

KIC 008429170

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})
008429170-01	OBS	No	516.457635	156.337352	476.0	5.113	13.0	5.0	1.09	5951	2.48	0.81
008429170-02	OBS	No	500.141835	204.044395	1448.3	9.711	12.0	11.2	1.09	5951	4.73	0.84
008429170-03	OBS	No	361.284038	294.143502	330.8	1.827	14.2	5.3	1.09	5951	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008429170-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008429170-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008429170-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

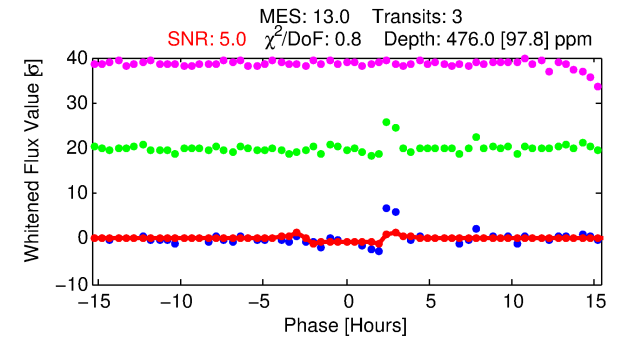
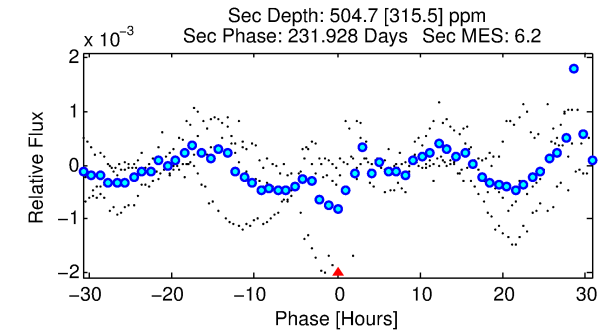
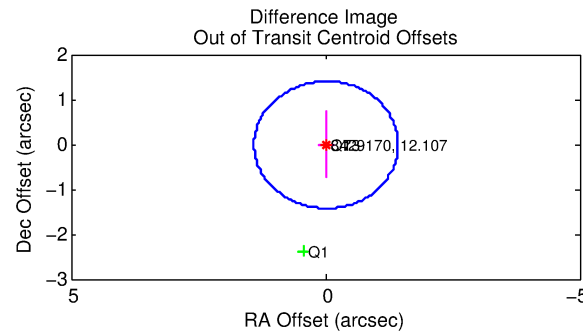
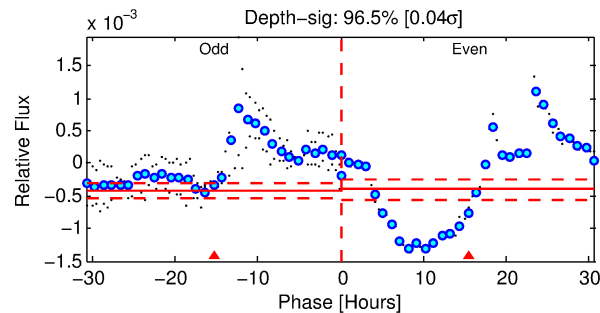
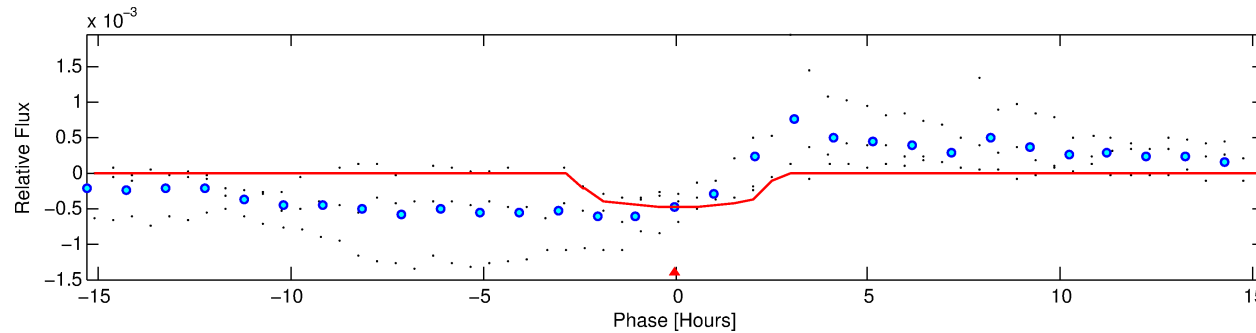
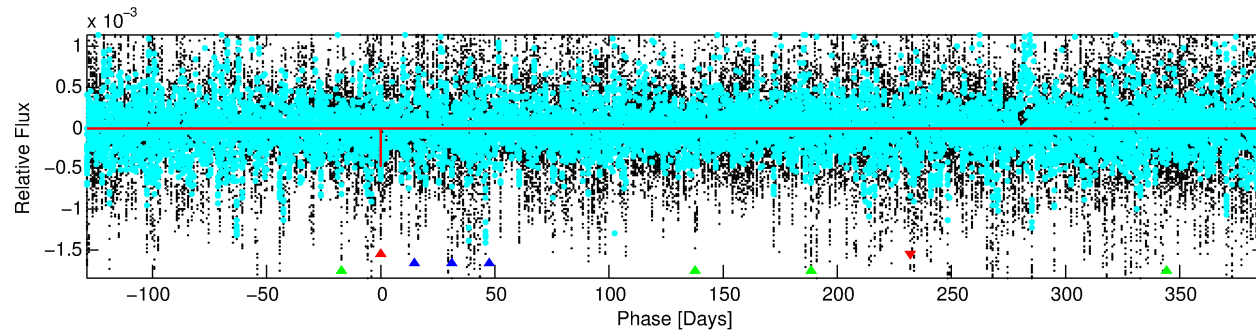
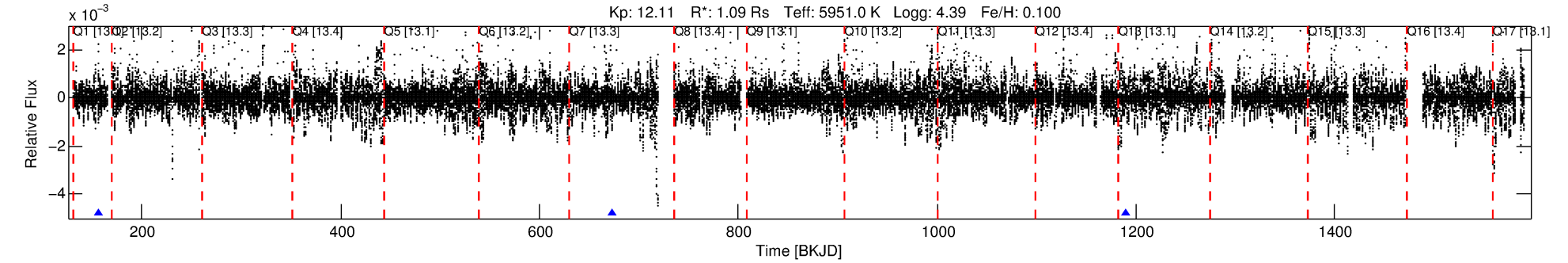
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008429170-01

No Significant Match Found

DV One-Page Summary

KIC: 8429170 Candidate: 1 of 3 Period: 516.458 d



DV Fit Results:

Period = 516.45763 [0.00365] d
Epoch = 156.3374 [0.0043] BKJD
Rp/R* = 0.0207 [0.0291]
a/R* = 649.88 [4279.34]
b = 0.58 [7.68]
Seff = 0.81 [0.32]
Teq = 242 [24] K
Rp = 2.48 [3.56] Re
a = 1.2894 [0.3249] AU
Ag = 75320.09 [218668.63] [0.34σ]
Teffp = 6194 [4464] K [1.33σ]

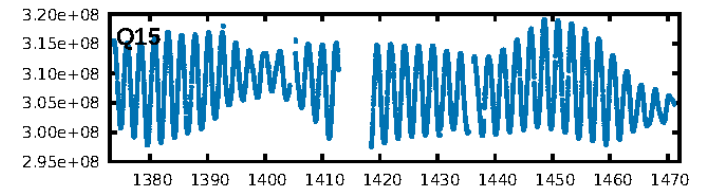
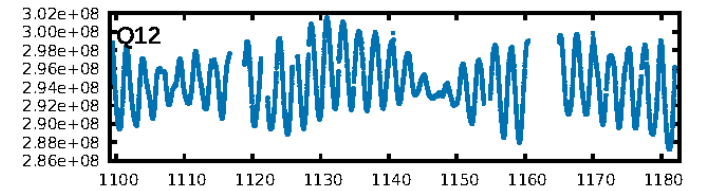
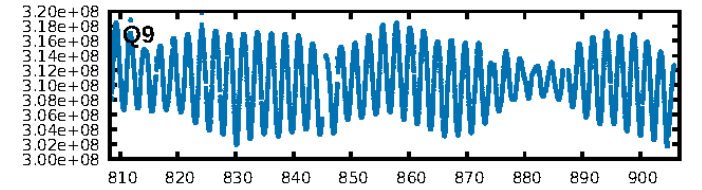
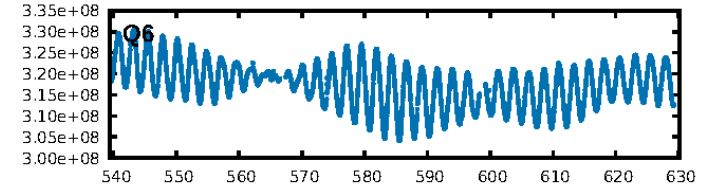
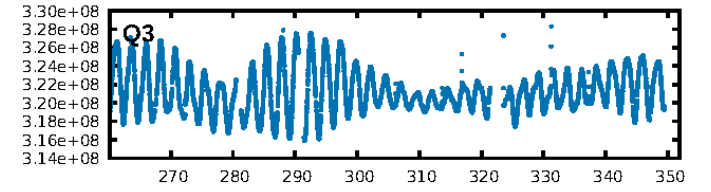
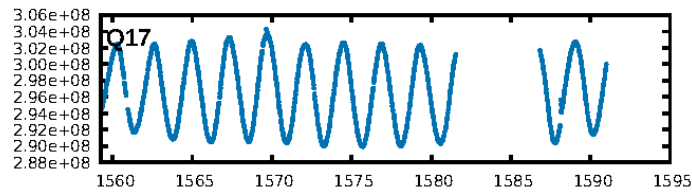
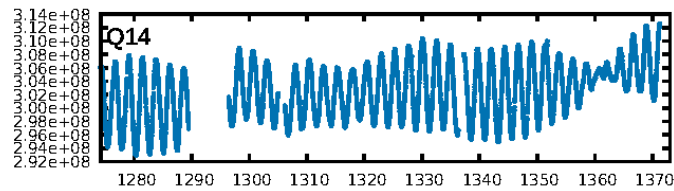
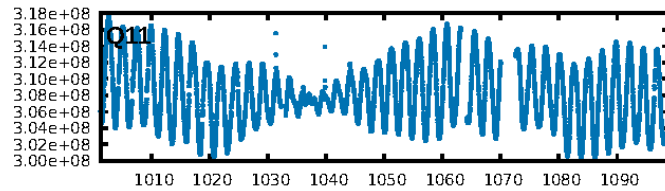
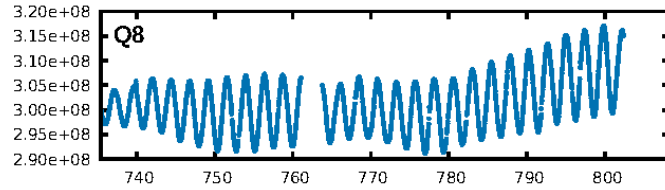
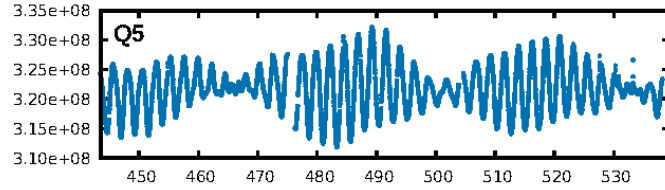
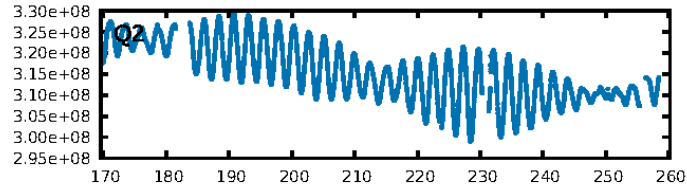
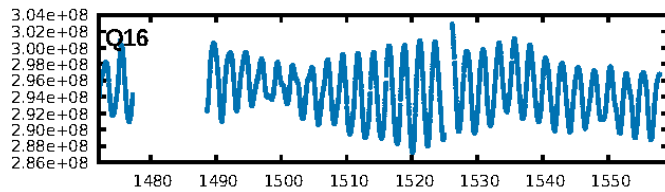
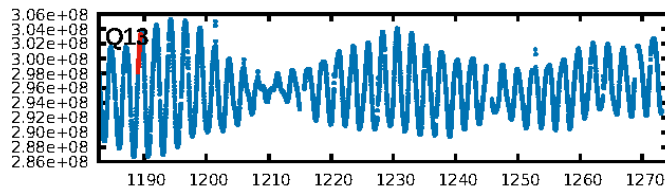
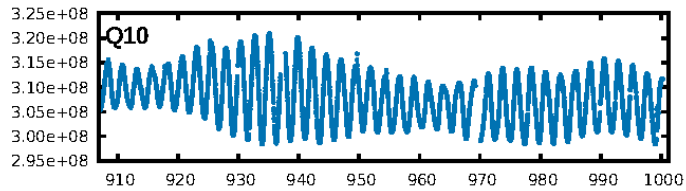
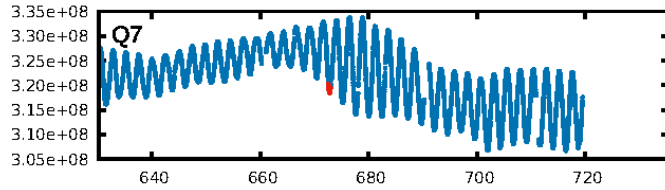
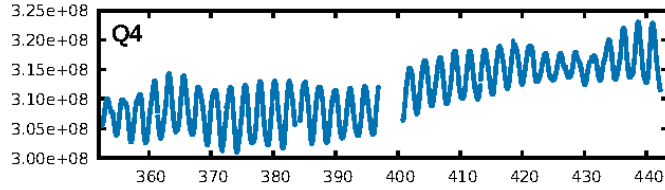
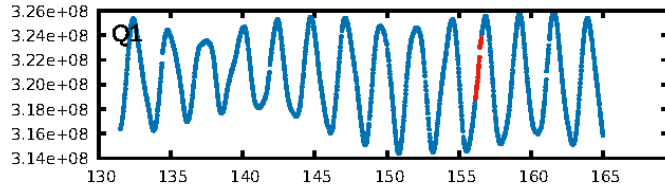
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.68σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.6%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 3.91e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.6813
Centroid-sig: 41.5%
Centroid-so: 0.814 arcsec [0.99σ]
OotOffset-rm: 0.019 arcsec [0.04σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 0.131 arcsec [0.26σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

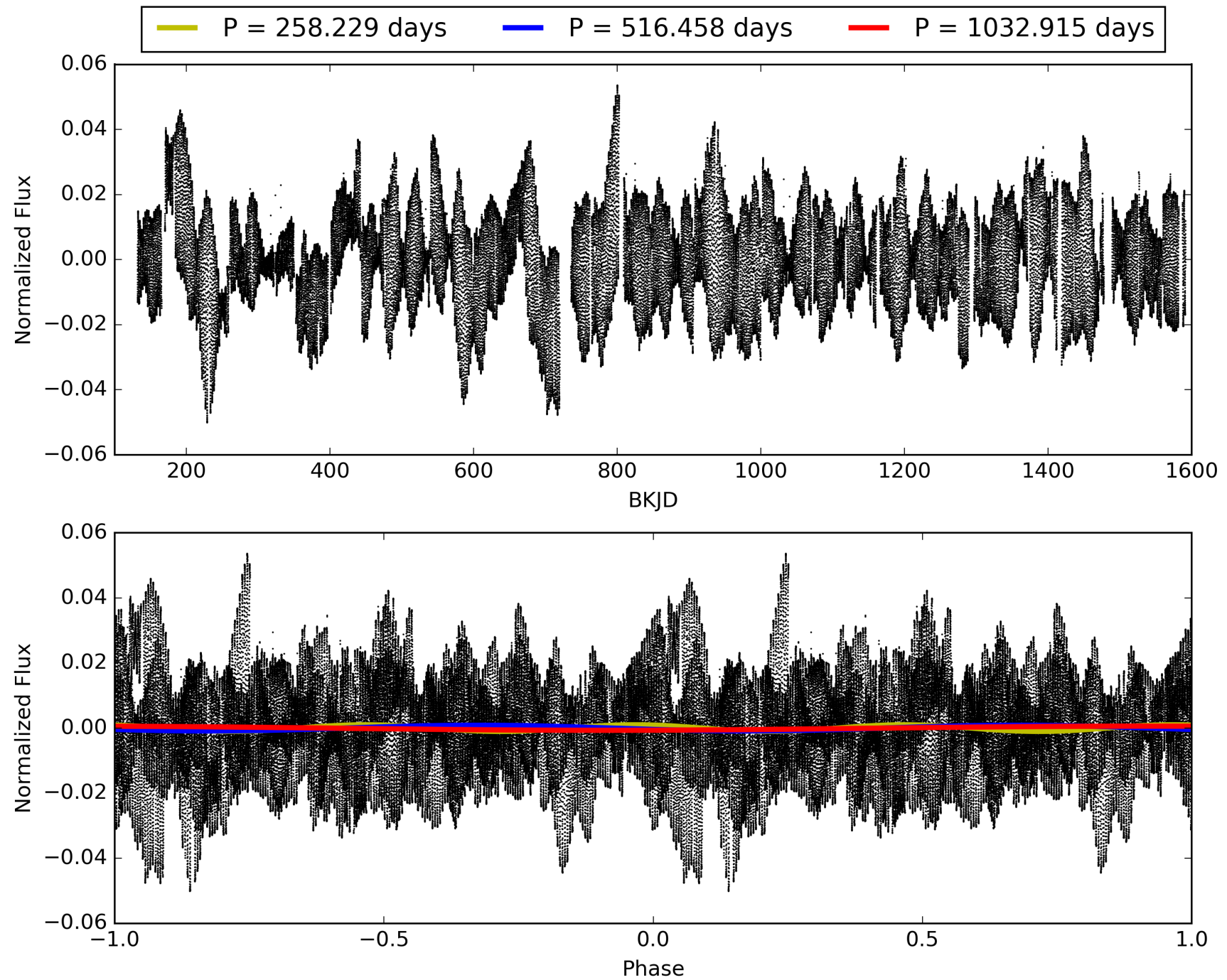
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008429170-01, PDC Light Curves

