

KIC 003129238

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})
003129238-01	OBS	7645.01	2.008760	131.510994	114.5	4.500	8.7	-1.0	0.76	5341	0.80	545.73
003129238-02	OBS	No	450.536545	217.799694	677.1	6.974	12.9	9.1	0.76	5341	3.94	0.40
003129238-03	OBS	No	296.213101	287.738501	470.8	4.142	9.4	7.6	0.76	5341	2.79	0.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003129238-01	OBS	PC	1.00	0	0	0	0	CENT_NOFITS
003129238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
003129238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

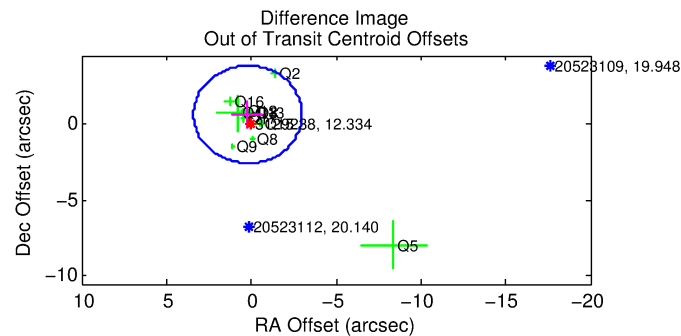
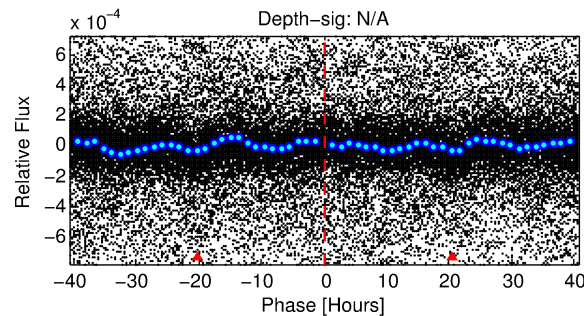
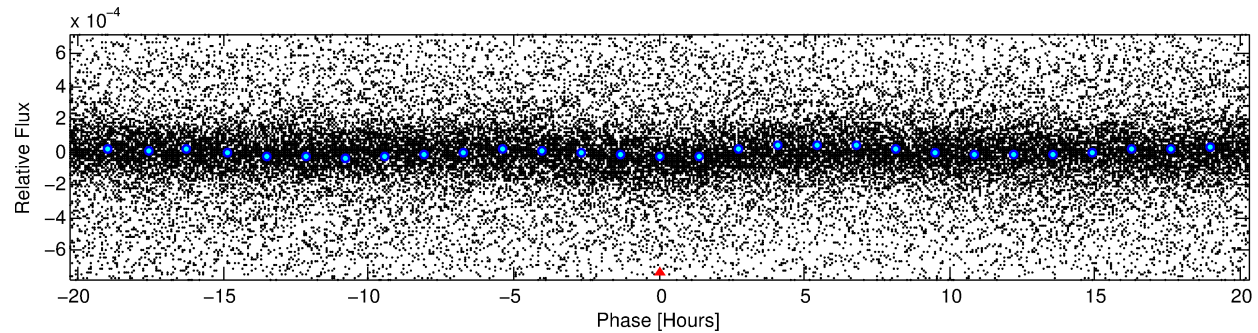
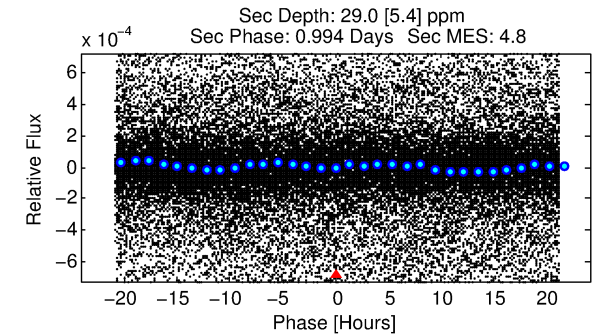
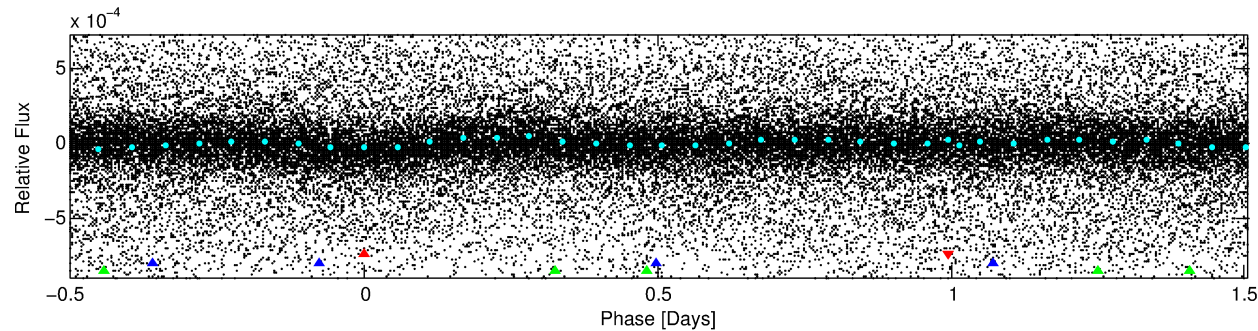
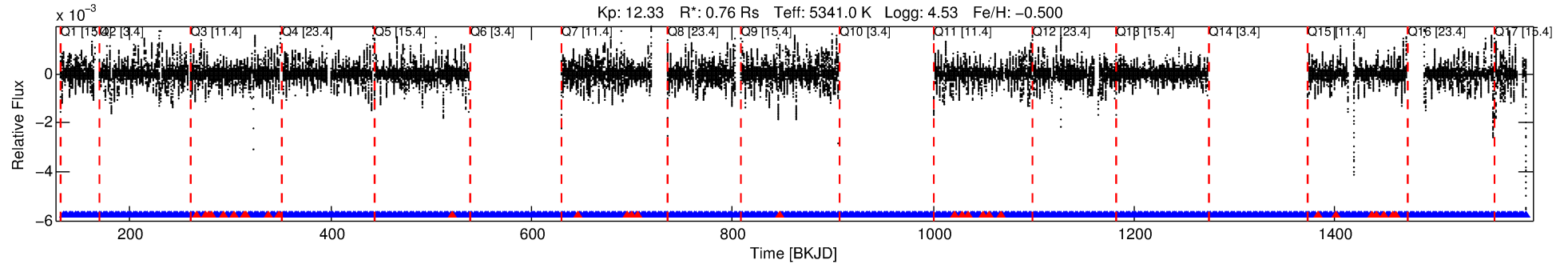
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003129238-01

No Significant Match Found

DV One-Page Summary

KIC: 3129238 Candidate: 1 of 3 Period: 2.009 d



TPS TCE Results:

Period = 2.00876 d
Epoch = 131.5110 BKJD

DV fit results are unavailable

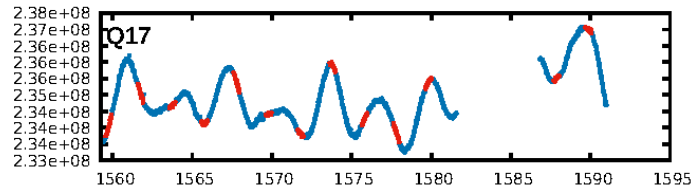
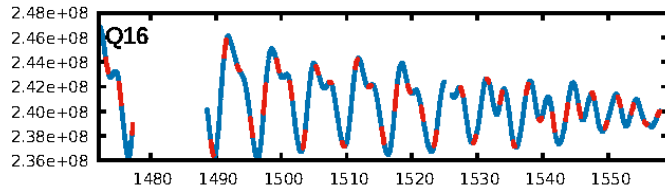
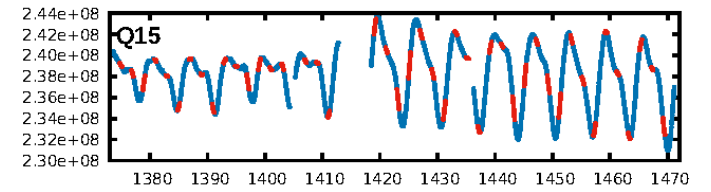
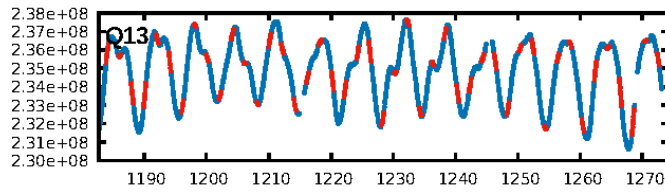
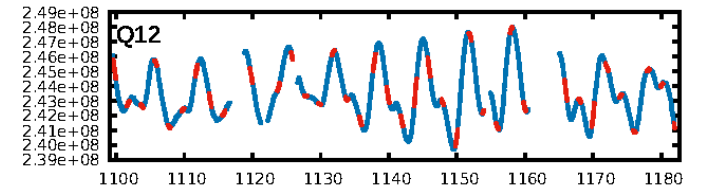
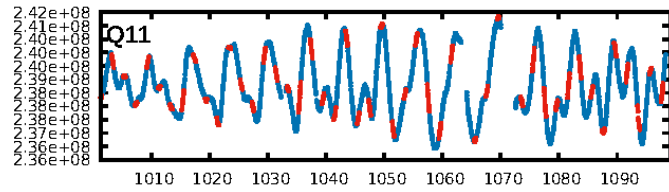
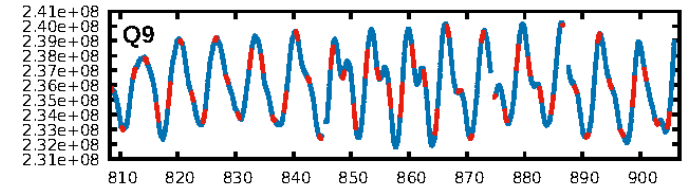
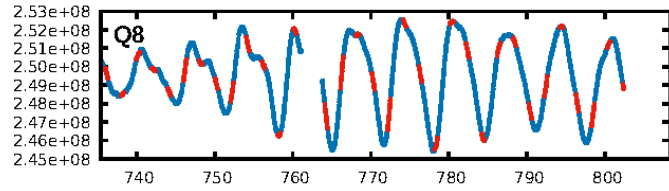
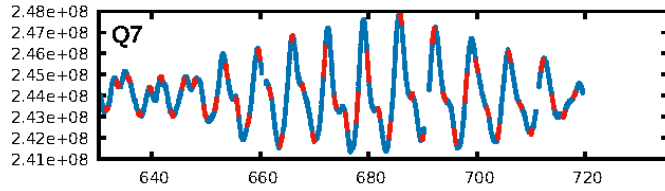
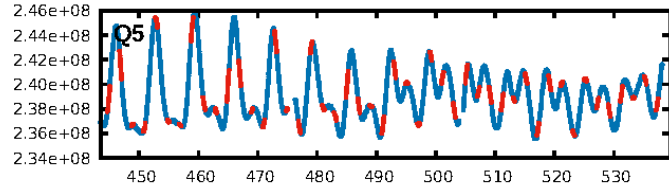
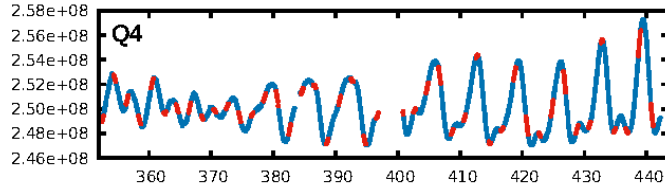
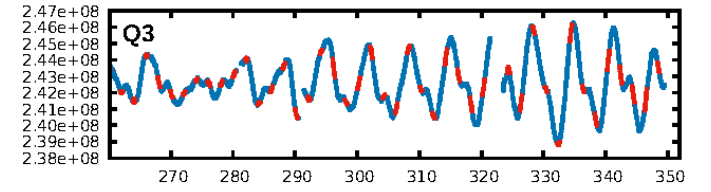
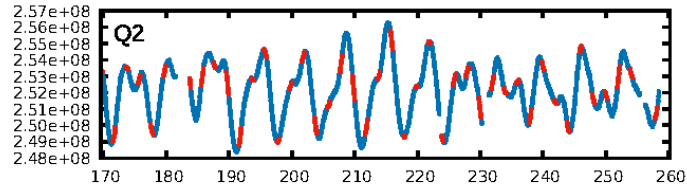
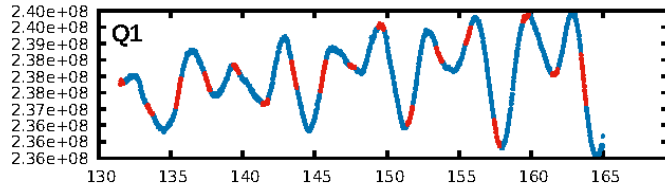
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1154.49σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.00e-15
RollingBand-fgt: 0.94 [481/510]
GhostDiagnostic-chr: -2.834
Centroid-sig: 73.4%
Centroid-so: 0.397 arcsec [0.87σ]
OotOffset-rm: 0.662 arcsec [0.62σ]
KicOffset-rm: 0.664 arcsec [0.63σ]
OotOffset-st: 1/2/4/4 [11]
KicOffset-st: 1/2/4/4 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [14/14]

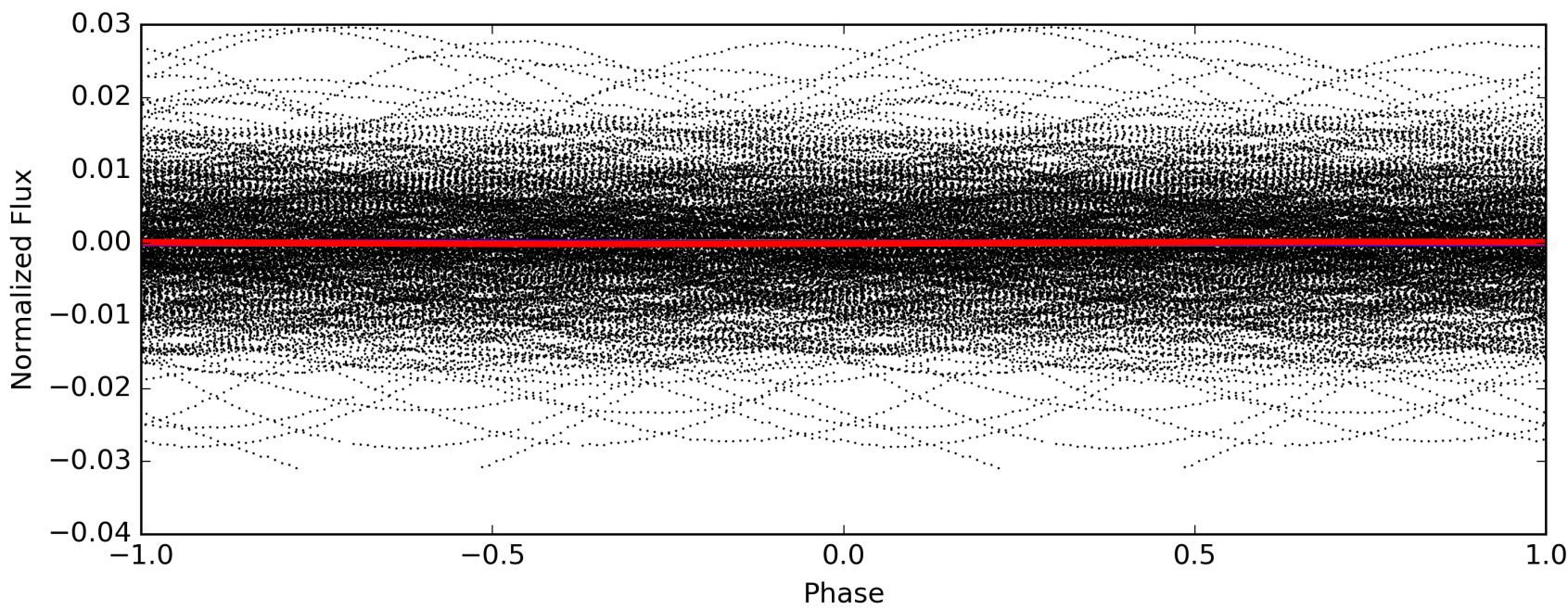
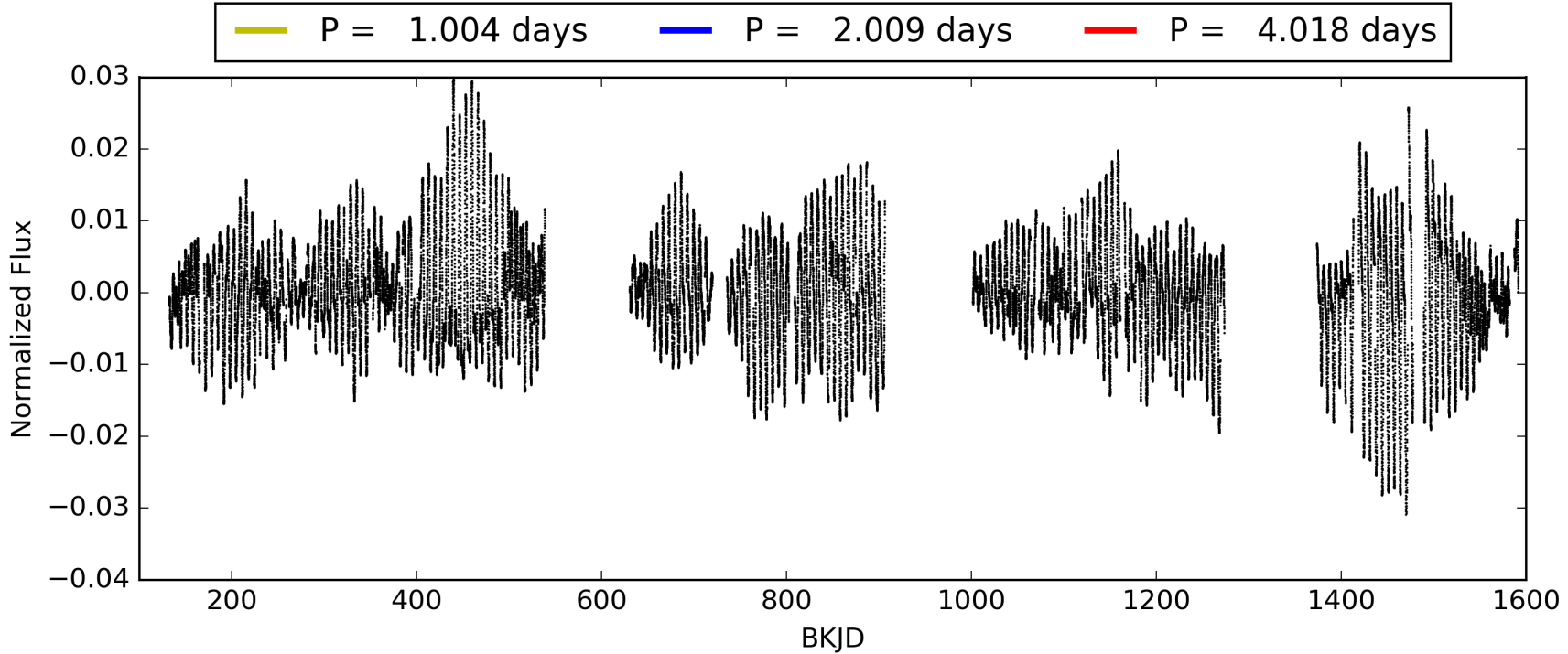
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:07:13 Z

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

TCE 003129238-01, PDC Light Curves

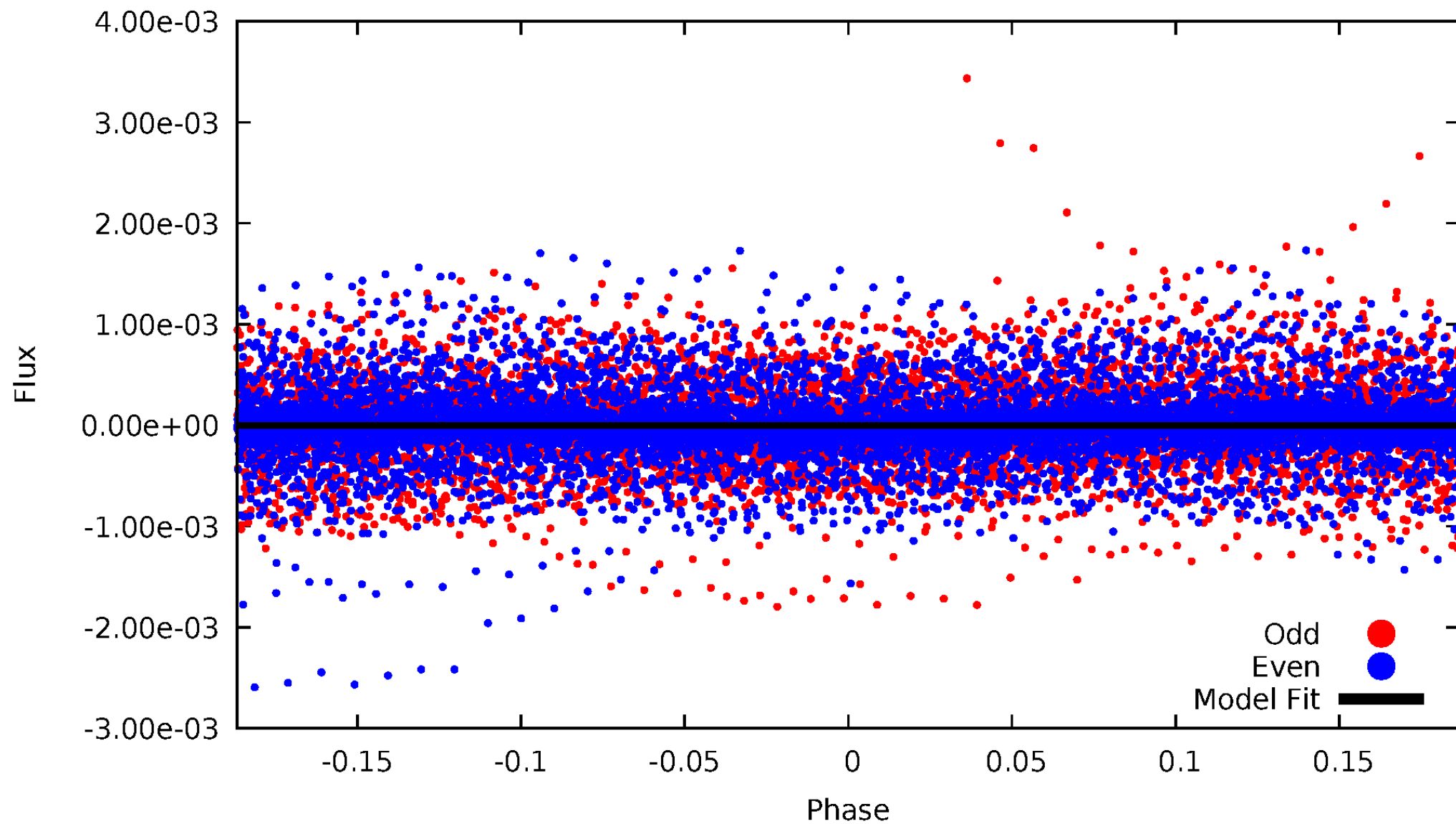


TCE 003129238-01



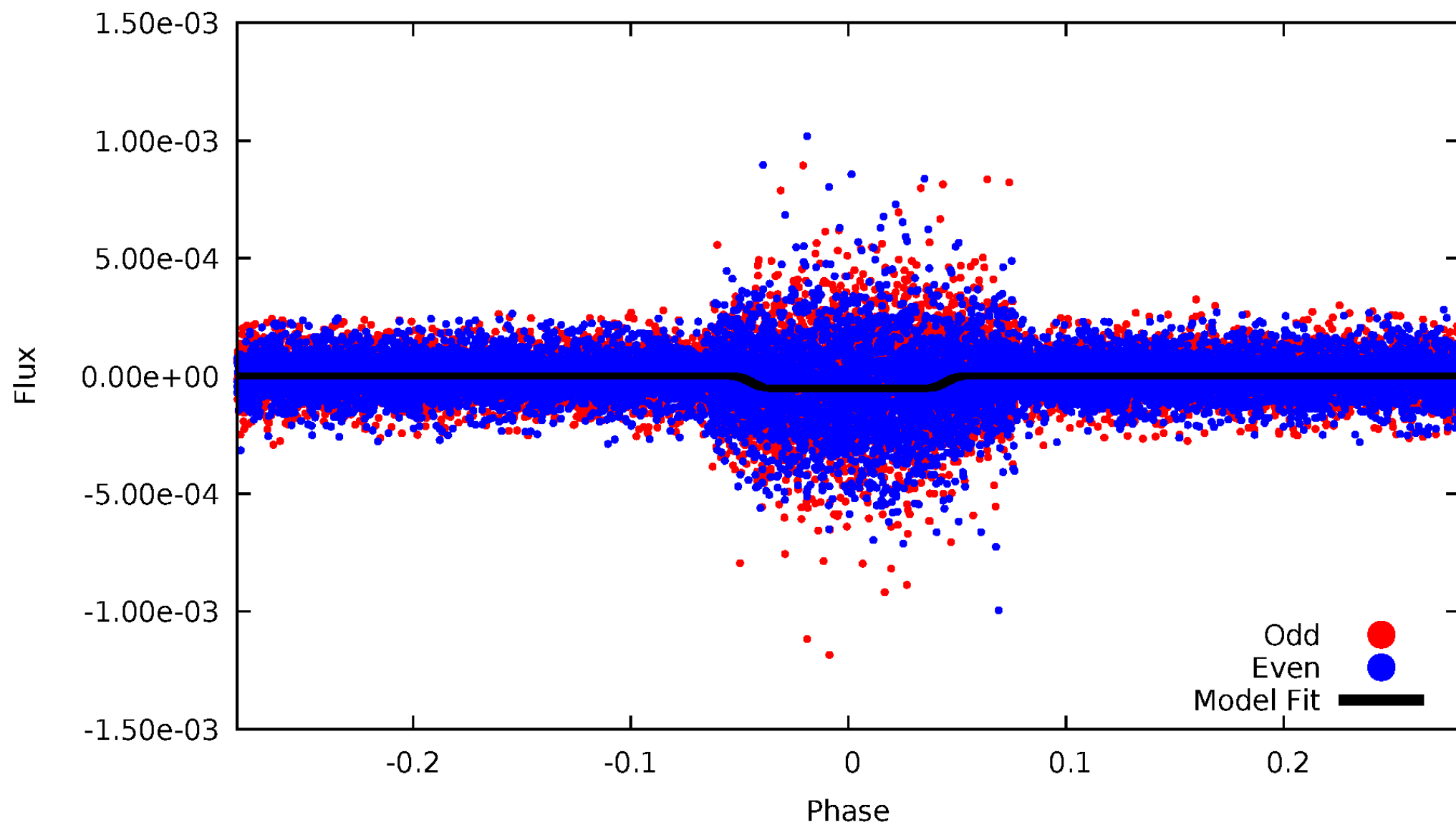
DV Odd/Even

TCE 003129238-01

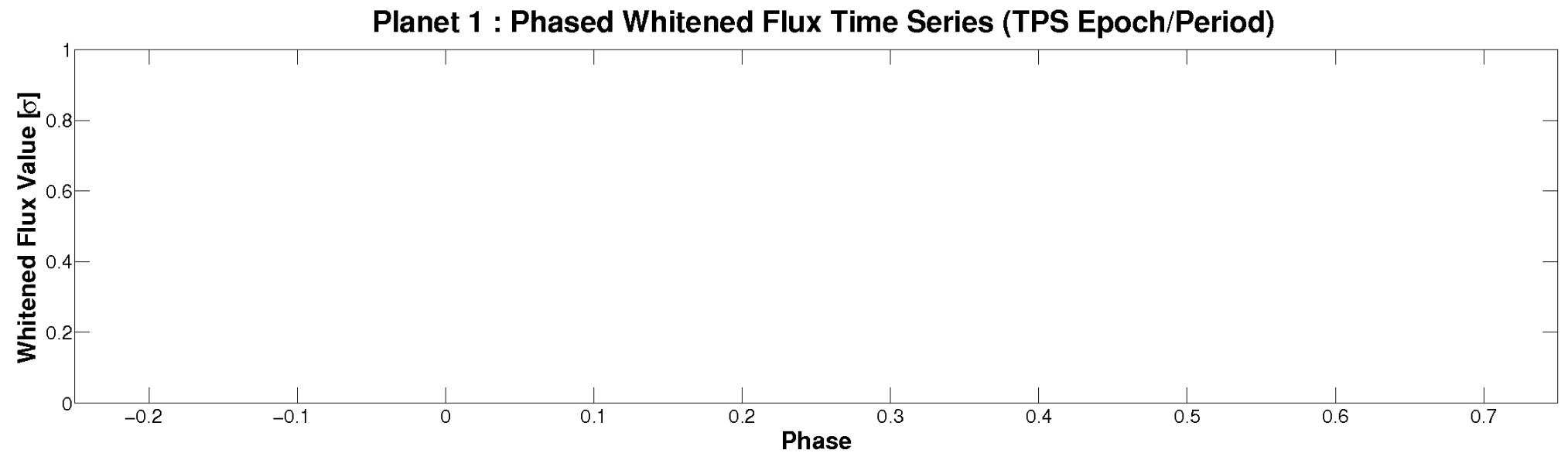
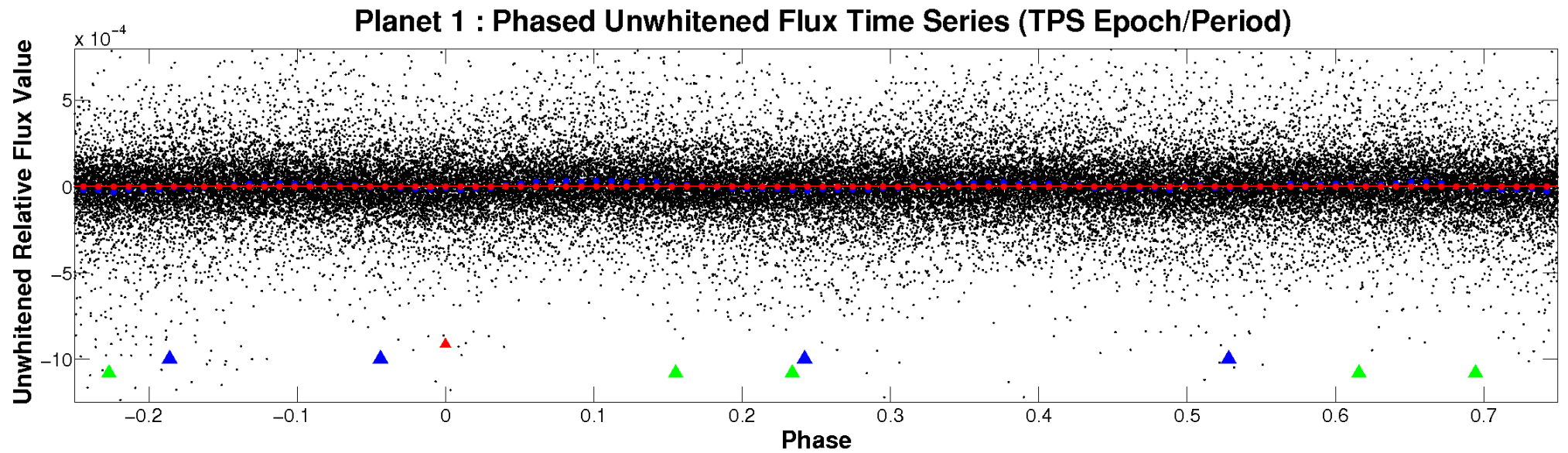


