

KIC 012109630

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})
012109630-01	OBS	No	570.935264	426.310807	469.3	13.125	11.2	7.6	3.63	5407	8.38	4.00
012109630-02	OBS	No	615.301319	220.623465	155.5	9.406	15.1	2.2	3.63	5407	5.18	3.62
012109630-03	OBS	No	304.735333	165.210850	286.1	5.424	9.4	6.1	3.63	5407	7.03	9.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012109630-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
012109630-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012109630-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

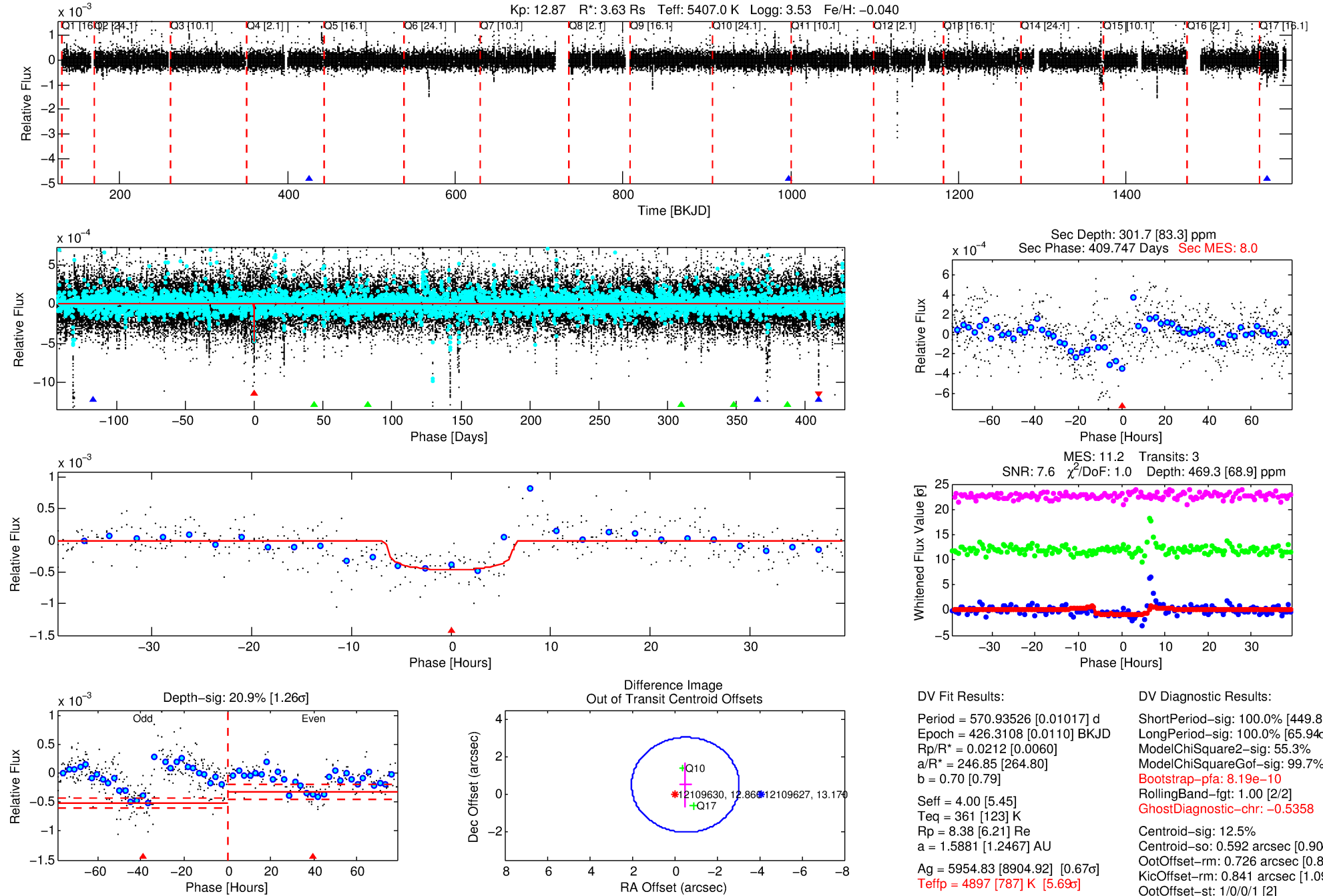
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012109630-01

No Significant Match Found

DV One-Page Summary

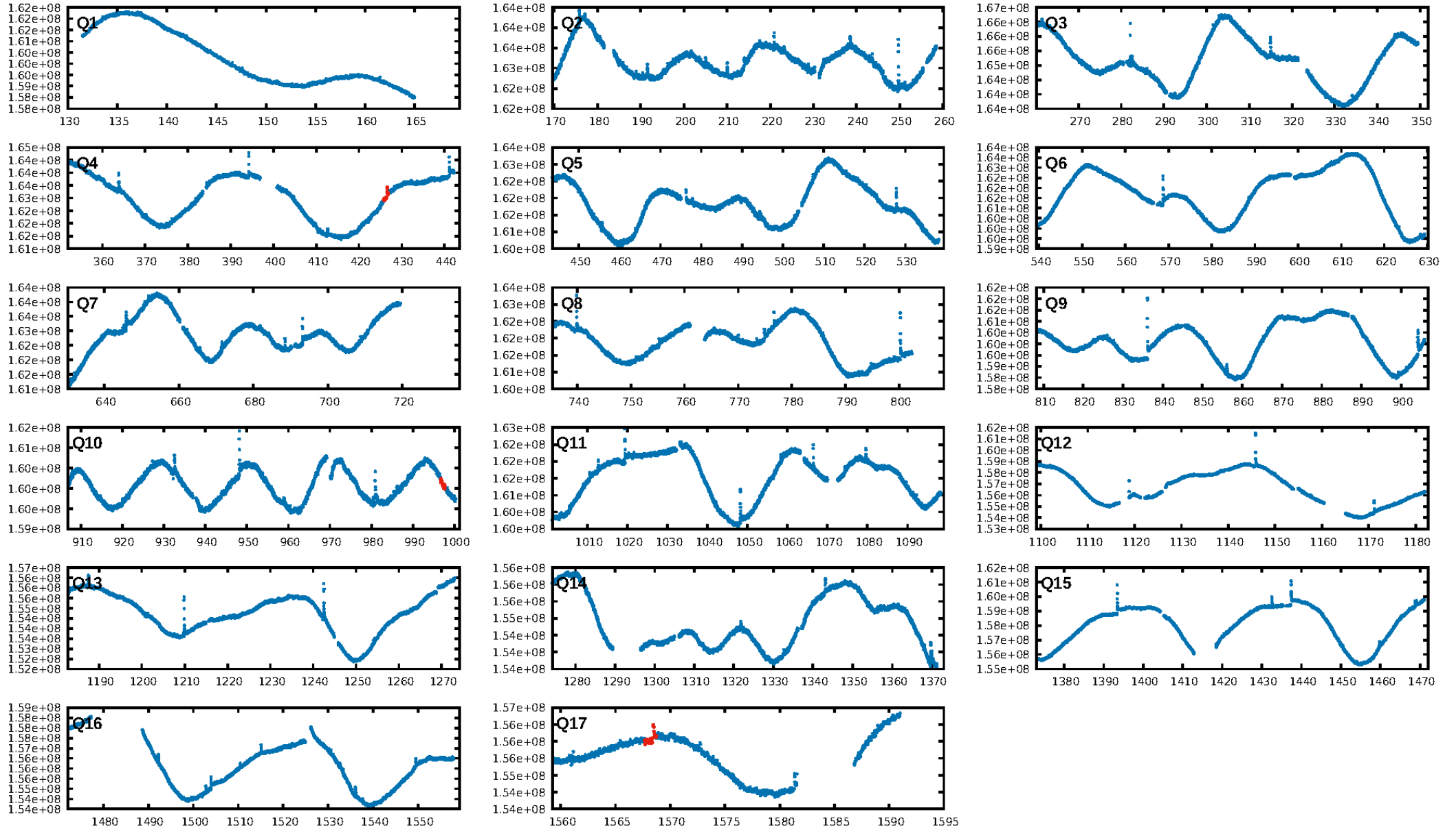
KIC: 12109630 Candidate: 1 of 3 Period: 570.935 d



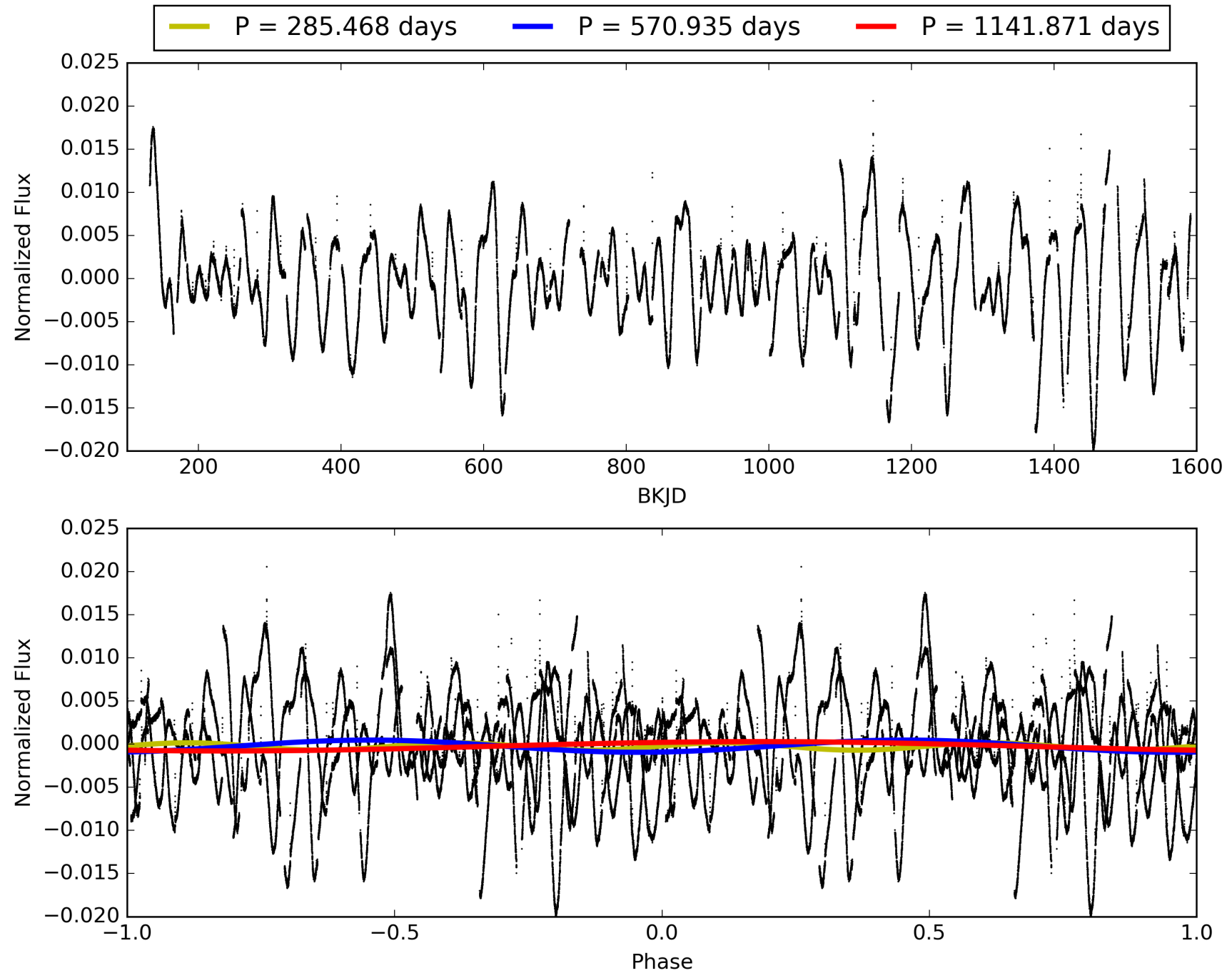
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:22:39 Z

