

KIC 010068797

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})
010068797-01	OBS	No	316.860516	373.771320	943.6	14.693	10.2	7.4	0.48	3692	1.48	0.07
010068797-02	OBS	No	308.413735	324.451836	867.3	17.146	8.6	8.9	0.48	3692	1.74	0.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010068797-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068797-02	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

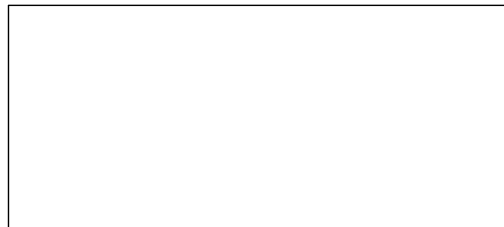
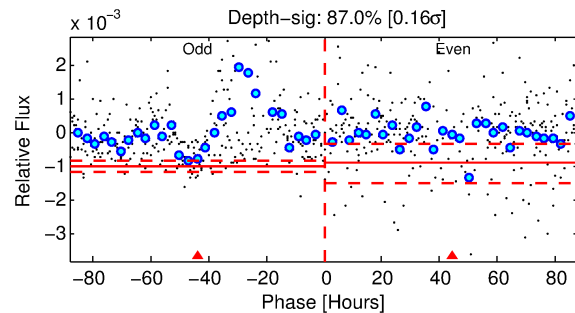
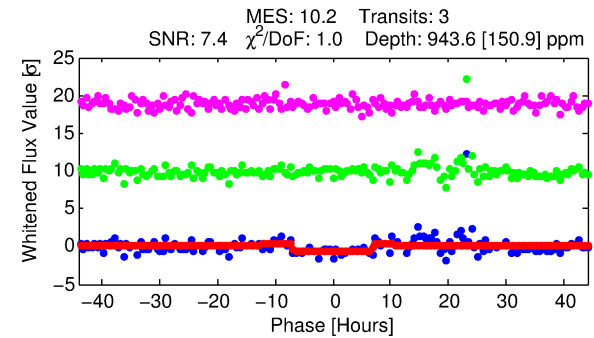
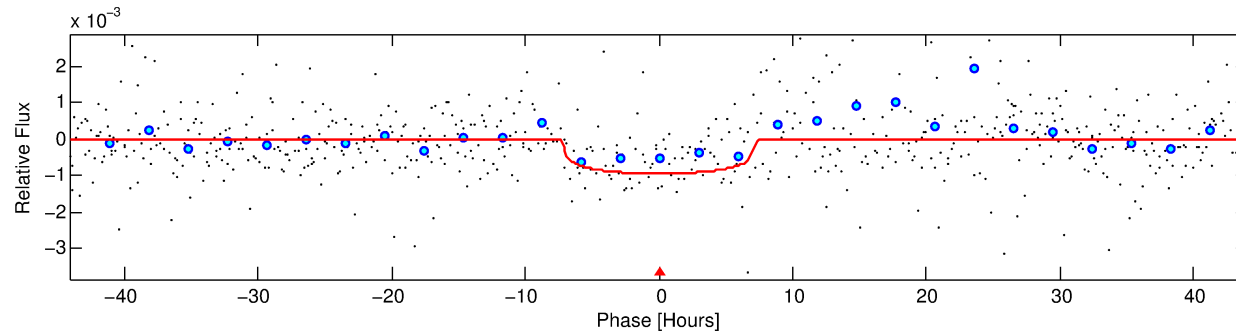
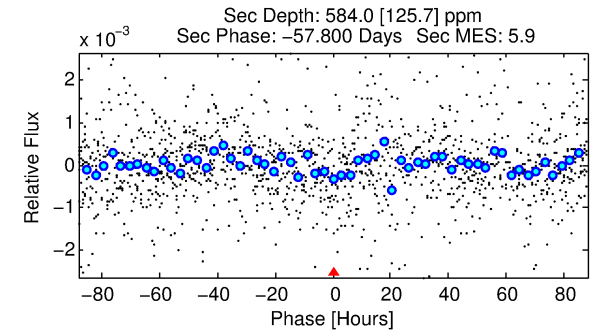
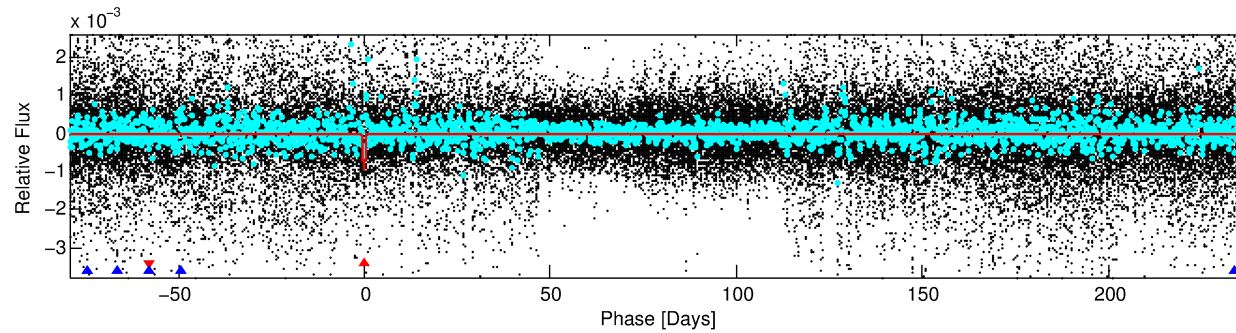
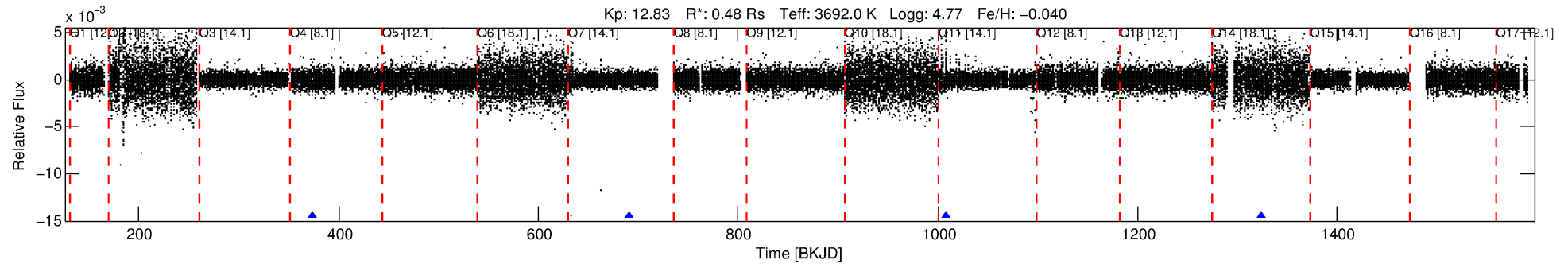
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010068797-01

No Significant Match Found

DV One-Page Summary

KIC: 10068797 Candidate: 1 of 2 Period: 316.861 d



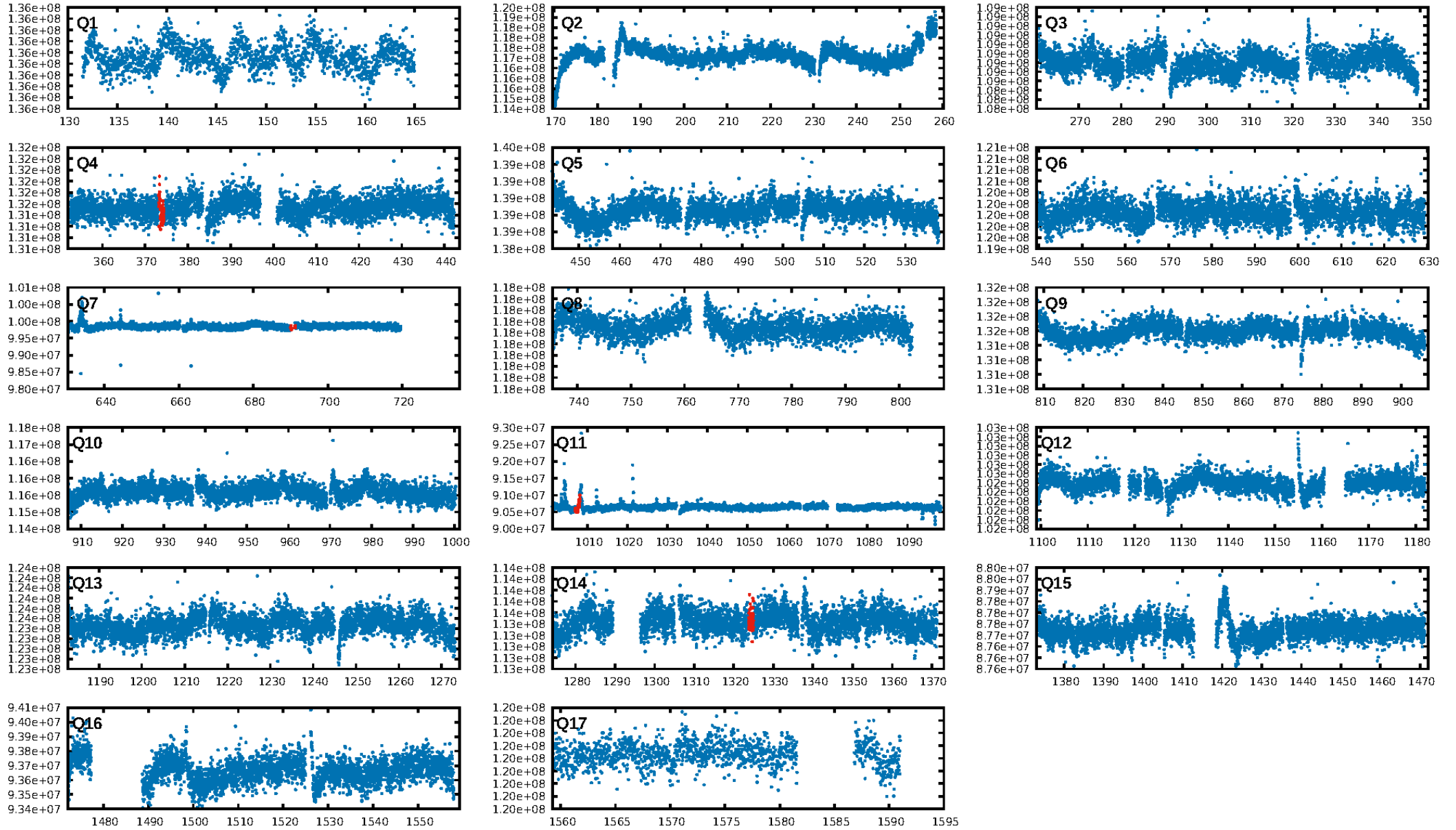
DV Fit Results:

Period = 316.86052 [0.01189] d
Epoch = 373.7713 [0.0219] BKJD
Rp/R* = 0.0283 [0.0194]
a/R* = 155.63 [453.48]
b = 0.41 [6.01]
Seff = 0.07 [0.02]
Teq = 133 [10] K
Rp = 1.48 [1.07] Re
a = 0.7175 [0.1279] AU
Ag = 75384.01 [105976.59] [0.71σ]
Teffp = 3409 [1189] K [2.75σ]

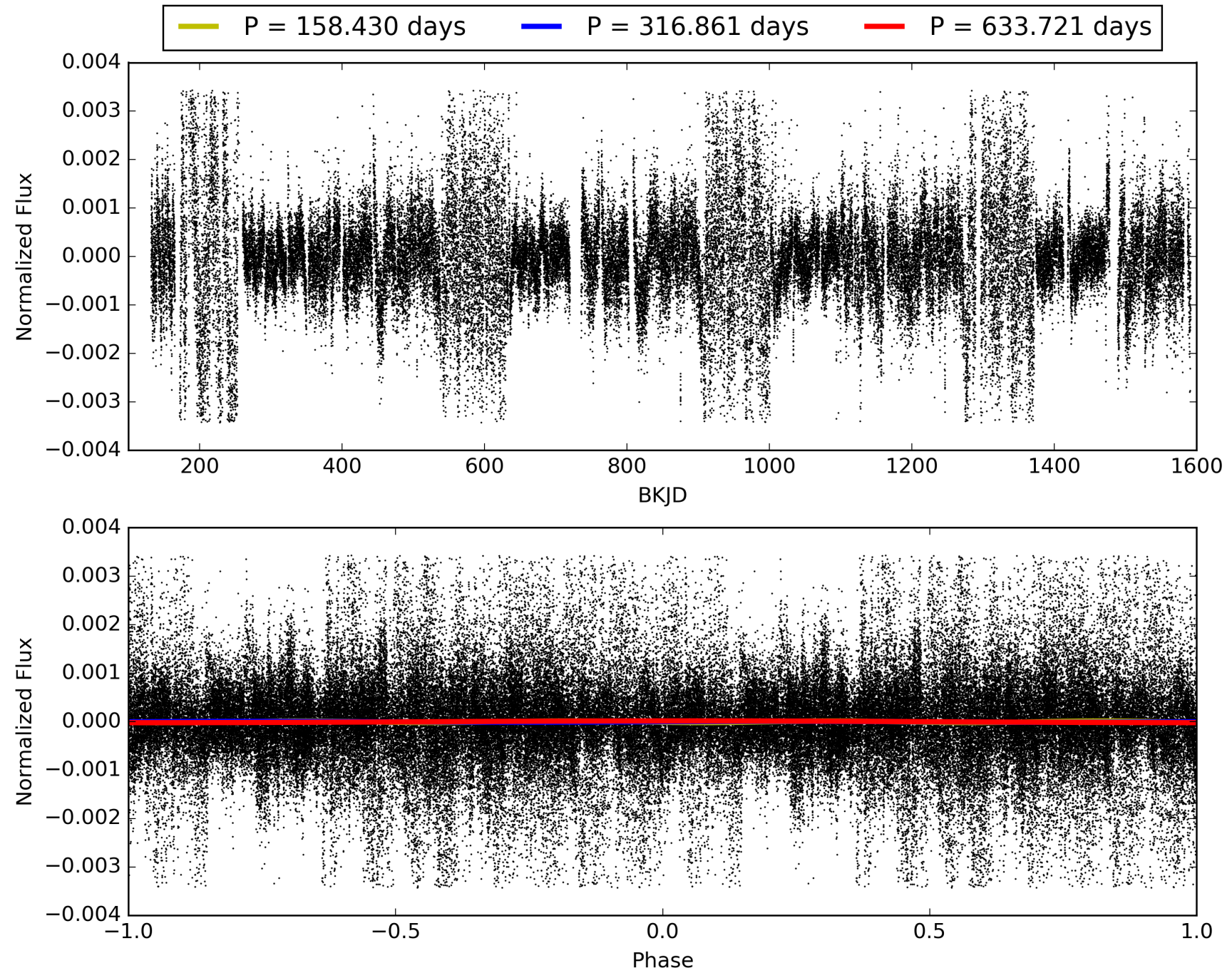
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.98σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 45.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.69e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6397
Centroid-sig: 5.9%
Centroid-so: 2.237 arcsec [19.58σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

