

KIC 009392702

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})
009392702-01	OBS	7167.01	3.909291	131.892420	66983.4	3.500	6211.2	-1.0	1.14	6425	29.86	820.89
009392702-02	OBS	No	1.954654	131.894370	34730.2	5.265	2363.8	1938.5	1.14	6425	23.79	2068.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009392702-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
009392702-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

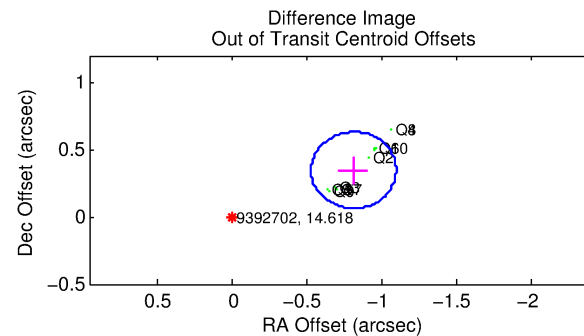
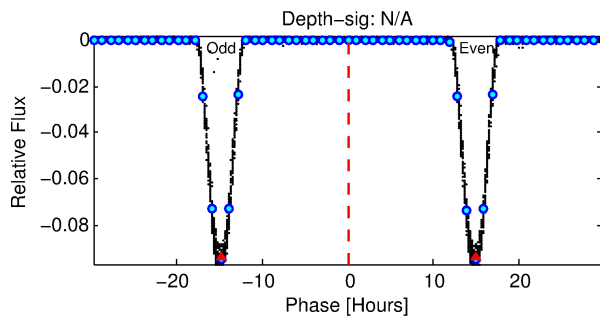
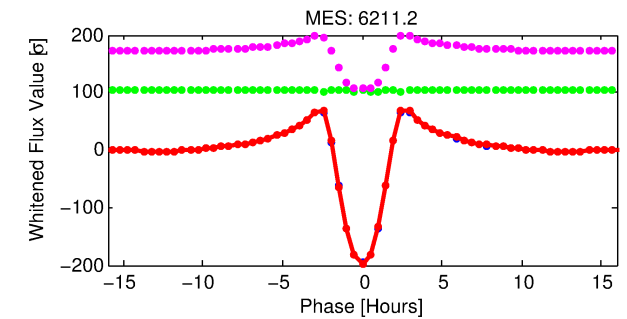
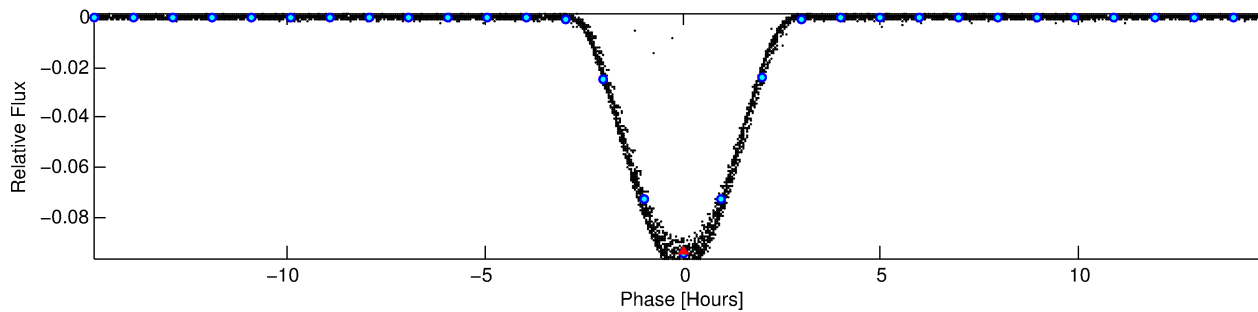
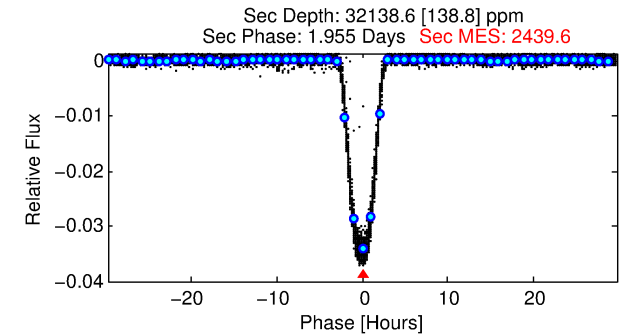
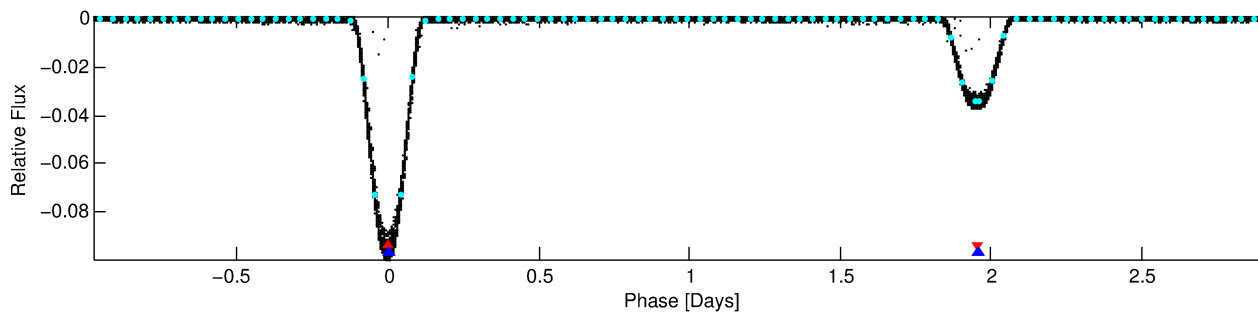
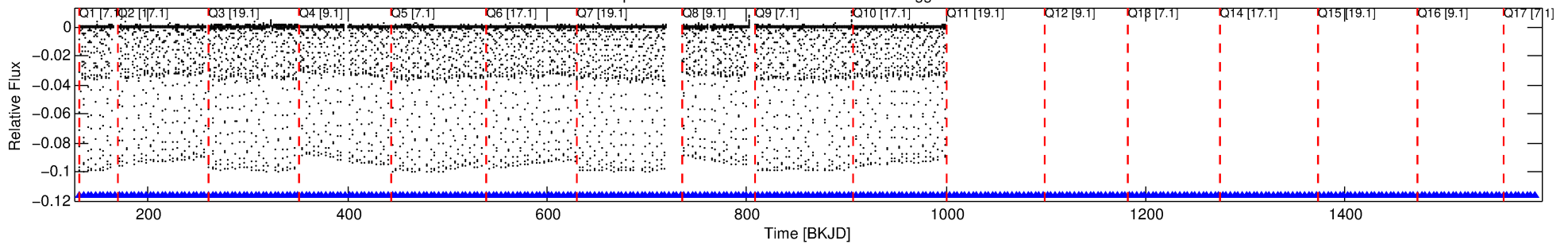
Ephemeris Match Information For 009392702-01

No Significant Match Found

DV One-Page Summary

KIC: 9392702 Candidate: 1 of 2 Period: 3.909 d
KOI: K07167.01 Corr: 0.806

Kp: 14.62 R*: 1.14 Rs Teff: 6425.0 K Logg: 4.34 Fe/H: -0.300



TPS TCE Results:

Period = 3.90929 d
Epoch = 131.8924 BKJD

DV fit results are unavailable

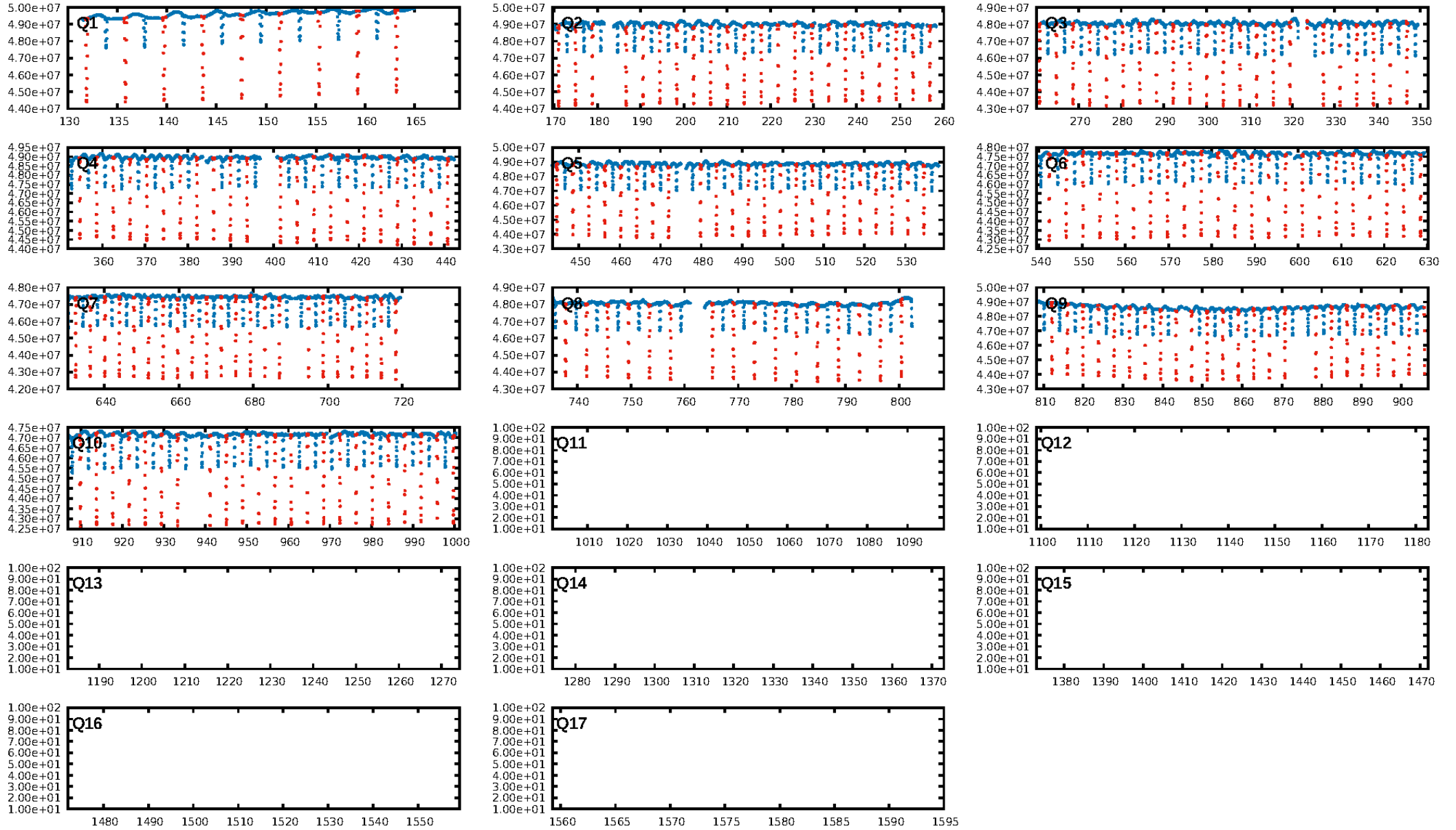
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.42 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [198/198]
GhostDiagnostic-chr: 2.554
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.888 arcsec [9.37 σ]
KicOffset-rm: 0.423 arcsec [6.18 σ]
OotOffset-st: 3/2/2/3 [10]
KicOffset-st: 3/2/2/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 0.00 [0/10]

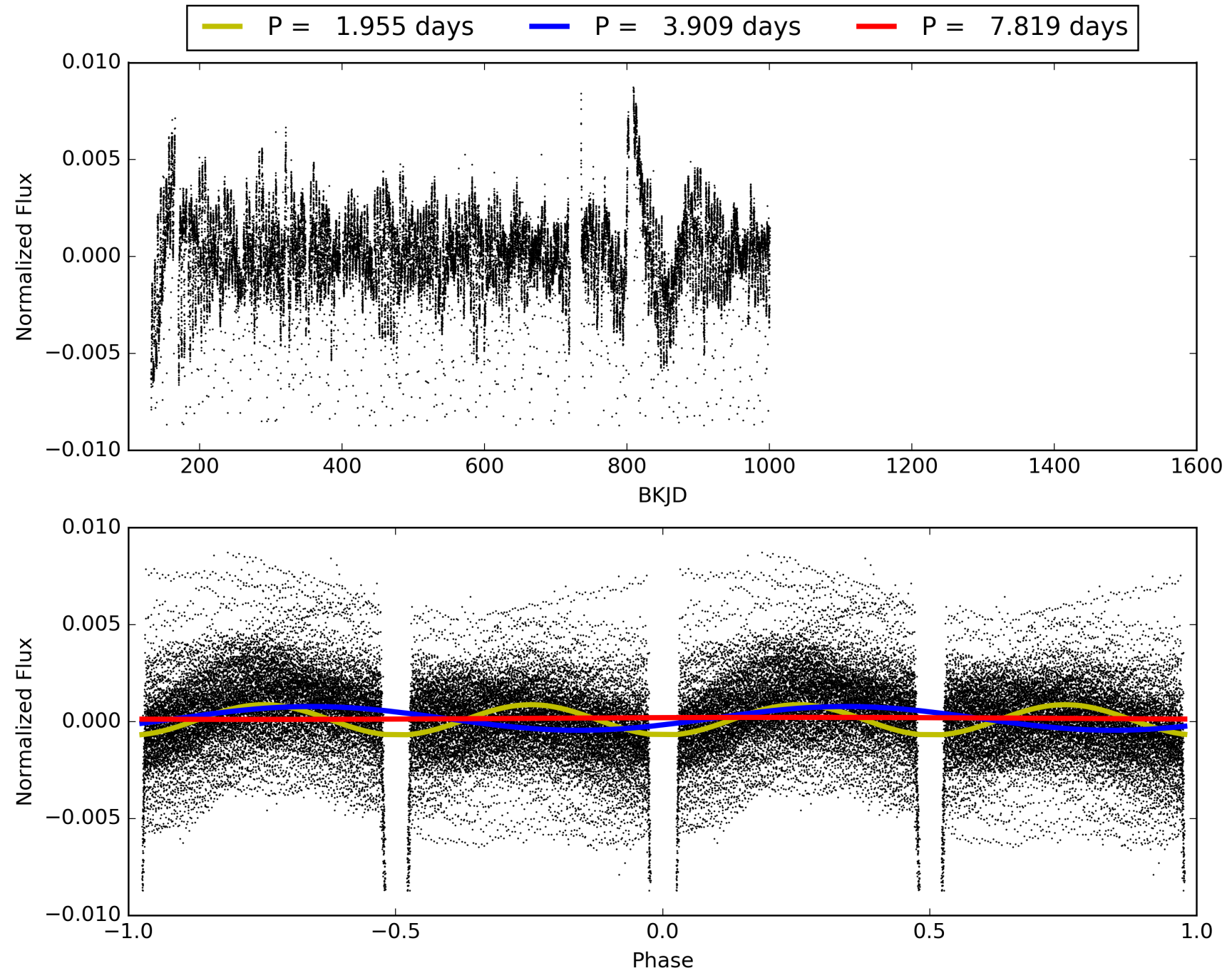
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:37:08 Z

