

KIC 003530668

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})
003530668-01	OBS	5986.01	1.946185	132.318008	127793.6	3.987	6226.1	3311.3	1.43	6224	51.95	2790.99
003530668-02	OBS	No	1.946209	133.282027	2519.5	3.000	186.8	-1.0	1.43	6224	7.21	2790.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003530668-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
003530668-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

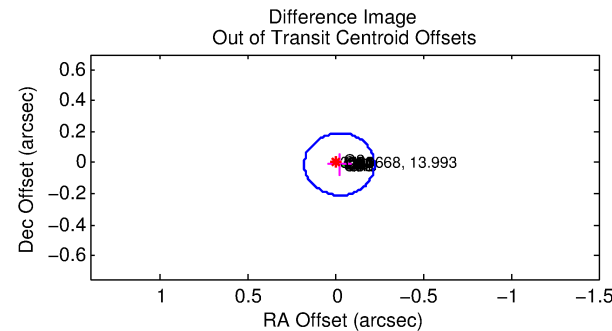
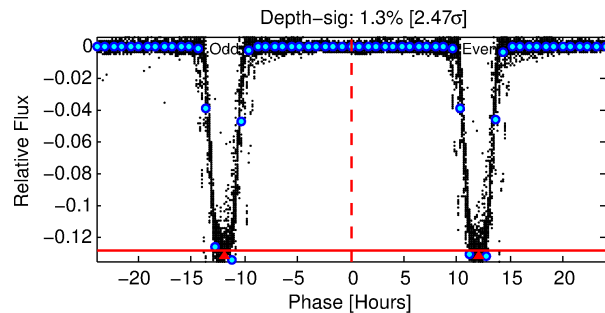
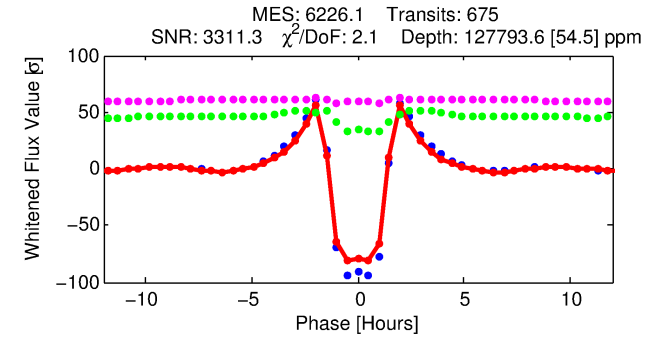
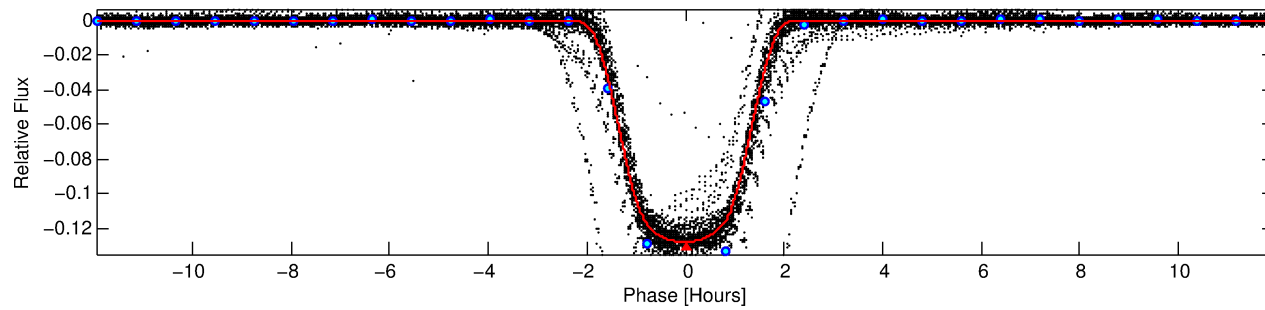
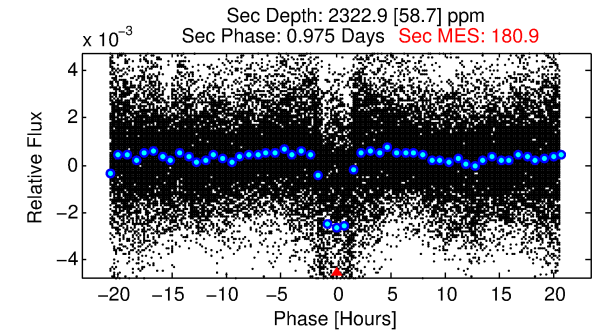
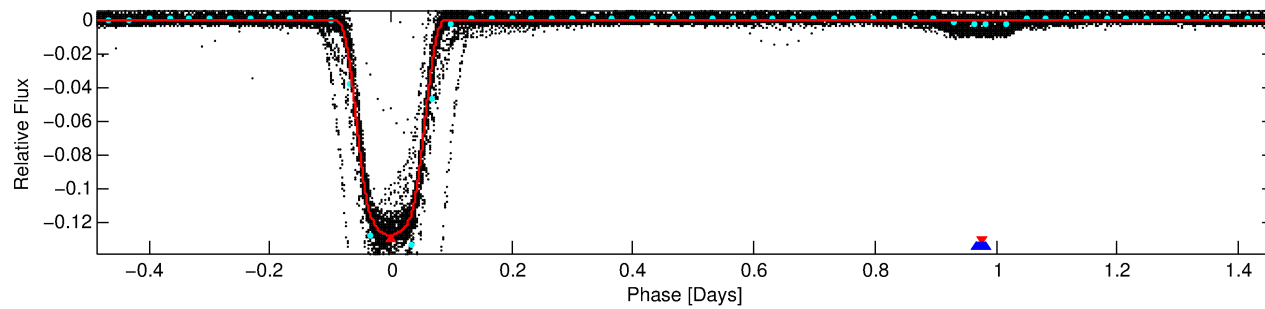
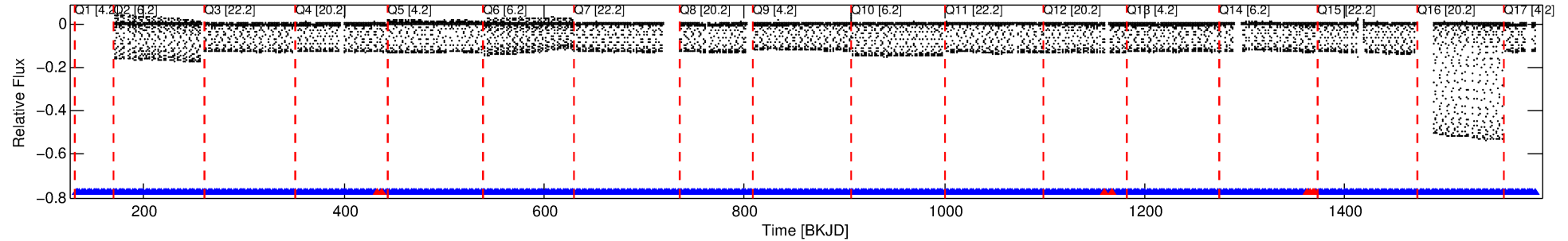
Ephemeris Match Information For 003530668-01

No Significant Match Found

DV One-Page Summary

KIC: 3530668 Candidate: 1 of 2 Period: 1.946 d
KOI: K05986.01 Corr: 0.984

Kp: 13.99 R*: 1.43 Rs Teff: 6224.0 K Logg: 4.17 Fe/H: -0.140



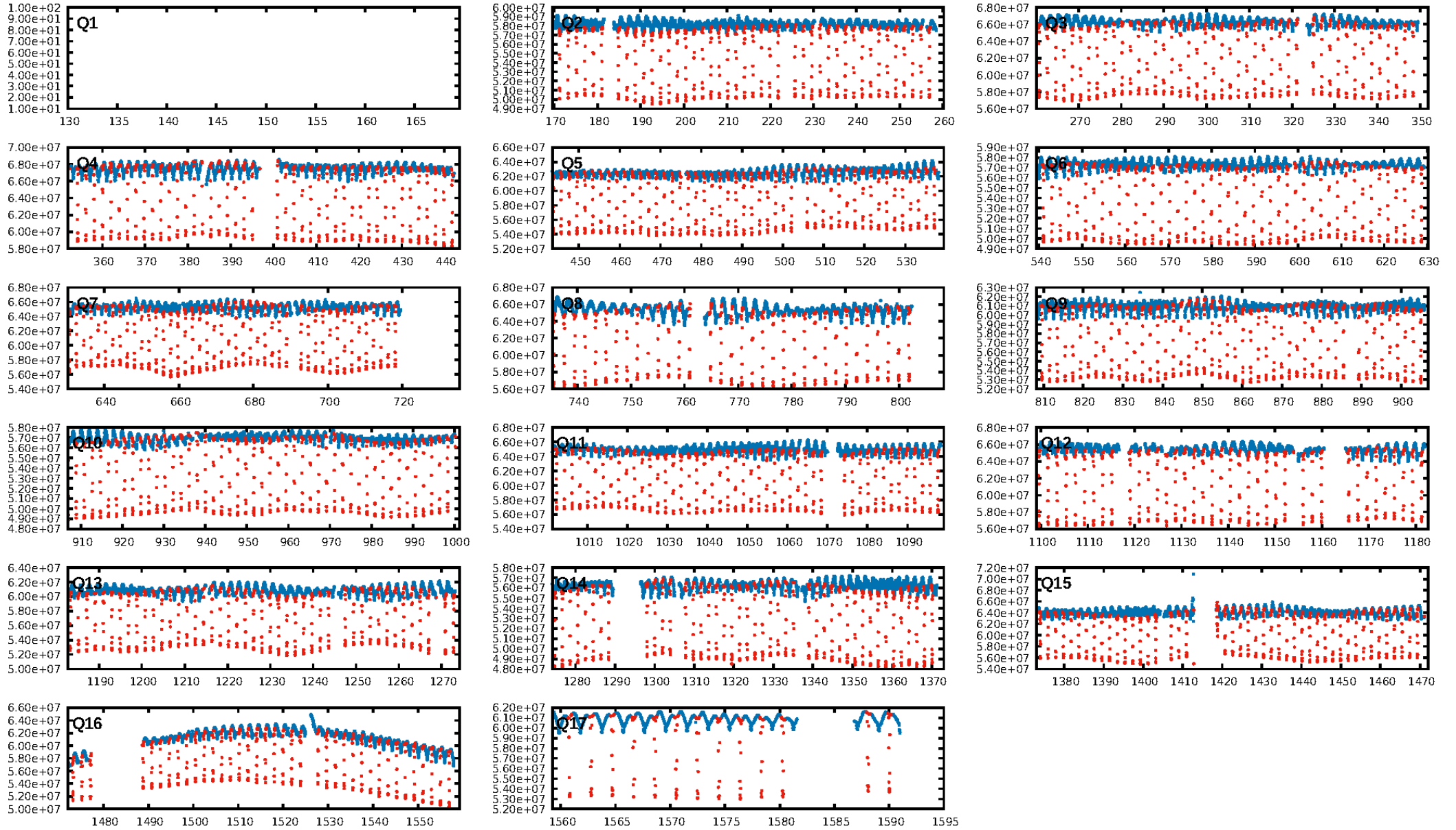
DV Fit Results:

Period = 1.94619 [0.00000] d
Epoch = 132.3180 [0.0000] BKJD
Rp/R* = 0.3323 [0.0001]
a/R* = 4.95 [0.00]
b = 0.25 [0.00]
Seff = 2790.99 [1231.67]
Teq = 1853 [204] K
Rp = 51.95 [14.50] Re
a = 0.0315 [0.0082] AU
Ag = 0.47 [0.19] [-2.75σ]
Teffp = 2371 [94] K [2.30σ]

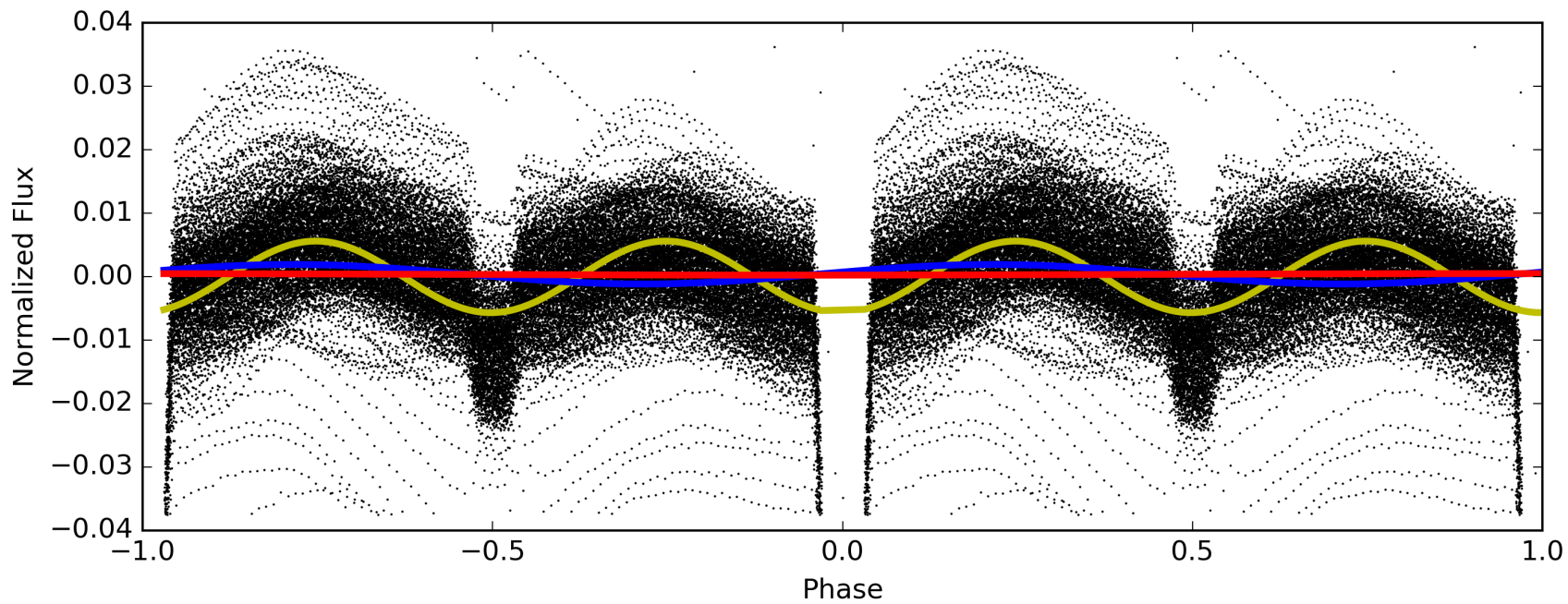
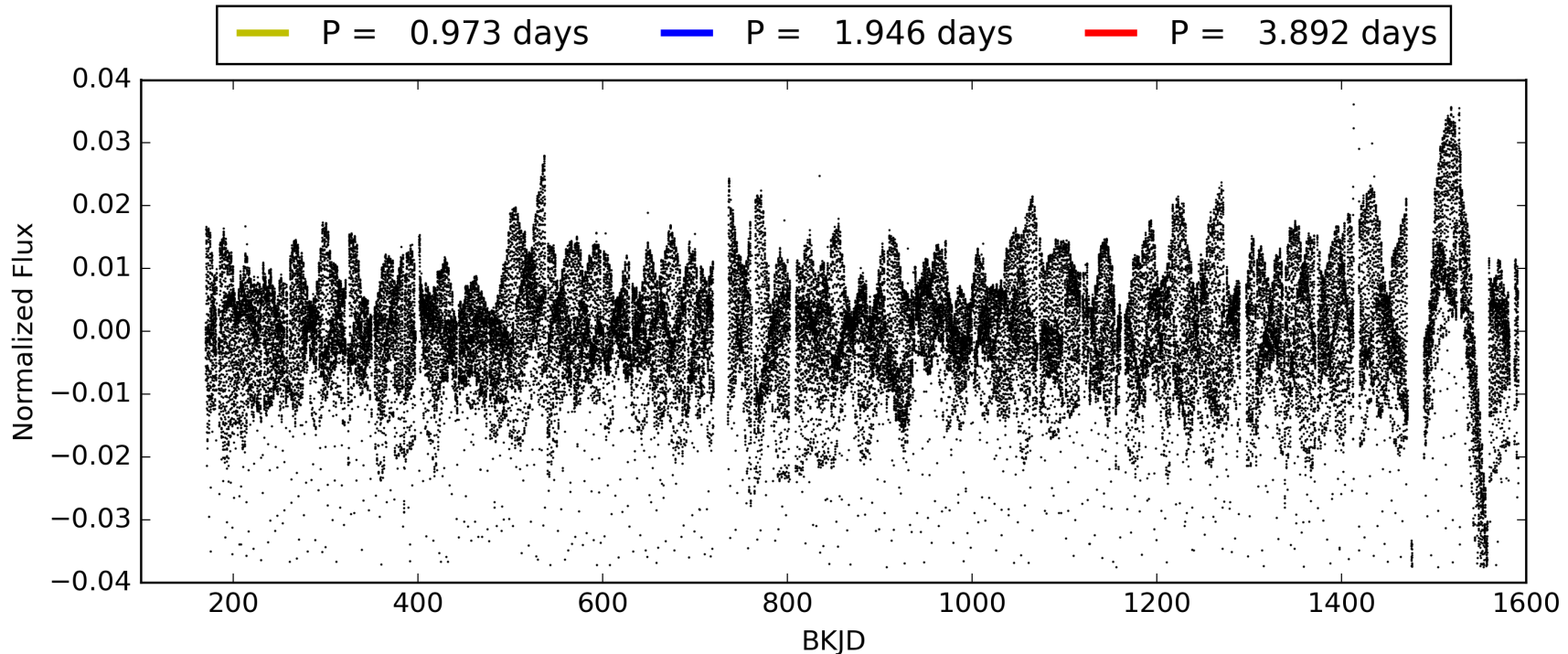
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [654/662]
GhostDiagnostic-chr: 1.41
Centroid-sig: 0.0%
Centroid-so: 0.291 arcsec [508.70σ]
OotOffset-rm: 0.024 arcsec [0.36σ]
KicOffset-rm: 0.206 arcsec [3.03σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 003530668-01, PDC Light Curves

