

KIC 010385708

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})
010385708-01	OBS	No	500.748698	177.527508	241.2	8.406	10.4	8.3	1.70	5845	2.93	1.85
010385708-02	OBS	No	372.856039	273.201354	233.6	17.295	9.7	9.1	1.70	5845	2.74	2.74
010385708-03	OBS	No	384.433275	256.269268	341.9	16.341	10.1	10.1	1.70	5845	6.33	2.63
010385708-04	OBS	8206.01	345.804444	320.333361	174.8	15.166	10.3	8.1	1.70	5845	2.43	3.03
010385708-05	OBS	No	411.722612	187.219690	109.1	15.000	10.6	-1.0	1.70	5845	1.76	2.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385708-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010385708-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQU_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

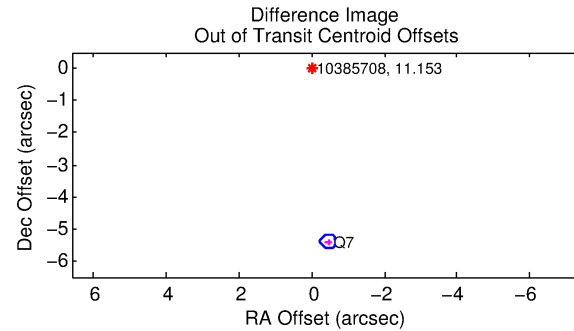
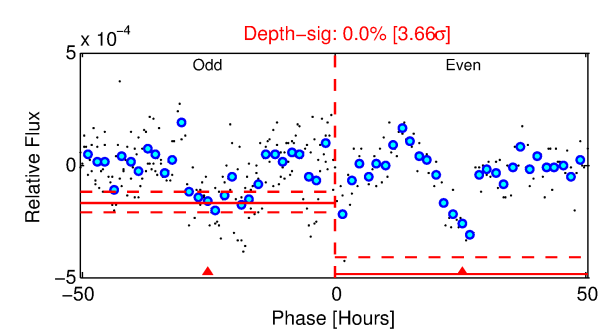
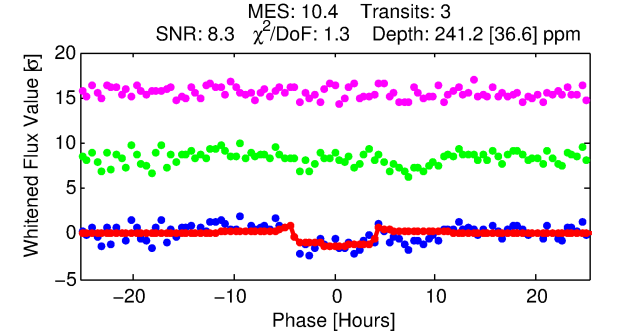
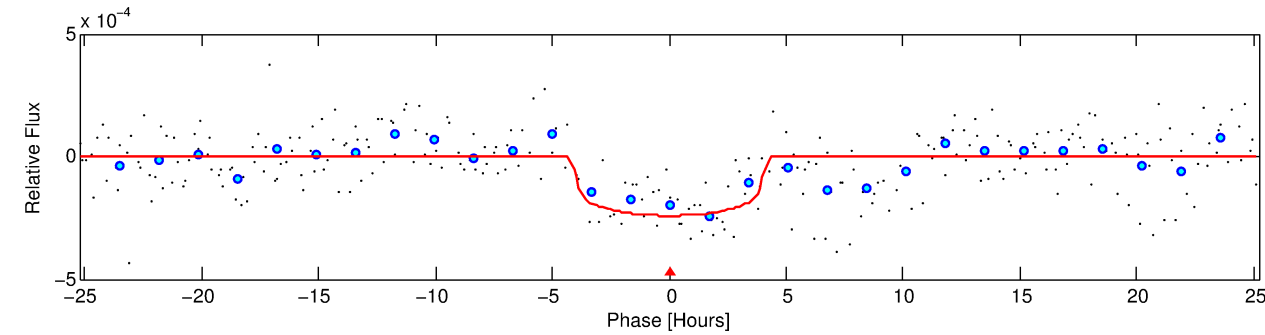
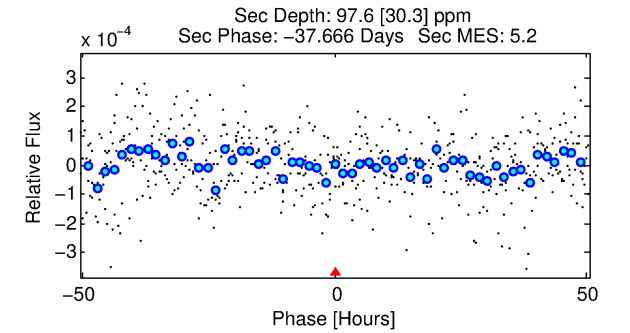
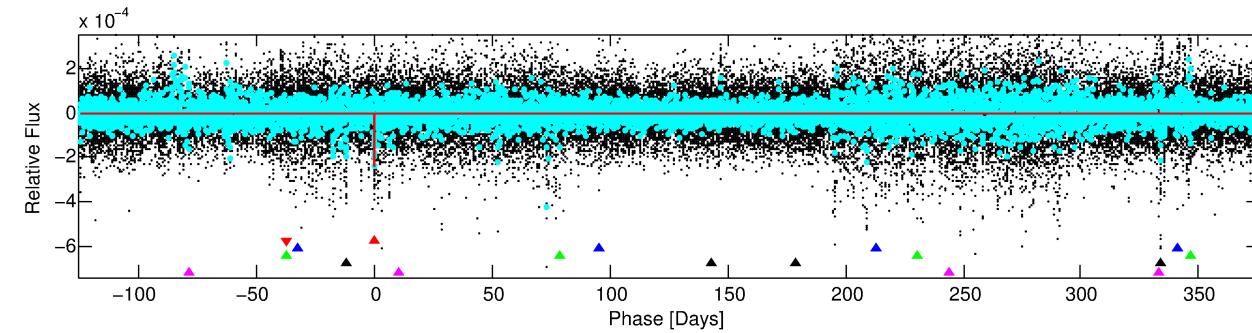
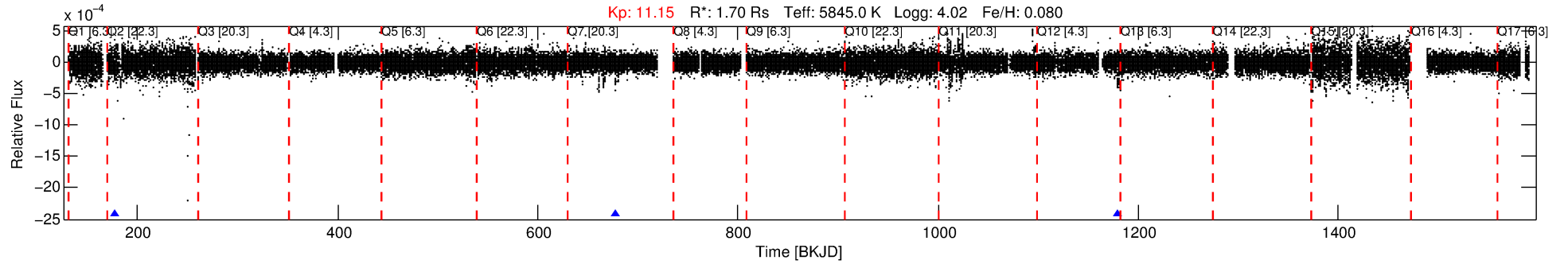
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385708-01

No Significant Match Found

DV One-Page Summary

KIC: 10385708 Candidate: 1 of 5 Period: 500.749 d



DV Fit Results:

Period = 500.74870 [0.01030] d
Epoch = 177.5275 [0.0109] BKJD
Rp/R* = 0.0158 [0.0064]
a/R* = 286.90 [528.16]
b = 0.80 [0.85]
Seff = 1.85 [0.15]
Teq = 297 [6] K
Rp = 2.93 [1.21] Re
a = 1.2806 [0.0650] AU
Ag = 10277.93 [8977.23] [1.14σ]
Teffp = 4628 [1010] K [4.29σ]

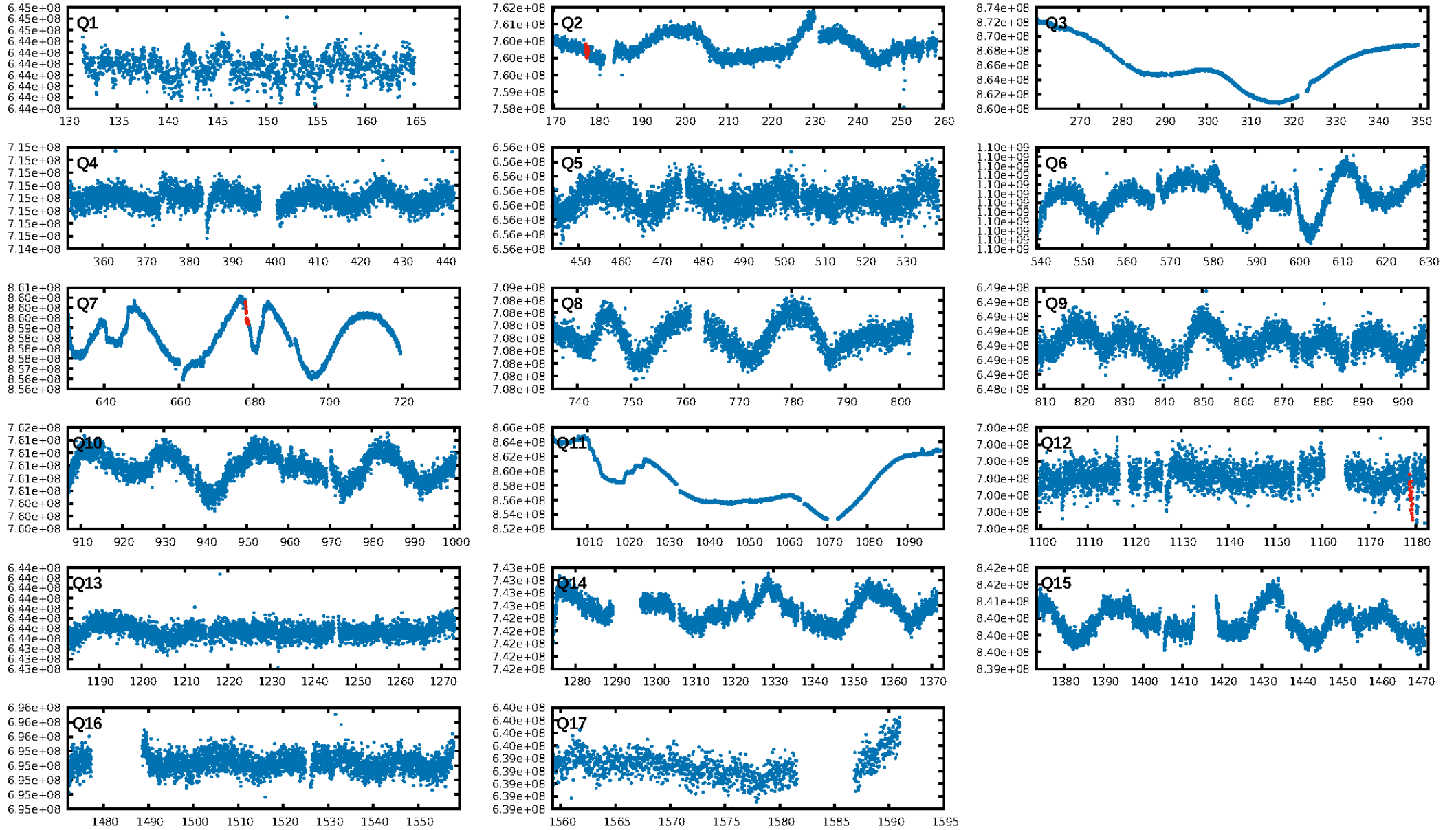
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [124.26σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 85.1%
Bootstrap-pfa: 6.38e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8611
Centroid-sig: N/A
Centroid-so: 2.612 arcsec [4.86σ]
OotOffset-rm: 5.426 arcsec [74.94σ]
KicOffset-rm: 5.847 arcsec [80.74σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

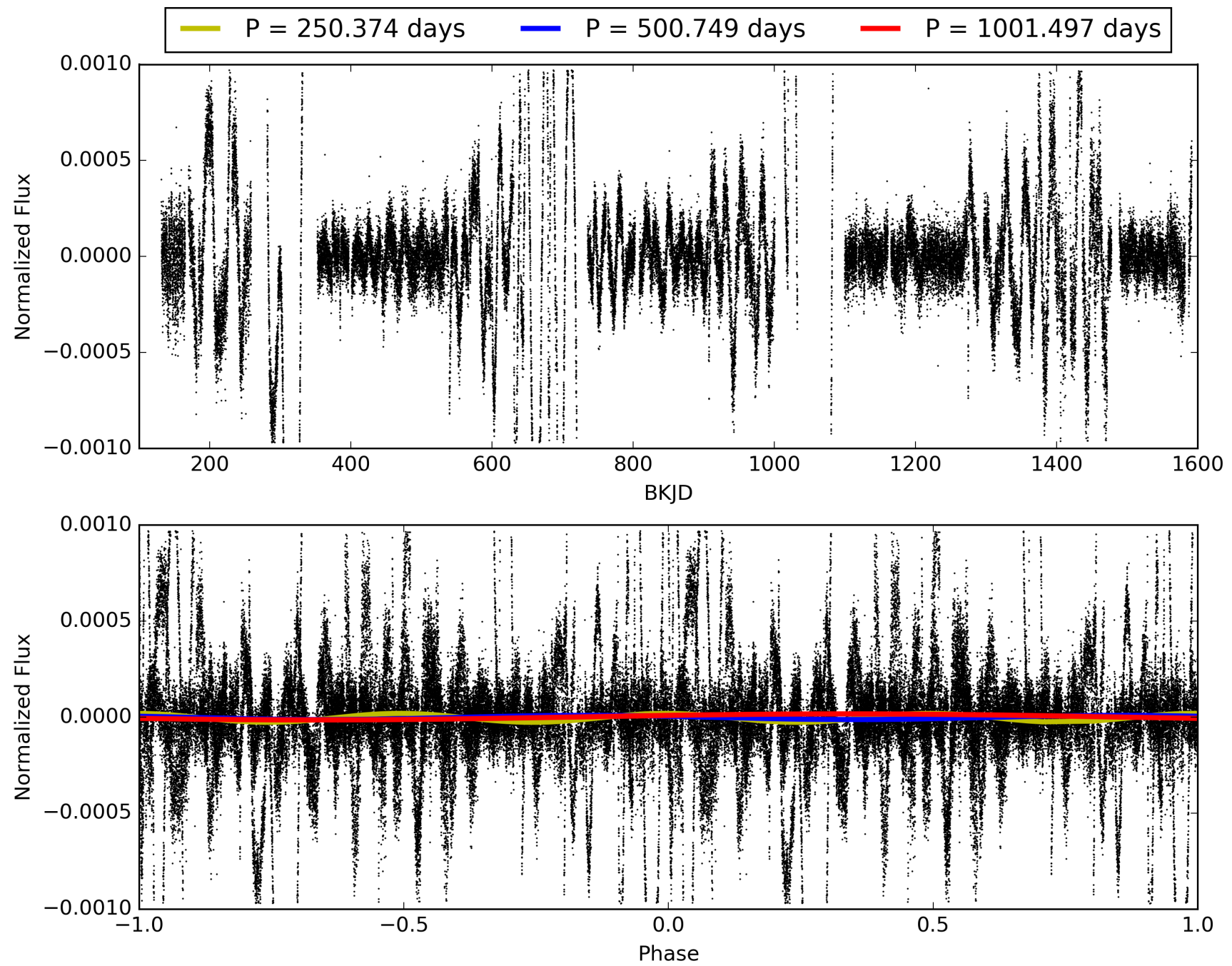
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:24:42 Z

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

TCE 010385708-01, PDC Light Curves

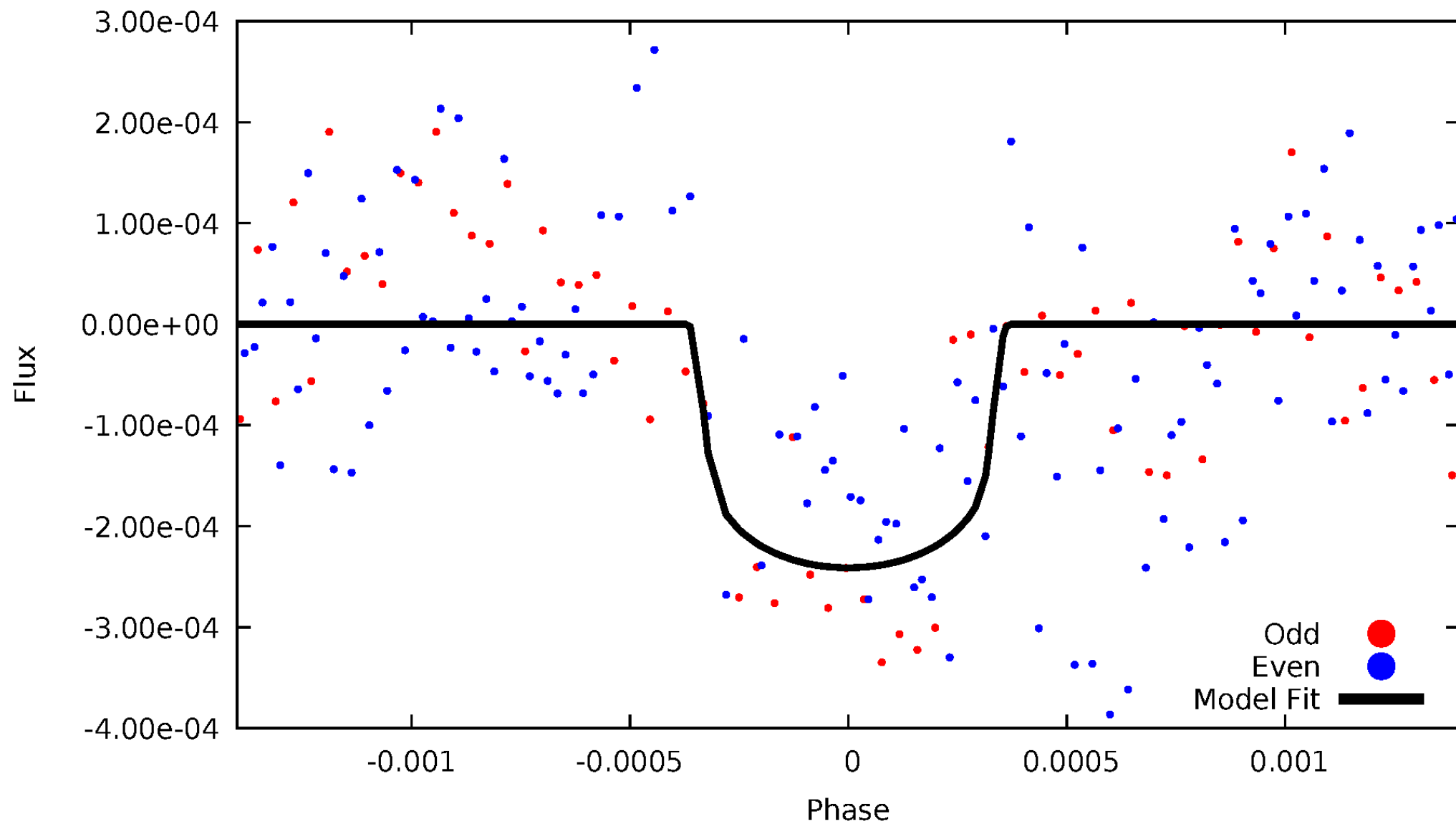


TCE 010385708-01



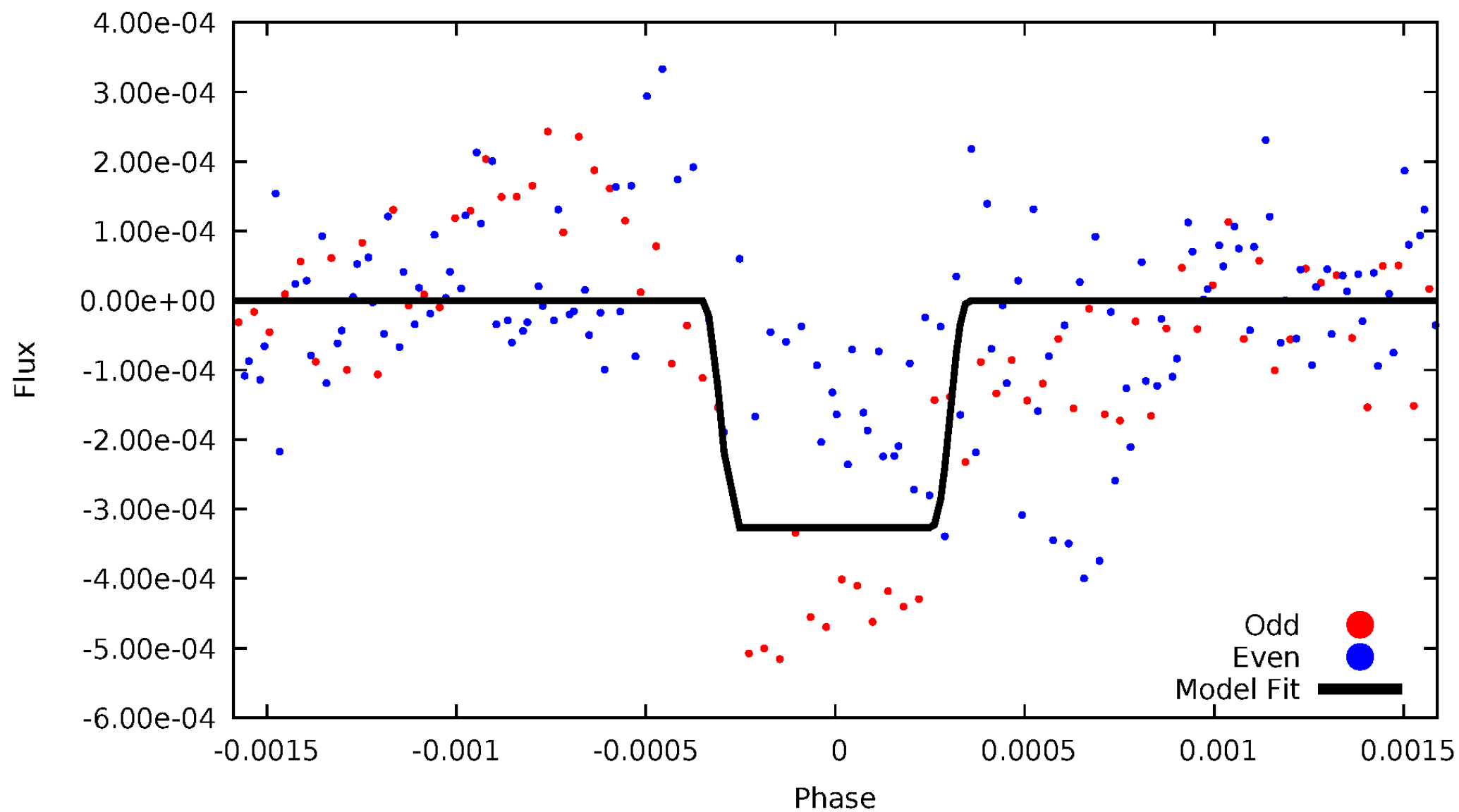
DV Odd/Even

TCE 010385708-01

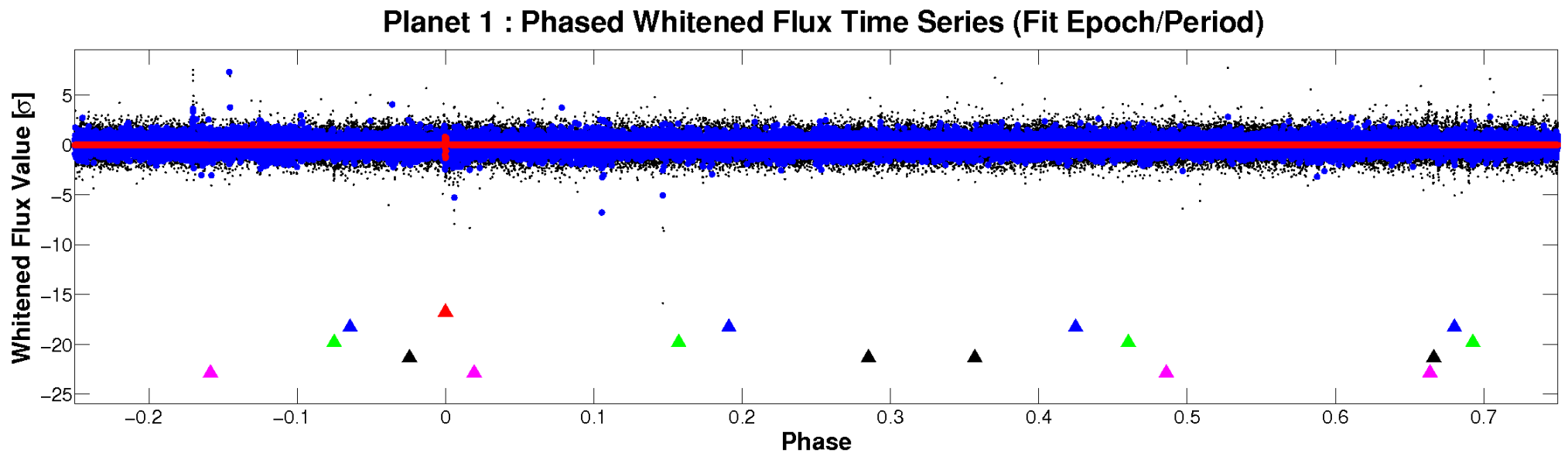
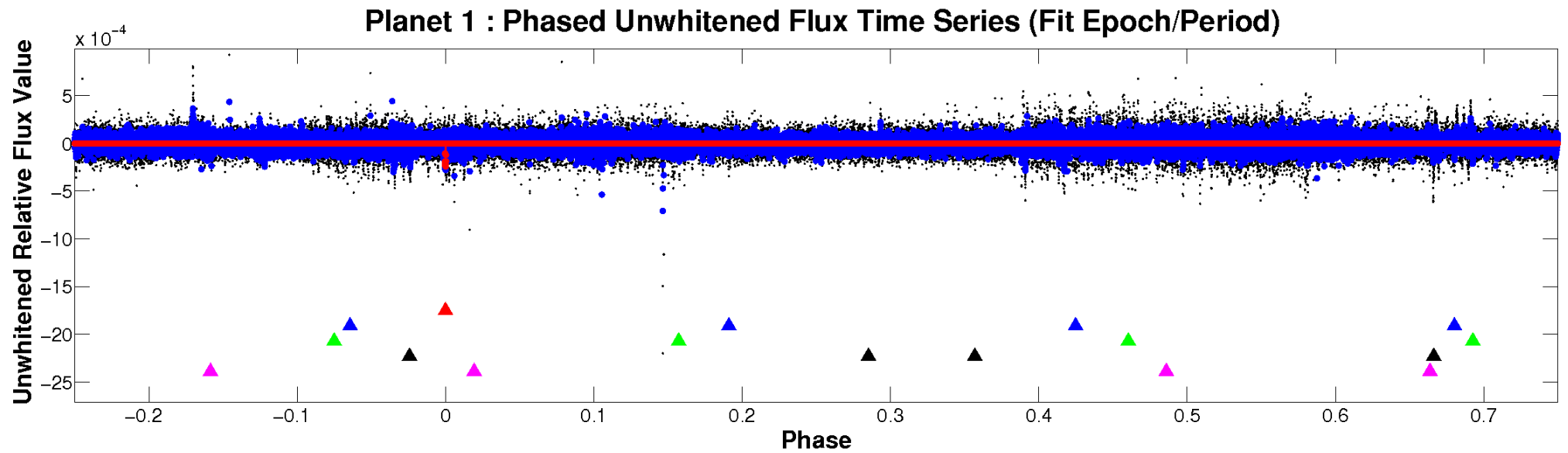


ALT Odd/Even

TCE 010385708-01

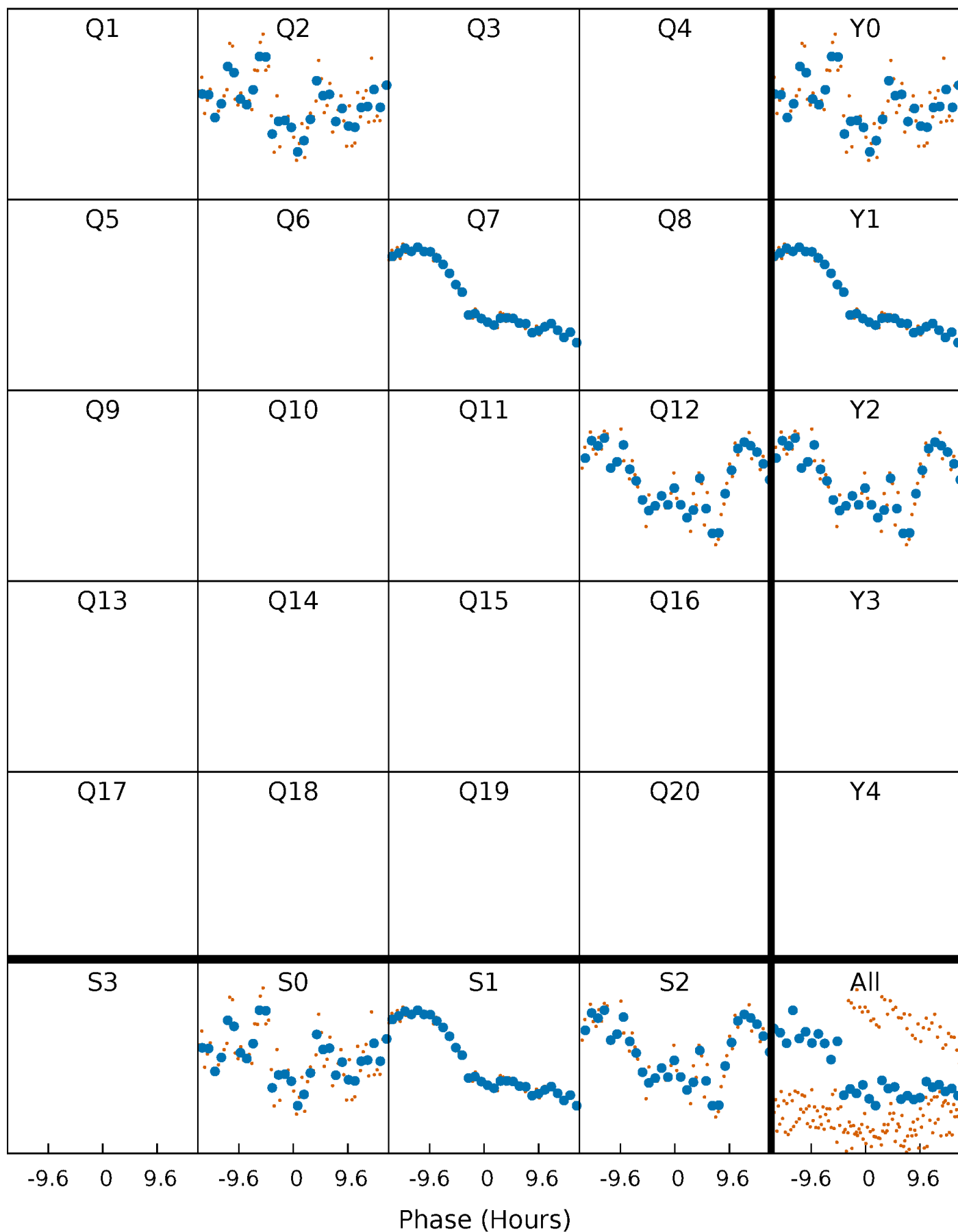


Non-Whitened Vs. Whitened Light Curve



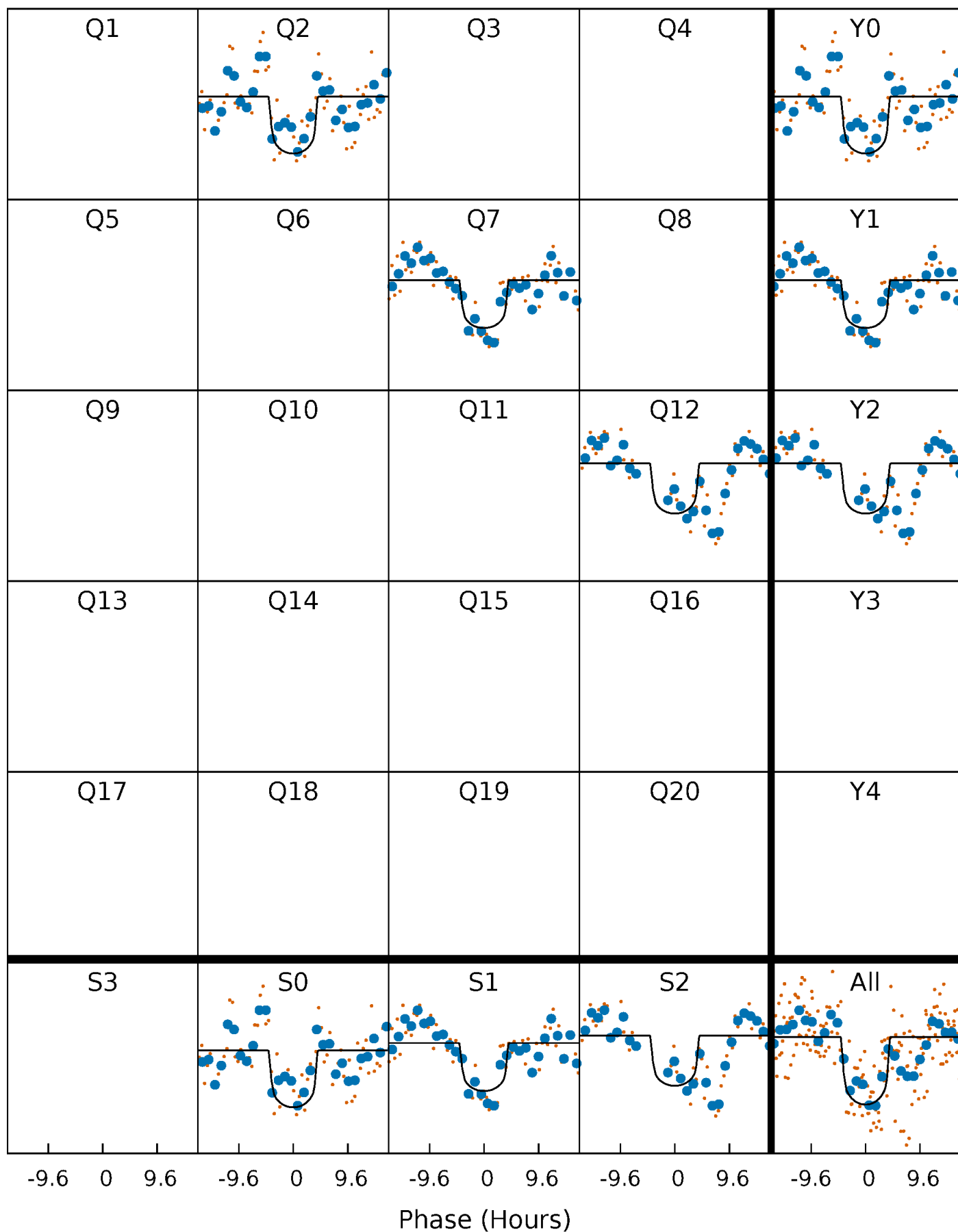
PDC Quarter-Phased Transit Curves

TCE 010385708-01 P=500.748698 Days $T_0=177.527508$ (BKJD)