TCE 010068797-01, PDC Light Curves

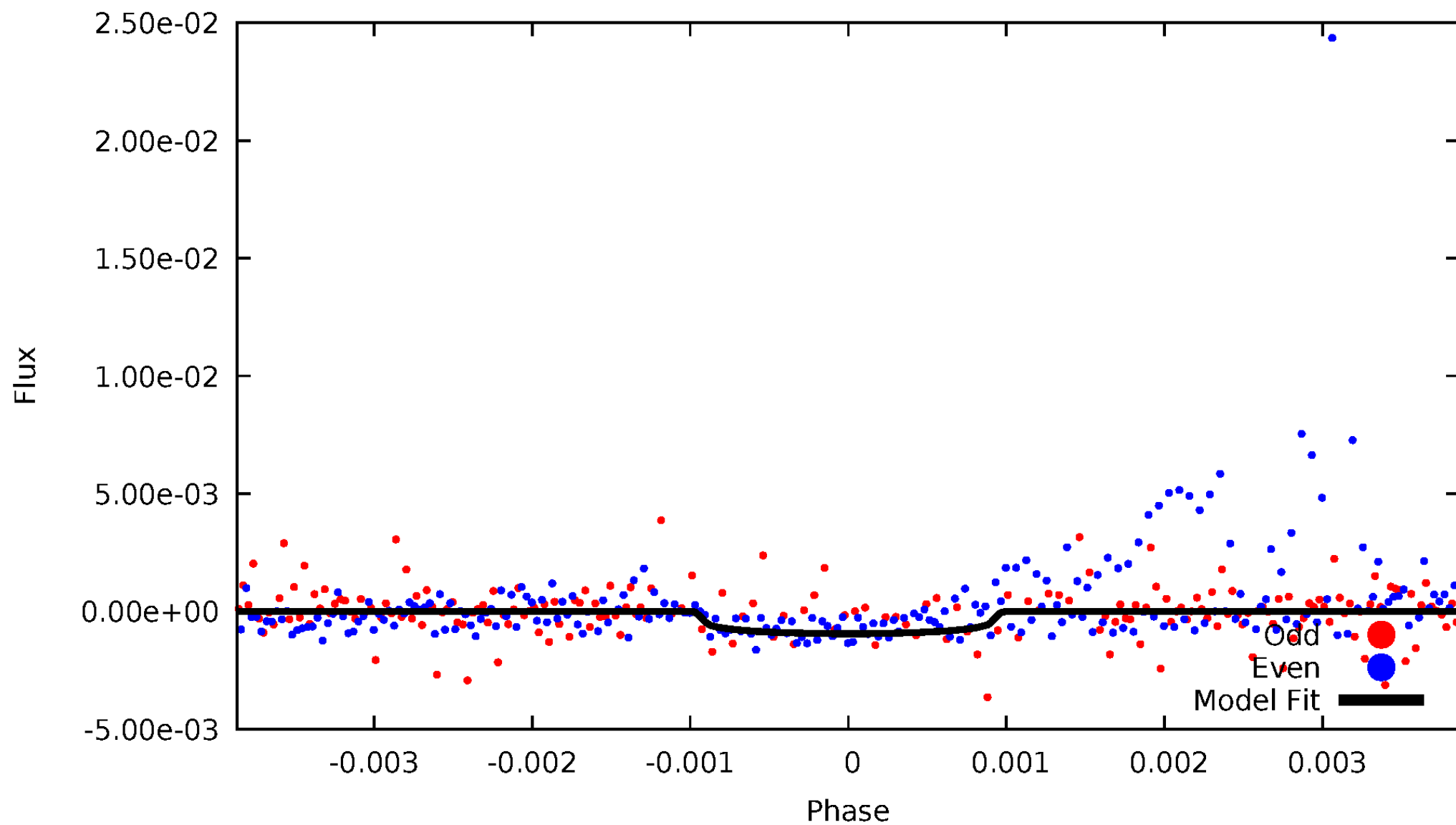


TCE 010068797-01



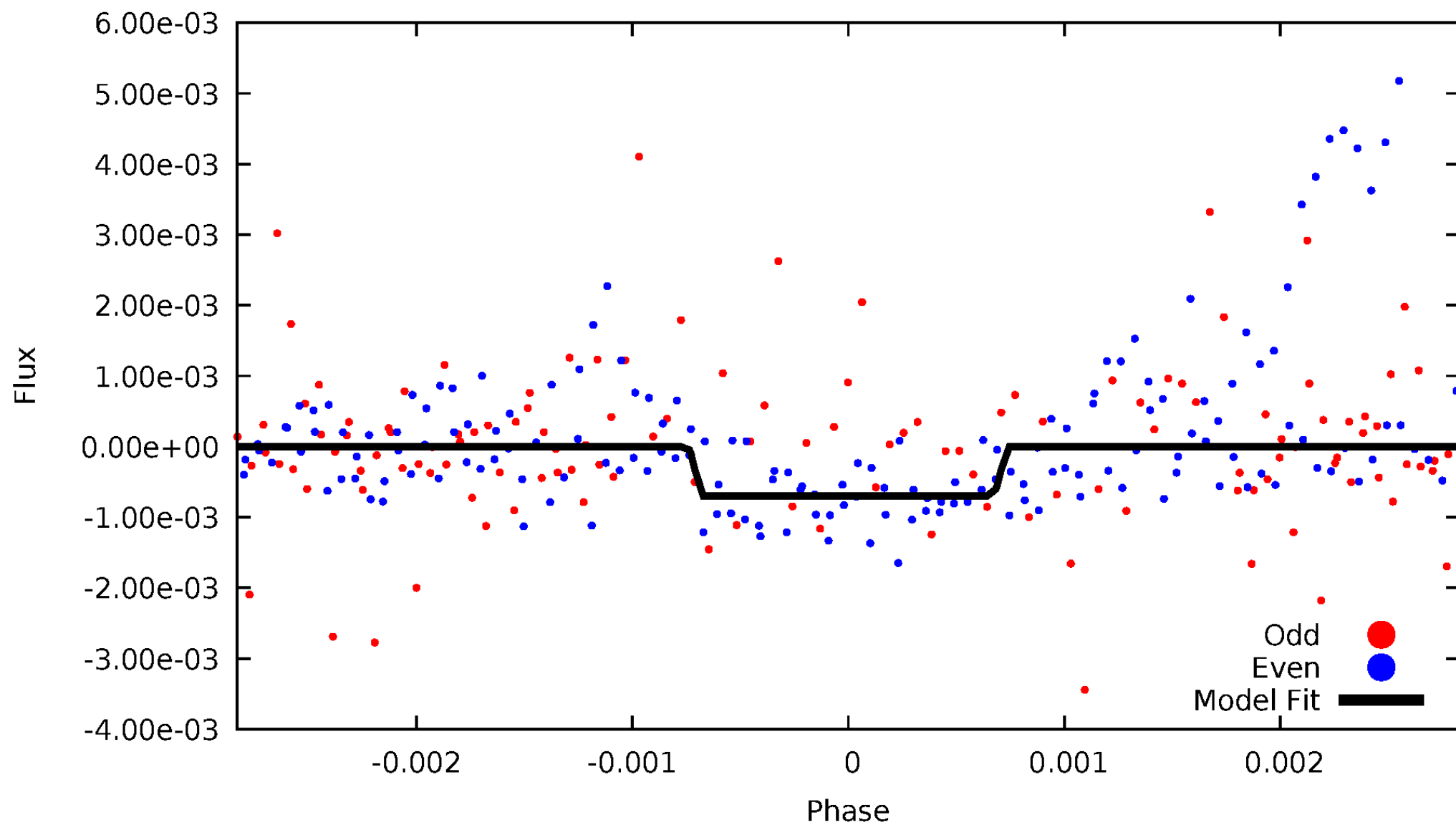
DV Odd/Even

TCE 010068797-01



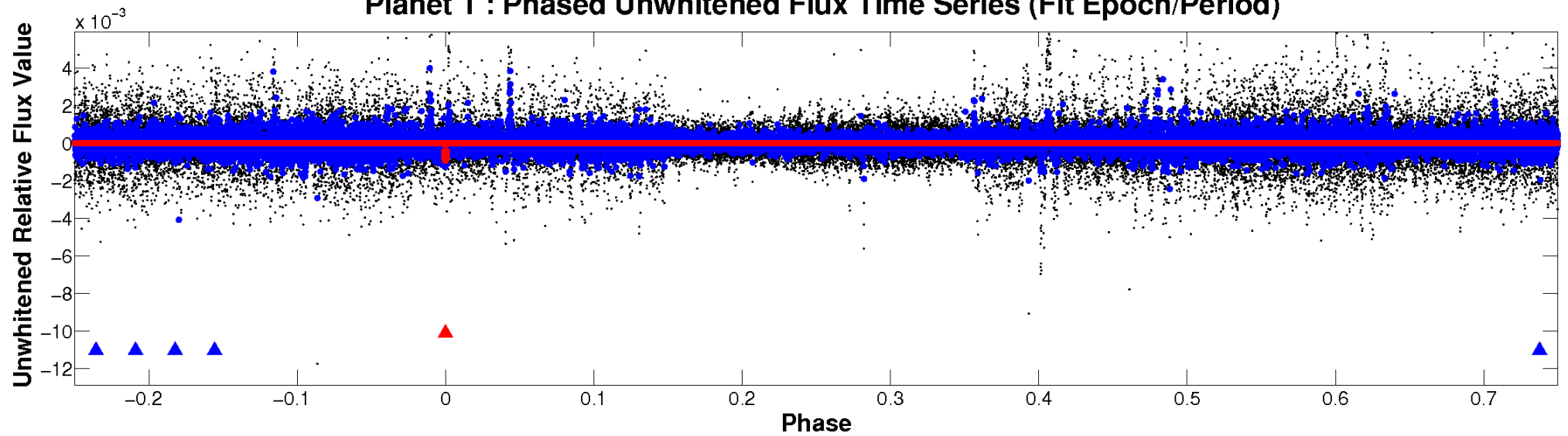
ALT Odd/Even

TCE 010068797-01

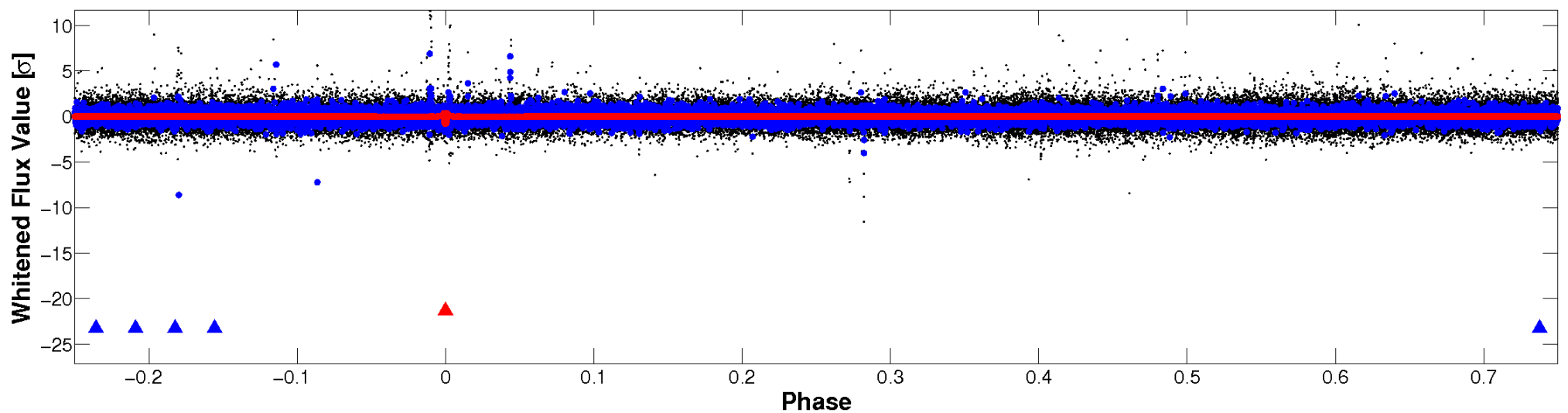


Non-Whitened Vs. Whitened Light Curve

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

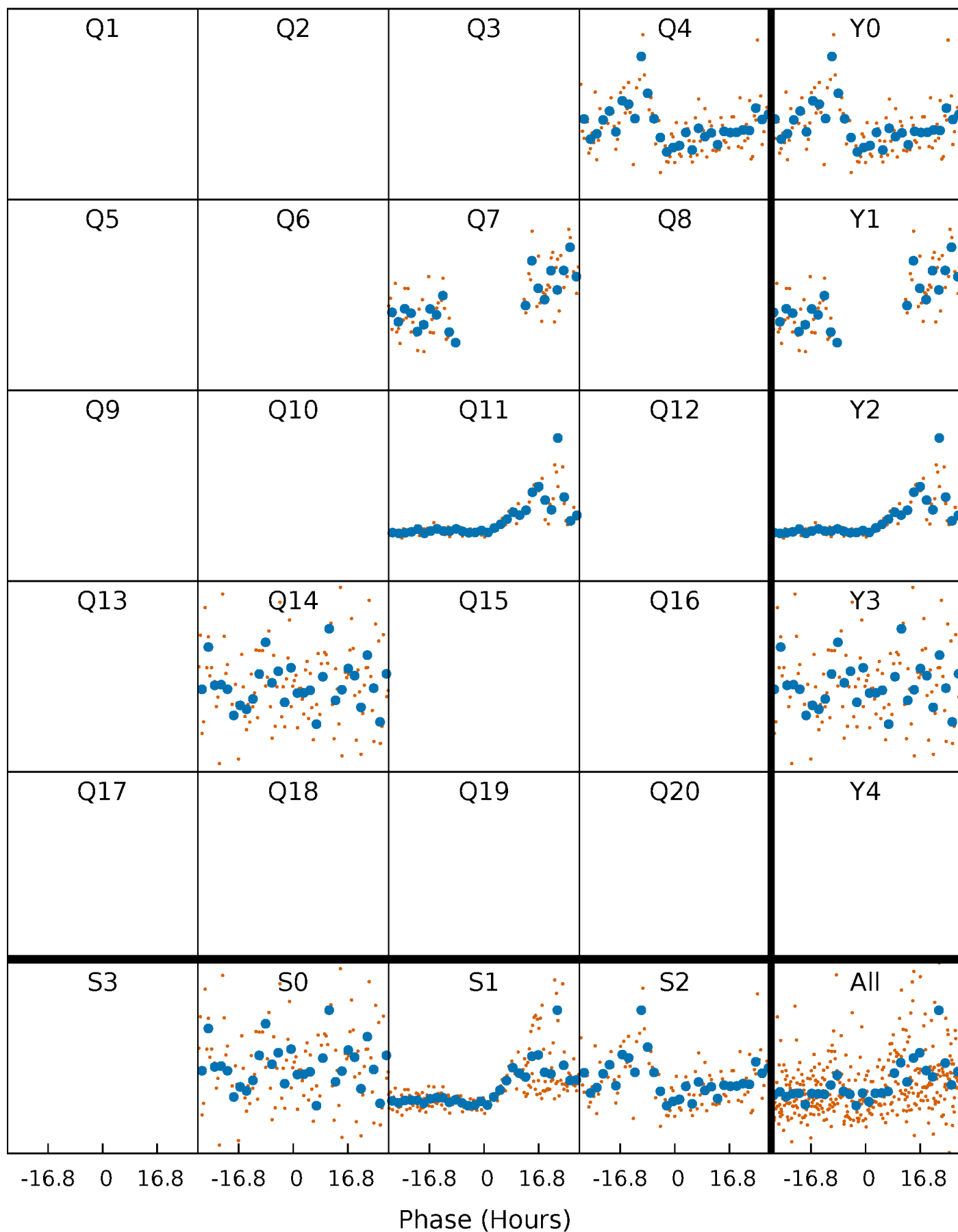


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



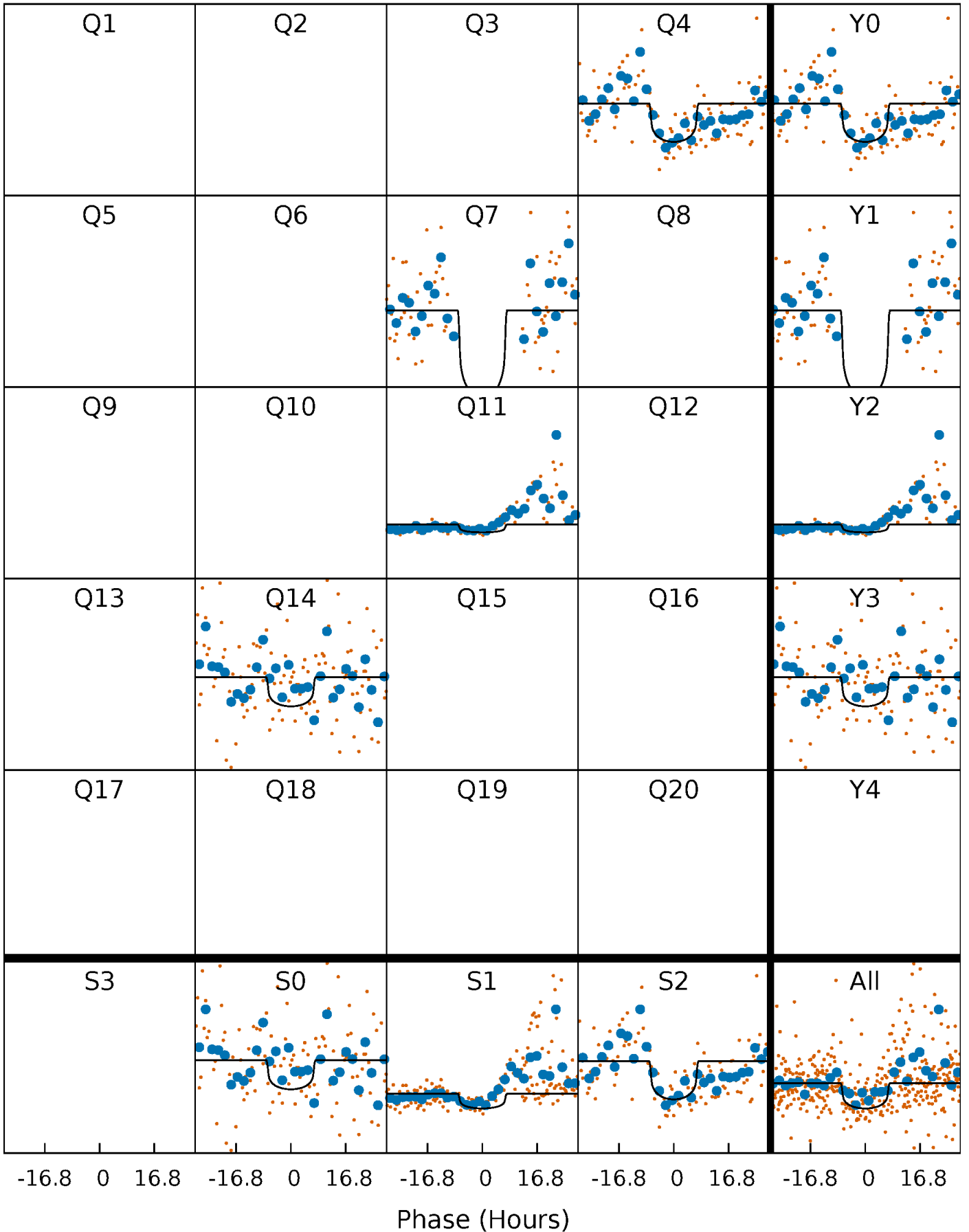
PDC Quarter-Phased Transit Curves

TCE 010068797-01 P=316.860516 Days $T_0=373.771320$ (BKJD)



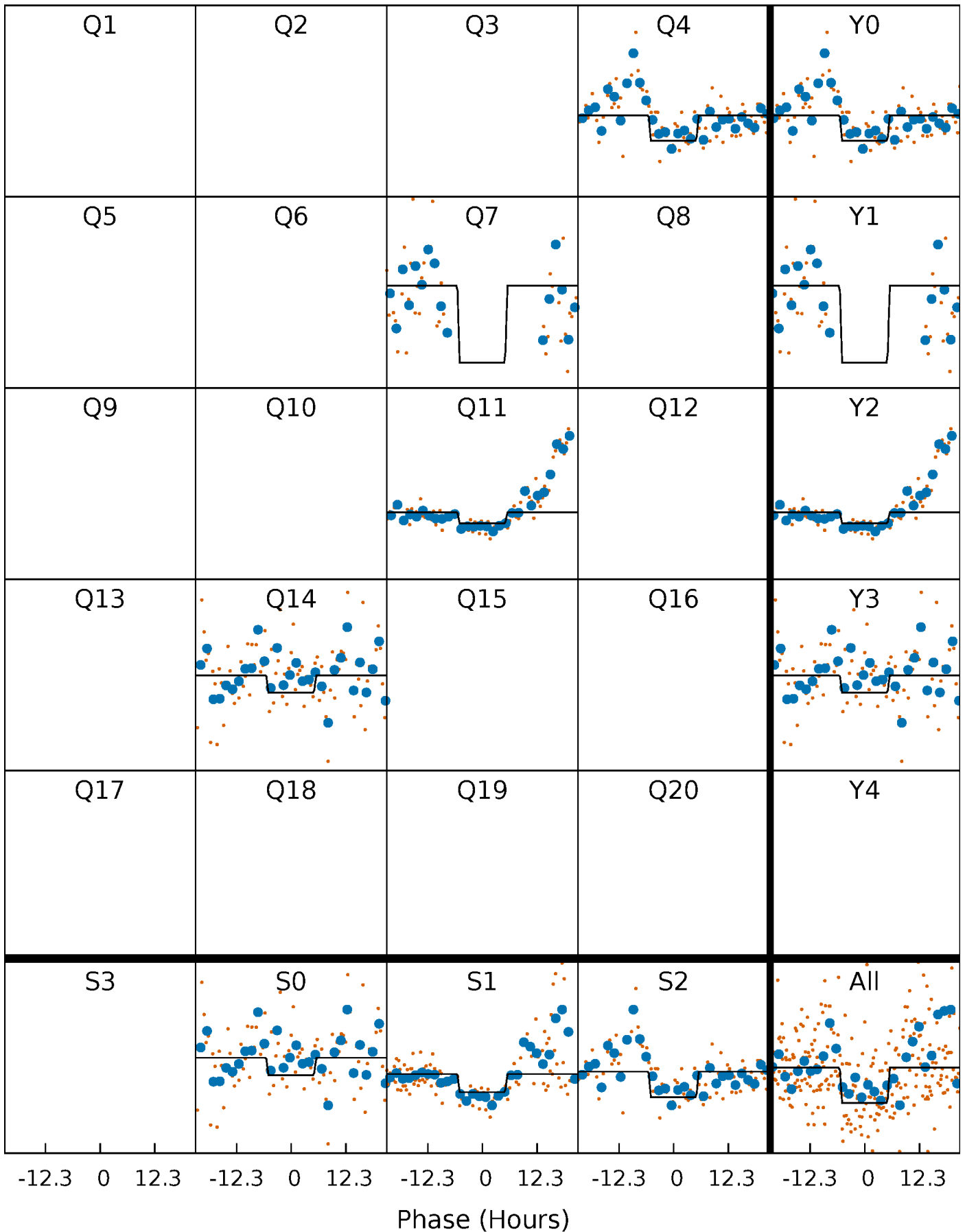
DV Quarter-Phased Transit Curves

TCE 010068797-01 P=316.860516 Days $T_0=373.771320$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

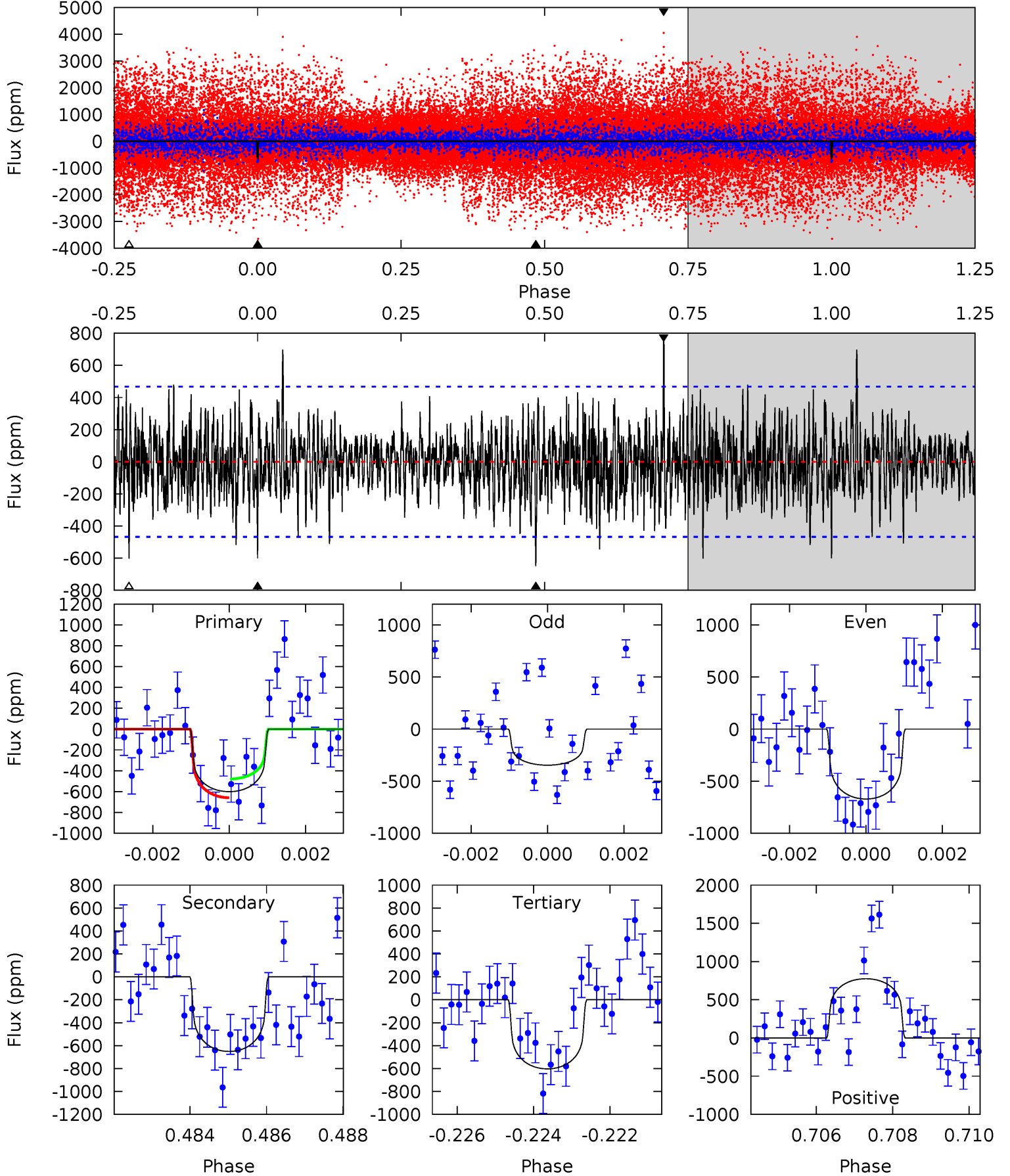
TCE 010068797-01 P=316.856404 Days $T_0=373.715711$ (BKJD)



DV Model-Shift Uniqueness Test

010068797-01, $P = 316.860516$ Days, $E = 56.910804$ Days

