

KIC 005372966

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})
005372966-01	OBS	0832.01	9.286359	134.675990	44932.1	3.537	1748.3	1588.5	0.82	5670	17.73	95.28
005372966-02	OBS	No	4.643174	134.813489	1119.5	2.877	40.8	43.1	0.82	5670	3.06	240.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372966-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005372966-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 005372966-01

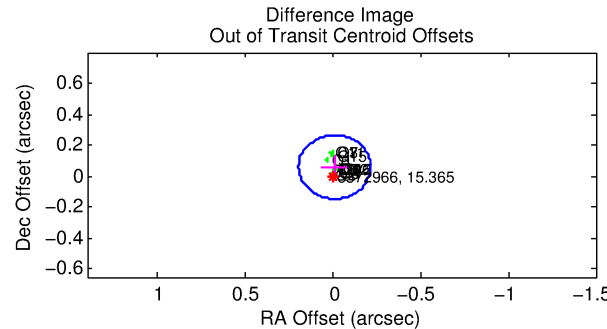
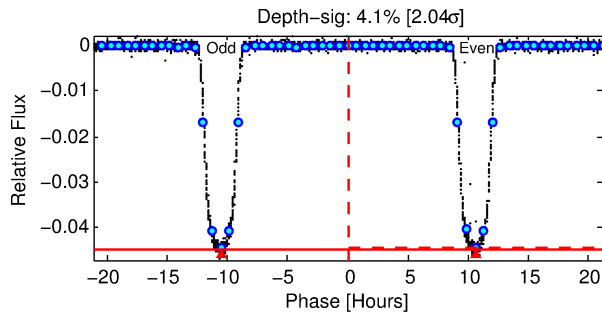
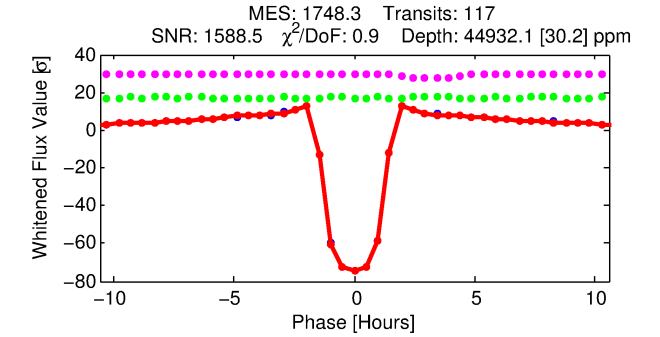
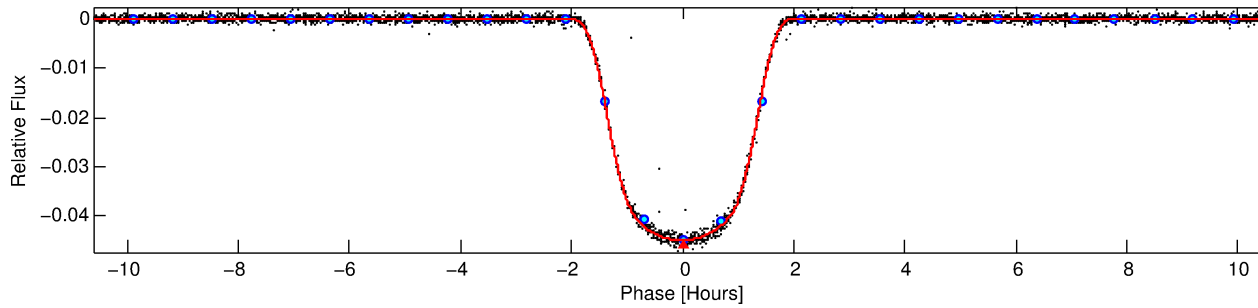
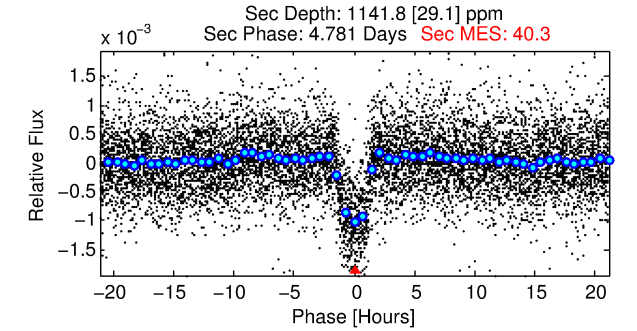
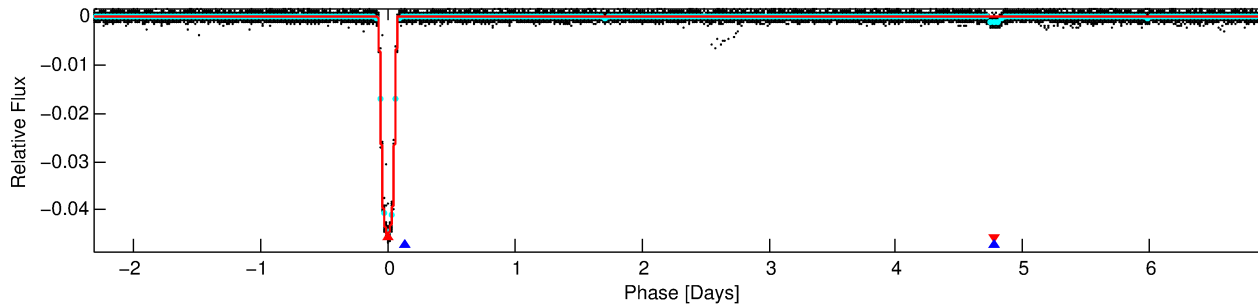
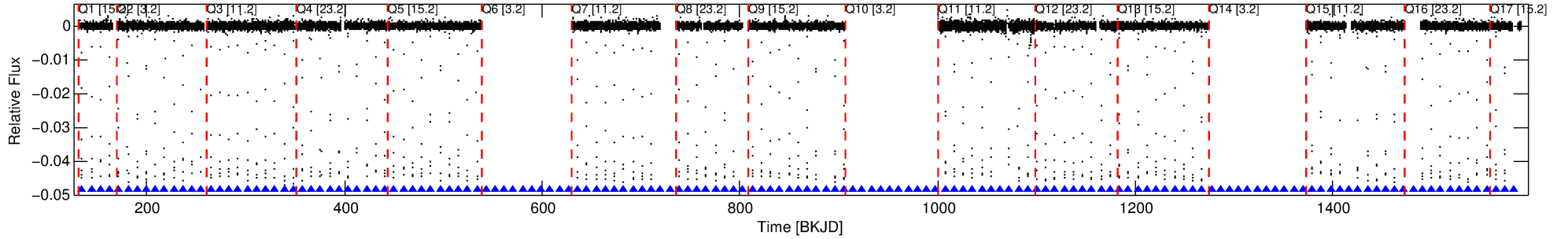
No Significant Match Found

DV One-Page Summary

KIC: 5372966 Candidate: 1 of 2 Period: 9.286 d

KOI: K00832.01 Corr: 0.989

Kp: 15.36 R*: 0.82 Rs Teff: 5670.0 K Logg: 4.52 Fe/H: -0.400



DV Fit Results:

Period = 9.28636 [0.00000] d
Epoch = 134.6760 [0.0000] BKJD
Rp/R* = 0.1979 [0.0002]
a/R* = 22.41 [0.06]
b = 0.43 [0.01]
Seff = 95.28 [29.16]
Teq = 797 [61] K
Rp = 17.73 [4.08] Re
a = 0.0809 [0.0157] AU
Ag = 13.09 [3.70] [3.26σ]
Teffp = 2343 [71] K [16.47σ]

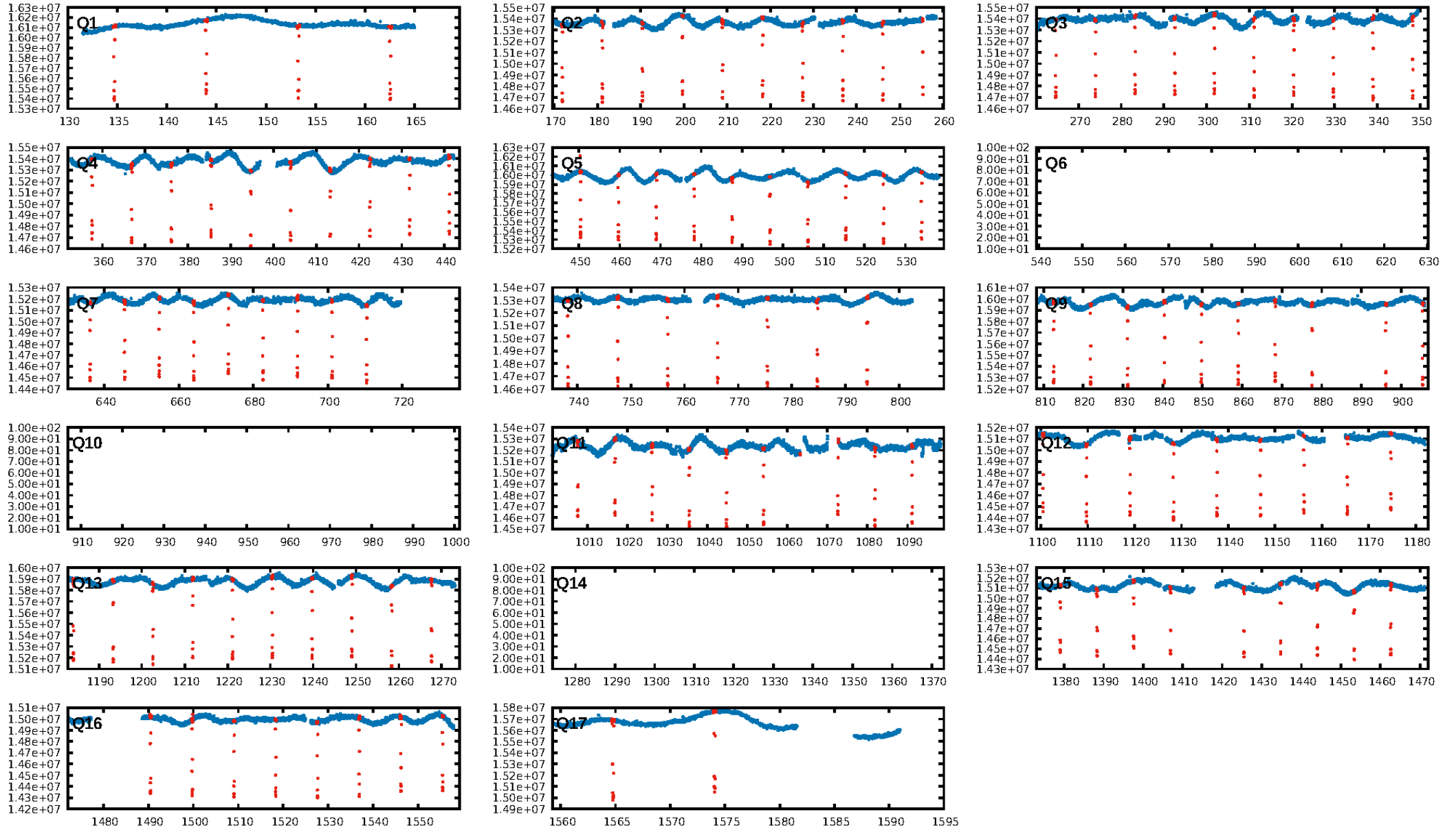
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.44σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [111/111]
GhostDiagnostic-chr: 4.434
Centroid-sig: 0.0%
Centroid-so: 0.138 arcsec [20.49σ]
OotOffset-rm: 0.061 arcsec [0.88σ]
KicOffset-rm: 0.105 arcsec [1.52σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

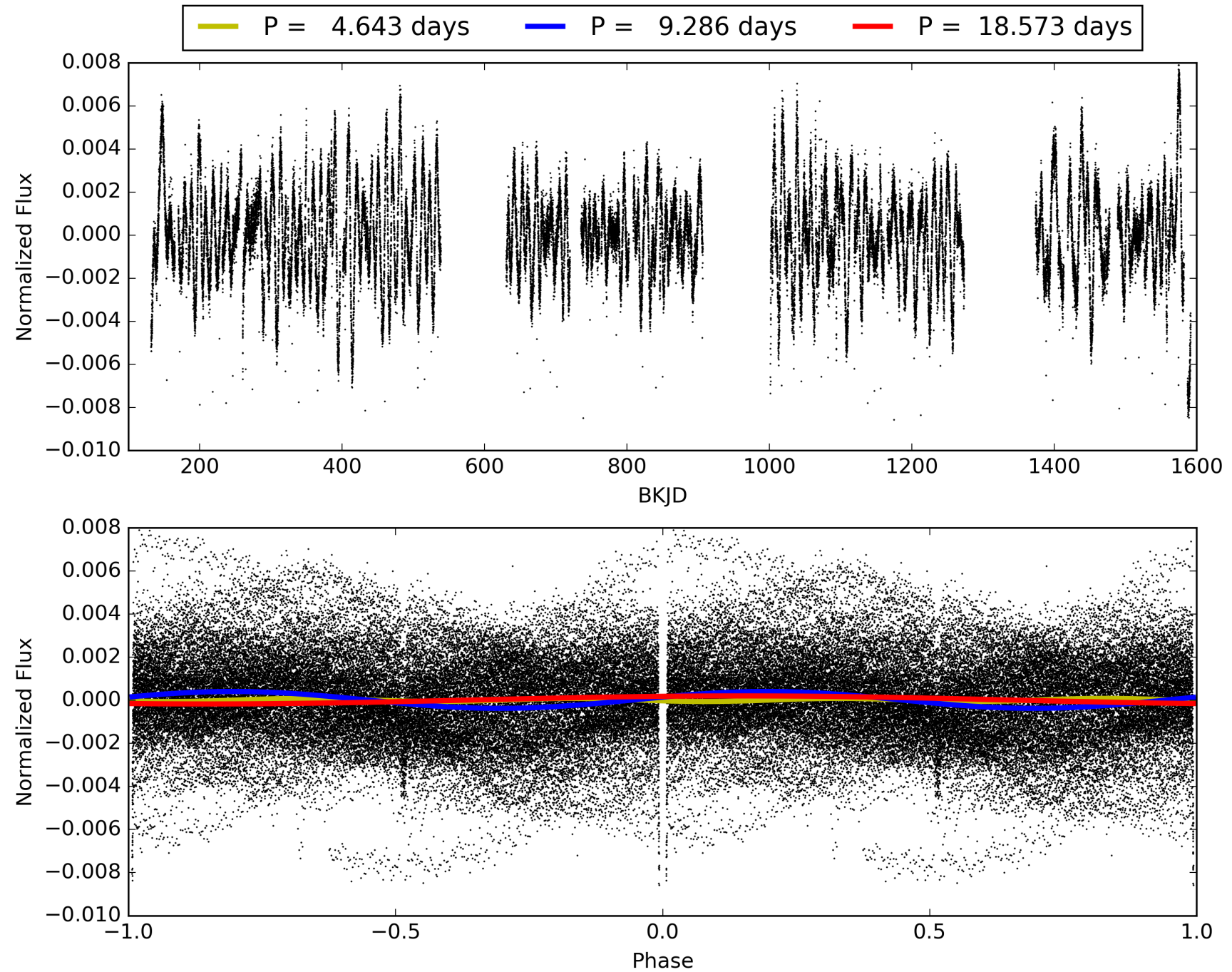
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:48:42 Z

