

KIC 008162830

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})
008162830-01	OBS	No	436.830091	450.768047	1131.9	3.414	10.2	5.6	0.96	6029	3.43	0.83
008162830-02	OBS	No	322.148708	200.661800	967.1	4.486	14.0	5.5	0.96	6029	3.33	1.25
008162830-03	OBS	No	361.085211	390.912087	1362.5	4.882	10.9	5.8	0.96	6029	3.67	1.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008162830-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008162830-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008162830-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_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.

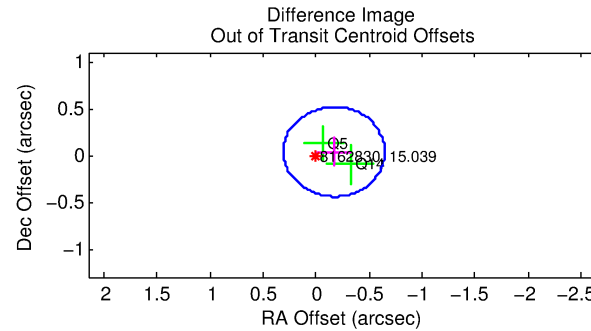
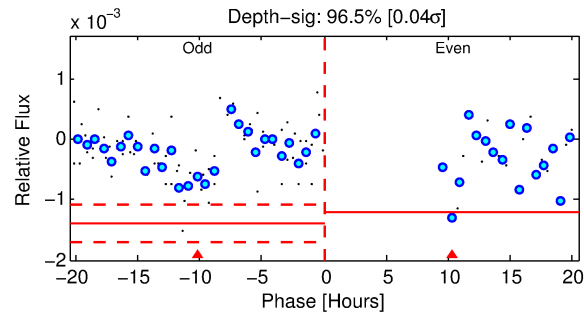
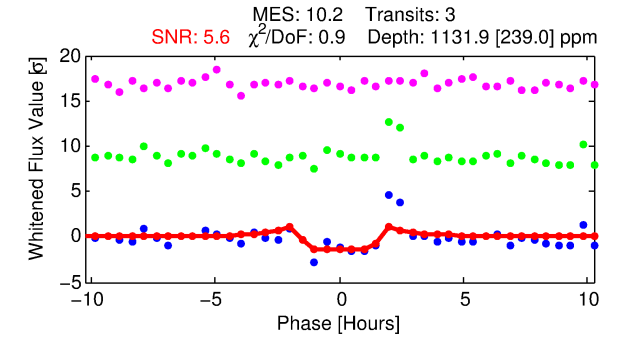
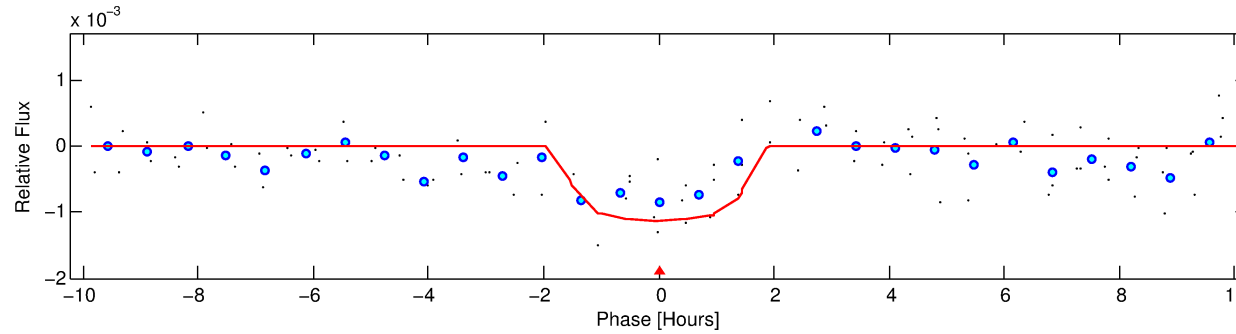
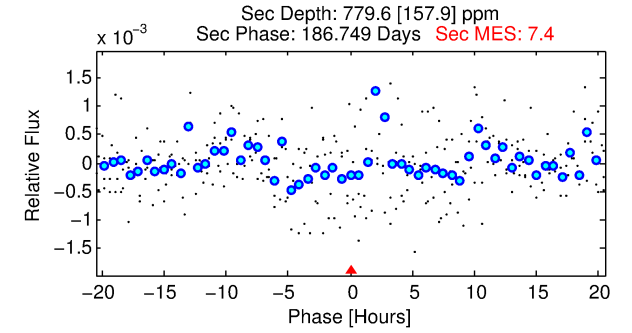
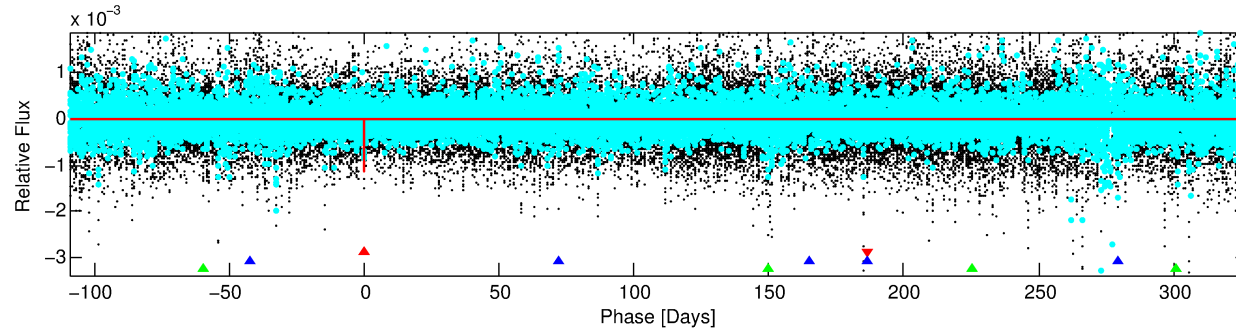
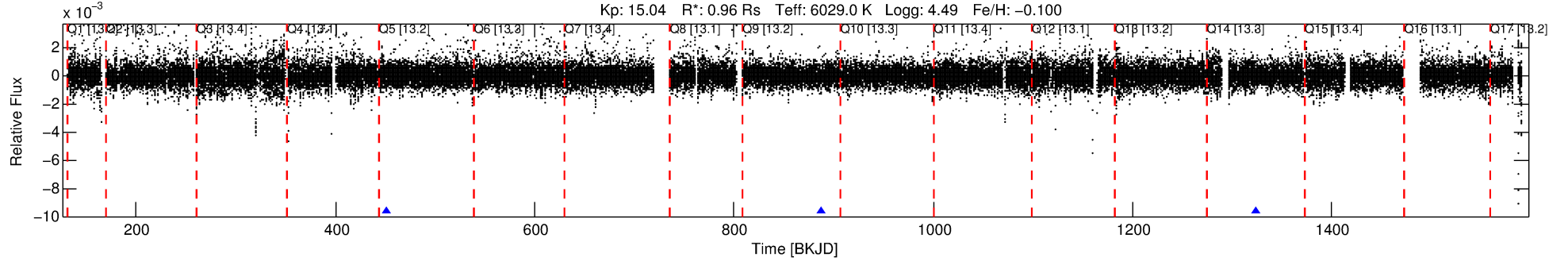
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008162830-01

No Significant Match Found

DV One-Page Summary

KIC: 8162830 Candidate: 1 of 3 Period: 436.830 d



DV Fit Results:

Period = 436.83009 [0.00510] d
Epoch = 450.7680 [0.0087] BKJD
Rp/R* = 0.0329 [0.0417]
a/R* = 751.75 [4494.74]
b = 0.69 [4.60]
Seff = 0.83 [0.33]
Teq = 243 [24] K
Rp = 3.43 [4.47] Re
a = 1.1417 [0.2910] AU
Ag = 47542.91 [122441.63] [0.39σ]
Teffp = 5557 [3544] K [1.50σ]

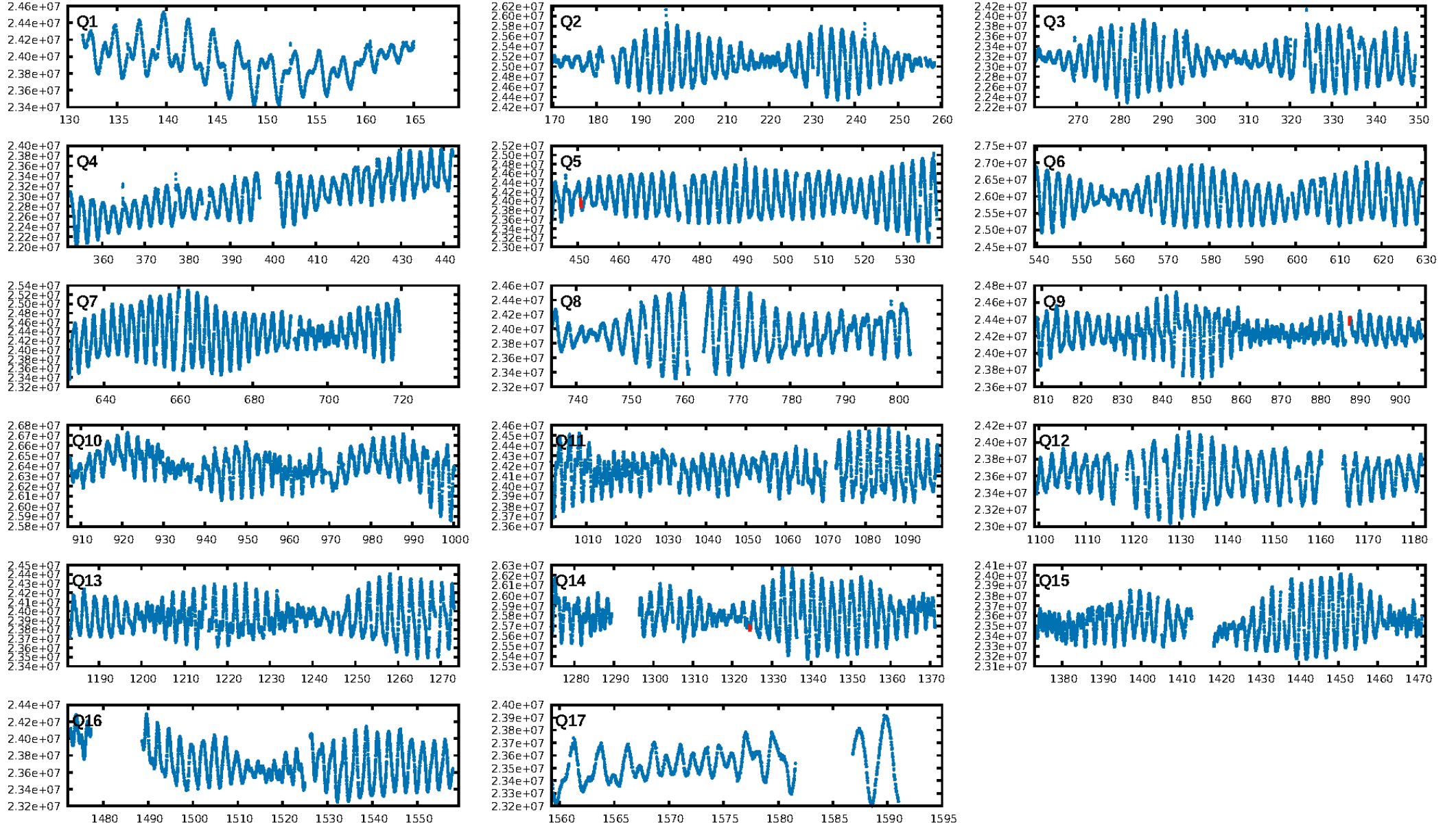
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [305.13σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.8%
ModelChiSquareGof-sig: 93.1%
Bootstrap-pfa: 5.00e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.487
Centroid-sig: 43.6%
Centroid-so: 1.152 arcsec [0.90σ]
OotOffset-rm: 0.172 arcsec [1.08σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.267 arcsec [1.62σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

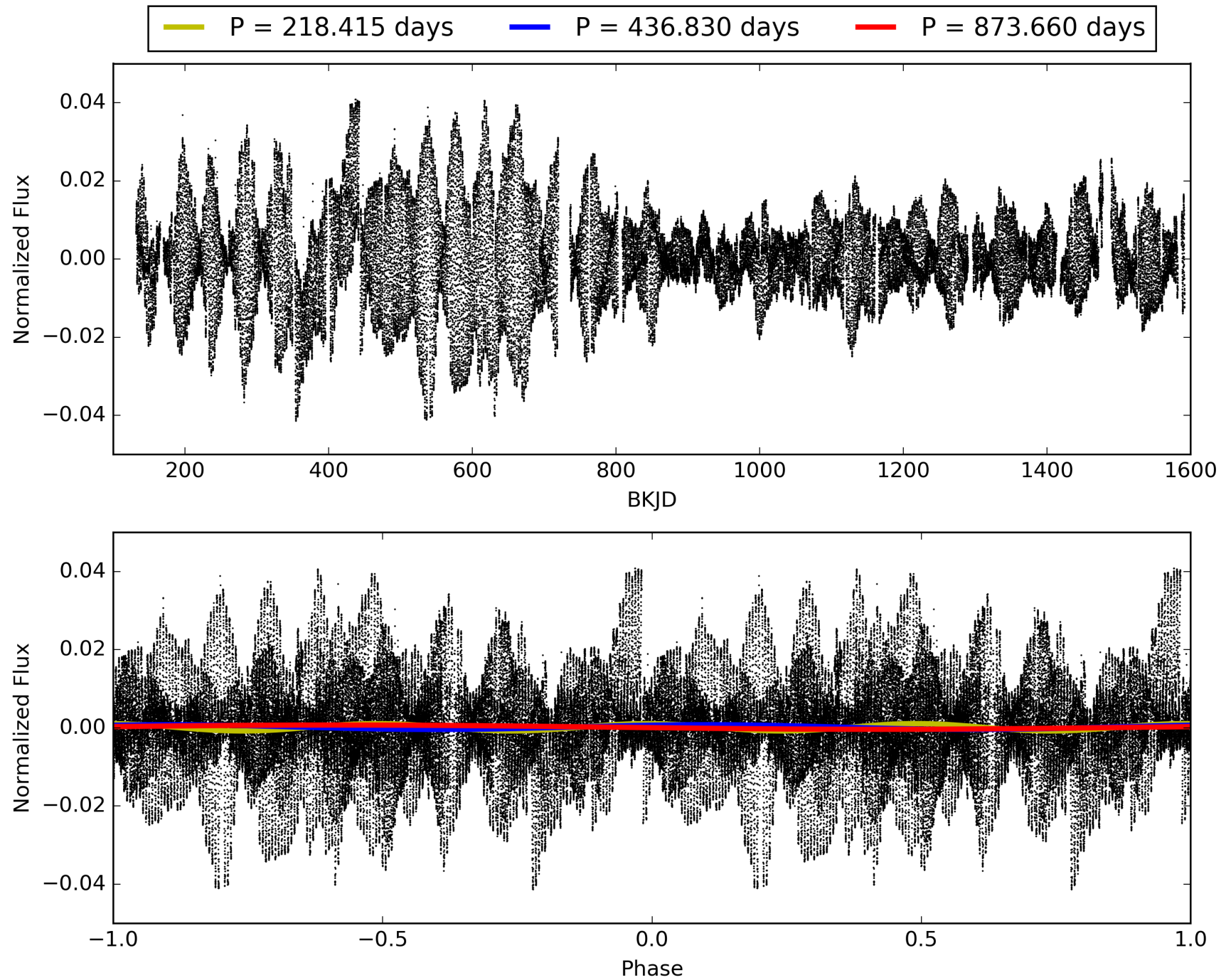
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:30:27 Z

