

KIC 001995732

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})
001995732-01	OBS	3351.01	77.362454	139.095527	97178.0	12.124	1495.9	1237.7	0.79	5359	36.40	4.08
001995732-02	OBS	No	77.360932	171.322467	69440.4	13.605	1055.7	943.1	0.79	5359	31.70	4.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001995732-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
001995732-02	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.

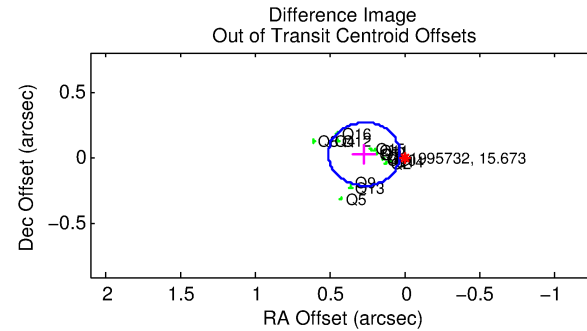
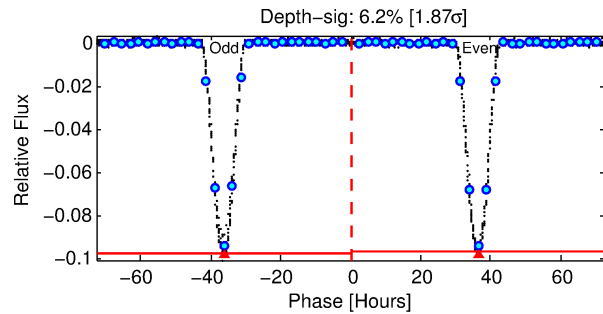
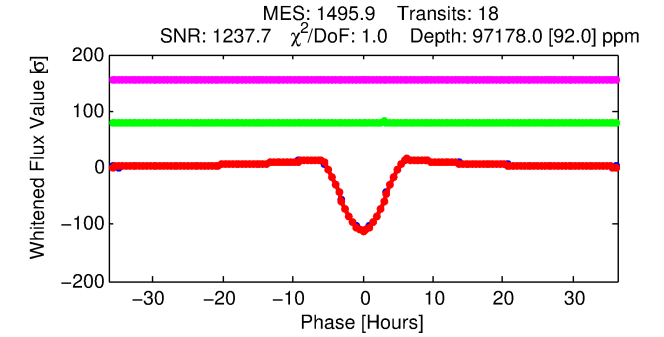
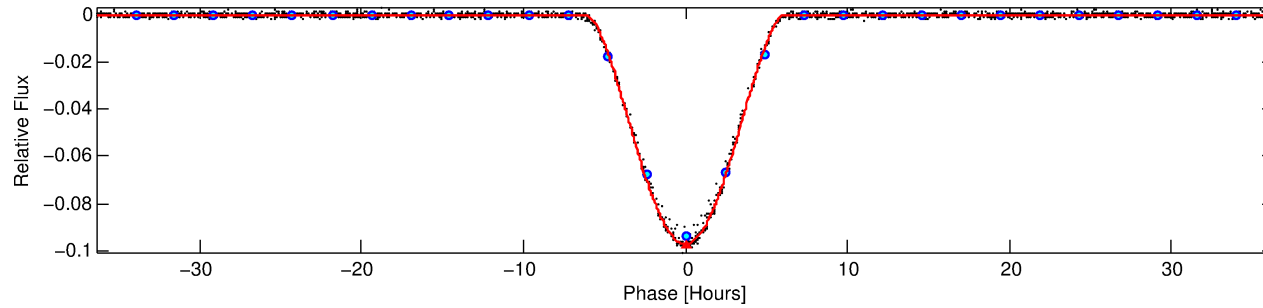
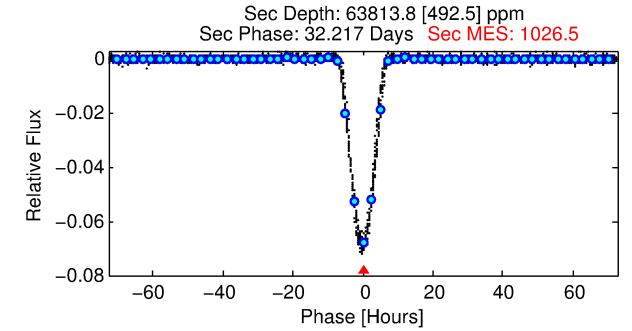
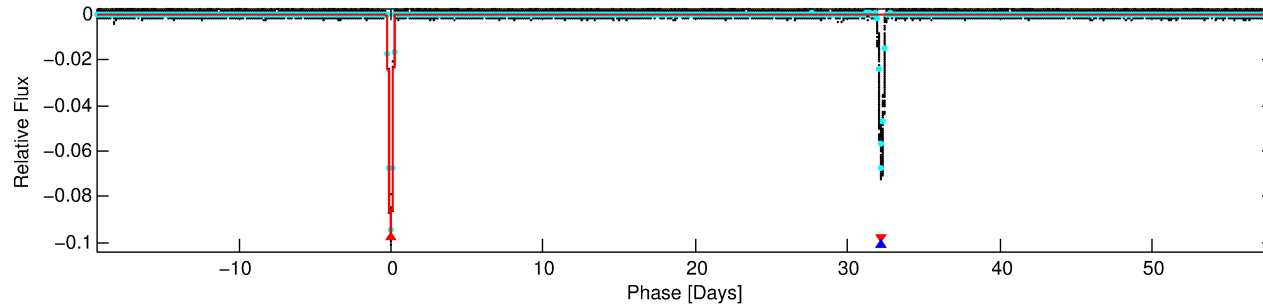
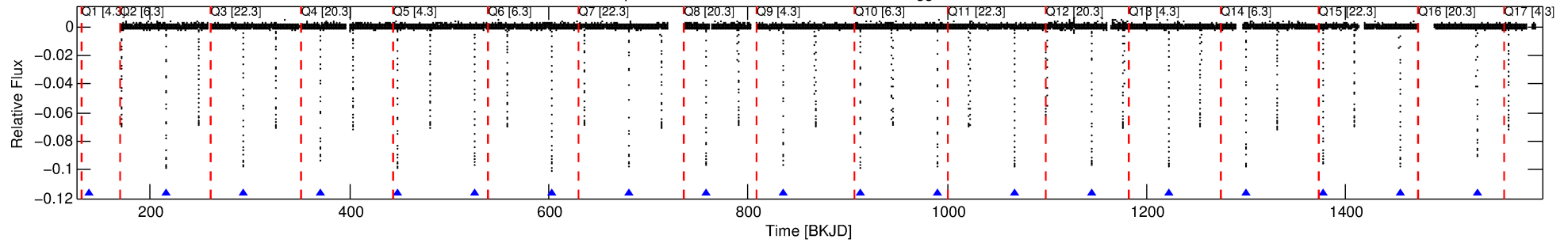
Ephemeris Match Information For 001995732-01

No Significant Match Found

DV One-Page Summary

KIC: 1995732 Candidate: 1 of 2 Period: 77.362 d
KOI: K03351.01 Corr: 0.999

Kp: 15.67 R*: 0.79 Rs Teff: 5359.0 K Logg: 4.57 Fe/H: -0.120



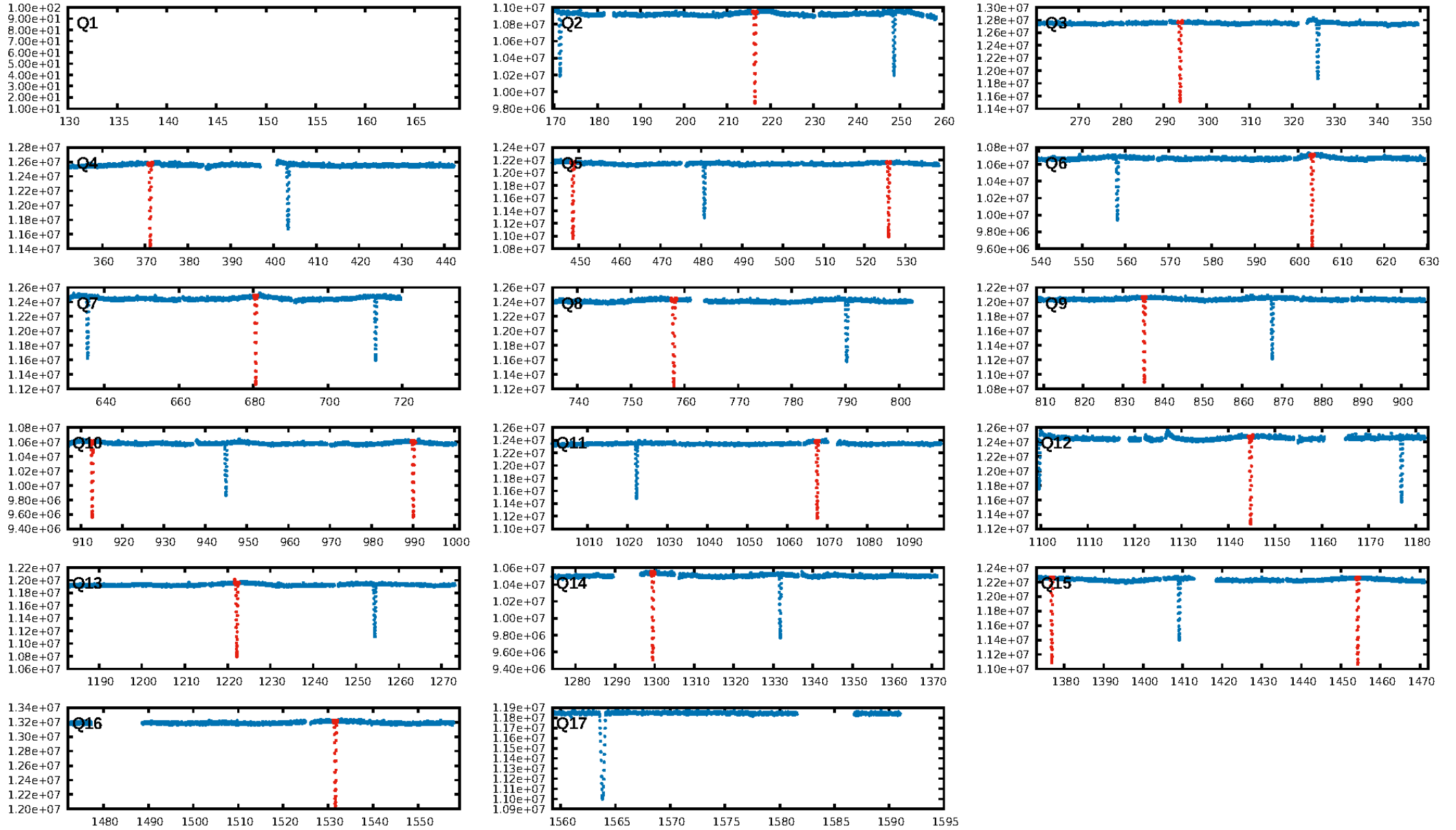
DV Fit Results:

Period = 77.36245 [0.00002] d
Epoch = 139.0955 [0.0002] BKJD
Rp/R* = 0.4223 [0.0334]
a/R* = 53.33 [0.13]
b = 0.91 [0.05]
Seff = 4.08 [0.98]
Teq = 362 [22] K
Rp = 36.40 [7.19] Re
a = 0.3361 [0.0498] AU
Ag = 2992.93 [787.50] [3.80σ]
Teffp = 4145 [205] K [18.33σ]

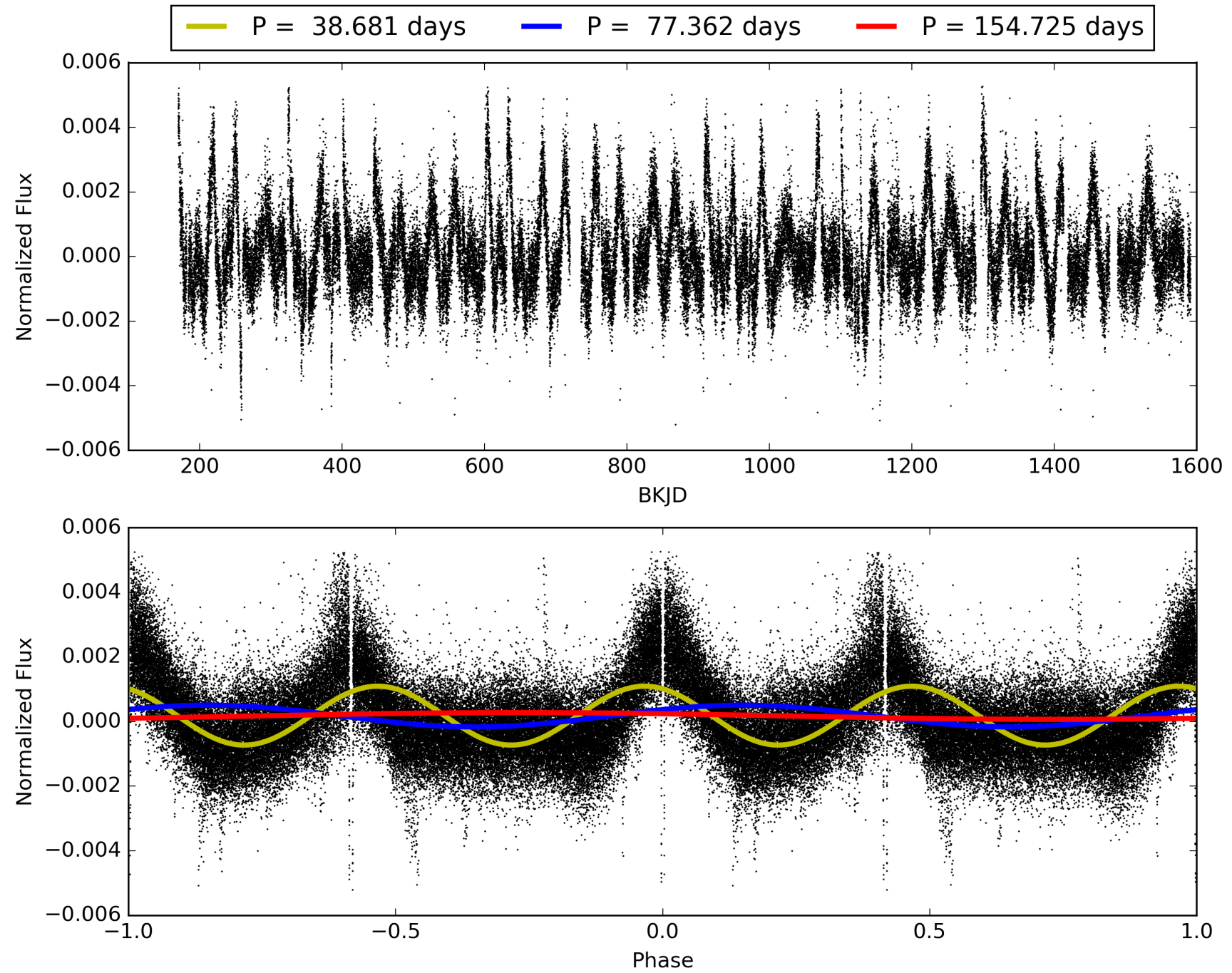
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 7.127
Centroid-sig: 0.0%
Centroid-so: 1.257 arcsec [156.75σ]
OotOffset-rm: 0.269 arcsec [3.37σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-rm: 0.113 arcsec [1.30σ]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 001995732-01, PDC Light Curves