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

TCE 005372966-01, PDC Light Curves

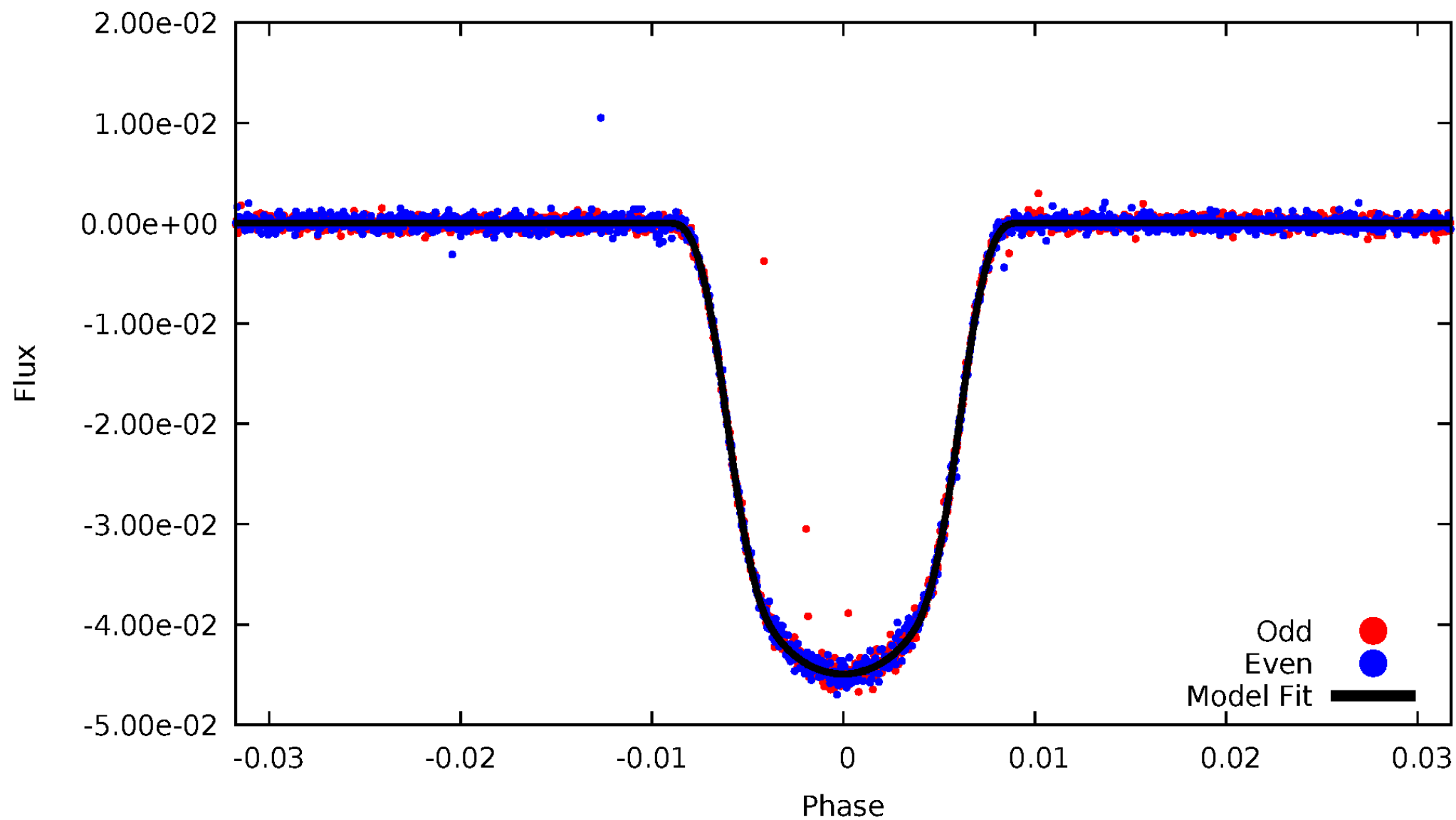


TCE 005372966-01



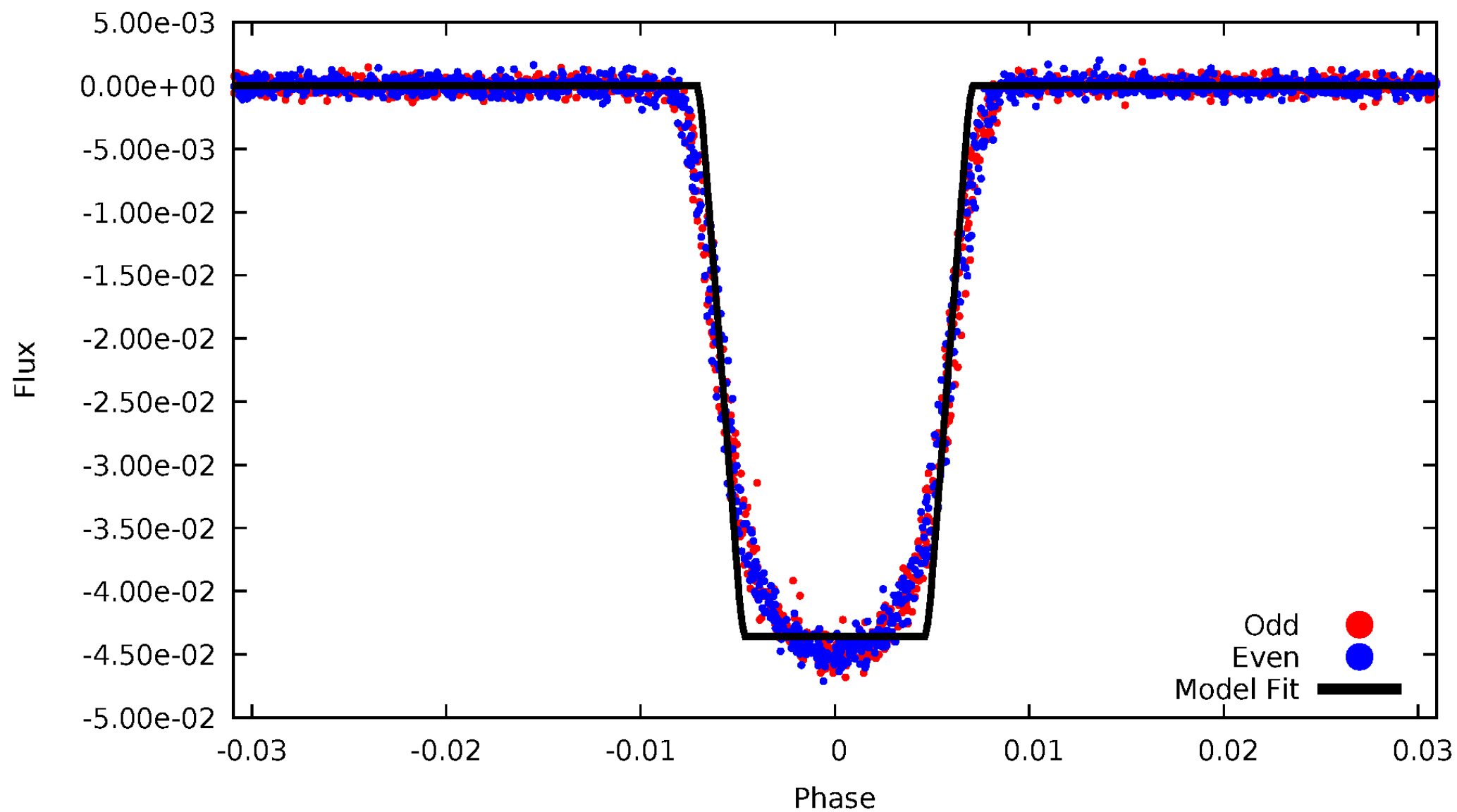
DV Odd/Even

TCE 005372966-01



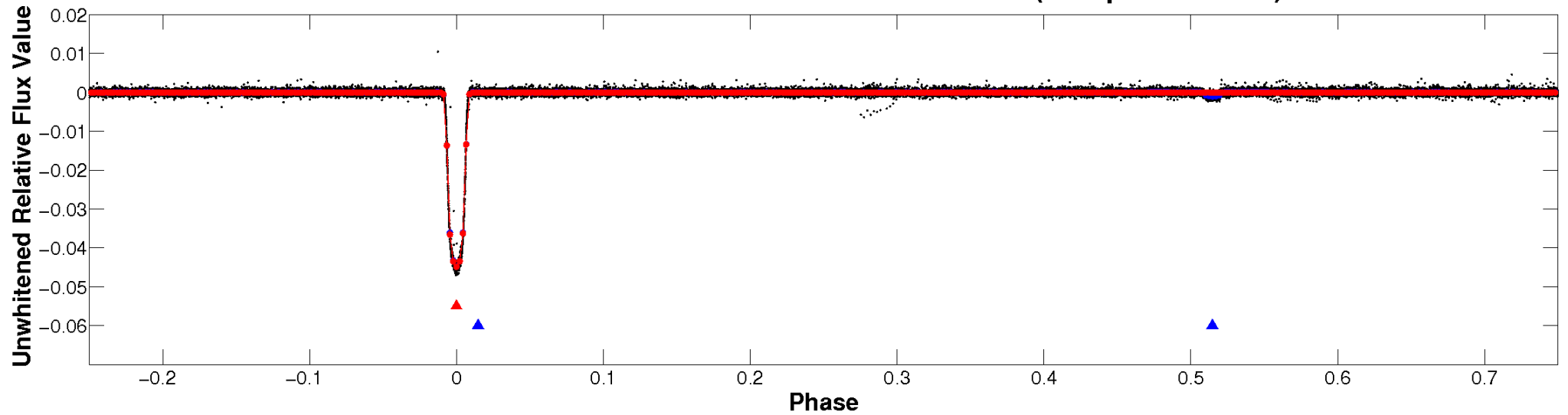
ALT Odd/Even

TCE 005372966-01

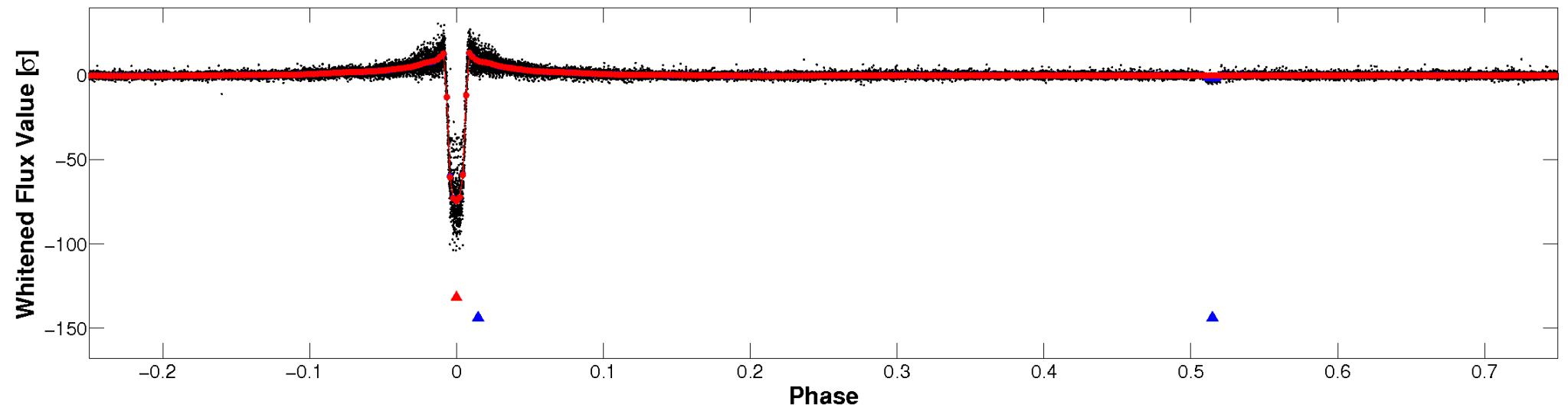


Non-Whitened Vs. Whitened Light Curve

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

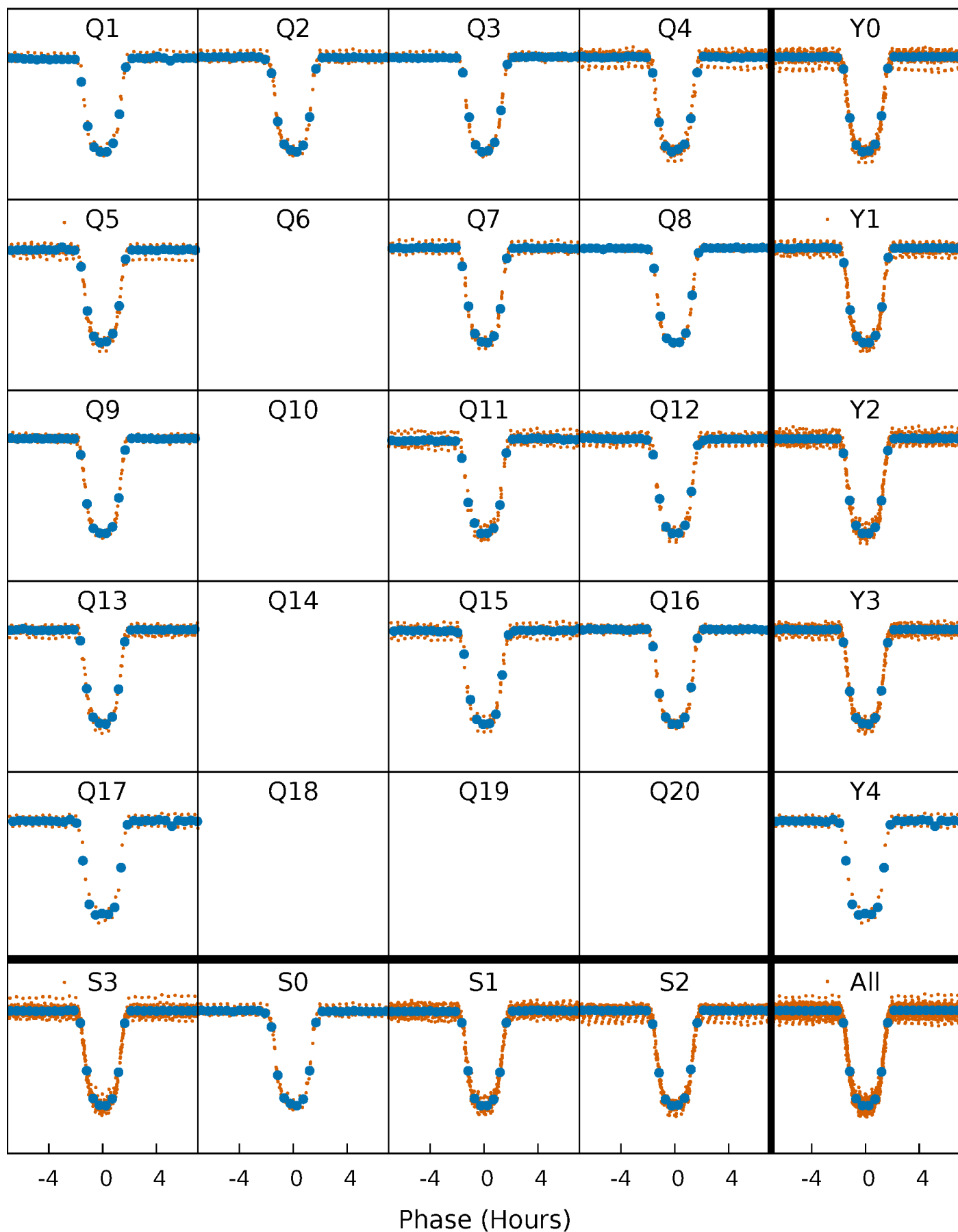


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



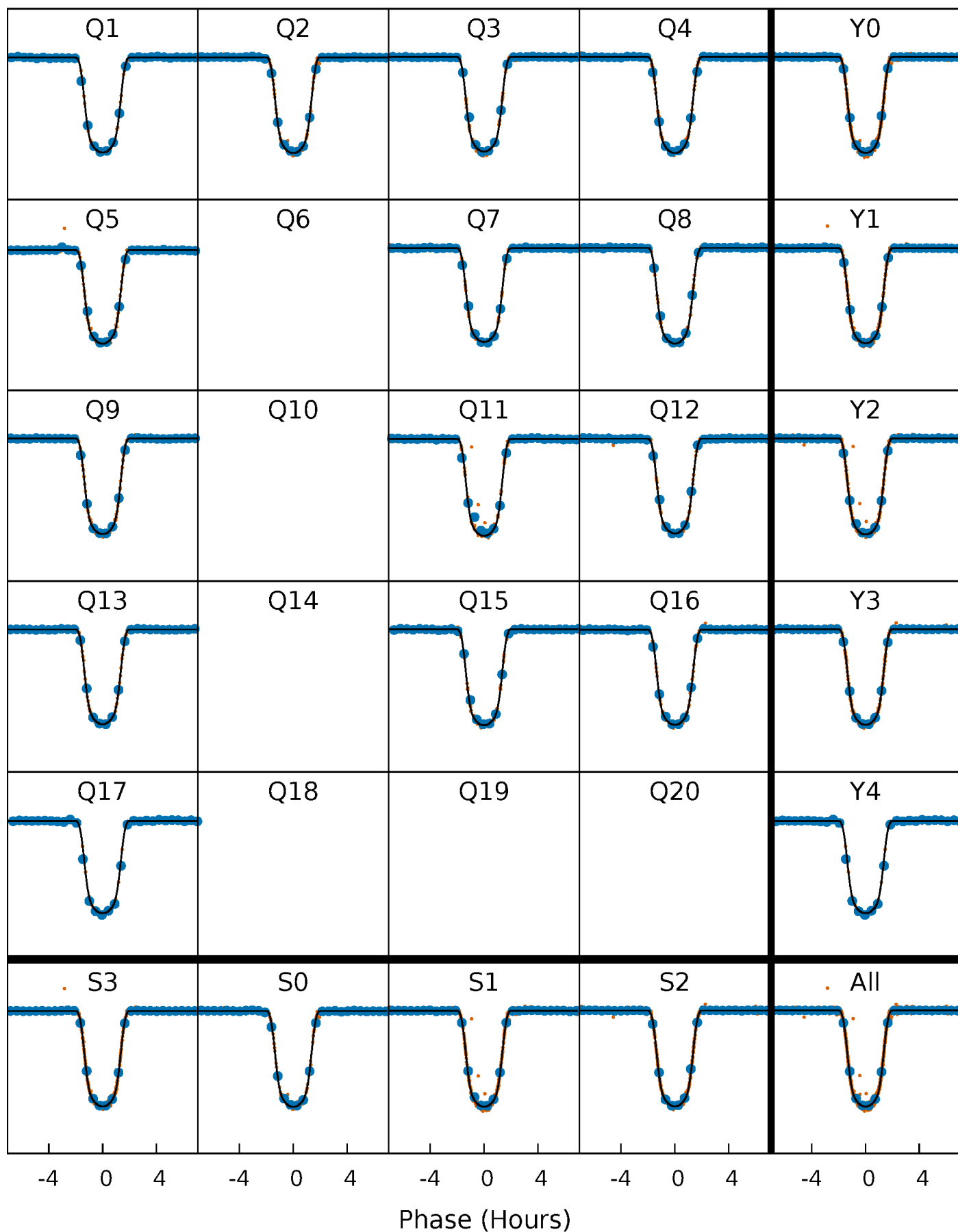
PDC Quarter-Phased Transit Curves

TCE 005372966-01 P= 9.286359 Days $T_0=134.675990$ (BKJD)



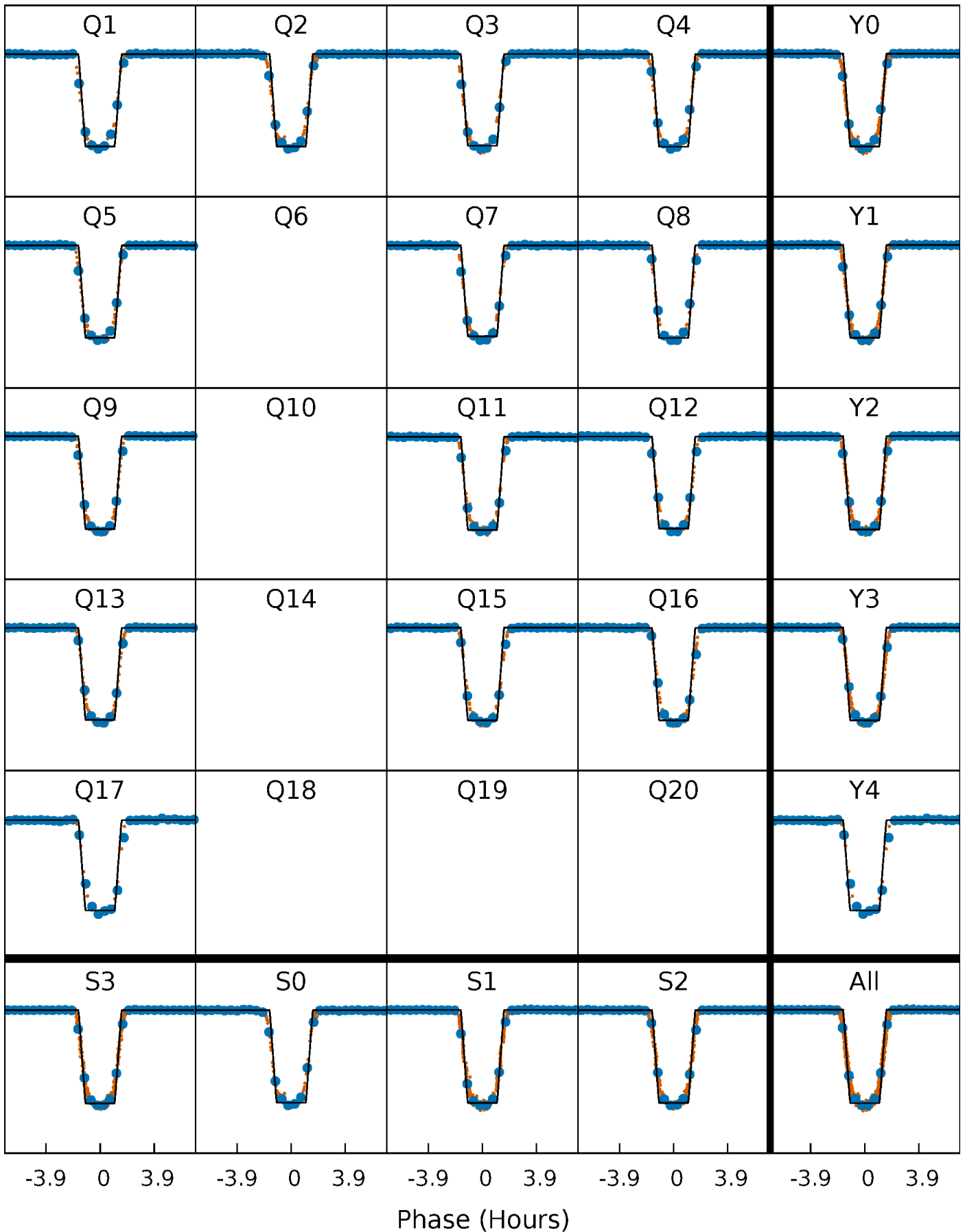
DV Quarter-Phased Transit Curves

TCE 005372966-01 P= 9.286359 Days $T_0=134.675990$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

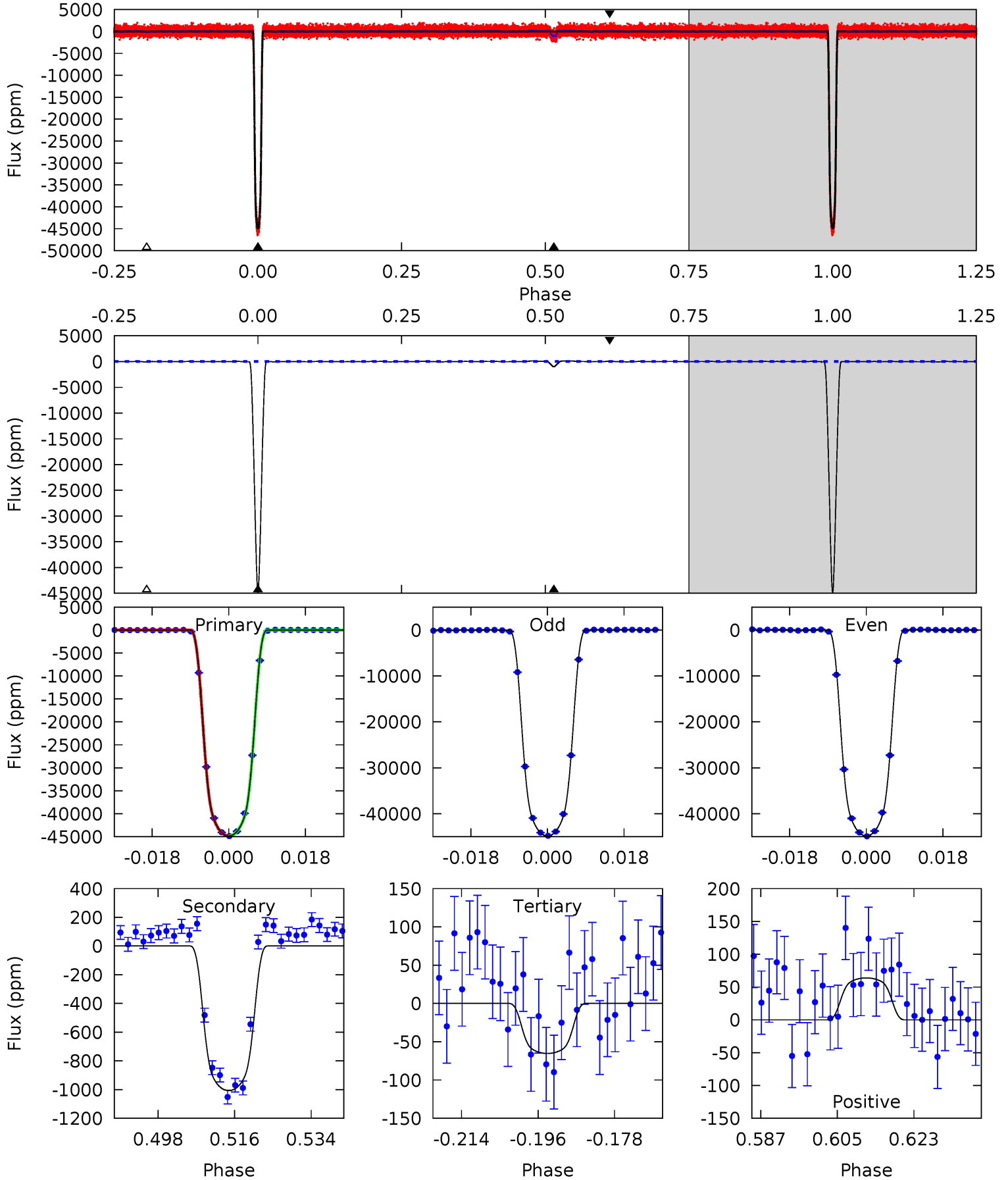
TCE 005372966-01 P= 9.286312 Days $T_0=134.679404$ (BKJD)