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

TCE 008162830-01, PDC Light Curves

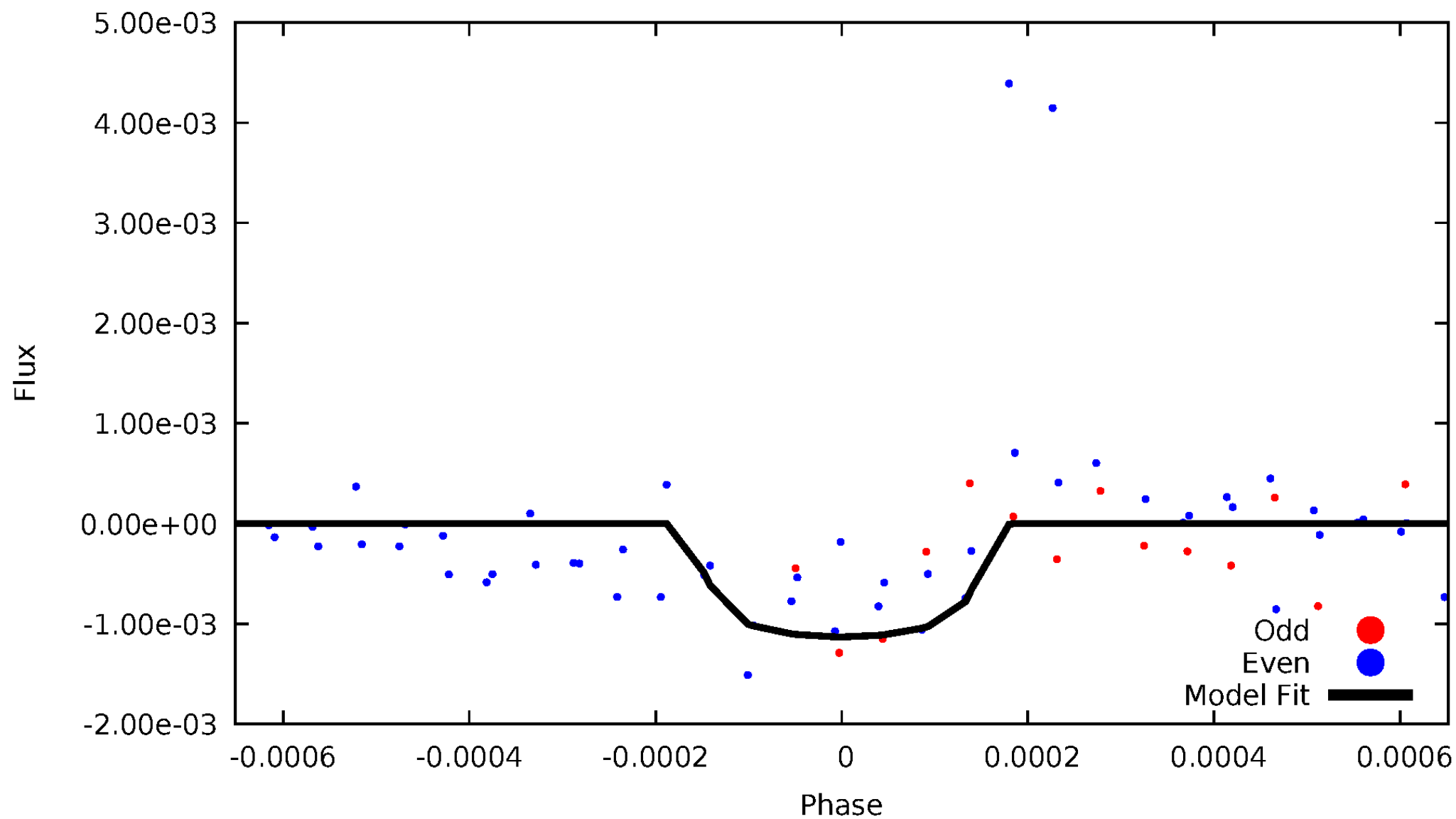


TCE 008162830-01



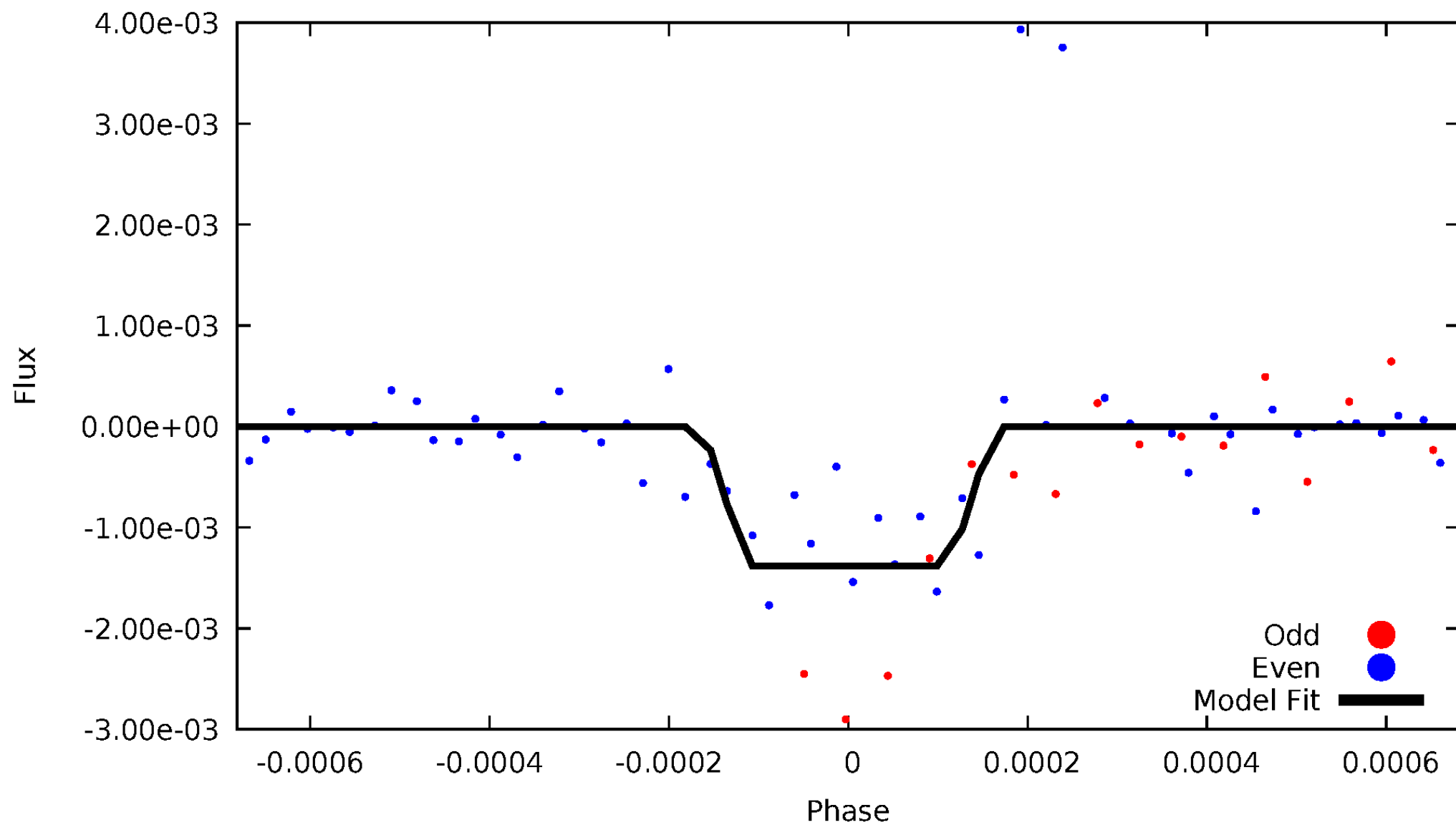
DV Odd/Even

TCE 008162830-01



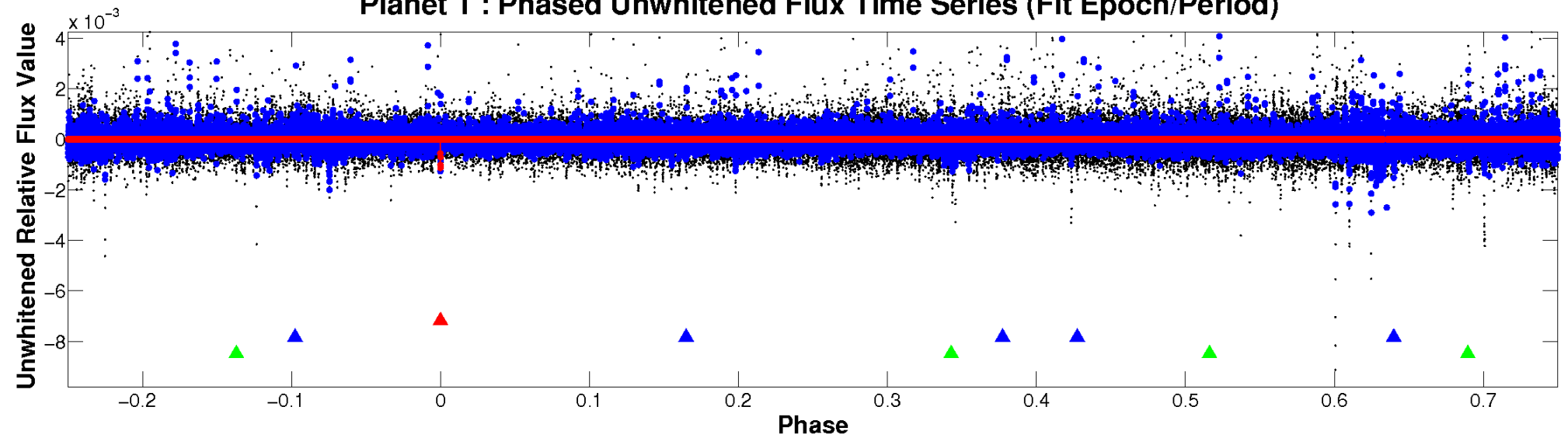
ALT Odd/Even

TCE 008162830-01

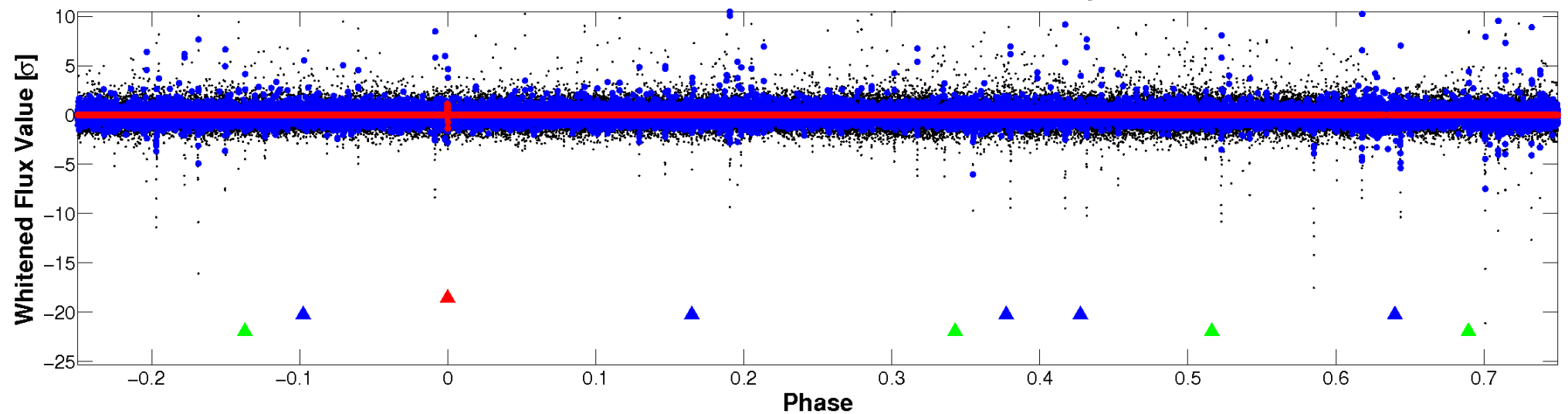


Non-Whitened Vs. Whitened Light Curve

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

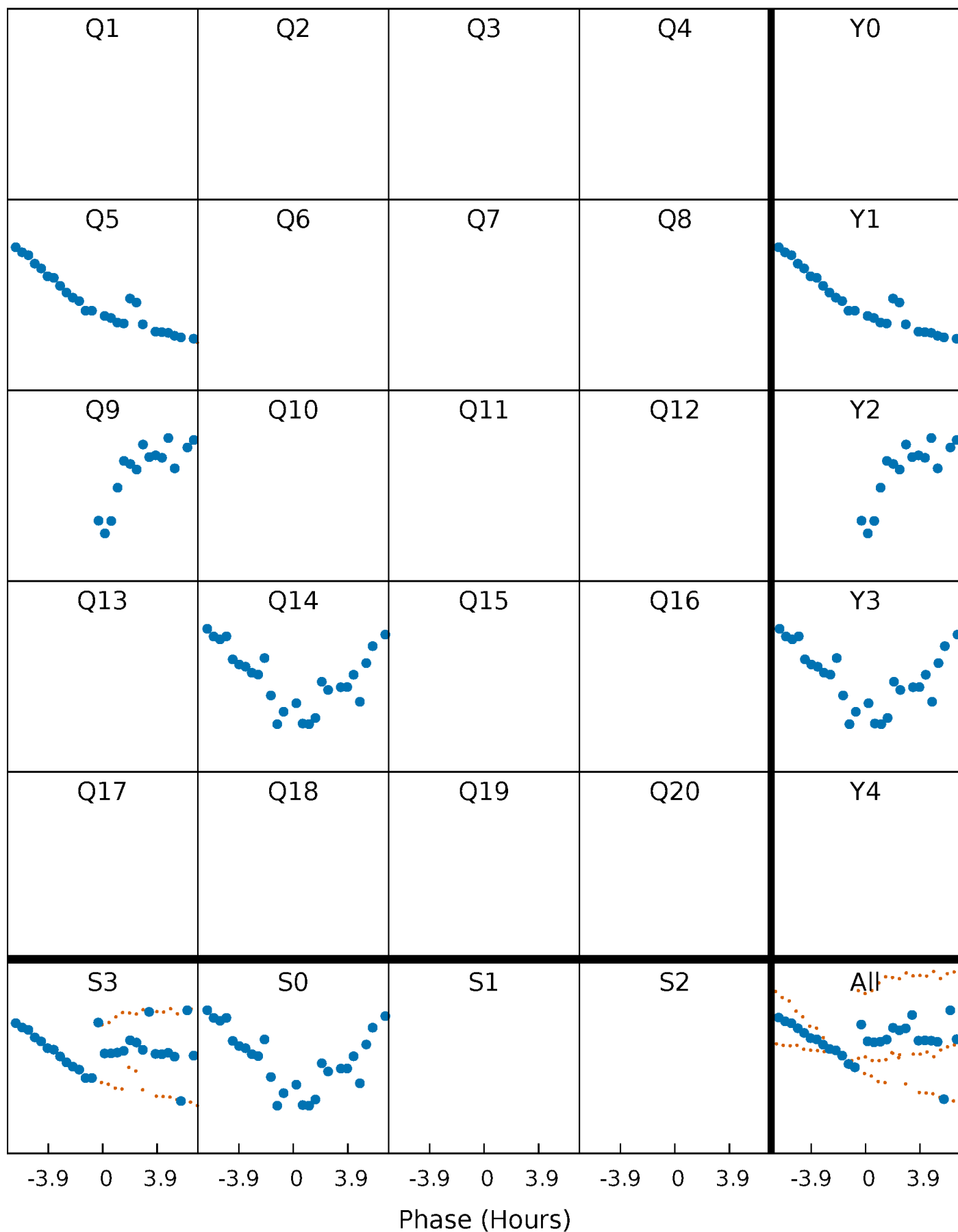


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



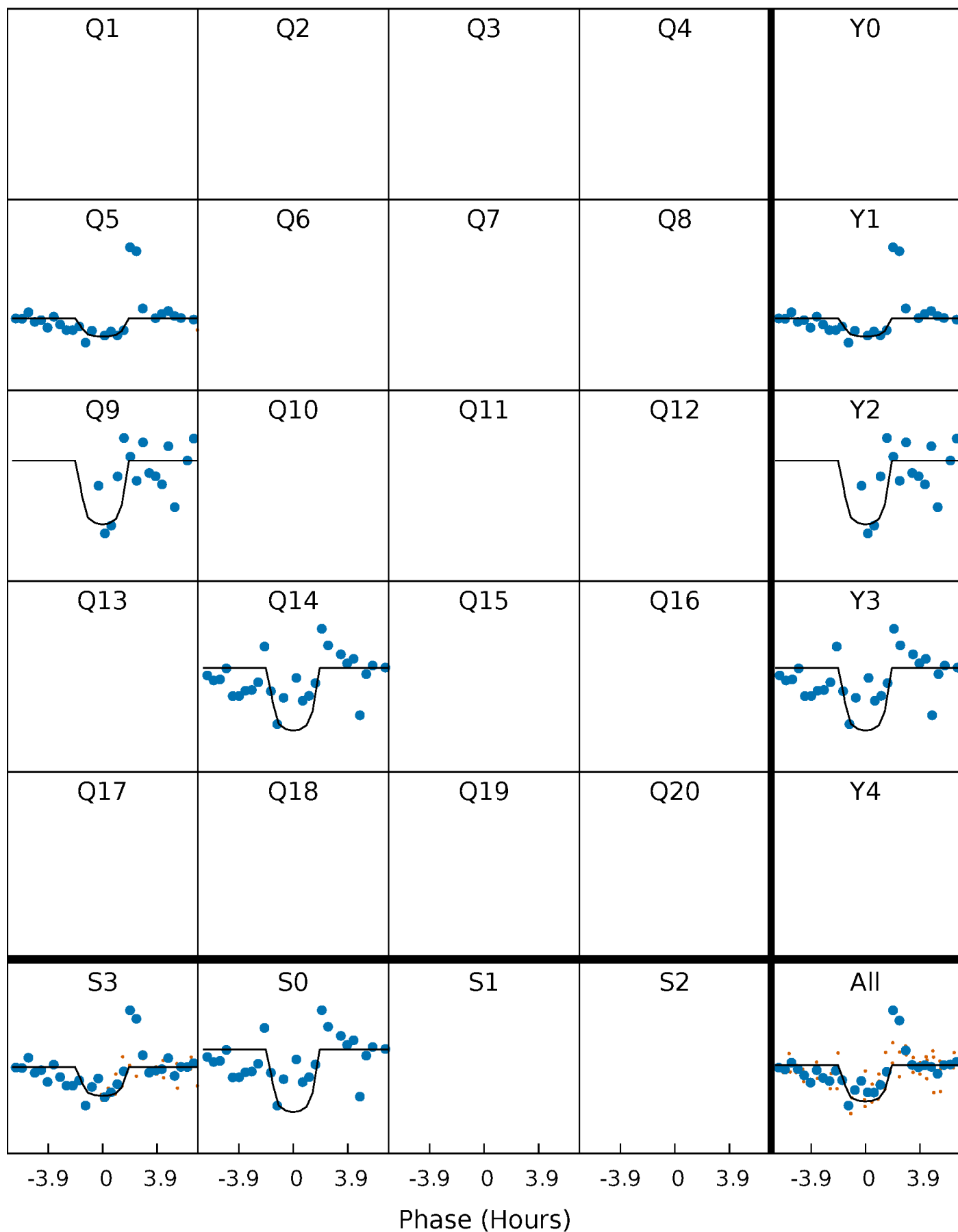
PDC Quarter-Phased Transit Curves

TCE 008162830-01 P=436.830091 Days $T_0=450.768047$ (BKJD)



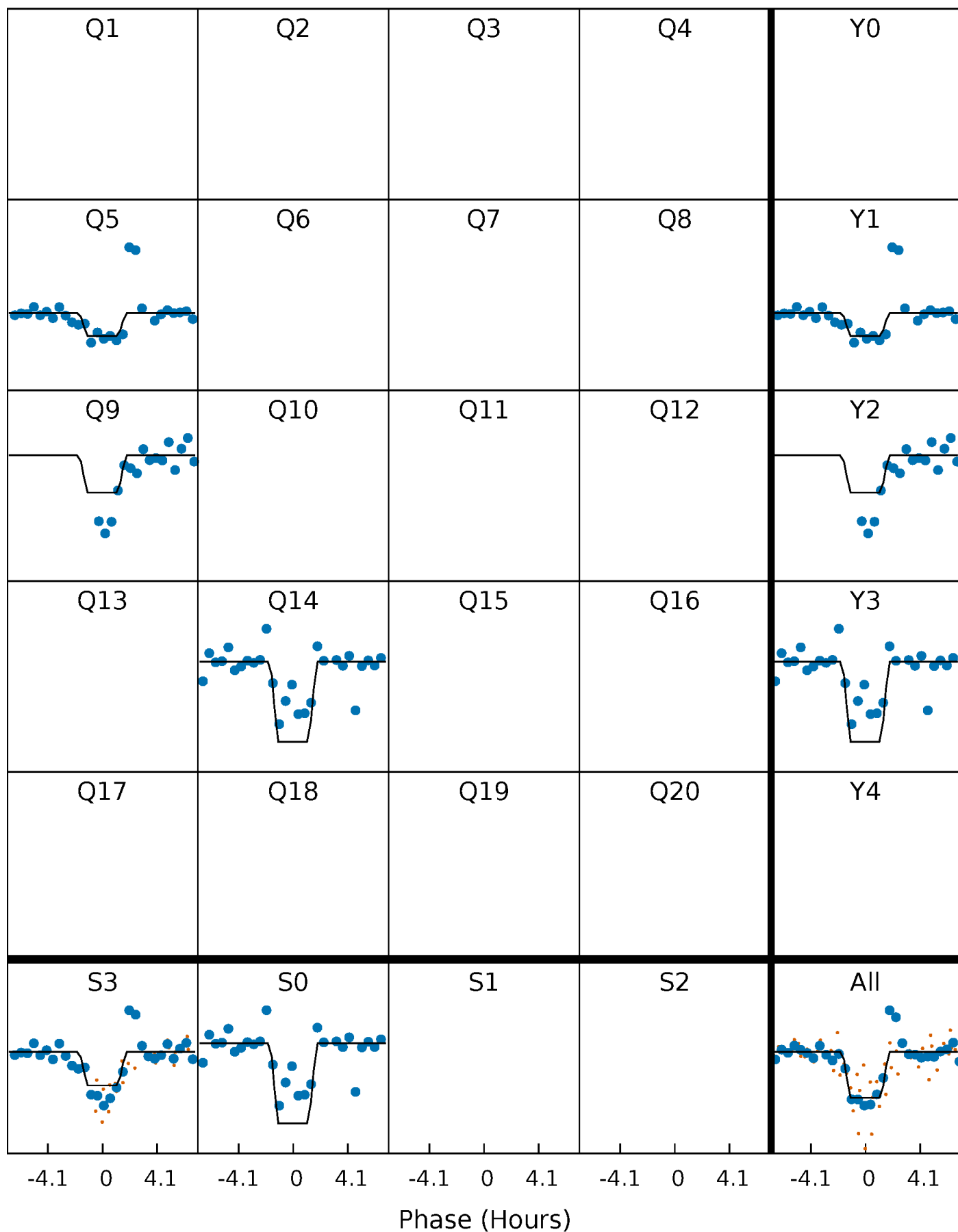
DV Quarter-Phased Transit Curves

TCE 008162830-01 P=436.830091 Days $T_0=450.768047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

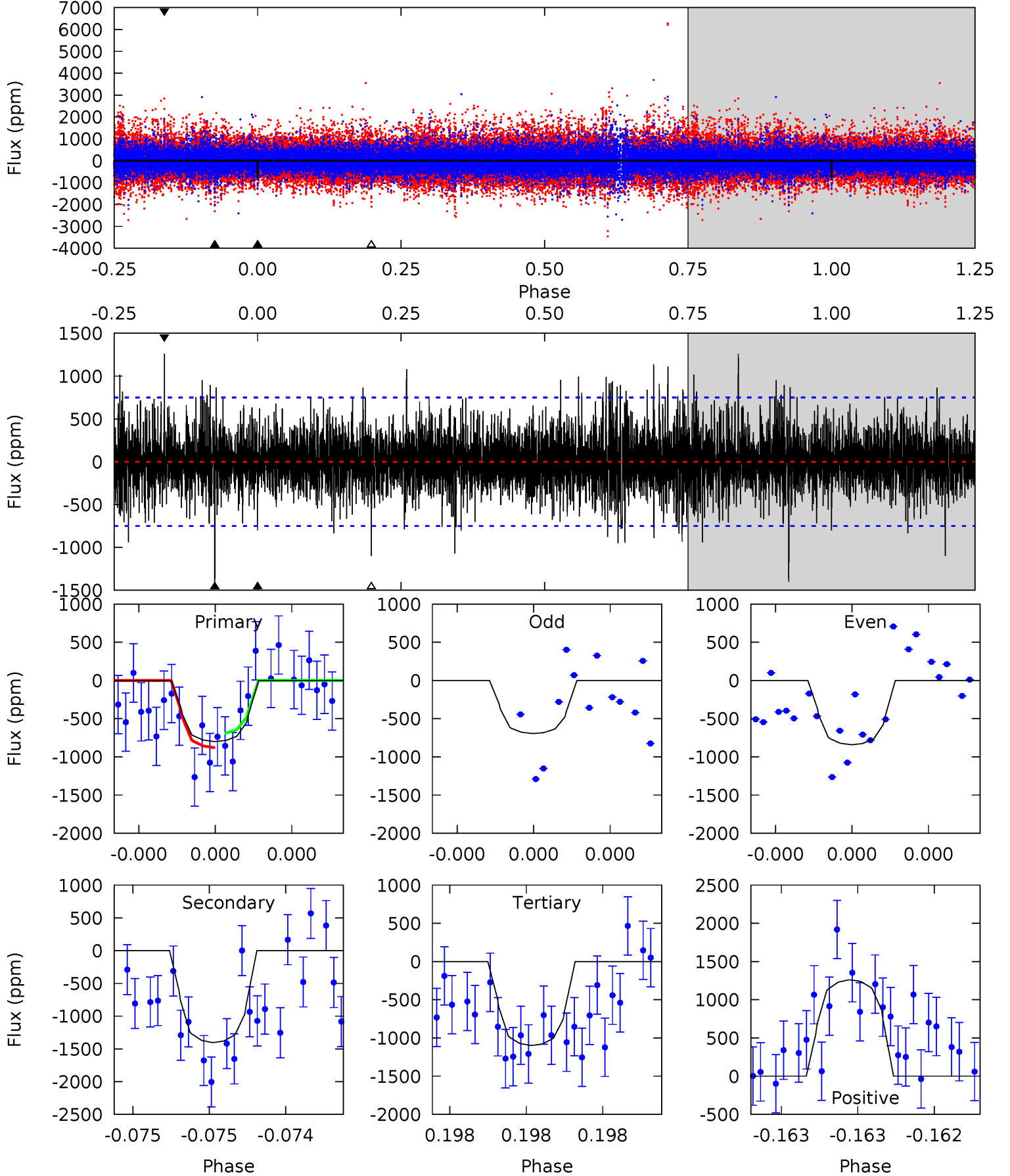
TCE 008162830-01 P=436.835457 Days $T_0=450.762657$ (BKJD)



DV Model-Shift Uniqueness Test

008162830-01, $P = 436.830091$ Days, $E = 13.937956$ Days

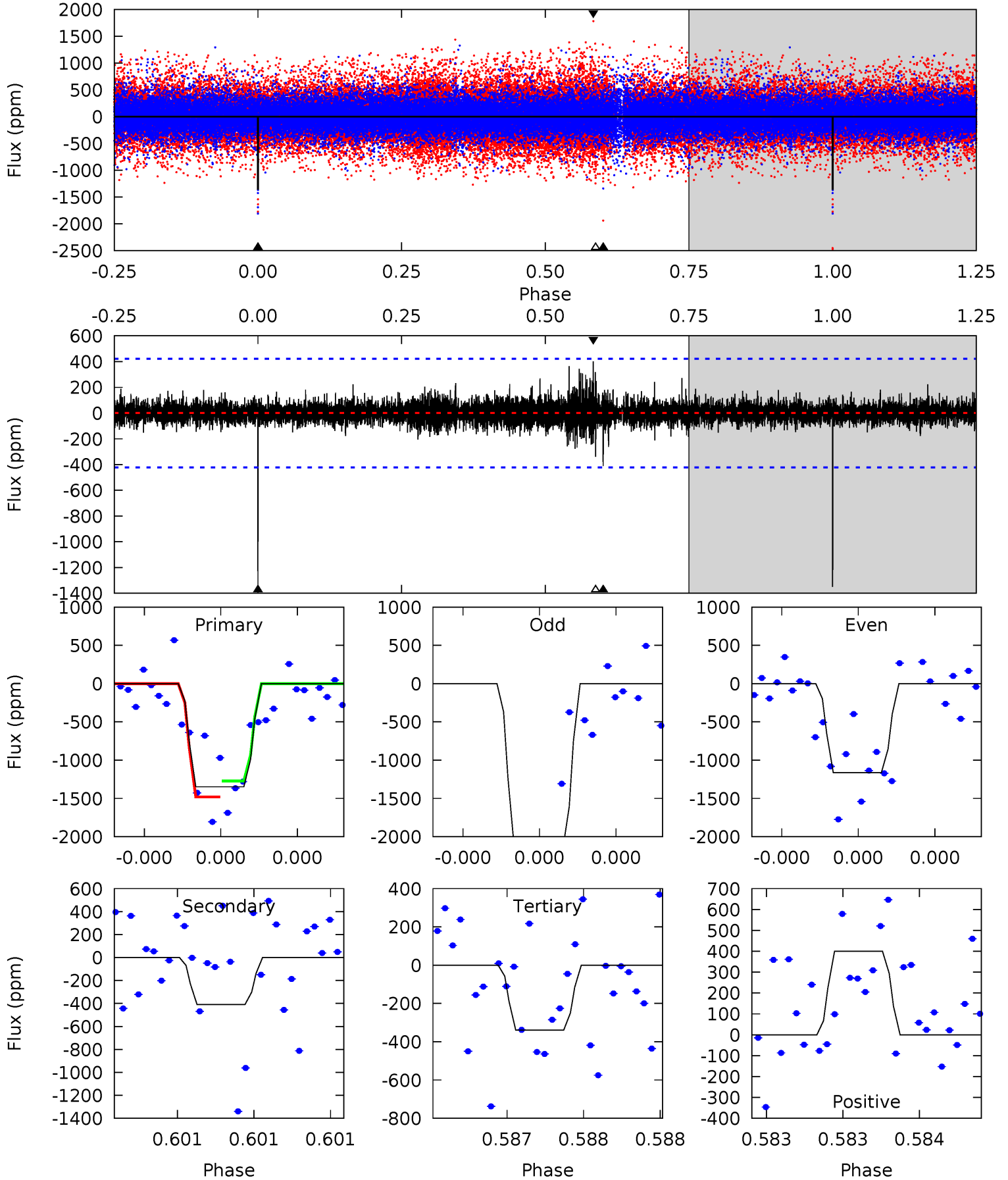
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.01	10.6	8.26	9.49	5.65	3.59	1.86	-2.25	-3.48	2.30	1.07	0.49	1.14	0.47	0.69



Alt Model-Shift Uniqueness Test

008162830-01, P = 436.835457 Days, E = 13.927200 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	5.49	4.55	5.36	5.65	3.59	0.72	13.5	12.7	0.94	0.13	6.13	0.99	0.23	1.40



Stellar Parameters For KIC 008162830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+162}_{-198}	$4.494^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.350}$	$0.956^{+0.285}_{-0.095}$	$1.040^{+0.126}_{-0.139}$	$1.675^{+0.453}_{-0.854}$
	+3%/-3%	+1%/-5%	+250%/-350%	+30%/-10%	+12%/-13%	+27%/-51%
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 008162830-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1403 ± 133	$5.09^{+3.98}_{-3.29}$	349^{+22}_{-17}	5383^{+4418}_{-1083}	$36987^{+273180}_{-24950}$
Alt.	-410 ± 75	$5.27^{+4.07}_{-3.67}$	347^{+25}_{-16}	4189^{+2992}_{-773}	$10580^{+102843}_{-7476}$

