

KIC 006200965

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})
006200965-01	OBS	No	366.790640	152.820752	830.5	21.204	7.8	7.4	1.00	6092	3.37	1.16
006200965-02	OBS	No	433.182651	149.120935	604.3	26.324	9.3	9.6	1.00	6092	2.54	0.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006200965-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
006200965-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET

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

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

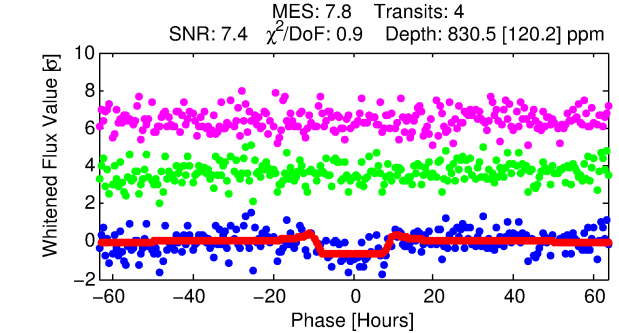
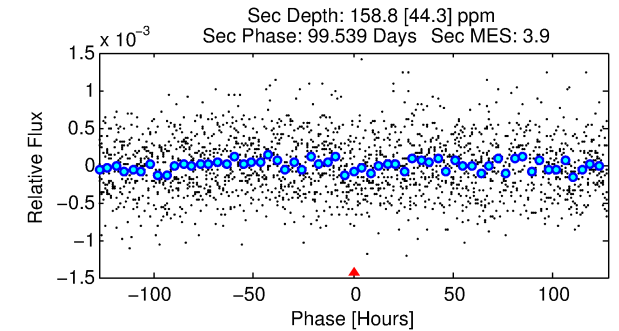
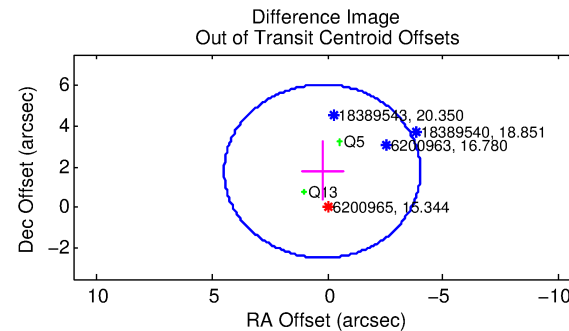
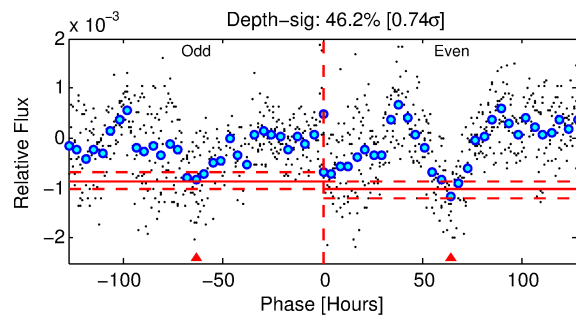
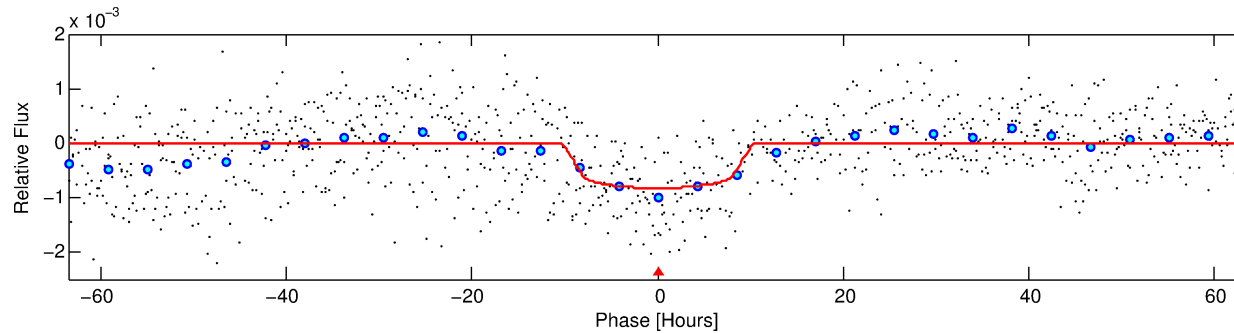
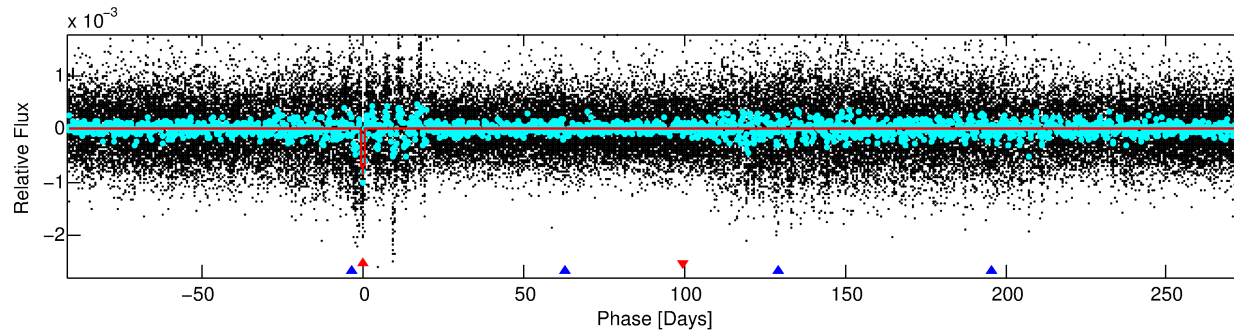
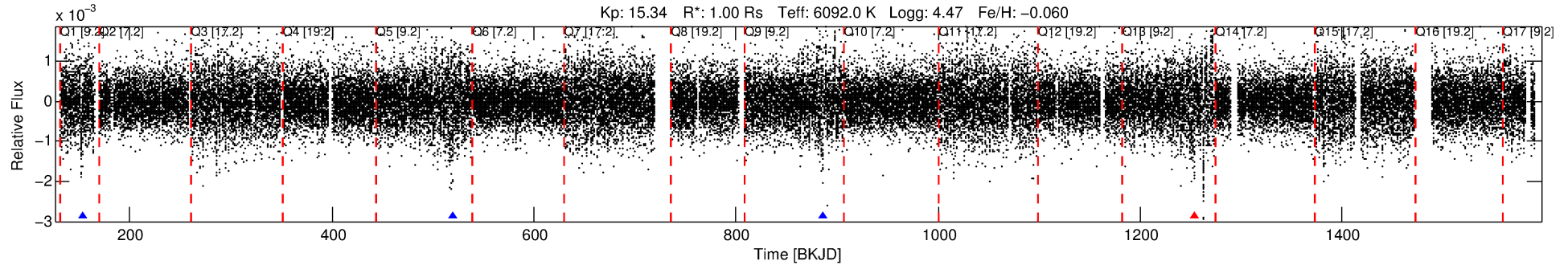
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006200965-01

No Significant Match Found

DV One-Page Summary

KIC: 6200965 Candidate: 1 of 2 Period: 366.791 d



DV Fit Results:

Period = 366.79064 [0.01659] d
Epoch = 152.8208 [0.0293] BKJD
Rp/R* = 0.0310 [0.0030]
a/R* = 67.77 [19.67]
b = 0.89 [0.07]
Seff = 1.16 [0.47]
Teq = 265 [27] K
Rp = 3.37 [1.11] Re
a = 1.0274 [0.2697] AU
Ag = 8104.79 [4145.77] [1.95 σ]
Teffp = 3886 [355] K [10.17 σ]

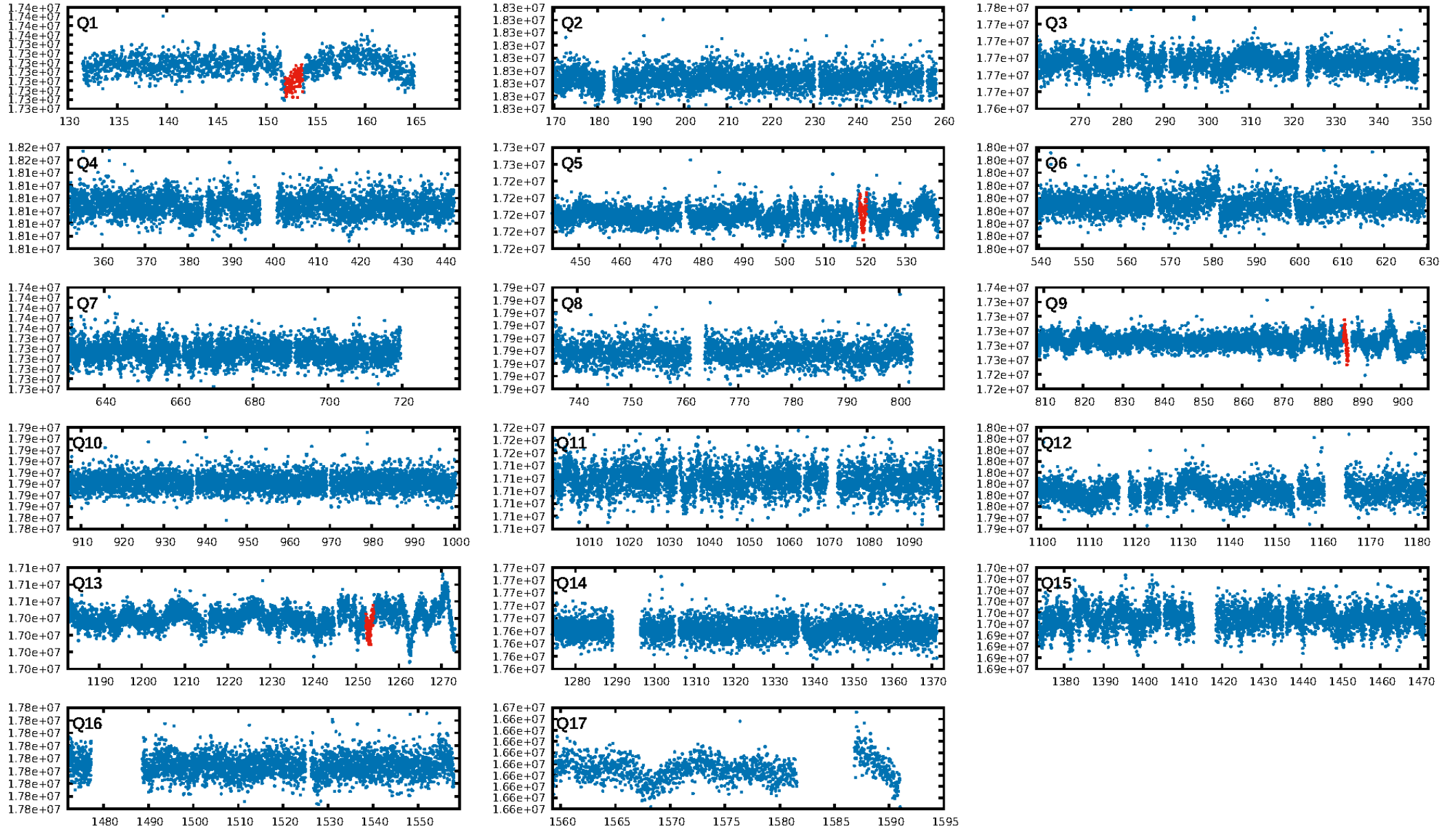
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [47.14 σ]
ModelChiSquare2-sig: 26.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.72e-10
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.5522
Centroid-sig: 0.3%
Centroid-so: 4.990 arcsec [2.50 σ]
OotOffset-rm: 1.788 arcsec [1.26 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 1.954 arcsec [1.39 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

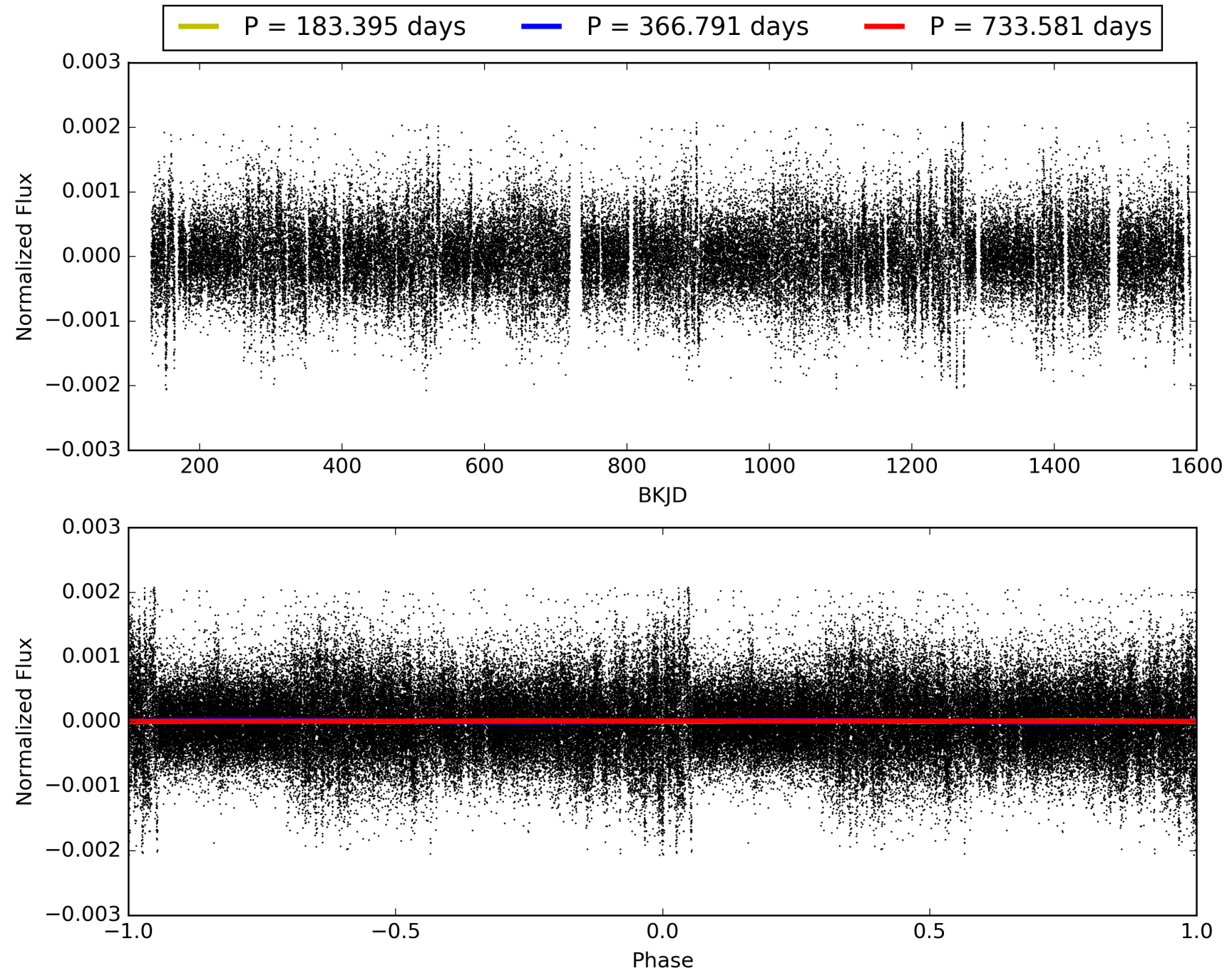
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:42:49 Z