DV Model-Shift Uniqueness Test

005372966-01, P = 9.286359 Days, E = 125.389631 Days

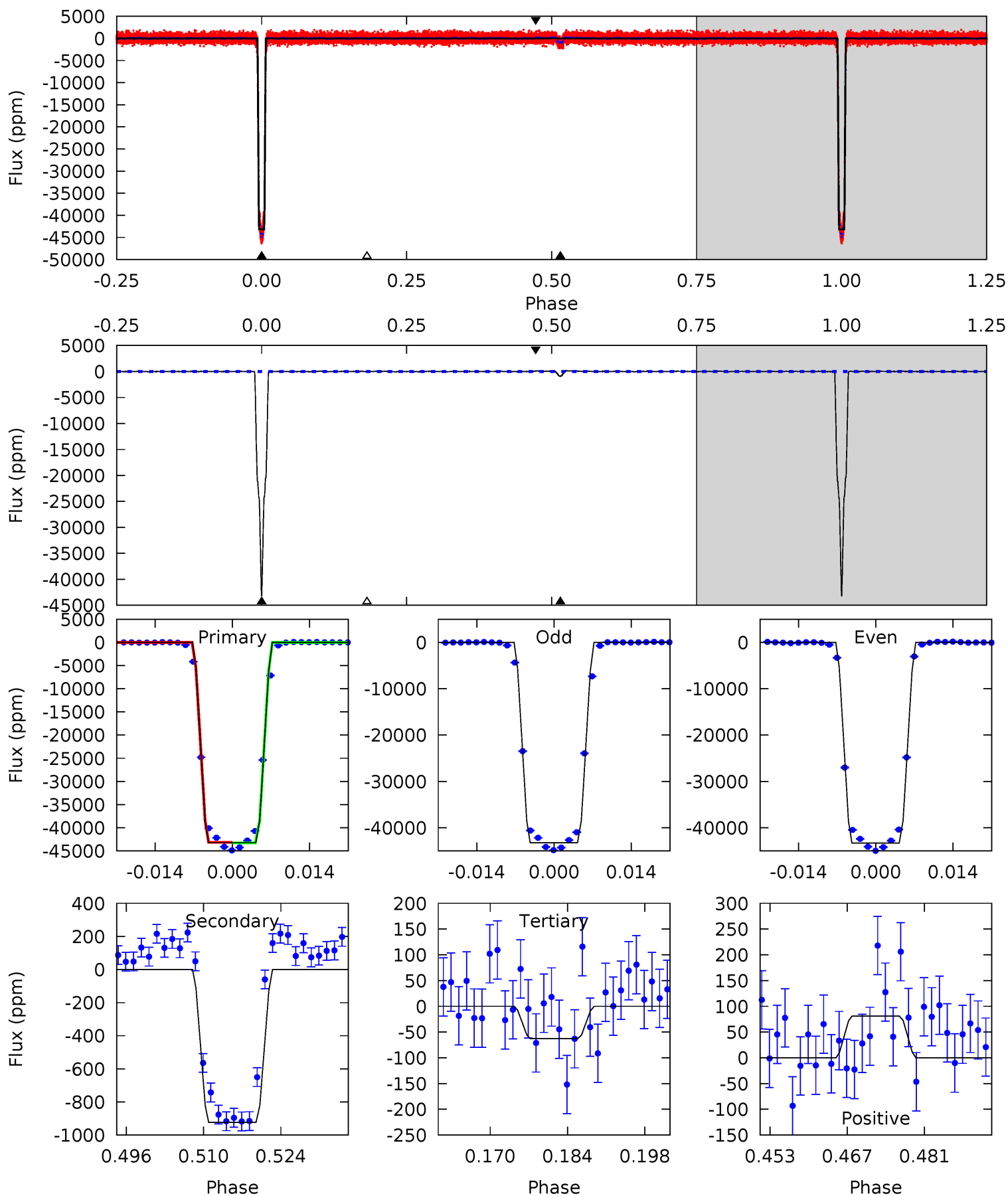
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2827	63.5	4.12	4.03	4.91	2.37	2.11	2823	2823	59.4	59.5	0.55	1.00	0.00	0.14



Alt Model-Shift Uniqueness Test

005372966-01, P = 9.286312 Days, E = 125.393092 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1994	42.6	2.89	3.74	4.96	2.45	1.38	1991	1990	39.7	38.9	1.20	1.00	0.00	2.38



Stellar Parameters For KIC 005372966

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5670^{+169}_{-169}	$4.523^{+0.066}_{-0.154}$	$-0.400^{+0.300}_{-0.300}$	$0.821^{+0.189}_{-0.087}$	$0.820^{+0.106}_{-0.071}$	$2.087^{+0.703}_{-0.870}$
	+3%/-3%	+1%/-3%	+75%/-75%	+23%/-11%	+13%/-9%	+34%/-42%
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 005372966-01 / KOI 0832.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1007 ± 16	$18.01^{+2.39}_{-1.18}$	1126^{+68}_{-53}	2941^{+54}_{-52}	11^{+1}_{-2}
Alt.	-924 ± 22	$19.05^{+2.27}_{-1.23}$	1130^{+65}_{-49}	2867^{+50}_{-53}	$9.192^{+1.194}_{-1.760}$

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 $A_{obs} \gg 1.0$

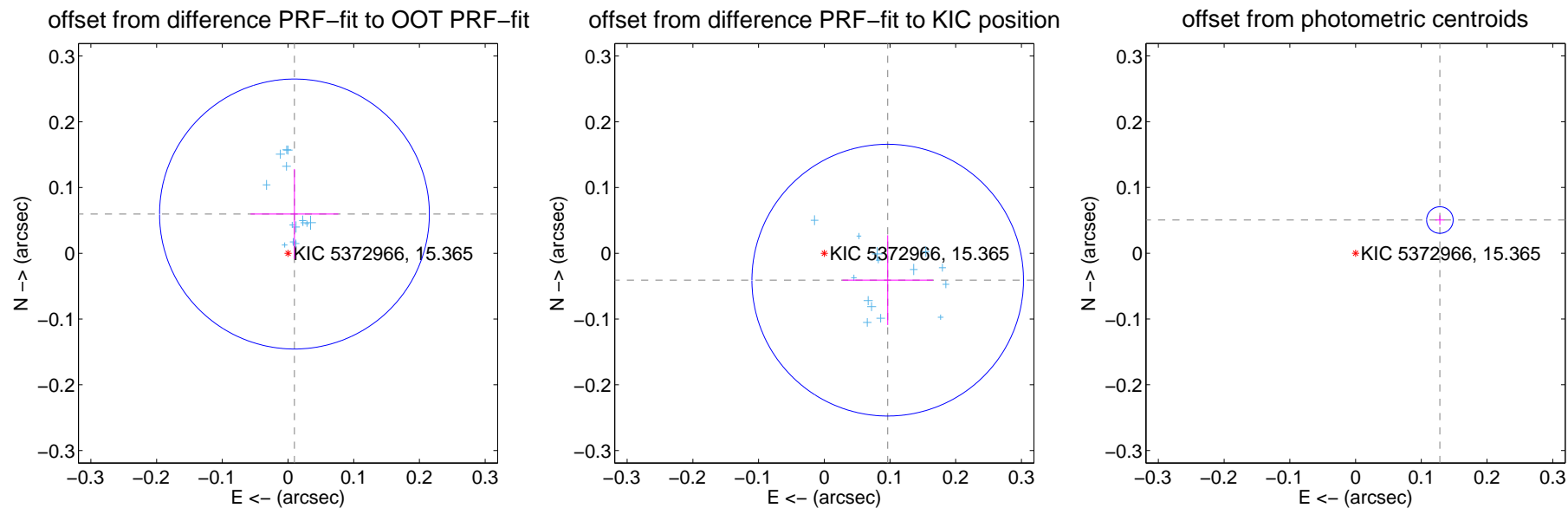
DV Centroid Data

Supplemental centroid analysis for 005372966-01. Kepler magnitude: 15.37. Transit SNR 1588.46

There are 14 quarters with good PRF difference image offsets

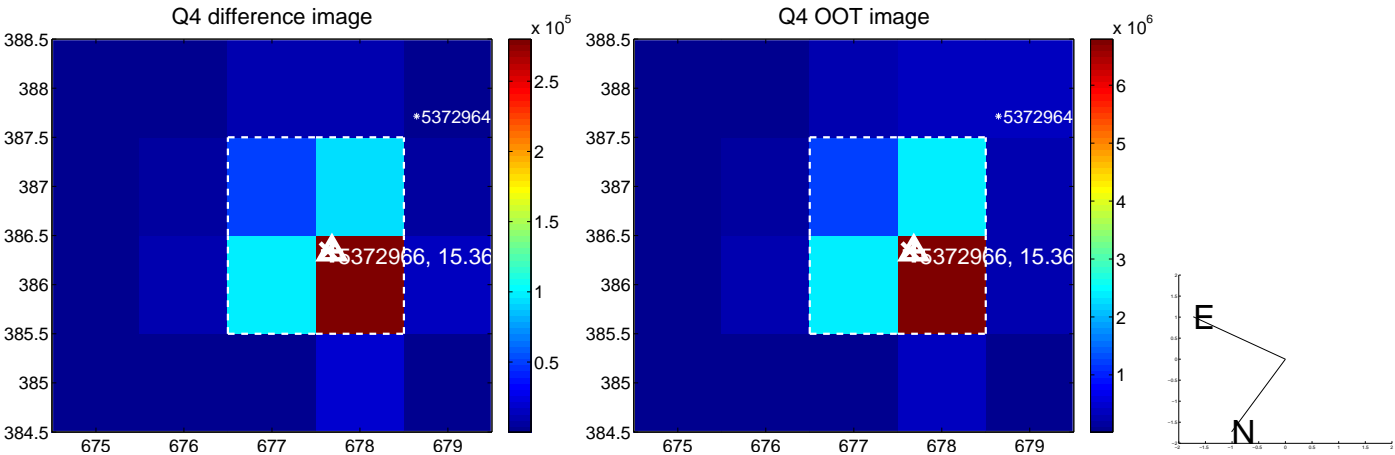
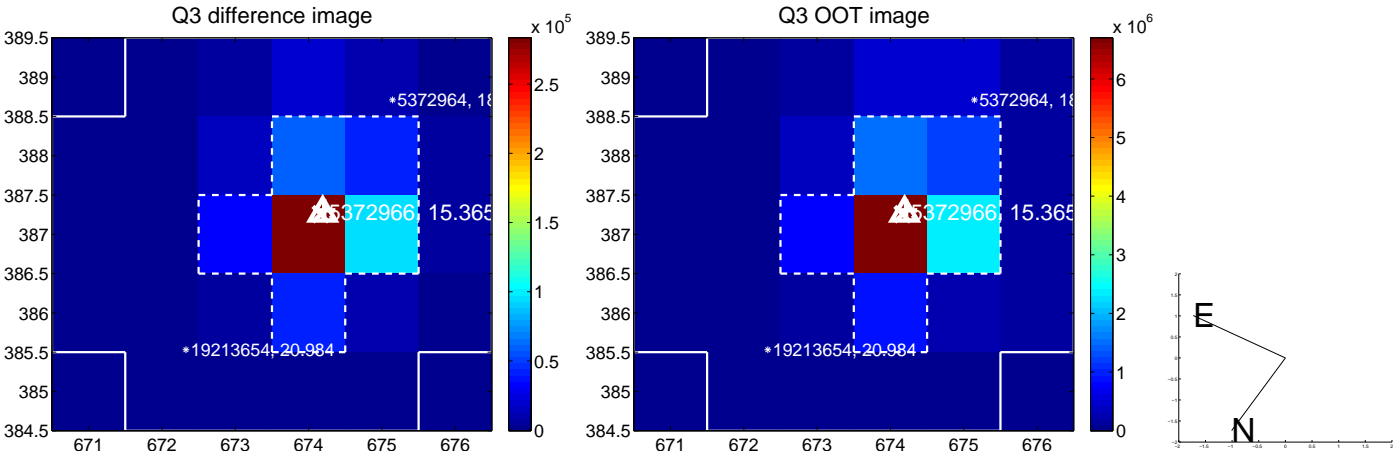
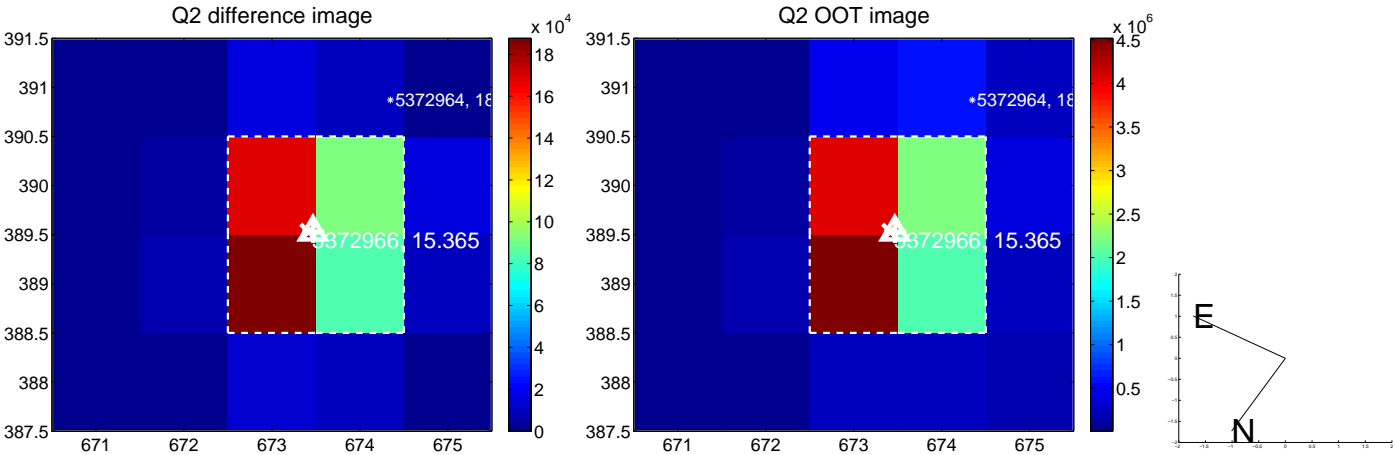
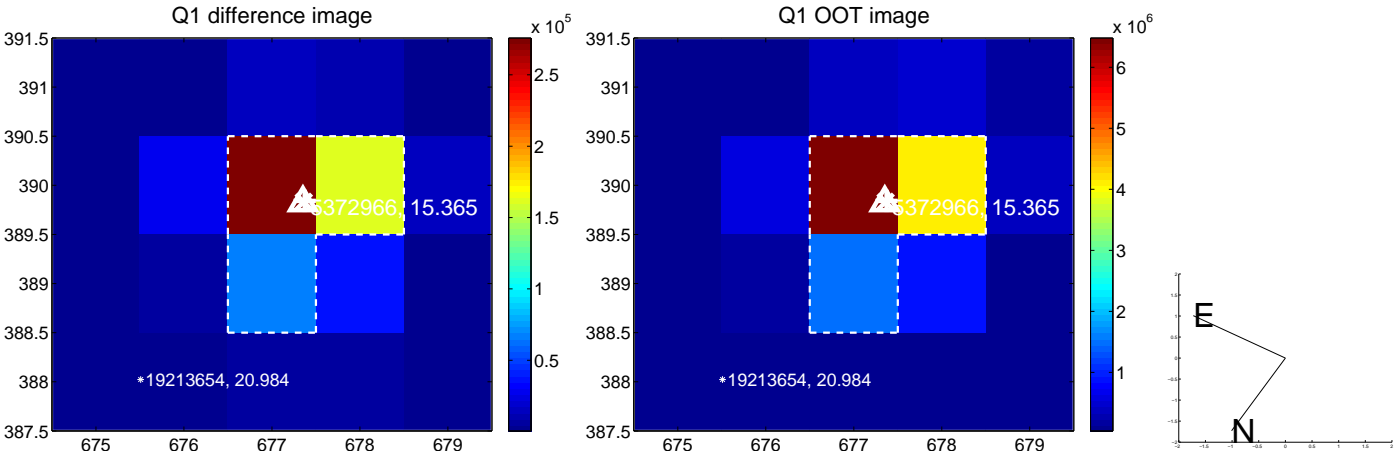
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.068	0.88	-0.010 ± 0.067	0.060 ± 0.068
PRF-fit source offset from KIC position	0.105 ± 0.069	1.52	-0.097 ± 0.069	-0.041 ± 0.068
photometric centroid source offset	0.14 ± 0.01	20.49	-0.13 ± 0.01	0.05 ± 0.01

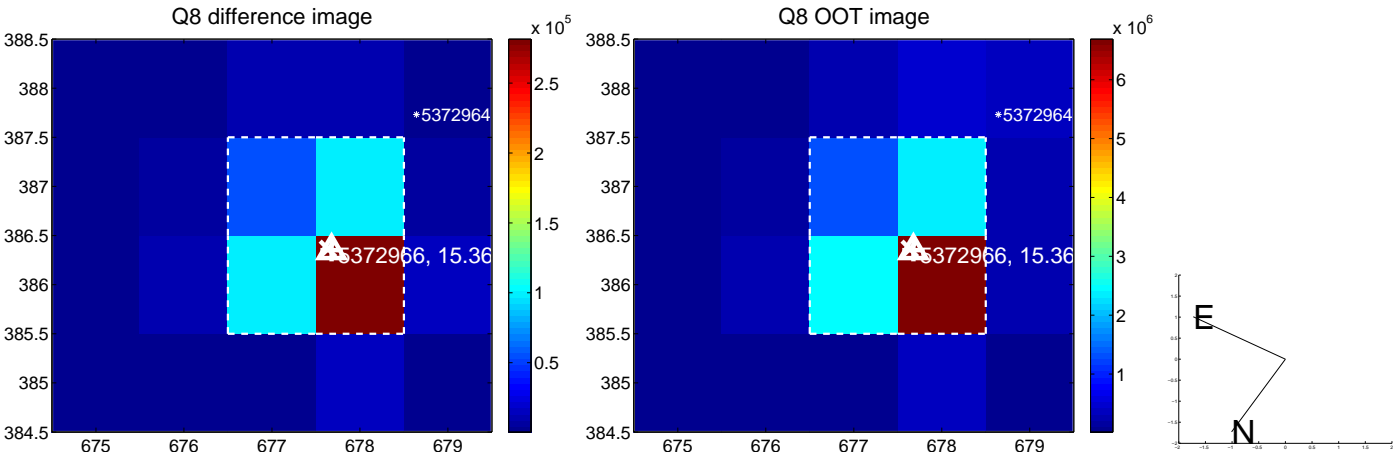
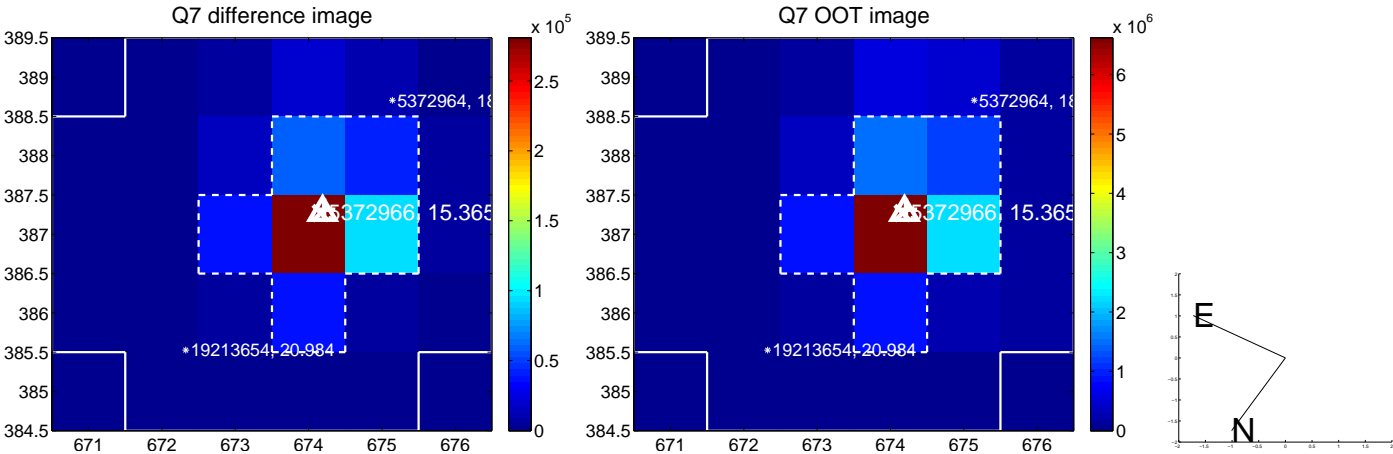
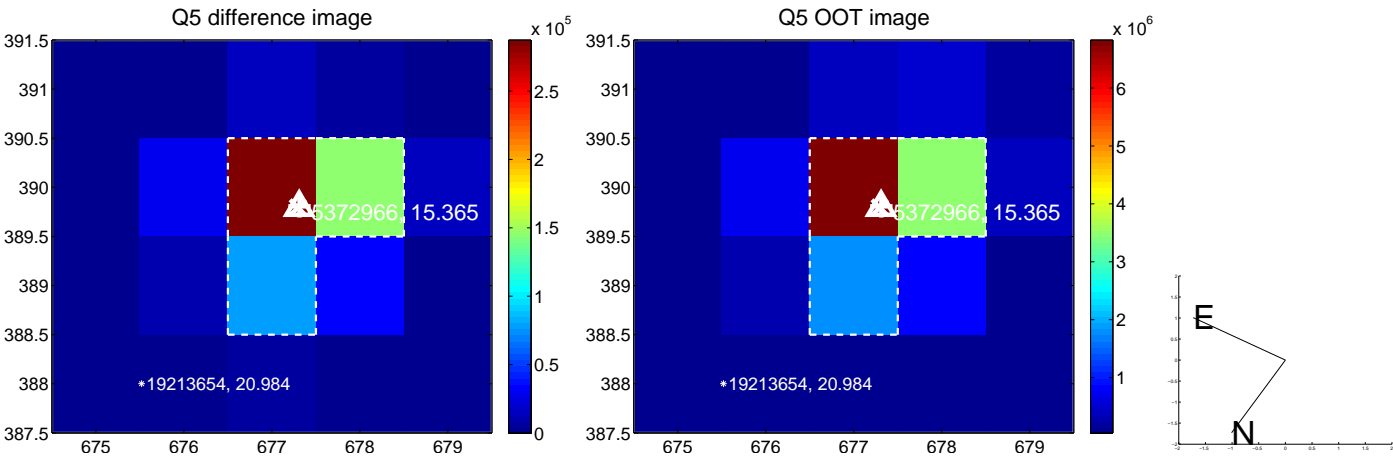


