

KIC 011918099

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})
011918099-01	OBS	0780.01	2.337436	132.025713	894.2	2.095	63.6	74.2	0.77	5005	2.69	310.91
011918099-02	OBS	0780.02	7.240631	137.760048	514.3	0.613	9.2	13.0	0.77	5005	1.81	68.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918099-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011918099-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

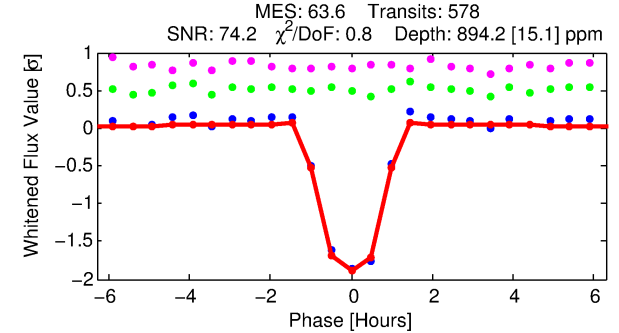
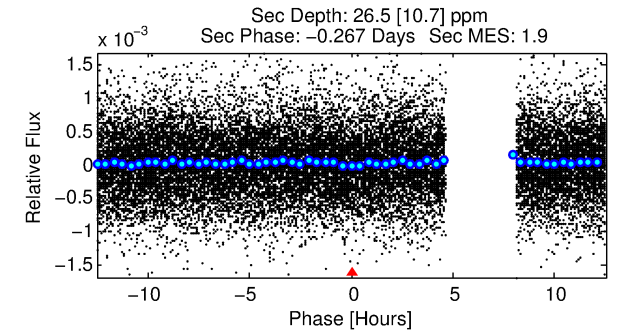
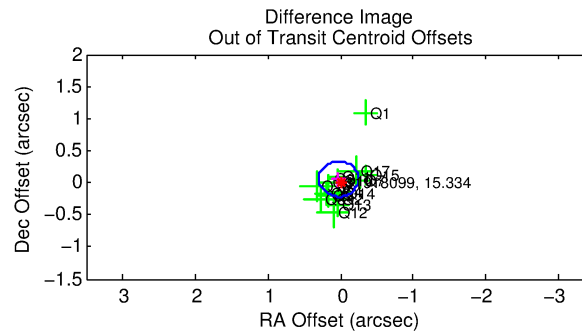
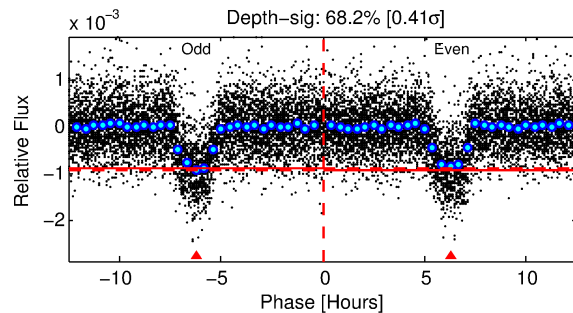
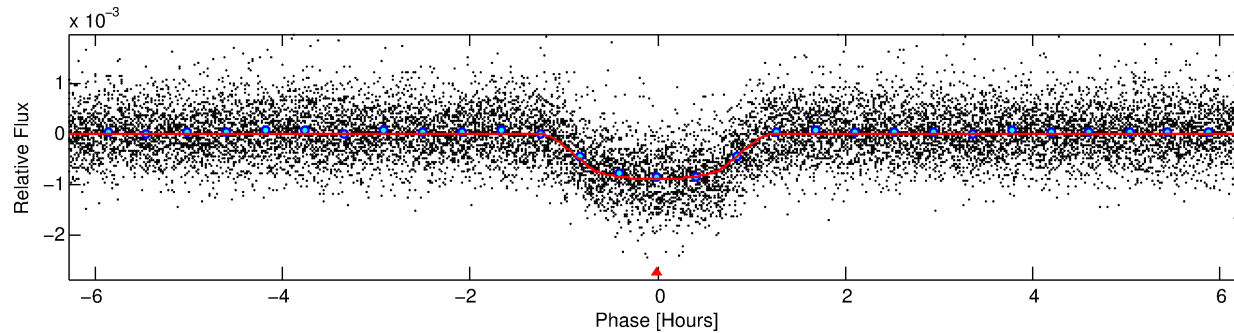
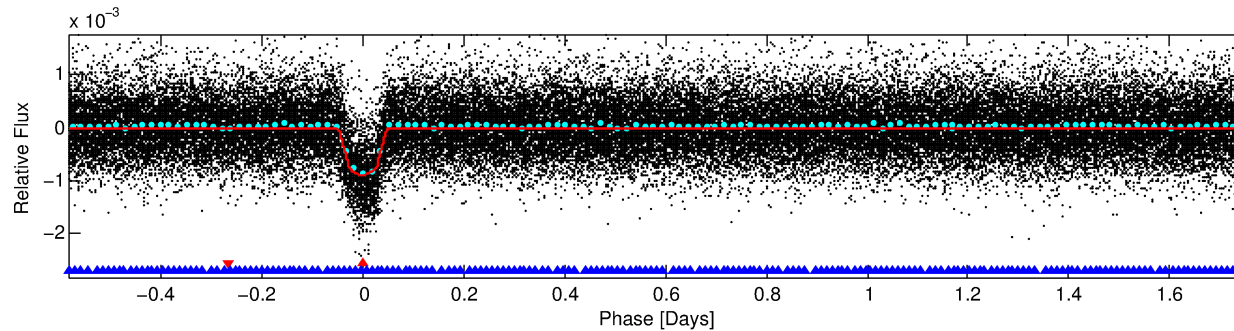
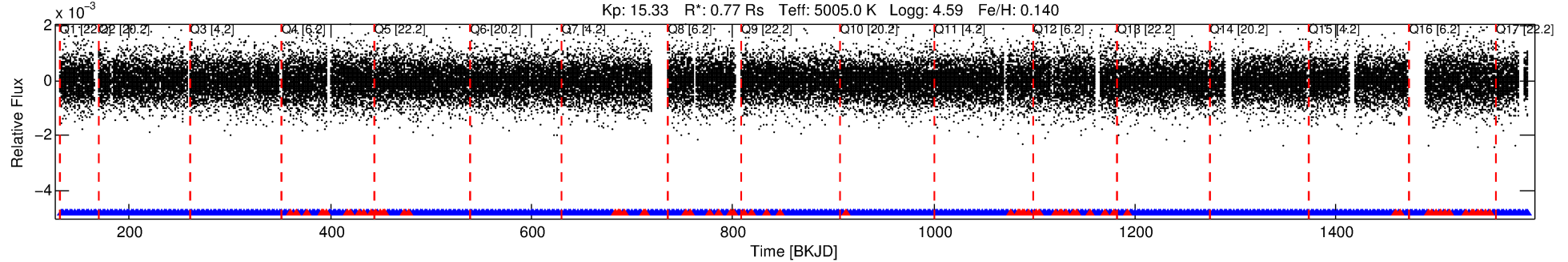
Ephemeris Match Information For 011918099-01

No Significant Match Found

DV One-Page Summary

KIC: 11918099 Candidate: 1 of 2 Period: 2.337 d
KOI: K00780.01 Corr: 0.980

Kp: 15.33 R*: 0.77 Rs Teff: 5005.0 K Logg: 4.59 Fe/H: 0.140



DV Fit Results:

Period = 2.33744 [0.00000] d
Epoch = 132.0257 [0.0005] BKJD
Rp/R* = 0.0322 [0.0032]
a/R* = 4.96 [1.71]
b = 0.86 [0.11]
Seff = 310.91 [39.25]
Teq = 1071 [34] K
Rp = 2.69 [0.33] Re
a = 0.0325 [0.0022] AU
Ag = 2.14 [0.99] [1.15σ]
Teffp = 2003 [227] K [4.05σ]

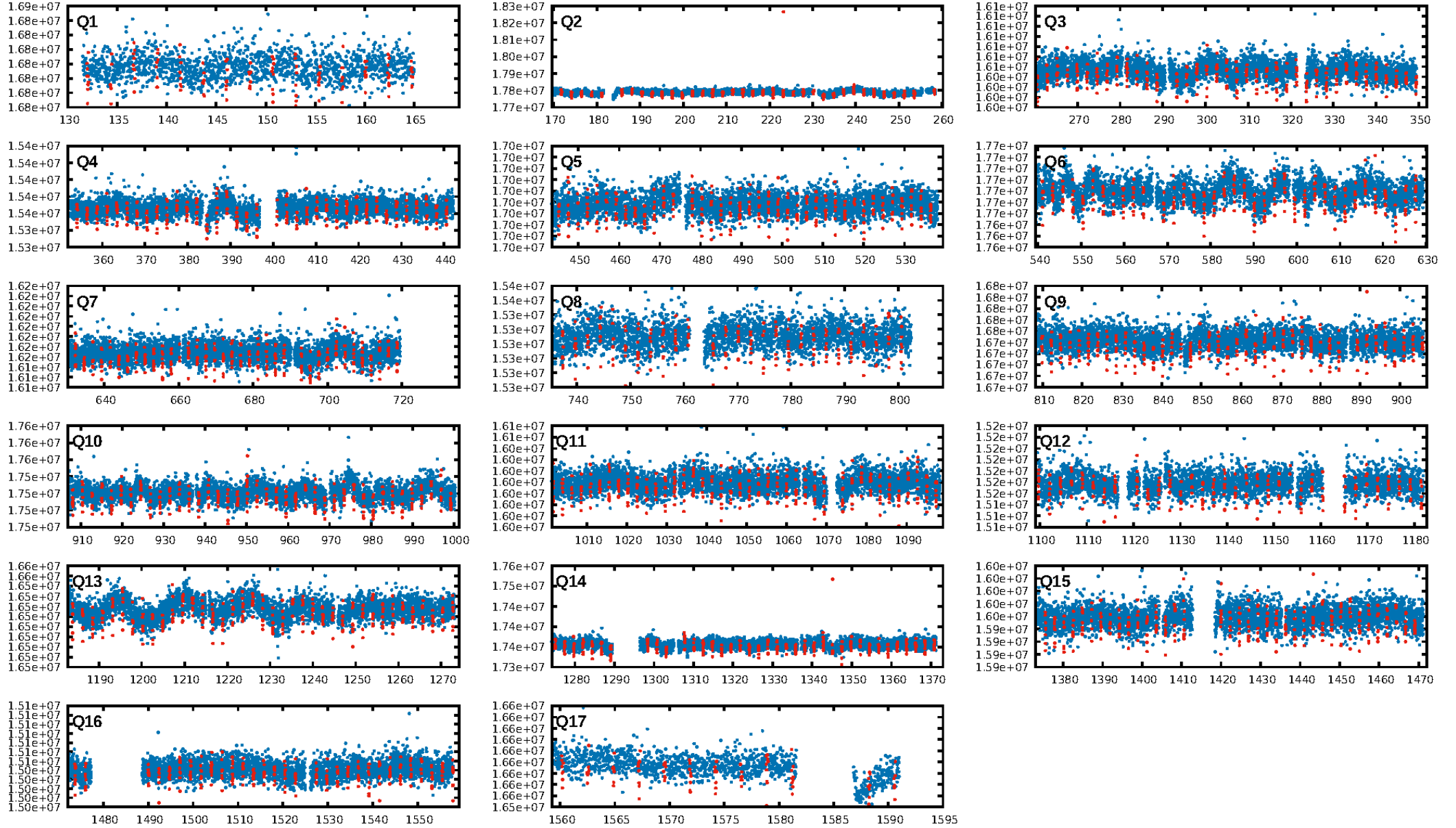
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [53.91σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.88 [484/551]
GhostDiagnostic-chr: 5.387
Centroid-sig: 0.0%
Centroid-so: 0.473 arcsec [2.21σ]
OotOffset-rm: 0.061 arcsec [0.67σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.410 arcsec [5.32σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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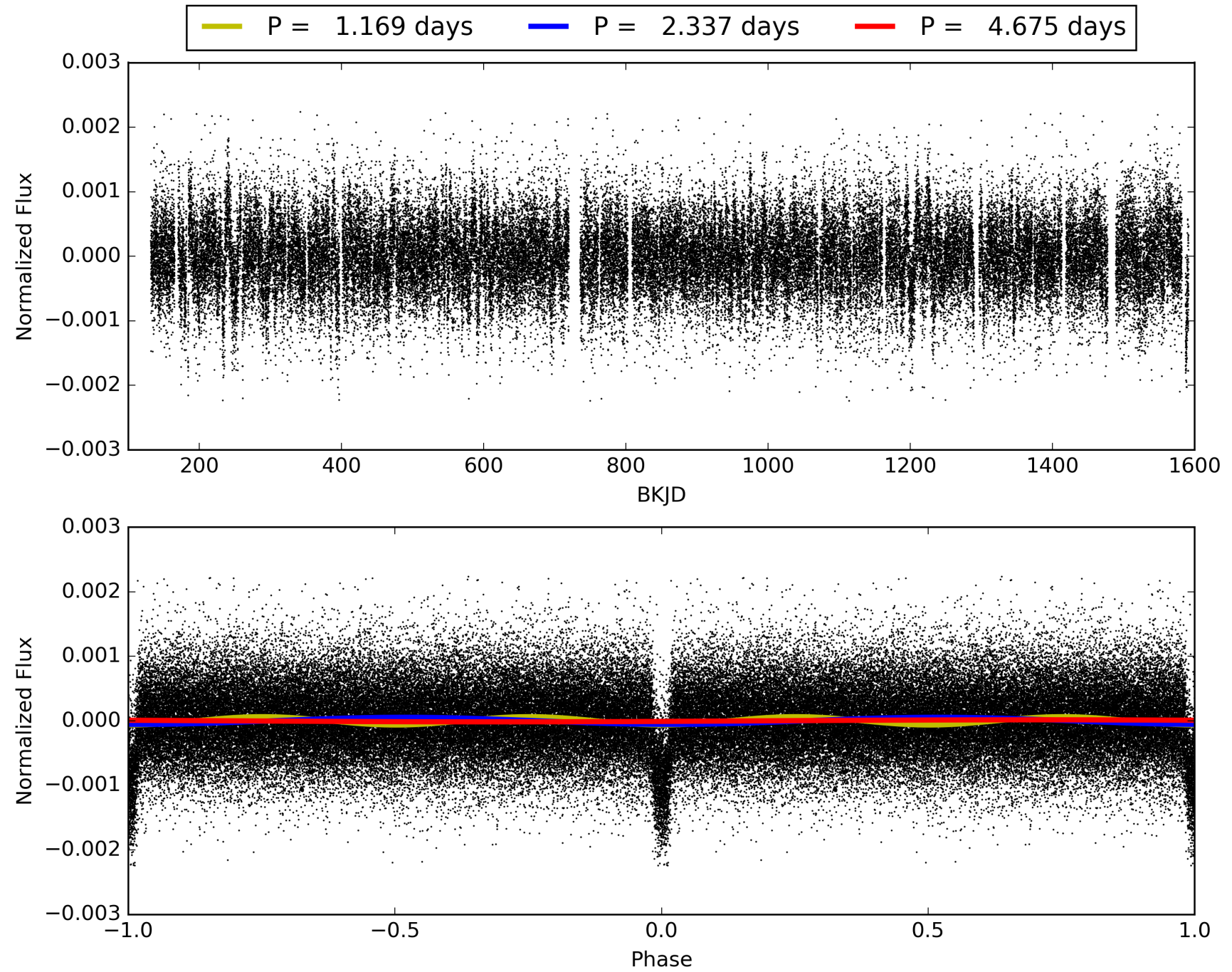
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:17:34 Z

