

KIC 009944201

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})
009944201-01	OBS	7259.01	0.721526	131.707083	21726.1	1.493	1239.1	1294.4	0.62	4893	12.53	1120.59
009944201-02	OBS	No	0.721519	132.064119	5256.4	1.500	59.4	-1.0	0.62	4893	4.44	1120.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009944201-01	OBS	PC	0.70	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—DEEP_V_SHAPED—HAS_SEC_TCE
009944201-02	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.

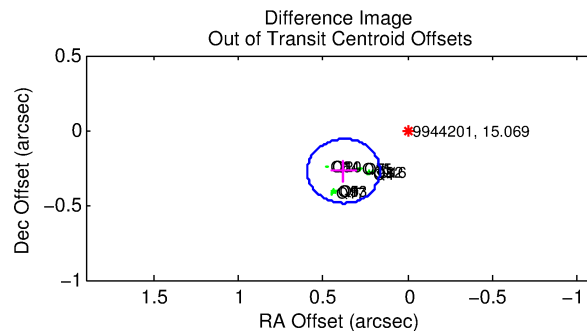
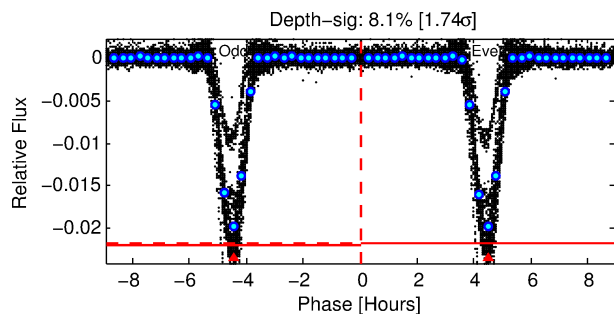
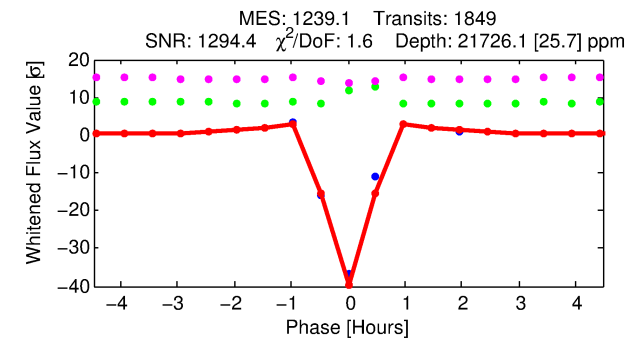
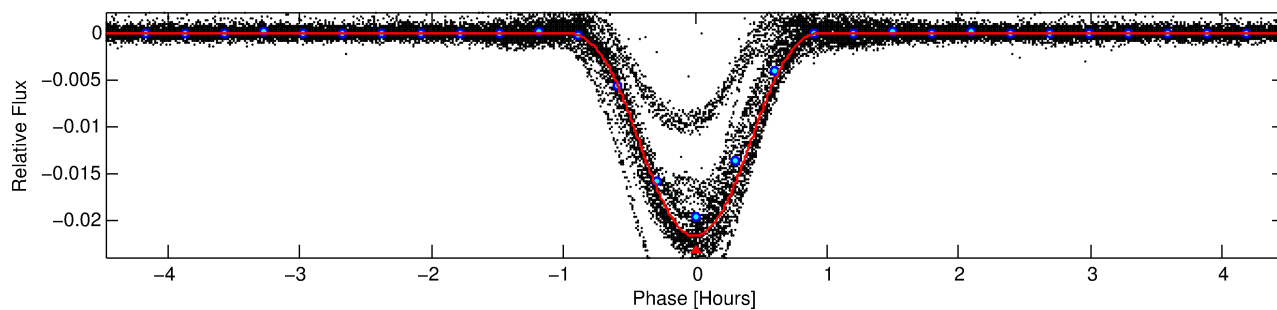
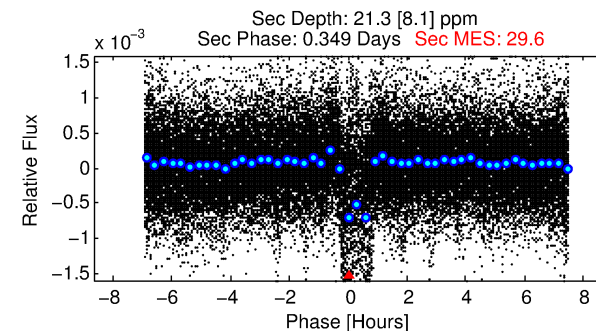
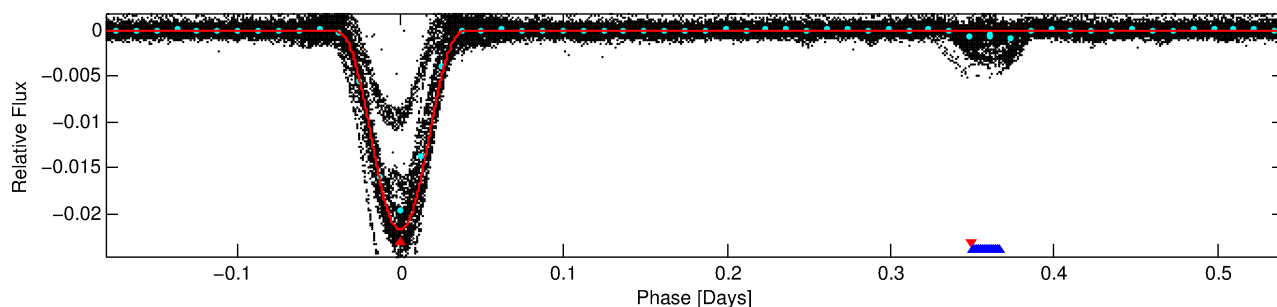
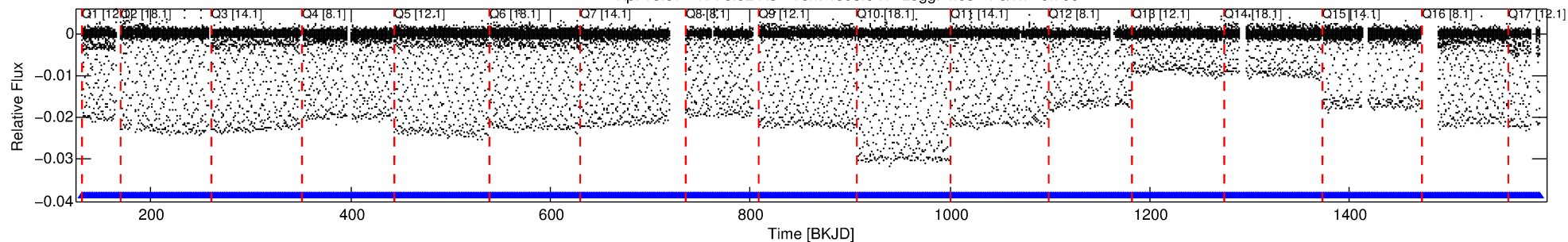
Ephemeris Match Information For 009944201-01

No Significant Match Found

DV One-Page Summary

KIC: 9944201 Candidate: 1 of 2 Period: 0.722 d
KOI: K07259.01 Corr: 0.966

Kp: 15.07 R*: 0.62 Rs Teff: 4893.0 K Logg: 4.63 Fe/H: -0.700



DV Fit Results:

Period = 0.72153 [0.00000] d
Epoch = 131.7071 [0.0000] BKJD
Rp/R* = 0.1837 [0.0044]
a/R* = 3.03 [0.02]
b = 0.90 [0.01]
Seff = 1120.59 [181.28]
Teq = 1475 [60] K
Rp = 12.53 [1.14] Re
a = 0.0134 [0.0010] AU
Ag = 0.01 [0.01] [-186.20σ]
Teff = 776 [77] K [-7.16σ]

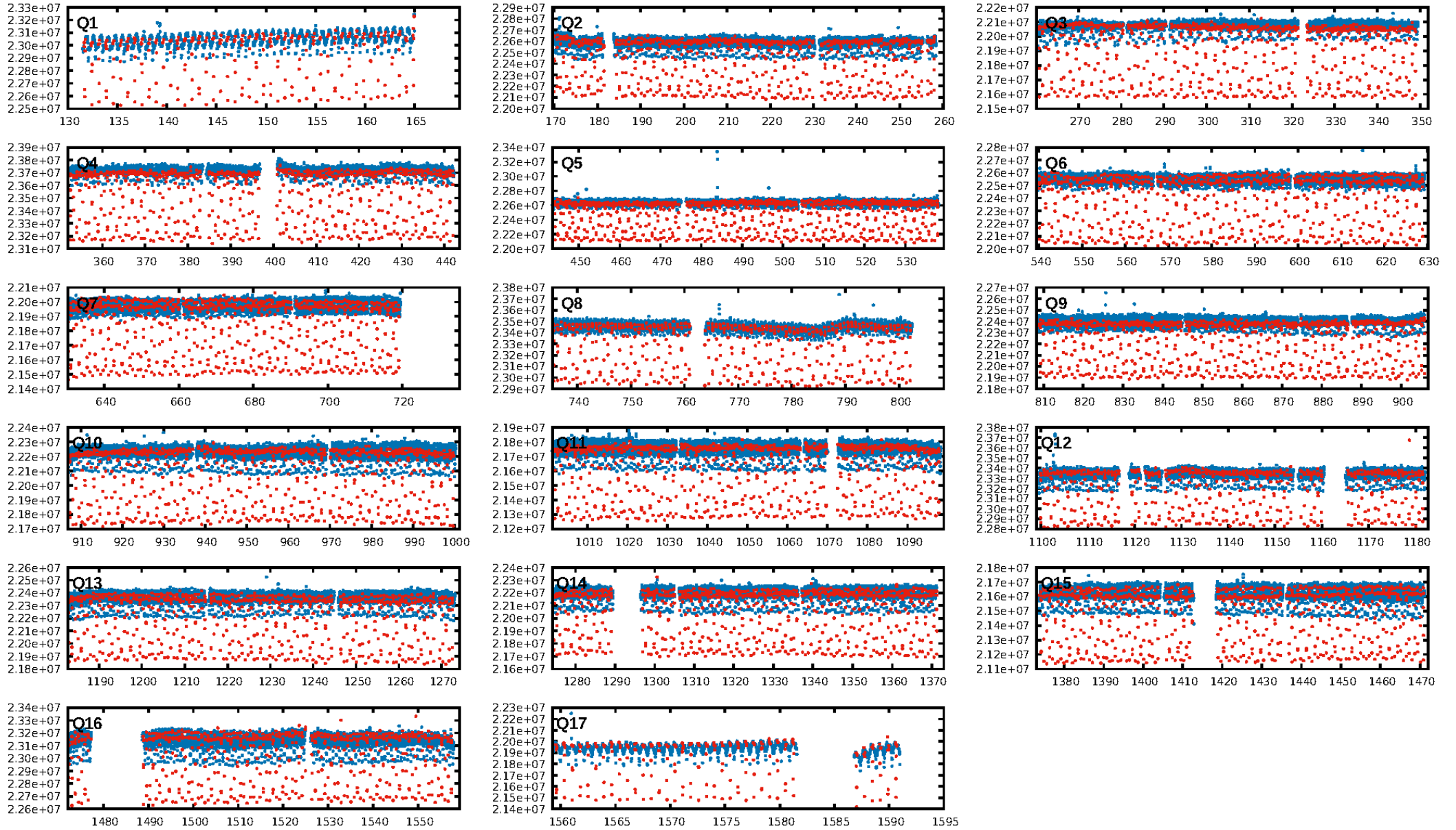
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1765/1765]
GhostDiagnostic-chr: 3.37
Centroid-sig: 0.0%
Centroid-so: 0.284 arcsec [59.32σ]
OotOffset-rm: 0.469 arcsec [6.55σ]
KicOffset-rm: 0.493 arcsec [6.61σ]
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]

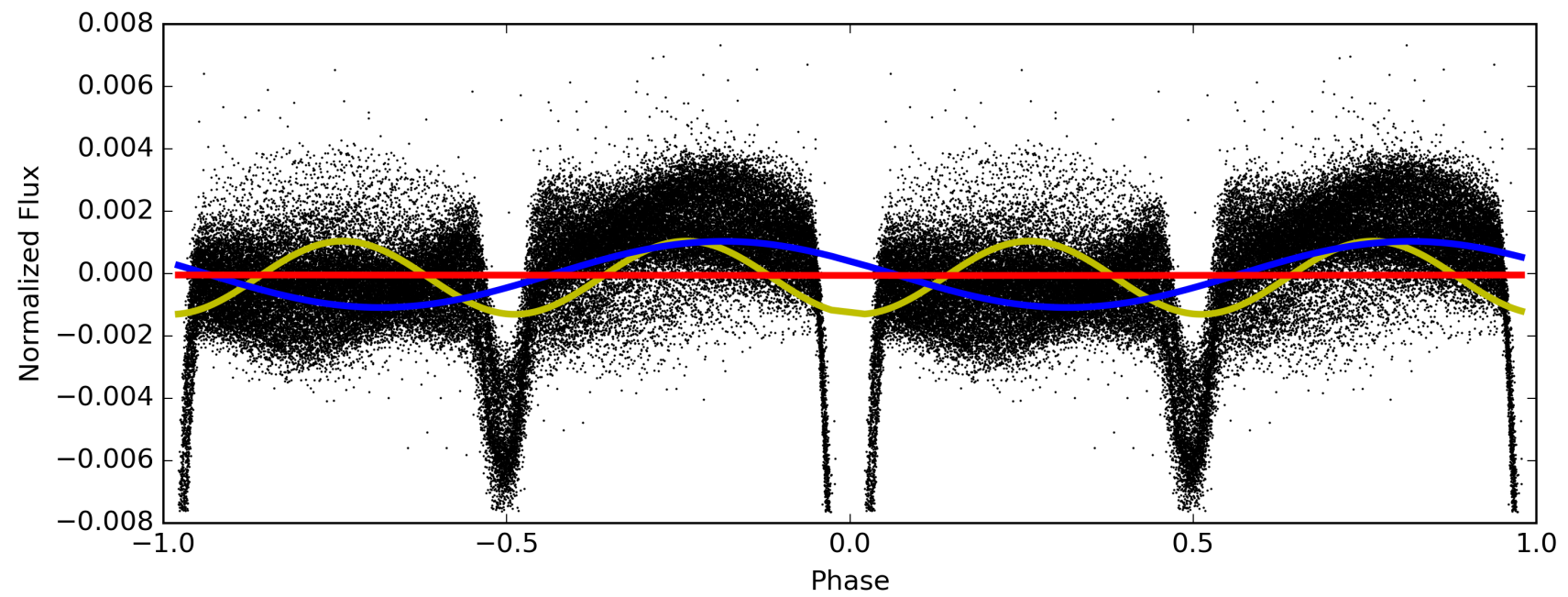
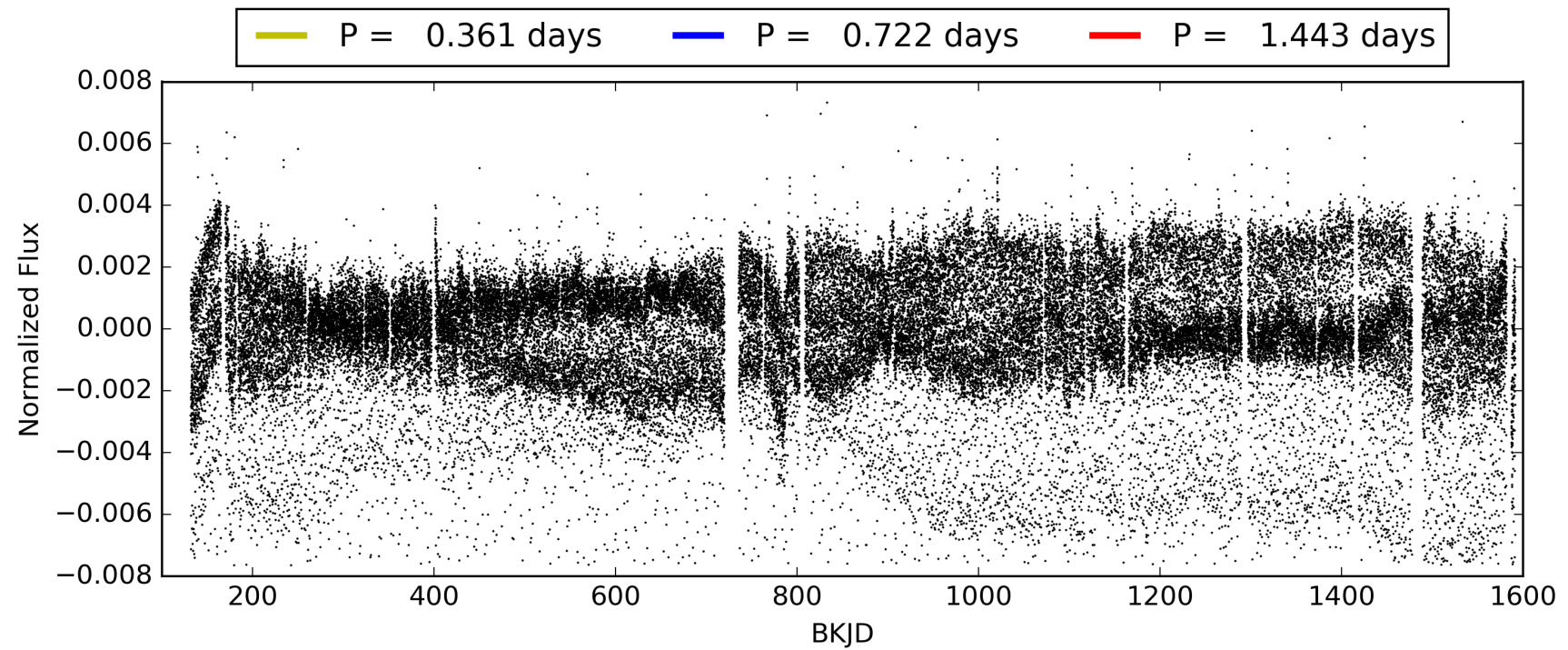
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:03:14 Z

