

KIC 007304385

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})
007304385-01	OBS	No	453.911102	434.397654	165.9	3.500	22.7	-1.0	3.70	7249	4.84	15.72
007304385-02	OBS	No	493.189390	151.240702	3216.5	17.846	15.8	1.6	3.70	7249	24.79	14.07
007304385-03	OBS	No	399.980675	517.084373	845.5	6.595	17.6	3.8	3.70	7249	11.53	18.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007304385-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007304385-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
007304385-03	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

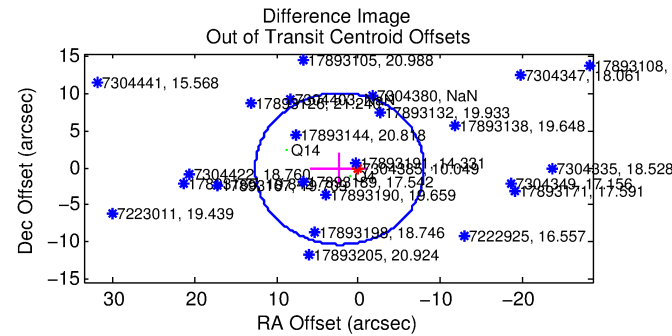
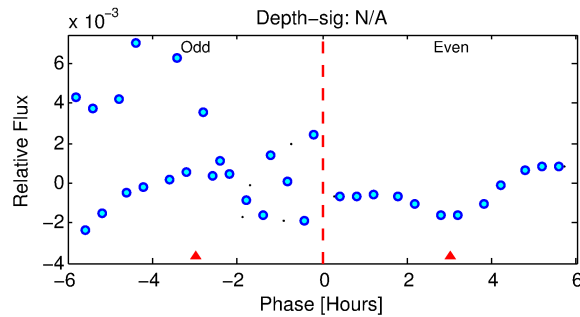
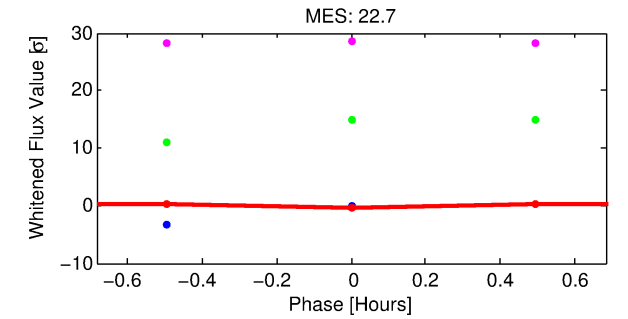
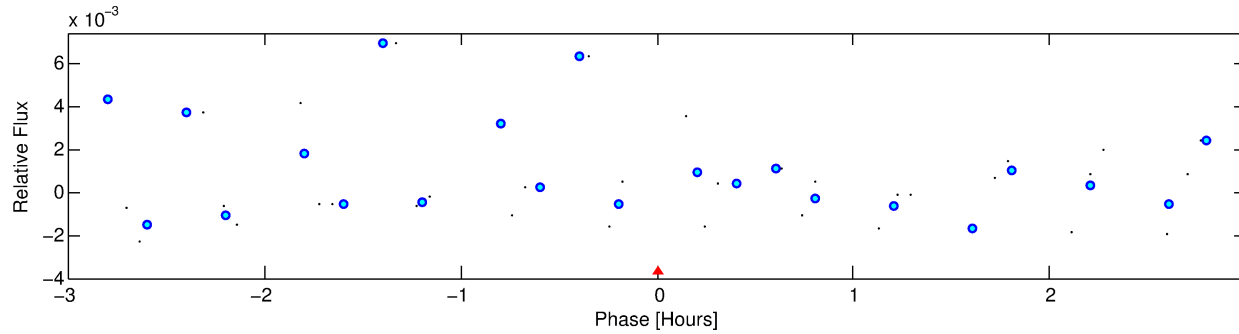
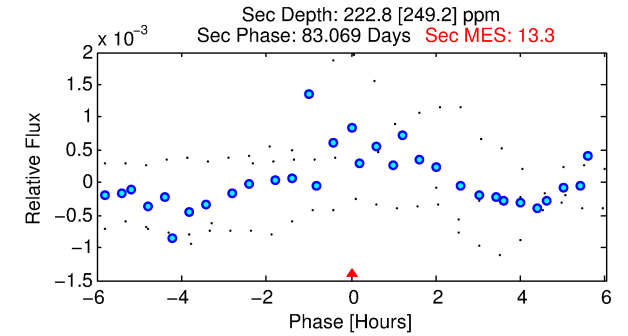
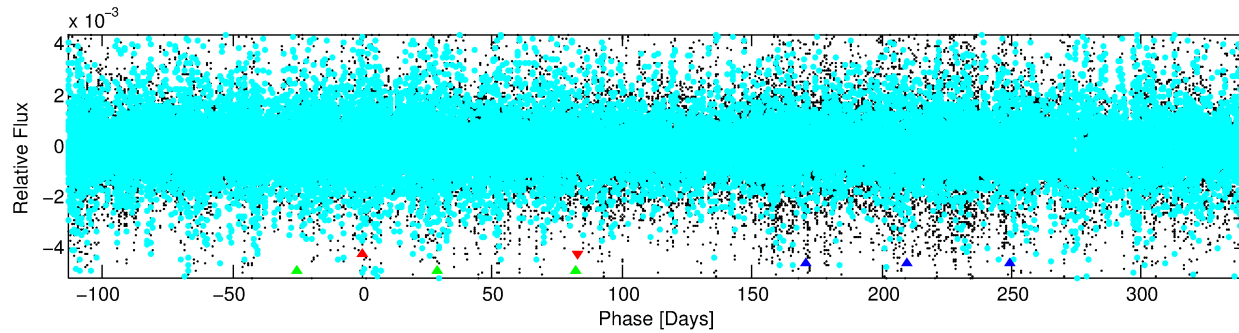
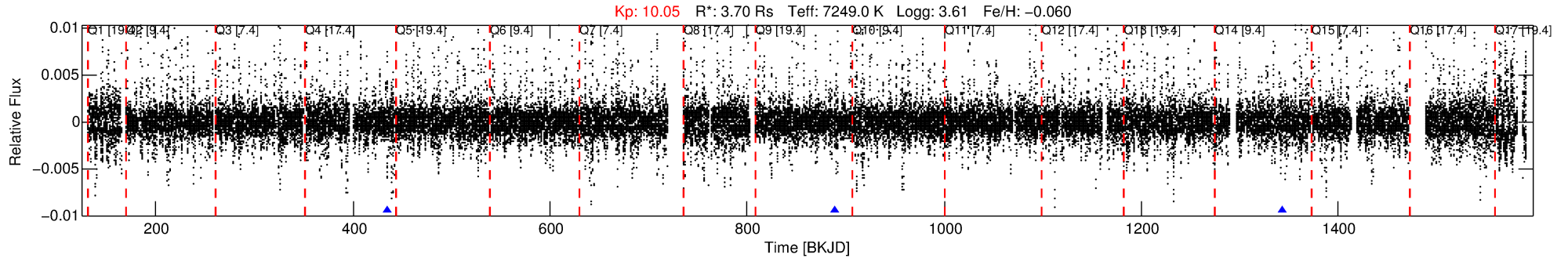
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007304385-01

No Significant Match Found

DV One-Page Summary

KIC: 7304385 Candidate: 1 of 3 Period: 453.911 d



TPS TCE Results:

Period = 453.91110 d
Epoch = 434.3977 BKJD

DV fit results are unavailable

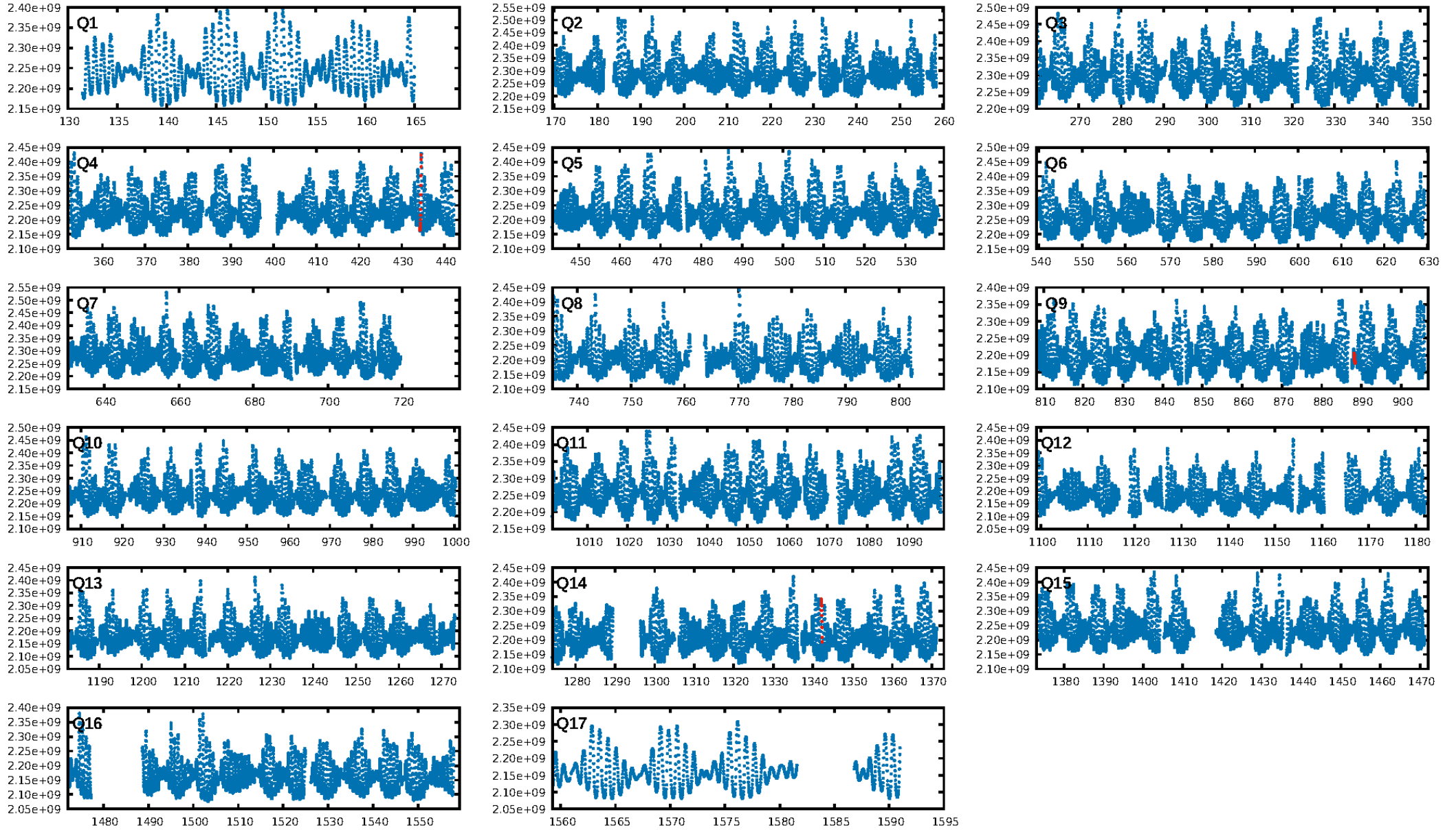
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [173.36σ]
LongPeriod-sig: 100.0% [51.84σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.46e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.316 arcsec [0.67σ]
KicOffset-rm: 2.746 arcsec [0.78σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

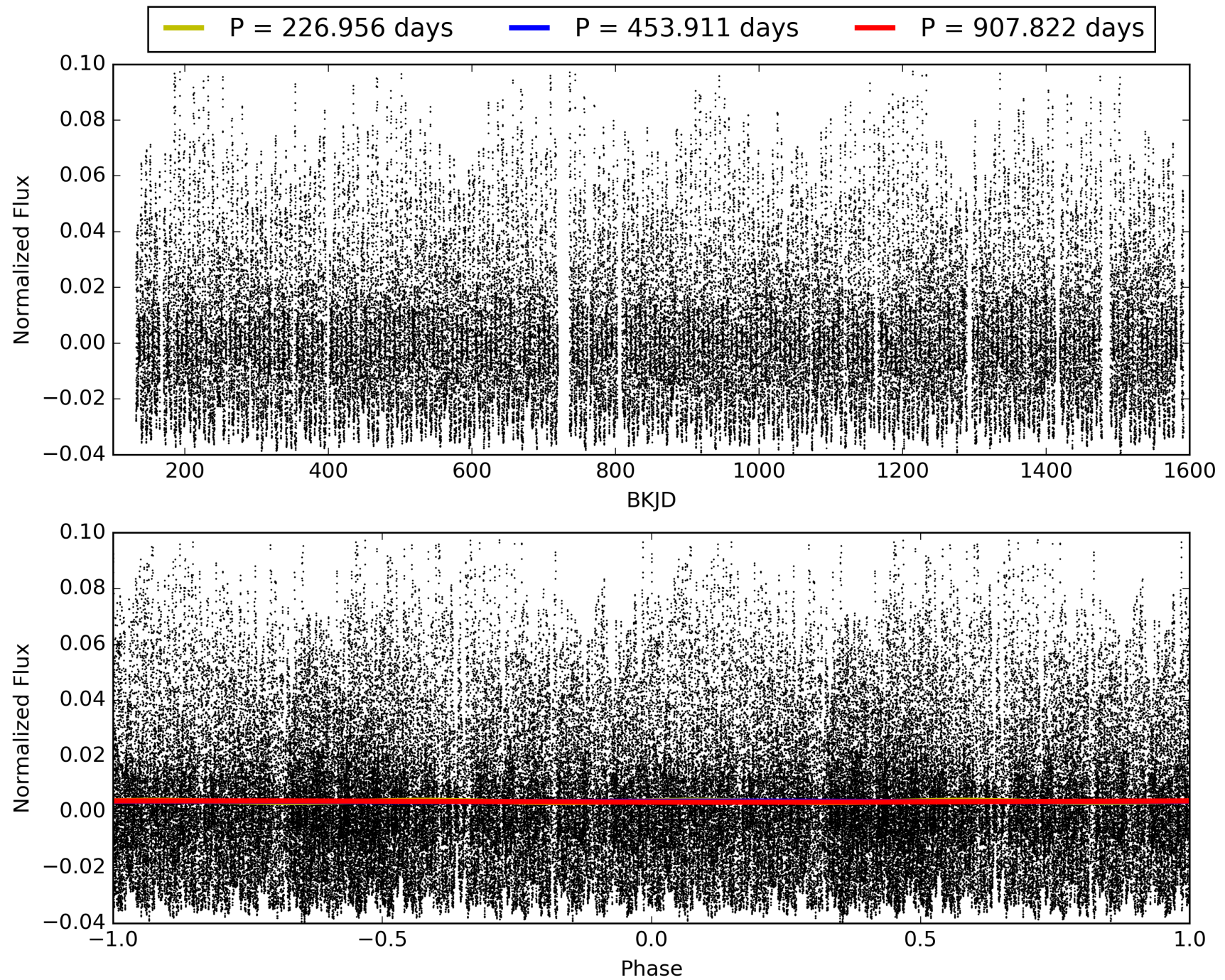
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:23:26 Z

