

KIC 009408035

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})
009408035-01	OBS	No	342.360037	191.083338	551.6	7.716	17.9	7.5	0.58	4898	1.87	0.28
009408035-02	OBS	No	496.780352	256.395978	951.1	3.668	16.7	10.7	0.58	4898	1.84	0.17
009408035-03	OBS	No	345.292332	161.730077	327.7	7.654	15.6	4.9	0.58	4898	1.11	0.27
009408035-04	OBS	No	309.194621	179.163076	358.2	2.479	10.4	5.2	0.58	4898	1.22	0.32
009408035-05	OBS	No	379.295181	335.035839	117.1	0.592	10.8	0.9	0.58	4898	0.78	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009408035-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
009408035-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

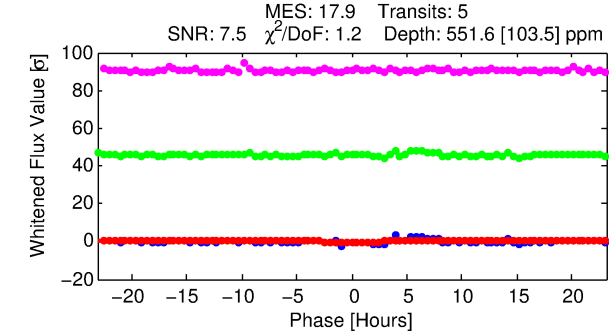
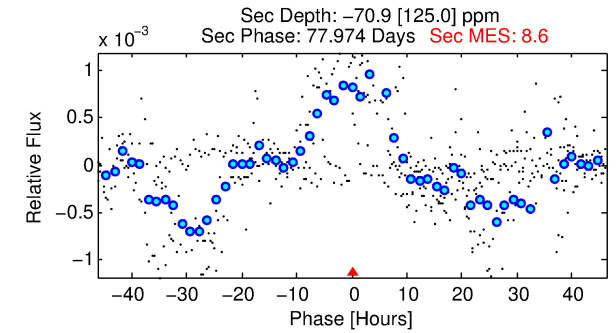
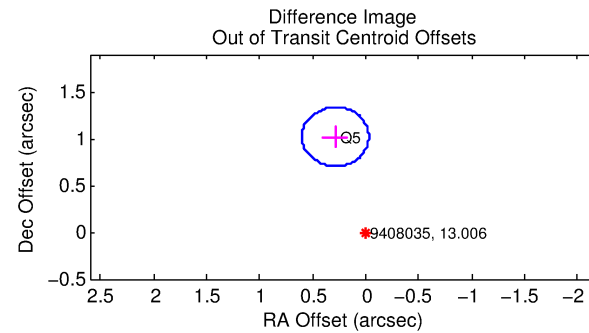
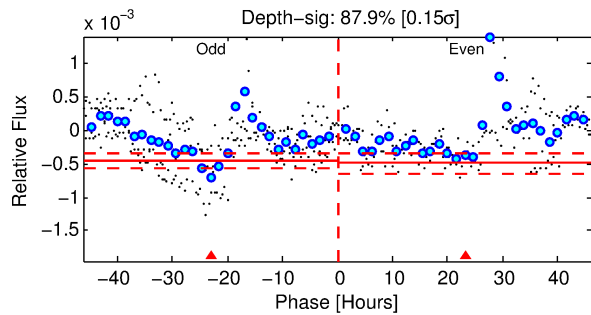
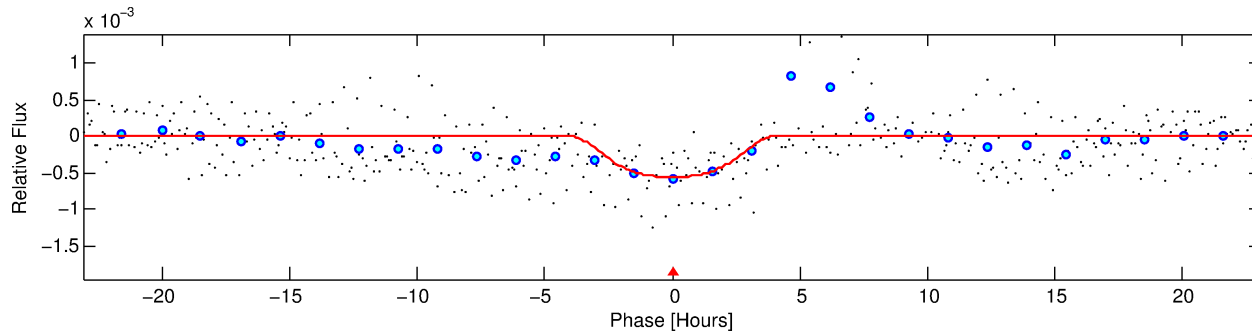
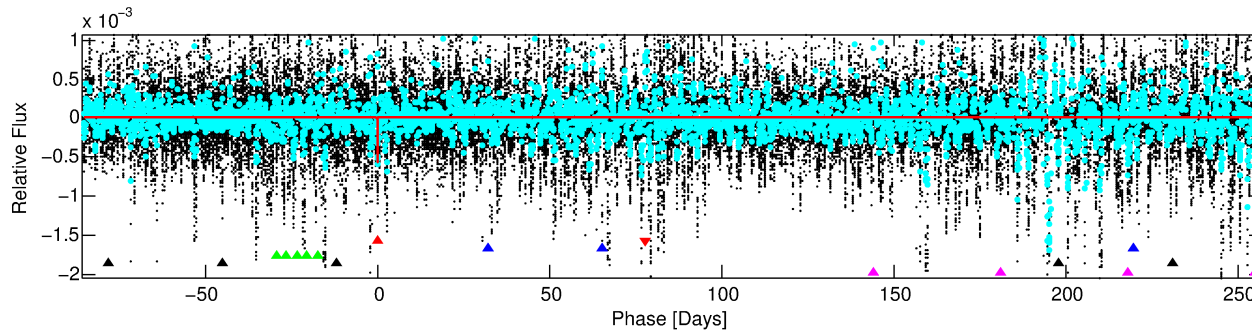
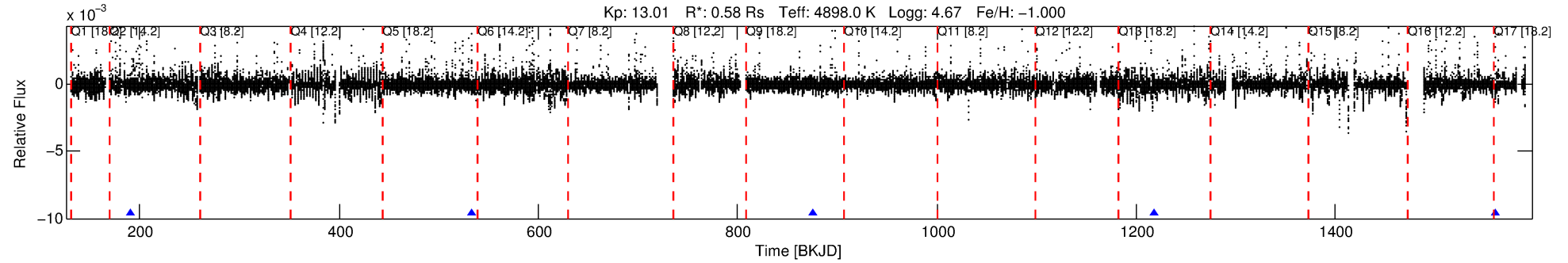
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009408035-01

No Significant Match Found

DV One-Page Summary

KIC: 9408035 Candidate: 1 of 5 Period: 342.360 d



DV Fit Results:

Period = 342.36004 [0.00645] d
Epoch = 191.0833 [0.0158] BKJD
Rp/R* = 0.0293 [0.0033]
a/R* = 119.33 [16.65]
b = 0.97 [0.01]
Seff = 0.27 [0.04]
Teq = 185 [7] K
Rp = 1.87 [0.25] Re
a = 0.7998 [0.0521] AU
Ag = N/A
Teffp = N/A

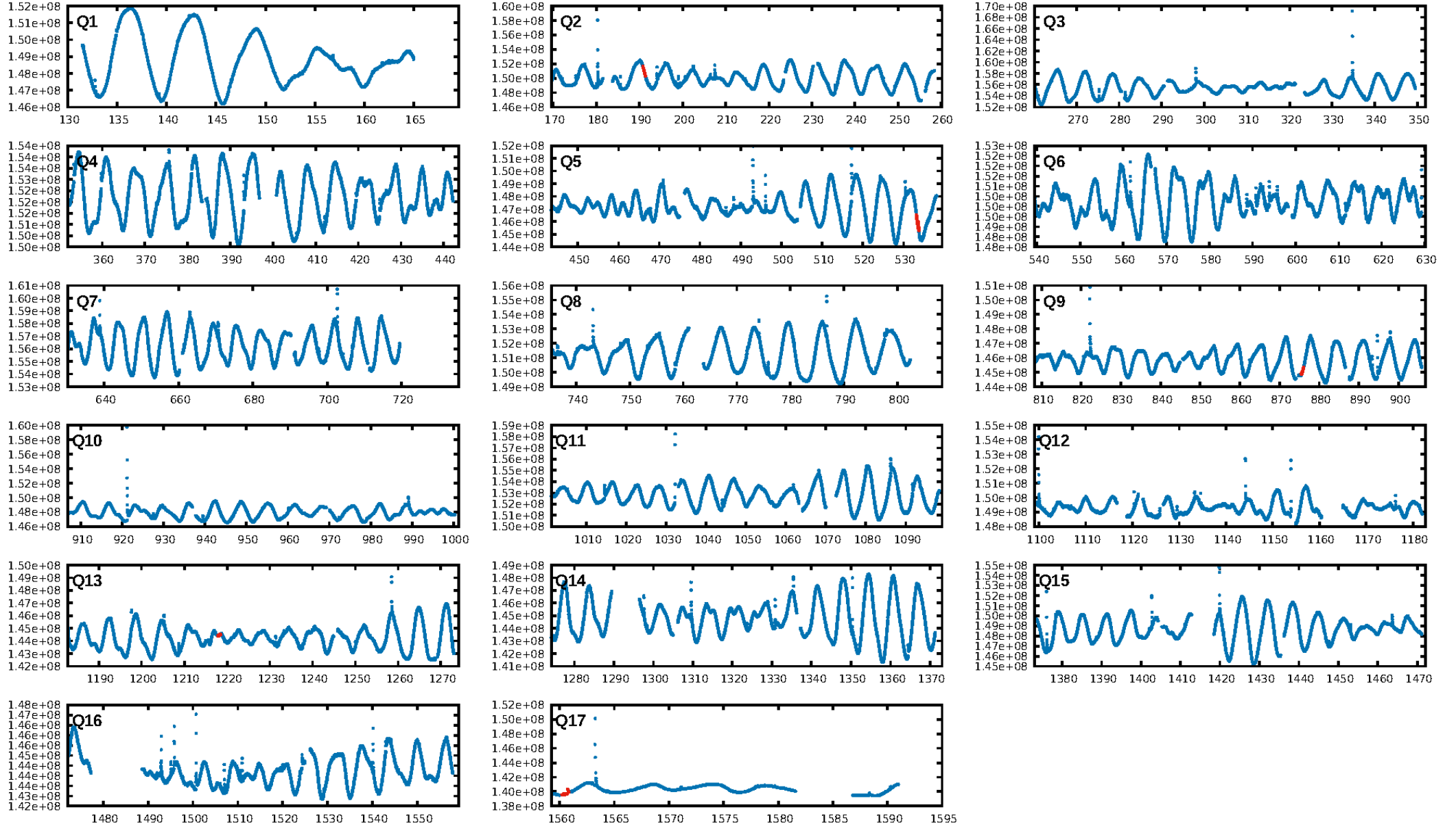
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [98.22 σ]
LongPeriod-sig: 100.0% [6.48 σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 89.1%
Bootstrap-pfa: 5.34e-18
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -5.347
Centroid-sig: N/A
Centroid-so: 0.287 arcsec [0.60 σ]
OotOffset-rm: 1.058 arcsec [10.06 σ]
KicOffset-rm: 0.995 arcsec [9.49 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

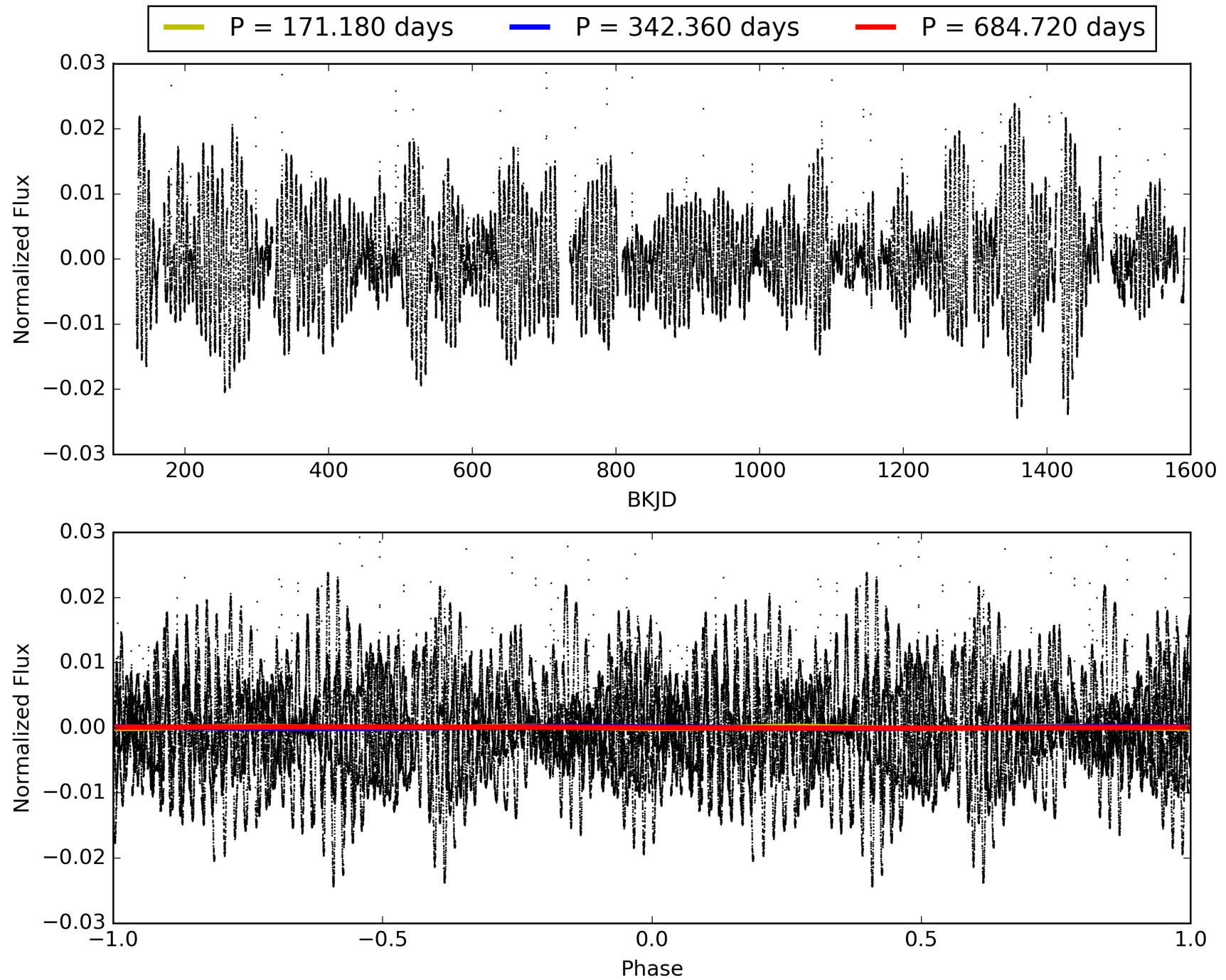
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:16:36 Z

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

TCE 009408035-01, PDC Light Curves

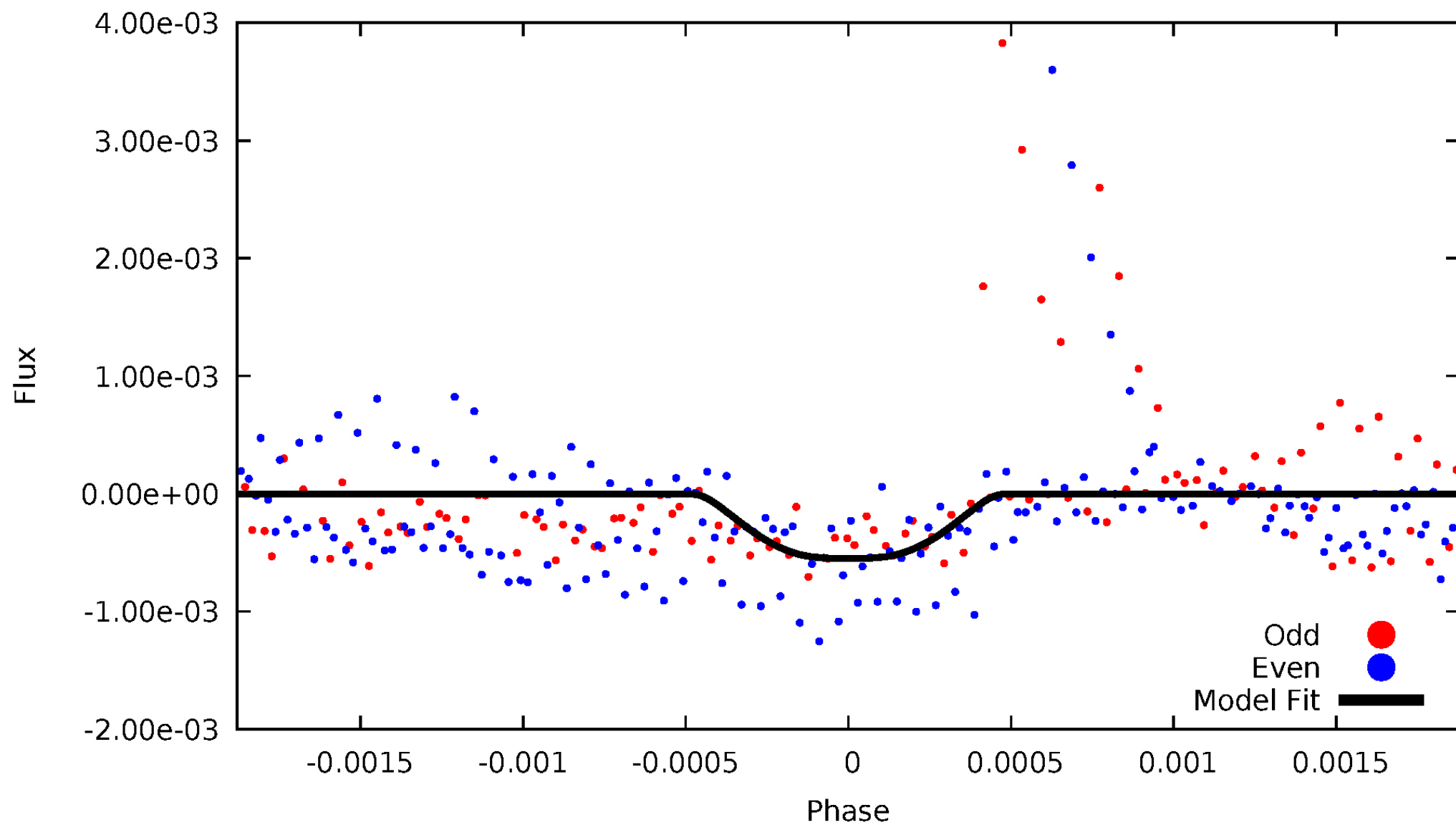


TCE 009408035-01



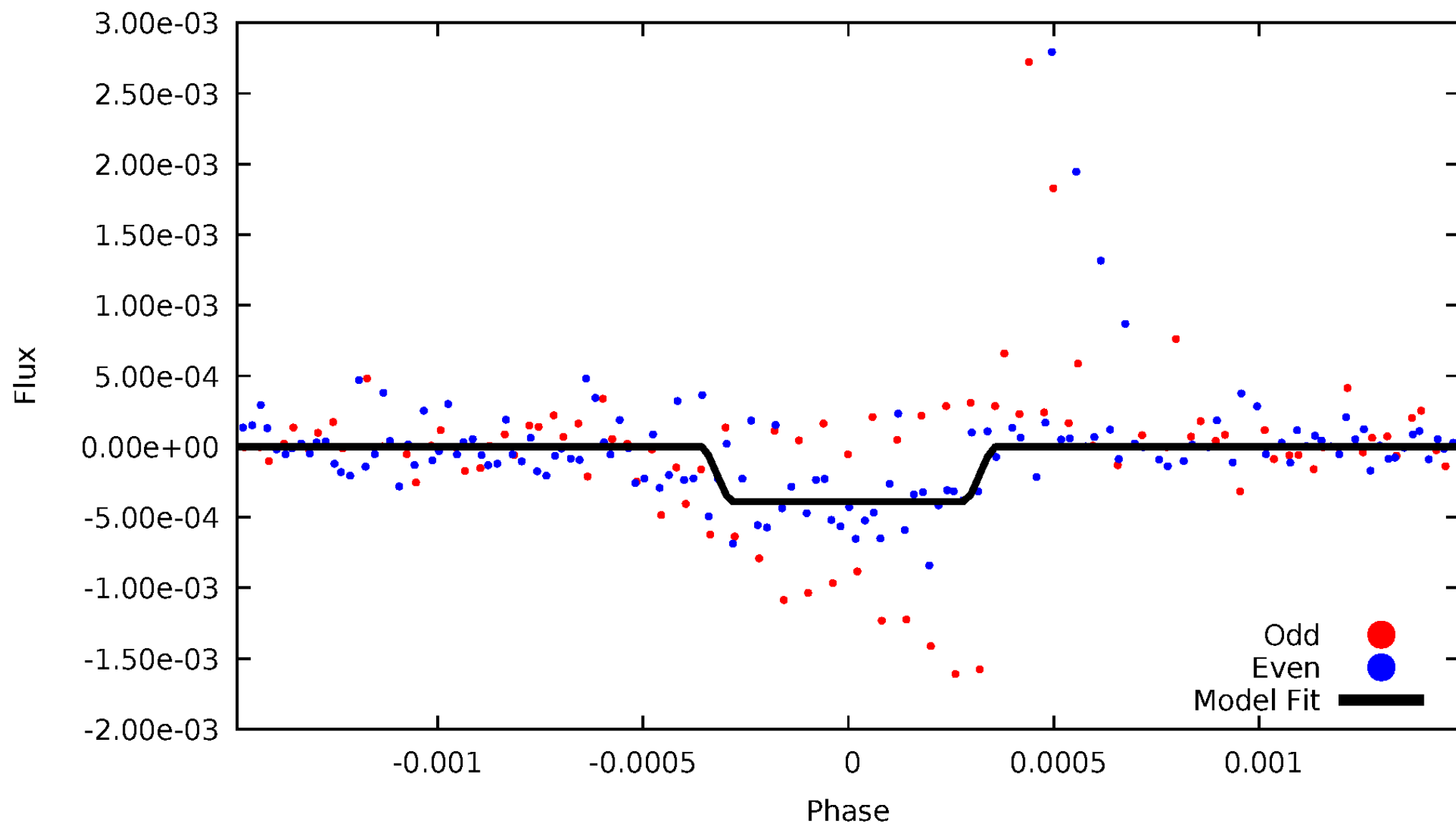
DV Odd/Even

TCE 009408035-01



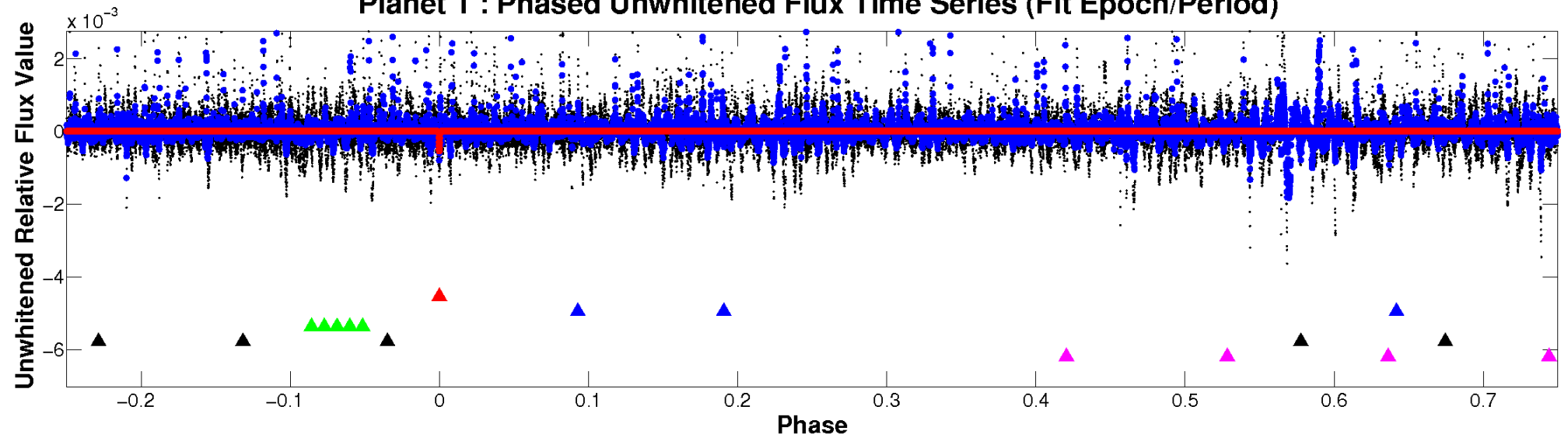
ALT Odd/Even

TCE 009408035-01

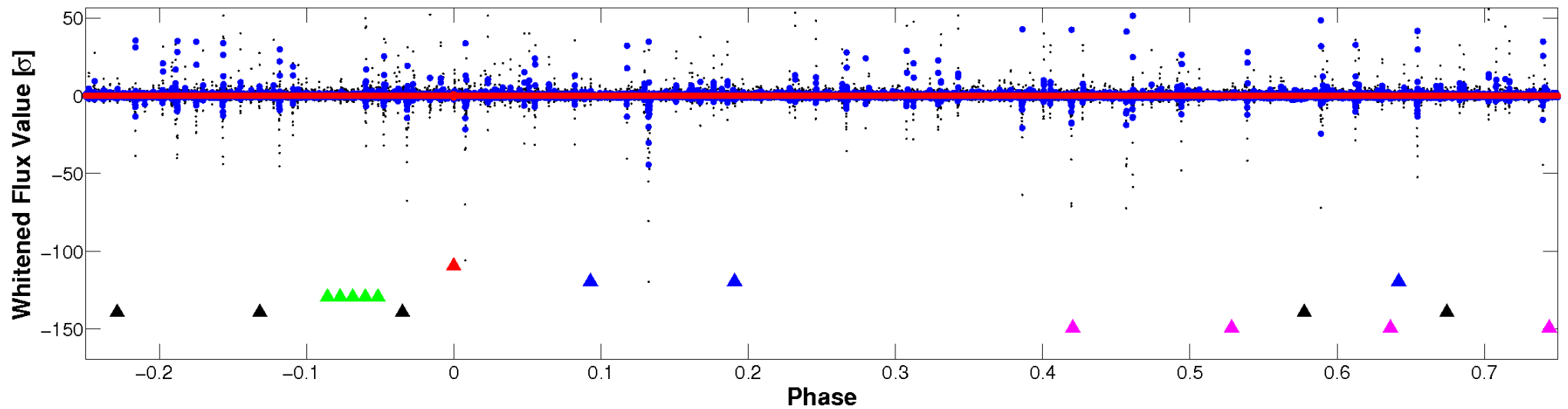


Non-Whitened Vs. Whitened Light Curve

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

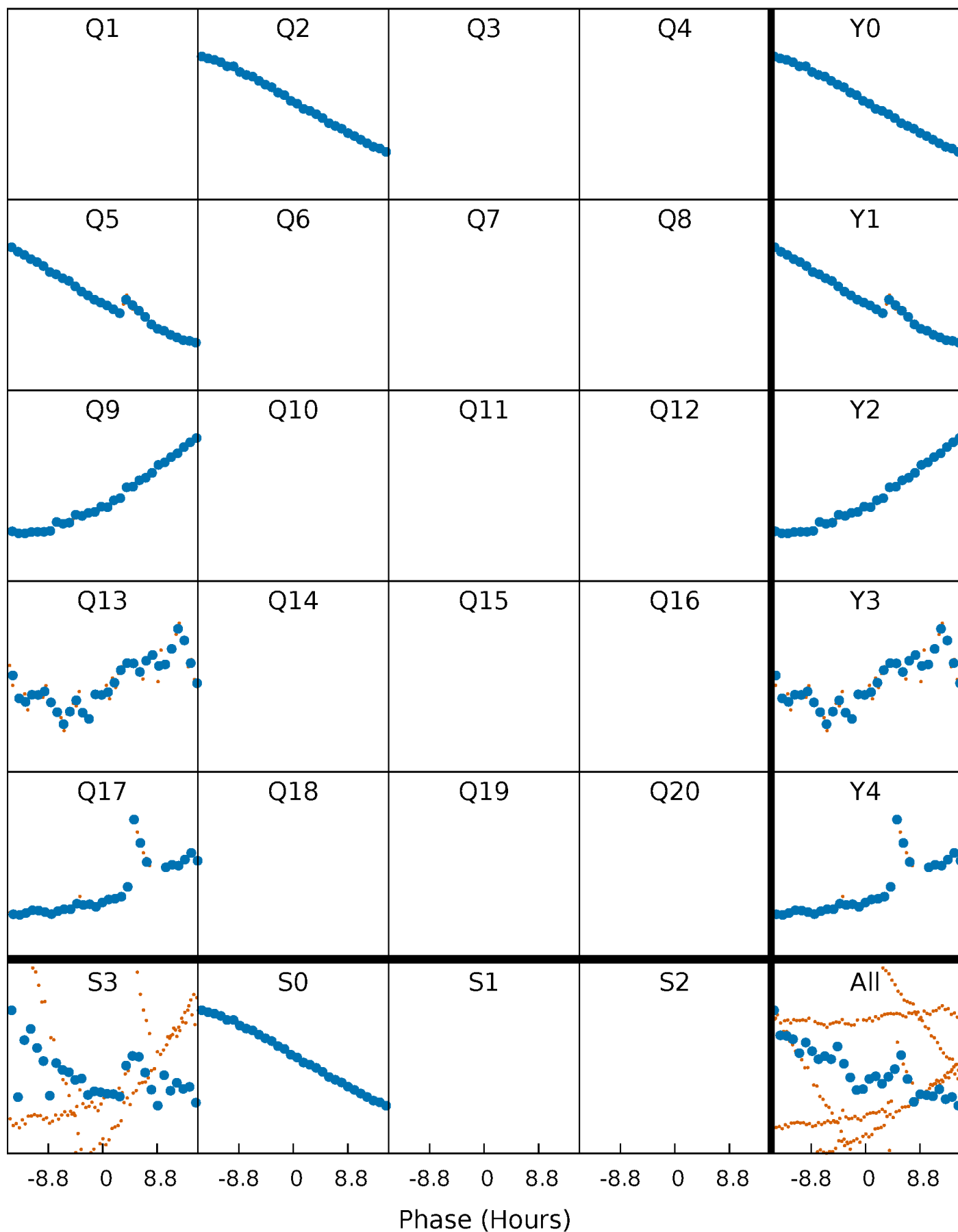


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



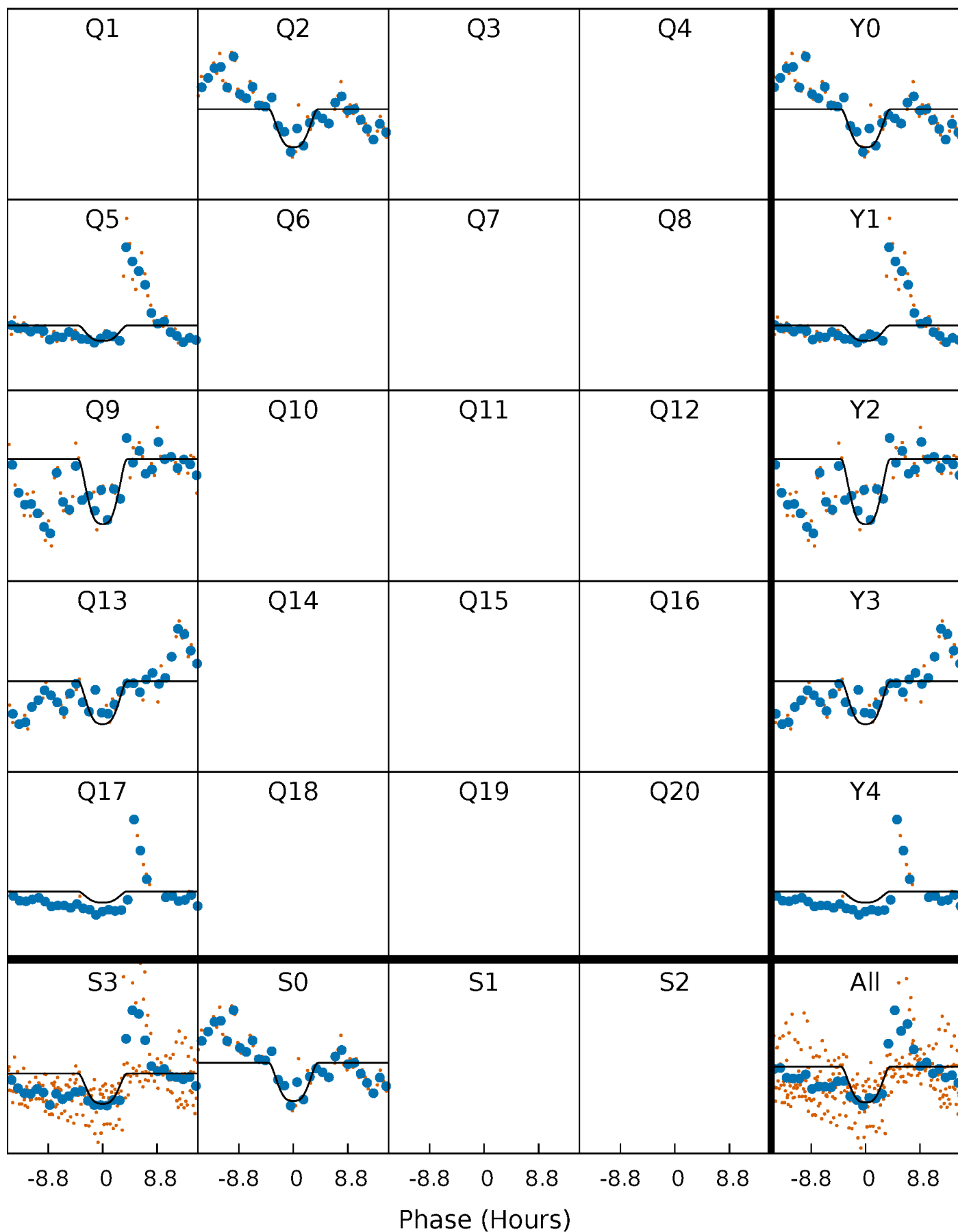
PDC Quarter-Phased Transit Curves

TCE 009408035-01 P=342.360037 Days $T_0=191.083338$ (BKJD)



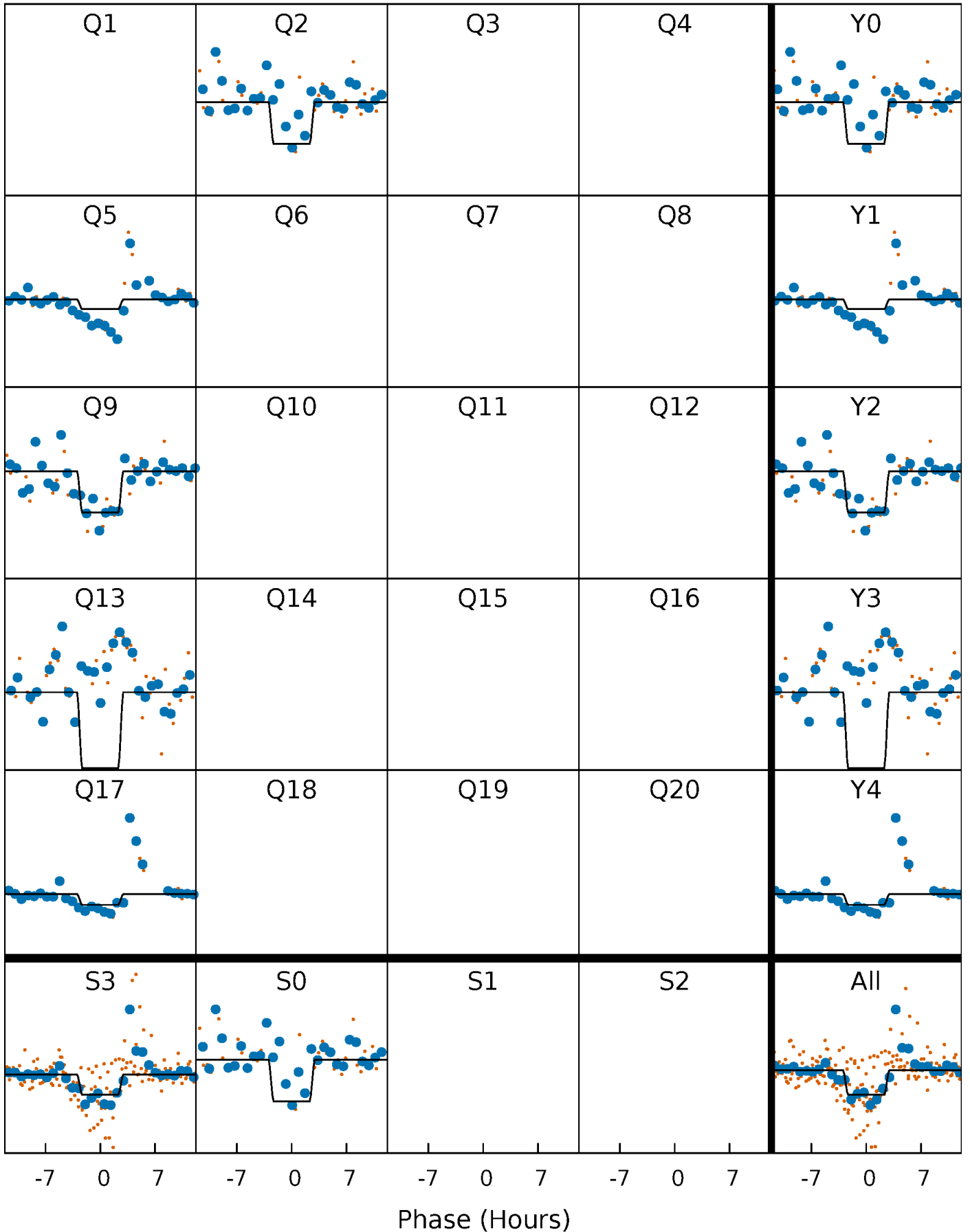
DV Quarter-Phased Transit Curves

TCE 009408035-01 P=342.360037 Days $T_0=191.083338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

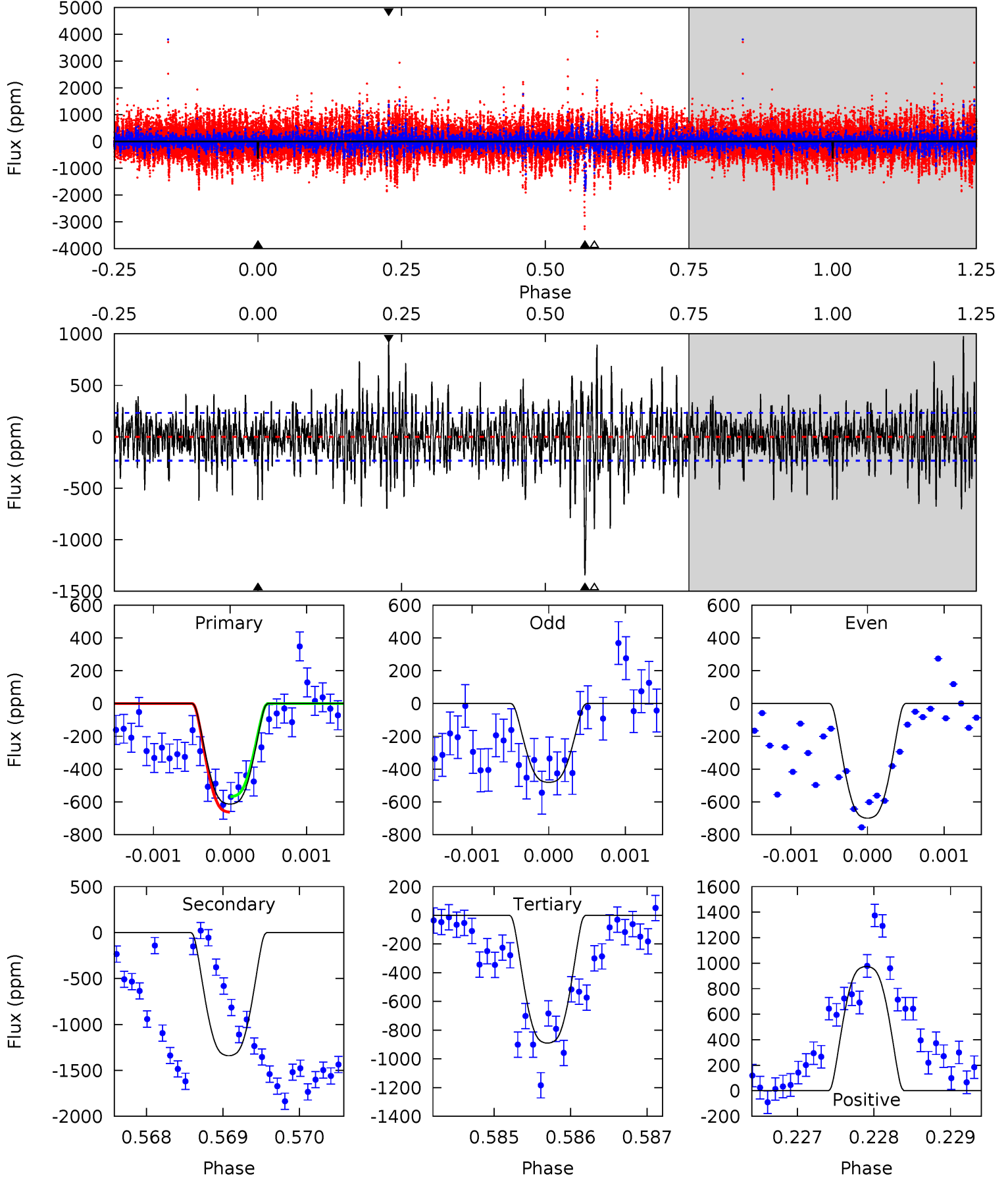
TCE 009408035-01 P=342.377920 Days $T_0=191.077167$ (BKJD)