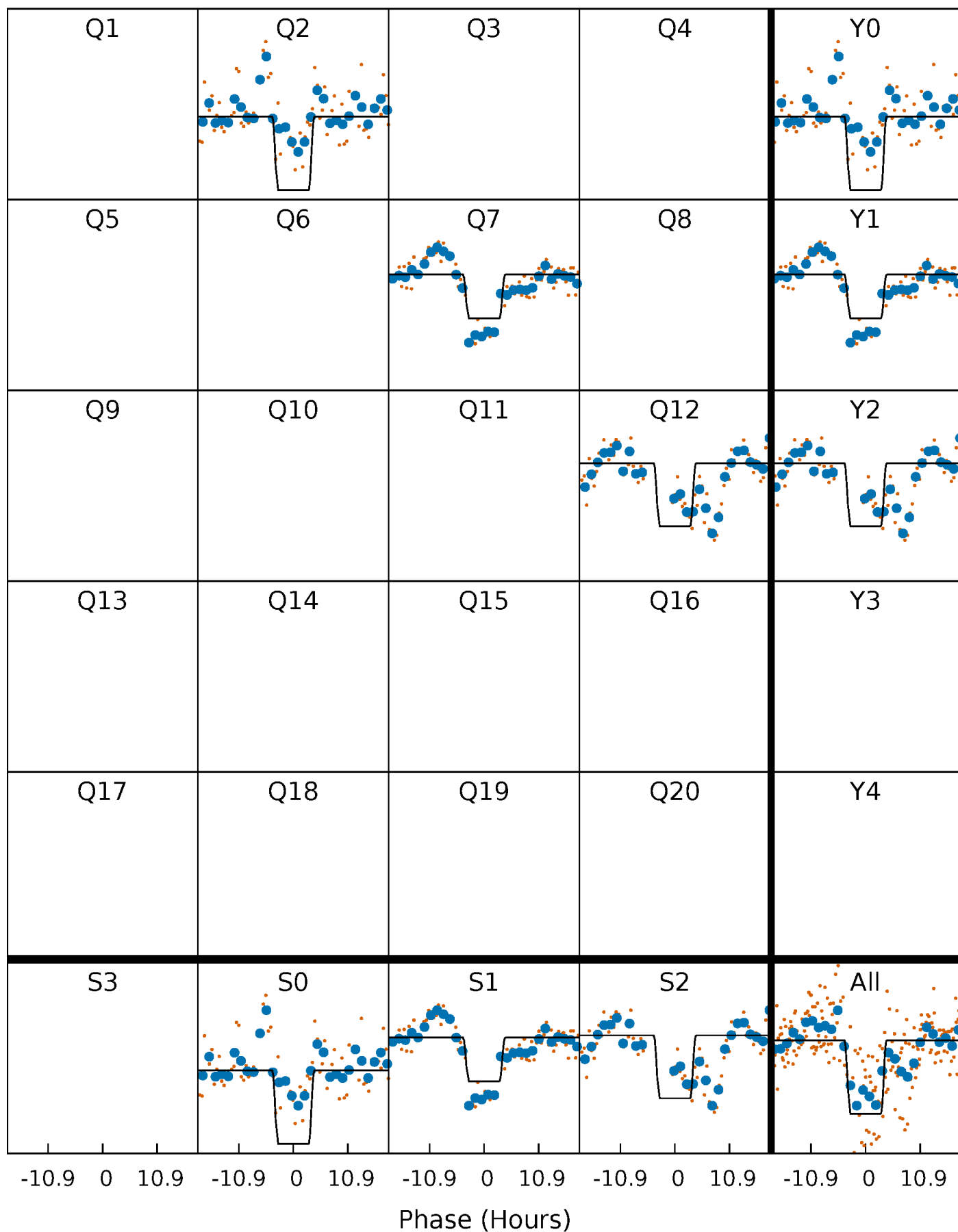
DV Quarter-Phased Transit Curves

TCE 010385708-01 P=500.748698 Days $T_0=177.527508$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

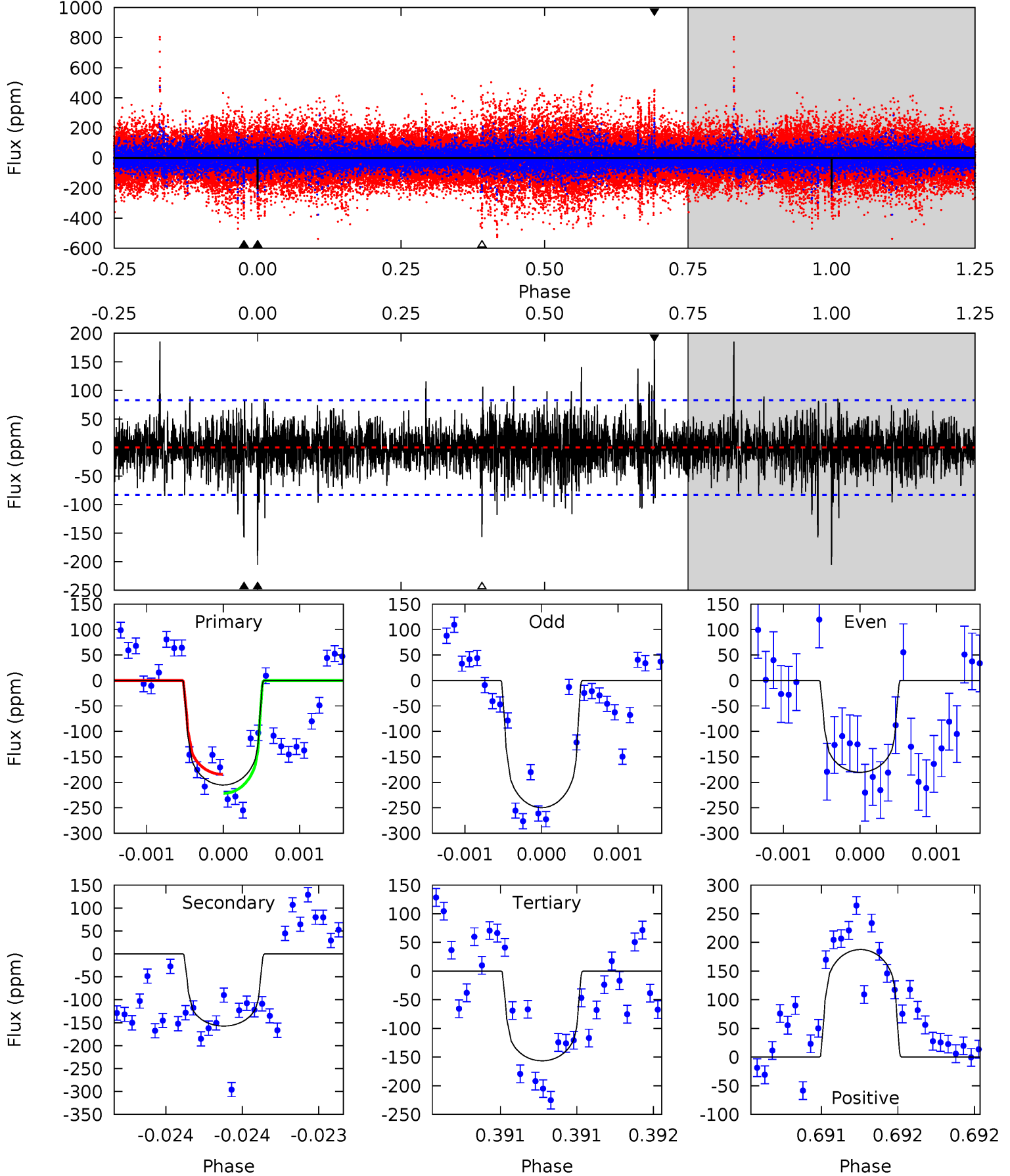
TCE 010385708-01 P=500.731199 Days $T_0=177.533914$ (BKJD)



DV Model-Shift Uniqueness Test

010385708-01, P = 500.748698 Days, E = 177.527508 Days

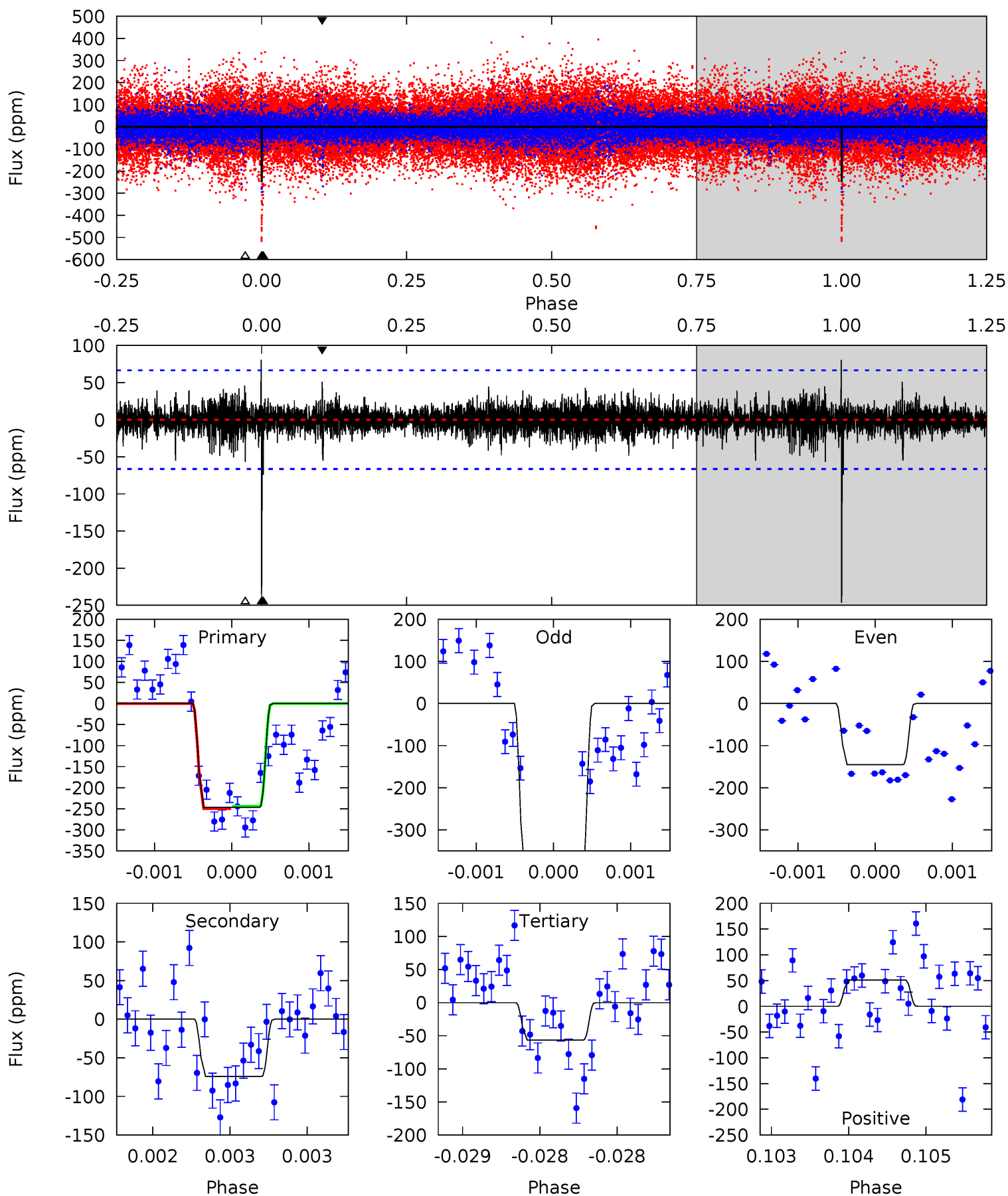
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	10.5	10.4	12.5	5.52	3.39	1.97	3.24	1.17	0.06	-2.01	2.22	0.98	0.48	1.22



Alt Model-Shift Uniqueness Test

010385708-01, P = 500.731199 Days, E = 177.533914 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	6.15	4.69	4.24	5.52	3.39	0.97	15.8	16.2	1.46	1.92	10.9	1.12	0.25	0.22



Stellar Parameters For KIC 010385708

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5845^{+79}_{-79}	$4.024^{+0.025}_{-0.020}$	$0.080^{+0.200}_{-0.150}$	$1.702^{+0.120}_{-0.083}$	$1.115^{+0.179}_{-0.060}$	$0.319^{+0.034}_{-0.028}$
	+1%/-1%	+1%/-0%	+250%/-188%	+7%/-5%	+16%/-5%	+11%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 010385708-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-157 ± 15	$2.98^{+1.13}_{-1.19}$	415^{+7}_{-7}	5229^{+1548}_{-658}	16134^{+29728}_{-7794}
Alt.	-74 ± 12	$3.31^{+1.30}_{-1.20}$	415^{+7}_{-7}	4315^{+869}_{-513}	6214^{+9277}_{-3107}

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 $A_{obs} \gg 1.0$

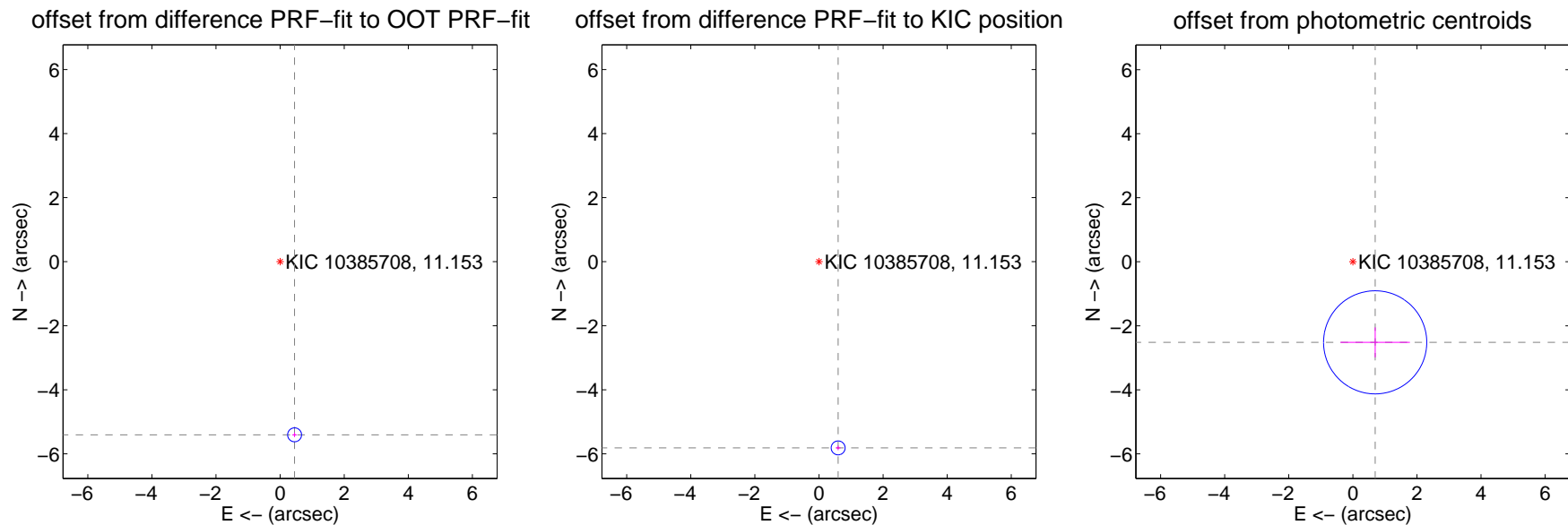
DV Centroid Data

Supplemental centroid analysis for 010385708-01. **Kepler magnitude: 11.15.** Transit SNR 8.26

There are 0 quarters with good PRF difference image offsets

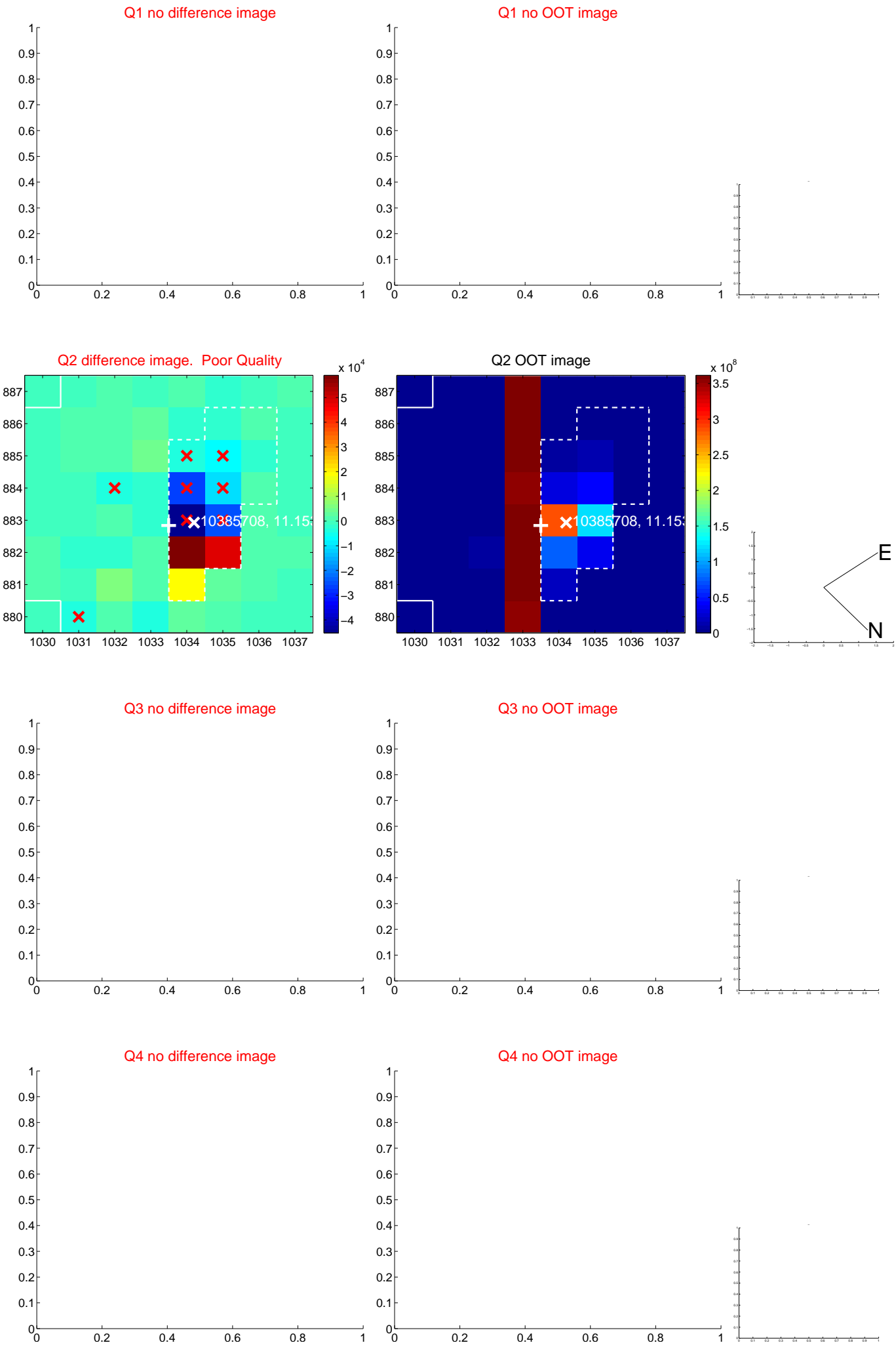
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.426 ± 0.072	74.94	-0.452 ± 0.076	-5.407 ± 0.072
PRF-fit source offset from KIC position	5.847 ± 0.072	80.74	-0.598 ± 0.076	-5.816 ± 0.072
photometric centroid source offset	2.61 ± 0.54	4.86	-0.70 ± 1.09	-2.52 ± 0.47

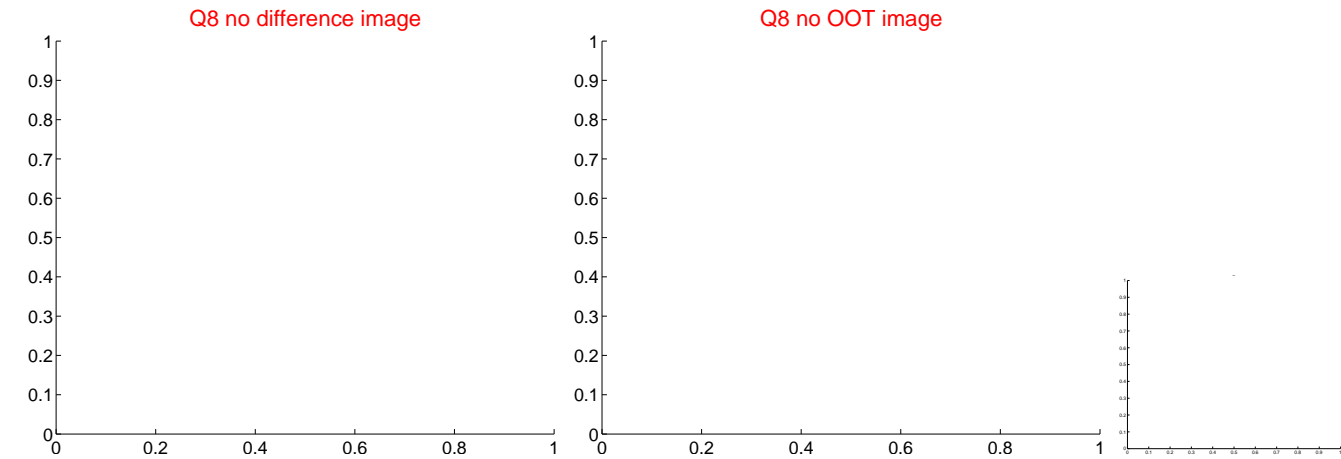
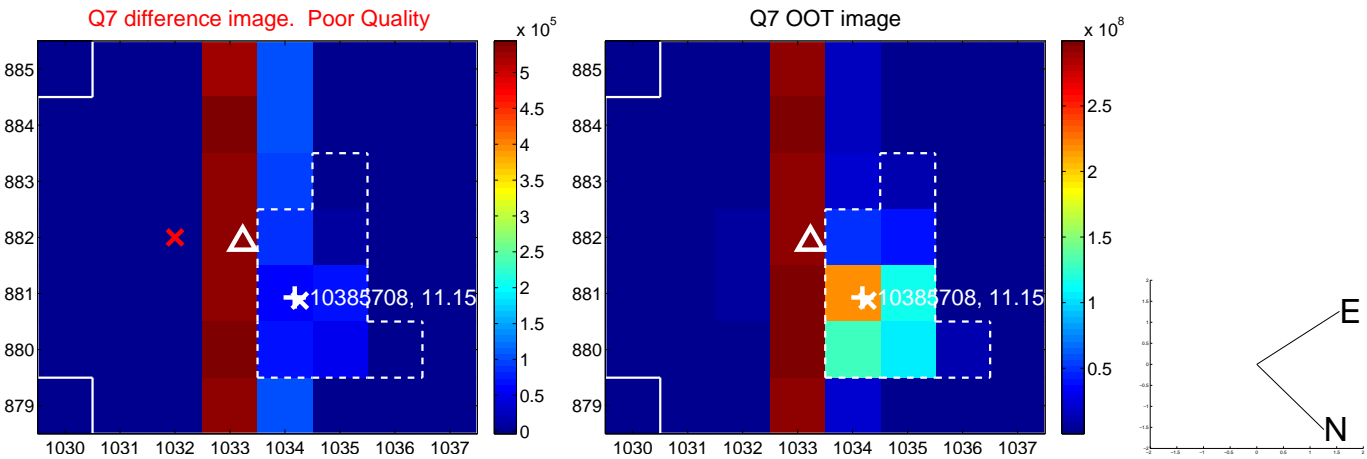
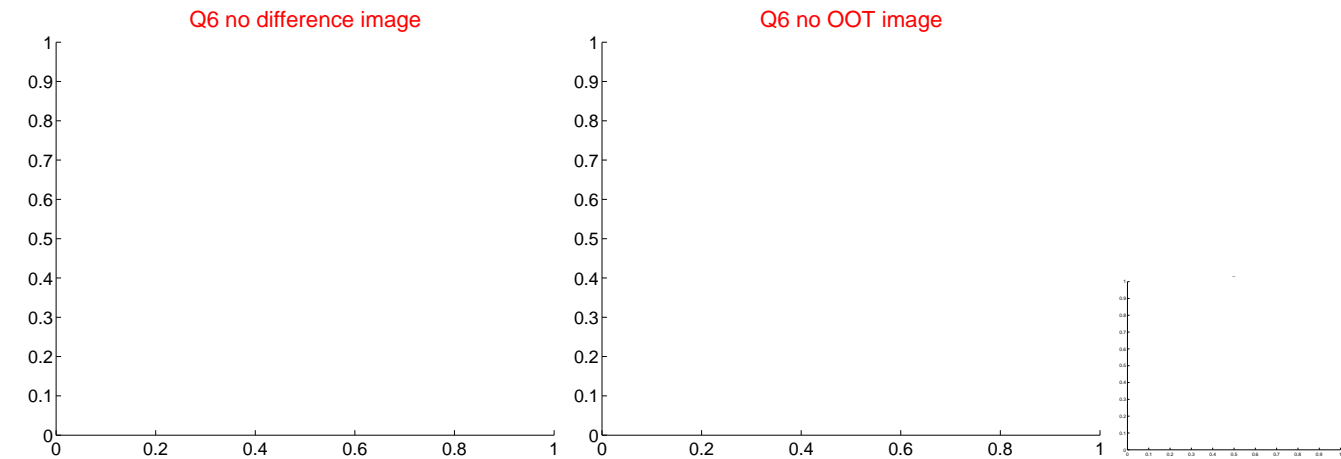


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



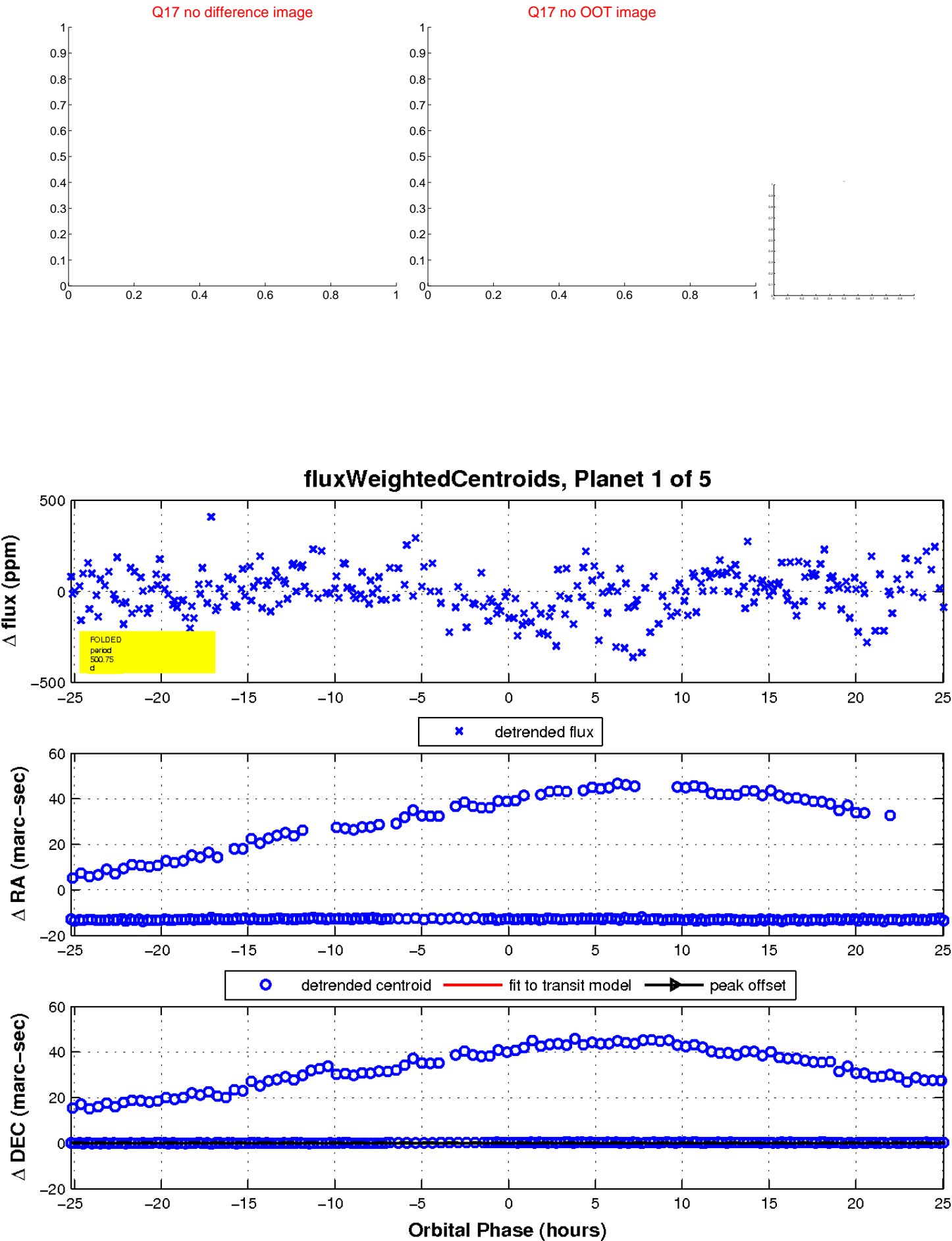
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