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

TCE 007304385-01, PDC Light Curves

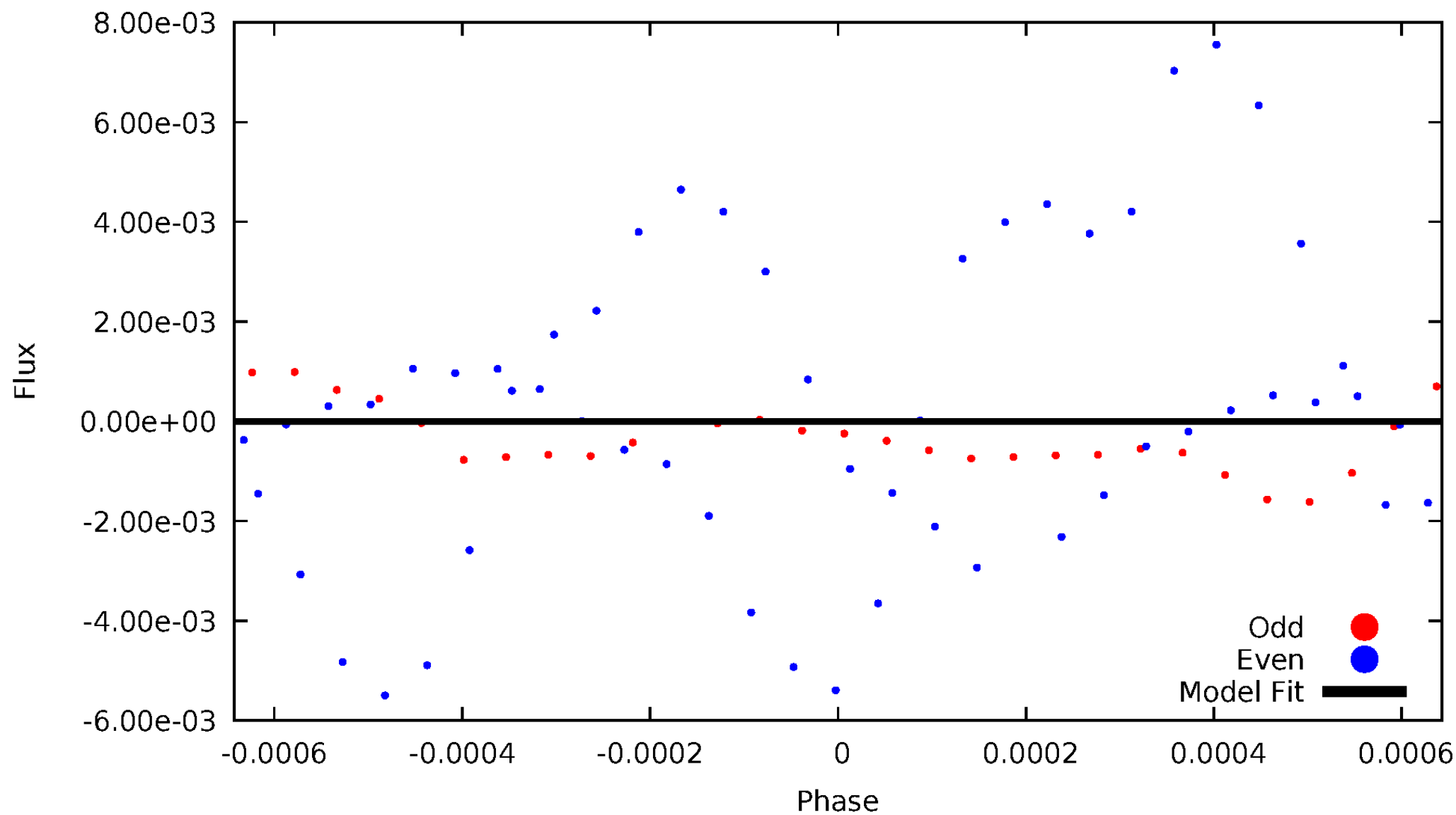


TCE 007304385-01



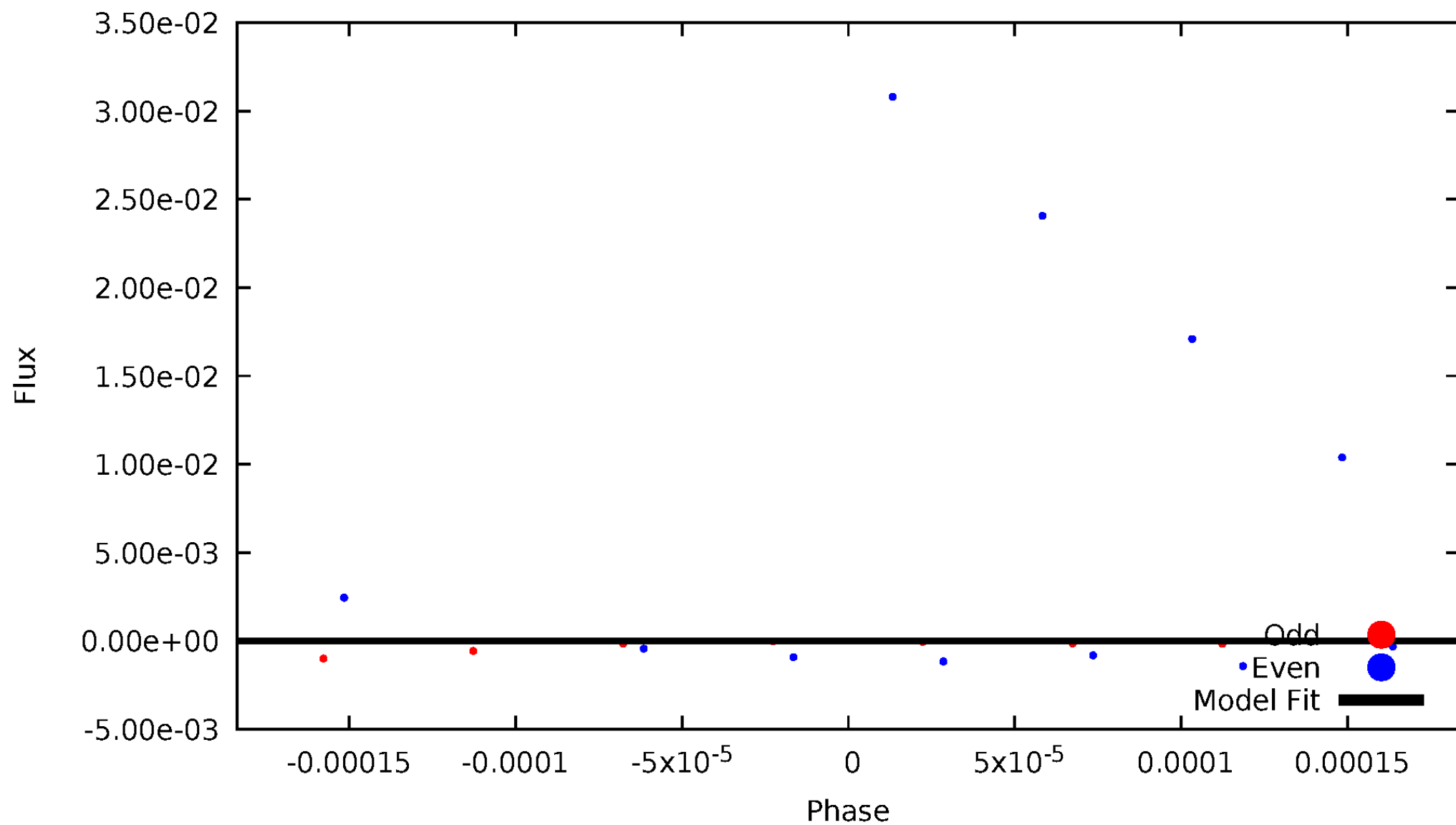
DV Odd/Even

TCE 007304385-01



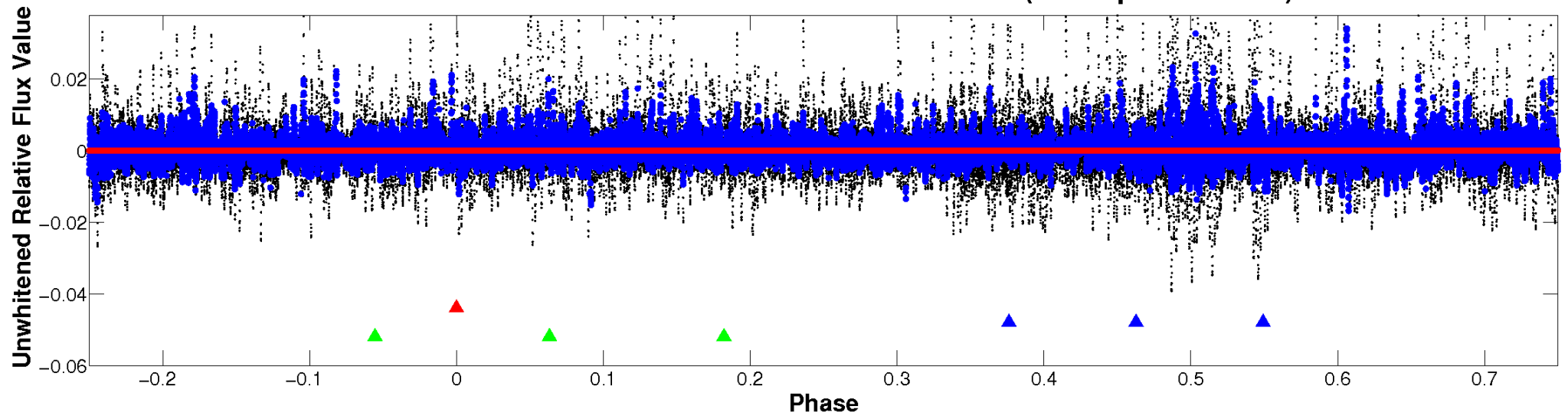
ALT Odd/Even

TCE 007304385-01

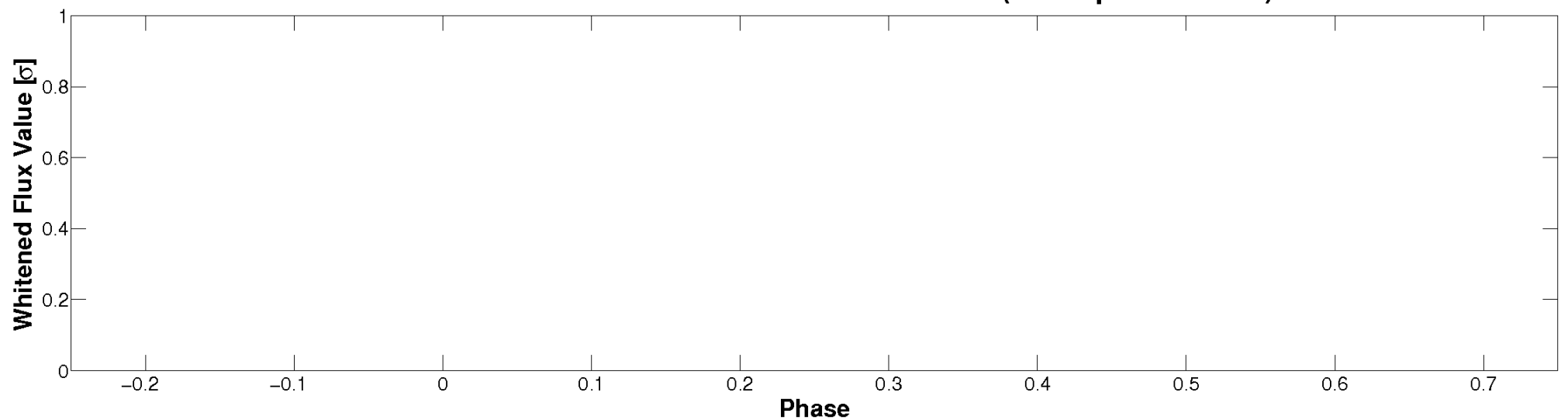


Non-Whitened Vs. Whitened Light Curve

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

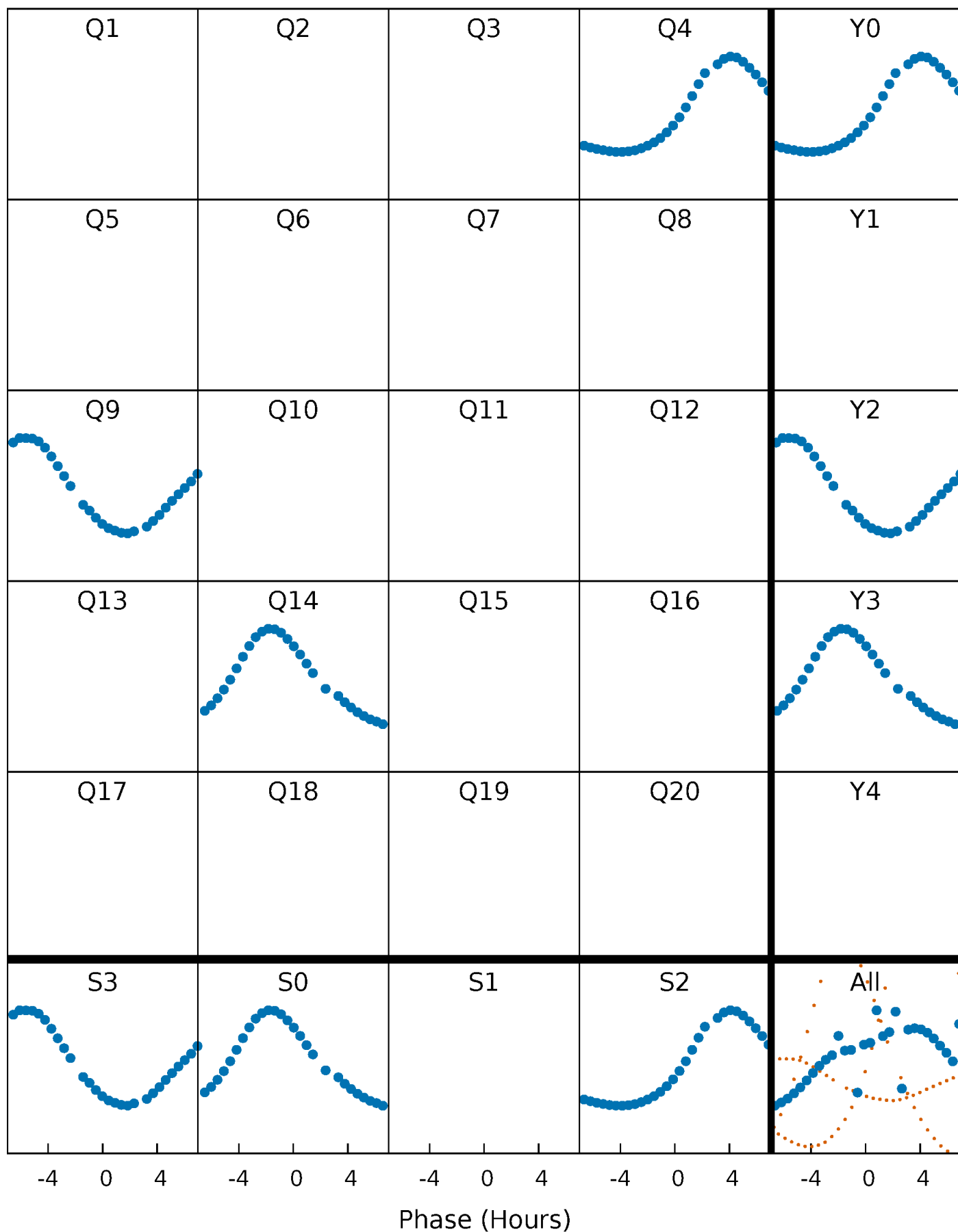


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



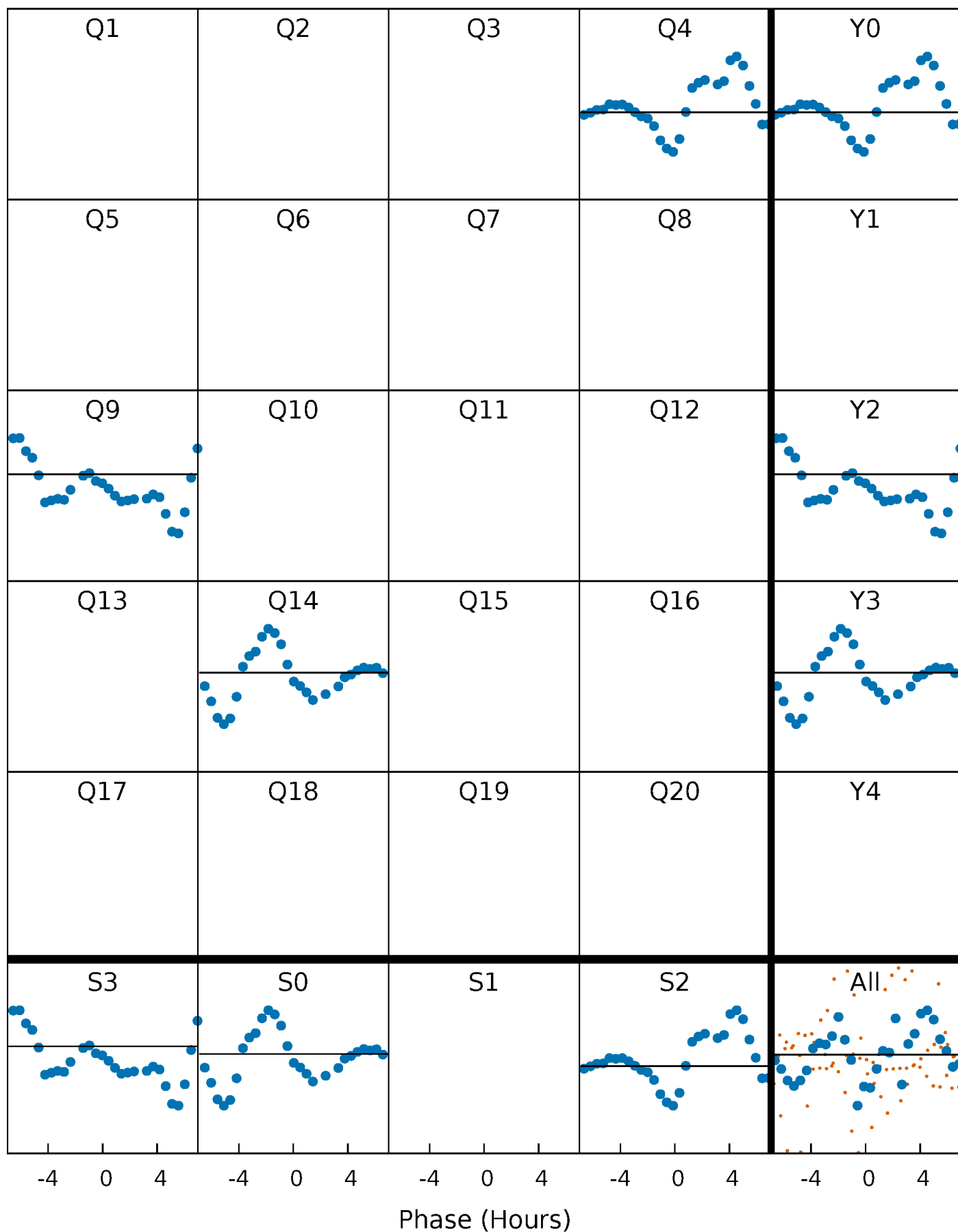
PDC Quarter-Phased Transit Curves

TCE 007304385-01 P=453.911102 Days $T_0=434.397654$ (BKJD)



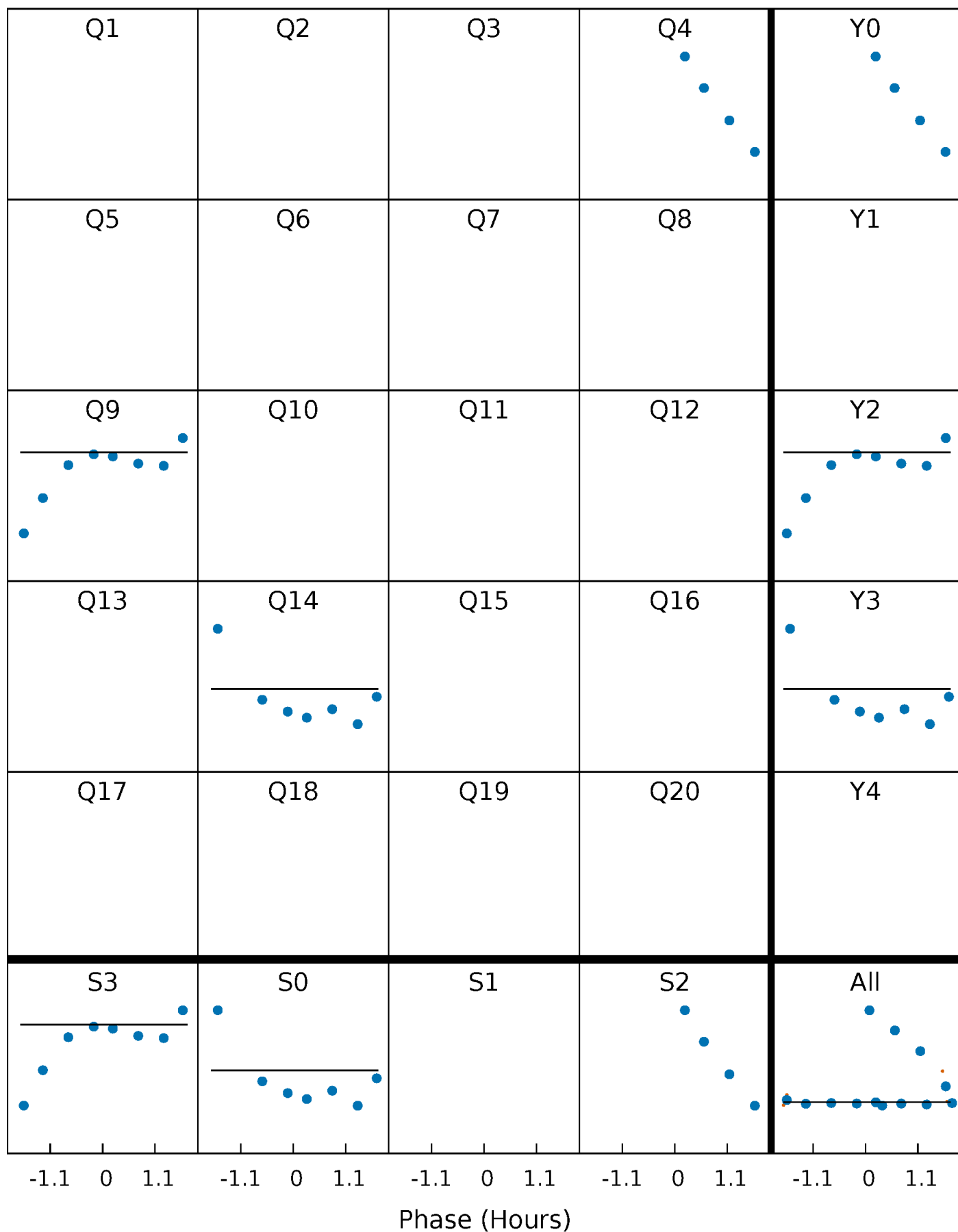
DV Quarter-Phased Transit Curves

TCE 007304385-01 P=453.911102 Days $T_0=434.397654$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

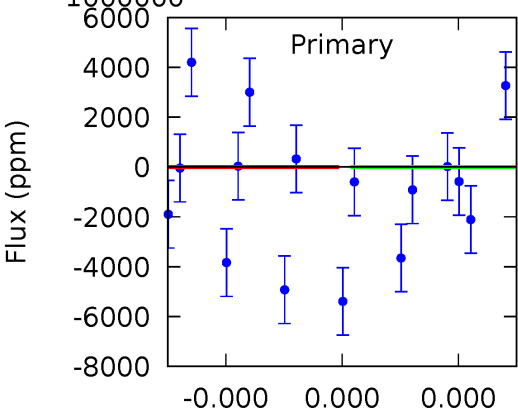
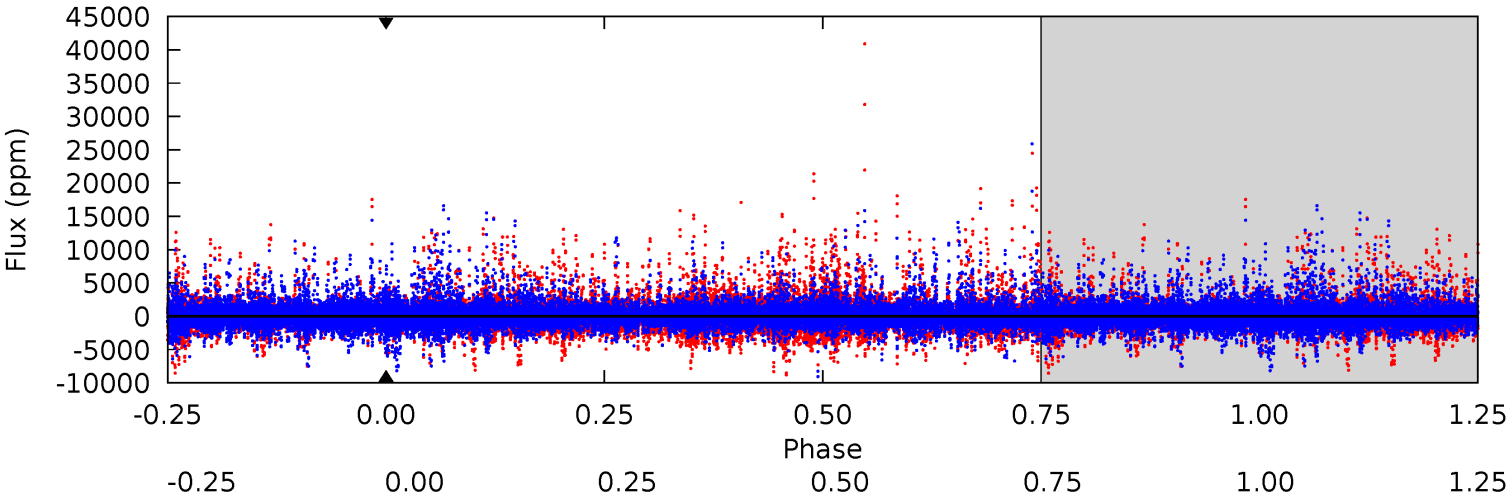
TCE 007304385-01 P=453.911102 Days $T_0=434.615325$ (BKJD)



DV Model-Shift Uniqueness Test

007304385-01, P = 453.911102 Days, E = 434.397654 Days

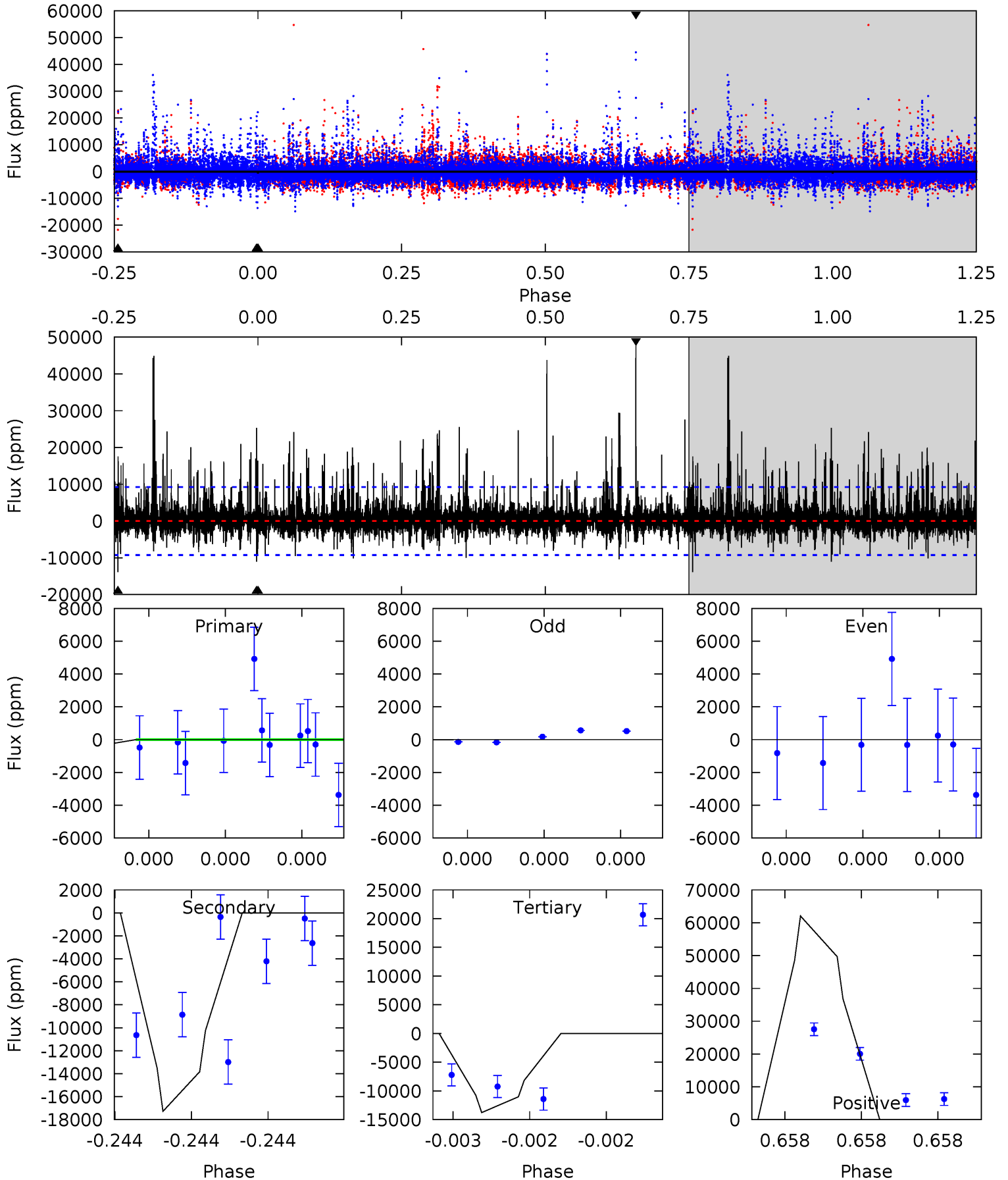
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007304385-01, P = 453.911102 Days, E = 434.615325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.33	8.81	7.03	31.7	5.88	3.94	1.67	-6.70	-31.3	1.78	-22.8	0	1.00	0.78	0



Stellar Parameters For KIC 007304385

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7249^{+201}_{-277}	$3.613^{+0.504}_{-0.056}$	$-0.060^{+0.200}_{-0.300}$	$3.704^{+0.347}_{-1.848}$	$2.054^{+0.110}_{-0.589}$	$0.057^{+0.343}_{-0.011}$
	+3%/-4%	+14%/-2%	+333%/-500%	+9%/-50%	+5%/-29%	+602%/-20%
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 007304385-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$25.36^{+33.30}_{-18.28}$	679^{+50}_{-87}	-4532^{+48503}_{-30510}	$-1236.179^{+404959.147}_{-289696.335}$
Alt.	-13832 ± 1569	$23.63^{+29.21}_{-16.22}$	681^{+45}_{-84}	10214^{+23101}_{-3832}	$27608^{+268962}_{-21676}$

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 $A_{obs} \gg 1.0$

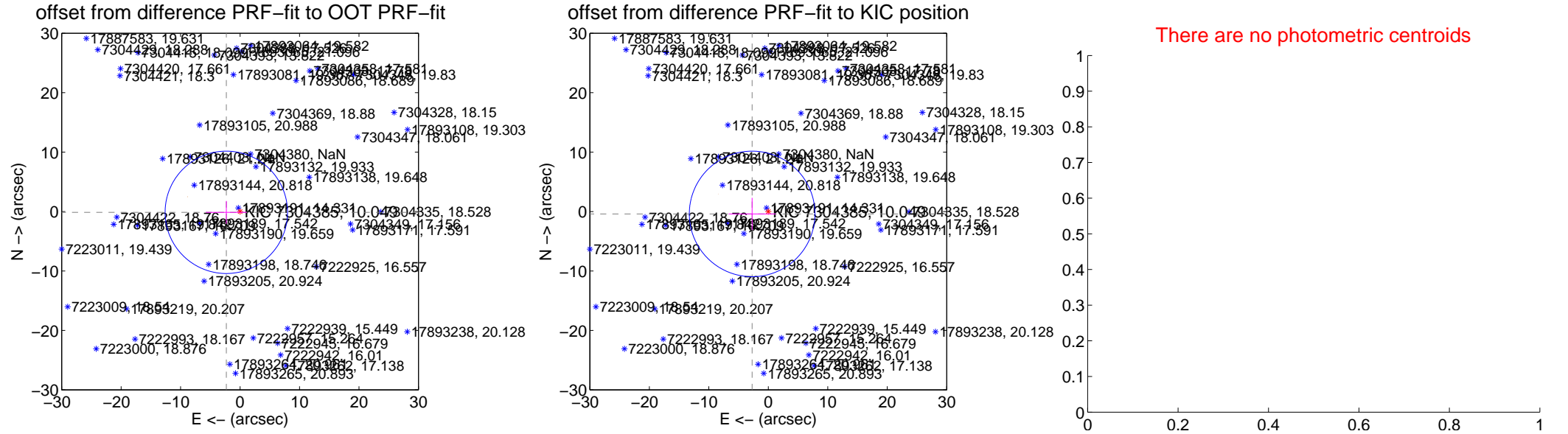
DV Centroid Data

Supplemental centroid analysis for 007304385-01. **Kepler magnitude: 10.05**. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

