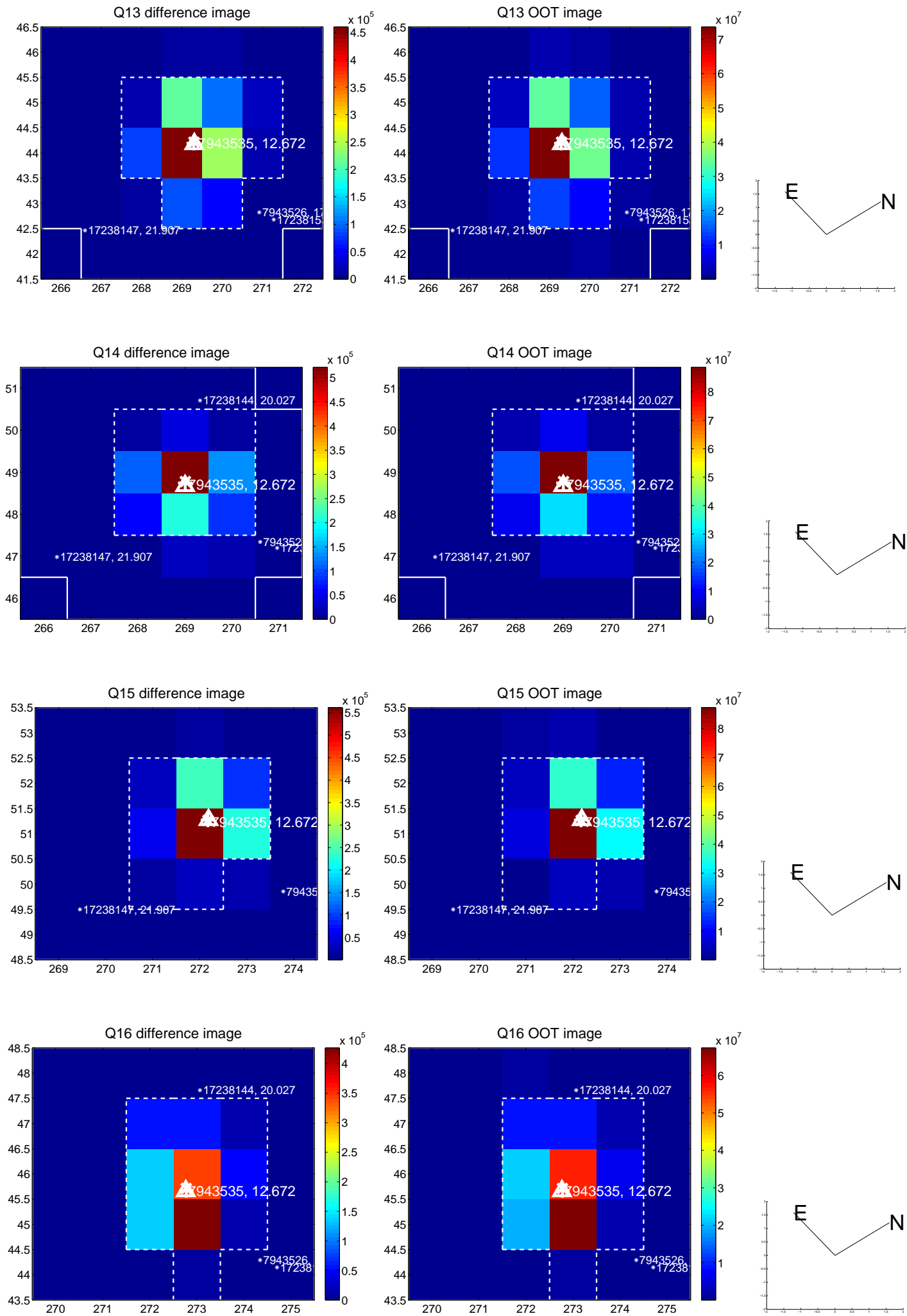
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