ALT Odd/Even

TCE 003129238-01

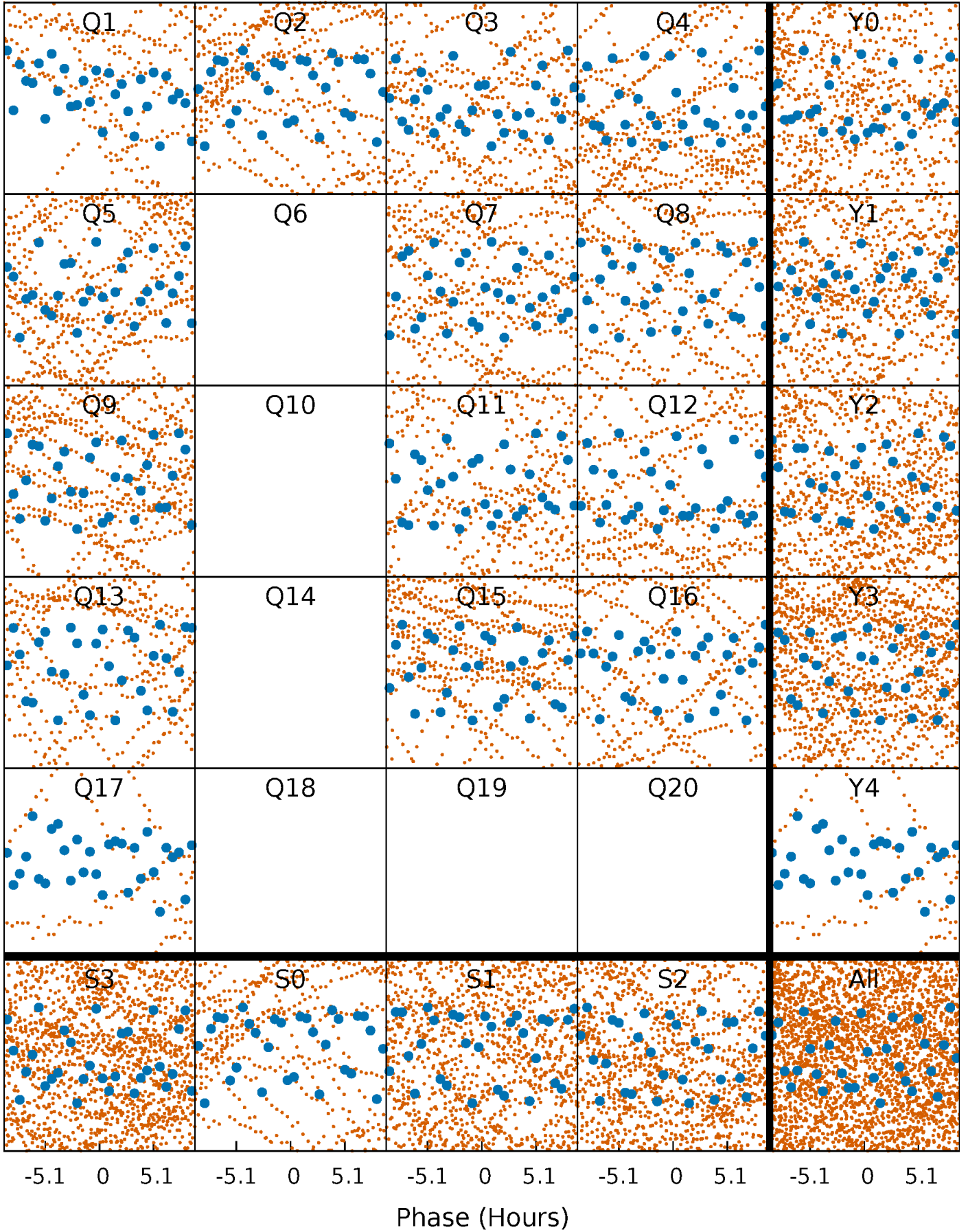


Non-Whitened Vs. Whitened Light Curve



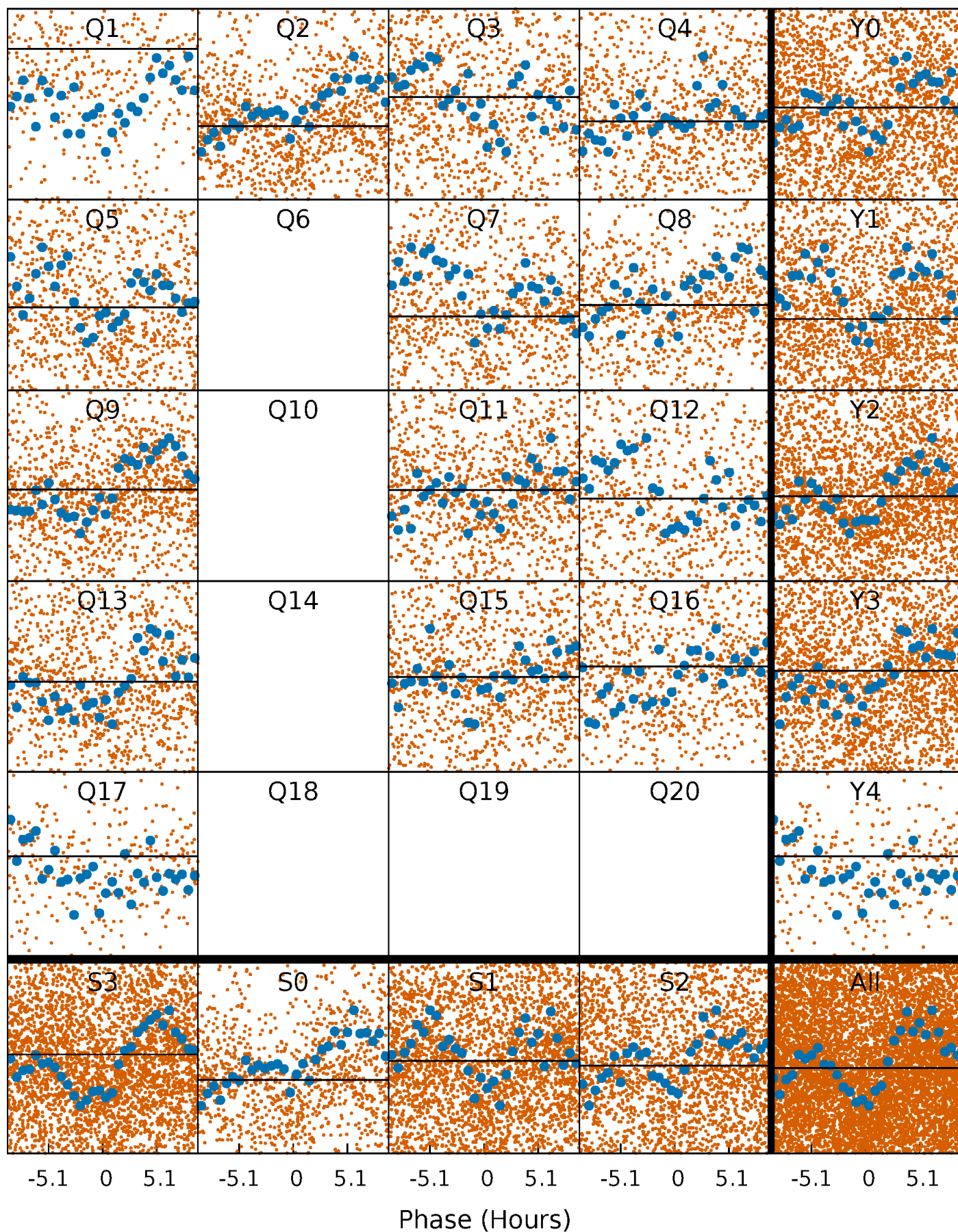
PDC Quarter-Phased Transit Curves

TCE 003129238-01 P= 2.008760 Days $T_0=131.510994$ (BKJD)



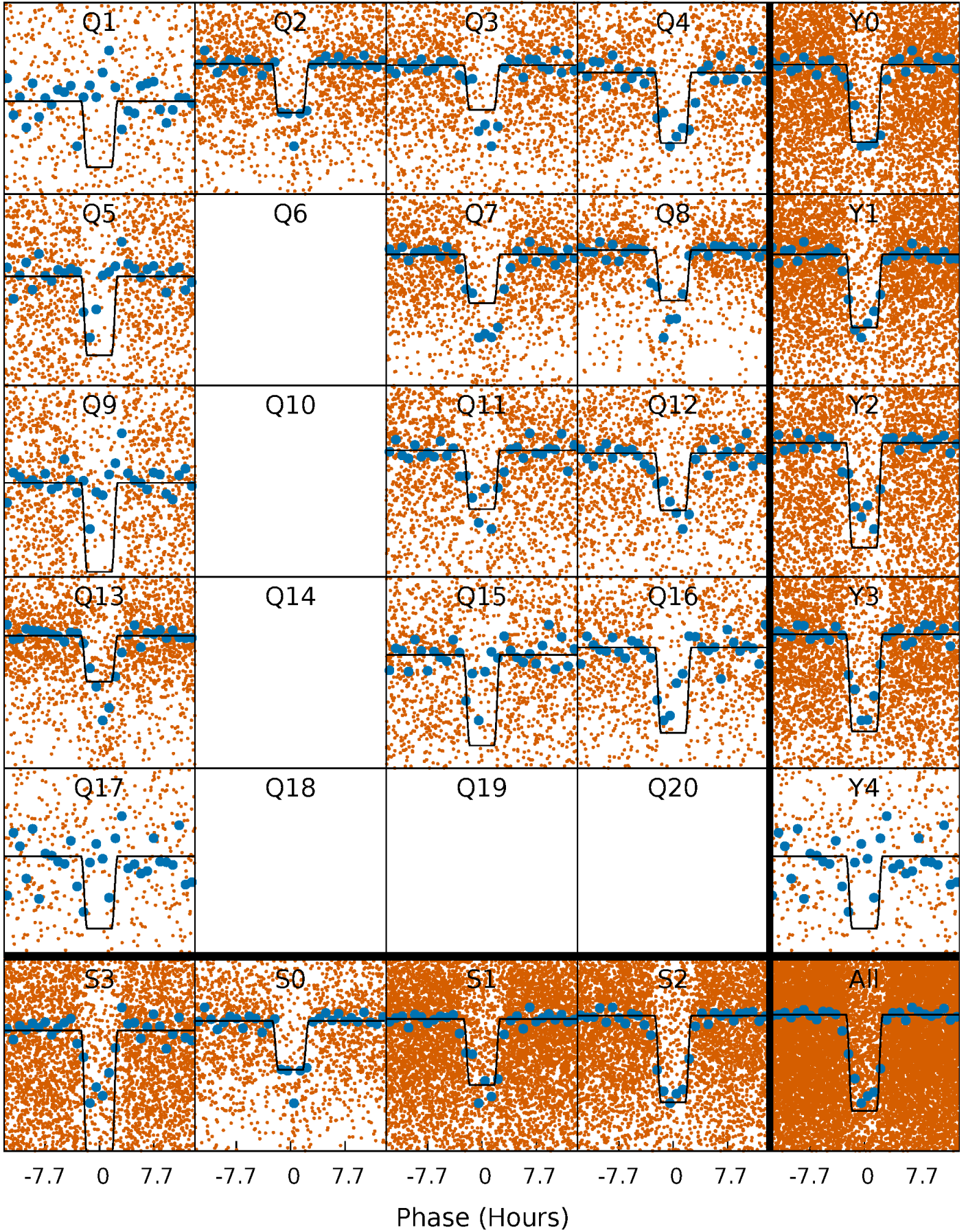
DV Quarter-Phased Transit Curves

TCE 003129238-01 P= 2.008760 Days $T_0=131.510994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

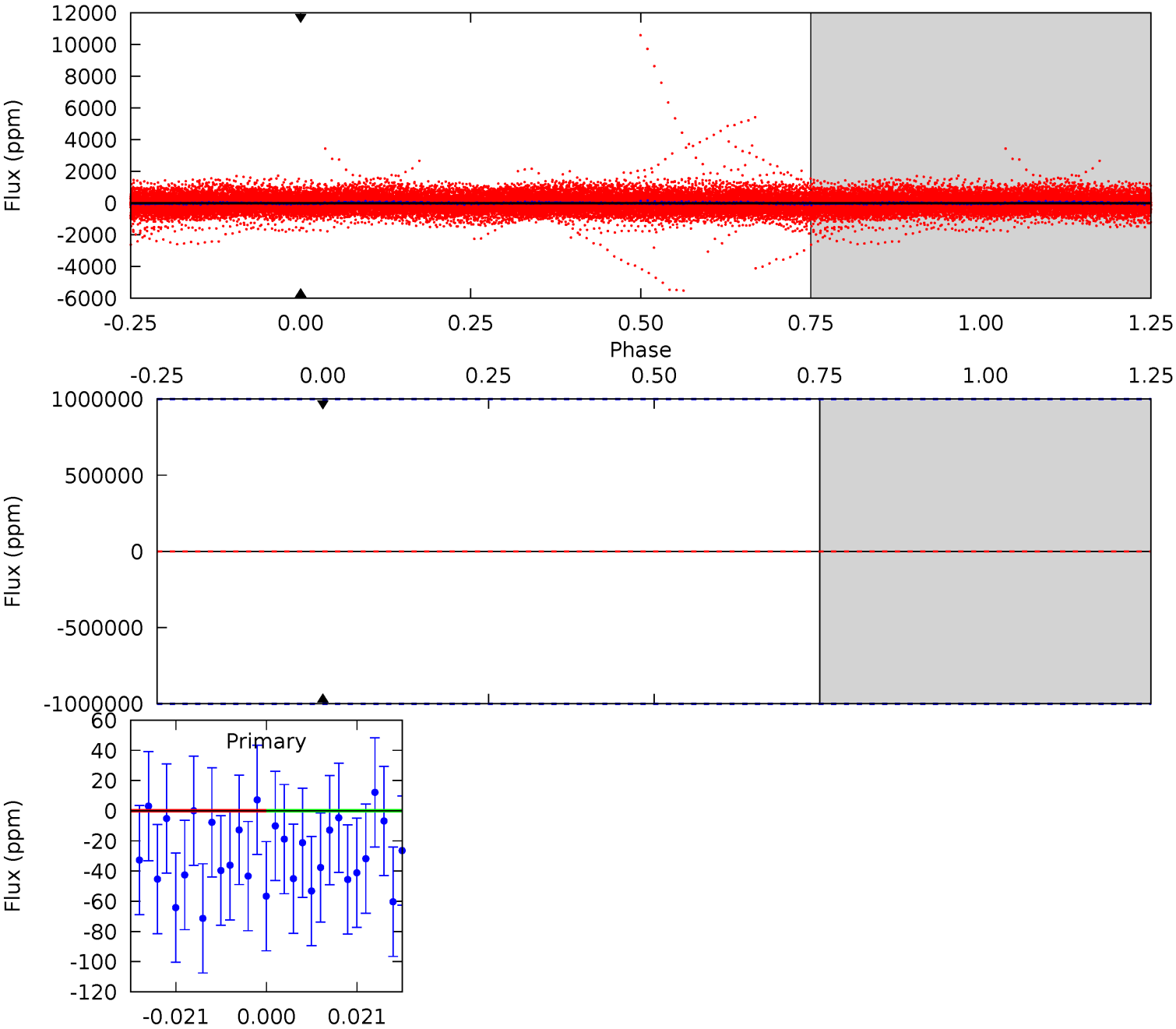
TCE 003129238-01 P= 2.008760 Days $T_0=133.507770$ (BKJD)



DV Model-Shift Uniqueness Test

003129238-01, P = 2.008760 Days, E = 131.510994 Days

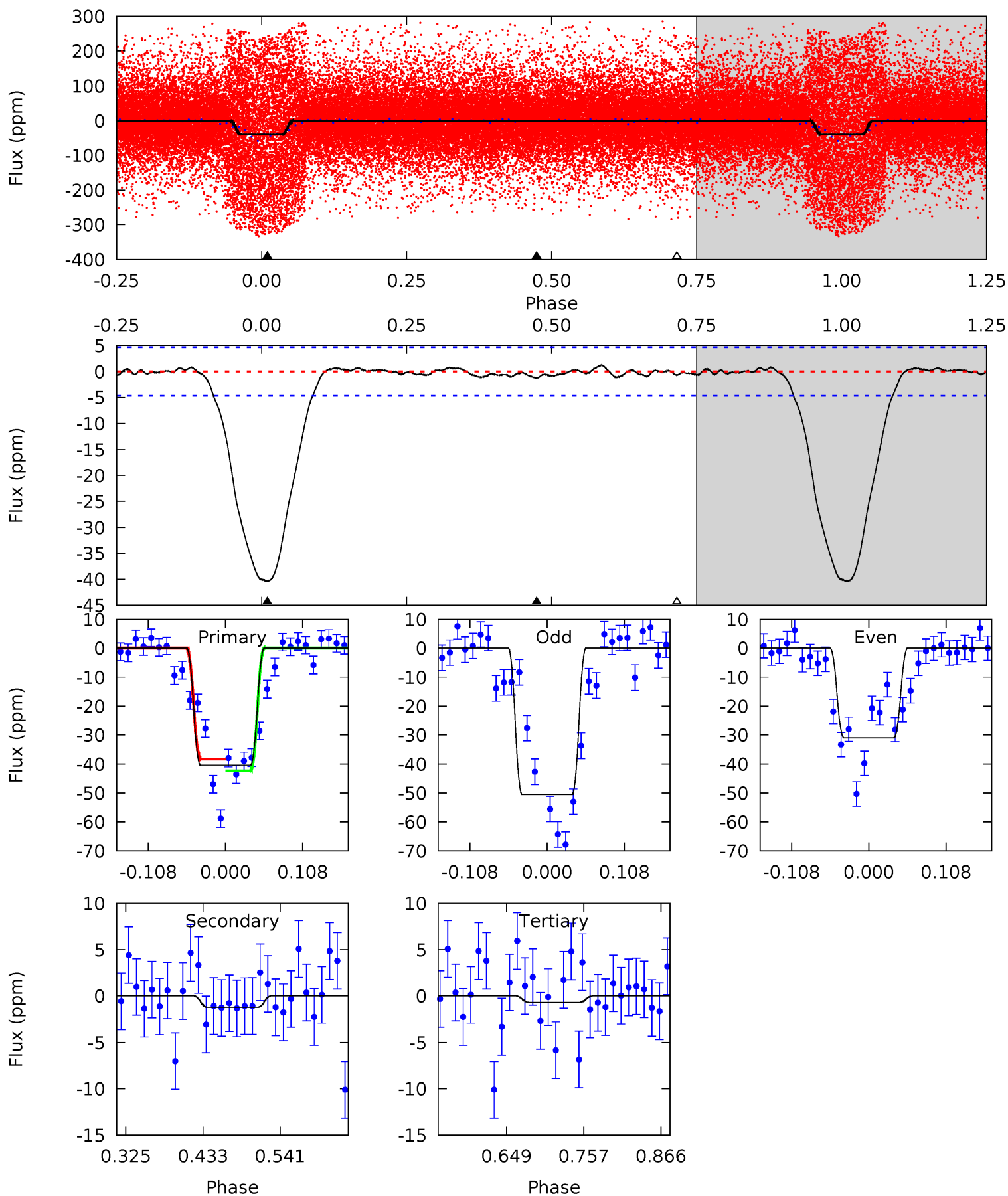
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003129238-01, P = 2.008760 Days, E = 131.499010 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	1.21	0.68	0	4.55	1.61	0.45	38.5	39.2	0.53	1.21	9.48	1.01	0.03	1.93



Stellar Parameters For KIC 003129238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5341^{+143}_{-159}	$4.526^{+0.099}_{-0.121}$	$-0.500^{+0.350}_{-0.300}$	$0.759^{+0.115}_{-0.094}$	$0.705^{+0.102}_{-0.044}$	$2.271^{+0.940}_{-0.729}$
	+3%/-3%	+2%/-3%	+70%/-60%	+15%/-12%	+14%/-6%	+41%/-32%
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 003129238-01 / KOI 7645.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$5.74^{+6.21}_{-3.96}$	1724^{+92}_{-79}	5056^{+15959}_{-21305}	46^{+2808}_{-1787}
Alt.	-1 ± 1	$6.08^{+6.41}_{-4.26}$	1727^{+88}_{-79}	-2296^{+140}_{-68}	$0.011^{+0.113}_{-0.010}$

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 $A_{obs} \gg 1.0$

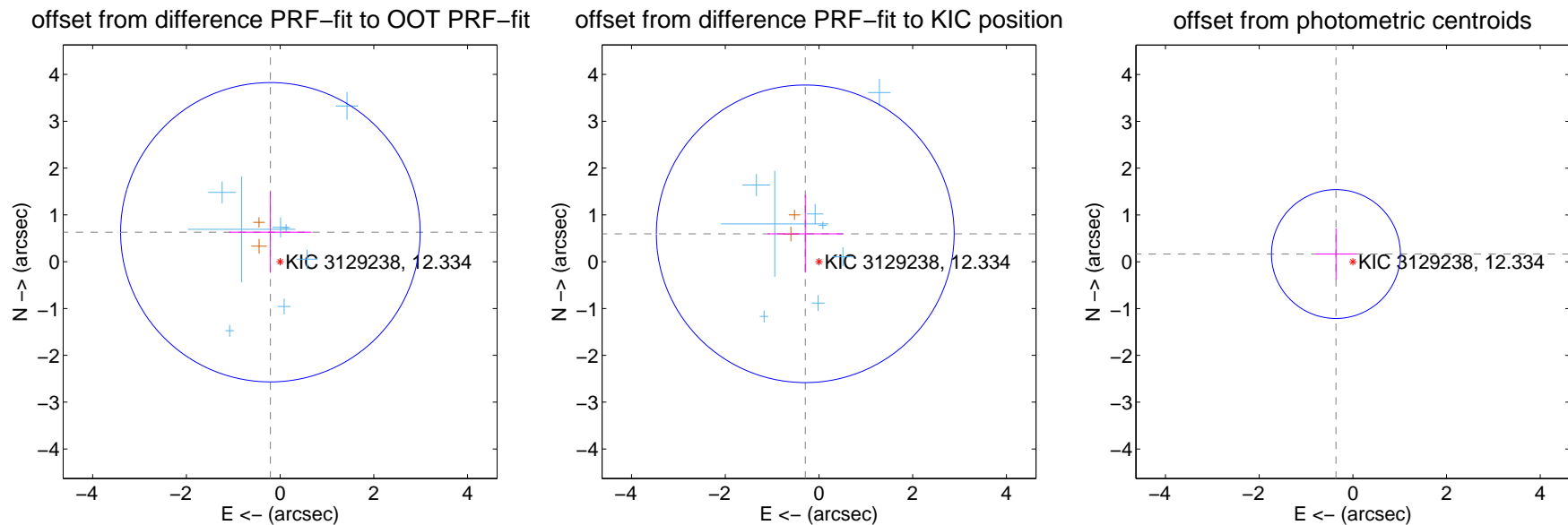
DV Centroid Data

Supplemental centroid analysis for 003129238-01. Kepler magnitude: 12.33. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

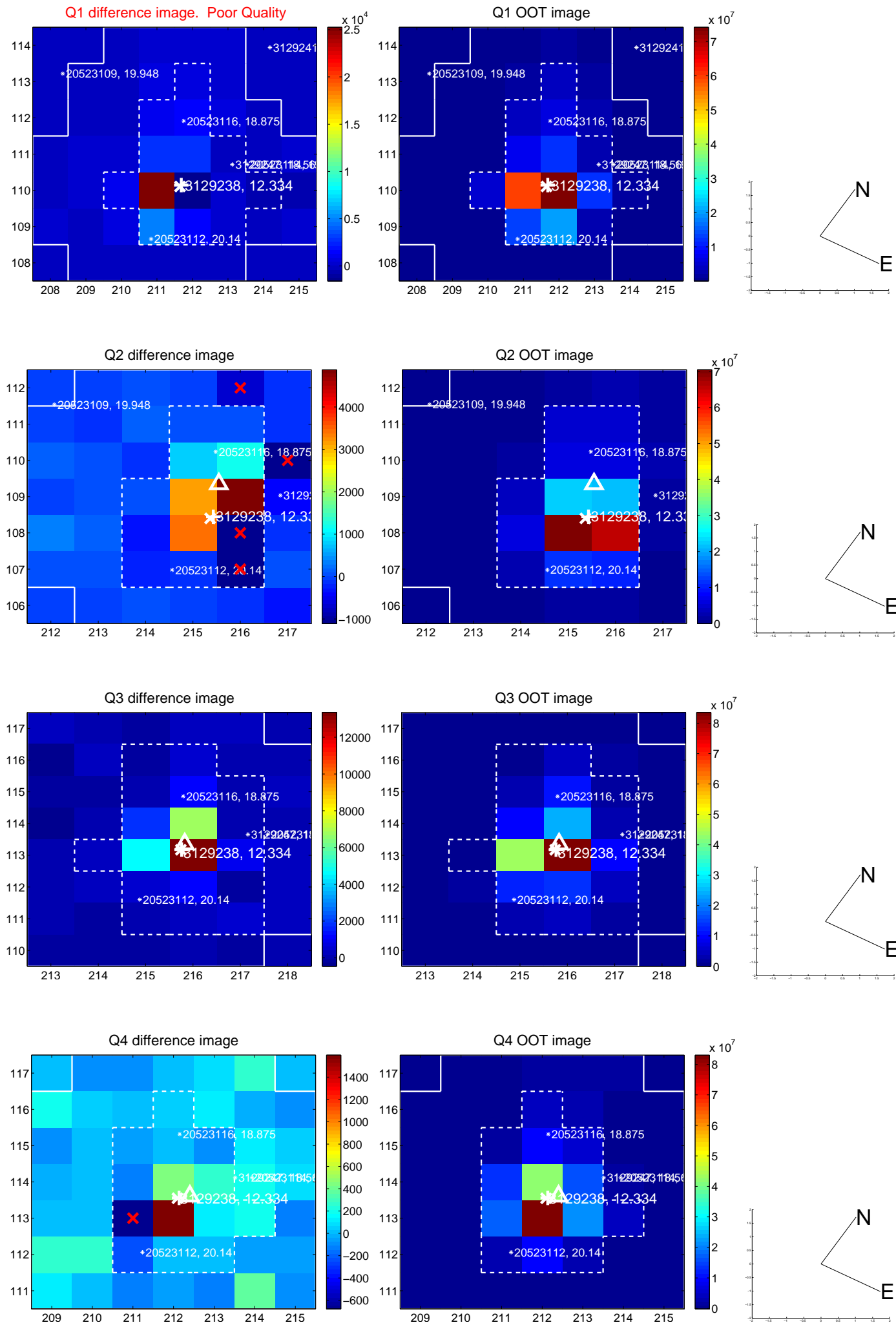
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.662 ± 1.066	0.62	0.207 ± 0.880	0.629 ± 0.865
PRF-fit source offset from KIC position	0.664 ± 1.059	0.63	0.293 ± 0.803	0.596 ± 0.830
photometric centroid source offset	0.40 ± 0.46	0.87	0.36 ± 0.44	0.17 ± 0.55