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

TCE 011918099-01, PDC Light Curves

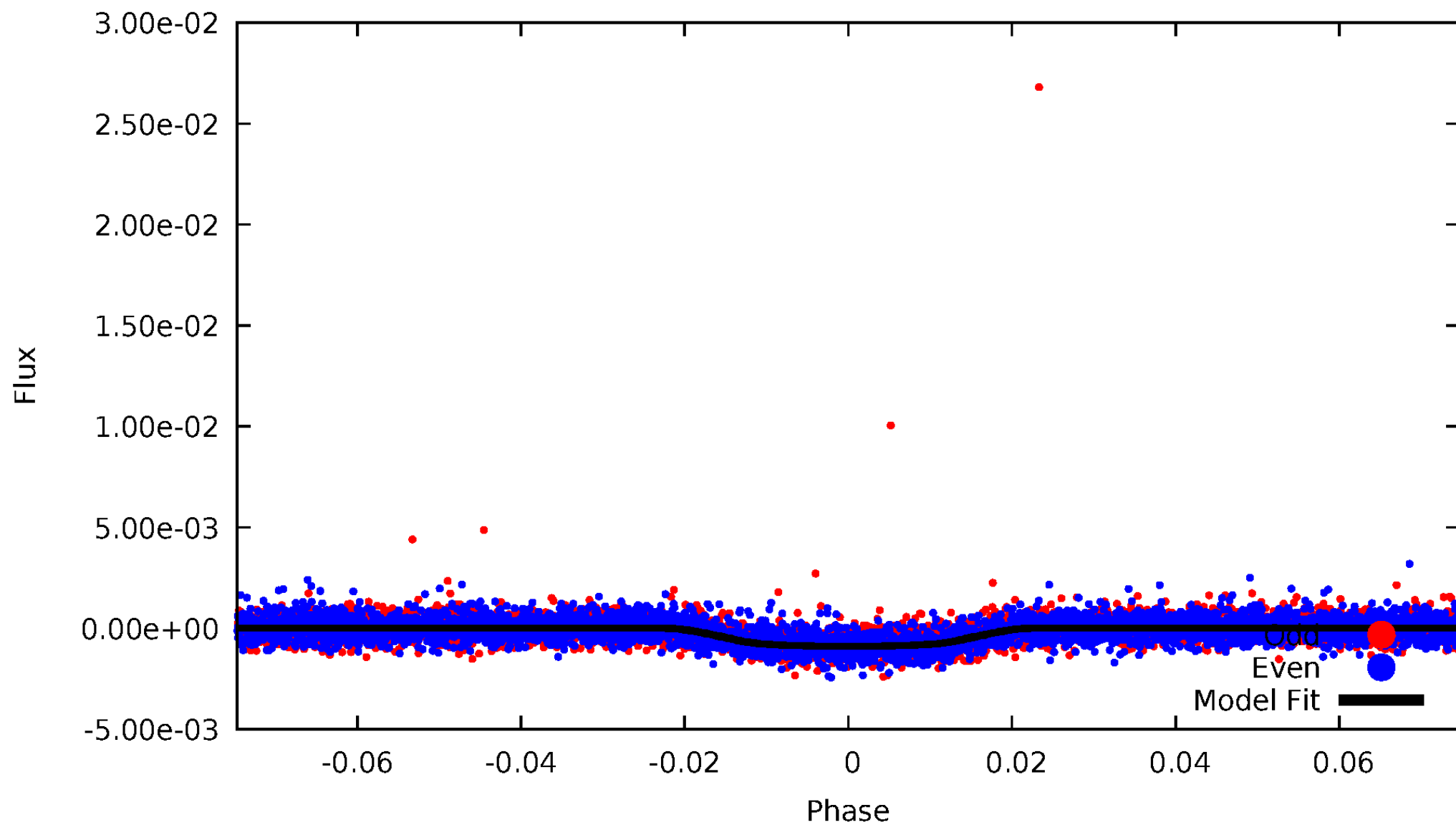


TCE 011918099-01



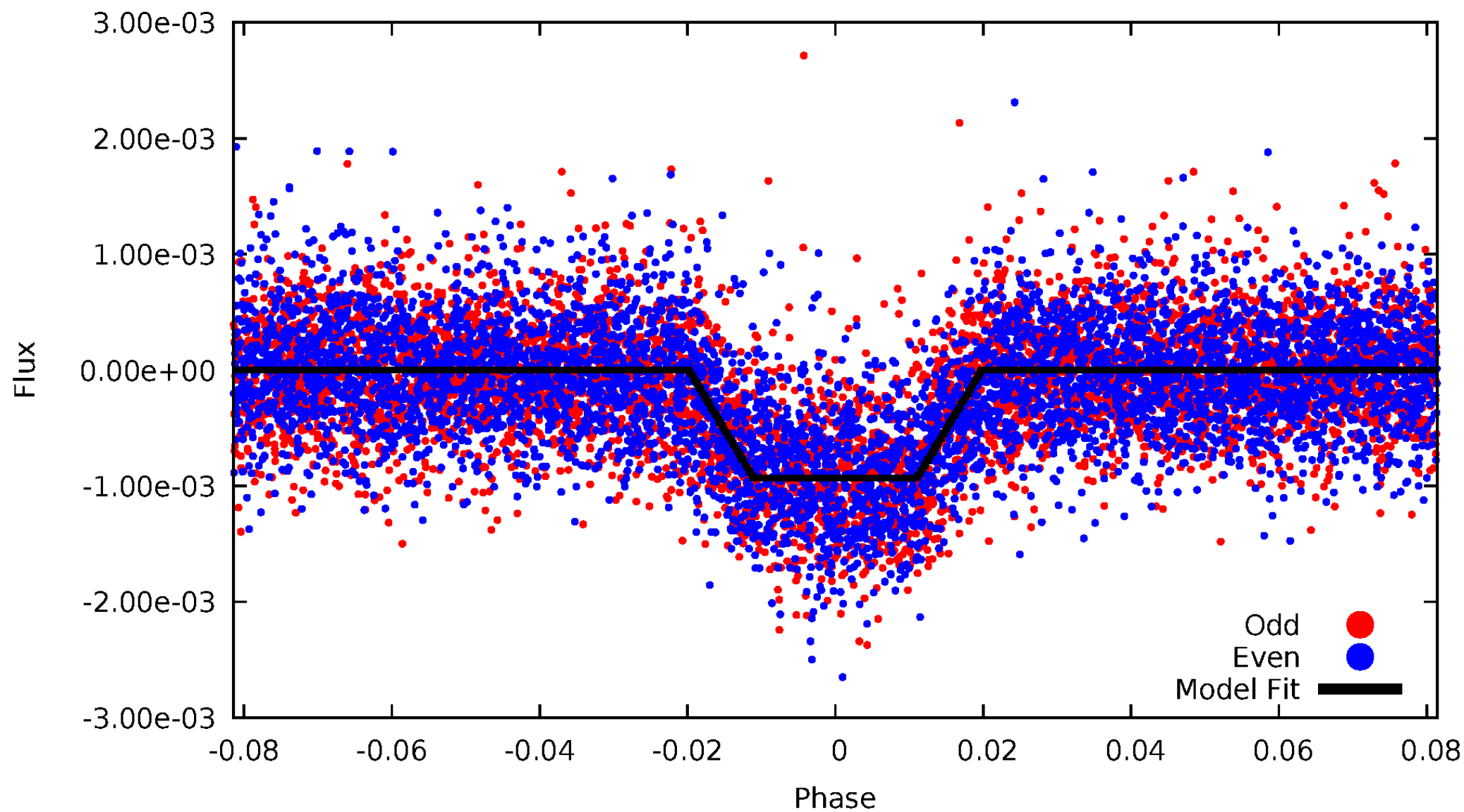
DV Odd/Even

TCE 011918099-01



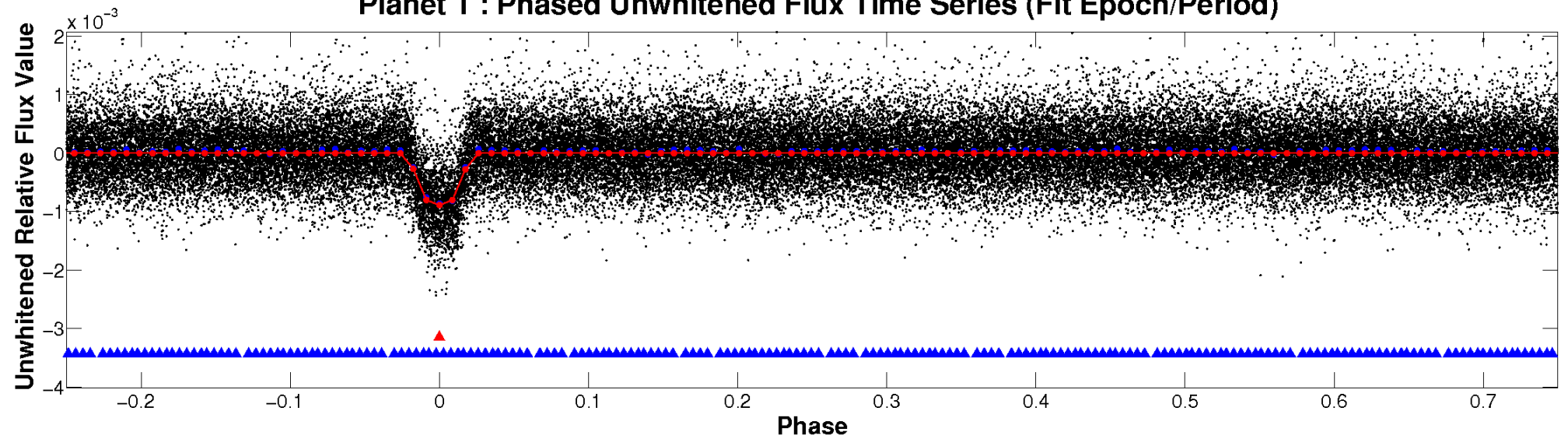
ALT Odd/Even

TCE 011918099-01

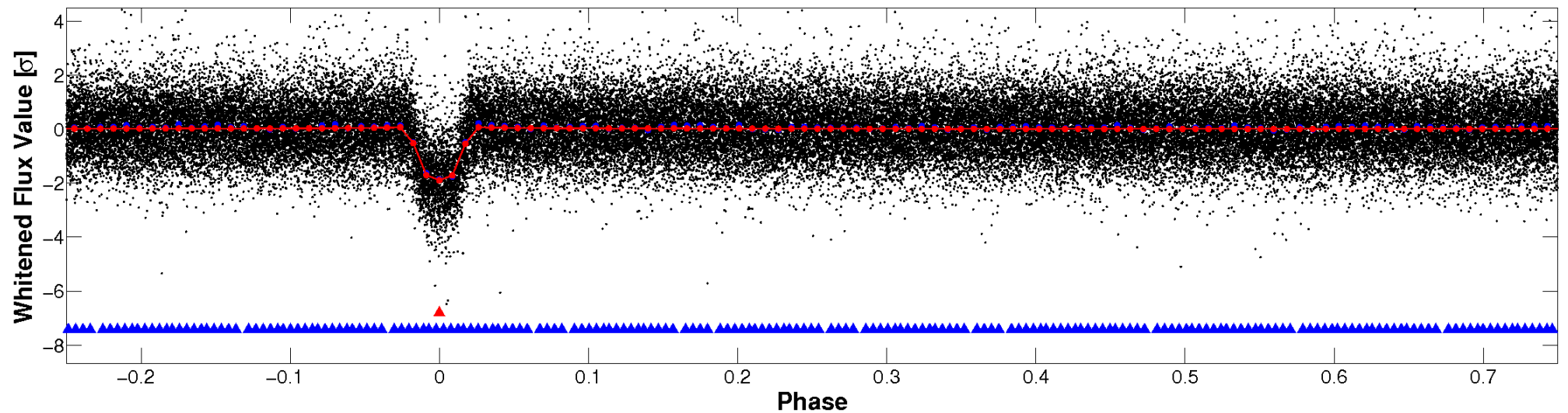


Non-Whitened Vs. Whitened Light Curve

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

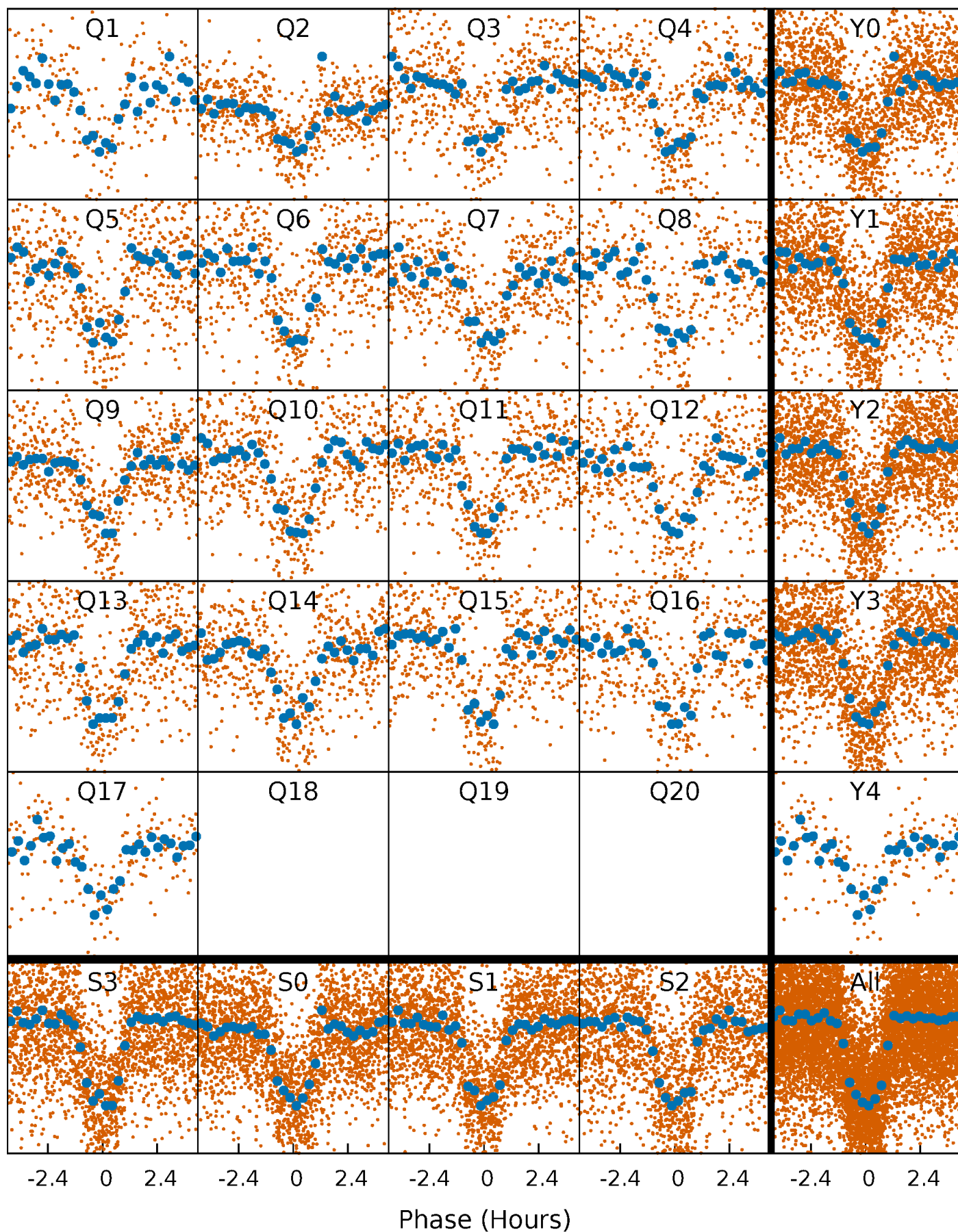


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



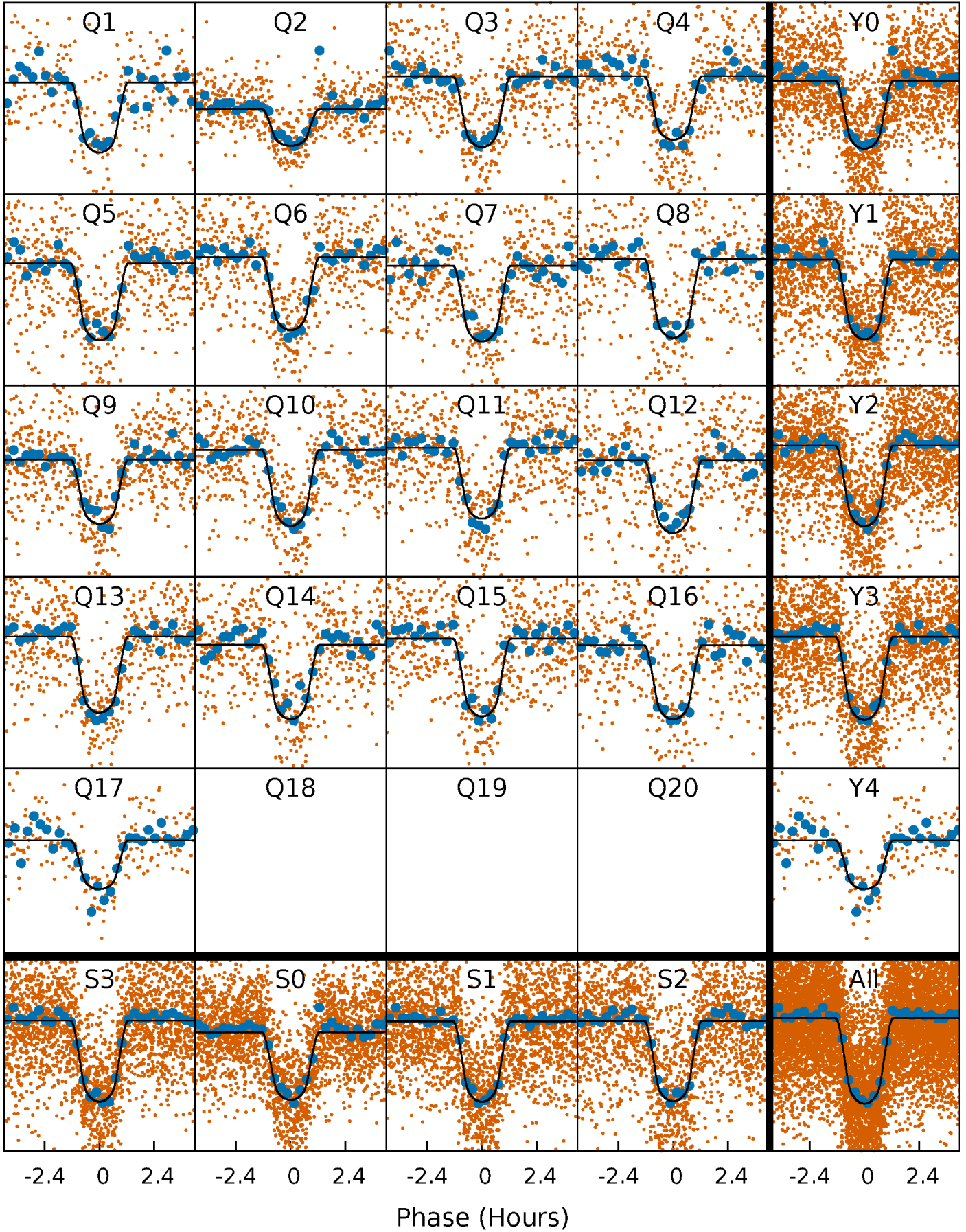
PDC Quarter-Phased Transit Curves

TCE 011918099-01 P= 2.337436 Days $T_0=132.025713$ (BKJD)



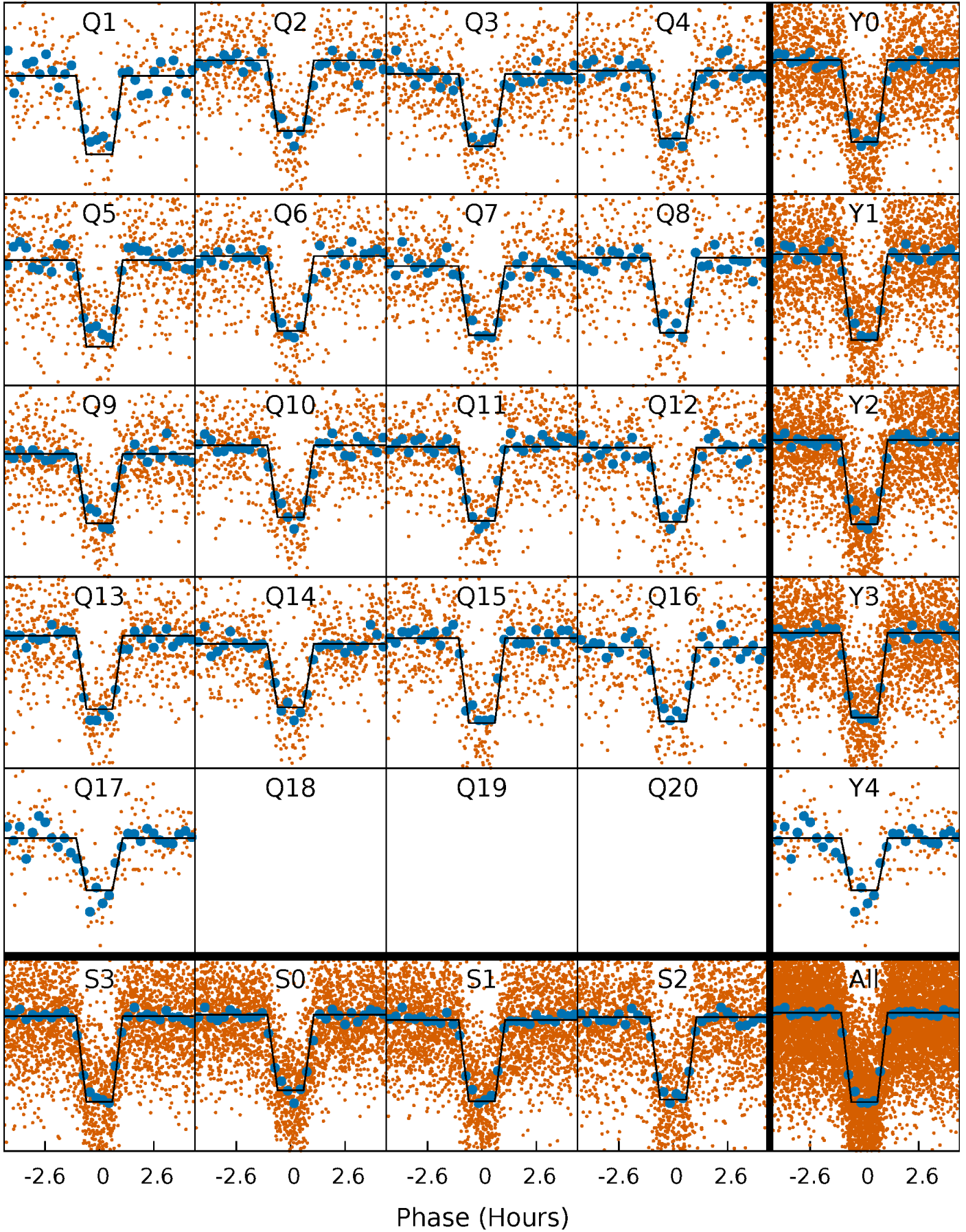
DV Quarter-Phased Transit Curves

TCE 011918099-01 P= 2.337436 Days $T_0=132.025713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

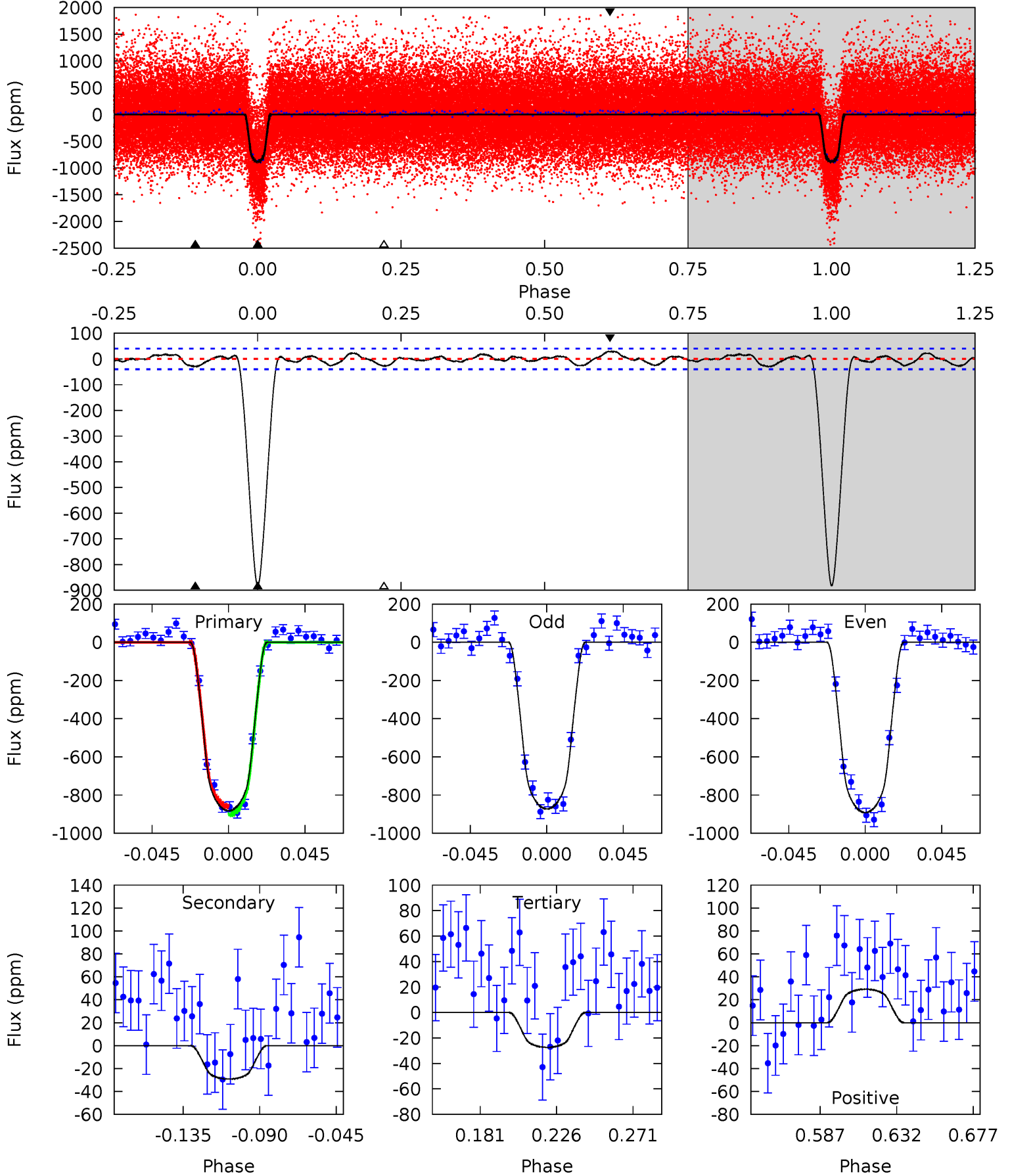
TCE 011918099-01 P= 2.337443 Days $T_0=132.024146$ (BKJD)