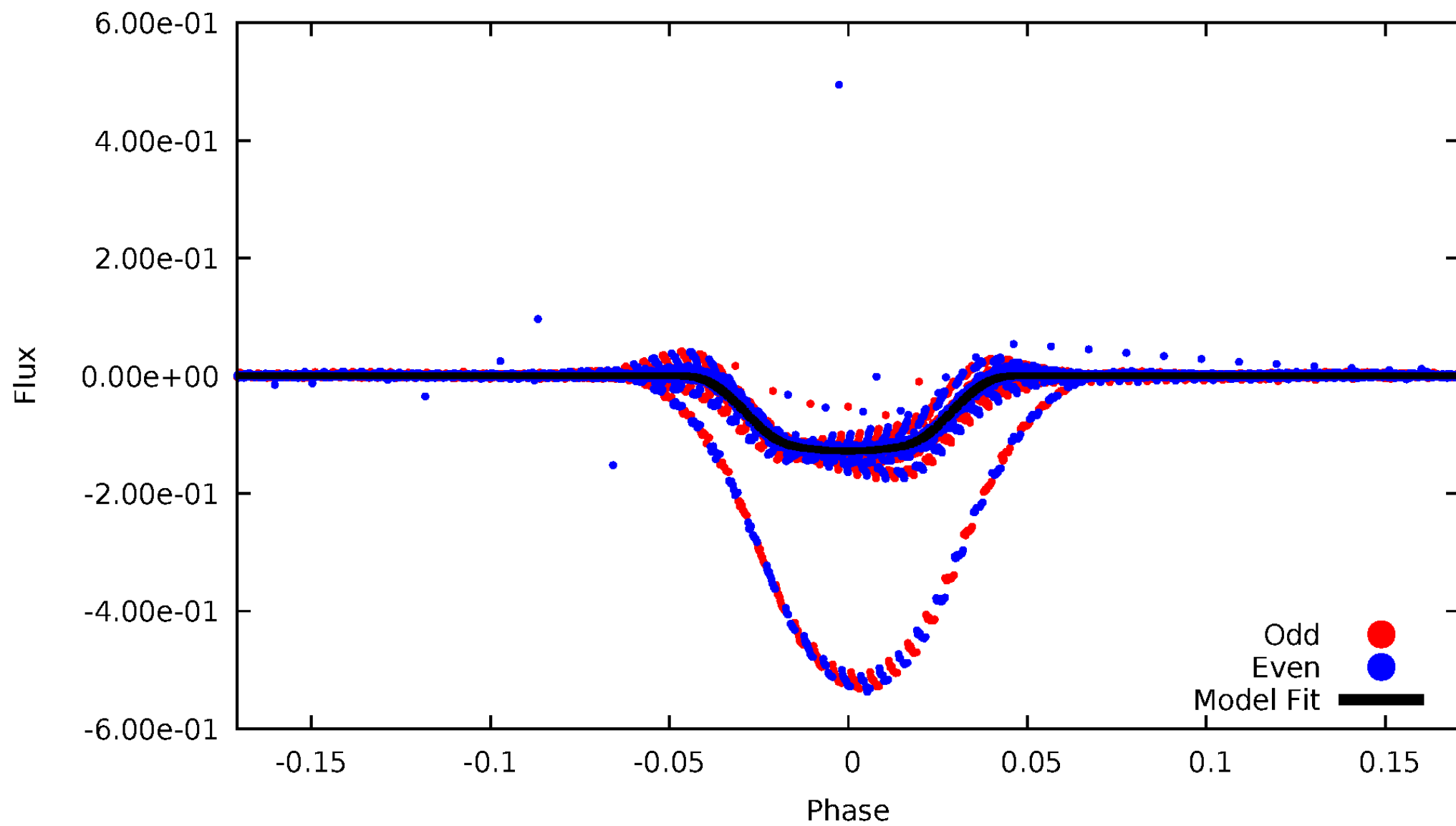


TCE 003530668-01



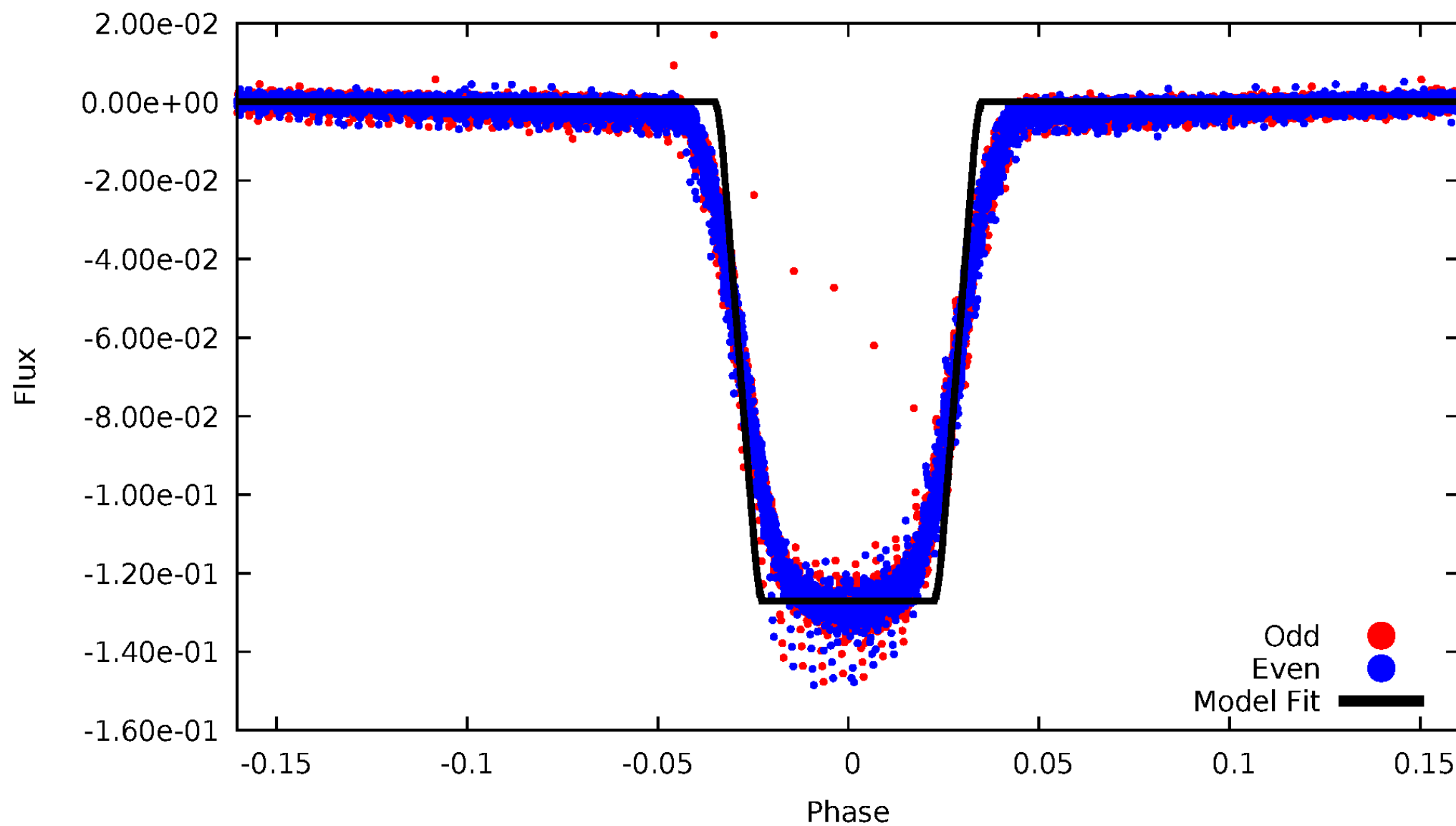
DV Odd/Even

TCE 003530668-01



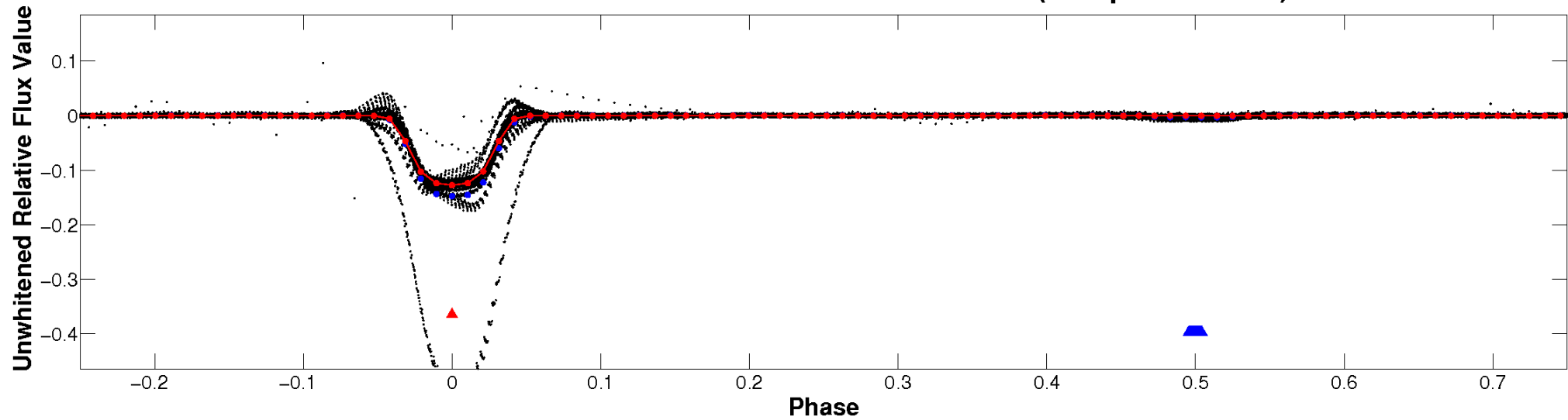
ALT Odd/Even

TCE 003530668-01

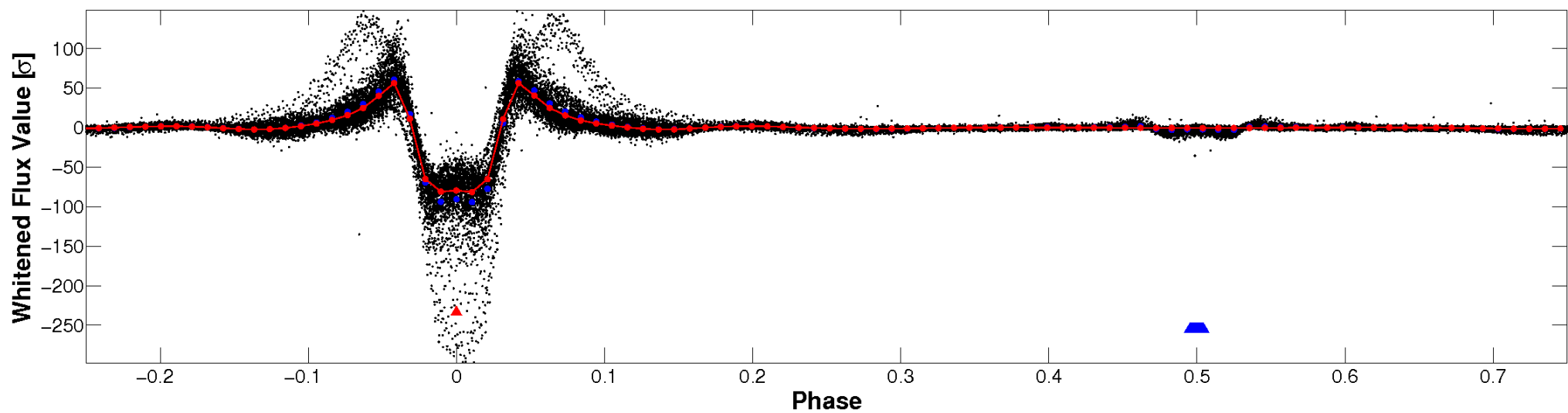


Non-Whitened Vs. Whitened Light Curve

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

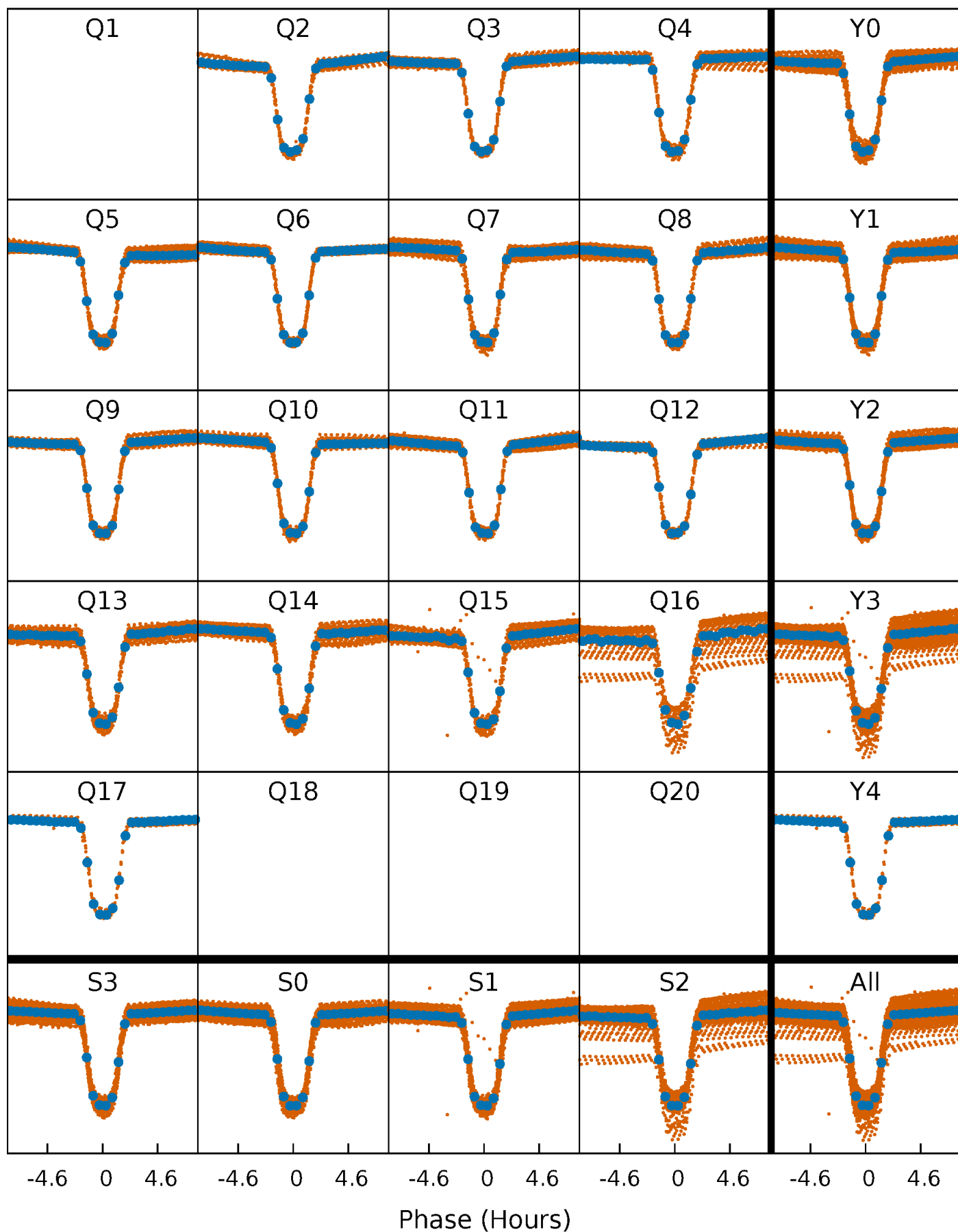


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



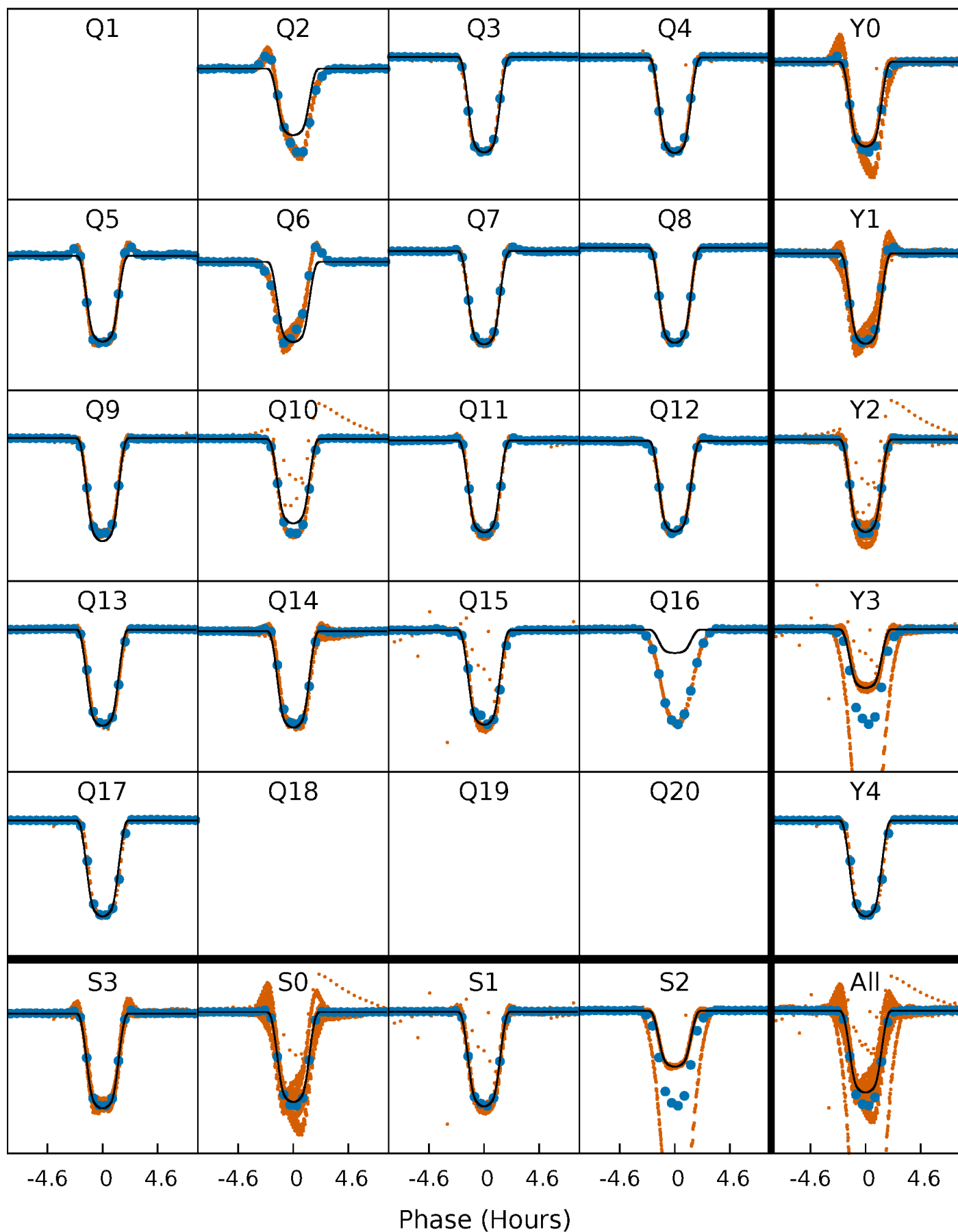
PDC Quarter-Phased Transit Curves

TCE 003530668-01 P= 1.946185 Days $T_0=132.318008$ (BKJD)



