

KIC 011668891

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})
011668891-01	OBS	No	501.860709	325.996384	1202.9	7.482	9.2	7.2	3.71	4849	15.05	4.45
011668891-02	OBS	No	470.856249	203.430753	951.6	2.754	9.4	6.0	3.71	4849	12.60	4.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011668891-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011668891-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

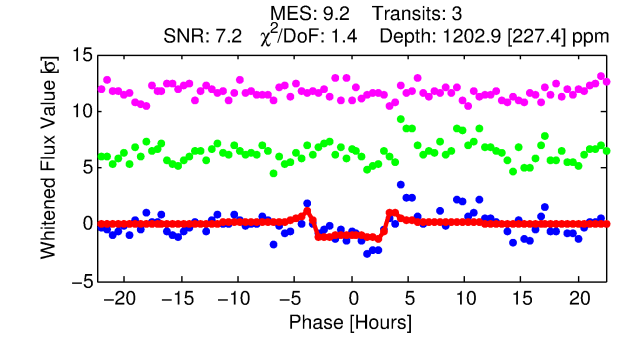
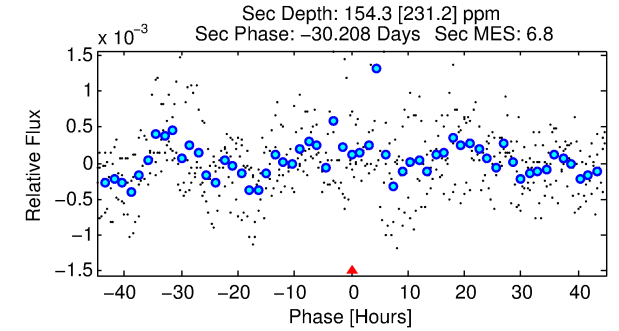
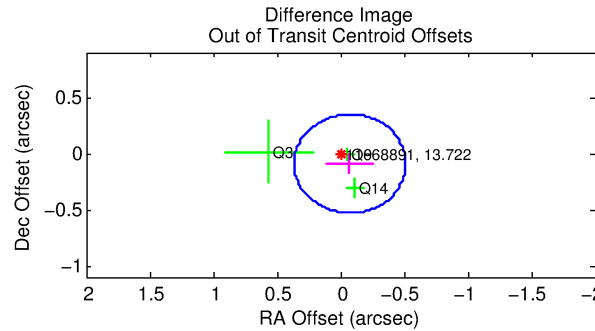
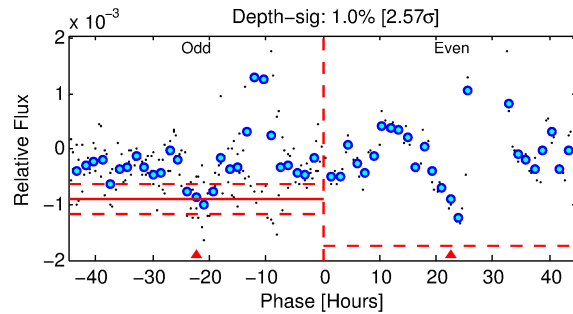
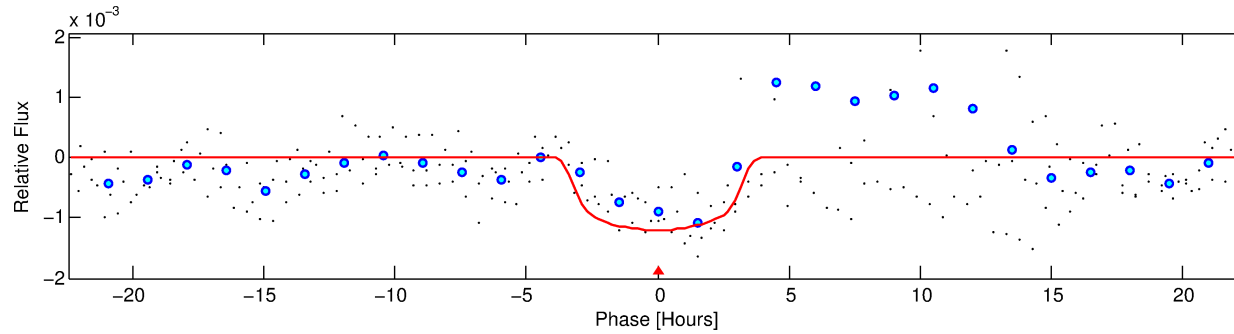
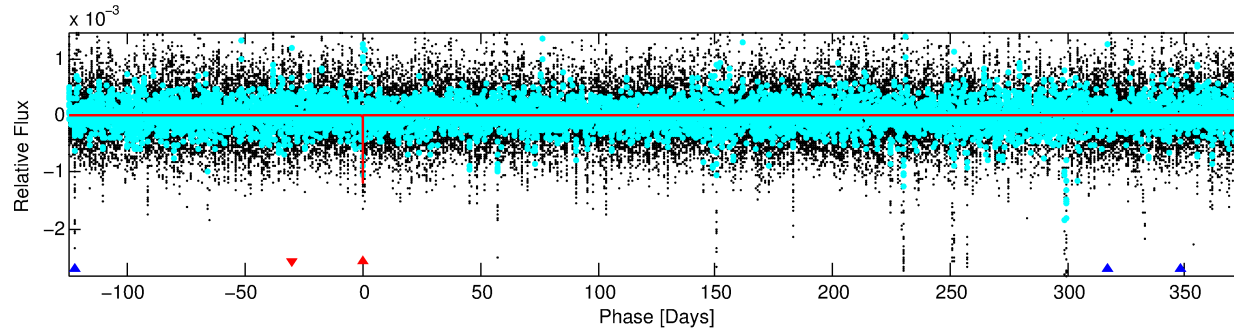
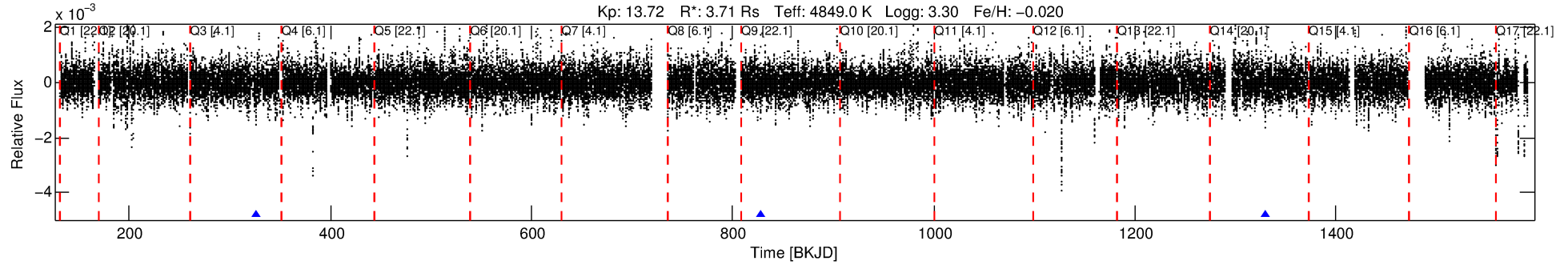
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011668891-01

No Significant Match Found

DV One-Page Summary

KIC: 11668891 Candidate: 1 of 2 Period: 501.861 d



DV Fit Results:

Period = 501.86071 [0.00718] d
Epoch = 325.9964 [0.0092] BKJD
Rp/R* = 0.0371 [0.0053]
a/R* = 300.65 [97.58]
b = 0.86 [0.11]
Seff = 4.45 [2.63]
Teq = 370 [55] K
Rp = 15.05 [7.53] Re
a = 1.2387 [0.4967] AU
Ag = 575.10 [938.28] [0.61 σ]
Teffp = 2805 [1072] K [2.27 σ]

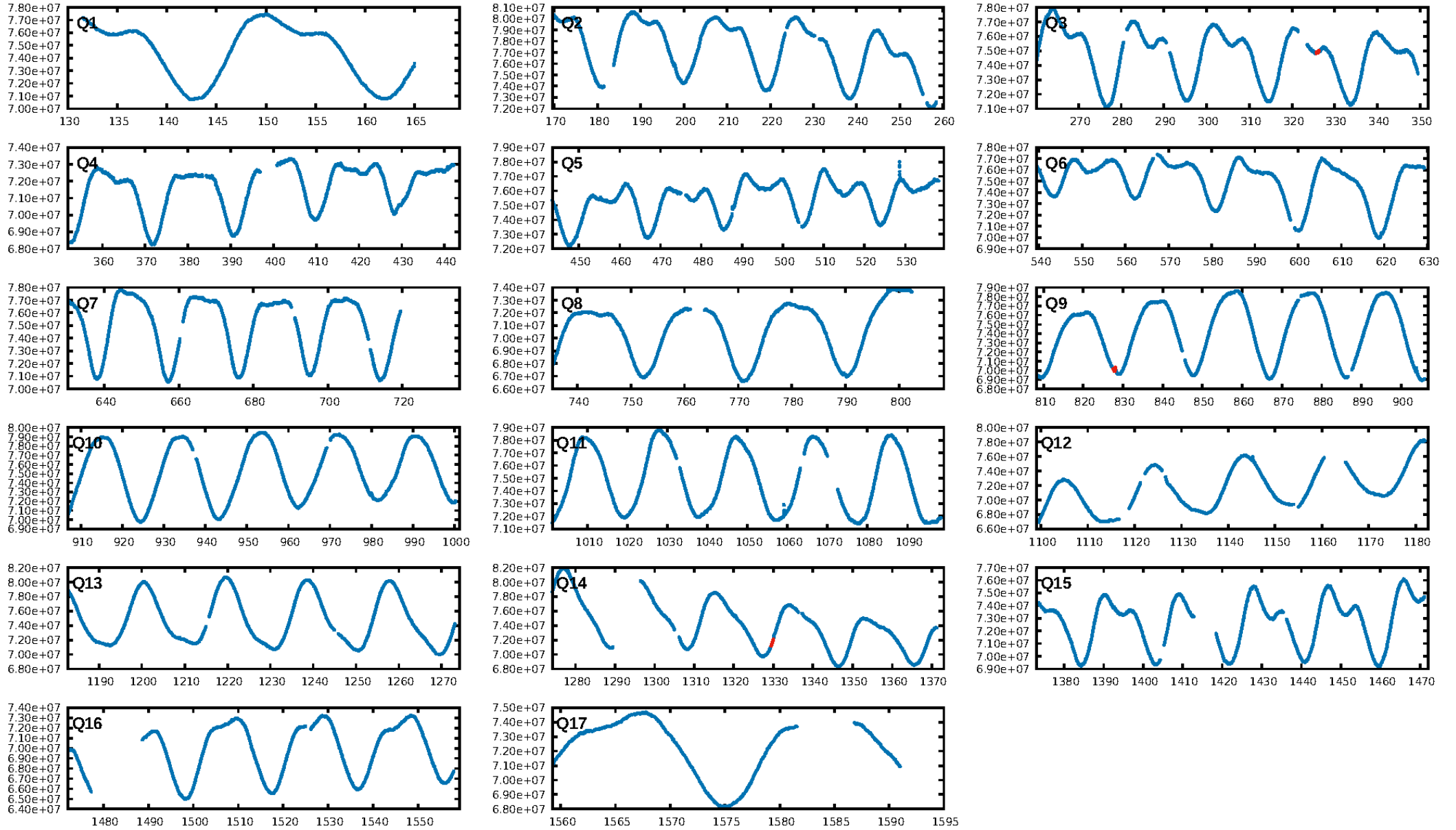
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [93.33 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 68.6%
Bootstrap-pfa: 3.66e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.149
Centroid-sig: 45.8%
Centroid-so: 0.437 arcsec [0.86 σ]
OotOffset-rm: 0.117 arcsec [0.80 σ]
KicOffset-rm: 0.145 arcsec [0.81 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

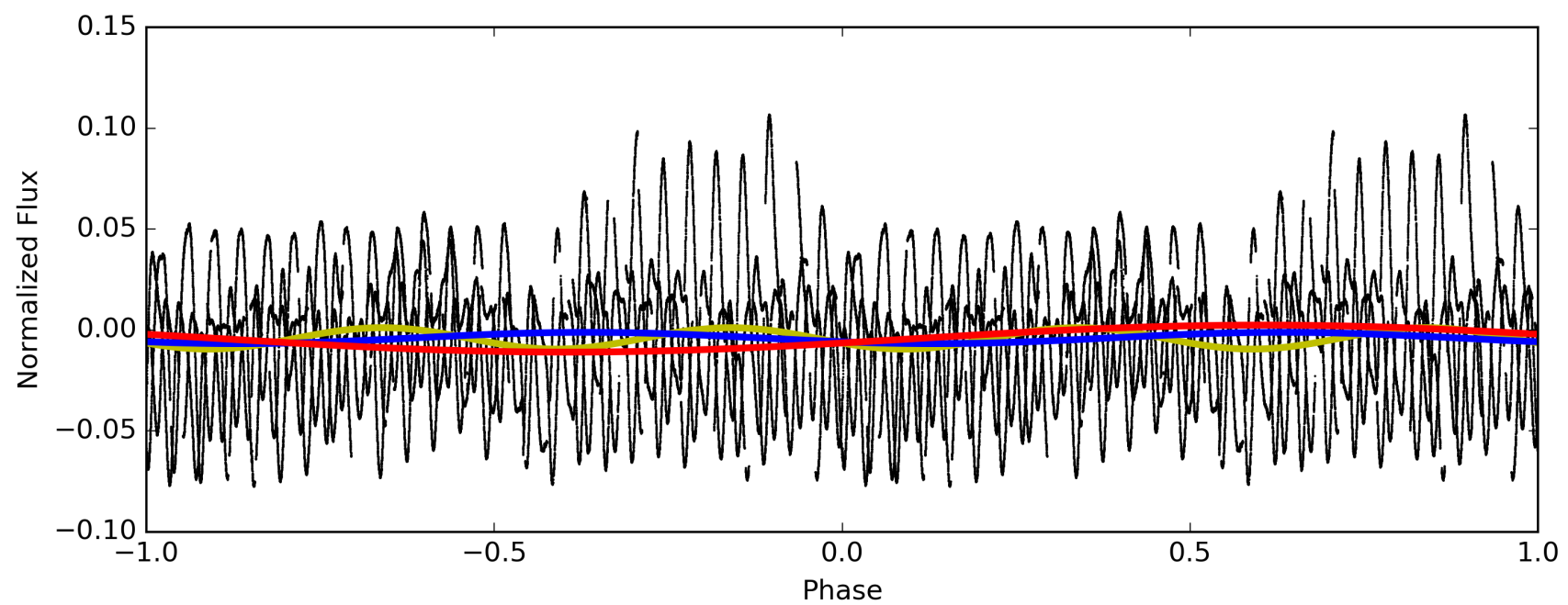
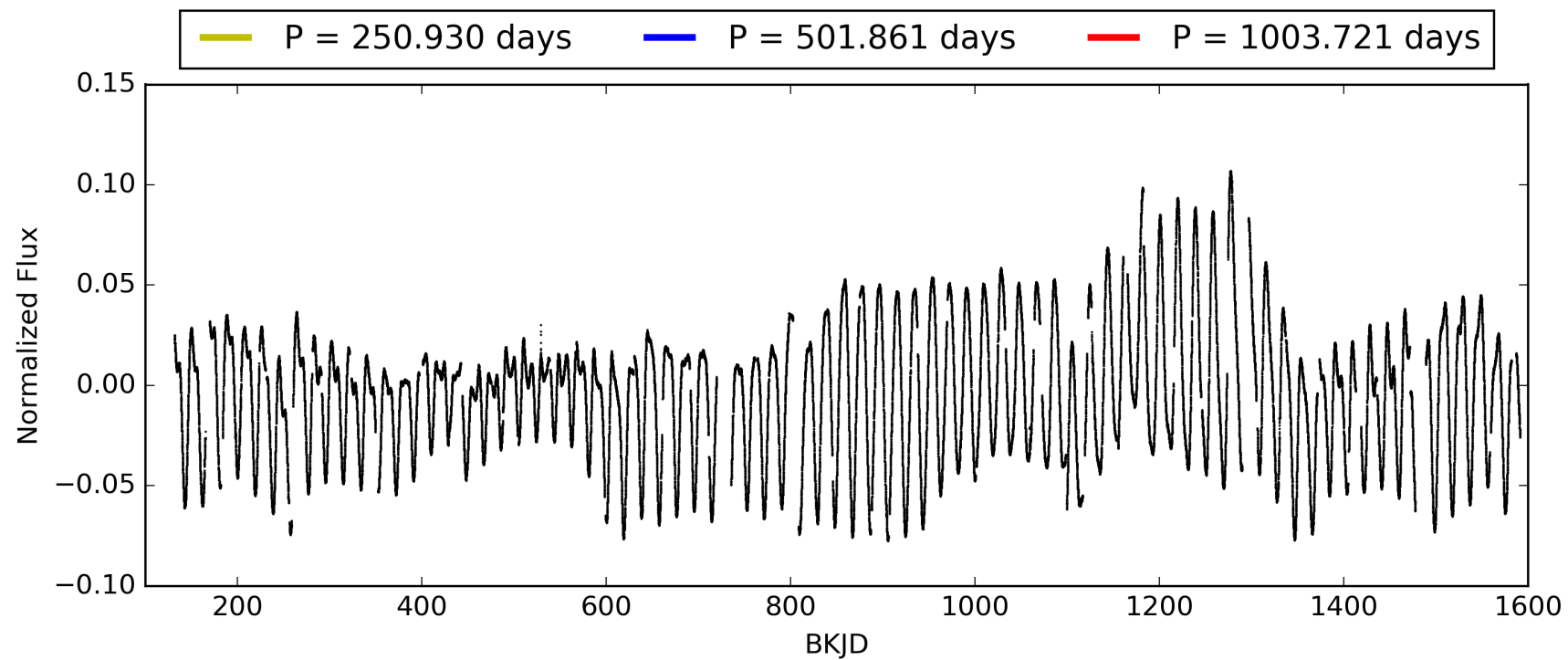
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:23:54 Z

