

KIC 009762519

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})
009762519-01	OBS	7228.01	7.515146	138.080097	117477.5	3.557	9521.7	7192.7	0.78	5624	37.09	119.15
009762519-02	OBS	No	7.515146	134.503867	25307.2	3.504	2161.0	1767.1	0.78	5624	21.39	119.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009762519-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
009762519-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

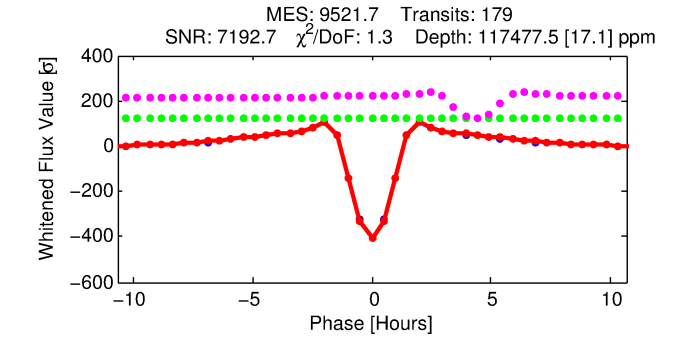
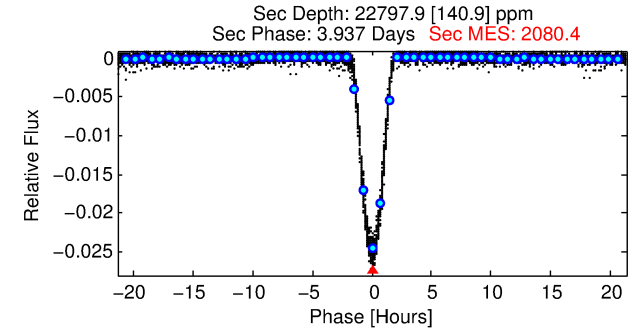
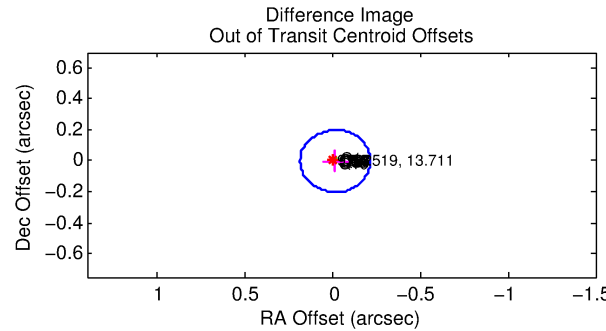
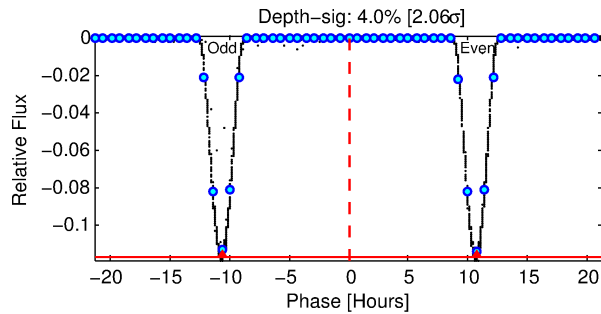
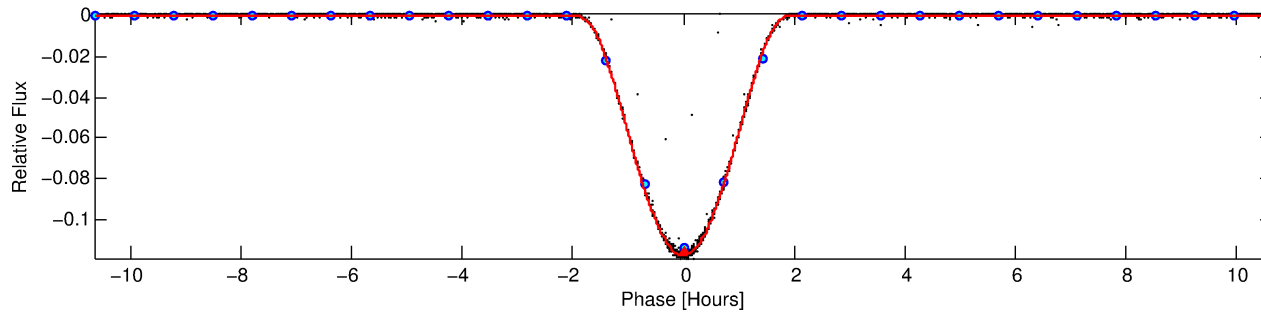
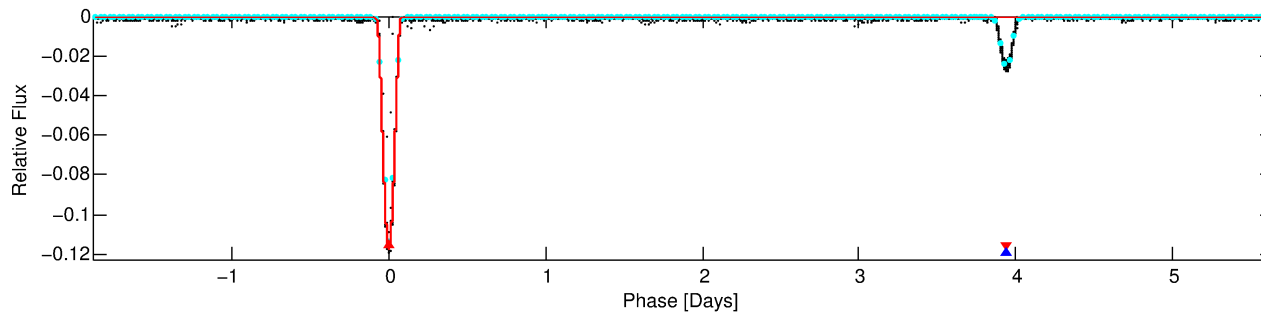
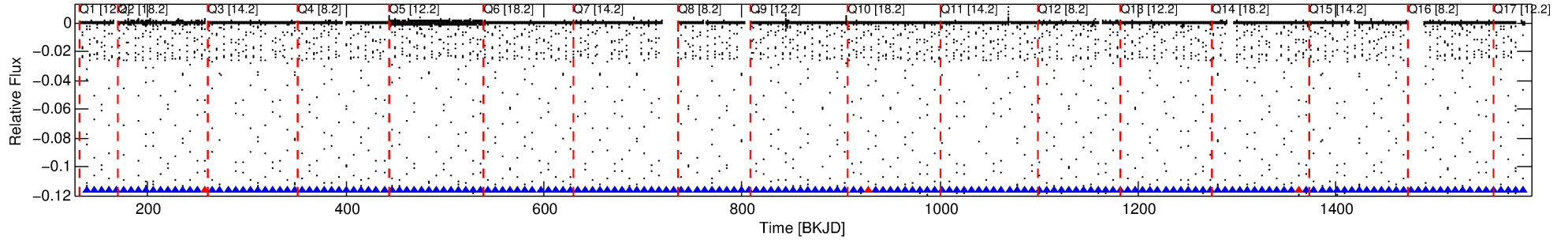
Ephemeris Match Information For 009762519-01

No Significant Match Found

DV One-Page Summary

KIC: 9762519 Candidate: 1 of 2 Period: 7.515 d
KOI: K07228.01 Corr: 0.999

Kp: 13.71 R*: 0.78 Rs Teff: 5624.0 K Logg: 4.52 Fe/H: -0.700



DV Fit Results:

Period = 7.51515 [0.00000] d
Epoch = 138.0801 [0.0000] BKJD
Rp/R* = 0.4375 [0.0042]
a/R* = 18.59 [0.01]
b = 0.86 [0.01]
Seff = 119.15 [27.02]
Teq = 842 [48] K
Rp = 37.09 [5.93] Re
a = 0.0674 [0.0090] AU
Ag = 41.40 [8.04] [5.02 σ]
Teffp = 3304 [100] K [22.30 σ]

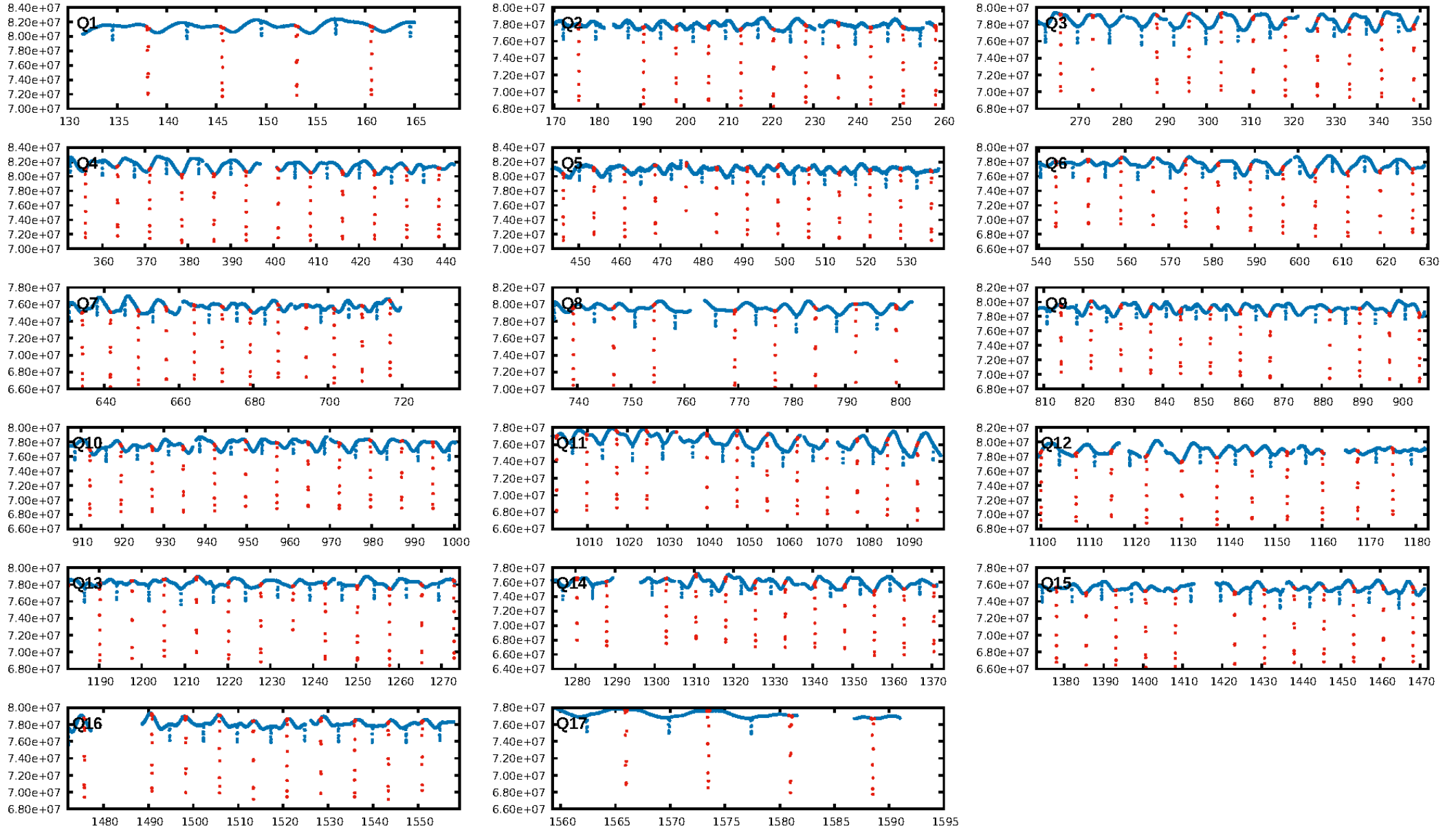
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [168/171]
GhostDiagnostic-chr: 3.653
Centroid-sig: 0.0%
Centroid-so: 0.383 arcsec [437.10 σ]
OotOffset-rm: 0.016 arcsec [0.23 σ]
KicOffset-rm: 0.464 arcsec [6.78 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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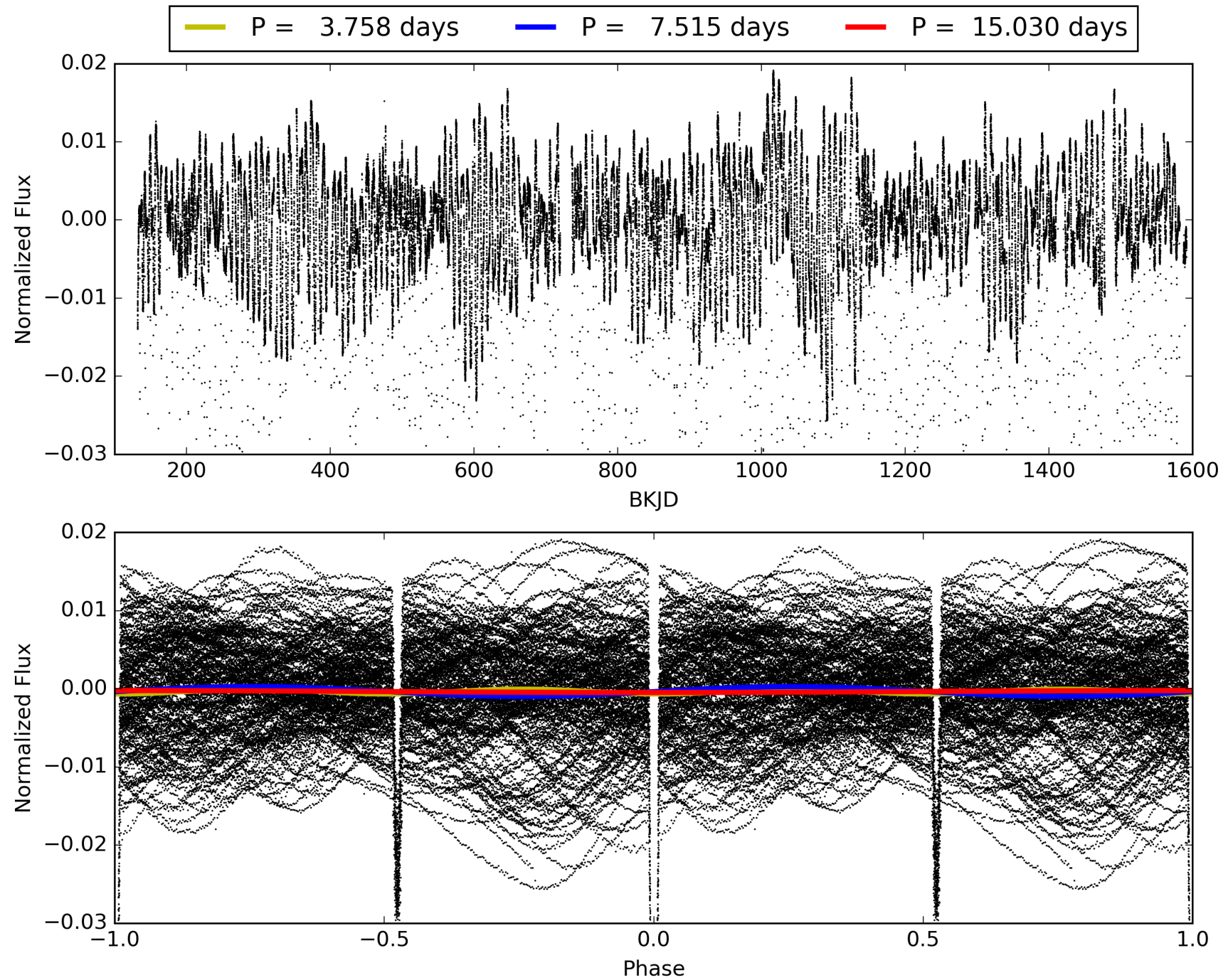
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:45:14 Z