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

TCE 006200965-01, PDC Light Curves

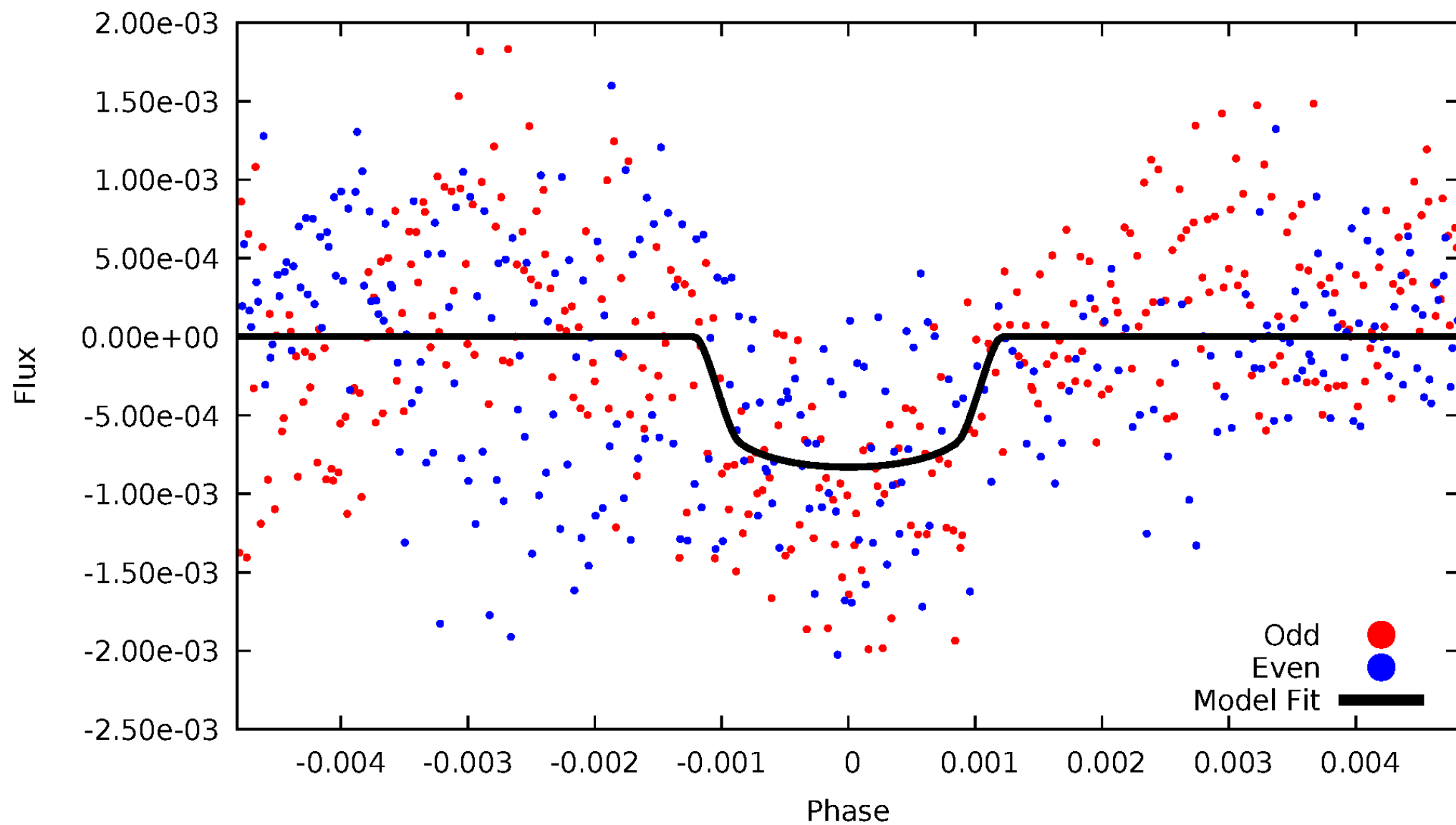


TCE 006200965-01



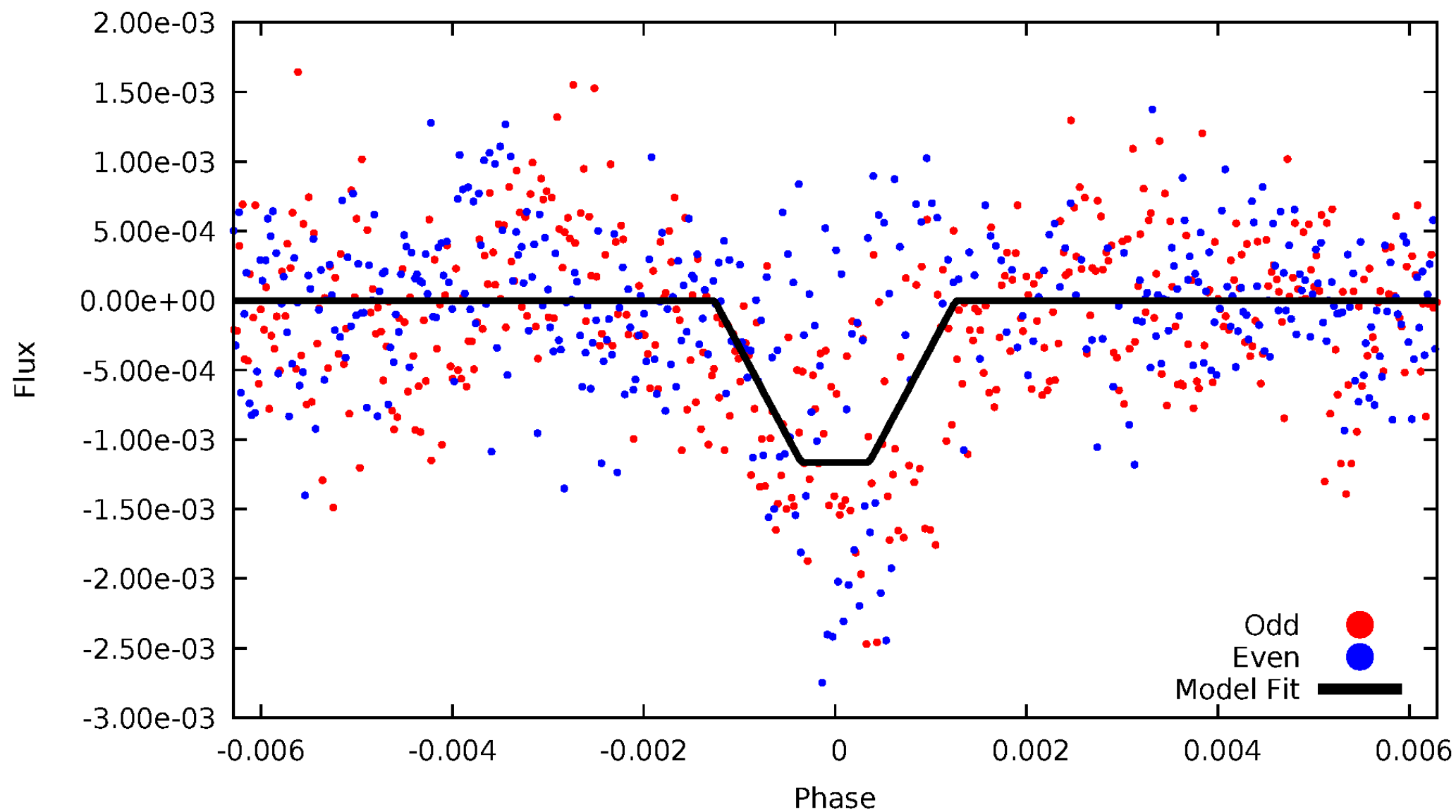
DV Odd/Even

TCE 006200965-01



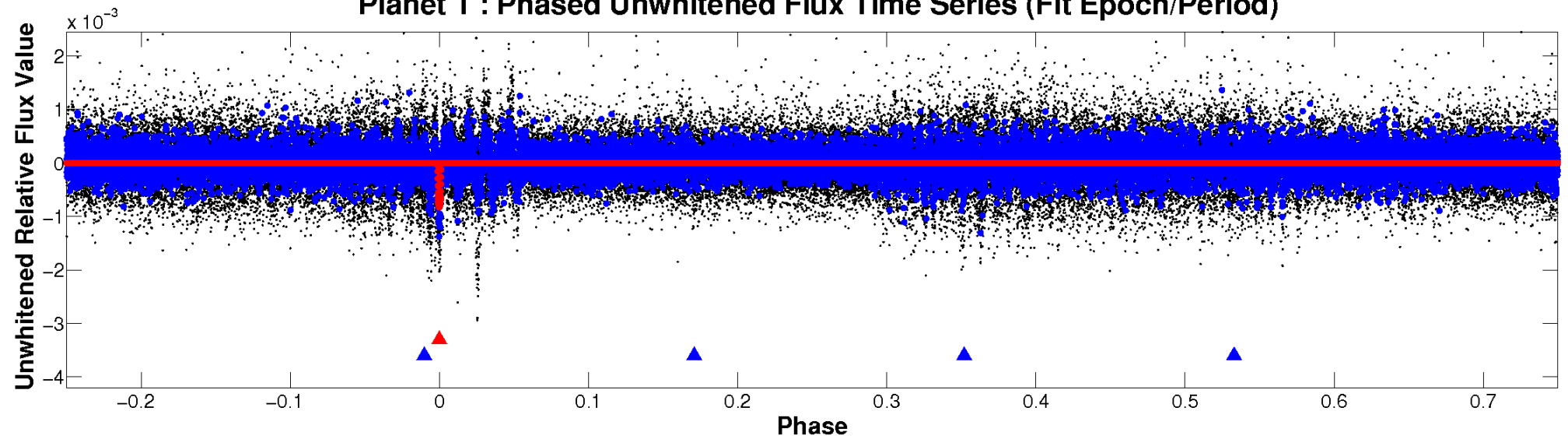
ALT Odd/Even

TCE 006200965-01

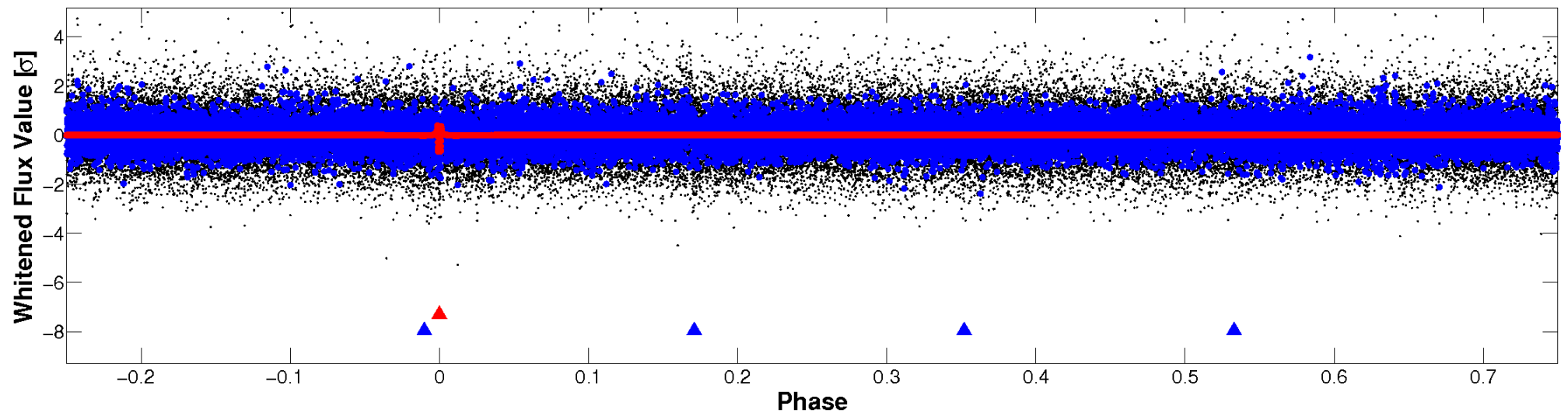


Non-Whitened Vs. Whitened Light Curve

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

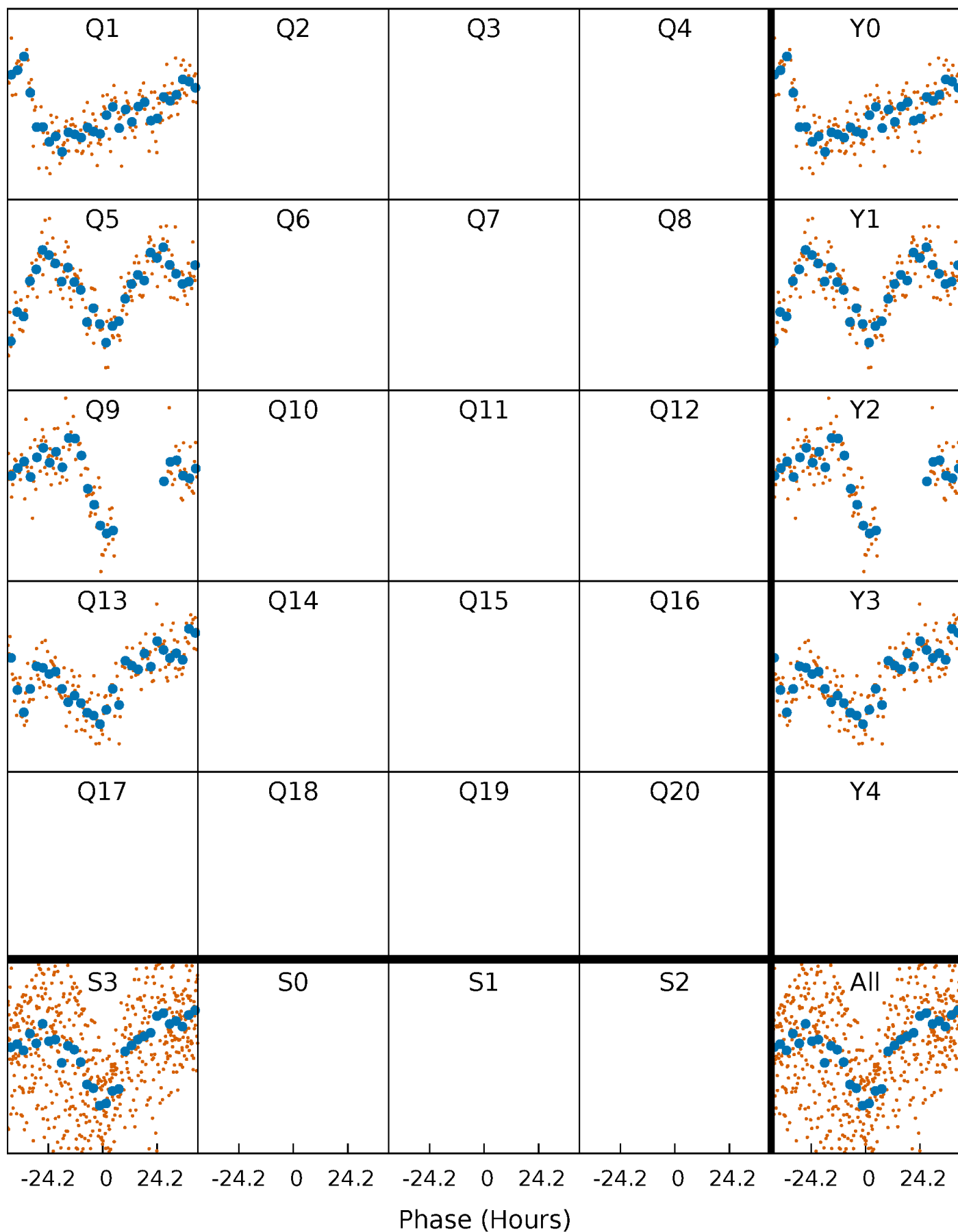


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



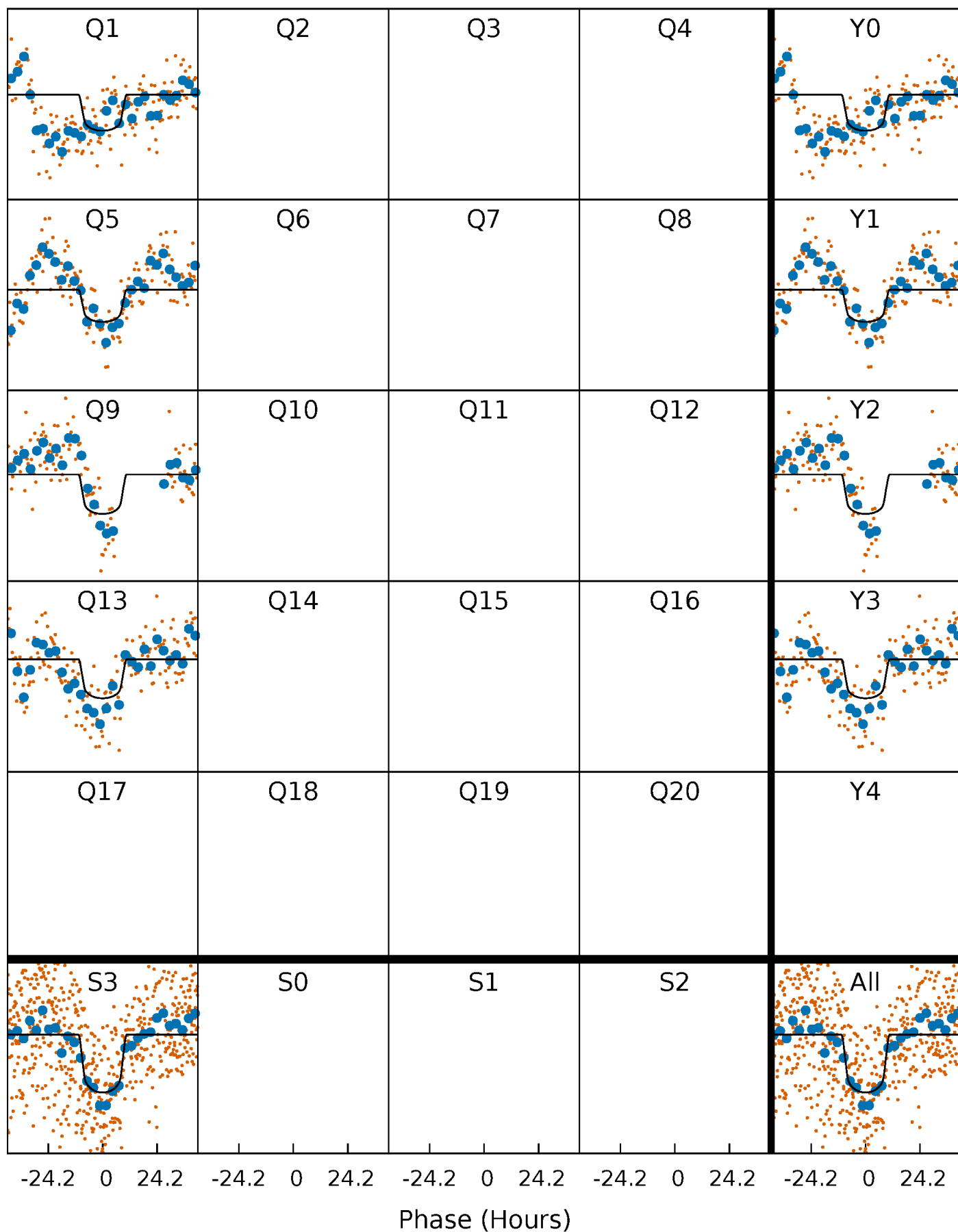
PDC Quarter-Phased Transit Curves

TCE 006200965-01 P=366.790640 Days $T_0=152.820752$ (BKJD)



