

KIC 010147918

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})
010147918-01	OBS	No	0.769717	132.264040	43.0	2.680	9.7	10.3	9.62	5018	7.19	0.00
010147918-02	OBS	No	297.866448	240.944227	1637.5	15.197	8.0	7.9	9.62	5018	47.77	43.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010147918-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET—HALO_GHOST
010147918-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

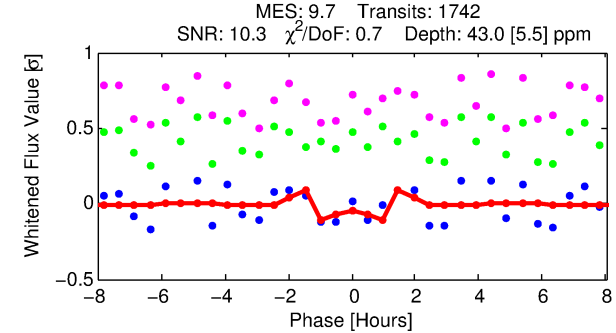
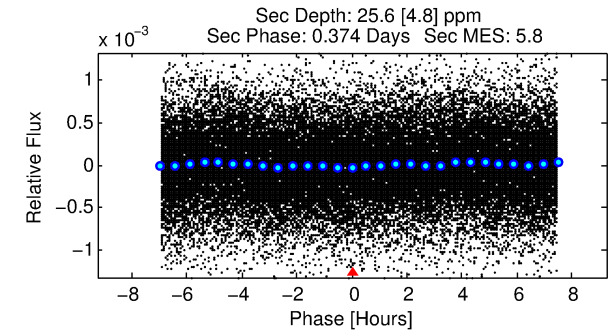
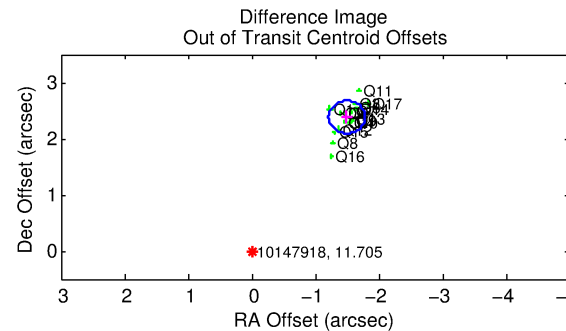
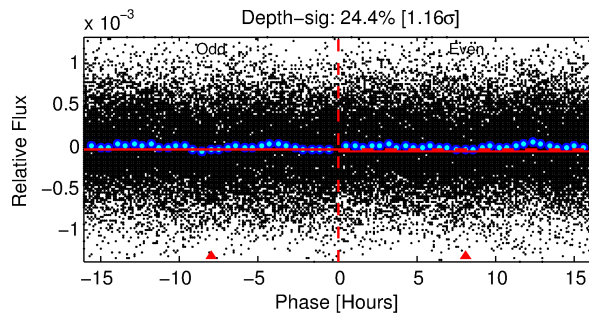
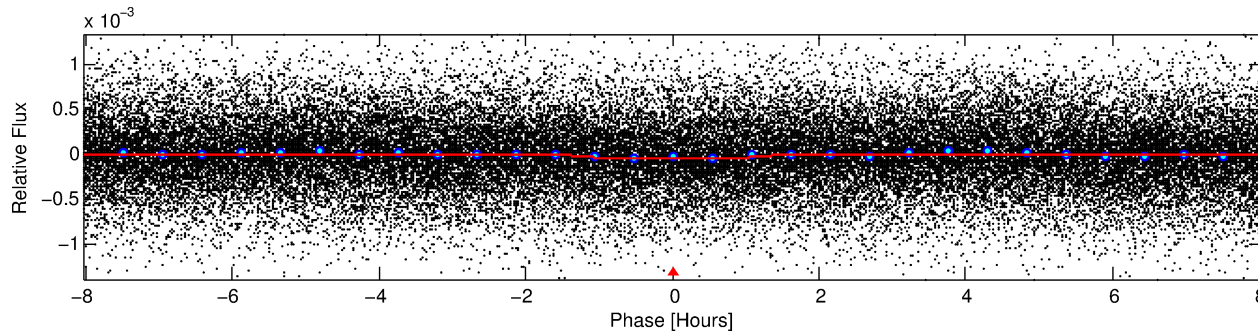
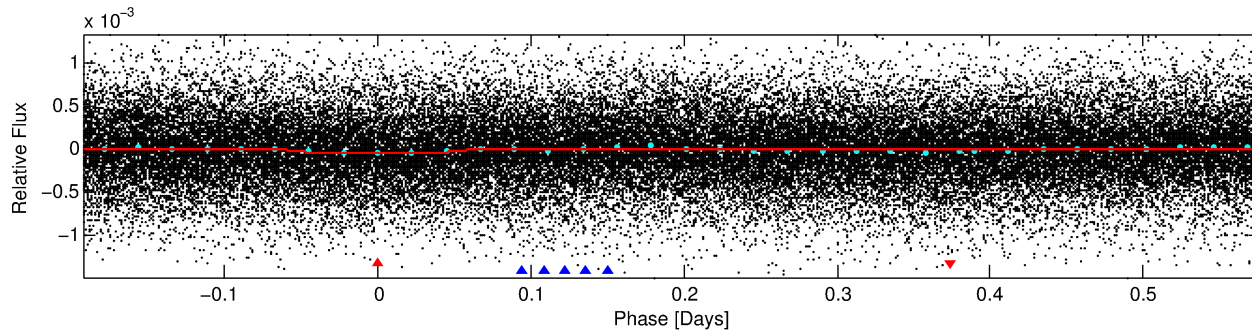
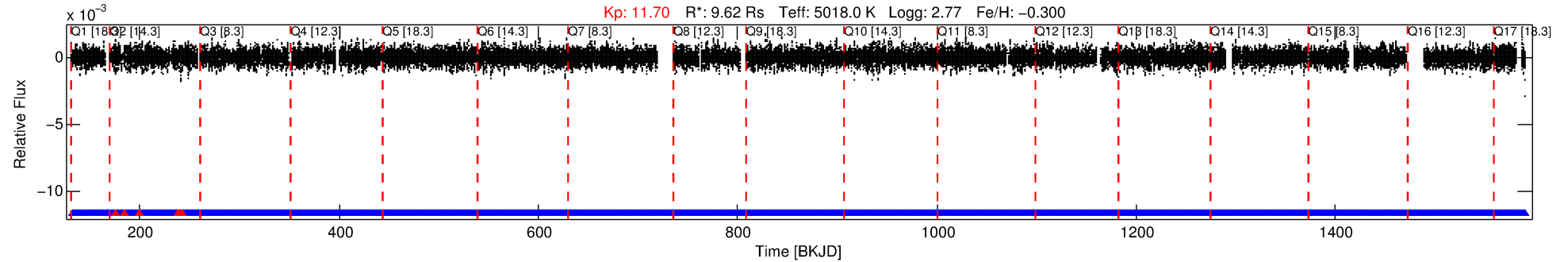
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010147918-01

No Significant Match Found

DV One-Page Summary

KIC: 10147918 Candidate: 1 of 2 Period: 0.770 d



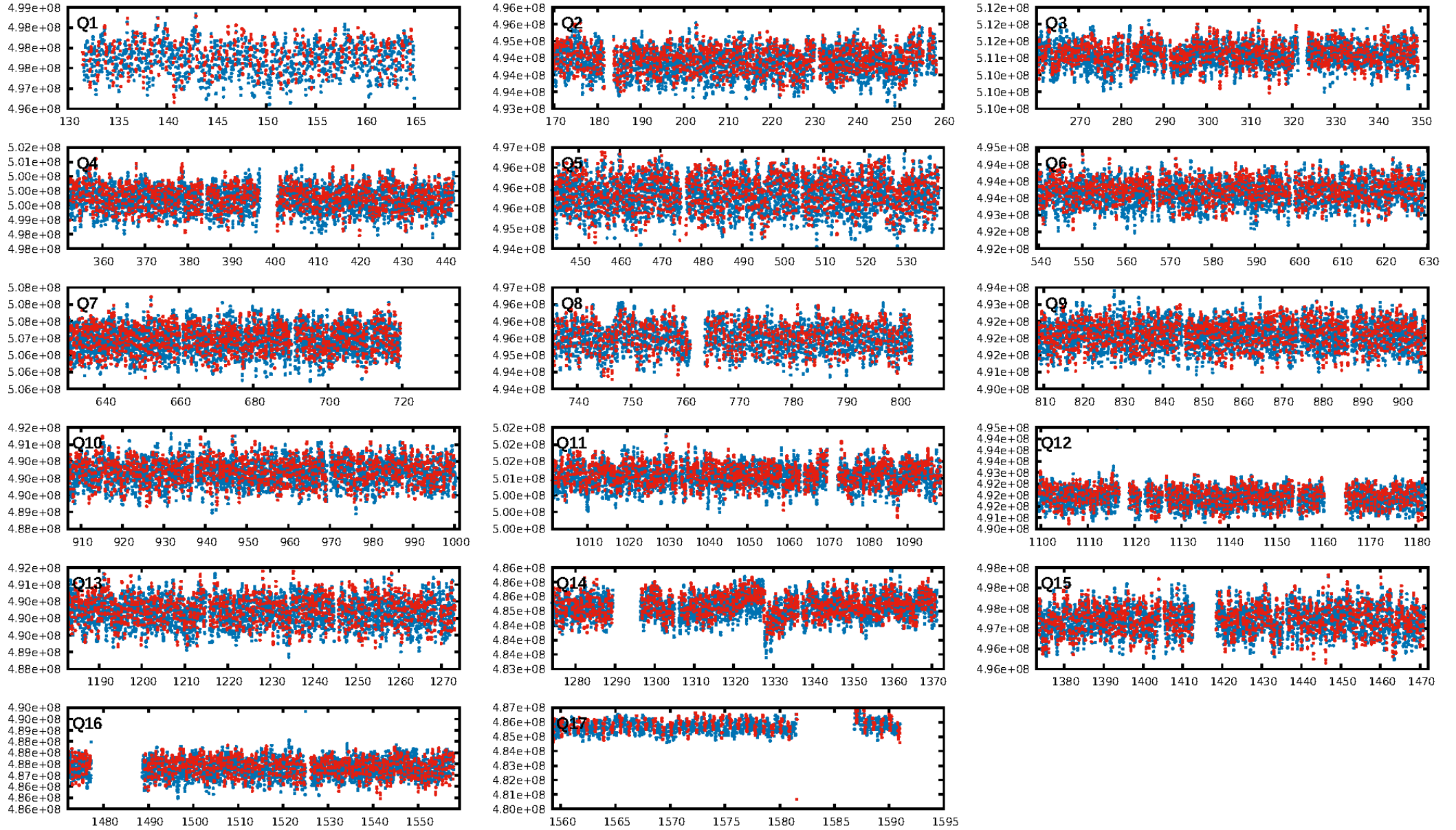
DV Fit Results:

Period = 0.76972 [0.00001] d
Epoch = 132.2640 [0.0011] BKJD
Rp/R* = 0.0069 [0.0013]
a/R* = 1.54 [0.68]
b = 0.83 [0.29]
Seff = N/A
Teq = N/A
Rp = 7.19 [3.98] Re
a = N/A
Ag = N/A
Teffp = N/A

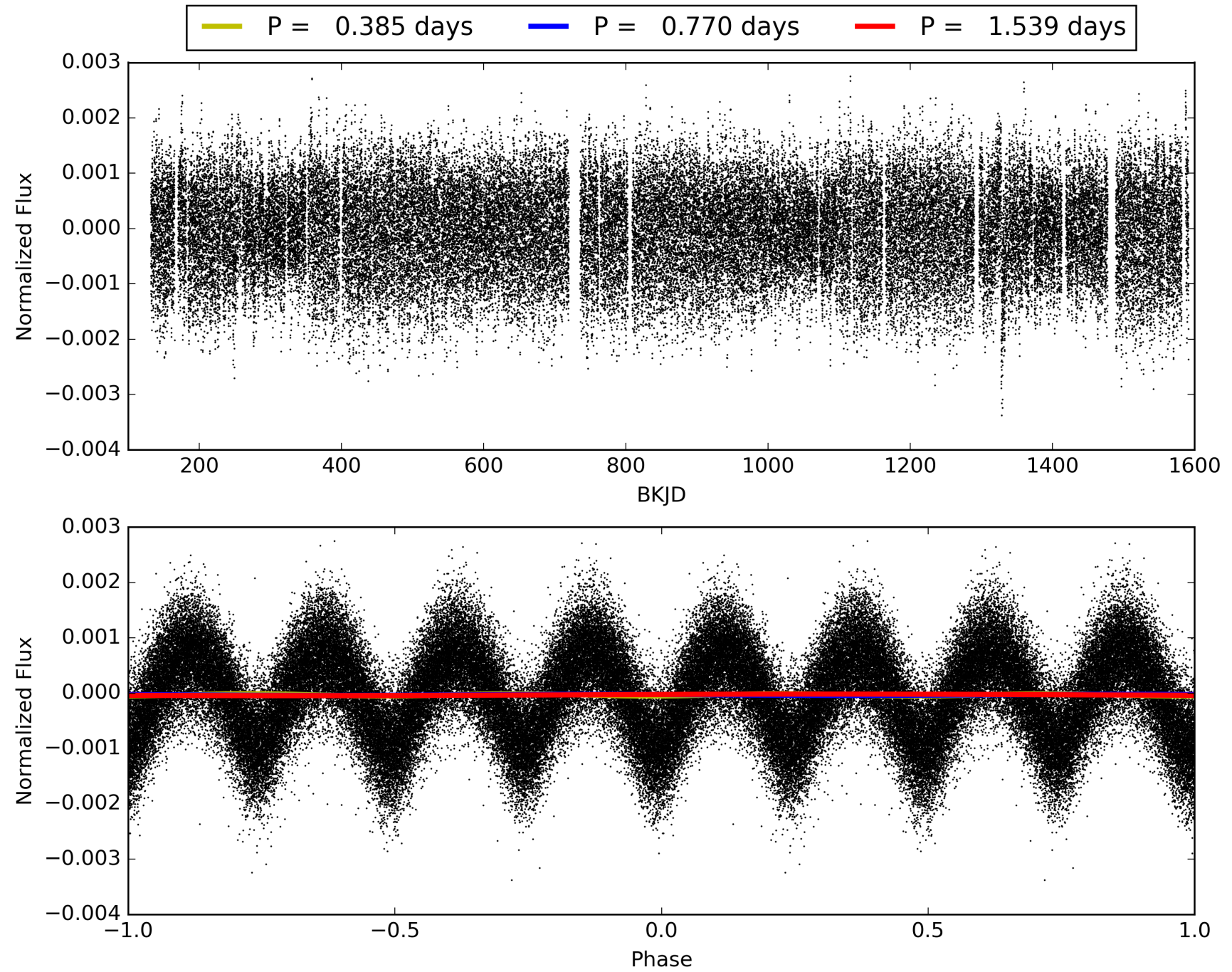
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [462.05 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.32e-18
RollingBand-fgt: 1.00 [1656/1662]
GhostDiagnostic-chr: -0.1517
Centroid-sig: 4.4%
Centroid-so: 0.281 arcsec [1.00 σ]
OotOffset-rm: 2.813 arcsec [29.07 σ]
KicOffset-rm: 2.830 arcsec [29.55 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]