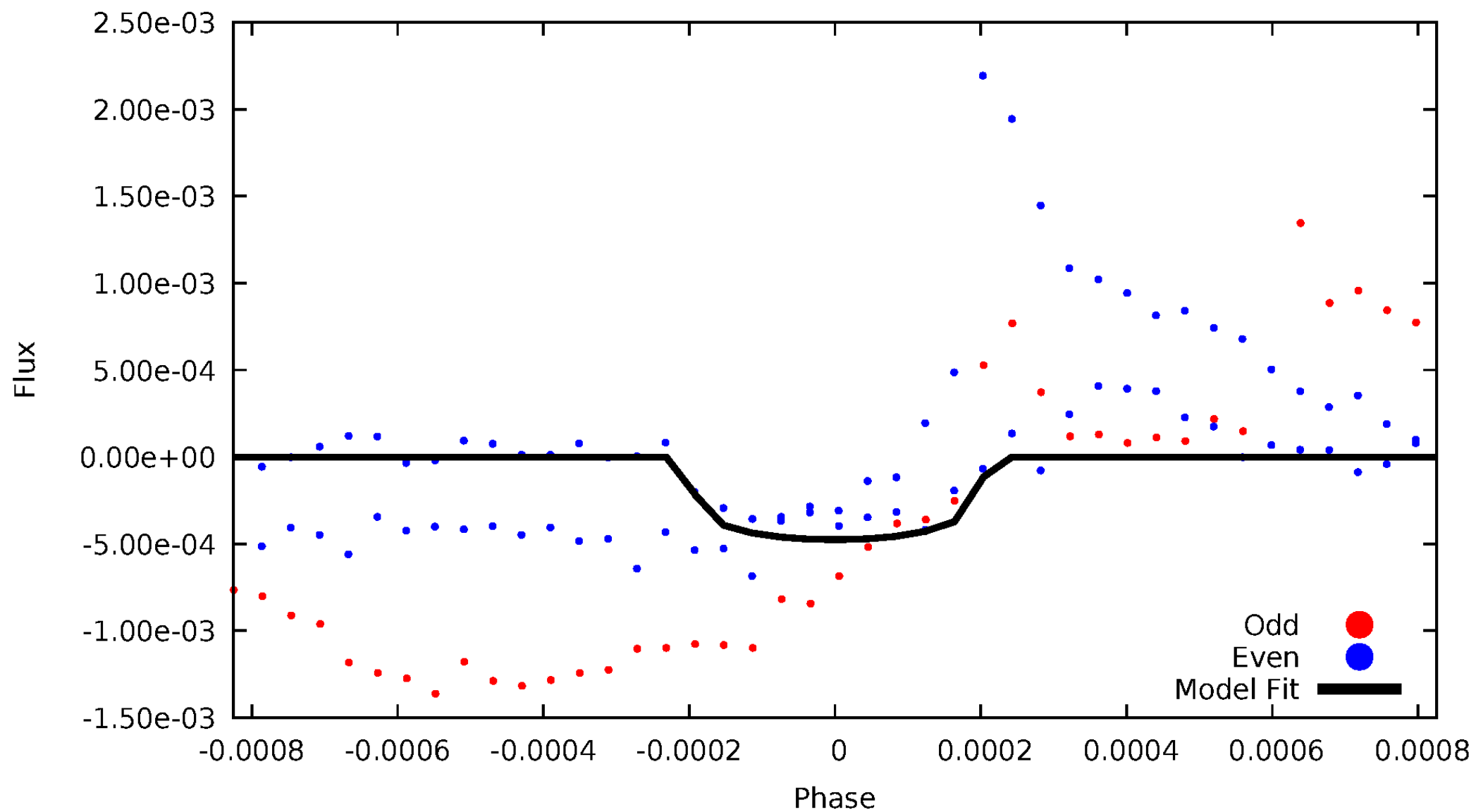


TCE 008429170-01



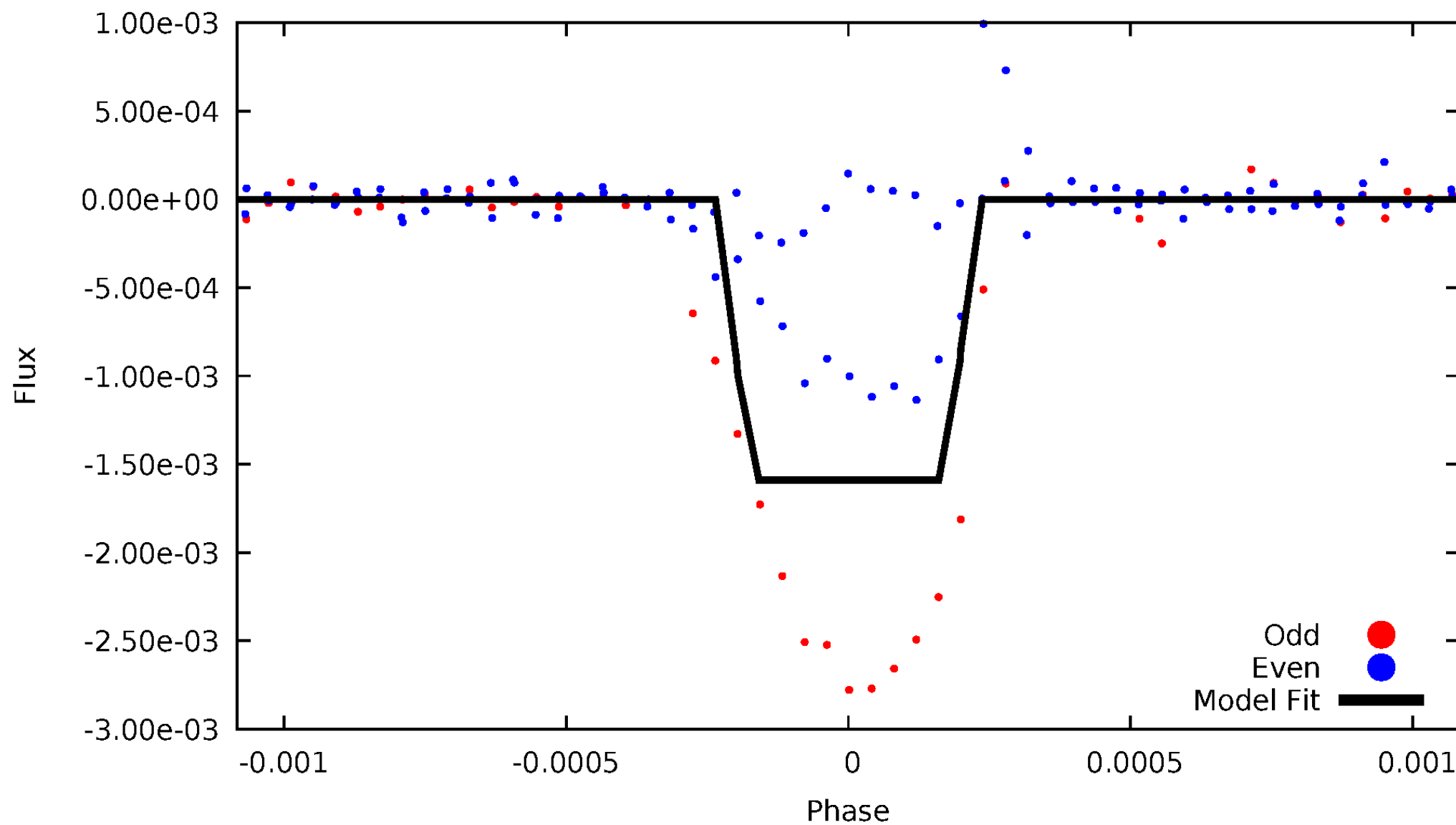
DV Odd/Even

TCE 008429170-01



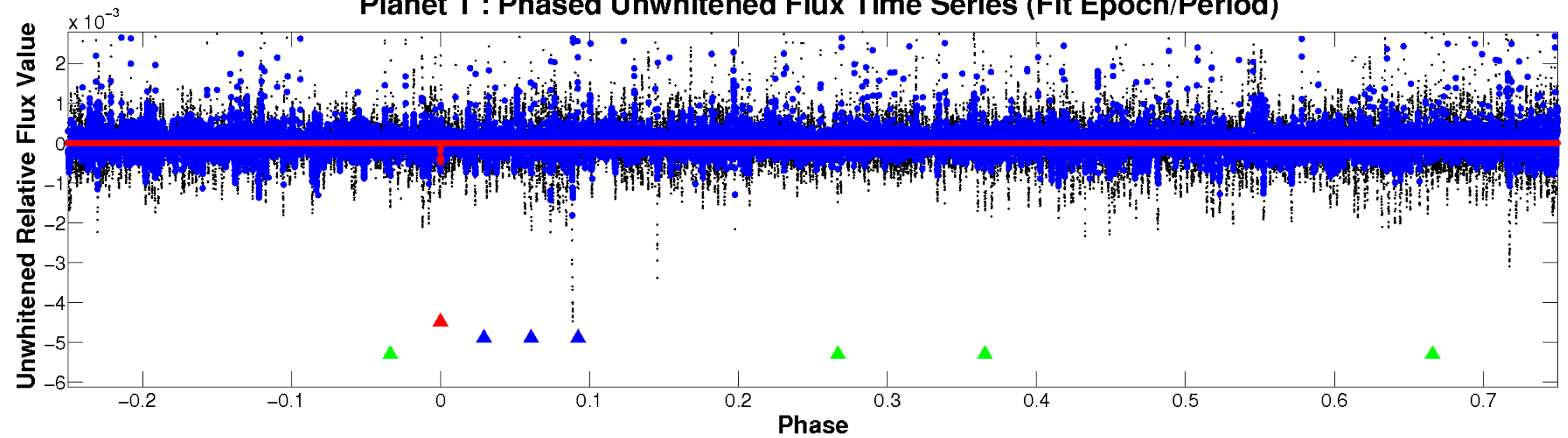
ALT Odd/Even

TCE 008429170-01

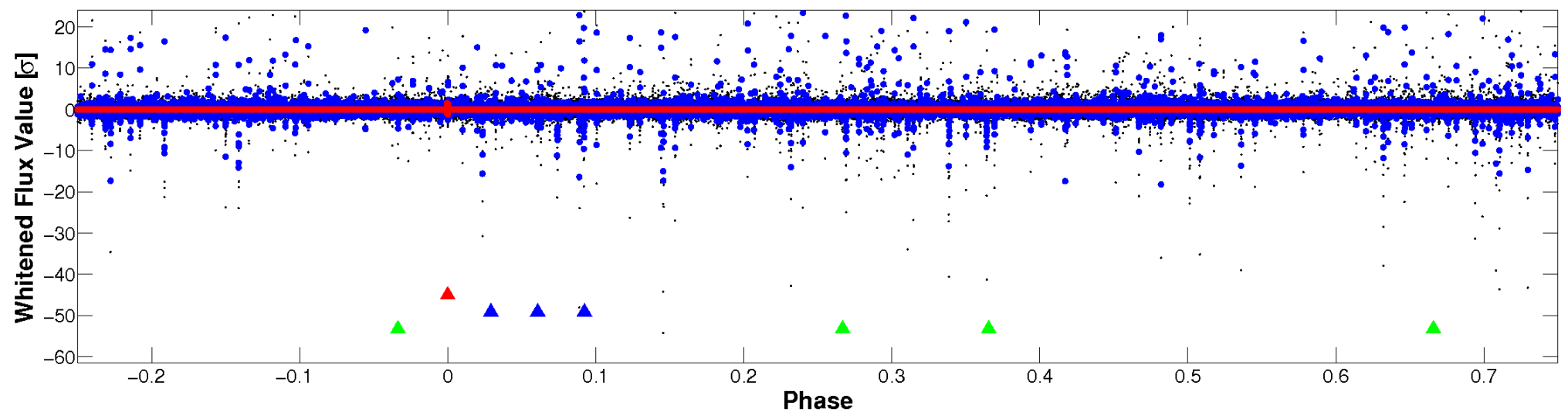


Non-Whitened Vs. Whitened Light Curve

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

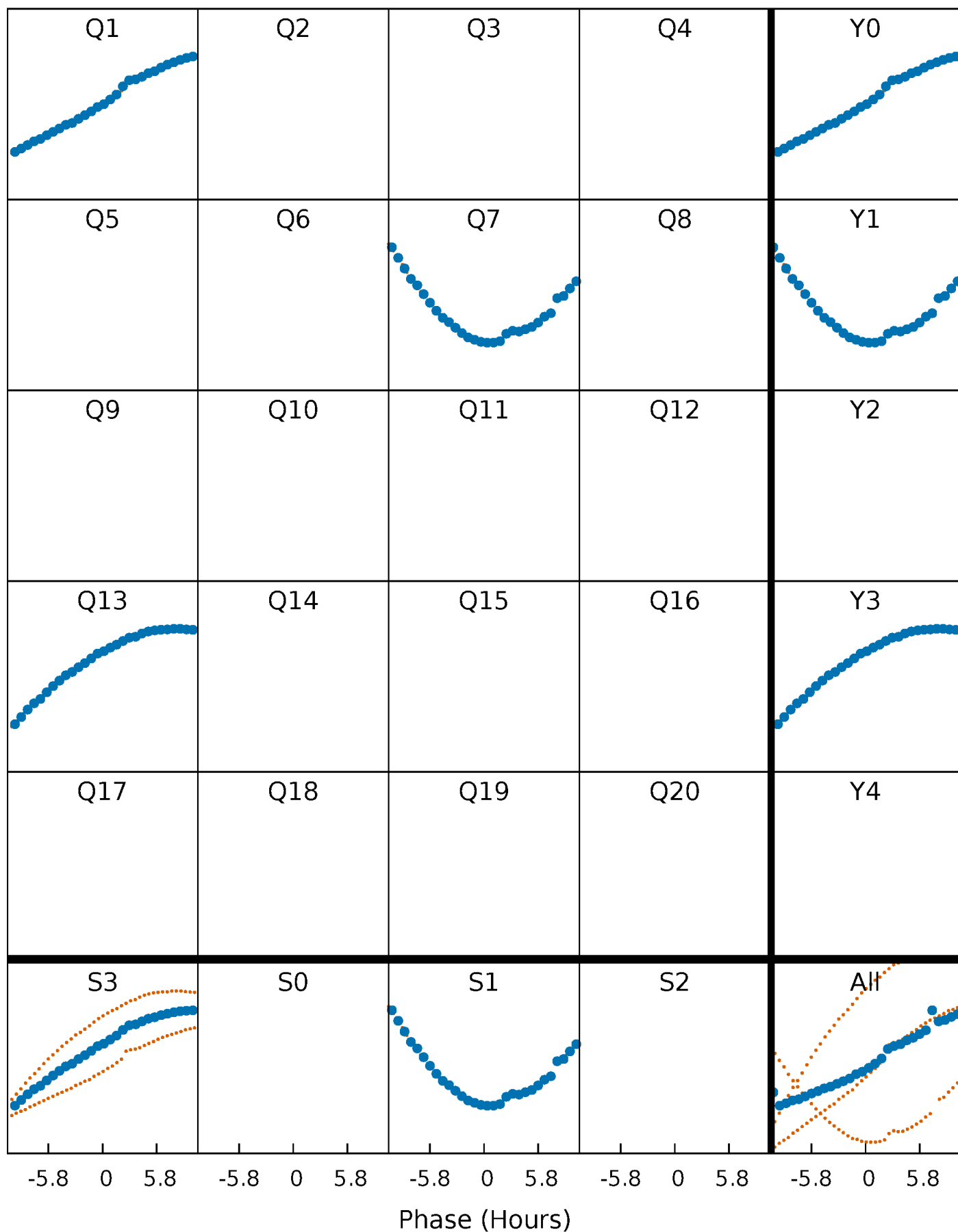


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



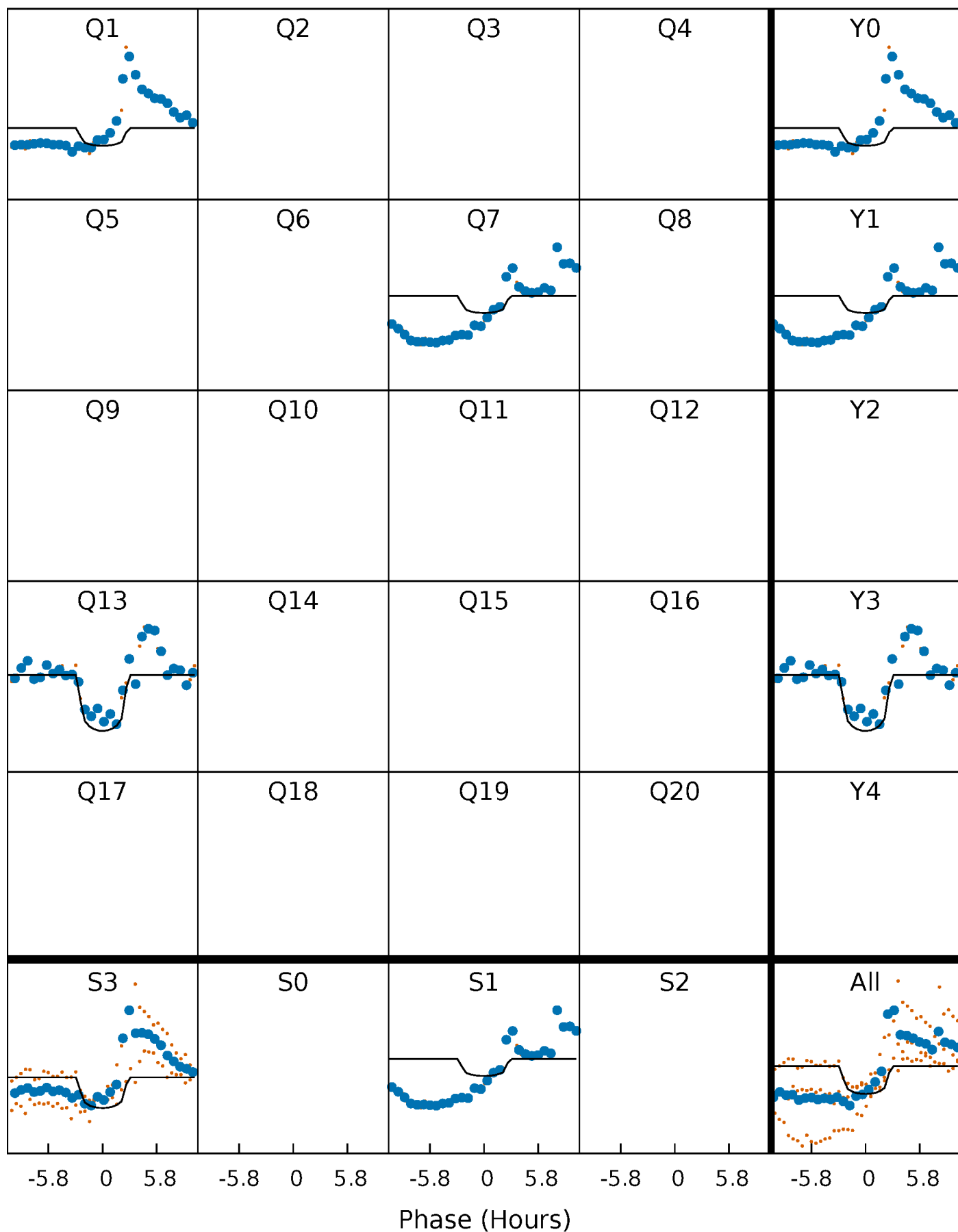
PDC Quarter-Phased Transit Curves

TCE 008429170-01 P=516.457635 Days $T_0=156.337352$ (BKJD)



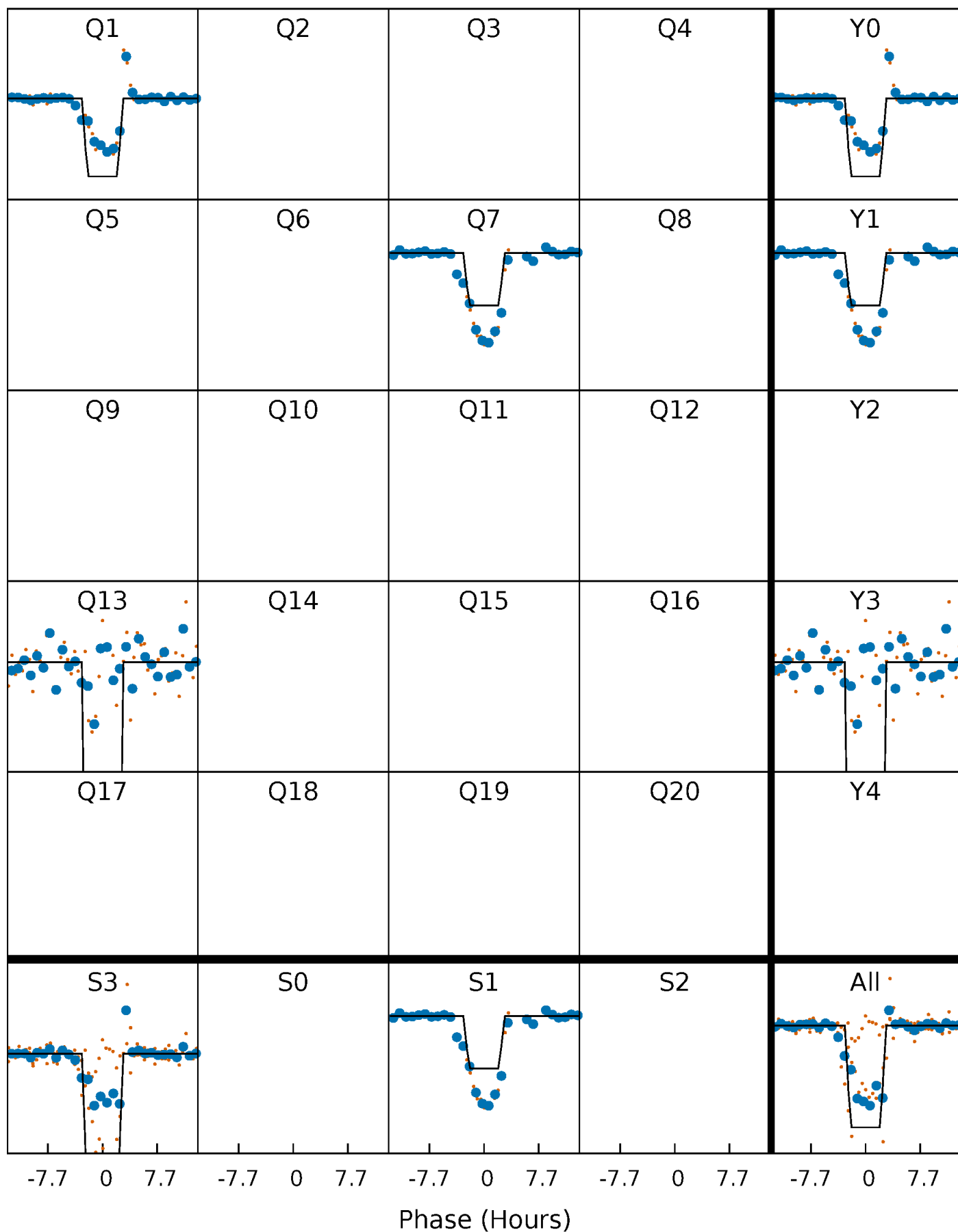
DV Quarter-Phased Transit Curves

TCE 008429170-01 $P=516.457635$ Days $T_0=156.337352$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

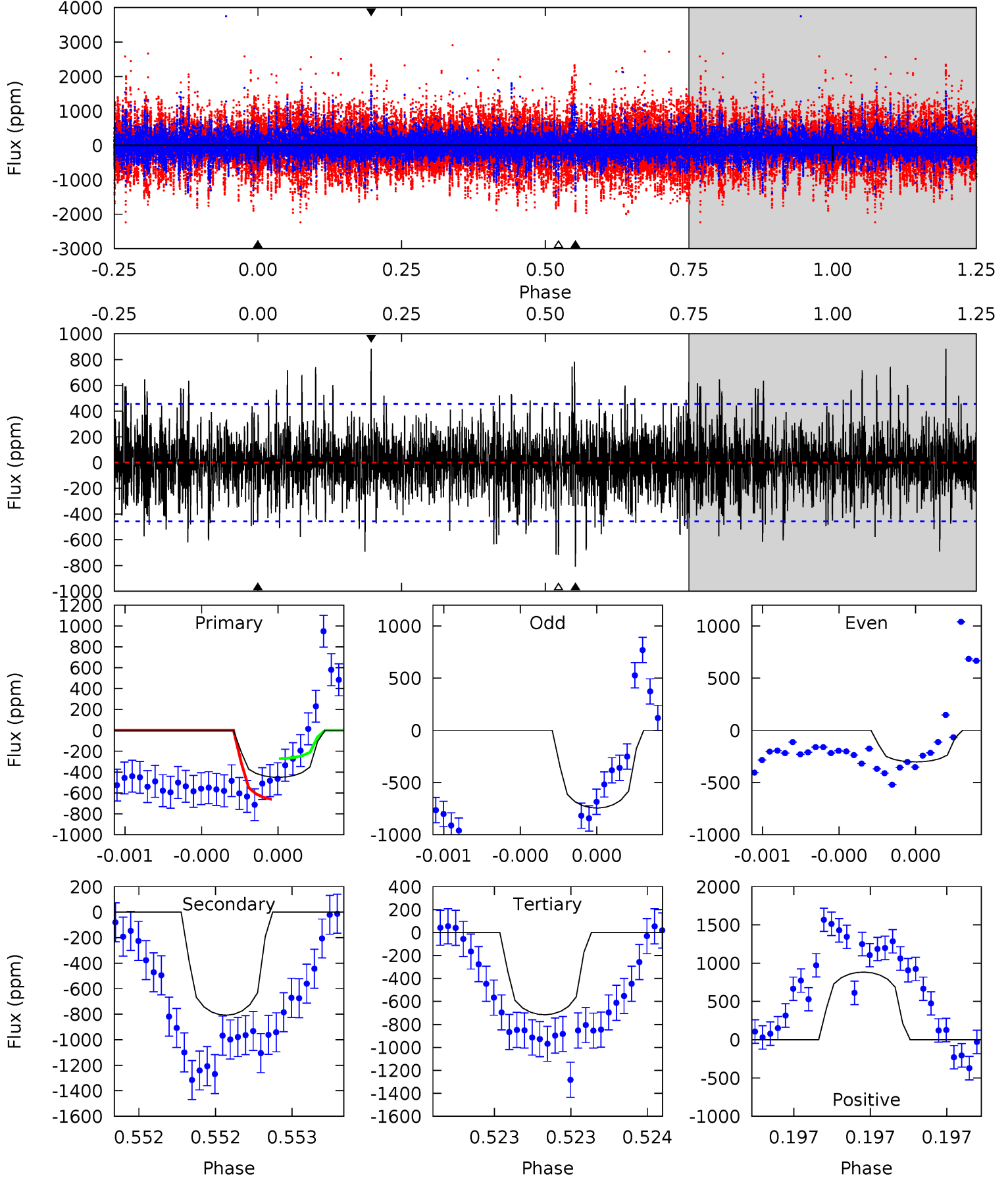
TCE 008429170-01 P=516.458229 Days $T_0=156.318555$ (BKJD)



DV Model-Shift Uniqueness Test

008429170-01, P = 516.457635 Days, E = 156.337352 Days

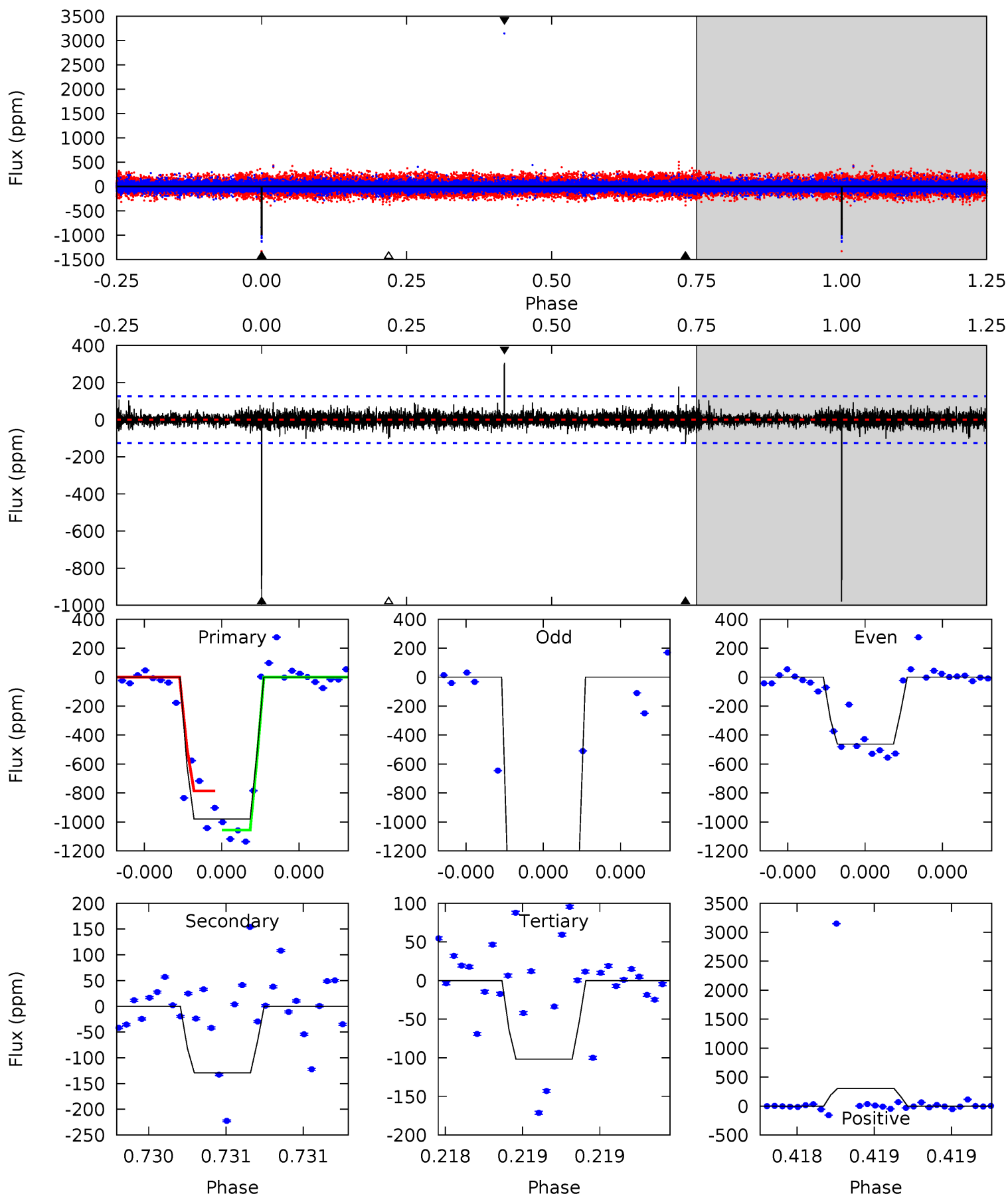
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.55	9.95	8.81	10.9	5.61	3.54	2.15	-3.27	-5.33	1.14	-0.93	2.21	1.19	0.52	2.38



Alt Model-Shift Uniqueness Test

008429170-01, P = 516.458229 Days, E = 156.318555 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	5.73	4.51	13.6	5.60	3.52	0.82	38.9	29.8	1.22	-7.85	66.8	1.23	0.24	0



Stellar Parameters For KIC 008429170

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5951^{+190}_{-211}	$4.390^{+0.087}_{-0.203}$	$0.100^{+0.200}_{-0.300}$	$1.094^{+0.325}_{-0.150}$	$1.070^{+0.136}_{-0.136}$	$1.152^{+0.458}_{-0.597}$
	+3%/-4%	+2%/-5%	+200%/-300%	+30%/-14%	+13%/-13%	+40%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008429170-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-808 ± 81	$3.61^{+3.18}_{-2.28}$	344^{+25}_{-20}	5851^{+4698}_{-1392}	$55107^{+380739}_{-39721}$
Alt.	-129 ± 23	$5.56^{+3.54}_{-3.15}$	343^{+23}_{-20}	3494^{+1191}_{-503}	3777^{+16644}_{-2417}