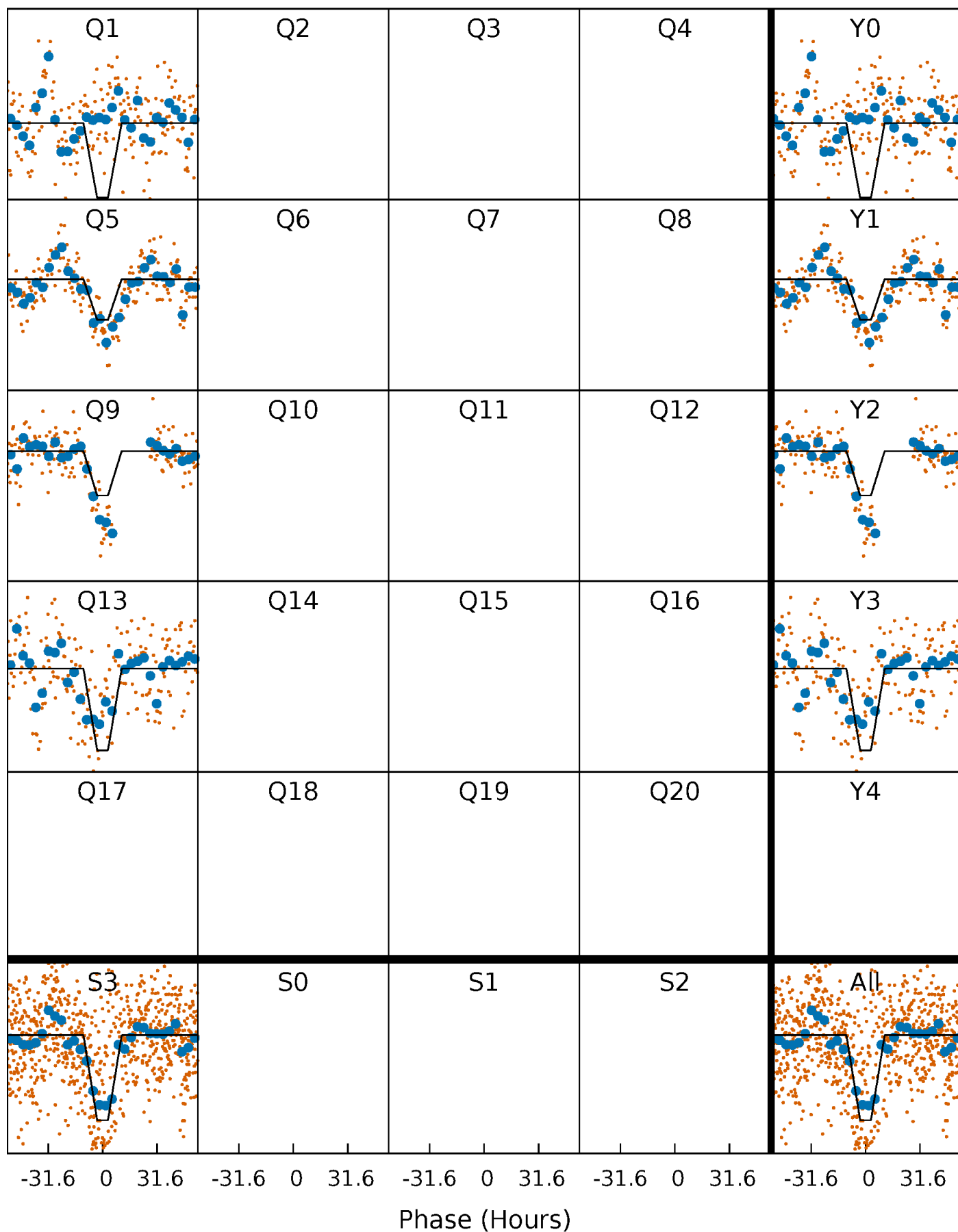
DV Quarter-Phased Transit Curves

TCE 006200965-01 P=366.790640 Days $T_0=152.820752$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

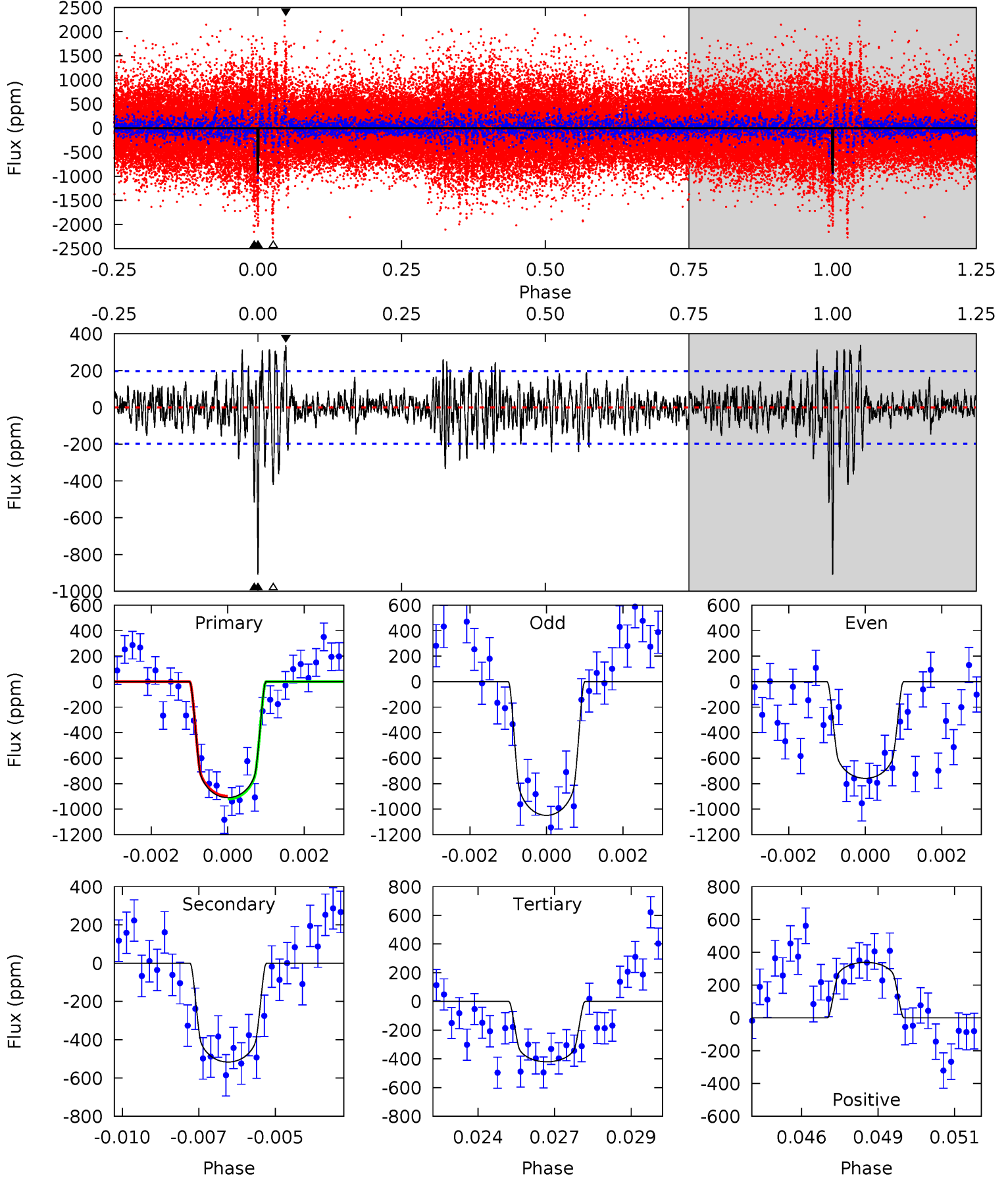
TCE 006200965-01 P=366.870947 Days $T_0=152.679424$ (BKJD)



DV Model-Shift Uniqueness Test

006200965-01, P = 366.790640 Days, E = 152.820752 Days

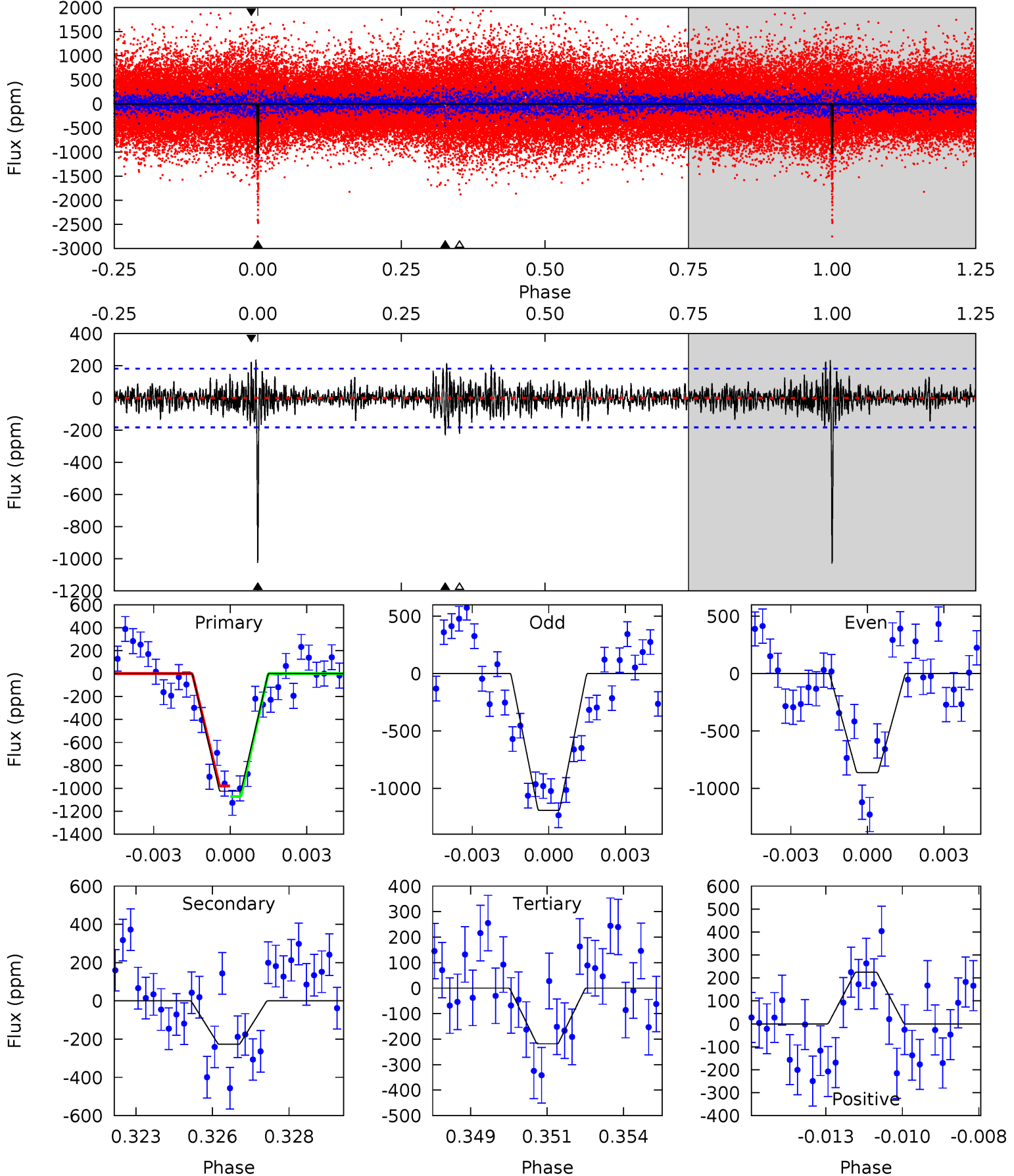
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	13.8	11.3	9.07	5.29	3.03	2.38	13.1	15.3	2.58	4.77	3.88	0.97	0.27	0.30



Alt Model-Shift Uniqueness Test

006200965-01, P = 366.870947 Days, E = 152.679424 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	6.55	6.30	6.50	5.28	3.02	1.43	23.3	23.1	0.25	0.05	4.75	0.86	0.19	1.31



Stellar Parameters For KIC 006200965

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6092^{+183}_{-201}	$4.471^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$0.998^{+0.312}_{-0.104}$	$1.074^{+0.137}_{-0.137}$	$1.522^{+0.419}_{-0.790}$
	+3%/-3%	+1%/-5%	+417%/-500%	+31%/-10%	+13%/-13%	+28%/-52%
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 006200965-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-517 ± 37	$3.49^{+0.59}_{-0.46}$	378^{+29}_{-19}	5280^{+306}_{-273}	24188^{+7328}_{-6281}
Alt.	-227 ± 35	$3.83^{+0.77}_{-0.47}$	378^{+27}_{-20}	4289^{+234}_{-217}	8655^{+3132}_{-2547}

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

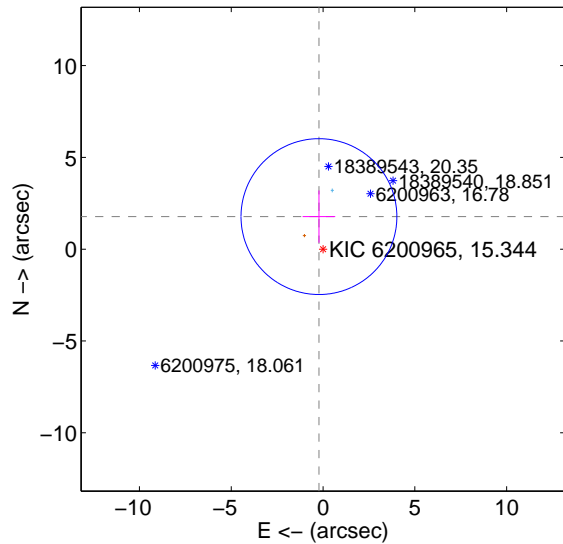
Supplemental centroid analysis for 006200965-01. Kepler magnitude: 15.34. Transit SNR 7.43

There are 1 quarters with good PRF difference image offsets

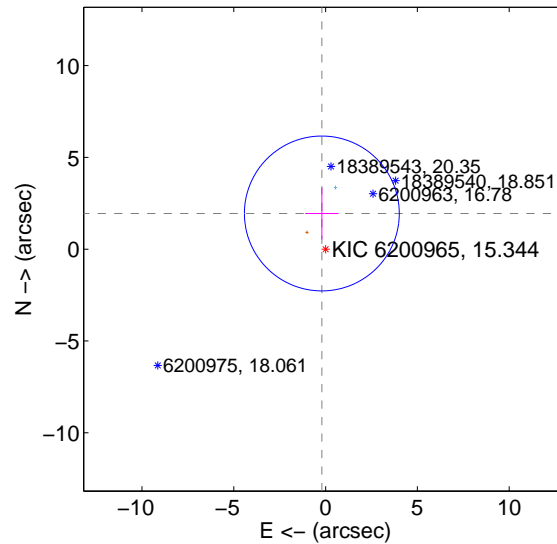
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.788 ± 1.414	1.26	0.223 ± 0.889	1.774 ± 1.421
PRF-fit source offset from KIC position	1.954 ± 1.405	1.39	0.204 ± 0.907	1.944 ± 1.410
photometric centroid source offset	4.99 ± 2.00	2.50	-4.03 ± 1.89	2.94 ± 2.18

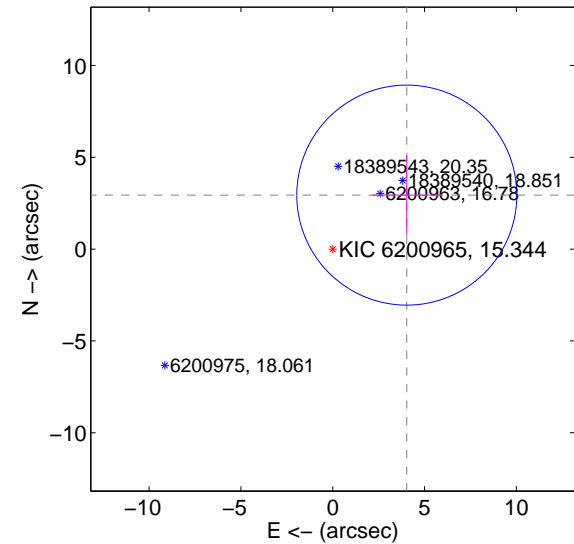
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