DV Model-Shift Uniqueness Test

009408035-01, P = 342.360037 Days, E = 191.083338 Days

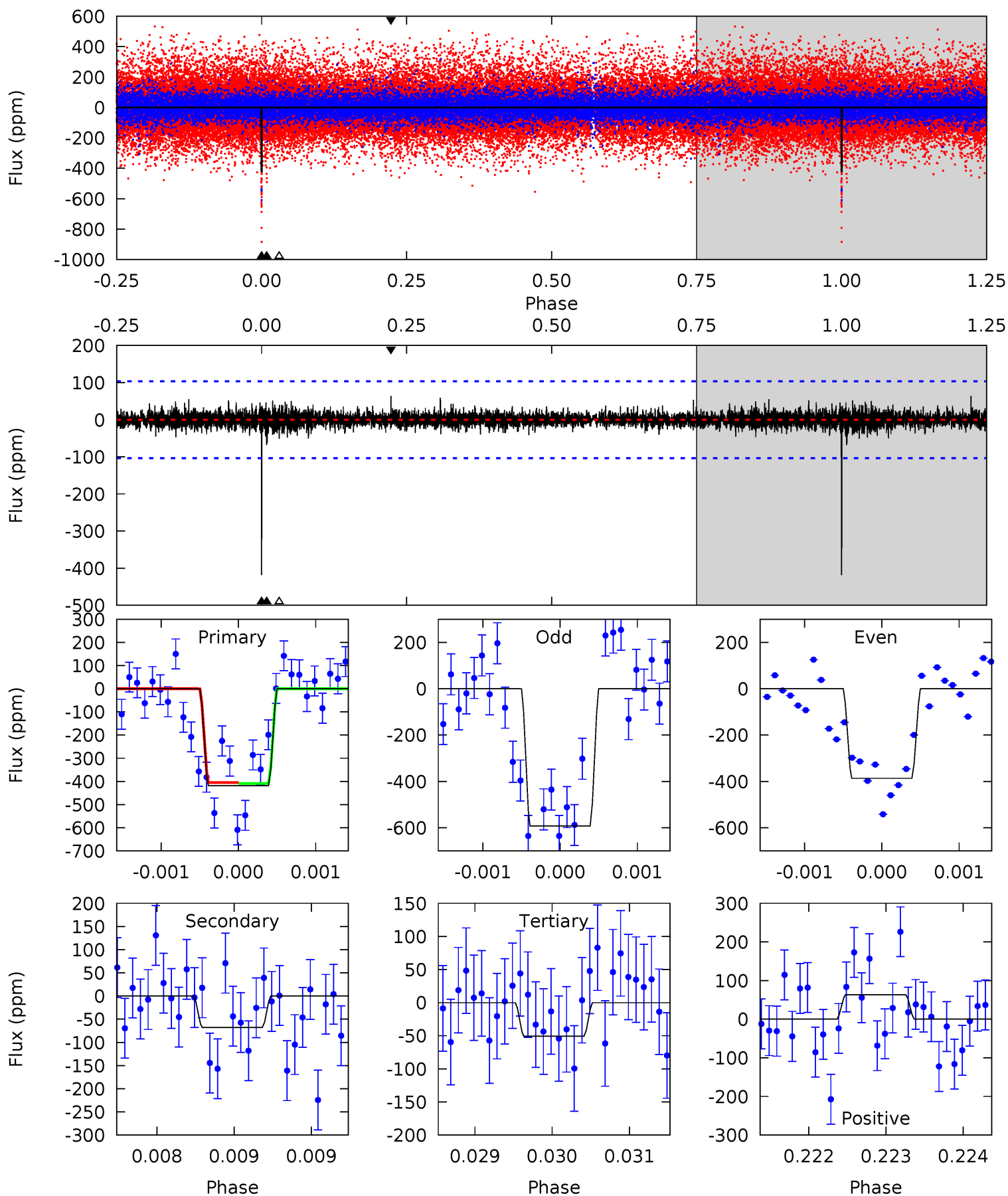
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	31.5	20.9	22.9	5.45	3.29	4.75	-6.51	-8.48	10.6	8.62	2.00	1.33	0.42	1.11



Alt Model-Shift Uniqueness Test

009408035-01, P = 342.377920 Days, E = 191.077167 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	3.59	2.69	3.37	5.51	3.38	0.63	19.5	18.8	0.91	0.22	6.25	1.09	0.13	0.11



Stellar Parameters For KIC 009408035

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4898^{+147}_{-147}	$4.670^{+0.054}_{-0.032}$	$-1.000^{+0.300}_{-0.300}$	$0.584^{+0.044}_{-0.040}$	$0.582^{+0.050}_{-0.021}$	$4.118^{+0.883}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+8%/-7%	+9%/-4%	+21%/-14%
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 009408035-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1341 ± 43	$1.86^{+0.24}_{-0.23}$	257^{+9}_{-9}	5382^{+352}_{-271}	137507^{+40601}_{-30348}
Alt.	-68 ± 19	$1.25^{+0.22}_{-0.22}$	257^{+9}_{-9}	3561^{+287}_{-261}	15348^{+9018}_{-5691}

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

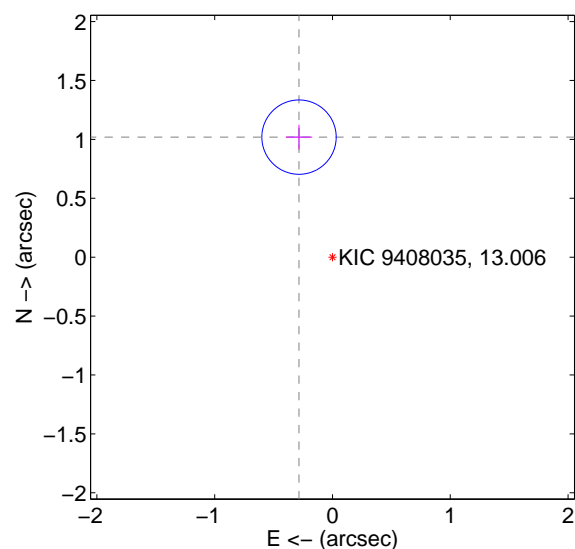
Supplemental centroid analysis for 009408035-01. Kepler magnitude: 13.01. Transit SNR 7.51

There are 1 quarters with good PRF difference image offsets

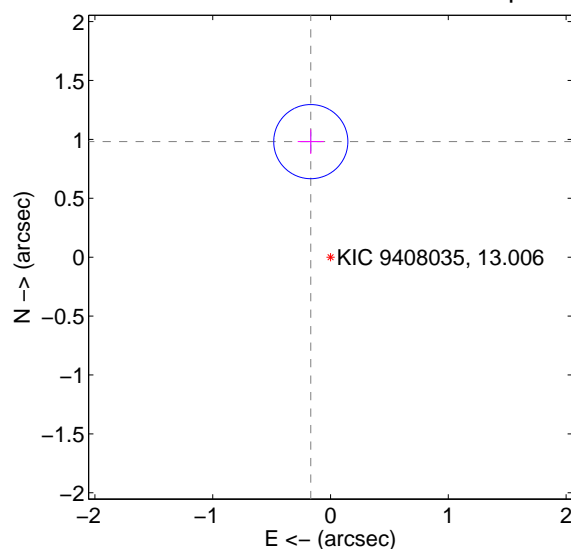
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.058 \pm 0.105	10.06	0.284 \pm 0.111	1.019 \pm 0.105
PRF-fit source offset from KIC position	0.995 \pm 0.105	9.49	0.167 \pm 0.111	0.981 \pm 0.105
photometric centroid source offset	0.29 \pm 0.47	0.60	-0.28 \pm 0.47	-0.07 \pm 0.49

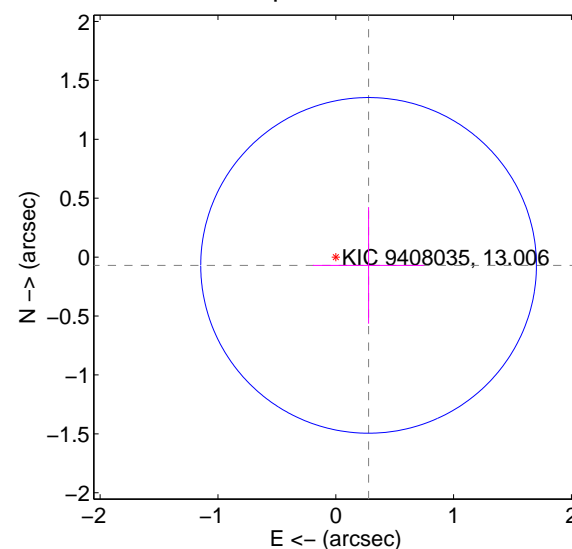
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

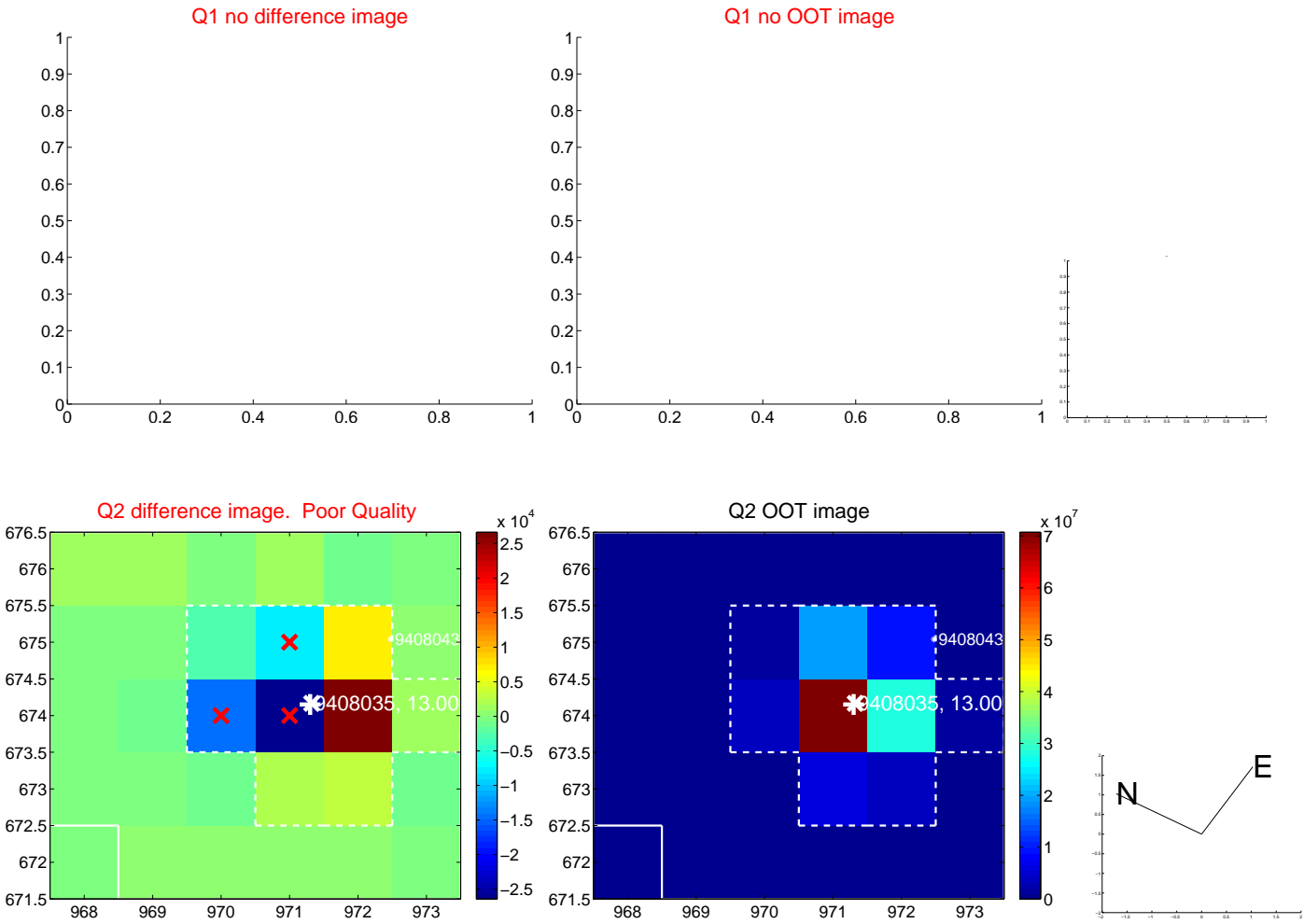


offset from photometric centroids

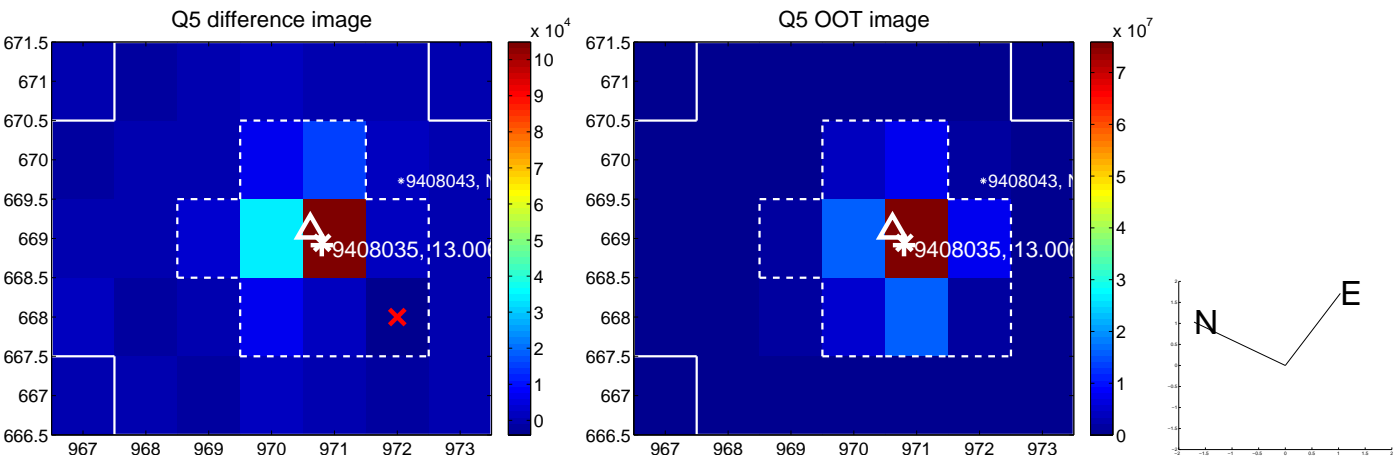


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



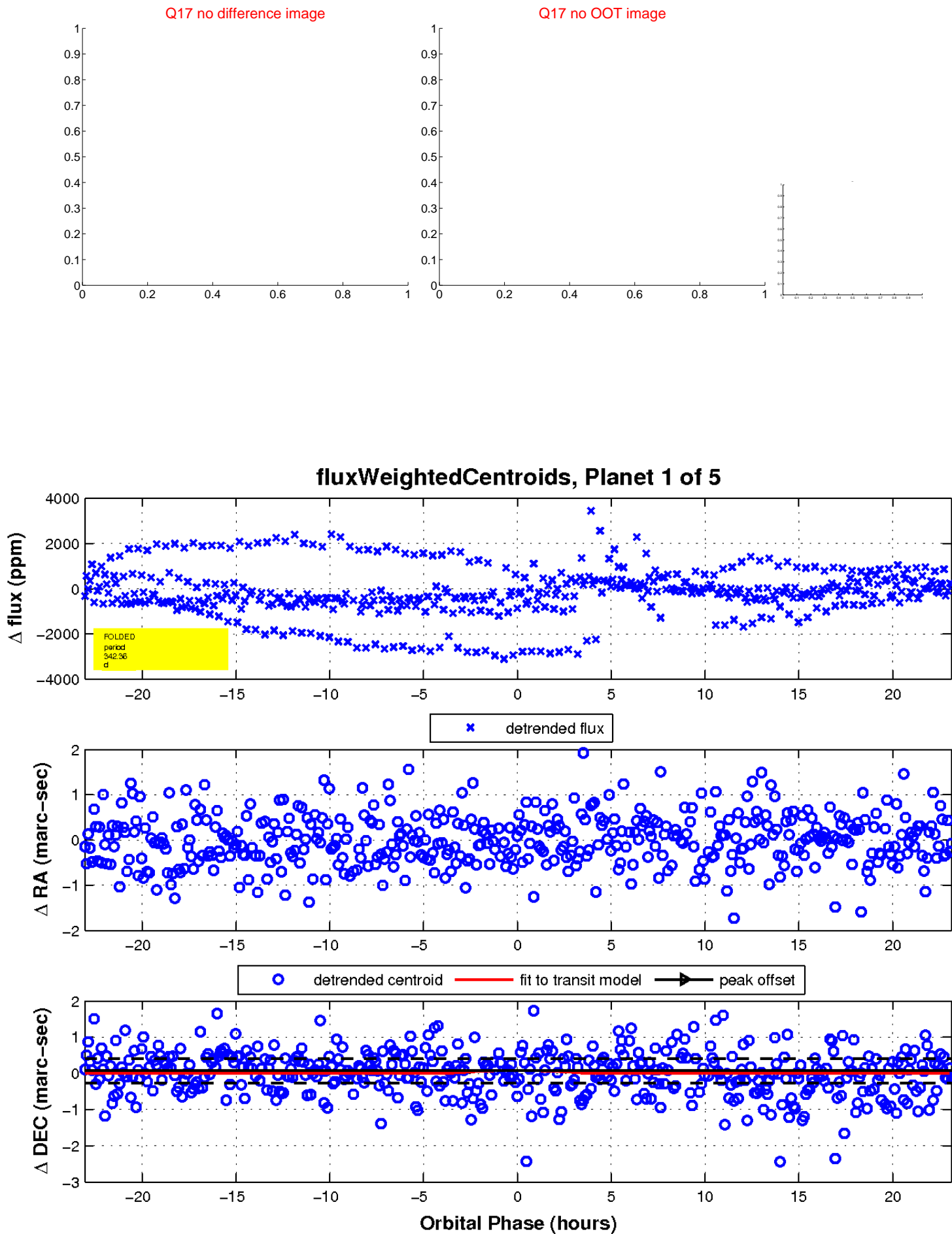
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

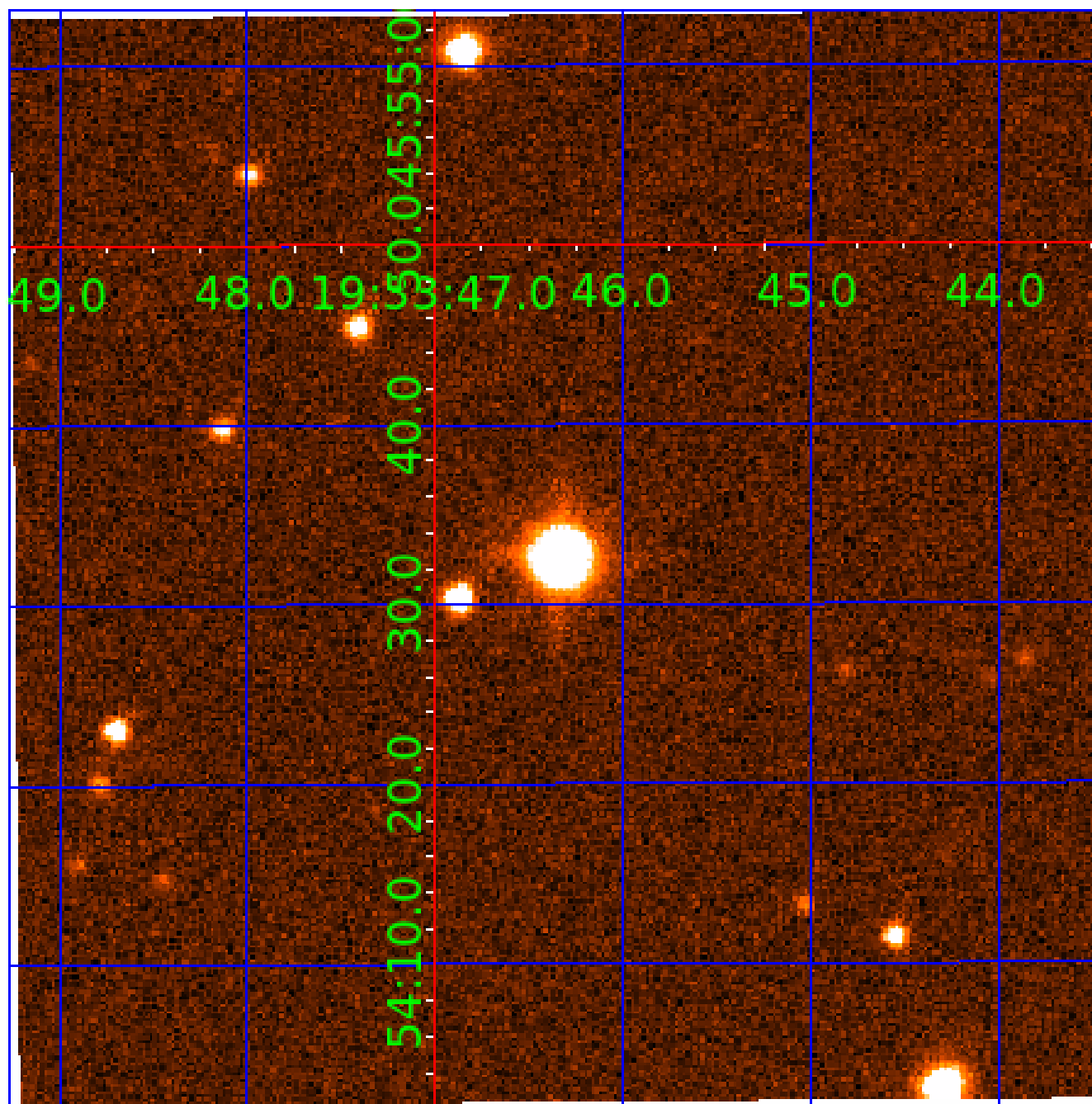


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009408035

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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009408035-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
009408035-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

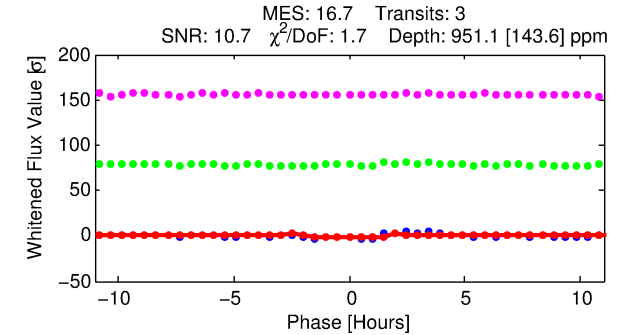
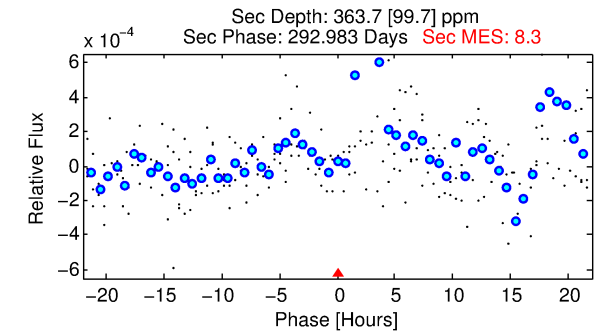
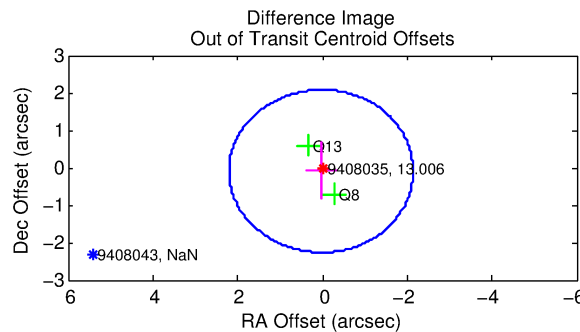
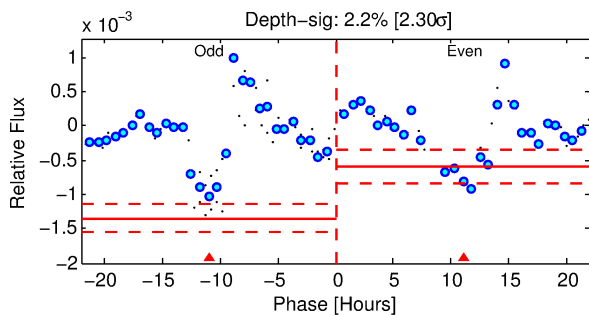
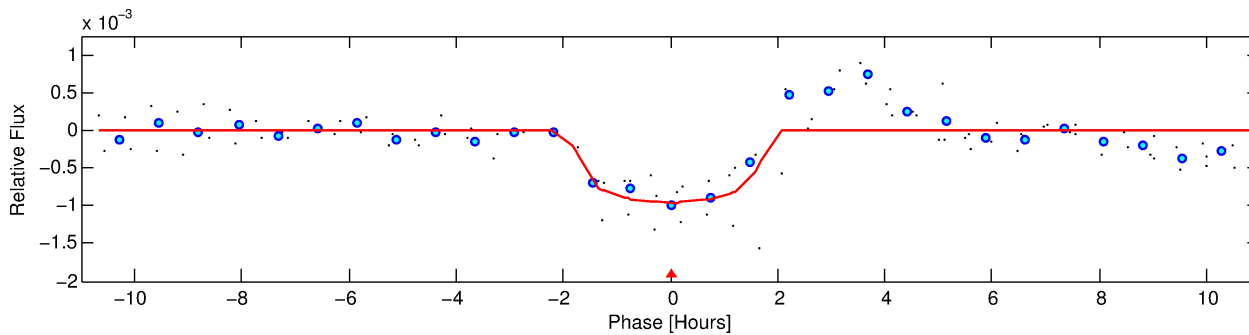
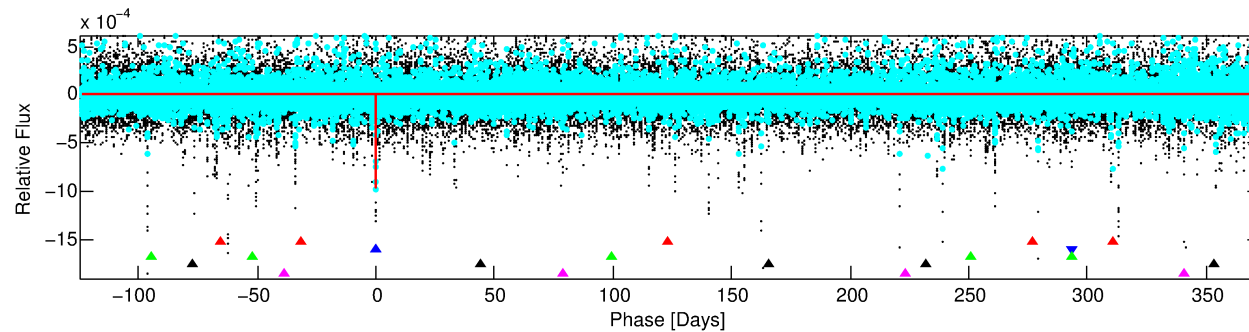
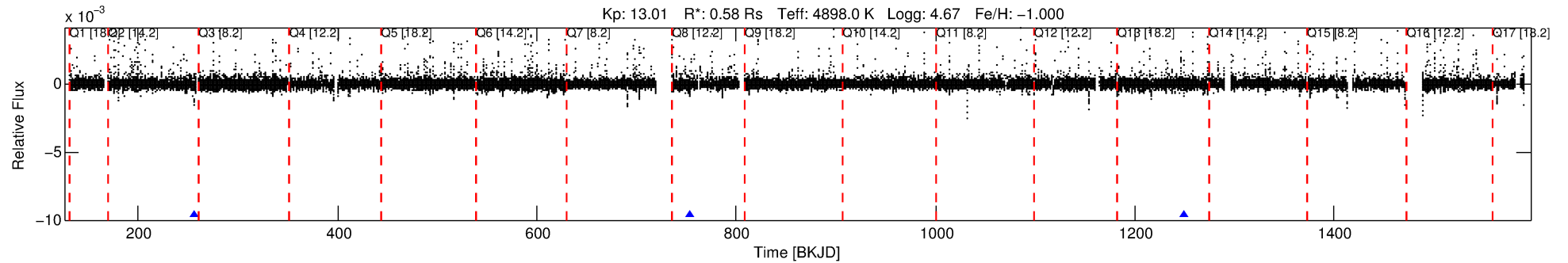
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009408035-02

No Significant Match Found

DV One-Page Summary

KIC: 9408035 Candidate: 2 of 5 Period: 496.780 d



DV Fit Results:

Period = 496.78035 [0.00926] d
Epoch = 256.3960 [0.0103] BKJD
Rp/R* = 0.0289 [0.1358]
a/R* = 910.29 [16468.16]
b = 0.53 [24.61]
Seff = 0.17 [0.03]
Teq = 163 [6] K
Rp = 1.84 [8.66] Re
a = 1.0251 [0.0668] AU
Ag = 62115.60 [584855.53] [0.11 σ]
Teffp = 3981 [9371] K [0.41 σ]

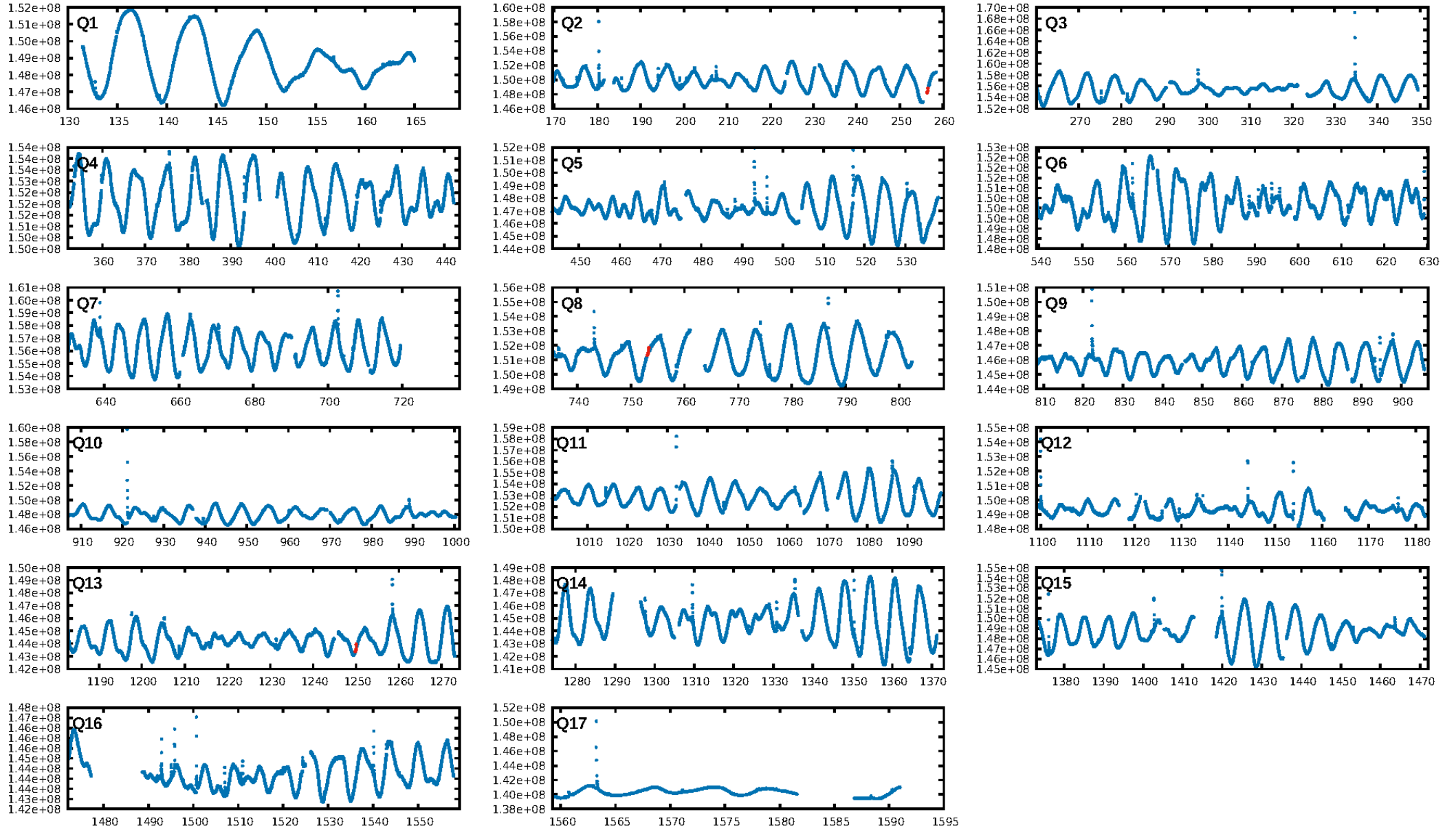
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [758.88 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 42.9%
Bootstrap-pfa: 5.93e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.588
Centroid-sig: N/A
Centroid-so: 0.358 arcsec [0.83 σ]
OotOffset-rm: 0.099 arcsec [0.14 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.160 arcsec [0.32 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

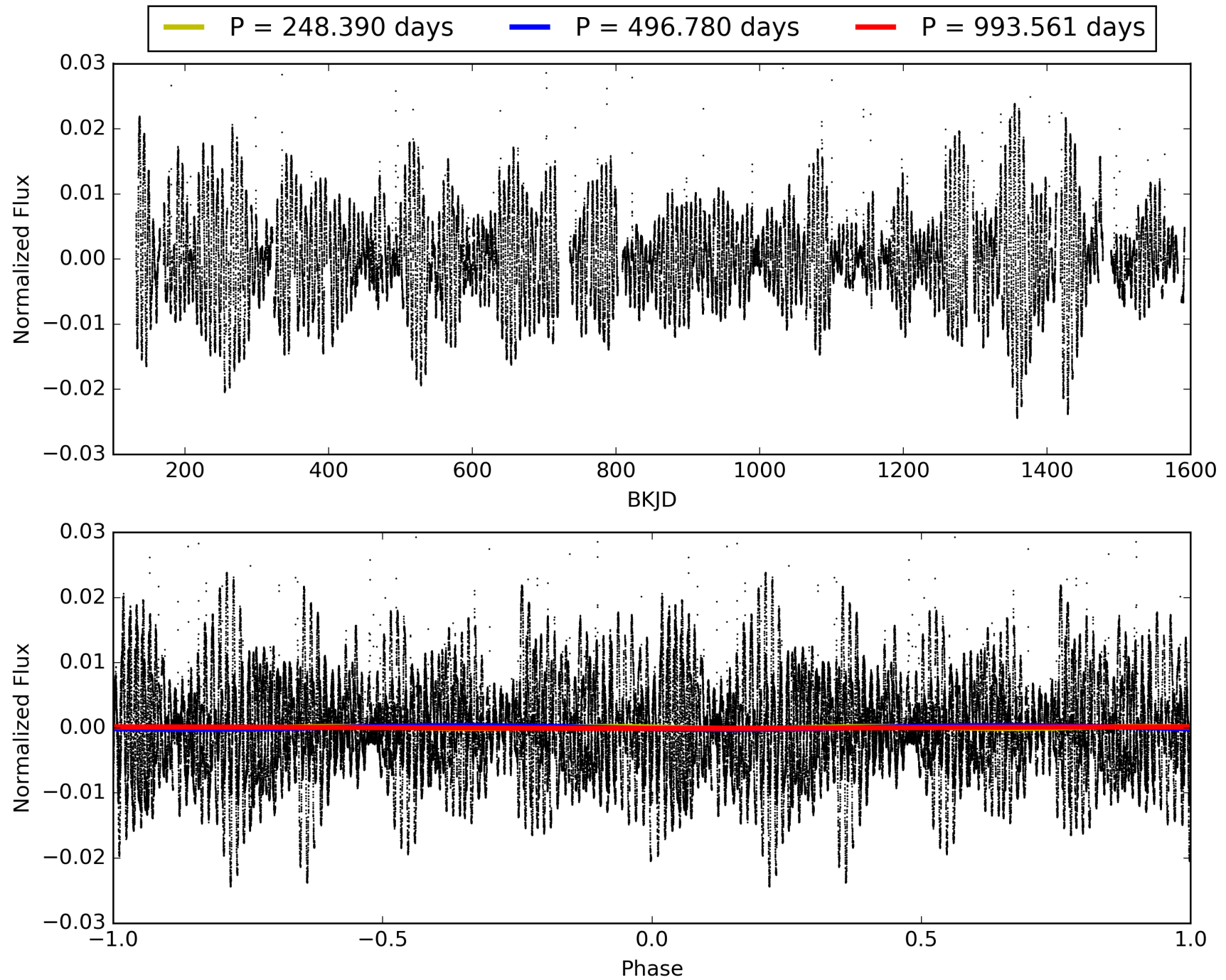
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:16:55 Z