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

TCE 012109630-01, PDC Light Curves

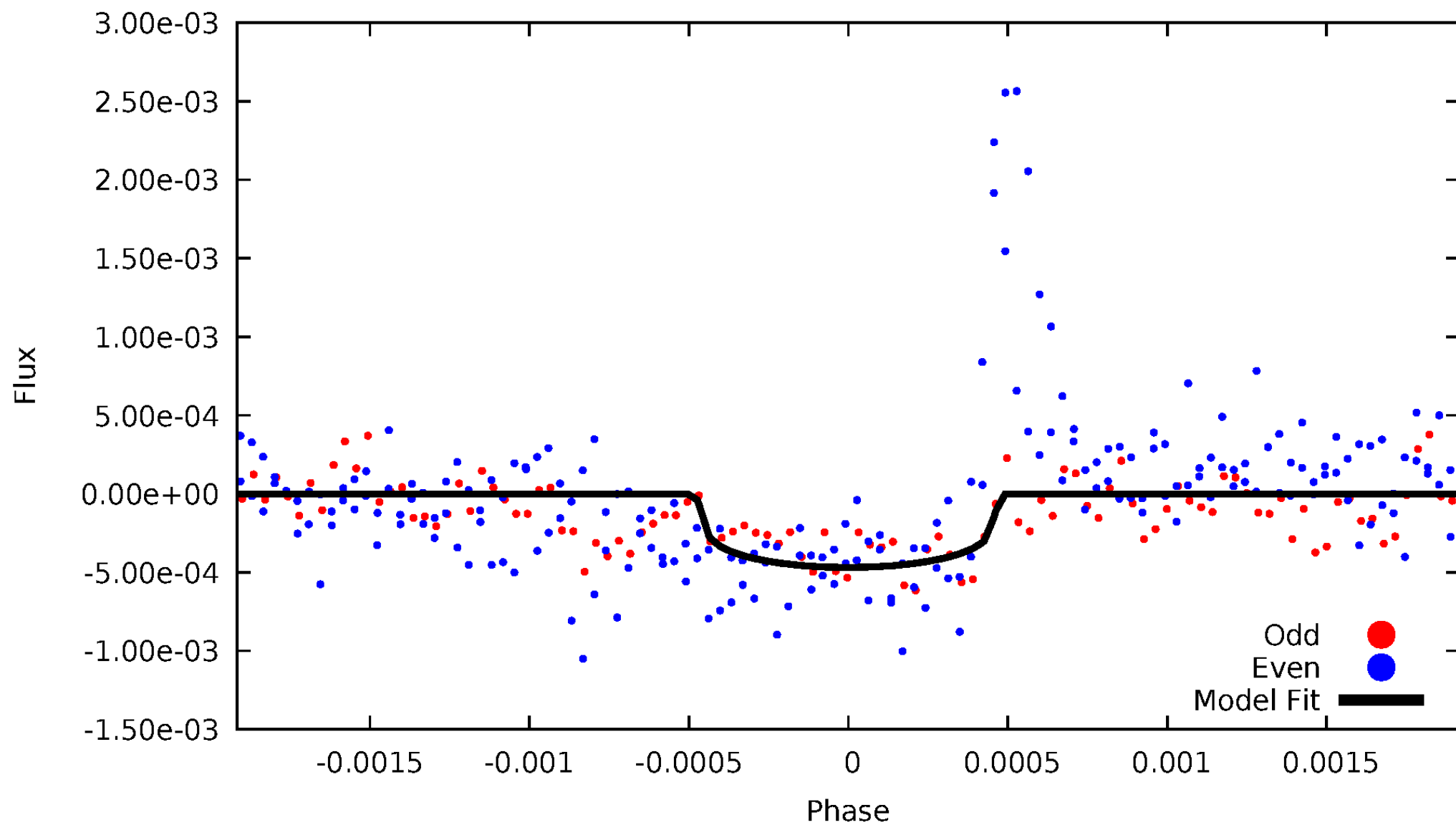


TCE 012109630-01



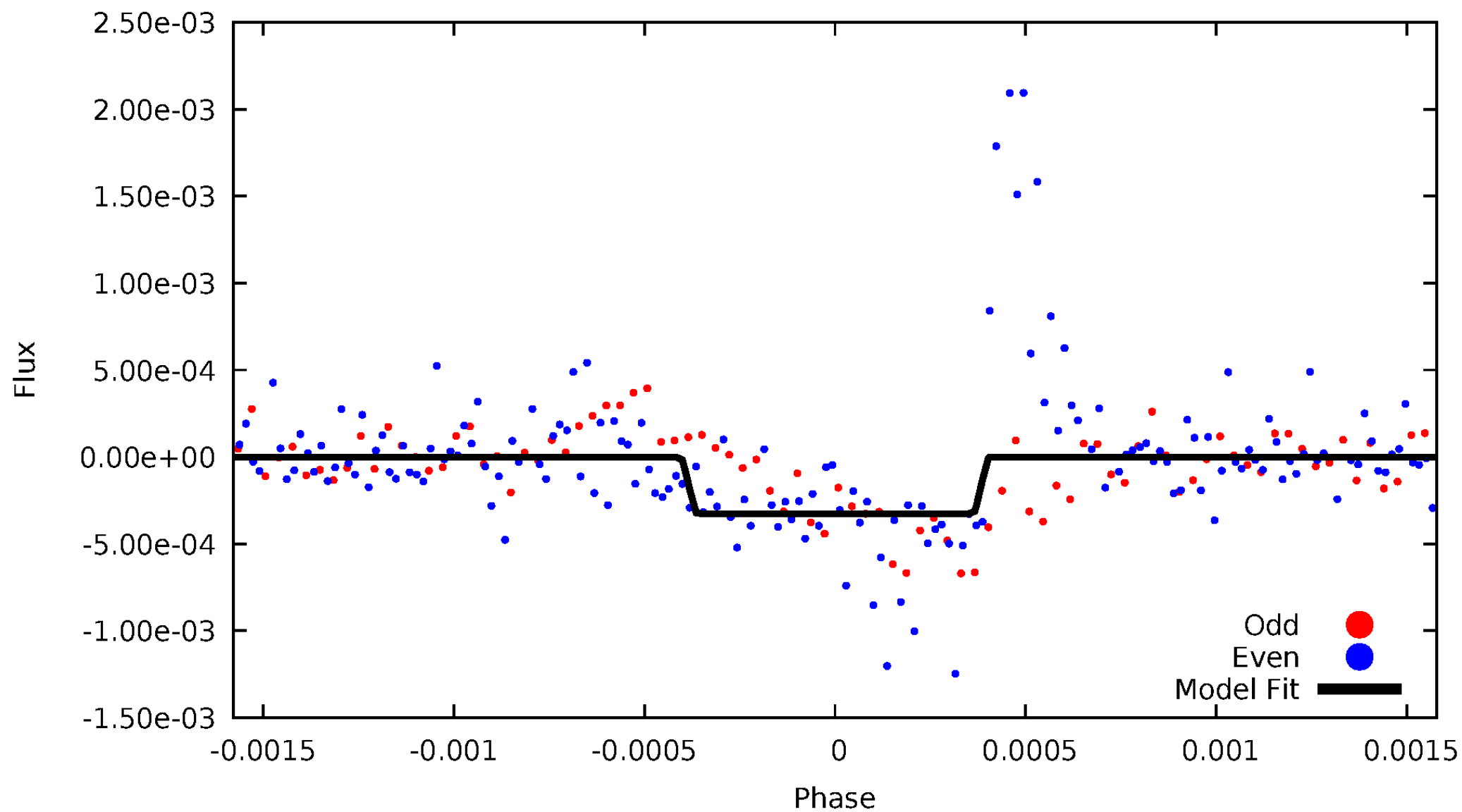
DV Odd/Even

TCE 012109630-01



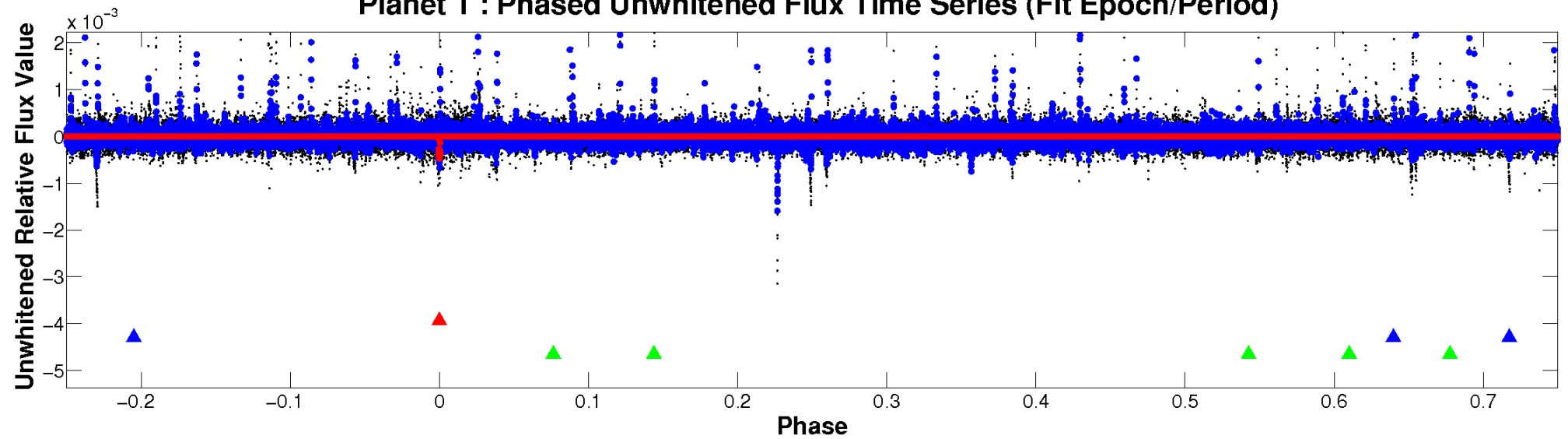
ALT Odd/Even

TCE 012109630-01

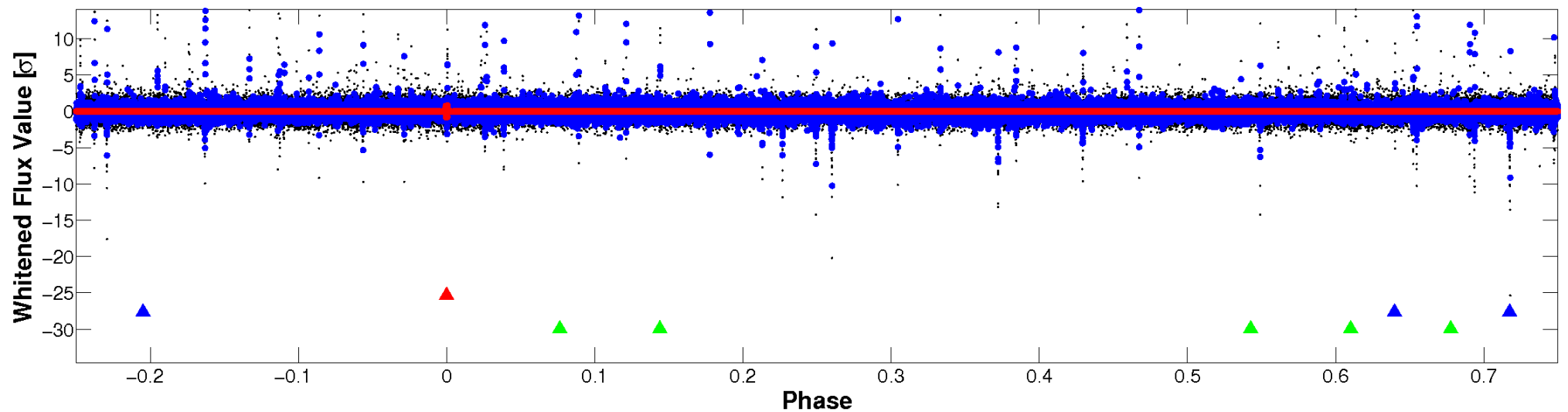


Non-Whitened Vs. Whitened Light Curve

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

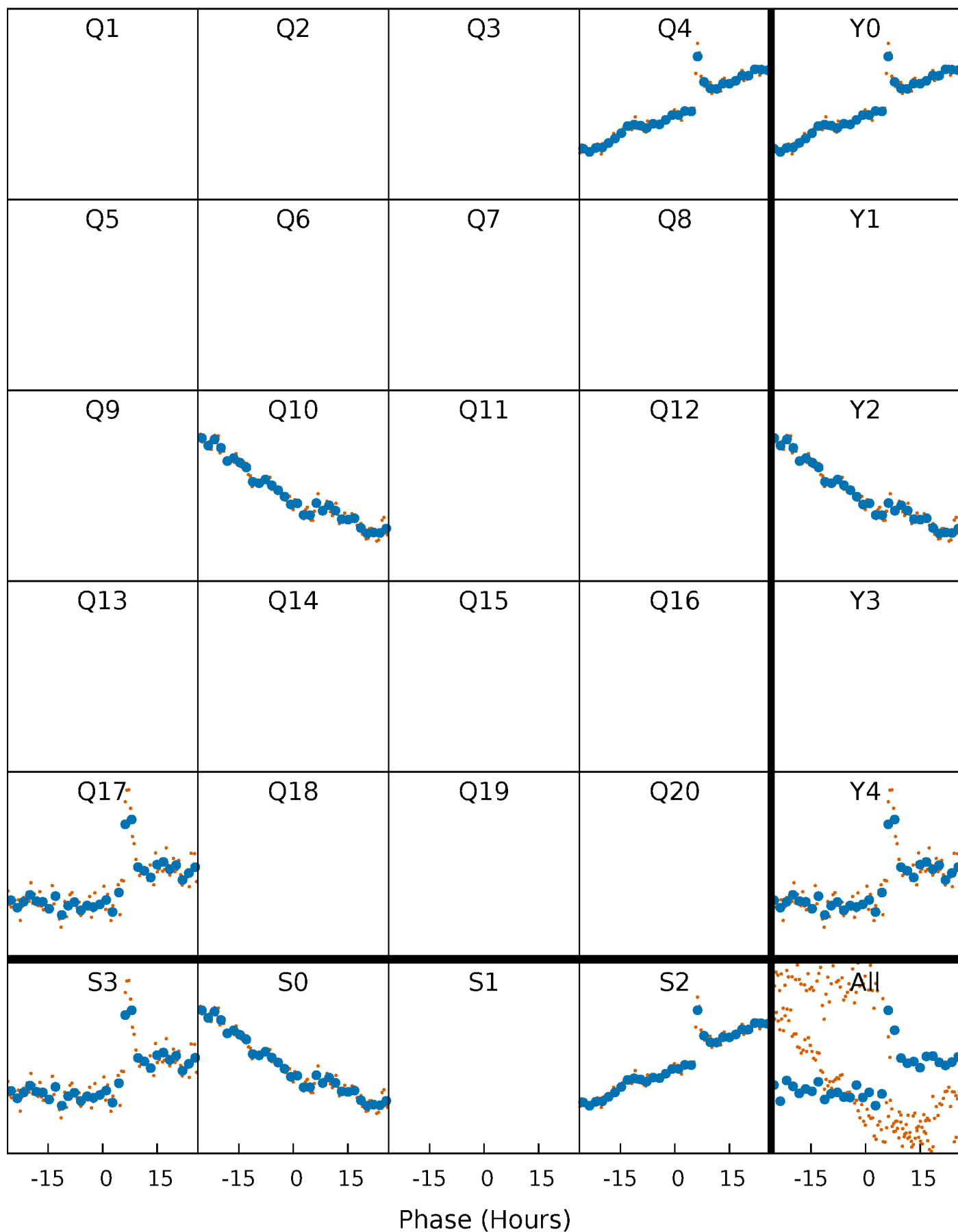


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



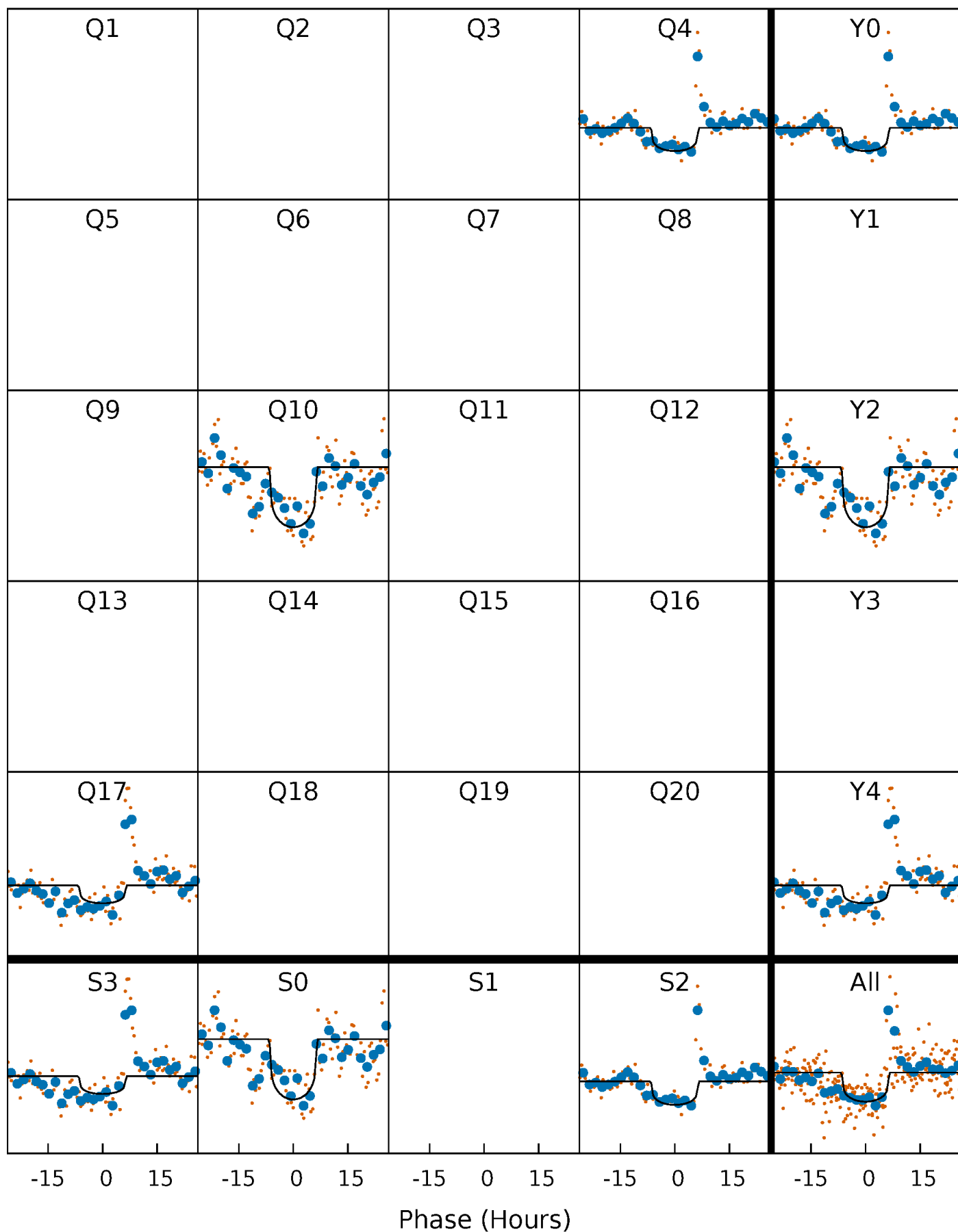
PDC Quarter-Phased Transit Curves

TCE 012109630-01 P=570.935264 Days $T_0=426.310807$ (BKJD)



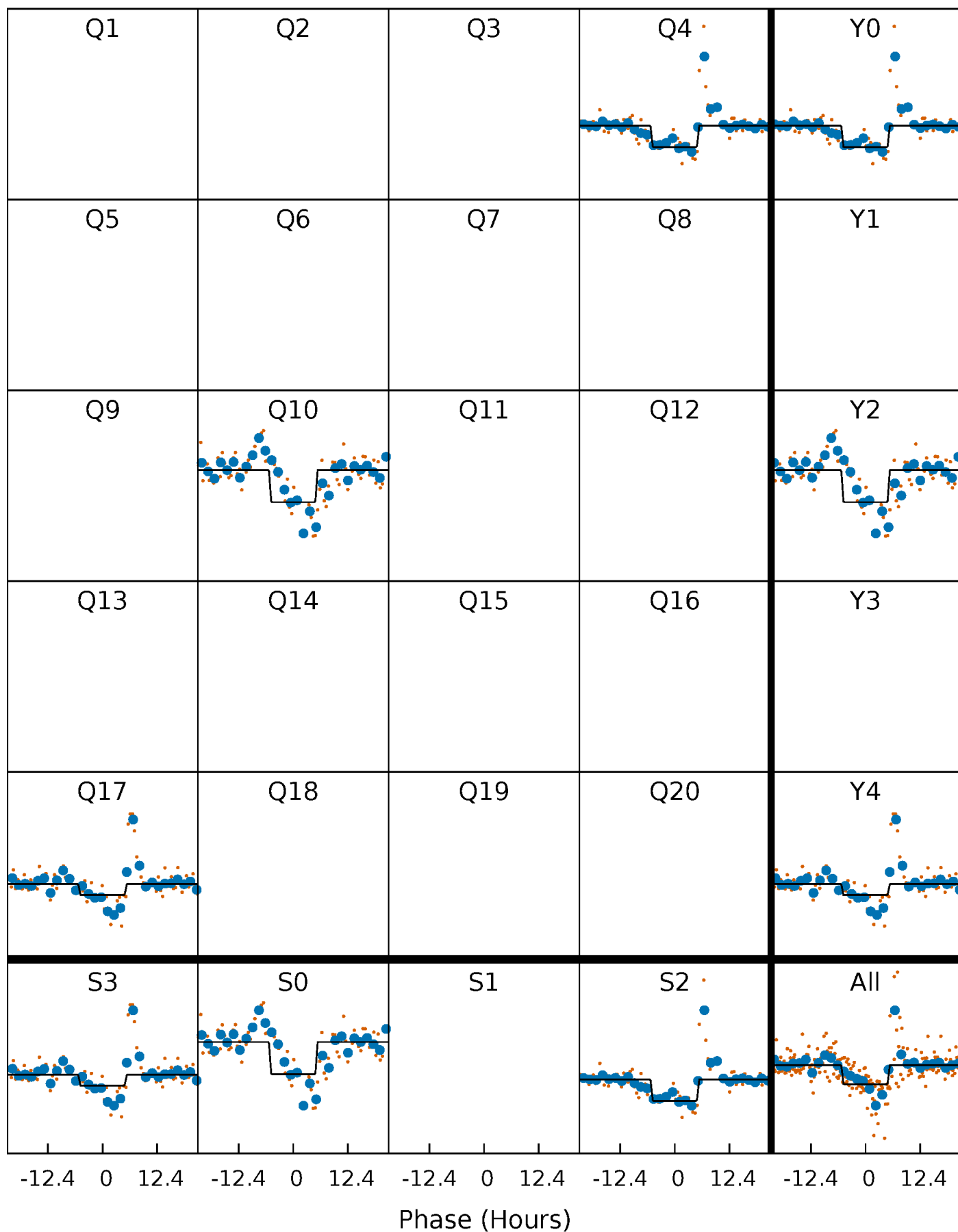
DV Quarter-Phased Transit Curves

TCE 012109630-01 P=570.935264 Days $T_0=426.310807$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

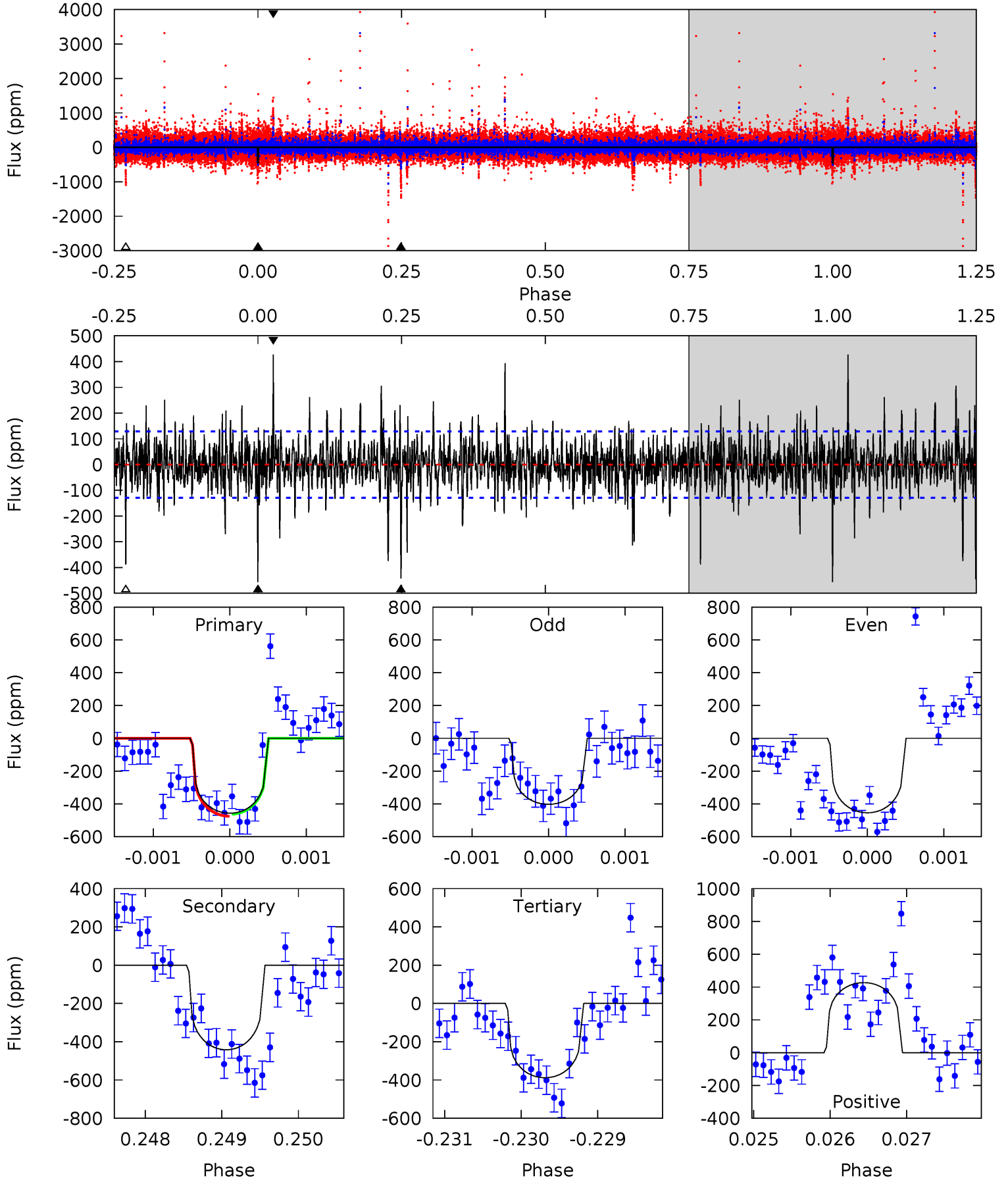
TCE 012109630-01 P=570.940911 Days $T_0=426.318716$ (BKJD)



DV Model-Shift Uniqueness Test

012109630-01, P = 570.935264 Days, E = 426.310807 Days

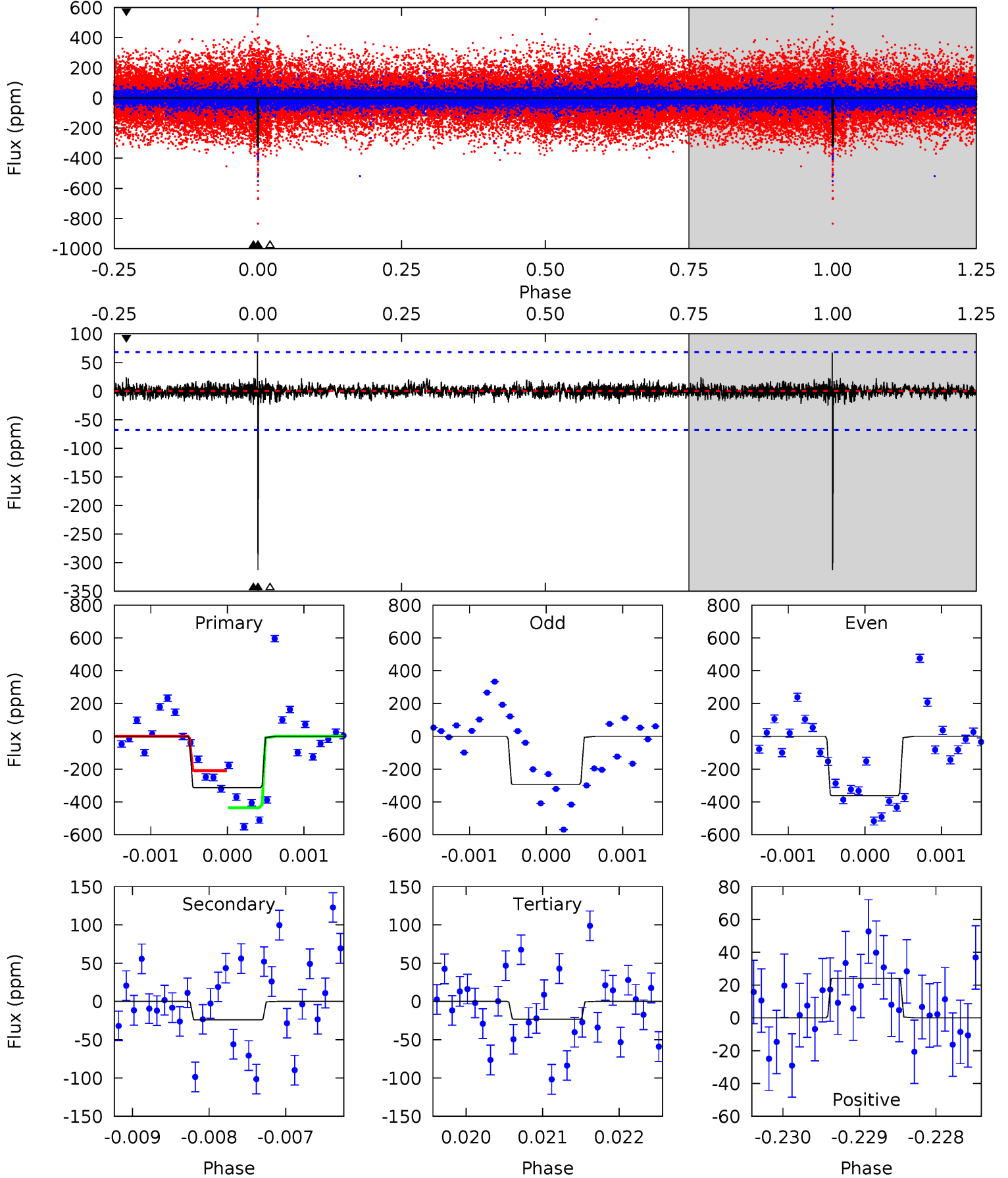
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	18.7	16.5	18.1	5.46	3.30	2.99	2.92	1.27	2.28	0.64	0.70	1.07	0.48	0.26



Alt Model-Shift Uniqueness Test

012109630-01, P = 570.940911 Days, E = 426.318716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	1.94	1.86	1.95	5.49	3.35	0.47	23.4	23.3	0.08	-0.00	2.61	1.15	0.18	9.12



Stellar Parameters For KIC 012109630

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5407^{+176}_{-176}	$3.533^{+0.832}_{-0.208}$	$-0.040^{+0.300}_{-0.300}$	$3.628^{+0.888}_{-2.485}$	$1.638^{+0.240}_{-0.769}$	$0.048^{+1.080}_{-0.022}$
	+3%/-3%	+24%/-6%	+750%/-750%	+24%/-68%	+15%/-47%	+2235%/-45%
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 012109630-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-442 ± 24	$7.71^{+3.51}_{-3.41}$	498^{+48}_{-95}	5365^{+913}_{-575}	10018^{+21191}_{-5164}
Alt.	-24 ± 12	$6.07^{+3.22}_{-2.77}$	490^{+52}_{-94}	3351^{+553}_{-486}	813^{+2030}_{-569}

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 $A_{obs} \gg 1.0$

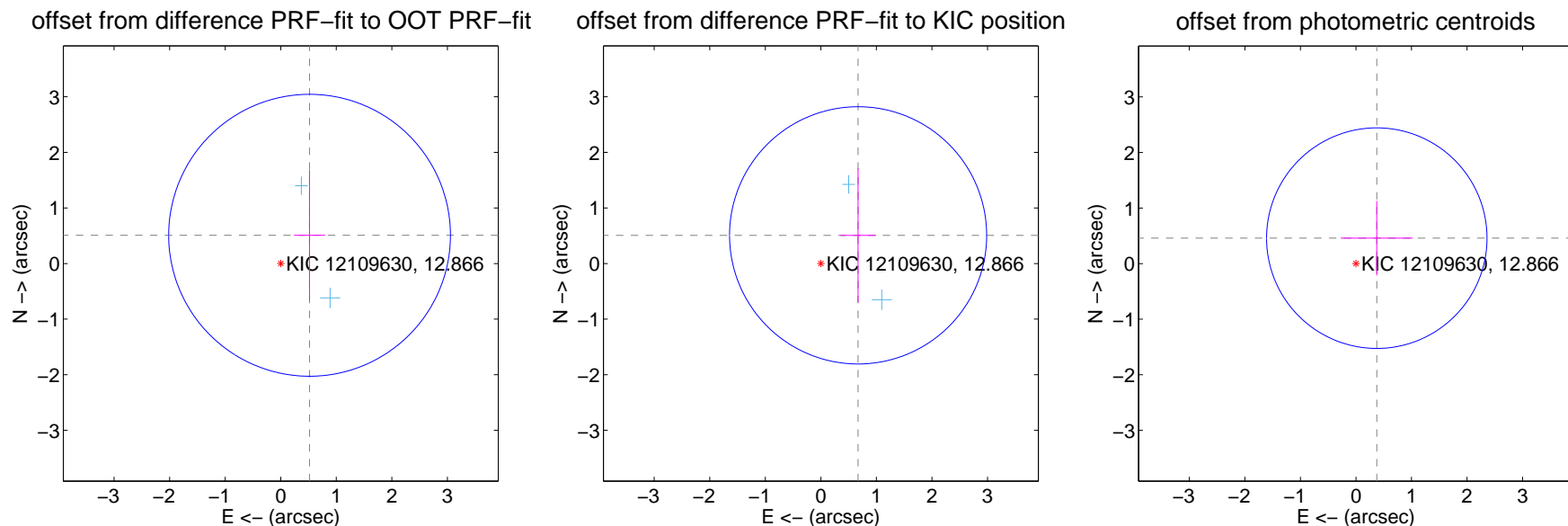
DV Centroid Data

Supplemental centroid analysis for 012109630-01. Kepler magnitude: 12.87. Transit SNR 7.58

There are 2 quarters with good PRF difference image offsets

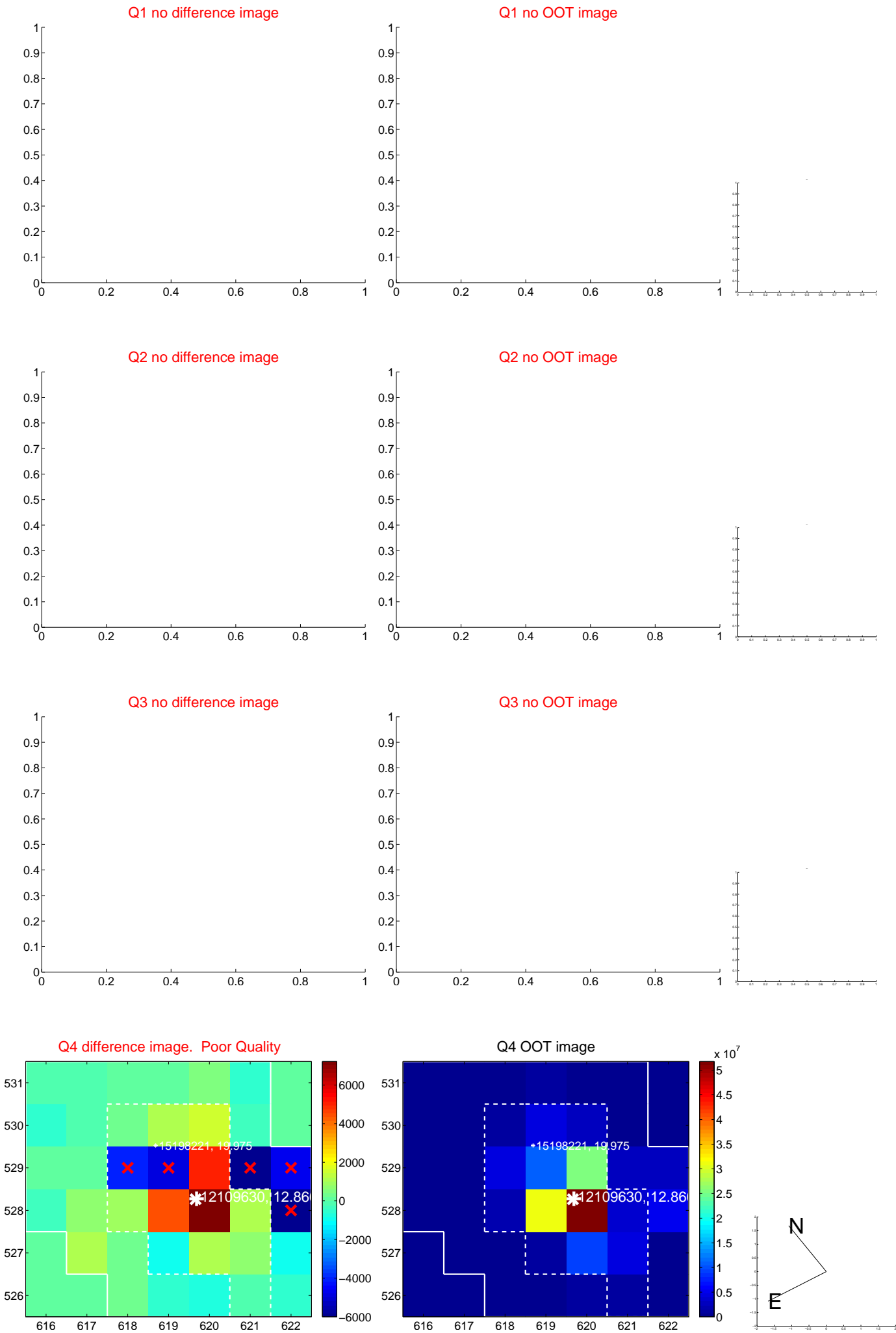
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.726 ± 0.845	0.86	-0.519 ± 0.281	0.508 ± 1.173
PRF-fit source offset from KIC position	0.841 ± 0.771	1.09	-0.671 ± 0.321	0.507 ± 1.206
photometric centroid source offset	0.59 ± 0.66	0.90	-0.38 ± 0.65	0.46 ± 0.67



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.