TCE 010147918-01, PDC Light Curves

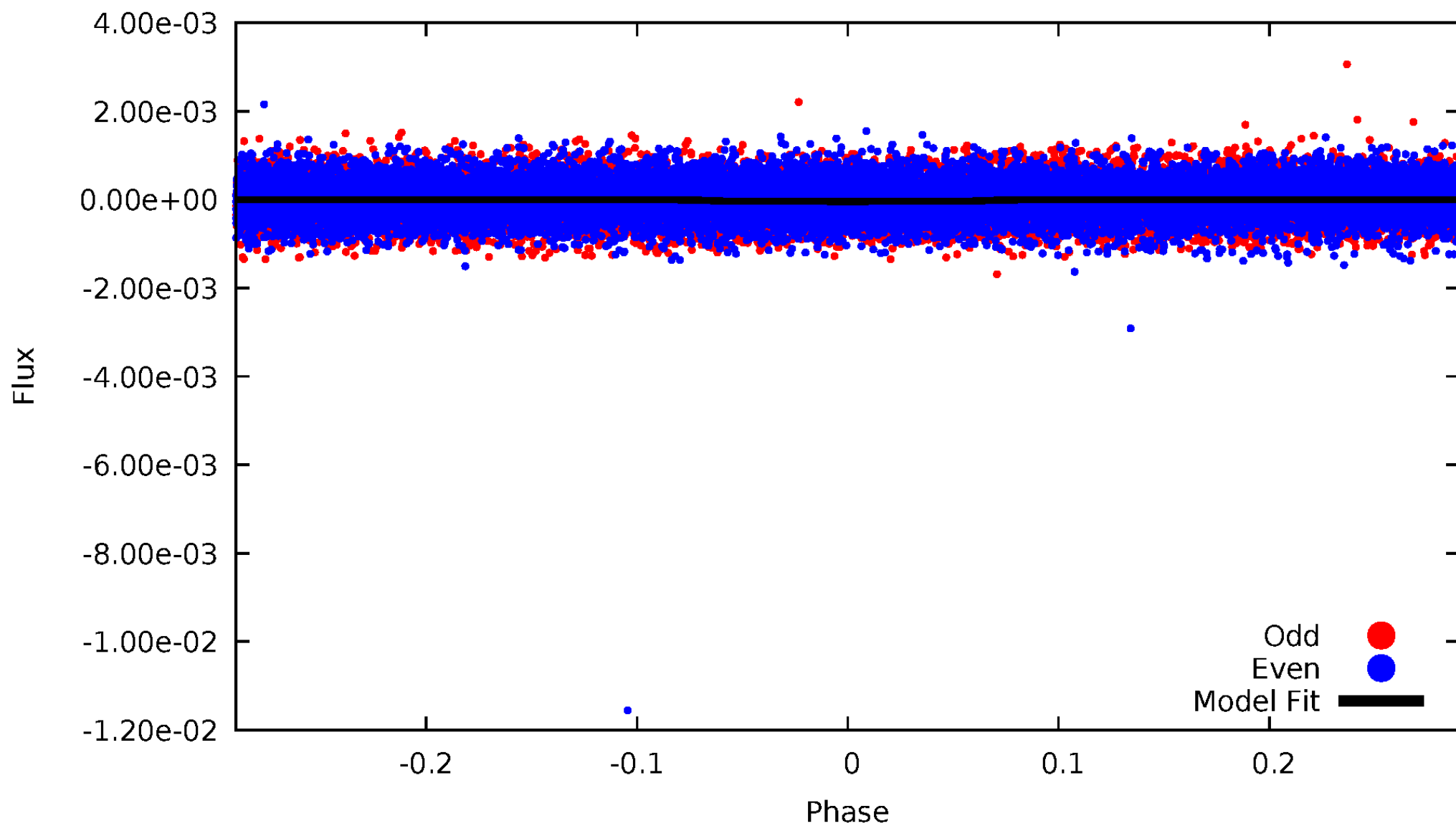


TCE 010147918-01



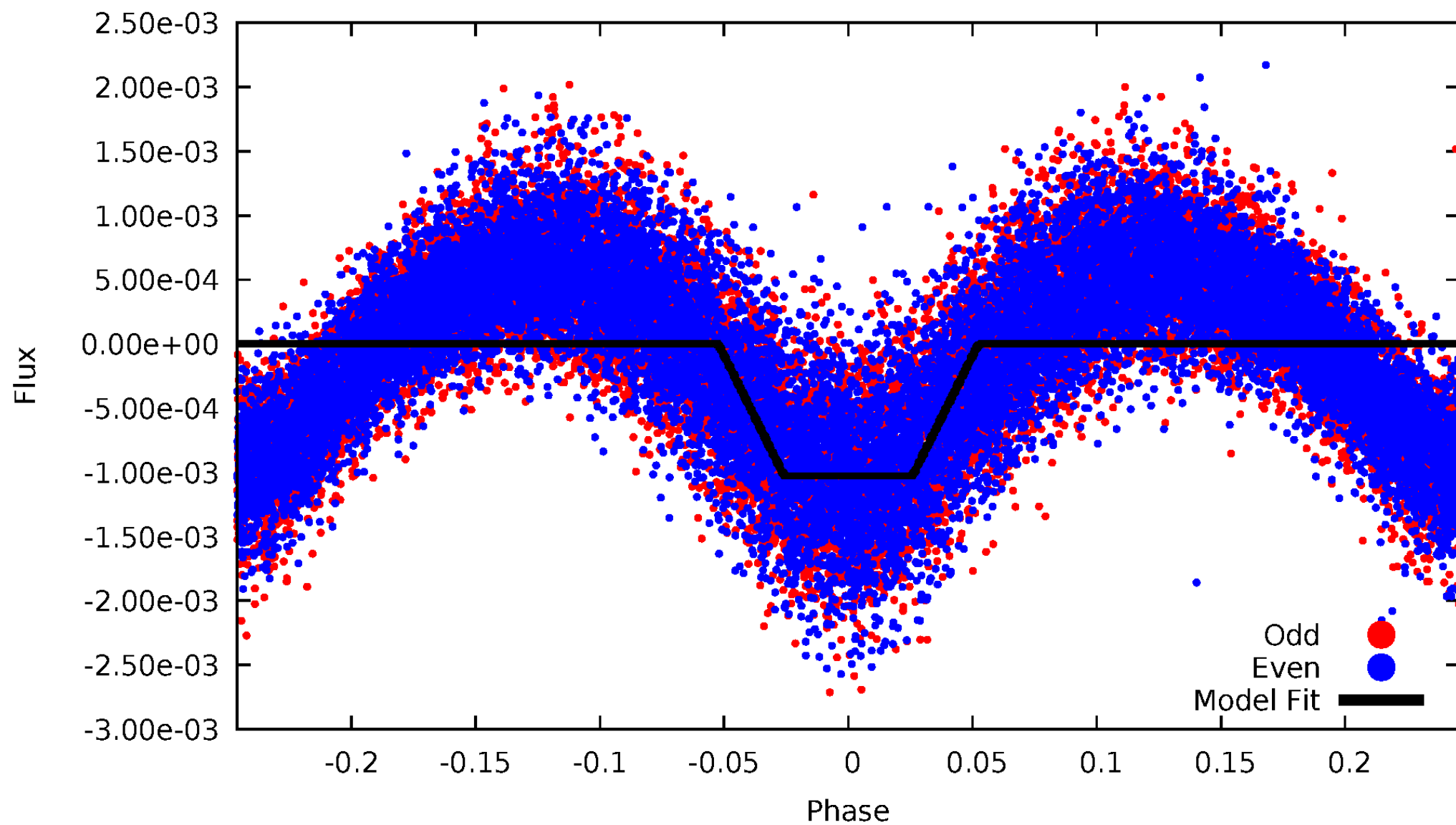
DV Odd/Even

TCE 010147918-01



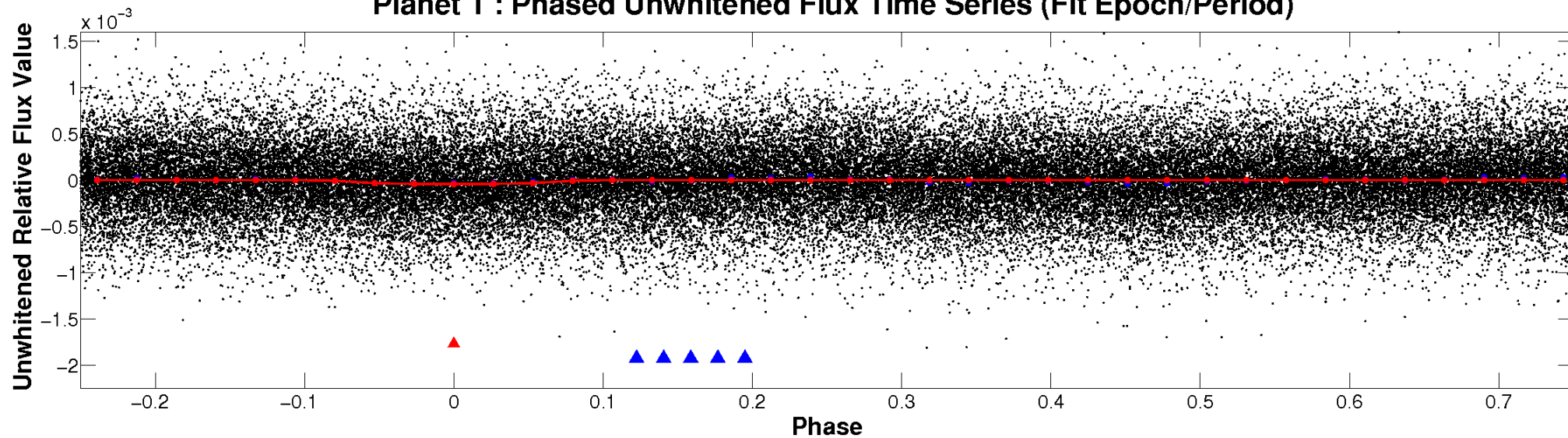
ALT Odd/Even

TCE 010147918-01

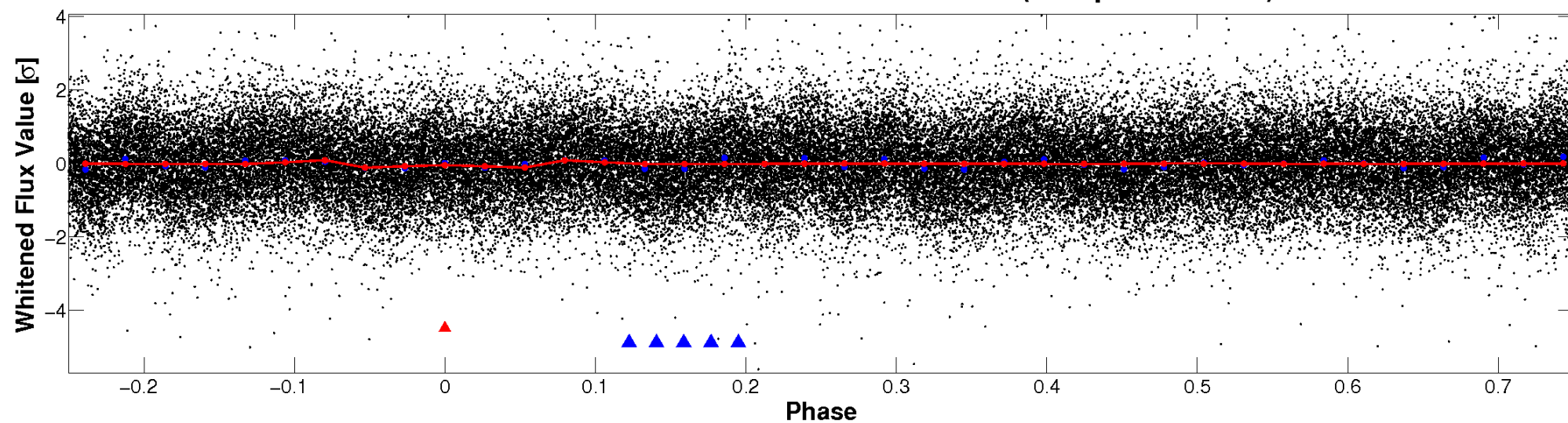


Non-Whitened Vs. Whitened Light Curve

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

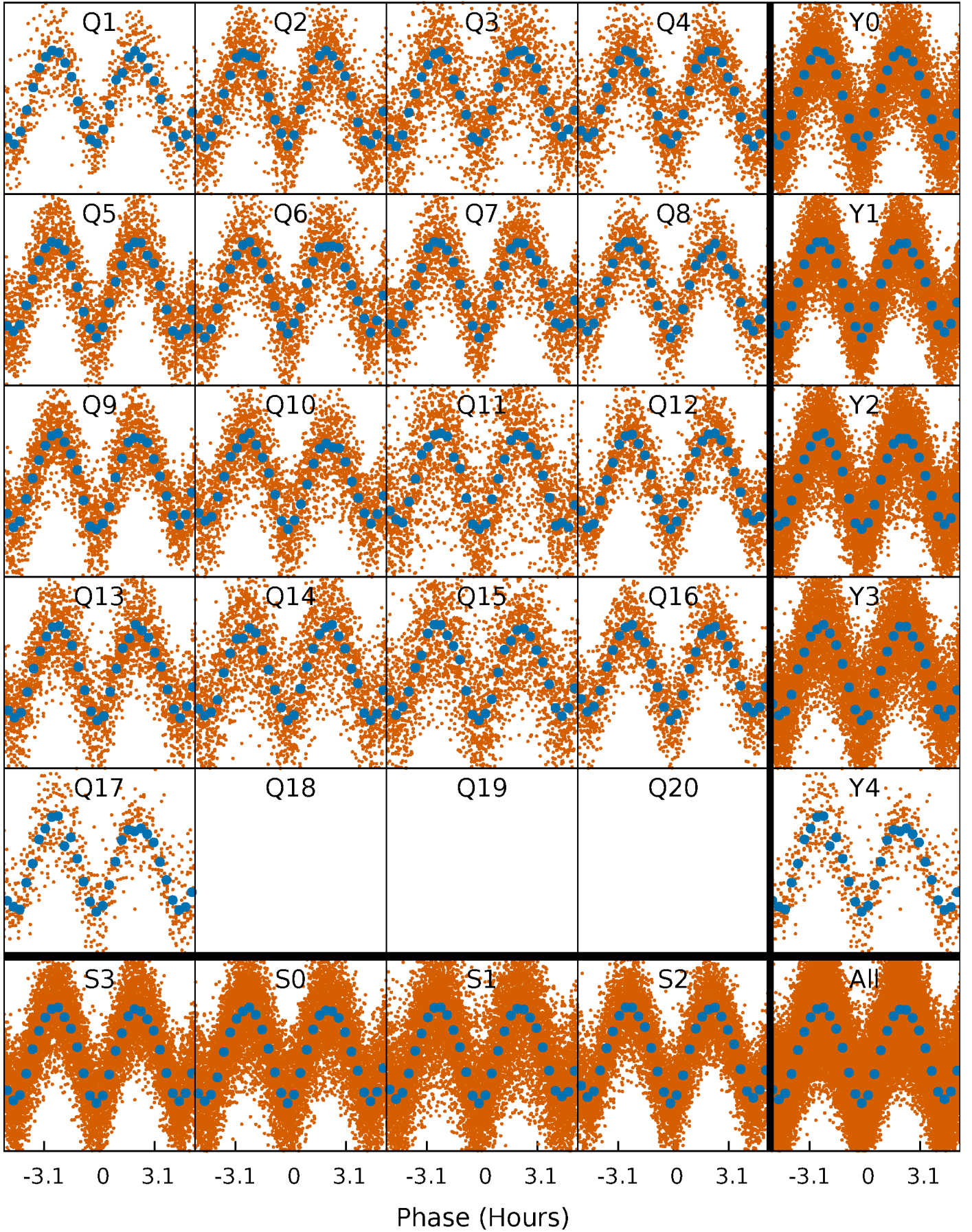


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



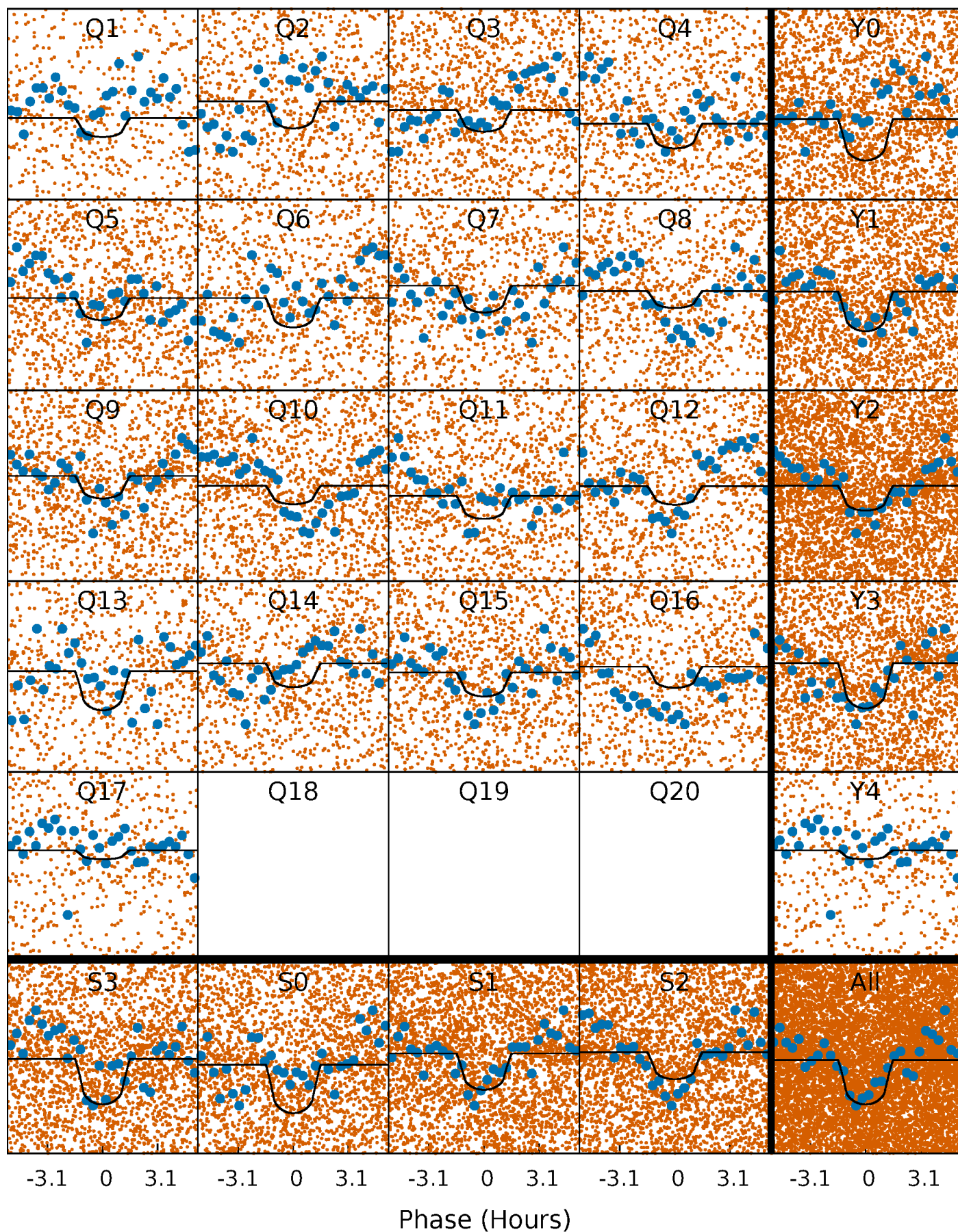
PDC Quarter-Phased Transit Curves

TCE 010147918-01 P= 0.769717 Days $T_0=132.264040$ (BKJD)



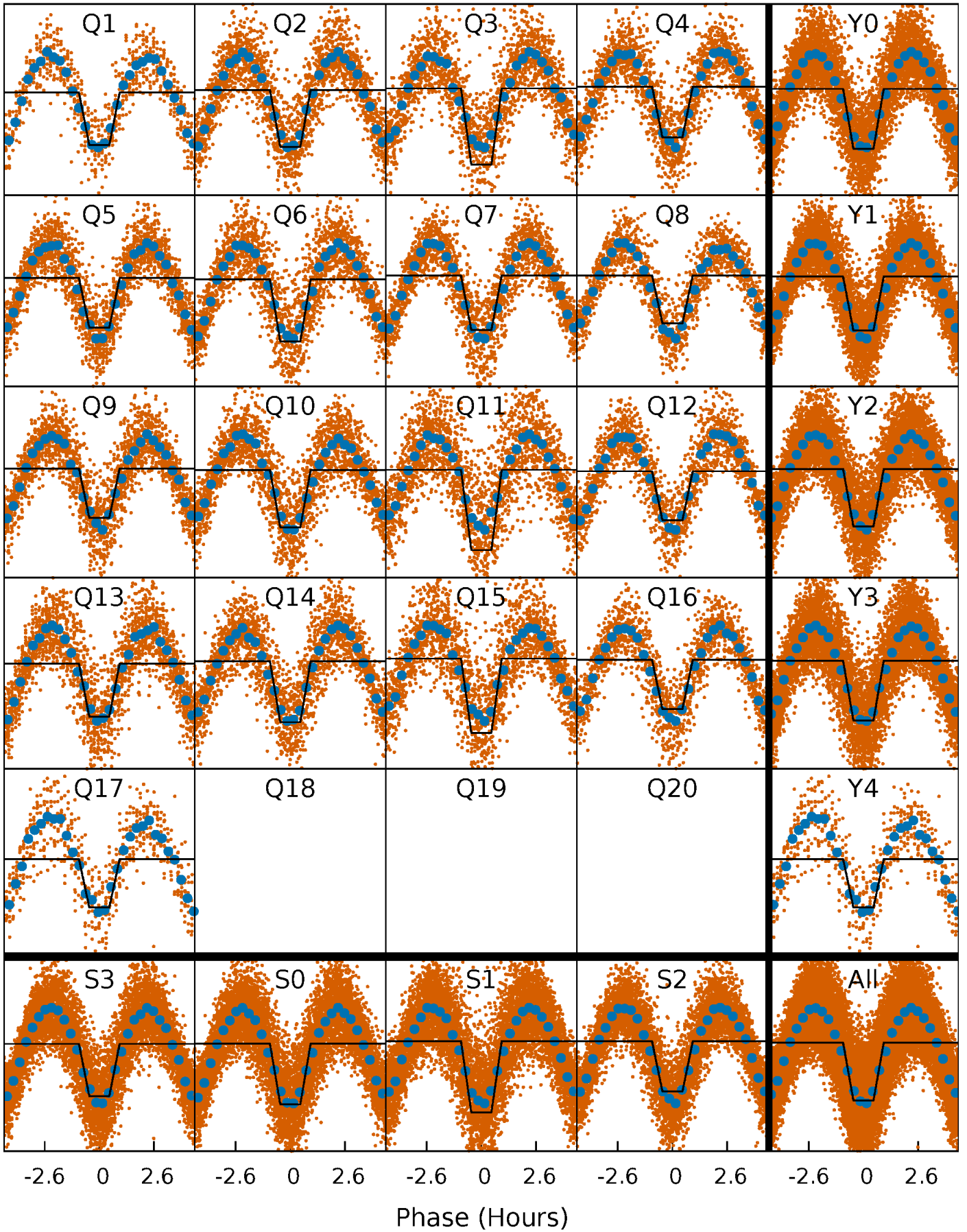
DV Quarter-Phased Transit Curves

TCE 010147918-01 P= 0.769717 Days $T_0=132.264040$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