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

TCE 009408035-02, PDC Light Curves

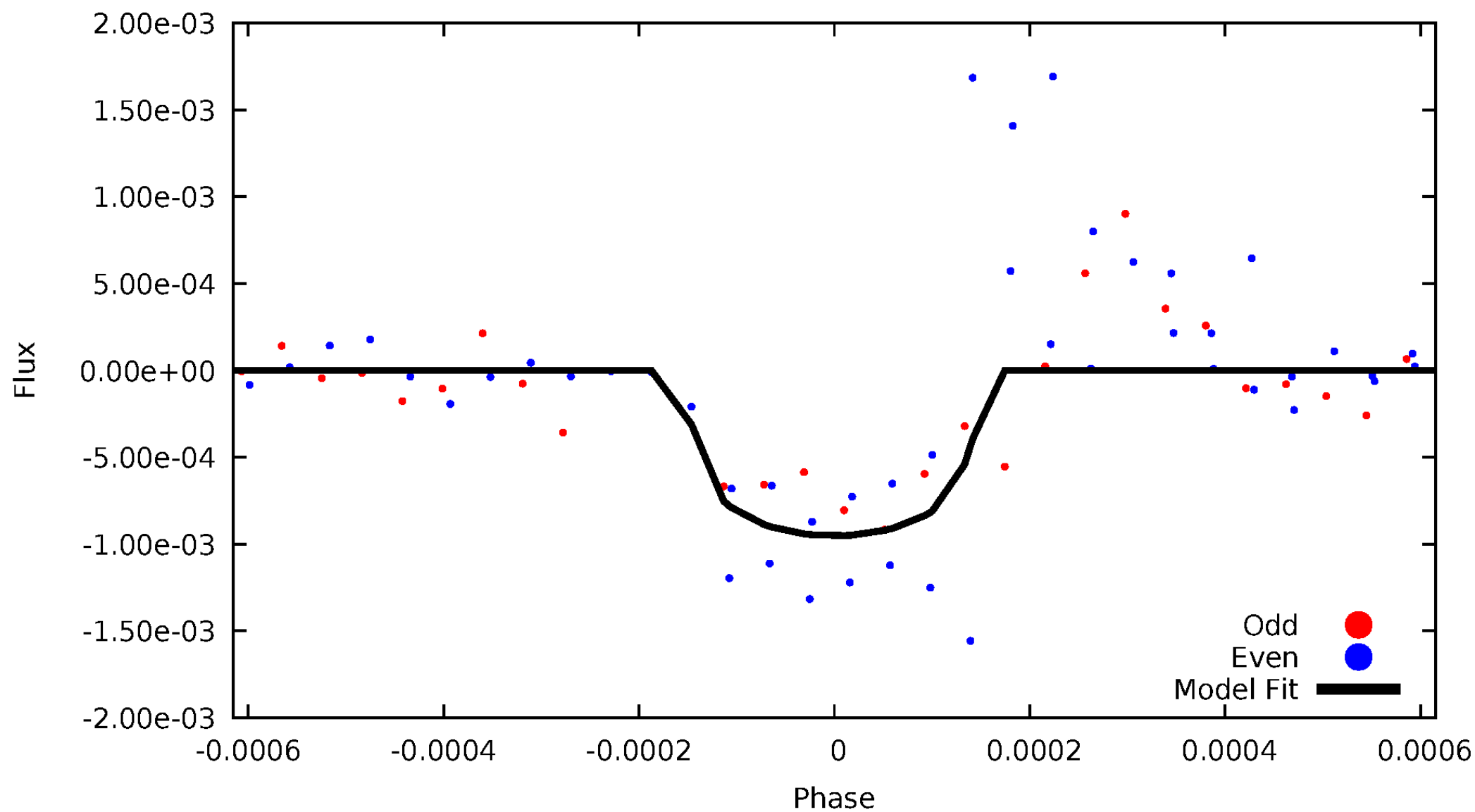


TCE 009408035-02



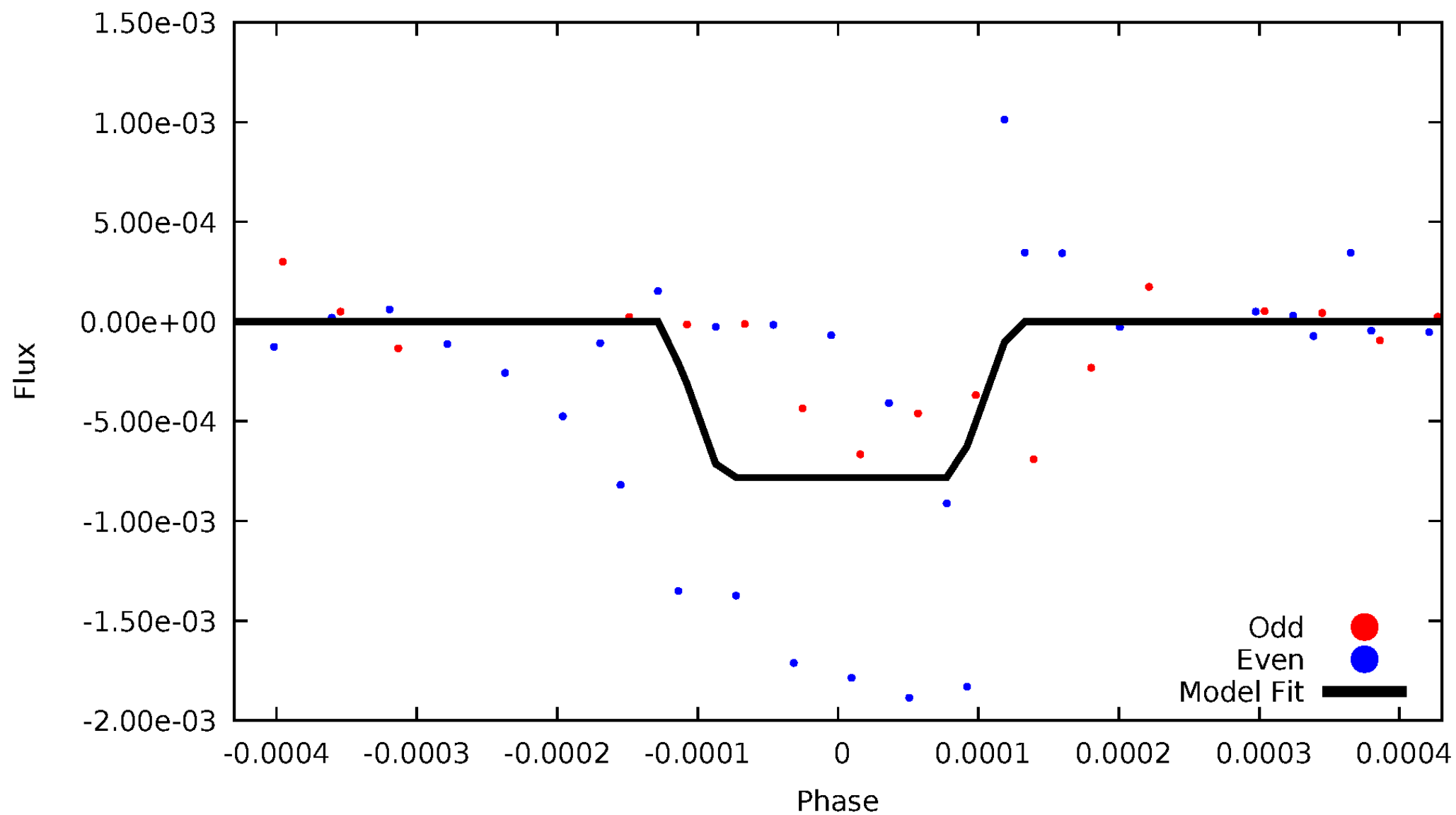
DV Odd/Even

TCE 009408035-02



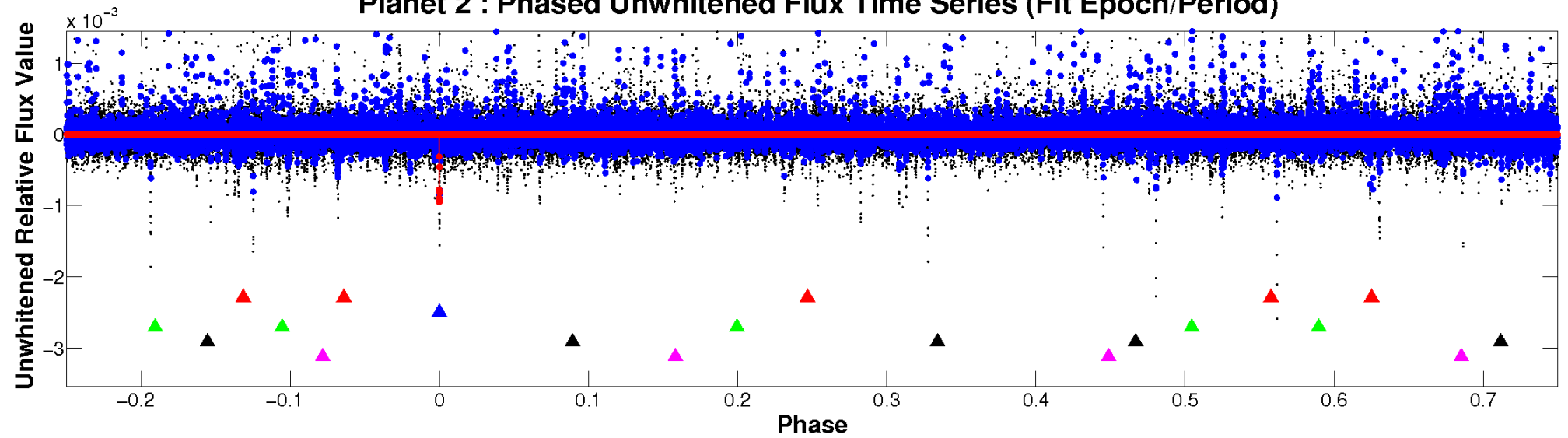
ALT Odd/Even

TCE 009408035-02

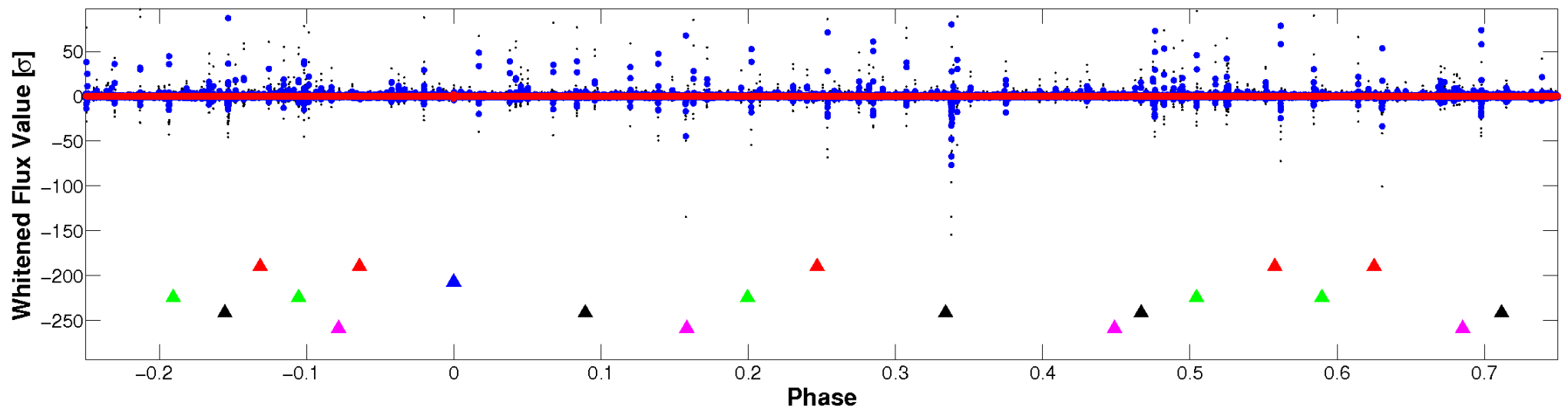


Non-Whitened Vs. Whitened Light Curve

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

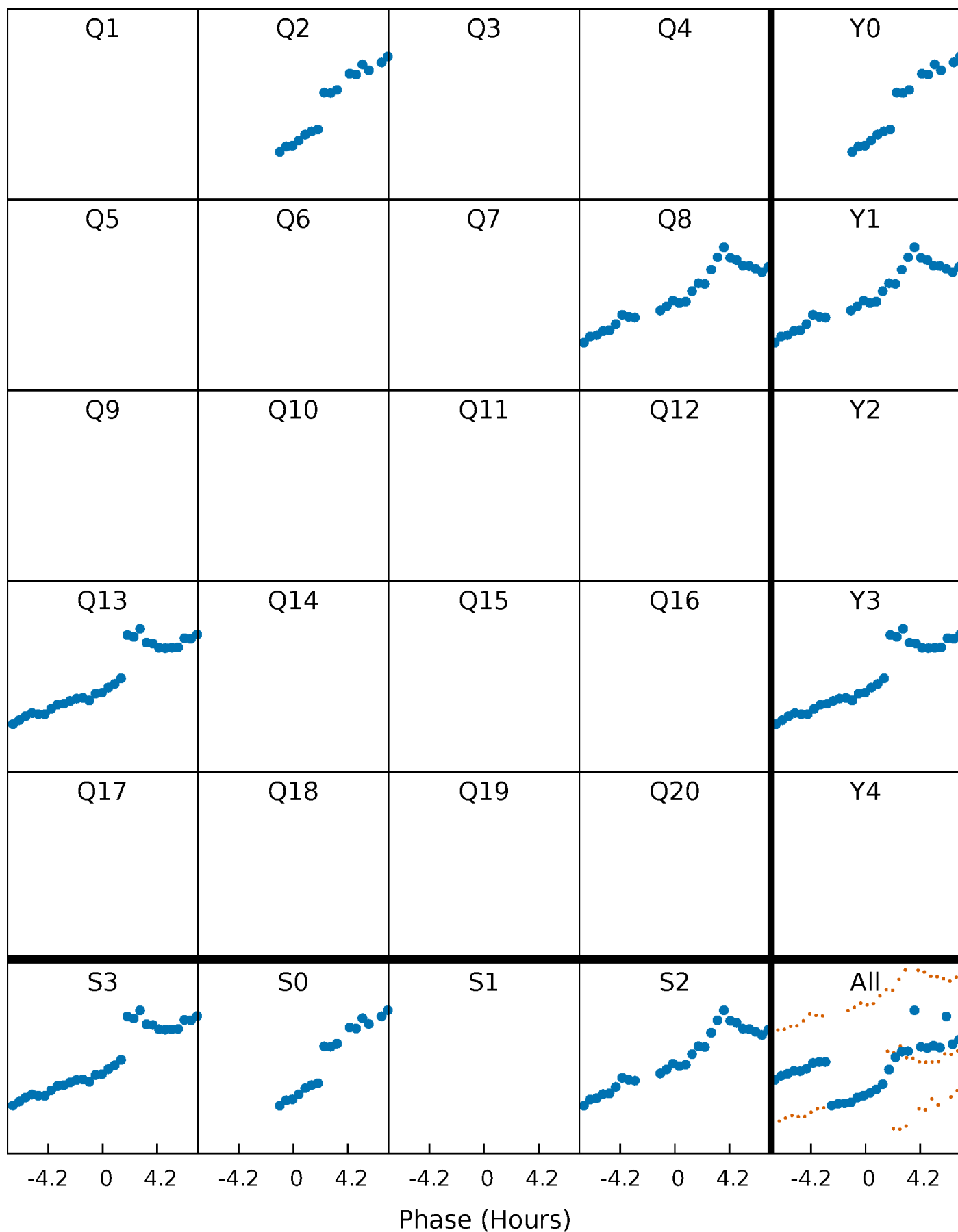


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



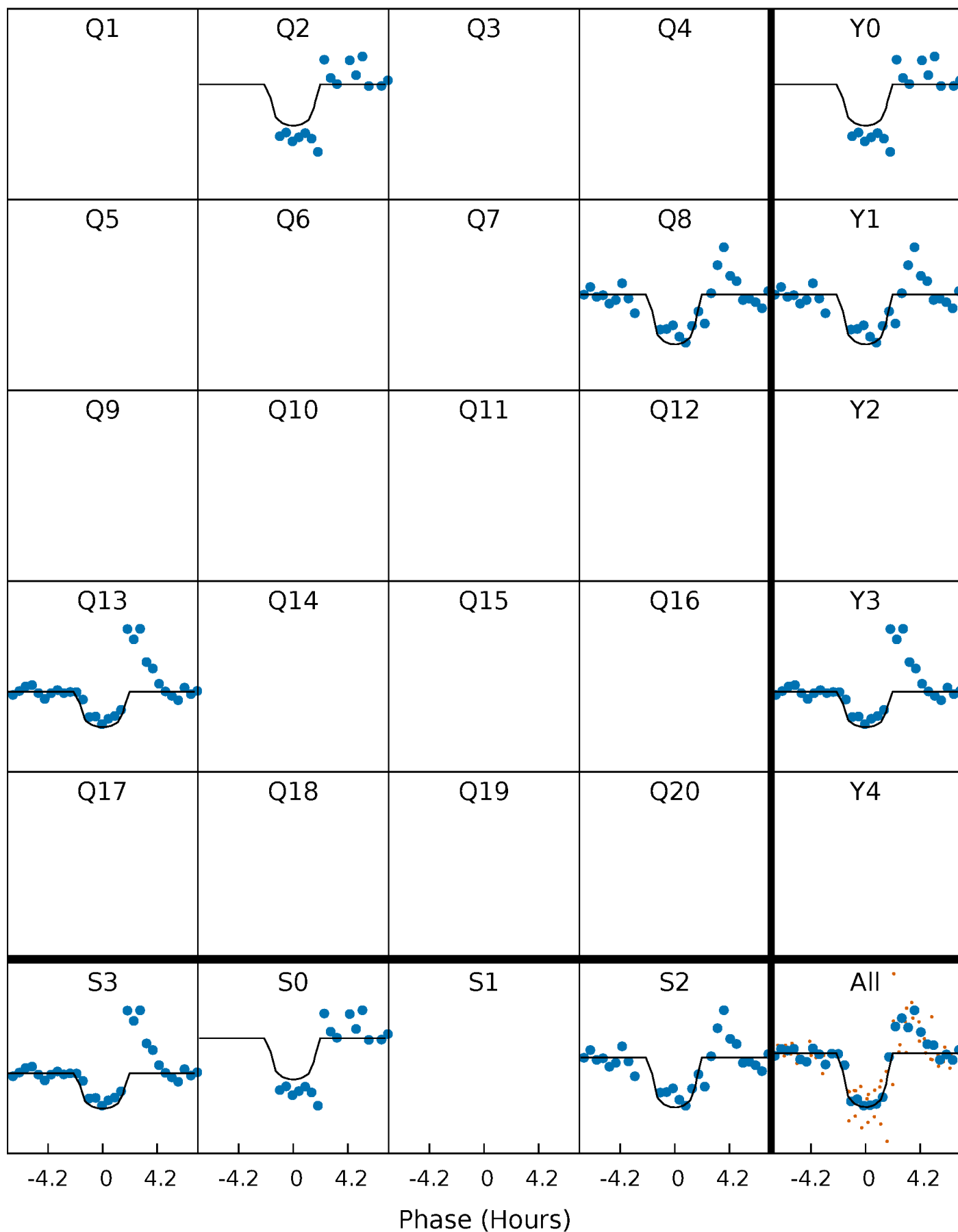
PDC Quarter-Phased Transit Curves

TCE 009408035-02 P=496.780352 Days $T_0=256.395978$ (BKJD)



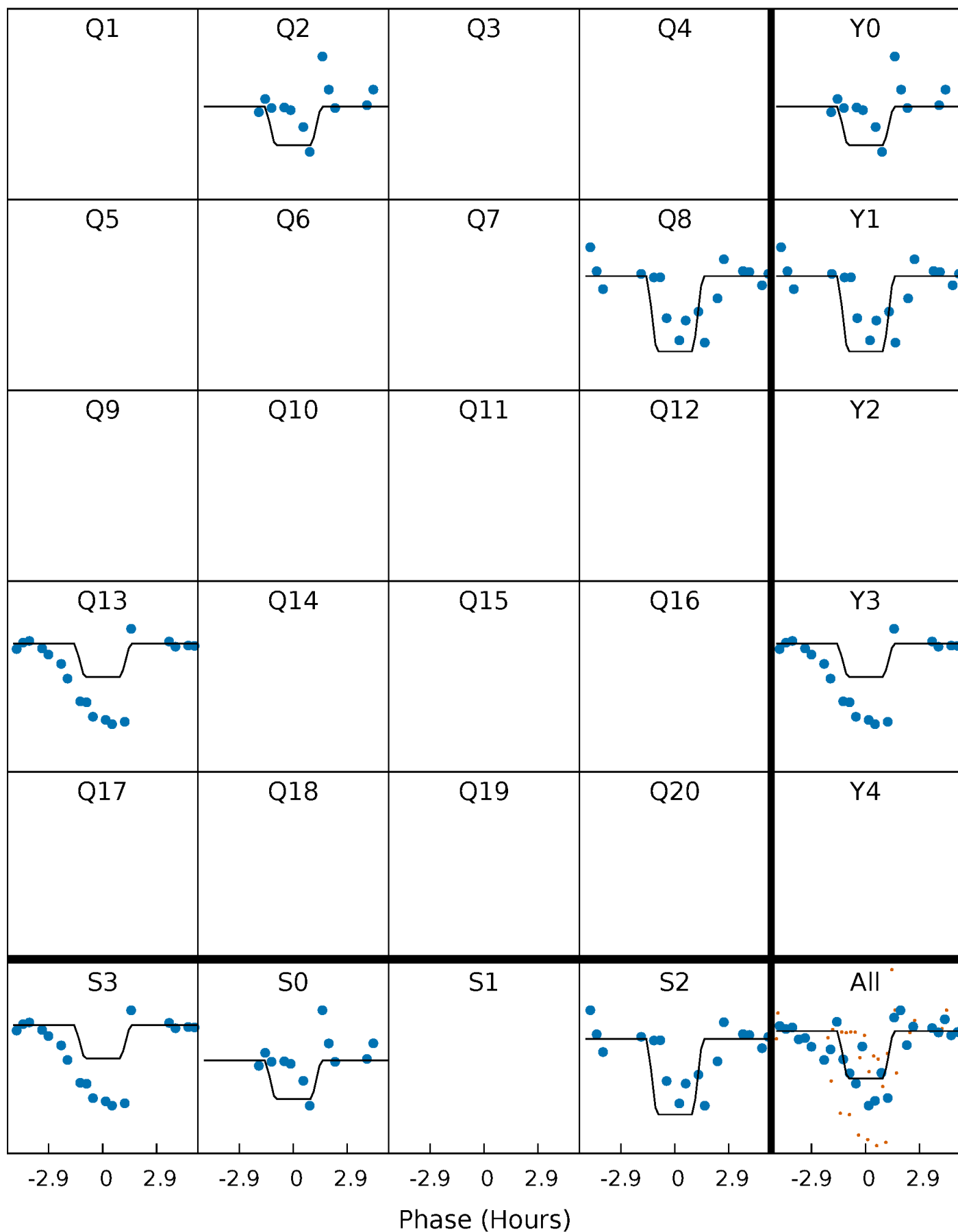
DV Quarter-Phased Transit Curves

TCE 009408035-02 $P=496.780352$ Days $T_0=256.395978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

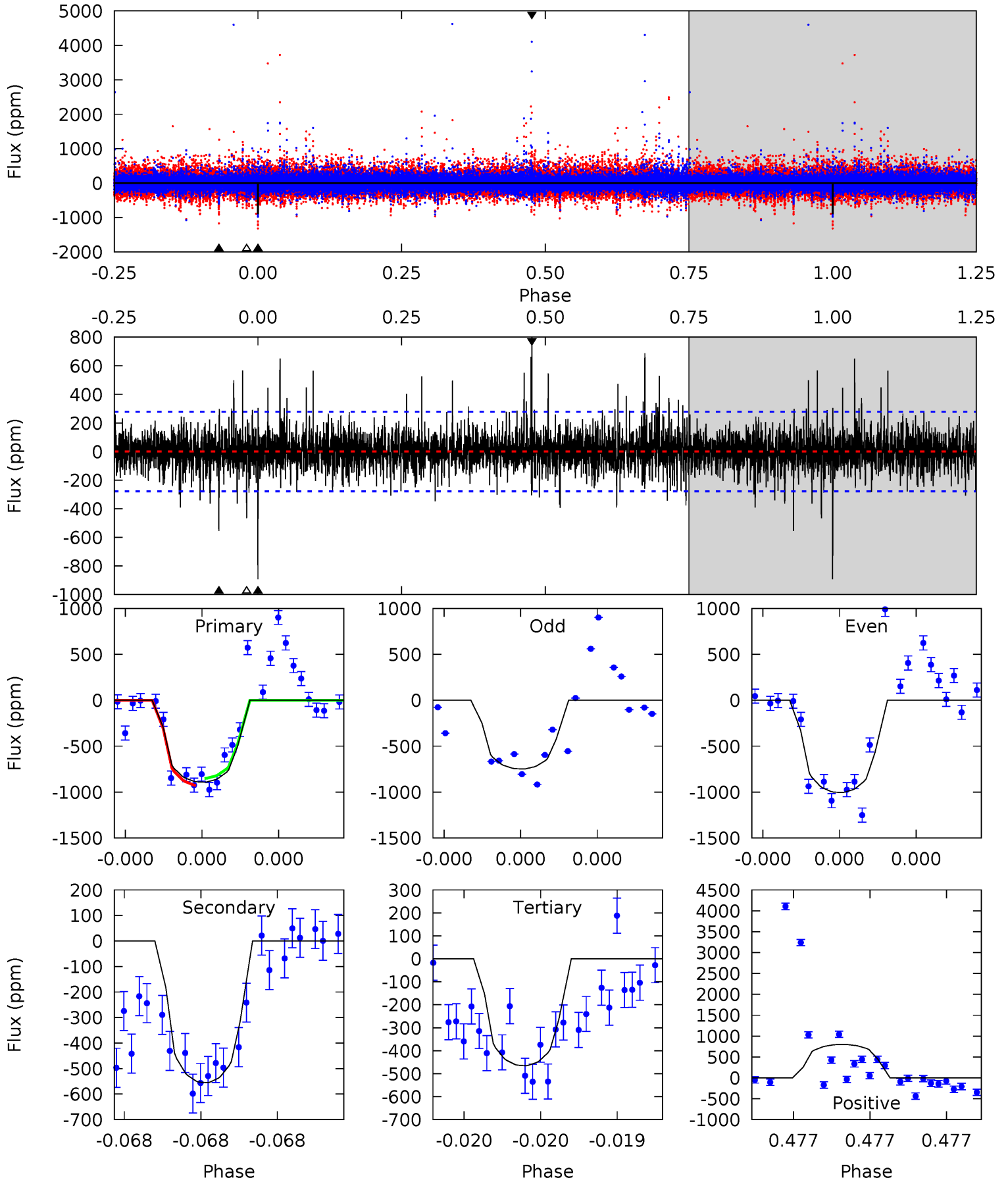
TCE 009408035-02 P=496.767088 Days $T_0=256.426768$ (BKJD)



DV Model-Shift Uniqueness Test

009408035-02, P = 496.780352 Days, E = 256.395978 Days

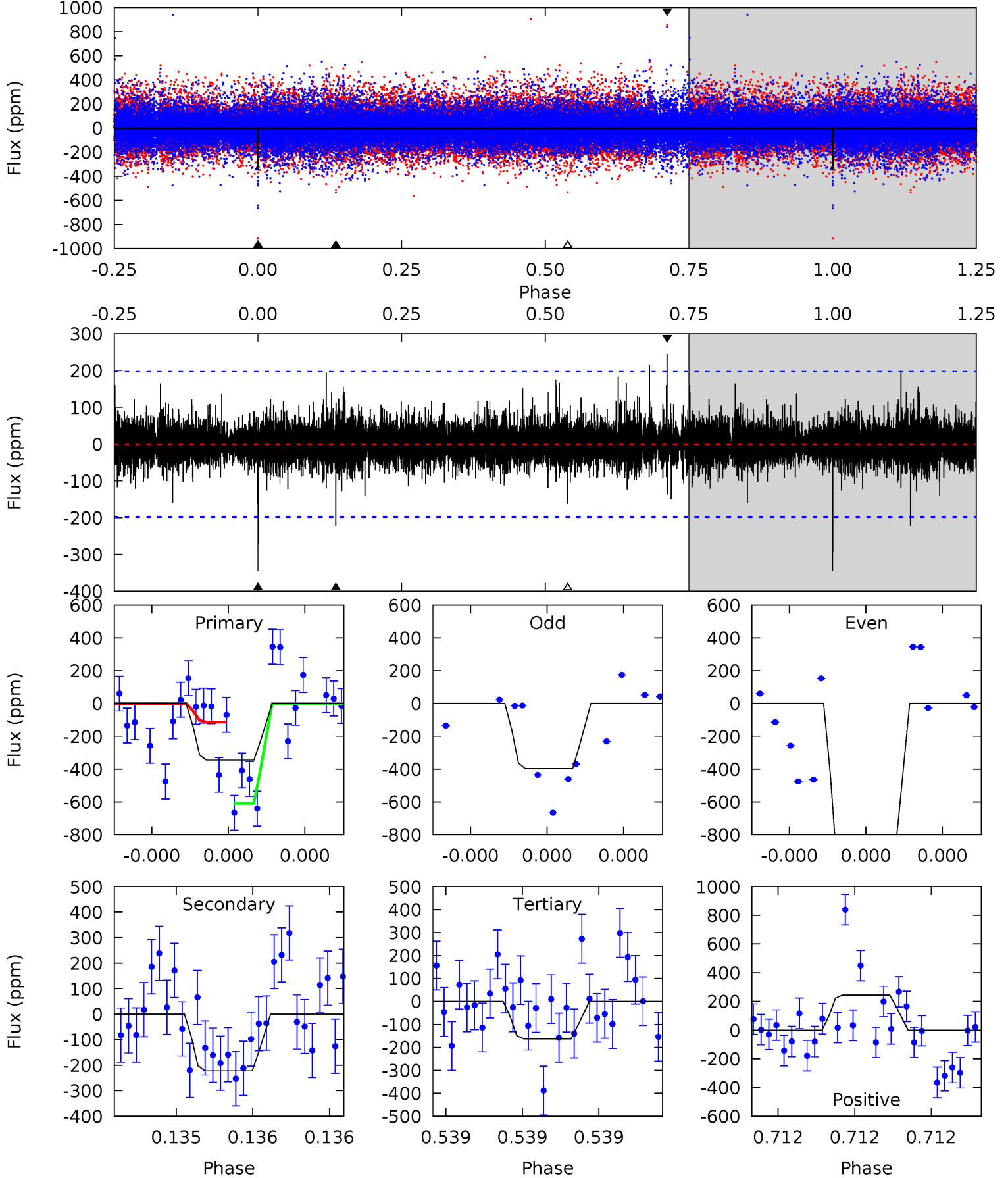
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	11.3	9.48	16.3	5.67	3.63	1.84	8.70	1.89	1.84	-4.97	0.94	1.20	0.47	0.78



Alt Model-Shift Uniqueness Test

009408035-02, P = 496.767088 Days, E = 256.426768 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.95	6.40	4.68	7.05	5.71	3.68	0.89	5.27	2.90	1.72	-0.65	10.0	2.09	0.41	7.13



Stellar Parameters For KIC 009408035

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4898^{+147}_{-147}	$4.670^{+0.054}_{-0.032}$	$-1.000^{+0.300}_{-0.300}$	$0.584^{+0.044}_{-0.040}$	$0.582^{+0.050}_{-0.021}$	$4.118^{+0.883}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+8%/-7%	+9%/-4%	+21%/-14%
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 009408035-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-555 ± 49	$6.61^{+6.54}_{-4.57}$	227^{+8}_{-8}	2976^{+1312}_{-495}	7606^{+68500}_{-5715}
Alt.	-222 ± 35	$6.40^{+6.95}_{-4.59}$	227^{+8}_{-8}	2648^{+1108}_{-445}	3227^{+33277}_{-2532}

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 $A_{obs} \gg 1.0$

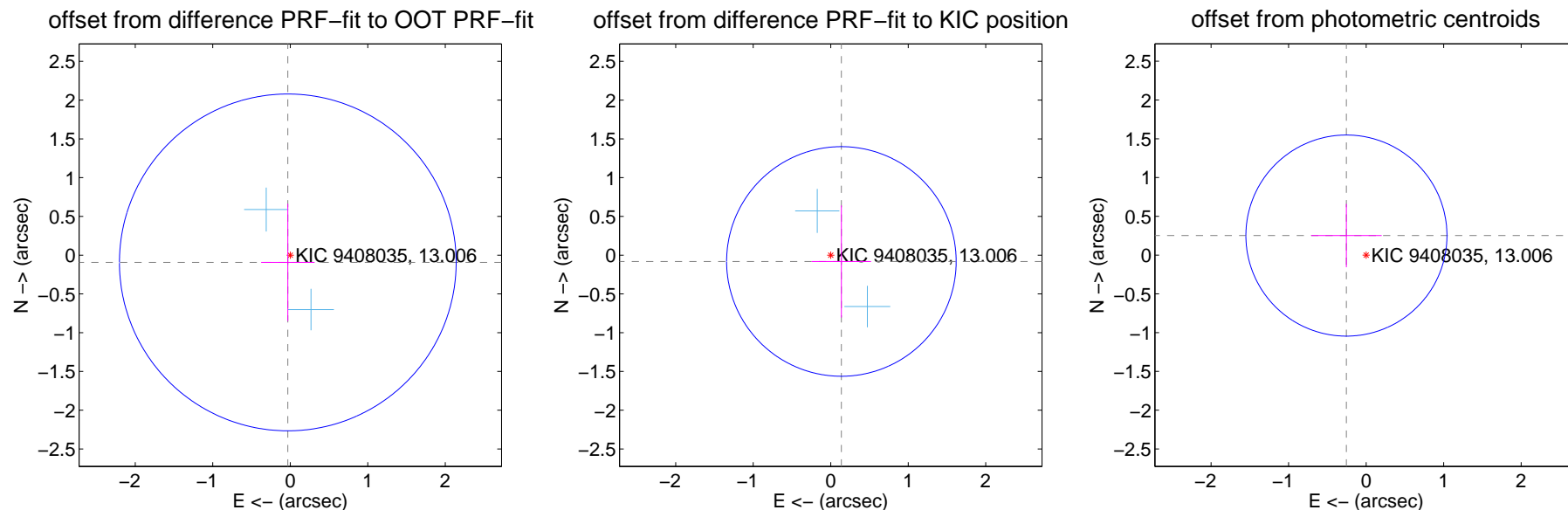
DV Centroid Data

Supplemental centroid analysis for 009408035-02. Kepler magnitude: 13.01. Transit SNR 10.72

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.724	0.14	0.032 ± 0.344	-0.094 ± 0.756
PRF-fit source offset from KIC position	0.160 ± 0.494	0.32	-0.138 ± 0.383	-0.081 ± 0.723
photometric centroid source offset	0.36 ± 0.43	0.83	0.25 ± 0.45	0.25 ± 0.41

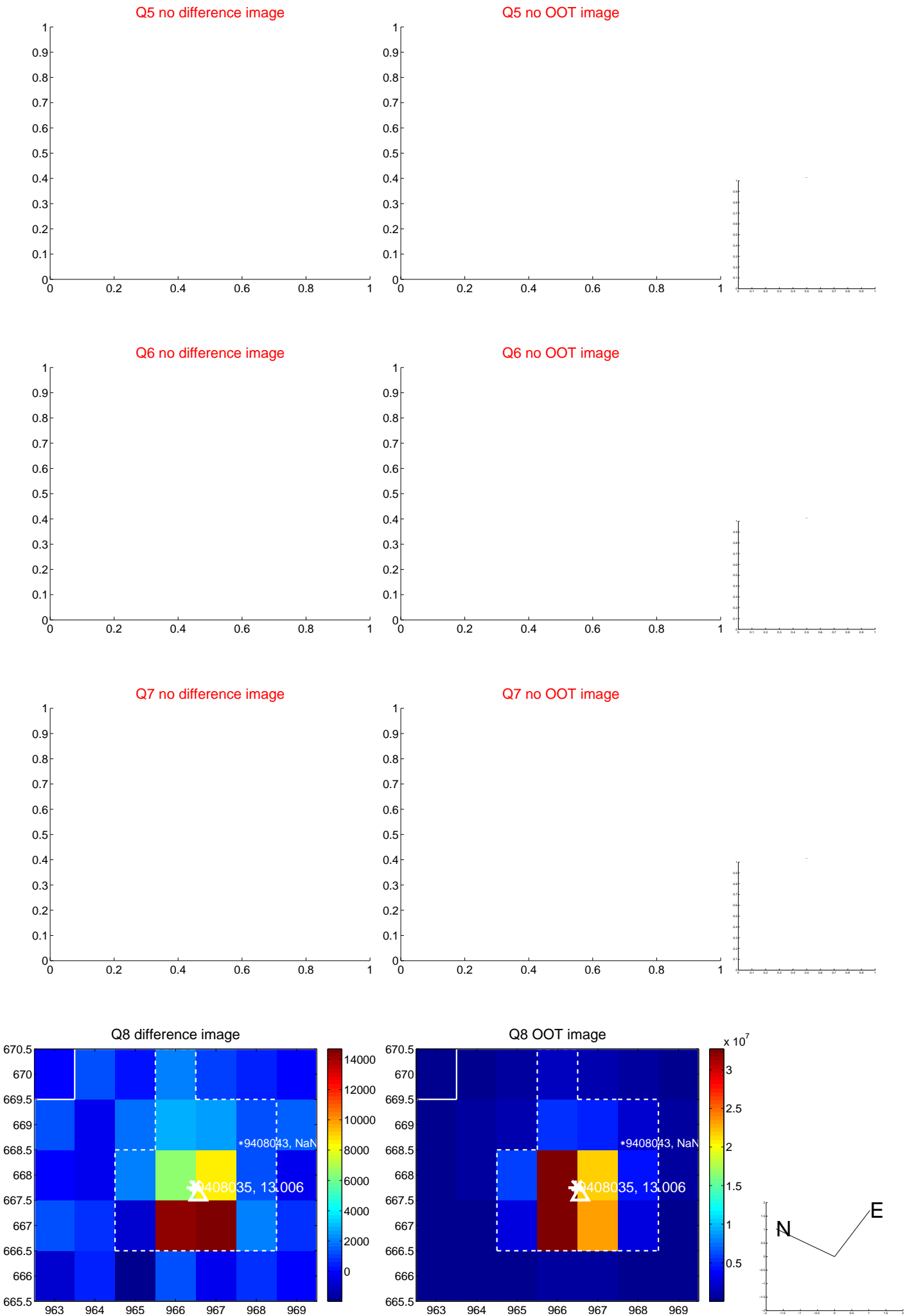


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



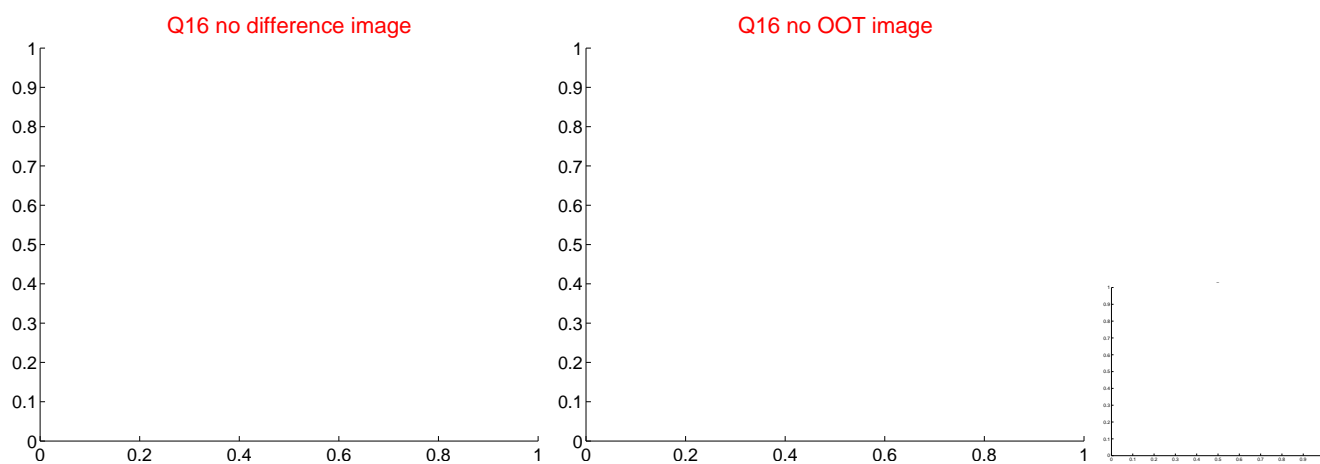
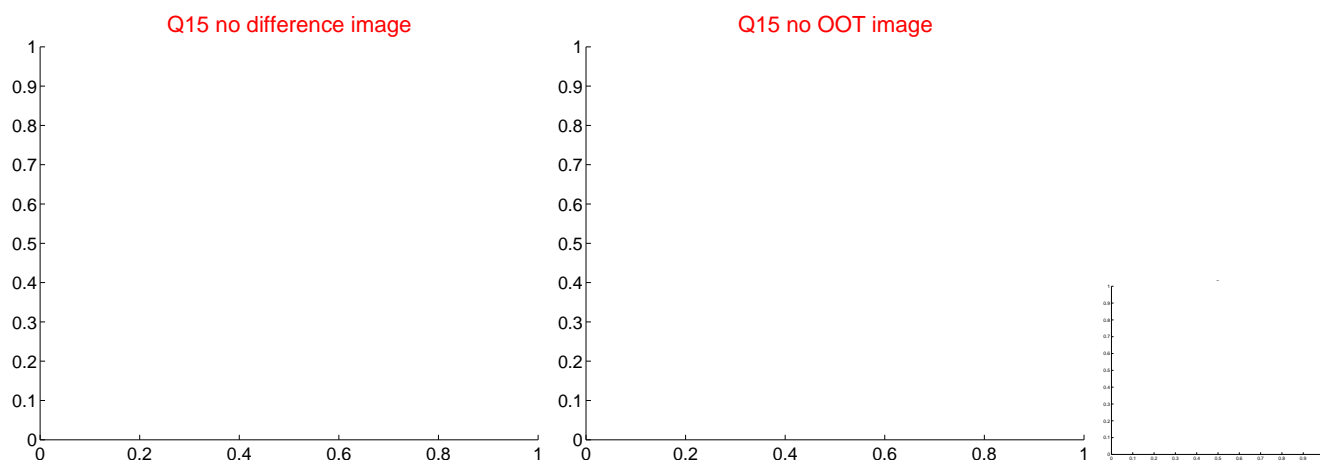
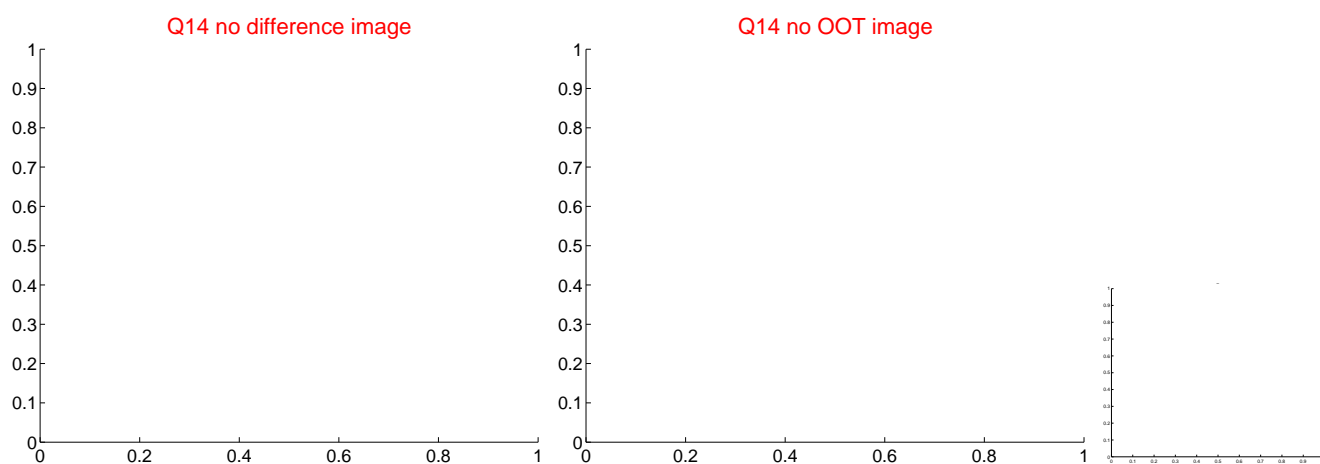
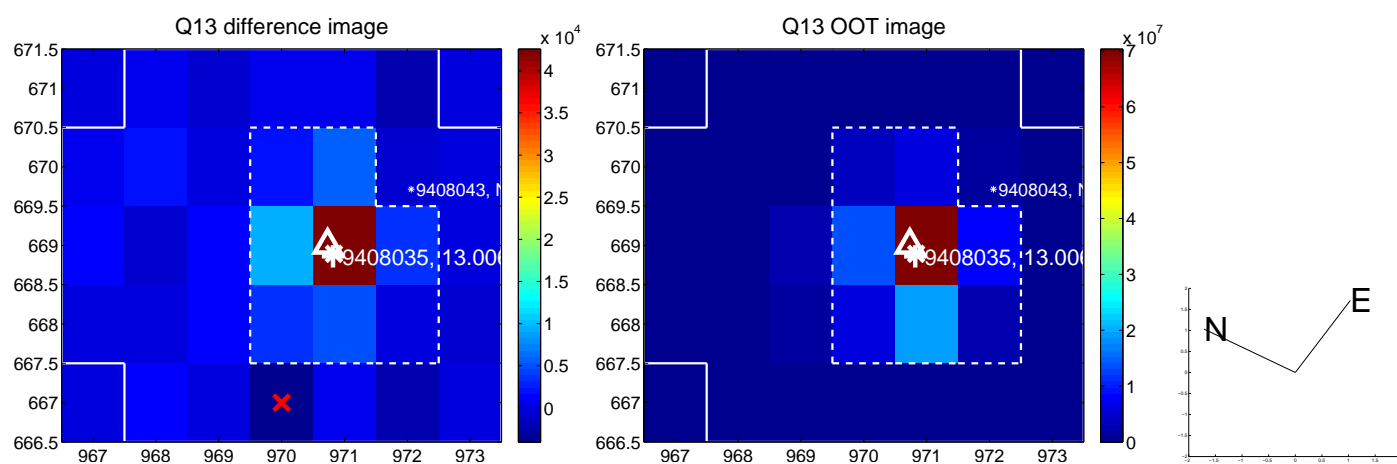
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