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

TCE 009944201-01, PDC Light Curves

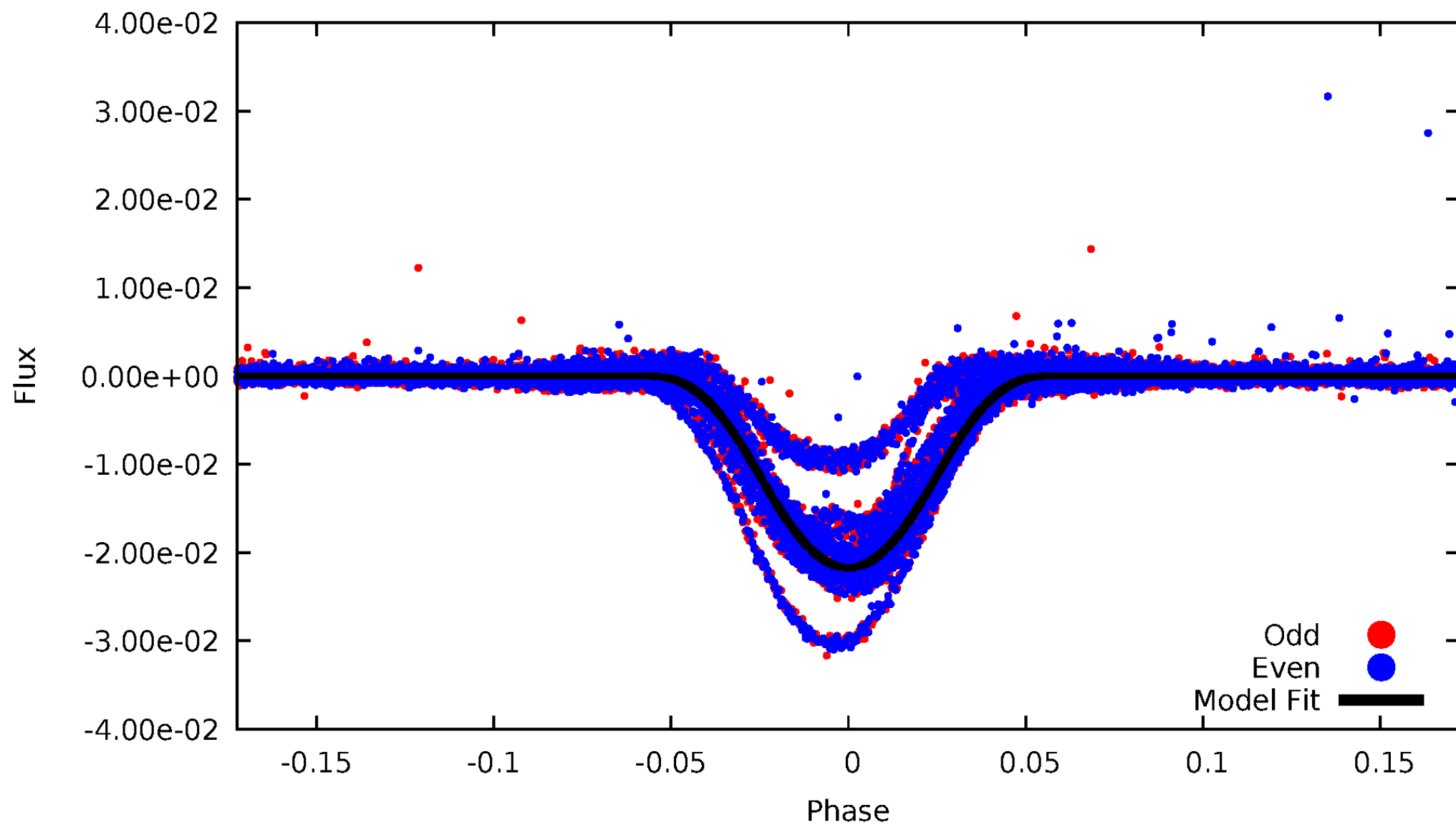


TCE 009944201-01



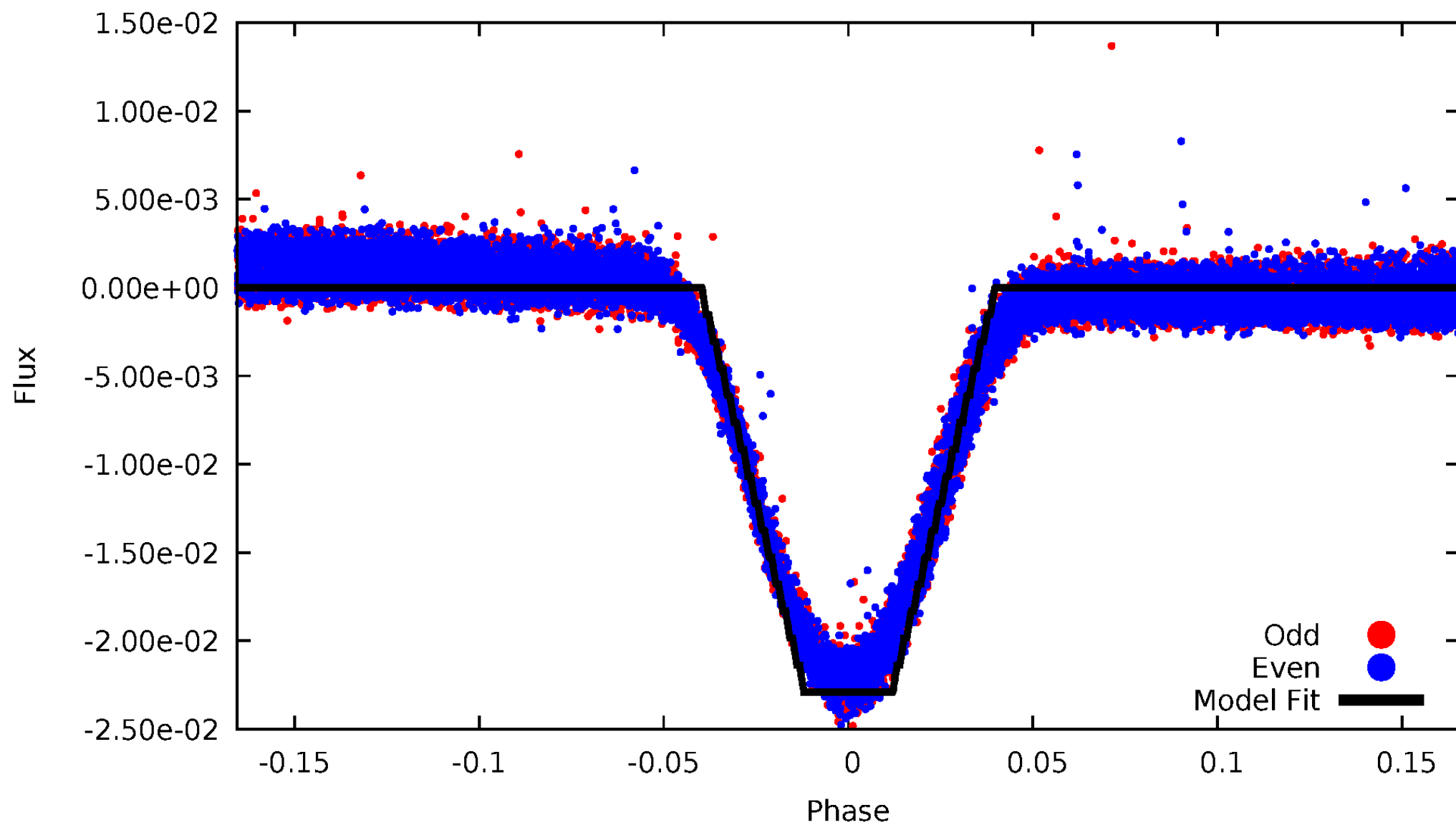
DV Odd/Even

TCE 009944201-01



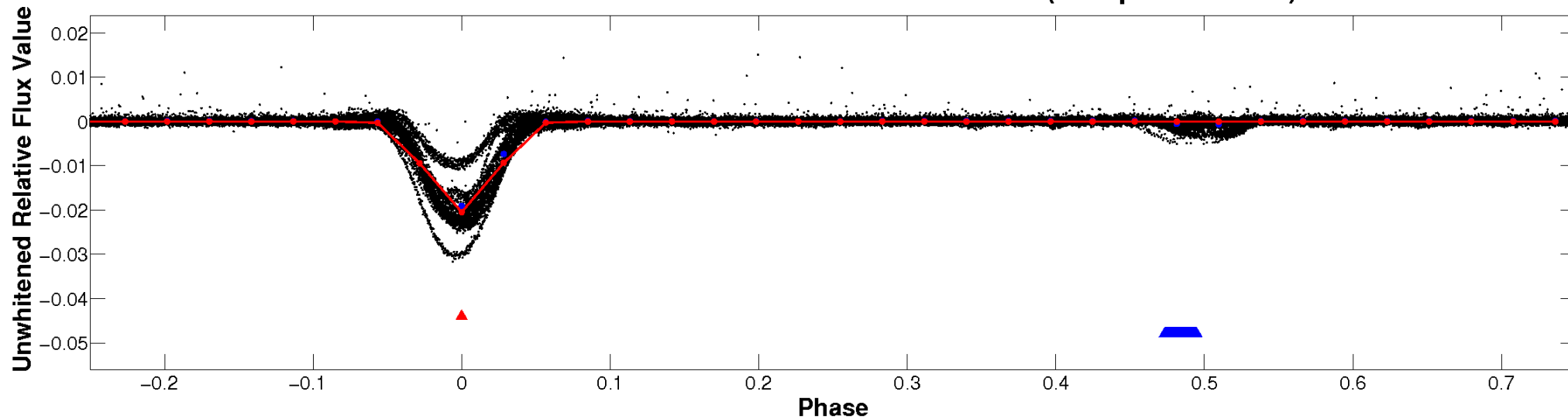
ALT Odd/Even

TCE 009944201-01

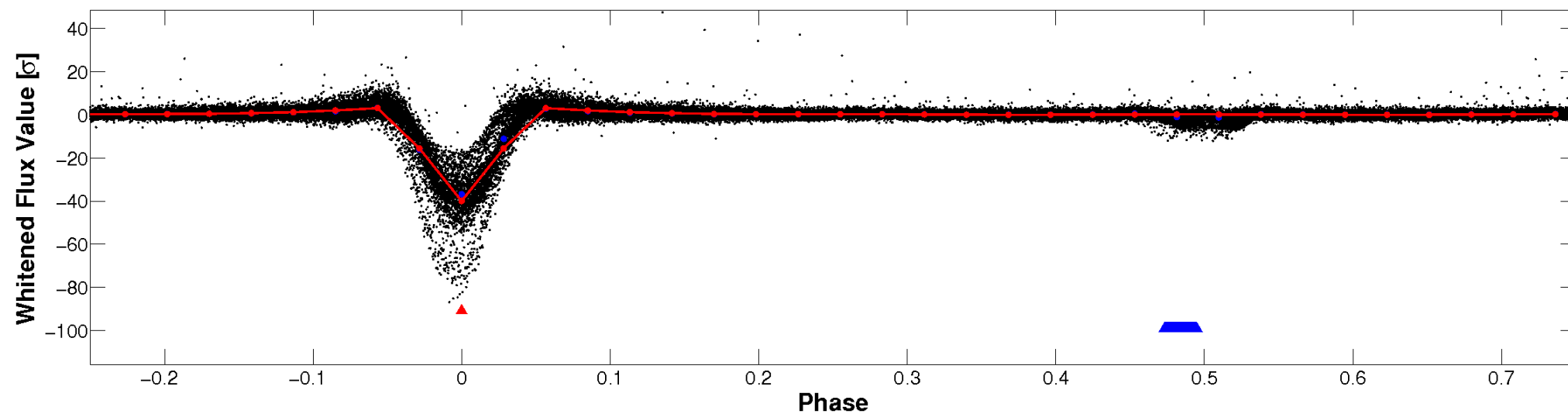


Non-Whitened Vs. Whitened Light Curve

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

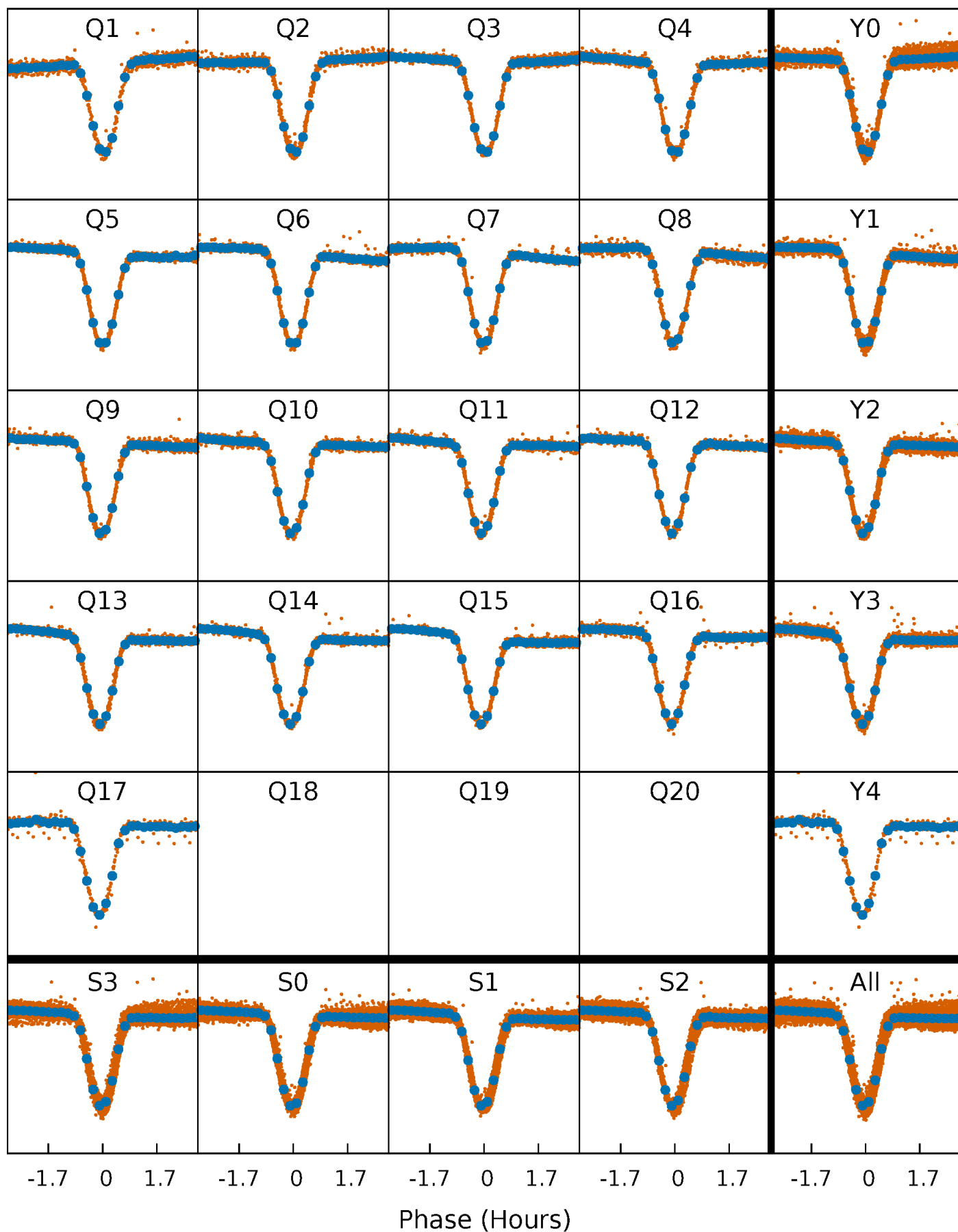


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



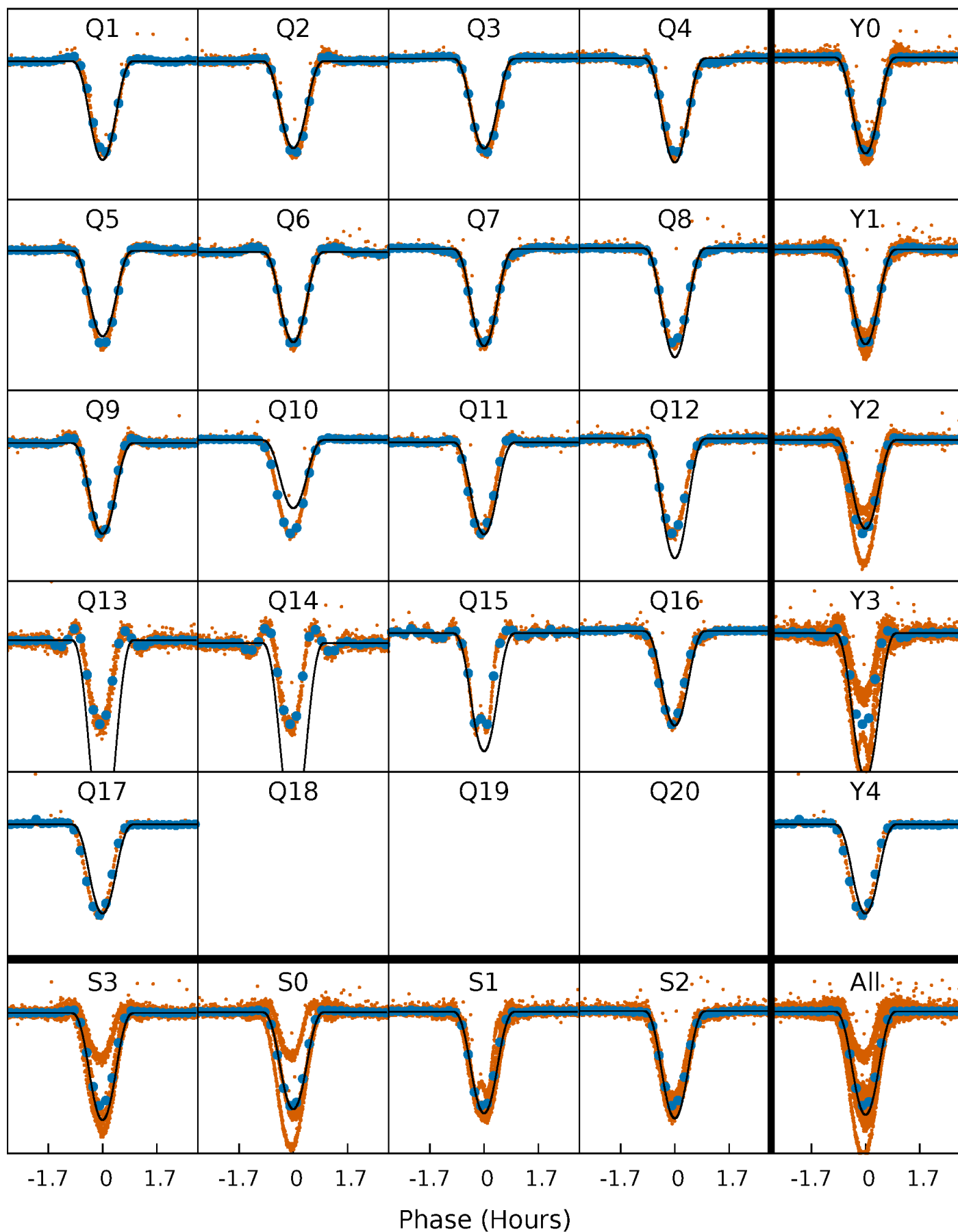
PDC Quarter-Phased Transit Curves

TCE 009944201-01 P= 0.721526 Days $T_0=131.707083$ (BKJD)



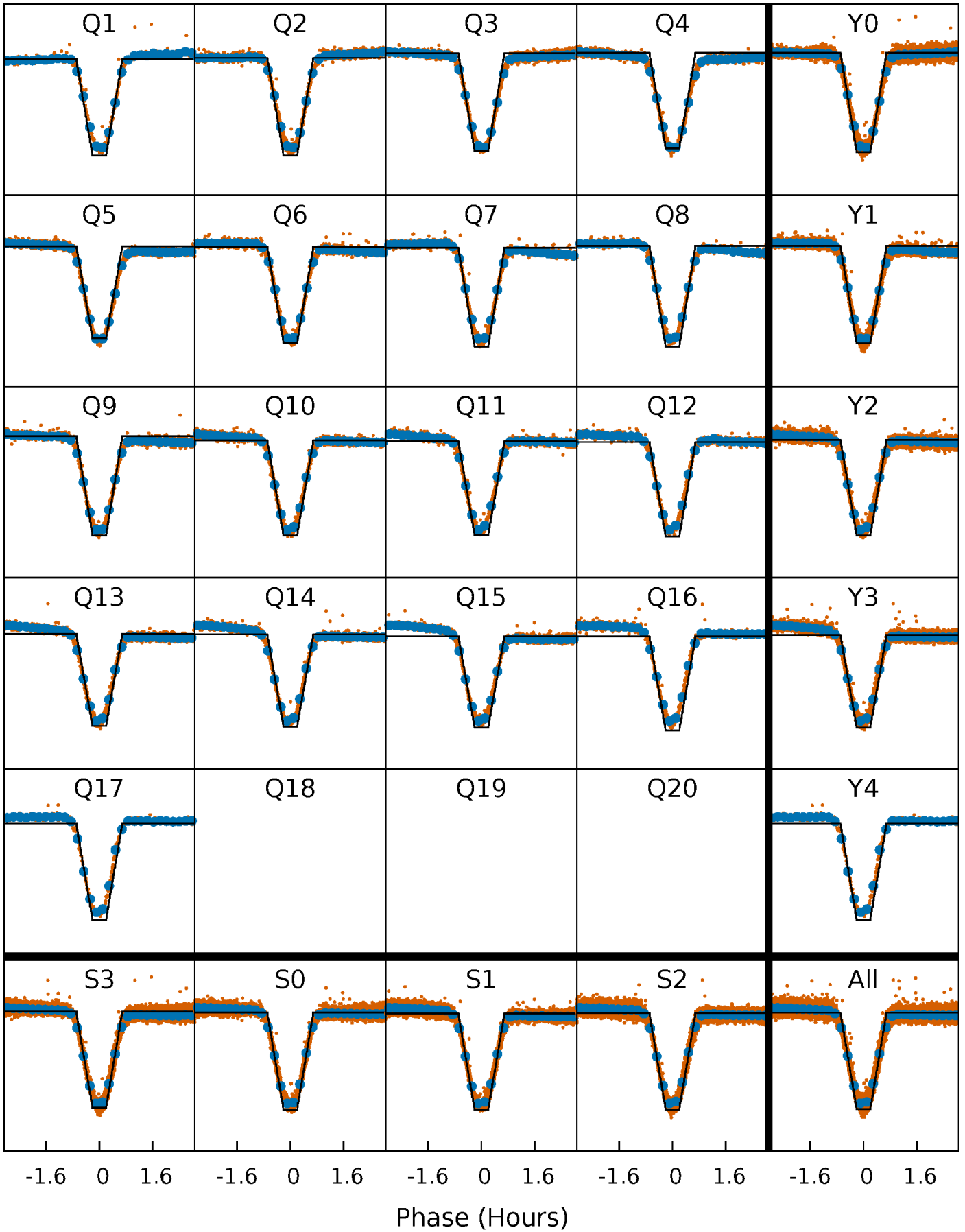
DV Quarter-Phased Transit Curves

TCE 009944201-01 P= 0.721526 Days $T_0=131.707083$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