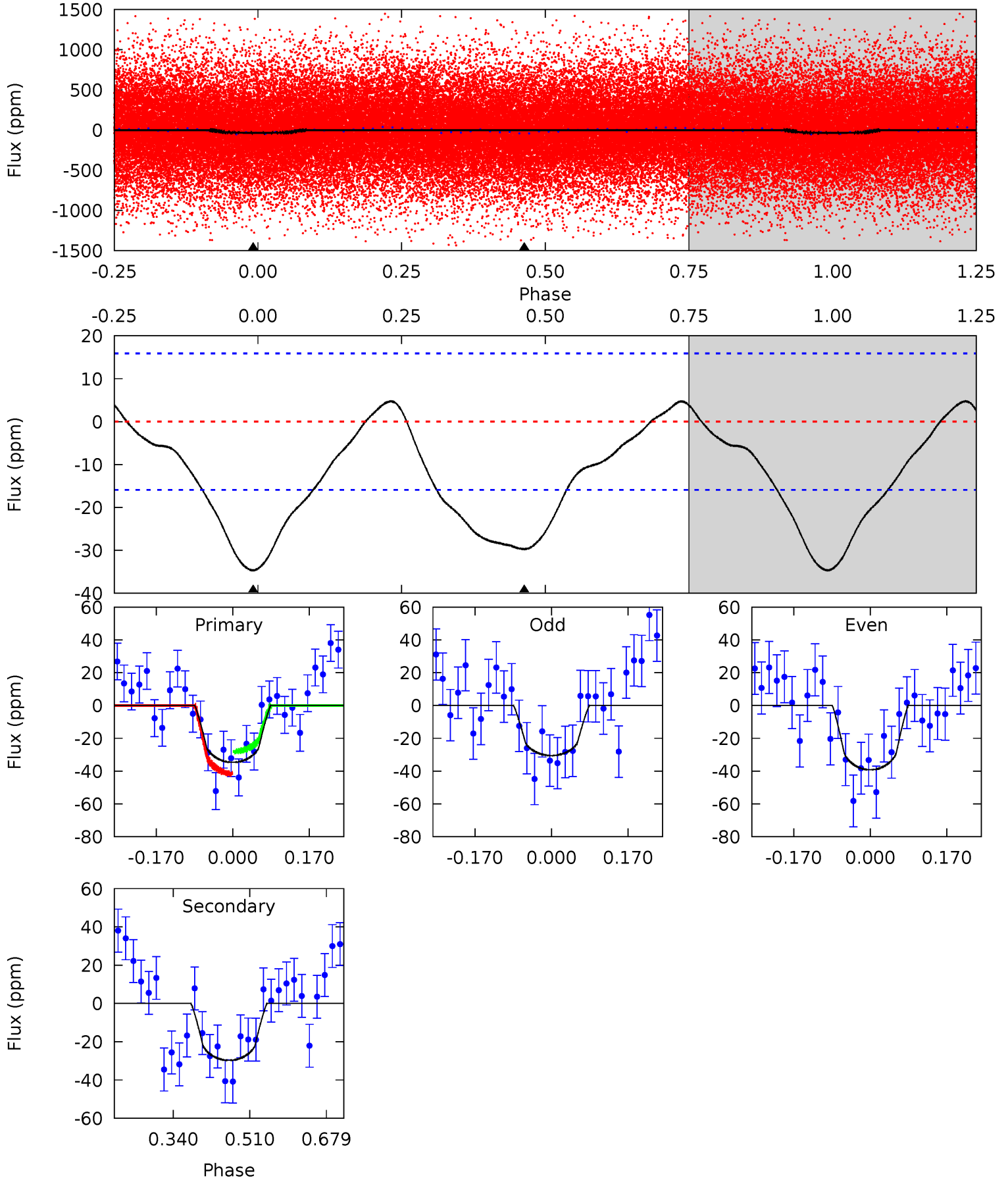
TCE 010147918-01 P= 0.769719 Days $T_0=132.255144$ (BKJD)



DV Model-Shift Uniqueness Test

010147918-01, P = 0.769717 Days, E = 131.494323 Days

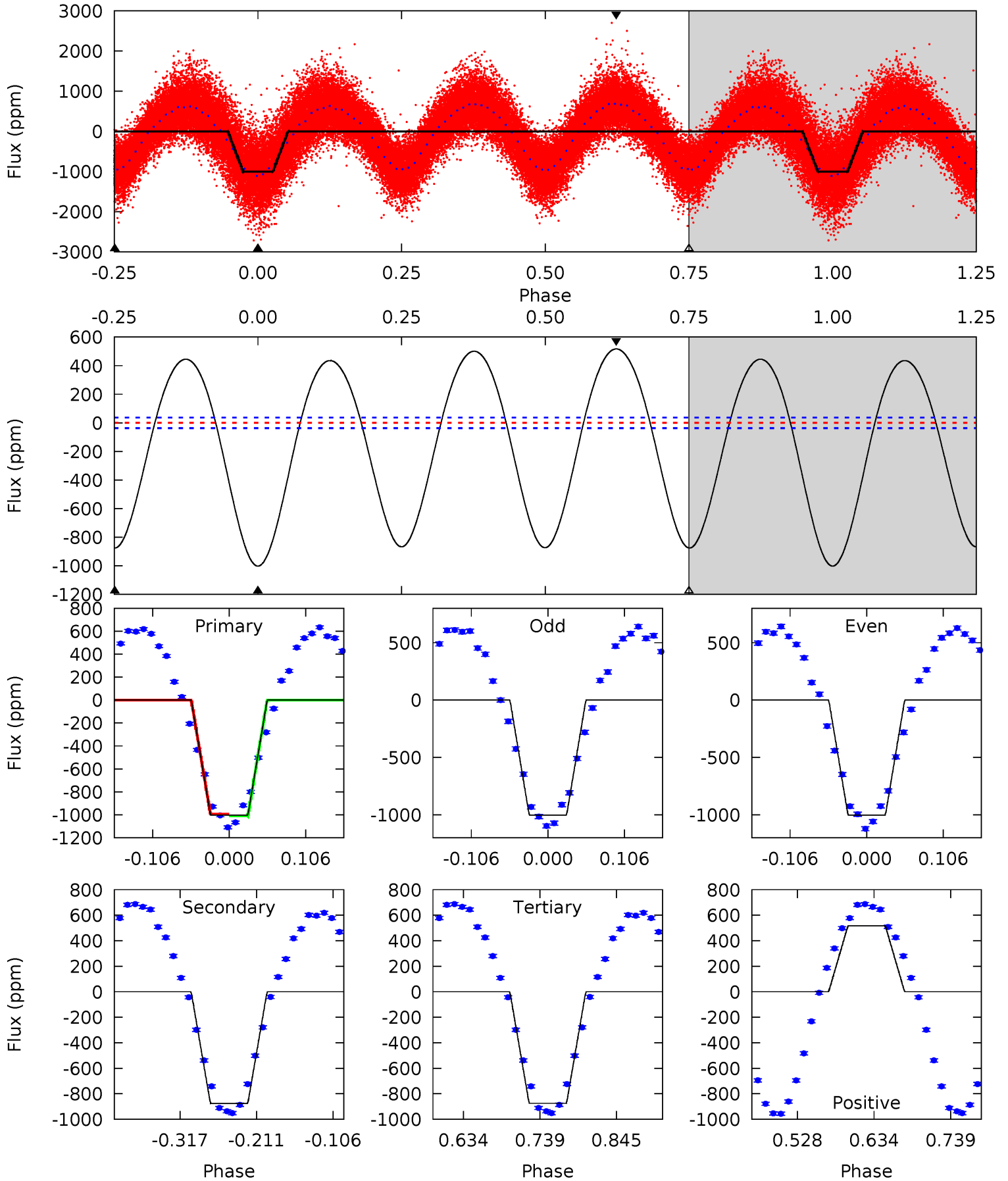
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.71	8.32	0	0	4.45	1.37	1.04	9.71	9.71	8.32	8.32	1.22	0.89	0.12	1.90



Alt Model-Shift Uniqueness Test

010147918-01, P = 0.769719 Days, E = 131.485425 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
122.5	107.0	107.0	63.2	4.55	1.62	59.5	15.5	59.3	0.04	43.8	0.03	1.00	0.34	1.00



Stellar Parameters For KIC 010147918

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5018^{+101}_{-152}	$2.769^{+0.468}_{-0.252}$	$-0.300^{+0.250}_{-0.250}$	$9.618^{+3.319}_{-4.979}$	$1.984^{+0.904}_{-0.995}$	$0.003^{+0.016}_{-0.002}$
	+2%/-3%	+17%/-9%	+83%/-83%	+35%/-52%	+46%/-50%	+497%/-65%
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 010147918-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 4	$7.07^{+2.40}_{-2.11}$	6637^{+715}_{-881}	-4627^{+1561}_{-788}	$0.141^{+0.137}_{-0.060}$
Alt.	-875 ± 8	$33.87^{+8.05}_{-9.74}$	6584^{+694}_{-841}	-4327^{+7437}_{-813}	$0.193^{+0.134}_{-0.065}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

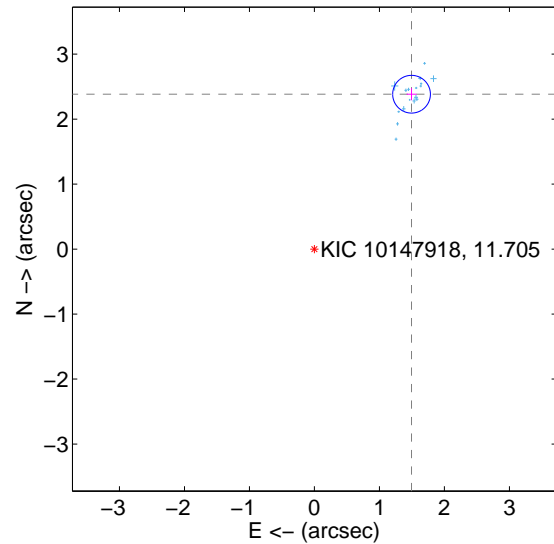
Supplemental centroid analysis for 010147918-01. **Kepler magnitude: 11.71.** Transit SNR 10.35

There are 17 quarters with good PRF difference image offsets

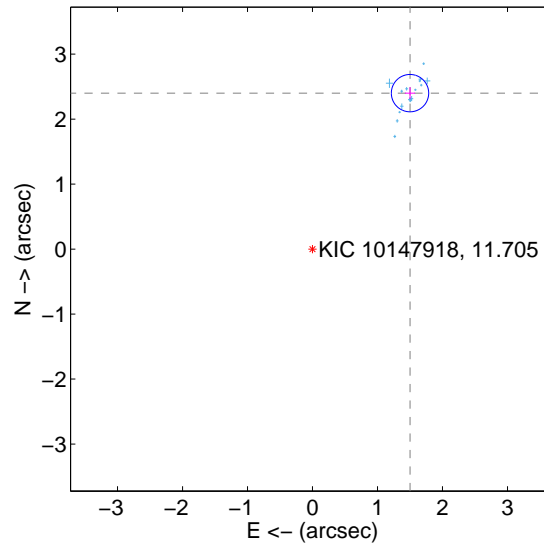
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.813 ± 0.097	29.07	-1.494 ± 0.077	2.383 ± 0.093
PRF-fit source offset from KIC position	2.830 ± 0.096	29.55	-1.500 ± 0.078	2.400 ± 0.090
photometric centroid source offset	0.28 ± 0.28	1.00	-0.16 ± 0.26	0.23 ± 0.29

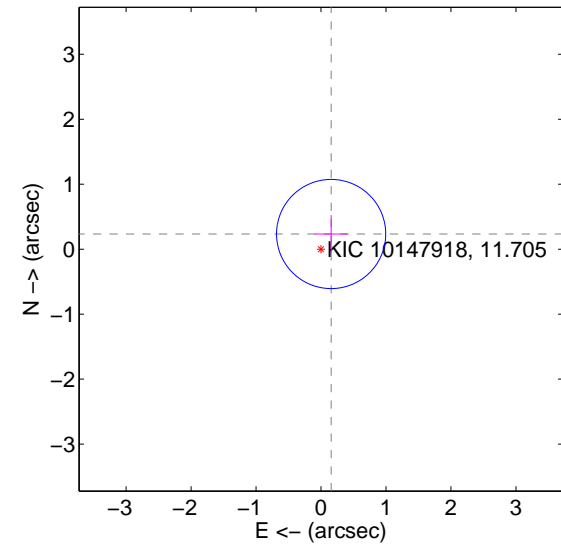
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