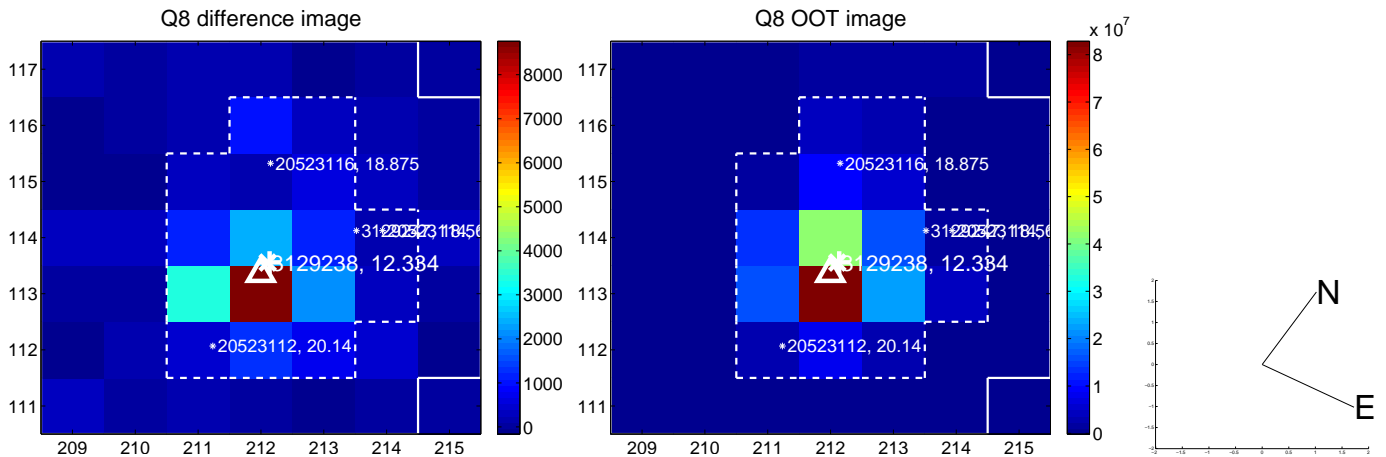
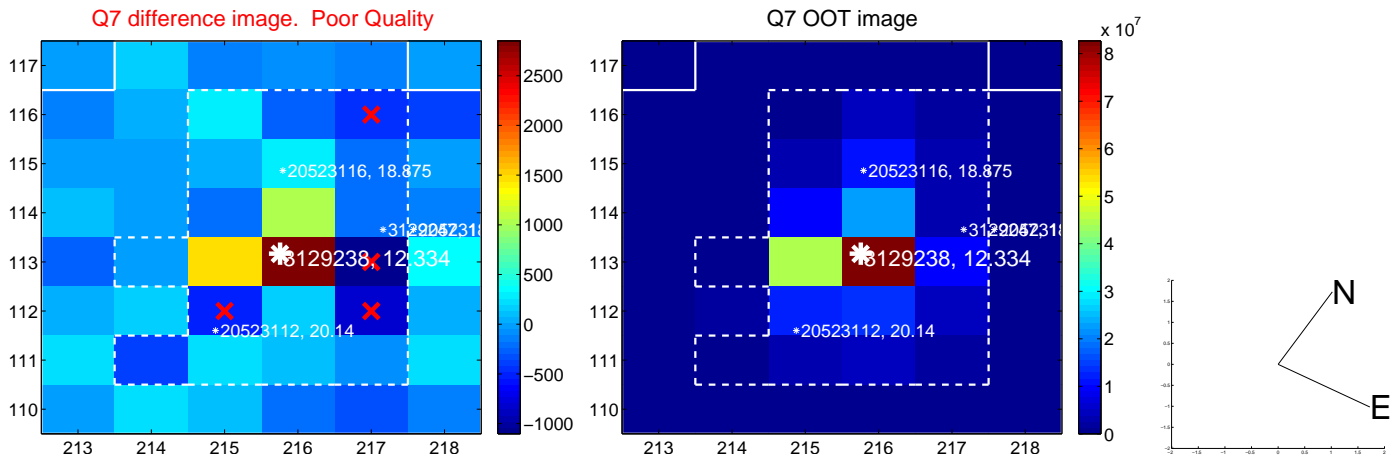
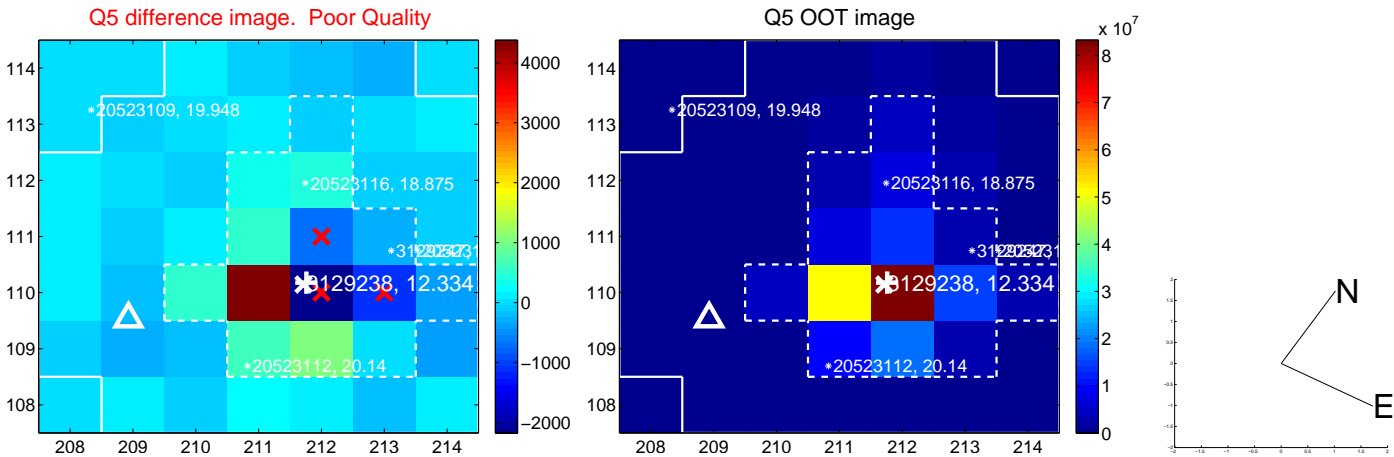


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

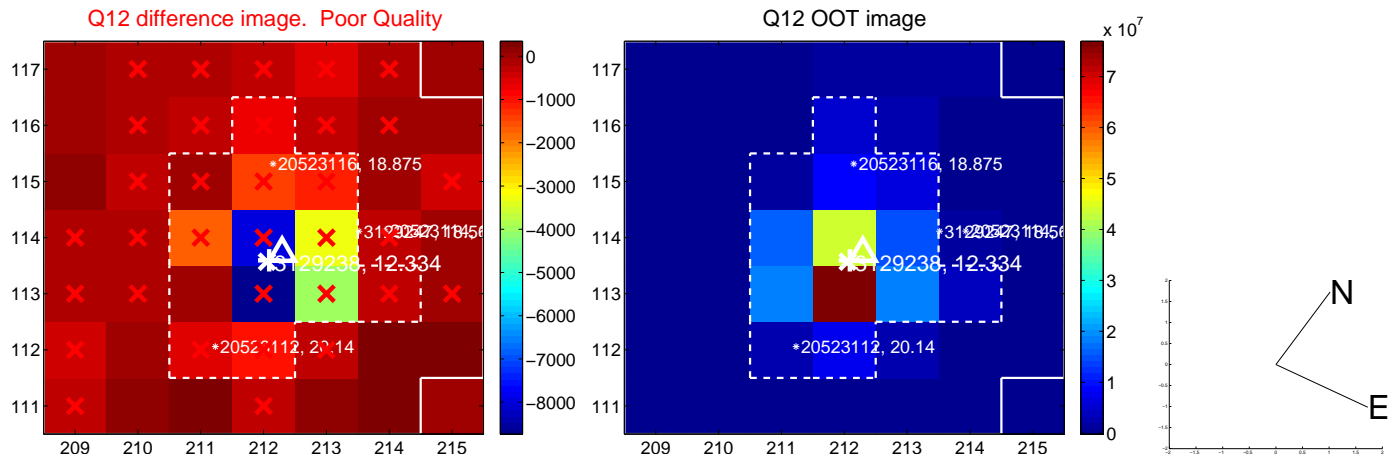
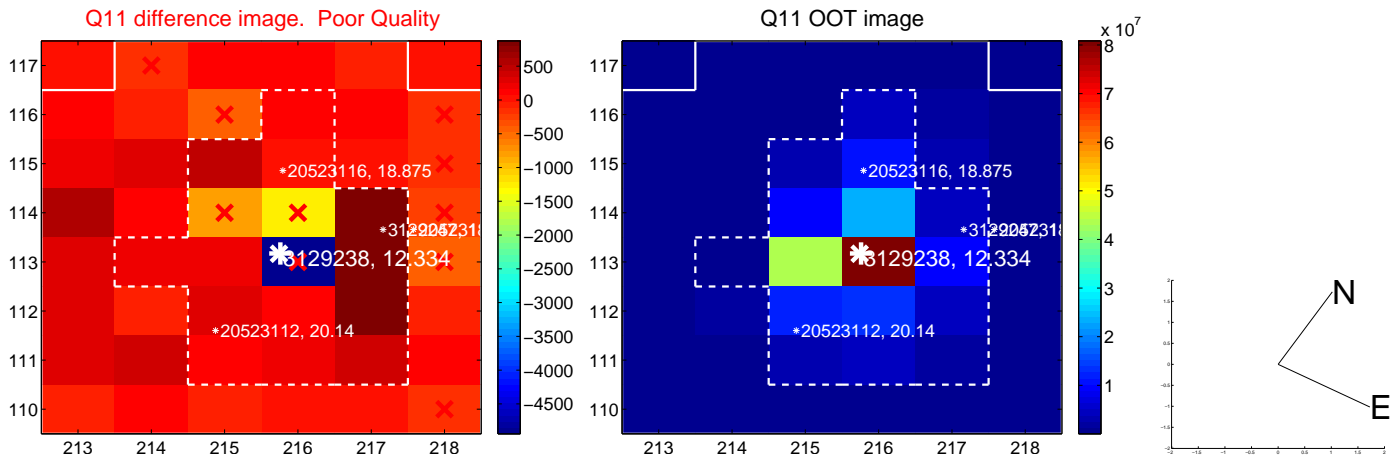
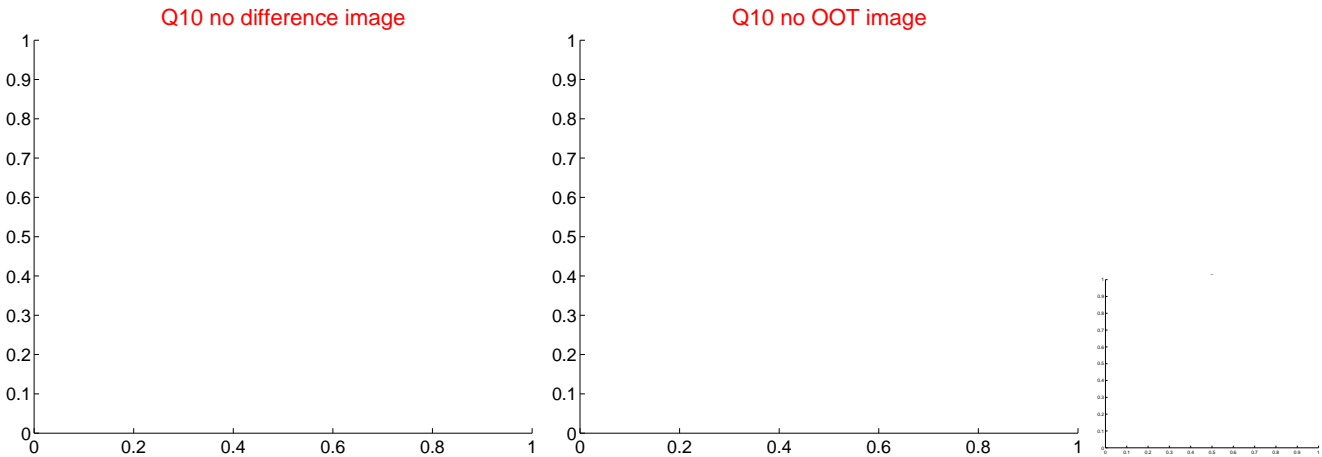
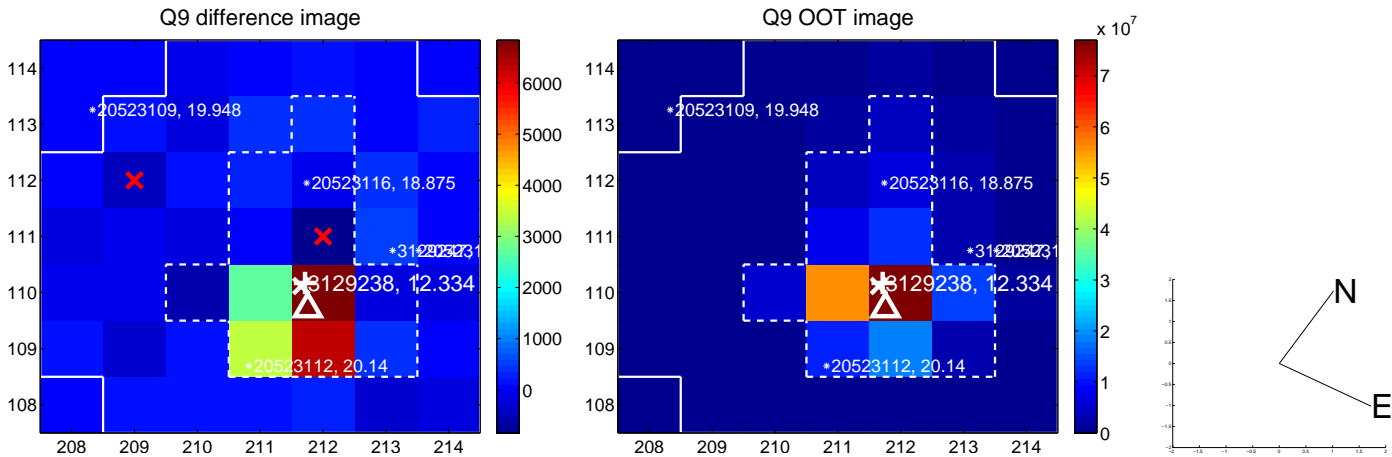
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



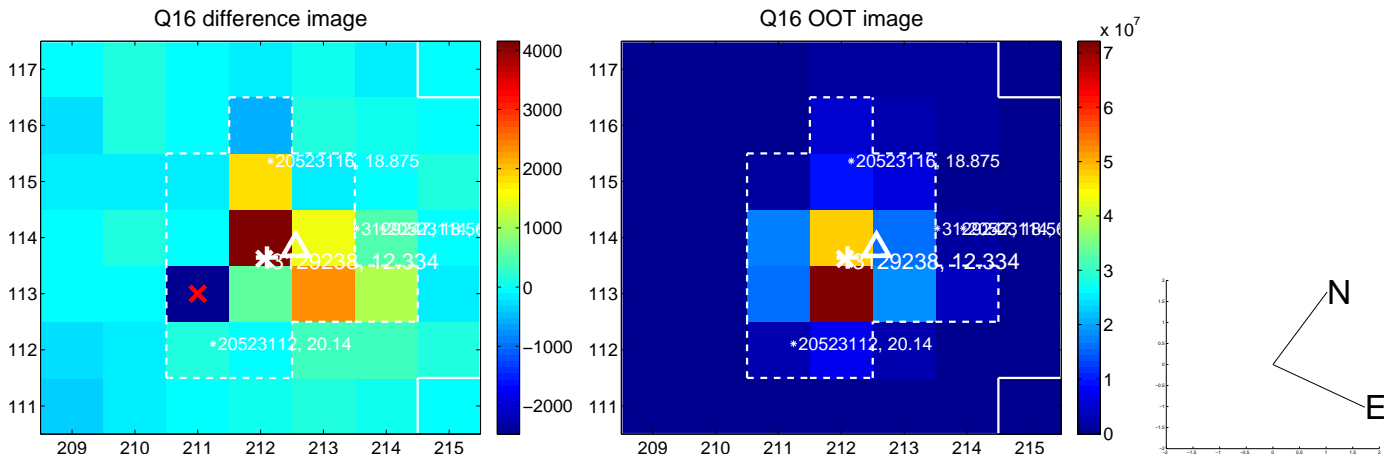
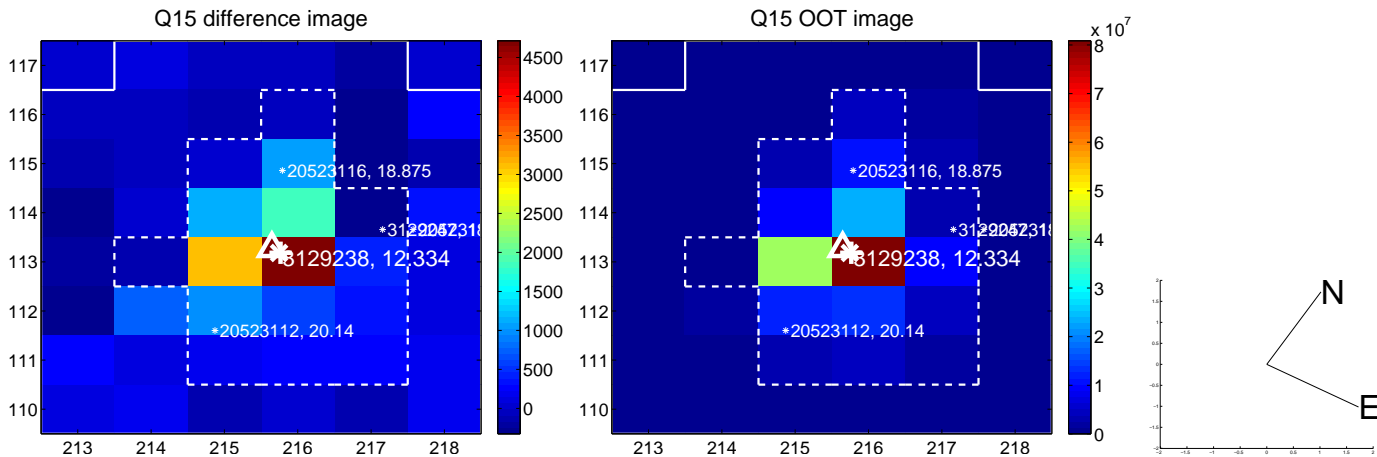
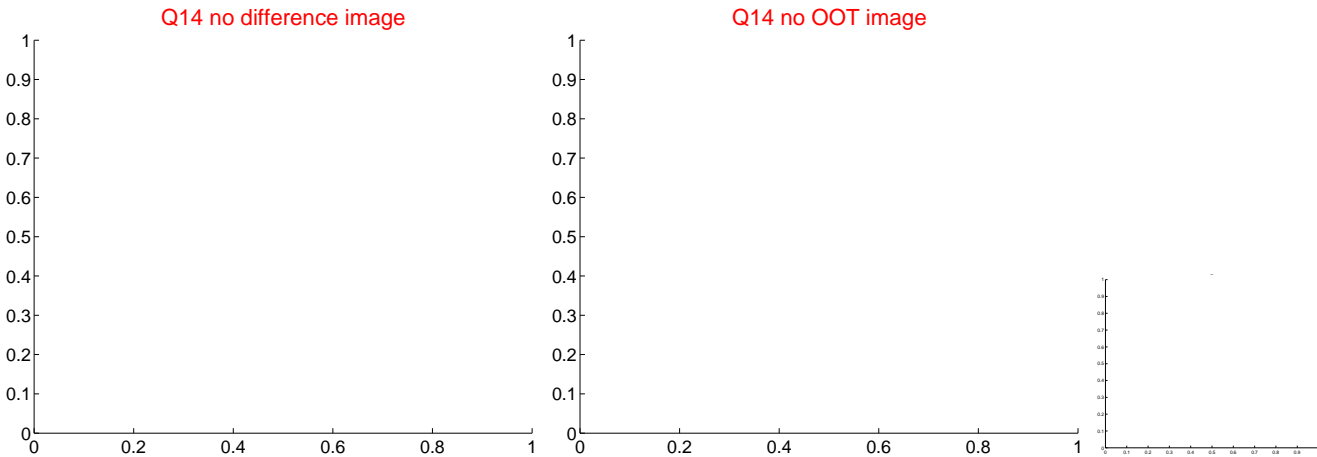
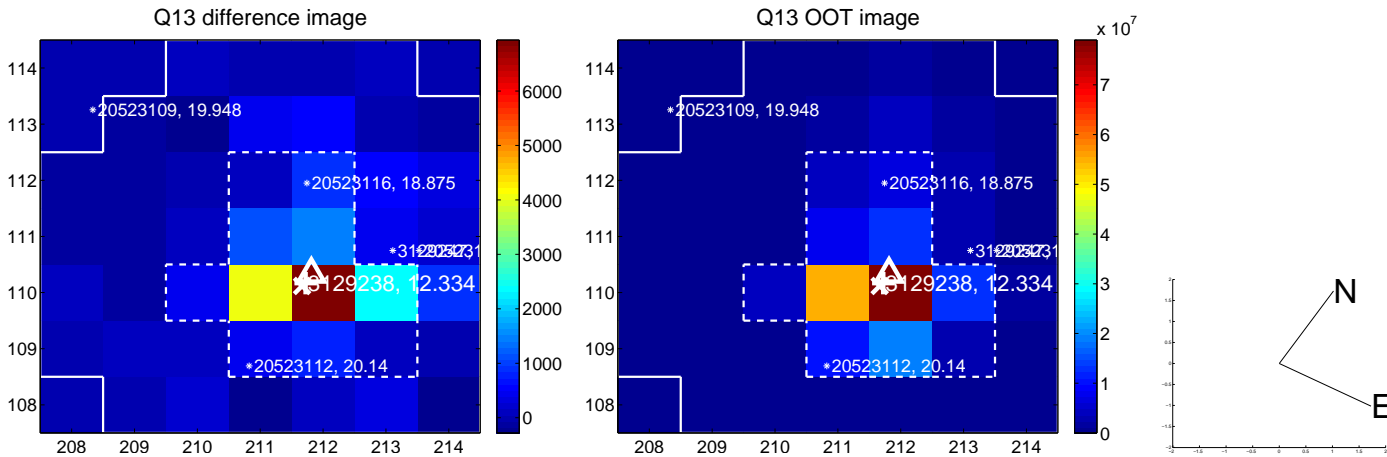
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



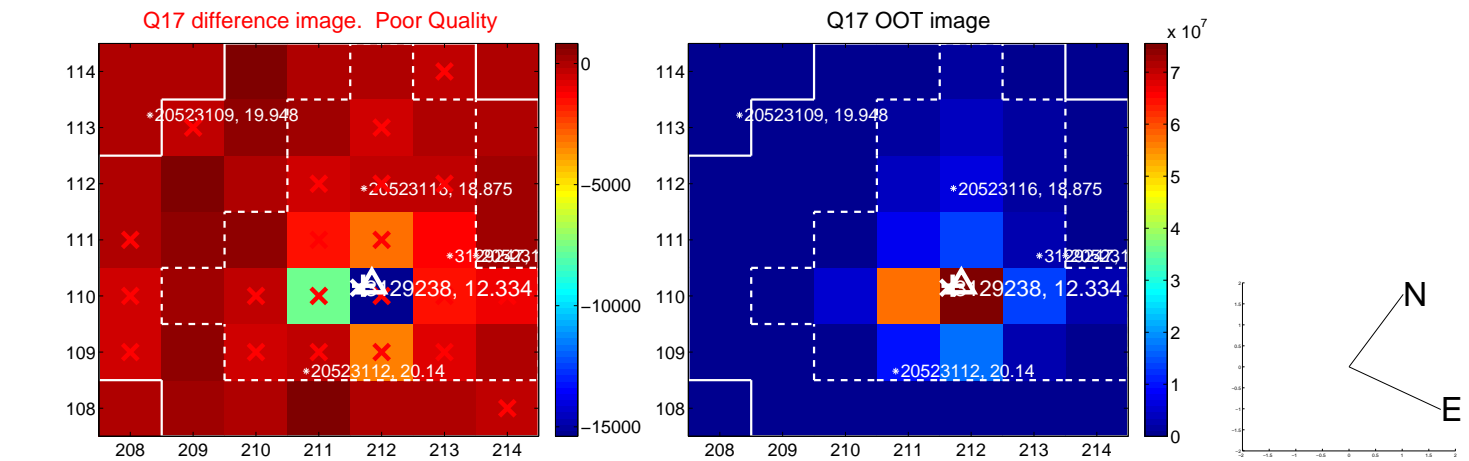
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



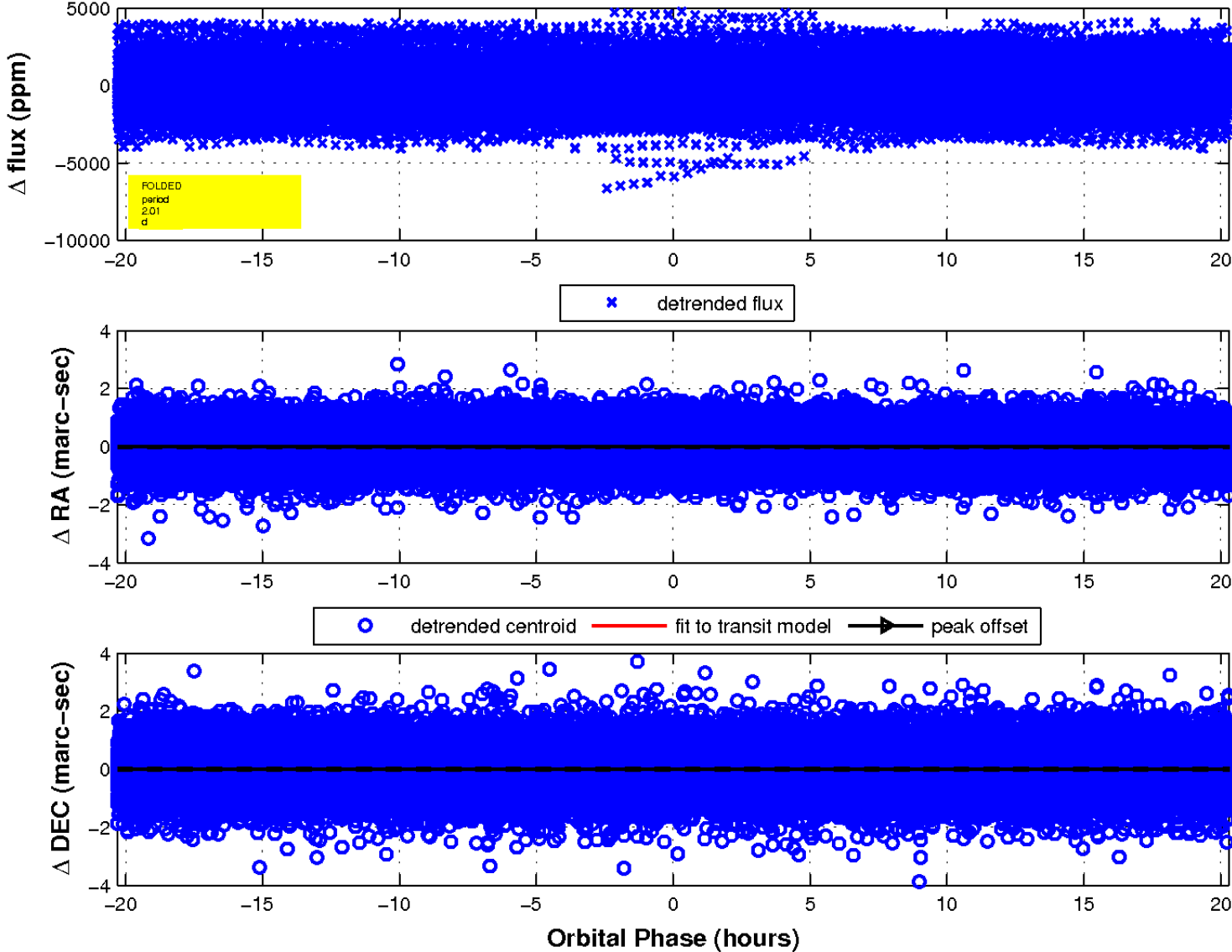
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