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

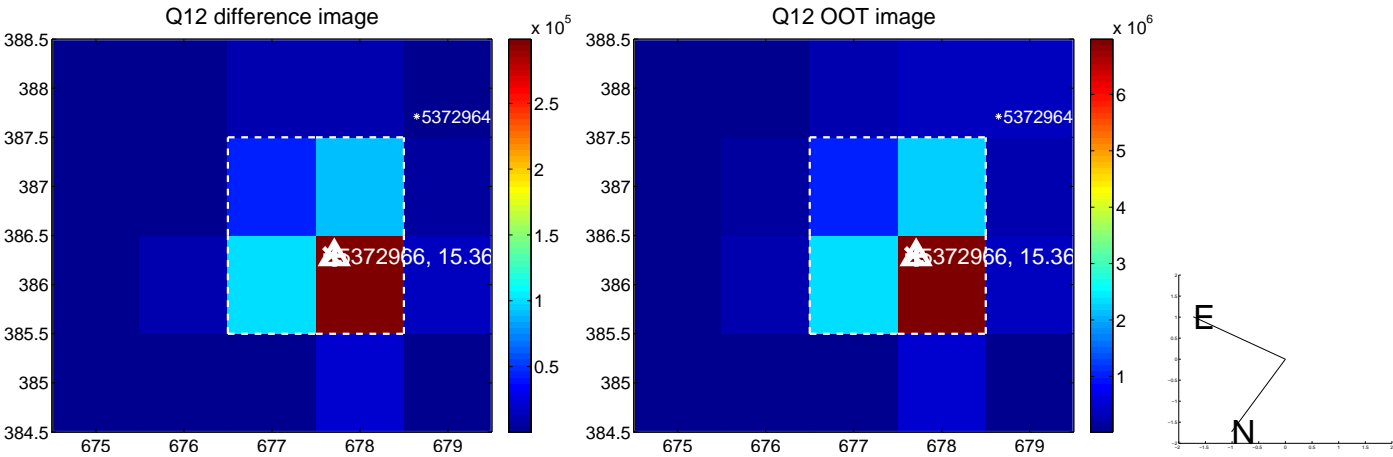
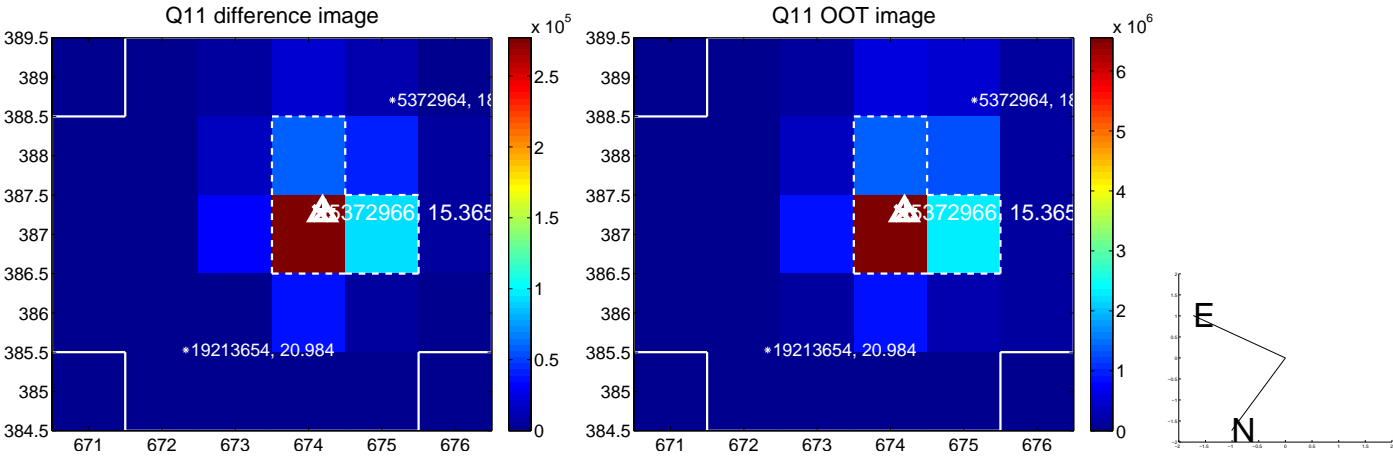
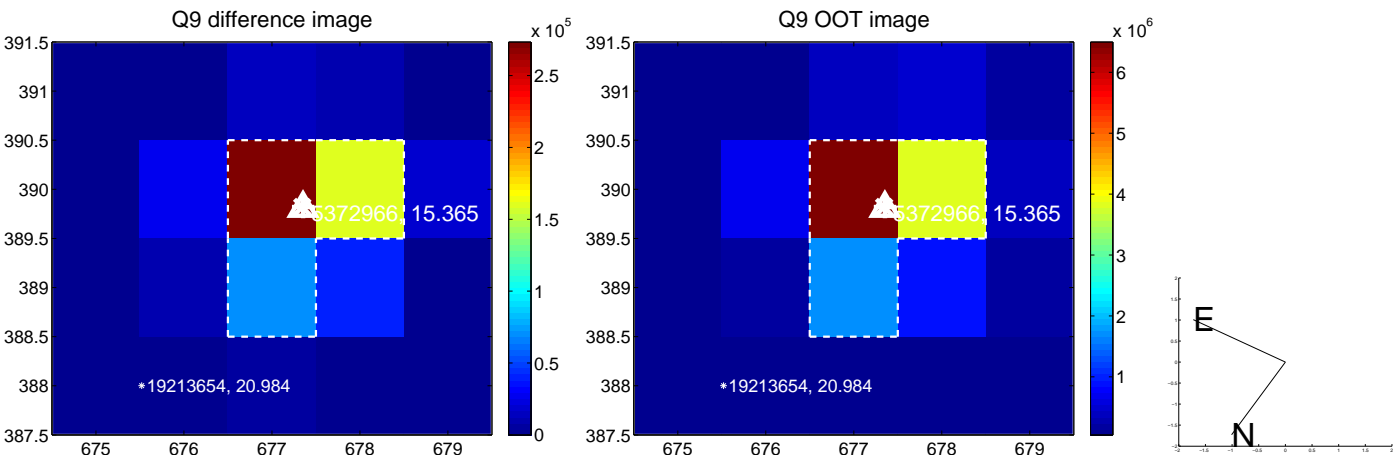
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



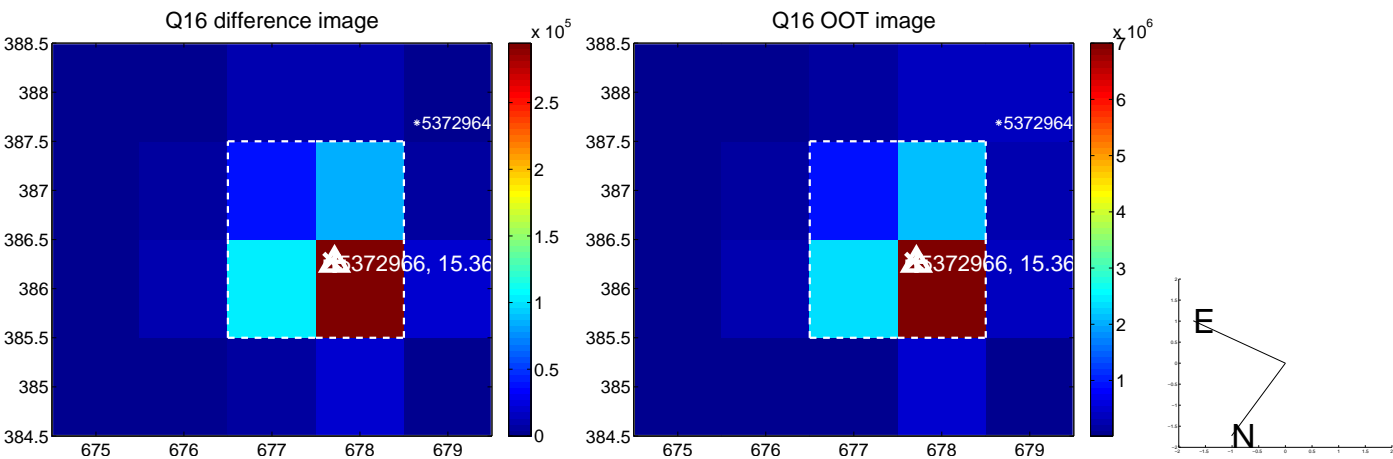
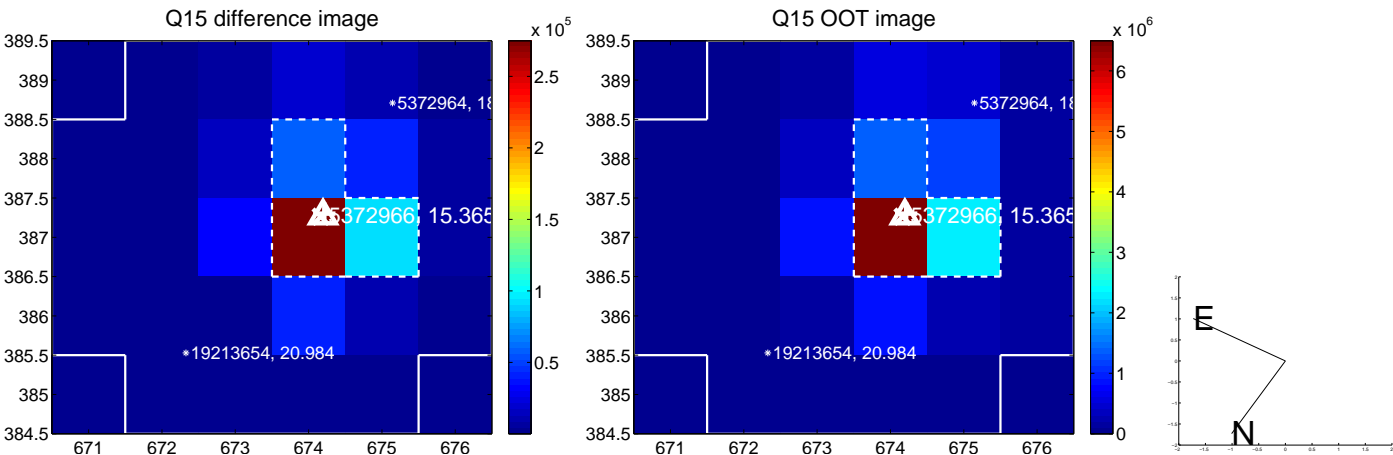
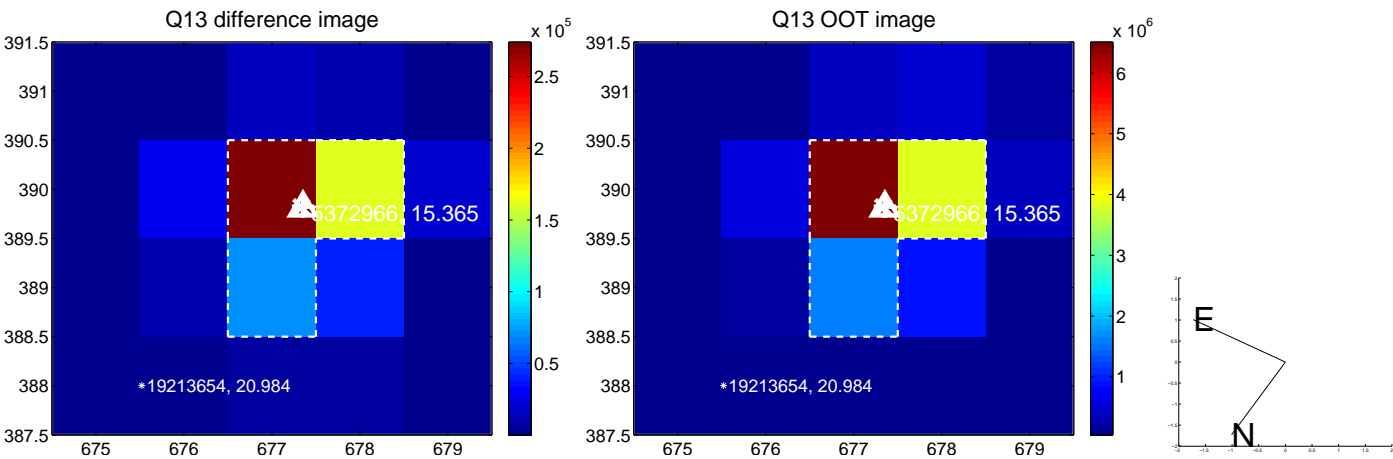
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



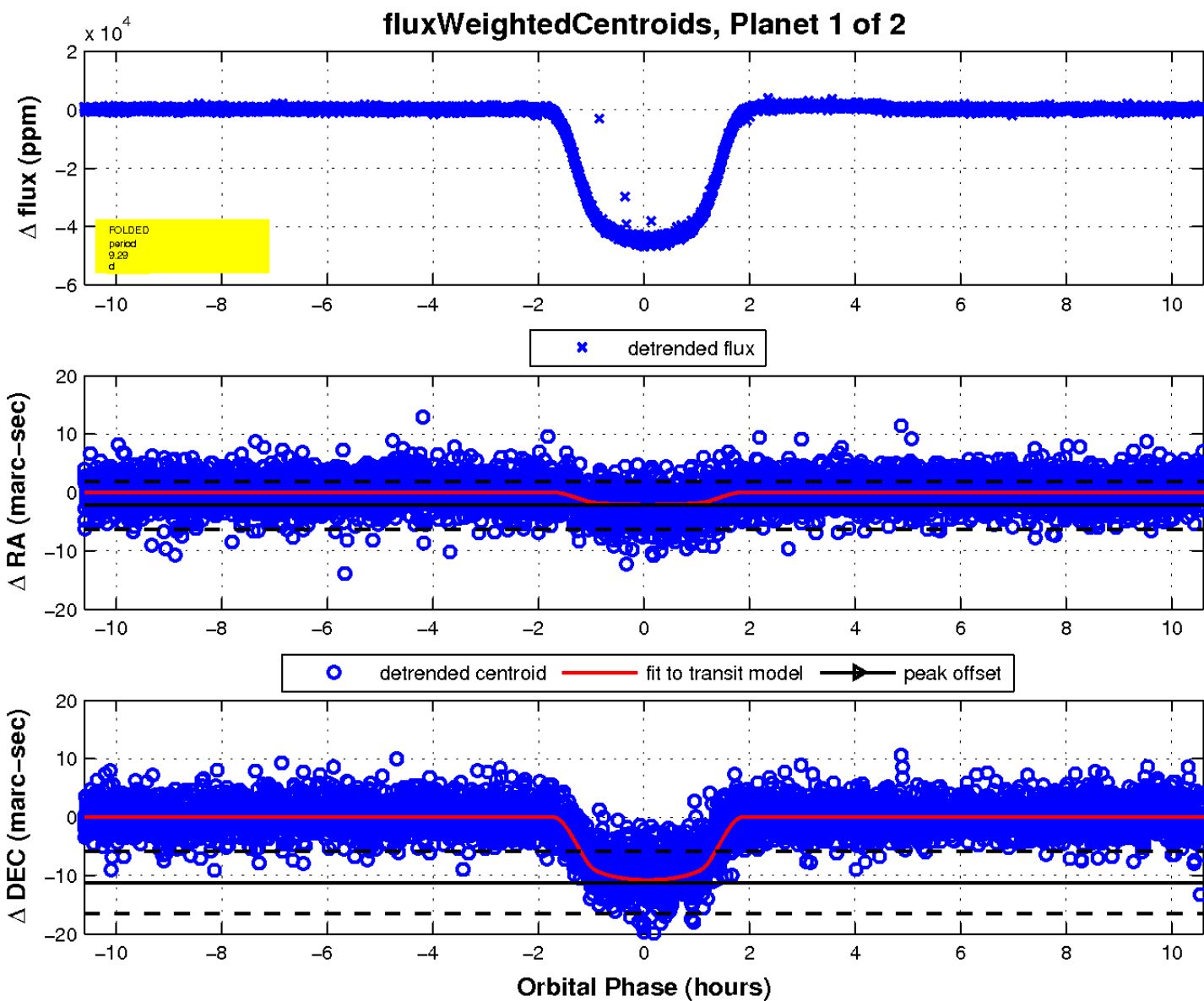
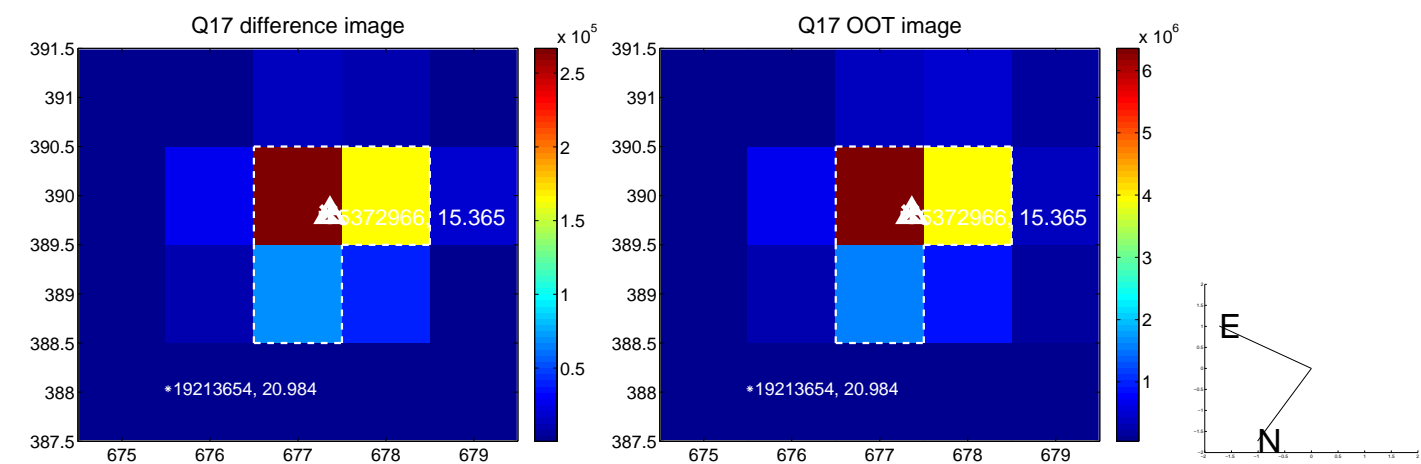
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

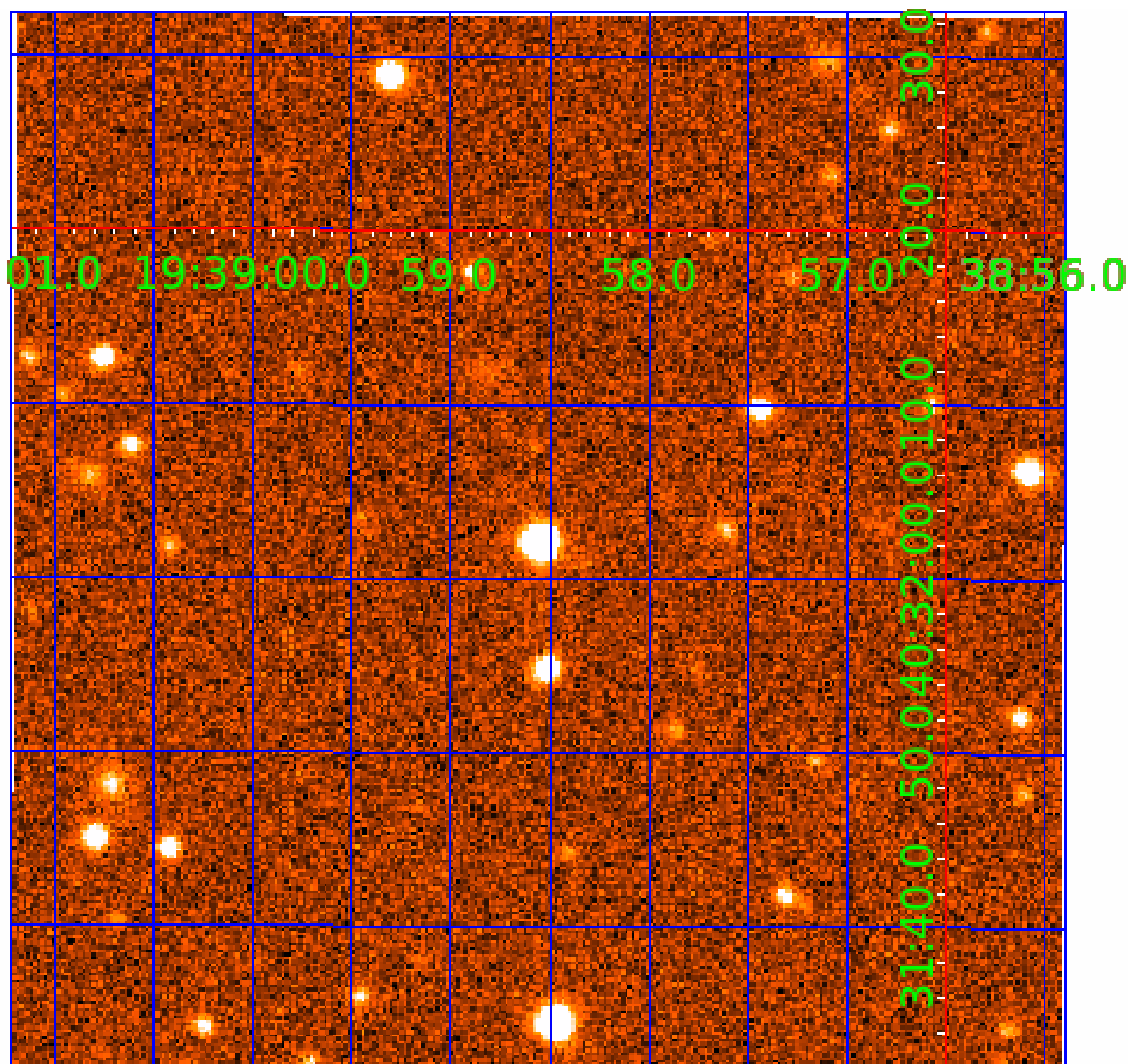


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005372966

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})
005372966-01	OBS	0832.01	9.286359	134.675990	44932.1	3.537	1748.3	1588.5	0.82	5670	17.73	95.28
005372966-02	OBS	No	4.643174	134.813489	1119.5	2.877	40.8	43.1	0.82	5670	3.06	240.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372966-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005372966-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