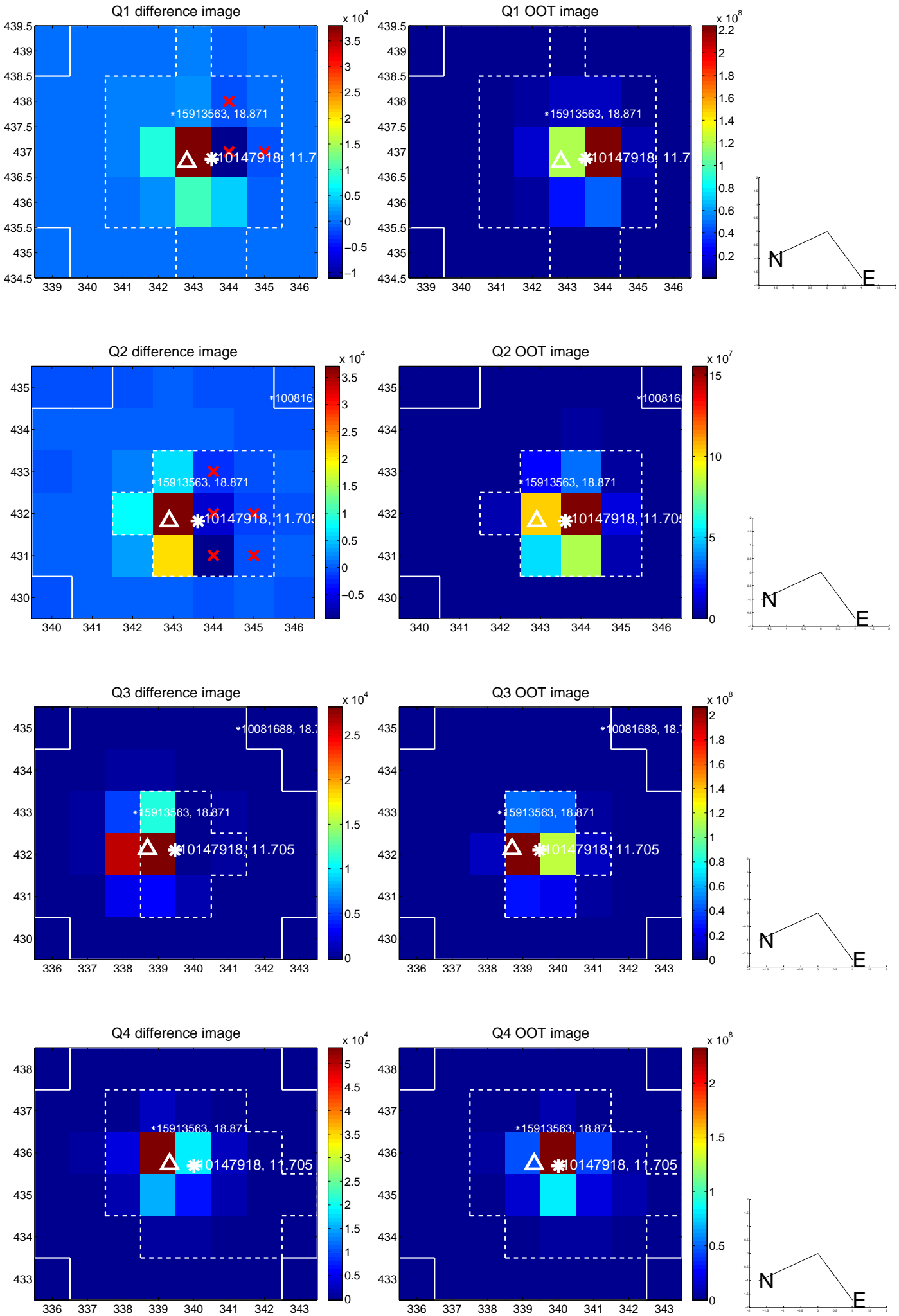


offset from photometric centroids

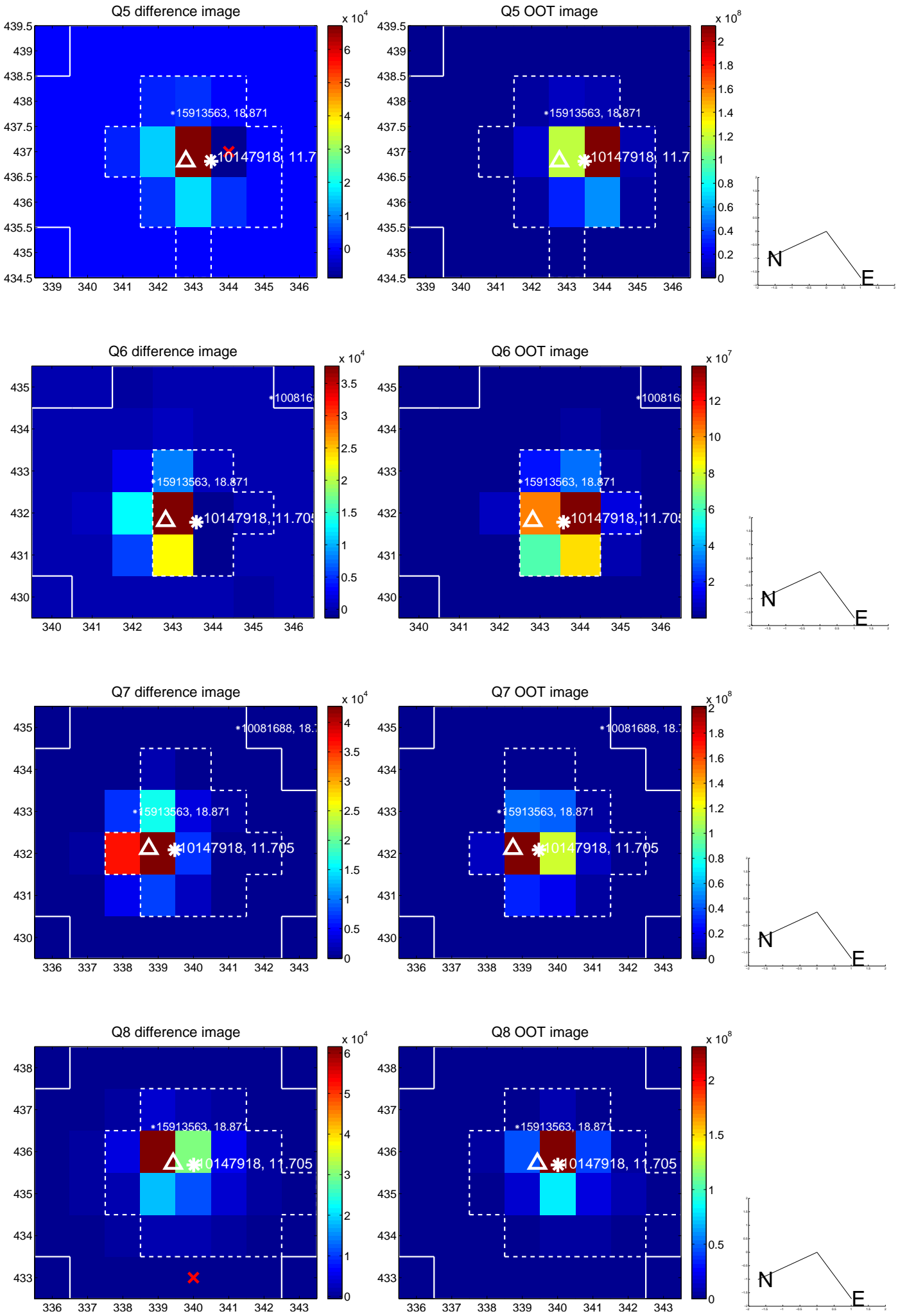


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

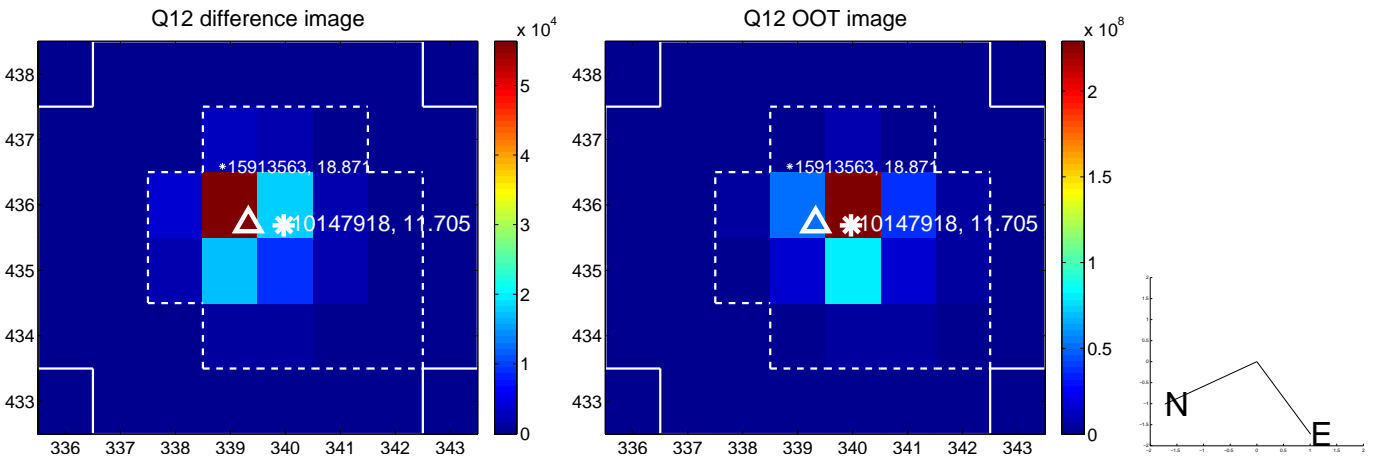
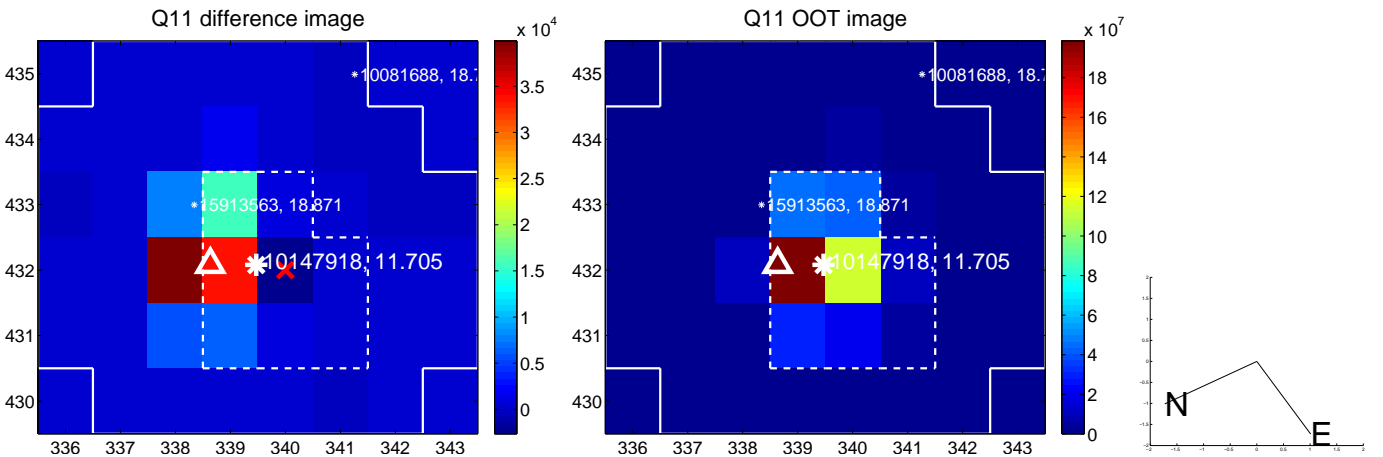
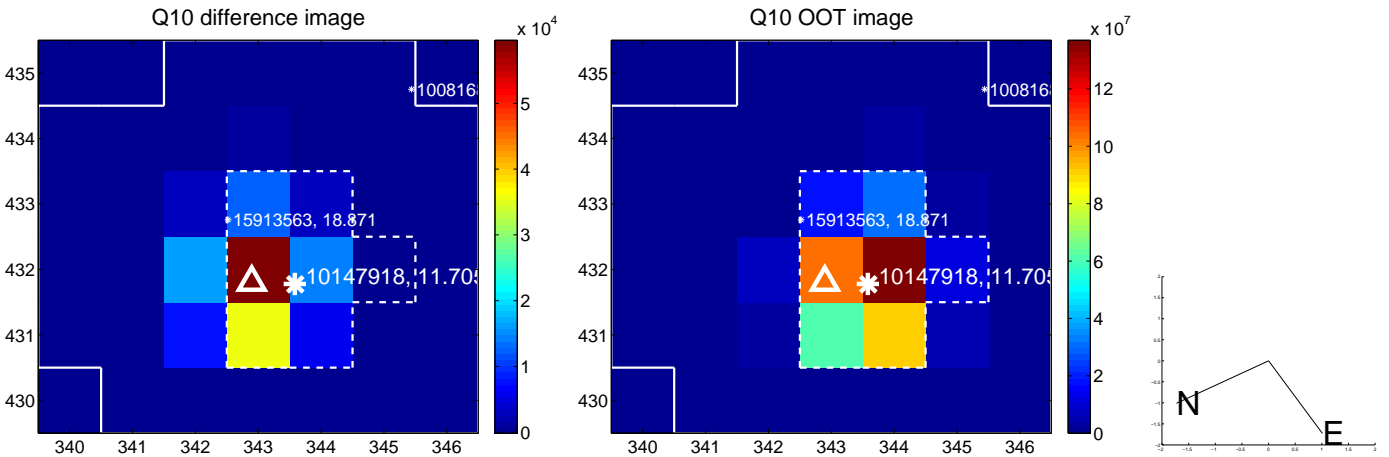
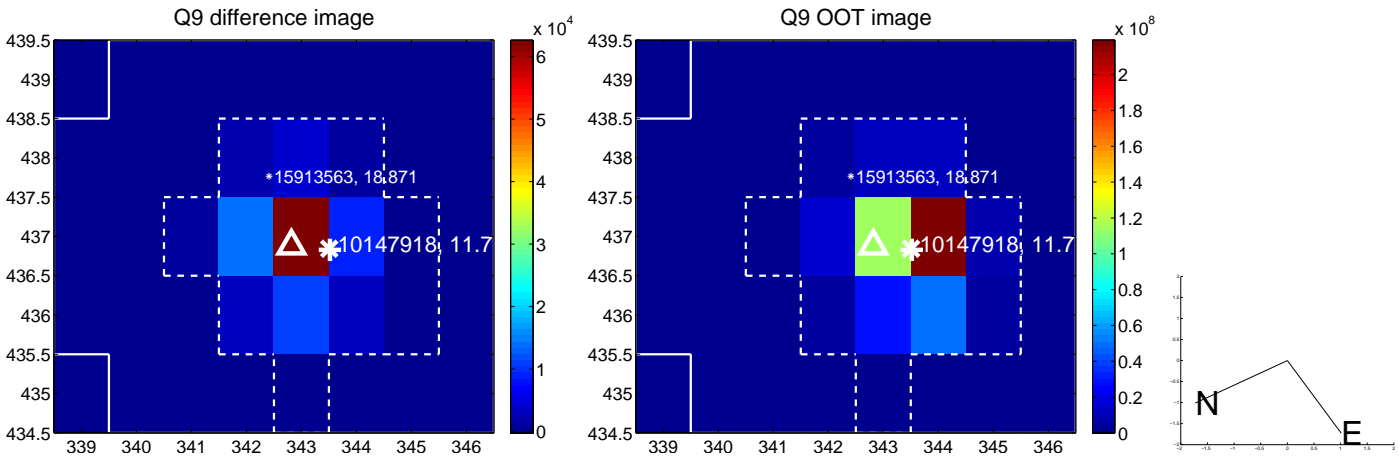
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



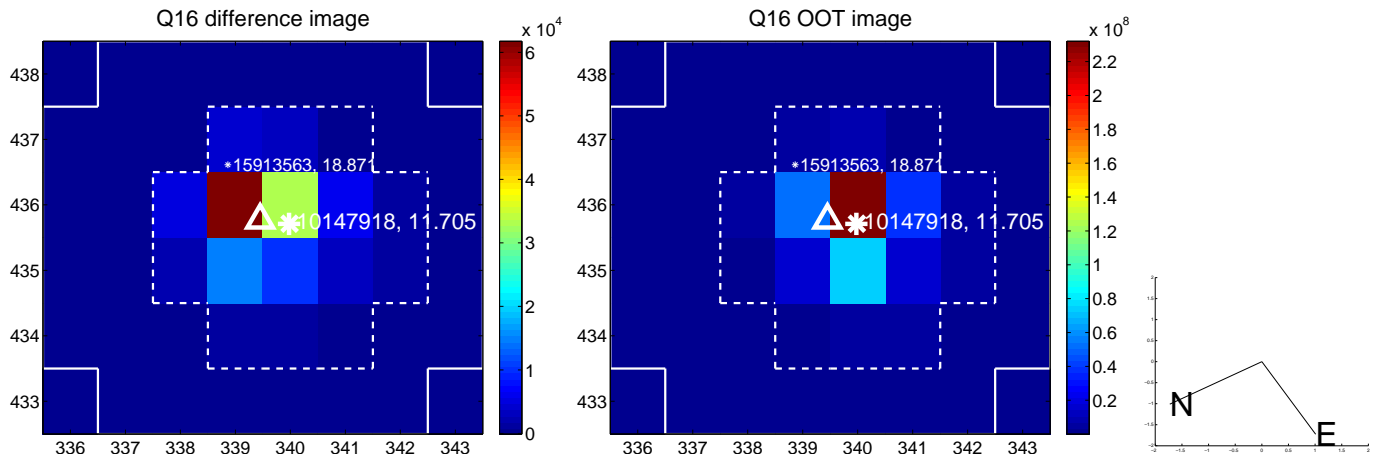
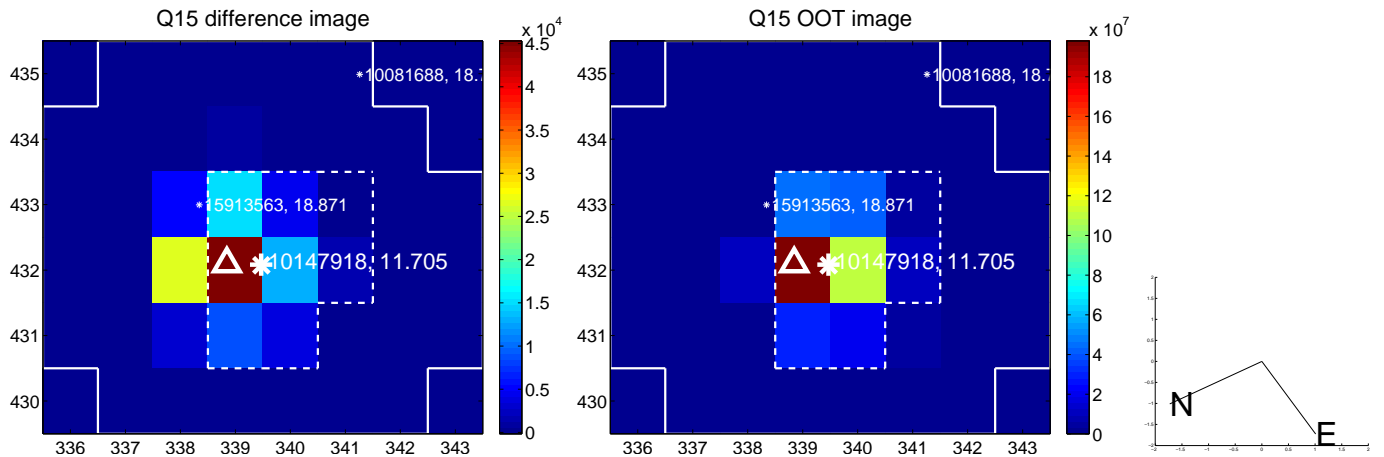
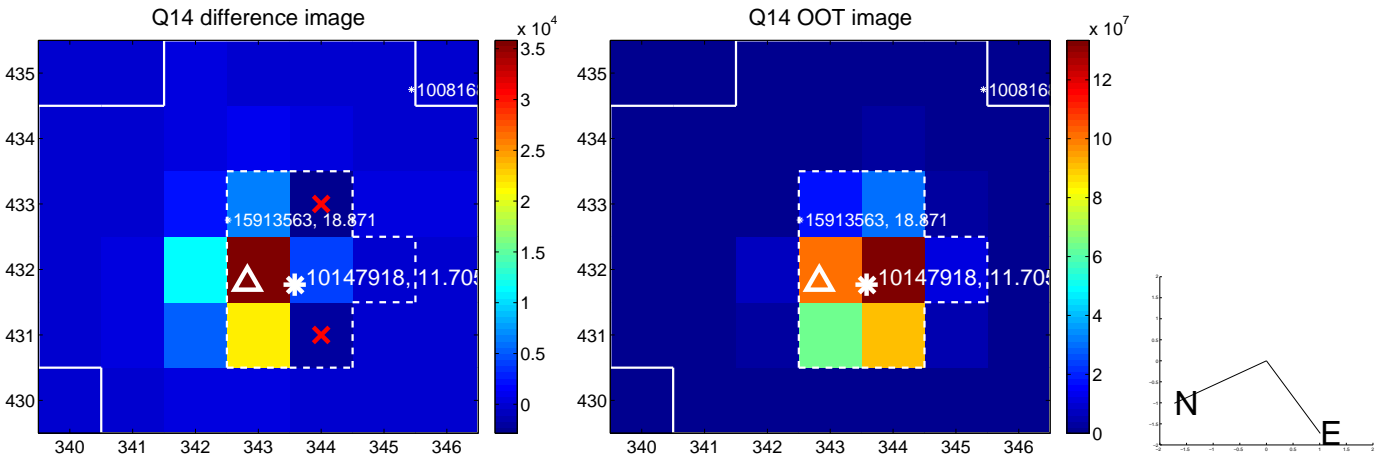
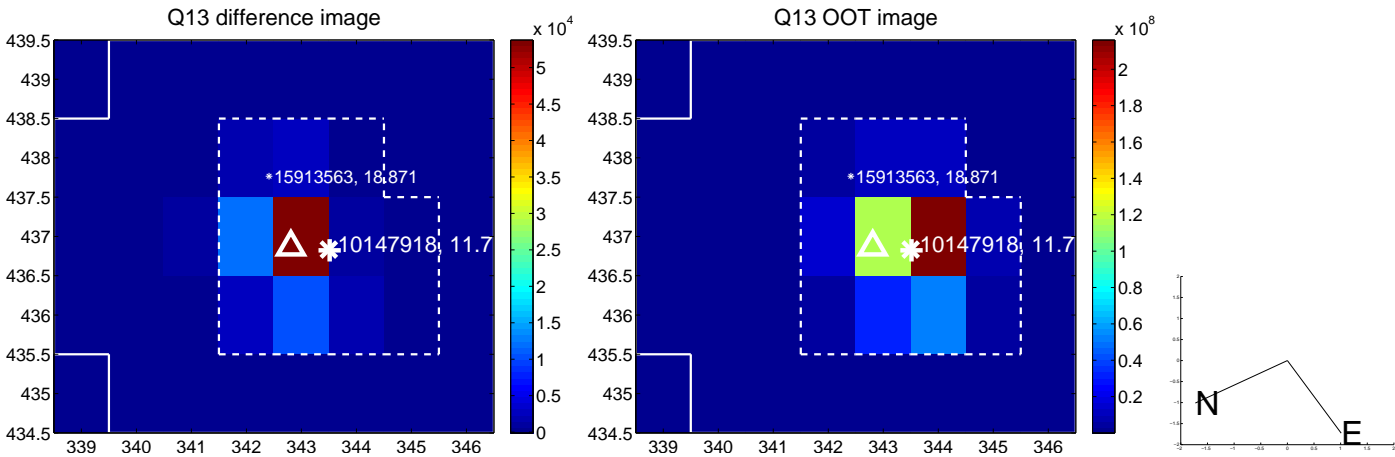
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