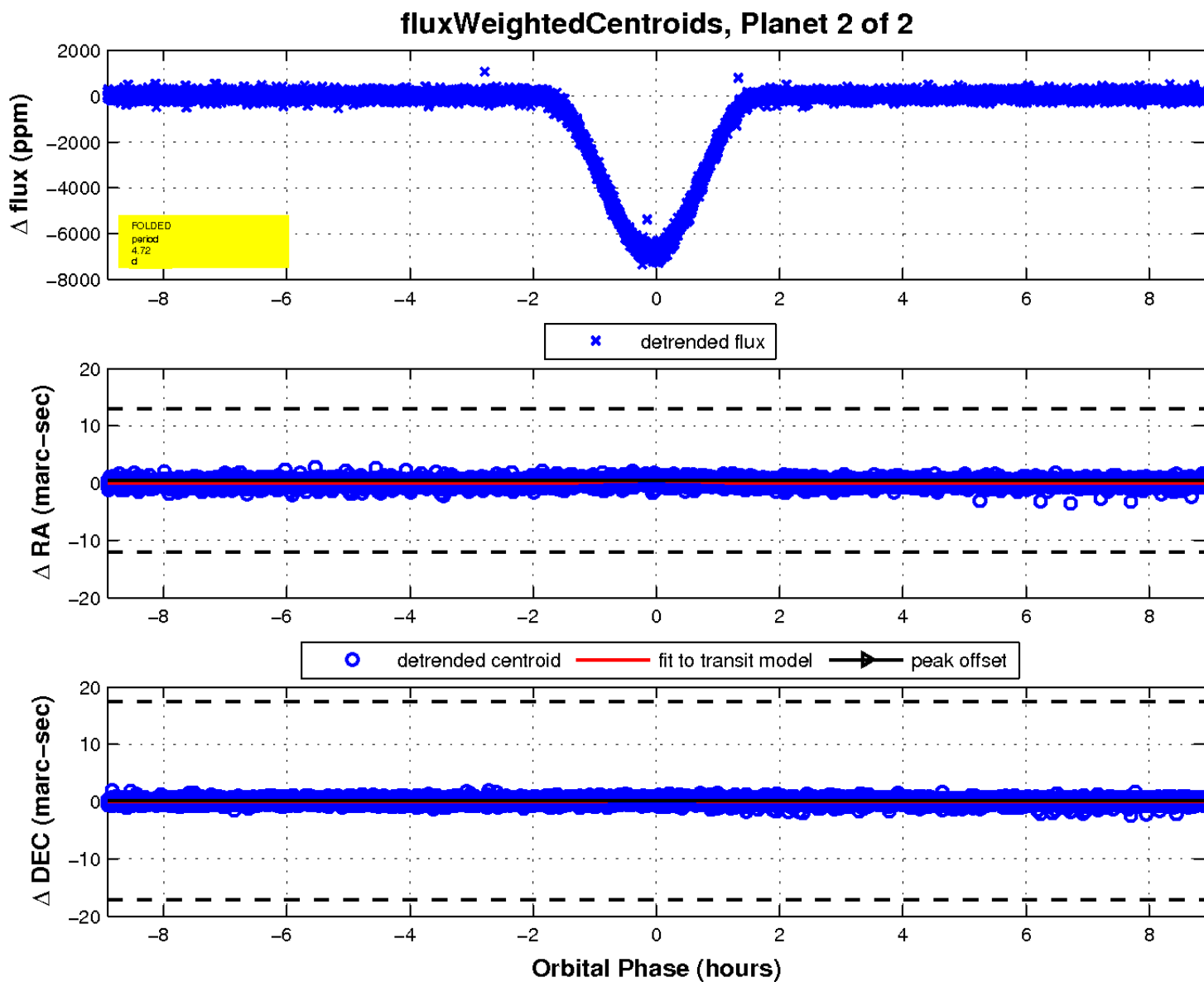
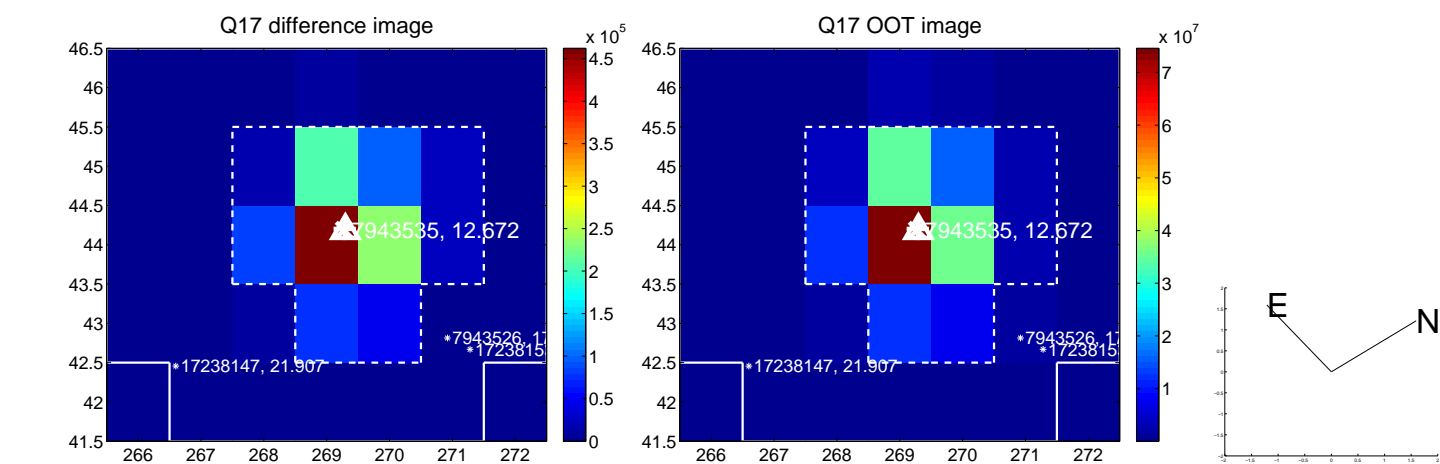
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