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

TCE 009392702-01, PDC Light Curves

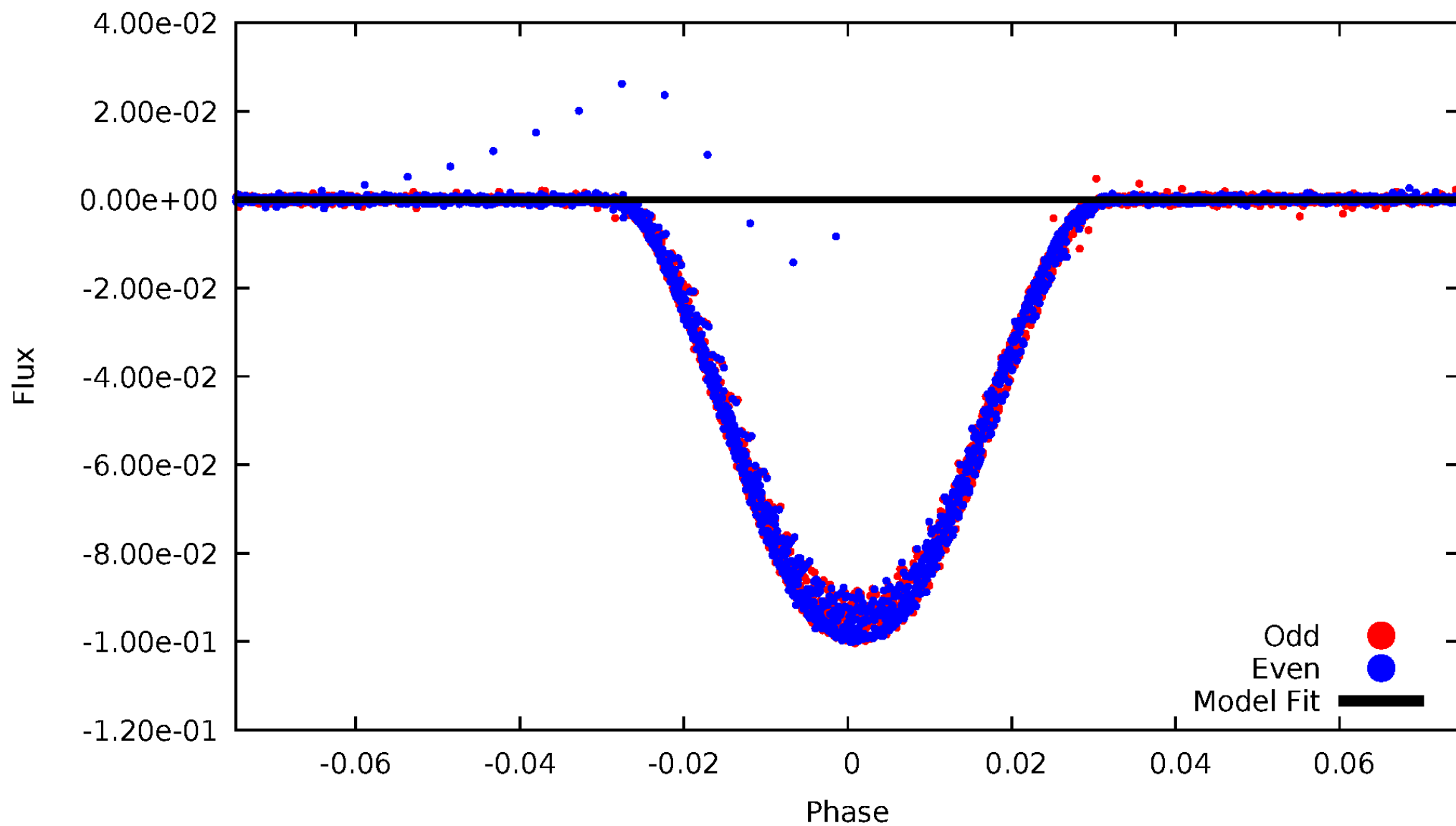


TCE 009392702-01



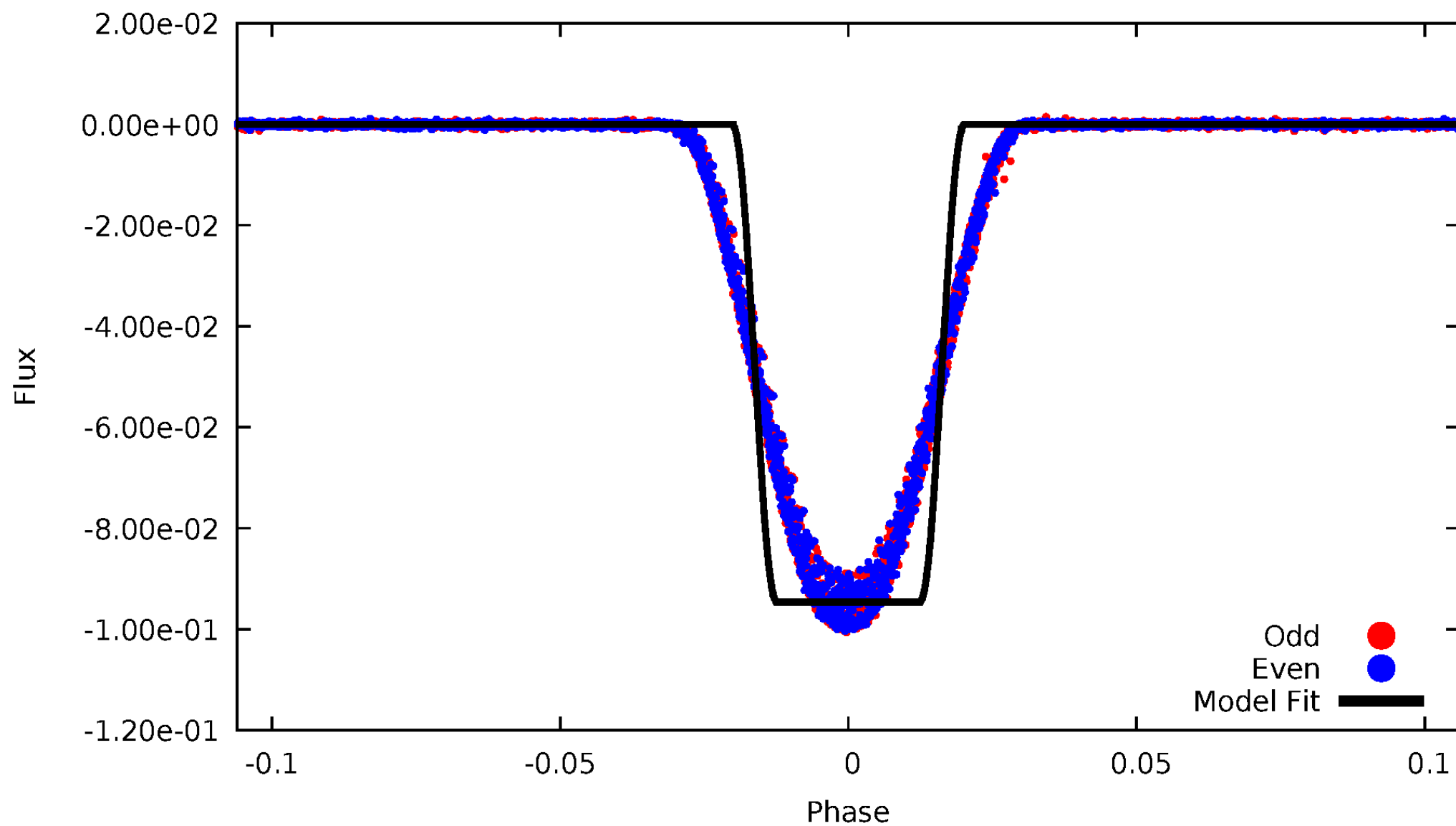
DV Odd/Even

TCE 009392702-01



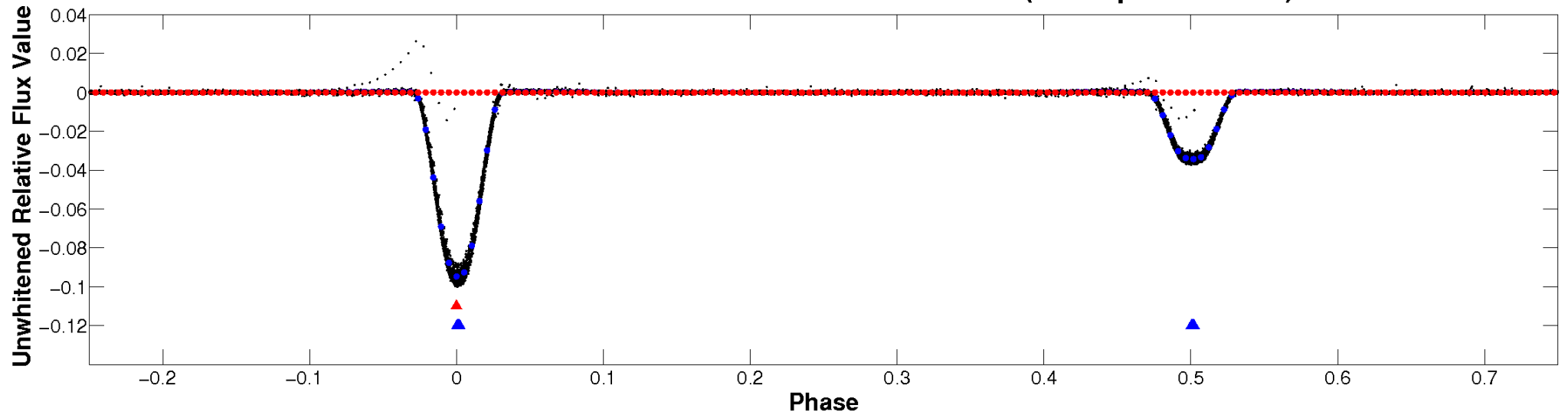
ALT Odd/Even

TCE 009392702-01

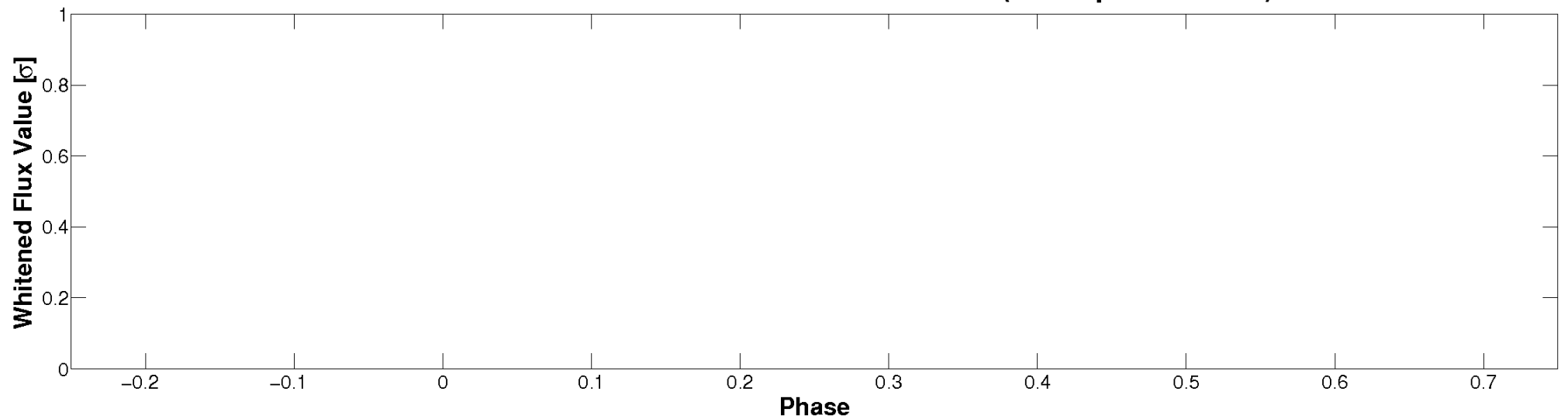


Non-Whitened Vs. Whitened Light Curve

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

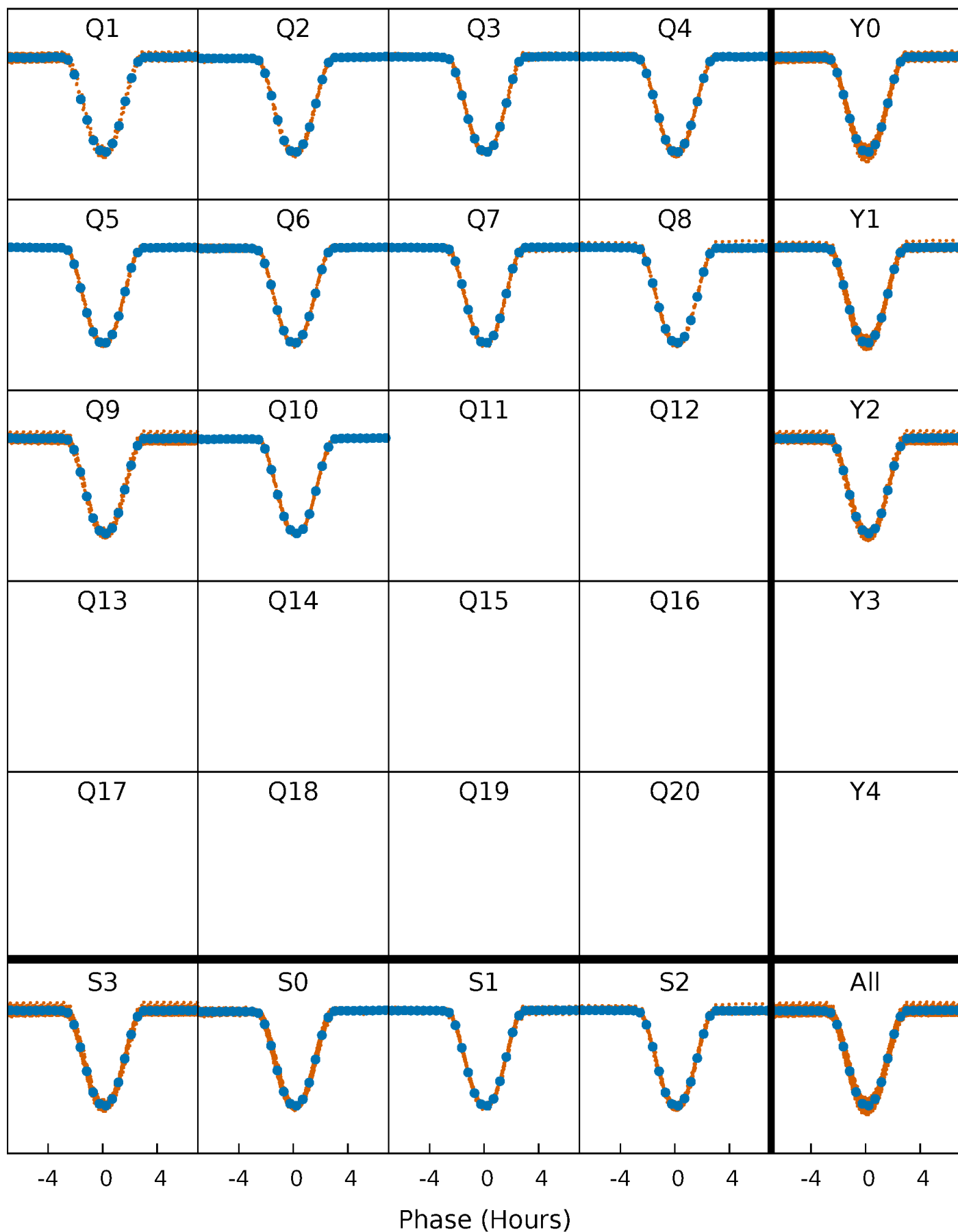


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



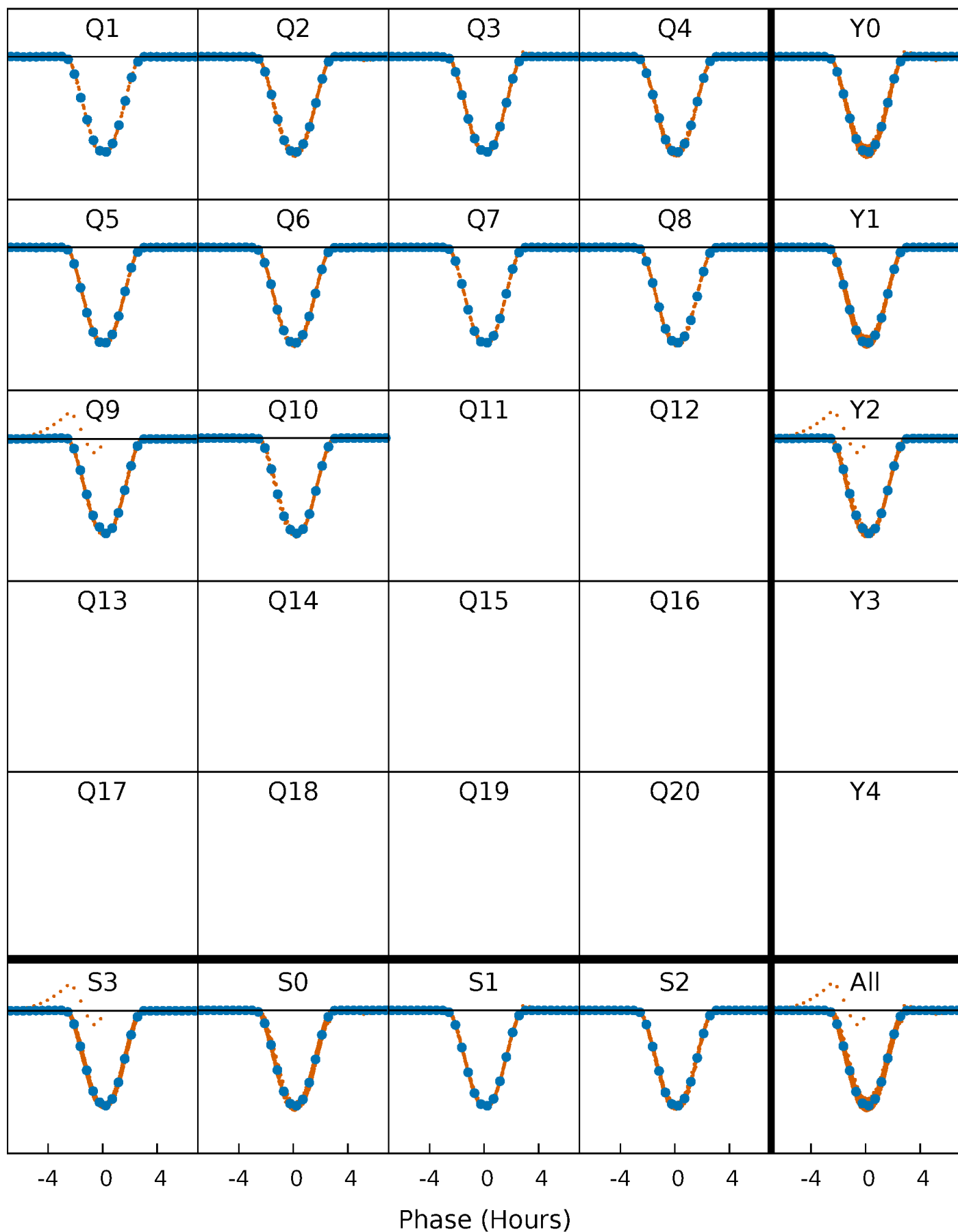
PDC Quarter-Phased Transit Curves

TCE 009392702-01 P= 3.909291 Days $T_0=131.892420$ (BKJD)



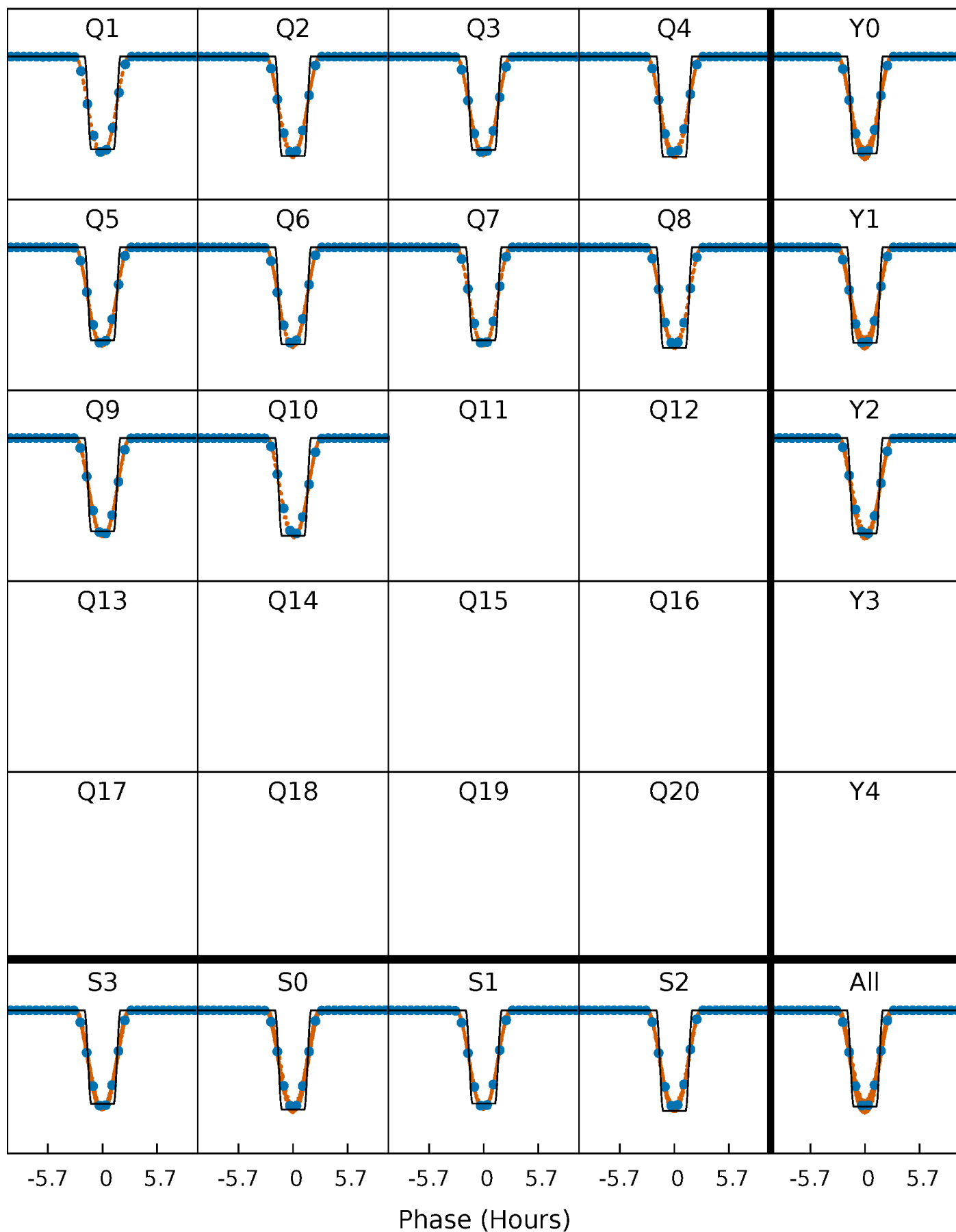
DV Quarter-Phased Transit Curves

TCE 009392702-01 P= 3.909291 Days $T_0=131.892420$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