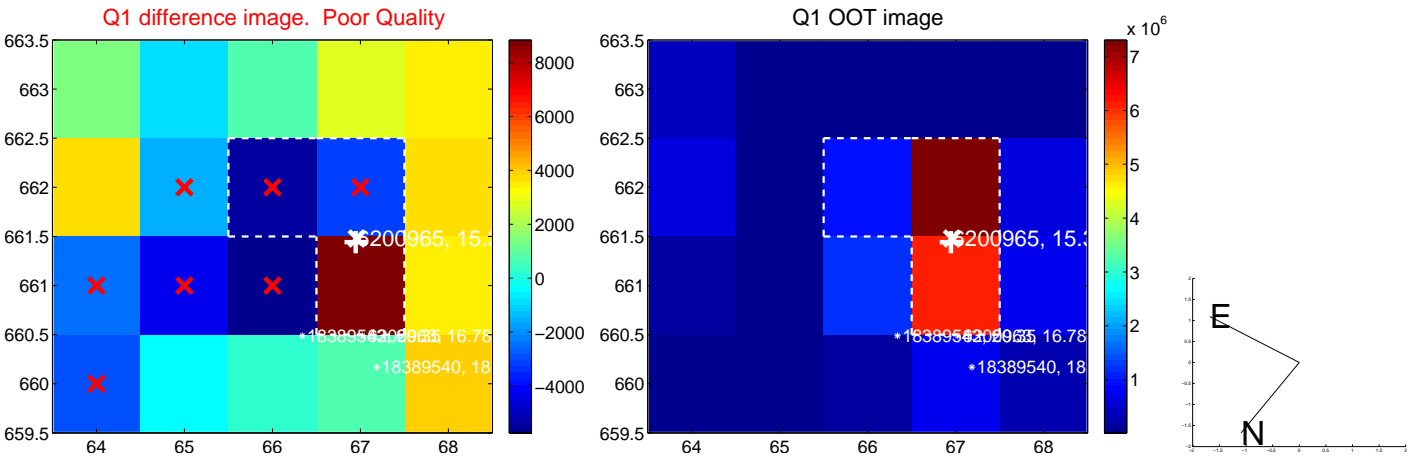


offset from photometric centroids

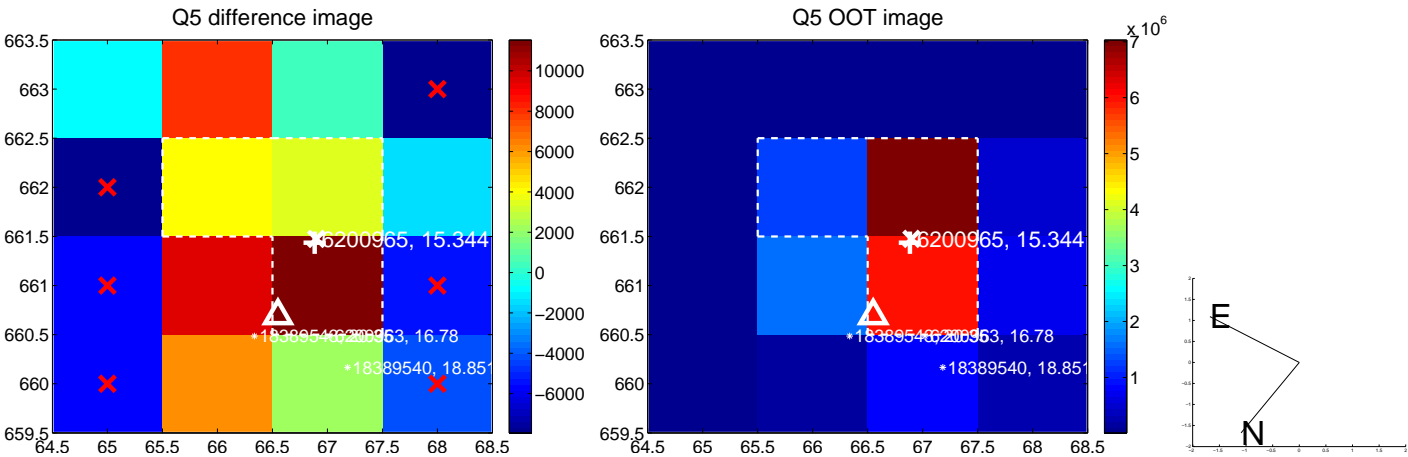


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



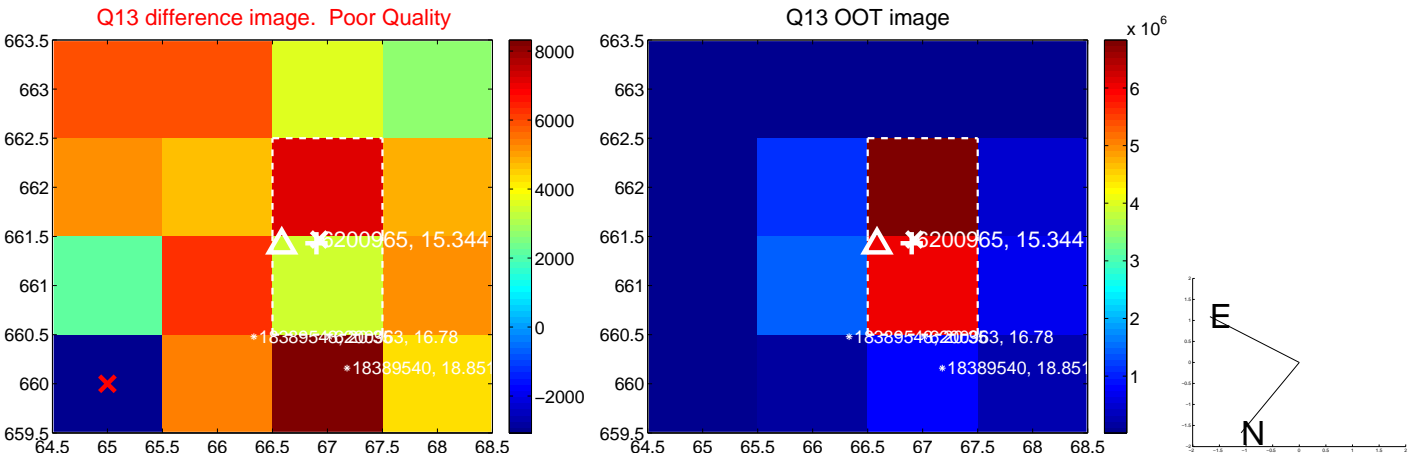
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



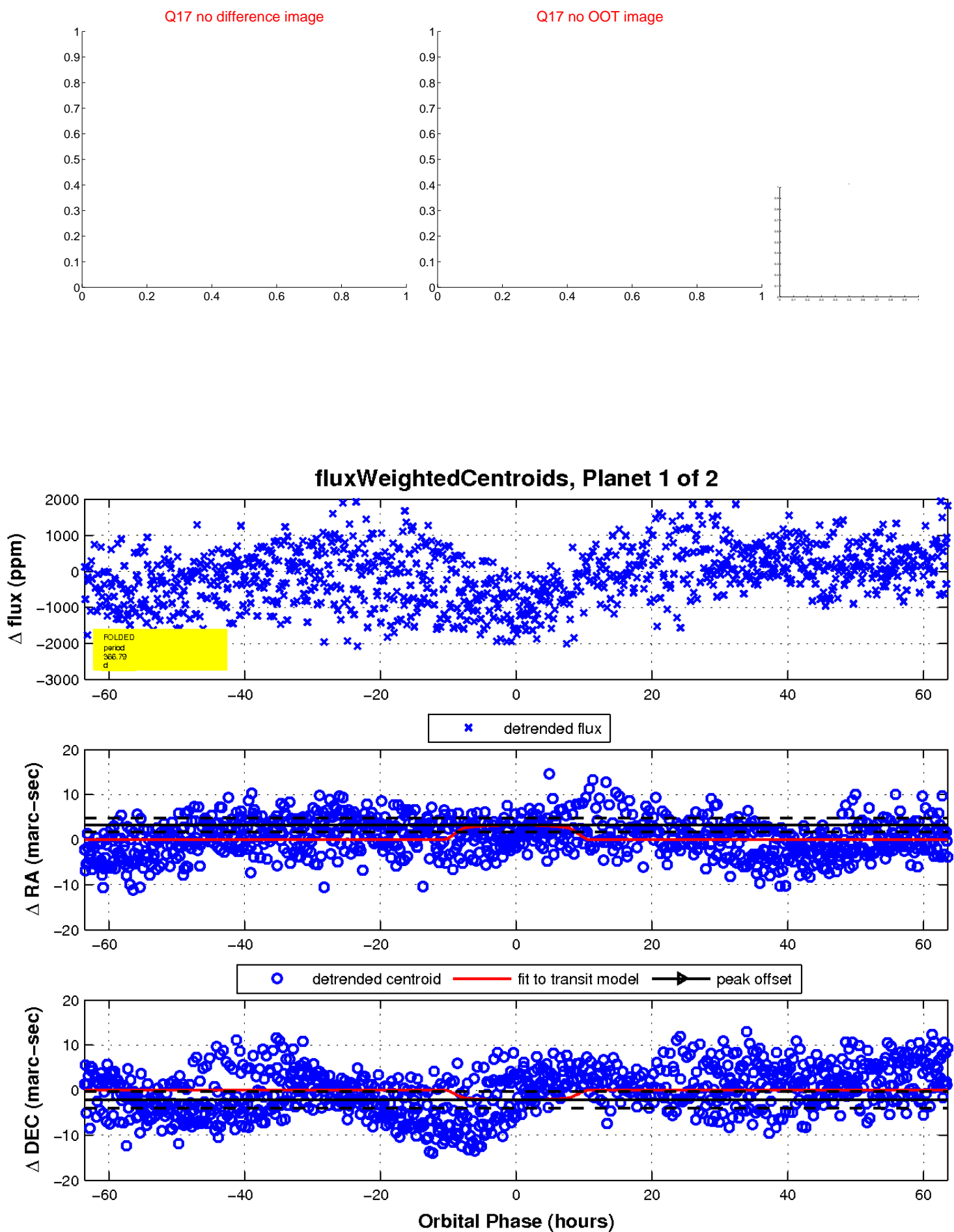
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



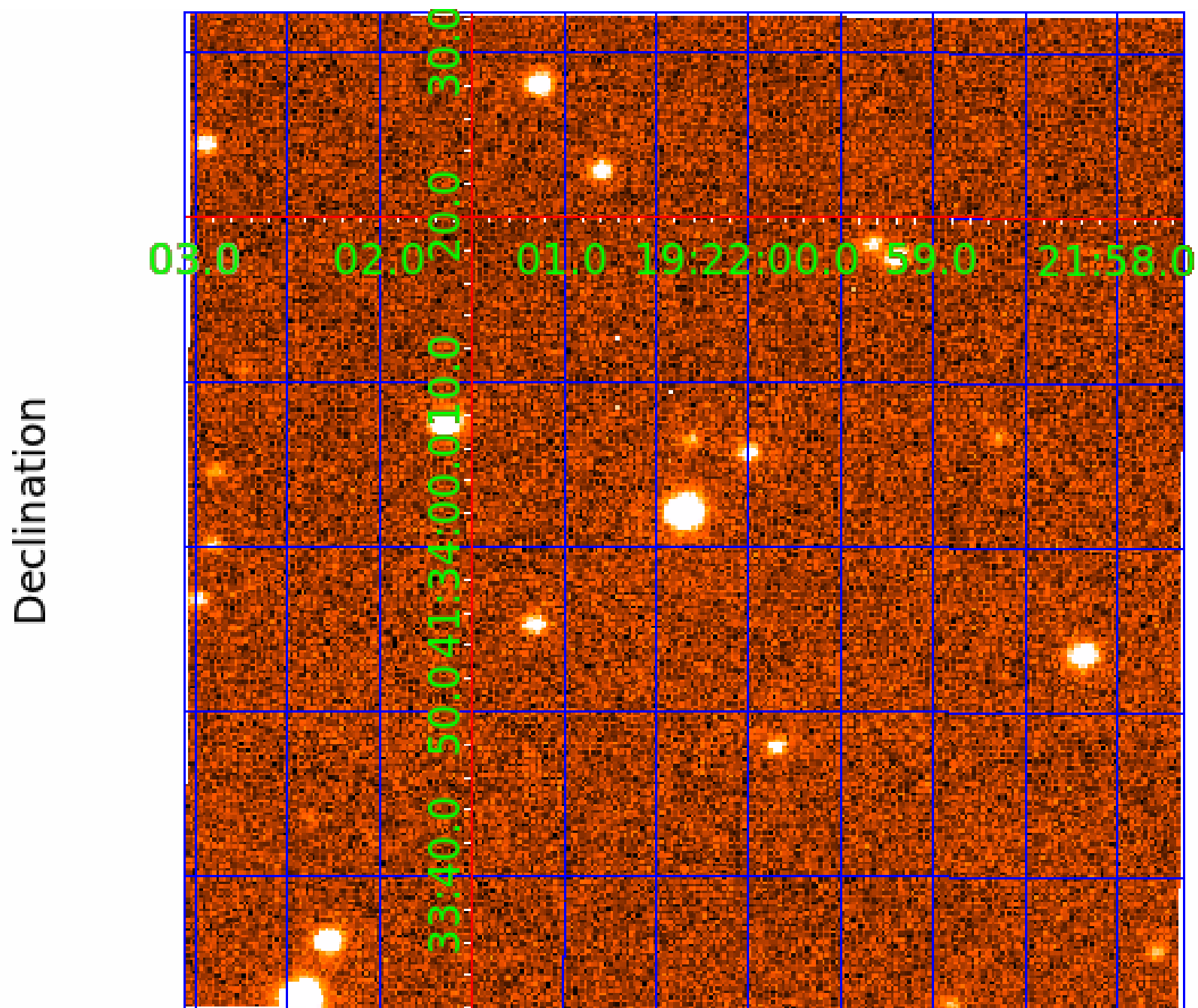
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006200965

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})
006200965-01	OBS	No	366.790640	152.820752	830.5	21.204	7.8	7.4	1.00	6092	3.37	1.16
006200965-02	OBS	No	433.182651	149.120935	604.3	26.324	9.3	9.6	1.00	6092	2.54	0.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006200965-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
006200965-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET

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

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

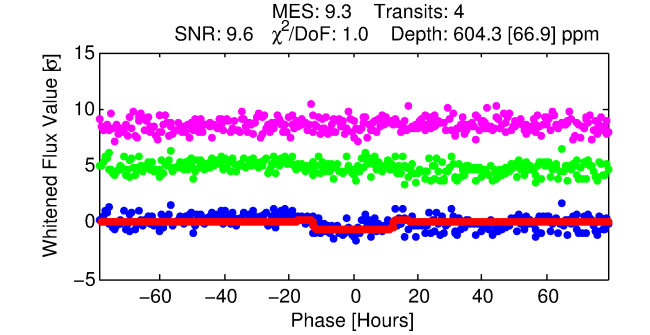
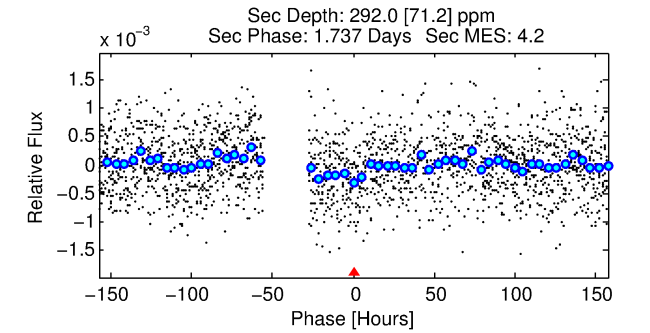
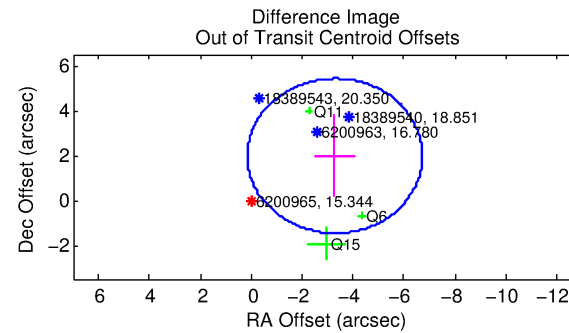
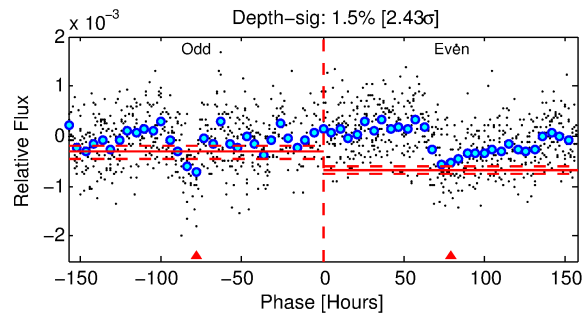
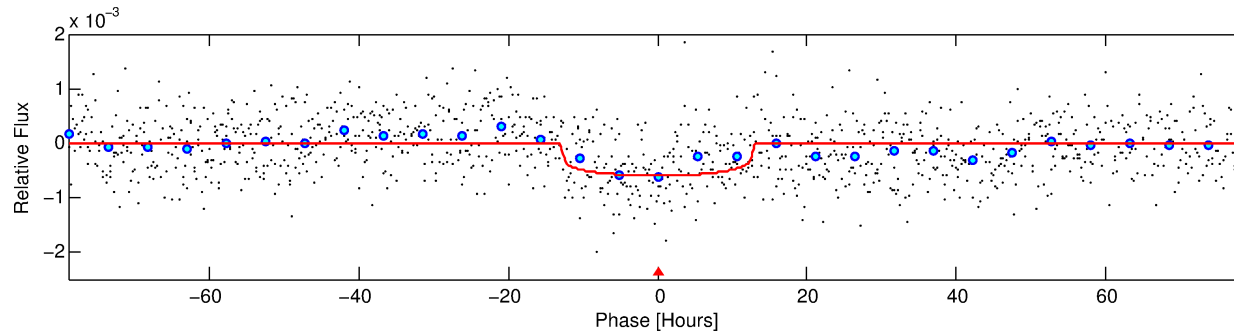
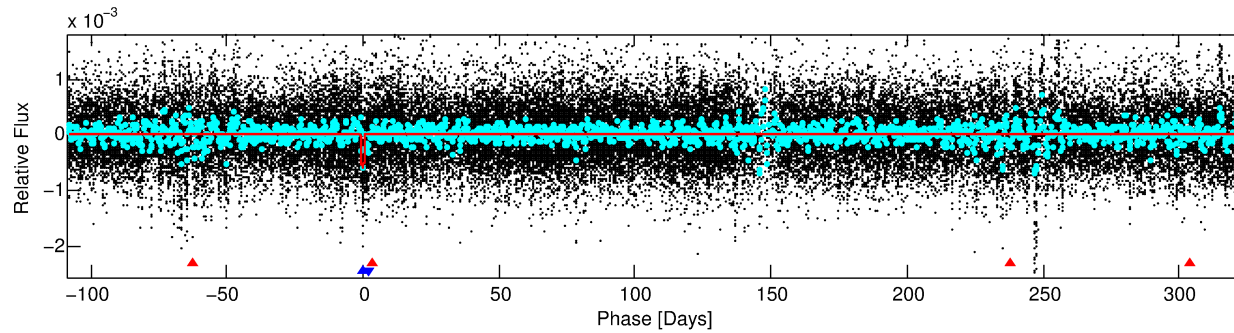
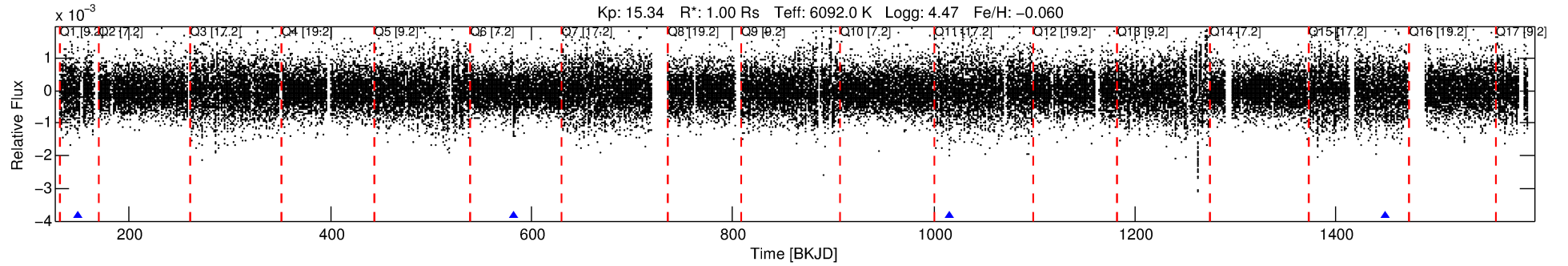
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006200965-02