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

TCE 011668891-01, PDC Light Curves

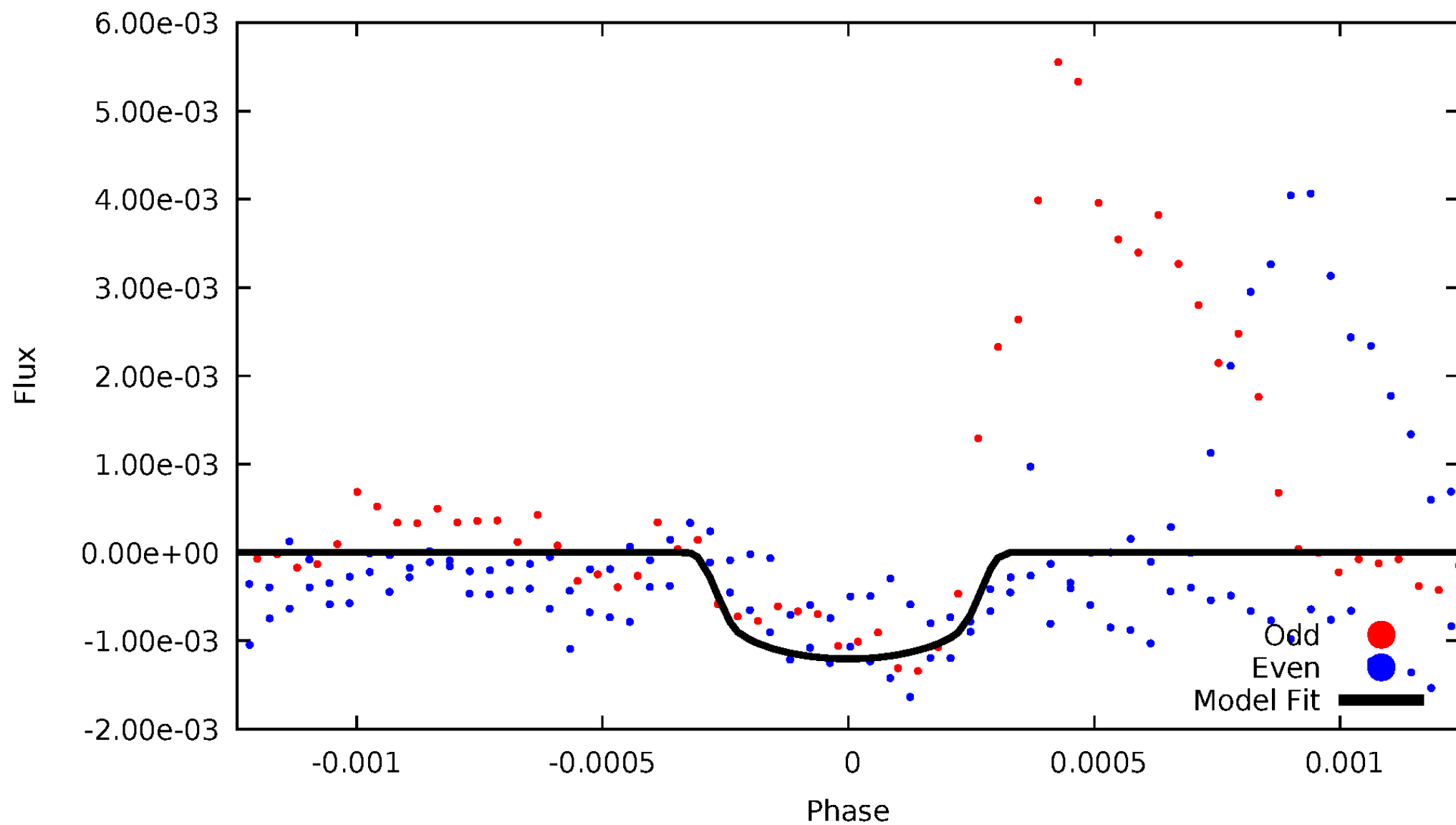


TCE 011668891-01



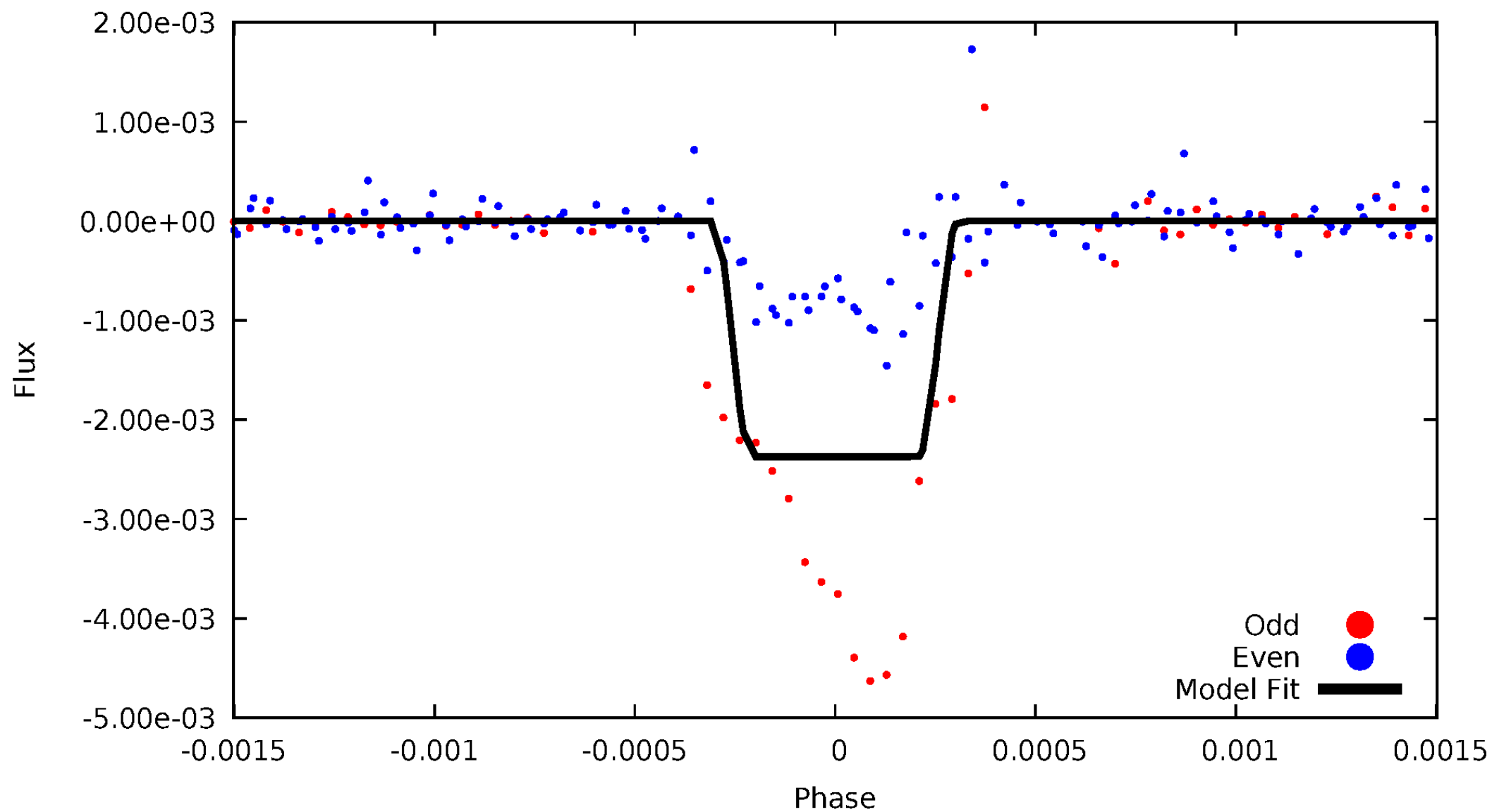
DV Odd/Even

TCE 011668891-01



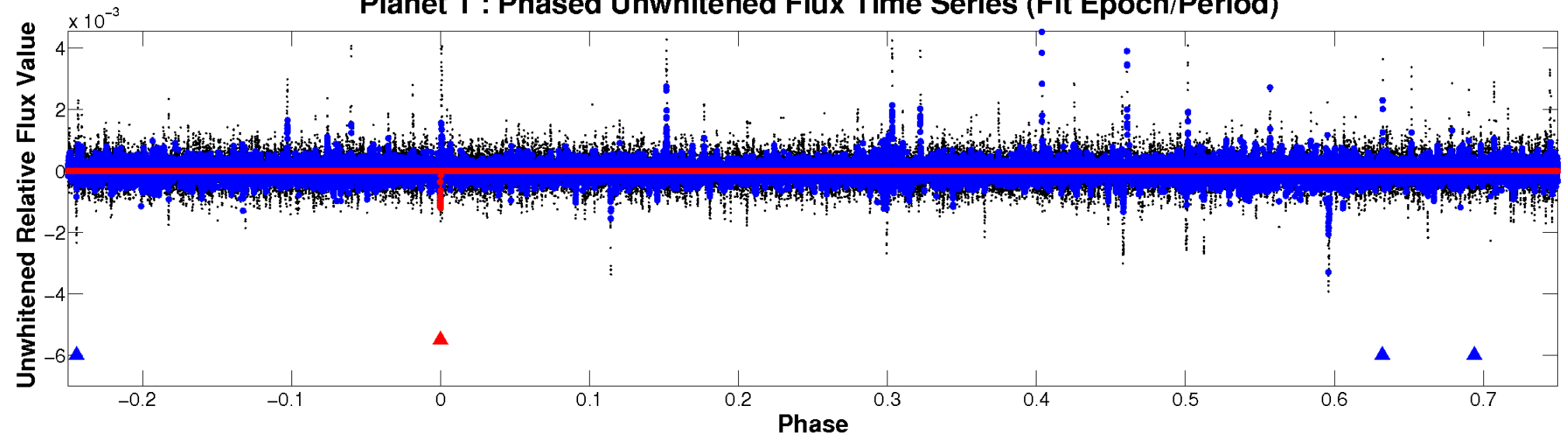
ALT Odd/Even

TCE 011668891-01

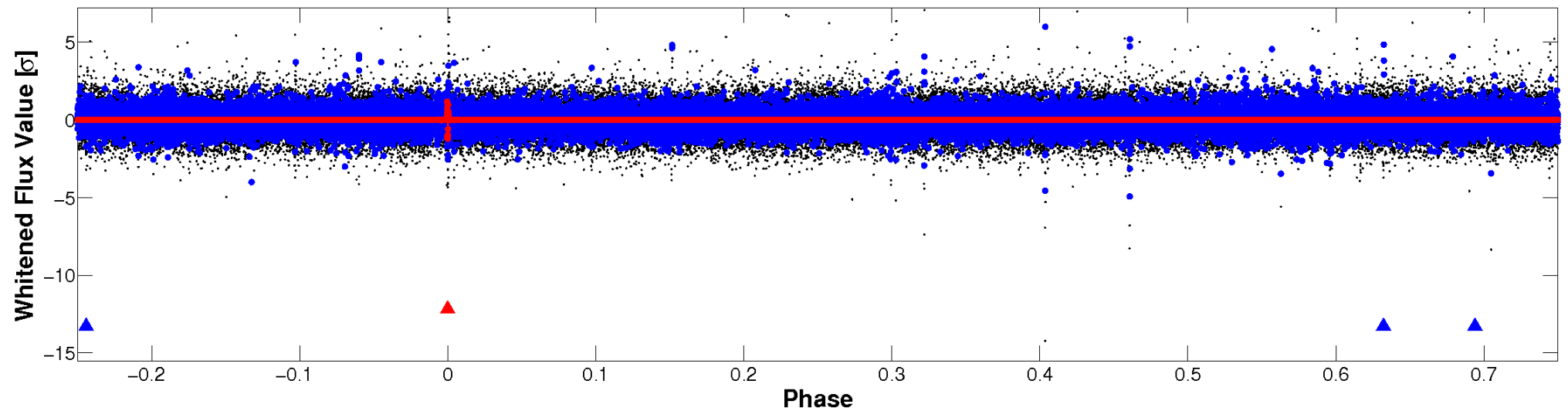


Non-Whitened Vs. Whitened Light Curve

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

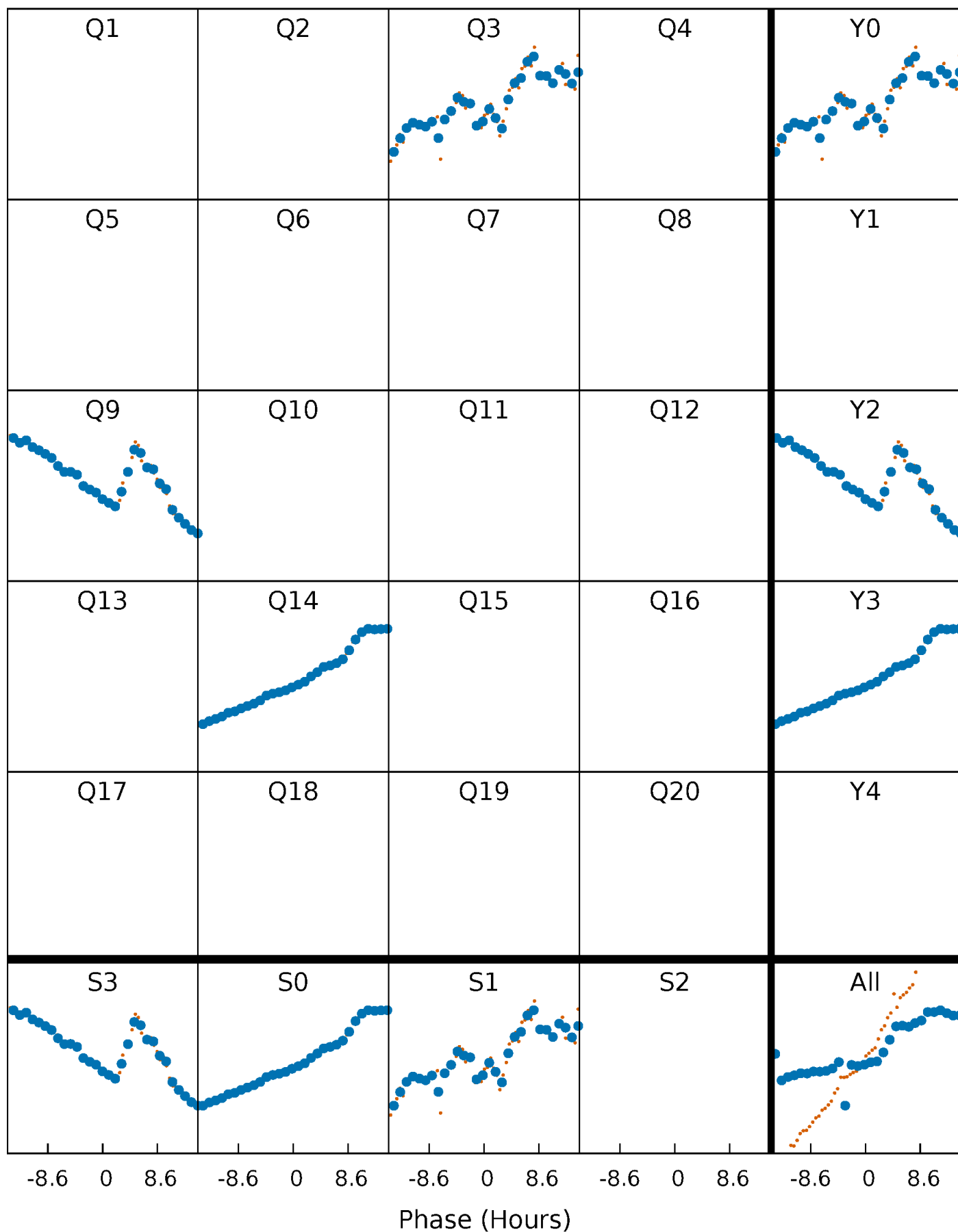


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



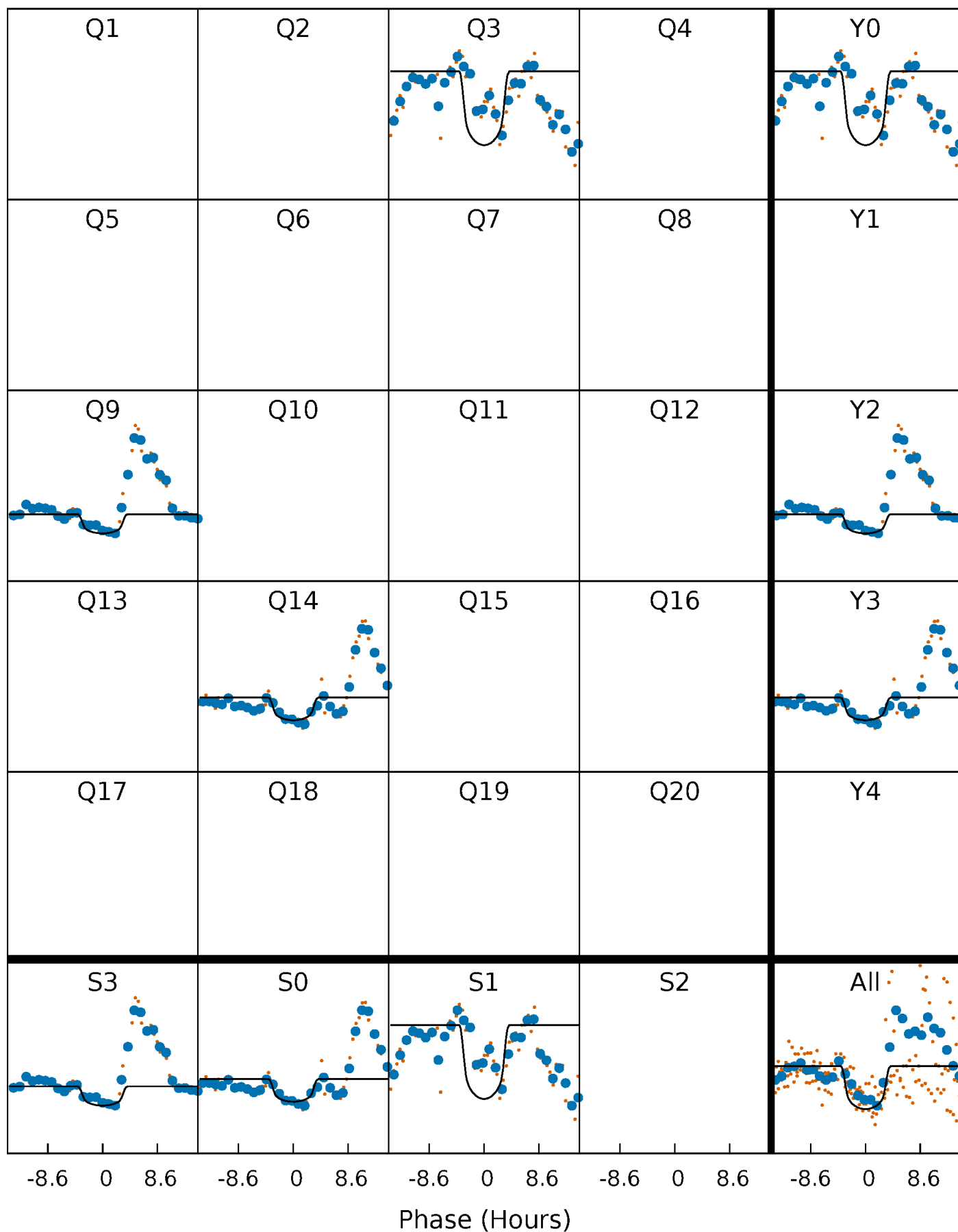
PDC Quarter-Phased Transit Curves

TCE 011668891-01 P=501.860709 Days $T_0=325.996384$ (BKJD)