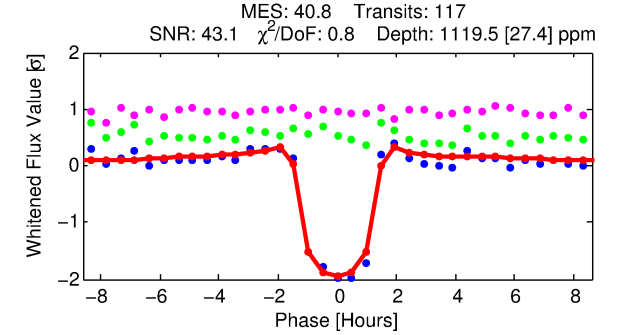
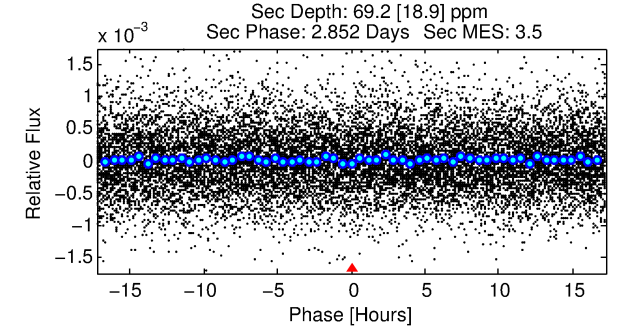
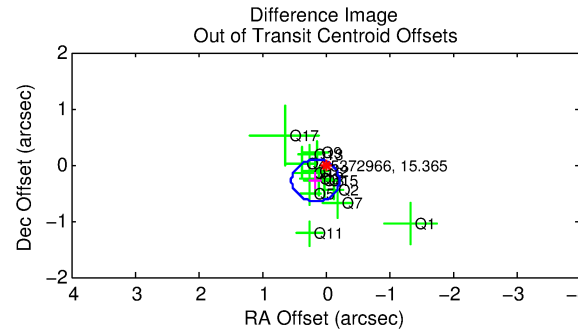
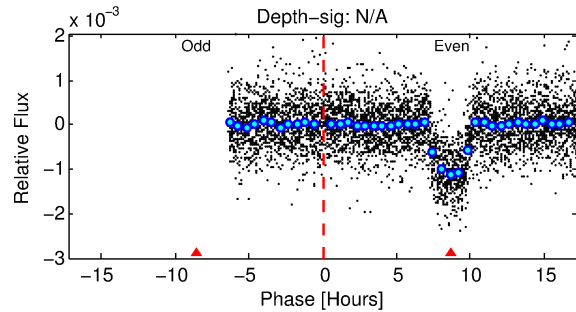
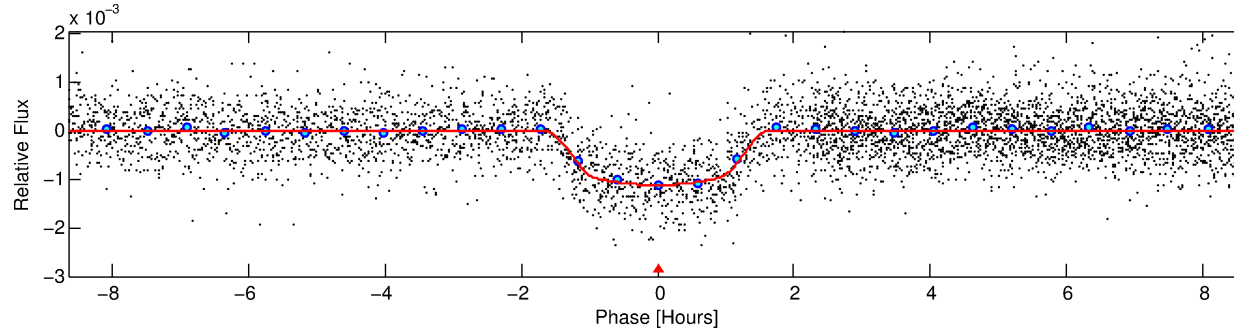
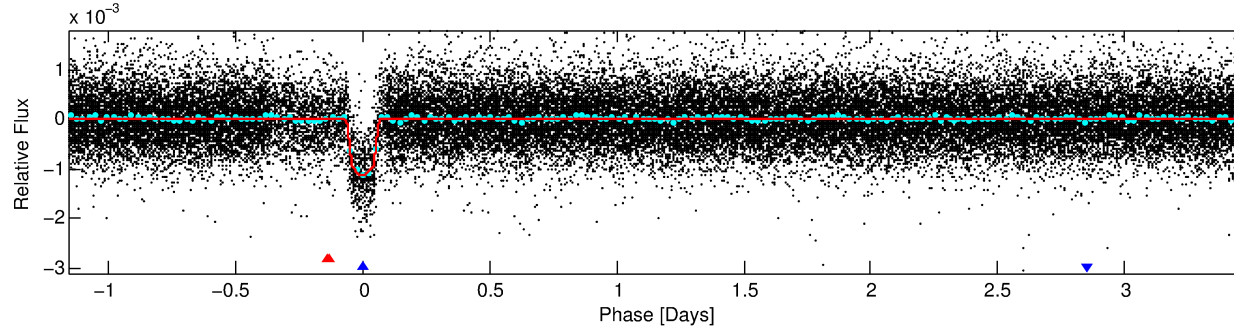
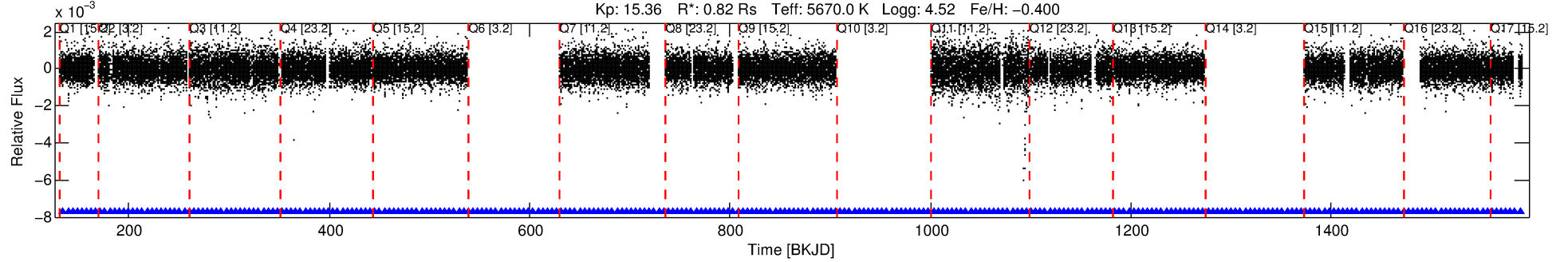
Ephemeris Match Information For 005372966-02

No Significant Match Found

DV One-Page Summary

KIC: 5372966 Candidate: 2 of 2 Period: 4.643 d
KOI: K00832 Corr: No Ephemeris Match

Kp: 15.36 R*: 0.82 Rs Teff: 5670.0 K Logg: 4.52 Fe/H: -0.400



DV Fit Results:

Period = 4.64317 [0.00001] d
Epoch = 134.8135 [0.0010] BKJD
Rp/R* = 0.0341 [0.0037]
a/R* = 8.04 [3.87]
b = 0.81 [0.22]
Seff = 240.09 [73.47]
Teq = 1004 [77] K
Rp = 3.06 [0.78] Re
a = 0.0510 [0.0099] AU
Ag = 10.58 [4.74] [2.02σ]
Teffp = 2799 [258] K [6.68σ]

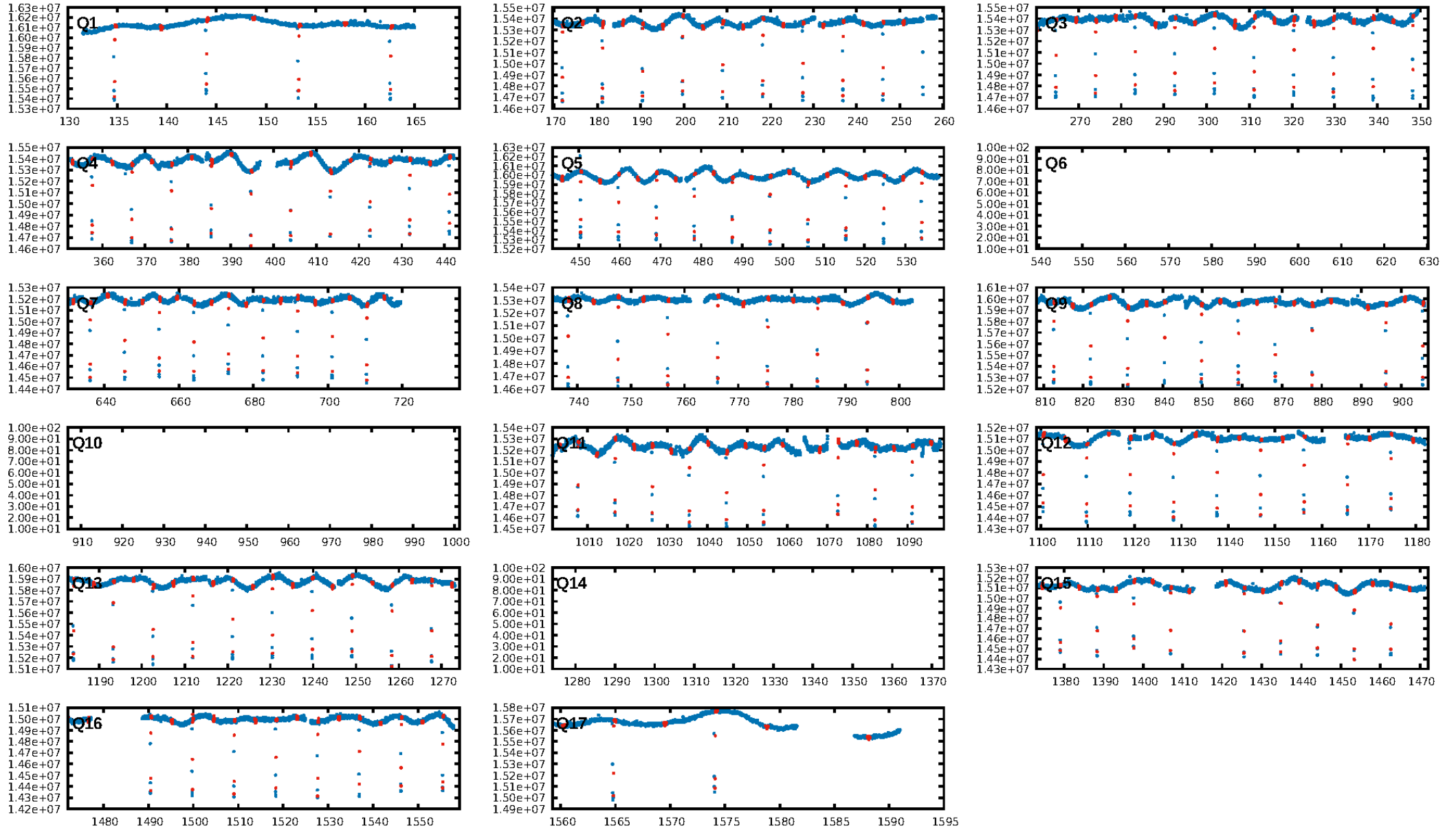
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [24.44σ]
ModelChiSquare2-sig: 98.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [110/110]
GhostDiagnostic-chr: 4.51
Centroid-sig: 29.4%
Centroid-so: 0.084 arcsec [0.43σ]
OotOffset-rm: 0.324 arcsec [2.60σ]
KicOffset-rm: 0.395 arcsec [2.71σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

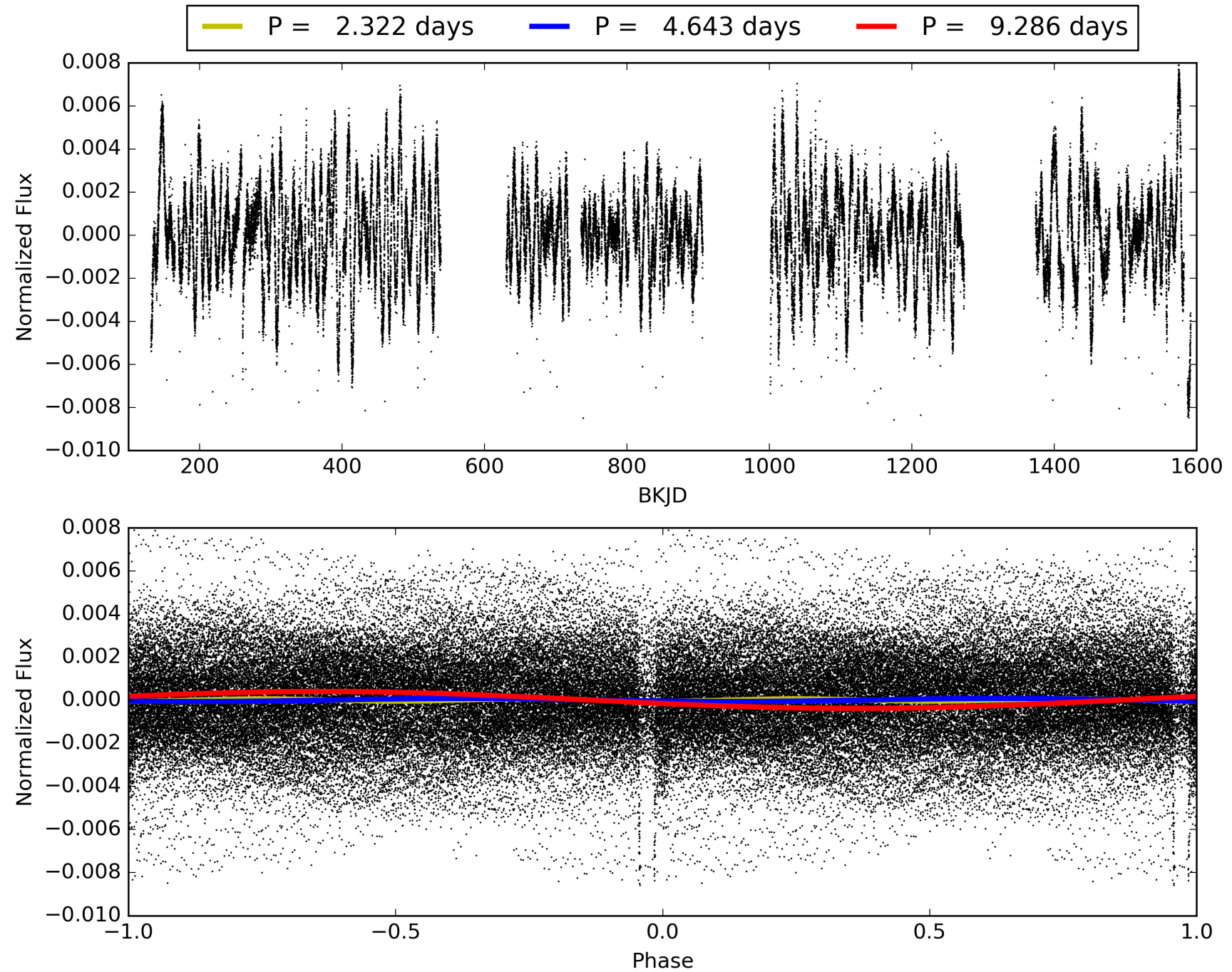
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:48:47 Z