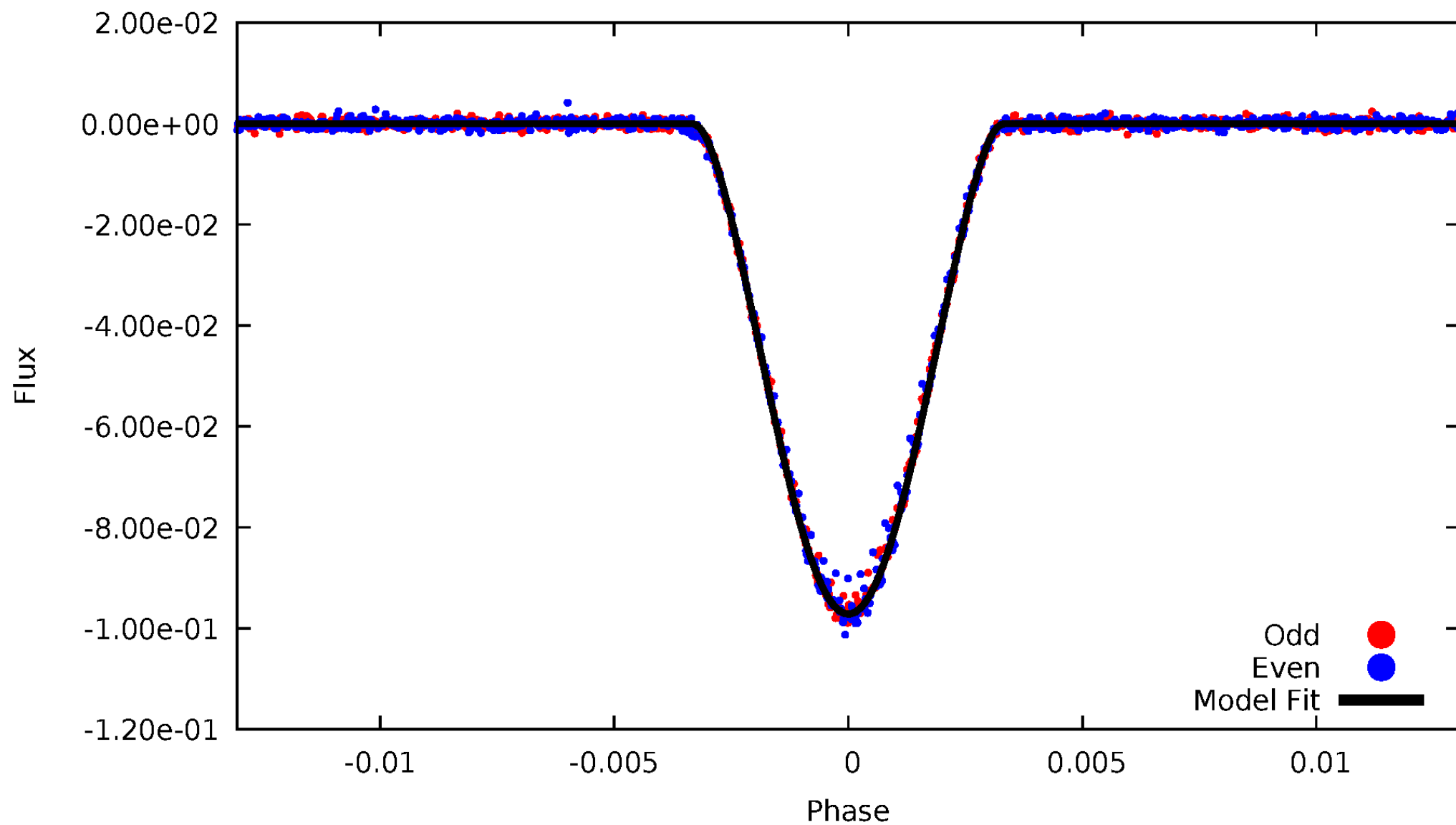


TCE 001995732-01



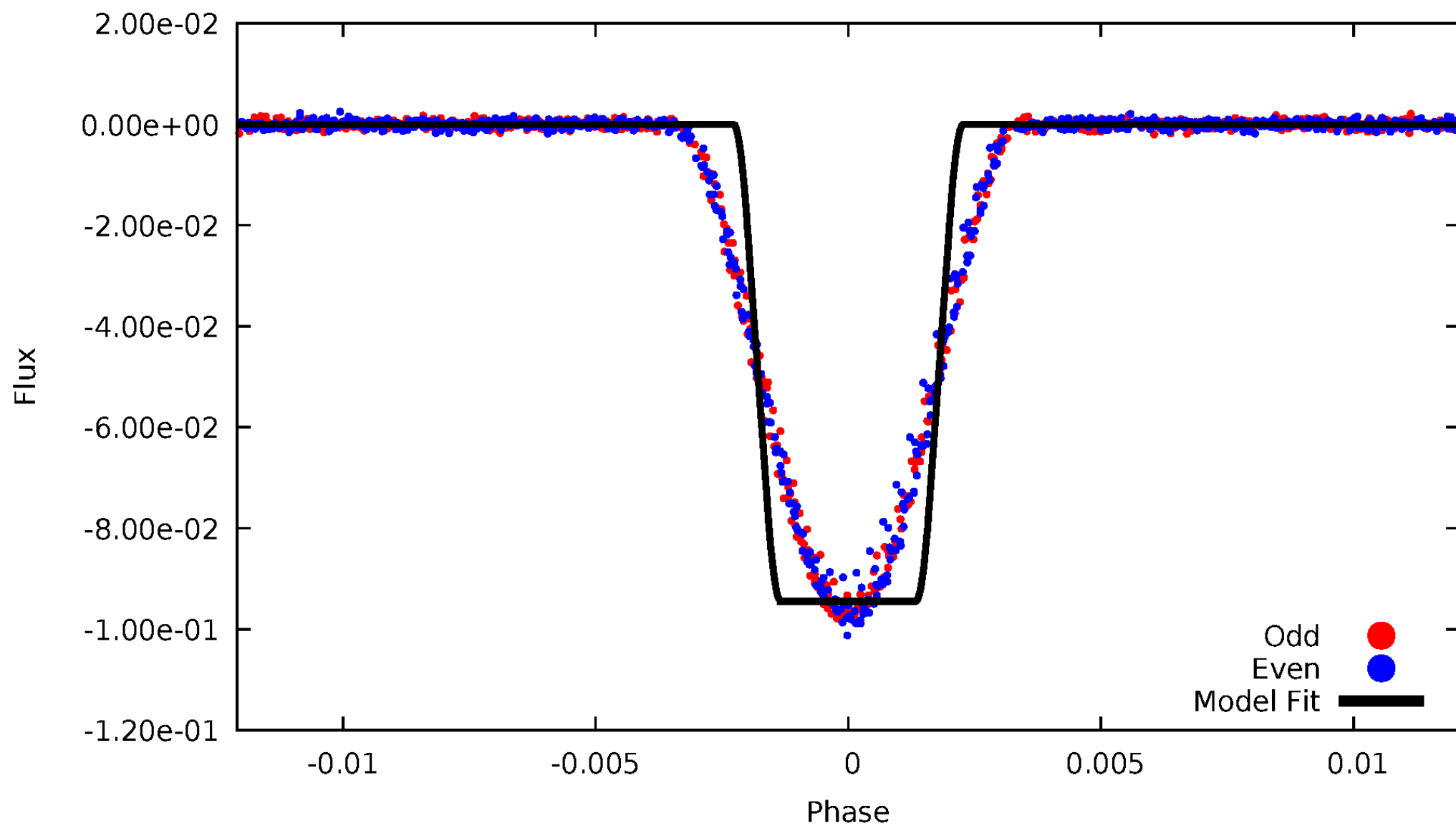
DV Odd/Even

TCE 001995732-01



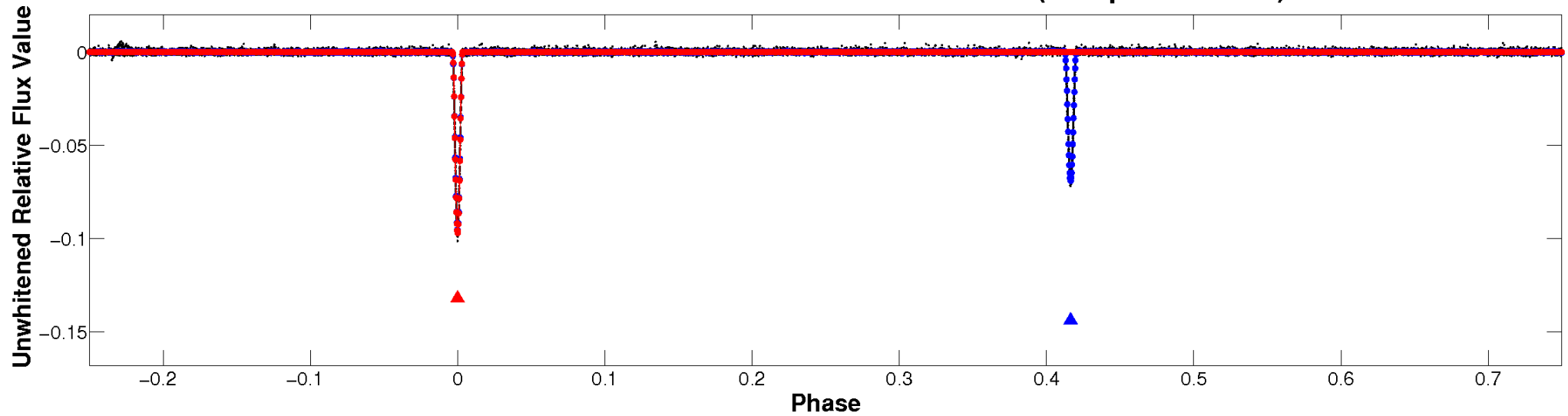
ALT Odd/Even

TCE 001995732-01

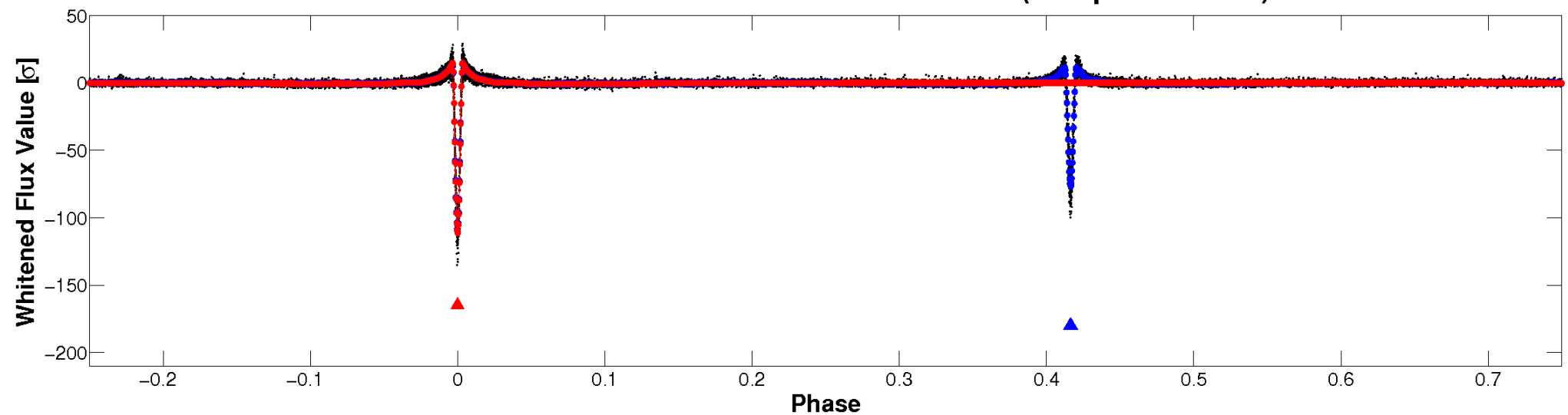


Non-Whitened Vs. Whitened Light Curve

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

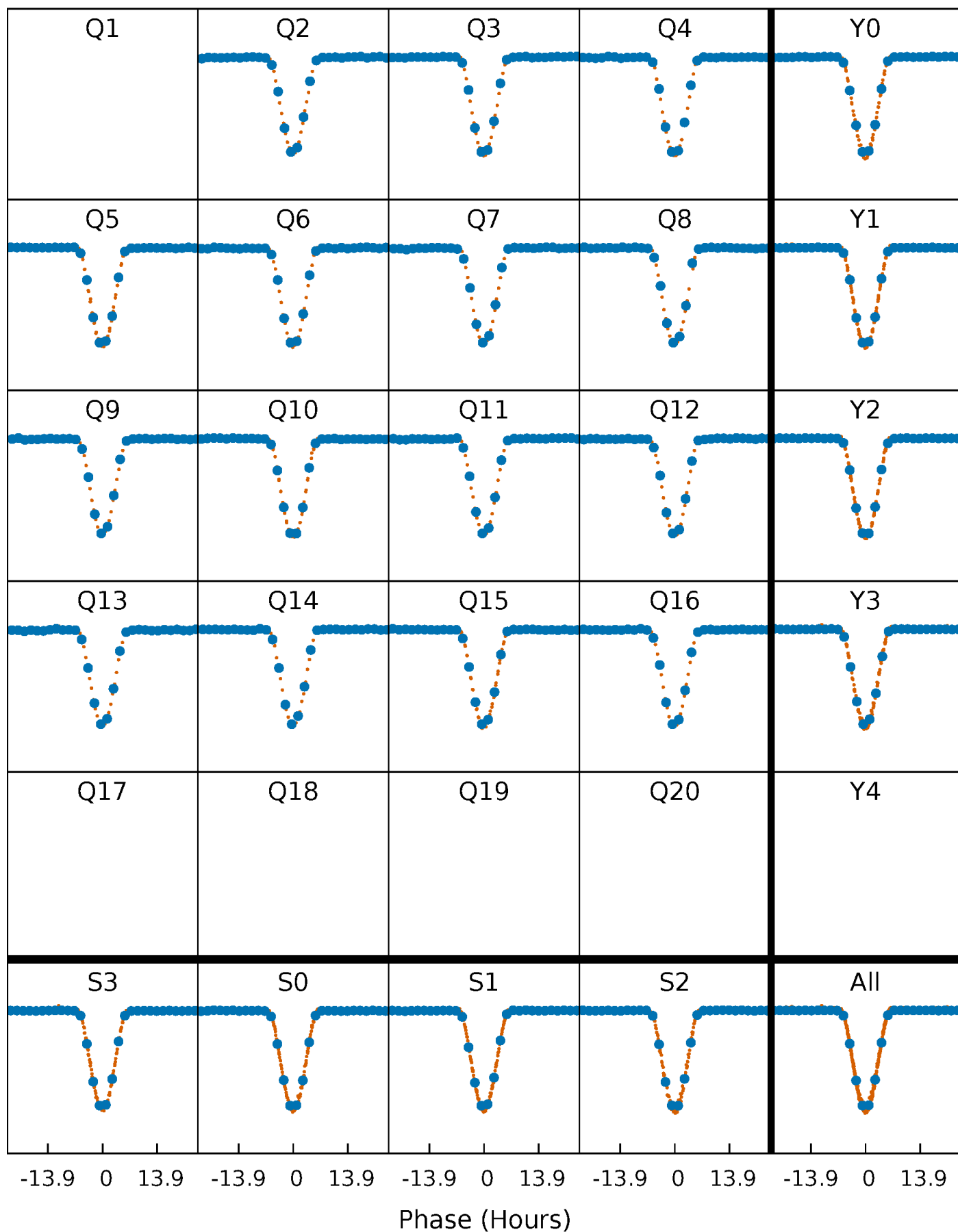


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



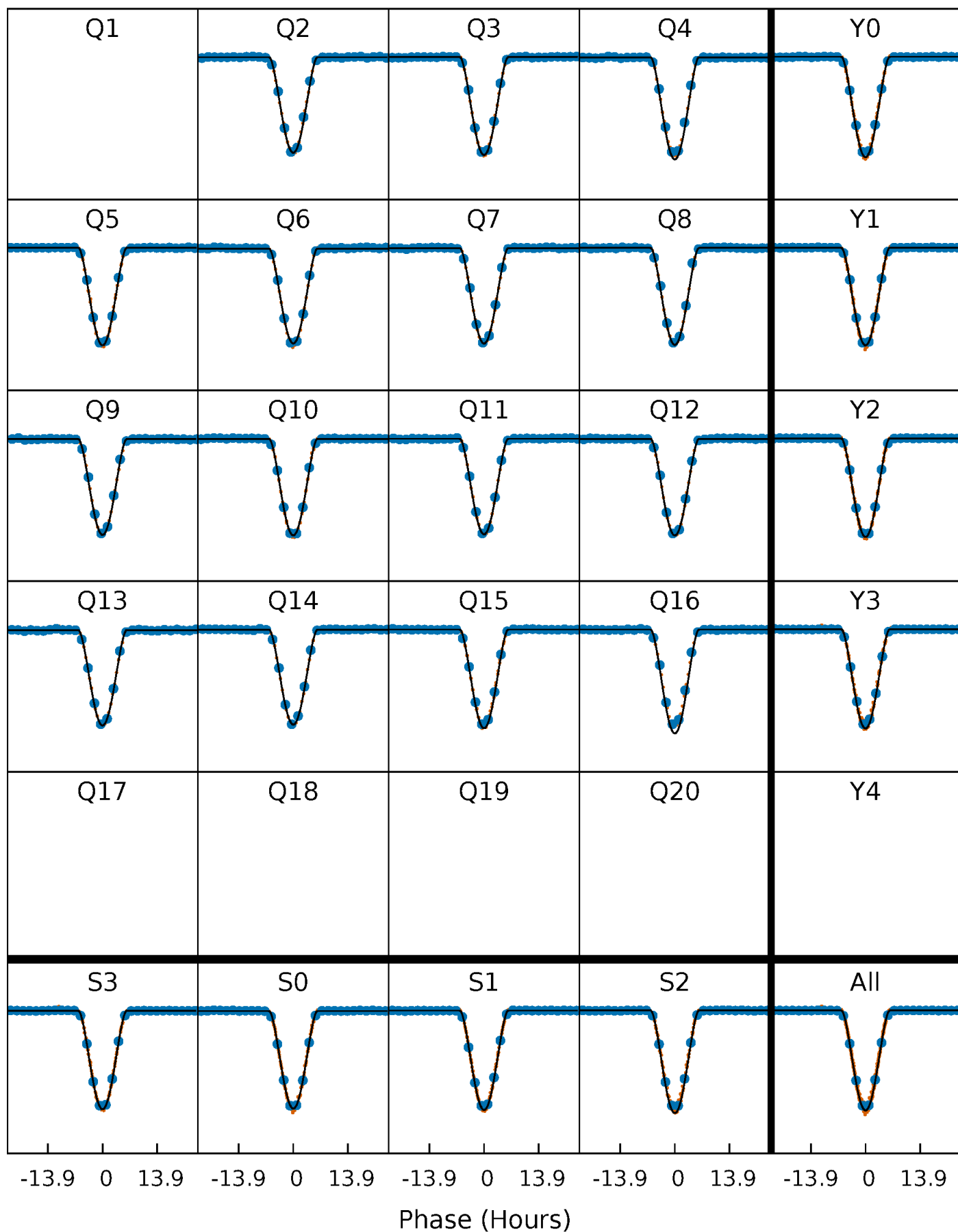
PDC Quarter-Phased Transit Curves

TCE 001995732-01 $P = 77.362454$ Days $T_0 = 139.095527$ (BKJD)



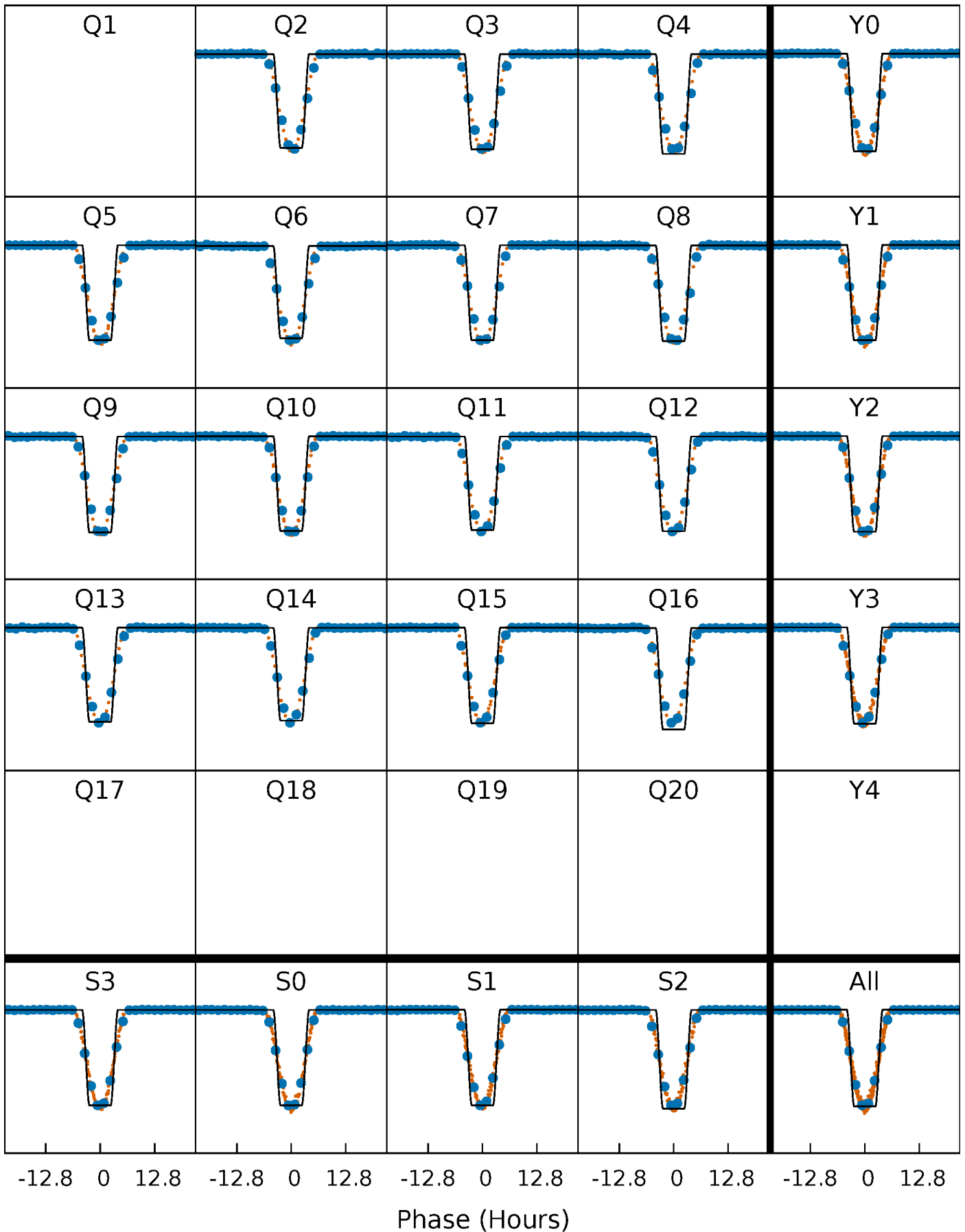
DV Quarter-Phased Transit Curves

TCE 001995732-01 P= 77.362454 Days $T_0=139.095527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