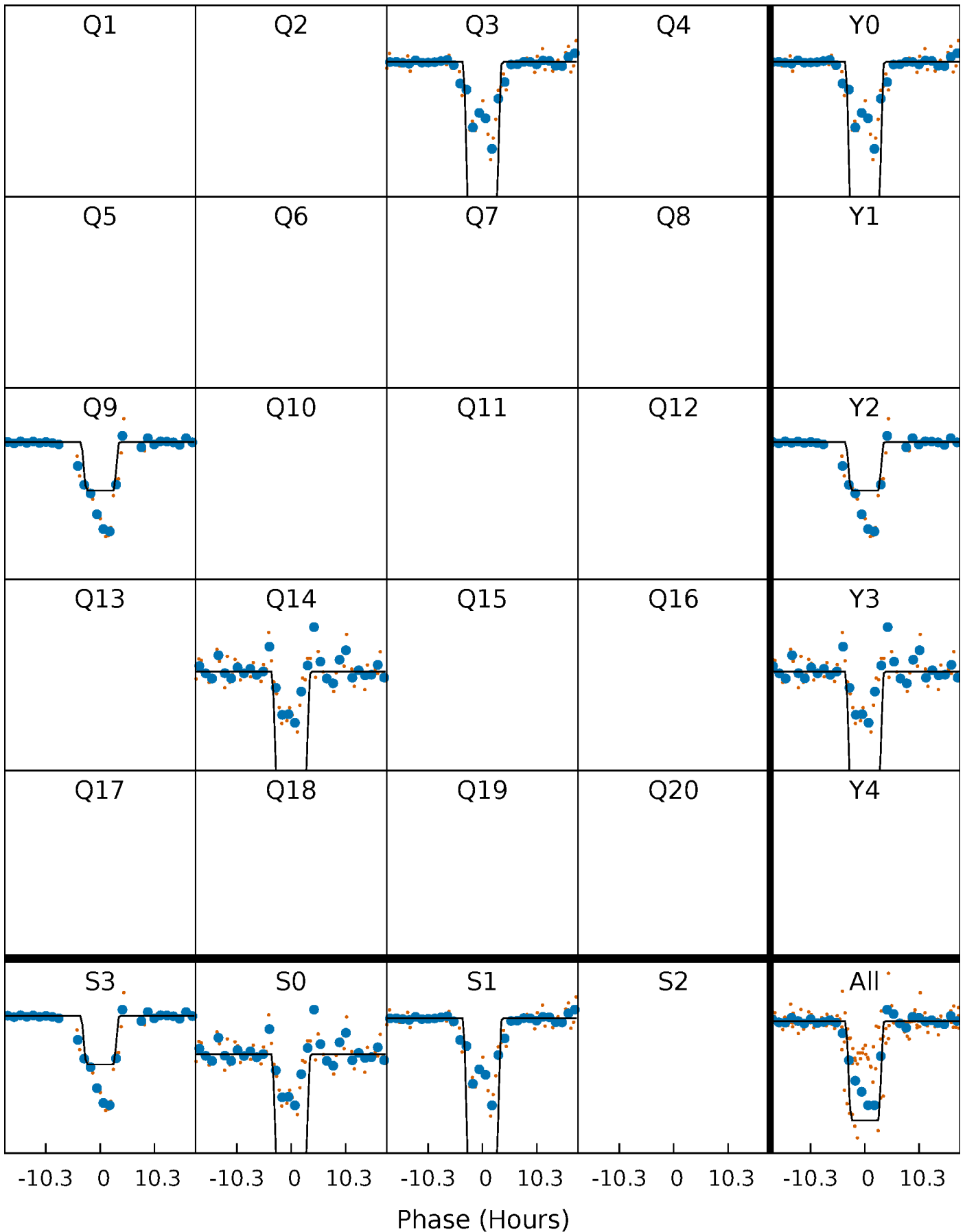
DV Quarter-Phased Transit Curves

TCE 011668891-01 P=501.860709 Days $T_0=325.996384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

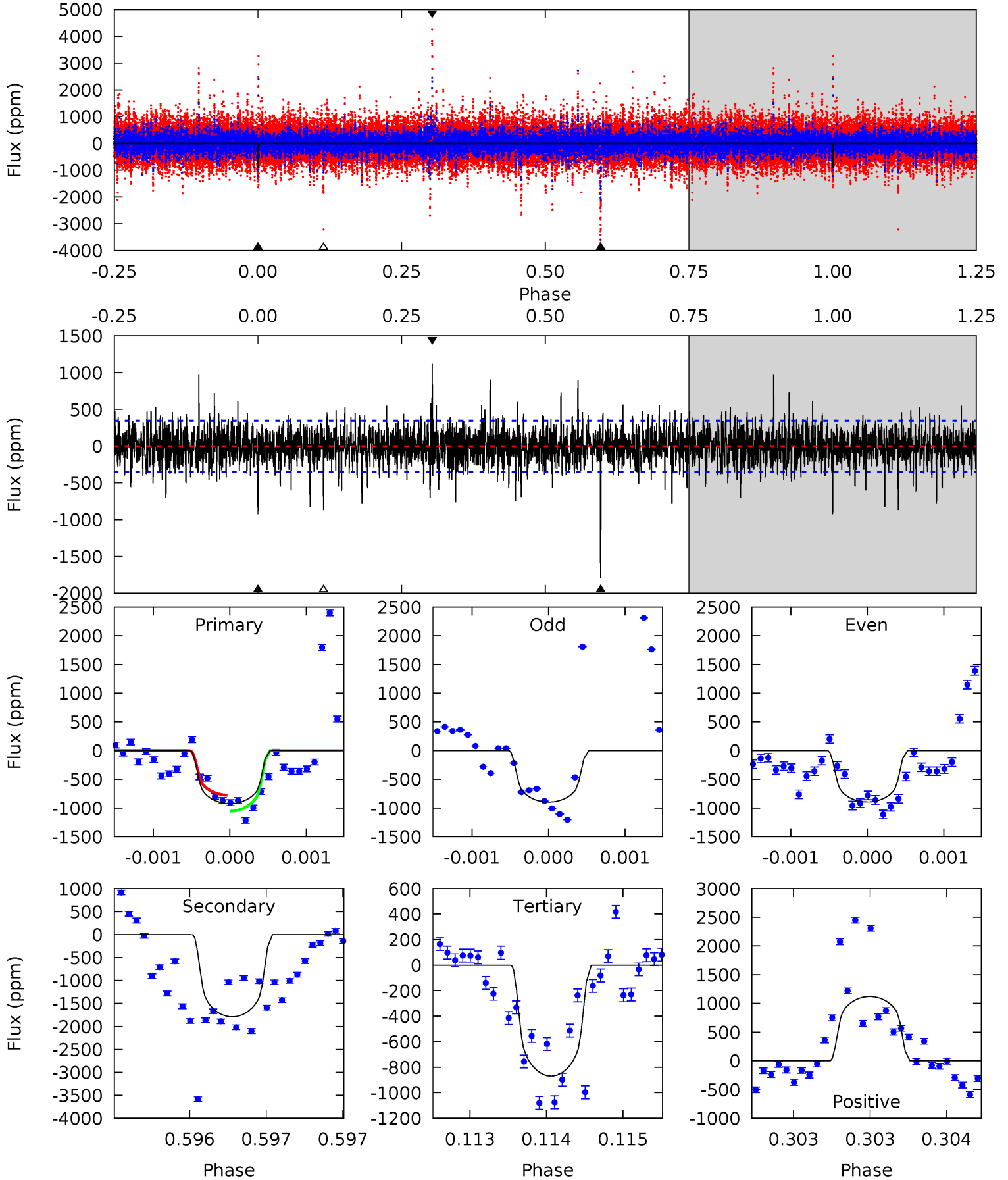
TCE 011668891-01 P=501.848234 Days $T_0=326.036084$ (BKJD)



DV Model-Shift Uniqueness Test

011668891-01, P = 501.860709 Days, E = 325.996384 Days

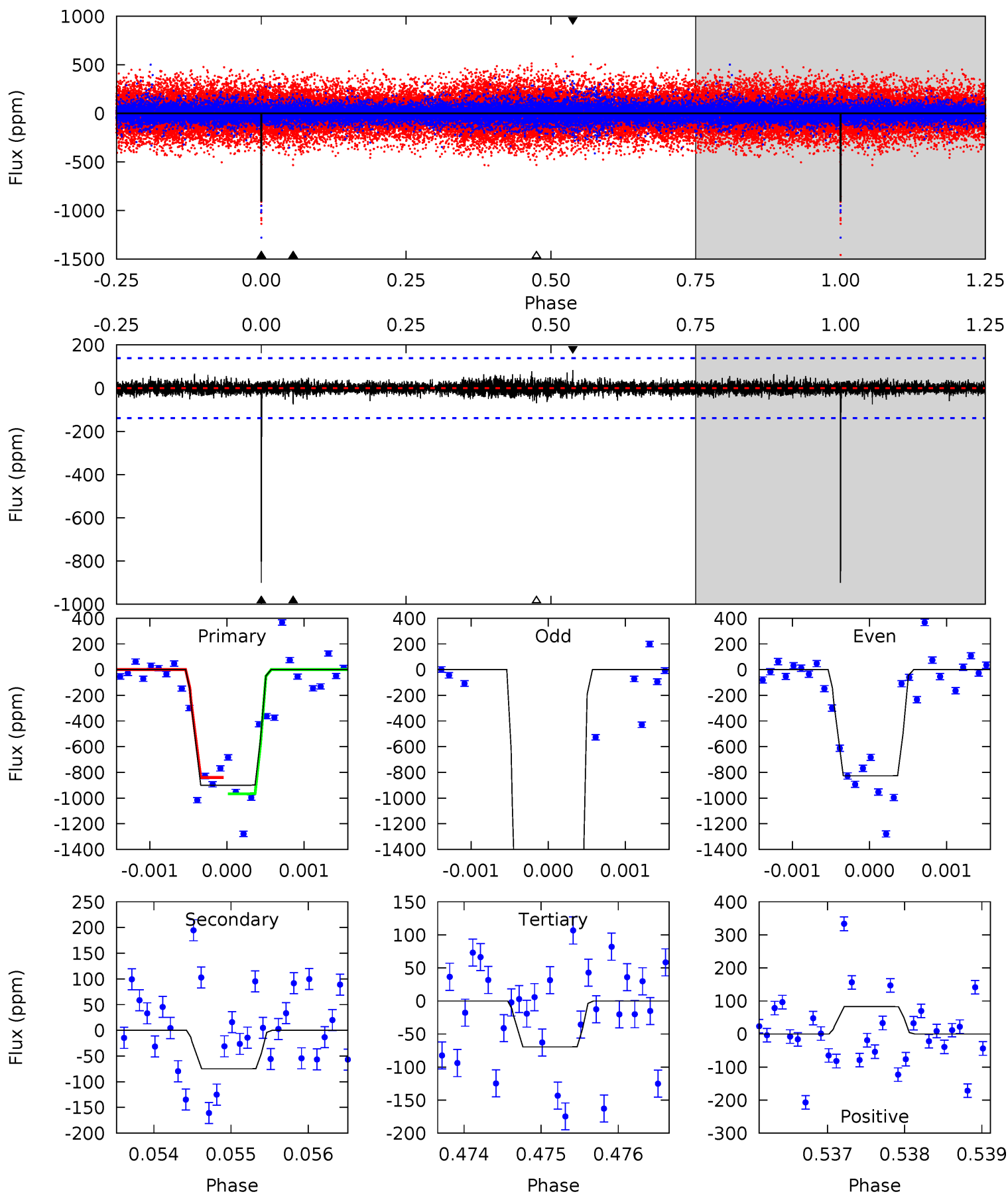
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	28.7	13.9	18.0	5.53	3.42	3.00	0.87	-3.16	14.8	10.7	0.01	1.00	0.38	2.23



Alt Model-Shift Uniqueness Test

011668891-01, P = 501.848234 Days, E = 326.036084 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.1	3.00	2.78	3.32	5.55	3.44	0.56	33.3	32.7	0.22	-0.32	69.6	1.83	0.08	2.57



Stellar Parameters For KIC 011668891

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4849^{+134}_{-98}	$3.301^{+0.315}_{-0.315}$	$-0.020^{+0.250}_{-0.200}$	$3.714^{+1.782}_{-1.188}$	$1.005^{+0.273}_{-0.085}$	$0.028^{+0.055}_{-0.019}$
	+3%/-2%	+10%/-10%	+1250%/-1000%	+48%/-32%	+27%/-8%	+200%/-67%
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 011668891-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1791 ± 62	$15.42^{+4.84}_{-3.69}$	520^{+63}_{-51}	5159^{+374}_{-340}	6598^{+4756}_{-2634}
Alt.	-75 ± 25	$19.82^{+6.26}_{-4.37}$	517^{+63}_{-54}	2769^{+138}_{-158}	161^{+134}_{-75}

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

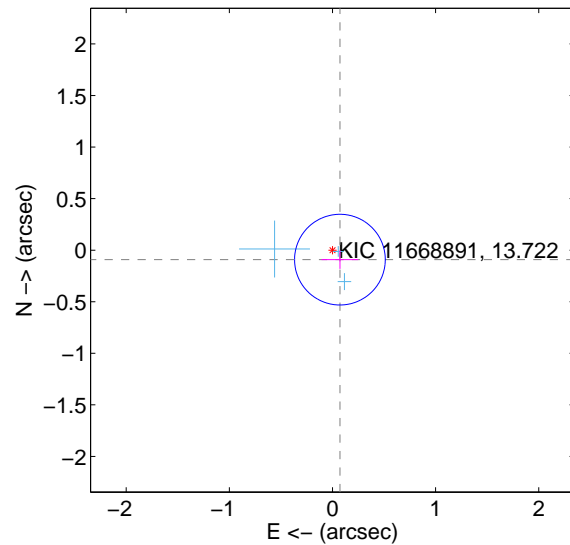
Supplemental centroid analysis for 011668891-01. Kepler magnitude: 13.72. Transit SNR 7.24

There are 3 quarters with good PRF difference image offsets

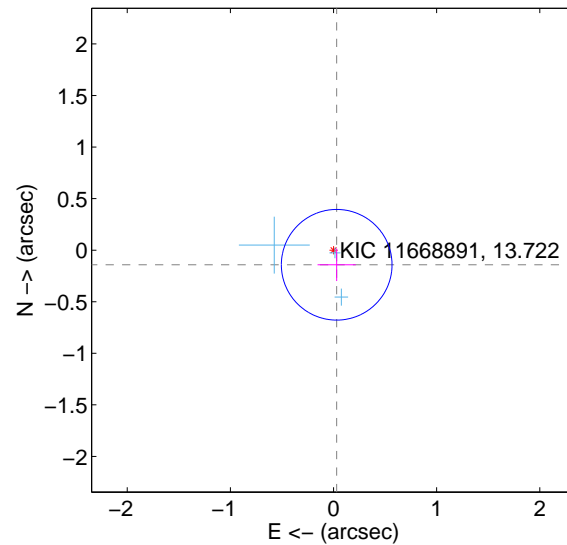
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.147	0.80	-0.072 ± 0.178	-0.092 ± 0.090
PRF-fit source offset from KIC position	0.145 ± 0.179	0.81	-0.031 ± 0.185	-0.142 ± 0.158
photometric centroid source offset	0.44 ± 0.51	0.86	0.03 ± 0.42	-0.44 ± 0.51

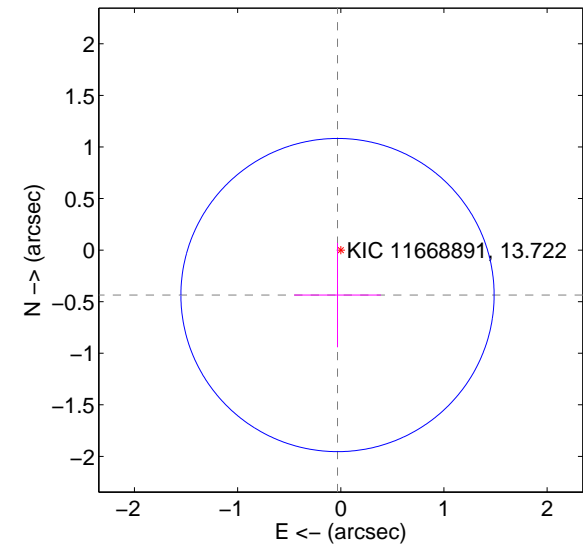
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



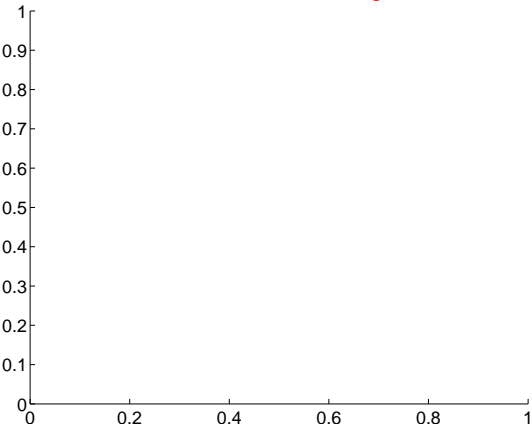
offset from photometric centroids



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.