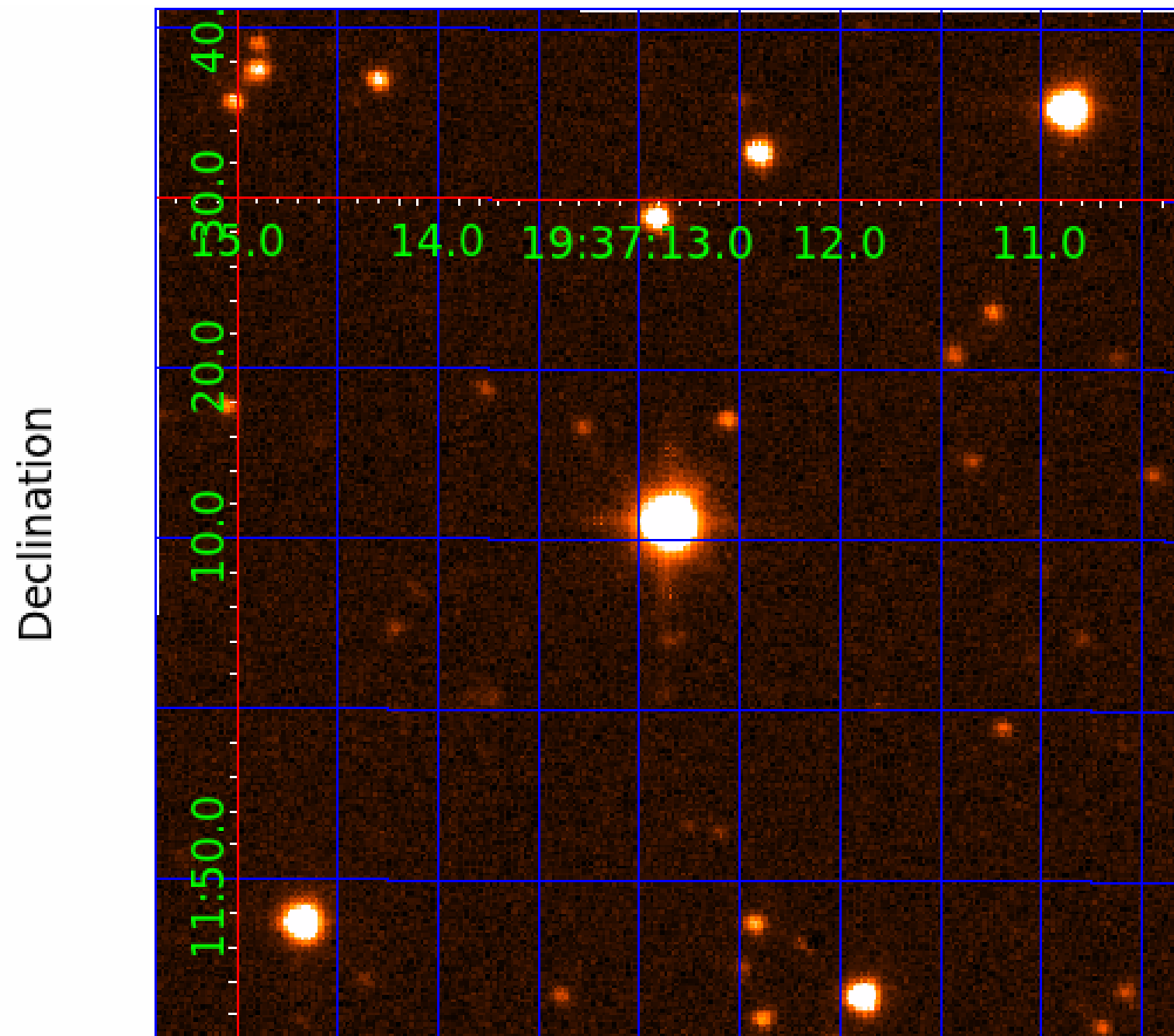
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 003129238

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

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003129238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
003129238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

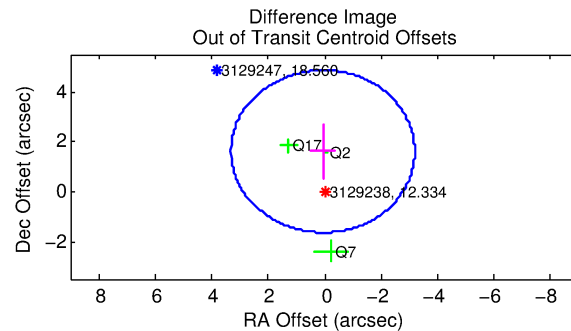
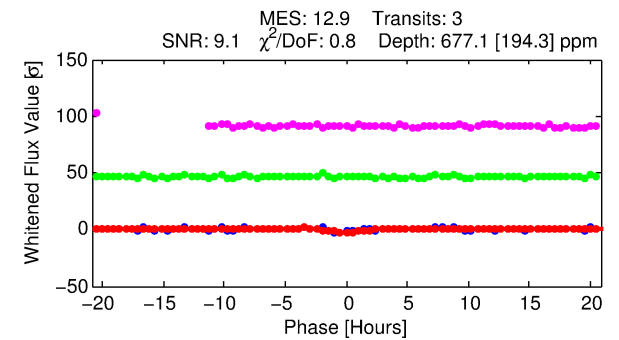
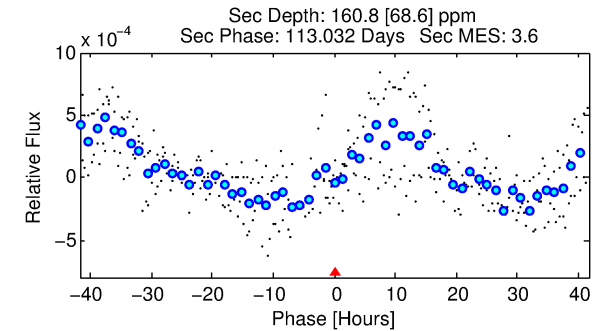
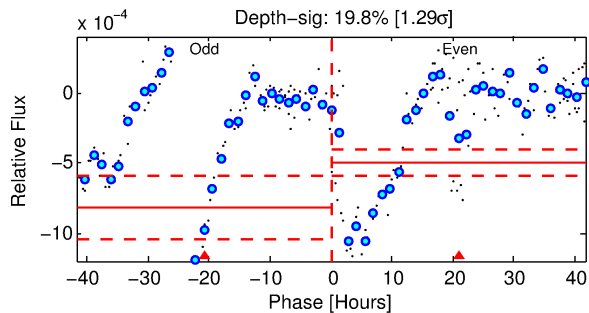
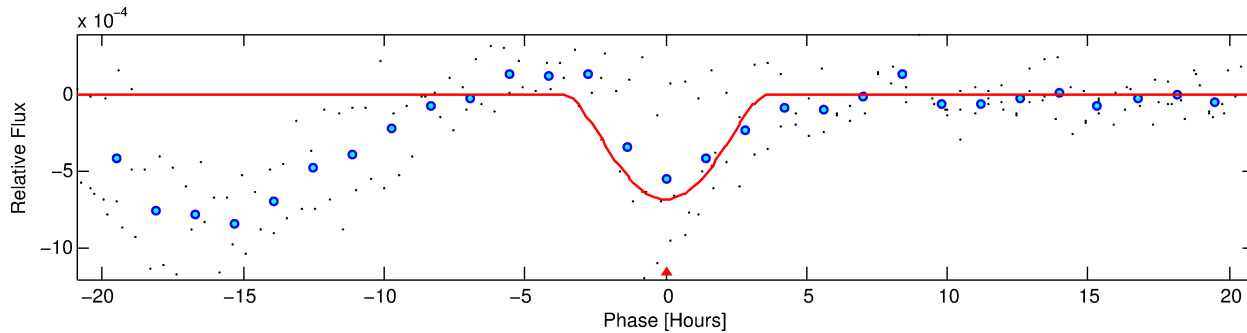
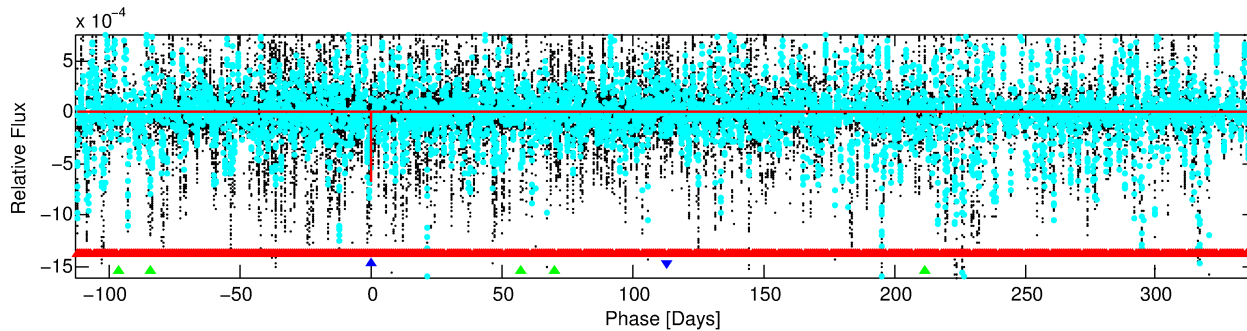
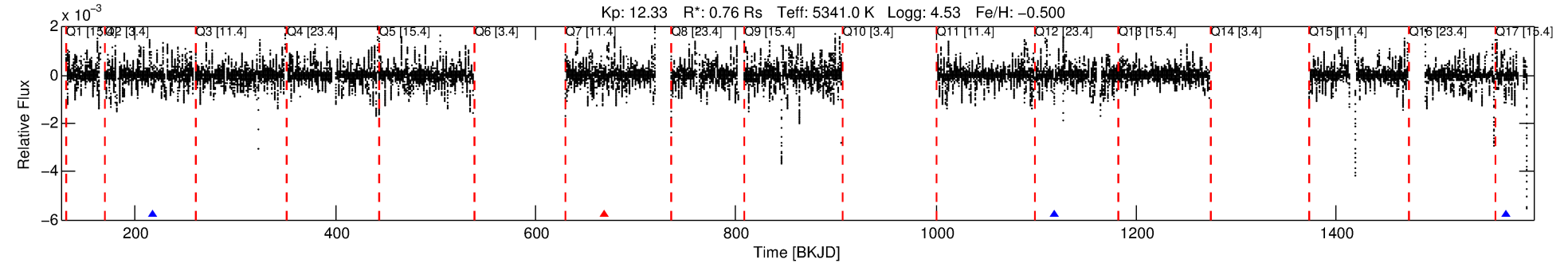
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003129238-02

No Significant Match Found

DV One-Page Summary

KIC: 3129238 Candidate: 2 of 3 Period: 450.537 d



DV Fit Results:

Period = 450.53654 [0.00870] d
Epoch = 217.7997 [0.0202] BKJD
Rp/R* = 0.0476 [0.1121]
a/R* = 154.53 [90.28]
b = 1.00 [0.17]
Seff = 0.40 [0.10]
Teq = 203 [12] K
Rp = 3.94 [9.30] Re
a = 1.0241 [0.1405] AU
Ag = 5967.99 [28247.69] [0.21σ]
Teffp = 2757 [3260] K [0.78σ]

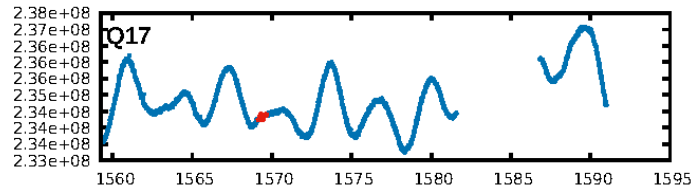
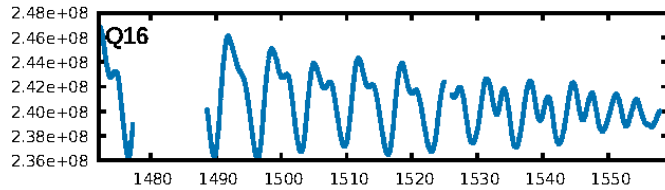
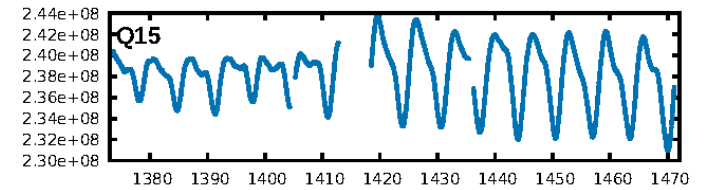
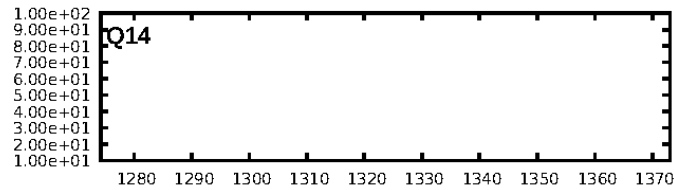
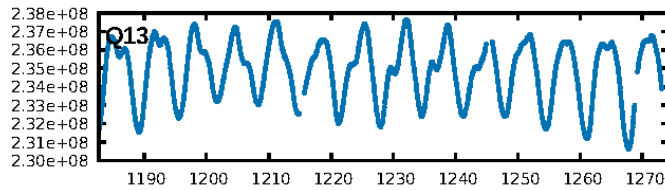
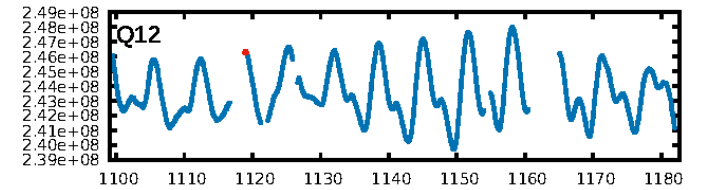
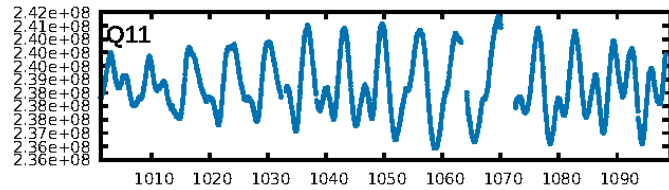
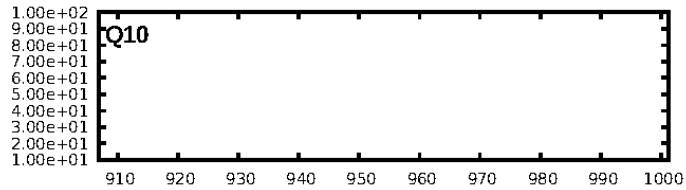
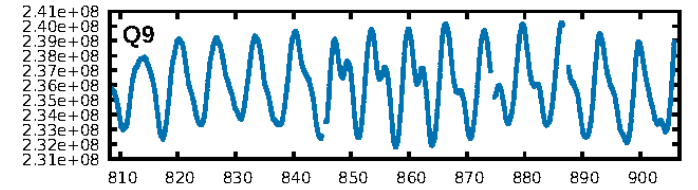
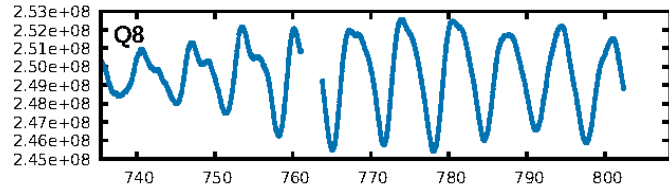
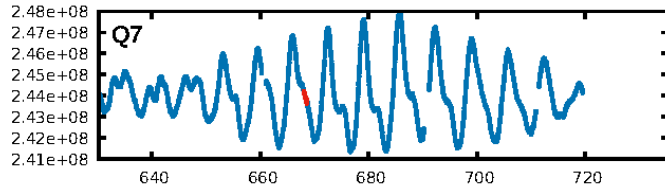
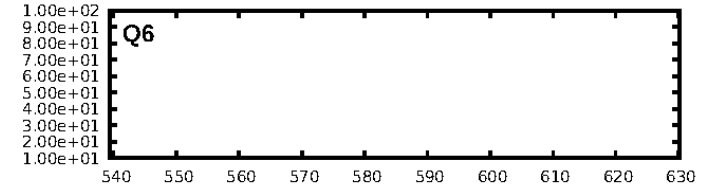
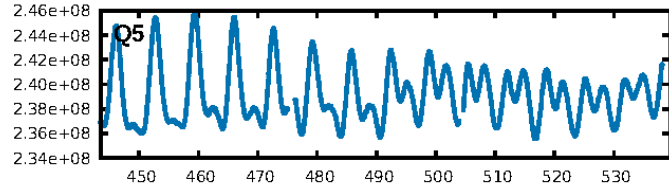
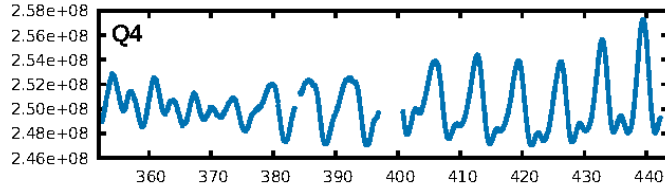
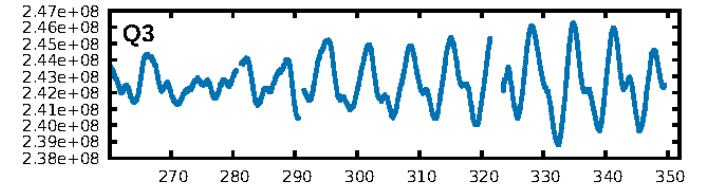
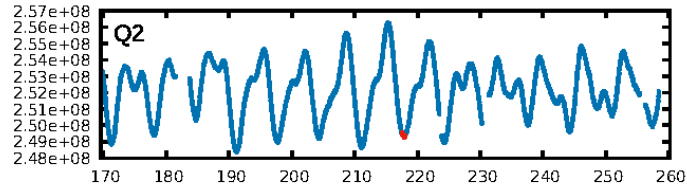
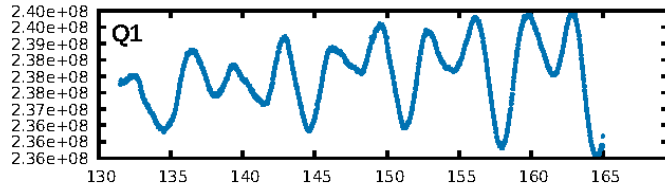
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [456.61σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.2%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 5.33e-13
RollingBand-fgt: 0.50 [1/2]
GhostDiagnostic-chr: -3.895
Centroid-sig: 67.8%
Centroid-so: 0.540 arcsec [0.92σ]
OotOffset-rm: 1.610 arcsec [1.49σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 1.842 arcsec [1.43σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

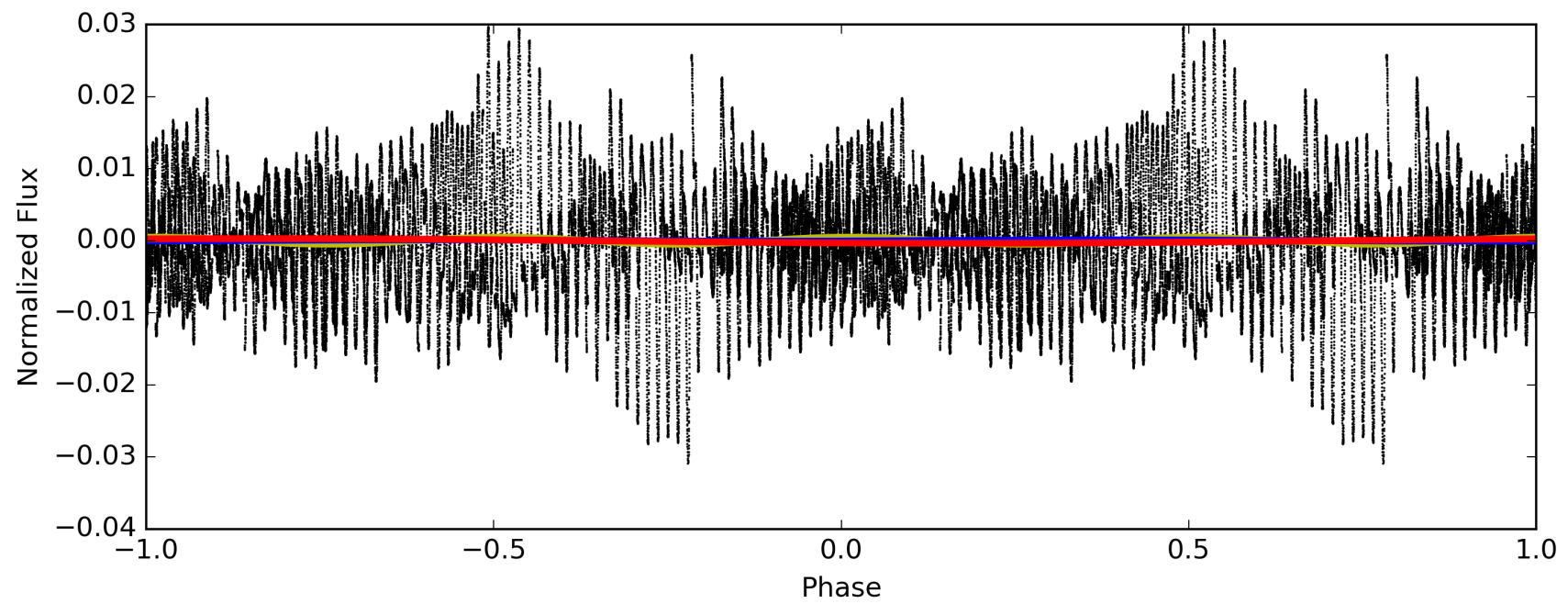
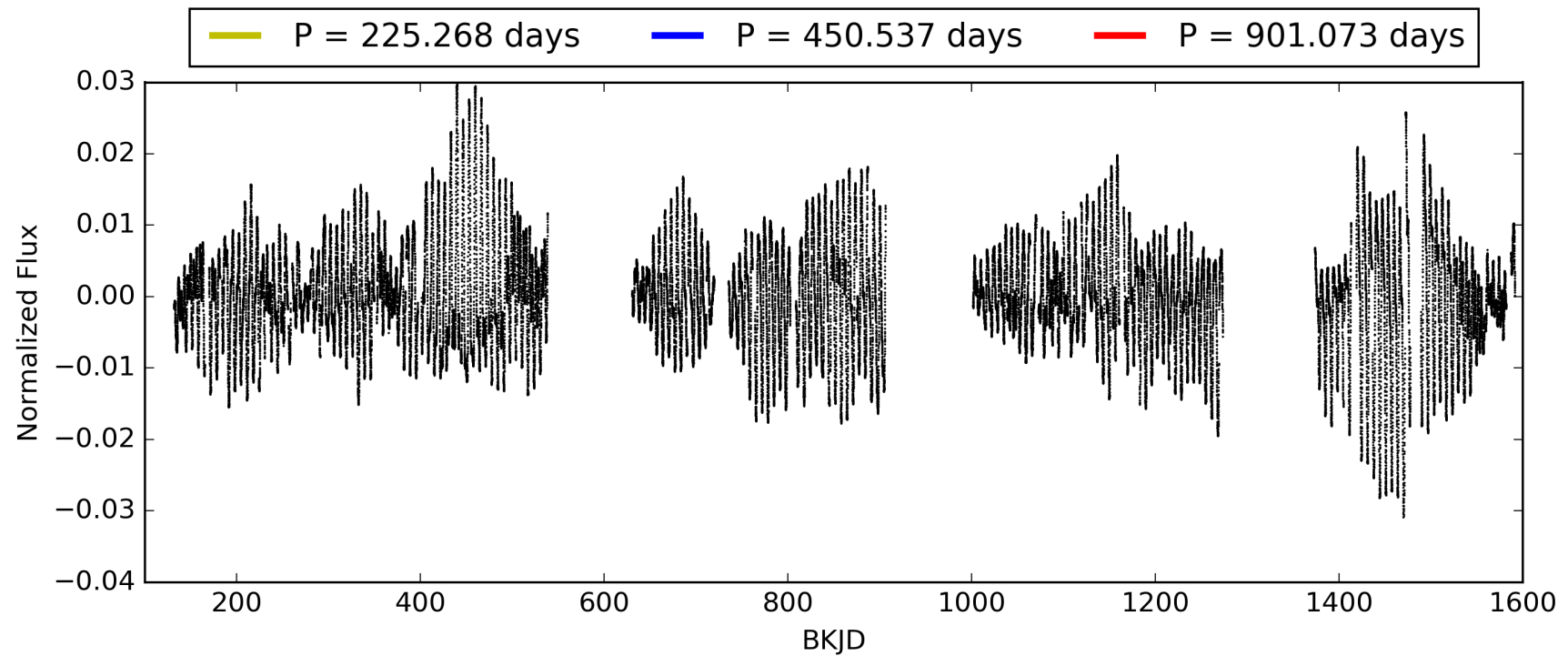
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:07:24 Z