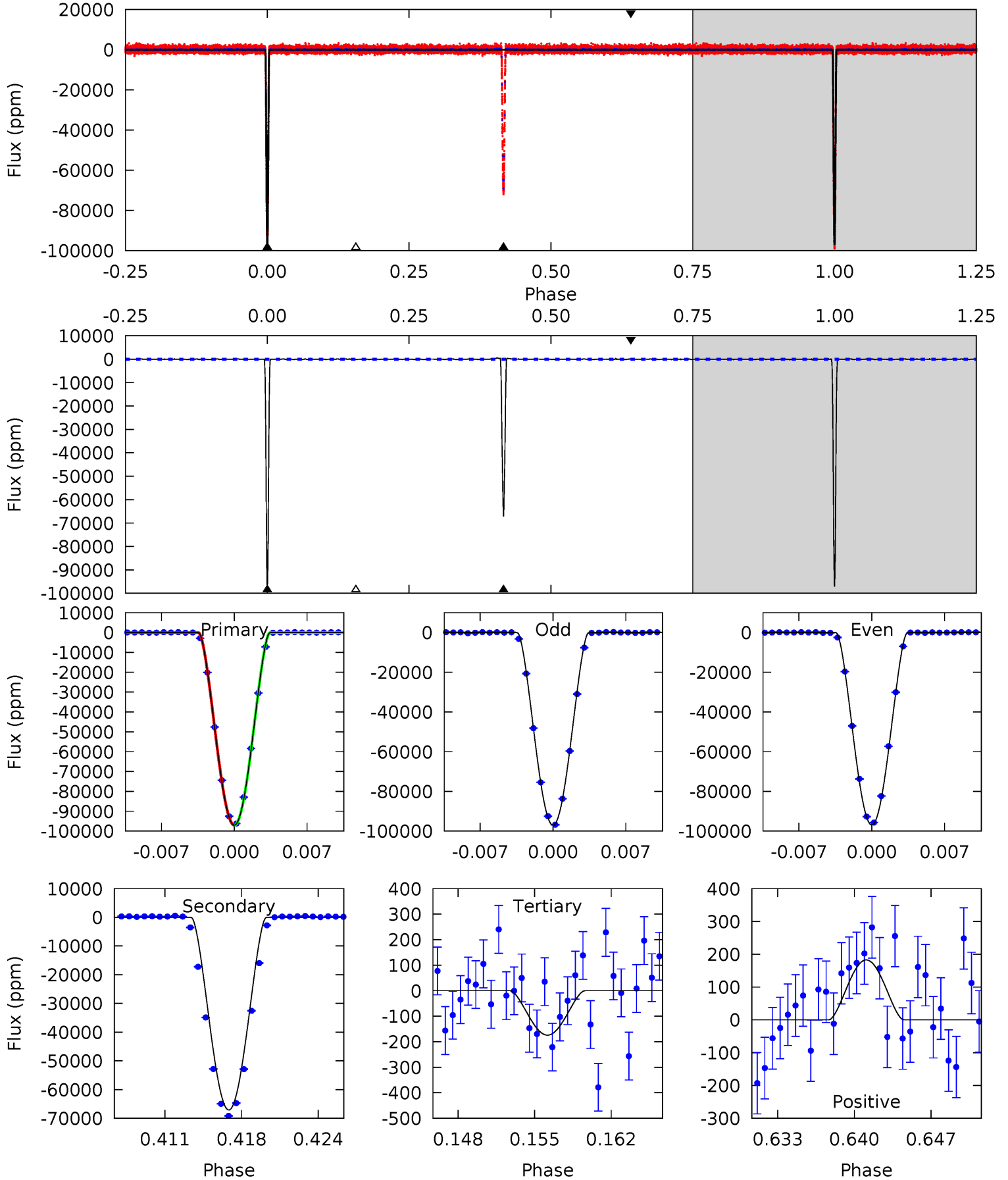
TCE 001995732-01 P= 77.363393 Days $T_0=139.086250$ (BKJD)



DV Model-Shift Uniqueness Test

001995732-01, P = 77.362454 Days, E = 139.095527 Days

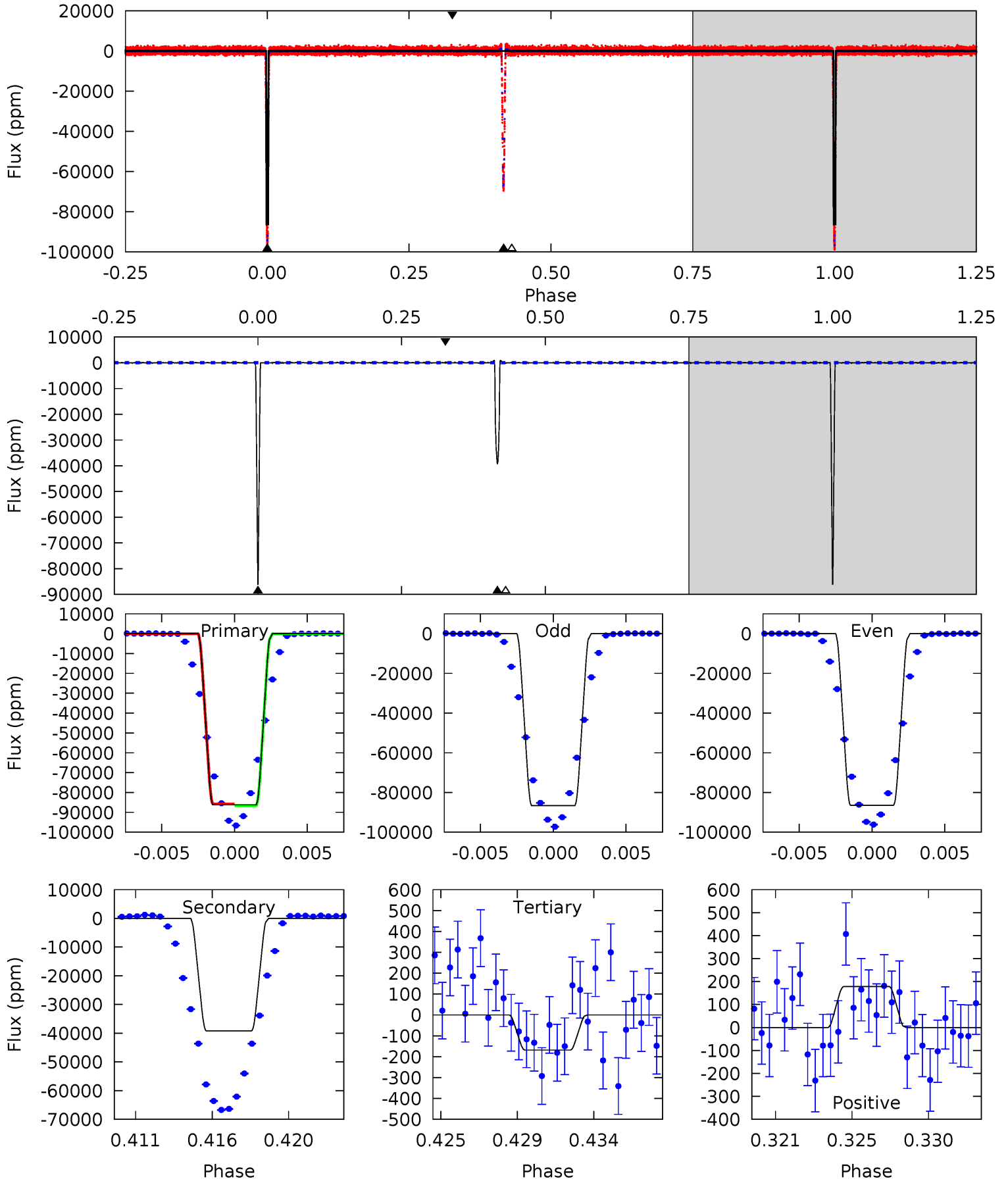
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2820	1951	5.06	5.31	5.10	2.71	2.23	2815	2815	1946	1946	1.81	0.99	0.00	0



Alt Model-Shift Uniqueness Test

001995732-01, P = 77.363393 Days, E = 139.086250 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1797	816.7	3.51	3.71	5.18	2.84	1.83	1794	1794	813.2	813.0	2.21	1.00	0.01	2.30



Stellar Parameters For KIC 001995732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5359^{+159}_{-159}	$4.570^{+0.037}_{-0.112}$	$-0.120^{+0.300}_{-0.300}$	$0.790^{+0.143}_{-0.066}$	$0.848^{+0.087}_{-0.087}$	$2.419^{+0.497}_{-0.855}$
	+3%/-3%	+1%/-2%	+250%/-250%	+18%/-8%	+10%/-10%	+21%/-35%
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 001995732-01 / KOI 3351.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67118 ± 34	$37.24^{+3.95}_{-3.71}$	514^{+21}_{-21}	4443^{+193}_{-161}	3212^{+697}_{-570}
Alt.	-39193 ± 48	$27.17^{+3.93}_{-3.53}$	514^{+23}_{-19}	4513^{+245}_{-240}	3426^{+1024}_{-811}

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 $A_{obs} \gg 1.0$

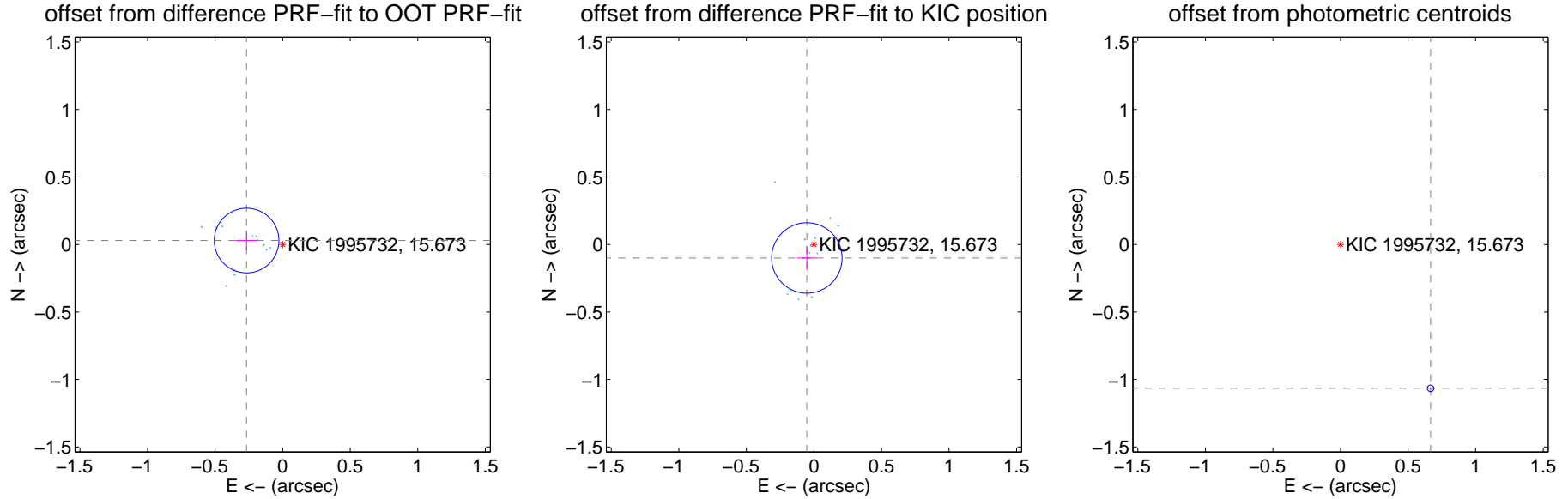
DV Centroid Data

Supplemental centroid analysis for 001995732-01. Kepler magnitude: 15.67. Transit SNR 1237.71

There are 15 quarters with good PRF difference image offsets

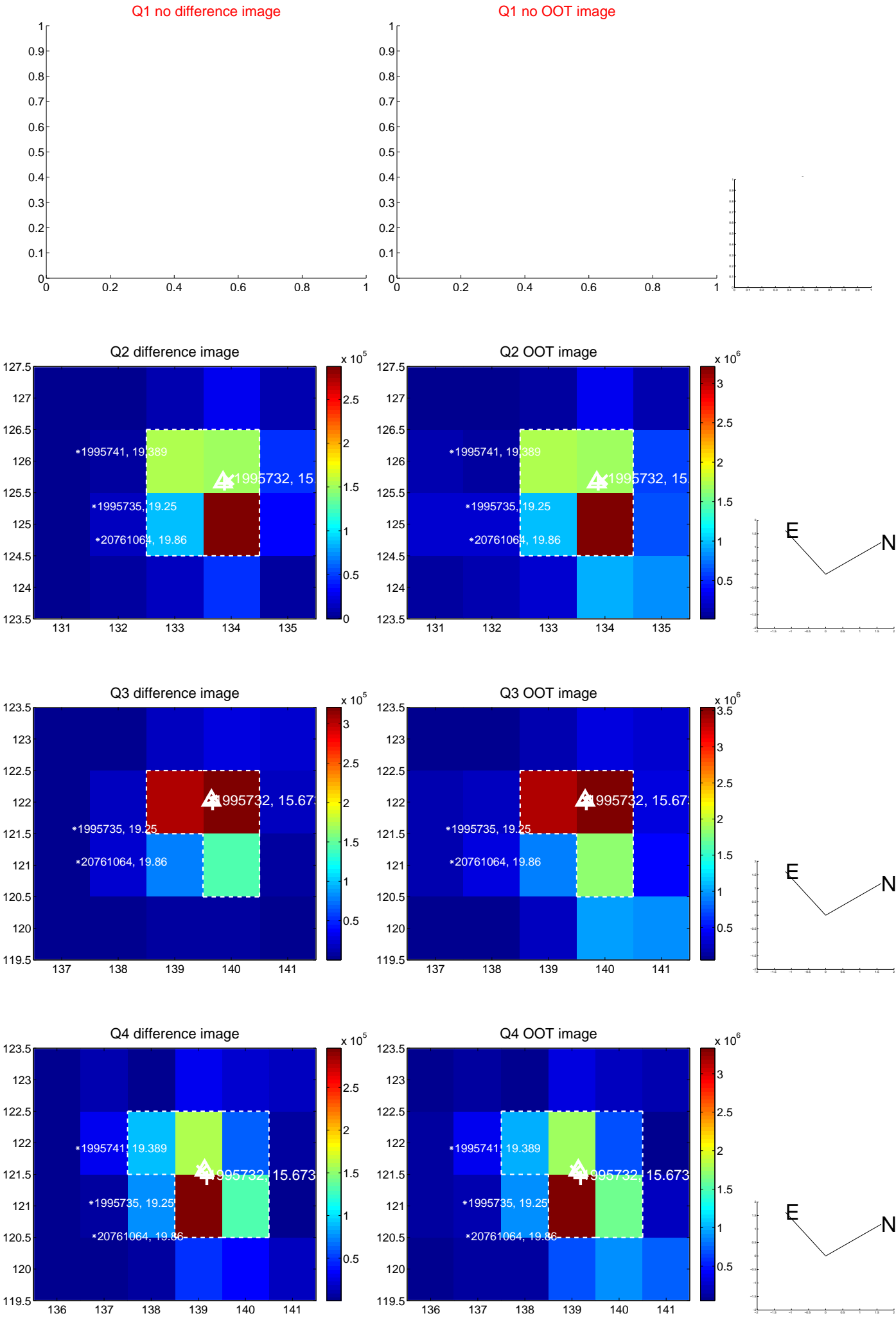
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.269 ± 0.080	3.37	0.267 ± 0.079	0.029 ± 0.074
PRF-fit source offset from KIC position	0.113 ± 0.087	1.30	0.052 ± 0.073	-0.100 ± 0.090
photometric centroid source offset	1.26 ± 0.01	156.75	-0.67 ± 0.01	-1.07 ± 0.01

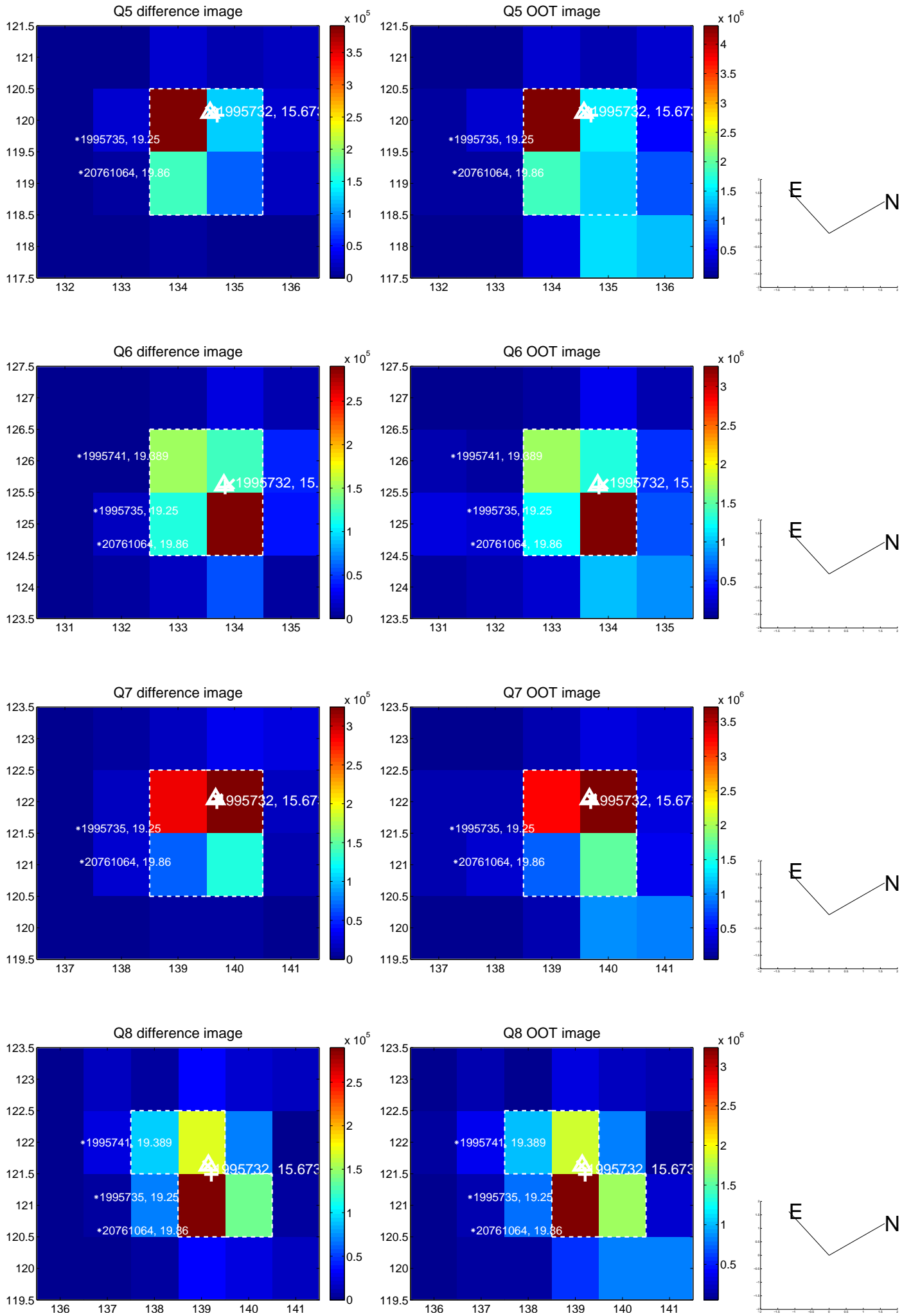


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

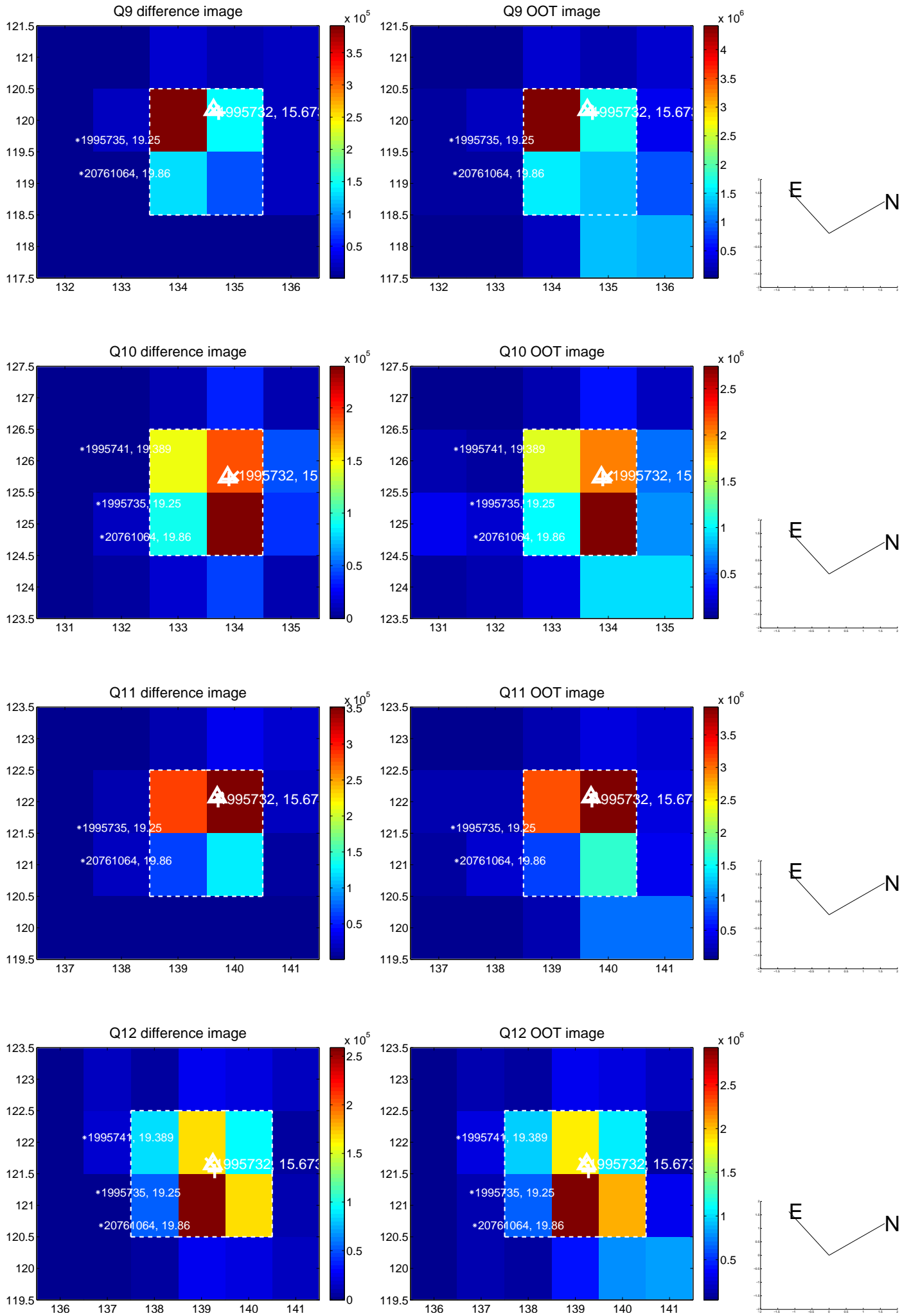
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