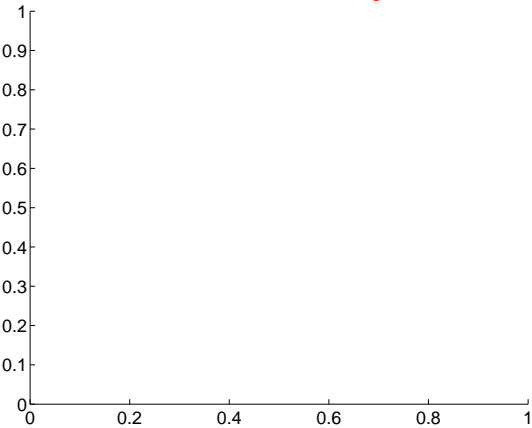
Q1 no difference image



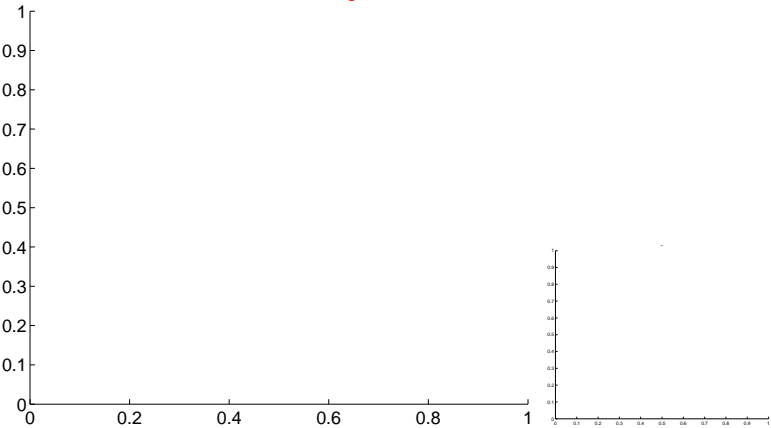
Q1 no OOT image



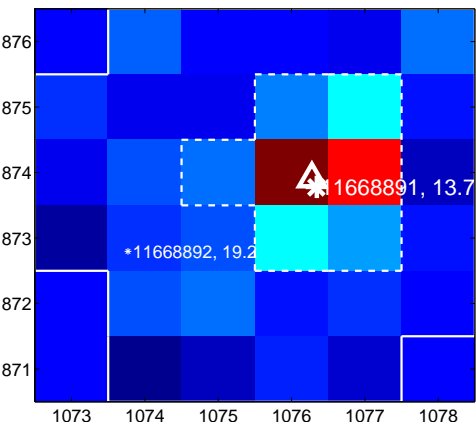
Q2 no difference image



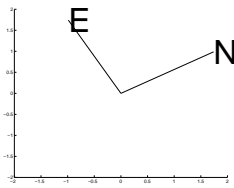
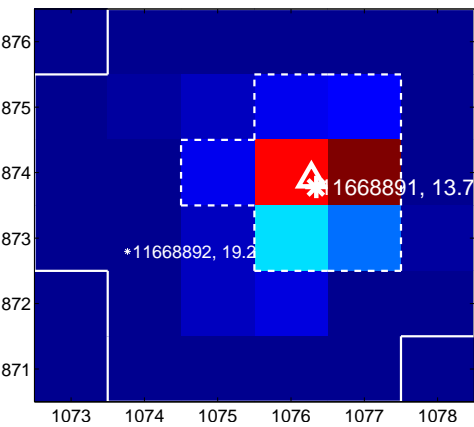
Q2 no OOT image



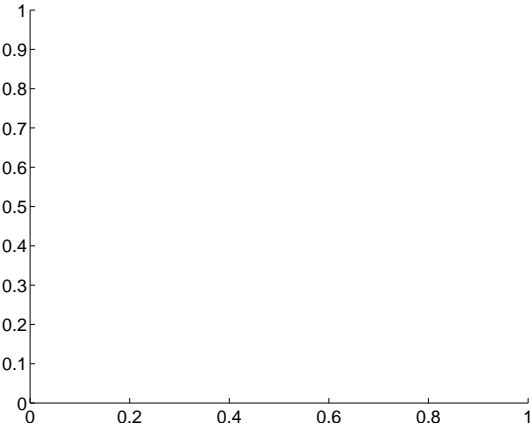
Q3 difference image



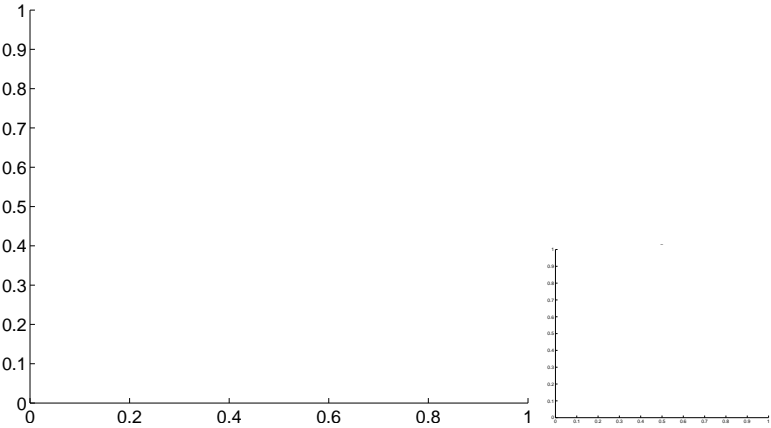
Q3 OOT image



Q4 no difference image



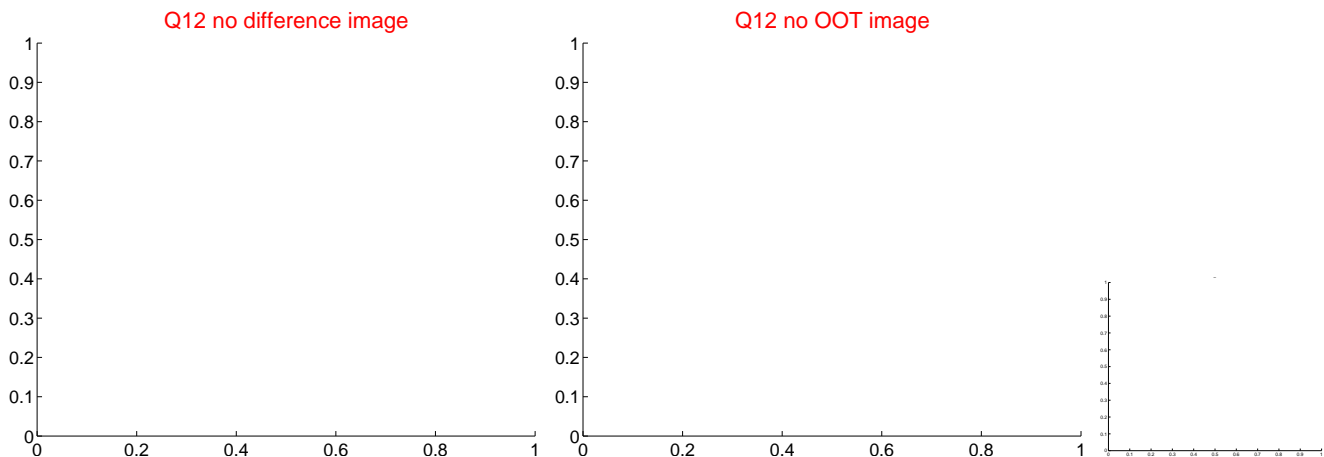
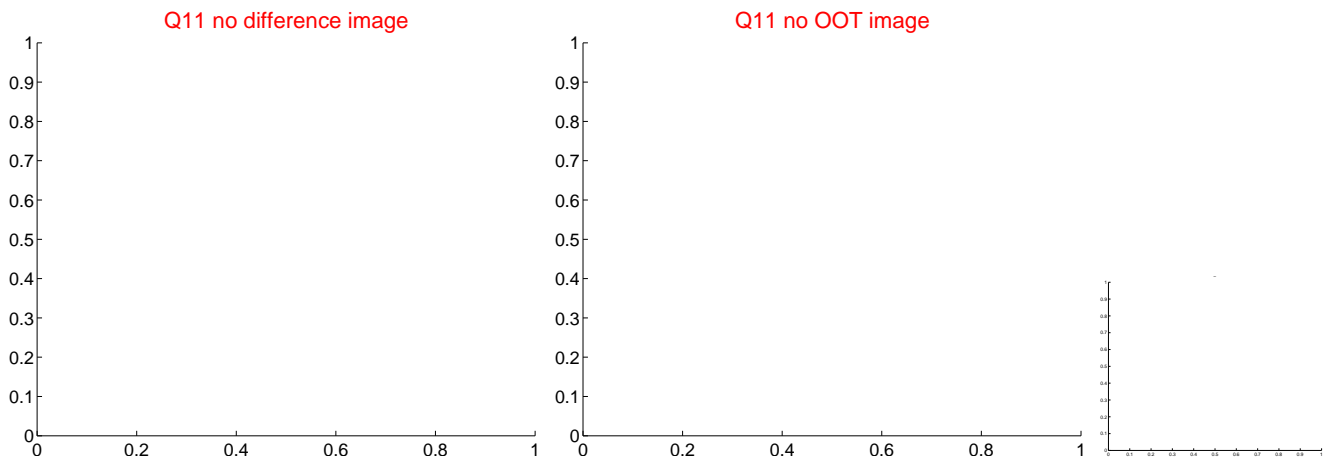
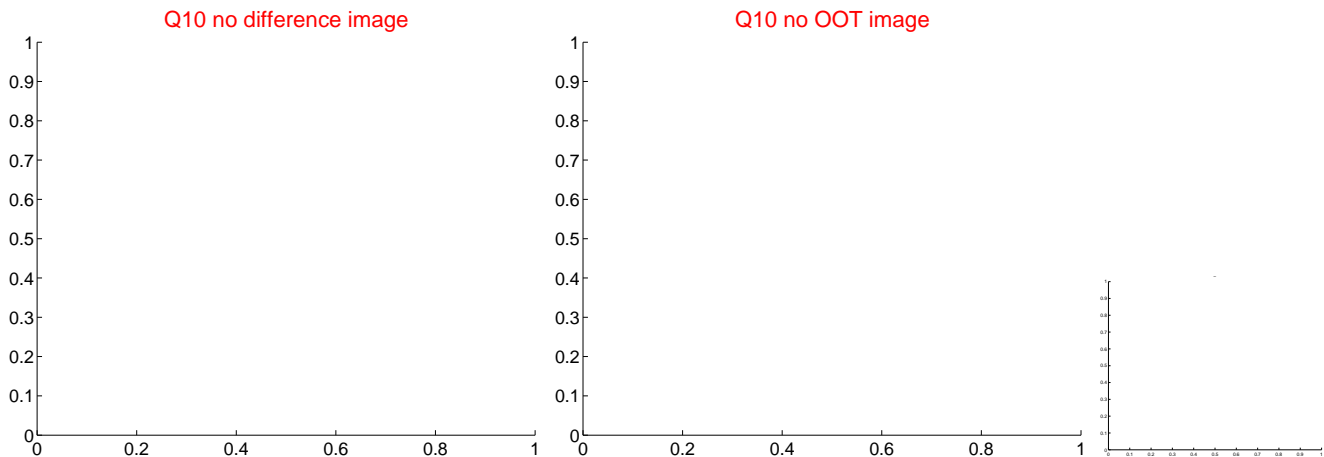
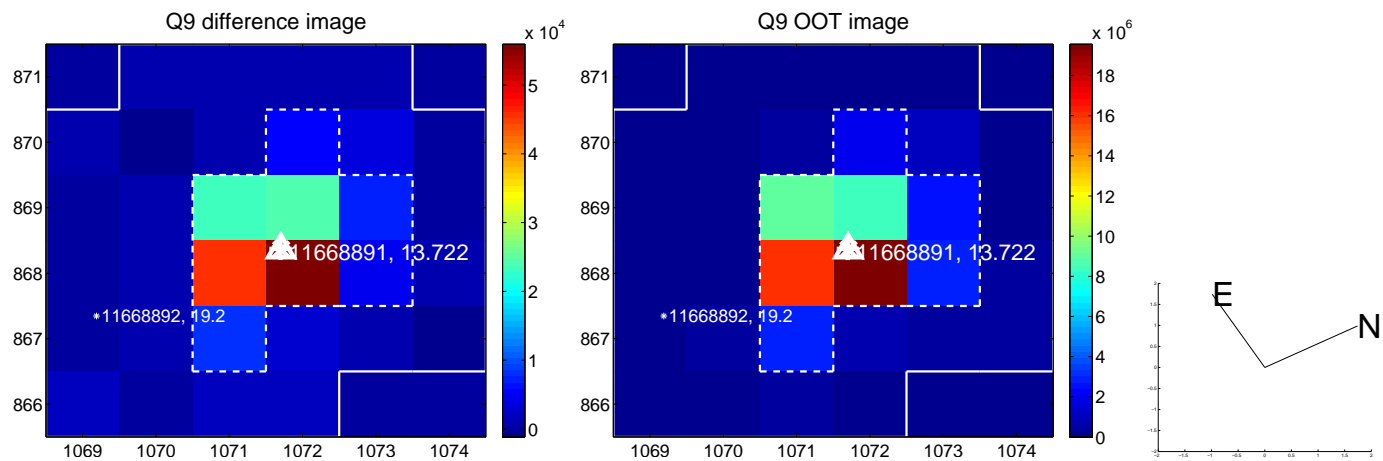
Q4 no OOT image



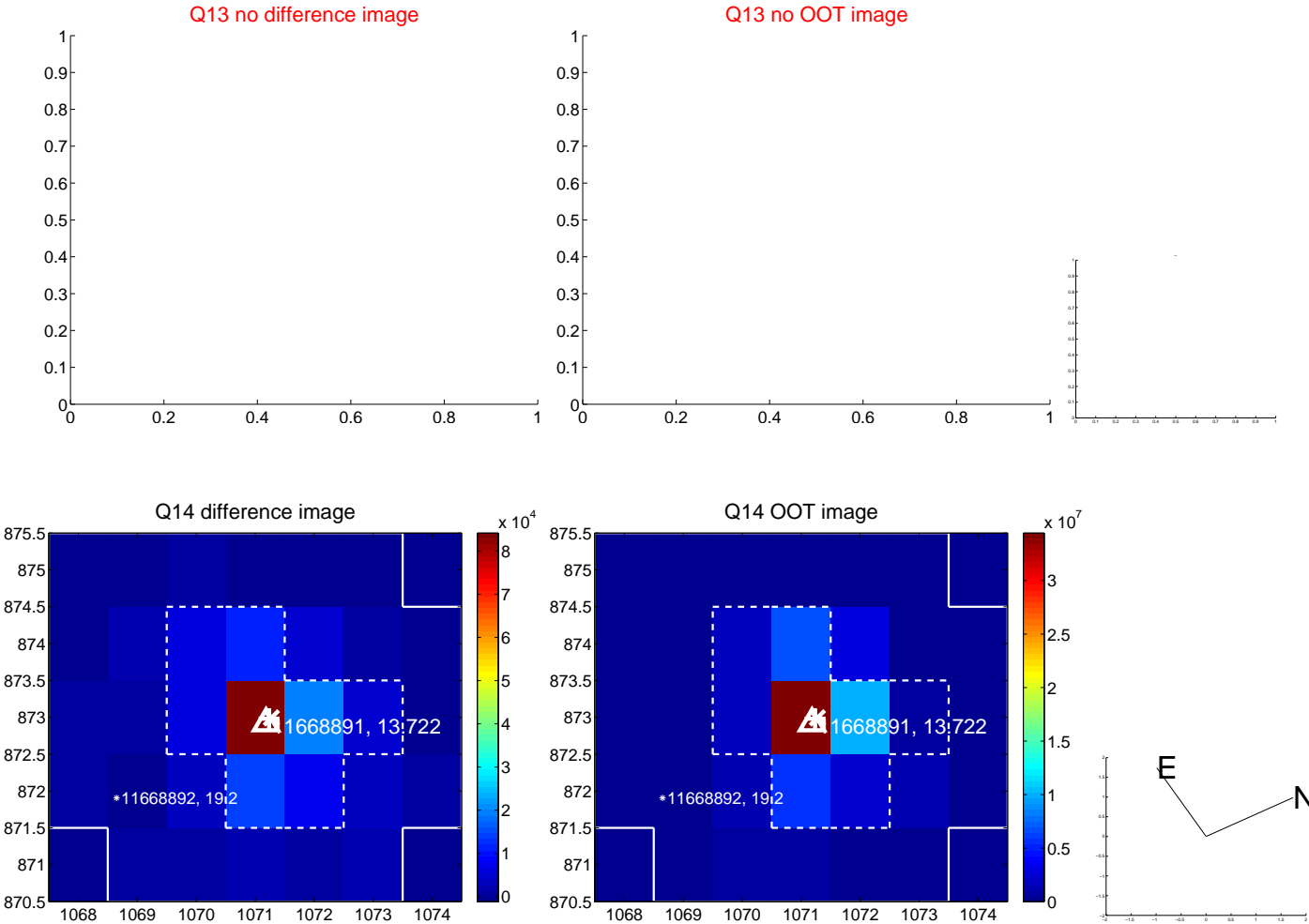
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