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

TCE 003129238-02, PDC Light Curves

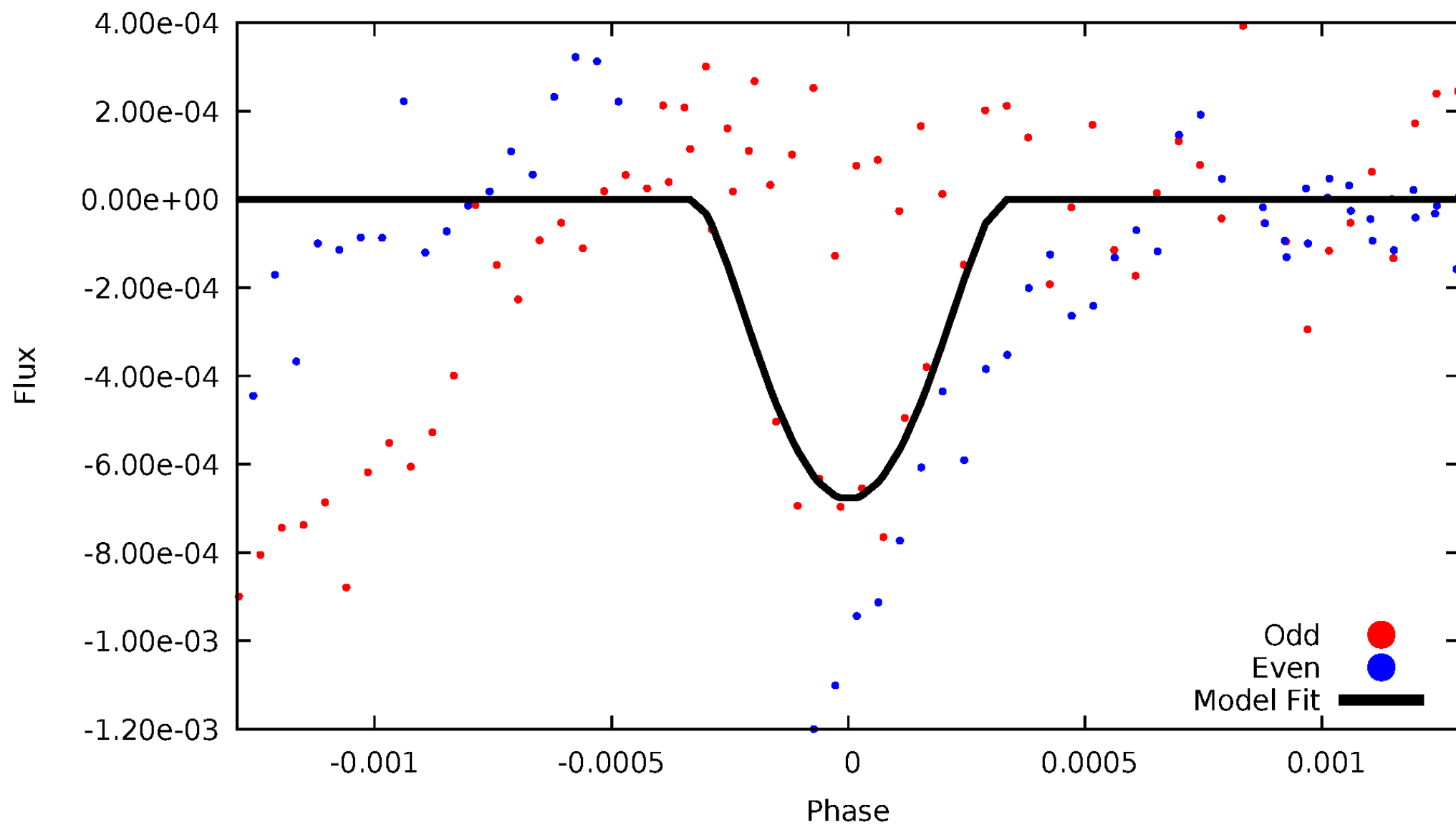


TCE 003129238-02



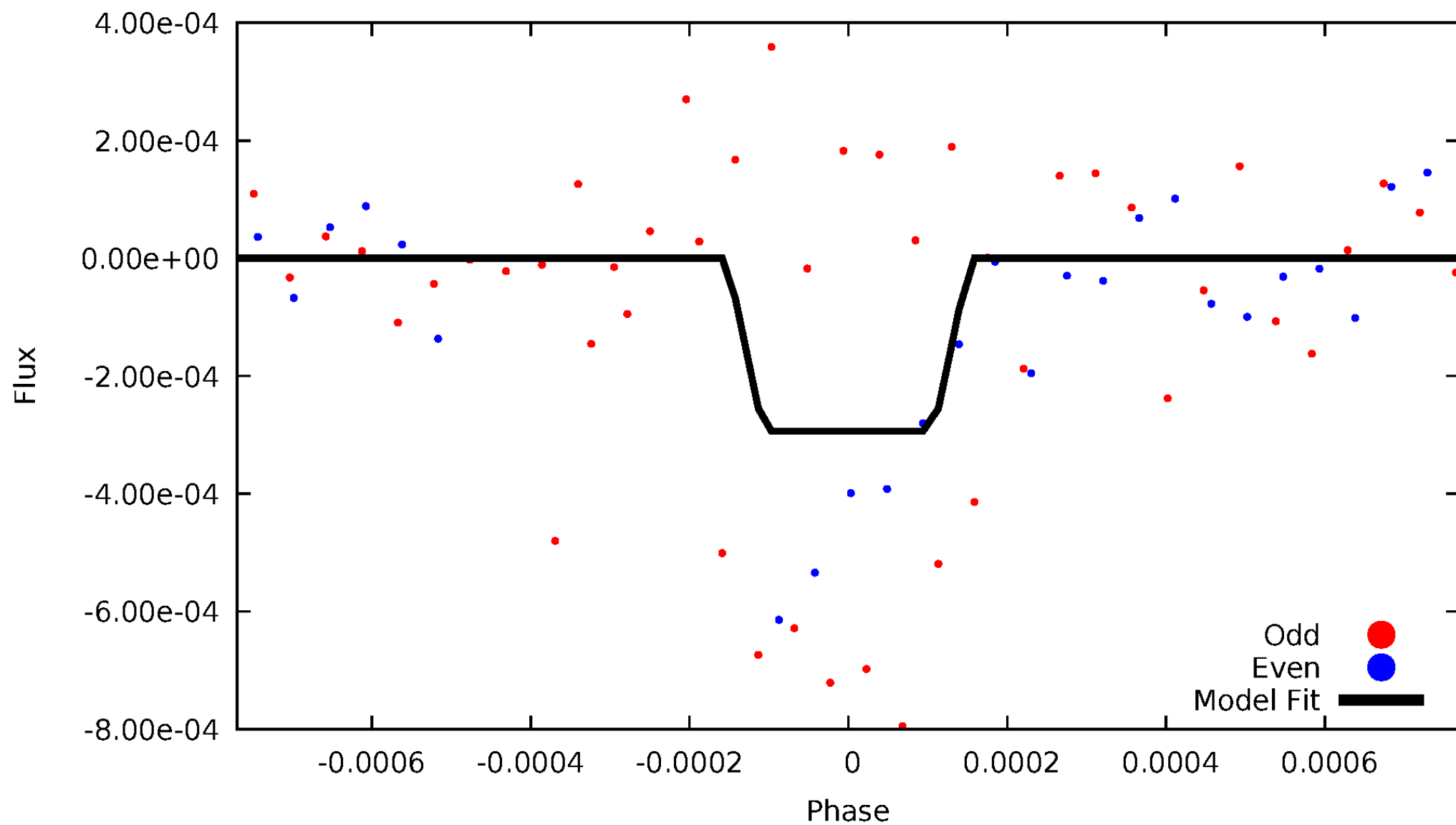
DV Odd/Even

TCE 003129238-02



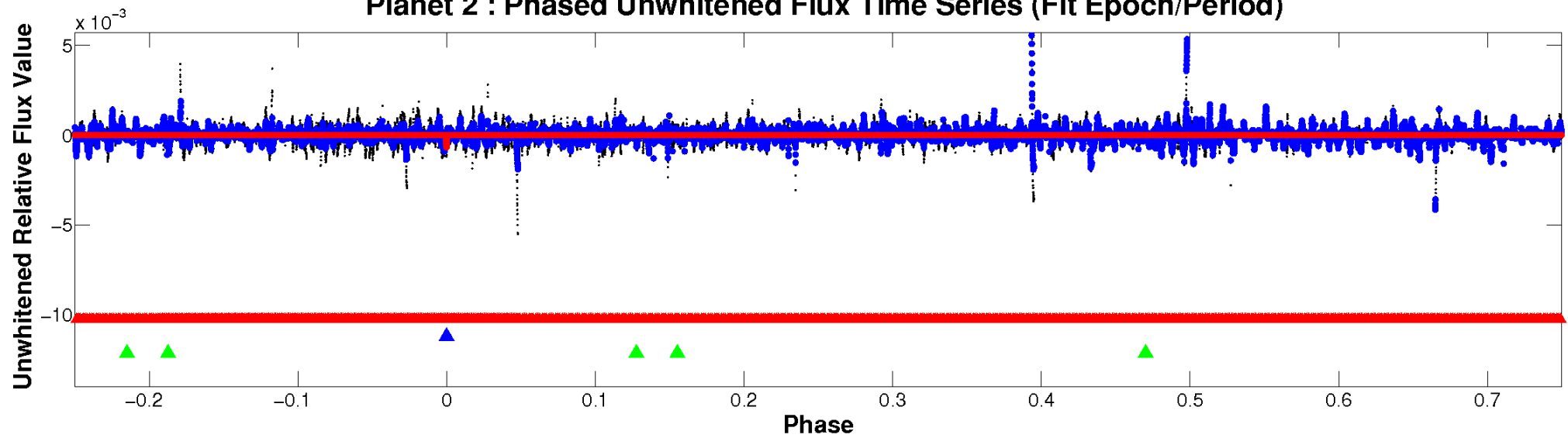
ALT Odd/Even

TCE 003129238-02

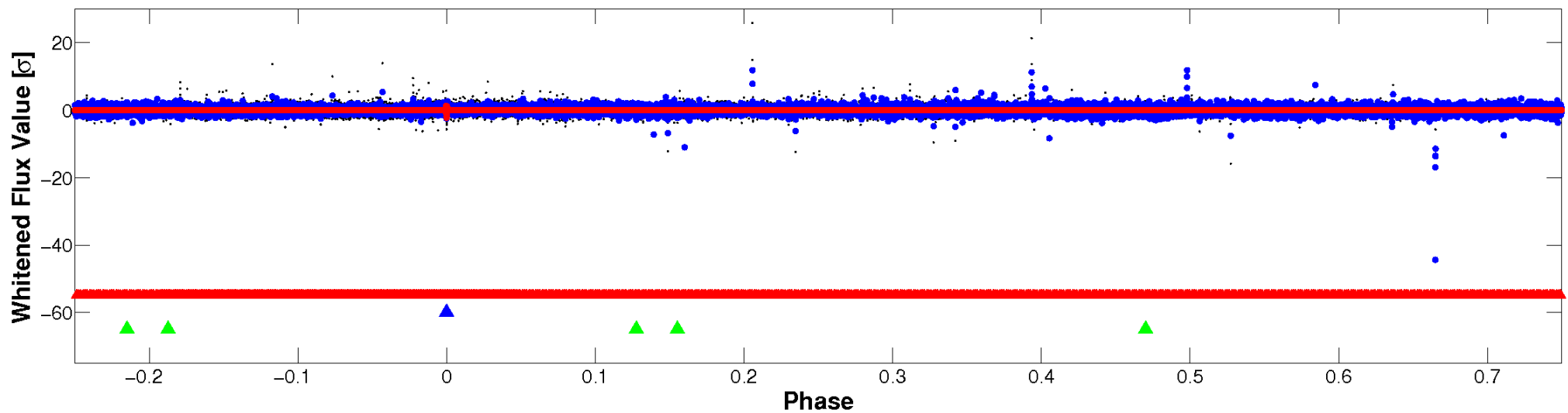


Non-Whitened Vs. Whitened Light Curve

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

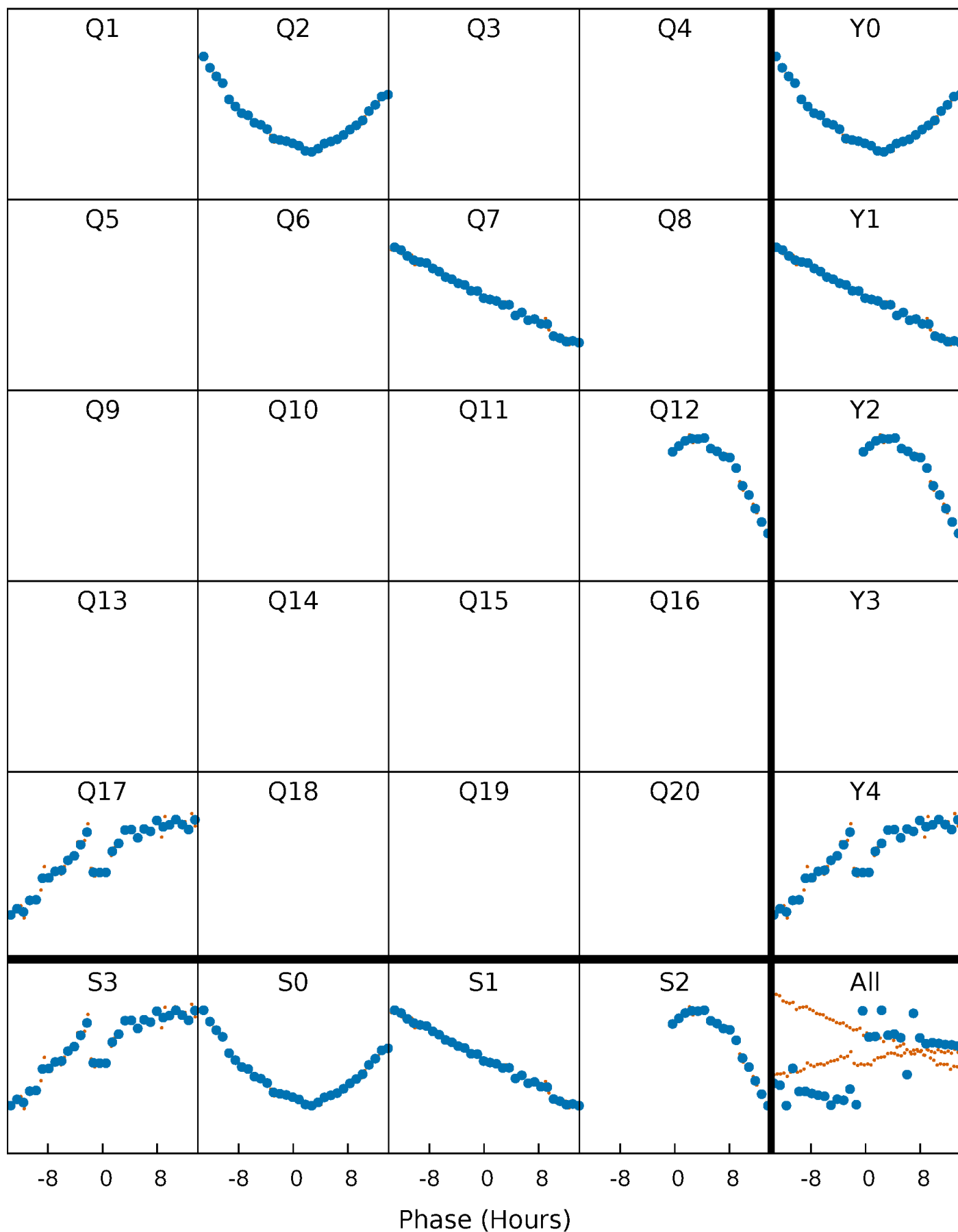


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



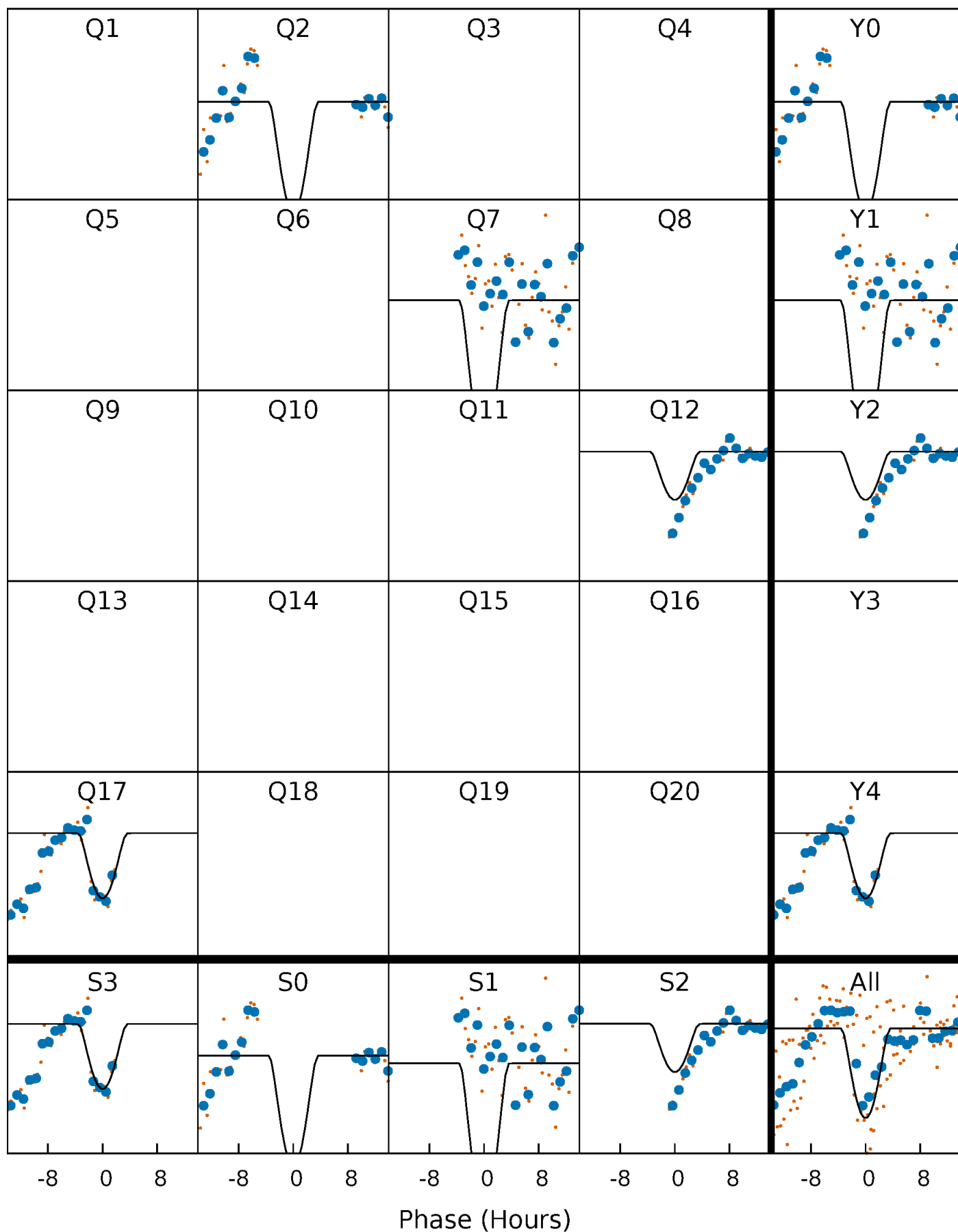
PDC Quarter-Phased Transit Curves

TCE 003129238-02 $P=450.536545$ Days $T_0=217.799694$ (BKJD)



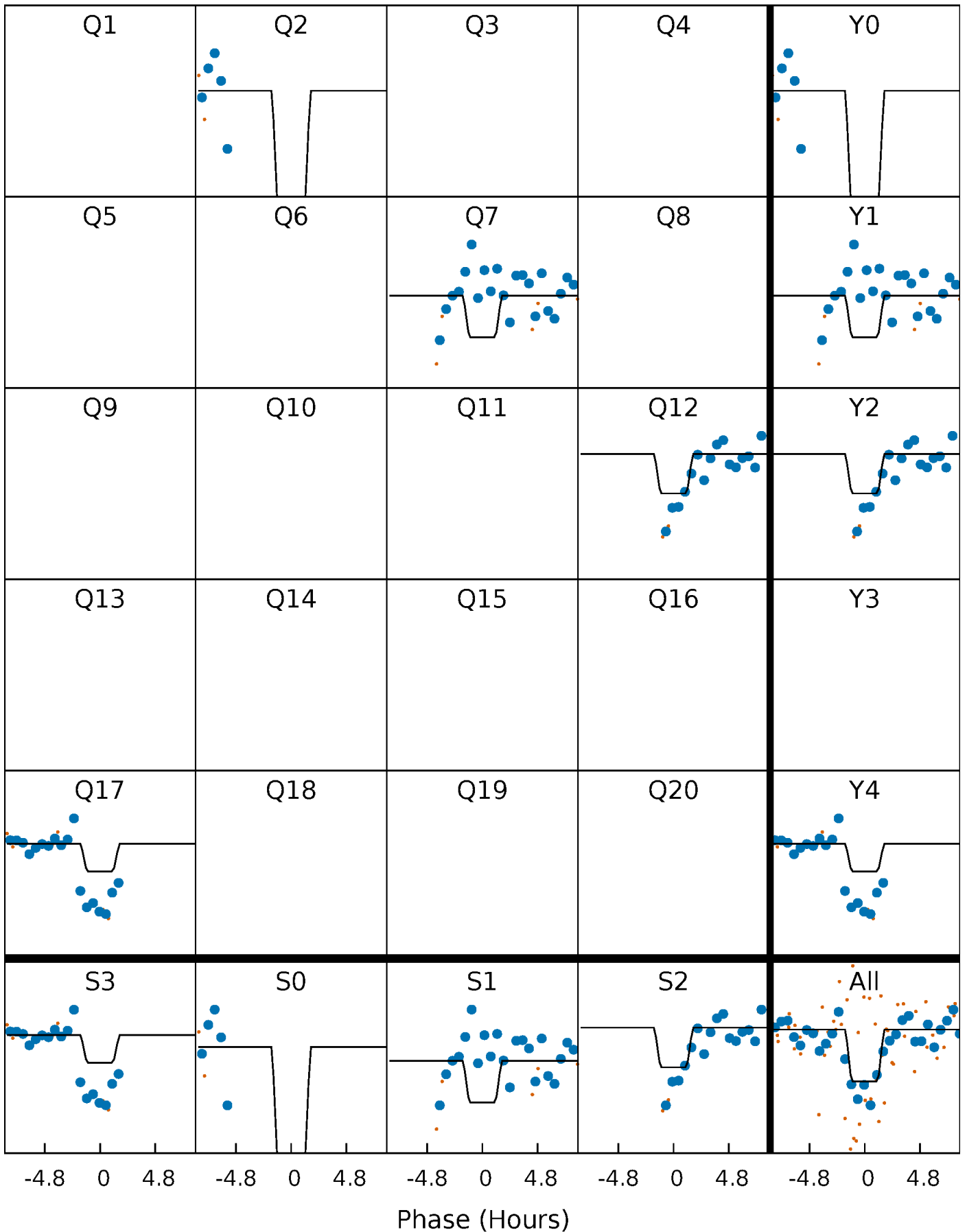
DV Quarter-Phased Transit Curves

TCE 003129238-02 P=450.536545 Days $T_0=217.799694$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

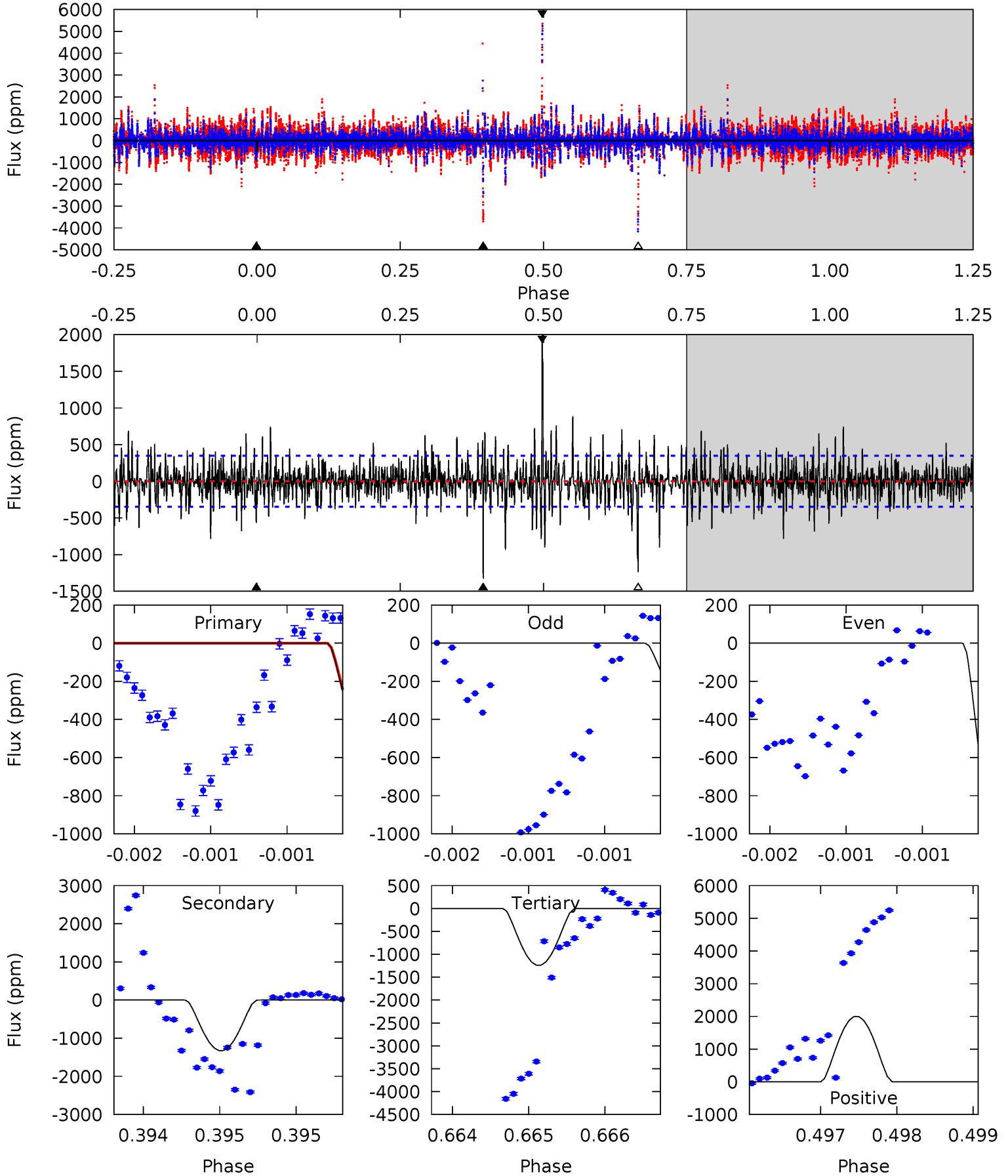
TCE 003129238-02 P=450.532753 Days $T_0=217.813892$ (BKJD)



DV Model-Shift Uniqueness Test

003129238-02, P = 450.536545 Days, E = 217.799694 Days

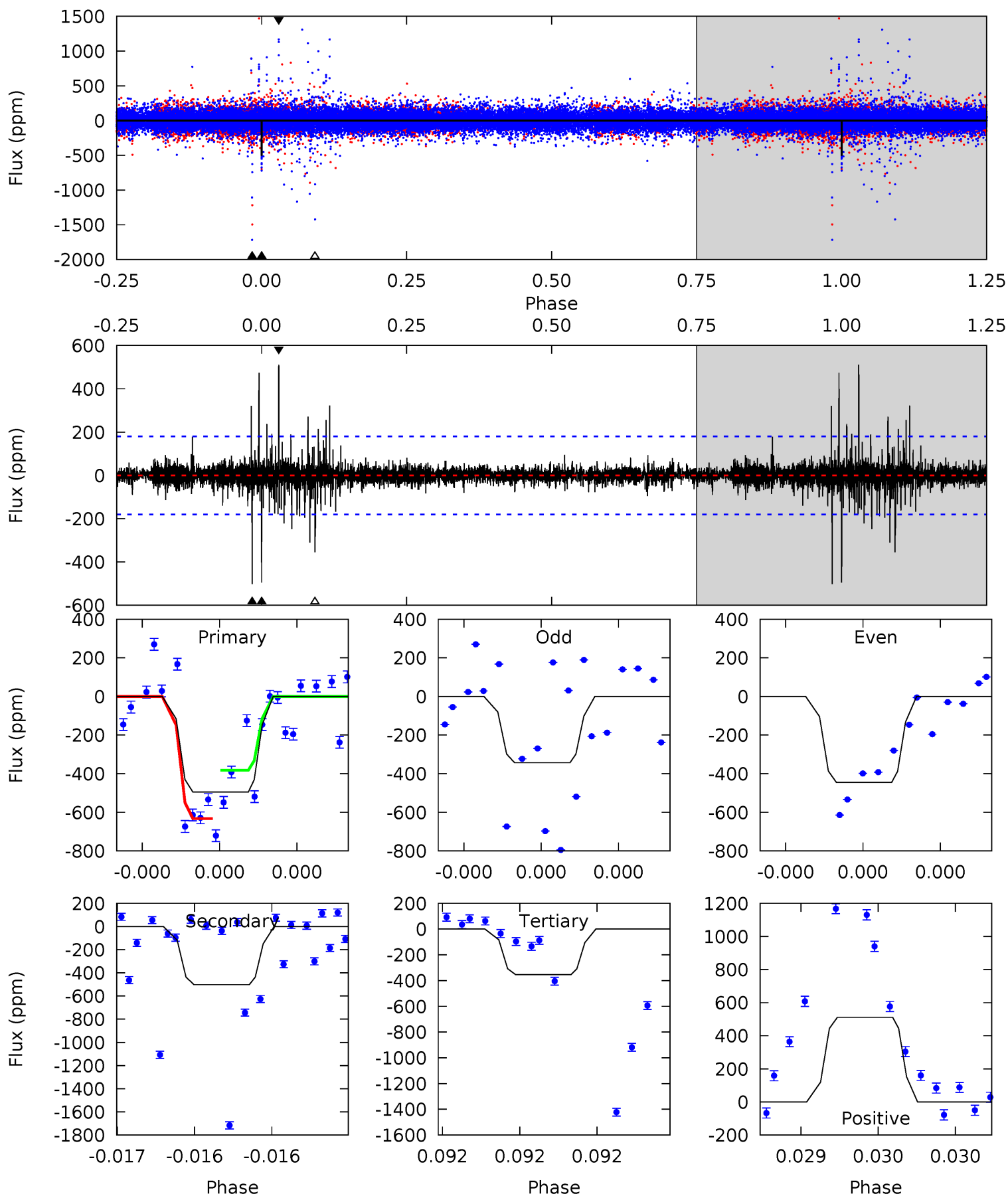
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	20.9	19.6	31.6	5.51	3.38	3.08	-11.7	-23.7	1.33	-10.7	5.15	0.83	0.60	0.35



Alt Model-Shift Uniqueness Test

003129238-02, P = 450.532753 Days, E = 217.813892 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	15.8	11.2	16.1	5.69	3.66	0.98	4.46	-0.49	4.67	-0.28	1.67	0.74	0.50	0



Stellar Parameters For KIC 003129238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5341^{+143}_{-159}	$4.526^{+0.099}_{-0.121}$	$-0.500^{+0.350}_{-0.300}$	$0.759^{+0.115}_{-0.094}$	$0.705^{+0.102}_{-0.044}$	$2.271^{+0.940}_{-0.729}$
	+3%/-3%	+2%/-3%	+70%/-60%	+15%/-12%	+14%/-6%	+41%/-32%
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 003129238-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1324 ± 63	$8.02^{+7.83}_{-5.03}$	284^{+15}_{-13}	3700^{+1703}_{-706}	12048^{+73054}_{-8925}
Alt.	-502 ± 32	$6.77^{+7.84}_{-5.13}$	284^{+14}_{-14}	3328^{+2304}_{-632}	$6335^{+104433}_{-4929}$