DV Model-Shift Uniqueness Test

011918099-01, P = 2.337436 Days, E = 129.688277 Days

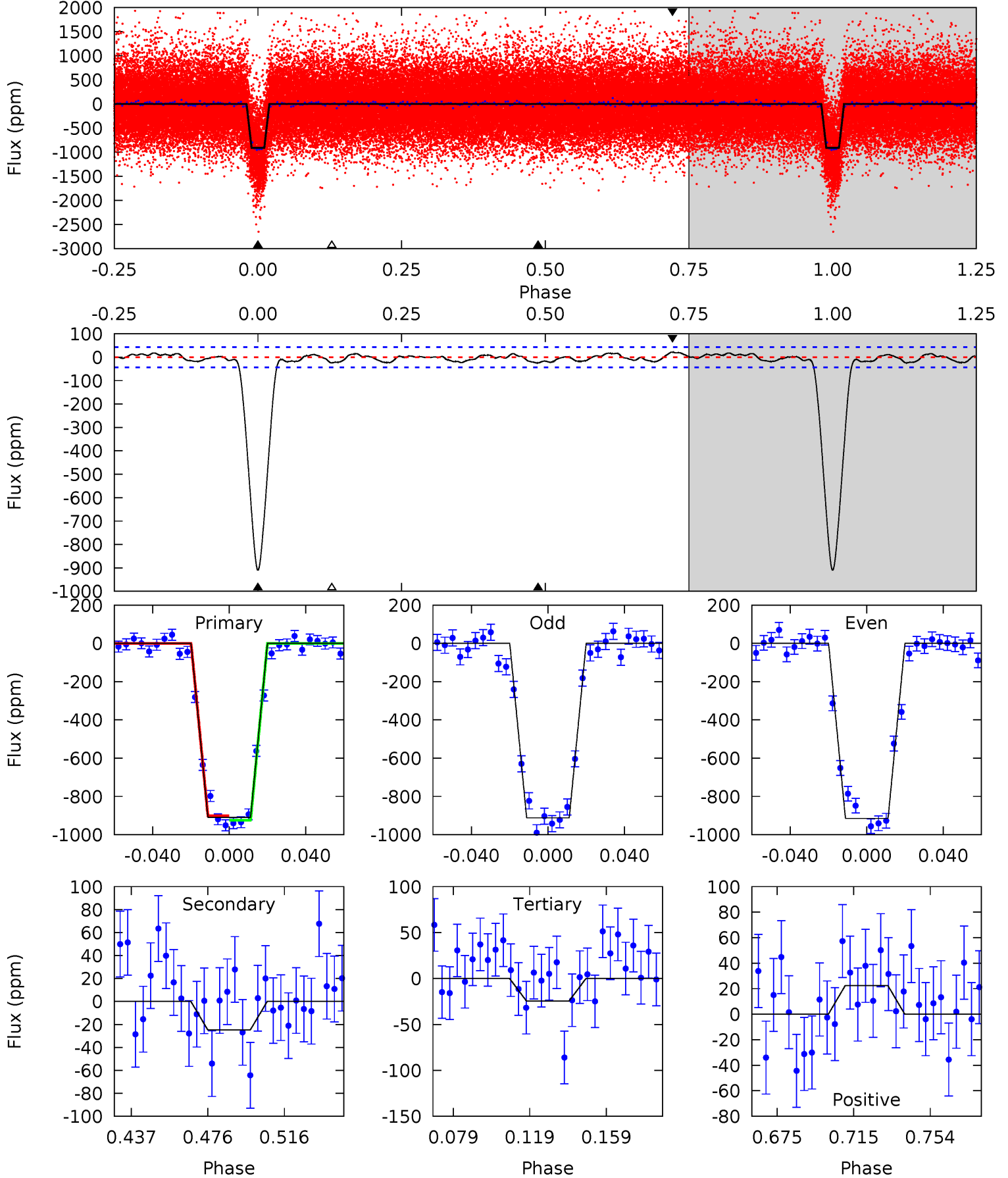
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.7	3.44	3.22	3.43	4.73	2.00	1.42	100.5	100.3	0.21	0.00	1.11	0.99	0.03	2.50



Alt Model-Shift Uniqueness Test

011918099-01, P = 2.337443 Days, E = 129.686703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
100.3	2.72	2.71	2.48	4.75	2.06	1.27	97.6	97.9	0.01	0.24	0.18	0.98	0.02	1.28



Stellar Parameters For KIC 011918099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5005^{+79}_{-79}	$4.595^{+0.012}_{-0.064}$	$0.140^{+0.150}_{-0.150}$	$0.765^{+0.055}_{-0.028}$	$0.850^{+0.025}_{-0.054}$	$2.678^{+0.208}_{-0.538}$
	+2%/-2%	+0%/-1%	+107%/-107%	+7%/-4%	+3%/-6%	+8%/-20%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 011918099-01 / KOI 0780.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 9	$2.74^{+0.29}_{-0.27}$	1512^{+31}_{-32}	2712^{+143}_{-155}	$2.189^{+0.905}_{-0.669}$
Alt.	-25 ± 9	$2.61^{+0.28}_{-0.27}$	1509^{+34}_{-30}	2684^{+164}_{-212}	$2.053^{+1.044}_{-0.829}$

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

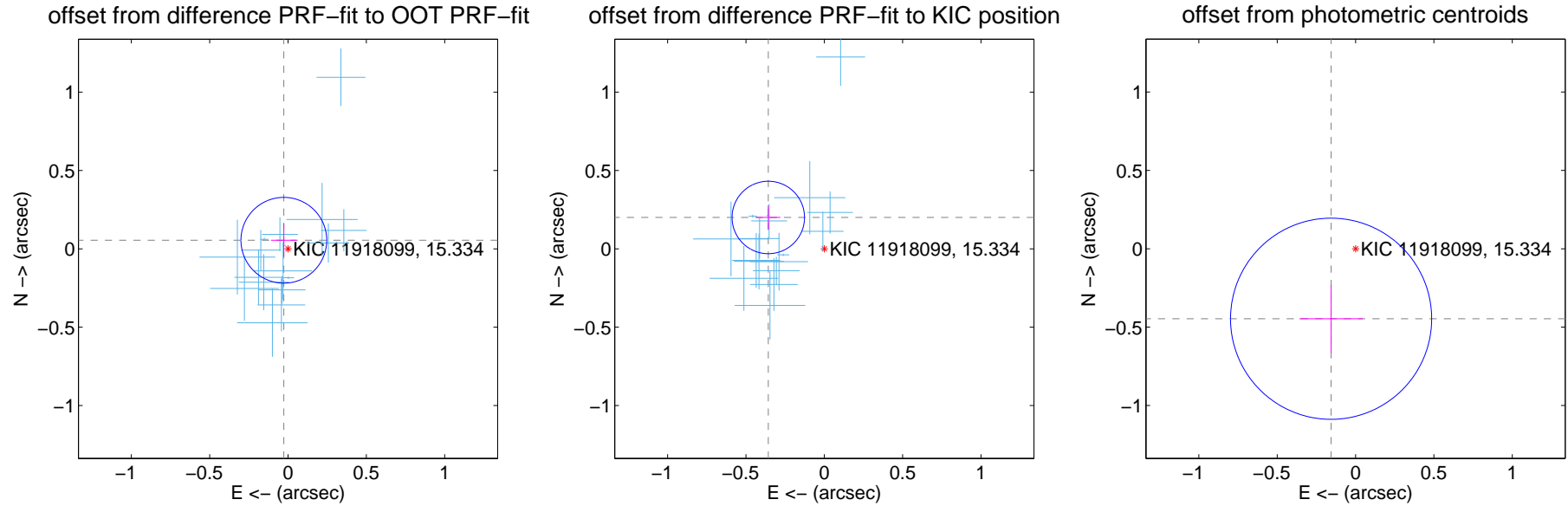
DV Centroid Data

Supplemental centroid analysis for 011918099-01. Kepler magnitude: 15.33. Transit SNR 74.21

There are 17 quarters with good PRF difference image offsets

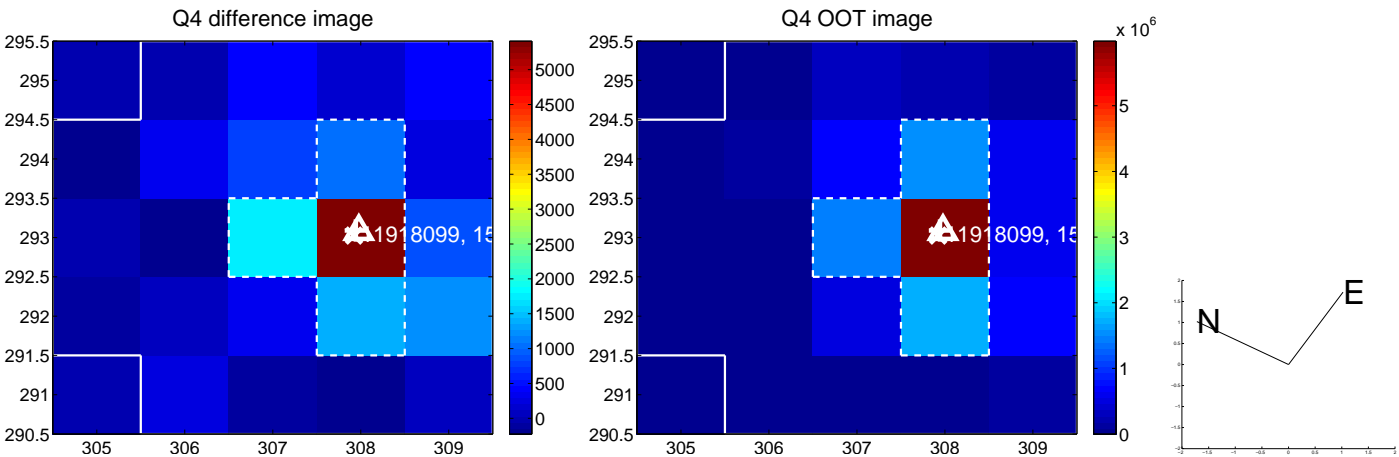
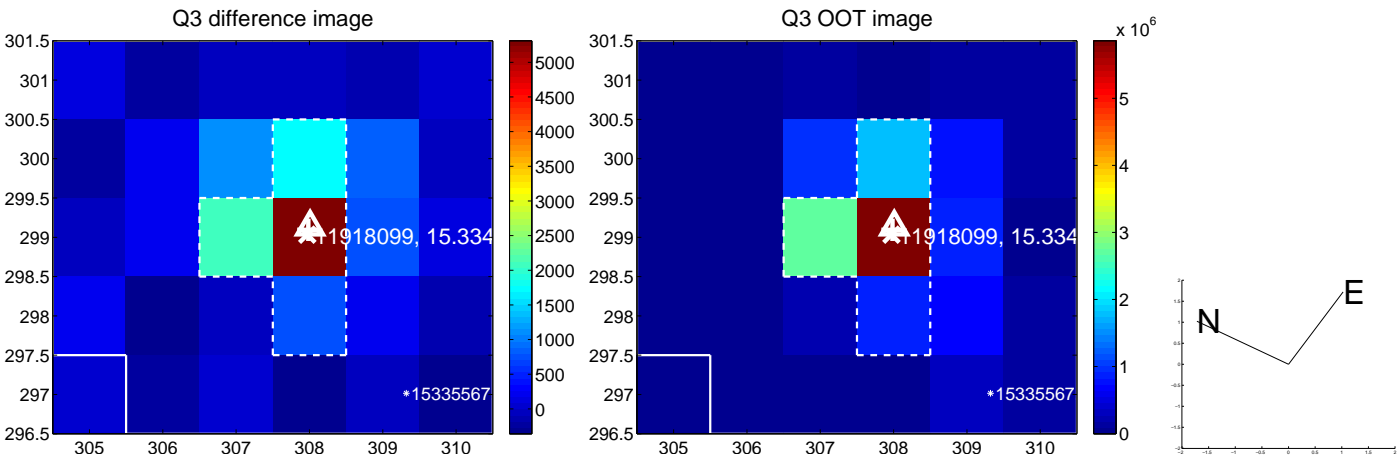
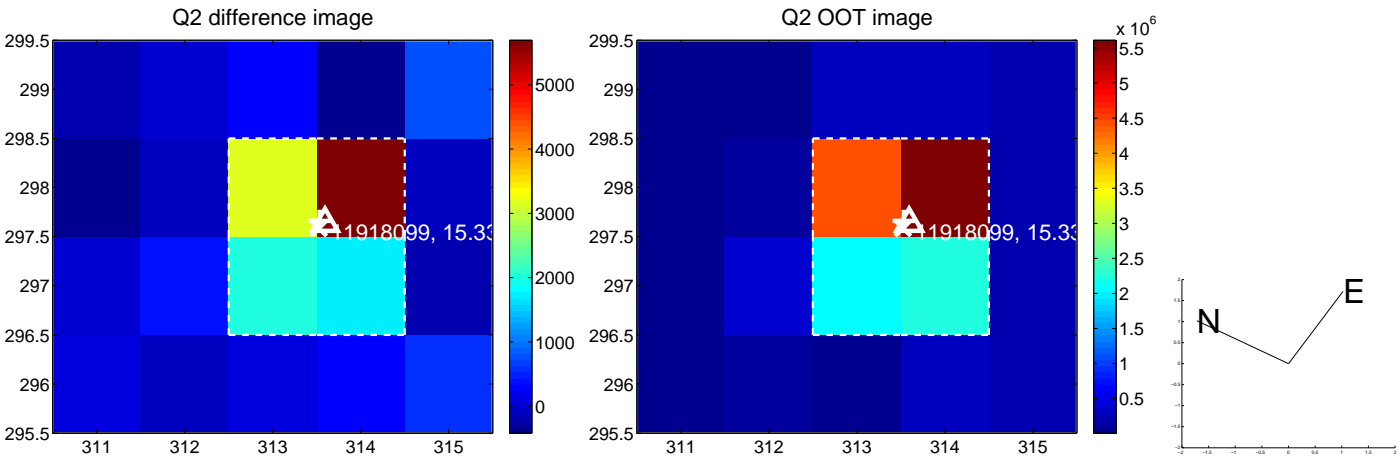
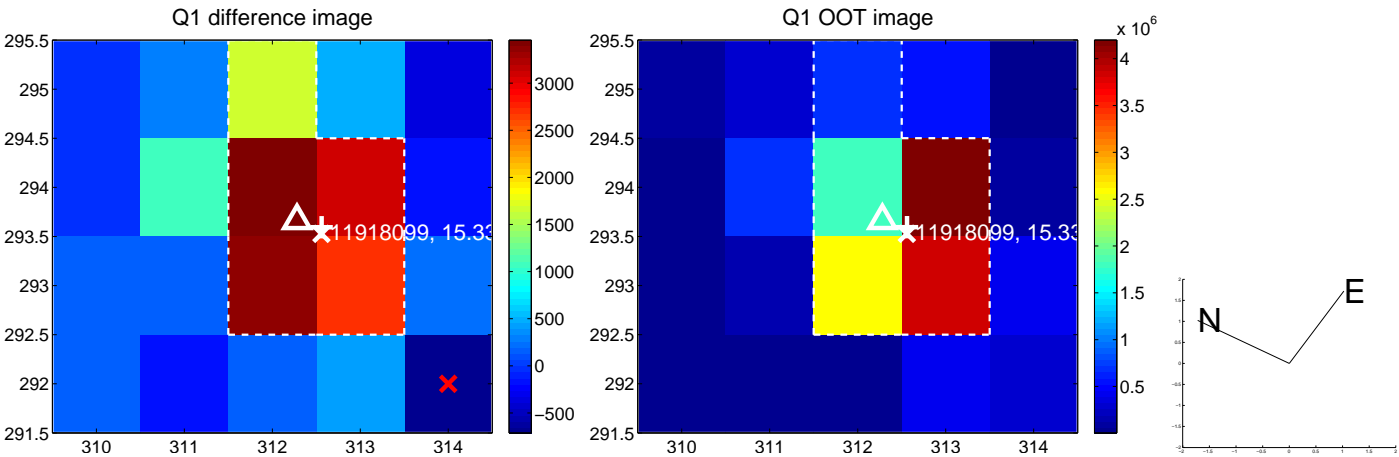
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.091	0.67	0.027 ± 0.082	0.055 ± 0.105
PRF-fit source offset from KIC position	0.410 ± 0.077	5.32	0.357 ± 0.077	0.200 ± 0.077
photometric centroid source offset	0.47 ± 0.21	2.21	0.16 ± 0.20	-0.45 ± 0.22

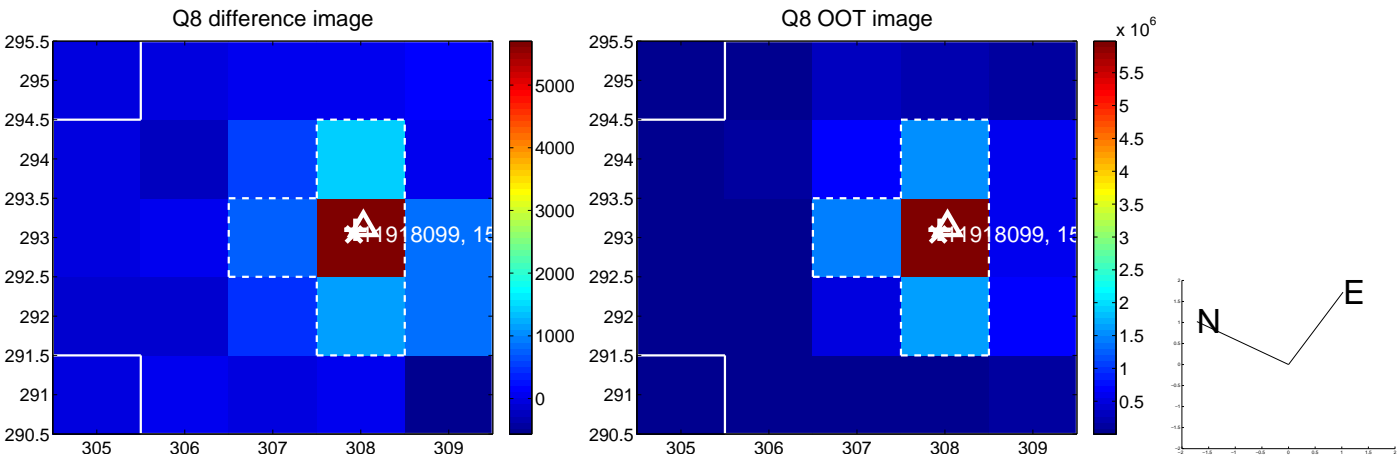
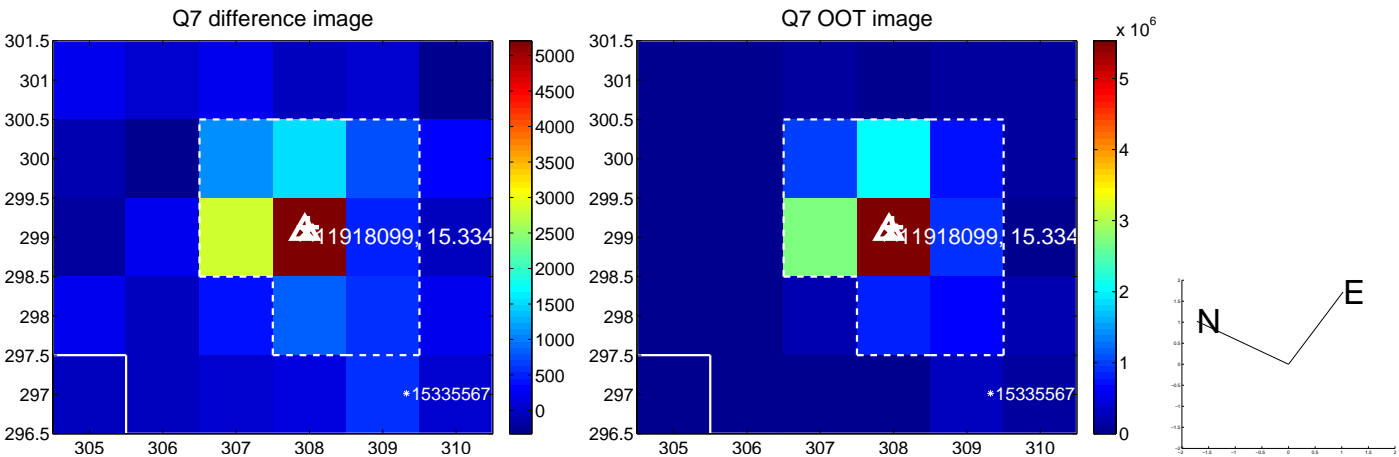
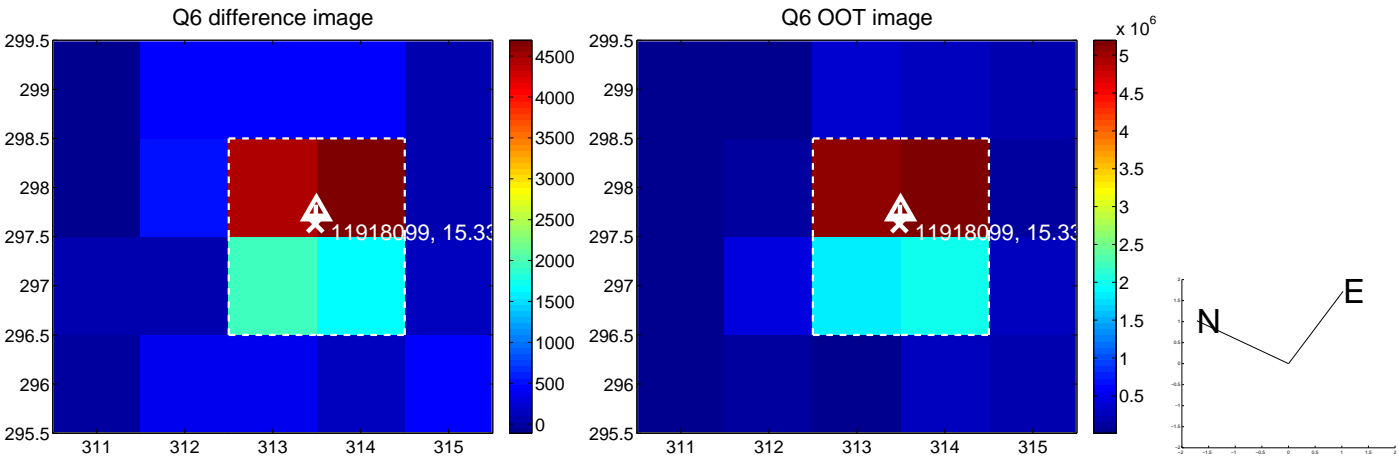
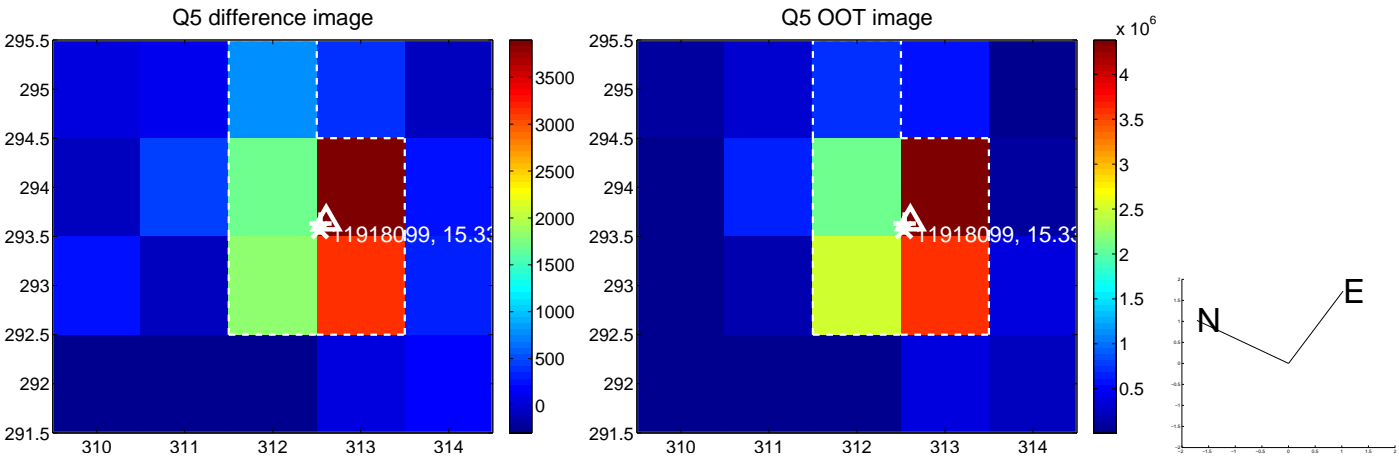