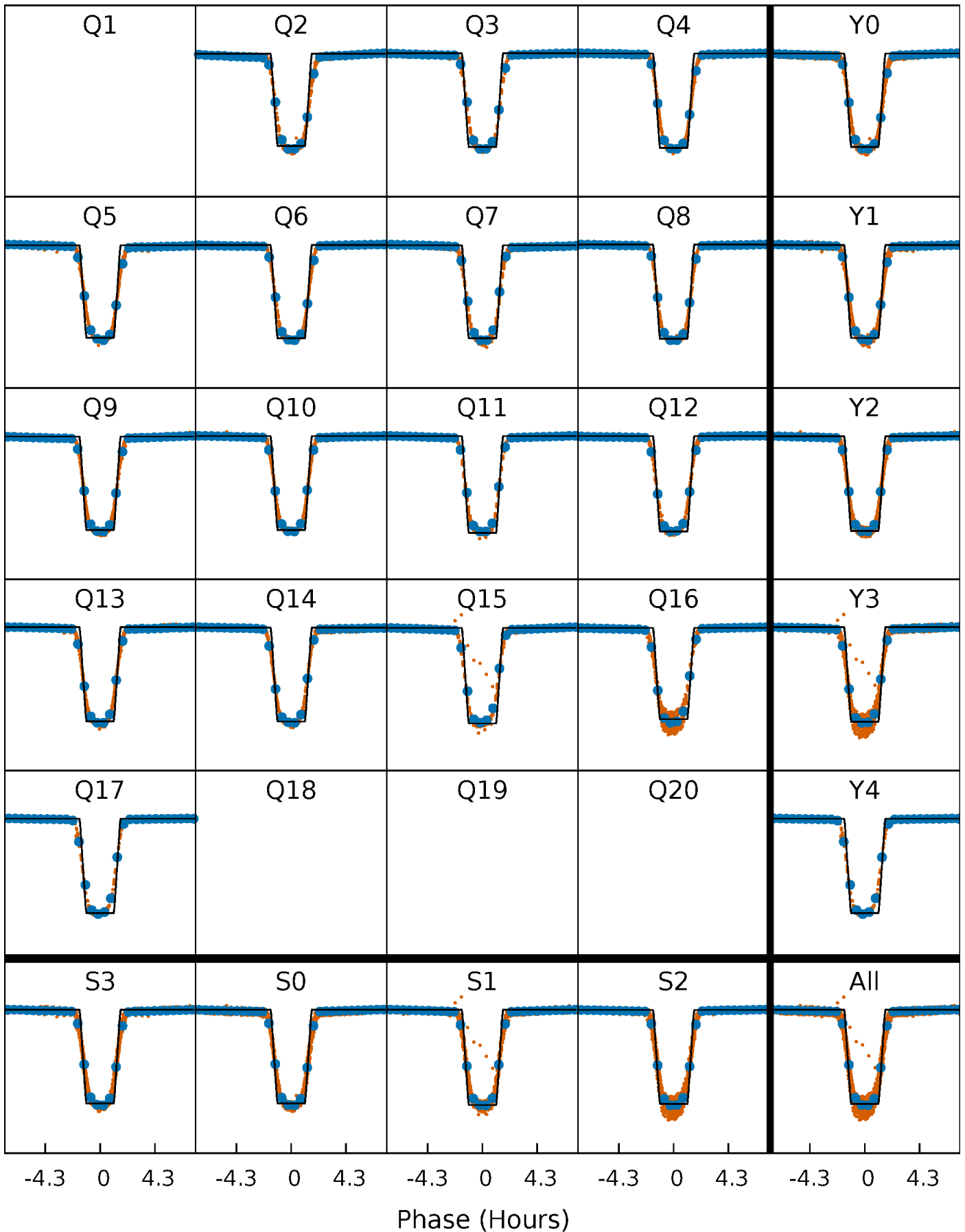
DV Quarter-Phased Transit Curves

TCE 003530668-01 P= 1.946185 Days $T_0=132.318008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

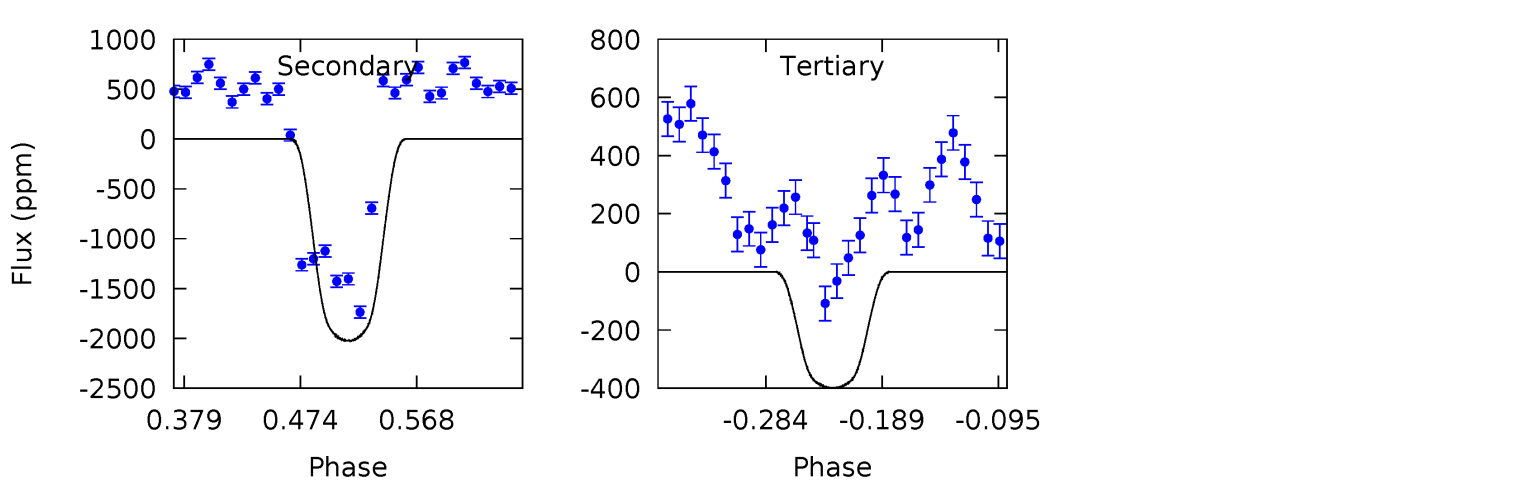
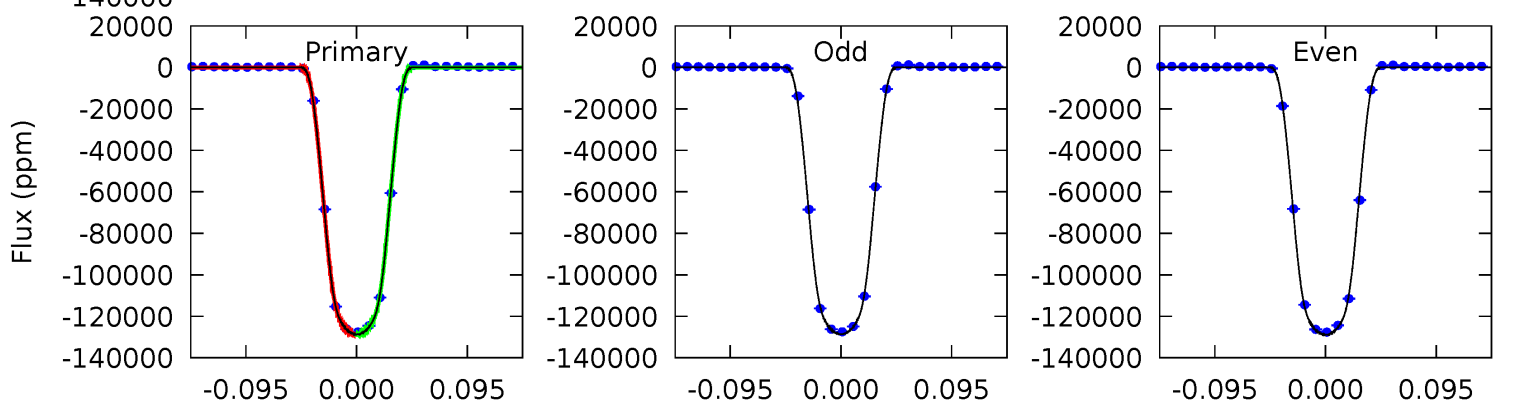
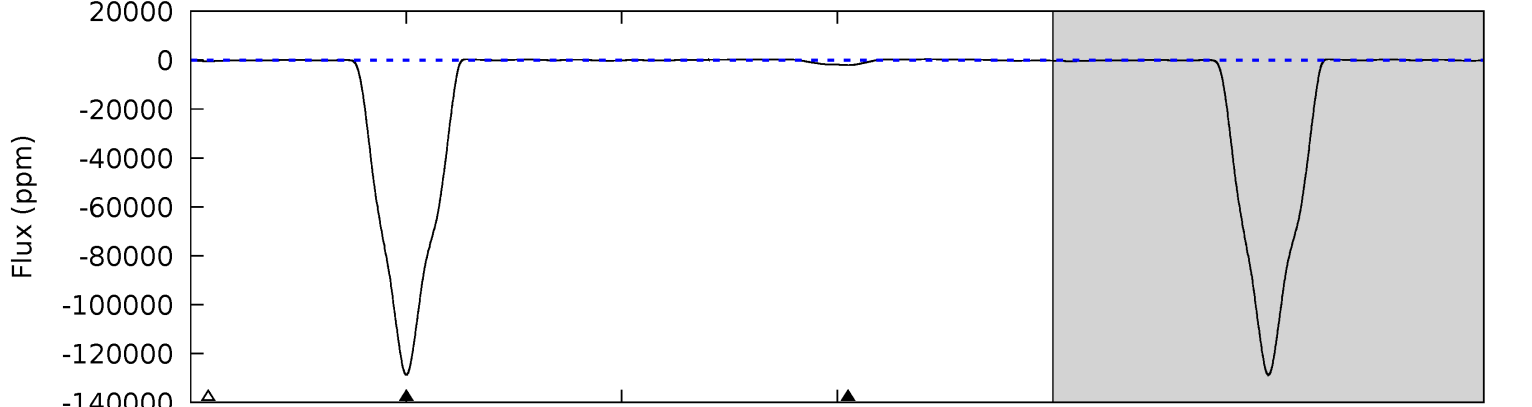
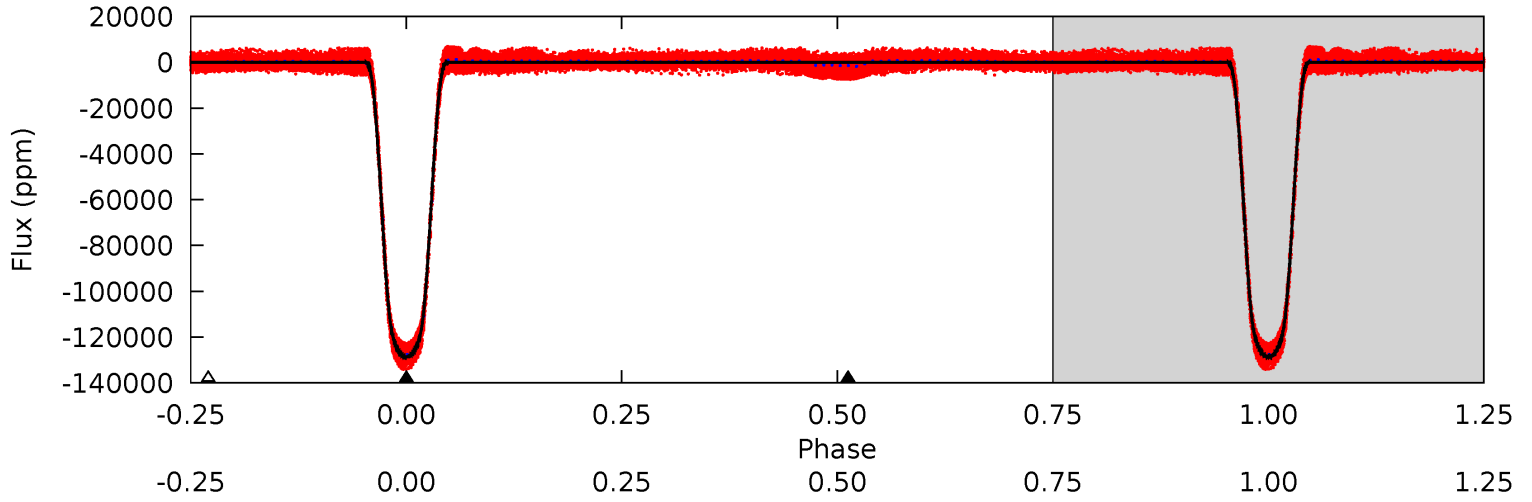
TCE 003530668-01 P= 1.946209 Days $T_0=132.309735$ (BKJD)



DV Model-Shift Uniqueness Test

003530668-01, P = 1.946185 Days, E = 132.318008 Days

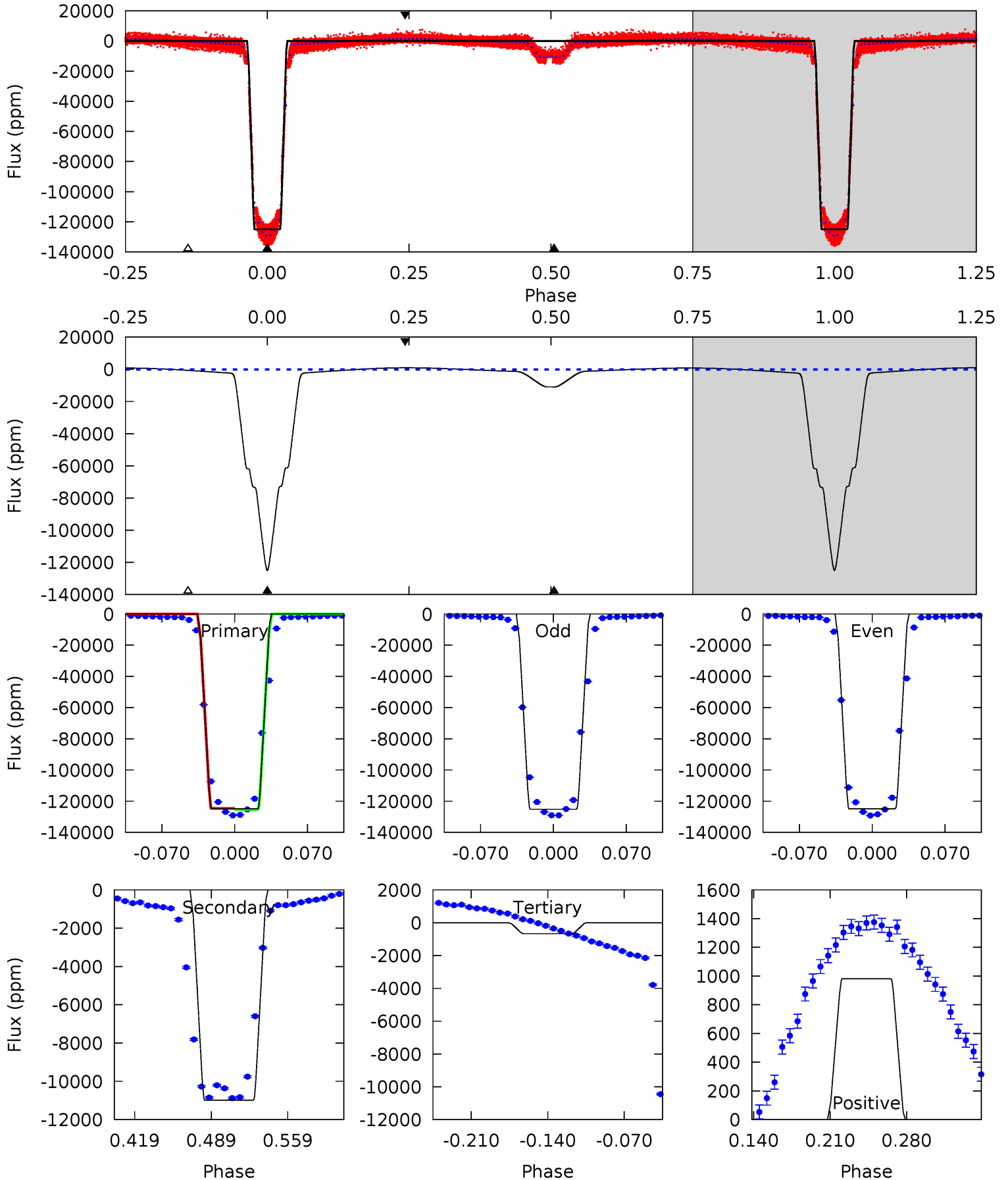
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5191	81.6	16.1	0	4.58	1.67	7.32	5175	5191	65.5	81.6	5.81	1.16	0.00	1.16



Alt Model-Shift Uniqueness Test

003530668-01, P = 1.946209 Days, E = 132.309735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4668	410.5	24.8	36.7	4.64	1.81	32.0	4644	4632	385.7	373.9	6.56	1.00	0.01	13.4



Stellar Parameters For KIC 003530668

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6224^{+199}_{-243}	$4.165^{+0.240}_{-0.180}$	$-0.140^{+0.250}_{-0.300}$	$1.433^{+0.400}_{-0.360}$	$1.094^{+0.181}_{-0.148}$	$0.524^{+0.682}_{-0.261}$
	+3%/-4%	+6%/-4%	+179%/-214%	+28%/-25%	+17%/-14%	+130%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003530668-01 / KOI 5986.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2024 ± 25	$51.75^{+8.36}_{-7.77}$	2569^{+203}_{-197}	2513^{+176}_{-554}	$0.417^{+0.148}_{-0.107}$
Alt.	-10985 ± 27	$54.75^{+9.86}_{-7.72}$	2554^{+227}_{-204}	3664^{+92}_{-95}	$1.999^{+0.702}_{-0.495}$

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

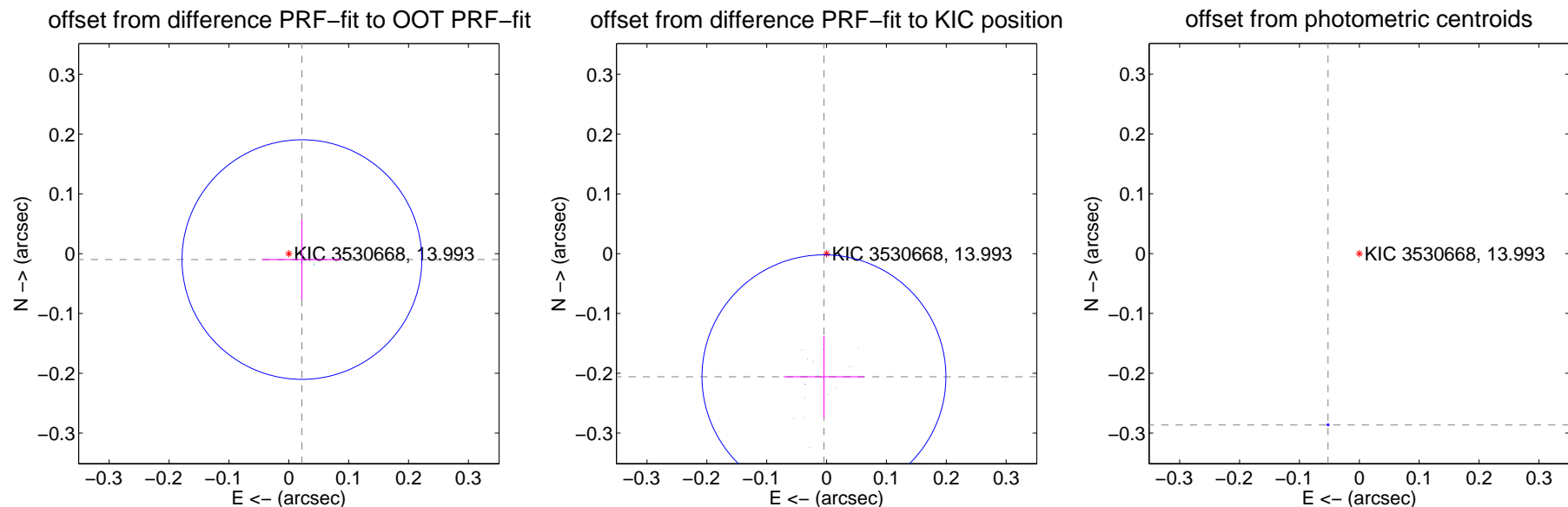
DV Centroid Data

Supplemental centroid analysis for 003530668-01. Kepler magnitude: 13.99. Transit SNR 3311.27