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

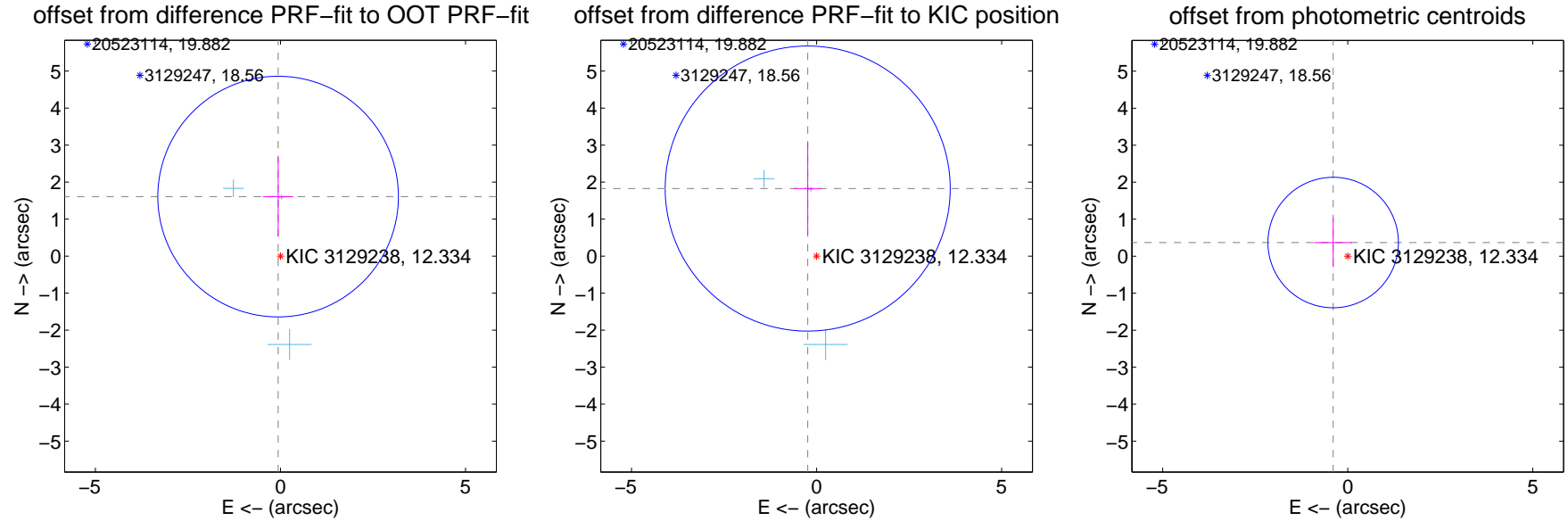
DV Centroid Data

Supplemental centroid analysis for 003129238-02. Kepler magnitude: 12.33. Transit SNR 9.10

There are 3 quarters with good PRF difference image offsets

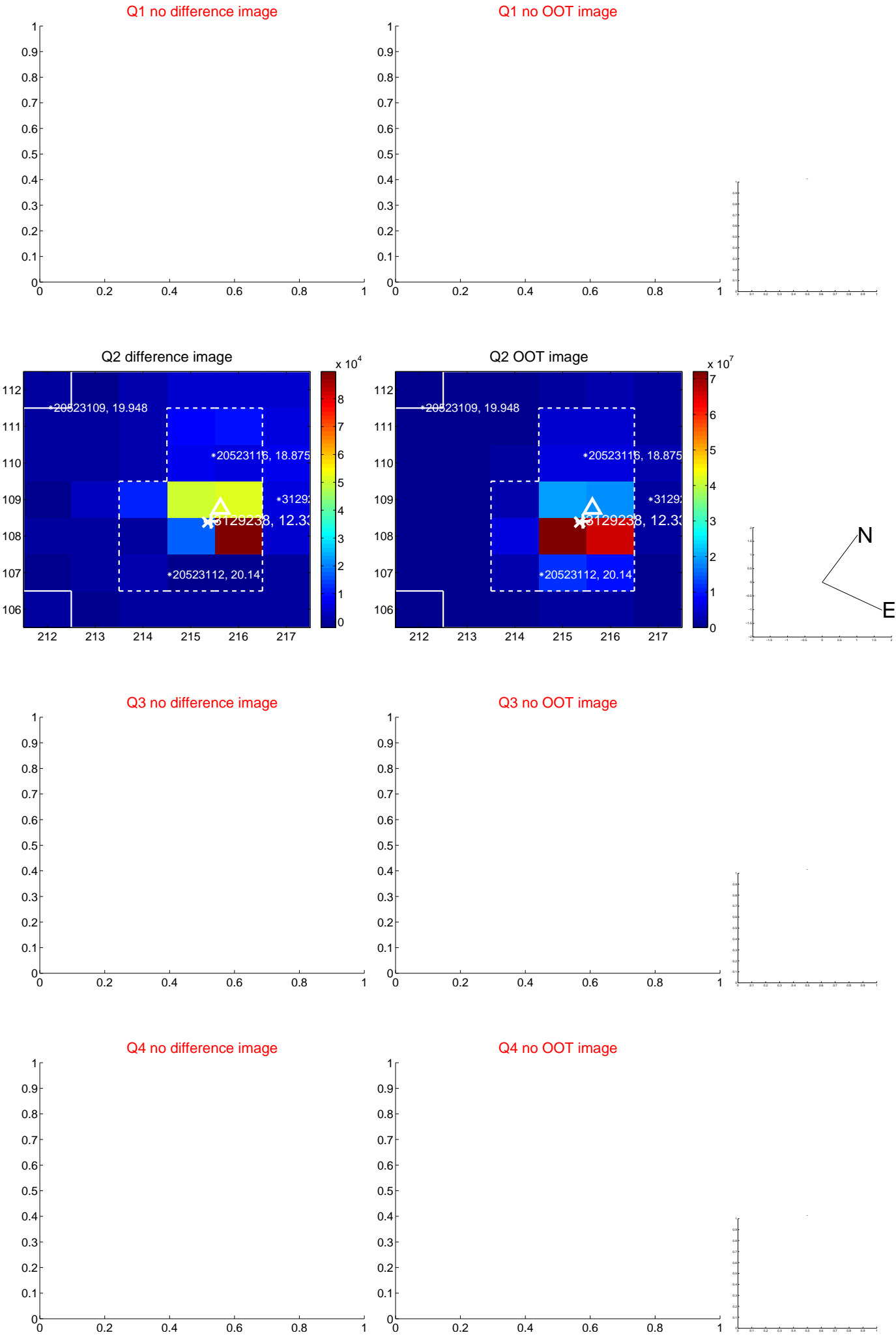
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.610 ± 1.084	1.49	0.063 ± 0.412	1.609 ± 1.074
PRF-fit source offset from KIC position	1.842 ± 1.284	1.43	0.240 ± 0.373	1.826 ± 1.254
photometric centroid source offset	0.54 ± 0.59	0.92	0.39 ± 0.51	0.37 ± 0.66



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



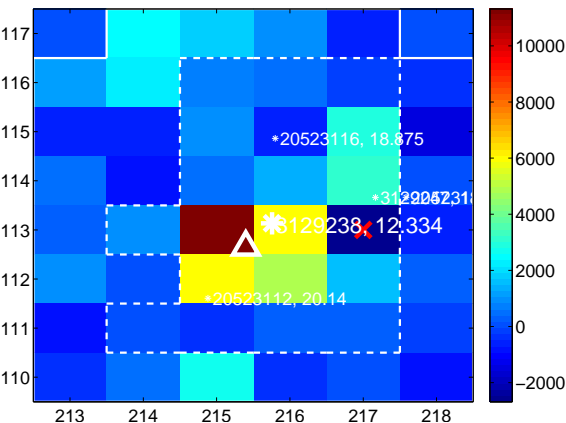
Q6 no difference image



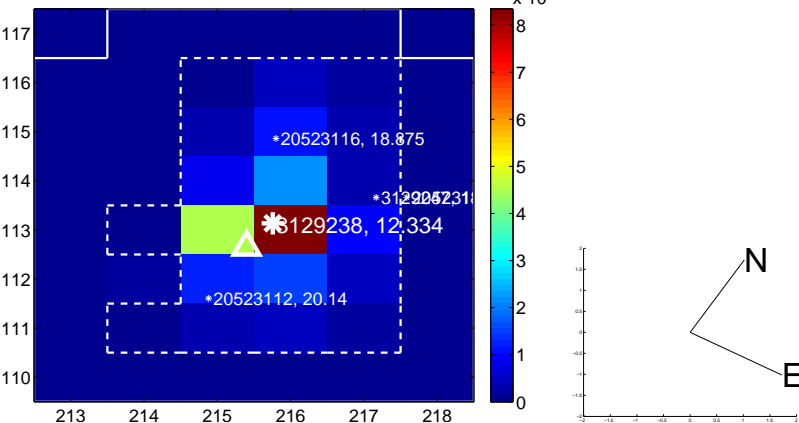
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



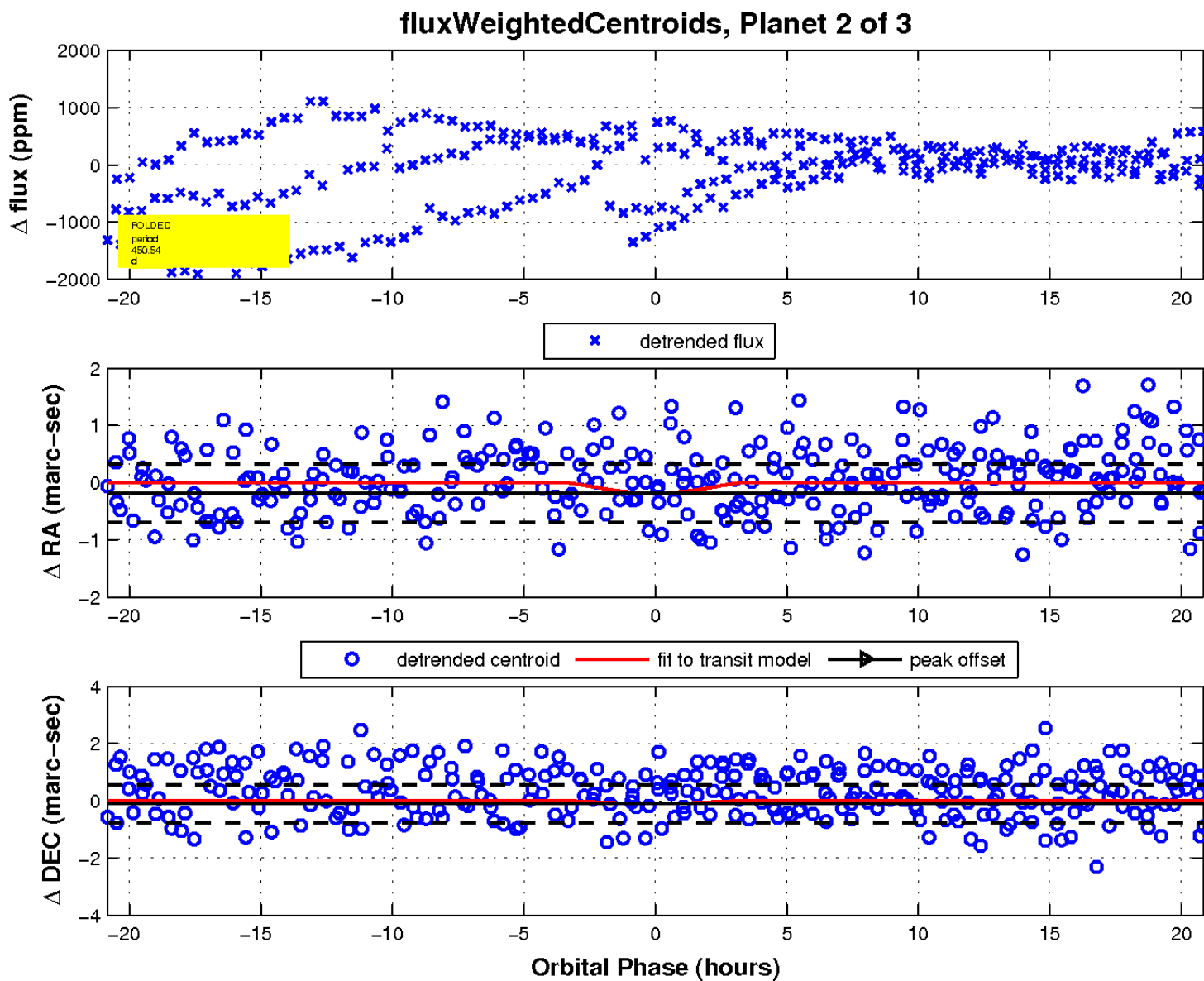
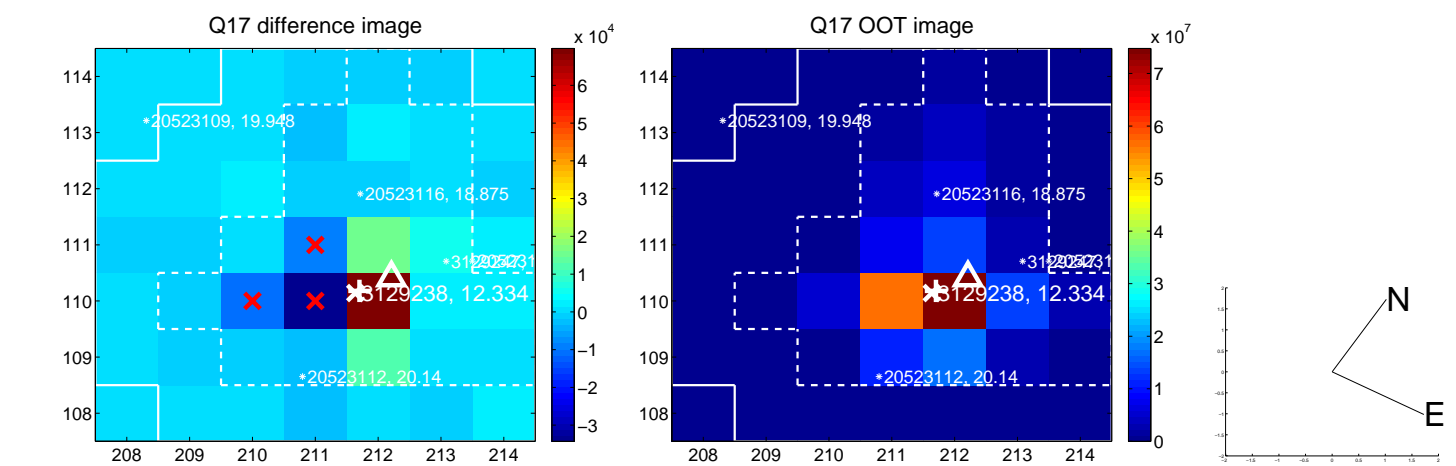
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



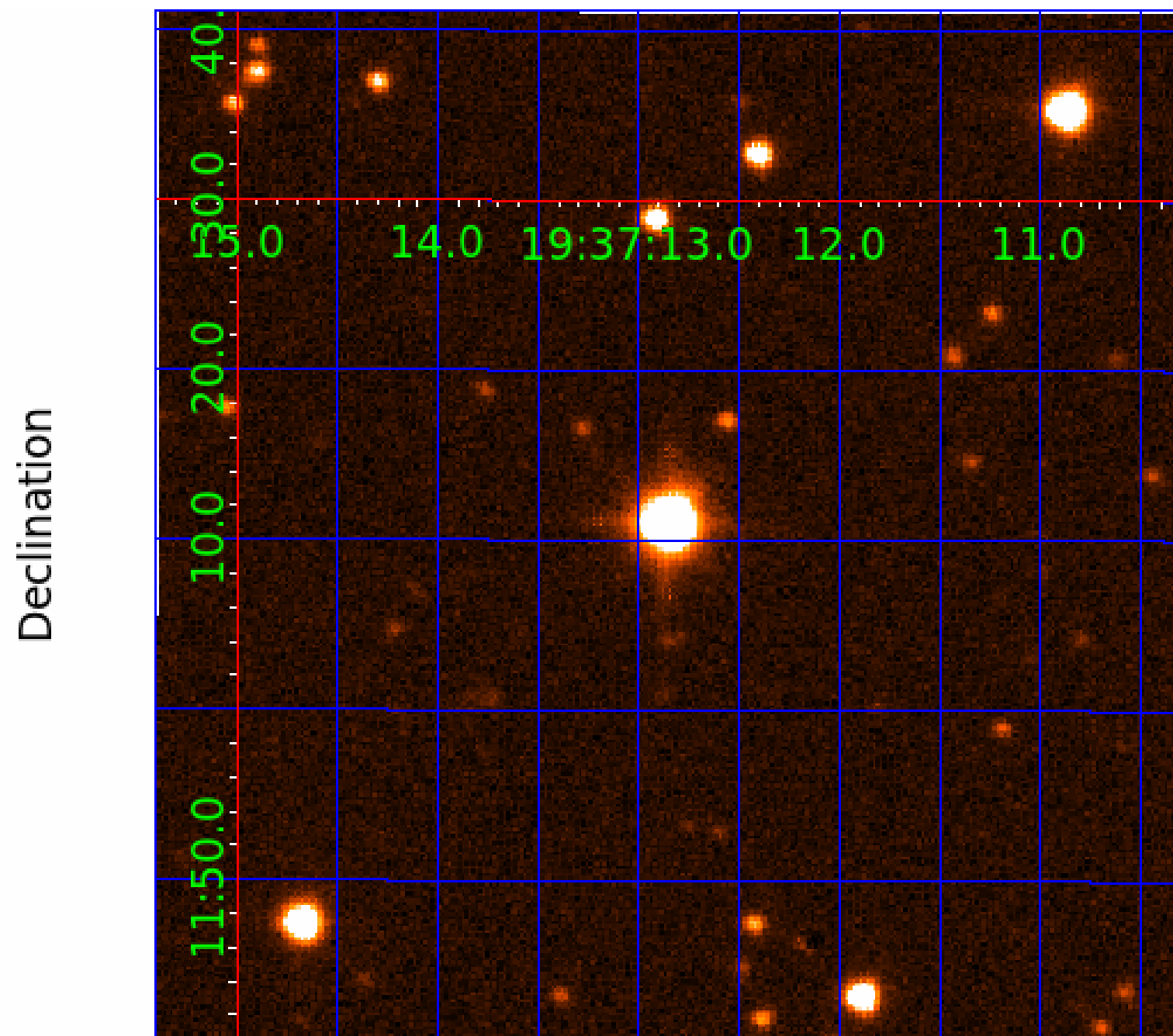
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003129238

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})
003129238-01	OBS	7645.01	2.008760	131.510994	114.5	4.500	8.7	-1.0	0.76	5341	0.80	545.73
003129238-02	OBS	No	450.536545	217.799694	677.1	6.974	12.9	9.1	0.76	5341	3.94	0.40
003129238-03	OBS	No	296.213101	287.738501	470.8	4.142	9.4	7.6	0.76	5341	2.79	0.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003129238-01	OBS	PC	1.00	0	0	0	0	CENT_NOFITS
003129238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
003129238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

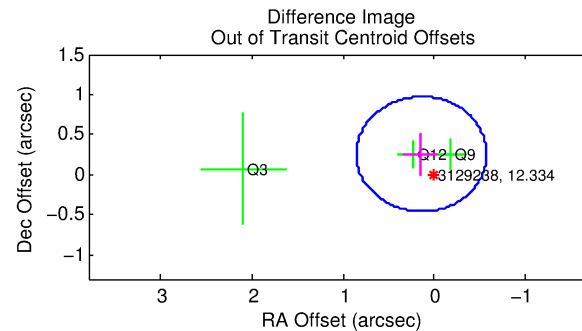
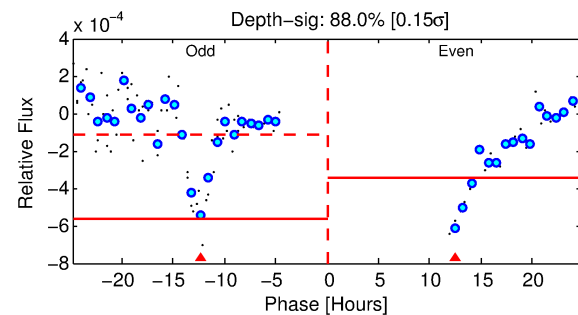
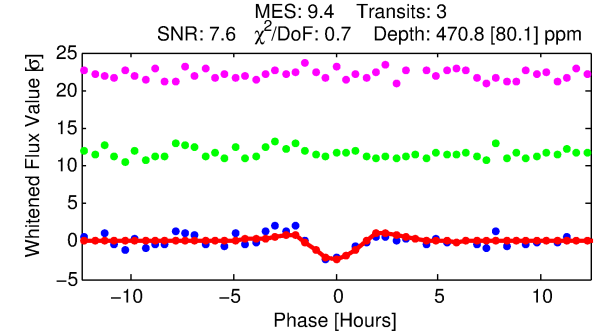
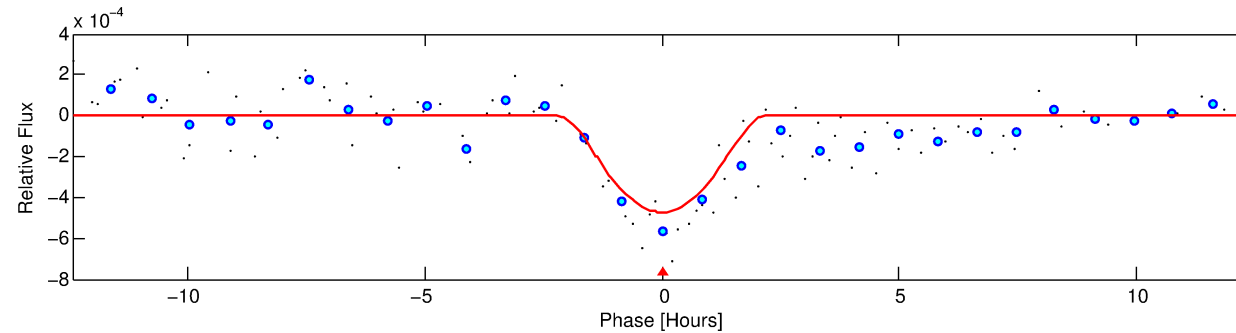
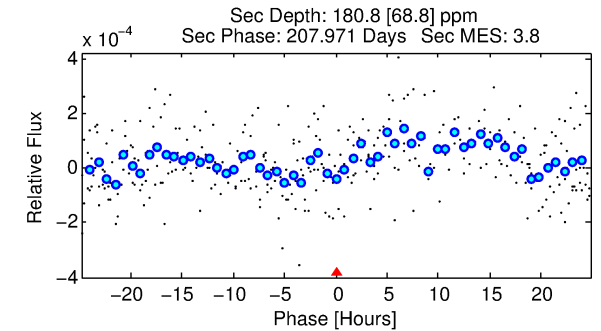
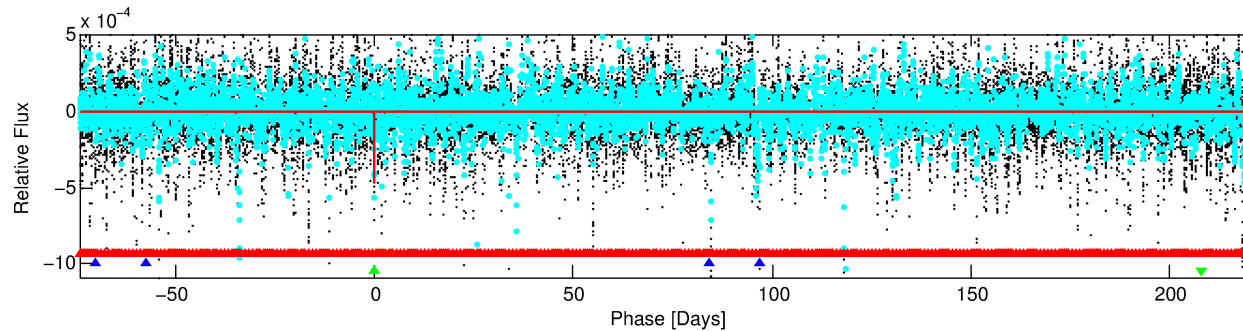
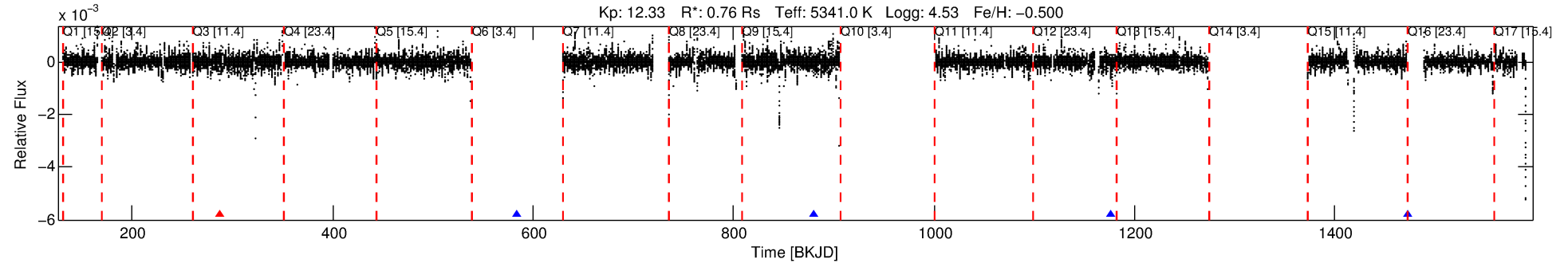
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003129238-03

No Significant Match Found

DV One-Page Summary

KIC: 3129238 Candidate: 3 of 3 Period: 296.213 d



DV Fit Results:

Period = 296.21310 [0.00413] d
Epoch = 287.7385 [0.0088] BKJD
Rp/R* = 0.0336 [0.0529]
a/R* = 164.06 [90.24]
b = 0.99 [0.09]
Seff = 0.70 [0.17]
Teq = 233 [14] K
Rp = 2.79 [4.40] Re
a = 0.7743 [0.1063] AU
Ag = 7683.67 [24387.69] [0.32σ]
Teffp = 3377 [2675] K [1.17σ]