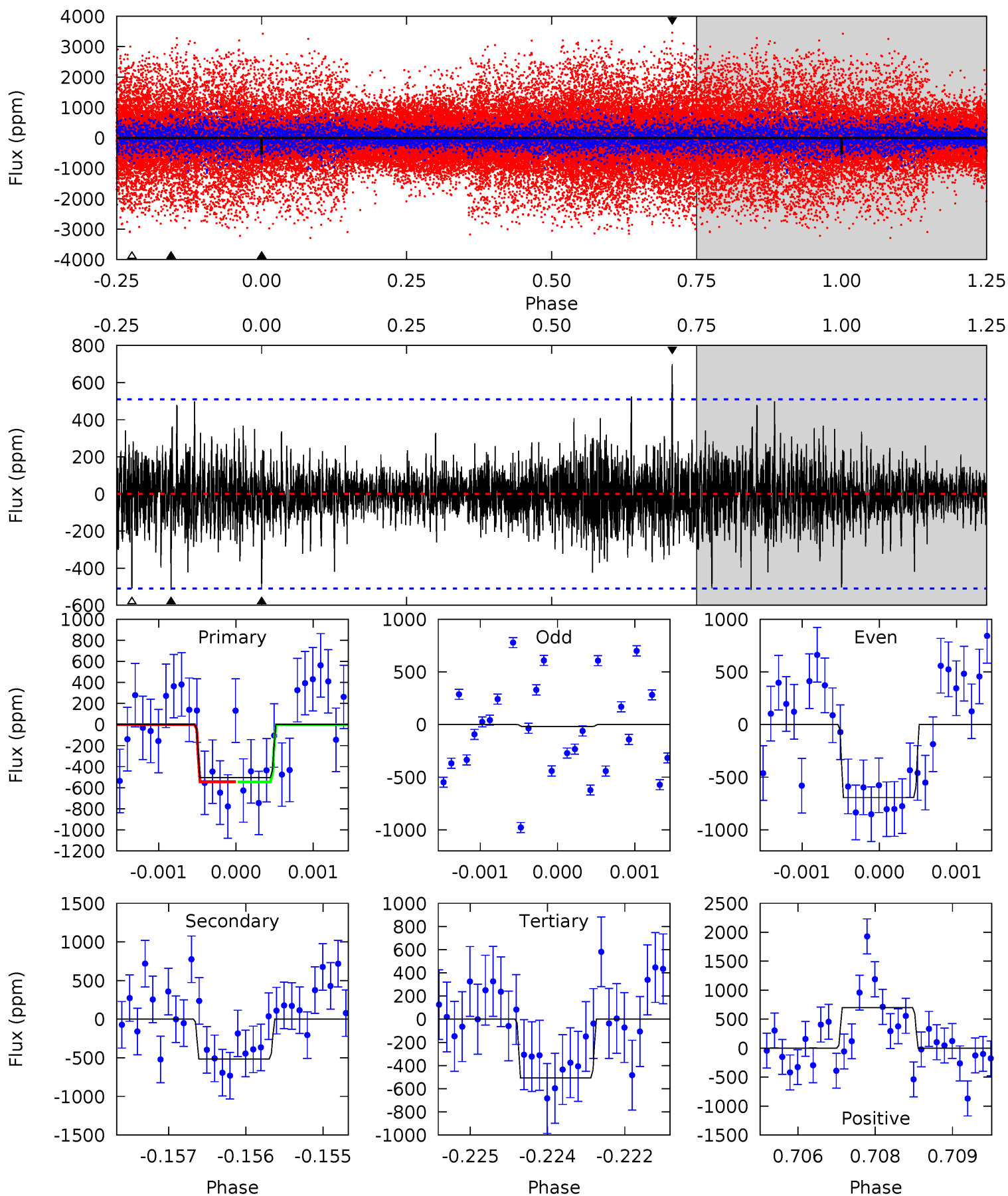
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.85	7.42	6.88	8.84	5.33	3.10	1.82	-0.03	-1.99	0.55	-1.41	1.68	1.25	0.54	1.02



Alt Model-Shift Uniqueness Test

010068797-01, P = 316.856404 Days, E = 56.859307 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.32	5.45	5.36	7.38	5.39	3.19	1.16	-0.04	-2.06	0.09	-1.93	3.29	0.98	0.58	0.01



Stellar Parameters For KIC 010068797

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3692^{+114}_{-152}	$4.768^{+0.119}_{-0.042}$	$-0.040^{+0.250}_{-0.300}$	$0.479^{+0.059}_{-0.110}$	$0.490^{+0.060}_{-0.111}$	$6.286^{+4.377}_{-1.271}$
	+3%/-4%	+2%/-1%	+625%/-750%	+12%/-23%	+12%/-23%	+70%/-20%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010068797-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-651 ± 88	$1.56^{+1.00}_{-0.81}$	183^{+9}_{-10}	3463^{+1001}_{-493}	$75503^{+249280}_{-47282}$
Alt.	-516 ± 95	$1.47^{+0.86}_{-0.78}$	183^{+9}_{-10}	3396^{+1014}_{-450}	$66219^{+241737}_{-40437}$