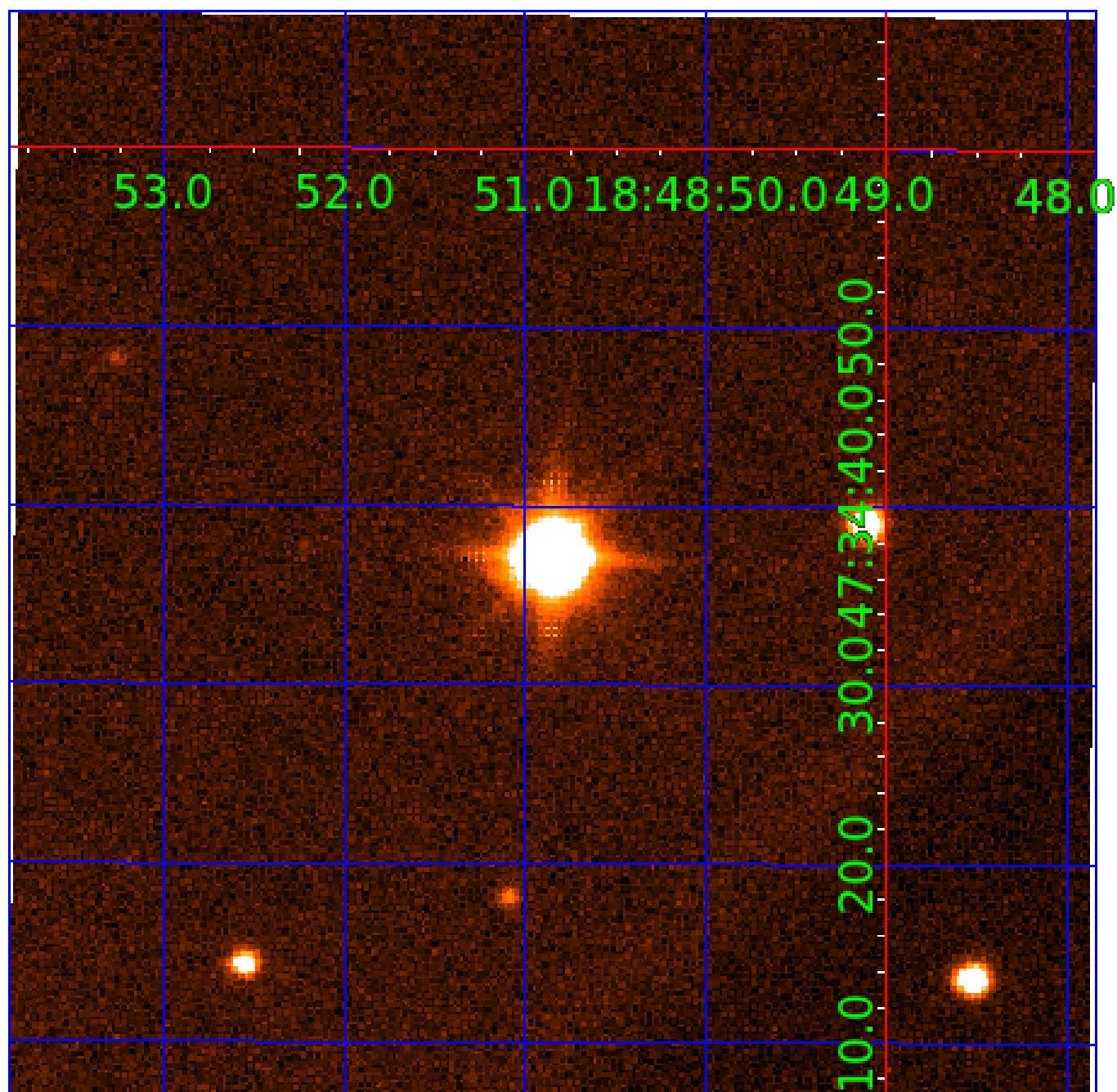


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010385708

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})
010385708-01	OBS	No	500.748698	177.527508	241.2	8.406	10.4	8.3	1.70	5845	2.93	1.85
010385708-02	OBS	No	372.856039	273.201354	233.6	17.295	9.7	9.1	1.70	5845	2.74	2.74
010385708-03	OBS	No	384.433275	256.269268	341.9	16.341	10.1	10.1	1.70	5845	6.33	2.63
010385708-04	OBS	8206.01	345.804444	320.333361	174.8	15.166	10.3	8.1	1.70	5845	2.43	3.03
010385708-05	OBS	No	411.722612	187.219690	109.1	15.000	10.6	-1.0	1.70	5845	1.76	2.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385708-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010385708-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQU_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

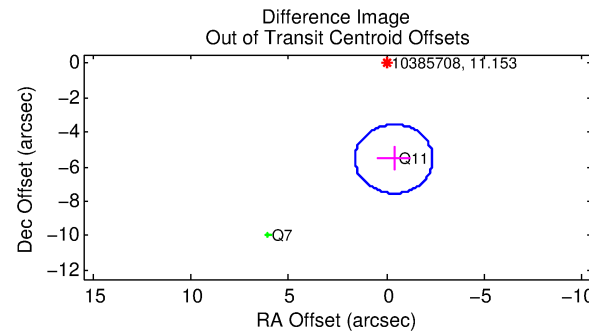
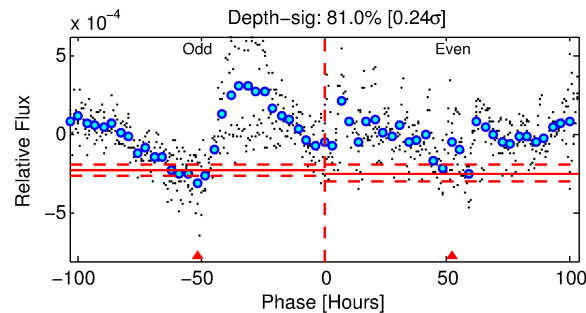
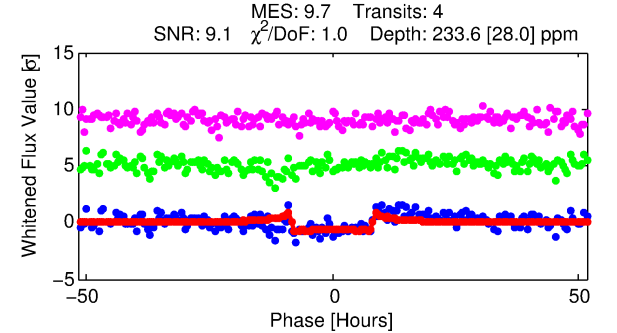
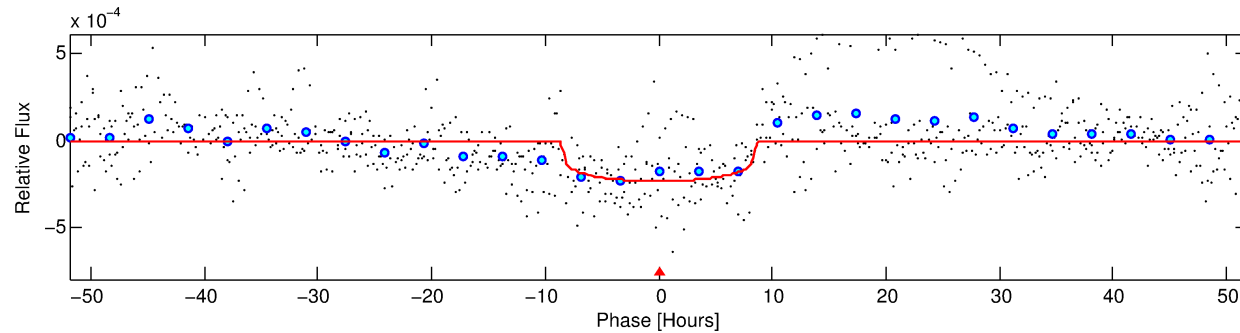
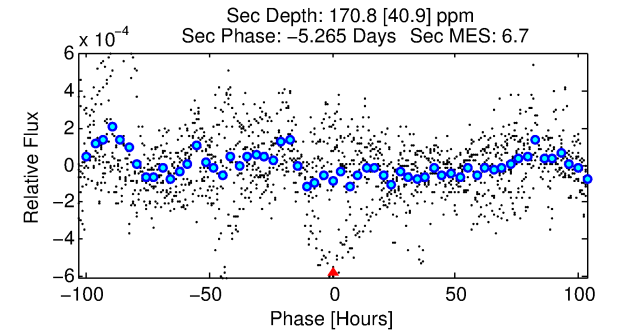
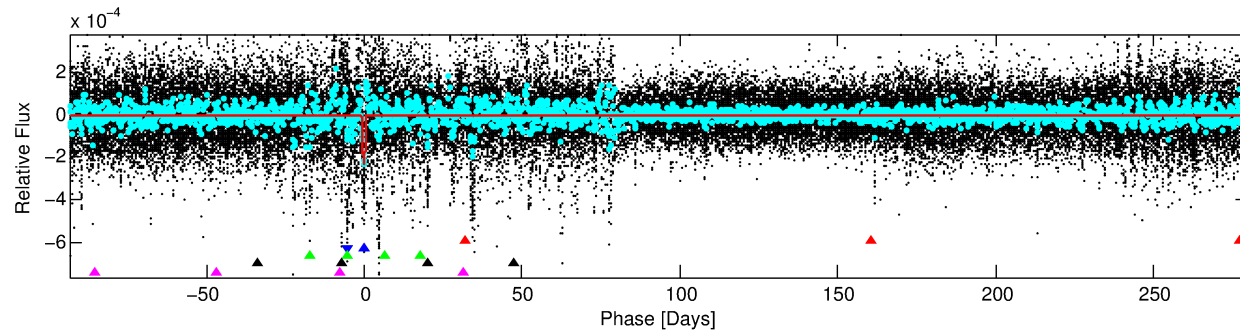
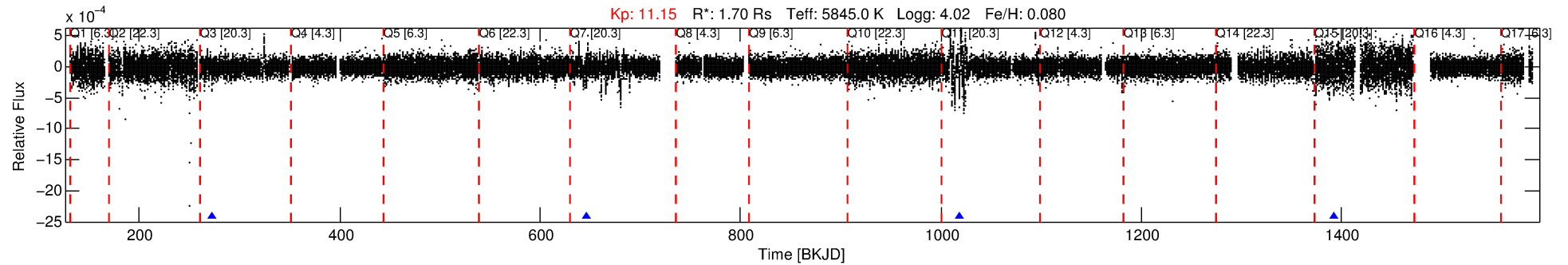
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385708-02

No Significant Match Found

DV One-Page Summary

KIC: 10385708 Candidate: 2 of 5 Period: 372.856 d



DV Fit Results:

Period = 372.85604 [0.00620] d
Epoch = 273.2014 [0.0096] BKJD
Rp/R* = 0.0147 [0.0032]
a/R* = 128.41 [117.11]
b = 0.65 [0.82]
Seff = 2.74 [0.22]
Teq = 328 [7] K
Rp = 2.74 [0.63] Re
a = 1.0520 [0.0534] AU
Ag = 13869.67 [6932.09] [2.00sigma]
Teffp = 5503 [687] K [7.54sigma]

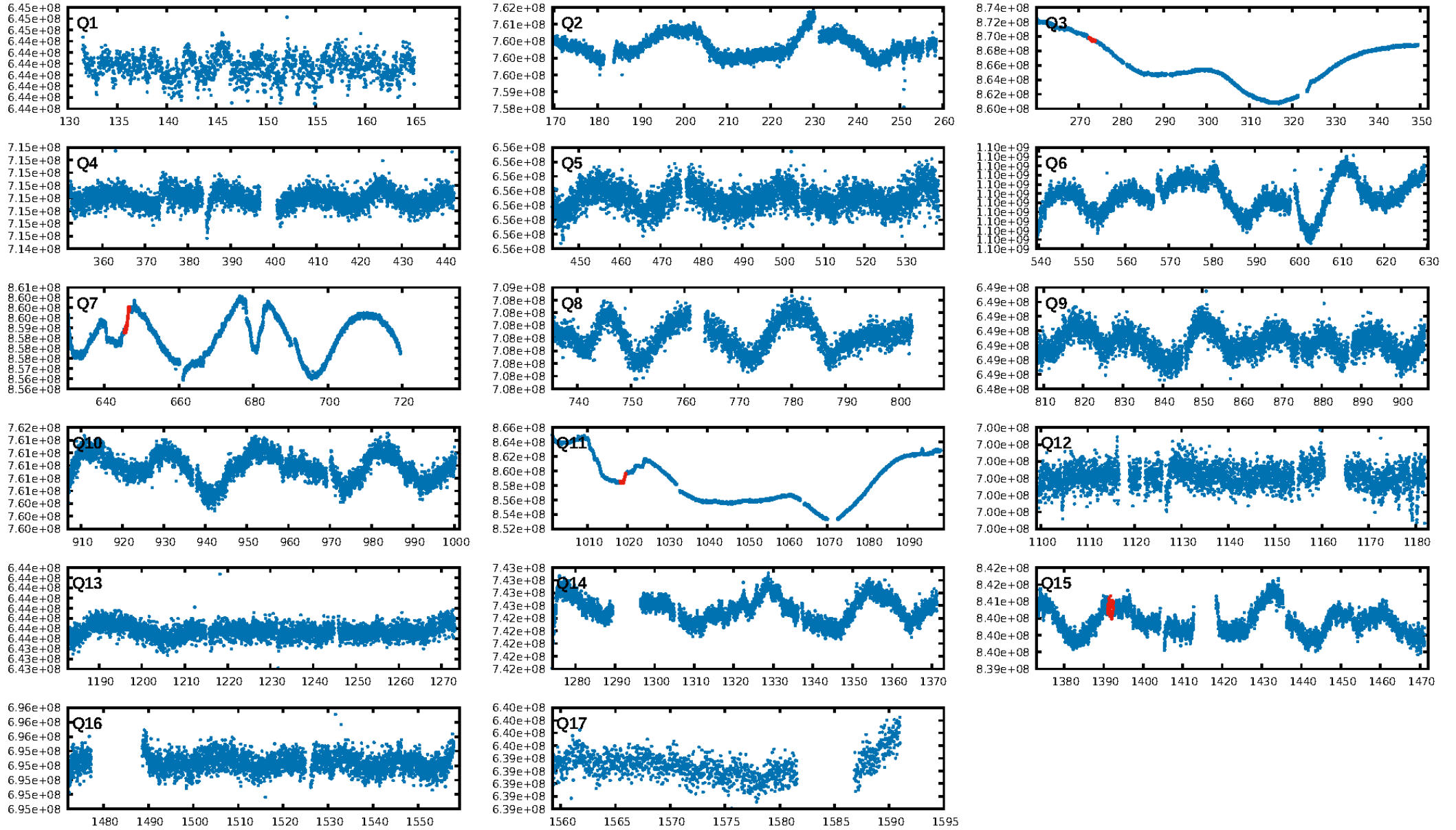
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [28.22sigma]
LongPeriod-sig: 100.0% [11.68sigma]
ModelChiSquare2-sig: 2.7%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 2.89e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 423.6
Centroid-sig: N/A
Centroid-so: 4.440 arcsec [5.42sigma]
OotOffset-rm: 5.563 arcsec [8.39sigma]
KicOffset-rm: 6.062 arcsec [9.22sigma]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [4/4]

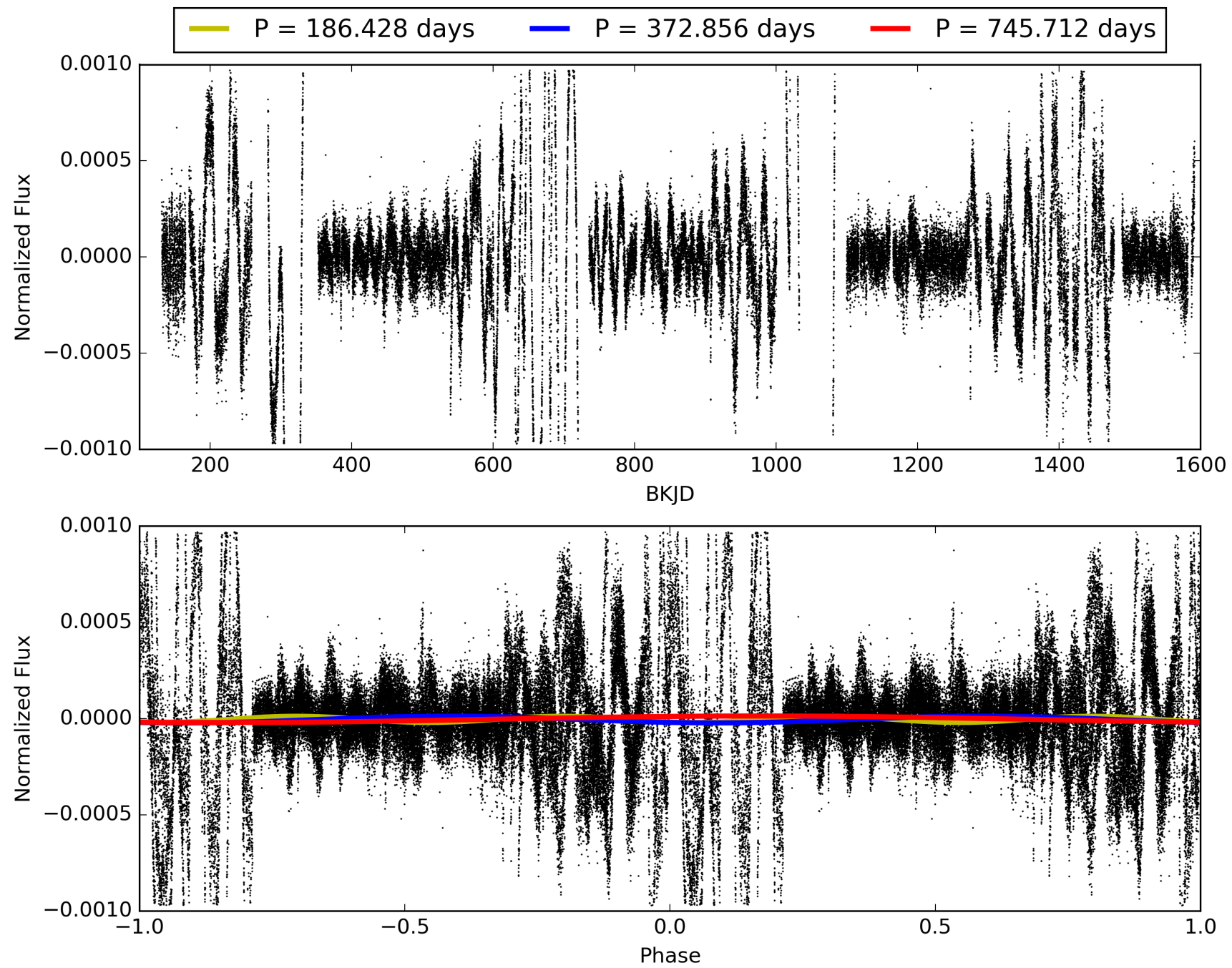
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:24:50 Z