No Significant Match Found

DV One-Page Summary

KIC: 6200965 Candidate: 2 of 2 Period: 433.183 d



DV Fit Results:

Period = 433.18265 [0.01378] d
Epoch = 149.1209 [0.0239] BKJD
Rp/R* = 0.0233 [0.0050]
a/R* = 107.73 [107.18]
b = 0.56 [1.23]
Seff = 0.93 [0.38]
Teq = 251 [25] K
Rp = 2.54 [0.96] Re
a = 1.1479 [0.3014] AU
Ag = 32753.72 [20428.23] [1.60 σ]
Teffp = 5212 [666] K [7.45 σ]

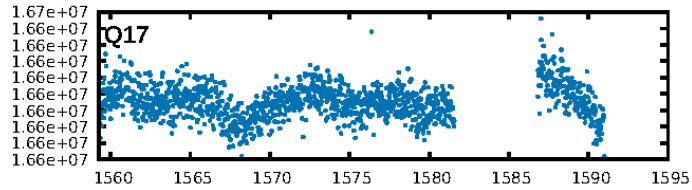
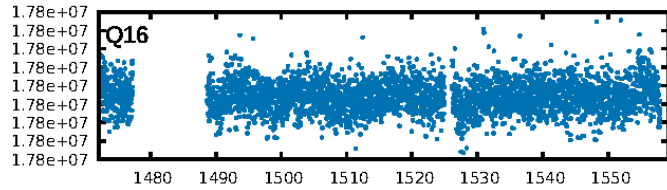
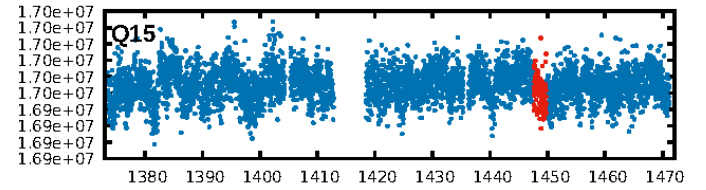
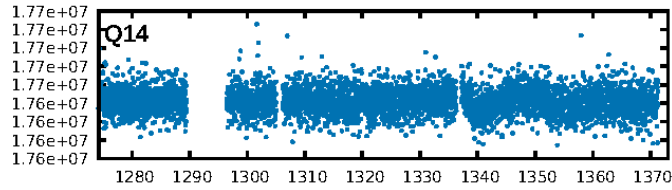
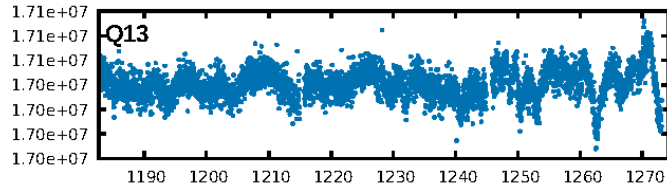
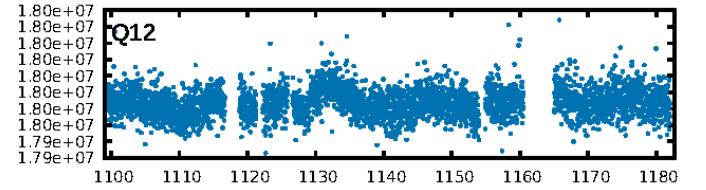
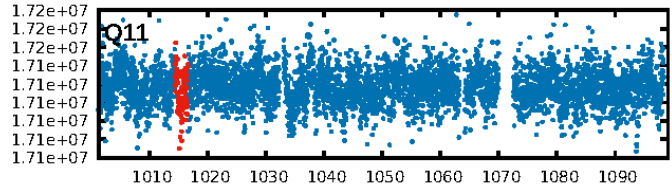
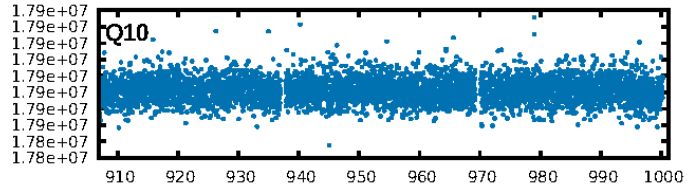
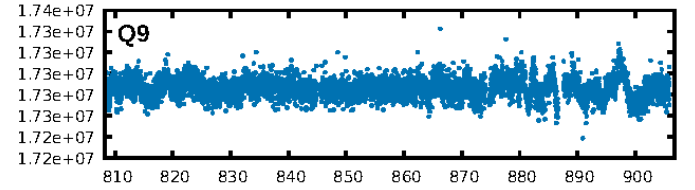
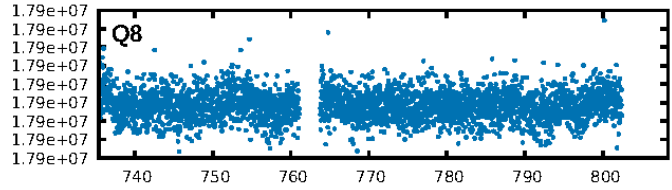
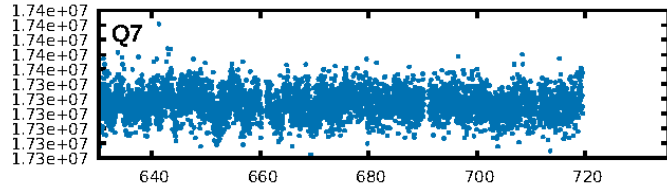
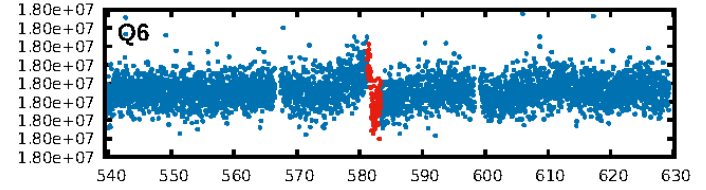
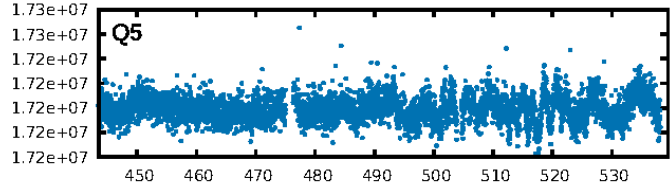
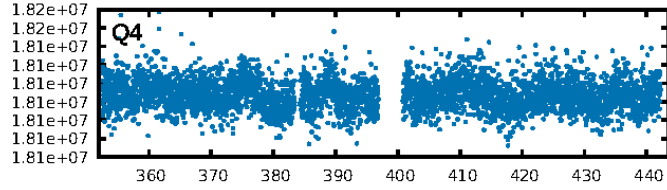
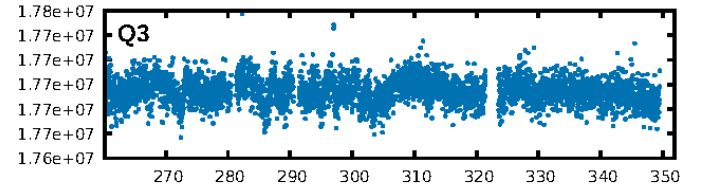
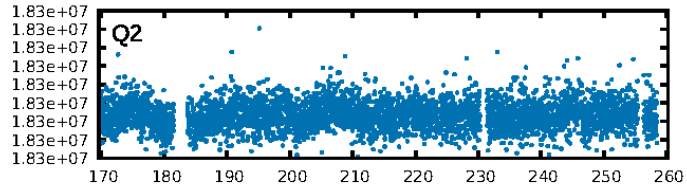
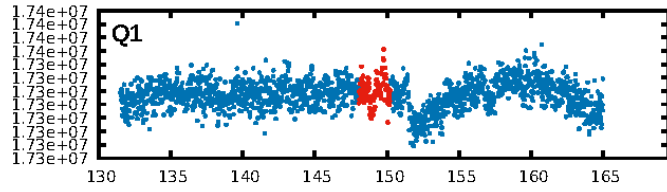
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [47.14 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.67e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.583
Centroid-sig: 0.4%
Centroid-so: 2.900 arcsec [2.02 σ]
OotOffset-rm: 3.836 arcsec [3.34 σ]
KicOffset-rm: 4.014 arcsec [3.49 σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

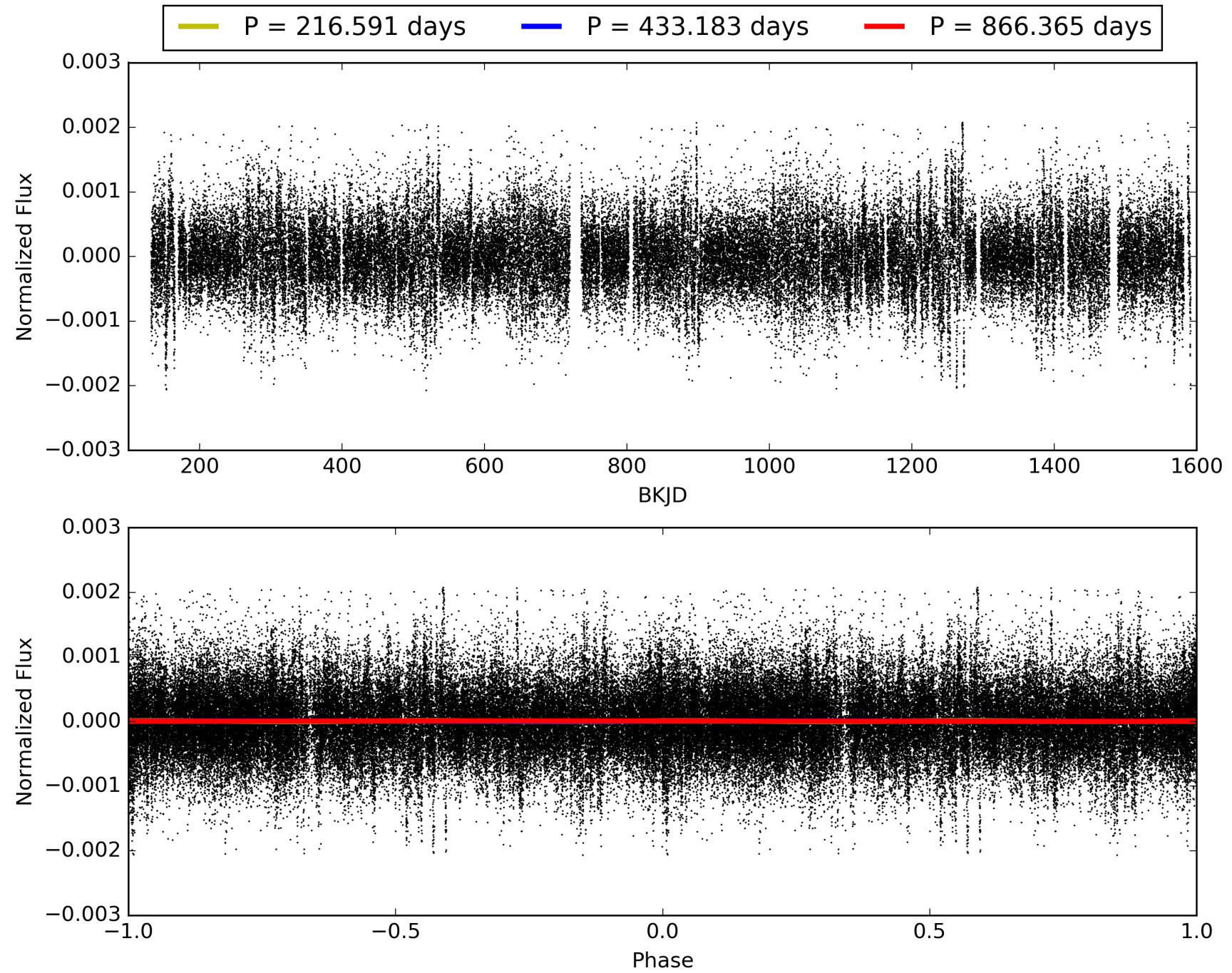
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:42:57 Z