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

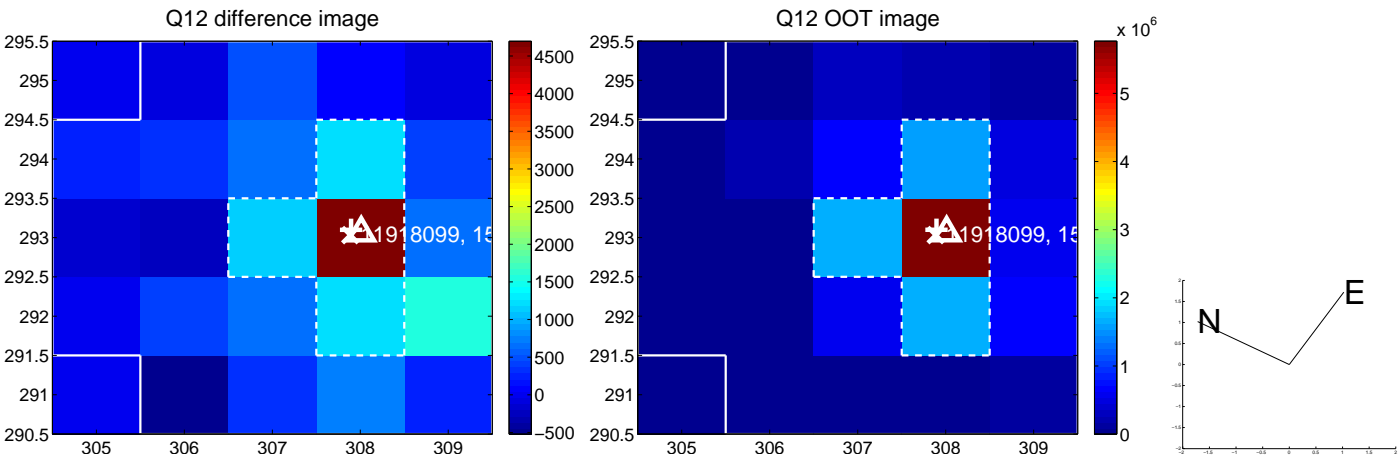
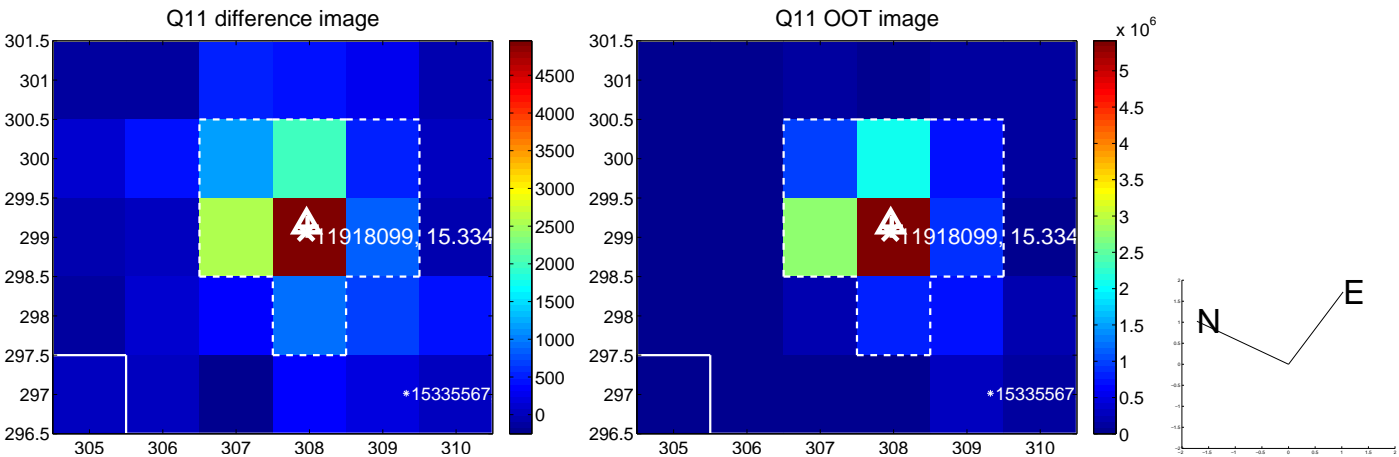
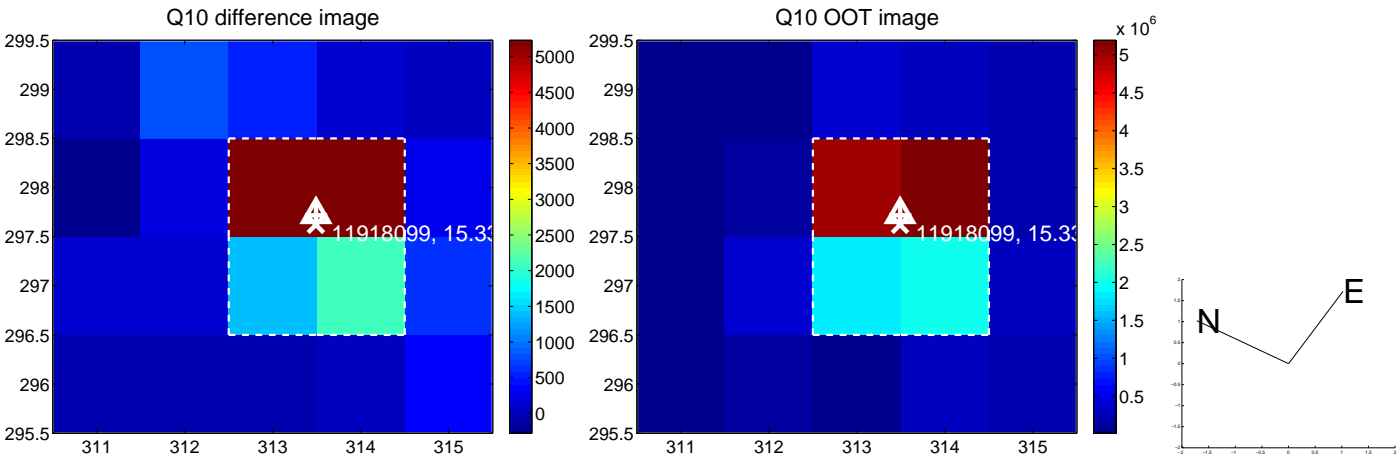
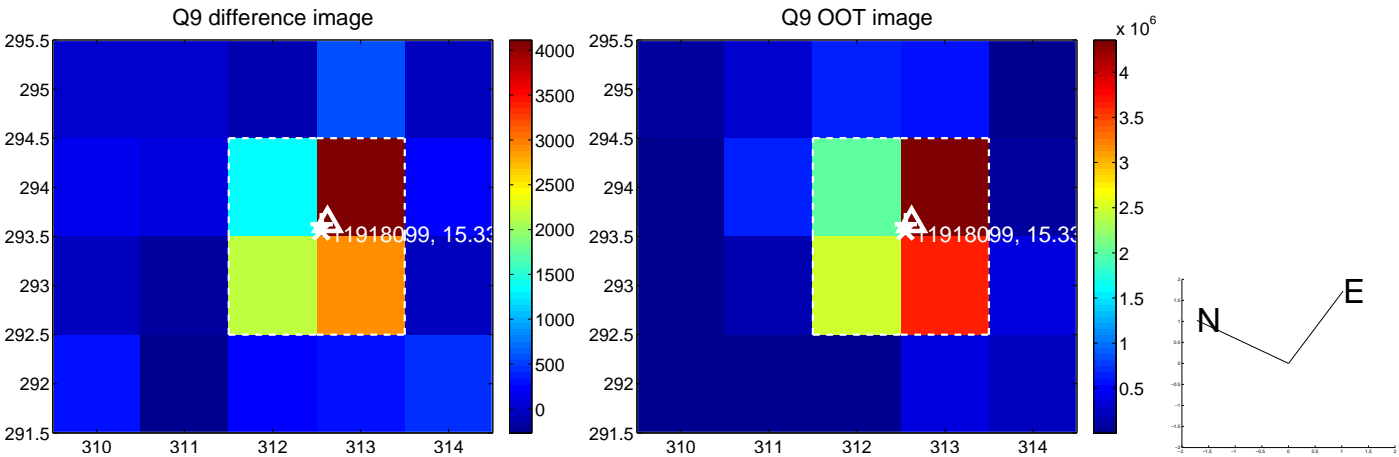
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



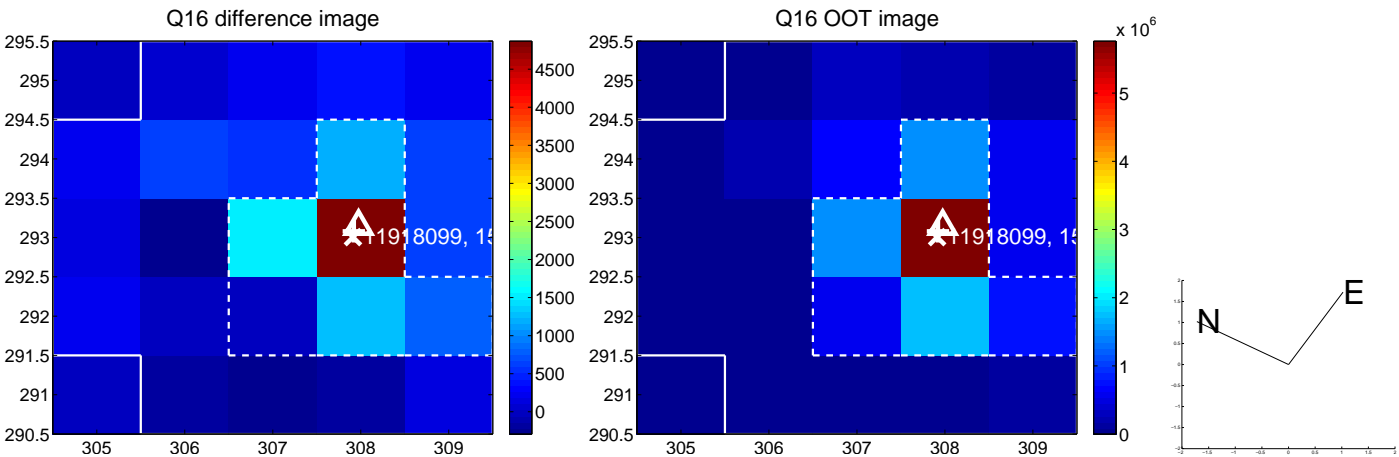
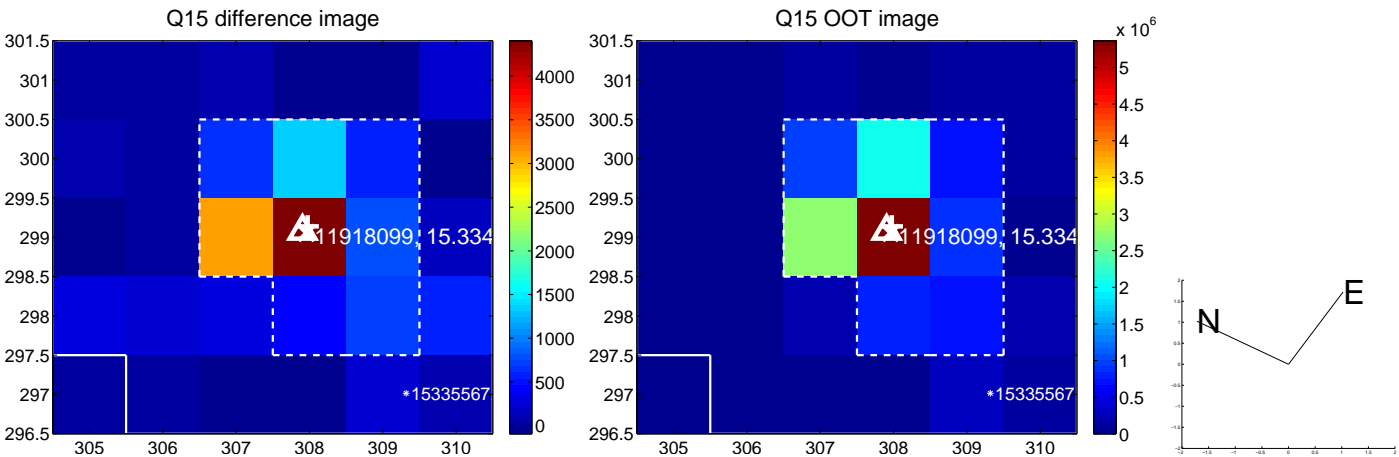
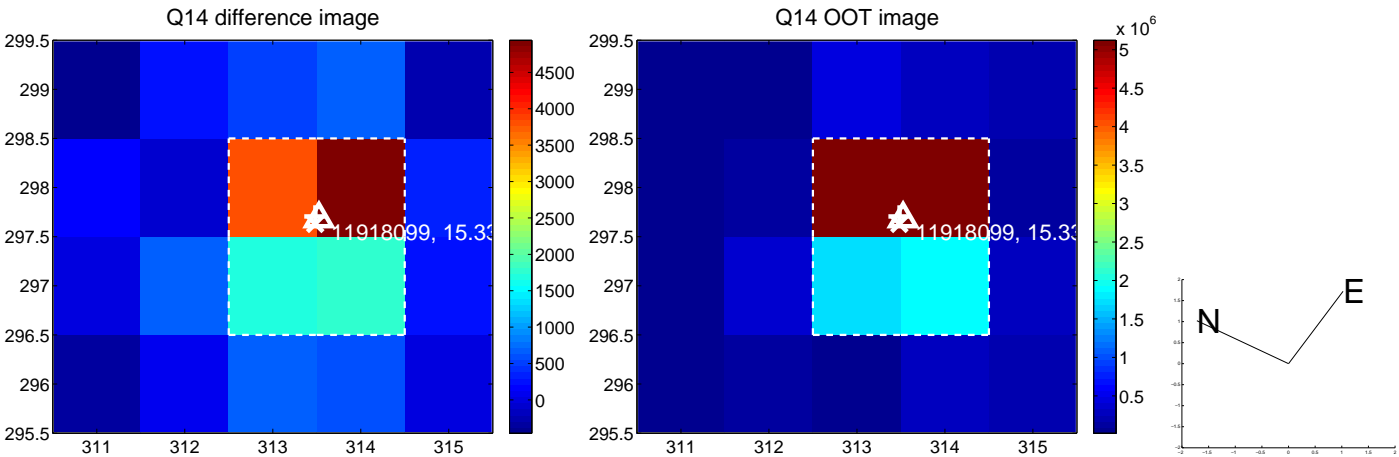
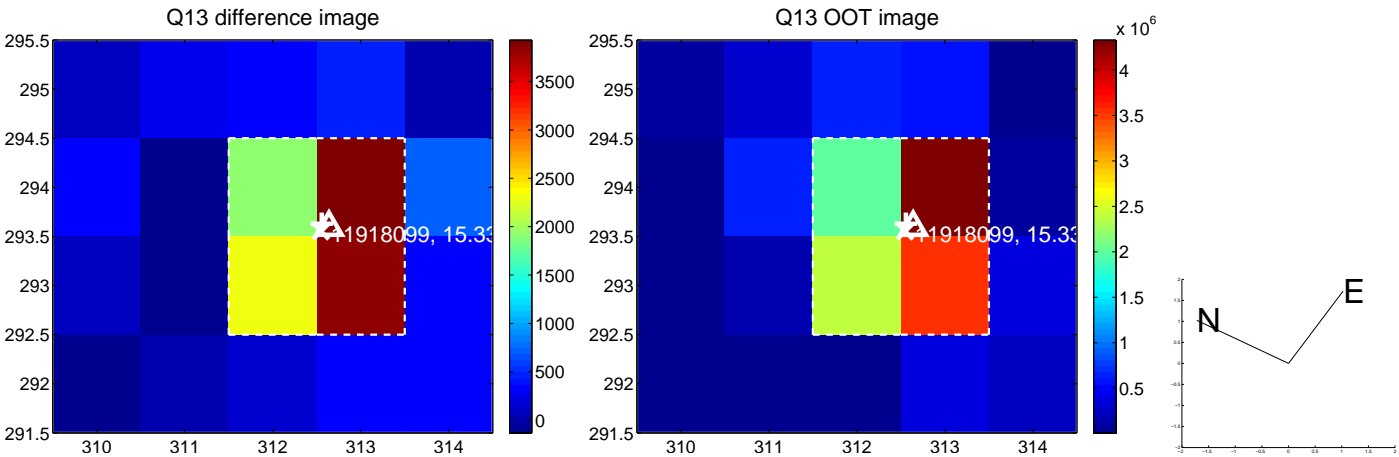
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



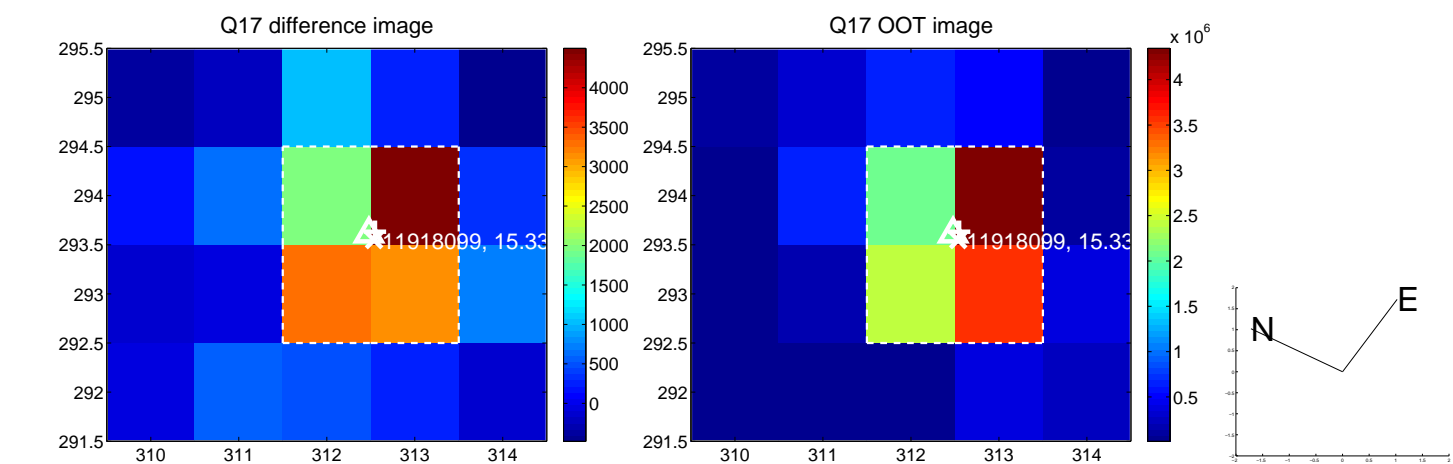
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