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

TCE 010385708-02, PDC Light Curves

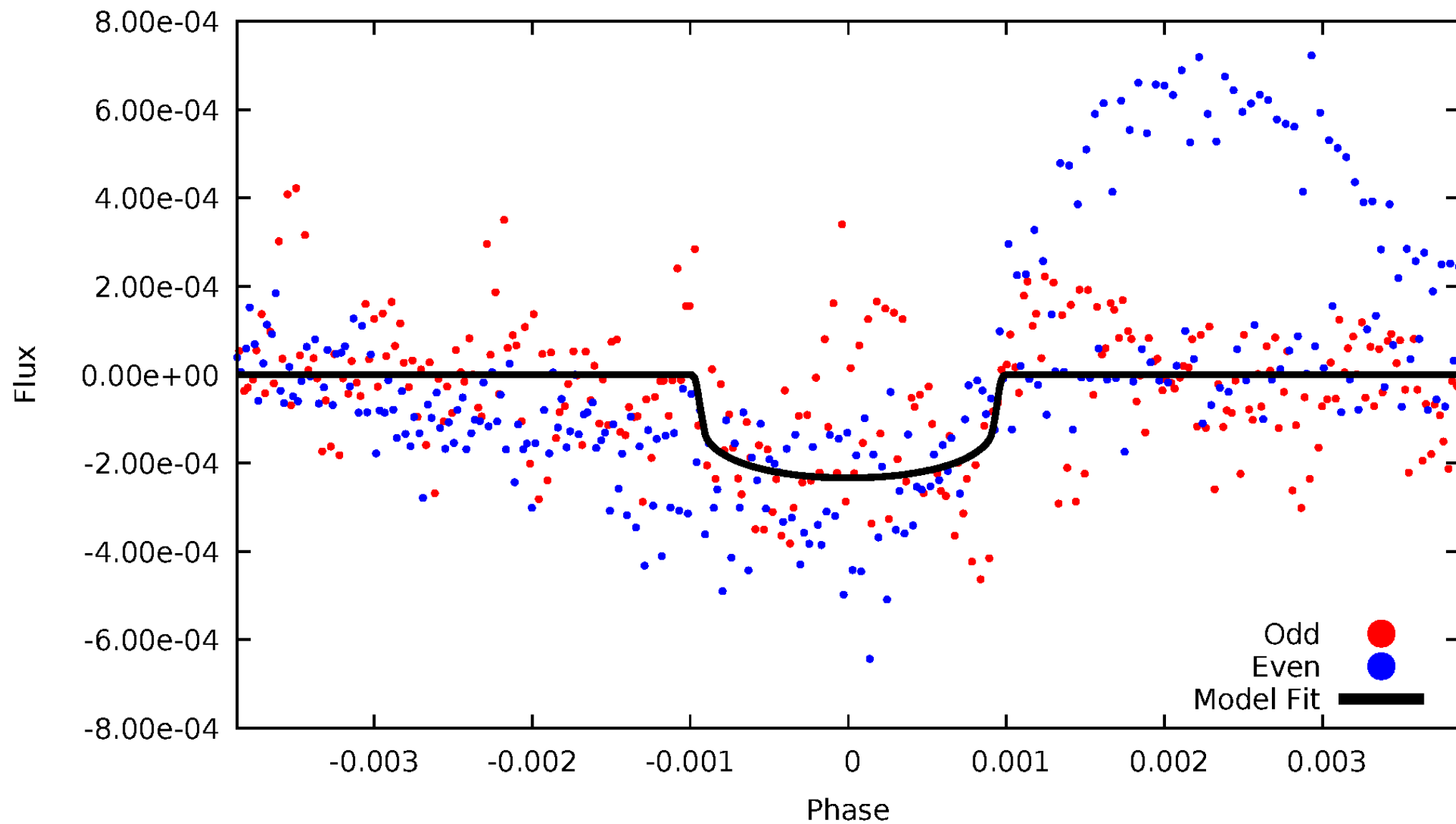


TCE 010385708-02



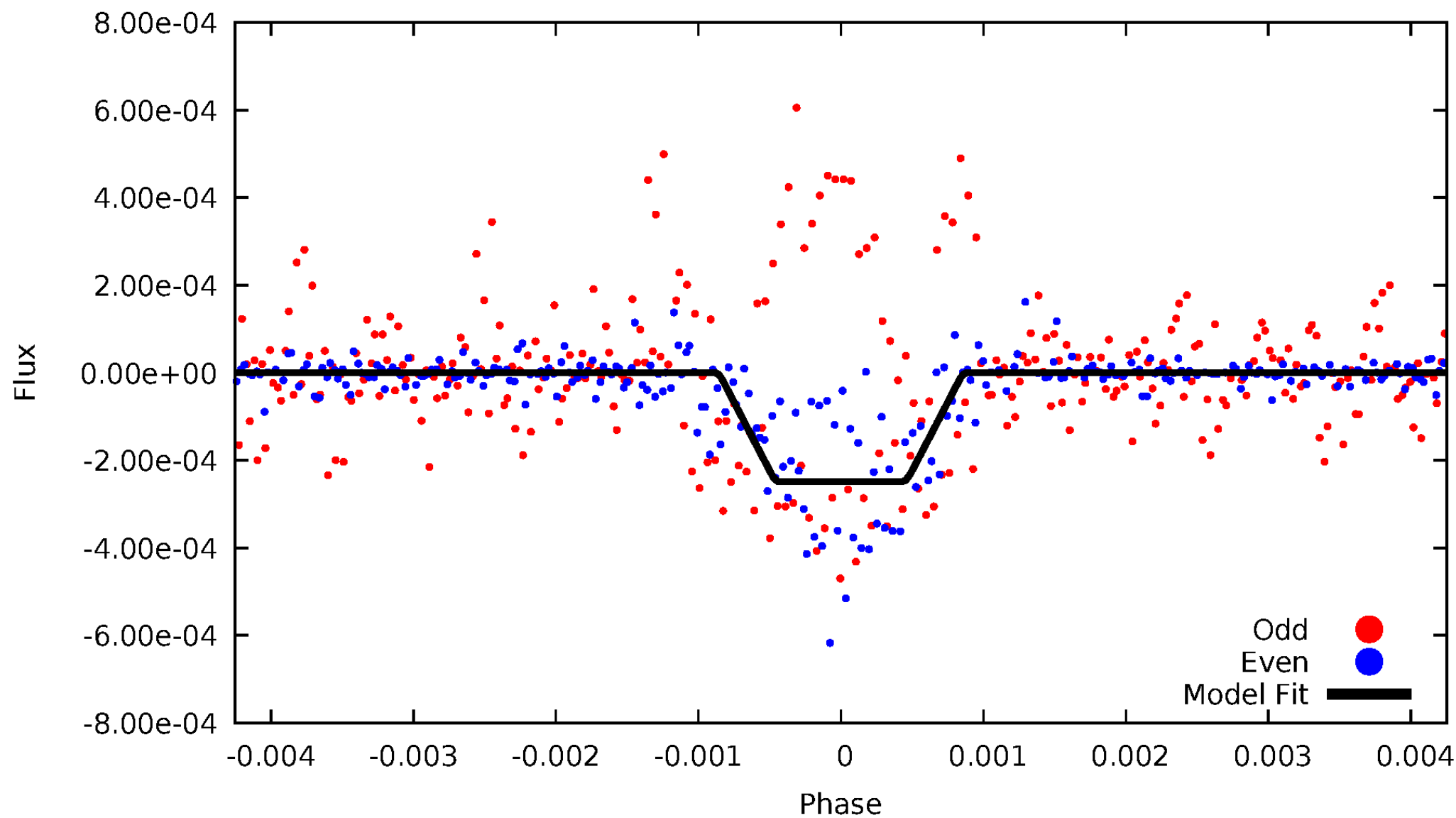
DV Odd/Even

TCE 010385708-02



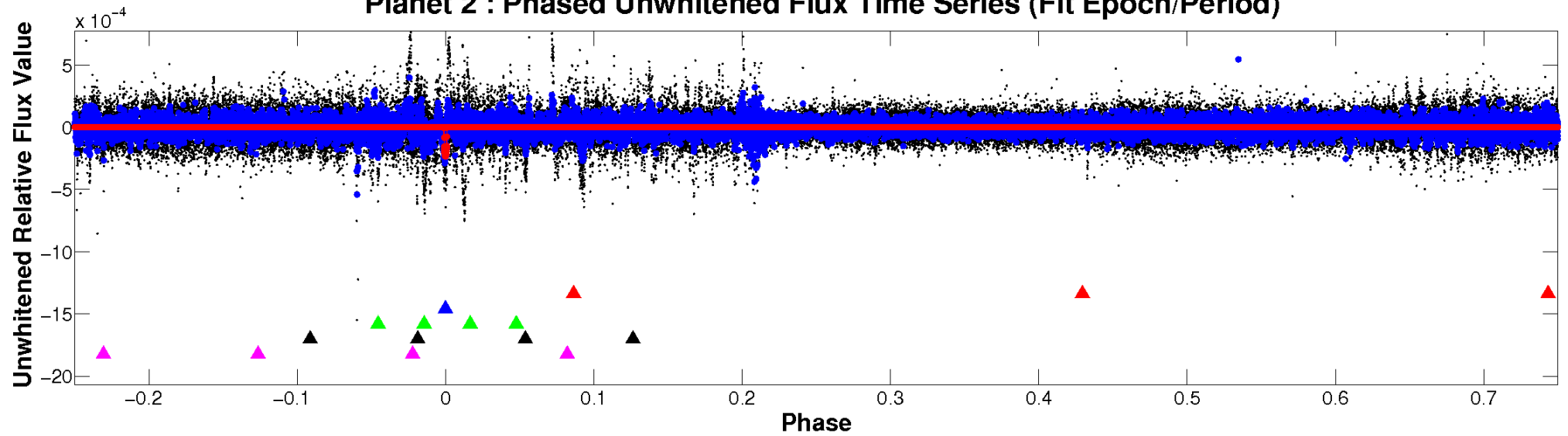
ALT Odd/Even

TCE 010385708-02

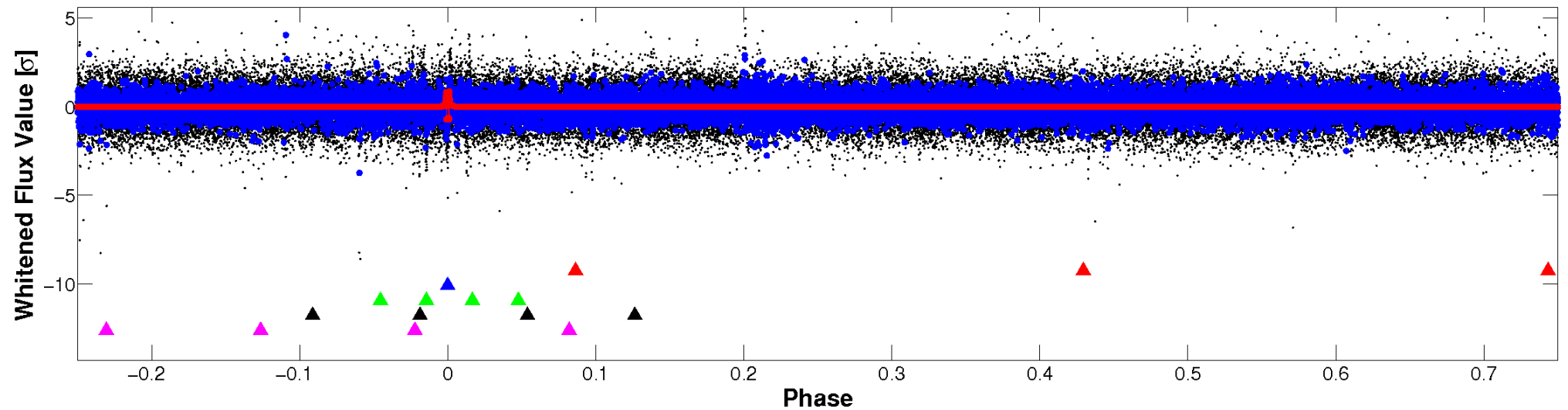


Non-Whitened Vs. Whitened Light Curve

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

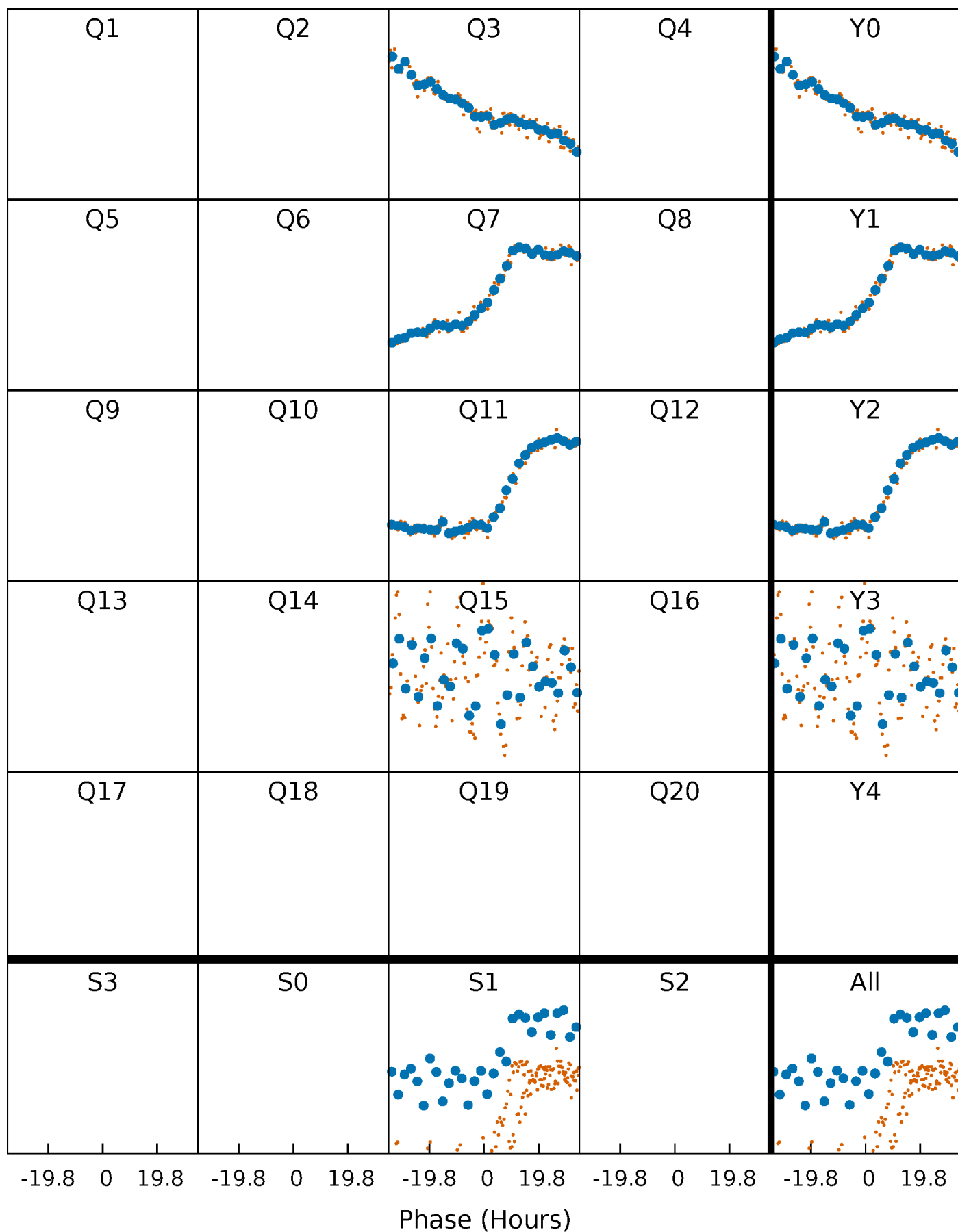


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



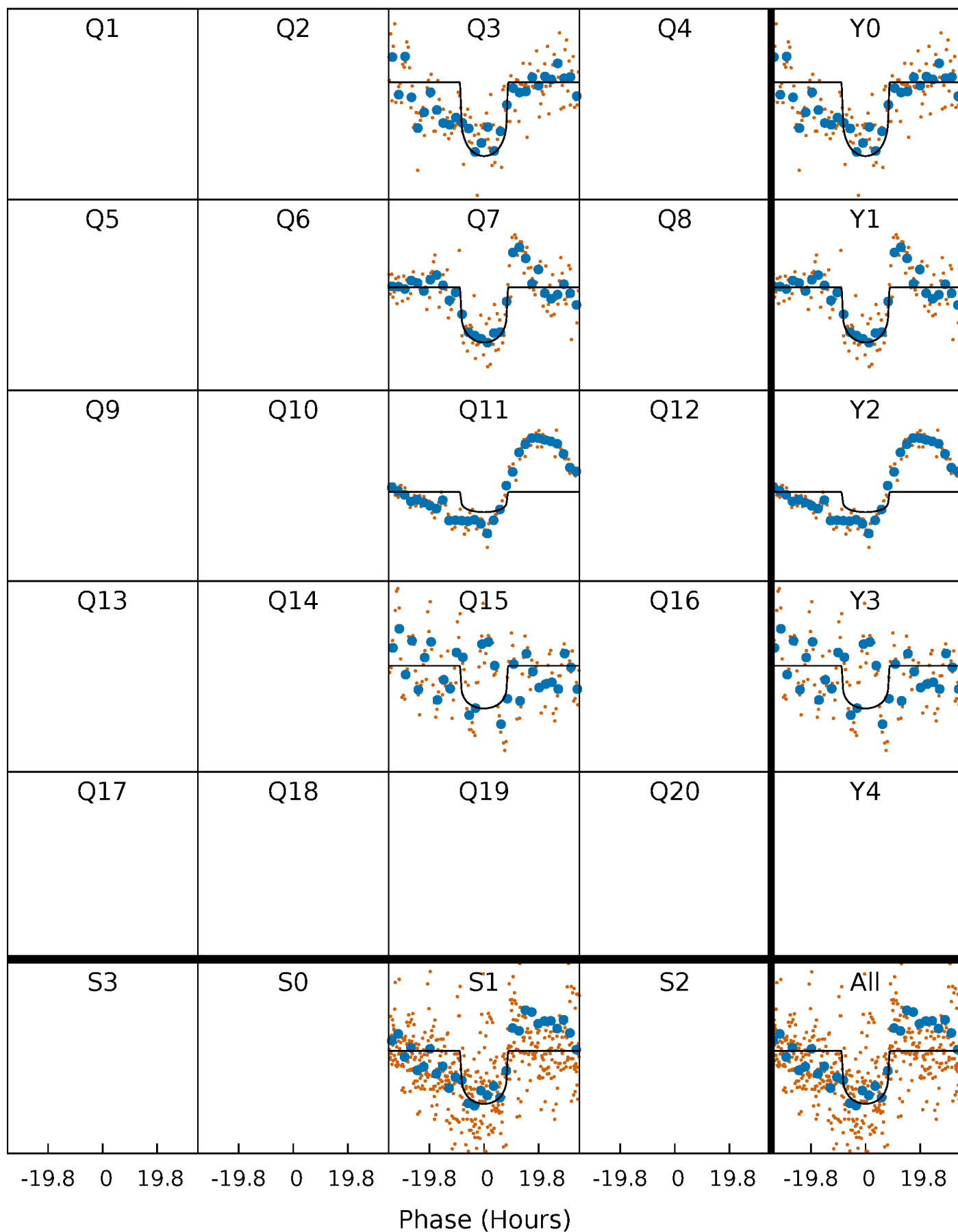
PDC Quarter-Phased Transit Curves

TCE 010385708-02 $P=372.856039$ Days $T_0=273.201354$ (BKJD)



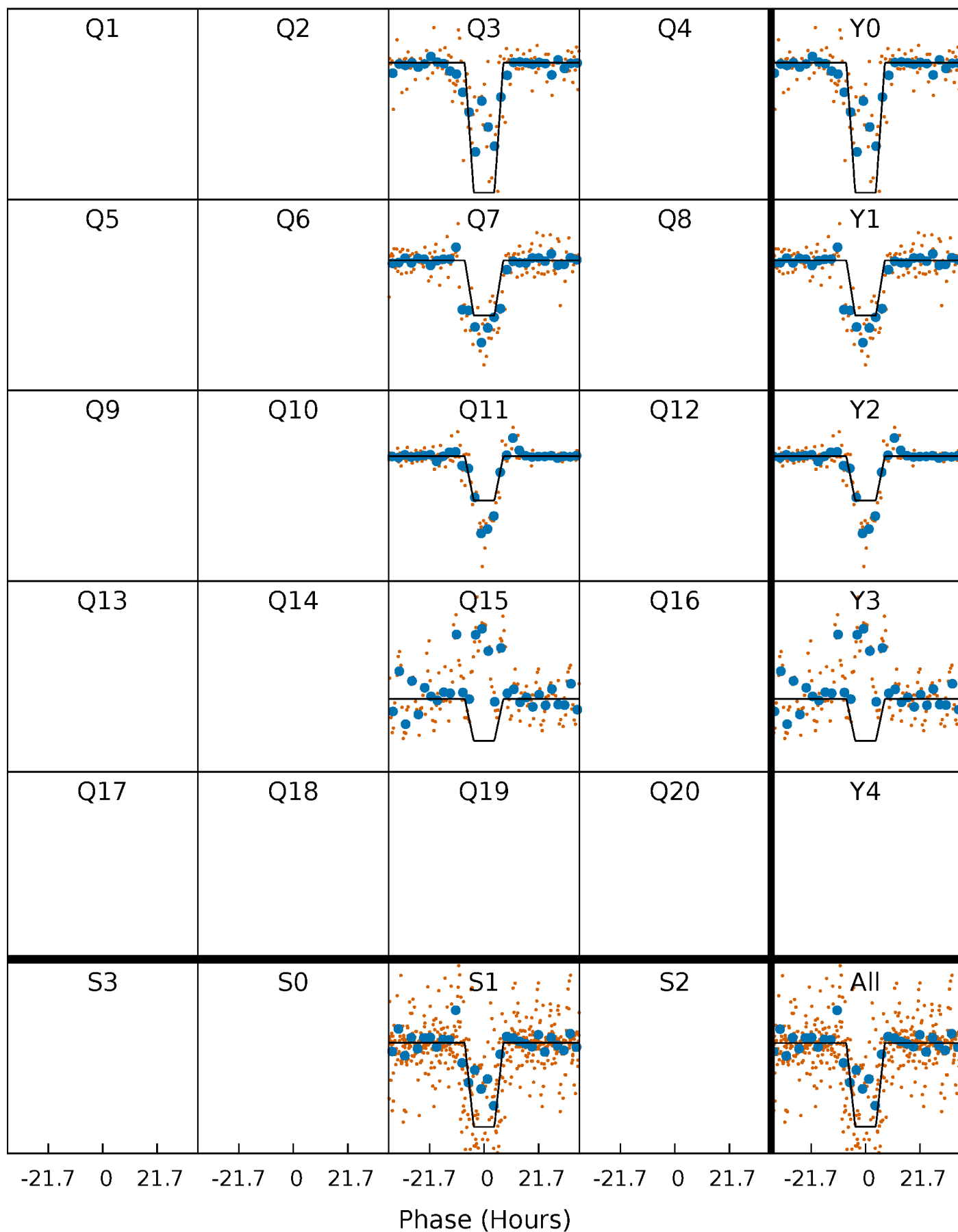
DV Quarter-Phased Transit Curves

TCE 010385708-02 $P=372.856039$ Days $T_0=273.201354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

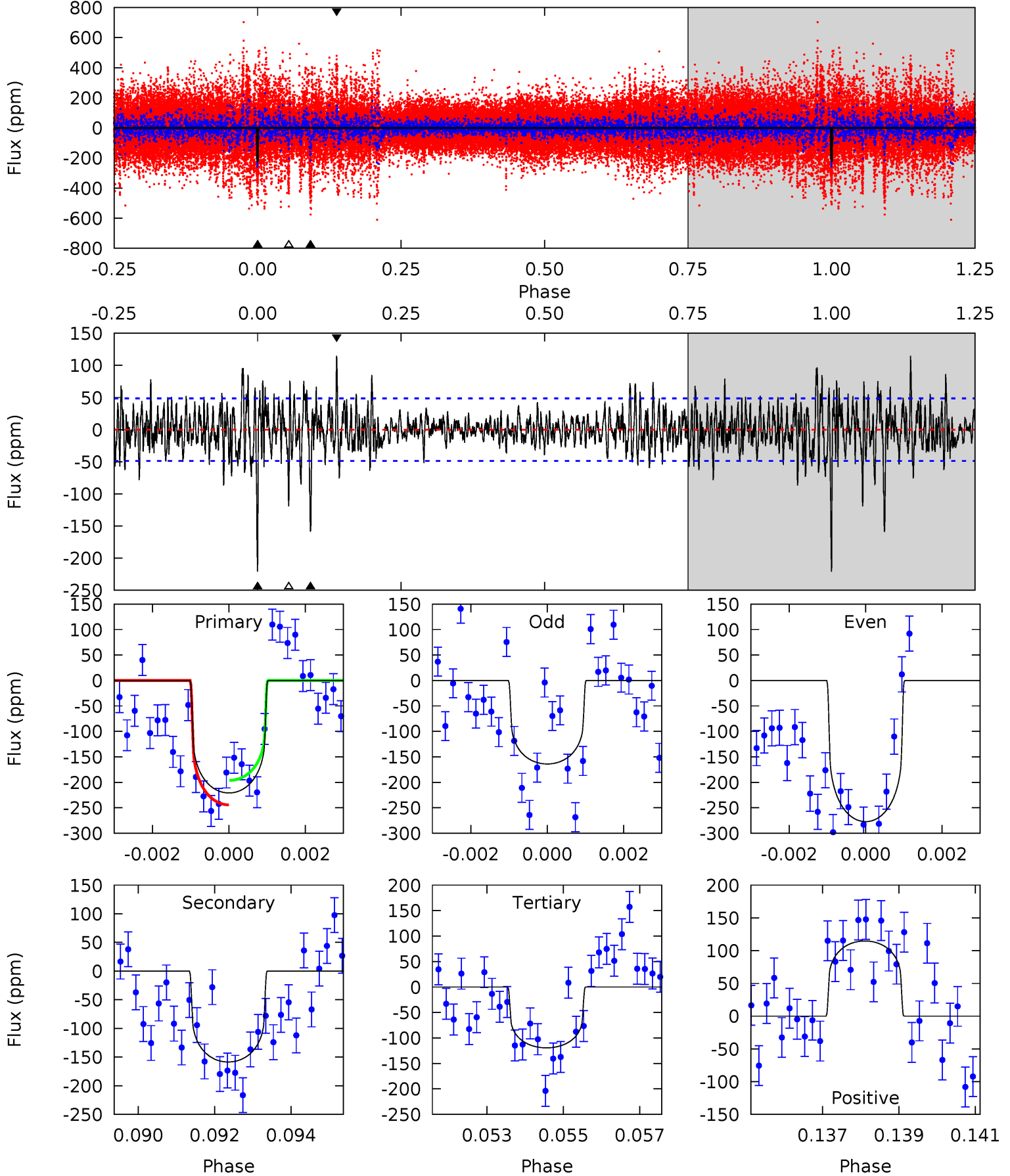
TCE 010385708-02 $P=372.878414$ Days $T_0=273.235573$ (BKJD)



DV Model-Shift Uniqueness Test

010385708-02, P = 372.856039 Days, E = 273.201354 Days

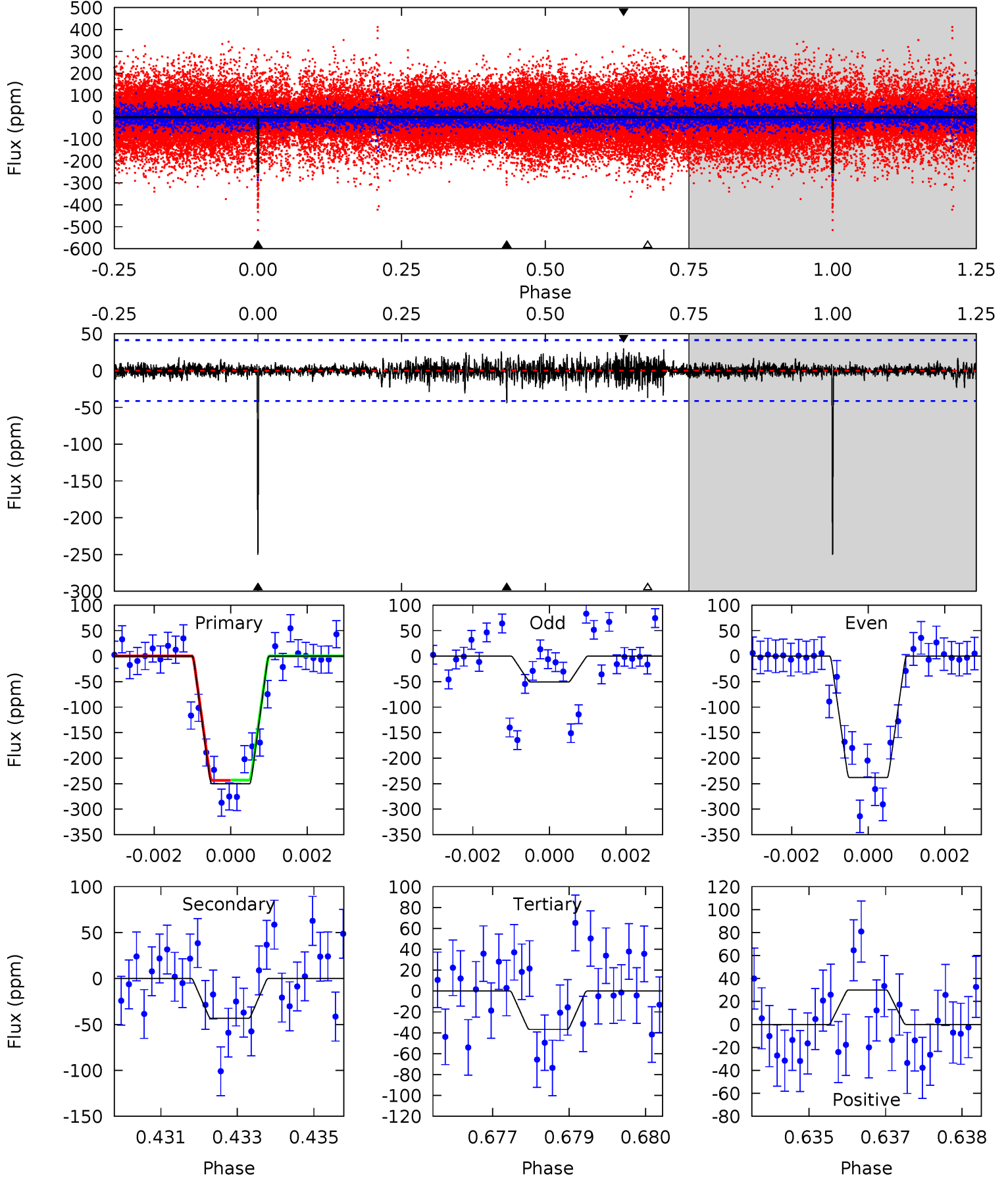
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	17.4	13.1	12.6	5.33	3.10	2.76	11.1	11.6	4.30	4.81	6.06	1.08	0.34	2.65



Alt Model-Shift Uniqueness Test

010385708-02, P = 372.878414 Days, E = 273.235573 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.3	5.60	4.76	3.87	5.35	3.13	0.91	27.6	28.4	0.83	1.72	13.1	0.59	0.11	0.04



Stellar Parameters For KIC 010385708

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5845^{+79}_{-79}	$4.024^{+0.025}_{-0.020}$	$0.080^{+0.200}_{-0.150}$	$1.702^{+0.120}_{-0.083}$	$1.115^{+0.179}_{-0.060}$	$0.319^{+0.034}_{-0.028}$
	+1%/-1%	+1%/-0%	+250%/-188%	+7%/-5%	+16%/-5%	+11%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 010385708-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-159 ± 9	$2.73^{+0.60}_{-0.58}$	458^{+9}_{-8}	5437^{+665}_{-452}	12944^{+7928}_{-4288}
Alt.	-43 ± 8	$2.87^{+0.62}_{-0.58}$	458^{+8}_{-8}	4090^{+382}_{-298}	3180^{+1833}_{-1129}

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

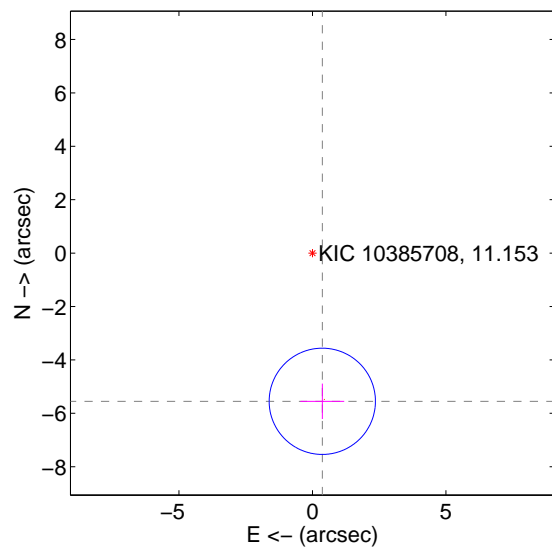
Supplemental centroid analysis for 010385708-02. **Kepler magnitude: 11.15.** Transit SNR 9.09

There are 0 quarters with good PRF difference image offsets

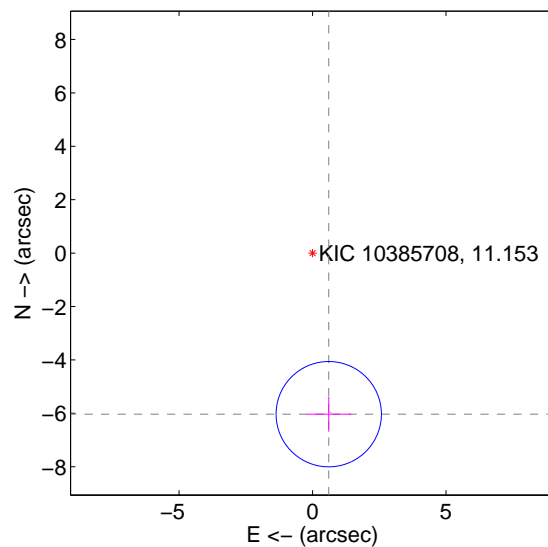
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.563 ± 0.663	8.39	-0.369 ± 0.820	-5.550 ± 0.662
PRF-fit source offset from KIC position	6.062 ± 0.657	9.22	-0.607 ± 0.831	-6.032 ± 0.655
photometric centroid source offset	4.44 ± 0.82	5.42	-3.53 ± 0.98	-2.69 ± 0.42

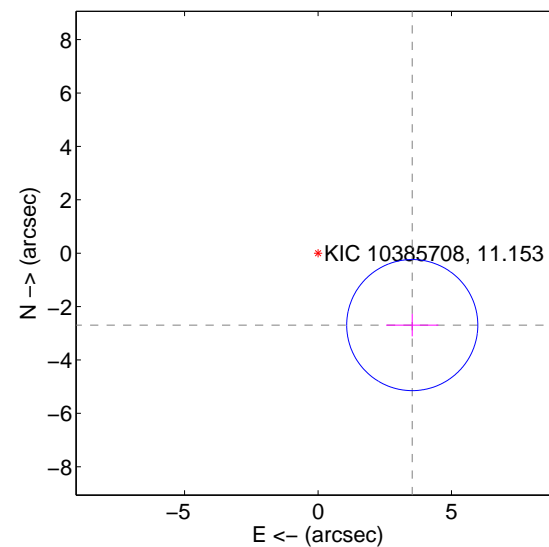
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

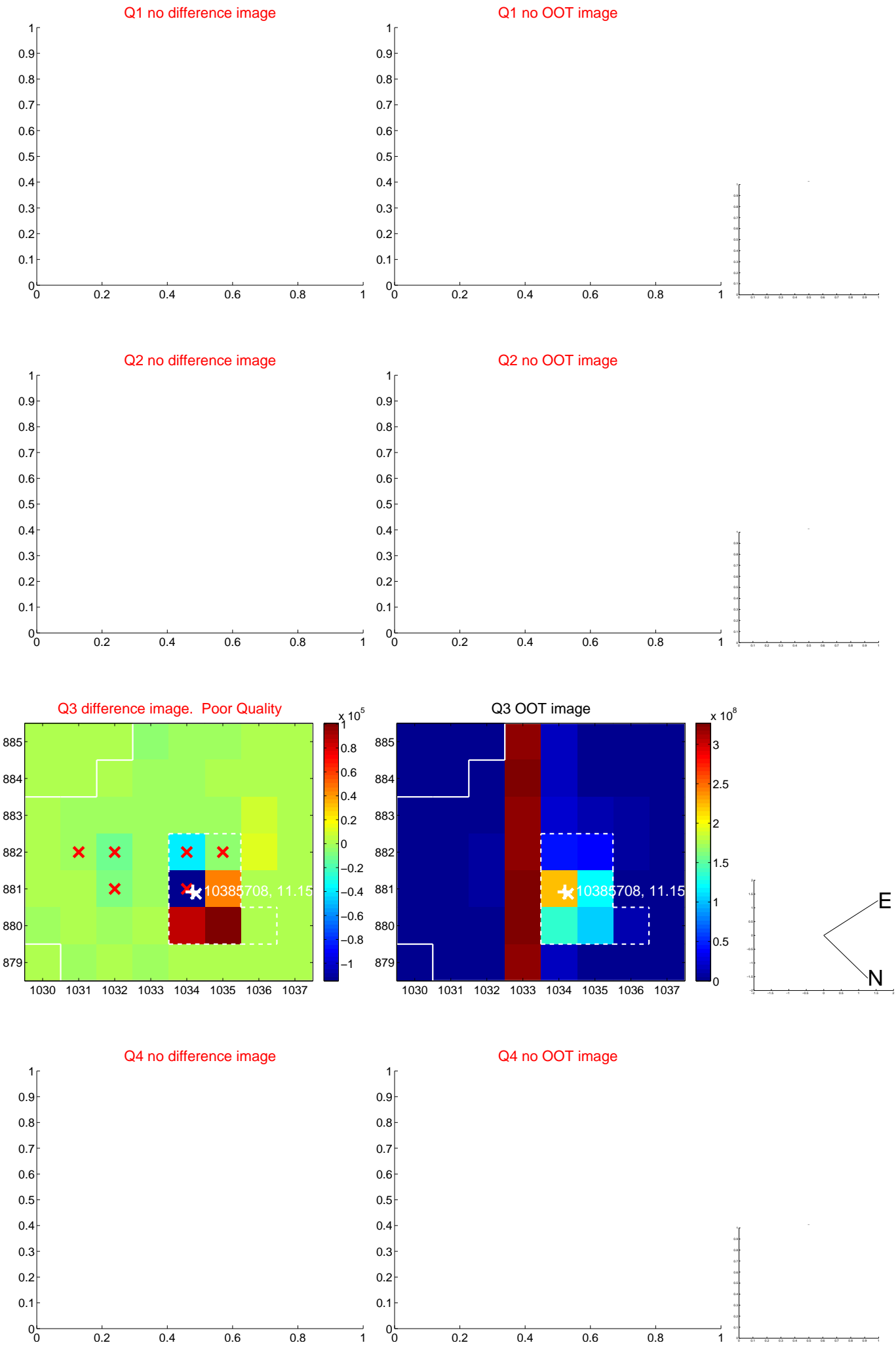


offset from photometric centroids

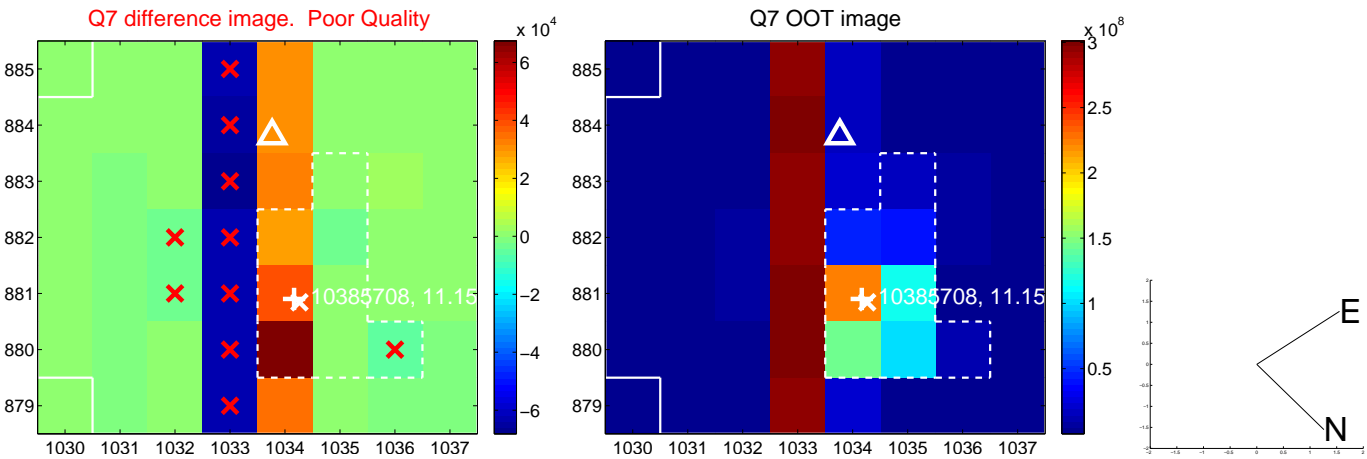


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

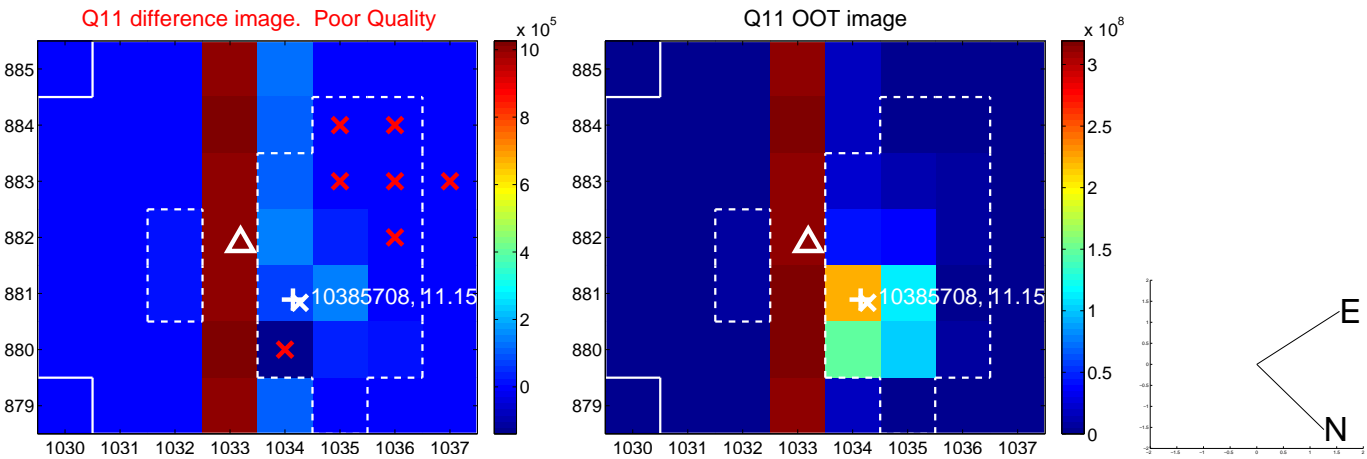
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



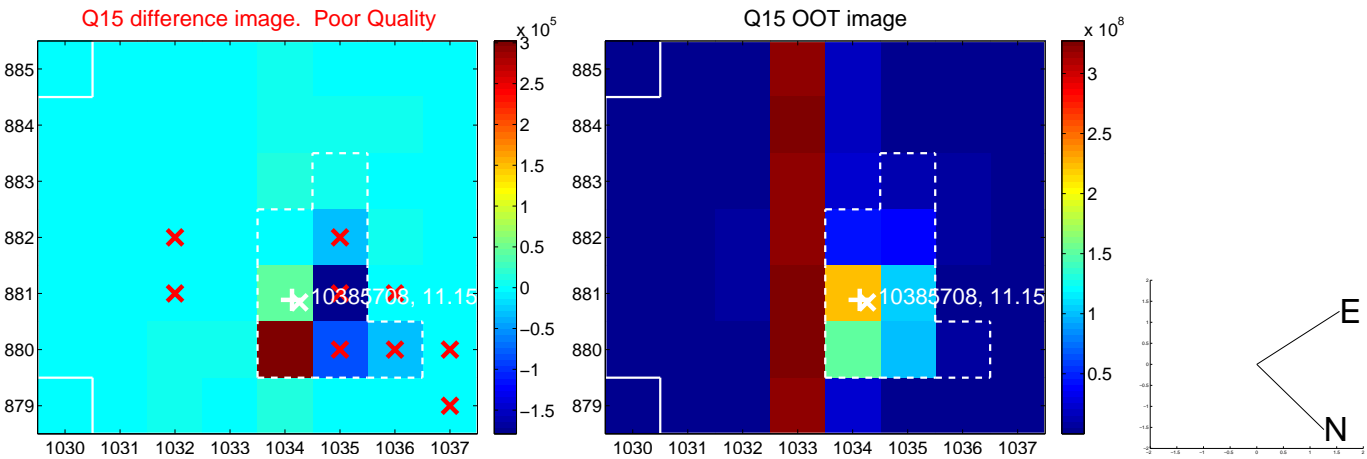
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