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

TCE 009762519-01, PDC Light Curves

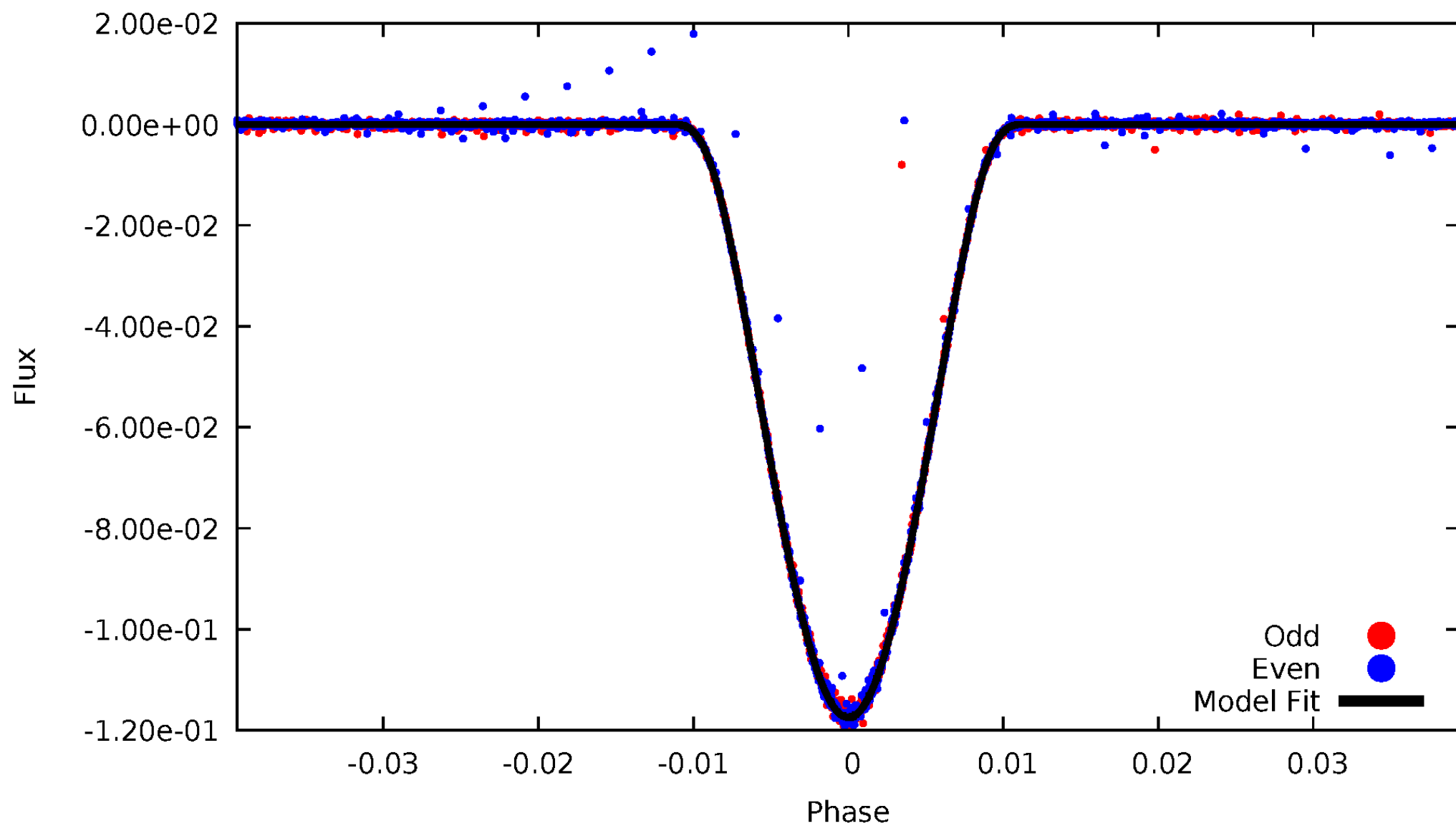


TCE 009762519-01



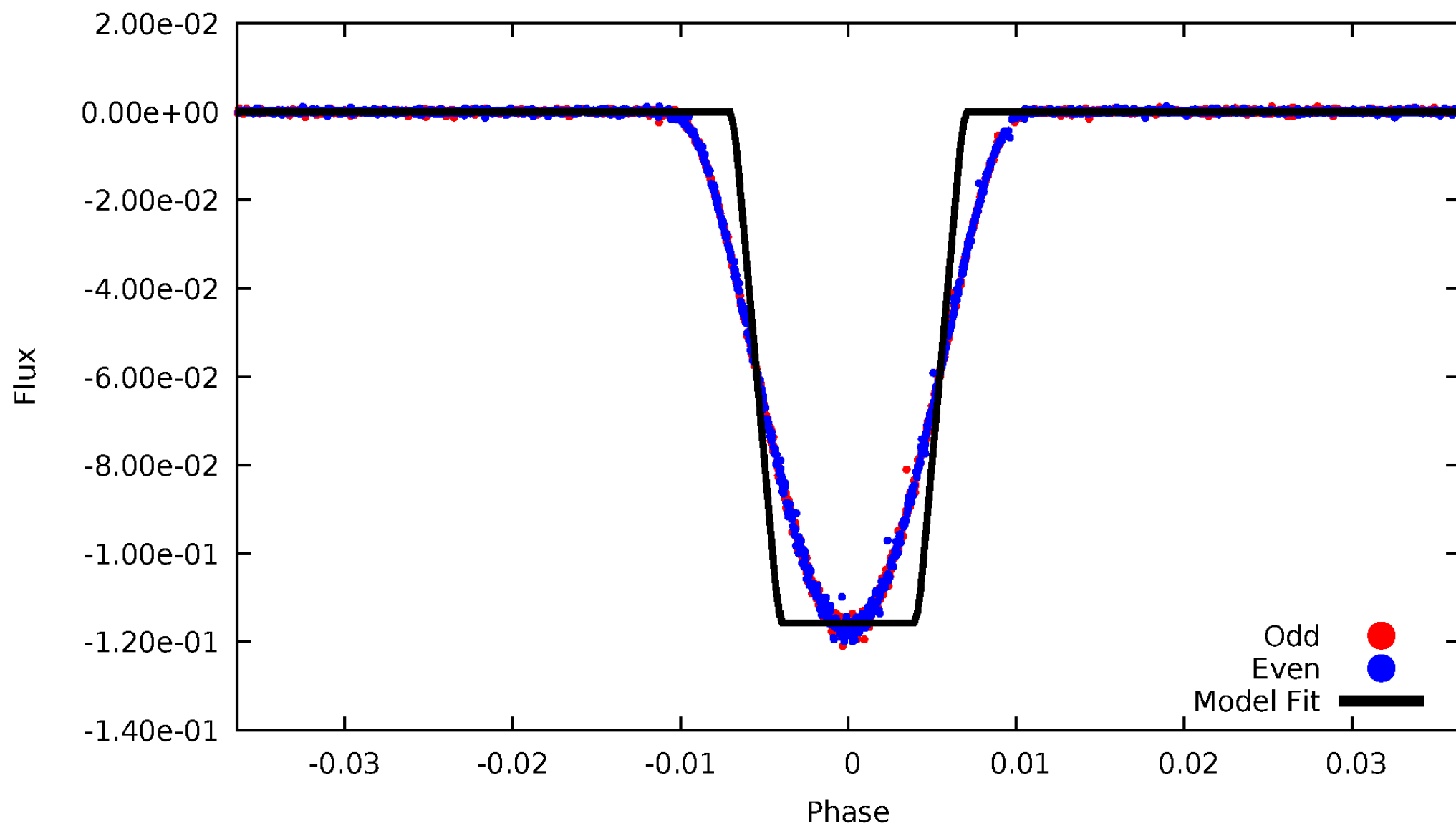
DV Odd/Even

TCE 009762519-01



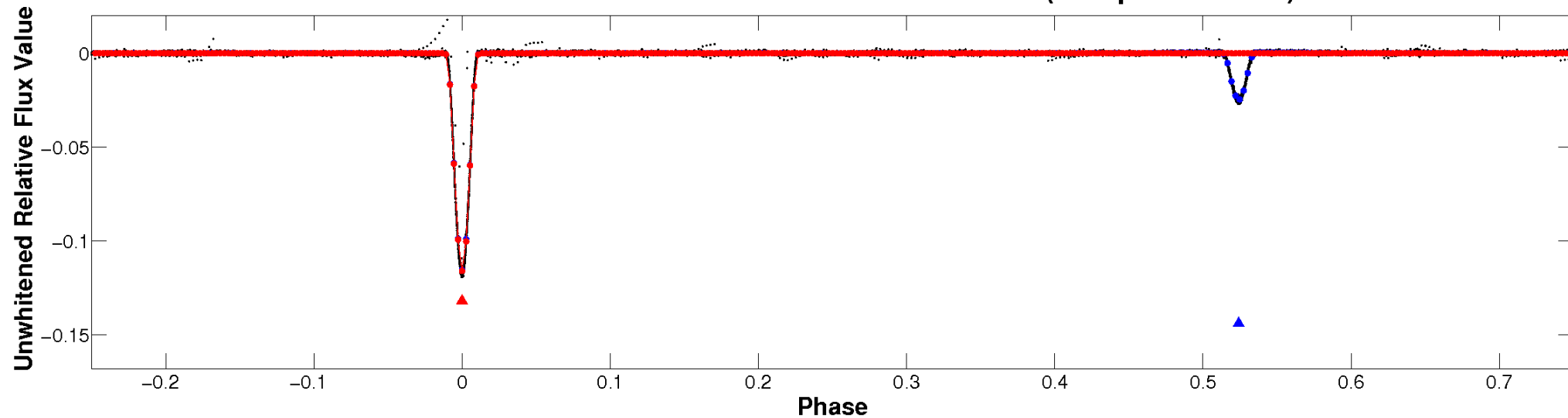
ALT Odd/Even

TCE 009762519-01

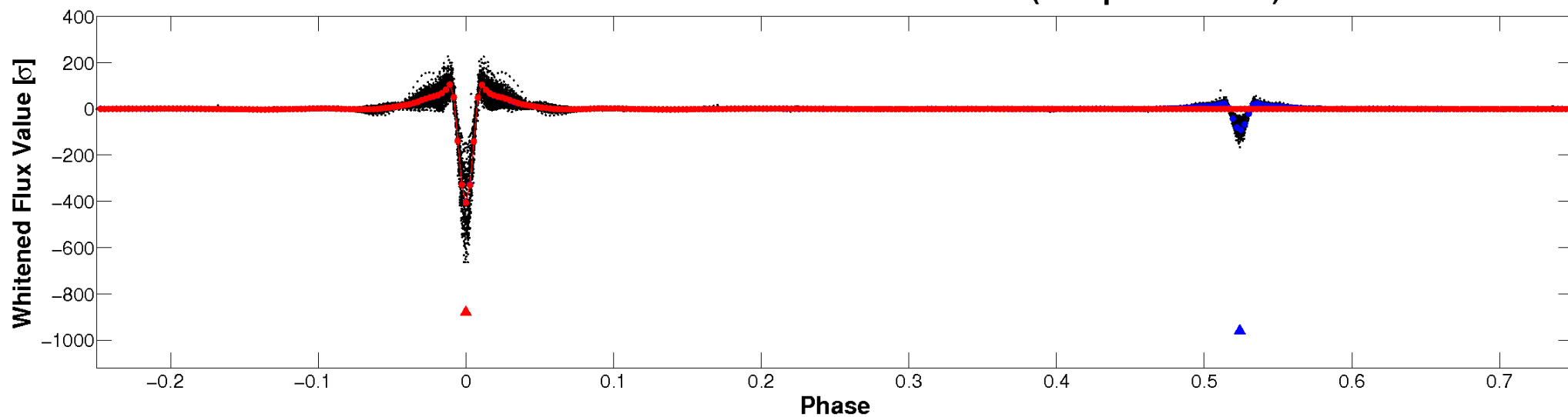


Non-Whitened Vs. Whitened Light Curve

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

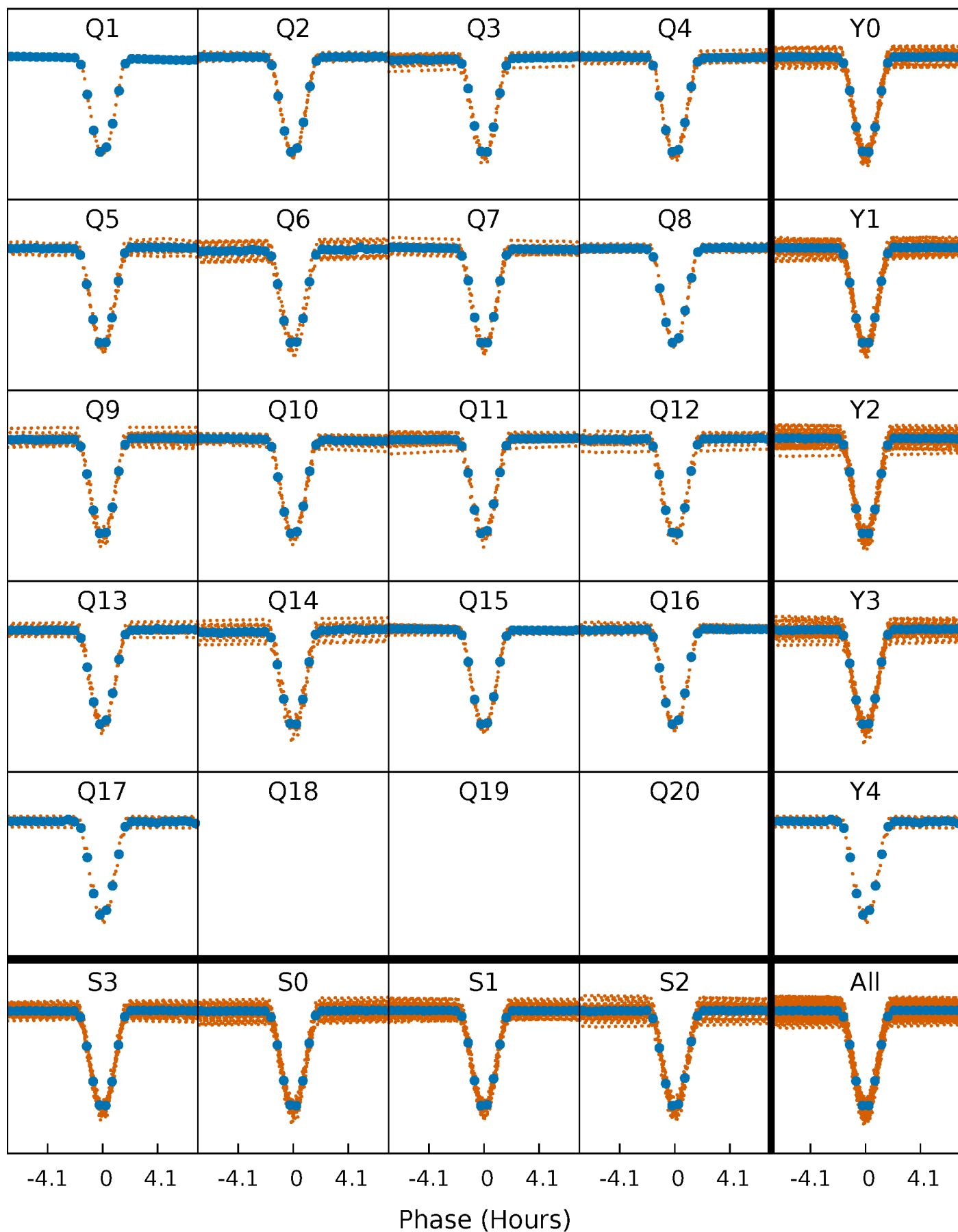


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



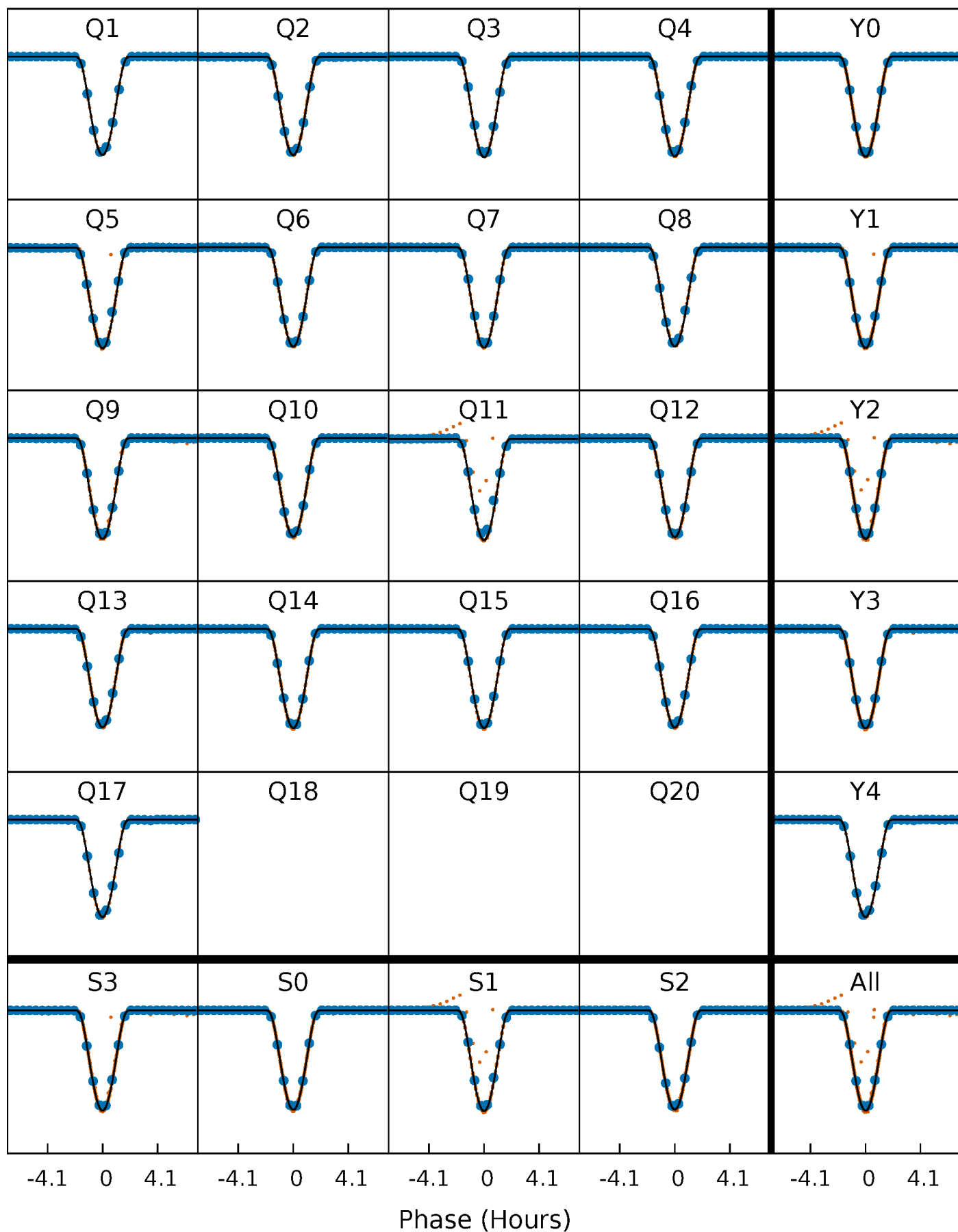
PDC Quarter-Phased Transit Curves

TCE 009762519-01 P= 7.515146 Days $T_0=138.080097$ (BKJD)



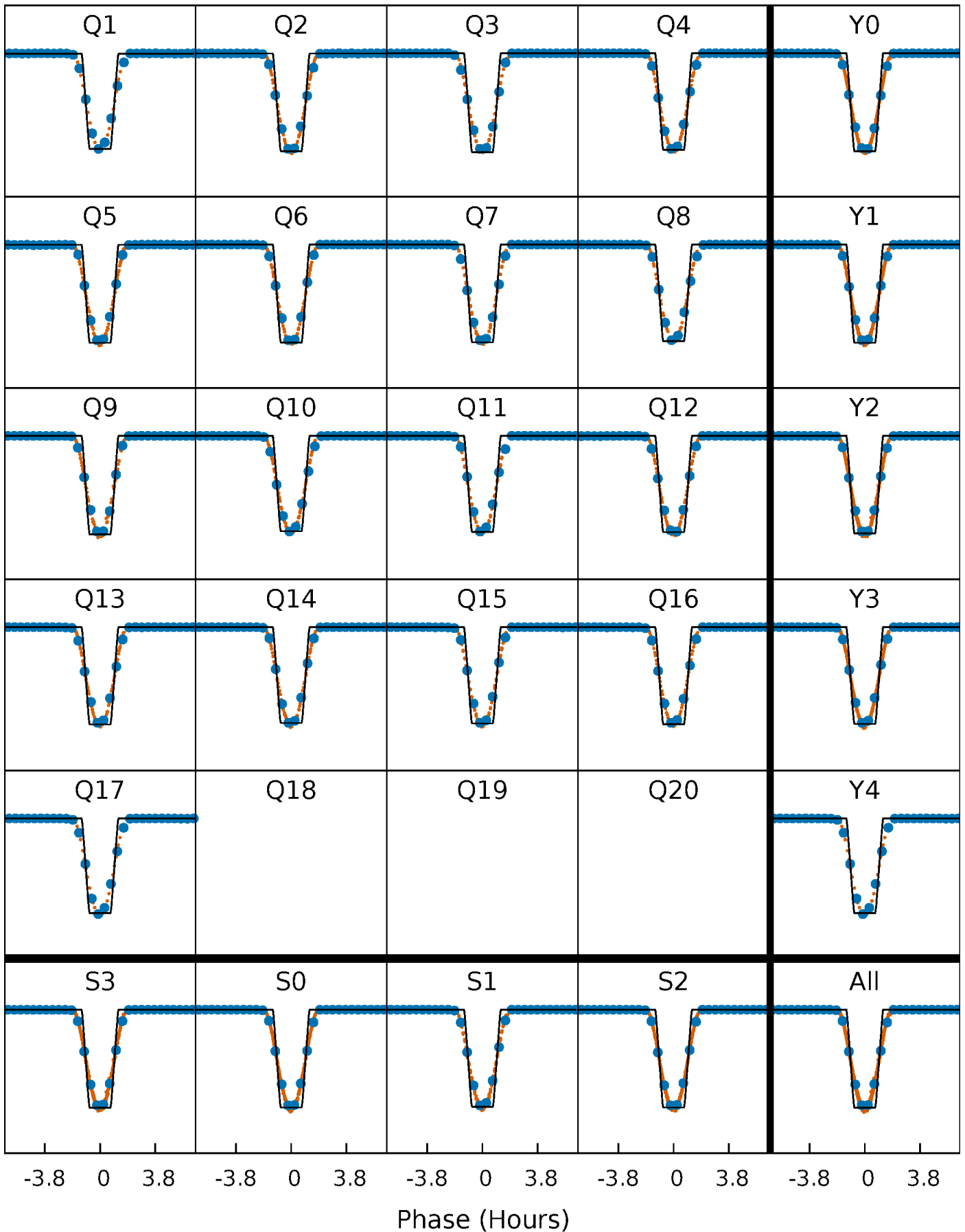
DV Quarter-Phased Transit Curves

TCE 009762519-01 P= 7.515146 Days $T_0=138.080097$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