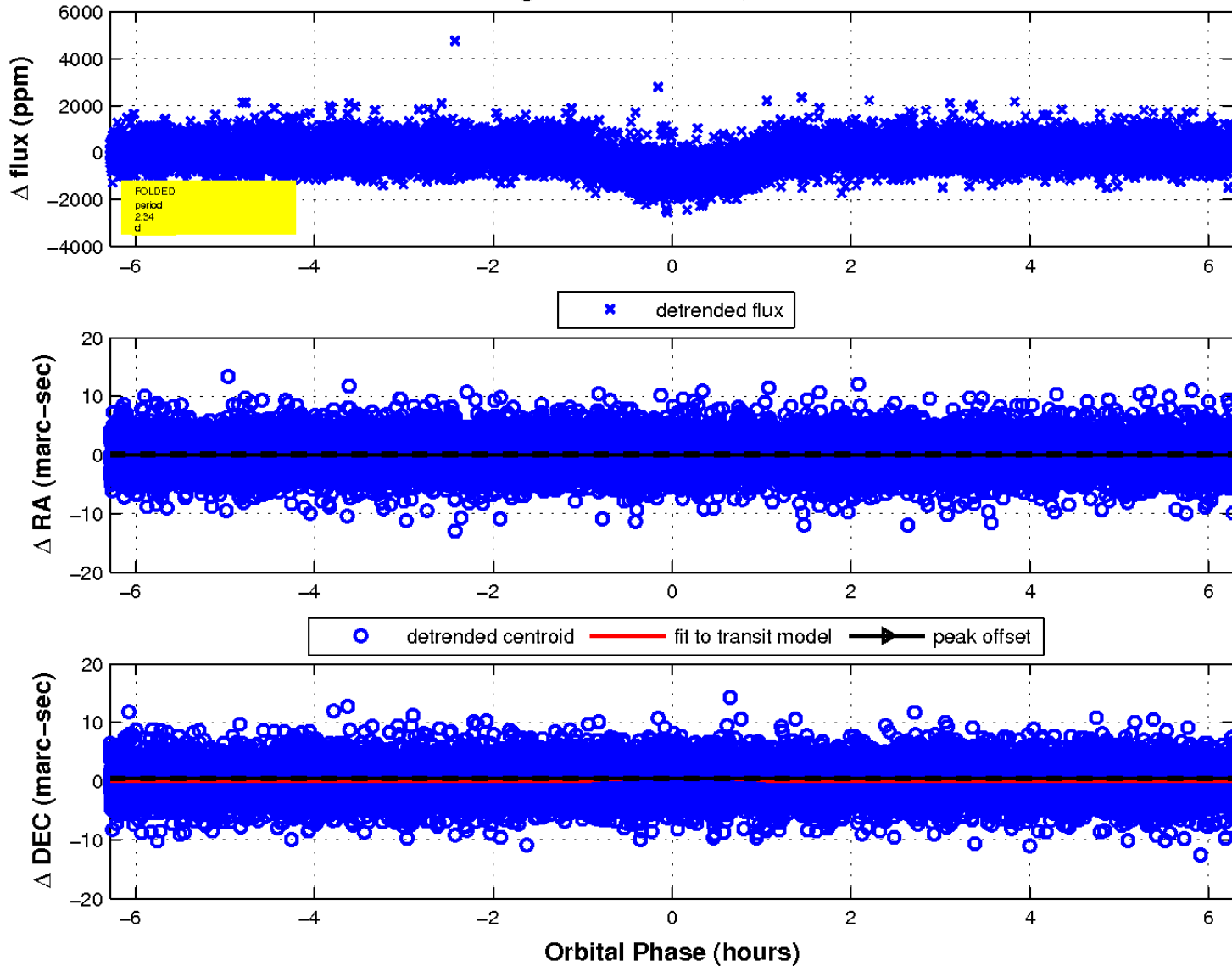
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

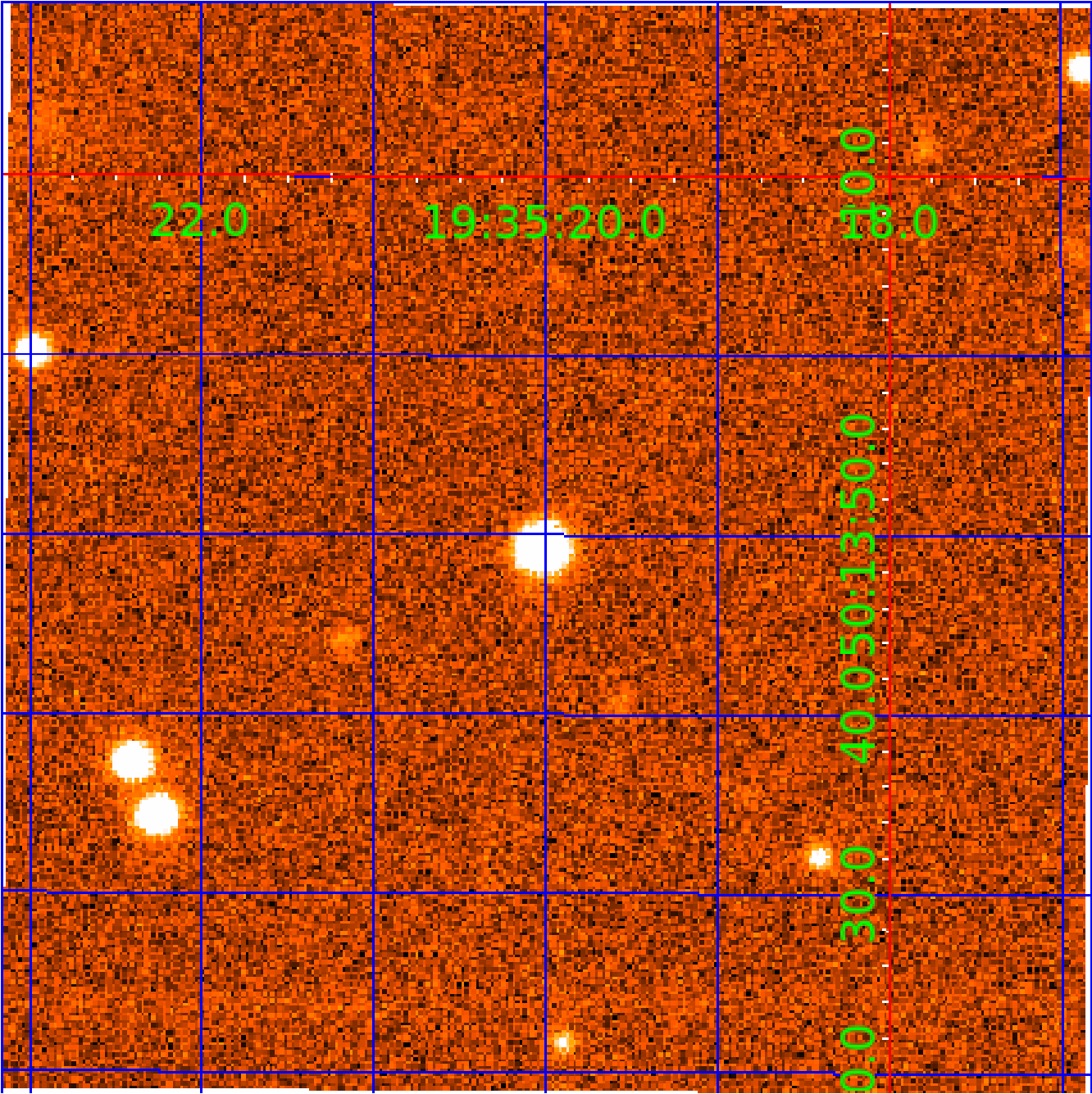


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011918099

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})
011918099-01	OBS	0780.01	2.337436	132.025713	894.2	2.095	63.6	74.2	0.77	5005	2.69	310.91
011918099-02	OBS	0780.02	7.240631	137.760048	514.3	0.613	9.2	13.0	0.77	5005	1.81	68.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918099-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011918099-02	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

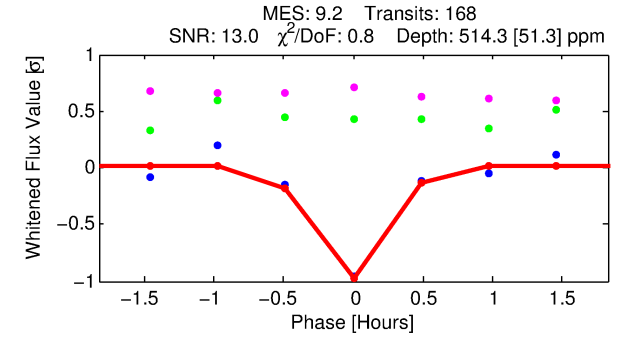
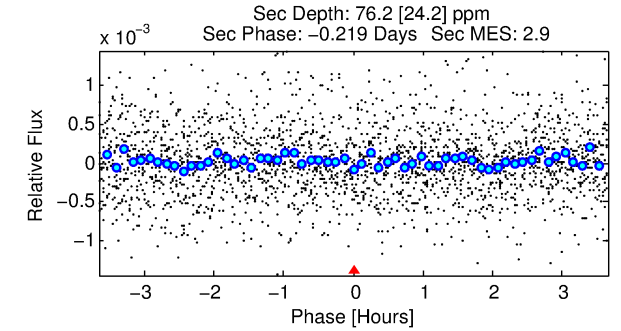
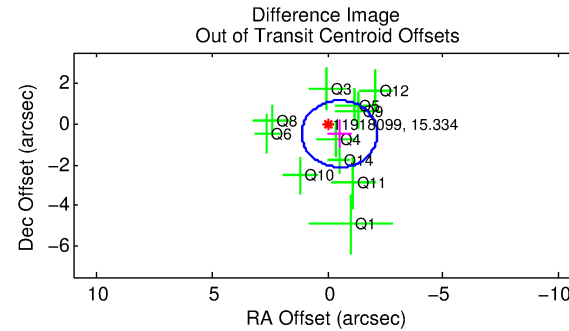
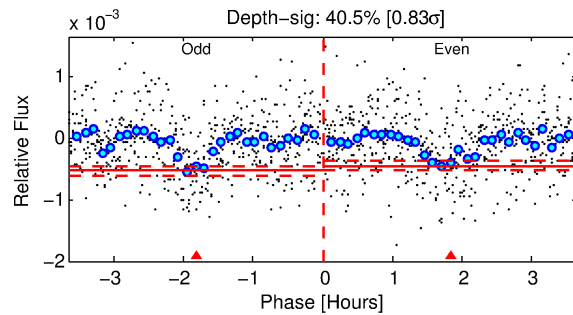
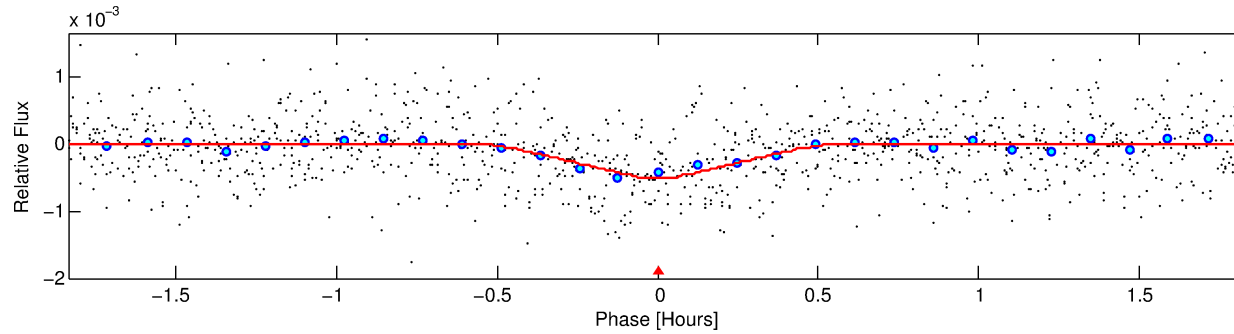
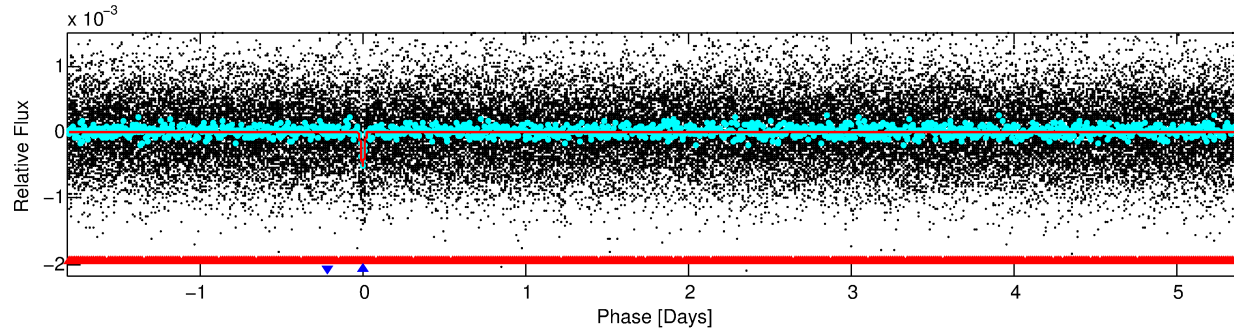
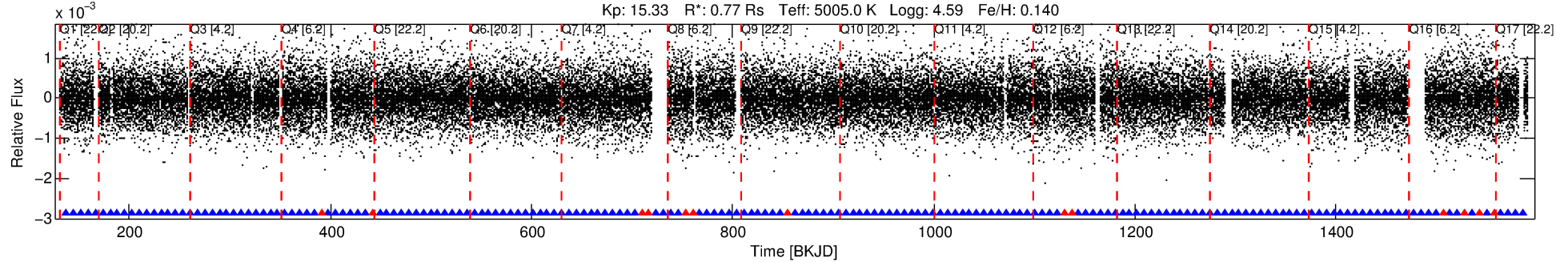
Ephemeris Match Information For 011918099-02

No Significant Match Found

DV One-Page Summary

KIC: 11918099 Candidate: 2 of 2 Period: 7.241 d
KOI: K00780.02 Corr: 0.946

Kp: 15.33 R*: 0.77 Rs Teff: 5005.0 K Logg: 4.59 Fe/H: 0.140



DV Fit Results:

Period = 7.24063 [0.00002] d
Epoch = 137.7600 [0.0015] BKJD
Rp/R* = 0.0217 [0.0212]
a/R* = 81.93 [274.59]
b = 0.47 [5.59]
Seff = 68.85 [8.69]
Teq = 735 [23] K
Rp = 1.81 [1.78] Re
a = 0.0691 [0.0047] AU
Ag = 61.16 [121.56] [0.49σ]
Teffp = 3176 [1576] K [1.55σ]

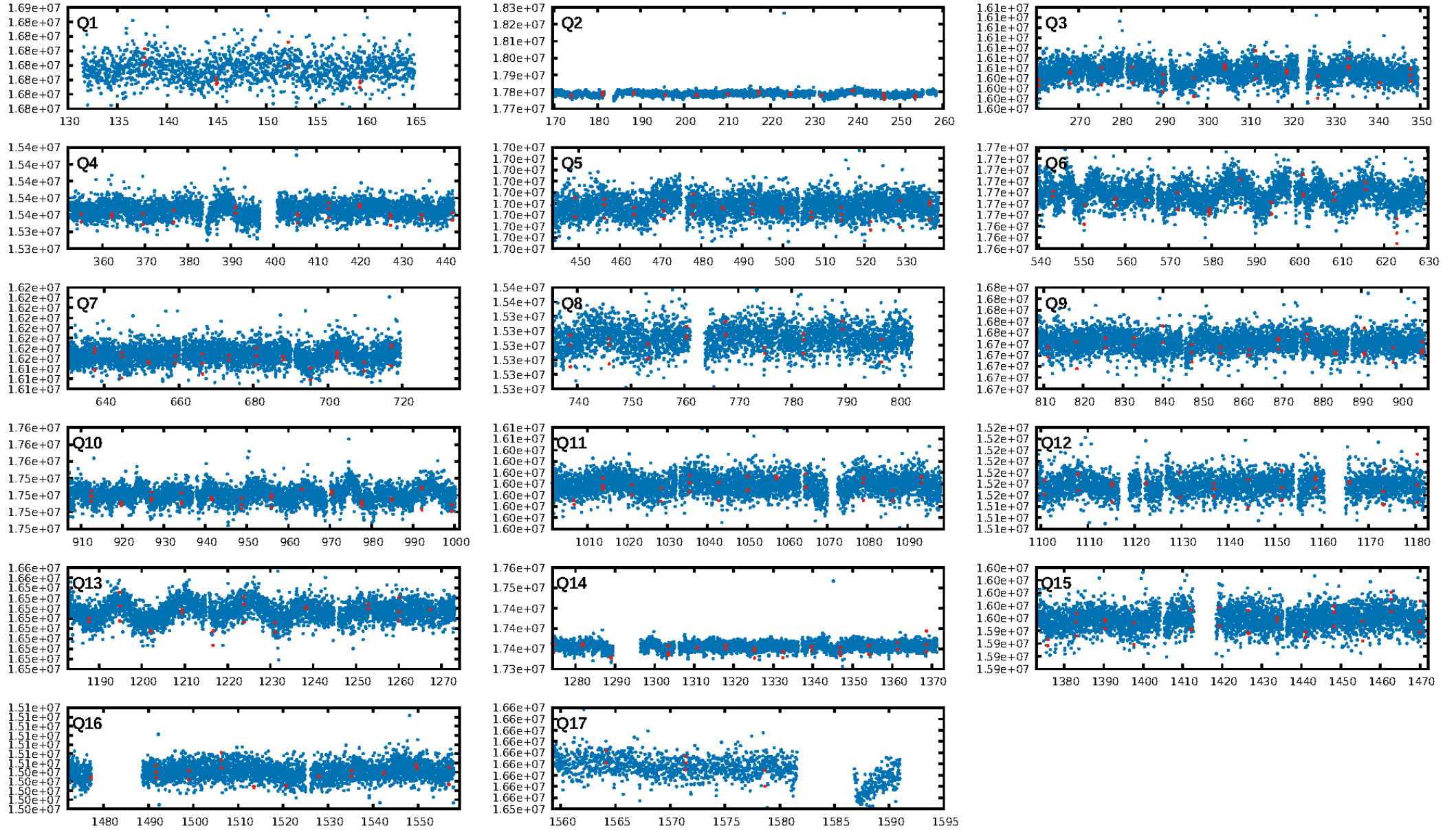
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.91σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.03e-19
RollingBand-fgt: 0.92 [148/161]
GhostDiagnostic-chr: 8.865
Centroid-sig: 5.8%
Centroid-so: 1.408 arcsec [1.14σ]
OotOffset-rm: 0.708 arcsec [1.30σ]
KicOffset-rm: 0.390 arcsec [0.69σ]
OotOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
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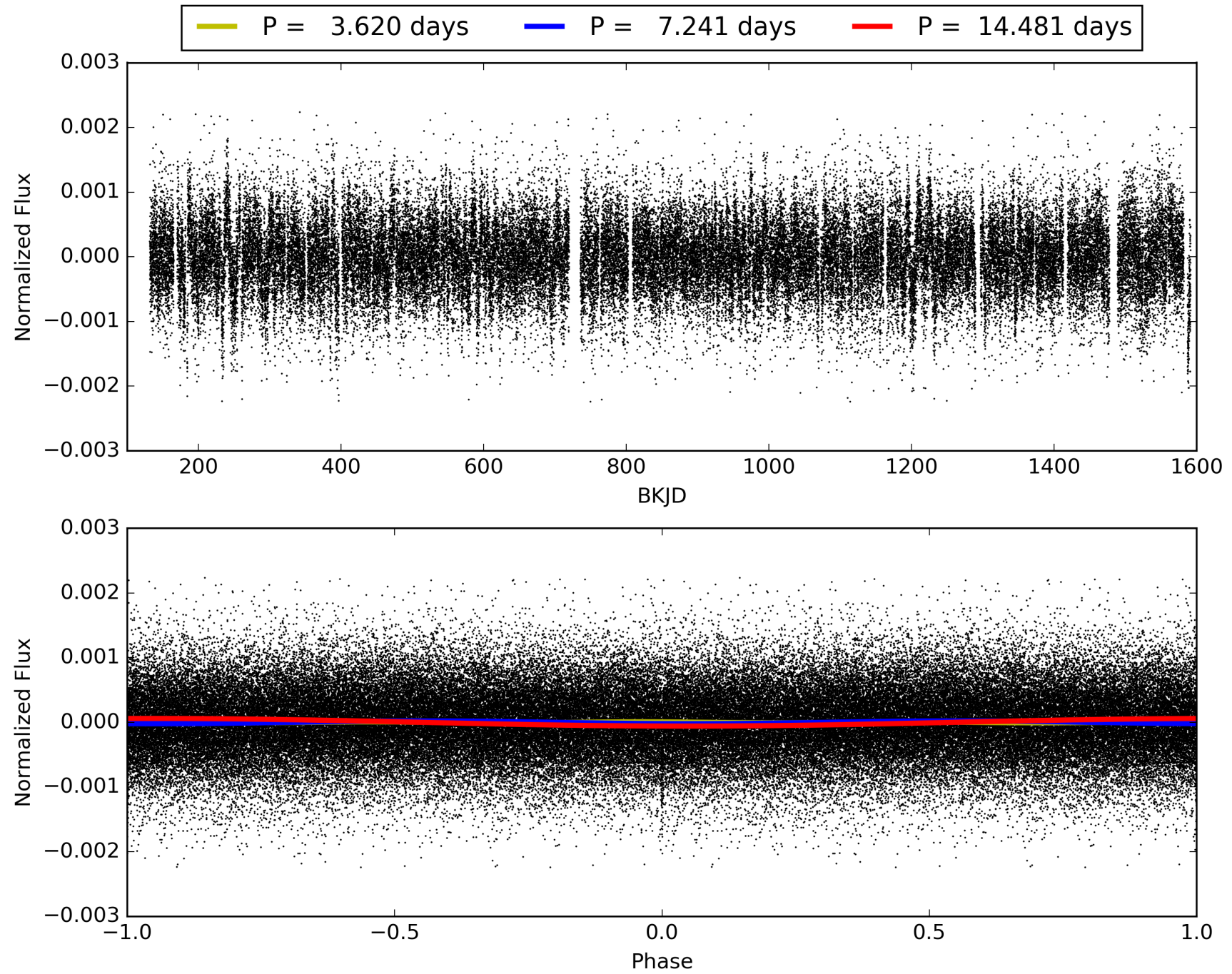
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:17:43 Z