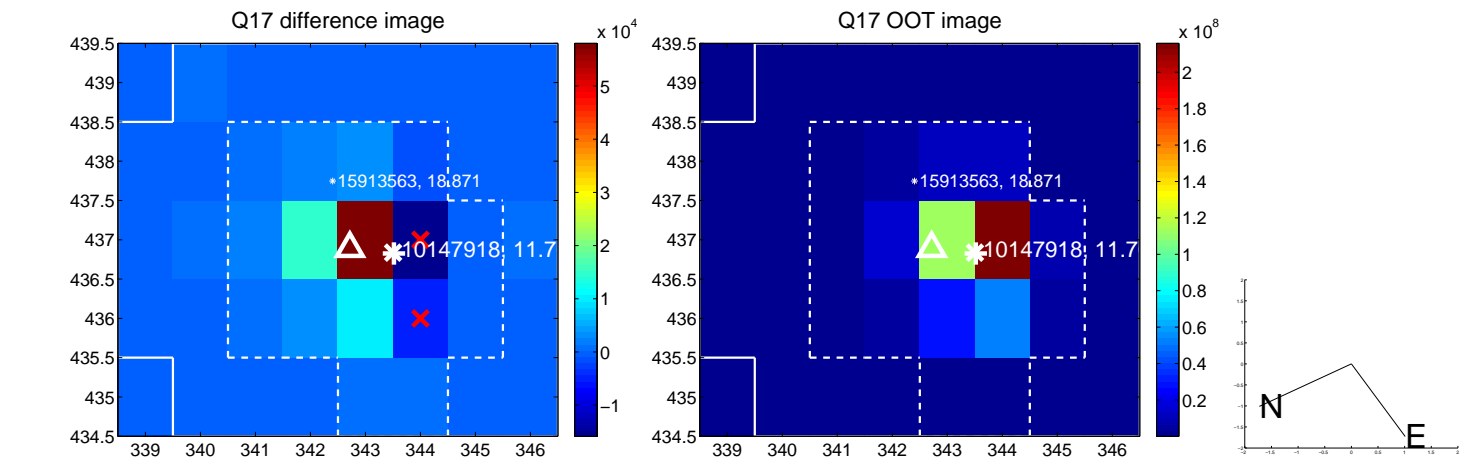
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



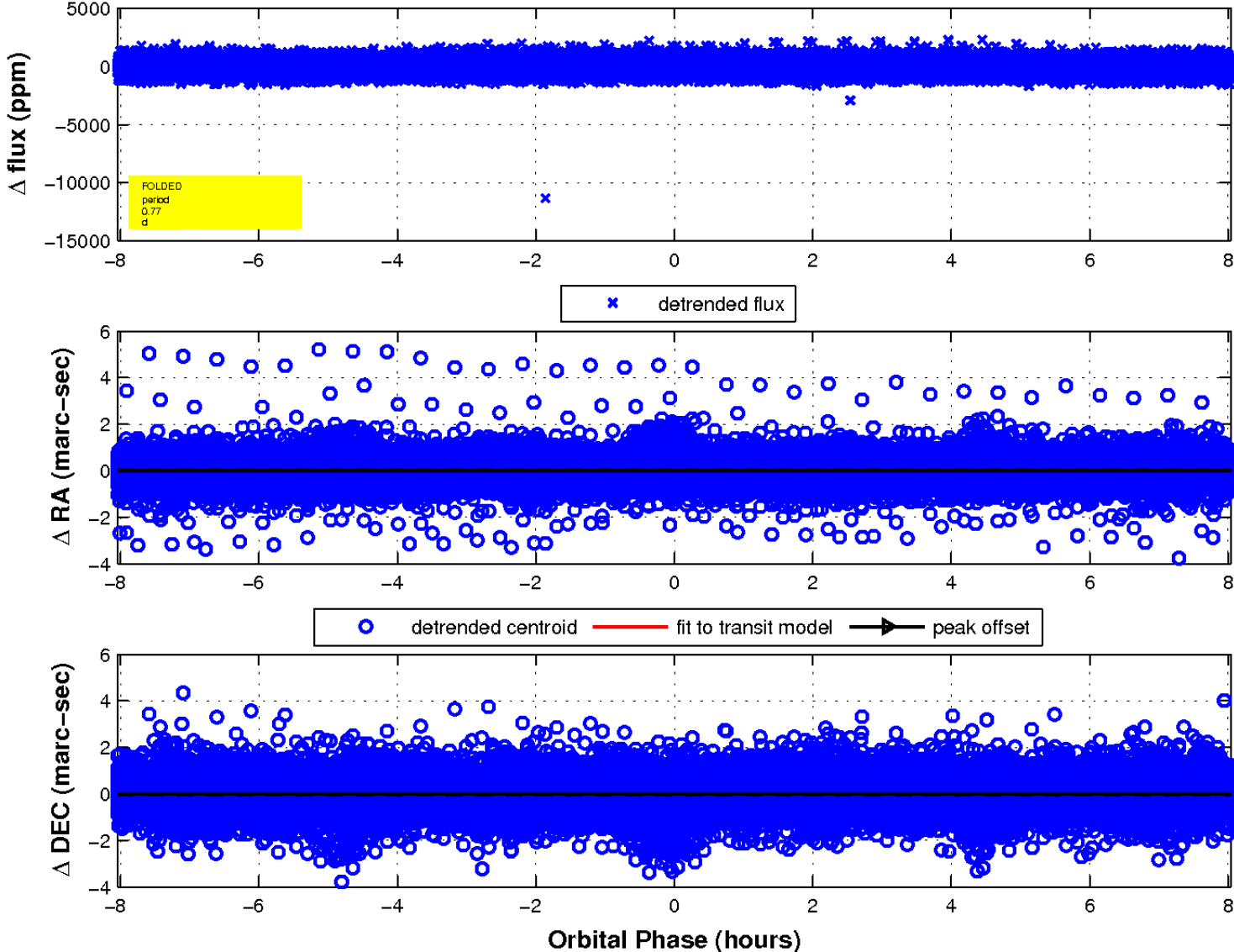
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



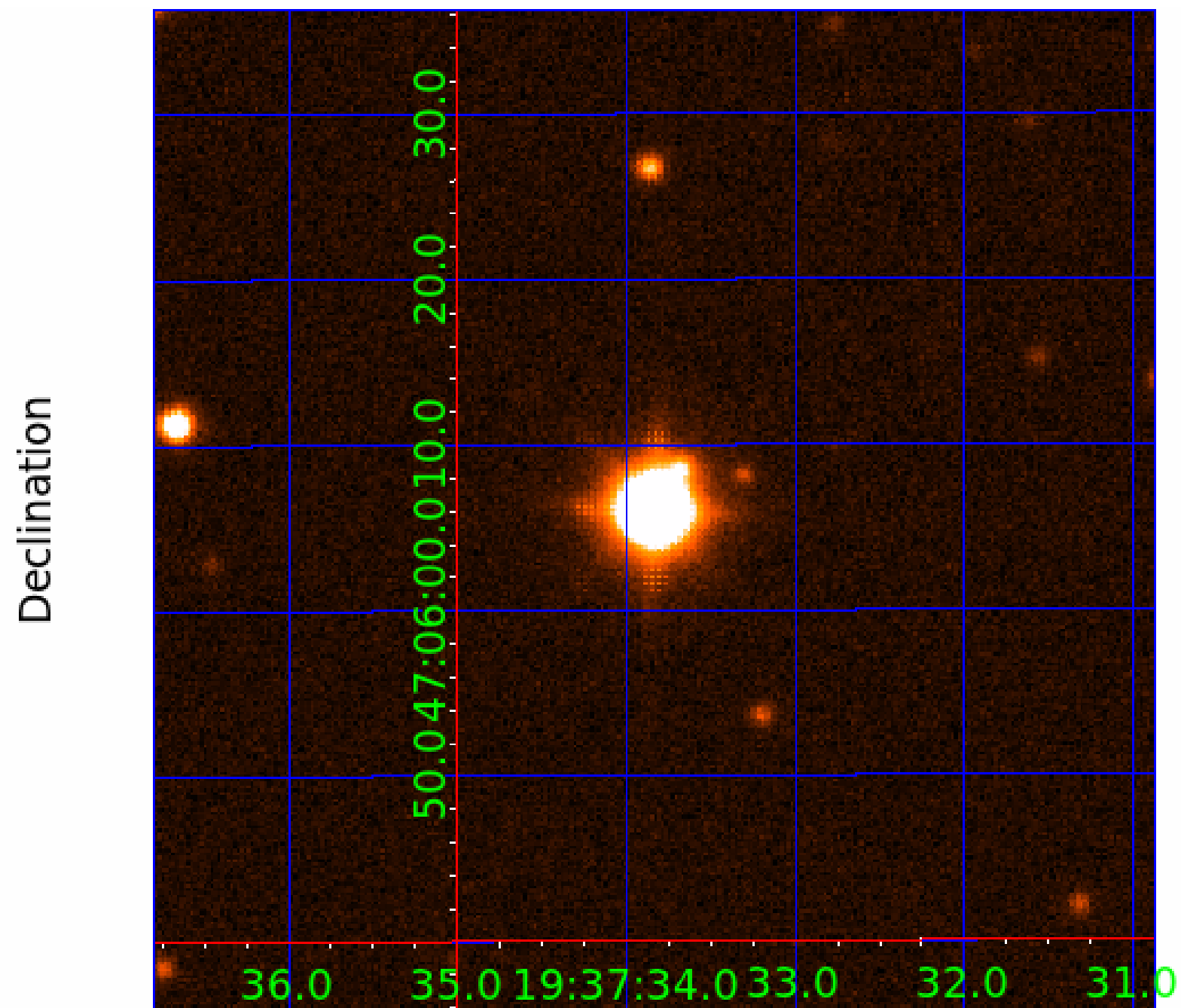
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 010147918

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})
010147918-01	OBS	No	0.769717	132.264040	43.0	2.680	9.7	10.3	9.62	5018	7.19	0.00
010147918-02	OBS	No	297.866448	240.944227	1637.5	15.197	8.0	7.9	9.62	5018	47.77	43.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010147918-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET—HALO_GHOST
010147918-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

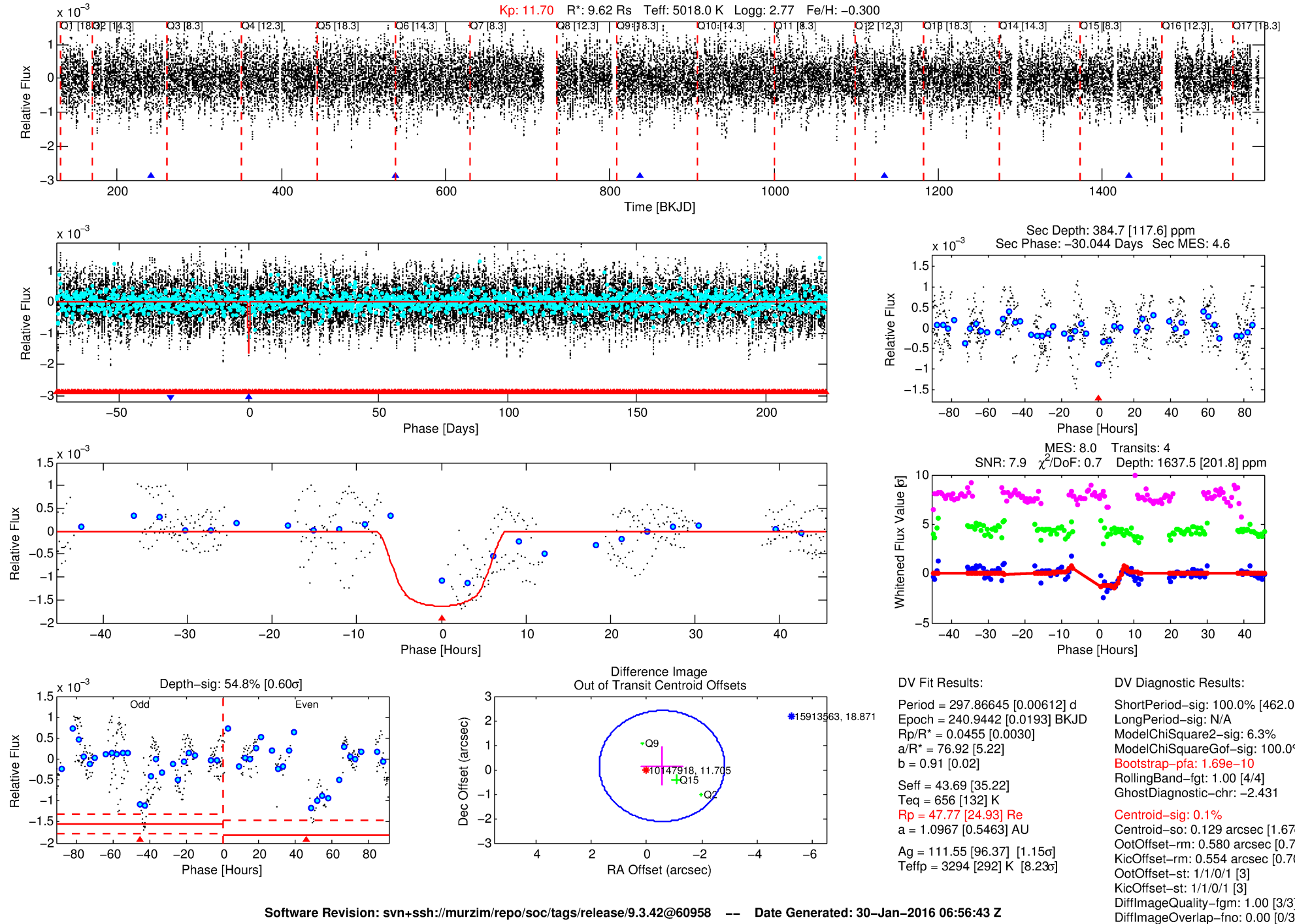
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010147918-02

No Significant Match Found

DV One-Page Summary

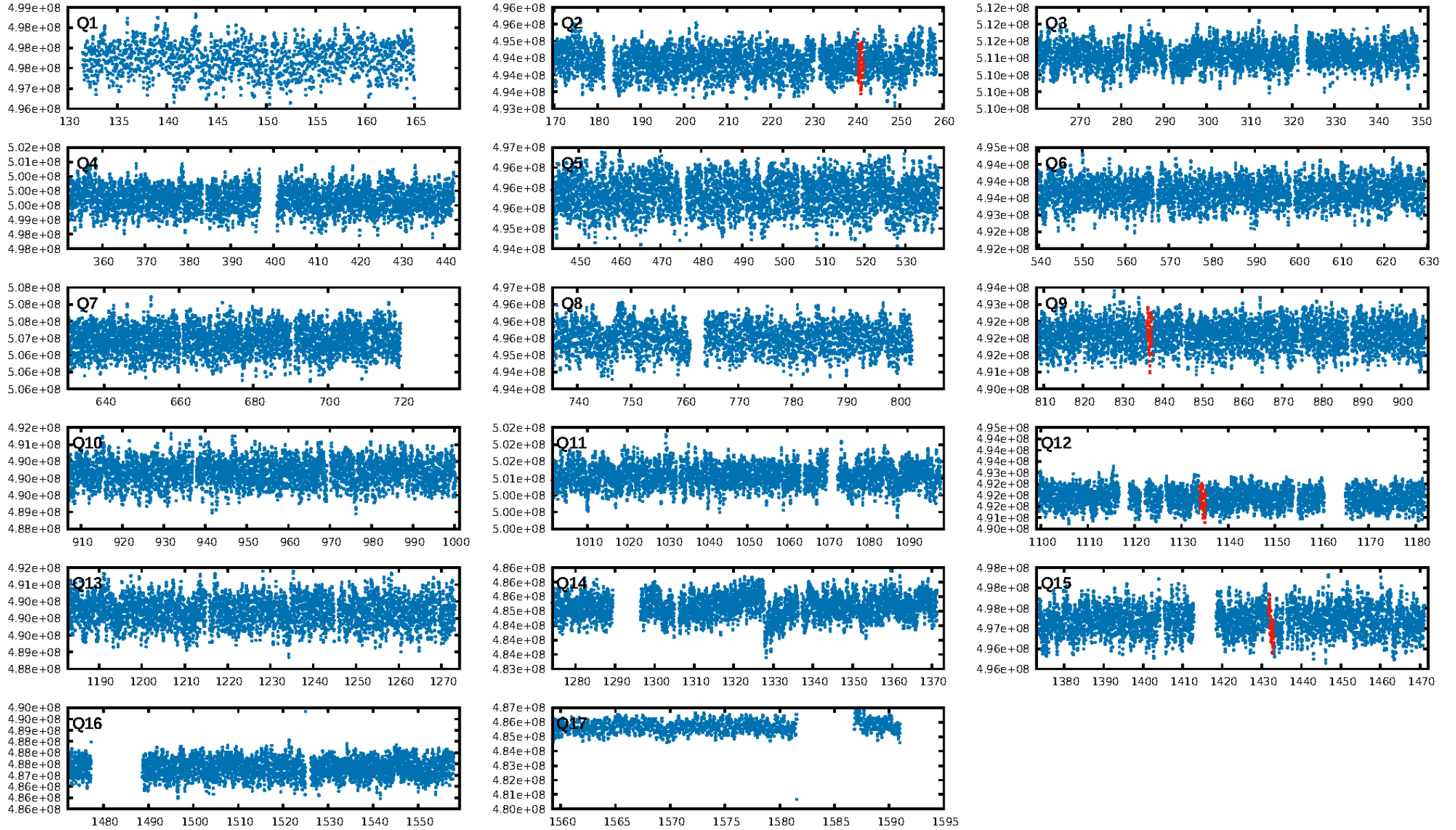
KIC: 10147918 Candidate: 2 of 2 Period: 297.866 d