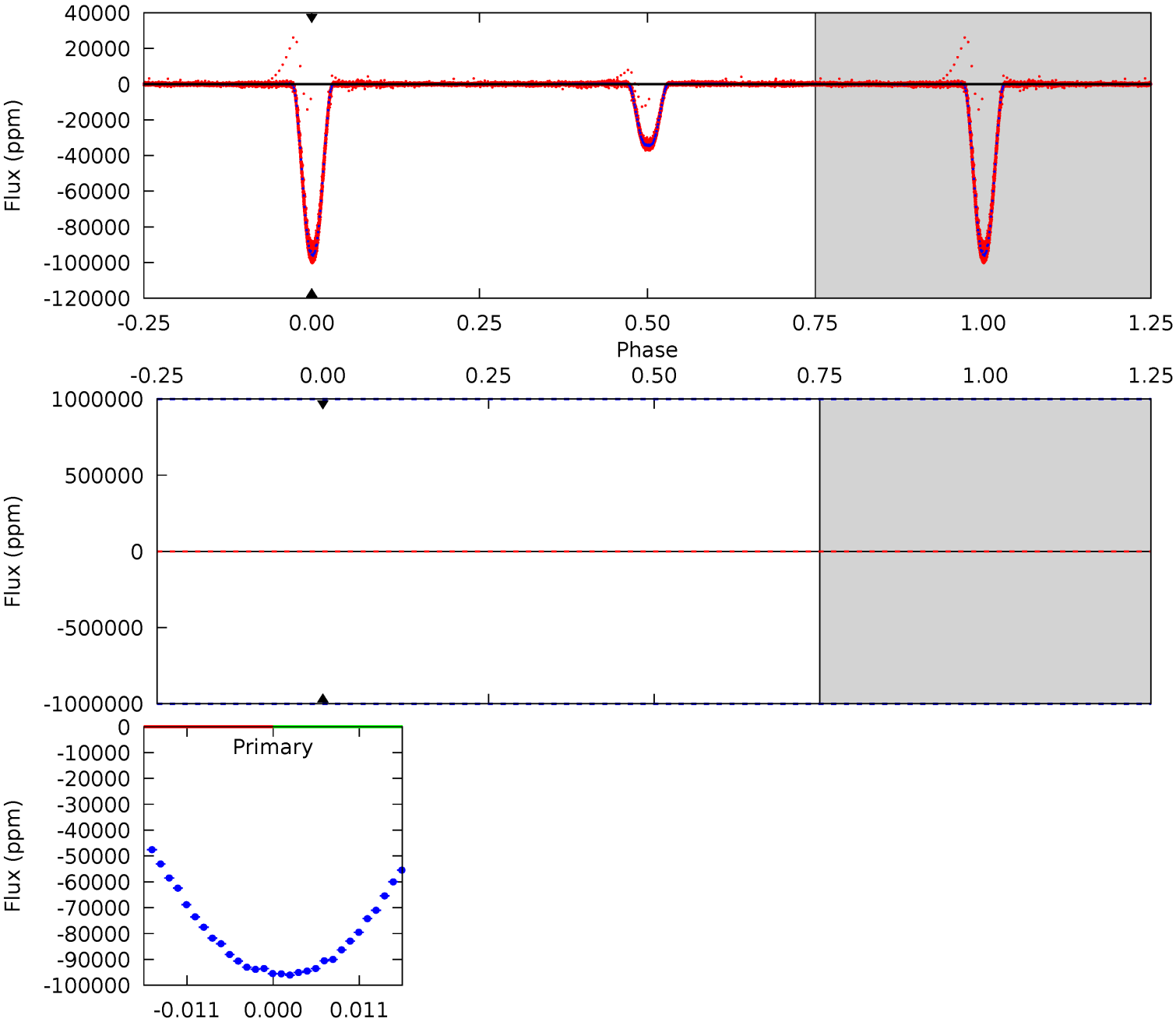
TCE 009392702-01 P= 3.909291 Days $T_0=131.897288$ (BKJD)



DV Model-Shift Uniqueness Test

009392702-01, P = 3.909291 Days, E = 127.983129 Days

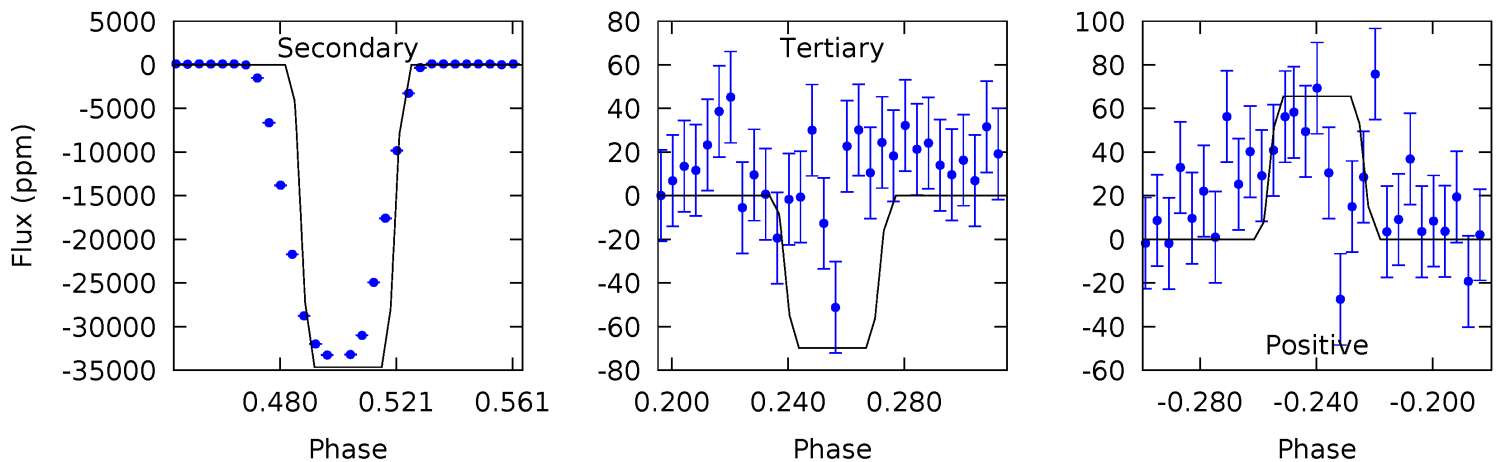
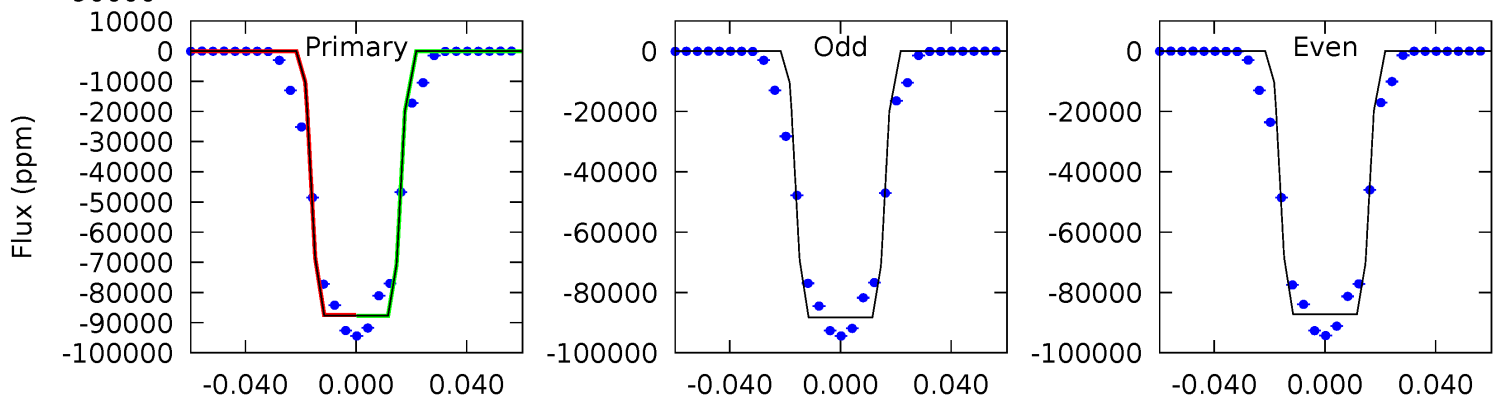
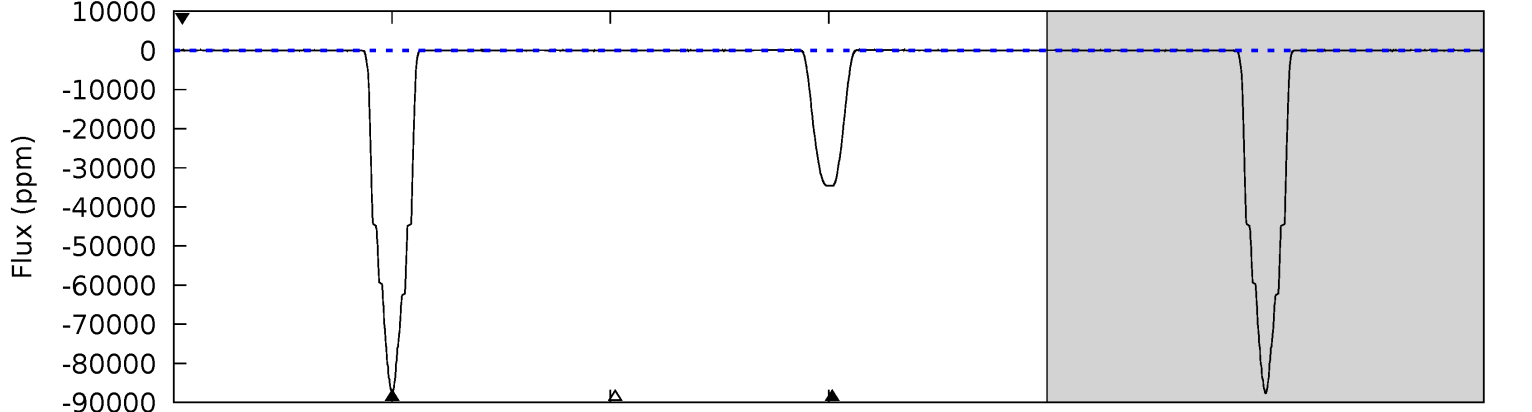
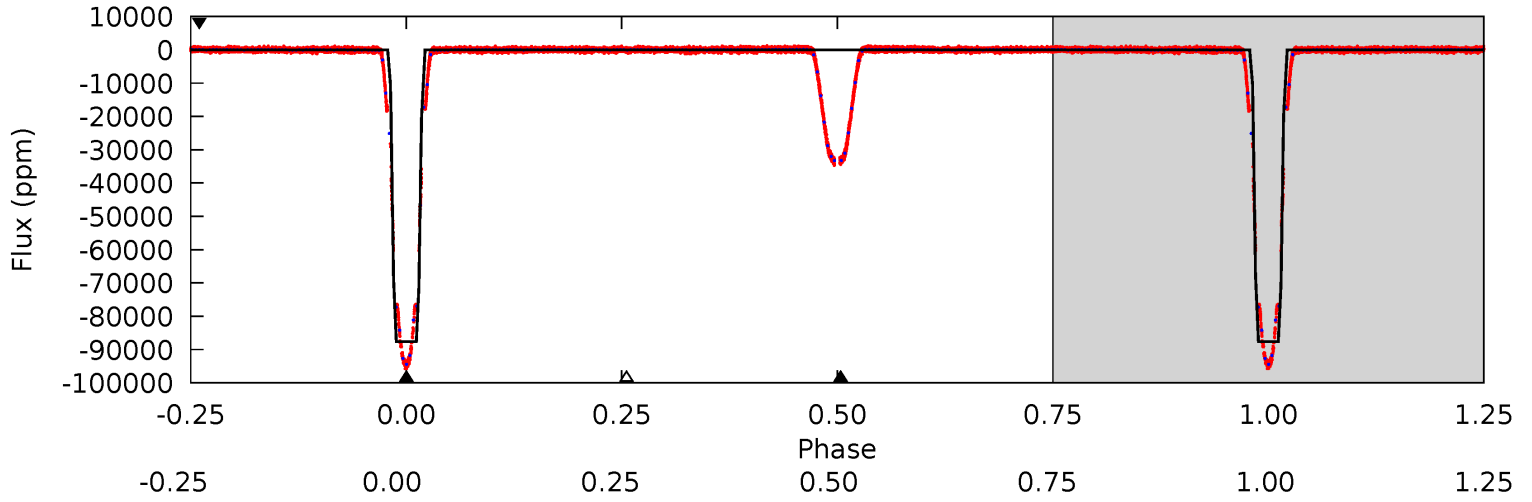
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009392702-01, P = 3.909291 Days, E = 127.987997 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5089	2012	4.05	3.81	4.75	2.05	1.97	5085	5085	2008	2008	29.5	0.99	0.00	0



Stellar Parameters For KIC 009392702

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6425^{+171}_{-190}	$4.341^{+0.101}_{-0.188}$	$-0.300^{+0.250}_{-0.300}$	$1.143^{+0.350}_{-0.175}$	$1.040^{+0.171}_{-0.114}$	$0.981^{+0.473}_{-0.513}$
	+3%/-3%	+2%/-4%	+83%/-100%	+31%/-15%	+16%/-11%	+48%/-52%
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 009392702-01 / KOI 7167.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$31.14^{+12.95}_{-13.78}$	1922^{+149}_{-96}	3220^{+4974}_{-11100}	$2.134^{+203.948}_{-169.061}$
Alt.	-34648 ± 17	$39.86^{+14.29}_{-14.38}$	1933^{+129}_{-106}	5093^{+1193}_{-595}	30^{+43}_{-14}

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

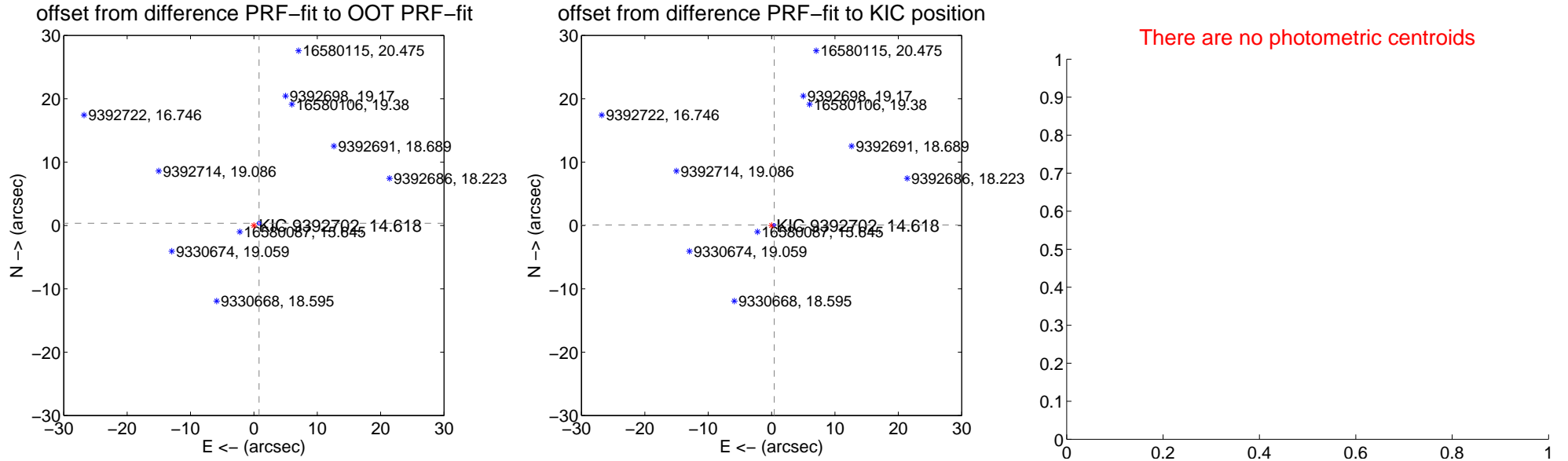
DV Centroid Data

Supplemental centroid analysis for 009392702-01. Kepler magnitude: 14.62. Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

