

KIC 002968811

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})
002968811-01	OBS	No	270.294041	393.700580	5211.7	24.767	59.1	11.1	15.50	4697	197.29	113.07
002968811-02	OBS	No	589.617905	270.810903	3665.6	23.426	24.8	10.1	15.50	4697	97.59	39.97
002968811-03	OBS	No	225.938864	256.213281	2345.0	9.586	25.3	9.8	15.50	4697	104.75	143.60
002968811-04	OBS	No	459.419789	282.211364	3132.3	9.905	18.0	9.5	15.50	4697	111.05	55.74
002968811-05	OBS	No	396.581344	137.402670	1370.7	7.500	27.0	-1.0	15.50	4697	55.35	67.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002968811-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
002968811-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
002968811-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

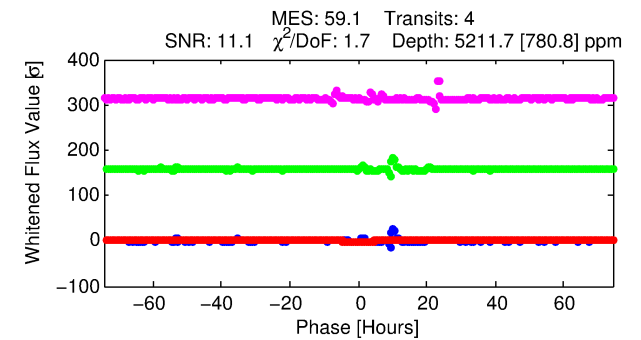
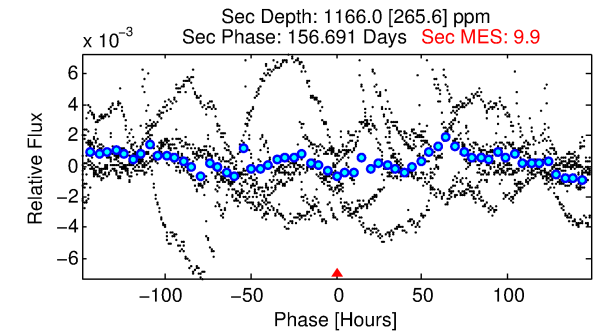
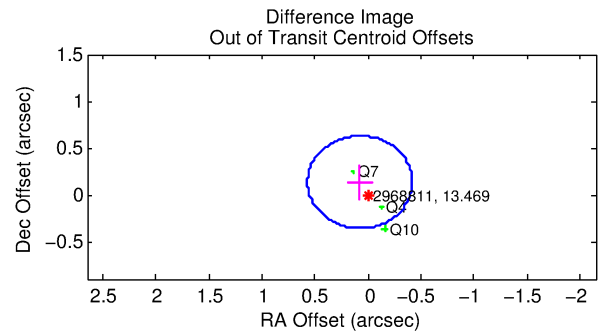
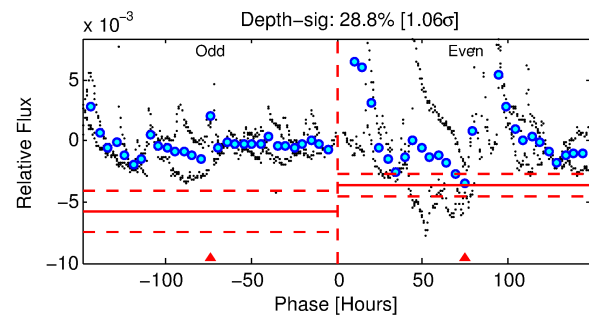
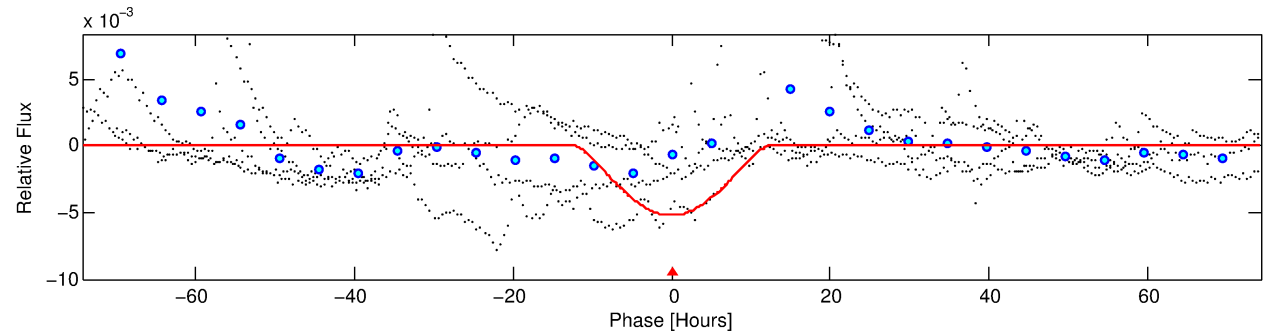
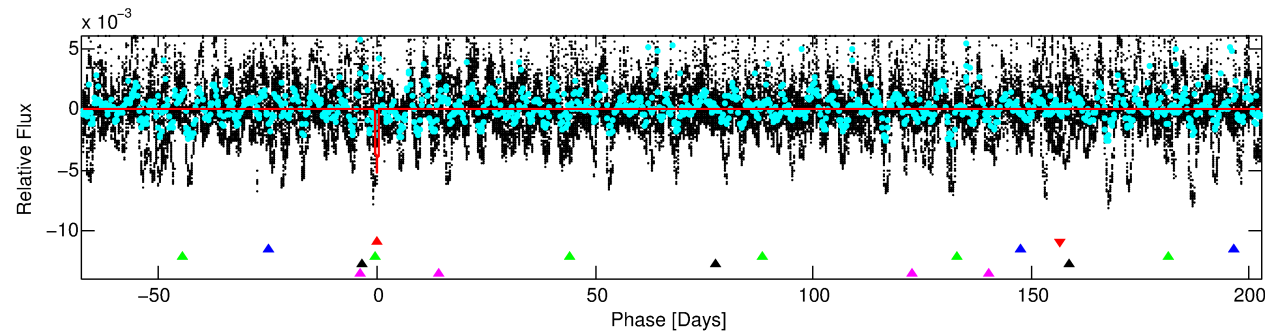
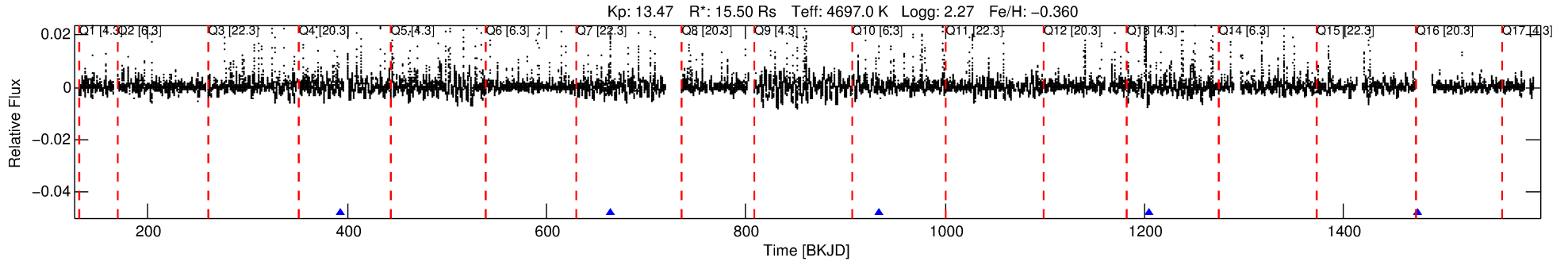
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002968811-01

No Significant Match Found

DV One-Page Summary

KIC: 2968811 Candidate: 1 of 5 Period: 270.294 d



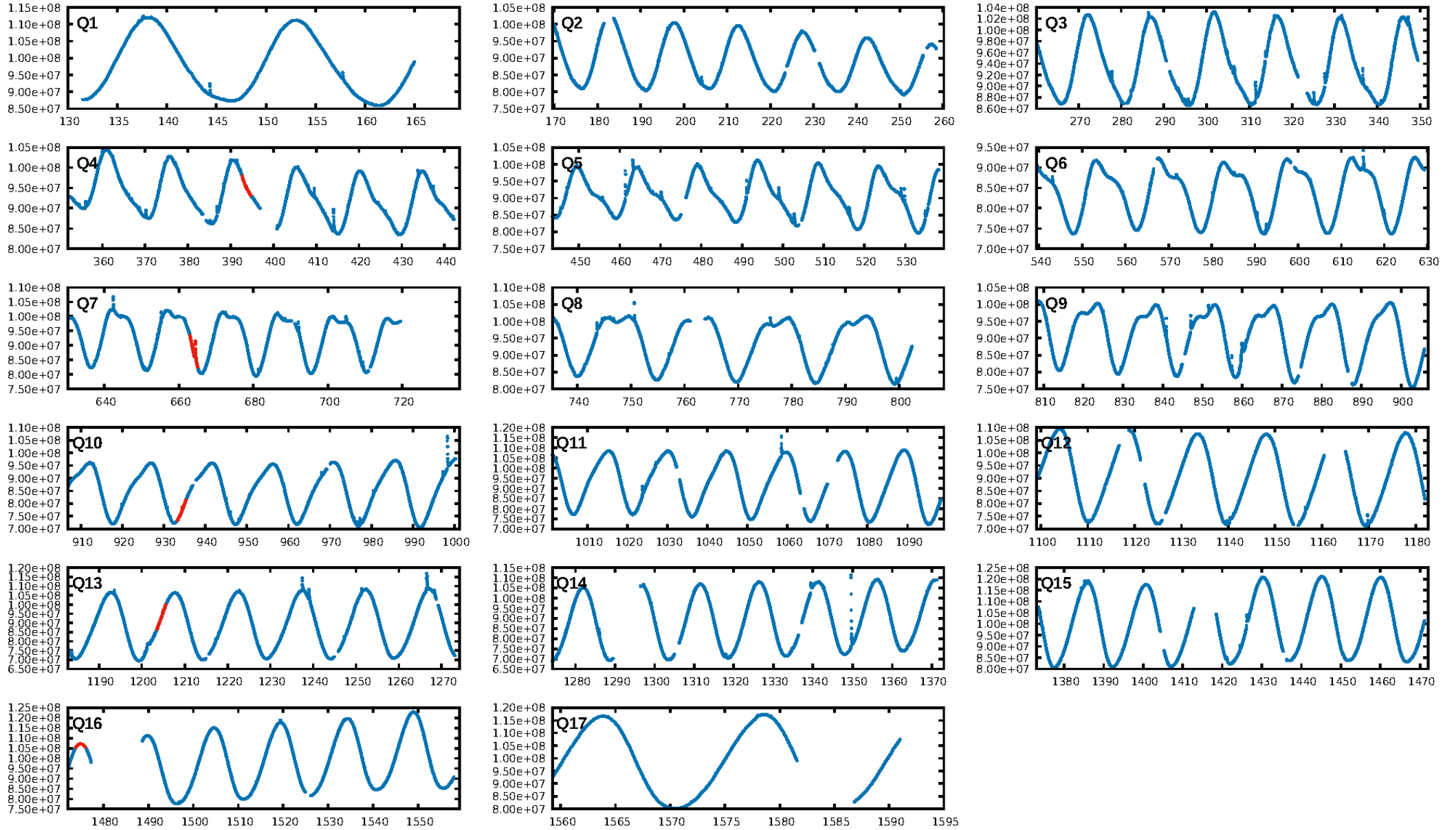
DV Fit Results:

Period = 270.29404 [0.02011] d
Epoch = 393.7006 [0.0361] BKJD
Rp/R* = 0.1166 [0.1368]
a/R* = 43.86 [9.53]
b = 0.98 [0.20]
Seff = 113.07 [61.71]
Teq = 832 [113] K
Rp = 197.29 [245.37] Re
a = 0.9628 [0.3456] AU
Ag = 15.28 [36.94] [0.39σ]
Teffp = 2542 [1499] K [1.14σ]

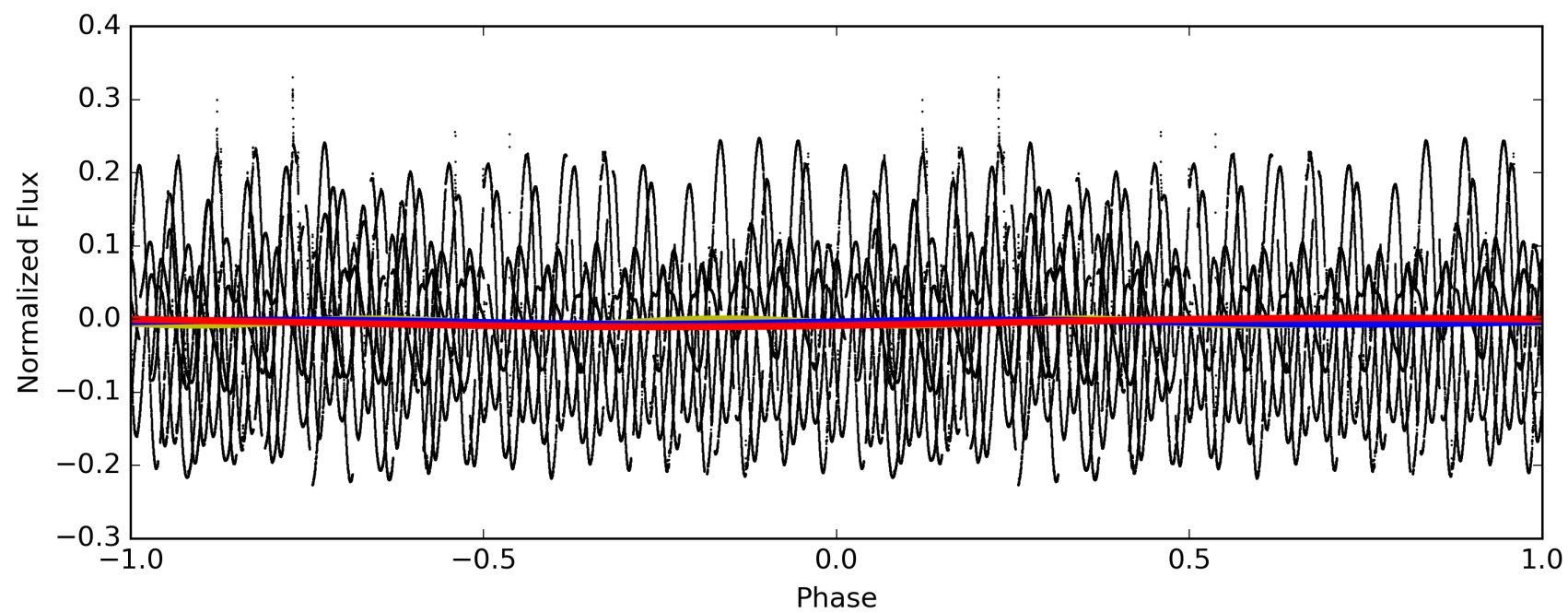
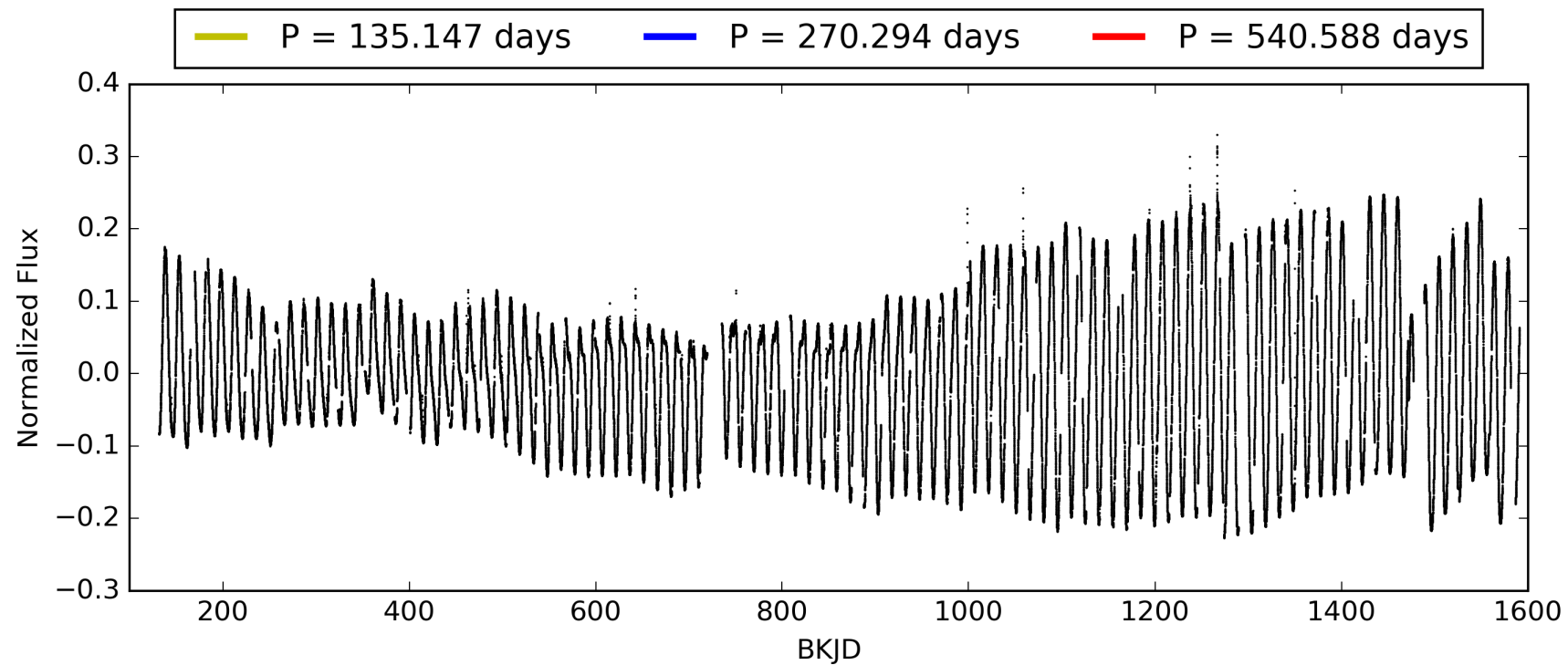
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.08σ]
LongPeriod-sig: 100.0% [117.13σ]
ModelChiSquare2-sig: 5.4%
ModelChiSquareGof-sig: 74.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.04765
Centroid-sig: 62.6%
Centroid-so: 0.774 arcsec [3.49σ]
OotOffset-rm: 0.155 arcsec [0.94σ]
KicOffset-rm: 0.201 arcsec [0.52σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 002968811-01, PDC Light Curves

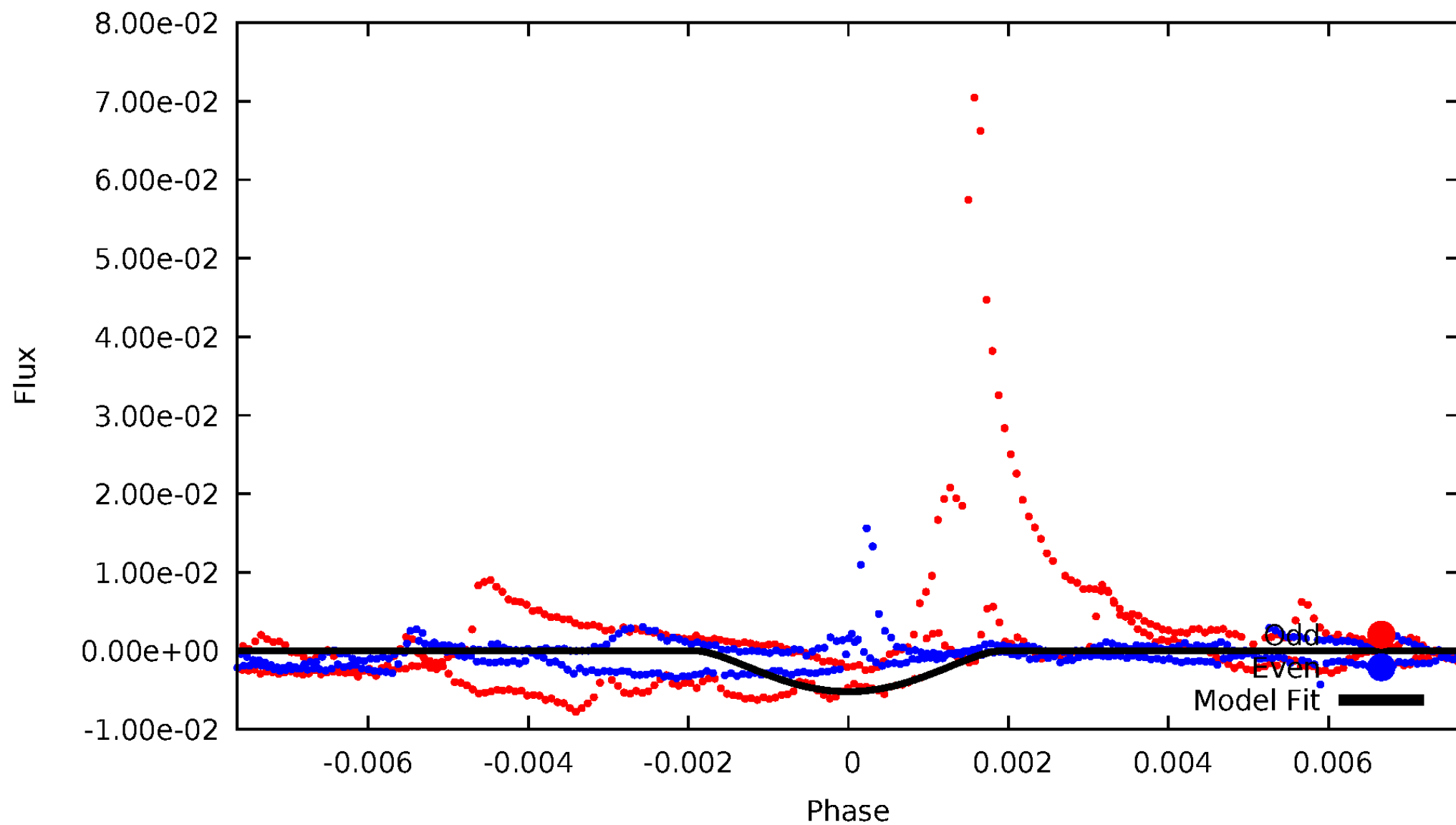


TCE 002968811-01



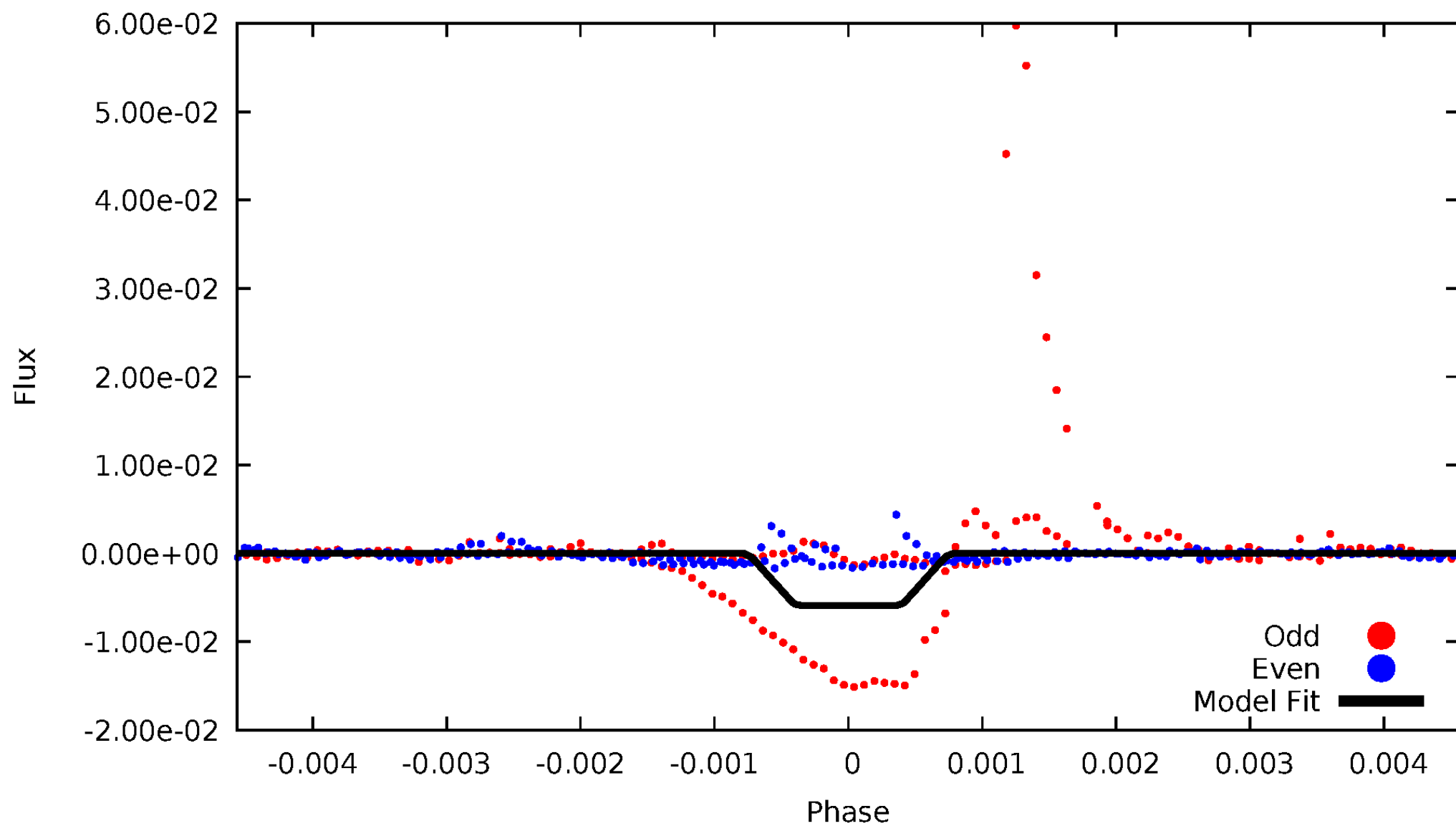
DV Odd/Even

TCE 002968811-01



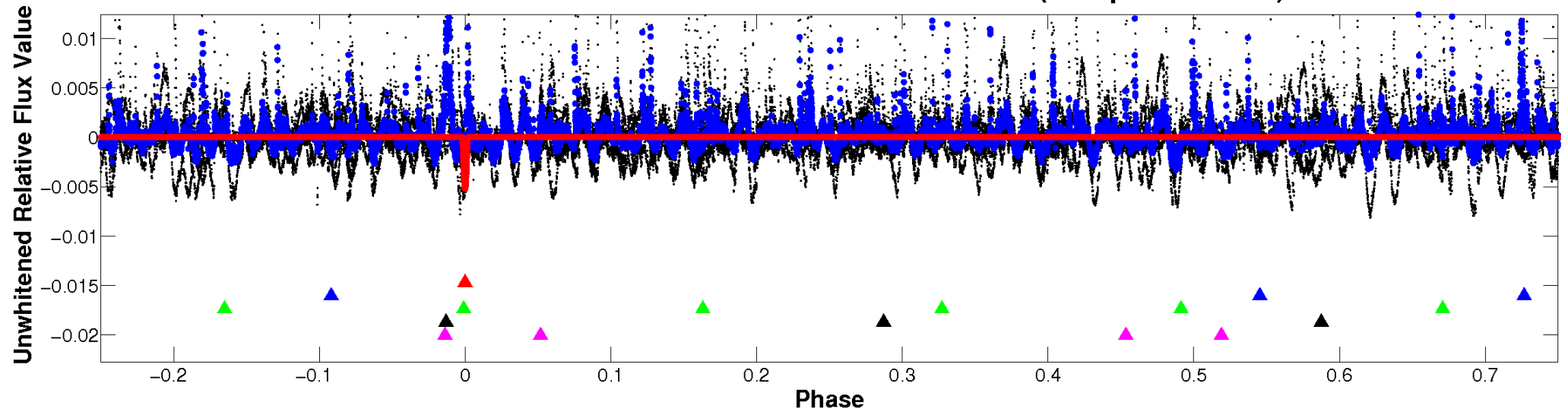
ALT Odd/Even

TCE 002968811-01

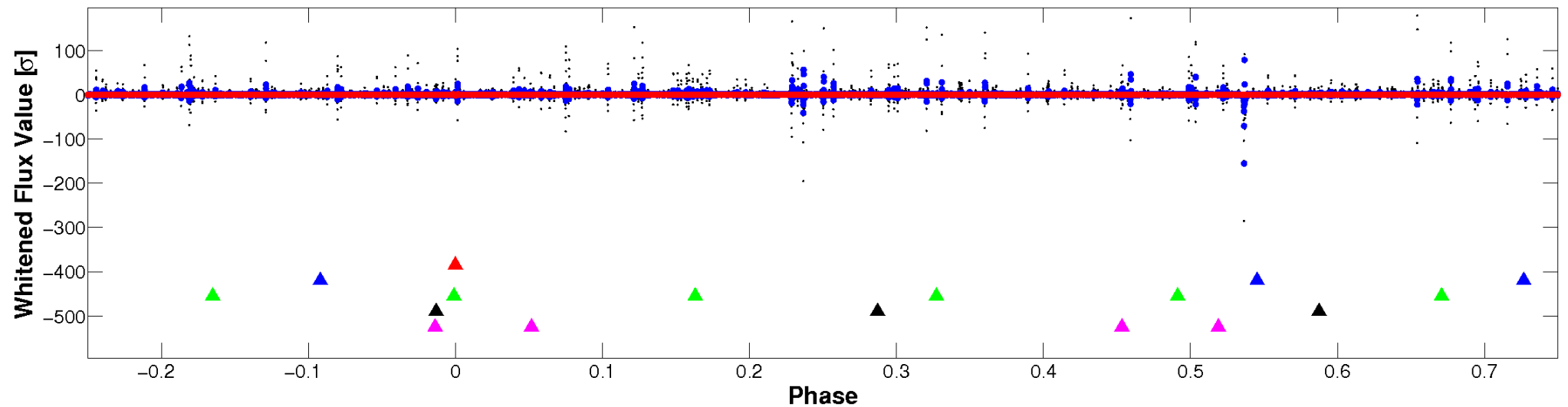


Non-Whitened Vs. Whitened Light Curve

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

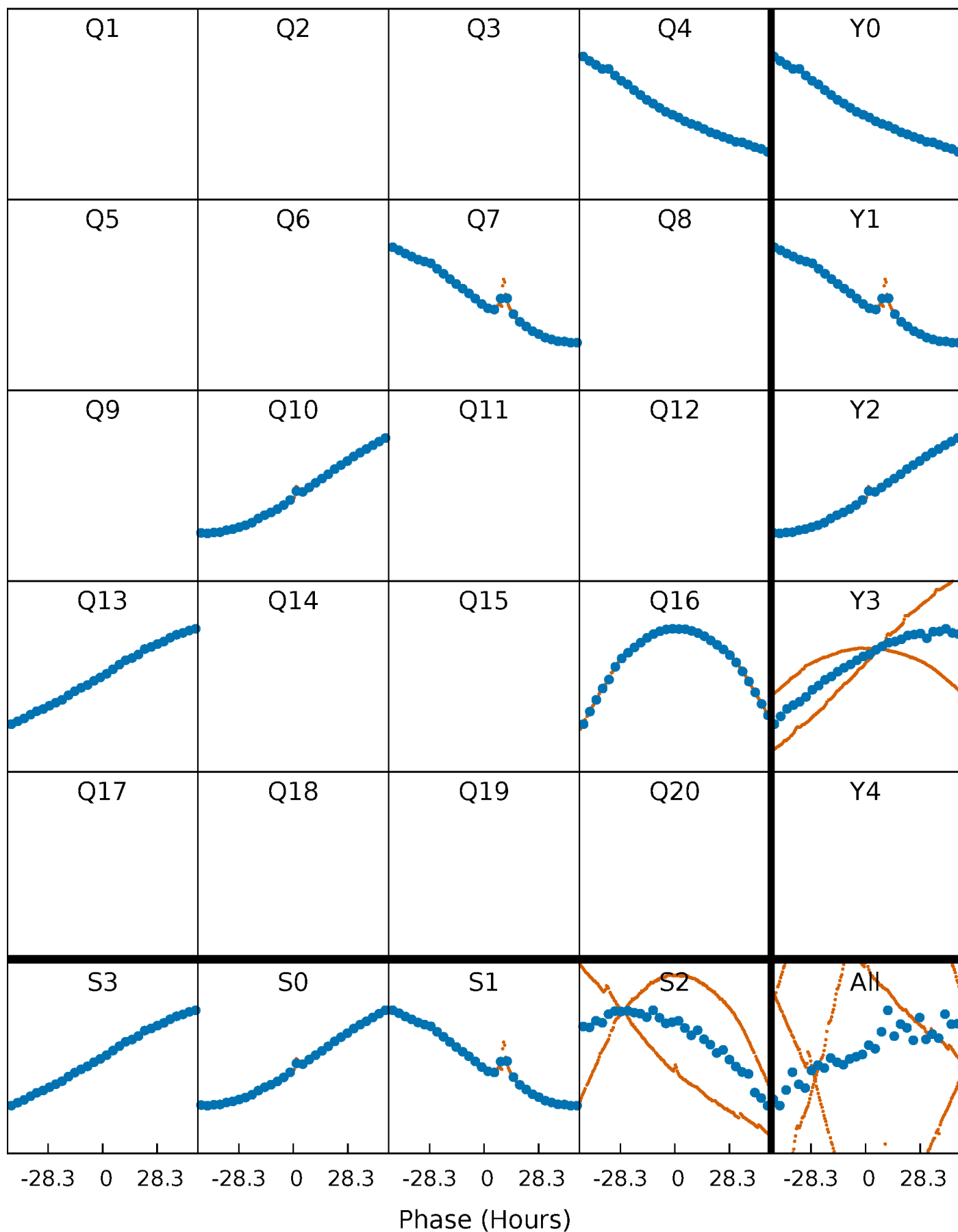


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



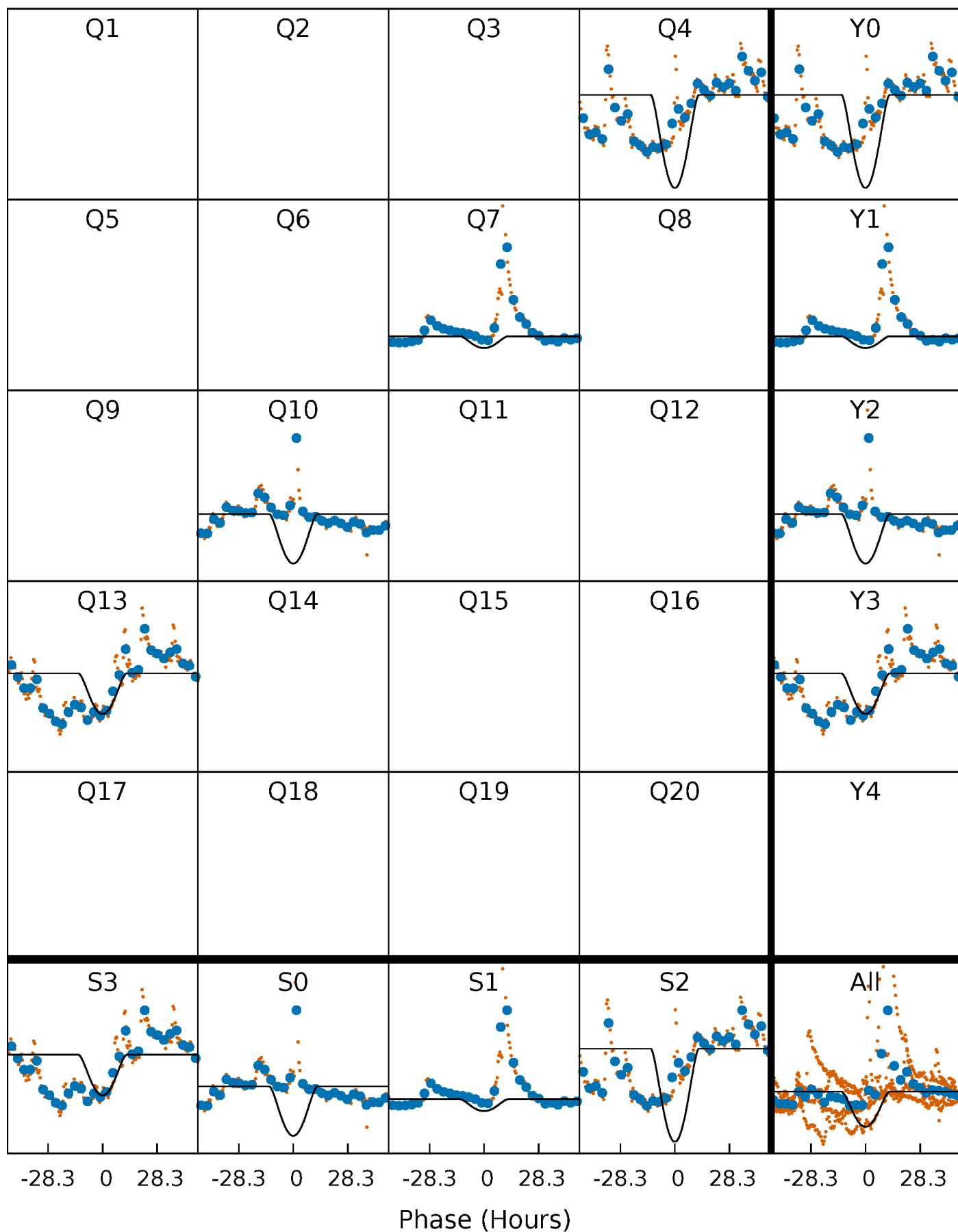
PDC Quarter-Phased Transit Curves

TCE 002968811-01 P=270.294041 Days $T_0=393.700580$ (BKJD)



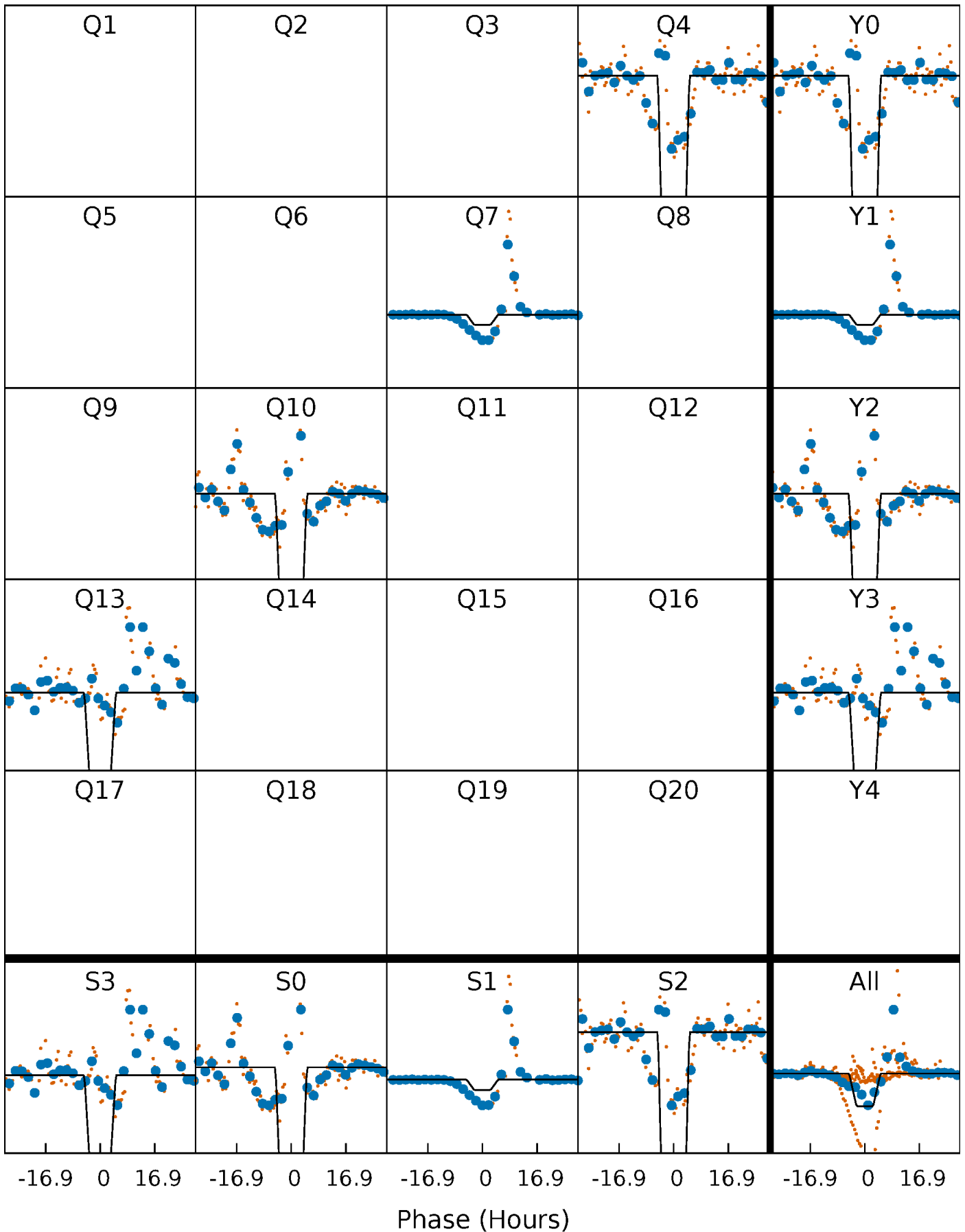
DV Quarter-Phased Transit Curves

TCE 002968811-01 P=270.294041 Days $T_0=393.700580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

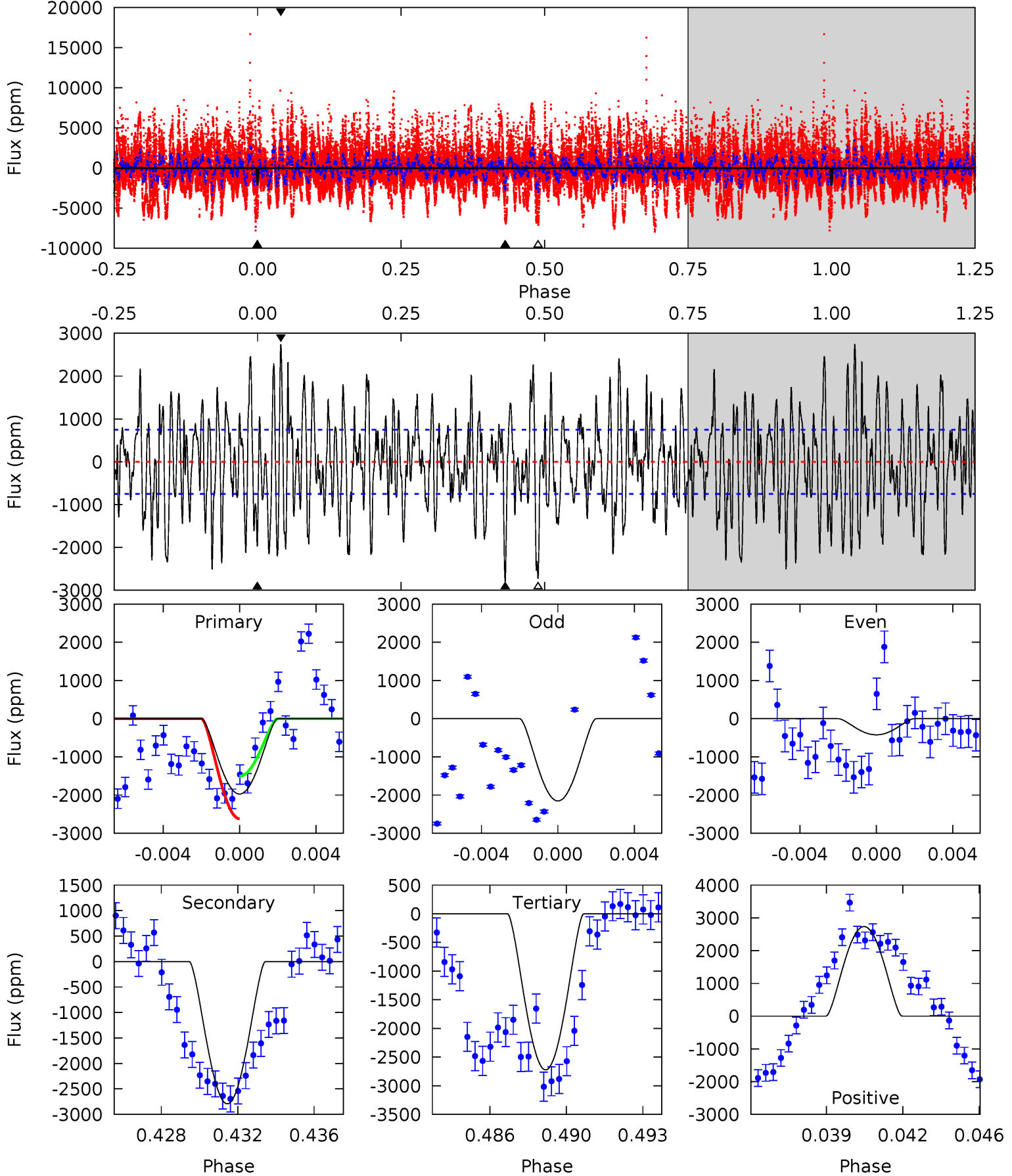
TCE 002968811-01 P=270.213397 Days $T_0=393.868220$ (BKJD)