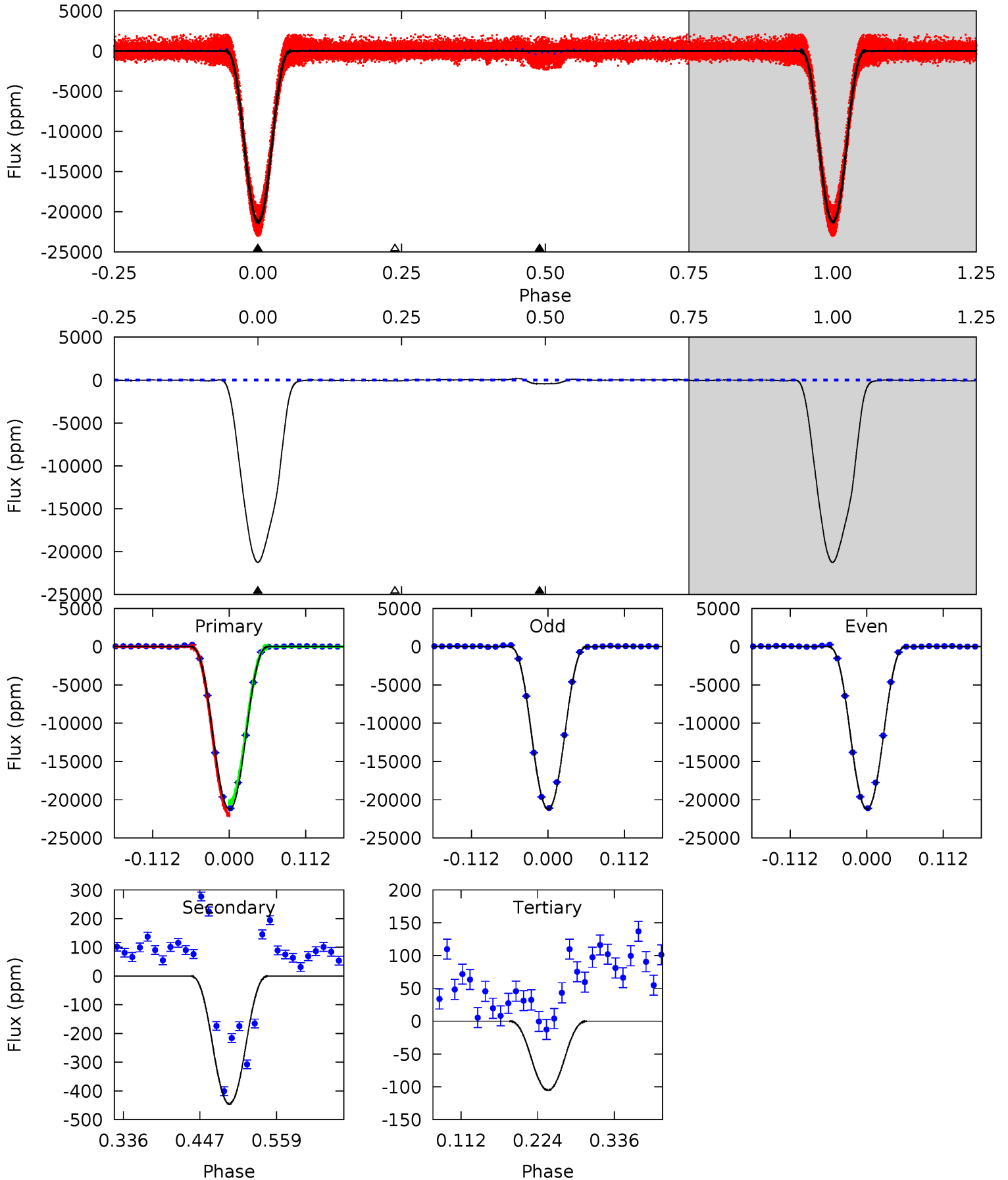
TCE 009944201-01 P= 0.721524 Days $T_0=131.708002$ (BKJD)



DV Model-Shift Uniqueness Test

009944201-01, P = 0.721526 Days, E = 130.985557 Days

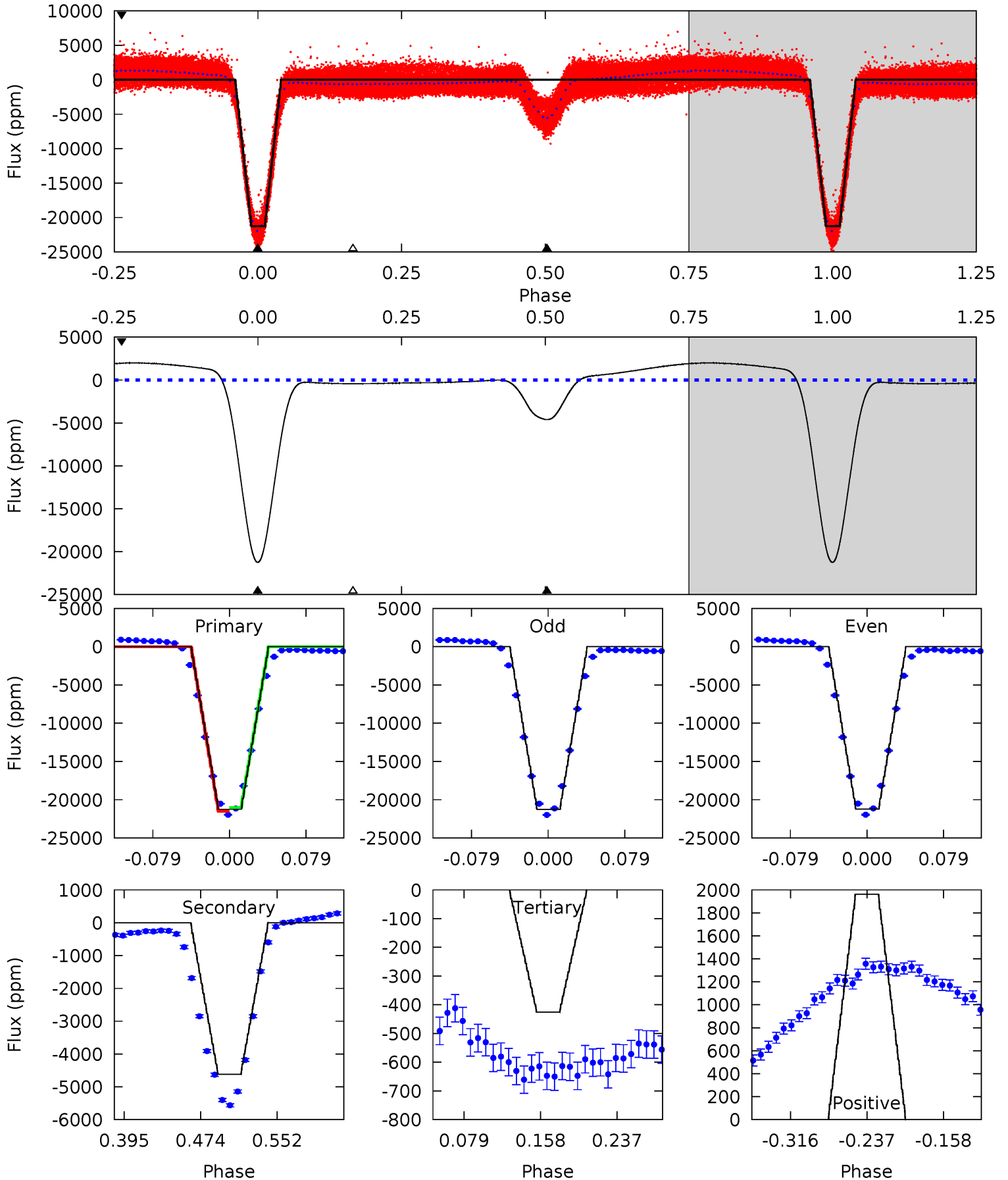
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3283	68.9	16.3	0	4.54	1.59	6.16	3267	3283	52.6	68.9	0.93	0.94	0.01	123.4



Alt Model-Shift Uniqueness Test

009944201-01, P = 0.721524 Days, E = 130.986478 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1181	256.8	23.7	109.1	4.61	1.76	52.7	1158	1072	233.1	147.7	0.64	1.00	0.09	13.3



Stellar Parameters For KIC 009944201

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4893^{+146}_{-146}	$4.634^{+0.060}_{-0.035}$	$-0.700^{+0.300}_{-0.300}$	$0.625^{+0.055}_{-0.050}$	$0.614^{+0.066}_{-0.031}$	$3.535^{+0.877}_{-0.542}$
	+3%/-3%	+1%/-1%	+43%/-43%	+9%/-8%	+11%/-5%	+25%/-15%
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 009944201-01 / KOI 7259.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-446 ± 6	$12.51^{+0.66}_{-0.64}$	2050^{+76}_{-72}	-1834^{+3608}_{-174}	$0.283^{+0.029}_{-0.023}$
Alt.	-4617 ± 18	$10.26^{+0.61}_{-0.53}$	2049^{+72}_{-72}	3610^{+88}_{-93}	$4.376^{+0.477}_{-0.363}$

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

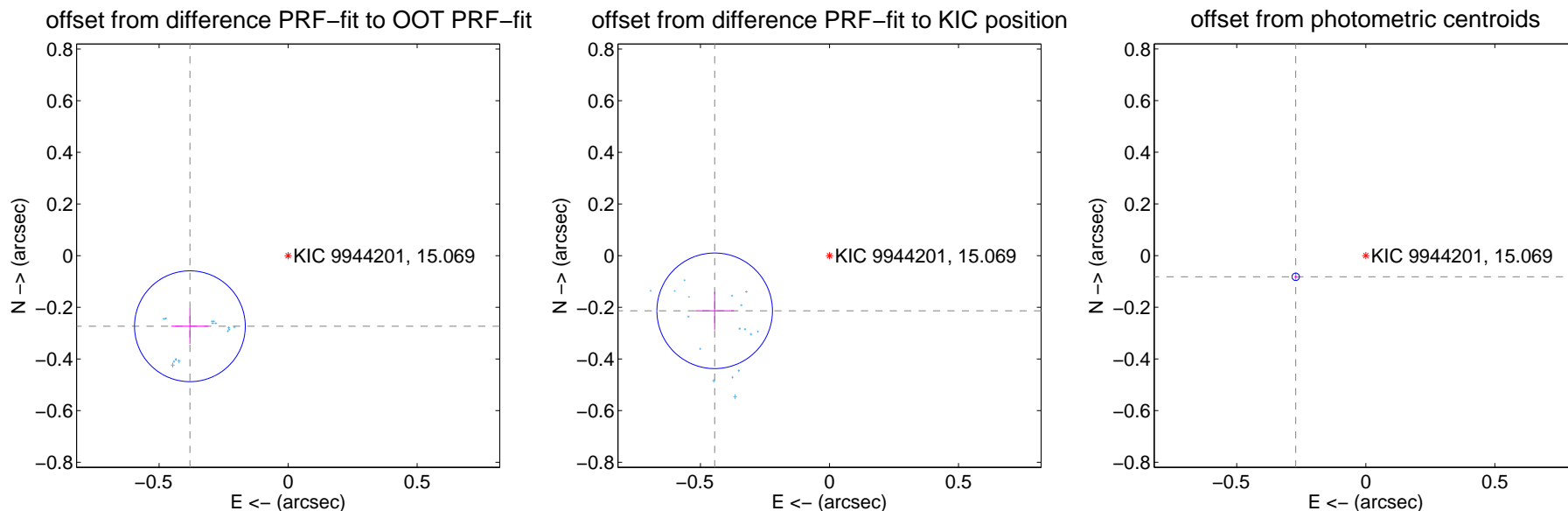
DV Centroid Data

Supplemental centroid analysis for 009944201-01. Kepler magnitude: 15.07. Transit SNR 1294.39

There are 17 quarters with good PRF difference image offsets

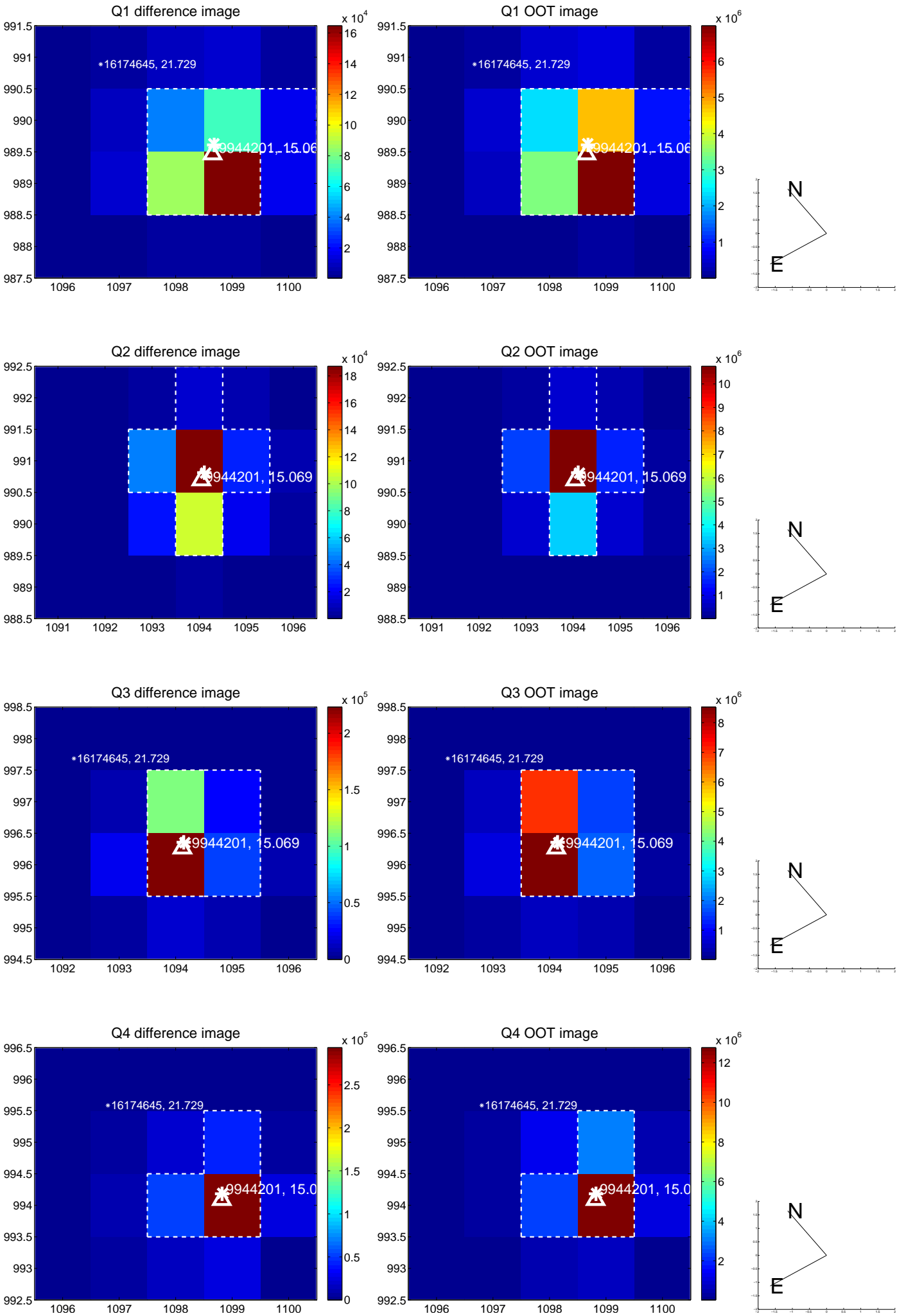
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.469 ± 0.072	6.55	0.381 ± 0.071	-0.273 ± 0.069
PRF-fit source offset from KIC position	0.493 ± 0.075	6.61	0.445 ± 0.075	-0.214 ± 0.074
photometric centroid source offset	0.28 ± 0.00	59.32	0.27 ± 0.00	-0.08 ± 0.00