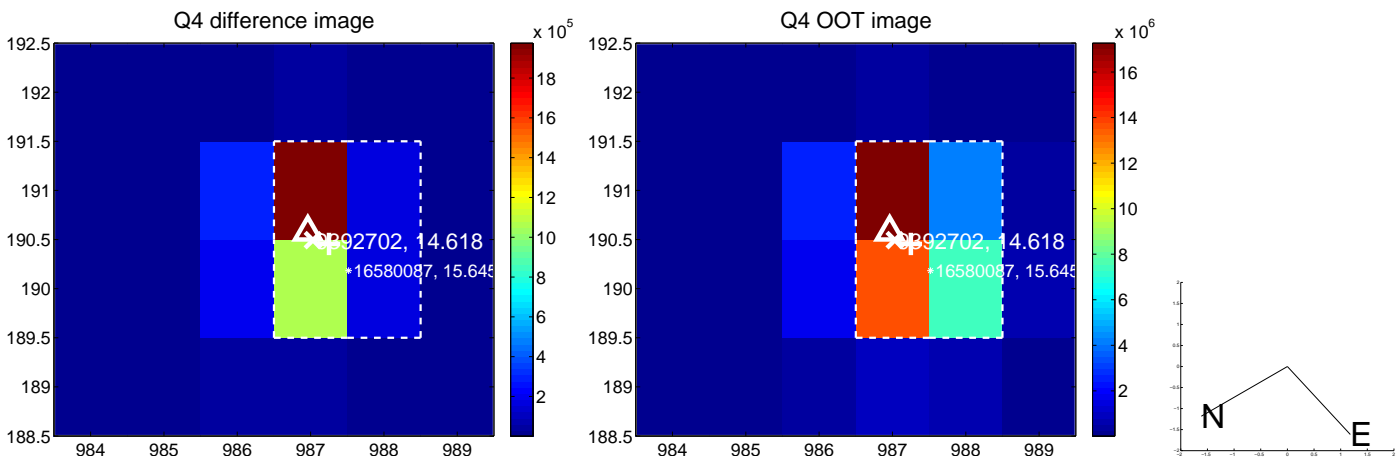
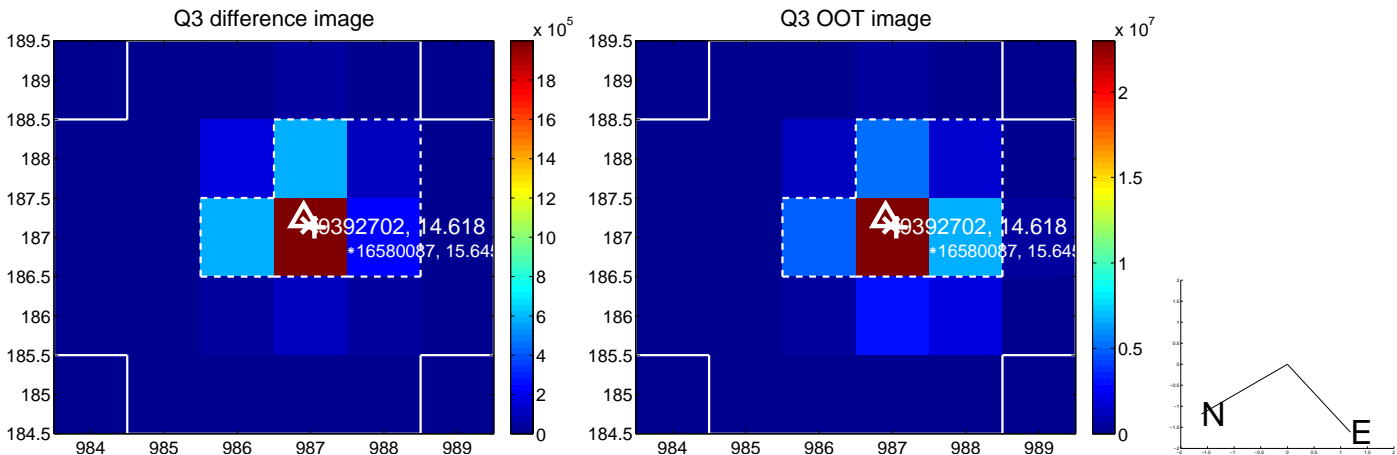
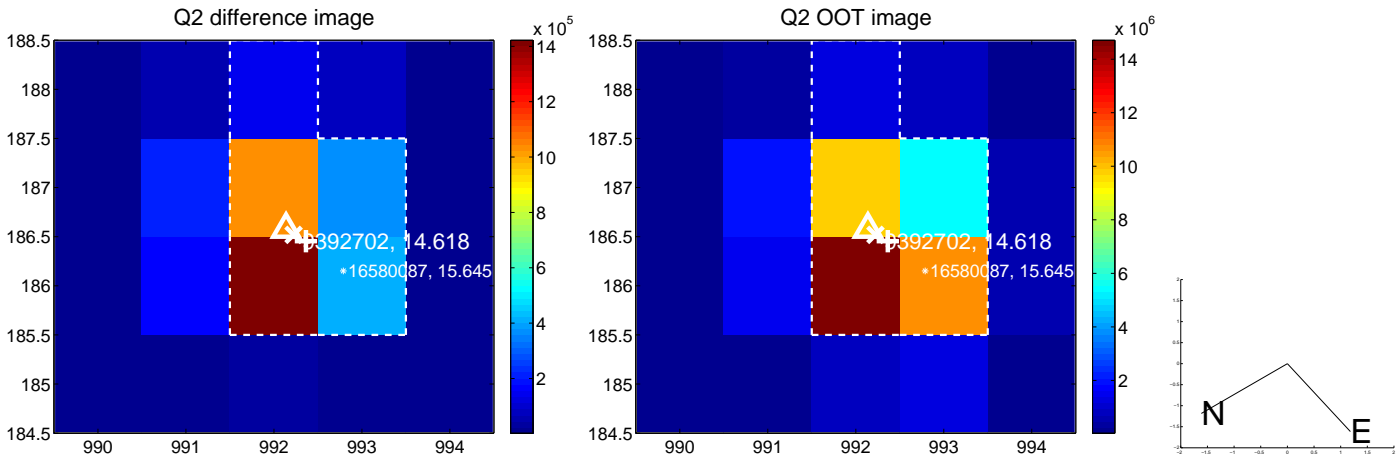
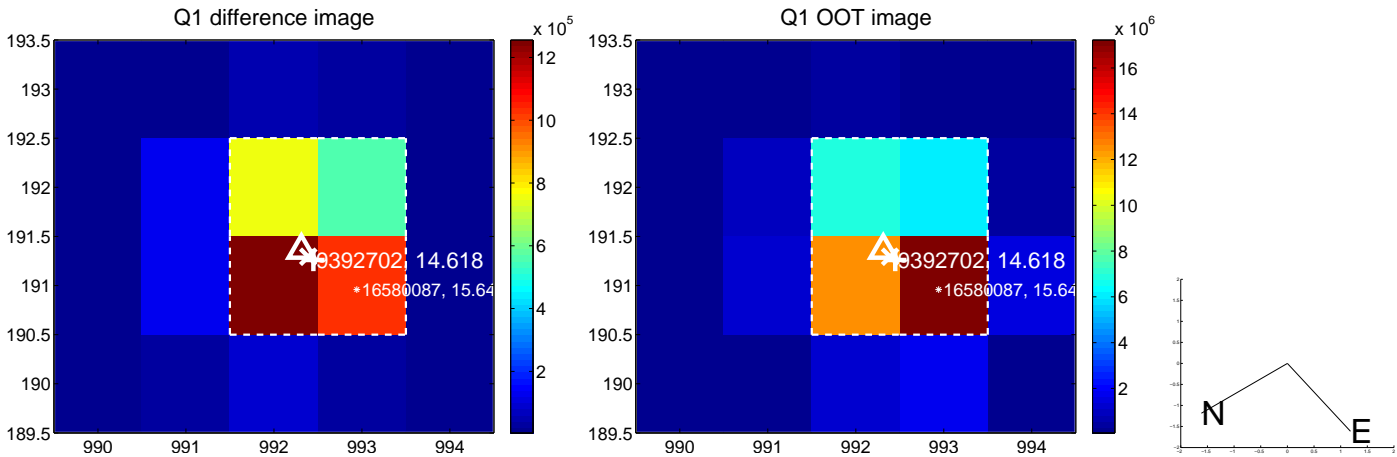
The direct PRF centroid is offset from the target star catalog position by about 0.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.888 ± 0.095	9.37	-0.817 ± 0.095	0.347 ± 0.096
PRF-fit source offset from KIC position	0.423 ± 0.069	6.18	-0.415 ± 0.068	0.082 ± 0.072
photometric centroid source offset	—	—	—	—

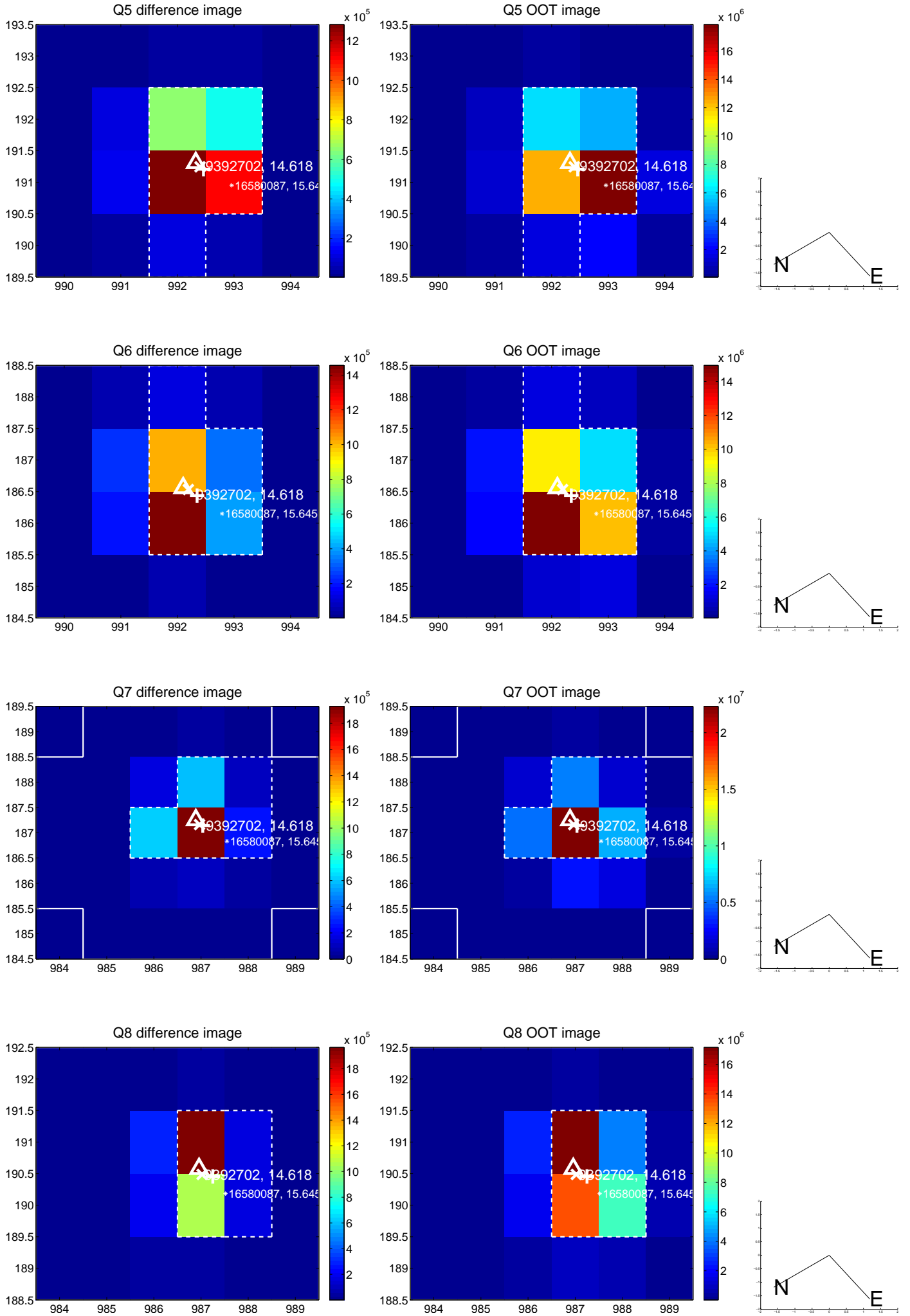


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

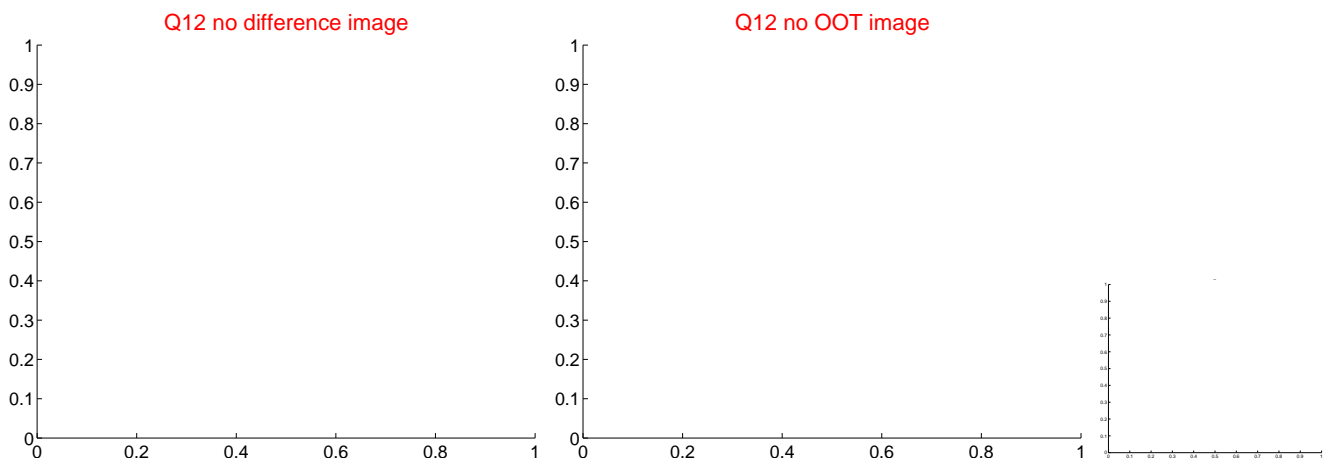
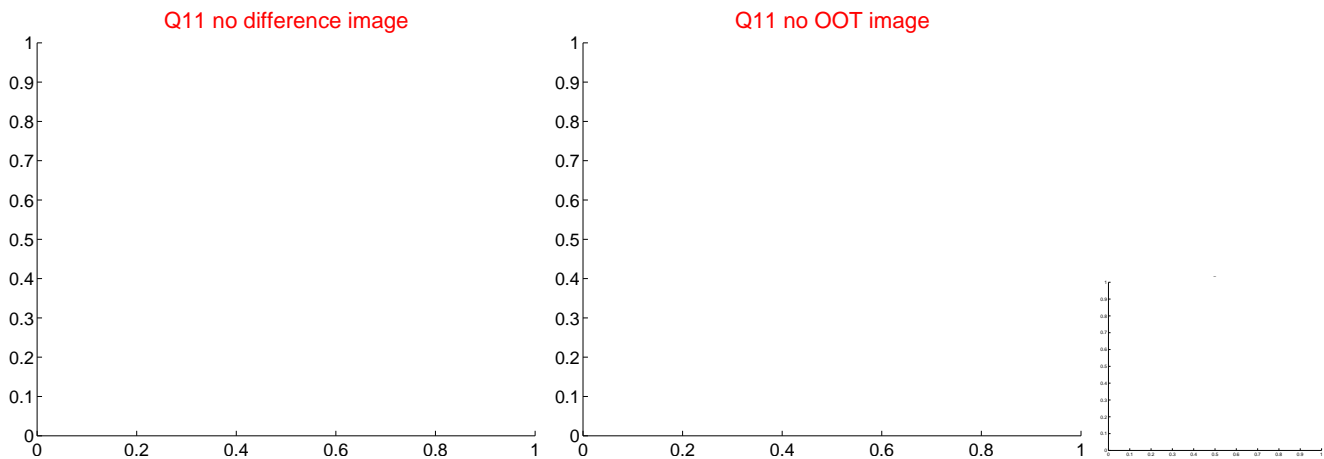
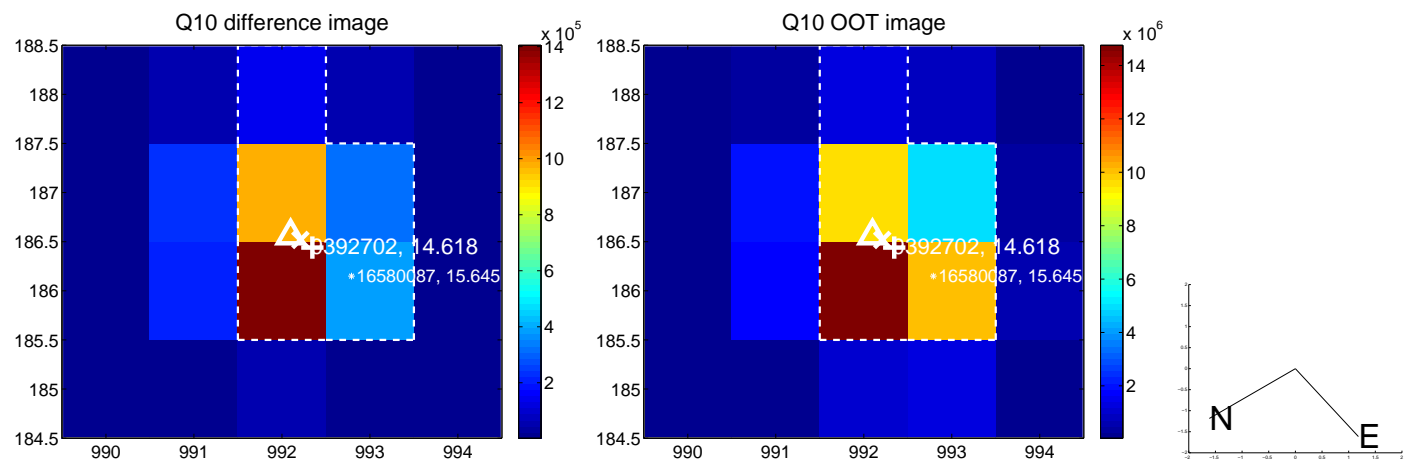
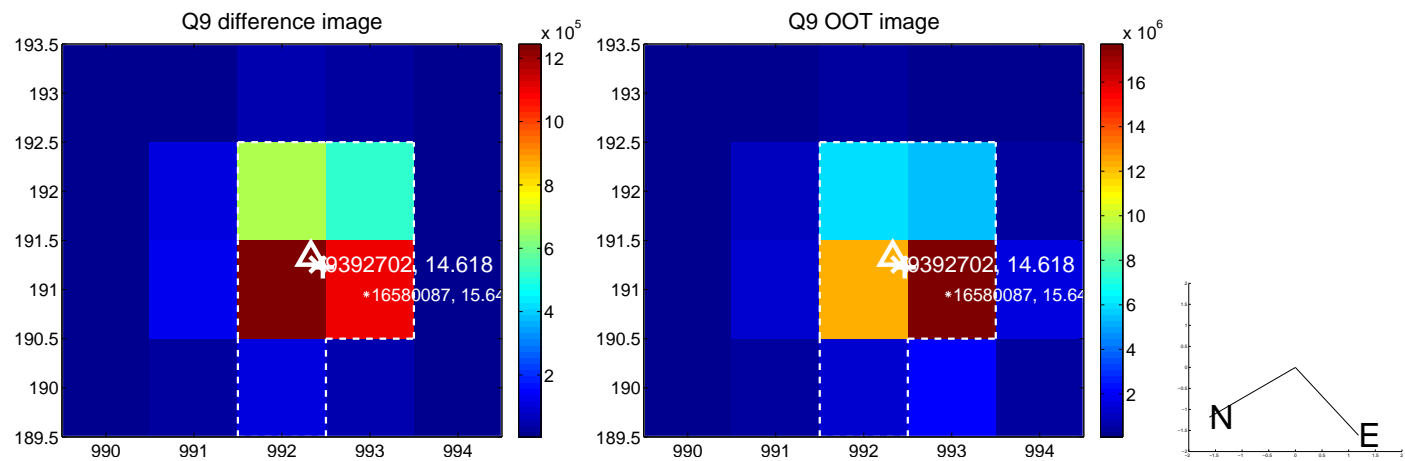
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