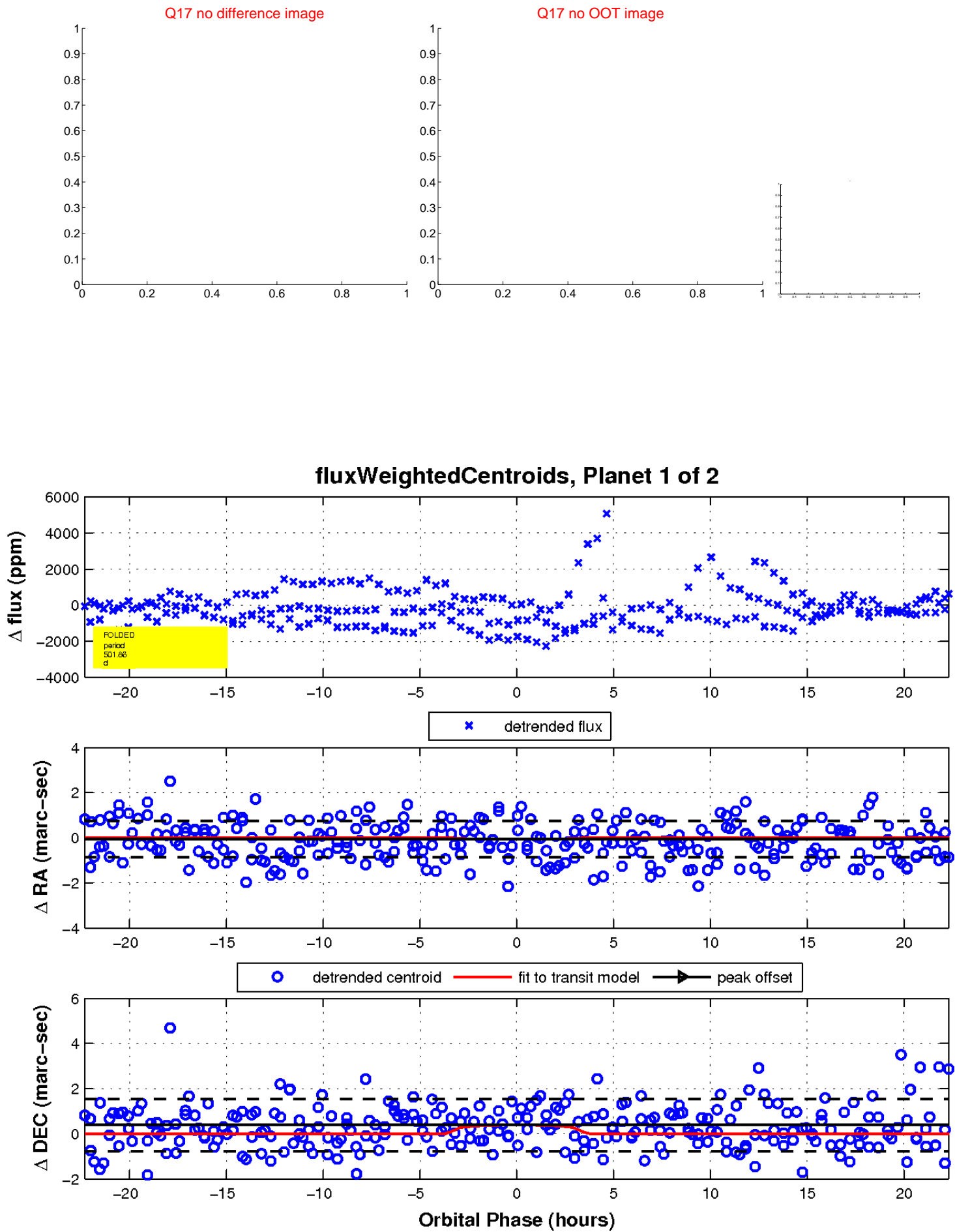
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

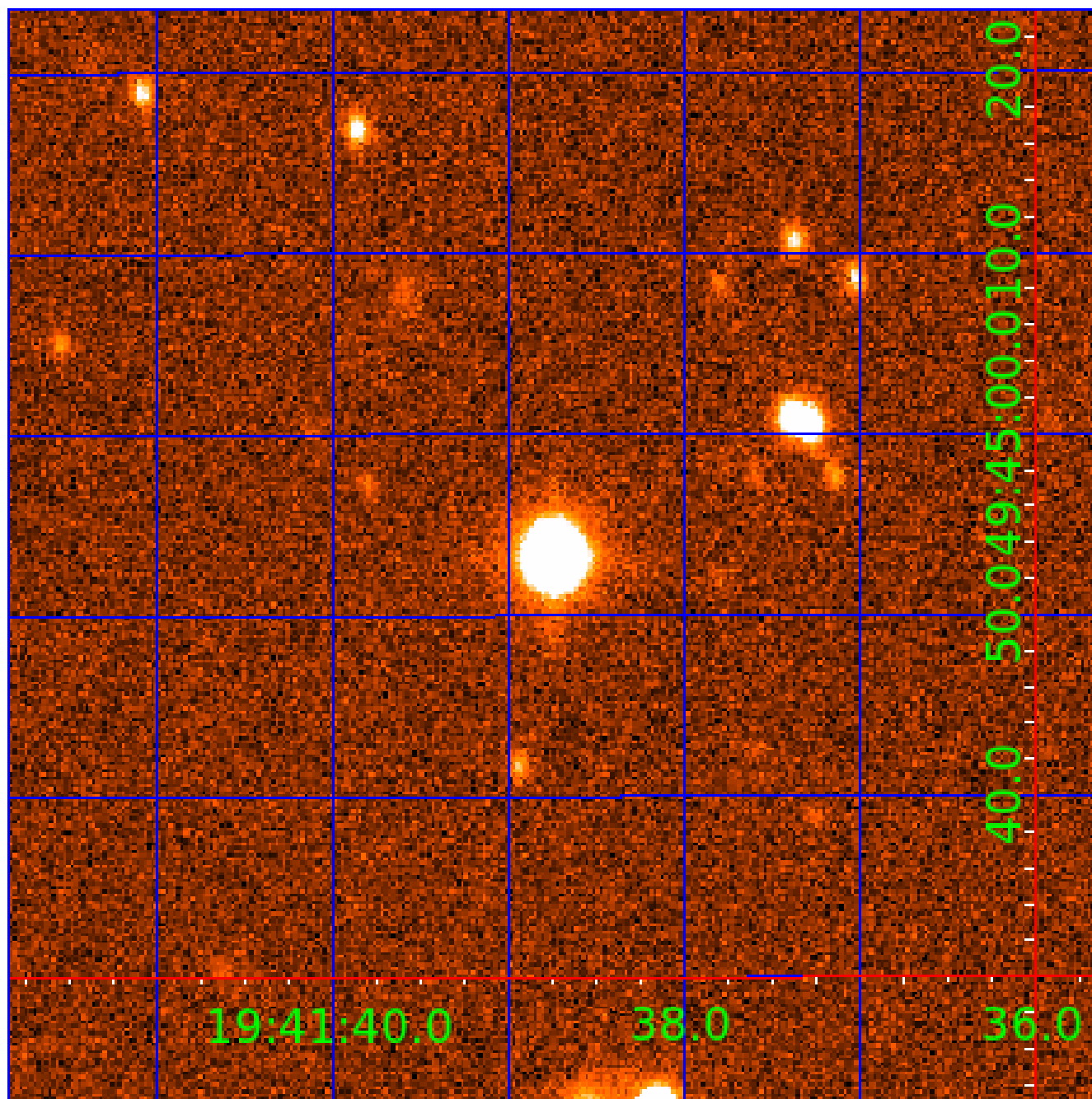


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011668891

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})
011668891-01	OBS	No	501.860709	325.996384	1202.9	7.482	9.2	7.2	3.71	4849	15.05	4.45
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Robovetter Results

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011668891-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

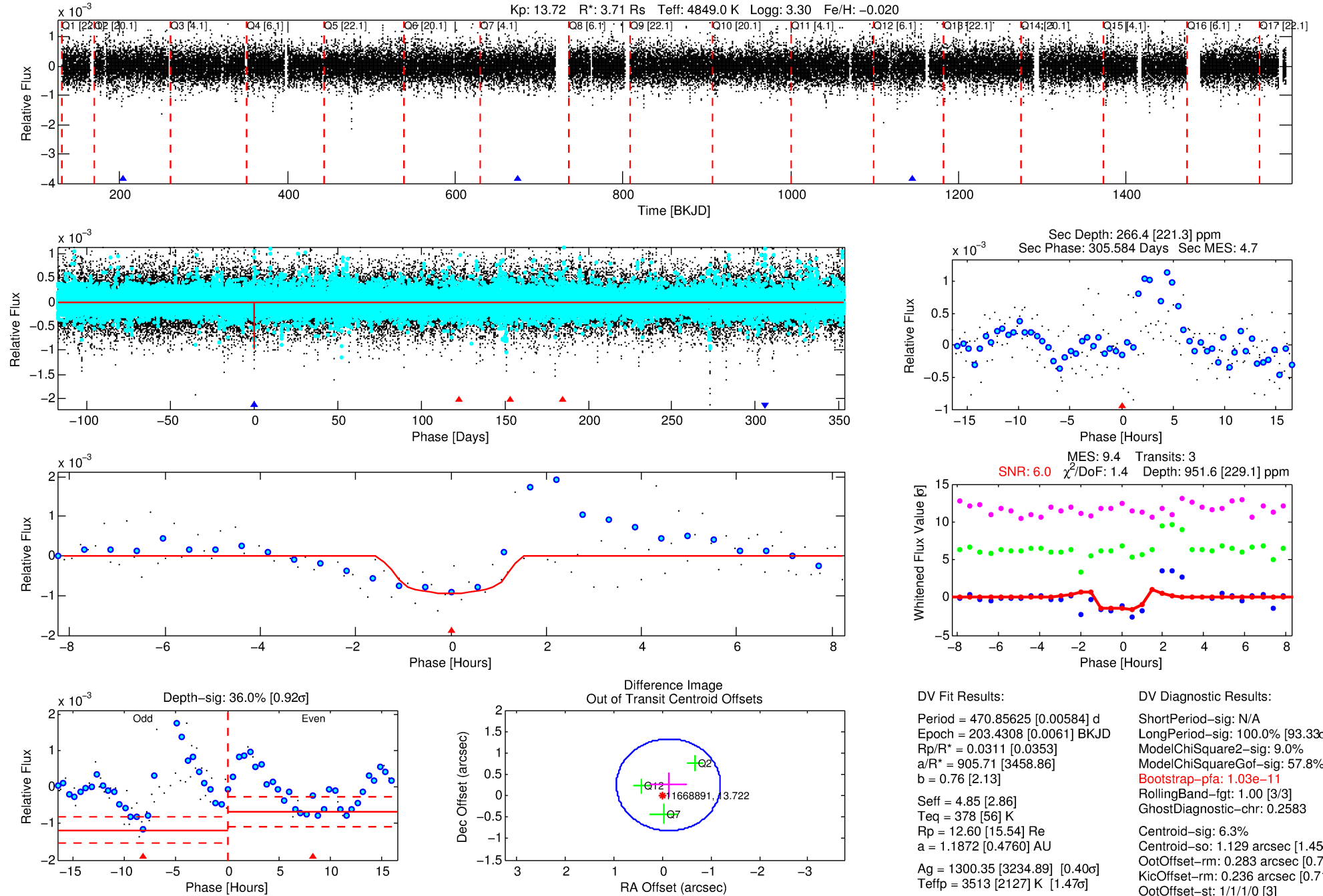
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011668891-02

No Significant Match Found

DV One-Page Summary

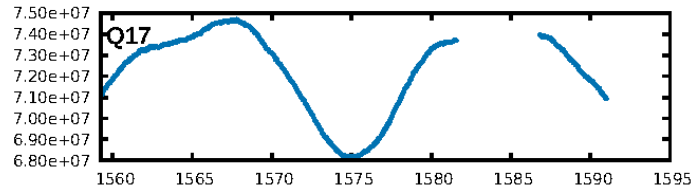
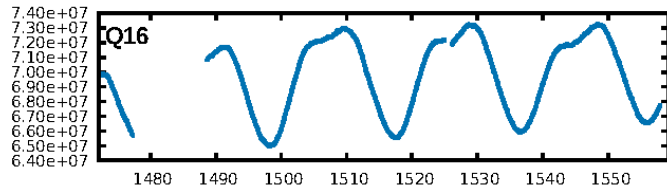
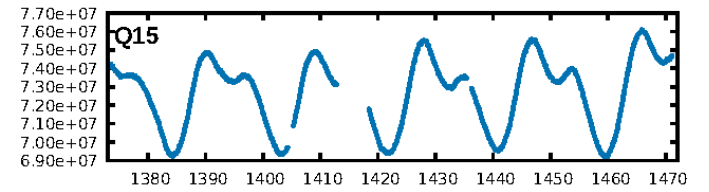
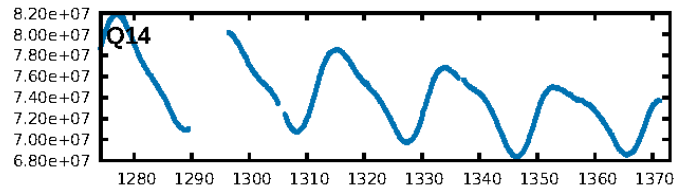
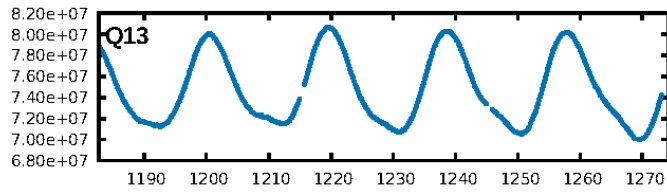
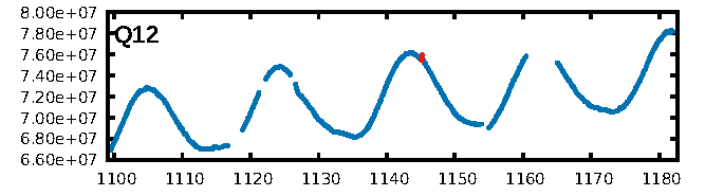
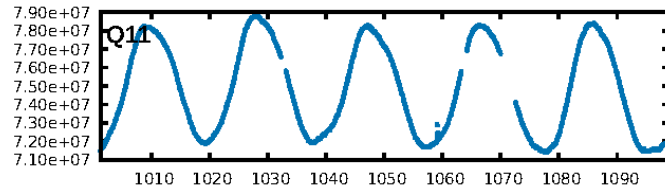
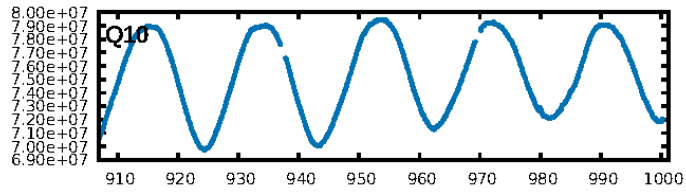
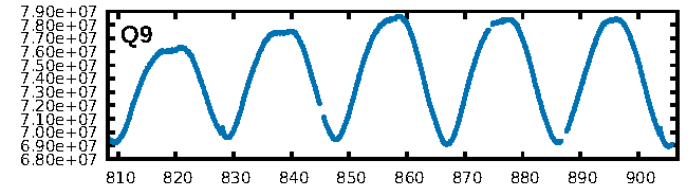
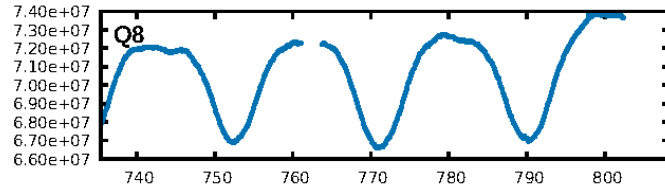
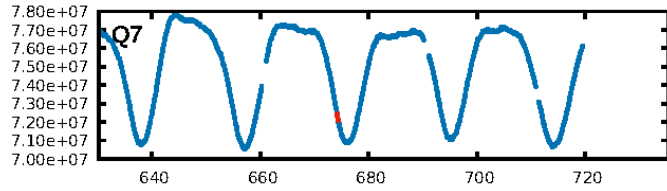
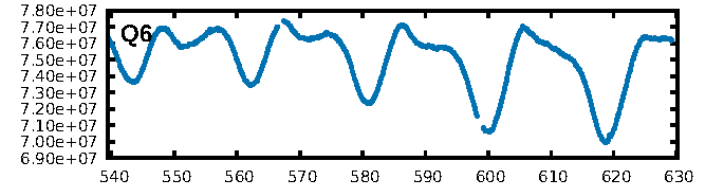
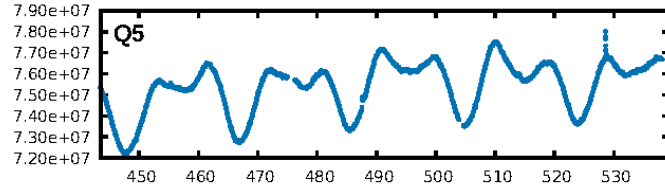
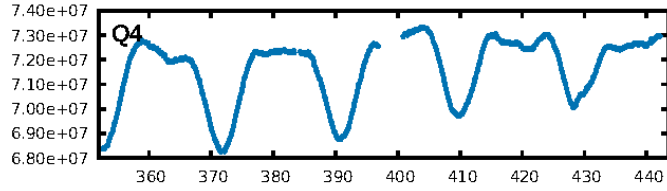
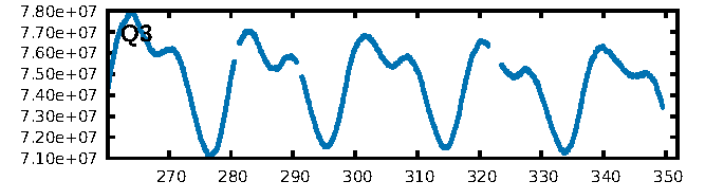
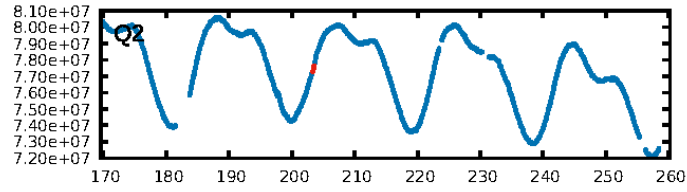
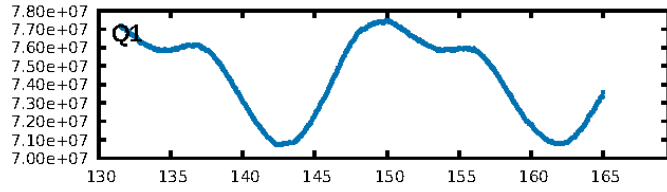
KIC: 11668891 Candidate: 2 of 2 Period: 470.856 d