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 $A_{obs} \gg 1.0$

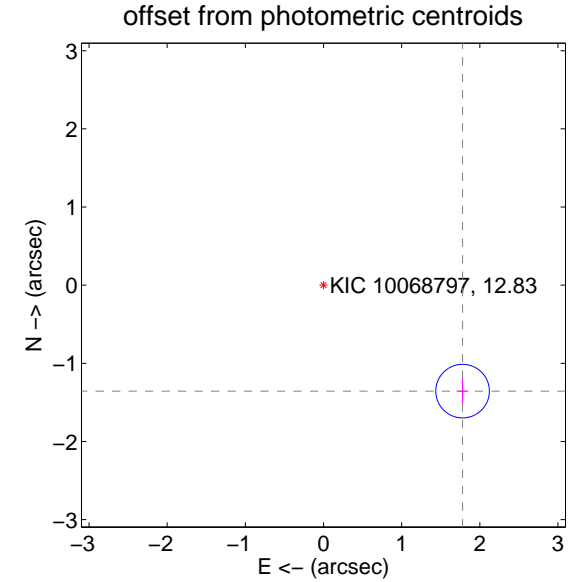
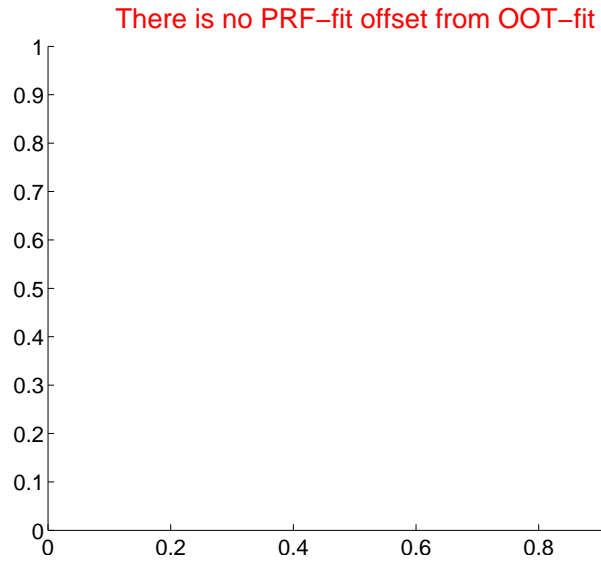
DV Centroid Data

Supplemental centroid analysis for 010068797-01. Kepler magnitude: 12.83. Transit SNR 7.41

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.24 ± 0.11	19.58	-1.78 ± 0.08	-1.36 ± 0.16



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

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



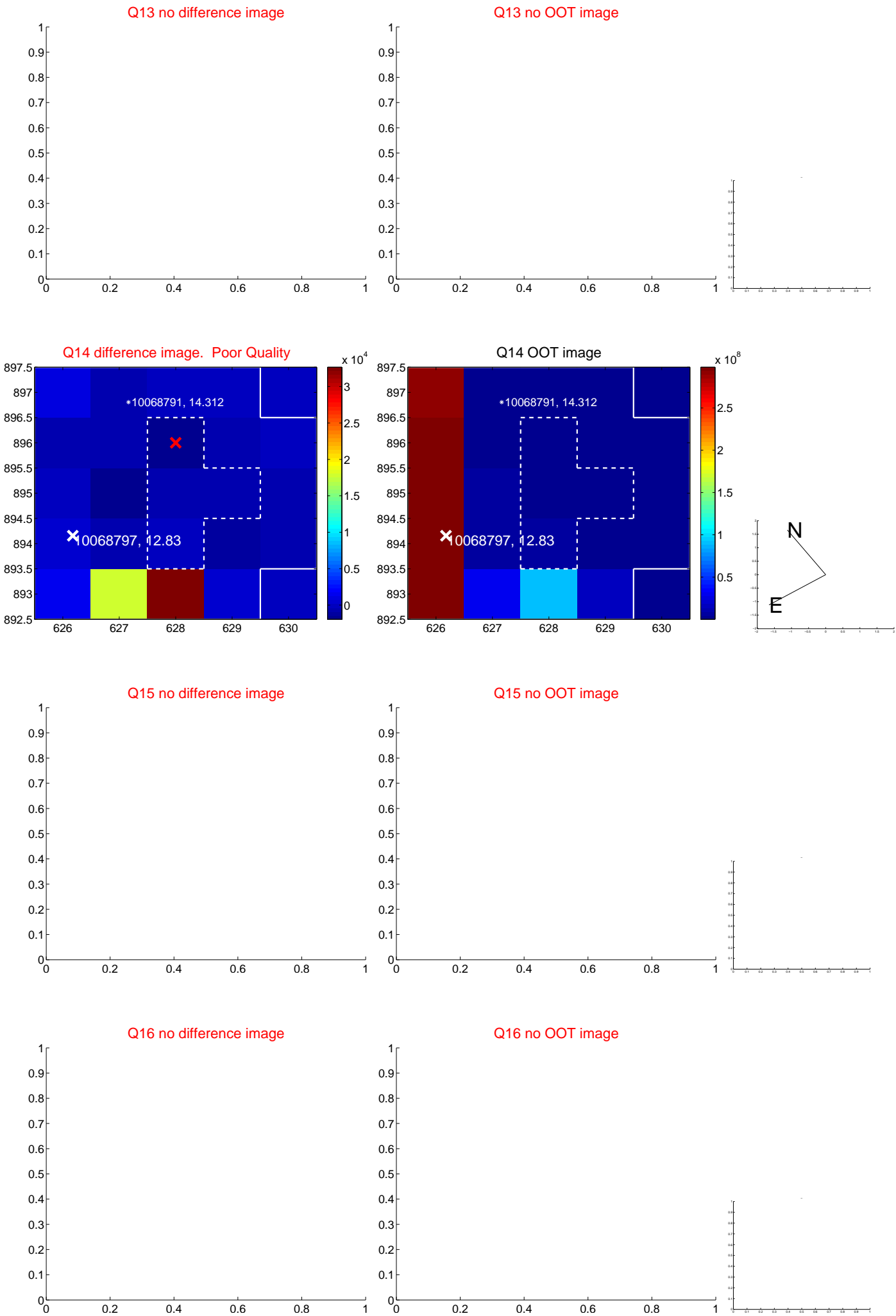
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



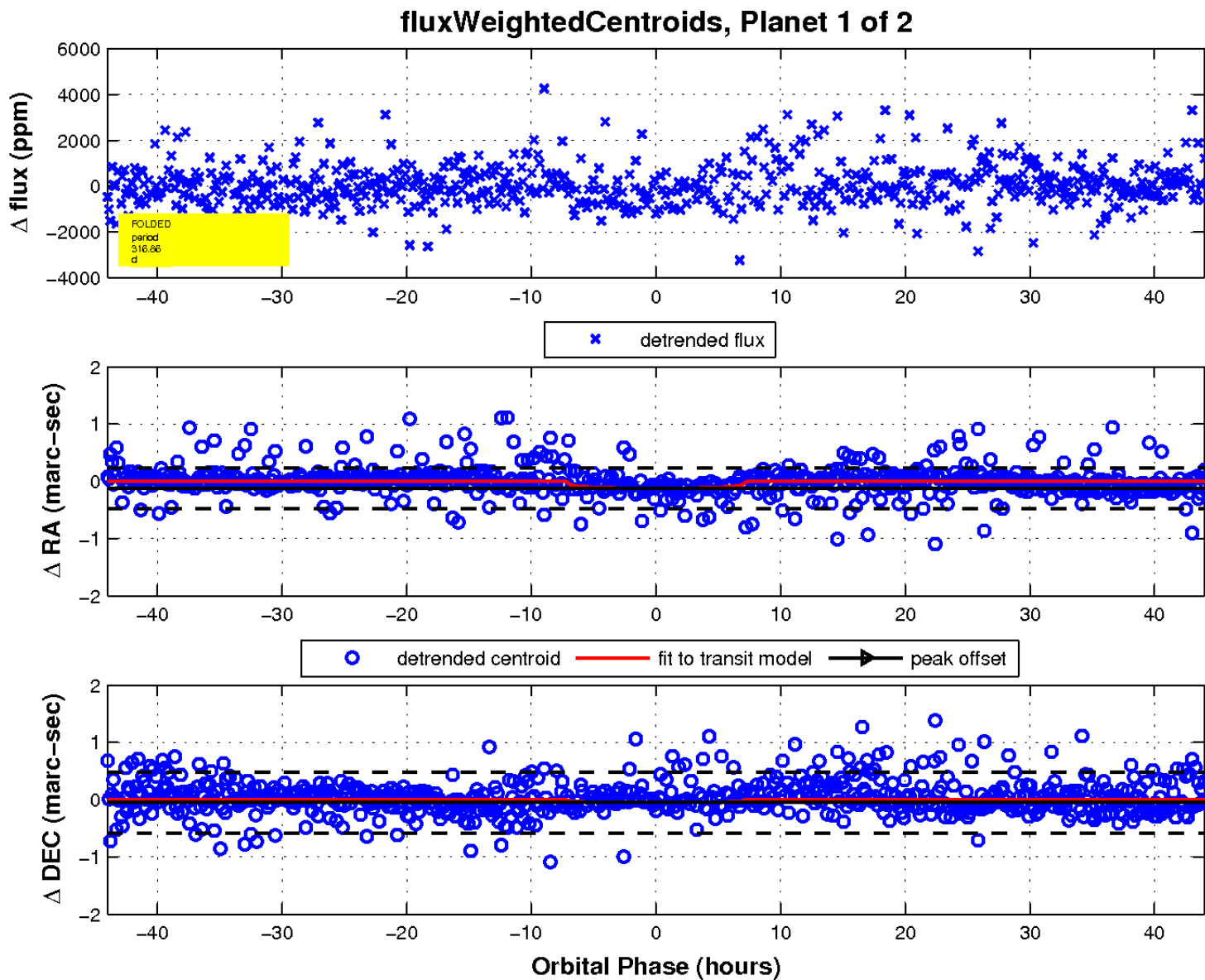
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

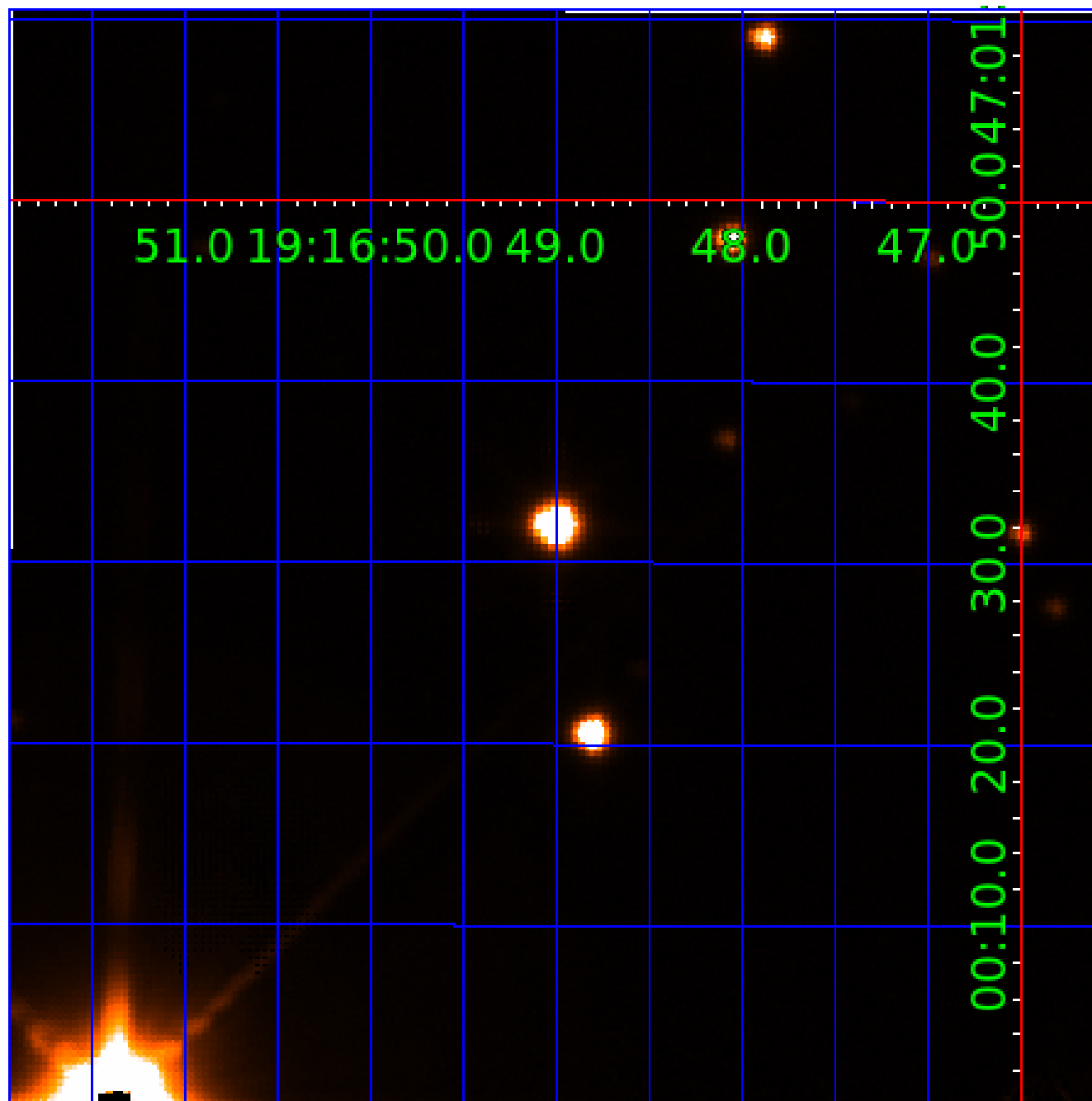


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010068797

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})
010068797-01	OBS	No	316.860516	373.771320	943.6	14.693	10.2	7.4	0.48	3692	1.48	0.07
010068797-02	OBS	No	308.413735	324.451836	867.3	17.146	8.6	8.9	0.48	3692	1.74	0.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010068797-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068797-02	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