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

TCE 011918099-02, PDC Light Curves

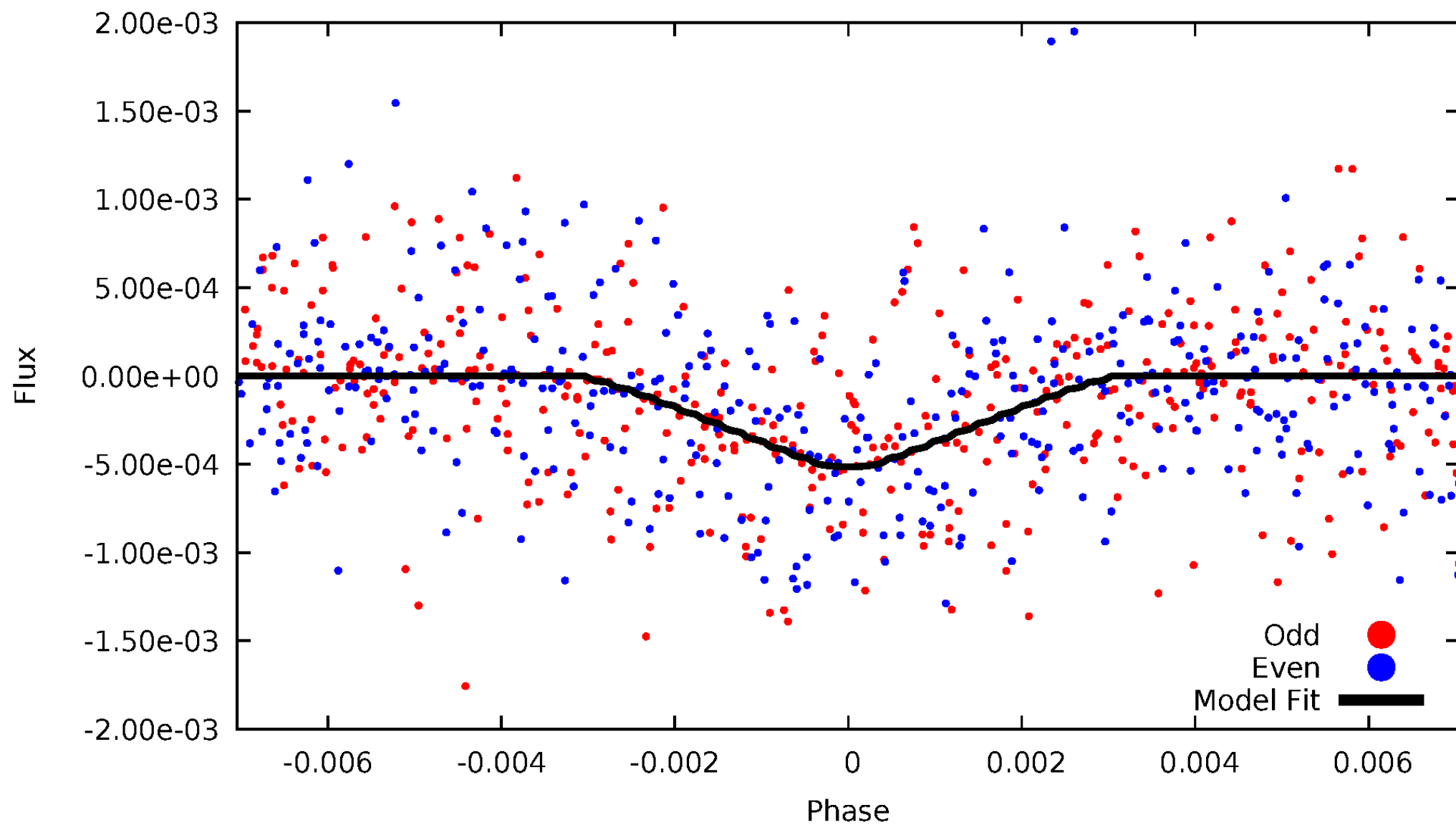


TCE 011918099-02



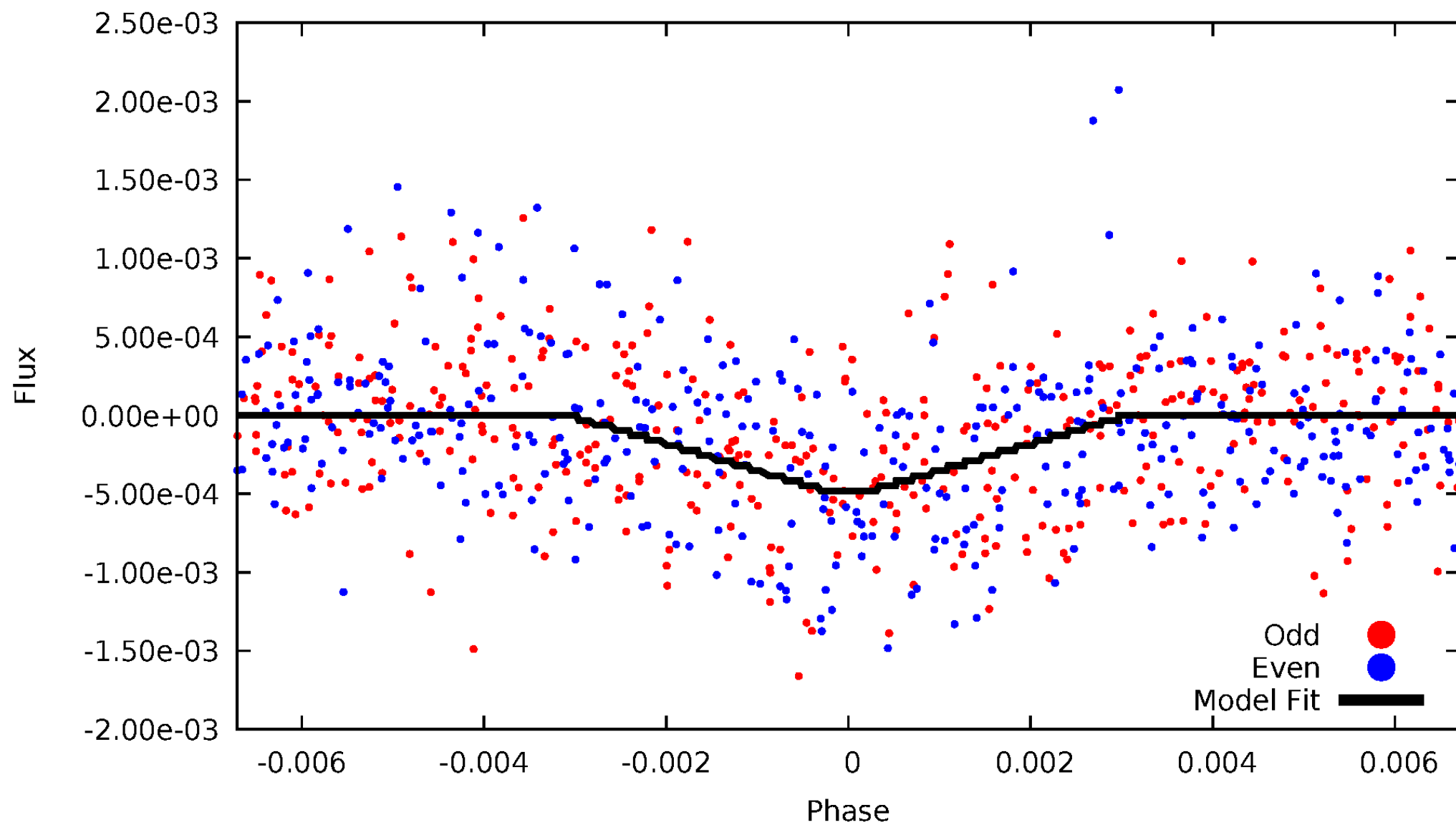
DV Odd/Even

TCE 011918099-02



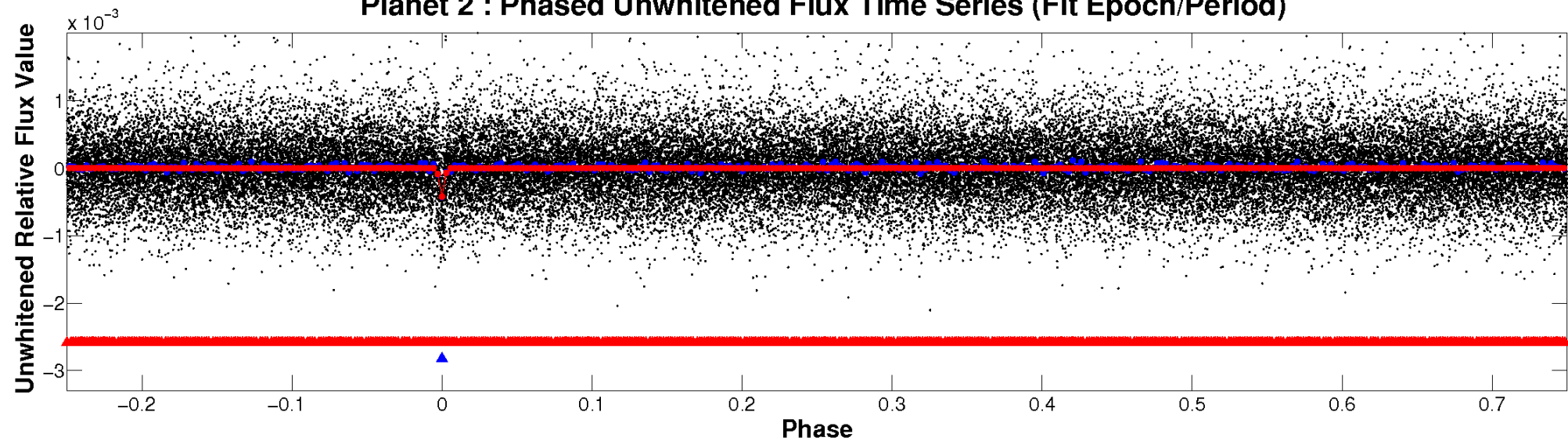
ALT Odd/Even

TCE 011918099-02

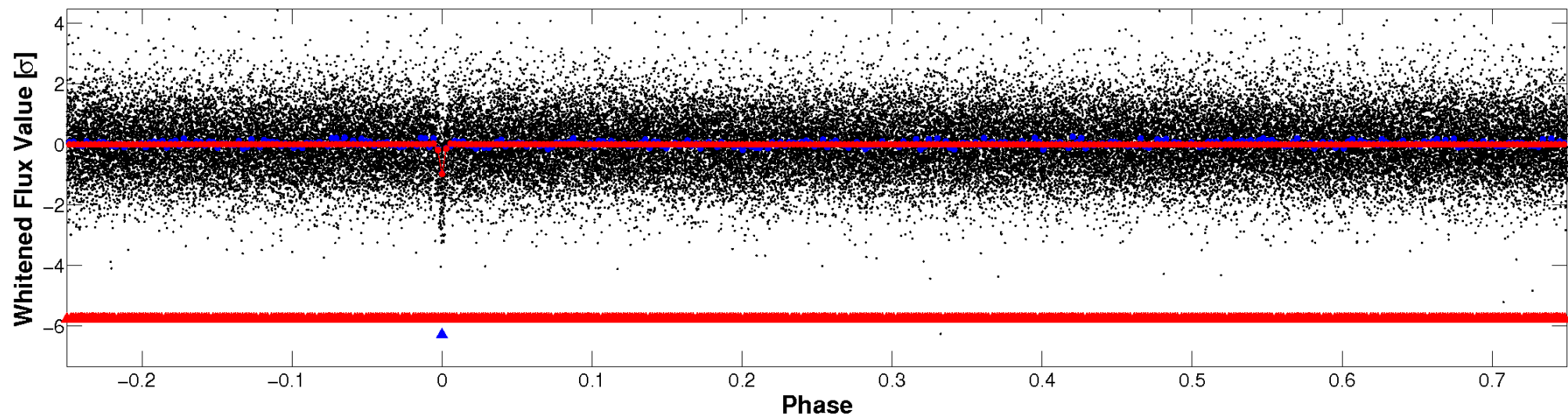


Non-Whitened Vs. Whitened Light Curve

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

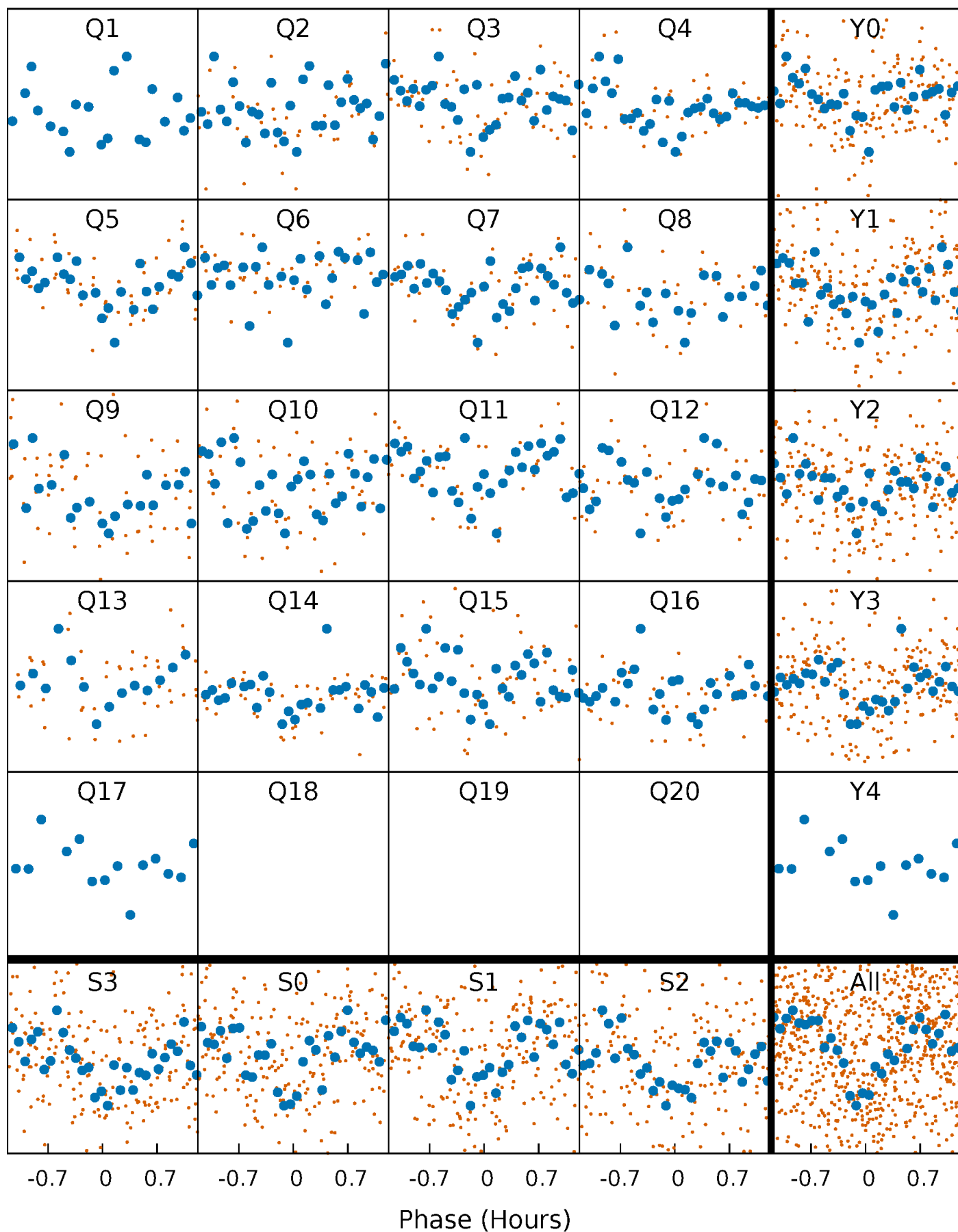


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



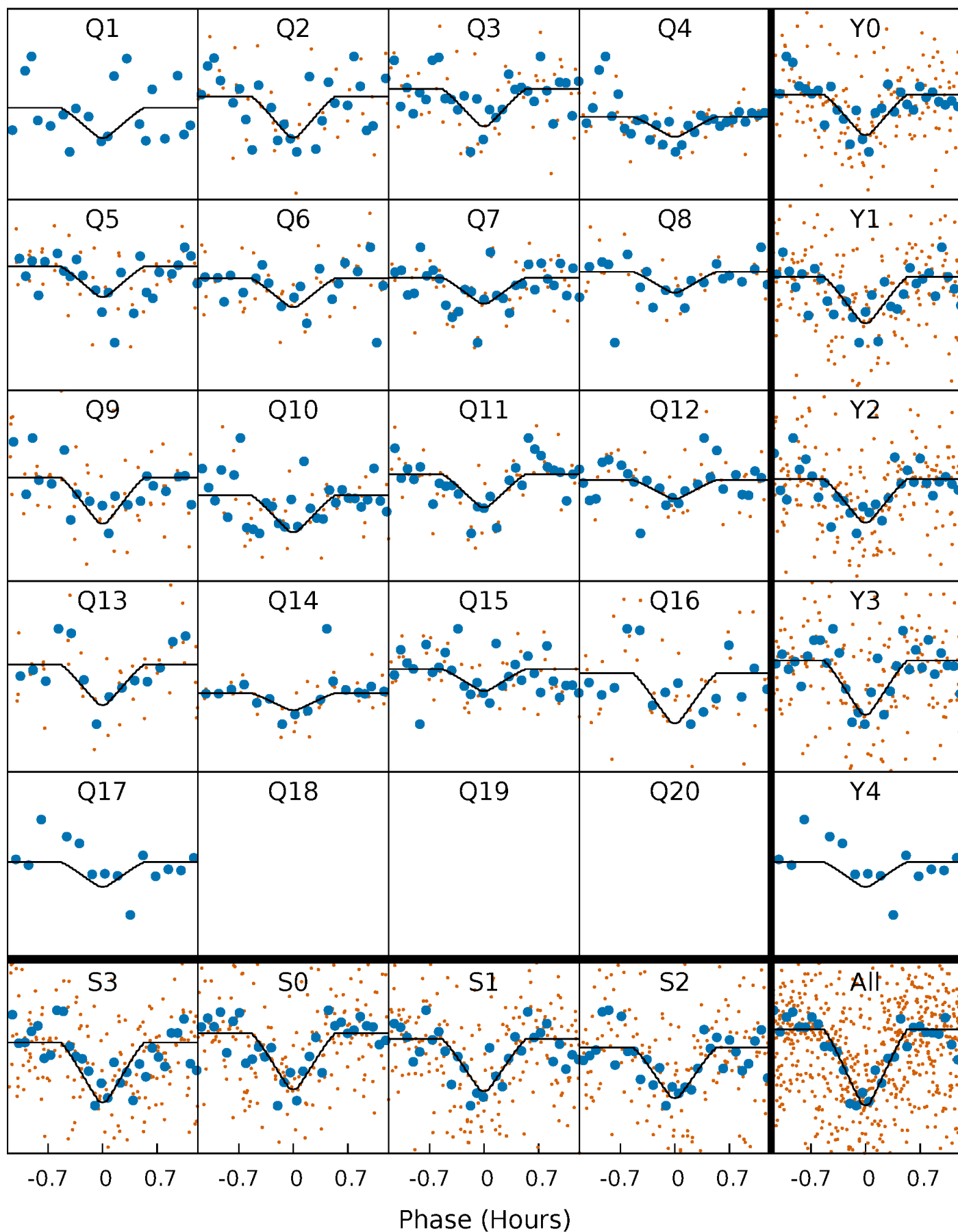
PDC Quarter-Phased Transit Curves

TCE 011918099-02 P= 7.240631 Days $T_0=137.760048$ (BKJD)



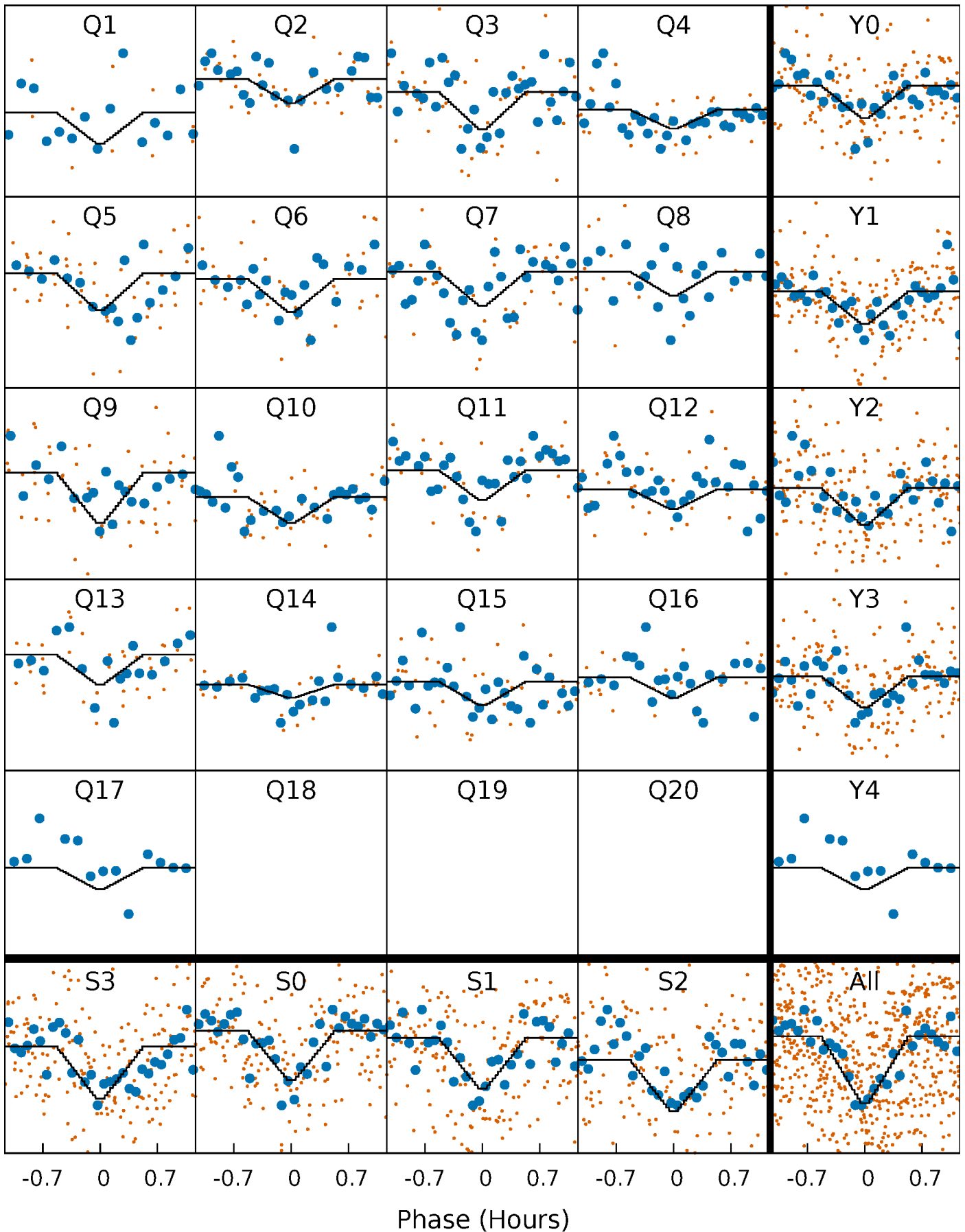
DV Quarter-Phased Transit Curves

TCE 011918099-02 $P = 7.240631$ Days $T_0 = 137.760048$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