There are 16 quarters with good PRF difference image offsets

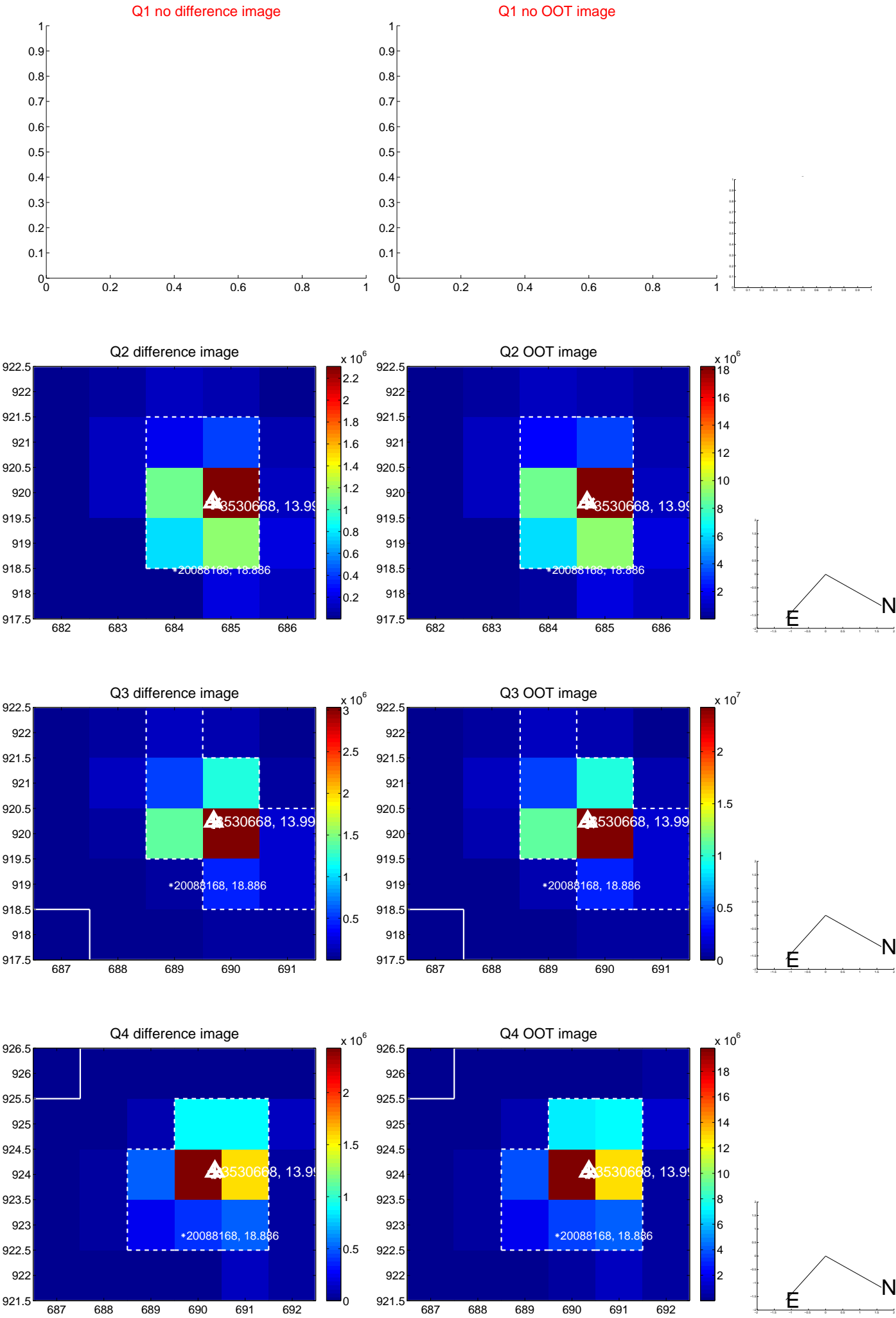
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.024 ± 0.067	0.36	-0.022 ± 0.067	-0.010 ± 0.067
PRF-fit source offset from KIC position	0.206 ± 0.068	3.03	0.004 ± 0.067	-0.206 ± 0.068
photometric centroid source offset	0.29 ± 0.00	508.70	0.05 ± 0.00	-0.29 ± 0.00

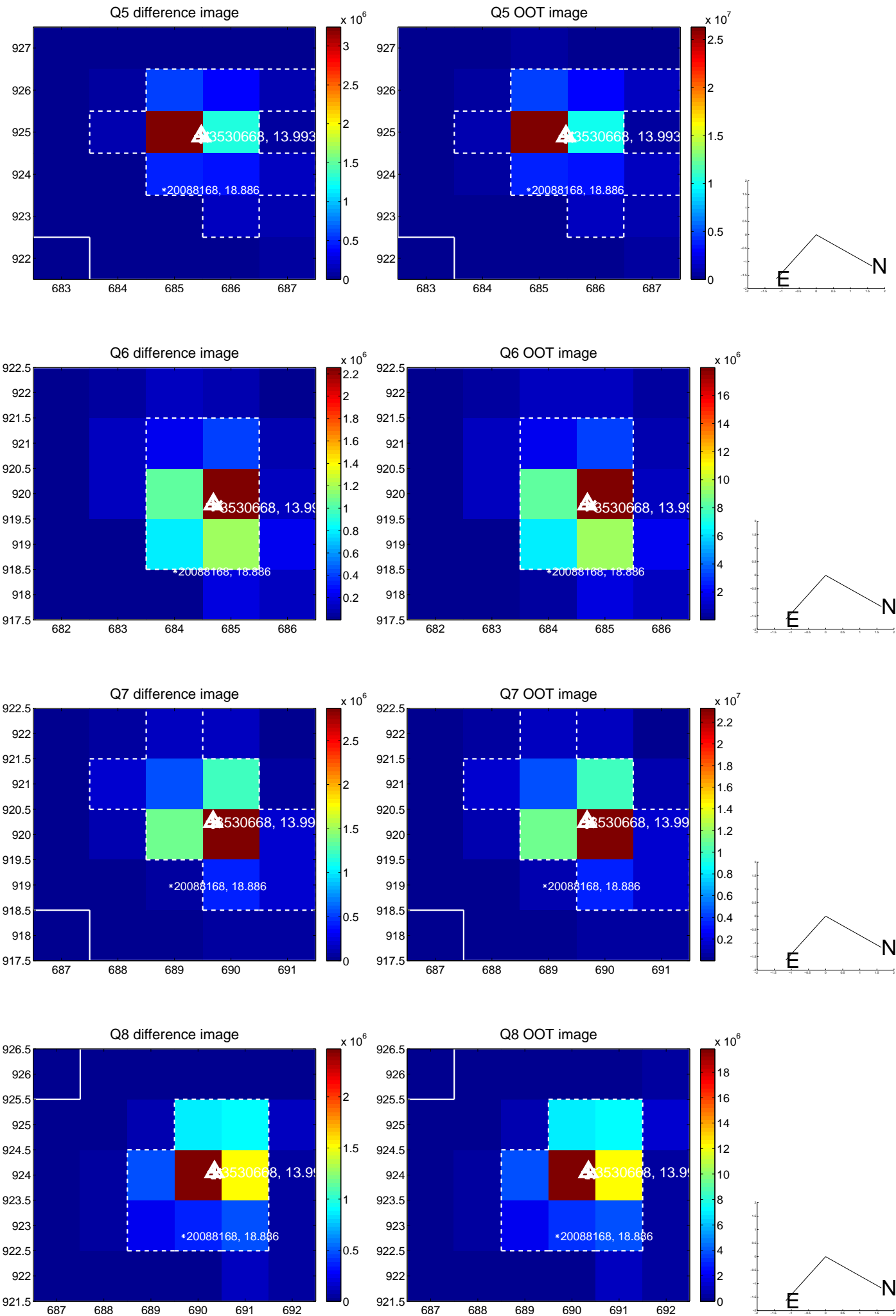


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

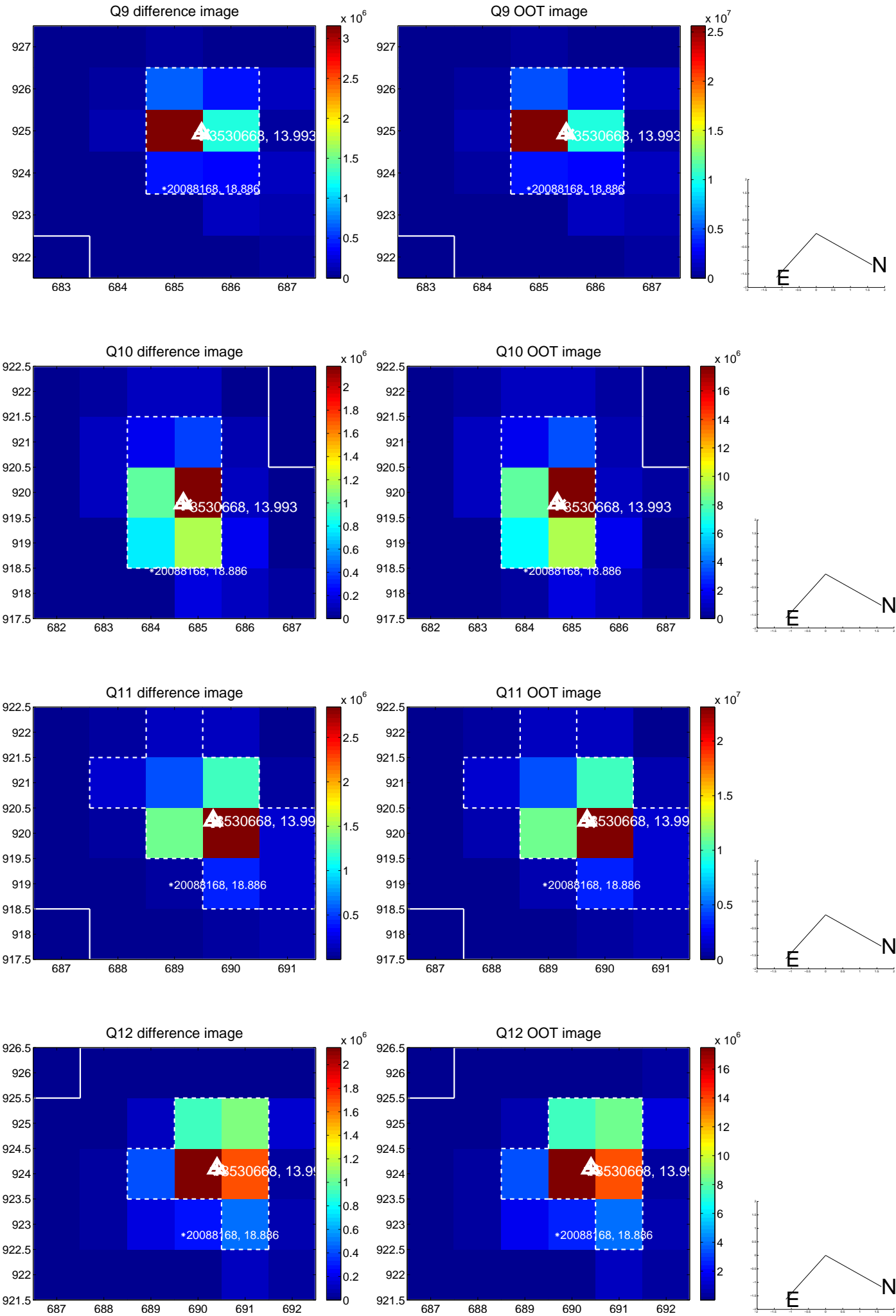
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



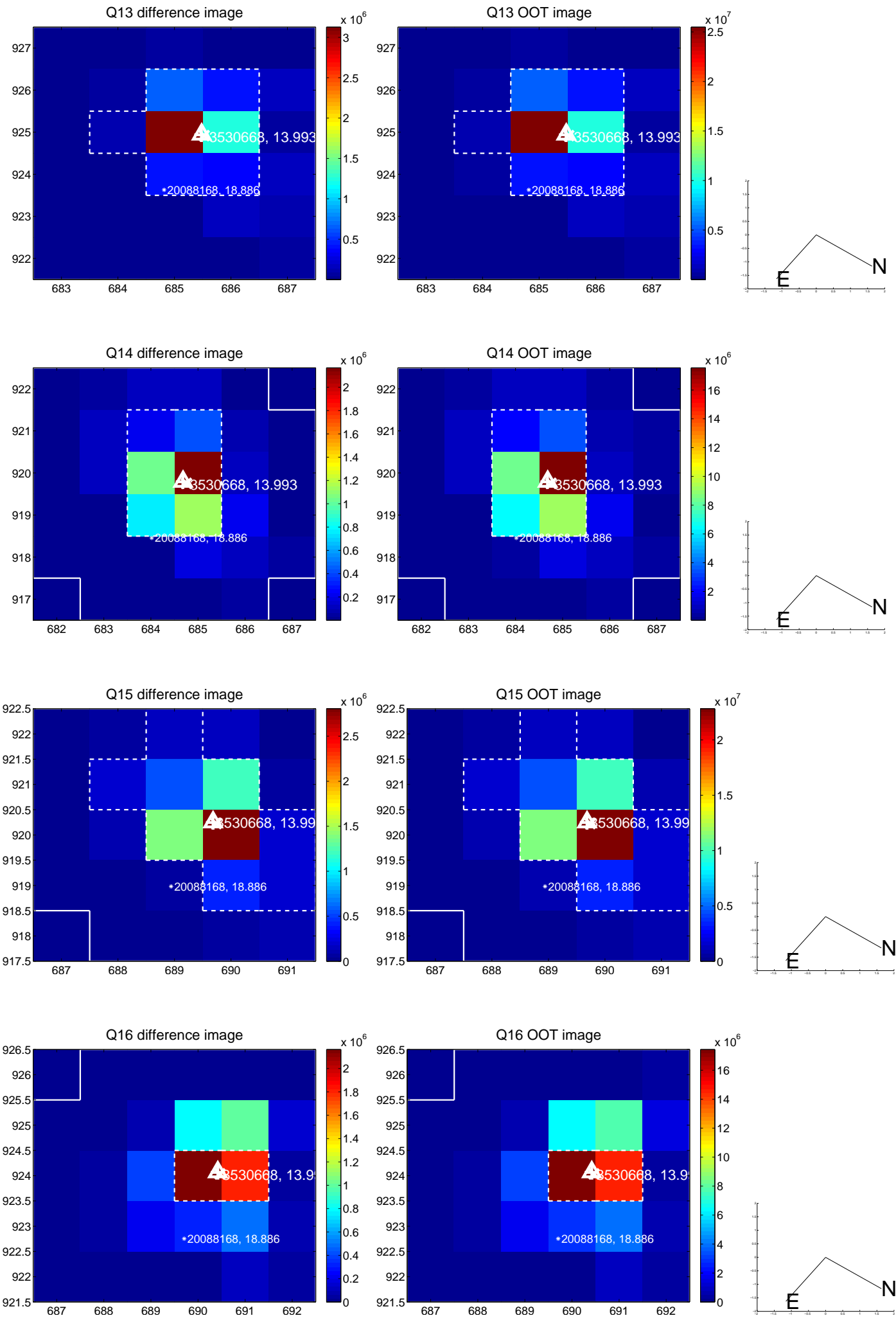
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



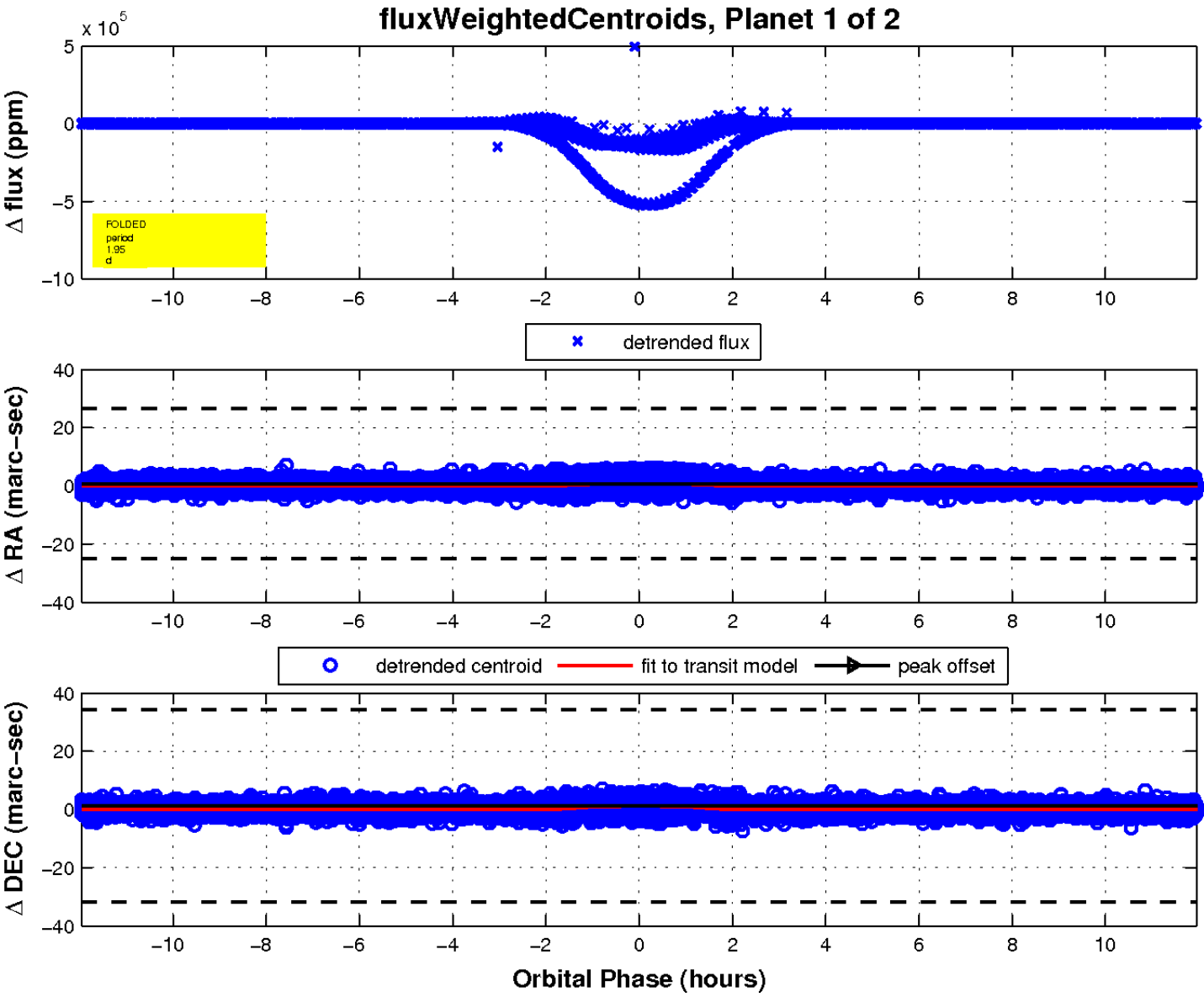
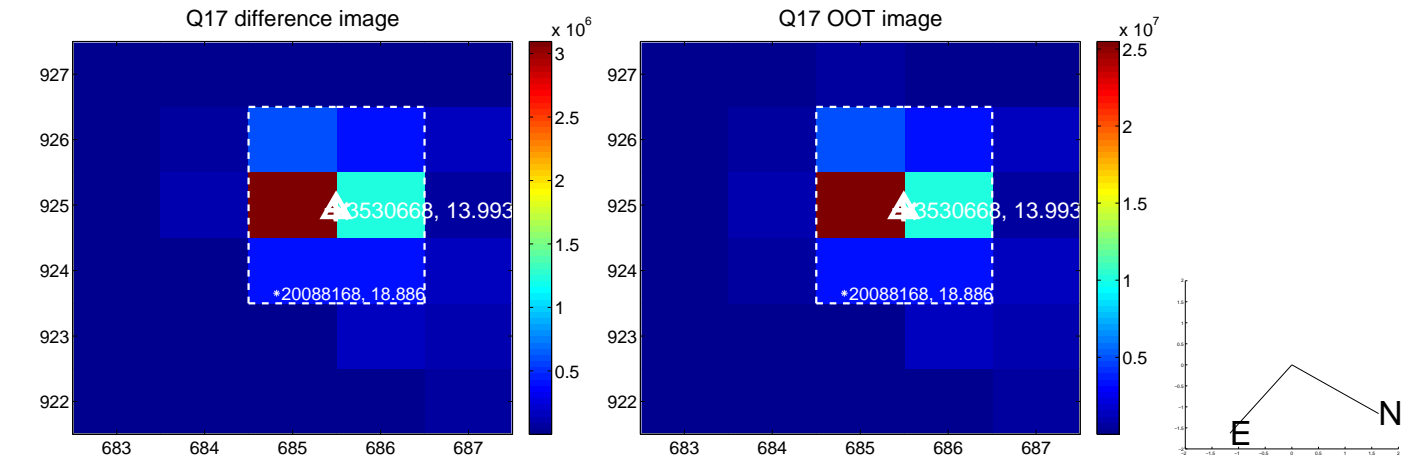
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