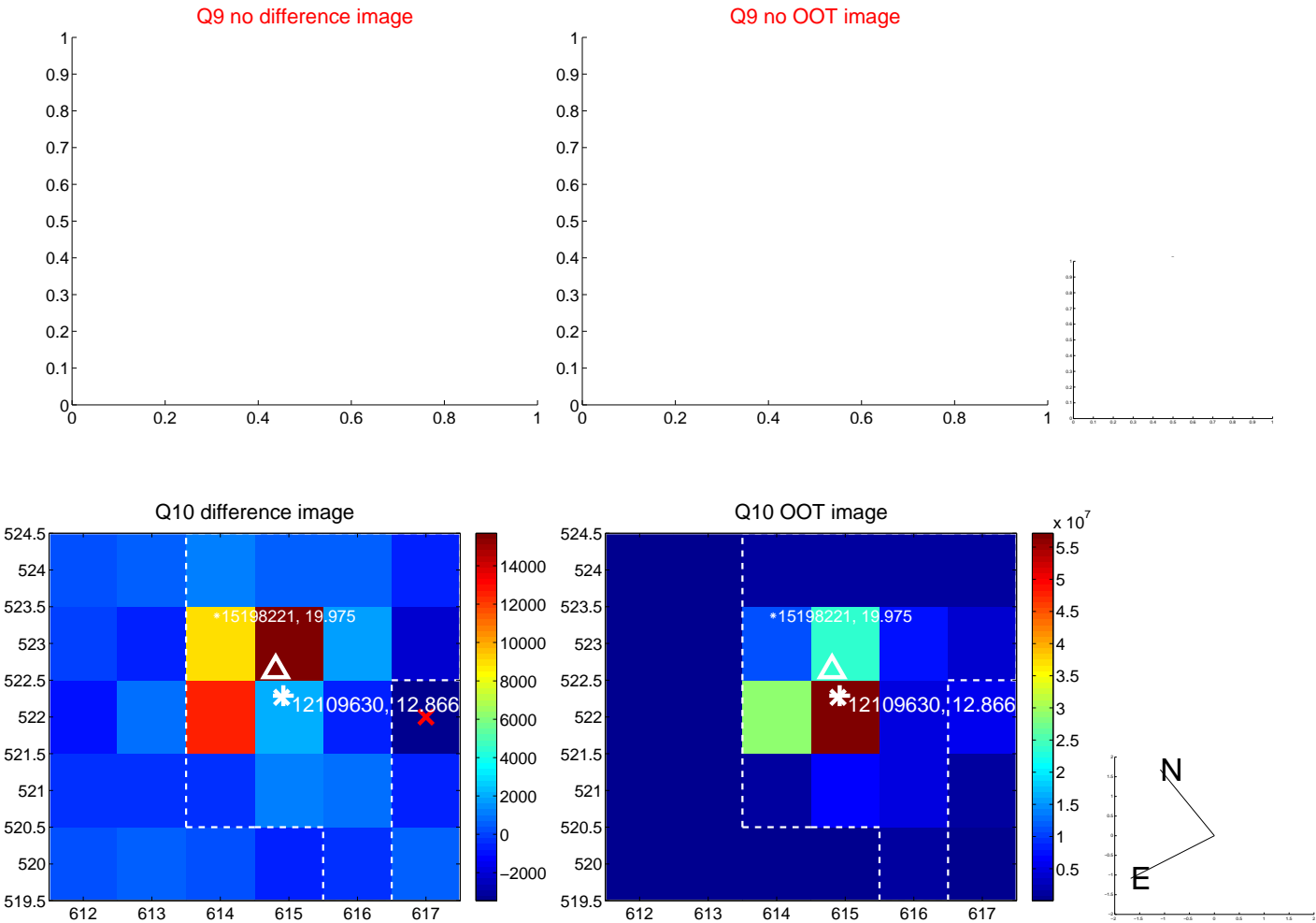
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



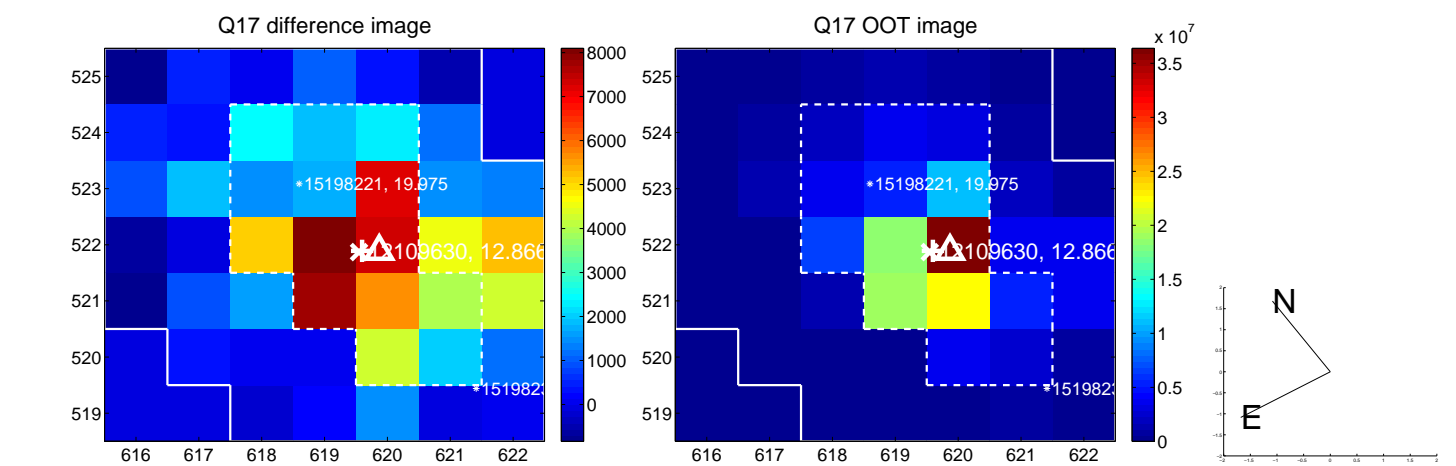
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



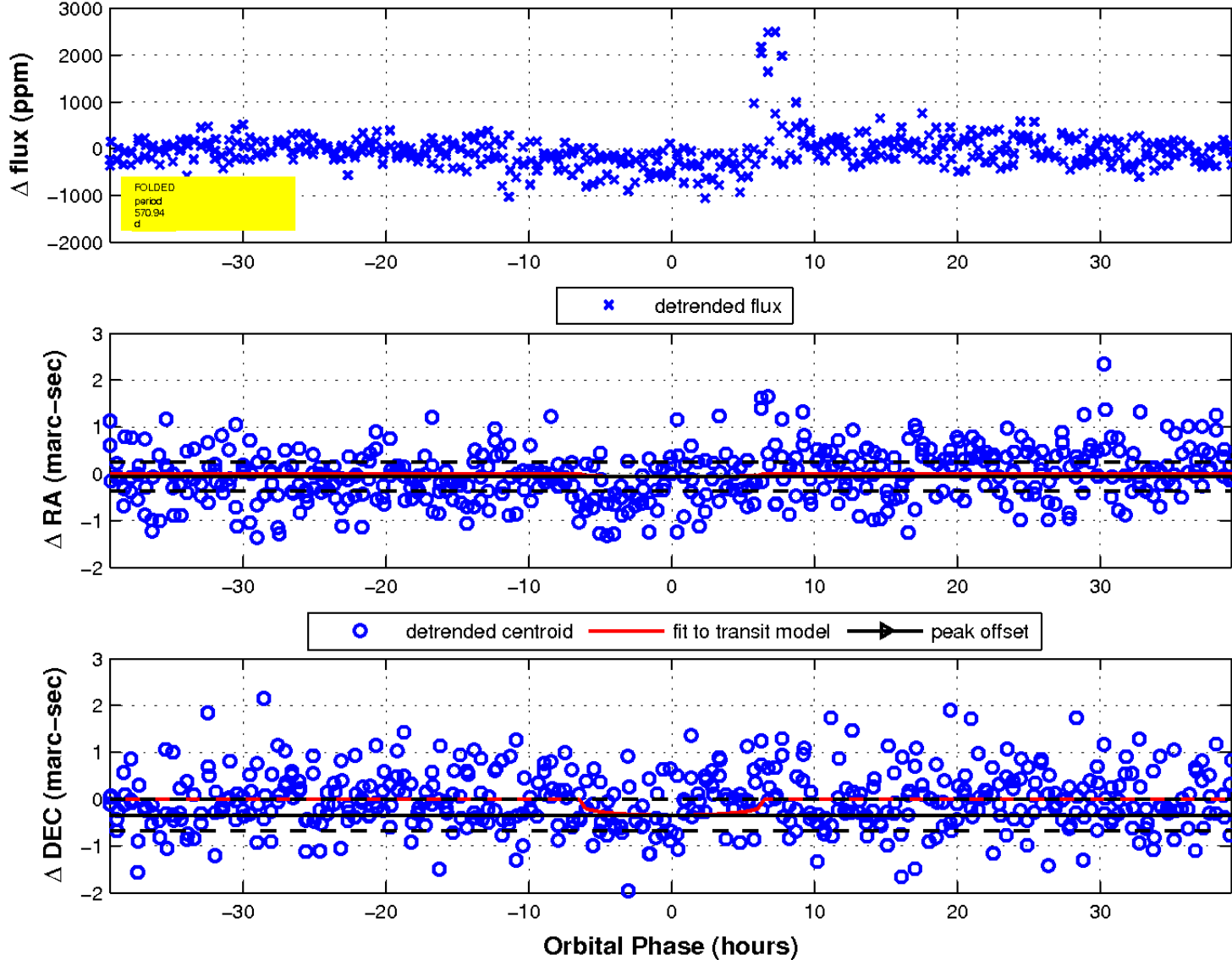
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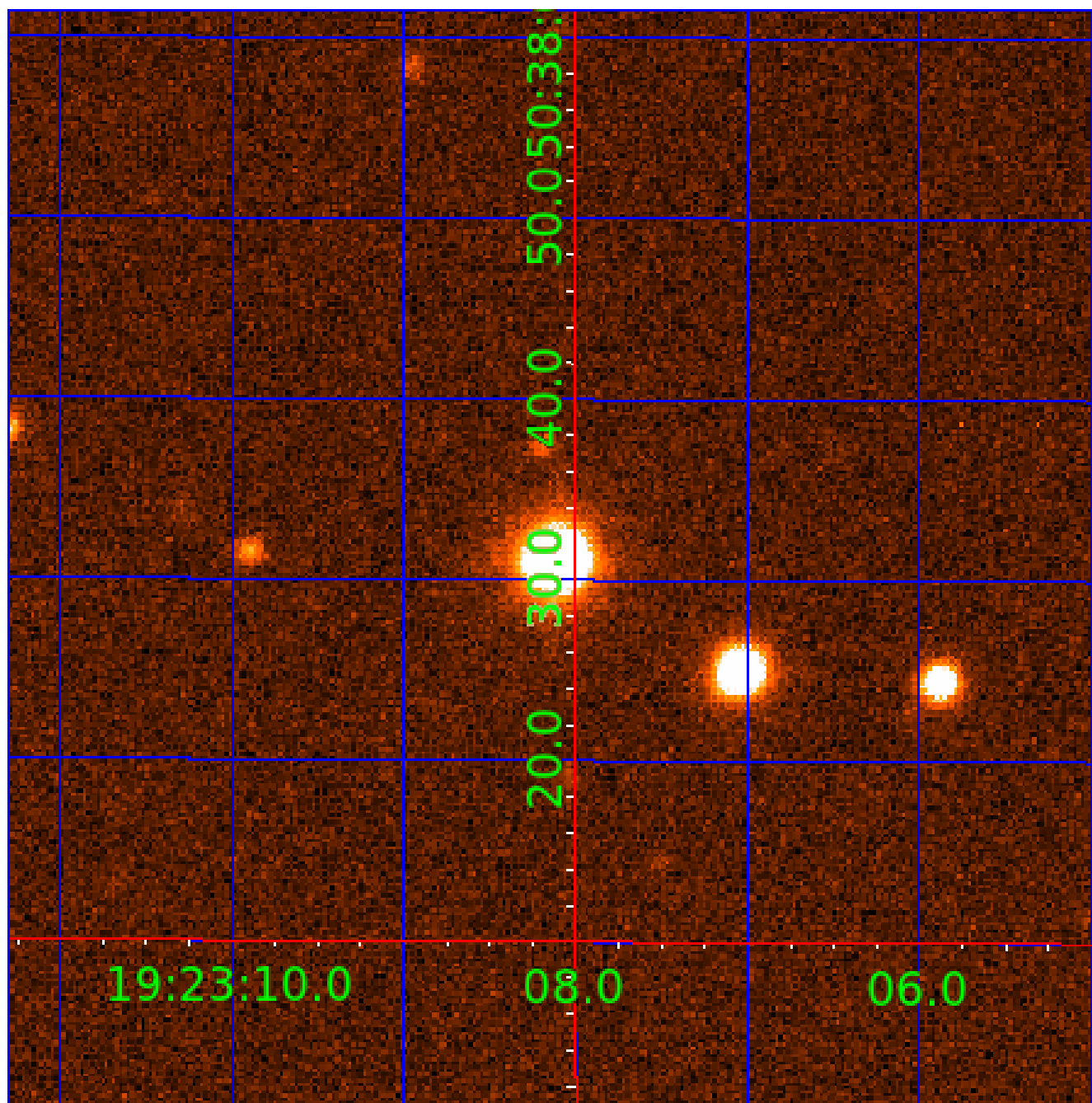


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 012109630

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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012109630-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012109630-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

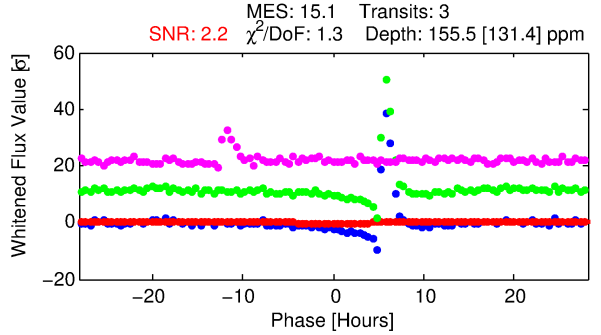
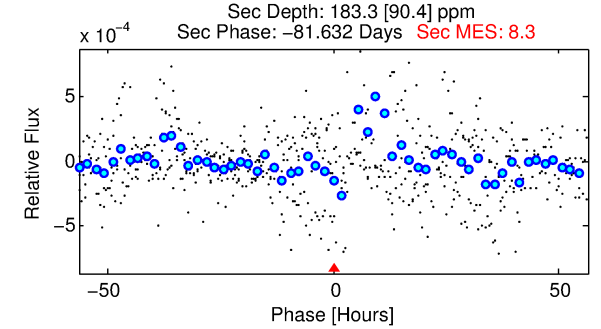
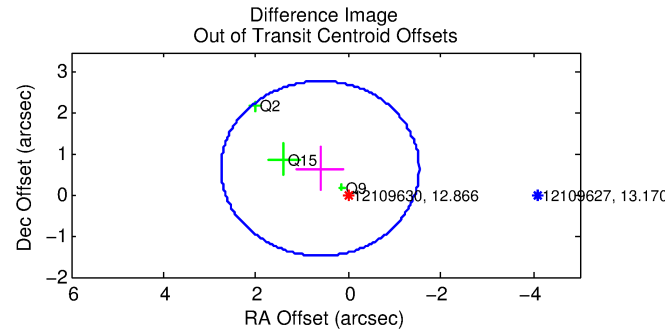
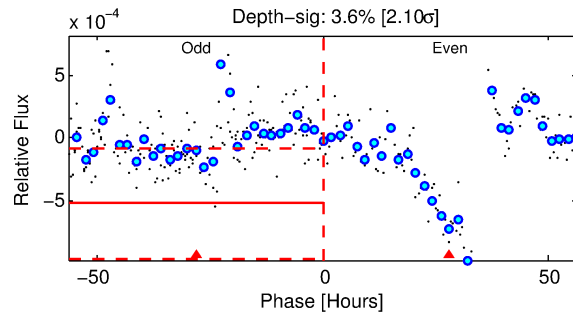
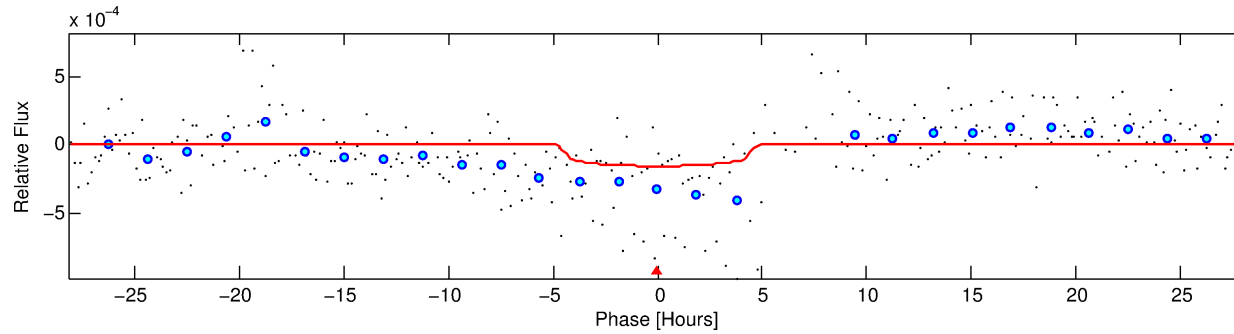
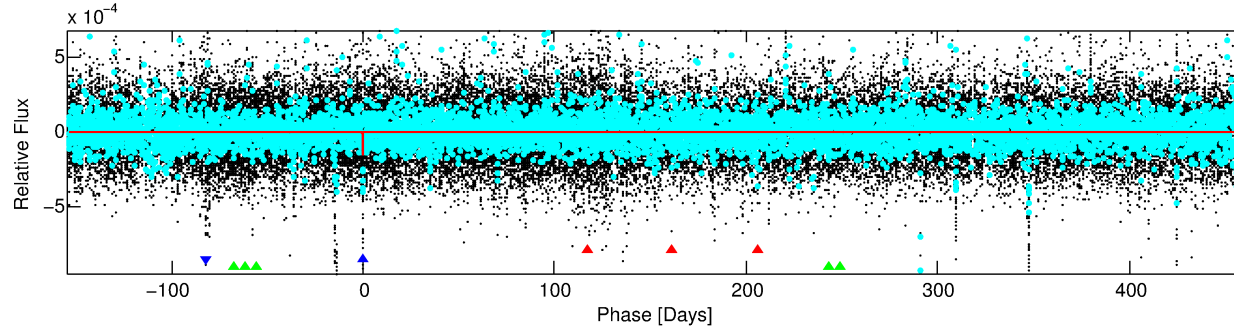
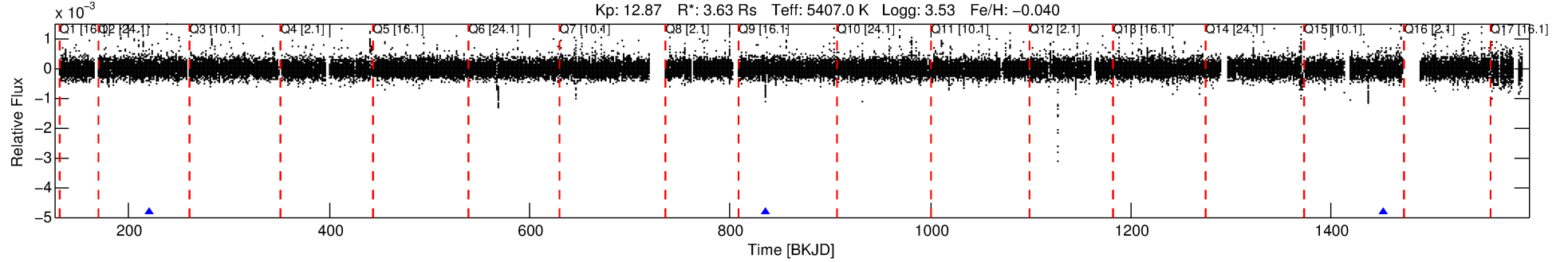
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012109630-02

No Significant Match Found

DV One-Page Summary

KIC: 12109630 Candidate: 2 of 3 Period: 615.301 d



DV Fit Results:

Period = 615.30132 [0.04401] d
Epoch = 220.6235 [0.0506] BKJD
Rp/R* = 0.0131 [0.0201]
a/R* = 278.51 [1714.61]
b = 0.85 [2.09]
Seff = 3.62 [4.93]
Teq = 352 [120] K
Rp = 5.18 [8.72] Re
a = 1.6693 [1.3105] AU
Ag = 10479.59 [35598.98] [0.29 σ]
Teffp = 5501 [4287] K [1.20 σ]

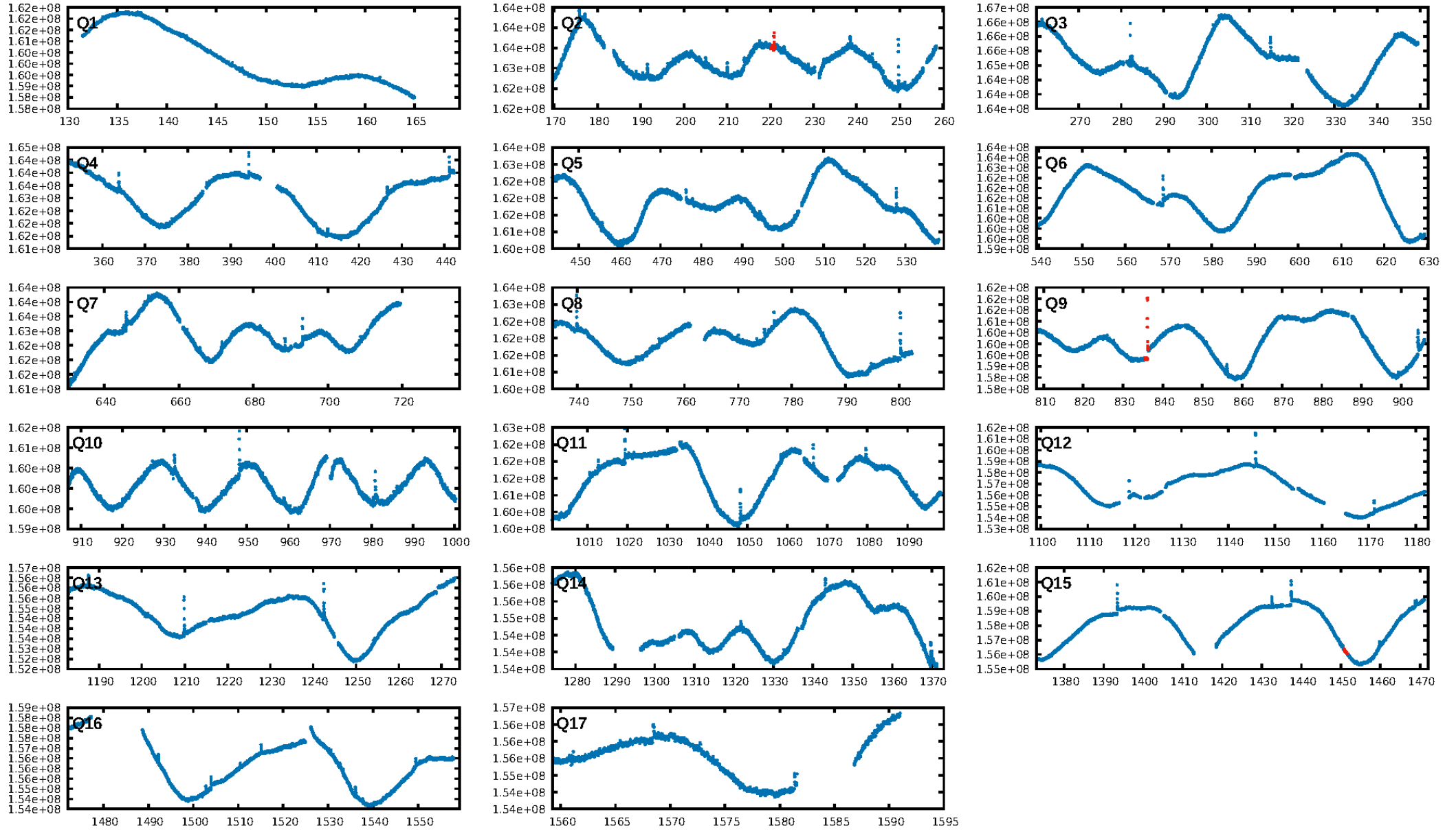
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [65.94 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.40e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5674
Centroid-sig: 5.5%
Centroid-so: 2.877 arcsec [1.13 σ]
OotOffset-rm: 0.899 arcsec [1.26 σ]
KicOffset-rm: 0.750 arcsec [1.15 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