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

TCE 005372966-02, PDC Light Curves

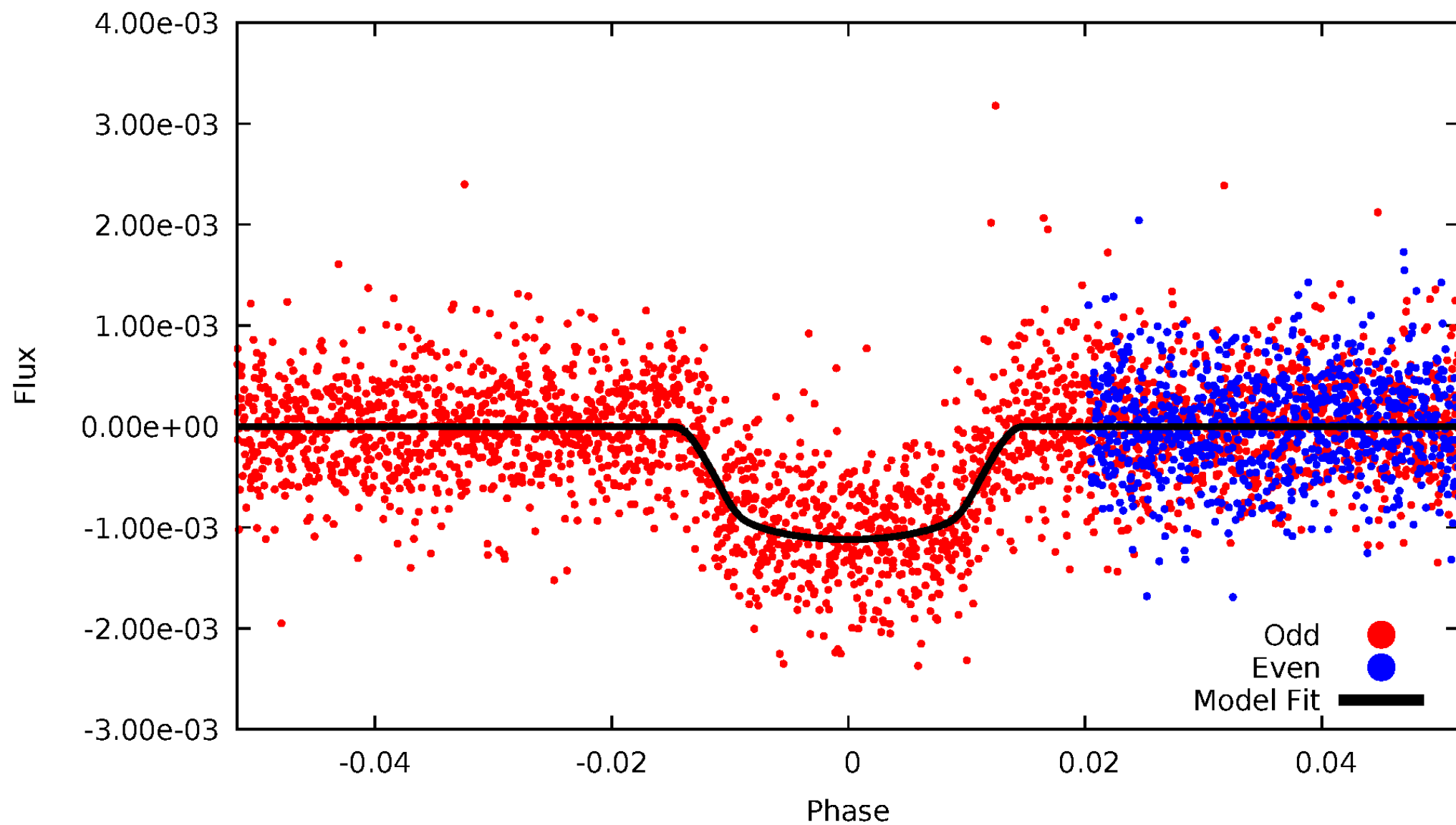


TCE 005372966-02



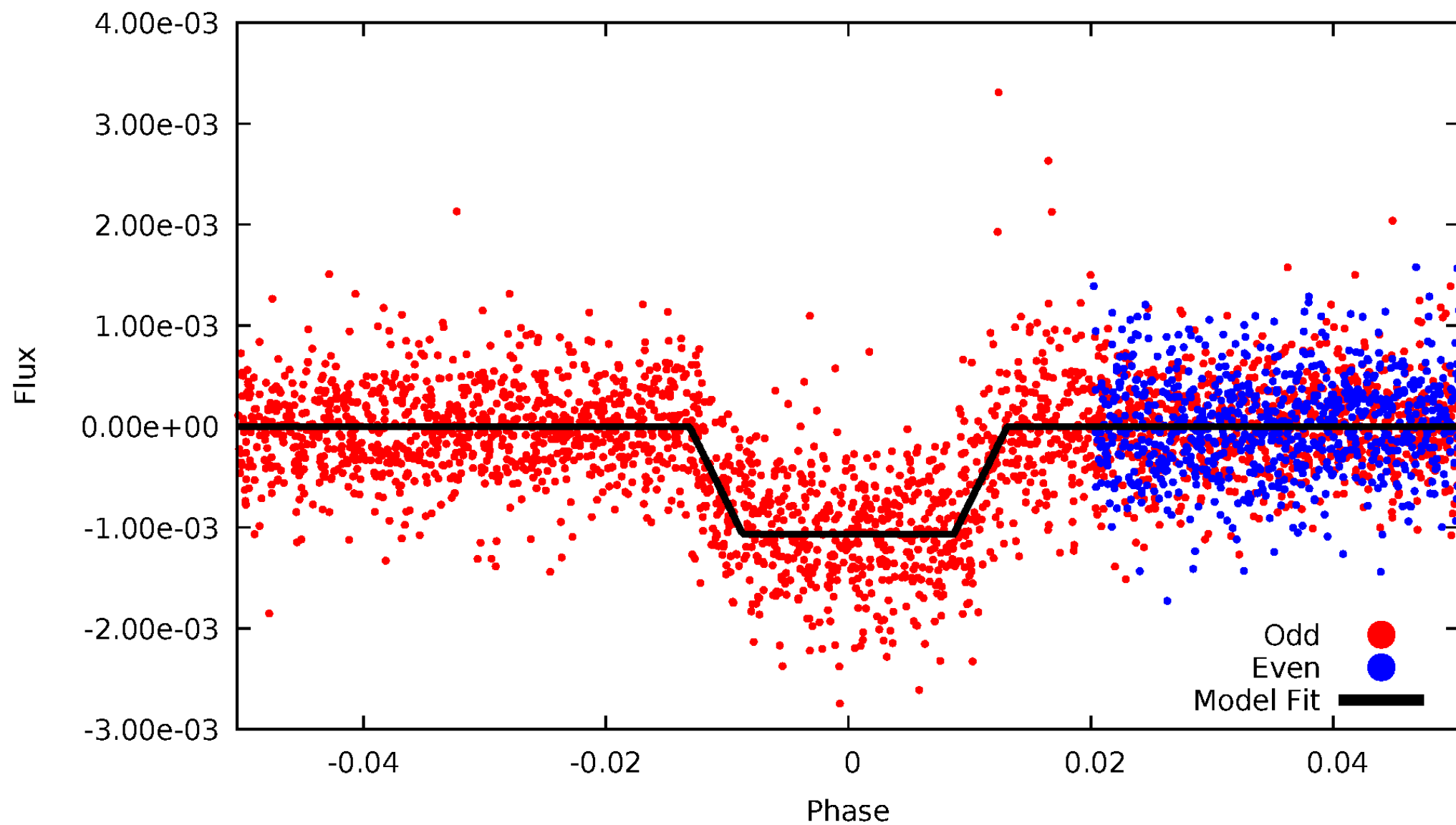
DV Odd/Even

TCE 005372966-02



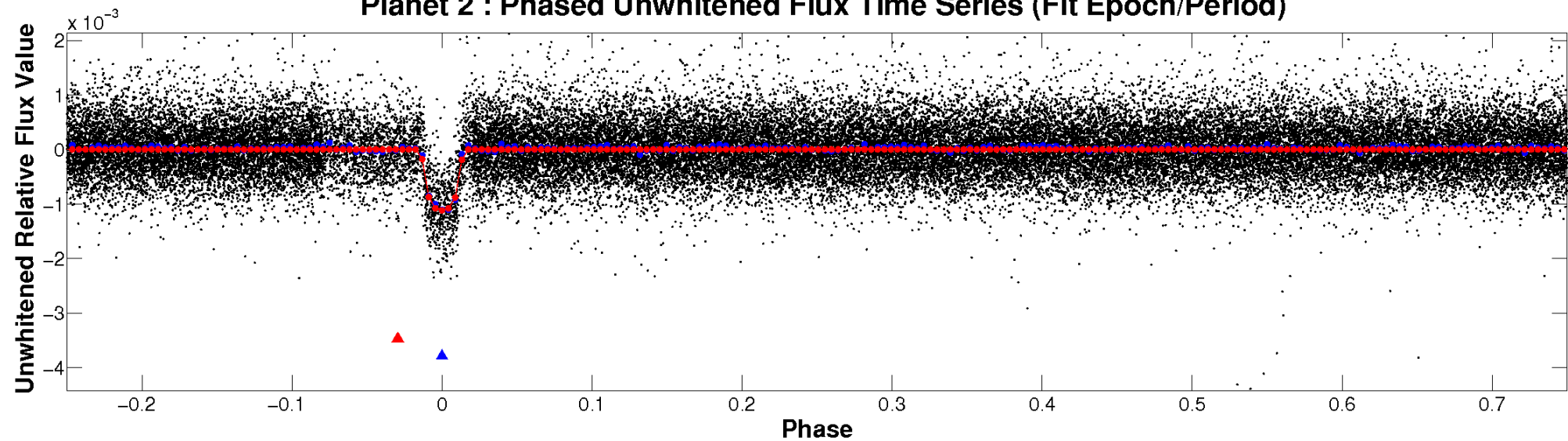
ALT Odd/Even

TCE 005372966-02

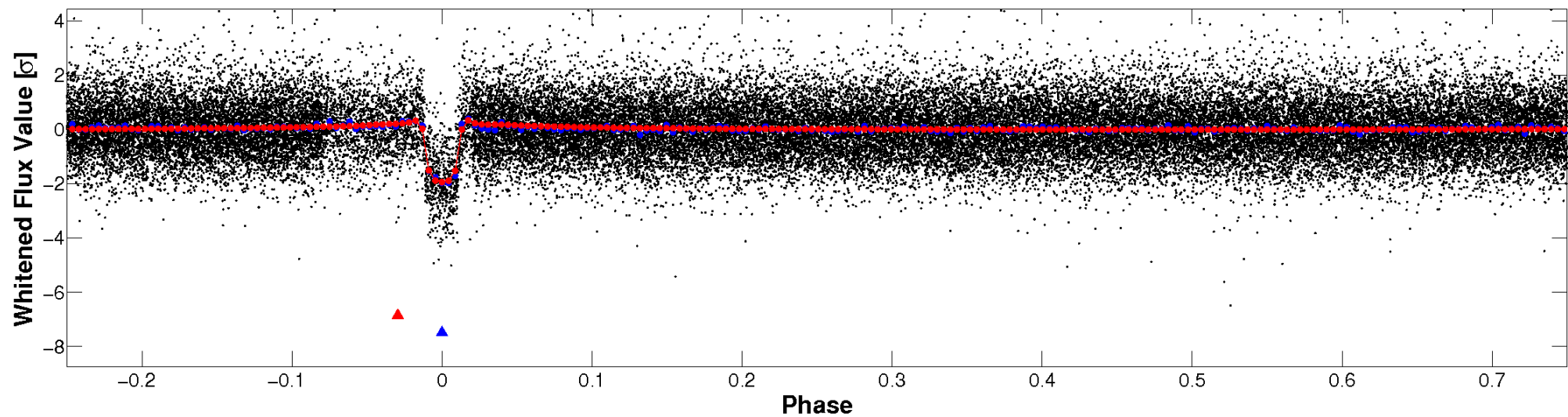


Non-Whitened Vs. Whitened Light Curve

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

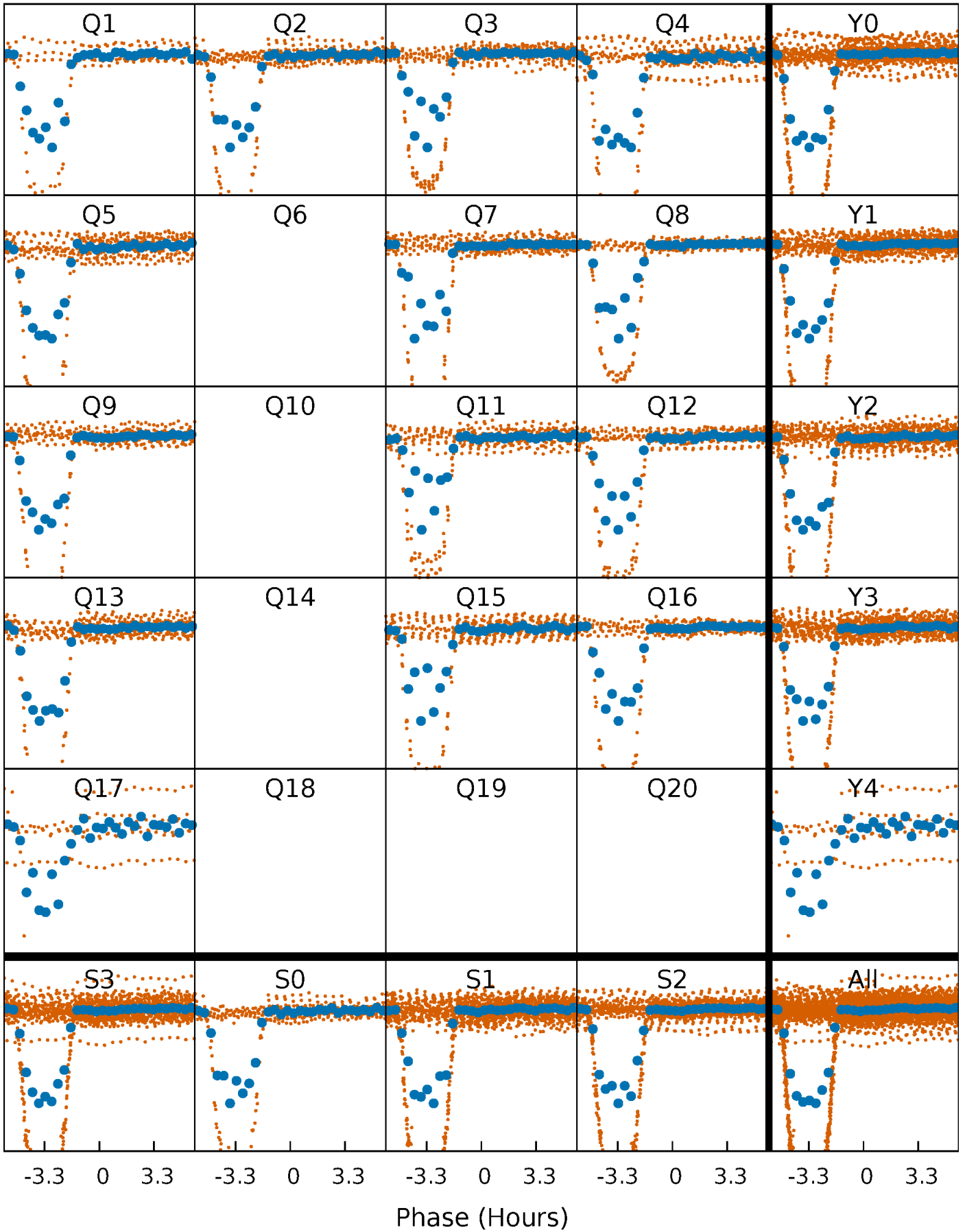


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



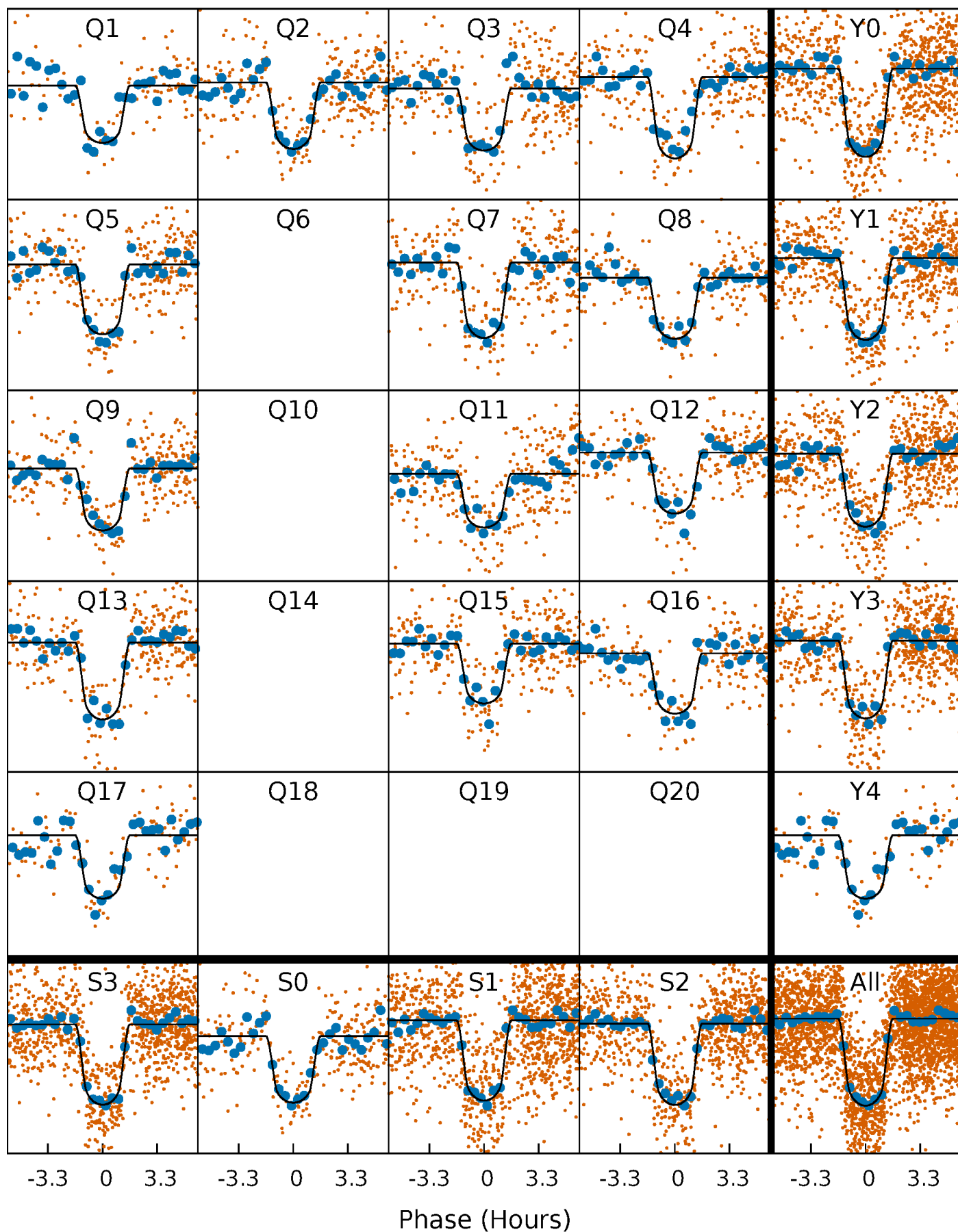
PDC Quarter-Phased Transit Curves

TCE 005372966-02 P= 4.643174 Days $T_0=134.813489$ (BKJD)



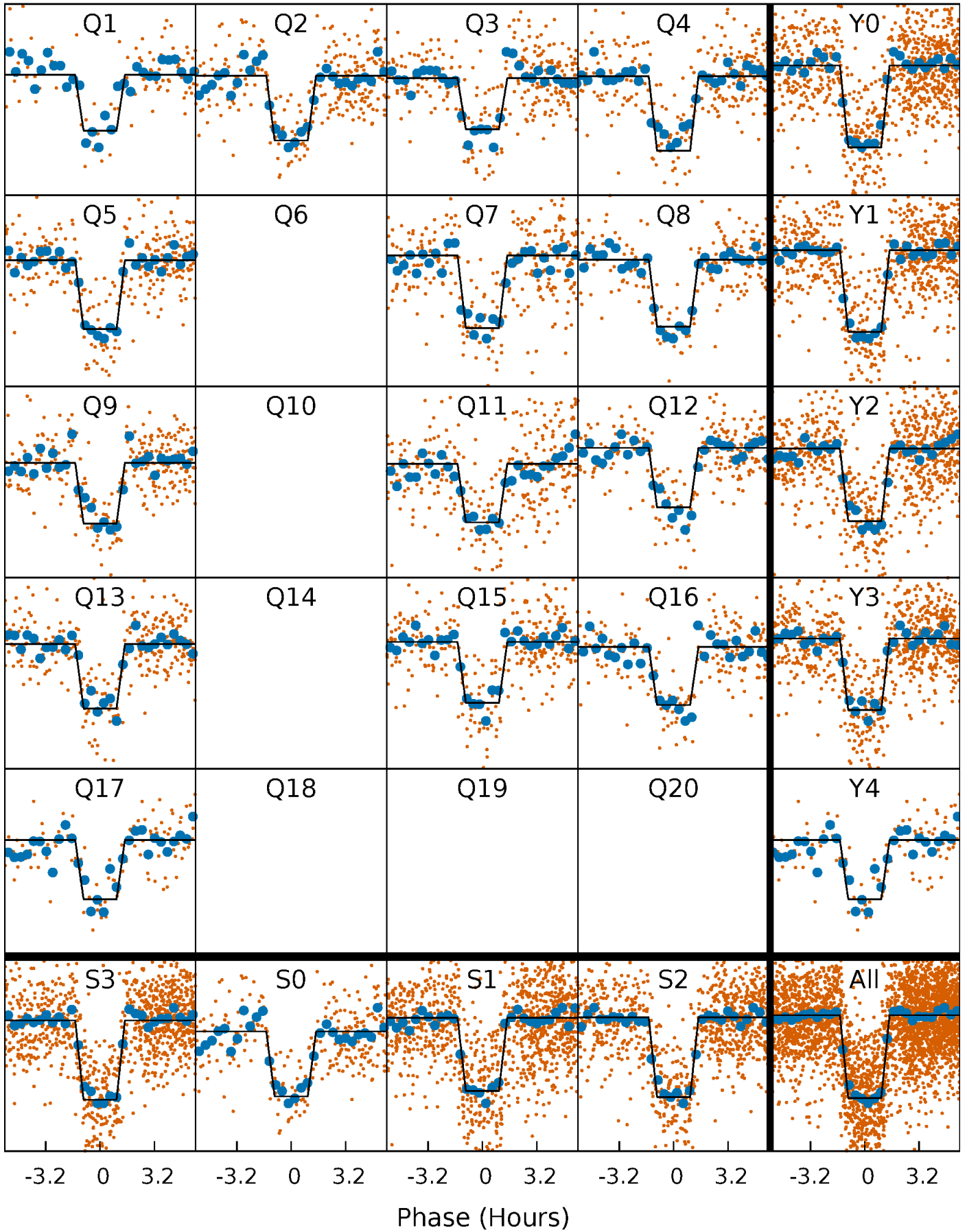
DV Quarter-Phased Transit Curves

TCE 005372966-02 P= 4.643174 Days $T_0=134.813489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

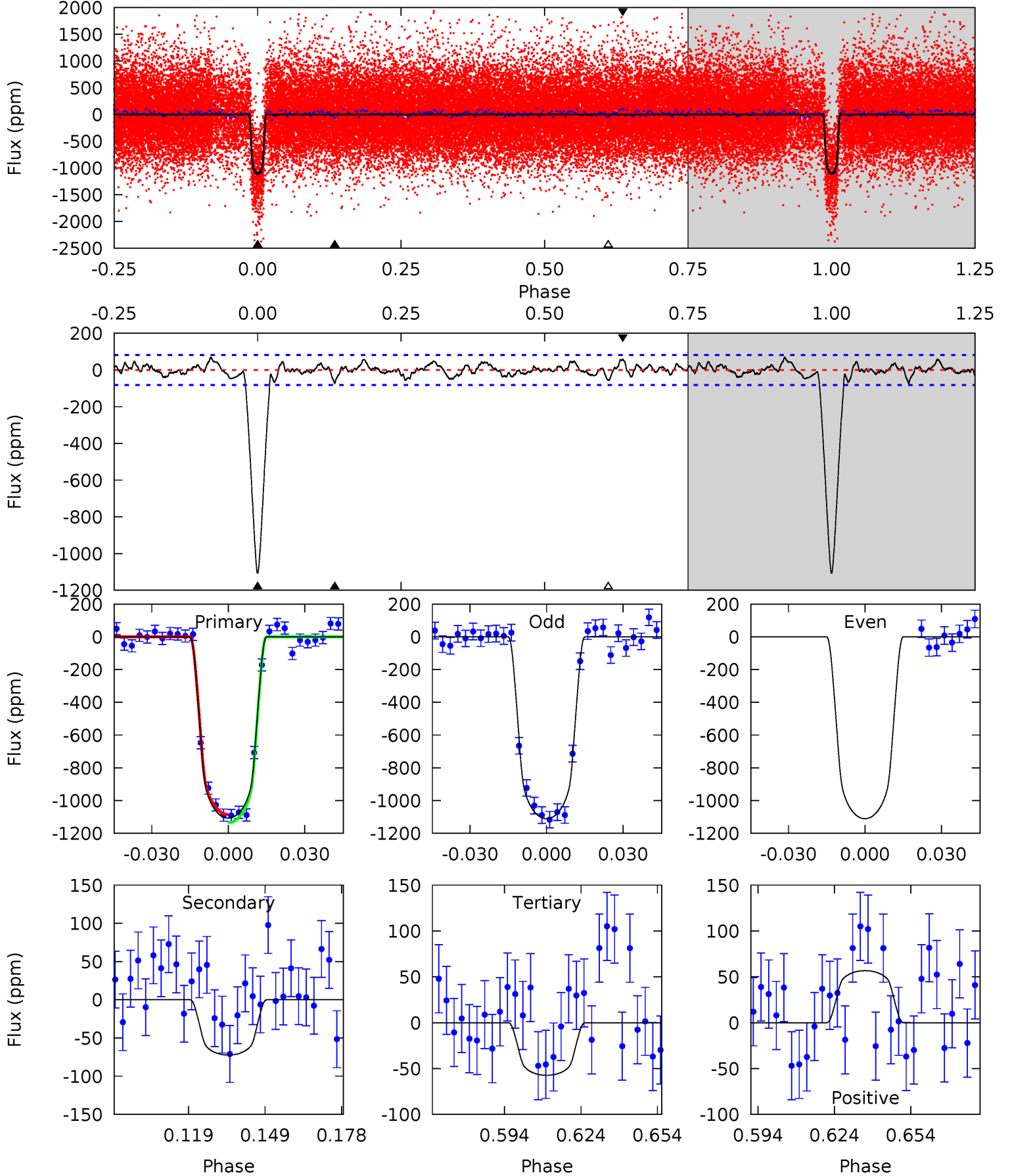
TCE 005372966-02 P= 4.643169 Days $T_0=134.813959$ (BKJD)