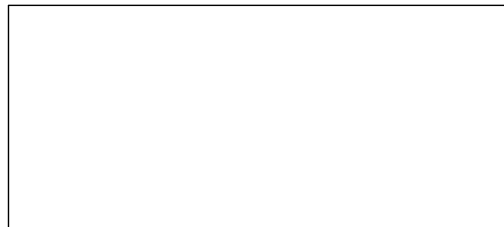
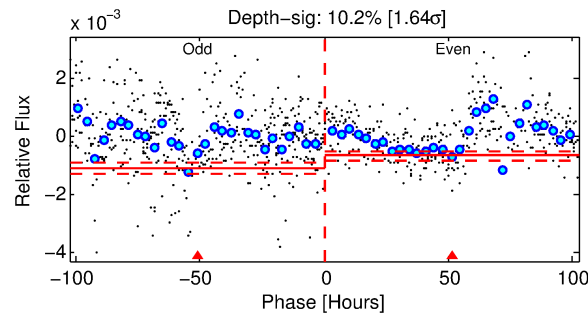
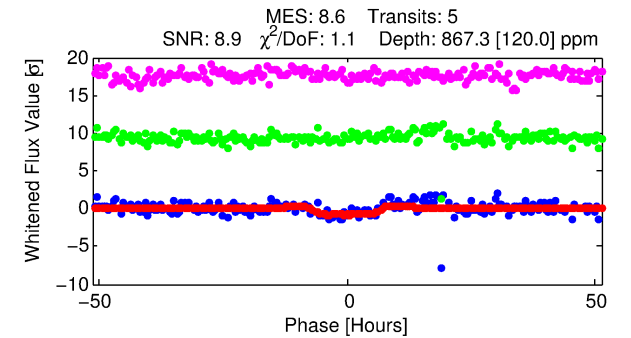
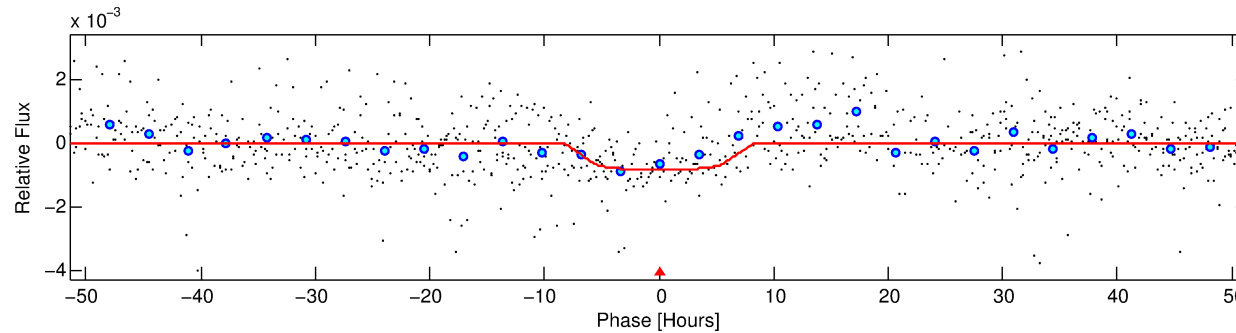
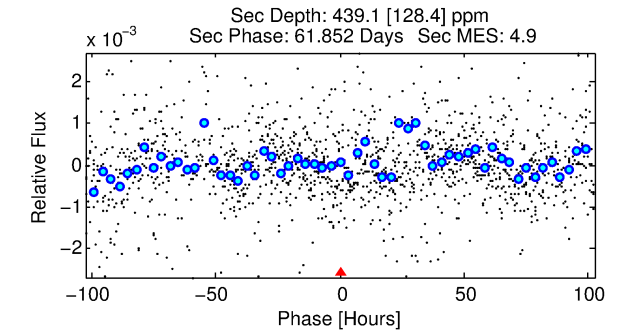
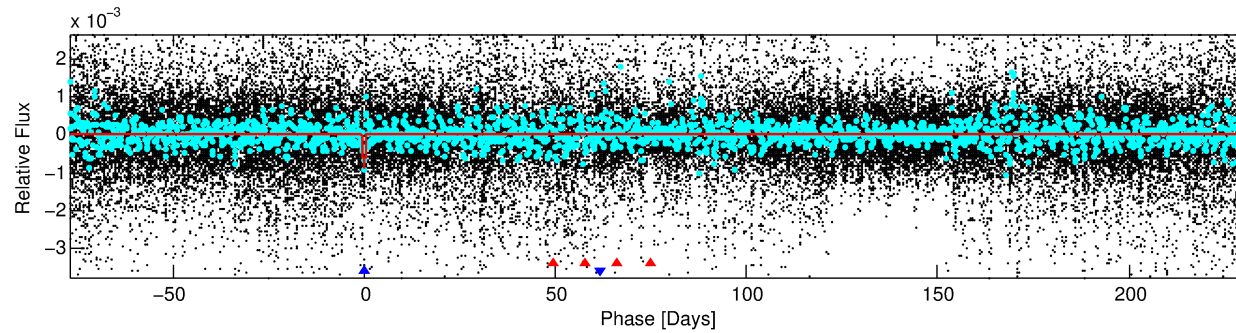
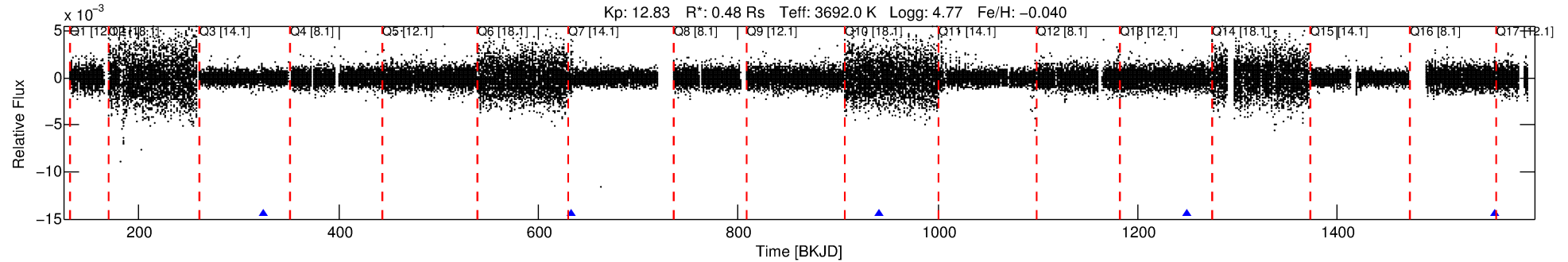
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010068797-02

No Significant Match Found

DV One-Page Summary

KIC: 10068797 Candidate: 2 of 2 Period: 308.414 d



DV Fit Results:

Period = 308.41374 [0.01373] d
Epoch = 324.4518 [0.0249] BKJD
Rp/R* = 0.0332 [0.0035]
a/R* = 62.91 [18.20]
b = 0.93 [0.05]
Seff = 0.08 [0.02]
Teq = 134 [10] K
Rp = 1.74 [0.44] Re
a = 0.7047 [0.1256] AU
Ag = 39776.97 [17240.67] [2.31σ]
Teffp = 2932 [292] K [9.59σ]

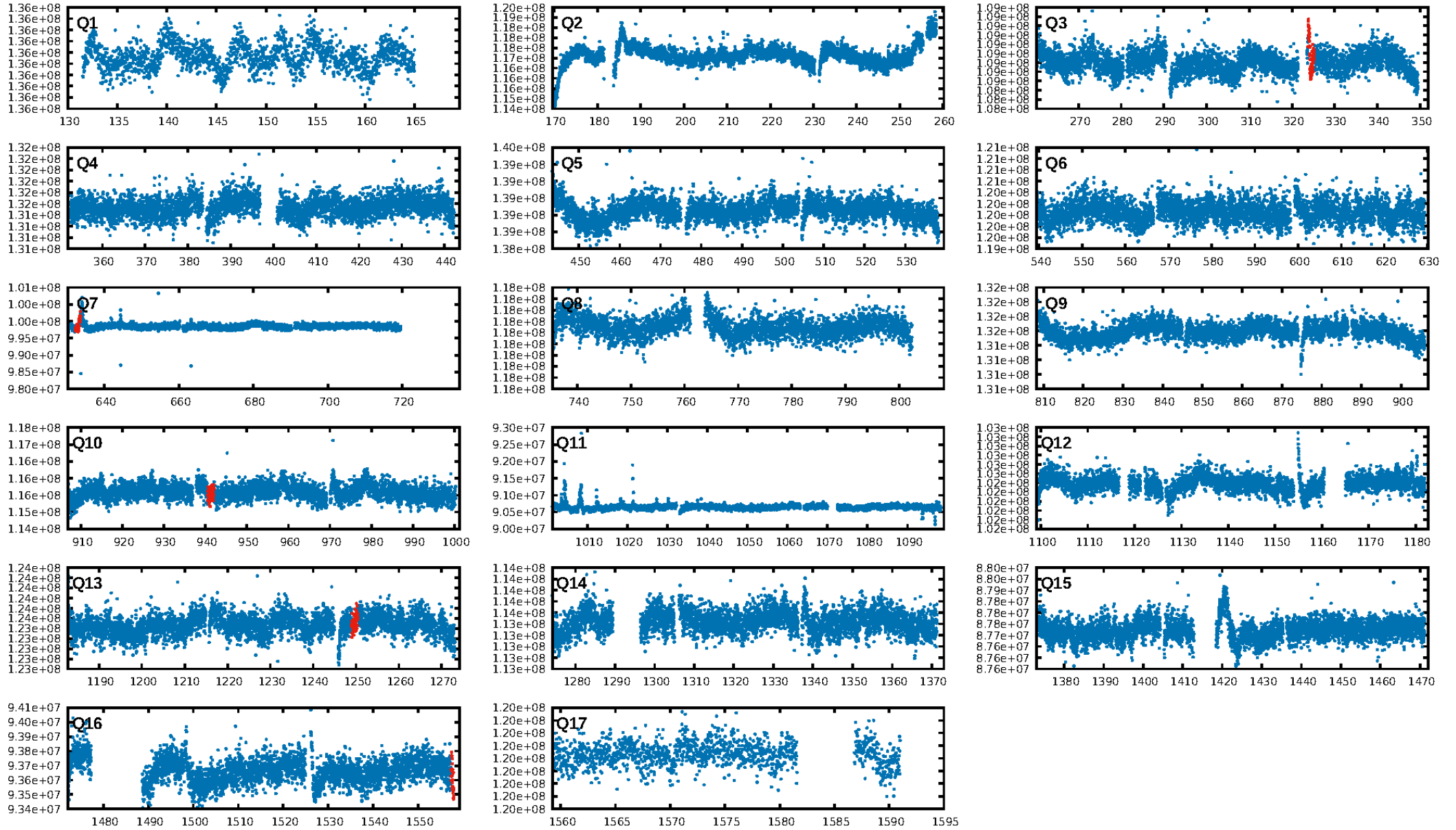
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [8.98σ]
ModelChiSquare2-sig: 12.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.71e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.3528
Centroid-sig: 0.0%
Centroid-so: 1.902 arcsec [17.17σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

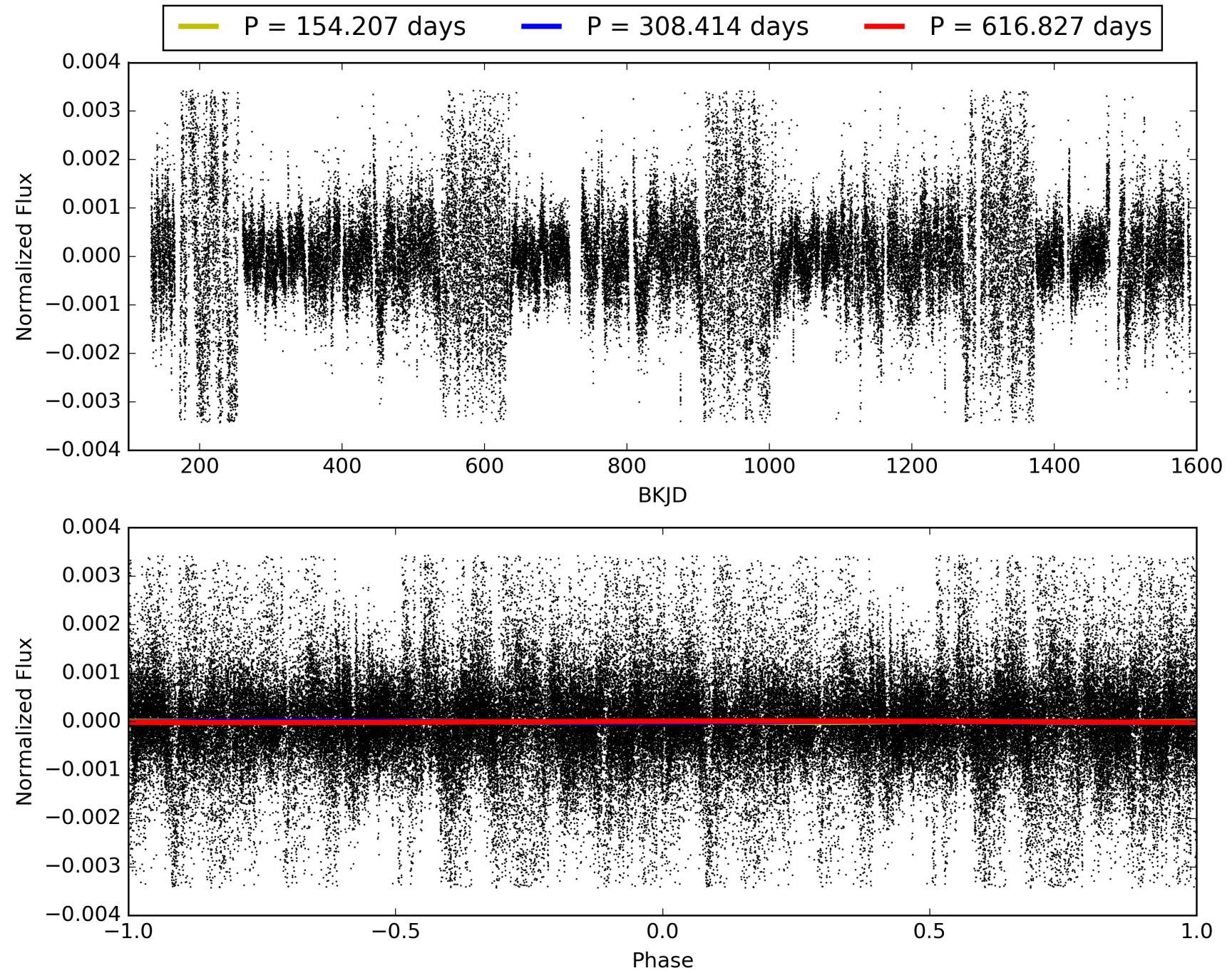
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:46:02 Z