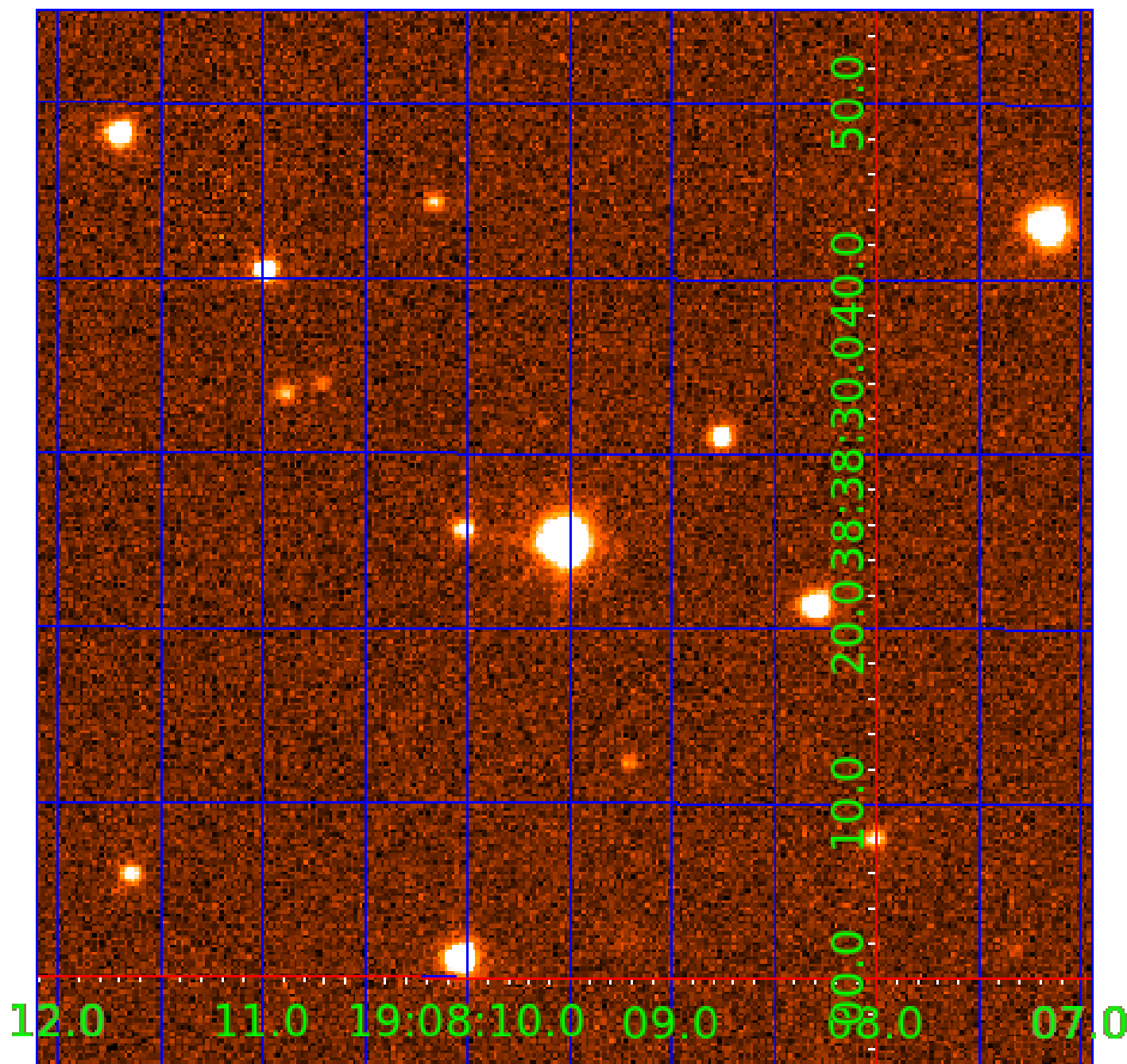


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003530668

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})
003530668-01	OBS	5986.01	1.946185	132.318008	127793.6	3.987	6226.1	3311.3	1.43	6224	51.95	2790.99
003530668-02	OBS	No	1.946209	133.282027	2519.5	3.000	186.8	-1.0	1.43	6224	7.21	2790.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003530668-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
003530668-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

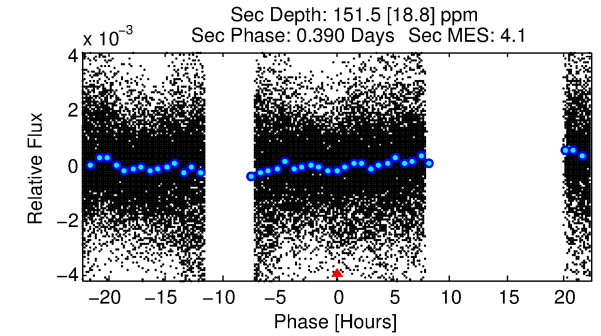
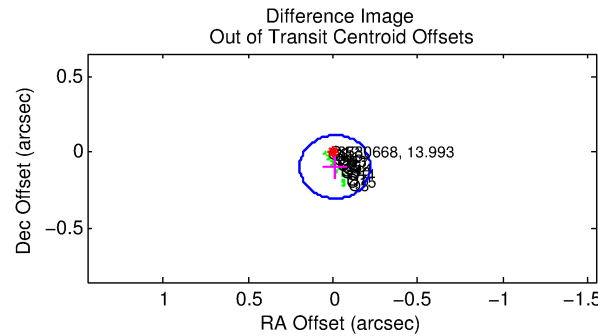
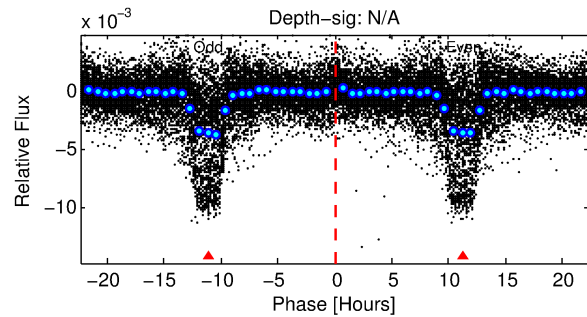
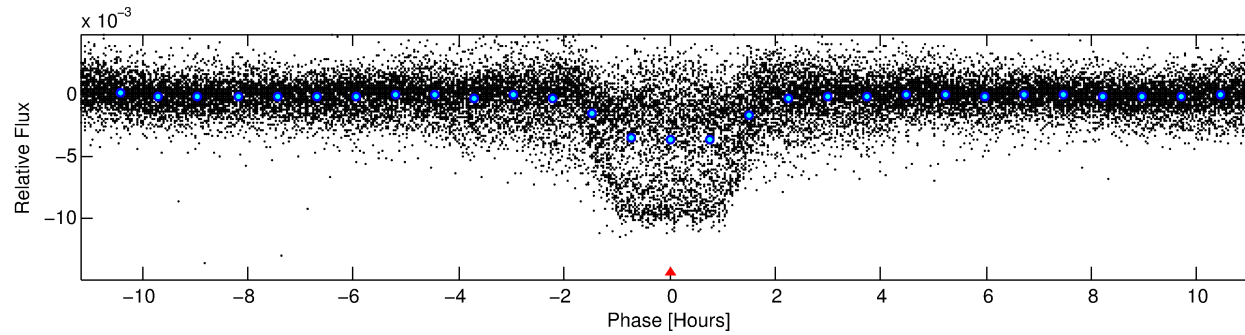
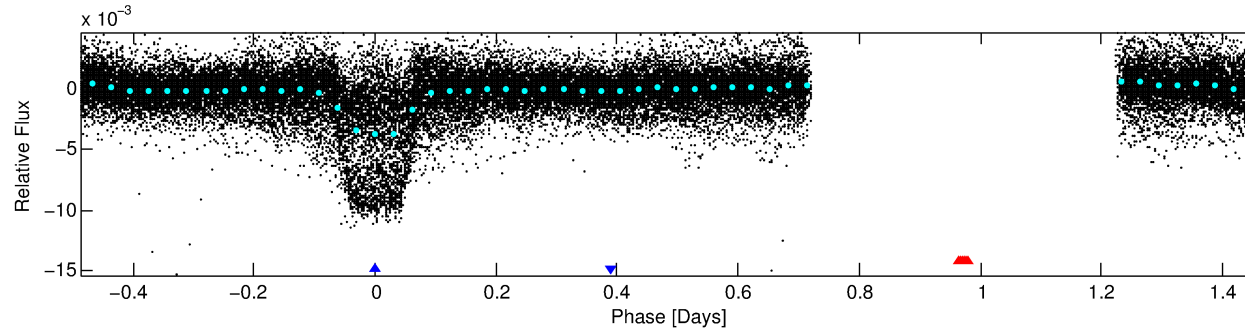
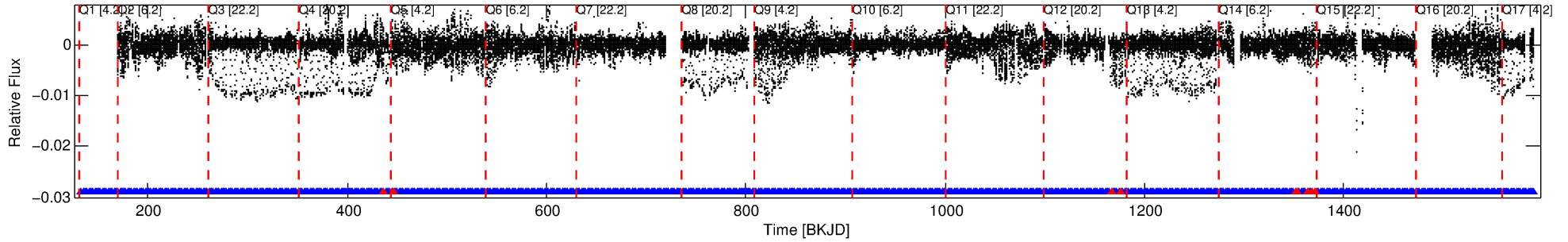
Ephemeris Match Information For 003530668-02

No Significant Match Found

DV One-Page Summary

KIC: 3530668 Candidate: 2 of 2 Period: 1.946 d
KOI: K05986 Corr: No Ephemeris Match

Kp: 13.99 R*: 1.43 Rs Teff: 6224.0 K Logg: 4.17 Fe/H: -0.140



TPS TCE Results:

Period = 1.94621 d
Epoch = 133.2820 BKJD

DV fit results are unavailable

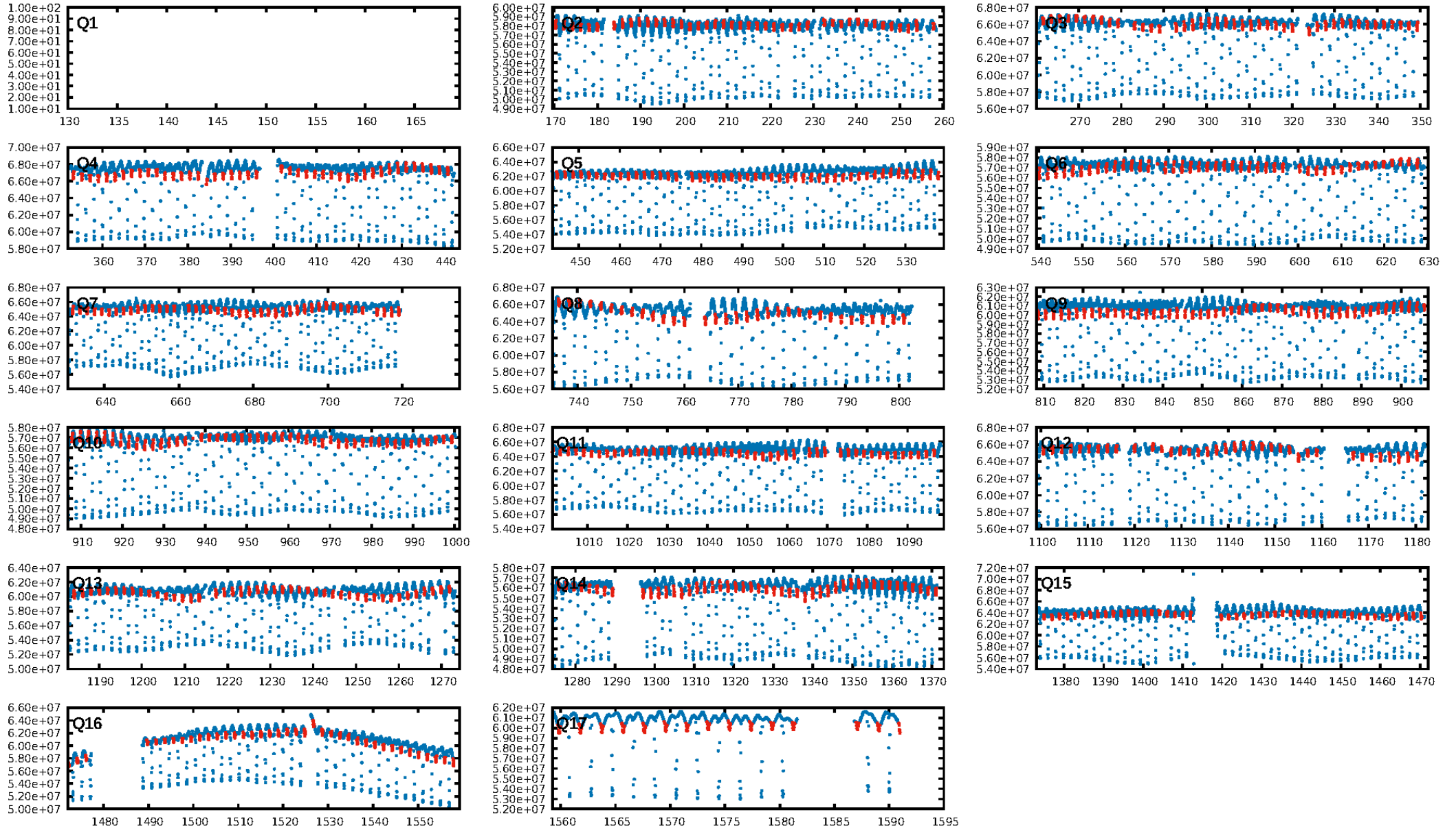
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [647/656]
GhostDiagnostic-chr: 1.079
Centroid-sig: 0.0%
Centroid-so: 0.302 arcsec [52.61σ]
OotOffset-rm: 0.095 arcsec [1.37σ]
KicOffset-rm: 0.301 arcsec [4.26σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
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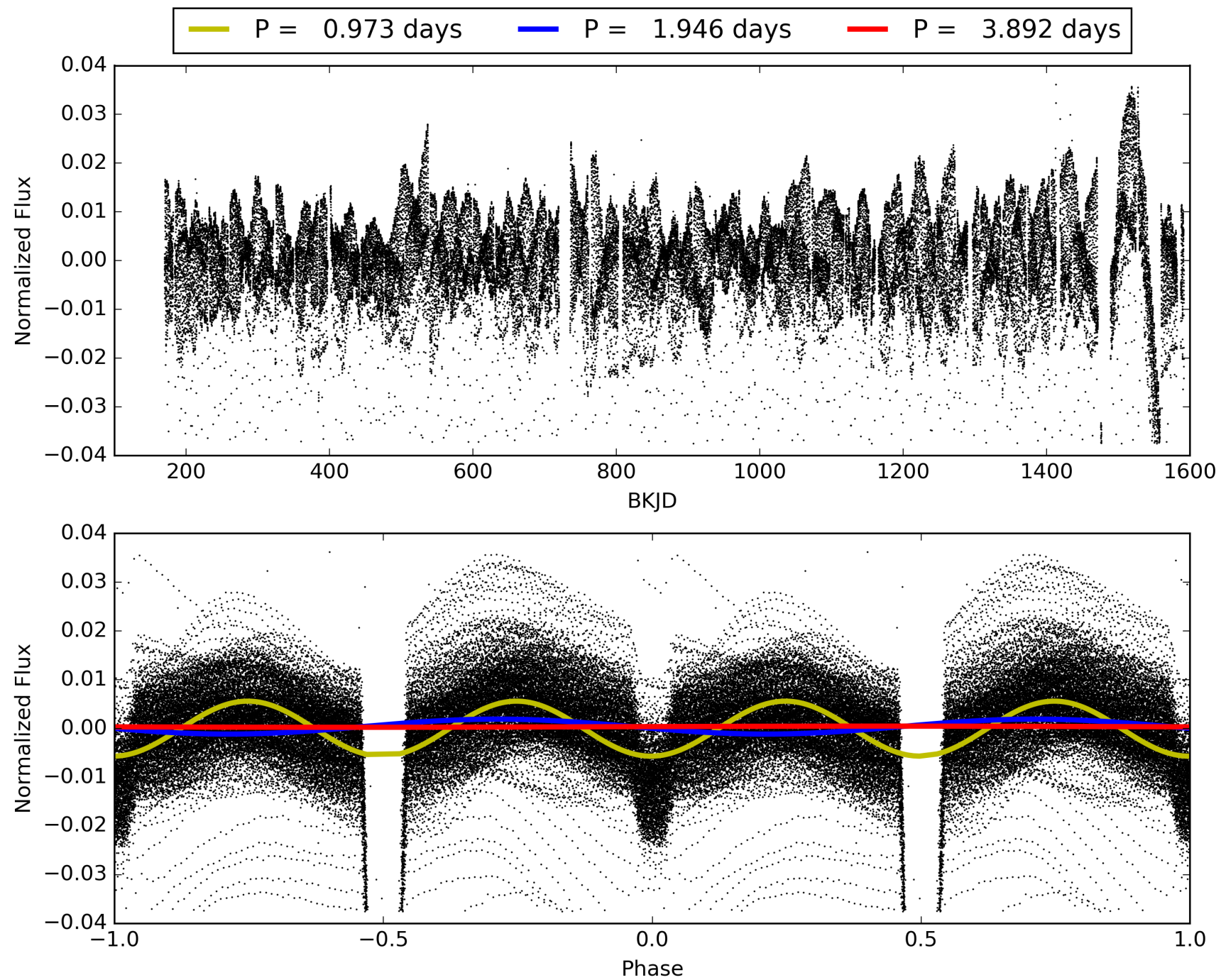
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:49:59 Z