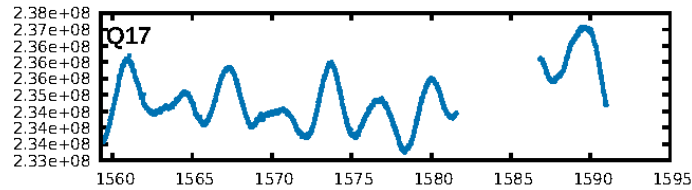
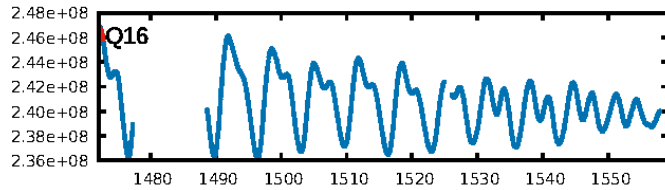
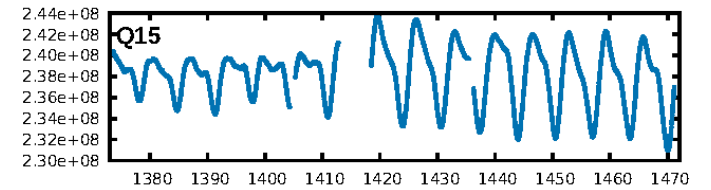
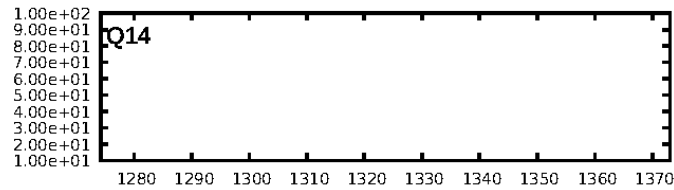
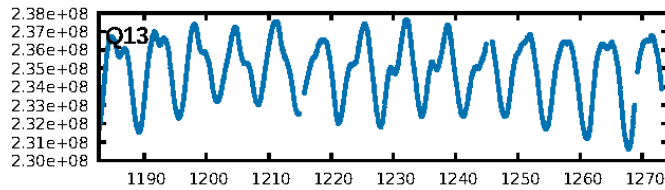
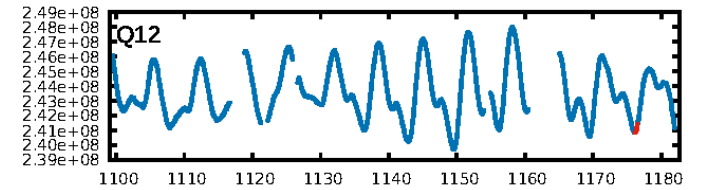
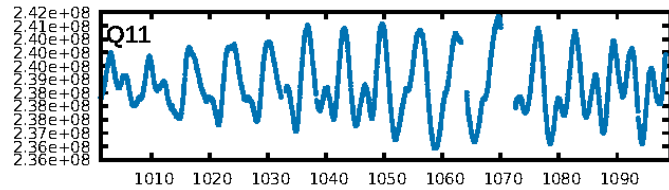
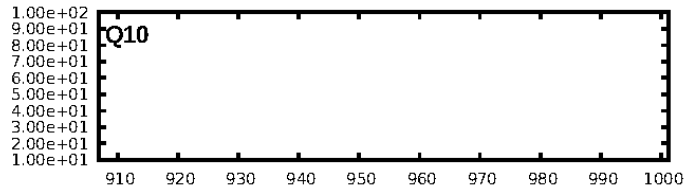
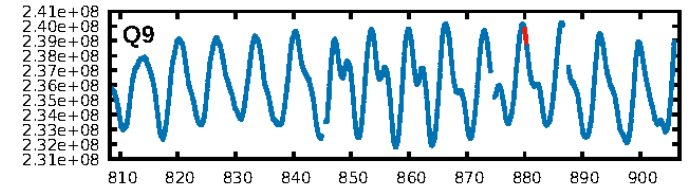
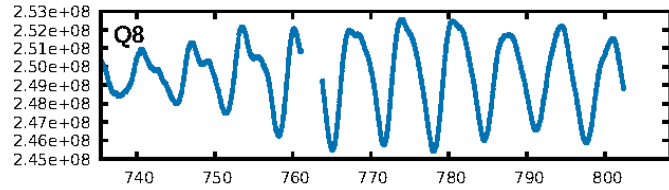
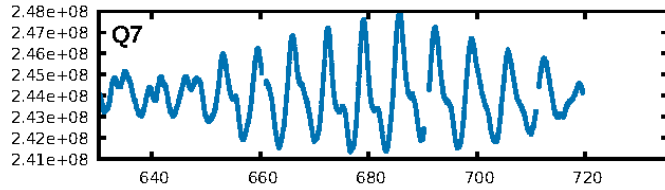
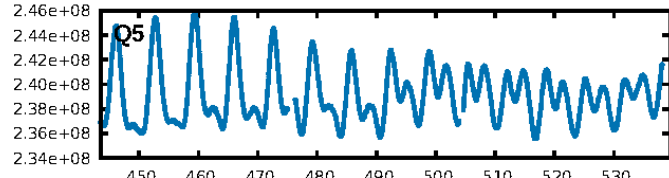
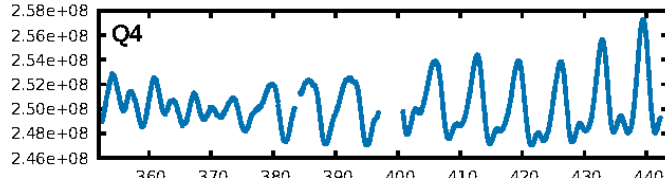
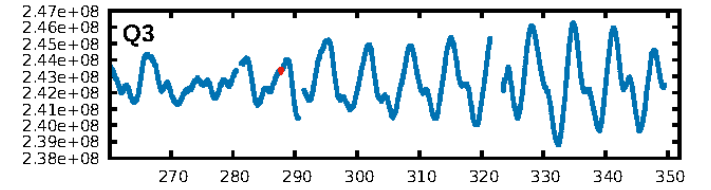
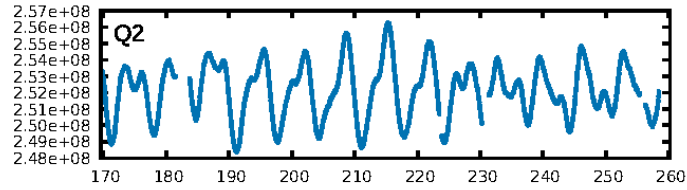
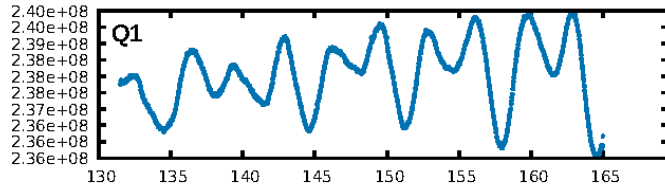
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1154.49σ]
LongPeriod-sig: 100.0% [456.61σ]
ModelChiSquare2-sig: 24.4%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.77e-10
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -1.166
Centroid-sig: 0.1%
Centroid-so: 2.521 arcsec [2.20σ]
OotOffset-rm: 0.291 arcsec [1.22σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.533 arcsec [2.21σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.33 [1/3]

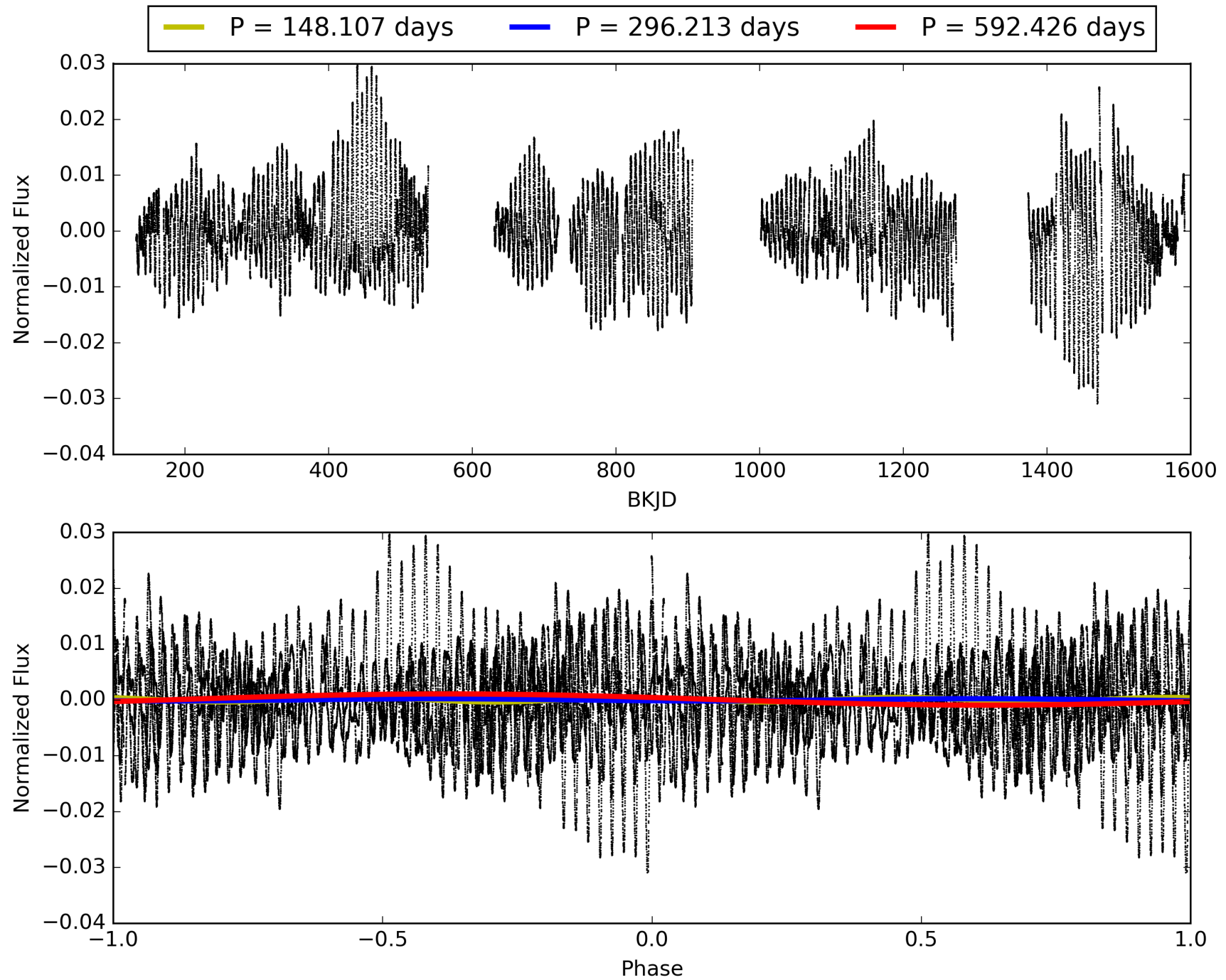
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:07:33 Z

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

TCE 003129238-03, PDC Light Curves

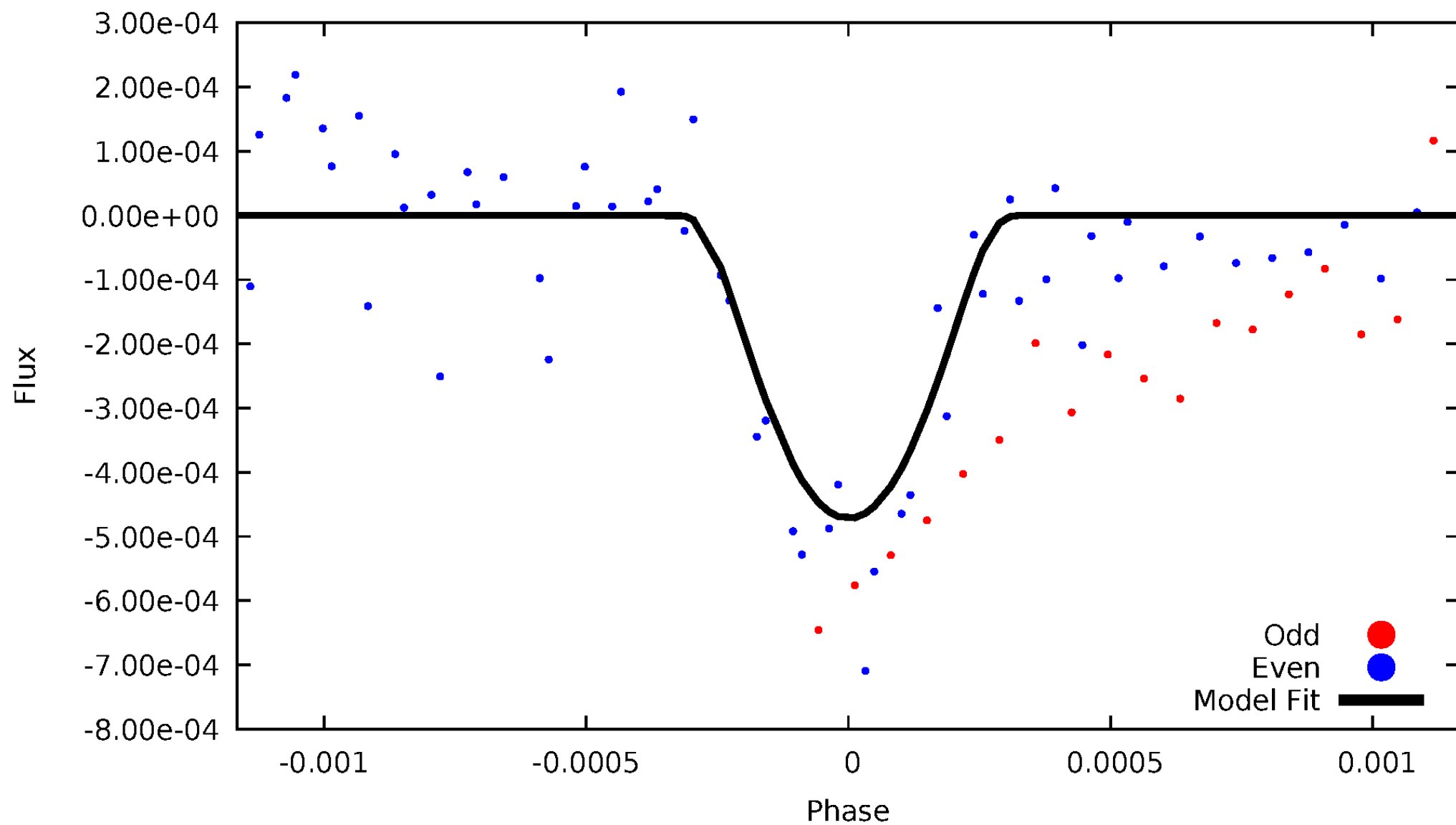


TCE 003129238-03



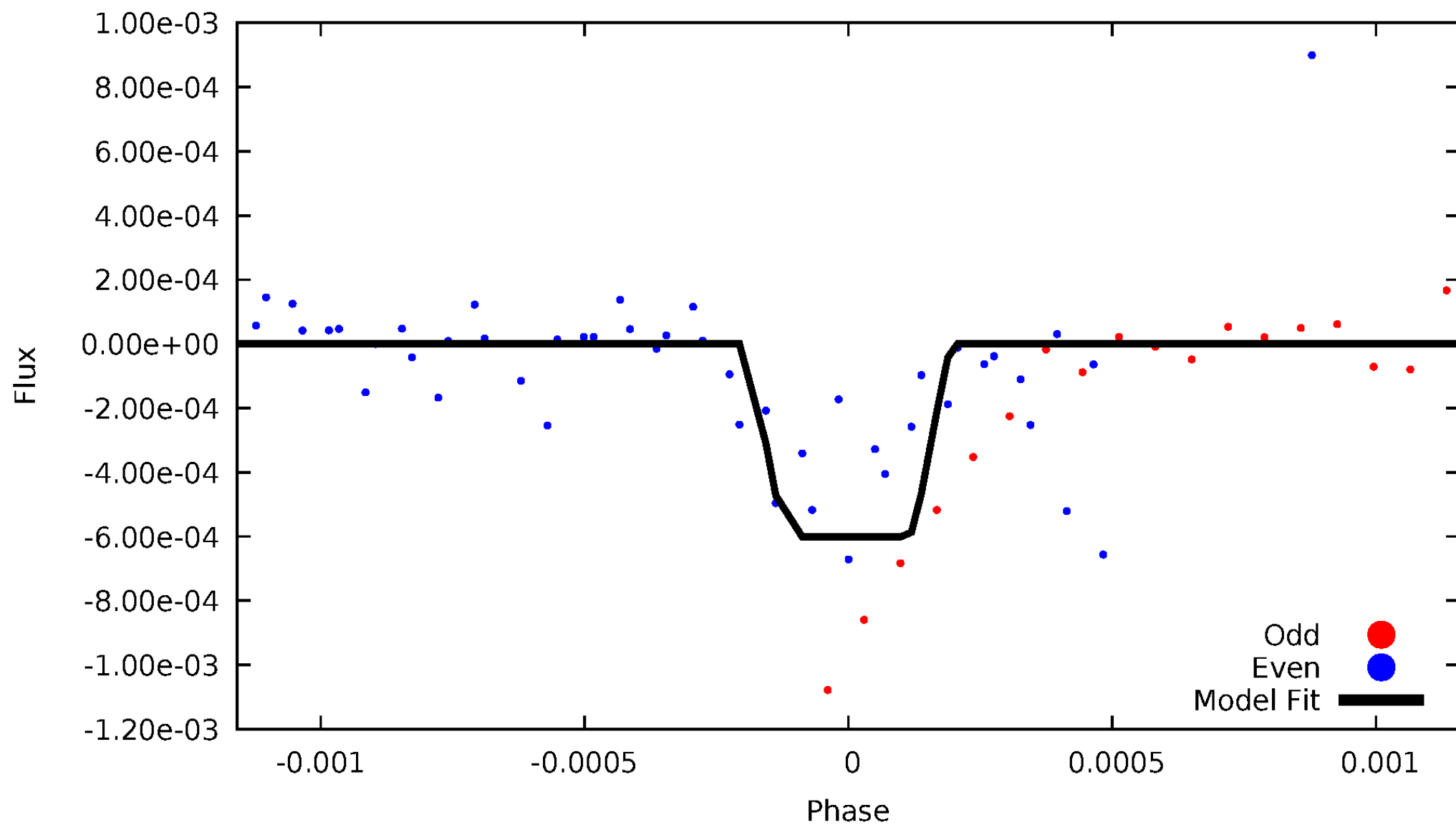
DV Odd/Even

TCE 003129238-03



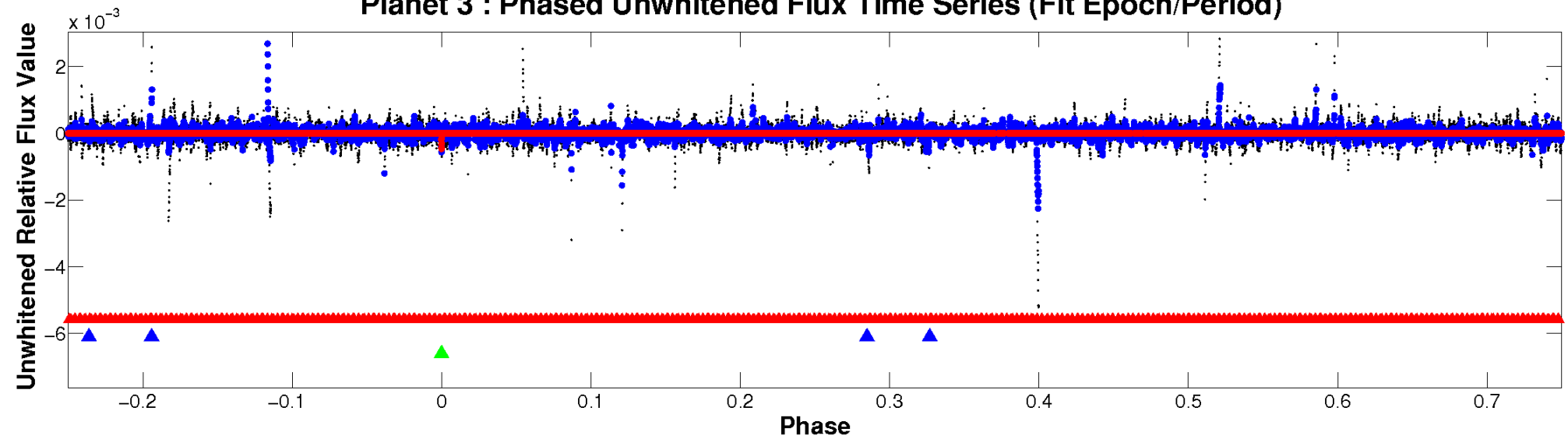
ALT Odd/Even

TCE 003129238-03

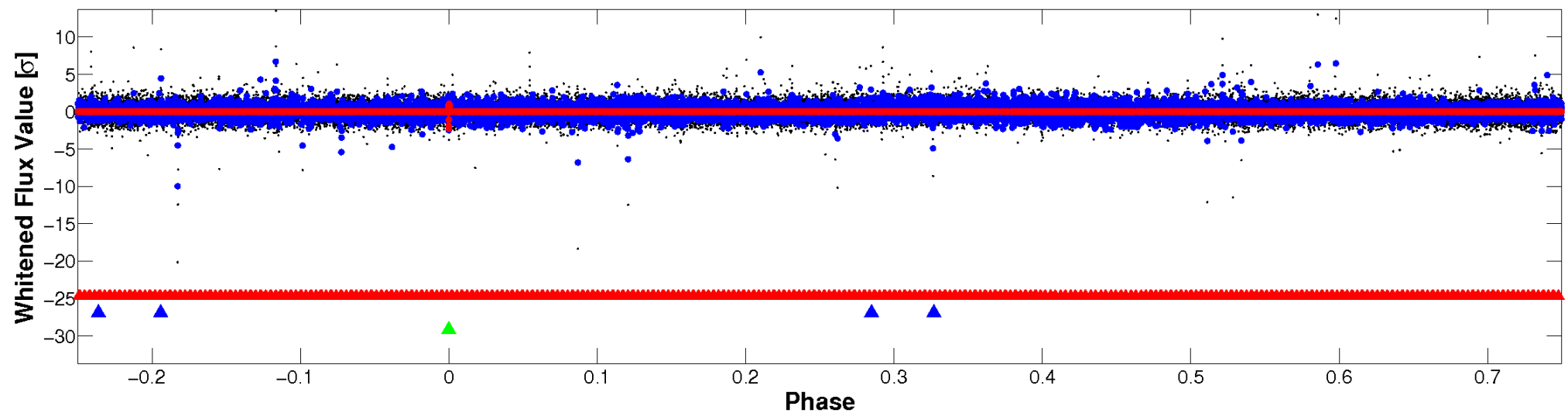


Non-Whitened Vs. Whitened Light Curve

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

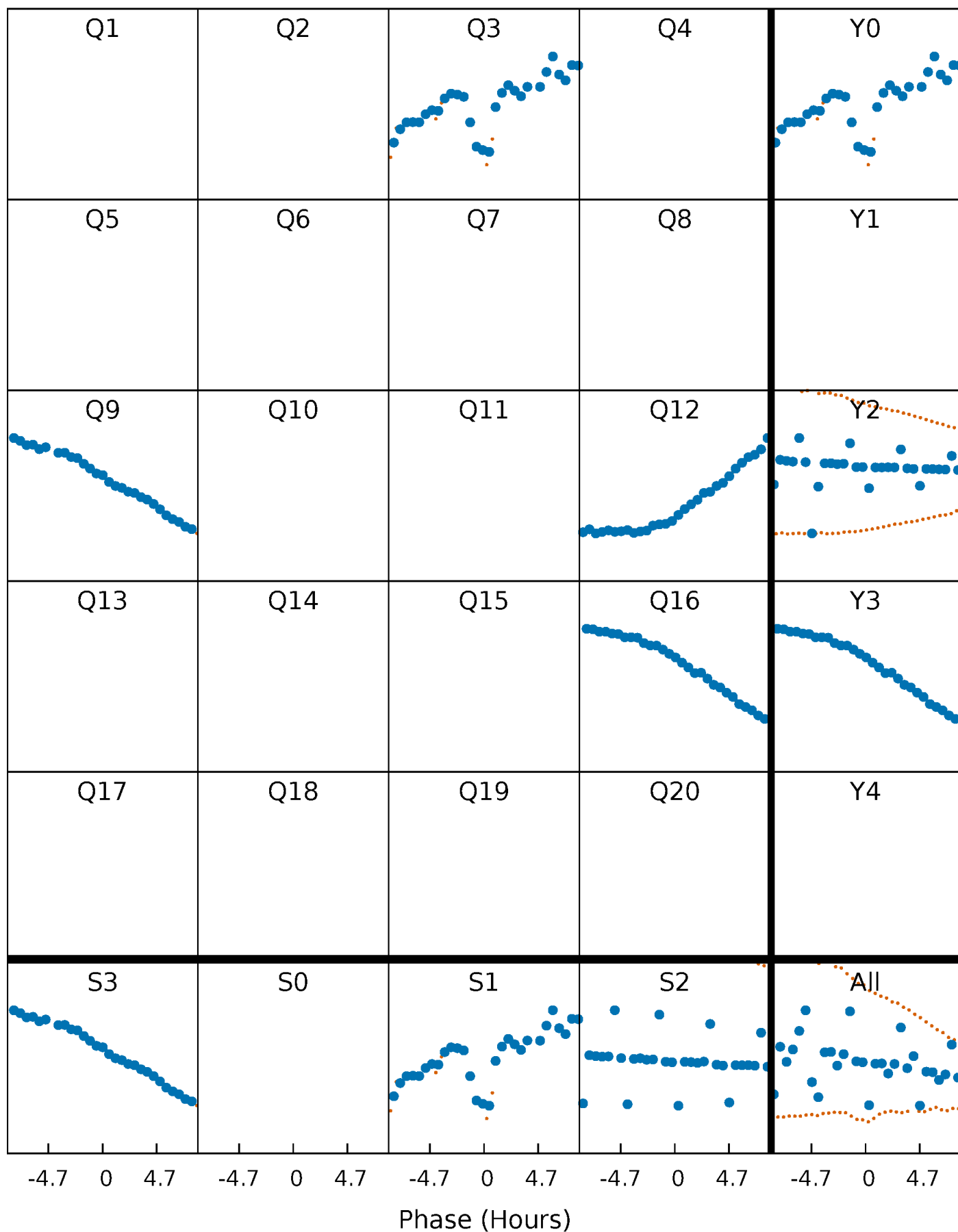


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



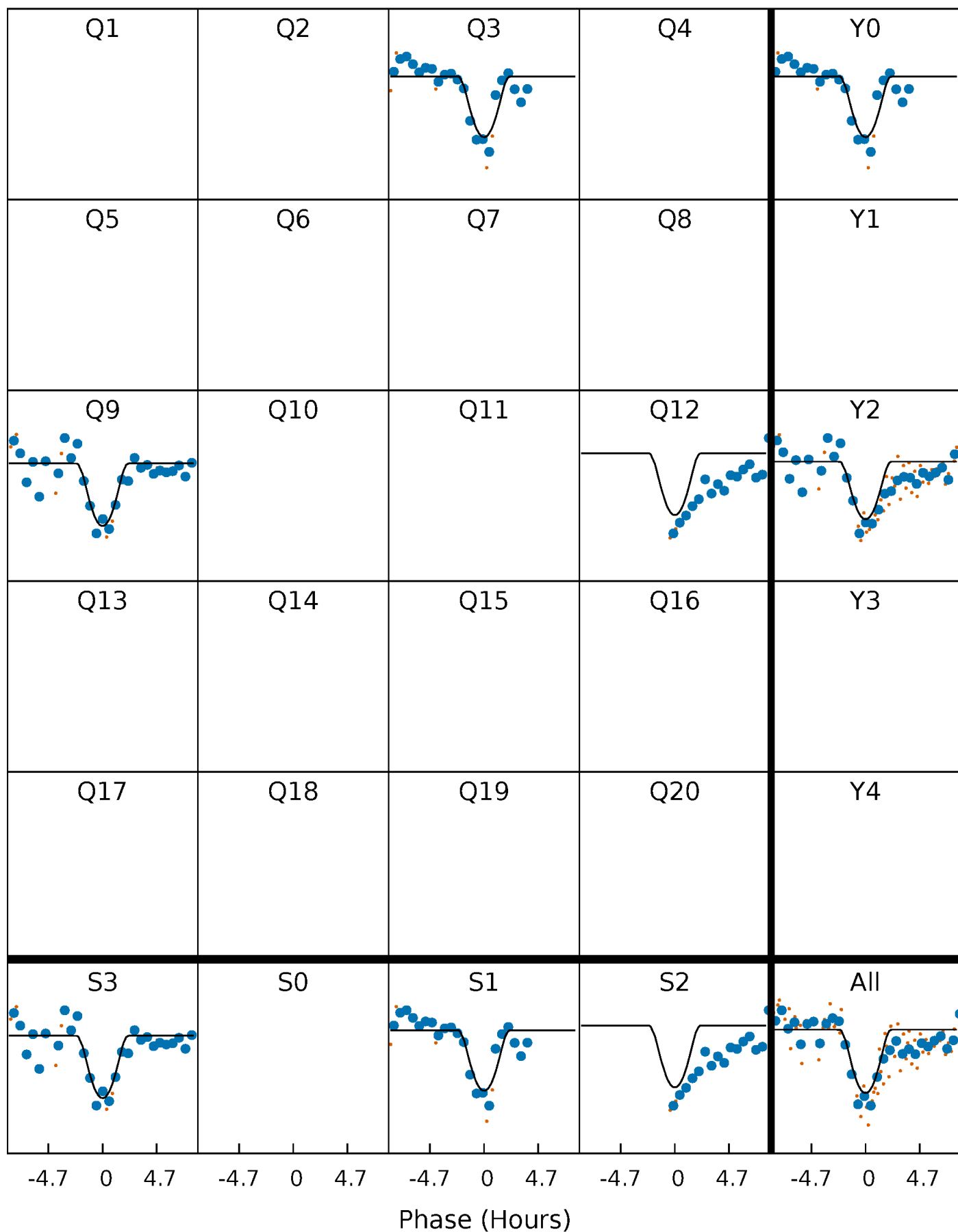
PDC Quarter-Phased Transit Curves

TCE 003129238-03 P=296.213101 Days $T_0=287.738501$ (BKJD)