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

TCE 010068797-02, PDC Light Curves

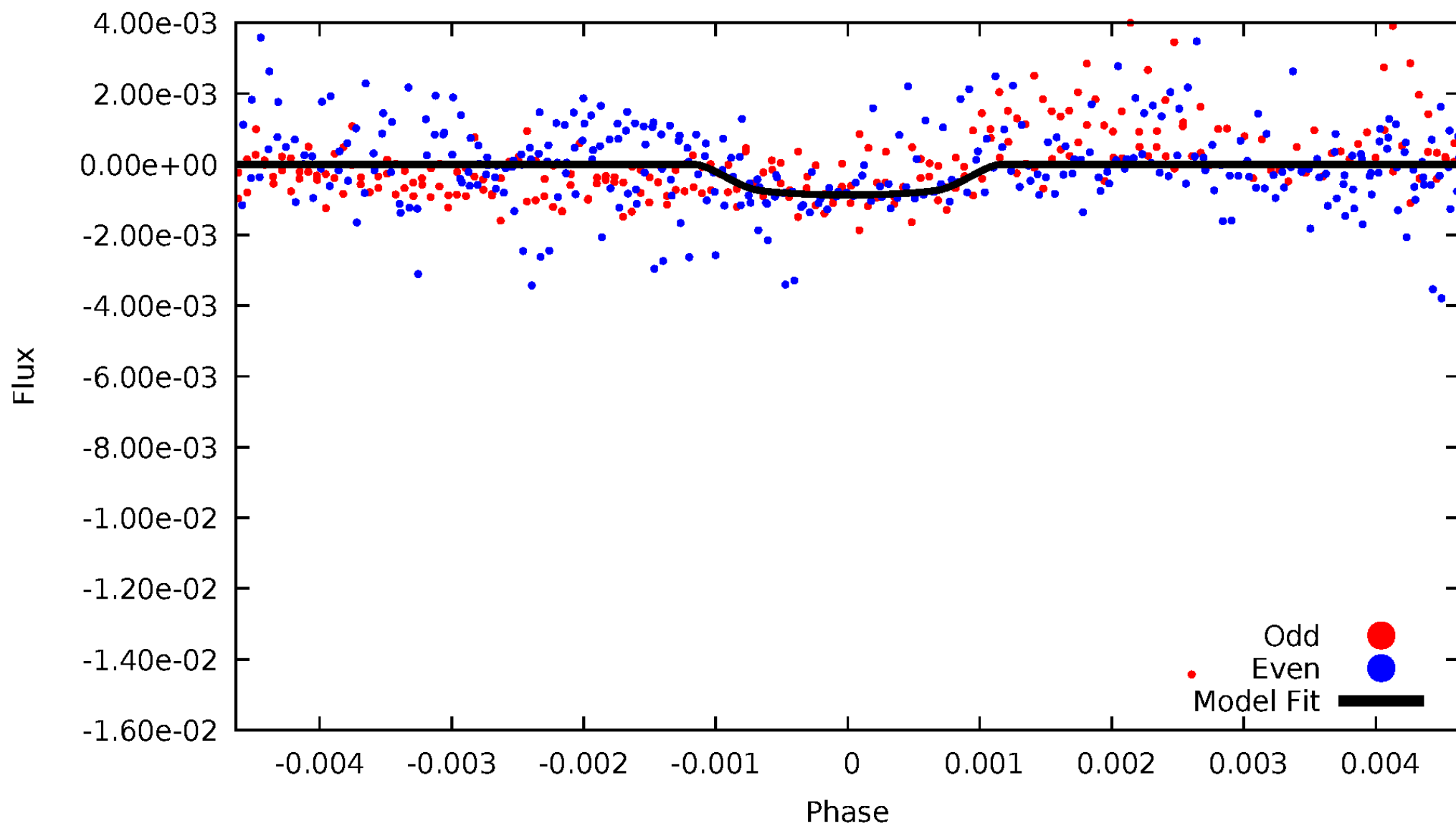


TCE 010068797-02



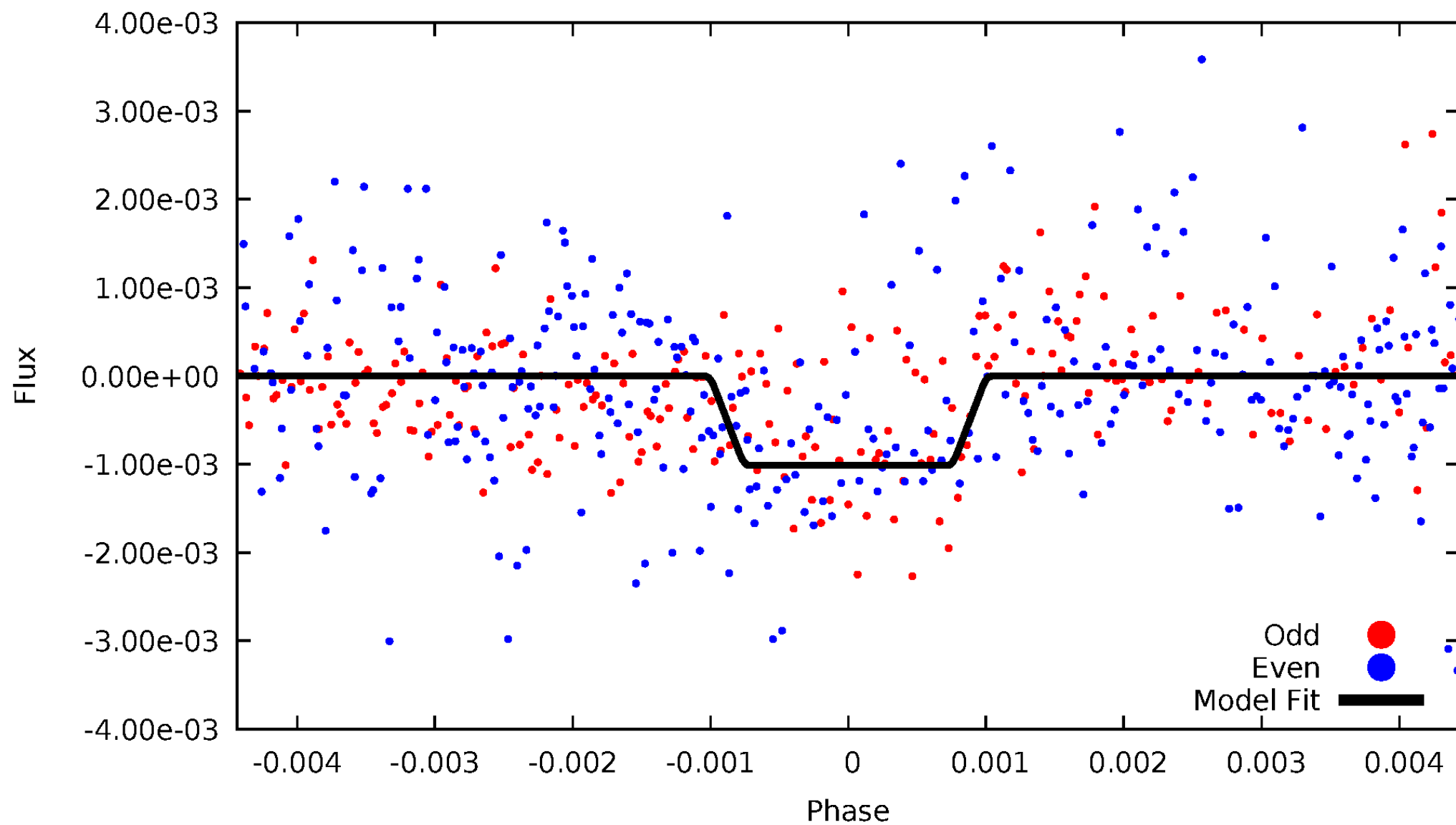
DV Odd/Even

TCE 010068797-02



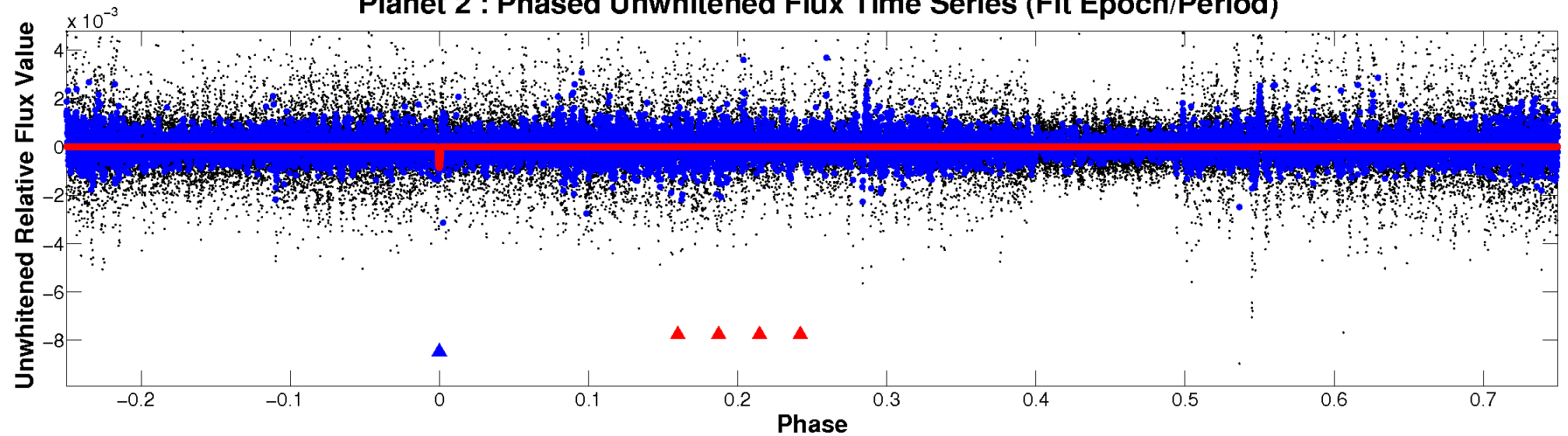
ALT Odd/Even

TCE 010068797-02

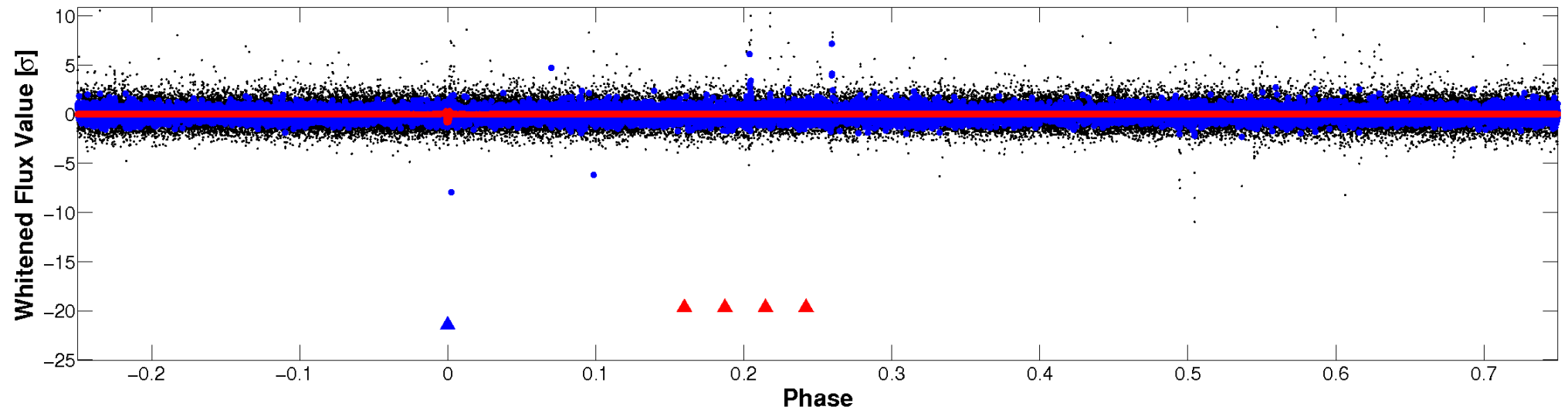


Non-Whitened Vs. Whitened Light Curve

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



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



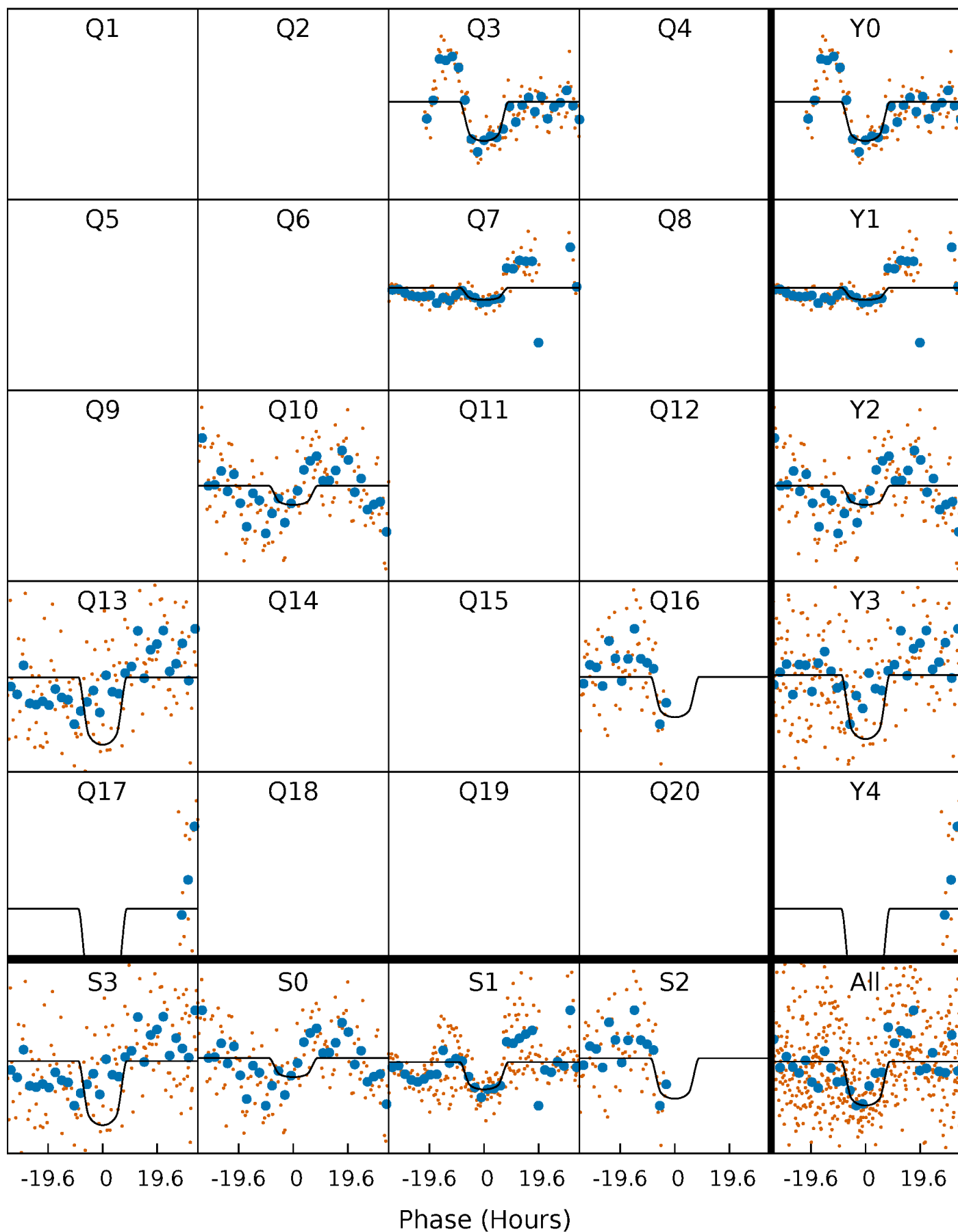
PDC Quarter-Phased Transit Curves

TCE 010068797-02 $P=308.413735$ Days $T_0=324.451836$ (BKJD)



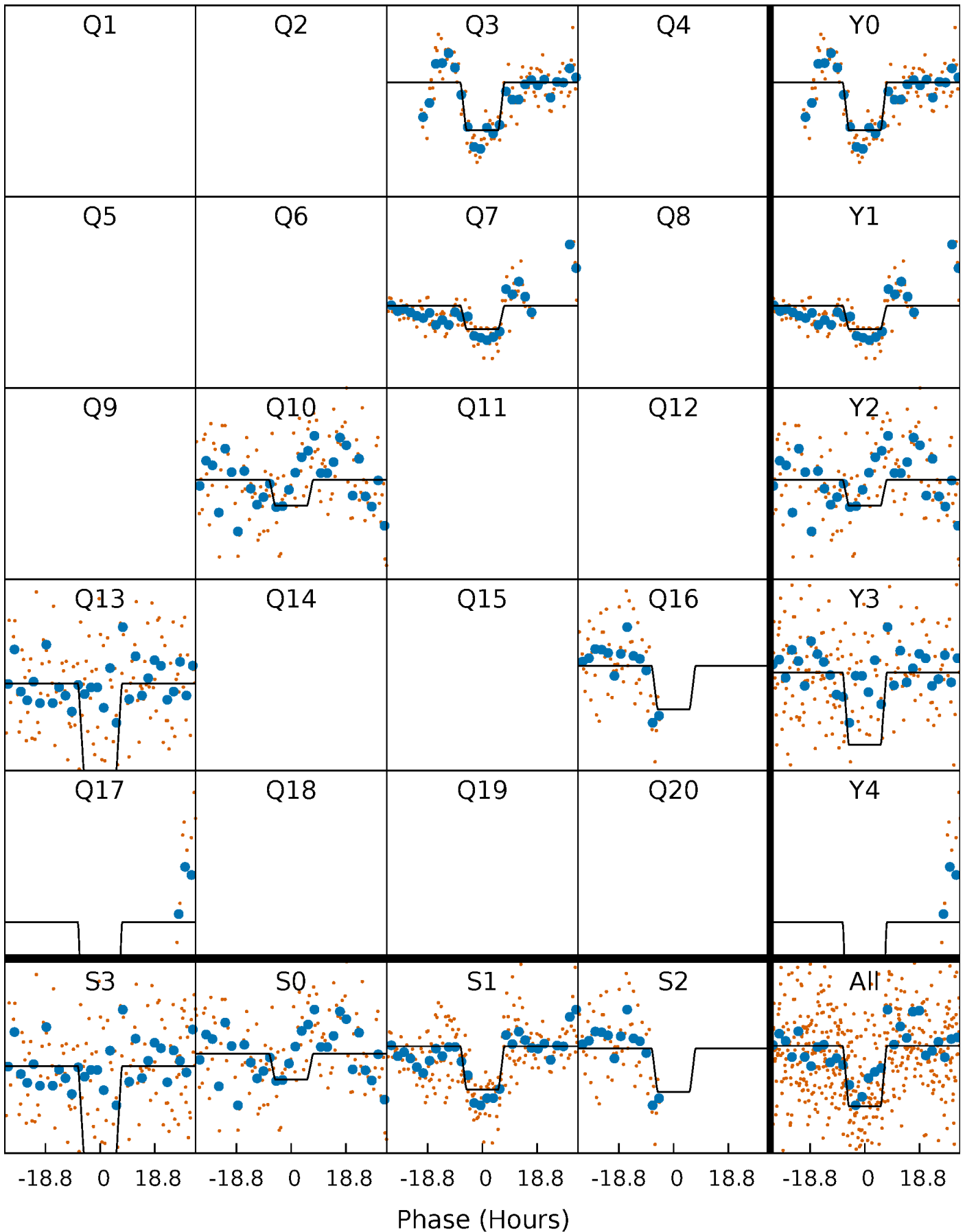
DV Quarter-Phased Transit Curves

TCE 010068797-02 $P=308.413735$ Days $T_0=324.451836$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