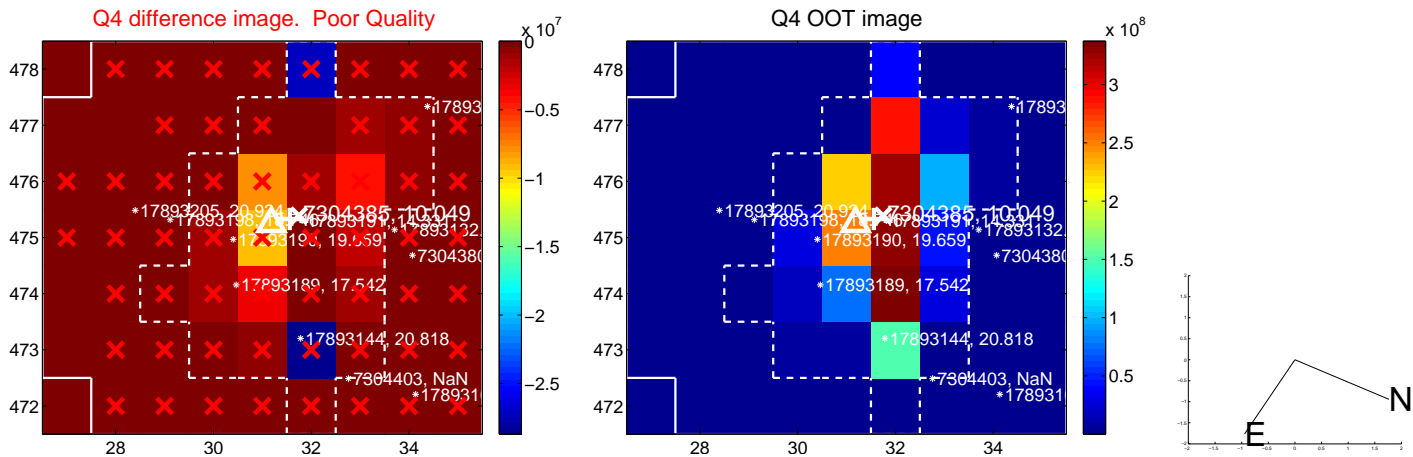
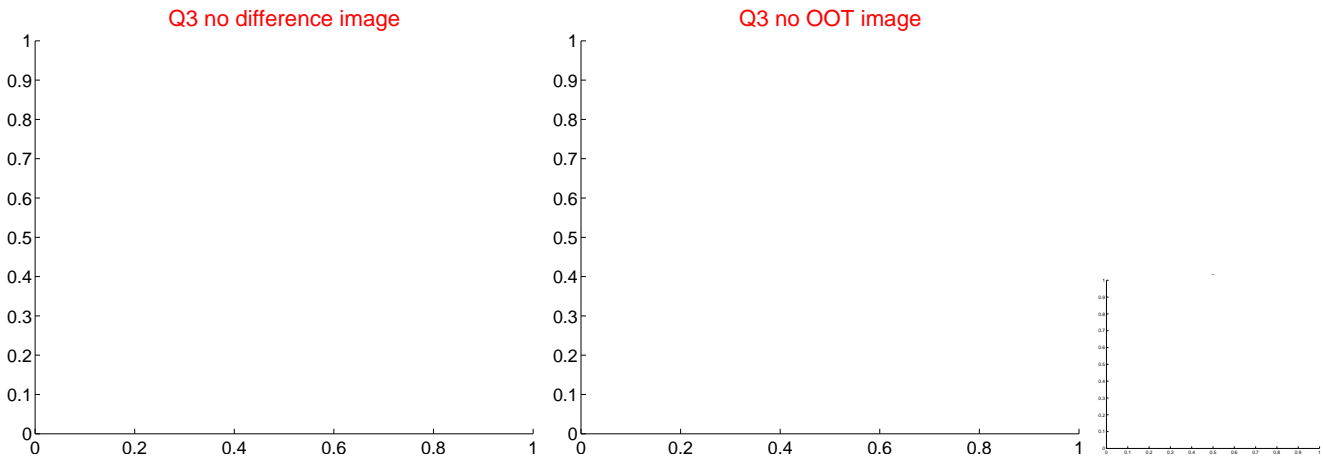
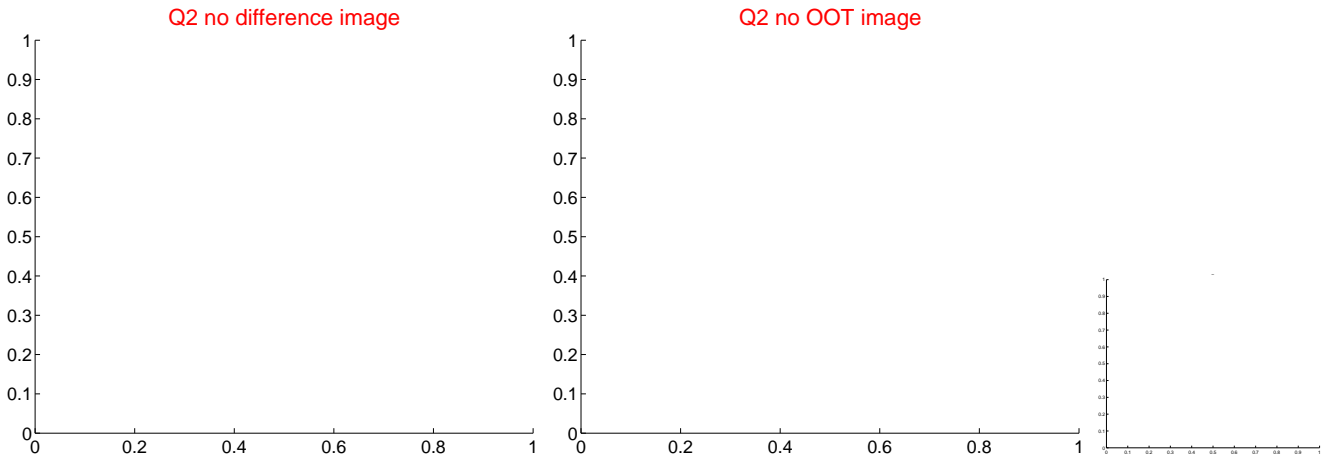
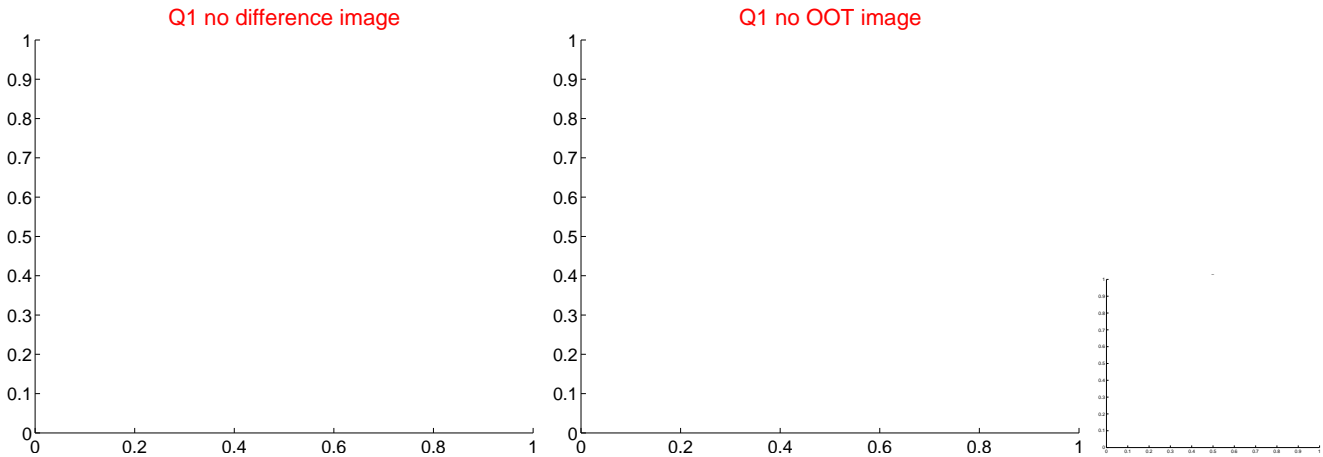
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.316 ± 3.431	0.67	2.312 ± 3.435	-0.132 ± 1.916
PRF-fit source offset from KIC position	2.746 ± 3.521	0.78	2.717 ± 3.955	-0.399 ± 2.700
photometric centroid source offset	—	—	—	—



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



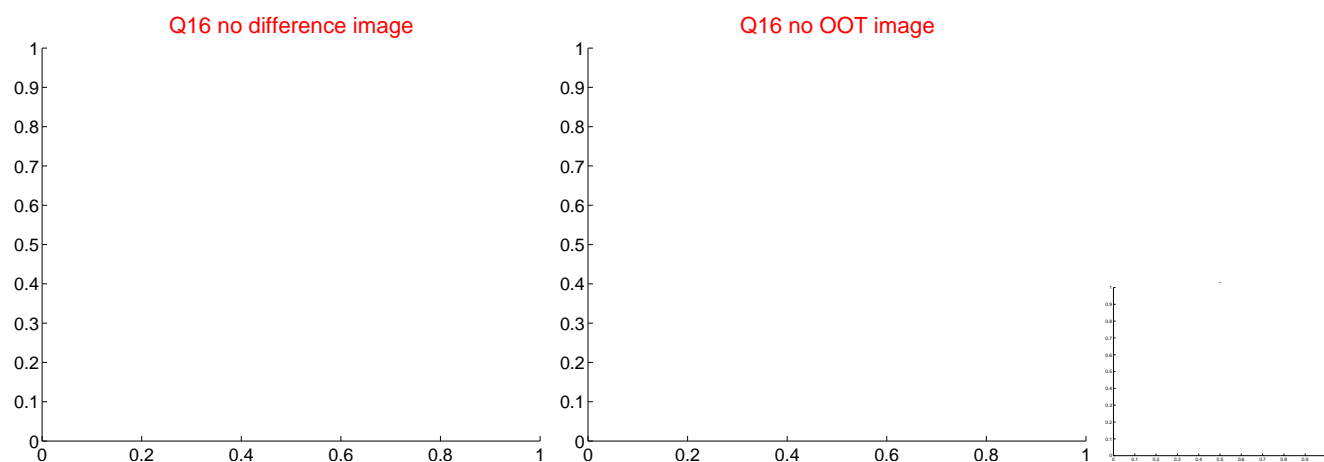
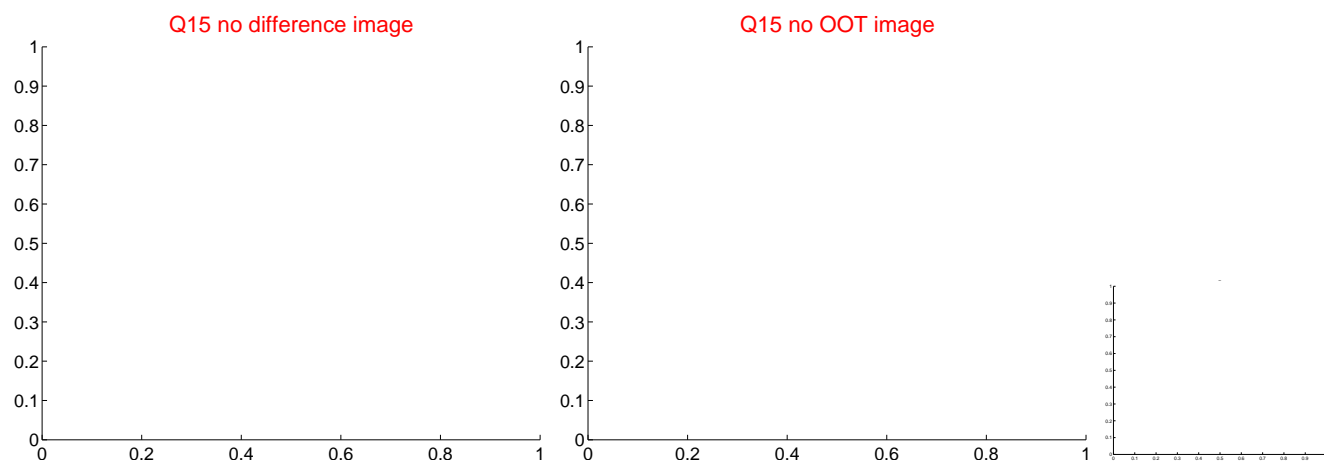
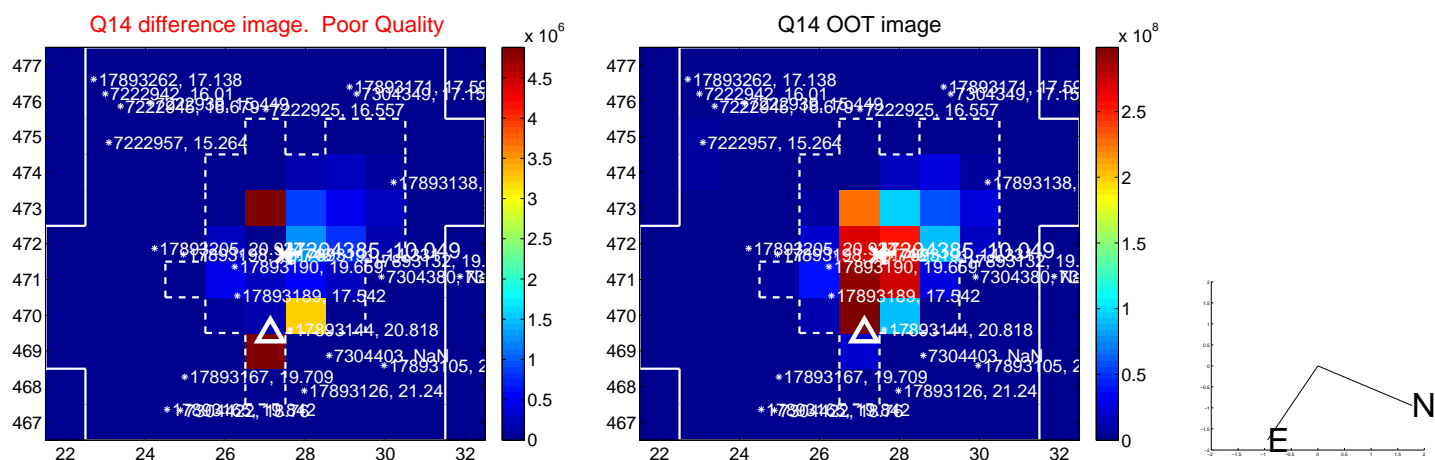
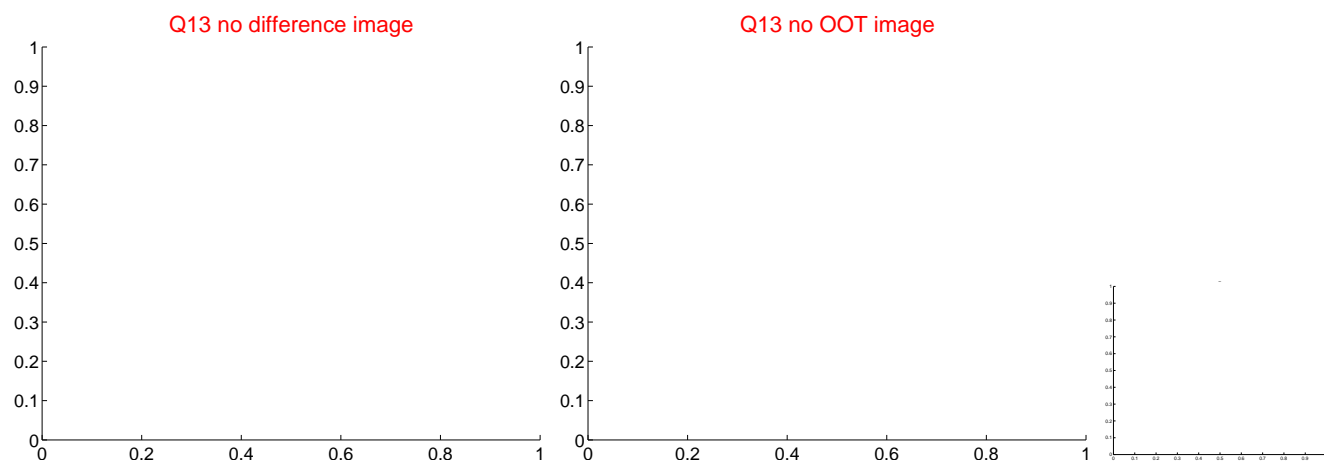
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



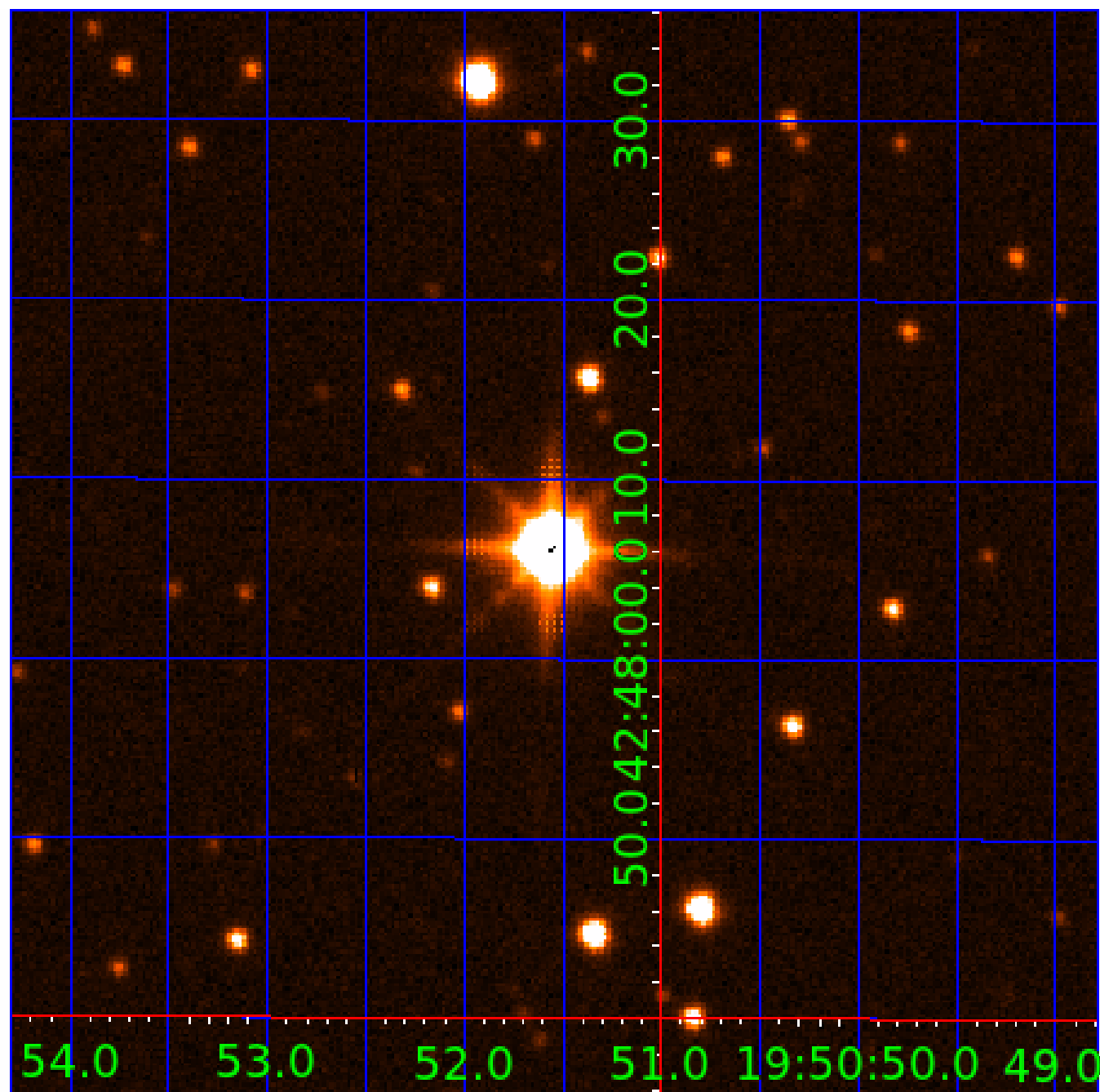
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007304385

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})
007304385-01	OBS	No	453.911102	434.397654	165.9	3.500	22.7	-1.0	3.70	7249	4.84	15.72
007304385-02	OBS	No	493.189390	151.240702	3216.5	17.846	15.8	1.6	3.70	7249	24.79	14.07
007304385-03	OBS	No	399.980675	517.084373	845.5	6.595	17.6	3.8	3.70	7249	11.53	18.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007304385-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007304385-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
007304385-03	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

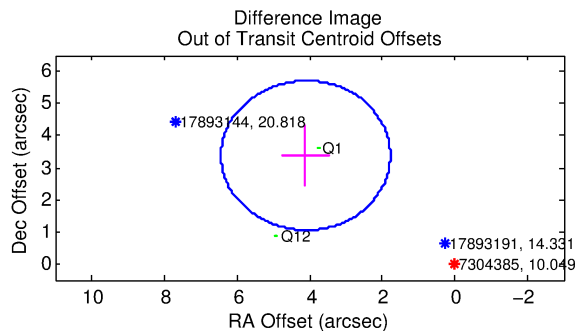
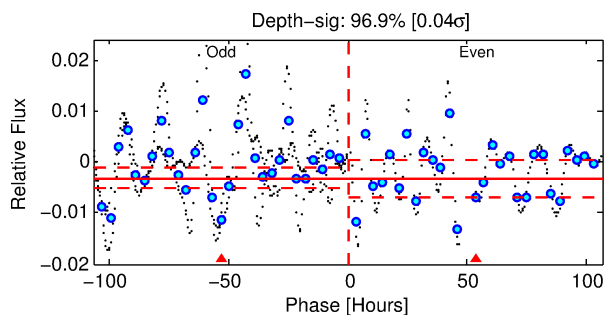
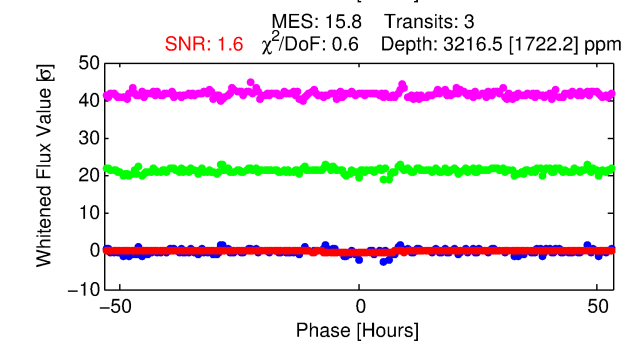
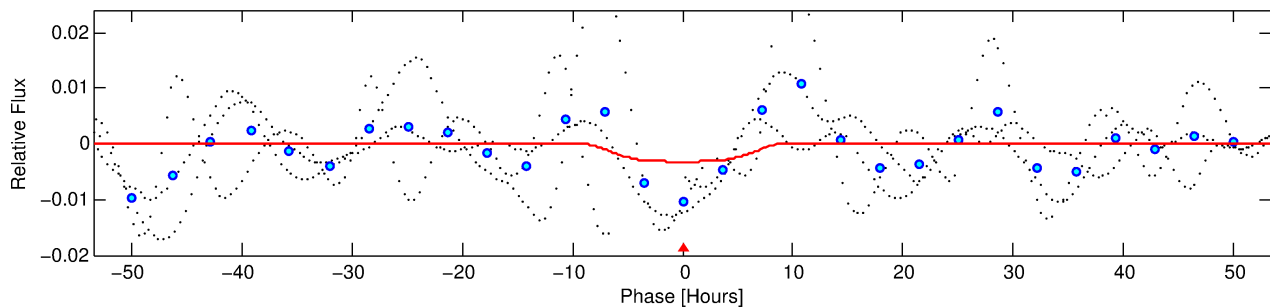
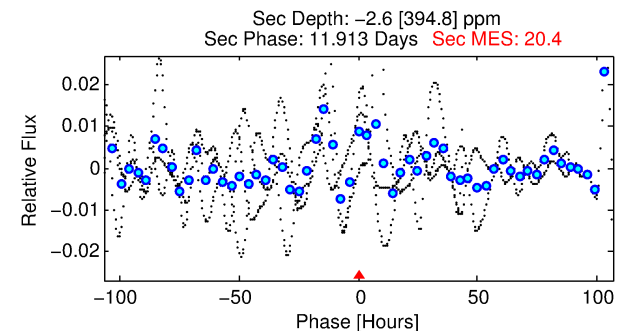
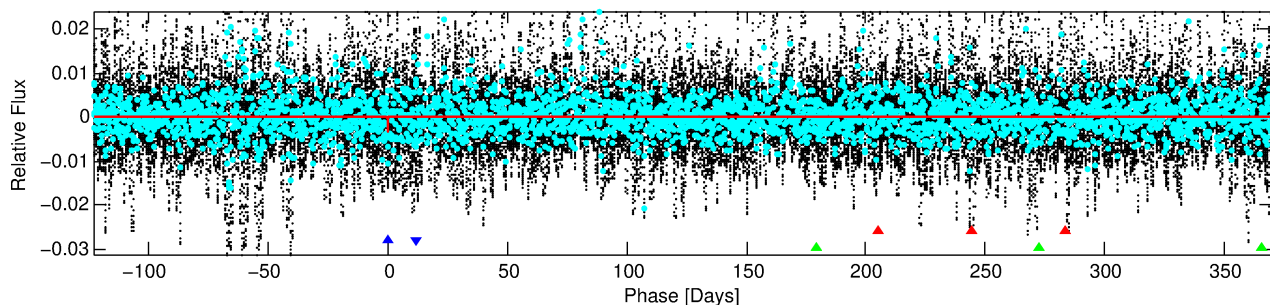
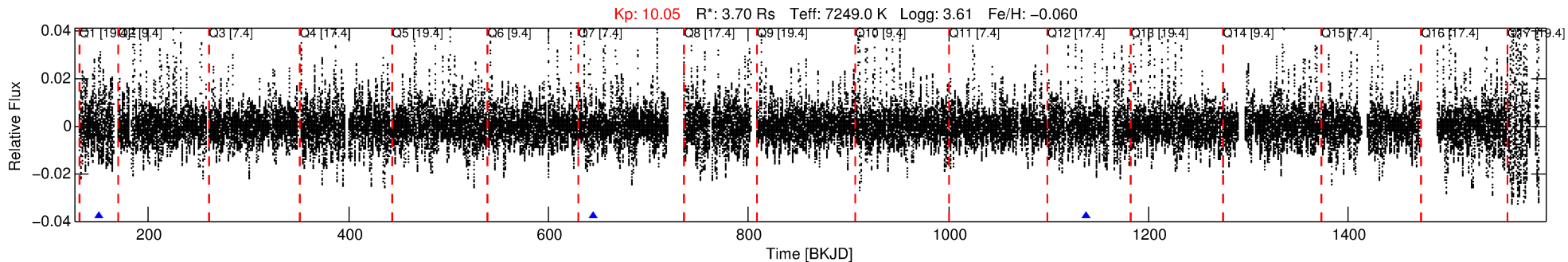
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007304385-02

No Significant Match Found

DV One-Page Summary

KIC: 7304385 Candidate: 2 of 3 Period: 493.189 d



DV Fit Results:

Period = 493.18939 [0.02365] d
Epoch = 151.2407 [0.0375] BKJD
Rp/R* = 0.0613 [0.0159]
a/R* = 112.79 [16.12]
b = 0.92 [0.03]
Seff = 14.07 [12.05]
Teq = 494 [106] K
Rp = 24.79 [13.93] Re
a = 1.5529 [0.7923] AU
Ag = N/A
Teffp = N/A