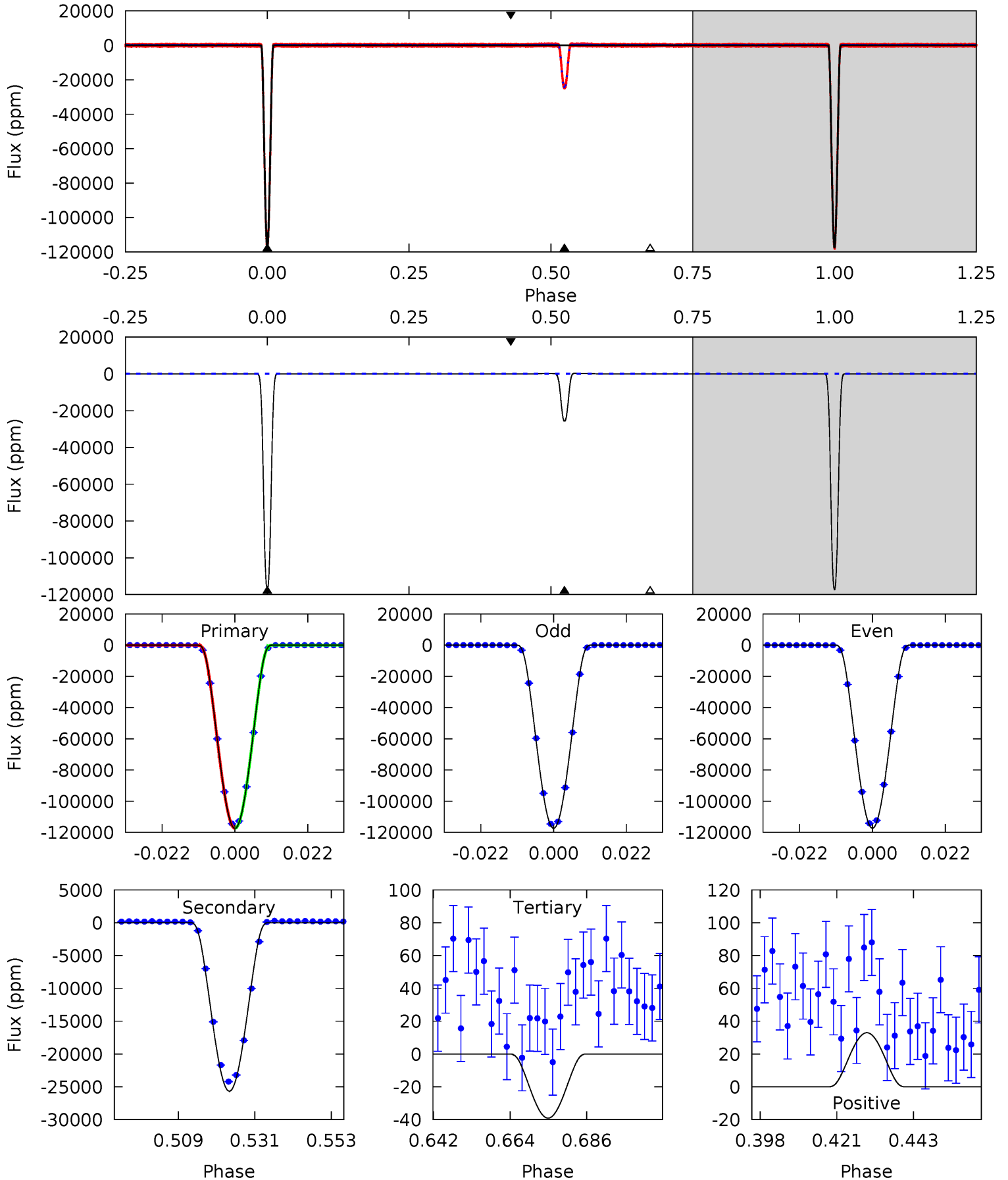
TCE 009762519-01 P= 7.515149 Days $T_0=138.079776$ (BKJD)



DV Model-Shift Uniqueness Test

009762519-01, P = 7.515146 Days, E = 130.564951 Days

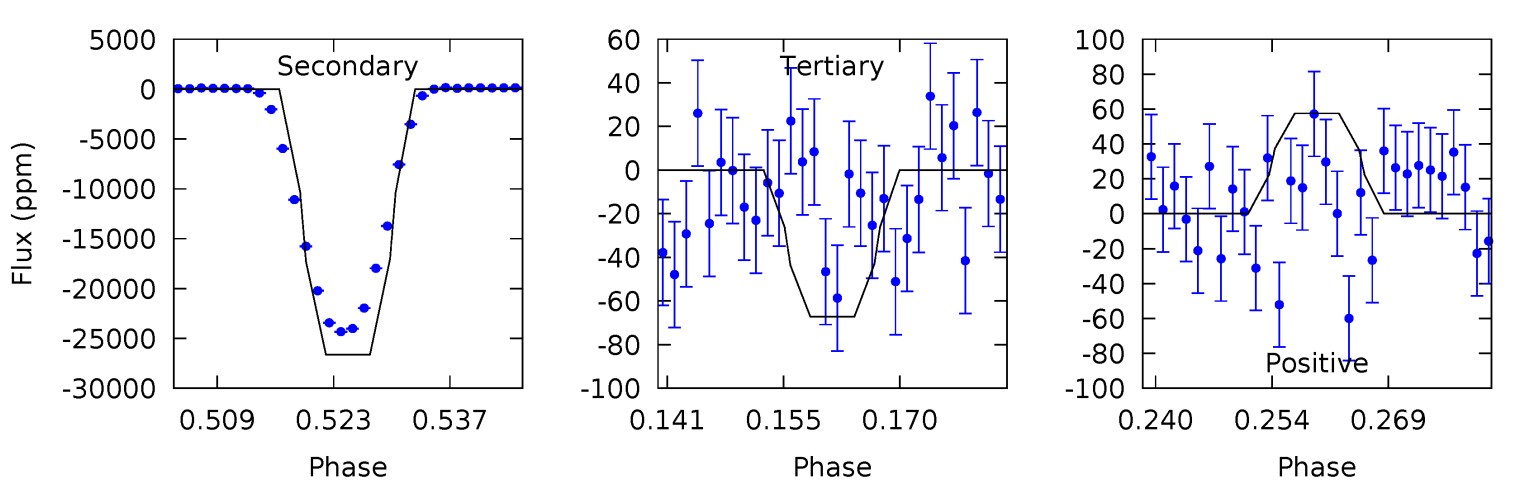
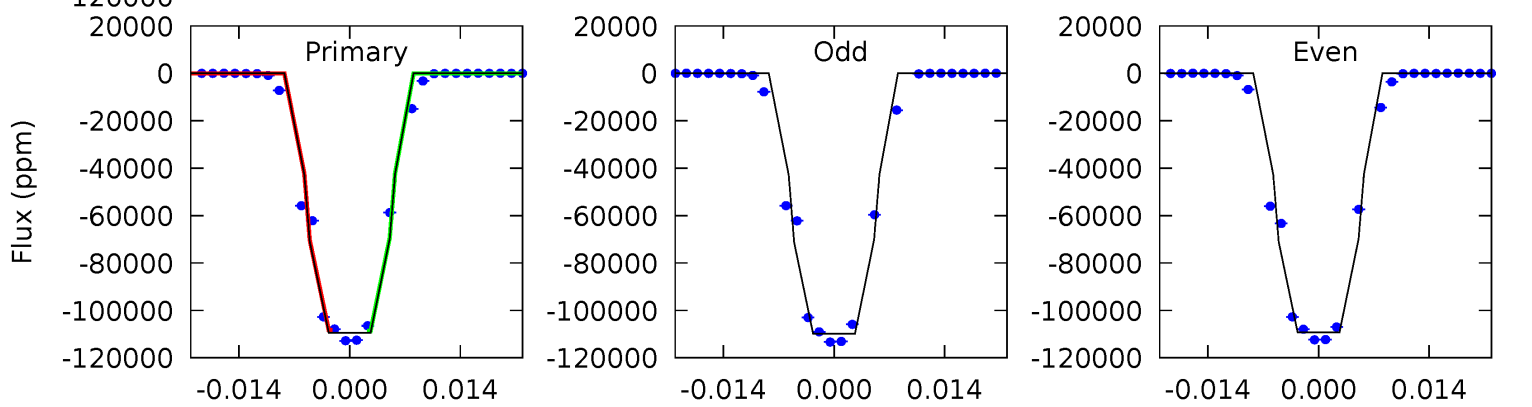
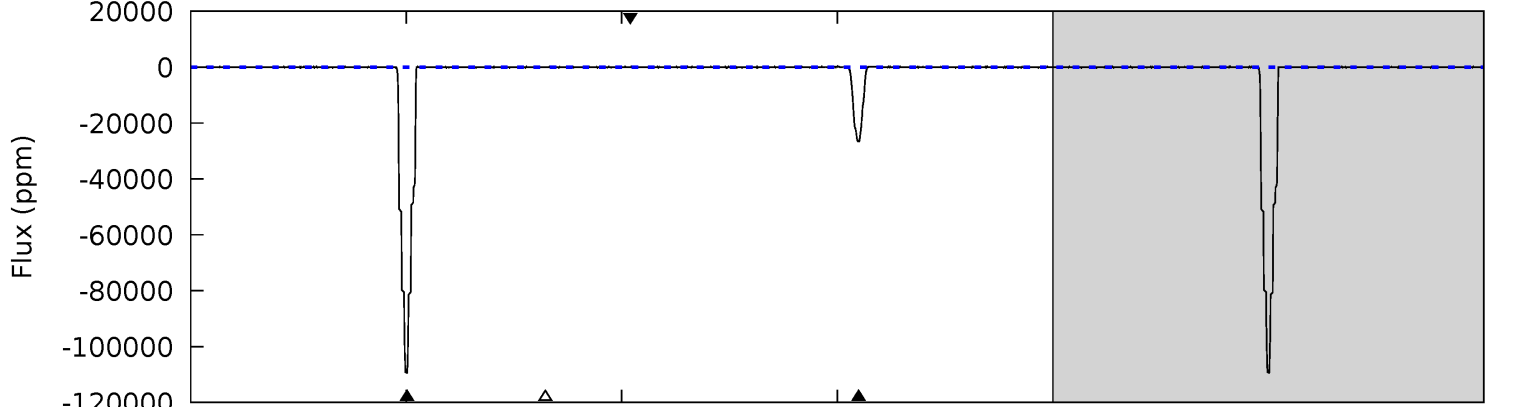
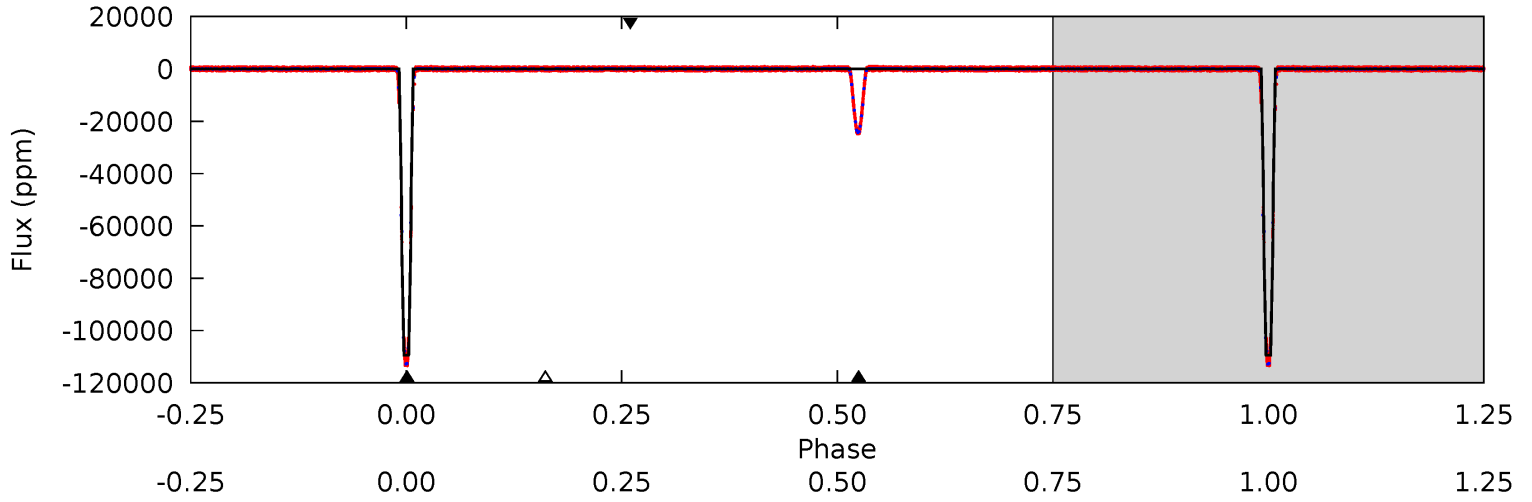
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15671	3427	5.22	4.40	4.87	2.29	7.17	15666	15667	3422	3422	3.04	0.99	0.00	0.62



Alt Model-Shift Uniqueness Test

009762519-01, P = 7.515149 Days, E = 130.564627 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6343	1545	3.90	3.34	4.96	2.45	1.67	6339	6339	1541	1541	17.0	0.99	0.00	0



Stellar Parameters For KIC 009762519

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5624^{+167}_{-150}	$4.516^{+0.105}_{-0.105}$	$-0.700^{+0.300}_{-0.300}$	$0.777^{+0.124}_{-0.093}$	$0.722^{+0.092}_{-0.039}$	$2.169^{+0.992}_{-0.734}$
	+3%/-3%	+2%/-2%	+43%/-43%	+16%/-12%	+13%/-5%	+46%/-34%
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 009762519-01 / KOI 7228.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-25669 ± 7	$37.36^{+3.31}_{-2.75}$	1181^{+54}_{-51}	3799^{+78}_{-76}	48^{+7}_{-7}
Alt.	-26643 ± 17	$29.14^{+2.56}_{-2.09}$	1178^{+56}_{-47}	4177^{+91}_{-81}	82^{+12}_{-12}

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

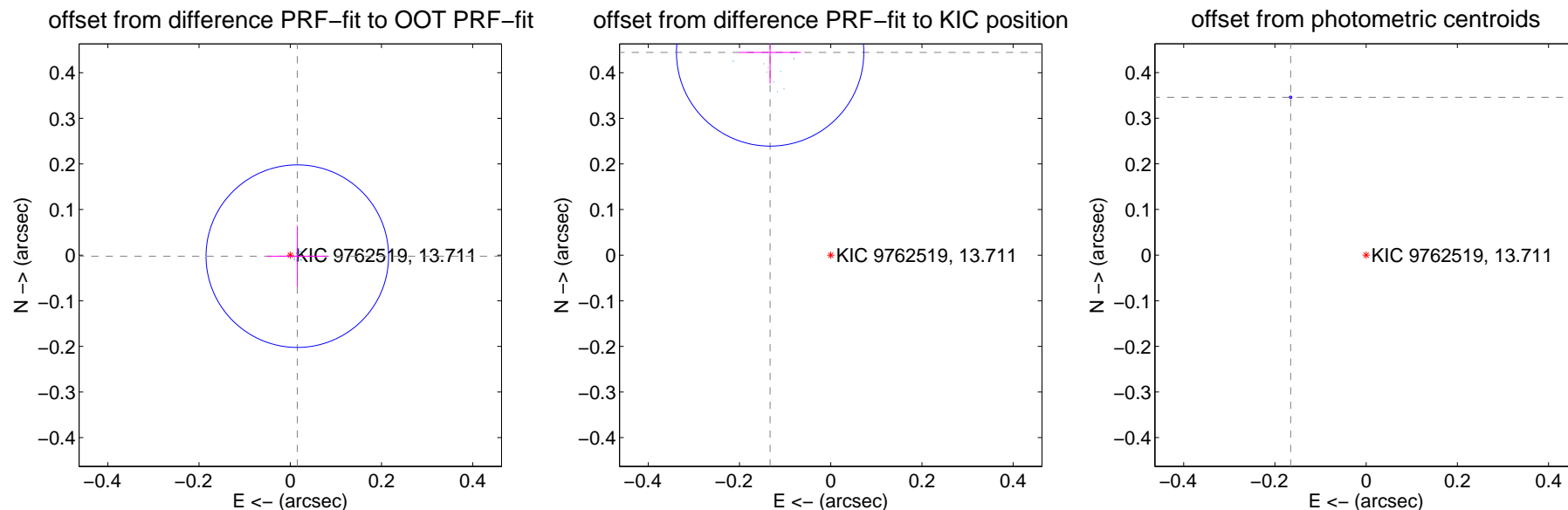
DV Centroid Data

Supplemental centroid analysis for 009762519-01. Kepler magnitude: 13.71. Transit SNR 7192.68