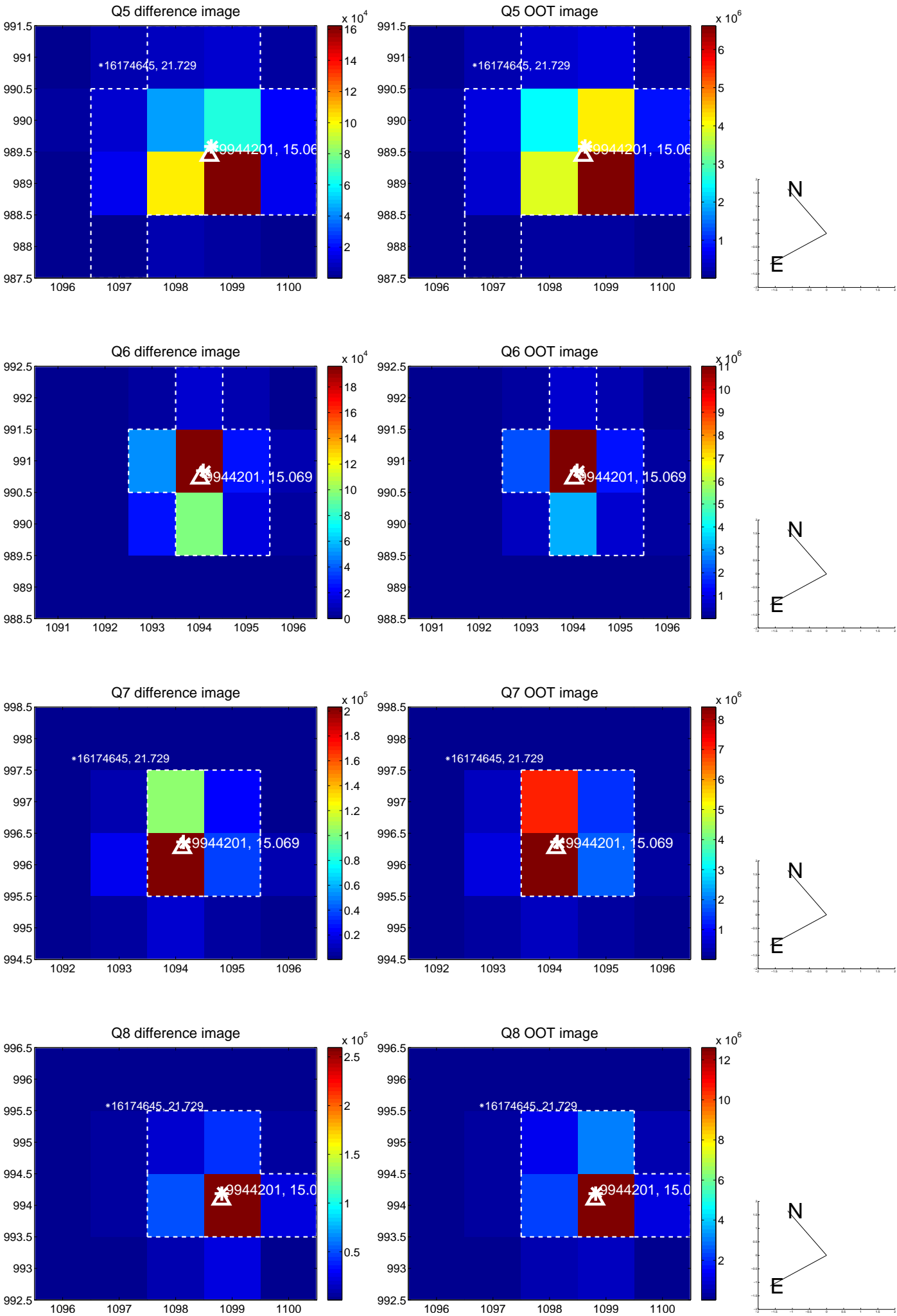


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

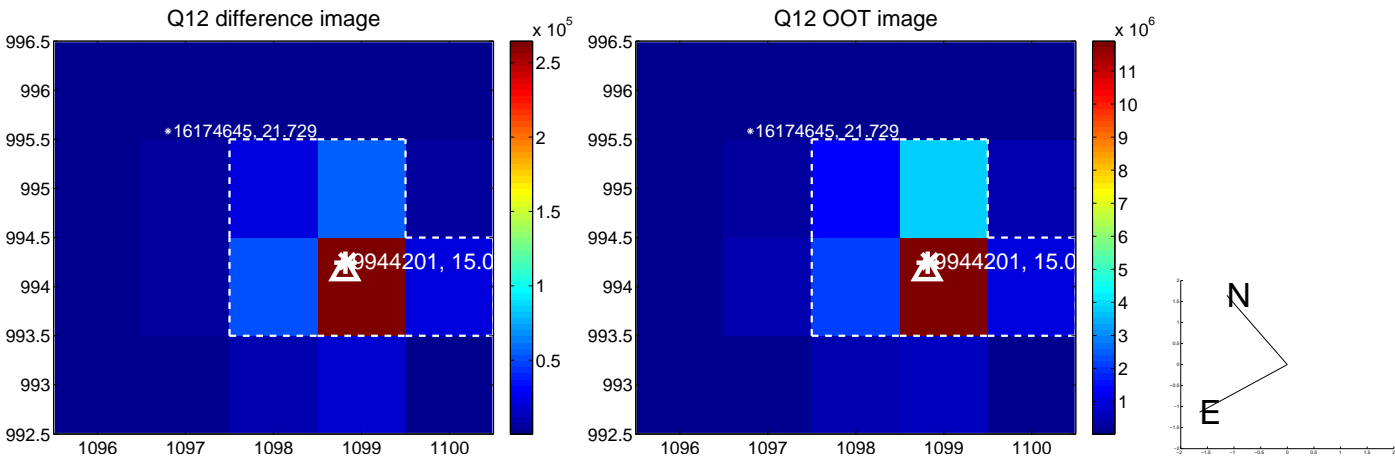
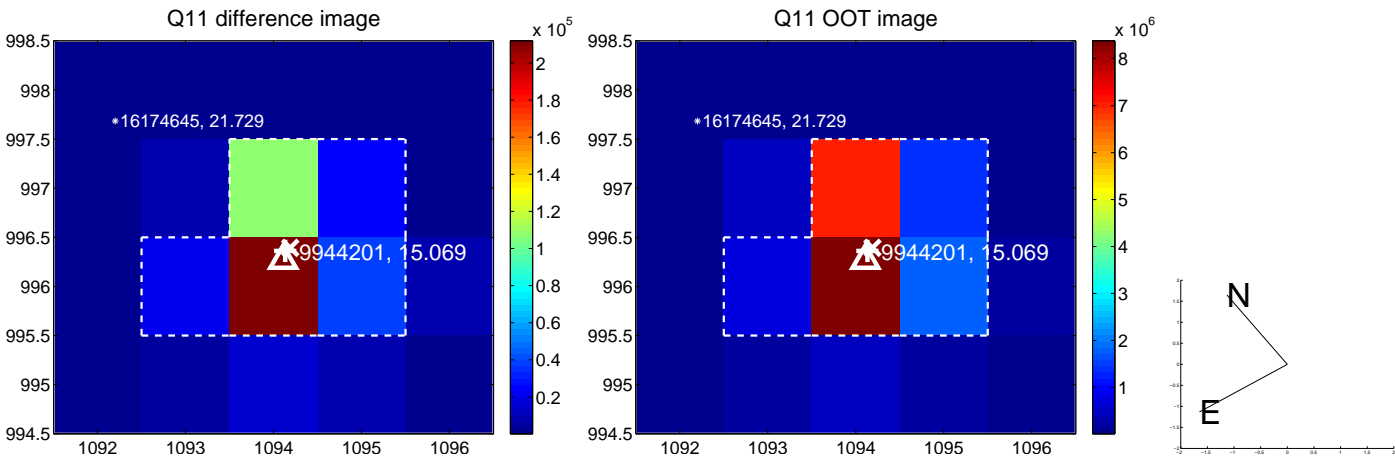
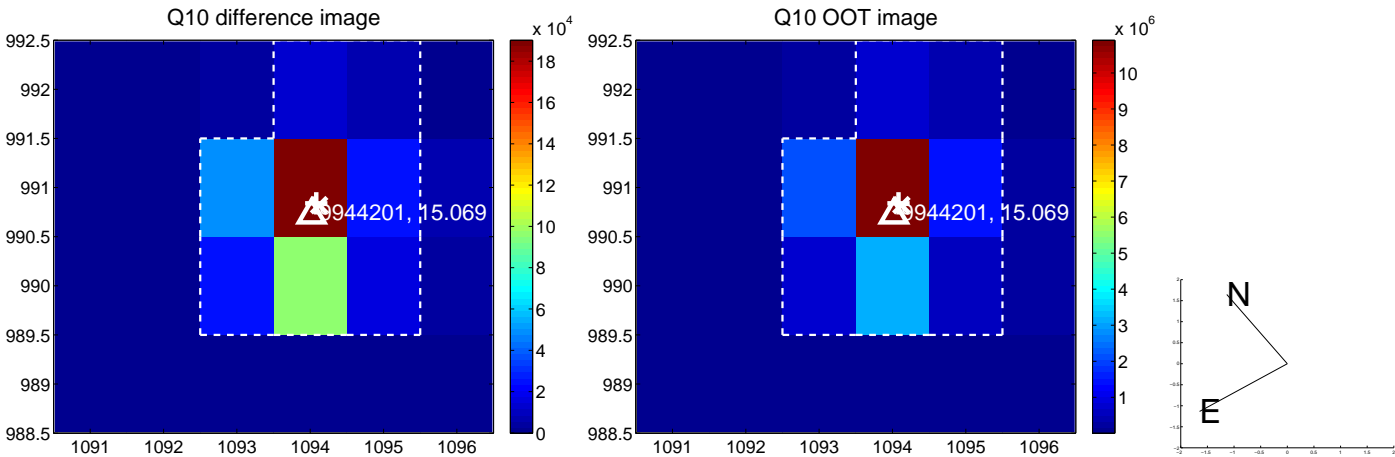
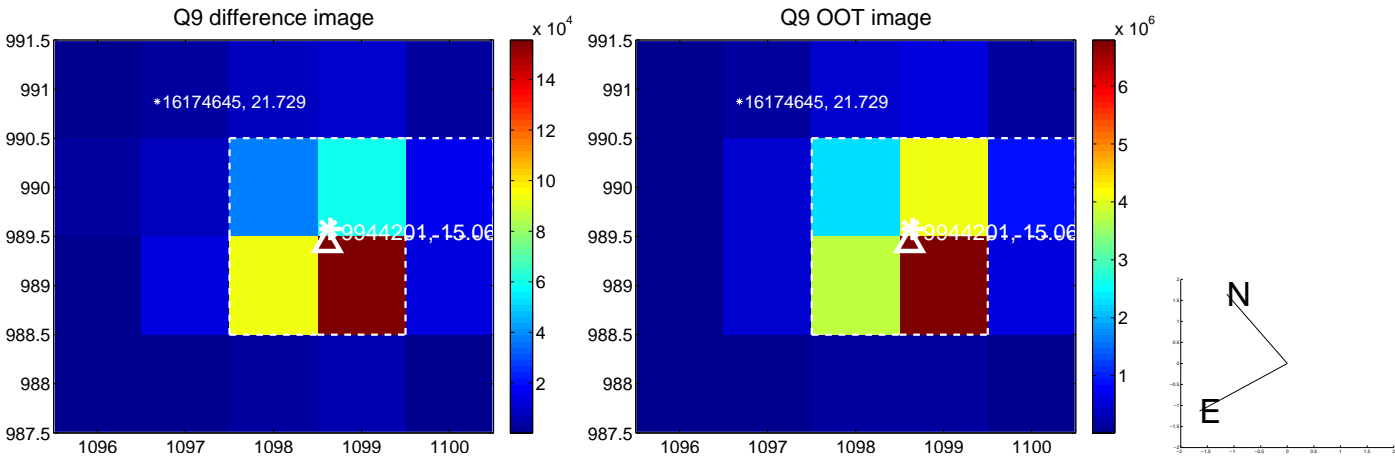
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



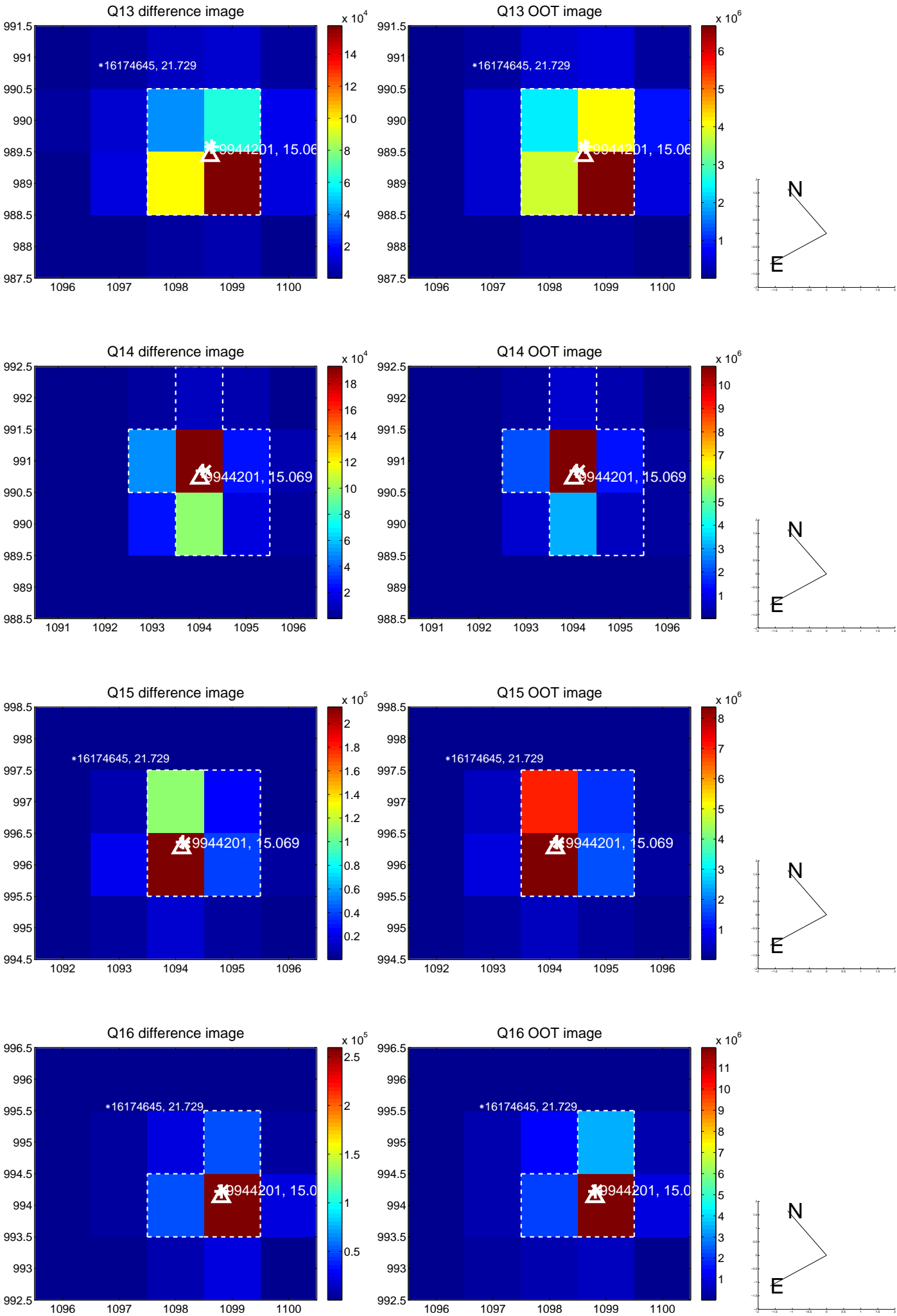
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



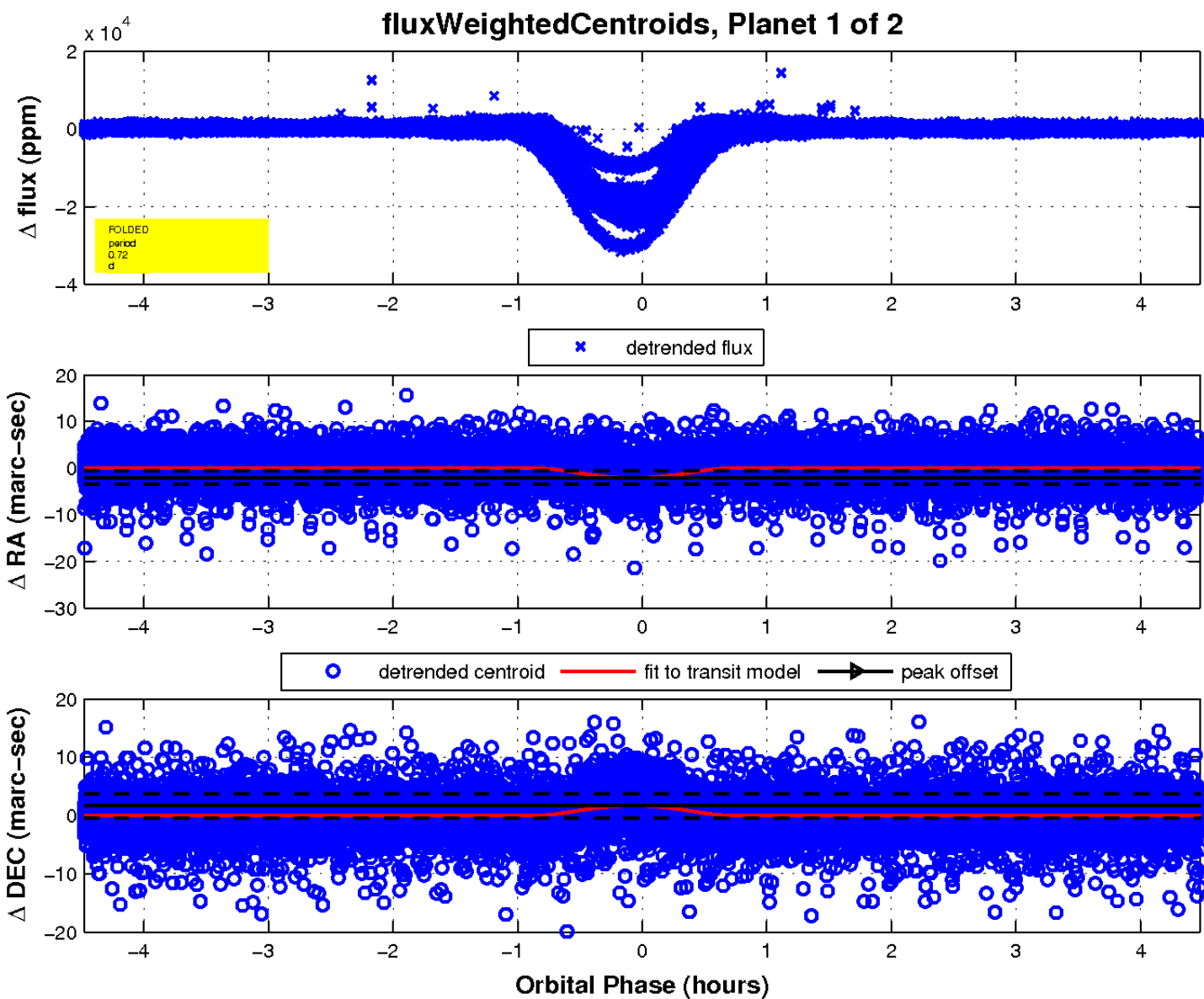
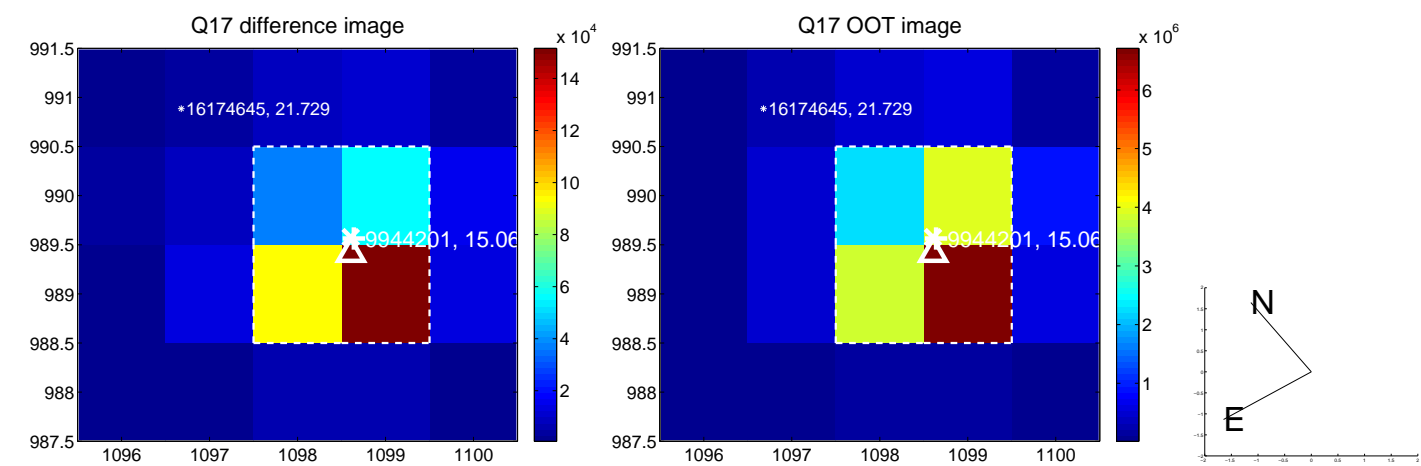
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

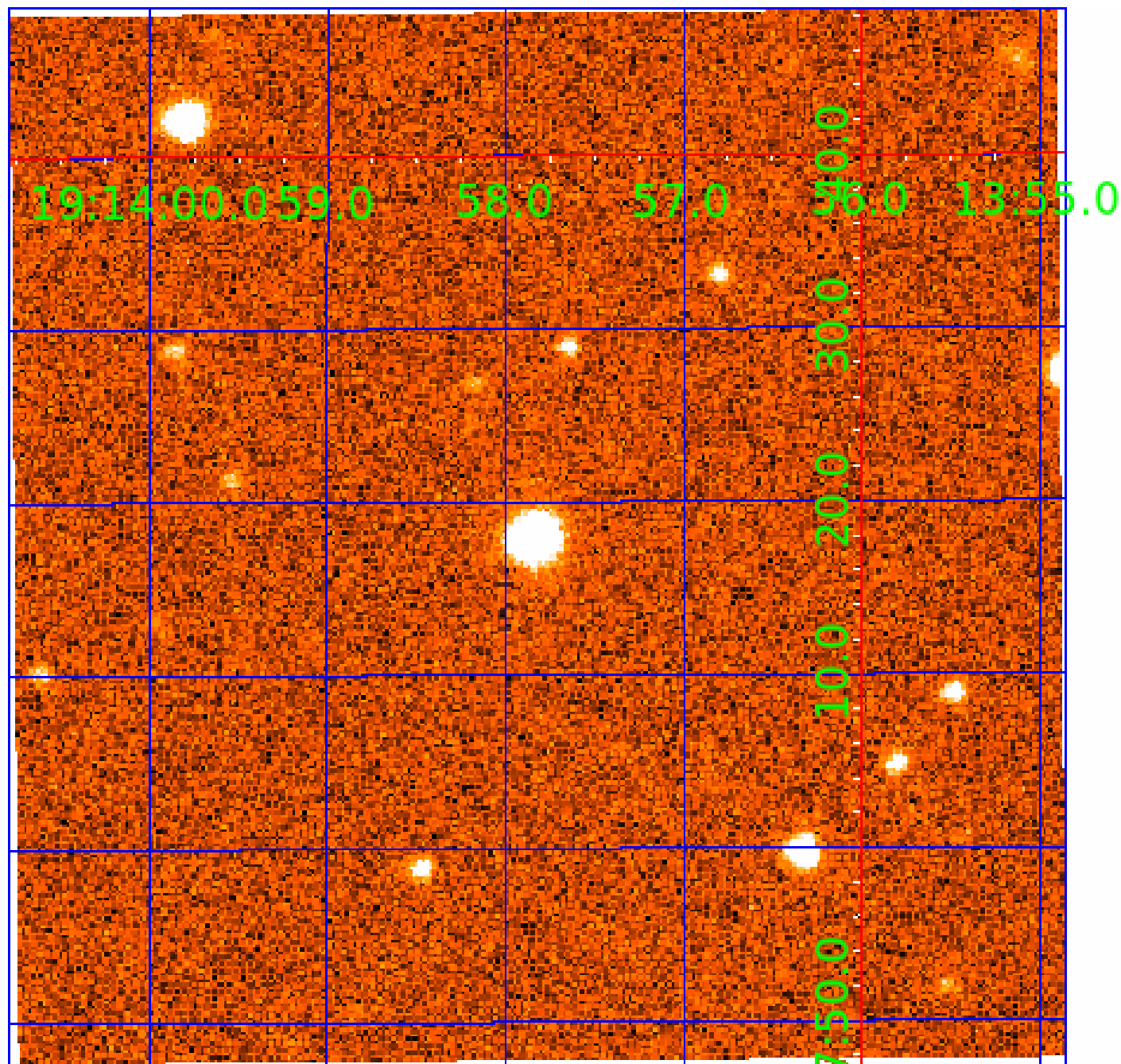


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009944201

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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009944201-02	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 009944201-02