DV Model-Shift Uniqueness Test

002968811-01, P = 270.294041 Days, E = 123.406539 Days

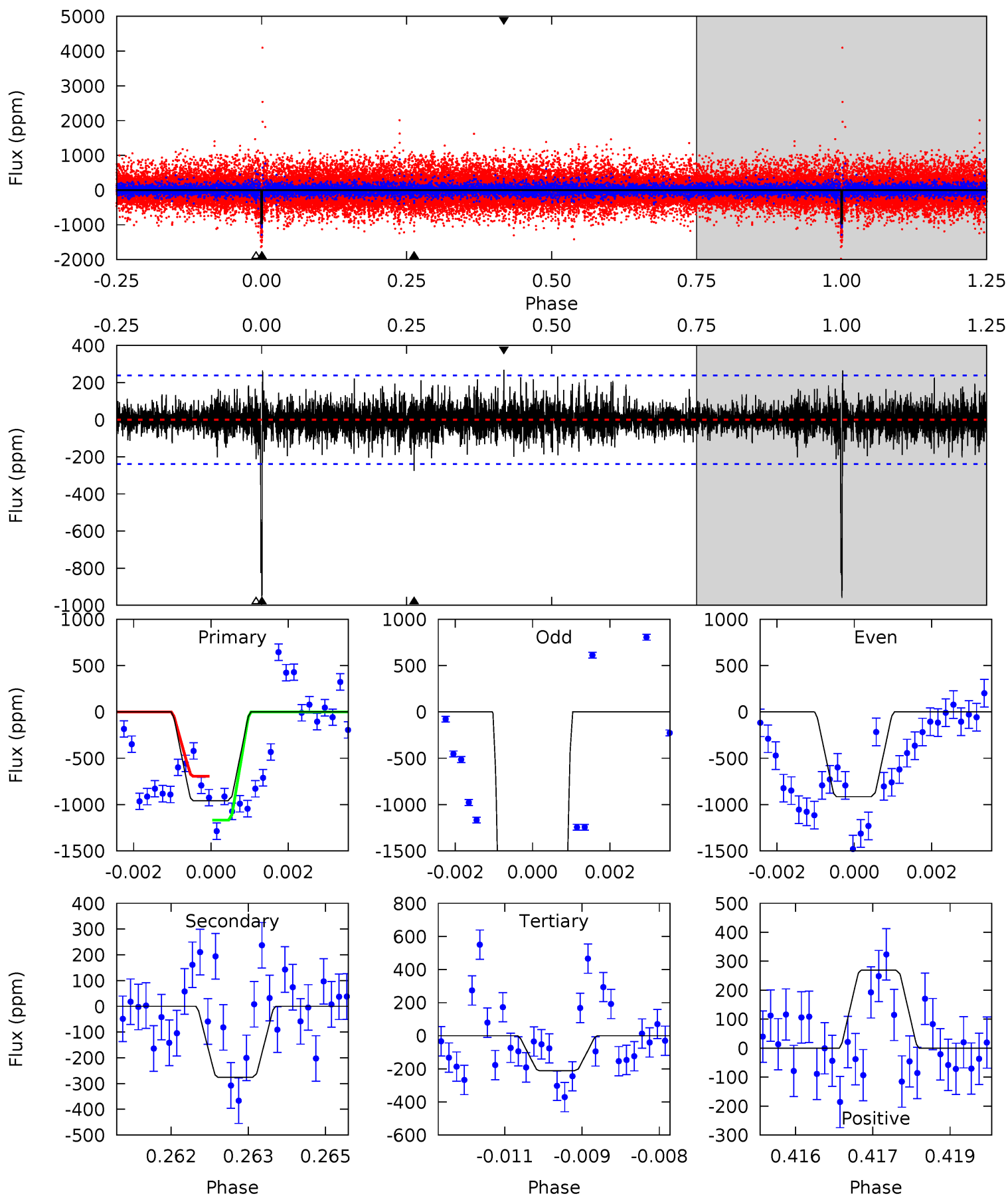
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	19.4	18.9	19.0	5.21	2.89	6.55	-5.21	-5.29	0.47	0.40	5.15	-4.53	0.49	3.88



Alt Model-Shift Uniqueness Test

002968811-01, P = 270.213397 Days, E = 123.654823 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	6.20	4.76	6.06	5.38	3.17	1.28	16.8	15.5	1.44	0.14	90.4	6.90	0.22	5.33



Stellar Parameters For KIC 002968811

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4697^{+117}_{-105}	$2.269^{+0.300}_{-0.200}$	$-0.360^{+0.300}_{-0.200}$	$15.504^{+3.449}_{-6.405}$	$1.628^{+0.190}_{-0.570}$	$0.001^{+0.001}_{-0.000}$
	+2%/-2%	+13%/-9%	+83%/-56%	+22%/-41%	+12%/-35%	+224%/-46%
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 002968811-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2792 ± 144	$246.38^{+201.65}_{-156.98}$	1163^{+89}_{-116}	3226^{+1338}_{-484}	23^{+148}_{-16}
Alt.	-275 ± 44	$202.58^{+193.07}_{-137.31}$	1168^{+89}_{-120}	2460^{+943}_{-404}	$3.215^{+26.019}_{-2.359}$

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 $A_{obs} \gg 1.0$

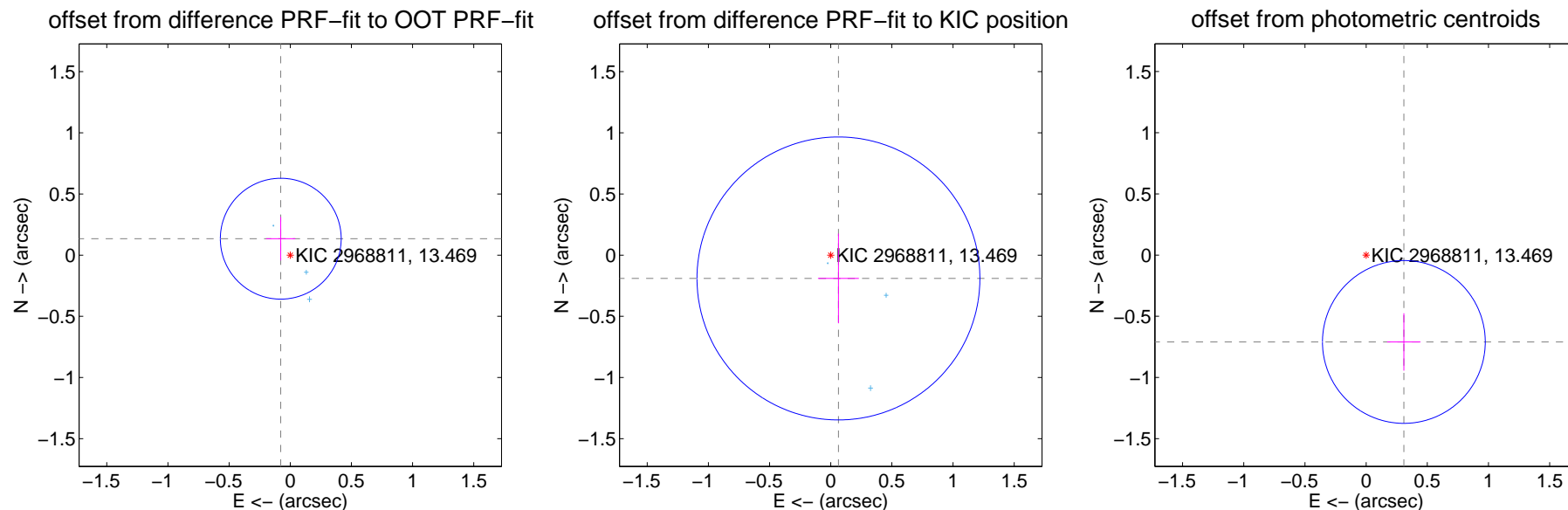
DV Centroid Data

Supplemental centroid analysis for 002968811-01. Kepler magnitude: 13.47. Transit SNR 11.10

There are 3 quarters with good PRF difference image offsets

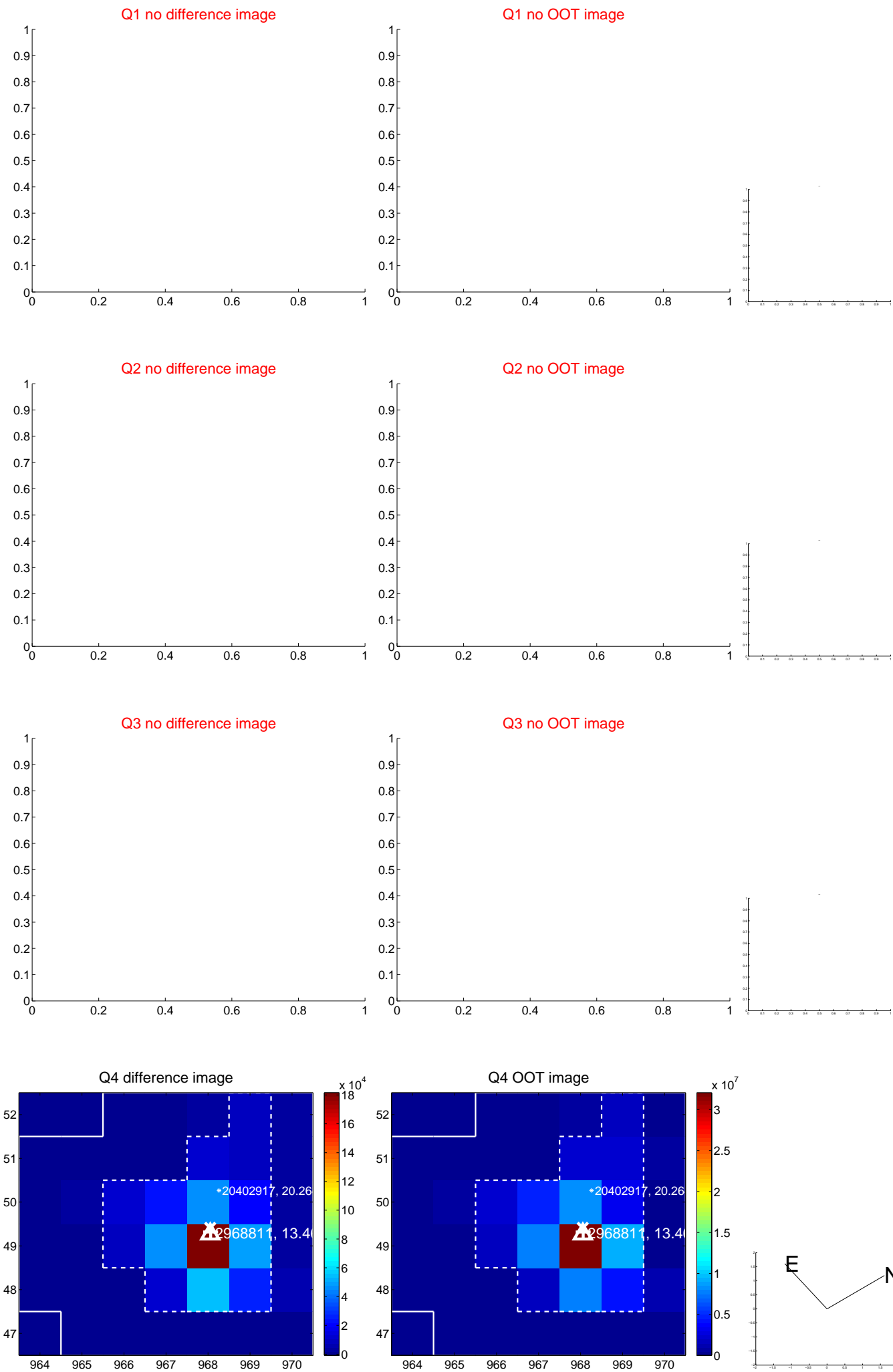
The direct PRF centroid is offset from the target star catalog position by about 0.75 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.155 ± 0.165	0.94	0.078 ± 0.119	0.134 ± 0.177
PRF-fit source offset from KIC position	0.201 ± 0.385	0.52	-0.063 ± 0.167	-0.190 ± 0.366
photometric centroid source offset	0.77 ± 0.22	3.49	-0.31 ± 0.14	-0.71 ± 0.23



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

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



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

Q5 no difference image



Q5 no OOT image



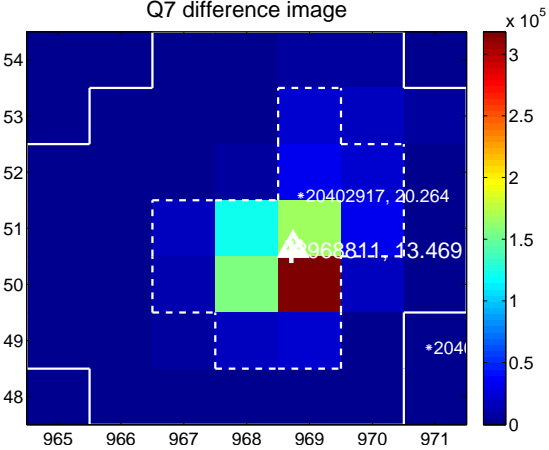
Q6 no difference image



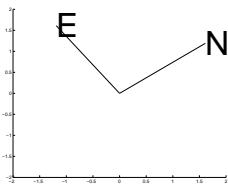
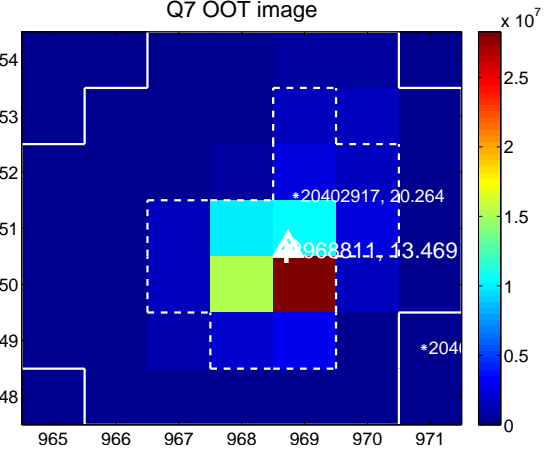
Q6 no OOT image



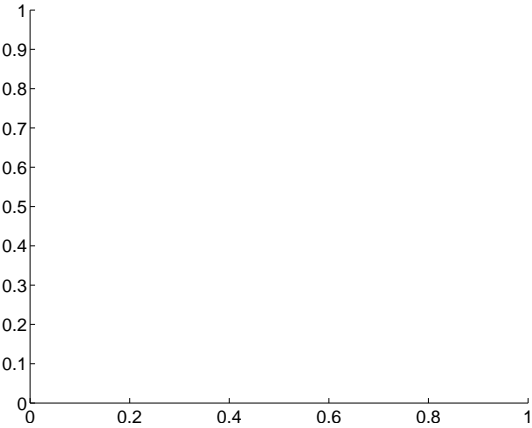
Q7 difference image



Q7 OOT image



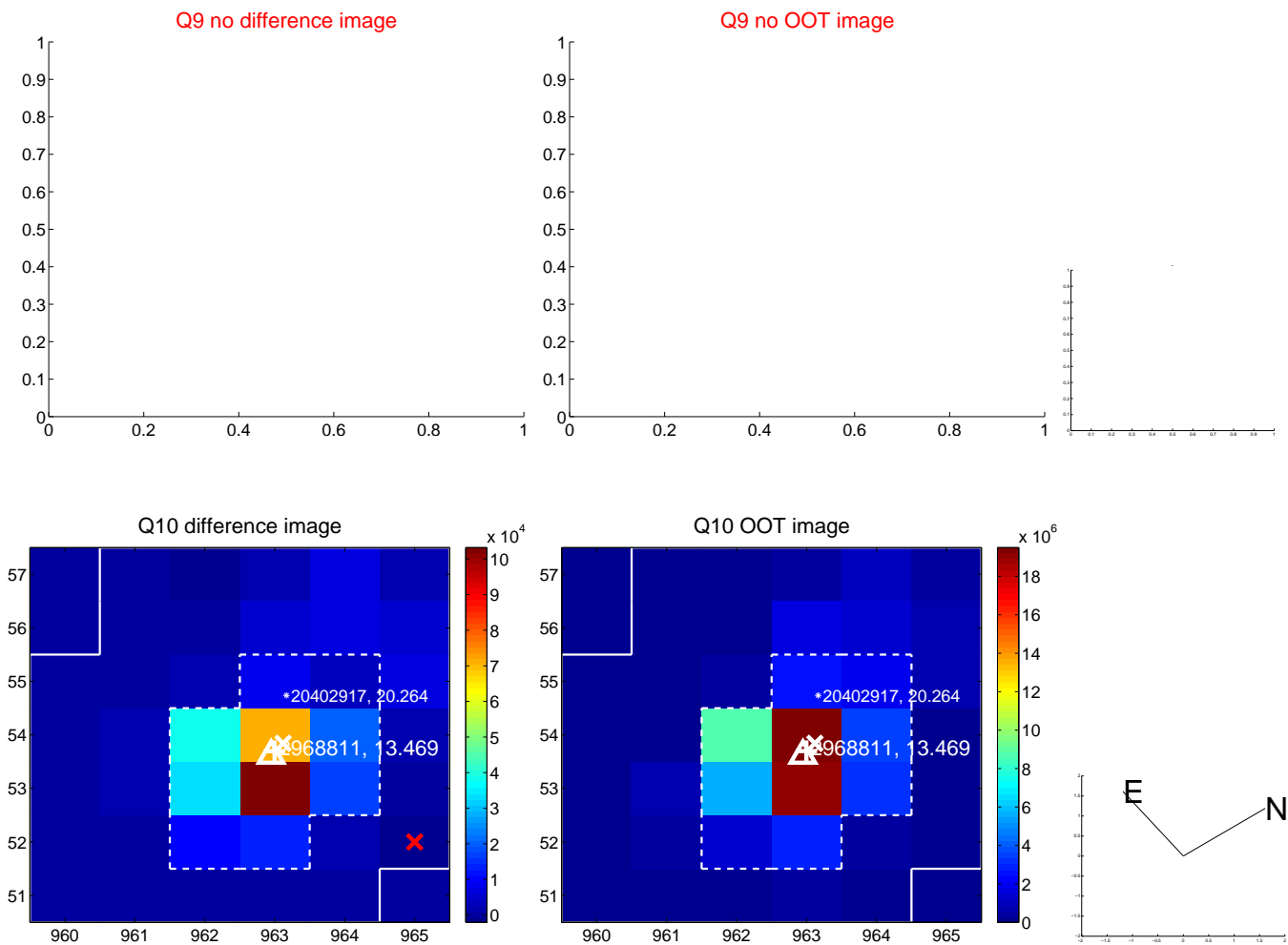
Q8 no difference image



Q8 no OOT image



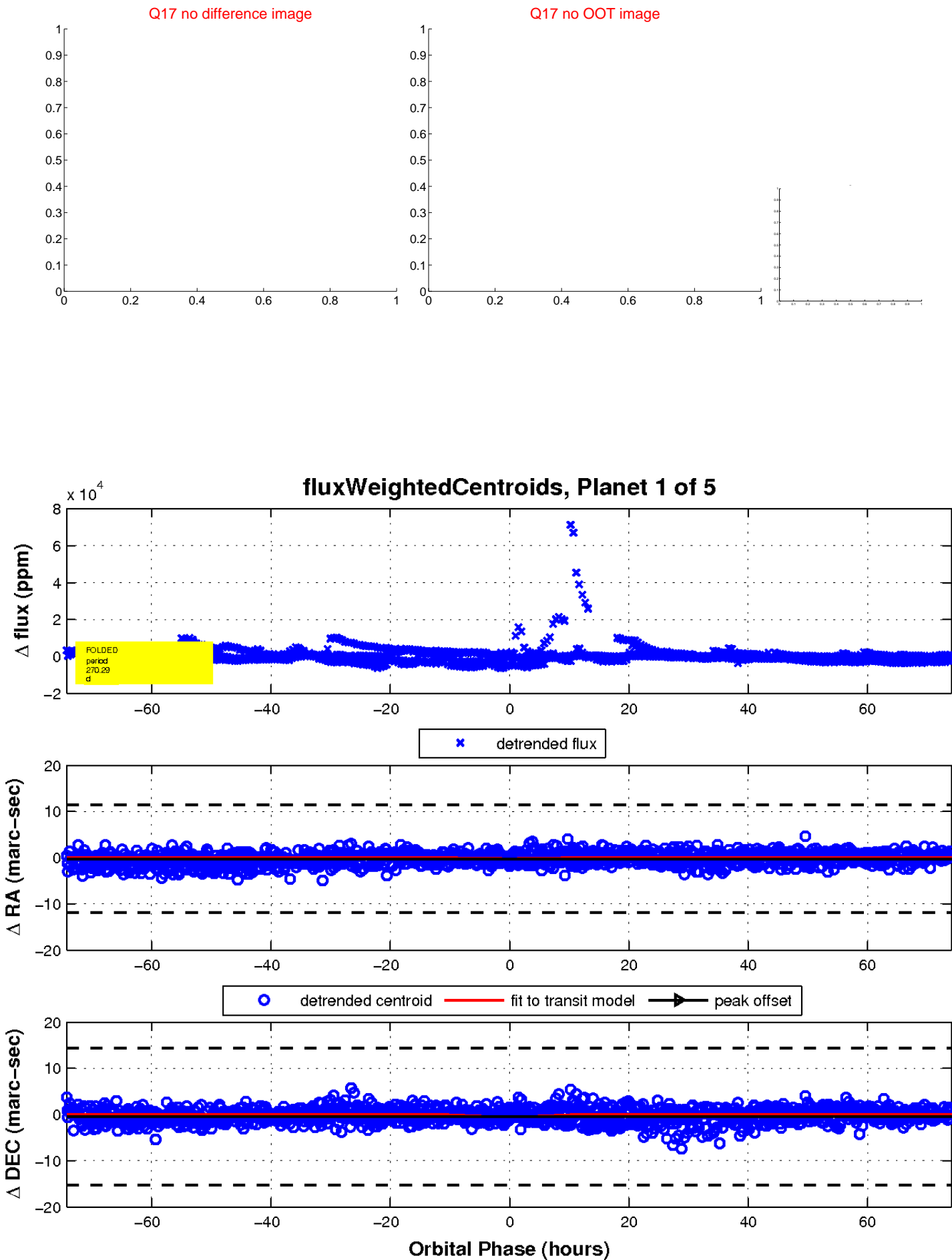
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

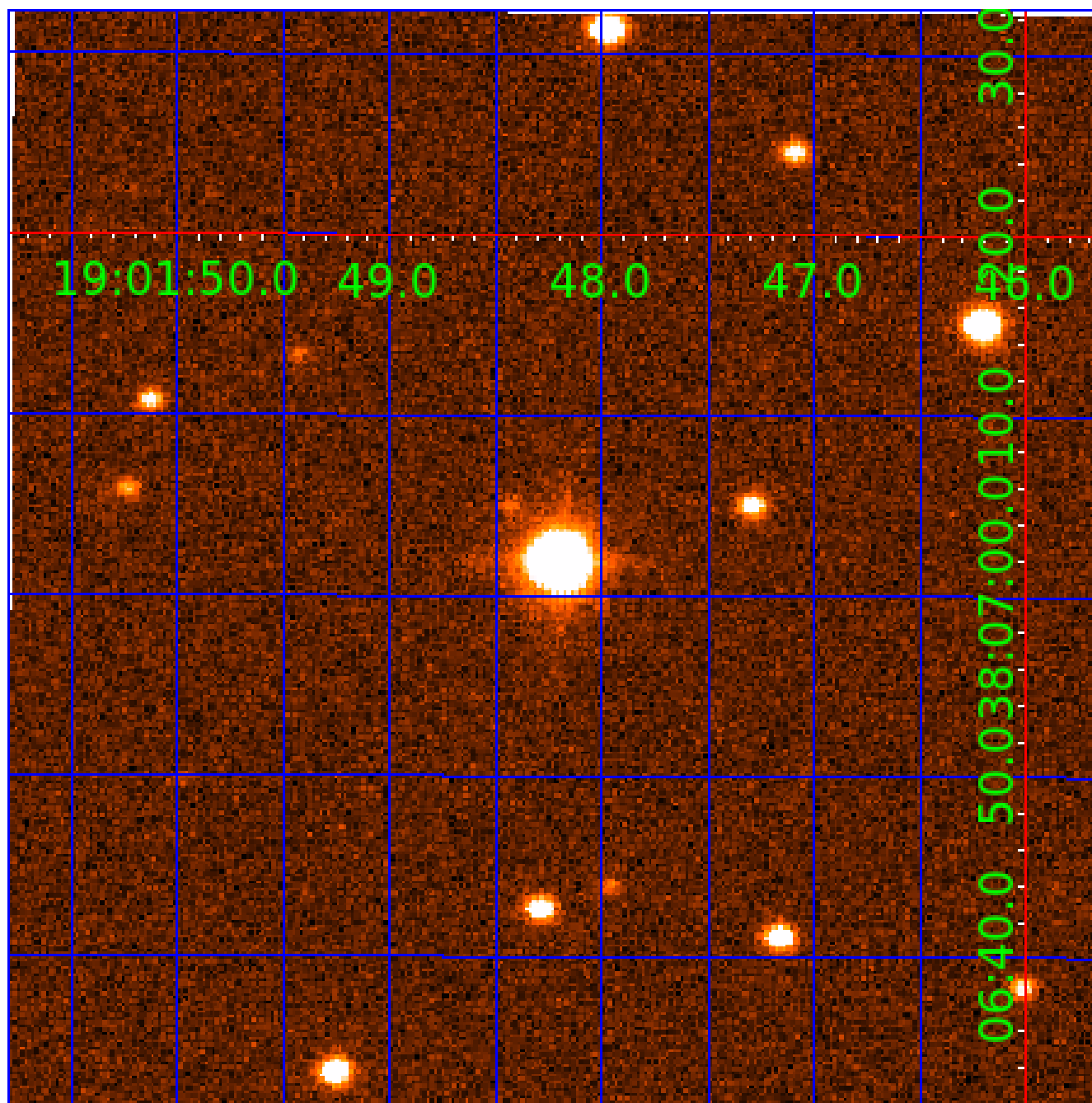


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002968811

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})
002968811-01	OBS	No	270.294041	393.700580	5211.7	24.767	59.1	11.1	15.50	4697	197.29	113.07
002968811-02	OBS	No	589.617905	270.810903	3665.6	23.426	24.8	10.1	15.50	4697	97.59	39.97
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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002968811-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
002968811-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

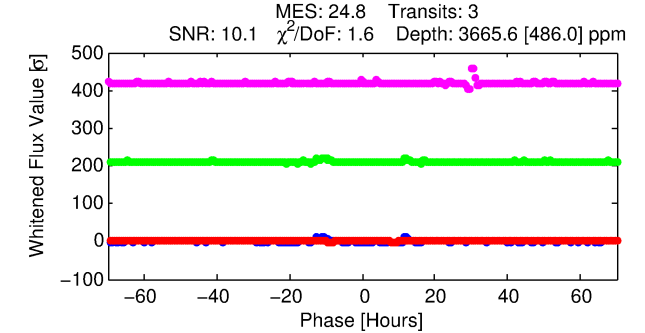
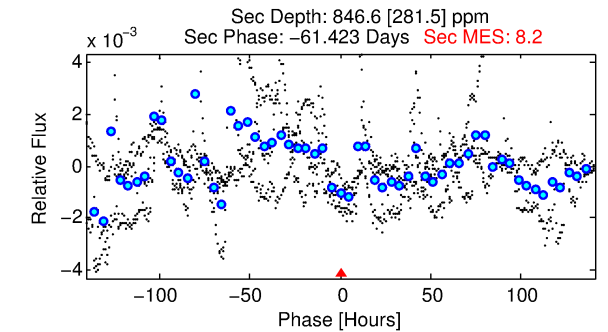
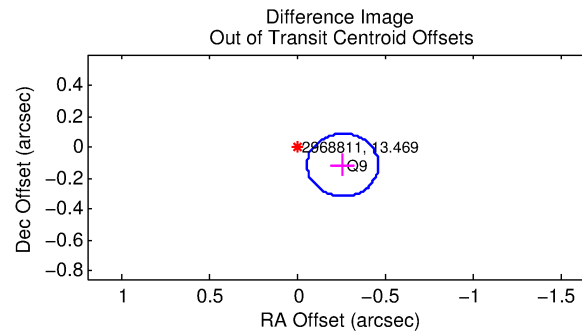
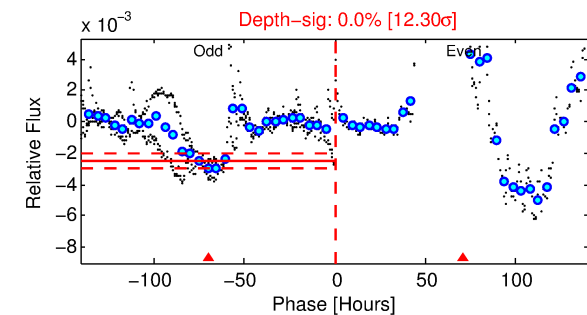
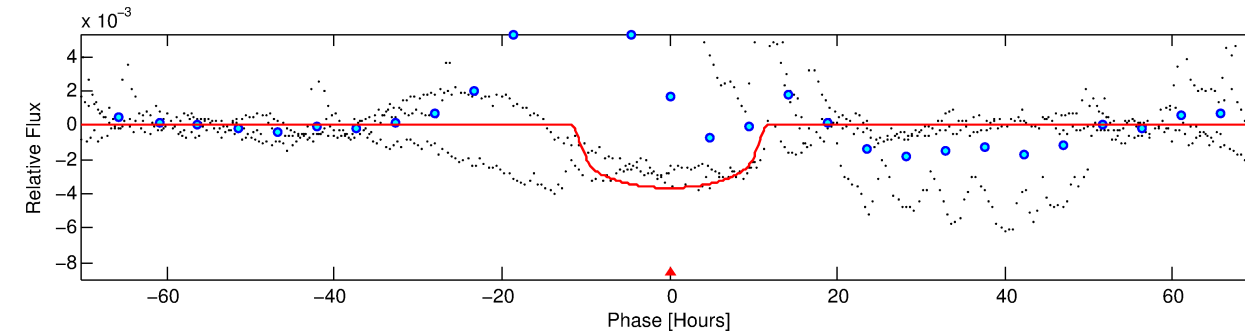
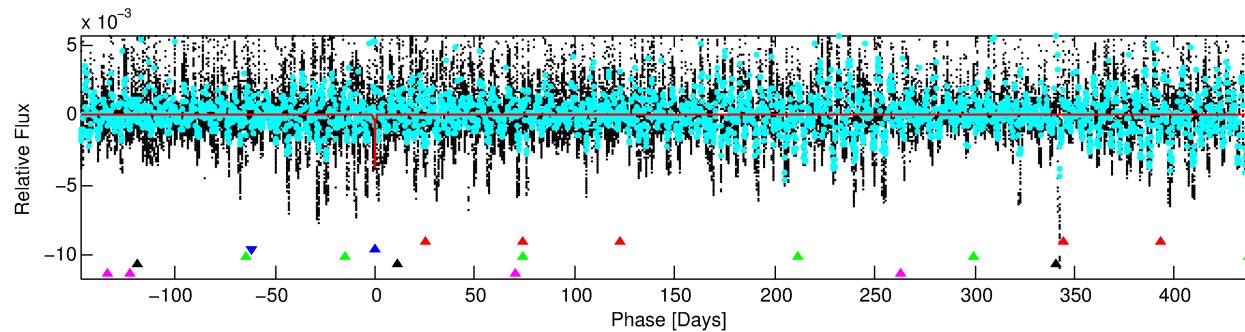
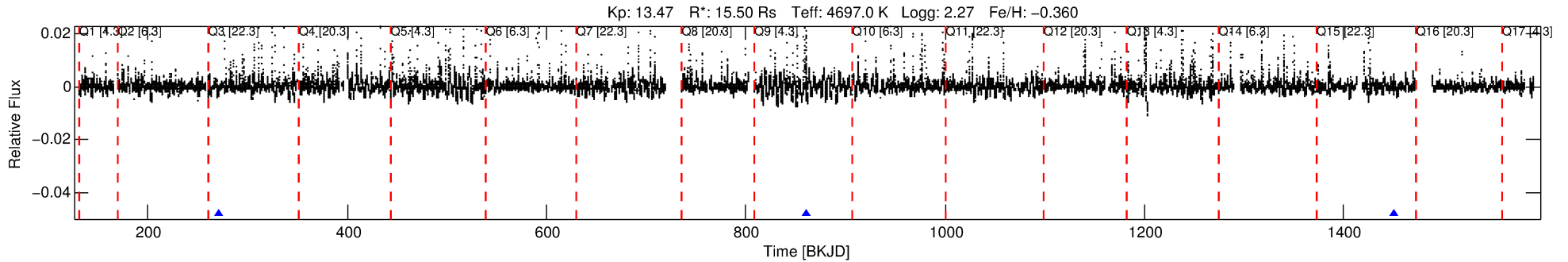
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002968811-02

No Significant Match Found

DV One-Page Summary

KIC: 2968811 Candidate: 2 of 5 Period: 589.618 d



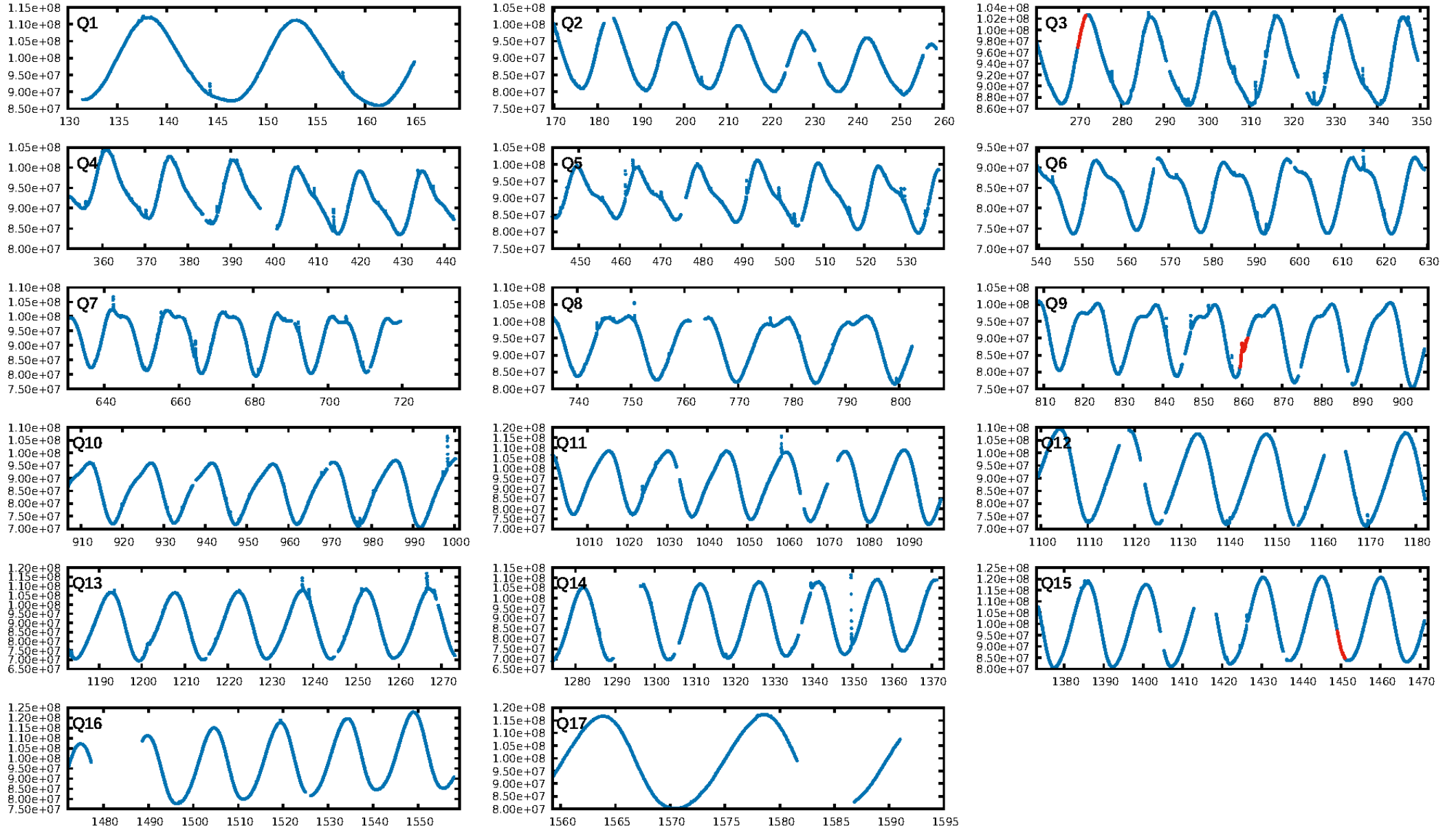
DV Fit Results:

Period = 589.61790 [0.00698] d
Epoch = 270.8109 [0.0093] BKJD
Rp/R* = 0.0577 [0.0044]
a/R* = 163.48 [17.67]
b = 0.63 [0.10]
Seff = 39.97 [21.81]
Teq = 641 [87] K
Rp = 97.59 [41.00] Re
a = 1.6195 [0.5814] AU
Ag = 128.26 [83.31] [1.53 σ]
Teffp = 3336 [316] K [8.21 σ]

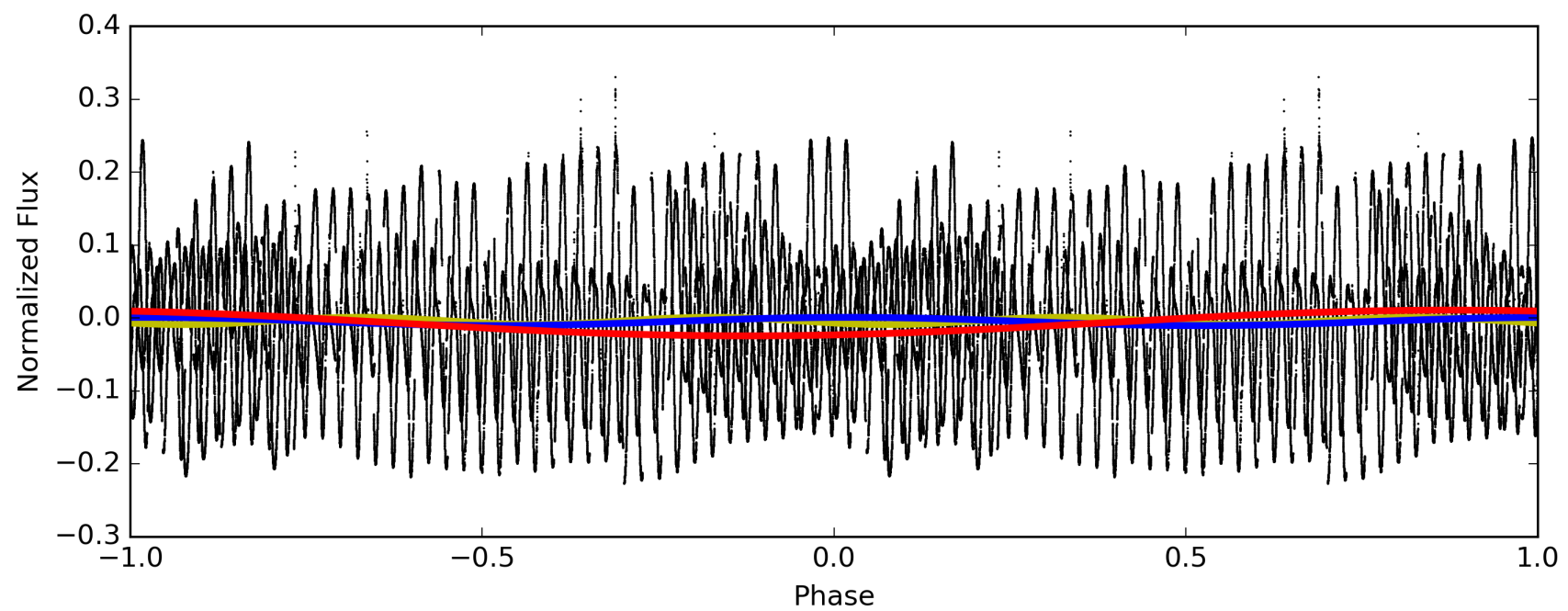
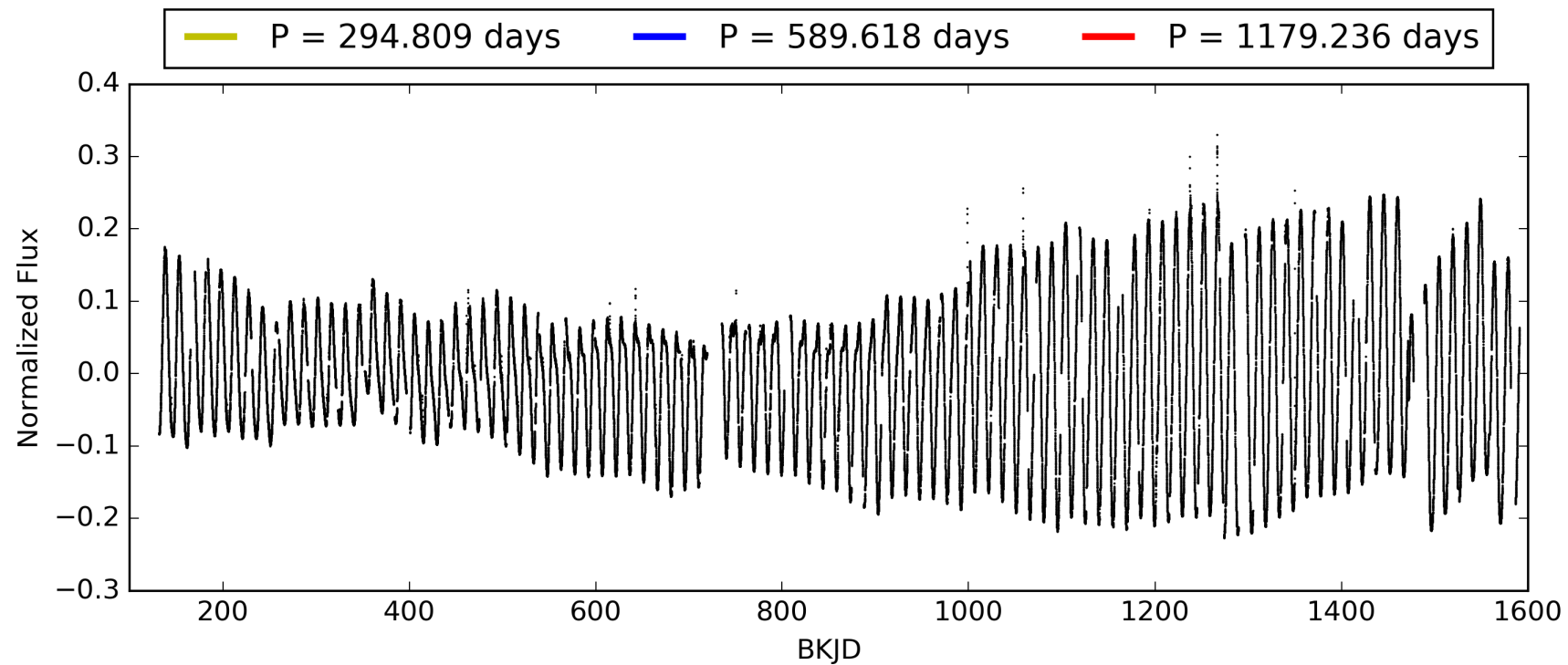
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [122.86 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 33.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6046
Centroid-sig: 81.7%
Centroid-so: 0.954 arcsec [3.01 σ]
OotOffset-rm: 0.281 arcsec [4.15 σ]
KicOffset-rm: 0.667 arcsec [9.86 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 002968811-02, PDC Light Curves