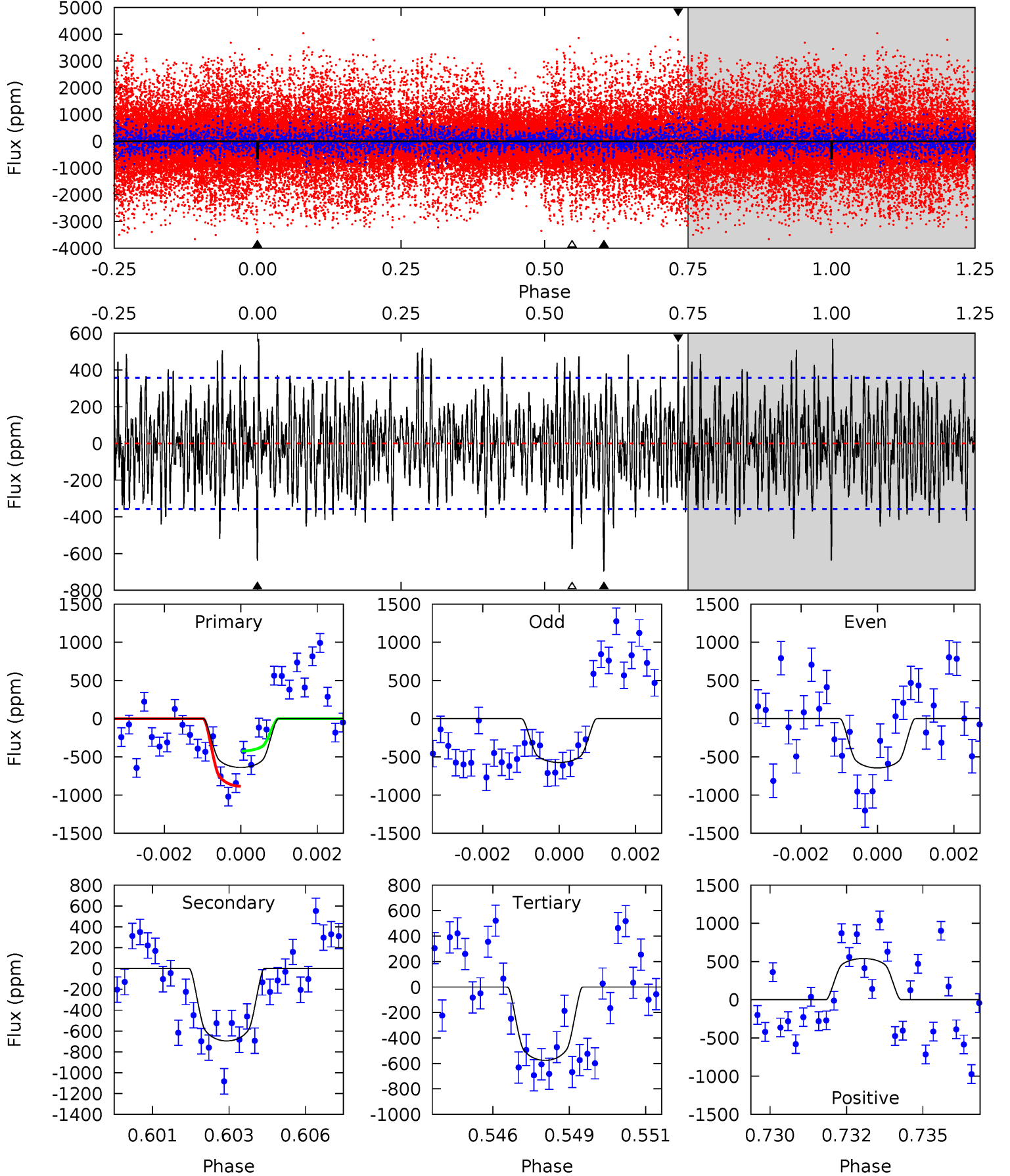
TCE 010068797-02 $P=308.430966$ Days $T_0=324.441008$ (BKJD)



DV Model-Shift Uniqueness Test

010068797-02, P = 308.413735 Days, E = 16.038101 Days

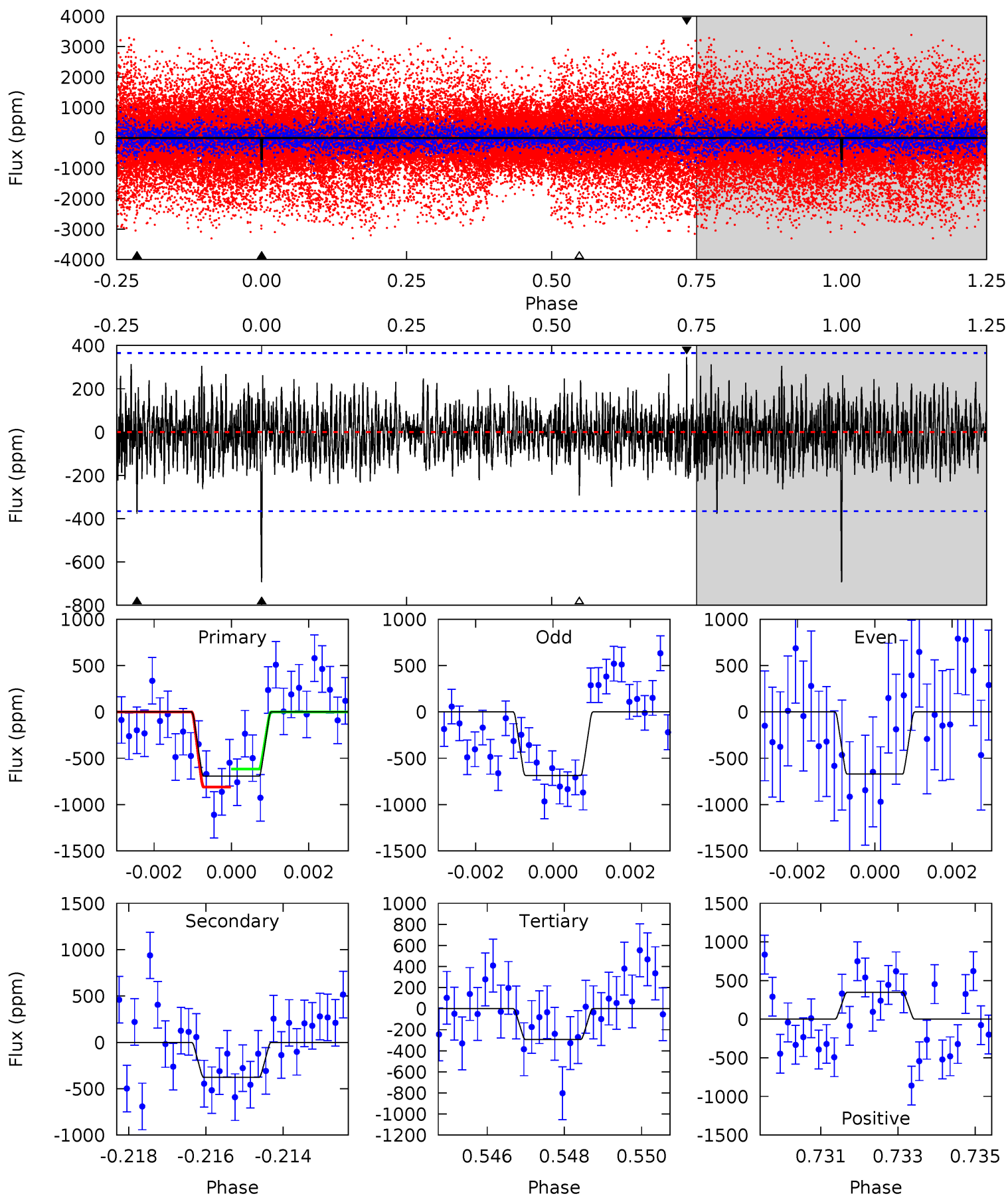
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	10.3	8.55	8.00	5.29	3.04	2.65	0.93	1.47	1.77	2.31	0.51	0.78	0.45	3.47



Alt Model-Shift Uniqueness Test

010068797-02, P = 308.430966 Days, E = 16.010042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	5.49	4.26	5.05	5.33	3.09	1.31	5.84	5.05	1.23	0.43	0.11	0.72	0.33	1.42



Stellar Parameters For KIC 010068797

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3692^{+114}_{-152}	$4.768^{+0.119}_{-0.042}$	$-0.040^{+0.250}_{-0.300}$	$0.479^{+0.059}_{-0.110}$	$0.490^{+0.060}_{-0.111}$	$6.286^{+4.377}_{-1.271}$
	+3%/-4%	+2%/-1%	+625%/-750%	+12%/-23%	+12%/-23%	+70%/-20%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010068797-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-695 ± 67	$1.68^{+0.25}_{-0.25}$	185^{+9}_{-10}	3417^{+183}_{-165}	66726^{+24121}_{-14531}
Alt.	-376 ± 69	$1.60^{+0.24}_{-0.23}$	184^{+8}_{-10}	3156^{+171}_{-156}	40149^{+15703}_{-10833}

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

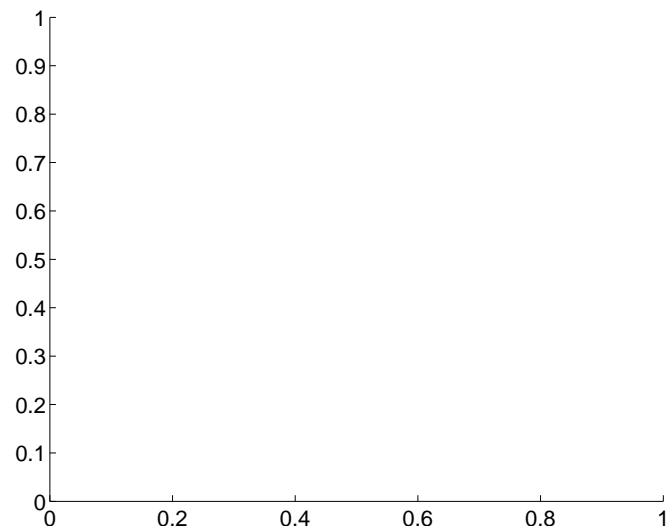
Supplemental centroid analysis for 010068797-02. Kepler magnitude: 12.83. Transit SNR 8.88

There are 0 quarters with good PRF difference image offsets

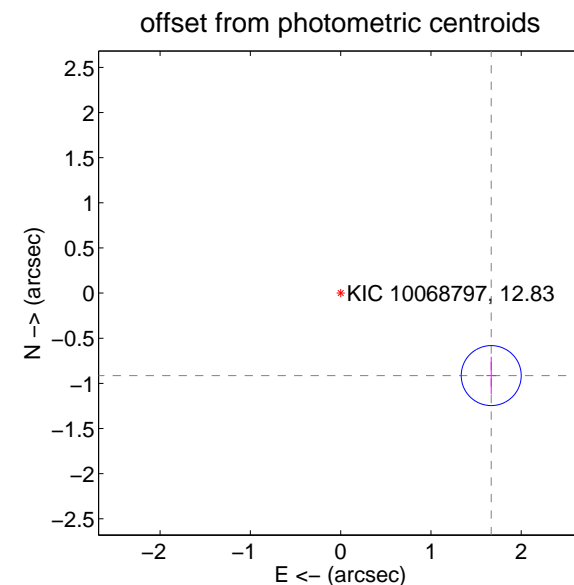
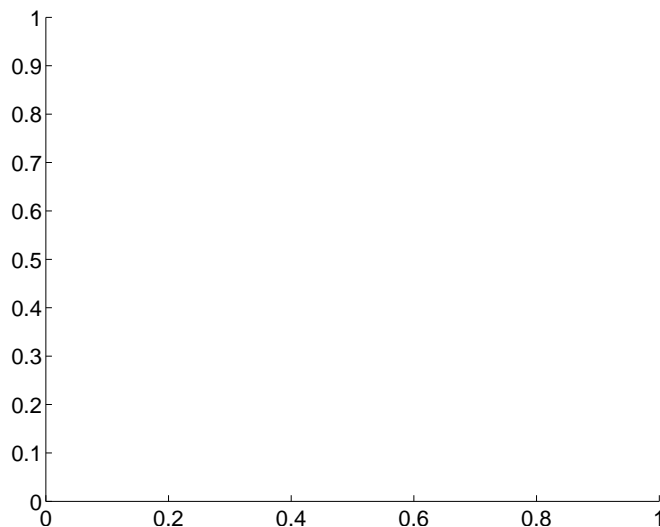
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.90 ± 0.11	17.17	-1.67 ± 0.05	-0.91 ± 0.21