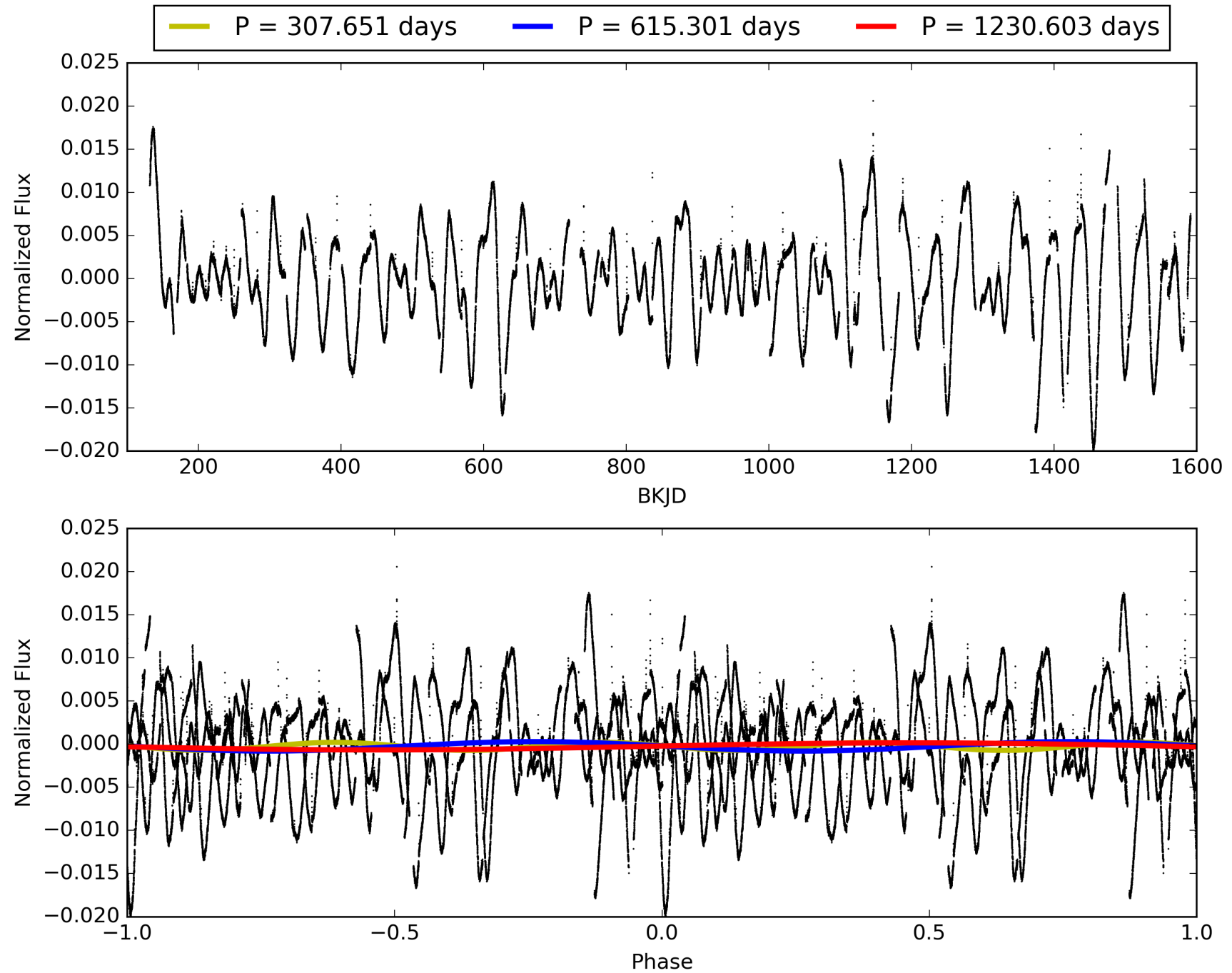
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:22:51 Z

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

TCE 012109630-02, PDC Light Curves

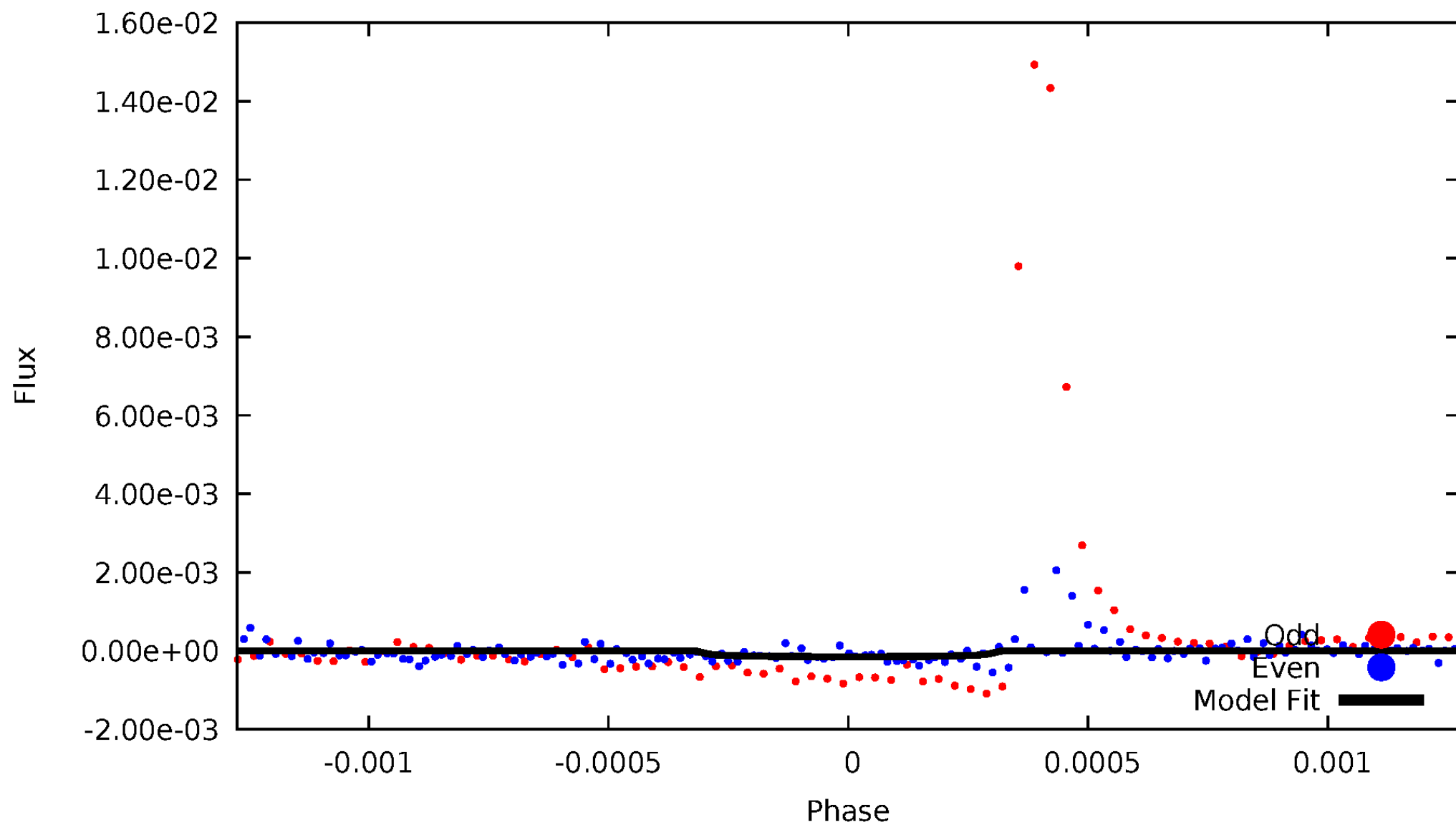


TCE 012109630-02



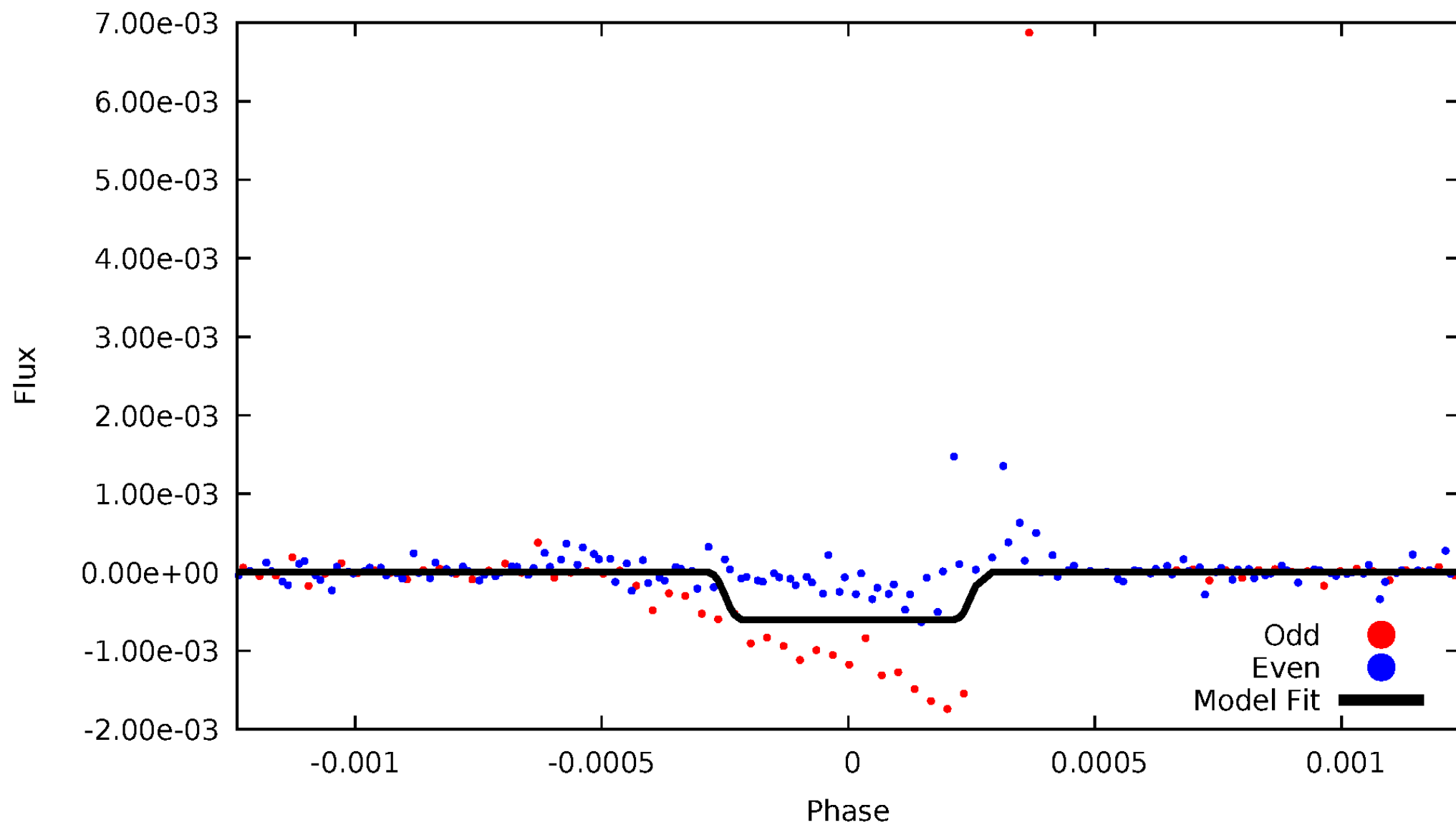
DV Odd/Even

TCE 012109630-02



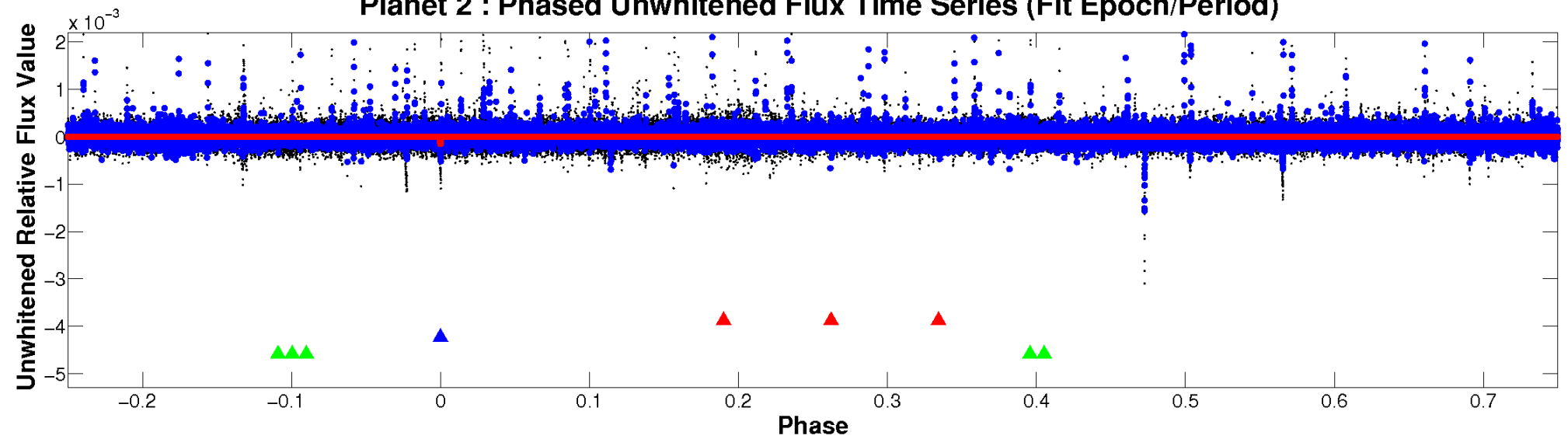
ALT Odd/Even

TCE 012109630-02

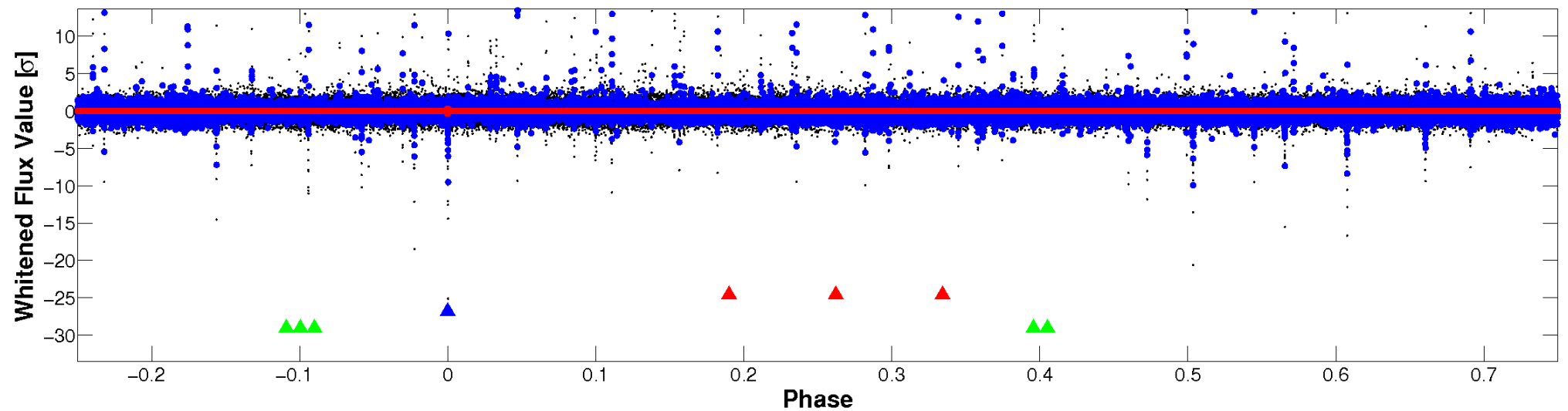


Non-Whitened Vs. Whitened Light Curve

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

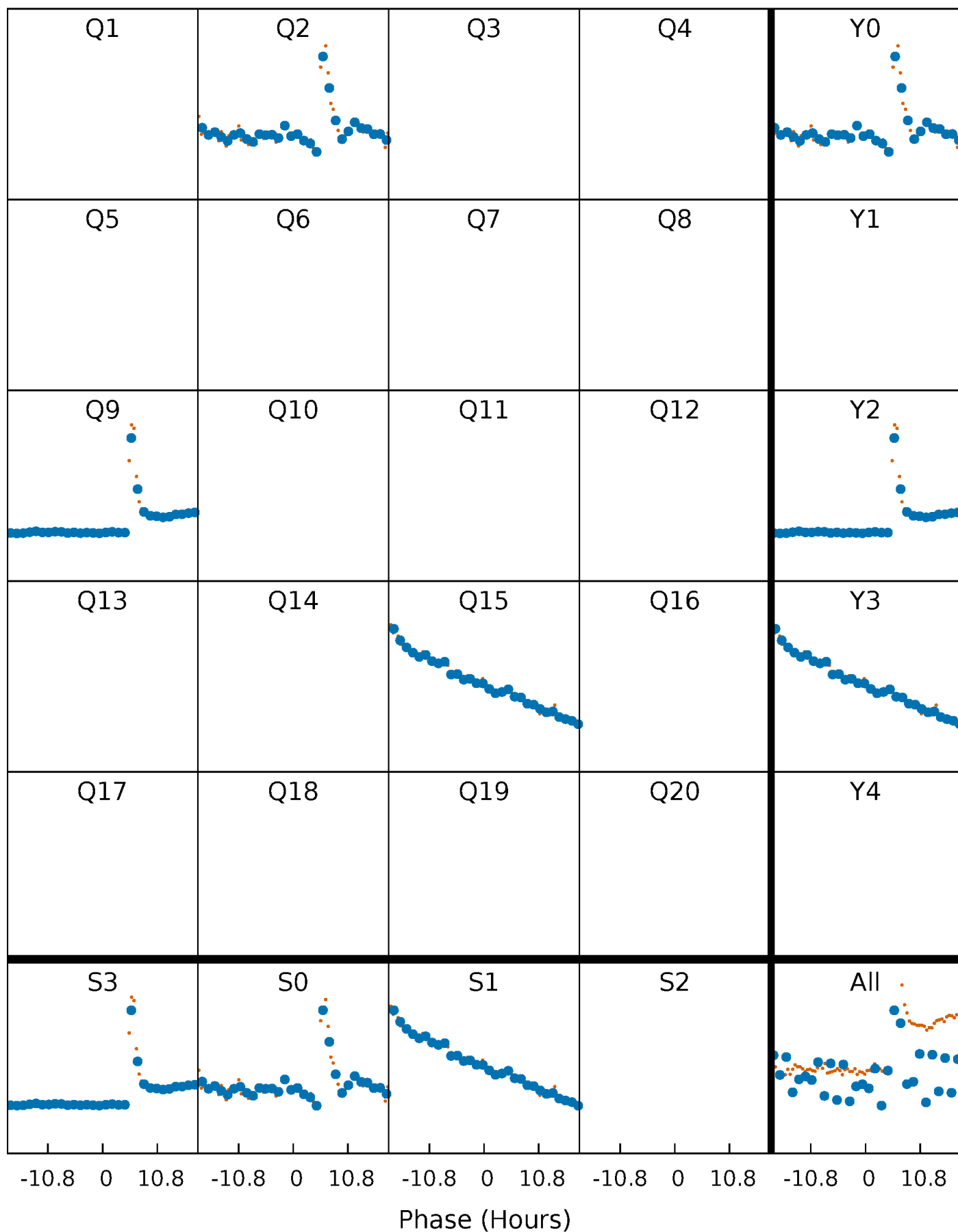


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



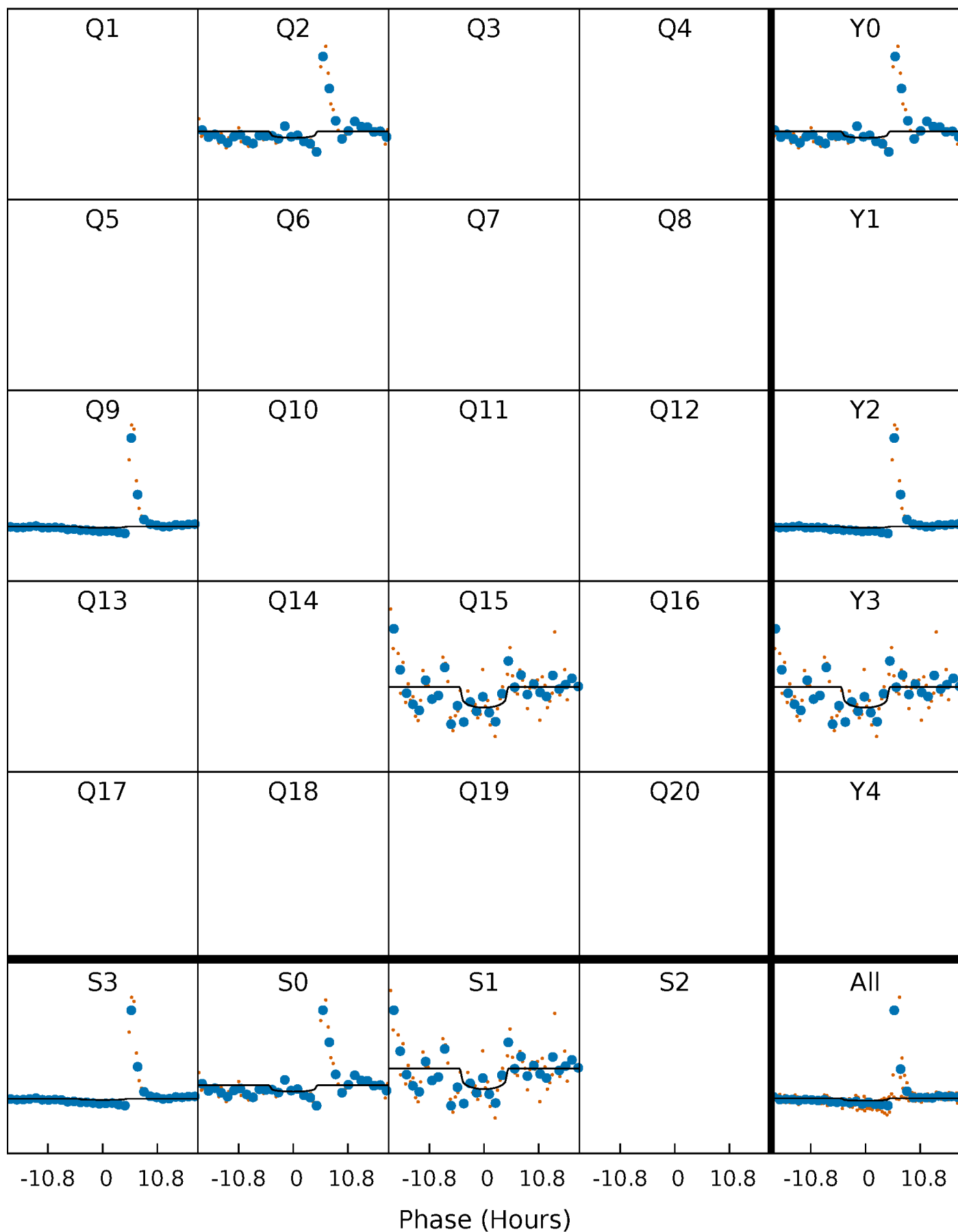
PDC Quarter-Phased Transit Curves

TCE 012109630-02 P=615.301319 Days $T_0=220.623465$ (BKJD)