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

TCE 003530668-02, PDC Light Curves

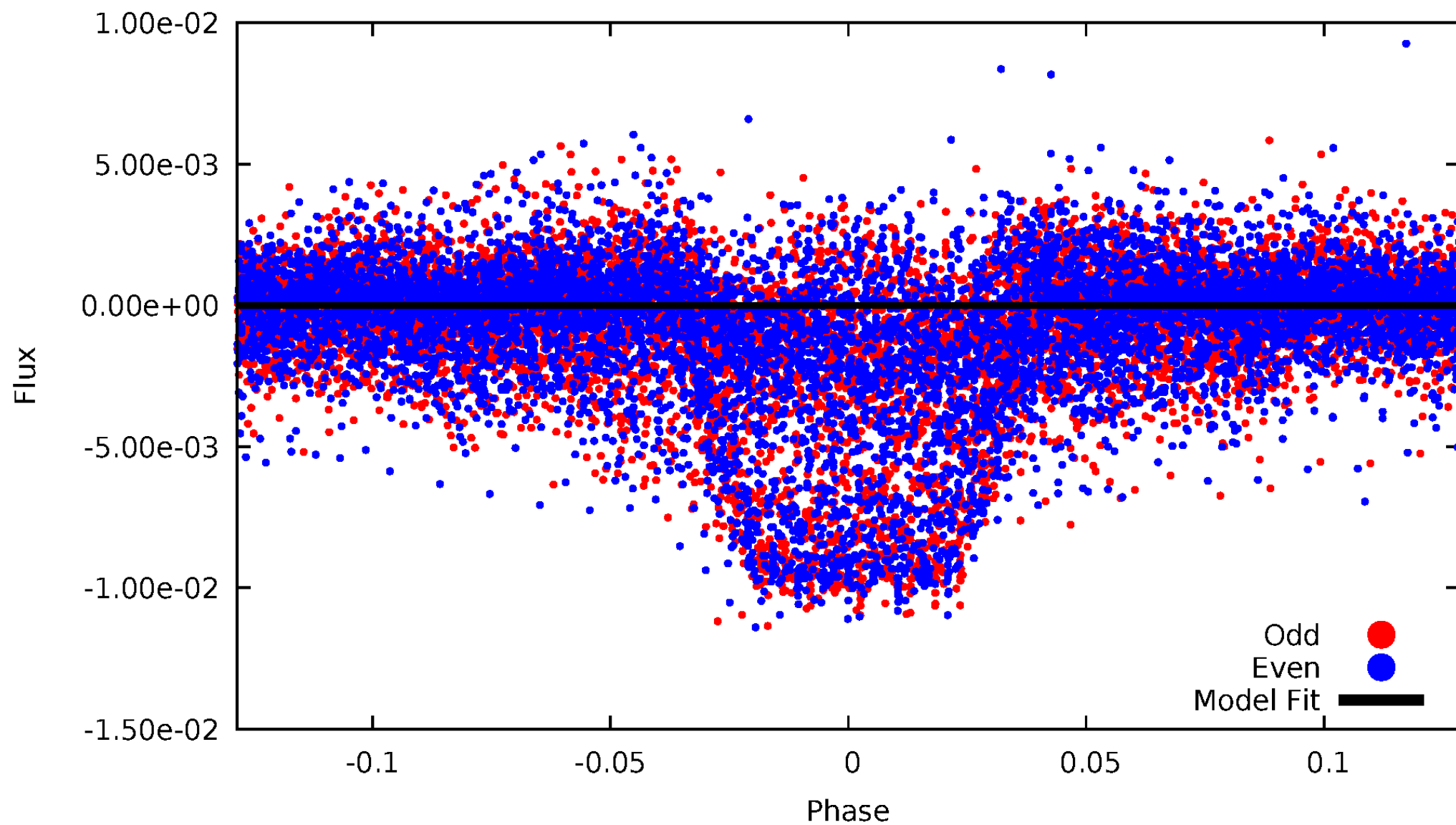


TCE 003530668-02



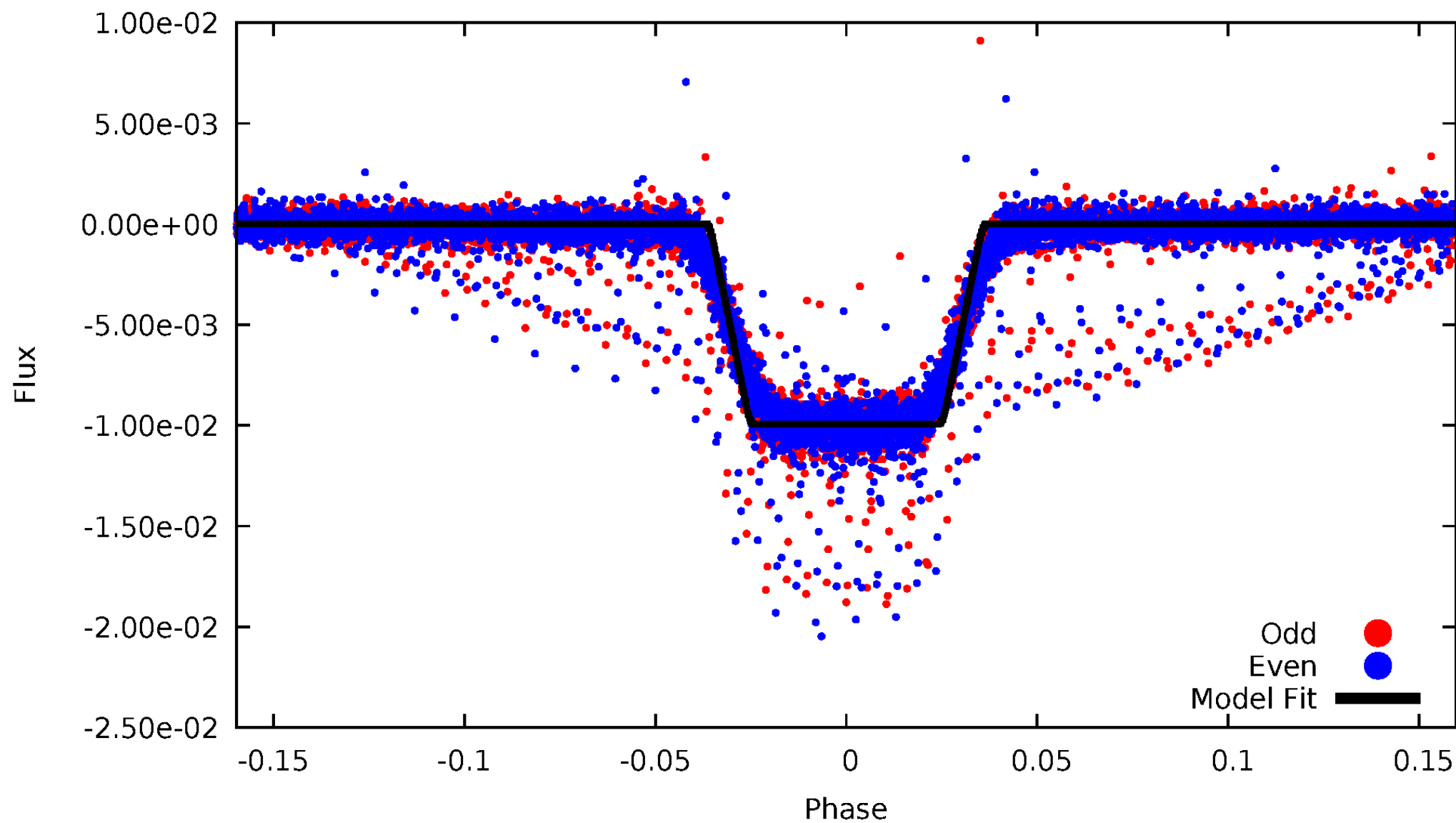
DV Odd/Even

TCE 003530668-02



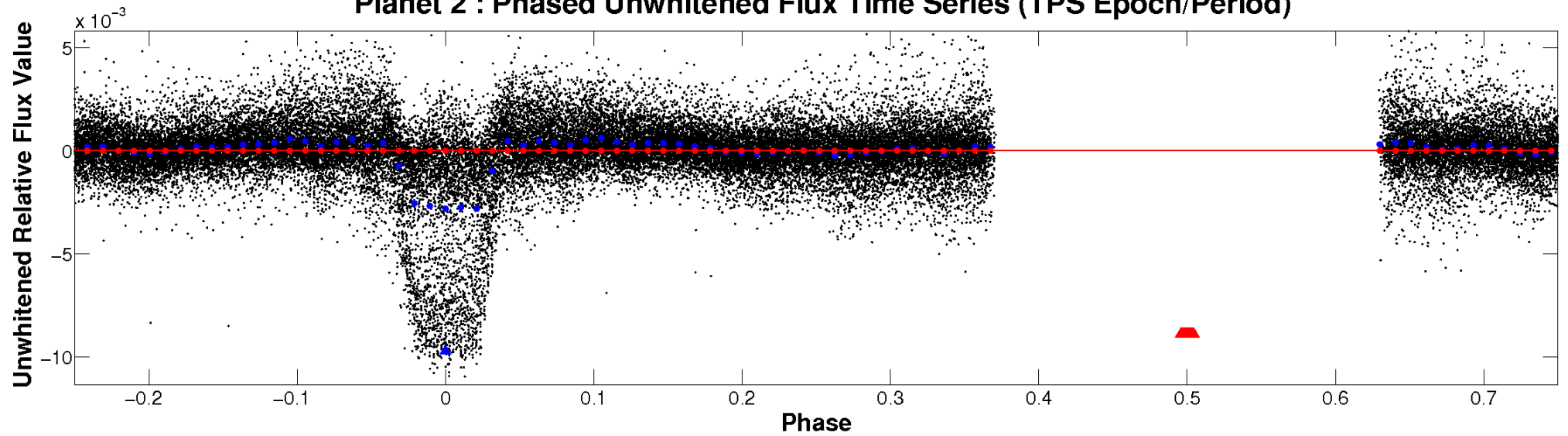
ALT Odd/Even

TCE 003530668-02

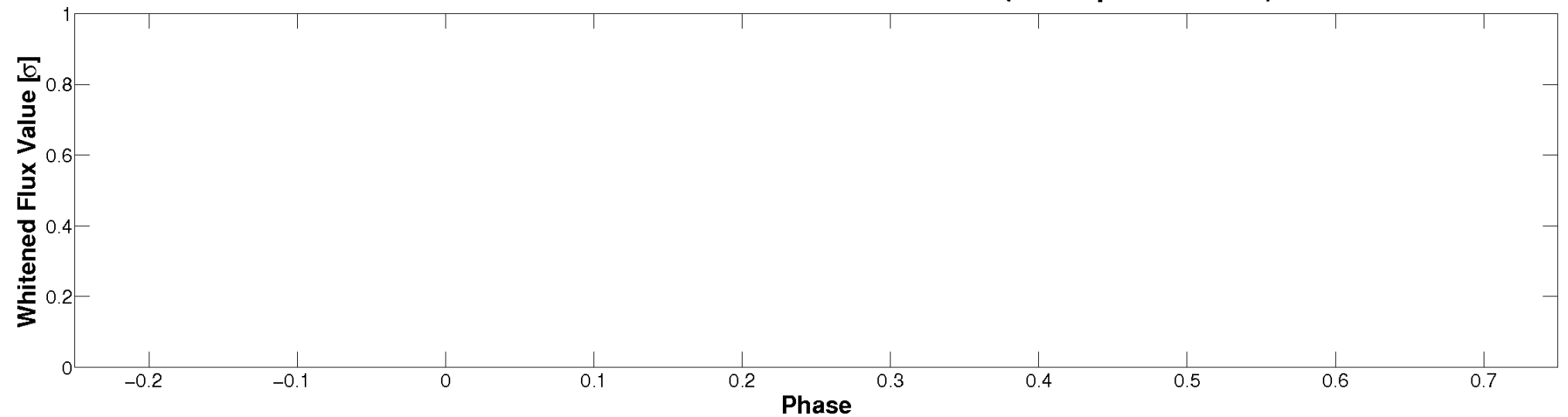


Non-Whitened Vs. Whitened Light Curve

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

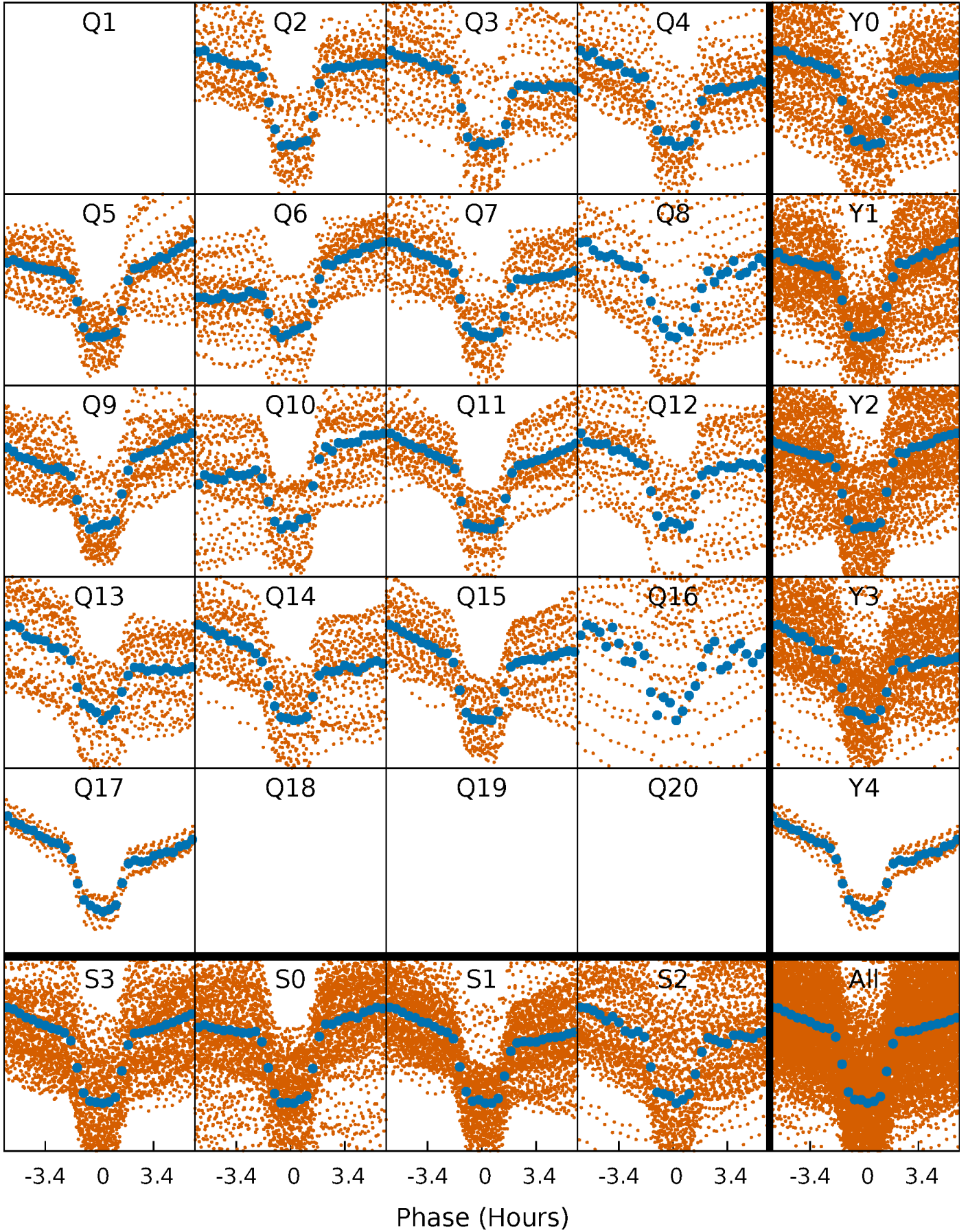


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



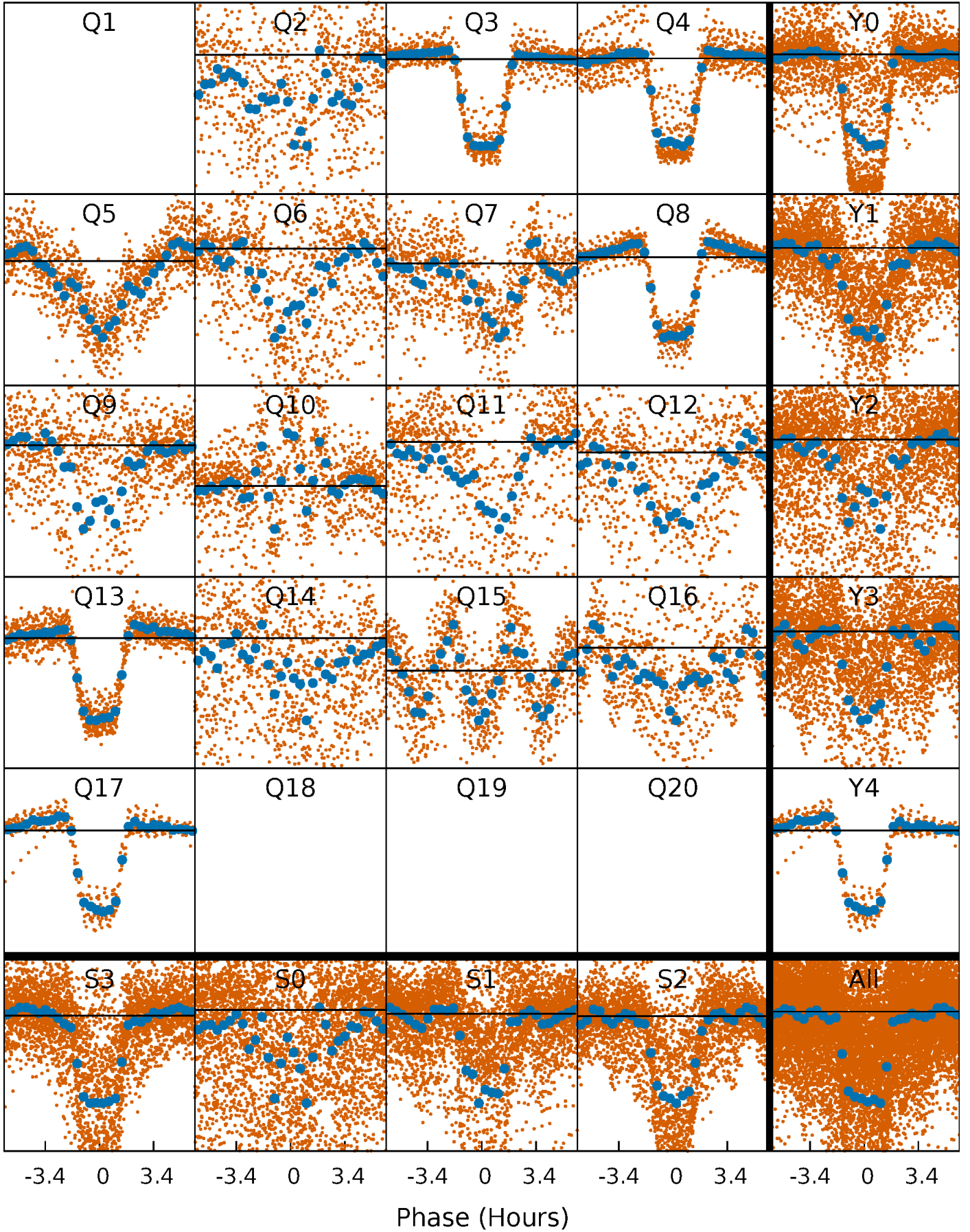
PDC Quarter-Phased Transit Curves

TCE 003530668-02 P= 1.946209 Days $T_0=133.282027$ (BKJD)