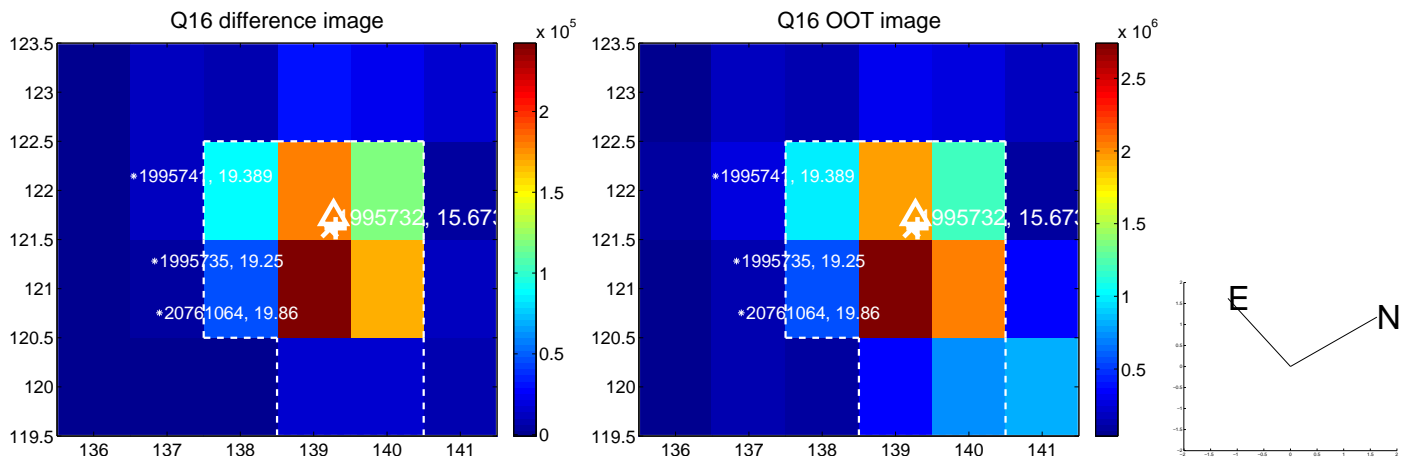
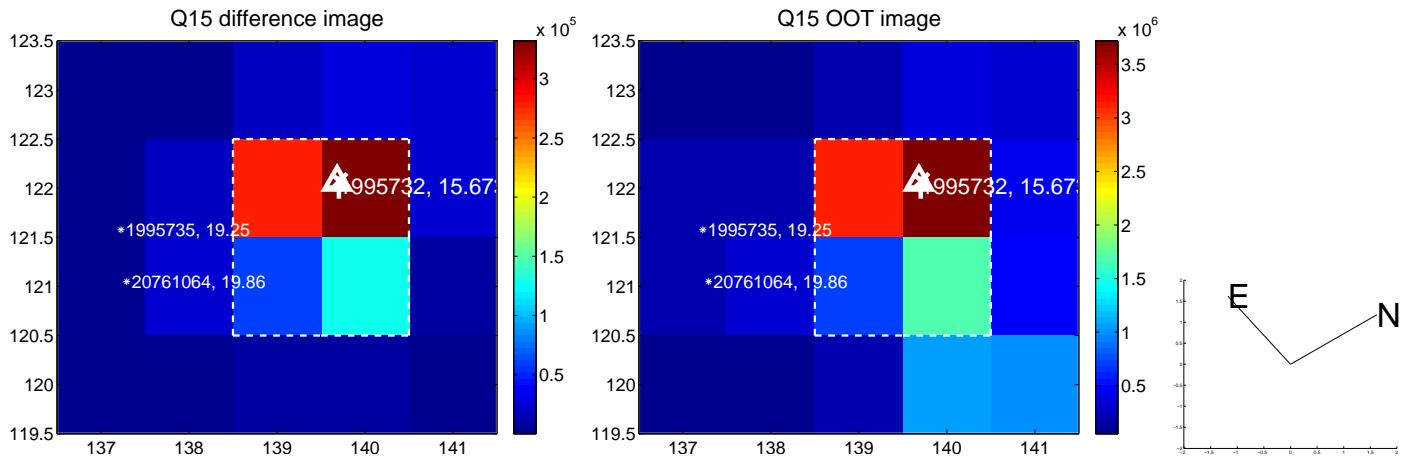
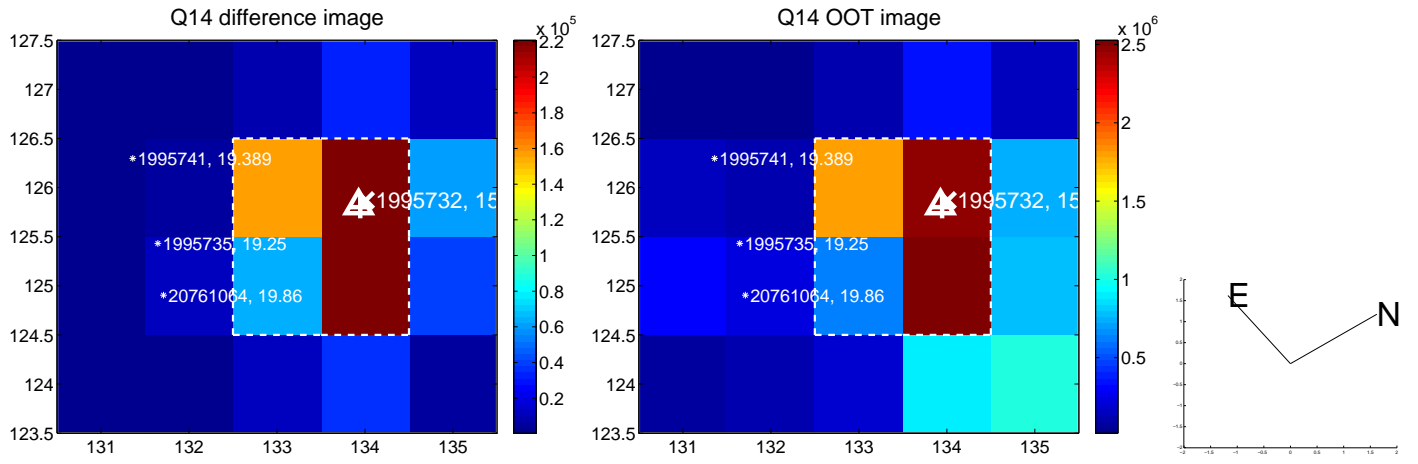
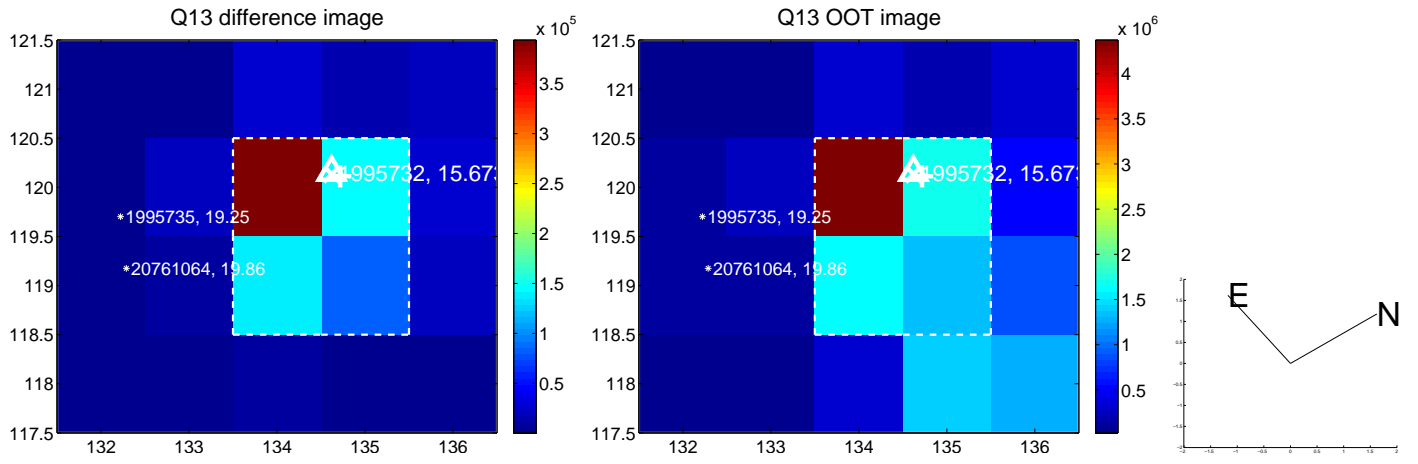
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



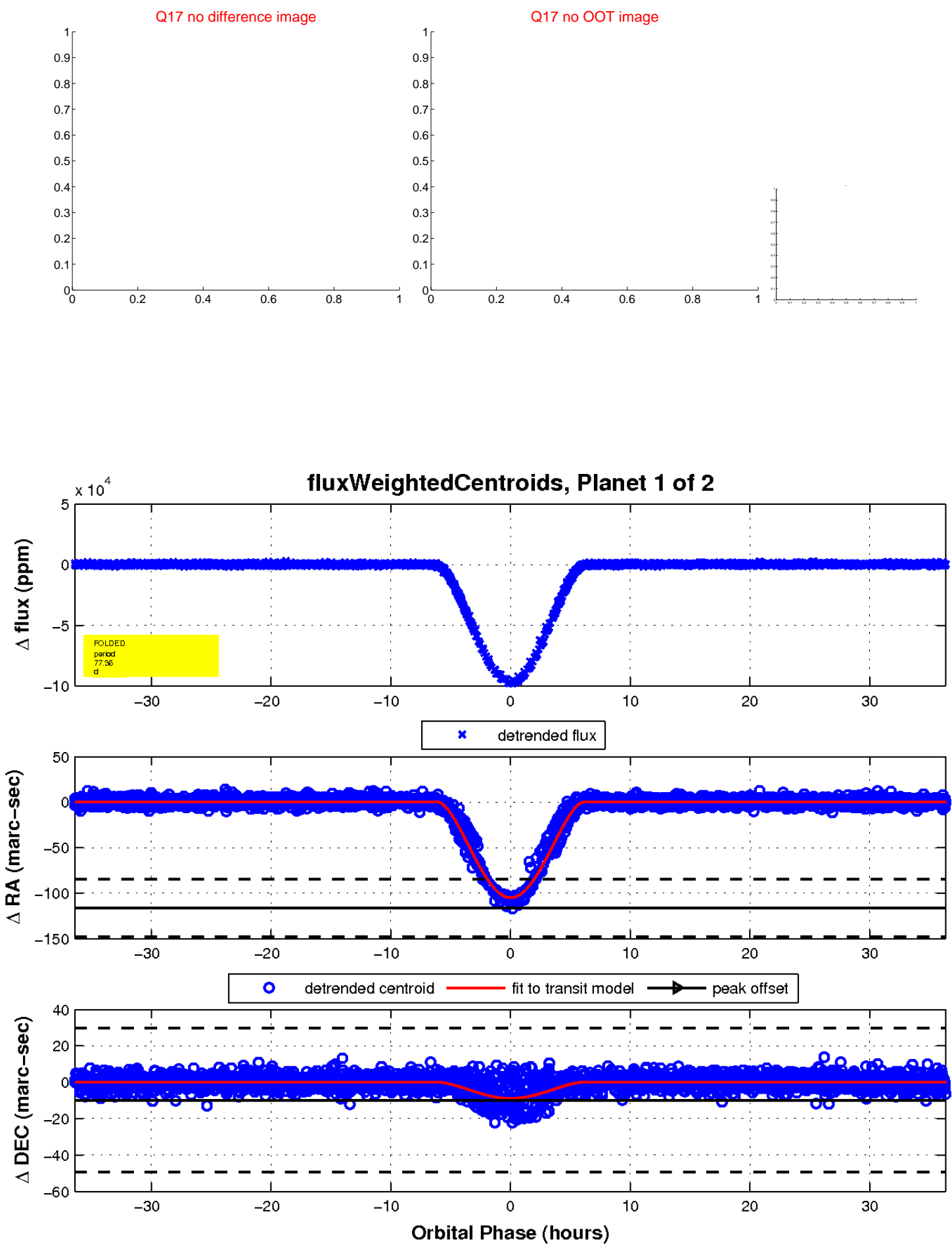
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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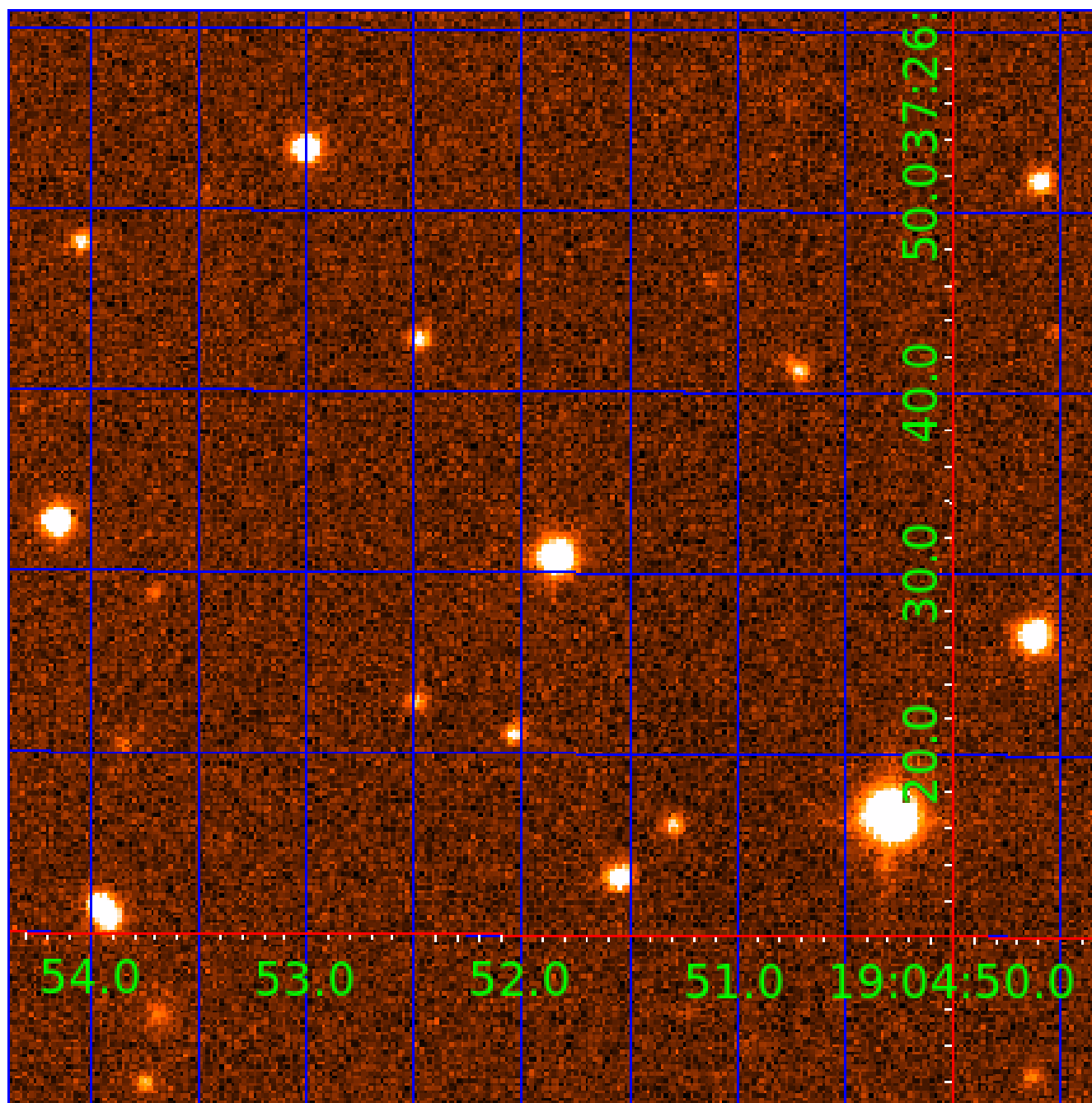


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001995732

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})
001995732-01	OBS	3351.01	77.362454	139.095527	97178.0	12.124	1495.9	1237.7	0.79	5359	36.40	4.08
001995732-02	OBS	No	77.360932	171.322467	69440.4	13.605	1055.7	943.1	0.79	5359	31.70	4.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001995732-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
001995732-02	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 001995732-02