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 $A_{obs} \gg 1.0$

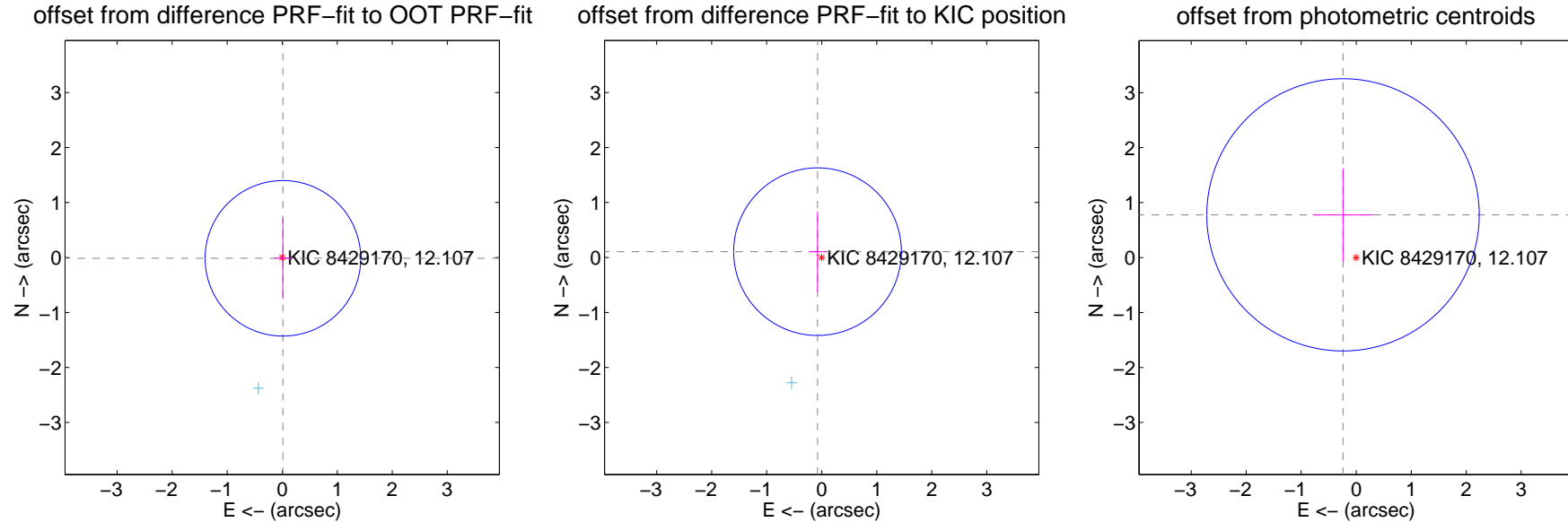
DV Centroid Data

Supplemental centroid analysis for 008429170-01. Kepler magnitude: 12.11. Transit SNR 4.95

There are 2 quarters with good PRF difference image offsets

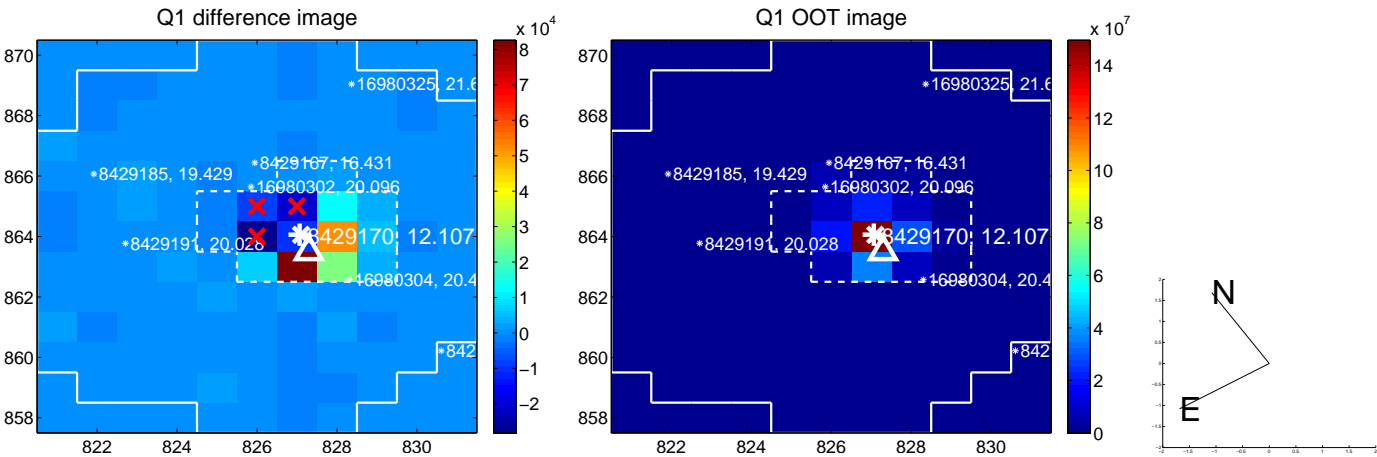
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.472	0.04	-0.013 ± 0.157	-0.015 ± 0.733
PRF-fit source offset from KIC position	0.131 ± 0.508	0.26	0.076 ± 0.161	0.106 ± 0.729
photometric centroid source offset	0.81 ± 0.83	0.99	0.24 ± 0.55	0.78 ± 0.85



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.

Q5 no difference image



Q5 no OOT image



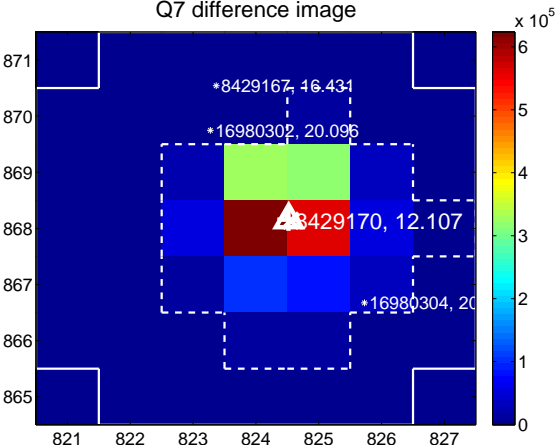
Q6 no difference image



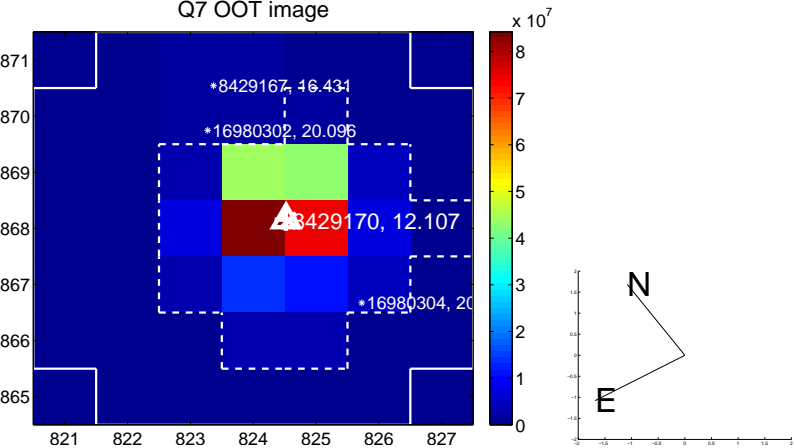
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



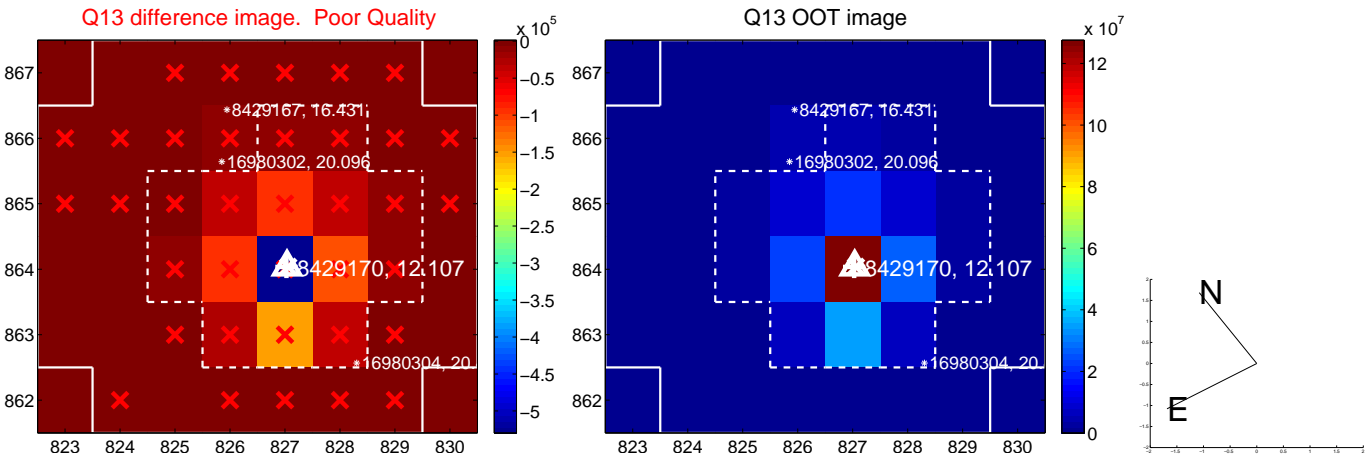
Q8 no OOT image



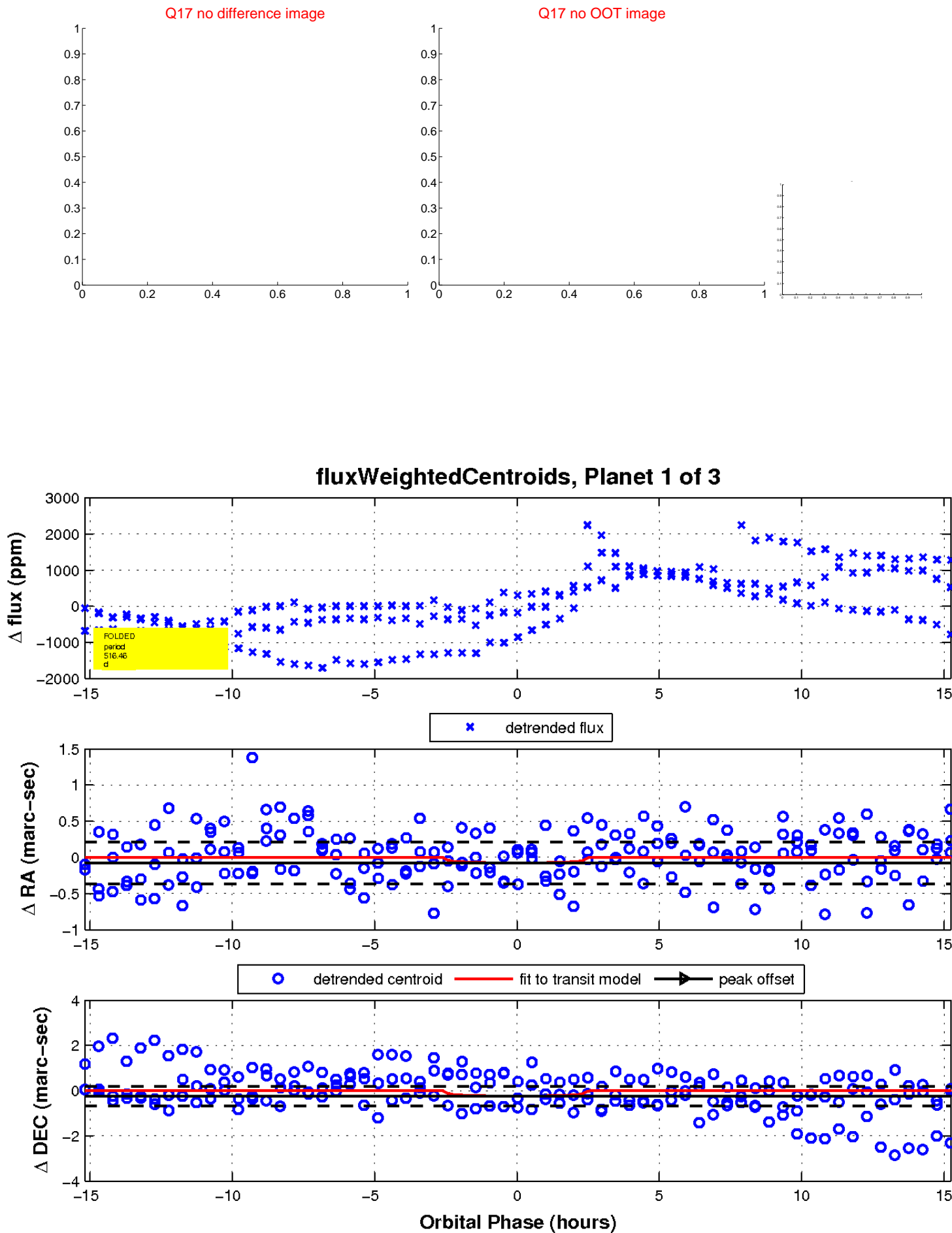
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

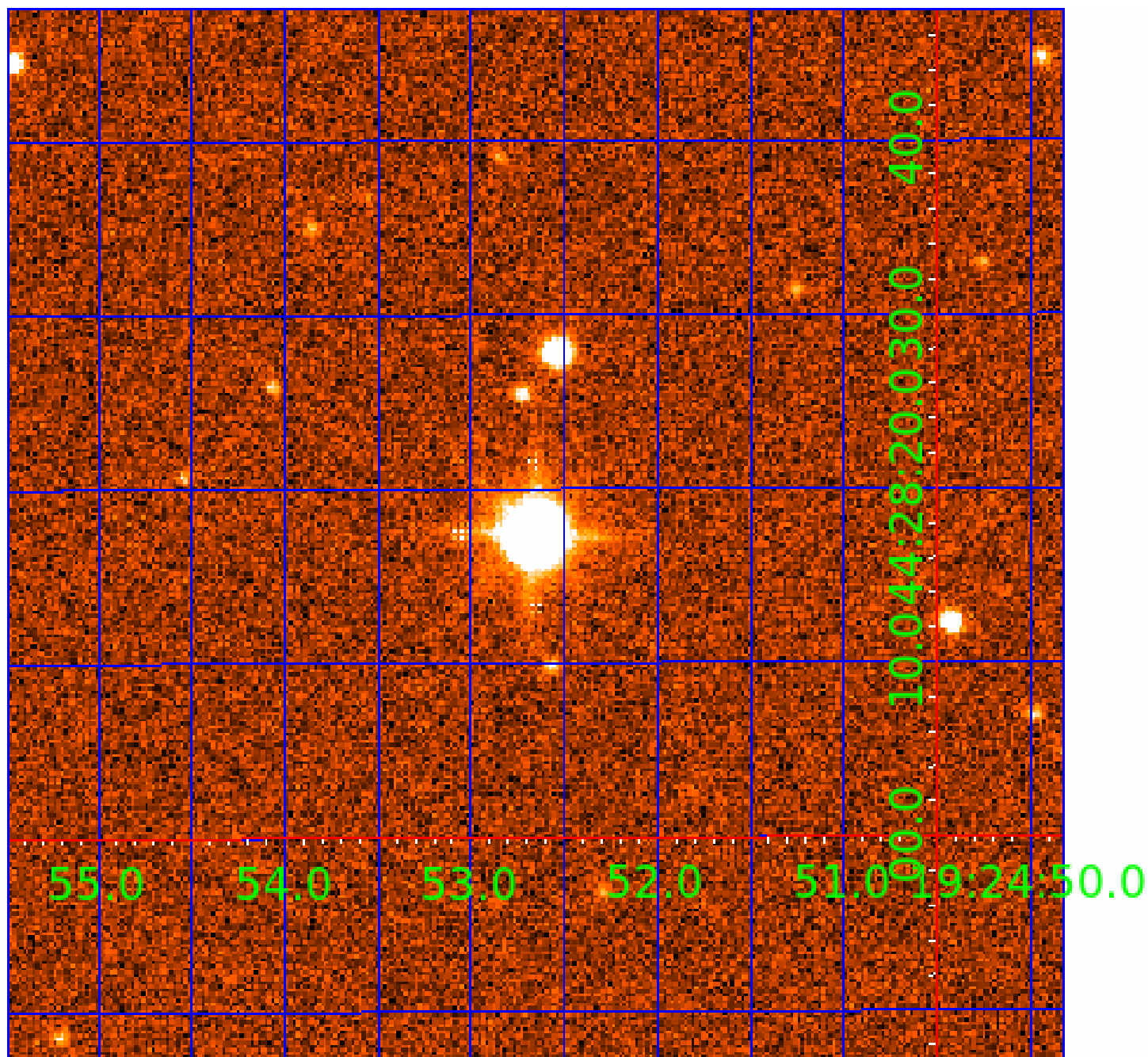


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008429170

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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008429170-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008429170-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

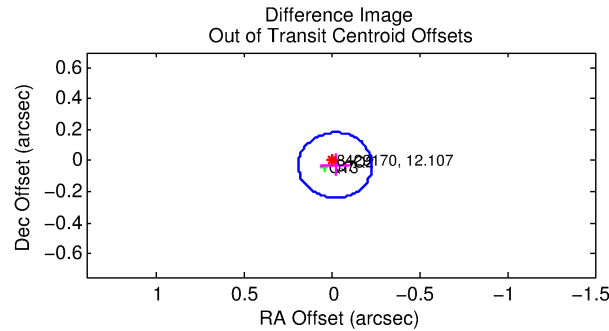
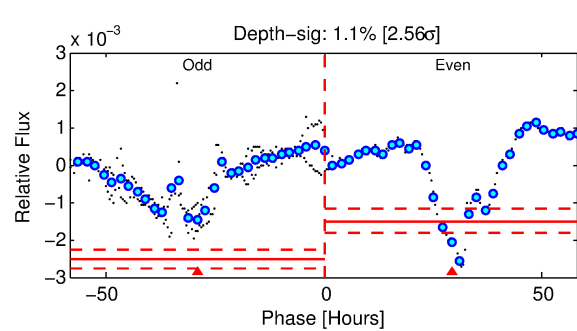
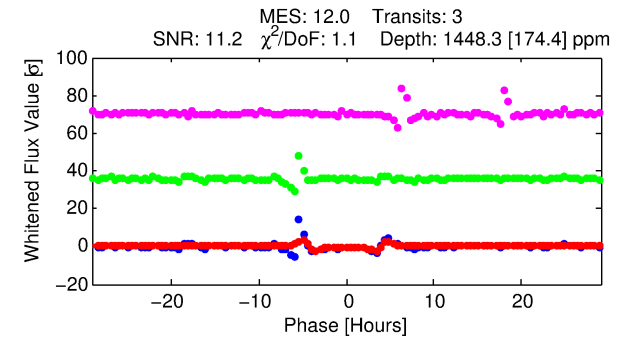
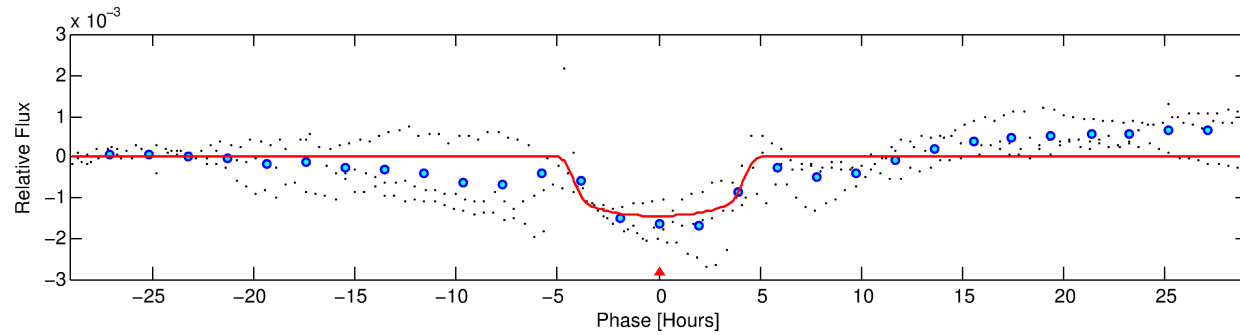
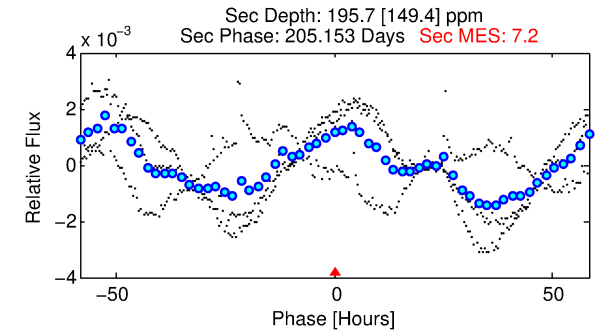
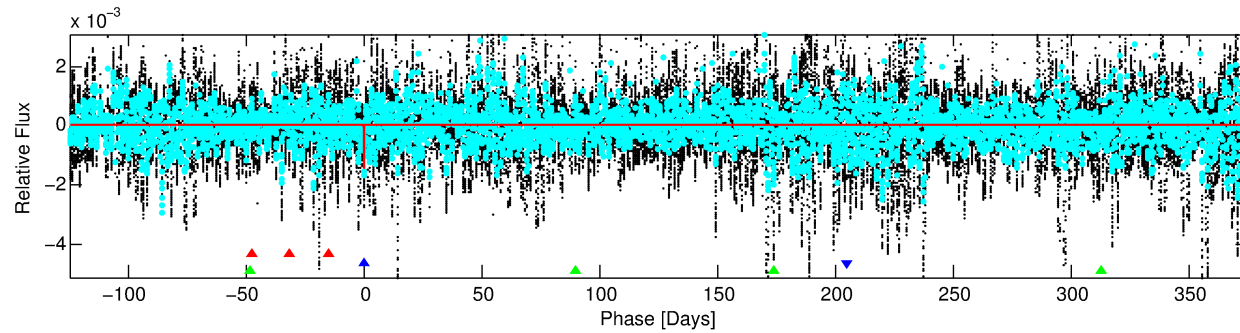
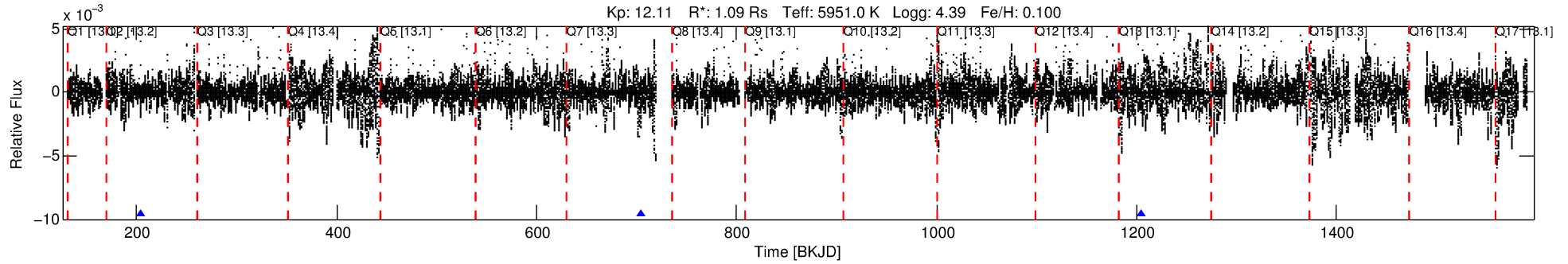
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008429170-02

No Significant Match Found

DV One-Page Summary

KIC: 8429170 Candidate: 2 of 3 Period: 500.142 d



DV Fit Results:

Period = 500.14184 [0.00325] d
Epoch = 204.0444 [0.0040] BKJD
Rp/R* = 0.0397 [0.0027]
a/R* = 237.97 [22.54]
b = 0.85 [0.03]
Seff = 0.84 [0.33]
Teq = 244 [24] K
Rp = 4.73 [1.44] Re
a = 1.2621 [0.3180] AU
Ag = 7653.14 [6577.19] [1.16 σ]
Teffp = 3535 [697] K [4.72 σ]