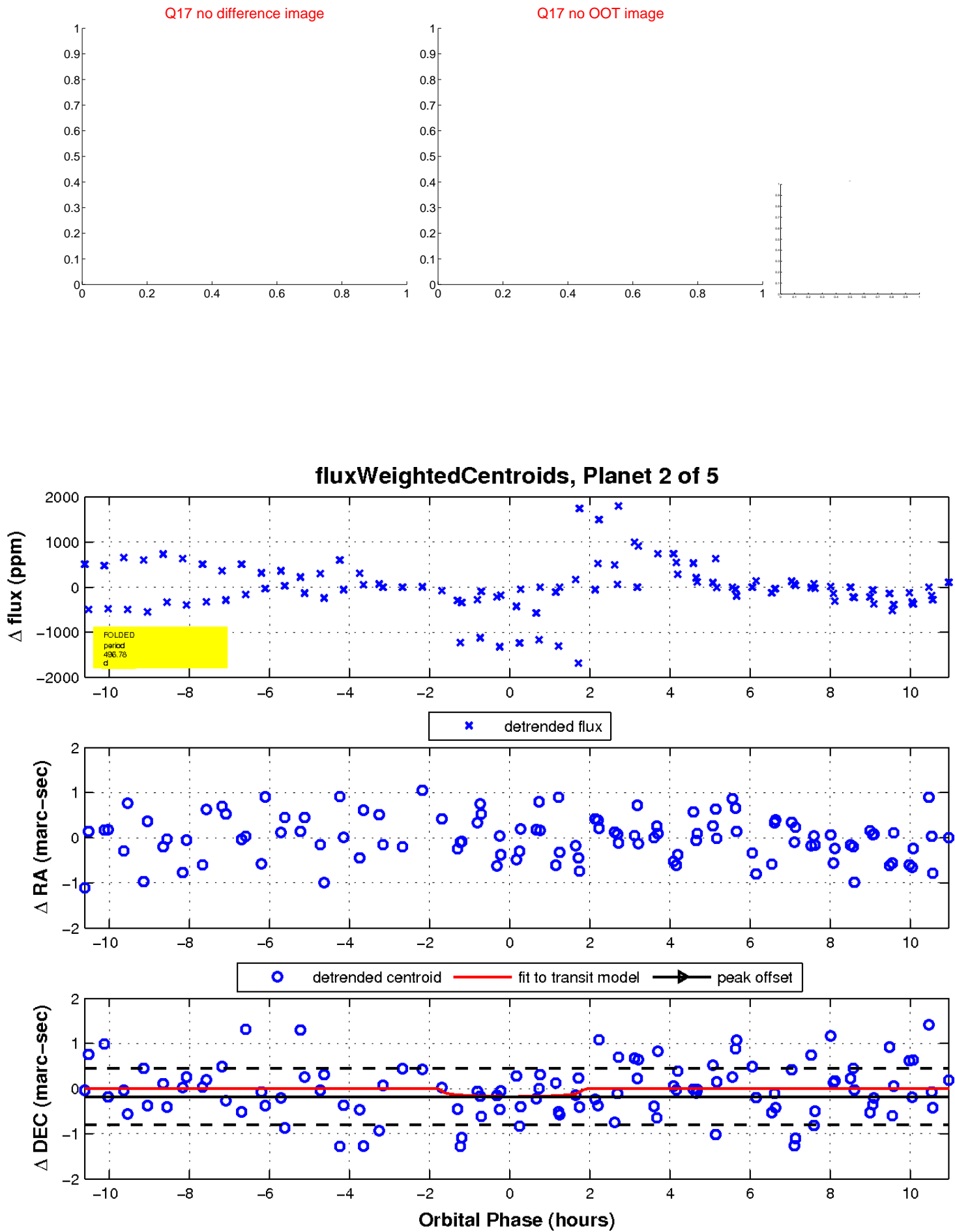
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

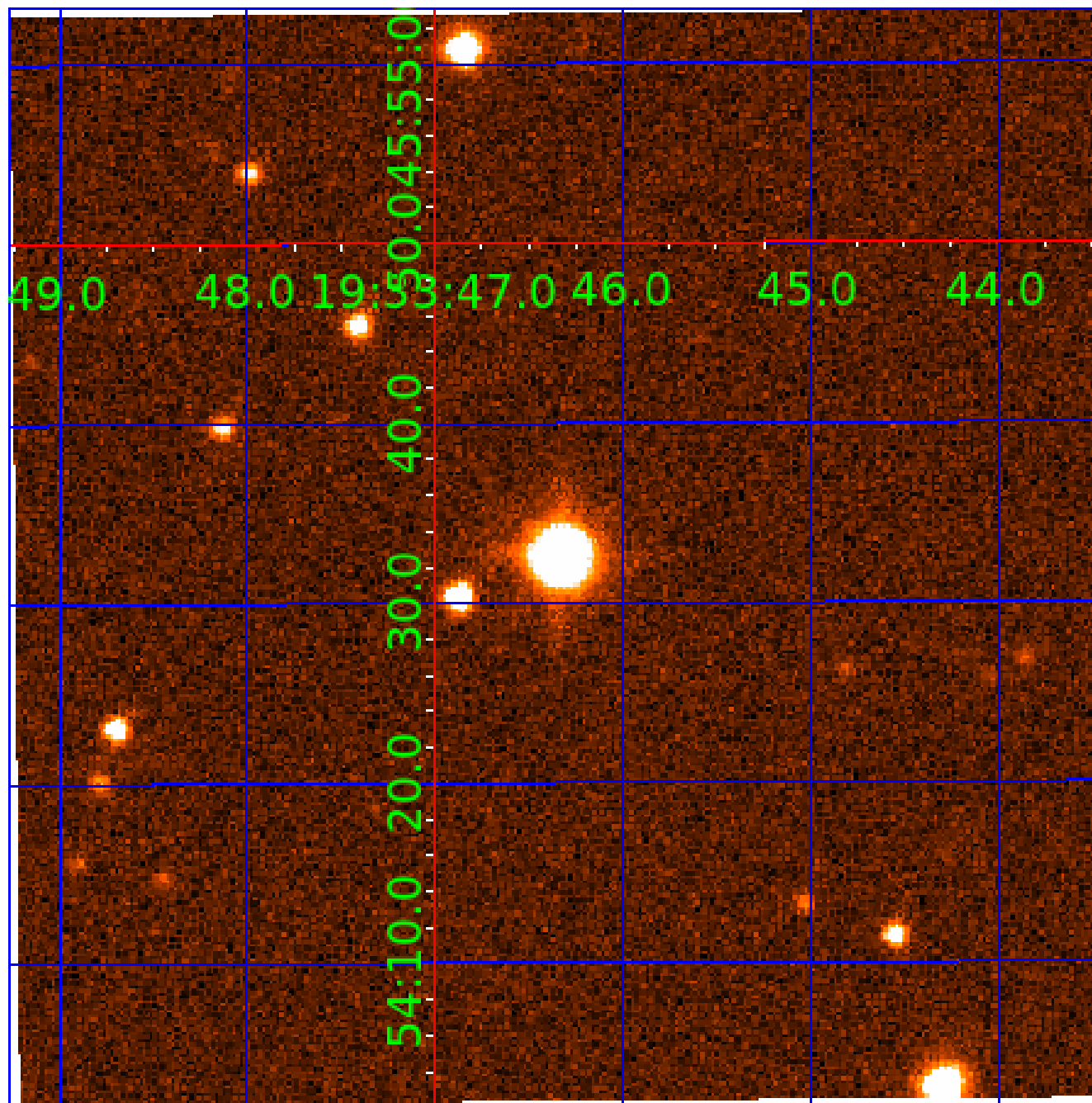


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009408035

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})
009408035-01	OBS	No	342.360037	191.083338	551.6	7.716	17.9	7.5	0.58	4898	1.87	0.28
009408035-02	OBS	No	496.780352	256.395978	951.1	3.668	16.7	10.7	0.58	4898	1.84	0.17
009408035-03	OBS	No	345.292332	161.730077	327.7	7.654	15.6	4.9	0.58	4898	1.11	0.27
009408035-04	OBS	No	309.194621	179.163076	358.2	2.479	10.4	5.2	0.58	4898	1.22	0.32
009408035-05	OBS	No	379.295181	335.035839	117.1	0.592	10.8	0.9	0.58	4898	0.78	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009408035-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
009408035-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

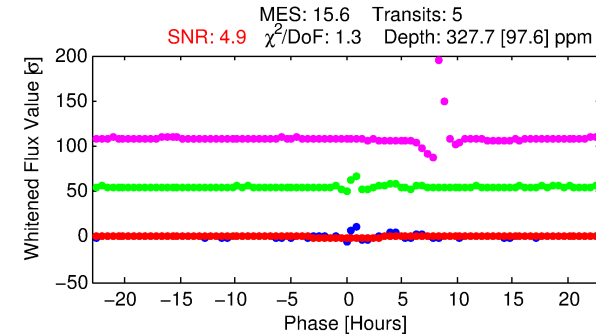
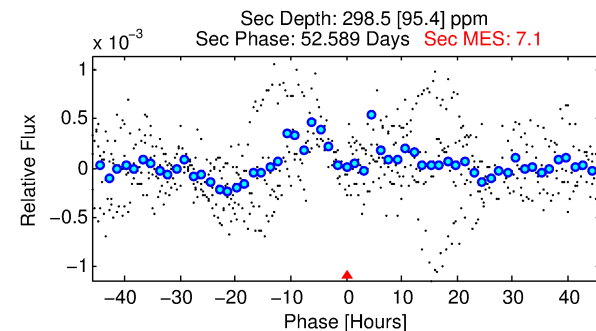
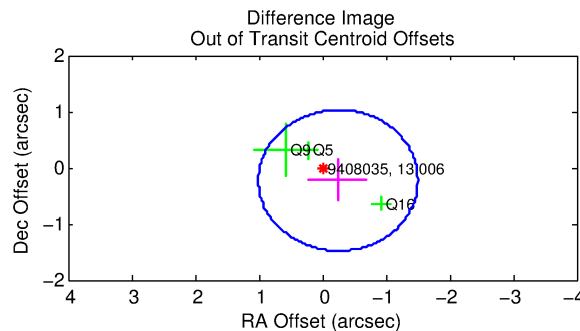
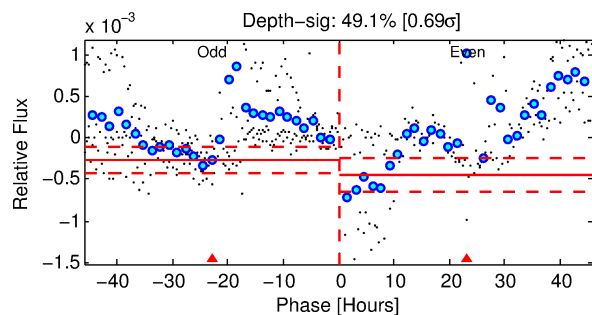
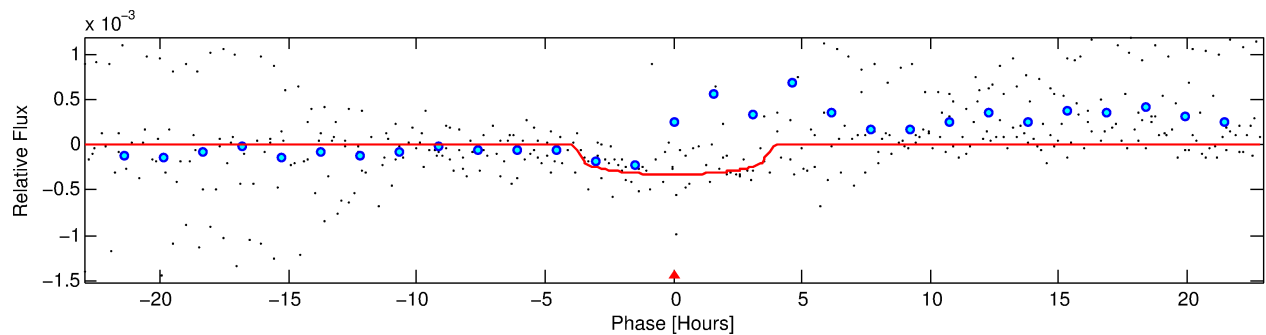
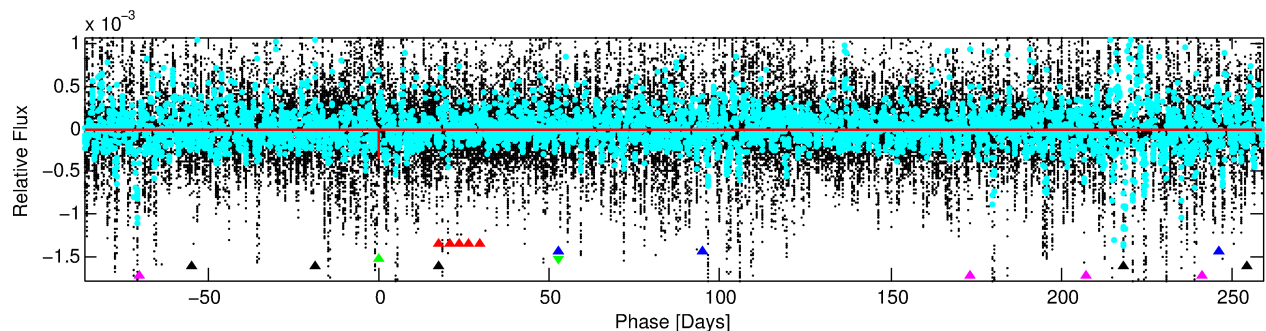
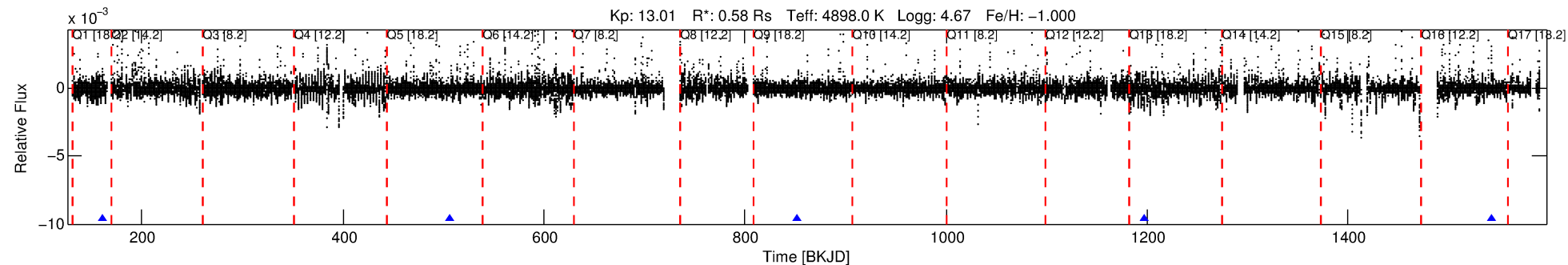
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009408035-03

No Significant Match Found

DV One-Page Summary

KIC: 9408035 Candidate: 3 of 5 Period: 345.292 d



DV Fit Results:

Period = 345.29233 [0.00644] d
Epoch = 161.7301 [0.0155] BKJD
Rp/R* = 0.0174 [0.0206]
a/R* = 271.02 [1222.15]
b = 0.65 [4.12]
Seff = 0.27 [0.04]
Teq = 184 [7] K
Rp = 1.11 [1.31] Re
a = 0.8043 [0.0524] AU
Ag = 86671.81 [207396.75] [0.42 σ]
Teffp = 4884 [2923] K [1.61 σ]

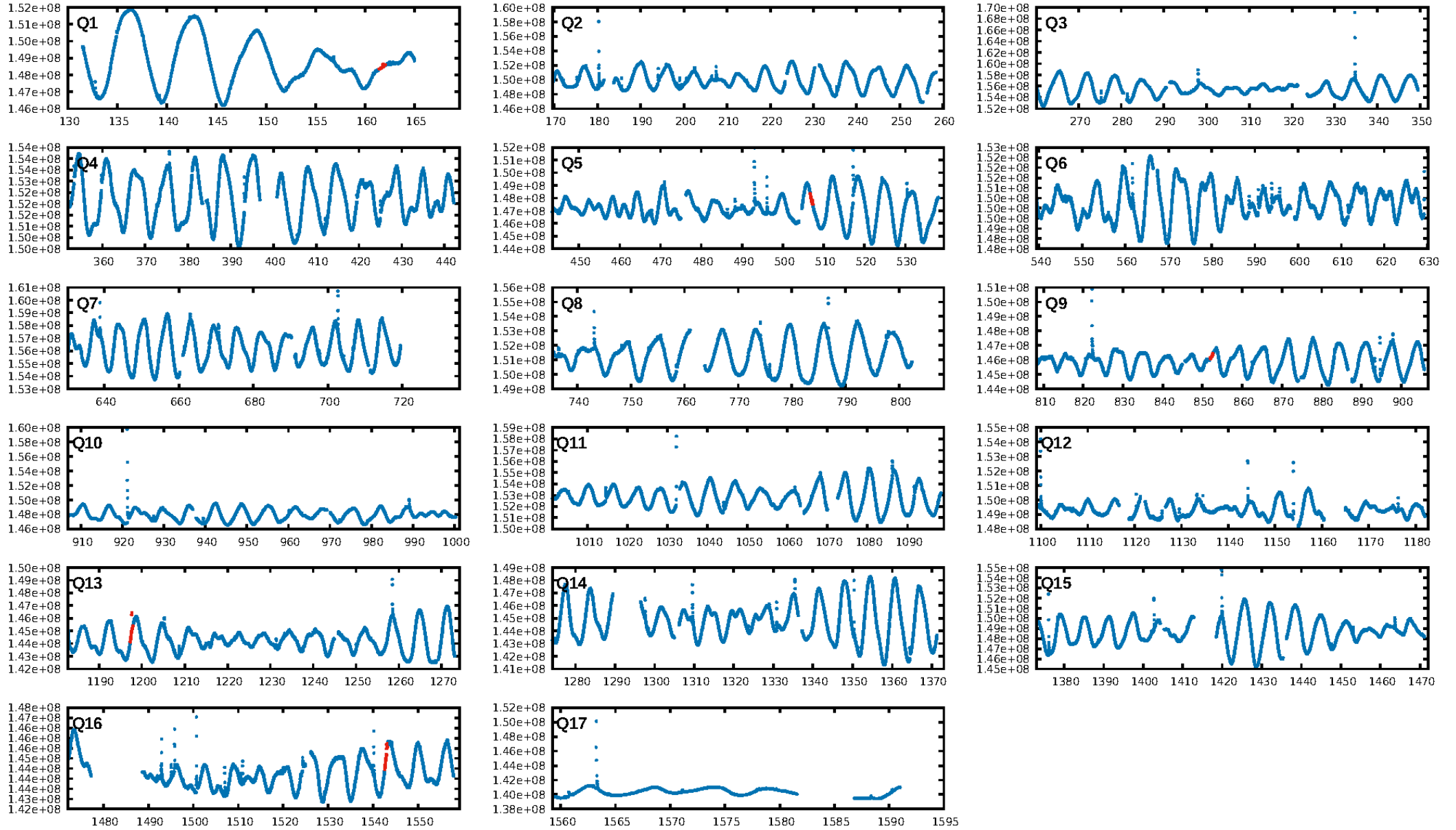
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.48 σ]
LongPeriod-sig: 100.0% [106.31 σ]
ModelChiSquare2-sig: 3.7%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 2.24e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.032
Centroid-sig: N/A
Centroid-so: 0.770 arcsec [1.00 σ]
OotOffset-rm: 0.336 arcsec [0.80 σ]
KicOffset-rm: 0.471 arcsec [1.00 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

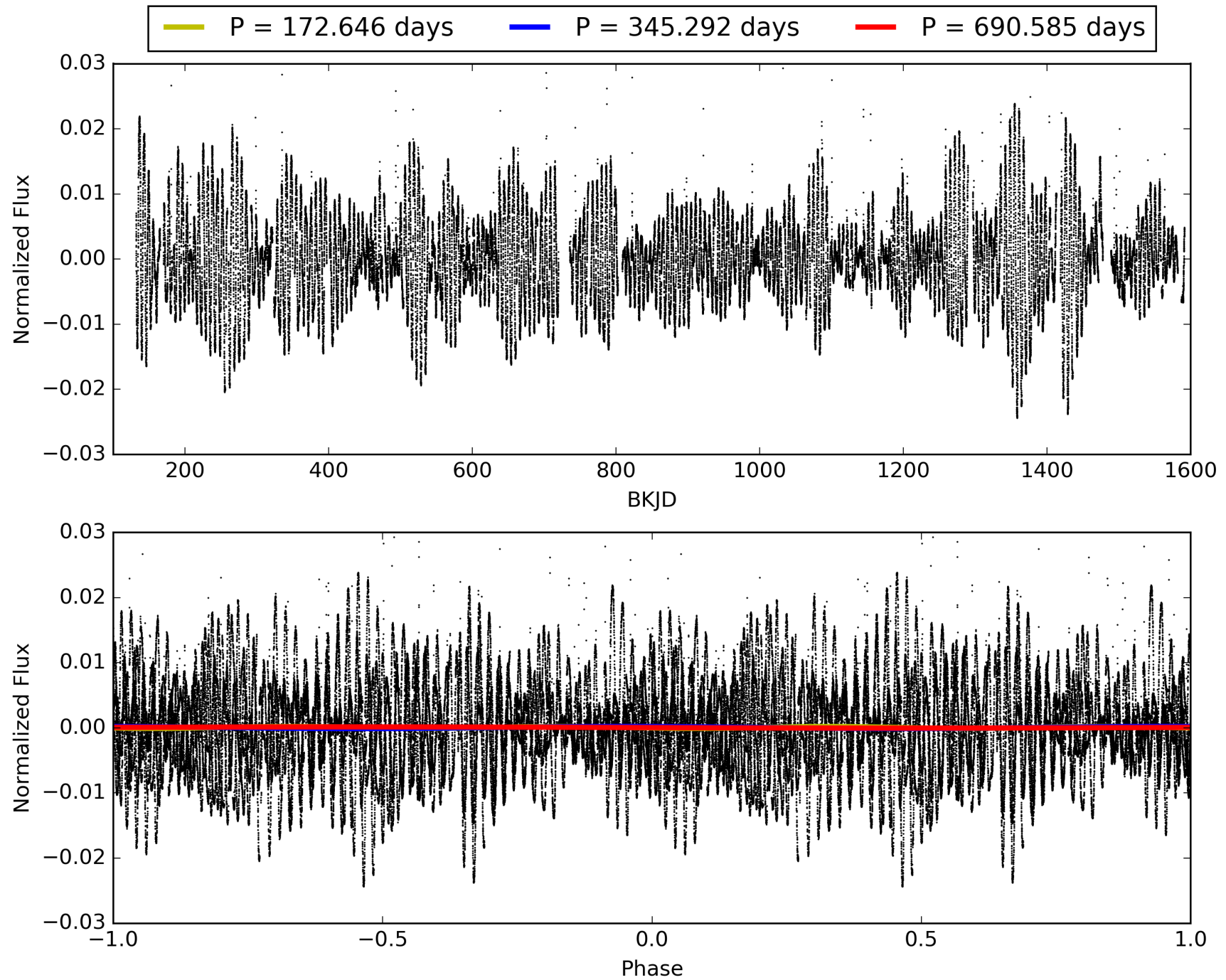
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:17:05 Z

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

TCE 009408035-03, PDC Light Curves

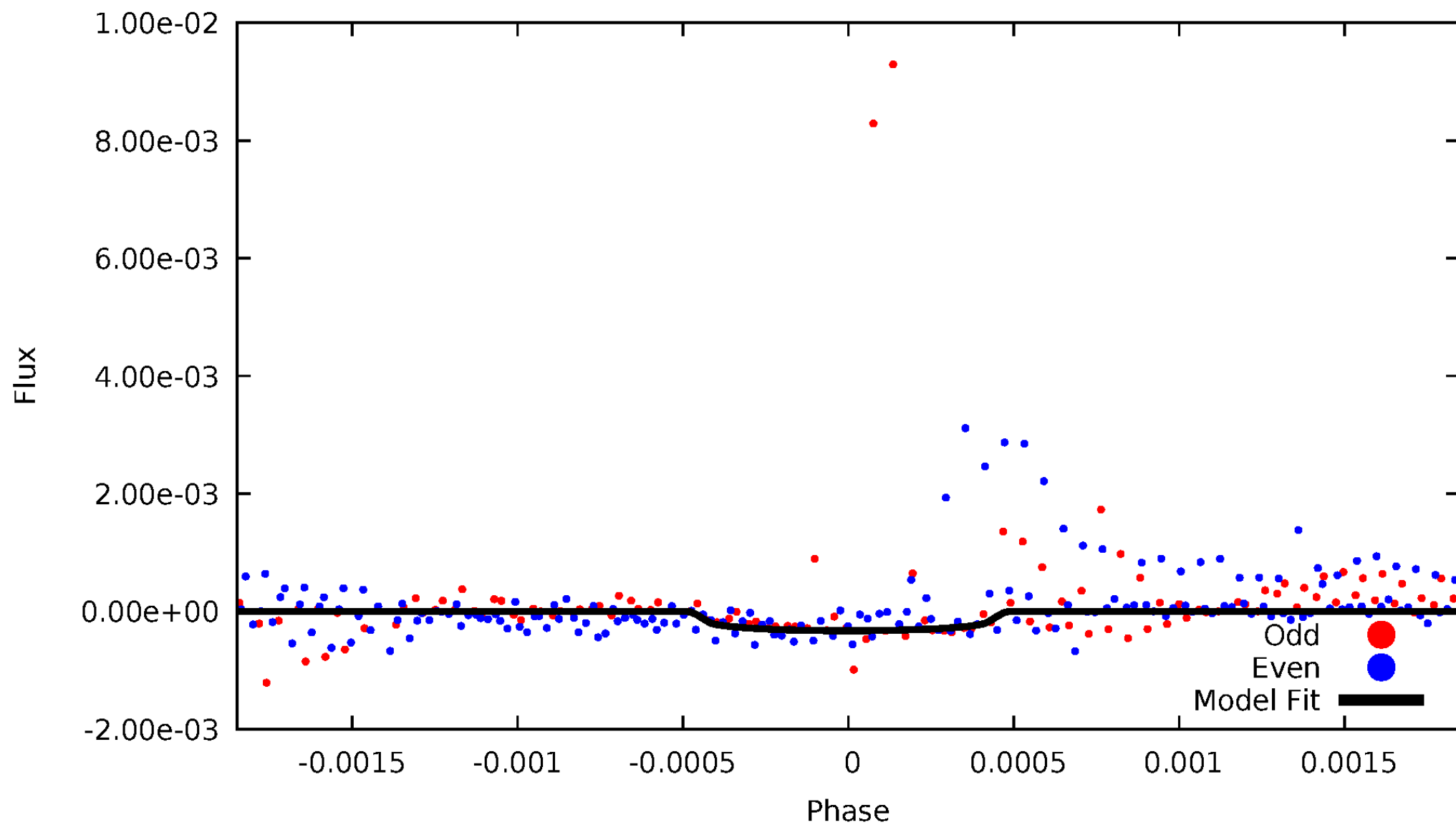


TCE 009408035-03



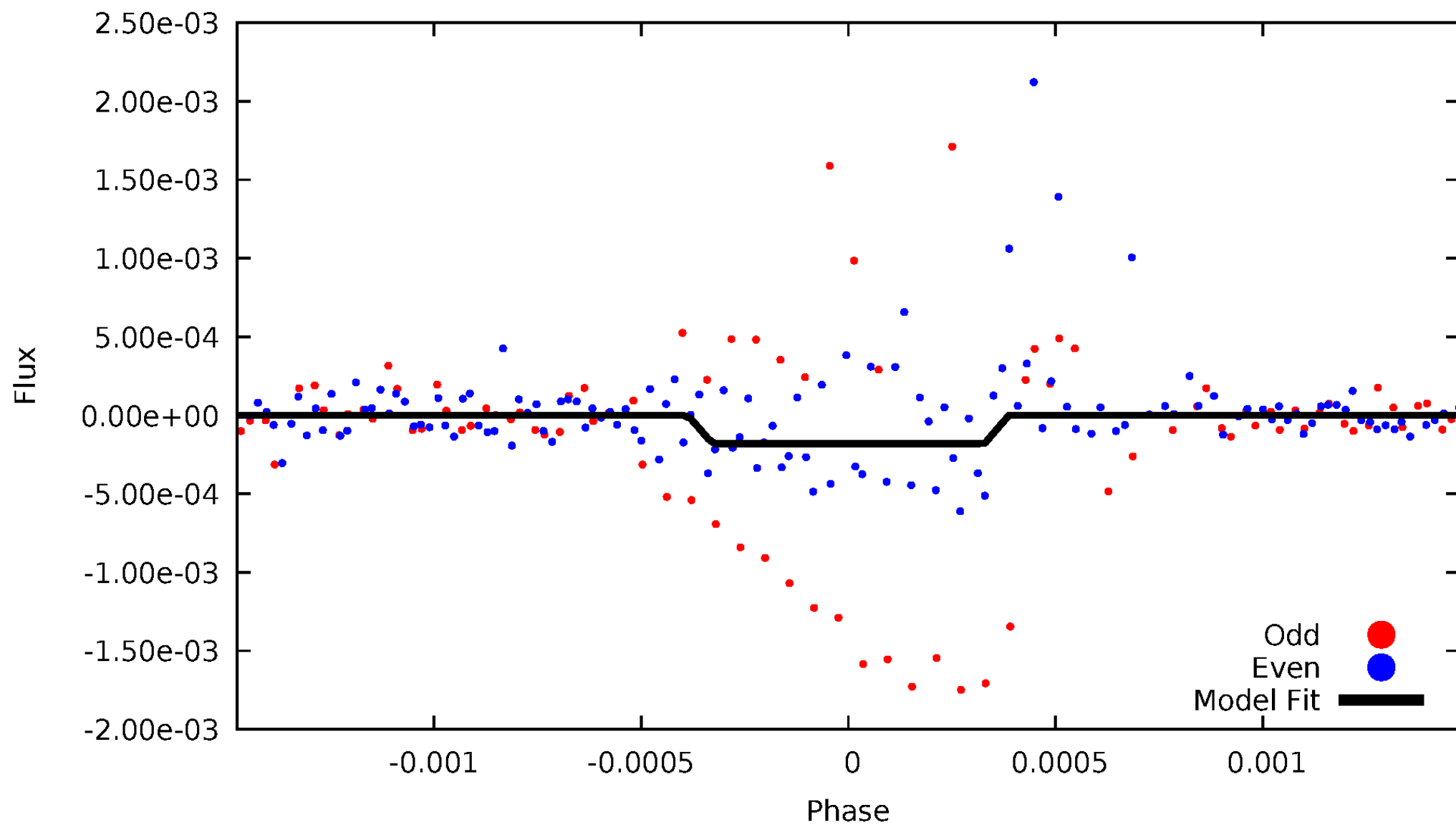
DV Odd/Even

TCE 009408035-03



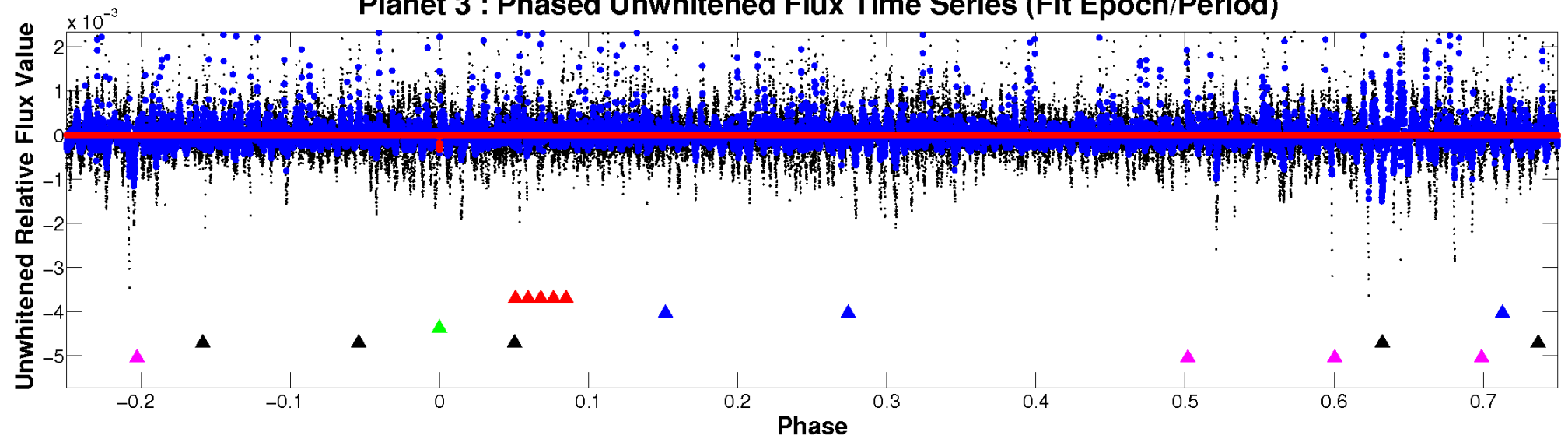
ALT Odd/Even

TCE 009408035-03

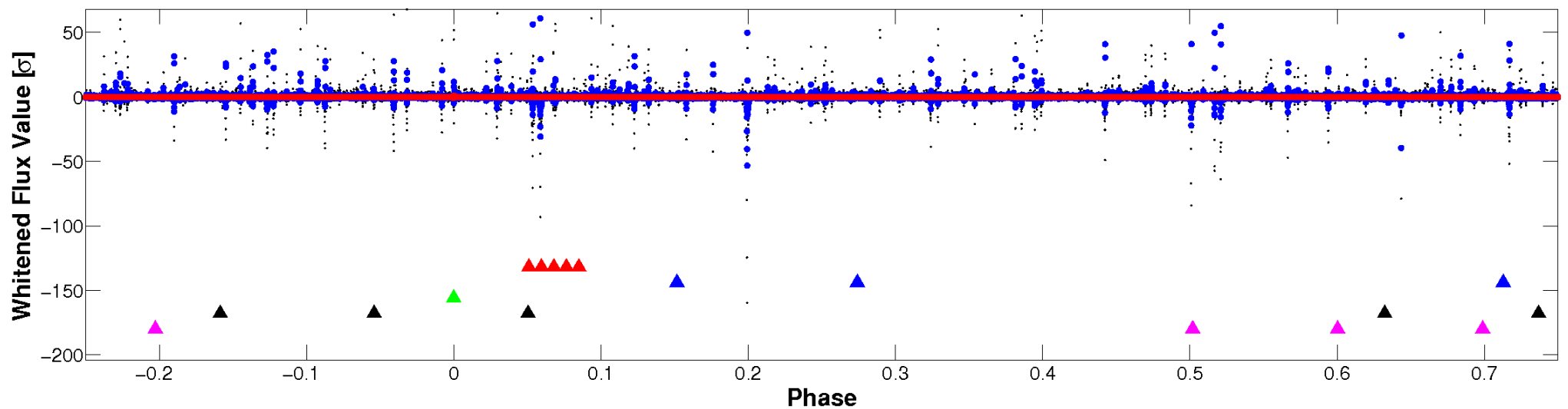


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

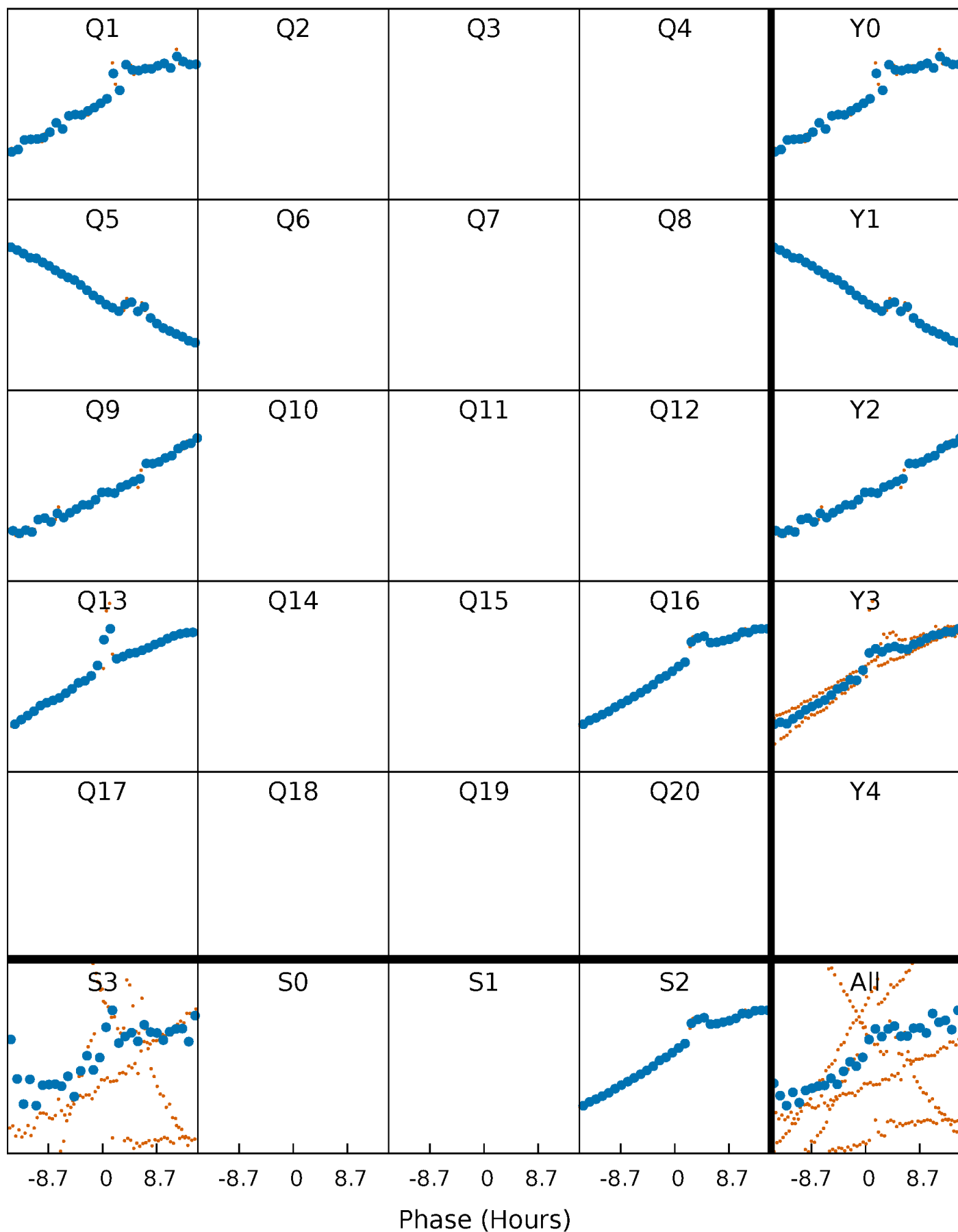


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



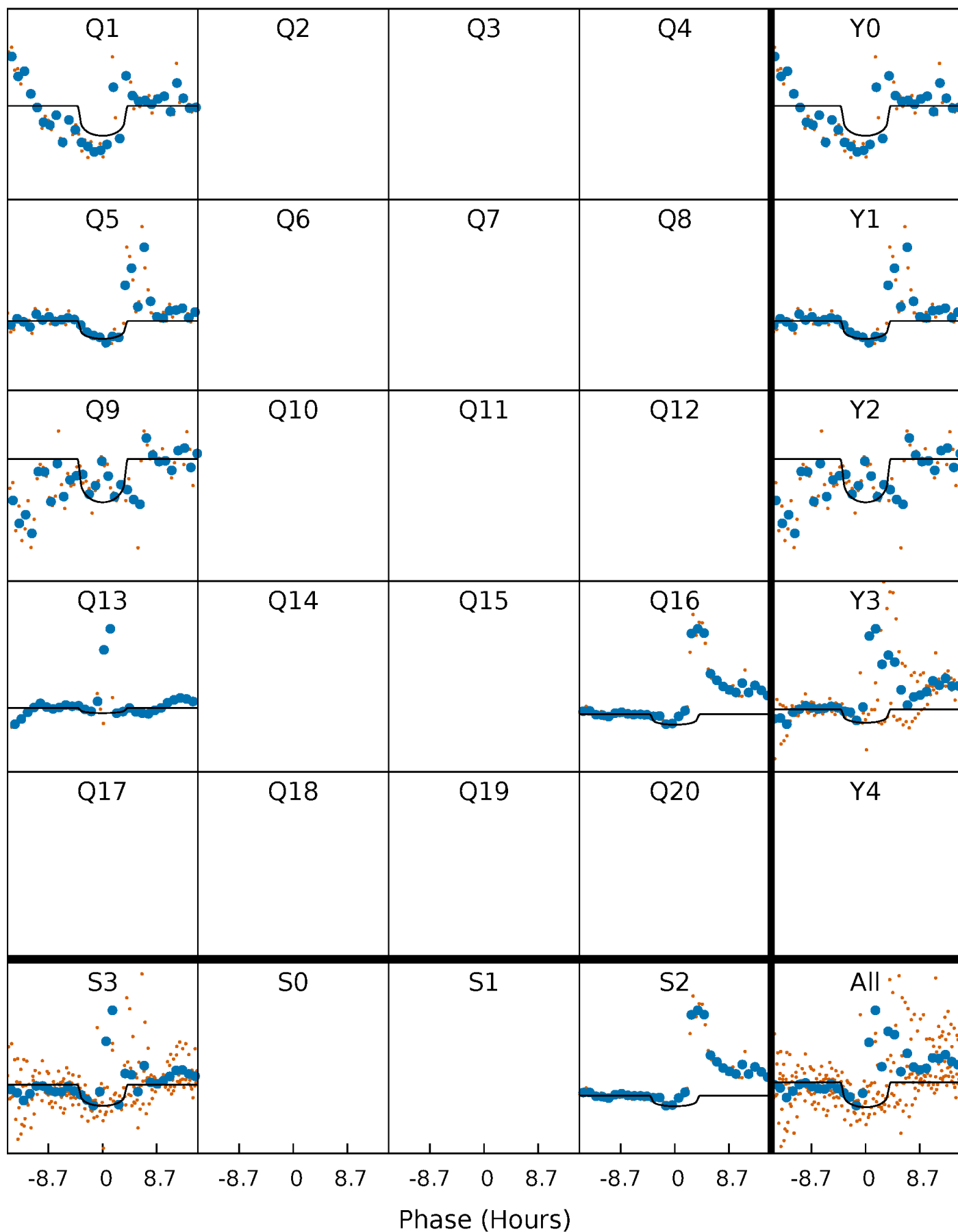
PDC Quarter-Phased Transit Curves

TCE 009408035-03 $P=345.292331$ Days $T_0=161.730077$ (BKJD)