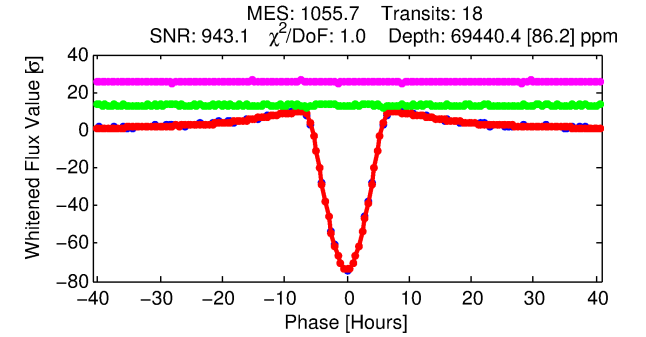
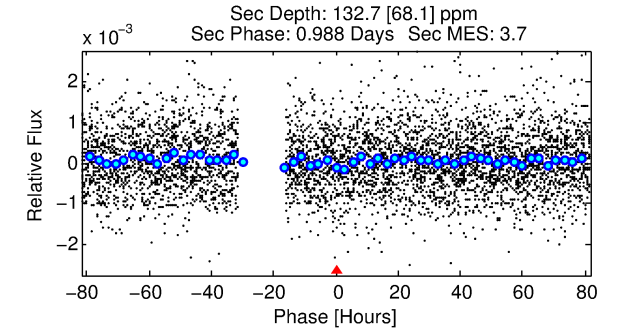
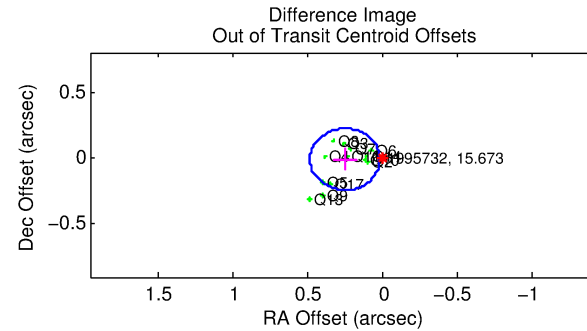
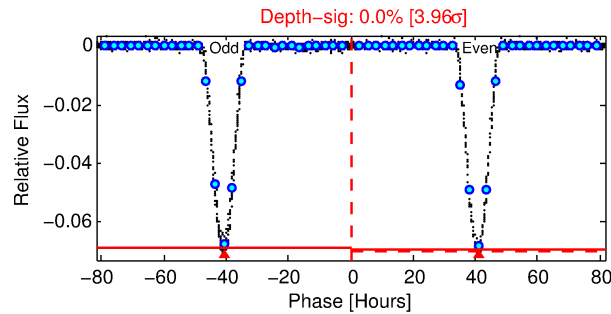
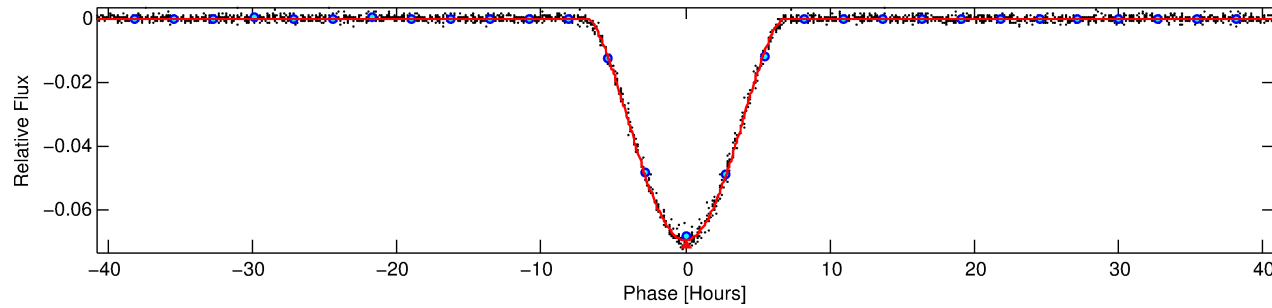
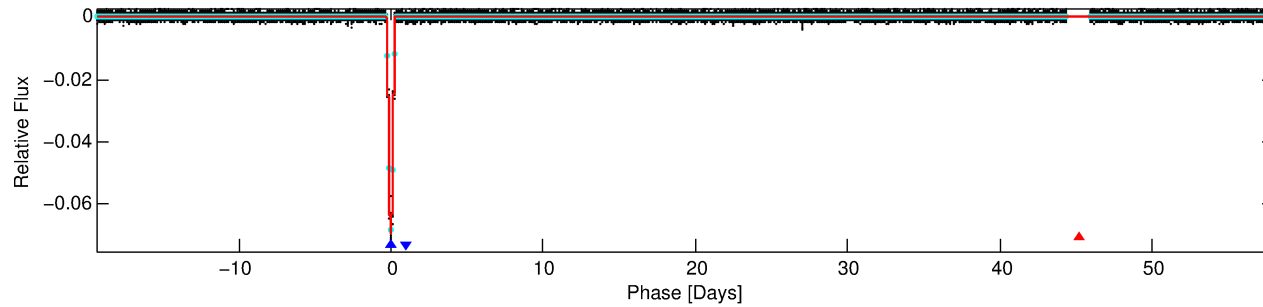
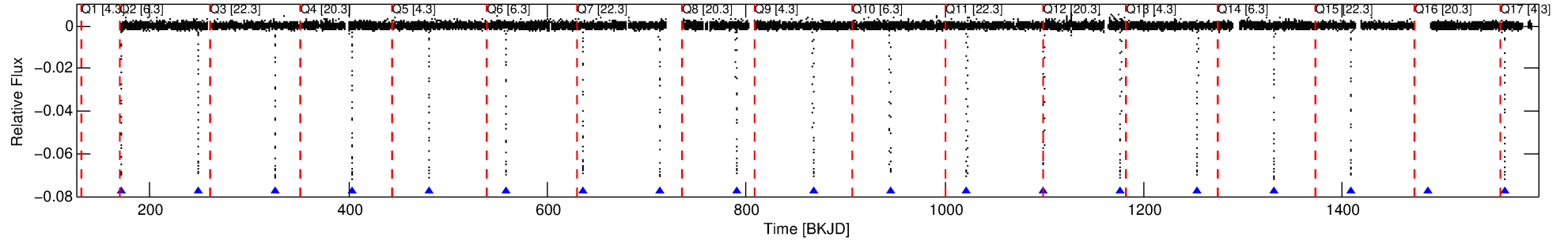
No Significant Match Found

DV One-Page Summary

KIC: 1995732 Candidate: 2 of 2 Period: 77.361 d

KOI: K03351 Corr: No Ephemeris Match

Kp: 15.67 R*: 0.79 Rs Teff: 5359.0 K Logg: 4.57 Fe/H: -0.120



DV Fit Results:

Period = 77.36093 [0.00003] d
Epoch = 171.3225 [0.0003] BKJD
Rp/R* = 0.3677 [0.0282]
a/R* = 43.43 [0.06]
b = 0.93 [0.04]
Seff = 4.08 [0.98]
Teq = 362 [22] K
Rp = 31.70 [6.23] Re
a = 0.3361 [0.0498] AU
Ag = 8.21 [4.72] [1.53σ]
Teffp = 949 [130] K [4.44σ]

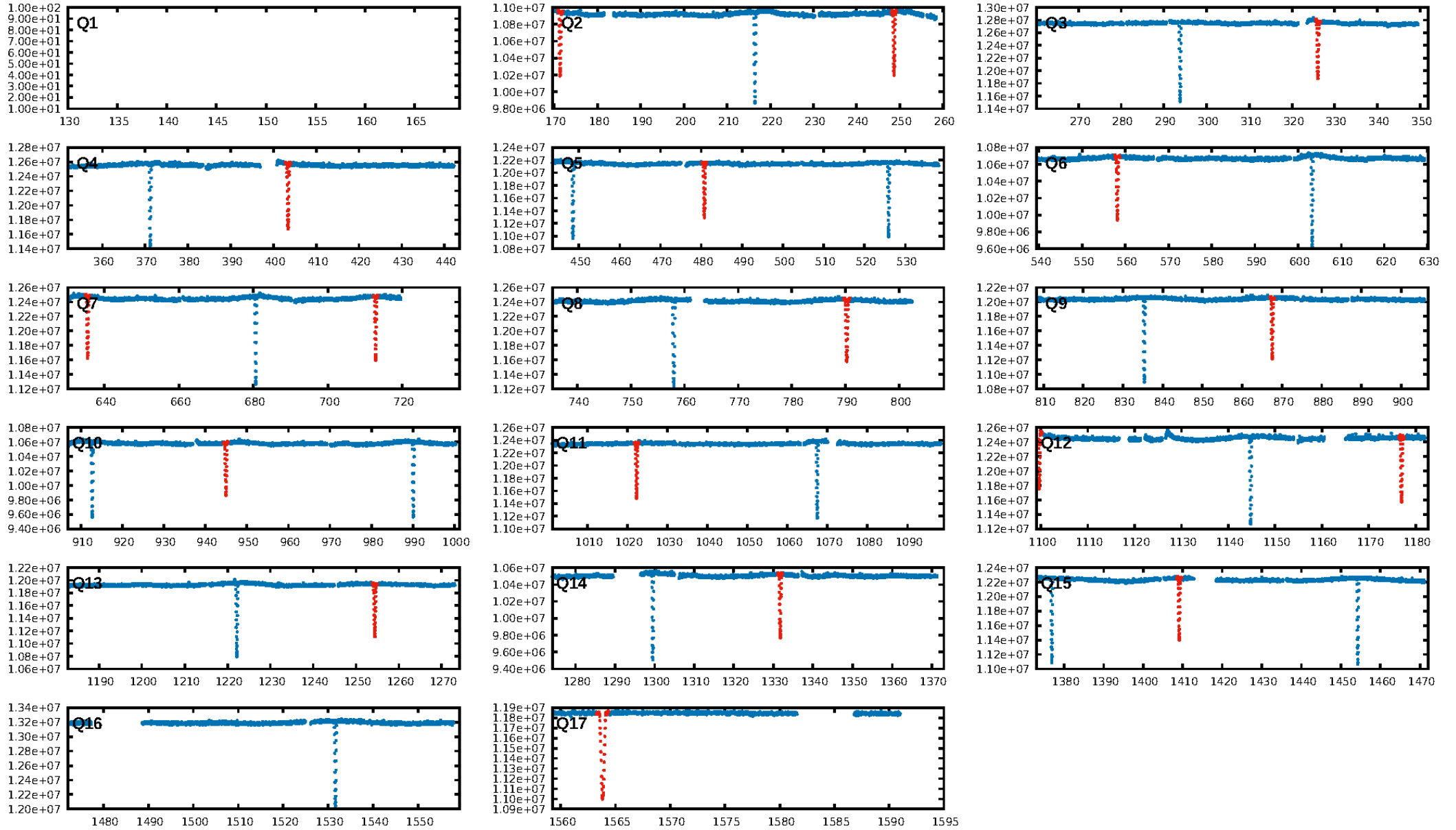
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: 7.675
Centroid-sig: 0.0%
Centroid-so: 1.277 arcsec [118.88σ]
OOTOffset-rm: 0.247 arcsec [3.17σ]
OOTOffset-st: 4/3/2/4 [13]
KICOffset-rm: 0.123 arcsec [1.50σ]
KICOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

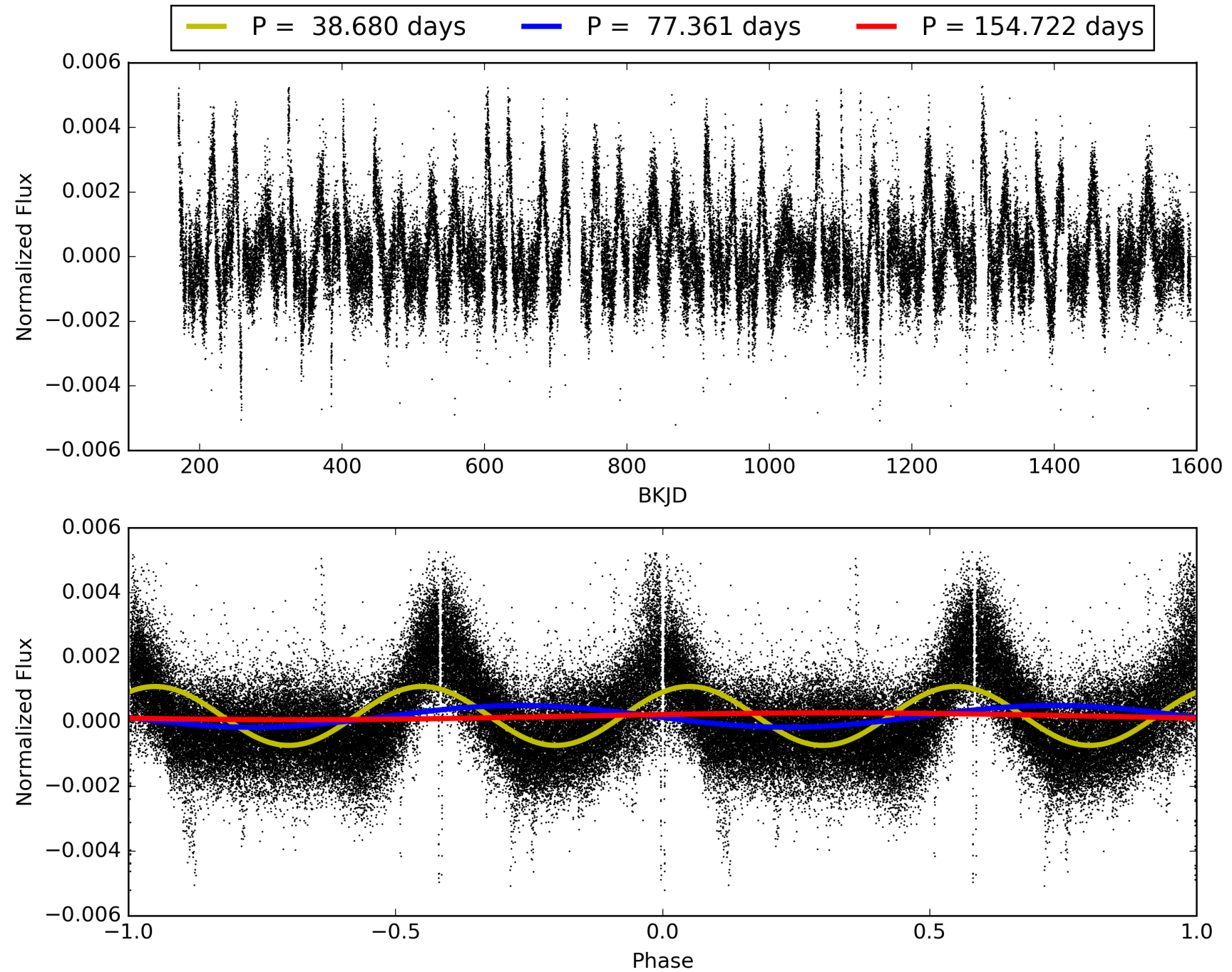
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:18:02 Z