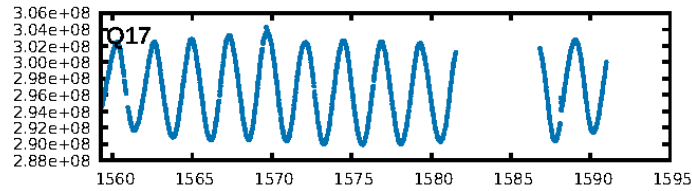
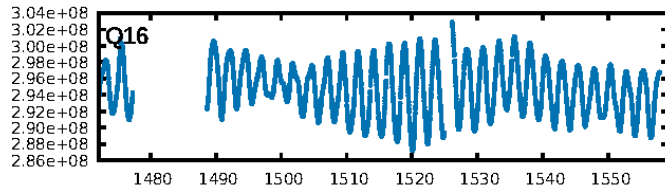
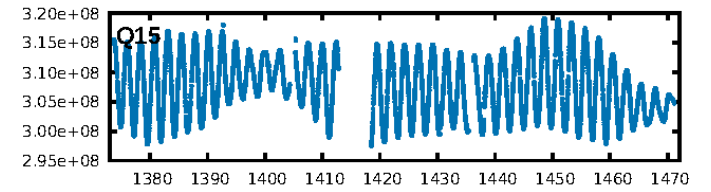
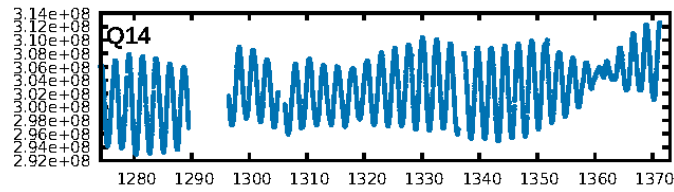
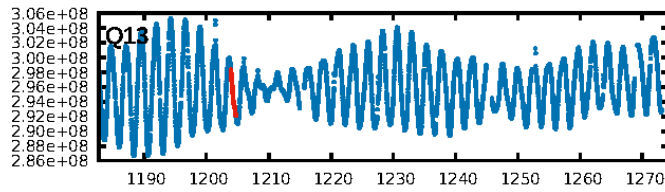
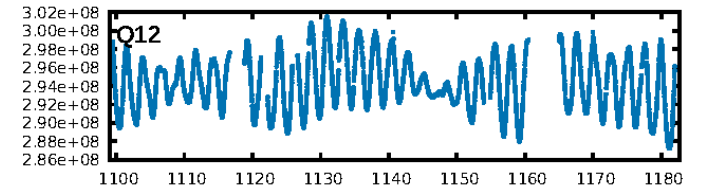
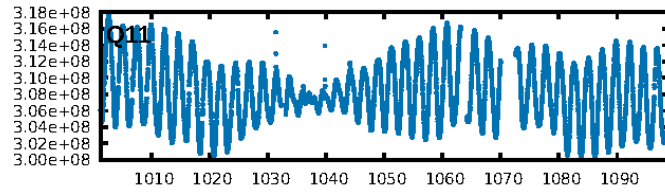
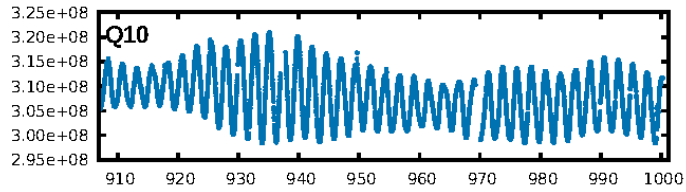
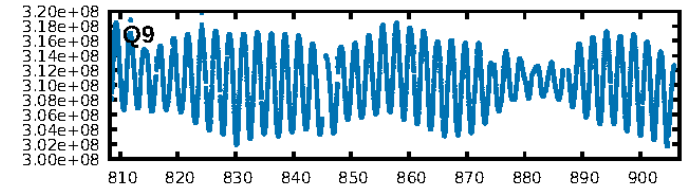
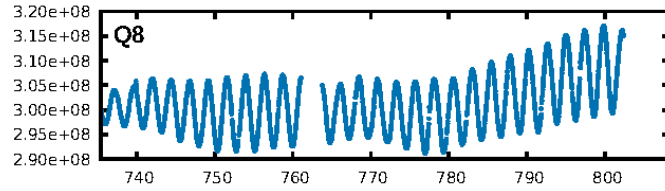
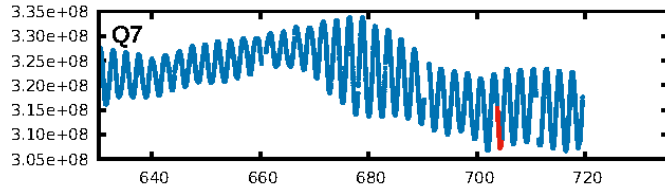
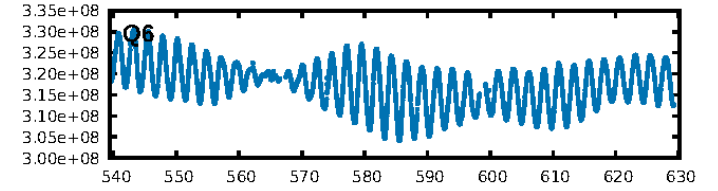
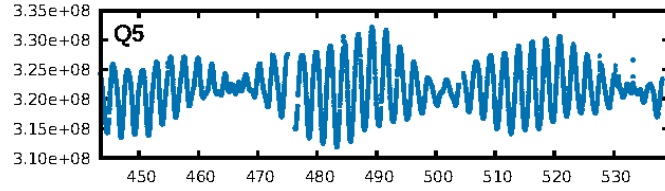
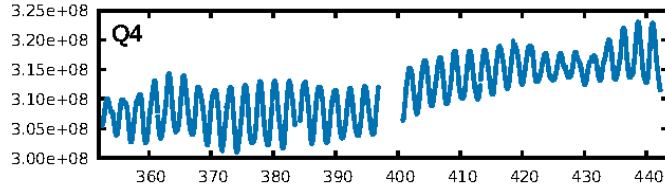
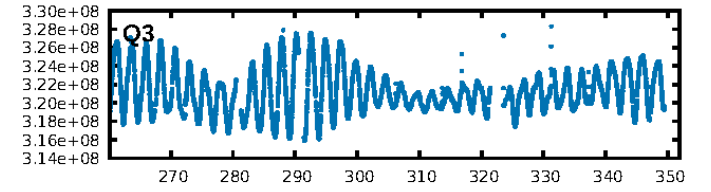
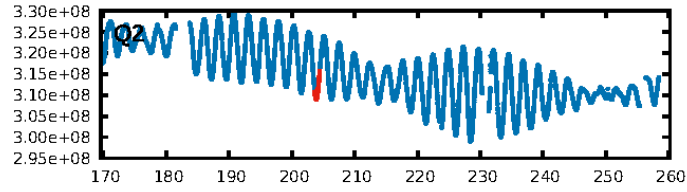
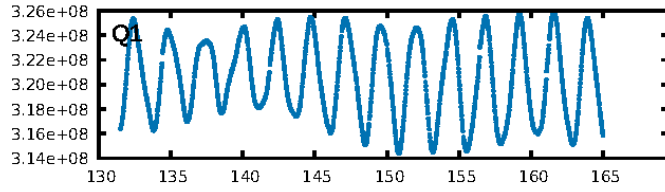
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [337.25 σ]
LongPeriod-sig: 100.0% [35.68 σ]
ModelChiSquare2-sig: 7.3%
ModelChiSquareGof-sig: 96.9%
Bootstrap-pfa: 1.35e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 10.75
Centroid-sig: 5.2%
Centroid-so: 0.276 arcsec [1.64 σ]
OotOffset-rm: 0.034 arcsec [0.49 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.114 arcsec [1.60 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

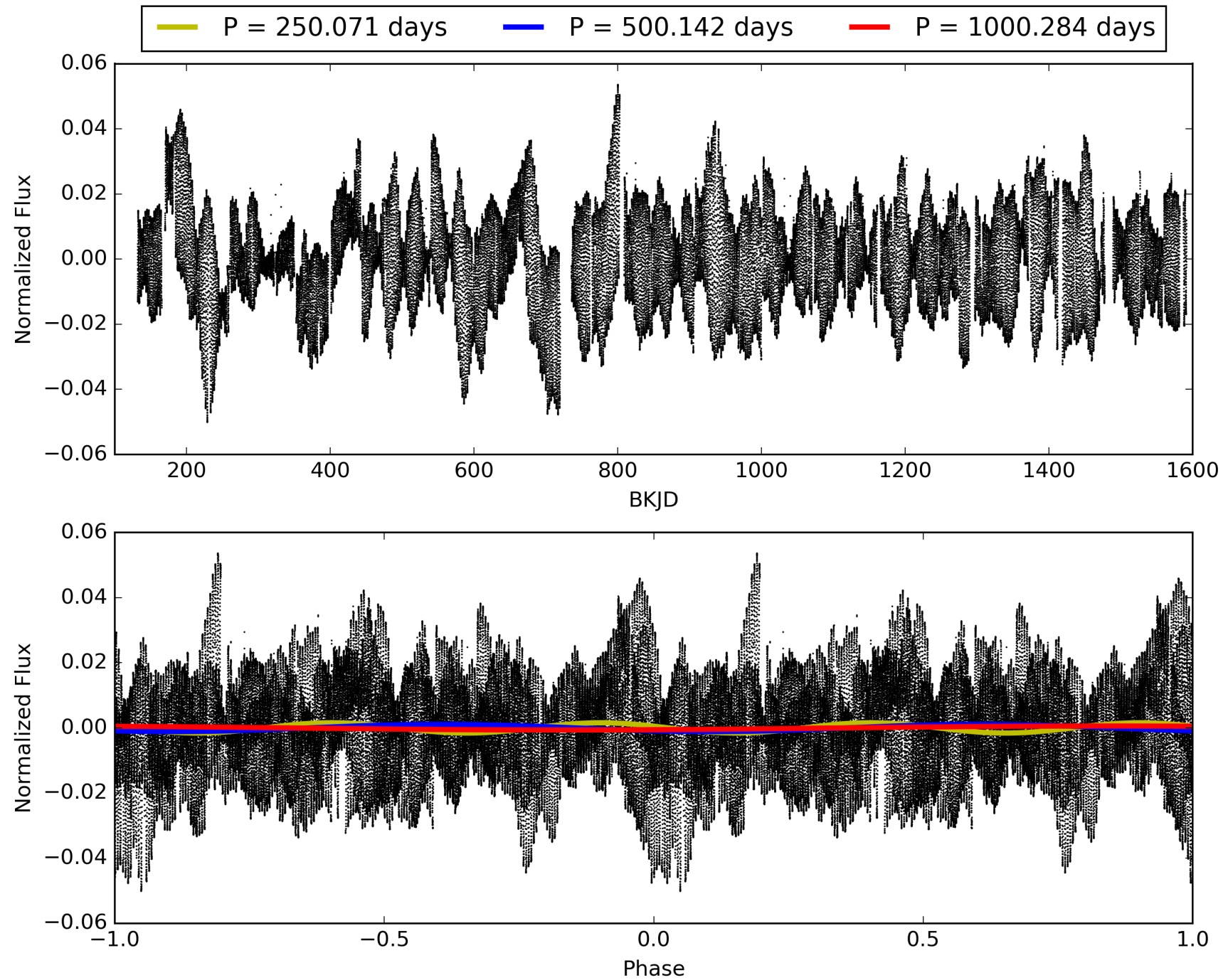
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:03:24 Z

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

TCE 008429170-02, PDC Light Curves

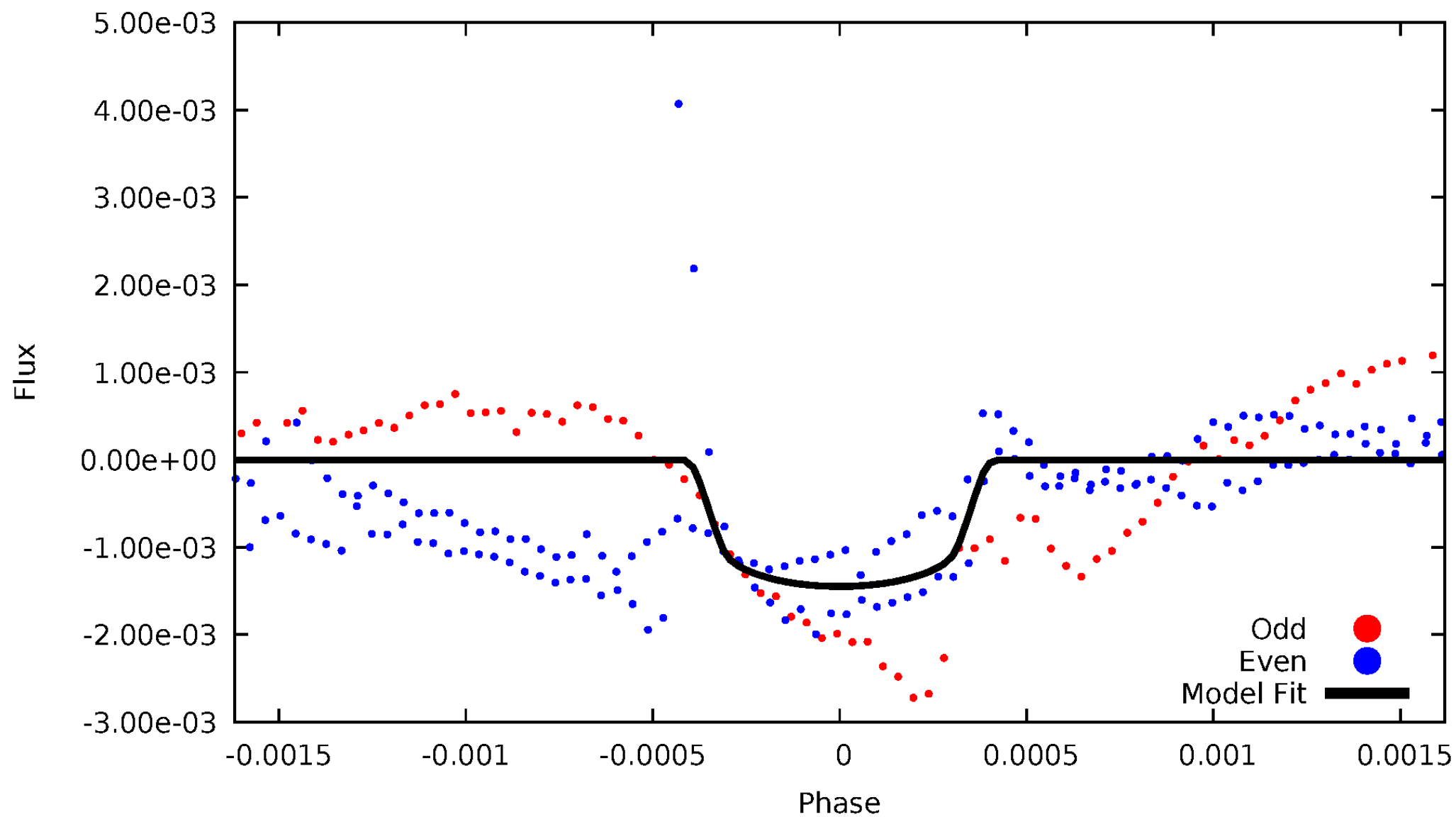


TCE 008429170-02



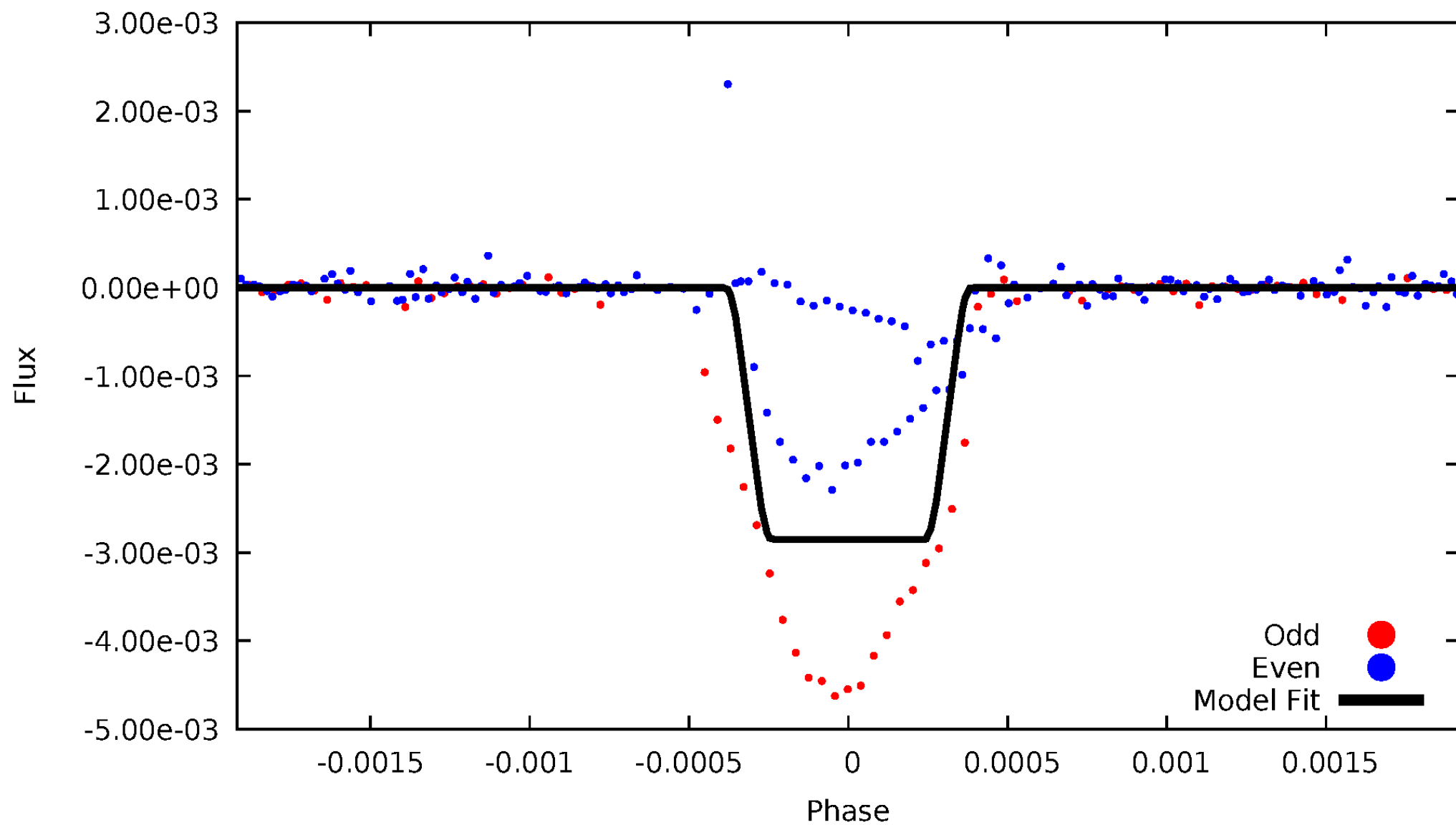
DV Odd/Even

TCE 008429170-02



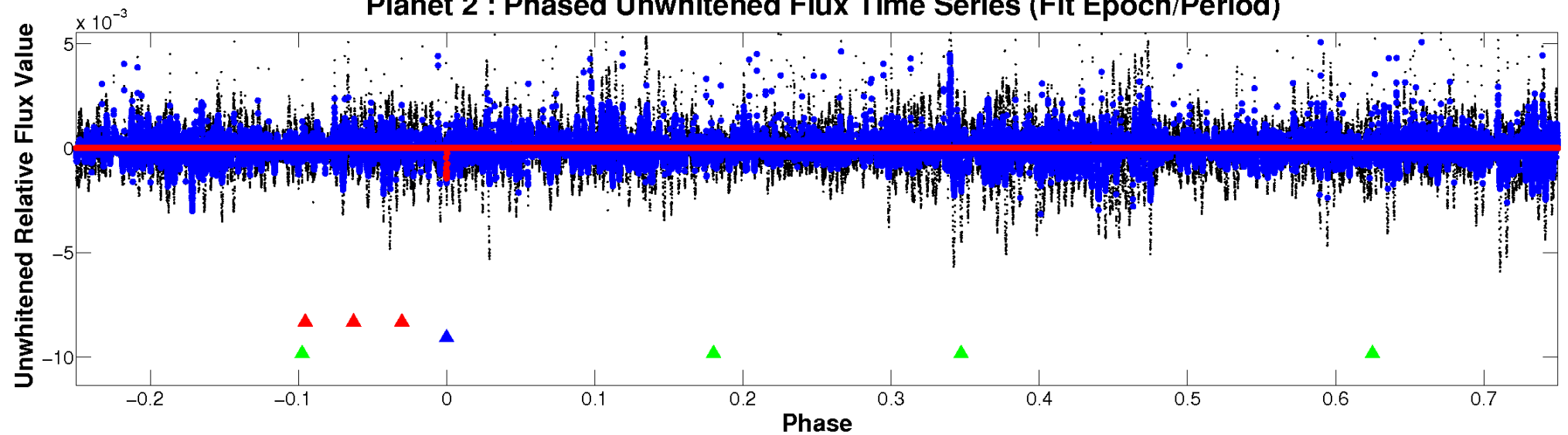
ALT Odd/Even

TCE 008429170-02

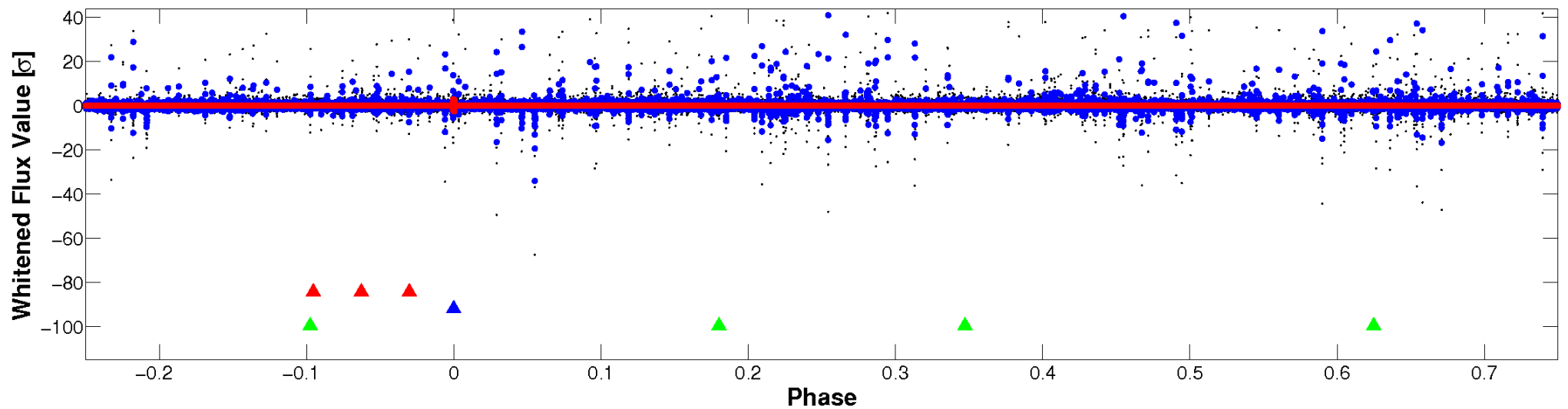


Non-Whitened Vs. Whitened Light Curve

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

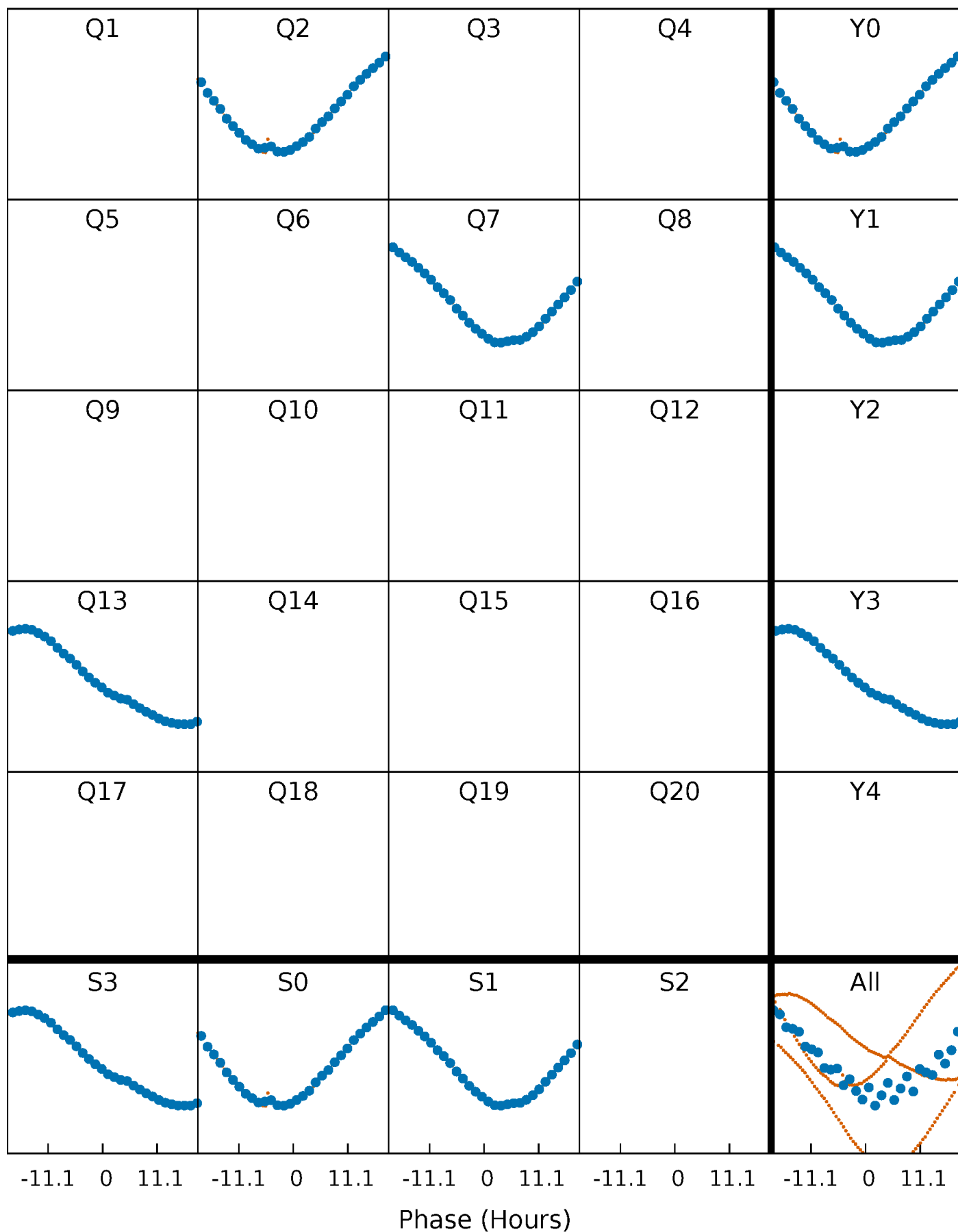


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



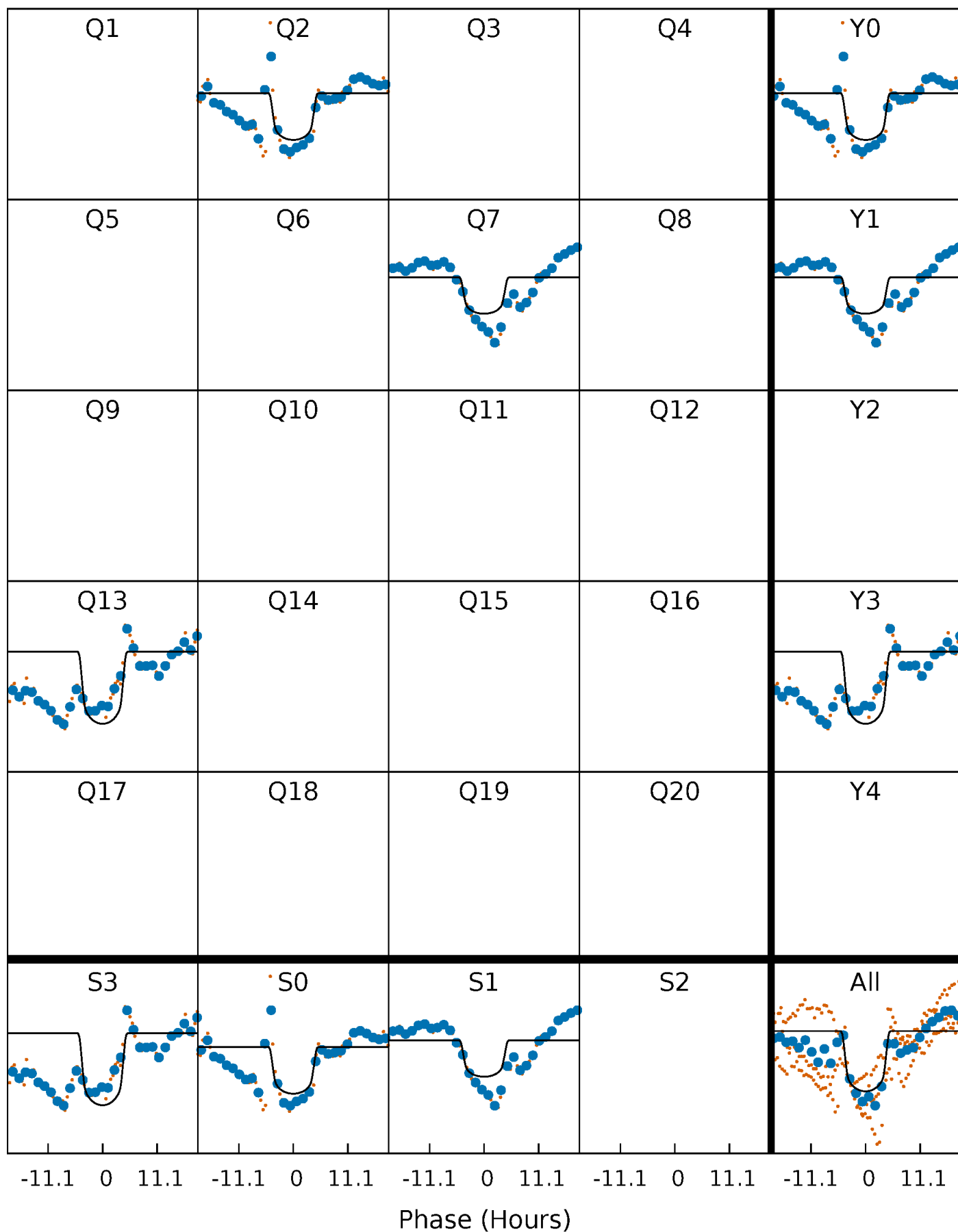
PDC Quarter-Phased Transit Curves

TCE 008429170-02 $P=500.141835$ Days $T_0=204.044395$ (BKJD)