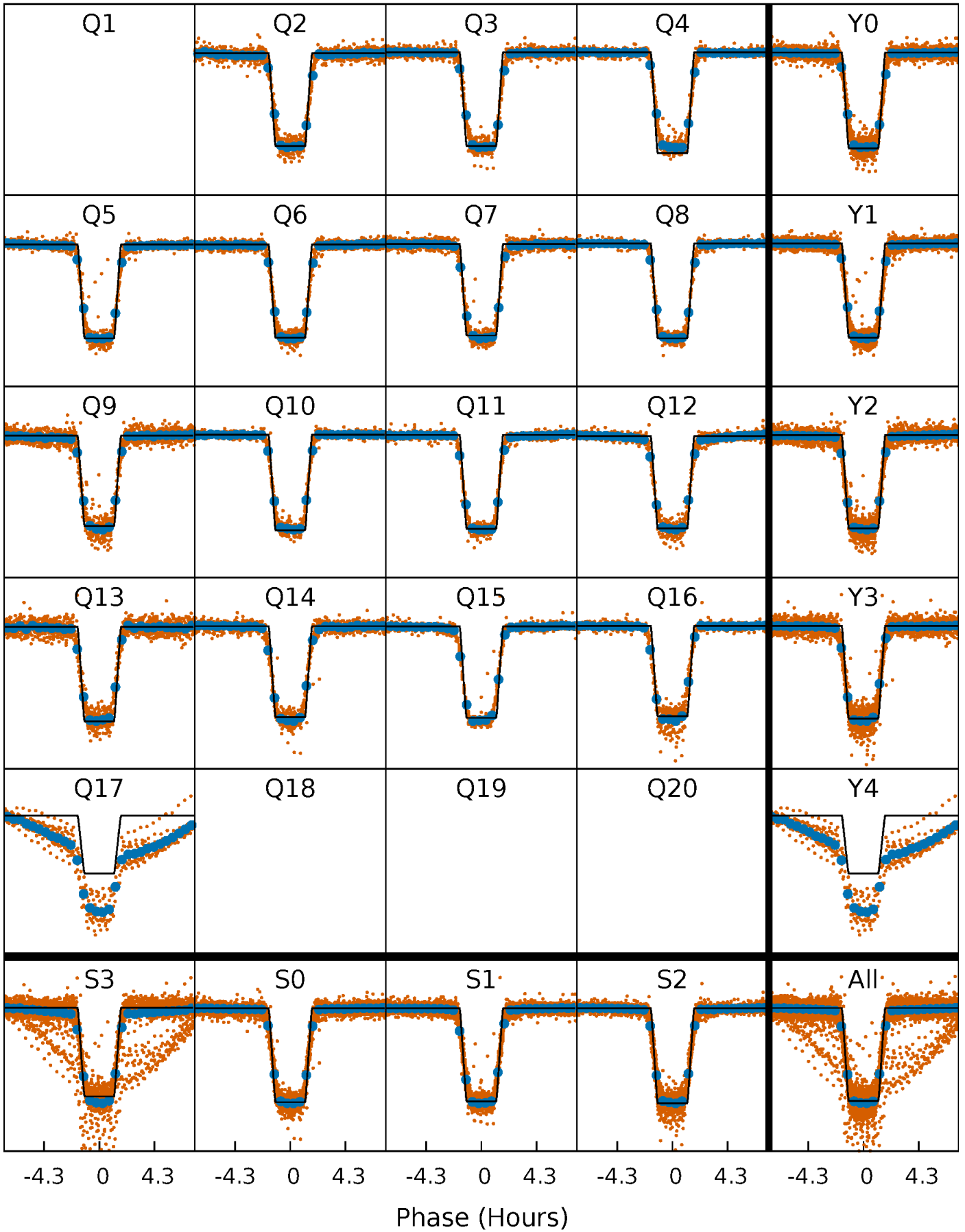
DV Quarter-Phased Transit Curves

TCE 003530668-02 $P = 1.946209$ Days $T_0 = 133.282027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

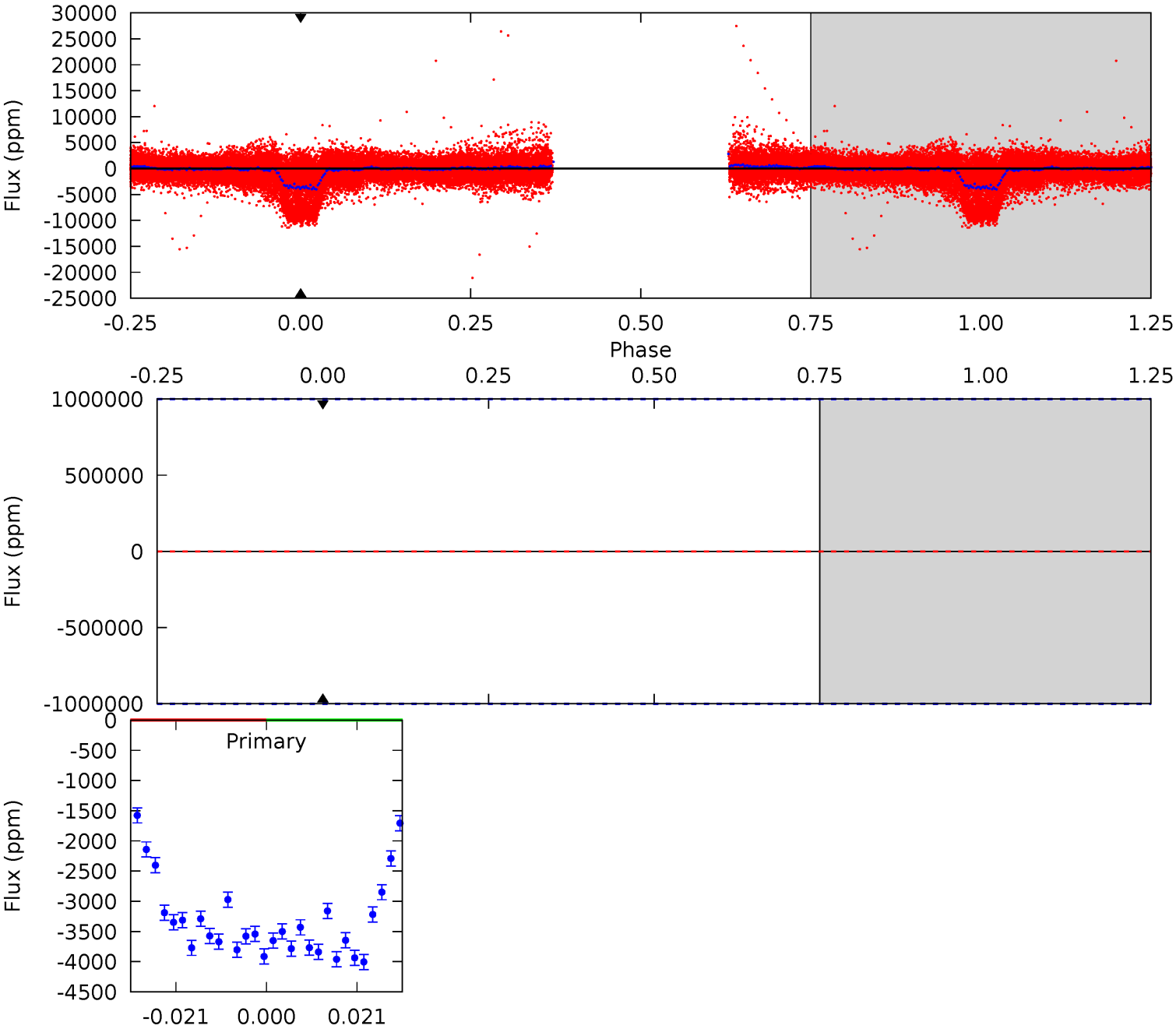
TCE 003530668-02 $P = 1.946209$ Days $T_0 = 133.283580$ (BKJD)



DV Model-Shift Uniqueness Test

003530668-02, P = 1.946209 Days, E = 133.282027 Days

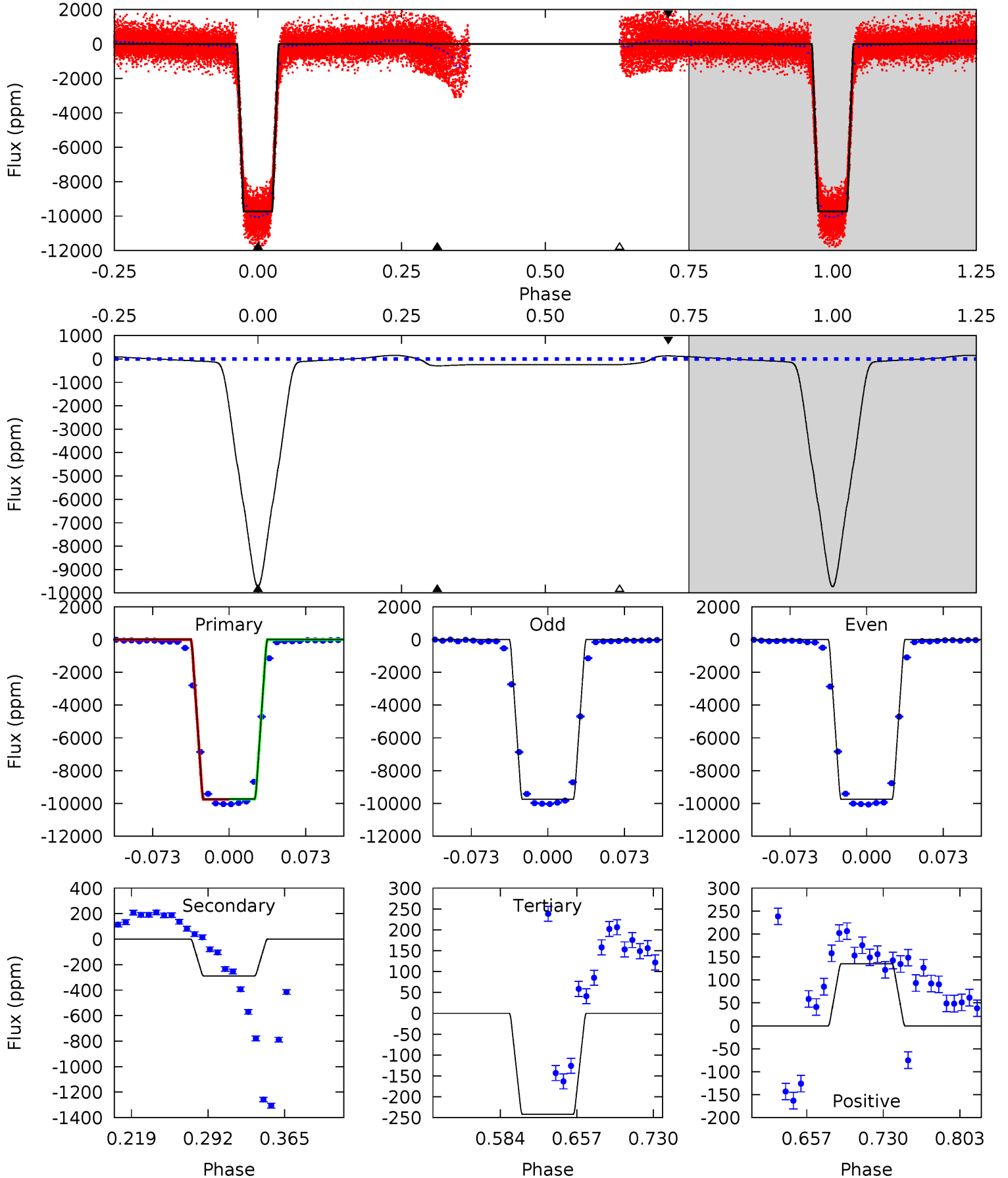
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003530668-02, P = 1.946209 Days, E = 133.283580 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1444	42.9	35.9	20.0	4.63	1.79	13.1	1408	1424	6.98	22.8	0.30	1.02	0.02	0



Stellar Parameters For KIC 003530668

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6224^{+199}_{-243}	$4.165^{+0.240}_{-0.180}$	$-0.140^{+0.250}_{-0.300}$	$1.433^{+0.400}_{-0.360}$	$1.094^{+0.181}_{-0.148}$	$0.524^{+0.682}_{-0.261}$
	+3%/-4%	+6%/-4%	+179%/-214%	+28%/-25%	+17%/-14%	+130%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003530668-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.83^{+13.67}_{-9.20}$	2576^{+193}_{-216}	3316^{+14867}_{-21817}	$1.301^{+458.125}_{-469.962}$
Alt.	-289 ± 7	$17.53^{+14.69}_{-11.09}$	2576^{+216}_{-204}	2683^{+1456}_{-5273}	$0.499^{+3.417}_{-0.350}$

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

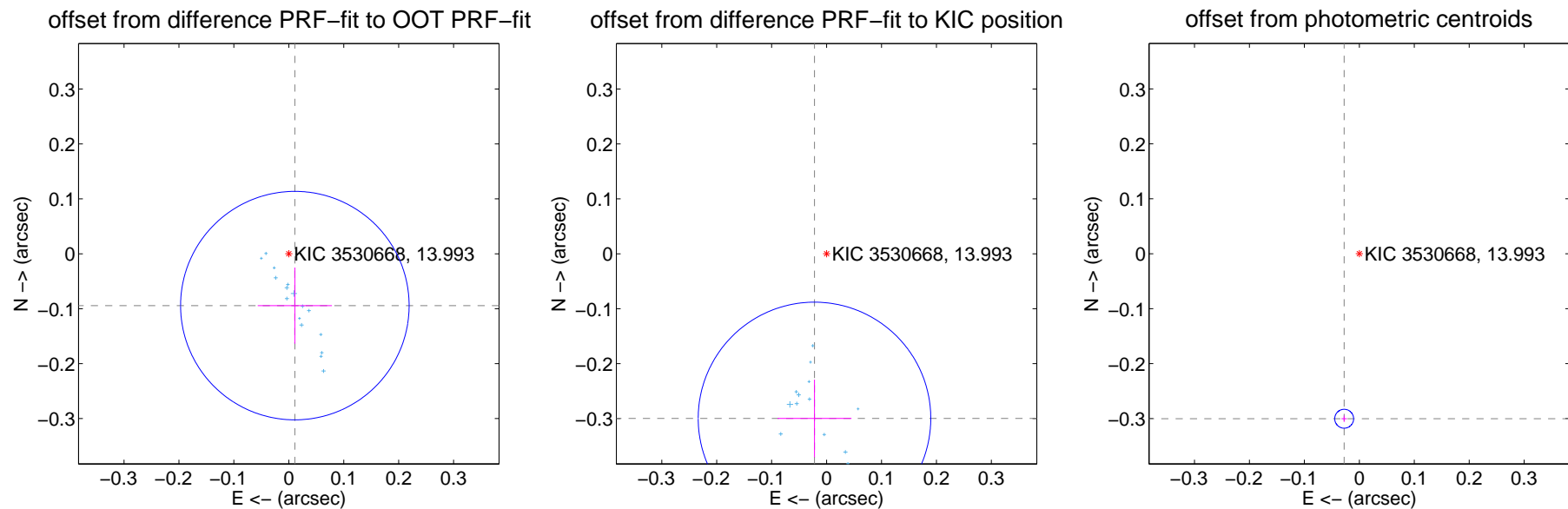
DV Centroid Data

Supplemental centroid analysis for 003530668-02. Kepler magnitude: 13.99. Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