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

TCE 006200965-02, PDC Light Curves

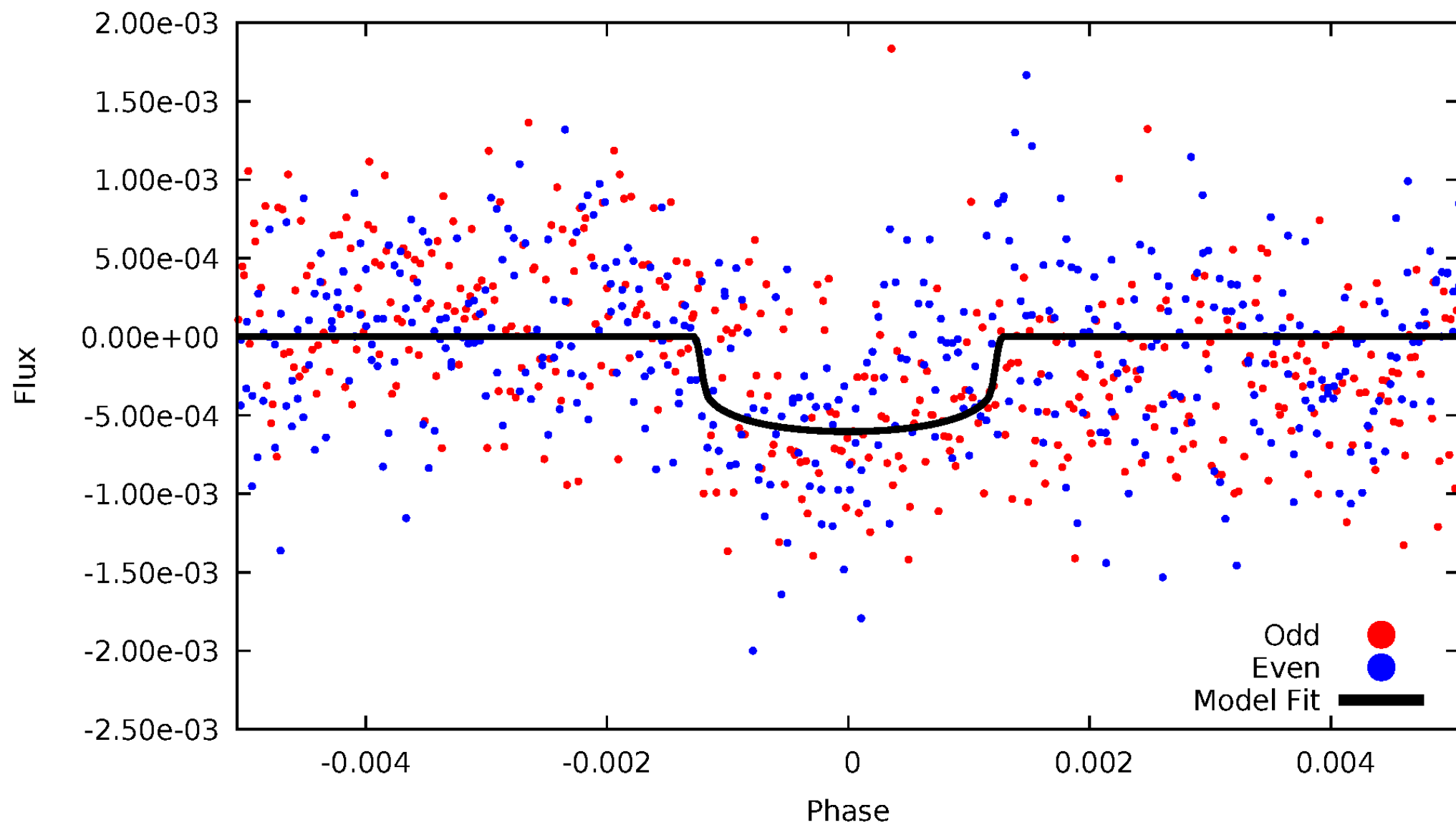


TCE 006200965-02



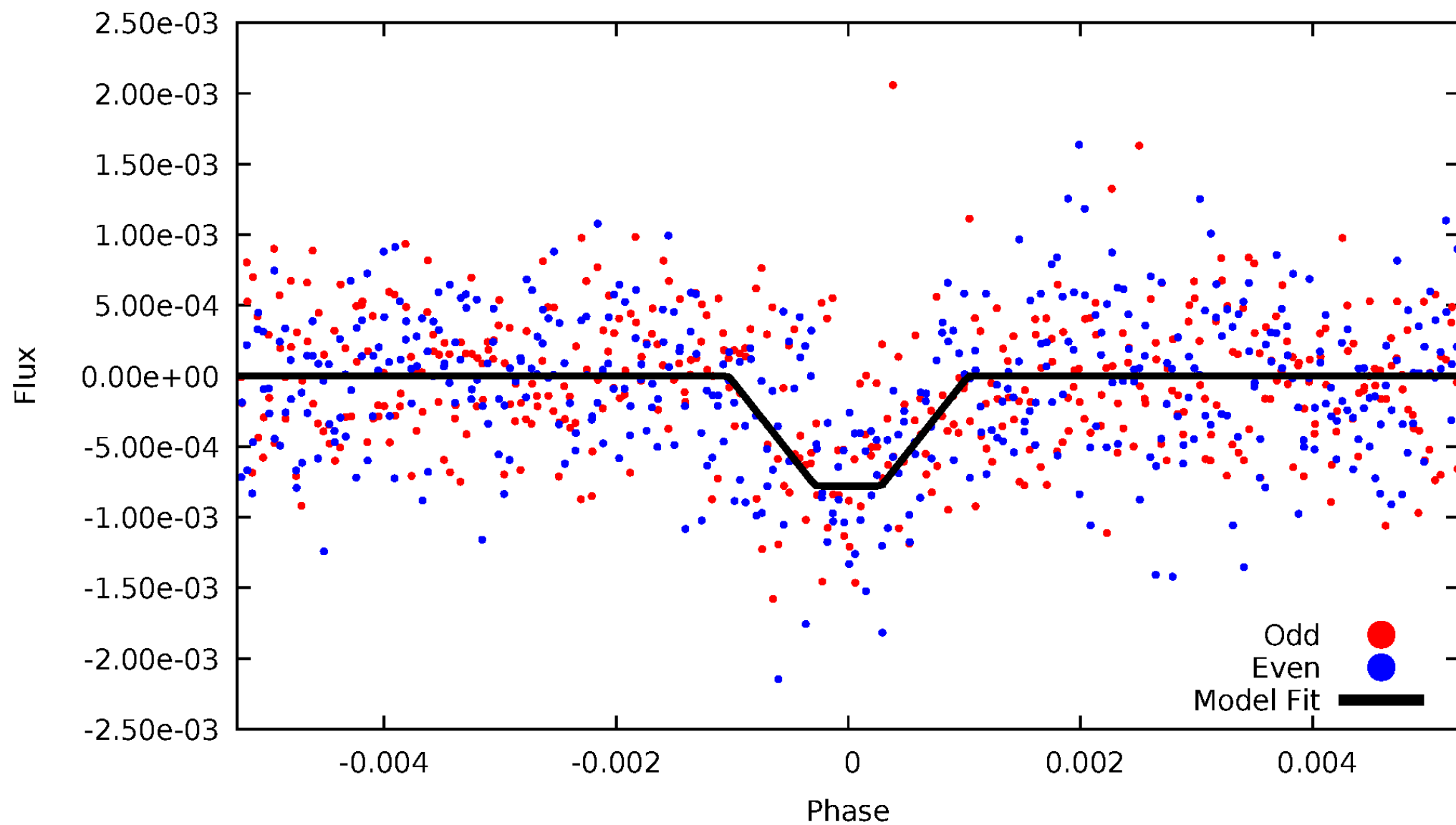
DV Odd/Even

TCE 006200965-02



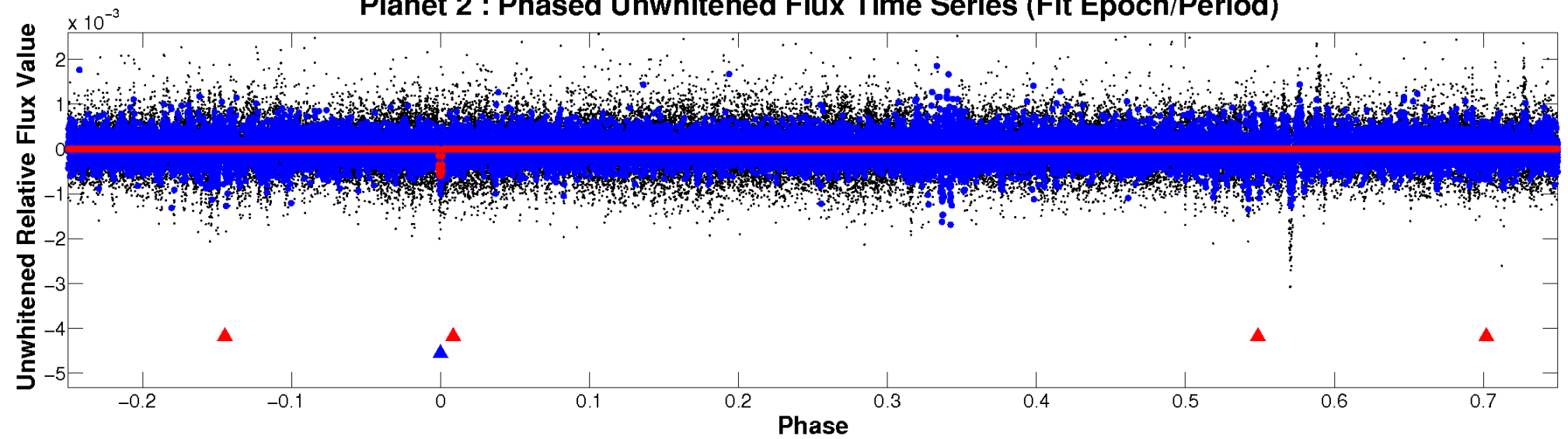
ALT Odd/Even

TCE 006200965-02

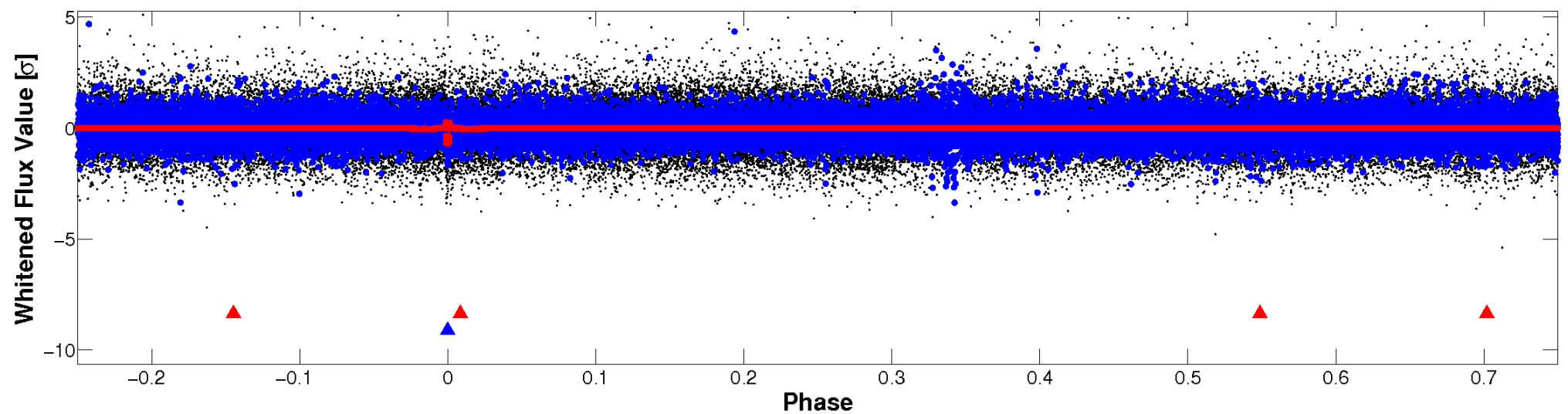


Non-Whitened Vs. Whitened Light Curve

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

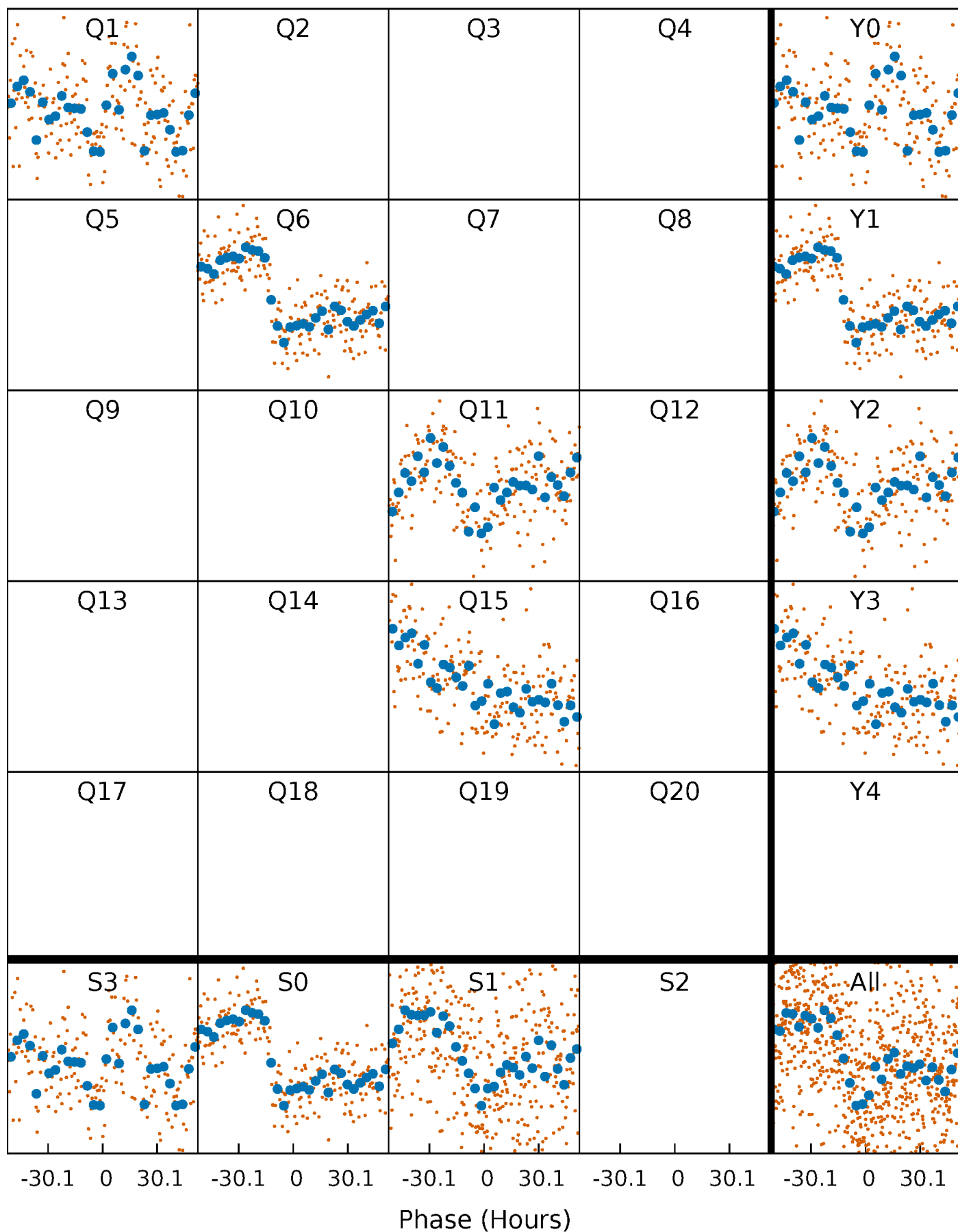


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



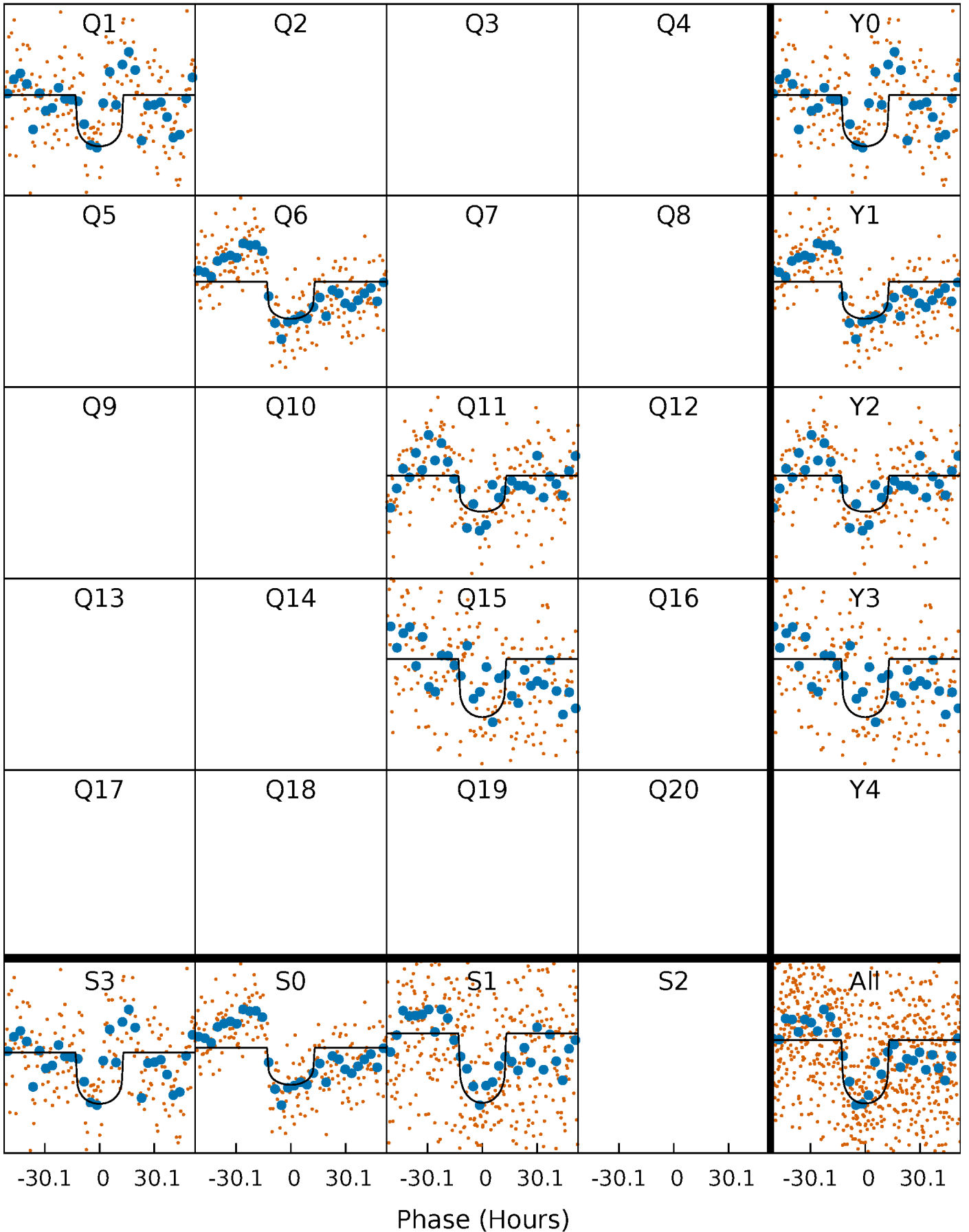
PDC Quarter-Phased Transit Curves

TCE 006200965-02 $P=433.182651$ Days $T_0=149.120935$ (BKJD)