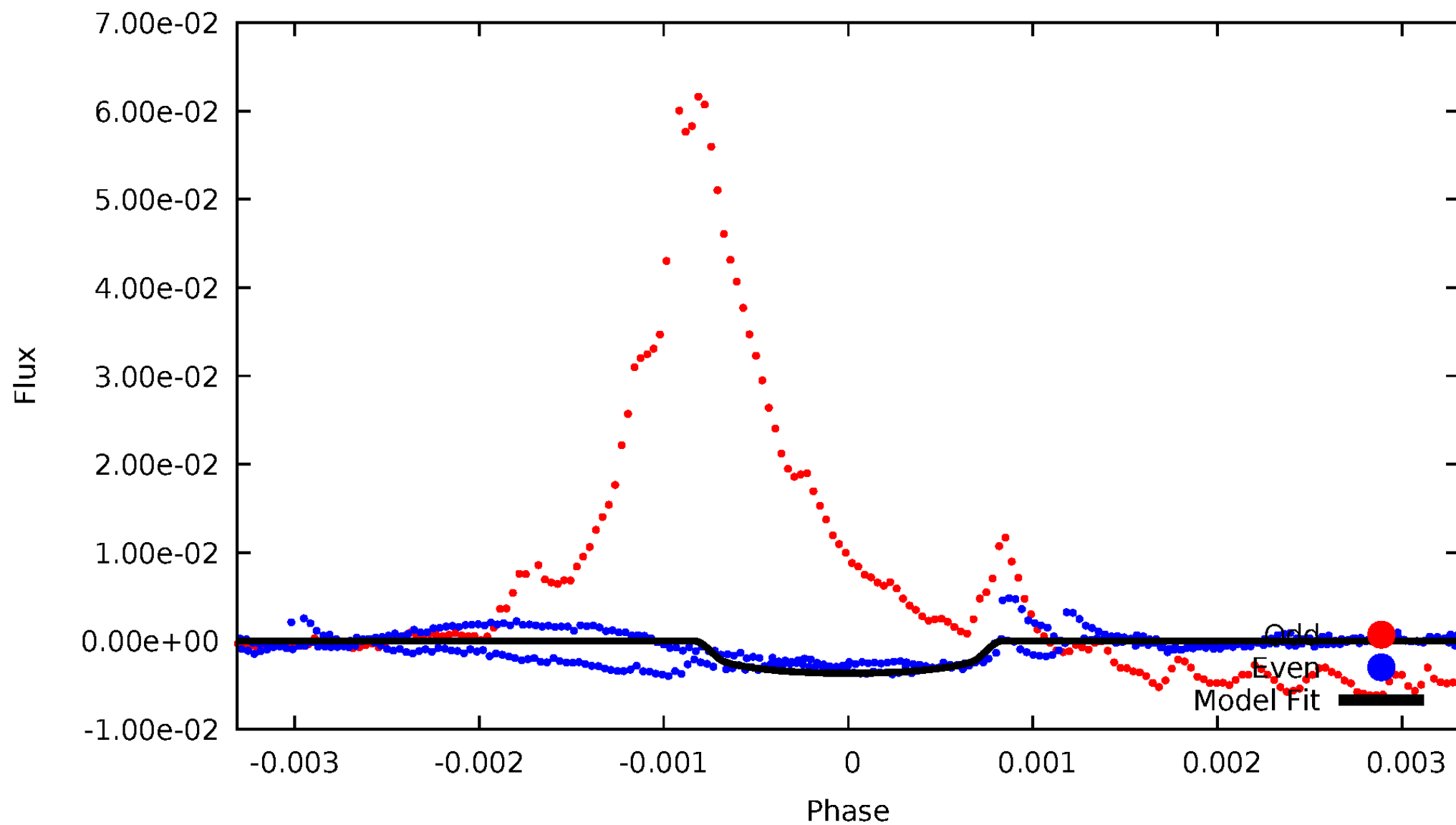


TCE 002968811-02



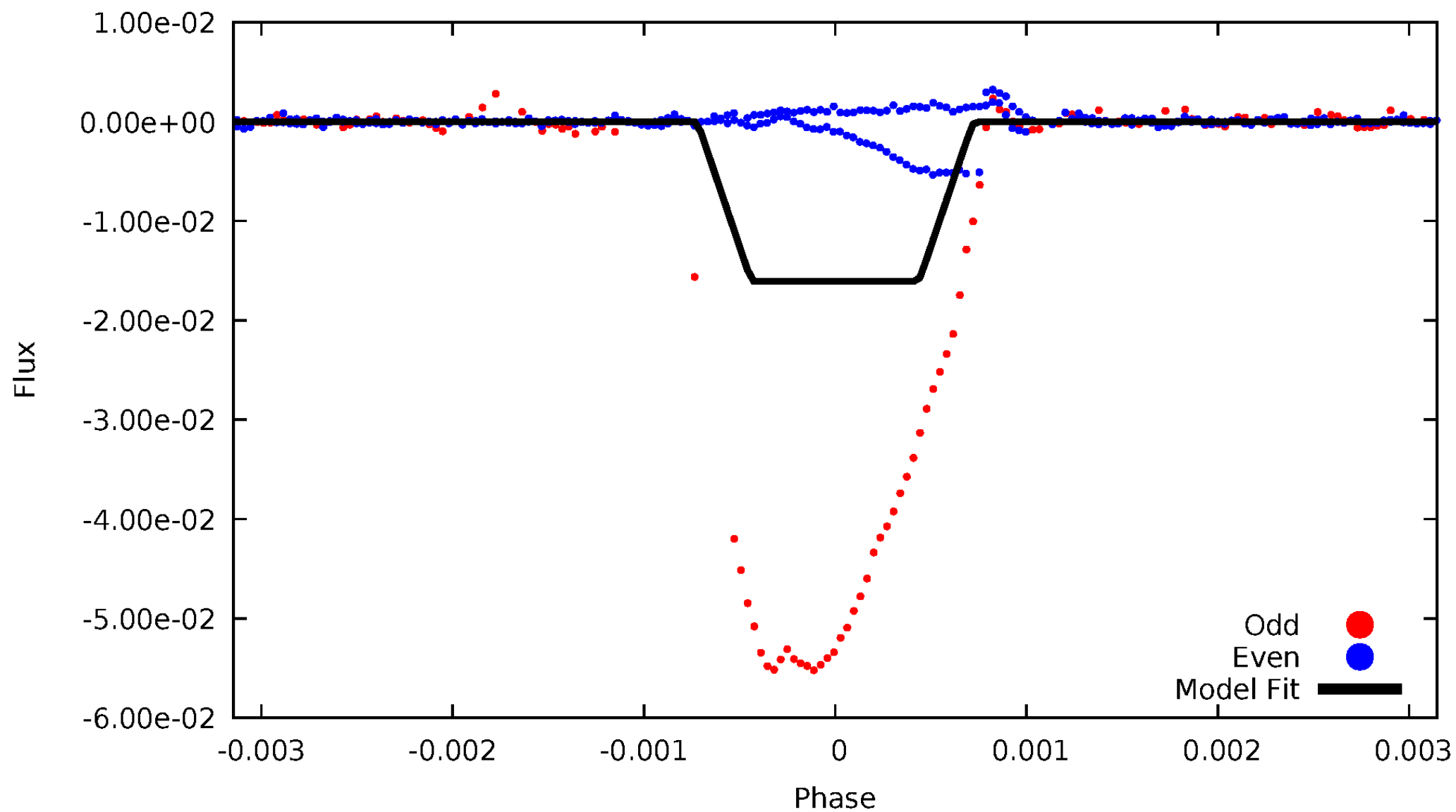
DV Odd/Even

TCE 002968811-02



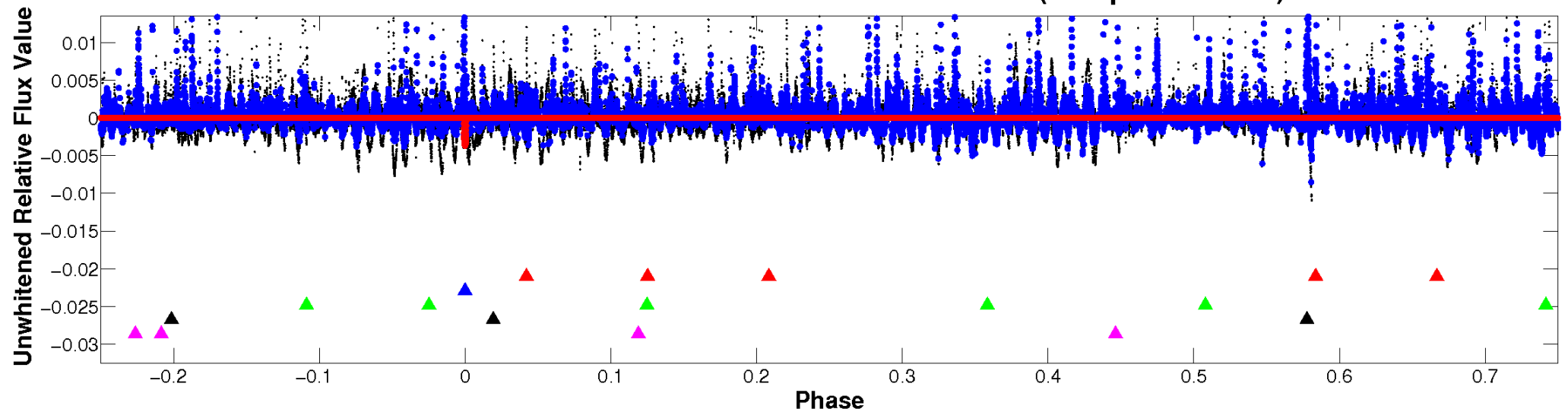
ALT Odd/Even

TCE 002968811-02

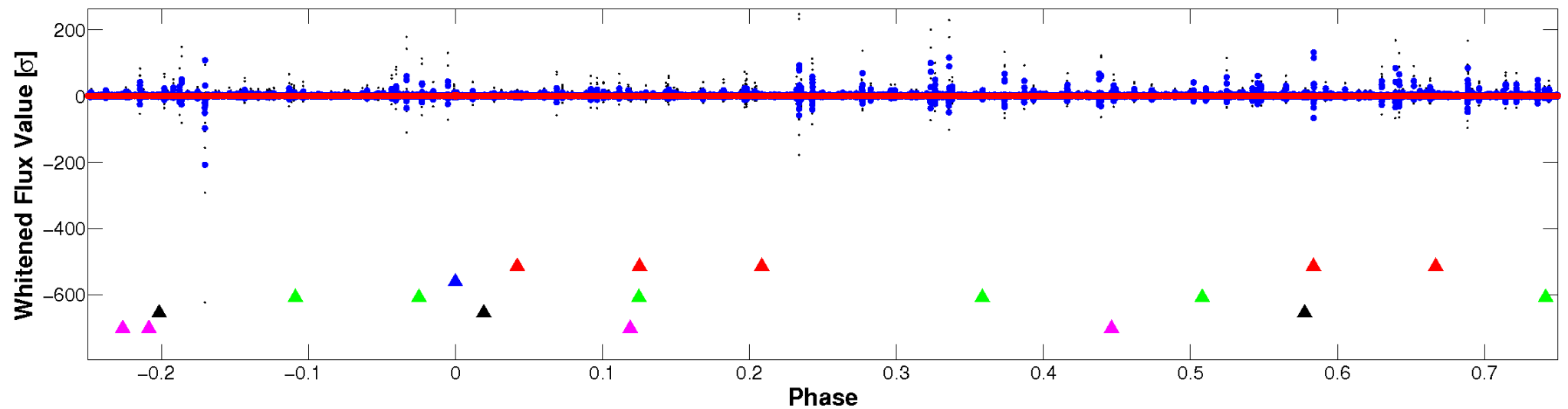


Non-Whitened Vs. Whitened Light Curve

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

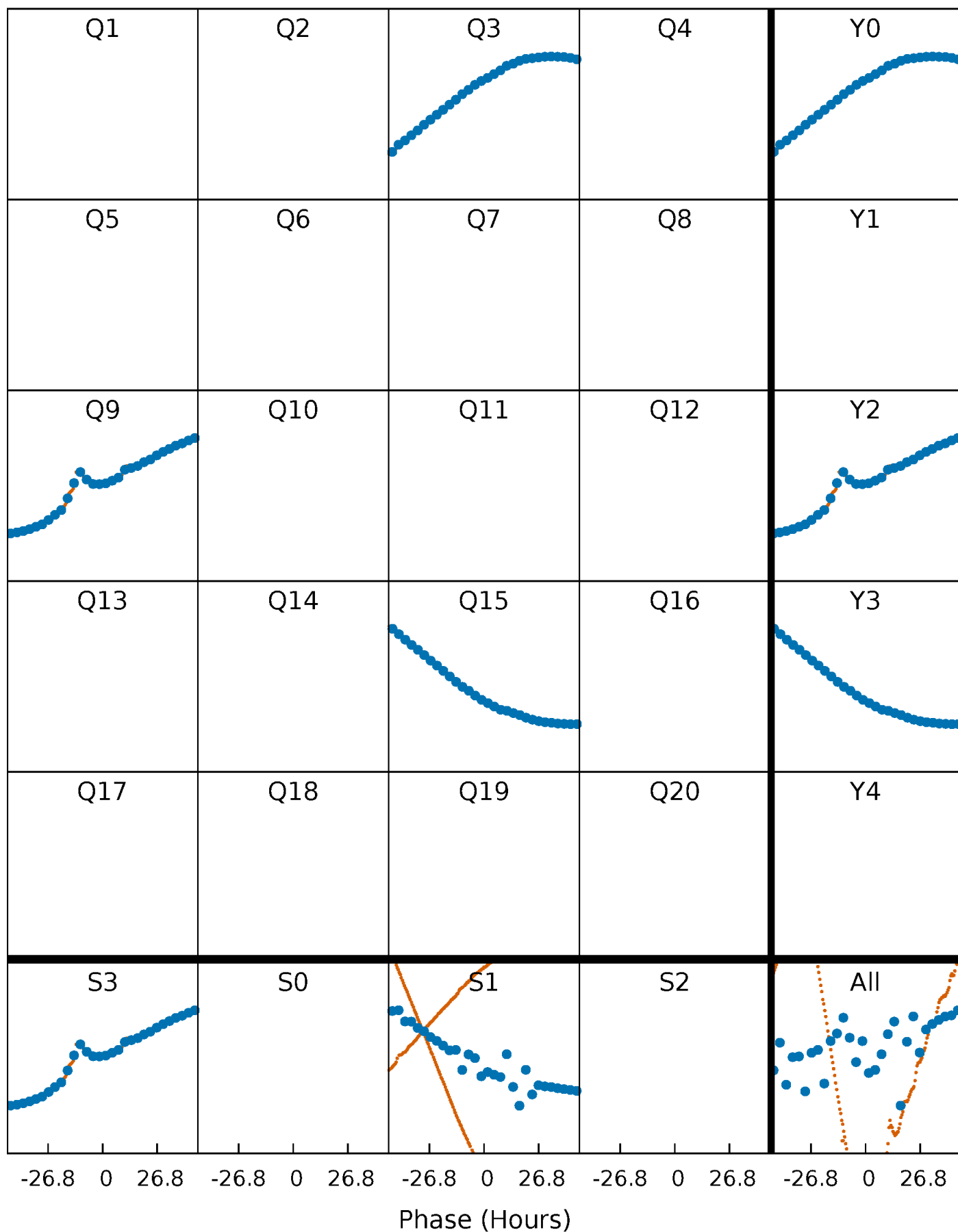


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



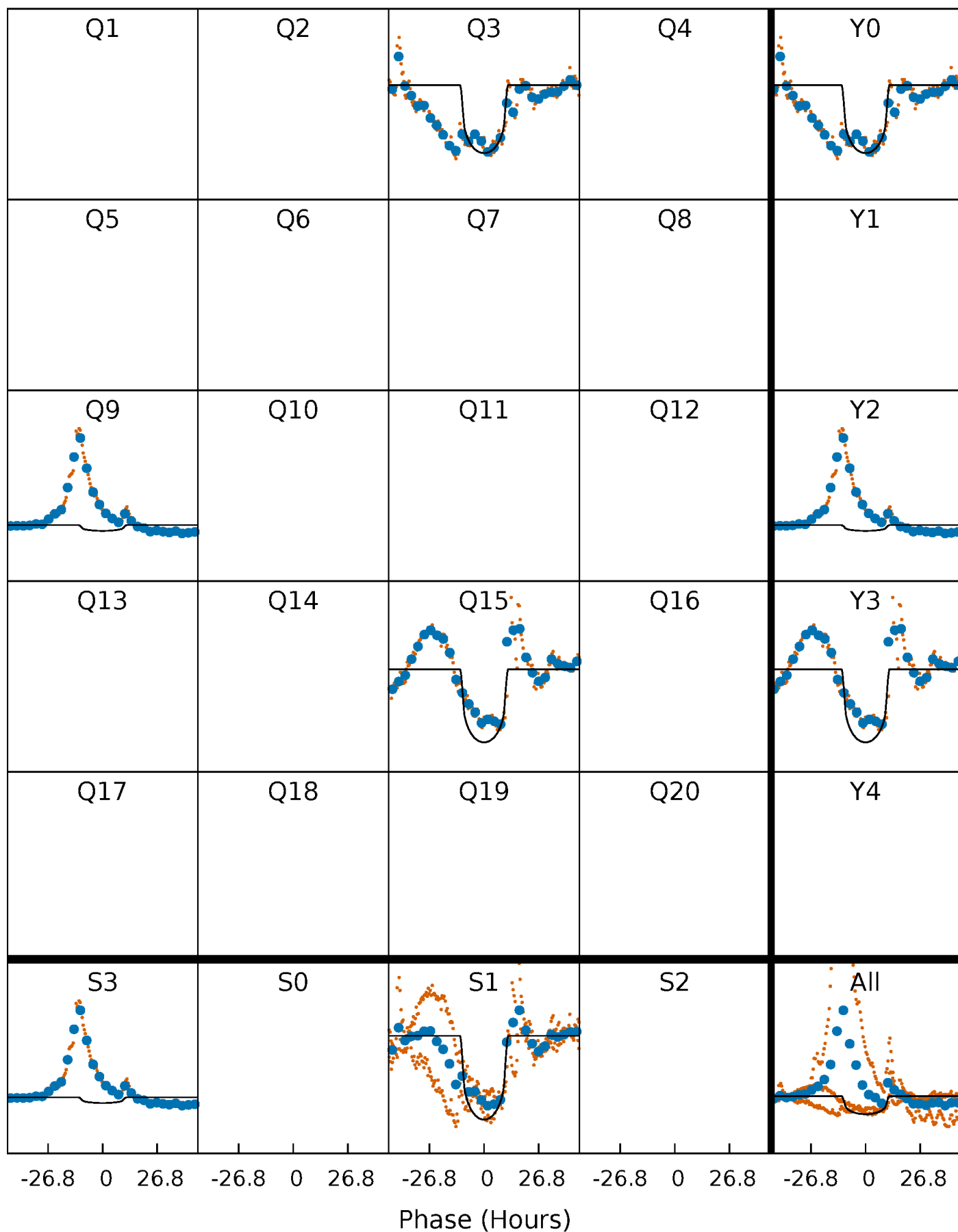
PDC Quarter-Phased Transit Curves

TCE 002968811-02 P=589.617905 Days $T_0=270.810903$ (BKJD)



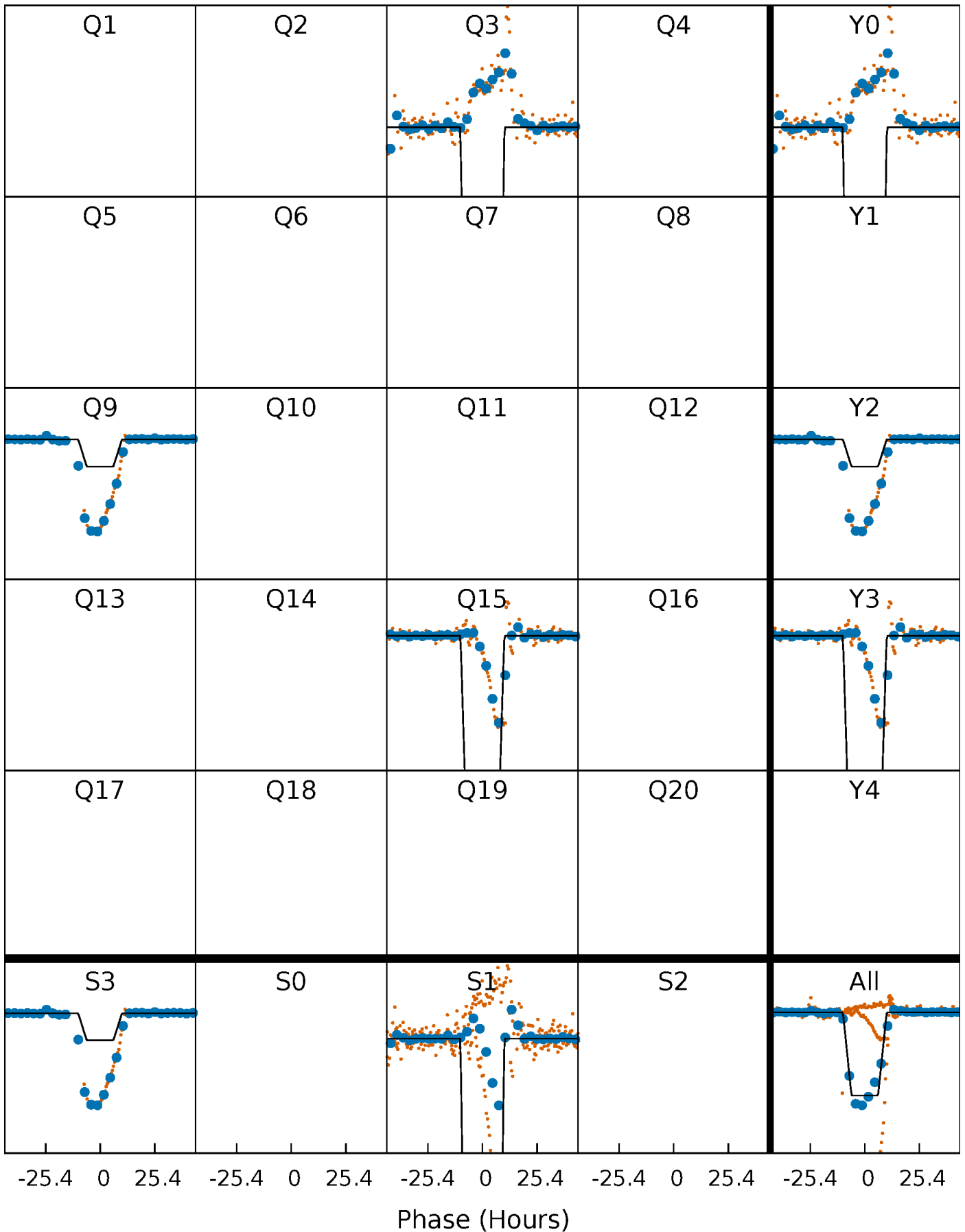
DV Quarter-Phased Transit Curves

TCE 002968811-02 P=589.617905 Days $T_0=270.810903$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

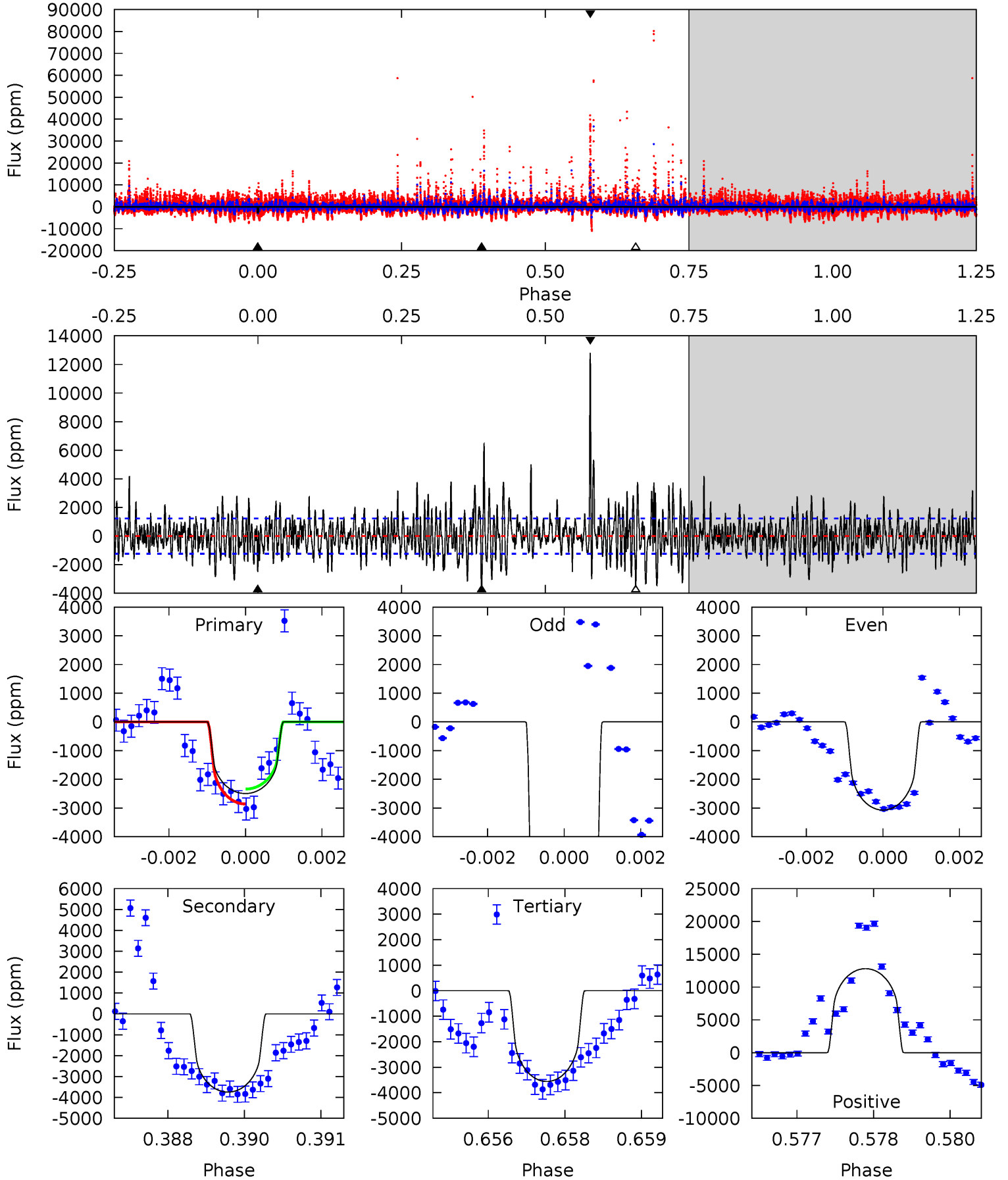
TCE 002968811-02 P=589.630807 Days $T_0=270.813513$ (BKJD)



DV Model-Shift Uniqueness Test

002968811-02, P = 589.617905 Days, E = 270.810903 Days

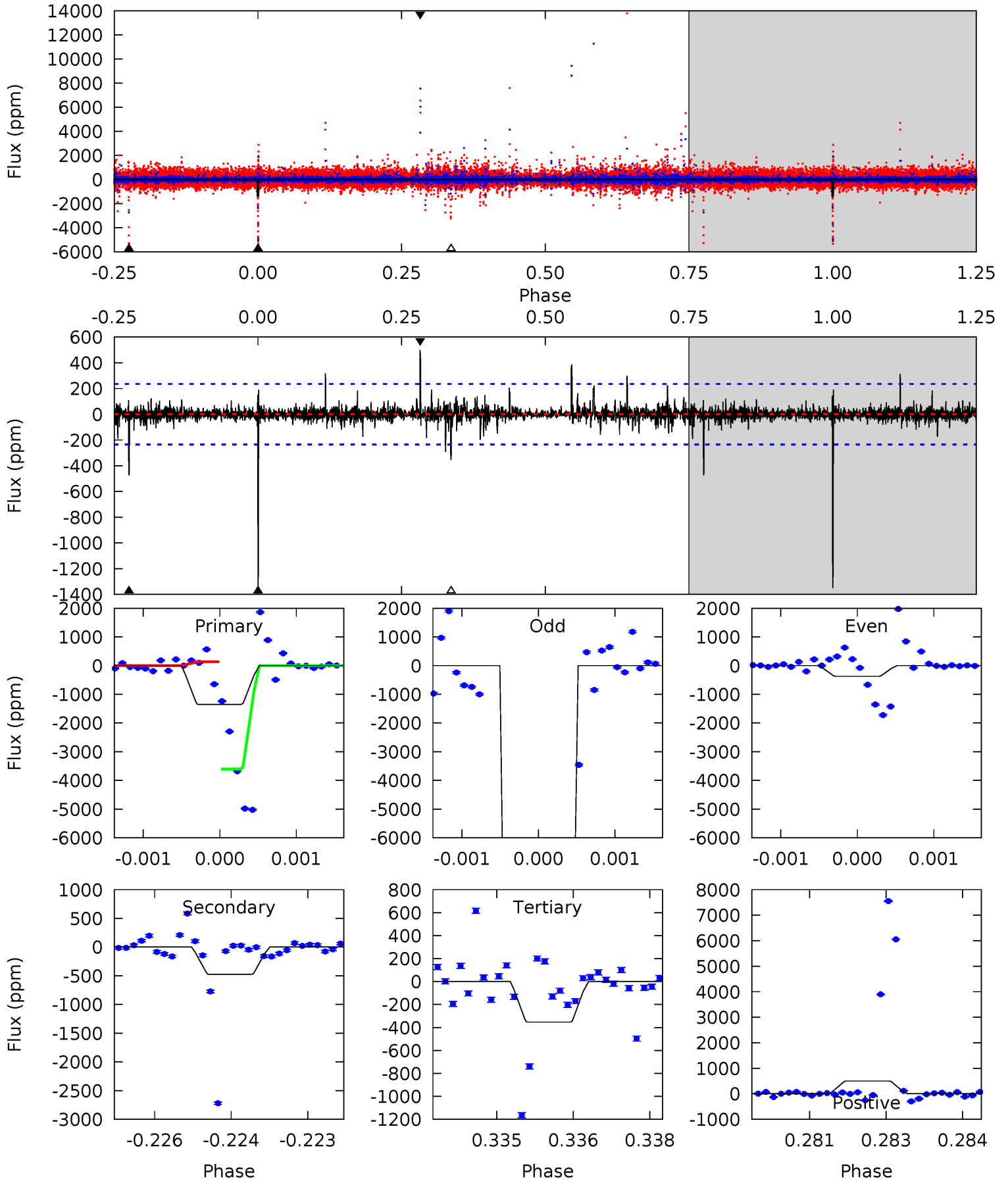
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	16.3	15.5	55.6	5.36	3.14	5.46	-4.61	-44.8	0.81	-39.4	26.4	-1.34	0.77	1.11



Alt Model-Shift Uniqueness Test

002968811-02, P = 589.630807 Days, E = 270.813513 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	10.8	8.08	11.4	5.38	3.18	0.87	22.7	19.4	2.74	-0.60	551.2	8.52	0.27	0



Stellar Parameters For KIC 002968811

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4697^{+117}_{-105}	$2.269^{+0.300}_{-0.200}$	$-0.360^{+0.300}_{-0.200}$	$15.504^{+3.449}_{-6.405}$	$1.628^{+0.190}_{-0.570}$	$0.001^{+0.001}_{-0.000}$
	+2%/-2%	+13%/-9%	+83%/-56%	+22%/-41%	+12%/-35%	+224%/-46%
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 002968811-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3745 ± 230	$98.92^{+17.07}_{-19.28}$	906^{+65}_{-80}	4810^{+217}_{-184}	551^{+257}_{-155}
Alt.	-473 ± 44	$216.70^{+30.02}_{-46.20}$	899^{+70}_{-81}	2671^{+59}_{-56}	15^{+7}_{-4}

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 $A_{obs} \gg 1.0$

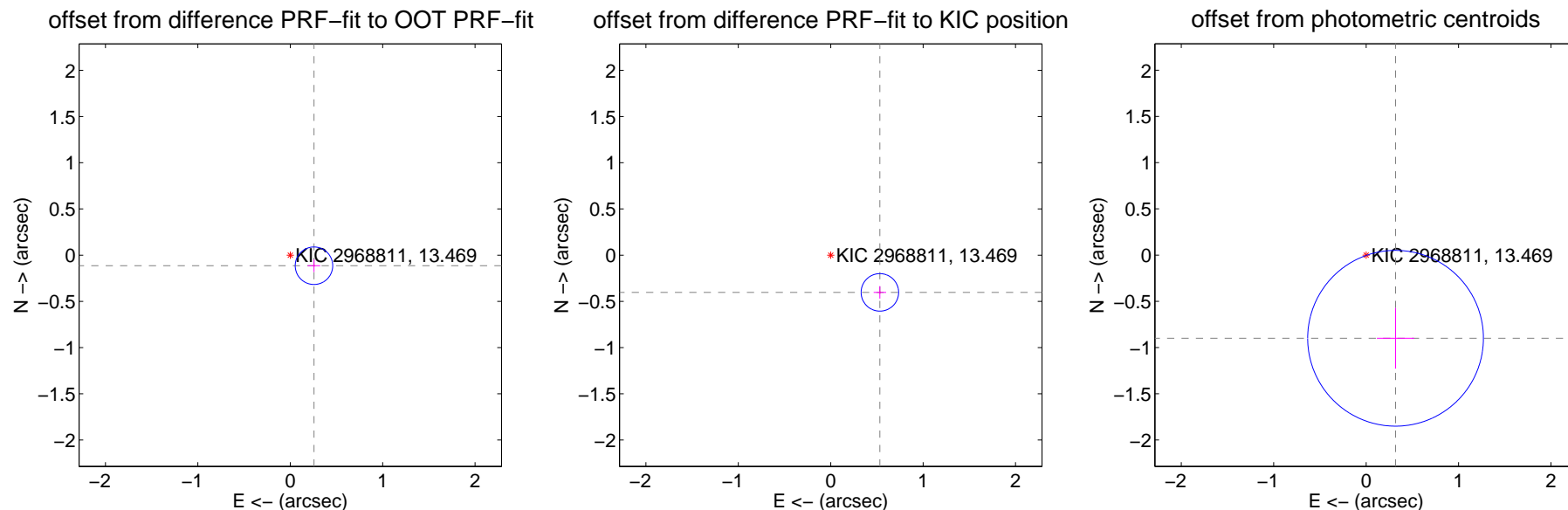
DV Centroid Data

Supplemental centroid analysis for 002968811-02. Kepler magnitude: 13.47. Transit SNR 10.10

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.281 ± 0.068	4.15	-0.257 ± 0.068	-0.114 ± 0.068
PRF-fit source offset from KIC position	0.667 ± 0.068	9.86	-0.532 ± 0.068	-0.403 ± 0.068
photometric centroid source offset	0.95 ± 0.32	3.01	-0.32 ± 0.20	-0.90 ± 0.33



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.

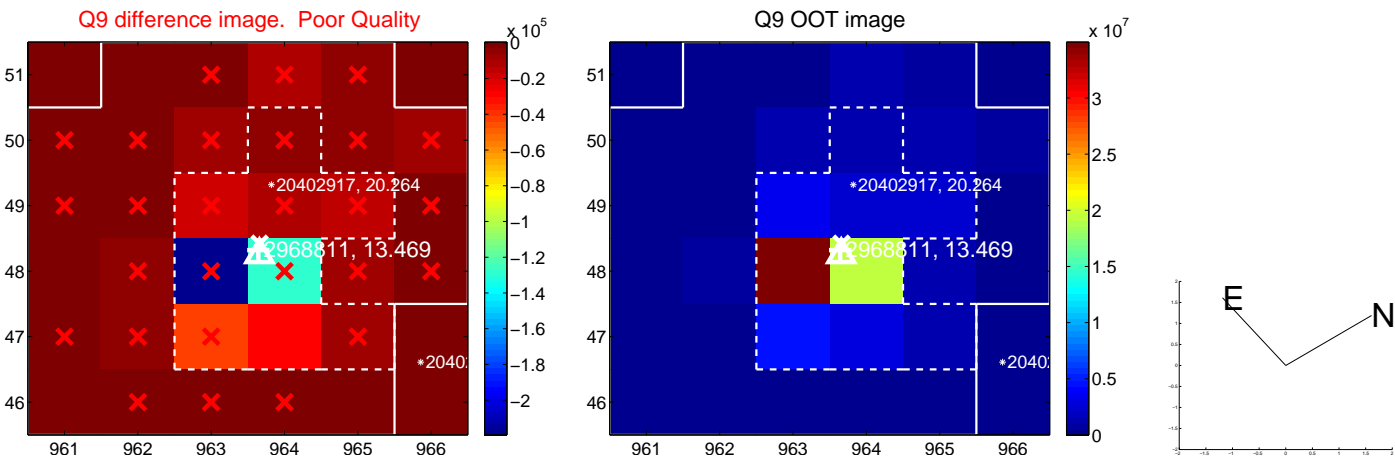
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



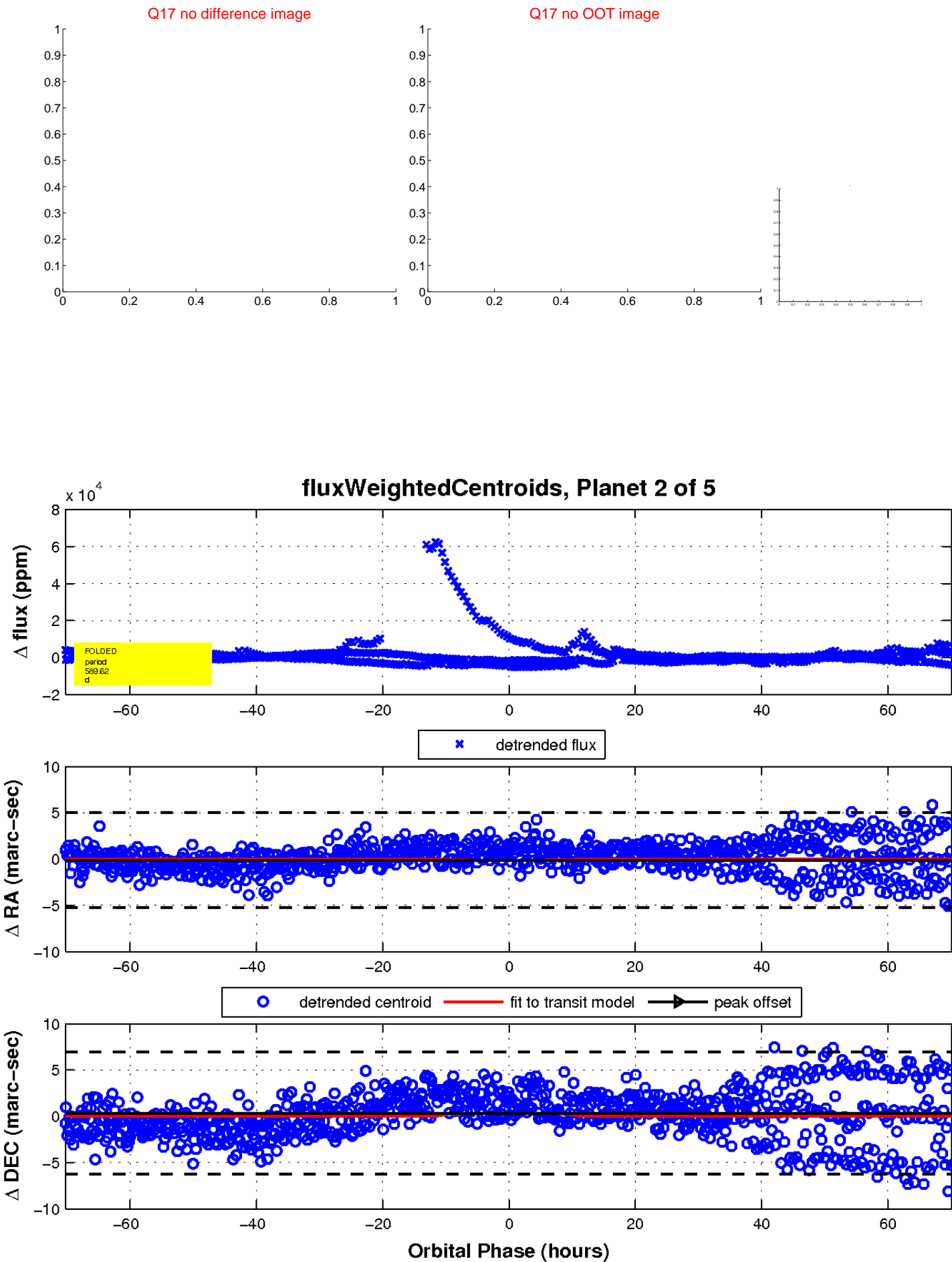
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

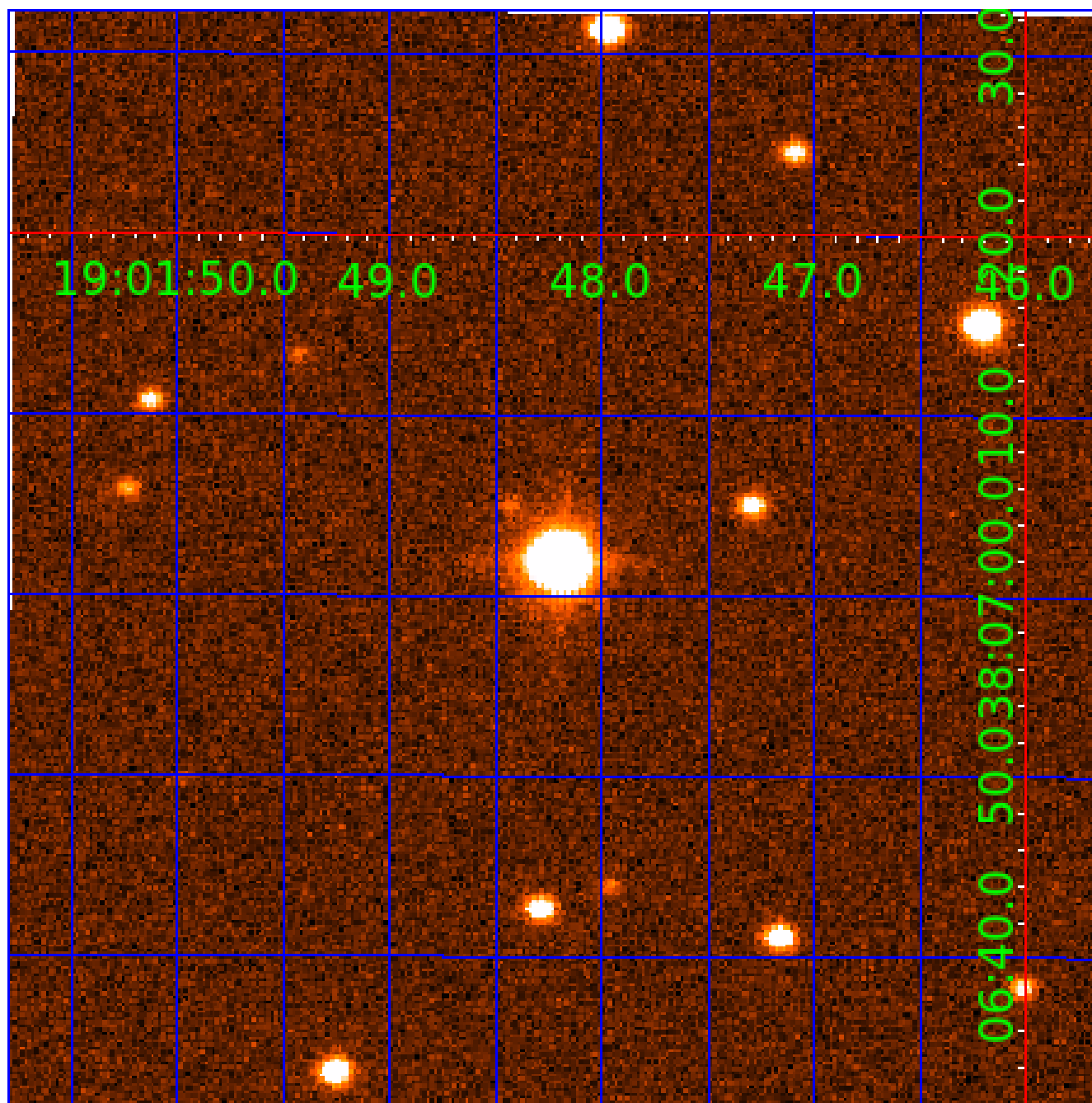


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002968811

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})
002968811-01	OBS	No	270.294041	393.700580	5211.7	24.767	59.1	11.1	15.50	4697	197.29	113.07
002968811-02	OBS	No	589.617905	270.810903	3665.6	23.426	24.8	10.1	15.50	4697	97.59	39.97
002968811-03	OBS	No	225.938864	256.213281	2345.0	9.586	25.3	9.8	15.50	4697	104.75	143.60
002968811-04	OBS	No	459.419789	282.211364	3132.3	9.905	18.0	9.5	15.50	4697	111.05	55.74
002968811-05	OBS	No	396.581344	137.402670	1370.7	7.500	27.0	-1.0	15.50	4697	55.35	67.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002968811-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
002968811-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
002968811-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