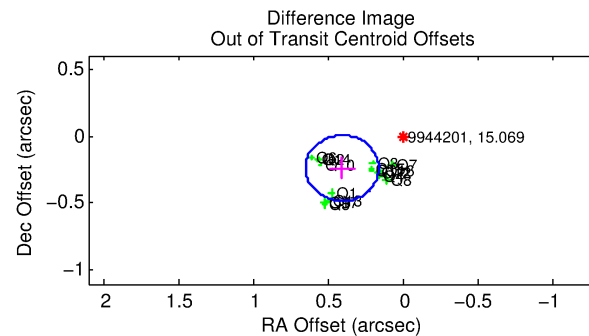
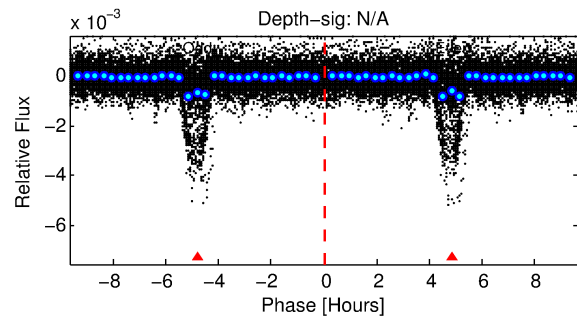
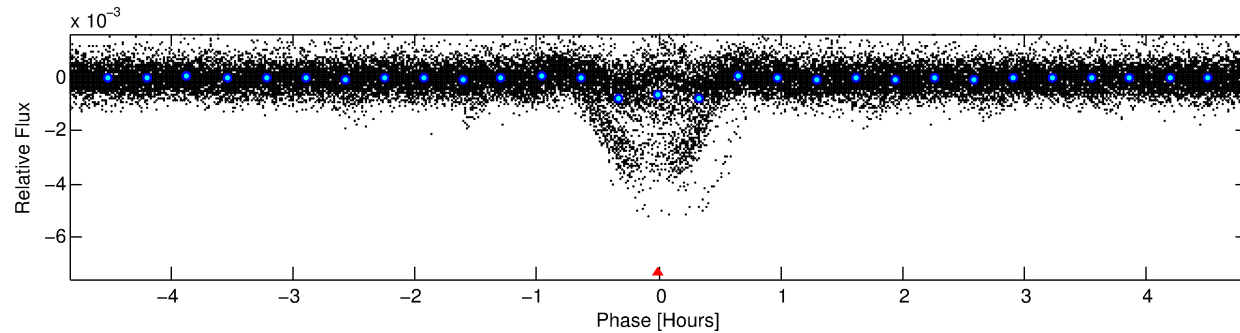
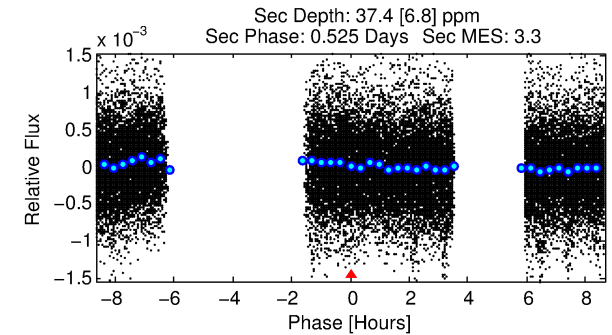
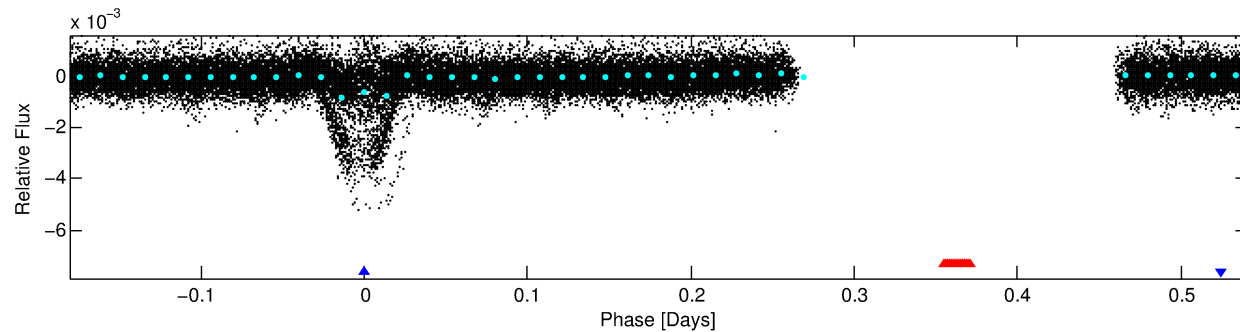
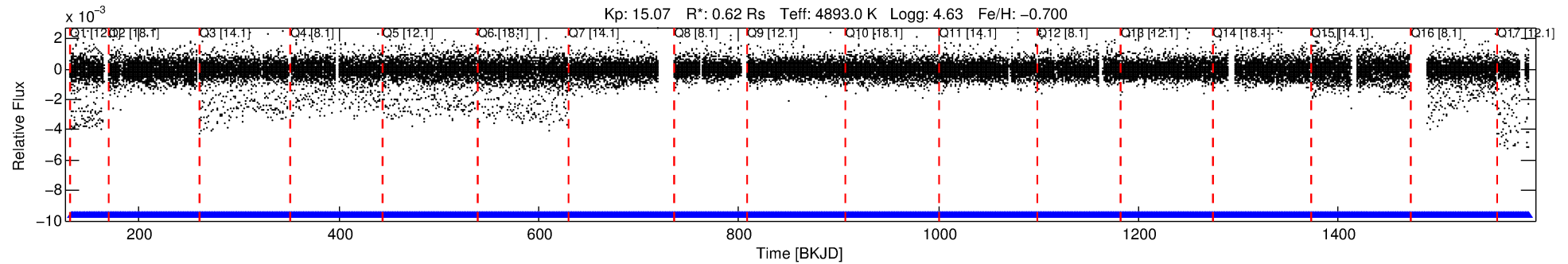
No Significant Match Found

DV One-Page Summary

KIC: 9944201 Candidate: 2 of 2 Period: 0.722 d

KOI: K07259 Corr: No Ephemeris Match

Kp: 15.07 R*: 0.62 Rs Teff: 4893.0 K Logg: 4.63 Fe/H: -0.700



TPS TCE Results:

Period = 0.72152 d
Epoch = 132.0641 BKJD

DV fit results are unavailable

DV Diagnostic Results:

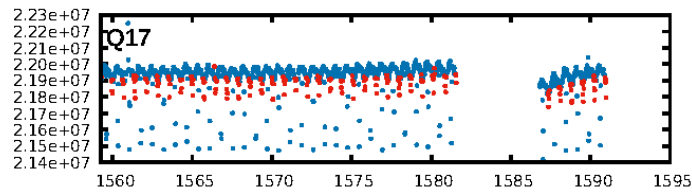
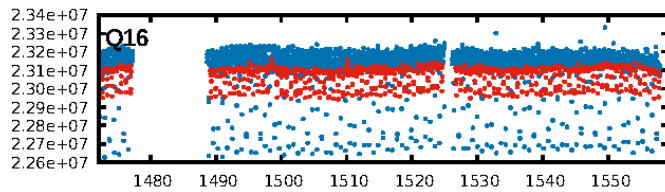
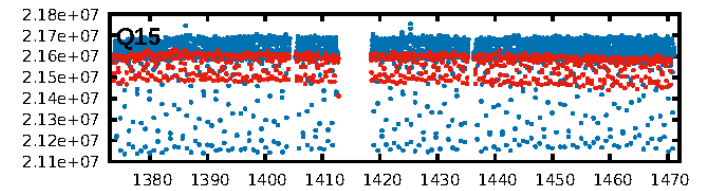
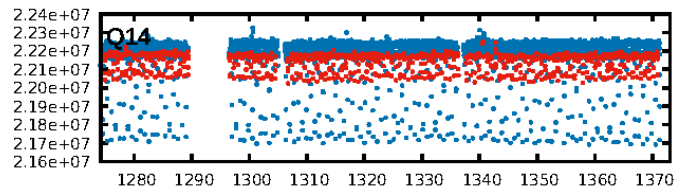
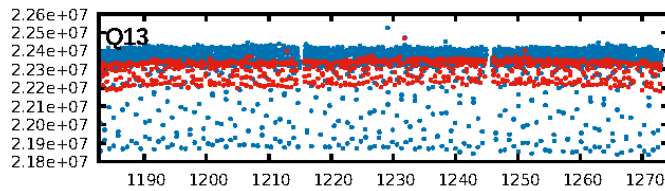
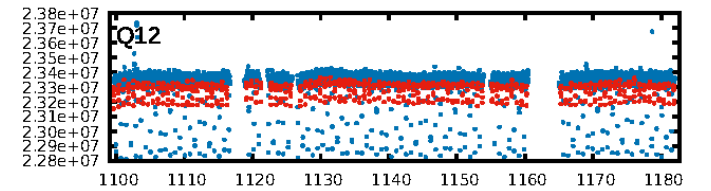
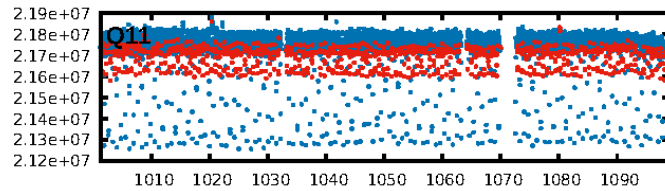
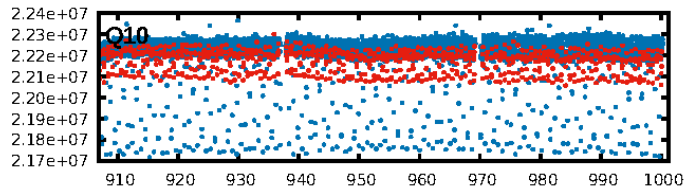
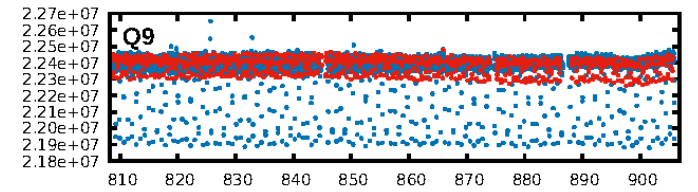
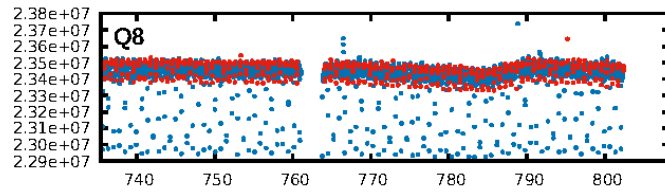
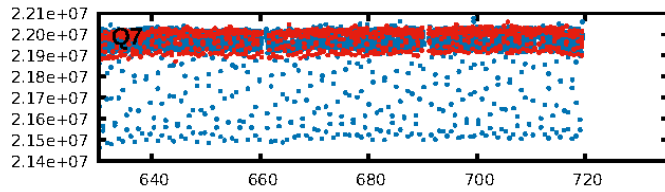
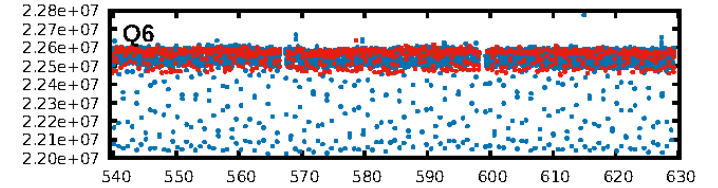
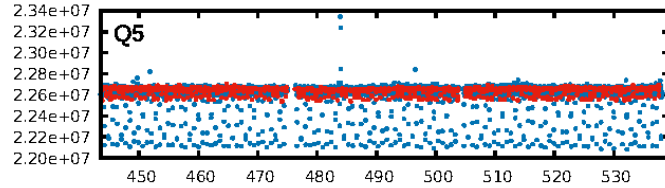
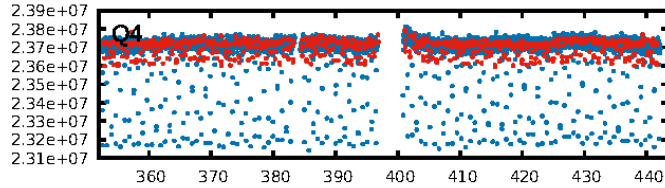
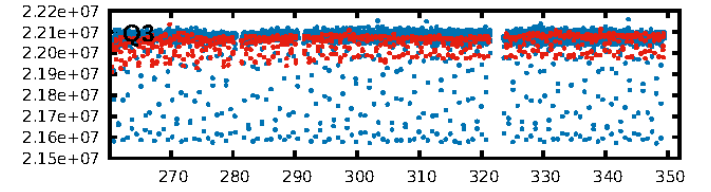
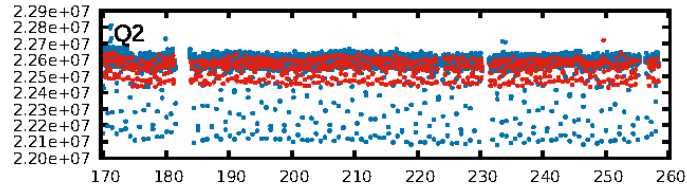
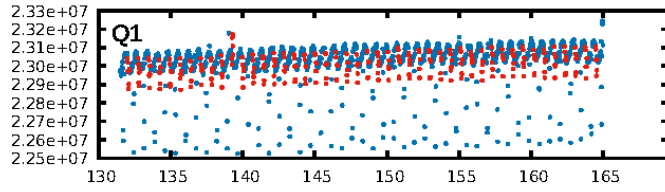
ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1769/1769]
GhostDiagnostic-chr: 2.314

Centroid-sig: 0.0%
Centroid-so: 0.161 arcsec [10.15 σ]
OotOffset-rm: 0.469 arcsec [5.75 σ]
KicOffset-rm: 0.511 arcsec [6.14 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

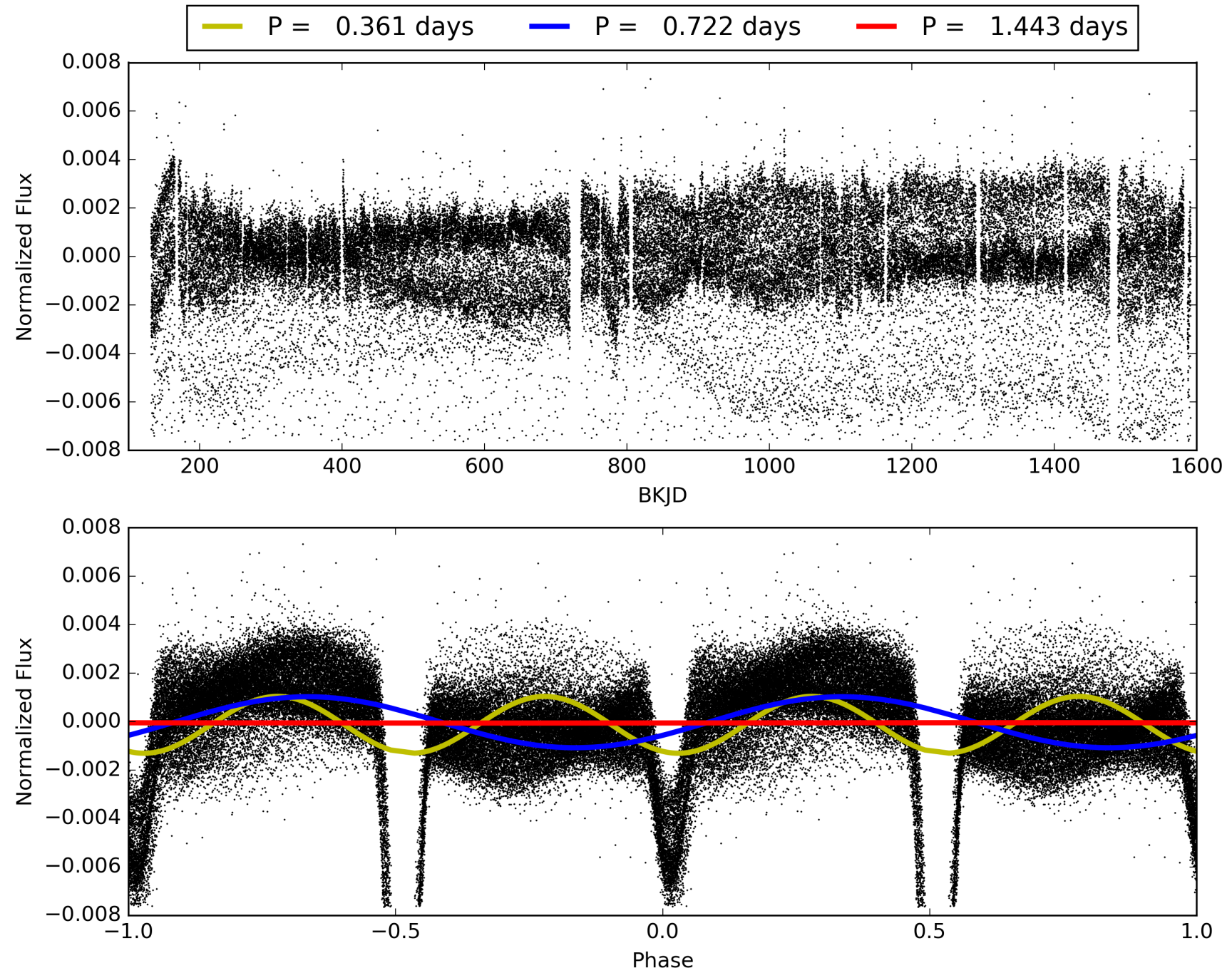
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:03:23 Z