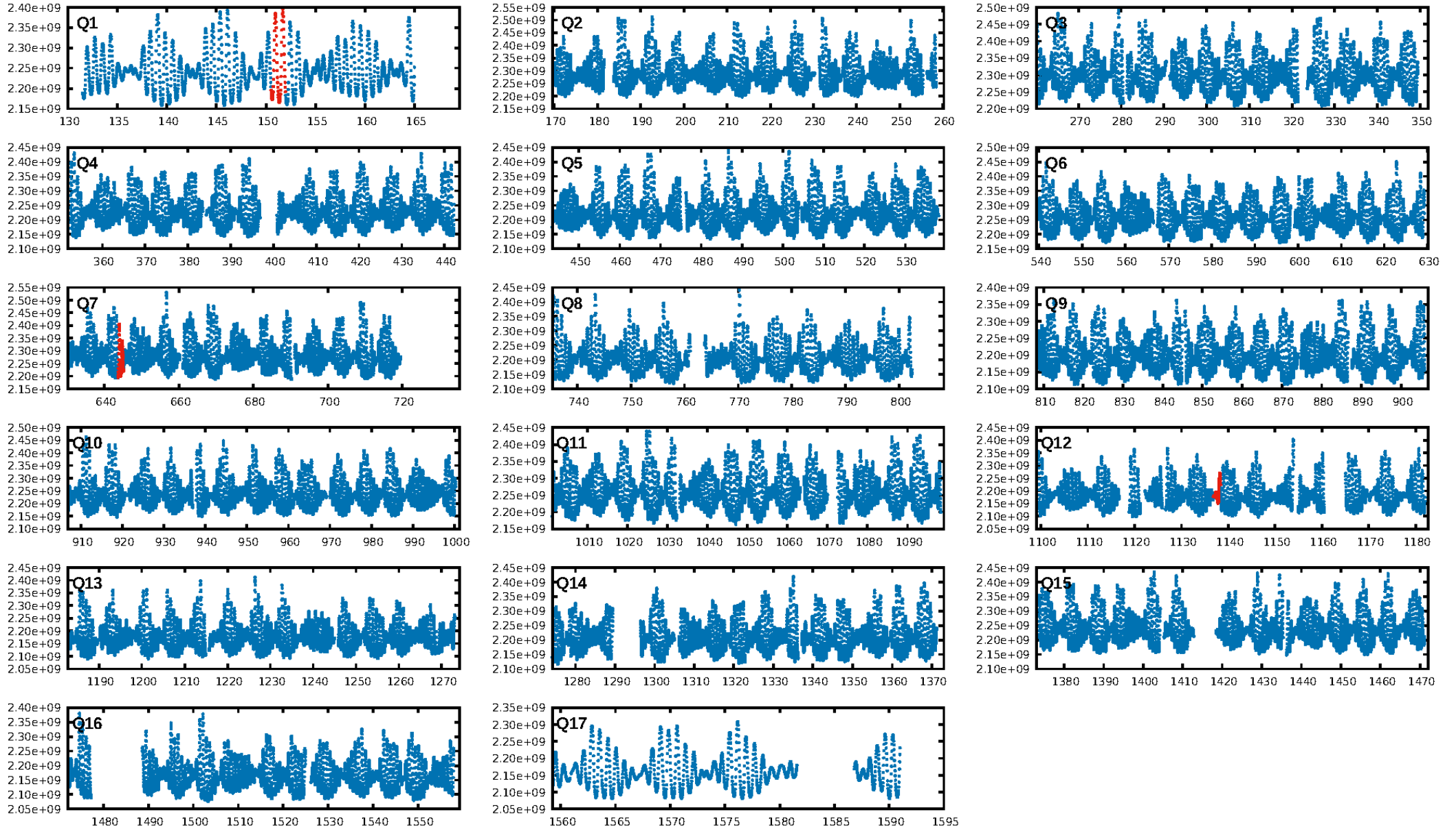
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [51.84σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.36e-05
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: N/A
Centroid-sig: 4.1%
Centroid-so: 1.045 arcsec [1.02σ]
OotOffset-rm: 5.318 arcsec [6.86σ]
KicOffset-rm: 5.530 arcsec [3.67σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

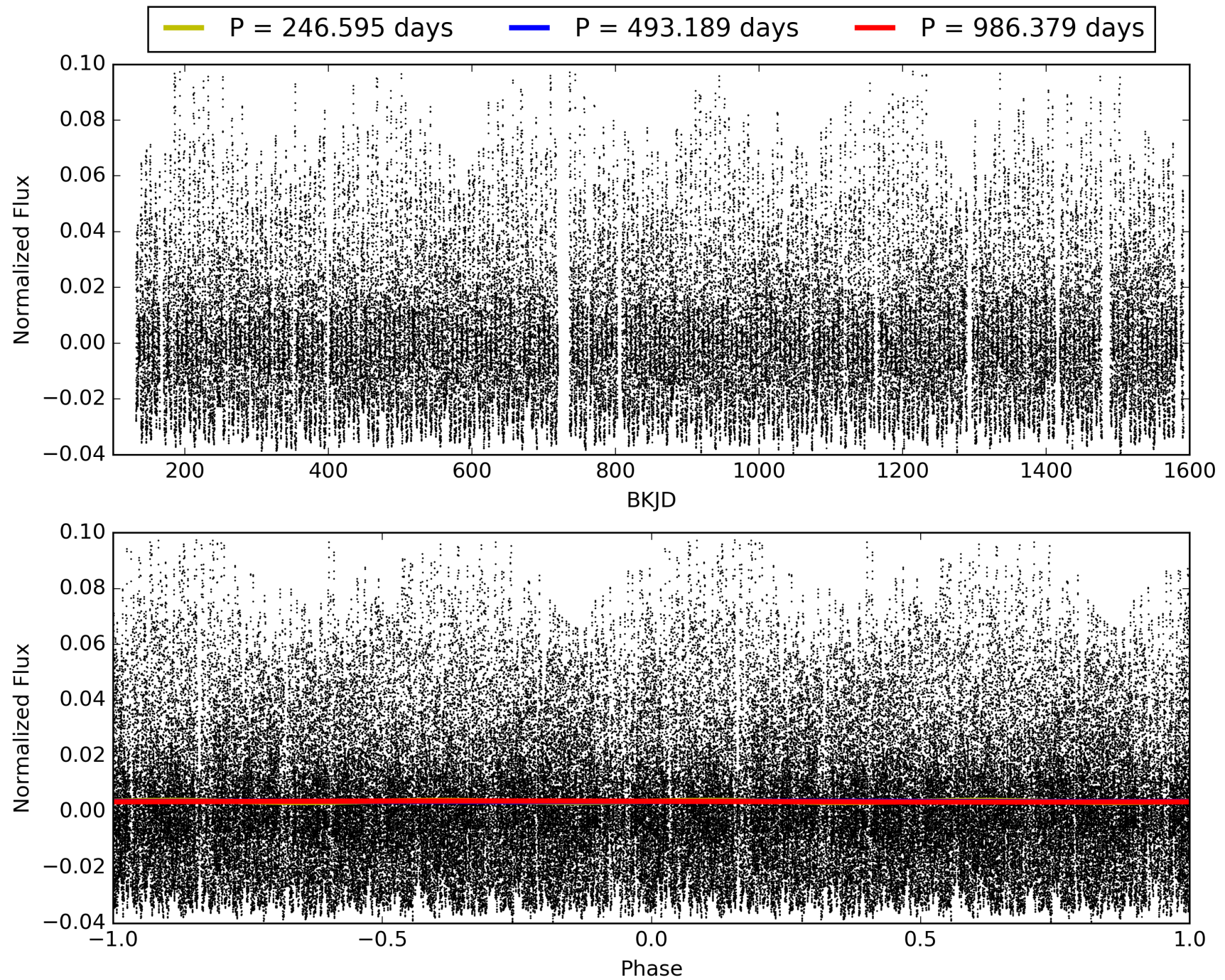
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:23:36 Z

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

TCE 007304385-02, PDC Light Curves

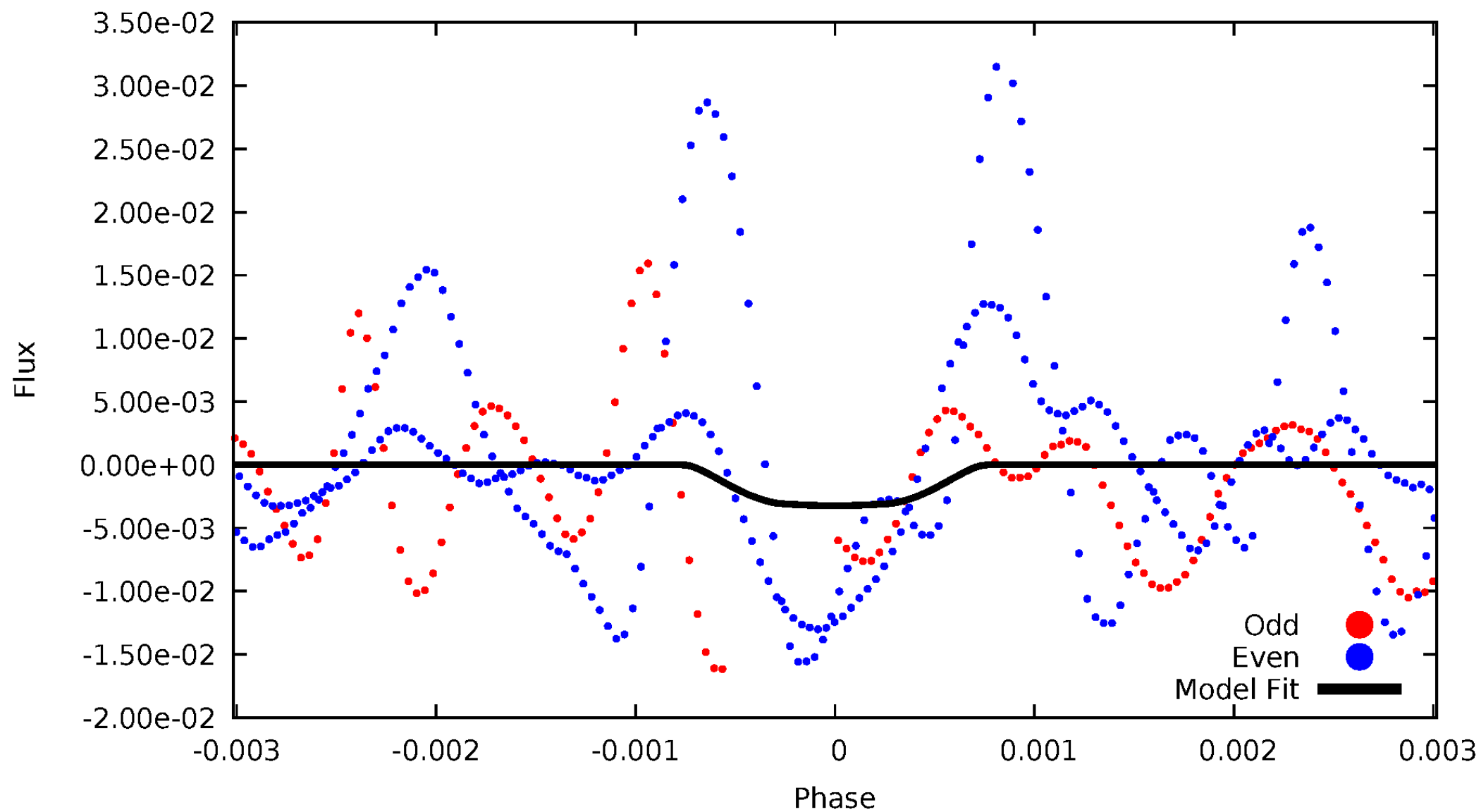


TCE 007304385-02



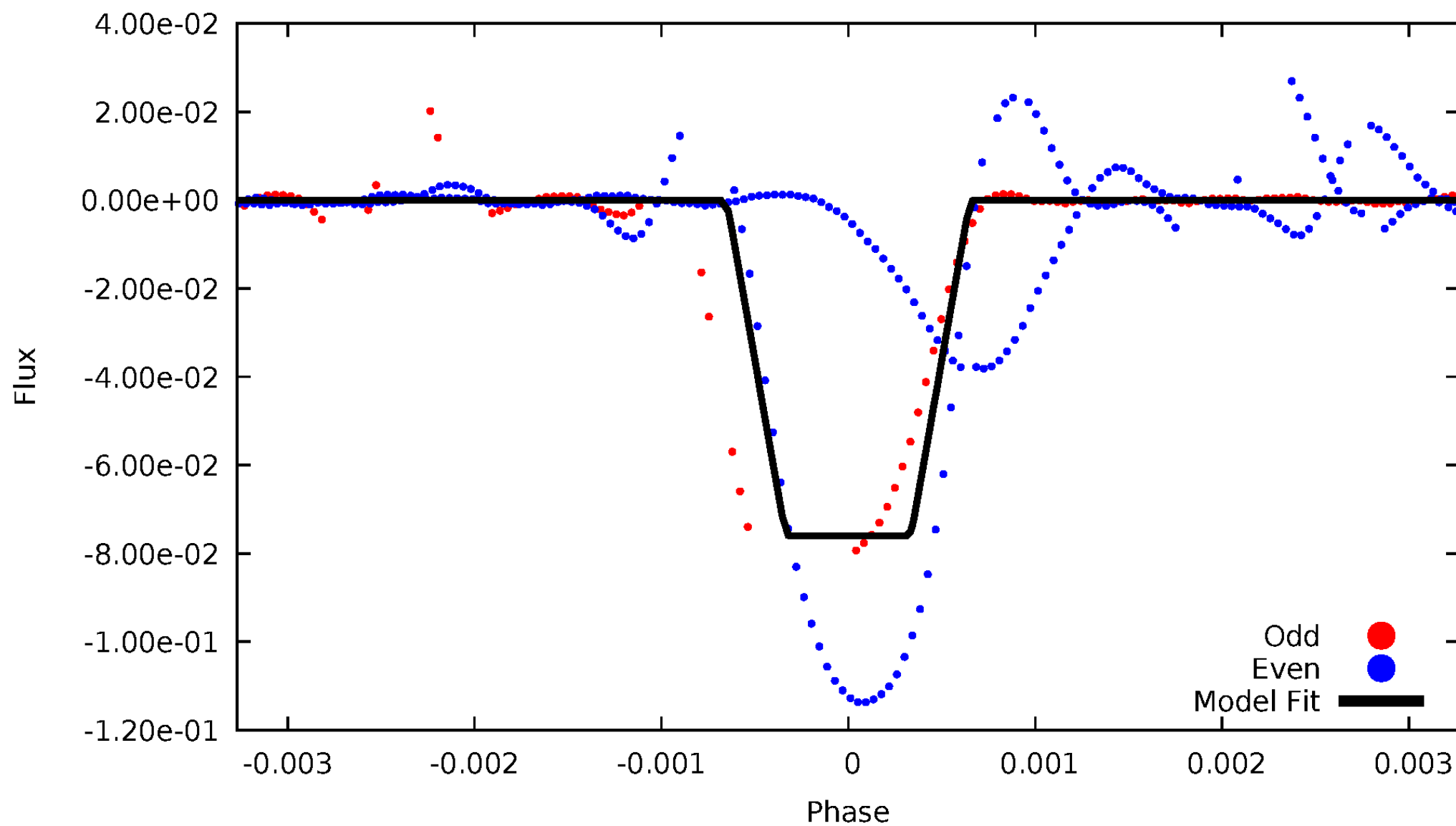
DV Odd/Even

TCE 007304385-02



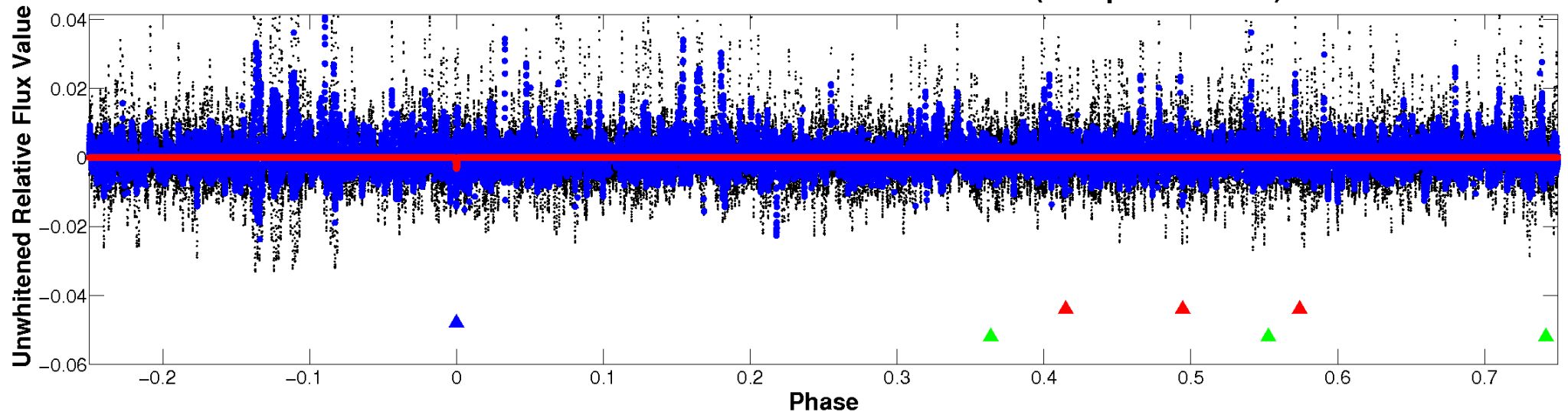
ALT Odd/Even

TCE 007304385-02

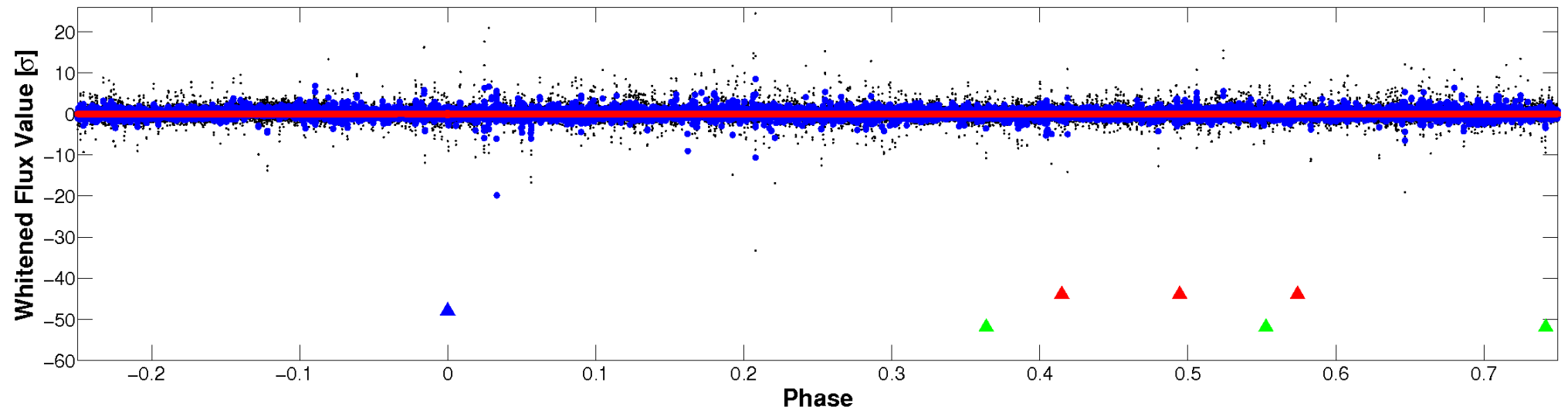


Non-Whitened Vs. Whitened Light Curve

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

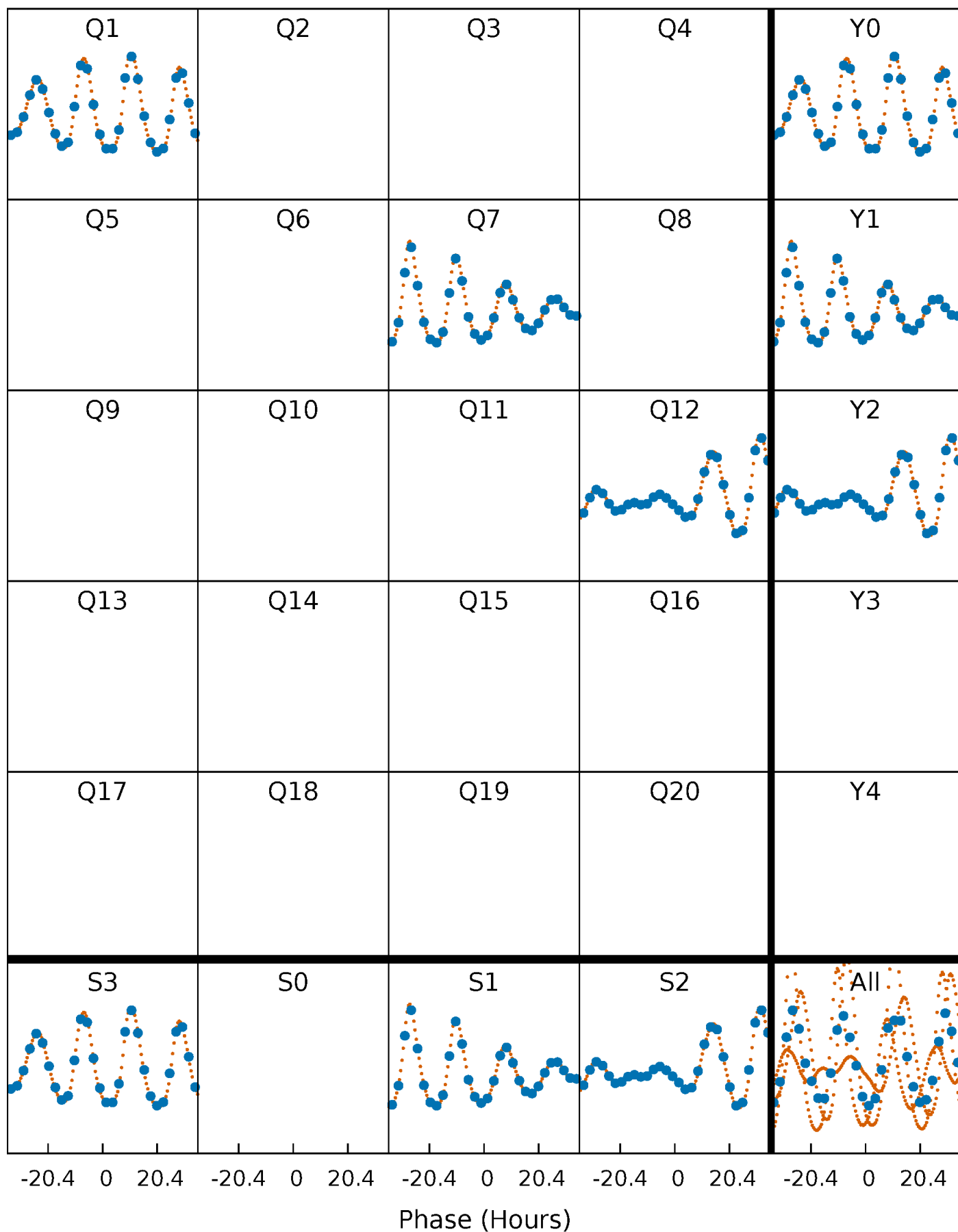


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007304385-02 P=493.189390 Days $T_0=151.240702$ (BKJD)



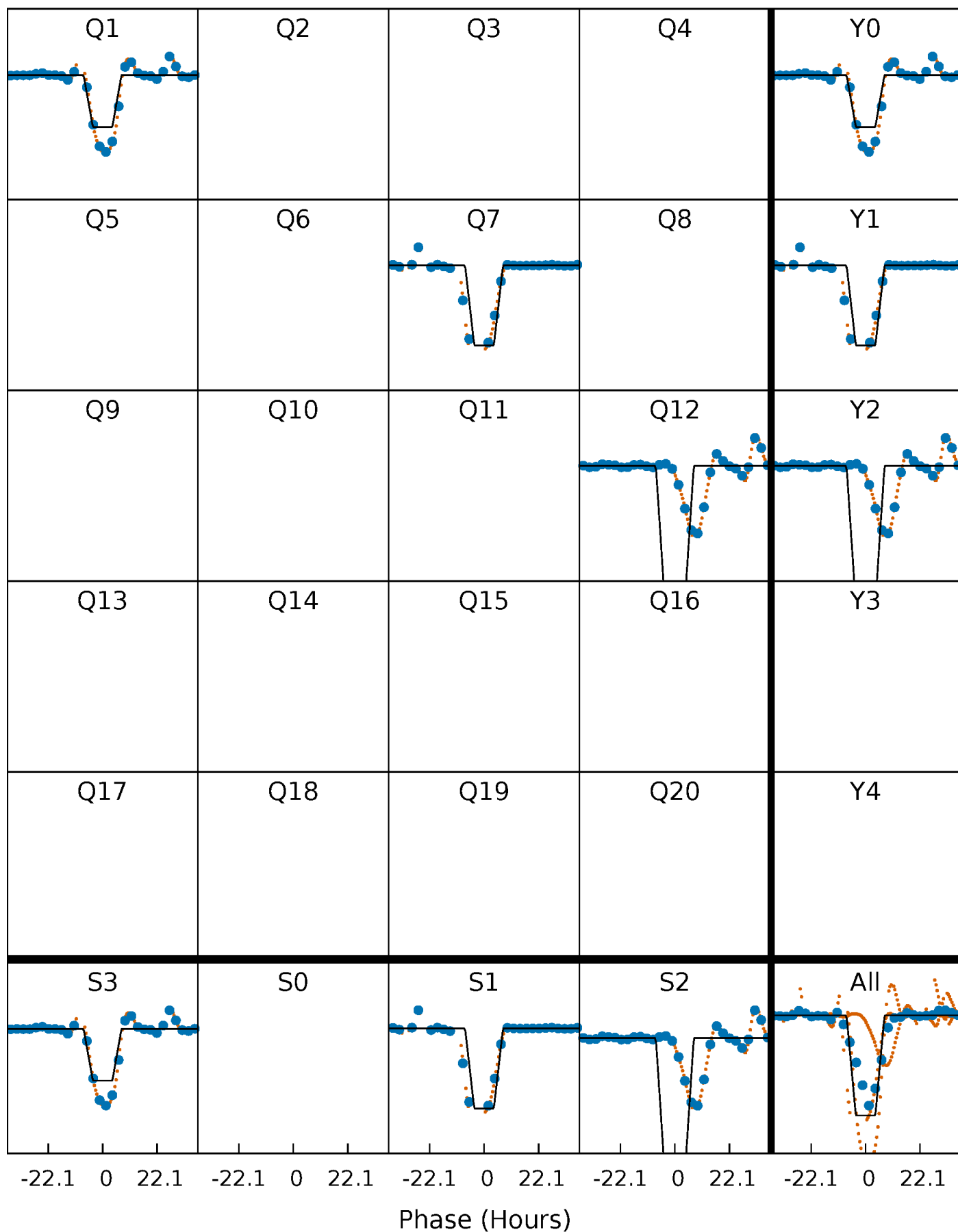
DV Quarter-Phased Transit Curves

TCE 007304385-02 $P=493.189390$ Days $T_0=151.240702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