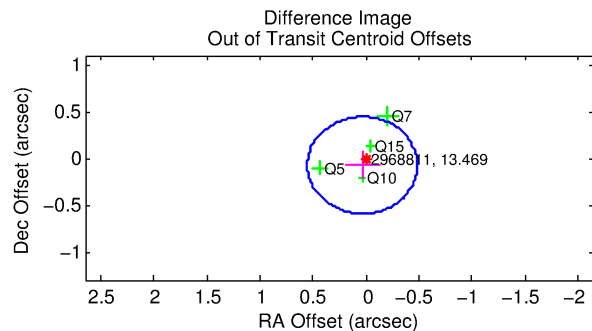
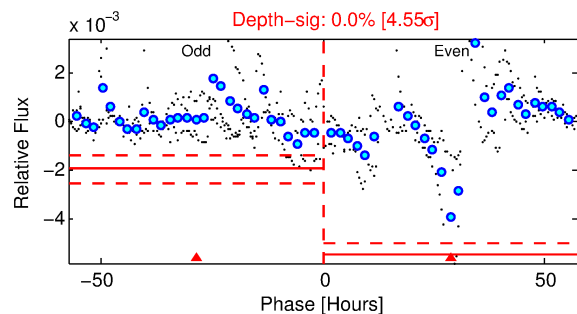
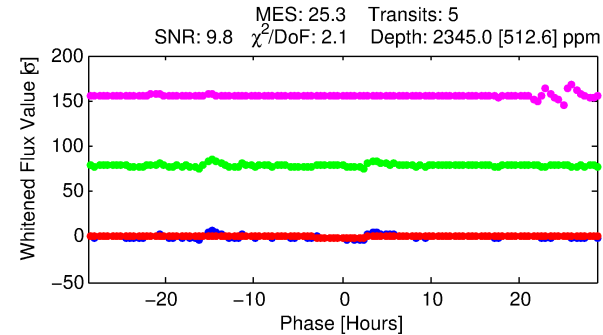
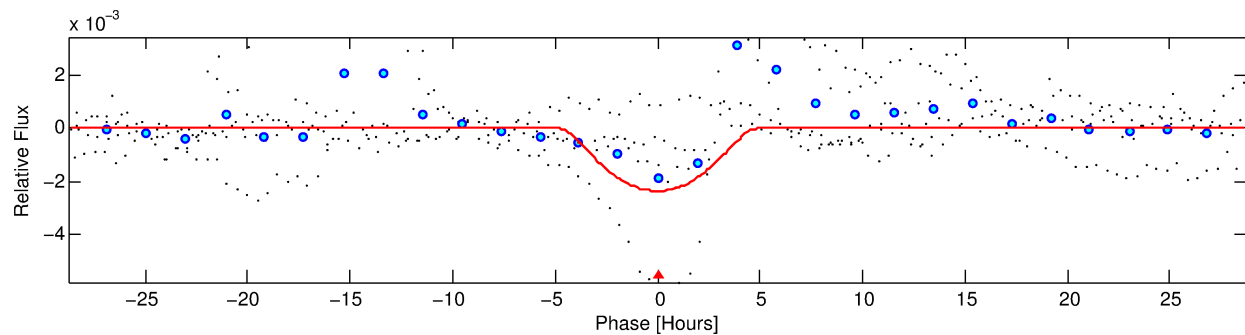
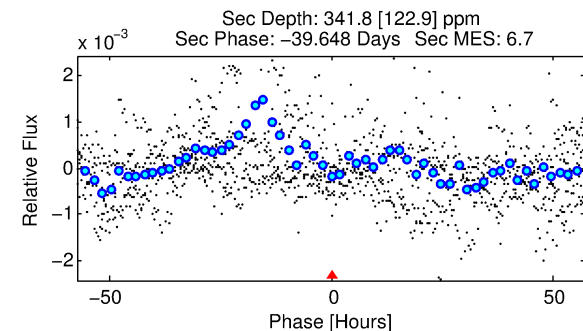
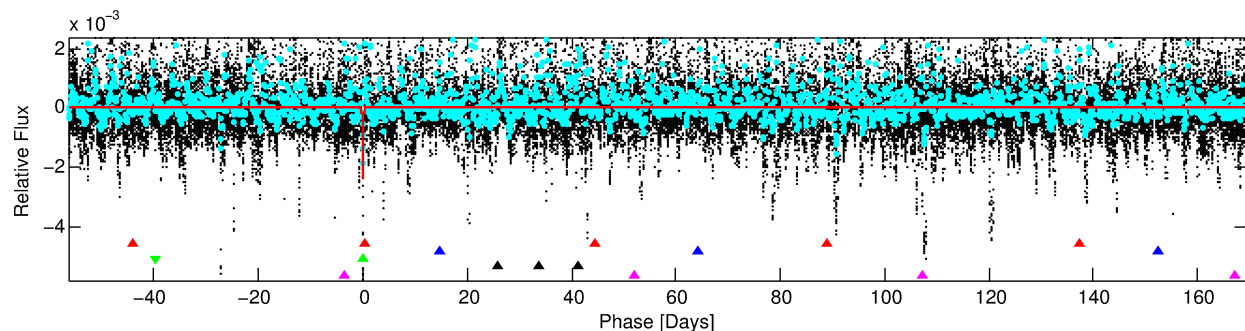
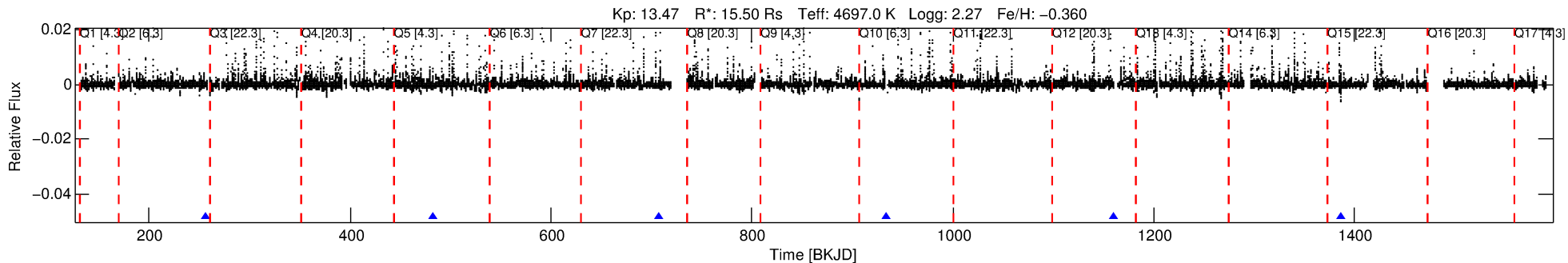
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002968811-03

No Significant Match Found

DV One-Page Summary

KIC: 2968811 Candidate: 3 of 5 Period: 225.939 d



DV Fit Results:

Period = 225.93886 [0.00660] d
Epoch = 256.2133 [0.0217] BKJD
Rp/R* = 0.0619 [0.0265]
a/R* = 84.11 [17.55]
b = 0.95 [0.06]
Seff = 143.60 [78.37]
Teq = 883 [120] K
Rp = 104.75 [62.31] Re
a = 0.8544 [0.3067] AU
Ag = 12.51 [13.41] [0.86σ]
Teffp = 2567 [599] K [2.76σ]

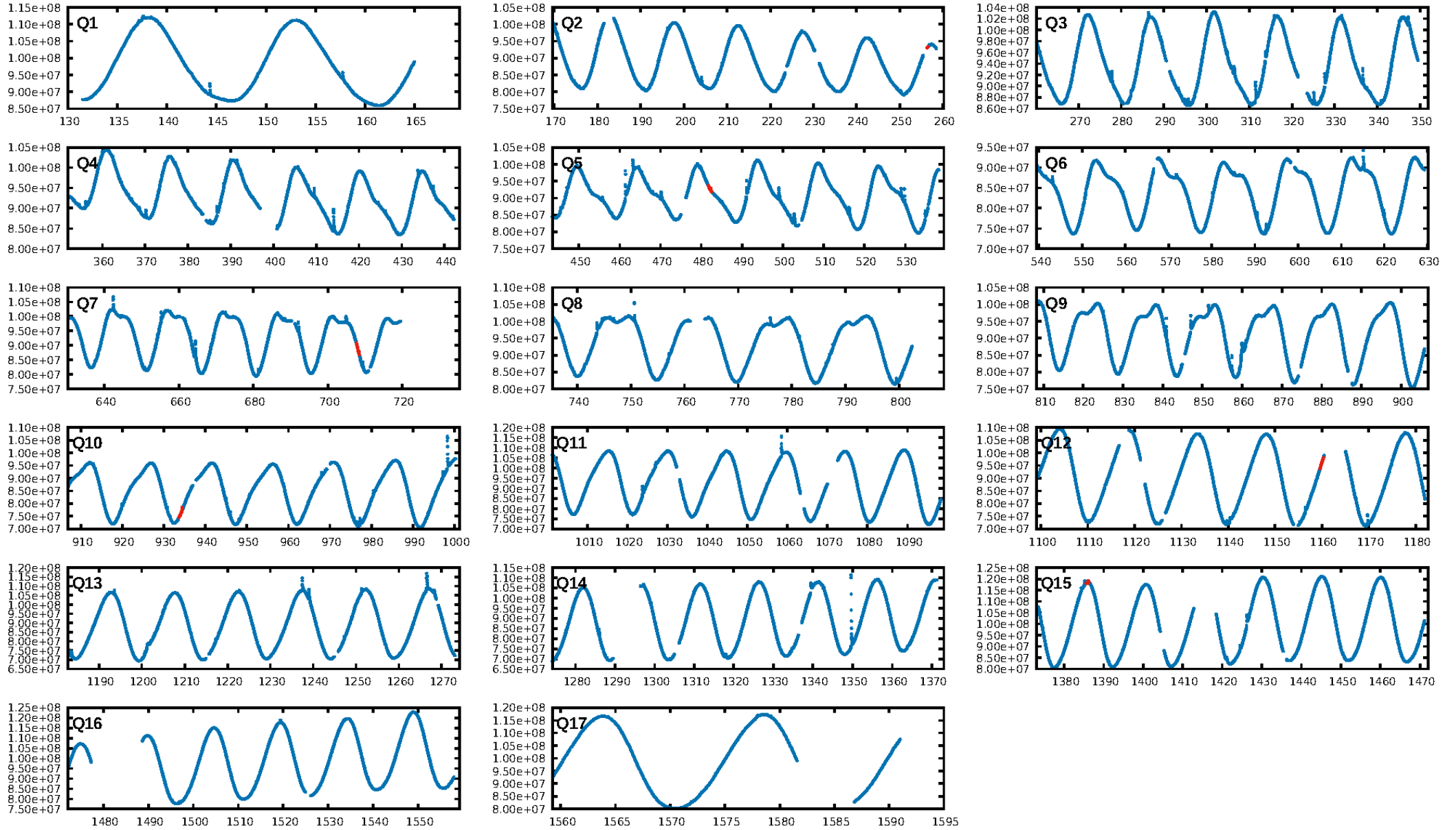
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [40.08σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 8.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.108
Centroid-sig: 79.9%
Centroid-so: 0.911 arcsec [2.37σ]
OotOffset-rm: 0.082 arcsec [0.48σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-rm: 0.622 arcsec [2.39σ]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.75 [3/4]

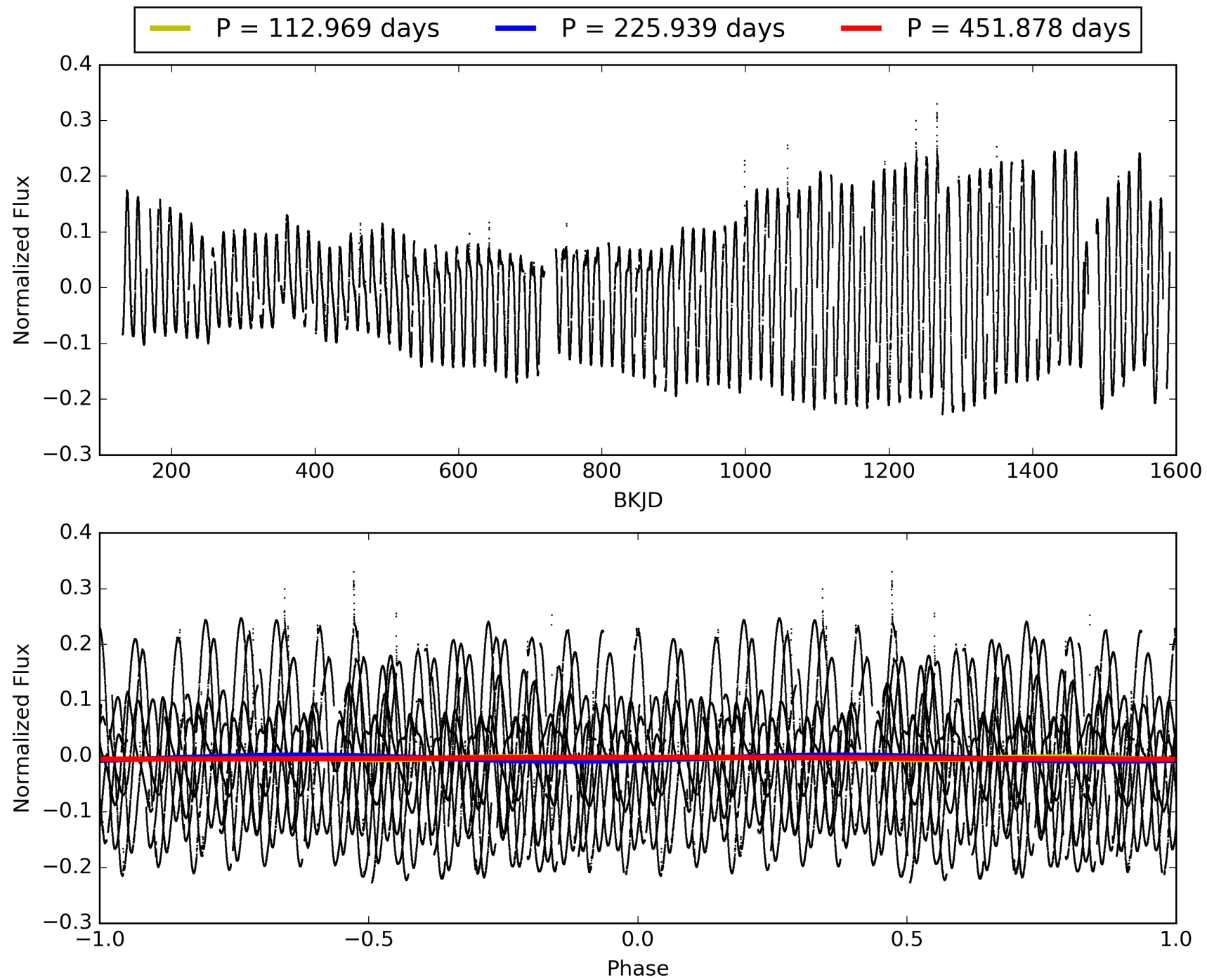
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:03:23 Z

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

TCE 002968811-03, PDC Light Curves

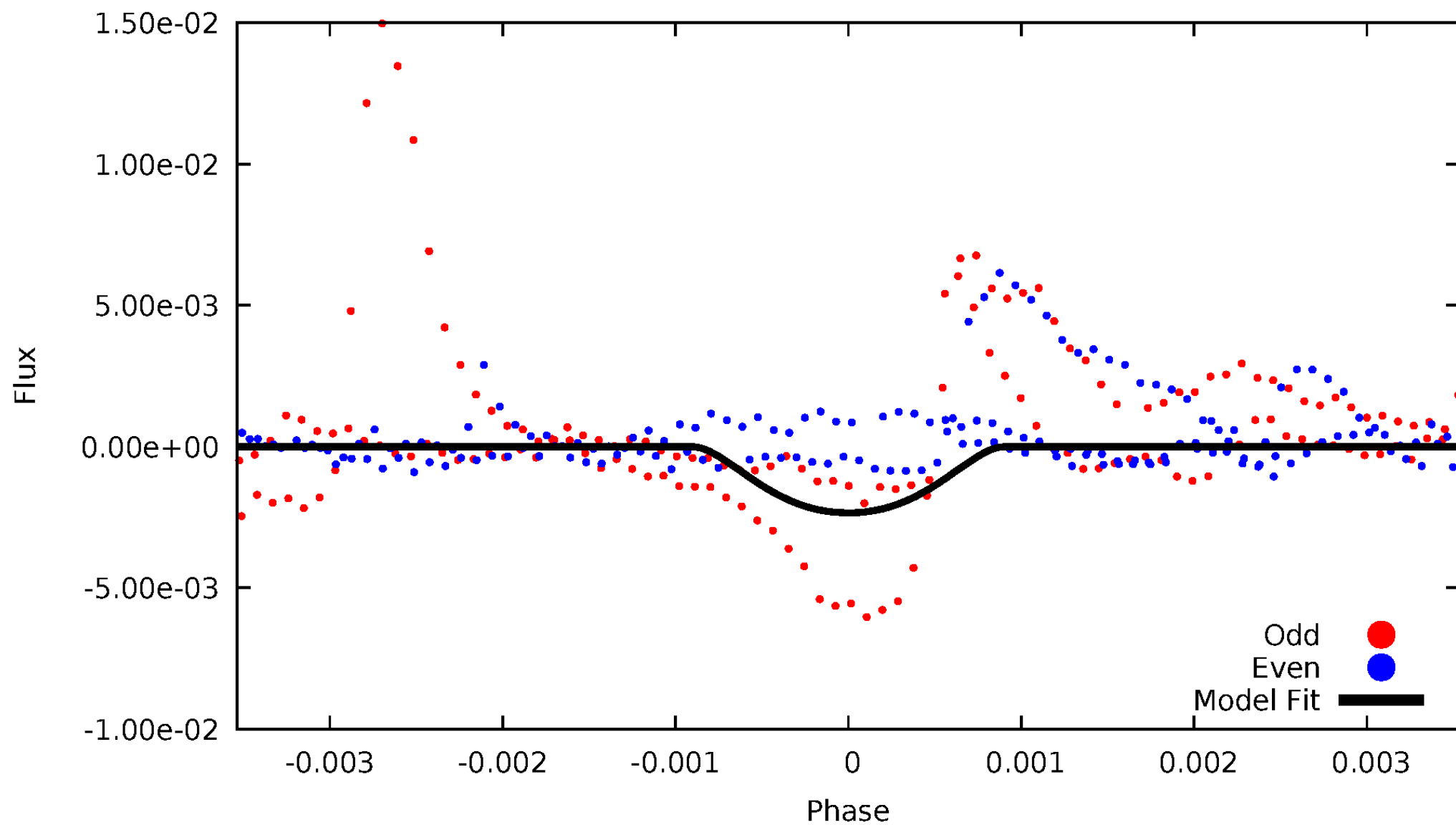


TCE 002968811-03



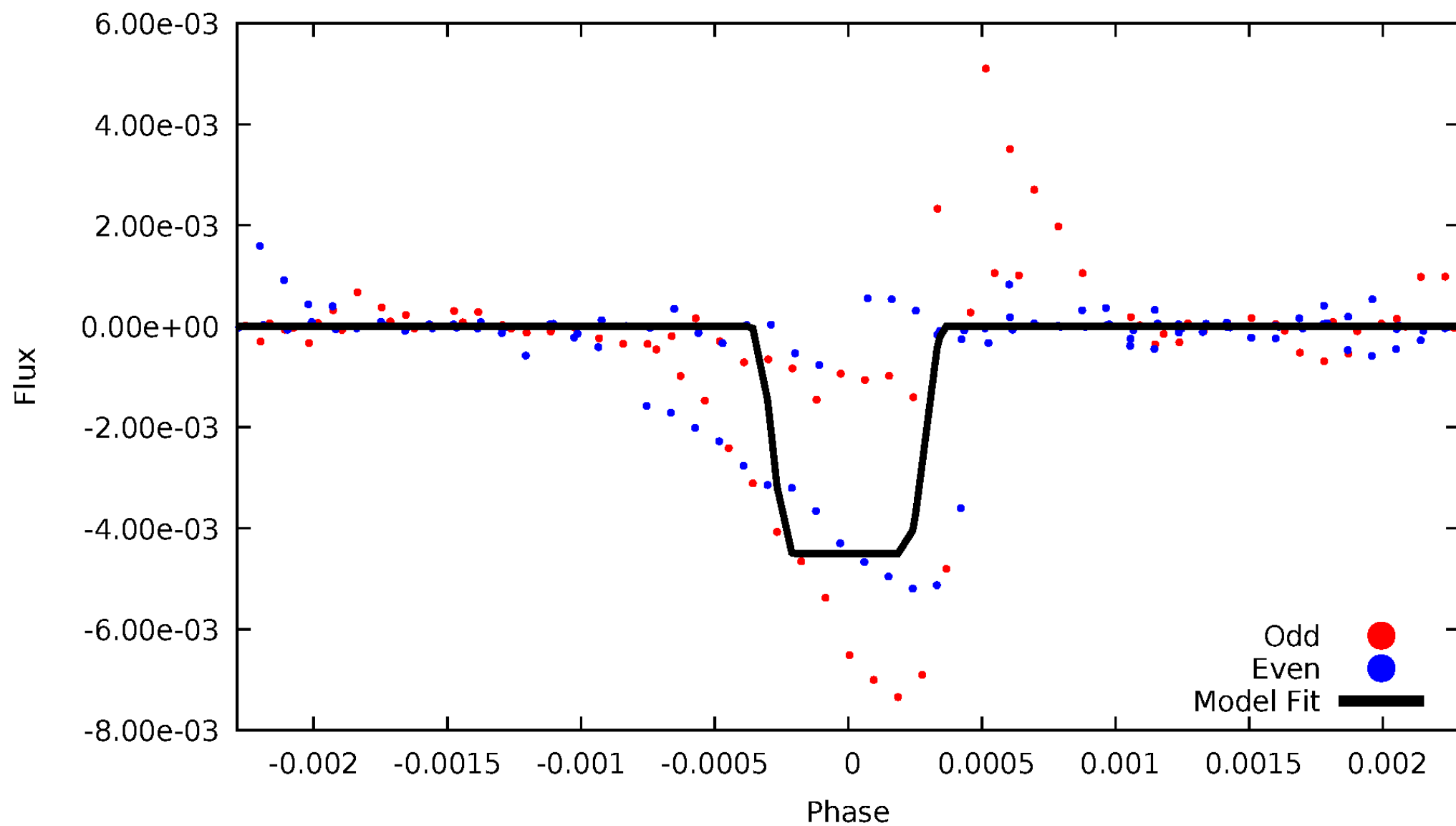
DV Odd/Even

TCE 002968811-03



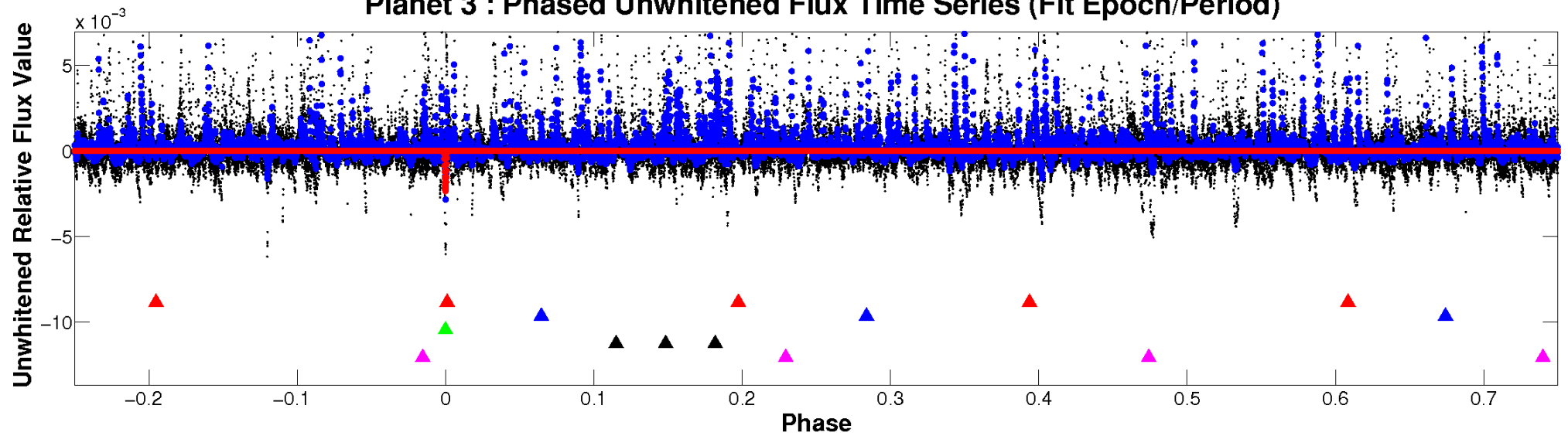
ALT Odd/Even

TCE 002968811-03

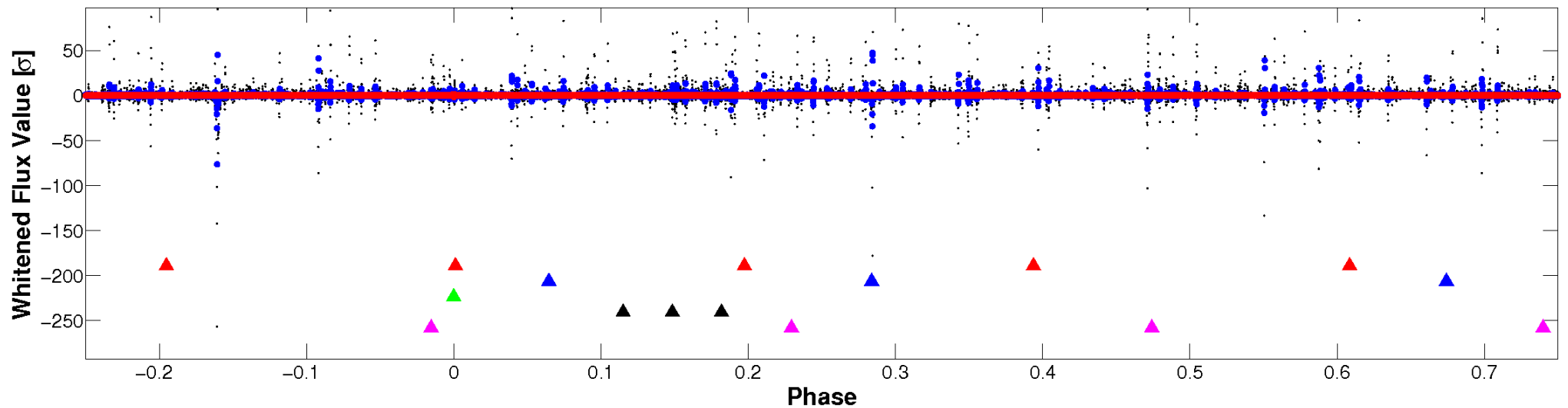


Non-Whitened Vs. Whitened Light Curve

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

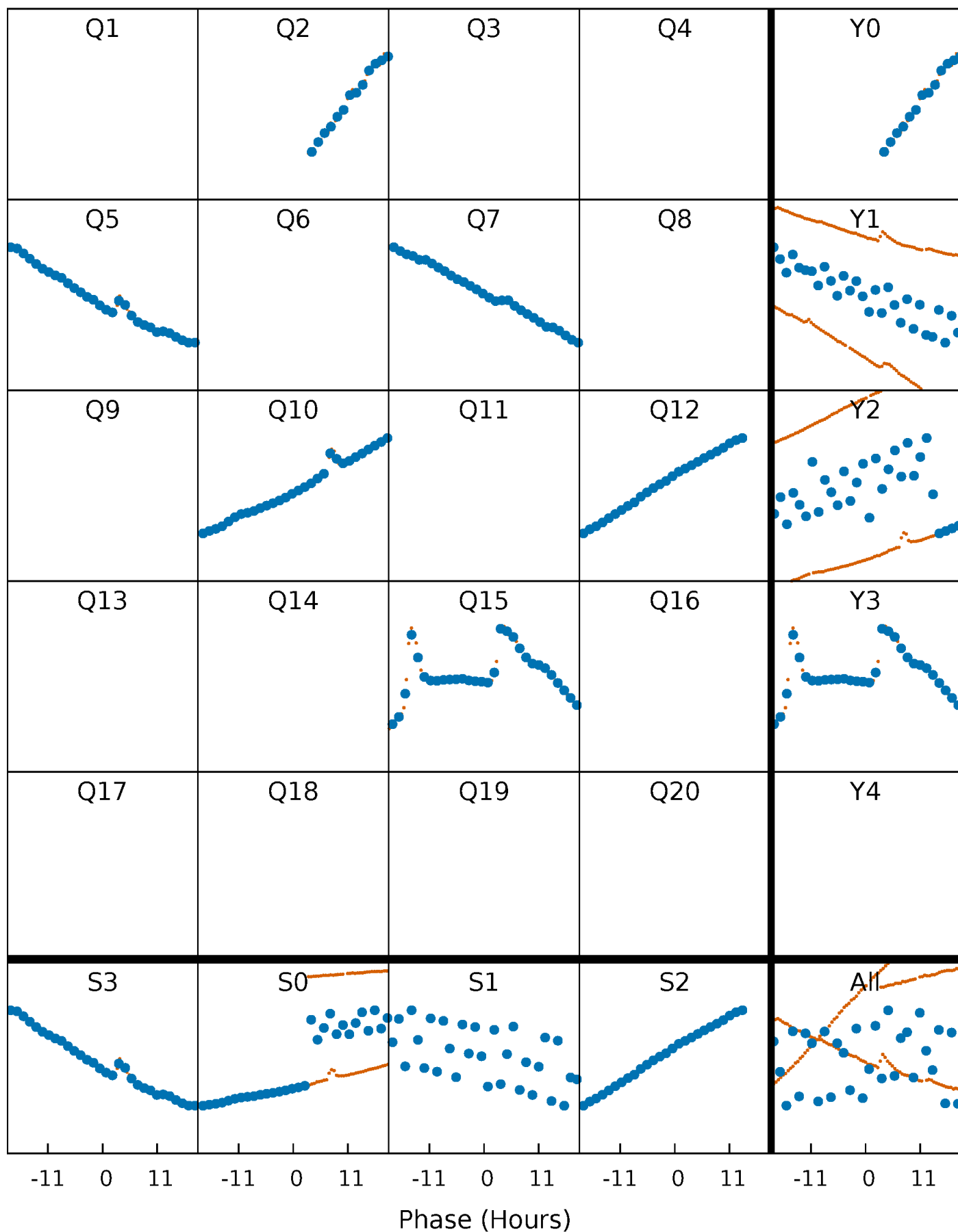


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



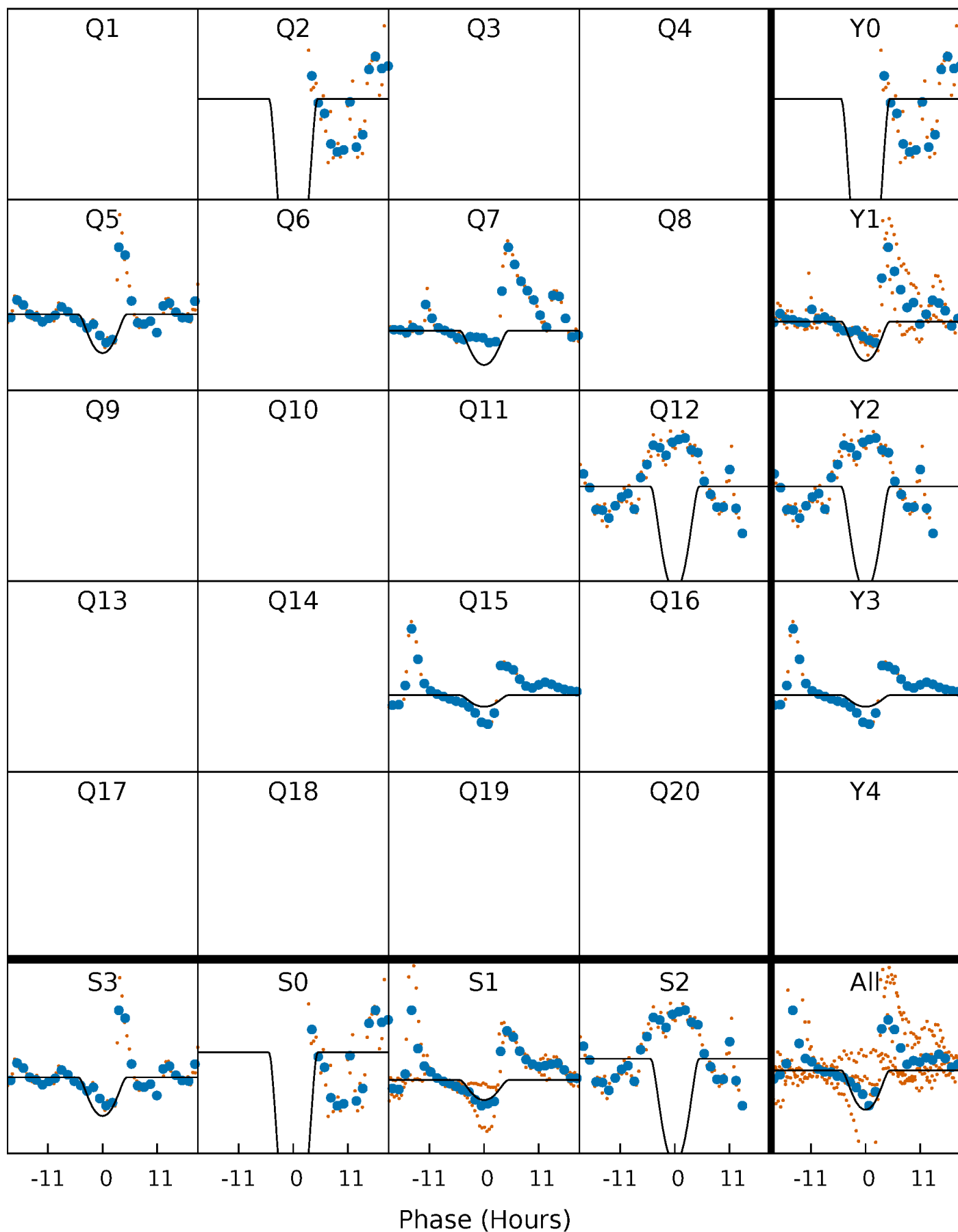
PDC Quarter-Phased Transit Curves

TCE 002968811-03 P=225.938864 Days $T_0=256.213281$ (BKJD)



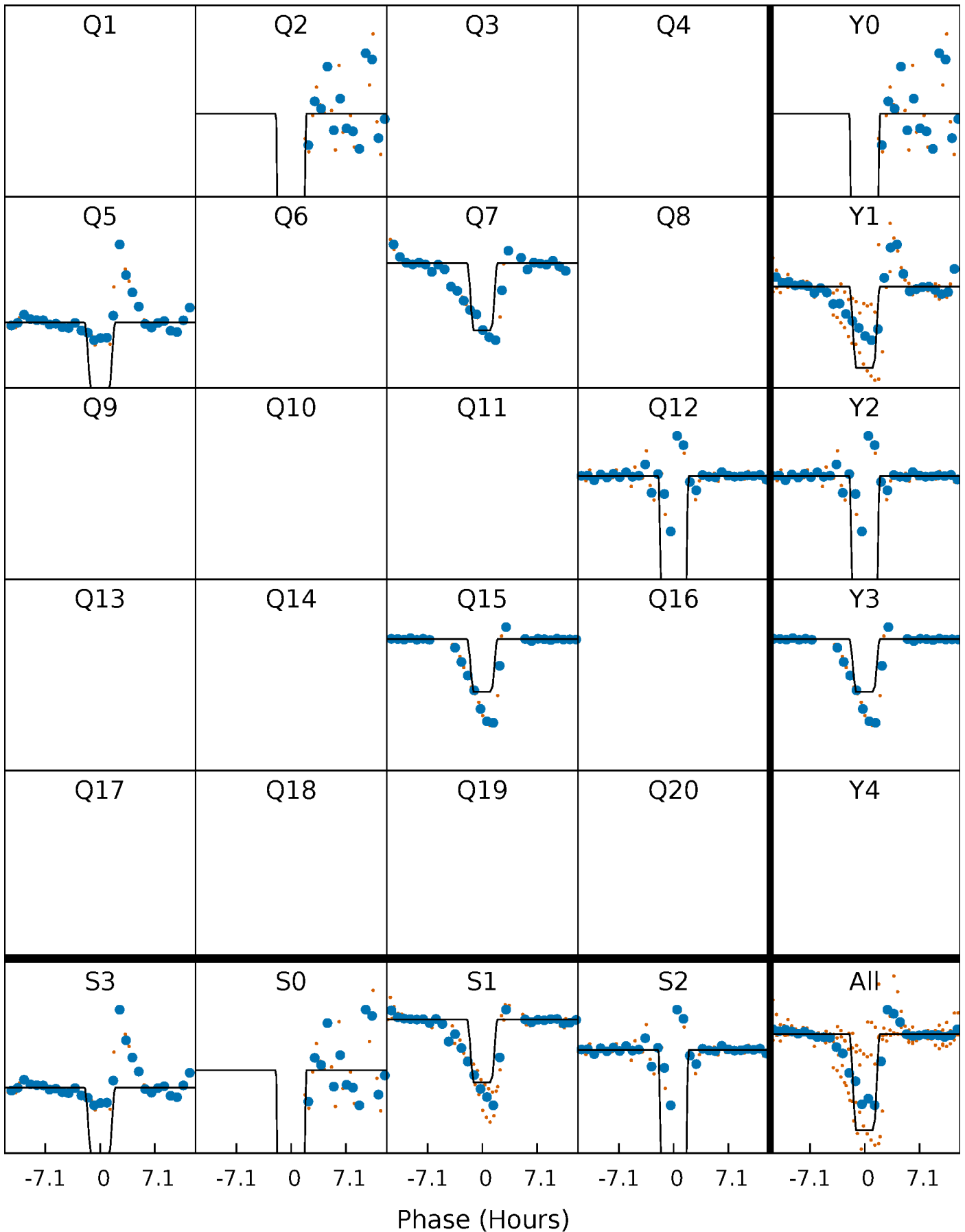
DV Quarter-Phased Transit Curves

TCE 002968811-03 $P=225.938864$ Days $T_0=256.213281$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

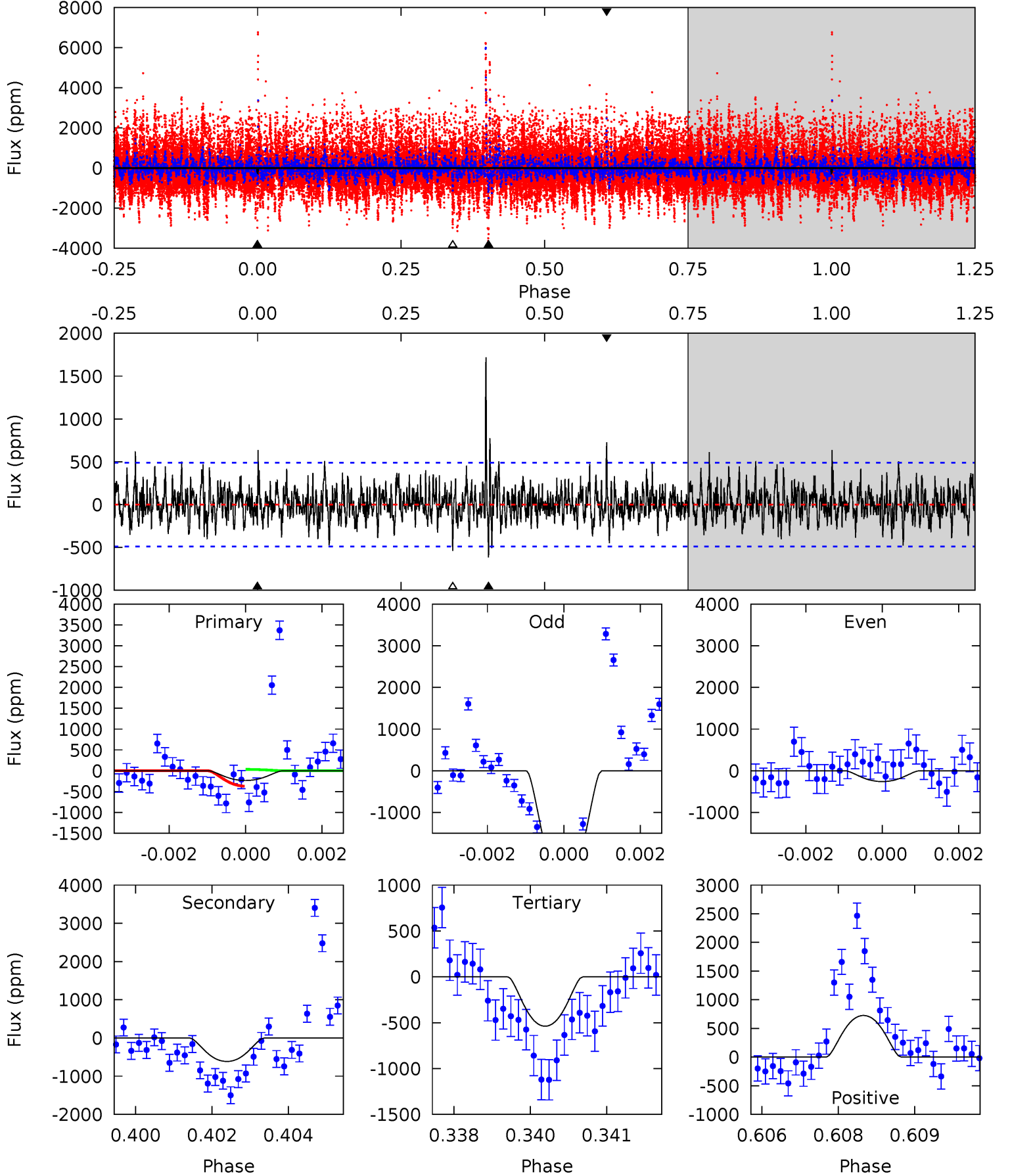
TCE 002968811-03 P=225.932647 Days $T_0=256.267249$ (BKJD)



DV Model-Shift Uniqueness Test

002968811-03, P = 225.938864 Days, E = 30.274417 Days

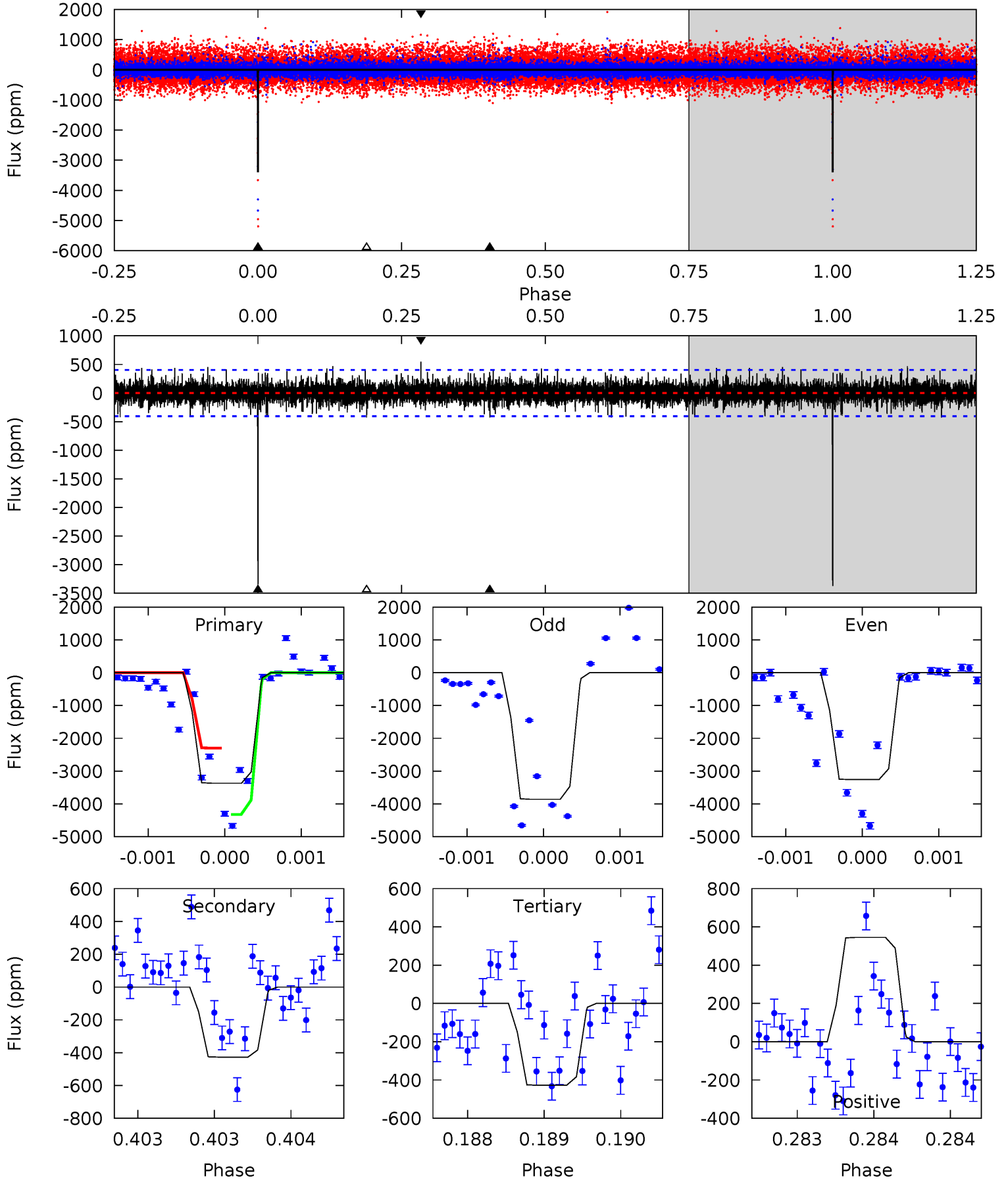
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.55	6.71	5.88	7.92	5.34	3.12	1.75	-3.33	-5.37	0.83	-1.21	12.4	1.63	0.74	1.85