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 $A_{obs} \gg 1.0$

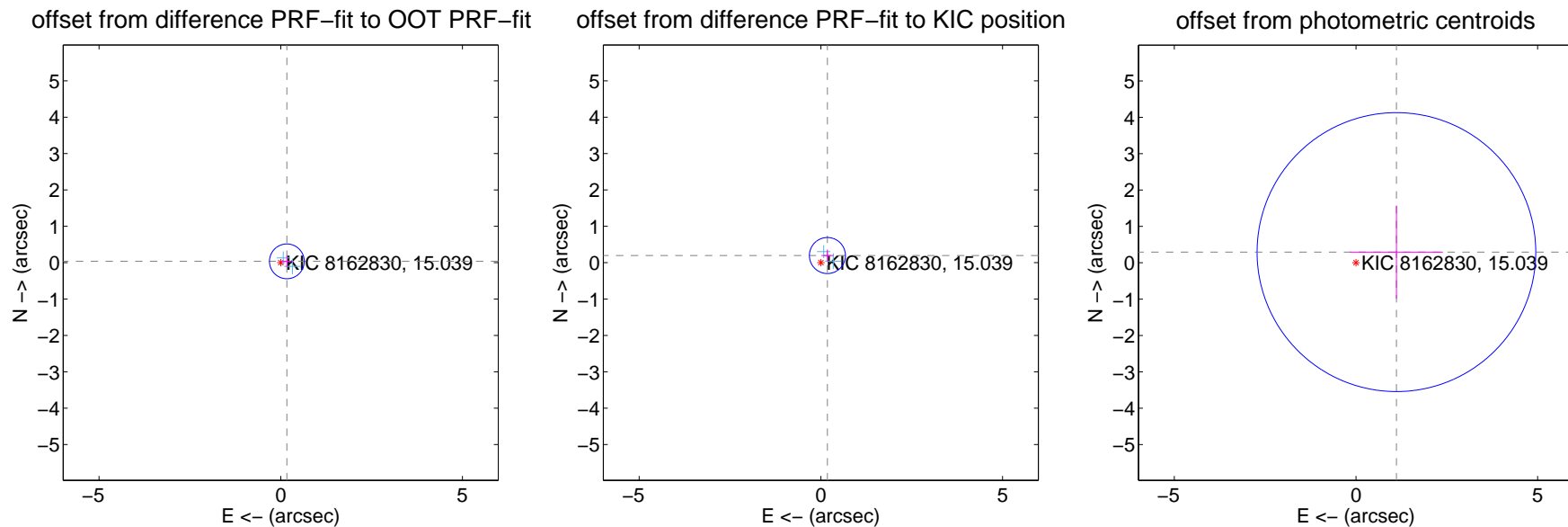
DV Centroid Data

Supplemental centroid analysis for 008162830-01. Kepler magnitude: 15.04. Transit SNR 5.65

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	0.172 ± 0.160	1.08	-0.168 ± 0.160	0.037 ± 0.155
PRF-fit source offset from KIC position	0.267 ± 0.165	1.62	-0.180 ± 0.165	0.197 ± 0.165
photometric centroid source offset	1.15 ± 1.28	0.90	-1.11 ± 1.28	0.29 ± 1.28

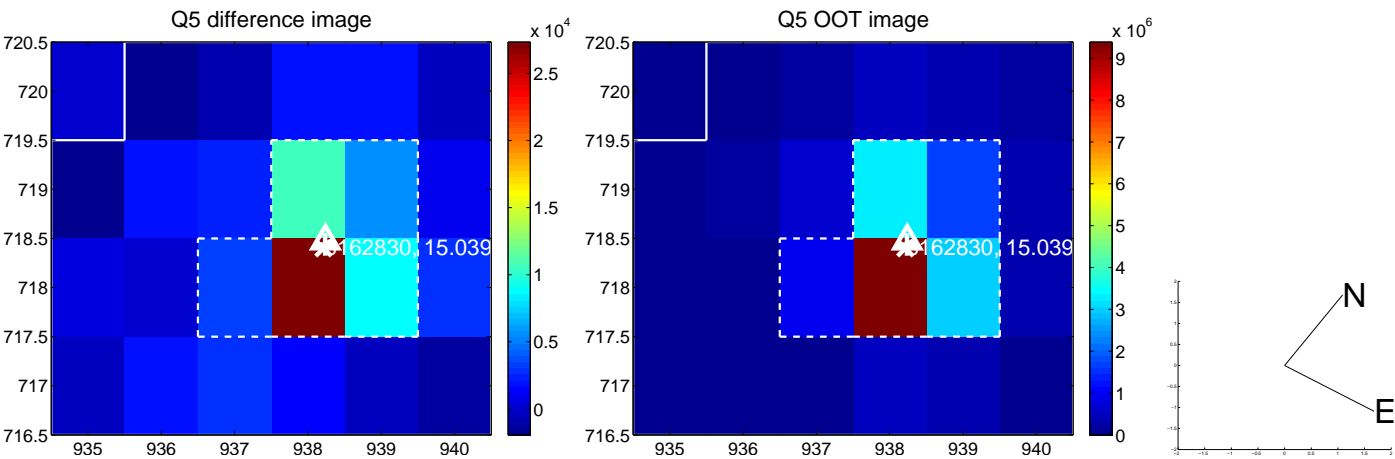


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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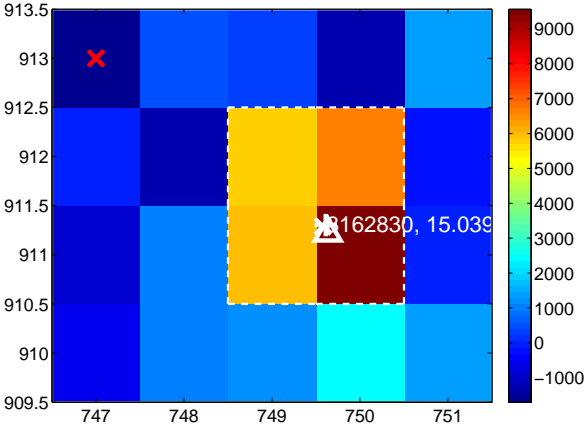
Q13 no difference image



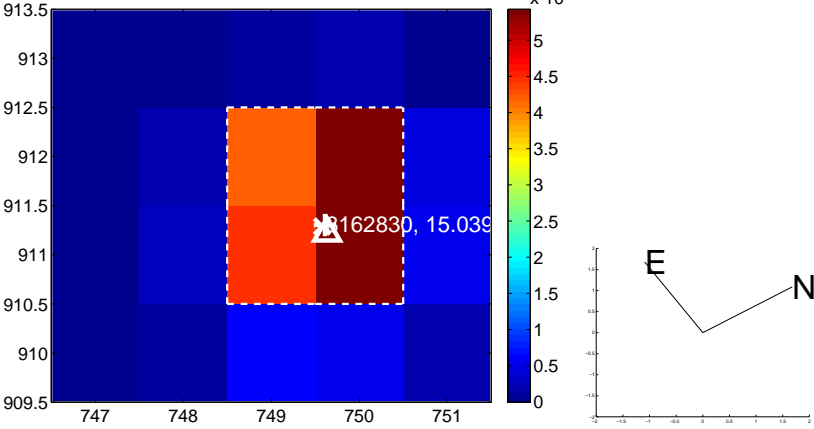
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



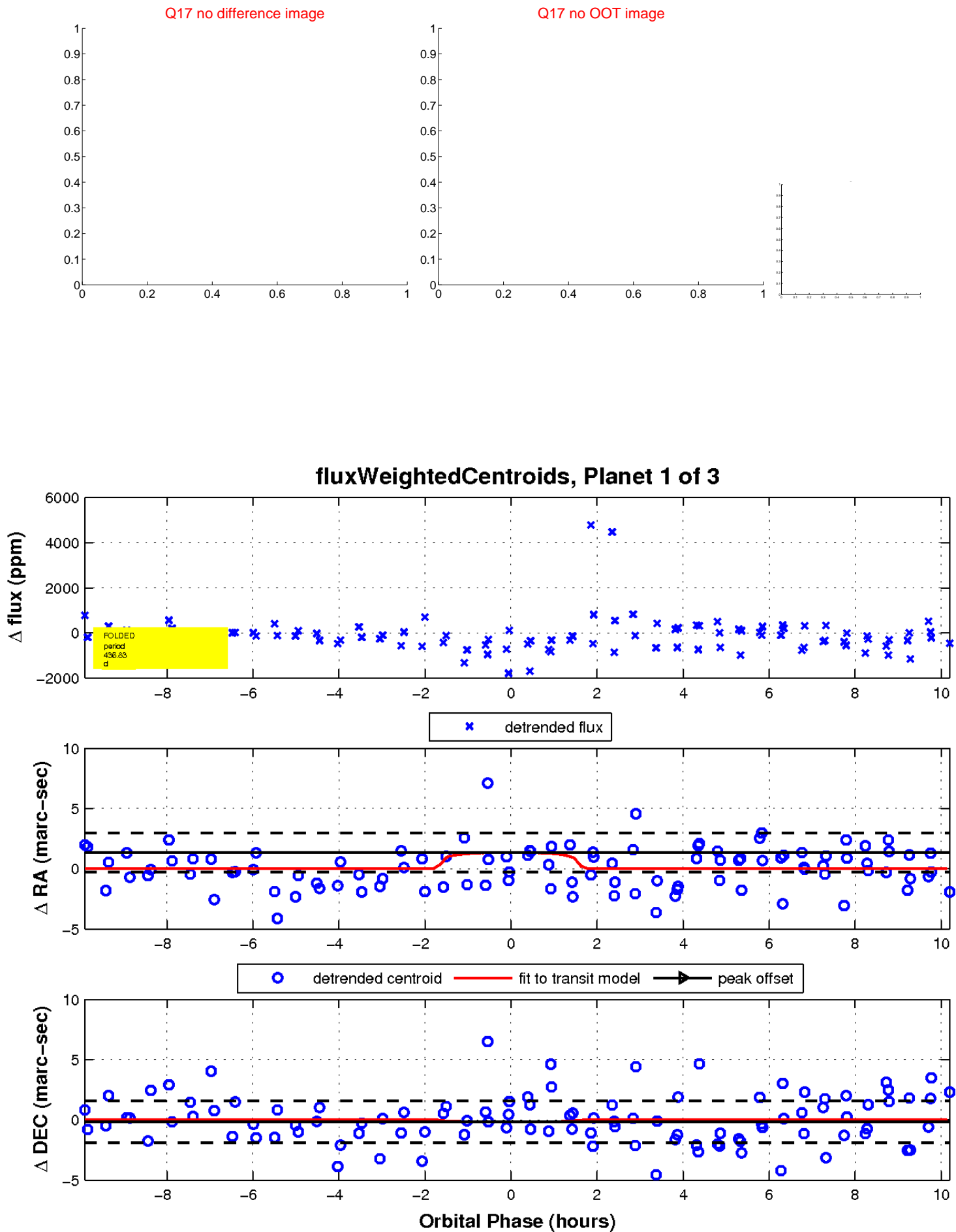
Q16 no difference image



Q16 no OOT image

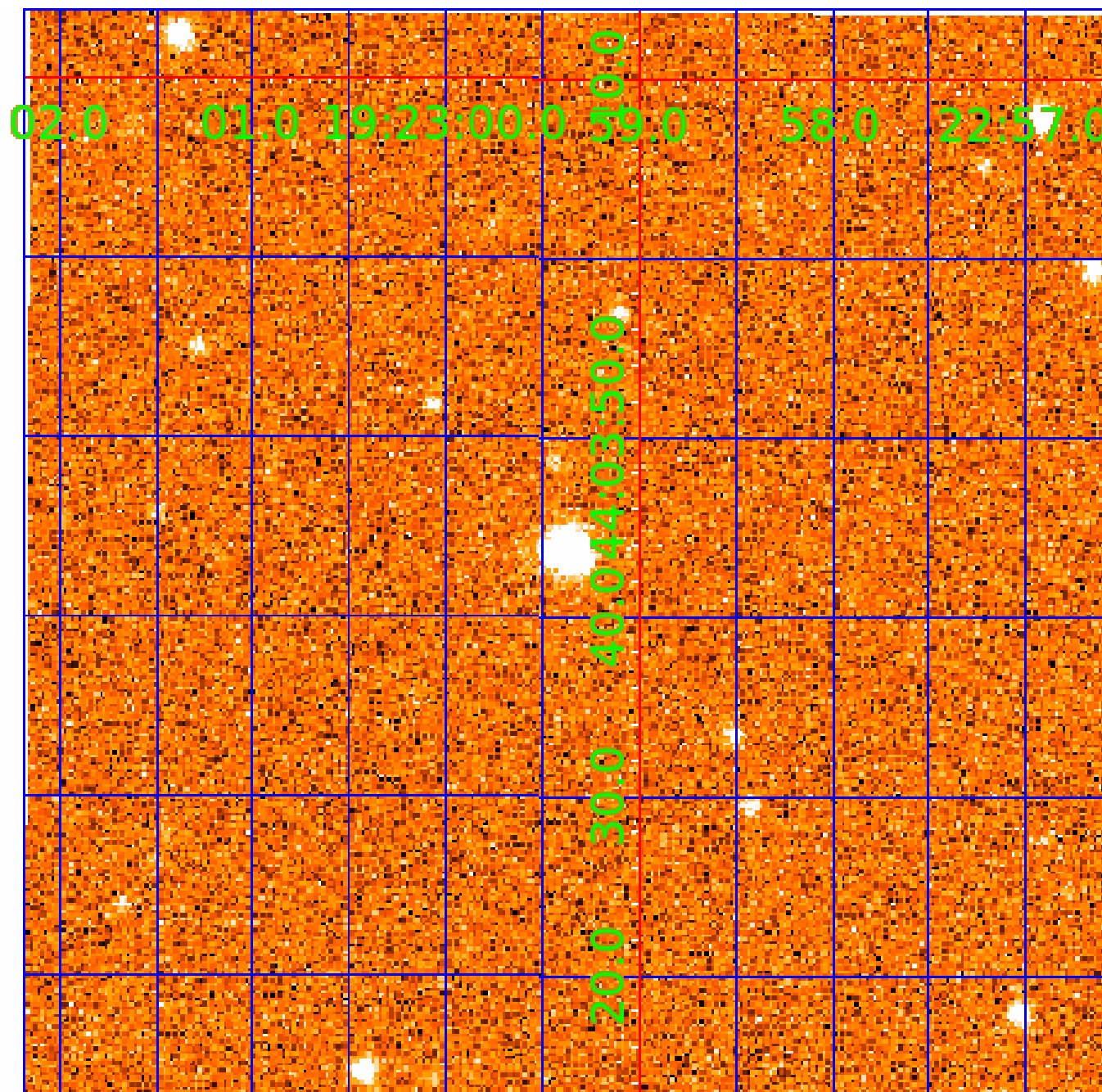


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008162830

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})
008162830-01	OBS	No	436.830091	450.768047	1131.9	3.414	10.2	5.6	0.96	6029	3.43	0.83
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008162830-03	OBS	No	361.085211	390.912087	1362.5	4.882	10.9	5.8	0.96	6029	3.67	1.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008162830-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008162830-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008162830-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_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.

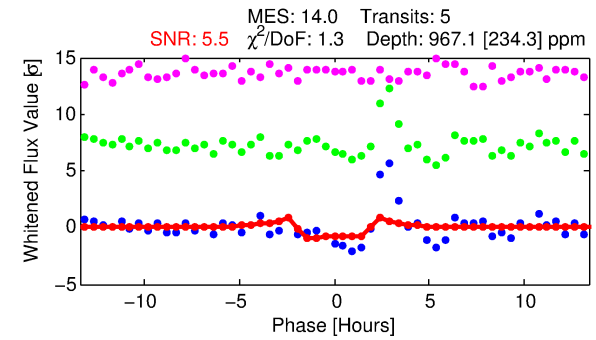
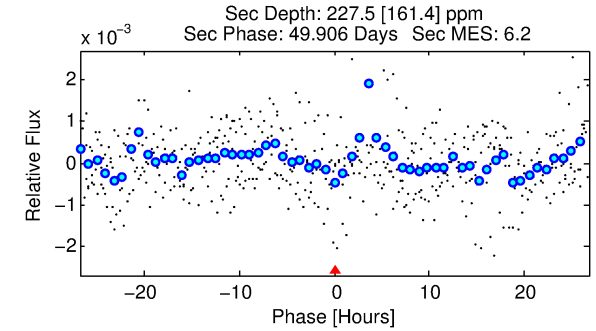
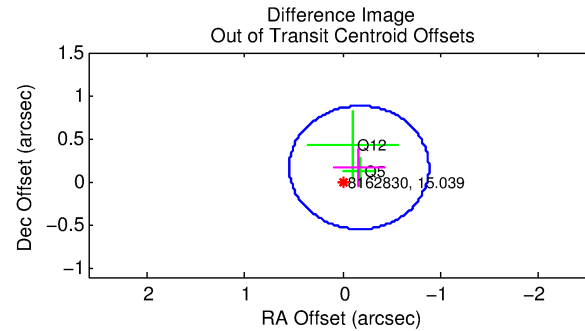
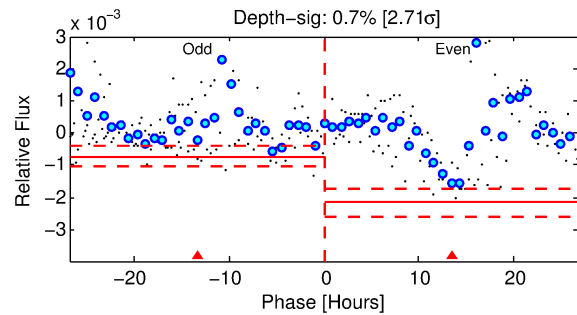
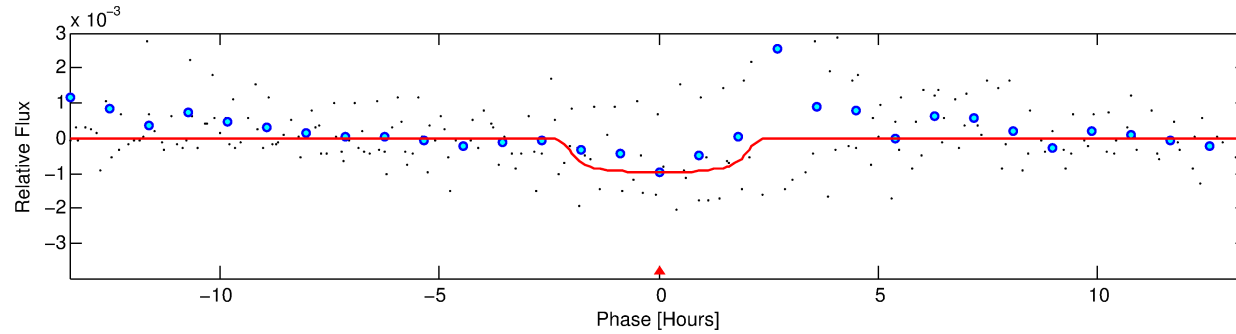
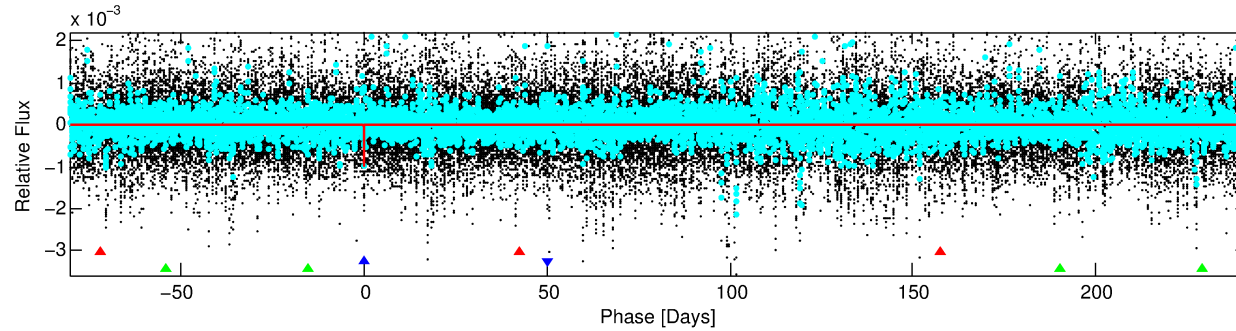
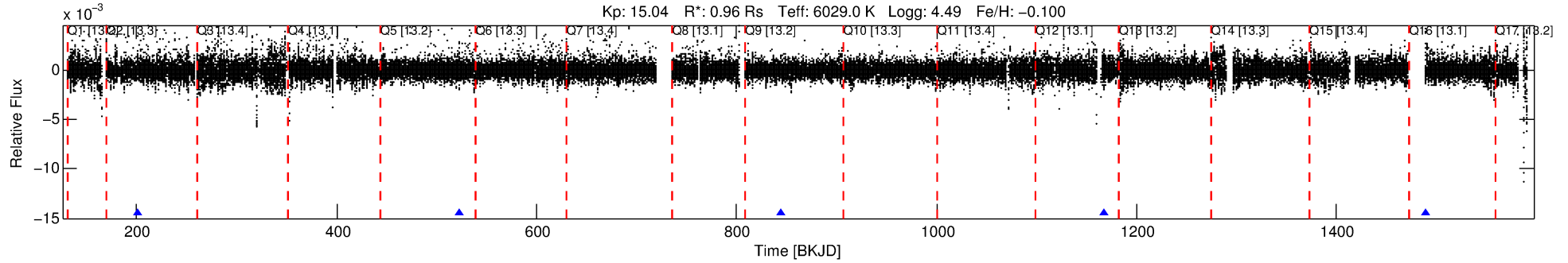
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008162830-02

No Significant Match Found

DV One-Page Summary

KIC: 8162830 Candidate: 2 of 3 Period: 322.149 d



DV Fit Results:

Period = 322.14871 [0.00373] d
Epoch = 200.6618 [0.0087] BKJD
Rp/R* = 0.0319 [0.0154]
a/R* = 342.84 [735.44]
b = 0.82 [0.86]
Seff = 1.25 [0.50]
Teq = 269 [27] K
Rp = 3.33 [1.89] Re
a = 0.9319 [0.2376] AU
Ag = 9820.62 [12320.85] [0.80 σ]
Teffp = 4146 [1248] K [3.11 σ]