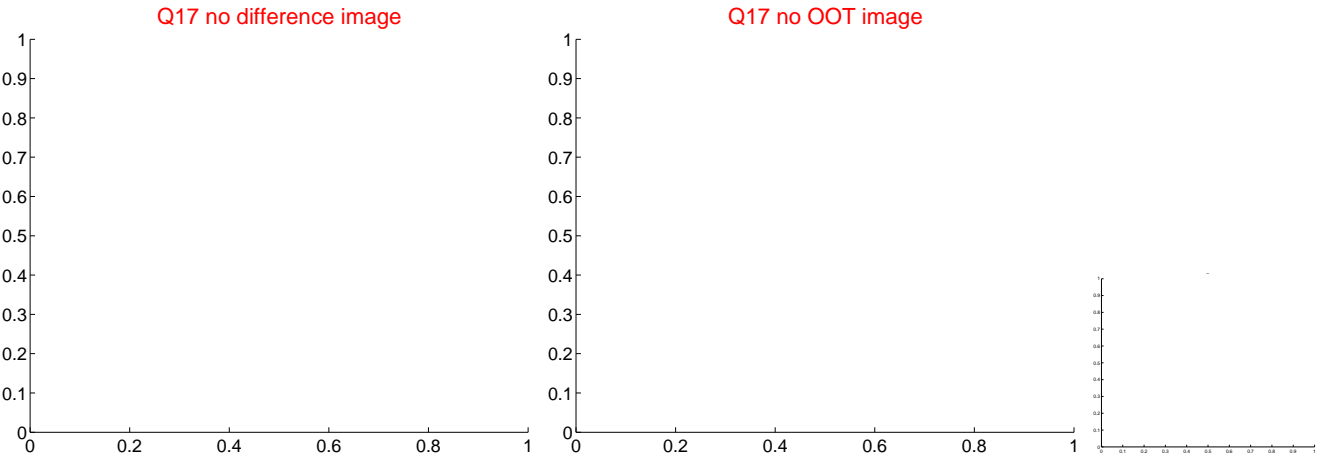
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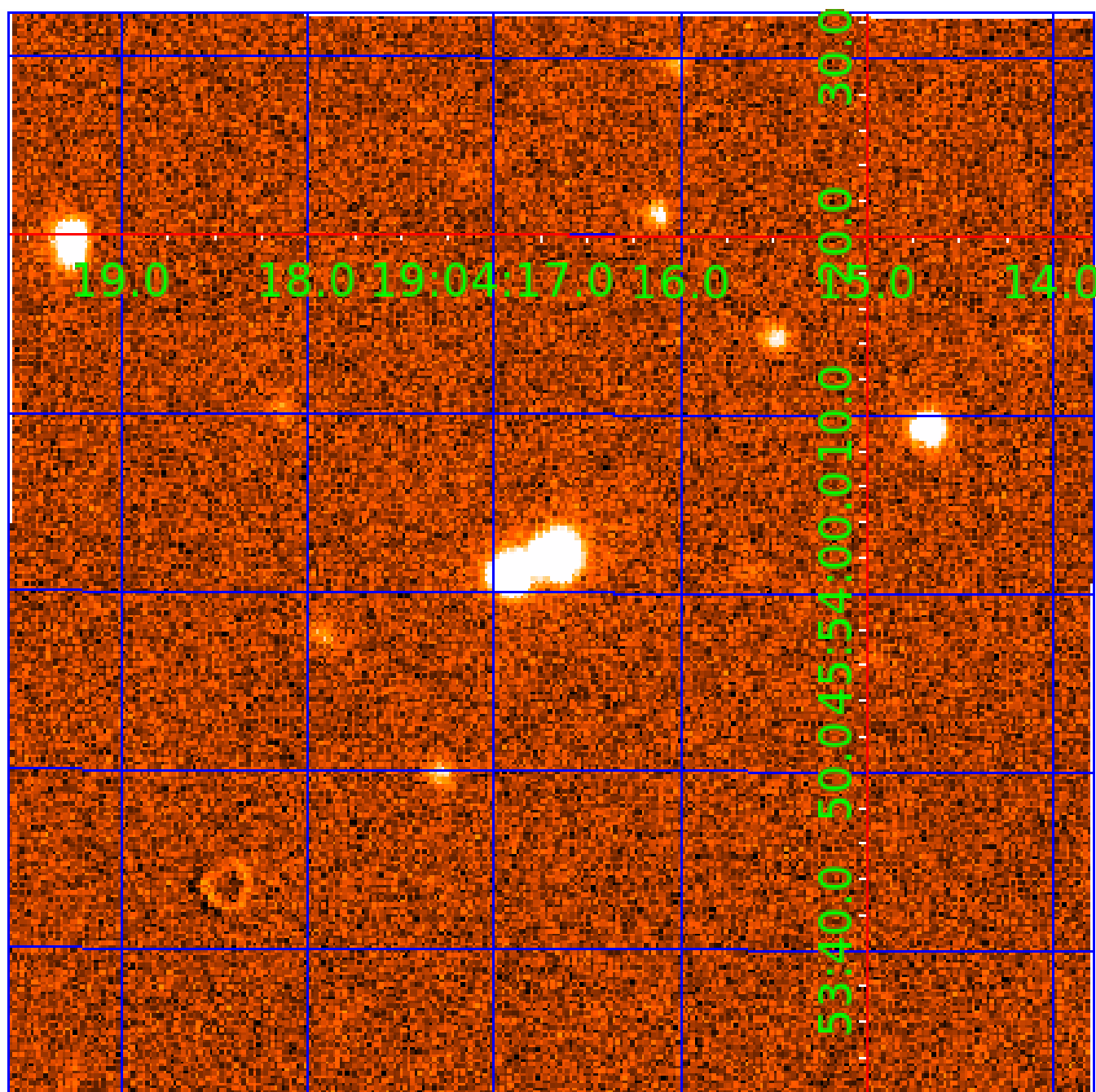
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 009392702

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})
009392702-01	OBS	7167.01	3.909291	131.892420	66983.4	3.500	6211.2	-1.0	1.14	6425	29.86	820.89
009392702-02	OBS	No	1.954654	131.894370	34730.2	5.265	2363.8	1938.5	1.14	6425	23.79	2068.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009392702-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
009392702-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

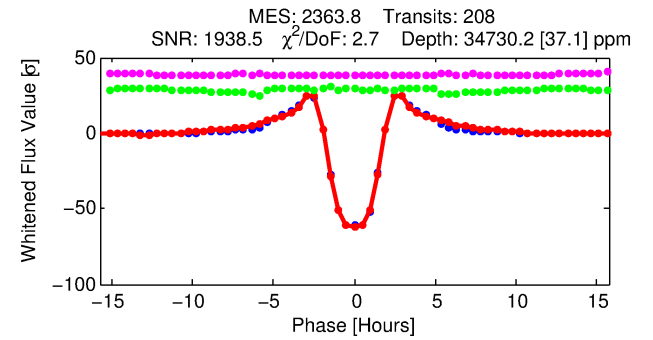
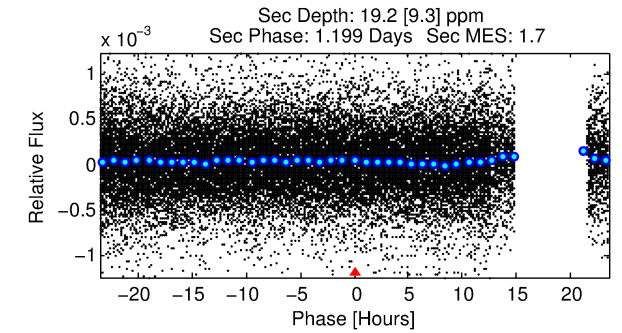
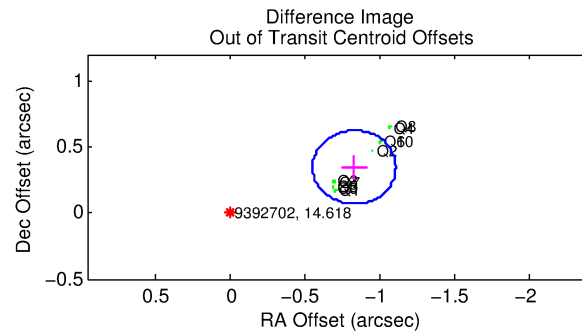
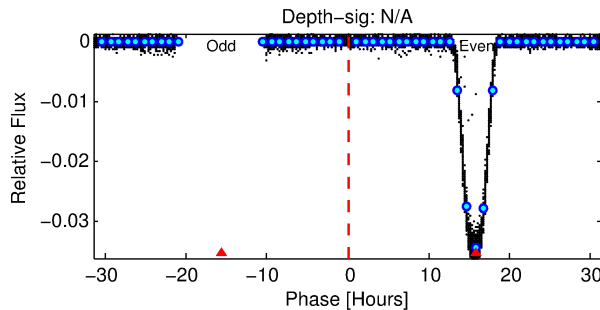
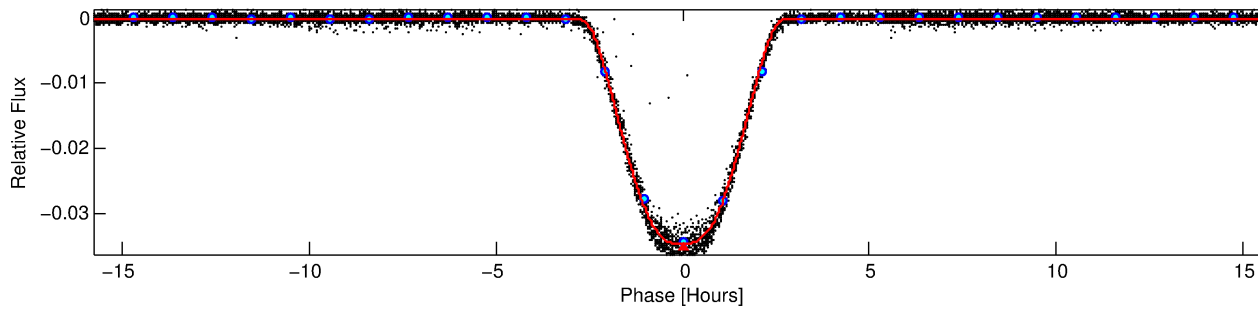
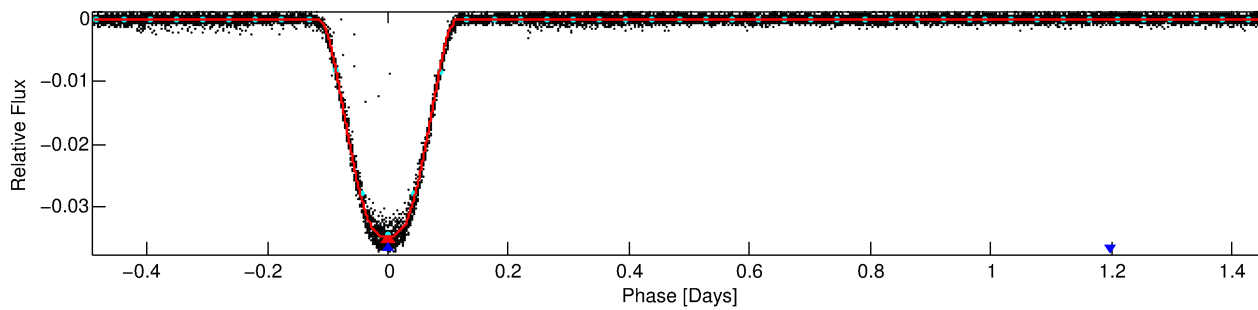
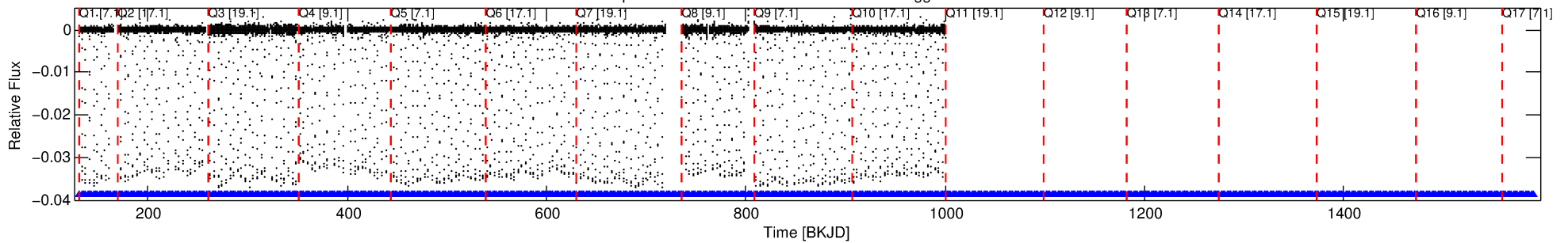
Ephemeris Match Information For 009392702-02

No Significant Match Found

DV One-Page Summary

KIC: 9392702 Candidate: 2 of 2 Period: 1.955 d
KOI: K07167 Corr: No Ephemeris Match

Kp: 14.62 R*: 1.14 Rs Teff: 6425.0 K Logg: 4.34 Fe/H: -0.300



DV Fit Results:

Period = 1.95465 [0.00000] d
Epoch = 131.8944 [0.0001] BKJD
Rp/R* = 0.1907 [0.0001]
a/R* = 2.69 [0.00]
b = 0.79 [0.00]
Seff = 2068.51 [771.06]
Teq = 1720 [160] K
Rp = 23.79 [7.28] Re
a = 0.0311 [0.0078] AU
Ag = 0.02 [0.01] [-91.24σ]
Teffp = 974 [121] K [-3.72σ]

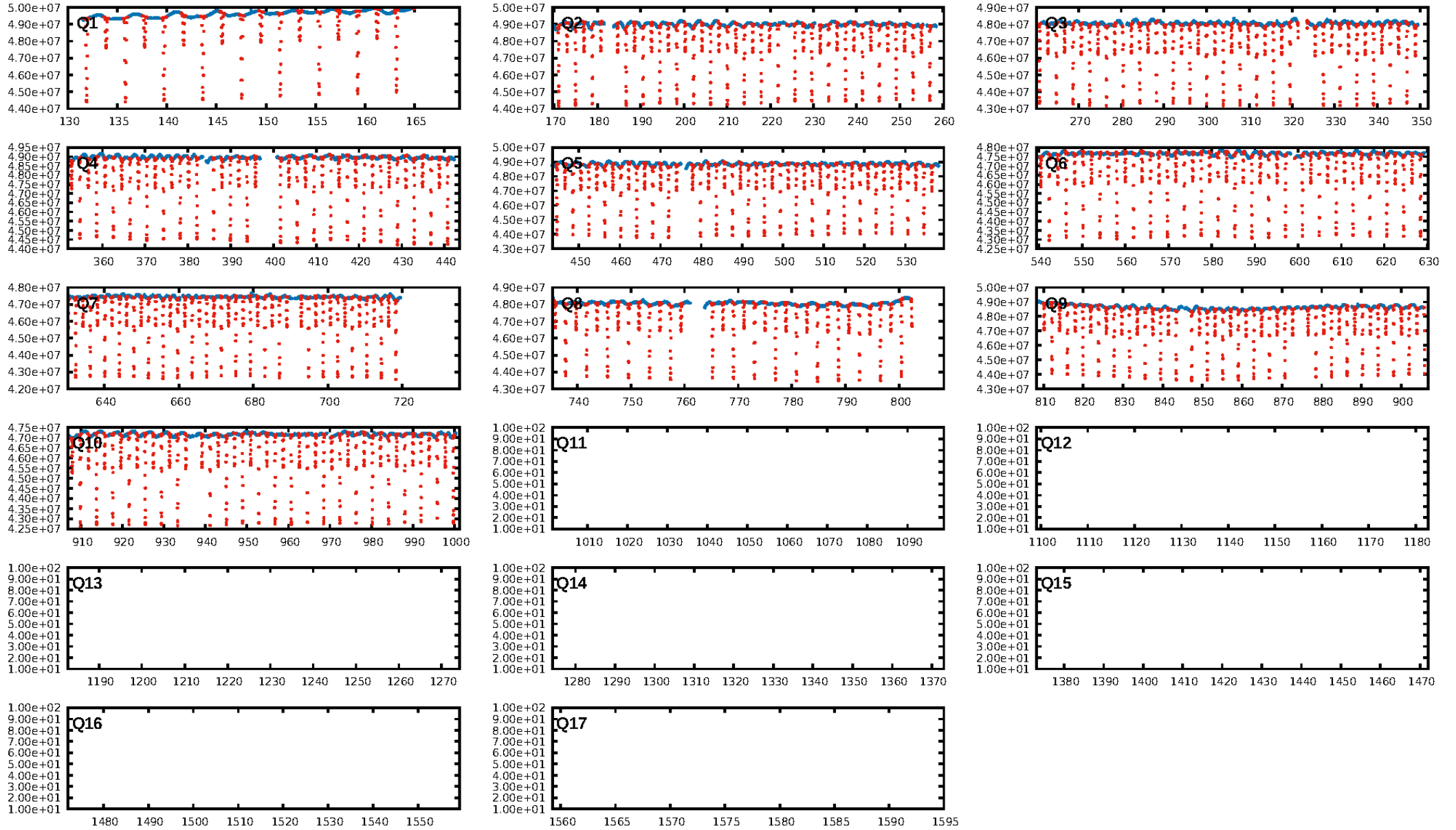
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.42σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [200/200]
GhostDiagnostic-chr: 3.32
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.903 arcsec [9.73σ]
KicOffset-rm: 0.452 arcsec [6.70σ]
OotOffset-st: 3/2/2/3 [10]
KicOffset-st: 3/2/2/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

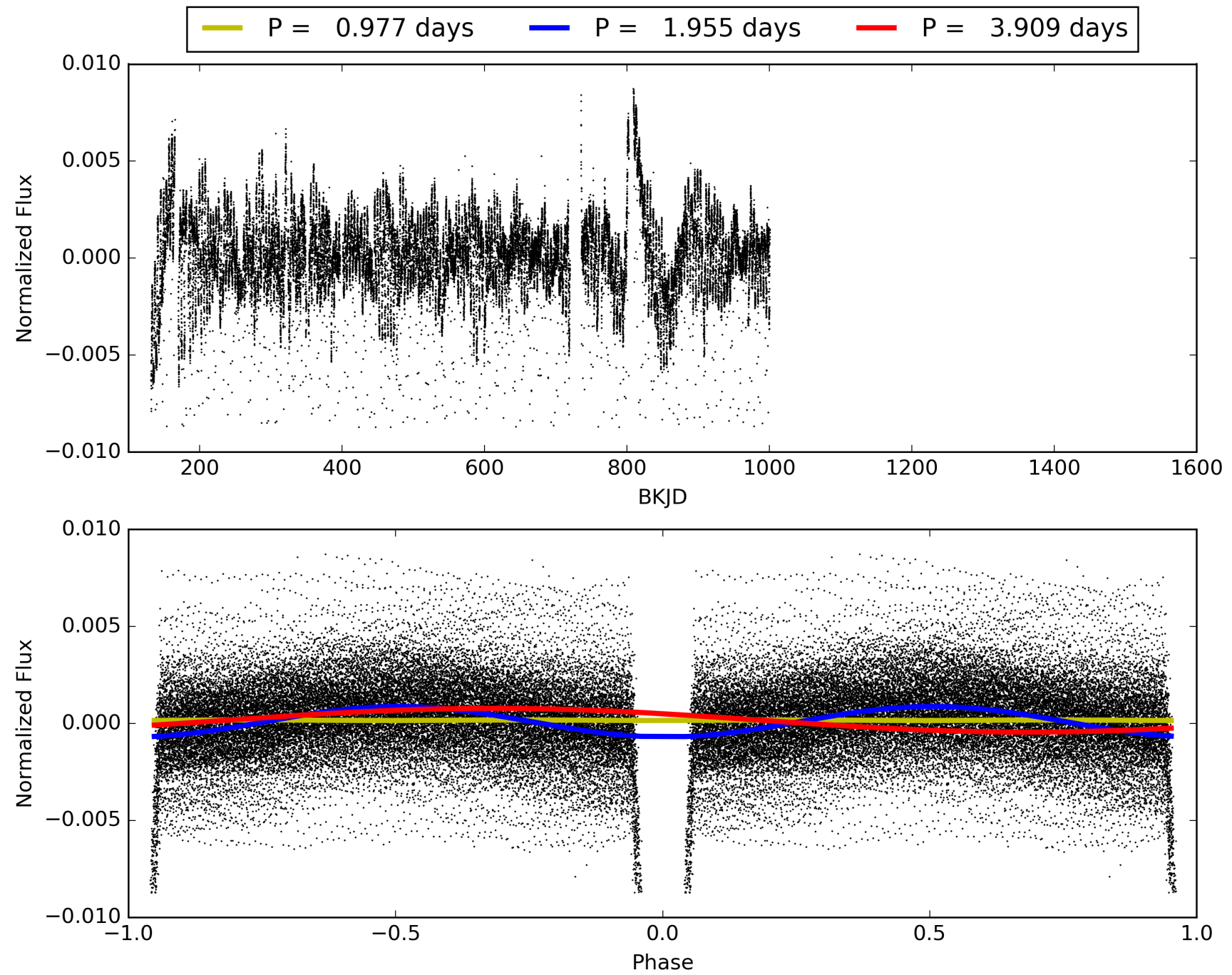
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:37:15 Z