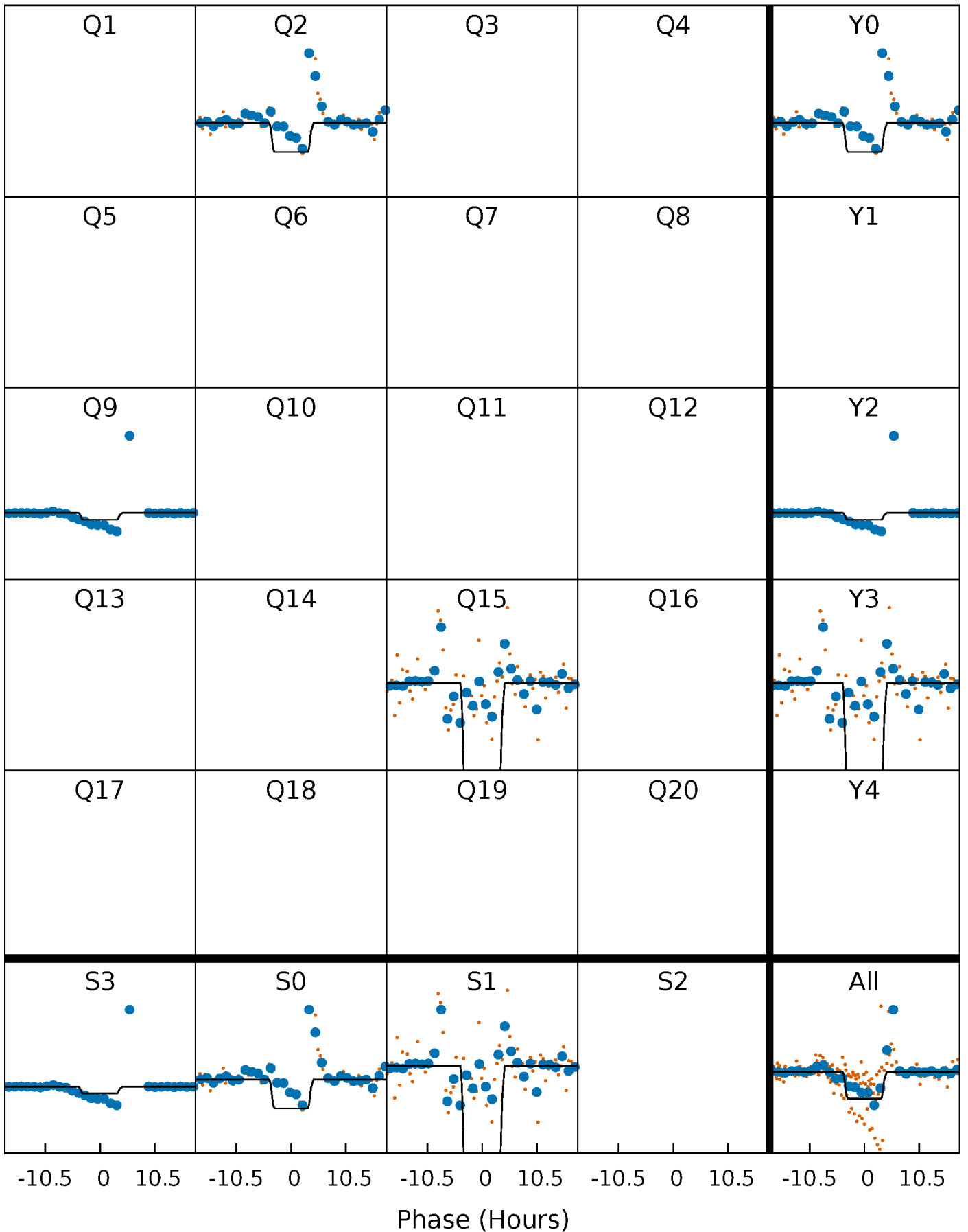
DV Quarter-Phased Transit Curves

TCE 012109630-02 P=615.301319 Days $T_0=220.623465$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

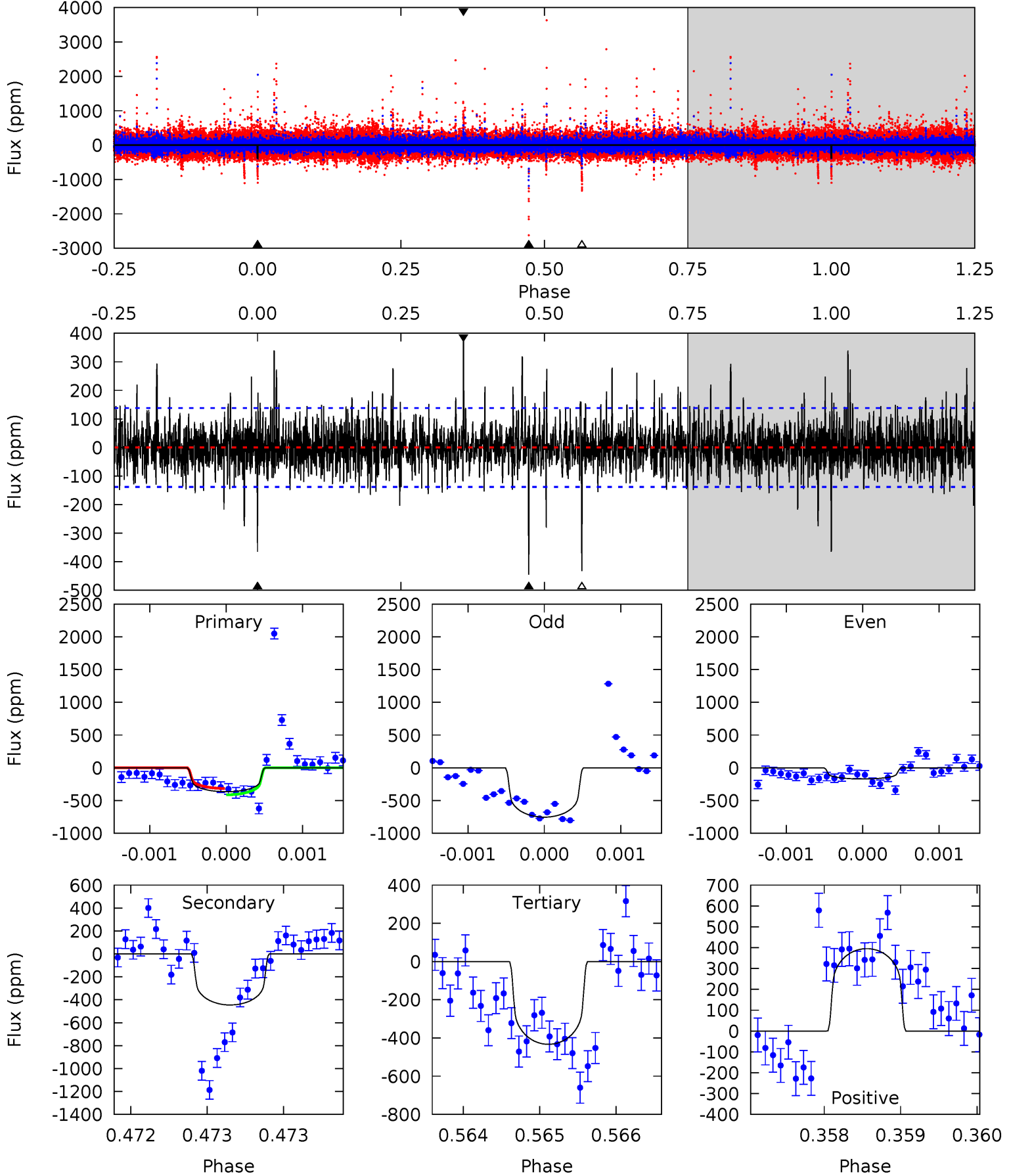
TCE 012109630-02 P=615.261303 Days $T_0=220.717338$ (BKJD)



DV Model-Shift Uniqueness Test

012109630-02, P = 615.301319 Days, E = 220.623465 Days

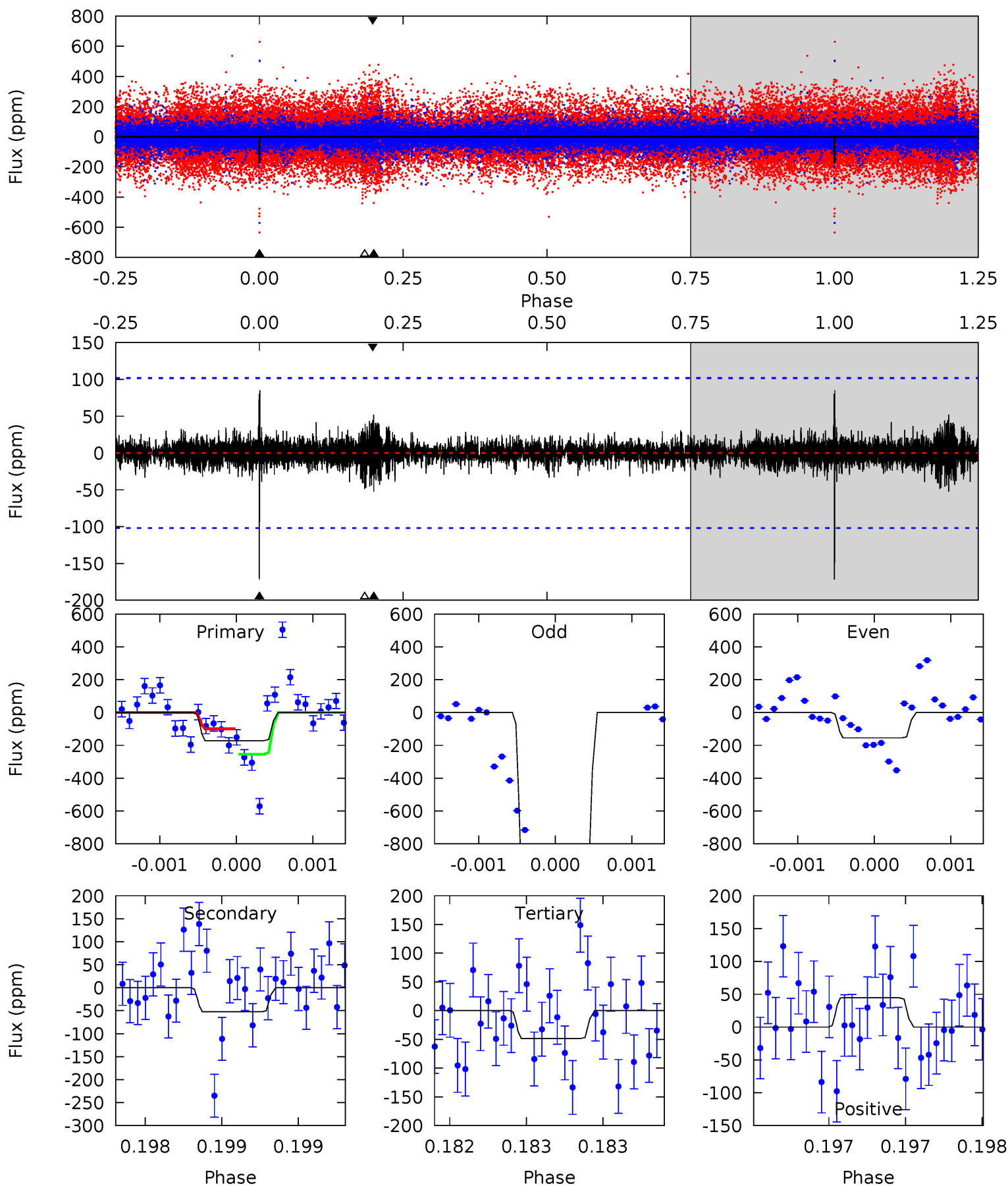
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	17.8	17.3	15.8	5.53	3.41	2.50	-2.71	-1.19	0.50	2.01	8.33	2.11	0.47	1.92



Alt Model-Shift Uniqueness Test

012109630-02, P = 615.261303 Days, E = 220.717338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.36	2.87	2.66	2.43	5.56	3.46	0.50	6.71	6.93	0.21	0.44	34.0	3.58	0.33	4.24



Stellar Parameters For KIC 012109630

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5407^{+176}_{-176}	$3.533^{+0.832}_{-0.208}$	$-0.040^{+0.300}_{-0.300}$	$3.628^{+0.888}_{-2.485}$	$1.638^{+0.240}_{-0.769}$	$0.048^{+1.080}_{-0.022}$
	+3%/-3%	+24%/-6%	+750%/-750%	+24%/-68%	+15%/-47%	+2235%/-45%
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 012109630-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-445 ± 25	$6.69^{+6.96}_{-4.49}$	481^{+48}_{-81}	5595^{+4936}_{-1307}	$14840^{+120057}_{-11289}$
Alt.	-53 ± 18	$8.96^{+8.44}_{-5.68}$	488^{+47}_{-90}	3342^{+1277}_{-544}	986^{+5671}_{-768}

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 $A_{obs} \gg 1.0$

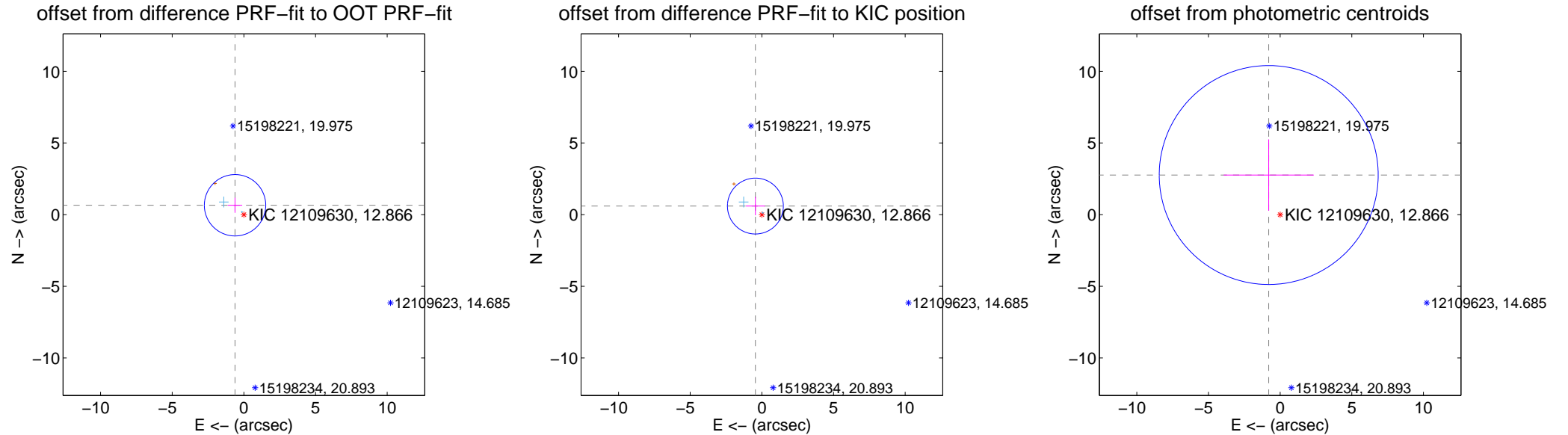
DV Centroid Data

Supplemental centroid analysis for 012109630-02. Kepler magnitude: 12.87. Transit SNR 2.25

There are 2 quarters with good PRF difference image offsets

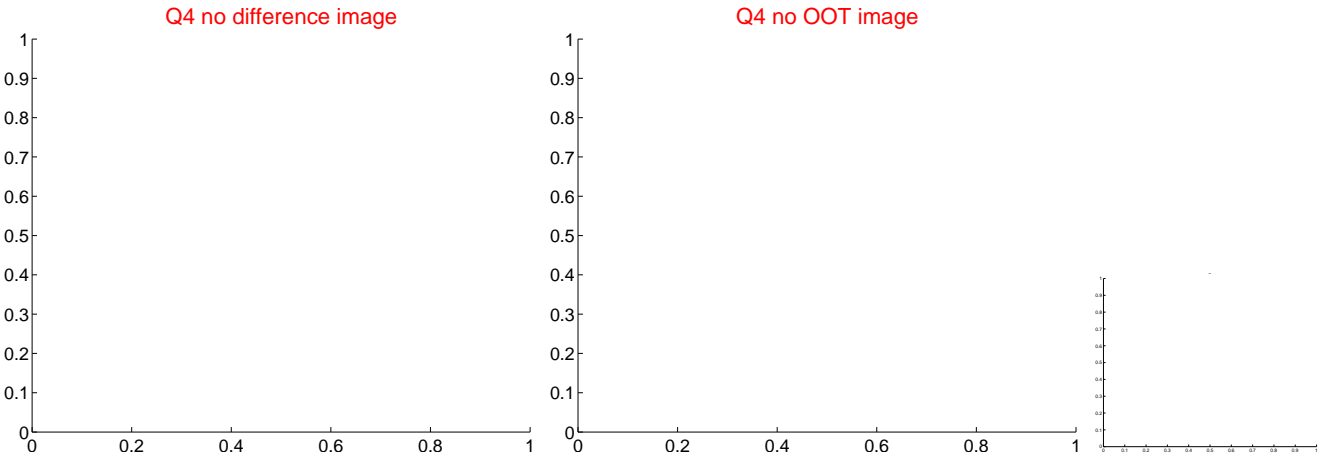
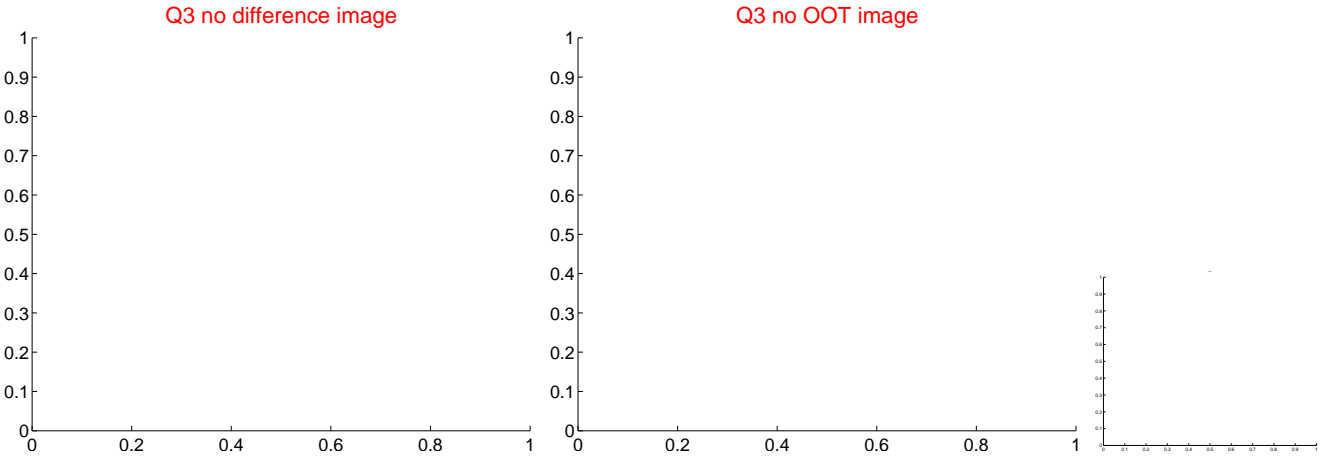
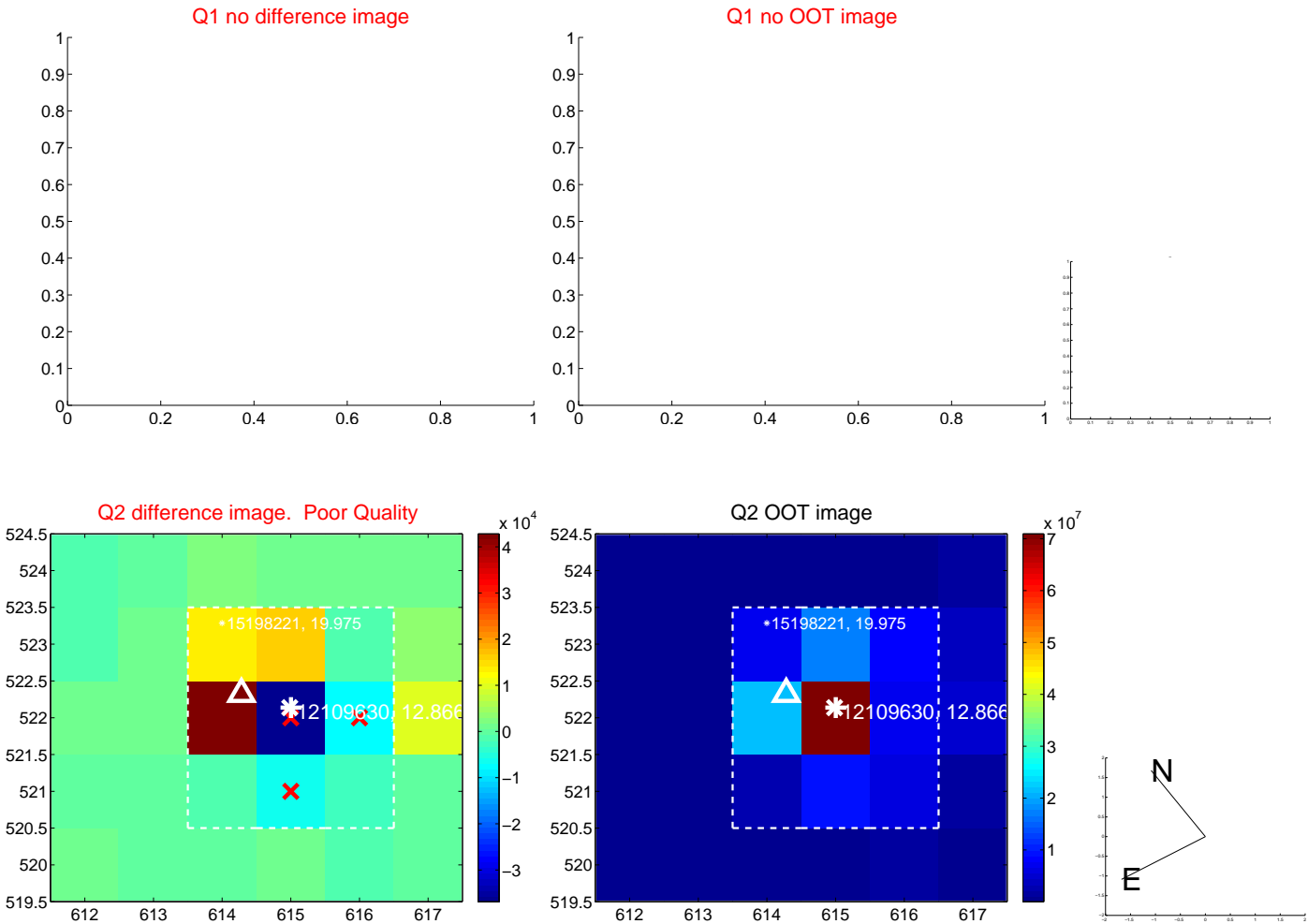
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.899 ± 0.714	1.26	0.617 ± 0.501	0.654 ± 0.523
PRF-fit source offset from KIC position	0.750 ± 0.650	1.15	0.452 ± 0.660	0.599 ± 0.644
photometric centroid source offset	2.88 ± 2.55	1.13	0.80 ± 3.14	2.76 ± 2.49



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.