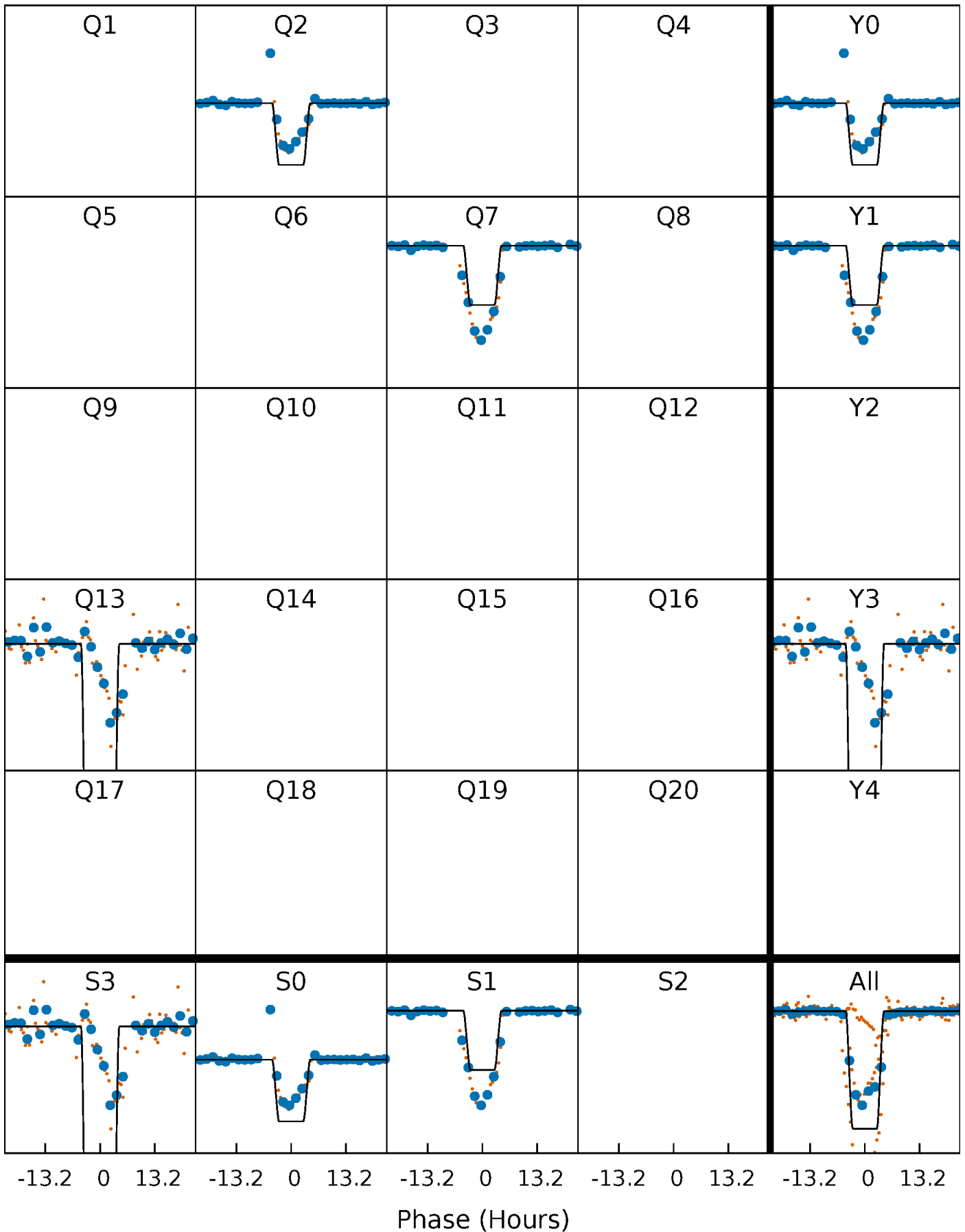
DV Quarter-Phased Transit Curves

TCE 008429170-02 P=500.141835 Days $T_0=204.044395$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

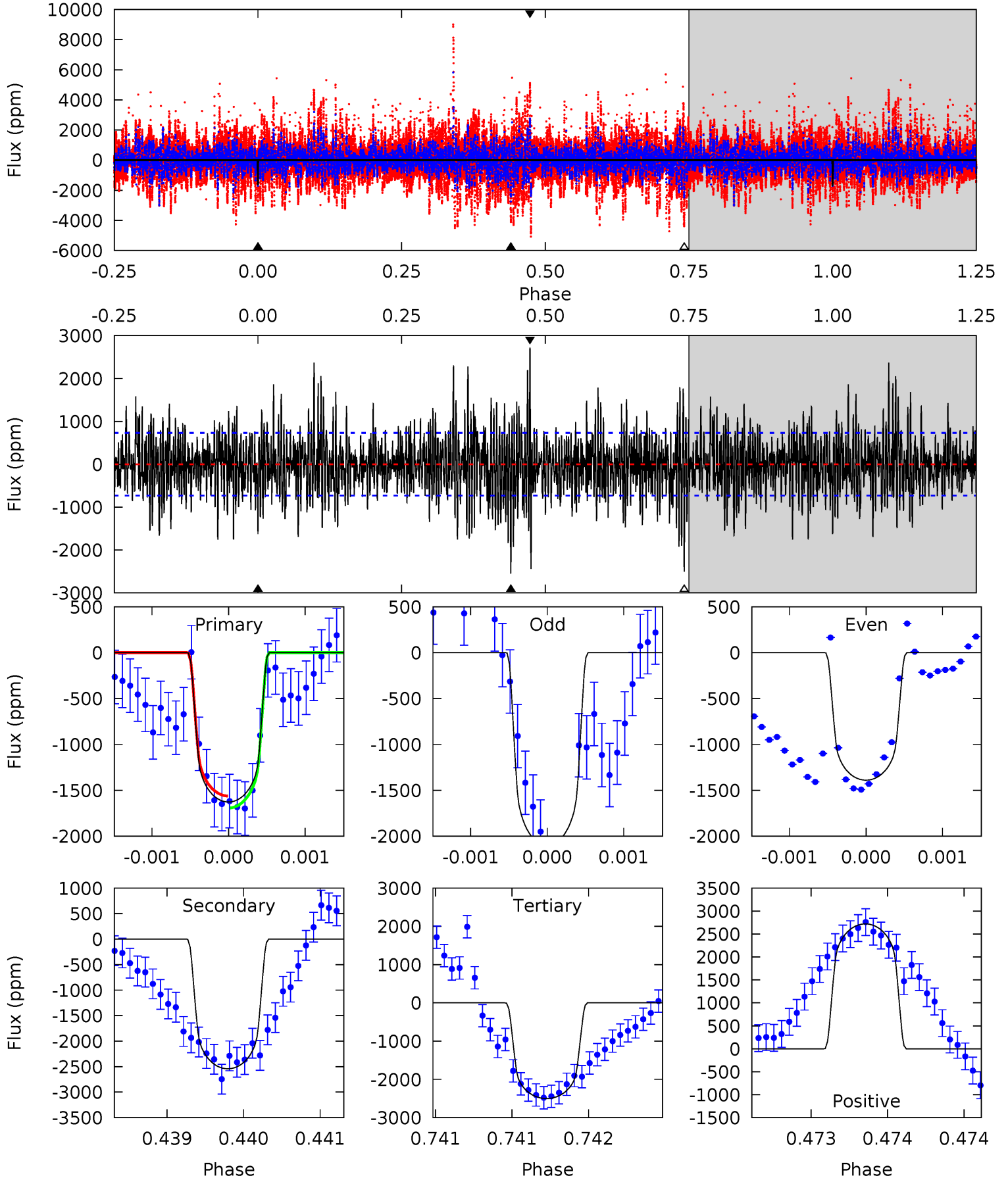
TCE 008429170-02 P=500.104570 Days $T_0=204.038169$ (BKJD)



DV Model-Shift Uniqueness Test

008429170-02, P = 500.141835 Days, E = 204.044395 Days

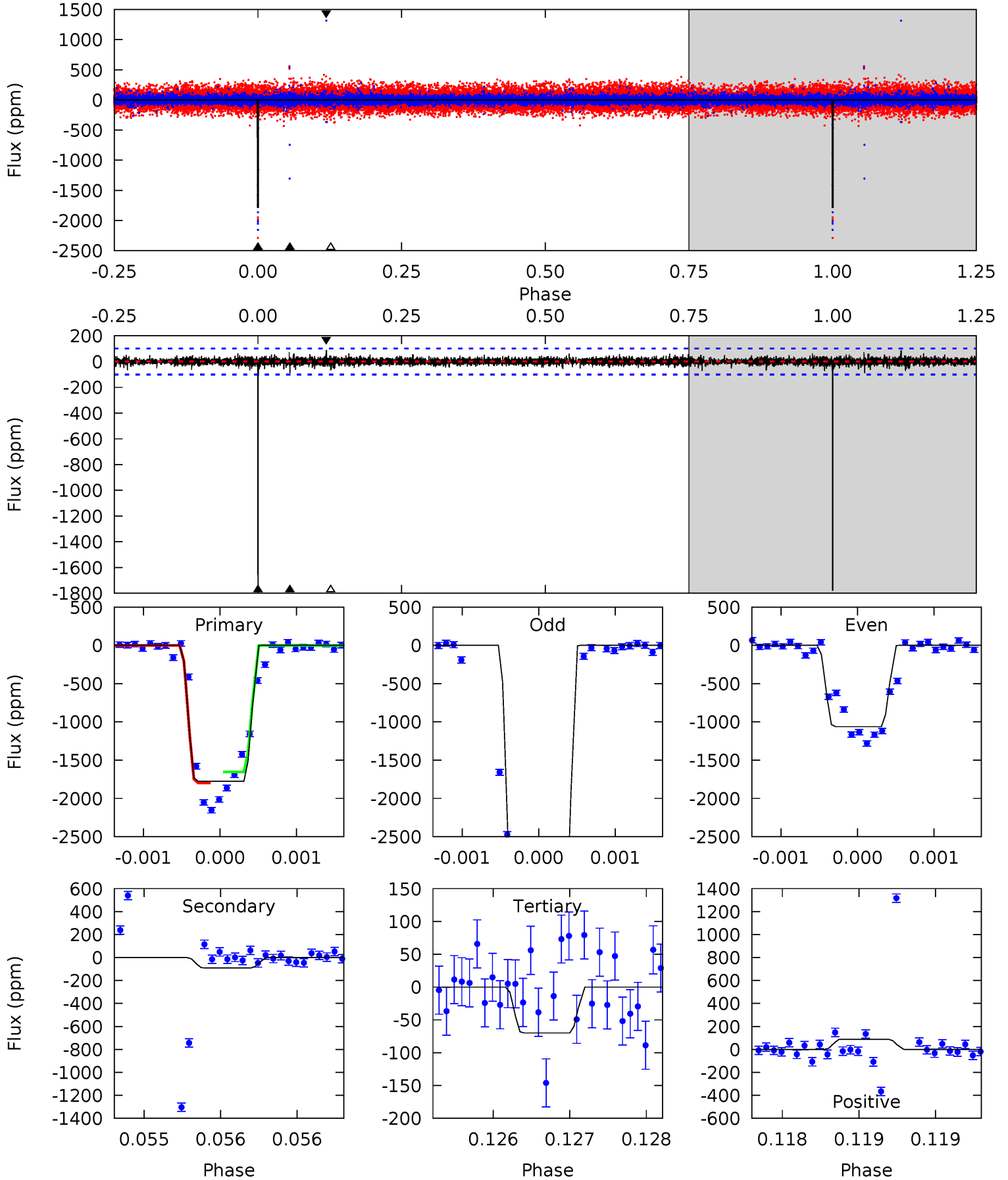
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	19.1	18.8	20.5	5.49	3.35	4.66	-6.57	-8.22	0.31	-1.34	2.46	0.97	0.52	0.49



Alt Model-Shift Uniqueness Test

008429170-02, P = 500.104570 Days, E = 204.038169 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
96.8	4.92	3.81	4.81	5.50	3.37	0.73	93.0	92.0	1.11	0.11	120.9	1.14	0.05	0



Stellar Parameters For KIC 008429170

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5951^{+190}_{-211}	$4.390^{+0.087}_{-0.203}$	$0.100^{+0.200}_{-0.300}$	$1.094^{+0.325}_{-0.150}$	$1.070^{+0.136}_{-0.136}$	$1.152^{+0.458}_{-0.597}$
	+3%/-4%	+2%/-5%	+200%/-300%	+30%/-14%	+13%/-13%	+40%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008429170-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2542 ± 133	$4.80^{+0.82}_{-0.55}$	346^{+25}_{-20}	6737^{+371}_{-340}	95188^{+24560}_{-25037}
Alt.	-90 ± 18	$6.54^{+0.98}_{-0.74}$	346^{+26}_{-18}	3126^{+116}_{-128}	1794^{+616}_{-507}

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 $A_{obs} \gg 1.0$

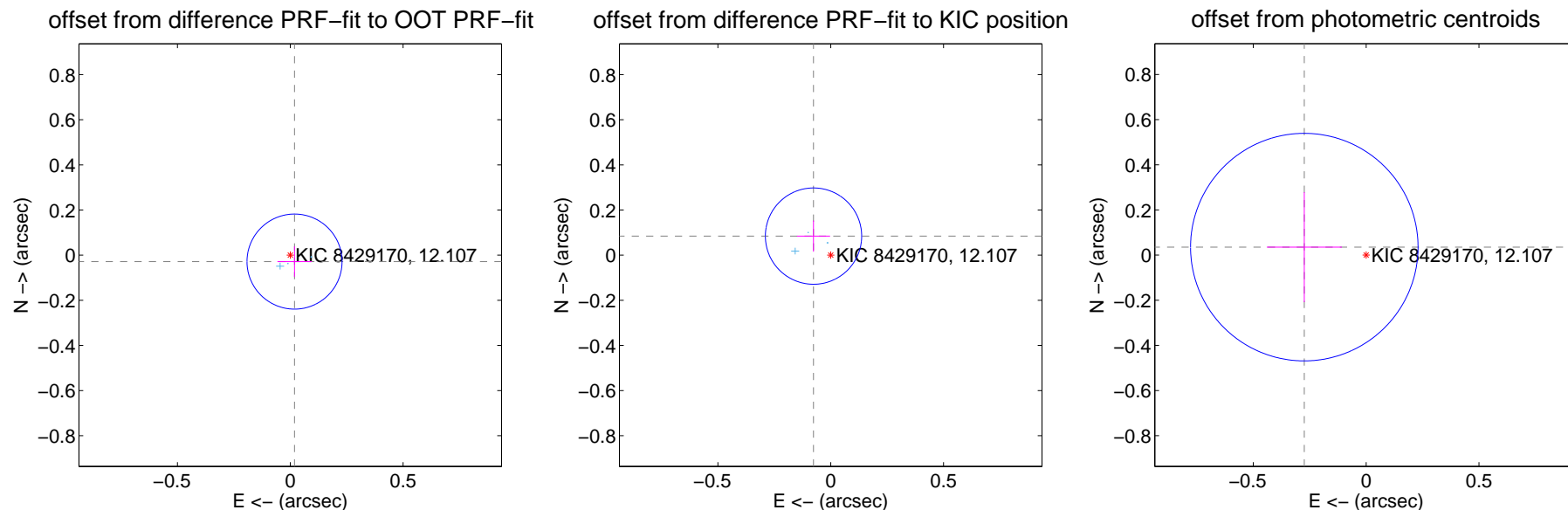
DV Centroid Data

Supplemental centroid analysis for 008429170-02. Kepler magnitude: 12.11. Transit SNR 11.19

There are 3 quarters with good PRF difference image offsets

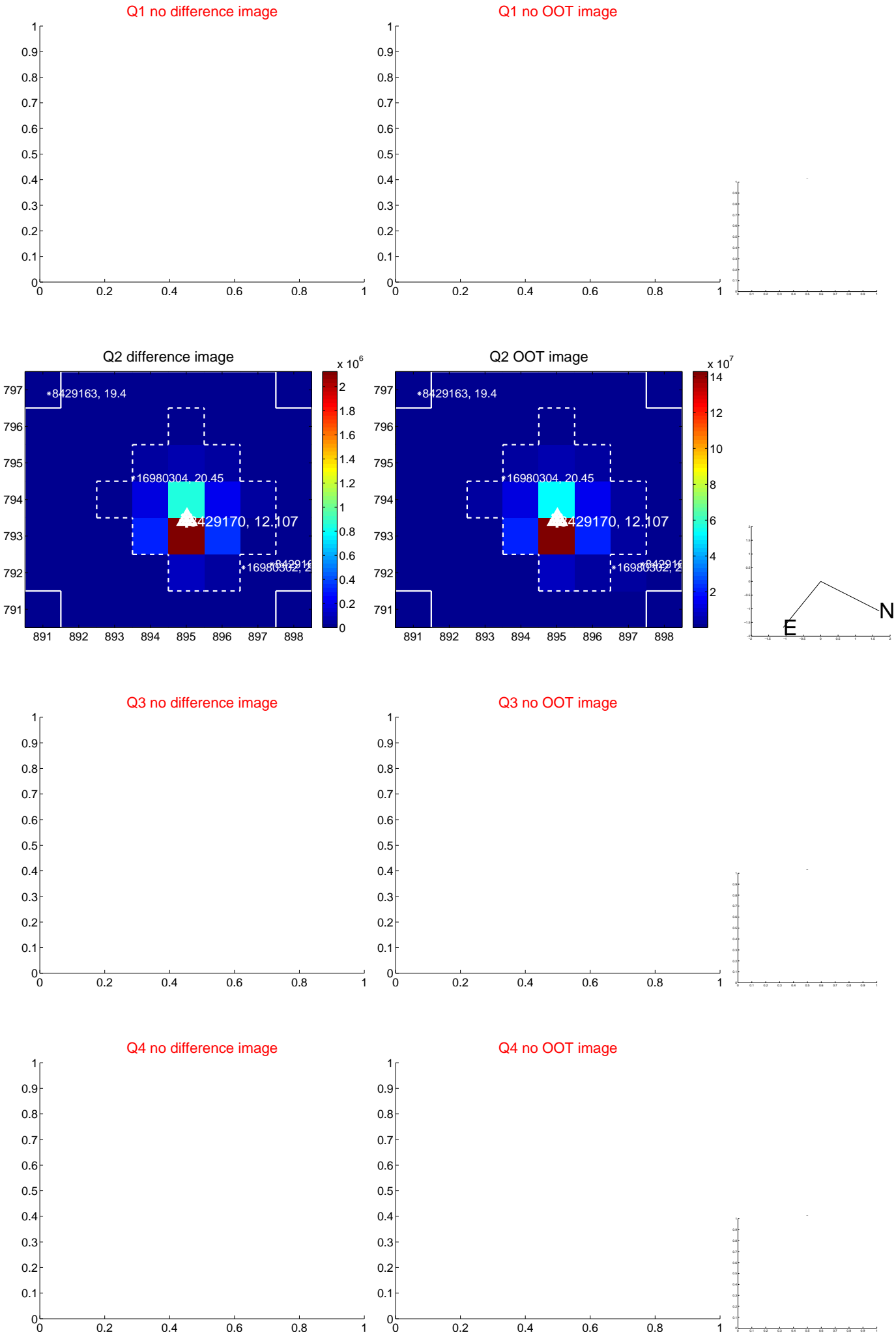
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.034 ± 0.070	0.49	-0.019 ± 0.076	-0.029 ± 0.068
PRF-fit source offset from KIC position	0.114 ± 0.071	1.60	0.076 ± 0.073	0.084 ± 0.069
photometric centroid source offset	0.28 ± 0.17	1.64	0.27 ± 0.17	0.04 ± 0.24



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.