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TCE 009392702-02, PDC Light Curves

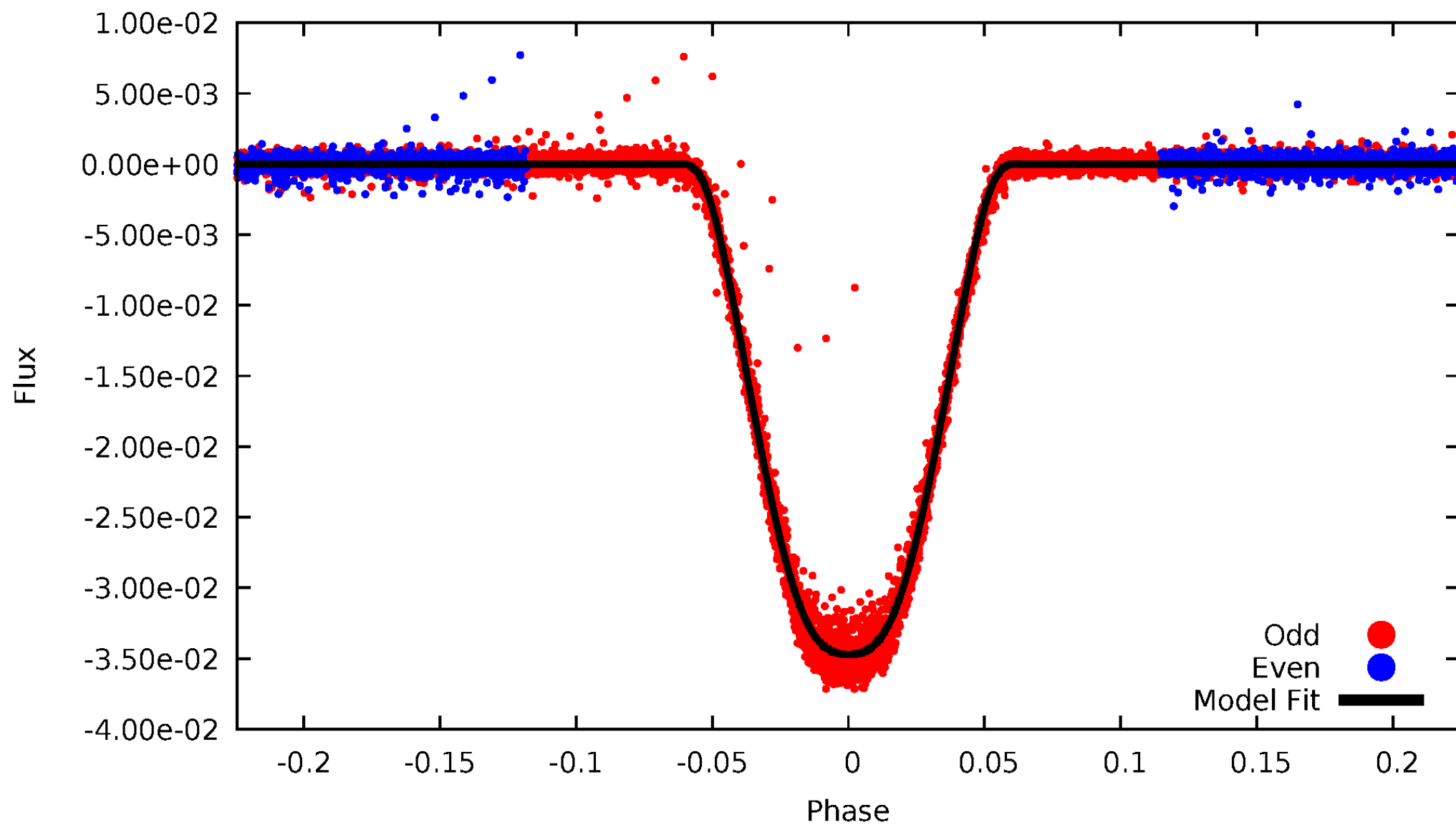


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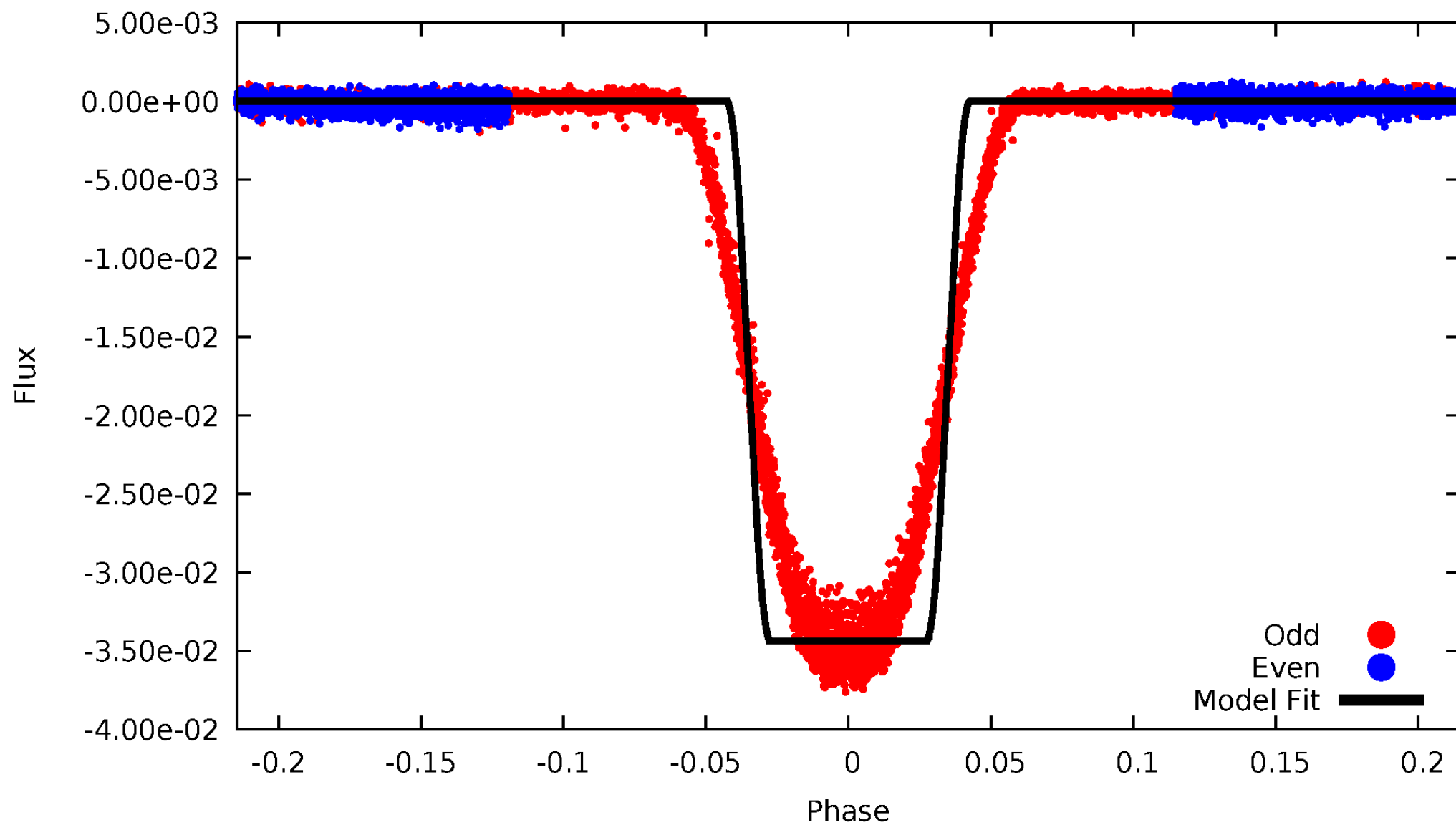
DV Odd/Even

TCE 009392702-02



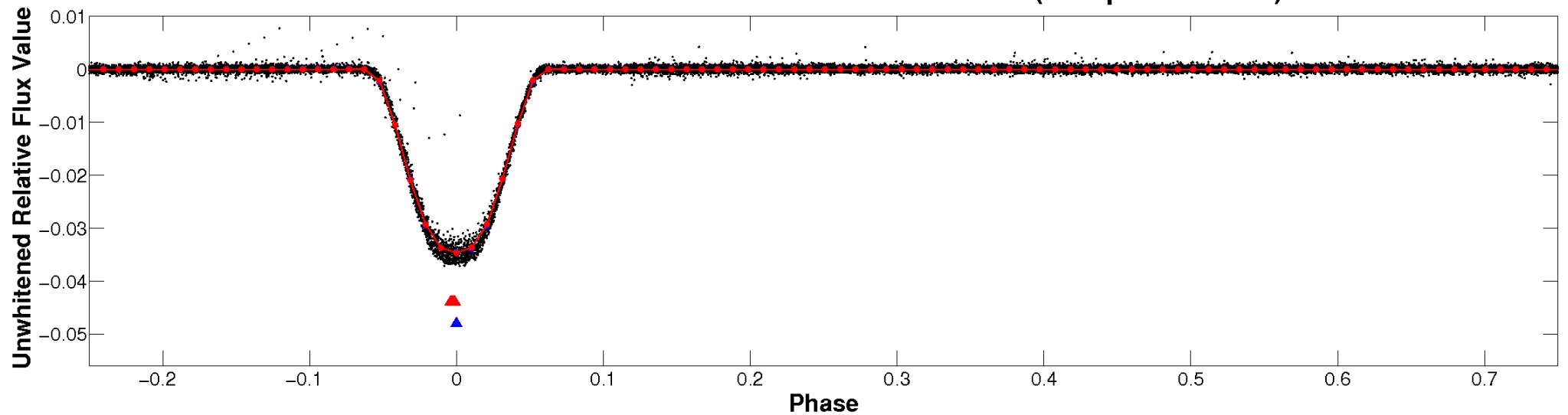
ALT Odd/Even

TCE 009392702-02

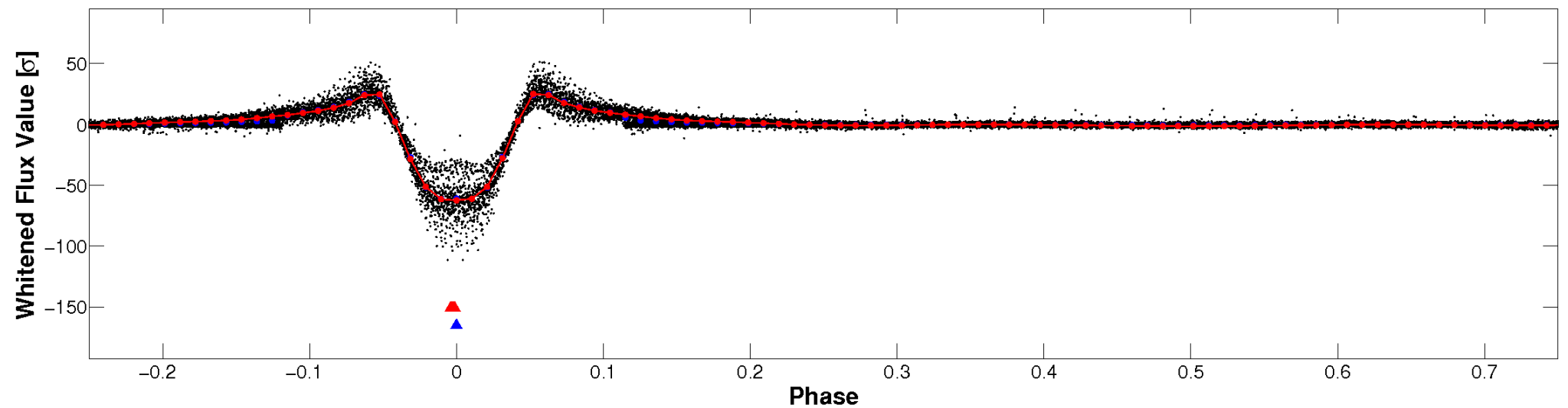


Non-Whitened Vs. Whitened Light Curve

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

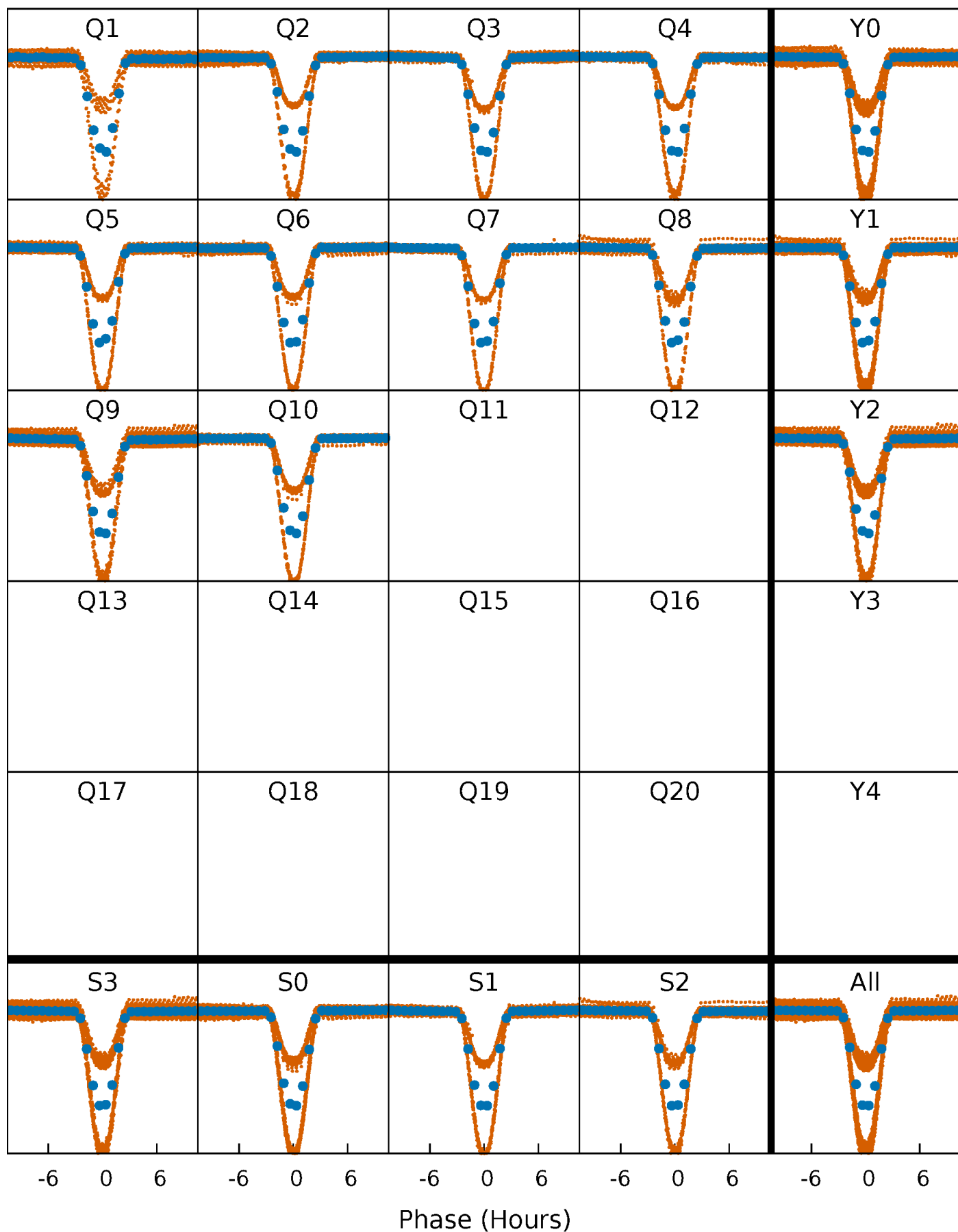


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



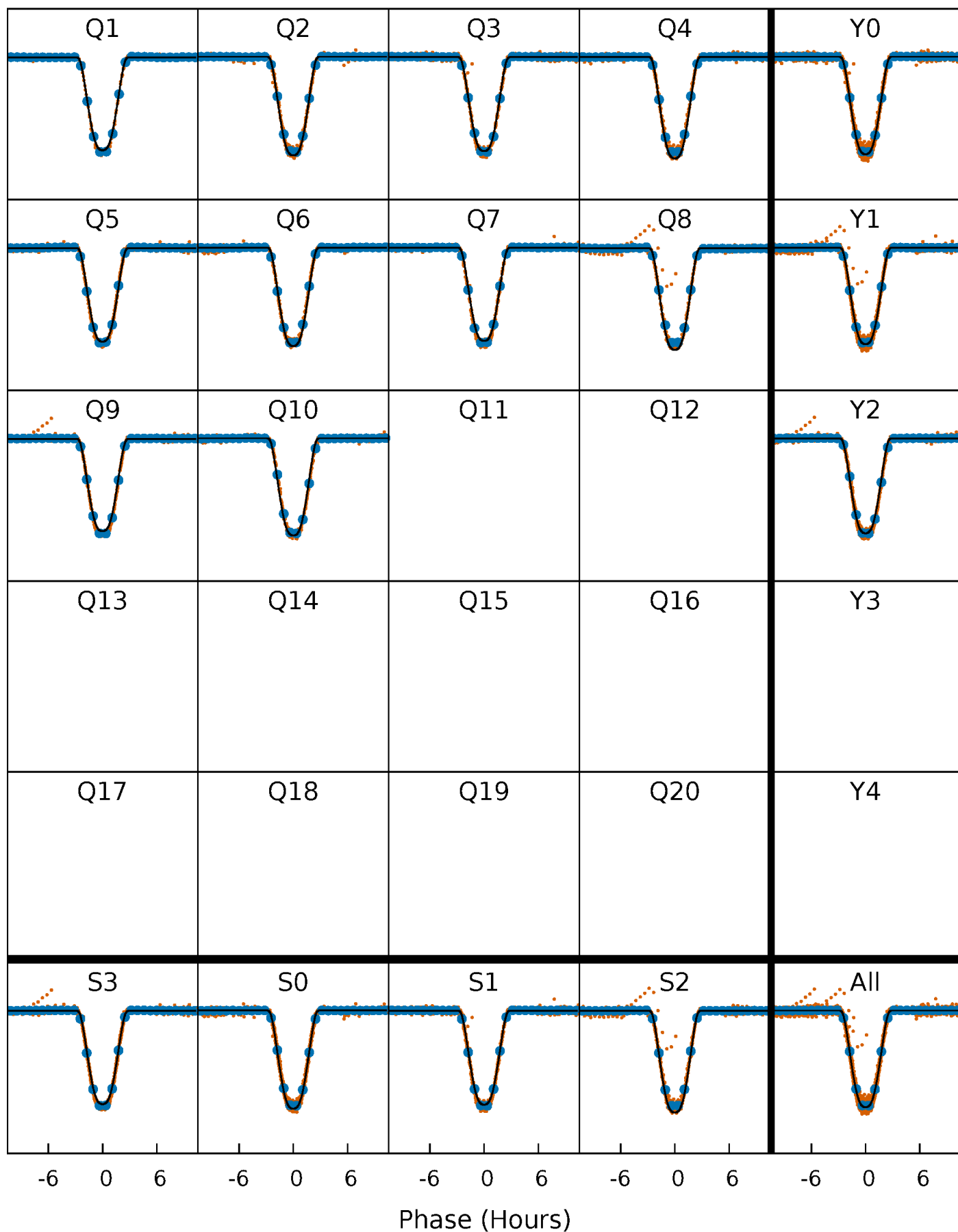
PDC Quarter-Phased Transit Curves

TCE 009392702-02 $P = 1.954654$ Days $T_0 = 131.894370$ (BKJD)