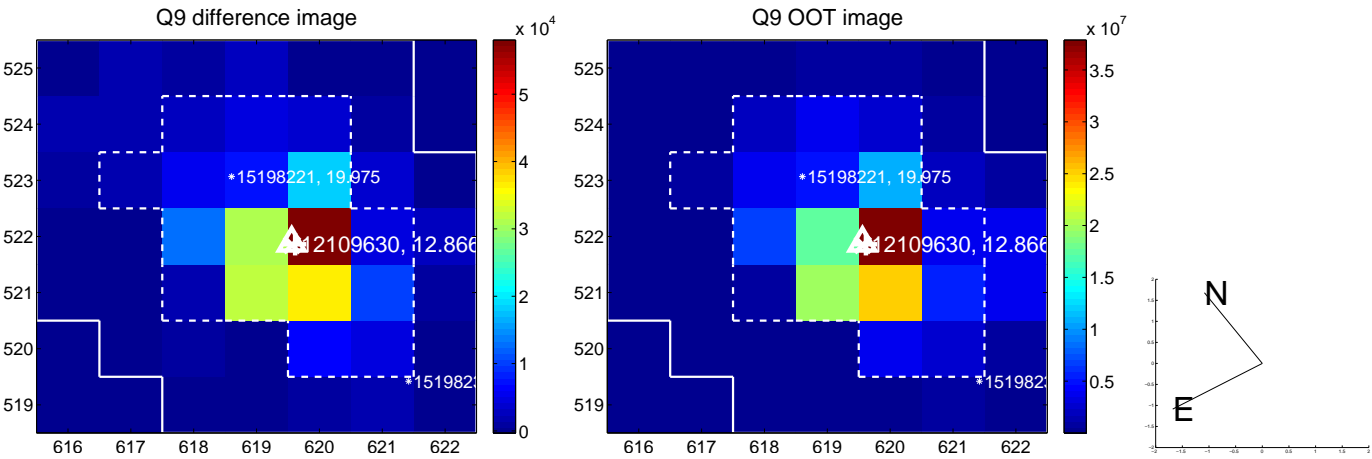
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



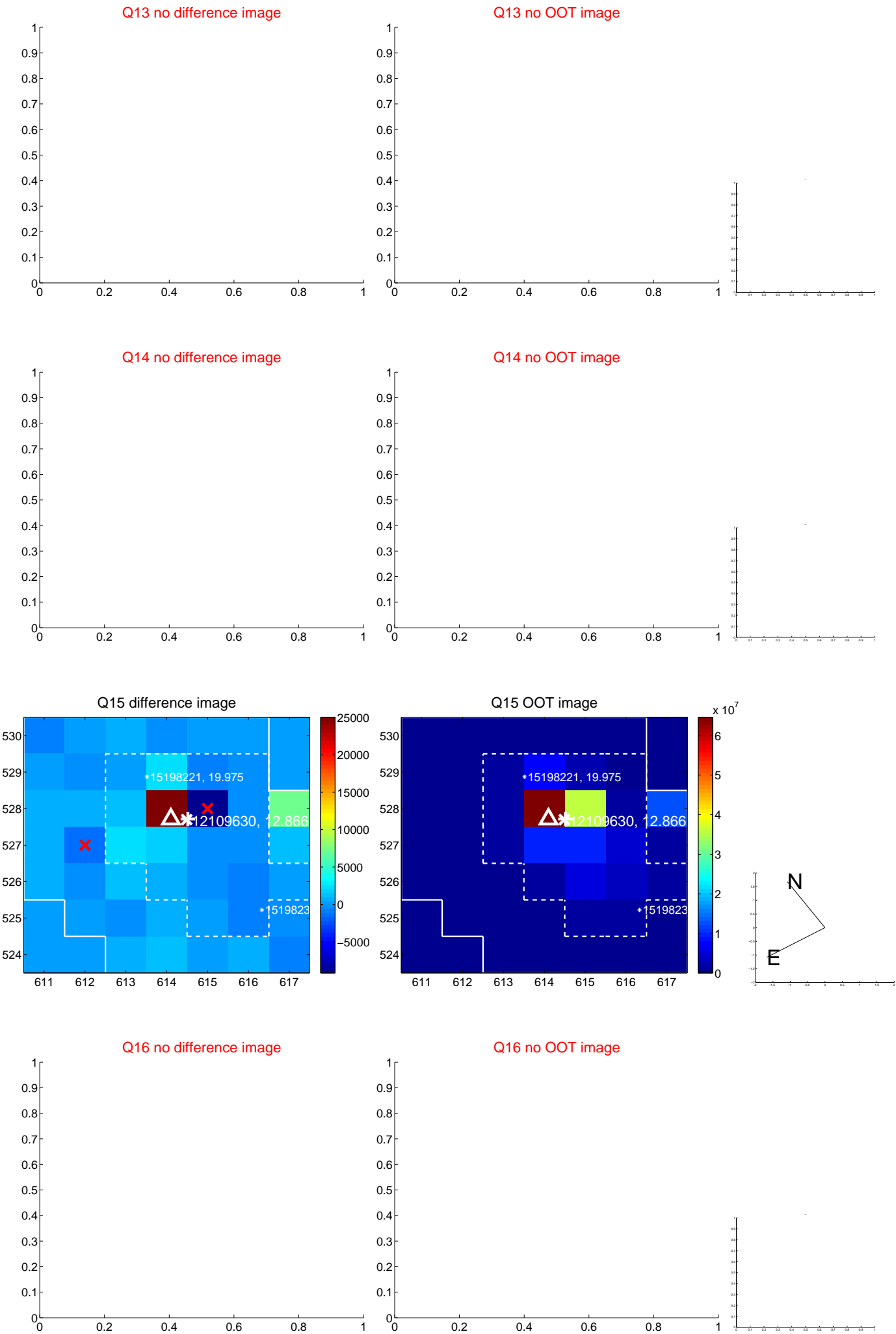
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



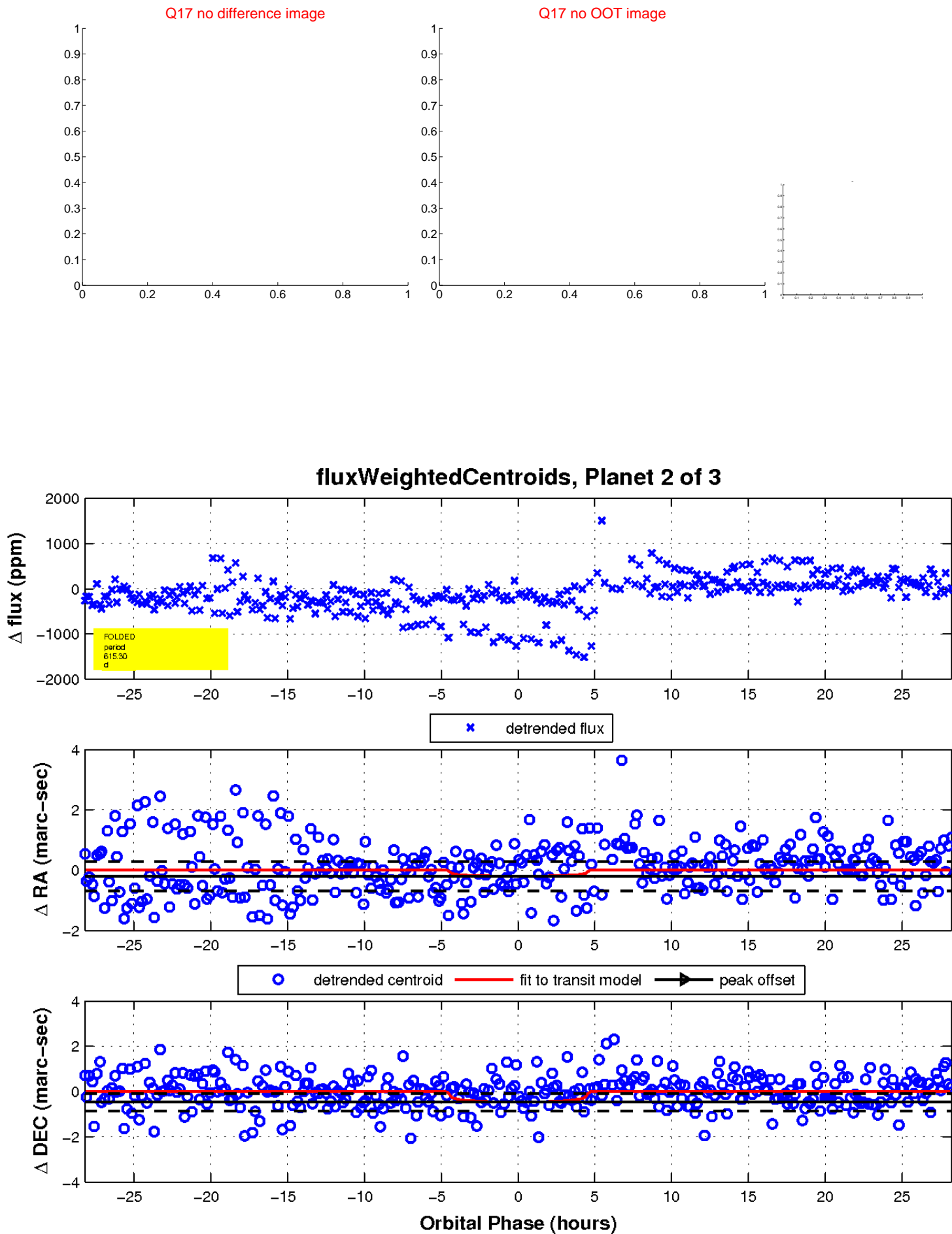
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

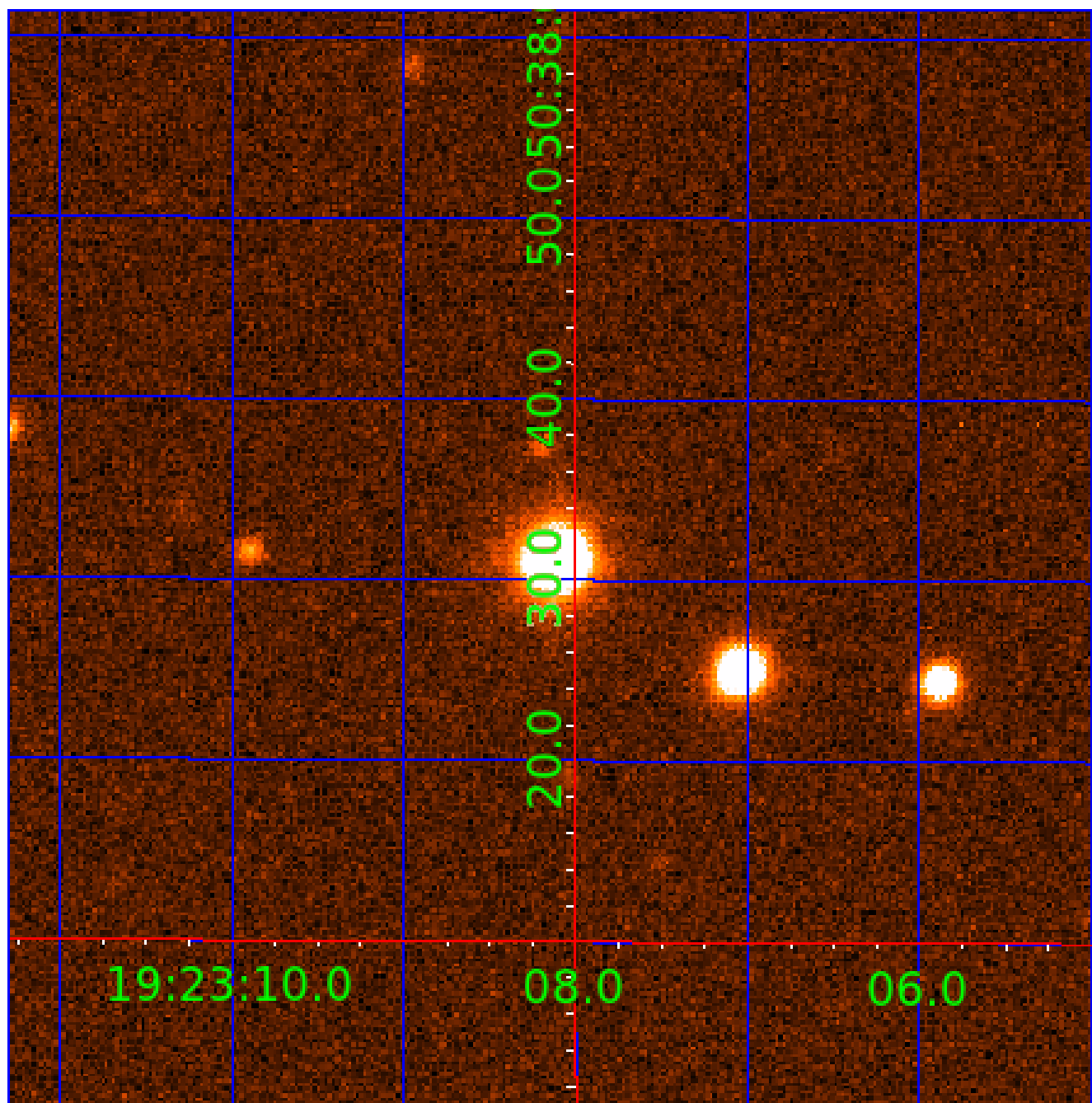


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012109630

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})
012109630-01	OBS	No	570.935264	426.310807	469.3	13.125	11.2	7.6	3.63	5407	8.38	4.00
012109630-02	OBS	No	615.301319	220.623465	155.5	9.406	15.1	2.2	3.63	5407	5.18	3.62
012109630-03	OBS	No	304.735333	165.210850	286.1	5.424	9.4	6.1	3.63	5407	7.03	9.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012109630-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
012109630-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012109630-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

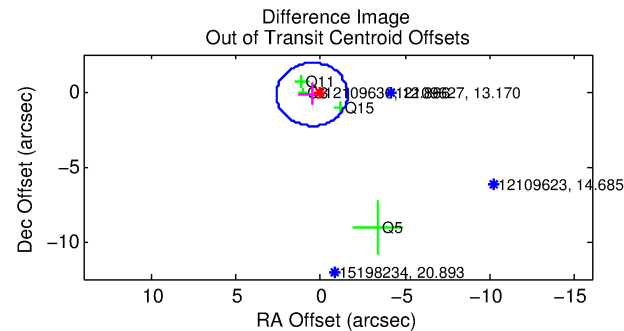
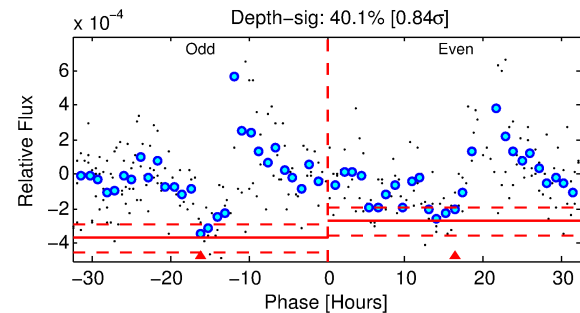
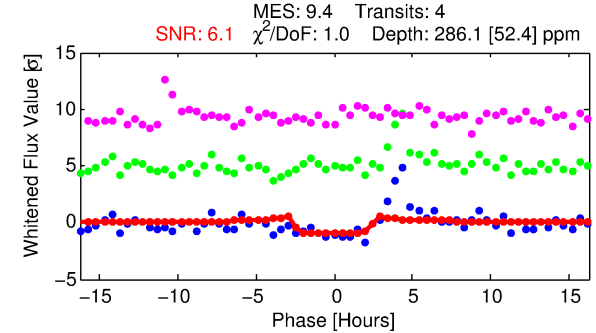
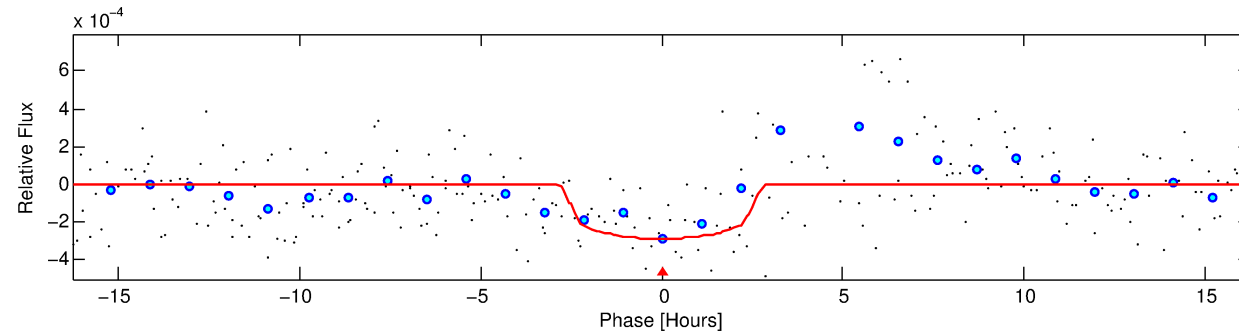
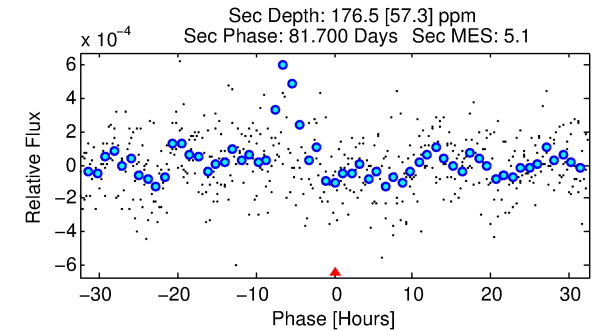
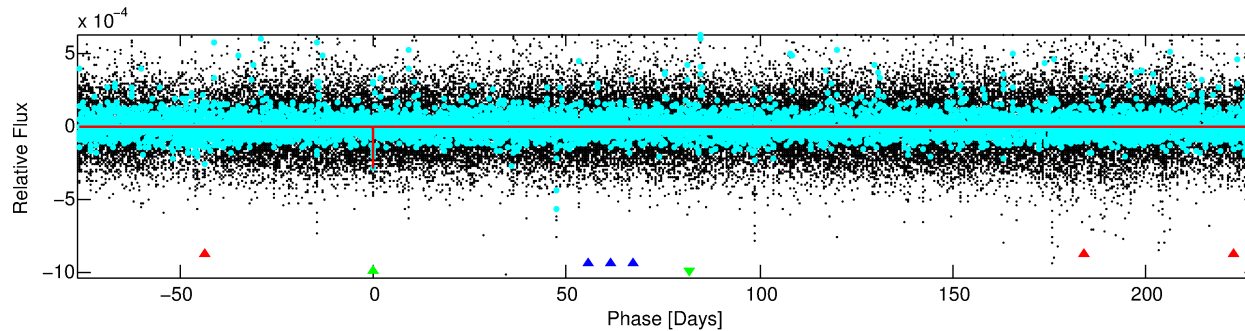
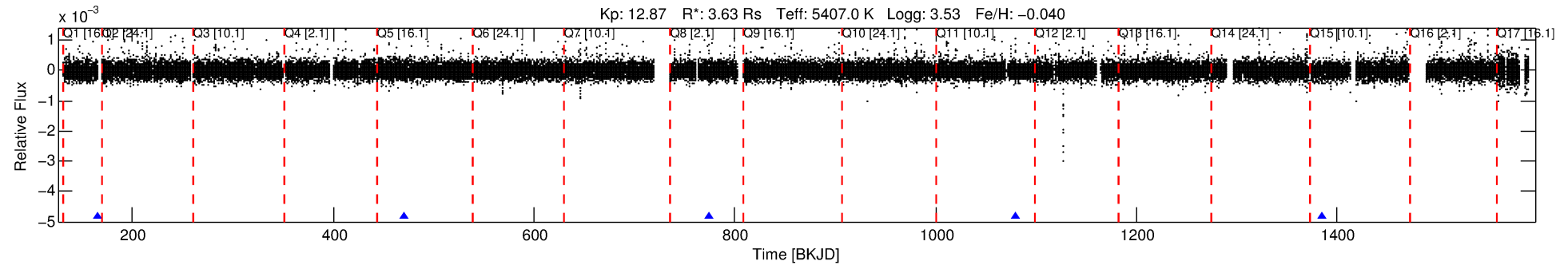
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012109630-03

No Significant Match Found

DV One-Page Summary

KIC: 12109630 Candidate: 3 of 3 Period: 304.735 d



DV Fit Results:

Period = 304.73533 [0.00556] d
Epoch = 165.2108 [0.0160] BKJD
Rp/R* = 0.0178 [0.0117]
a/R* = 242.55 [667.55]
b = 0.85 [0.94]
Seff = 9.23 [12.58]
Teq = 444 [151] K
Rp = 7.03 [6.68] Re
a = 1.0449 [0.8203] AU
Ag = 2145.85 [4116.56] [0.52σ]
Teffp = 4677 [1594] K [2.64σ]

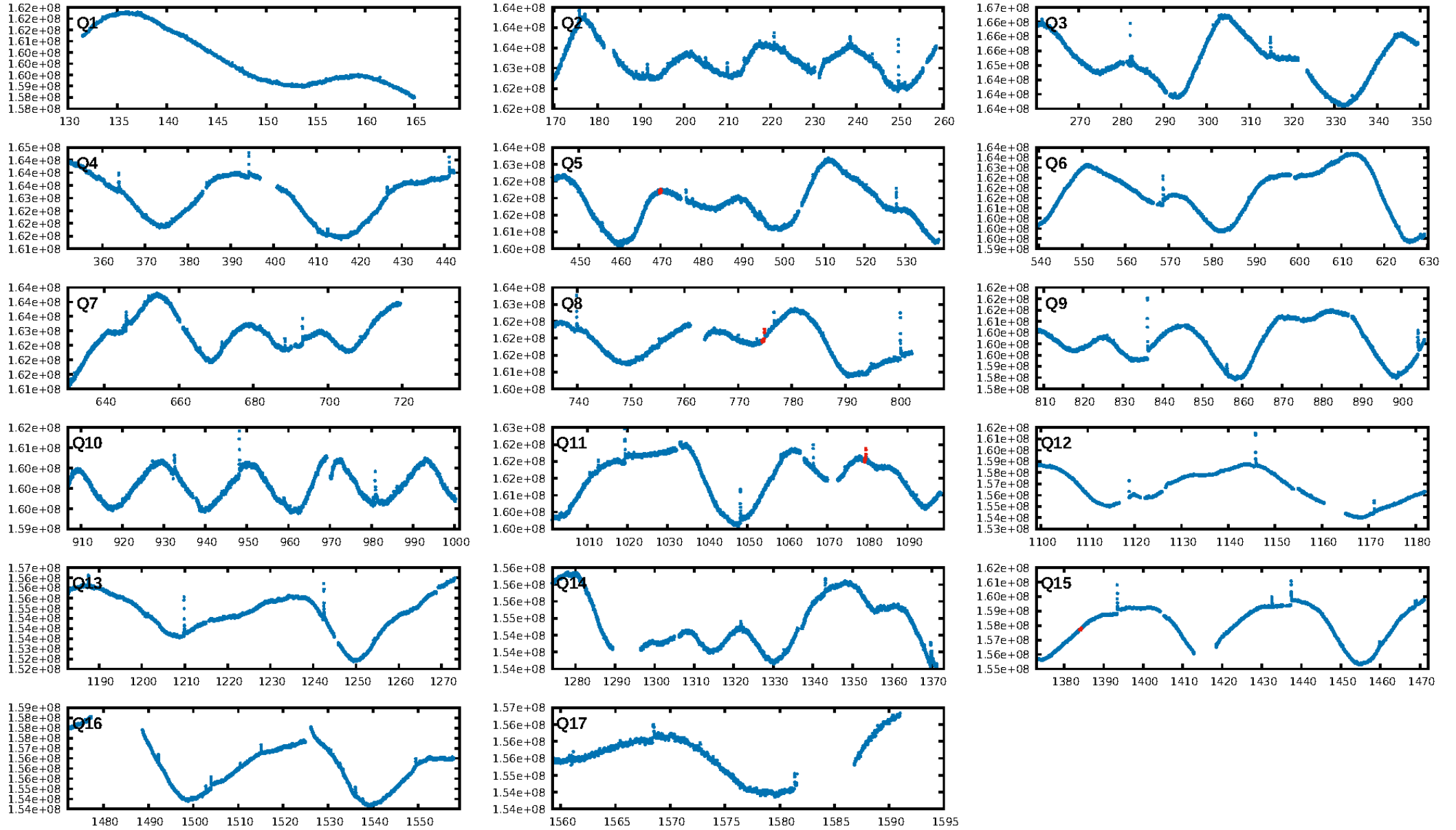
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [449.86σ]
ModelChiSquare2-sig: 35.8%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 8.85e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -5.6
Centroid-sig: 5.3%
Centroid-so: 2.690 arcsec [1.61σ]
OotOffset-rm: 0.547 arcsec [0.78σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-rm: 0.411 arcsec [0.56σ]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