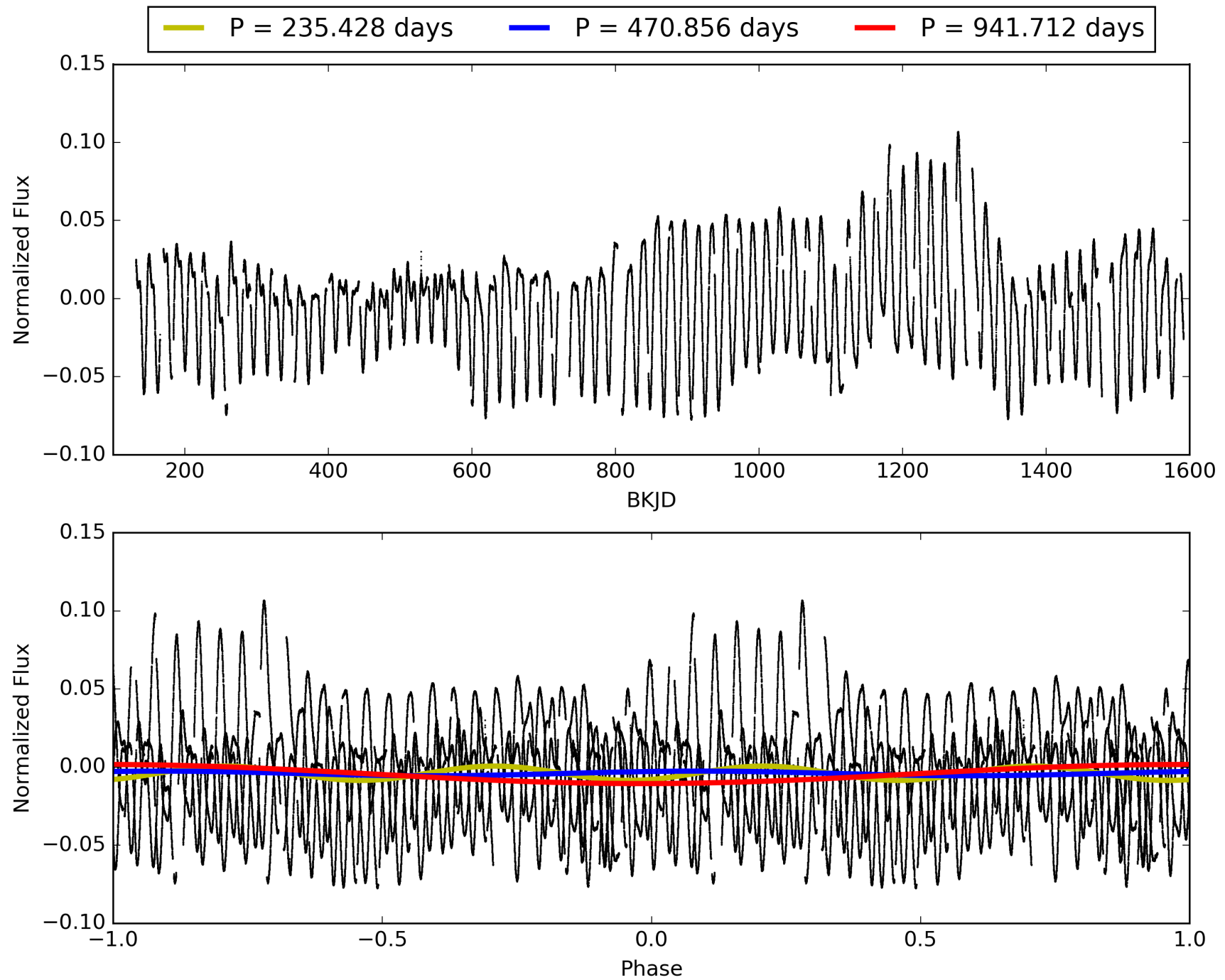
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:24:17 Z