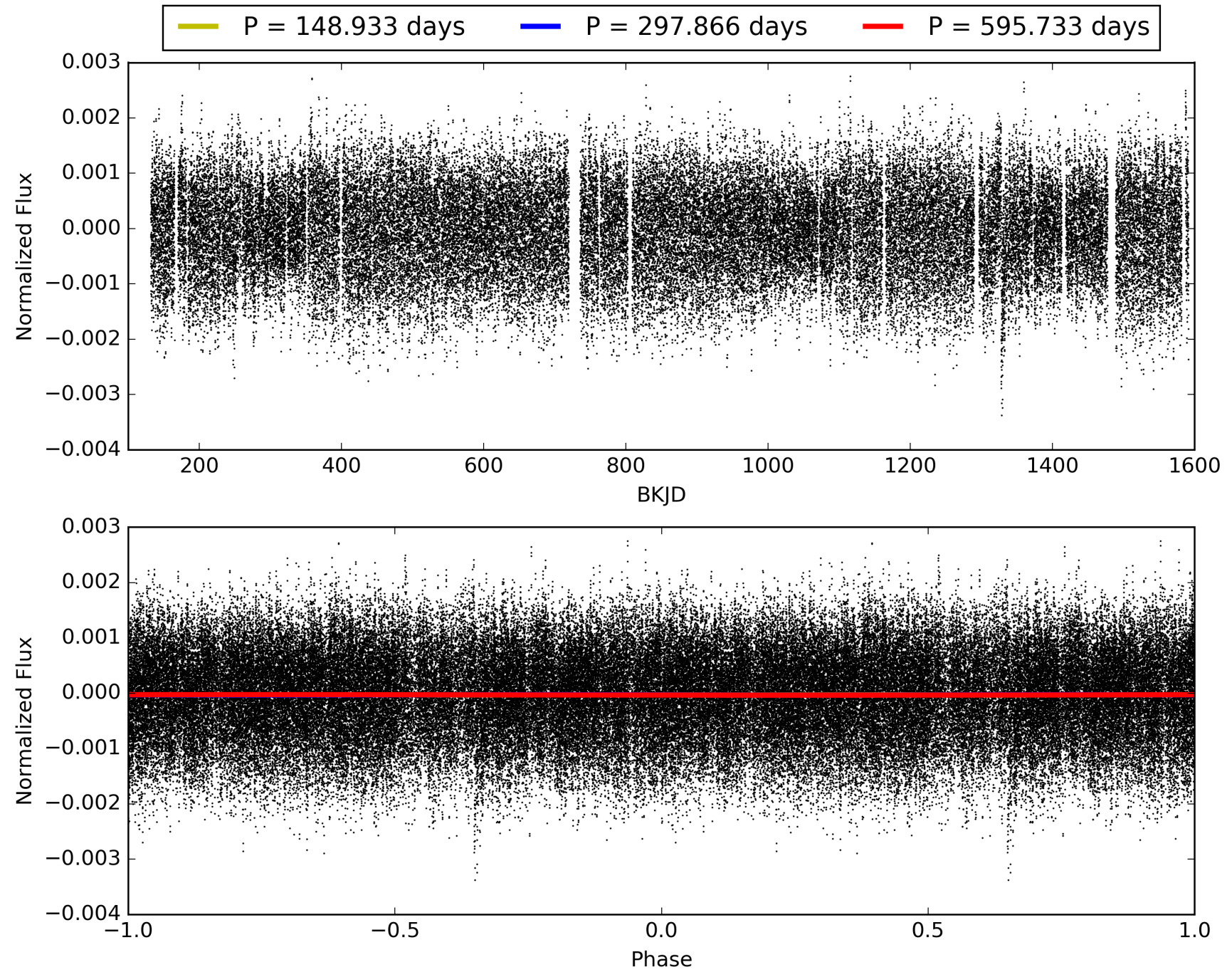
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:56:43 Z