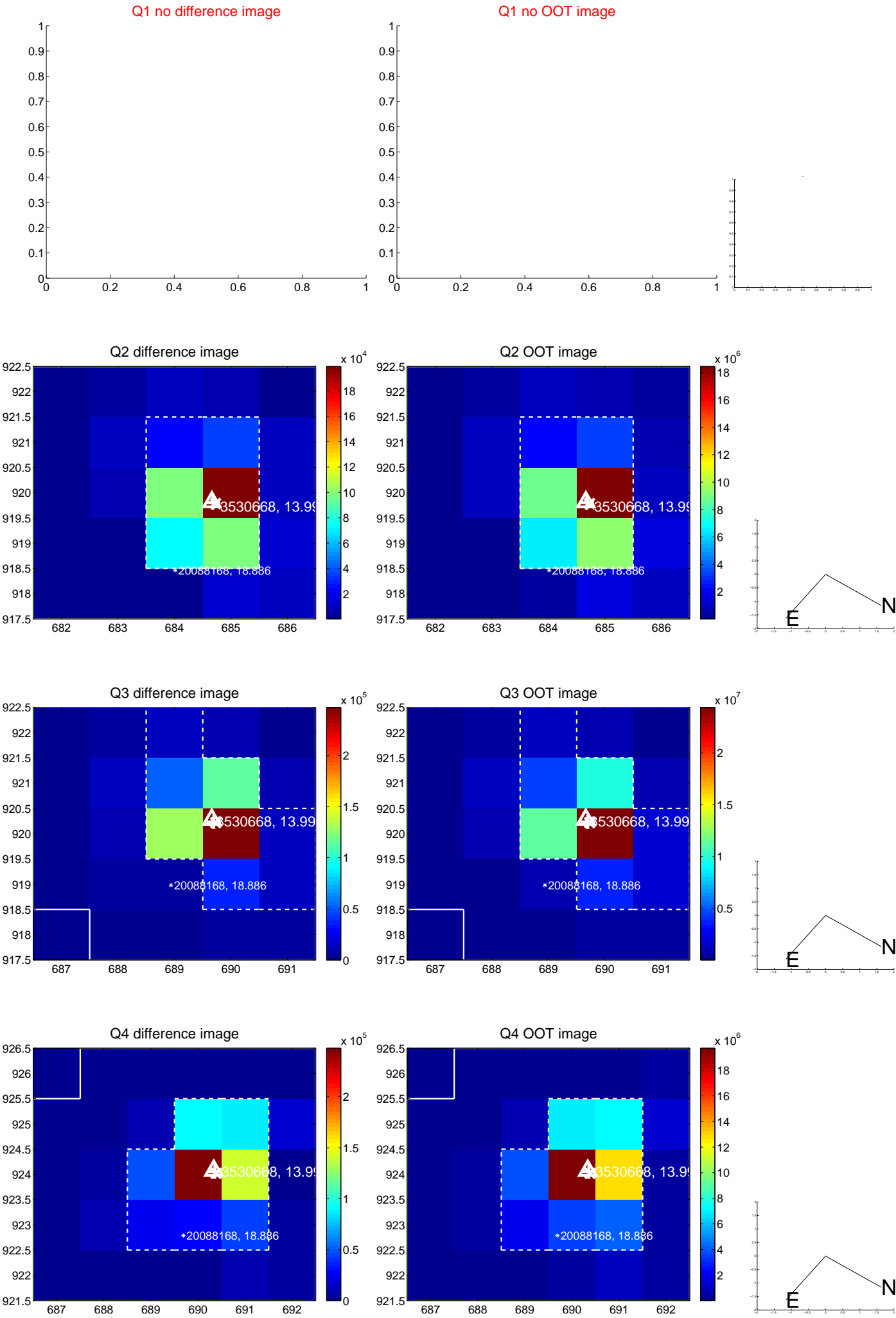
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.095 ± 0.069	1.37	-0.011 ± 0.068	-0.094 ± 0.069
PRF-fit source offset from KIC position	0.301 ± 0.071	4.26	0.022 ± 0.067	-0.300 ± 0.071
photometric centroid source offset	0.30 ± 0.01	52.61	0.03 ± 0.00	-0.30 ± 0.01

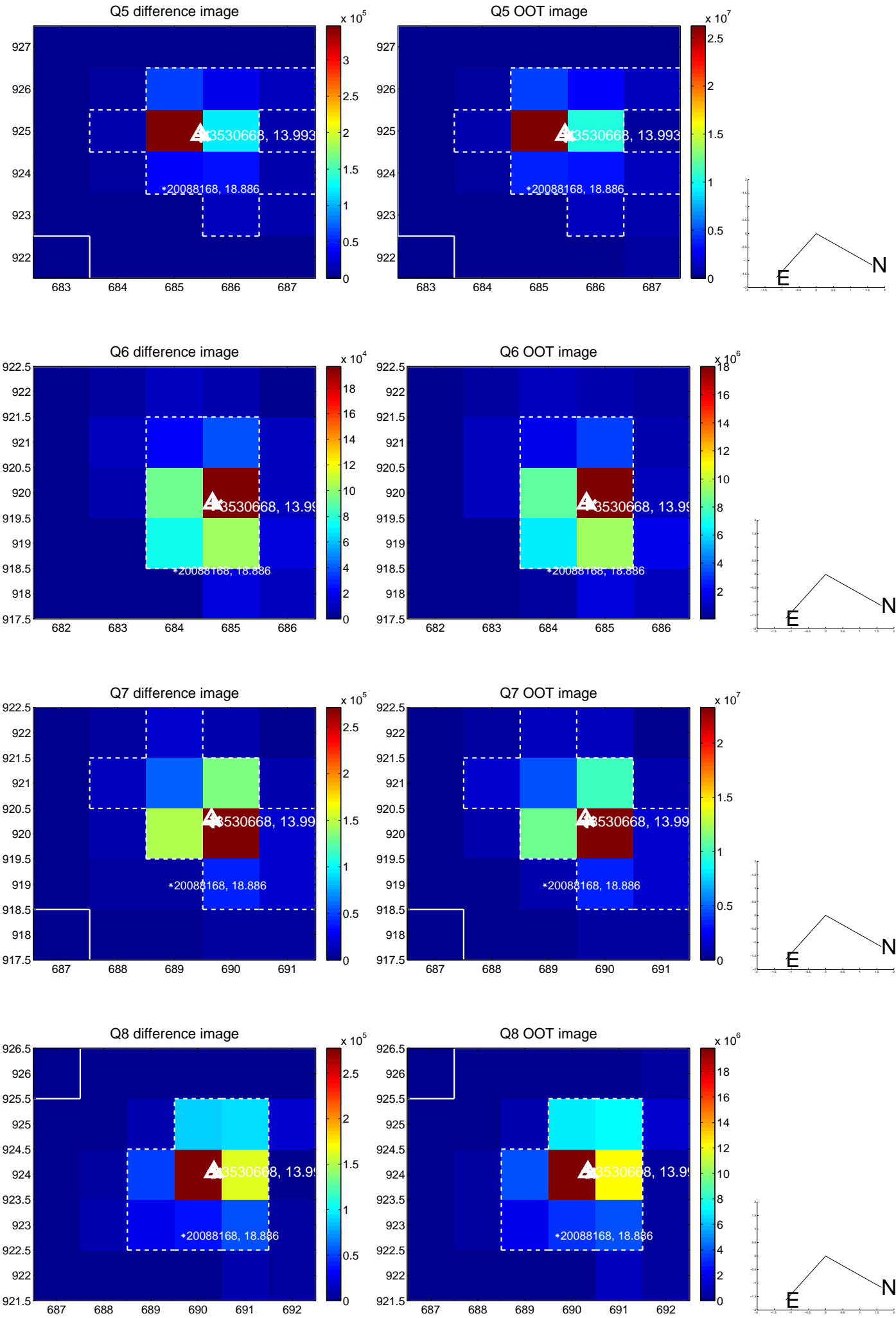


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

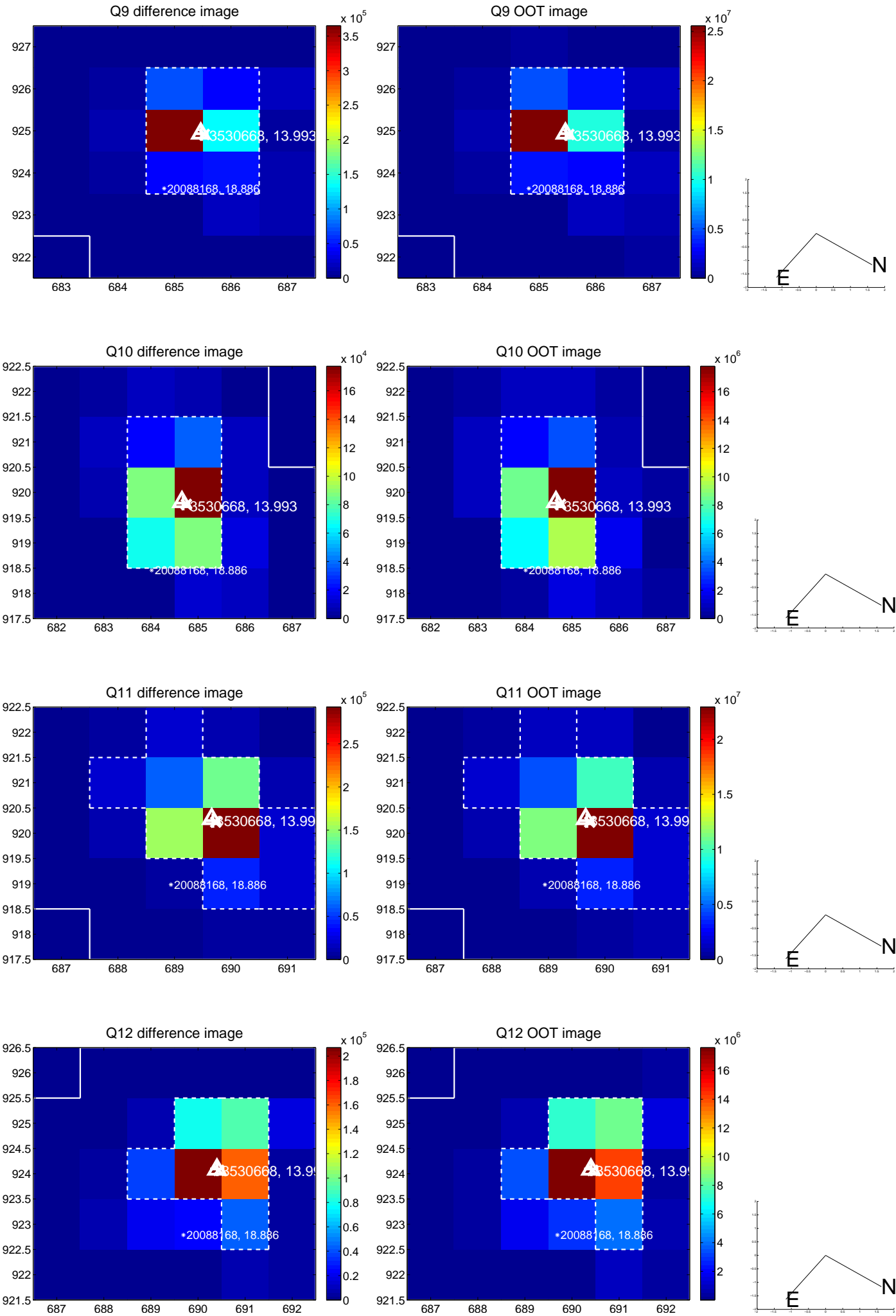
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



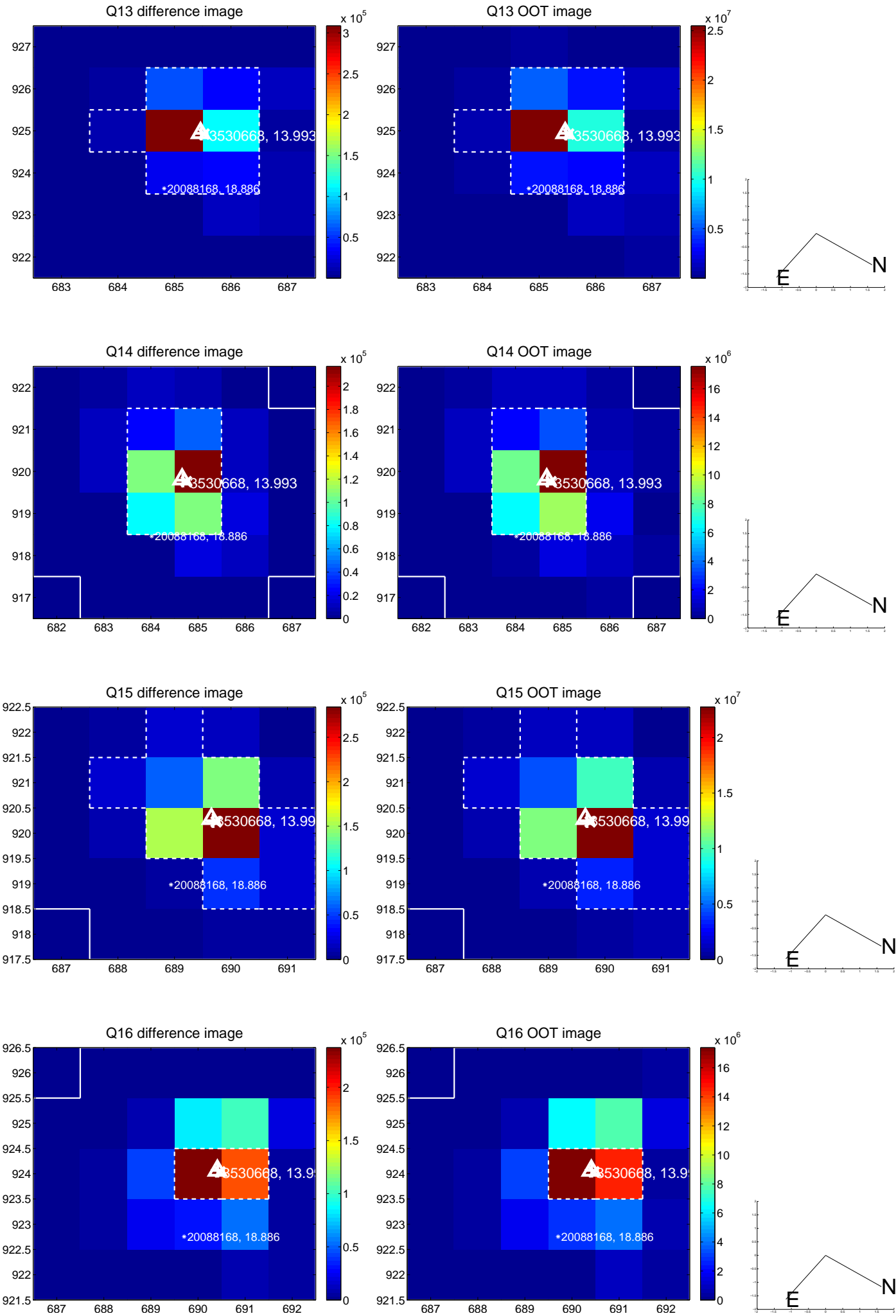
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



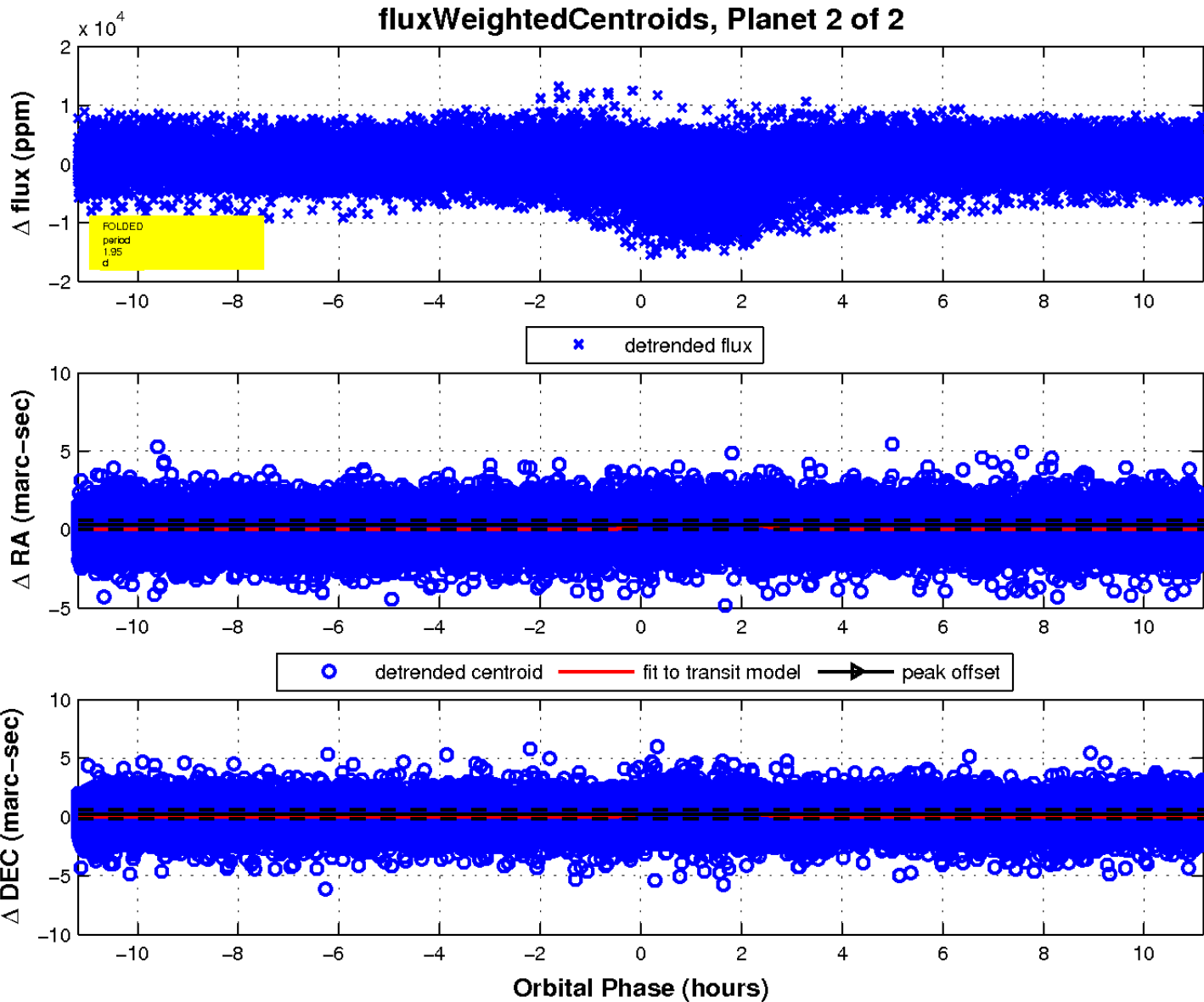
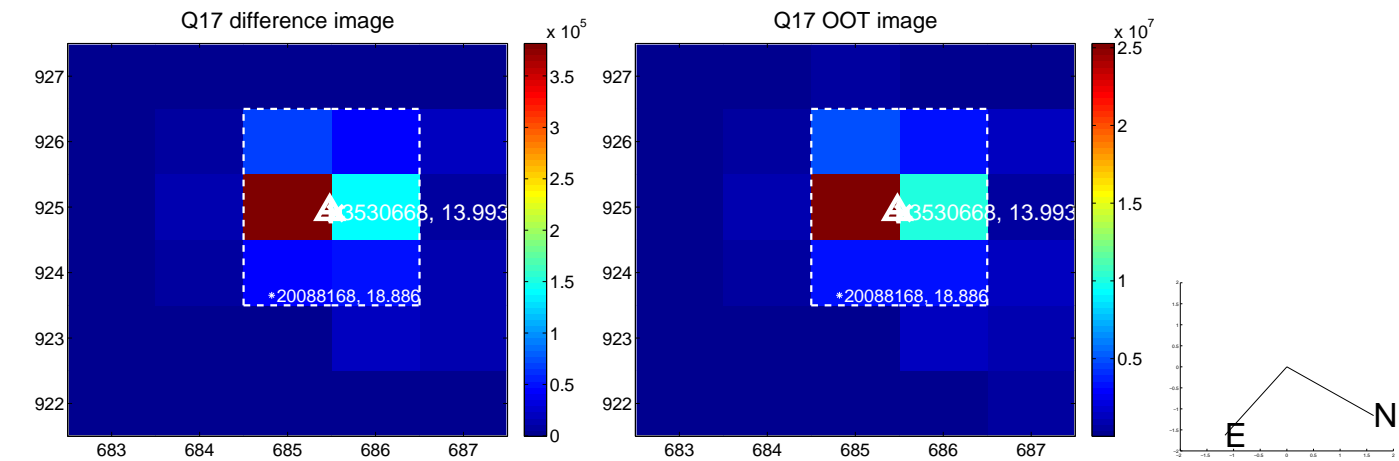
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