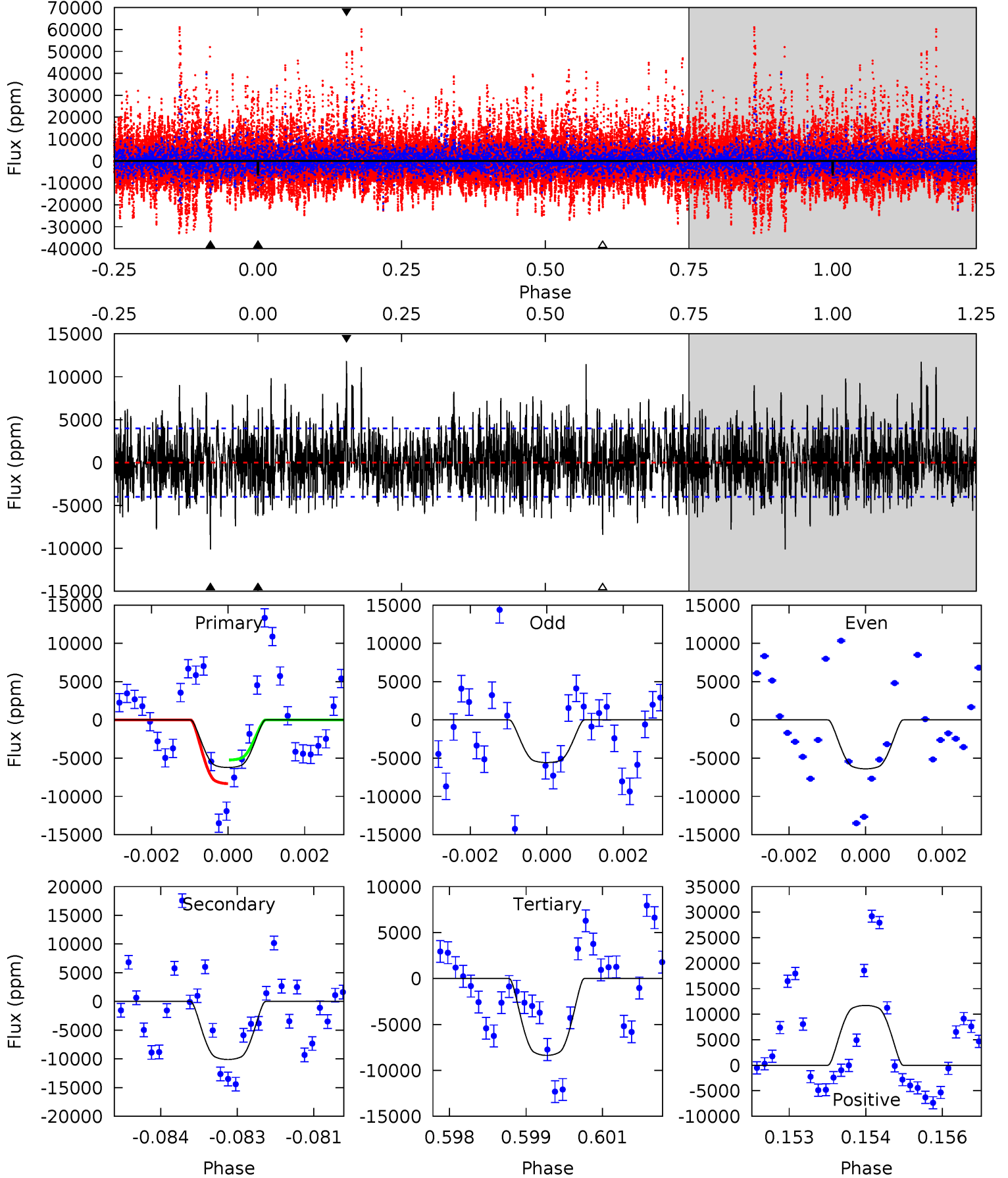
TCE 007304385-02 P=493.129915 Days $T_0=151.287262$ (BKJD)



DV Model-Shift Uniqueness Test

007304385-02, P = 493.189390 Days, E = 151.240702 Days

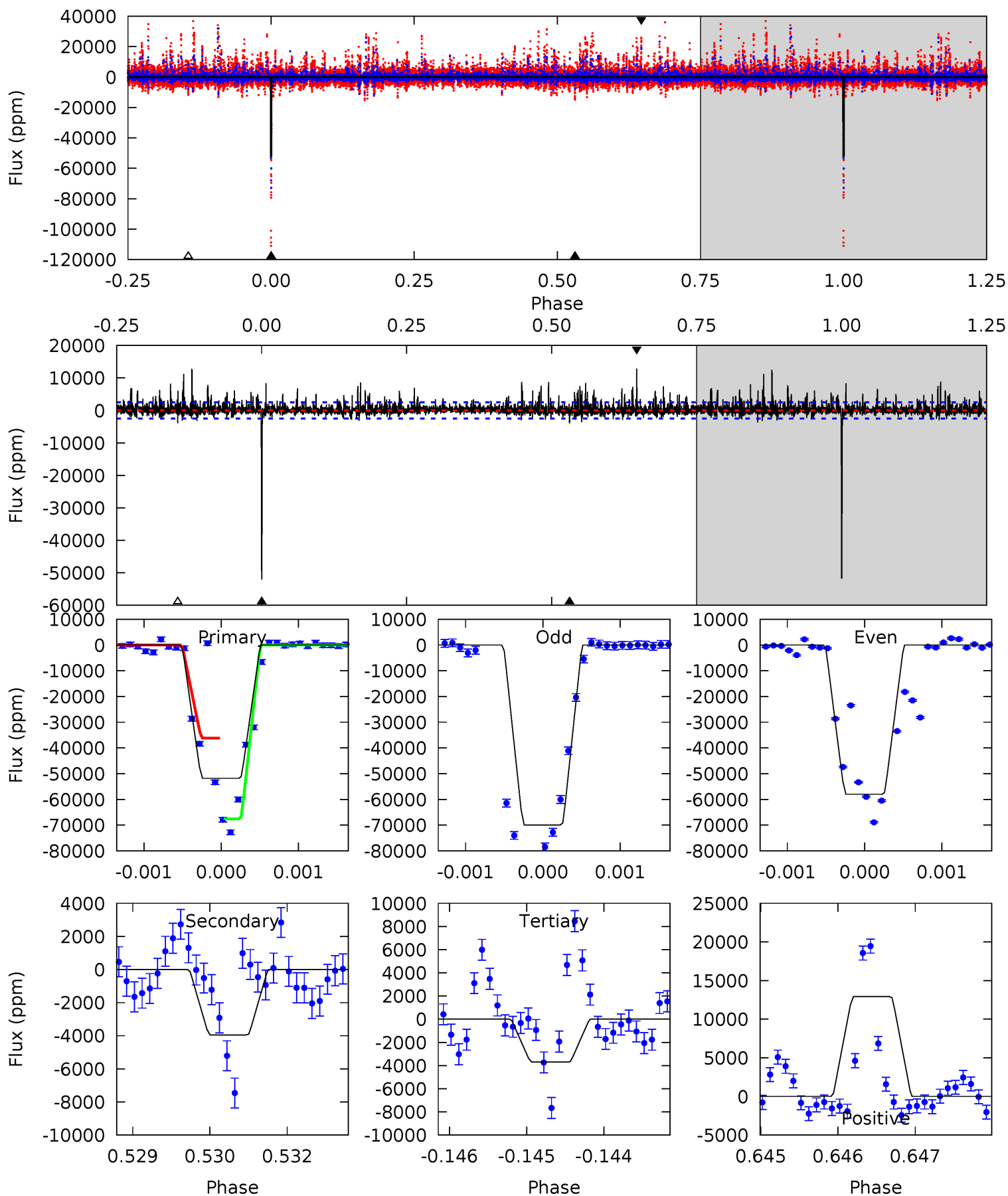
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.39	13.6	11.3	15.8	5.37	3.16	3.55	-2.89	-7.42	2.34	-2.18	0.42	1.10	0.54	2.06



Alt Model-Shift Uniqueness Test

007304385-02, P = 493.129915 Days, E = 151.287262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
112.3	8.57	8.02	28.0	5.41	3.22	2.89	104.3	84.3	0.55	-19.4	10.6	0.86	0.20	34.1



Stellar Parameters For KIC 007304385

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7249^{+201}_{-277}	$3.613^{+0.504}_{-0.056}$	$-0.060^{+0.200}_{-0.300}$	$3.704^{+0.347}_{-1.848}$	$2.054^{+0.110}_{-0.589}$	$0.057^{+0.343}_{-0.011}$
	+3%/-4%	+14%/-2%	+333%/-500%	+9%/-50%	+5%/-29%	+602%/-20%
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 007304385-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10107 ± 742	$21.61^{+7.91}_{-7.74}$	661^{+45}_{-82}	9889^{+2959}_{-1510}	28288^{+36305}_{-12695}
Alt.	-3952 ± 461	$104.18^{+14.41}_{-27.79}$	663^{+45}_{-79}	3800^{+124}_{-129}	488^{+361}_{-119}

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

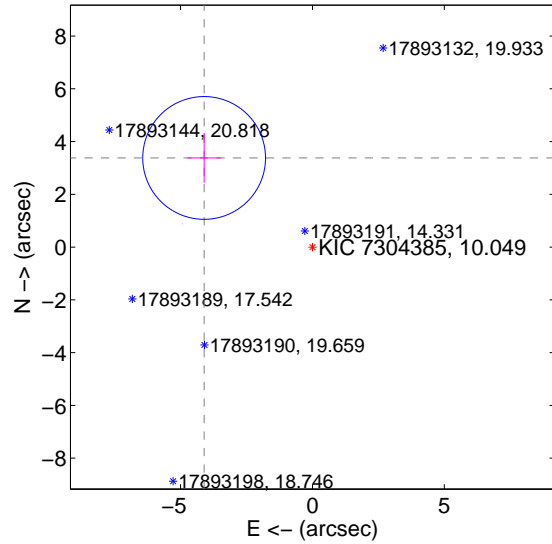
Supplemental centroid analysis for 007304385-02. **Kepler magnitude: 10.05.** Transit SNR 1.56

There are 0 quarters with good PRF difference image offsets

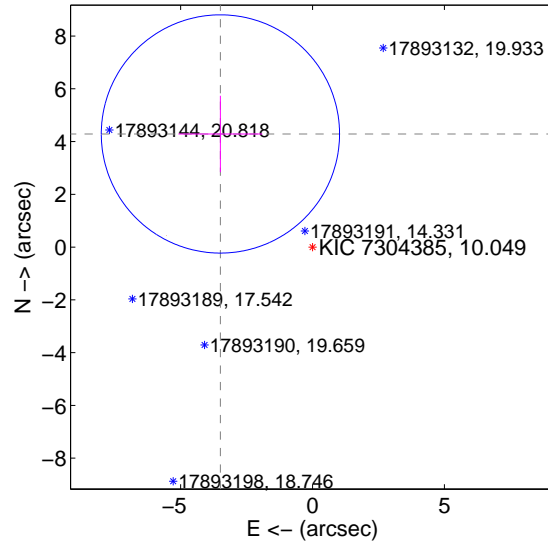
The direct PRF centroid is offset from the target star catalog position by about 0.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.318 ± 0.776	6.86	4.106 ± 0.639	3.380 ± 0.941
PRF-fit source offset from KIC position	5.530 ± 1.505	3.67	3.491 ± 1.590	4.289 ± 1.447
photometric centroid source offset	1.05 ± 1.03	1.02	-1.02 ± 1.04	-0.25 ± 0.71

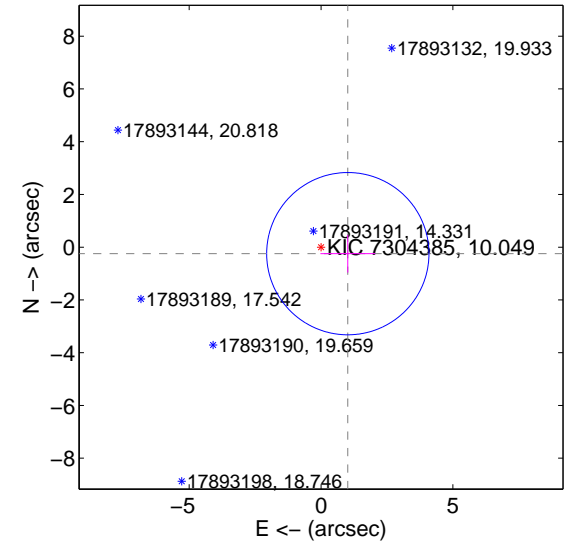
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

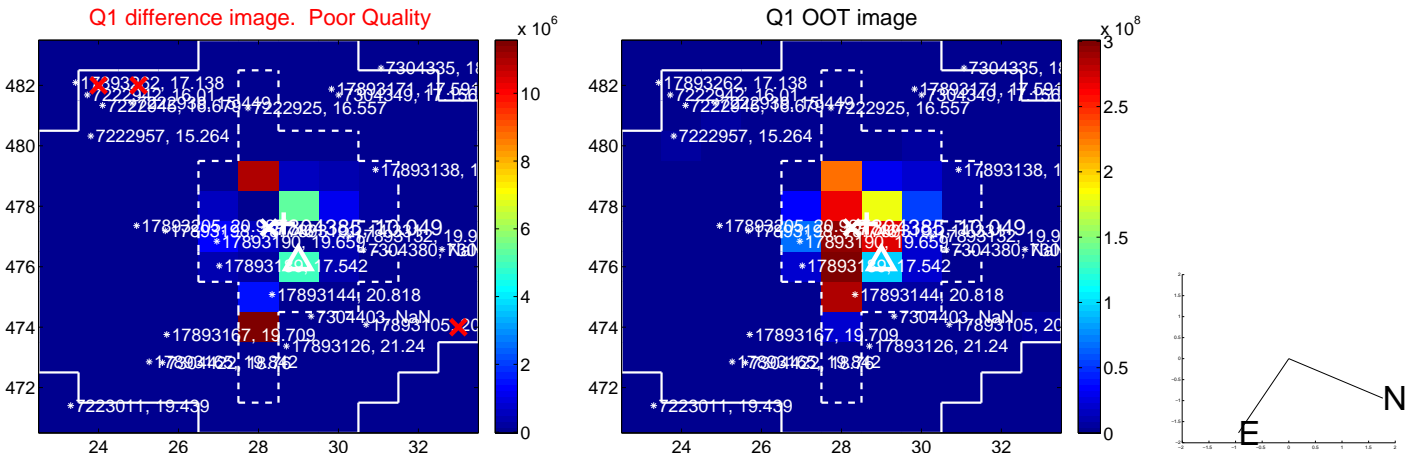


offset from photometric centroids



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.

Q9 no difference image



Q9 no OOT image



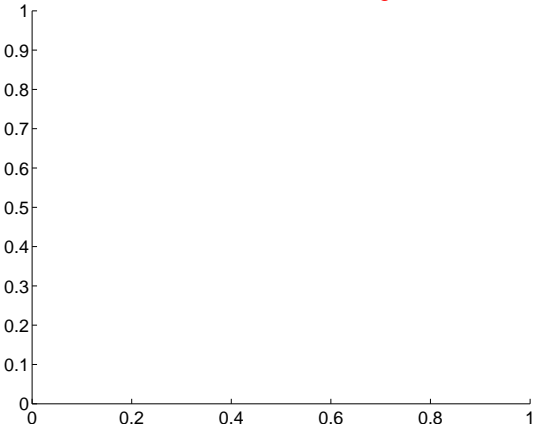
Q10 no difference image



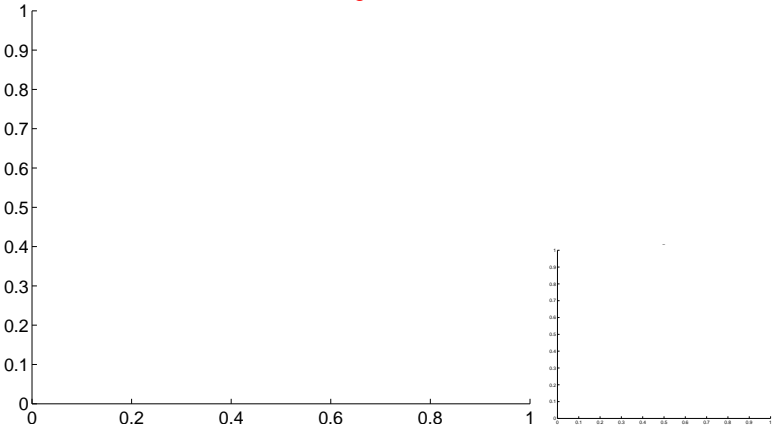
Q10 no OOT image



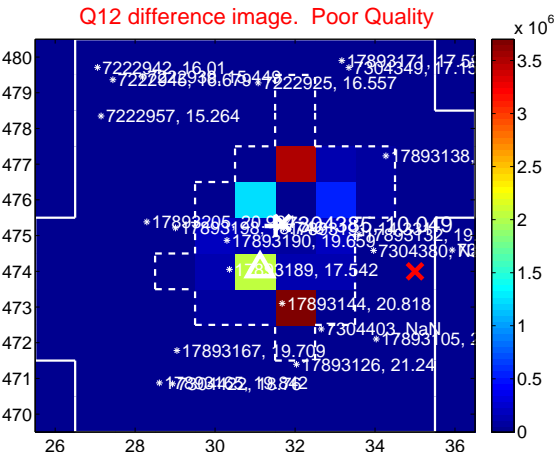
Q11 no difference image



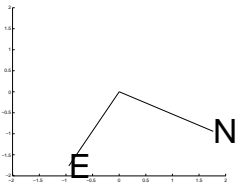
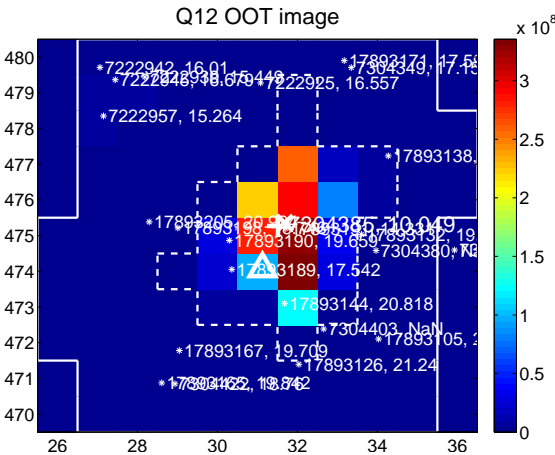
Q11 no OOT image



Q12 difference image. Poor Quality



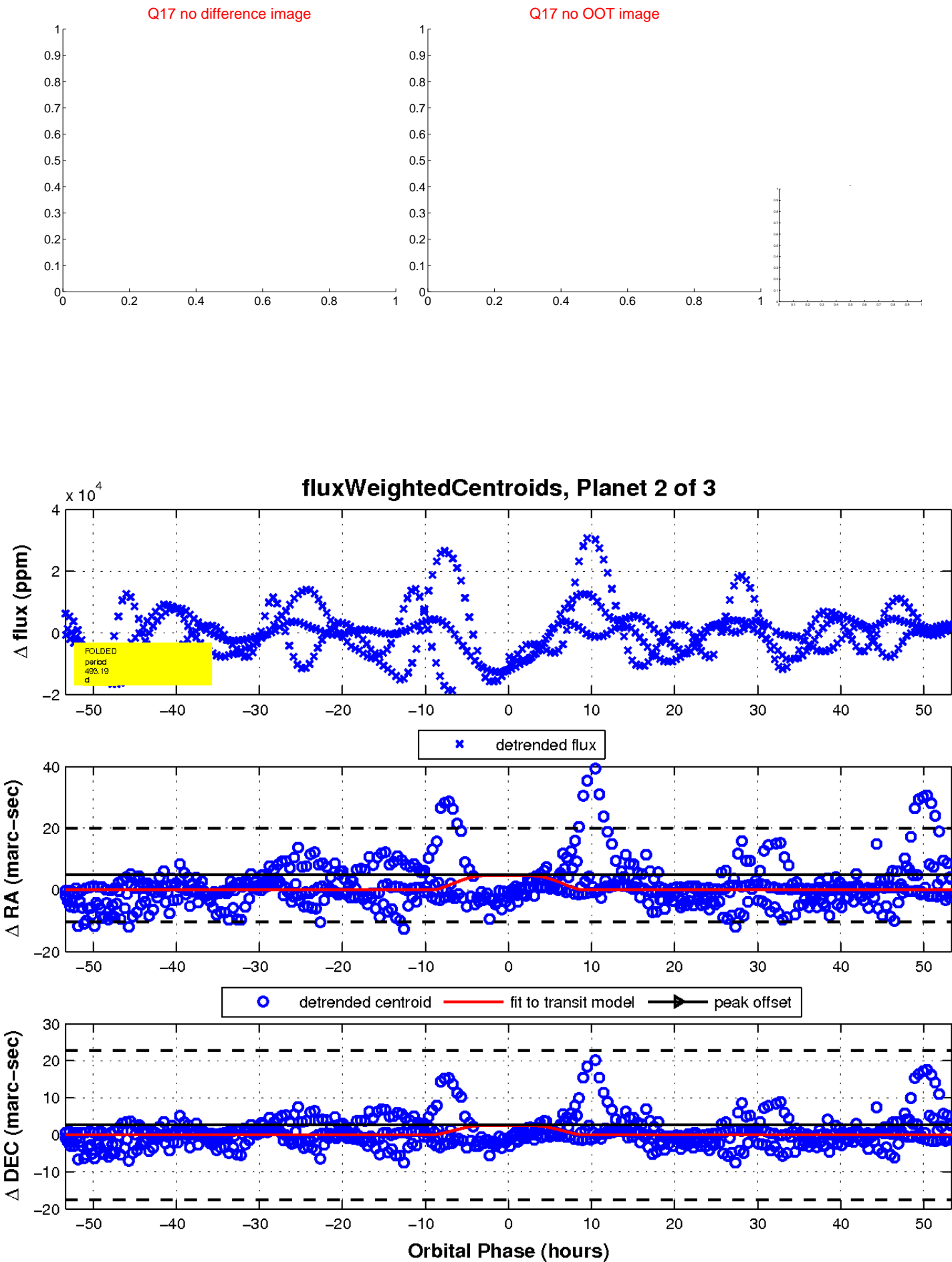
Q12 OOT image



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

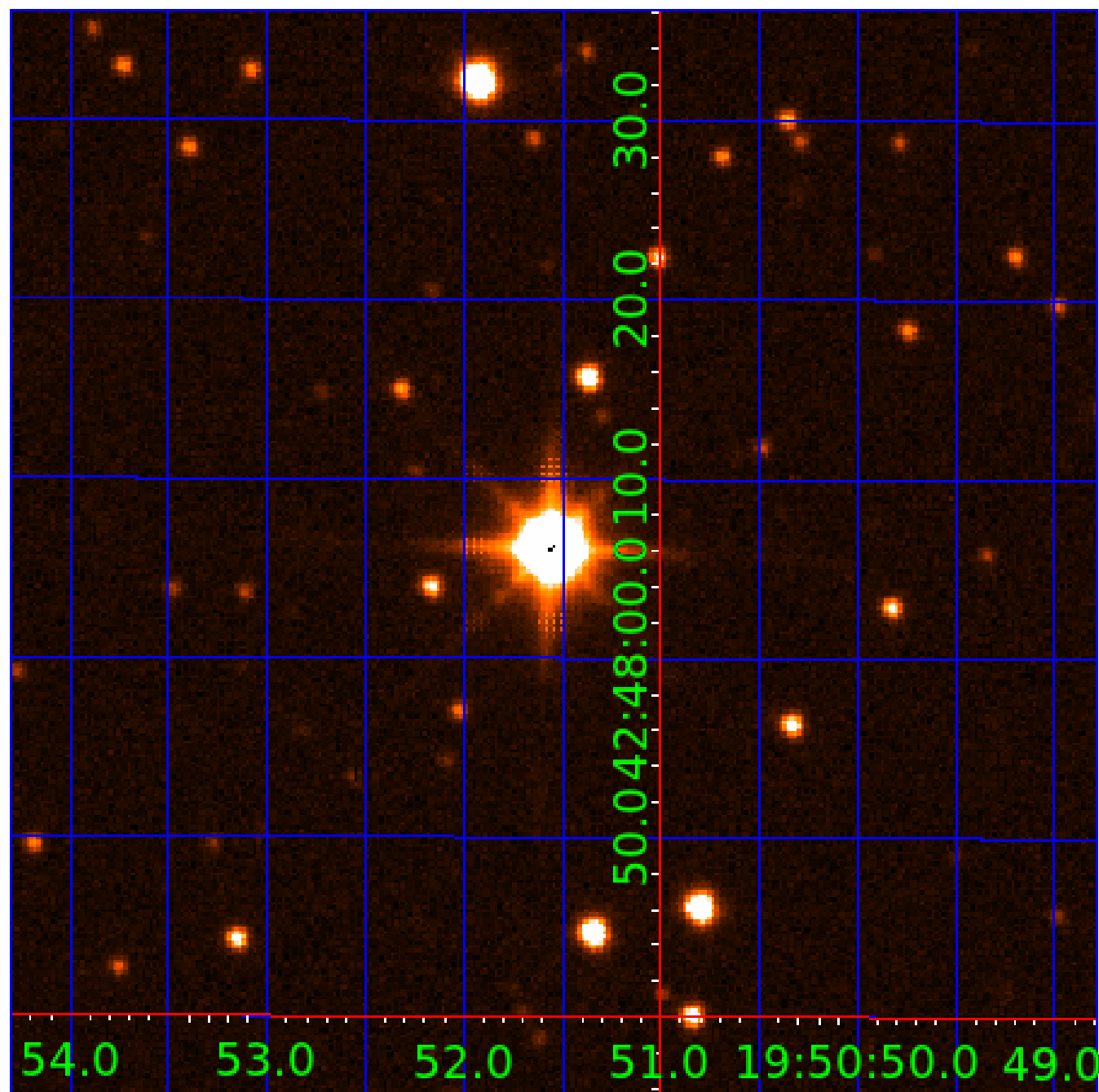


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007304385

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})
007304385-01	OBS	No	453.911102	434.397654	165.9	3.500	22.7	-1.0	3.70	7249	4.84	15.72
007304385-02	OBS	No	493.189390	151.240702	3216.5	17.846	15.8	1.6	3.70	7249	24.79	14.07
007304385-03	OBS	No	399.980675	517.084373	845.5	6.595	17.6	3.8	3.70	7249	11.53	18.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007304385-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007304385-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
007304385-03	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—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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.