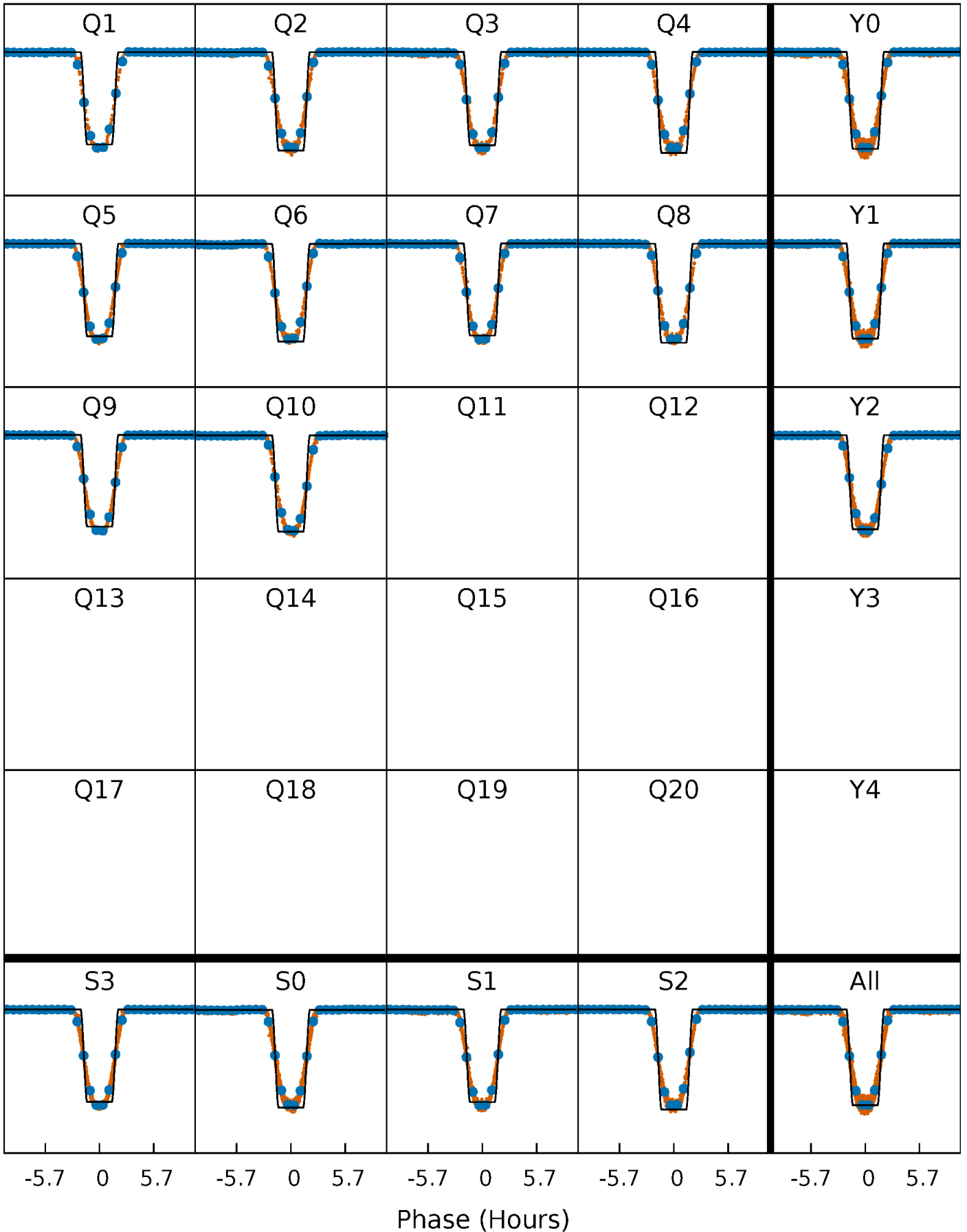
DV Quarter-Phased Transit Curves

TCE 009392702-02 P= 1.954654 Days $T_0=131.894370$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

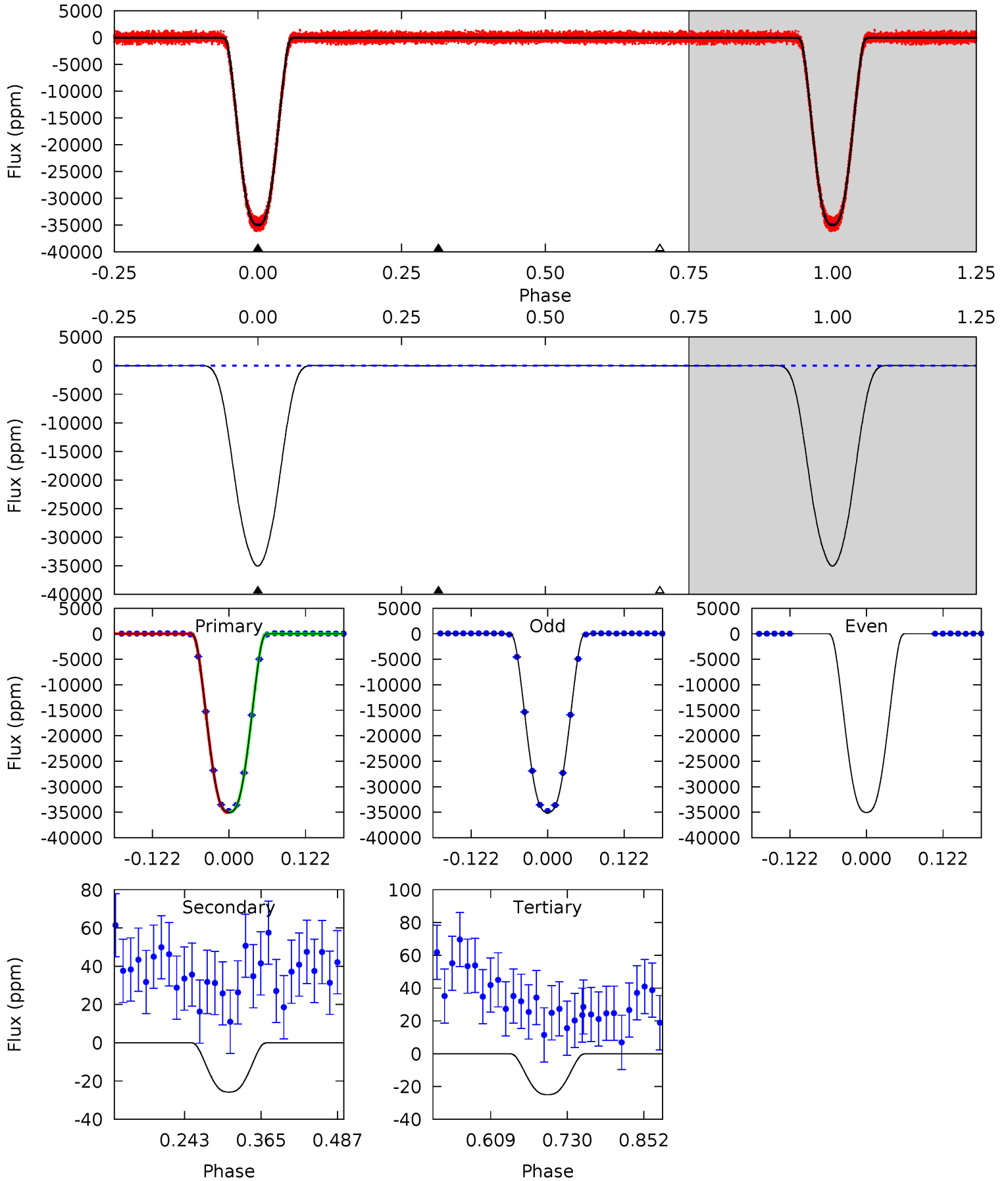
TCE 009392702-02 $P = 1.954649$ Days $T_0 = 131.895739$ (BKJD)



DV Model-Shift Uniqueness Test

009392702-02, P = 1.954654 Days, E = 129.939716 Days

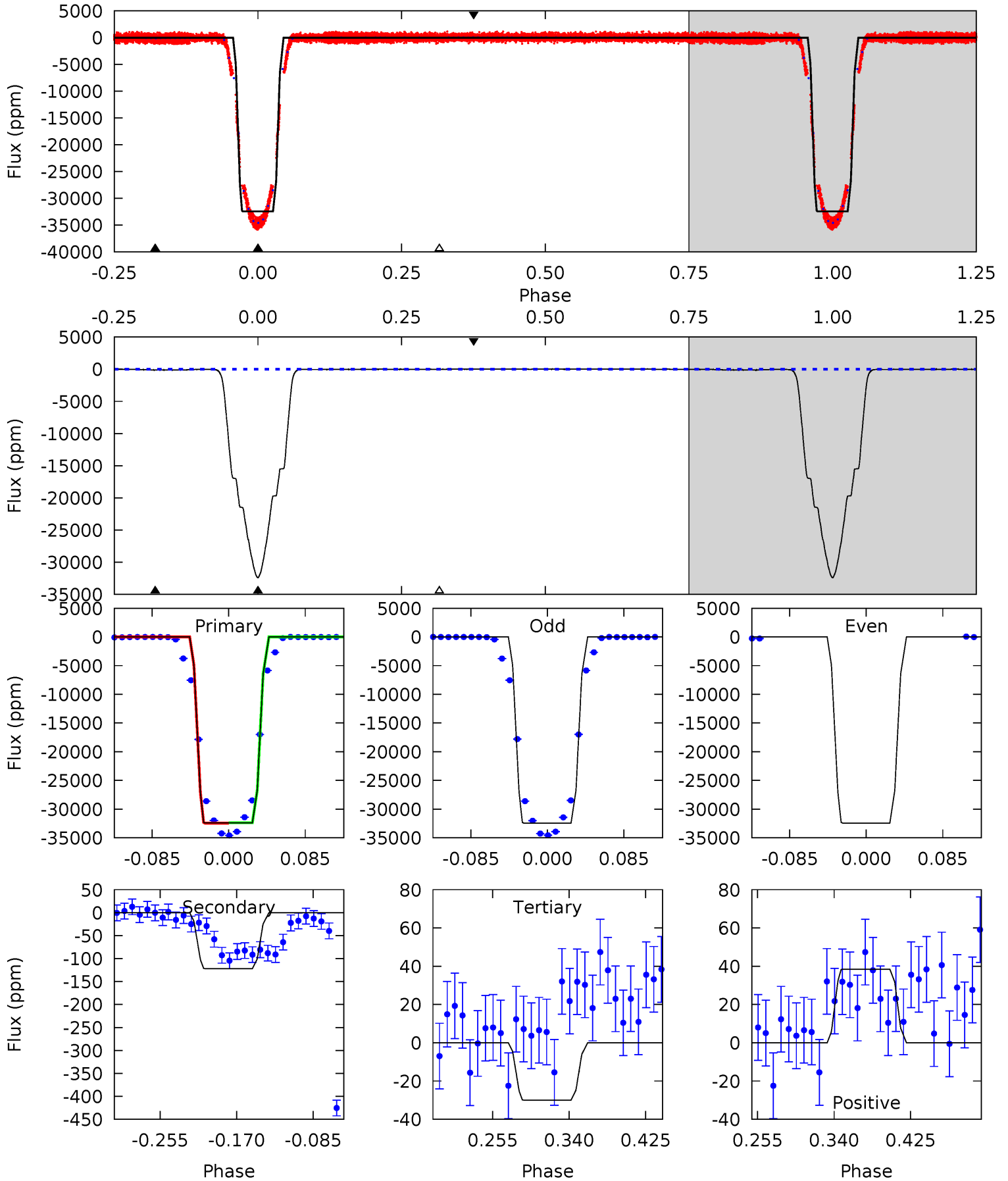
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4409	3.25	3.14	0	4.52	1.55	1.86	4406	4409	0.10	3.25	0	0.99	0.00	4.29



Alt Model-Shift Uniqueness Test

009392702-02, P = 1.954649 Days, E = 129.941090 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2960	11.1	2.73	3.51	4.60	1.72	1.45	2957	2956	8.39	7.61	0	1.00	0.00	3.39



Stellar Parameters For KIC 009392702

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6425^{+171}_{-190}	$4.341^{+0.101}_{-0.188}$	$-0.300^{+0.250}_{-0.300}$	$1.143^{+0.350}_{-0.175}$	$1.040^{+0.171}_{-0.114}$	$0.981^{+0.473}_{-0.513}$
	+3%/-3%	+2%/-4%	+83%/-100%	+31%/-15%	+16%/-11%	+48%/-52%
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 009392702-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 8	$24.01^{+4.02}_{-2.02}$	2431^{+162}_{-134}	-2725^{+80}_{-103}	$0.023^{+0.009}_{-0.008}$
Alt.	-122 ± 11	$23.20^{+4.01}_{-1.90}$	2422^{+172}_{-128}	-2580^{+106}_{-145}	$0.116^{+0.027}_{-0.030}$

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

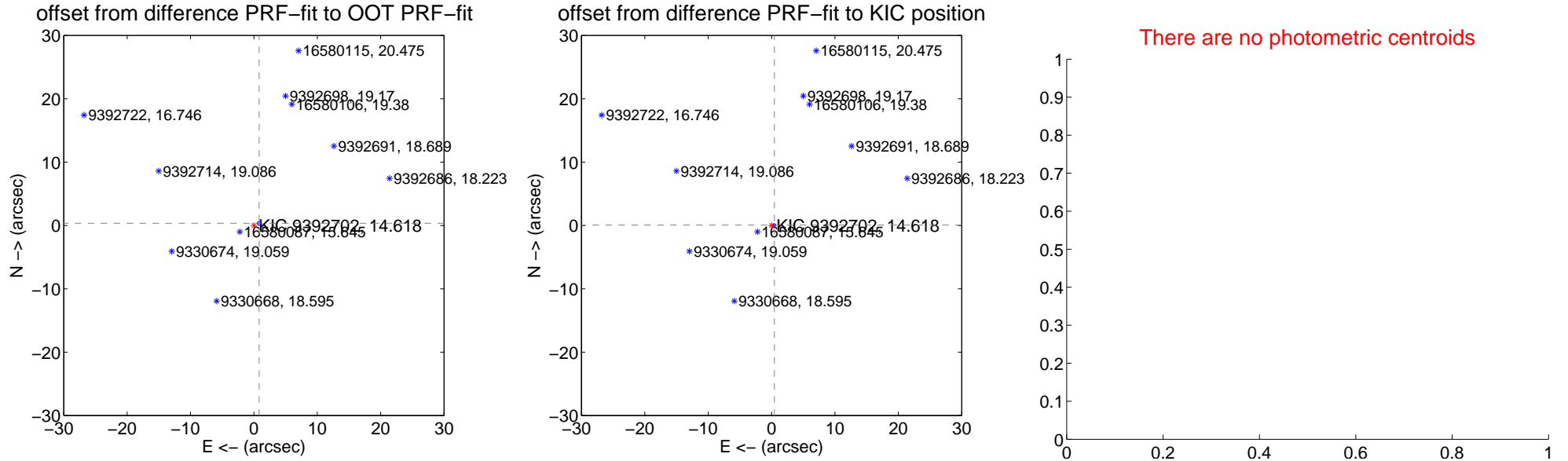
DV Centroid Data

Supplemental centroid analysis for 009392702-02. Kepler magnitude: 14.62. Transit SNR 1938.49