Alt Model-Shift Uniqueness Test

002968811-03, P = 225.932647 Days, E = 30.334602 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.9	5.82	5.81	7.42	5.51	3.39	1.30	40.1	38.5	0.00	-1.60	5.05	1.07	0.14	13.3



Stellar Parameters For KIC 002968811

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4697^{+117}_{-105}	$2.269^{+0.300}_{-0.200}$	$-0.360^{+0.300}_{-0.200}$	$15.504^{+3.449}_{-6.405}$	$1.628^{+0.190}_{-0.570}$	$0.001^{+0.001}_{-0.000}$
	+2%/-2%	+13%/-9%	+83%/-56%	+22%/-41%	+12%/-35%	+224%/-46%
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 002968811-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-615 ± 92	$103.40^{+51.06}_{-46.10}$	1235^{+92}_{-115}	3365^{+657}_{-343}	23^{+48}_{-13}
Alt.	-427 ± 73	$107.41^{+52.00}_{-44.65}$	1235^{+98}_{-119}	3132^{+520}_{-321}	14^{+26}_{-8}

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

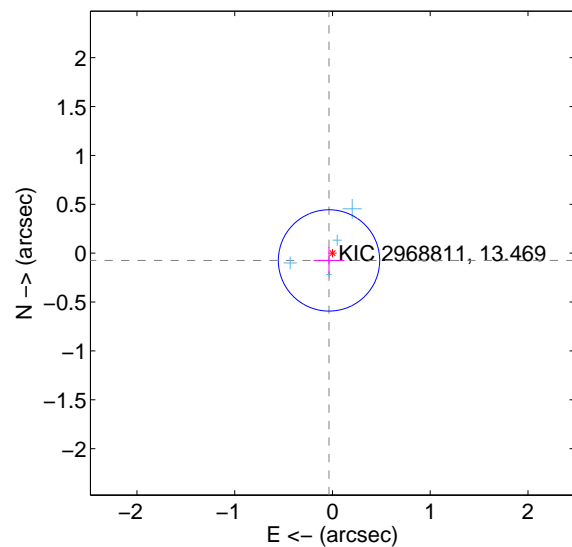
Supplemental centroid analysis for 002968811-03. Kepler magnitude: 13.47. Transit SNR 9.78

There are 4 quarters with good PRF difference image offsets

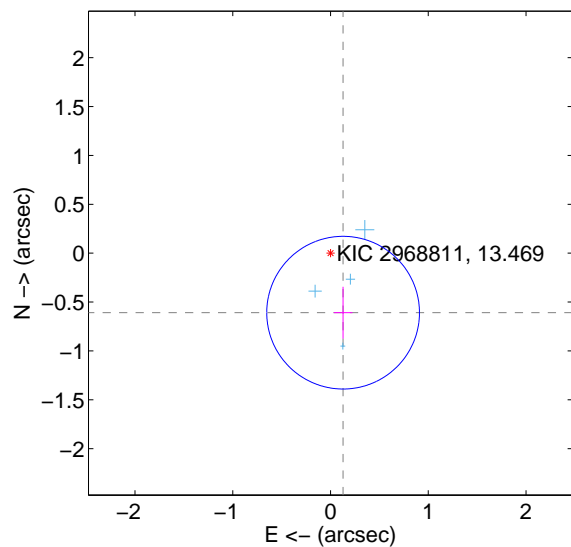
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.173	0.48	0.035 ± 0.157	-0.074 ± 0.137
PRF-fit source offset from KIC position	0.622 ± 0.260	2.39	-0.129 ± 0.095	-0.609 ± 0.265
photometric centroid source offset	0.91 ± 0.38	2.37	-0.26 ± 0.25	-0.87 ± 0.39

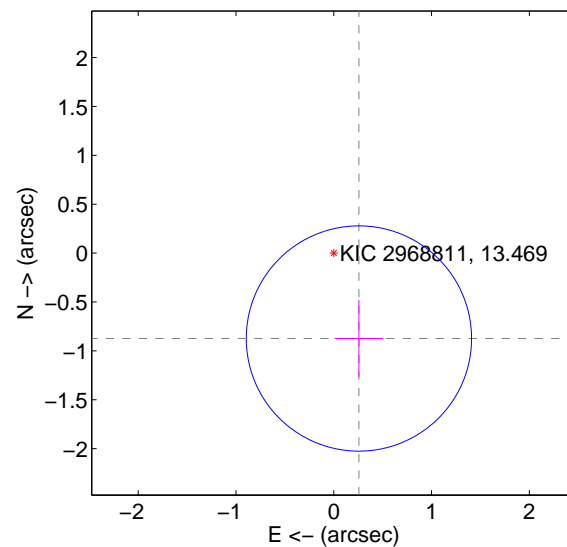
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

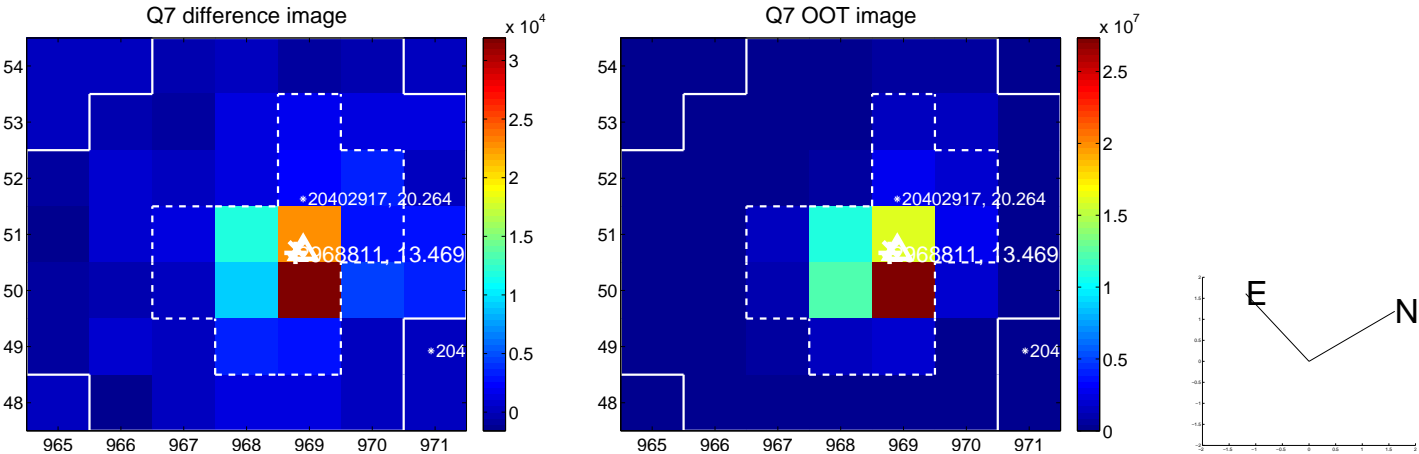
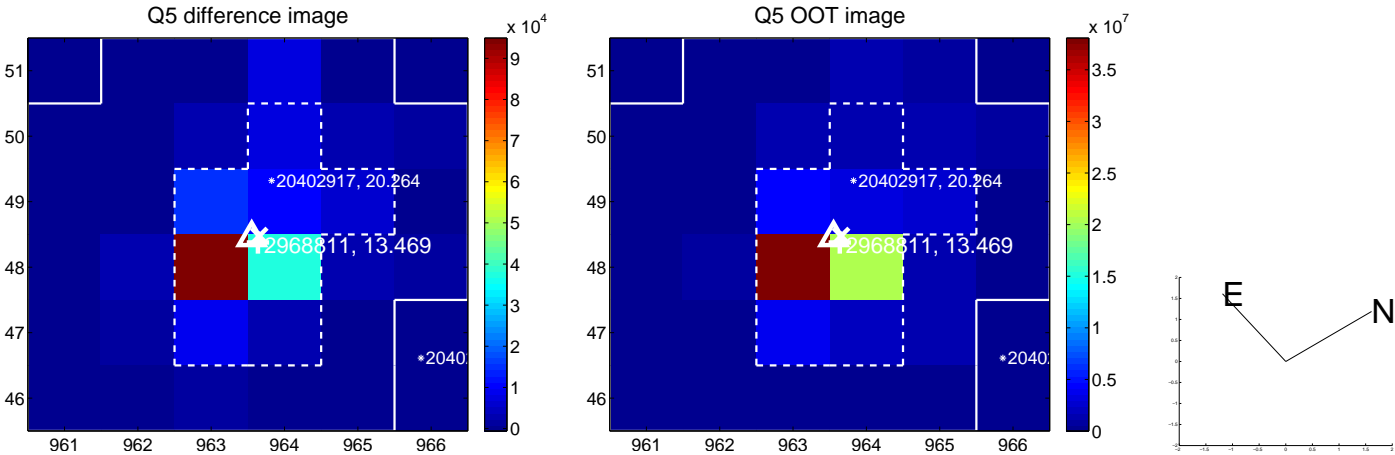


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

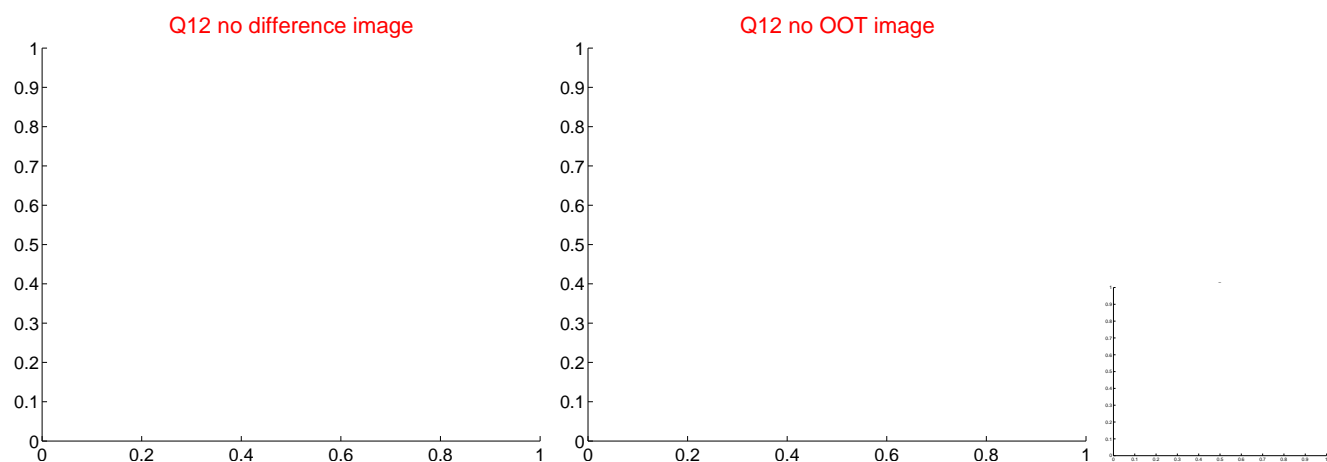
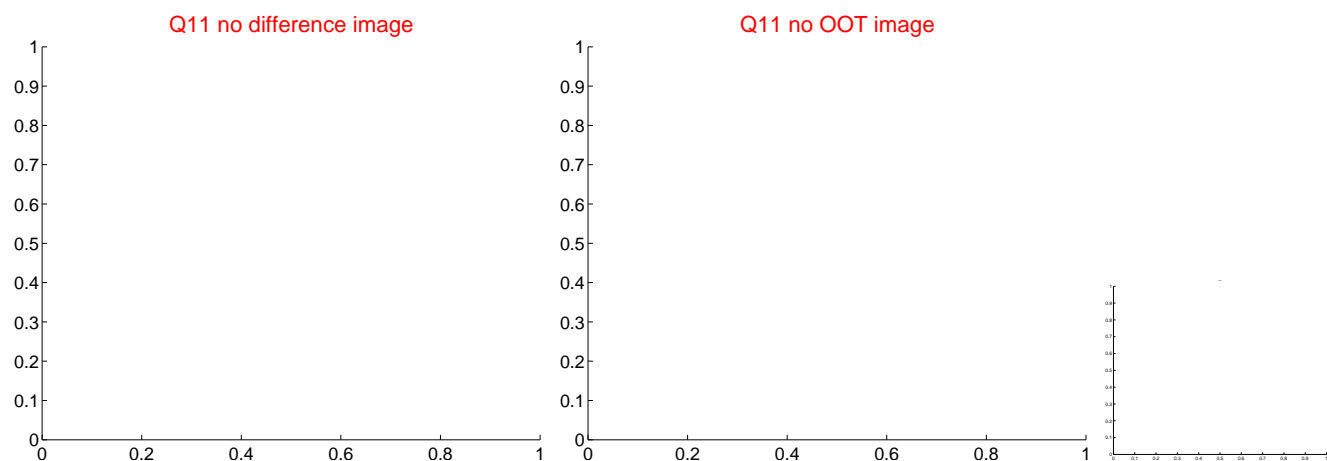
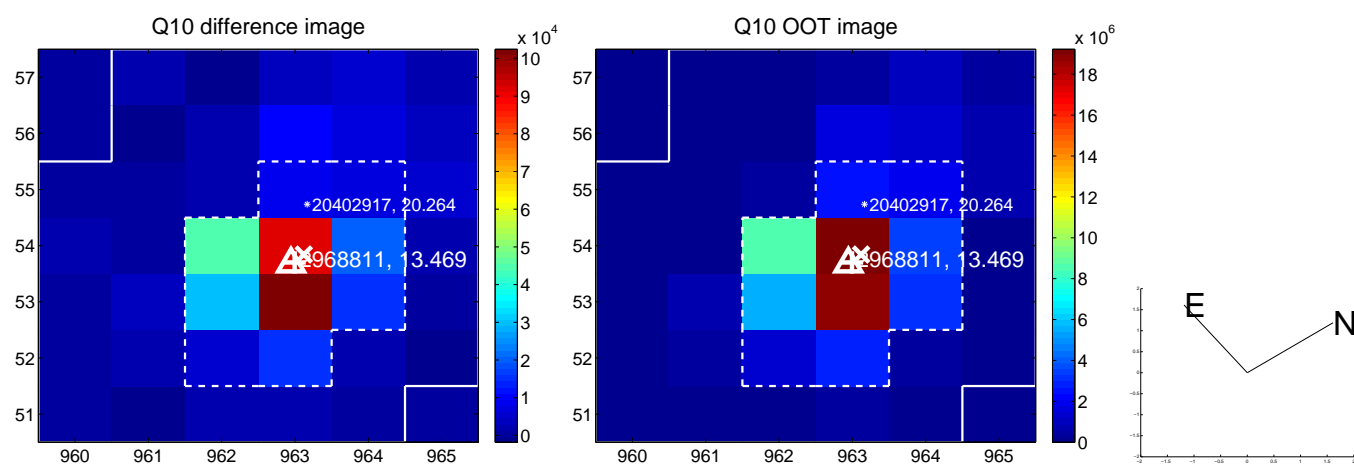
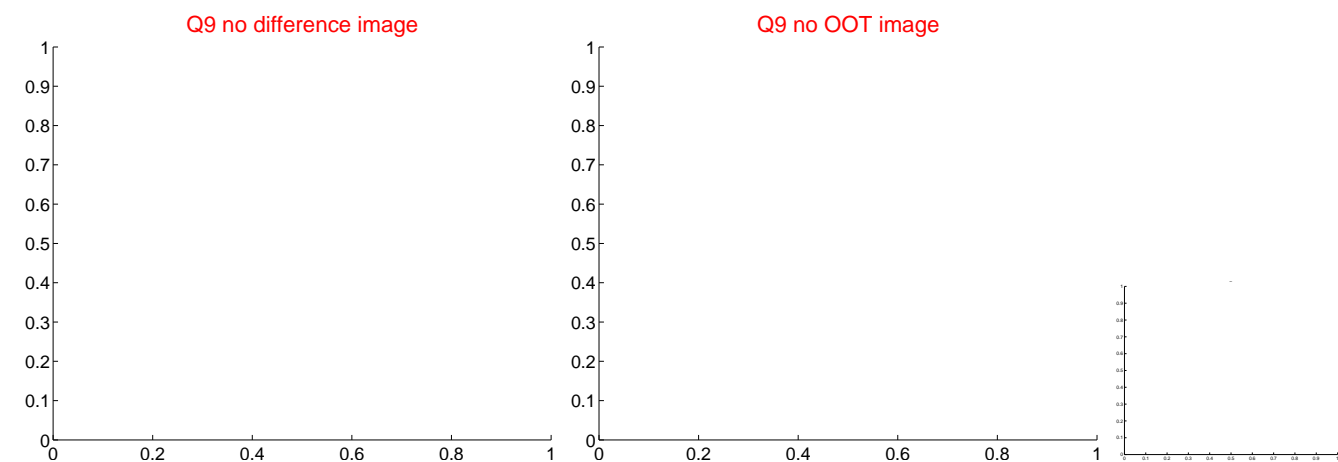
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

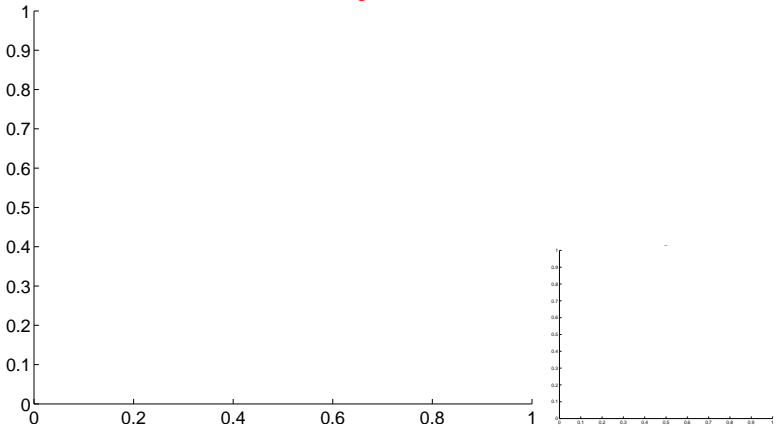


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



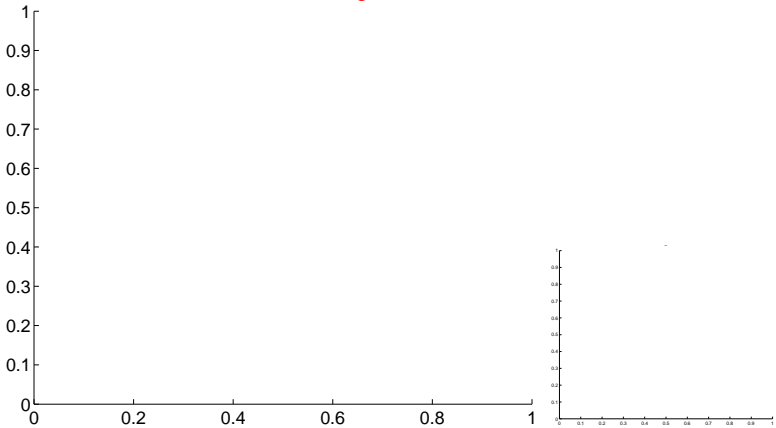
Q13 no OOT image



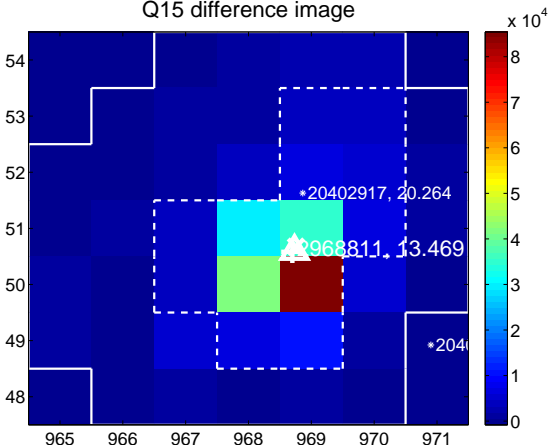
Q14 no difference image



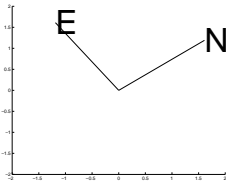
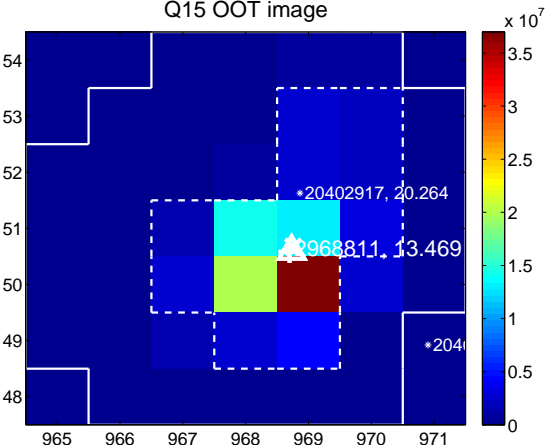
Q14 no OOT image



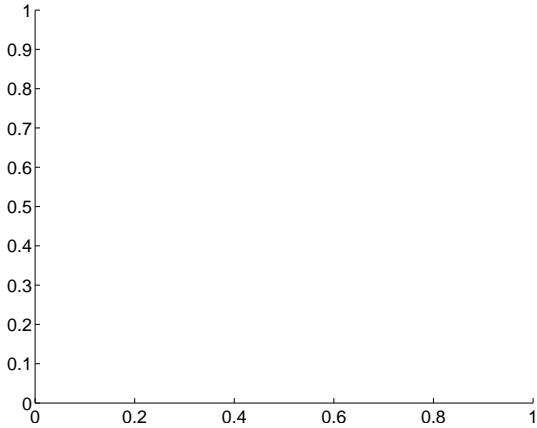
Q15 difference image



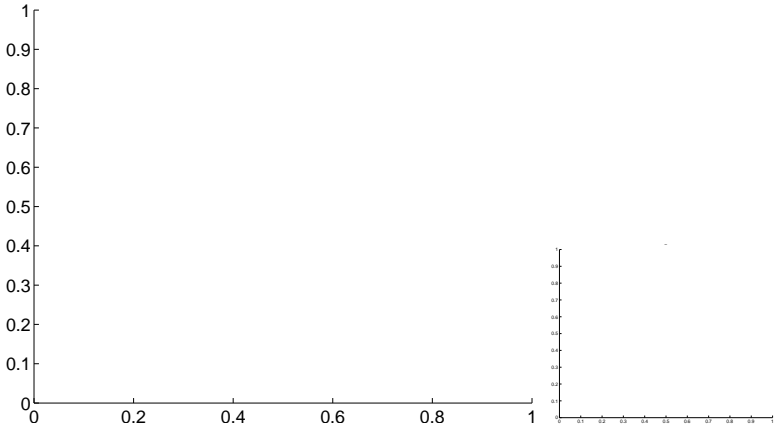
Q15 OOT image



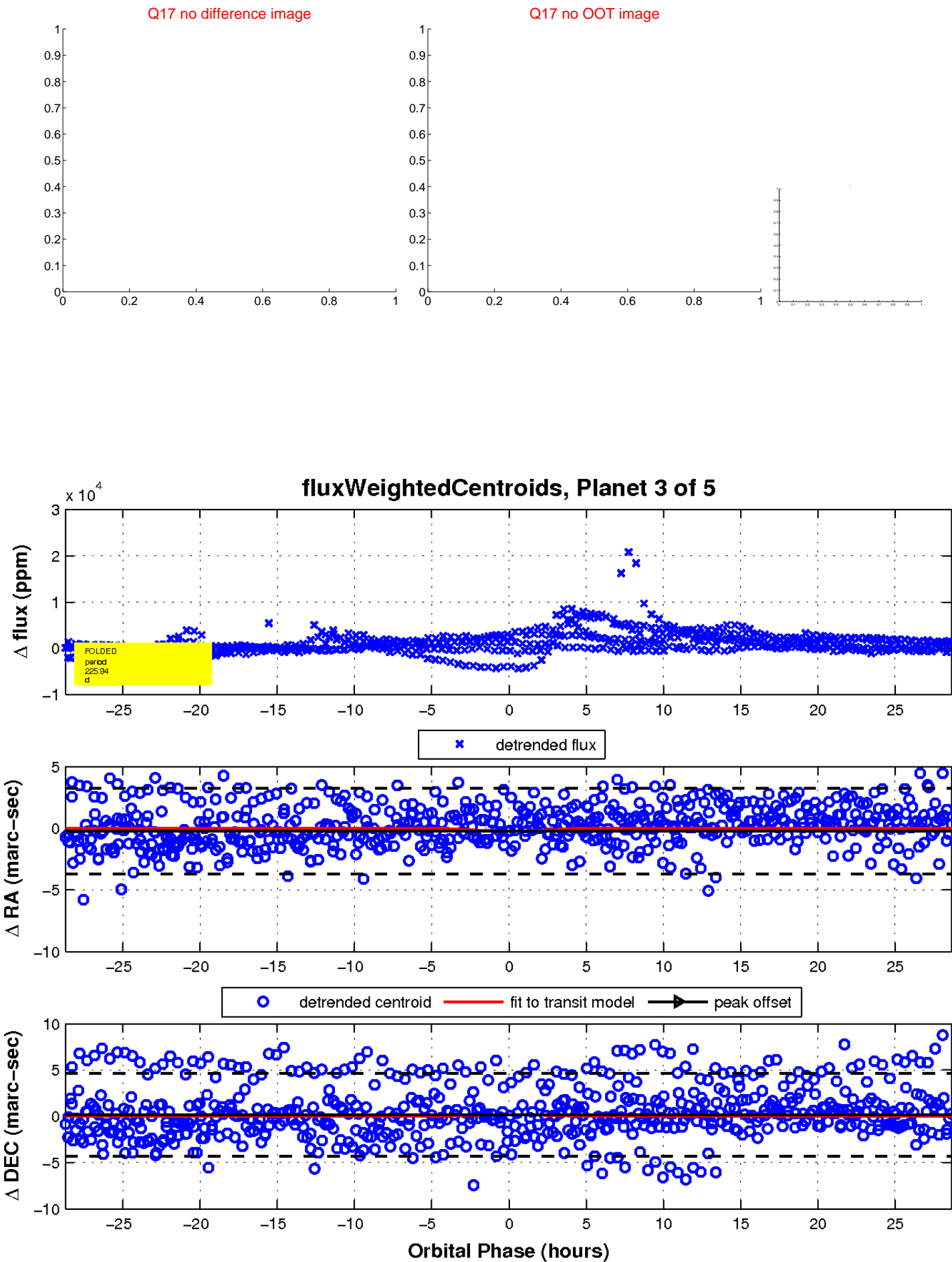
Q16 no difference image



Q16 no OOT image

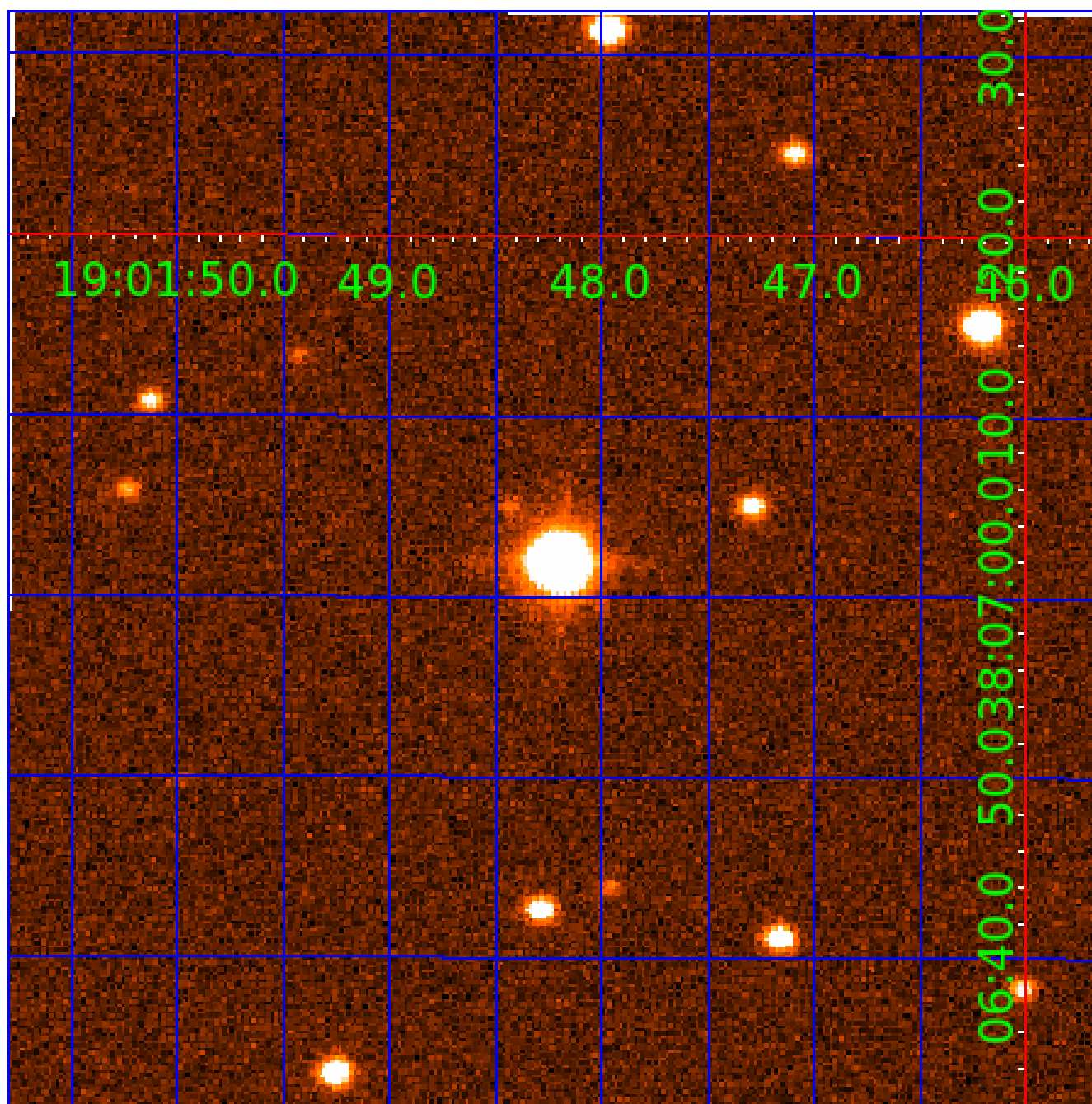


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002968811

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})
002968811-01	OBS	No	270.294041	393.700580	5211.7	24.767	59.1	11.1	15.50	4697	197.29	113.07
002968811-02	OBS	No	589.617905	270.810903	3665.6	23.426	24.8	10.1	15.50	4697	97.59	39.97
002968811-03	OBS	No	225.938864	256.213281	2345.0	9.586	25.3	9.8	15.50	4697	104.75	143.60
002968811-04	OBS	No	459.419789	282.211364	3132.3	9.905	18.0	9.5	15.50	4697	111.05	55.74
002968811-05	OBS	No	396.581344	137.402670	1370.7	7.500	27.0	-1.0	15.50	4697	55.35	67.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002968811-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
002968811-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
002968811-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

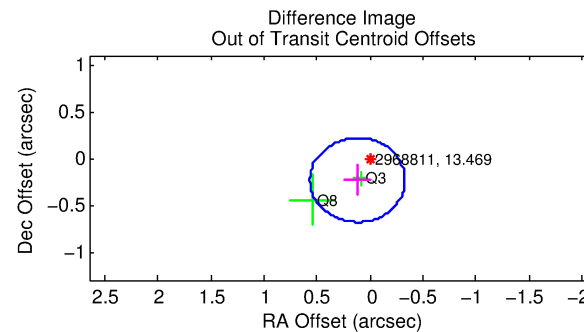
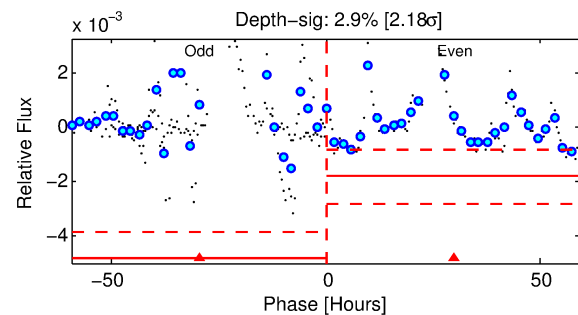
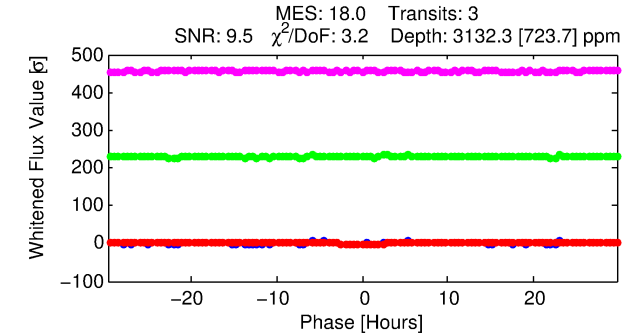
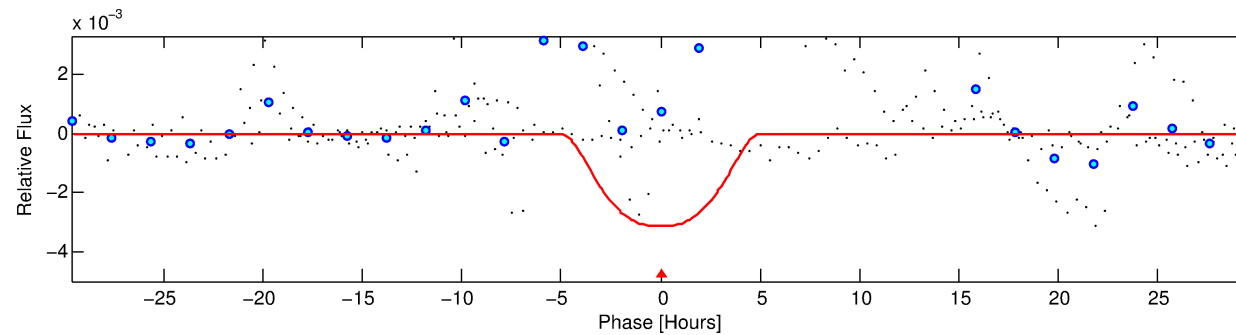
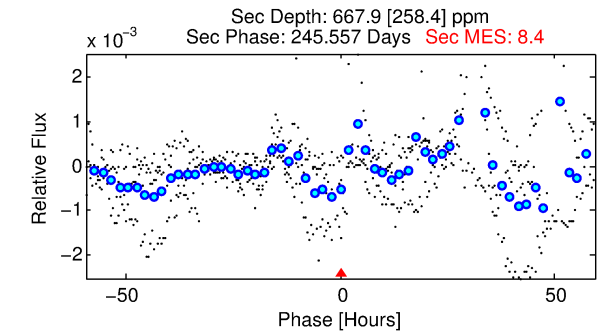
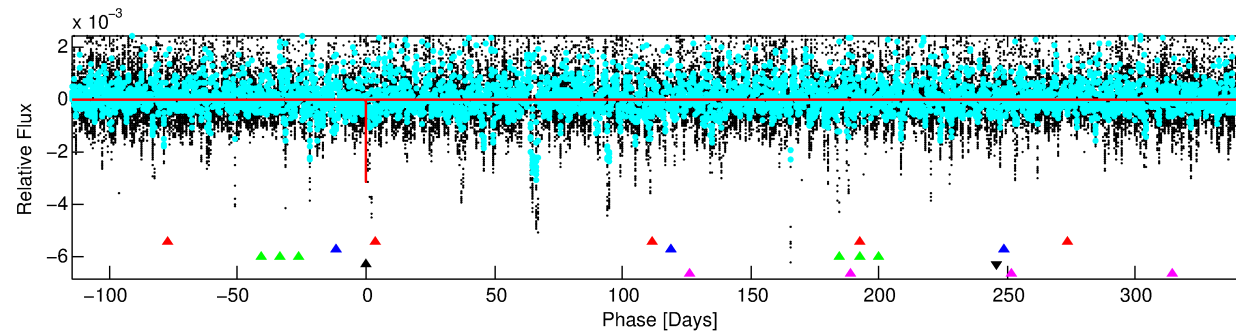
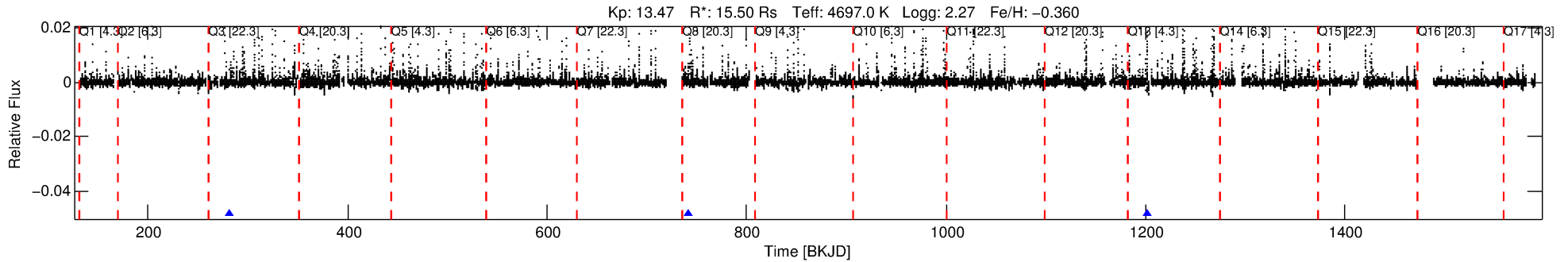
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002968811-04

No Significant Match Found

DV One-Page Summary

KIC: 2968811 Candidate: 4 of 5 Period: 459.420 d



DV Fit Results:

Period = 459.41979 [0.01884] d
Epoch = 282.2114 [0.0194] BKJD
Rp/R* = 0.0656 [0.0091]
a/R* = 186.35 [26.62]
b = 0.93 [0.03]
Seff = 55.74 [30.42]
Teq = 697 [95] K
Rp = 111.05 [48.39] Re
a = 1.3713 [0.4923] AU
Ag = 56.03 [40.18] [1.37 σ]
Teffp = 2947 [358] K [6.07 σ]

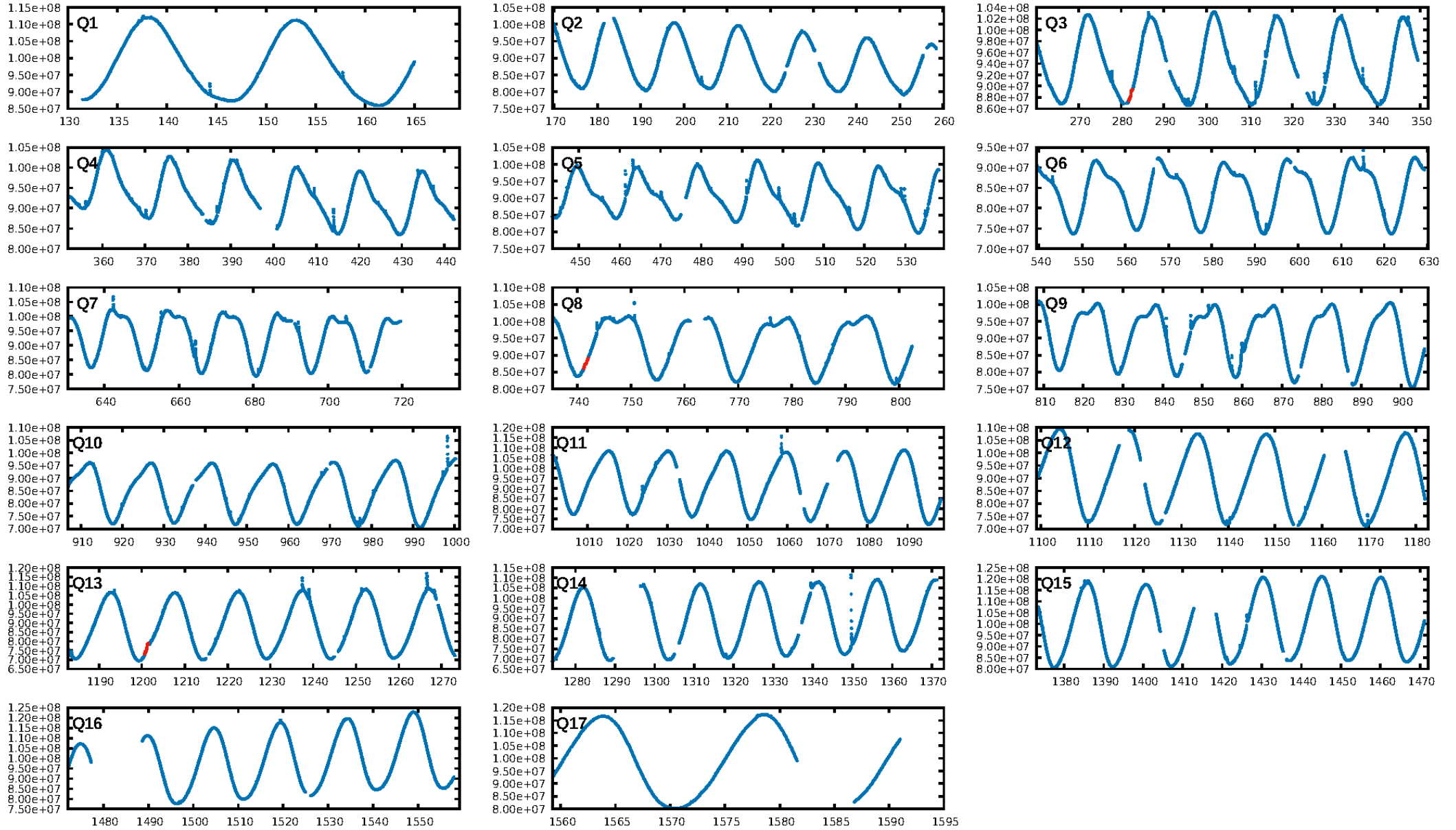
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [121.38 σ]
LongPeriod-sig: 100.0% [122.86 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -33.89
Centroid-sig: 16.5%
Centroid-so: 1.259 arcsec [3.46 σ]
OotOffset-rm: 0.261 arcsec [1.74 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.590 arcsec [3.82 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