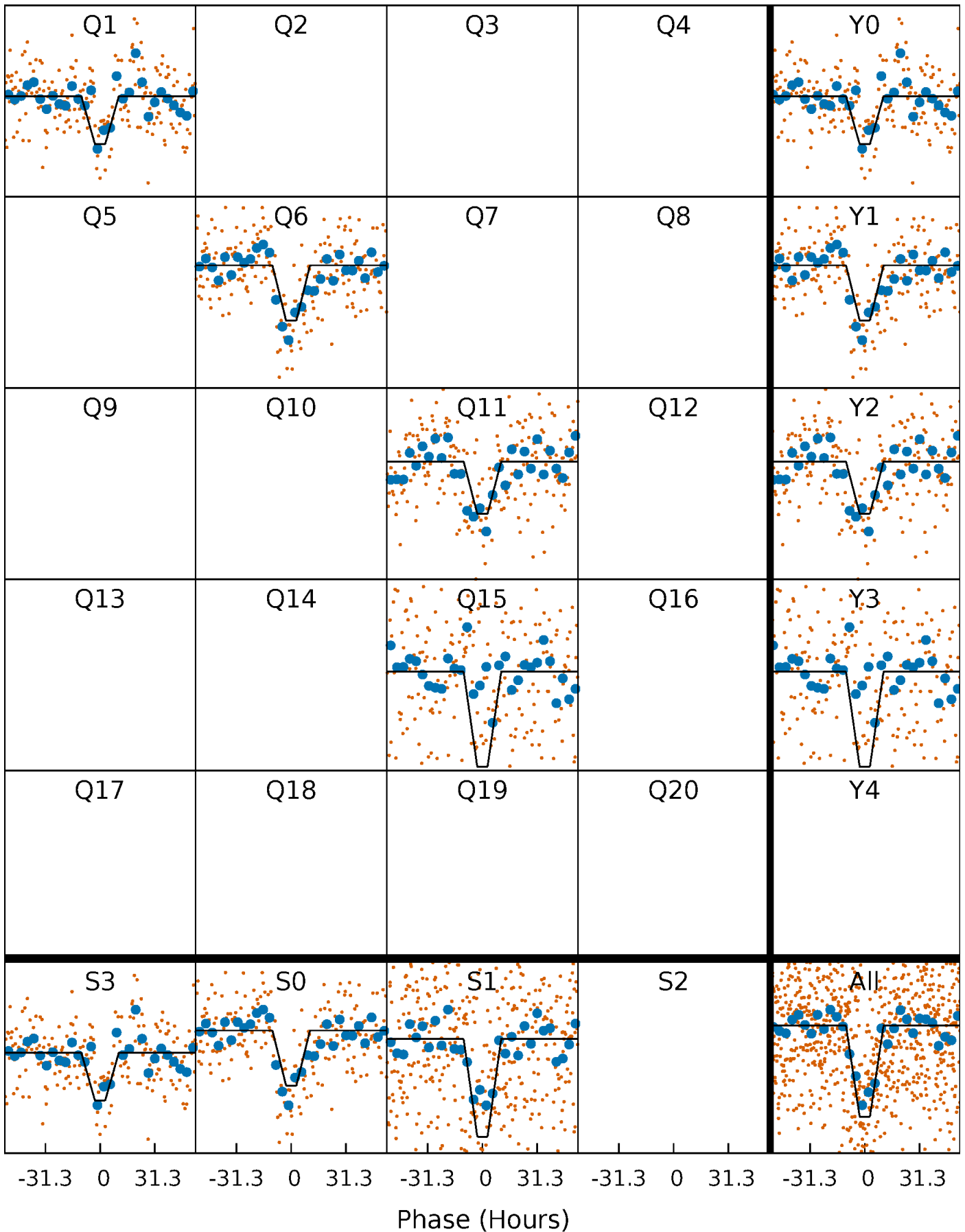
DV Quarter-Phased Transit Curves

TCE 006200965-02 P=433.182651 Days $T_0=149.120935$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

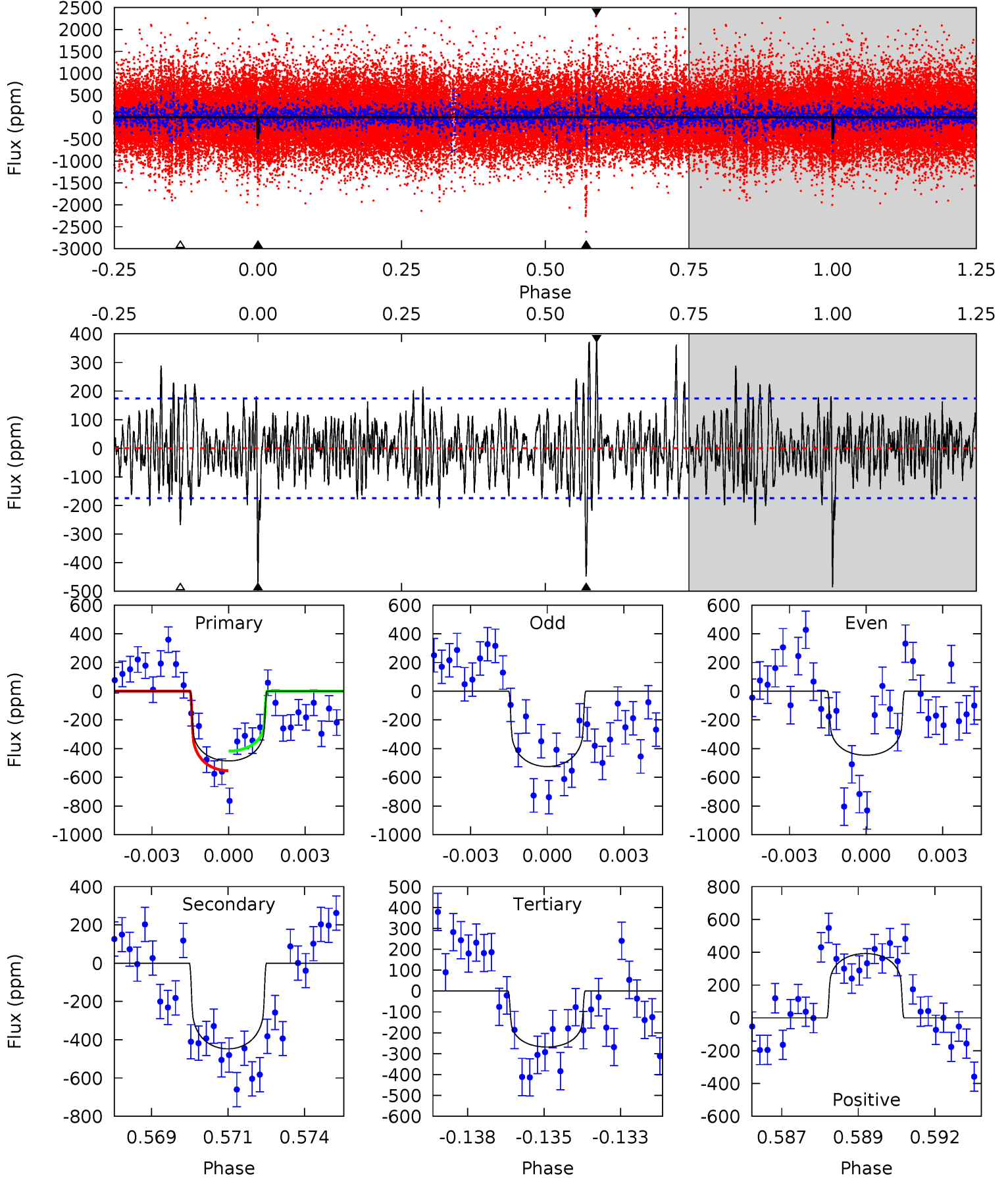
TCE 006200965-02 P=433.252773 Days $T_0=148.899234$ (BKJD)



DV Model-Shift Uniqueness Test

006200965-02, P = 433.182651 Days, E = 149.120935 Days

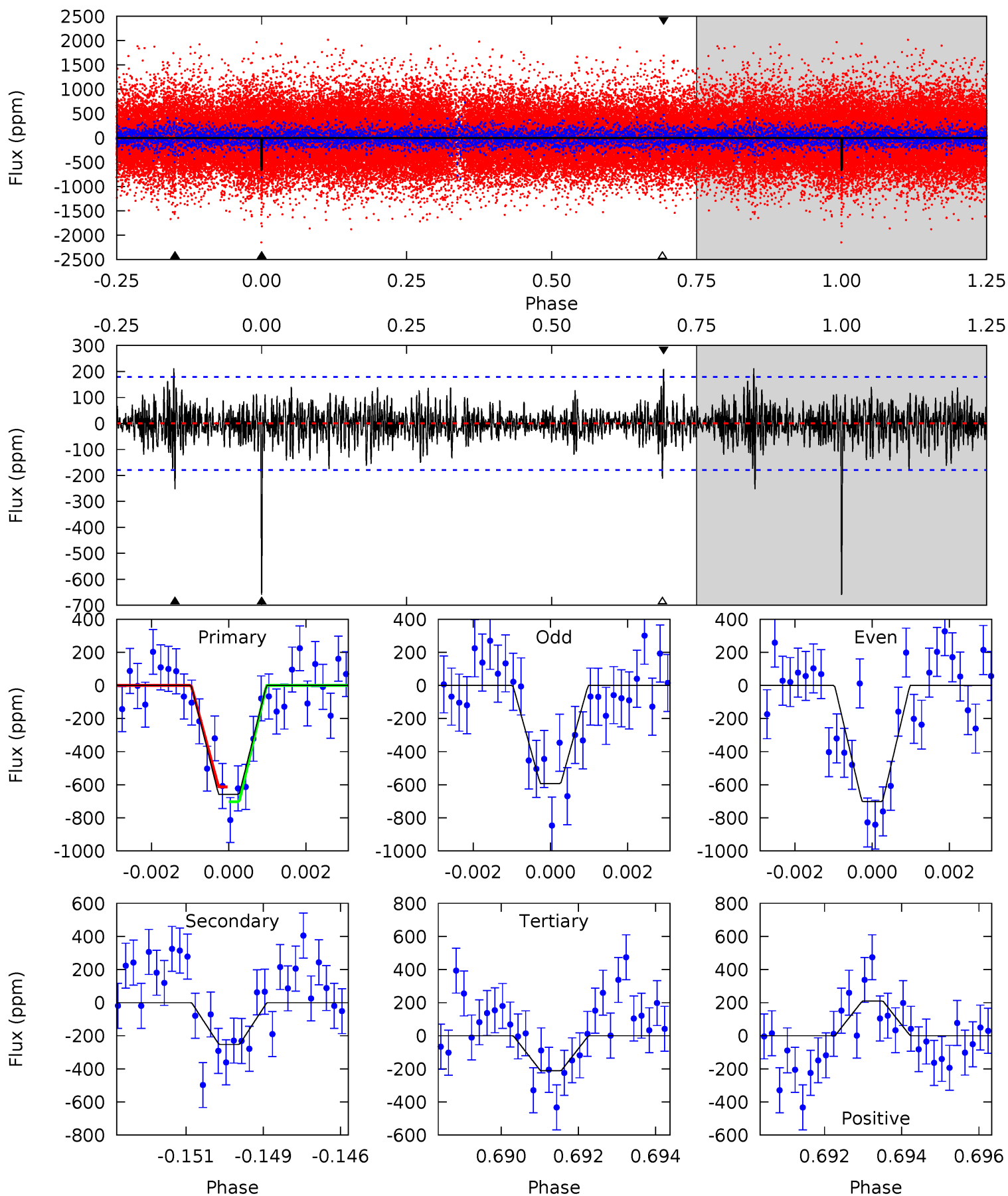
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	13.6	8.13	11.9	5.28	3.02	2.58	6.60	2.85	5.44	1.68	1.19	1.03	0.45	2.07



Alt Model-Shift Uniqueness Test

006200965-02, P = 433.252773 Days, E = 148.899234 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	7.51	6.29	6.24	5.32	3.07	1.44	13.3	13.3	1.22	1.27	1.61	0.87	0.24	1.33



Stellar Parameters For KIC 006200965

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6092^{+183}_{-201}	$4.471^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.300}$	$0.998^{+0.312}_{-0.104}$	$1.074^{+0.137}_{-0.137}$	$1.522^{+0.419}_{-0.790}$
	+3%/-3%	+1%/-5%	+417%/-500%	+31%/-10%	+13%/-13%	+28%/-52%
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 006200965-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-448 ± 33	$2.67^{+0.71}_{-0.56}$	358^{+27}_{-17}	5796^{+763}_{-538}	44031^{+27718}_{-15641}
Alt.	-253 ± 34	$3.16^{+0.79}_{-0.59}$	357^{+27}_{-17}	4724^{+445}_{-340}	17750^{+9739}_{-6278}

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

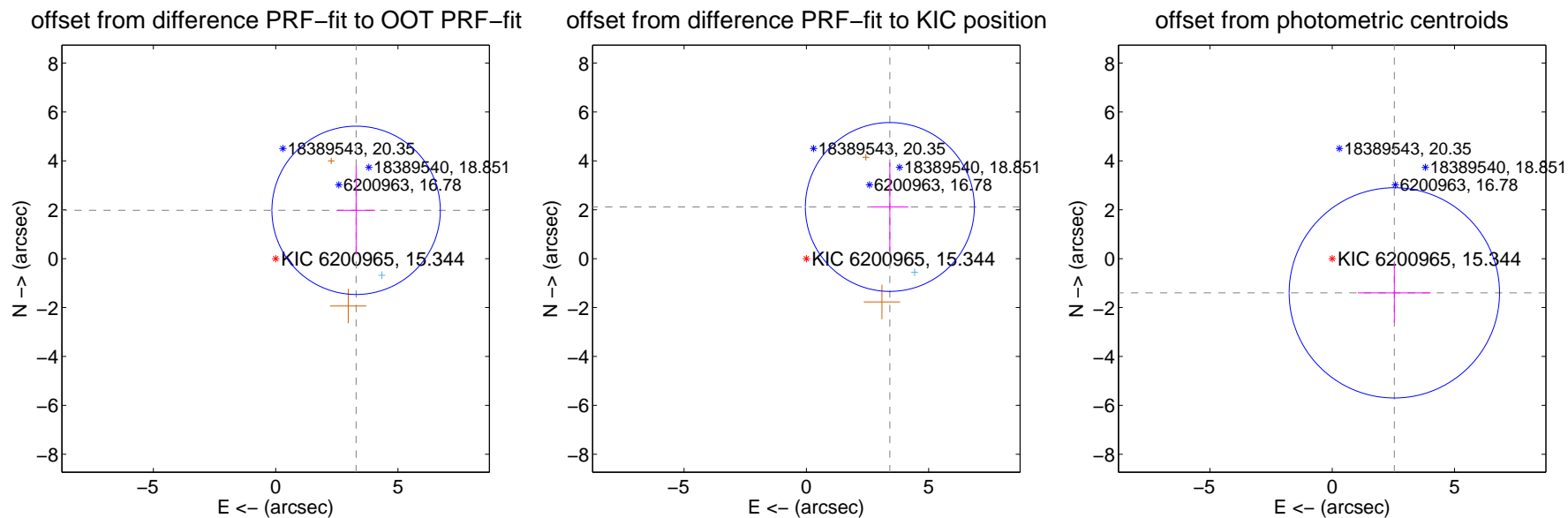
DV Centroid Data

Supplemental centroid analysis for 006200965-02. Kepler magnitude: 15.34. Transit SNR 9.58