There are 10 quarters with good PRF difference image offsets

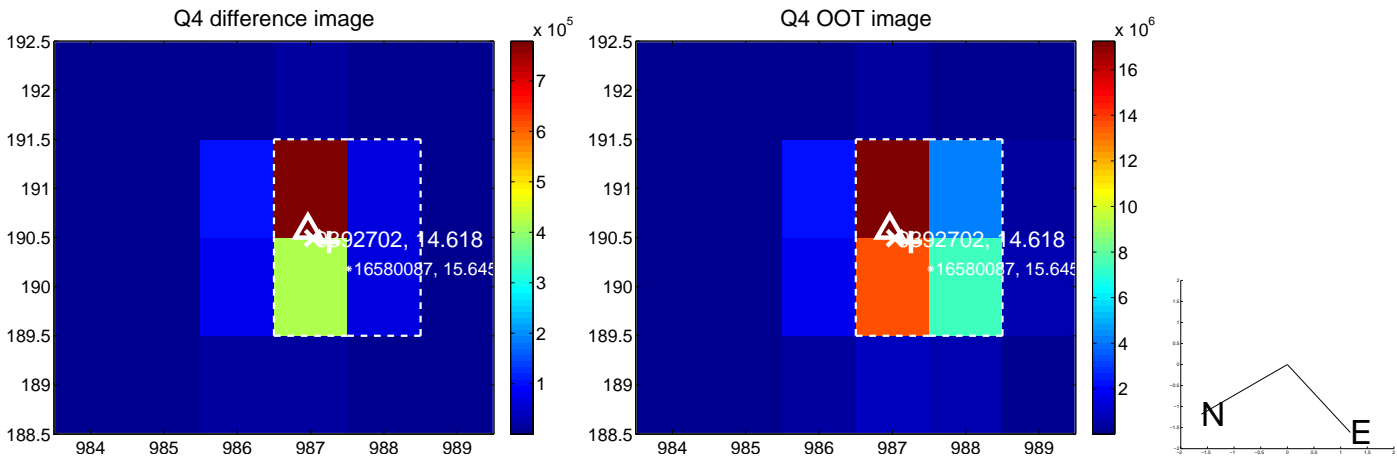
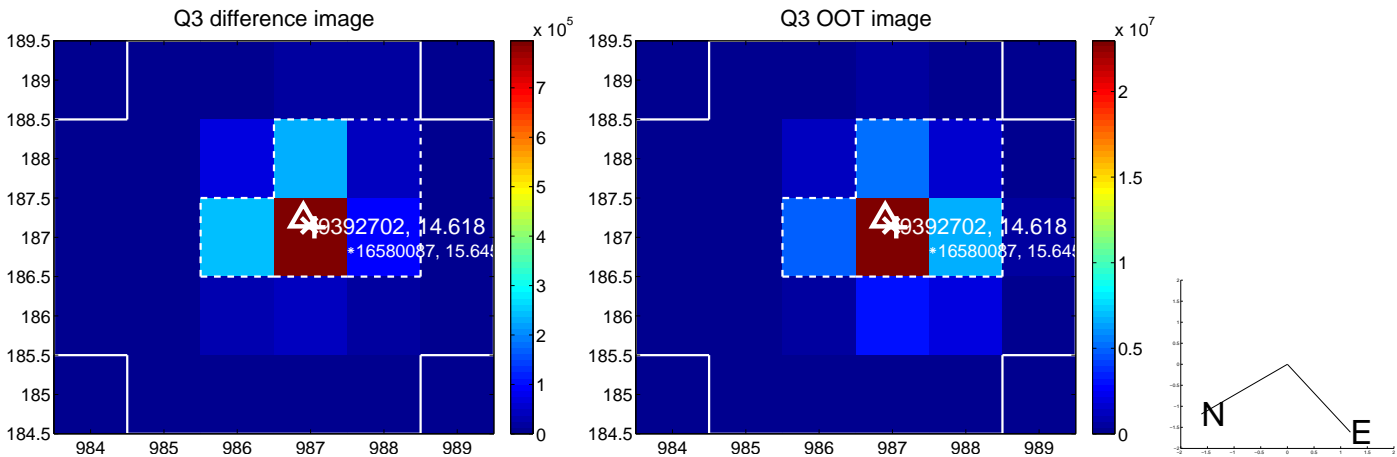
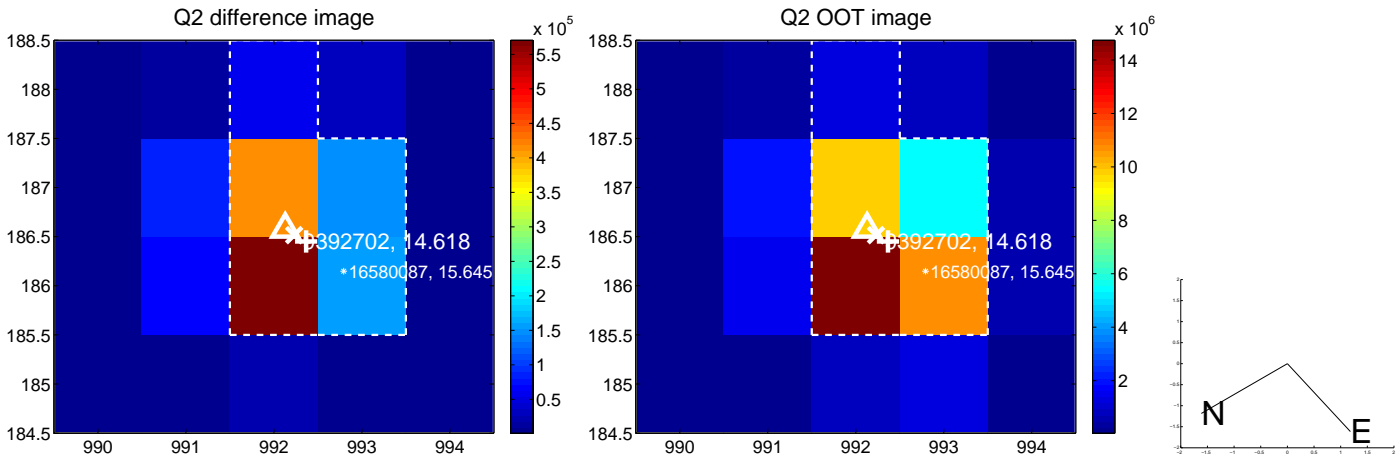
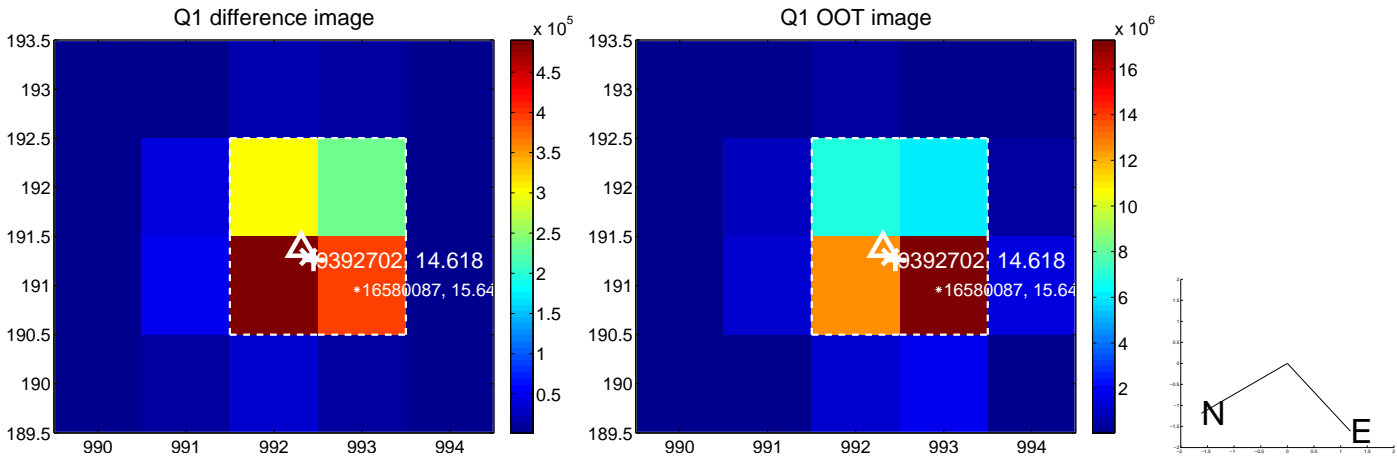
The direct PRF centroid is offset from the target star catalog position by about 0.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.903 \pm 0.093	9.73	-0.834 \pm 0.082	0.346 \pm 0.086
PRF-fit source offset from KIC position	0.452 \pm 0.067	6.70	-0.447 \pm 0.068	0.068 \pm 0.074
photometric centroid source offset	—	—	—	—

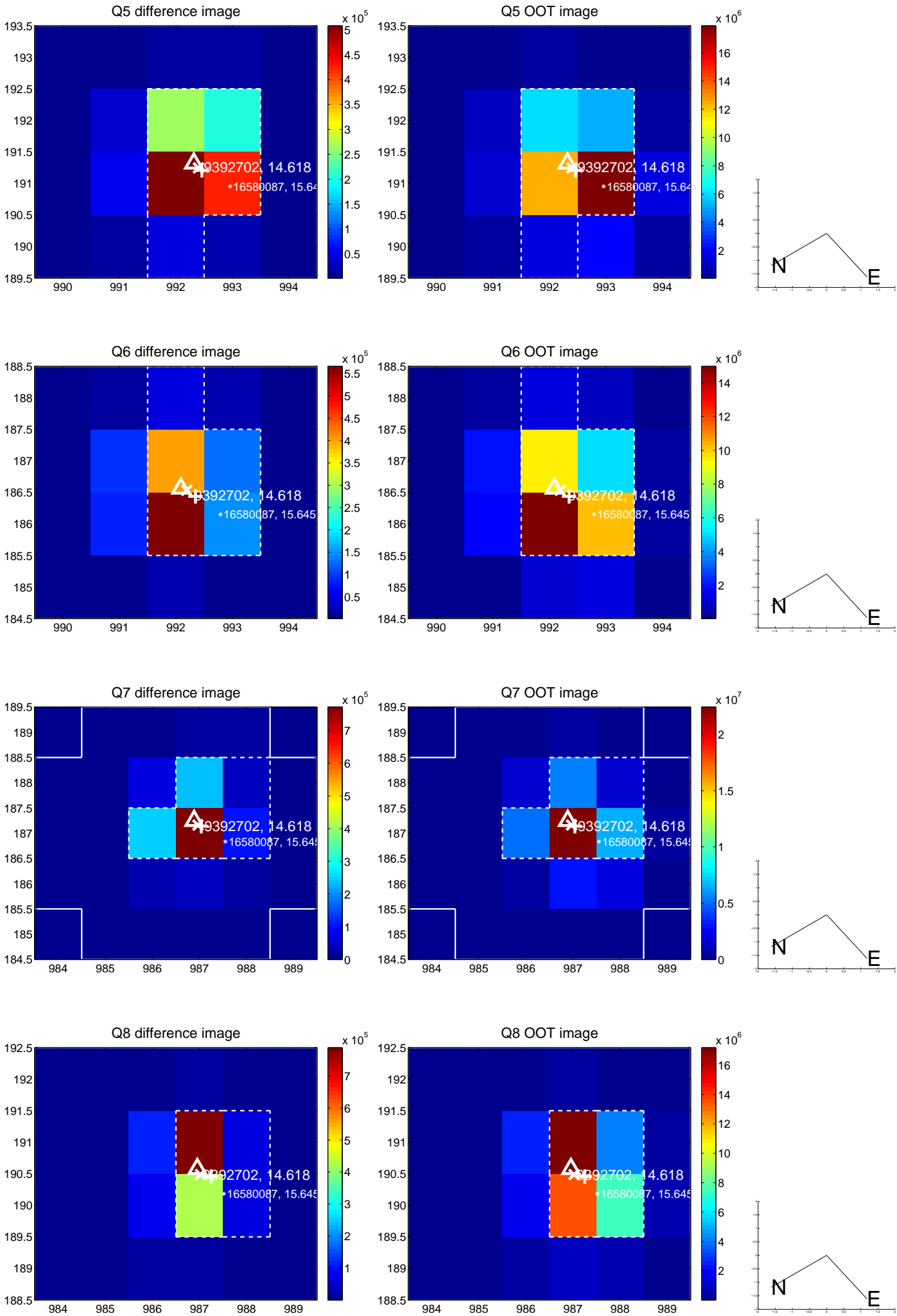


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

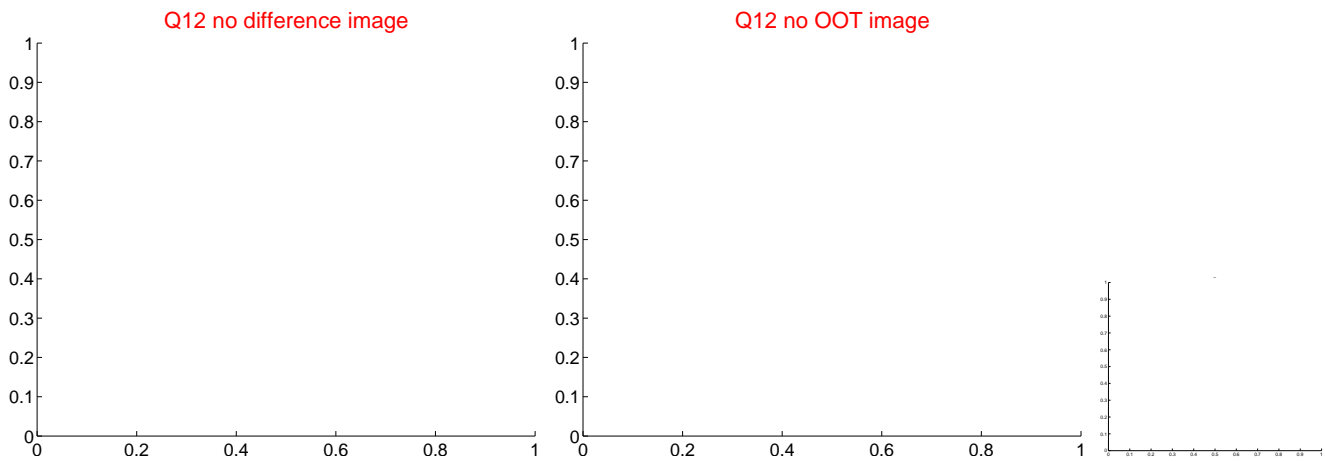
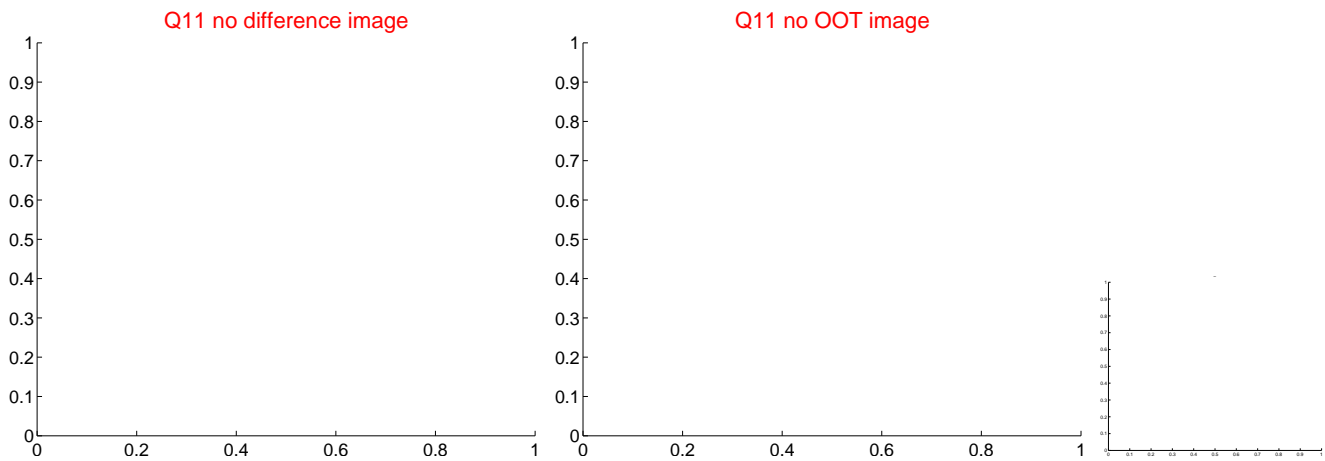
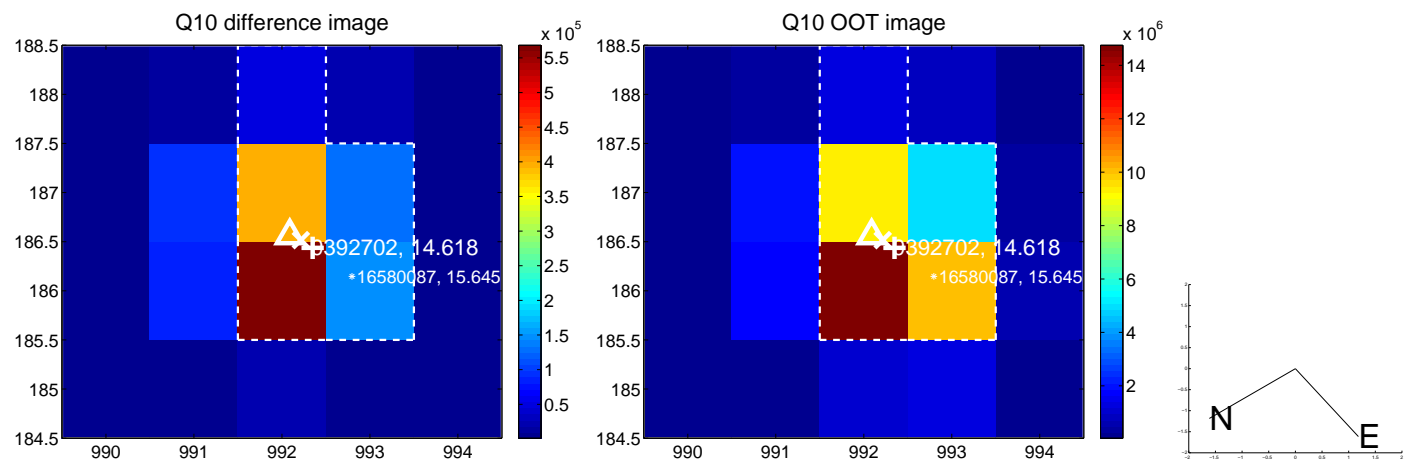
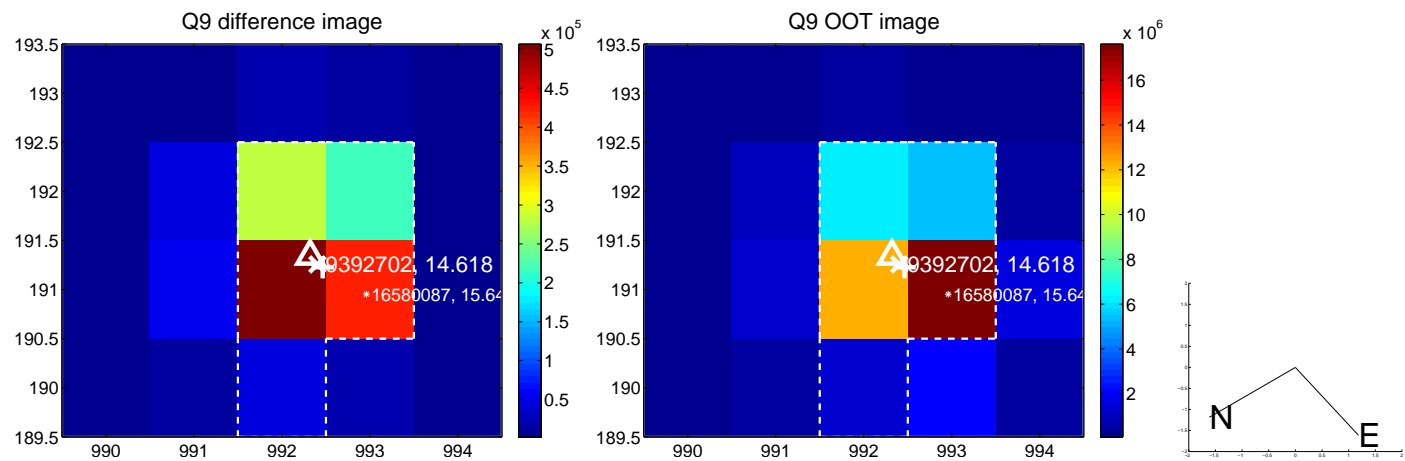
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



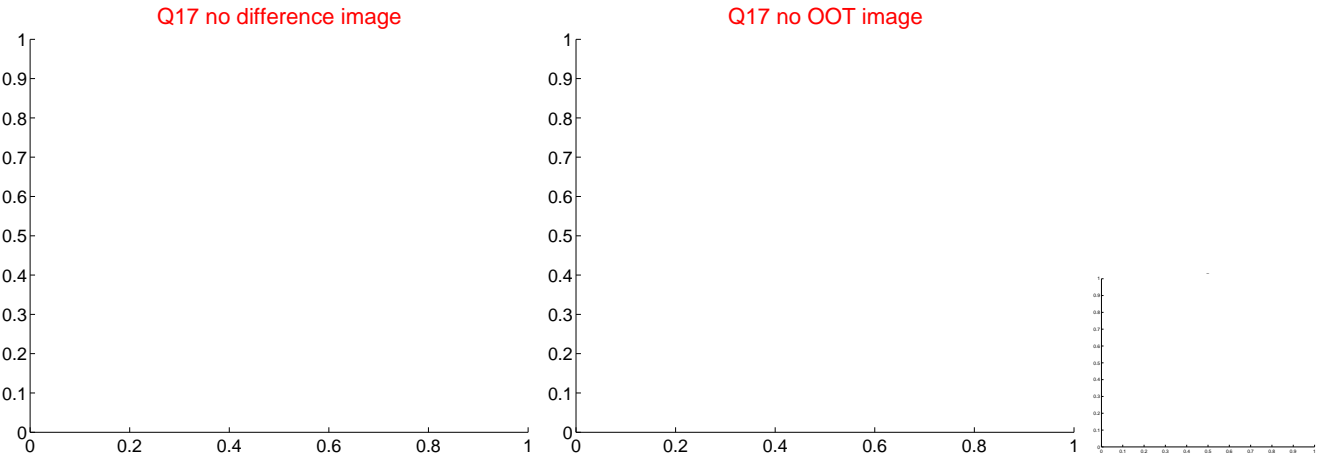
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