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

TCE 009944201-02, PDC Light Curves

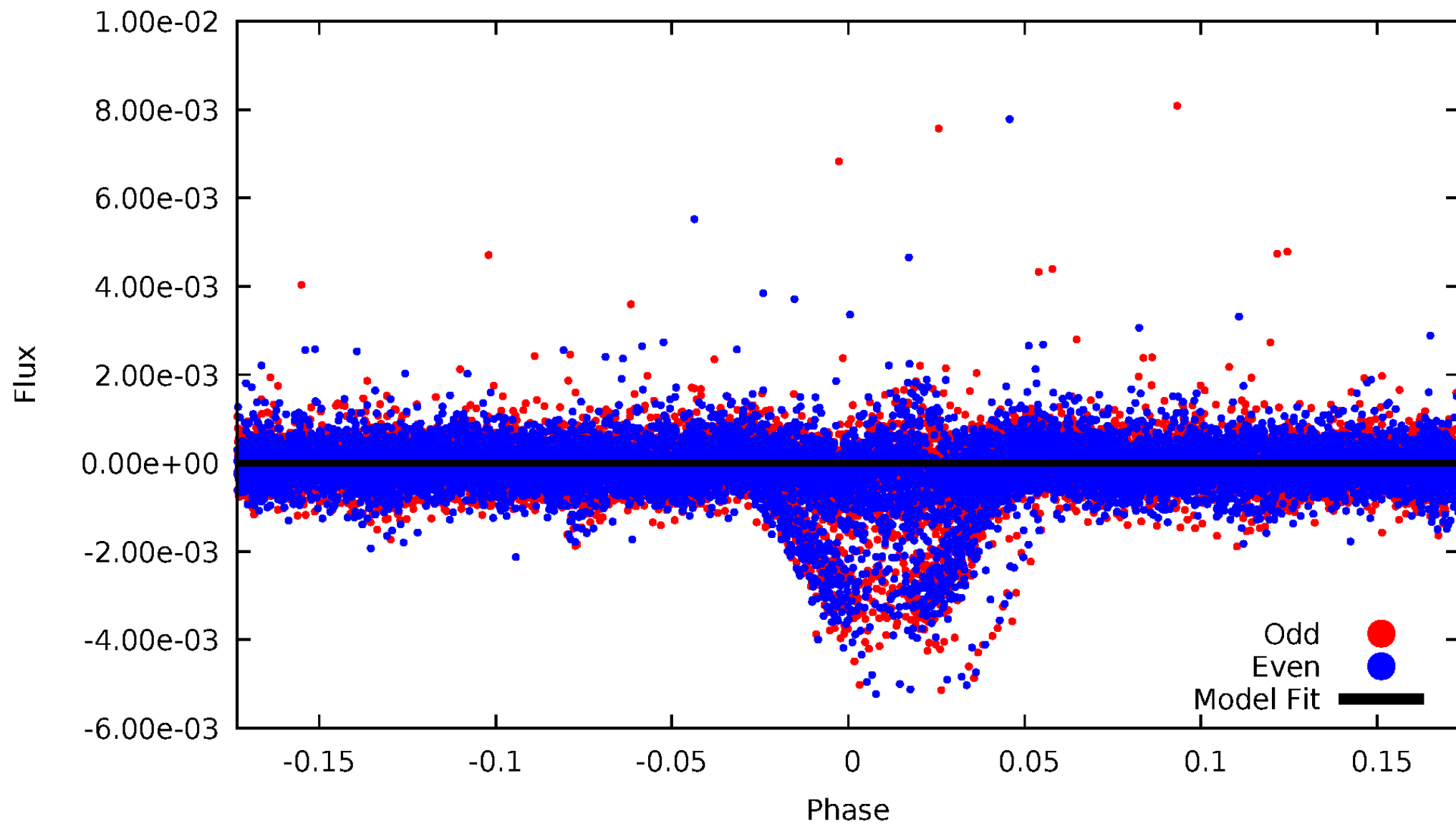


TCE 009944201-02



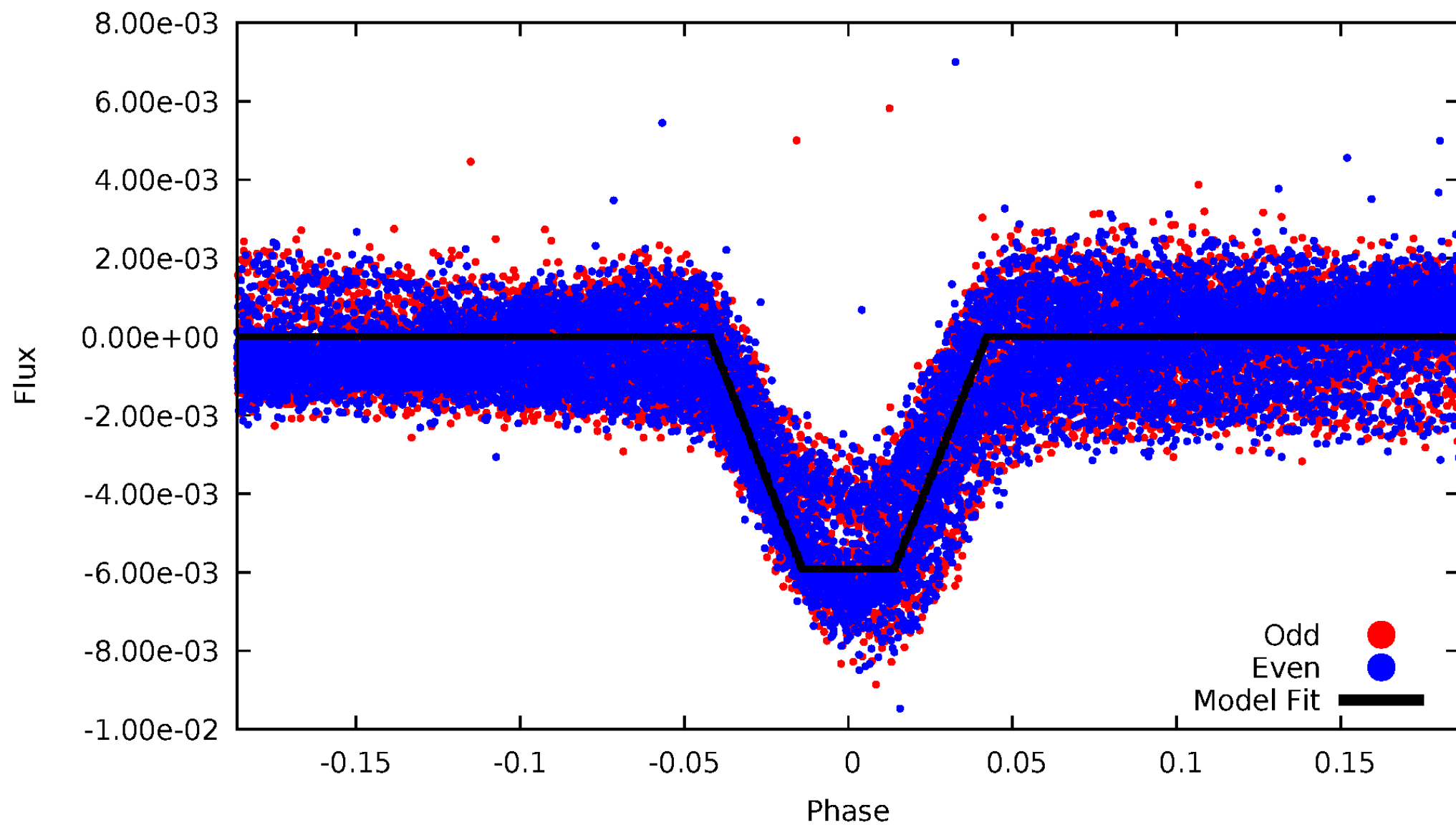
DV Odd/Even

TCE 009944201-02



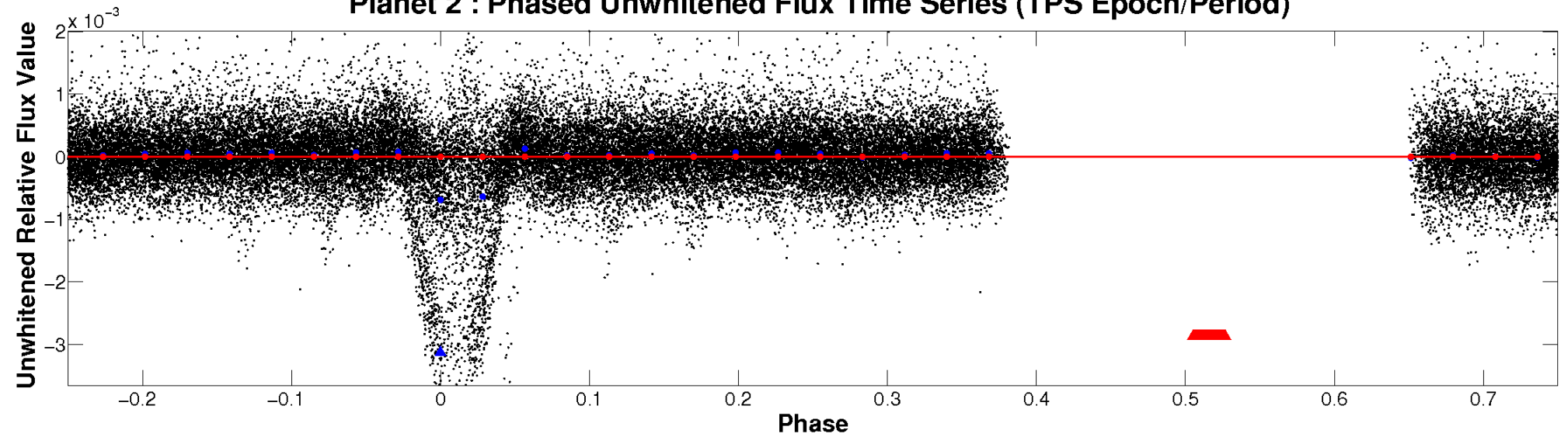
ALT Odd/Even

TCE 009944201-02

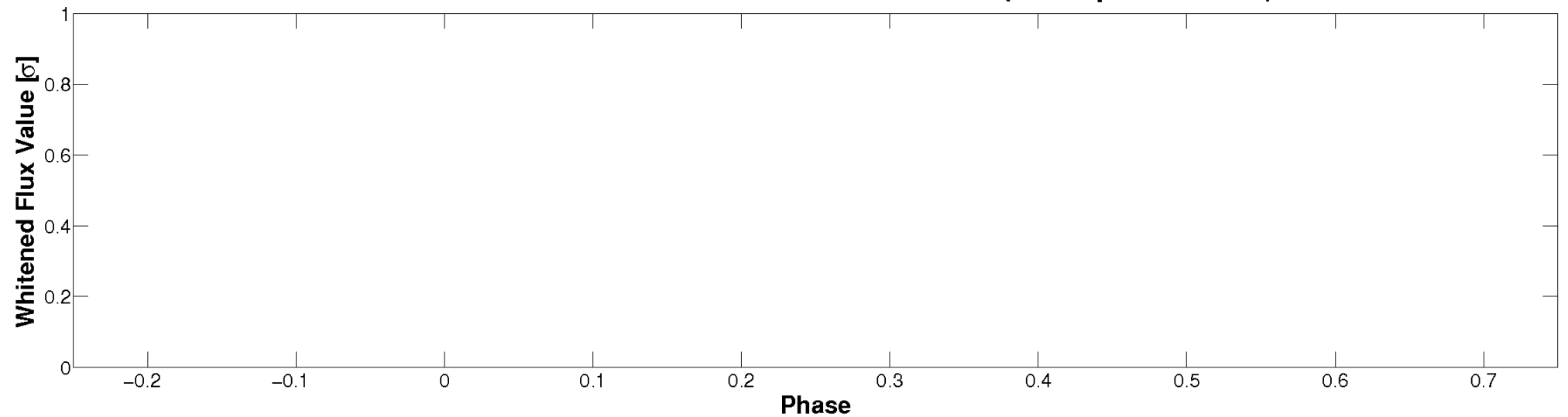


Non-Whitened Vs. Whitened Light Curve

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

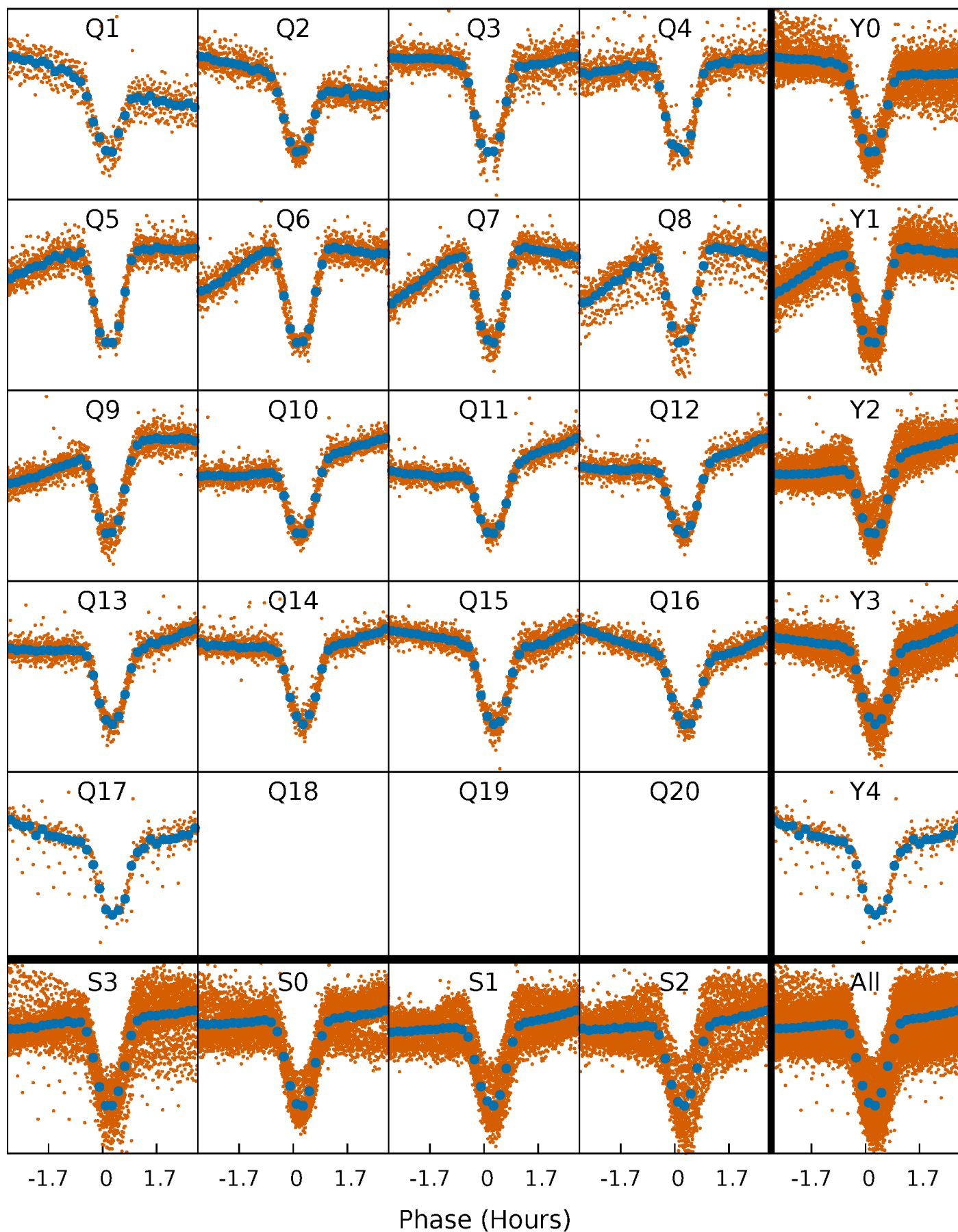


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



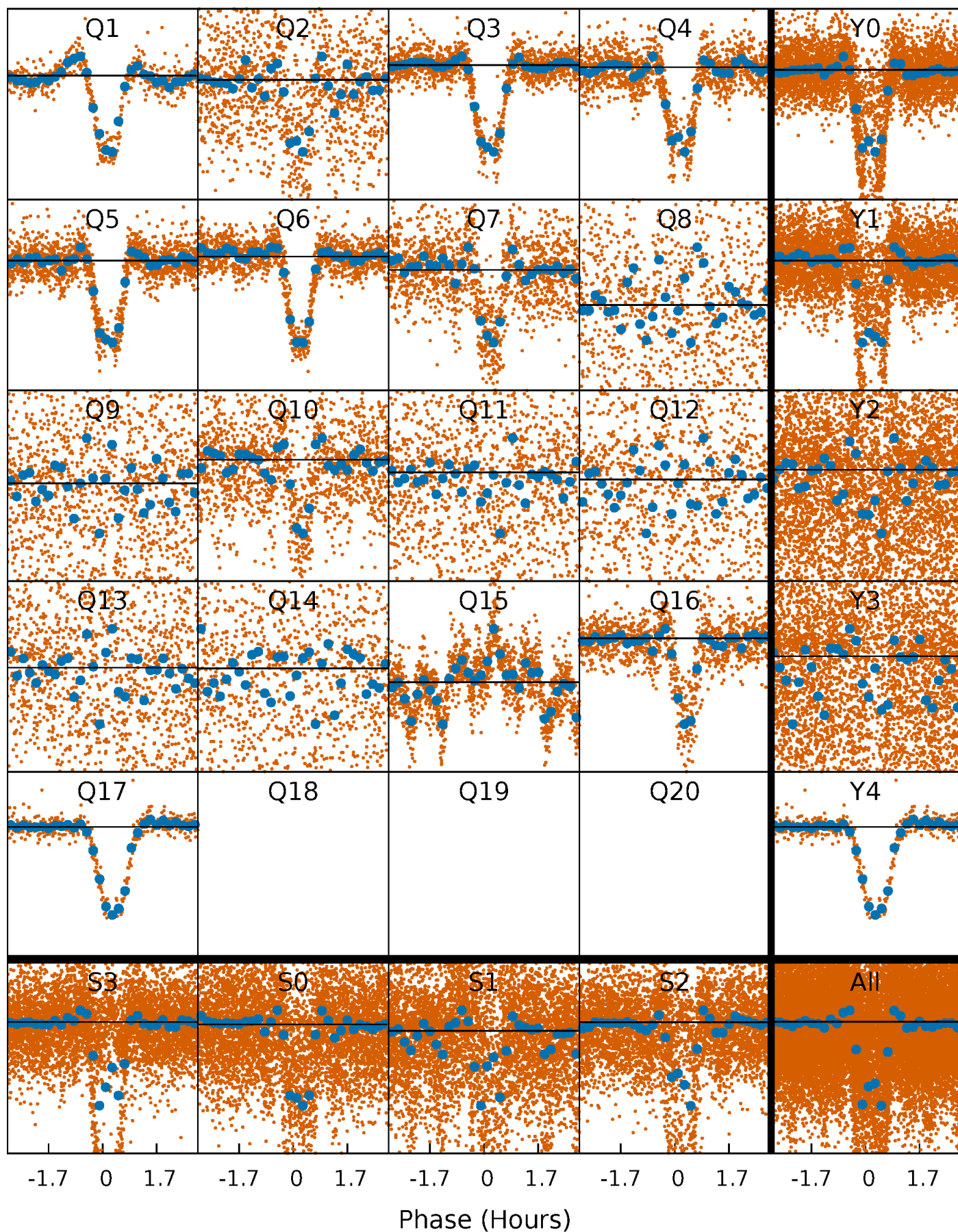
PDC Quarter-Phased Transit Curves

TCE 009944201-02 P= 0.721519 Days $T_0=132.064119$ (BKJD)



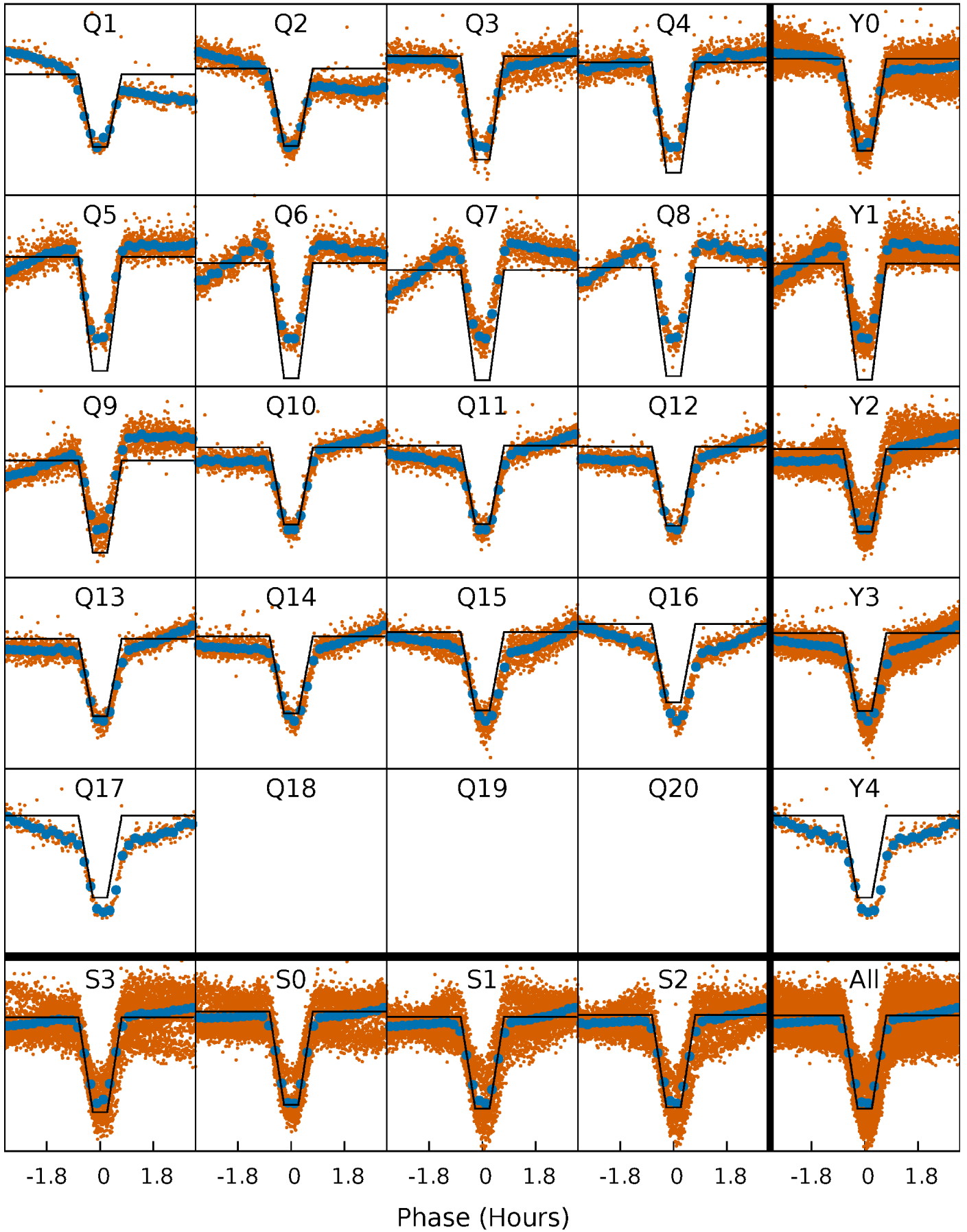
DV Quarter-Phased Transit Curves

TCE 009944201-02 $P = 0.721519$ Days $T_0 = 132.064119$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