There are 17 quarters with good PRF difference image offsets

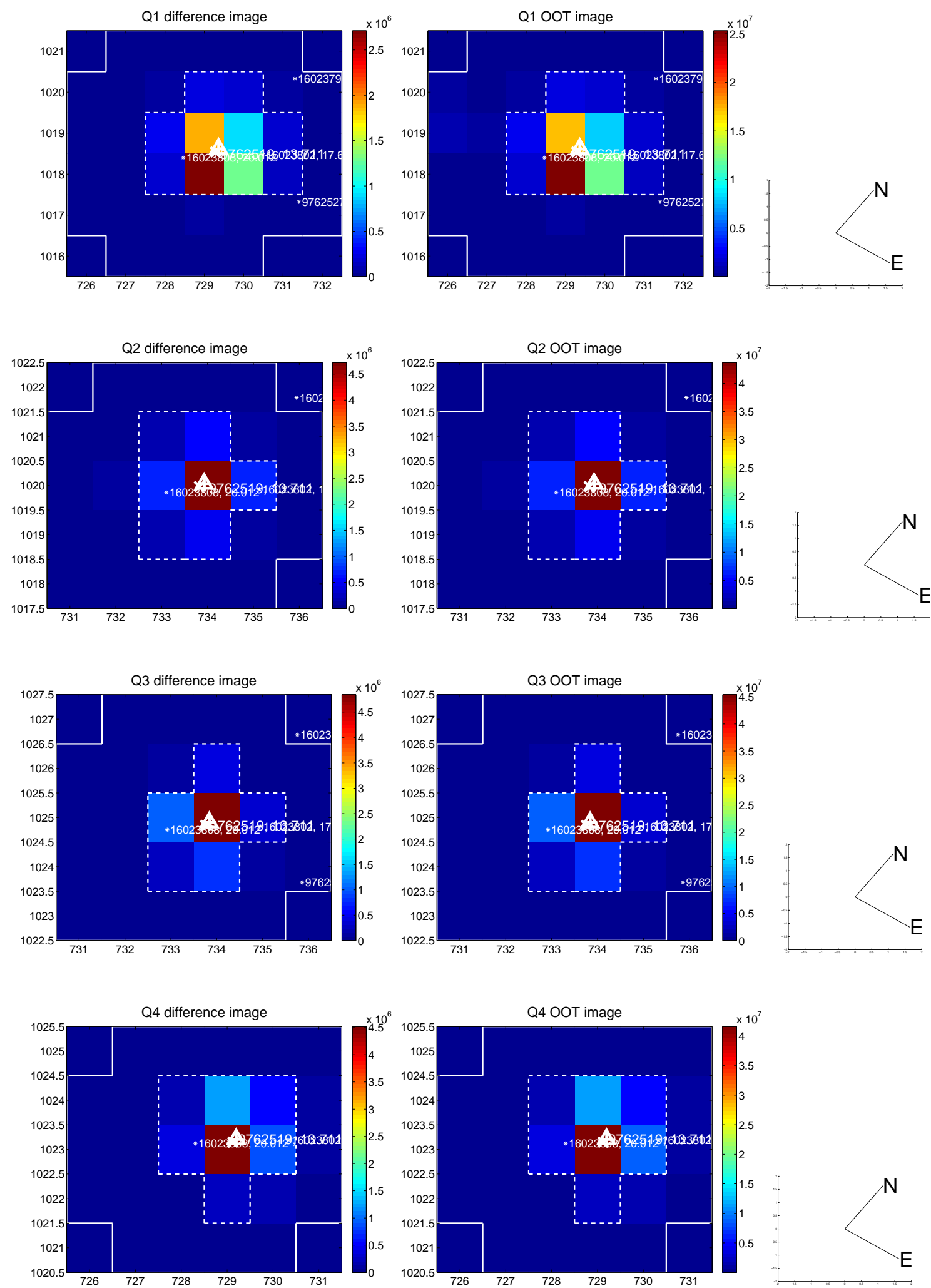
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.23	-0.015 ± 0.067	-0.002 ± 0.067
PRF-fit source offset from KIC position	0.464 ± 0.068	6.78	0.133 ± 0.068	0.444 ± 0.068
photometric centroid source offset	0.38 ± 0.00	437.10	0.17 ± 0.00	0.35 ± 0.00

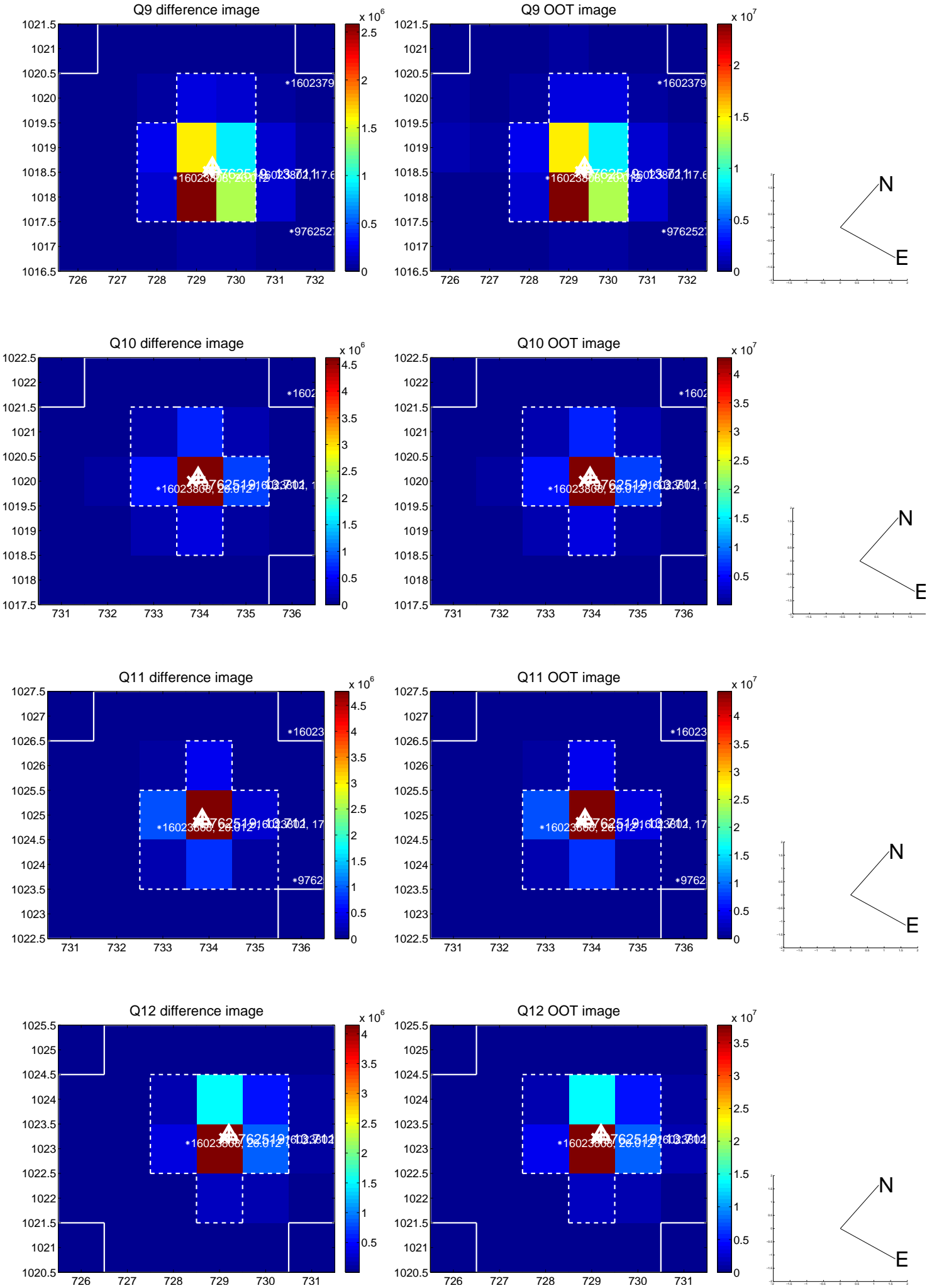


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

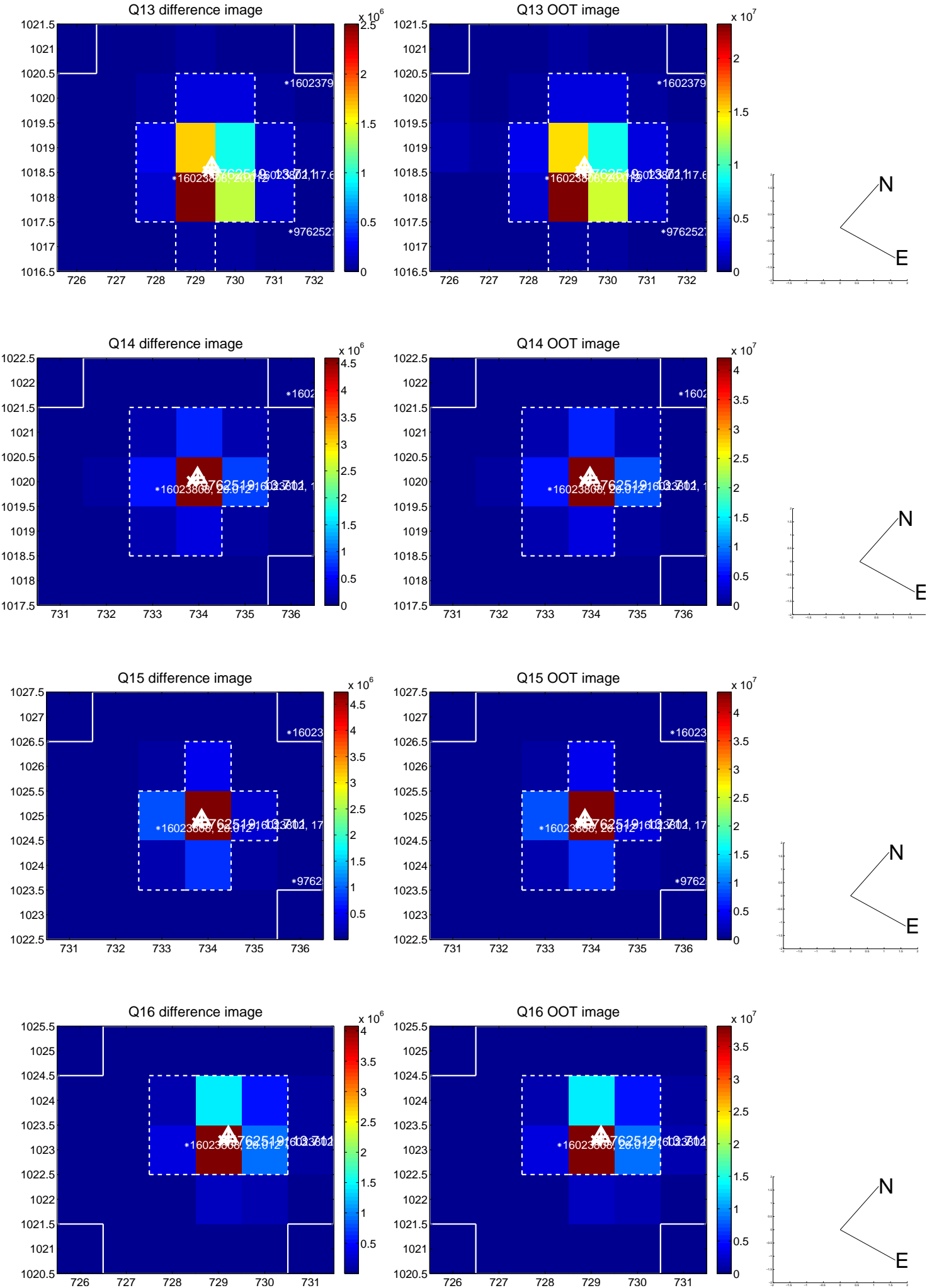
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



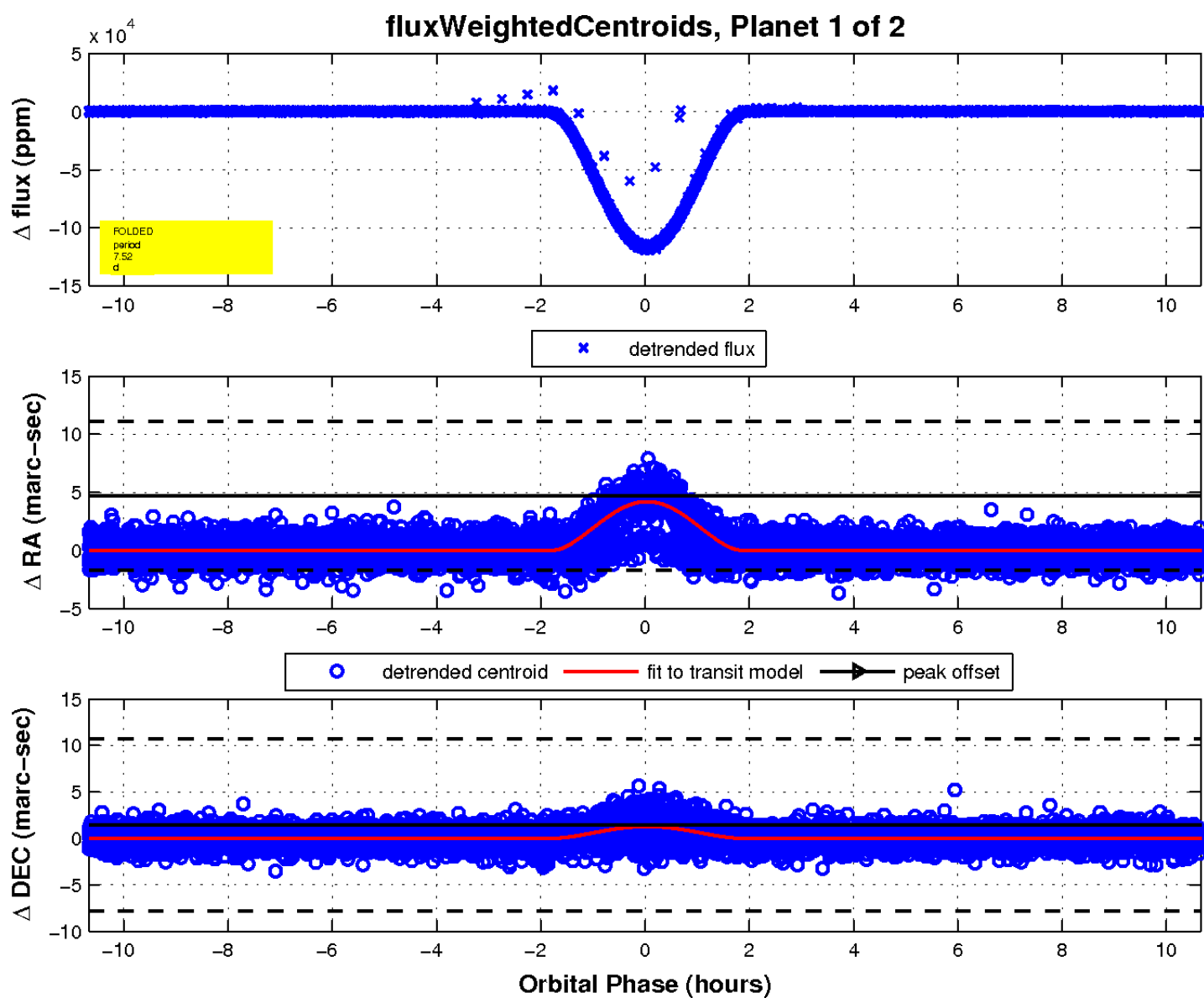
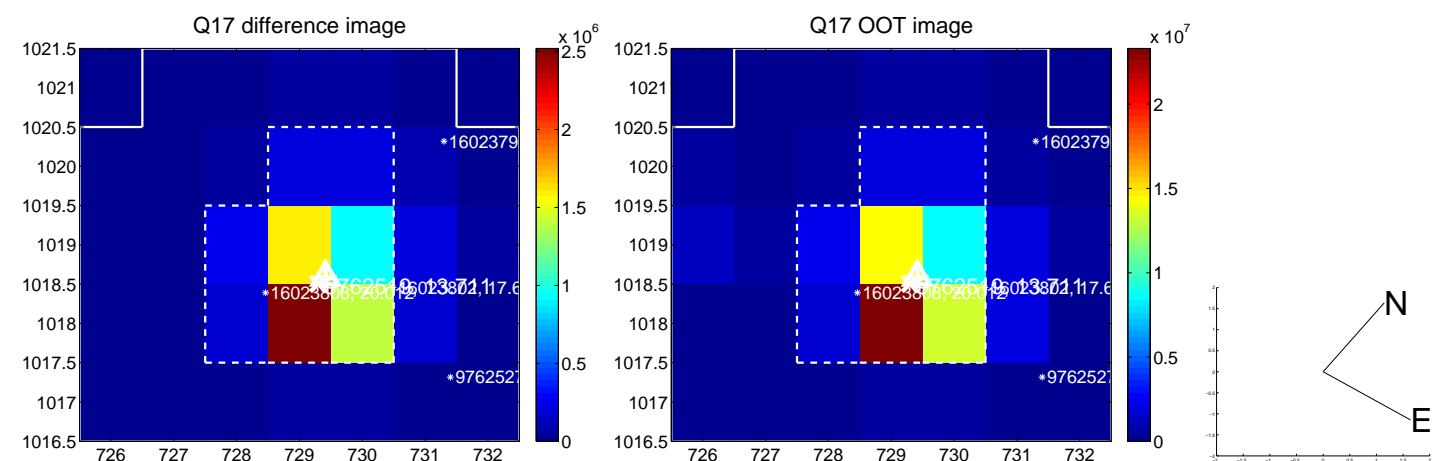
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

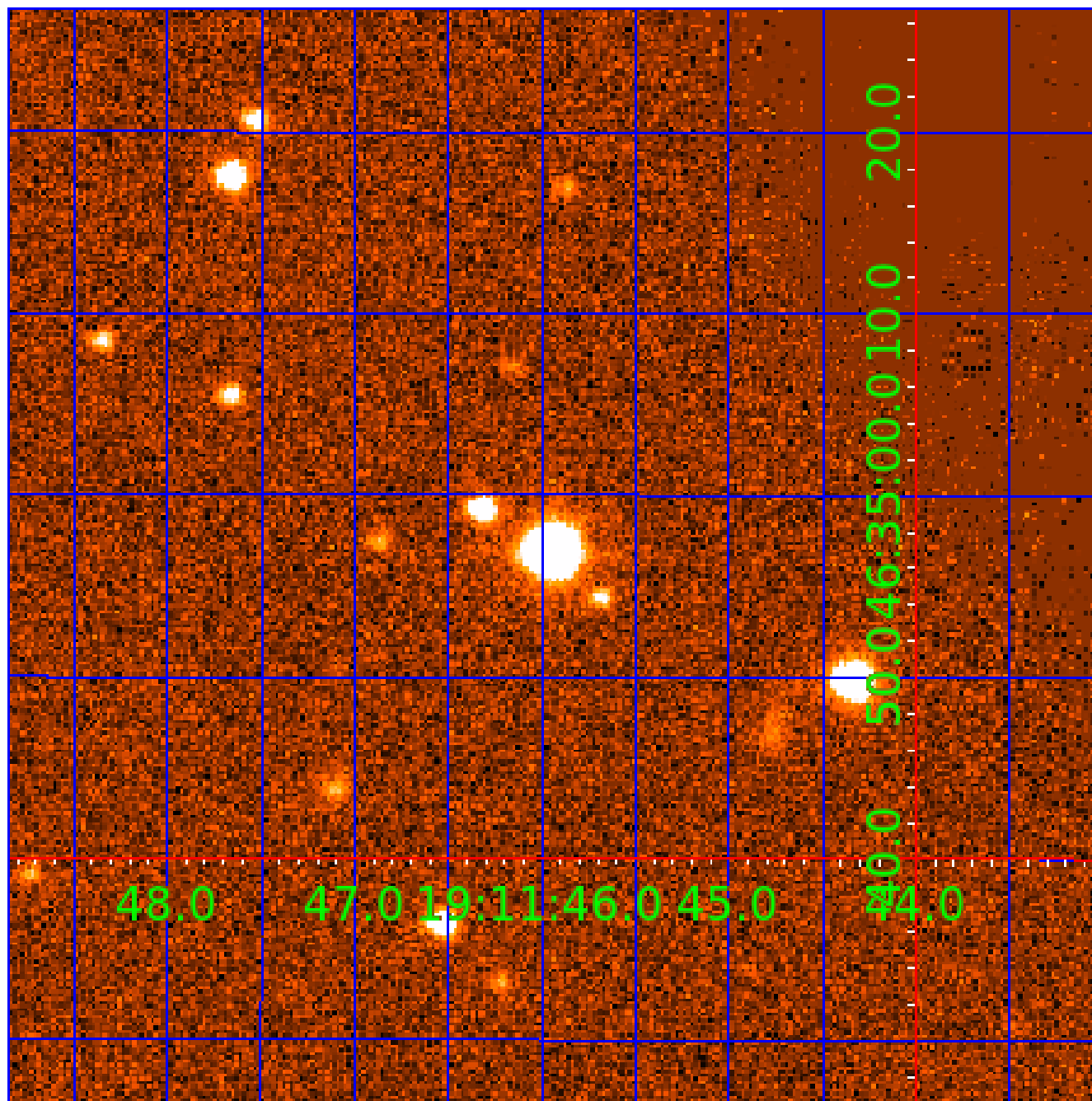


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009762519

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})
009762519-01	OBS	7228.01	7.515146	138.080097	117477.5	3.557	9521.7	7192.7	0.78	5624	37.09	119.15
009762519-02	OBS	No	7.515146	134.503867	25307.2	3.504	2161.0	1767.1	0.78	5624	21.39	119.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009762519-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
009762519-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