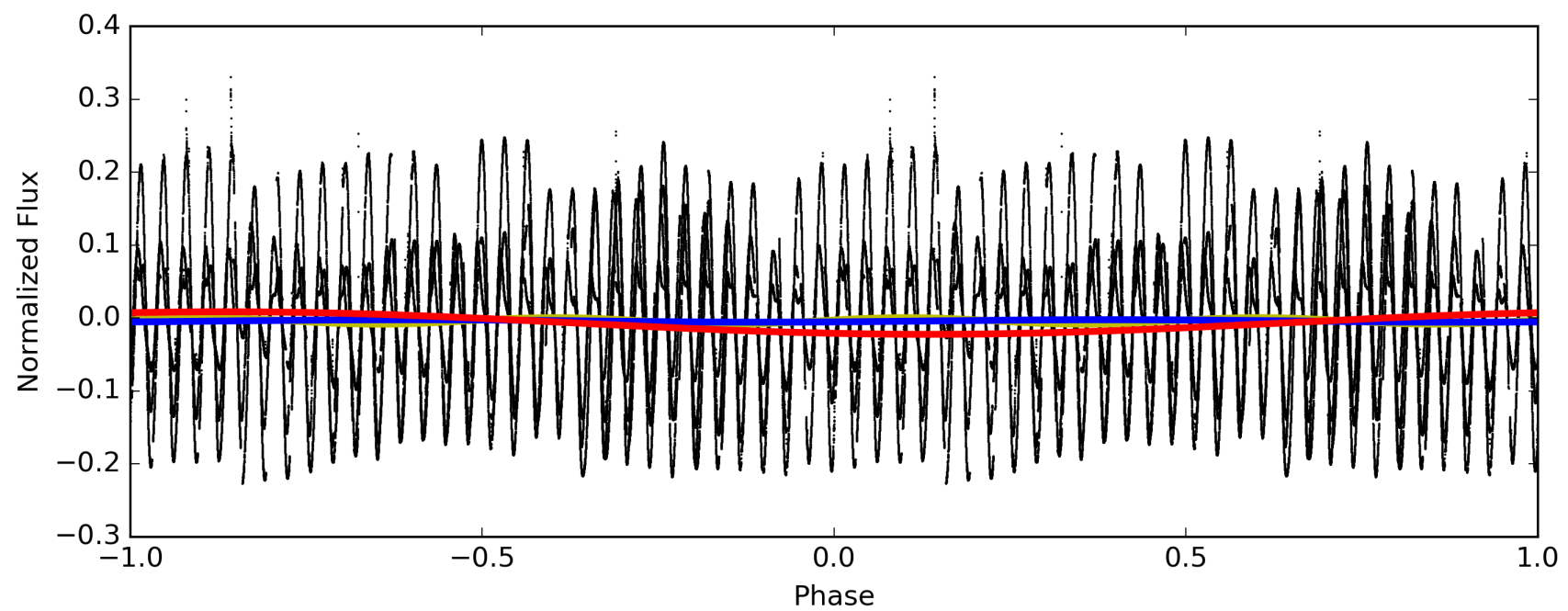
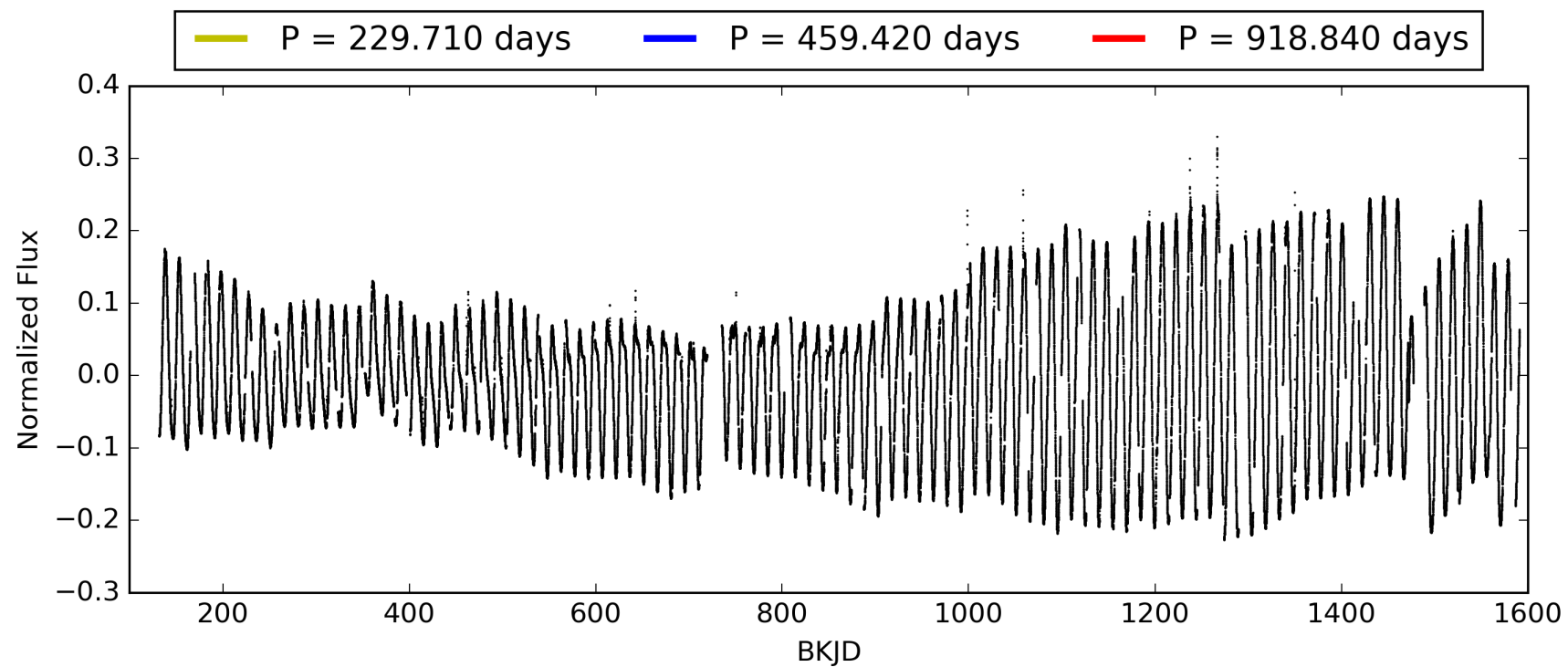
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002968811-04, PDC Light Curves

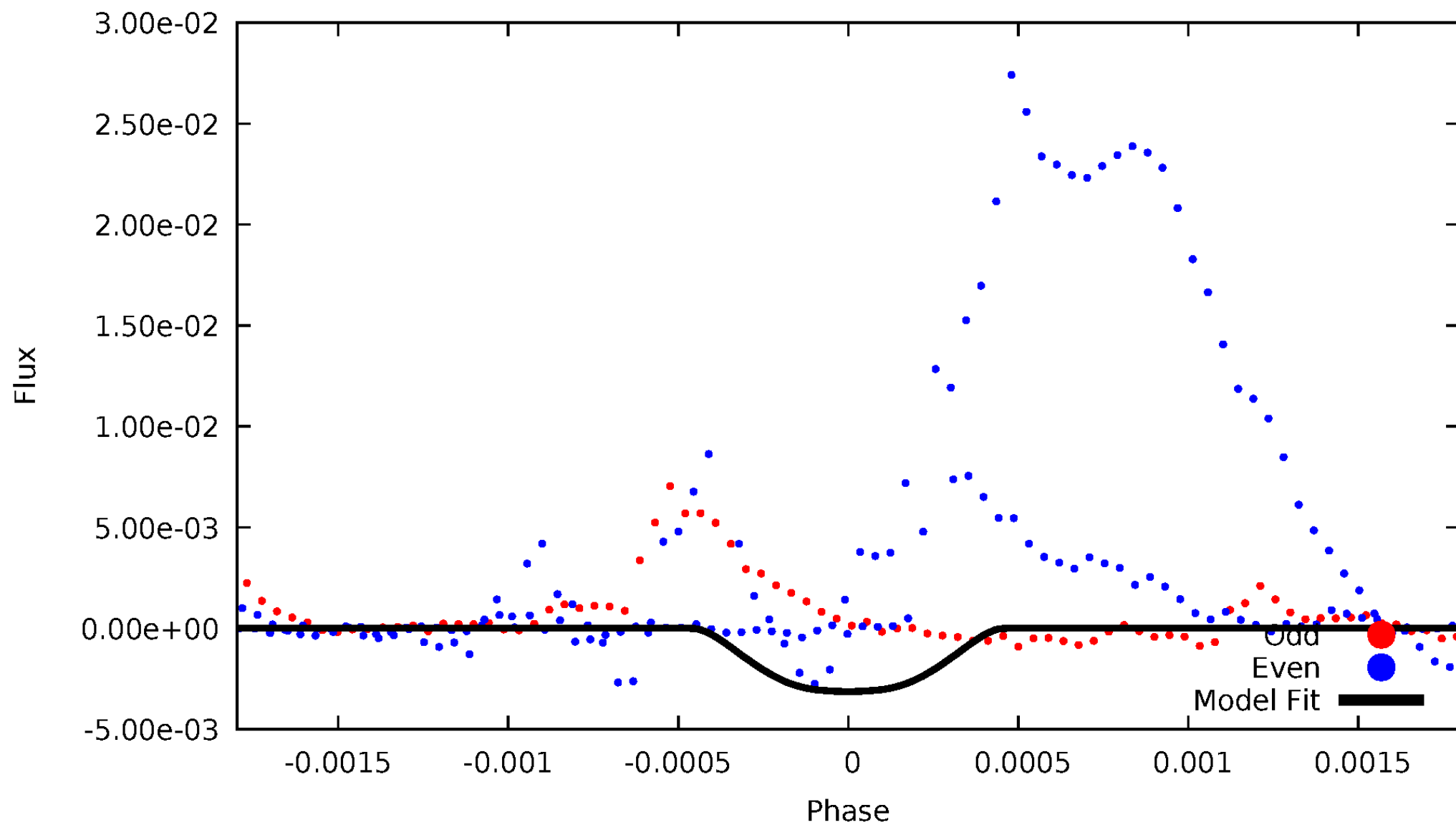


TCE 002968811-04



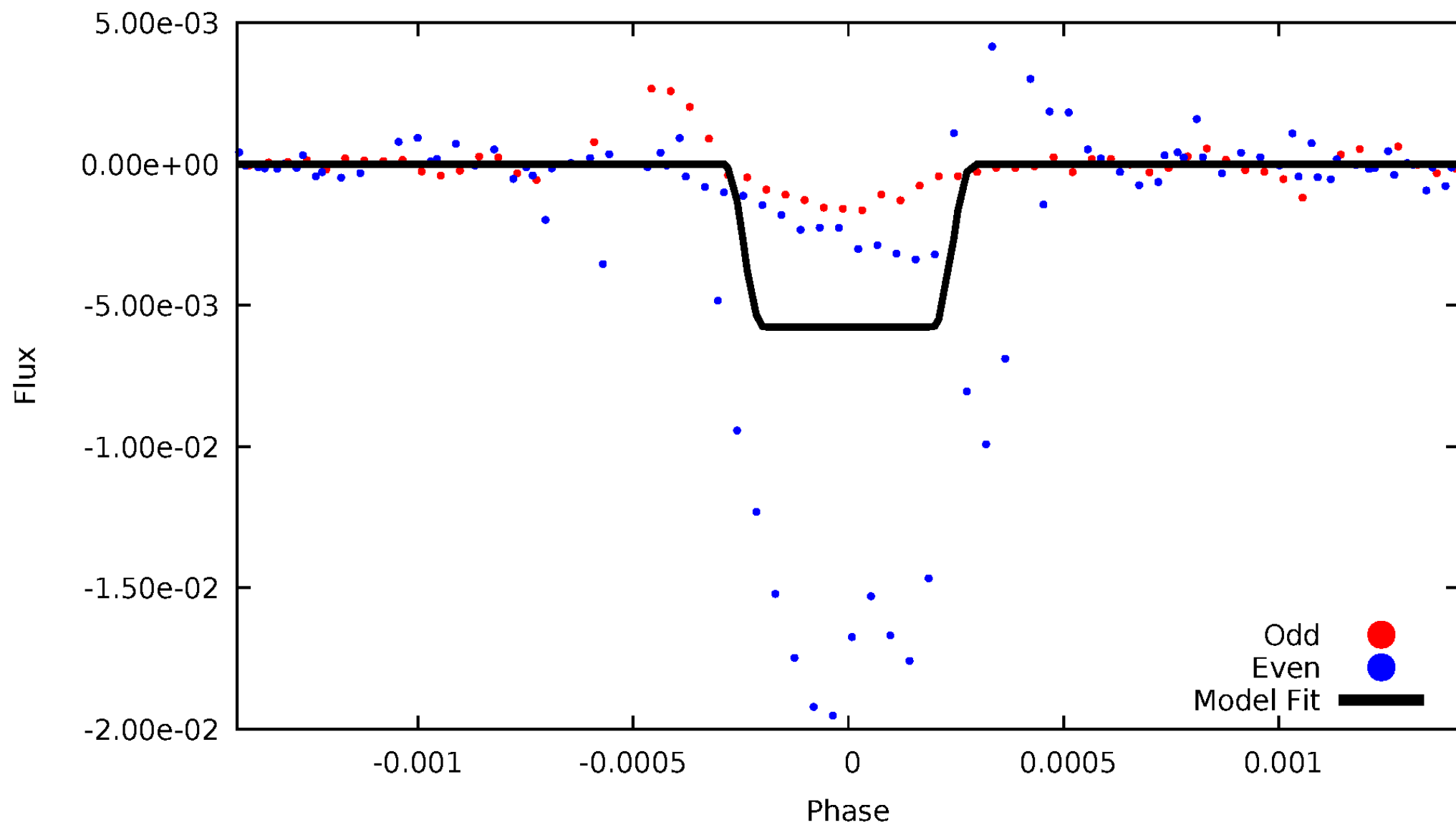
DV Odd/Even

TCE 002968811-04



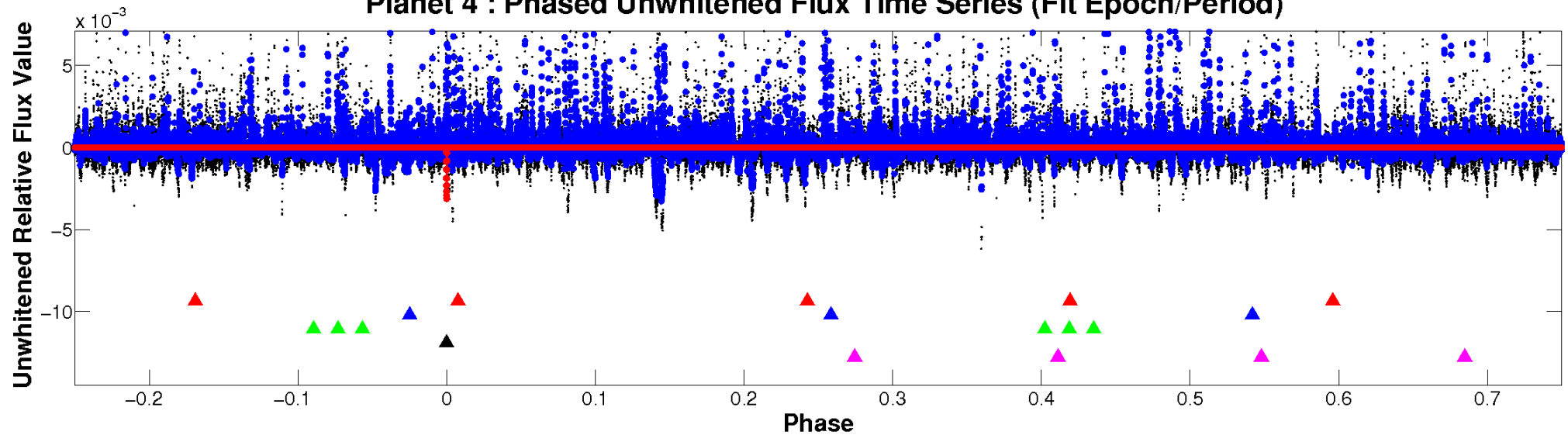
ALT Odd/Even

TCE 002968811-04

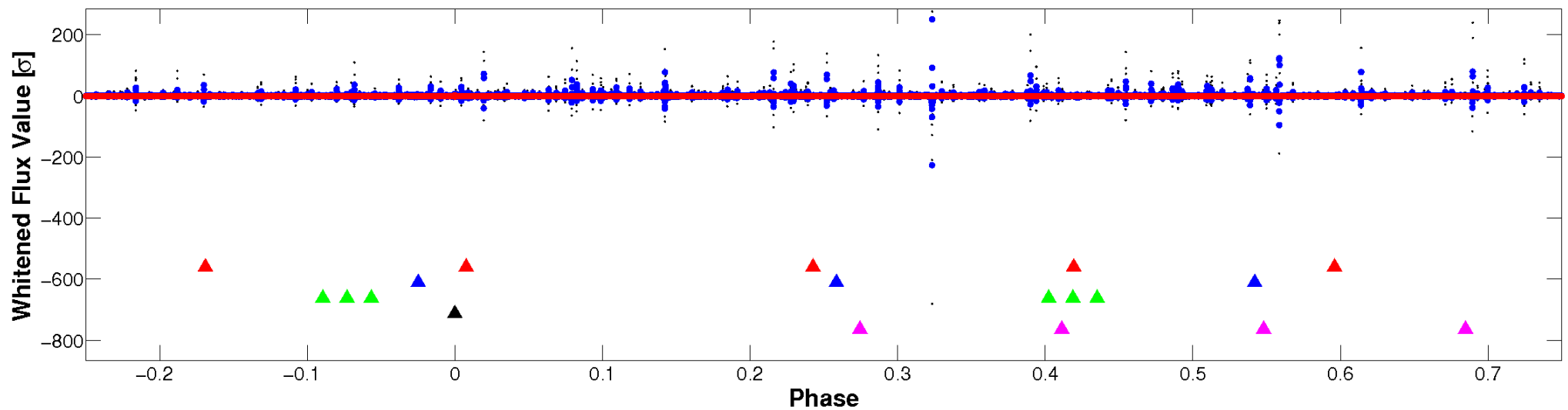


Non-Whitened Vs. Whitened Light Curve

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

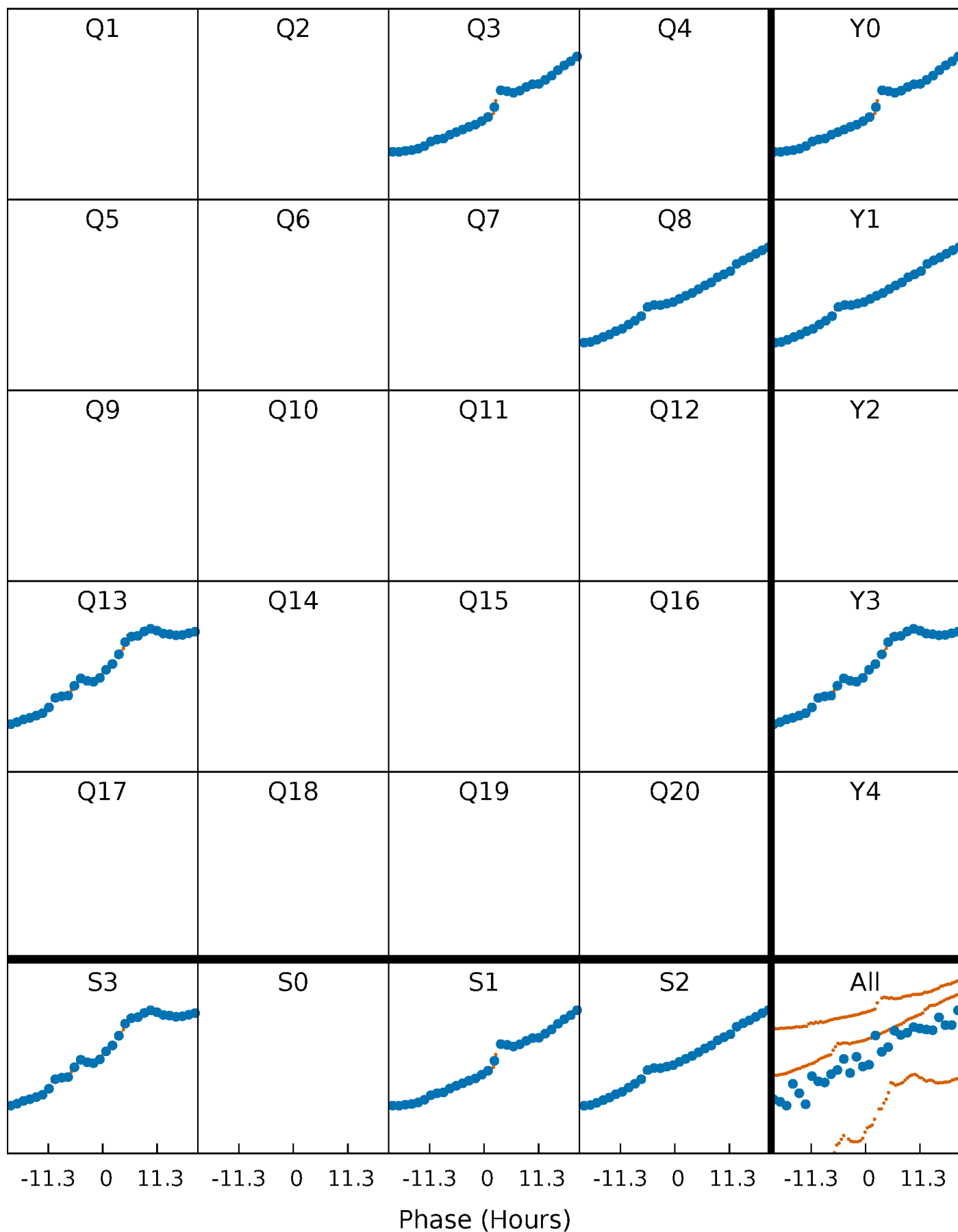


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



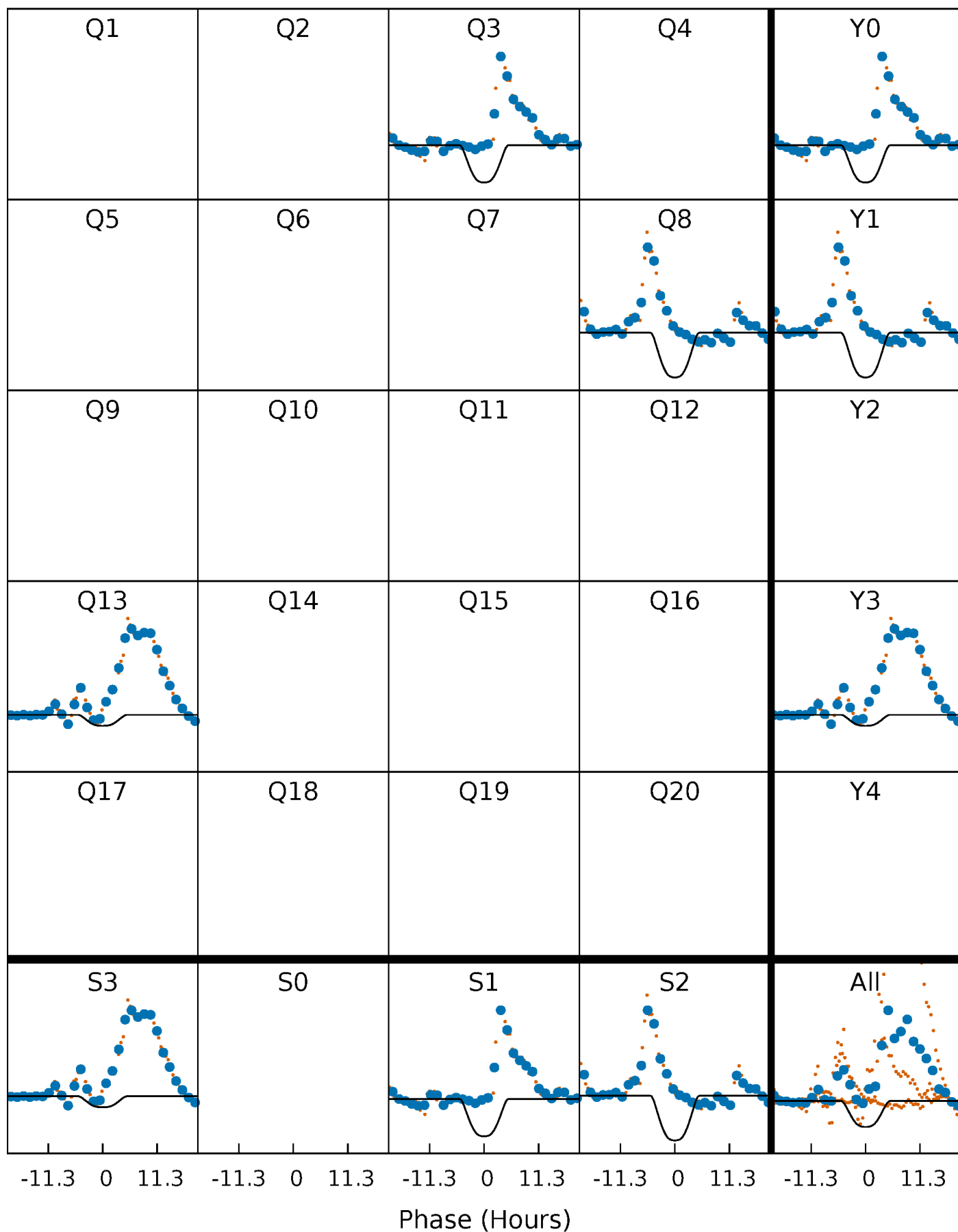
PDC Quarter-Phased Transit Curves

TCE 002968811-04 P=459.419789 Days $T_0=282.211364$ (BKJD)



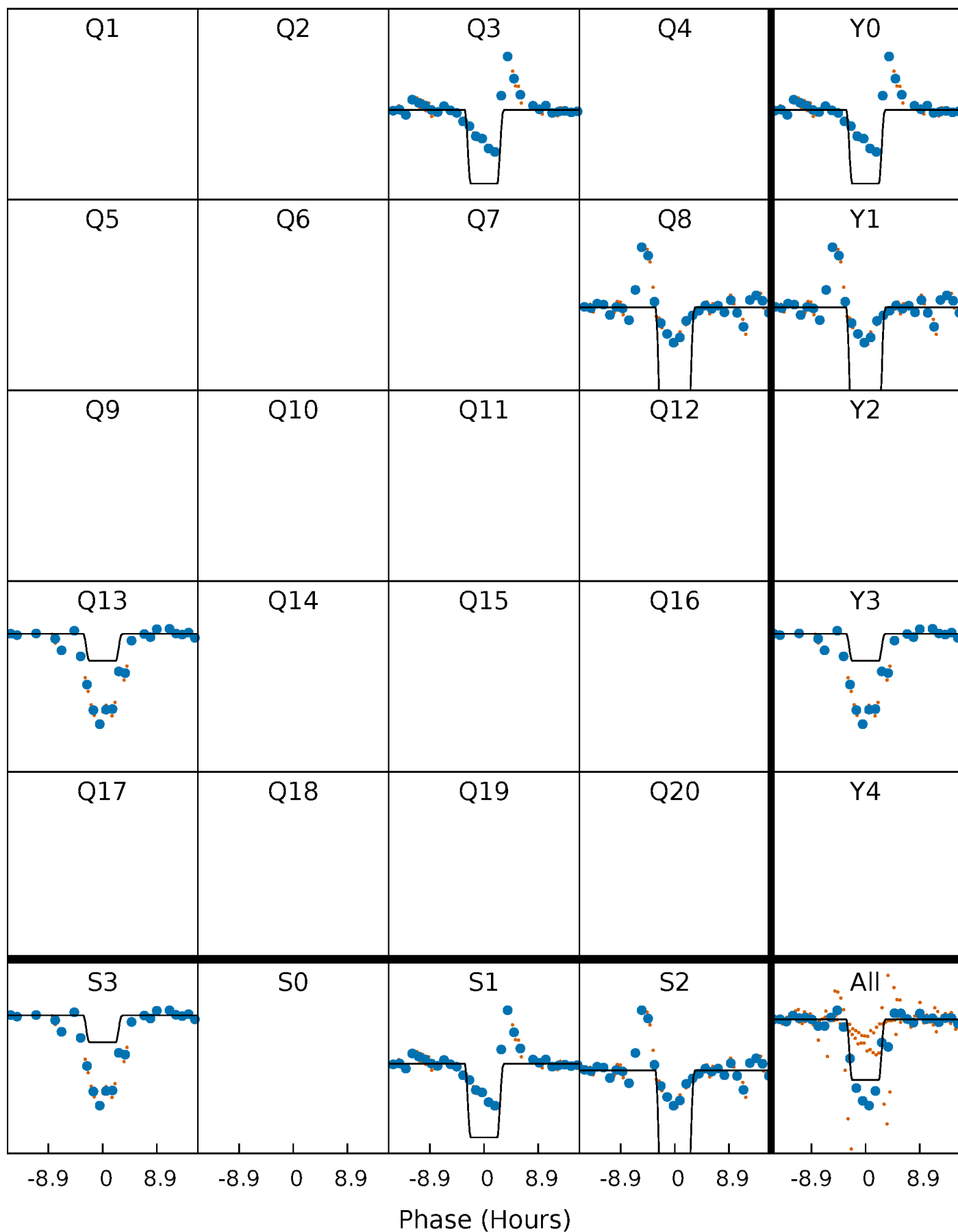
DV Quarter-Phased Transit Curves

TCE 002968811-04 $P=459.419789$ Days $T_0=282.211364$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

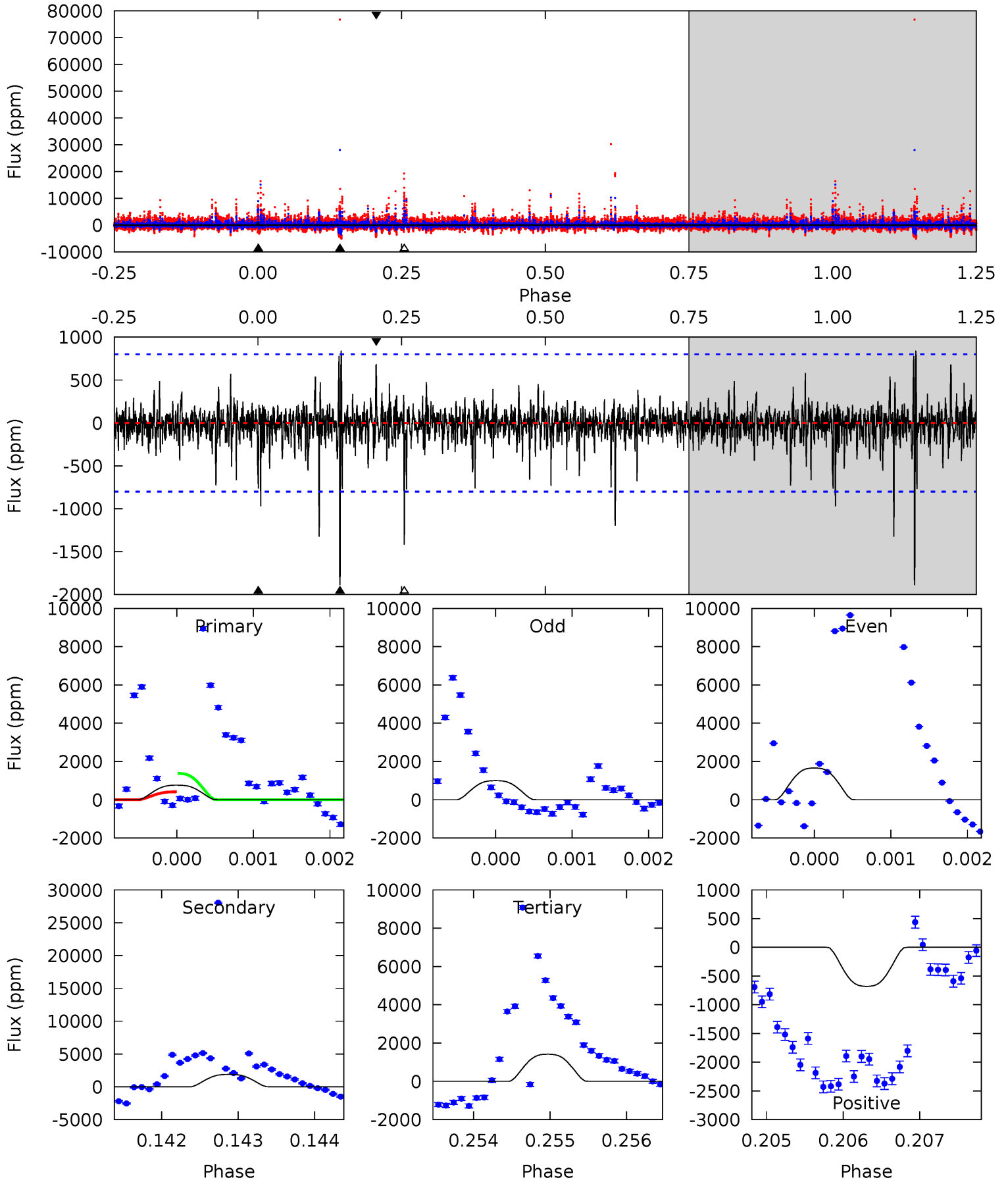
TCE 002968811-04 P=459.421352 Days $T_0=282.199733$ (BKJD)



DV Model-Shift Uniqueness Test

002968811-04, P = 459.419789 Days, E = 282.211364 Days

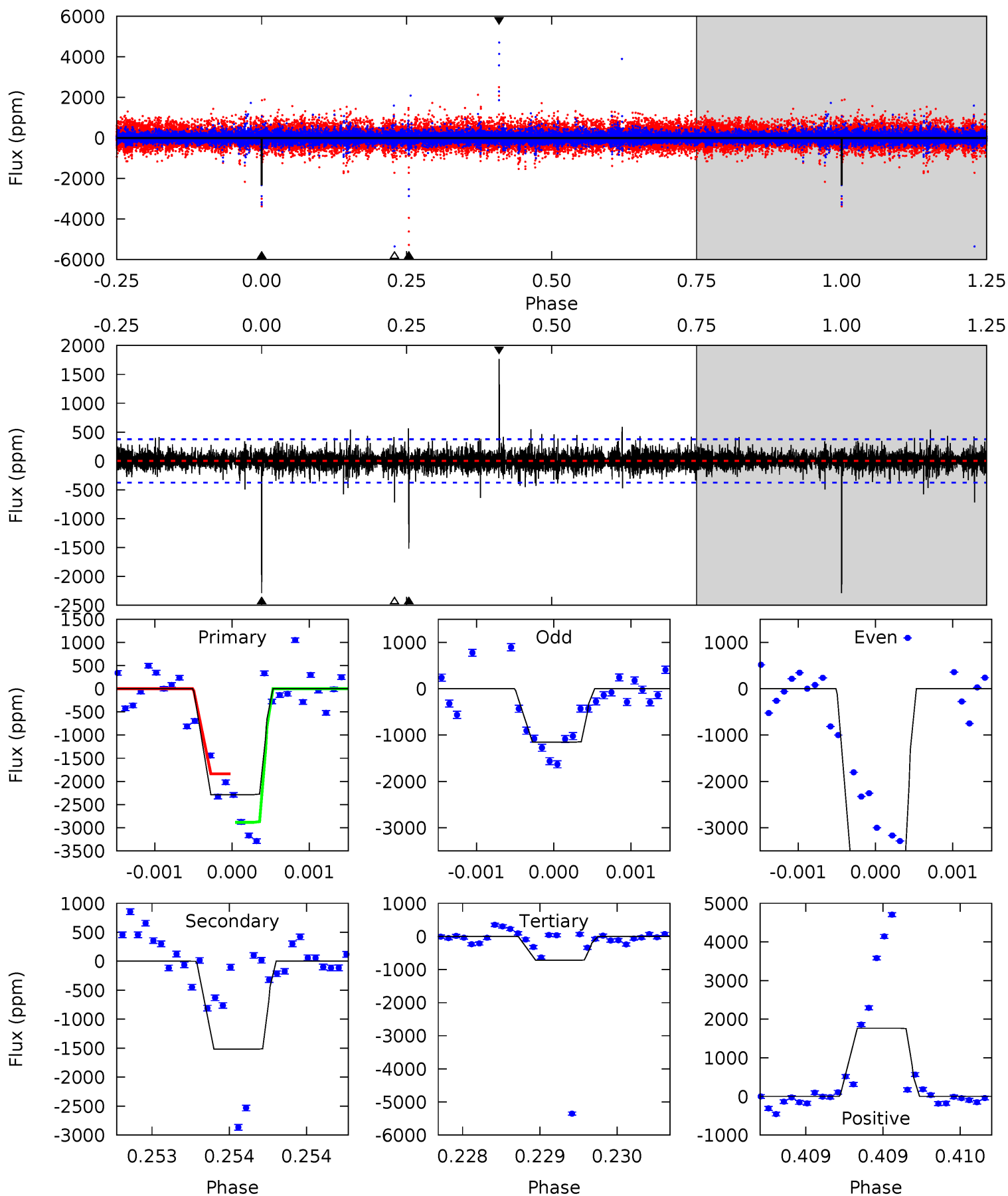
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.21	12.9	9.69	4.65	5.47	3.32	1.06	-4.49	0.56	3.21	8.26	1.53	1.85	0.31	3.13



Alt Model-Shift Uniqueness Test

002968811-04, P = 459.421352 Days, E = 282.199733 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	22.4	10.6	26.1	5.55	3.45	1.39	23.2	7.69	11.8	-3.64	25.7	2.75	0.44	7.73



Stellar Parameters For KIC 002968811

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4697^{+117}_{-105}	$2.269^{+0.300}_{-0.200}$	$-0.360^{+0.300}_{-0.200}$	$15.504^{+3.449}_{-6.405}$	$1.628^{+0.190}_{-0.570}$	$0.001^{+0.001}_{-0.000}$
	+2%/-2%	+13%/-9%	+83%/-56%	+22%/-41%	+12%/-35%	+224%/-46%
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 002968811-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1889 ± 146	$109.33^{+23.82}_{-25.48}$	972^{+73}_{-90}	4007^{+247}_{-204}	159^{+100}_{-53}
Alt.	-1519 ± 68	$124.22^{+28.64}_{-28.58}$	970^{+78}_{-96}	3688^{+193}_{-151}	100^{+60}_{-33}

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 $A_{obs} \gg 1.0$

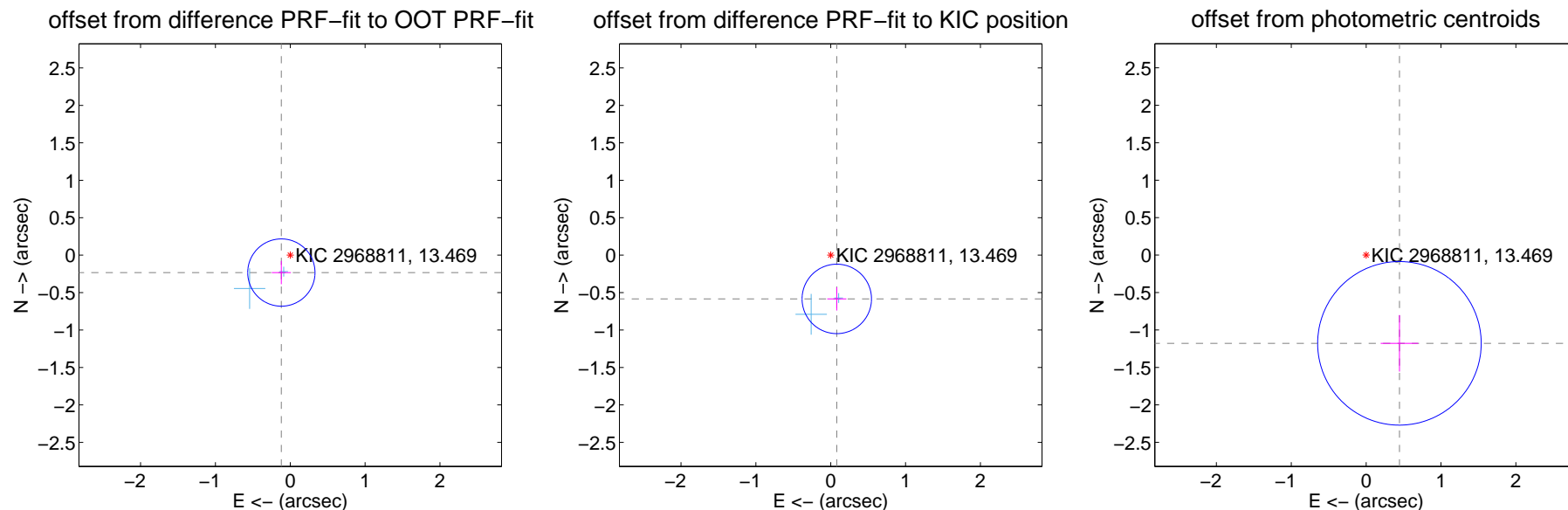
DV Centroid Data

Supplemental centroid analysis for 002968811-04. Kepler magnitude: 13.47. Transit SNR 9.54

There are 2 quarters with good PRF difference image offsets

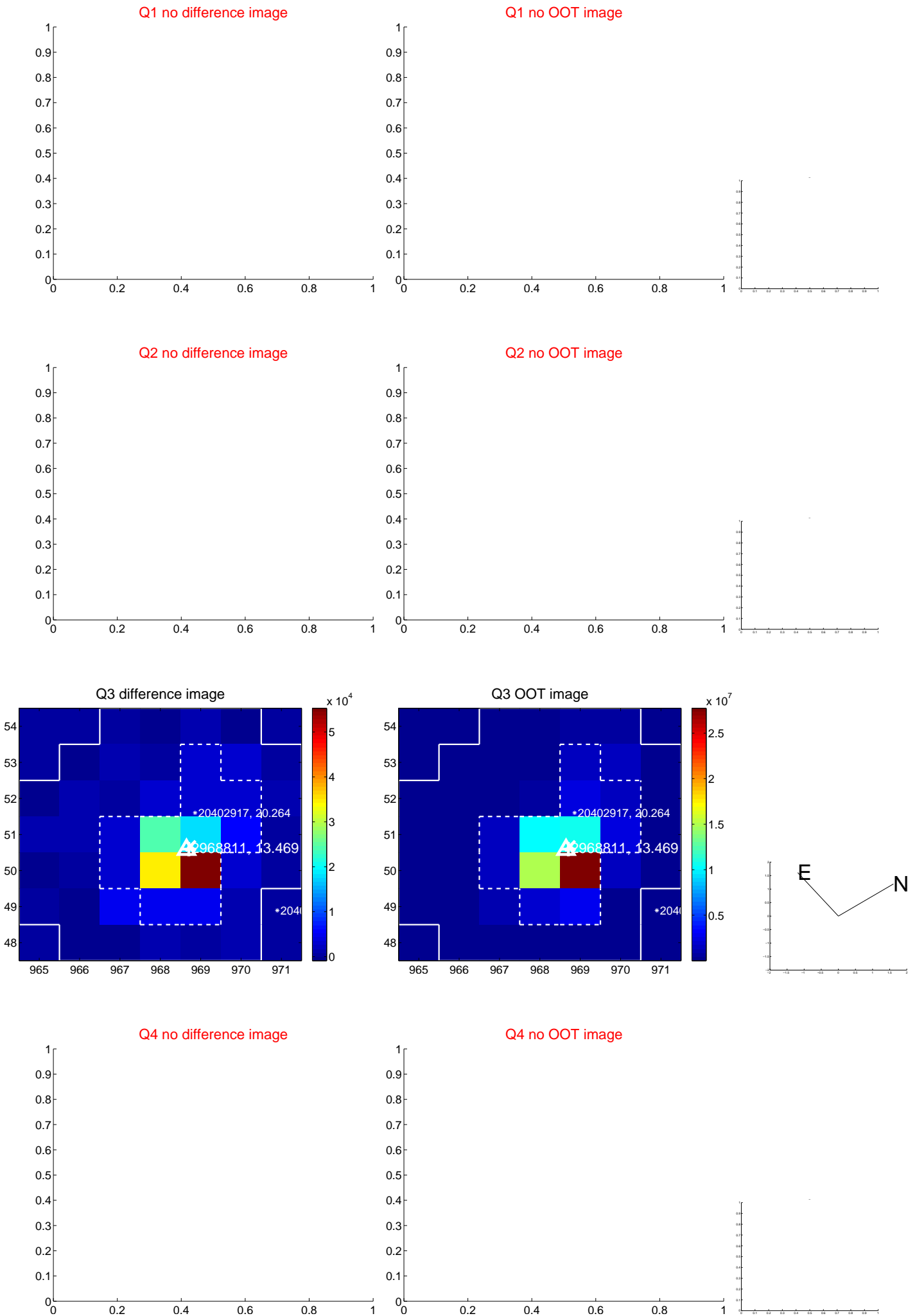
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.261 ± 0.150	1.74	0.119 ± 0.128	-0.232 ± 0.155
PRF-fit source offset from KIC position	0.590 ± 0.155	3.82	-0.081 ± 0.128	-0.584 ± 0.155
photometric centroid source offset	1.26 ± 0.36	3.46	-0.44 ± 0.25	-1.18 ± 0.38