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

TCE 001995732-02, PDC Light Curves

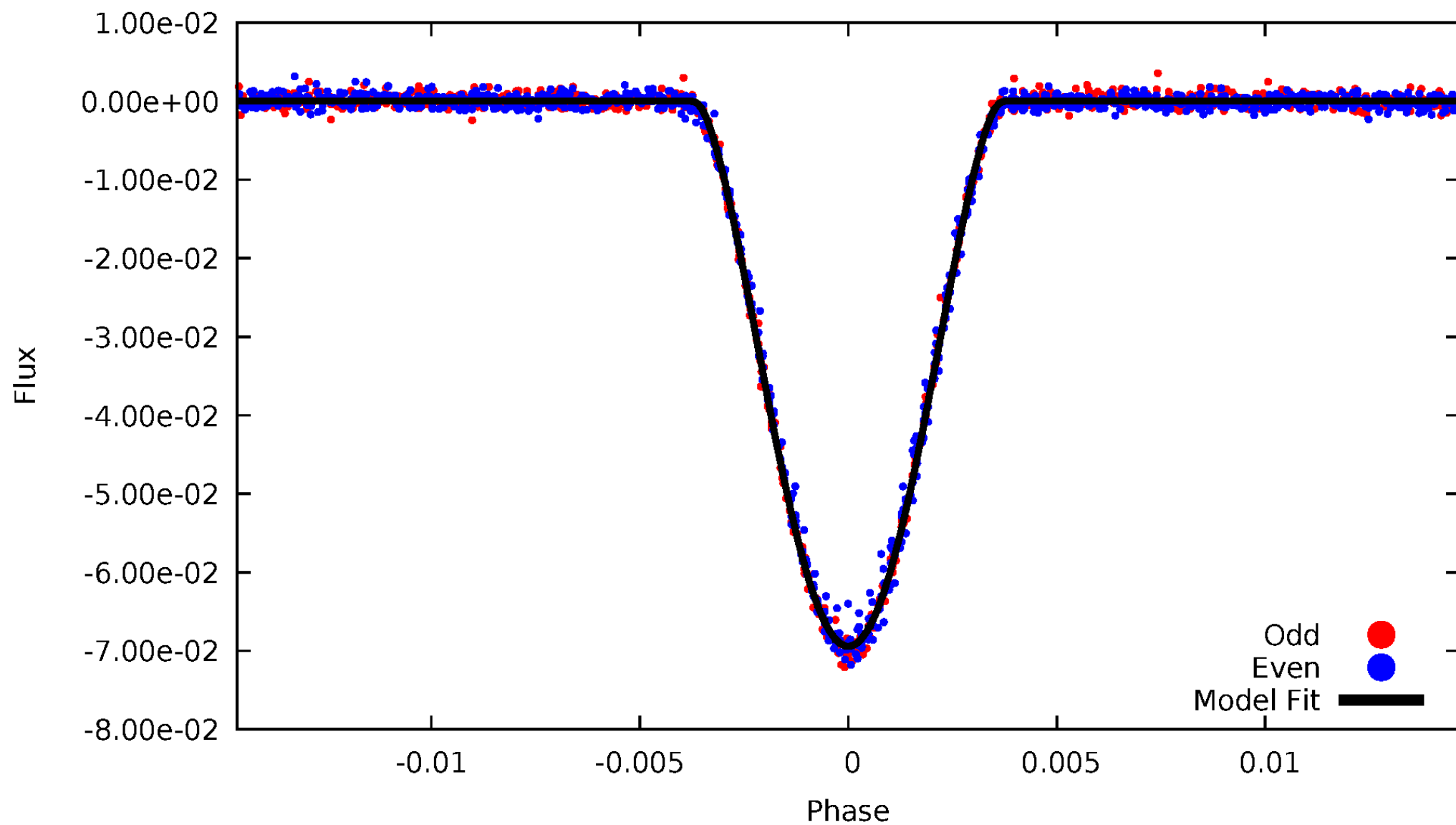


TCE 001995732-02



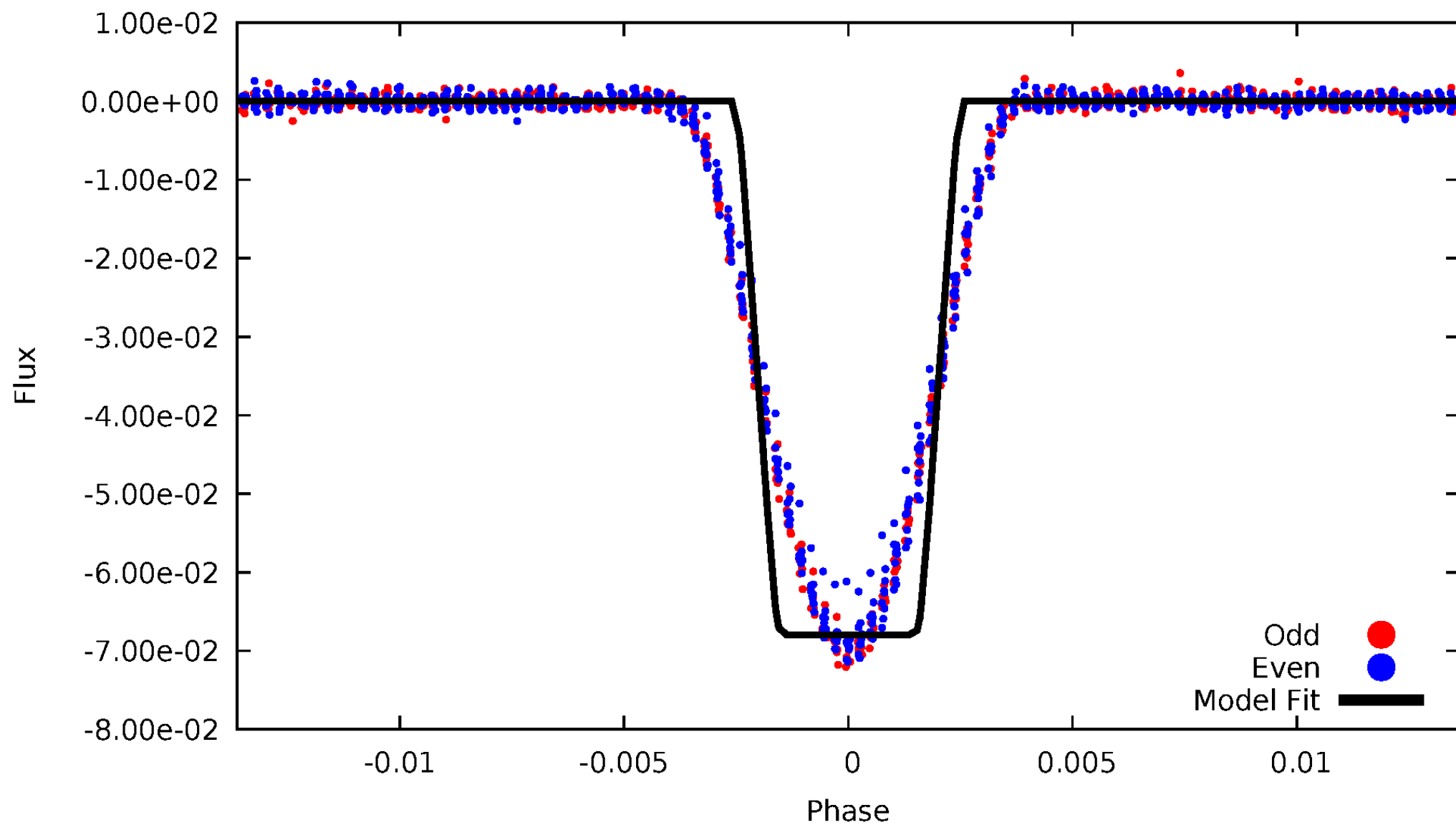
DV Odd/Even

TCE 001995732-02



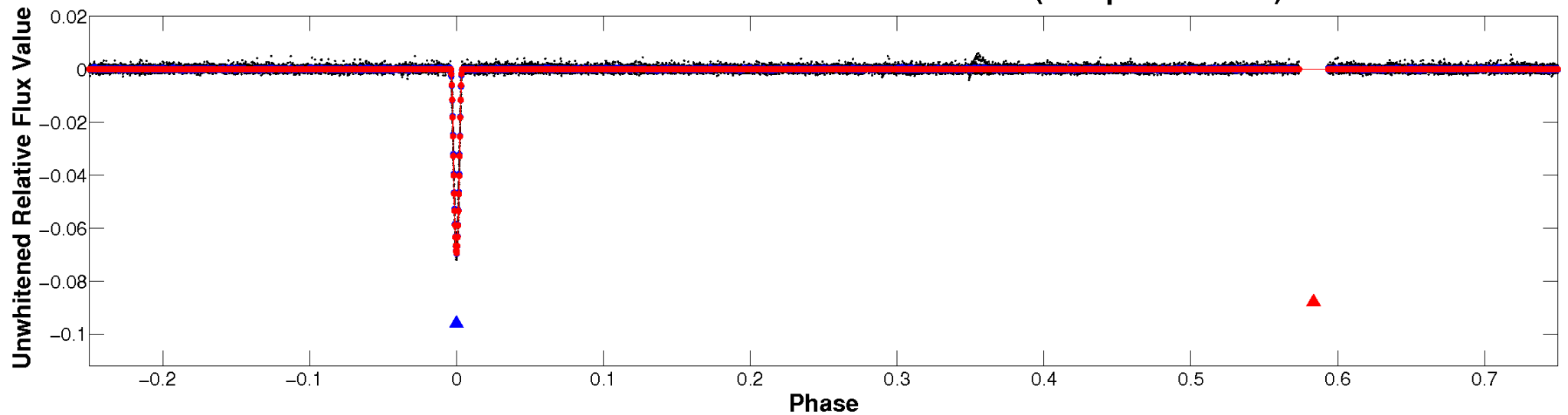
ALT Odd/Even

TCE 001995732-02

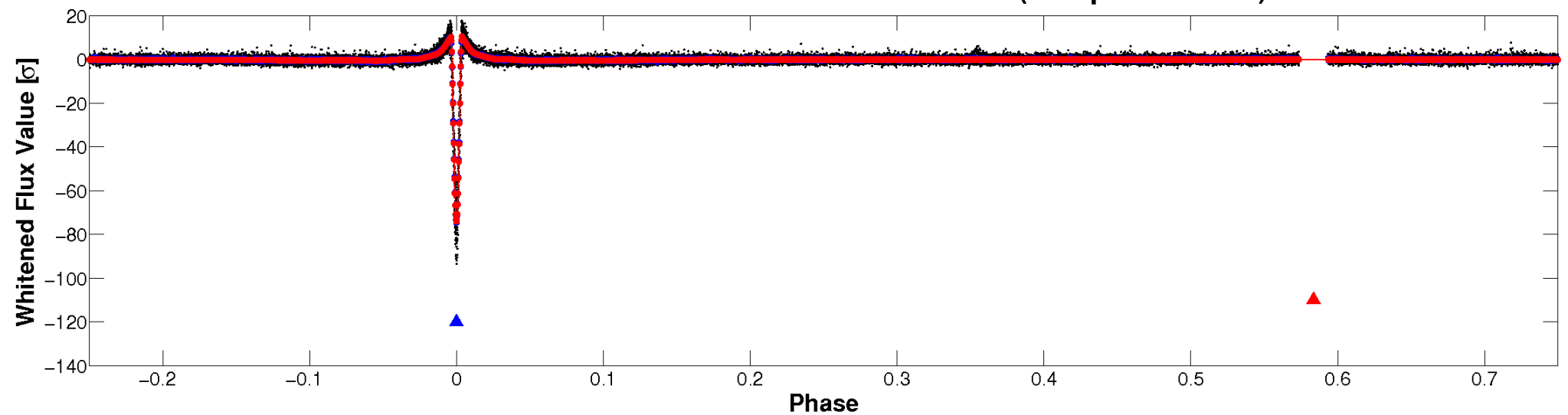


Non-Whitened Vs. Whitened Light Curve

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

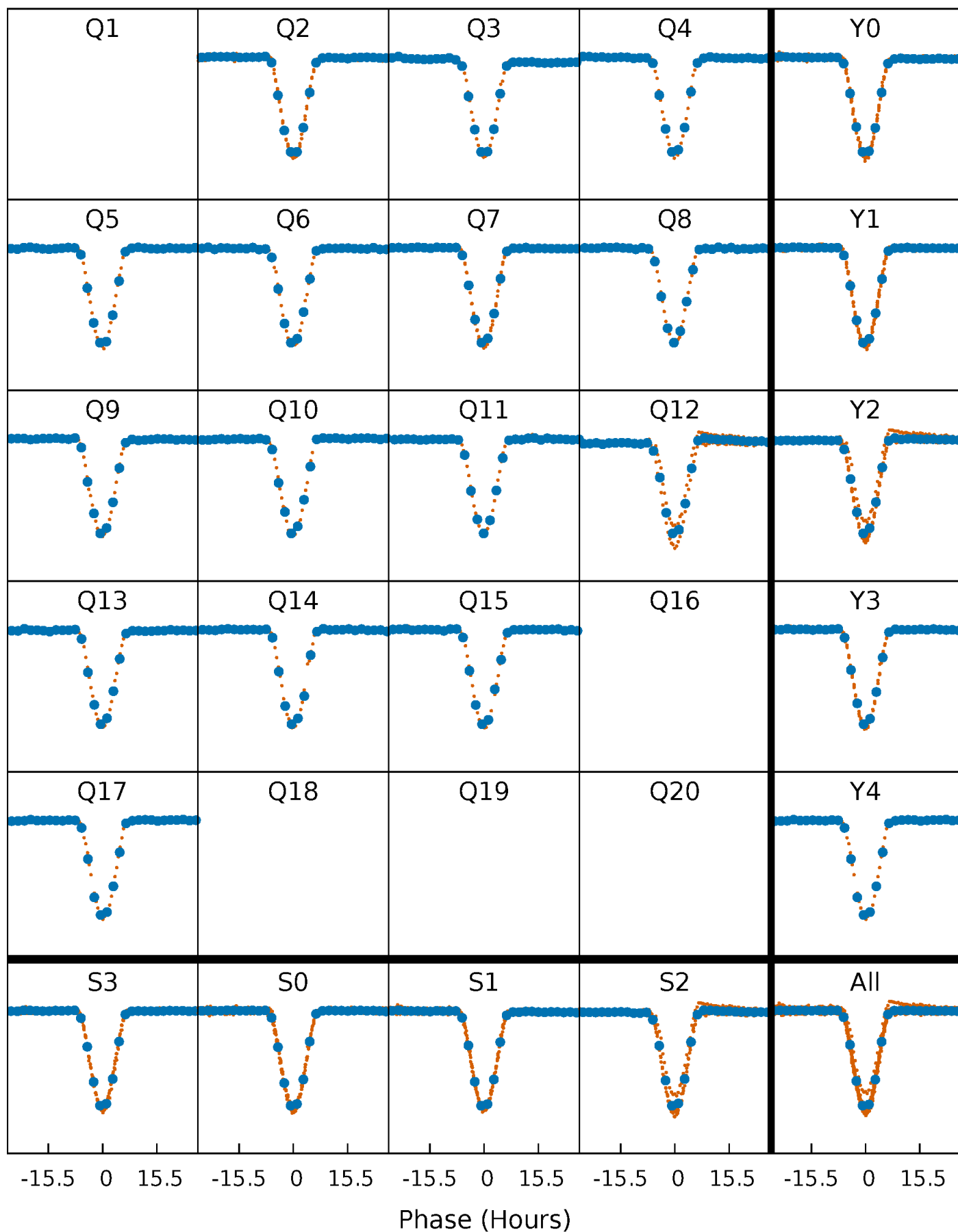


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



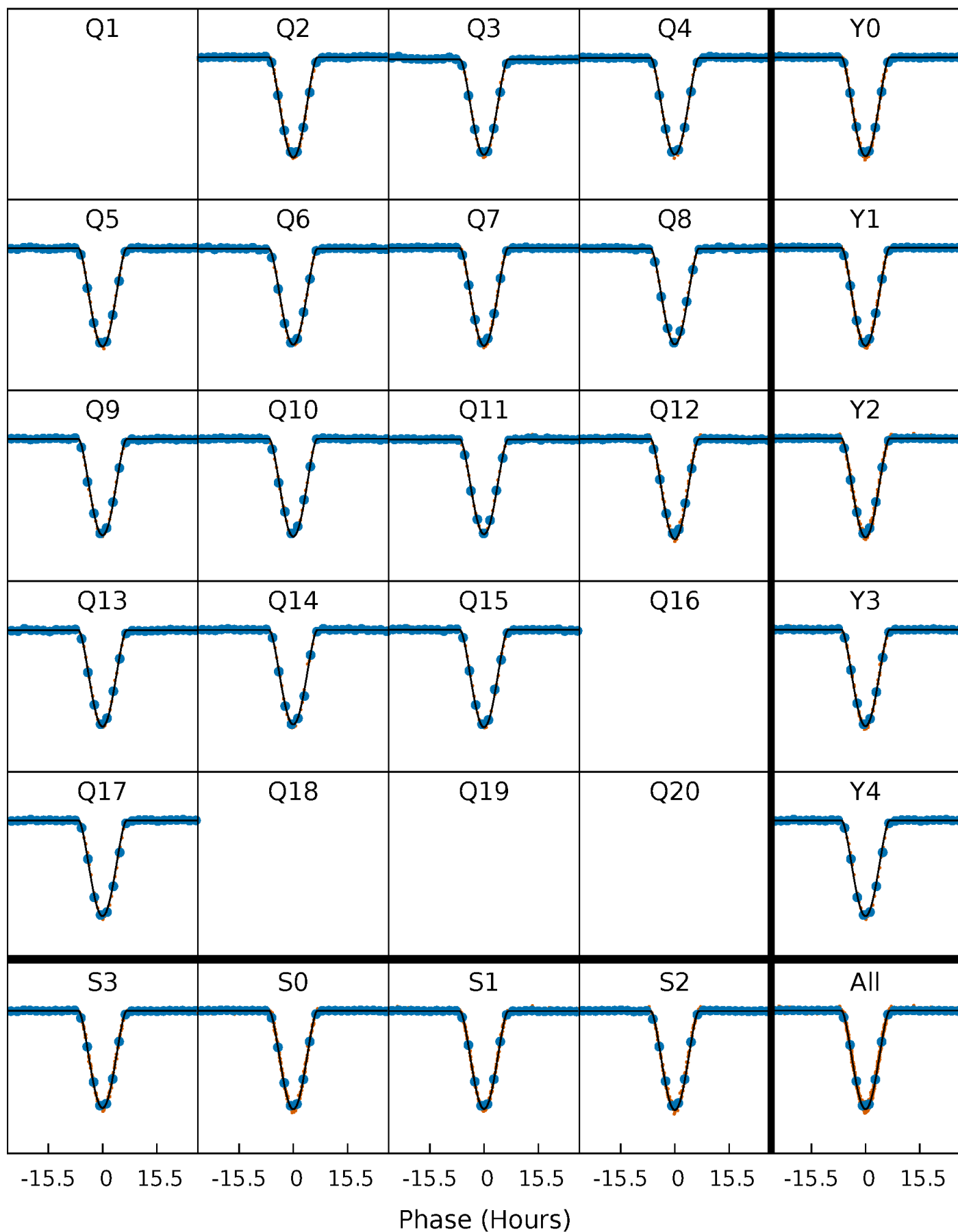
PDC Quarter-Phased Transit Curves

TCE 001995732-02 $P = 77.360932$ Days $T_0 = 171.322467$ (BKJD)



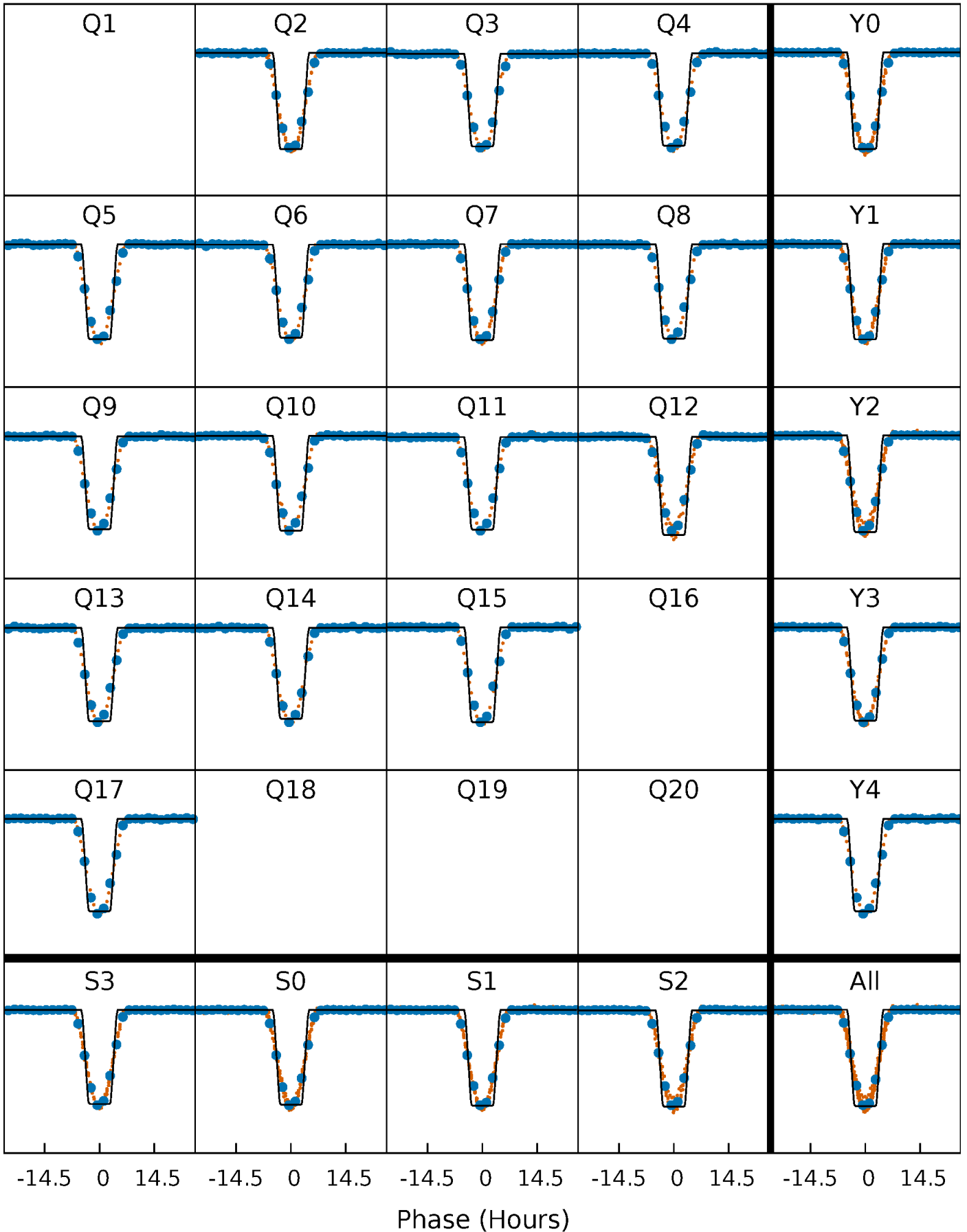
DV Quarter-Phased Transit Curves

TCE 001995732-02 P= 77.360932 Days $T_0=171.322467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

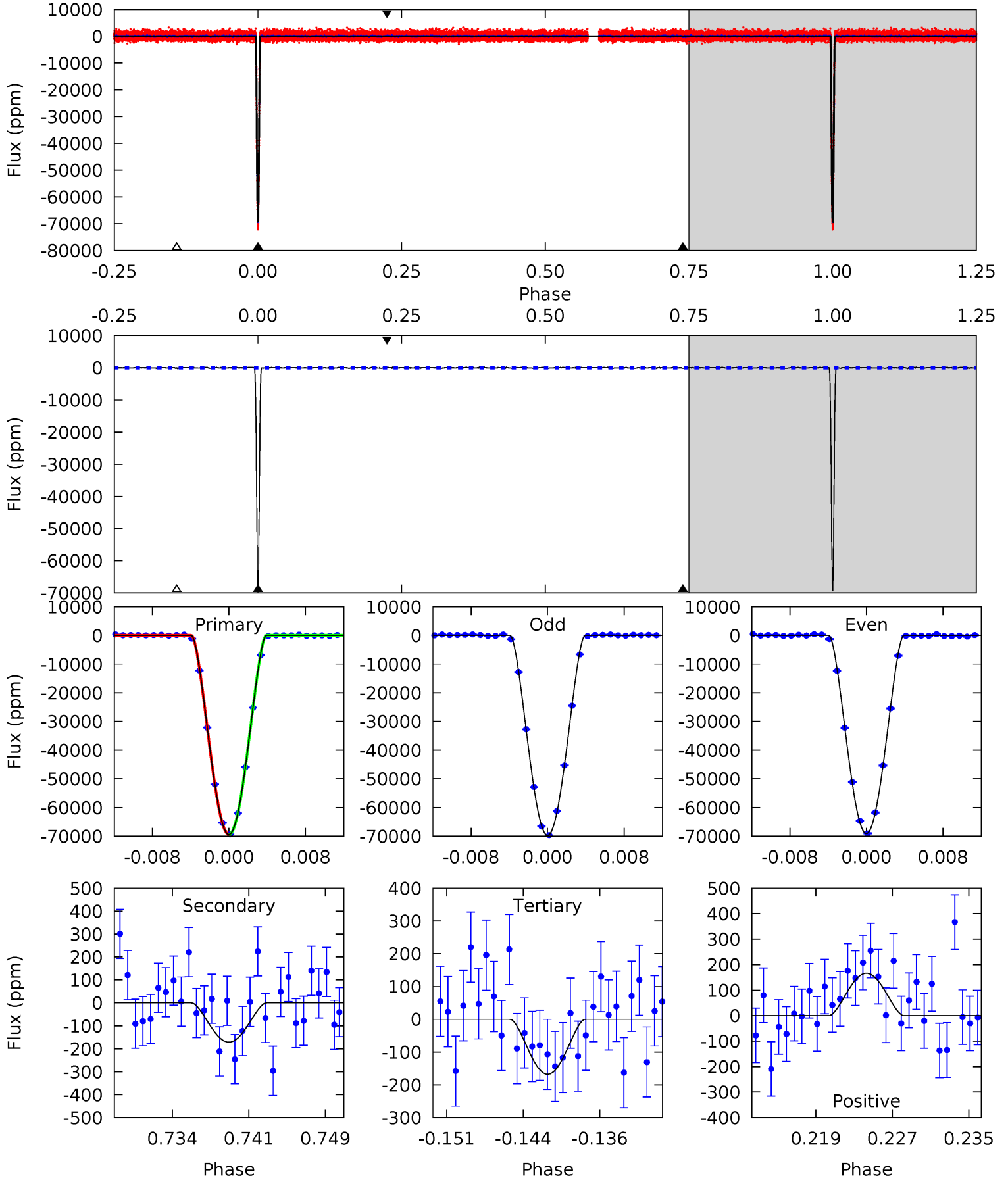
TCE 001995732-02 P= 77.361488 Days $T_0=171.318035$ (BKJD)