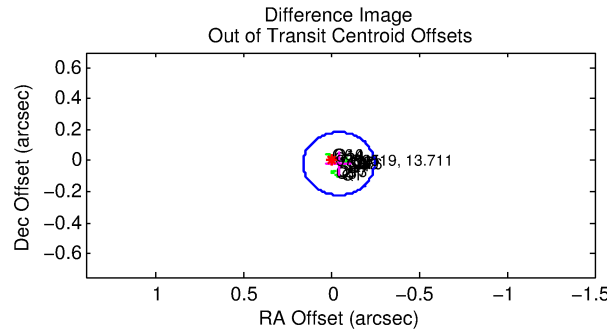
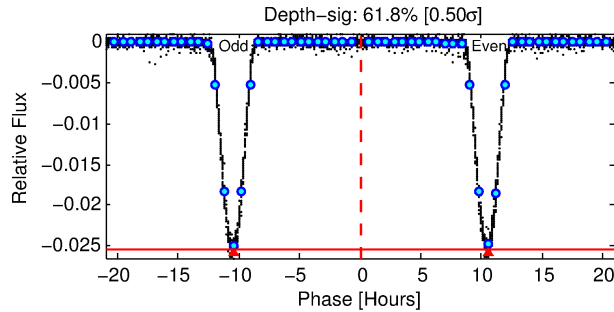
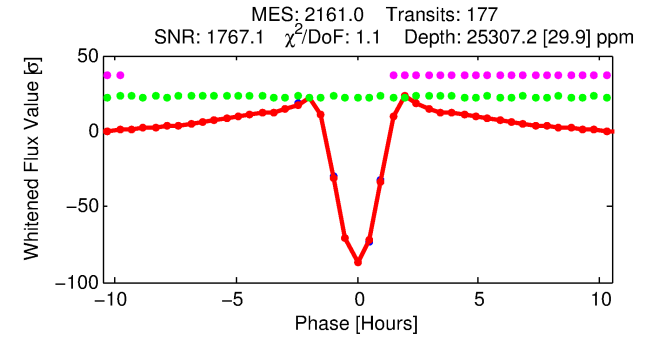
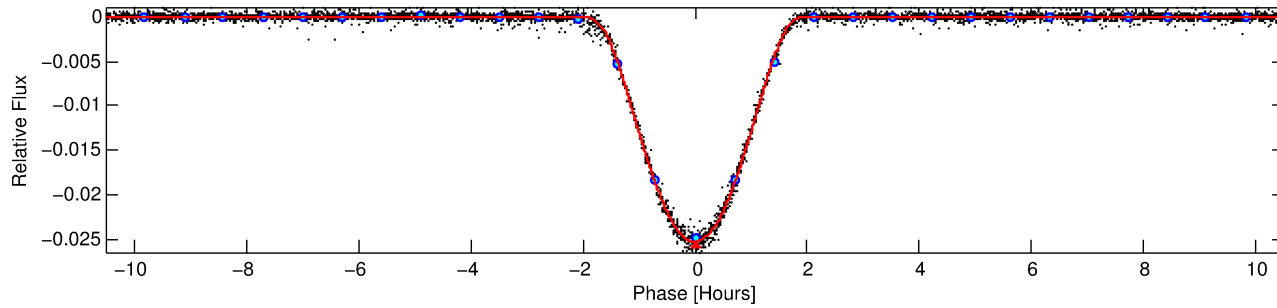
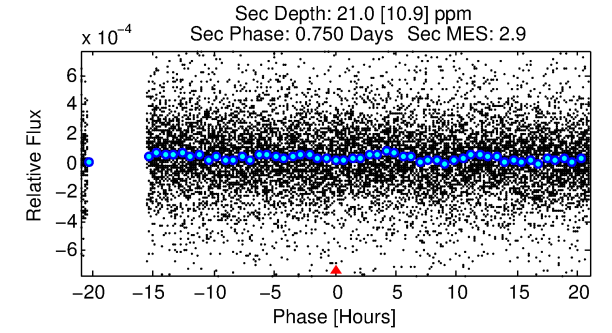
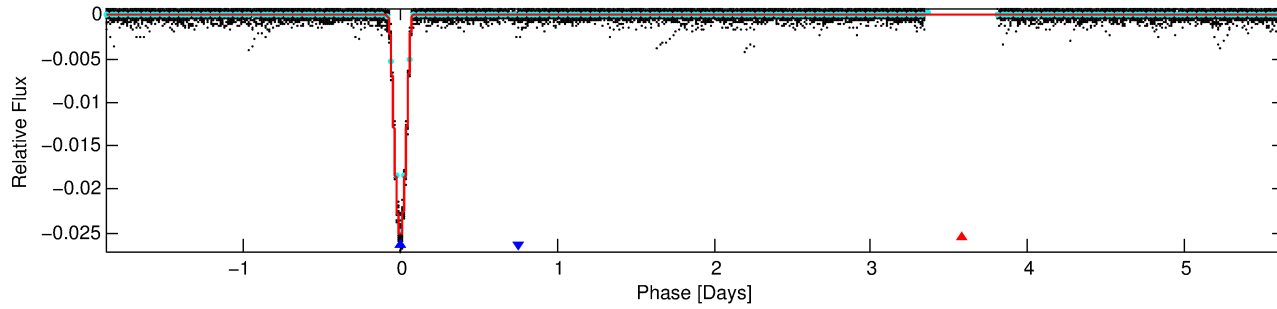
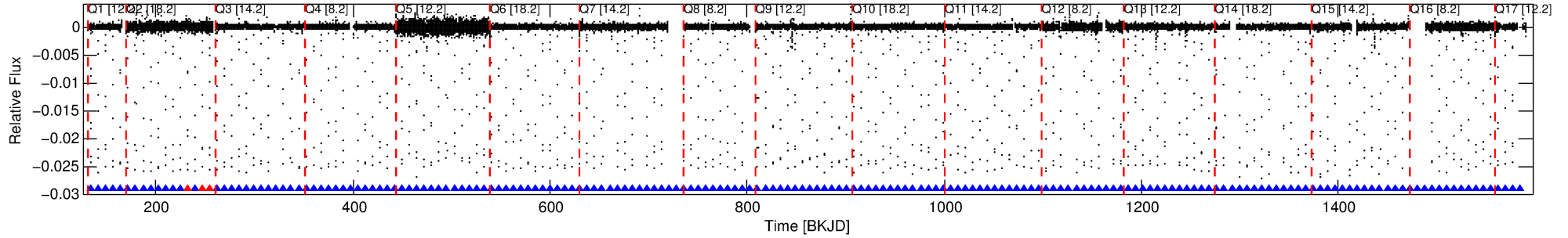
Ephemeris Match Information For 009762519-02

No Significant Match Found

DV One-Page Summary

KIC: 9762519 Candidate: 2 of 2 Period: 7.515 d
KOI: K07228 Corr: No Ephemeris Match

Kp: 13.71 R*: 0.78 Rs Teff: 5624.0 K Logg: 4.52 Fe/H: -0.700



DV Fit Results:

Period = 7.51515 [0.00000] d
Epoch = 134.5039 [0.0000] BKJD
Rp/R* = 0.2523 [0.0084]
a/R* = 12.49 [0.03]
b = 1.00 [0.01]
Seff = 119.15 [27.02]
Teq = 842 [48] K
Rp = 21.39 [3.49] Re
a = 0.0674 [0.0090] AU
Ag = 0.11 [0.06] [-13.83σ]
Teff = 758 [102] K [-0.75σ]

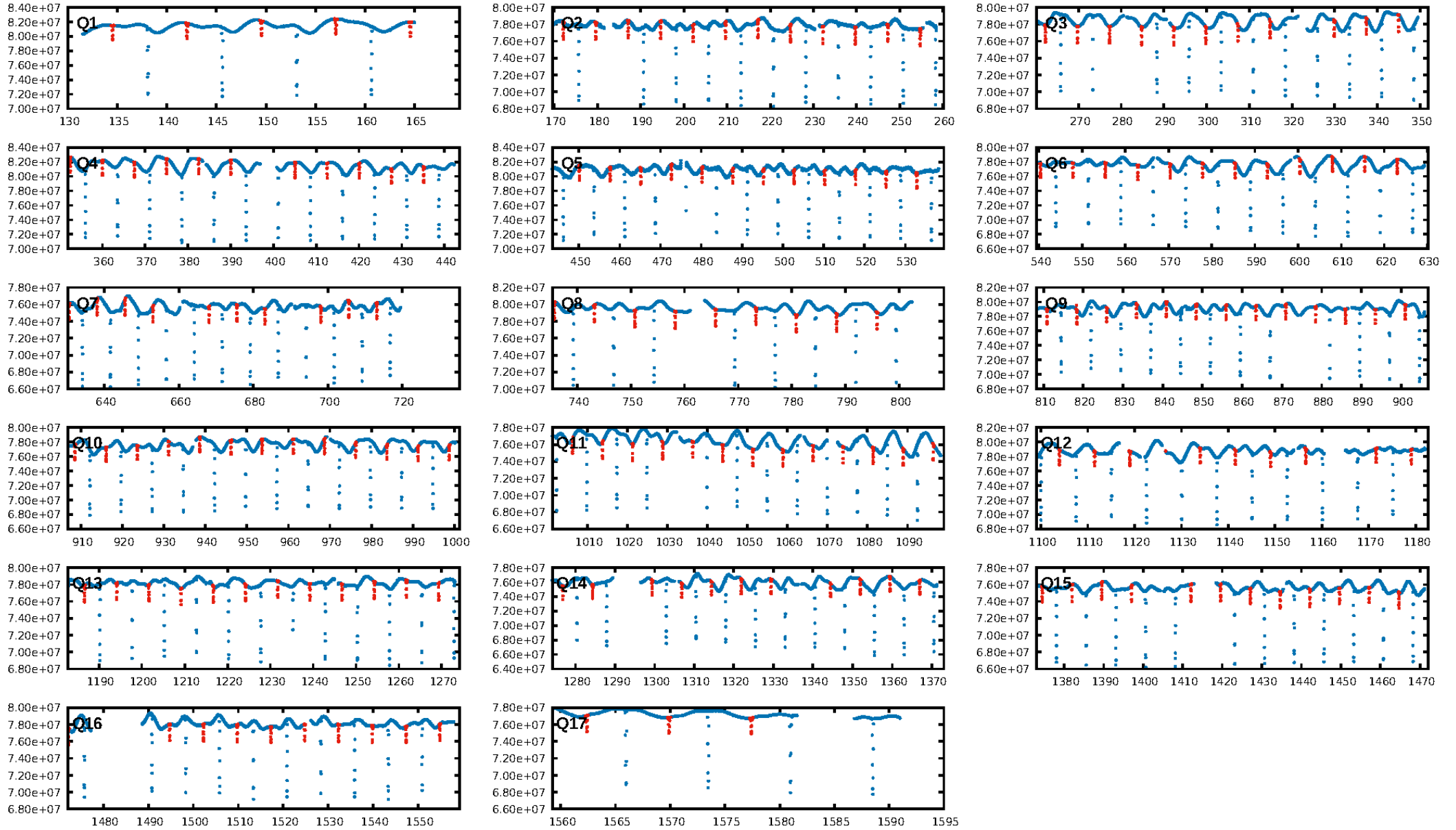
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [166/169]
GhostDiagnostic-chr: 2.485
Centroid-sig: 0.0%
Centroid-so: 0.384 arcsec [99.07σ]
OotOffset-rm: 0.045 arcsec [0.67σ]
KicOffset-rm: 0.430 arcsec [6.16σ]
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]

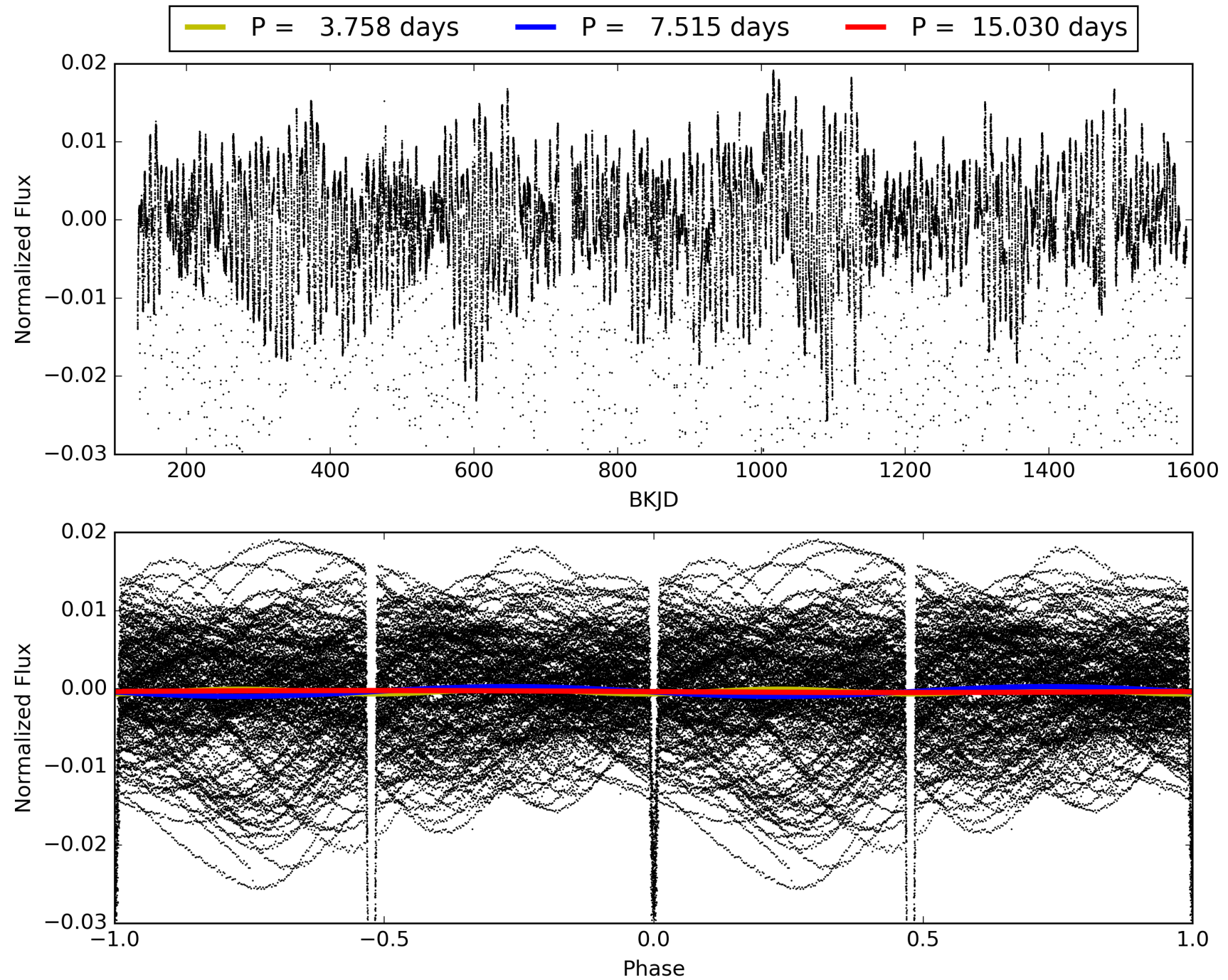
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:45:19 Z