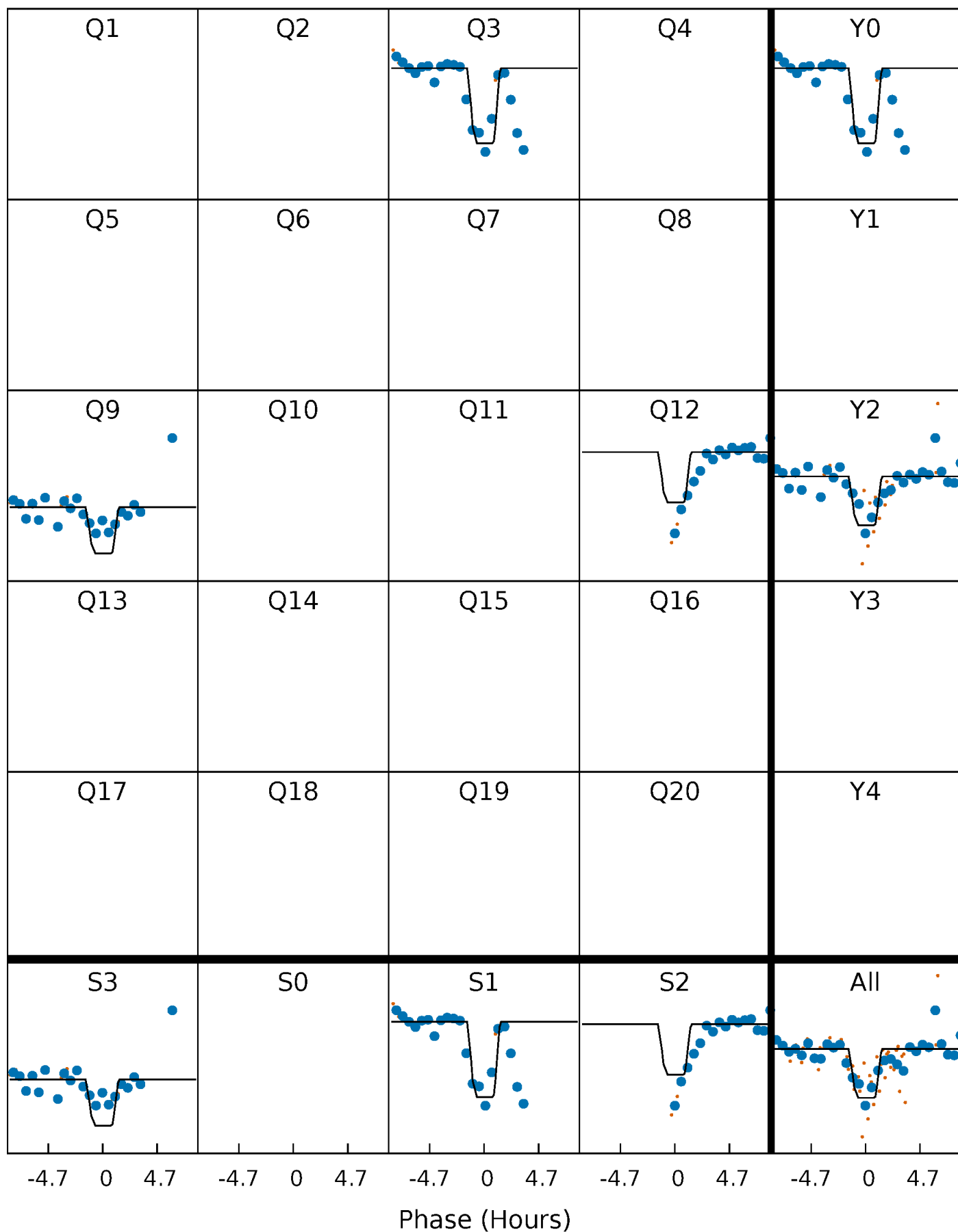
DV Quarter-Phased Transit Curves

TCE 003129238-03 $P=296.213101$ Days $T_0=287.738501$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

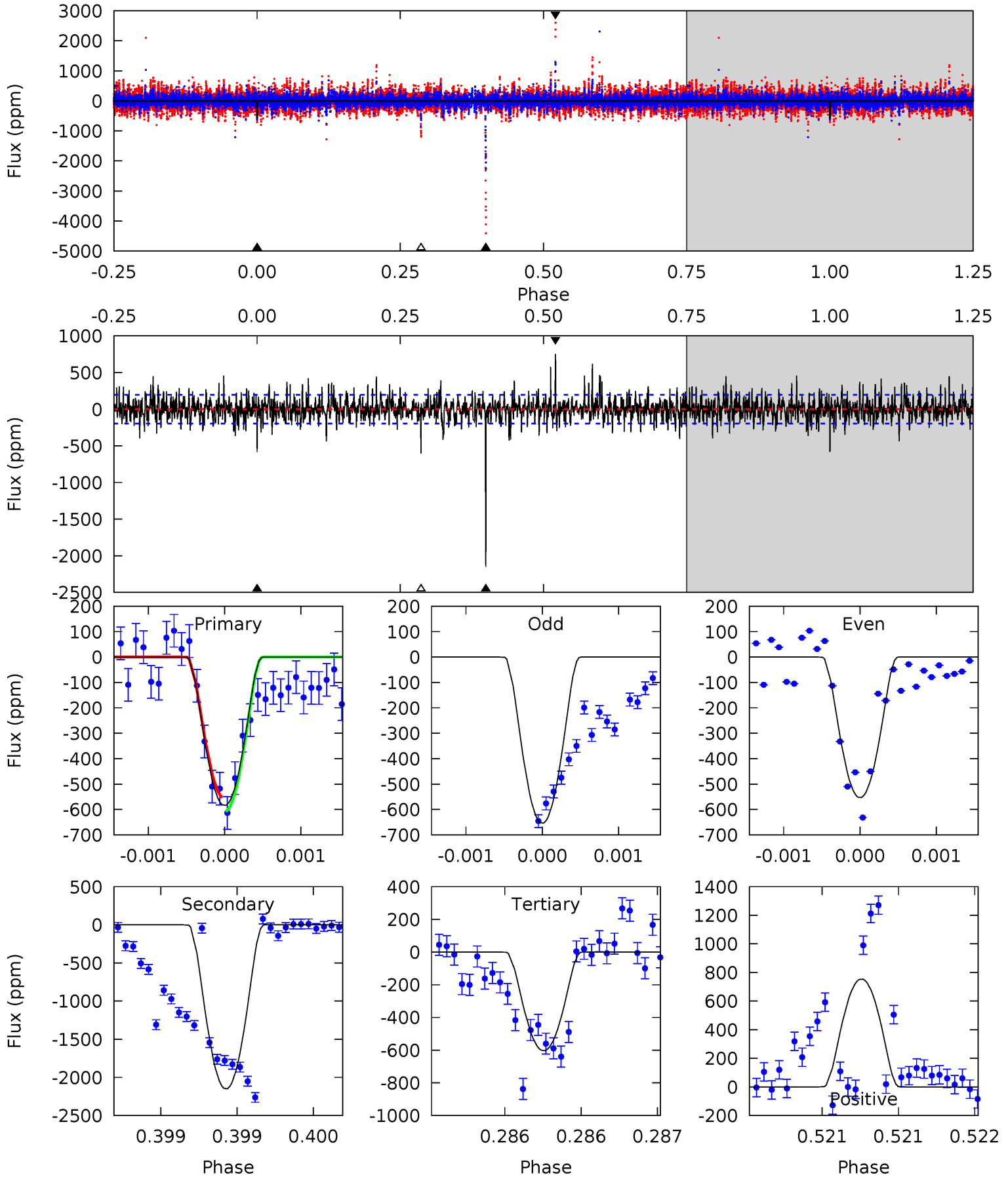
TCE 003129238-03 P=296.208170 Days $T_0=287.748019$ (BKJD)



DV Model-Shift Uniqueness Test

003129238-03, P = 296.213101 Days, E = 287.738501 Days

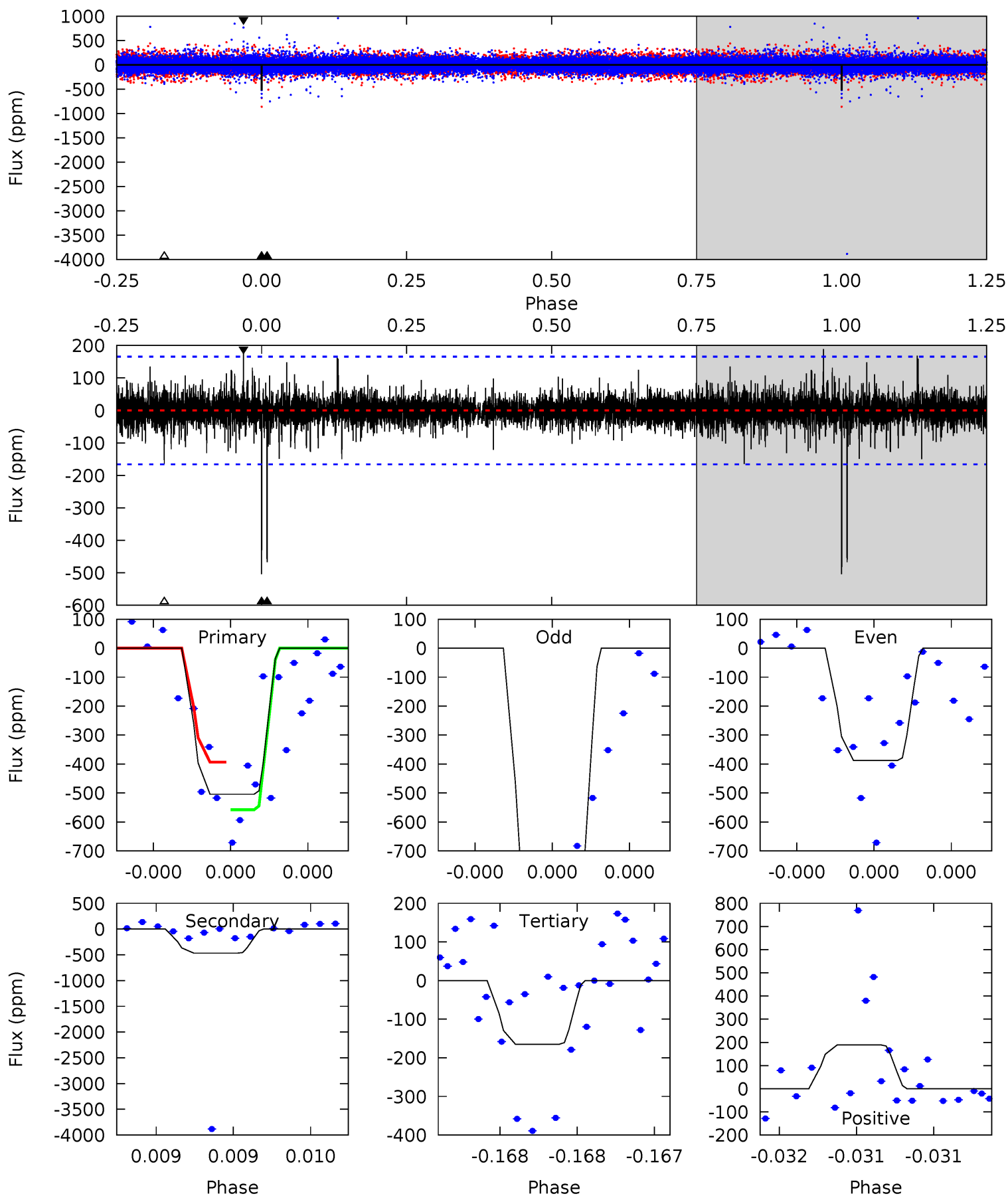
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	60.6	17.0	21.2	5.53	3.41	3.13	-0.56	-4.80	43.6	39.4	1.10	1.03	0.26	0.76



Alt Model-Shift Uniqueness Test

003129238-03, P = 296.208170 Days, E = 287.748019 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	15.9	5.61	6.43	5.65	3.59	0.93	11.6	10.7	10.3	9.46	6.14	1.14	0.27	2.57



Stellar Parameters For KIC 003129238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5341^{+143}_{-159}	$4.526^{+0.099}_{-0.121}$	$-0.500^{+0.350}_{-0.300}$	$0.759^{+0.115}_{-0.094}$	$0.705^{+0.102}_{-0.044}$	$2.271^{+0.940}_{-0.729}$
	+3%/-3%	+2%/-3%	+70%/-60%	+15%/-12%	+14%/-6%	+41%/-32%
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 003129238-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2150 ± 35	$4.53^{+3.49}_{-3.06}$	328^{+15}_{-15}	5023^{+4333}_{-1005}	$35165^{+310161}_{-23865}$
Alt.	-467 ± 29	$3.74^{+3.76}_{-2.59}$	328^{+15}_{-15}	4014^{+2568}_{-821}	$11638^{+101145}_{-8872}$

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

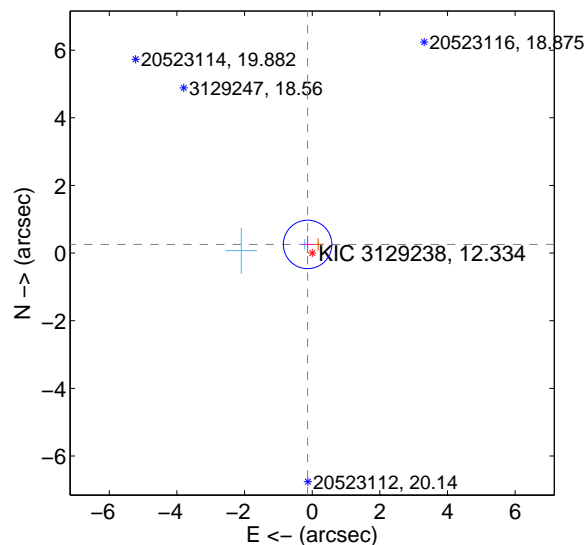
Supplemental centroid analysis for 003129238-03. Kepler magnitude: 12.33. Transit SNR 7.65

There are 2 quarters with good PRF difference image offsets

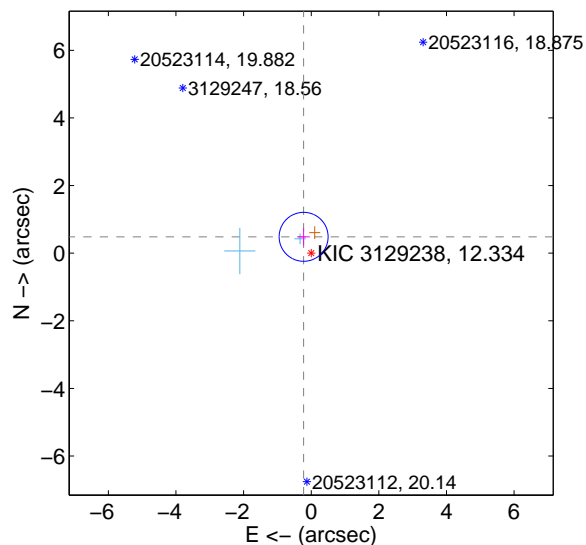
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.291 ± 0.239	1.22	0.136 ± 0.185	0.257 ± 0.252
PRF-fit source offset from KIC position	0.533 ± 0.241	2.21	0.225 ± 0.185	0.484 ± 0.252
photometric centroid source offset	2.52 ± 1.15	2.20	-1.05 ± 0.92	2.29 ± 1.19

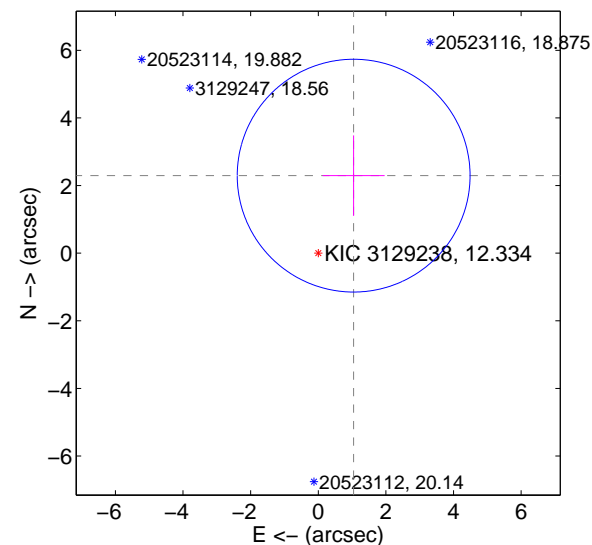
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



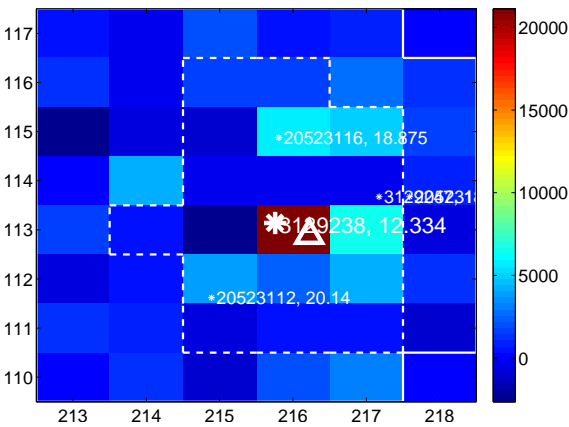
Q2 no difference image



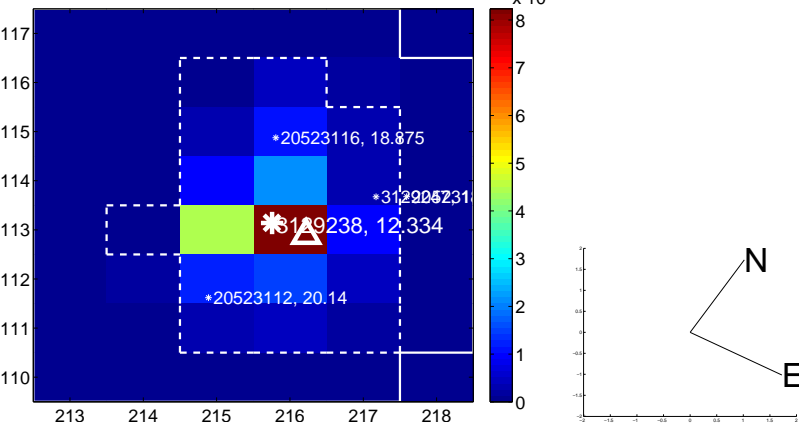
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



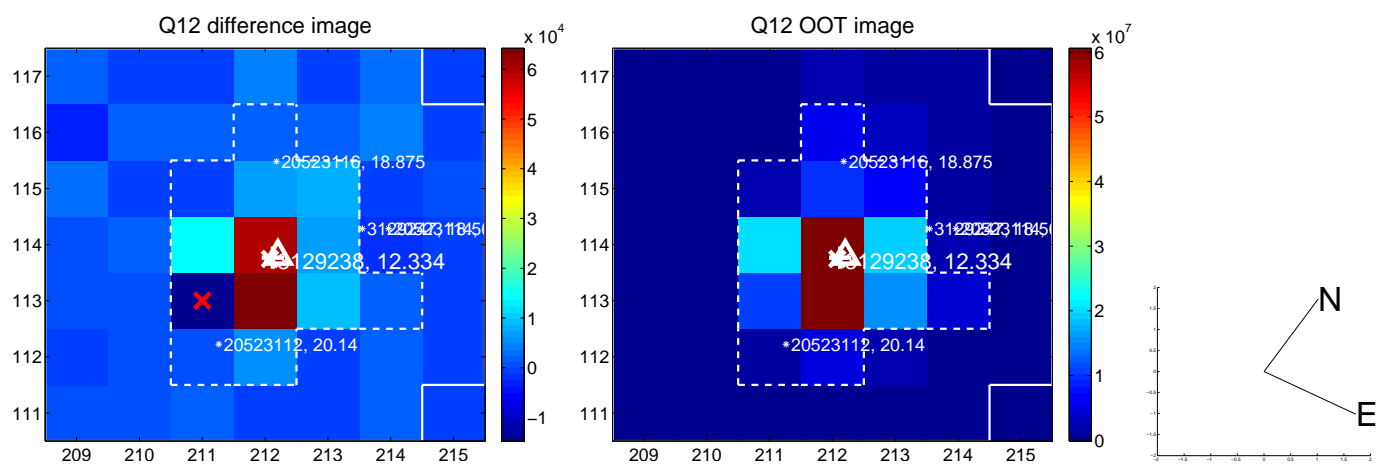
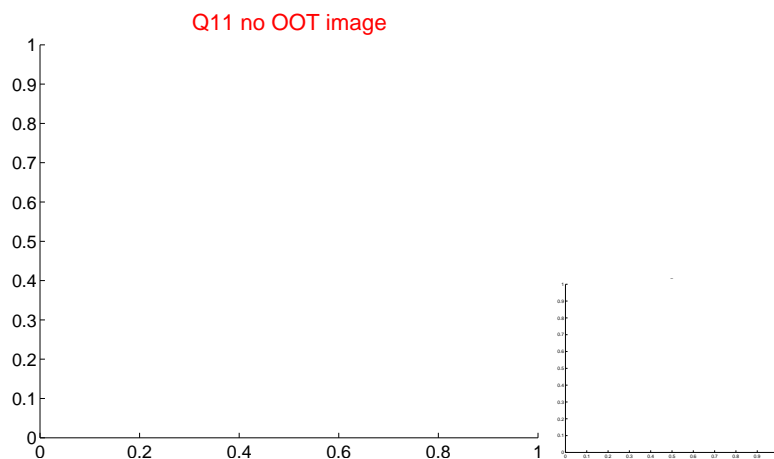
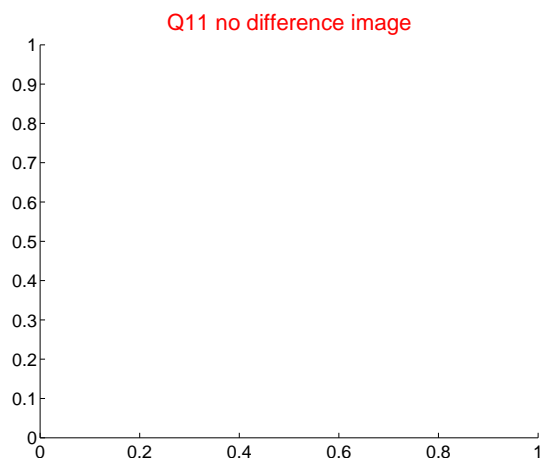
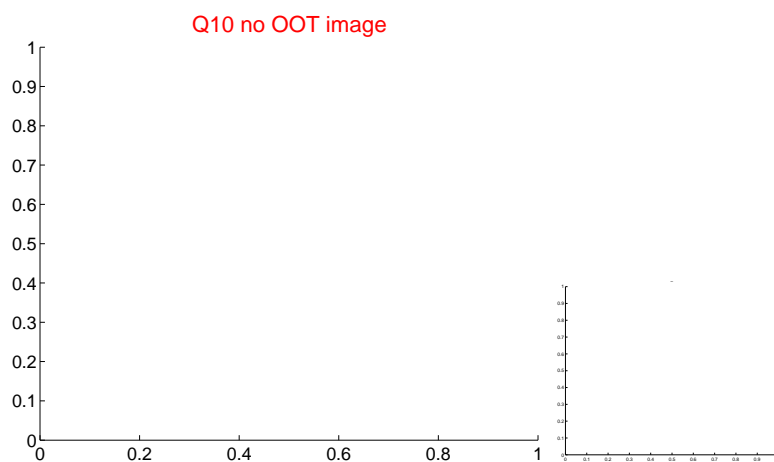
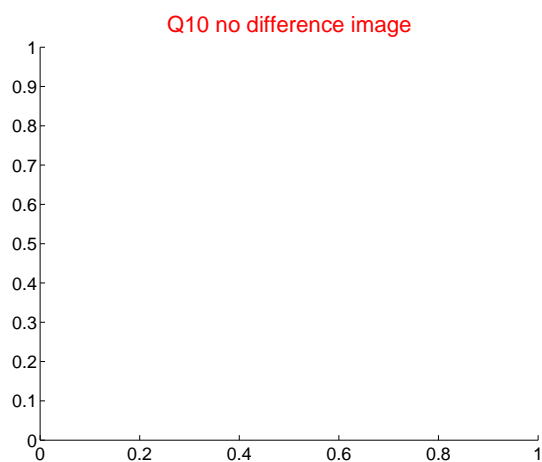
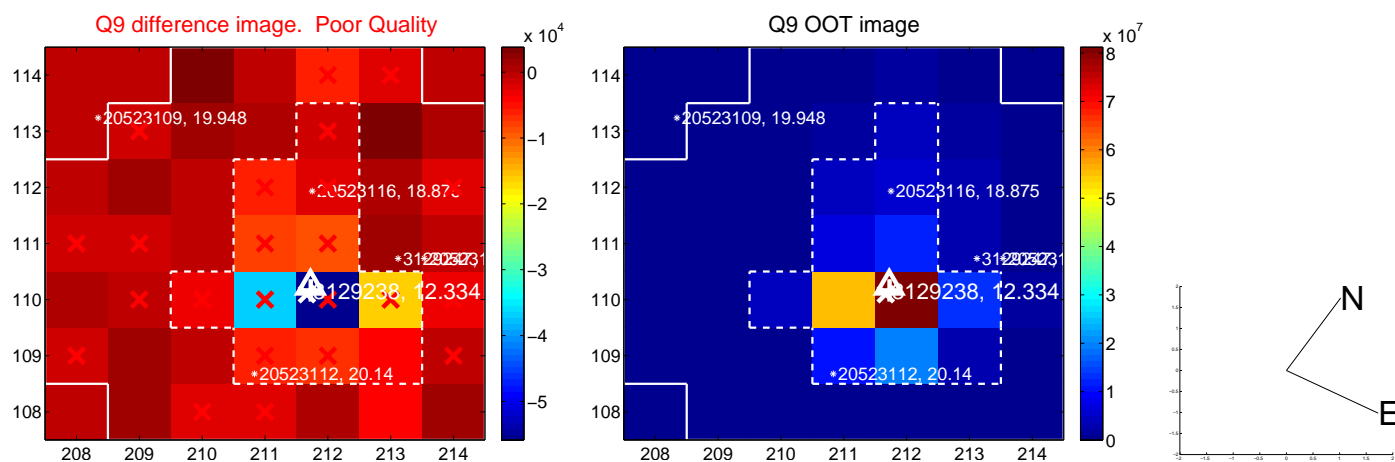
Q4 no OOT image



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



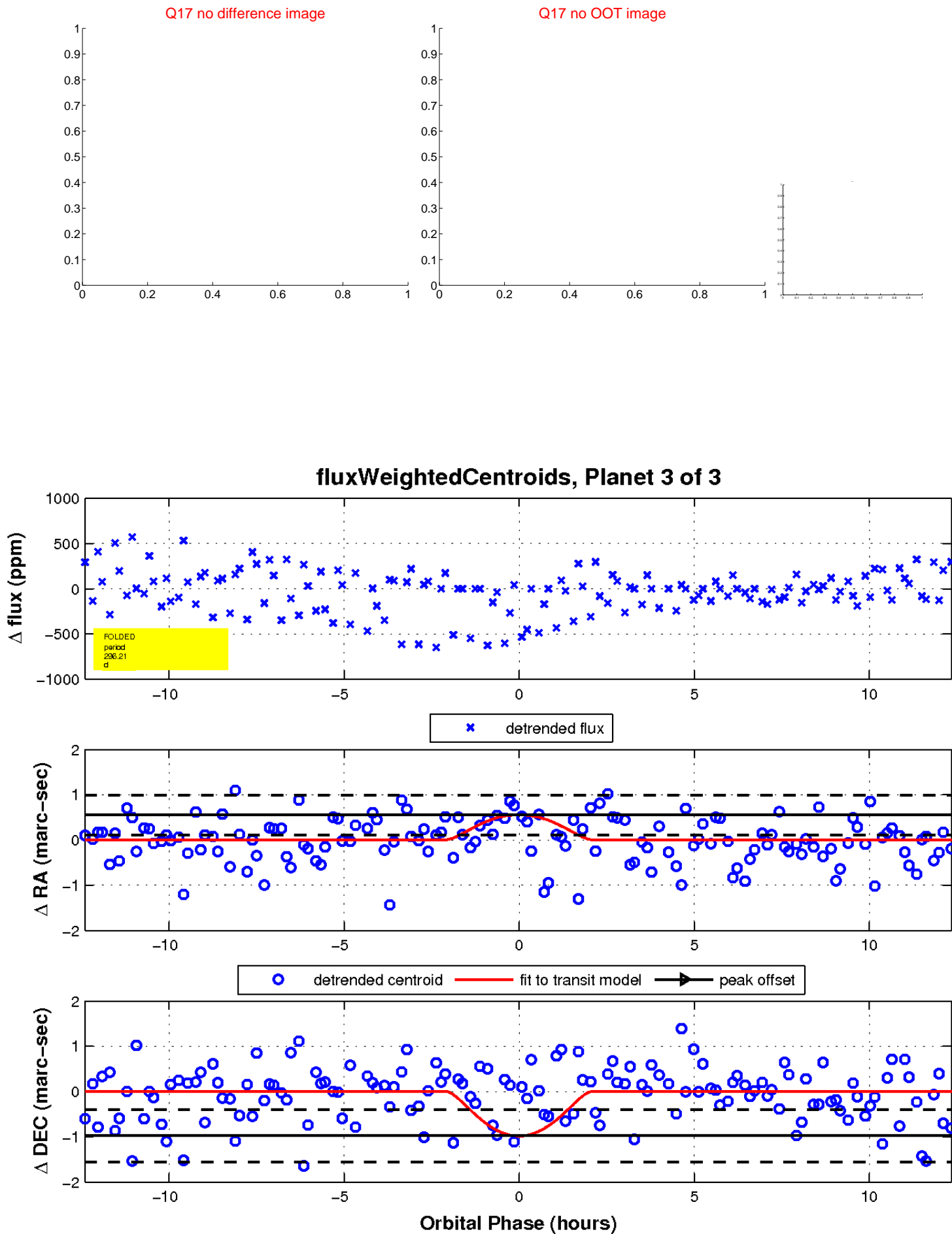
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