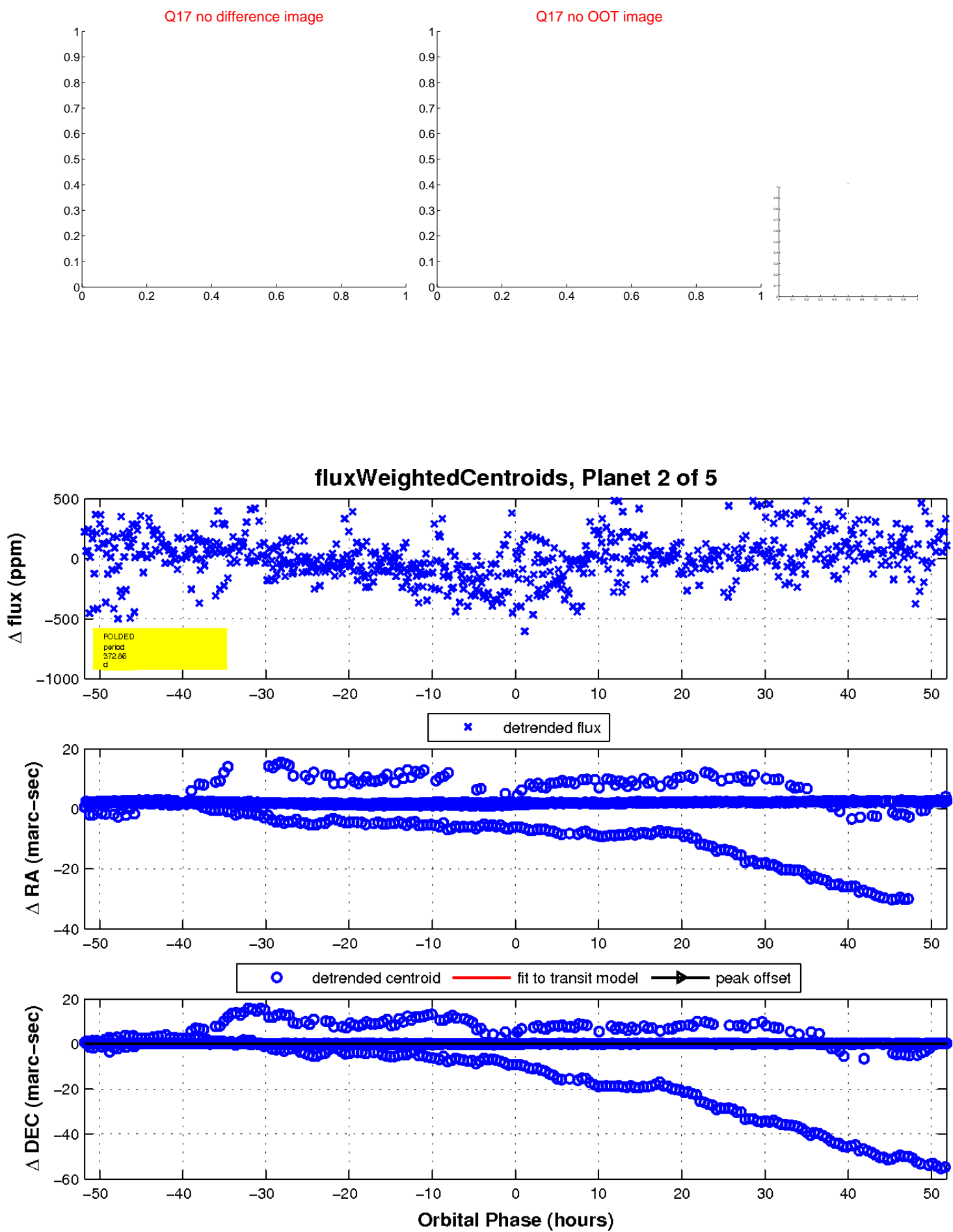
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

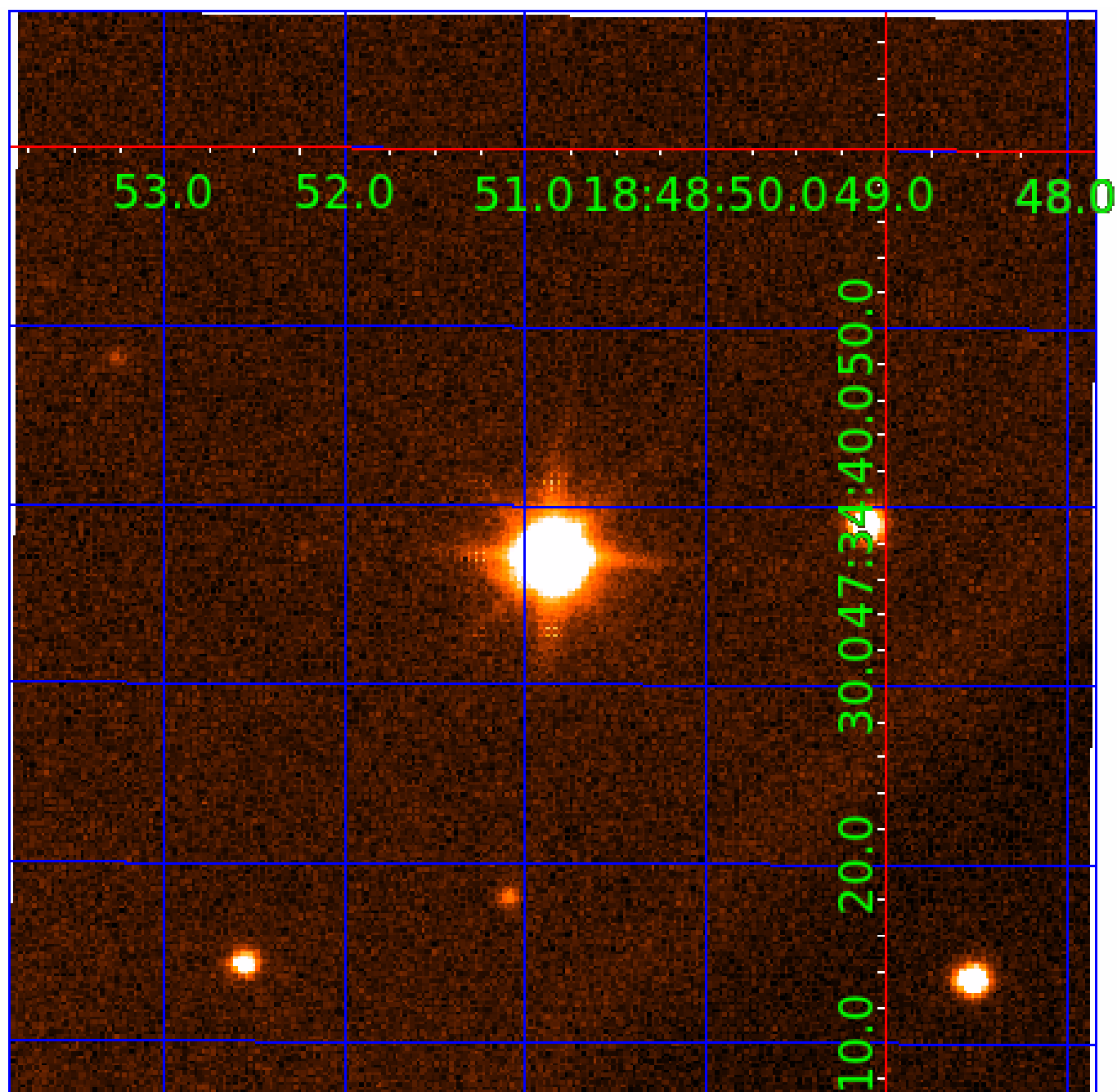


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010385708

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})
010385708-01	OBS	No	500.748698	177.527508	241.2	8.406	10.4	8.3	1.70	5845	2.93	1.85
010385708-02	OBS	No	372.856039	273.201354	233.6	17.295	9.7	9.1	1.70	5845	2.74	2.74
010385708-03	OBS	No	384.433275	256.269268	341.9	16.341	10.1	10.1	1.70	5845	6.33	2.63
010385708-04	OBS	8206.01	345.804444	320.333361	174.8	15.166	10.3	8.1	1.70	5845	2.43	3.03
010385708-05	OBS	No	411.722612	187.219690	109.1	15.000	10.6	-1.0	1.70	5845	1.76	2.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385708-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010385708-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

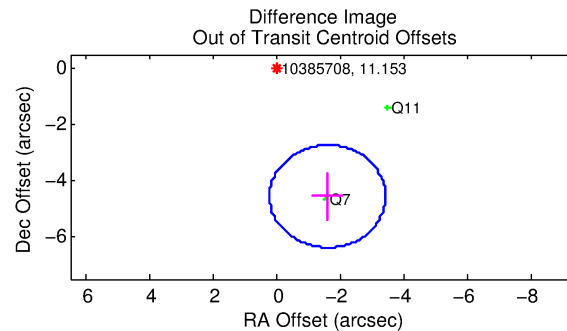
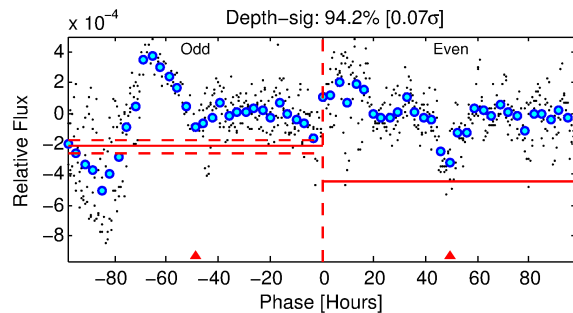
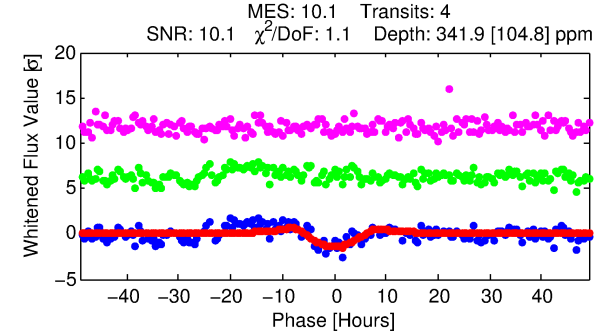
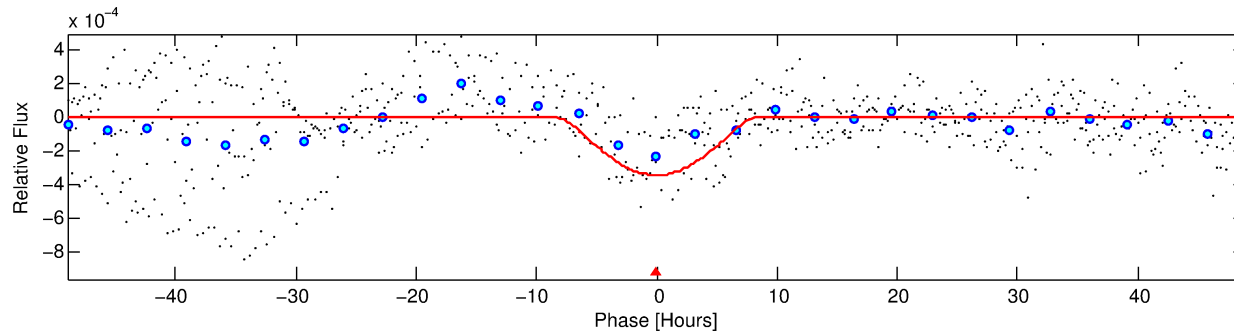
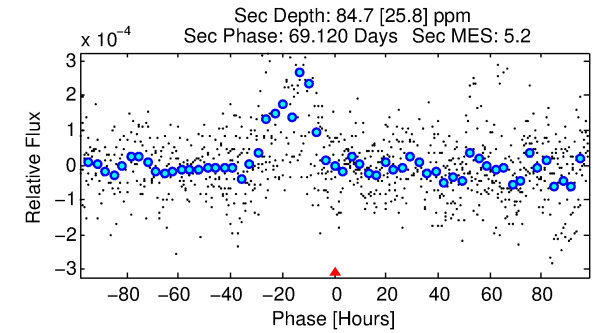
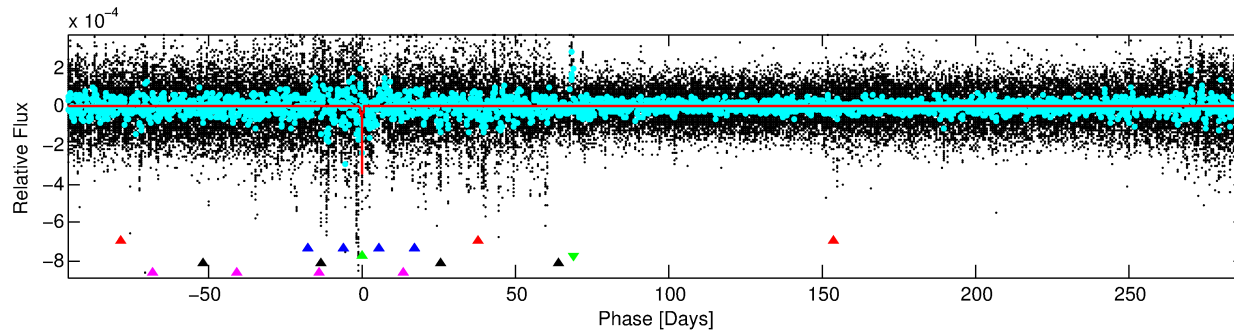
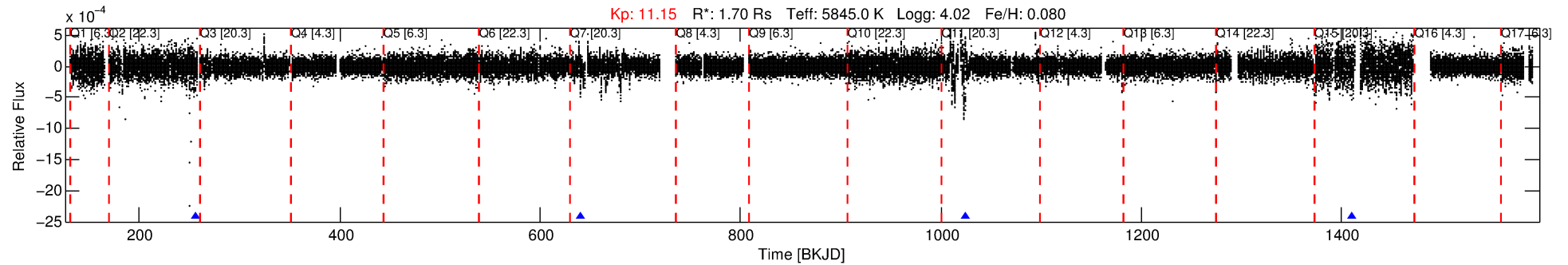
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385708-03

No Significant Match Found

DV One-Page Summary

KIC: 10385708 Candidate: 3 of 5 Period: 384.433 d



DV Fit Results:

Period = 384.43327 [0.02150] d
Epoch = 256.2693 [0.0374] BKJD
Rp/R* = 0.0341 [0.0664]
a/R* = 47.40 [23.46]
b = 1.00 [0.10]
Seff = 2.63 [0.21]
Teq = 325 [7] K
Rp = 6.33 [12.35] Re
a = 1.0737 [0.0545] AU
Ag = 1341.94 [5249.50] [0.26σ]
Teffp = 3038 [2971] K [0.91σ]

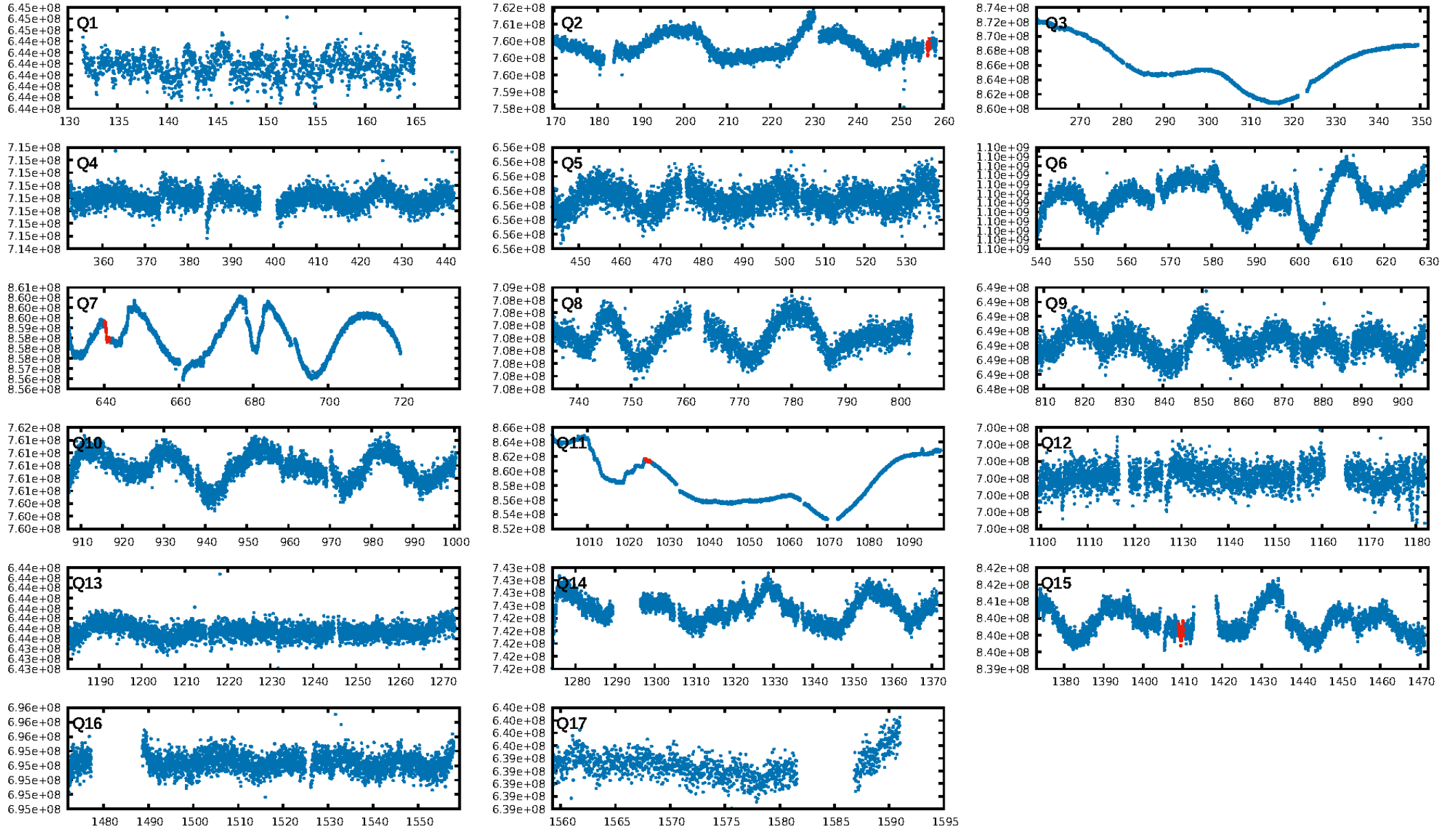
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.68σ]
LongPeriod-sig: 100.0% [29.53σ]
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.86e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.287
Centroid-sig: N/A
Centroid-so: 2.659 arcsec [4.32σ]
OotOffset-rm: 4.827 arcsec [7.94σ]
KicOffset-rm: 5.291 arcsec [5.52σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

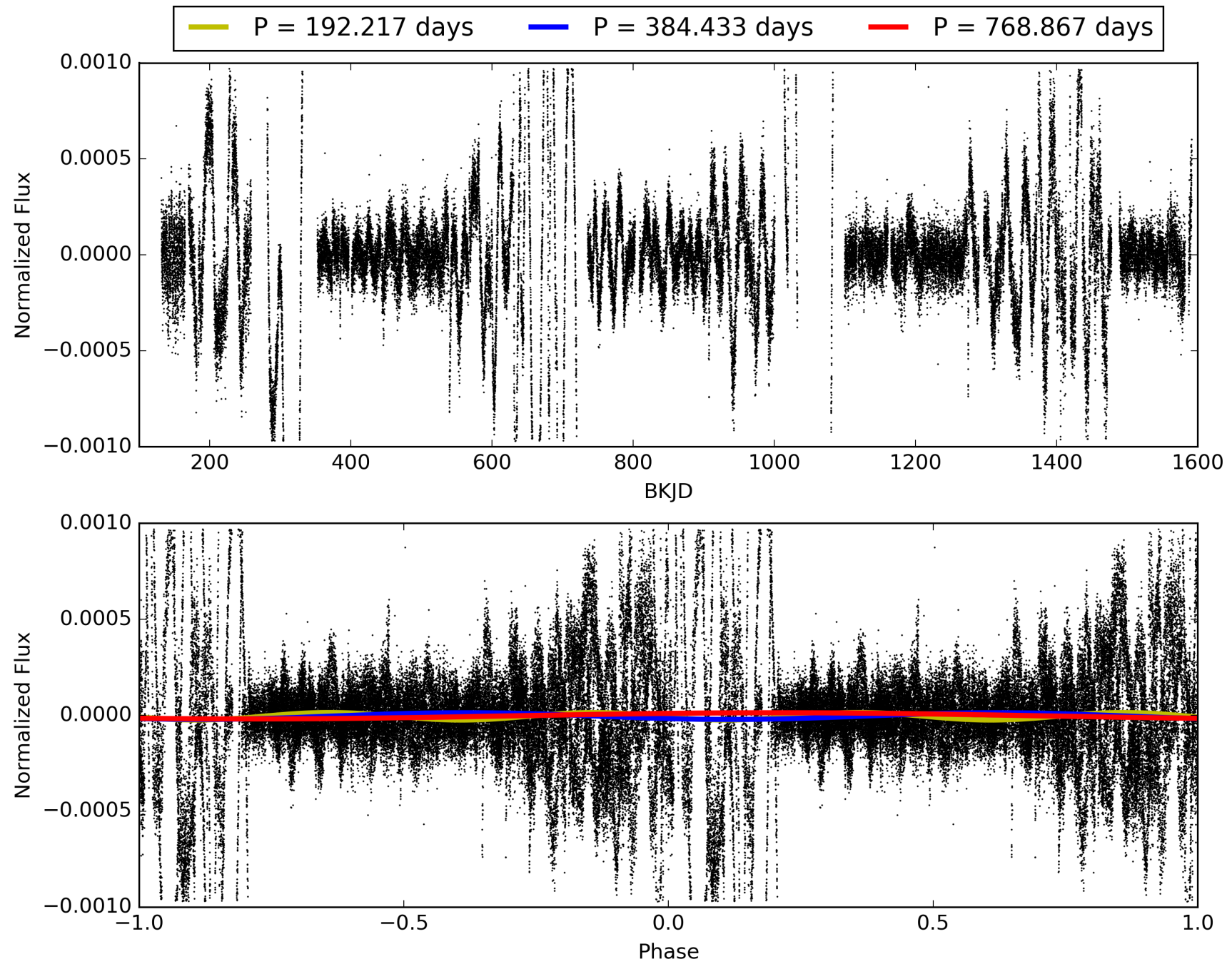
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:24:59 Z