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

TCE 009762519-02, PDC Light Curves

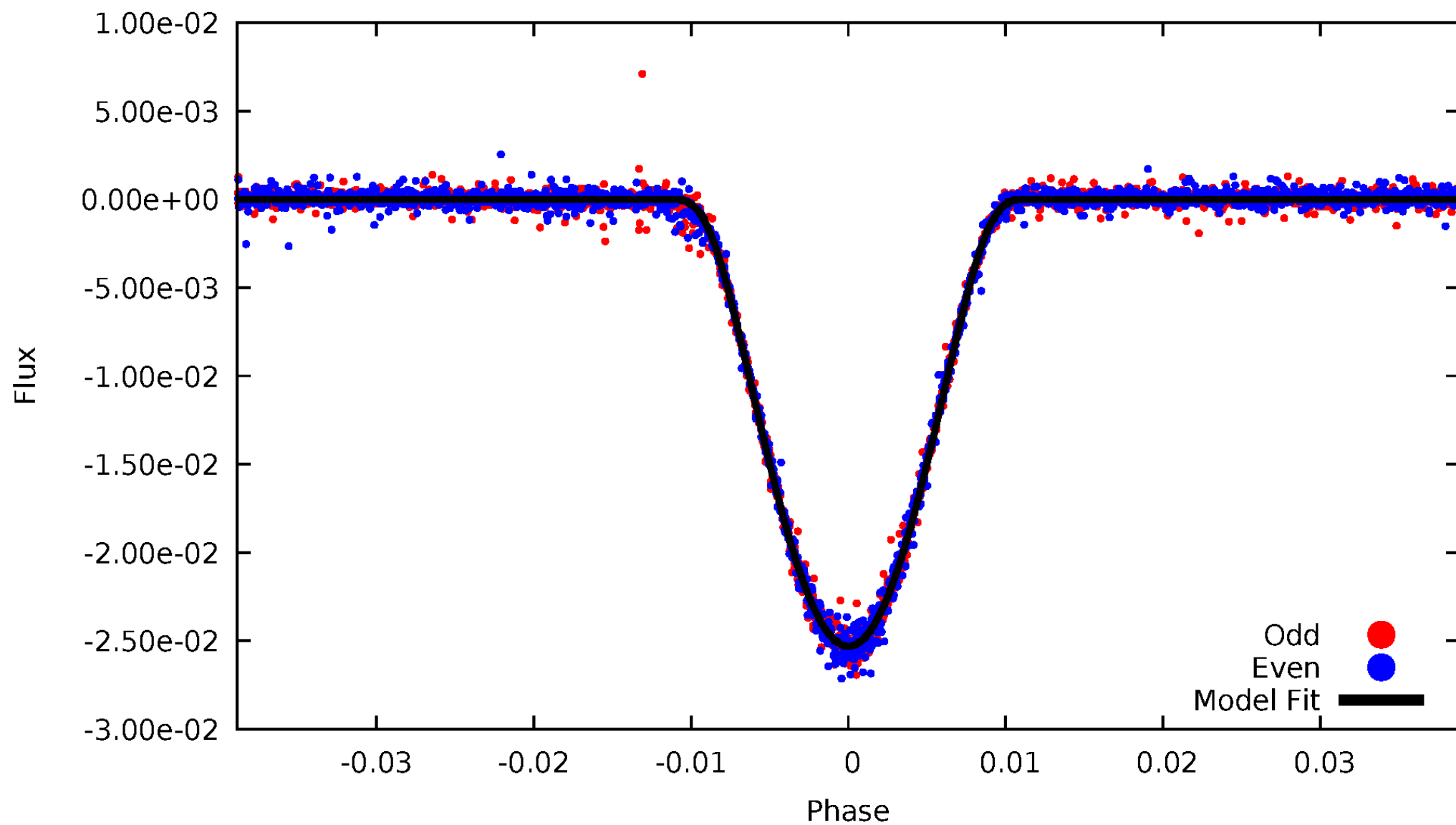


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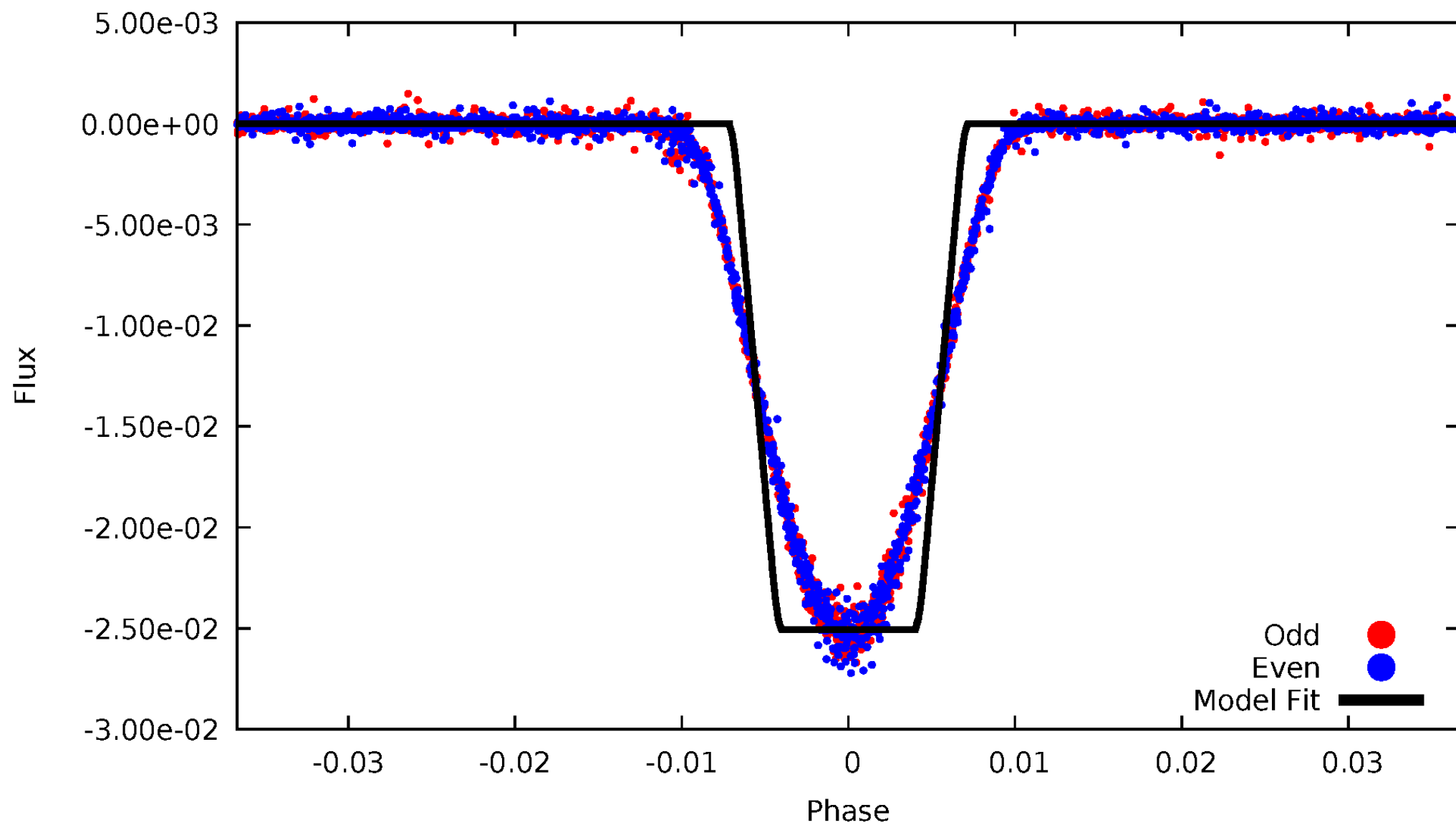
DV Odd/Even

TCE 009762519-02



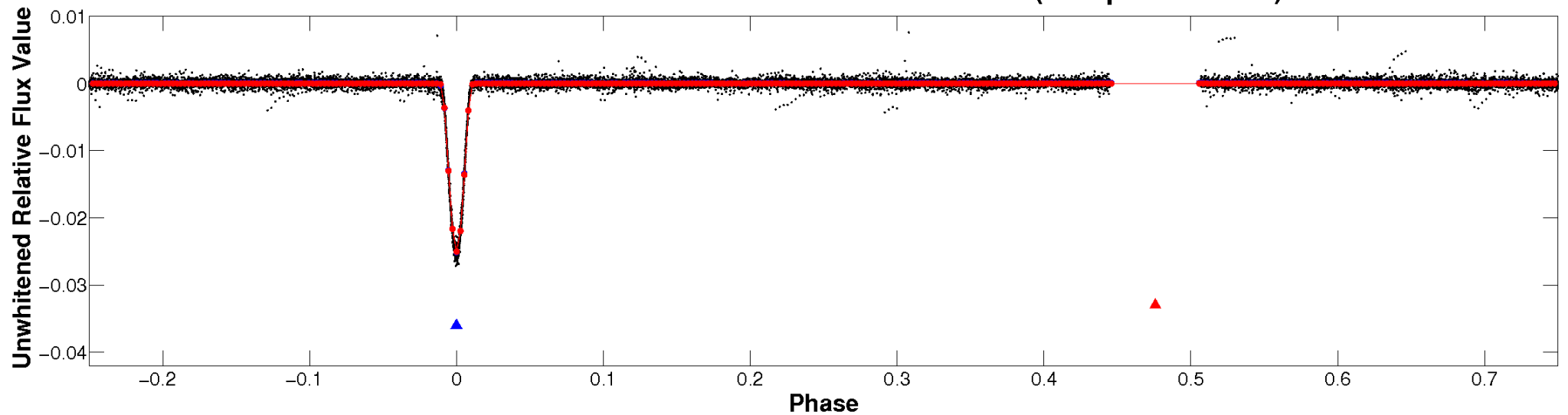
ALT Odd/Even

TCE 009762519-02

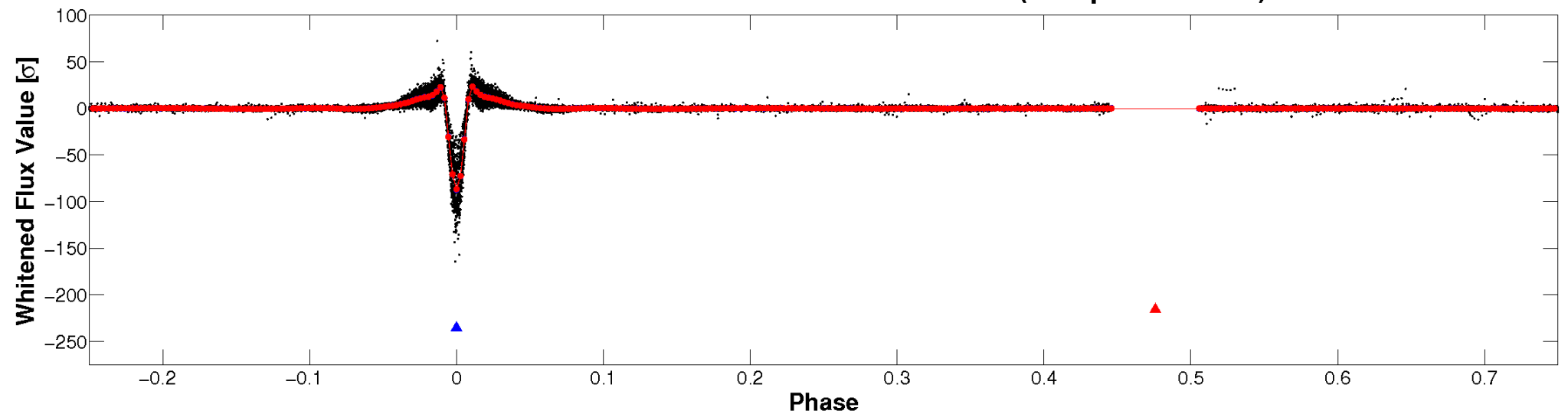


Non-Whitened Vs. Whitened Light Curve

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

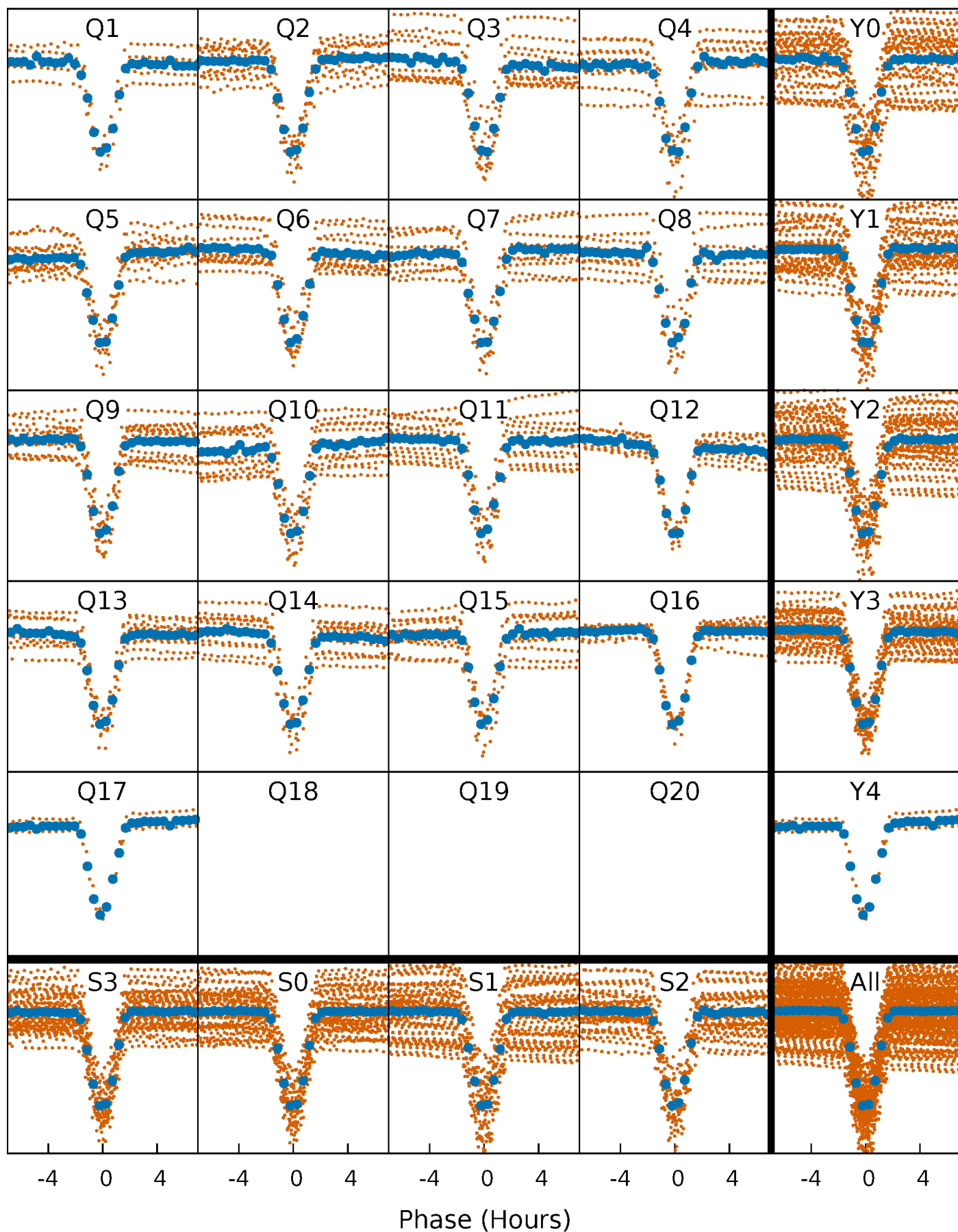


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



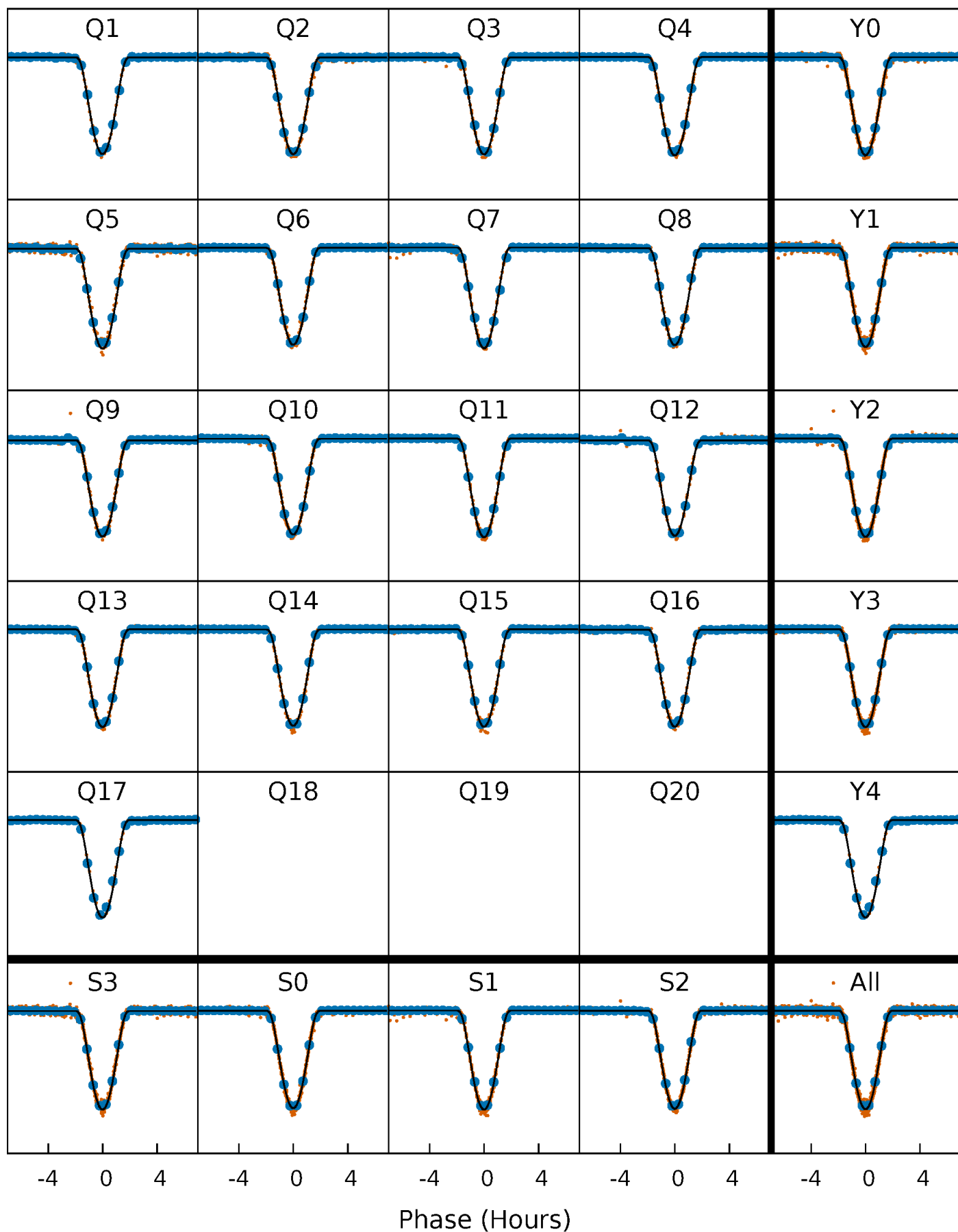
PDC Quarter-Phased Transit Curves

TCE 009762519-02 P= 7.515146 Days $T_0=134.503867$ (BKJD)



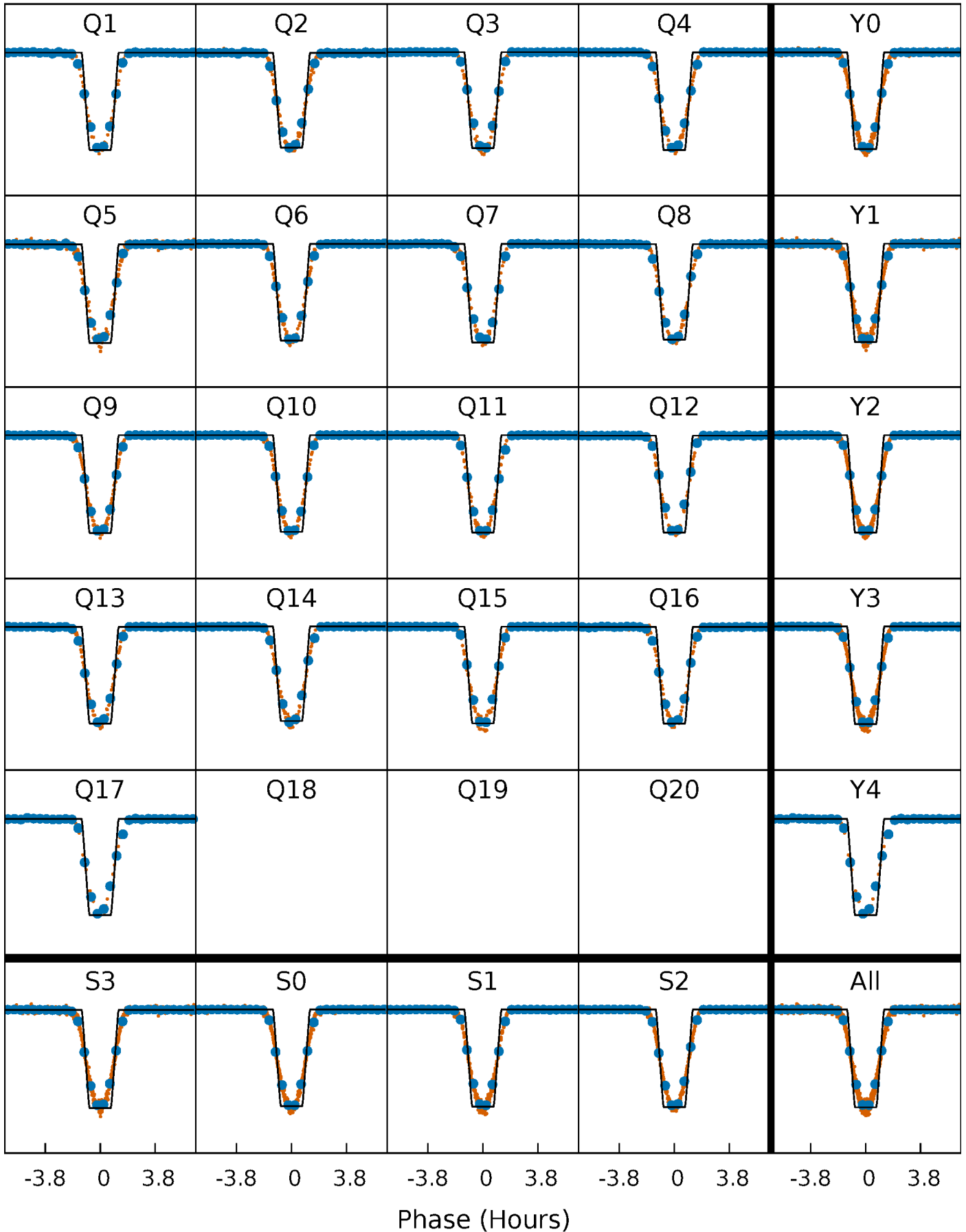
DV Quarter-Phased Transit Curves

TCE 009762519-02 P= 7.515146 Days $T_0=134.503867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