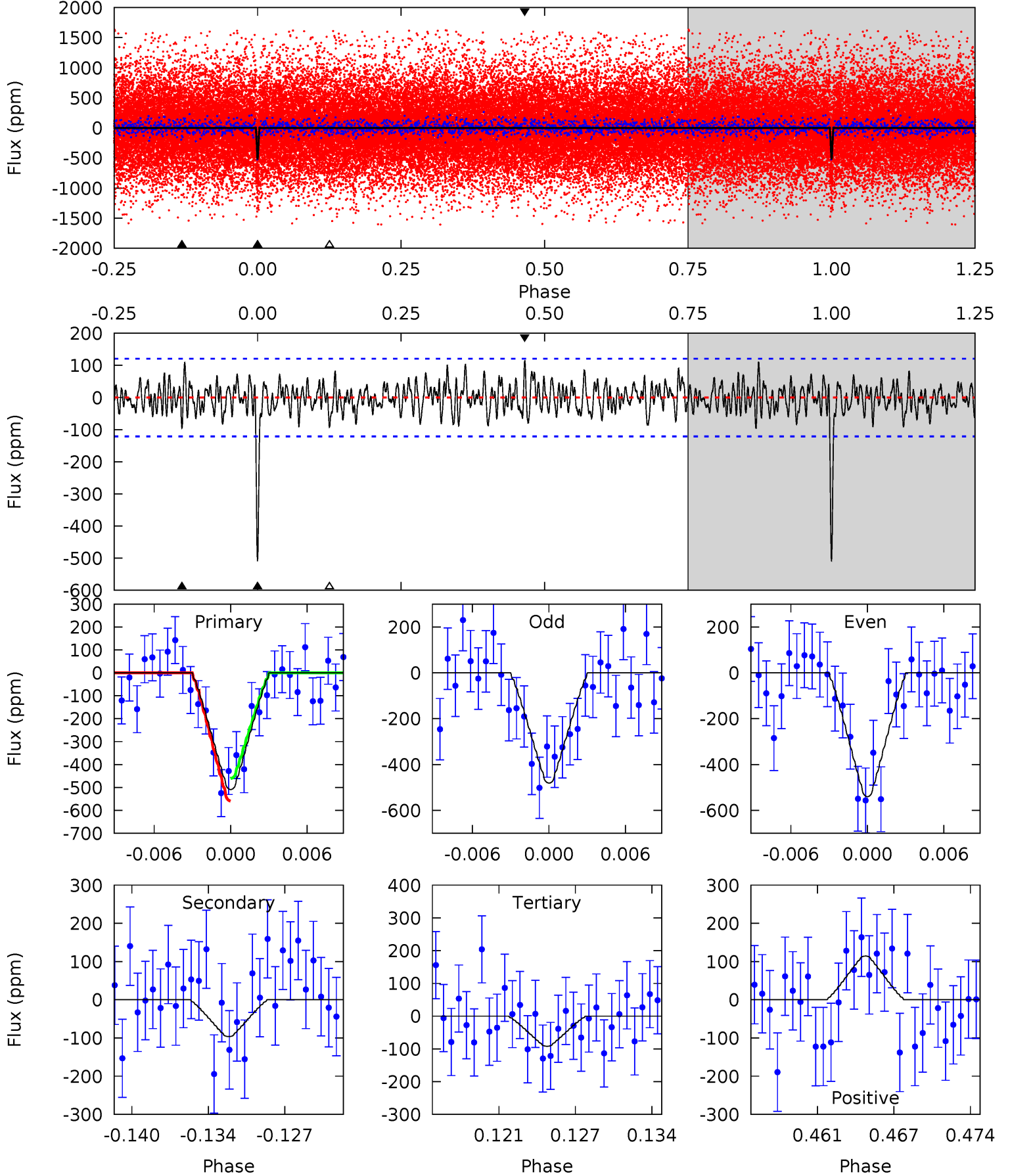
TCE 011918099-02 P= 7.240626 Days $T_0=137.758271$ (BKJD)



DV Model-Shift Uniqueness Test

011918099-02, P = 7.240631 Days, E = 130.519417 Days

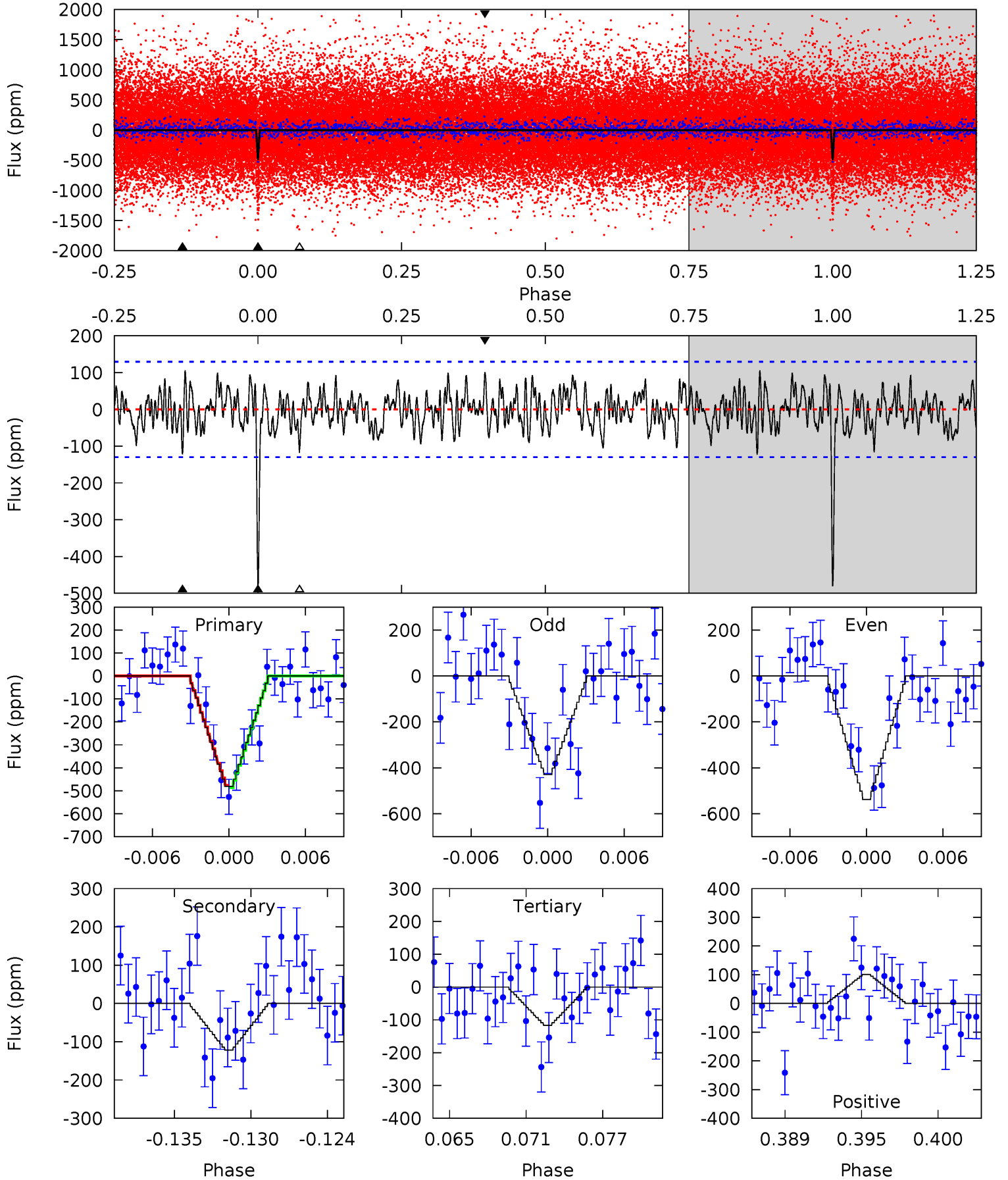
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	4.08	3.89	4.84	5.12	2.74	1.55	17.7	16.7	0.19	-0.76	1.26	0.95	0.18	2.10



Alt Model-Shift Uniqueness Test

011918099-02, P = 7.240626 Days, E = 130.517645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	4.83	4.62	4.00	5.13	2.75	1.60	14.4	15.0	0.21	0.83	2.14	0.87	0.18	0.20



Stellar Parameters For KIC 011918099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5005^{+79}_{-79}	$4.595^{+0.012}_{-0.064}$	$0.140^{+0.150}_{-0.150}$	$0.765^{+0.055}_{-0.028}$	$0.850^{+0.025}_{-0.054}$	$2.678^{+0.208}_{-0.538}$
	+2%/-2%	+0%/-1%	+107%/-107%	+7%/-4%	+3%/-6%	+8%/-20%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 011918099-02 / KOI 0780.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-96 ± 24	$2.24^{+1.55}_{-1.40}$	1036^{+23}_{-20}	3479^{+1558}_{-534}	51^{+331}_{-35}
Alt.	-122 ± 25	$2.19^{+1.69}_{-1.35}$	1037^{+24}_{-19}	3627^{+1624}_{-573}	64^{+402}_{-43}

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

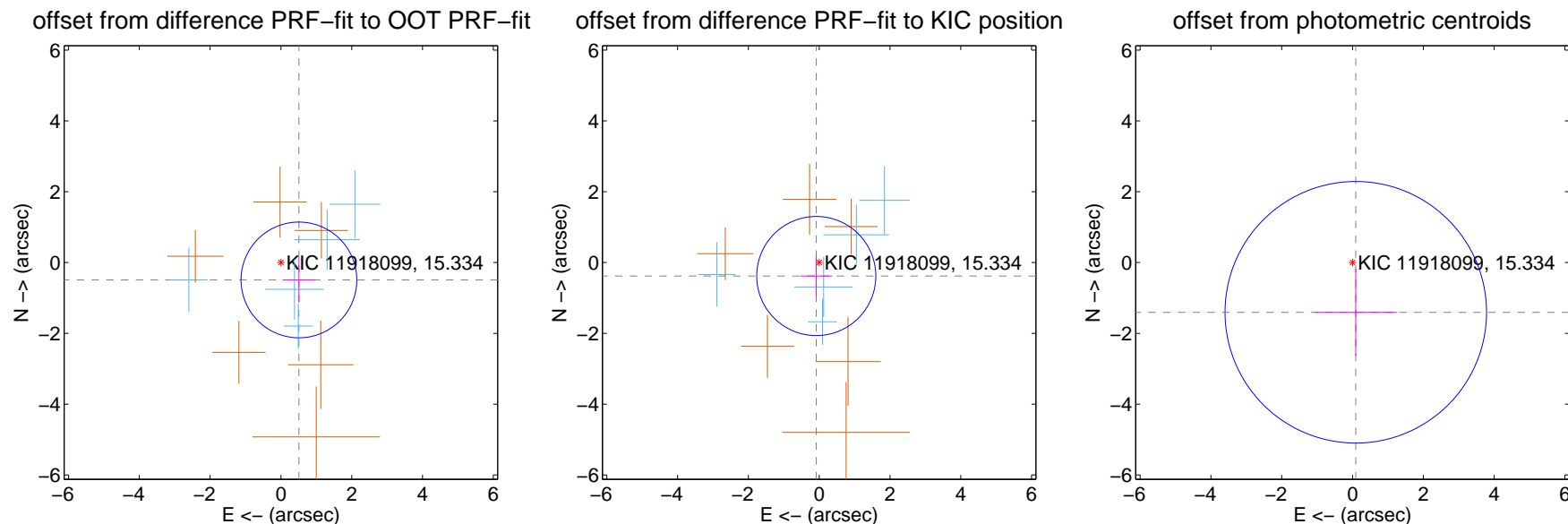
DV Centroid Data

Supplemental centroid analysis for 011918099-02. Kepler magnitude: 15.33. Transit SNR 13.04

There are 5 quarters with good PRF difference image offsets

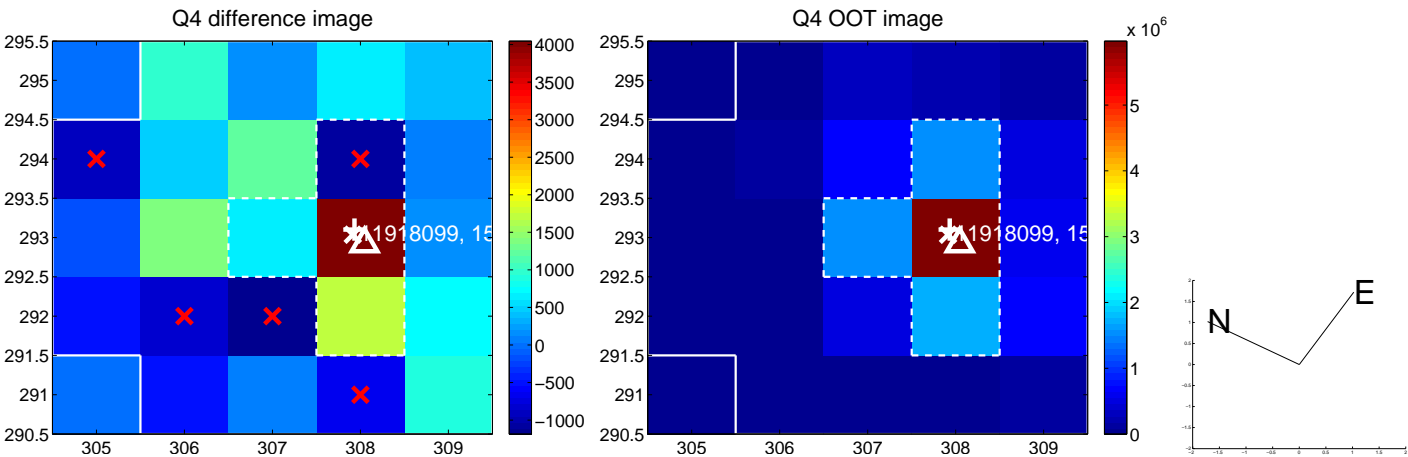
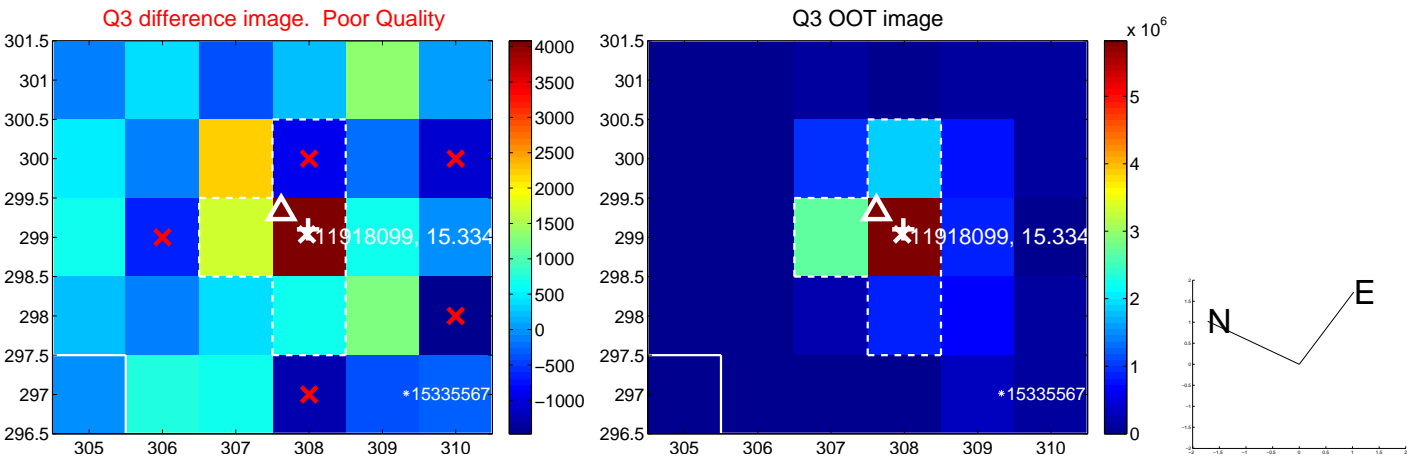
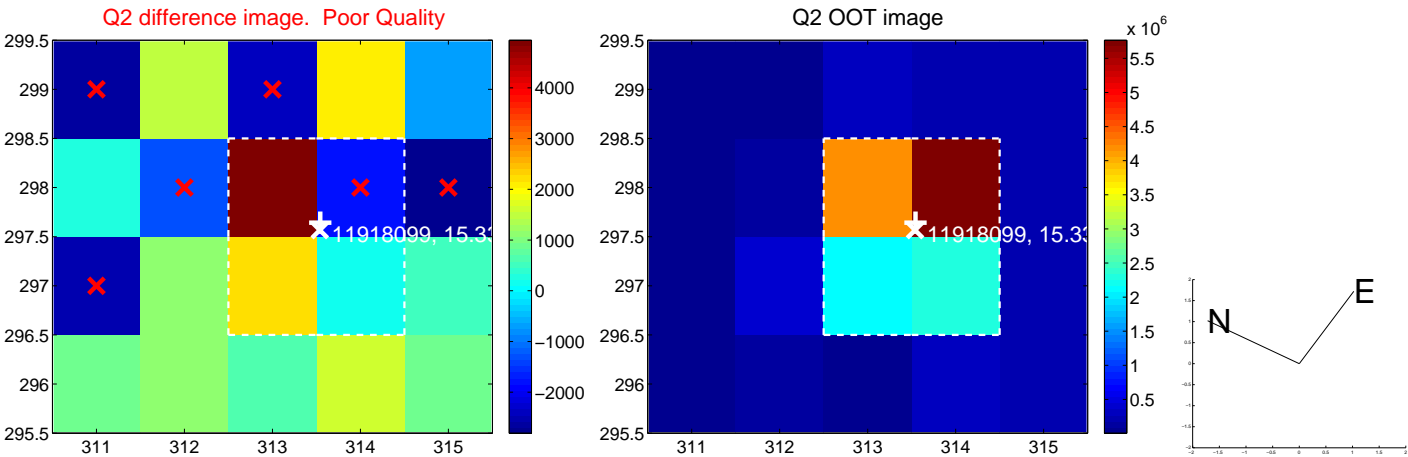
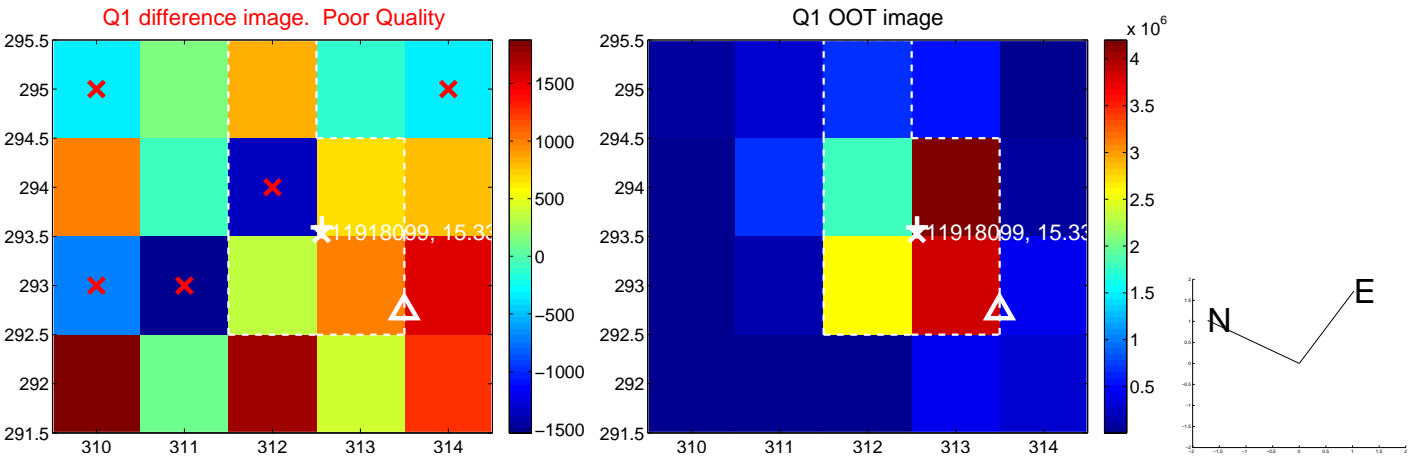
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.708 ± 0.545	1.30	-0.509 ± 0.463	-0.492 ± 0.636
PRF-fit source offset from KIC position	0.390 ± 0.561	0.69	0.082 ± 0.449	-0.381 ± 0.563
photometric centroid source offset	1.41 ± 1.23	1.14	-0.09 ± 1.15	-1.41 ± 1.23