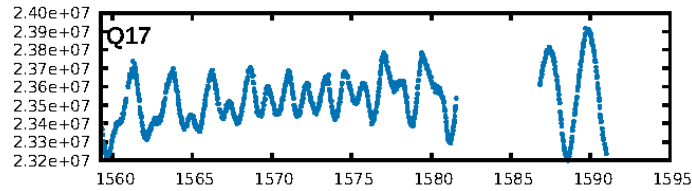
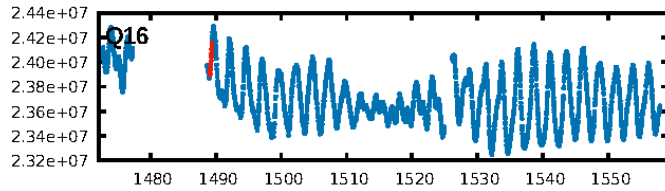
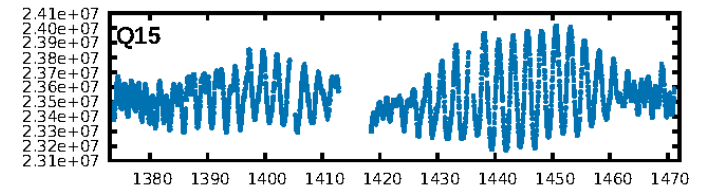
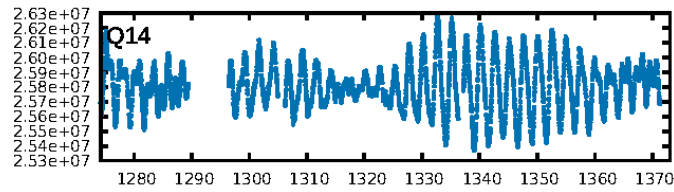
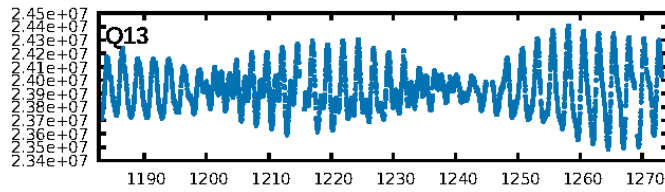
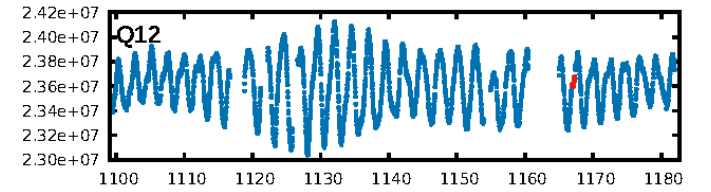
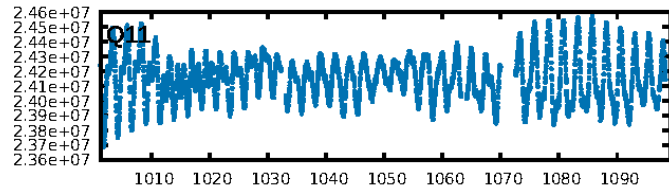
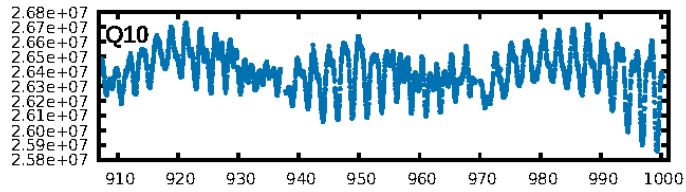
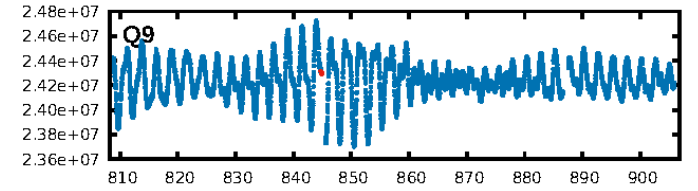
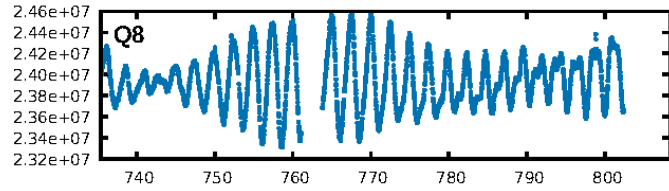
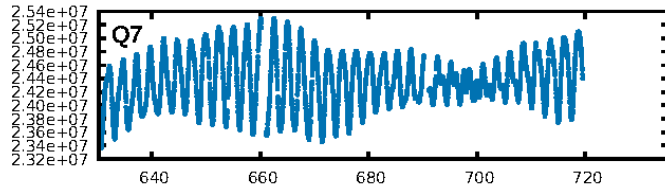
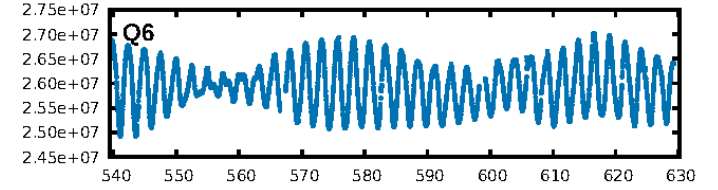
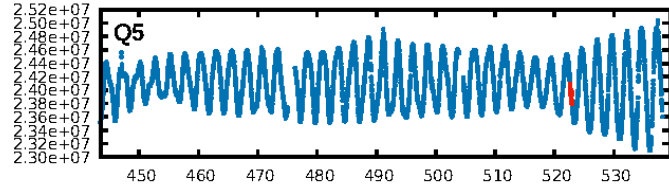
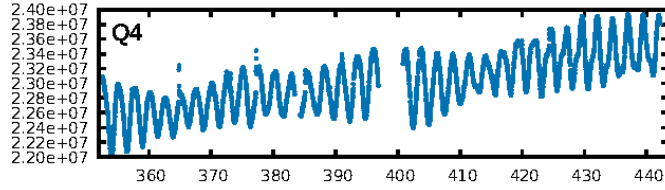
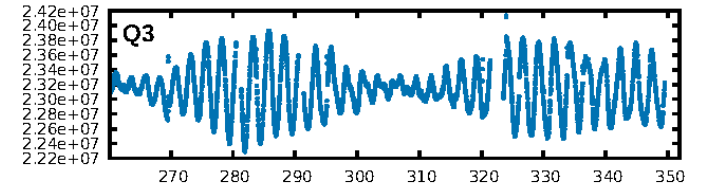
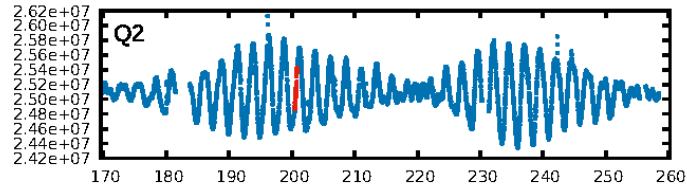
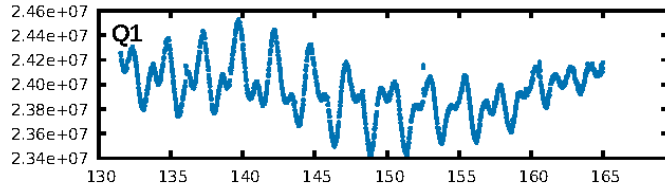
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [140.94 σ]
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 96.7%
Bootstrap-pfa: 1.71e-14
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.04214
Centroid-sig: 78.2%
Centroid-so: 0.506 arcsec [0.51 σ]
OotOffset-rm: 0.236 arcsec [0.99 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.397 arcsec [1.71 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

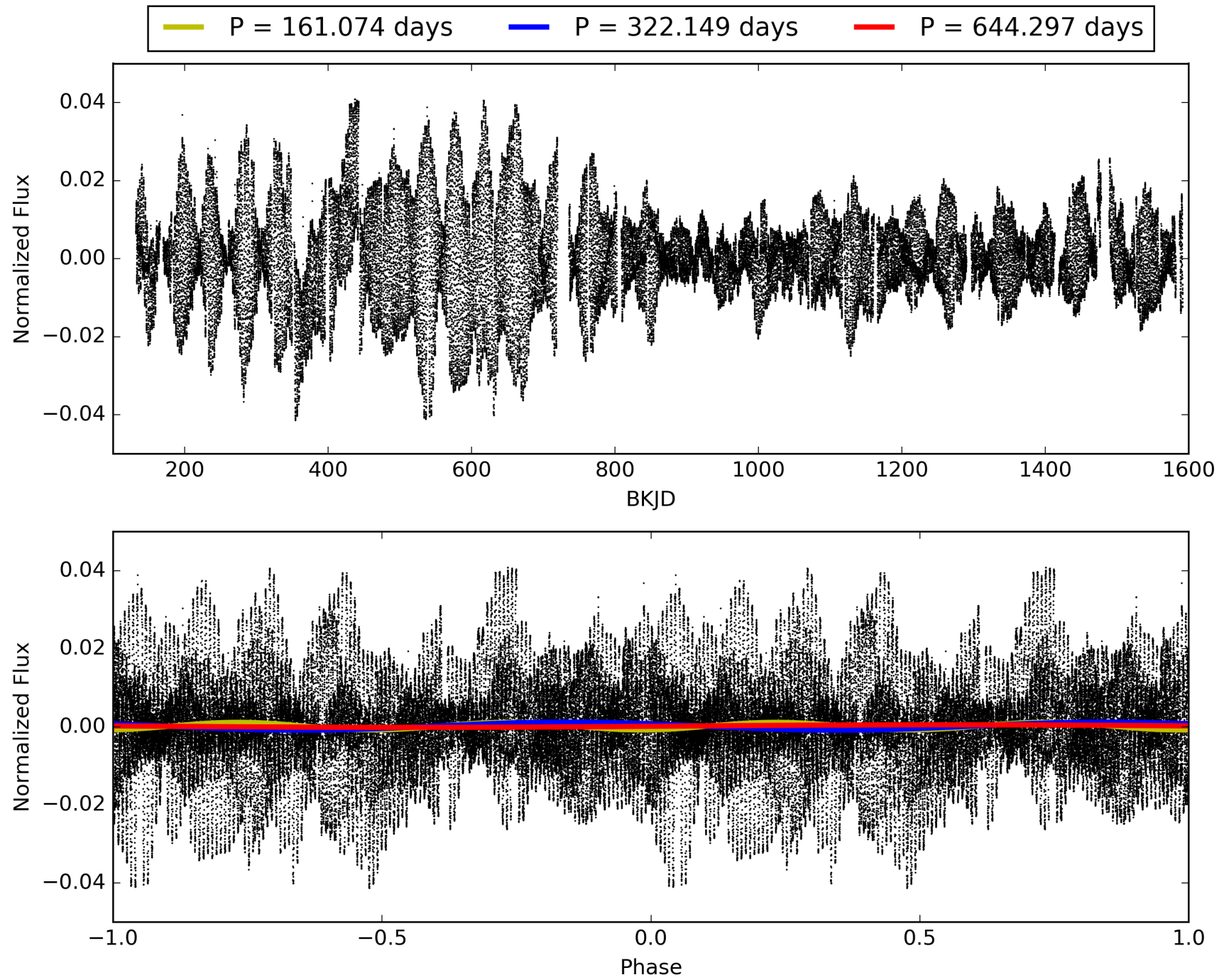
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008162830-02, PDC Light Curves