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

TCE 011668891-02, PDC Light Curves

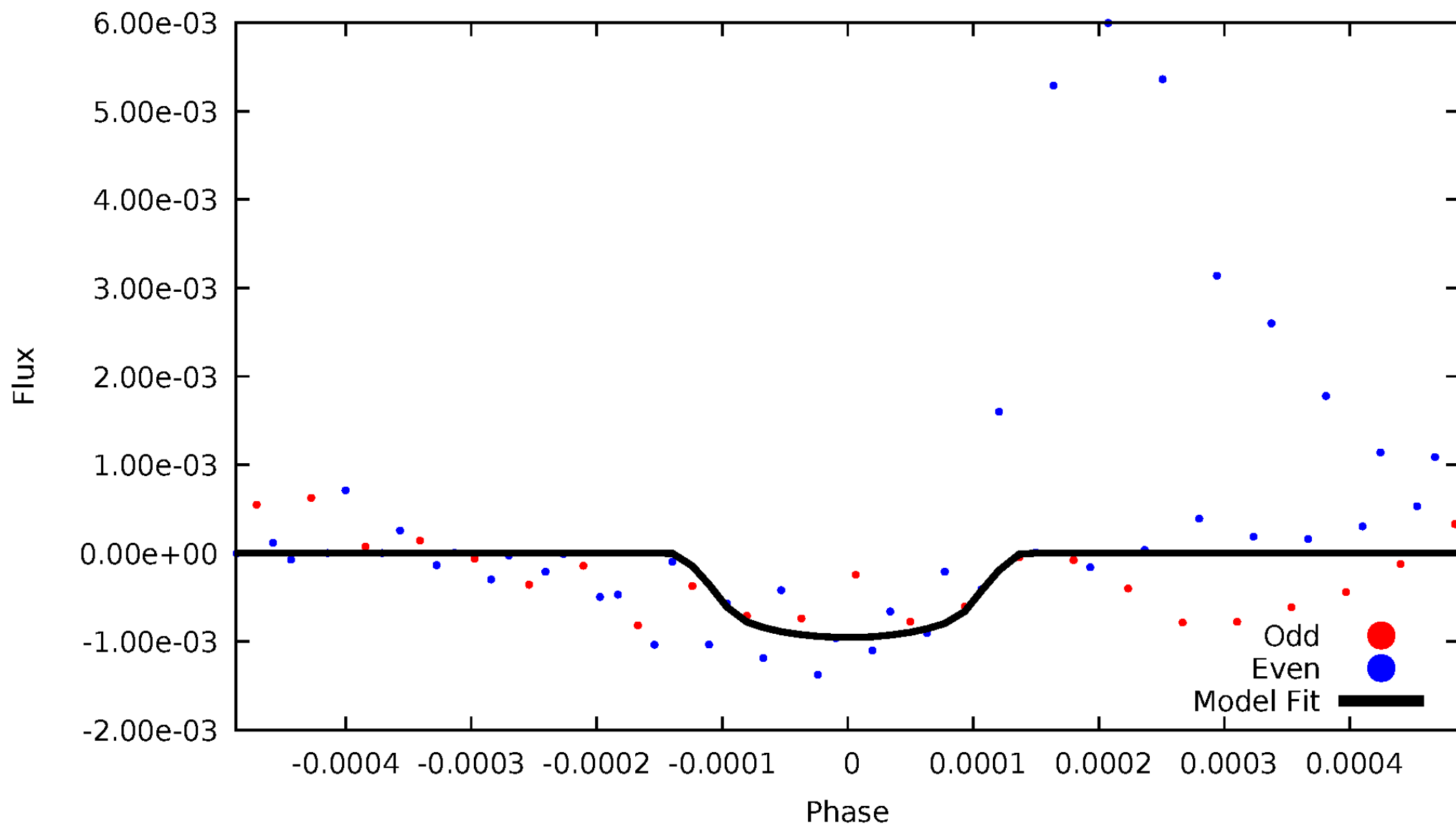


TCE 011668891-02



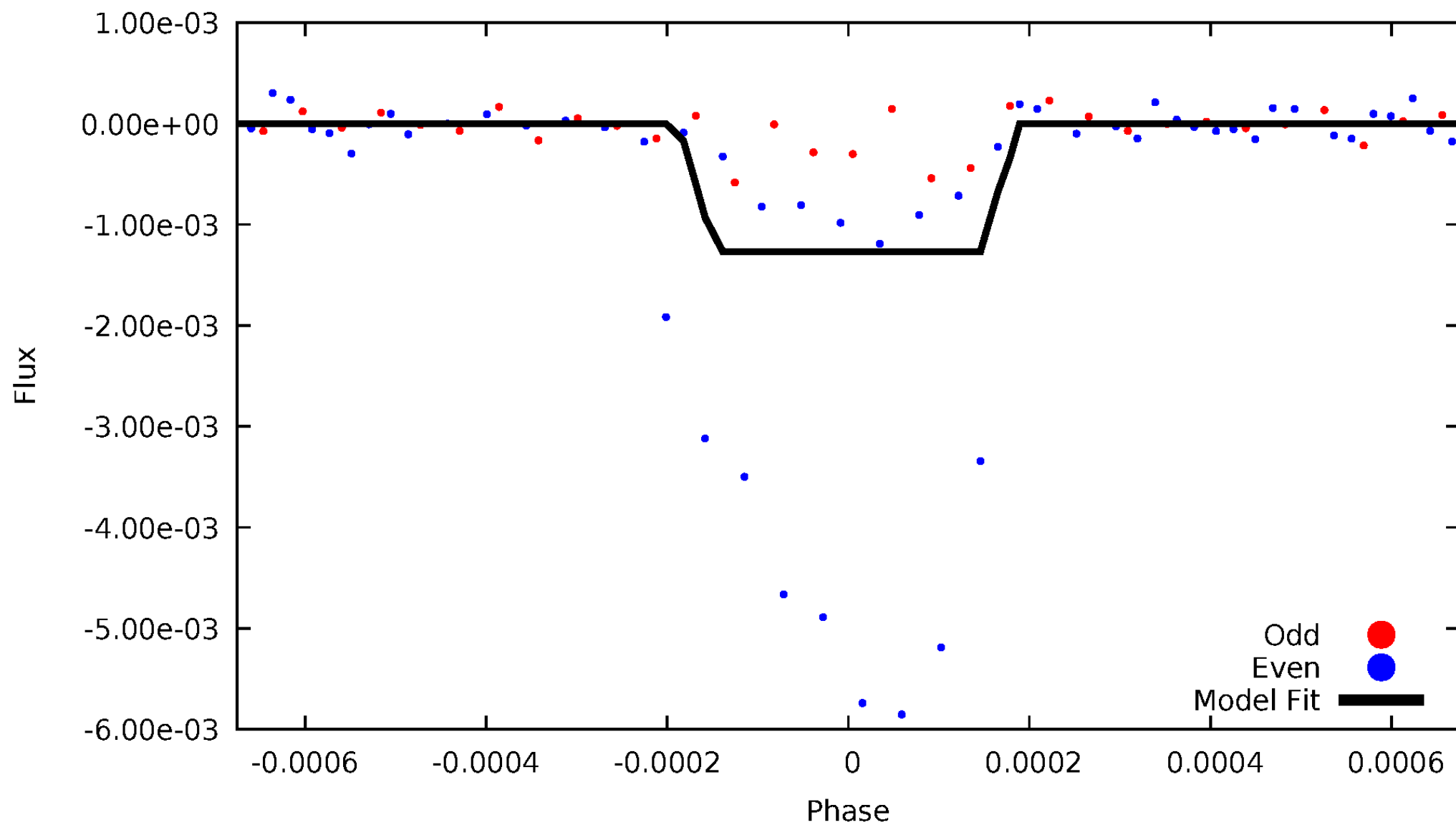
DV Odd/Even

TCE 011668891-02



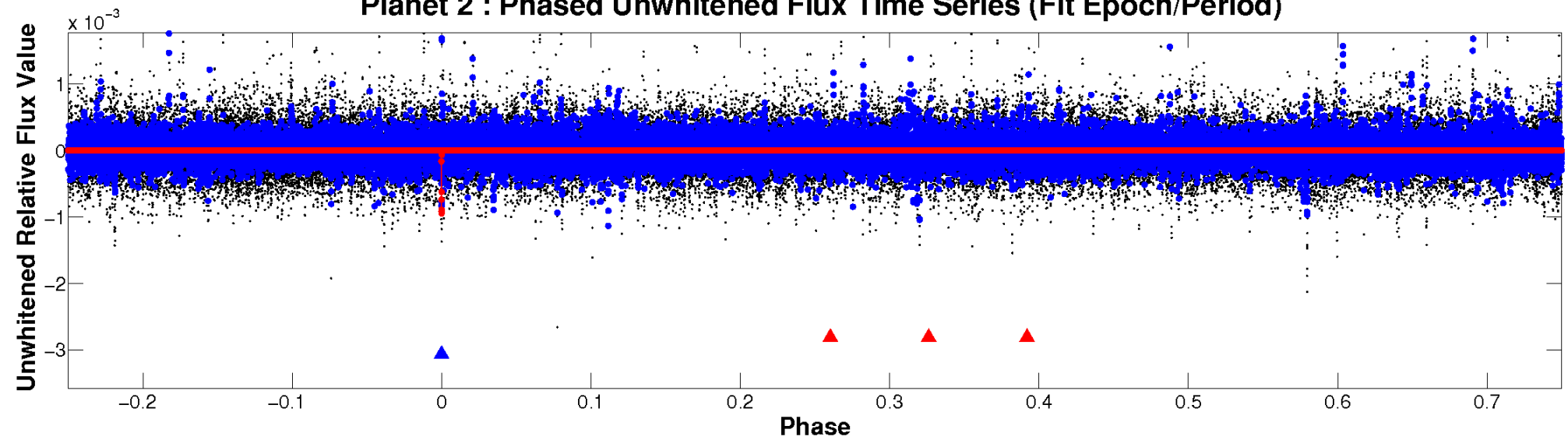
ALT Odd/Even

TCE 011668891-02

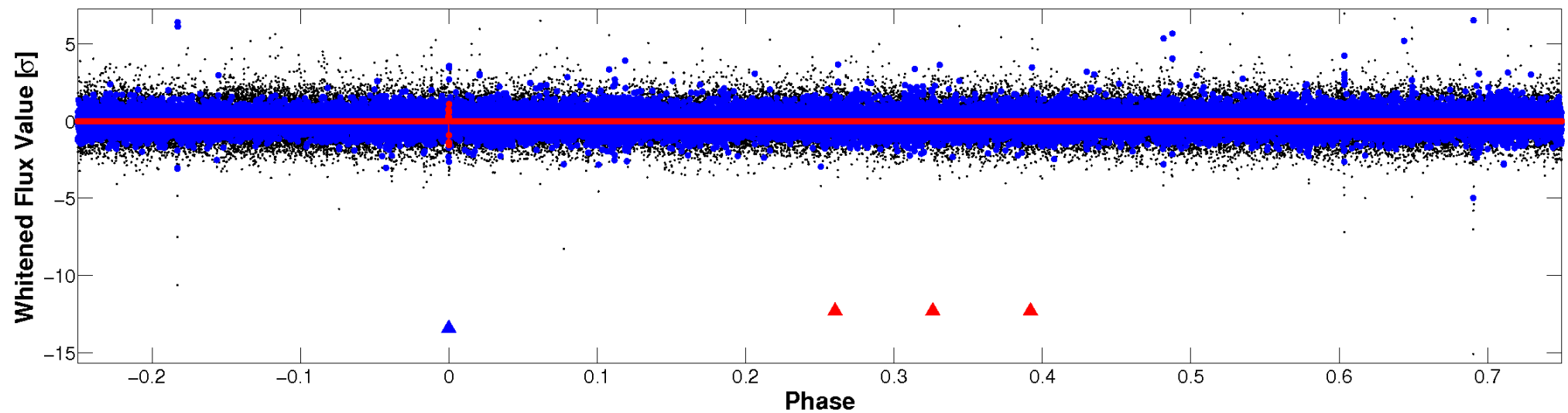


Non-Whitened Vs. Whitened Light Curve

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

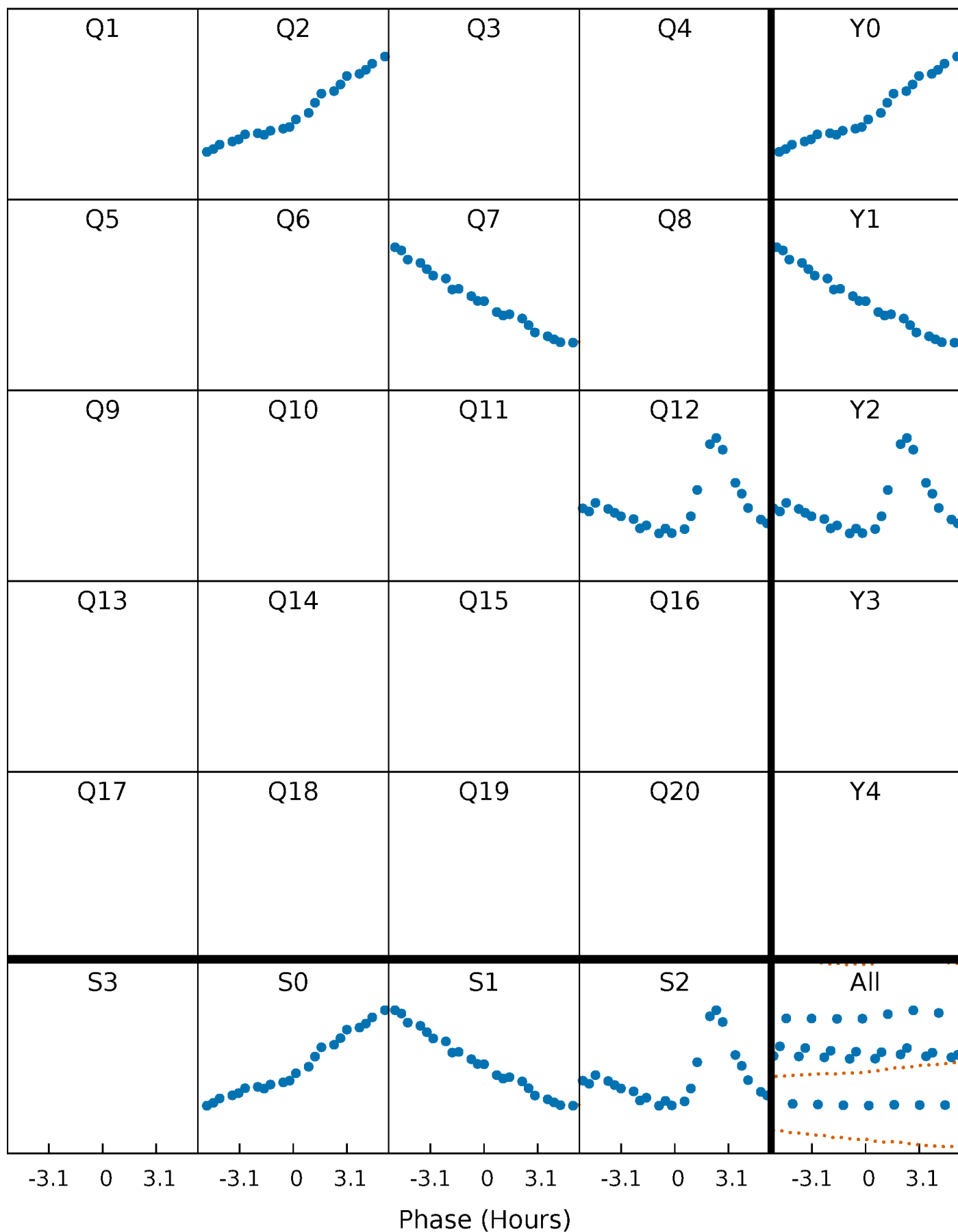


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



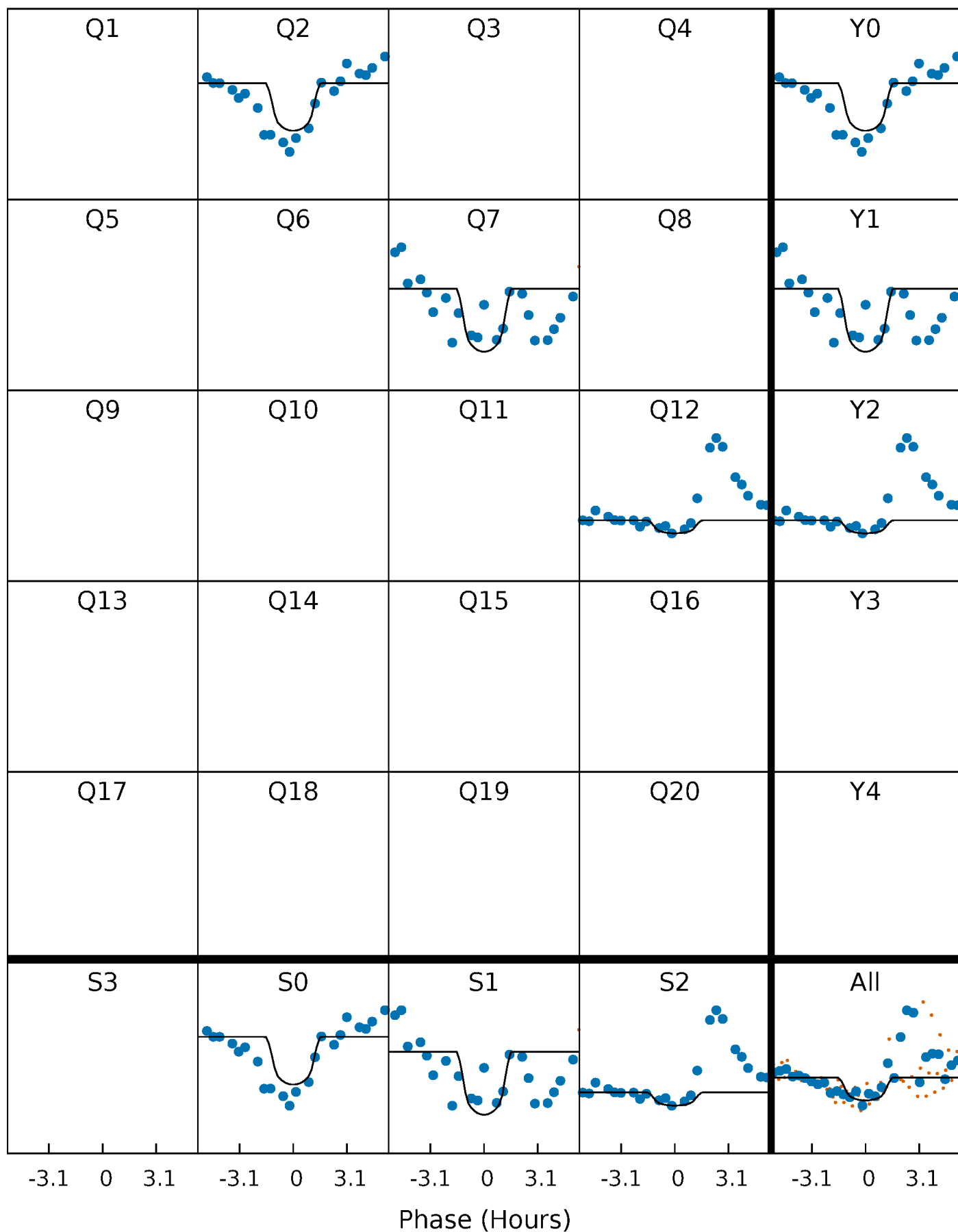
PDC Quarter-Phased Transit Curves

TCE 011668891-02 P=470.856249 Days $T_0=203.430753$ (BKJD)



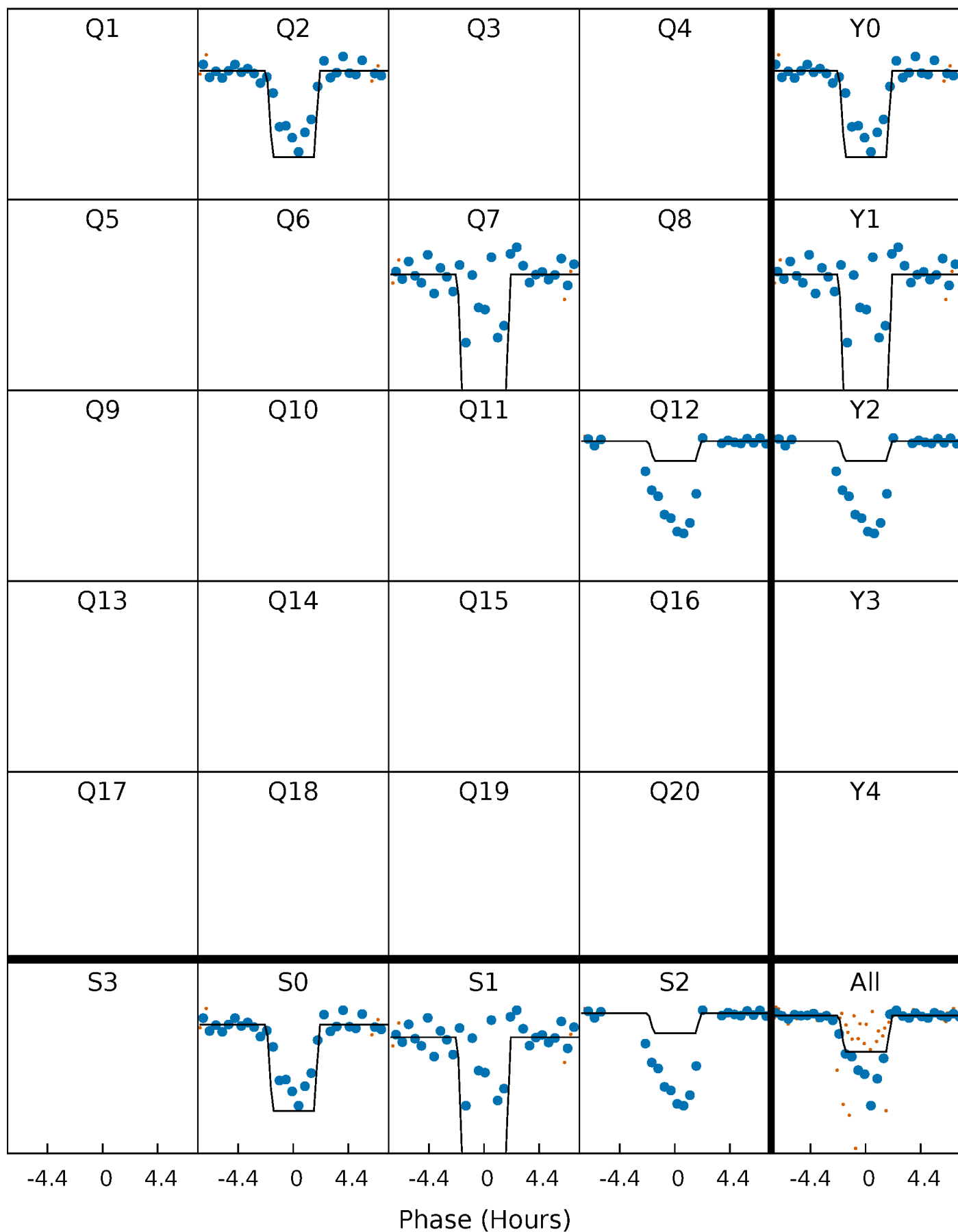
DV Quarter-Phased Transit Curves

TCE 011668891-02 P=470.856249 Days $T_0=203.430753$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

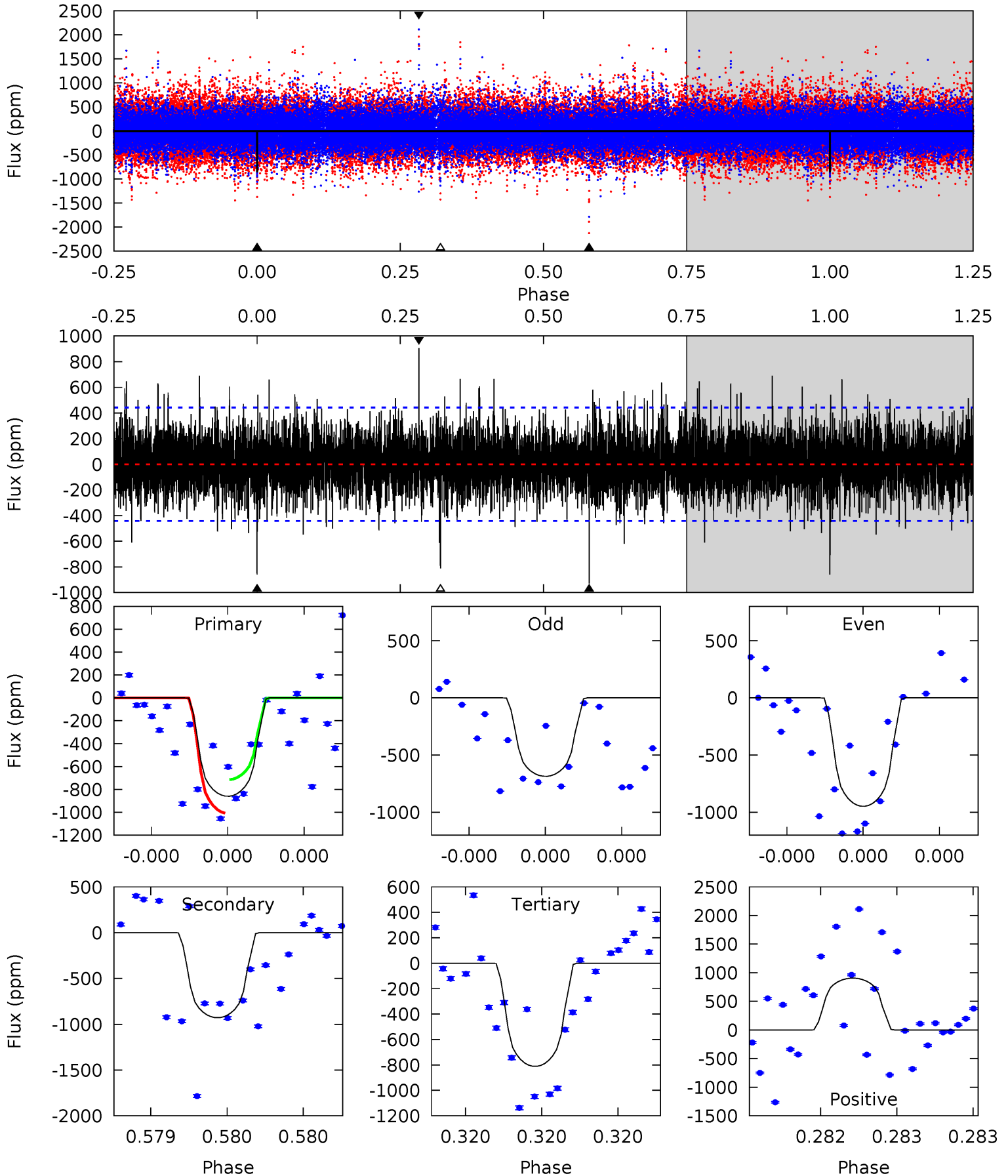
TCE 011668891-02 P=470.864145 Days $T_0=203.403138$ (BKJD)



DV Model-Shift Uniqueness Test

011668891-02, P = 470.856249 Days, E = 203.430753 Days

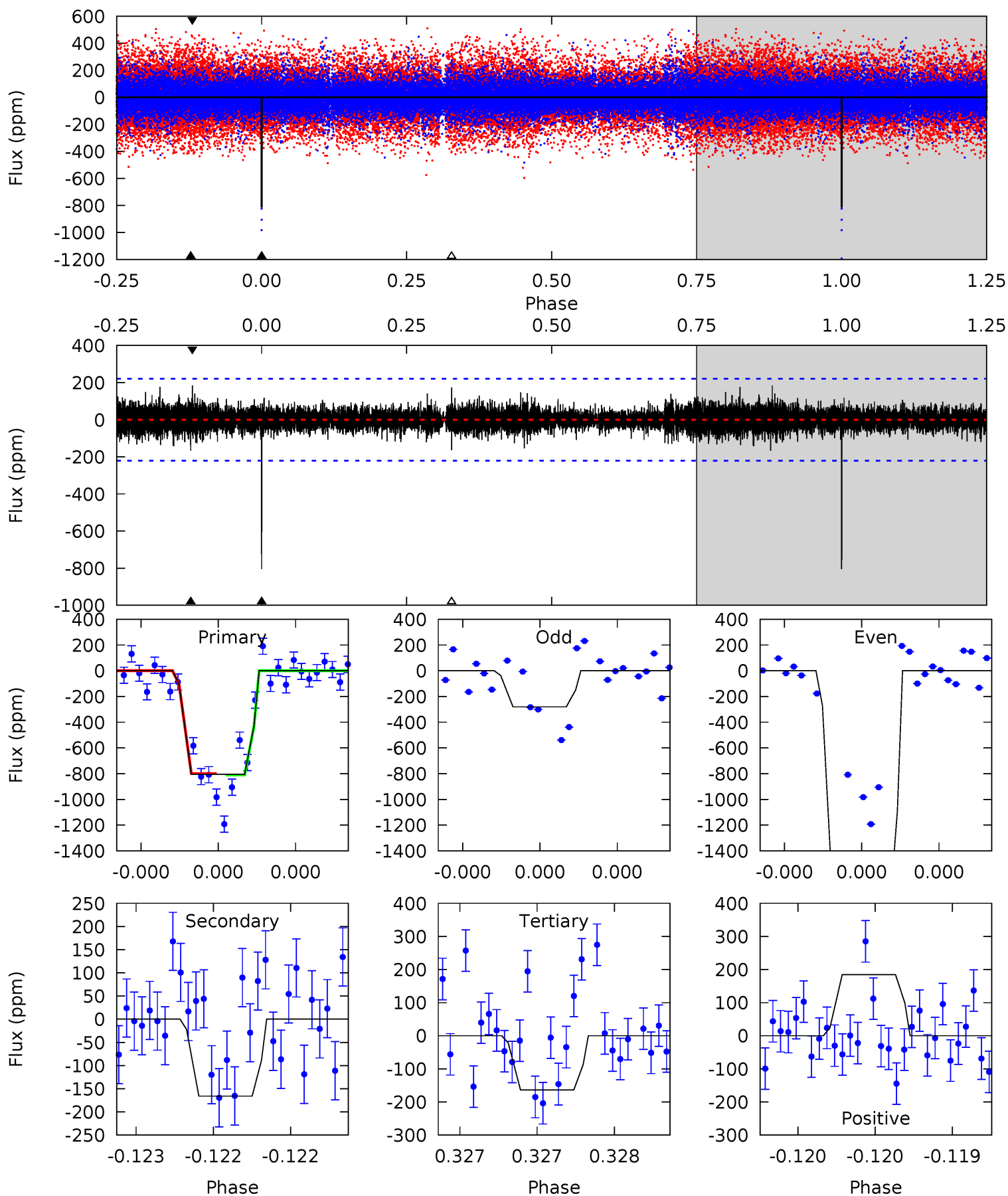
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	11.9	10.4	11.6	5.68	3.64	2.03	0.62	-0.60	1.51	0.29	1.53	1.21	0.49	1.88



Alt Model-Shift Uniqueness Test

011668891-02, P = 470.864145 Days, E = 203.403138 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	4.23	4.17	4.70	5.63	3.57	0.79	16.3	15.8	0.06	-0.48	28.2	2.39	0.19	0.15



Stellar Parameters For KIC 011668891

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4849^{+134}_{-98}	$3.301^{+0.315}_{-0.315}$	$-0.020^{+0.250}_{-0.200}$	$3.714^{+1.782}_{-1.188}$	$1.005^{+0.273}_{-0.085}$	$0.028^{+0.055}_{-0.019}$
	+3%/-2%	+10%/-10%	+1250%/-1000%	+48%/-32%	+27%/-8%	+200%/-67%
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 011668891-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-928 ± 78	$16.70^{+14.34}_{-10.86}$	535^{+63}_{-53}	4377^{+2555}_{-817}	2781^{+19694}_{-2029}
Alt.	-166 ± 39	$16.86^{+14.98}_{-11.21}$	531^{+74}_{-56}	3204^{+1436}_{-477}	456^{+3542}_{-338}