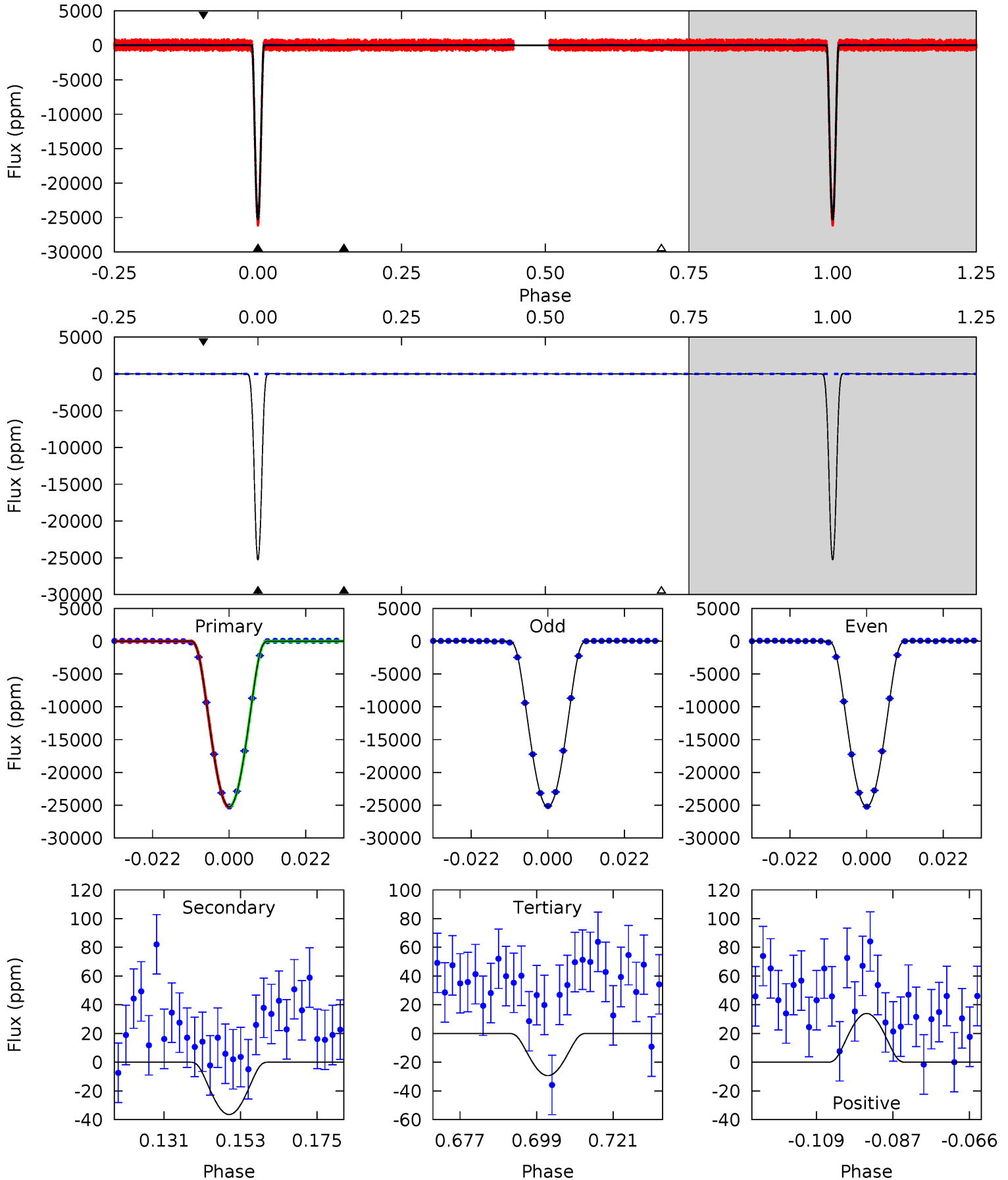
TCE 009762519-02 P= 7.515149 Days $T_0=134.503614$ (BKJD)



DV Model-Shift Uniqueness Test

009762519-02, P = 7.515146 Days, E = 126.988721 Days

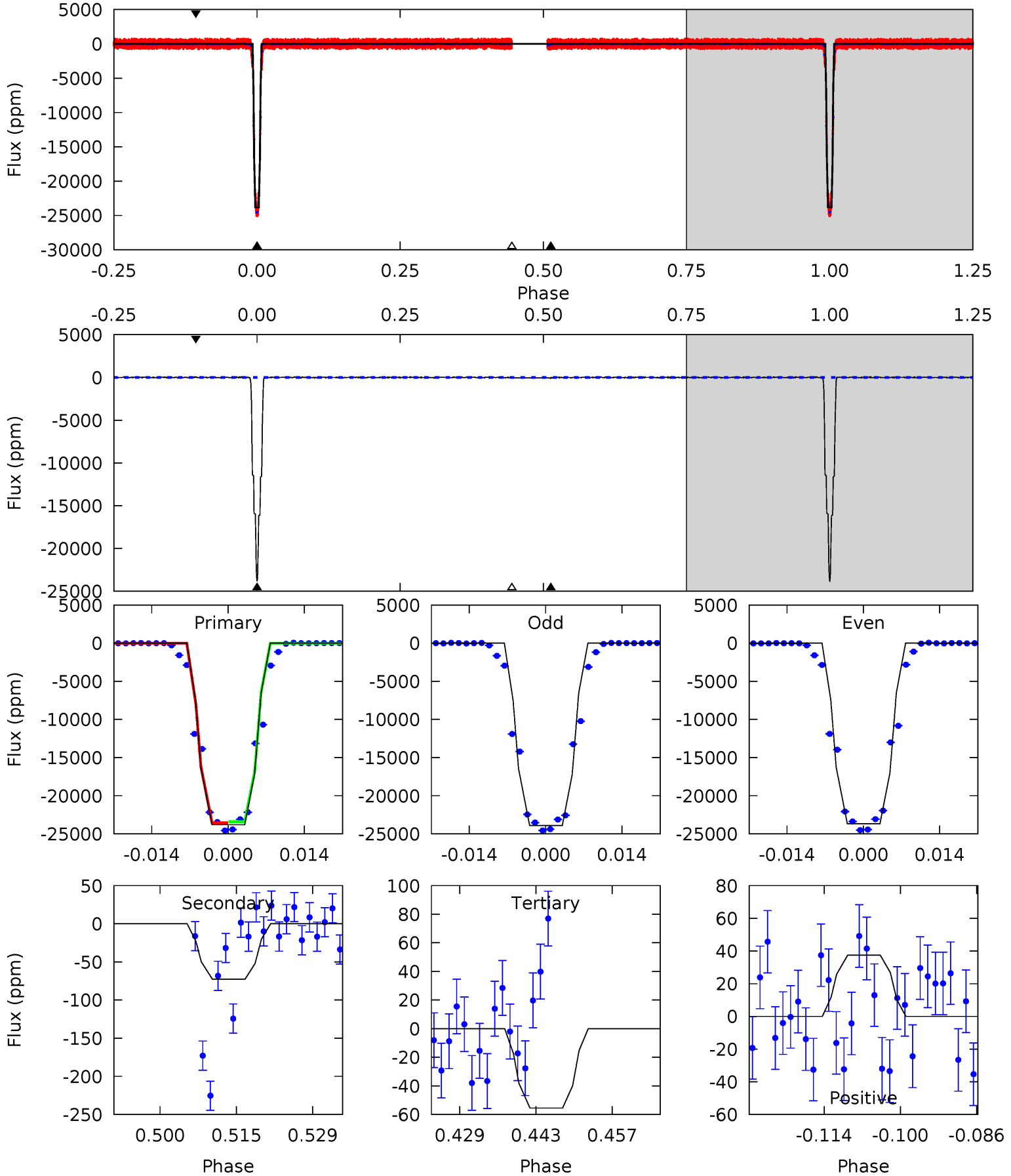
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3762	5.43	4.38	5.05	4.87	2.29	2.16	3758	3757	1.06	0.38	3.54	1.00	0.00	3.99



Alt Model-Shift Uniqueness Test

009762519-02, P = 7.515149 Days, E = 126.988465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2085	6.37	4.86	3.28	4.96	2.45	1.08	2080	2082	1.51	3.09	10.6	1.00	0.00	6.24



Stellar Parameters For KIC 009762519

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5624^{+167}_{-150}	$4.516^{+0.105}_{-0.105}$	$-0.700^{+0.300}_{-0.300}$	$0.777^{+0.124}_{-0.093}$	$0.722^{+0.092}_{-0.039}$	$2.169^{+0.992}_{-0.734}$
	+3%/-3%	+2%/-2%	+43%/-43%	+16%/-12%	+13%/-5%	+46%/-34%
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 009762519-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-36 ± 7	$21.51^{+1.88}_{-1.87}$	1177^{+57}_{-52}	-1777^{+139}_{-85}	$0.195^{+0.057}_{-0.043}$
Alt.	-73 ± 11	$13.60^{+1.47}_{-1.32}$	1181^{+58}_{-54}	2150^{+74}_{-77}	$0.997^{+0.276}_{-0.232}$

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 $A_{obs} \gg 1.0$

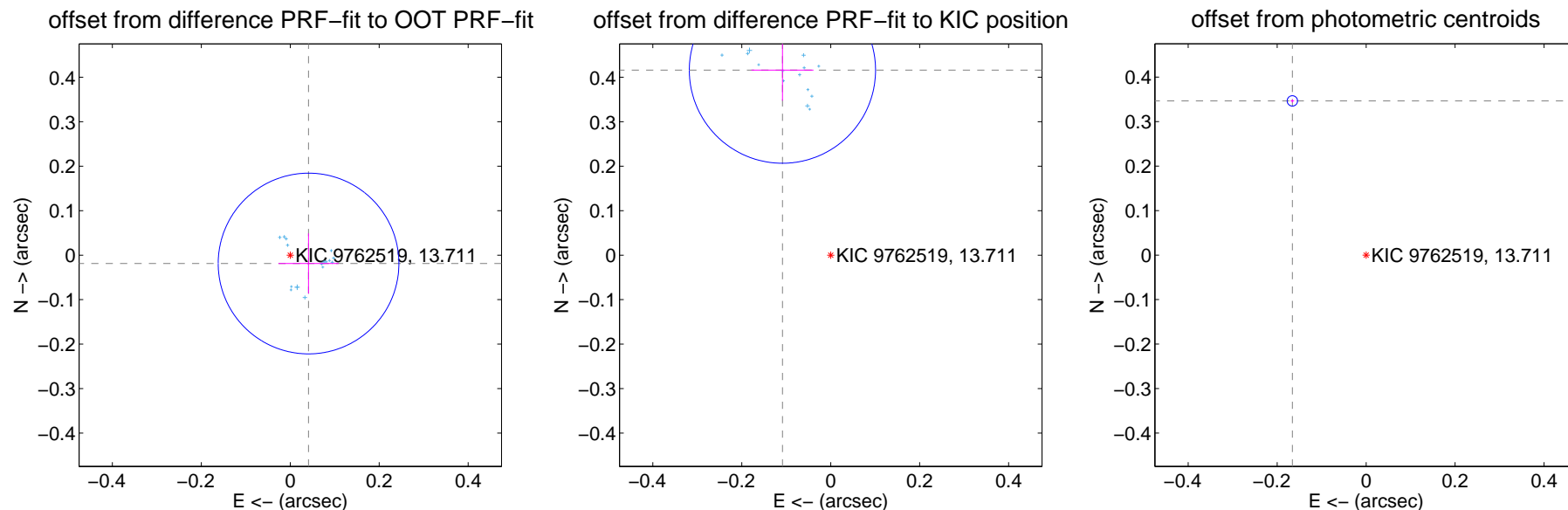
DV Centroid Data

Supplemental centroid analysis for 009762519-02. Kepler magnitude: 13.71. Transit SNR 1767.07

There are 17 quarters with good PRF difference image offsets

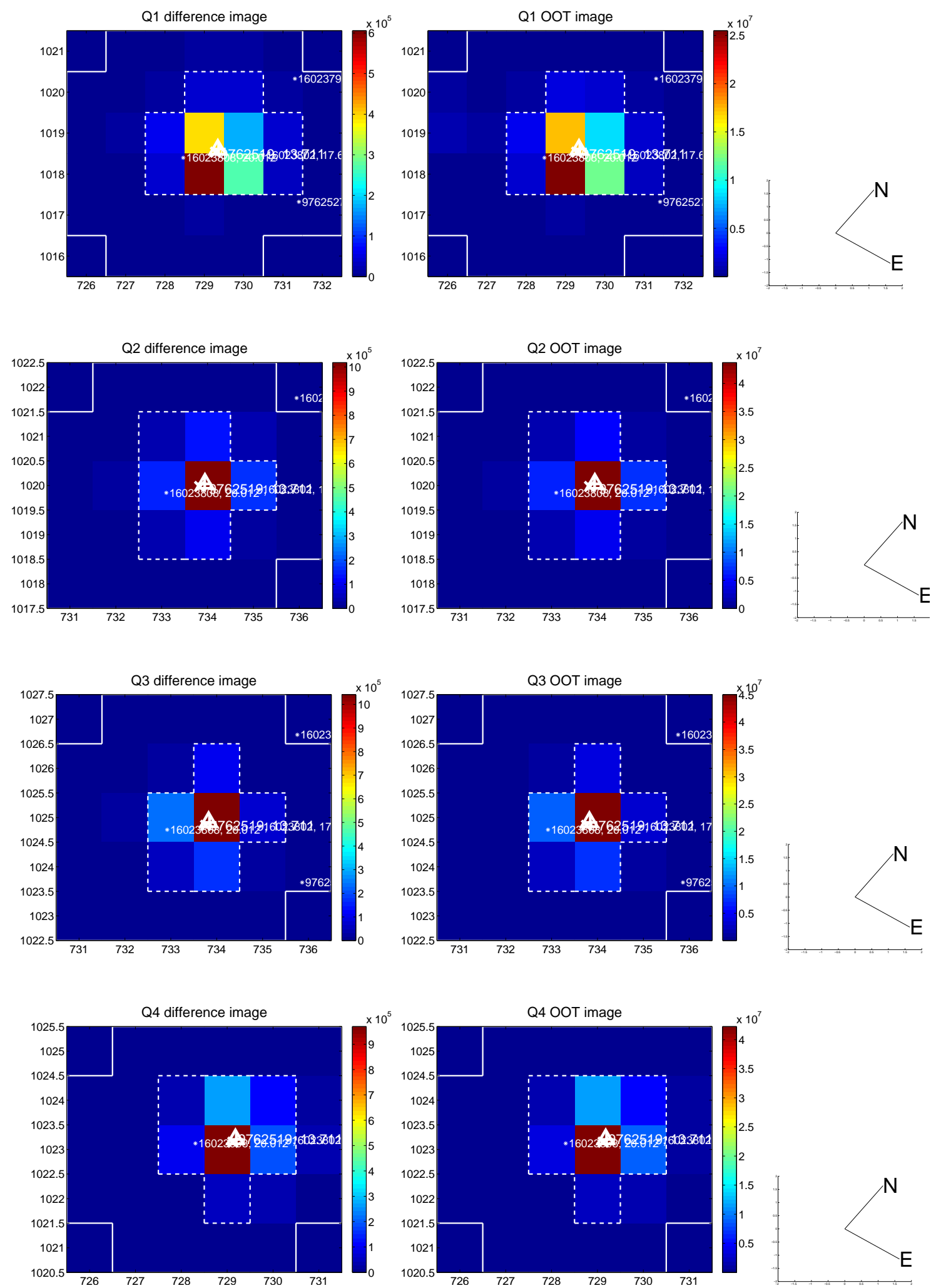
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.068	0.67	-0.041 ± 0.068	-0.019 ± 0.068
PRF-fit source offset from KIC position	0.430 ± 0.070	6.16	0.109 ± 0.070	0.416 ± 0.069
photometric centroid source offset	0.38 ± 0.00	99.07	0.17 ± 0.00	0.35 ± 0.00