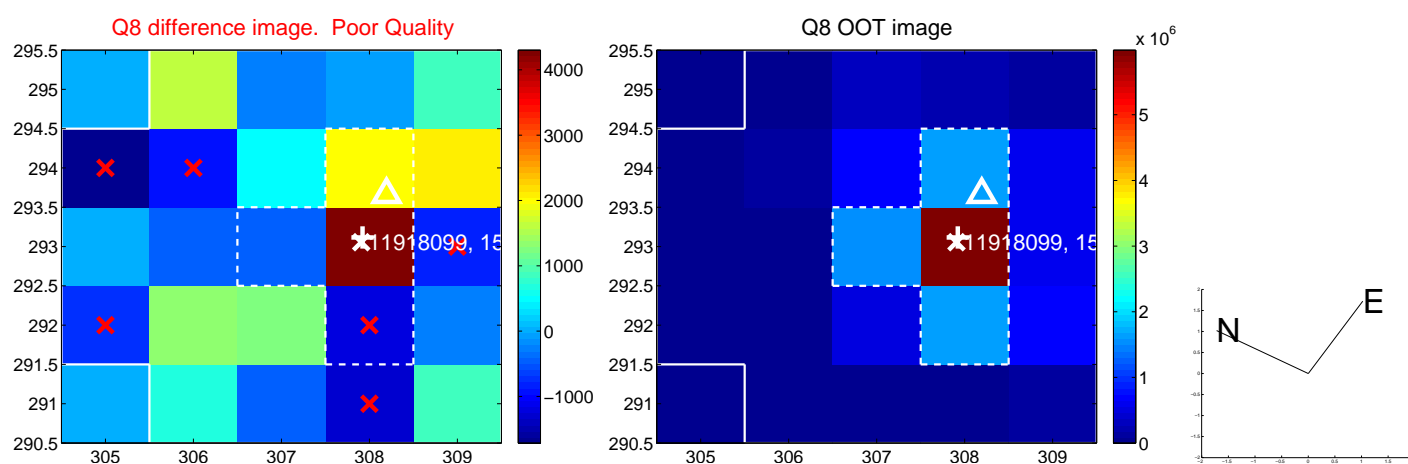
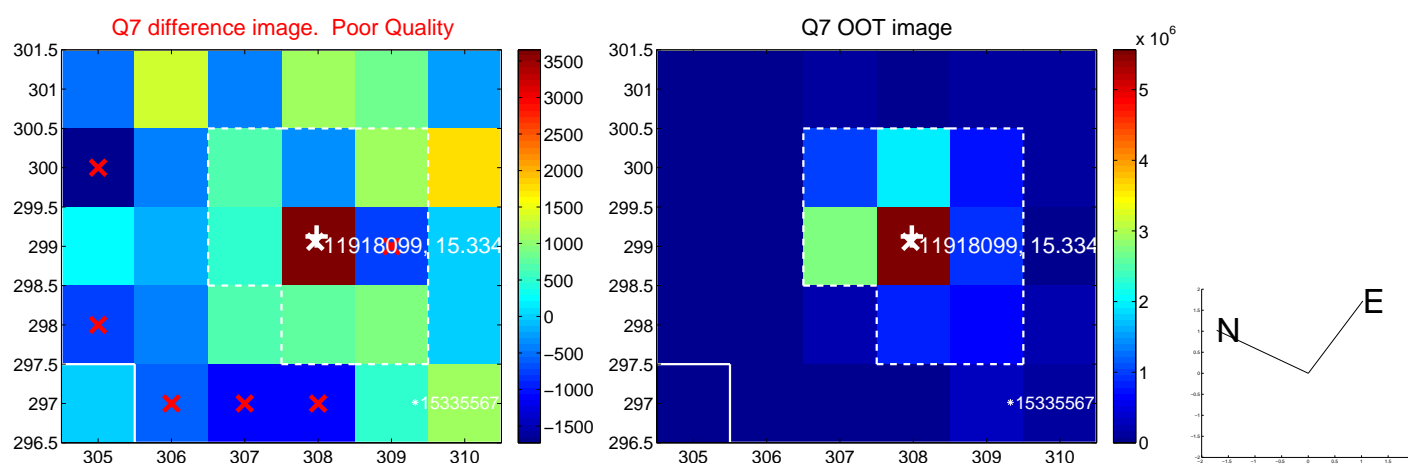
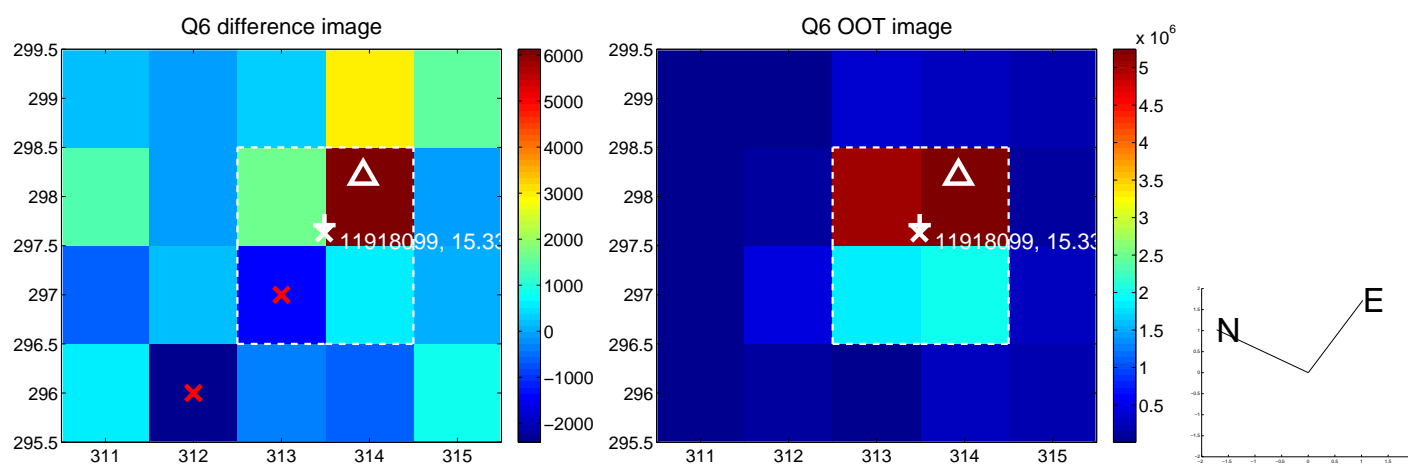
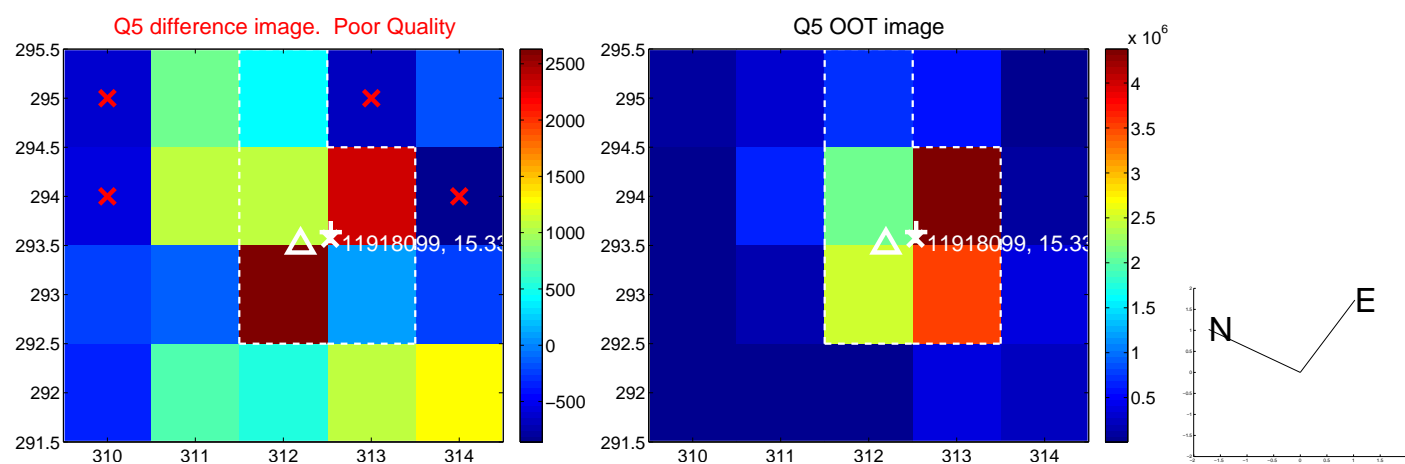


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

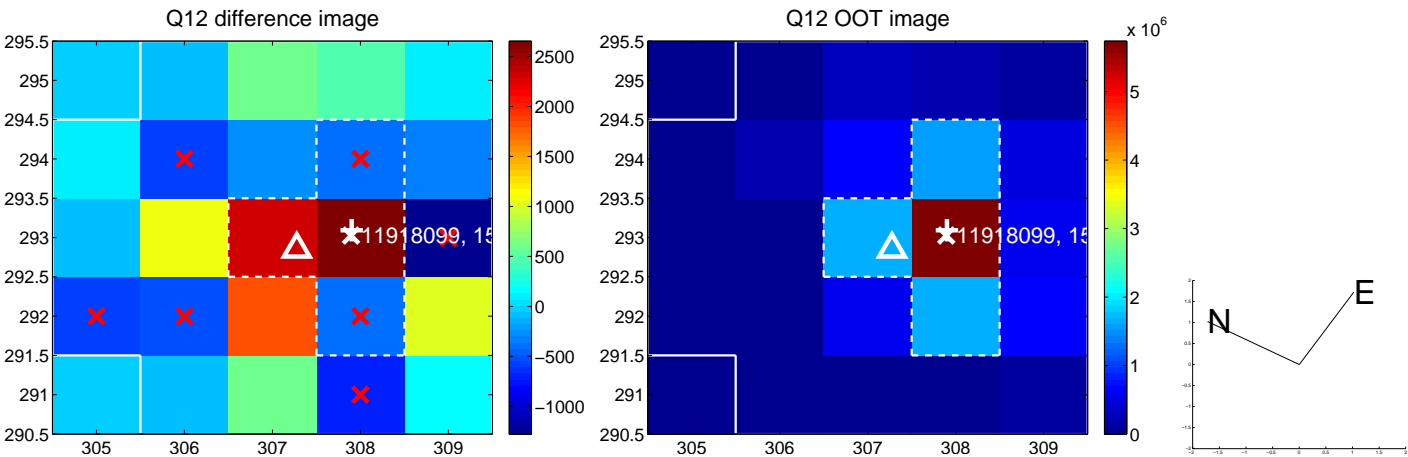
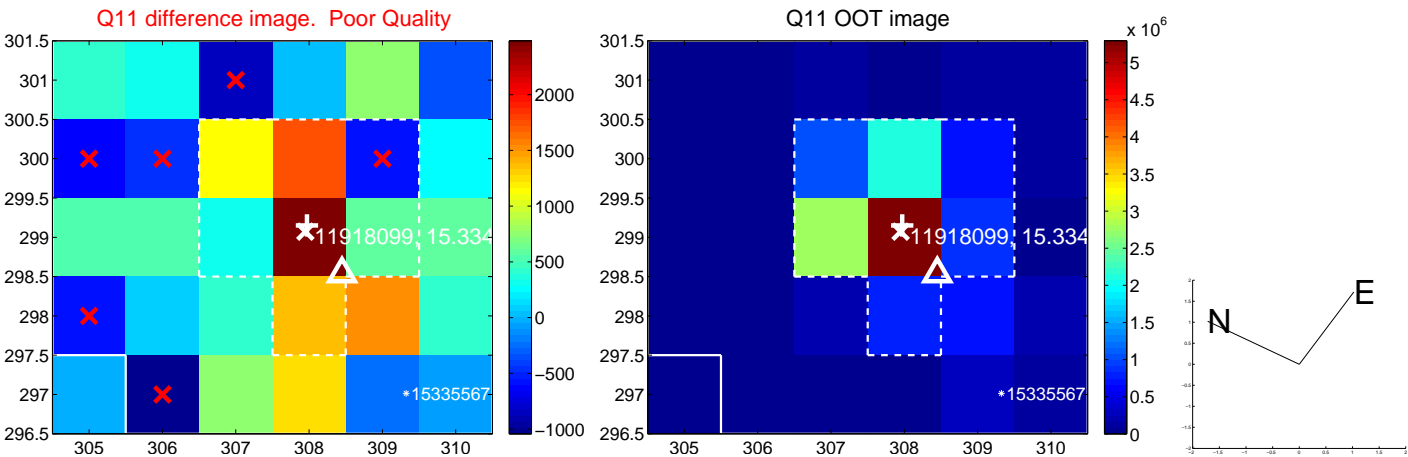
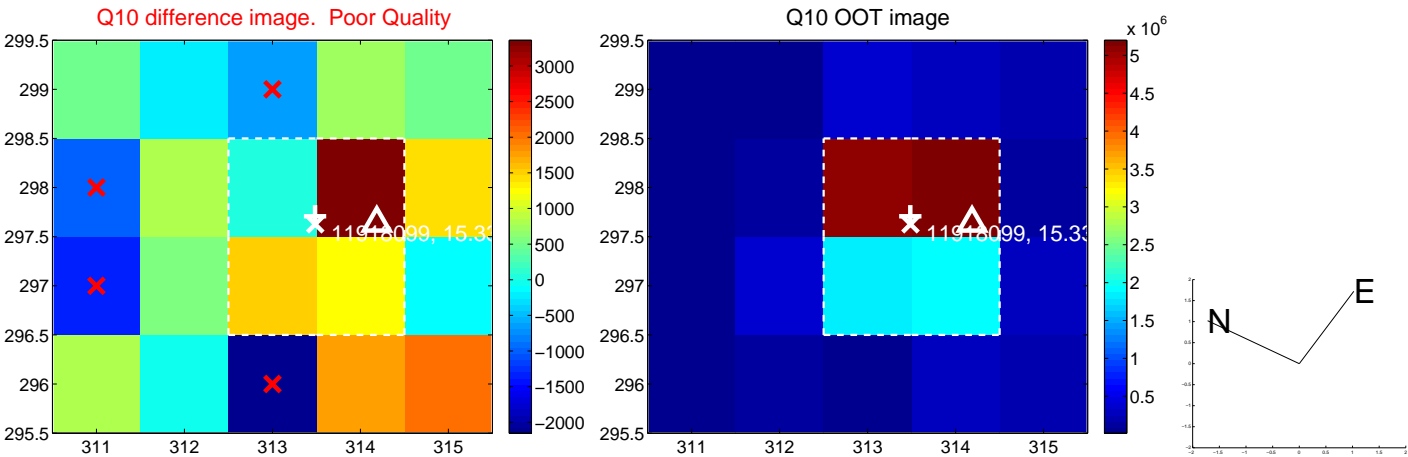
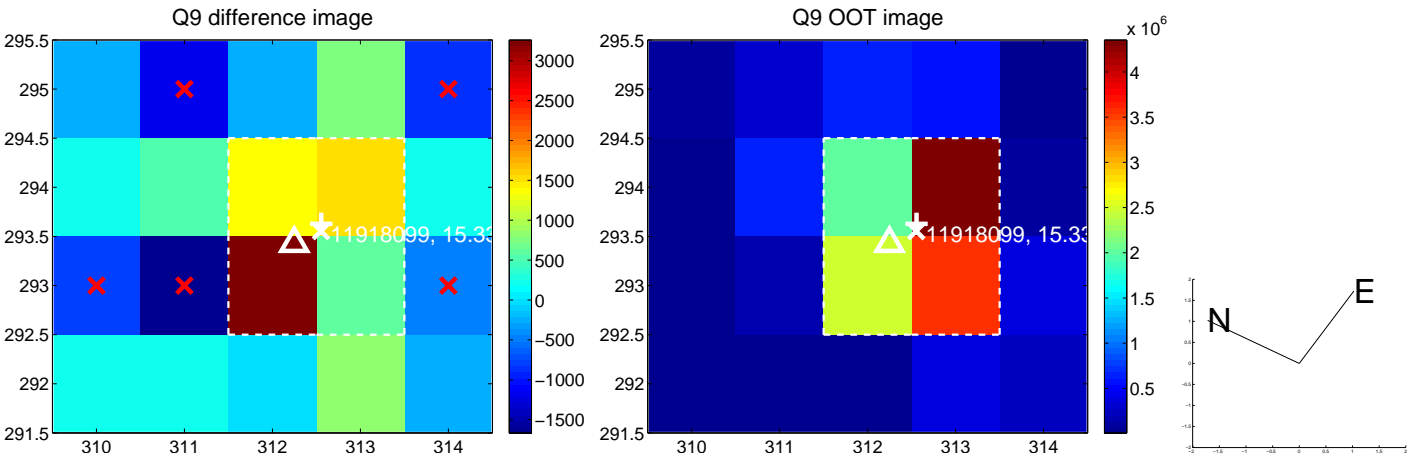
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



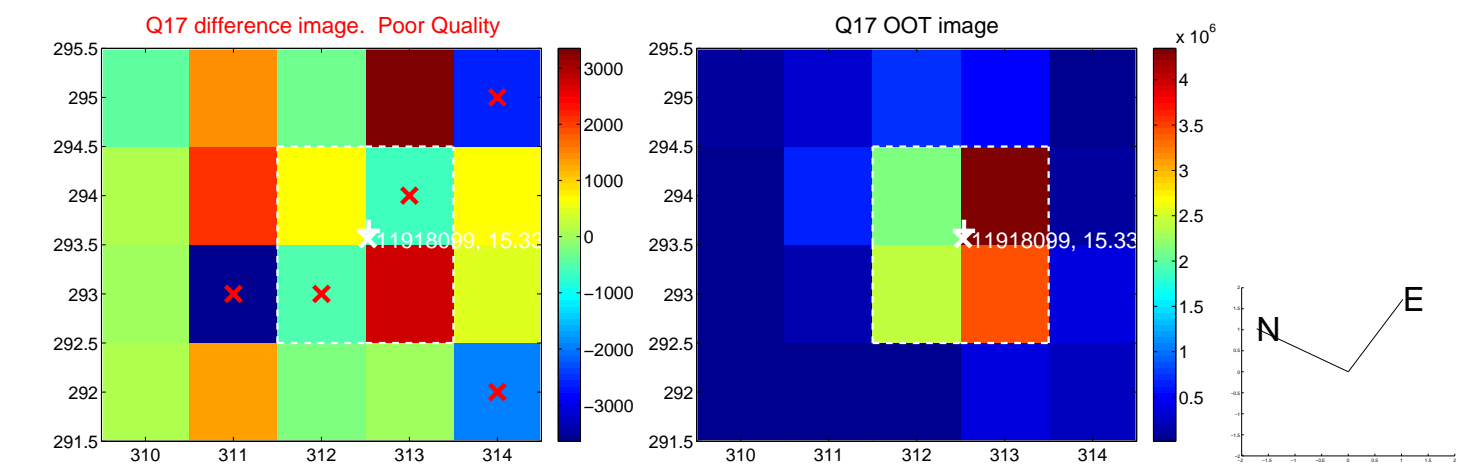
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



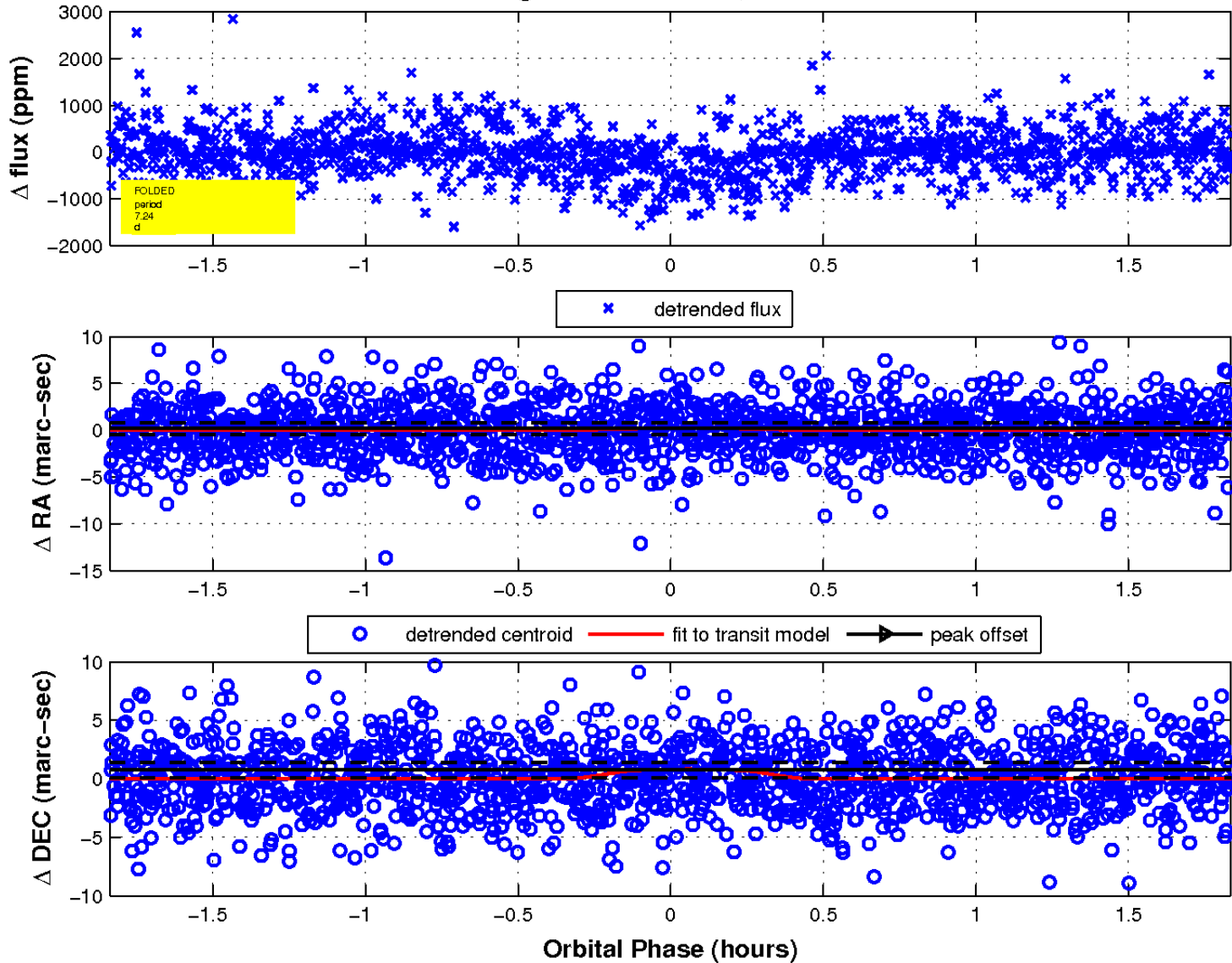
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