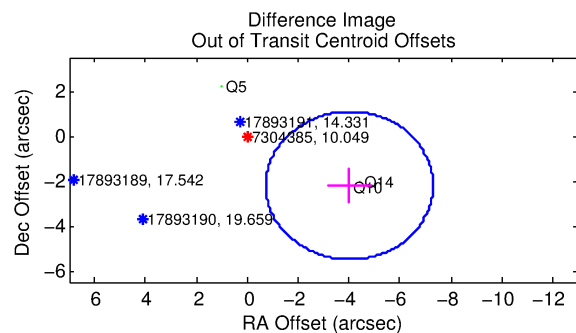
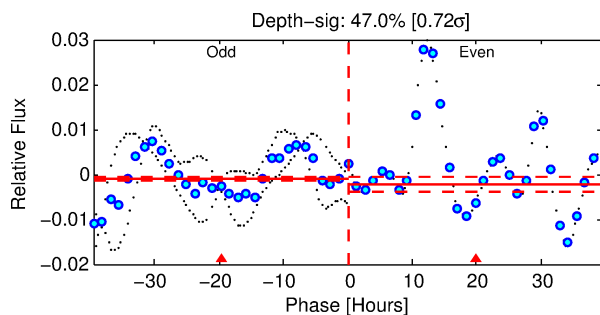
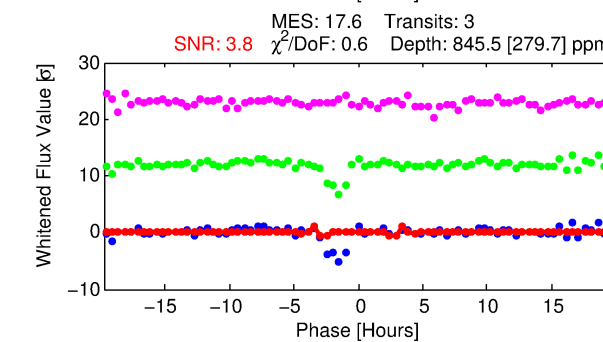
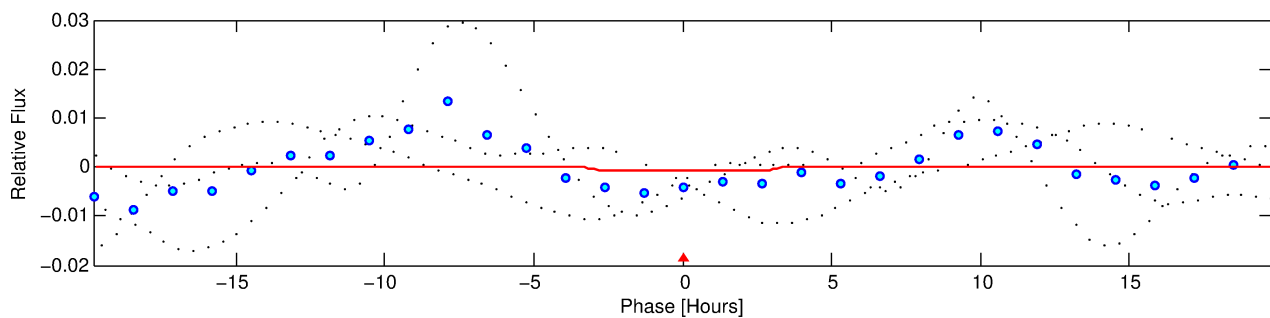
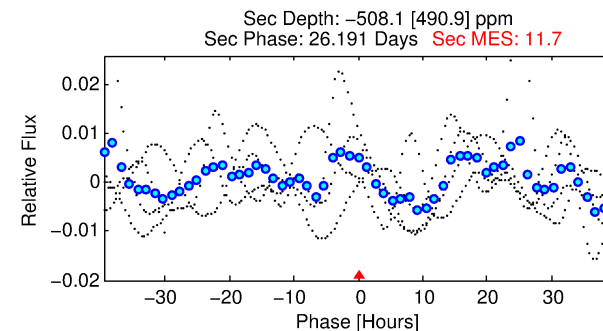
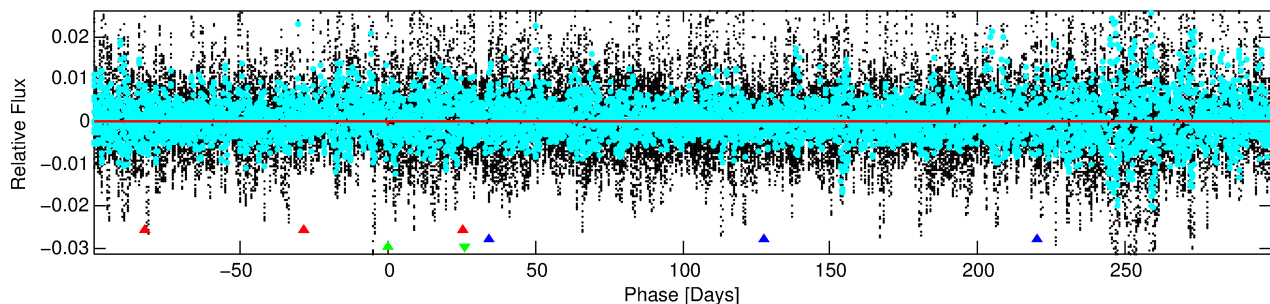
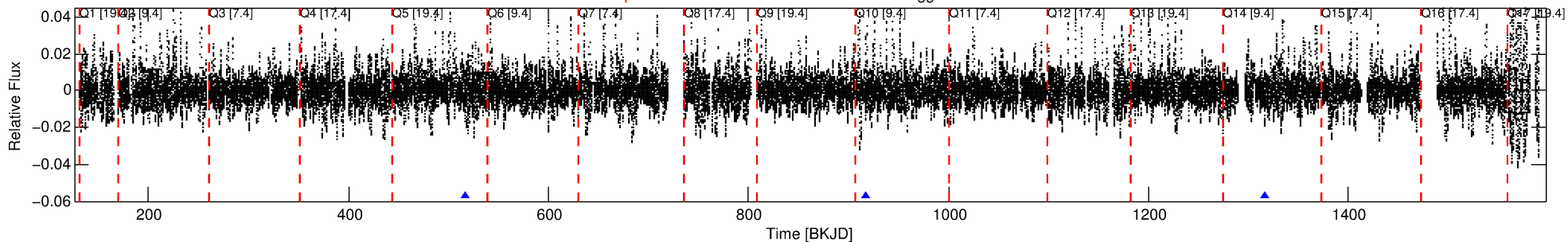
Ephemeris Match Information For 007304385-03

No Significant Match Found

DV One-Page Summary

KIC: 7304385 Candidate: 3 of 3 Period: 399.981 d

Kp: 10.05 R*: 3.70 Rs Teff: 7249.0 K Logg: 3.61 Fe/H: -0.060



DV Fit Results:

Period = 399.98068 [0.00255] d
Epoch = 517.0844 [0.0038] BKJD
Rp/R* = 0.0285 [0.0076]
a/R* = 351.84 [294.77]
b = 0.69 [0.63]
Seff = 18.61 [15.93]
Teff = 530 [113] K
Rp = 11.53 [6.51] Re
a = 1.3505 [0.6890] AU
Ag = N/A
Teffp = N/A

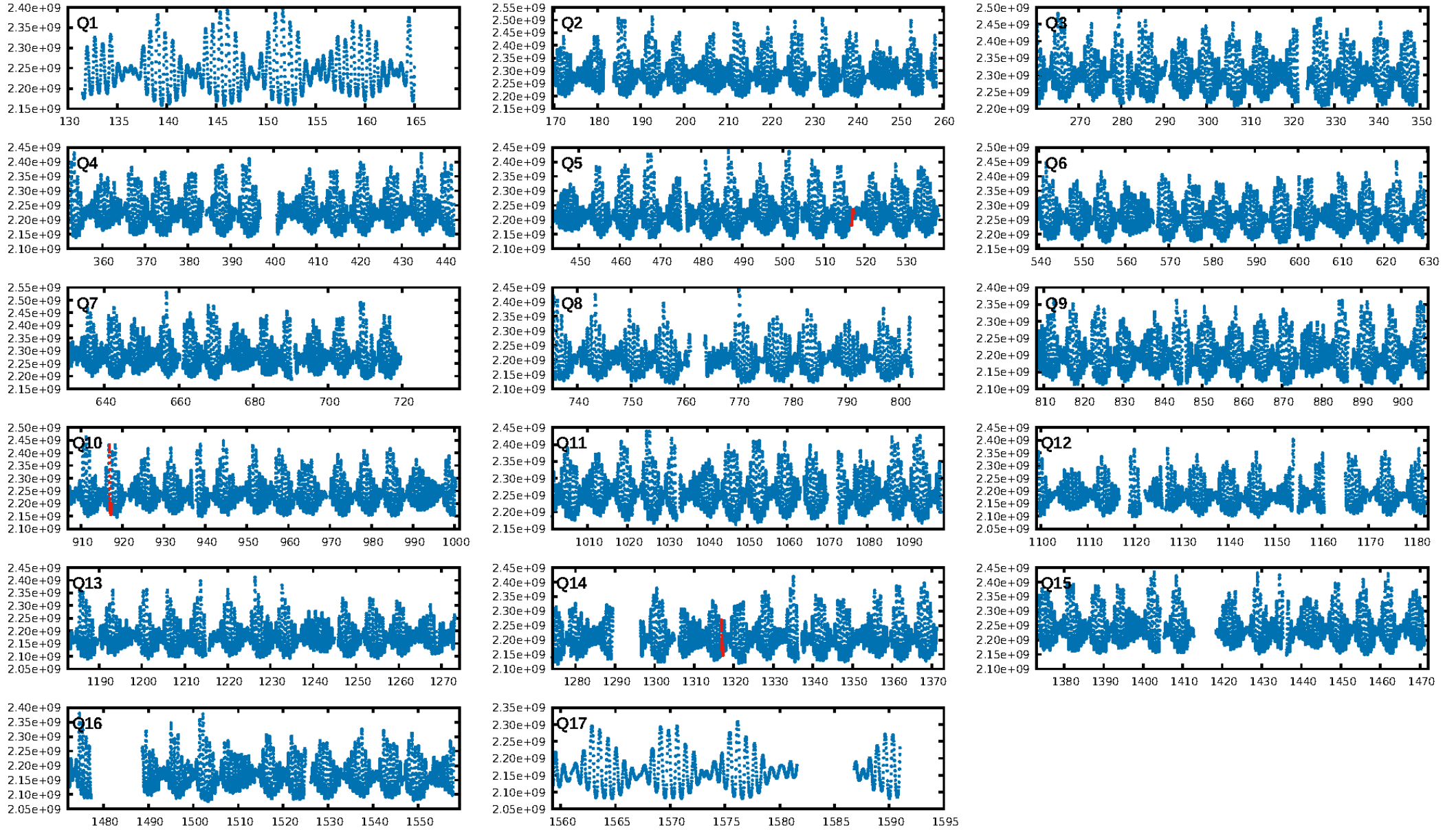
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [173.36σ]
ModelChiSquare2-sig: 74.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.38e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 65.0%
Centroid-so: 3.201 arcsec [0.86σ]
OotOffset-rm: 4.584 arcsec [4.18σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-rm: 4.177 arcsec [1.86σ]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-figm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

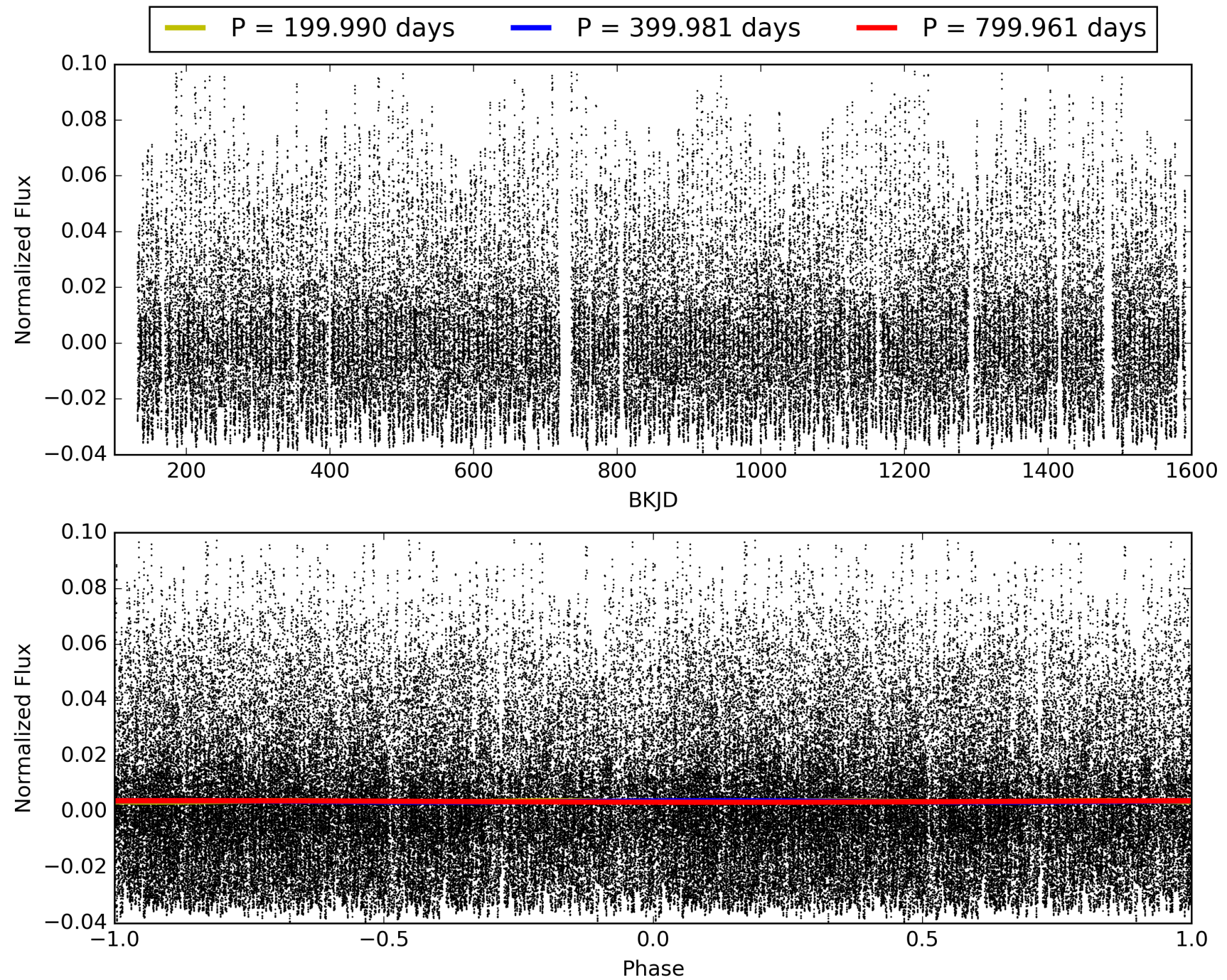
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:23:49 Z