DV Model-Shift Uniqueness Test

005372966-02, P = 4.643174 Days, E = 130.170315 Days

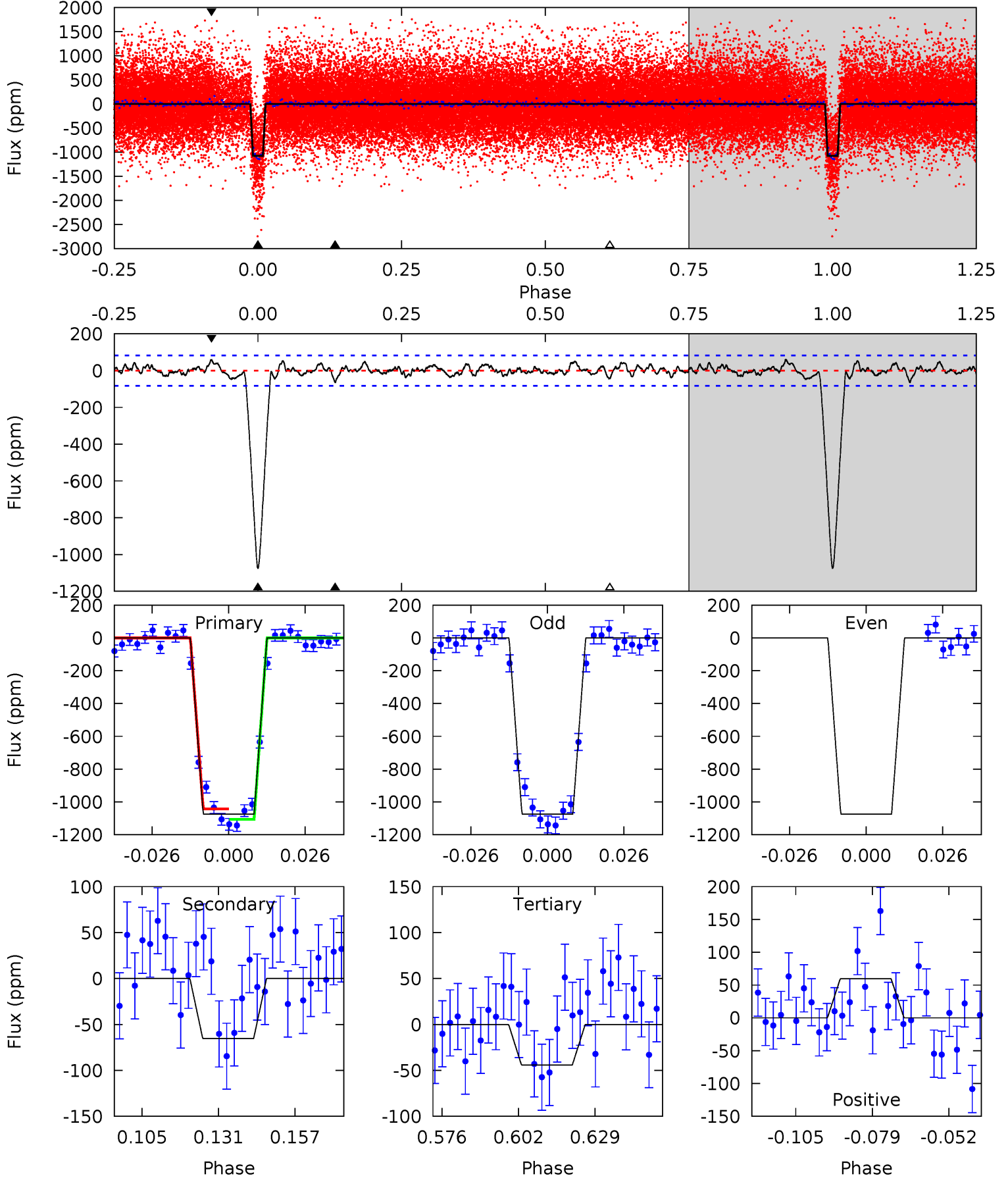
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.1	4.25	3.37	3.34	4.81	2.17	1.38	61.7	61.8	0.88	0.92	0	1.02	0.06	1.49



Alt Model-Shift Uniqueness Test

005372966-02, P = 4.643169 Days, E = 130.170790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.1	3.84	2.59	3.50	4.84	2.22	1.14	60.5	59.6	1.25	0.35	0	1.00	0.05	1.85



Stellar Parameters For KIC 005372966

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5670^{+169}_{-169}	$4.523^{+0.066}_{-0.154}$	$-0.400^{+0.300}_{-0.300}$	$0.821^{+0.189}_{-0.087}$	$0.820^{+0.106}_{-0.071}$	$2.087^{+0.703}_{-0.870}$
	+3%/-3%	+1%/-3%	+75%/-75%	+23%/-11%	+13%/-9%	+34%/-42%
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 005372966-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-72 ± 17	$3.16^{+0.52}_{-0.43}$	1420^{+83}_{-63}	3334^{+194}_{-184}	10^{+5}_{-3}
Alt.	-65 ± 17	$3.02^{+0.49}_{-0.42}$	1416^{+83}_{-64}	3326^{+188}_{-195}	$9.961^{+4.576}_{-3.328}$

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

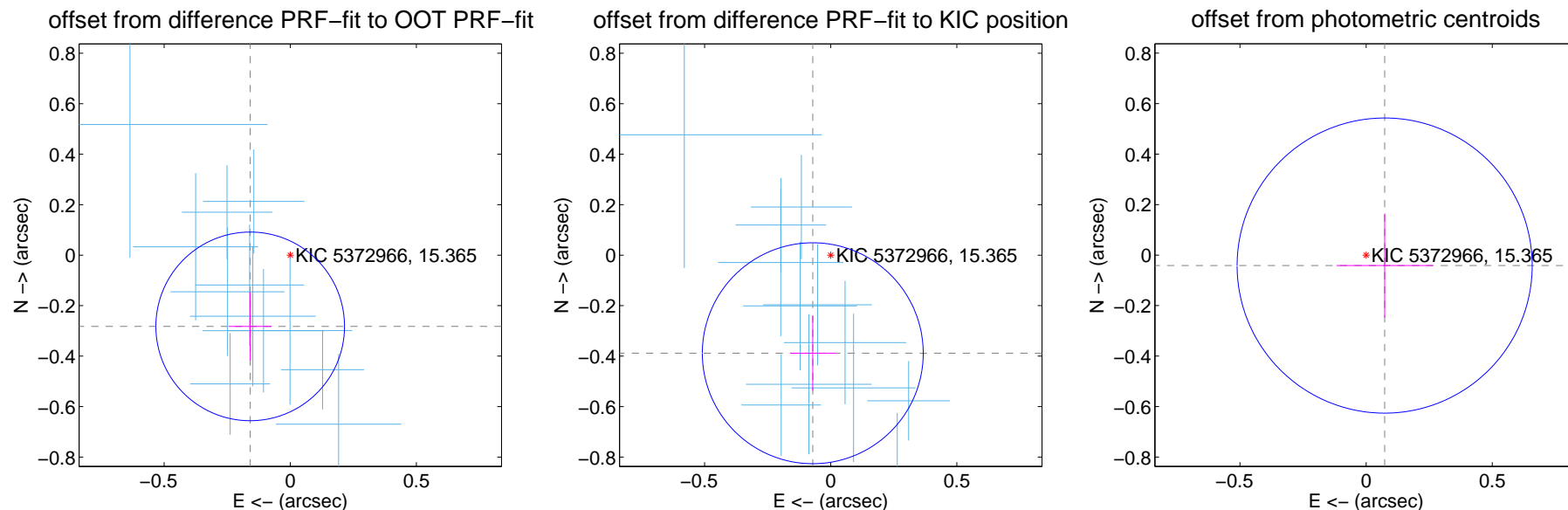
DV Centroid Data

Supplemental centroid analysis for 005372966-02. Kepler magnitude: 15.37. Transit SNR 43.12

There are 14 quarters with good PRF difference image offsets

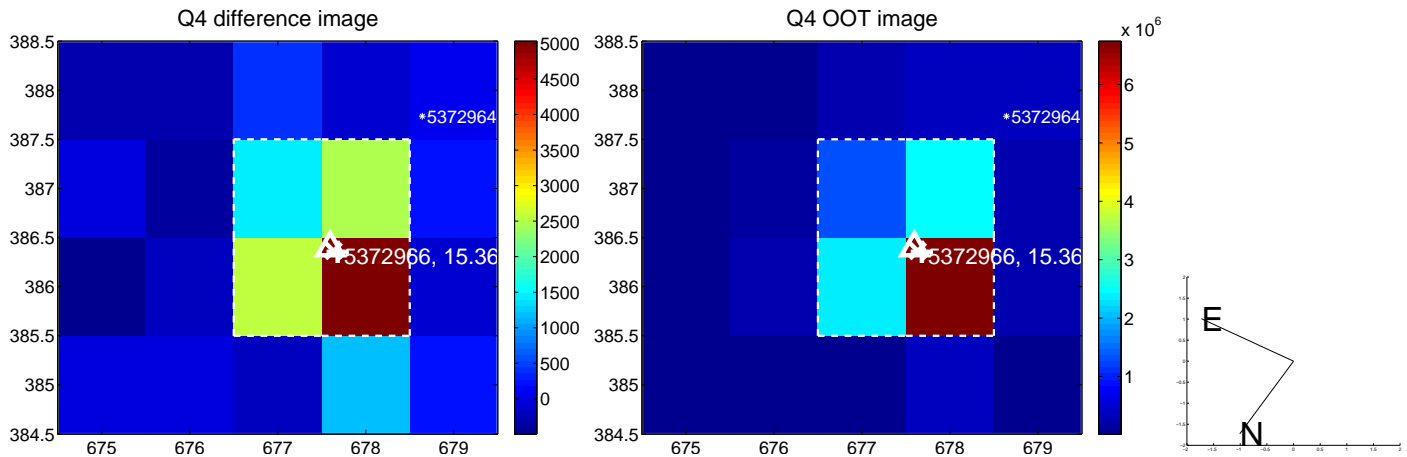
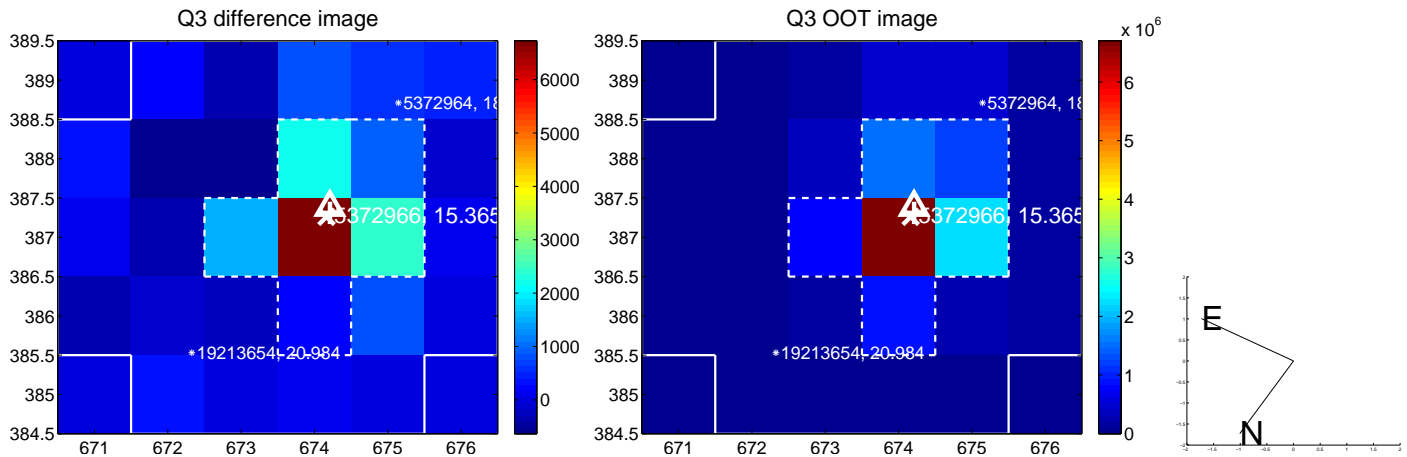
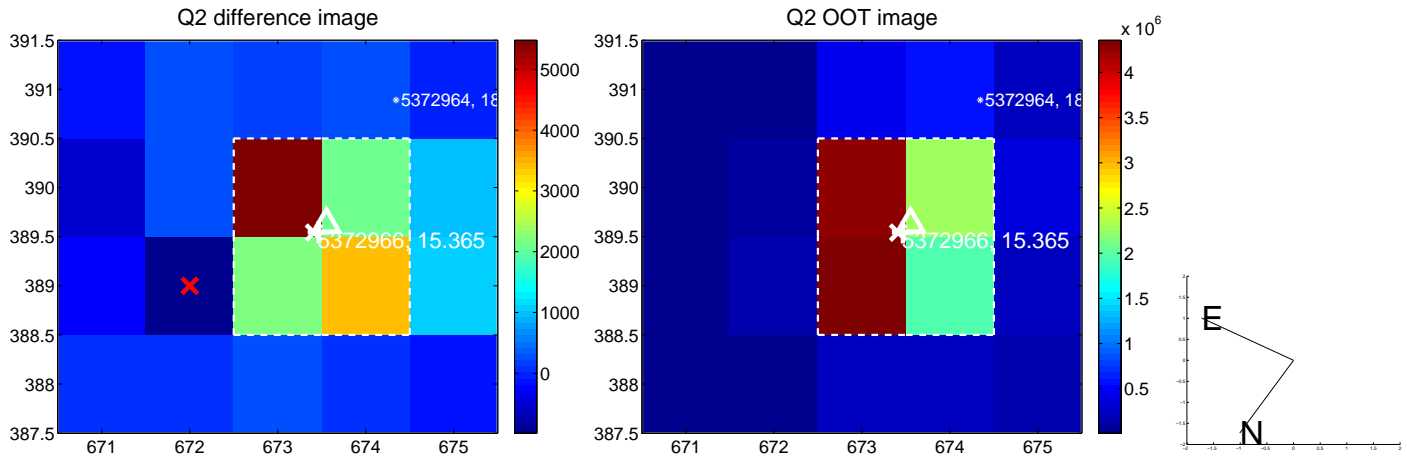
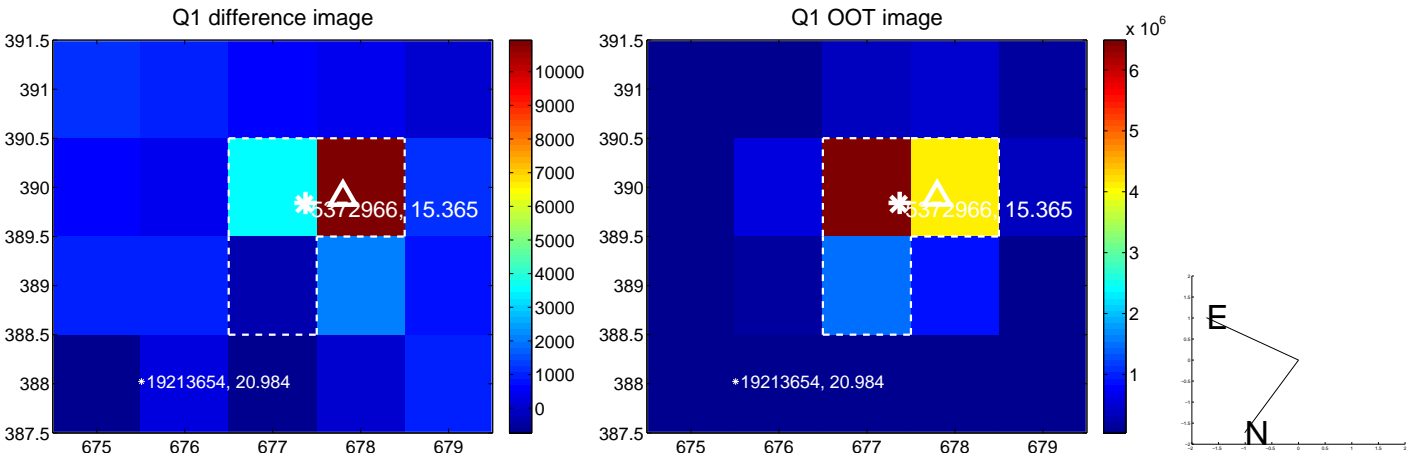
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.324 ± 0.125	2.60	0.159 ± 0.085	-0.282 ± 0.135
PRF-fit source offset from KIC position	0.395 ± 0.146	2.71	0.071 ± 0.090	-0.389 ± 0.147
photometric centroid source offset	0.08 ± 0.19	0.43	-0.07 ± 0.19	-0.04 ± 0.21

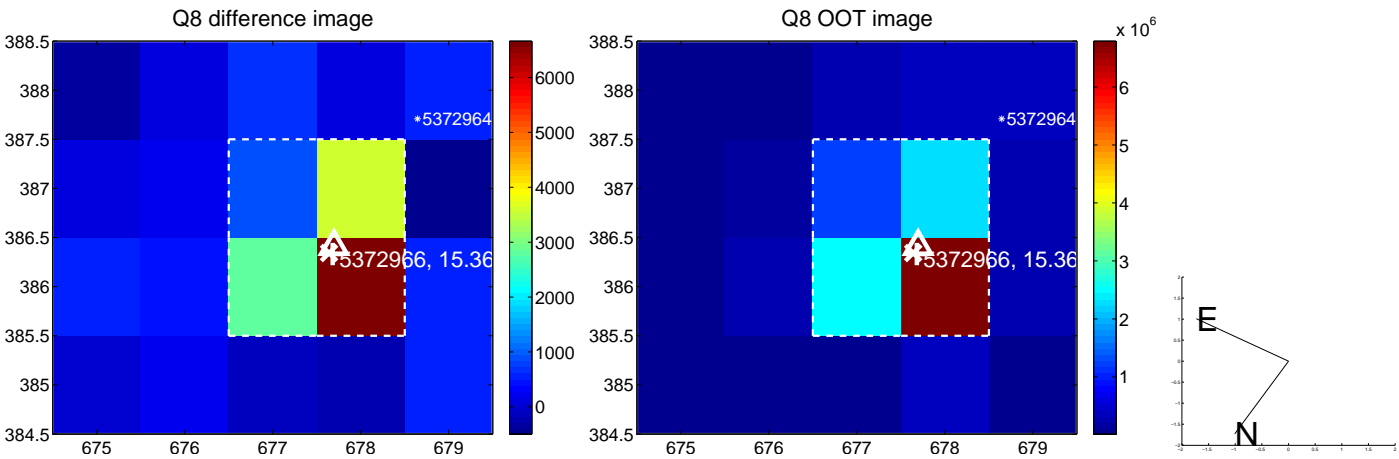
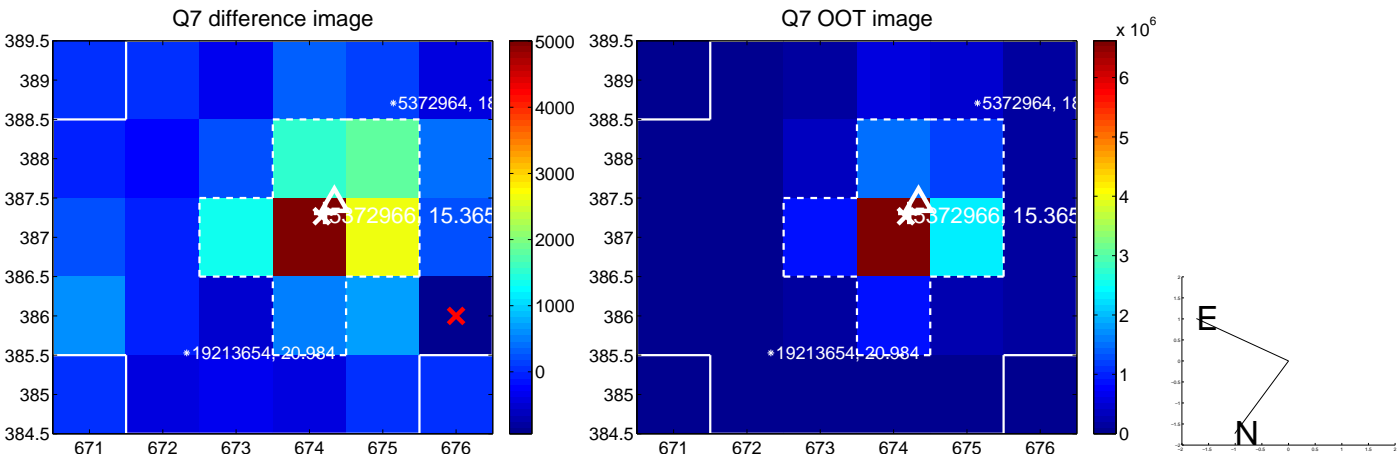
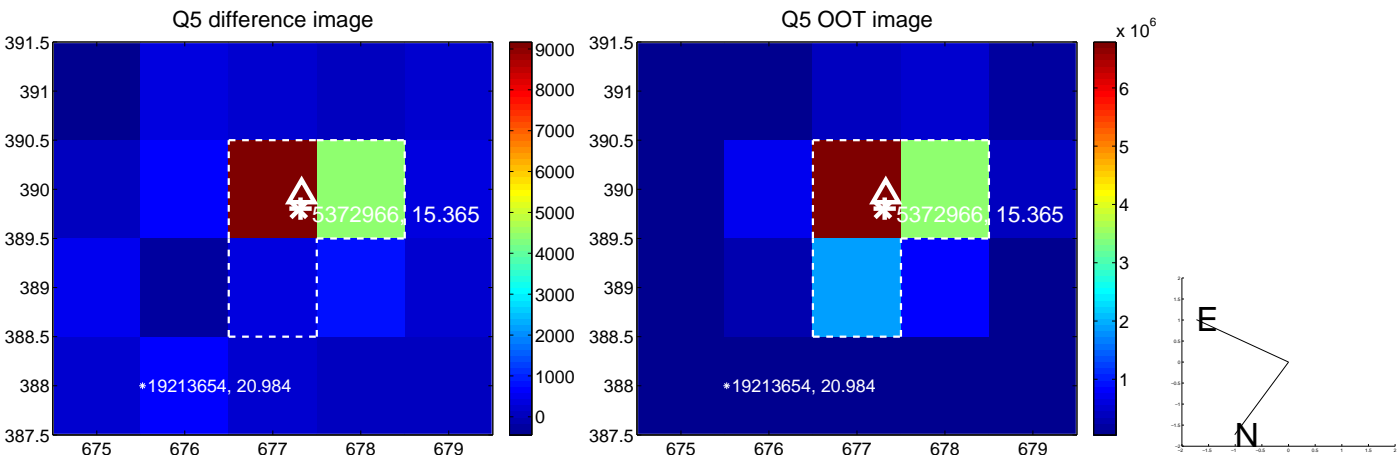