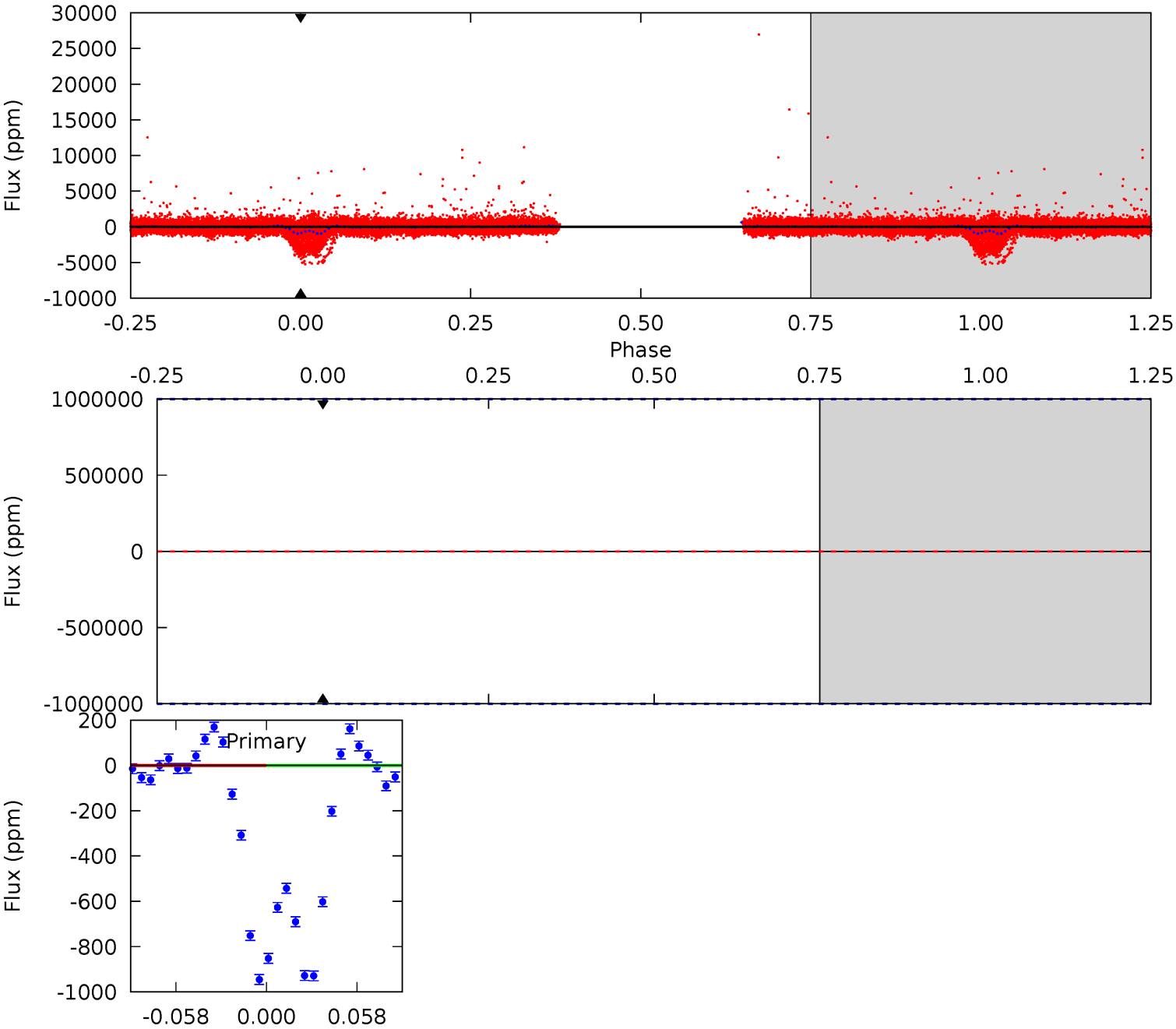
TCE 009944201-02 P= 0.721519 Days $T_0=132.073552$ (BKJD)



DV Model-Shift Uniqueness Test

009944201-02, P = 0.721519 Days, E = 131.342600 Days

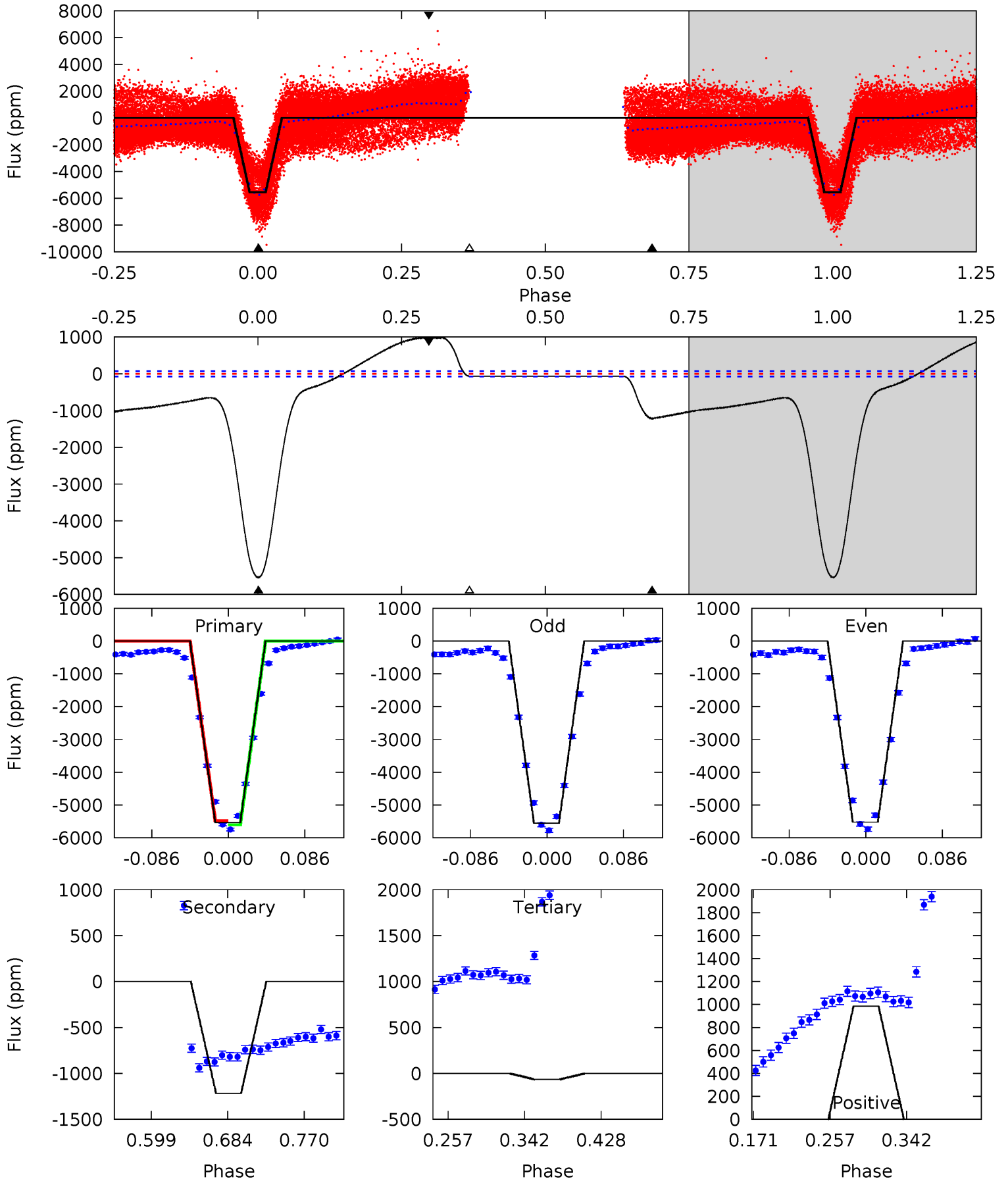
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009944201-02, P = 0.721519 Days, E = 131.352033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
341.1	75.0	4.07	60.7	4.60	1.72	44.2	337.0	280.4	71.0	14.3	0.89	0.94	0.15	3.96



Stellar Parameters For KIC 009944201

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4893^{+146}_{-146}	$4.634^{+0.060}_{-0.035}$	$-0.700^{+0.300}_{-0.300}$	$0.625^{+0.055}_{-0.050}$	$0.614^{+0.066}_{-0.031}$	$3.535^{+0.877}_{-0.542}$
	+3%/-3%	+1%/-1%	+43%/-43%	+9%/-8%	+11%/-5%	+25%/-15%
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 009944201-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$6.58^{+5.61}_{-4.09}$	2052^{+73}_{-81}	-3718^{+14707}_{-7491}	$-5.233^{+404.121}_{-388.124}$
Alt.	-1218 ± 16	$7.26^{+5.97}_{-4.74}$	2052^{+72}_{-71}	3215^{+1571}_{-625}	$2.298^{+17.070}_{-1.603}$

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

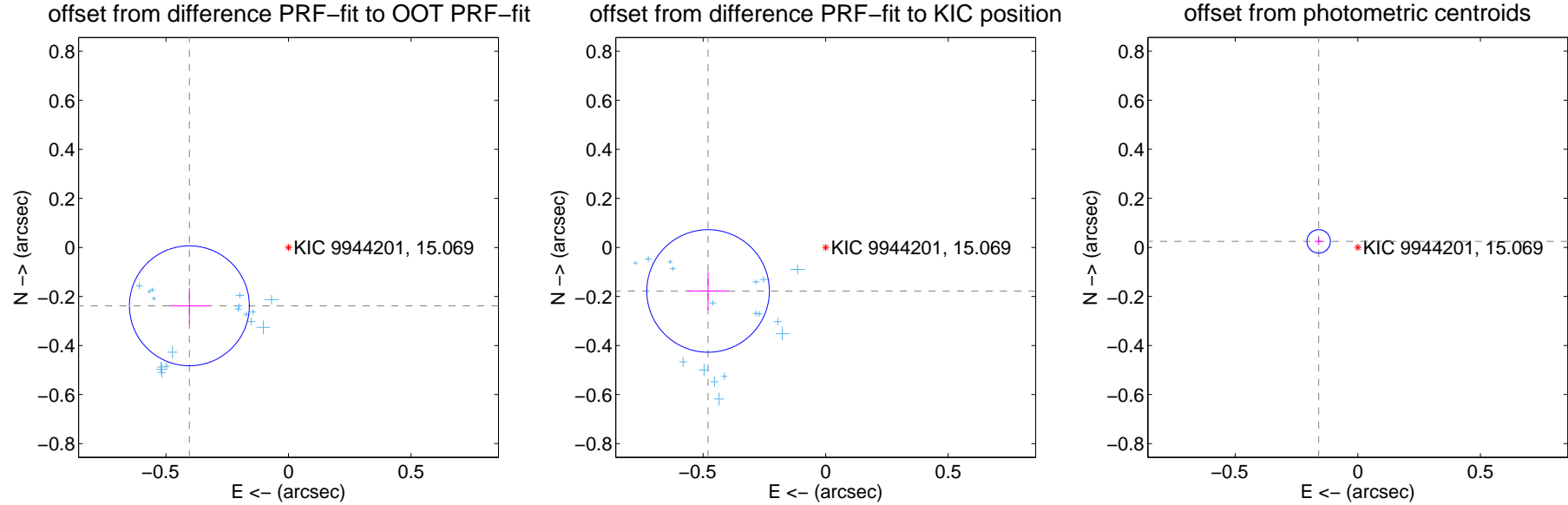
DV Centroid Data

Supplemental centroid analysis for 009944201-02. Kepler magnitude: 15.07. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

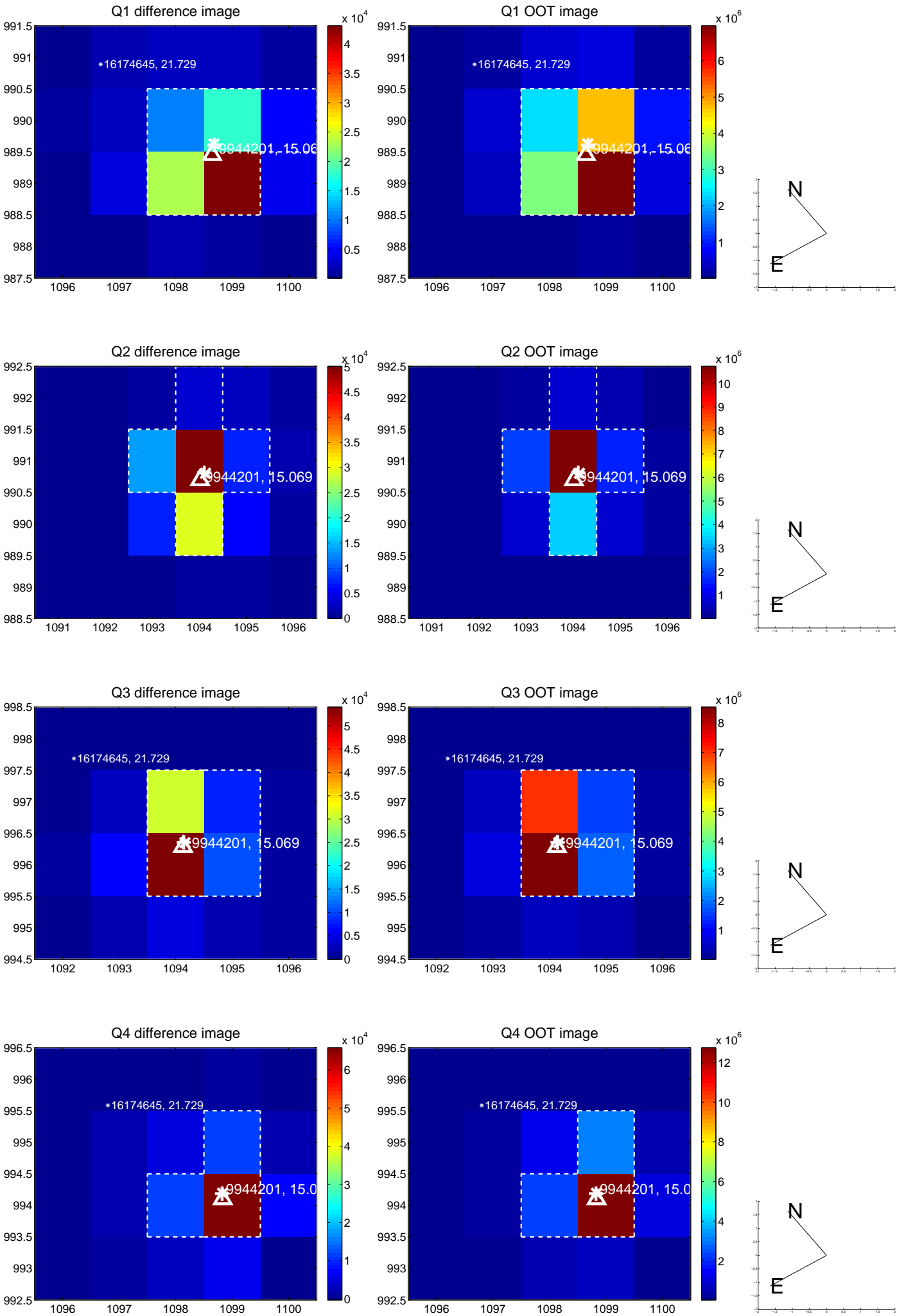
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.469 ± 0.082	5.75	0.404 ± 0.082	-0.238 ± 0.073
PRF-fit source offset from KIC position	0.511 ± 0.083	6.14	0.480 ± 0.084	-0.178 ± 0.078
photometric centroid source offset	0.16 ± 0.02	10.15	0.16 ± 0.02	0.02 ± 0.01