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

TCE 010385708-03, PDC Light Curves

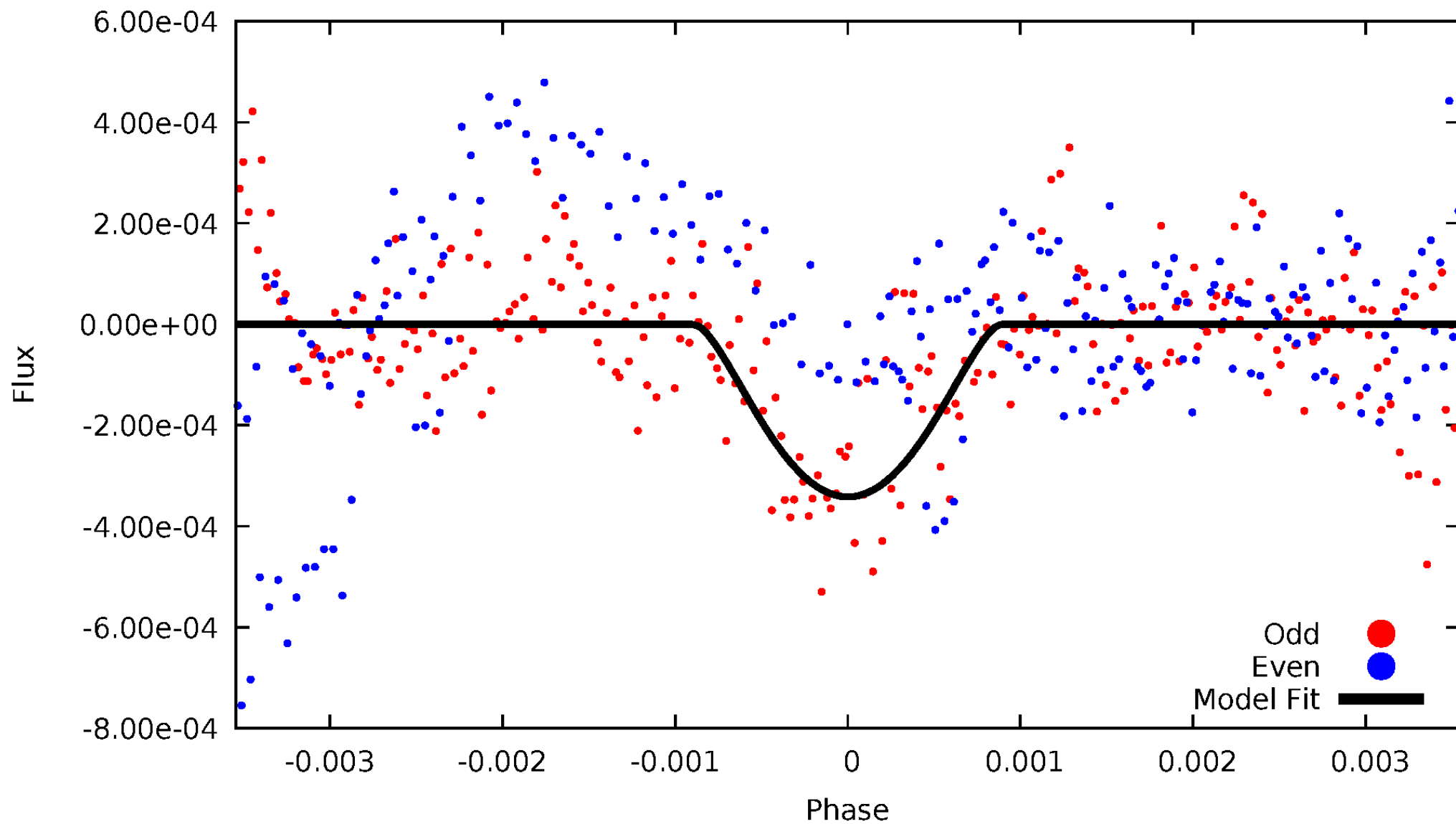


TCE 010385708-03



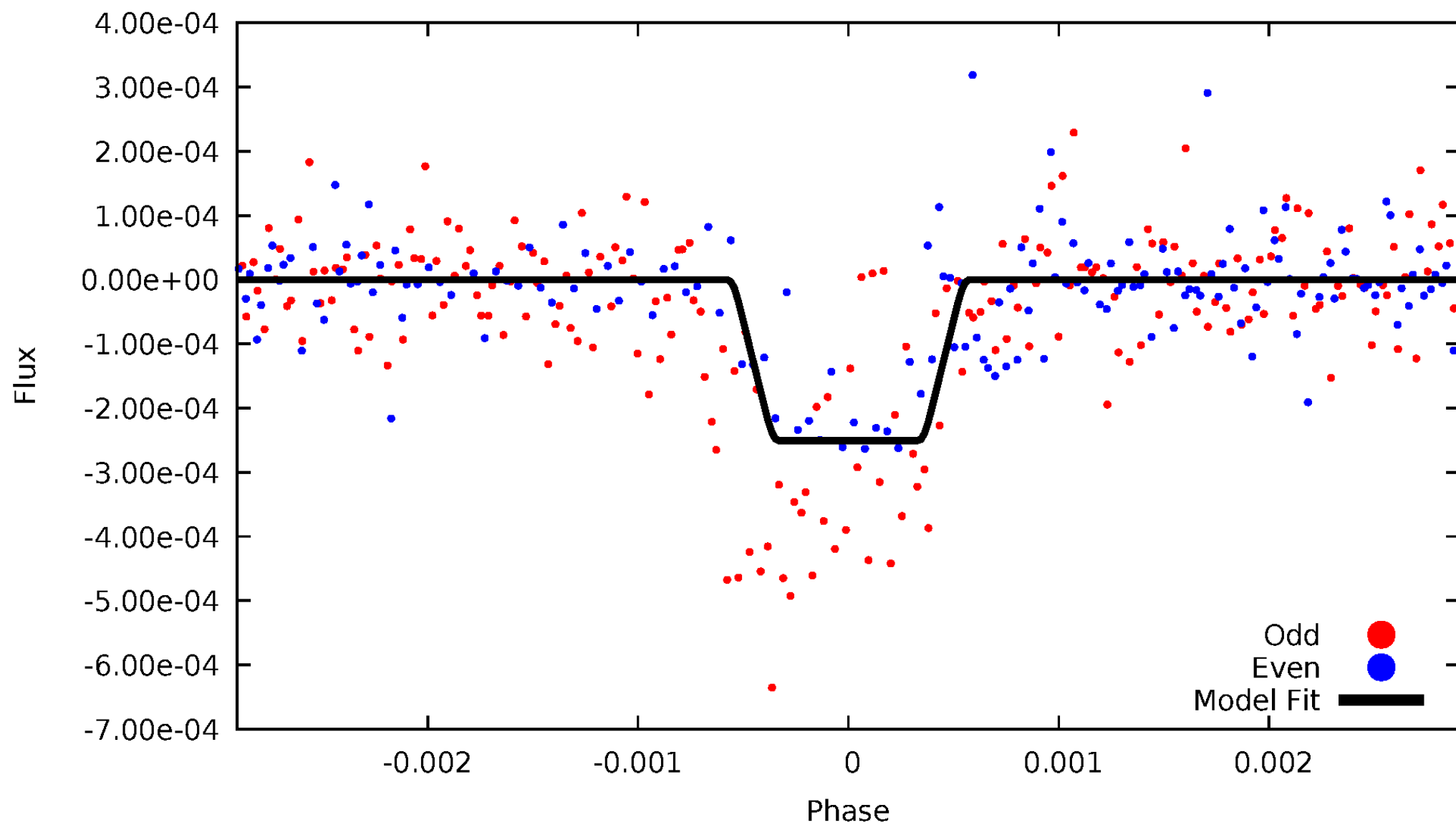
DV Odd/Even

TCE 010385708-03



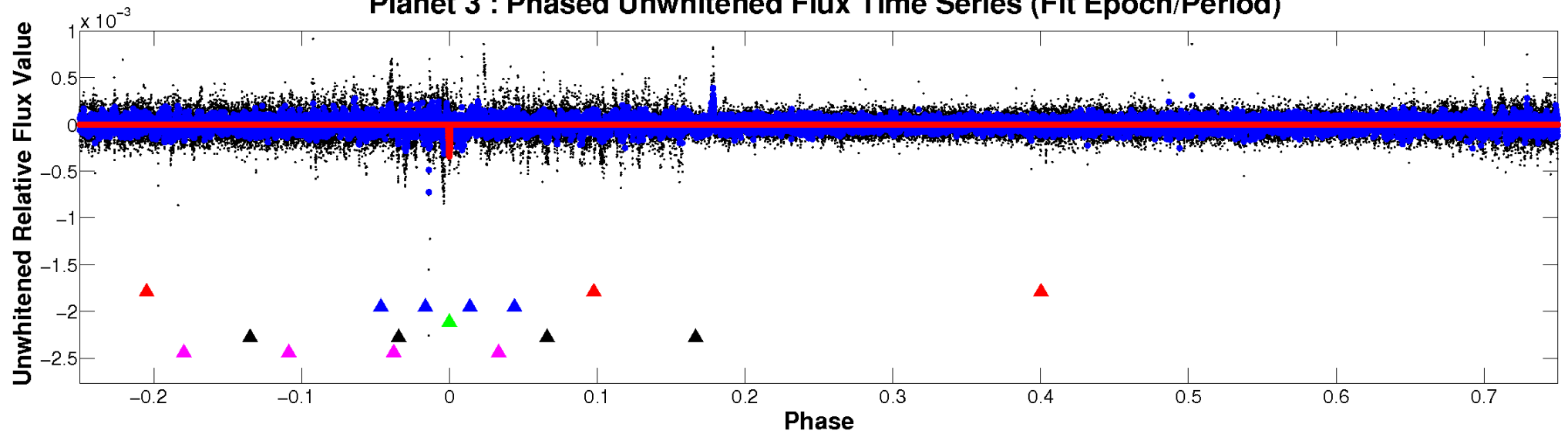
ALT Odd/Even

TCE 010385708-03

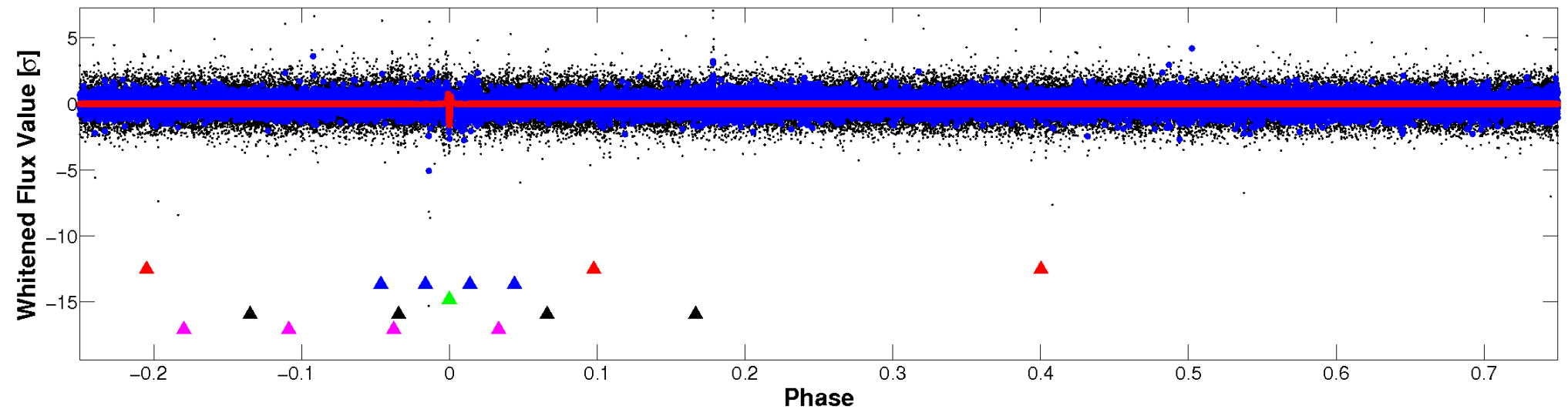


Non-Whitened Vs. Whitened Light Curve

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

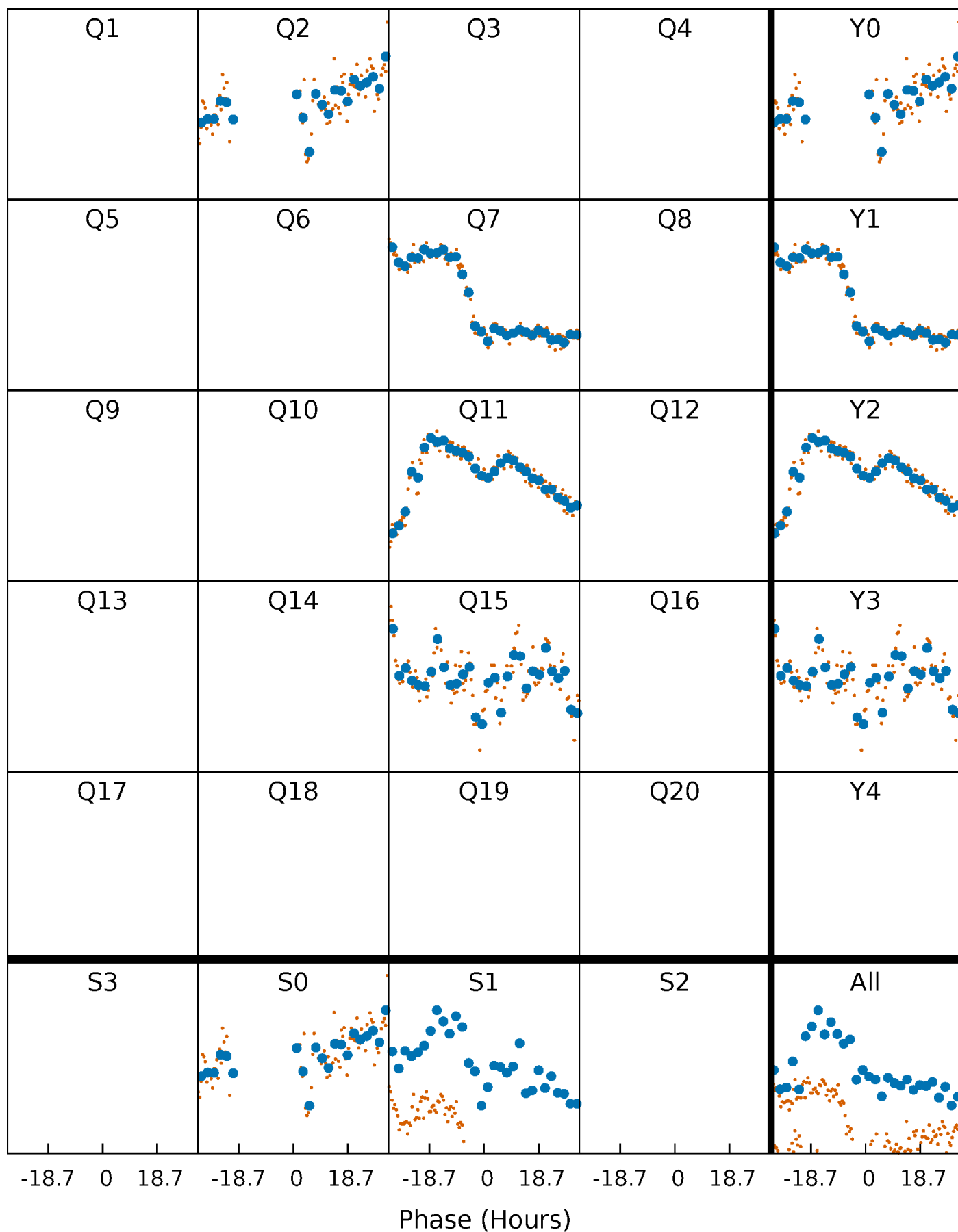


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



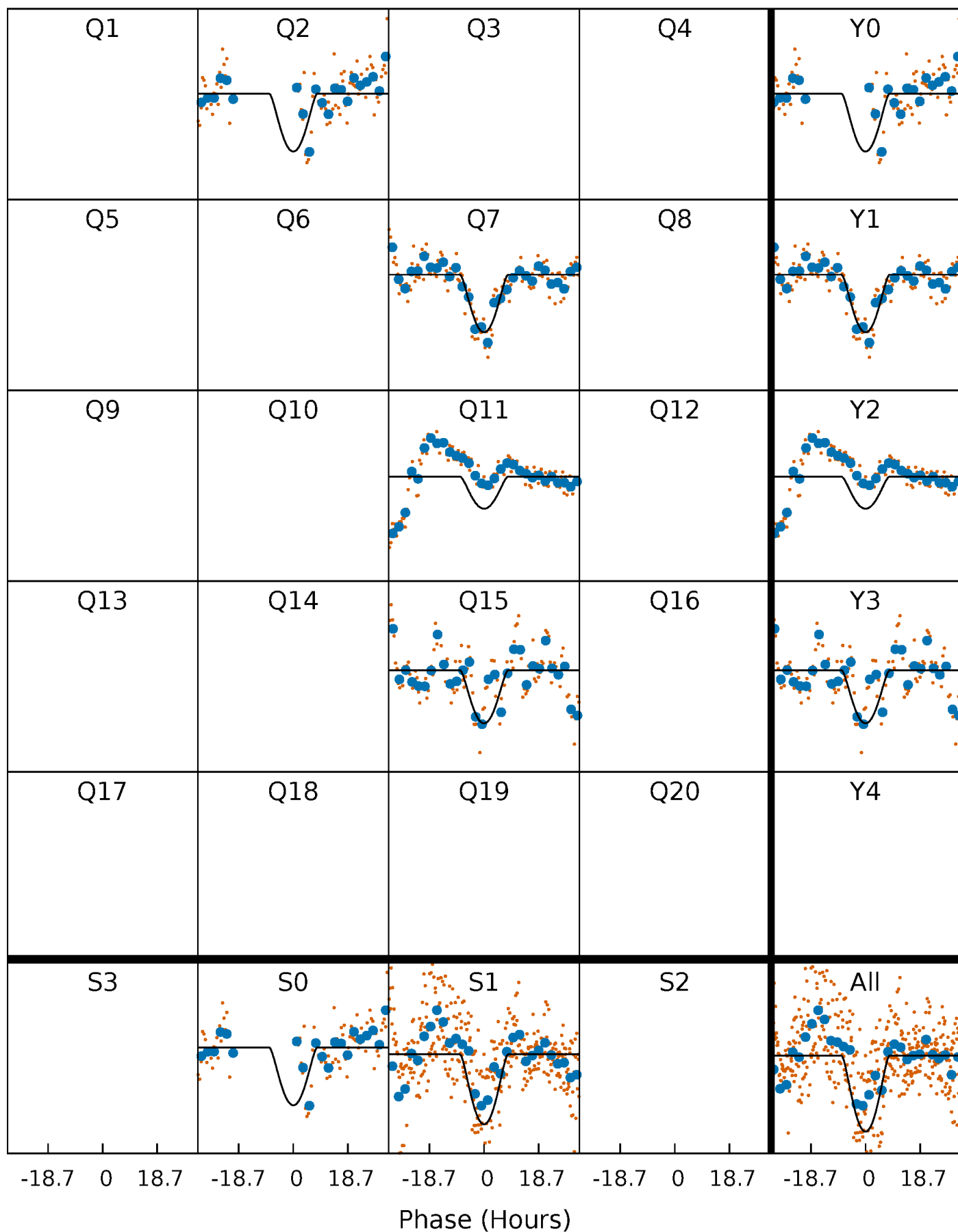
PDC Quarter-Phased Transit Curves

TCE 010385708-03 $P=384.433275$ Days $T_0=256.269268$ (BKJD)



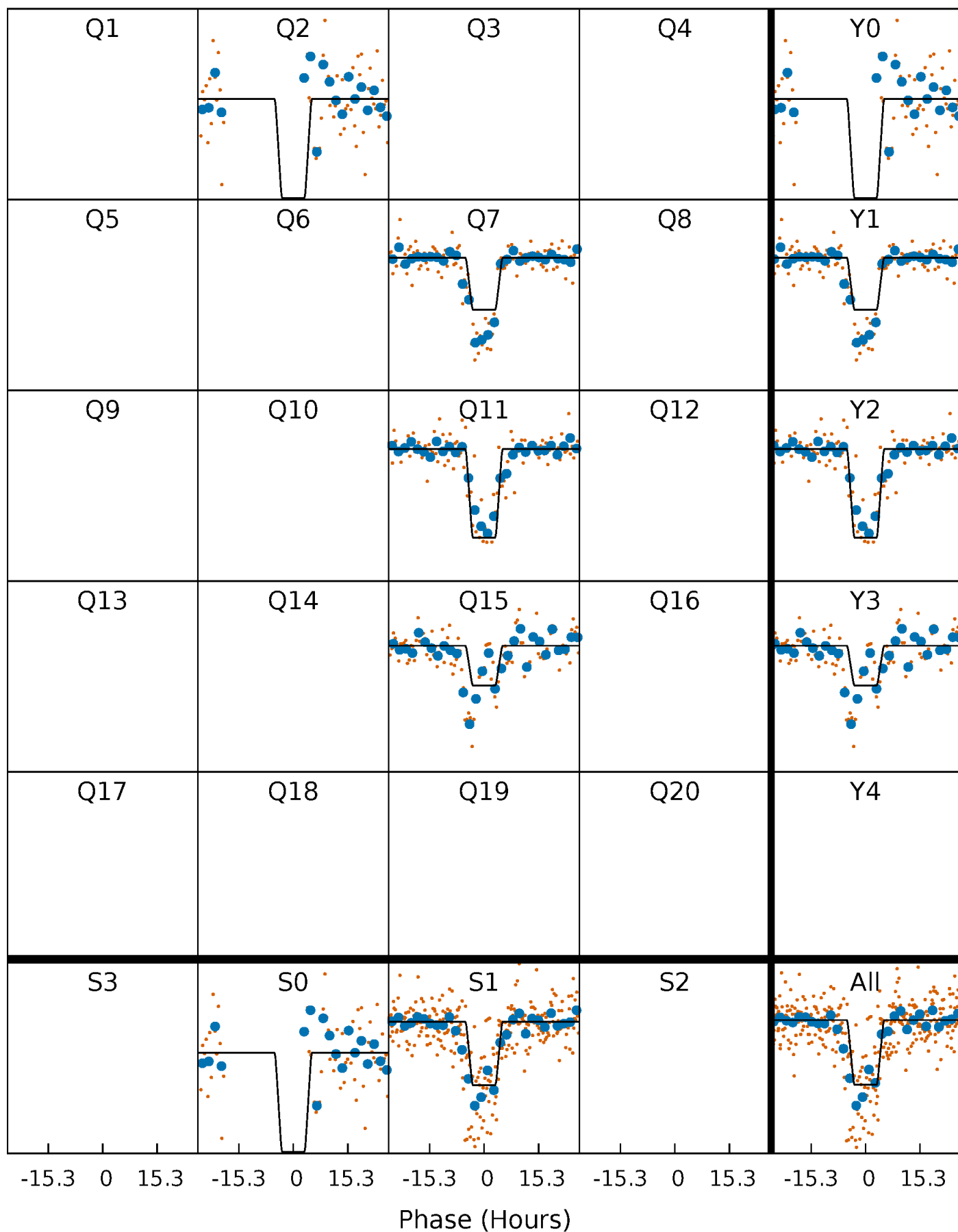
DV Quarter-Phased Transit Curves

TCE 010385708-03 $P=384.433275$ Days $T_0=256.269268$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

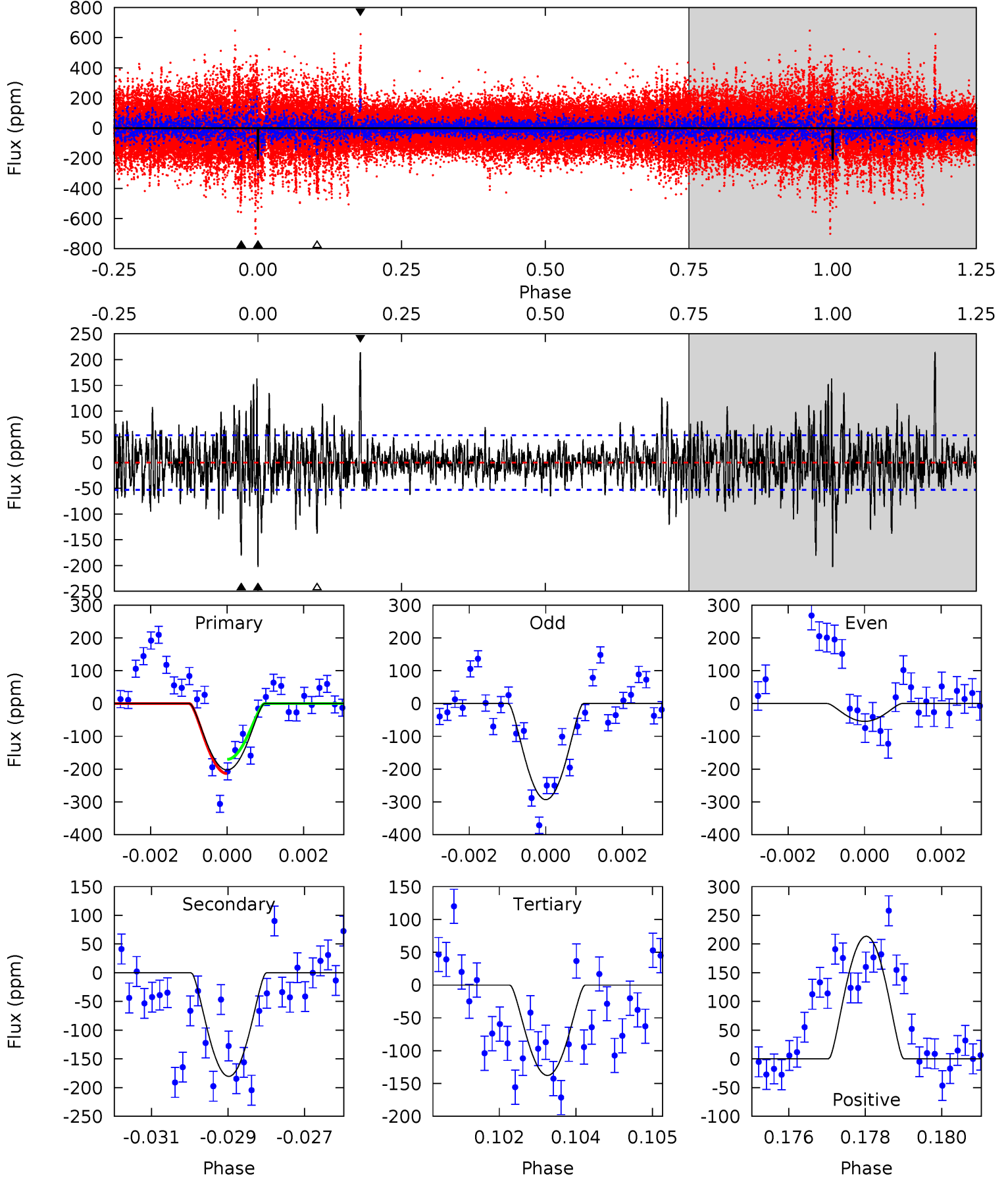
TCE 010385708-03 $P=384.484676$ Days $T_0=256.196394$ (BKJD)



DV Model-Shift Uniqueness Test

010385708-03, P = 384.433275 Days, E = 256.269268 Days

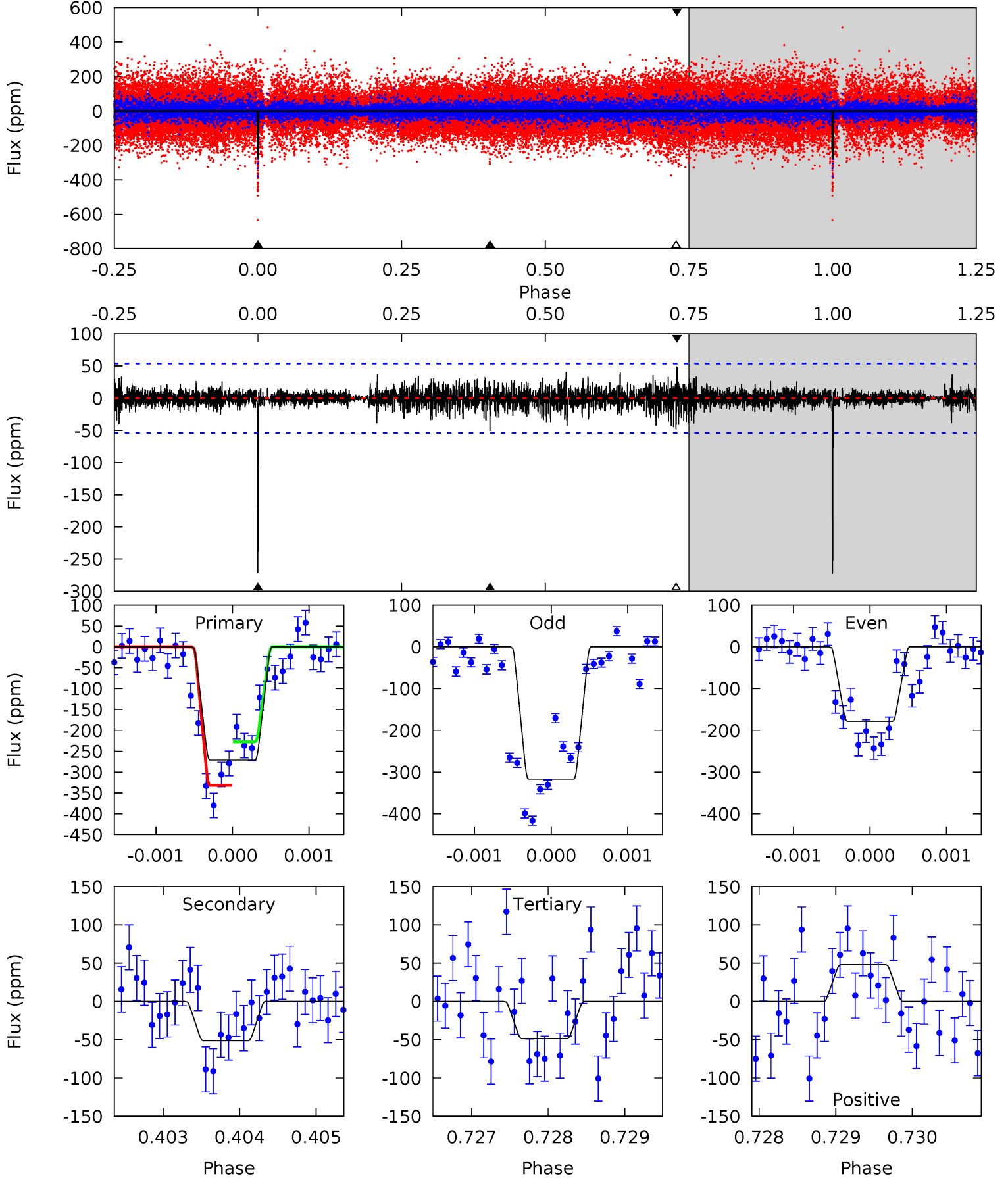
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	18.2	13.9	21.6	5.34	3.12	3.53	6.55	-1.10	4.31	-3.34	11.7	0.96	0.51	2.17



Alt Model-Shift Uniqueness Test

010385708-03, P = 384.484676 Days, E = 256.196394 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	5.15	4.90	4.82	5.43	3.26	1.01	22.5	22.5	0.25	0.32	6.99	0.79	0.15	5.23



Stellar Parameters For KIC 010385708

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5845^{+79}_{-79}	$4.024^{+0.025}_{-0.020}$	$0.080^{+0.200}_{-0.150}$	$1.702^{+0.120}_{-0.083}$	$1.115^{+0.179}_{-0.060}$	$0.319^{+0.034}_{-0.028}$
	+1%/-1%	+1%/-0%	+250%/-188%	+7%/-5%	+16%/-5%	+11%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 010385708-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-181 ± 10	$11.34^{+10.57}_{-7.67}$	452^{+8}_{-8}	3300^{+1610}_{-547}	897^{+7569}_{-650}
Alt.	-51 ± 10	$9.72^{+10.47}_{-6.29}$	453^{+7}_{-7}	2875^{+1089}_{-485}	340^{+2373}_{-260}

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 $A_{obs} \gg 1.0$

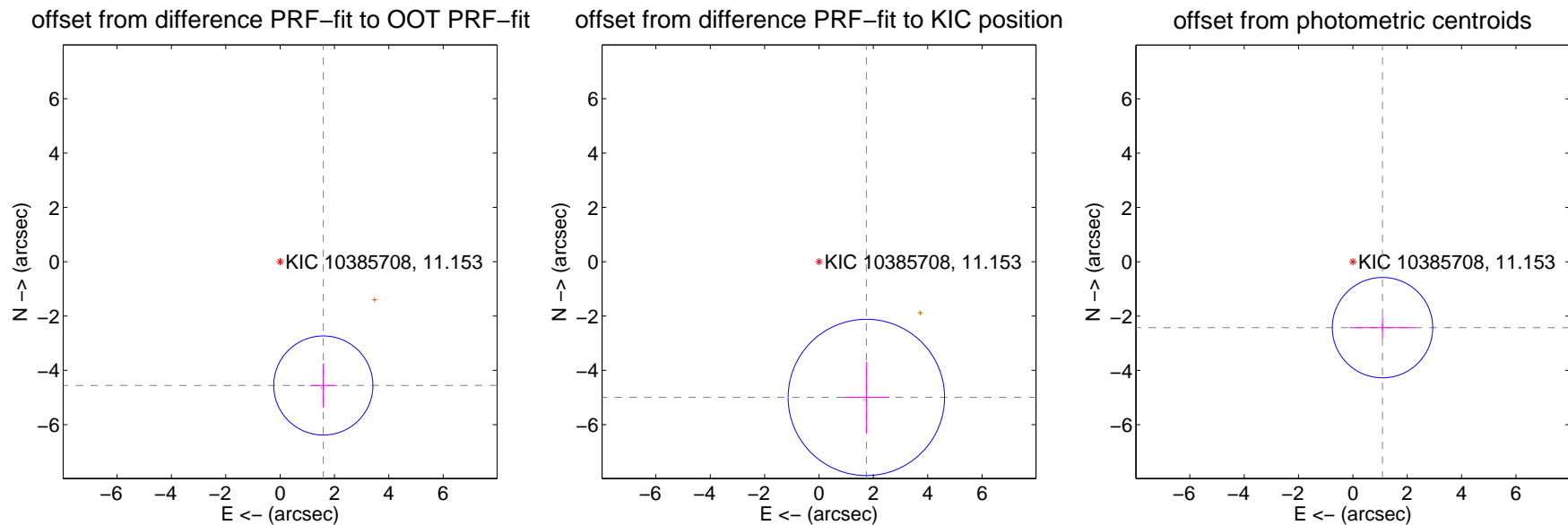
DV Centroid Data

Supplemental centroid analysis for 010385708-03. **Kepler magnitude: 11.15.** Transit SNR 10.10

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.827 ± 0.608	7.94	-1.589 ± 0.495	-4.558 ± 0.814
PRF-fit source offset from KIC position	5.291 ± 0.959	5.52	-1.742 ± 0.843	-4.996 ± 1.308
photometric centroid source offset	2.66 ± 0.62	4.32	-1.09 ± 1.21	-2.43 ± 0.40

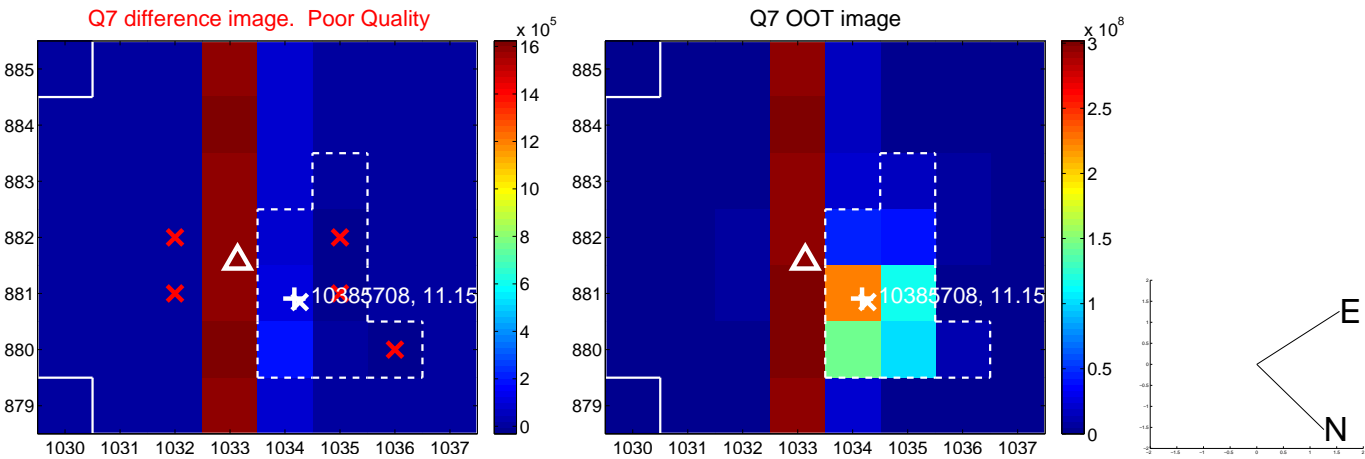


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

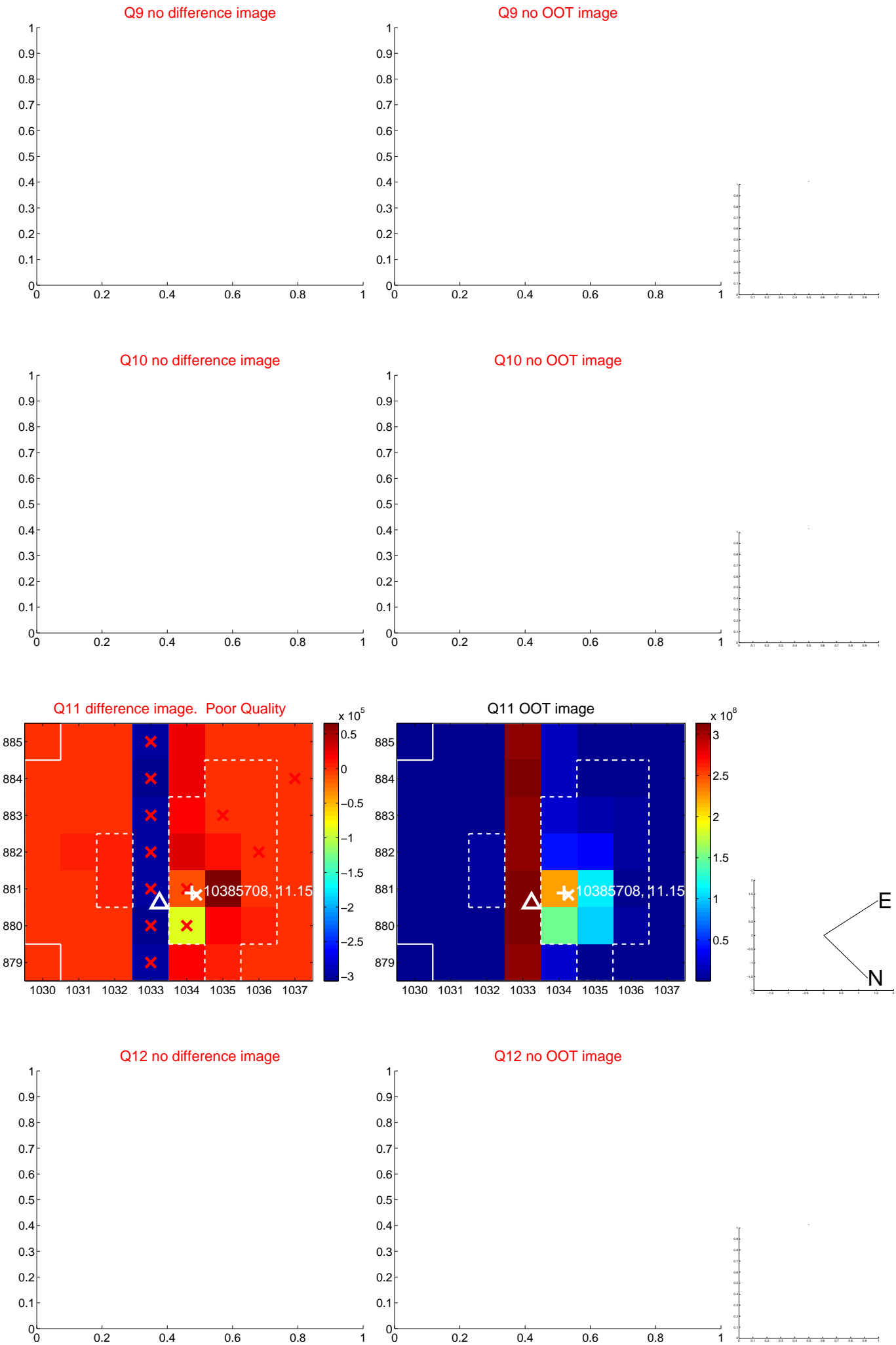
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



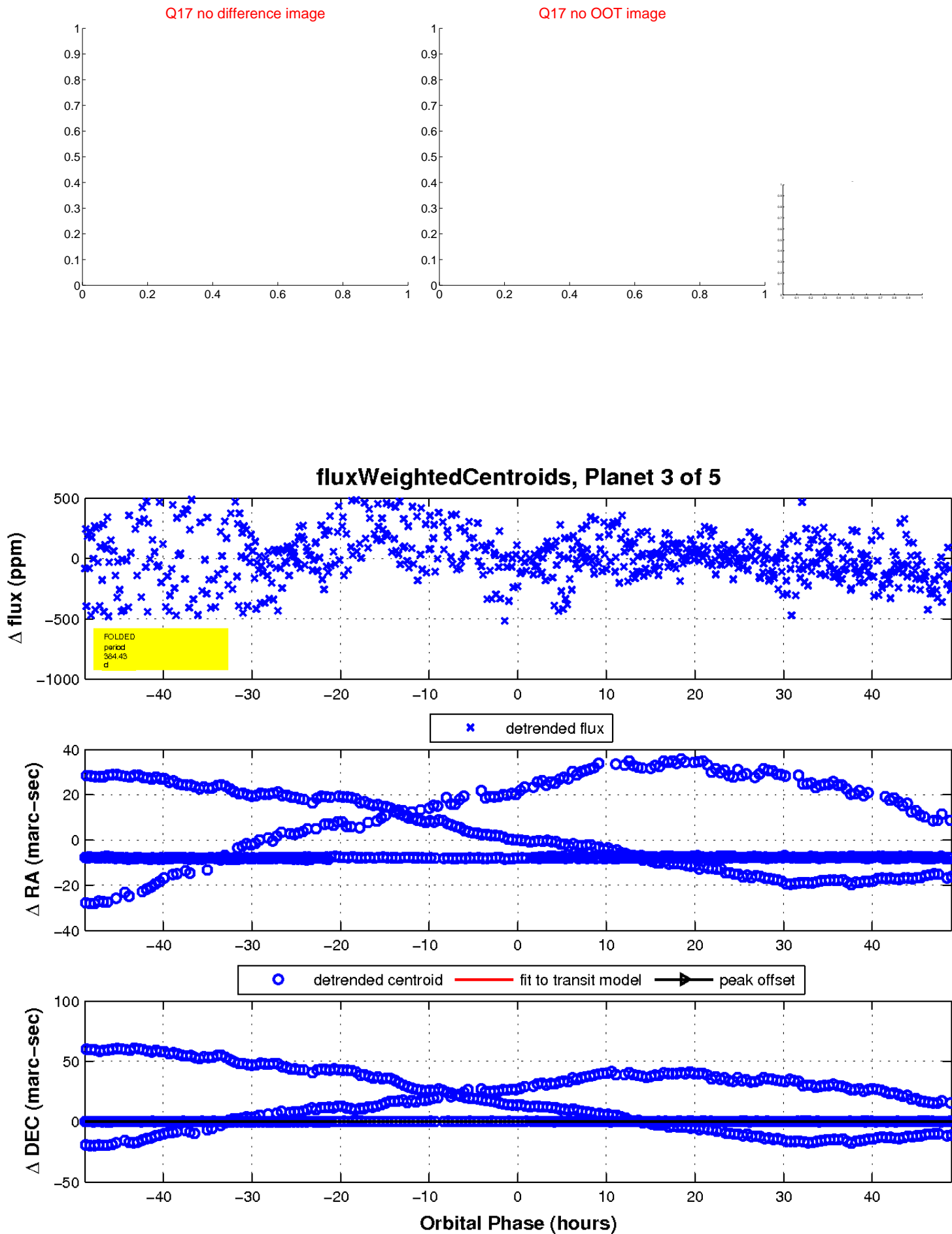
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