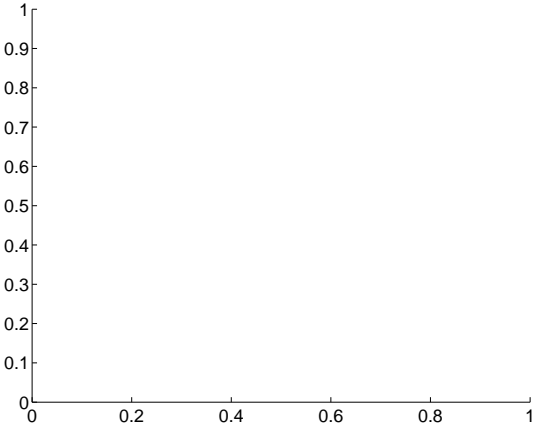
Q5 no difference image



Q5 no OOT image



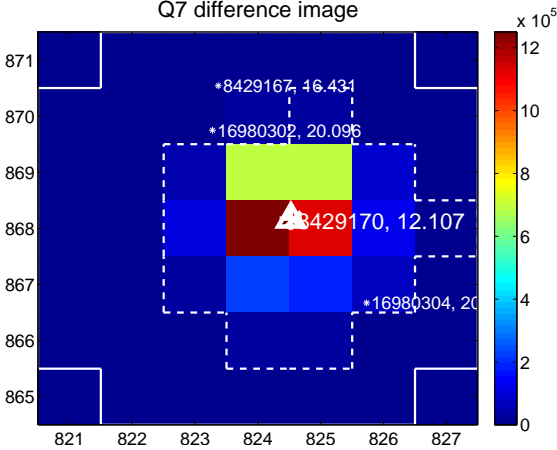
Q6 no difference image



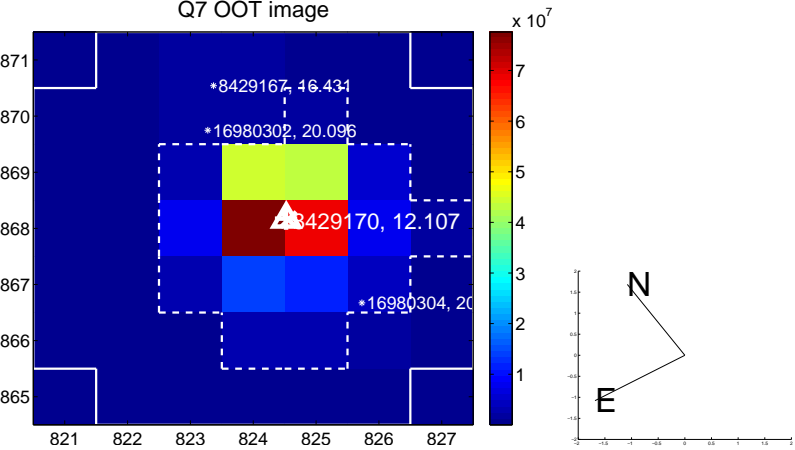
Q6 no OOT image



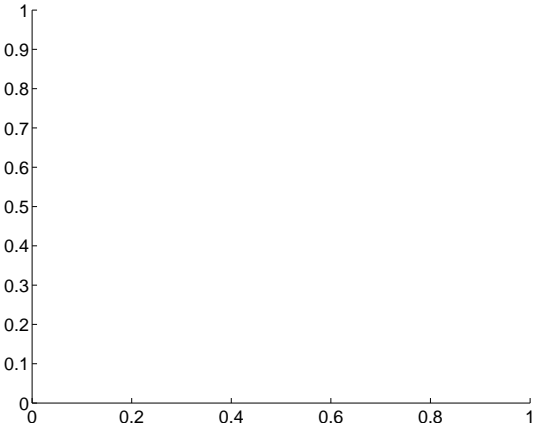
Q7 difference image



Q7 OOT image



Q8 no difference image



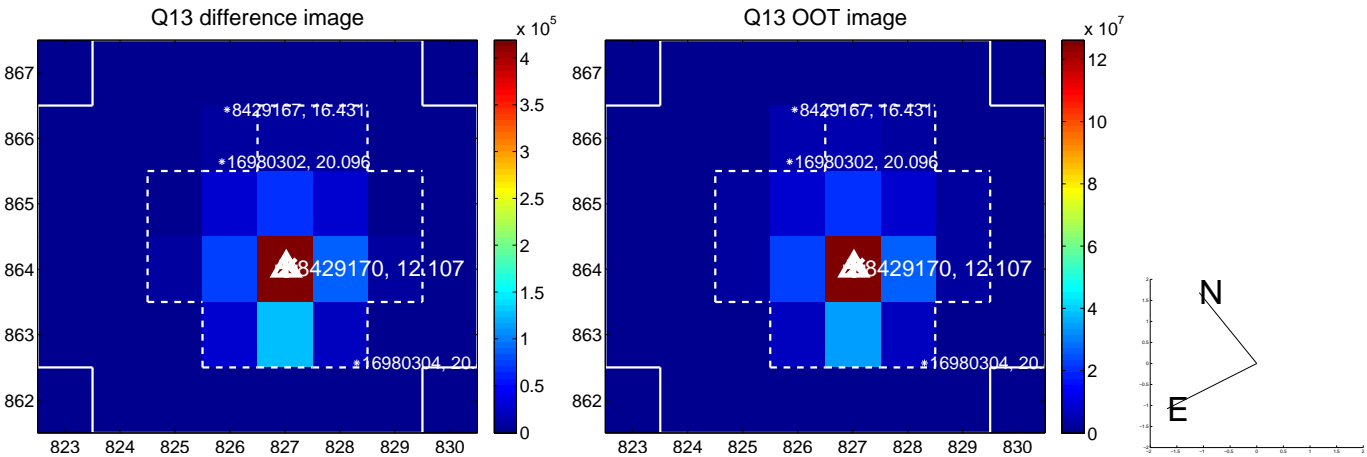
Q8 no OOT image



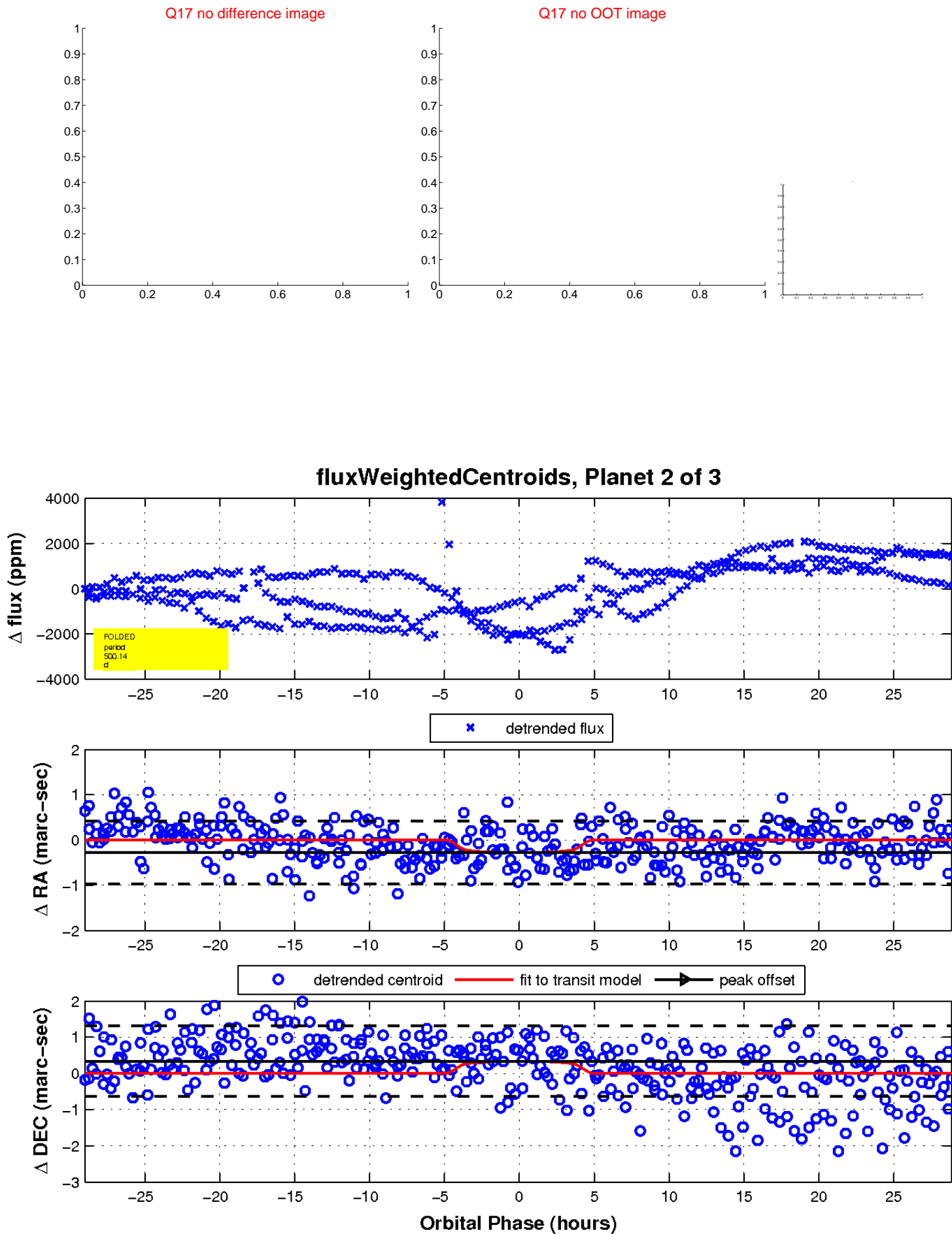
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

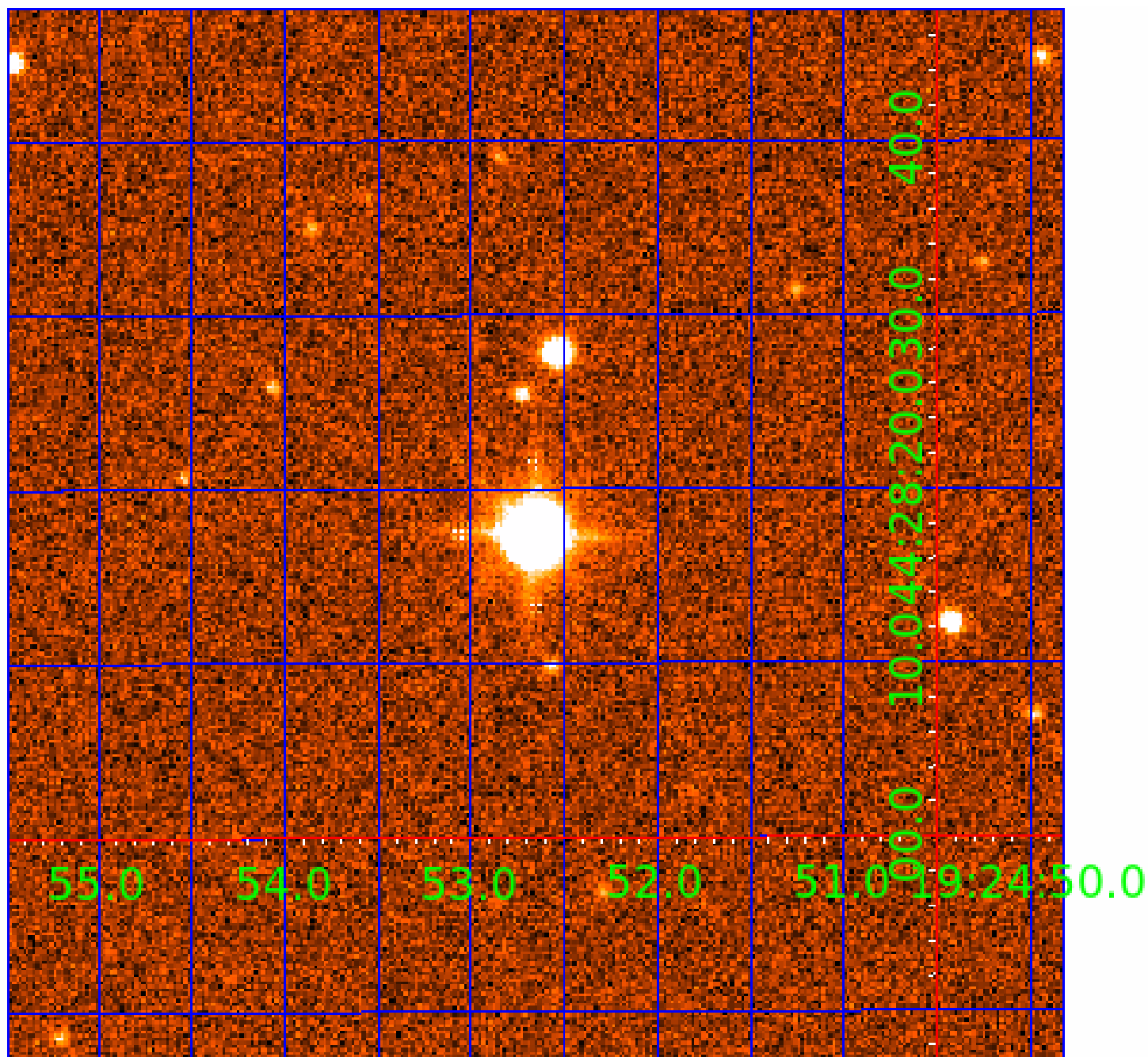


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008429170

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})
008429170-01	OBS	No	516.457635	156.337352	476.0	5.113	13.0	5.0	1.09	5951	2.48	0.81
008429170-02	OBS	No	500.141835	204.044395	1448.3	9.711	12.0	11.2	1.09	5951	4.73	0.84
008429170-03	OBS	No	361.284038	294.143502	330.8	1.827	14.2	5.3	1.09	5951	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008429170-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008429170-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008429170-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

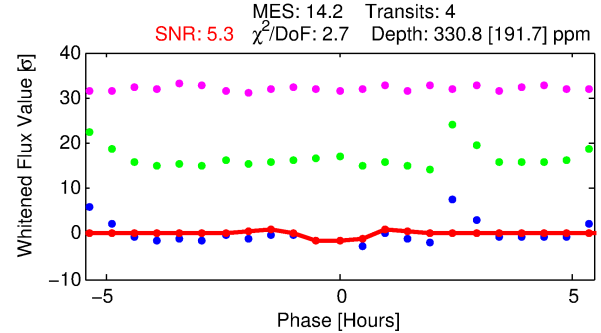
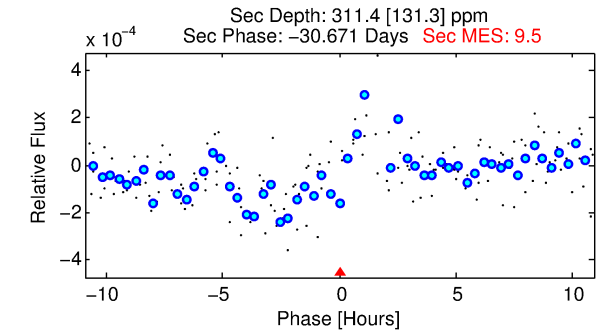
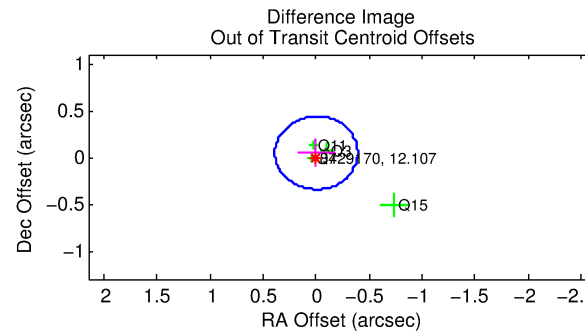
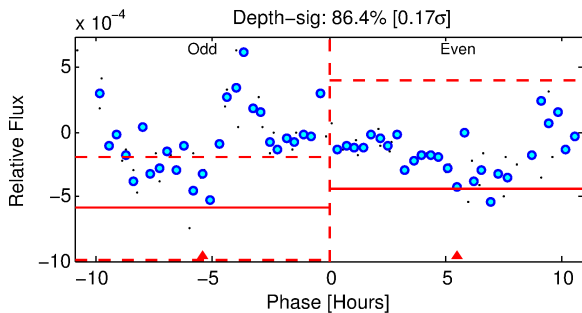
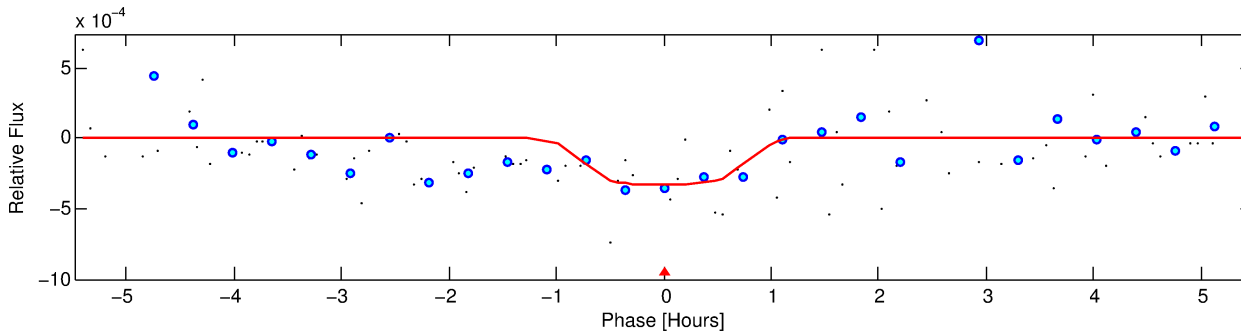
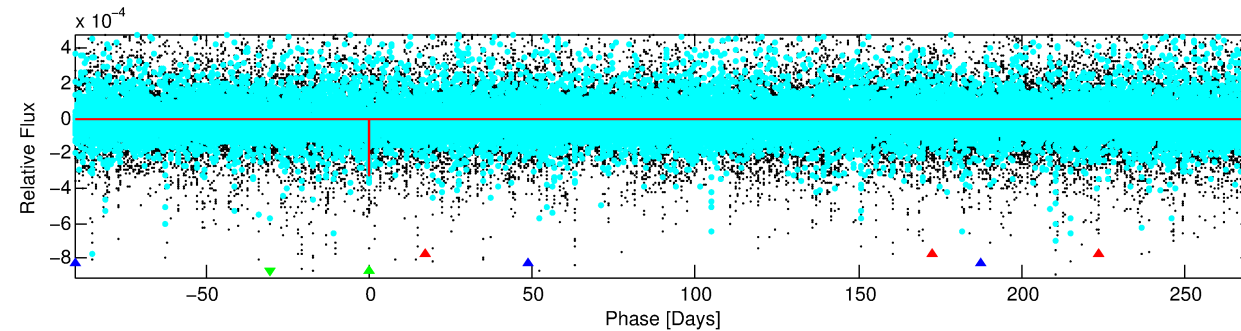
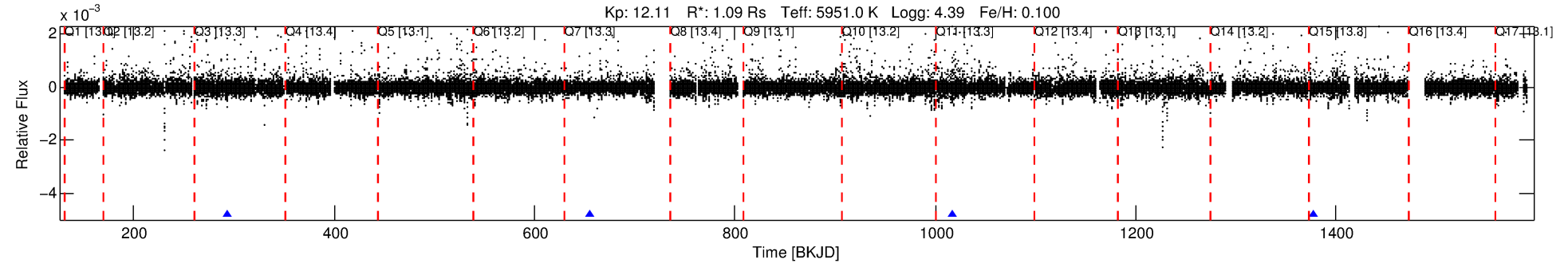
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008429170-03

No Significant Match Found

DV One-Page Summary

KIC: 8429170 Candidate: 3 of 3 Period: 361.284 d



DV Fit Results:

Period = 361.28404 [0.00786] d
Epoch = 294.1435 [0.0175] BKJD
Rp/R* = 0.0199 [0.0371]
a/R* = 703.26 [6207.84]
b = 0.91 [1.74]
Seff = 1.30 [0.52]
Teq = 272 [27] K
Rp = 2.38 [4.49] Re
a = 1.0161 [0.2561] AU
Ag = 31197.45 [117397.43] [0.27 σ]
Teffp = 5598 [5244] K [1.02 σ]

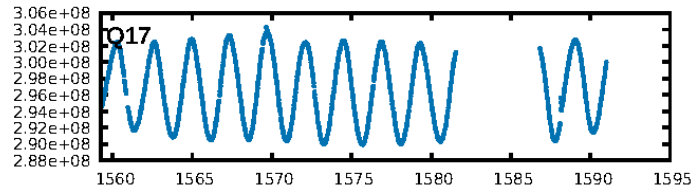
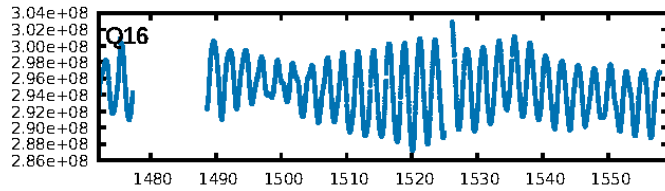
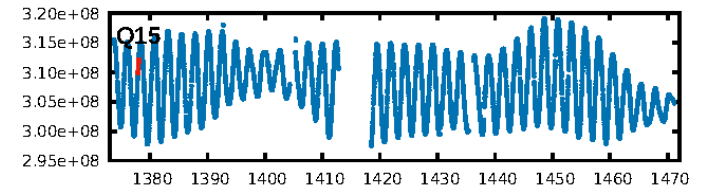
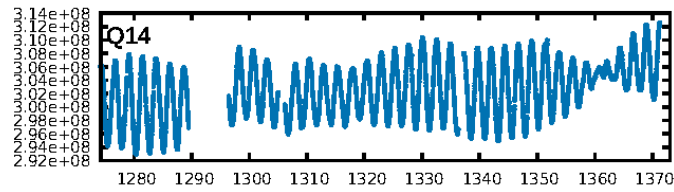
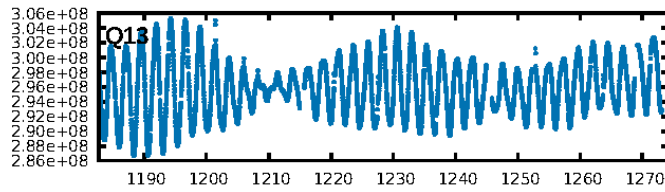
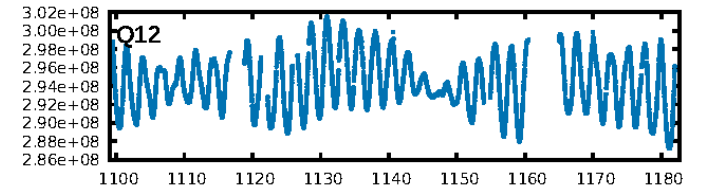
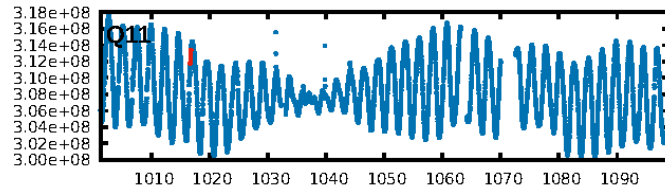
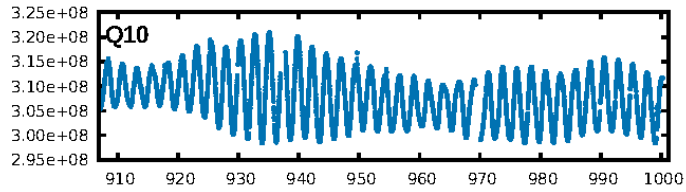
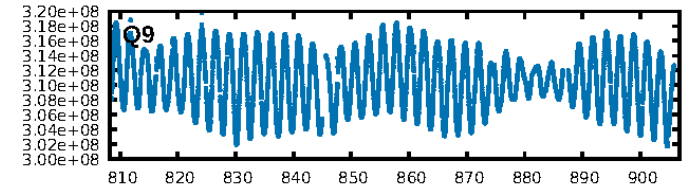
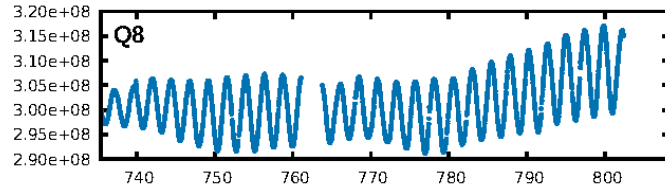
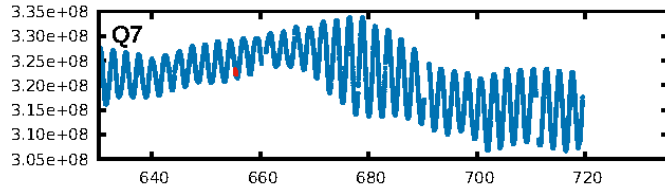
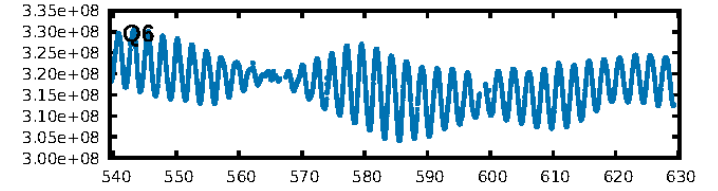
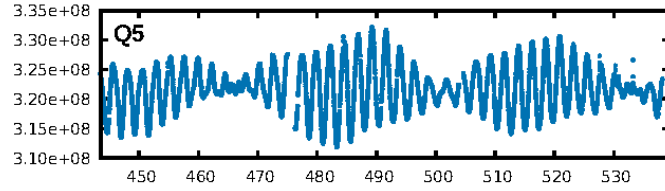
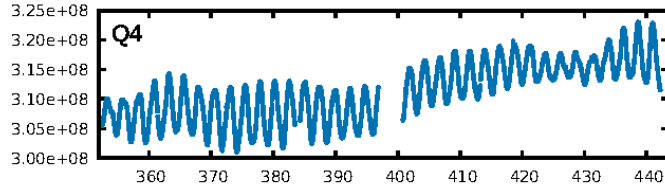
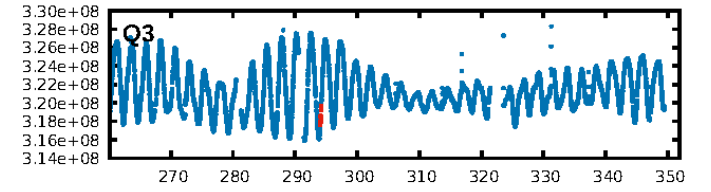
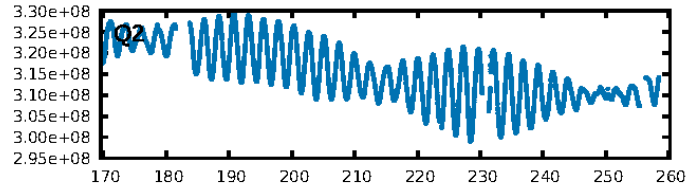
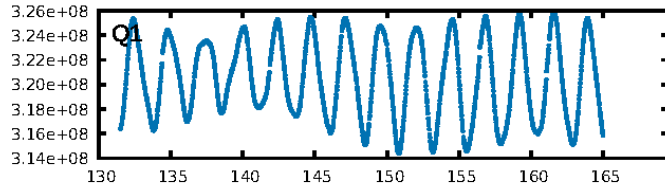
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [337.25 σ]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 4.3%
Bootstrap-pfa: 5.65e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.148
Centroid-sig: 30.0%
Centroid-so: 0.813 arcsec [0.78 σ]
OotOffset-rm: 0.048 arcsec [0.37 σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-rm: 0.163 arcsec [0.99 σ]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