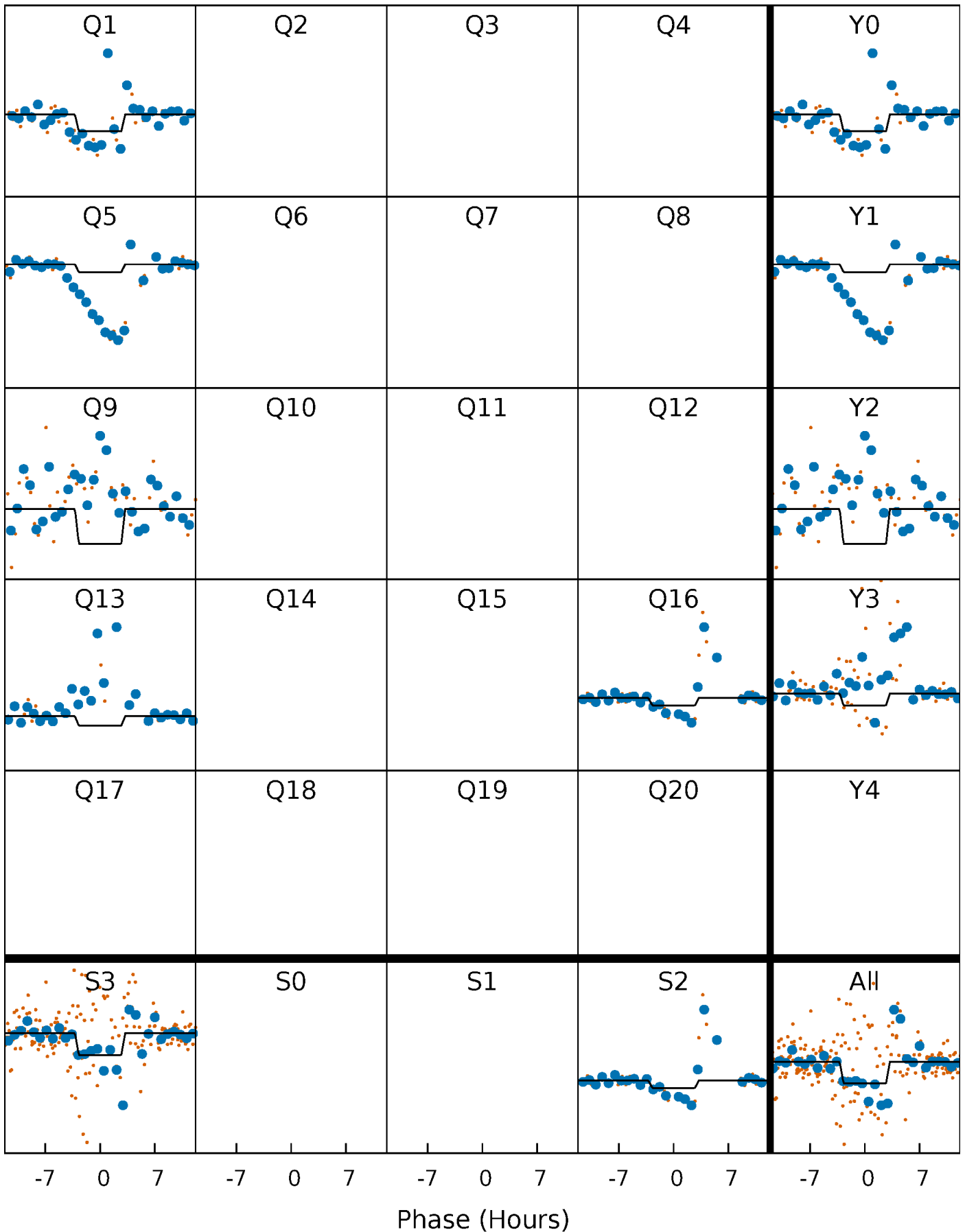
DV Quarter-Phased Transit Curves

TCE 009408035-03 $P=345.292331$ Days $T_0=161.730077$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

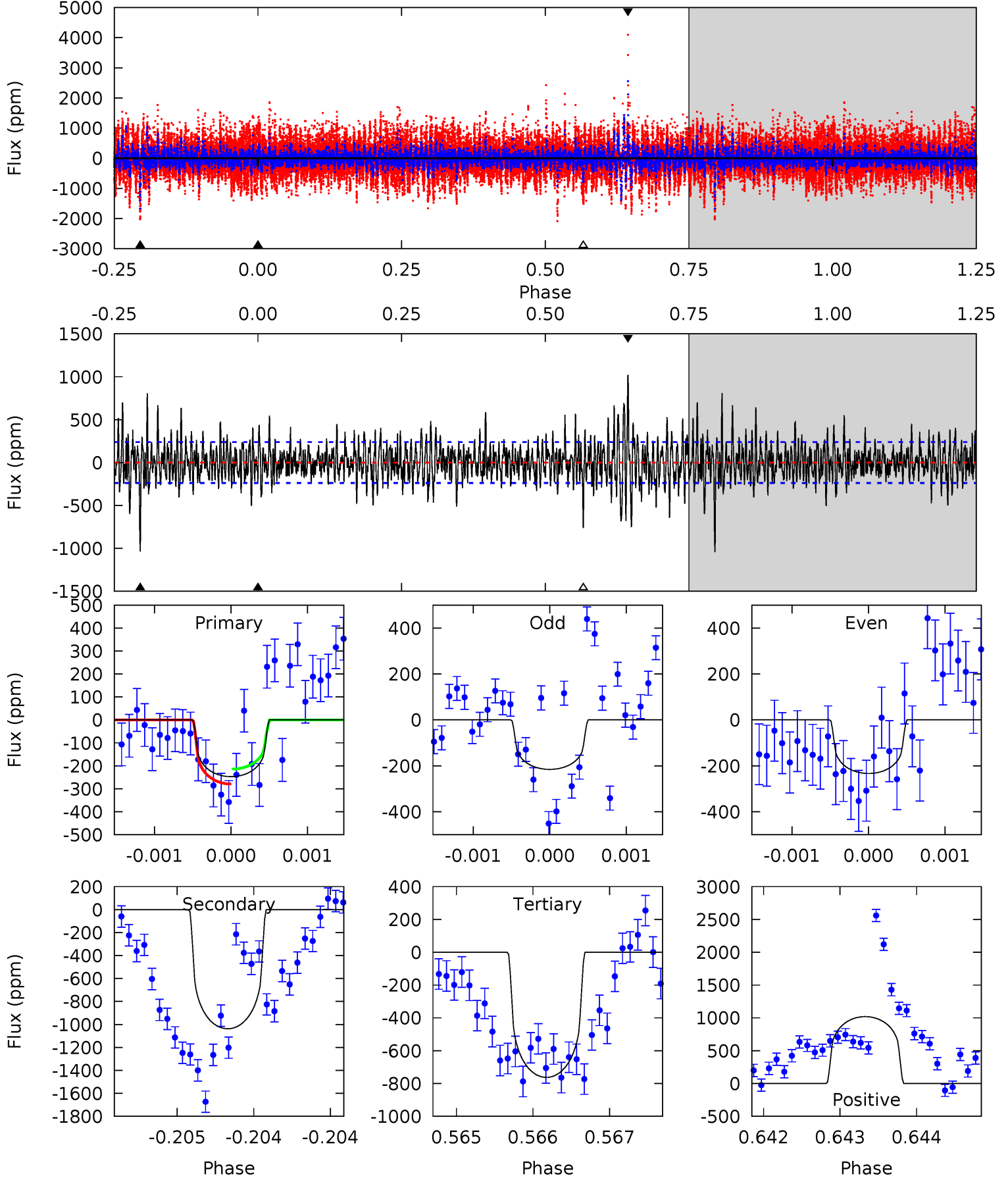
TCE 009408035-03 $P=345.279486$ Days $T_0=161.749208$ (BKJD)



DV Model-Shift Uniqueness Test

009408035-03, P = 345.292331 Days, E = 161.730077 Days

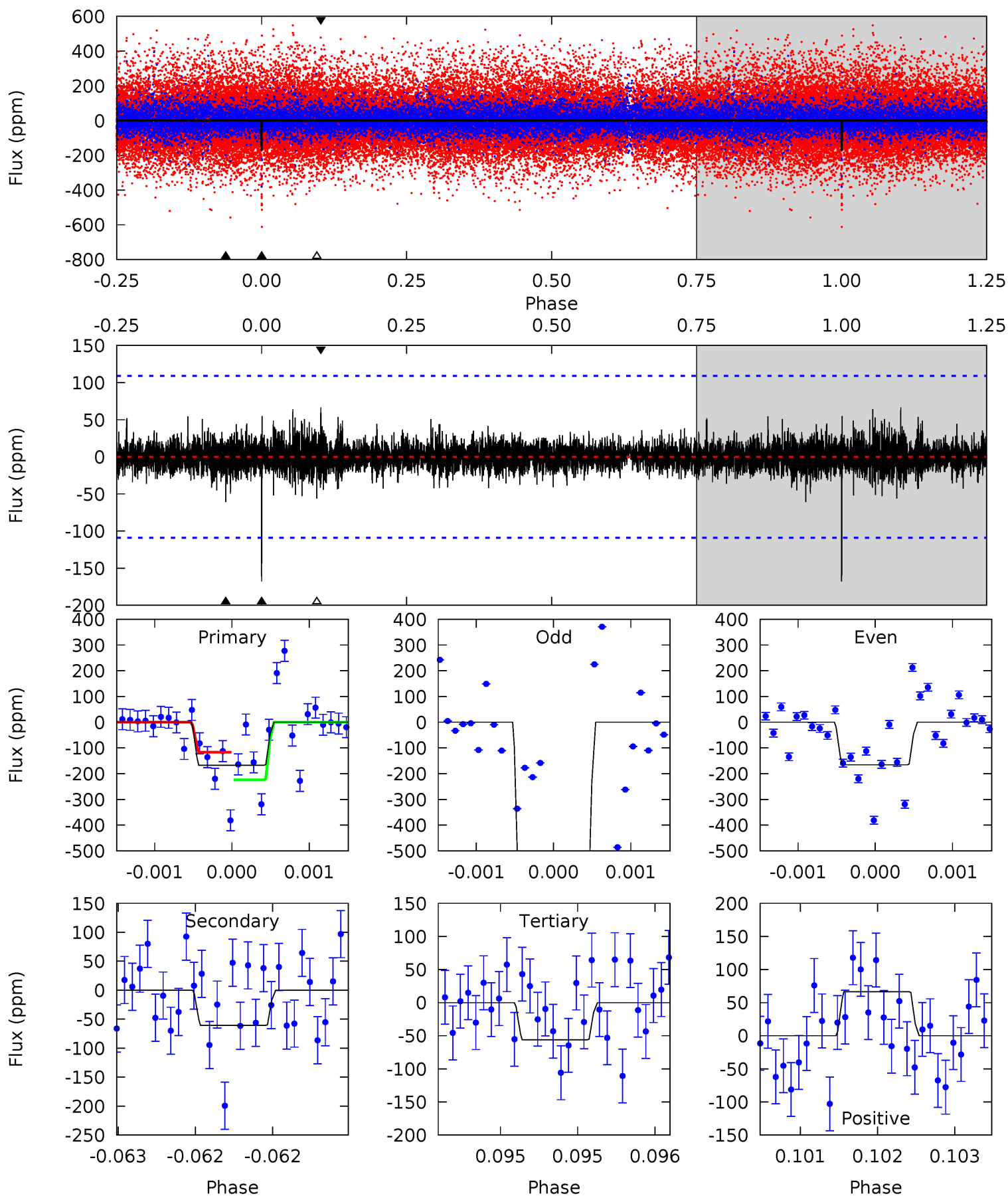
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.67	23.8	17.5	23.4	5.46	3.30	4.35	-11.8	-17.7	6.30	0.43	0.14	-0.89	0.50	0.74



Alt Model-Shift Uniqueness Test

009408035-03, P = 345.279486 Days, E = 161.749208 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	3.07	2.83	3.36	5.50	3.37	0.61	5.63	5.10	0.24	-0.29	20.0	1.02	0.28	2.72



Stellar Parameters For KIC 009408035

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4898^{+147}_{-147}	$4.670^{+0.054}_{-0.032}$	$-1.000^{+0.300}_{-0.300}$	$0.584^{+0.044}_{-0.040}$	$0.582^{+0.050}_{-0.021}$	$4.118^{+0.883}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+8%/-7%	+9%/-4%	+21%/-14%
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 009408035-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1038 ± 44	$1.42^{+1.17}_{-0.91}$	256^{+8}_{-9}	5764^{+4617}_{-1301}	$184397^{+1187308}_{-129144}$
Alt.	-61 ± 20	$1.25^{+1.21}_{-0.80}$	256^{+9}_{-8}	3471^{+1631}_{-621}	13470^{+94676}_{-10041}

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

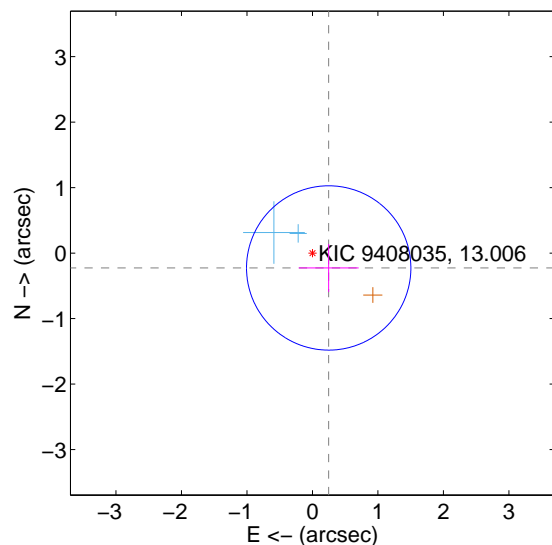
Supplemental centroid analysis for 009408035-03. Kepler magnitude: 13.01. Transit SNR 4.92

There are 2 quarters with good PRF difference image offsets

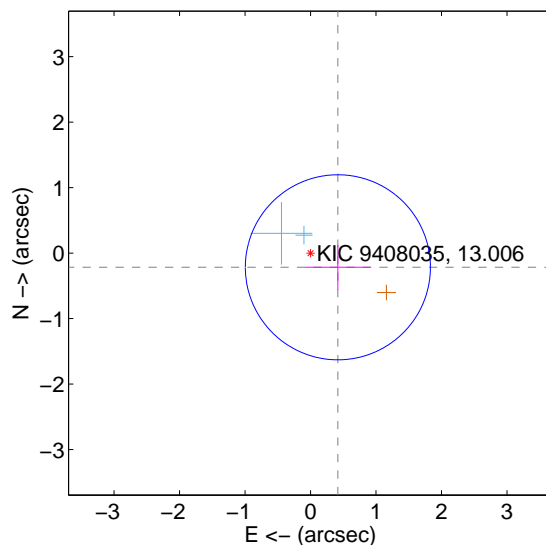
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.336 ± 0.418	0.80	-0.248 ± 0.457	-0.227 ± 0.366
PRF-fit source offset from KIC position	0.471 ± 0.471	1.00	-0.418 ± 0.500	-0.217 ± 0.342
photometric centroid source offset	0.77 ± 0.77	1.00	-0.36 ± 0.73	0.68 ± 0.78

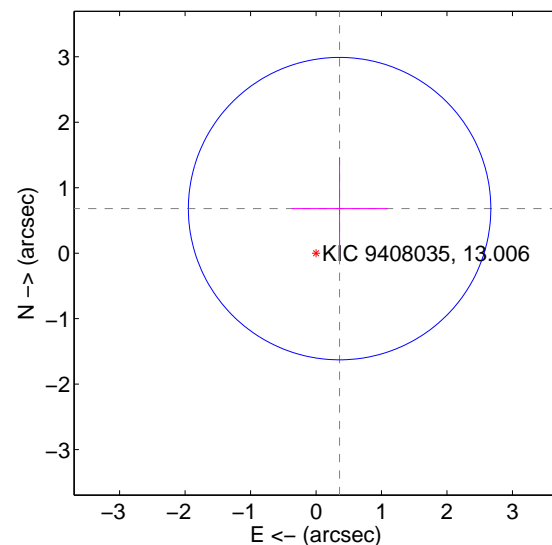
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

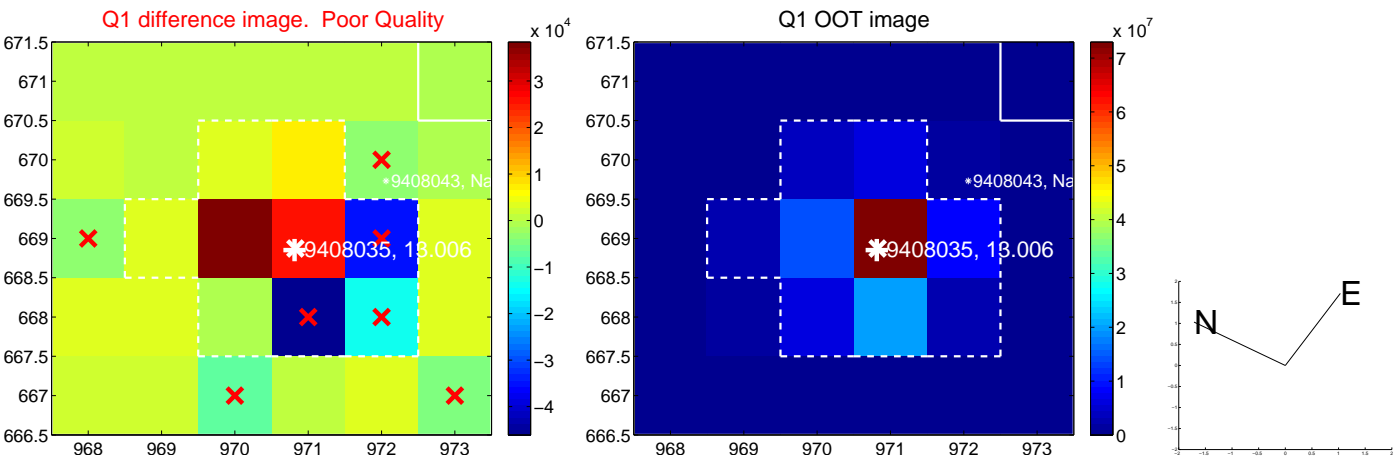


offset from photometric centroids

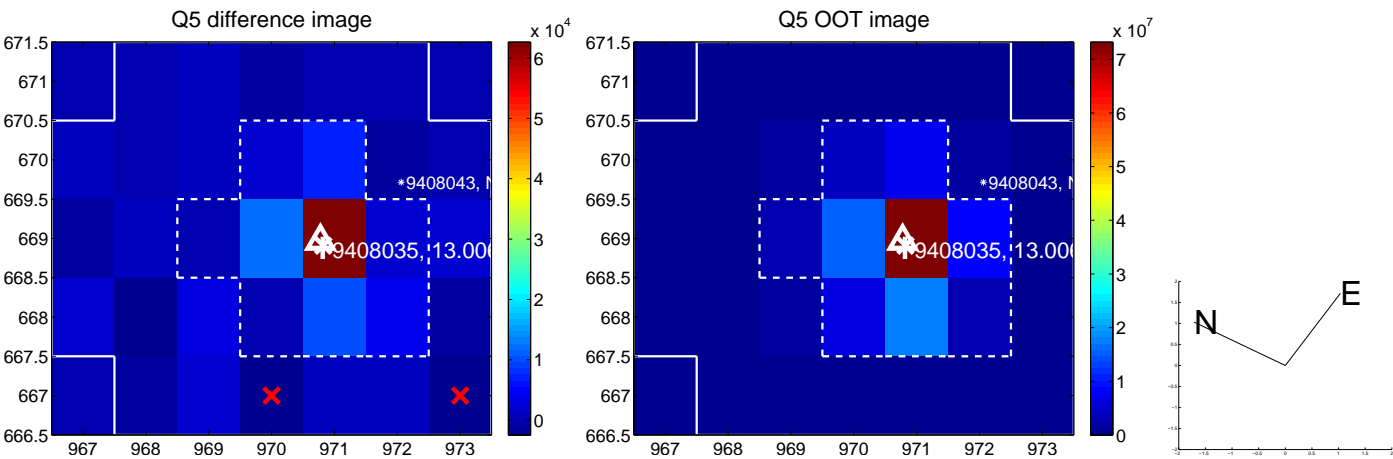


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

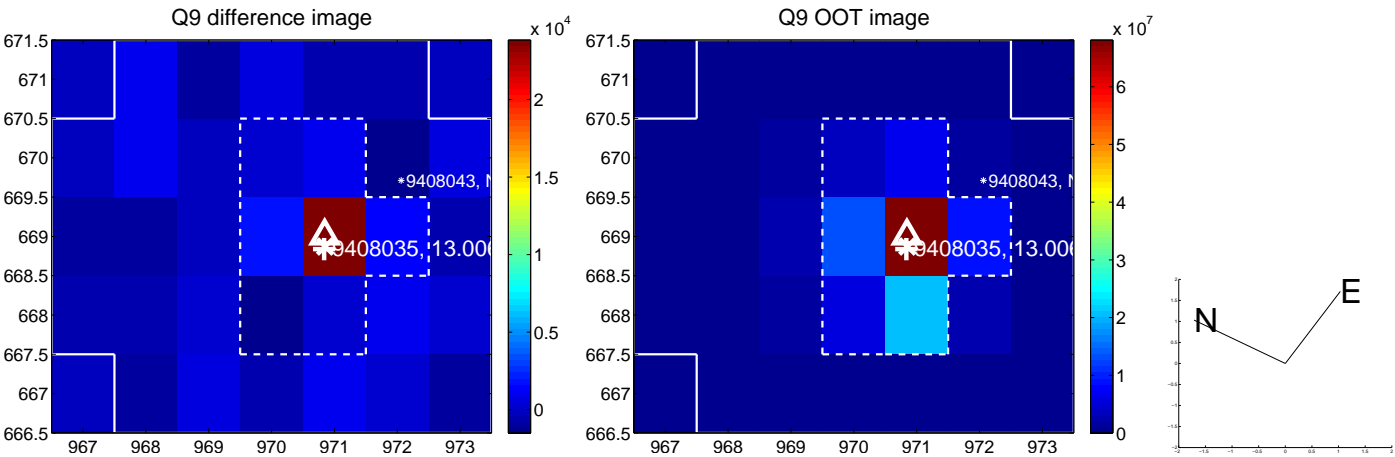
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



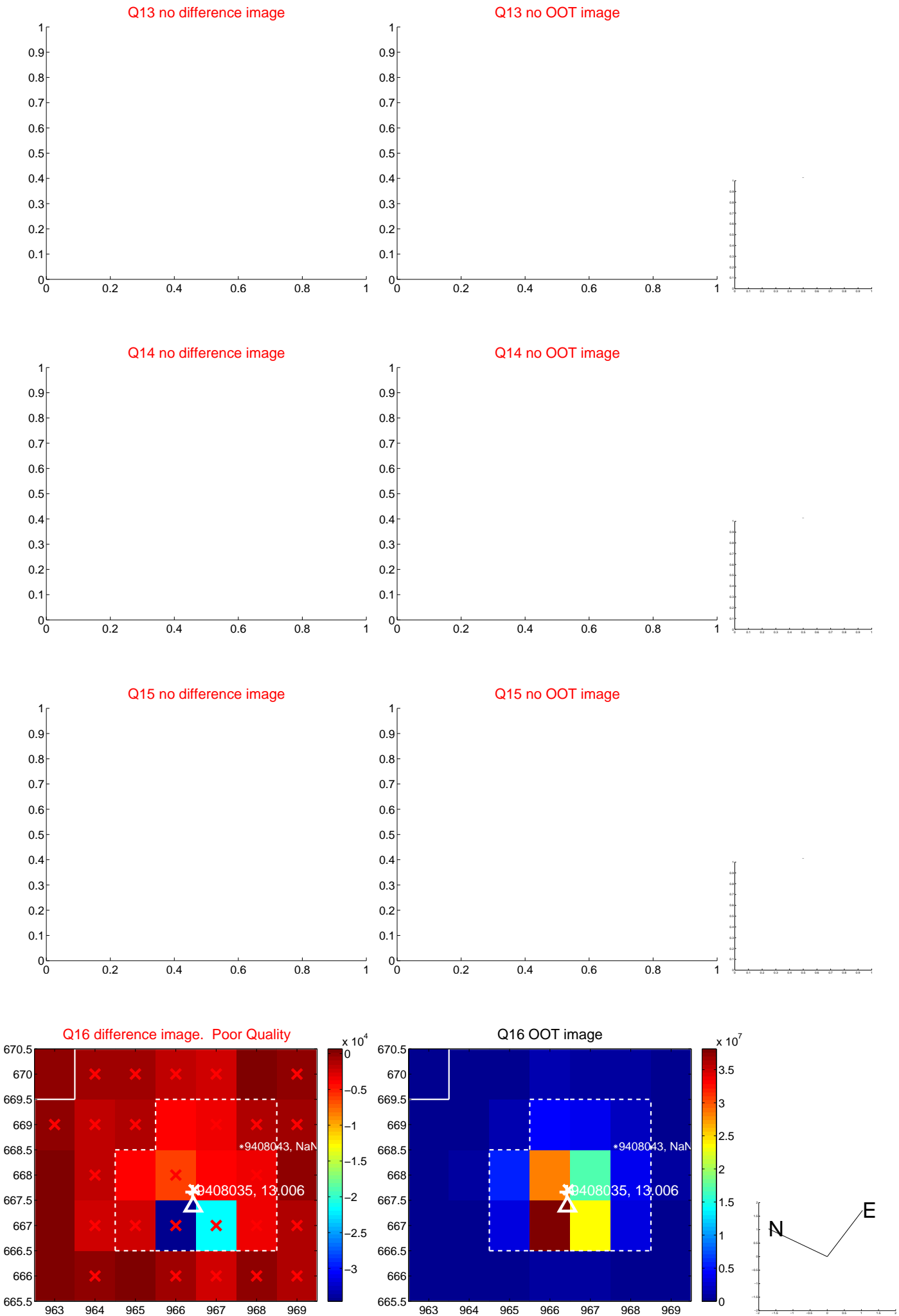
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



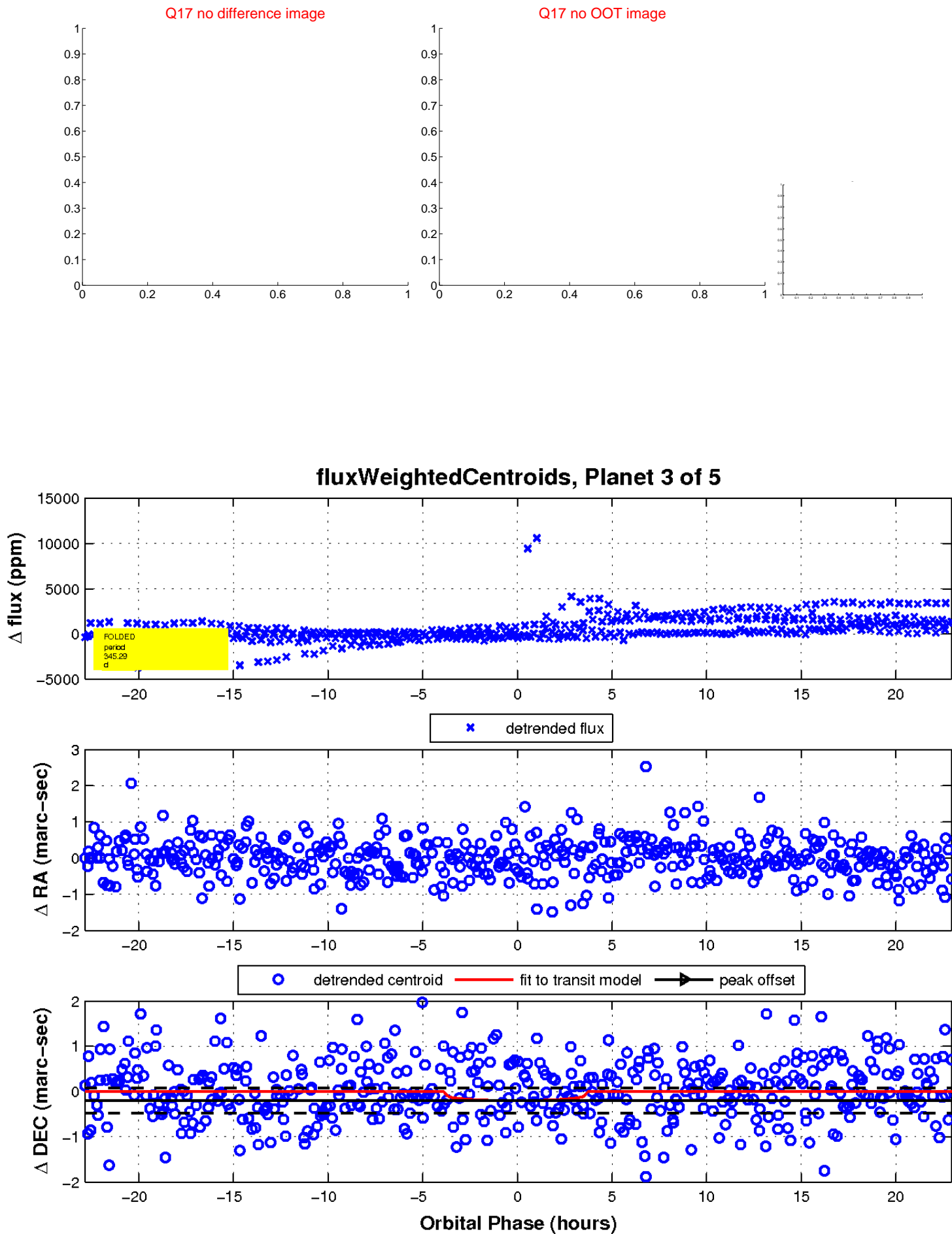
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

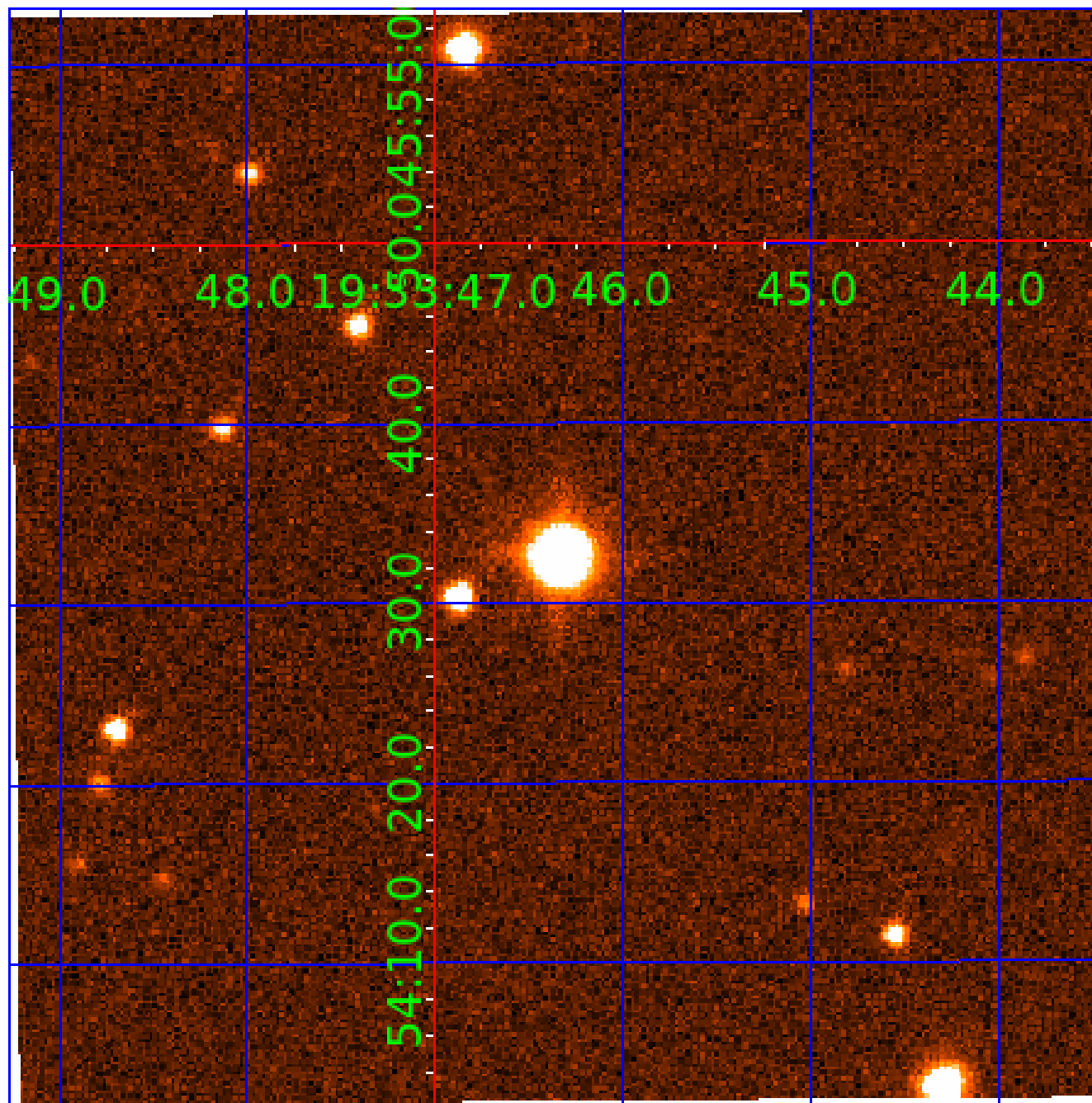


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009408035

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})
009408035-01	OBS	No	342.360037	191.083338	551.6	7.716	17.9	7.5	0.58	4898	1.87	0.28
009408035-02	OBS	No	496.780352	256.395978	951.1	3.668	16.7	10.7	0.58	4898	1.84	0.17
009408035-03	OBS	No	345.292332	161.730077	327.7	7.654	15.6	4.9	0.58	4898	1.11	0.27
009408035-04	OBS	No	309.194621	179.163076	358.2	2.479	10.4	5.2	0.58	4898	1.22	0.32
009408035-05	OBS	No	379.295181	335.035839	117.1	0.592	10.8	0.9	0.58	4898	0.78	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009408035-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
009408035-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