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

TCE 007304385-03, PDC Light Curves

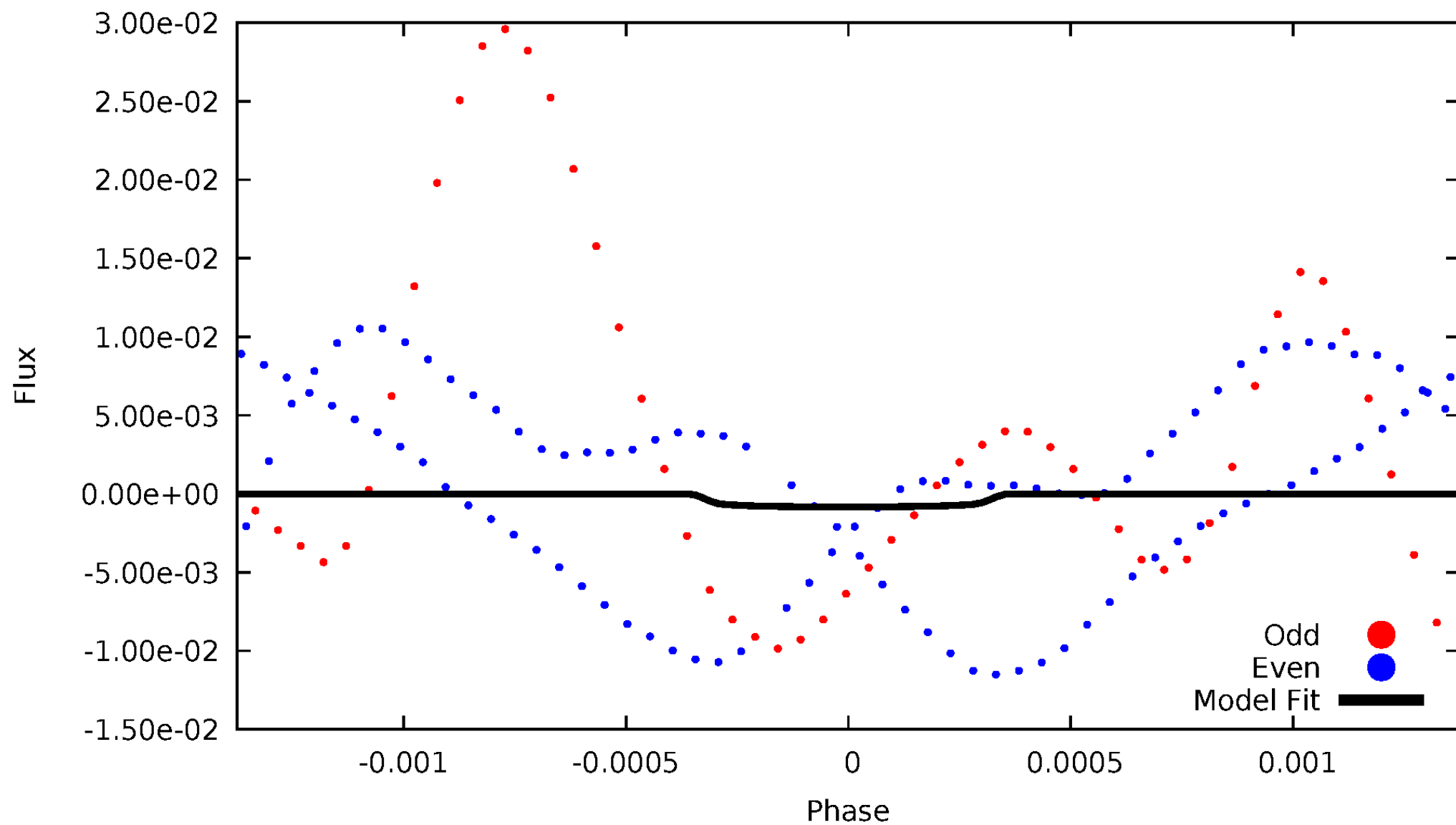


TCE 007304385-03



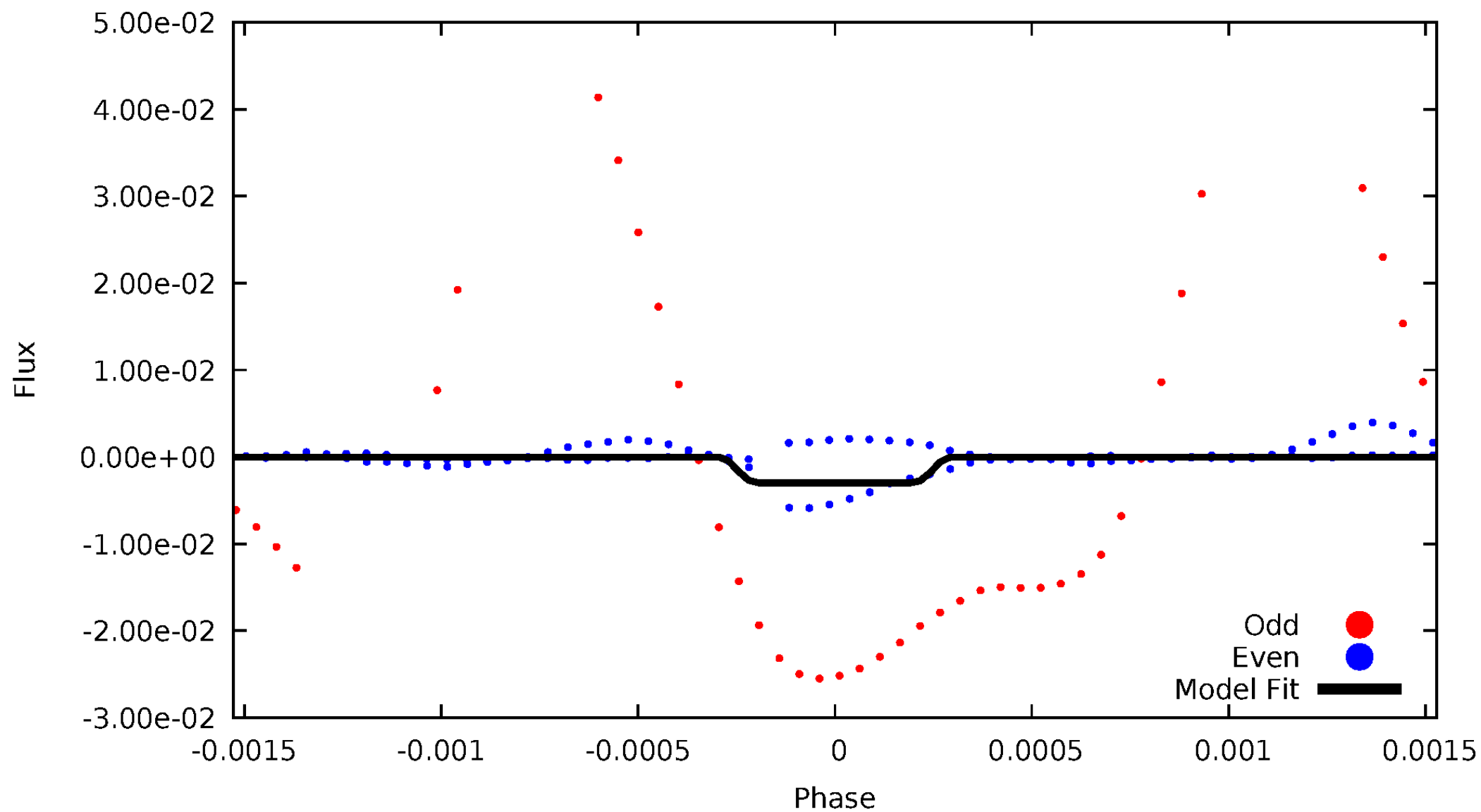
DV Odd/Even

TCE 007304385-03



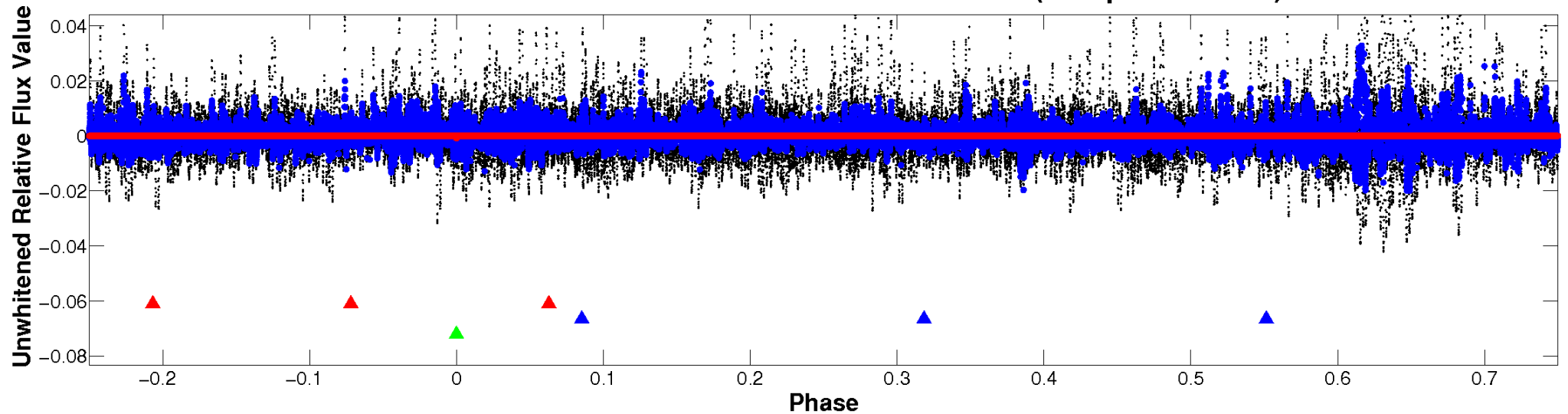
ALT Odd/Even

TCE 007304385-03

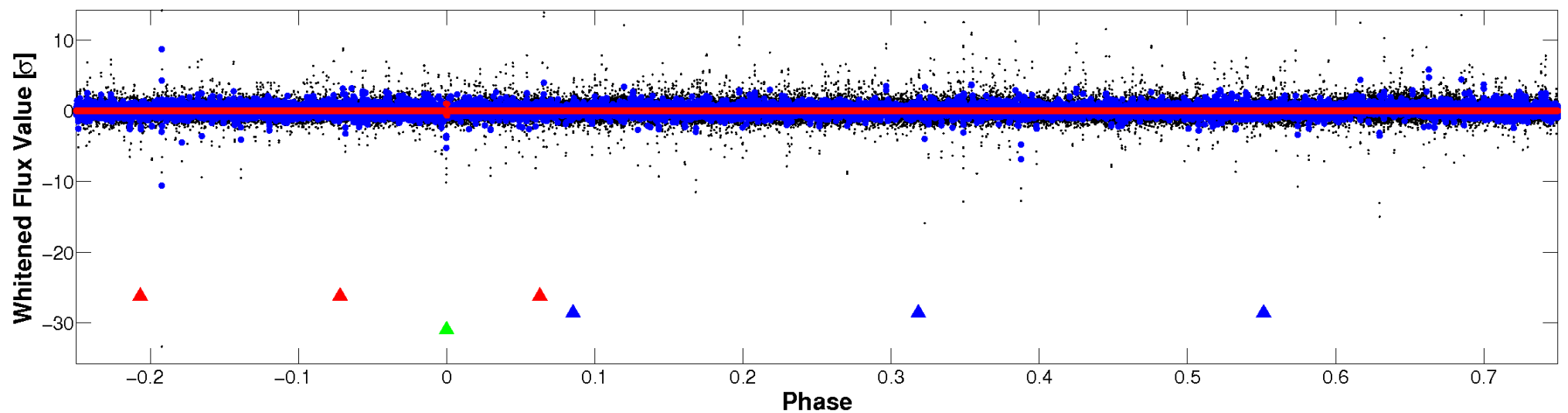


Non-Whitened Vs. Whitened Light Curve

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

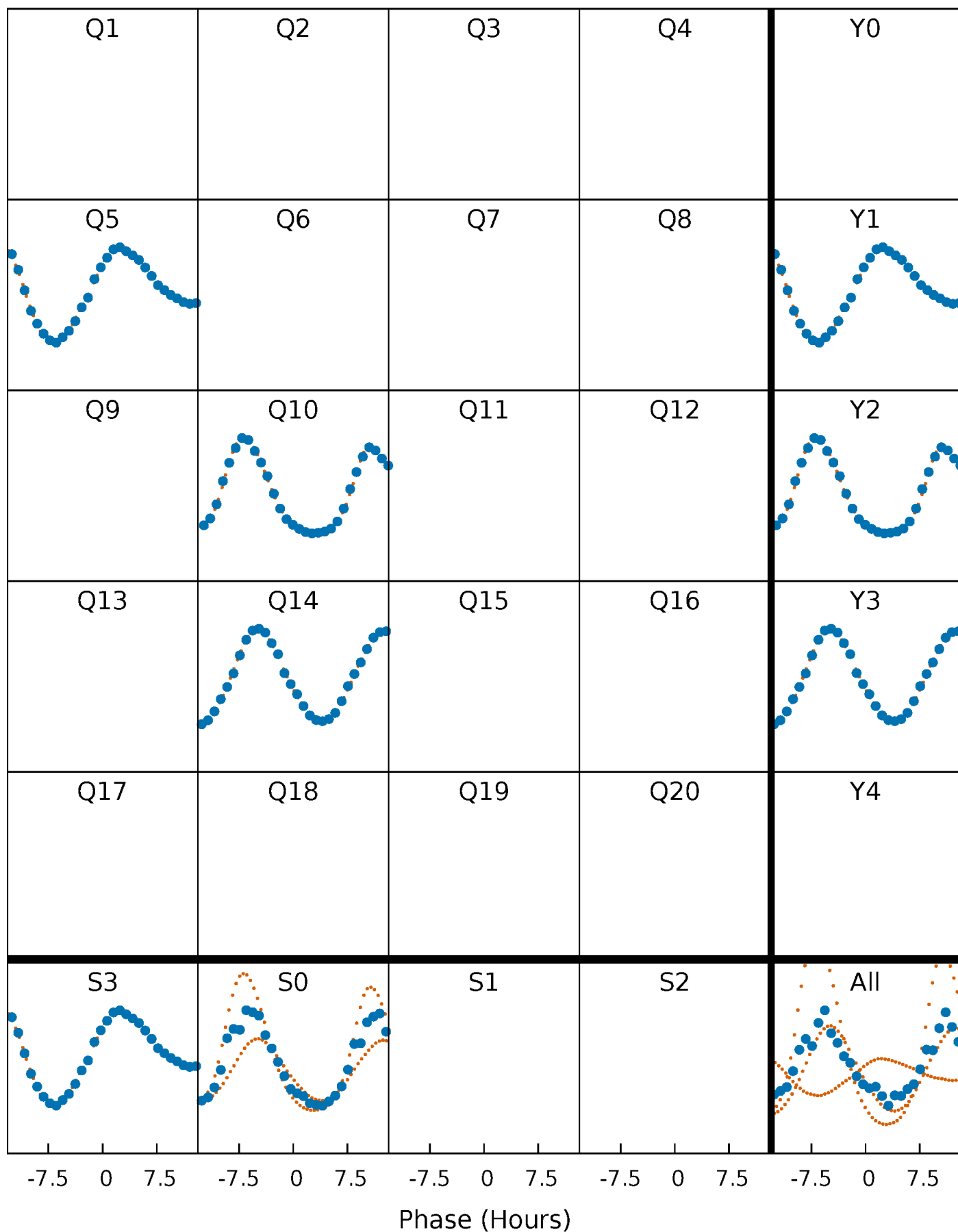


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



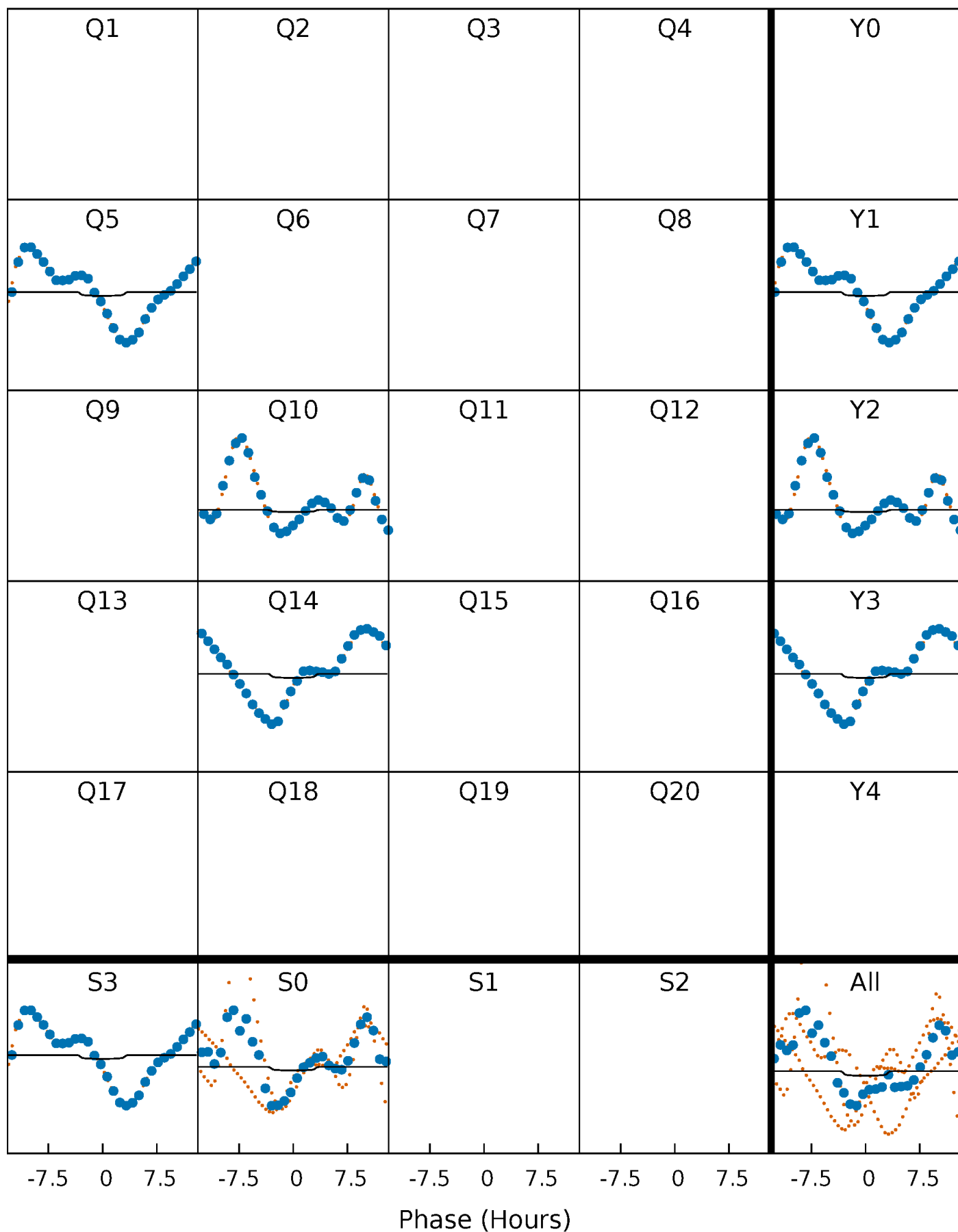
PDC Quarter-Phased Transit Curves

TCE 007304385-03 $P=399.980675$ Days $T_0=517.084373$ (BKJD)



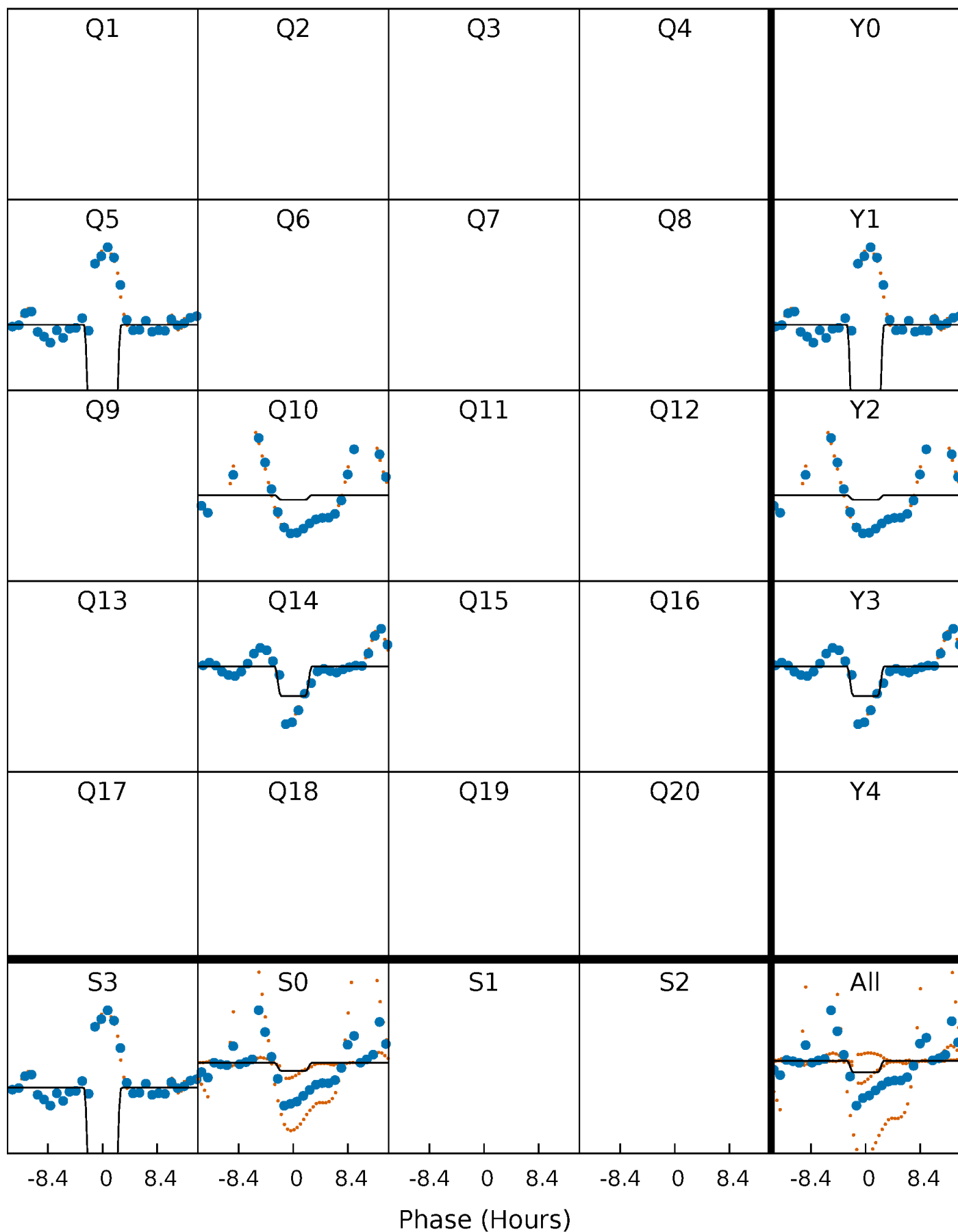
DV Quarter-Phased Transit Curves

TCE 007304385-03 $P=399.980675$ Days $T_0=517.084373$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

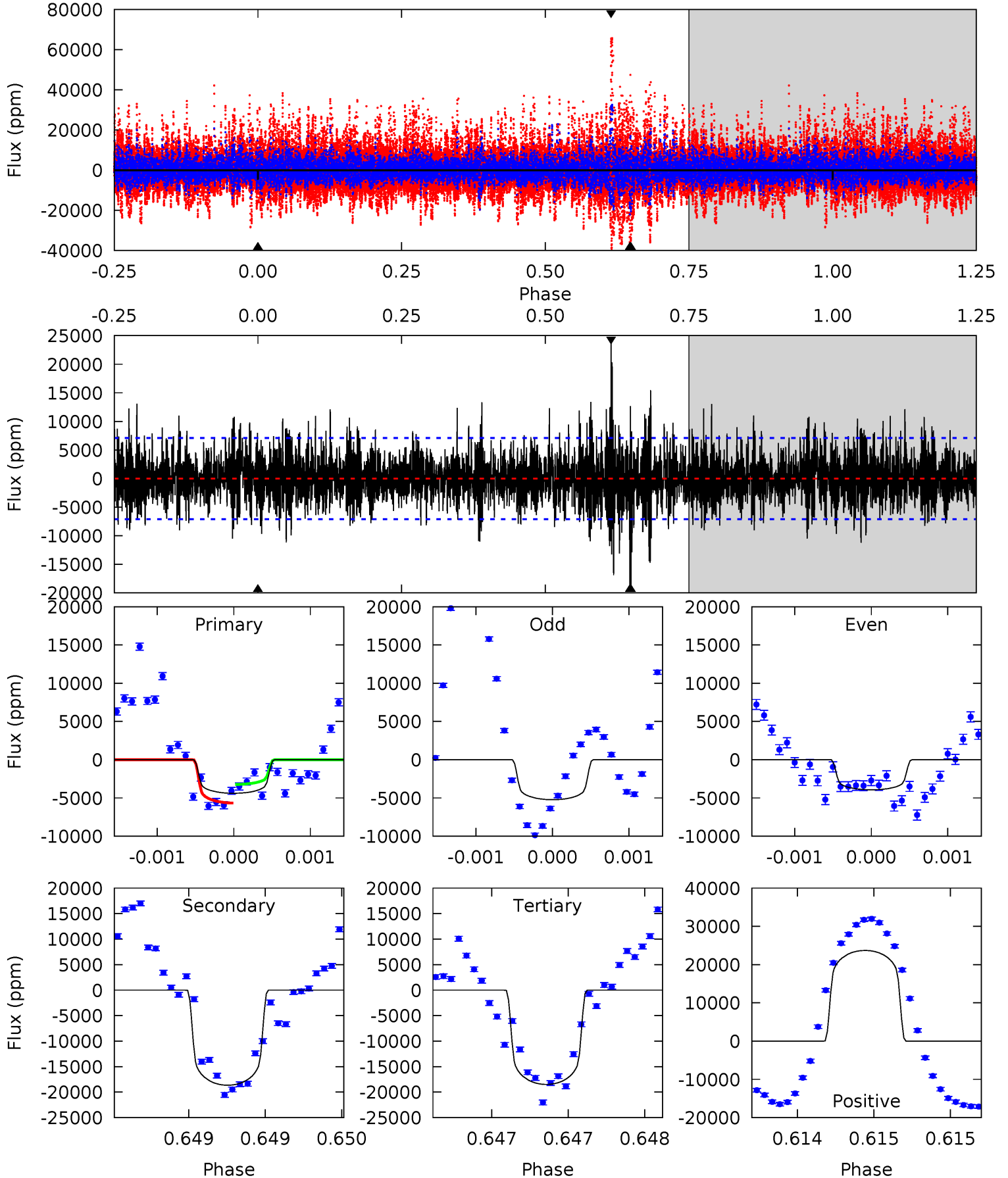
TCE 007304385-03 P=399.978195 Days $T_0=517.080099$ (BKJD)



DV Model-Shift Uniqueness Test

007304385-03, P = 399.980675 Days, E = 117.103698 Days

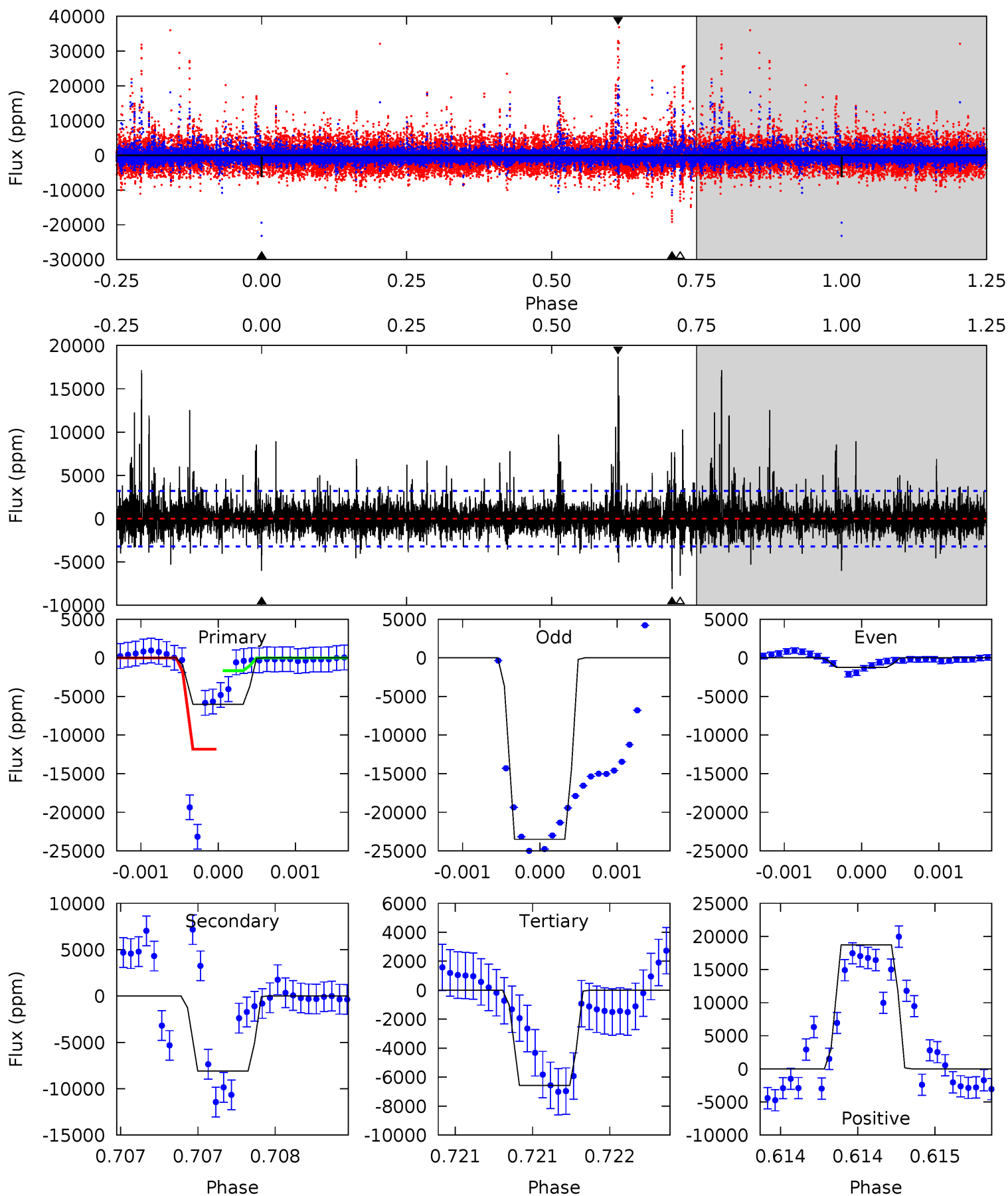
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.41	14.5	14.4	18.4	5.52	3.39	2.89	-11.0	-15.0	0.12	-3.93	0.43	1.02	0.56	0.94



Alt Model-Shift Uniqueness Test

007304385-03, P = 399.978195 Days, E = 117.101904 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	14.0	11.4	32.3	5.54	3.44	2.33	-0.98	-21.9	2.62	-18.3	14.0	2.10	0.70	8.21



Stellar Parameters For KIC 007304385

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7249^{+201}_{-277}	$3.613^{+0.504}_{-0.056}$	$-0.060^{+0.200}_{-0.300}$	$3.704^{+0.347}_{-1.848}$	$2.054^{+0.110}_{-0.589}$	$0.057^{+0.343}_{-0.011}$
	+3%/-4%	+14%/-2%	+333%/-500%	+9%/-50%	+5%/-29%	+602%/-20%
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 007304385-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18642 ± 1286	$10.04^{+3.50}_{-3.54}$	708^{+47}_{-96}	29169^{+16005}_{-7840}	$184553^{+245532}_{-82166}$
Alt.	-8101 ± 580	$20.19^{+4.11}_{-5.53}$	713^{+45}_{-94}	9957^{+1238}_{-929}	20303^{+16204}_{-6500}

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 $A_{obs} \gg 1.0$

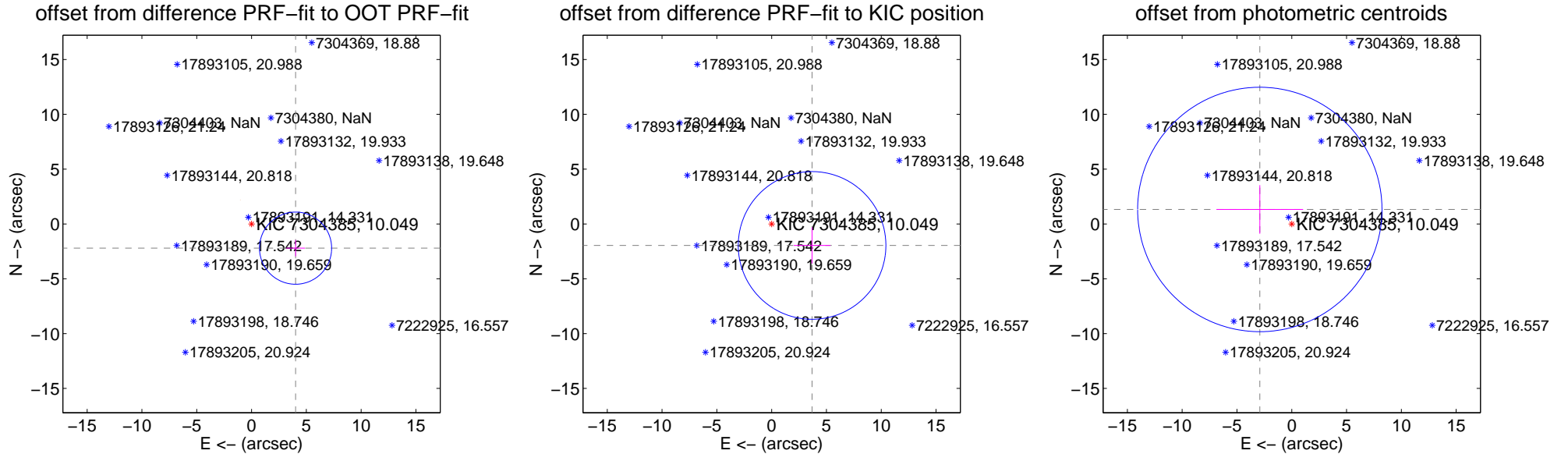
DV Centroid Data

Supplemental centroid analysis for 007304385-03. **Kepler magnitude: 10.05.** Transit SNR 3.81

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.584 ± 1.097	4.18	-4.017 ± 0.848	-2.208 ± 0.747
PRF-fit source offset from KIC position	4.177 ± 2.245	1.86	-3.688 ± 1.676	-1.960 ± 1.651
photometric centroid source offset	3.20 ± 3.72	0.86	2.91 ± 3.95	1.32 ± 2.22