DV Model-Shift Uniqueness Test

001995732-02, P = 77.360932 Days, E = 93.961535 Days

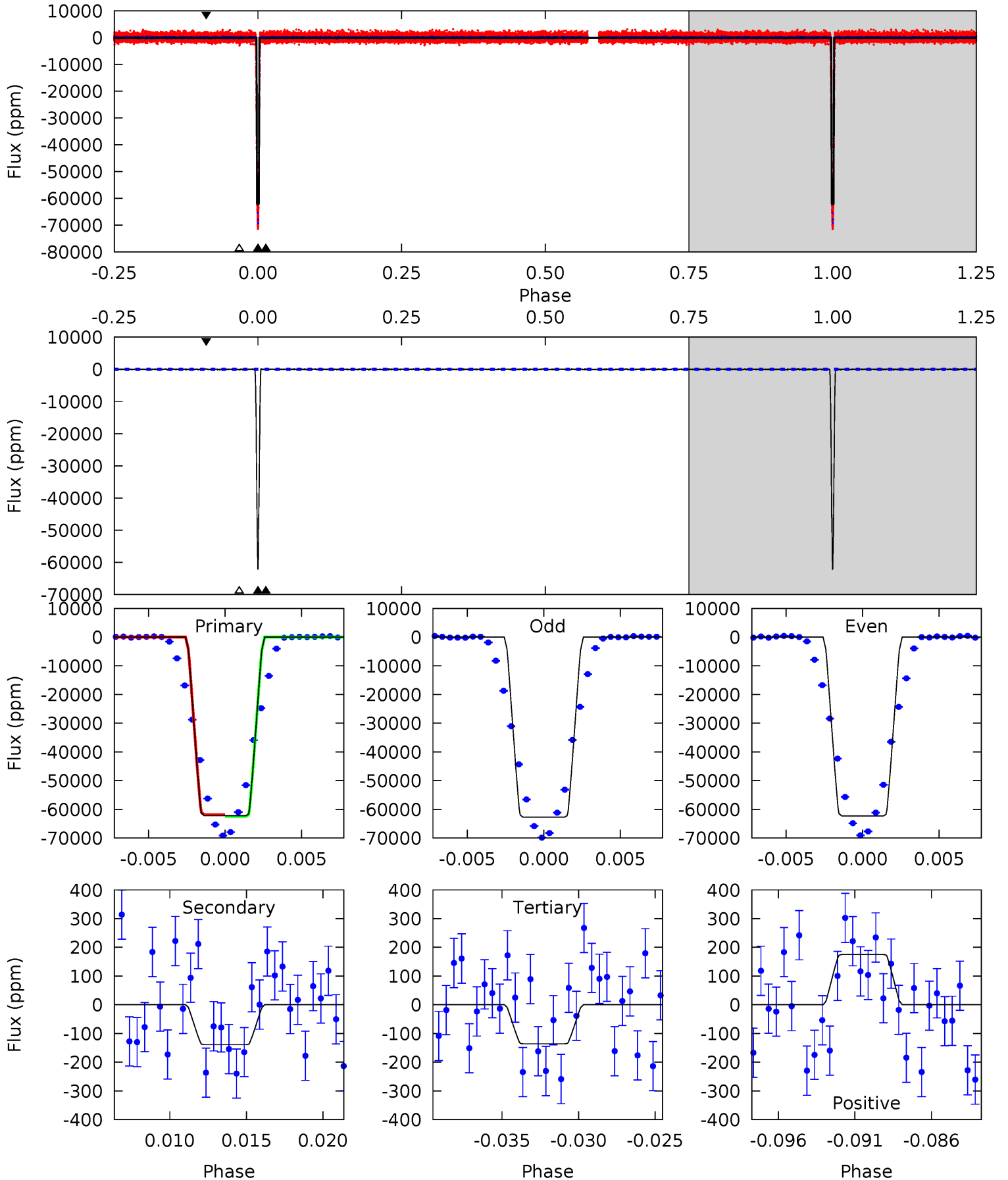
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2139	5.28	5.17	5.12	5.08	2.67	1.85	2134	2134	0.11	0.16	10.1	0.99	0.00	1.77



Alt Model-Shift Uniqueness Test

001995732-02, P = 77.361488 Days, E = 93.956547 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1487	3.32	3.25	4.18	5.16	2.81	1.04	1484	1483	0.07	-0.86	5.27	0.99	0.00	6.68



Stellar Parameters For KIC 001995732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5359^{+159}_{-159}	$4.570^{+0.037}_{-0.112}$	$-0.120^{+0.300}_{-0.300}$	$0.790^{+0.143}_{-0.066}$	$0.848^{+0.087}_{-0.087}$	$2.419^{+0.497}_{-0.855}$
	+3%/-3%	+1%/-2%	+250%/-250%	+18%/-8%	+10%/-10%	+21%/-35%
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 001995732-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-171 ± 32	$32.54^{+3.97}_{-3.22}$	513^{+26}_{-20}	2000^{+56}_{-65}	$9.875^{+3.098}_{-2.612}$
Alt.	-139 ± 42	$22.96^{+3.11}_{-2.86}$	514^{+23}_{-20}	2105^{+93}_{-93}	16^{+8}_{-5}

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 $A_{obs} \gg 1.0$

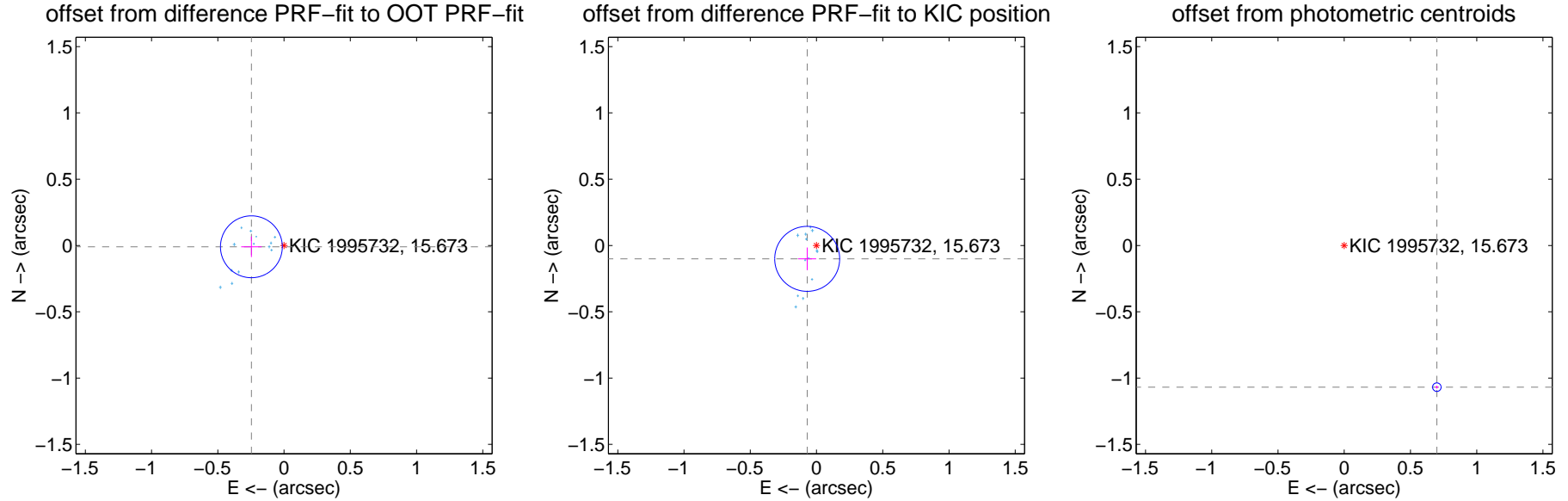
DV Centroid Data

Supplemental centroid analysis for 001995732-02. Kepler magnitude: 15.67. Transit SNR 943.14

There are 13 quarters with good PRF difference image offsets

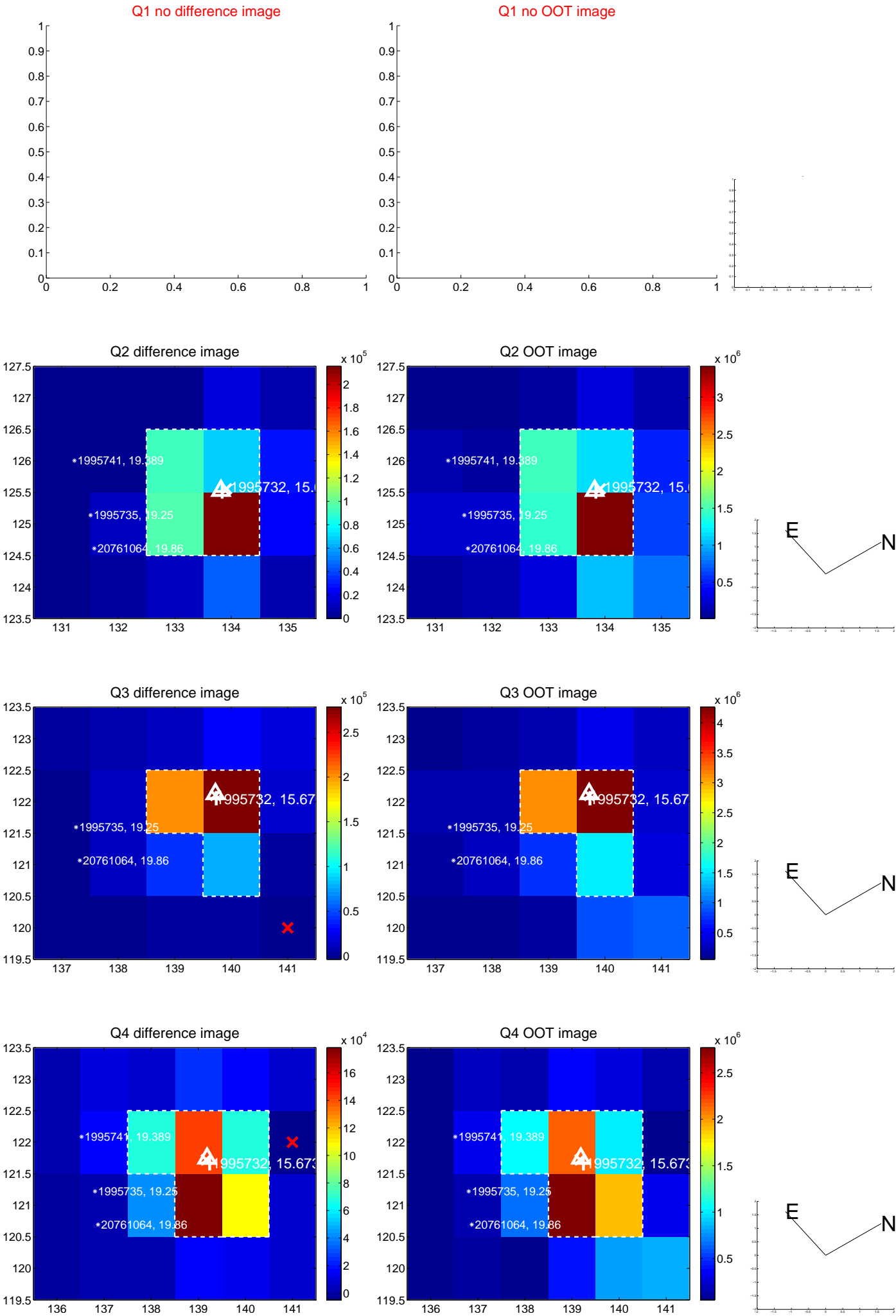
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.247 ± 0.078	3.17	0.247 ± 0.077	-0.010 ± 0.077
PRF-fit source offset from KIC position	0.123 ± 0.082	1.50	0.070 ± 0.068	-0.101 ± 0.085
photometric centroid source offset	1.28 ± 0.01	118.88	-0.70 ± 0.01	-1.07 ± 0.01

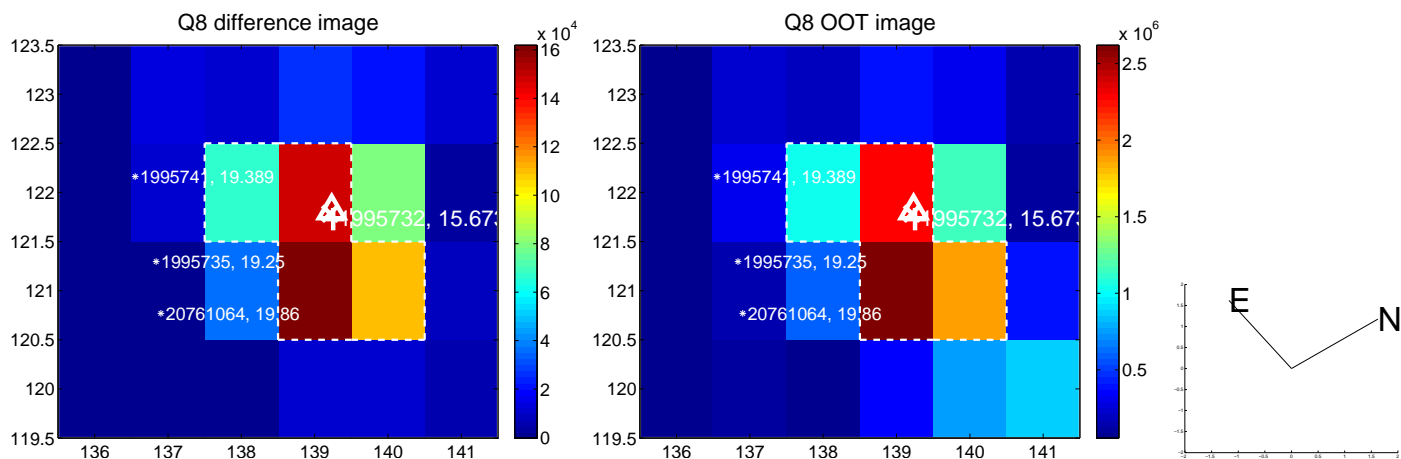
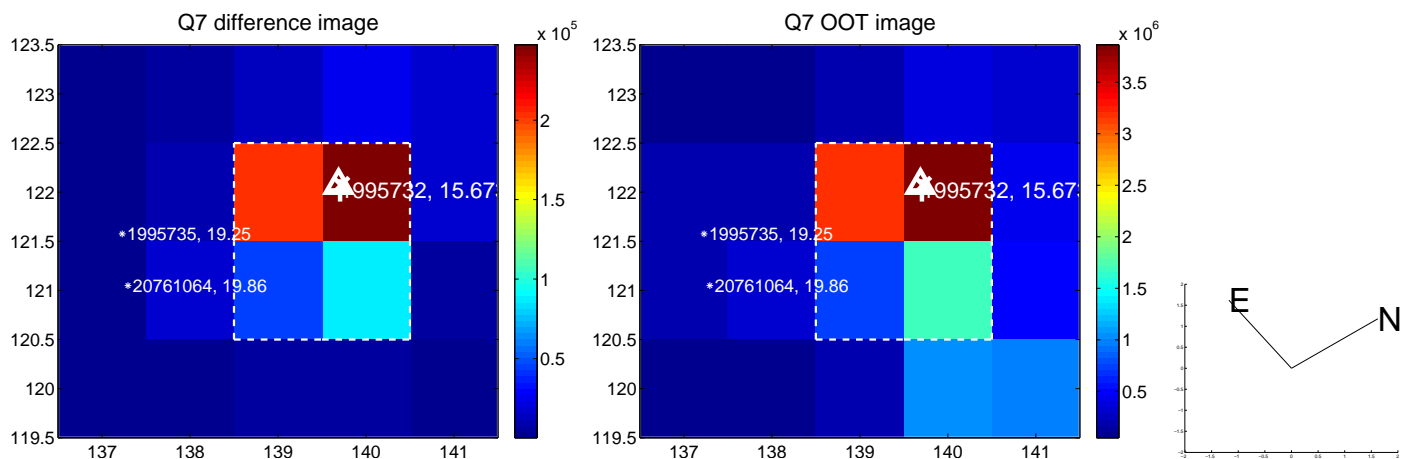
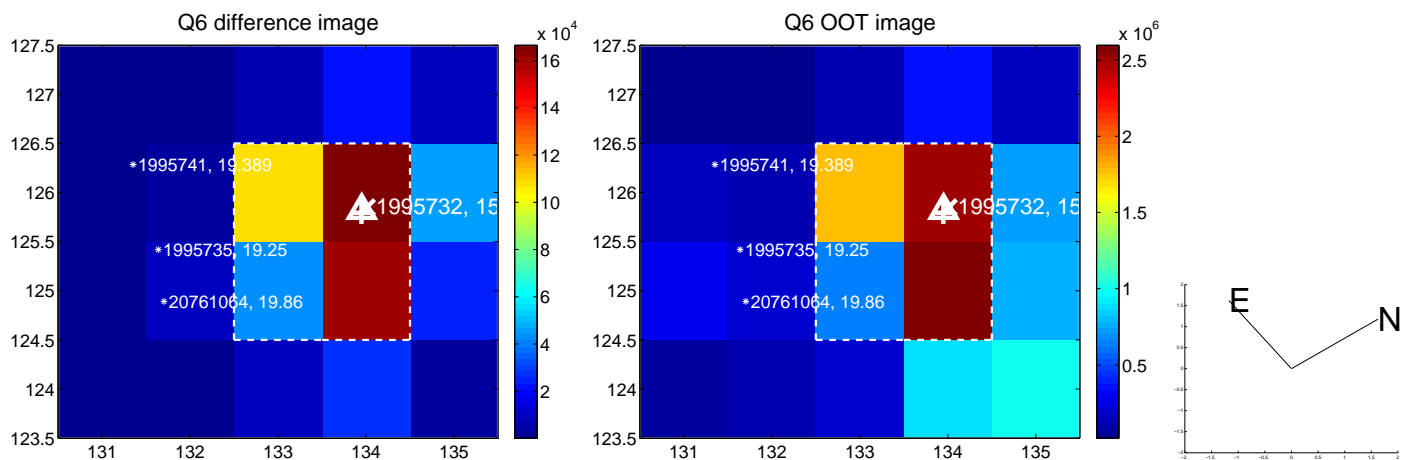
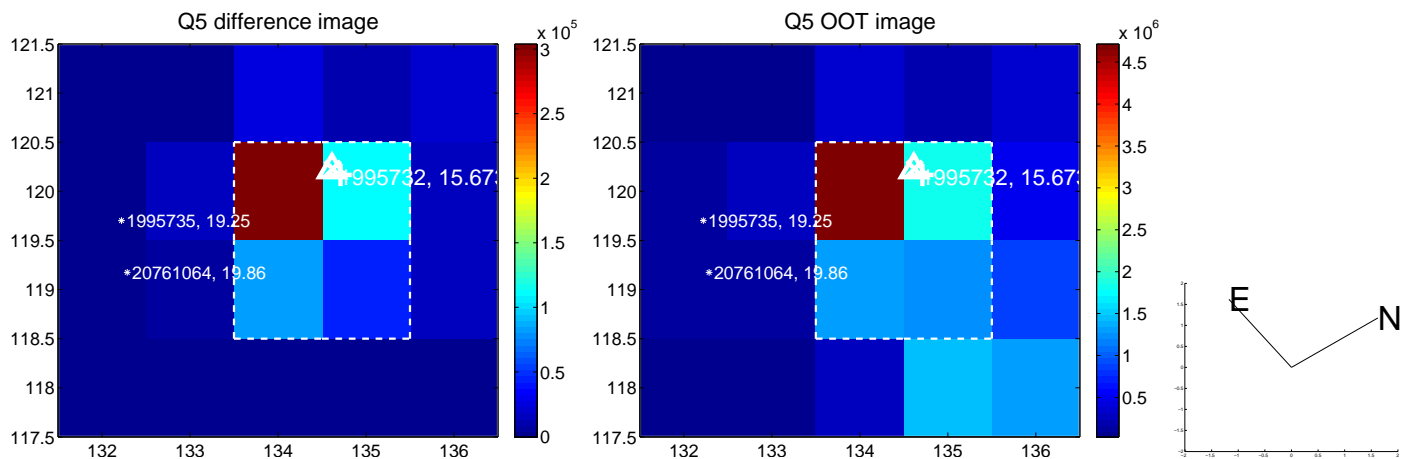