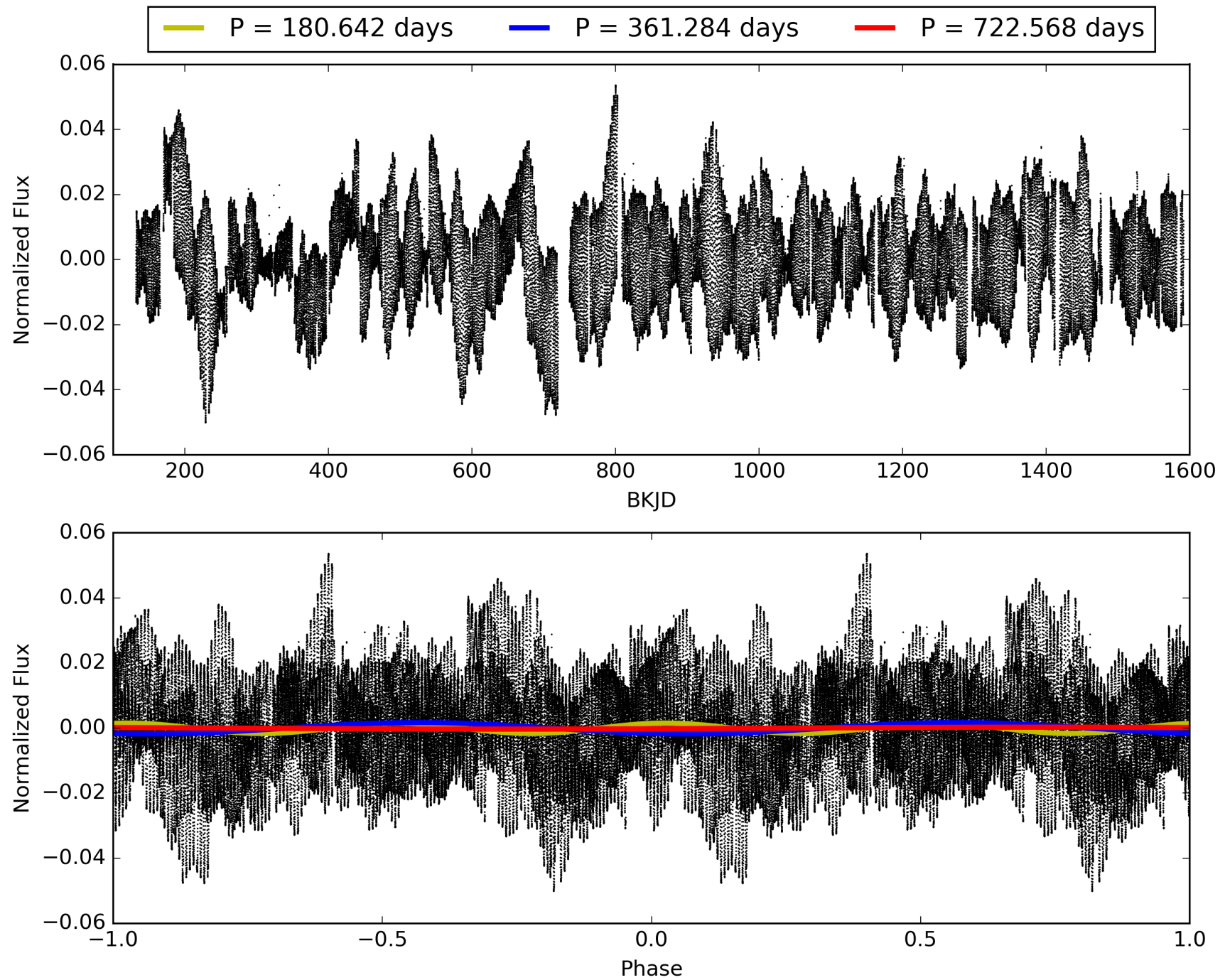
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:03:50 Z

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

TCE 008429170-03, PDC Light Curves

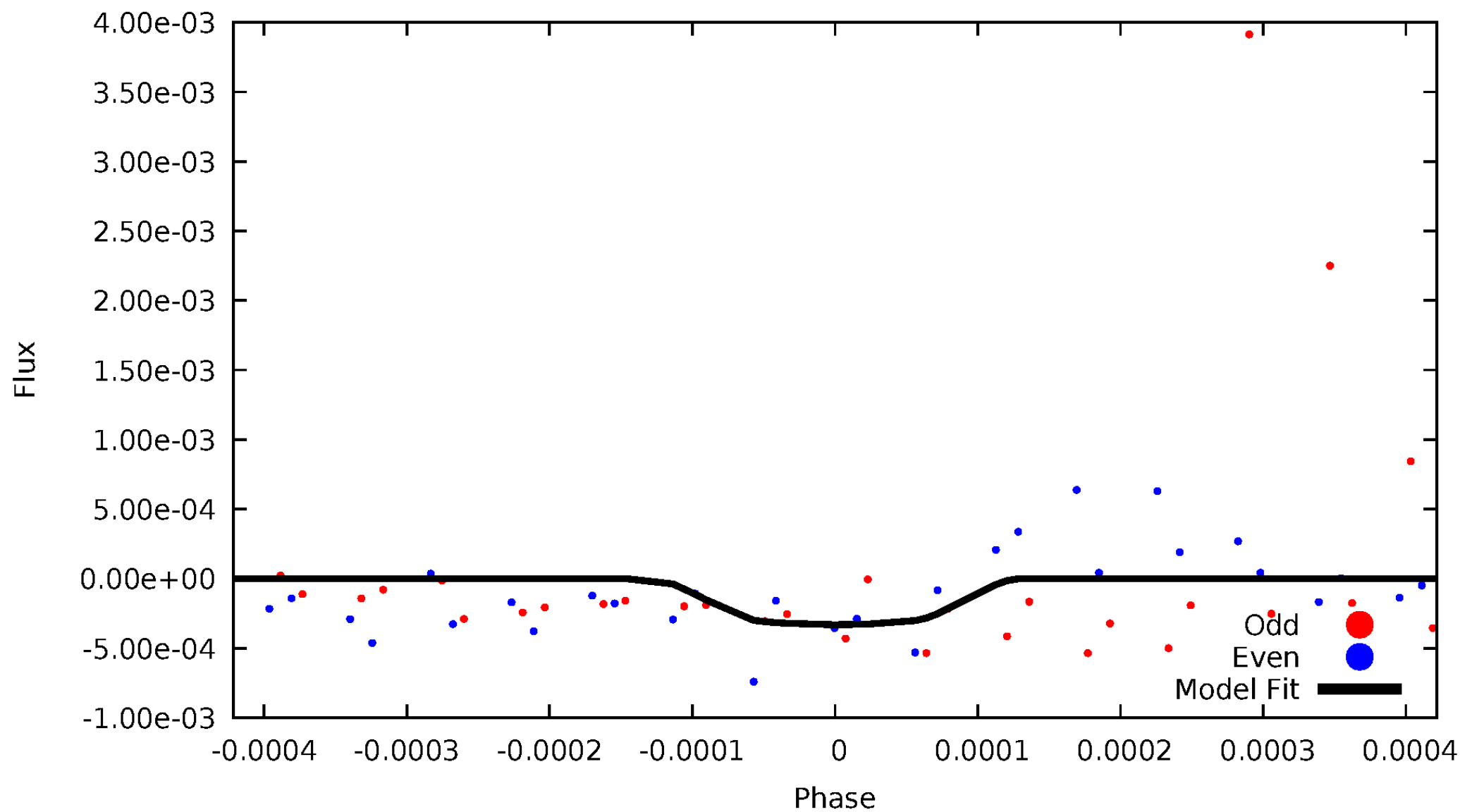


TCE 008429170-03



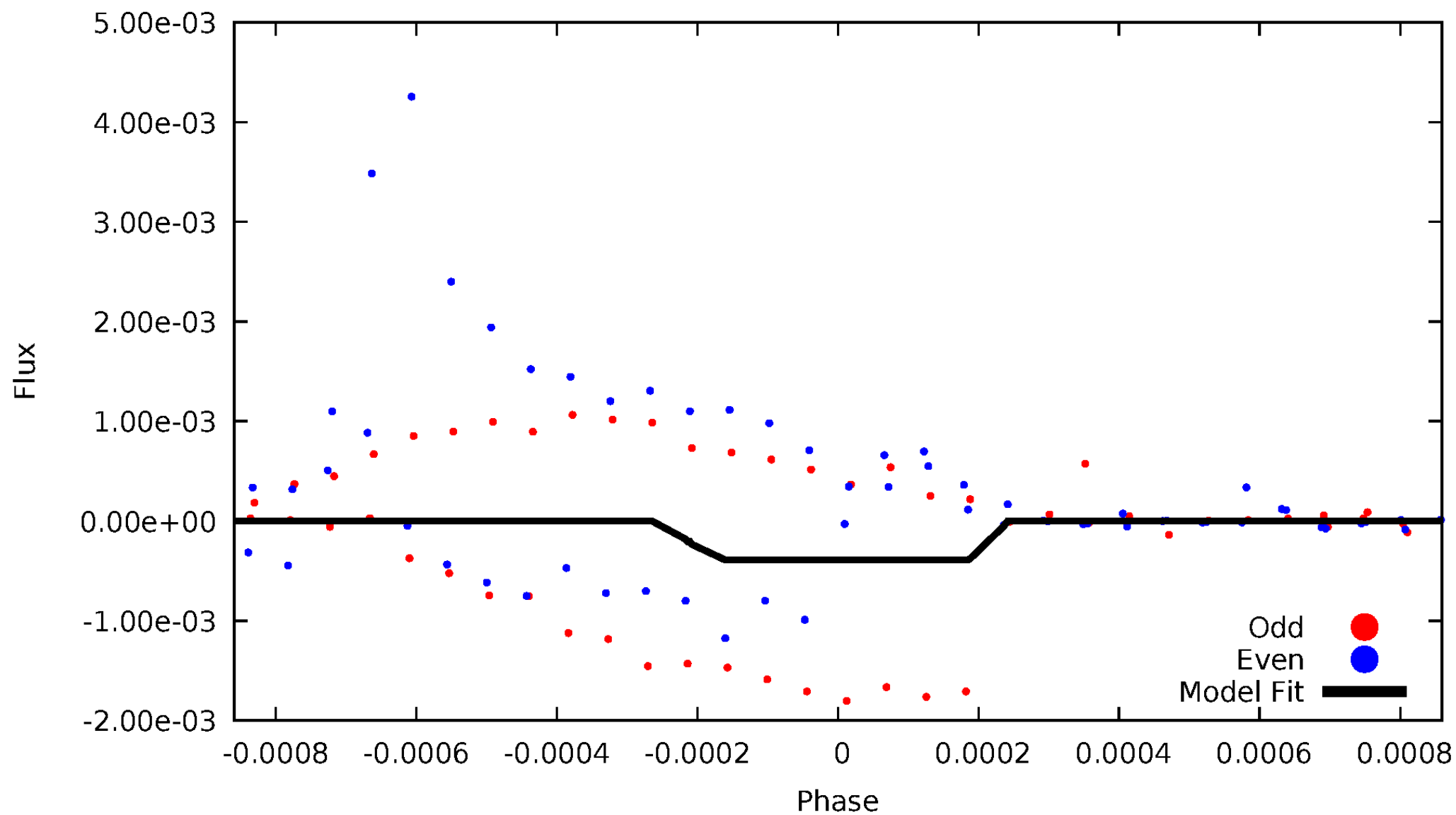
DV Odd/Even

TCE 008429170-03



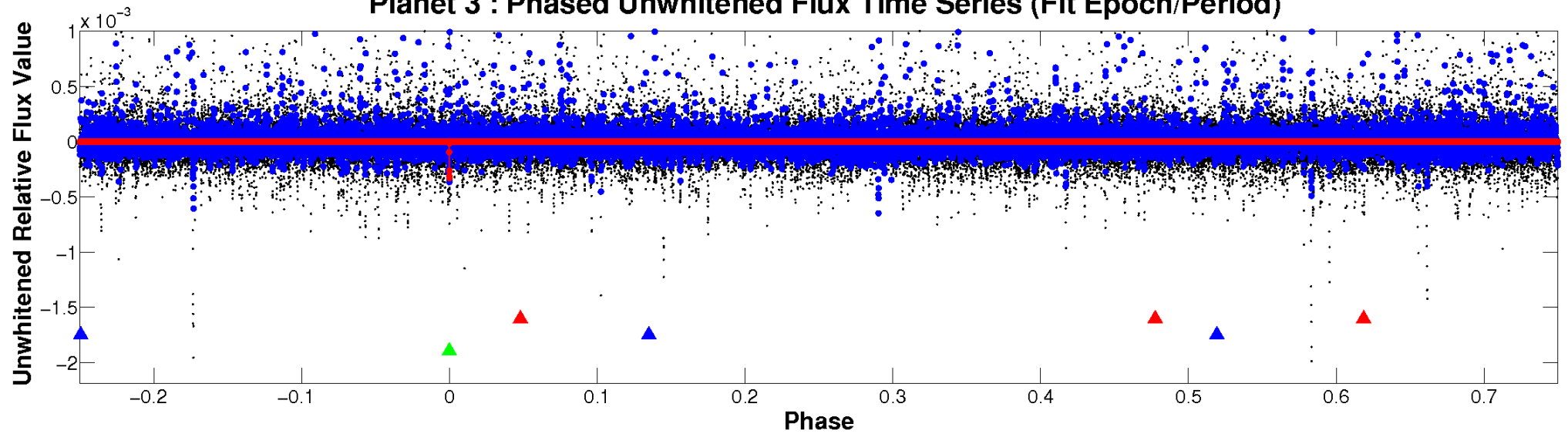
ALT Odd/Even

TCE 008429170-03

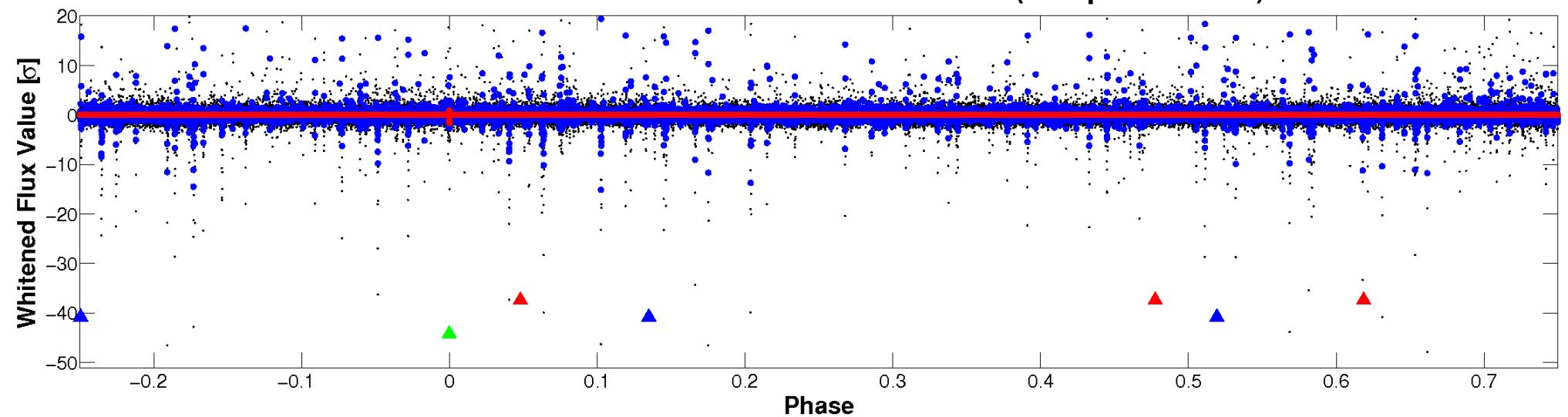


Non-Whitened Vs. Whitened Light Curve

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

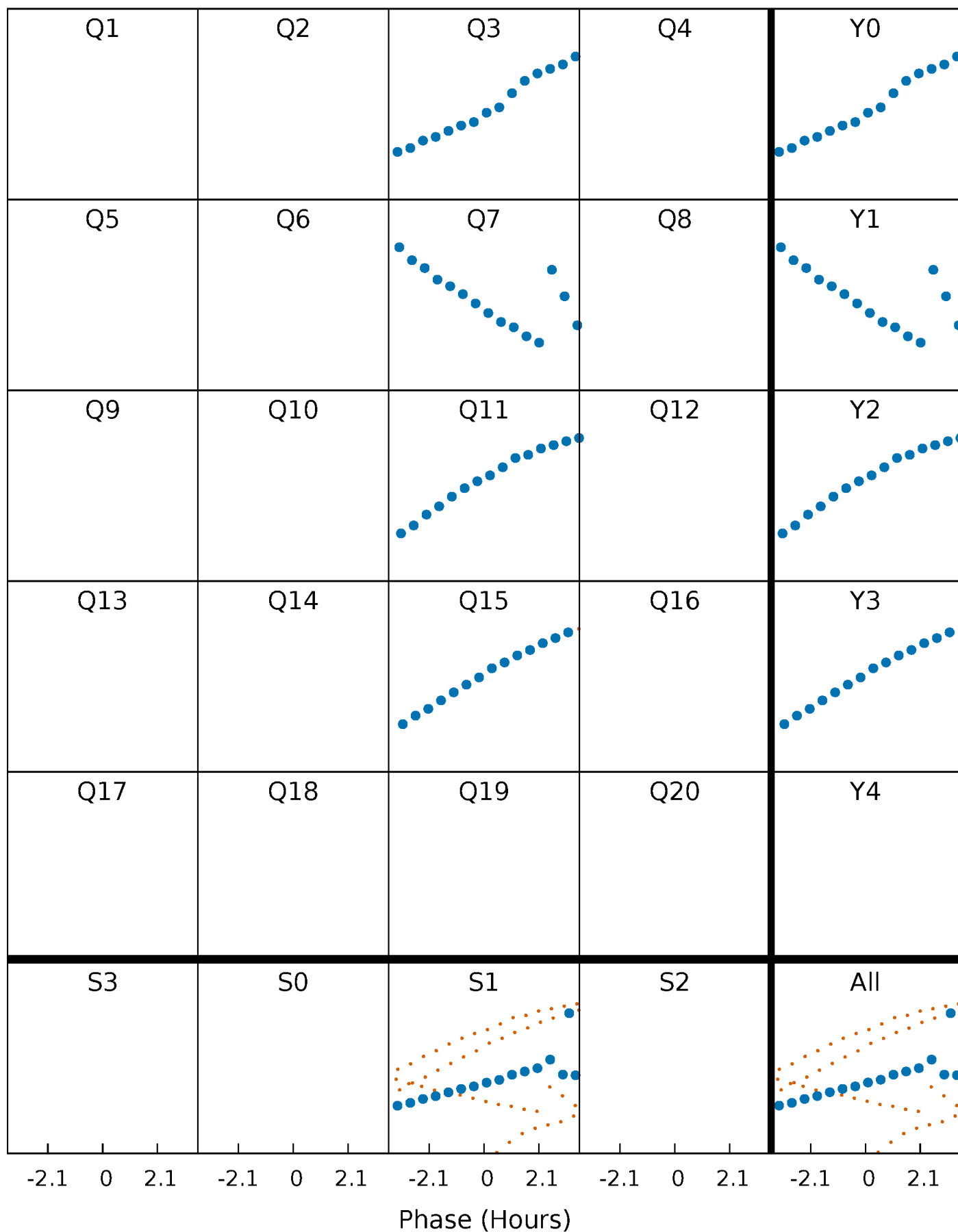


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



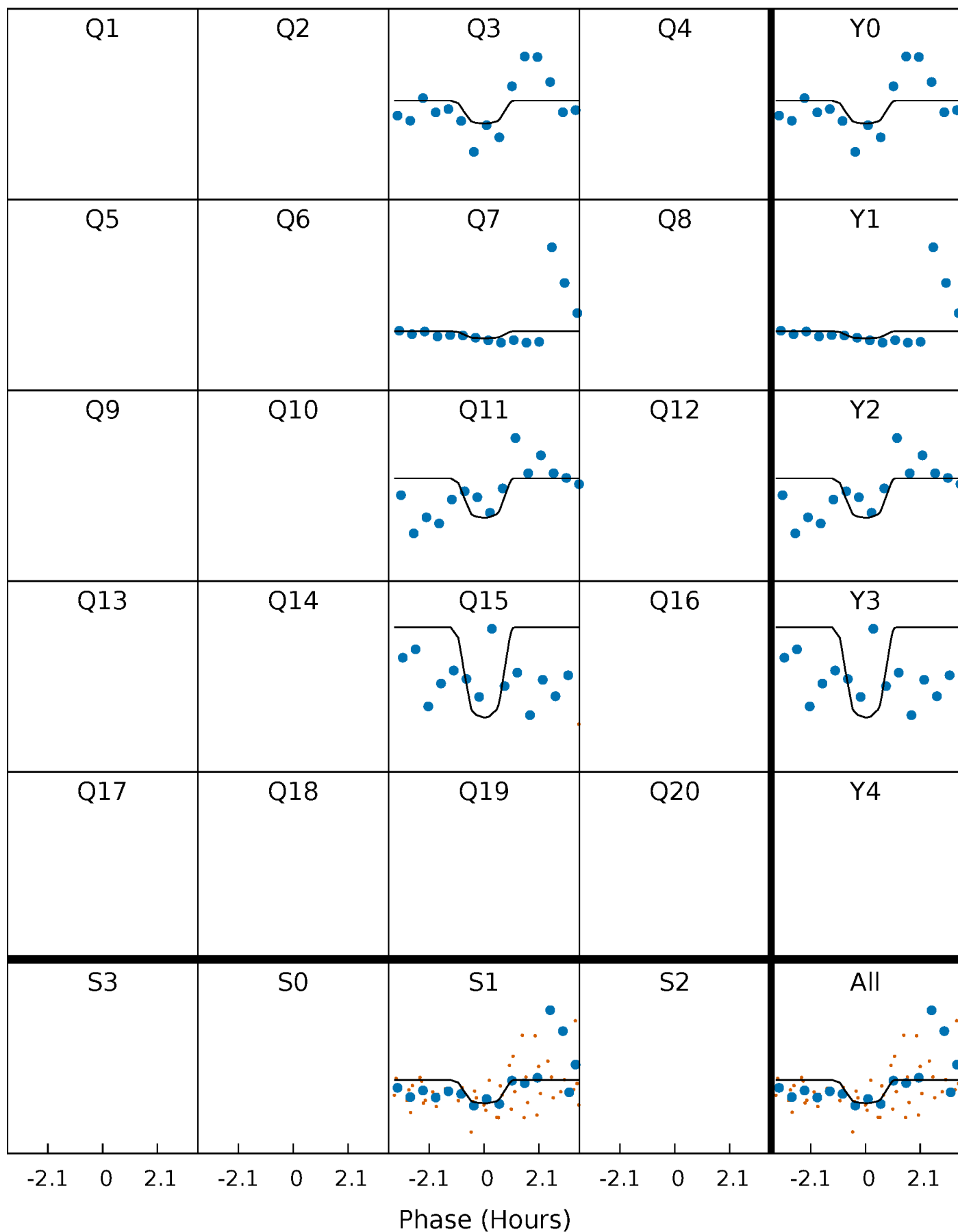
PDC Quarter-Phased Transit Curves

TCE 008429170-03 $P=361.284038$ Days $T_0=294.143502$ (BKJD)



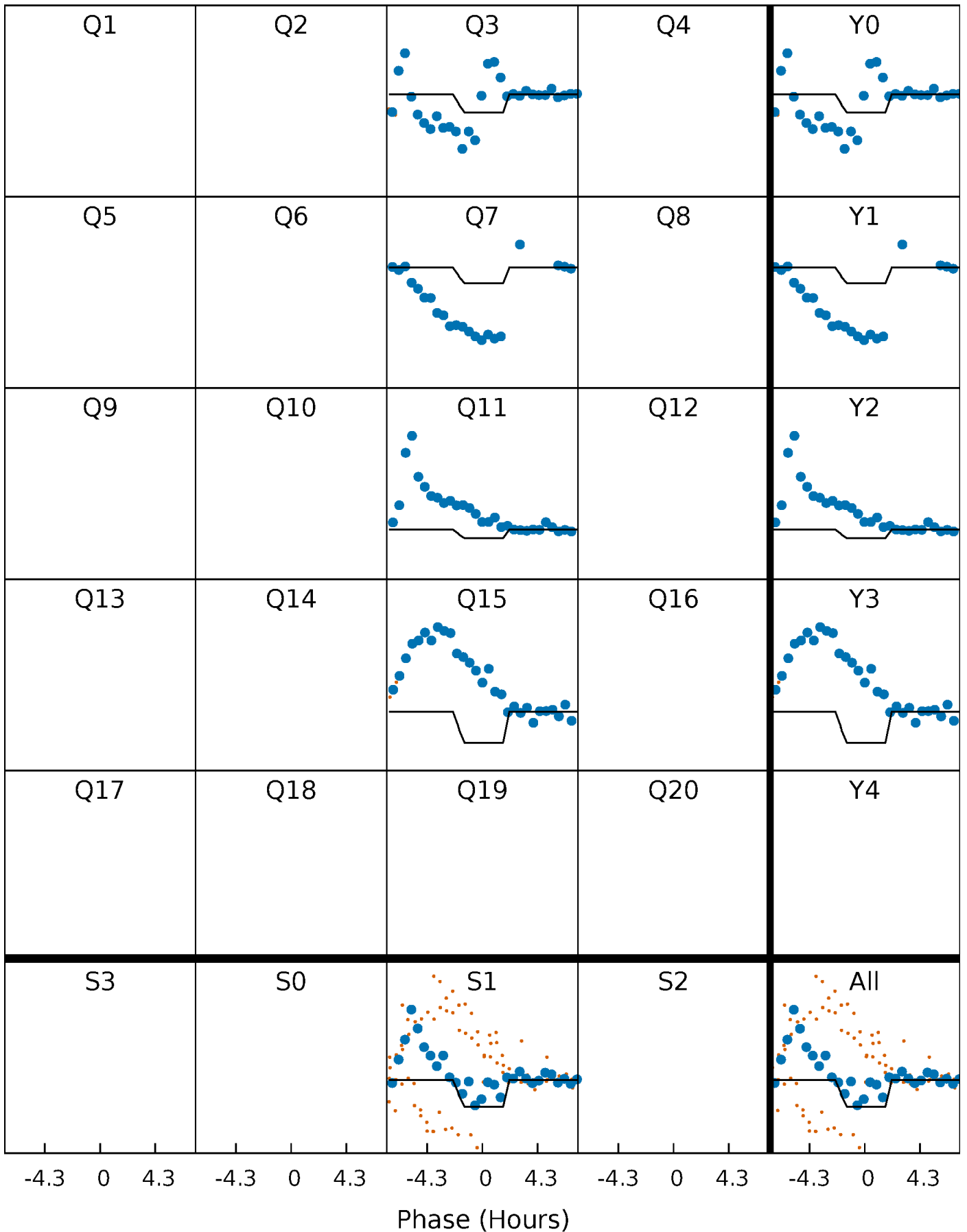
DV Quarter-Phased Transit Curves

TCE 008429170-03 $P=361.284038$ Days $T_0=294.143502$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