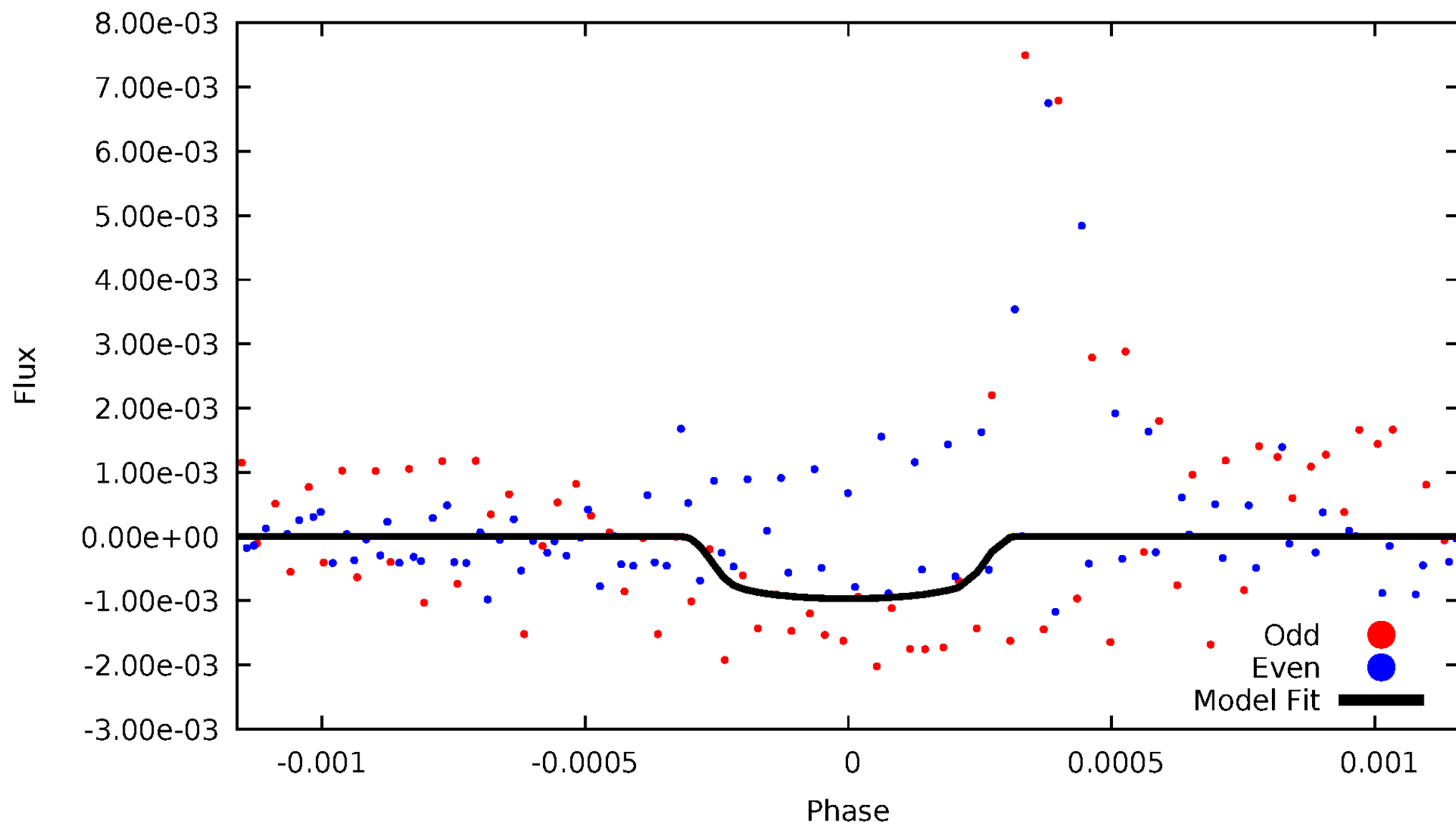


TCE 008162830-02



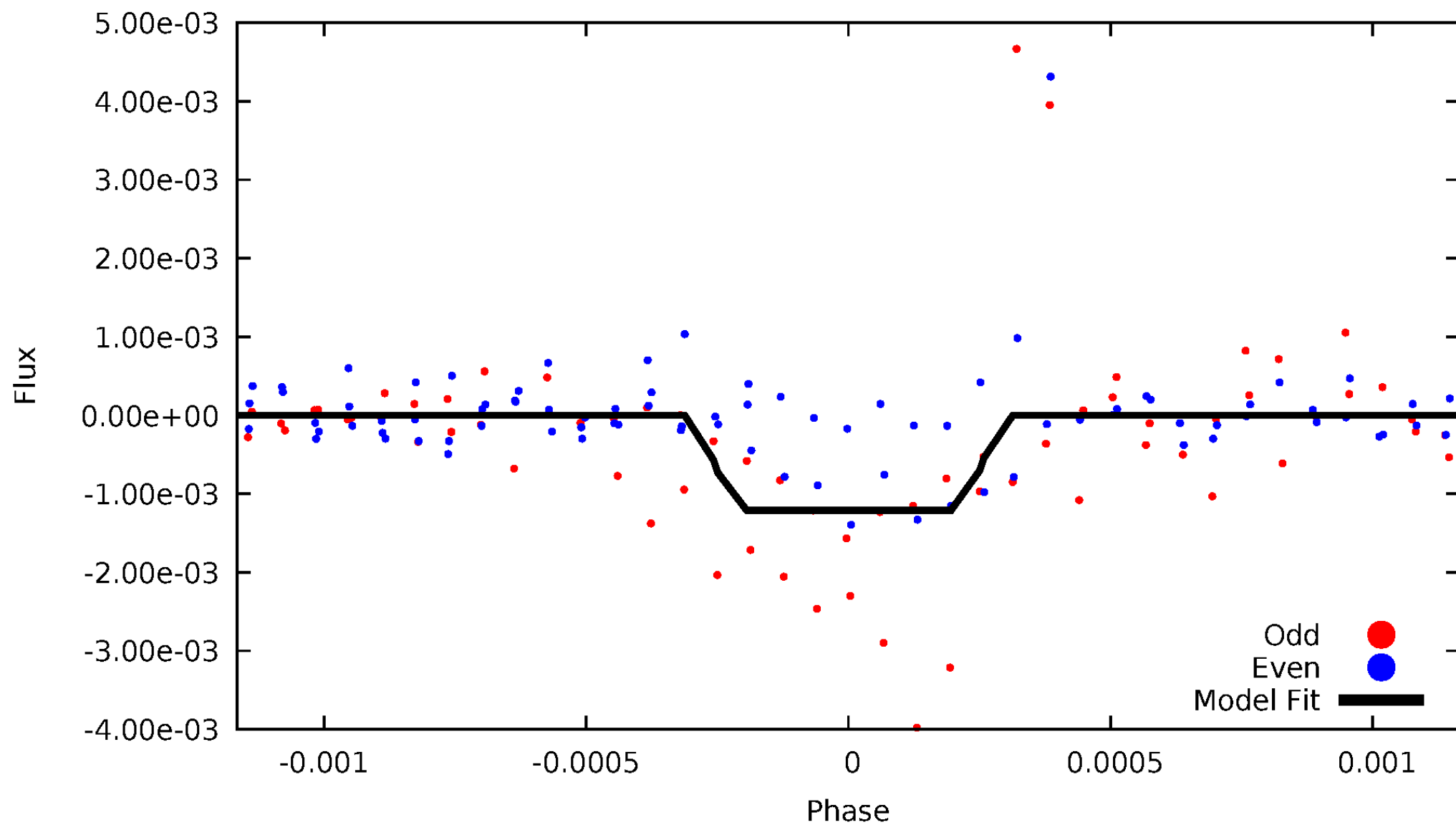
DV Odd/Even

TCE 008162830-02



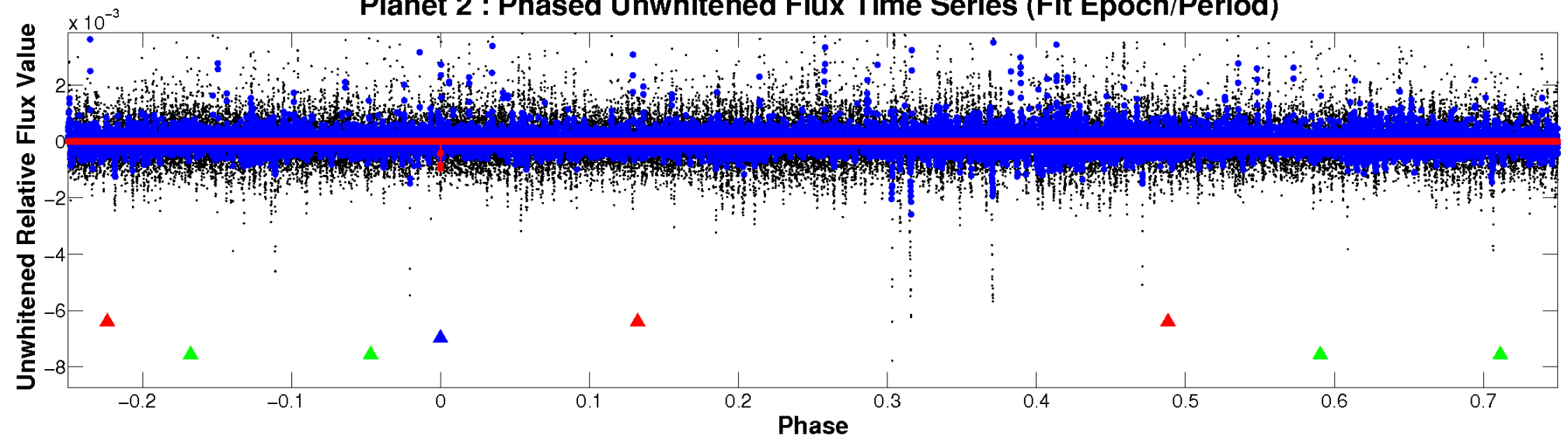
ALT Odd/Even

TCE 008162830-02

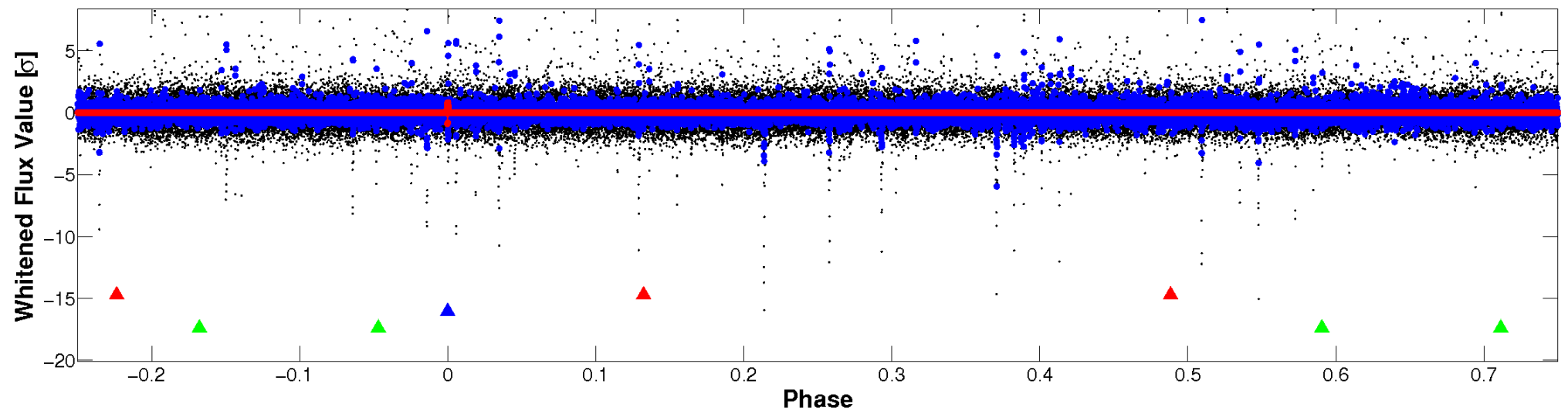


Non-Whitened Vs. Whitened Light Curve

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

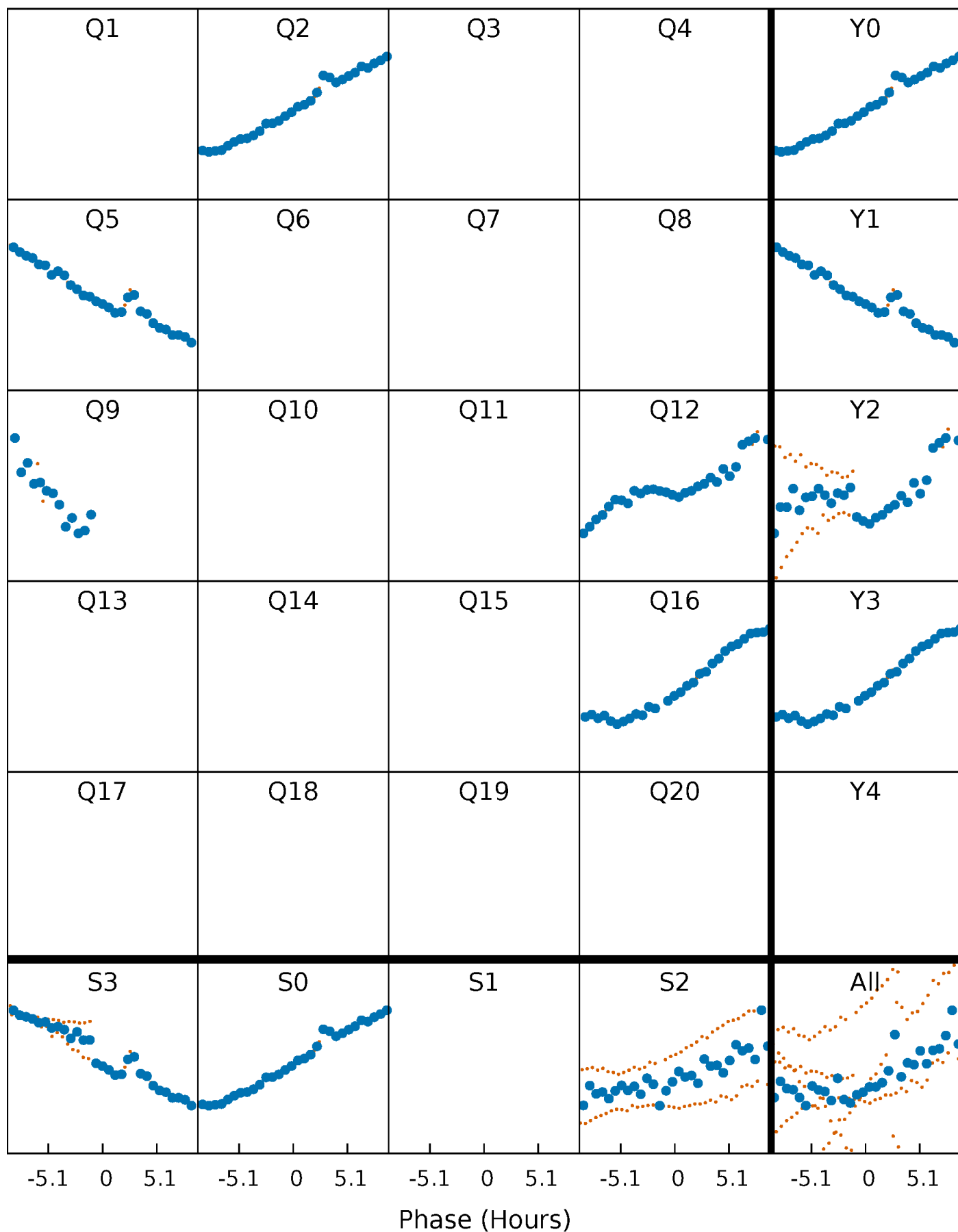


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



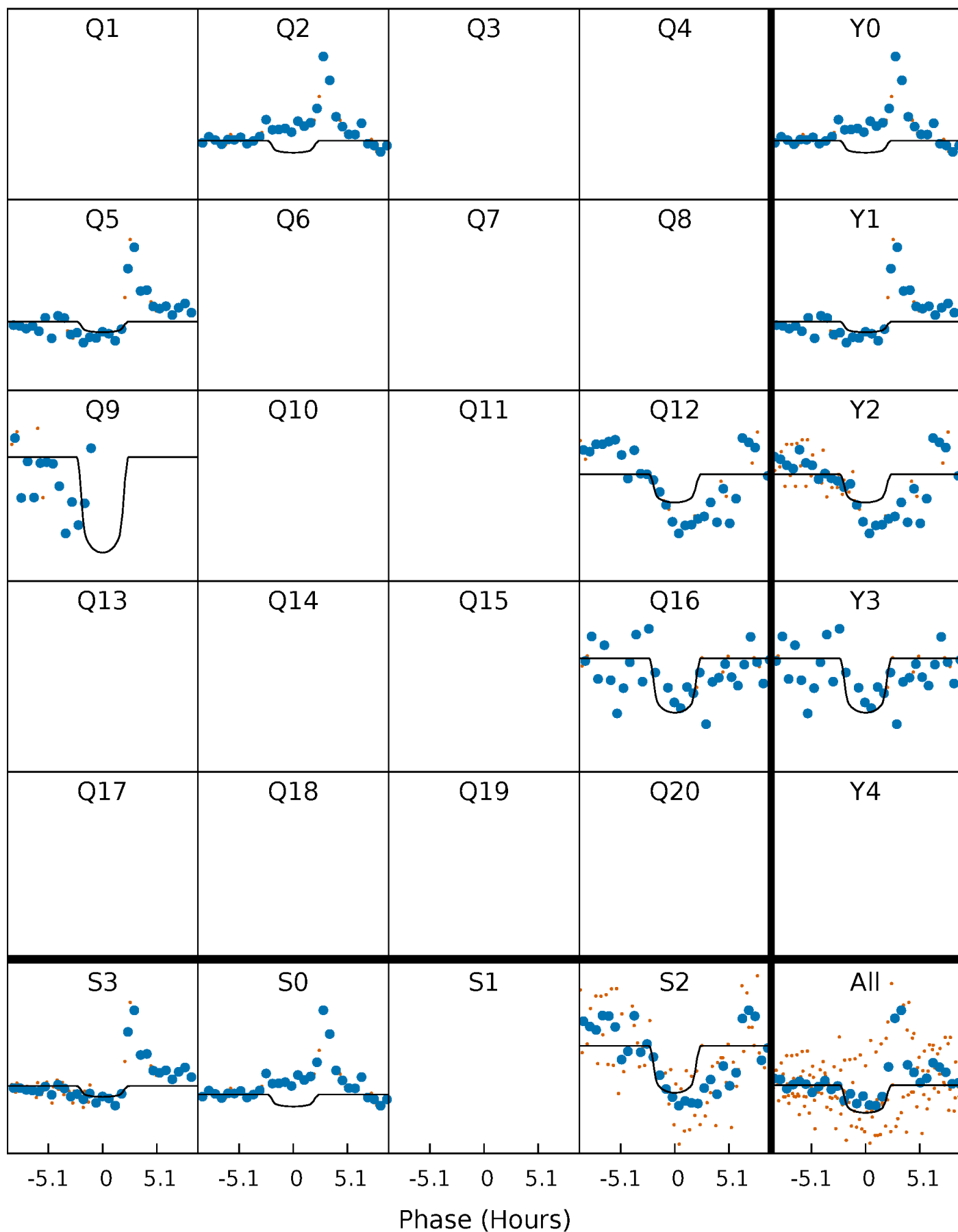
PDC Quarter-Phased Transit Curves

TCE 008162830-02 P=322.148708 Days $T_0=200.661800$ (BKJD)



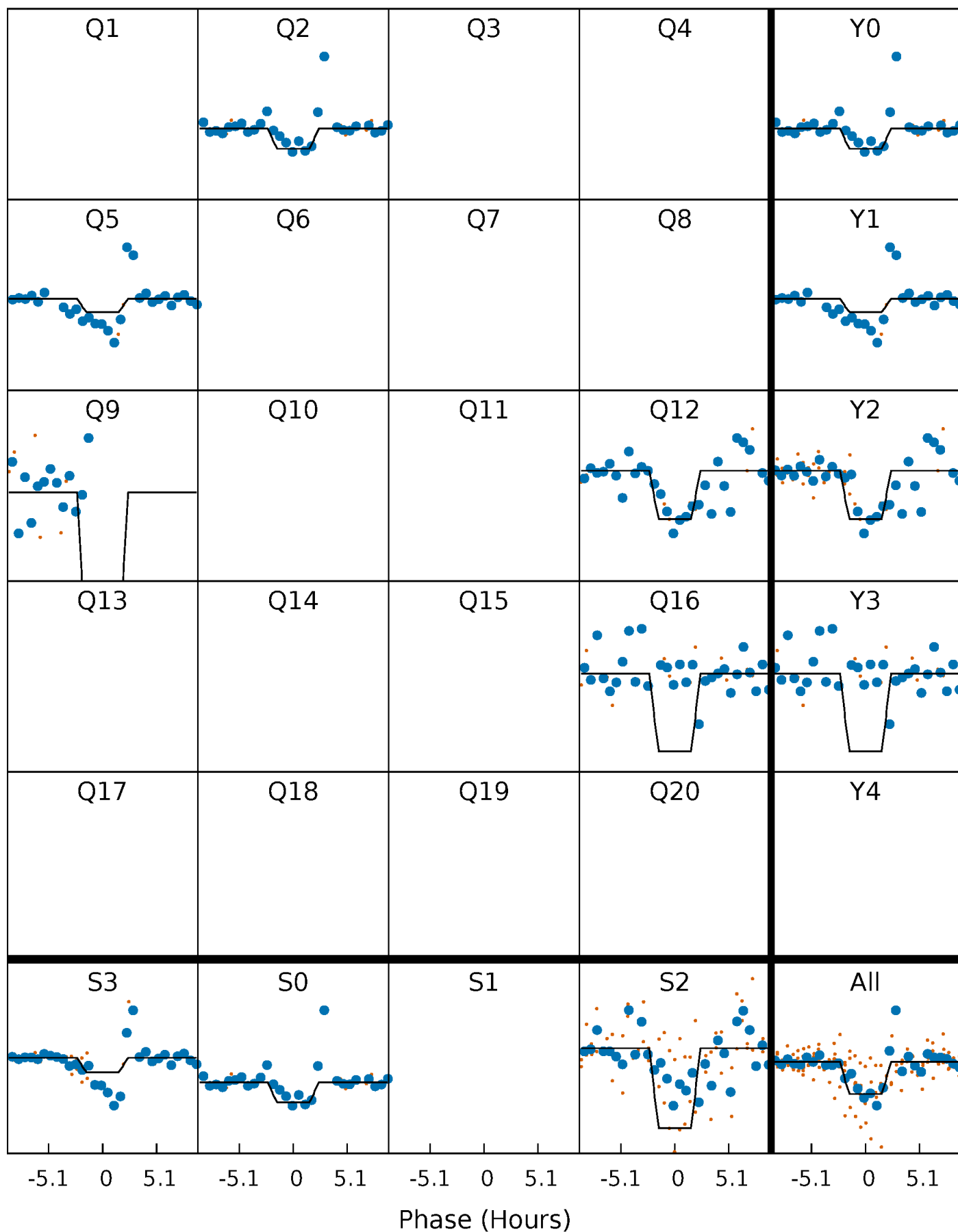
DV Quarter-Phased Transit Curves

TCE 008162830-02 $P=322.148708$ Days $T_0=200.661800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

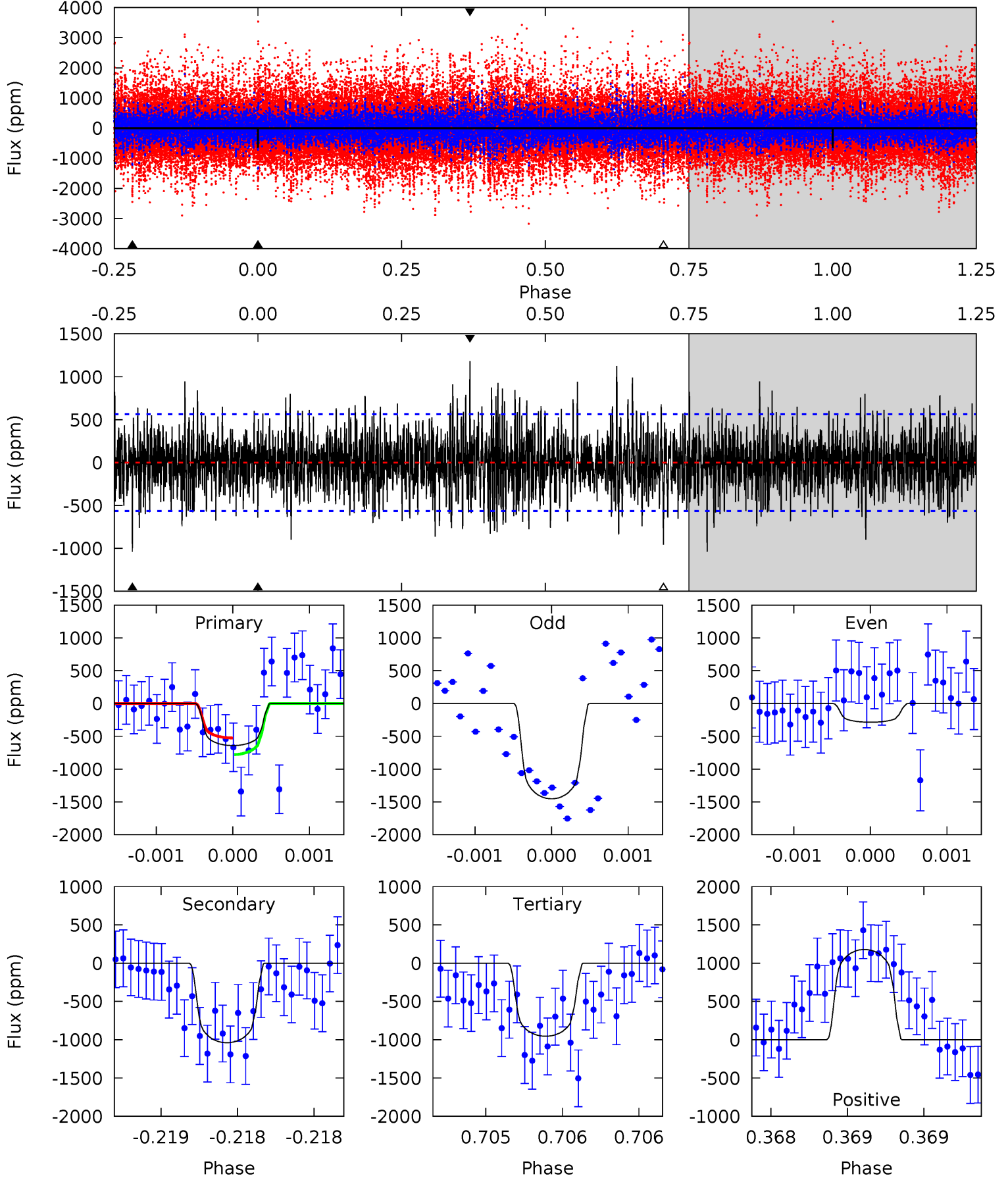
TCE 008162830-02 P=322.155507 Days $T_0=200.659815$ (BKJD)



DV Model-Shift Uniqueness Test

008162830-02, P = 322.148708 Days, E = 200.661800 Days

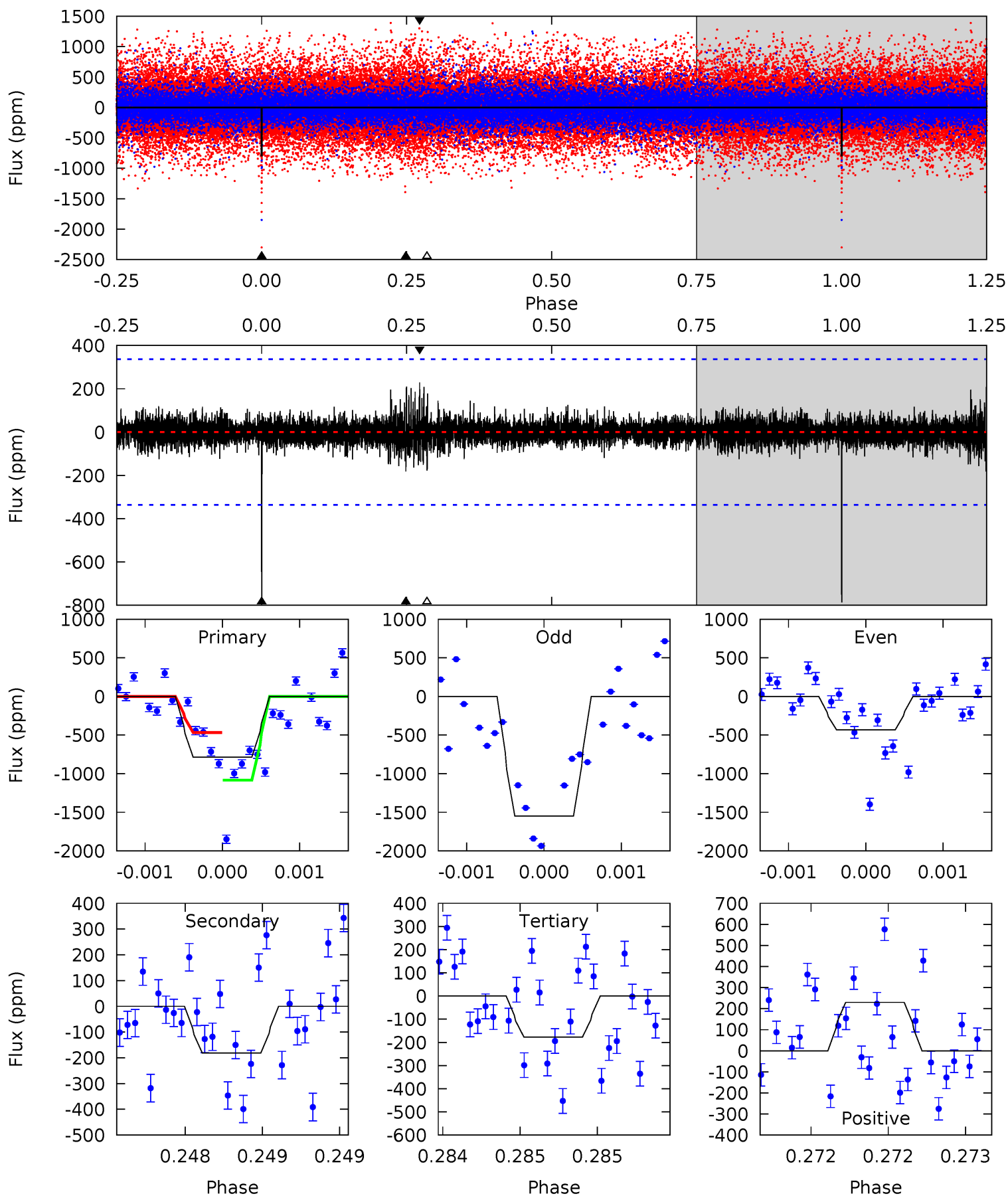
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.30	10.2	9.37	11.6	5.53	3.41	2.63	-3.07	-5.28	0.83	-1.37	5.66	0.77	0.53	1.25



Alt Model-Shift Uniqueness Test

008162830-02, P = 322.155507 Days, E = 200.659815 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.00	2.93	3.80	5.57	3.47	0.59	10.1	9.23	0.07	-0.80	9.94	0.90	0.23	5.03



Stellar Parameters For KIC 008162830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+162}_{-198}	$4.494^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.350}$	$0.956^{+0.285}_{-0.095}$	$1.040^{+0.126}_{-0.139}$	$1.675^{+0.453}_{-0.854}$
	+3%/-3%	+1%/-5%	+250%/-350%	+30%/-10%	+12%/-13%	+27%/-51%
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 008162830-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1039 ± 102	$3.58^{+1.80}_{-1.71}$	385^{+28}_{-20}	5946^{+2571}_{-958}	$37918^{+100377}_{-21276}$
Alt.	-181 ± 60	$3.80^{+1.80}_{-1.65}$	385^{+26}_{-20}	4015^{+1045}_{-513}	5792^{+11981}_{-3402}

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

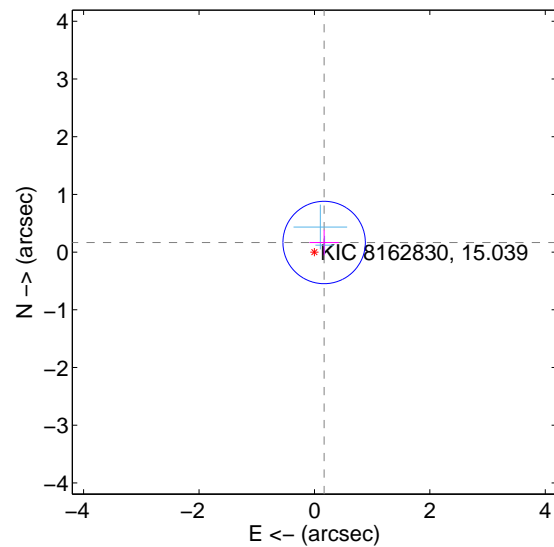
Supplemental centroid analysis for 008162830-02. Kepler magnitude: 15.04. Transit SNR 5.49

There are 2 quarters with good PRF difference image offsets

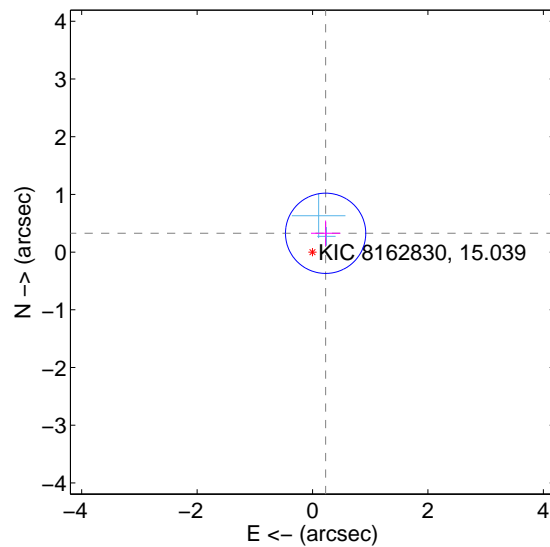
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.238	0.99	-0.168 ± 0.254	0.166 ± 0.220
PRF-fit source offset from KIC position	0.397 ± 0.232	1.71	-0.227 ± 0.254	0.326 ± 0.220
photometric centroid source offset	0.51 ± 1.00	0.51	-0.40 ± 0.94	0.31 ± 1.08

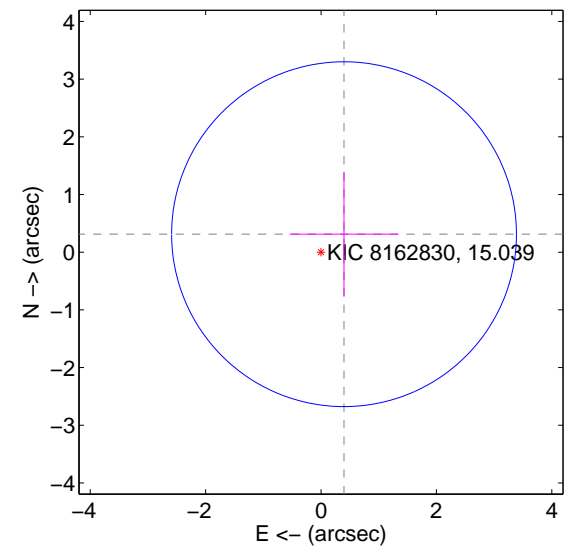
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

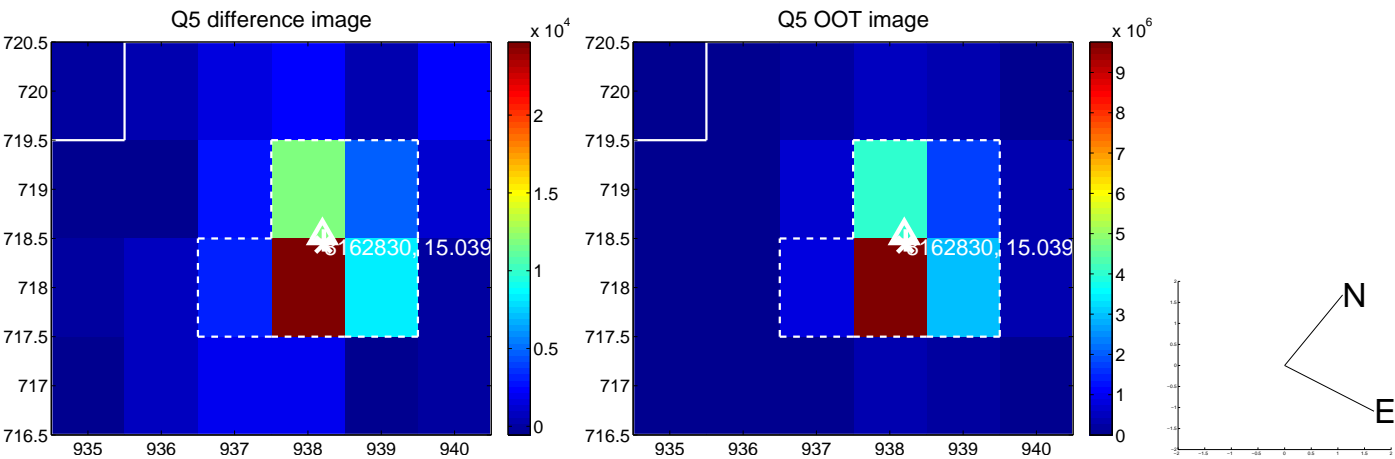


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

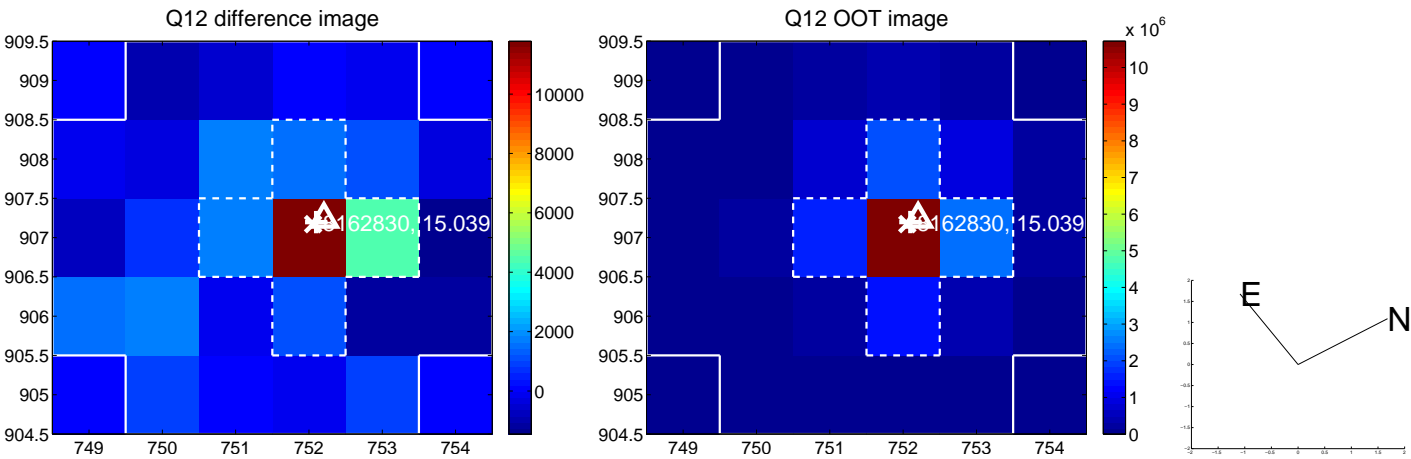
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