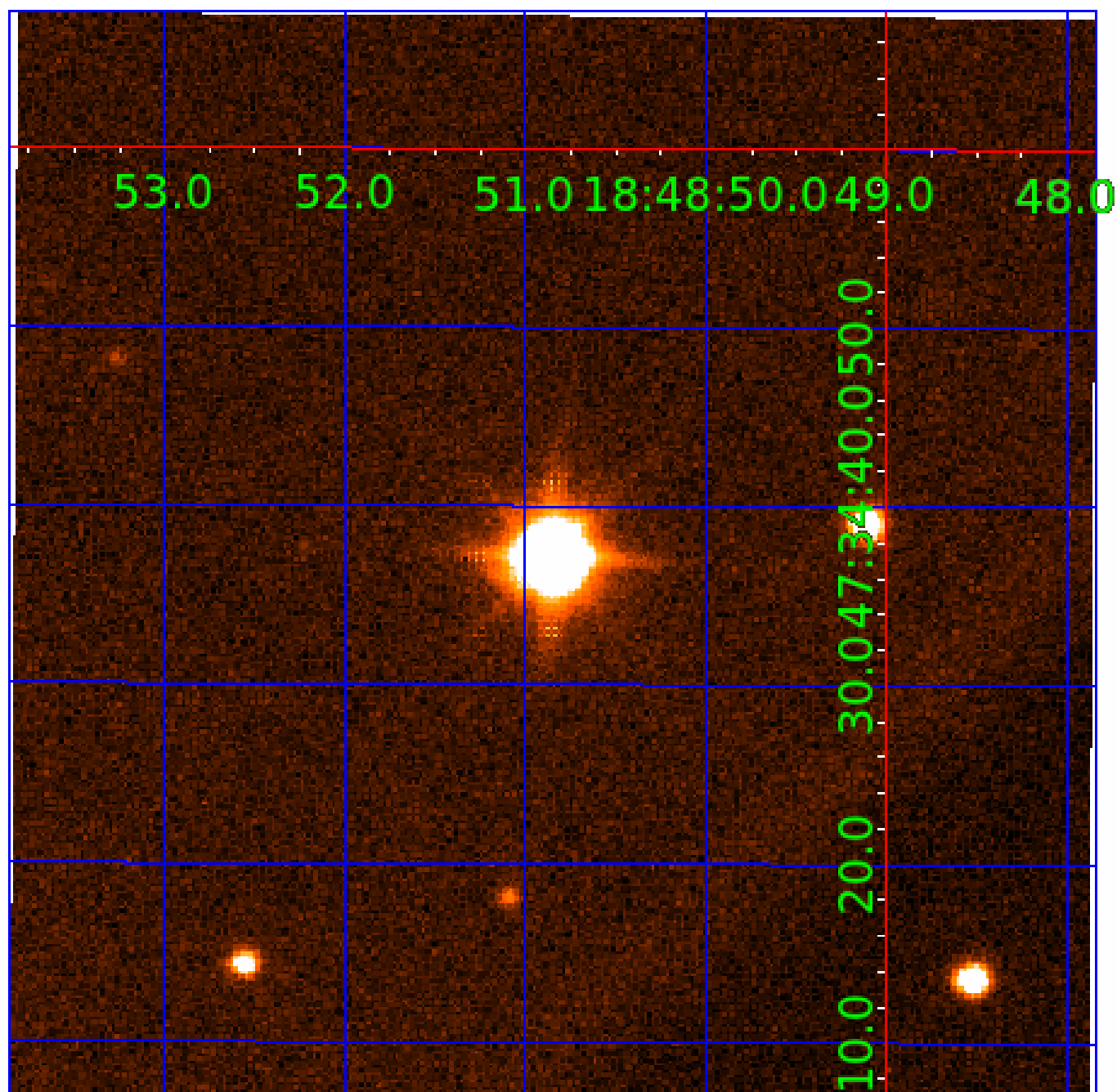


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010385708

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})
010385708-01	OBS	No	500.748698	177.527508	241.2	8.406	10.4	8.3	1.70	5845	2.93	1.85
010385708-02	OBS	No	372.856039	273.201354	233.6	17.295	9.7	9.1	1.70	5845	2.74	2.74
010385708-03	OBS	No	384.433275	256.269268	341.9	16.341	10.1	10.1	1.70	5845	6.33	2.63
010385708-04	OBS	8206.01	345.804444	320.333361	174.8	15.166	10.3	8.1	1.70	5845	2.43	3.03
010385708-05	OBS	No	411.722612	187.219690	109.1	15.000	10.6	-1.0	1.70	5845	1.76	2.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385708-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010385708-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

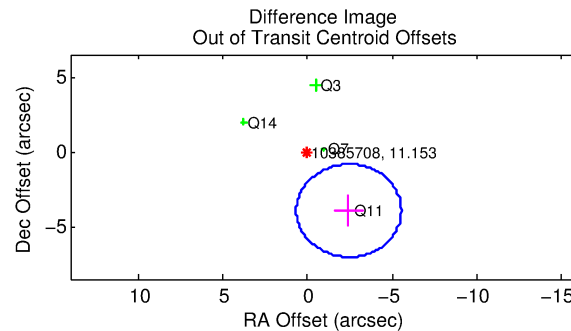
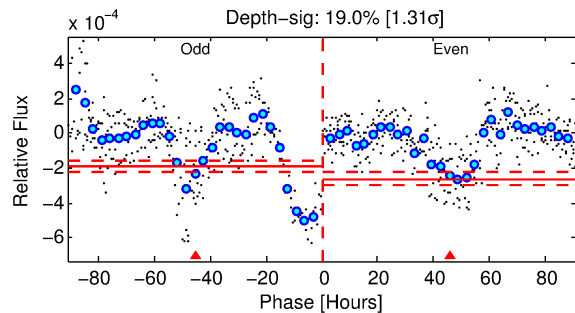
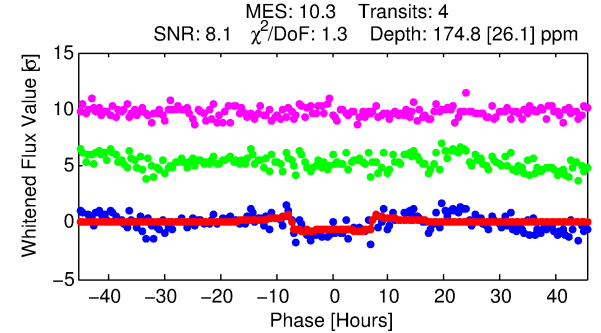
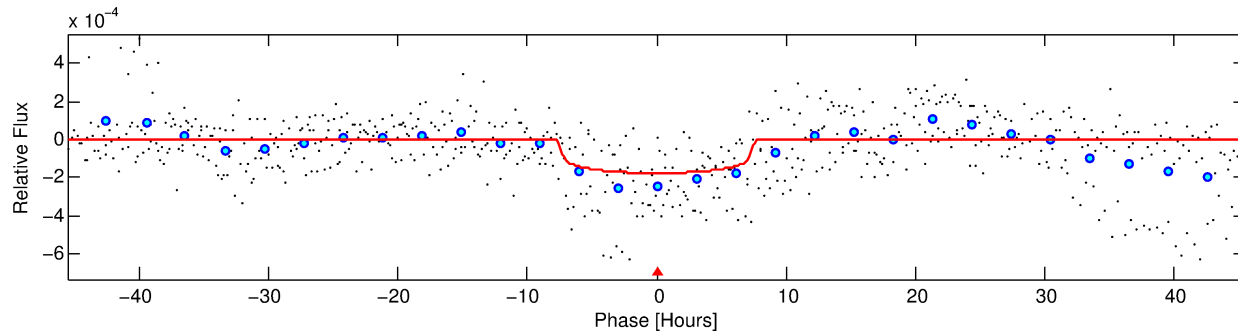
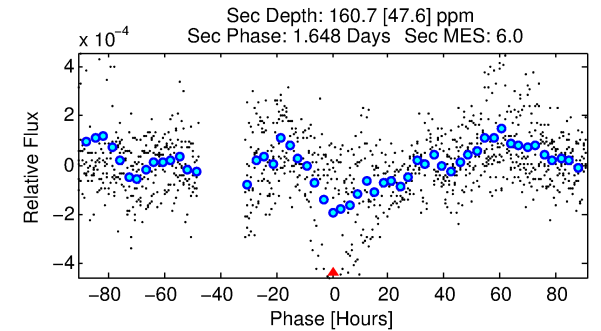
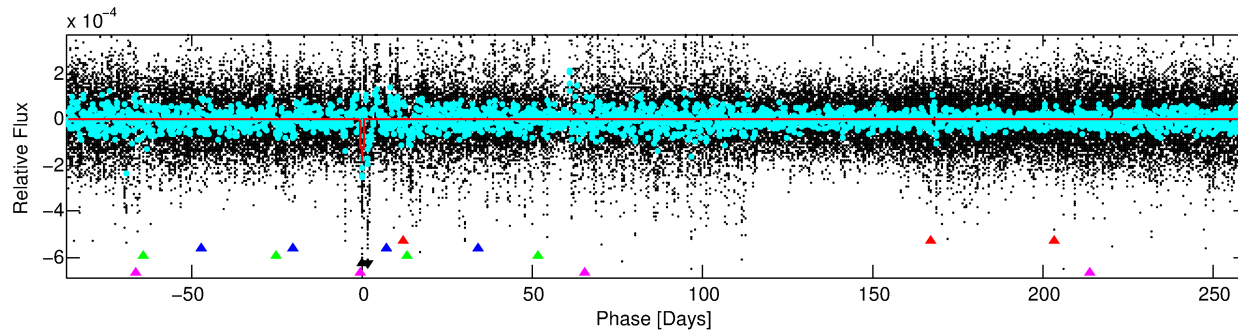
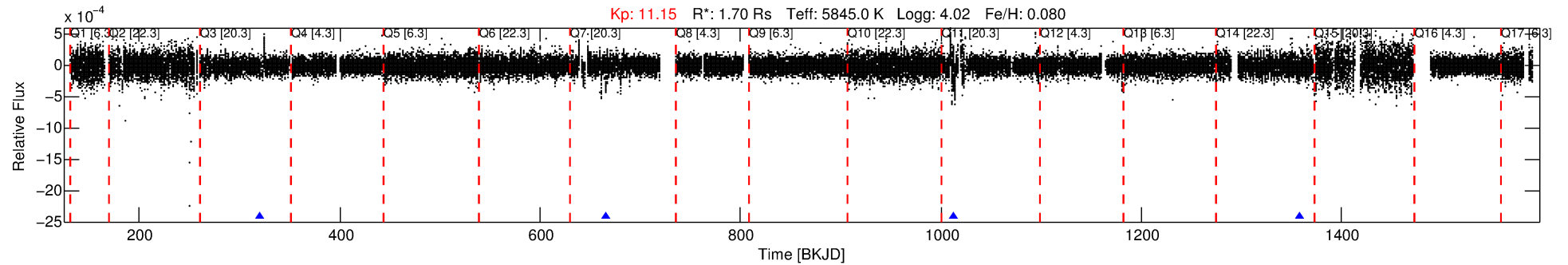
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385708-04

No Significant Match Found

DV One-Page Summary

KIC: 10385708 Candidate: 4 of 5 Period: 345.804 d



DV Fit Results:

Period = 345.80444 [0.00740] d
Epoch = 320.3334 [0.0119] BKJD
Rp/R* = 0.0131 [0.0038]
a/R* = 120.80 [151.89]
b = 0.74 [0.78]
Seff = 3.03 [0.25]
Teq = 336 [7] K
Rp = 2.43 [0.73] Re
a = 1.0005 [0.0508] AU
Ag = 14948.80 [9763.06] [1.53σ]
Teffp = 5750 [938] K [5.77σ]

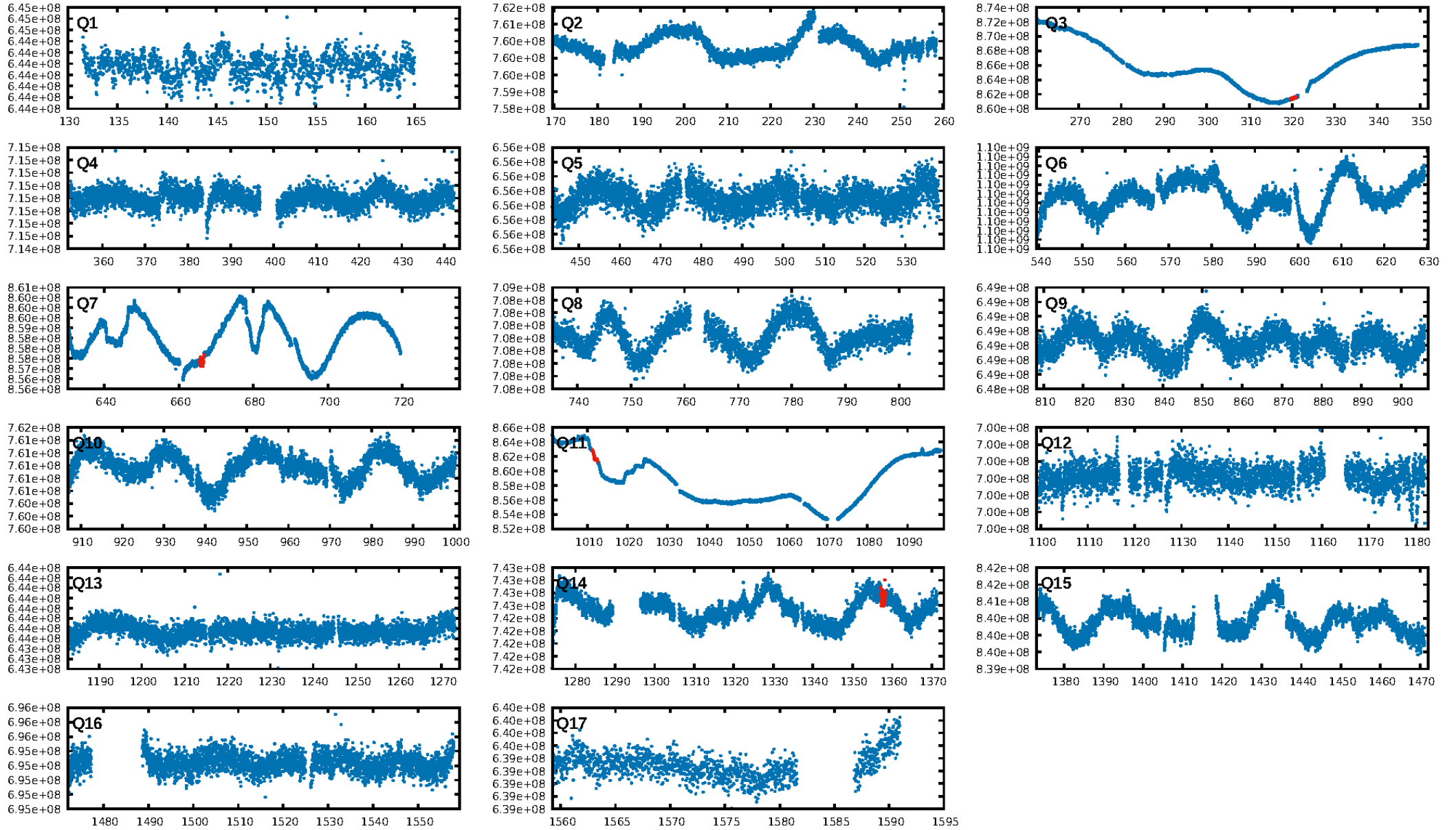
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [28.22σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 90.2%
Bootstrap-pfa: 4.46e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.279
Centroid-sig: N/A
Centroid-so: 3.221 arcsec [4.86σ]
OotOffset-rm: 4.626 arcsec [4.48σ]
KicOffset-rm: 5.154 arcsec [4.15σ]
OotOffset-st: 1/3/0/0 [4]
KicOffset-st: 1/3/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.75 [3/4]

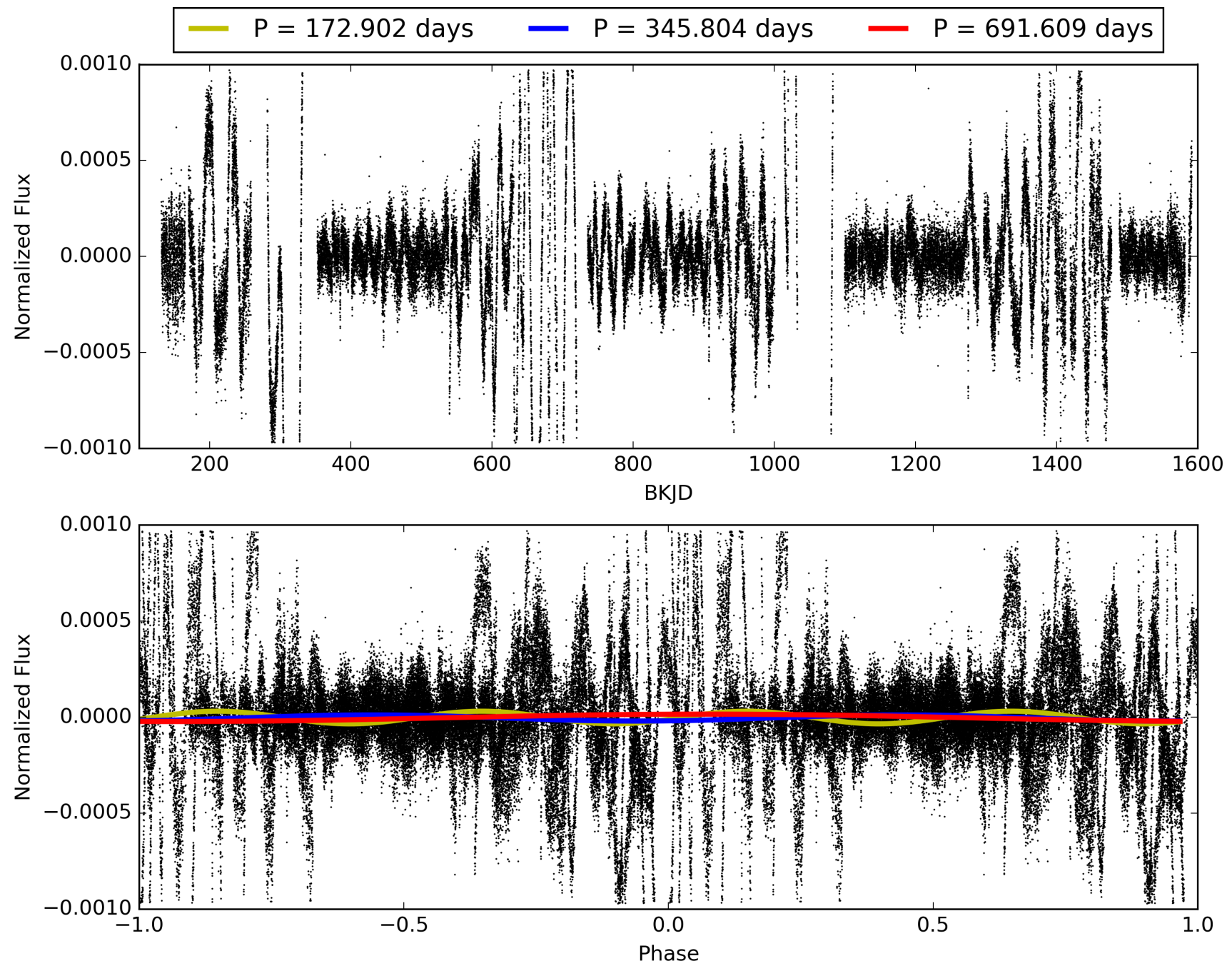
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:25:07 Z