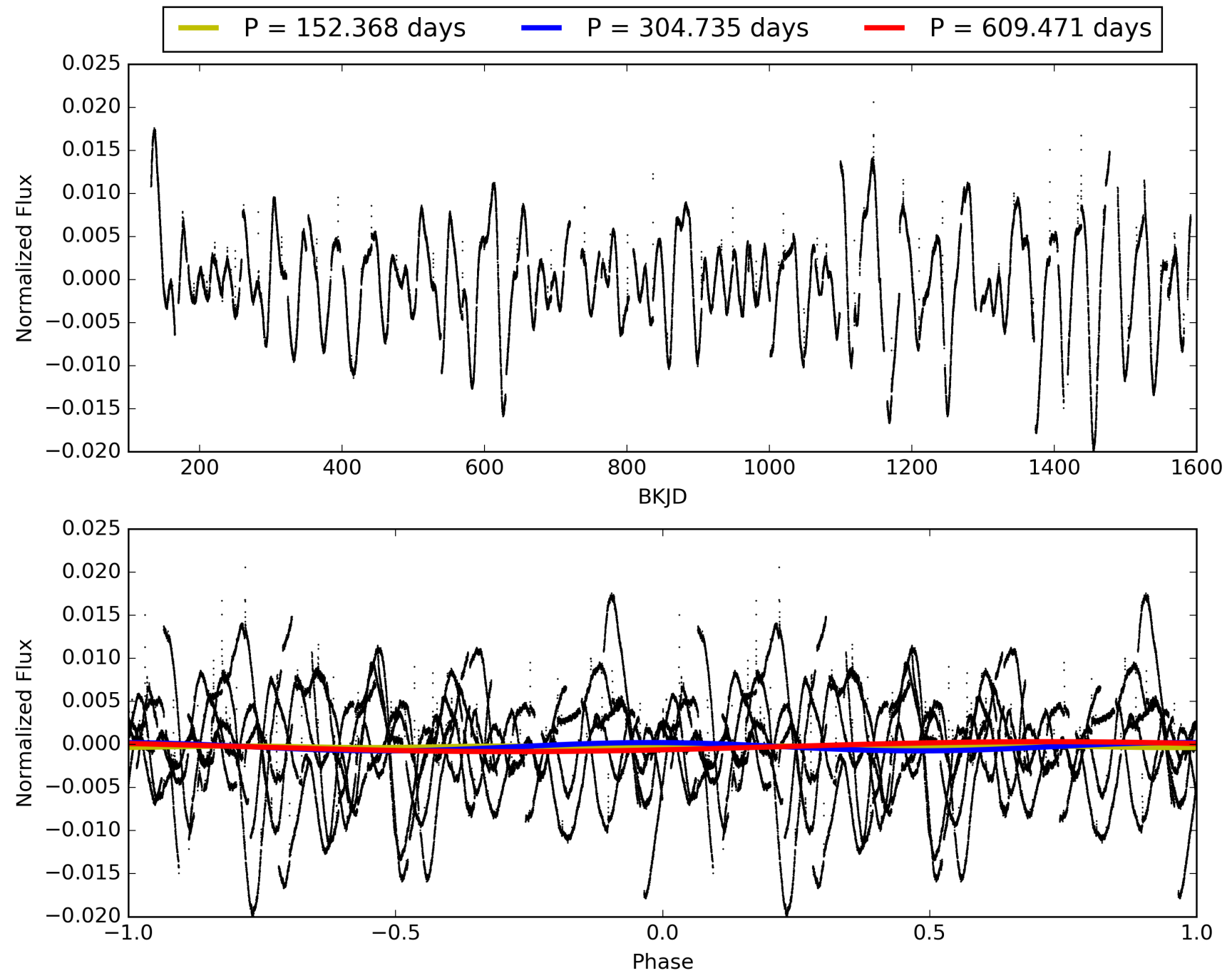
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:23:03 Z

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

TCE 012109630-03, PDC Light Curves

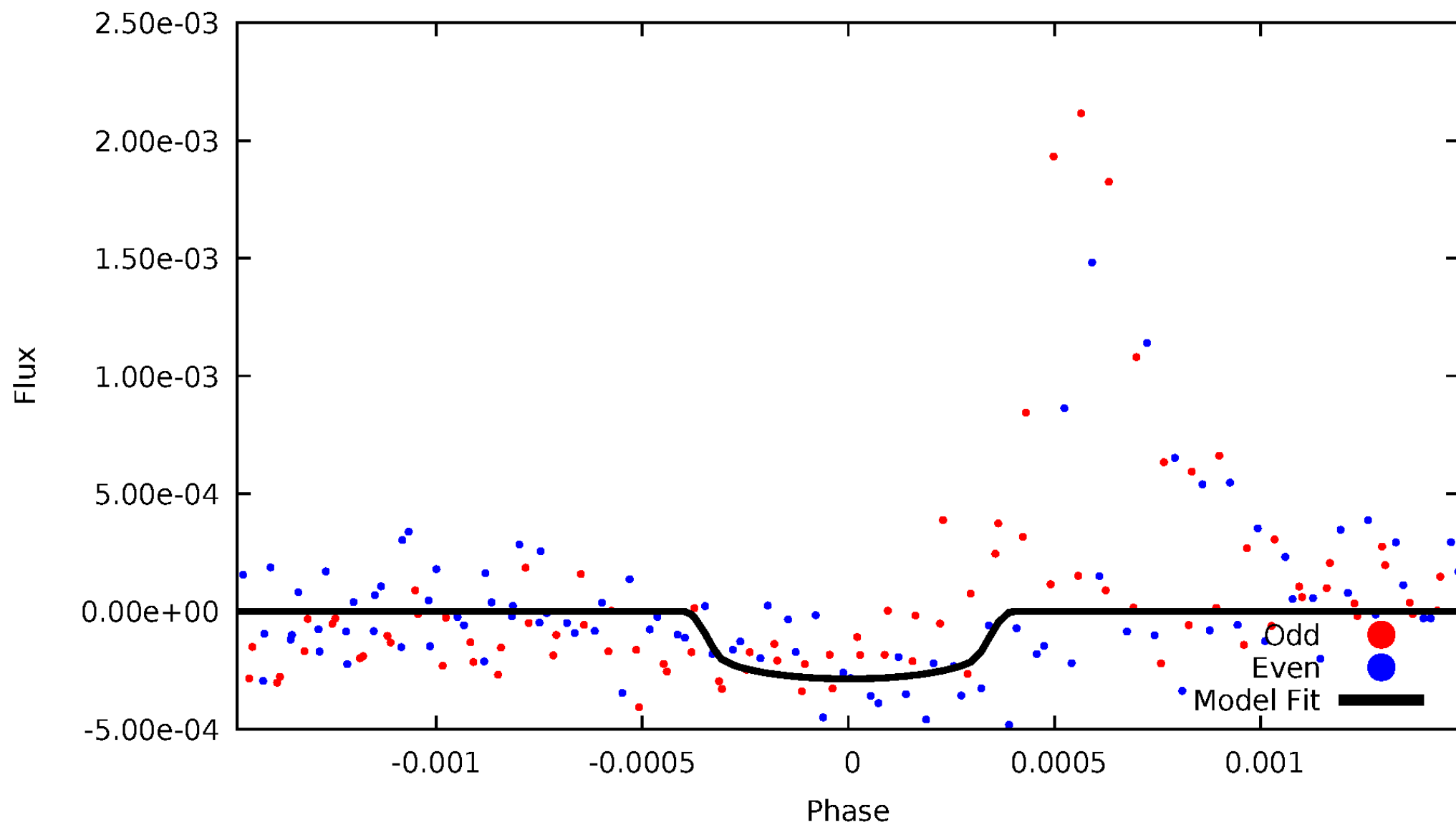


TCE 012109630-03



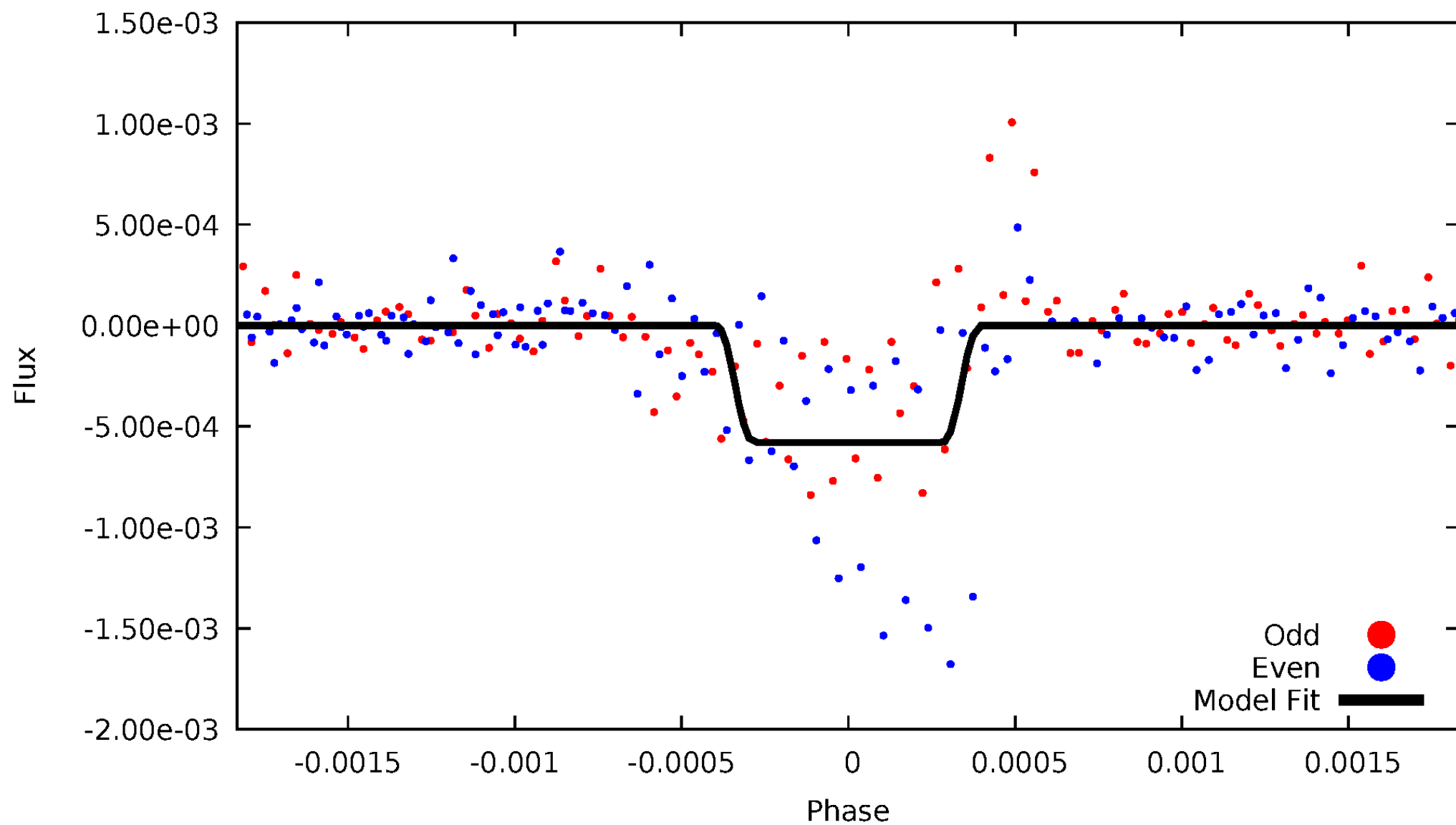
DV Odd/Even

TCE 012109630-03

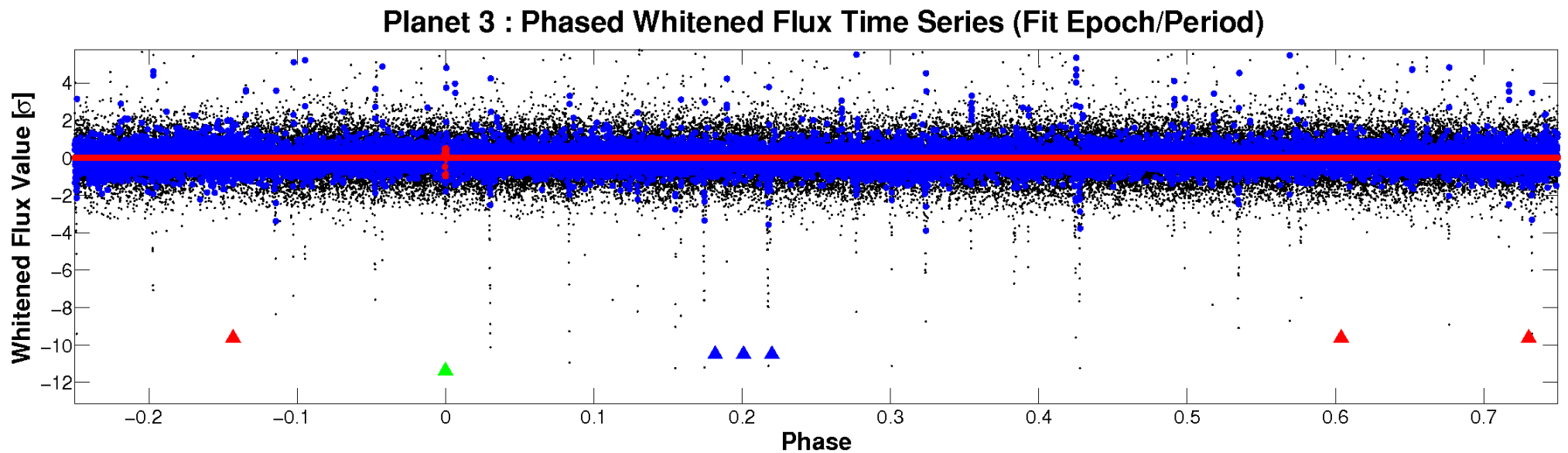
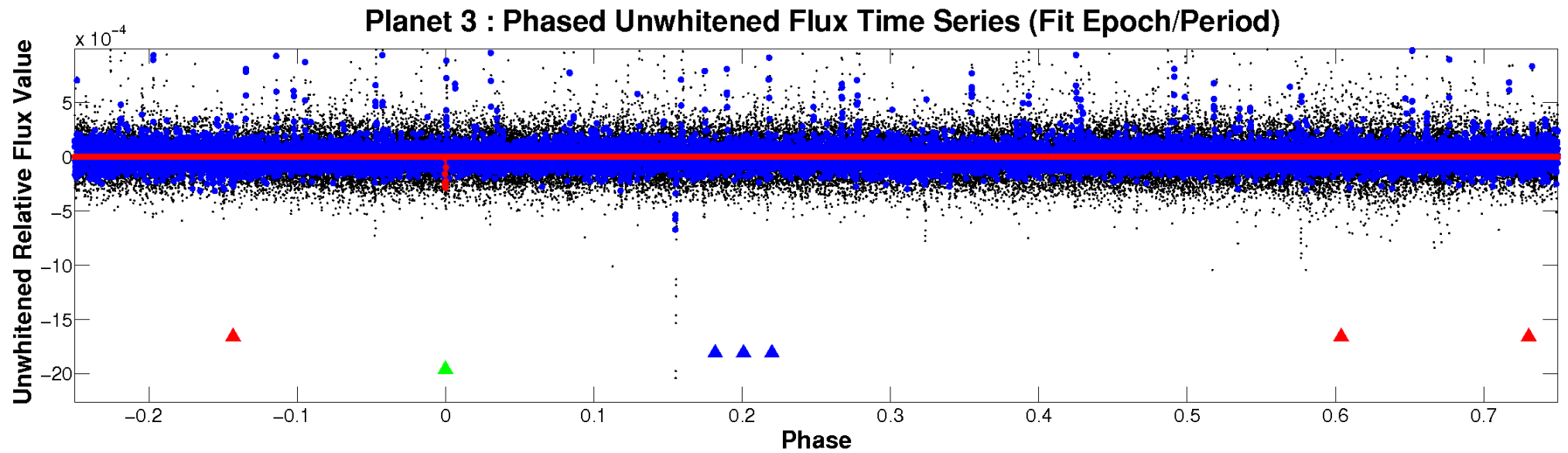


ALT Odd/Even

TCE 012109630-03

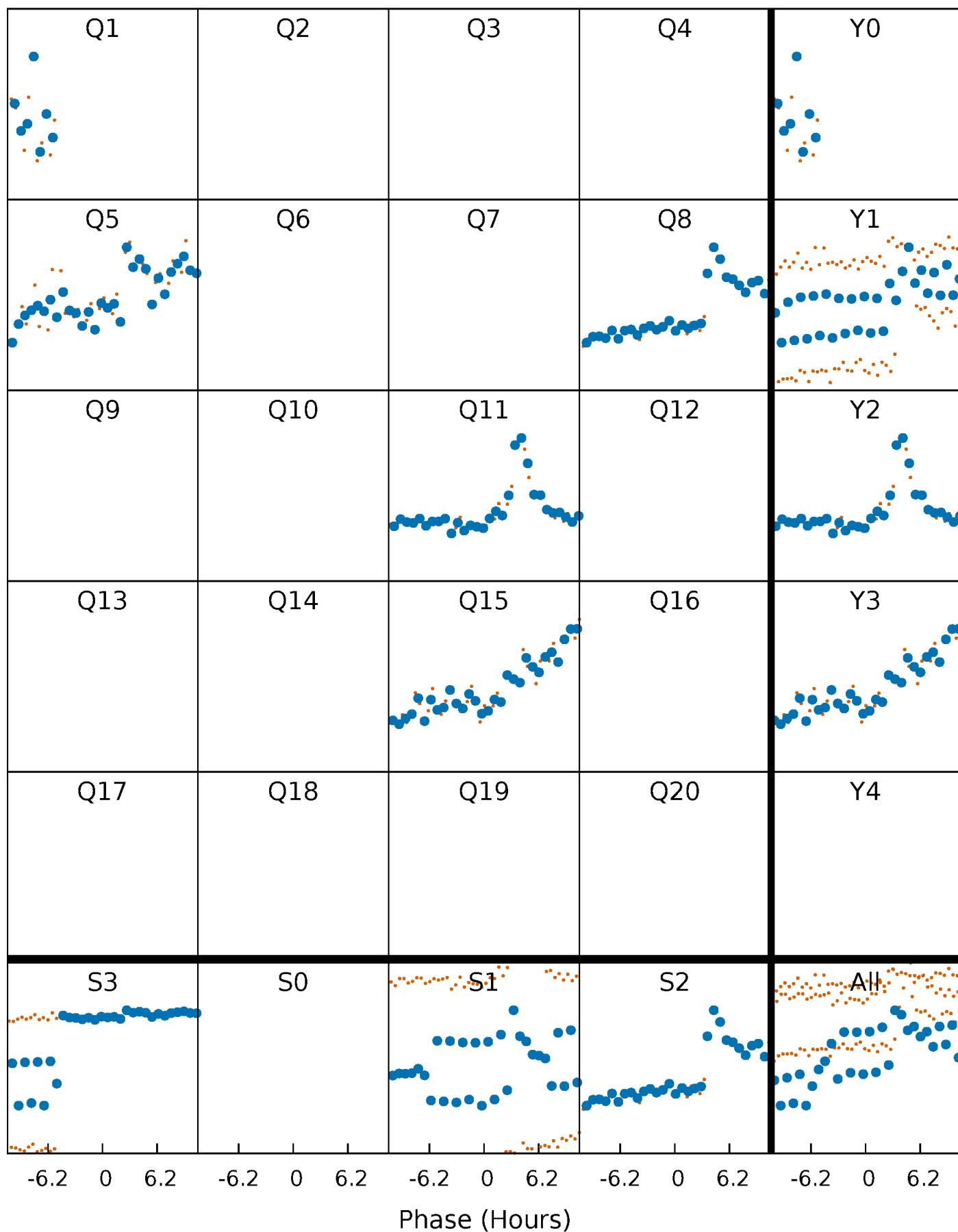


Non-Whitened Vs. Whitened Light Curve



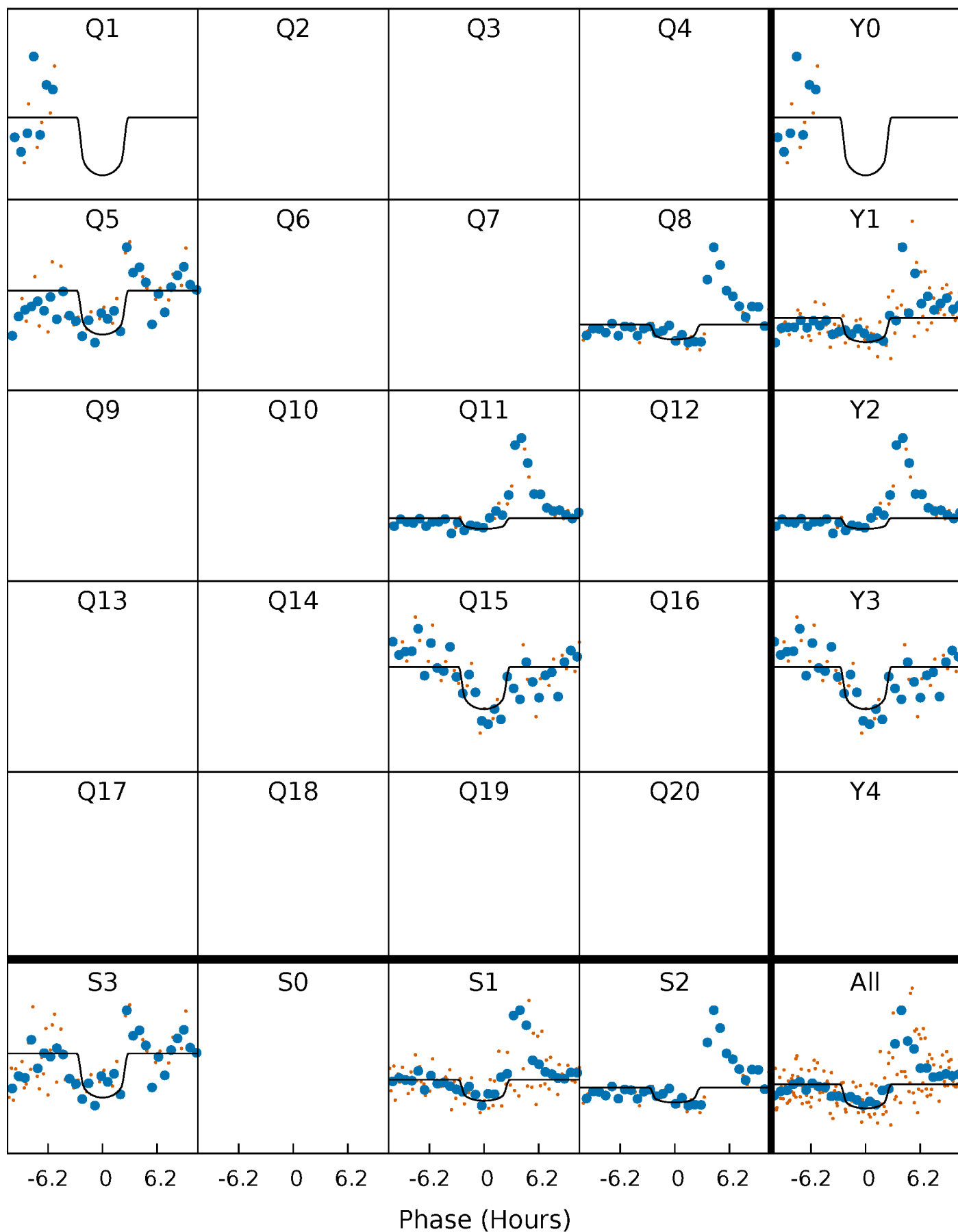
PDC Quarter-Phased Transit Curves

TCE 012109630-03 P=304.735333 Days $T_0=165.210850$ (BKJD)



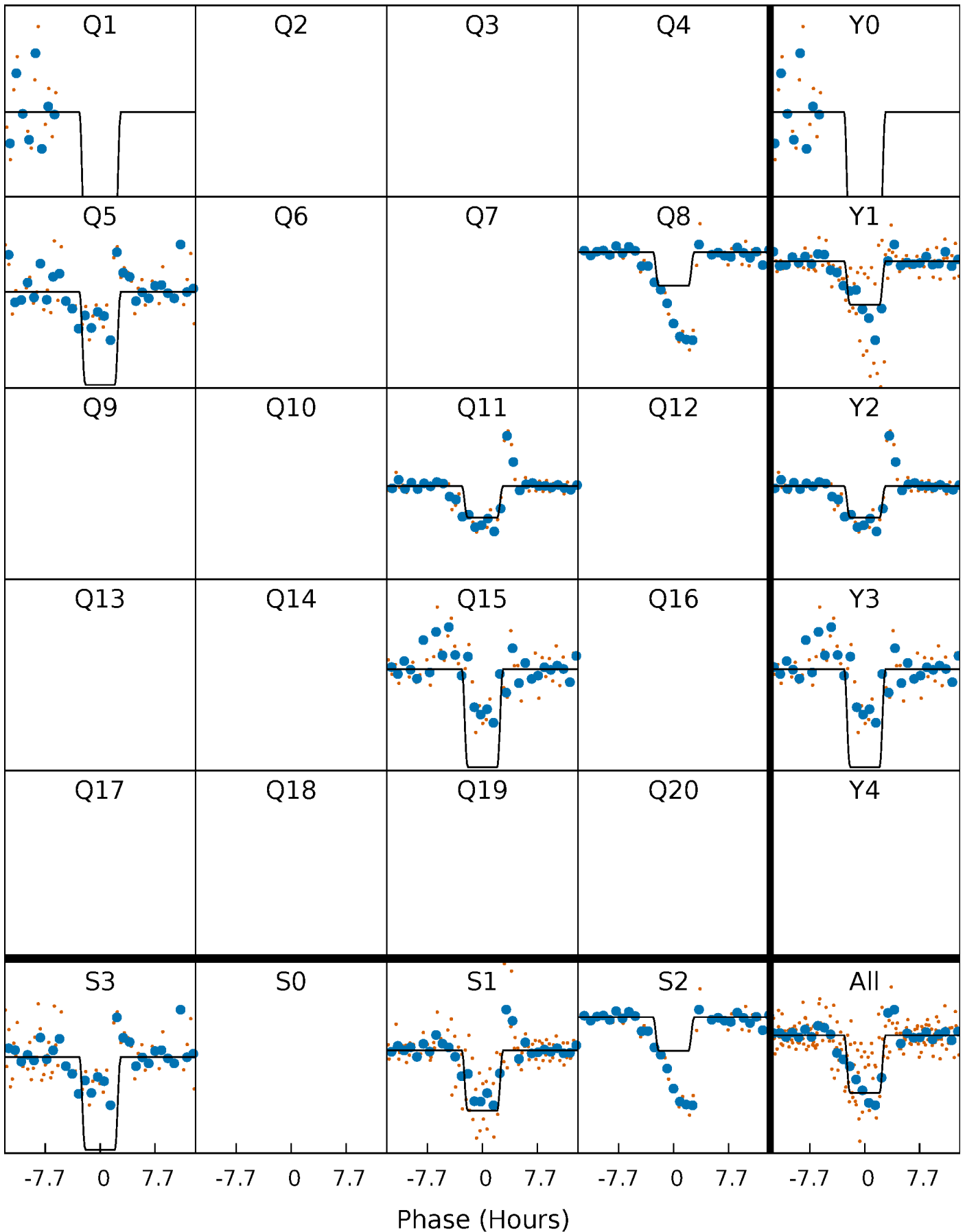
DV Quarter-Phased Transit Curves

TCE 012109630-03 $P=304.735333$ Days $T_0=165.210850$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