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

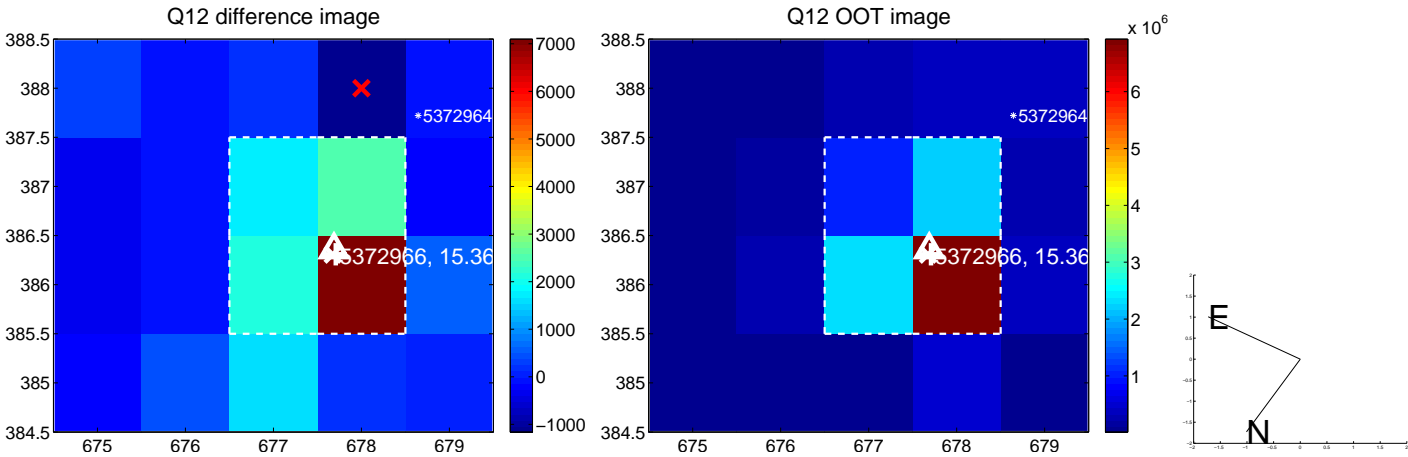
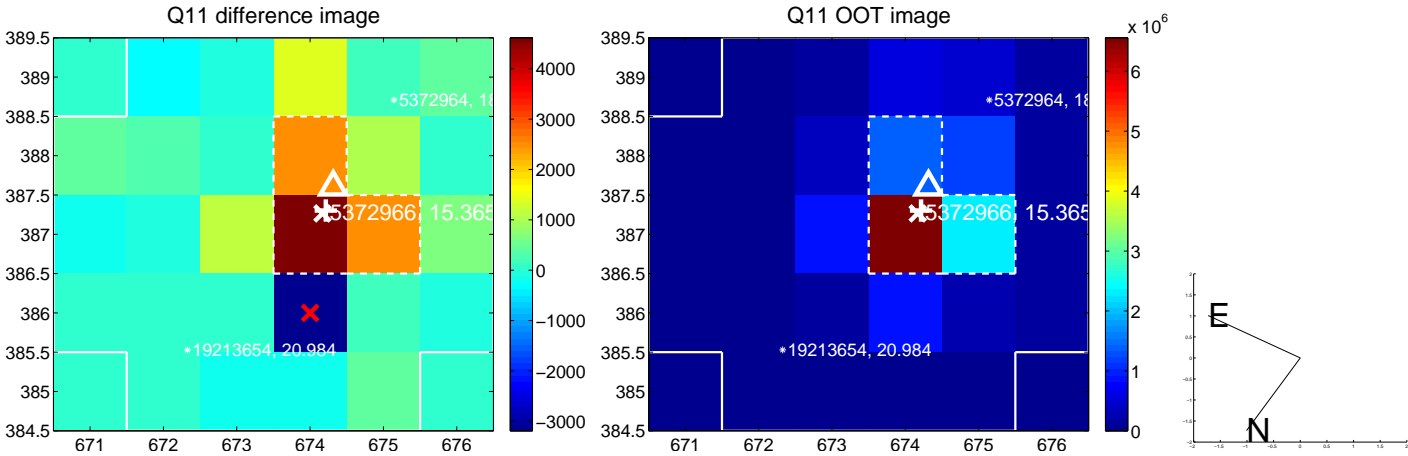
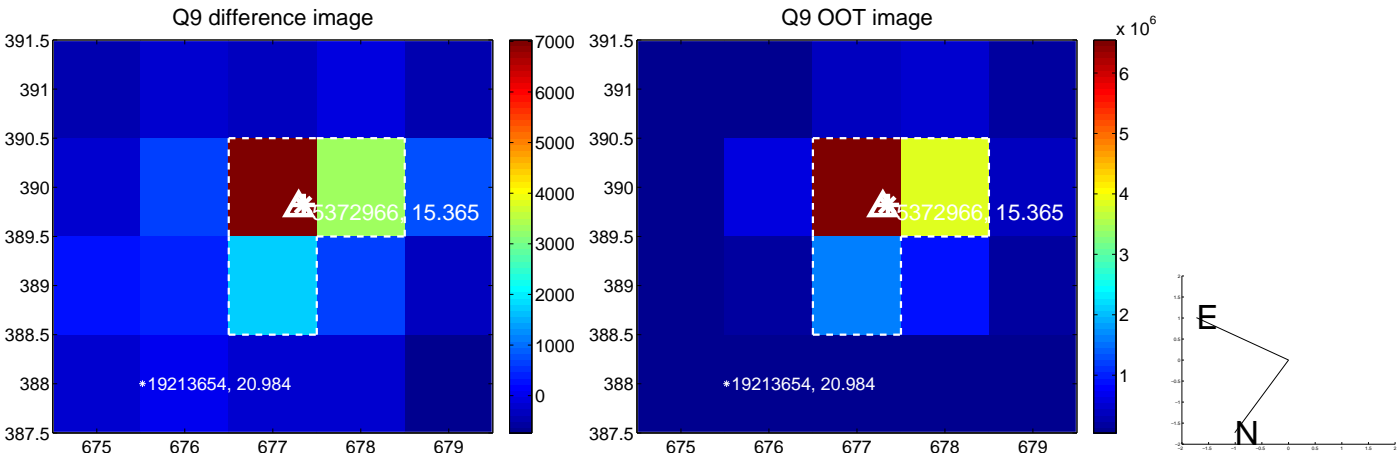
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



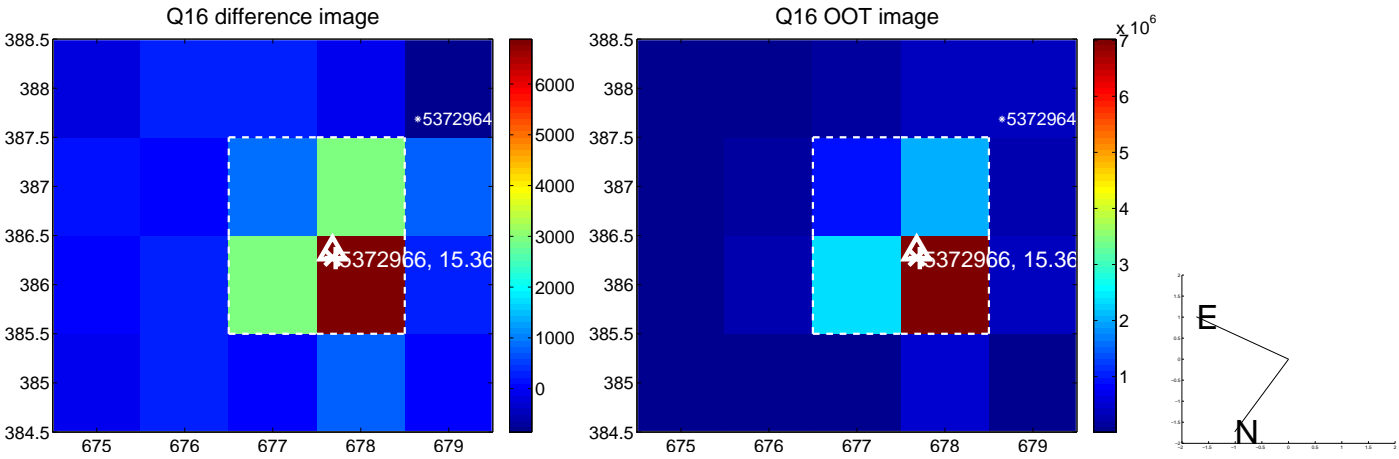
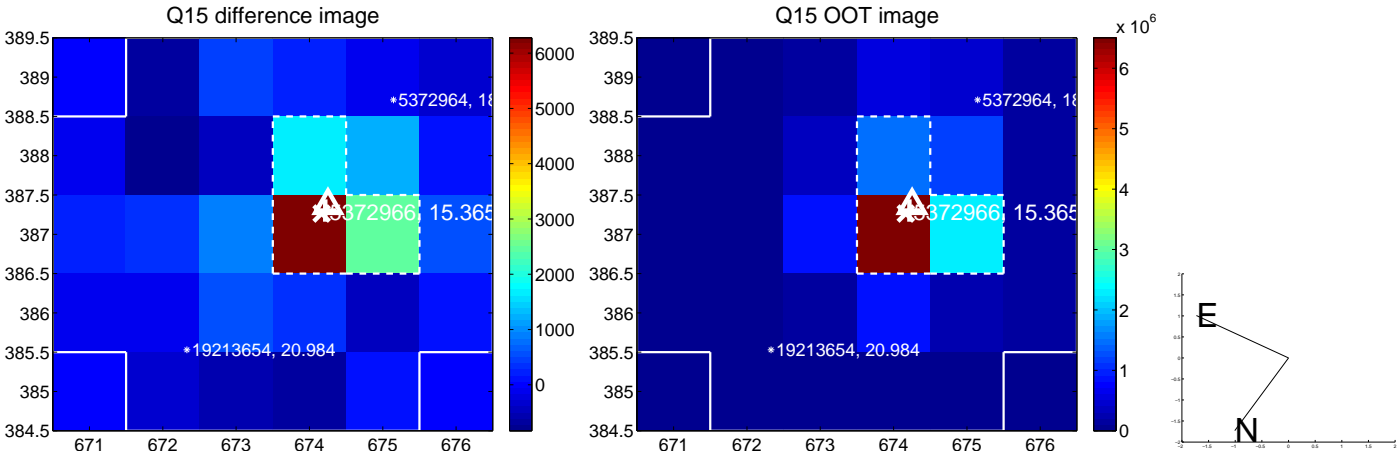
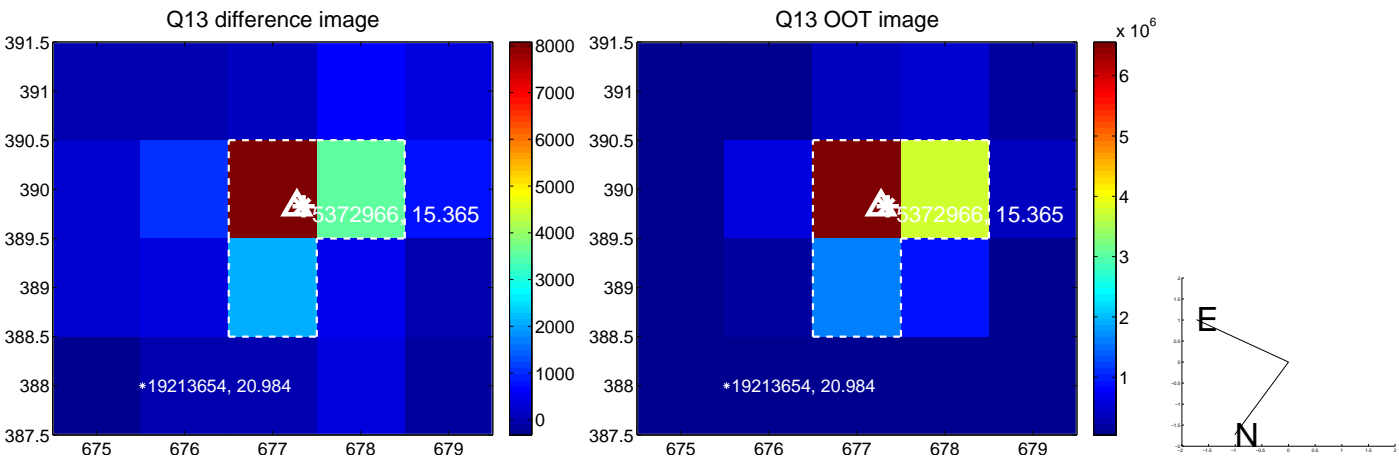
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



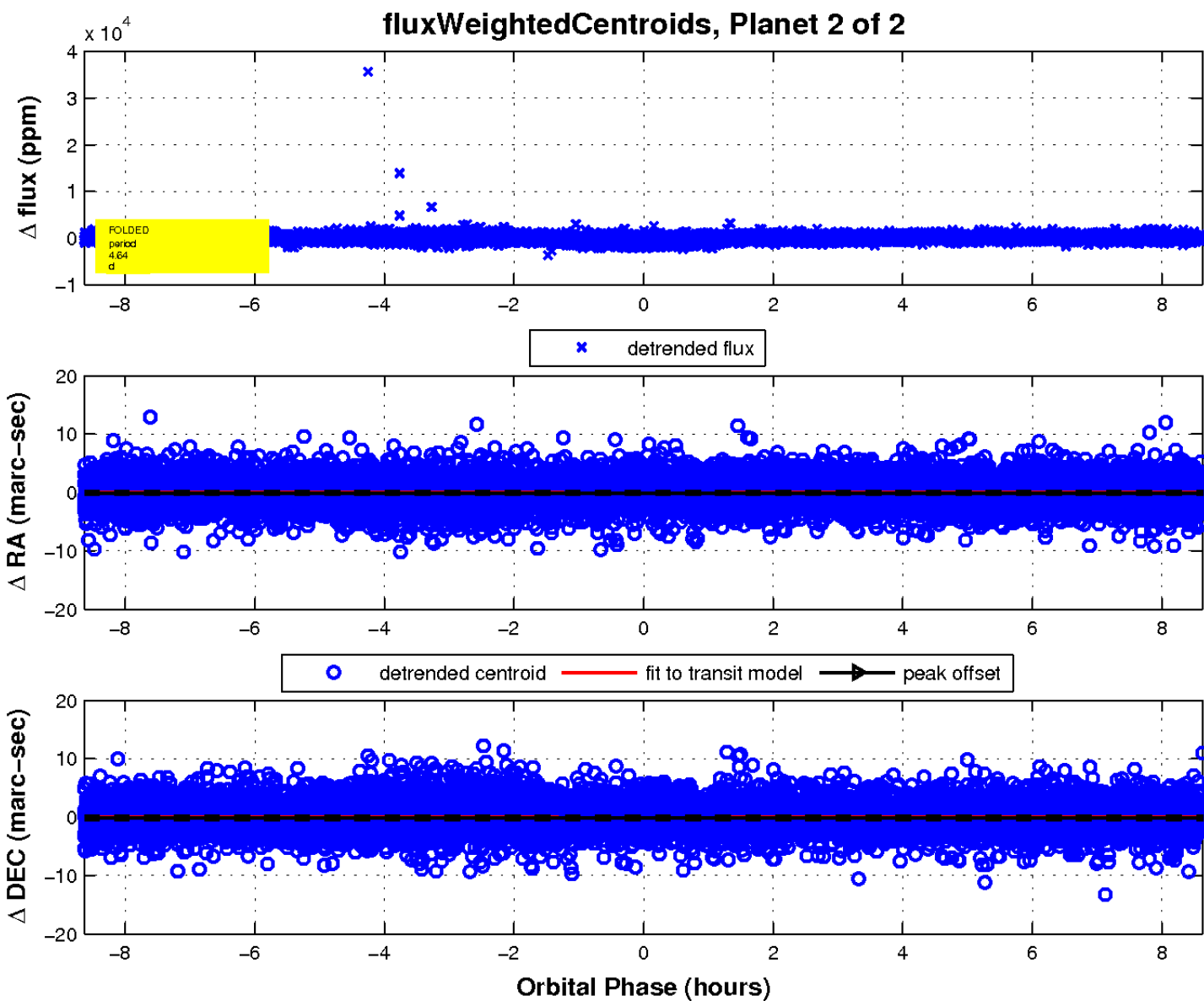
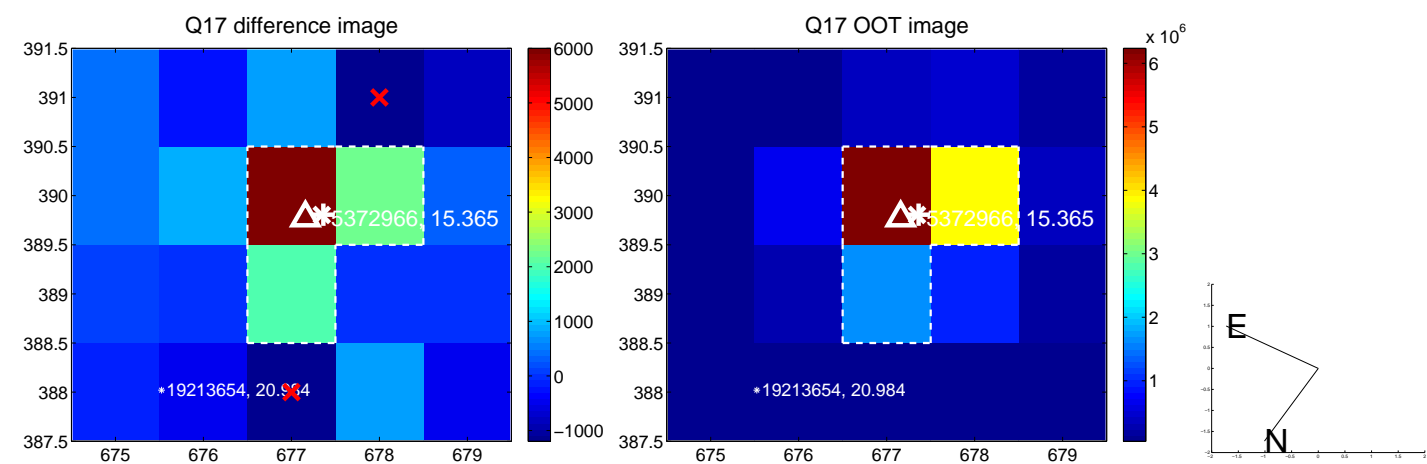
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