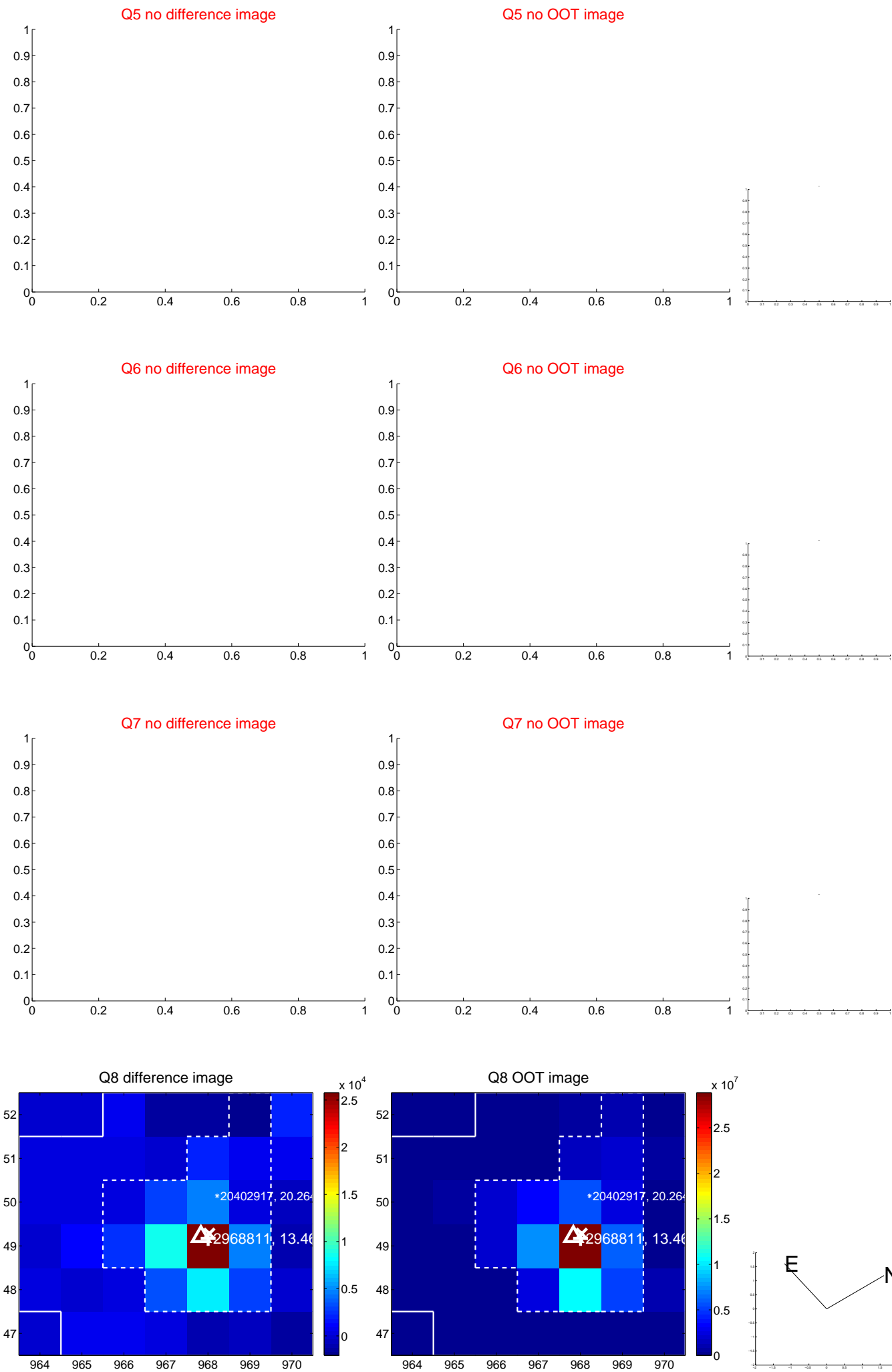


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



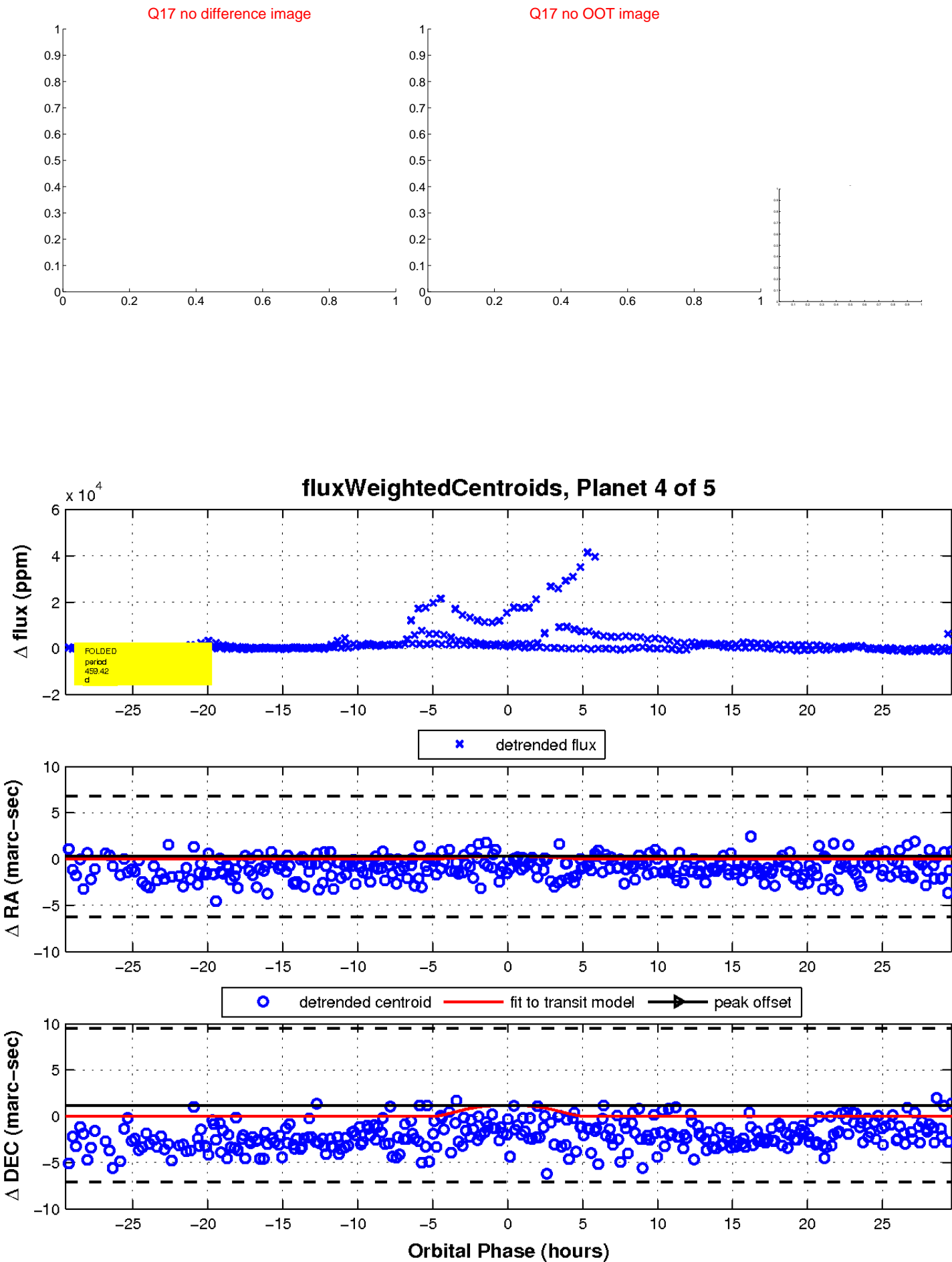
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

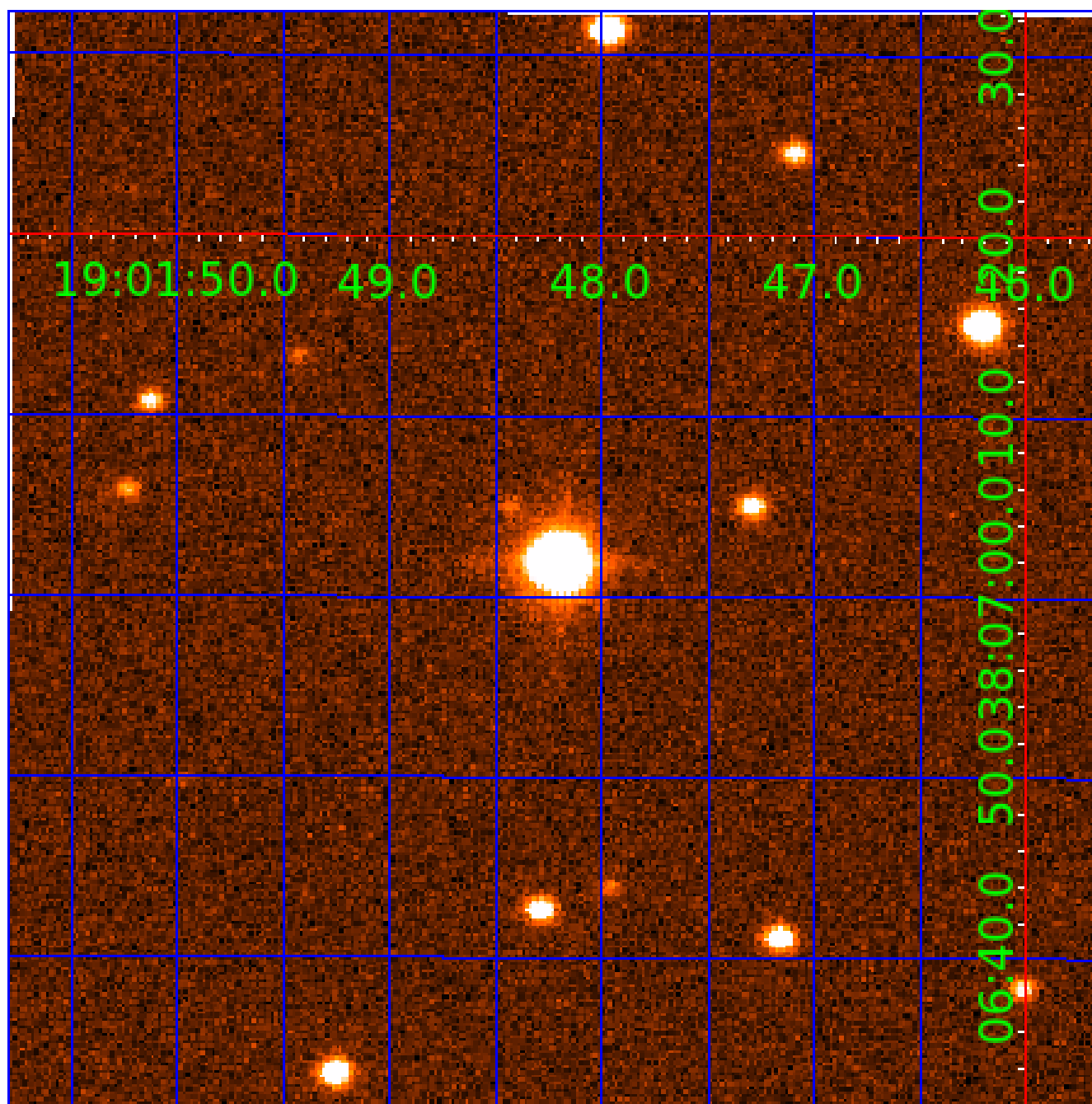


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002968811

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})
002968811-01	OBS	No	270.294041	393.700580	5211.7	24.767	59.1	11.1	15.50	4697	197.29	113.07
002968811-02	OBS	No	589.617905	270.810903	3665.6	23.426	24.8	10.1	15.50	4697	97.59	39.97
002968811-03	OBS	No	225.938864	256.213281	2345.0	9.586	25.3	9.8	15.50	4697	104.75	143.60
002968811-04	OBS	No	459.419789	282.211364	3132.3	9.905	18.0	9.5	15.50	4697	111.05	55.74
002968811-05	OBS	No	396.581344	137.402670	1370.7	7.500	27.0	-1.0	15.50	4697	55.35	67.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002968811-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
002968811-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
002968811-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002968811-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

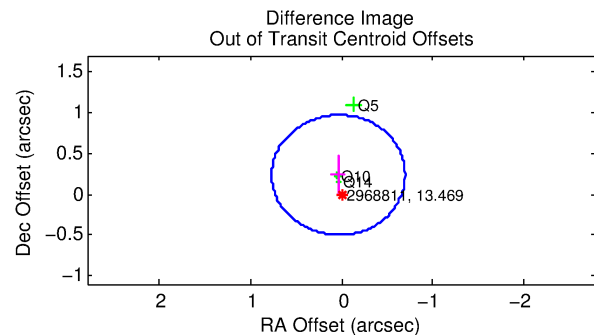
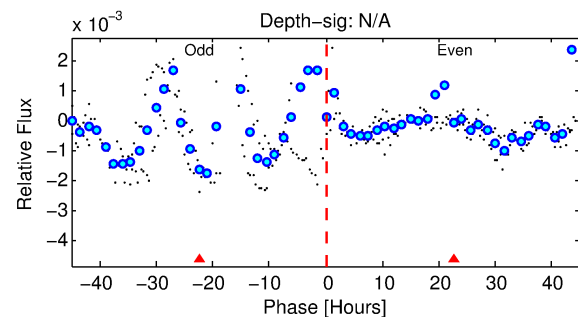
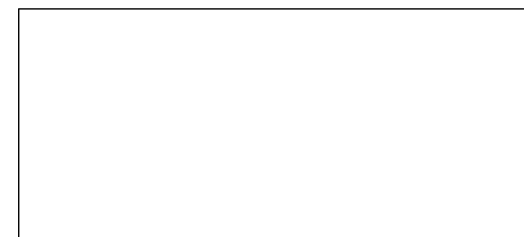
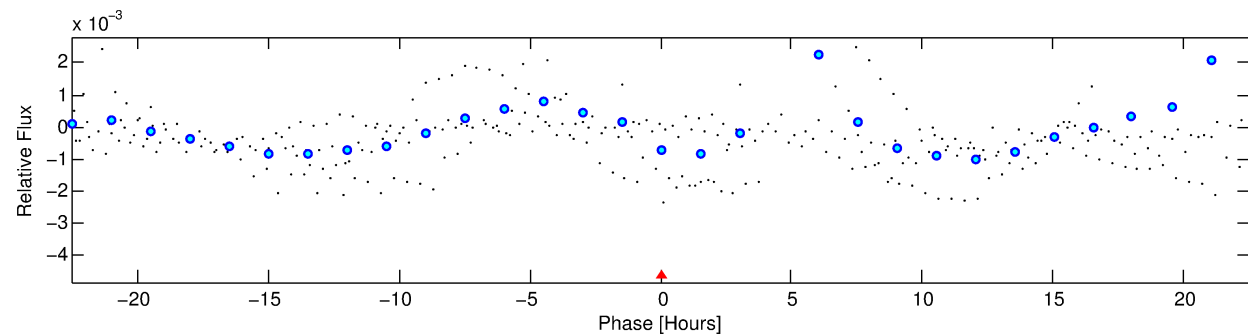
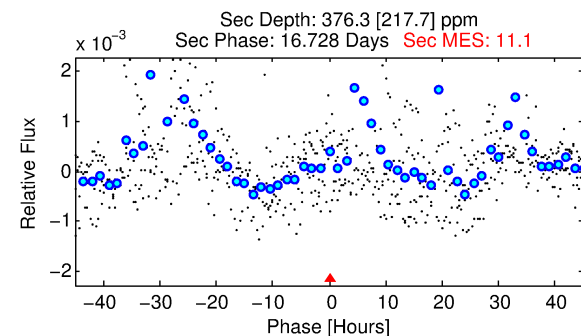
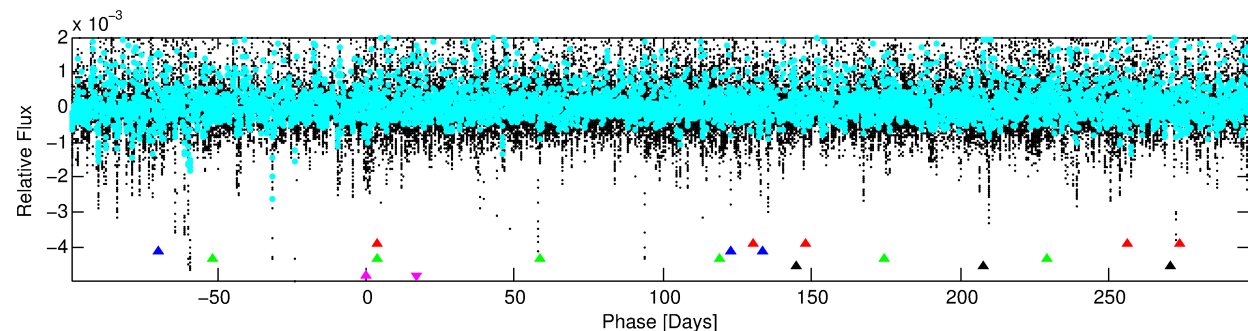
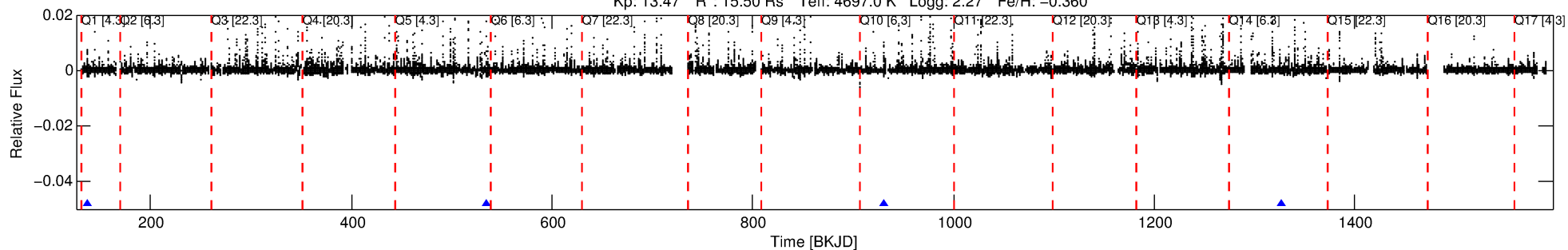
Ephemeris Match Information For 002968811-05

No Significant Match Found

DV One-Page Summary

KIC: 2968811 Candidate: 5 of 5 Period: 396.581 d

Kp: 13.47 R*: 15.50 Rs Teff: 4697.0 K Logg: 2.27 Fe/H: -0.360



TPS TCE Results:

Period = 396.58134 d
Epoch = 137.4027 BKJD

DV fit results are unavailable

DV Diagnostic Results:

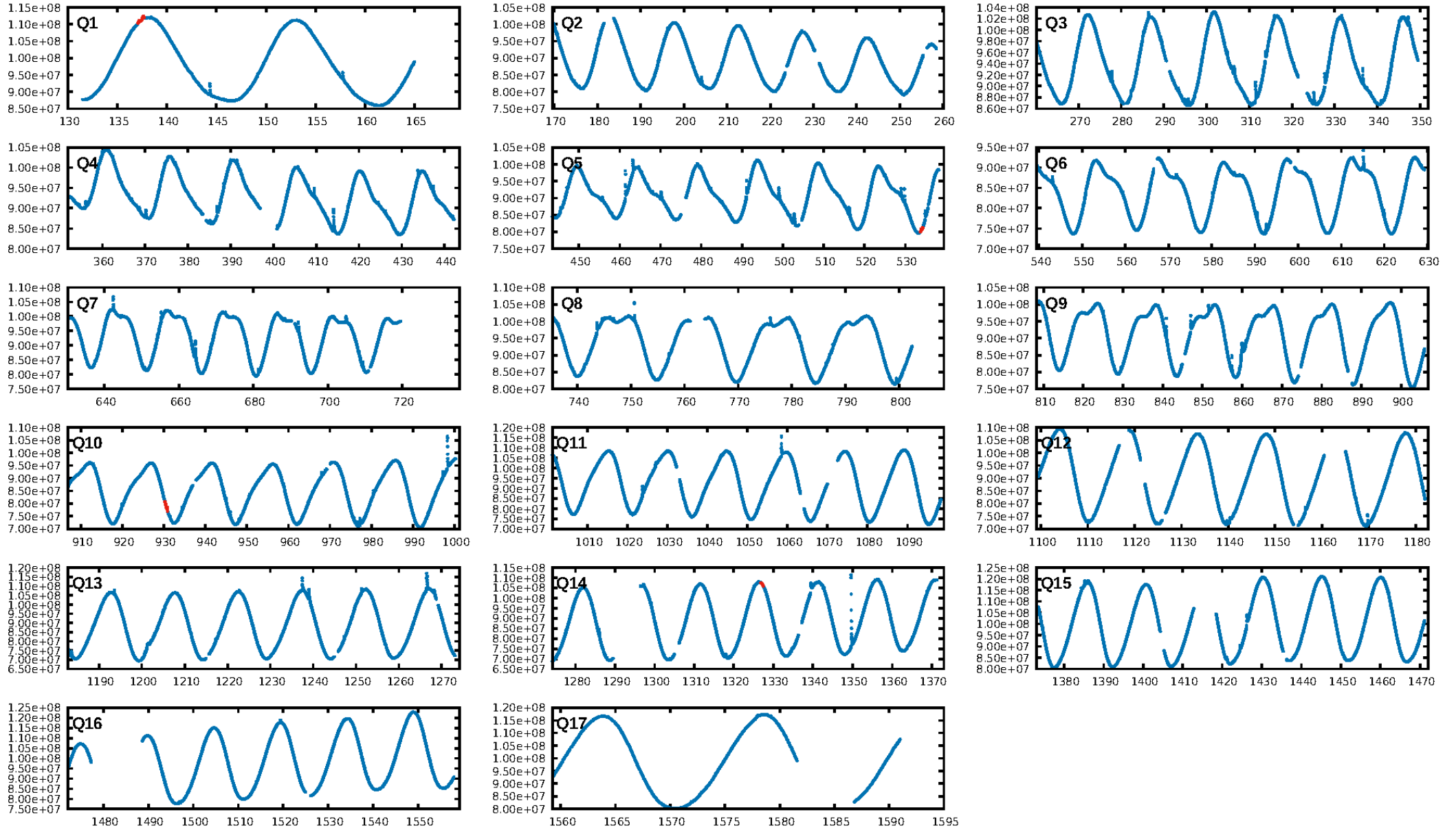
ShortPeriod-sig: 100.0% [117.13 σ]
LongPeriod-sig: 100.0% [121.38 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4173

Centroid-sig: 83.2%
Centroid-so: 0.940 arcsec [2.85 σ]
OotOffset-rm: 0.238 arcsec [0.97 σ]
KicOffset-rm: 0.478 arcsec [1.39 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

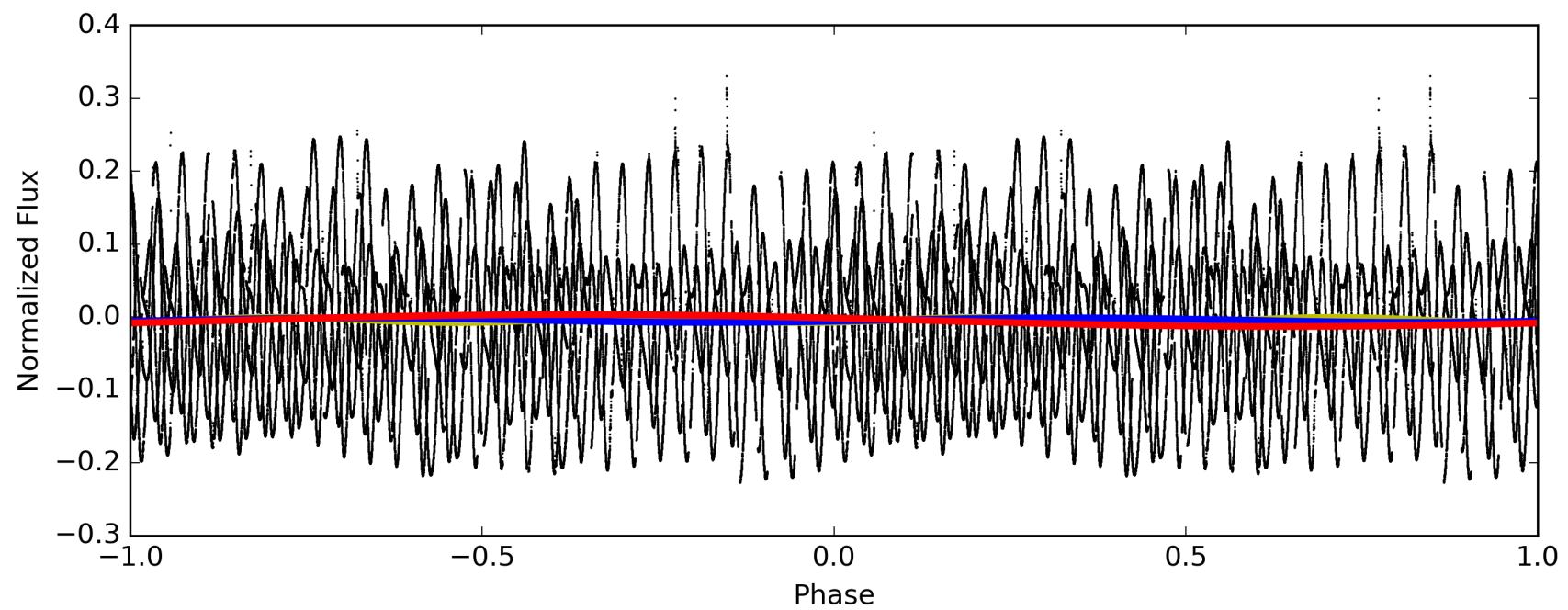
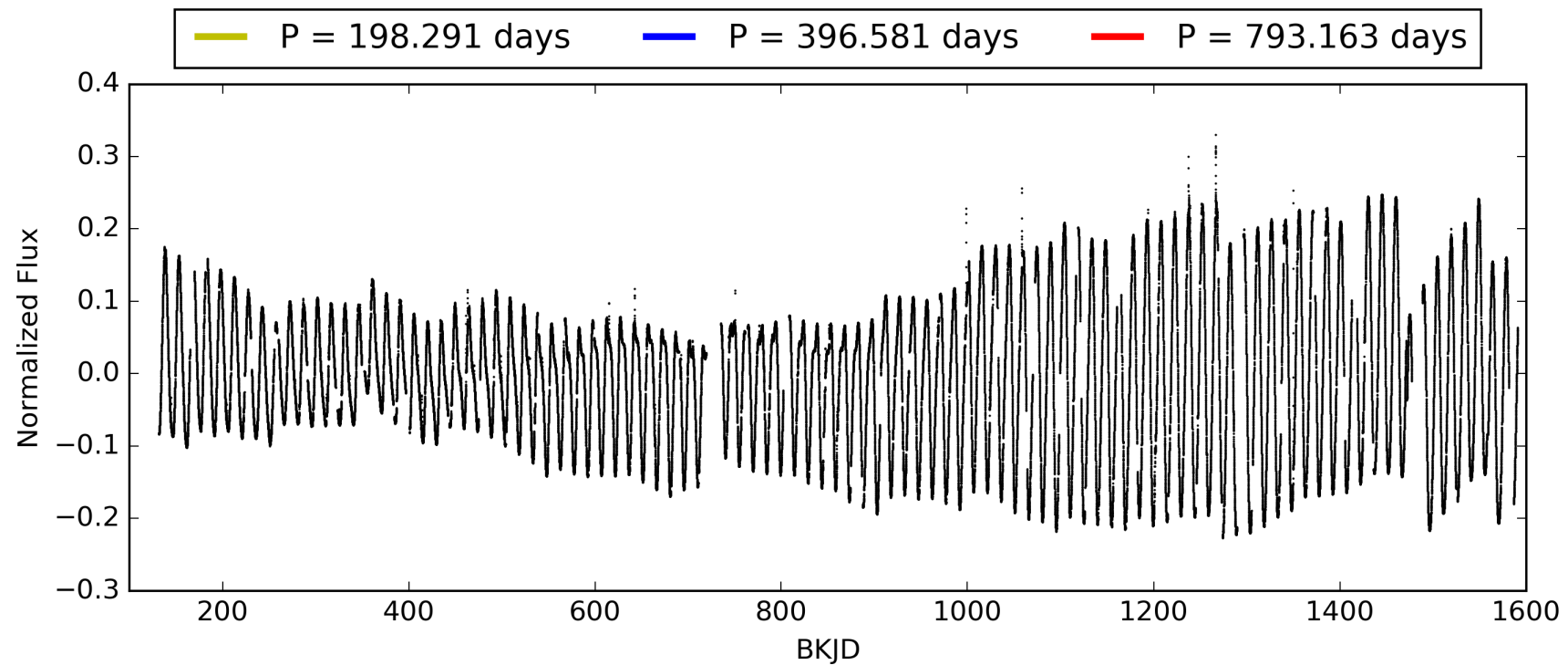
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:03:43 Z

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

TCE 002968811-05, PDC Light Curves

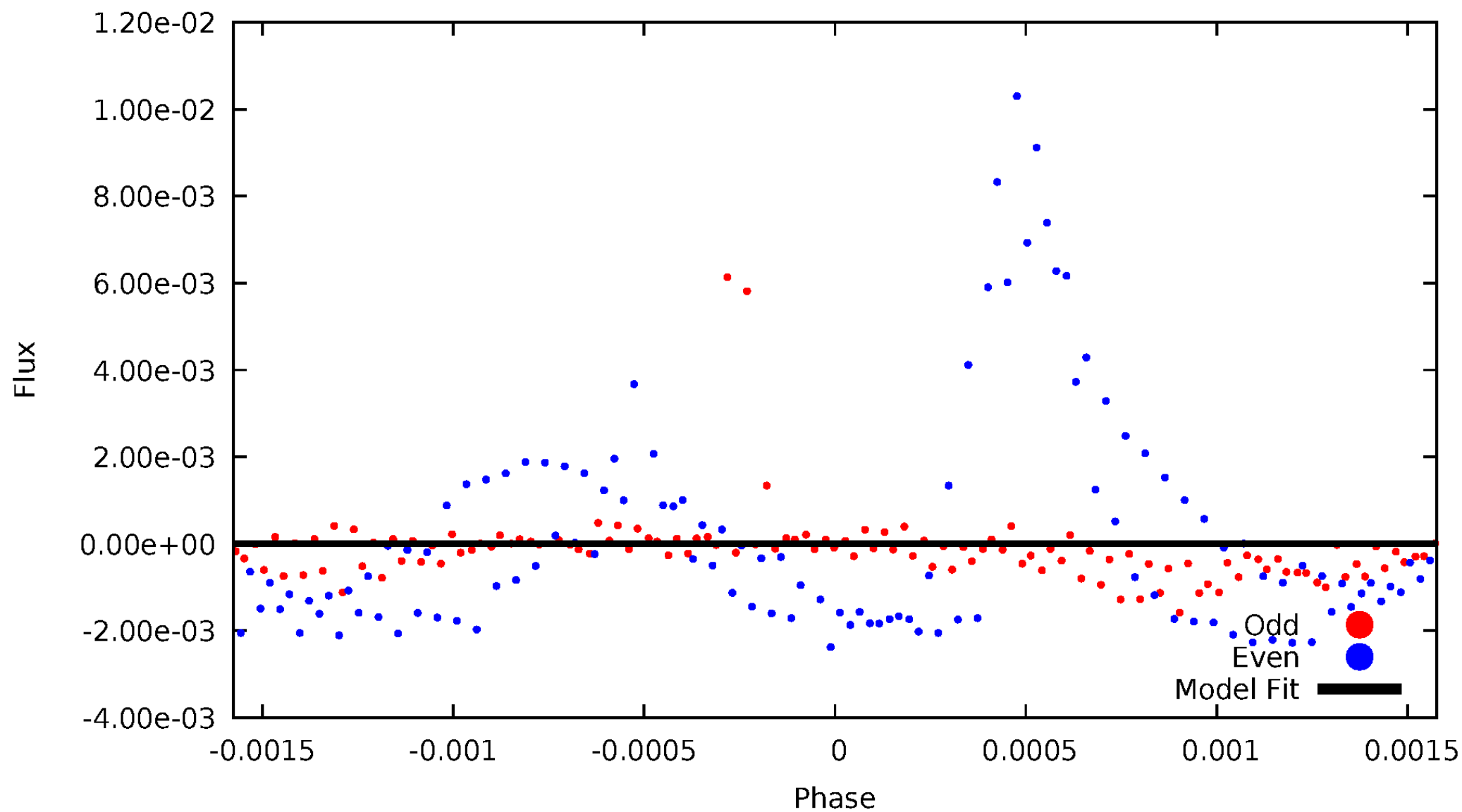


TCE 002968811-05



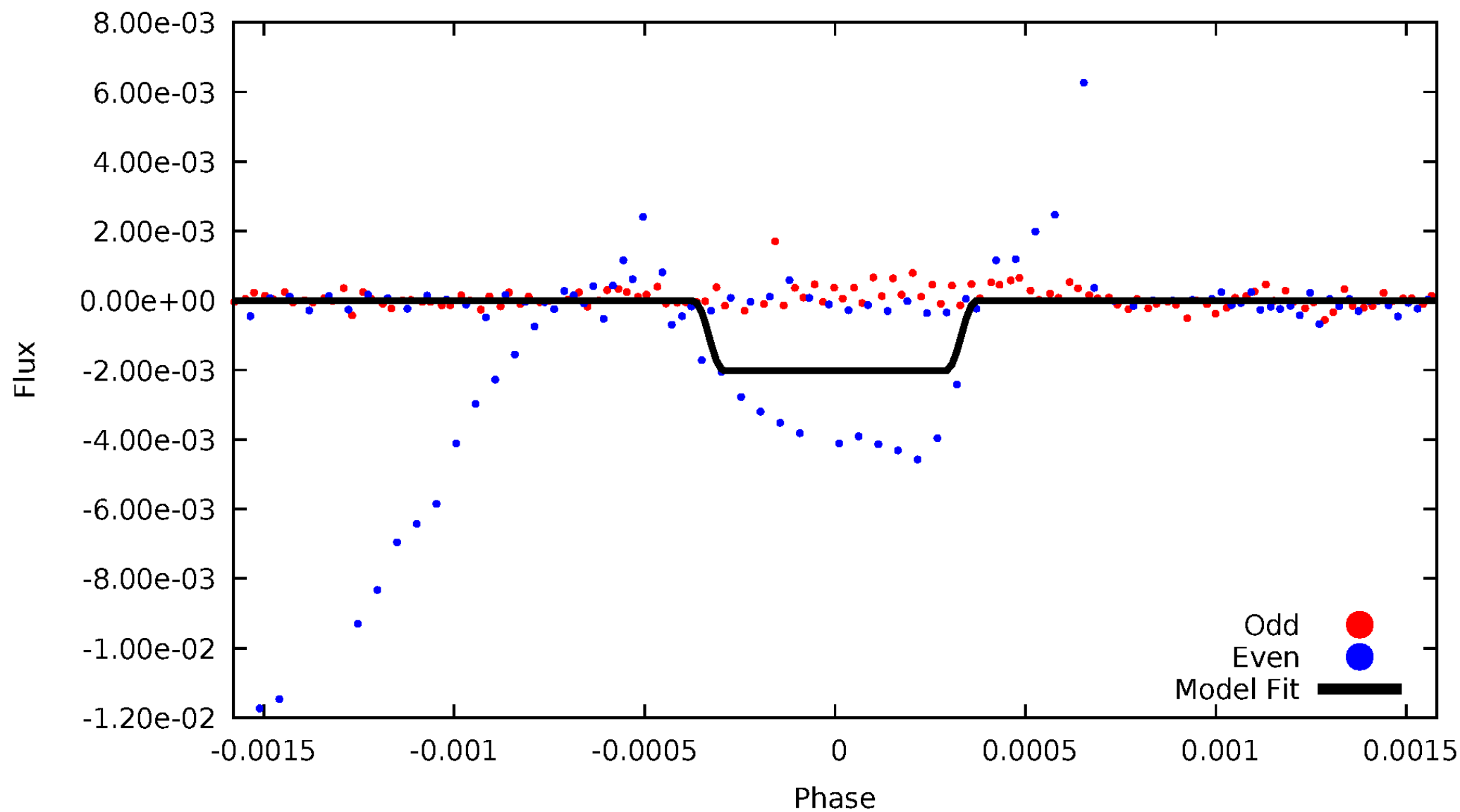
DV Odd/Even

TCE 002968811-05

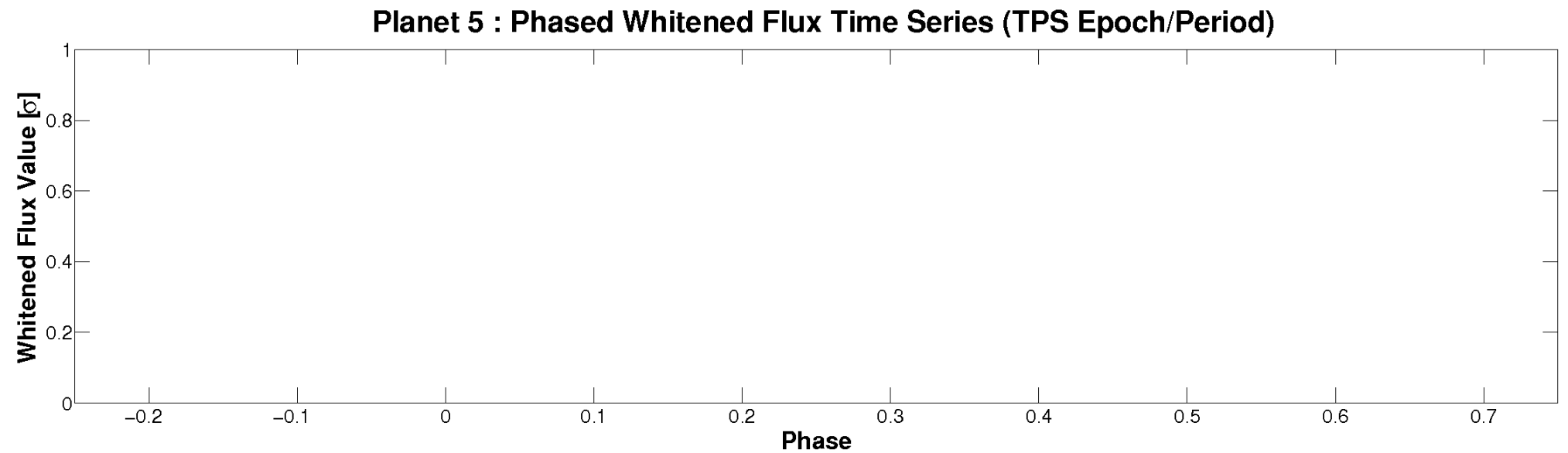
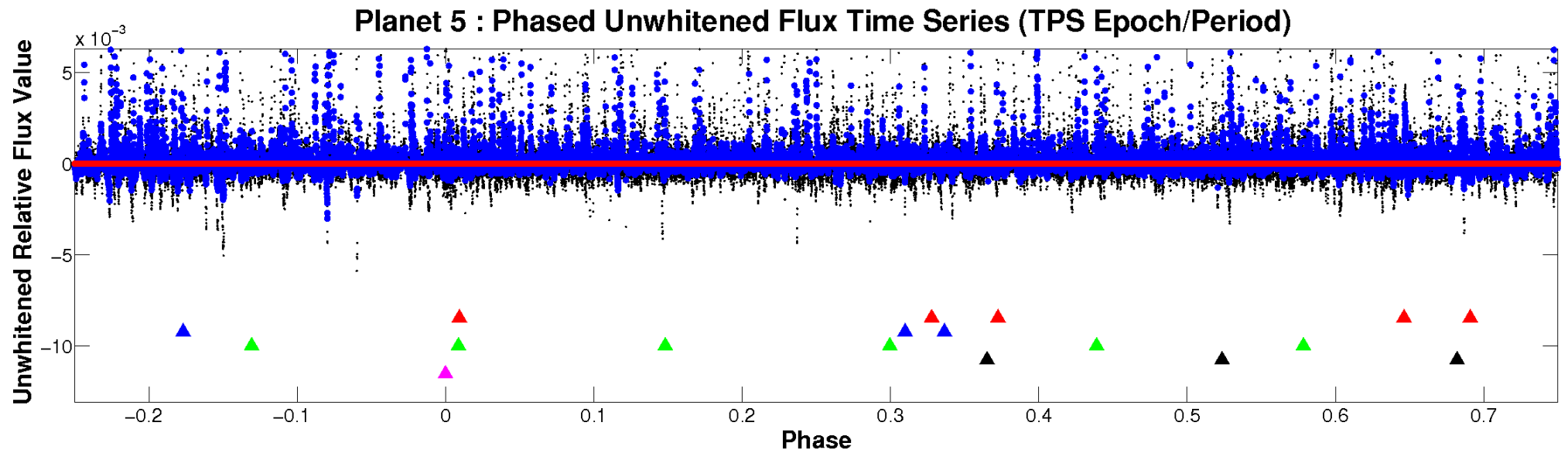


ALT Odd/Even

TCE 002968811-05

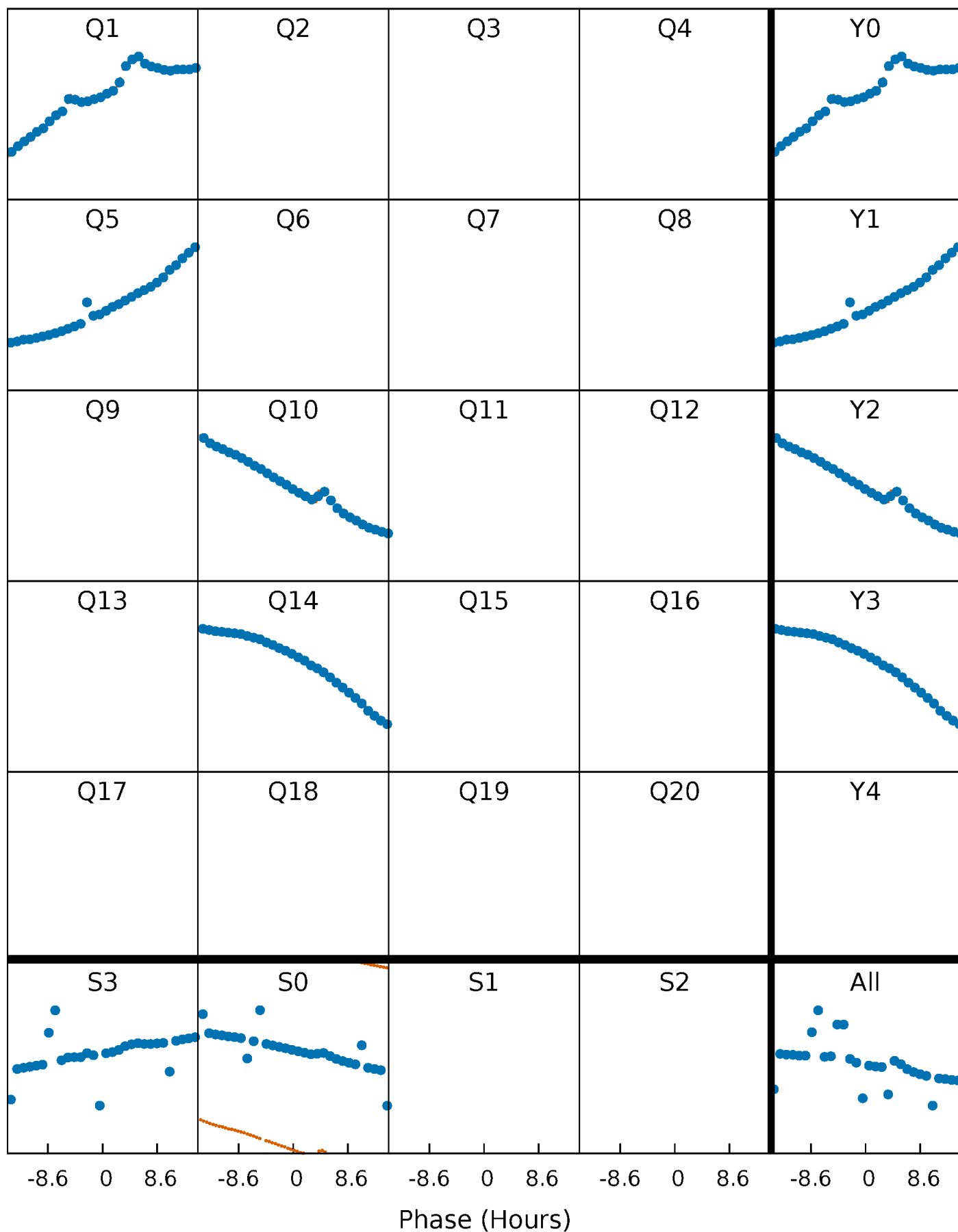


Non-Whitened Vs. Whitened Light Curve



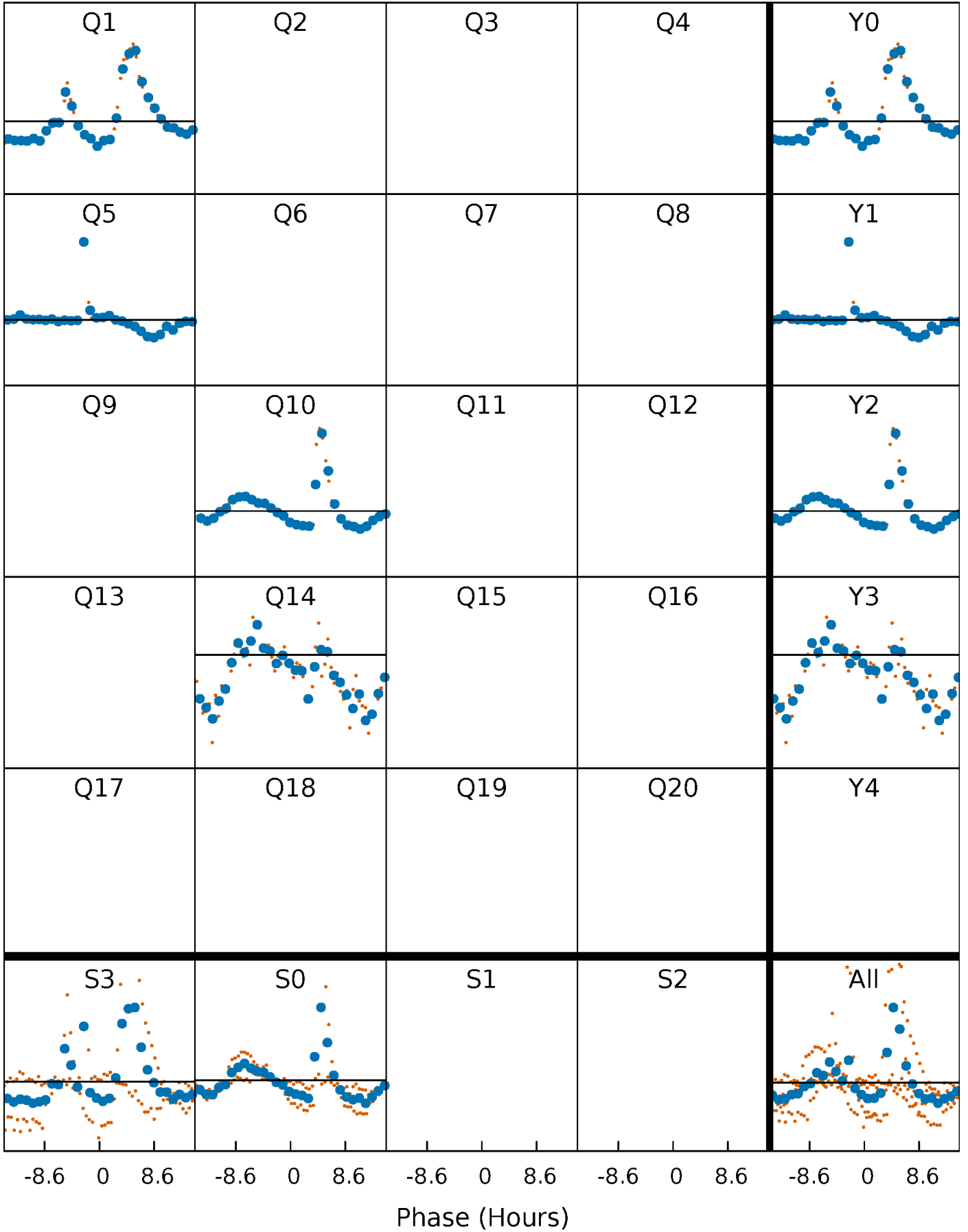
PDC Quarter-Phased Transit Curves

TCE 002968811-05 $P=396.581344$ Days $T_0=137.402670$ (BKJD)