There is no PRF-fit offset from OOT-fit

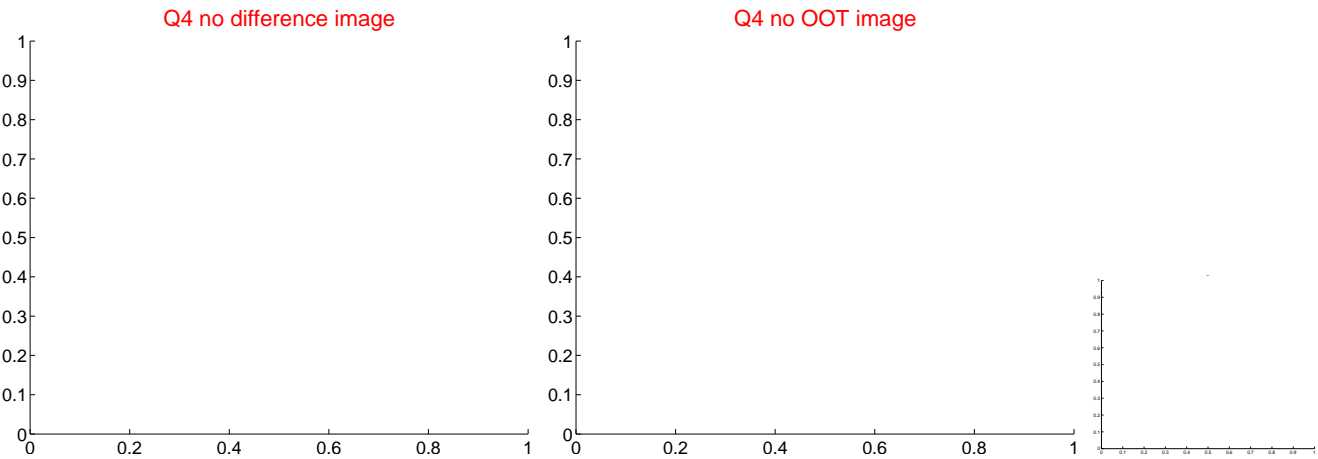
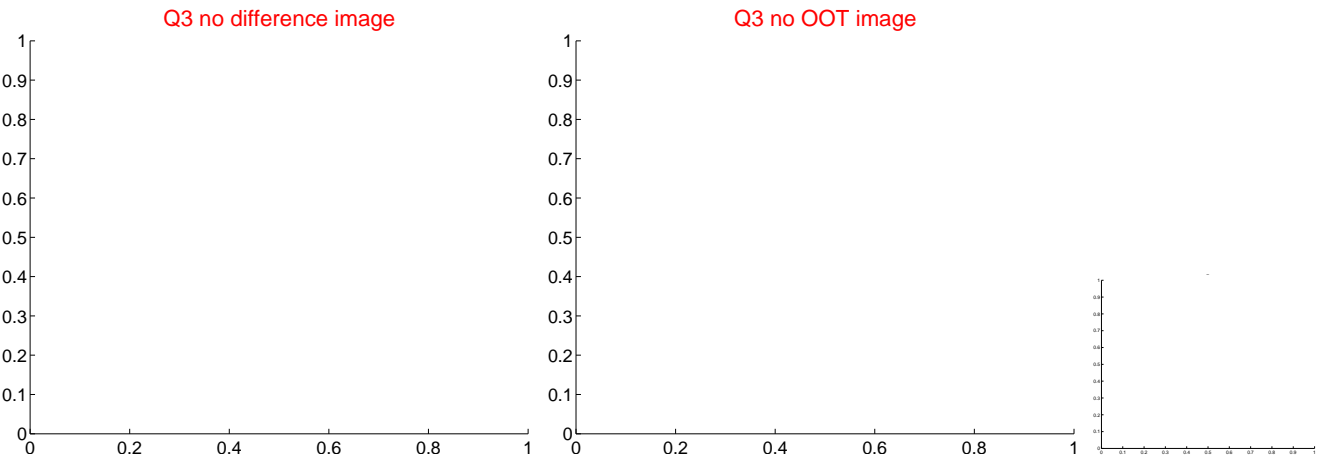
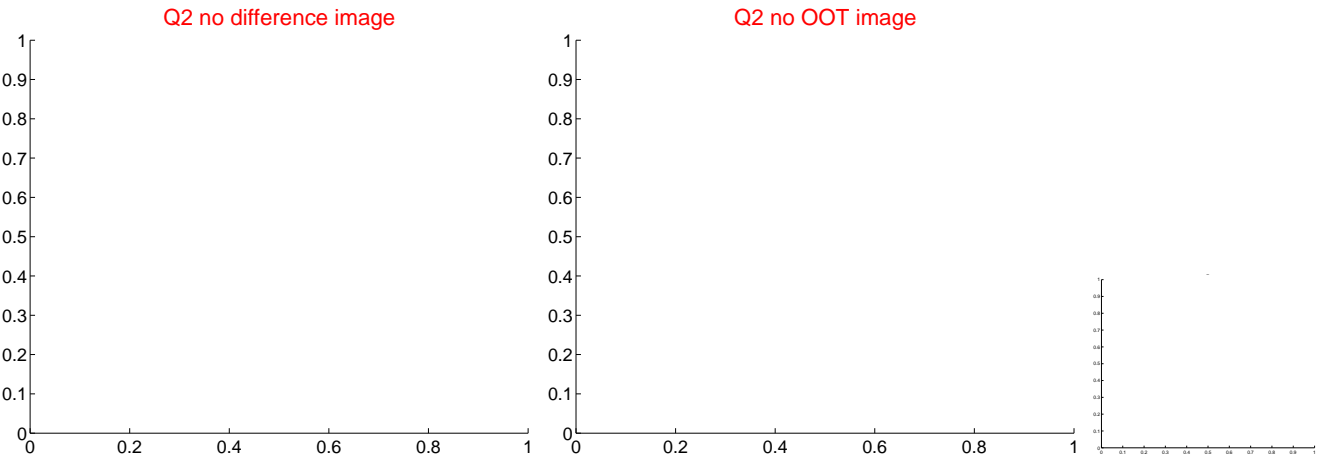
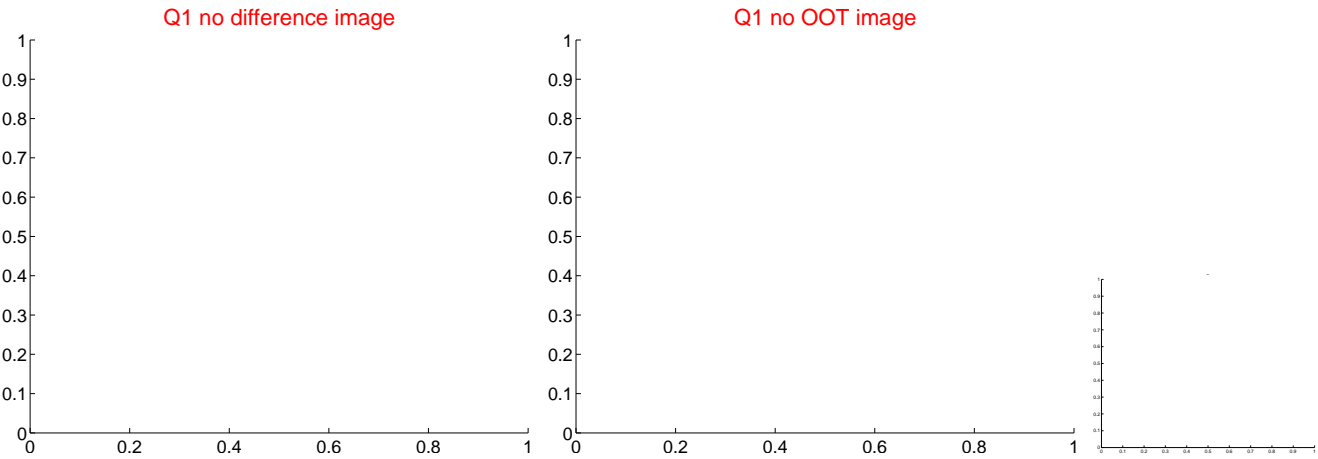


There is no PRF-fit offset from KIC



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.

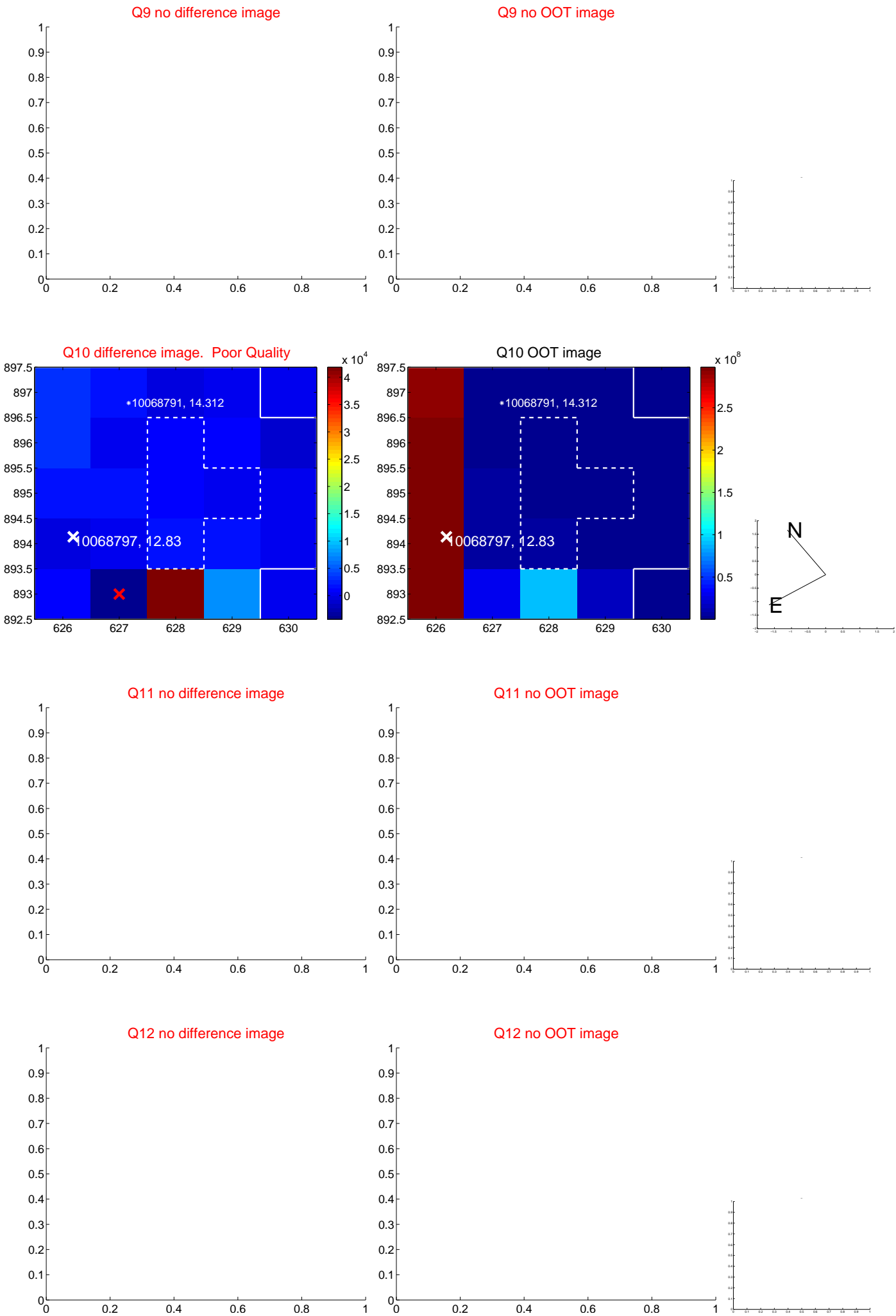
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



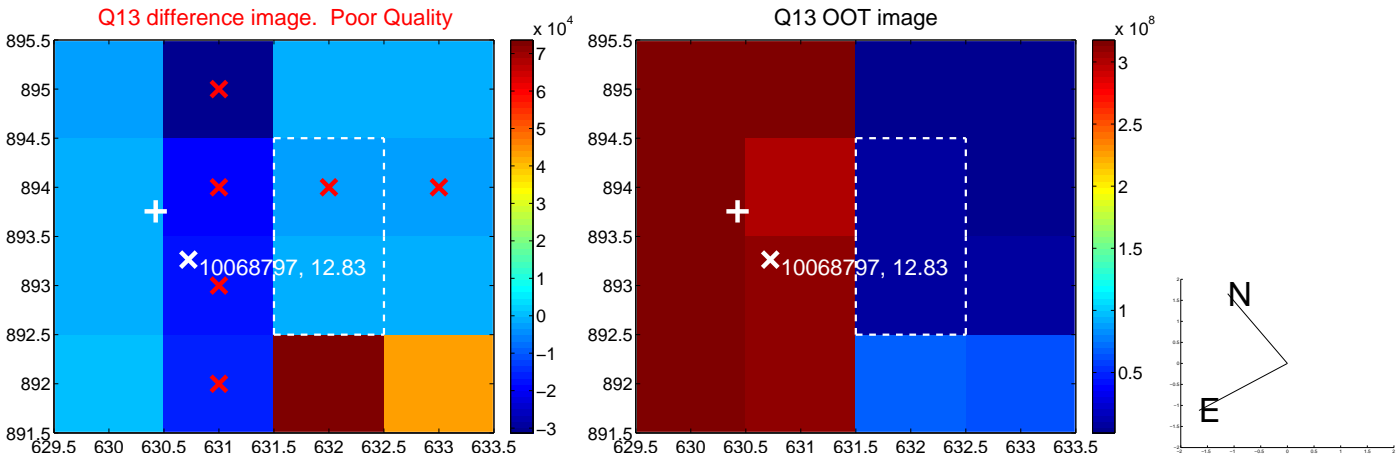
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



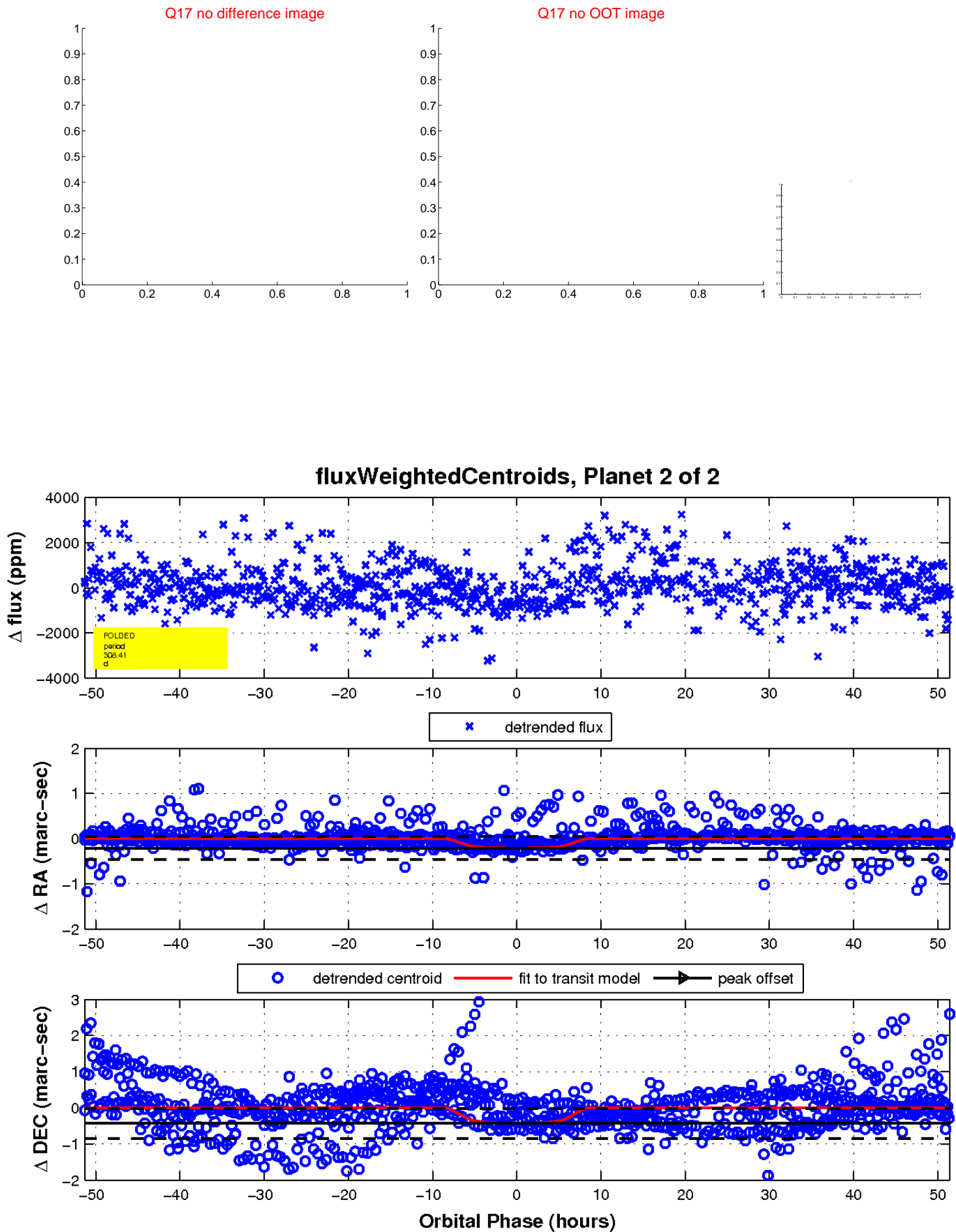
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