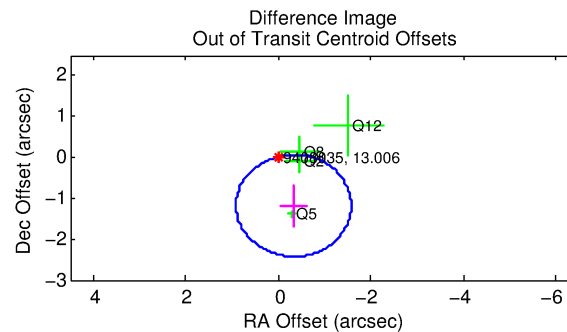
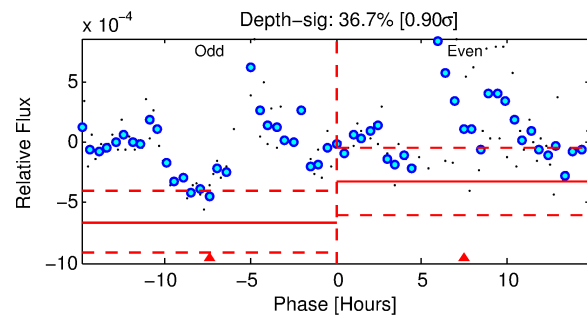
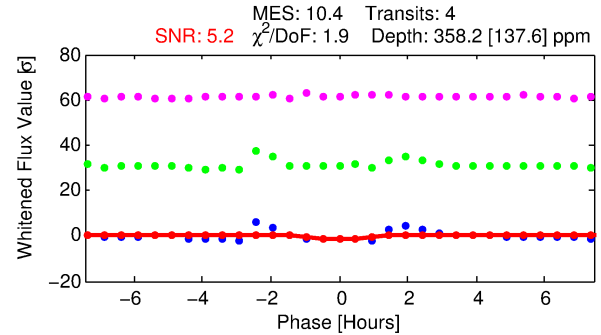
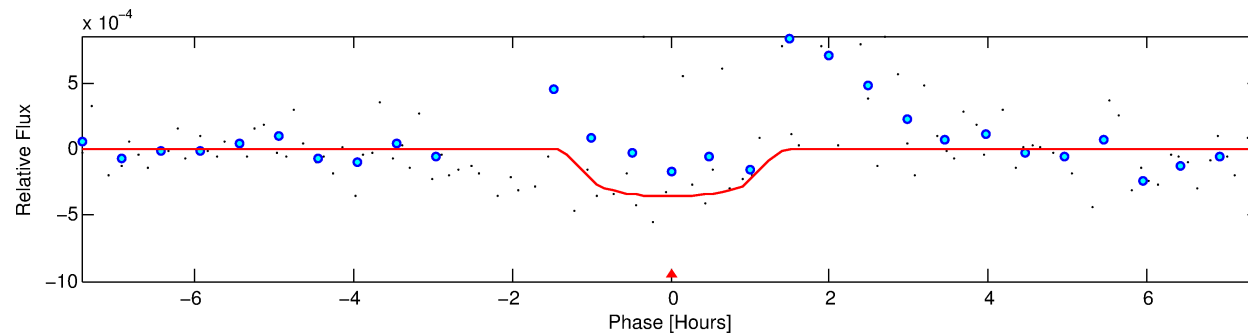
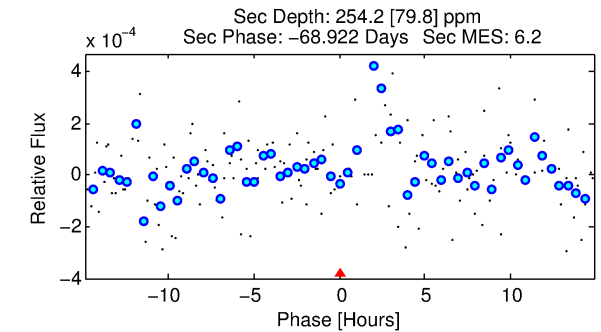
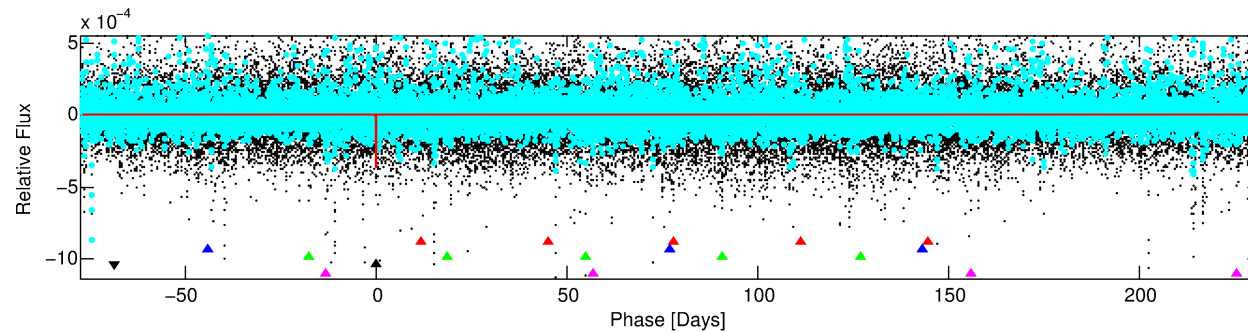
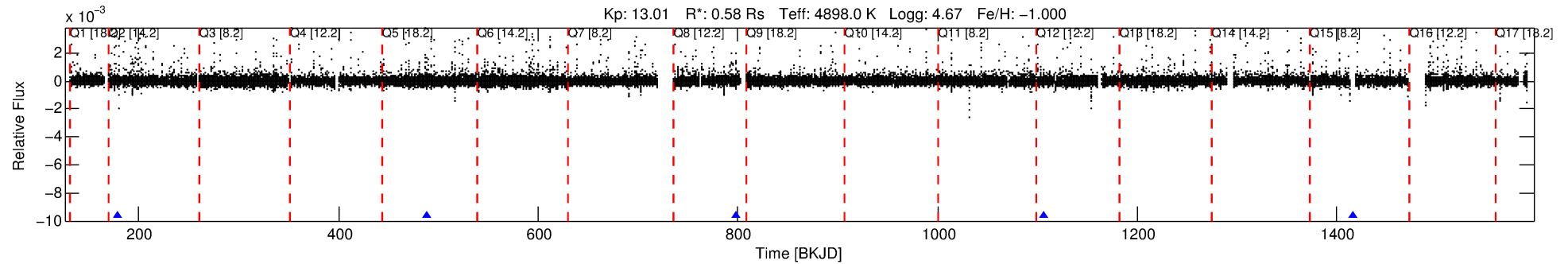
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009408035-04

No Significant Match Found

DV One-Page Summary

KIC: 9408035 Candidate: 4 of 5 Period: 309.195 d



DV Fit Results:

Period = 309.19462 [0.00790] d
Epoch = 179.1631 [0.0153] BKJD
Rp/R* = 0.0192 [0.0795]
a/R* = 618.69 [10014.52]
b = 0.79 [8.04]
Seff = 0.31 [0.05]
Teq = 191 [7] K
Rp = 1.22 [5.07] Re
a = 0.7472 [0.0487] AU
Ag = 52156.85 [432300.76] [0.12 σ]
Teffp = 4463 [9249] K [0.46 σ]

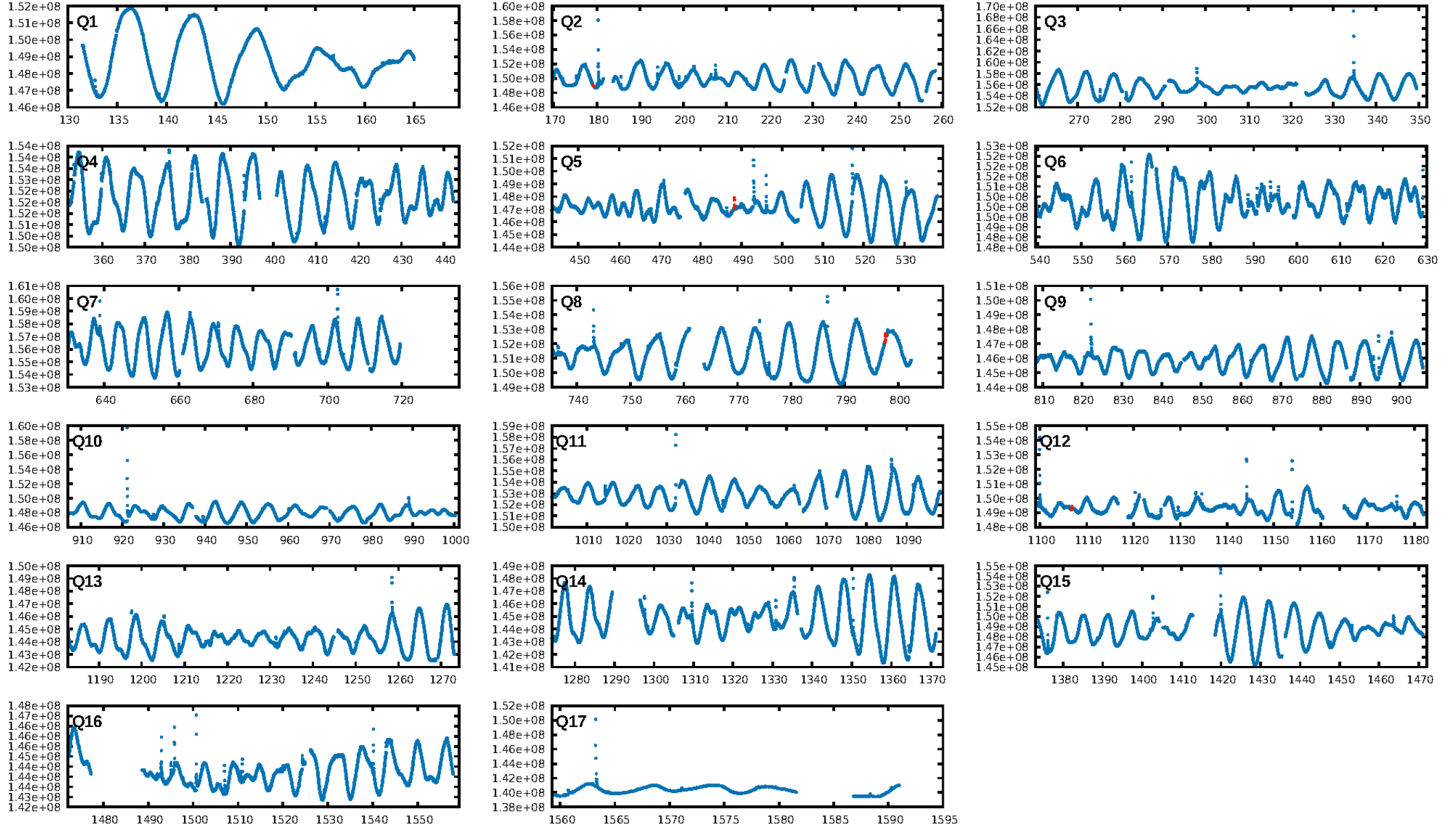
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [98.22 σ]
ModelChiSquare2-sig: 2.6%
ModelChiSquareGof-sig: 34.7%
Bootstrap-pfa: 6.59e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.624
Centroid-sig: N/A
Centroid-so: 0.876 arcsec [0.74 σ]
OotOffset-rm: 1.226 arcsec [2.95 σ]
KicOffset-rm: 1.271 arcsec [3.65 σ]
OotOffset-st: 1/0/2/1 [4]
KicOffset-st: 1/0/2/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

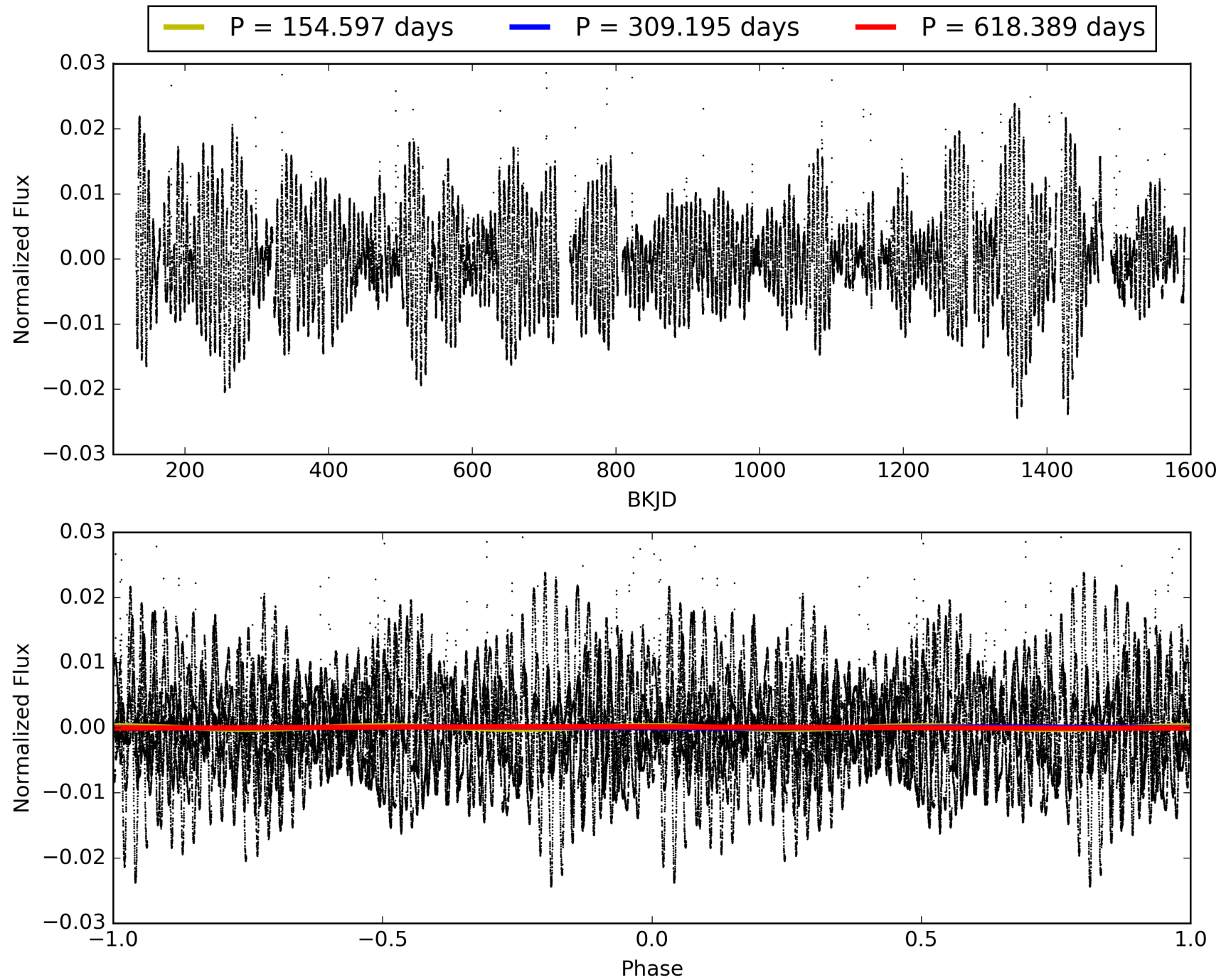
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:17:23 Z

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

TCE 009408035-04, PDC Light Curves

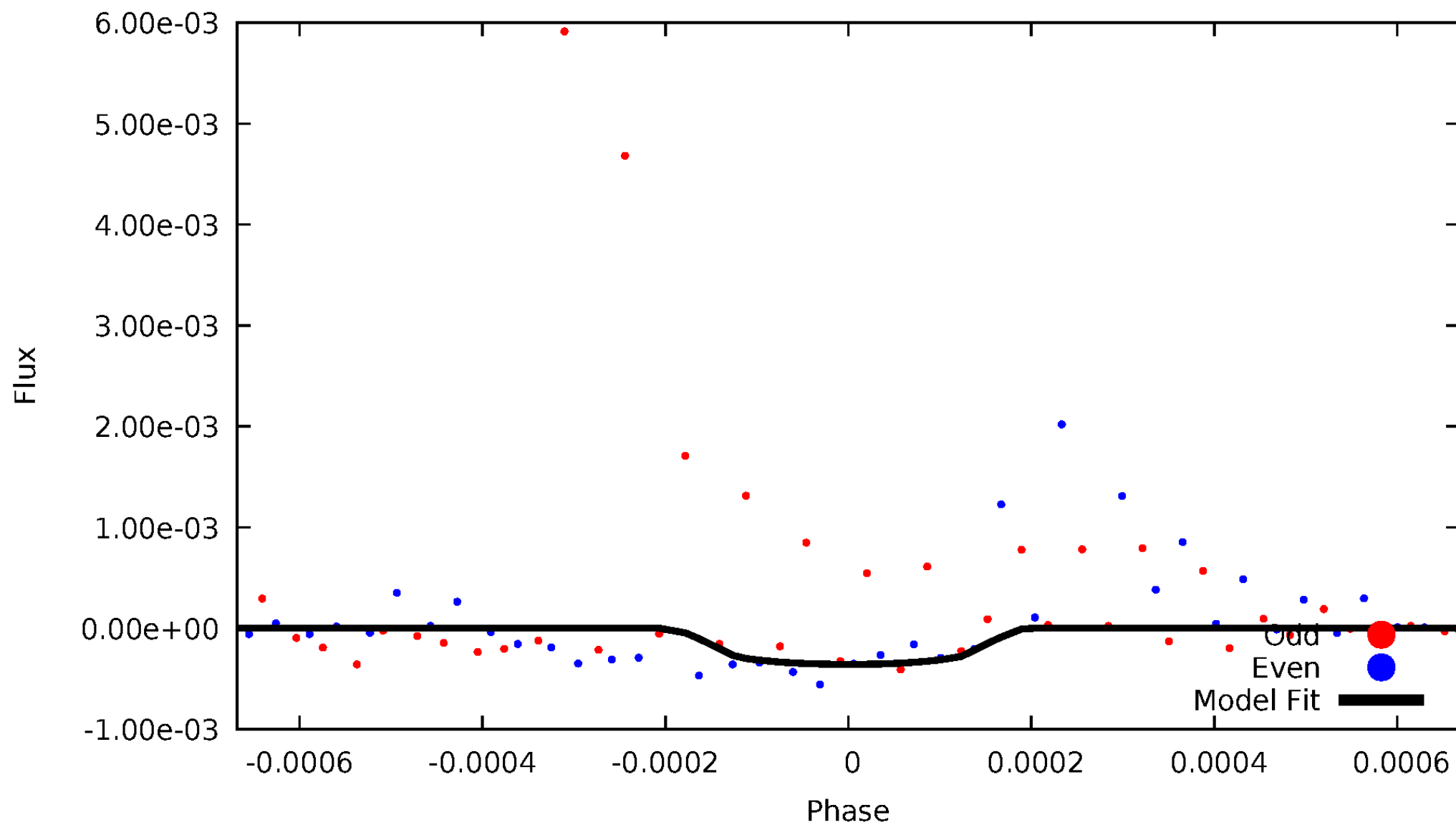


TCE 009408035-04



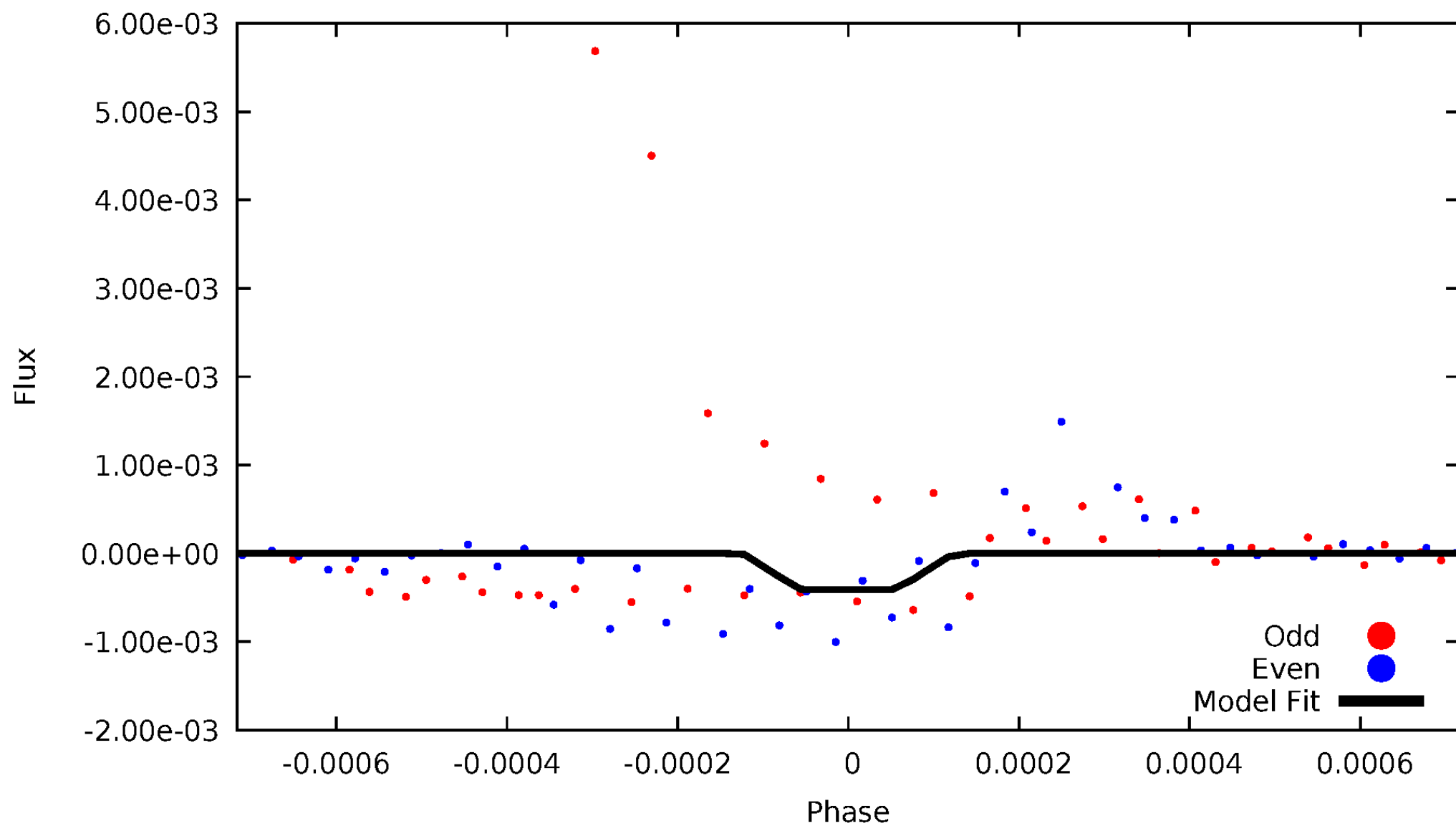
DV Odd/Even

TCE 009408035-04



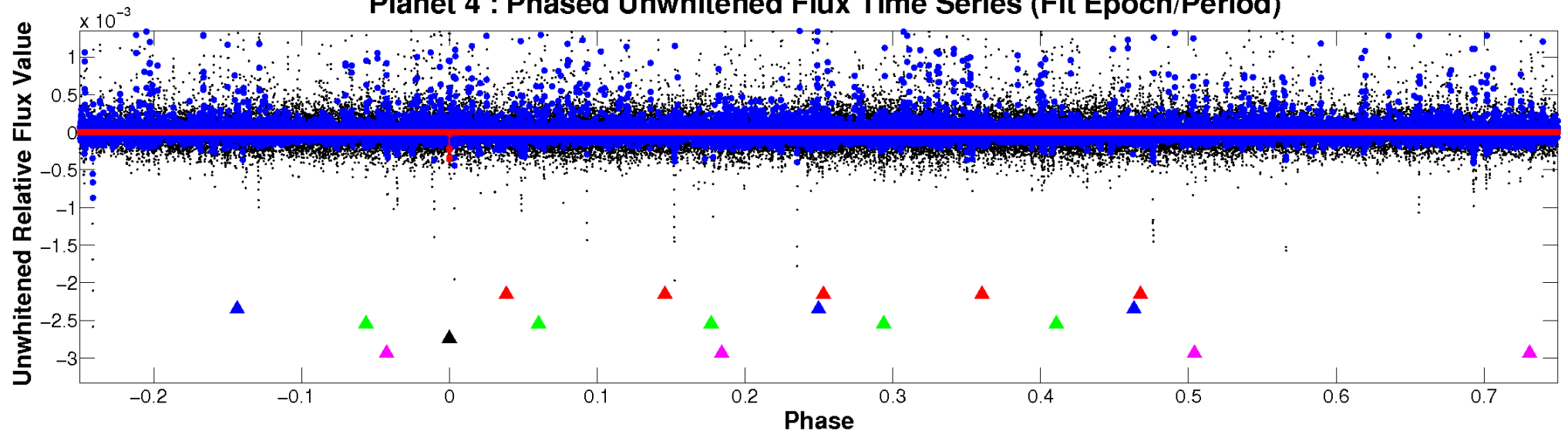
ALT Odd/Even

TCE 009408035-04

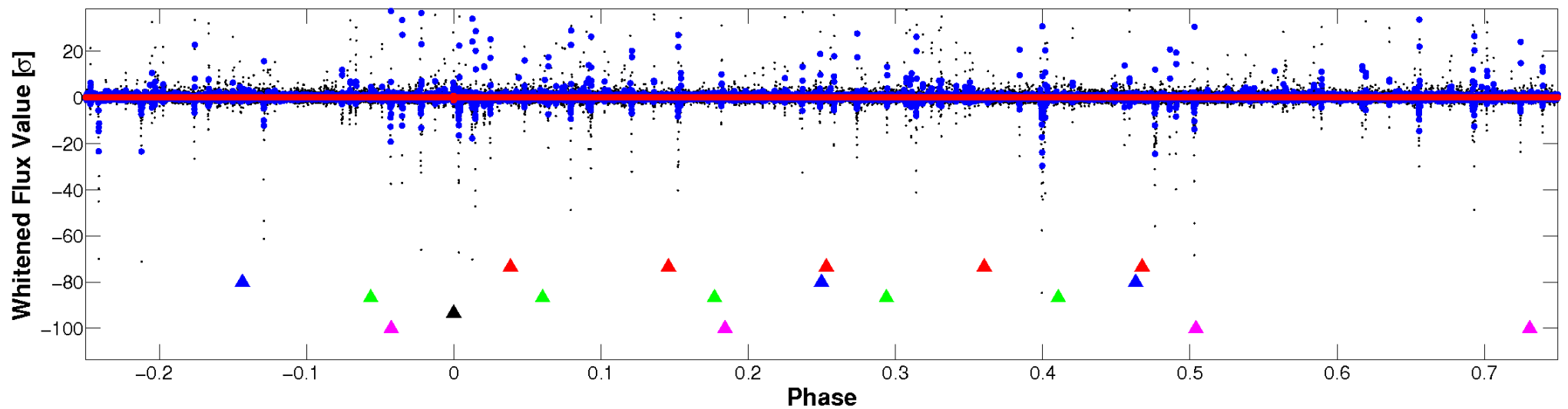


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

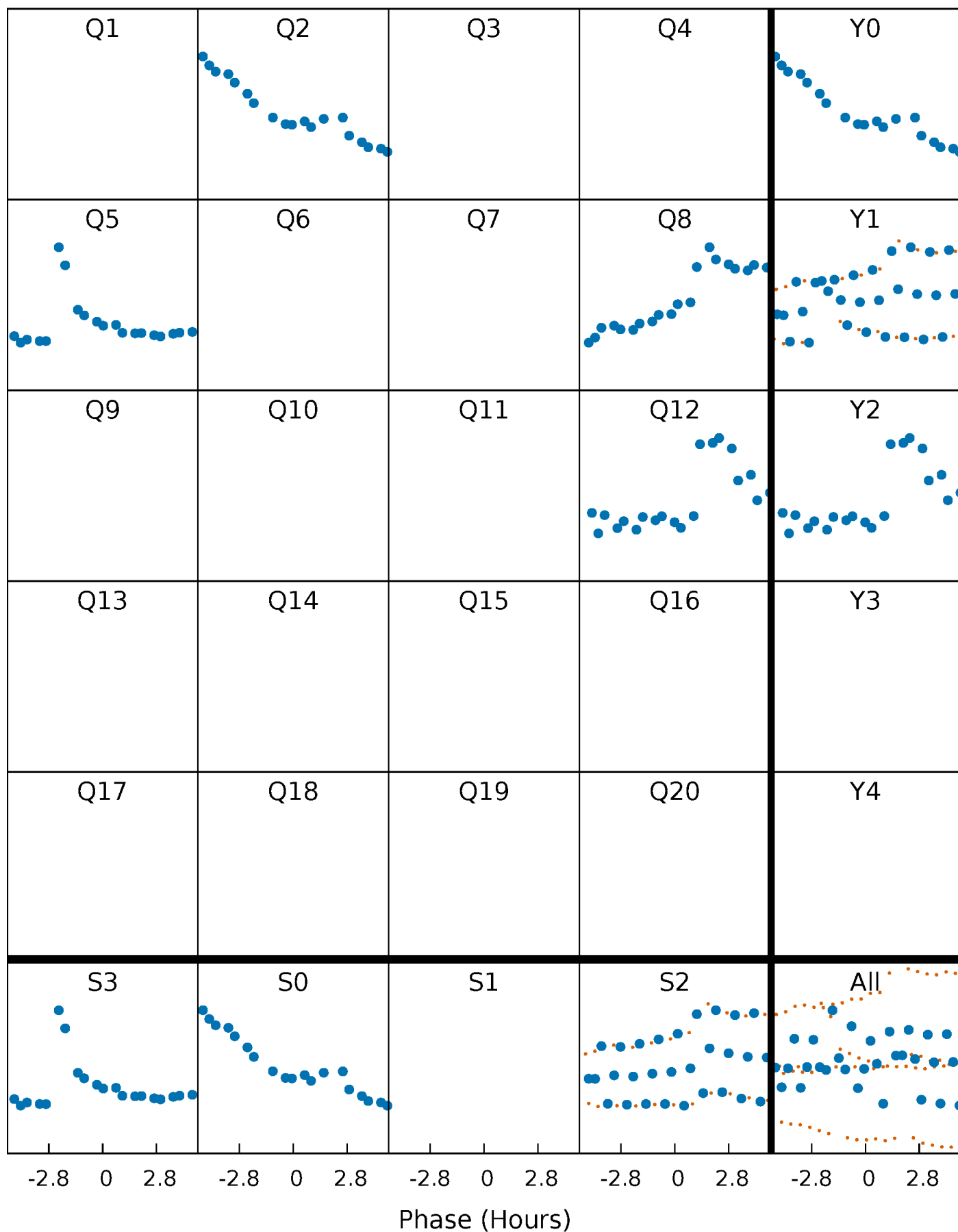


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



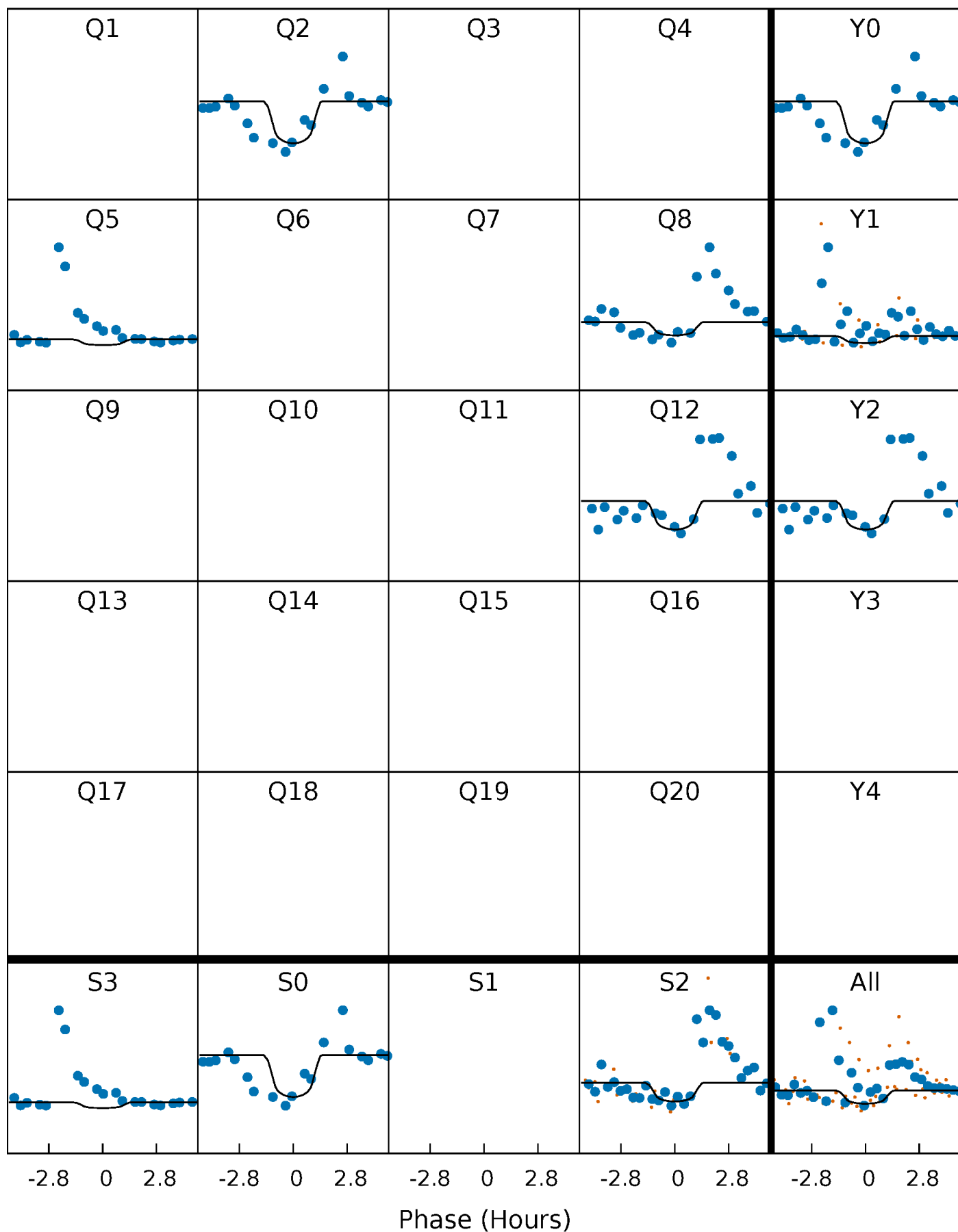
PDC Quarter-Phased Transit Curves

TCE 009408035-04 $P=309.194621$ Days $T_0=179.163076$ (BKJD)



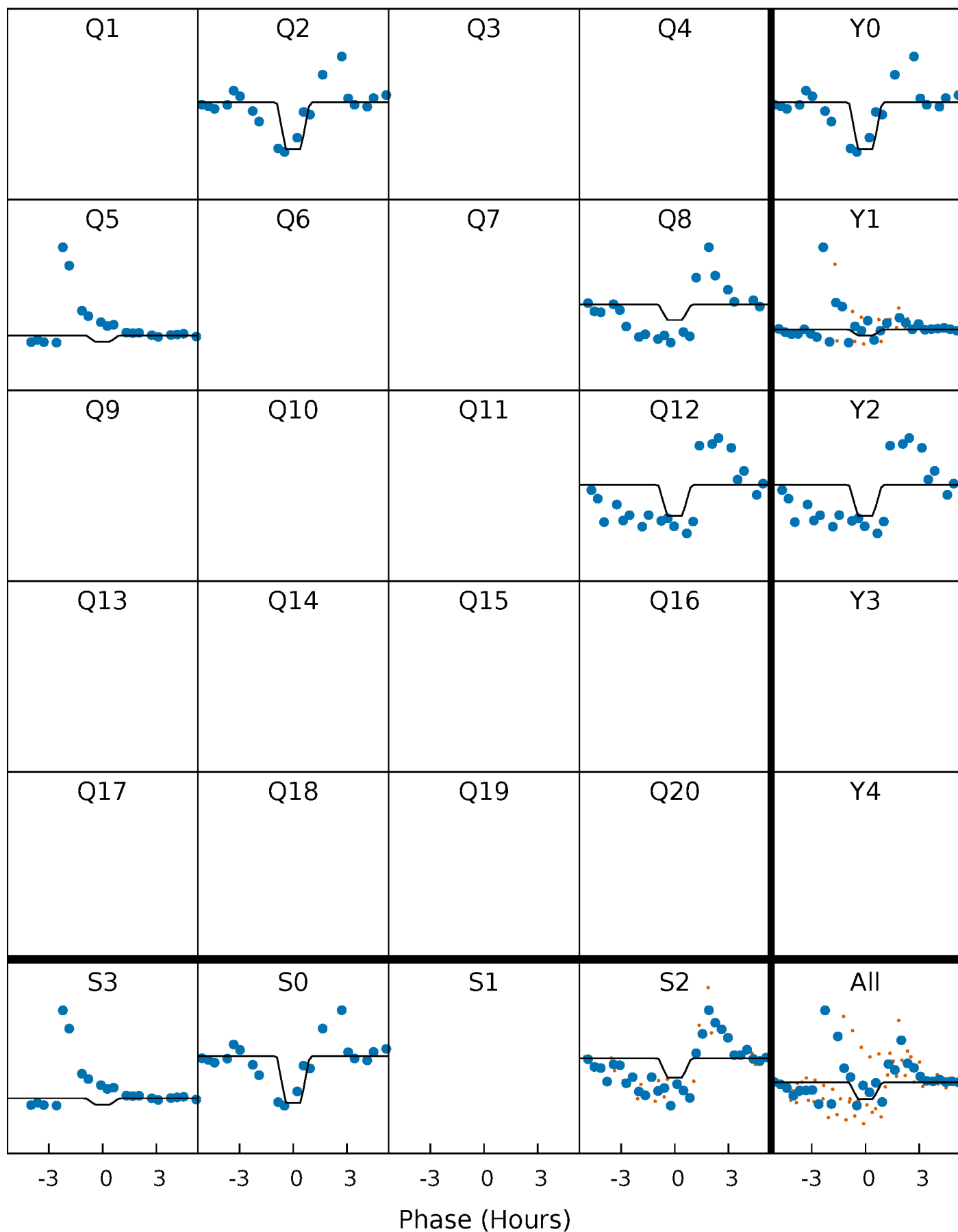
DV Quarter-Phased Transit Curves

TCE 009408035-04 P=309.194621 Days $T_0=179.163076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

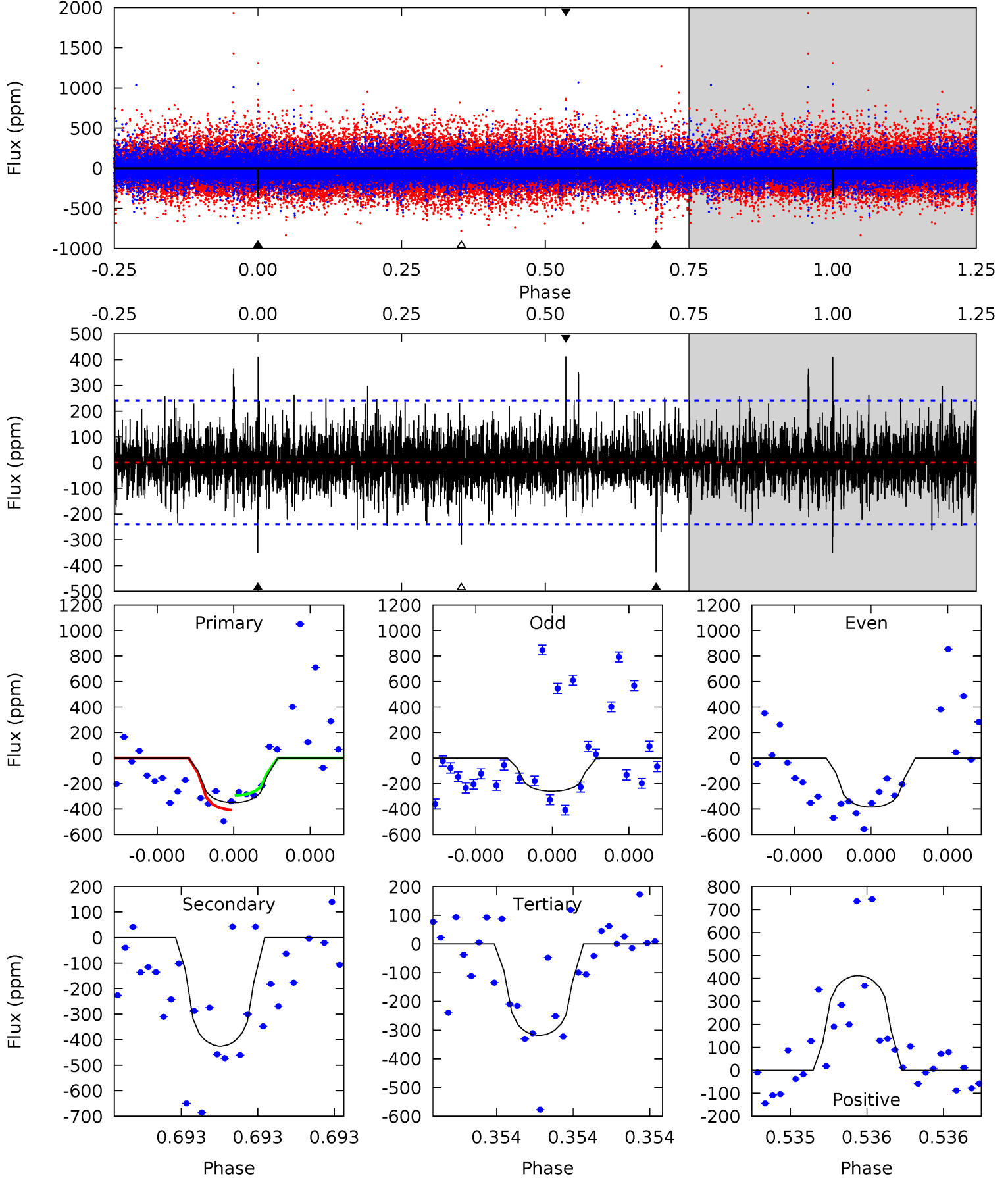
TCE 009408035-04 P=309.193819 Days $T_0=179.159668$ (BKJD)