There are 1 quarters with good PRF difference image offsets

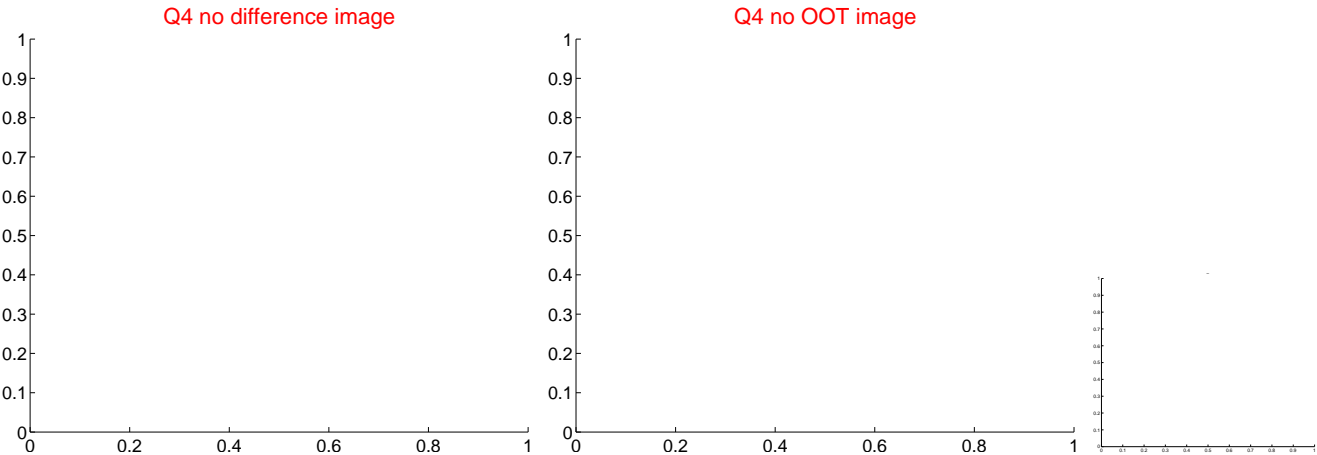
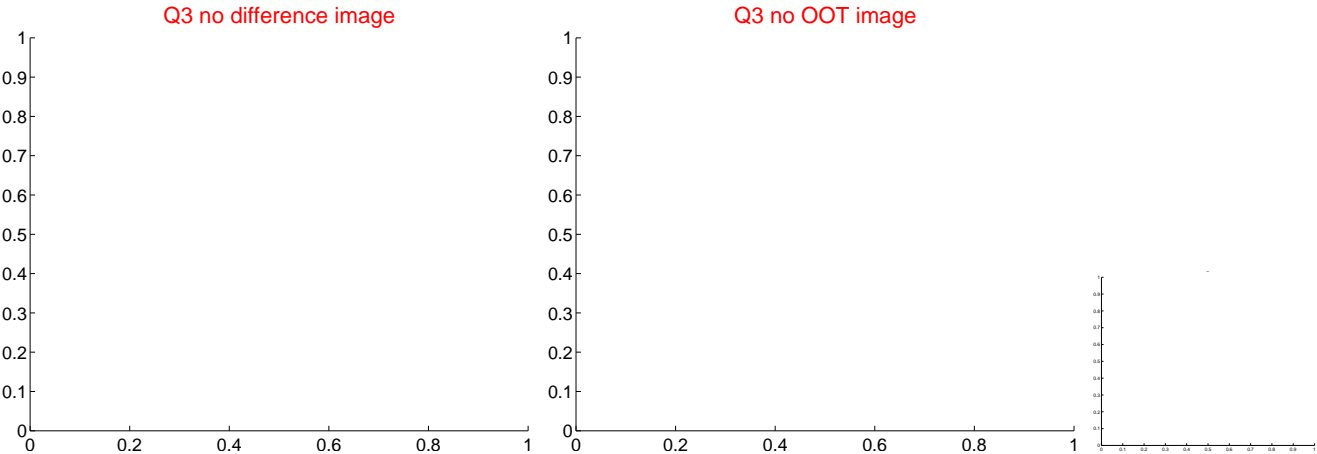
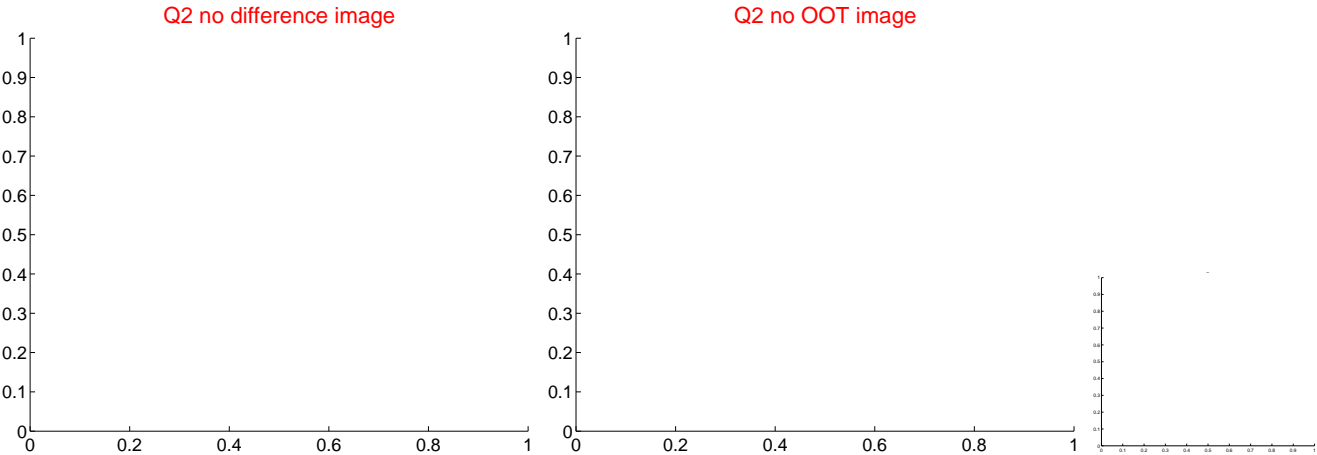
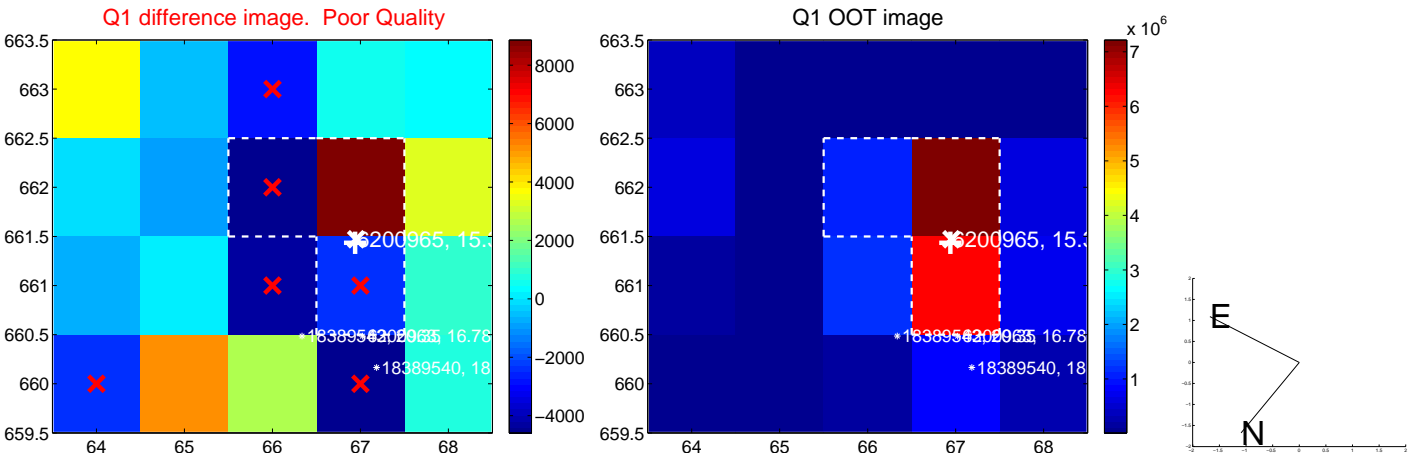
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.836 ± 1.147	3.34	-3.288 ± 0.782	1.976 ± 1.807
PRF-fit source offset from KIC position	4.014 ± 1.151	3.49	-3.412 ± 0.755	2.113 ± 1.815
photometric centroid source offset	2.90 ± 1.43	2.02	-2.54 ± 1.49	-1.40 ± 1.21

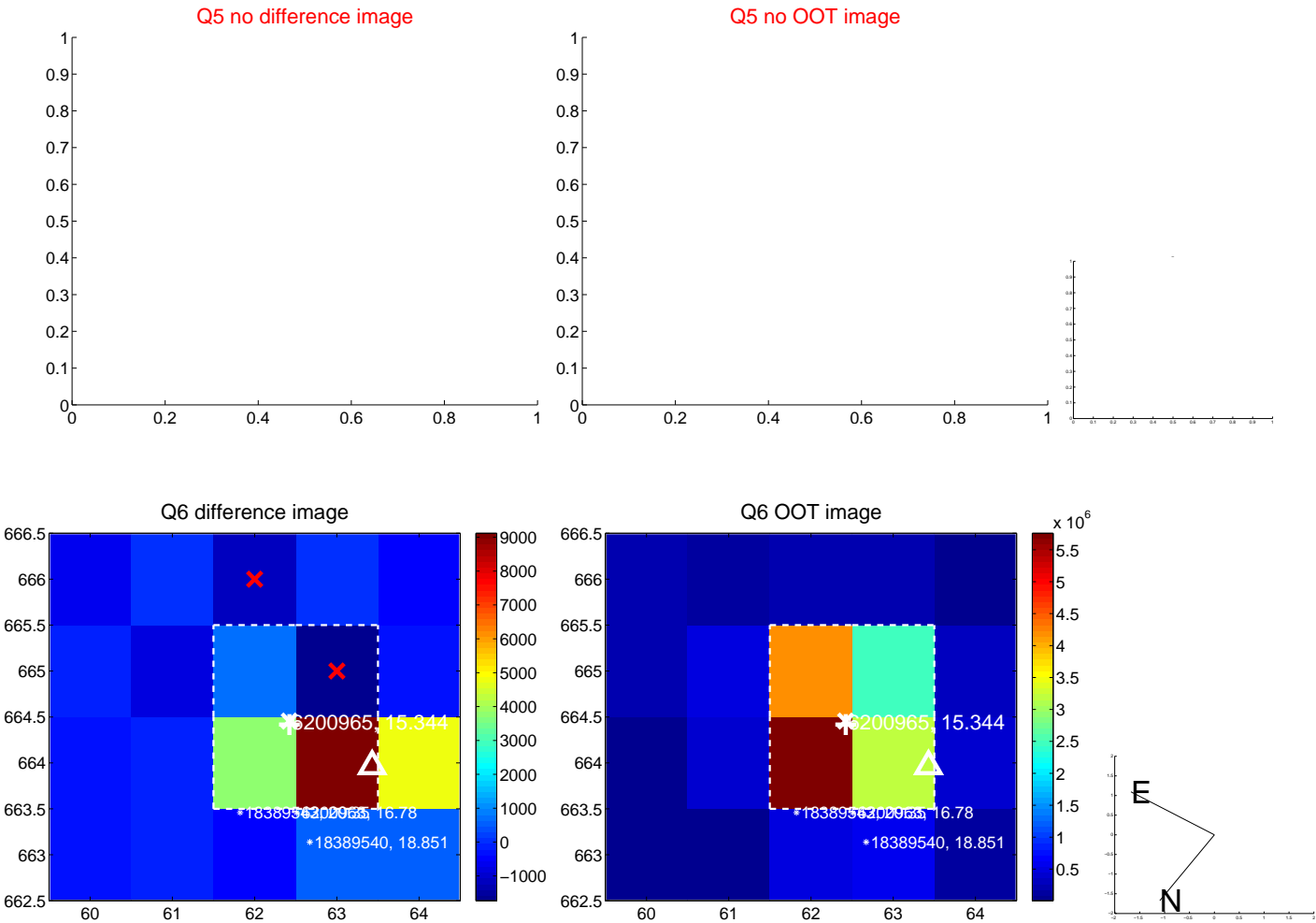


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

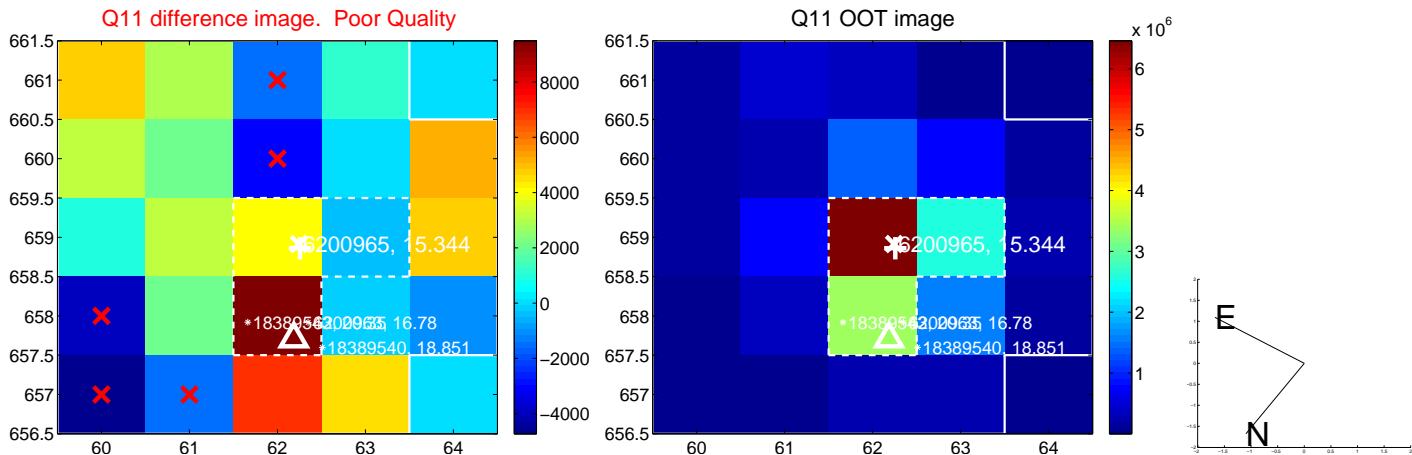
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



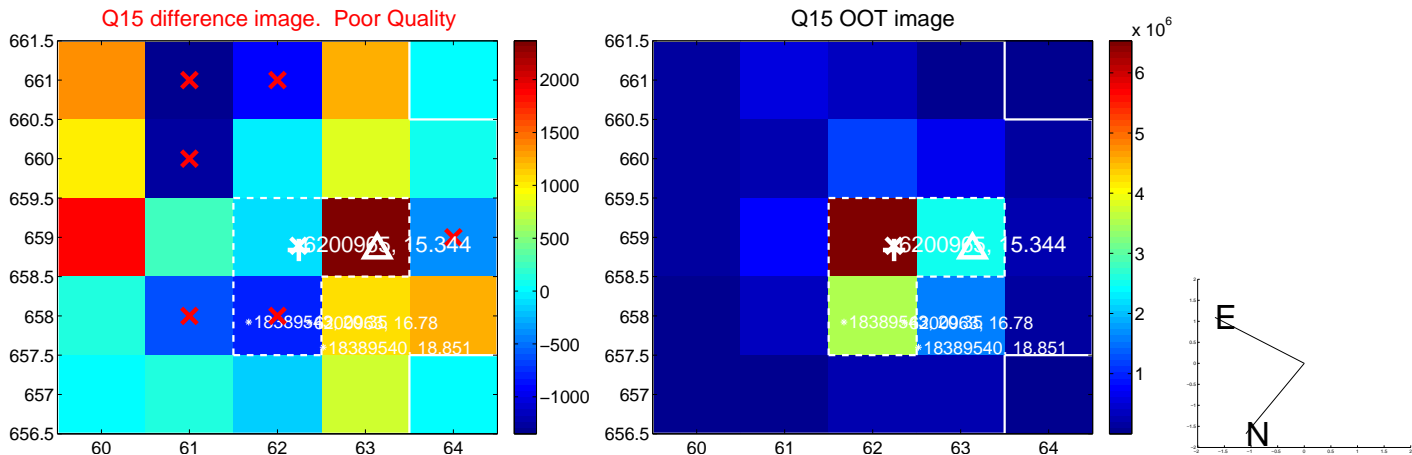
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



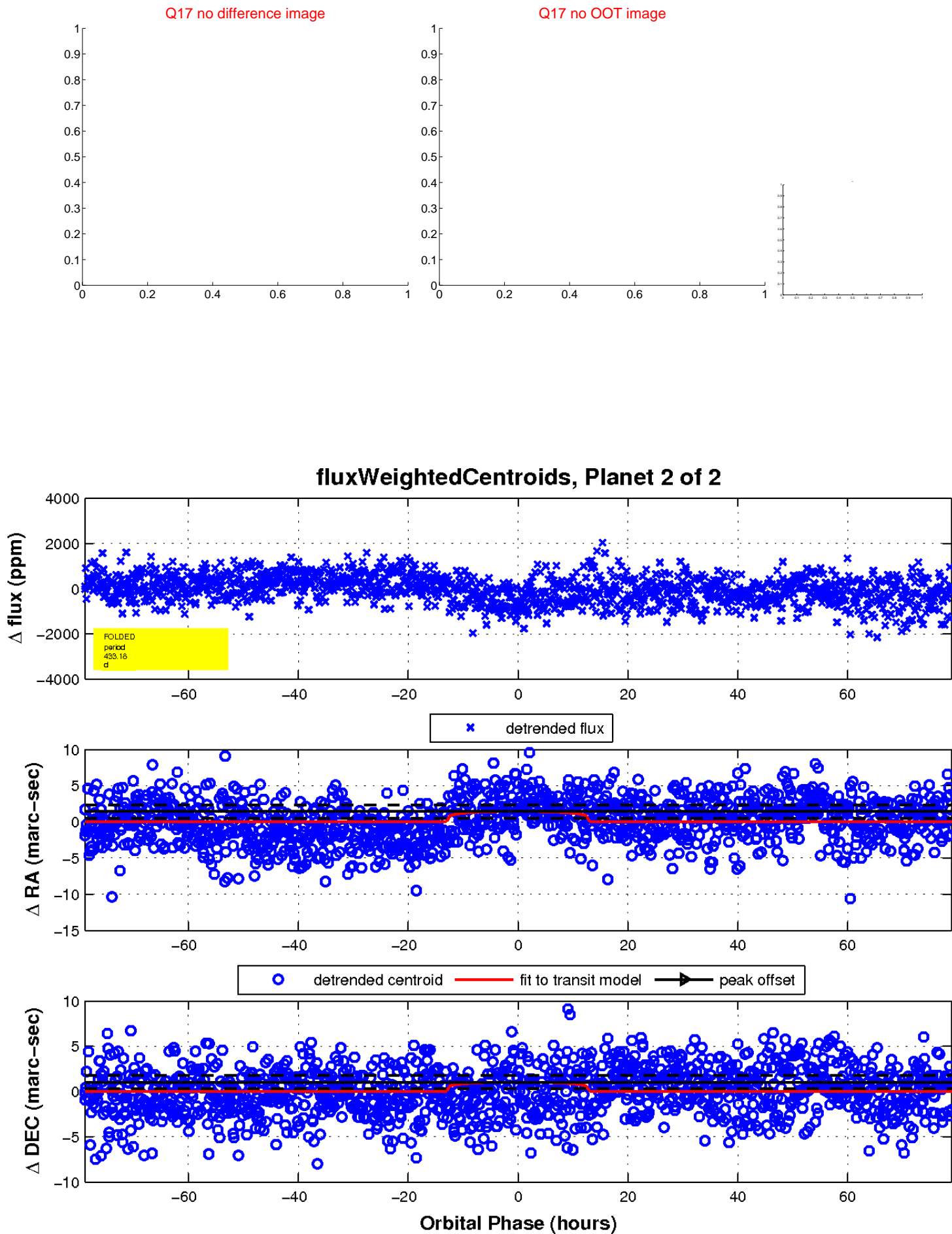
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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



UKIRT Image