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

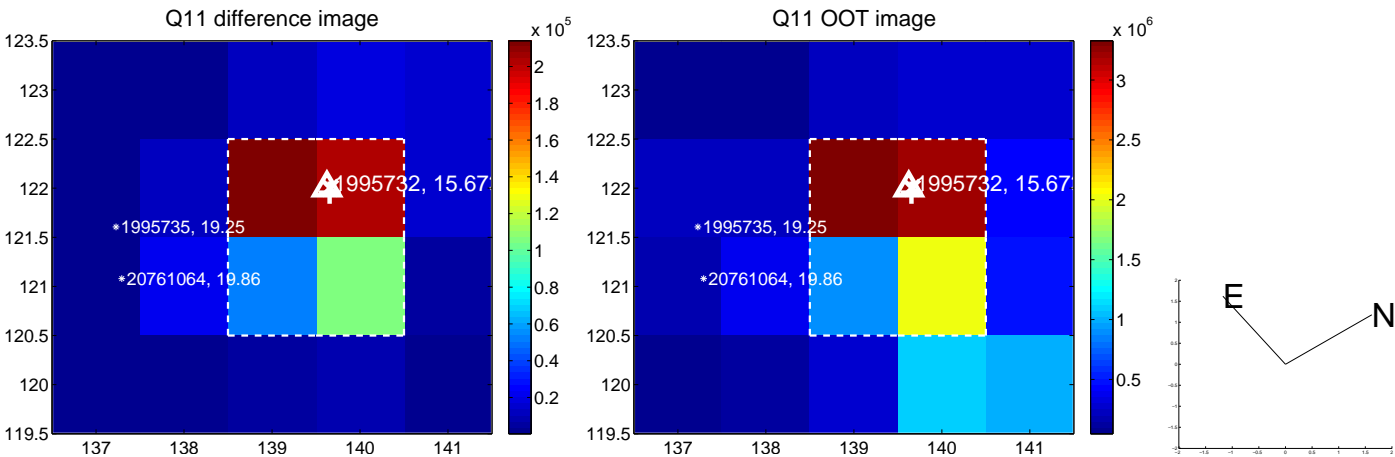
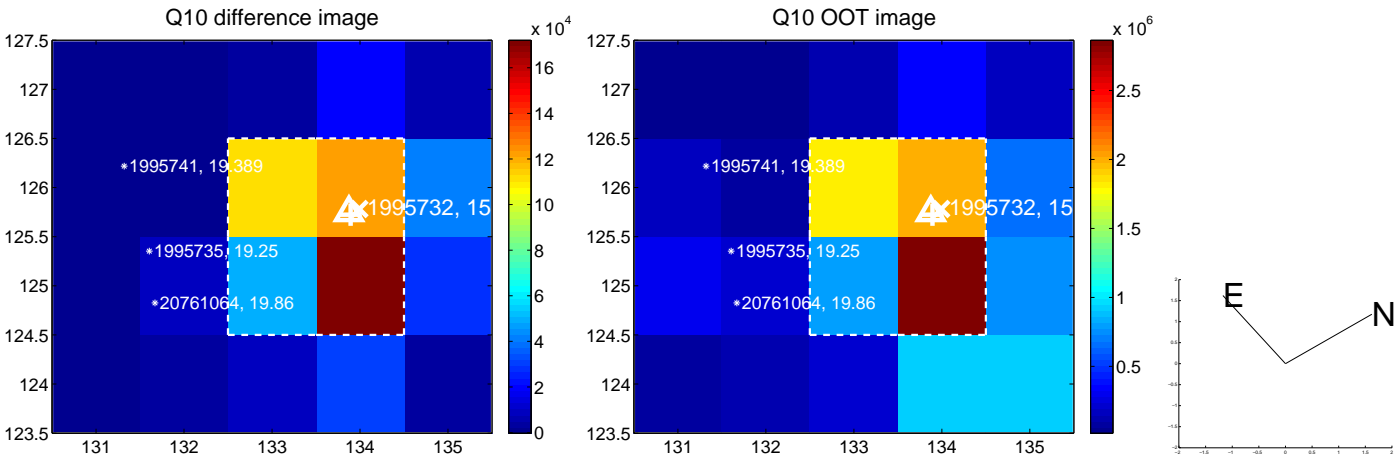
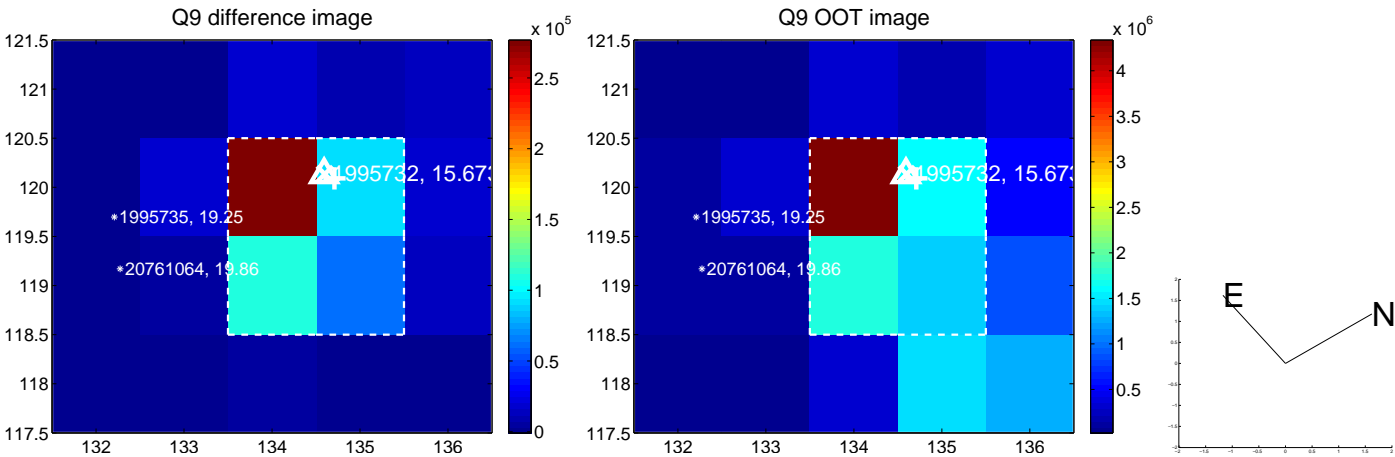
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



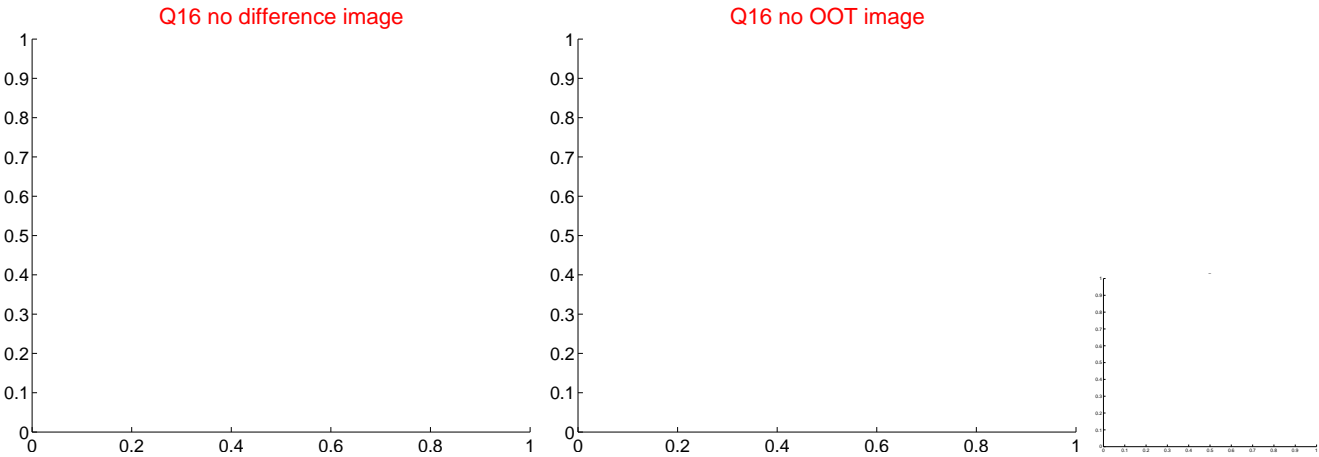
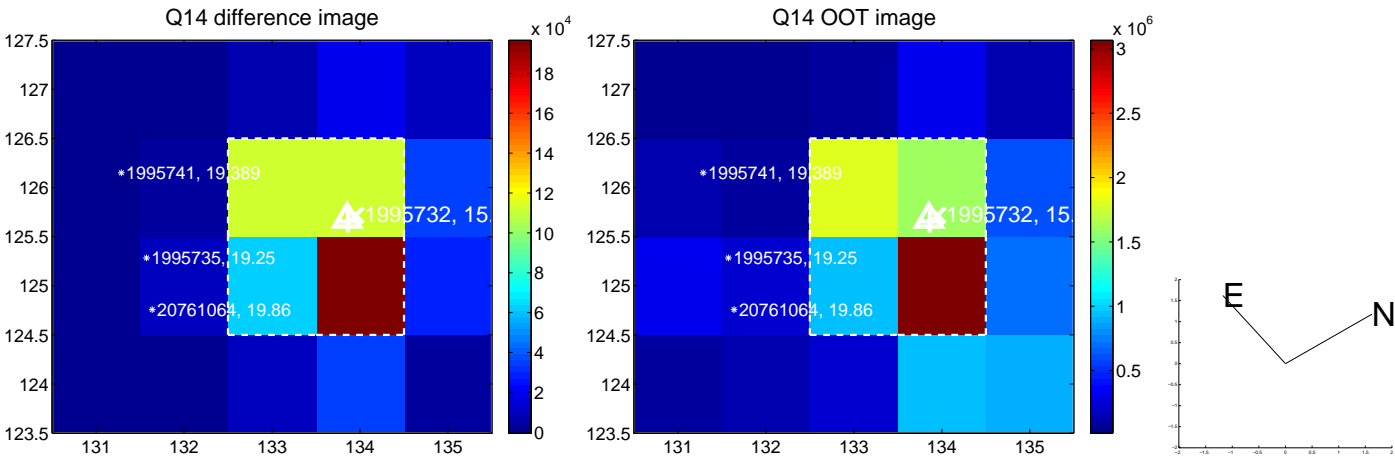
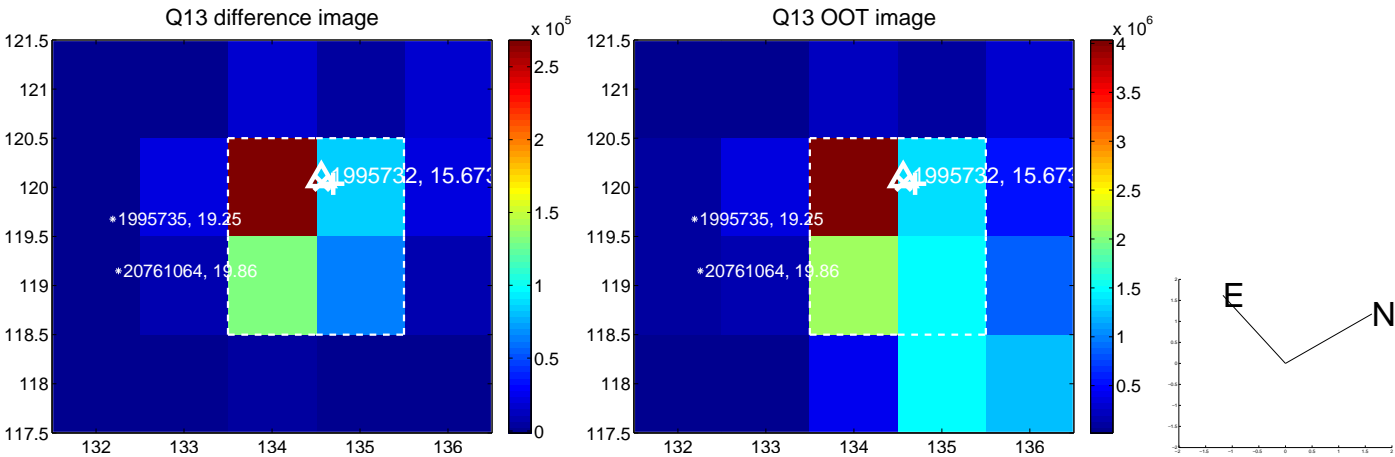
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



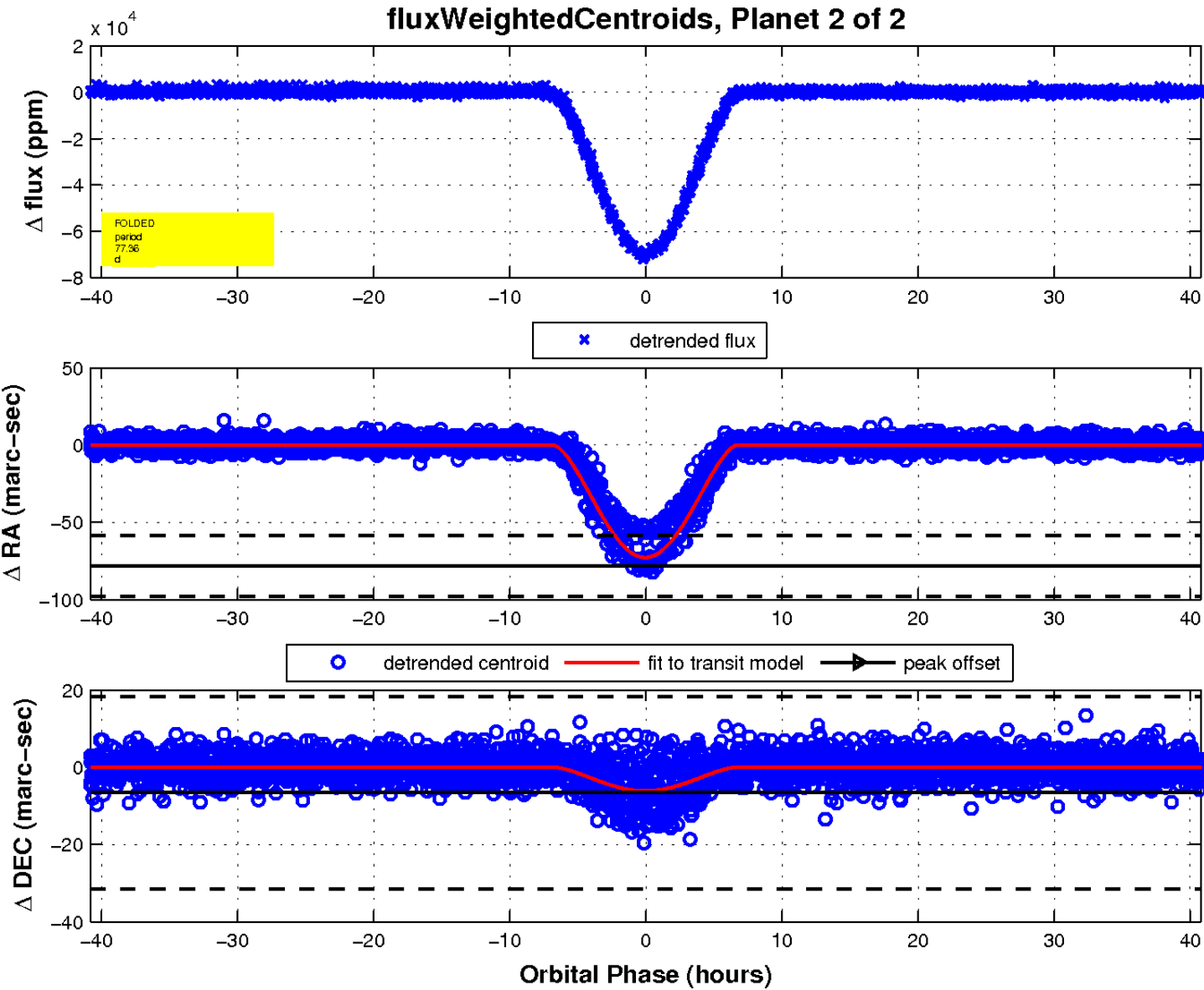
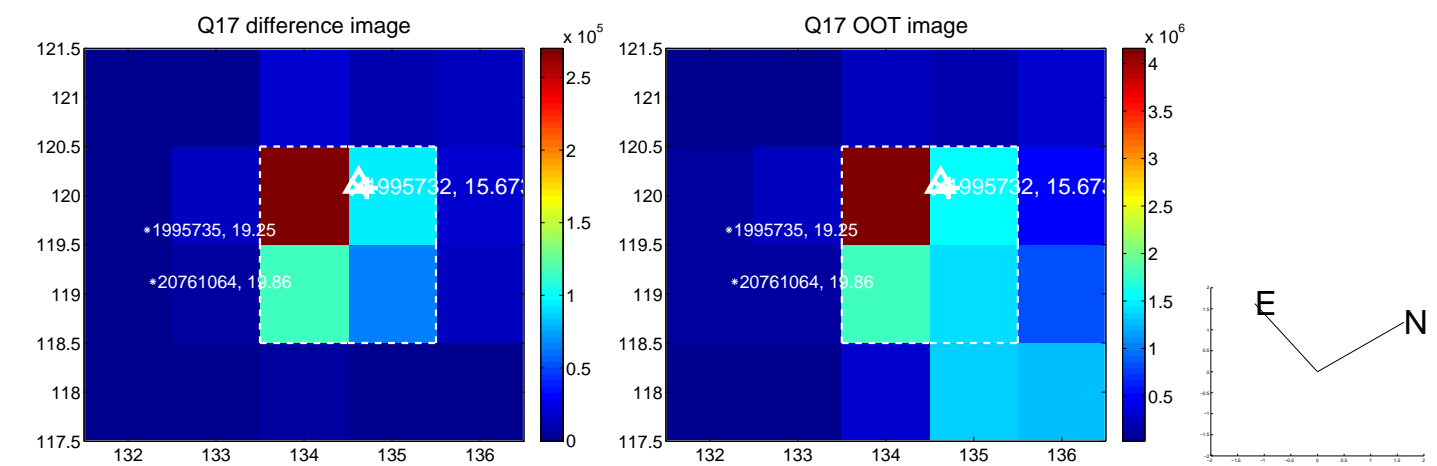
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