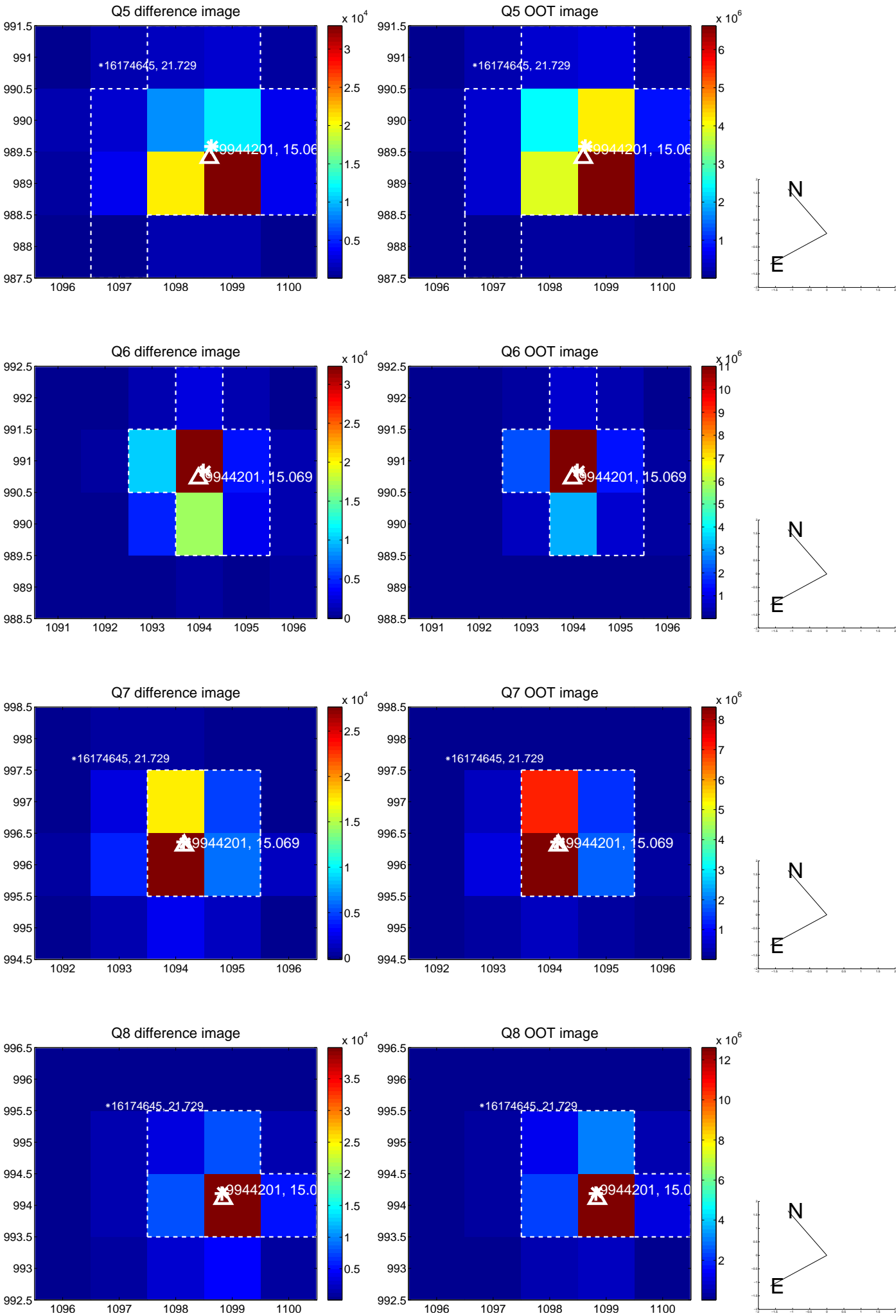


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

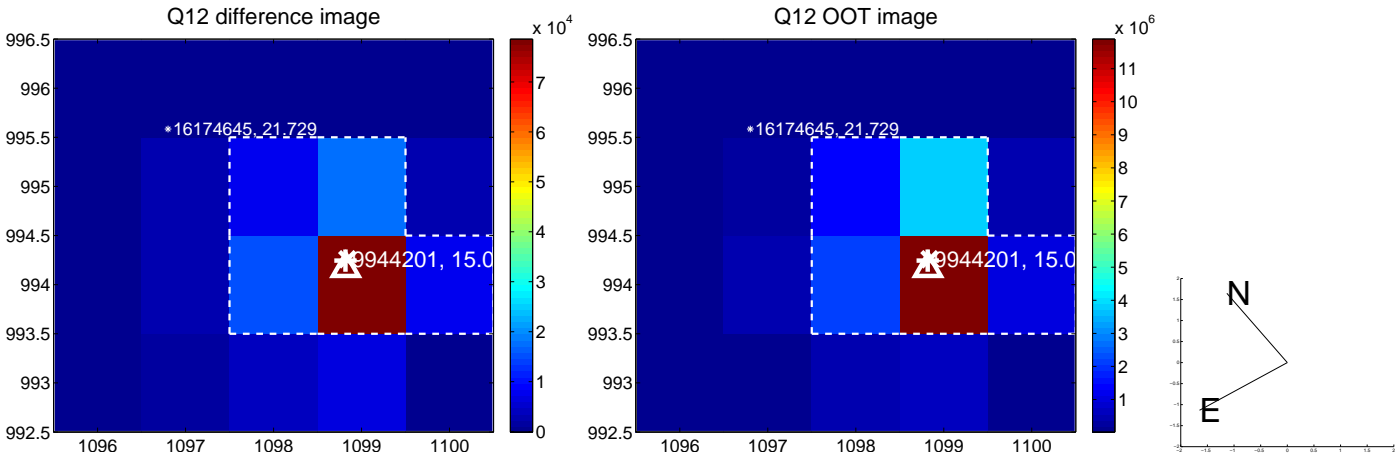
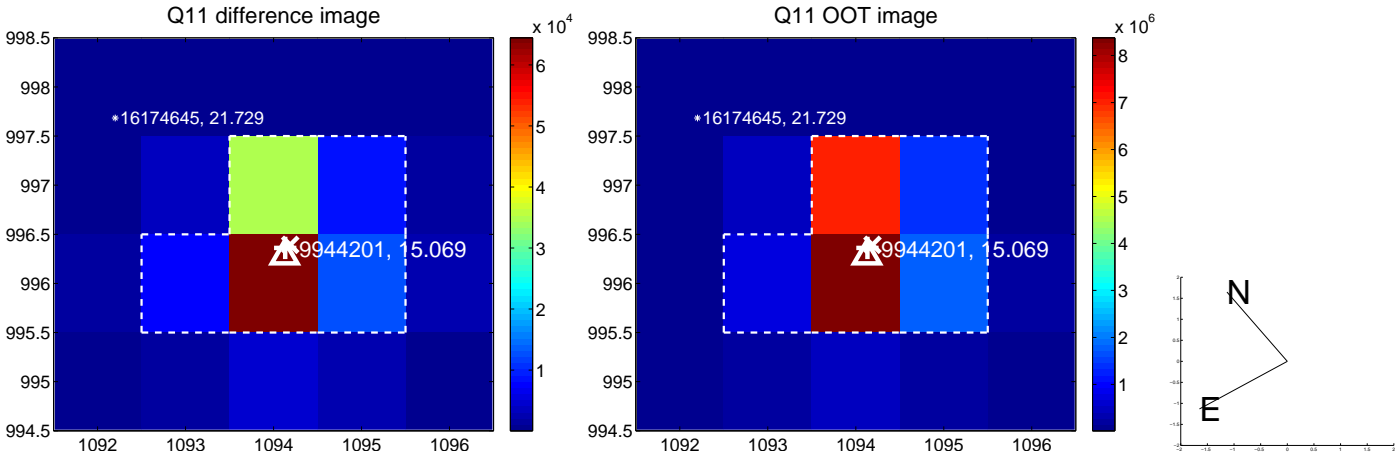
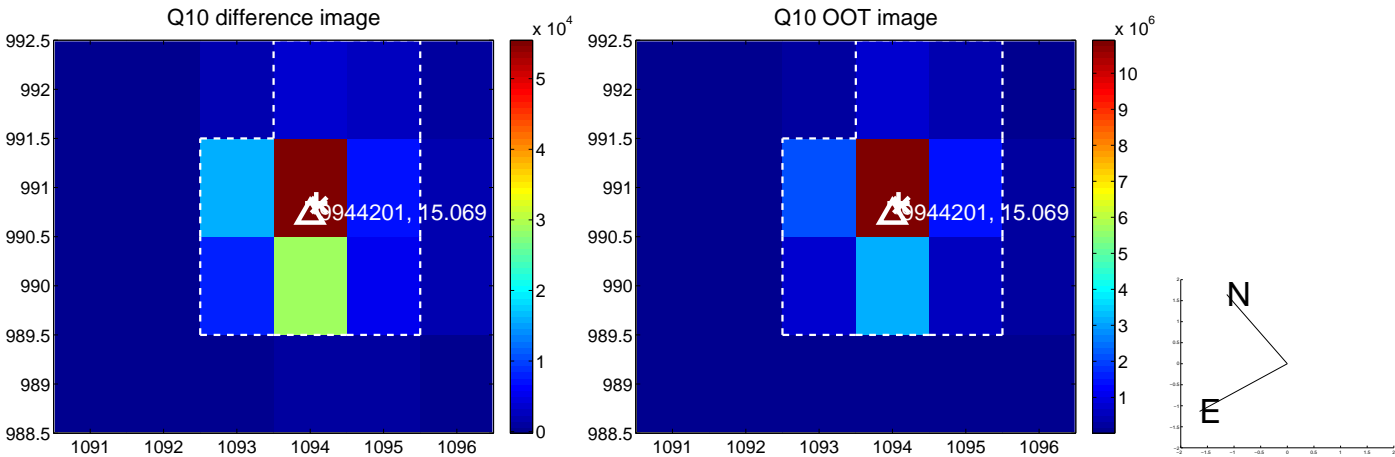
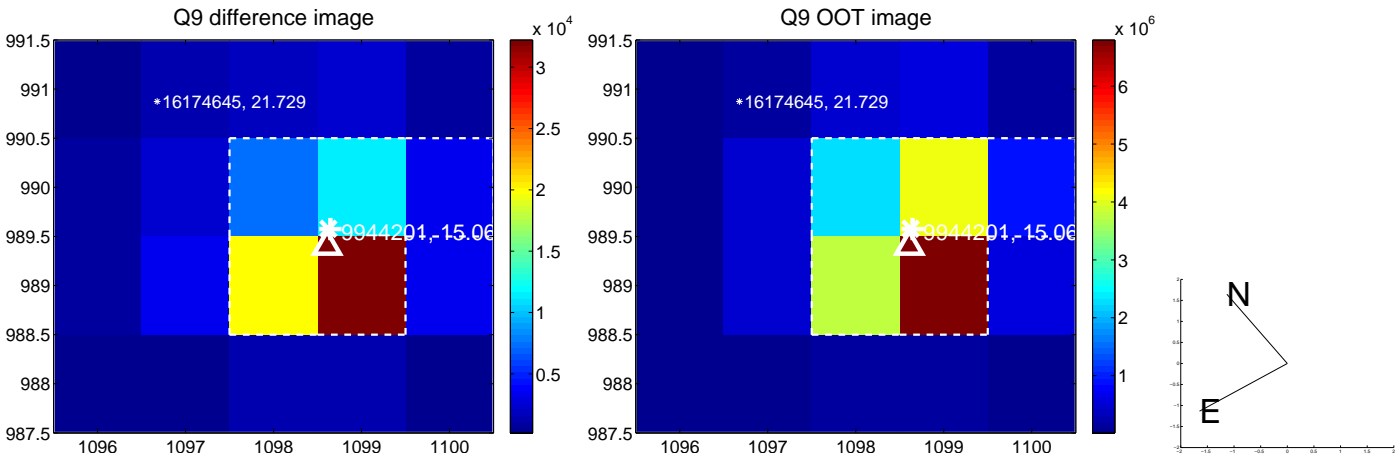
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



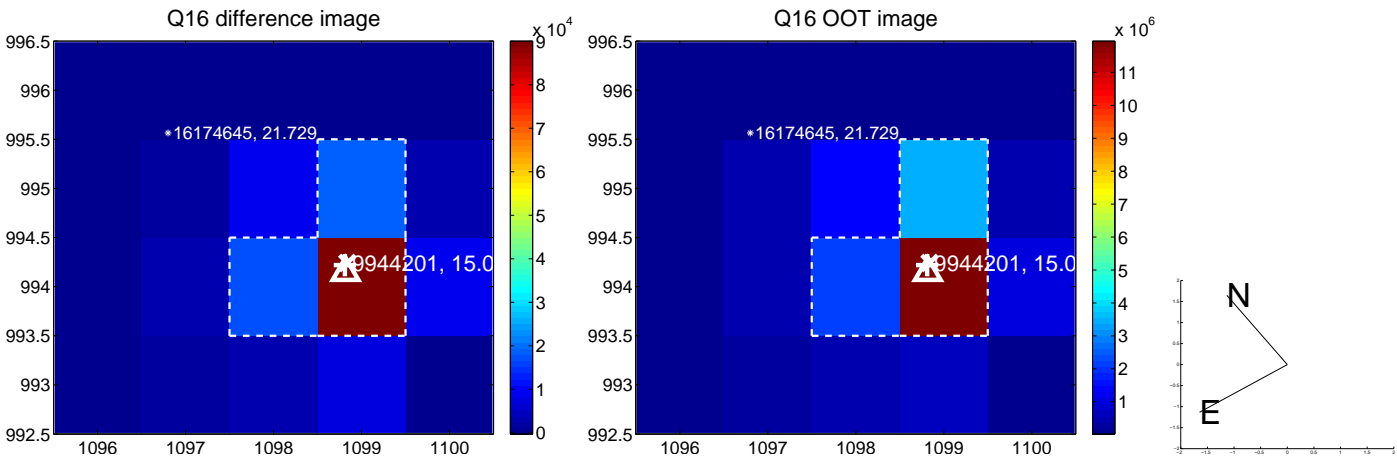
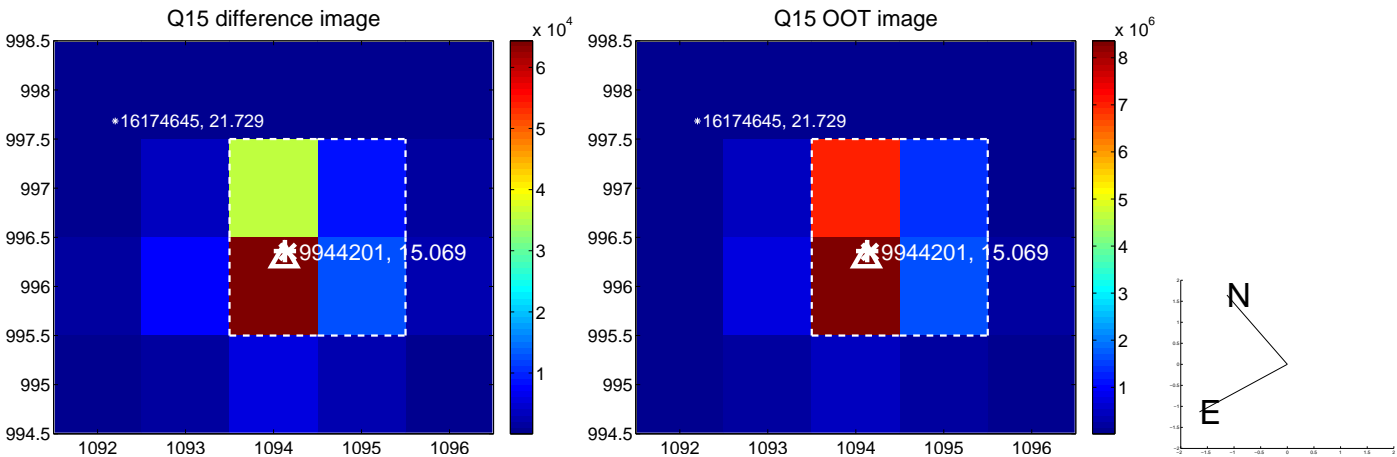
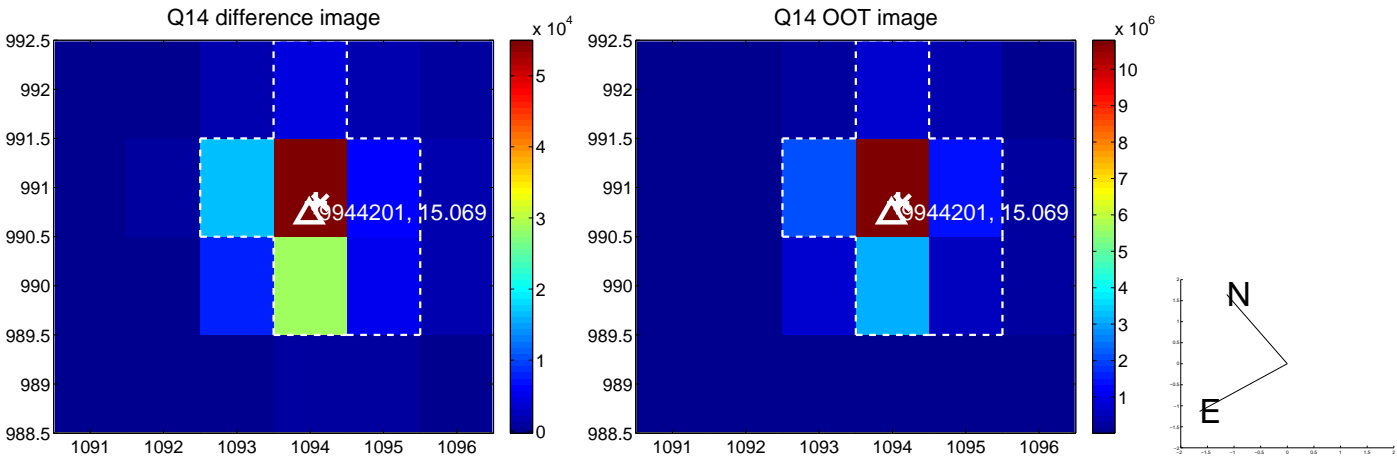
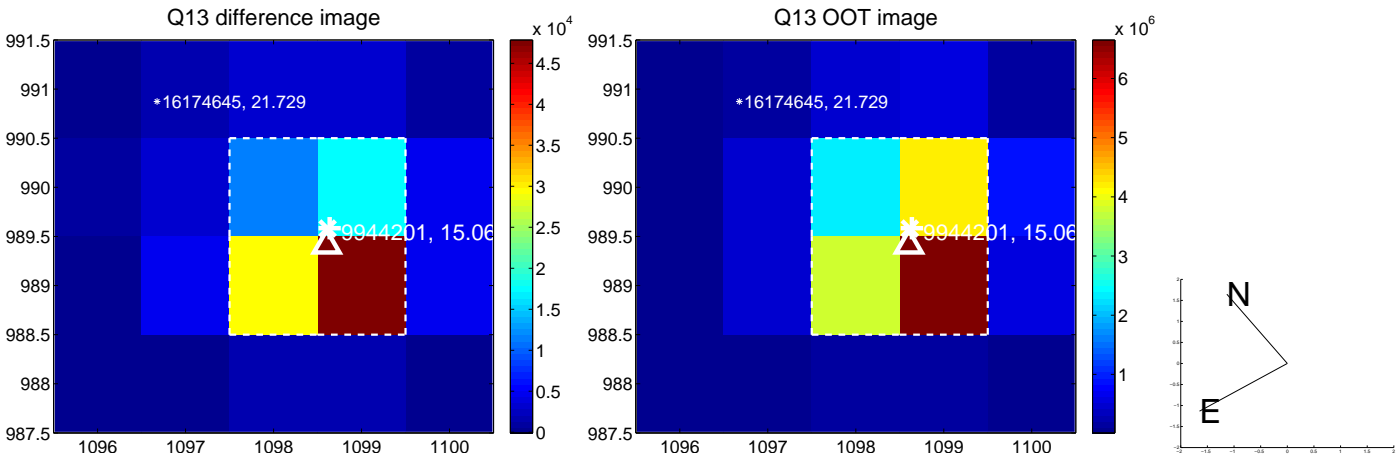
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



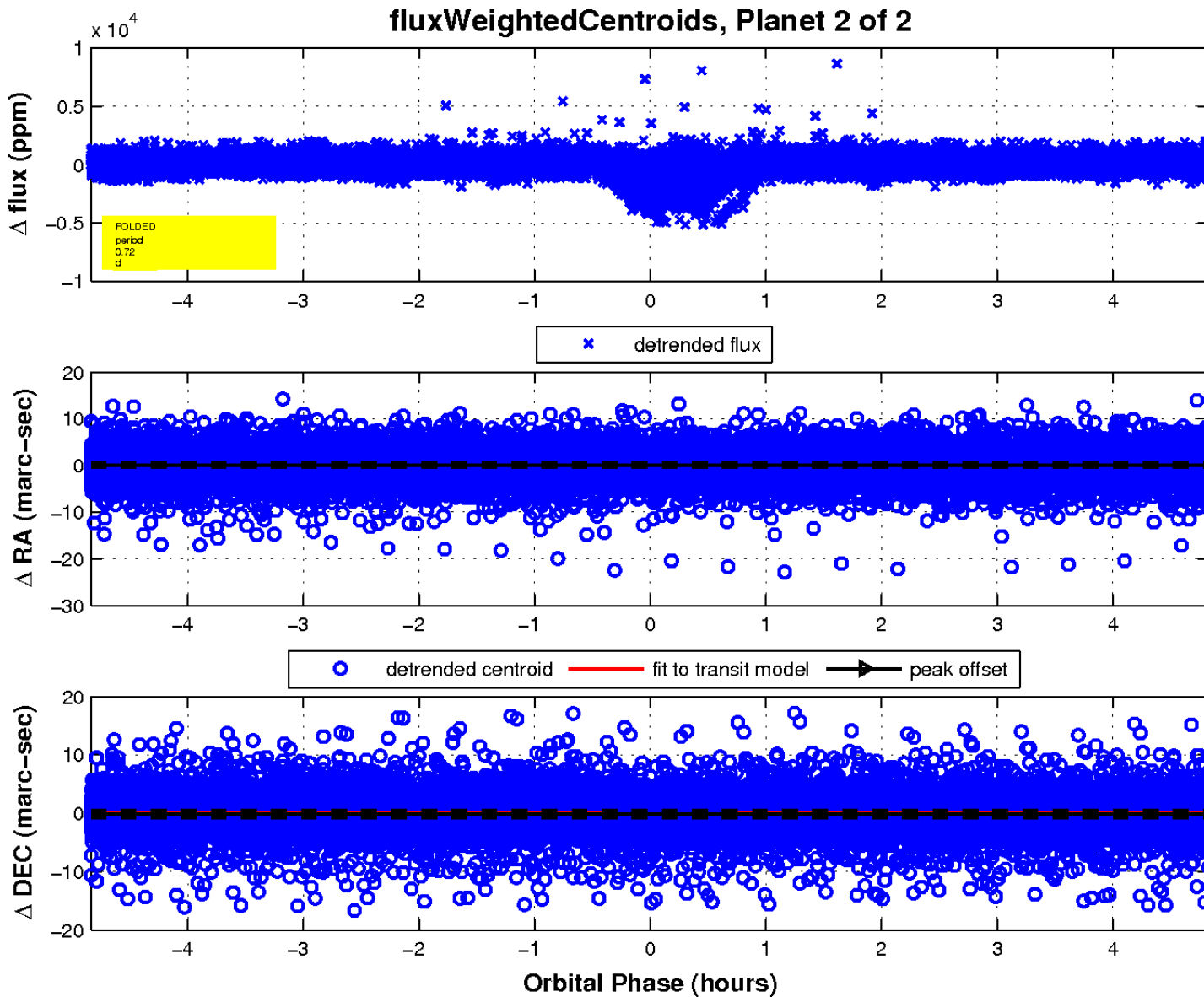
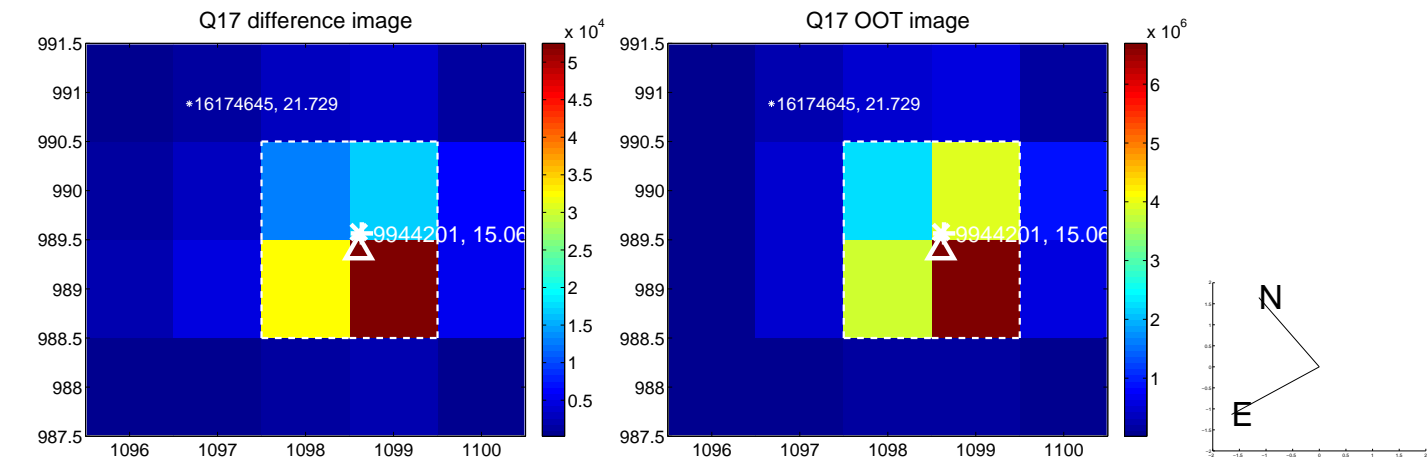
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