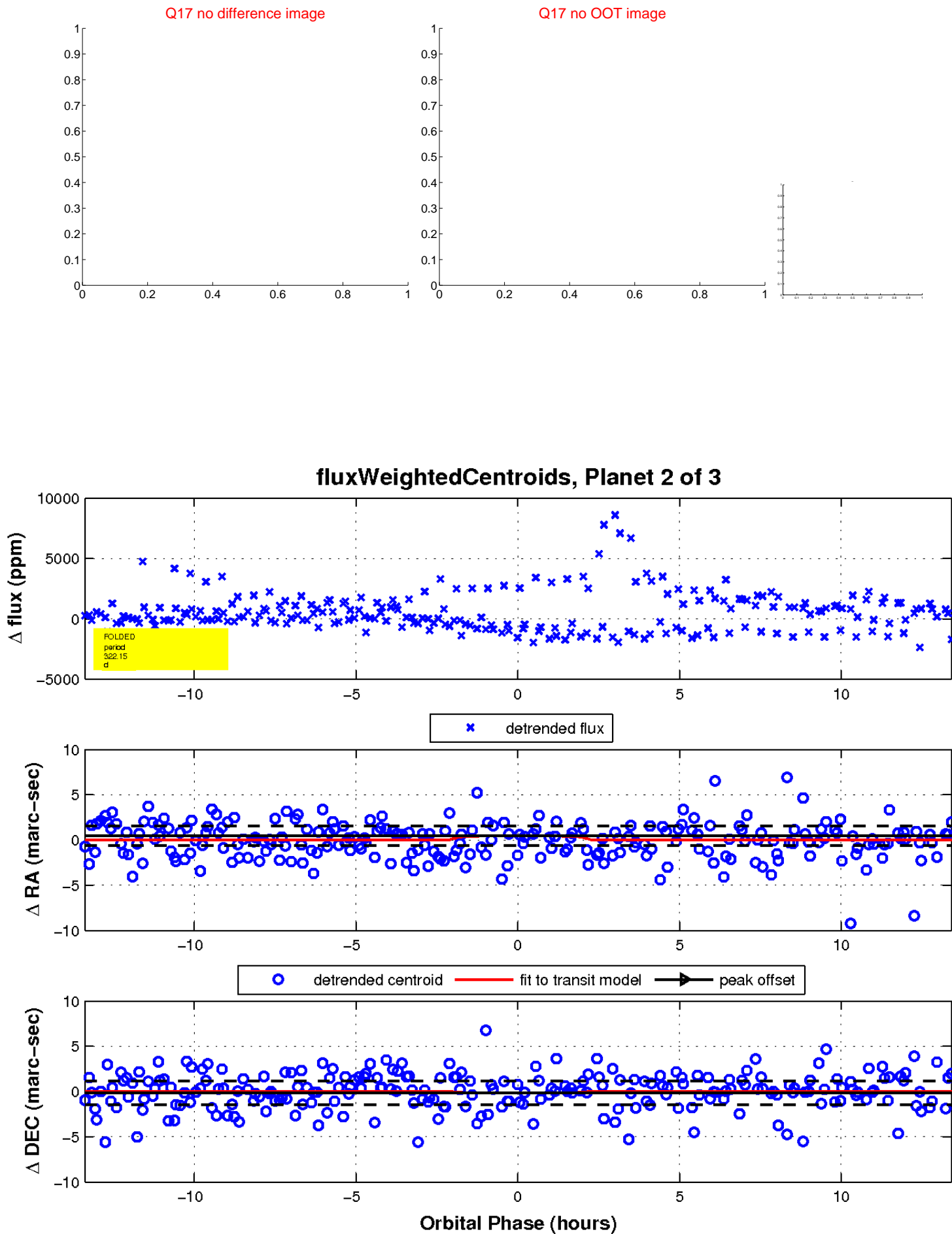
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

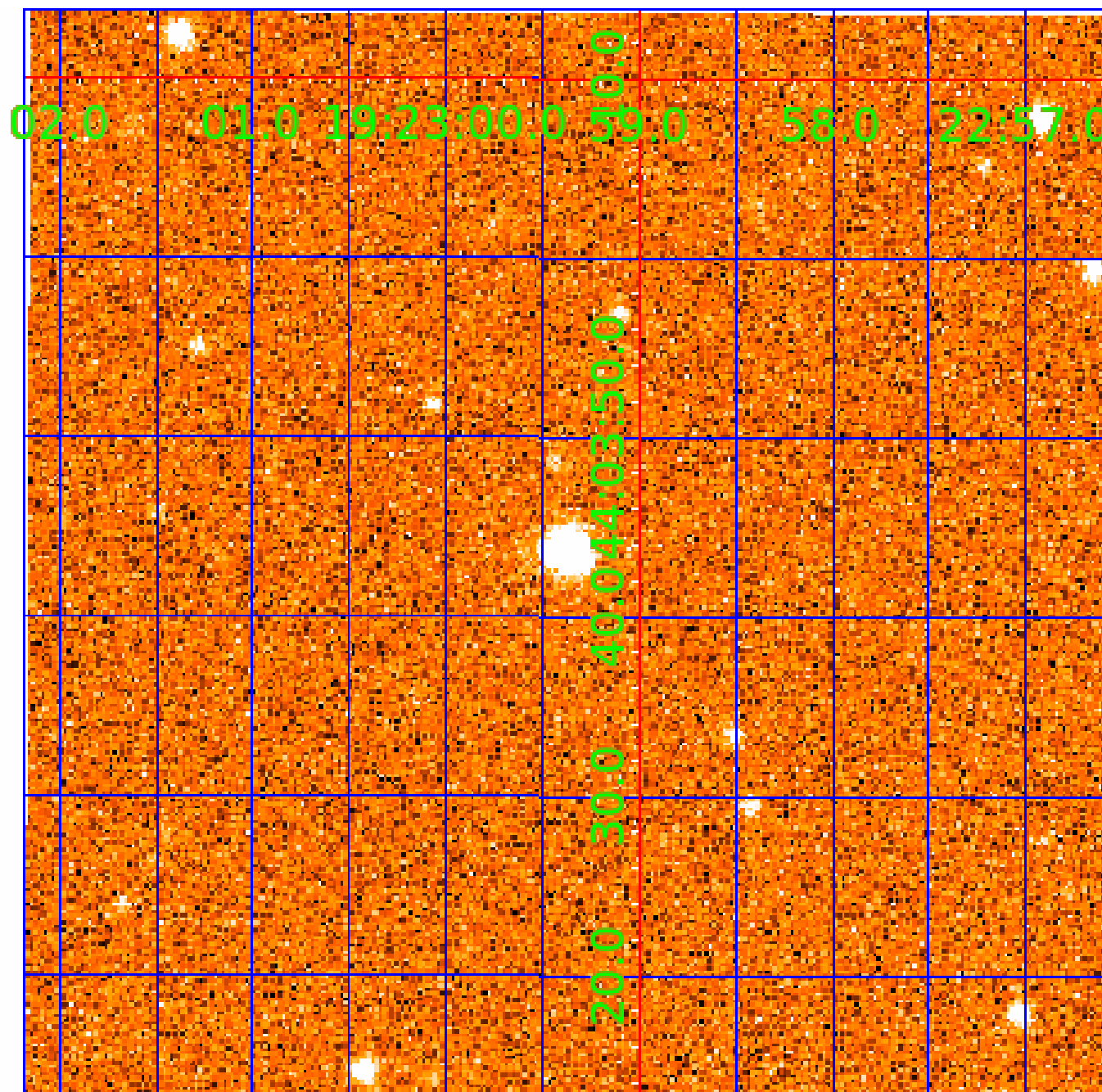


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008162830

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})
008162830-01	OBS	No	436.830091	450.768047	1131.9	3.414	10.2	5.6	0.96	6029	3.43	0.83
008162830-02	OBS	No	322.148708	200.661800	967.1	4.486	14.0	5.5	0.96	6029	3.33	1.25
008162830-03	OBS	No	361.085211	390.912087	1362.5	4.882	10.9	5.8	0.96	6029	3.67	1.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008162830-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008162830-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008162830-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_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.

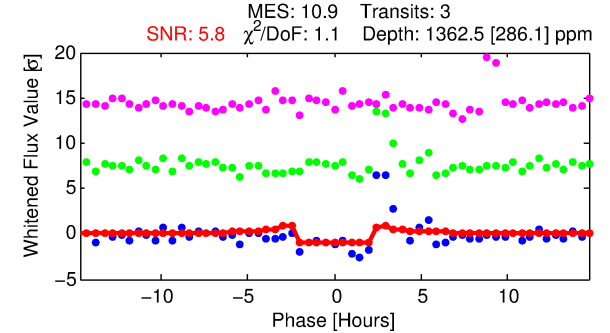
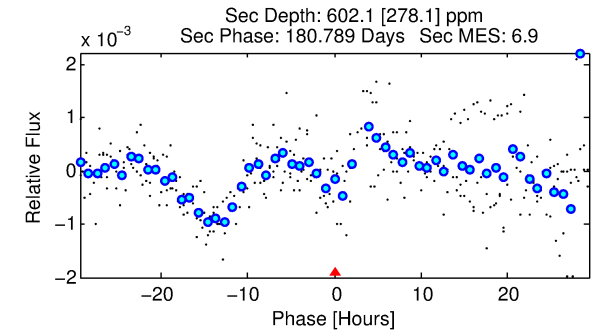
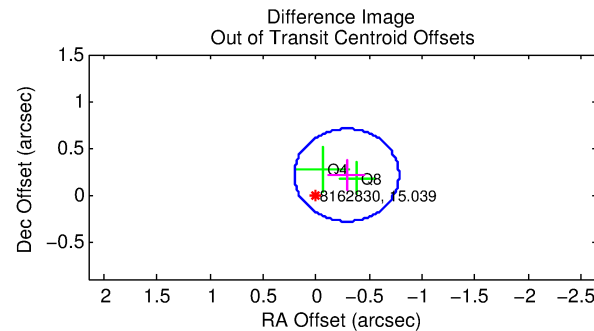
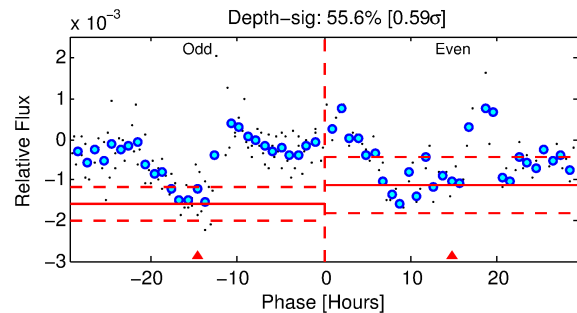
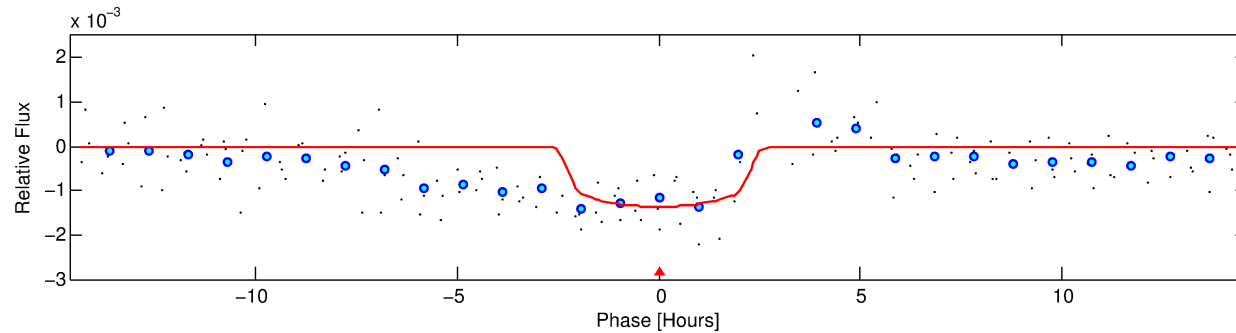
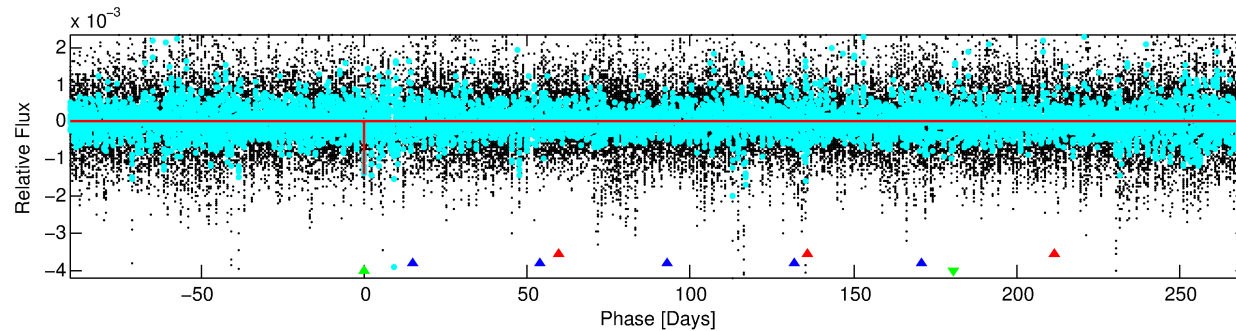
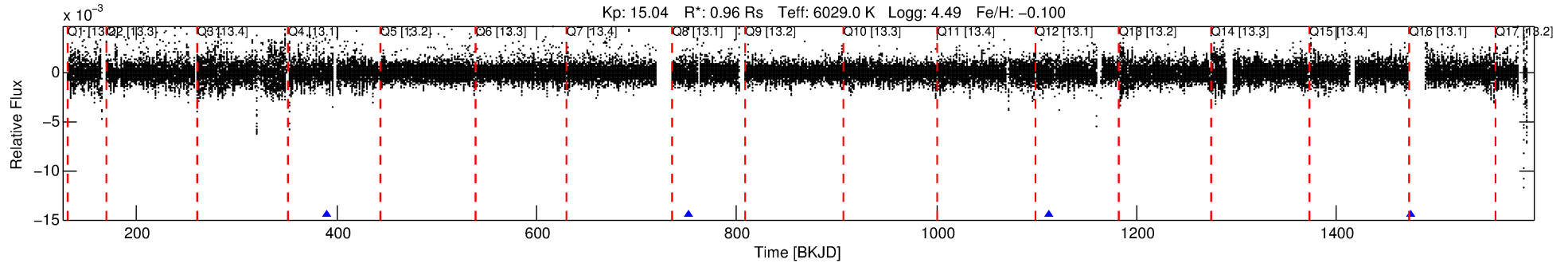
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008162830-03

No Significant Match Found

DV One-Page Summary

KIC: 8162830 Candidate: 3 of 3 Period: 361.085 d



DV Fit Results:

Period = 361.08521 [0.00654] d
Epoch = 390.9121 [0.0084] BKJD
Rp/R* = 0.0352 [0.0219]
a/R* = 483.35 [1356.13]
b = 0.58 [3.21]
Seff = 1.07 [0.43]
Teq = 259 [26] K
Rp = 3.67 [2.54] Re
a = 1.0056 [0.2563] AU
Ag = 24836.71 [34307.81] [0.72 σ]
Teffp = 5034 [1681] K [2.84 σ]

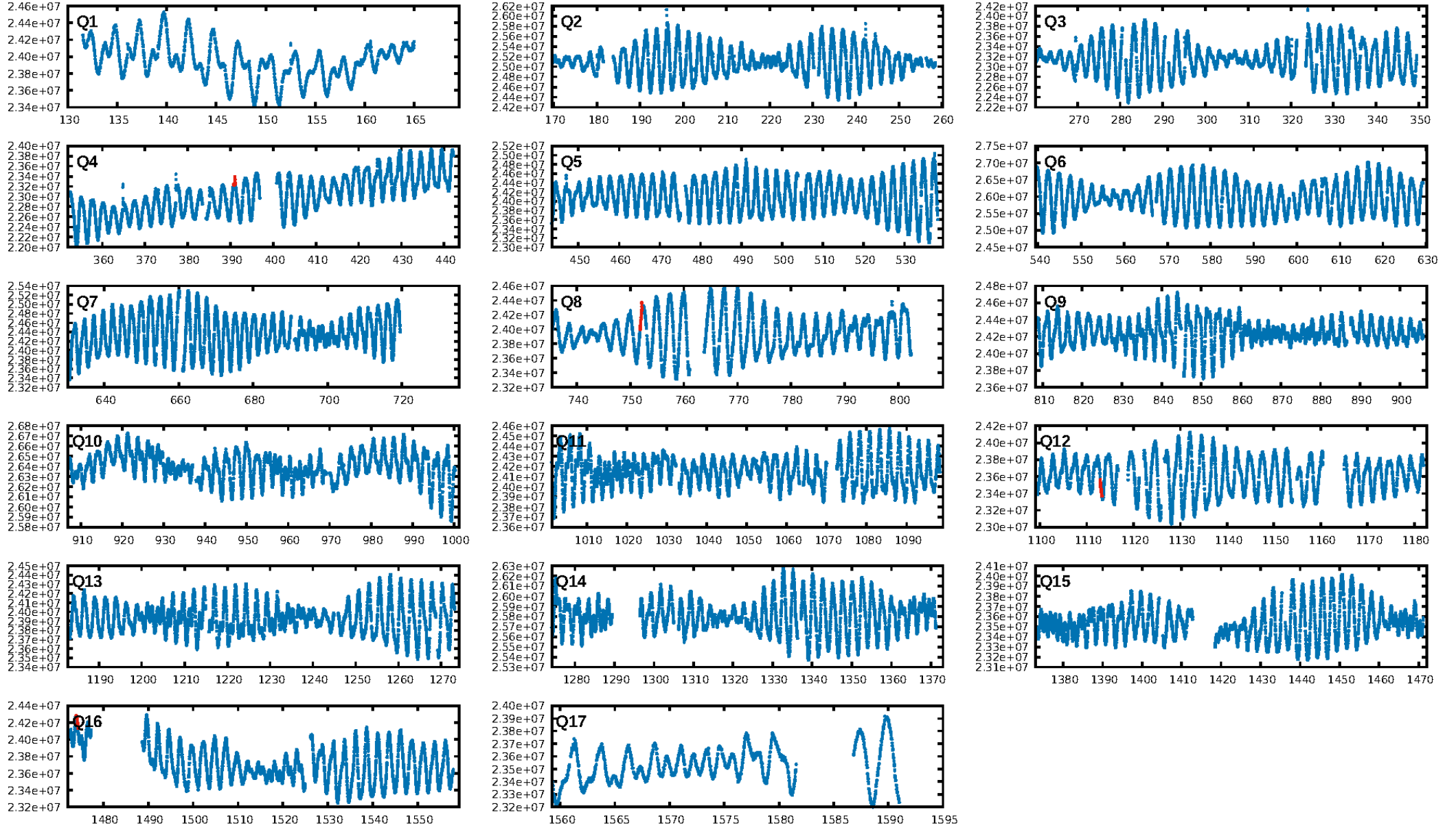
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [140.94 σ]
LongPeriod-sig: 100.0% [305.13 σ]
ModelChiSquare2-sig: 14.0%
ModelChiSquareGof-sig: 92.8%
Bootstrap-pfa: 5.64e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.766
Centroid-sig: 3.3%
Centroid-so: 1.185 arcsec [1.16 σ]
OotOffset-rm: 0.356 arcsec [2.16 σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-rm: 0.476 arcsec [2.93 σ]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

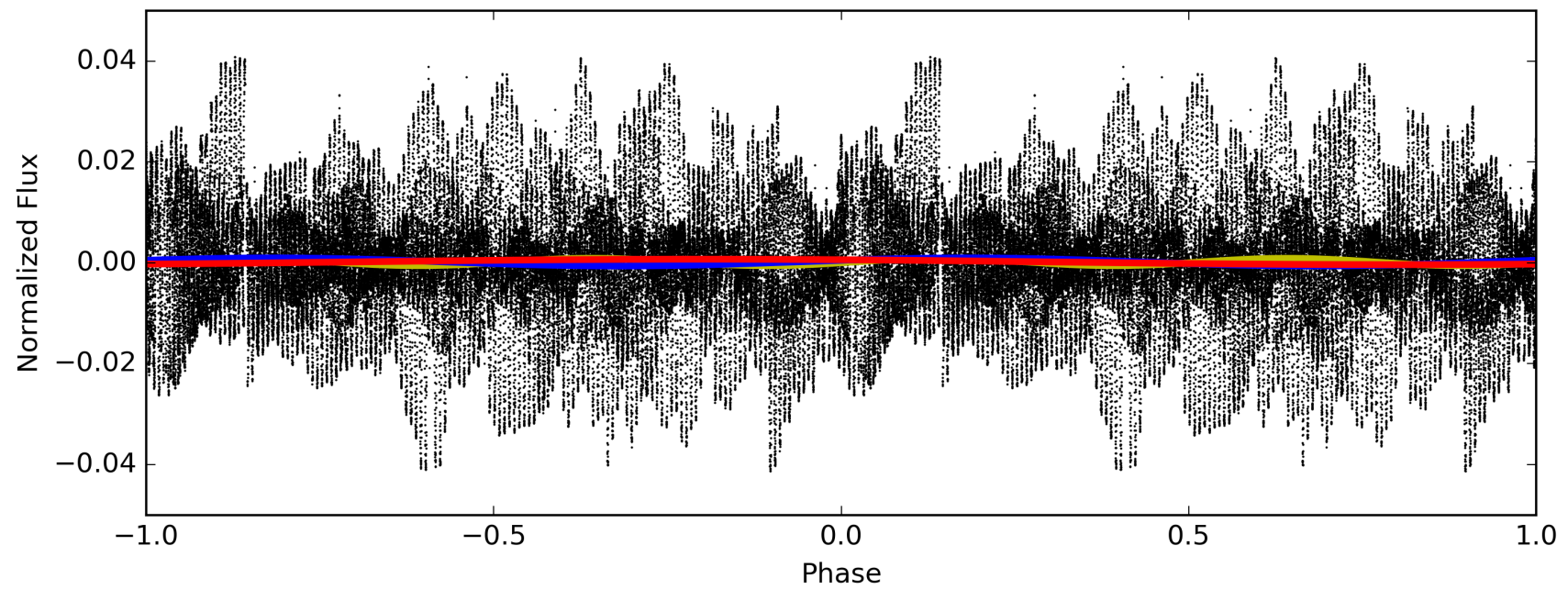
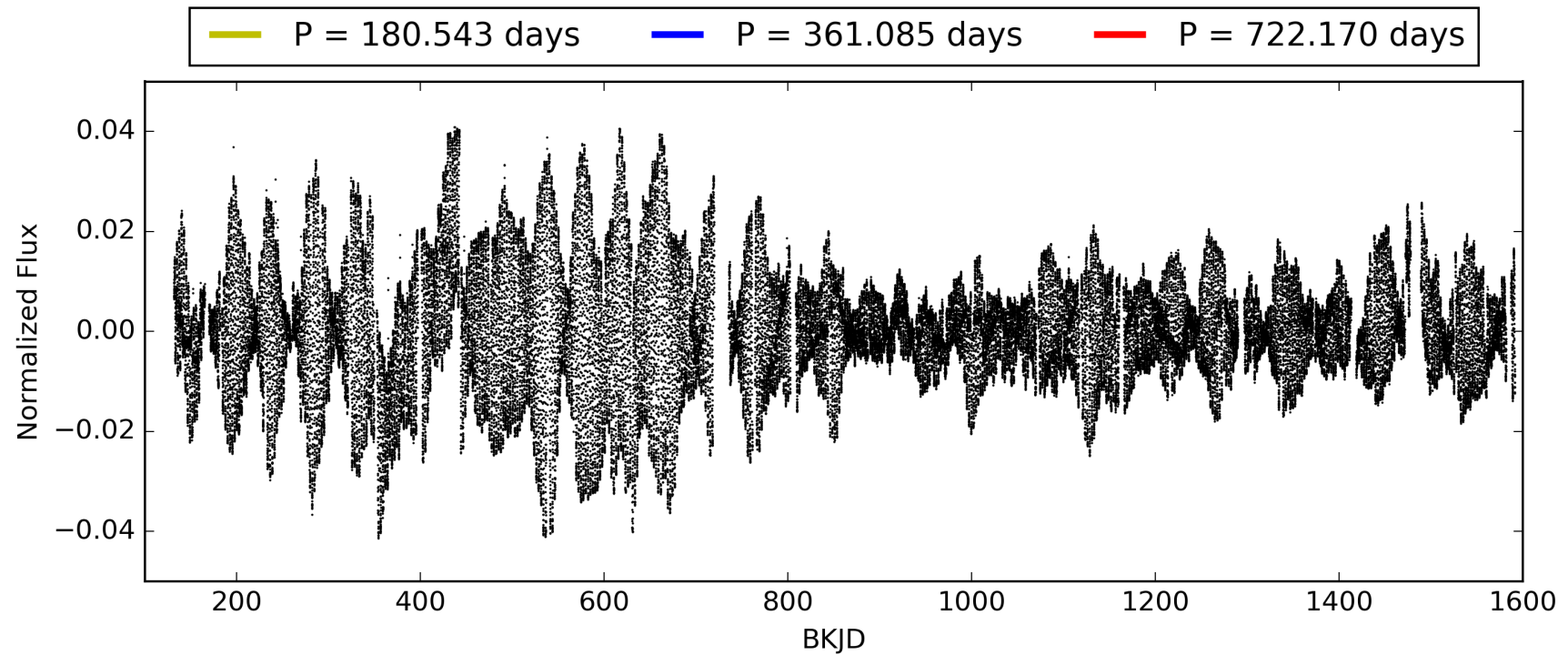
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:30:53 Z