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

TCE 010147918-02, PDC Light Curves

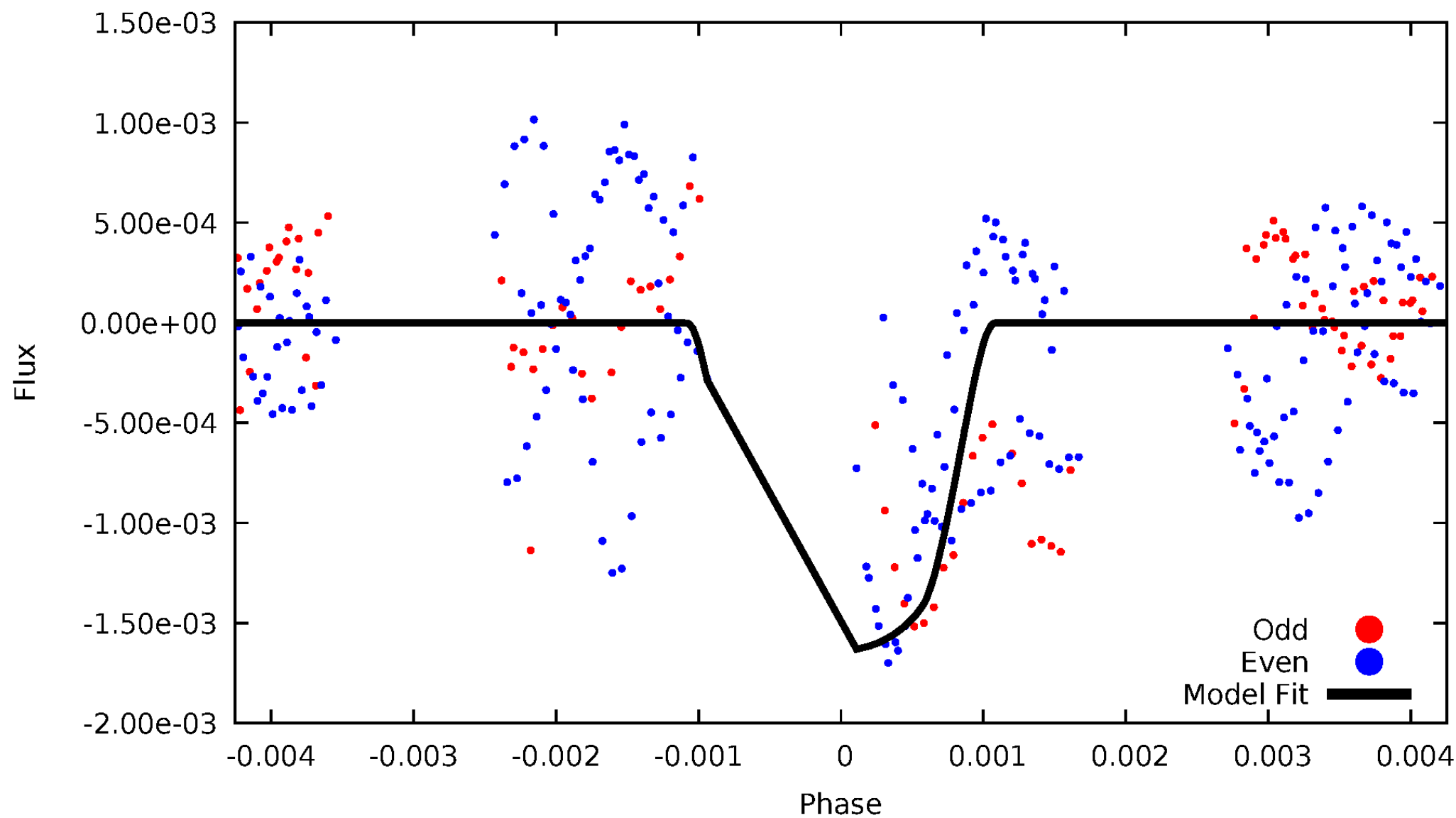


TCE 010147918-02



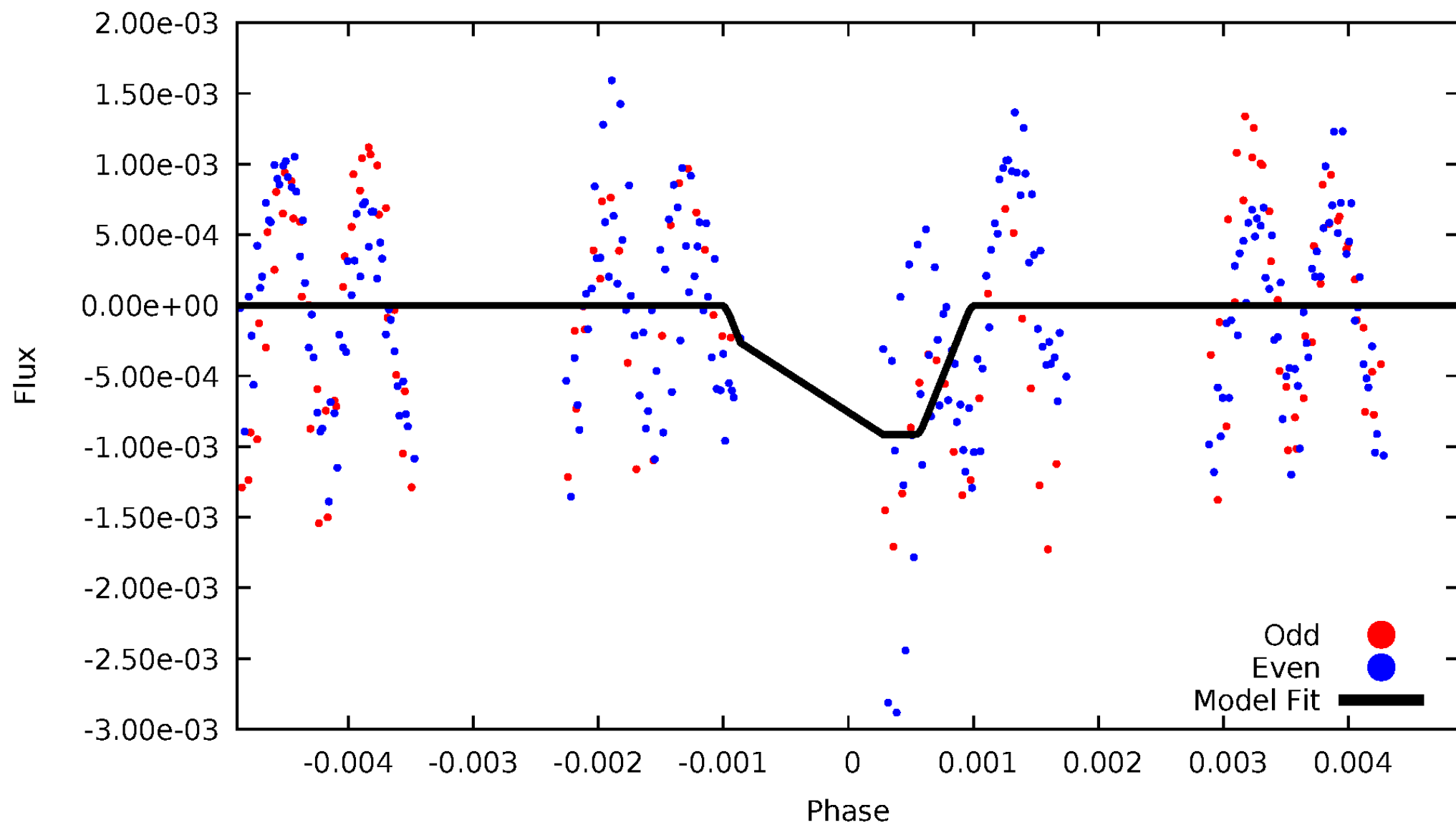
DV Odd/Even

TCE 010147918-02



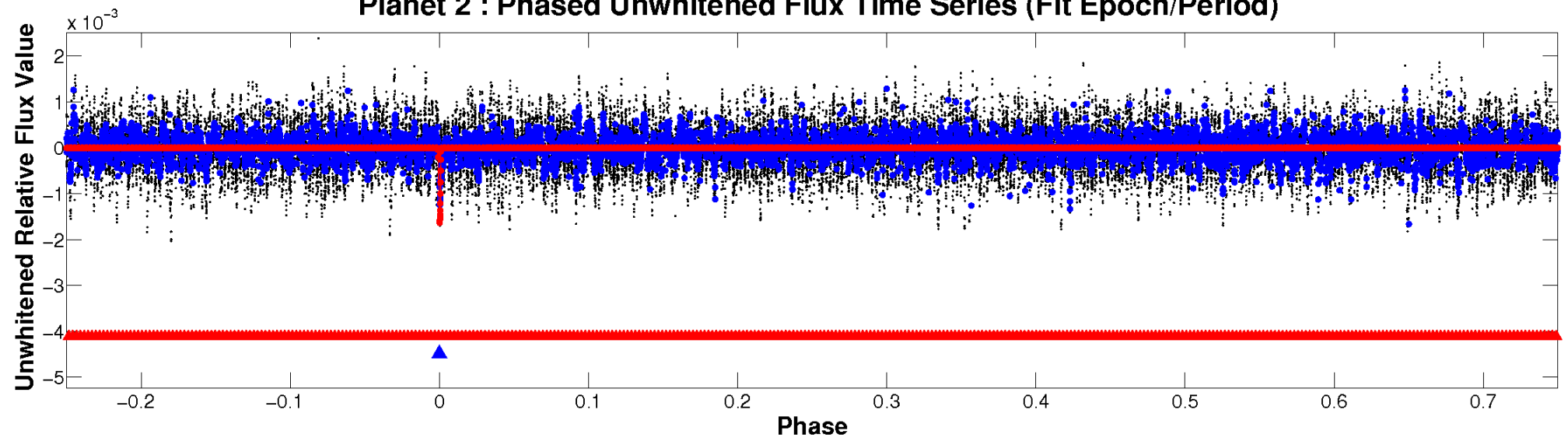
ALT Odd/Even

TCE 010147918-02

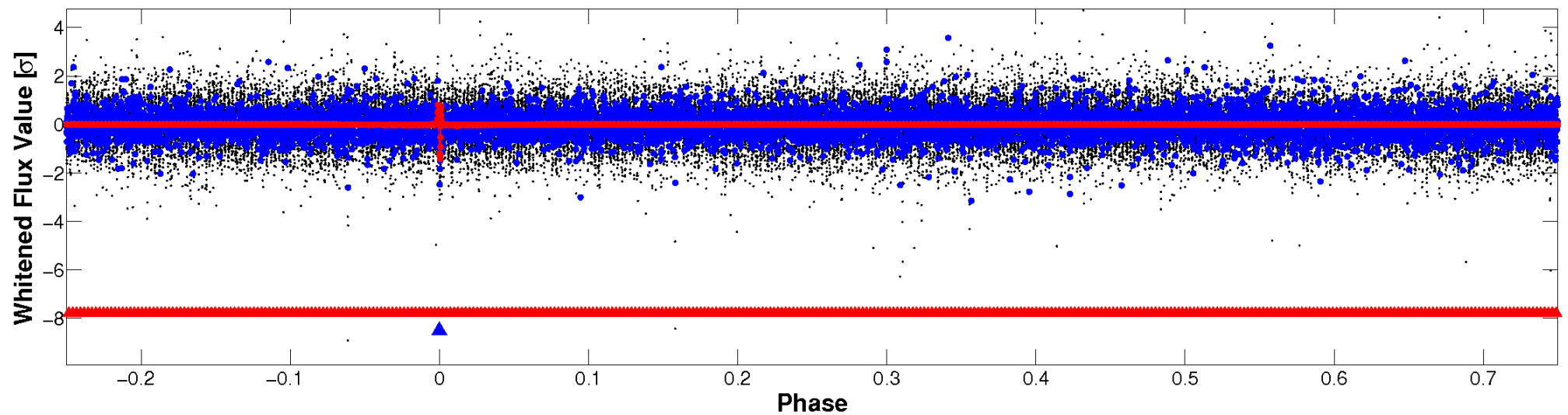


Non-Whitened Vs. Whitened Light Curve

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

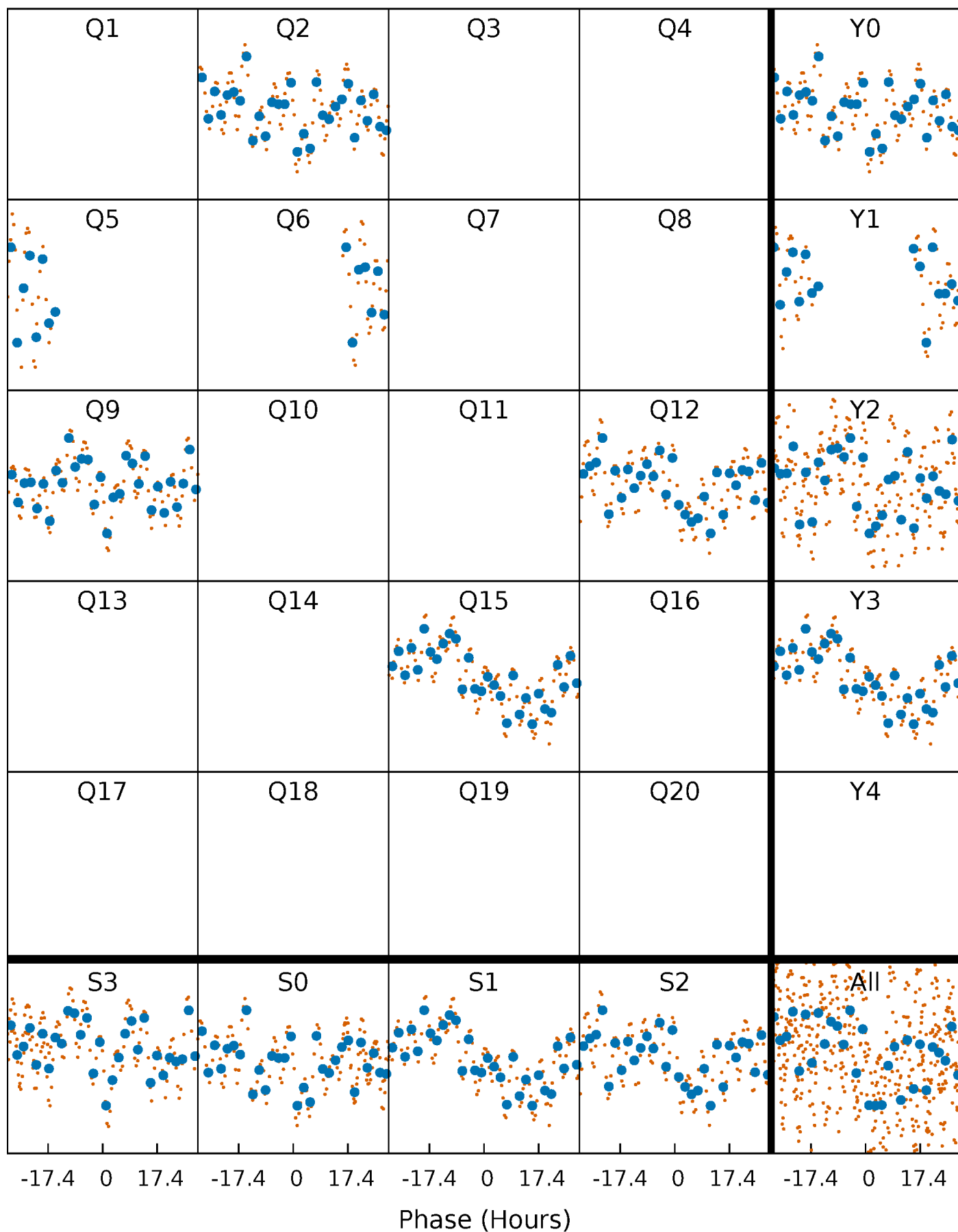


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



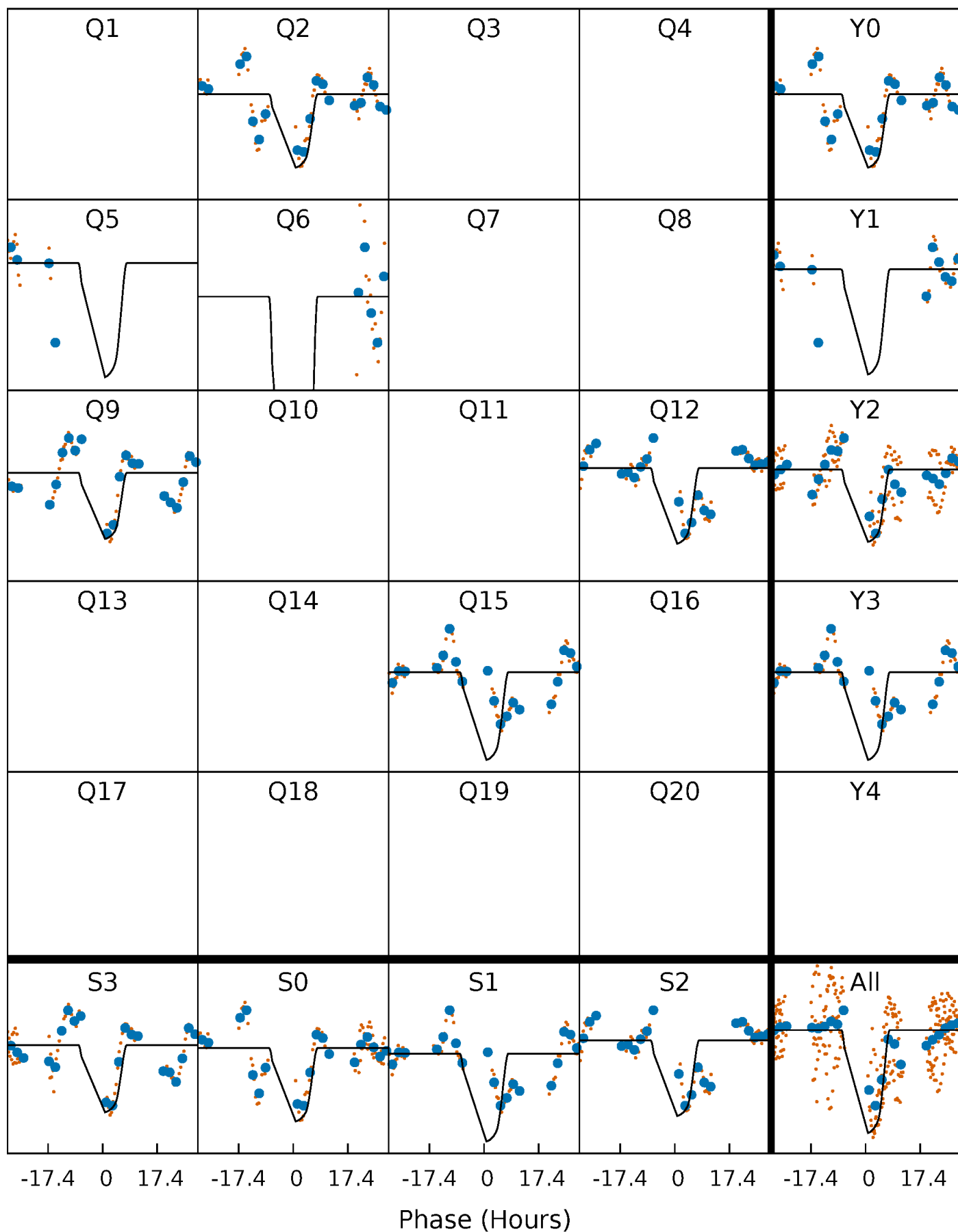
PDC Quarter-Phased Transit Curves

TCE 010147918-02 $P=297.866448$ Days $T_0=240.944228$ (BKJD)



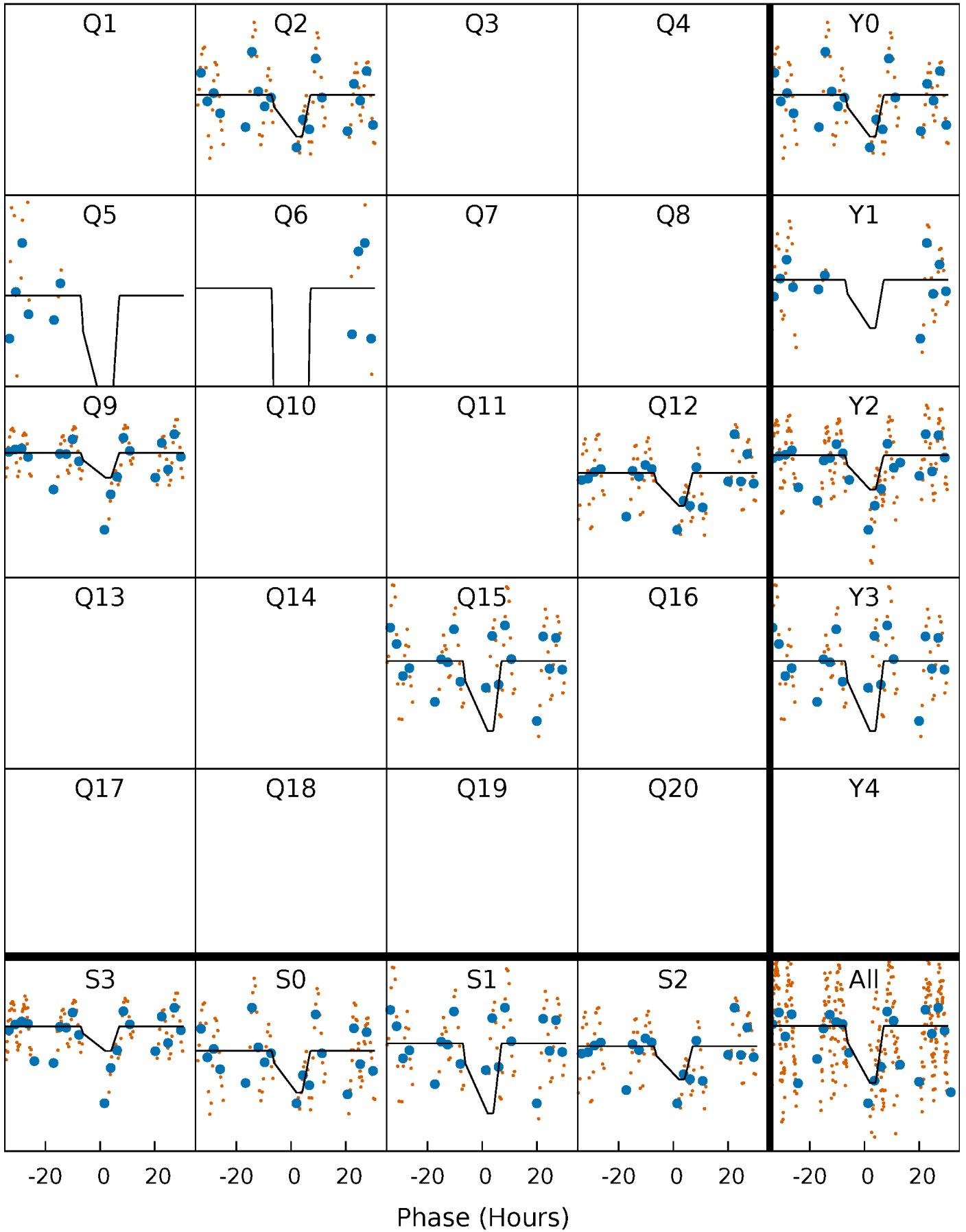
DV Quarter-Phased Transit Curves

TCE 010147918-02 $P=297.866448$ Days $T_0=240.944228$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

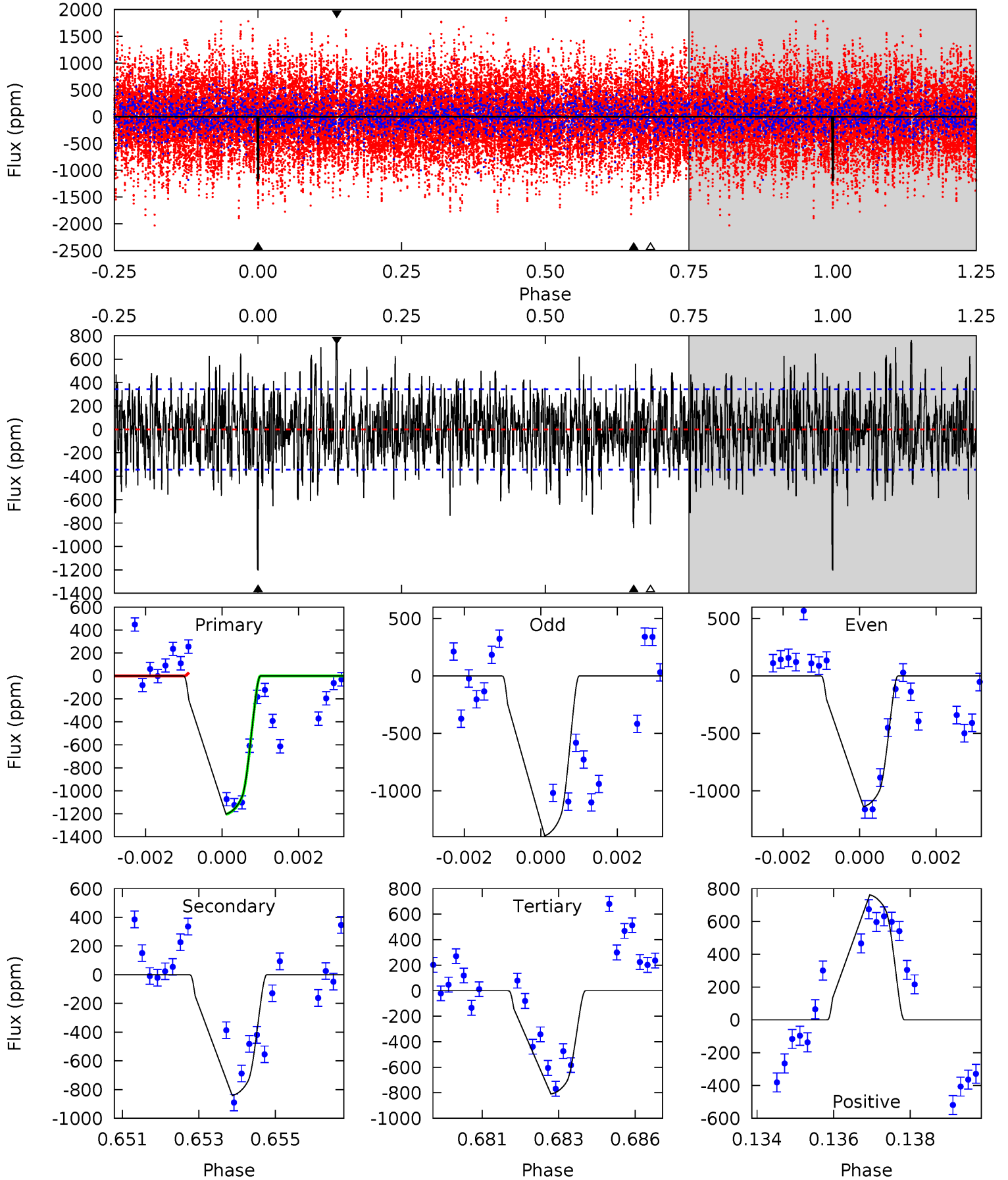
TCE 010147918-02 $P=297.887249$ Days $T_0=240.866058$ (BKJD)



DV Model-Shift Uniqueness Test

010147918-02, P = 297.866448 Days, E = 240.944228 Days

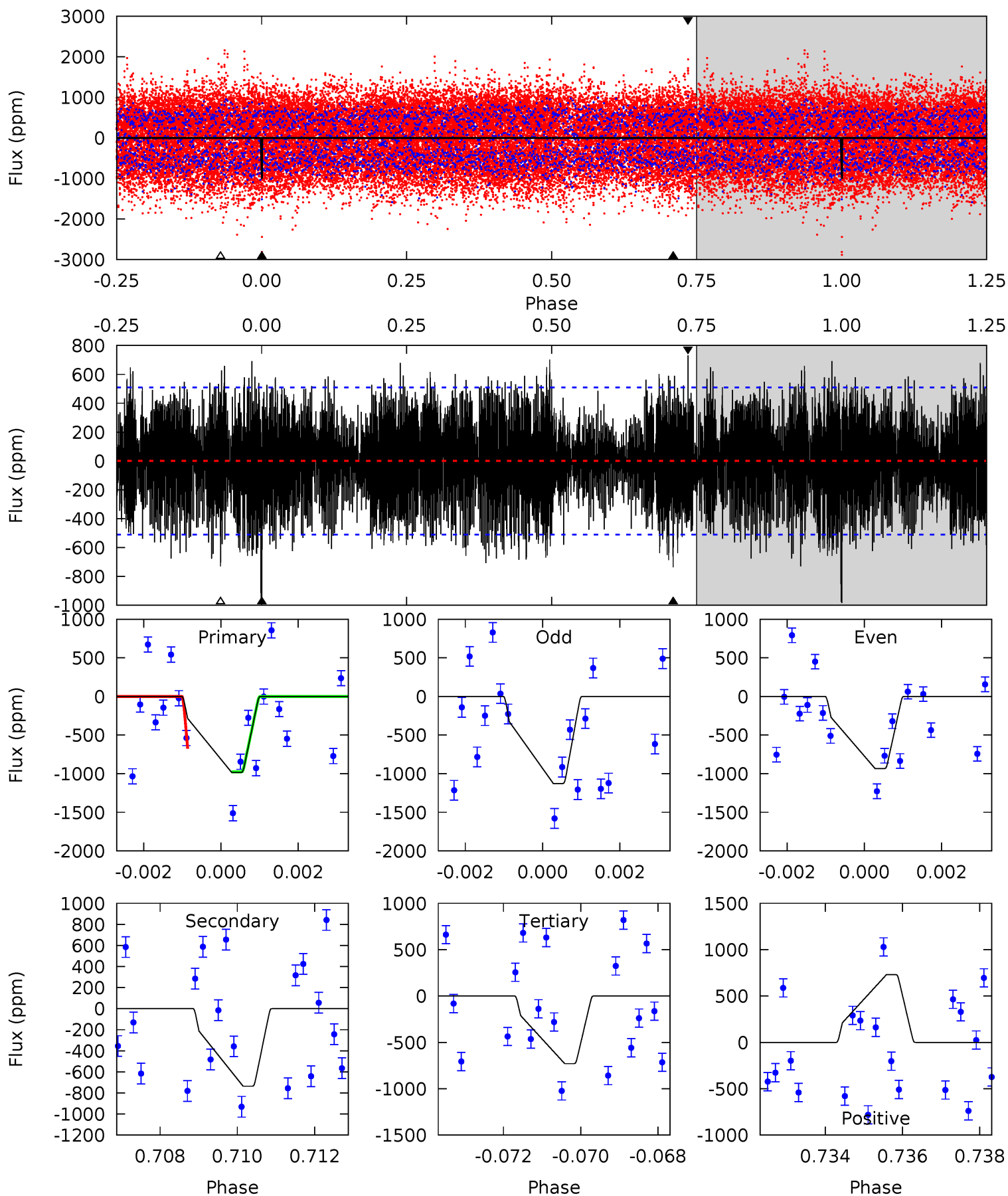
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	13.0	12.5	11.8	5.31	3.07	3.37	6.09	6.83	0.49	1.23	1.72	0.93	0.39	5.11



Alt Model-Shift Uniqueness Test

010147918-02, P = 297.887249 Days, E = 240.866058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	7.69	7.62	7.63	5.33	3.09	2.77	2.67	2.66	0.07	0.06	0.88	1.01	0.43	1.04



Stellar Parameters For KIC 010147918

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5018^{+101}_{-152}	$2.769^{+0.468}_{-0.252}$	$-0.300^{+0.250}_{-0.250}$	$9.618^{+3.319}_{-4.979}$	$1.984^{+0.904}_{-0.995}$	$0.003^{+0.016}_{-0.002}$
	+2%/-3%	+17%/-9%	+83%/-83%	+35%/-52%	+46%/-50%	+497%/-65%
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 010147918-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-842 ± 65	$48.45^{+12.75}_{-14.10}$	906^{+97}_{-108}	4193^{+157}_{-146}	252^{+168}_{-85}
Alt.	-736 ± 96	$31.65^{+9.06}_{-9.68}$	899^{+96}_{-118}	4777^{+269}_{-268}	512^{+444}_{-187}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