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

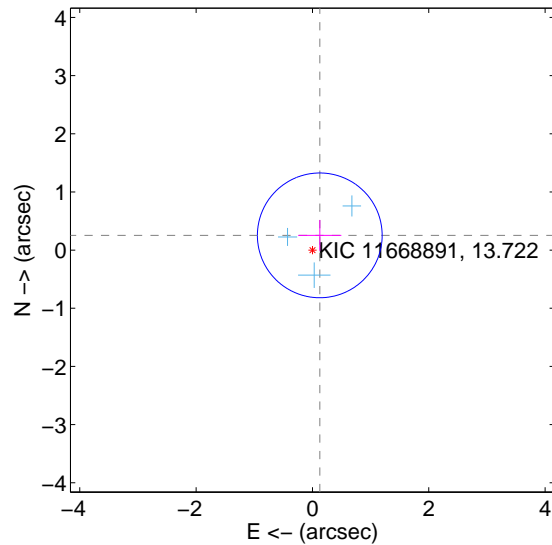
Supplemental centroid analysis for 011668891-02. Kepler magnitude: 13.72. Transit SNR 5.96

There are 3 quarters with good PRF difference image offsets

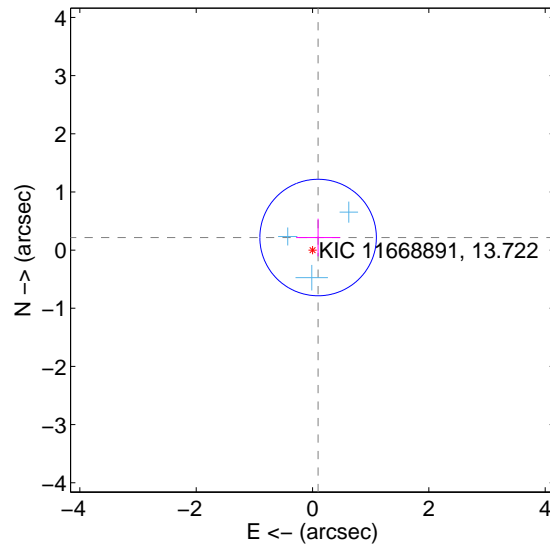
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.283 ± 0.357	0.79	-0.126 ± 0.372	0.253 ± 0.266
PRF-fit source offset from KIC position	0.236 ± 0.334	0.71	-0.096 ± 0.379	0.216 ± 0.324
photometric centroid source offset	1.13 ± 0.78	1.45	0.59 ± 0.72	-0.96 ± 0.80

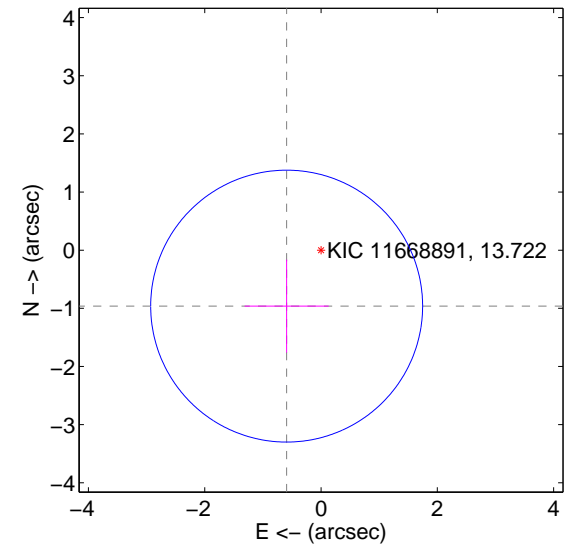
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

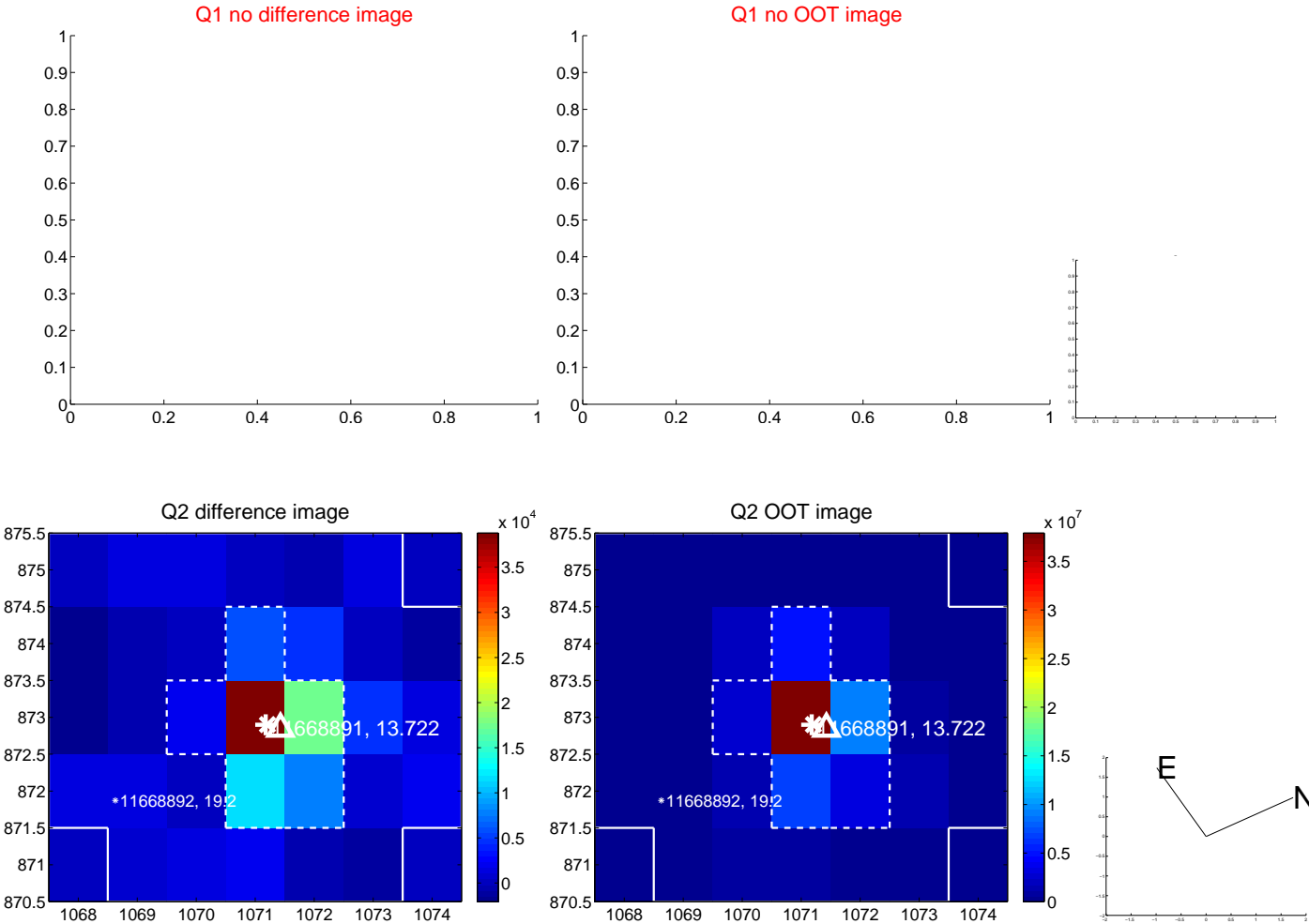


offset from photometric centroids

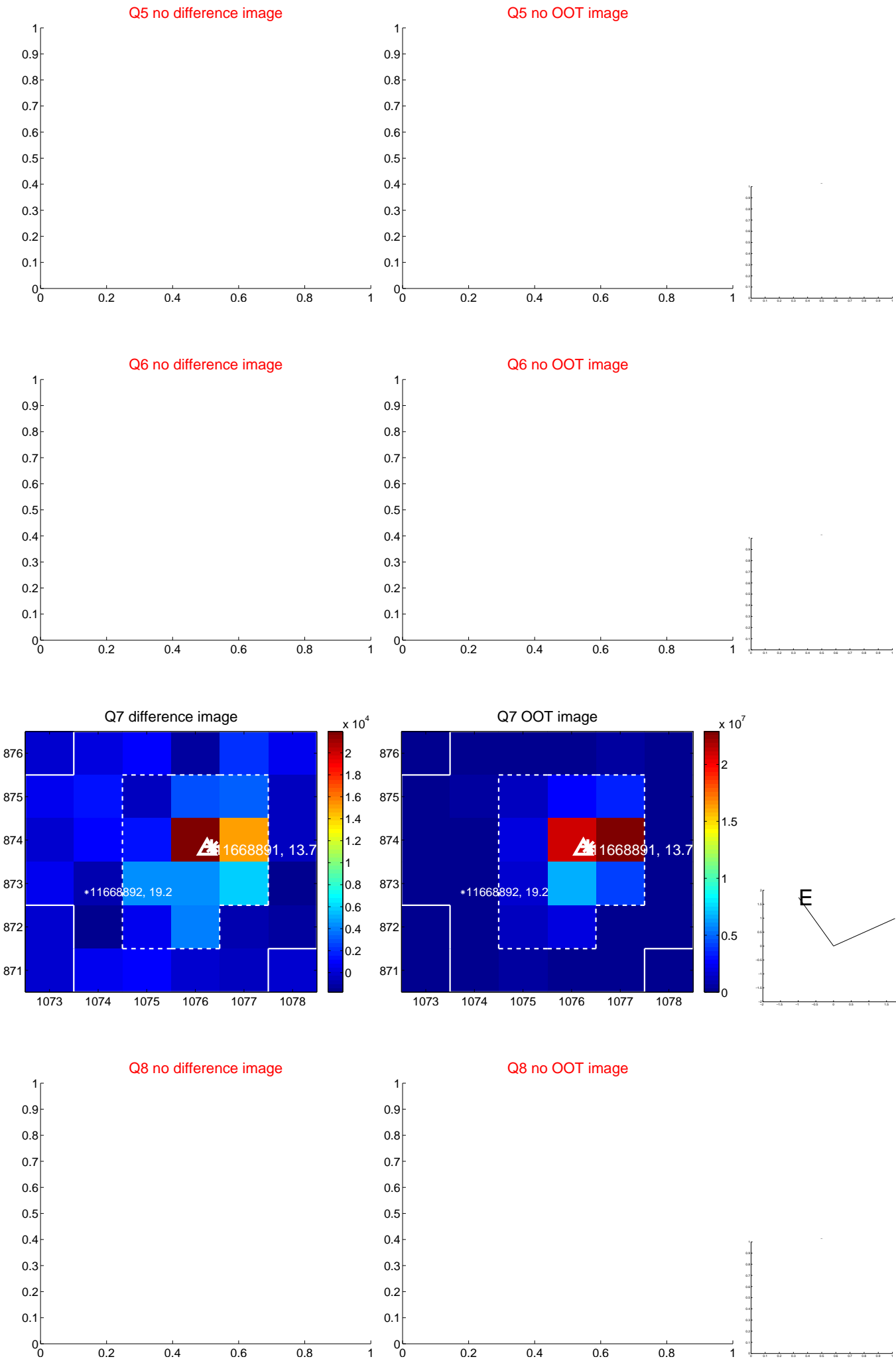


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

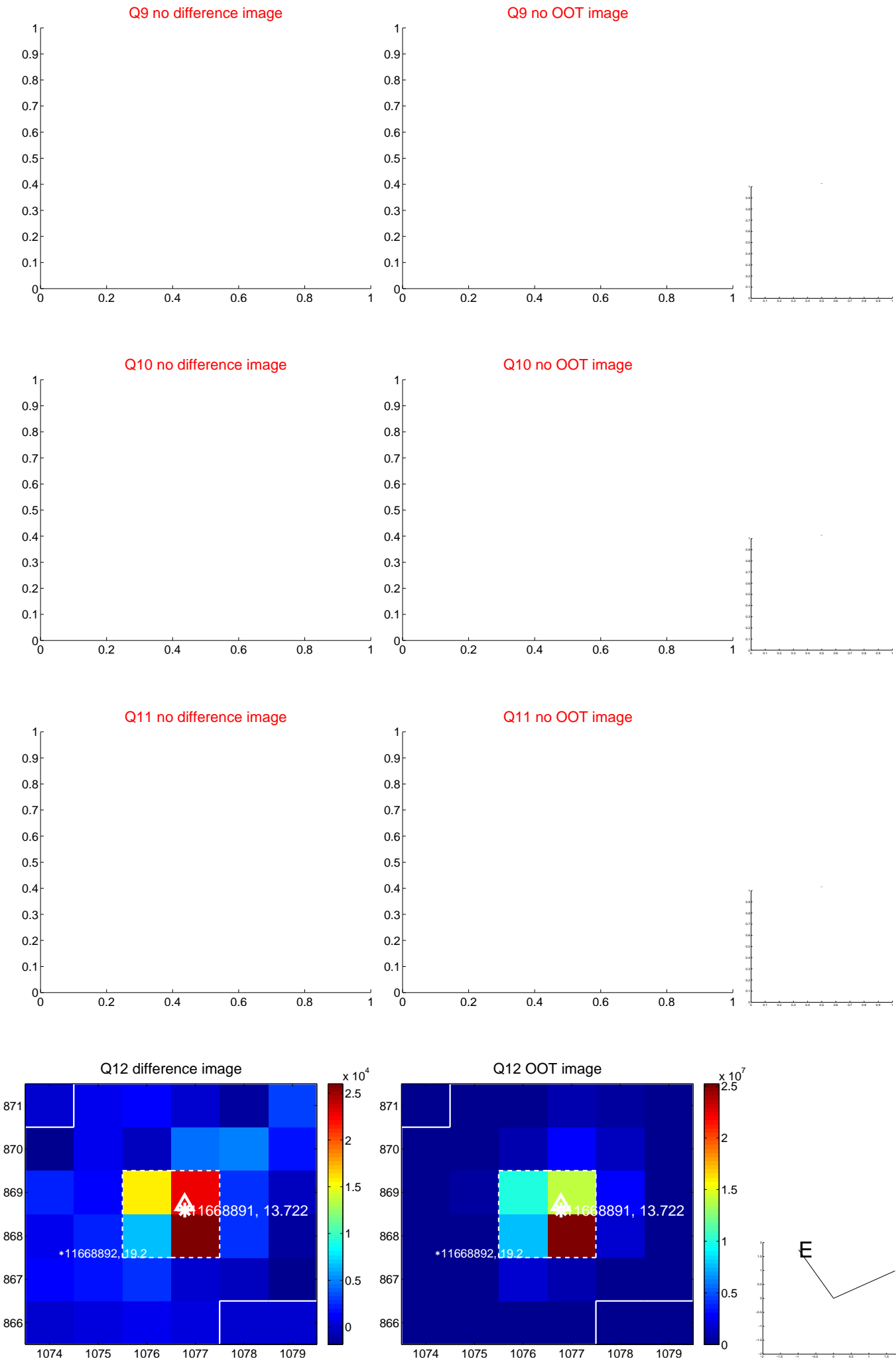
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



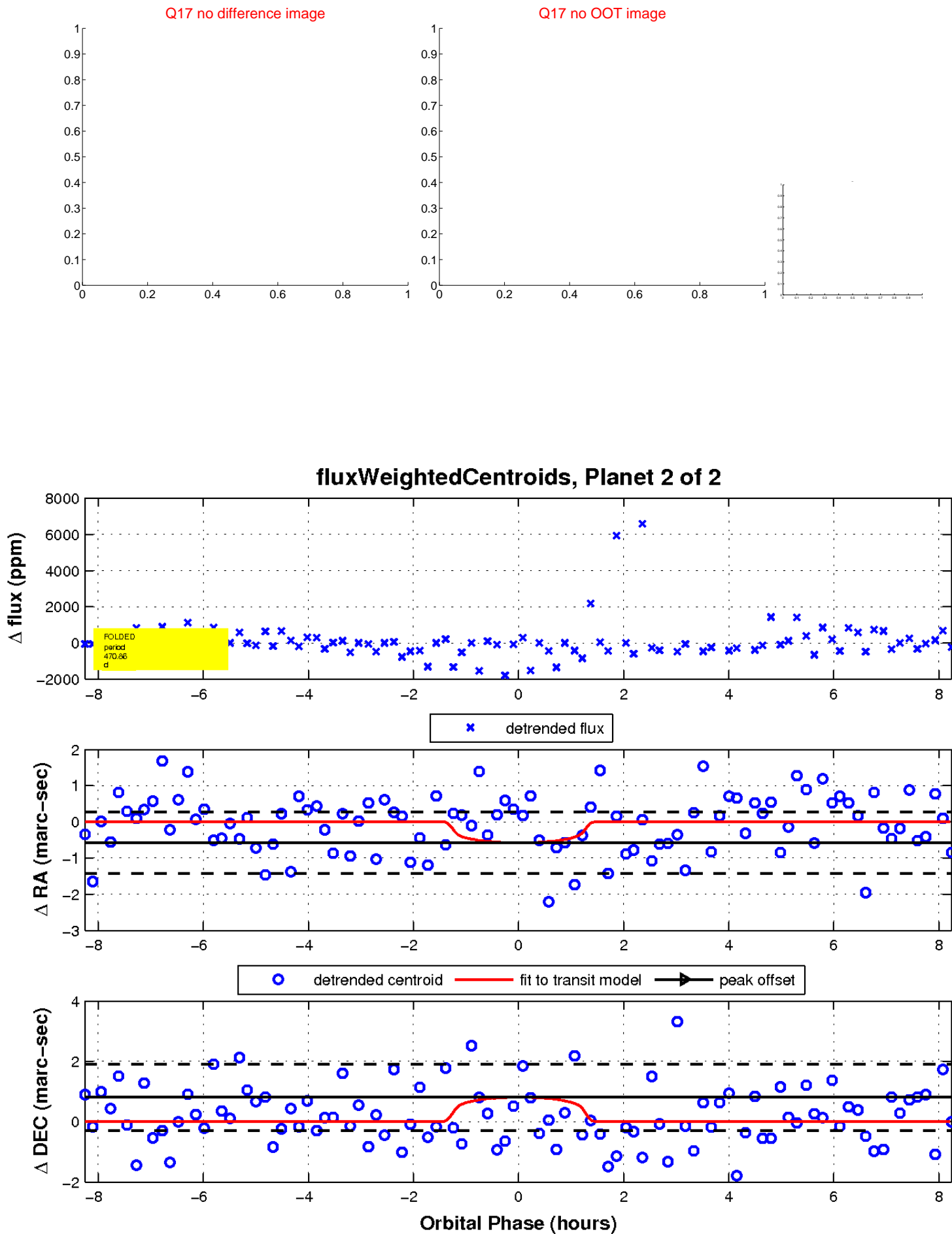
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