DV Model-Shift Uniqueness Test

009408035-04, P = 309.194621 Days, E = 179.163076 Days

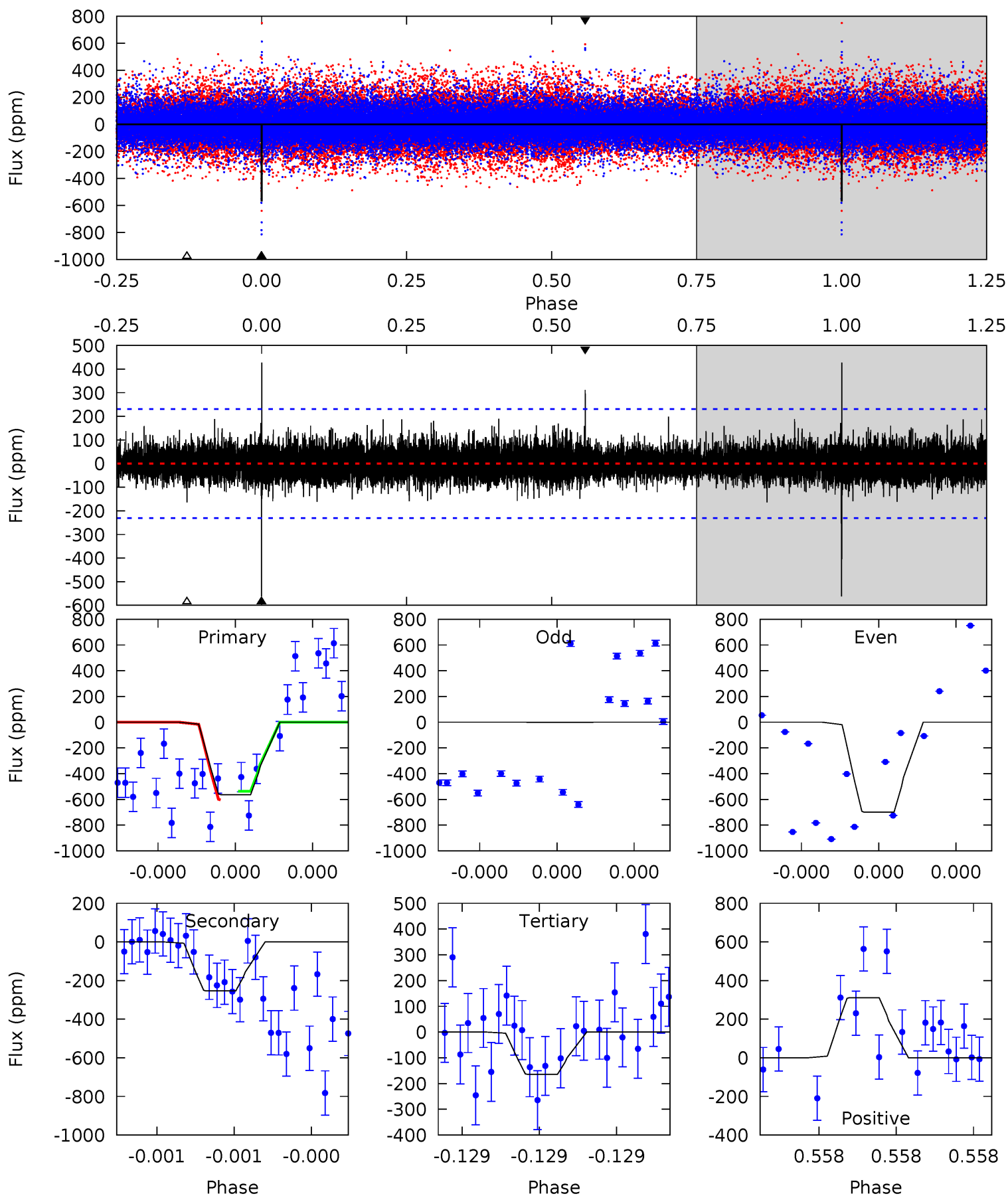
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.20	9.99	7.47	9.68	5.63	3.57	1.48	0.73	-1.48	2.52	0.31	1.24	0.07	0.49	1.34



Alt Model-Shift Uniqueness Test

009408035-04, P = 309.193819 Days, E = 179.159668 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	6.23	4.04	7.66	5.69	3.65	1.00	9.82	6.20	2.19	-1.43	9.92	0.50	0.43	0



Stellar Parameters For KIC 009408035

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4898^{+147}_{-147}	$4.670^{+0.054}_{-0.032}$	$-1.000^{+0.300}_{-0.300}$	$0.584^{+0.044}_{-0.040}$	$0.582^{+0.050}_{-0.021}$	$4.118^{+0.883}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+8%/-7%	+9%/-4%	+21%/-14%
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 009408035-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-425 ± 43	$4.30^{+3.87}_{-3.05}$	266^{+9}_{-9}	3246^{+1749}_{-554}	7190^{+77382}_{-5242}
Alt.	-253 ± 41	$3.91^{+4.00}_{-2.76}$	266^{+9}_{-9}	3086^{+1579}_{-540}	5265^{+50552}_{-4054}

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

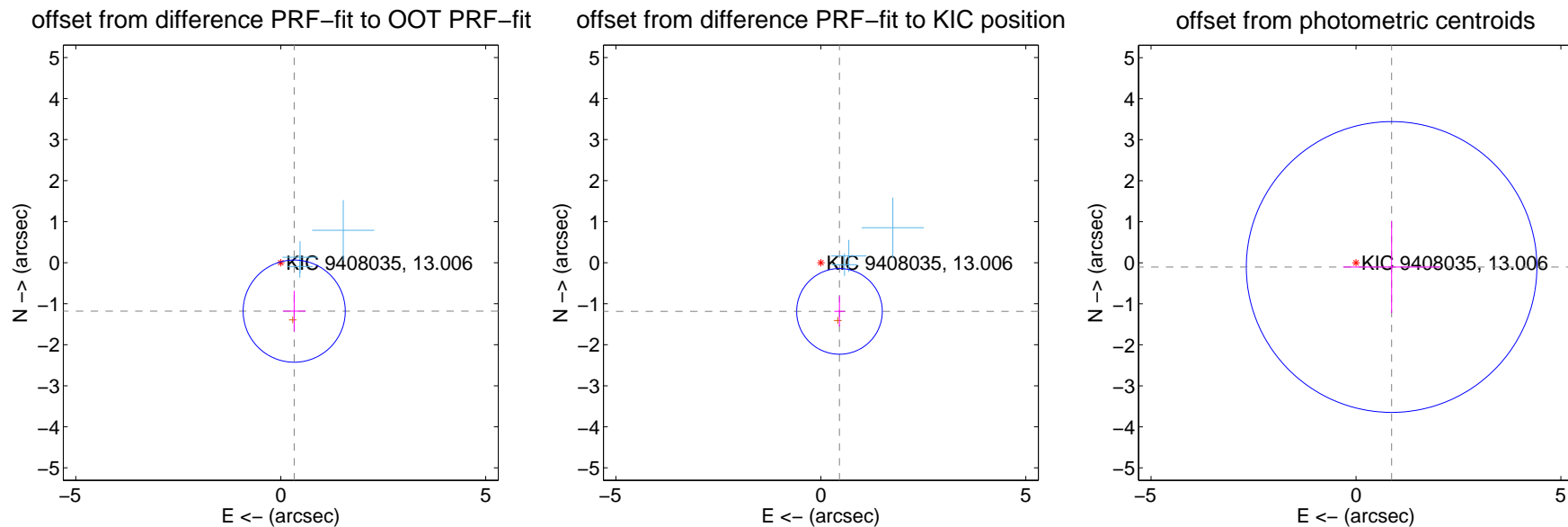
DV Centroid Data

Supplemental centroid analysis for 009408035-04. Kepler magnitude: 13.01. Transit SNR 5.20

There are 3 quarters with good PRF difference image offsets

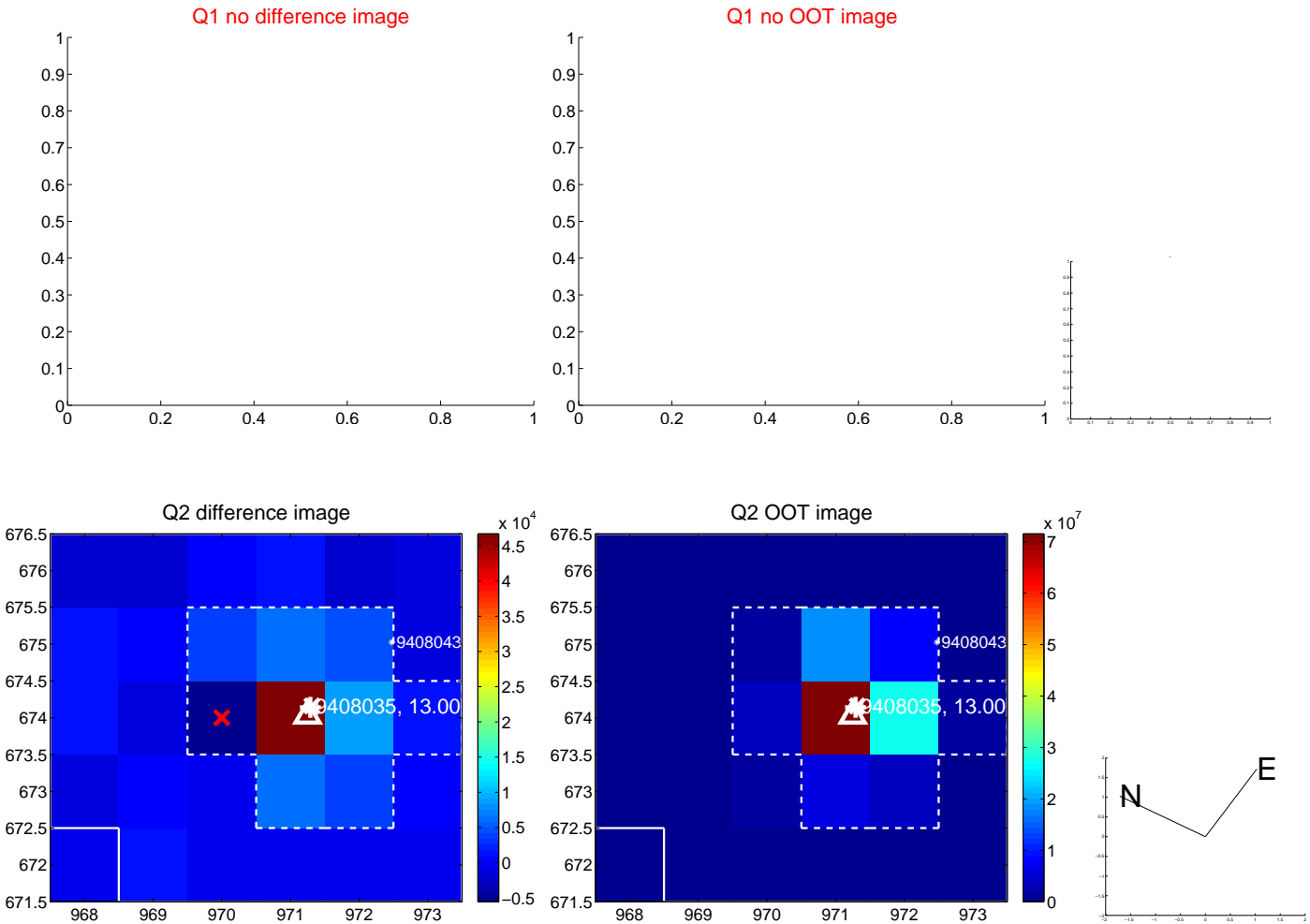
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.226 ± 0.415	2.95	-0.329 ± 0.276	-1.181 ± 0.496
PRF-fit source offset from KIC position	1.271 ± 0.348	3.65	-0.454 ± 0.127	-1.187 ± 0.370
photometric centroid source offset	0.88 ± 1.18	0.74	-0.87 ± 1.18	-0.10 ± 1.12

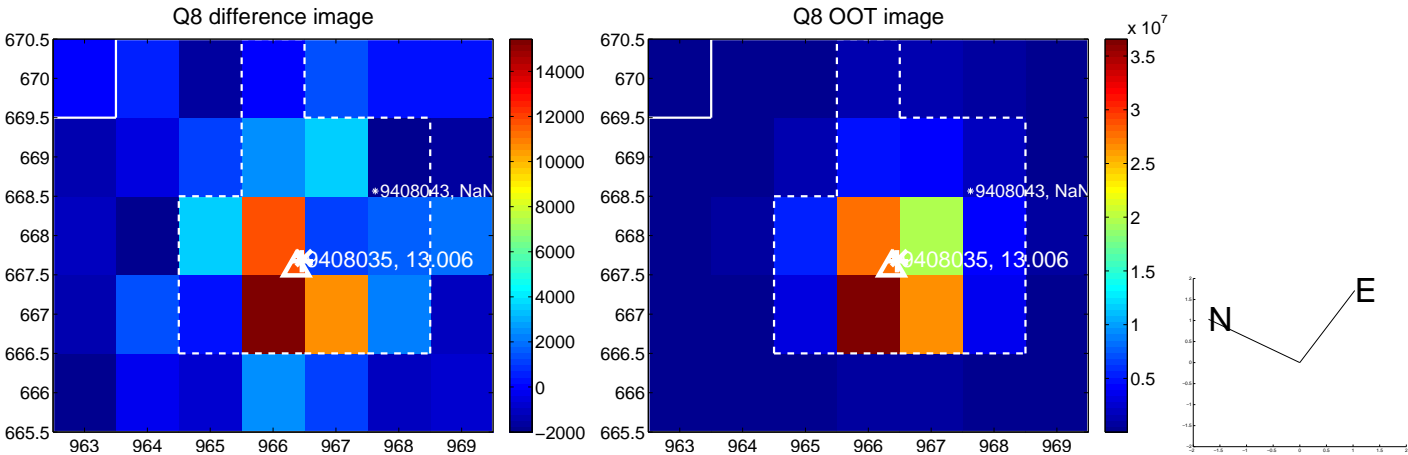
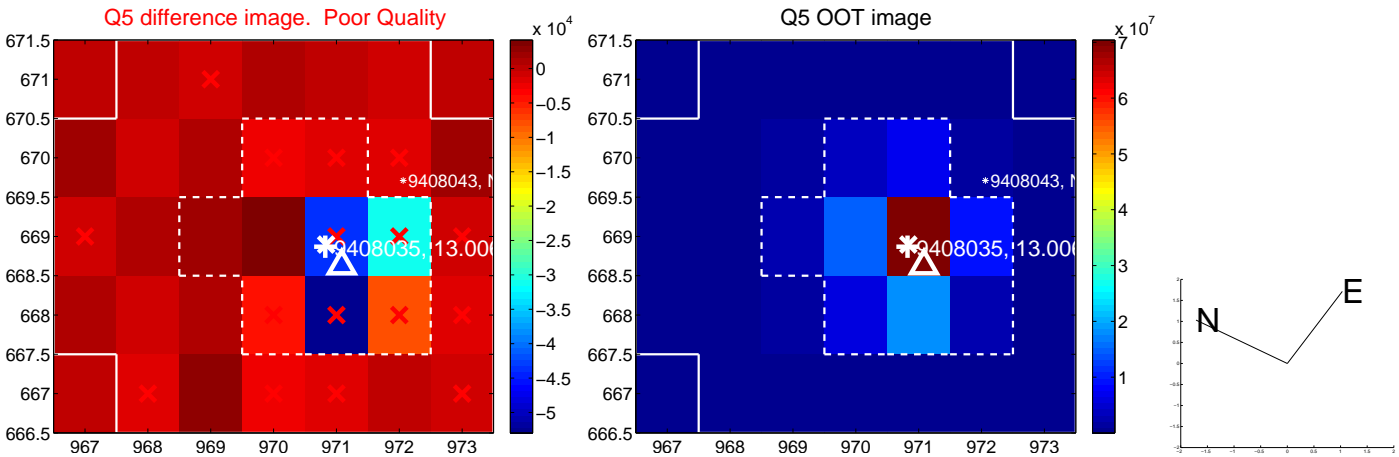


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

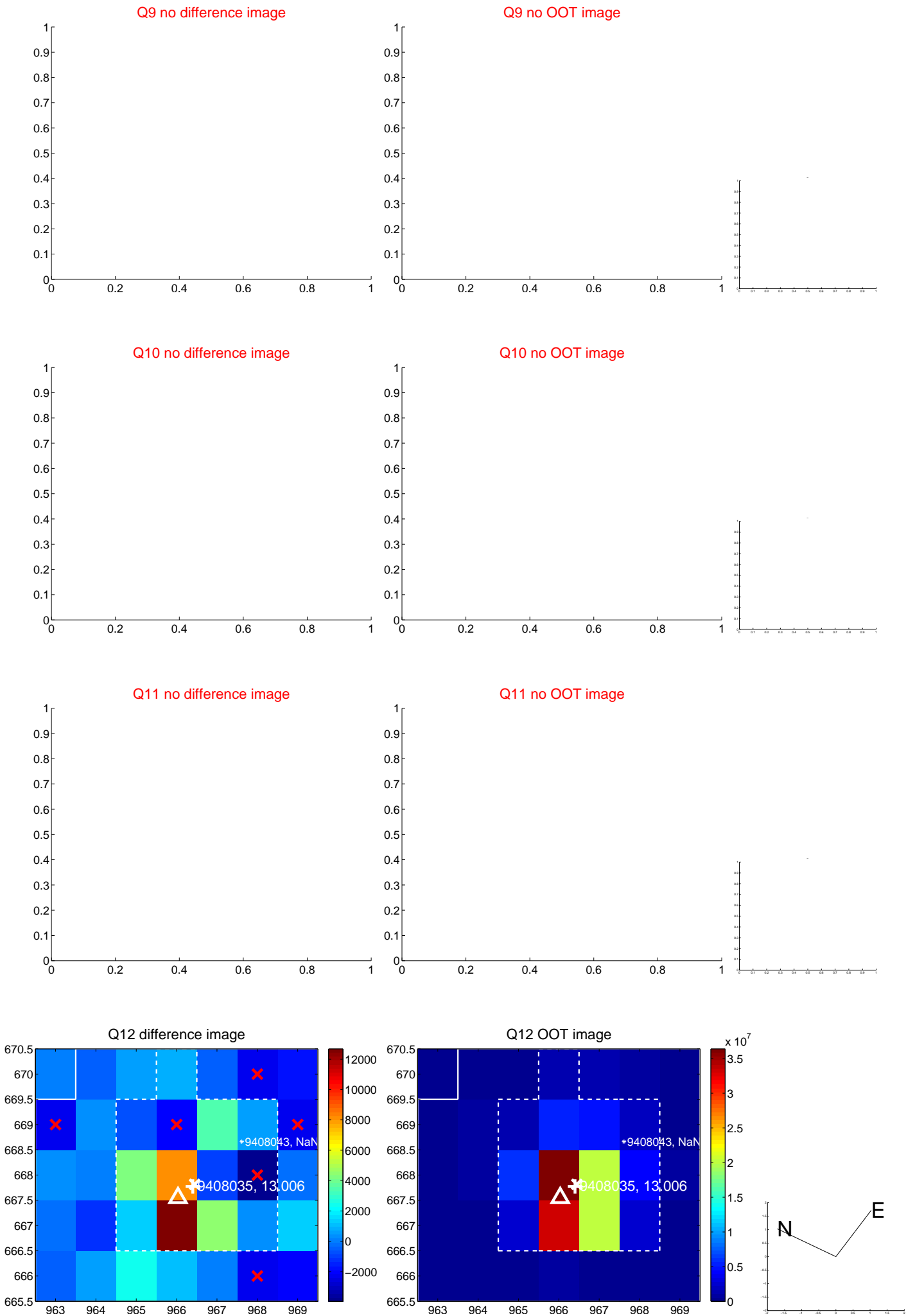
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



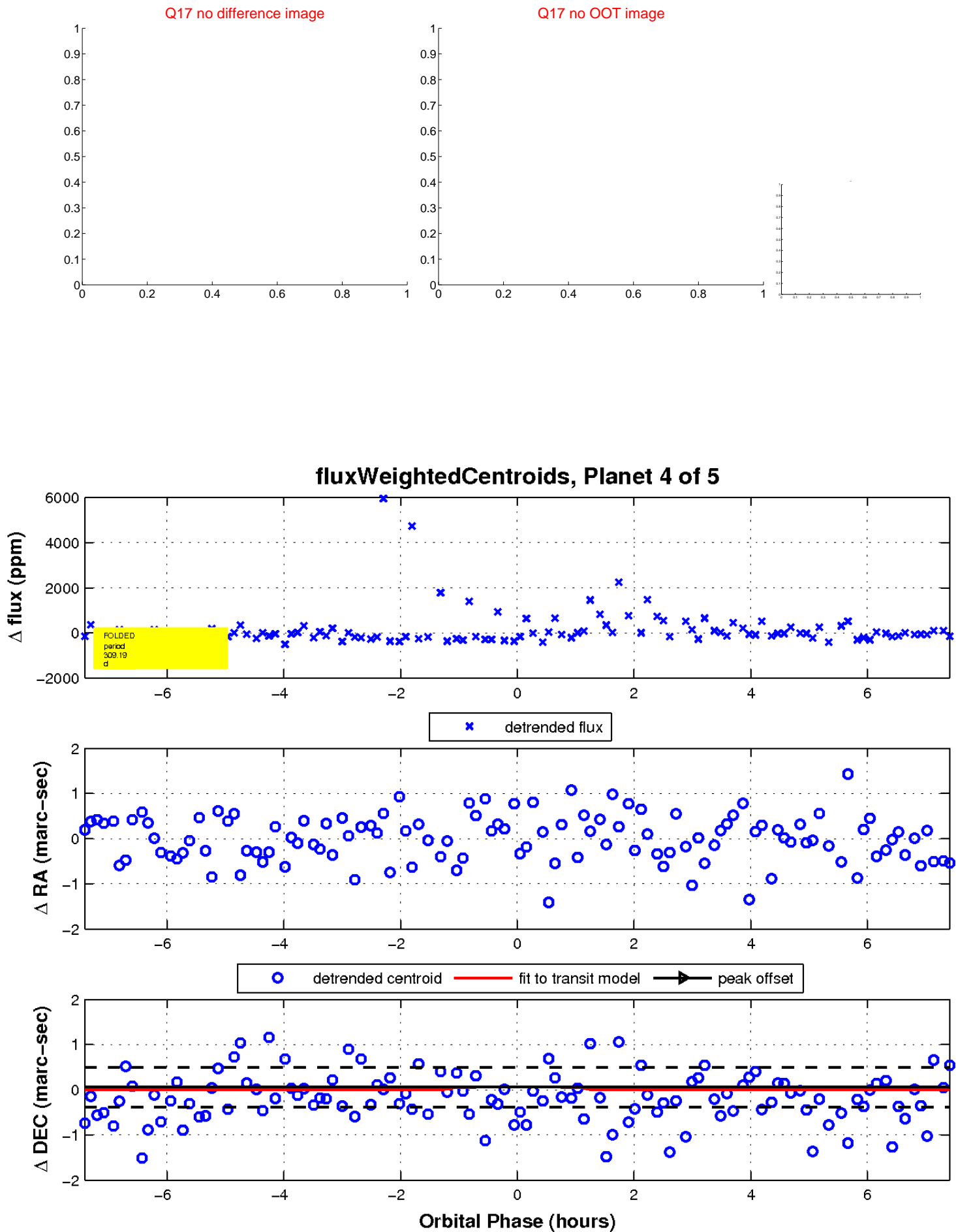
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

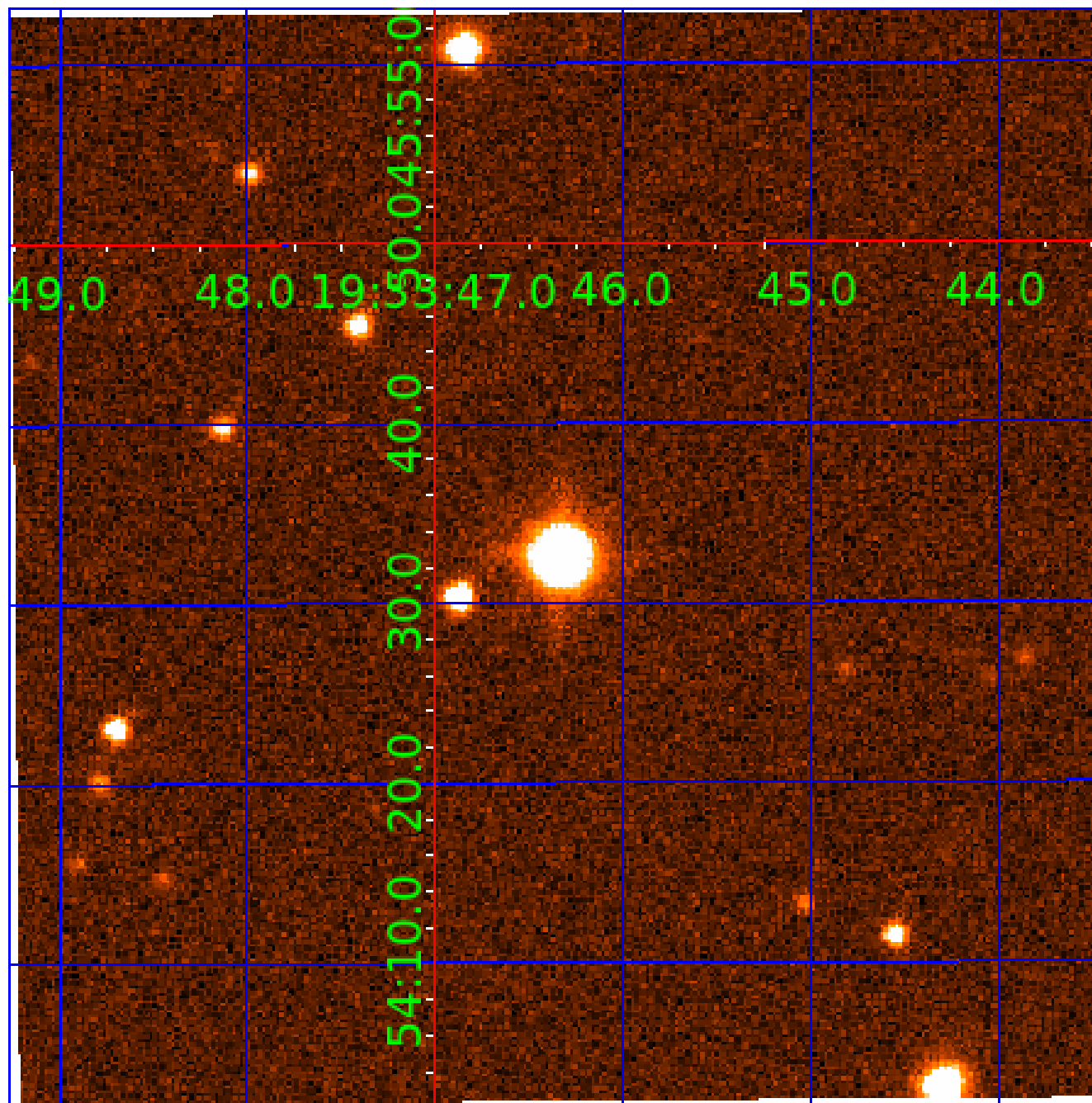


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009408035

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})
009408035-01	OBS	No	342.360037	191.083338	551.6	7.716	17.9	7.5	0.58	4898	1.87	0.28
009408035-02	OBS	No	496.780352	256.395978	951.1	3.668	16.7	10.7	0.58	4898	1.84	0.17
009408035-03	OBS	No	345.292332	161.730077	327.7	7.654	15.6	4.9	0.58	4898	1.11	0.27
009408035-04	OBS	No	309.194621	179.163076	358.2	2.479	10.4	5.2	0.58	4898	1.22	0.32
009408035-05	OBS	No	379.295181	335.035839	117.1	0.592	10.8	0.9	0.58	4898	0.78	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009408035-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009408035-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
009408035-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

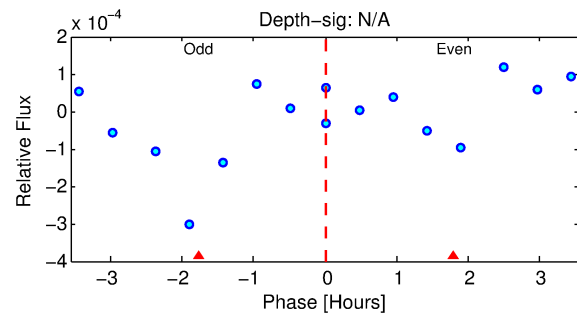
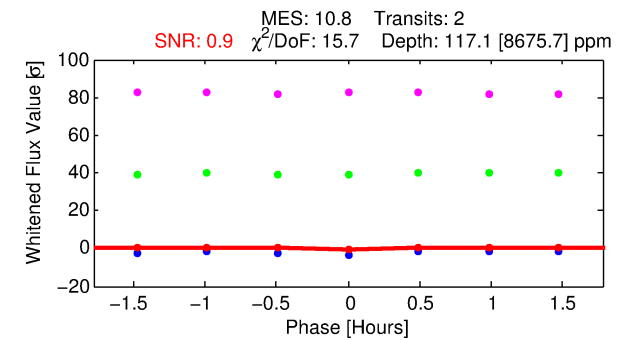
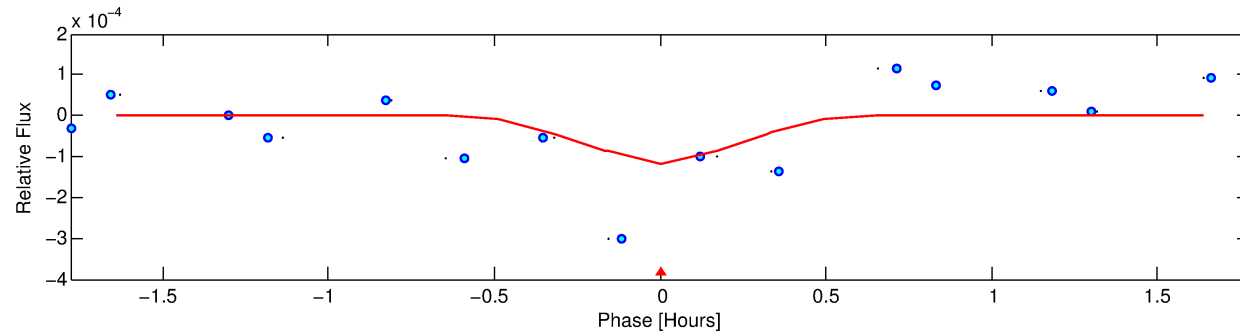
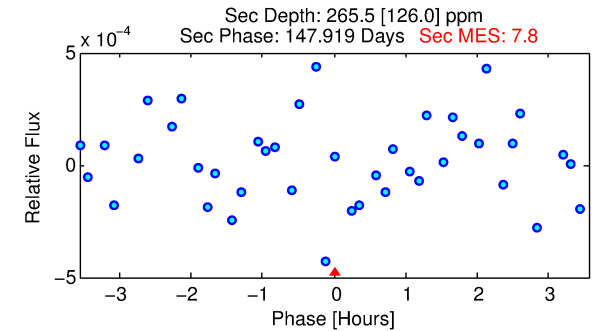
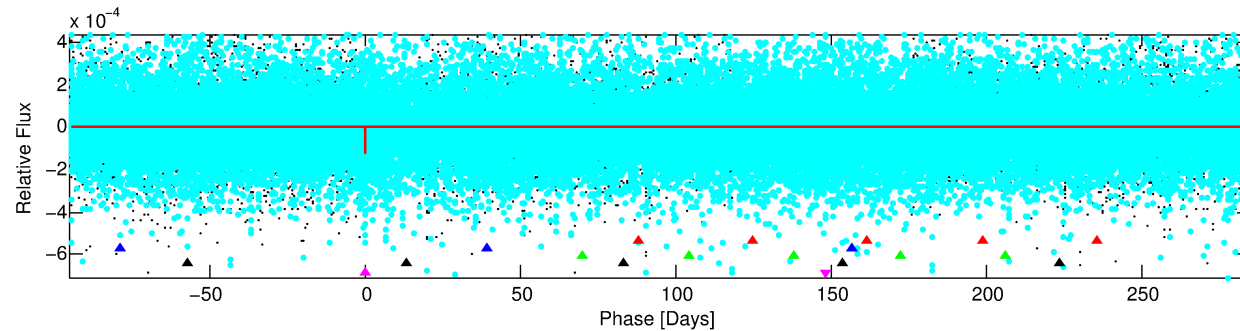
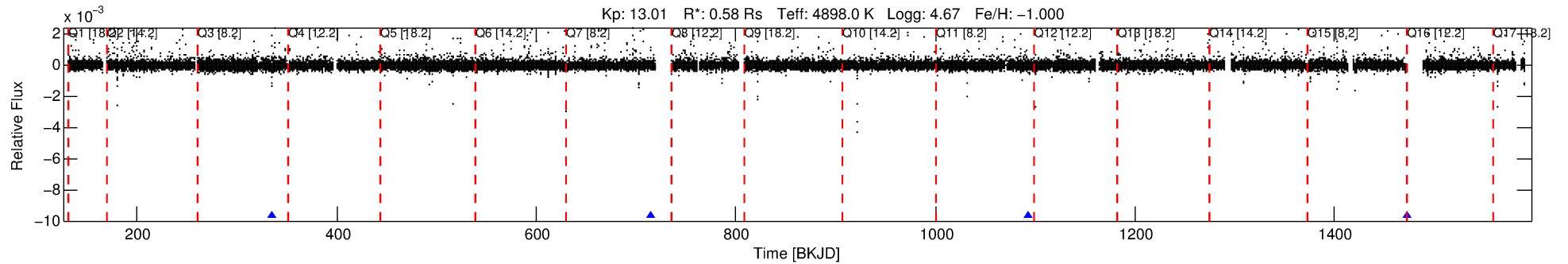
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009408035-05

No Significant Match Found

DV One-Page Summary

KIC: 9408035 Candidate: 5 of 5 Period: 379.295 d



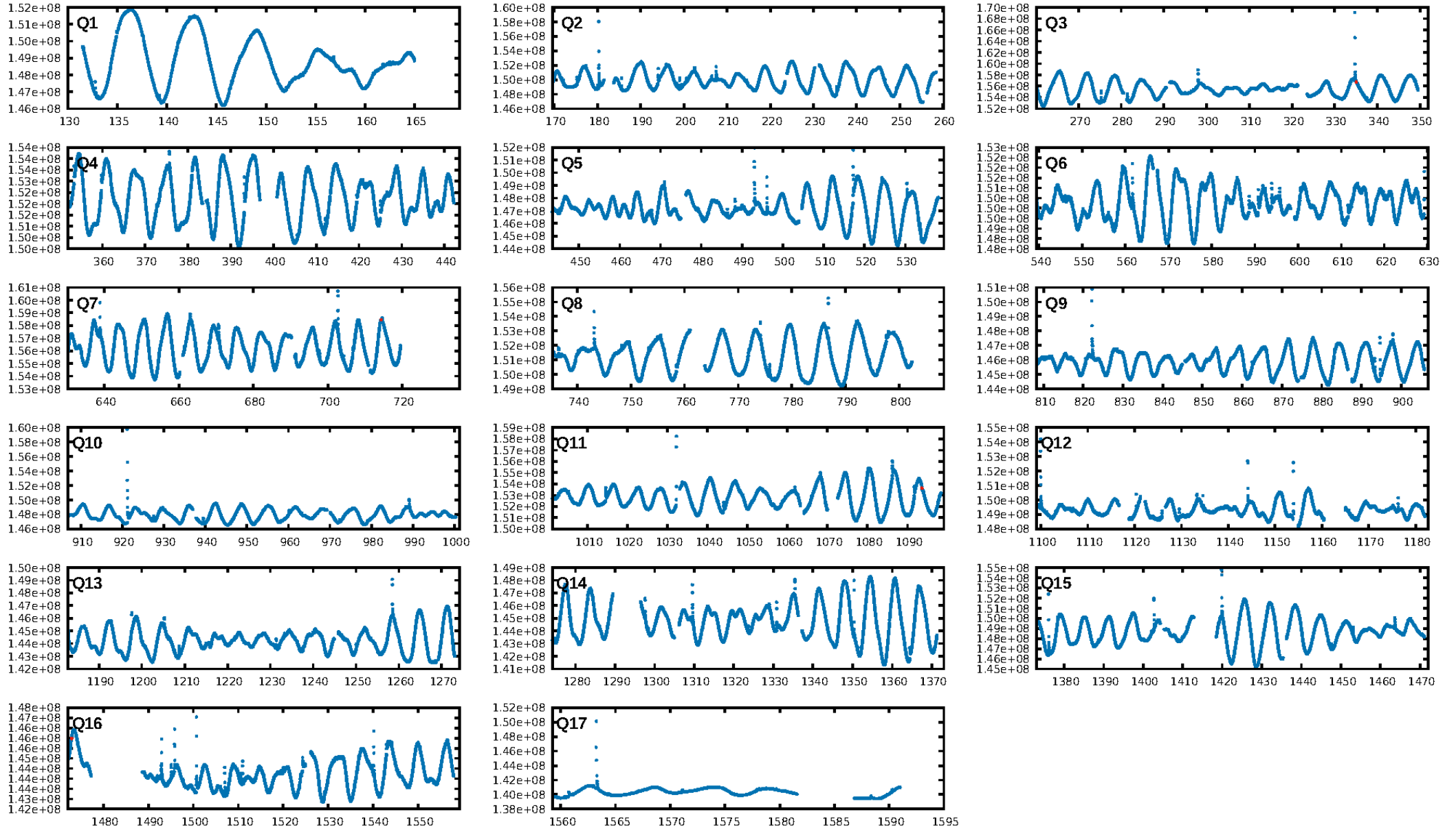
DV Fit Results:

Period = 379.29518 [0.96449] d
Epoch = 335.0358 [0.1007] BKJD
Rp/R* = 0.0123 [2.8072]
a/R* = 2361.69 [1665289.65]
b = 0.89 [196.29]
Seff = 0.24 [0.04]
Teq = 178 [7] K
Rp = 0.78 [178.90] Re
a = 0.8563 [0.0558] AU
Ag = 175409.09 [80322949.96] [0.00σ]
Teffp = 5646 [646382] K [0.01σ]

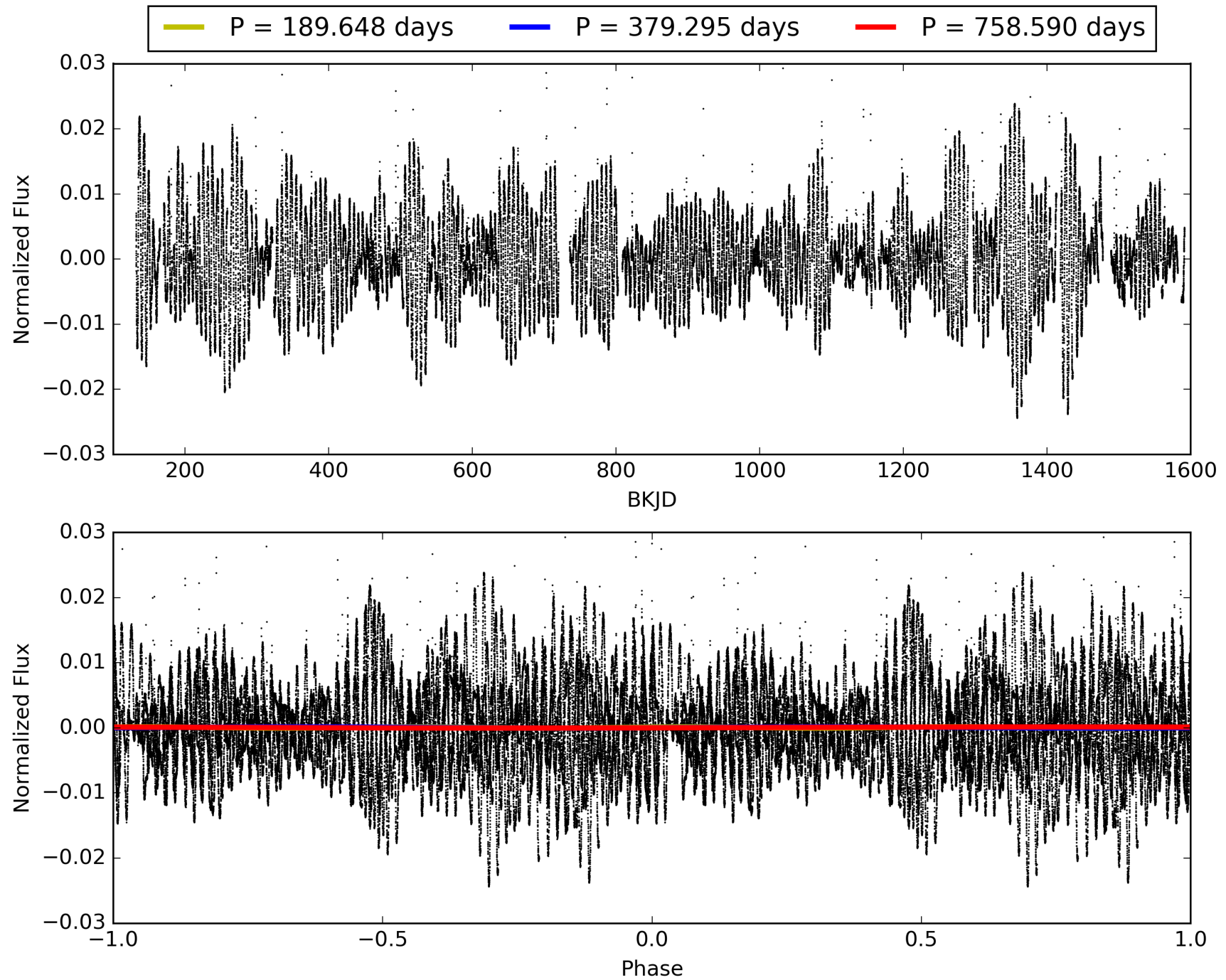
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [106.31σ]
LongPeriod-sig: 100.0% [758.88σ]
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 85.5%
Bootstrap-pfa: 1.13e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.4773
Centroid-sig: N/A
Centroid-so: 6.008 arcsec [0.63σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