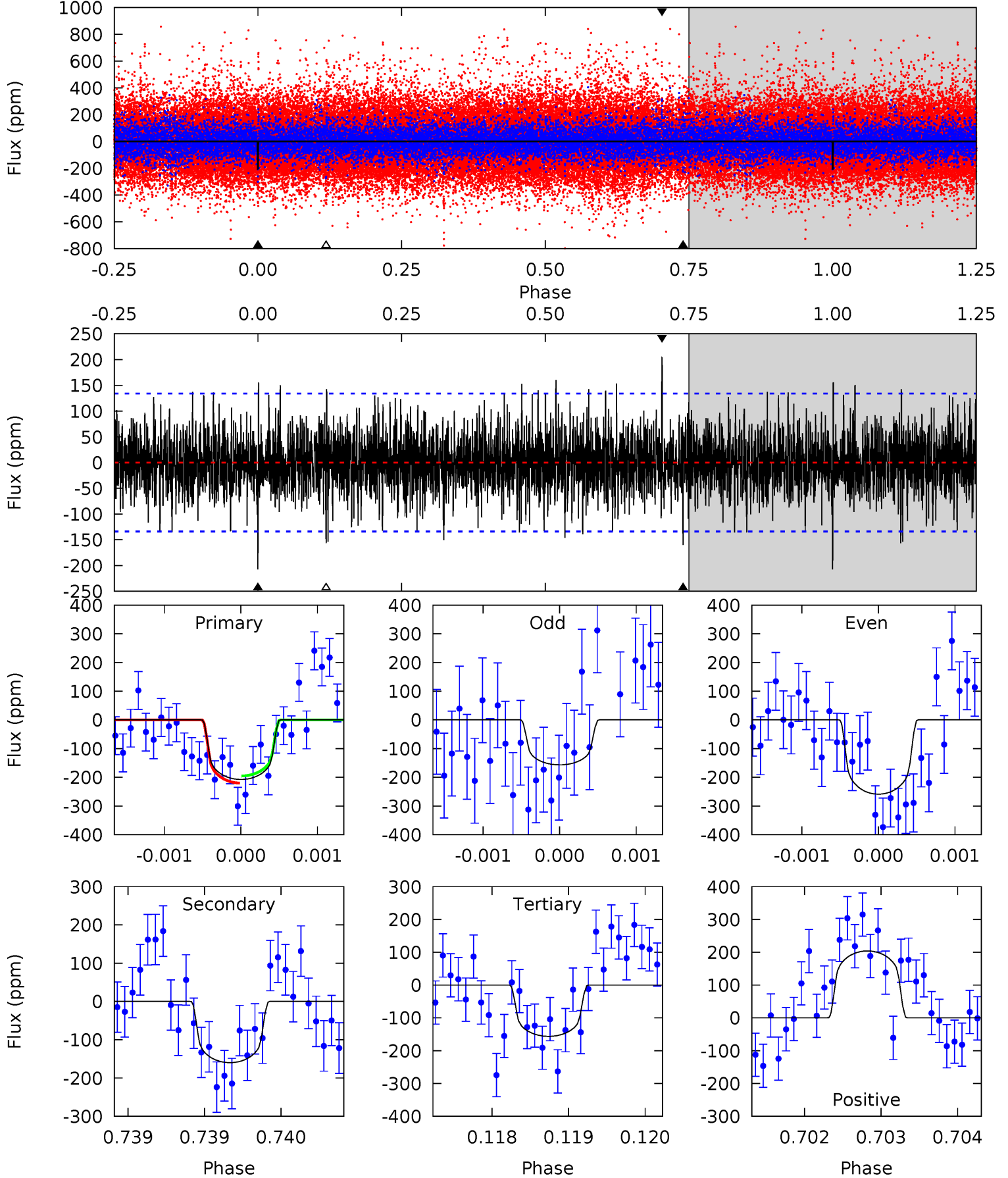
TCE 012109630-03 P=304.732491 Days $T_0=165.242097$ (BKJD)



DV Model-Shift Uniqueness Test

012109630-03, P = 304.735333 Days, E = 165.210850 Days

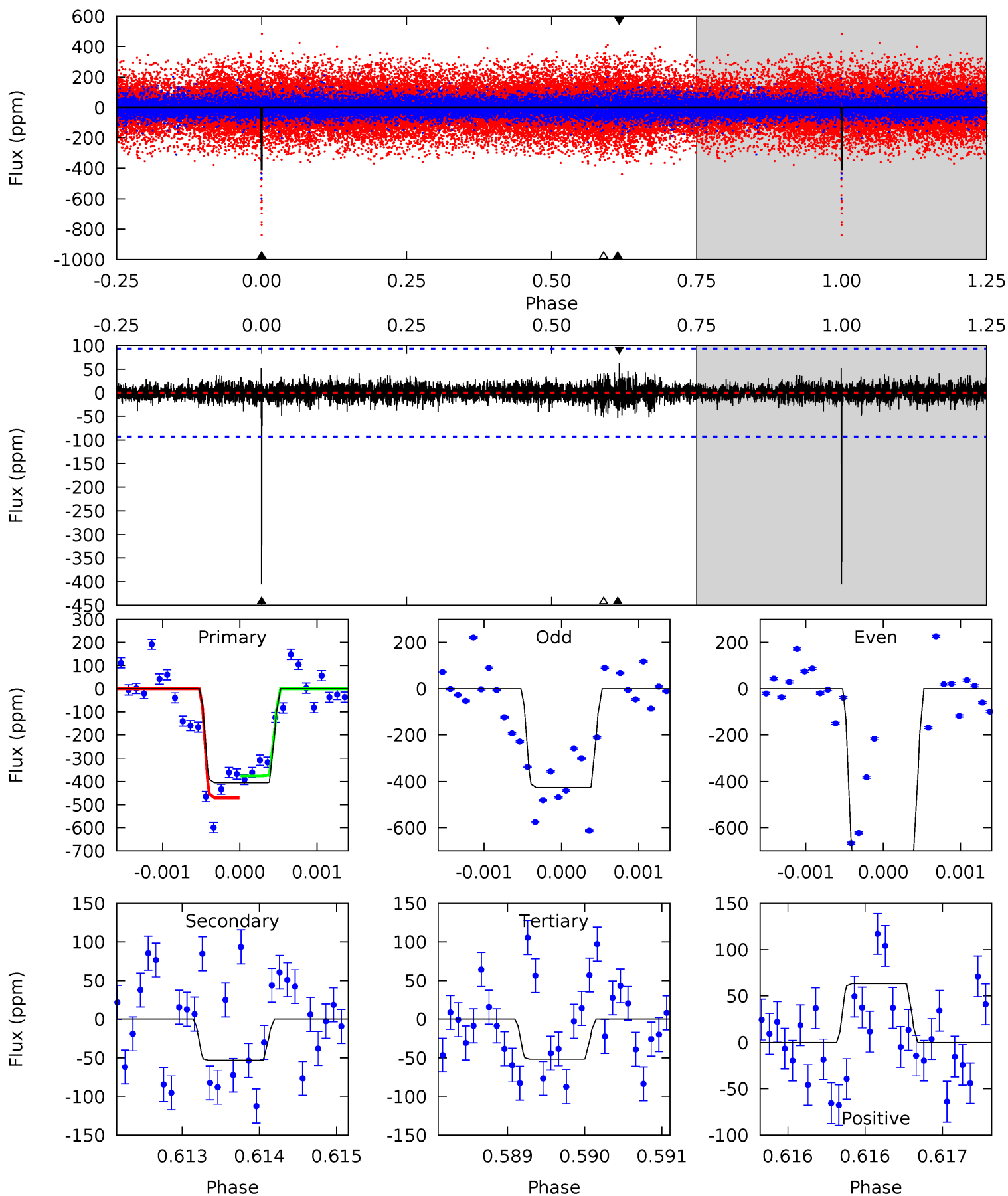
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.52	6.56	6.41	8.36	5.49	3.36	1.82	2.10	0.15	0.14	-1.81	2.01	0.93	0.50	0.51



Alt Model-Shift Uniqueness Test

012109630-03, P = 304.732491 Days, E = 165.242097 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	3.15	3.06	3.74	5.50	3.37	0.62	21.0	20.3	0.09	-0.59	10.5	1.26	0.13	2.69



Stellar Parameters For KIC 012109630

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5407^{+176}_{-176}	$3.533^{+0.832}_{-0.208}$	$-0.040^{+0.300}_{-0.300}$	$3.628^{+0.888}_{-2.485}$	$1.638^{+0.240}_{-0.769}$	$0.048^{+1.080}_{-0.022}$
	+3%/-3%	+24%/-6%	+750%/-750%	+24%/-68%	+15%/-47%	+2235%/-45%
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 012109630-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-160 ± 24	$6.47^{+5.09}_{-4.00}$	608^{+64}_{-101}	4585^{+2237}_{-756}	2246^{+12597}_{-1523}
Alt.	-53 ± 17	$8.12^{+6.50}_{-4.31}$	609^{+56}_{-120}	3420^{+811}_{-428}	445^{+1568}_{-301}

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

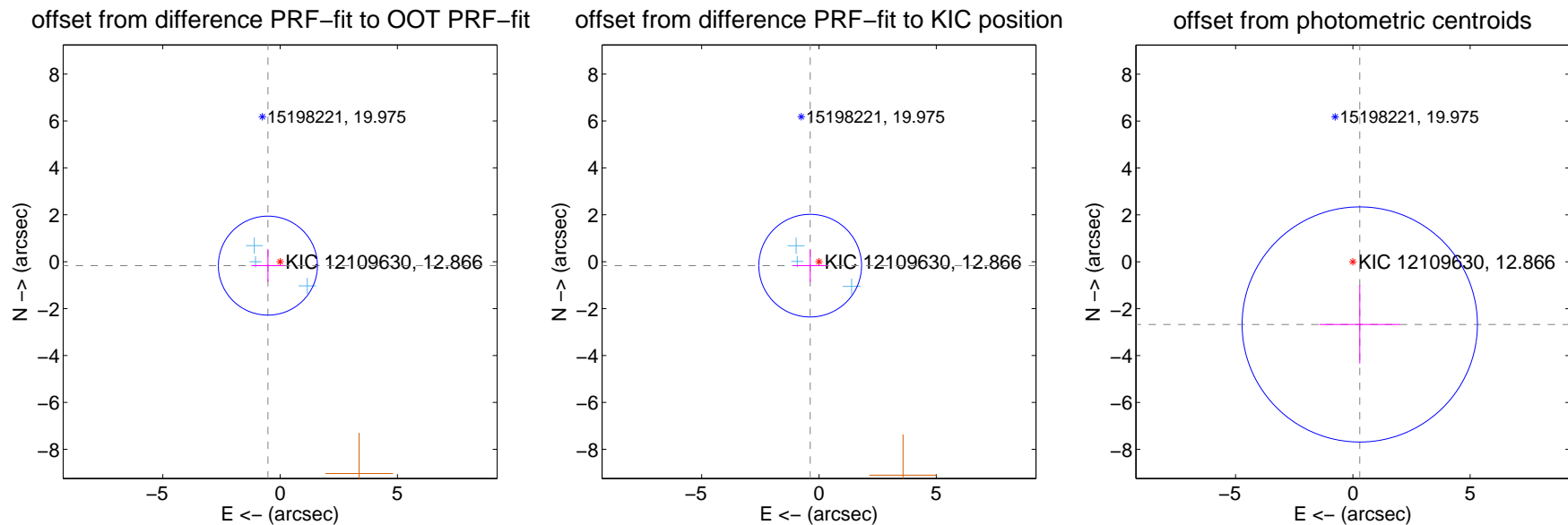
DV Centroid Data

Supplemental centroid analysis for 012109630-03. Kepler magnitude: 12.87. Transit SNR 6.07

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.547 ± 0.704	0.78	0.521 ± 0.705	-0.168 ± 0.690
PRF-fit source offset from KIC position	0.411 ± 0.730	0.56	0.375 ± 0.736	-0.169 ± 0.697
photometric centroid source offset	2.69 ± 1.67	1.61	-0.29 ± 1.72	-2.67 ± 1.67

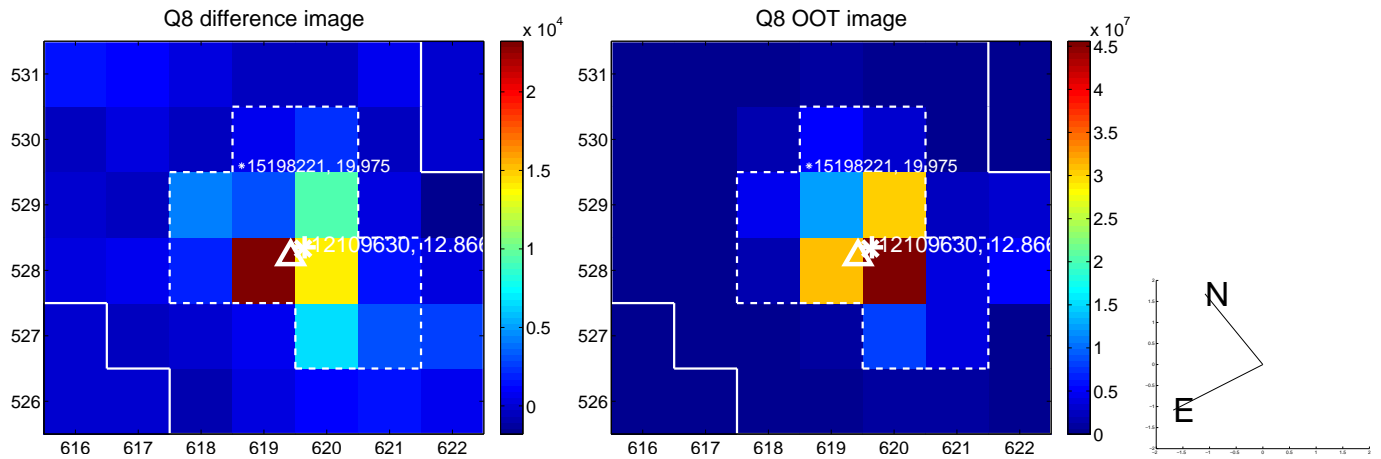
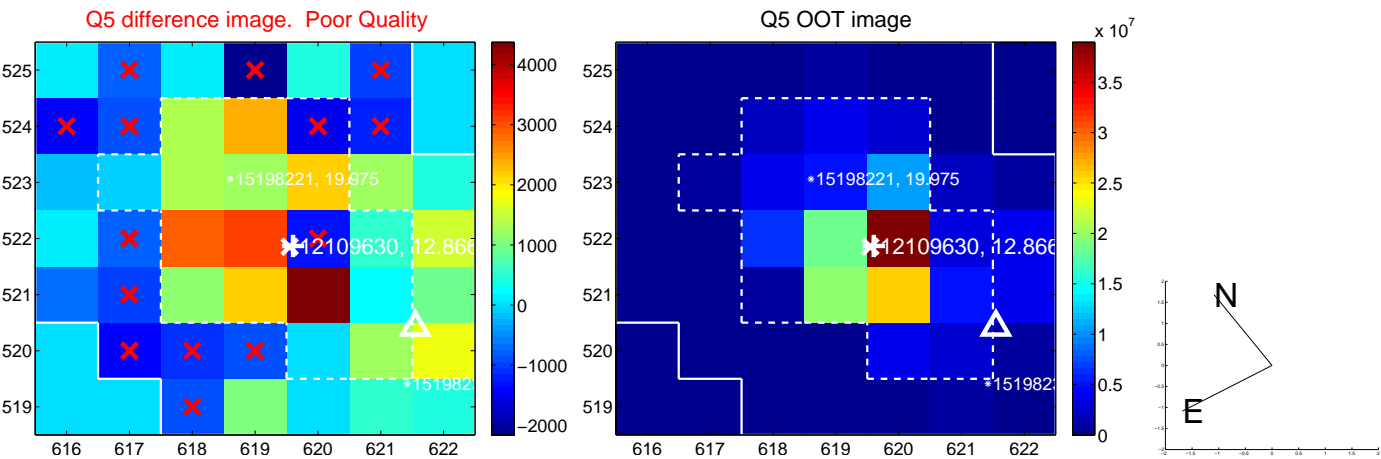


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

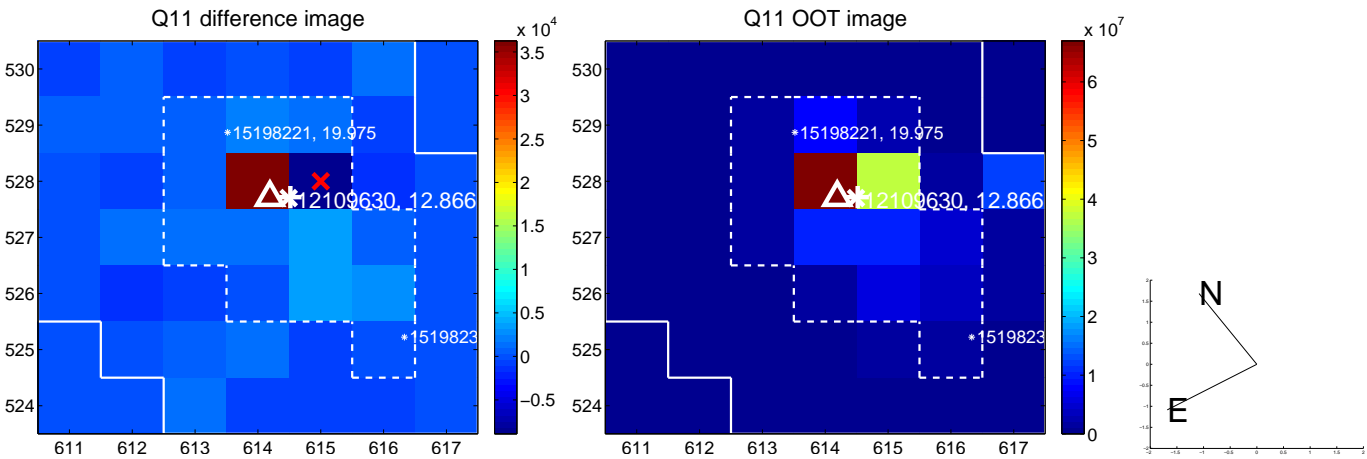
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



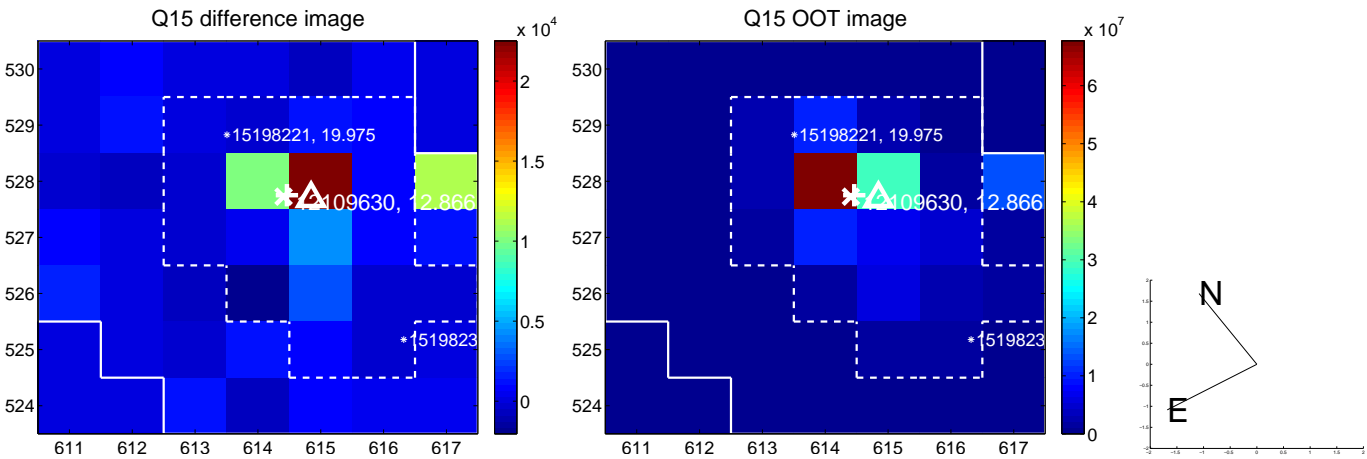
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



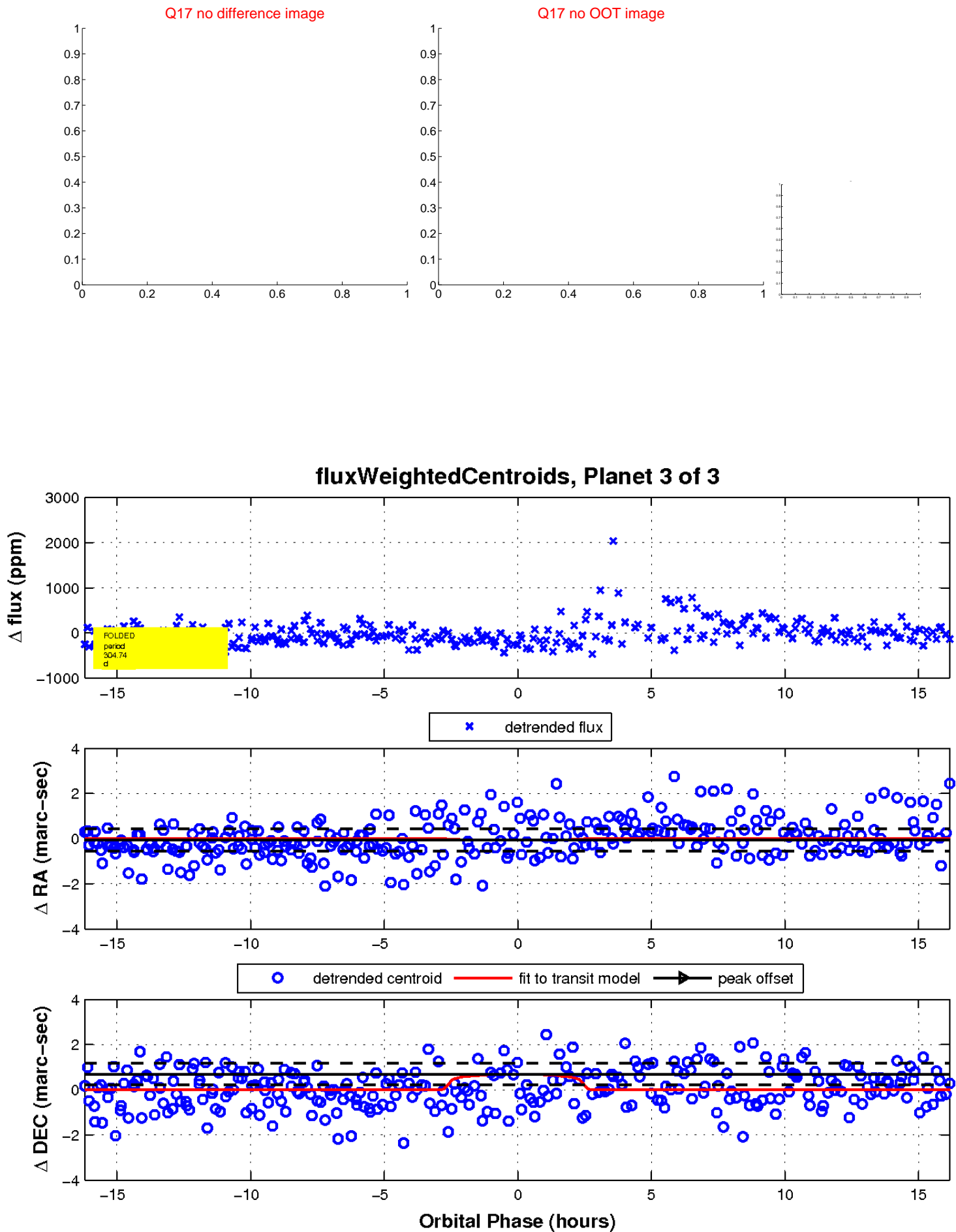
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