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

TCE 008162830-03, PDC Light Curves

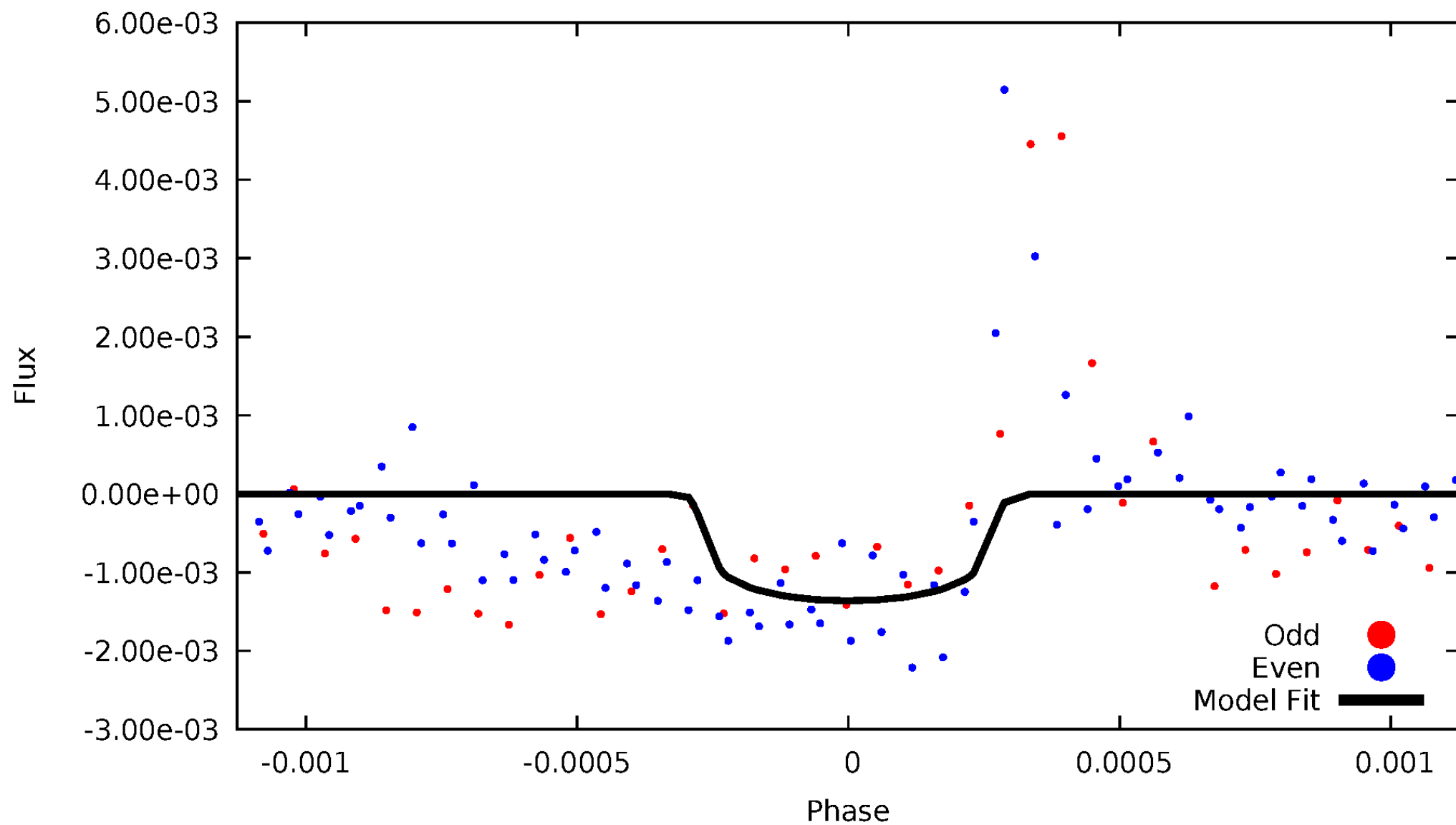


TCE 008162830-03



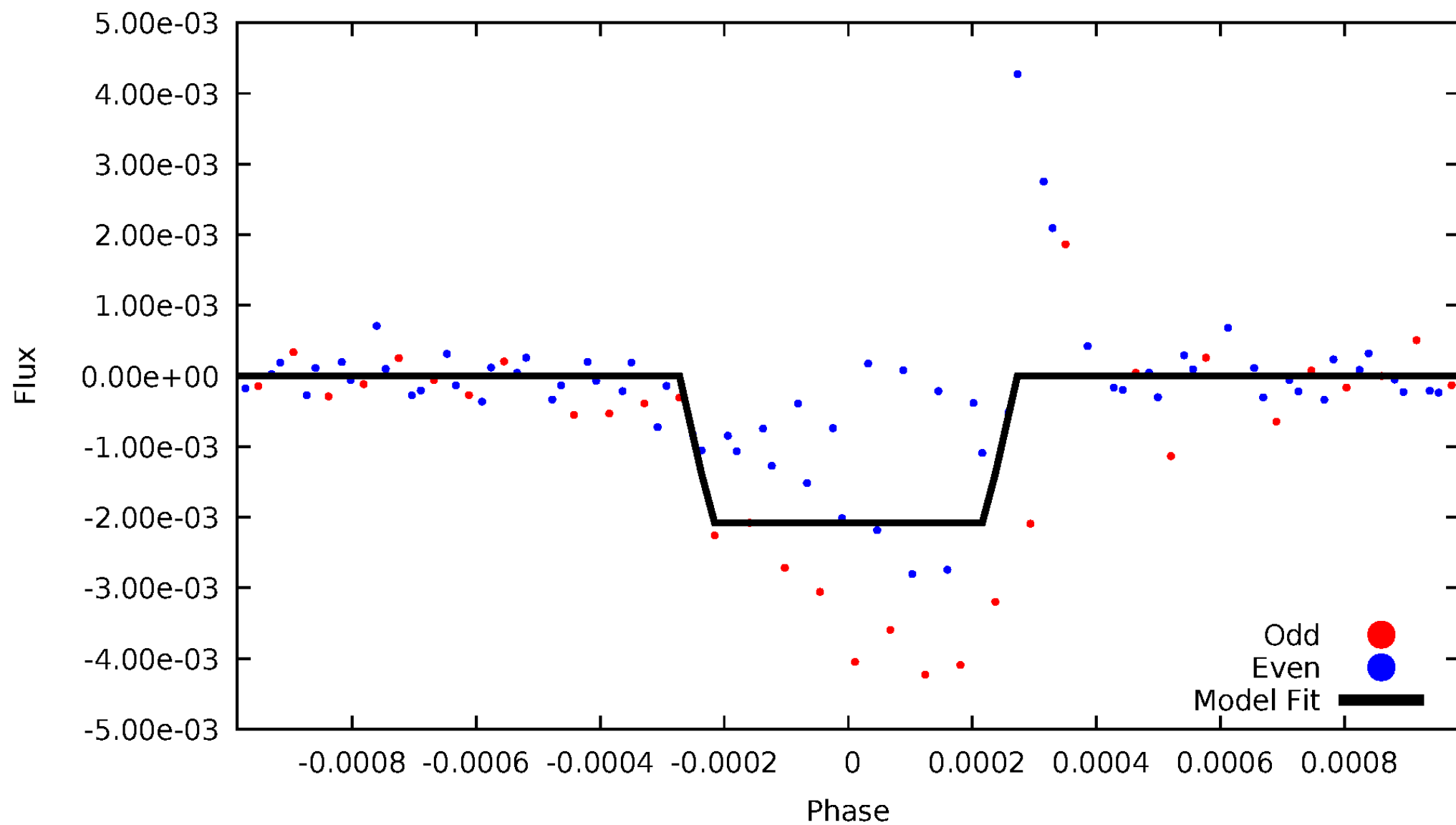
DV Odd/Even

TCE 008162830-03



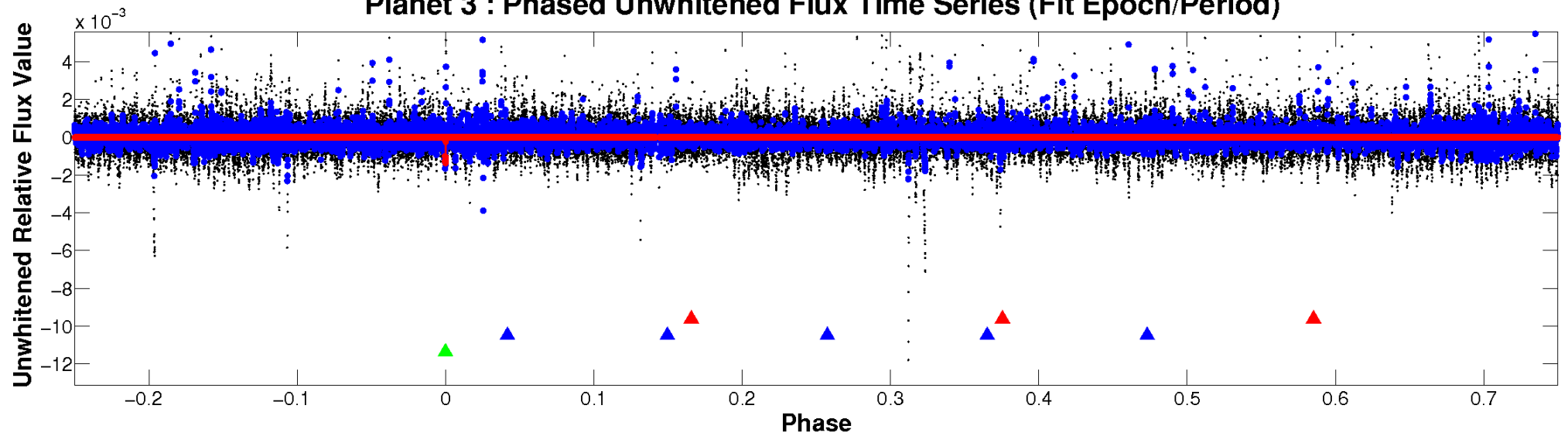
ALT Odd/Even

TCE 008162830-03

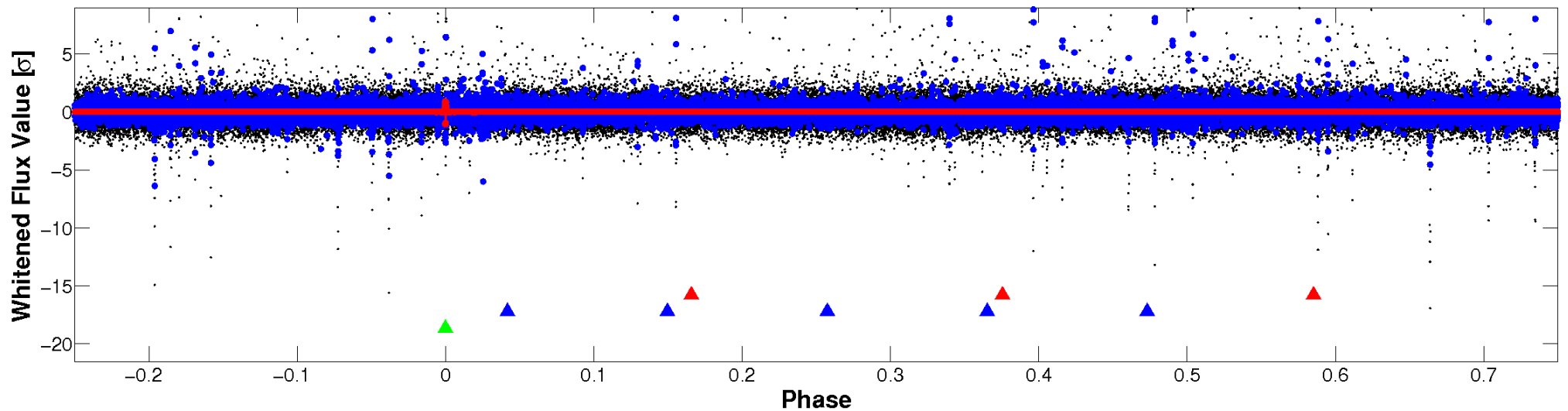


Non-Whitened Vs. Whitened Light Curve

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

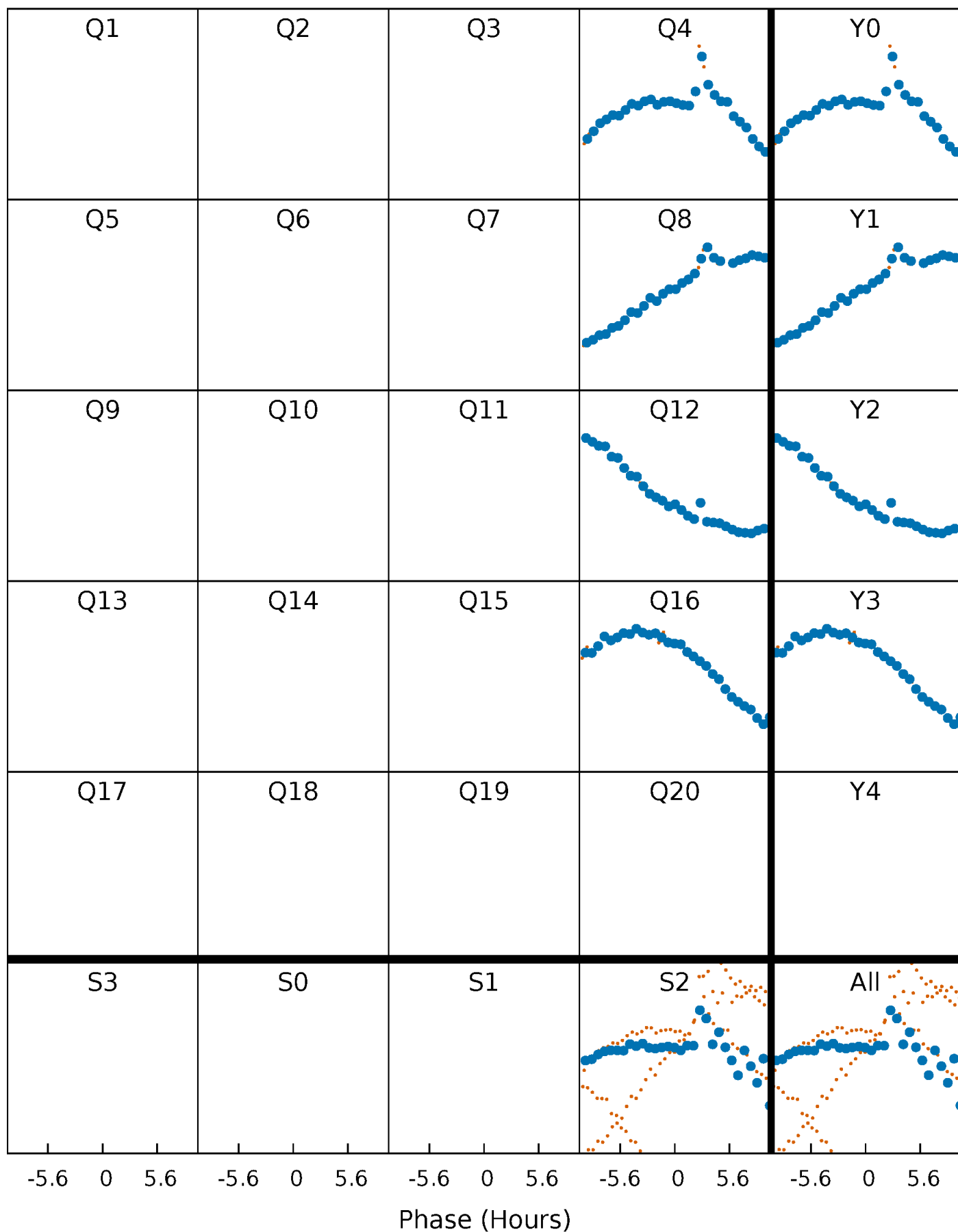


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



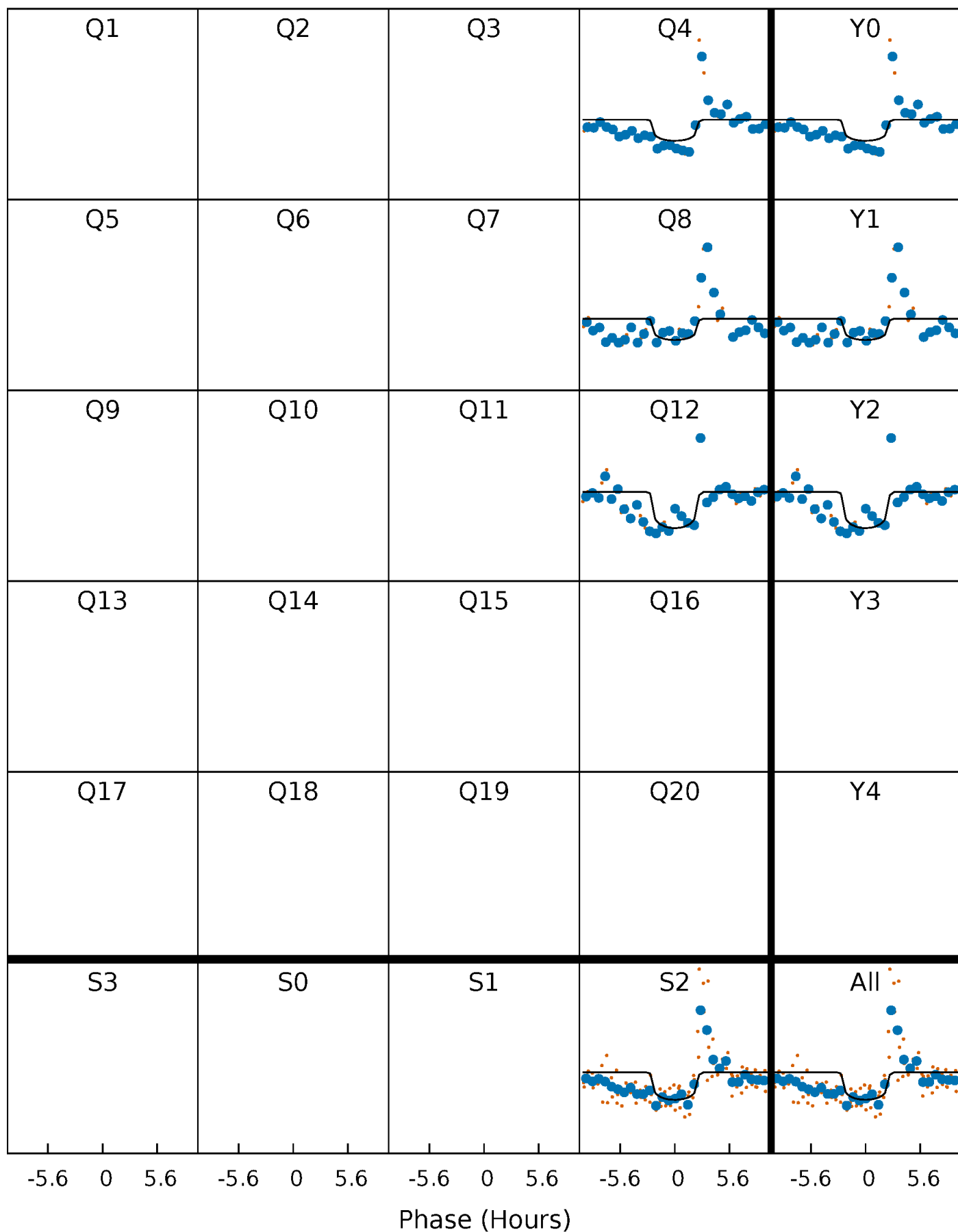
PDC Quarter-Phased Transit Curves

TCE 008162830-03 P=361.085211 Days $T_0=390.912087$ (BKJD)



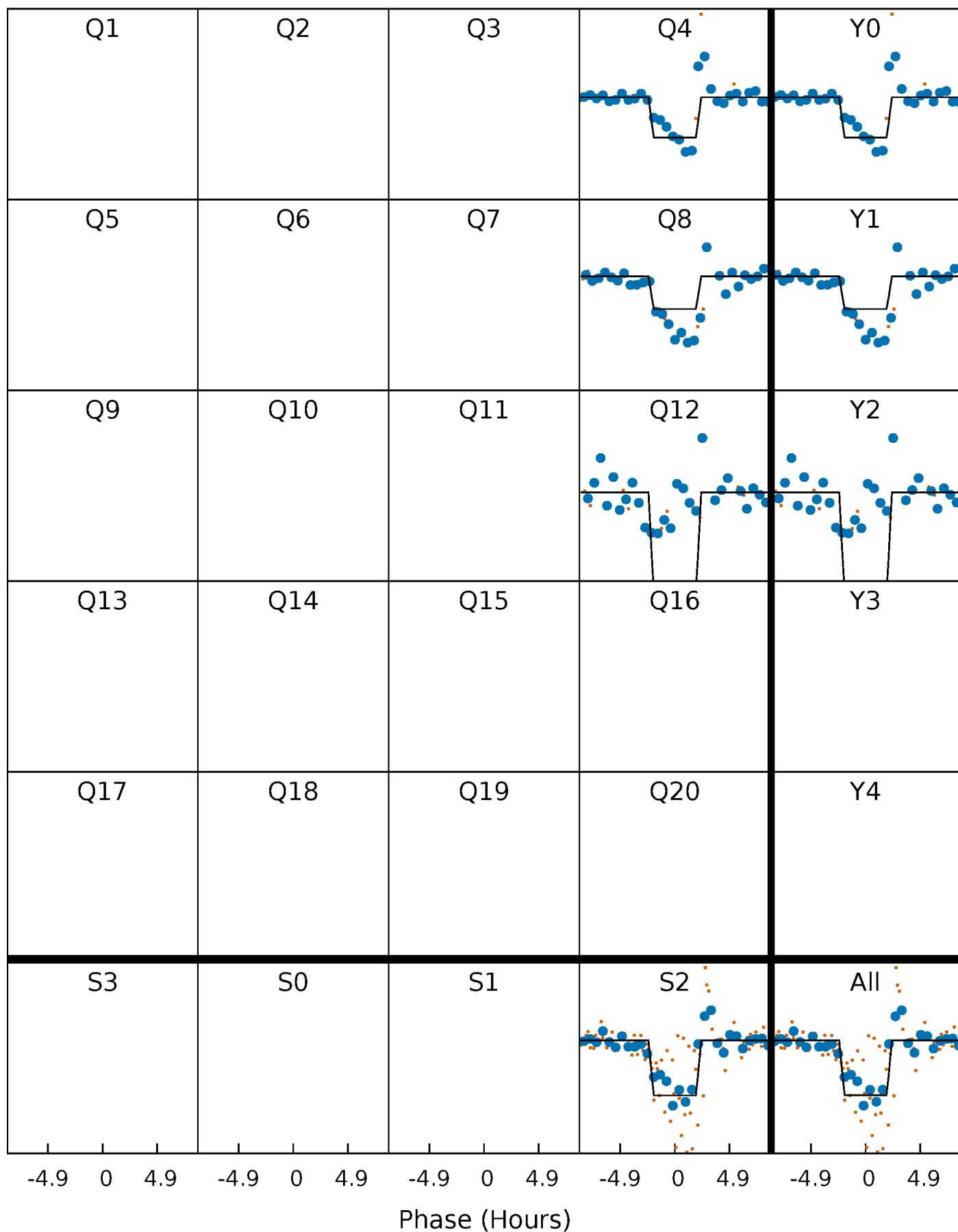
DV Quarter-Phased Transit Curves

TCE 008162830-03 $P=361.085211$ Days $T_0=390.912087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