TCE 009408035-05, PDC Light Curves

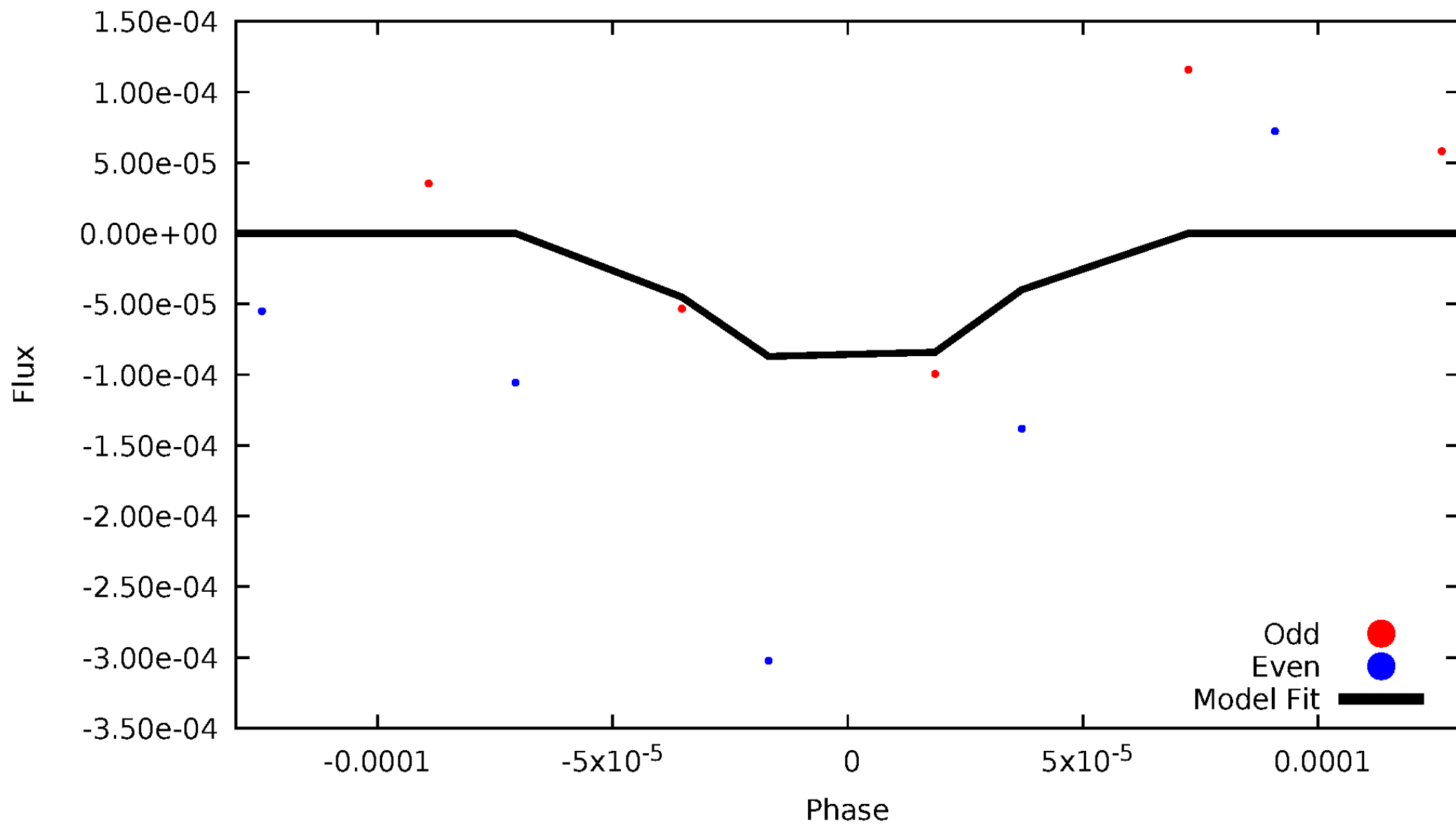


TCE 009408035-05



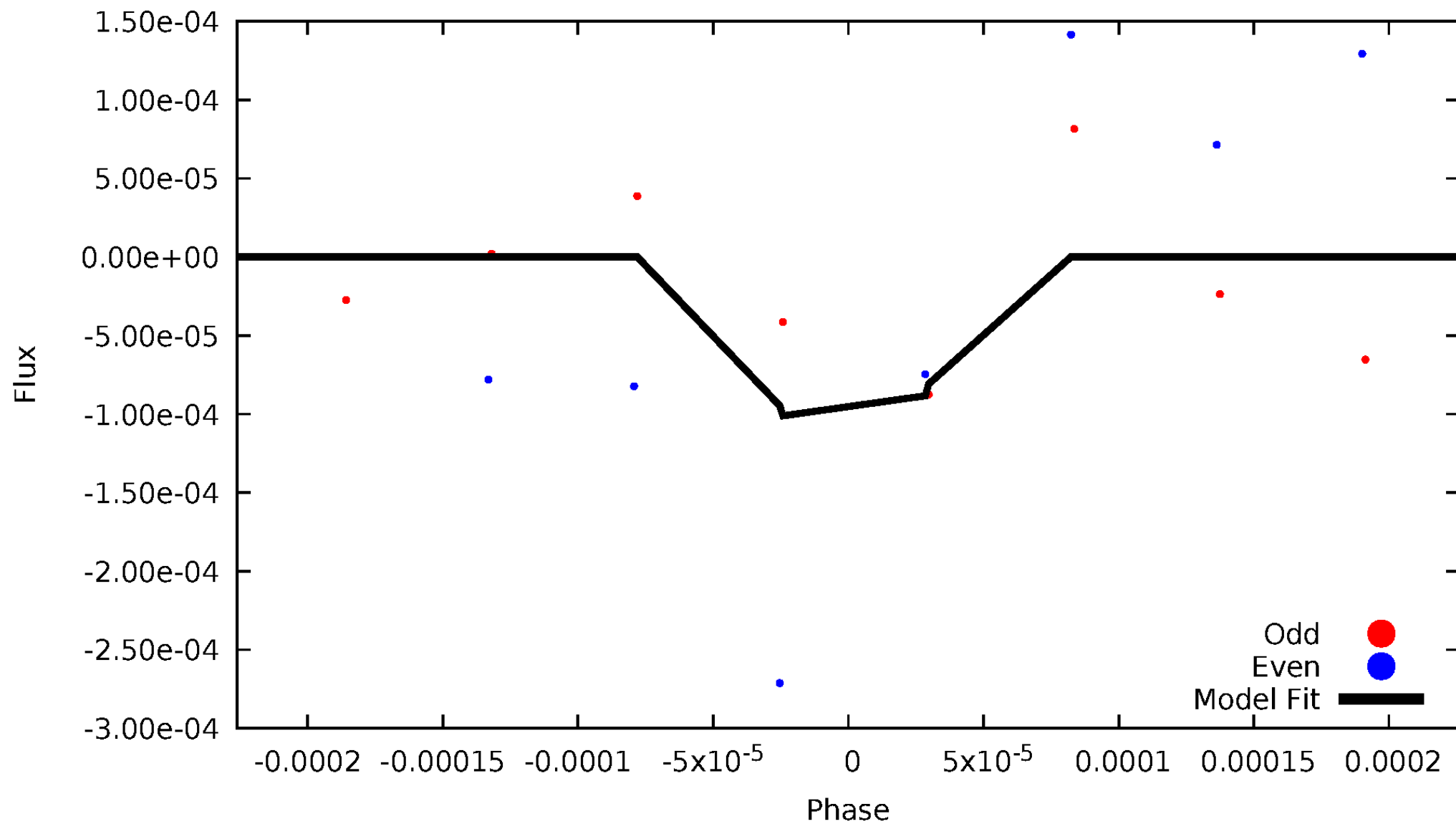
DV Odd/Even

TCE 009408035-05



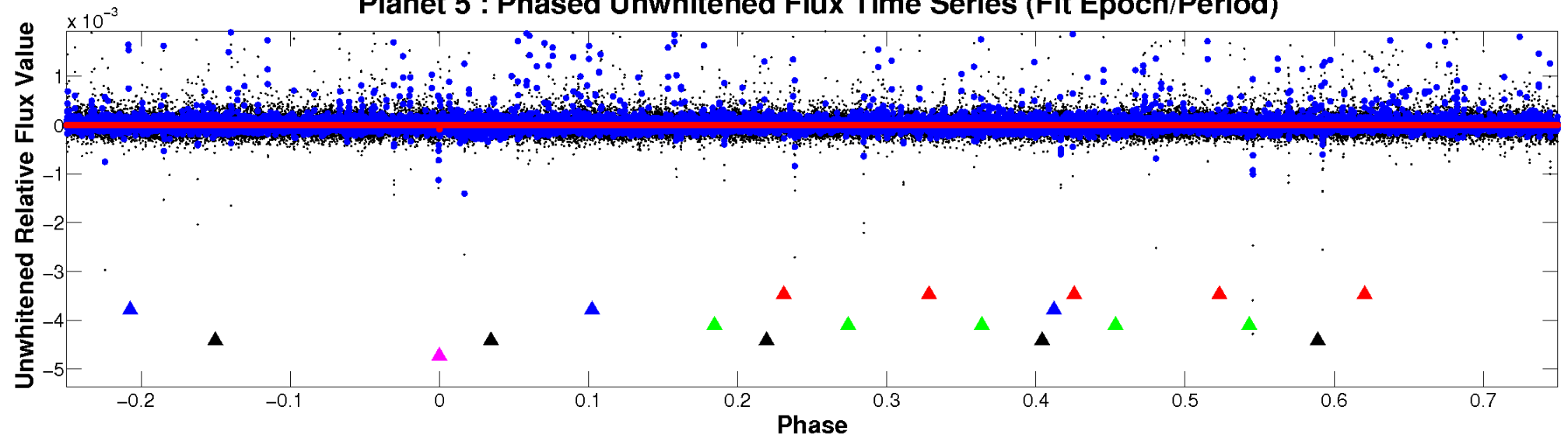
ALT Odd/Even

TCE 009408035-05

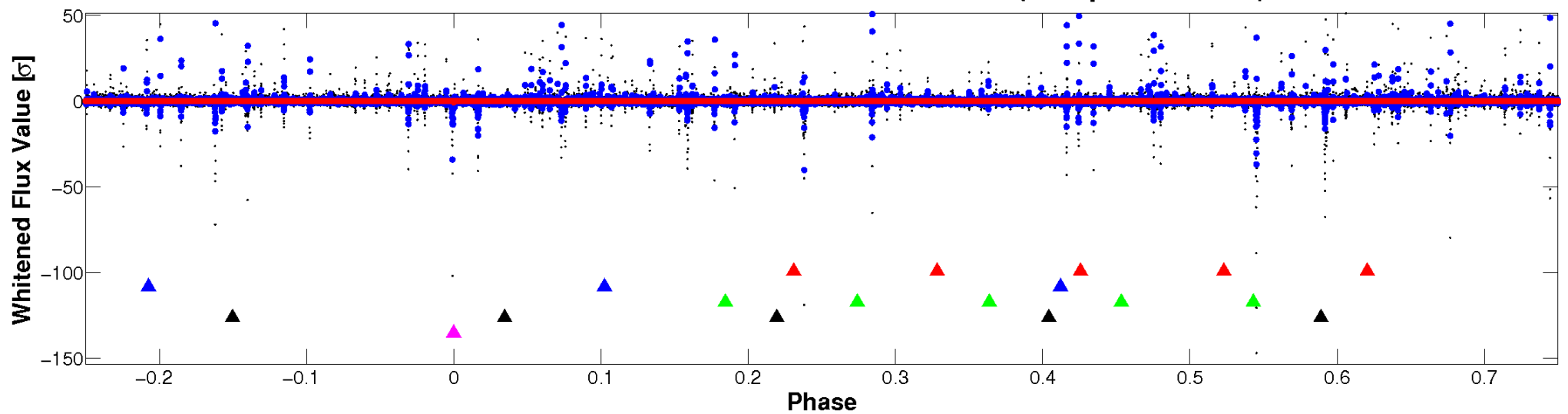


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

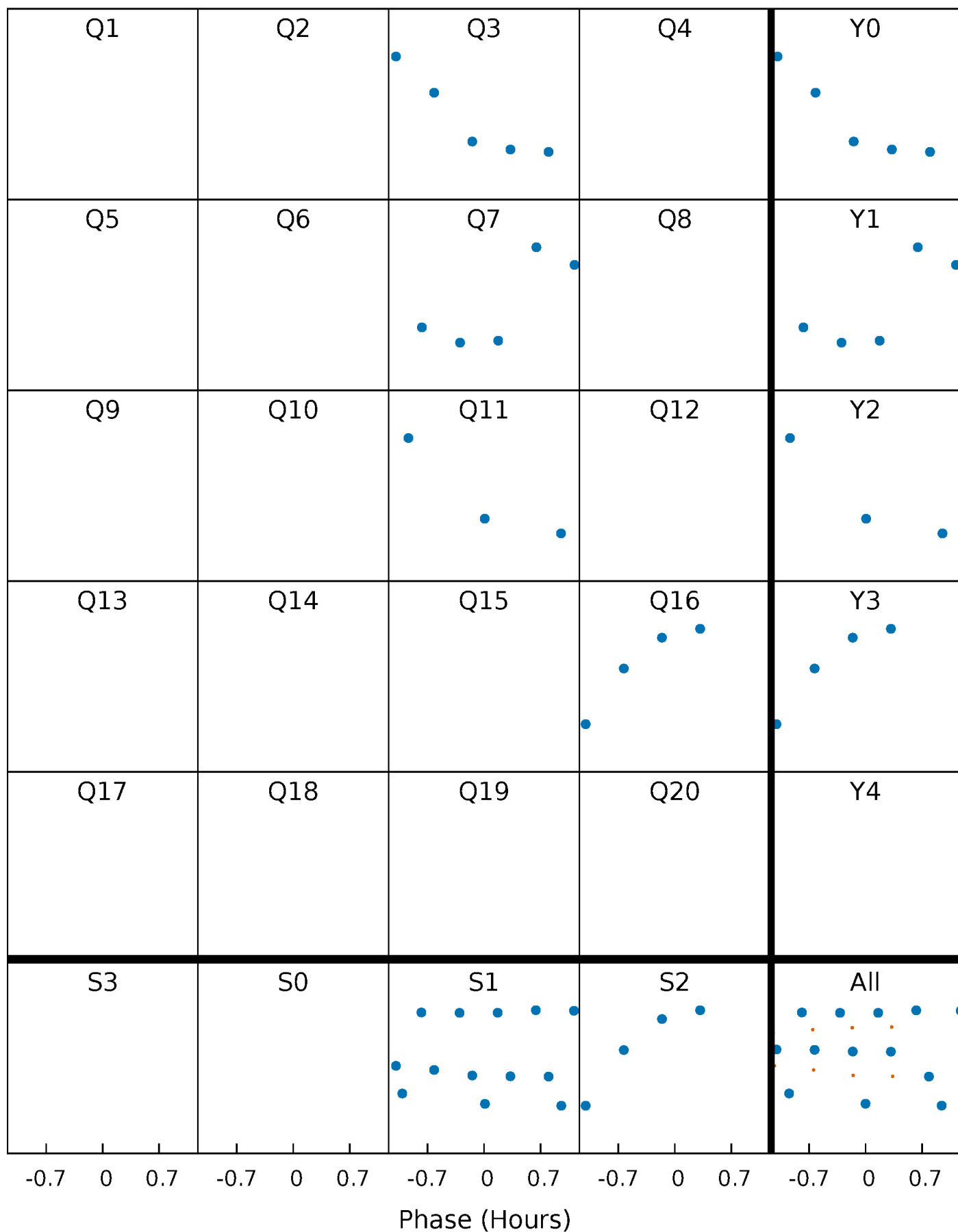


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



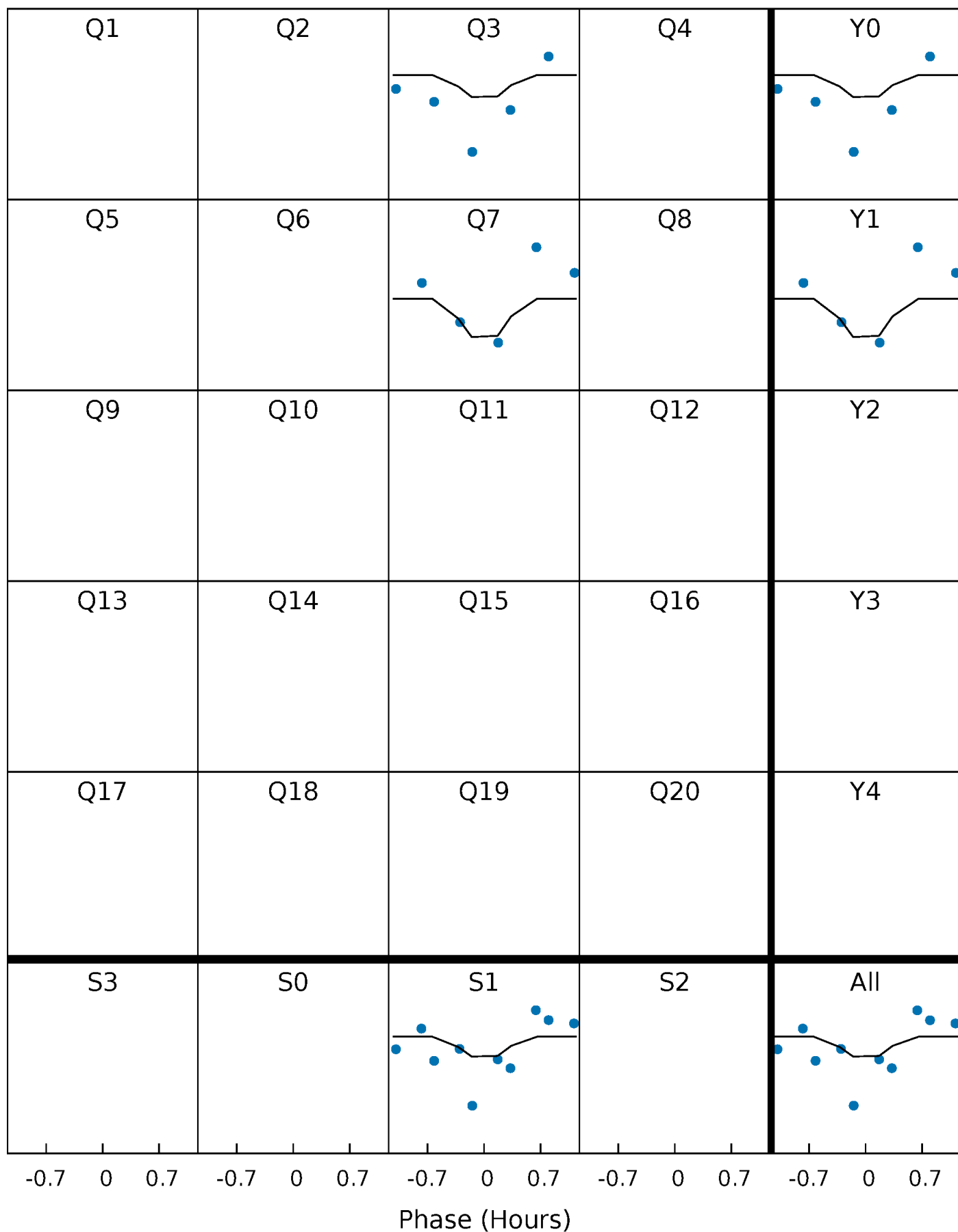
PDC Quarter-Phased Transit Curves

TCE 009408035-05 P=379.295181 Days $T_0=335.035839$ (BKJD)



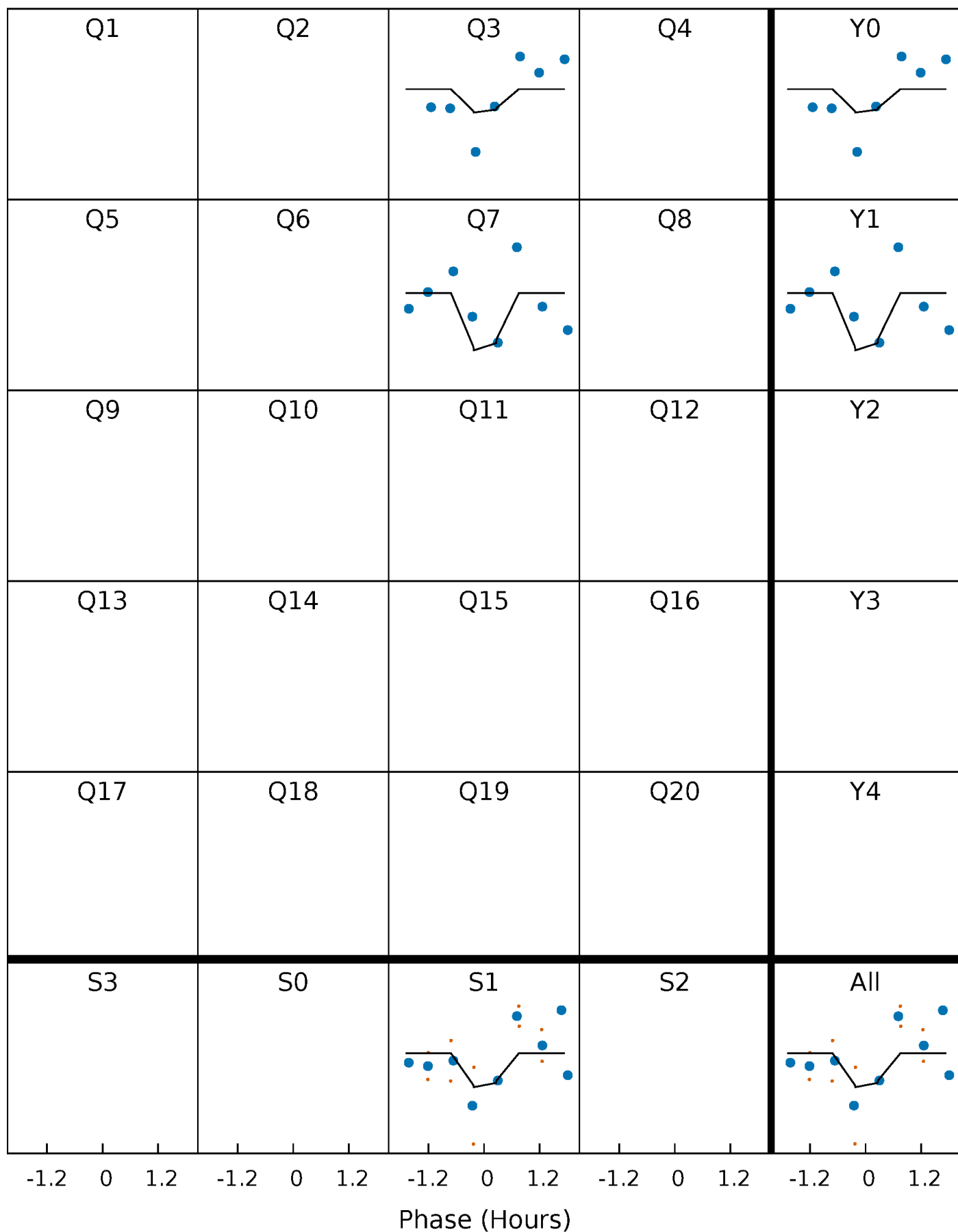
DV Quarter-Phased Transit Curves

TCE 009408035-05 $P=379.295181$ Days $T_0=335.035839$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

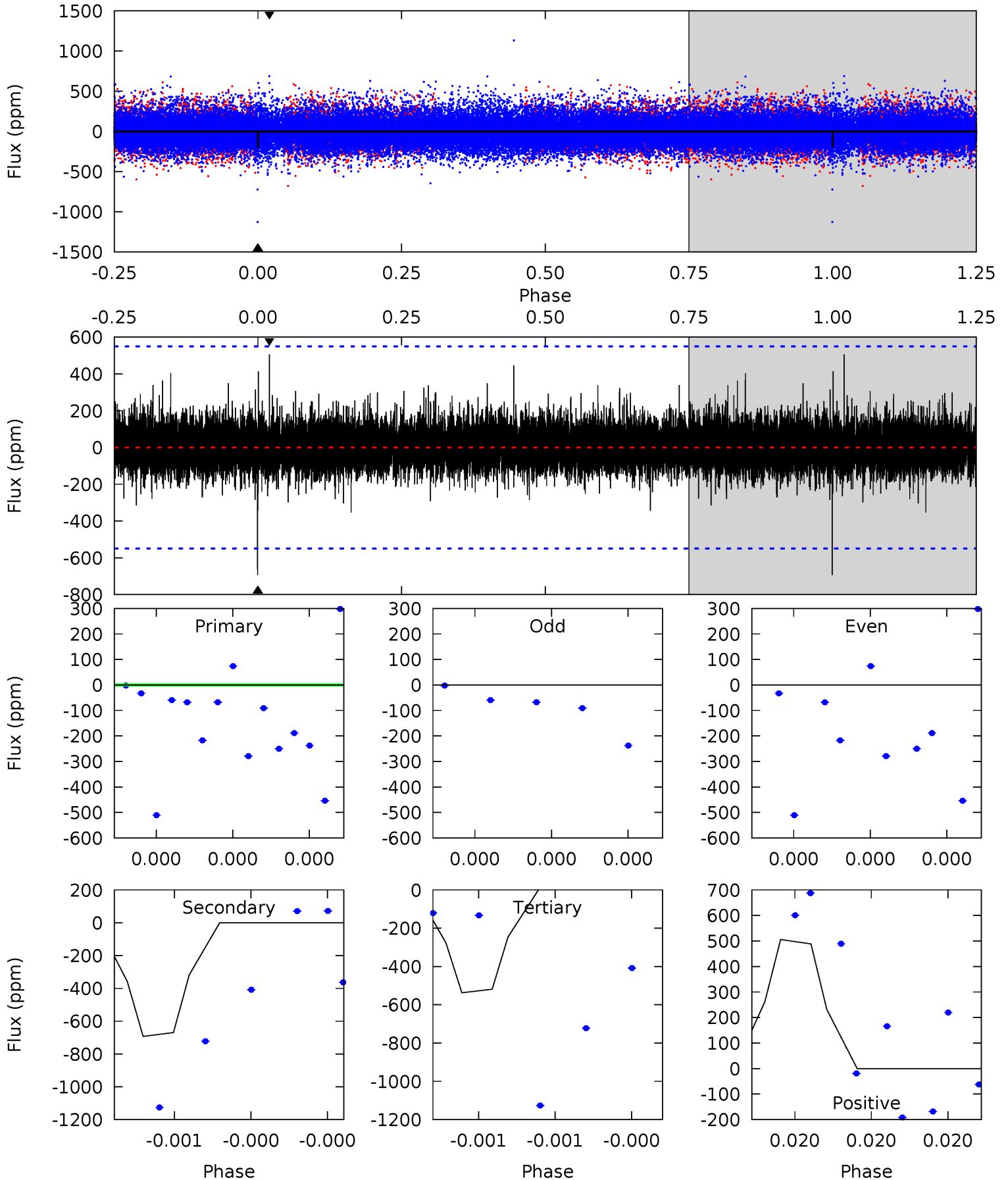
TCE 009408035-05 $P=379.287741$ Days $T_0=335.039073$ (BKJD)



DV Model-Shift Uniqueness Test

009408035-05, P = 379.295181 Days, E = 335.035839 Days

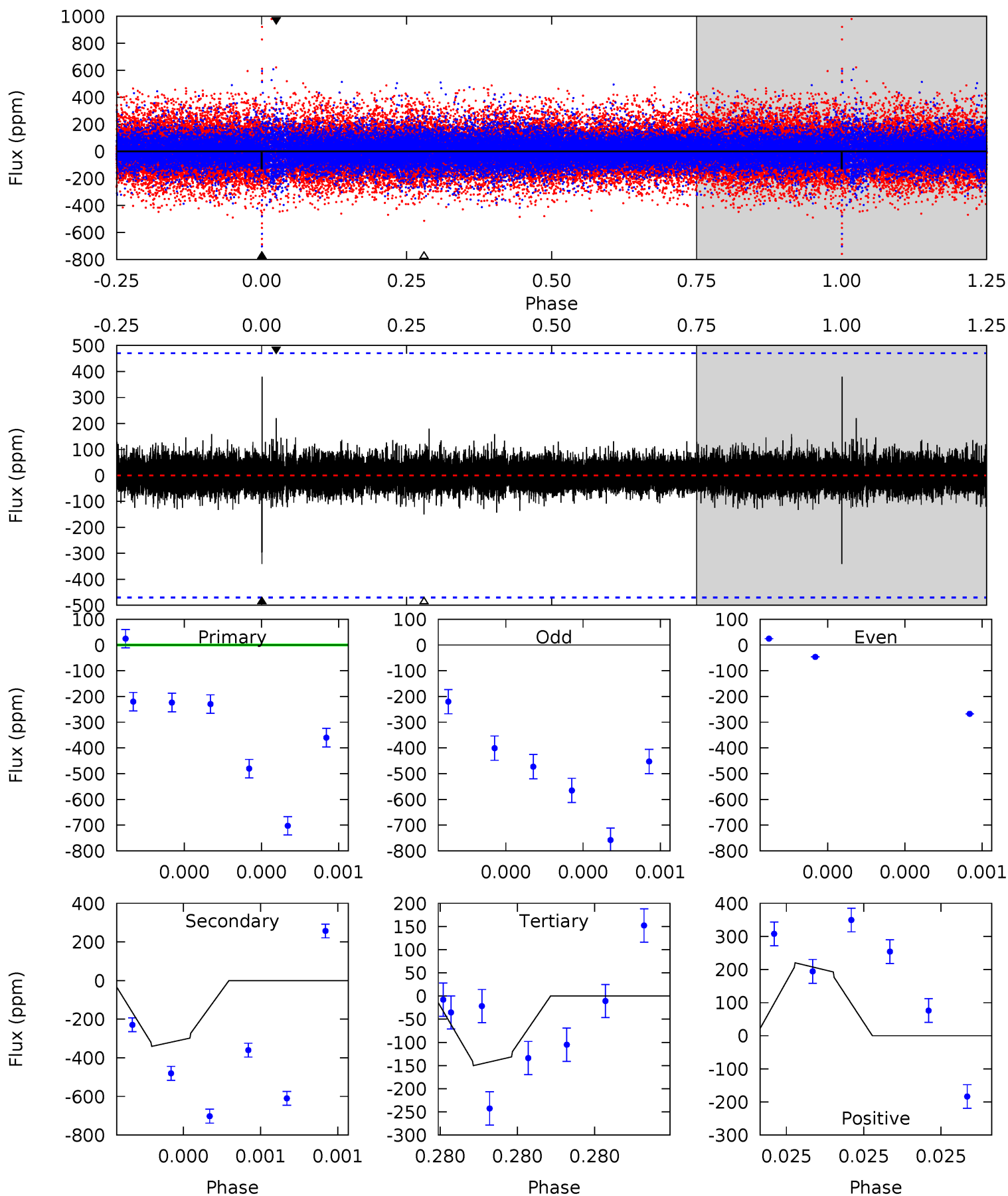
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.17	7.40	5.74	5.40	5.87	3.92	0.74	-3.57	-3.23	1.67	2.00	0.69	1.00	0.42	0.00



Alt Model-Shift Uniqueness Test

009408035-05, P = 379.287741 Days, E = 335.039073 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.63	4.23	1.86	2.74	5.84	3.88	0.41	-0.23	-1.11	2.37	1.50	0.67	1.00	0.53	0.00



Stellar Parameters For KIC 009408035

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4898^{+147}_{-147}	$4.670^{+0.054}_{-0.032}$	$-1.000^{+0.300}_{-0.300}$	$0.584^{+0.044}_{-0.040}$	$0.582^{+0.050}_{-0.021}$	$4.118^{+0.883}_{-0.559}$
	+3%/-3%	+1%/-1%	+30%/-30%	+8%/-7%	+9%/-4%	+21%/-14%
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 009408035-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-693 ± 94	$121.35^{+127.29}_{-85.51}$	248^{+9}_{-8}	1609^{+428}_{-181}	19^{+205}_{-15}
Alt.	-341 ± 81	$122.40^{+126.93}_{-82.73}$	248^{+9}_{-9}	1521^{+344}_{-179}	$9.648^{+84.152}_{-7.474}$

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

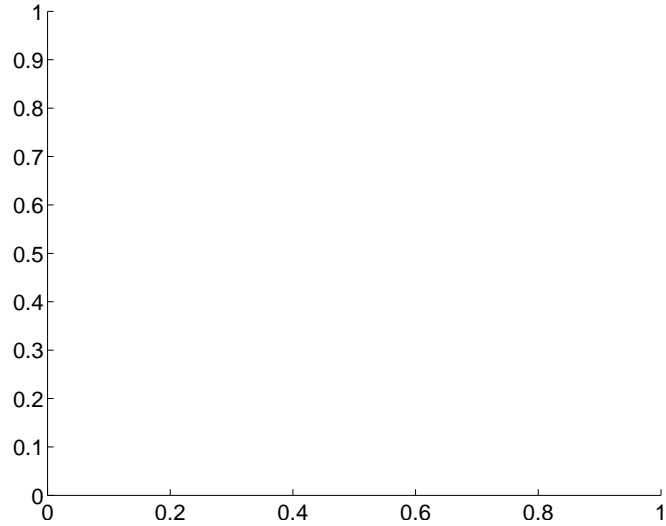
Supplemental centroid analysis for 009408035-05. Kepler magnitude: 13.01. Transit SNR 0.85

There are 0 quarters with good PRF difference image offsets

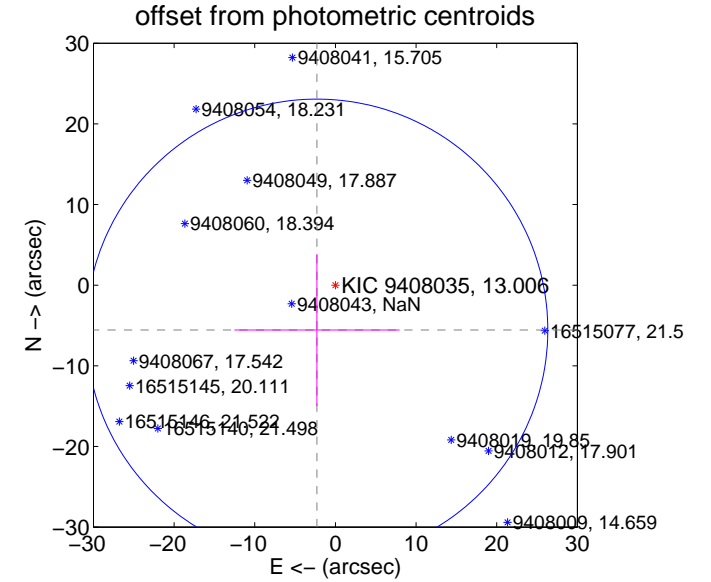
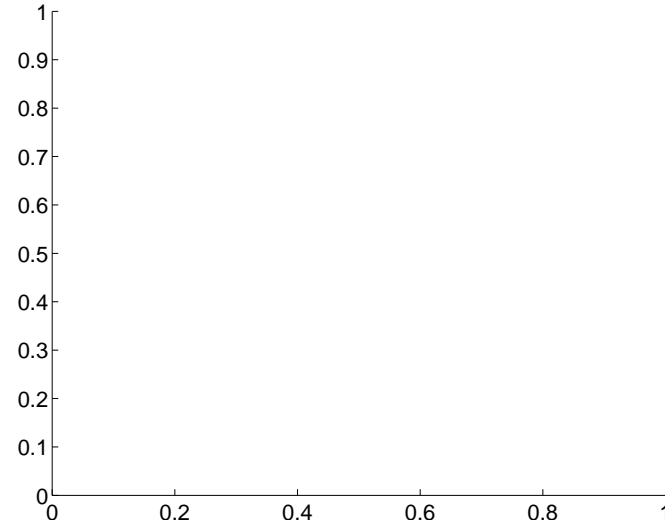
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	6.01 ± 9.54	0.63	2.29 ± 10.24	-5.55 ± 9.42

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.



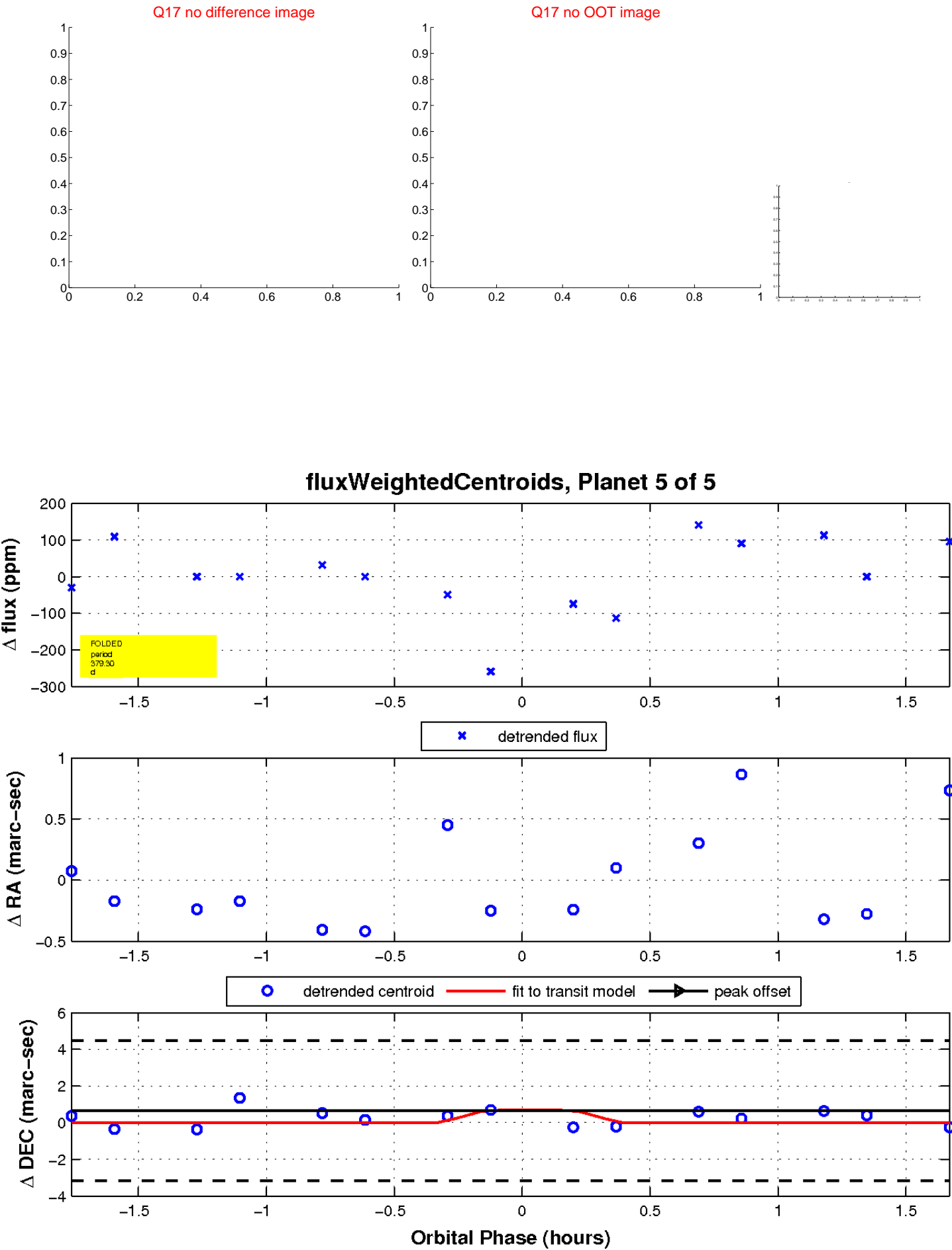
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UKIRT Image

Declination