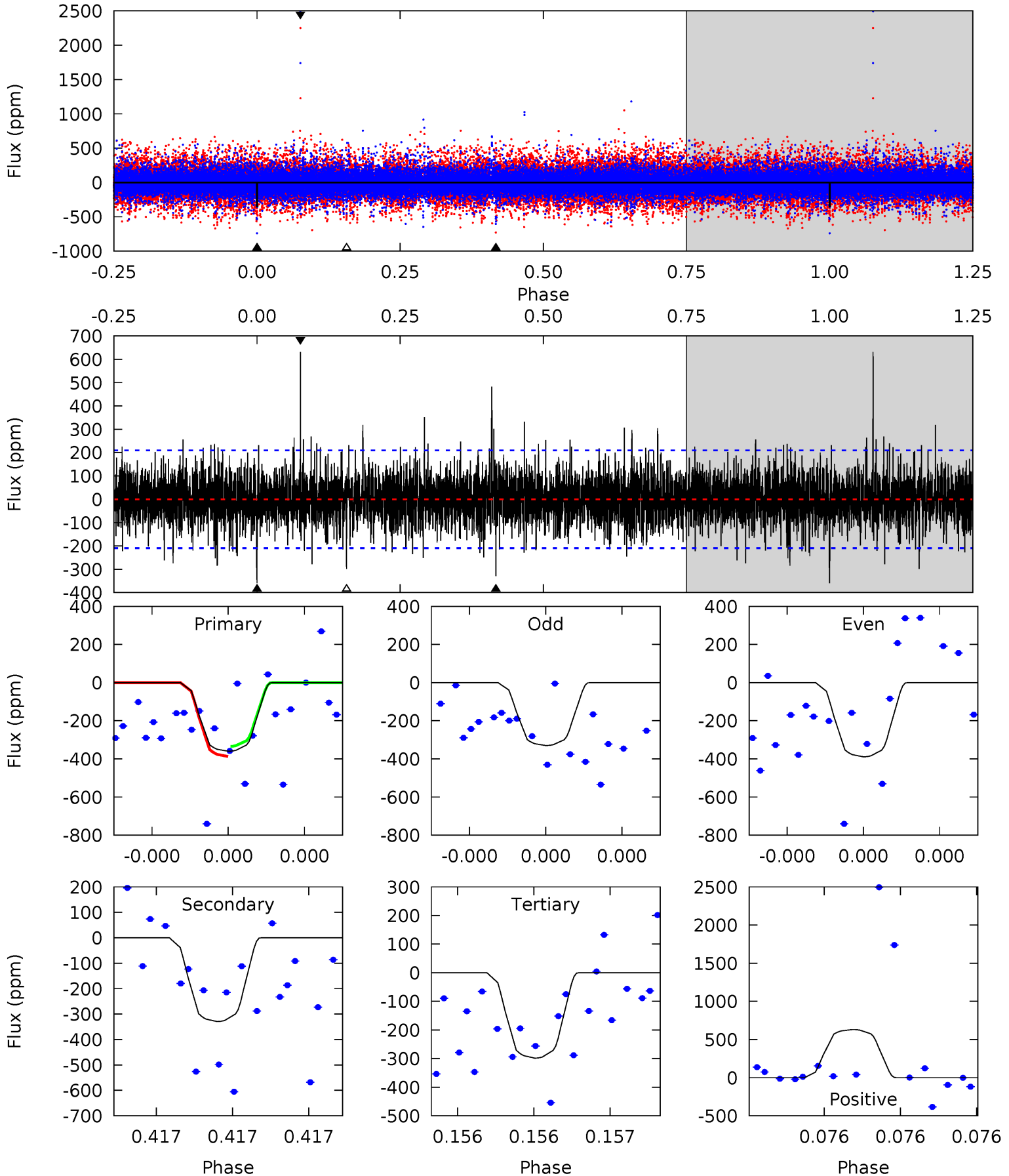
TCE 008429170-03 $P=361.265341$ Days $T_0=294.180825$ (BKJD)



DV Model-Shift Uniqueness Test

008429170-03, P = 361.284038 Days, E = 294.143502 Days

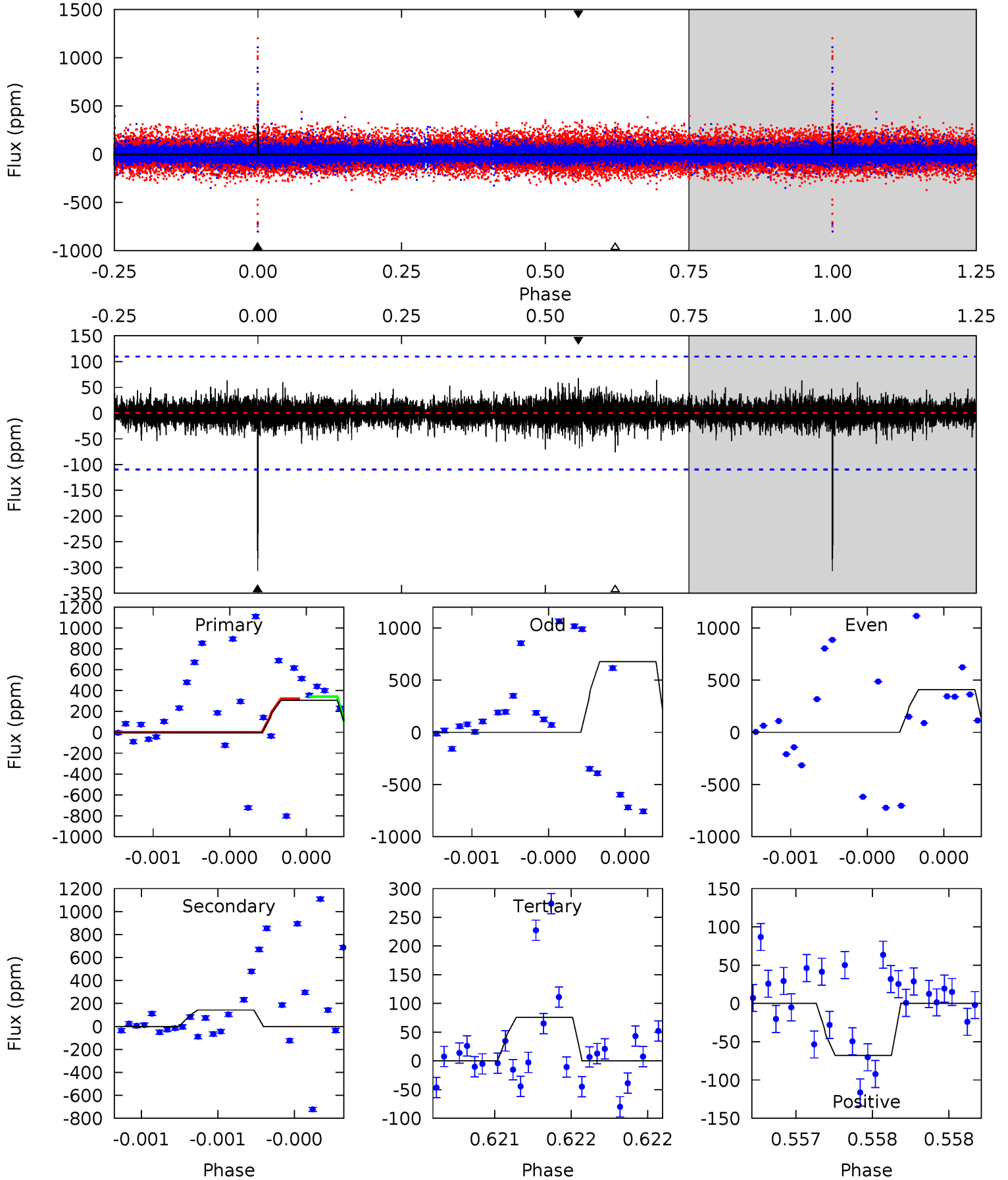
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.80	8.97	8.13	17.2	5.70	3.68	1.93	1.67	-7.39	0.84	-8.22	0.73	1.06	0.64	0.72



Alt Model-Shift Uniqueness Test

008429170-03, P = 361.265341 Days, E = 294.180825 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	7.25	3.87	3.45	5.59	3.50	0.69	11.8	12.2	3.38	3.79	8.33	-1.49	0.18	0.57



Stellar Parameters For KIC 008429170

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5951^{+190}_{-211}	$4.390^{+0.087}_{-0.203}$	$0.100^{+0.200}_{-0.300}$	$1.094^{+0.325}_{-0.150}$	$1.070^{+0.136}_{-0.136}$	$1.152^{+0.458}_{-0.597}$
	+3%/-4%	+2%/-5%	+200%/-300%	+30%/-14%	+13%/-13%	+40%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008429170-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-329 ± 37	$4.41^{+3.81}_{-3.08}$	387^{+30}_{-23}	4448^{+3280}_{-887}	9520^{+84842}_{-6859}
Alt.	-142 ± 20	$4.01^{+3.87}_{-2.64}$	386^{+29}_{-22}	3909^{+2237}_{-707}	4999^{+38754}_{-3709}

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 $A_{obs} \gg 1.0$

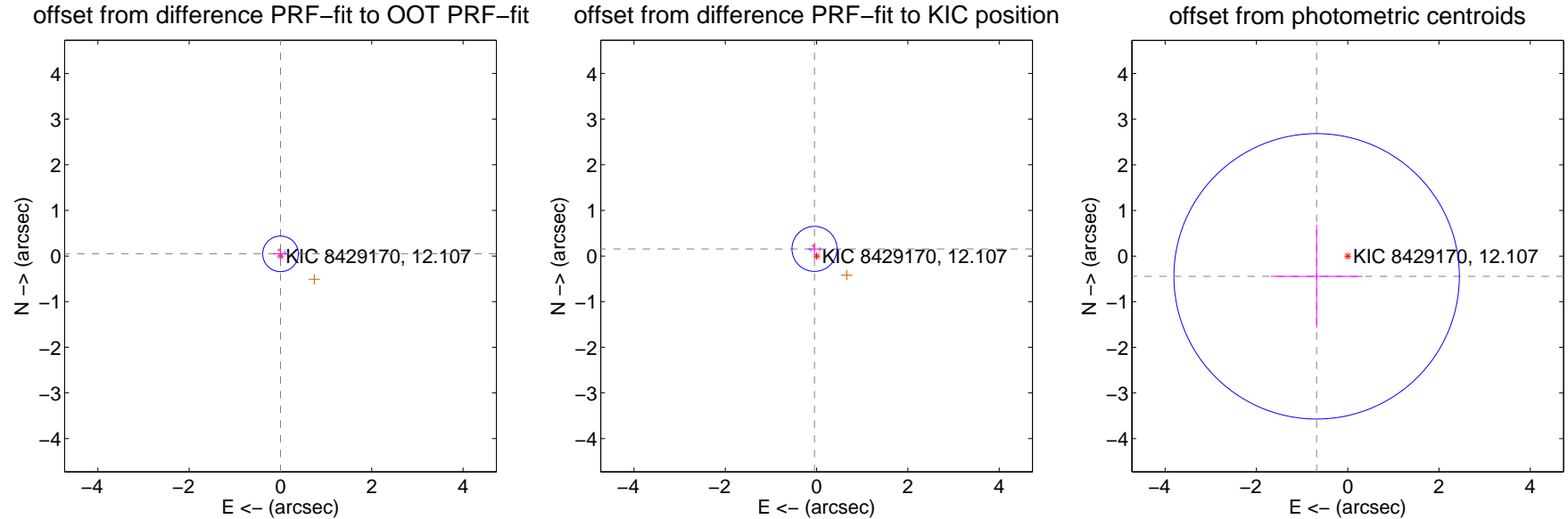
DV Centroid Data

Supplemental centroid analysis for 008429170-03. Kepler magnitude: 12.11. Transit SNR 5.35

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.048 ± 0.130	0.37	-0.002 ± 0.173	0.048 ± 0.135
PRF-fit source offset from KIC position	0.163 ± 0.164	0.99	0.046 ± 0.147	0.156 ± 0.137
photometric centroid source offset	0.81 ± 1.04	0.78	0.68 ± 1.00	-0.44 ± 1.13



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.

Q1 no difference image



Q1 no OOT image



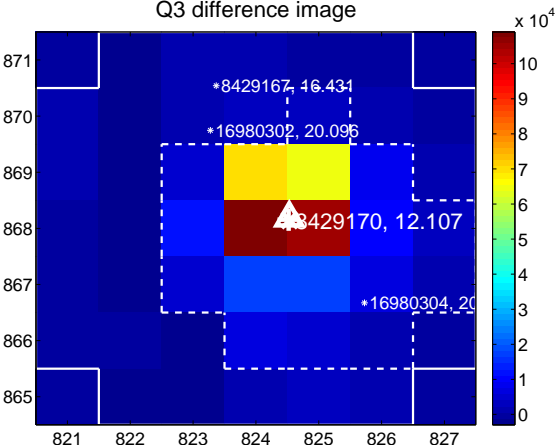
Q2 no difference image



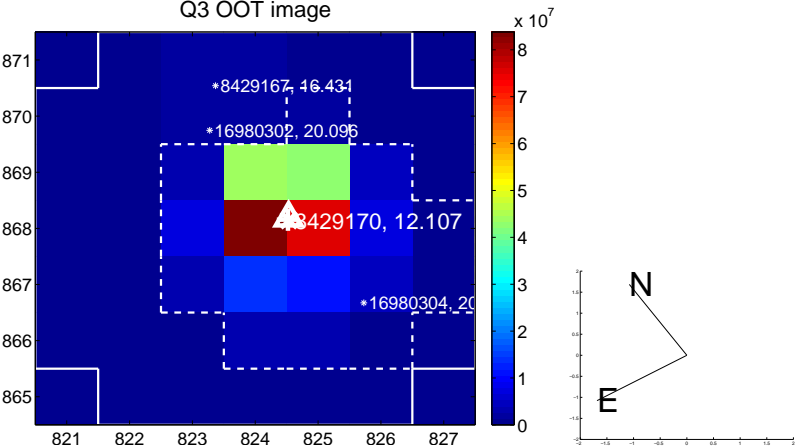
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



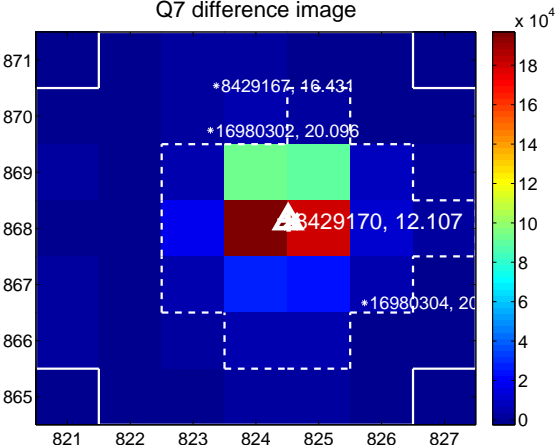
Q6 no difference image



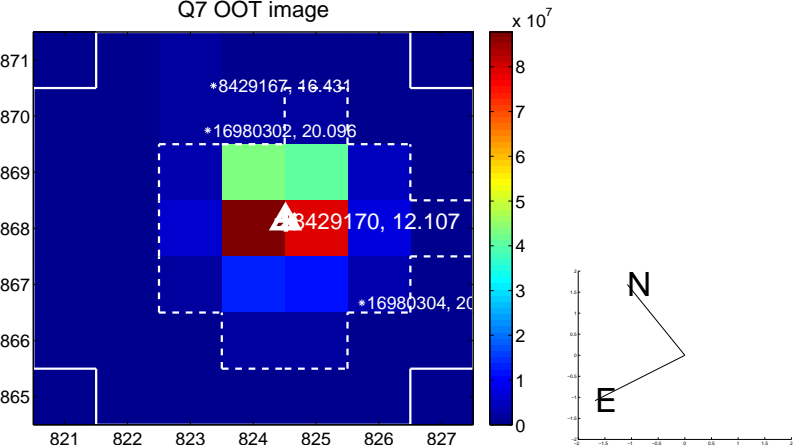
Q6 no OOT image



Q7 difference image



Q7 OOT image



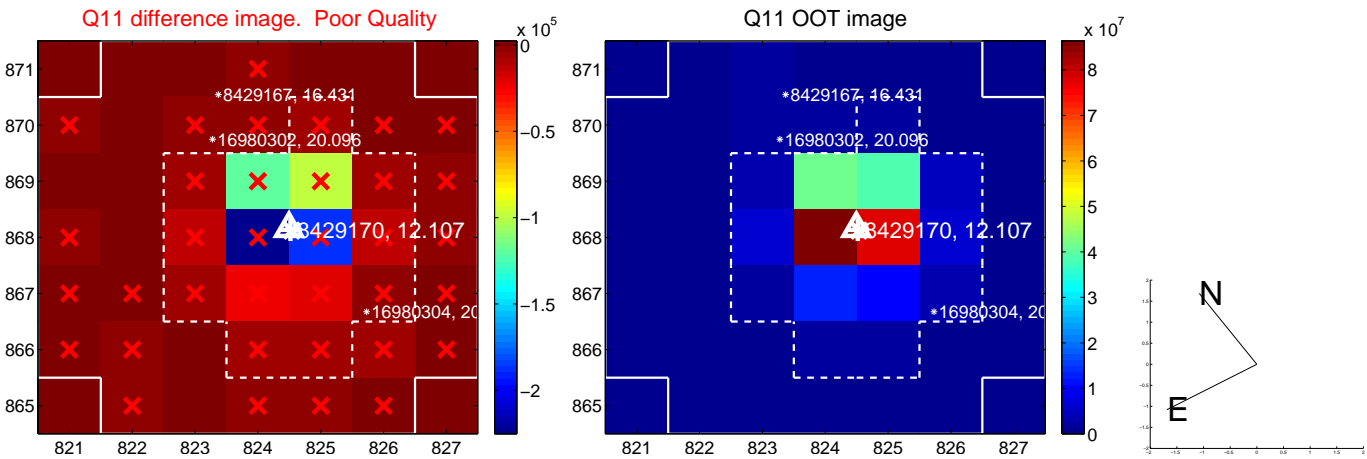
Q8 no difference image



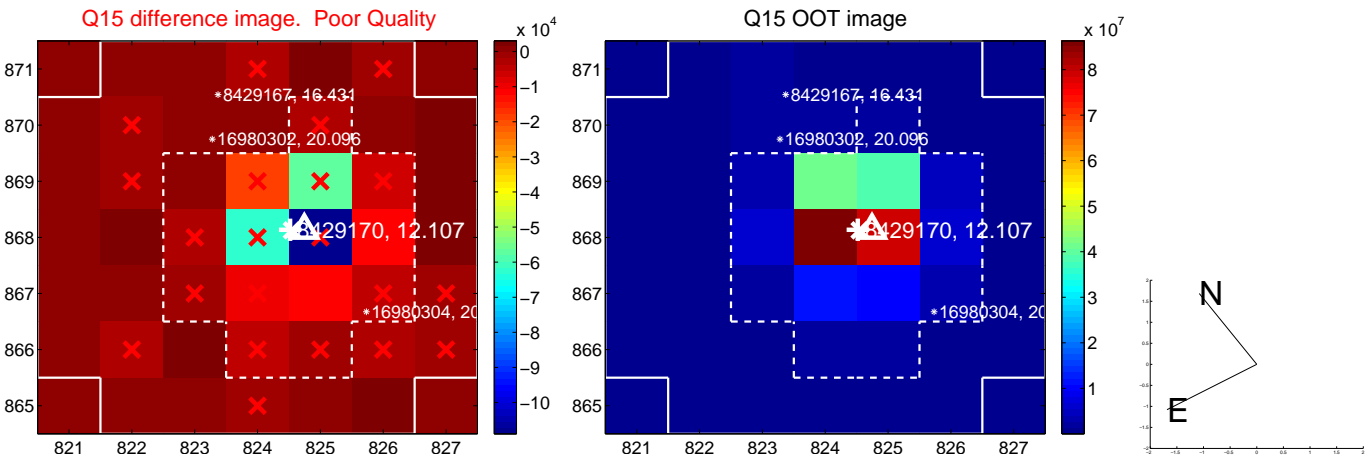
Q8 no OOT image



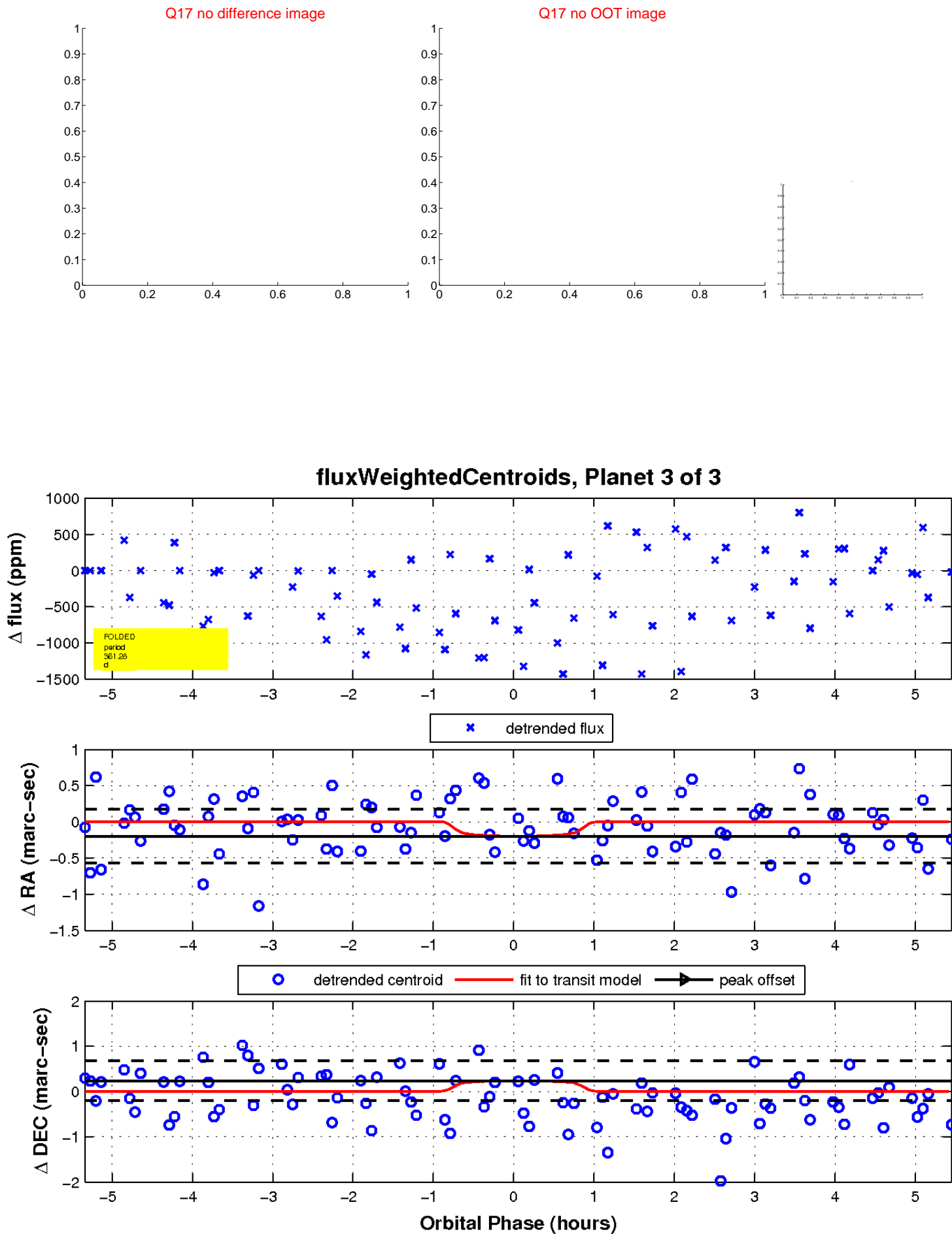
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