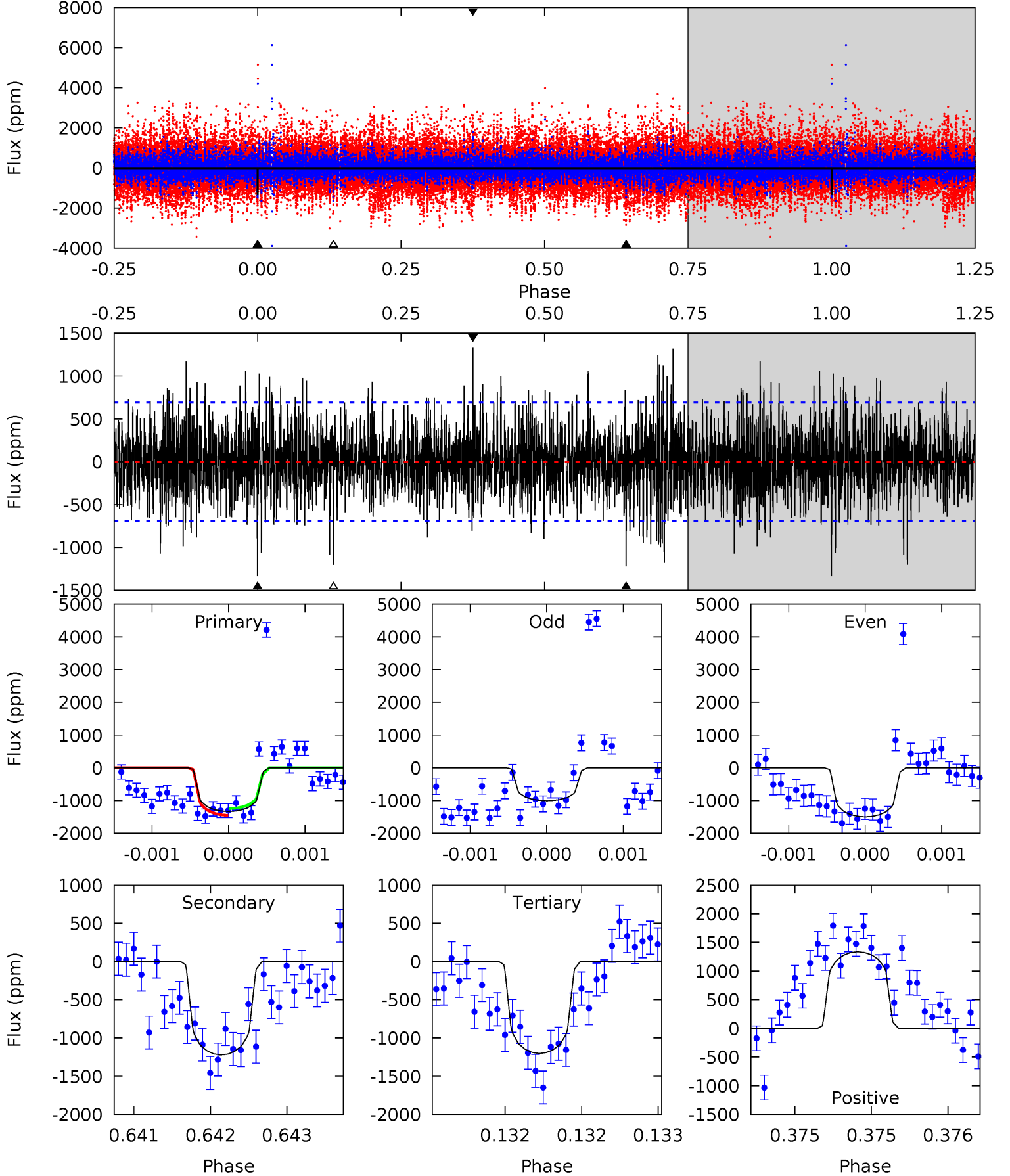
TCE 008162830-03 P=361.074628 Days $T_0=390.917518$ (BKJD)



DV Model-Shift Uniqueness Test

008162830-03, P = 361.085211 Days, E = 29.826876 Days

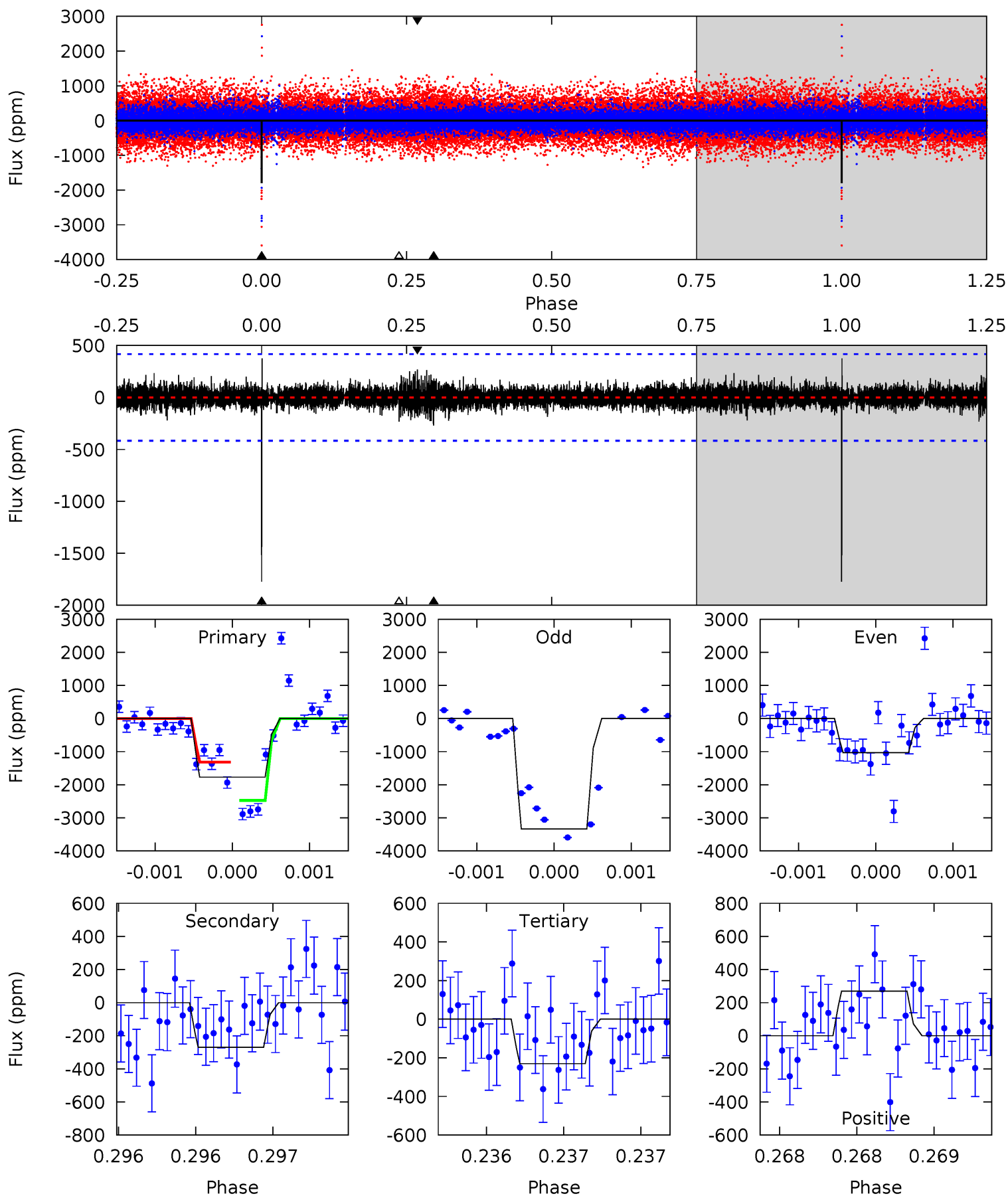
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	9.76	9.60	10.7	5.53	3.42	2.49	1.06	-0.01	0.16	-0.91	1.81	1.14	0.50	0.81



Alt Model-Shift Uniqueness Test

008162830-03, $P = 361.074628$ Days, $E = 29.842890$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	3.61	3.08	3.61	5.57	3.48	0.69	20.6	20.1	0.53	0.01	17.9	1.02	0.17	7.07



Stellar Parameters For KIC 008162830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+162}_{-198}	$4.494^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.350}$	$0.956^{+0.285}_{-0.095}$	$1.040^{+0.126}_{-0.139}$	$1.675^{+0.453}_{-0.854}$
	+3%/-3%	+1%/-5%	+250%/-350%	+30%/-10%	+12%/-13%	+27%/-51%
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 008162830-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1221 ± 125	$4.11^{+2.26}_{-2.12}$	371^{+25}_{-18}	5855^{+2929}_{-1004}	$40091^{+127329}_{-23757}$
Alt.	-270 ± 75	$4.98^{+2.46}_{-2.30}$	368^{+26}_{-16}	3916^{+1076}_{-514}	5700^{+14284}_{-3267}

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

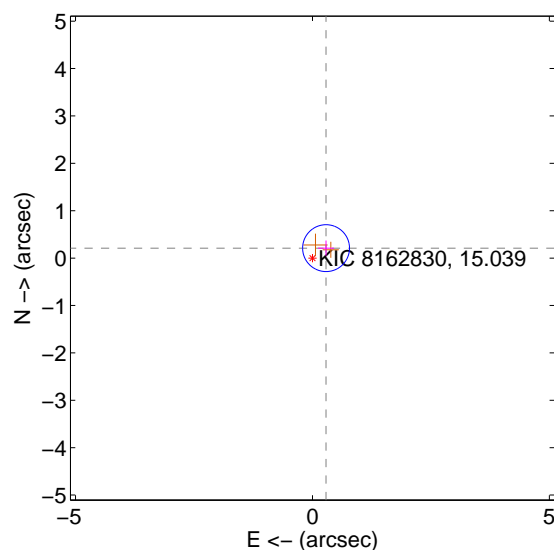
Supplemental centroid analysis for 008162830-03. Kepler magnitude: 15.04. Transit SNR 5.79

There are 0 quarters with good PRF difference image offsets

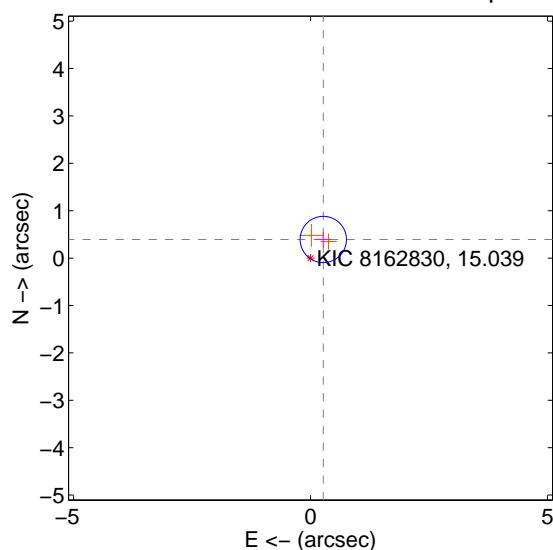
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.356 ± 0.165	2.16	-0.287 ± 0.167	0.210 ± 0.161
PRF-fit source offset from KIC position	0.476 ± 0.163	2.93	-0.269 ± 0.167	0.393 ± 0.161
photometric centroid source offset	1.18 ± 1.02	1.16	-0.52 ± 0.92	-1.06 ± 1.05

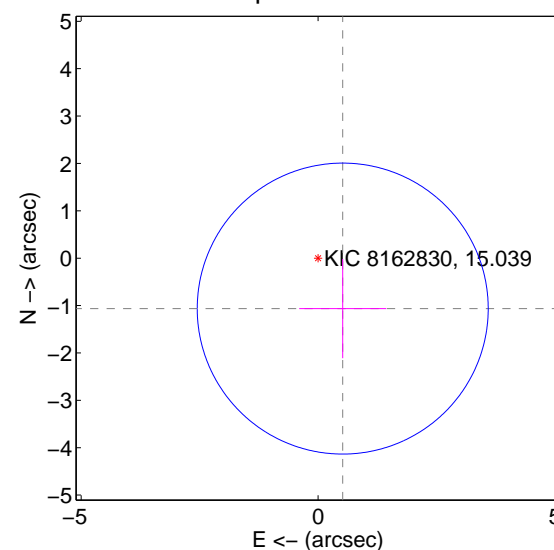
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

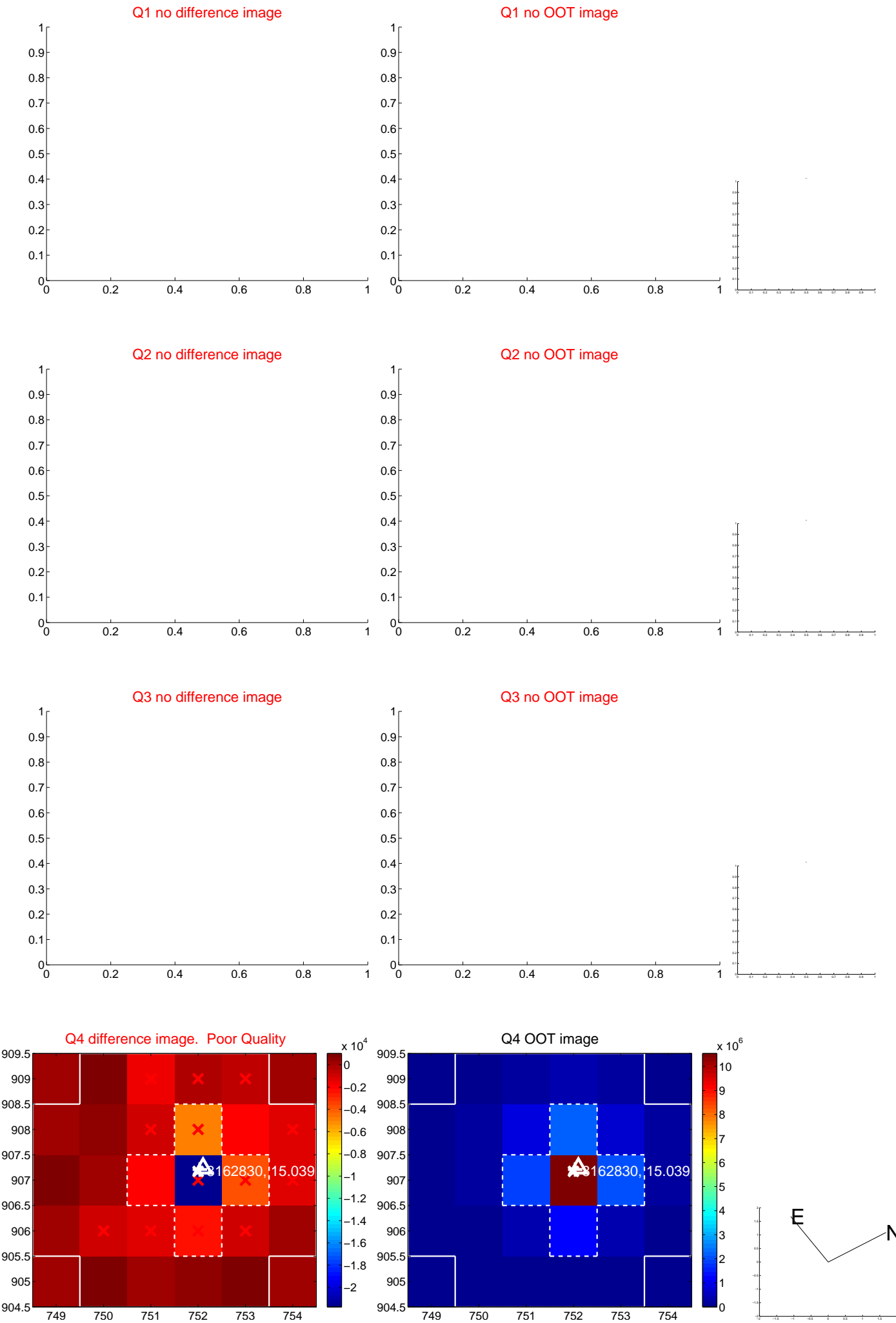


offset from photometric centroids

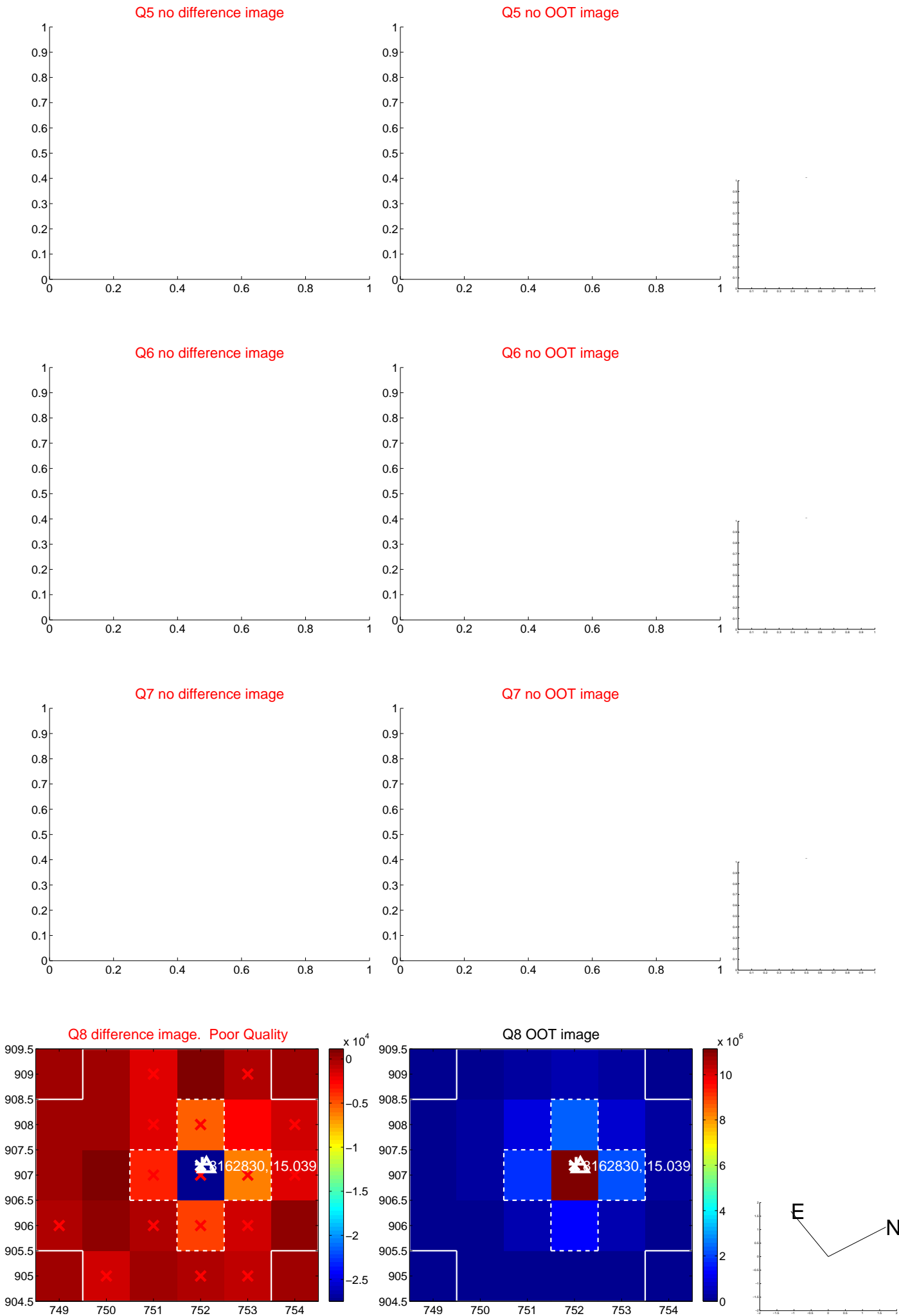


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



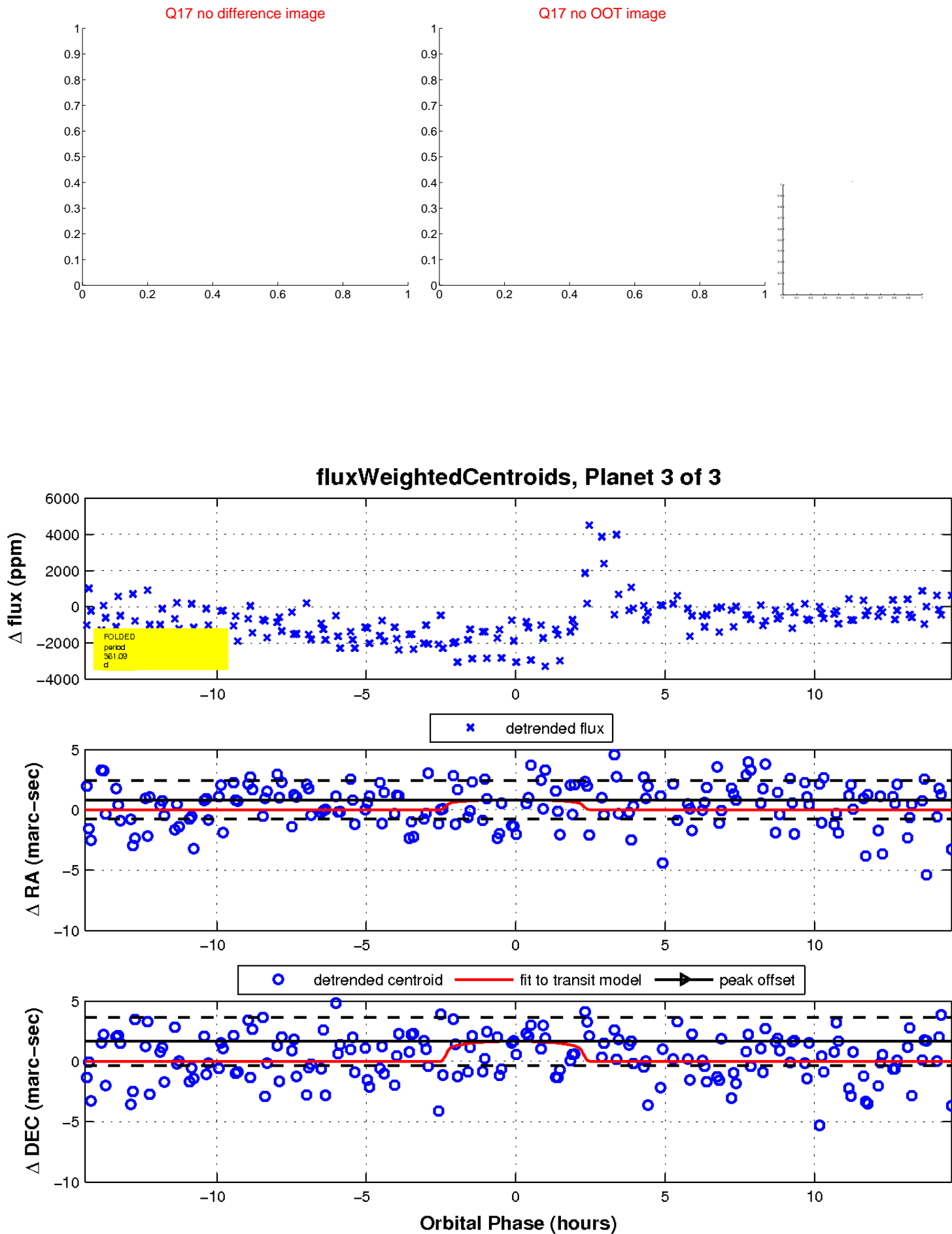
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