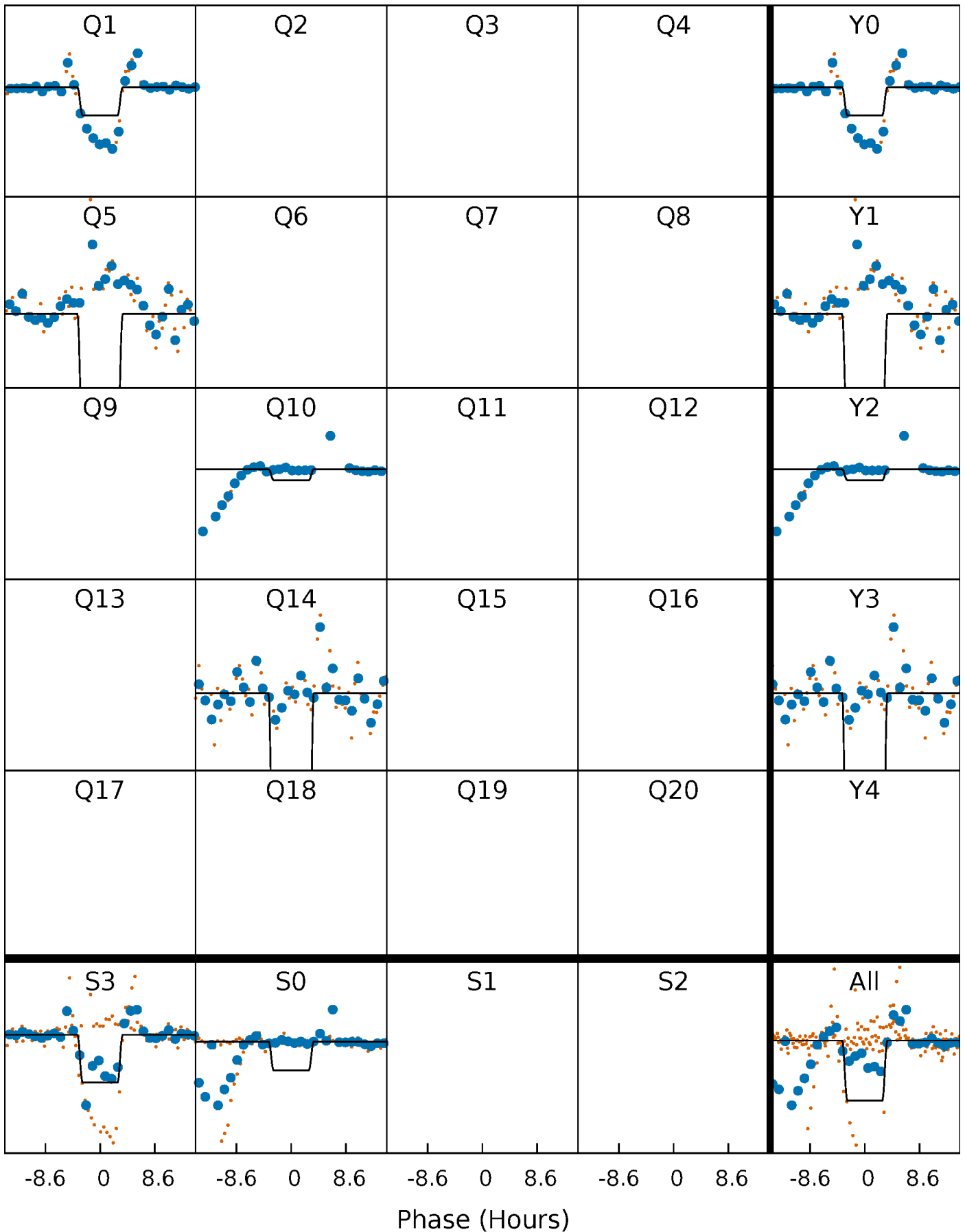
DV Quarter-Phased Transit Curves

TCE 002968811-05 $P=396.581344$ Days $T_0=137.402670$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

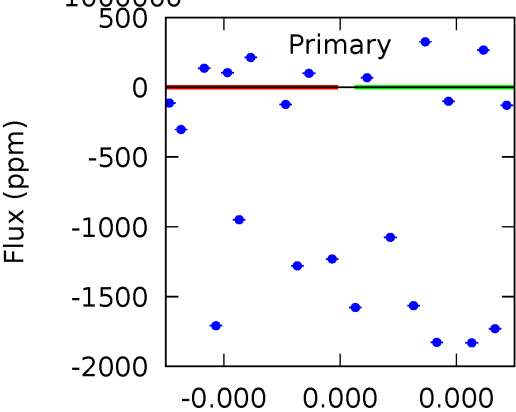
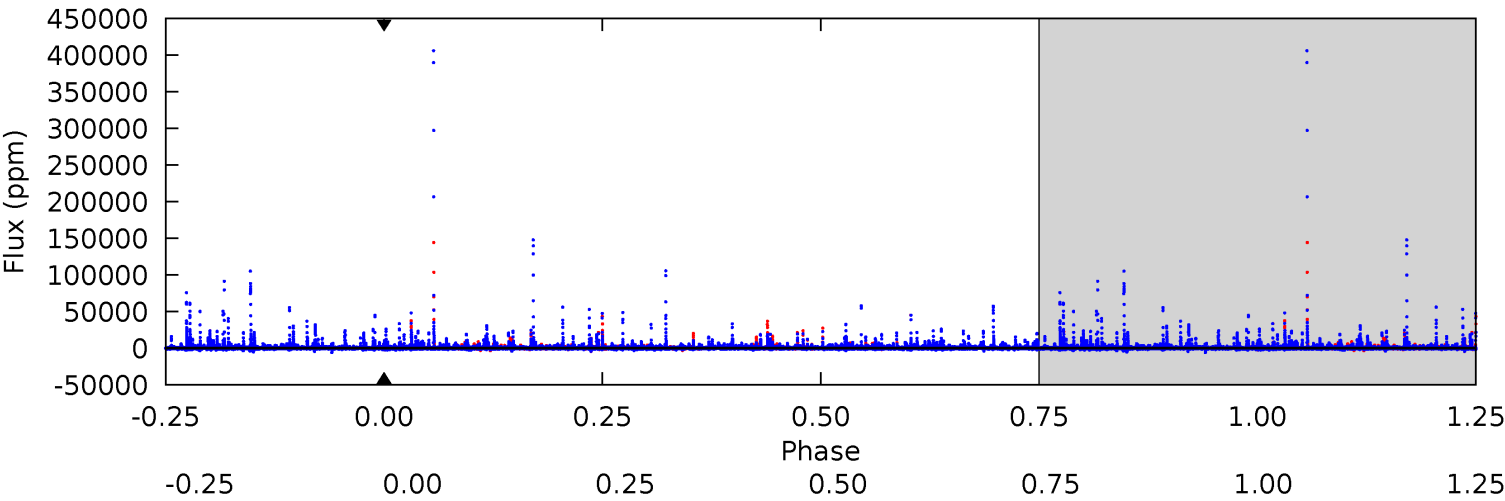
TCE 002968811-05 $P=396.581344$ Days $T_0=137.393948$ (BKJD)



DV Model-Shift Uniqueness Test

002968811-05, P = 396.581344 Days, E = 137.402670 Days

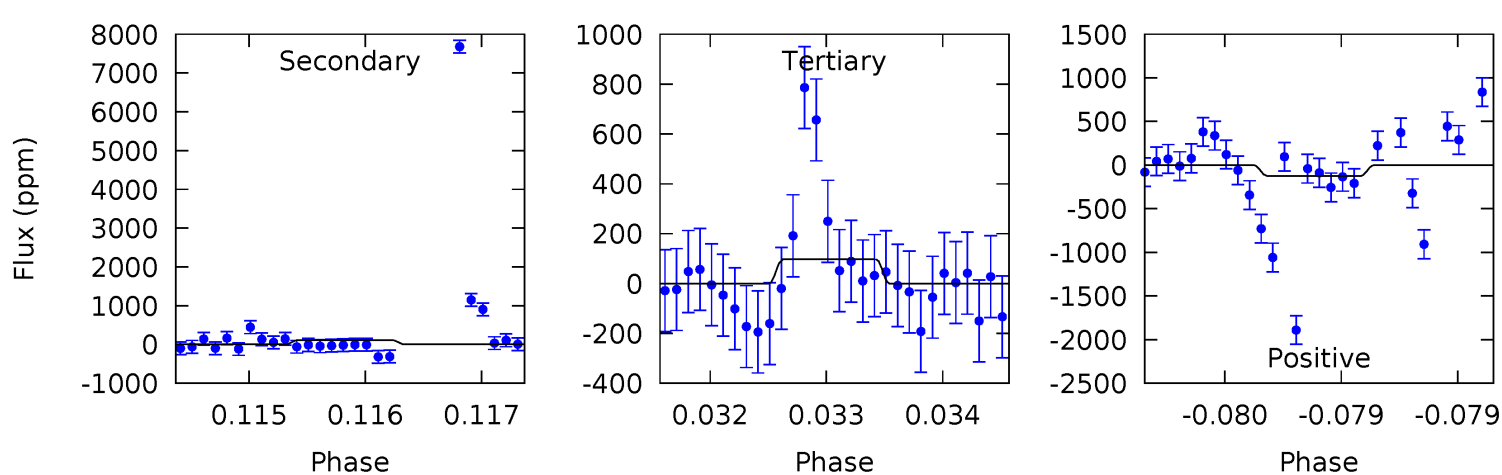
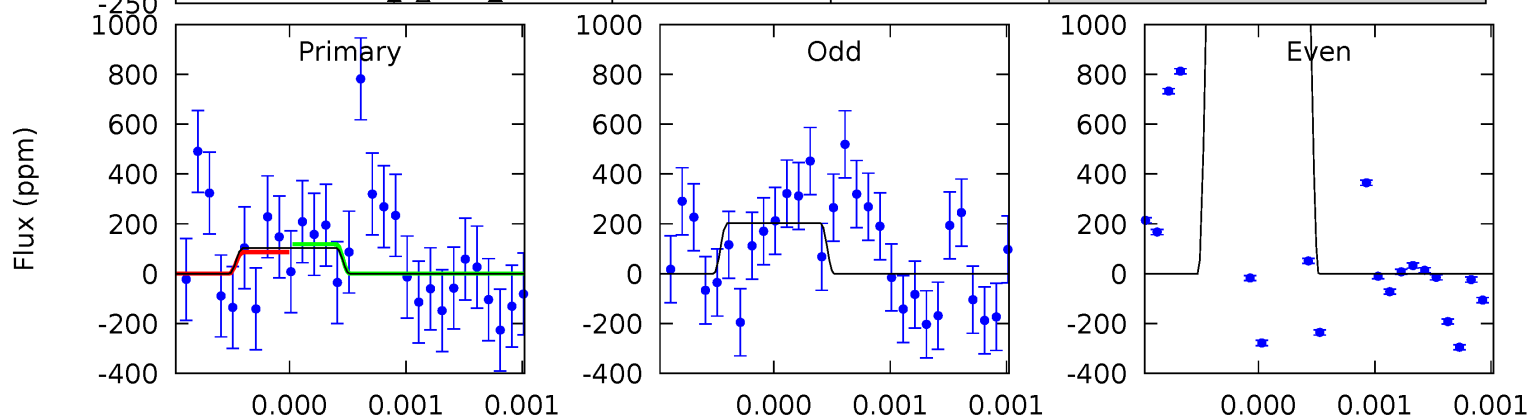
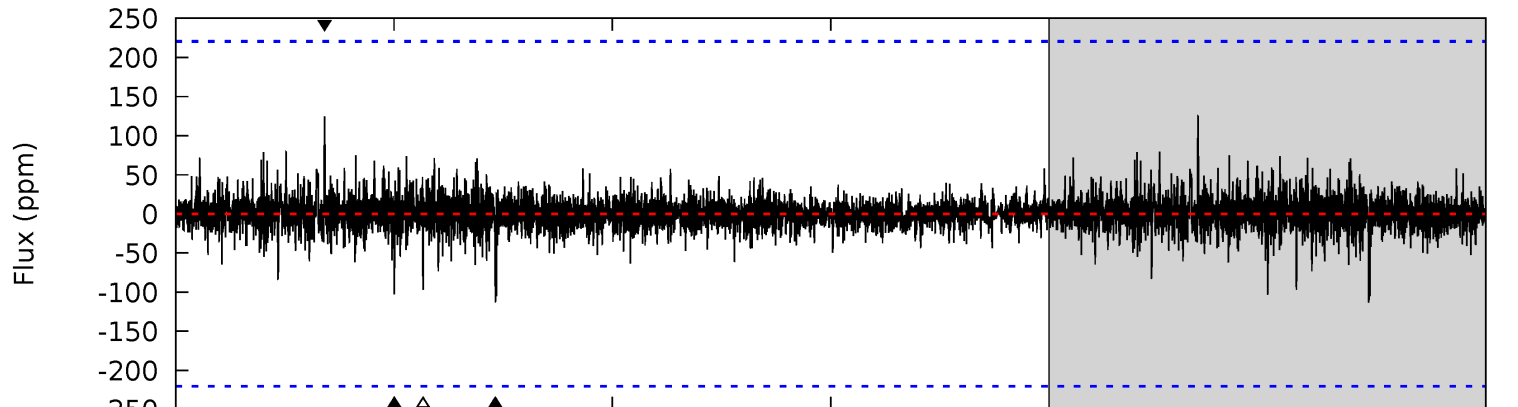
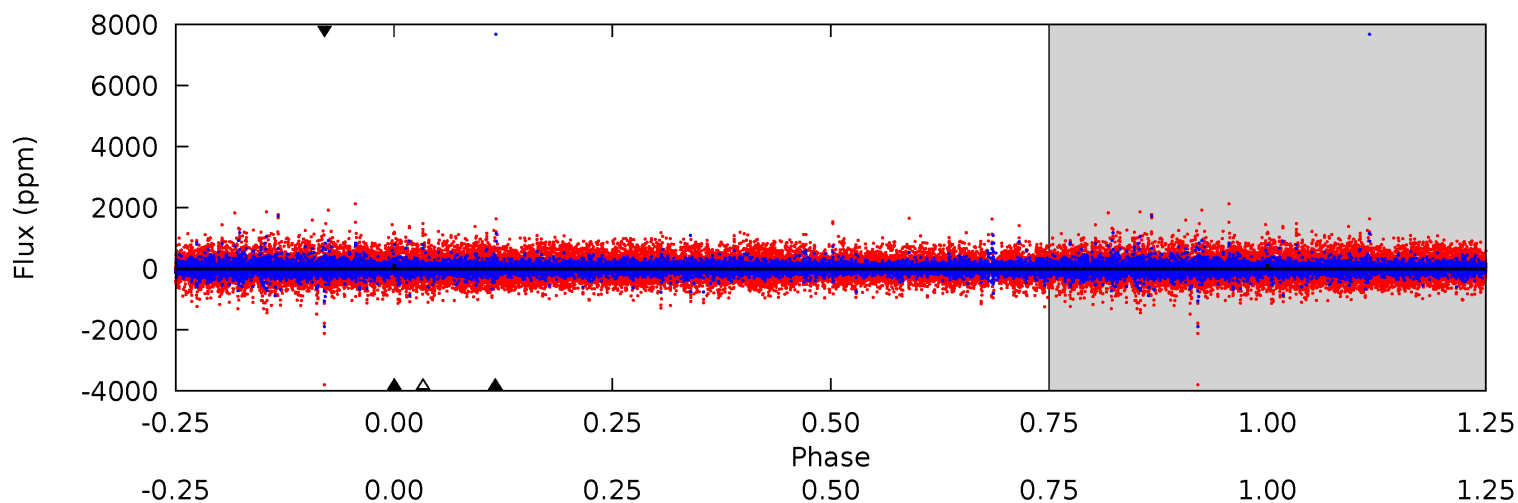
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002968811-05, P = 396.581344 Days, E = 137.393948 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.57	2.82	2.42	3.12	5.51	3.38	0.40	0.15	-0.54	0.40	-0.29	14.6	14.7	0.52	0.39



Stellar Parameters For KIC 002968811

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4697^{+117}_{-105}	$2.269^{+0.300}_{-0.200}$	$-0.360^{+0.300}_{-0.200}$	$15.504^{+3.449}_{-6.405}$	$1.628^{+0.190}_{-0.570}$	$0.001^{+0.001}_{-0.000}$
	+2%/-2%	+13%/-9%	+83%/-56%	+22%/-41%	+12%/-35%	+224%/-46%
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 002968811-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$133.58^{+135.17}_{-88.19}$	1027^{+73}_{-98}	-3041^{+14459}_{-7968}	$-24.244^{+6975.454}_{-7460.247}$
Alt.	-113 ± 40	$140.73^{+146.13}_{-94.34}$	1027^{+80}_{-100}	2399^{+861}_{-389}	$4.245^{+34.171}_{-3.199}$

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

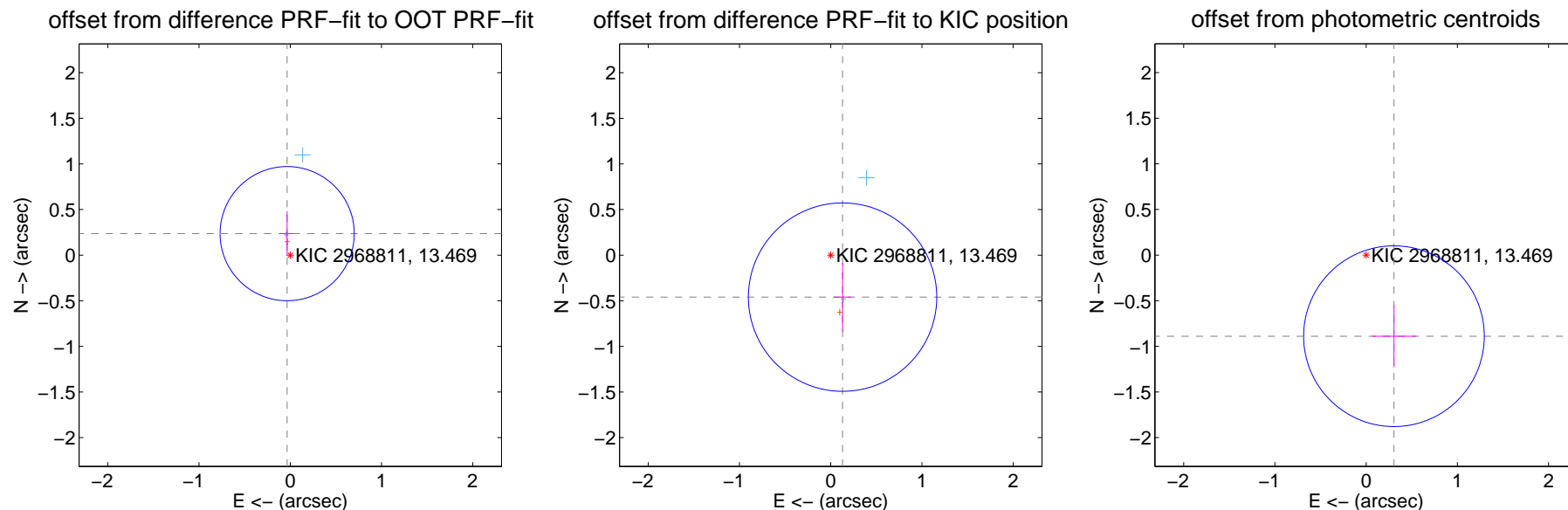
DV Centroid Data

Supplemental centroid analysis for 002968811-05. Kepler magnitude: 13.47. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

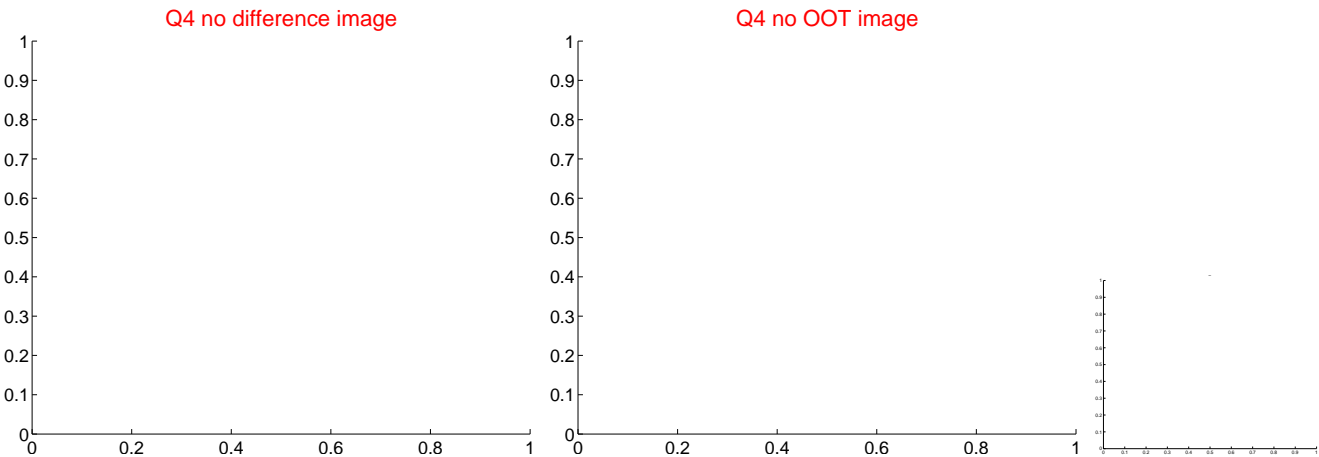
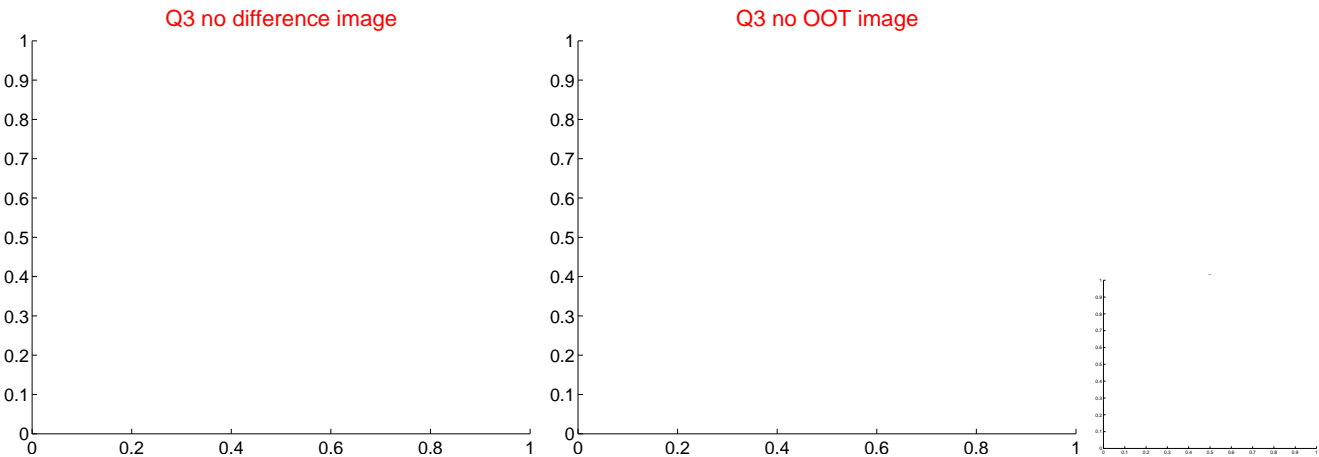
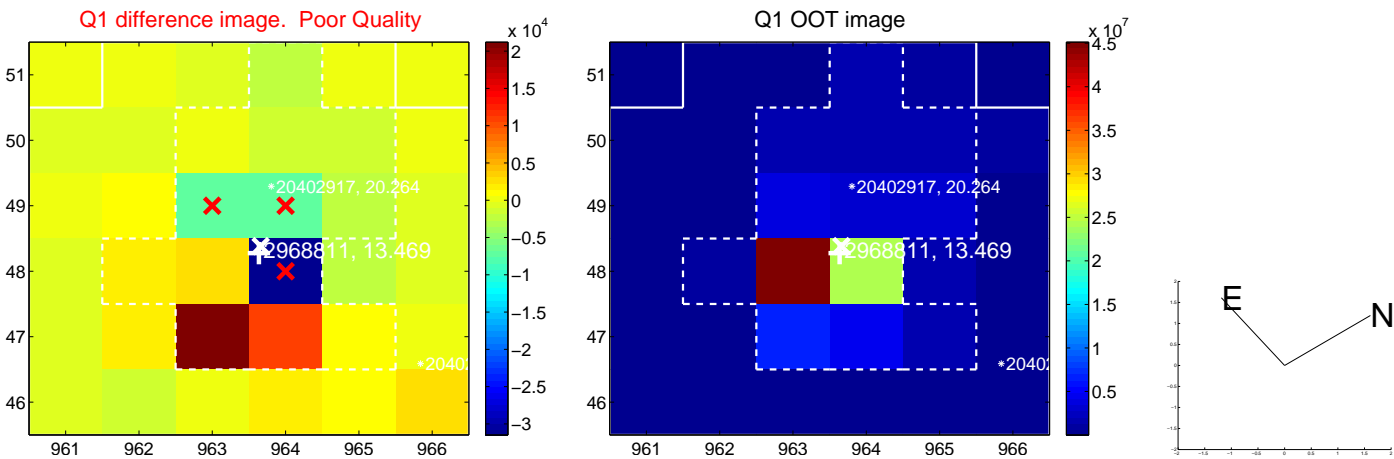
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.238 ± 0.245	0.97	0.034 ± 0.075	0.236 ± 0.248
PRF-fit source offset from KIC position	0.478 ± 0.344	1.39	-0.130 ± 0.099	-0.460 ± 0.378
photometric centroid source offset	0.94 ± 0.33	2.85	-0.31 ± 0.24	-0.89 ± 0.34

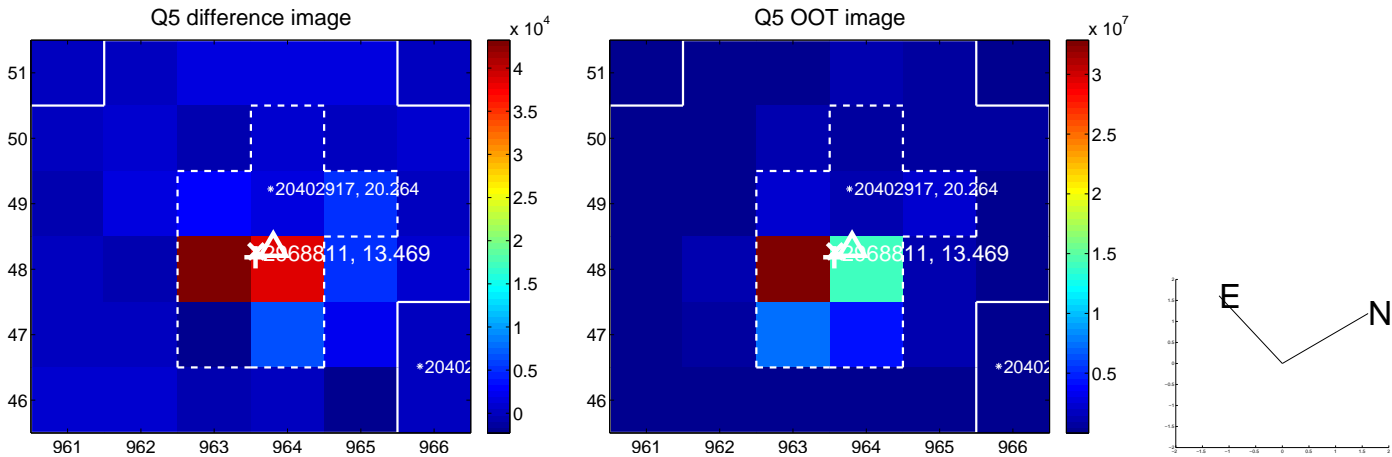


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

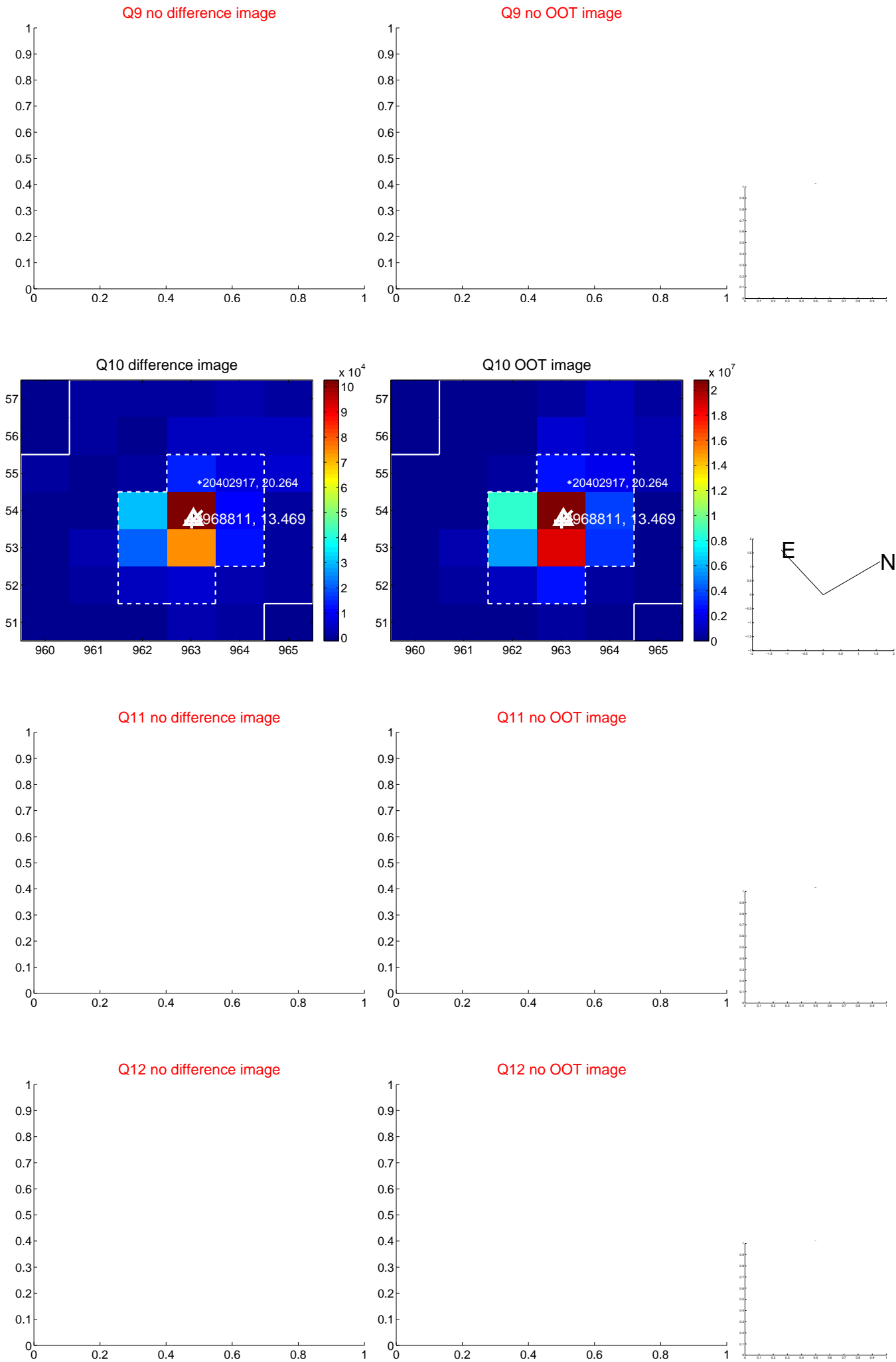
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



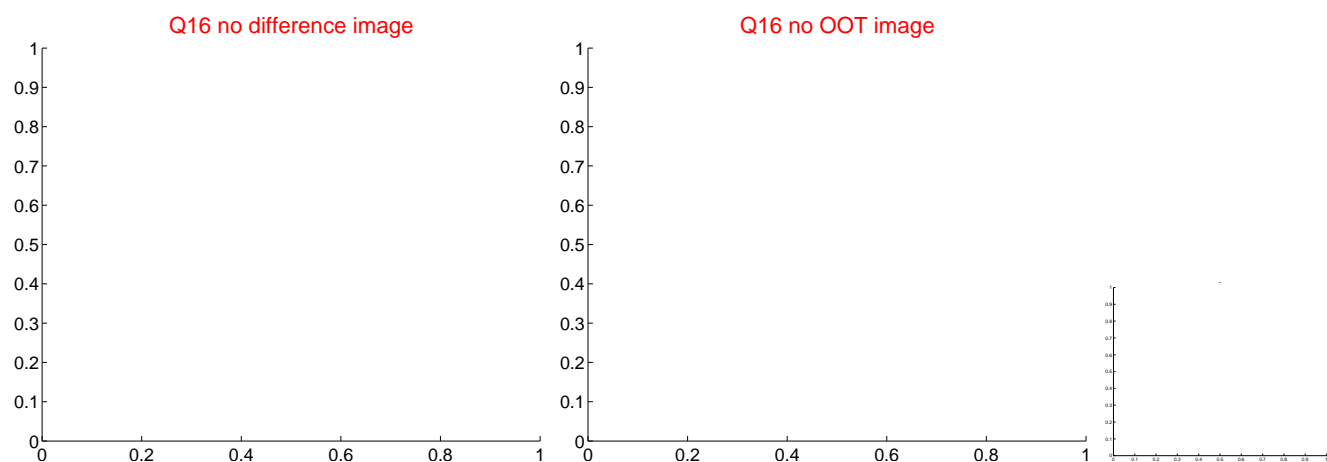
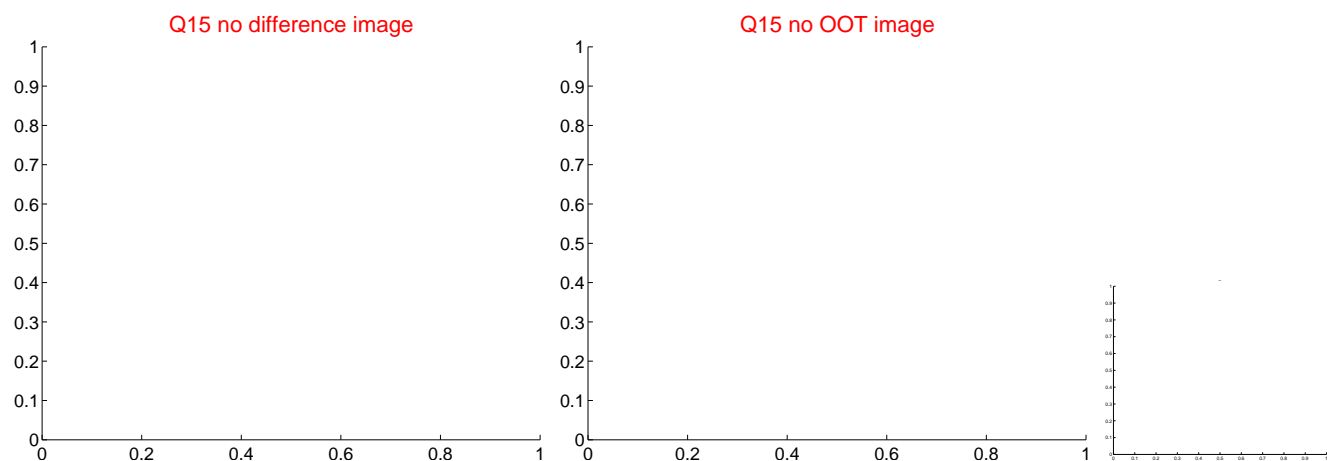
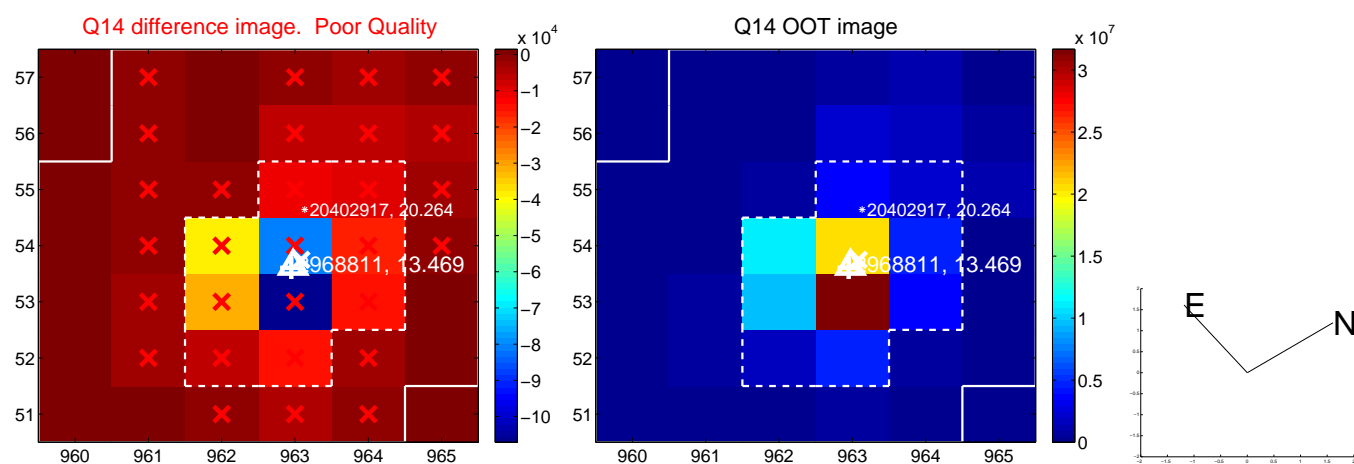
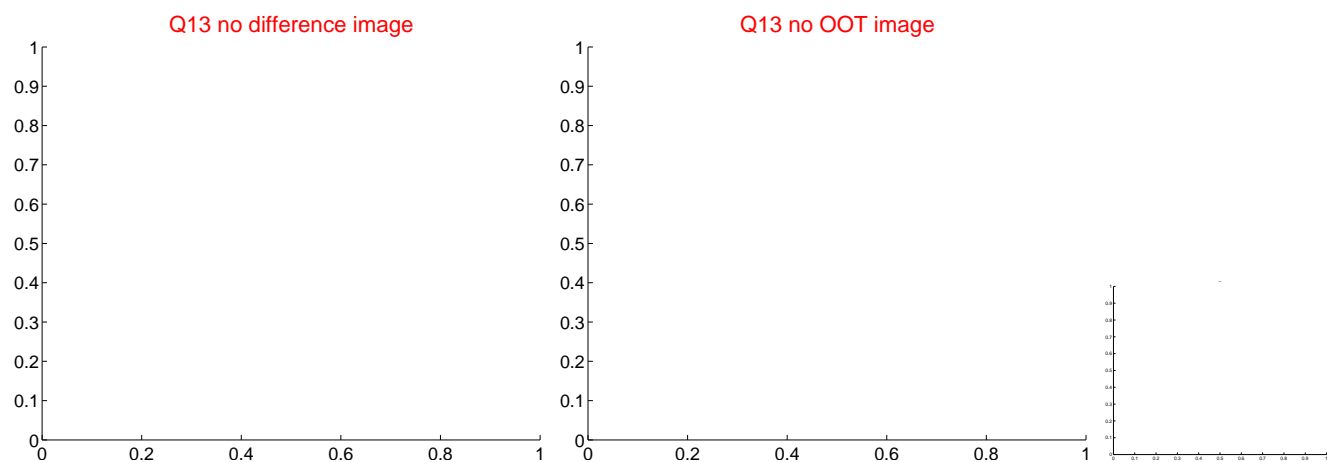
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



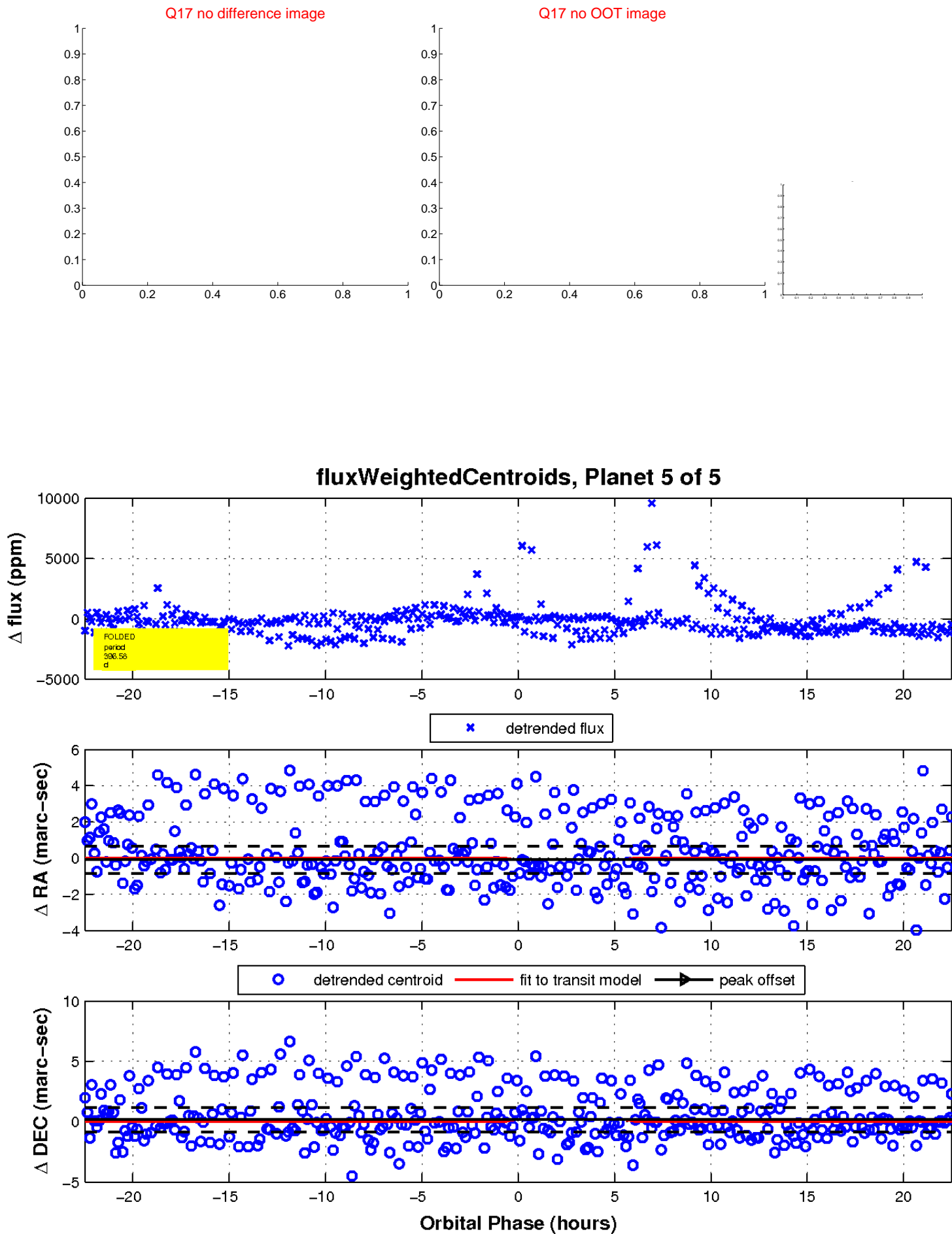
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