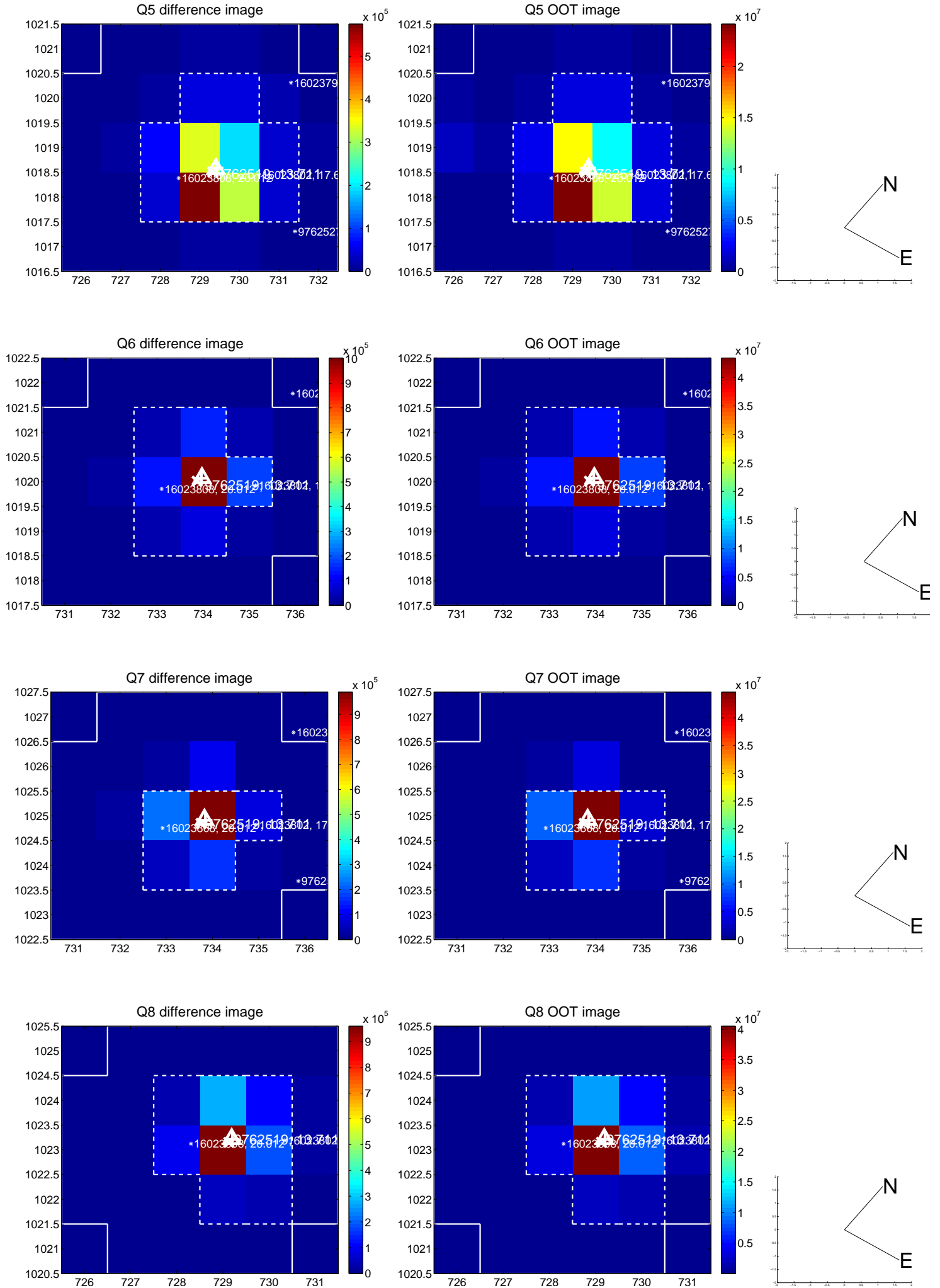


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

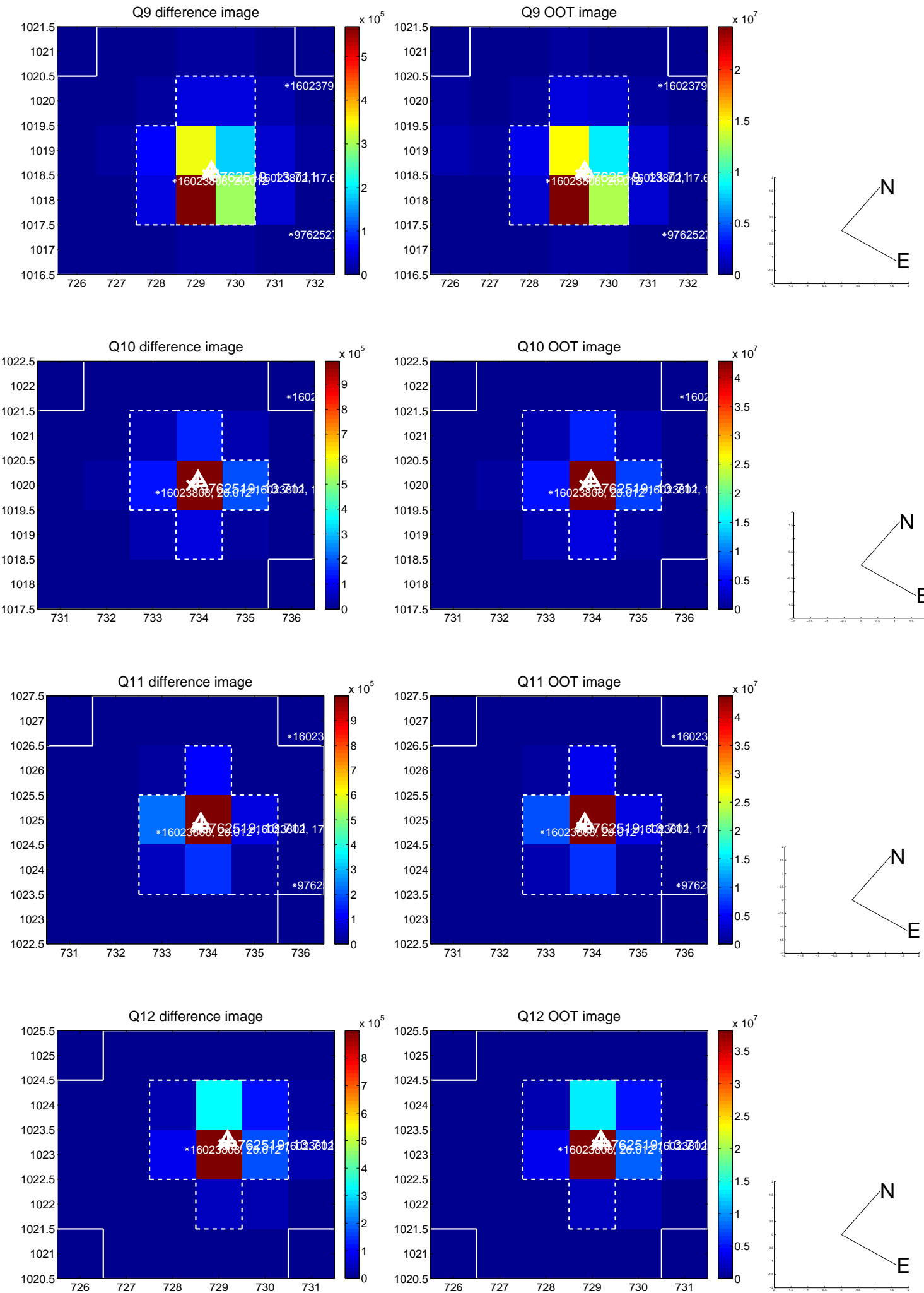
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



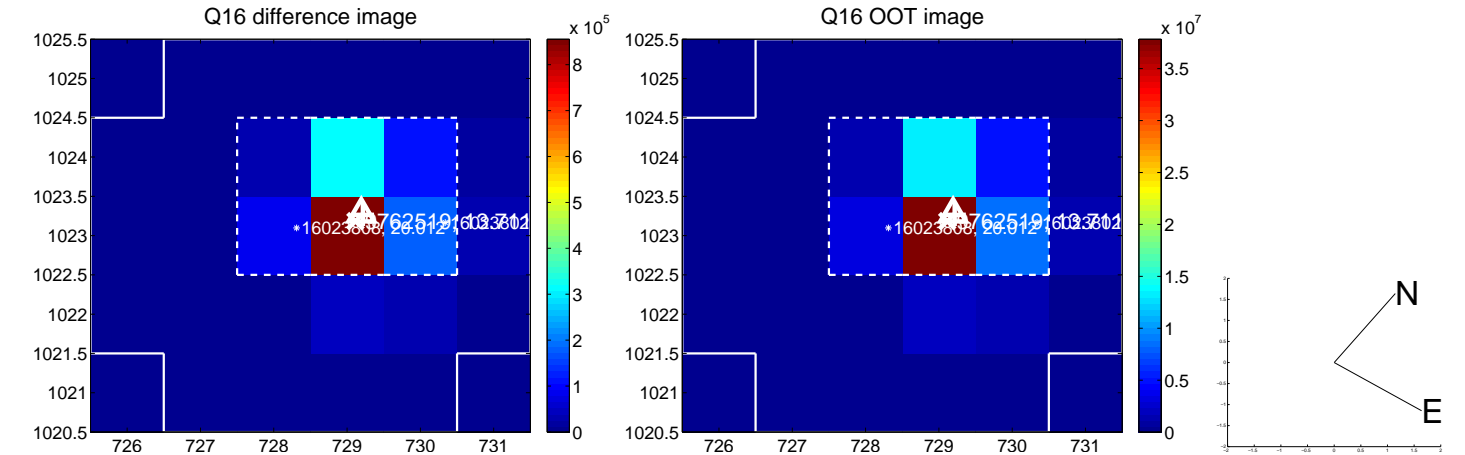
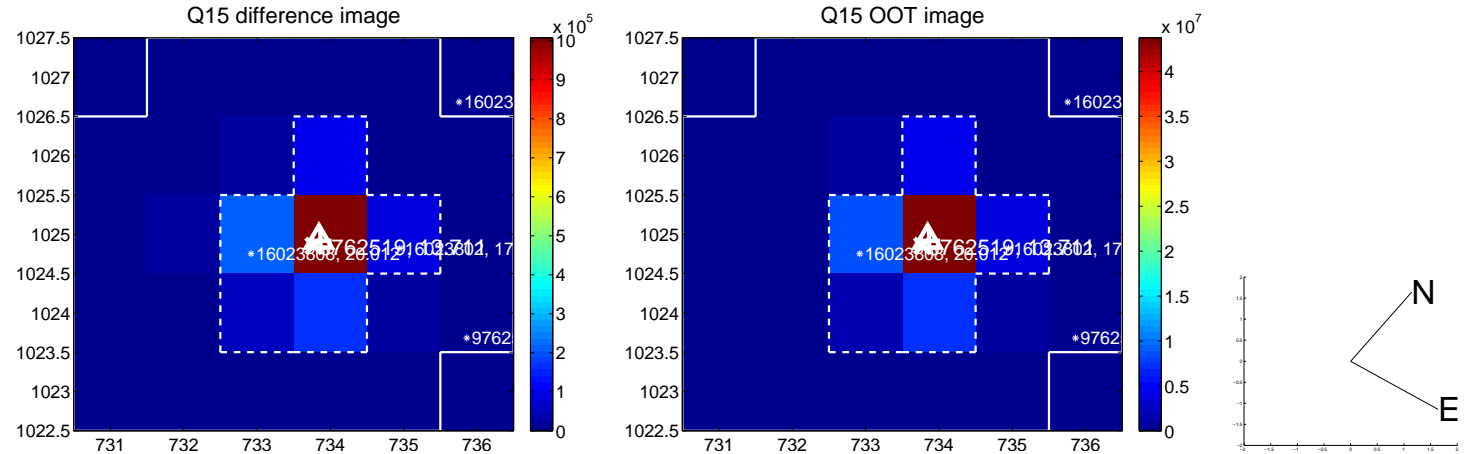
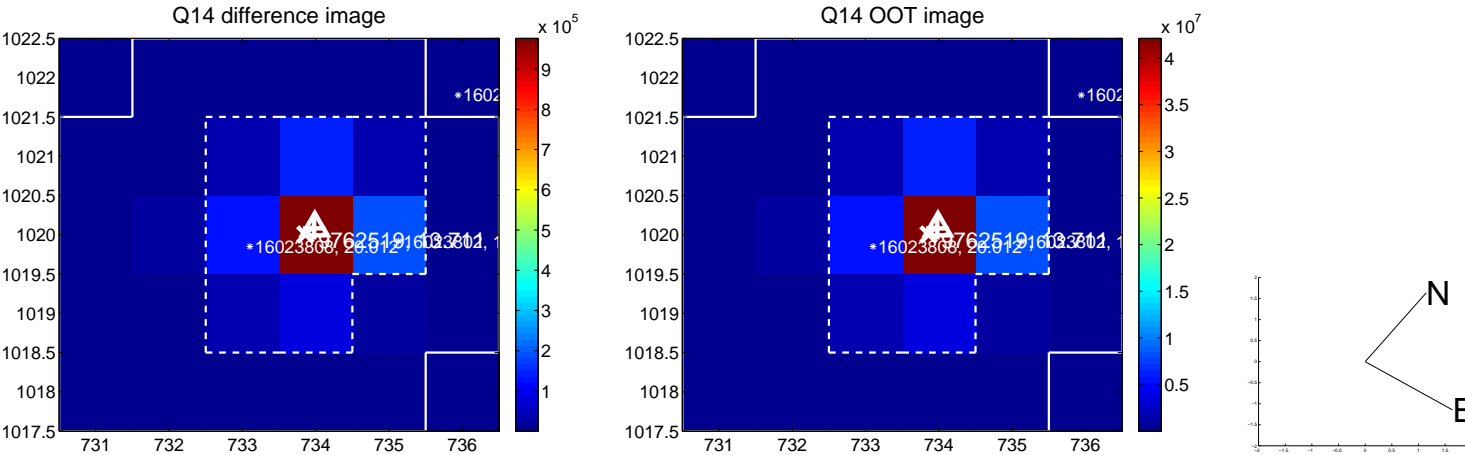
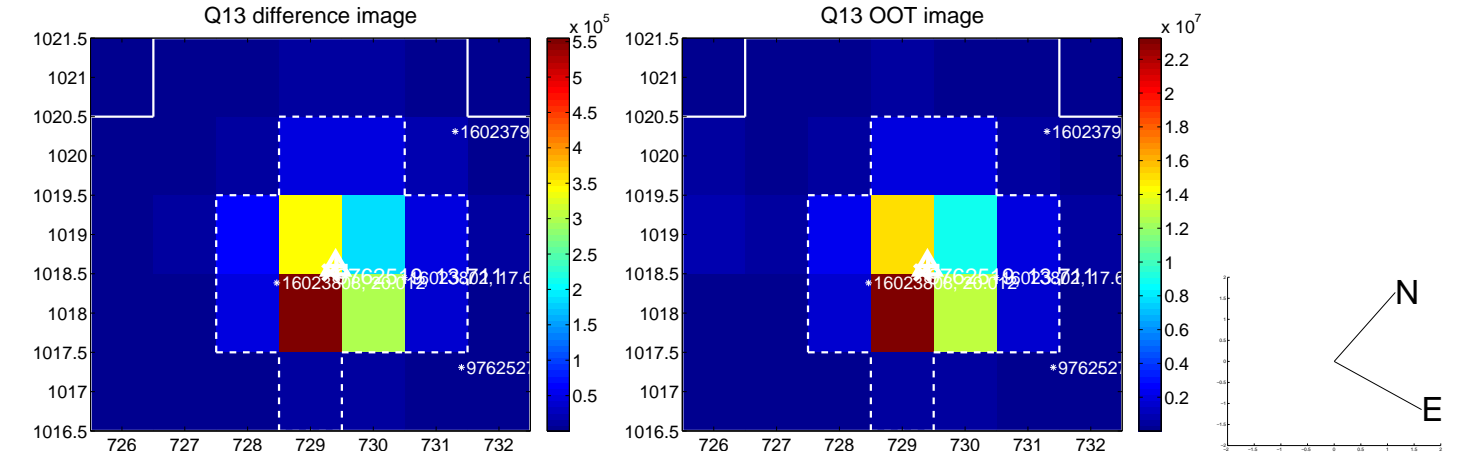
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



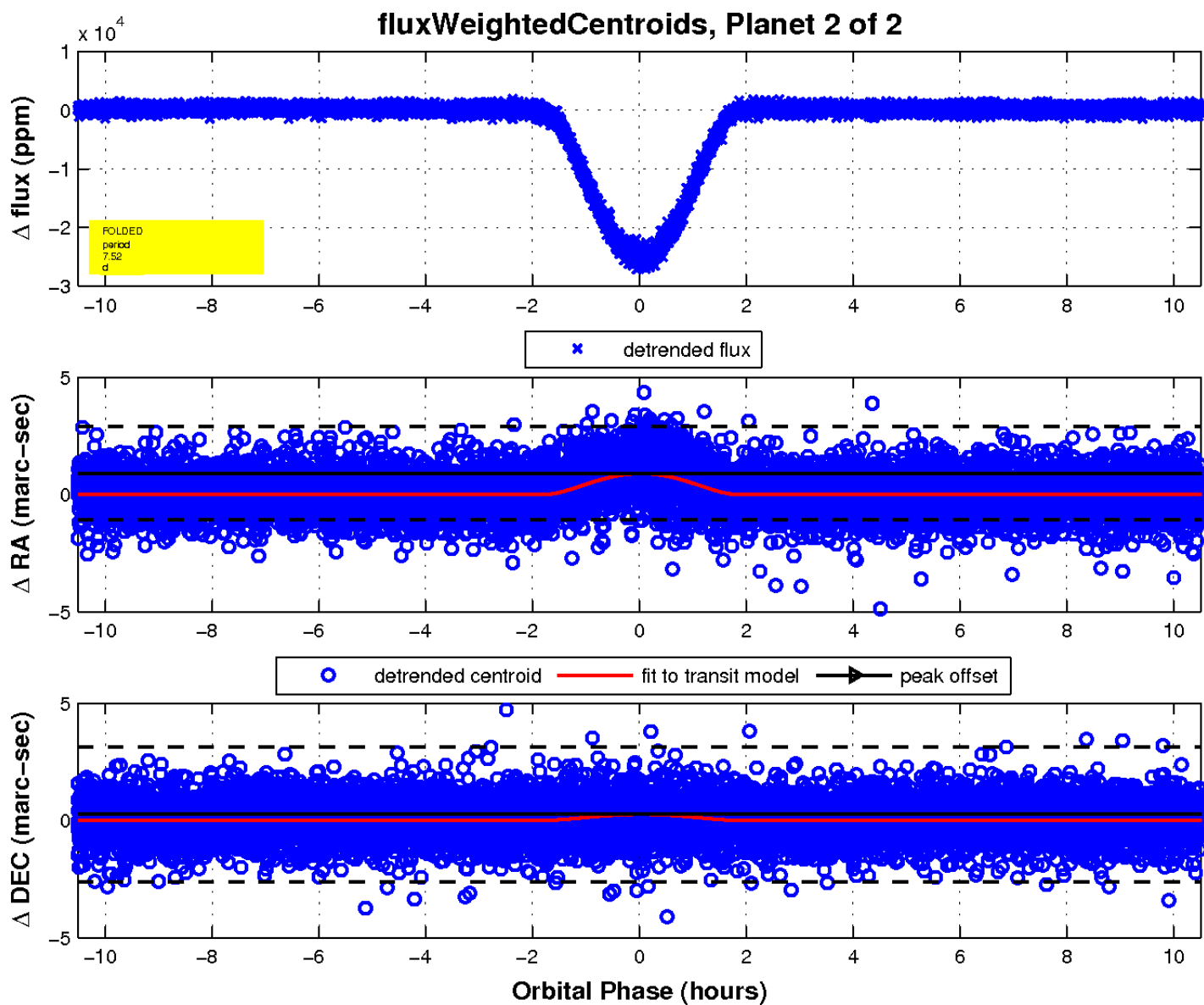
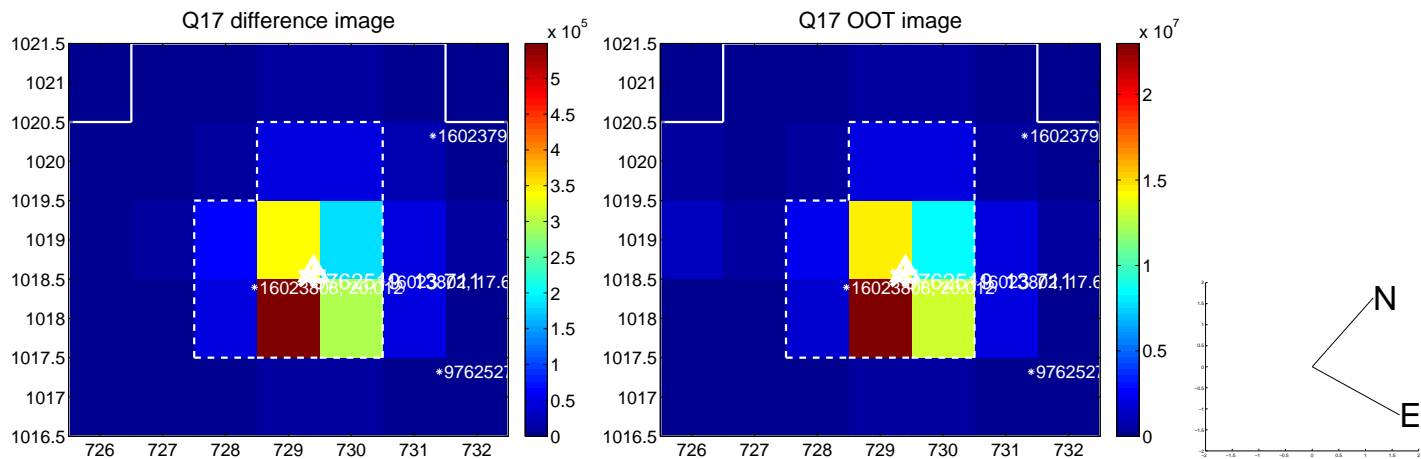
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UKIRT Image

Declination