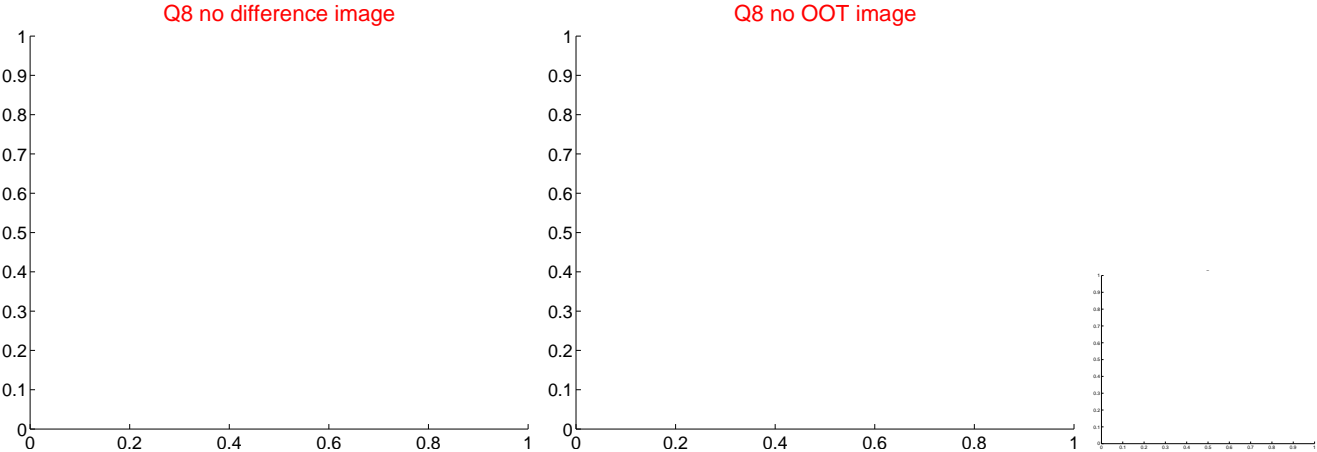
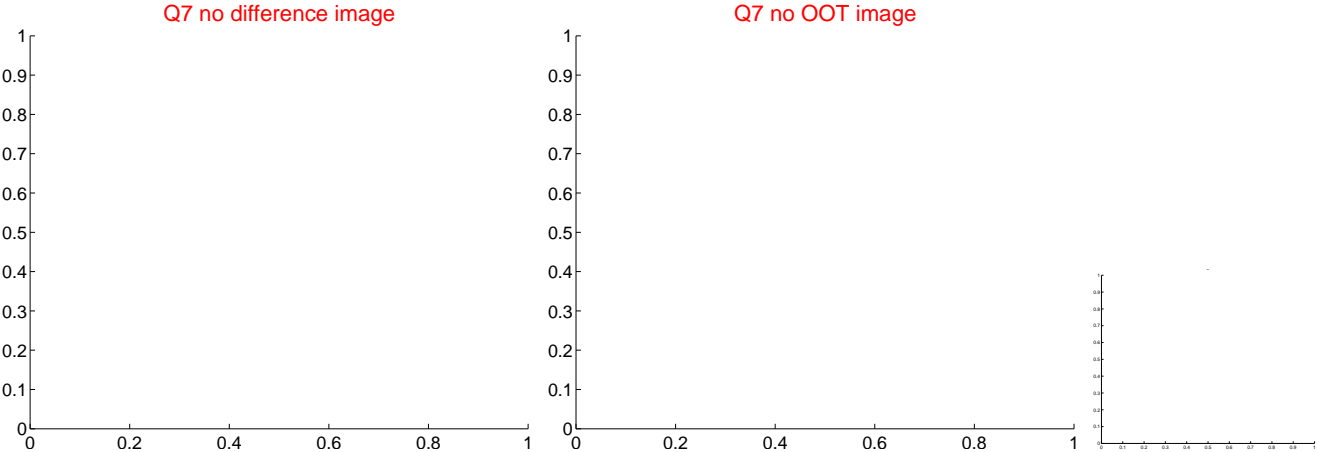
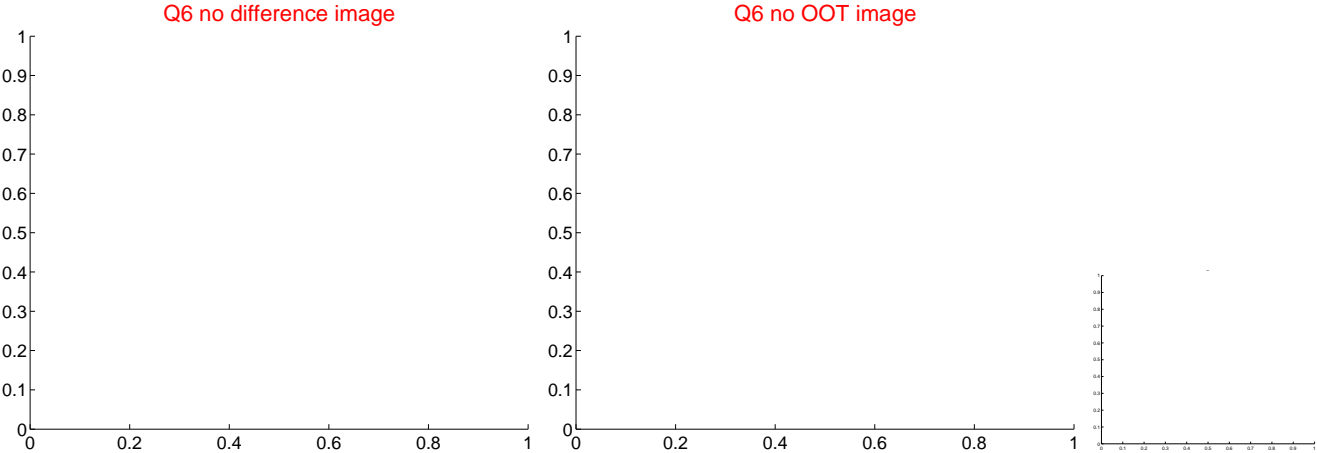
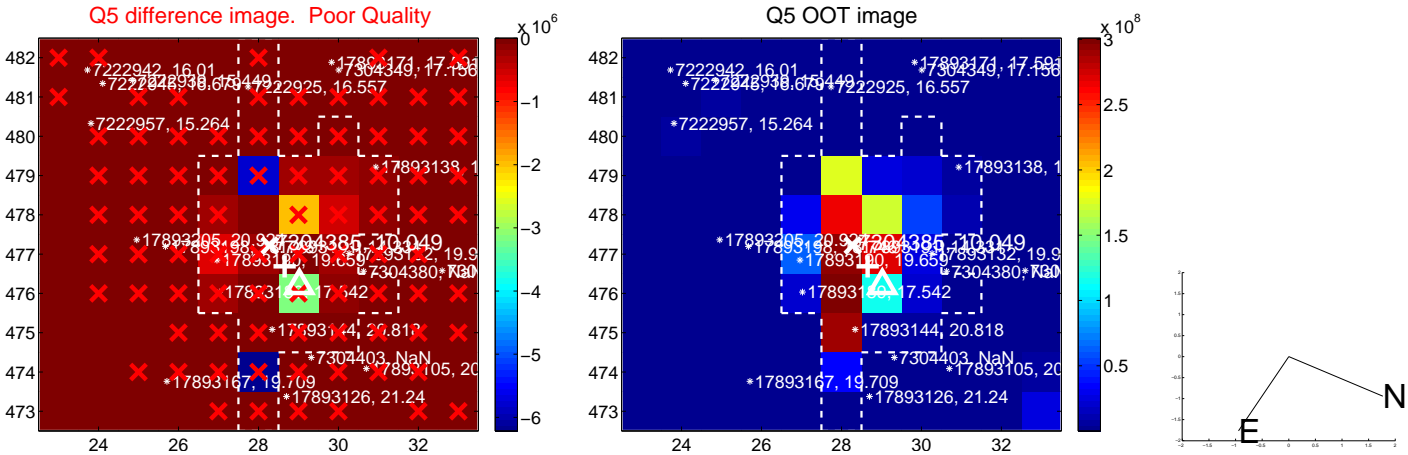


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

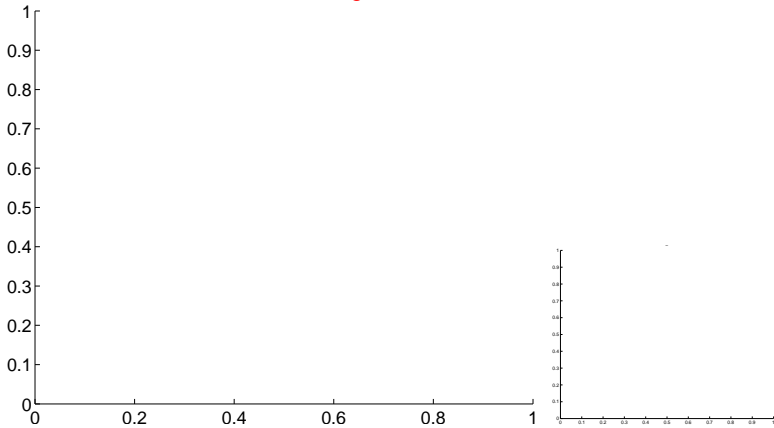


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

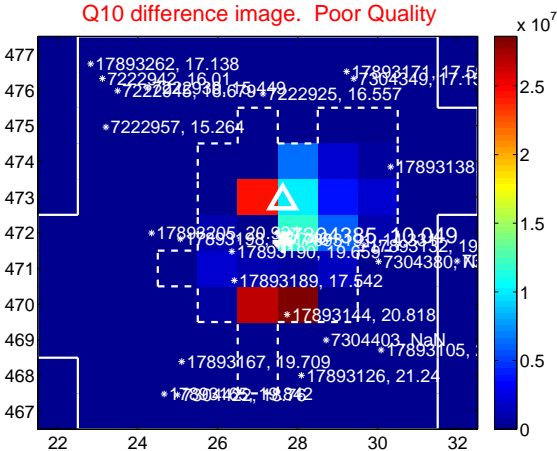
Q9 no difference image



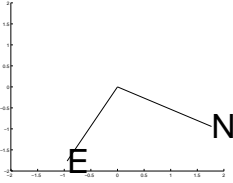
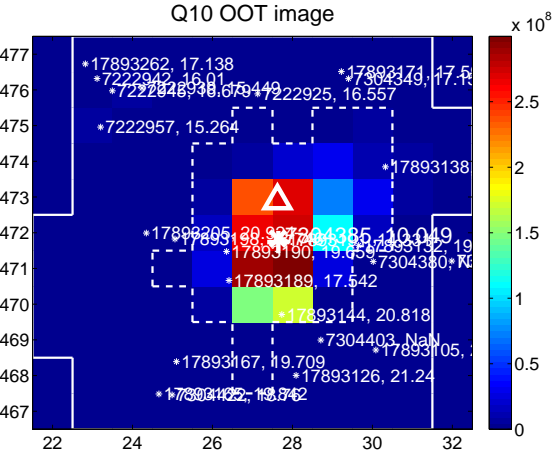
Q9 no OOT image



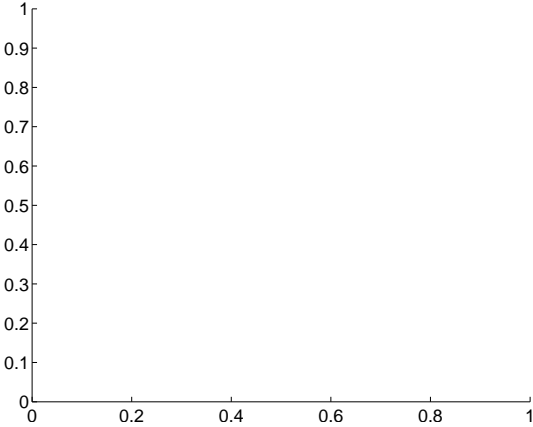
Q10 difference image. Poor Quality



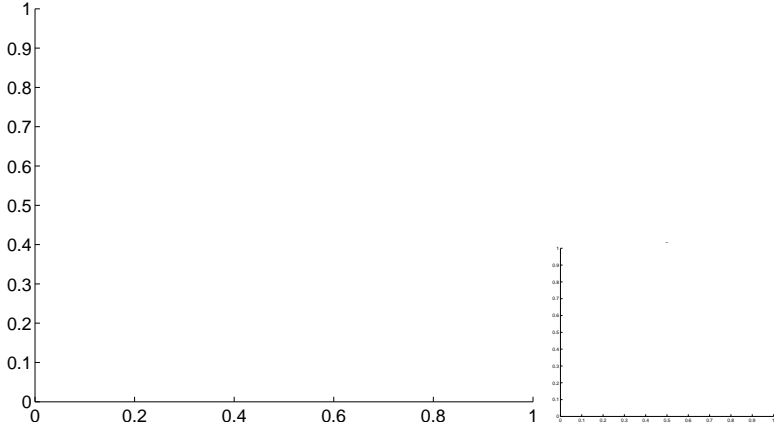
Q10 OOT image



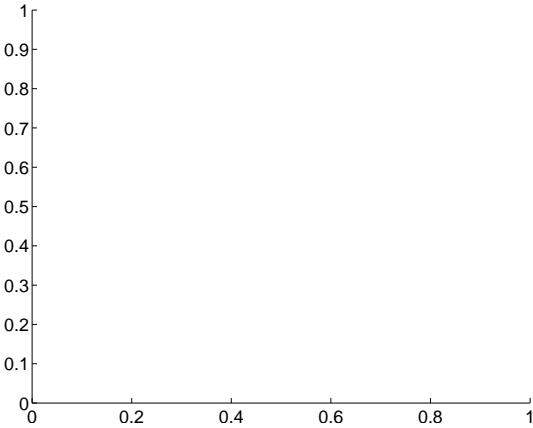
Q11 no difference image



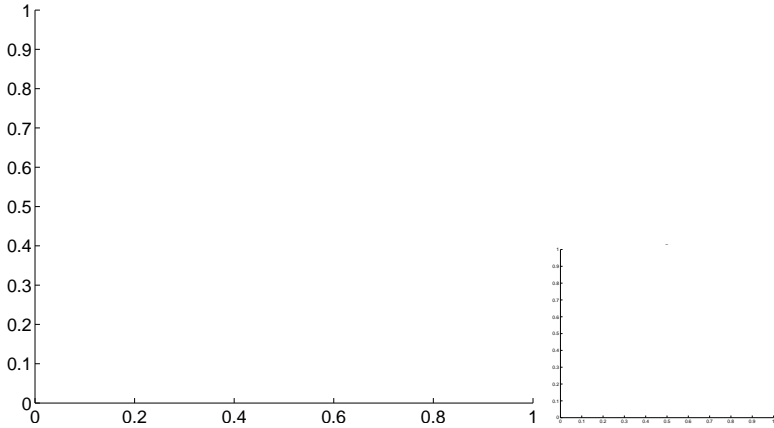
Q11 no OOT image



Q12 no difference image

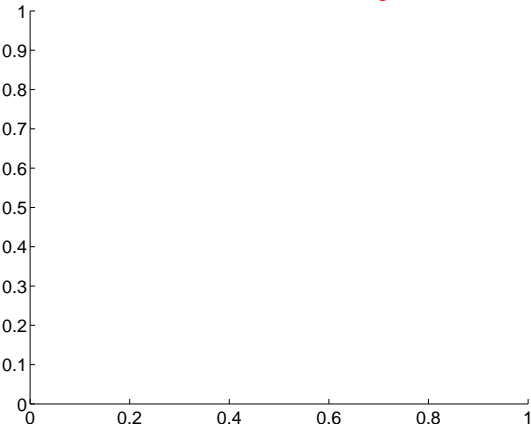


Q12 no OOT image

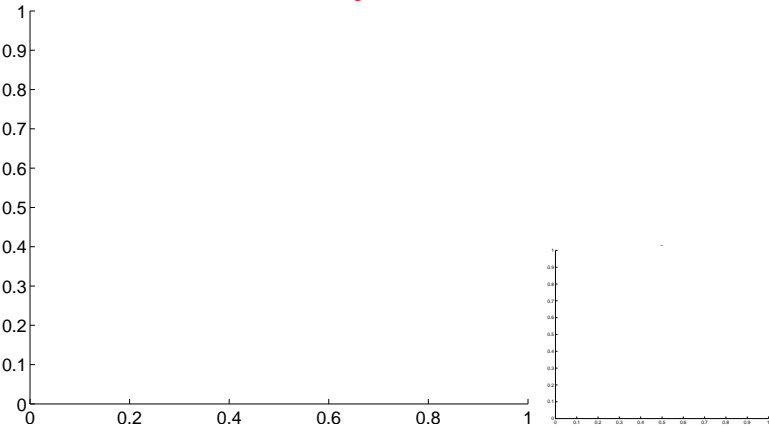


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

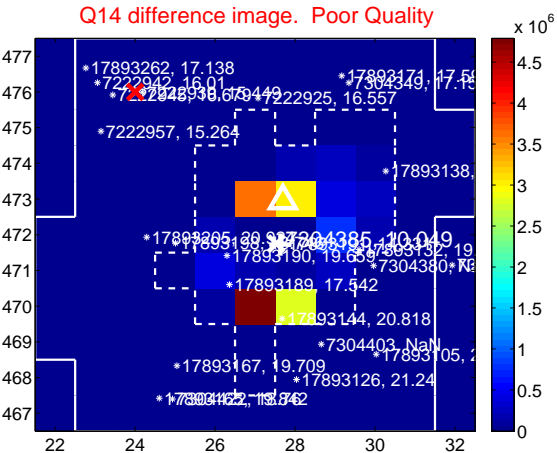
Q13 no difference image



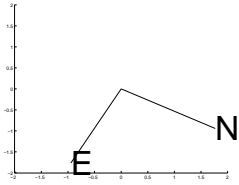
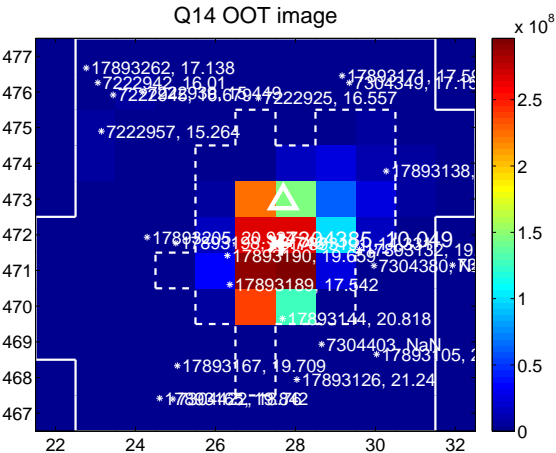
Q13 no OOT image



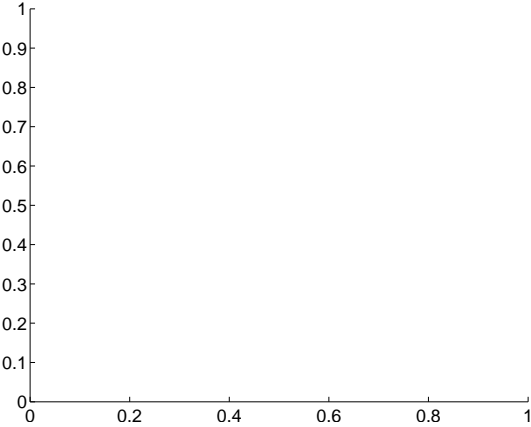
Q14 difference image. Poor Quality



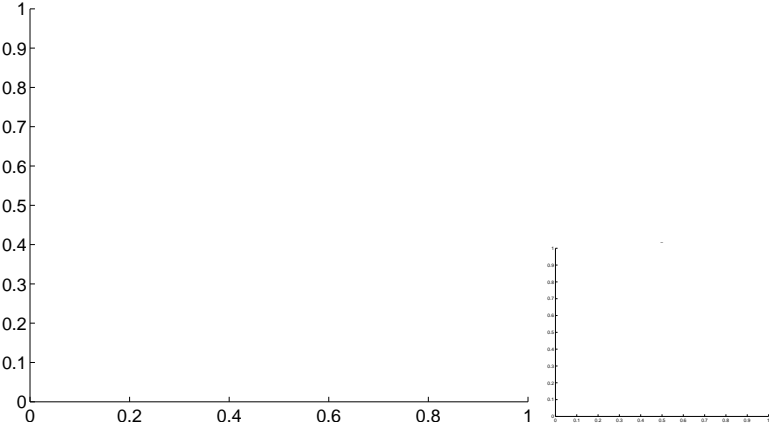
Q14 OOT image



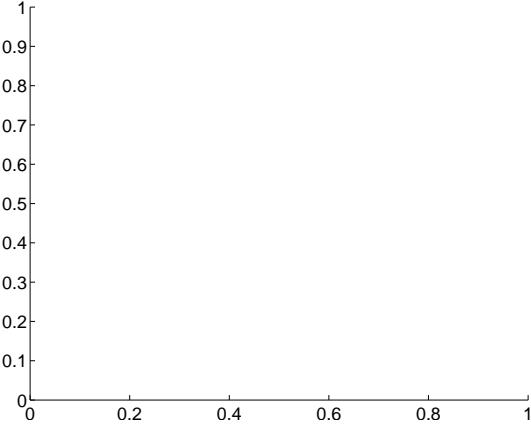
Q15 no difference image



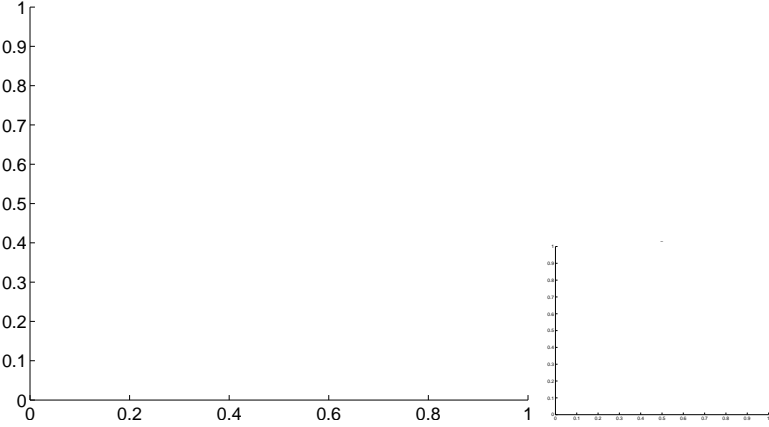
Q15 no OOT image



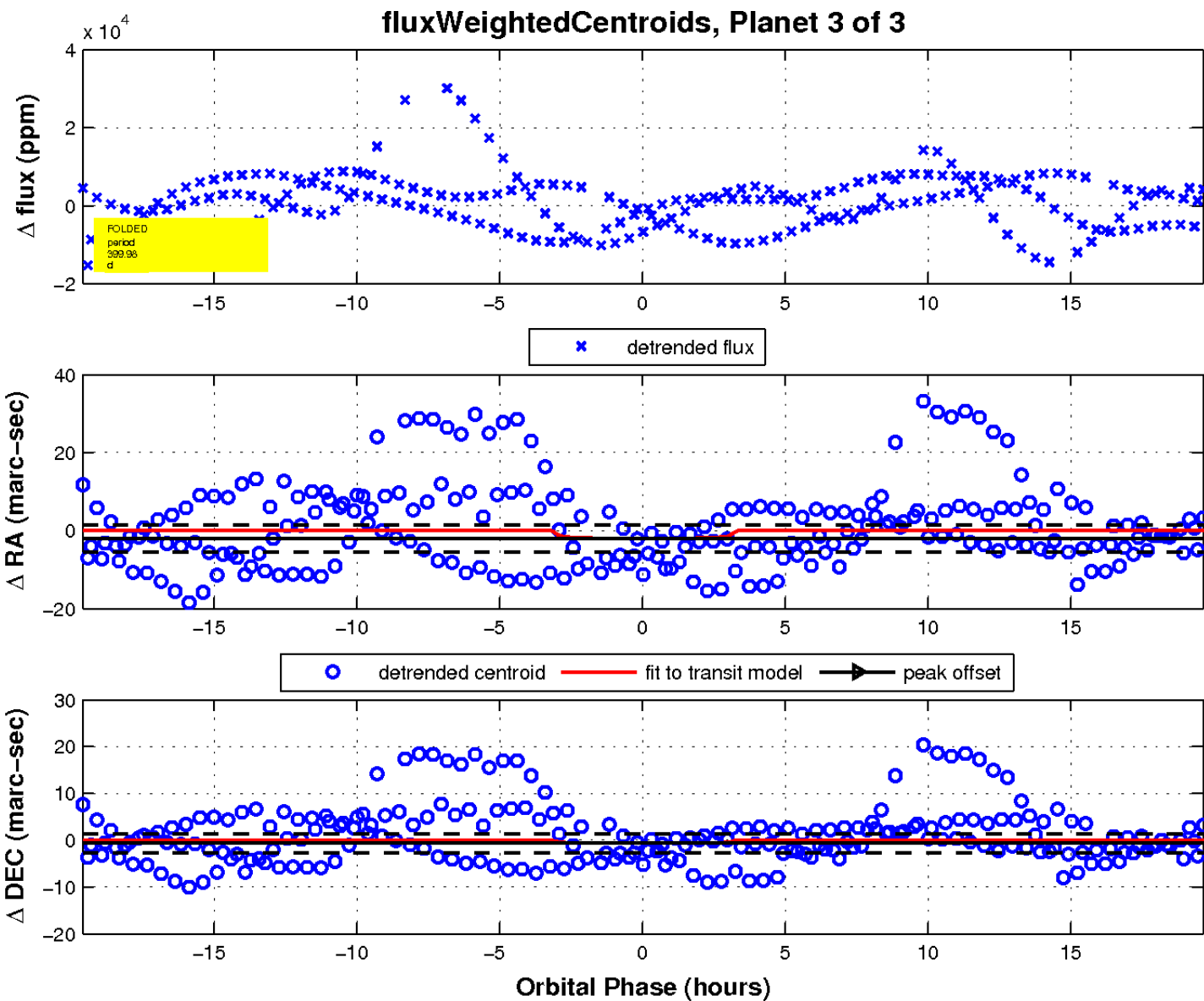
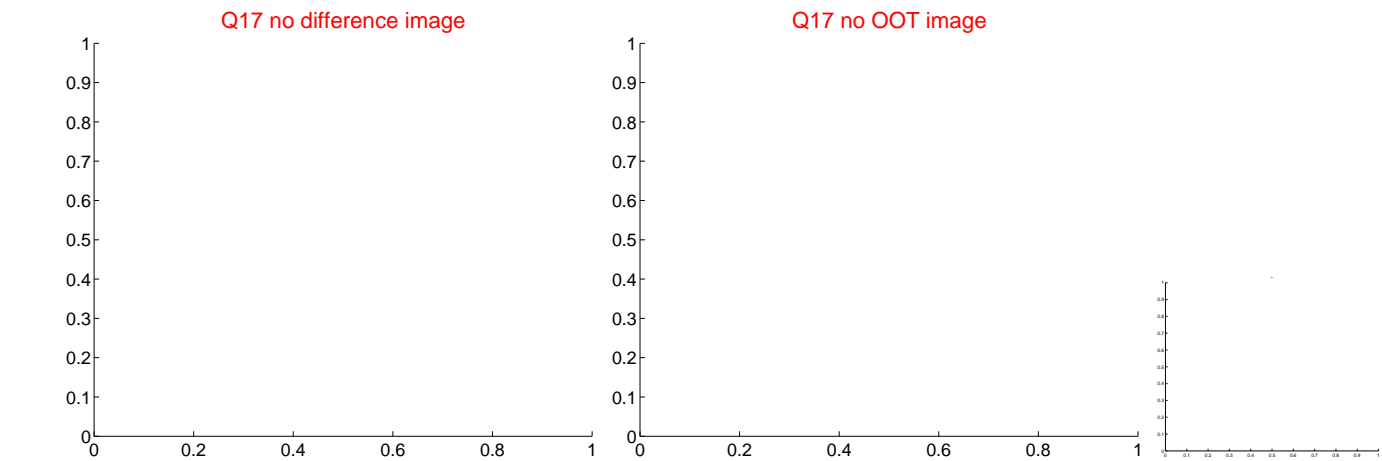
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