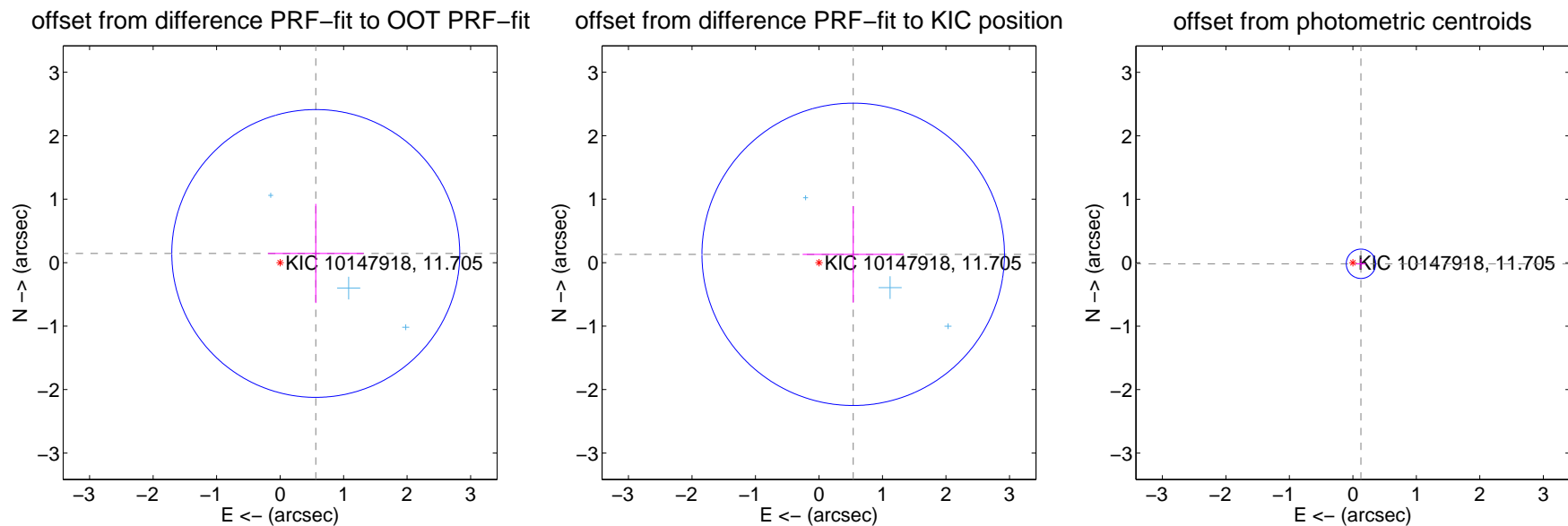
DV Centroid Data

Supplemental centroid analysis for 010147918-02. **Kepler magnitude: 11.71.** Transit SNR 7.85

There are 3 quarters with good PRF difference image offsets

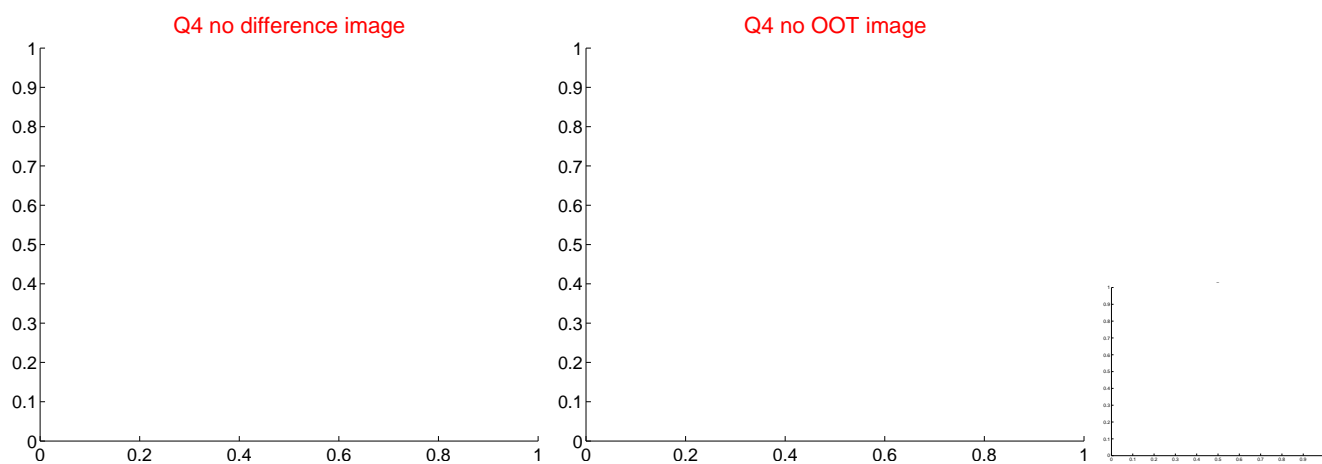
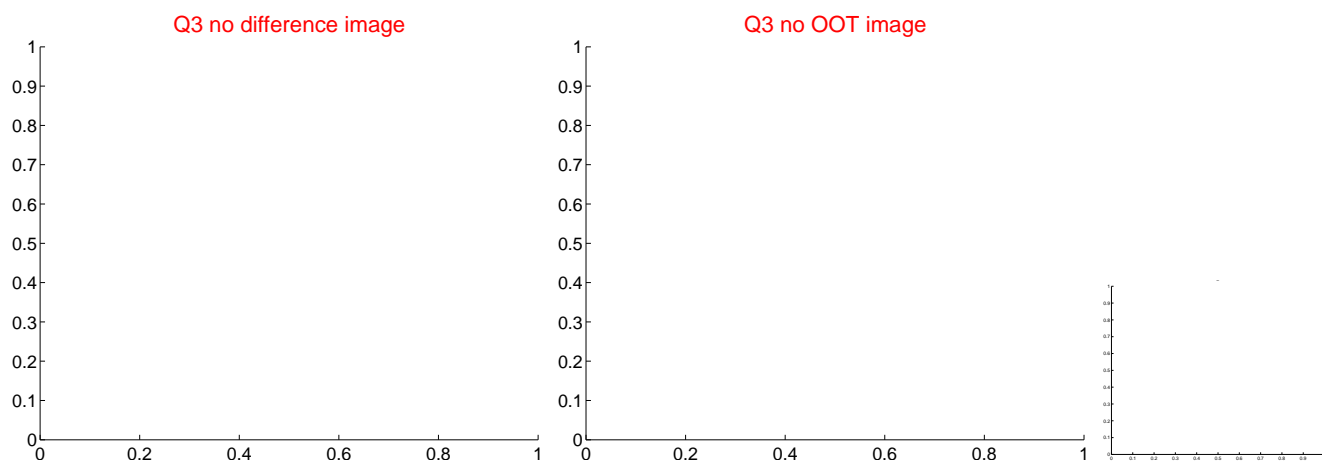
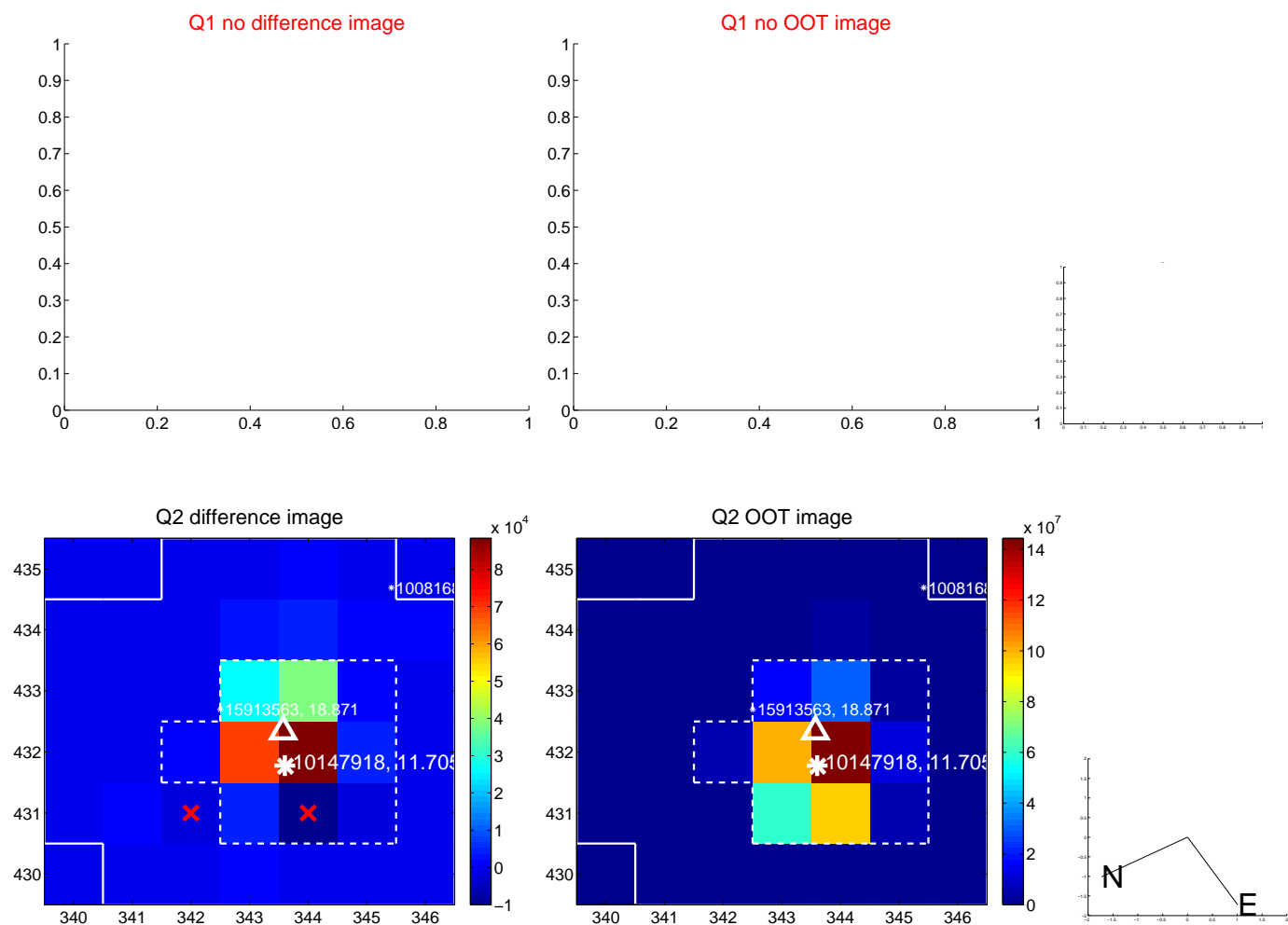
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.580 ± 0.756	0.77	-0.562 ± 0.754	0.145 ± 0.780
PRF-fit source offset from KIC position	0.554 ± 0.794	0.70	-0.539 ± 0.796	0.131 ± 0.760
photometric centroid source offset	0.13 ± 0.08	1.67	-0.13 ± 0.08	-0.02 ± 0.08



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.

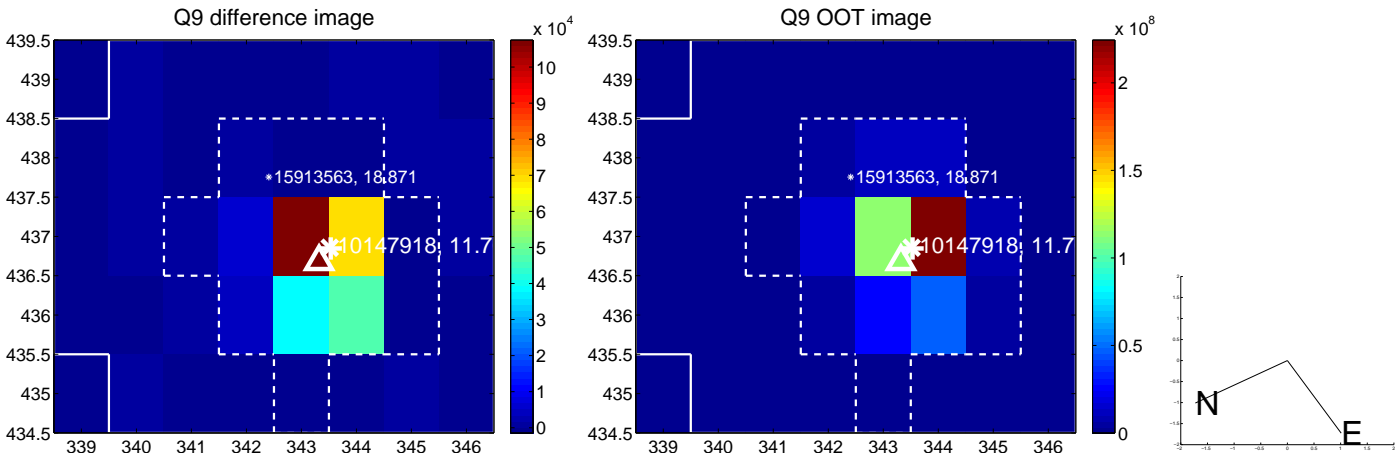
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



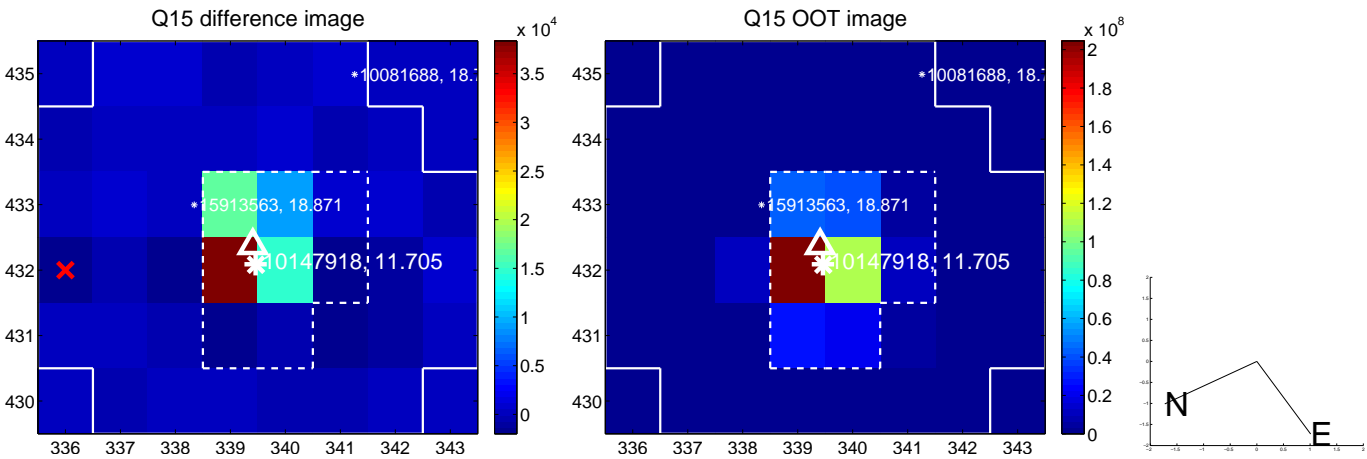
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



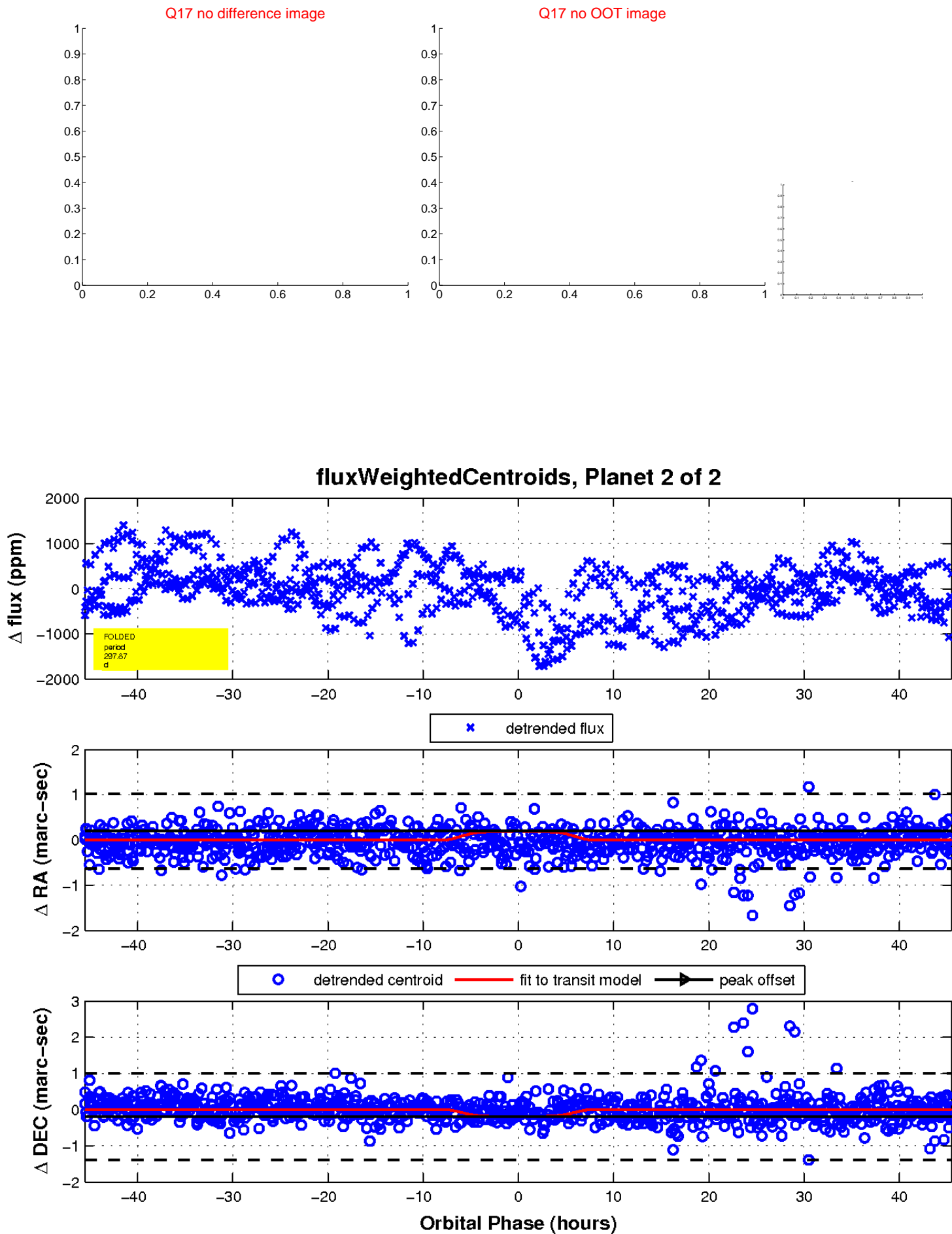
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