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

TCE 010385708-04, PDC Light Curves

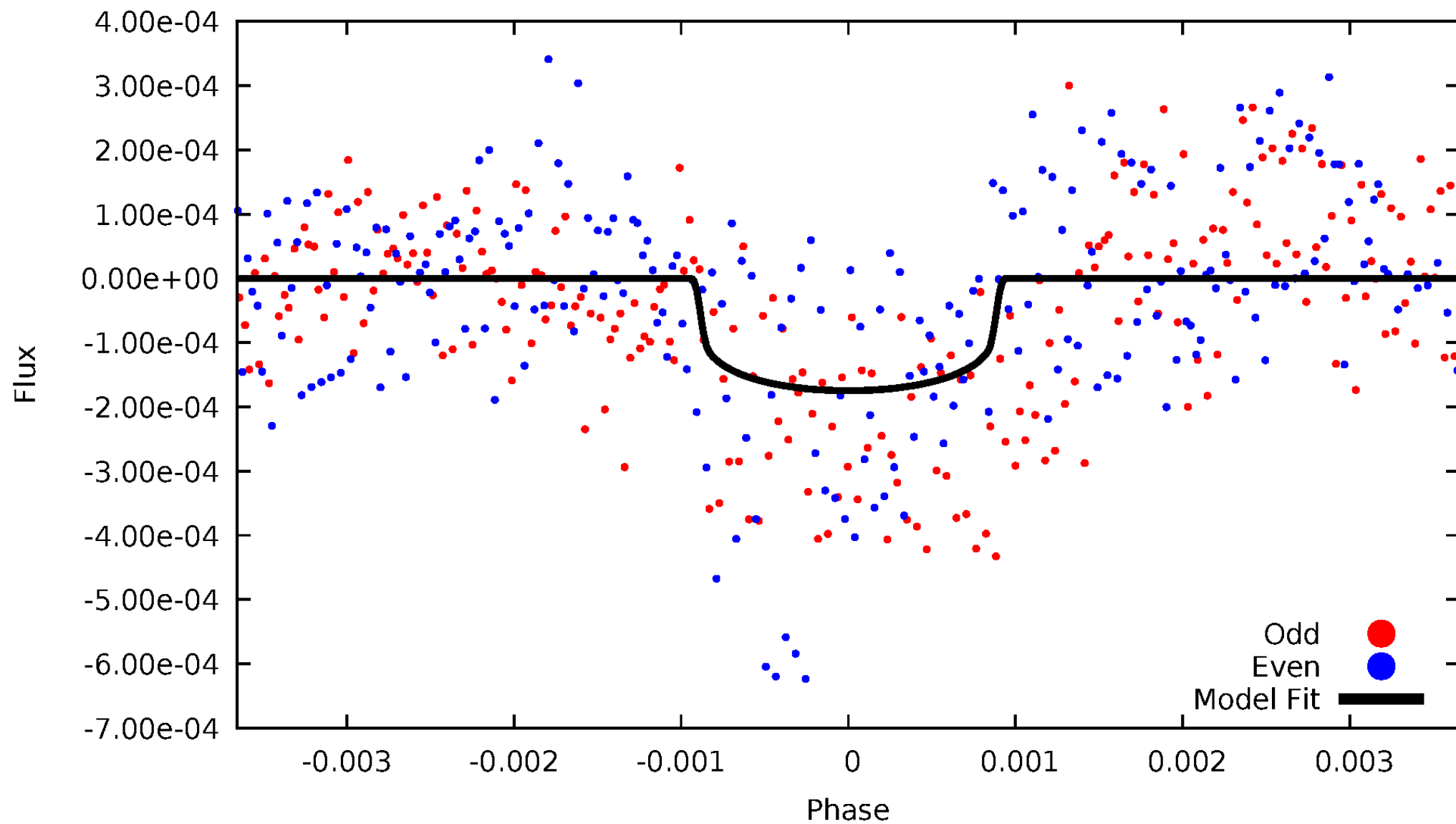


TCE 010385708-04



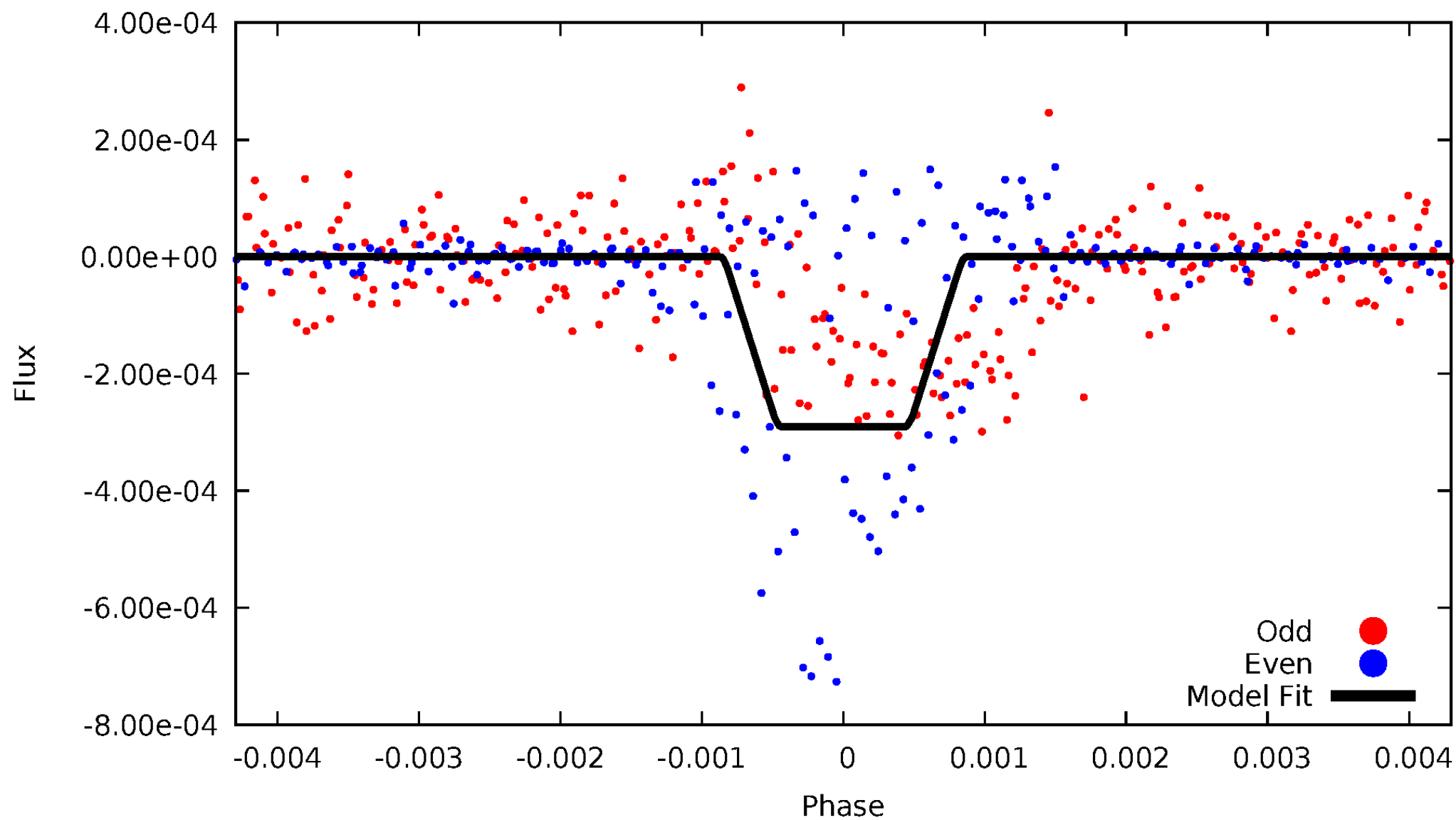
DV Odd/Even

TCE 010385708-04



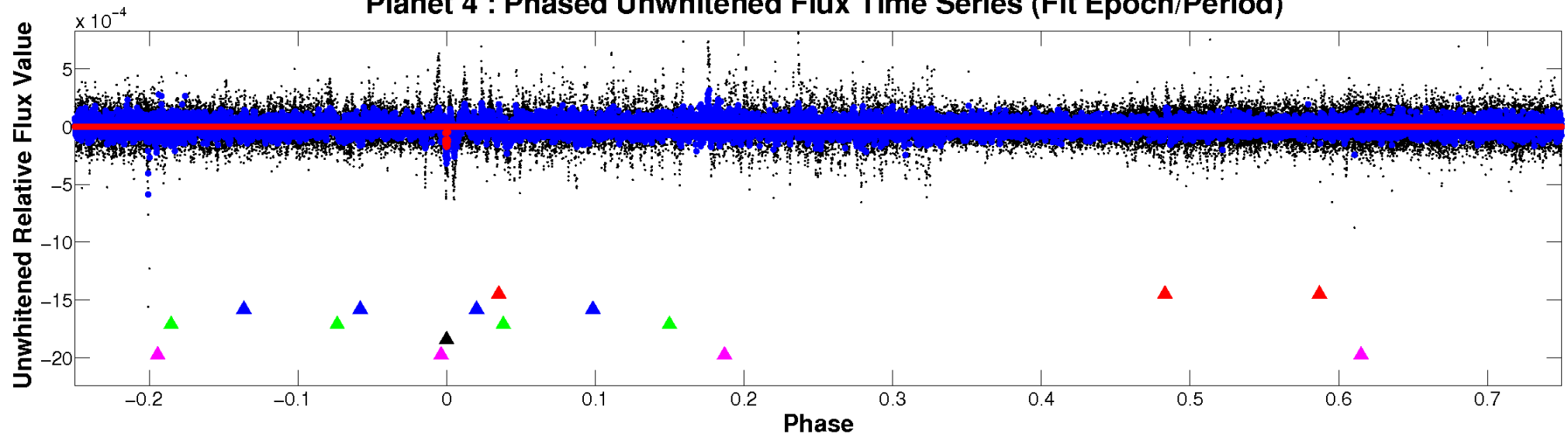
ALT Odd/Even

TCE 010385708-04

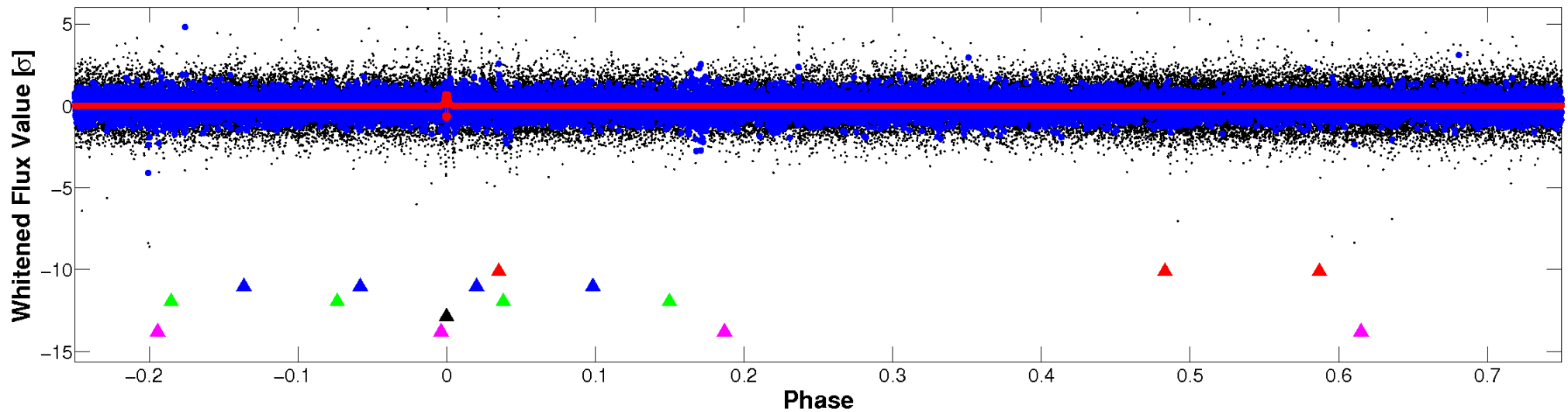


Non-Whitened Vs. Whitened Light Curve

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

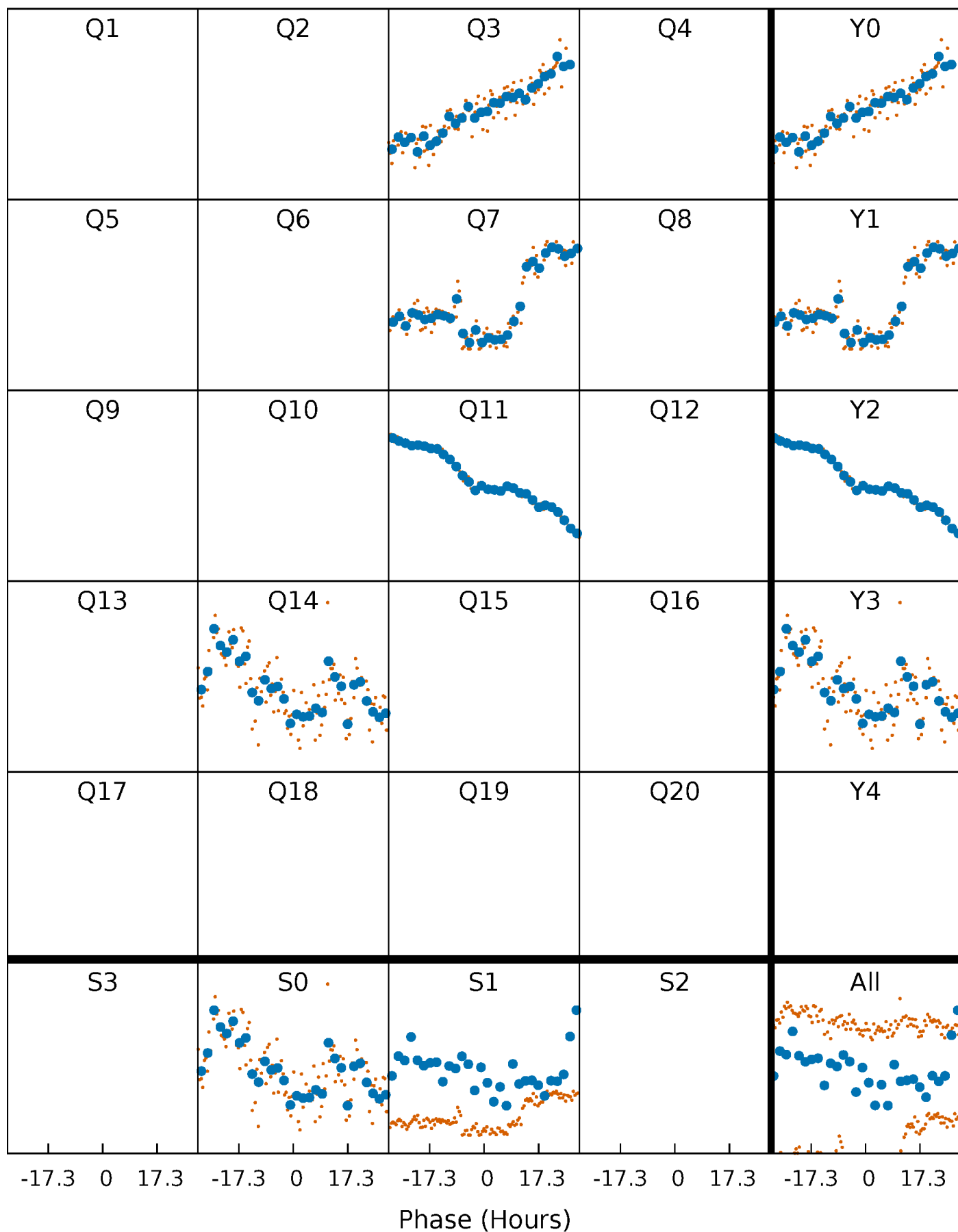


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



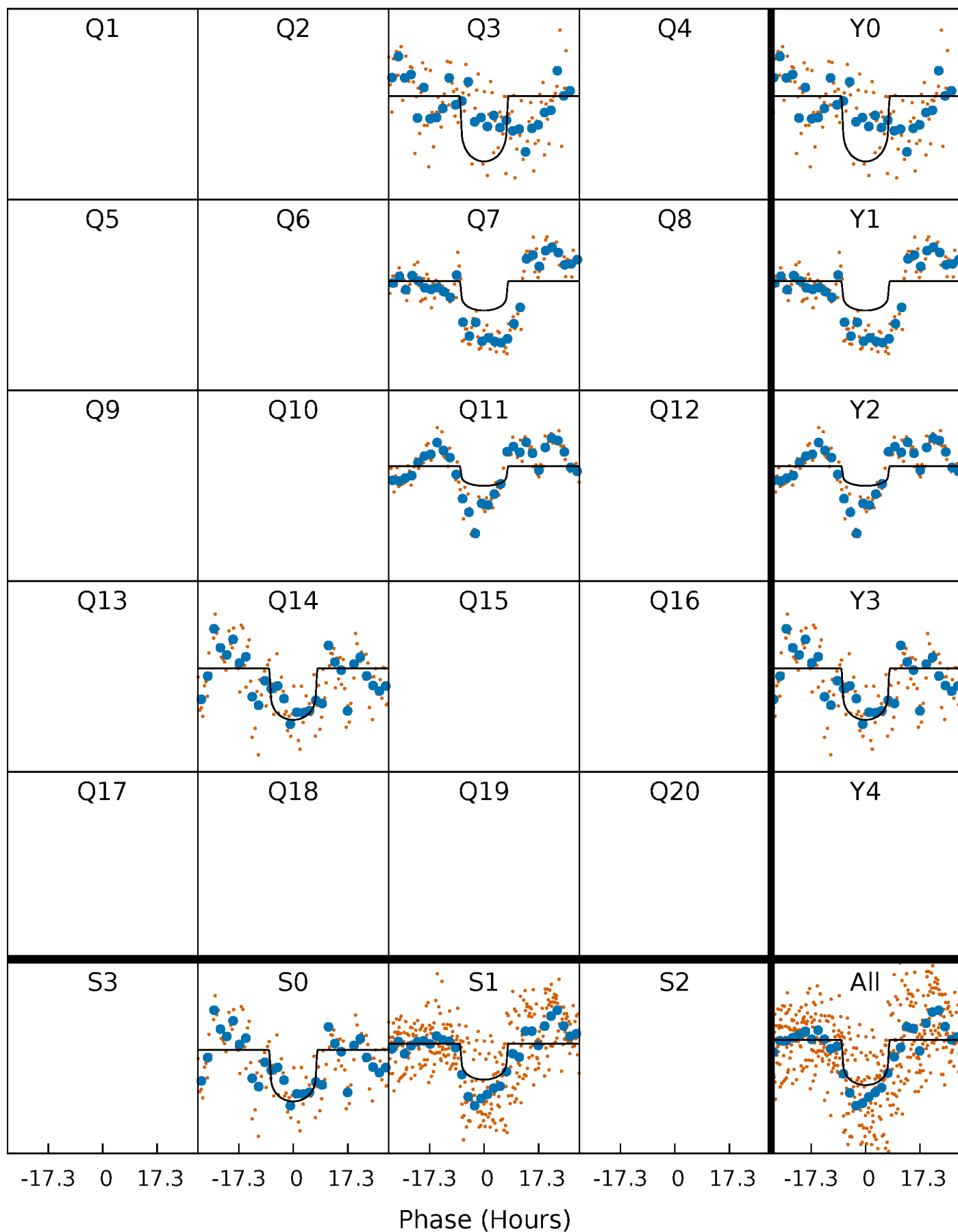
PDC Quarter-Phased Transit Curves

TCE 010385708-04 $P=345.804444$ Days $T_0=320.333361$ (BKJD)



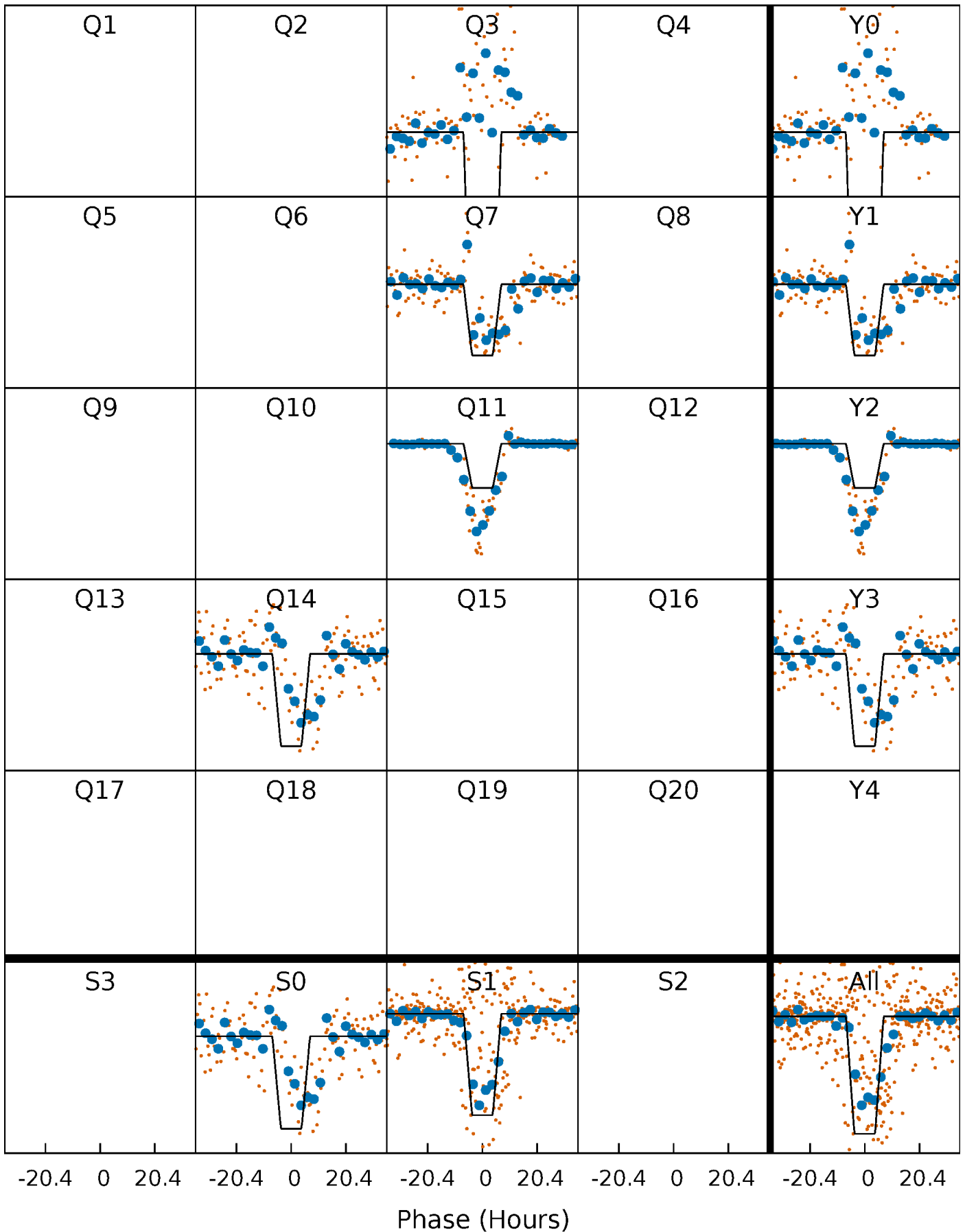
DV Quarter-Phased Transit Curves

TCE 010385708-04 $P=345.804444$ Days $T_0=320.333361$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

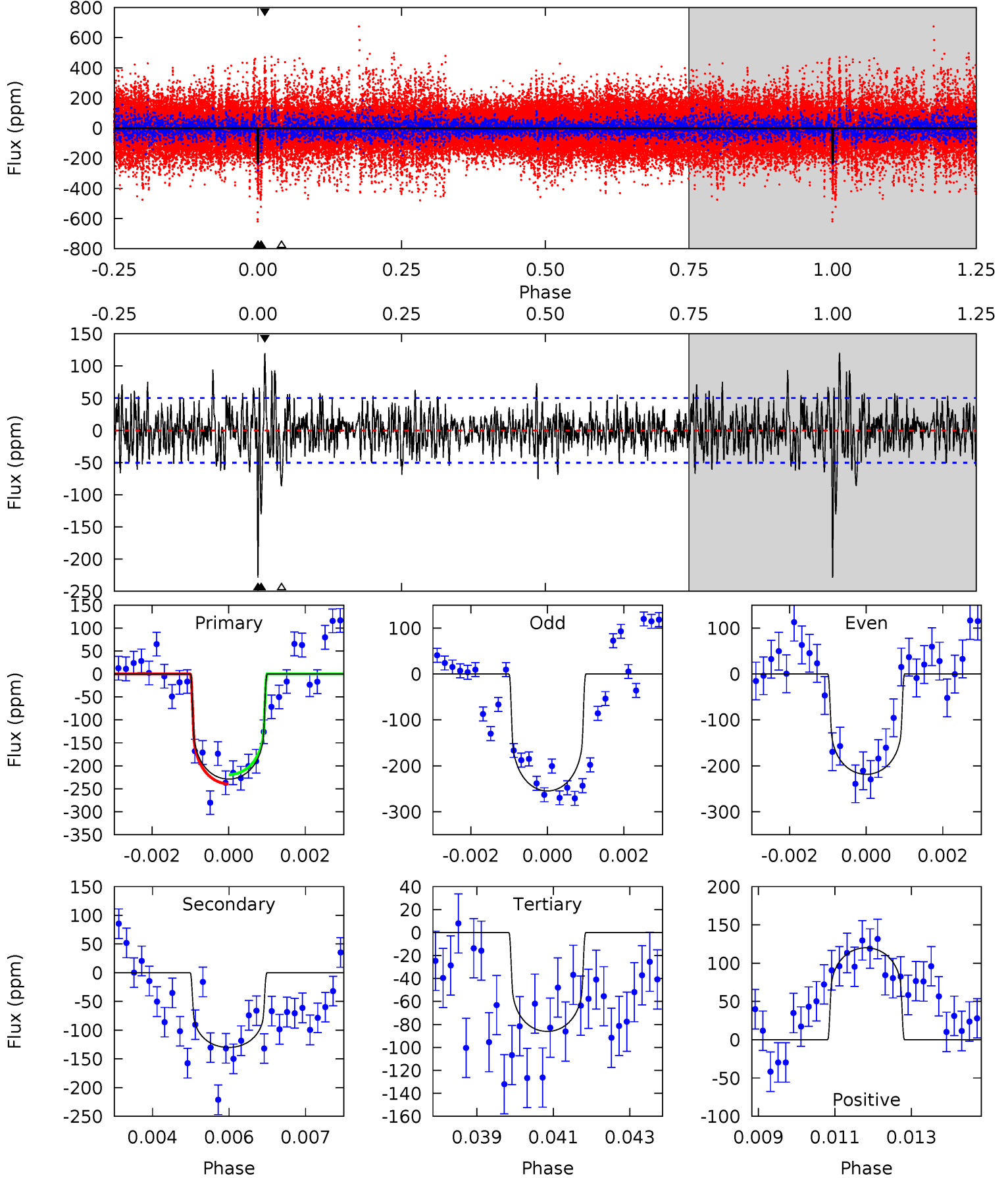
TCE 010385708-04 $P=345.831192$ Days $T_0=320.207628$ (BKJD)



DV Model-Shift Uniqueness Test

010385708-04, P = 345.804444 Days, E = 320.333361 Days

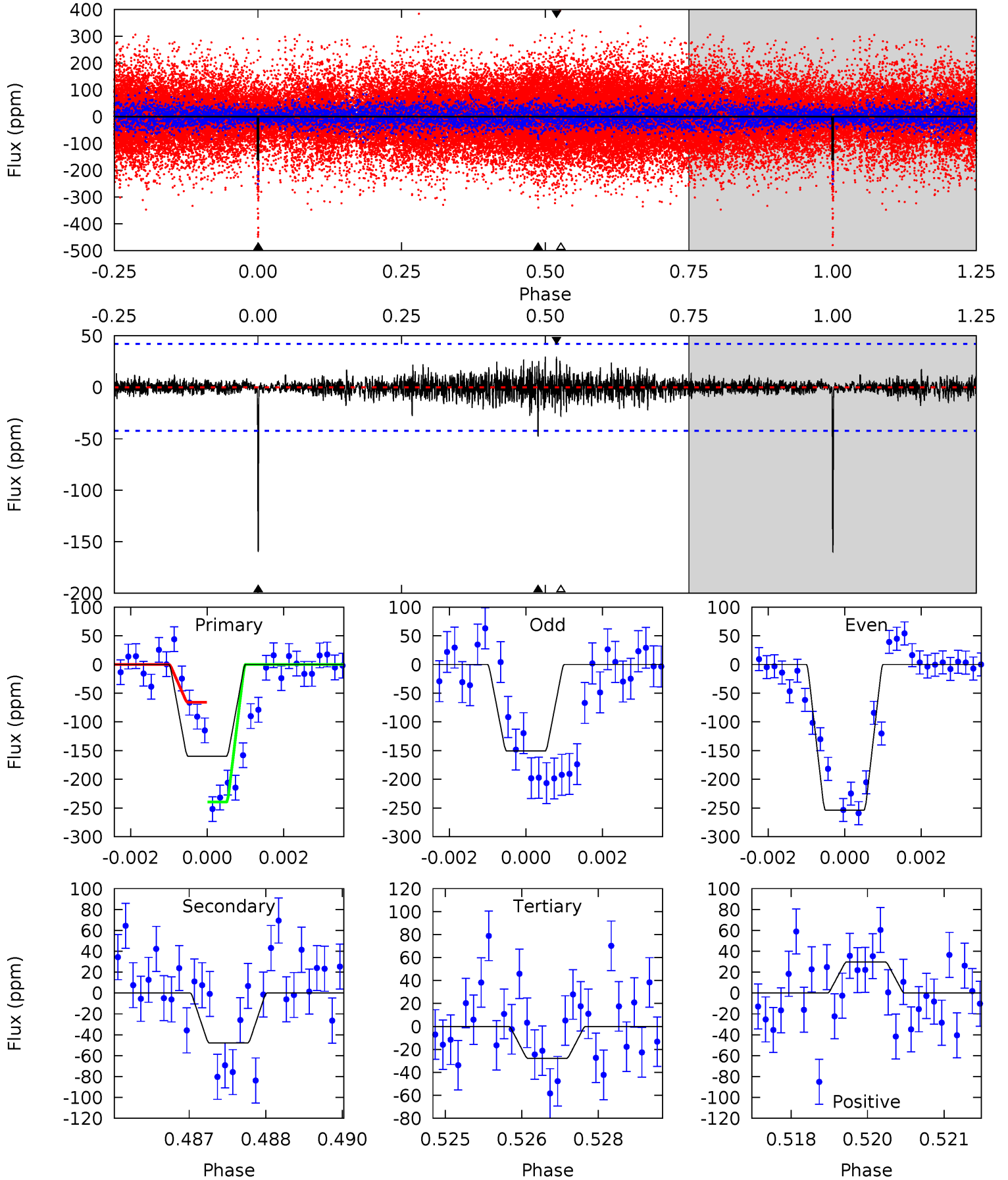
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	13.8	9.14	12.7	5.34	3.11	2.55	15.2	11.5	4.67	1.06	1.89	0.92	0.34	1.06



Alt Model-Shift Uniqueness Test

010385708-04, P = 345.831192 Days, E = 320.207628 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	6.07	3.54	3.79	5.35	3.13	0.82	16.8	16.5	2.52	2.28	6.92	1.29	0.16	11.0



Stellar Parameters For KIC 010385708

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5845^{+79}_{-79}	$4.024^{+0.025}_{-0.020}$	$0.080^{+0.200}_{-0.150}$	$1.702^{+0.120}_{-0.083}$	$1.115^{+0.179}_{-0.060}$	$0.319^{+0.034}_{-0.028}$
	+1%/-1%	+1%/-0%	+250%/-188%	+7%/-5%	+16%/-5%	+11%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 010385708-04 / KOI 8206.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-130 ± 9	$2.47^{+0.70}_{-0.69}$	469^{+9}_{-8}	5467^{+929}_{-592}	12045^{+11347}_{-4841}
Alt.	-48 ± 8	$3.18^{+0.68}_{-0.71}$	469^{+8}_{-8}	4021^{+402}_{-270}	2614^{+1809}_{-877}

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

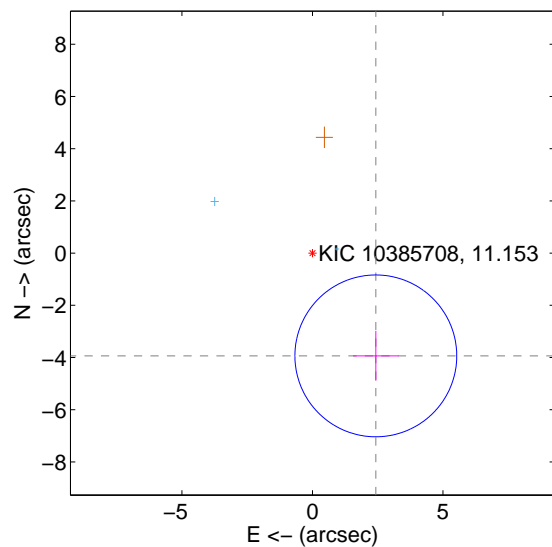
Supplemental centroid analysis for 010385708-04. **Kepler magnitude: 11.15.** Transit SNR 8.11

There are 2 quarters with good PRF difference image offsets

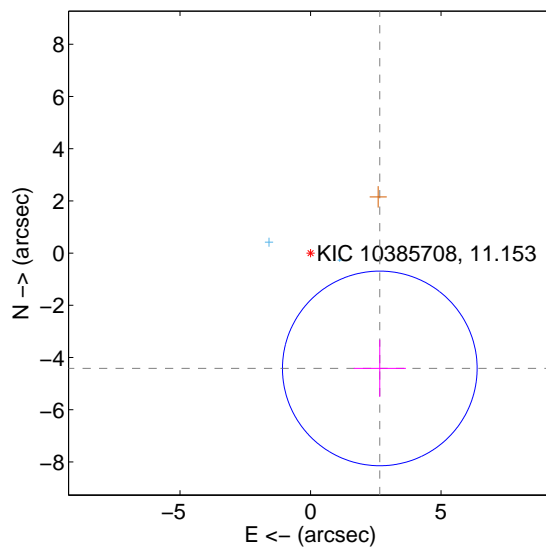
The OOT PRF centroid is offset from the target star catalog position by about 2.66 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.626 ± 1.033	4.48	-2.428 ± 0.875	-3.938 ± 0.953
PRF-fit source offset from KIC position	5.154 ± 1.243	4.15	-2.654 ± 0.999	-4.418 ± 1.092
photometric centroid source offset	3.22 ± 0.66	4.86	-1.98 ± 0.77	-2.54 ± 0.59

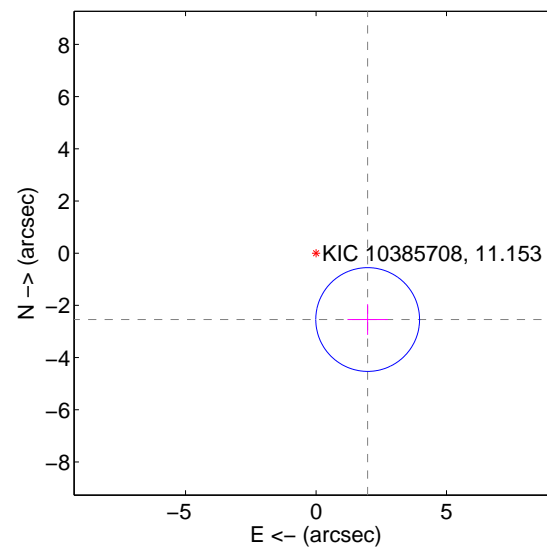
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

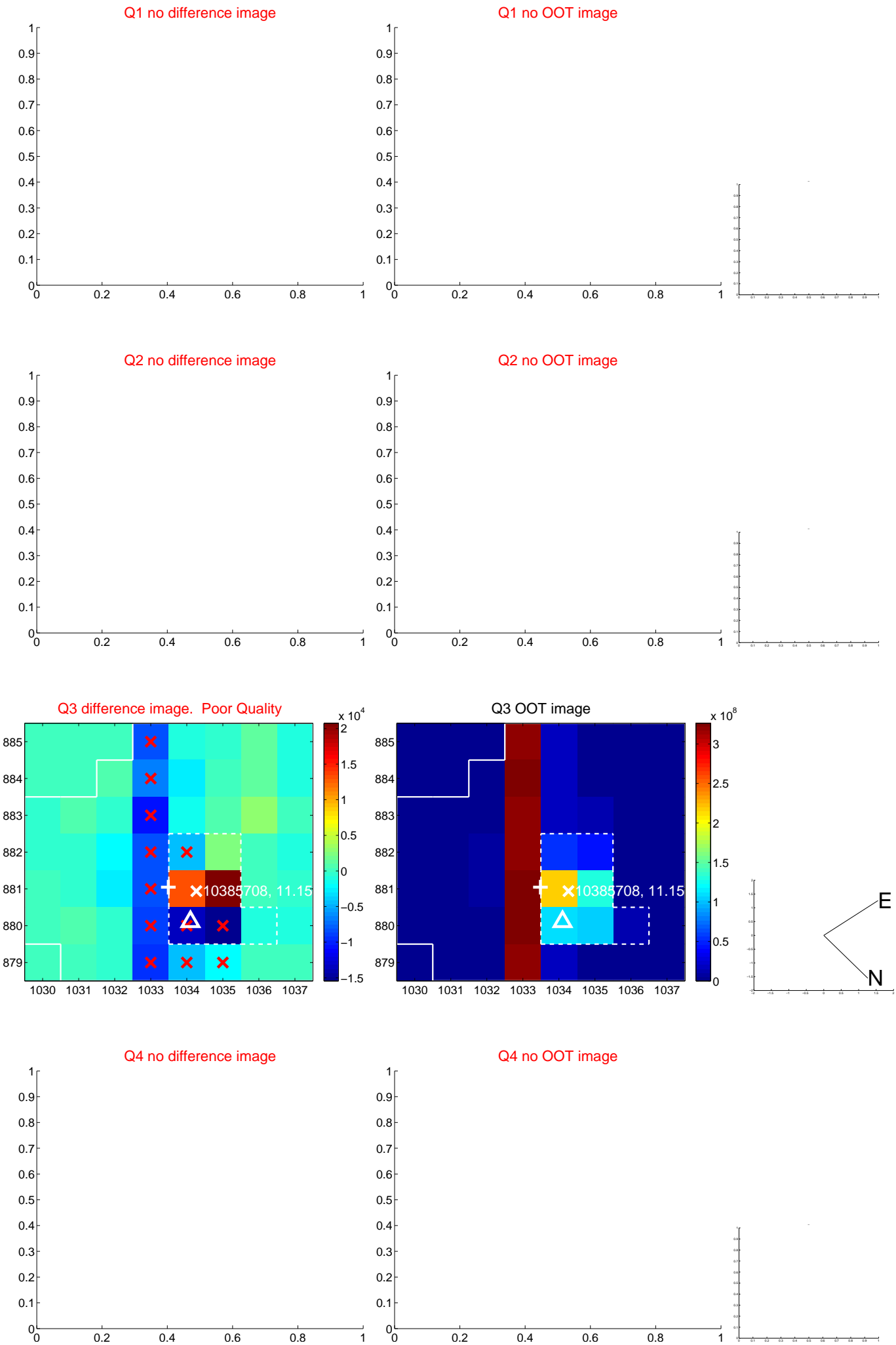


offset from photometric centroids

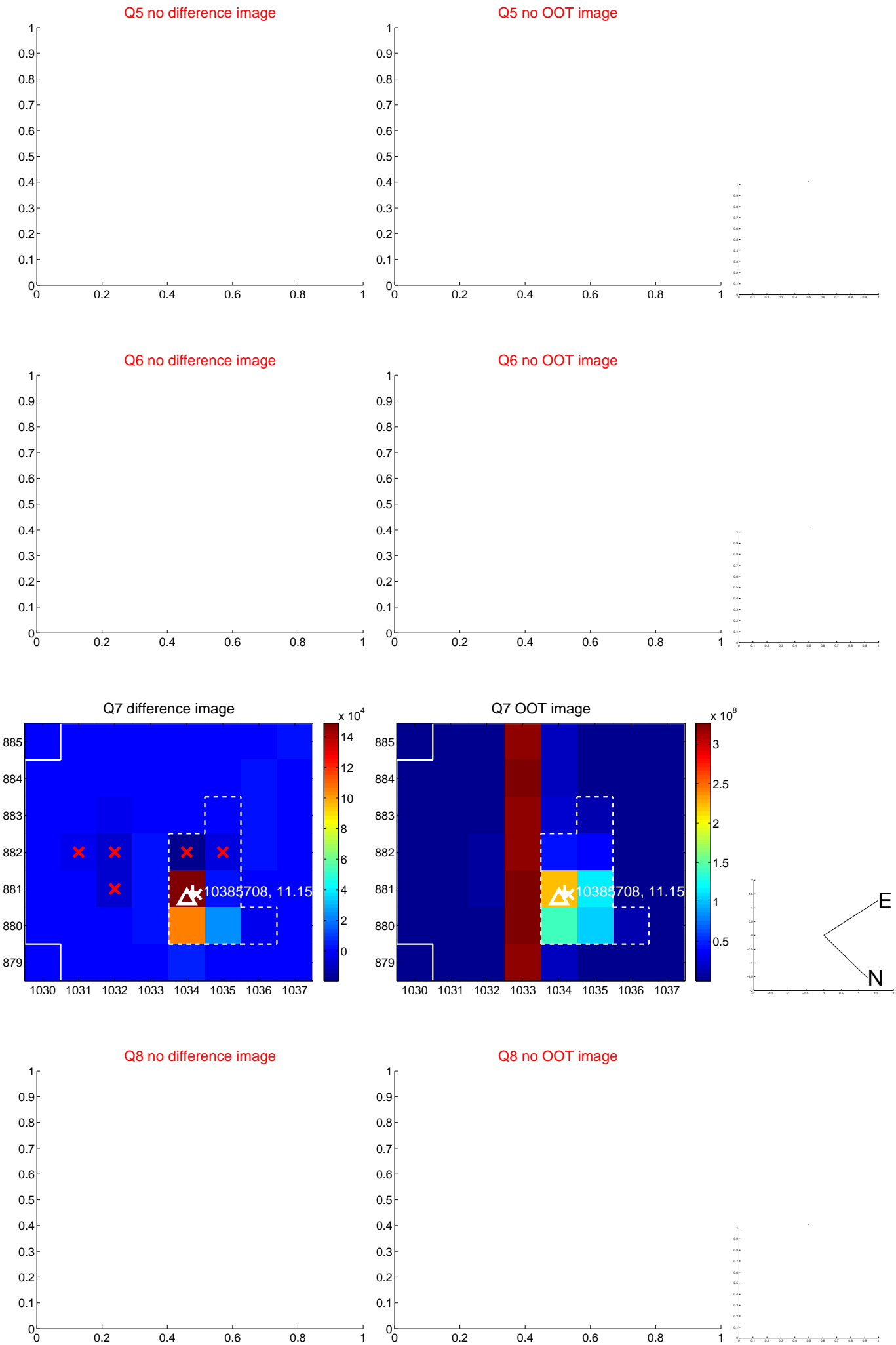


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

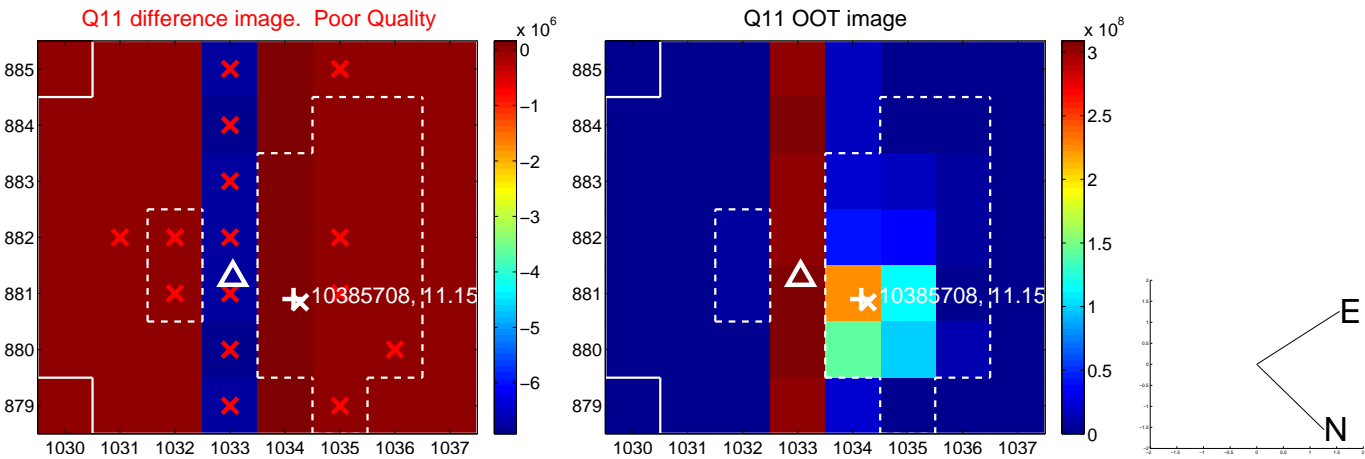
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



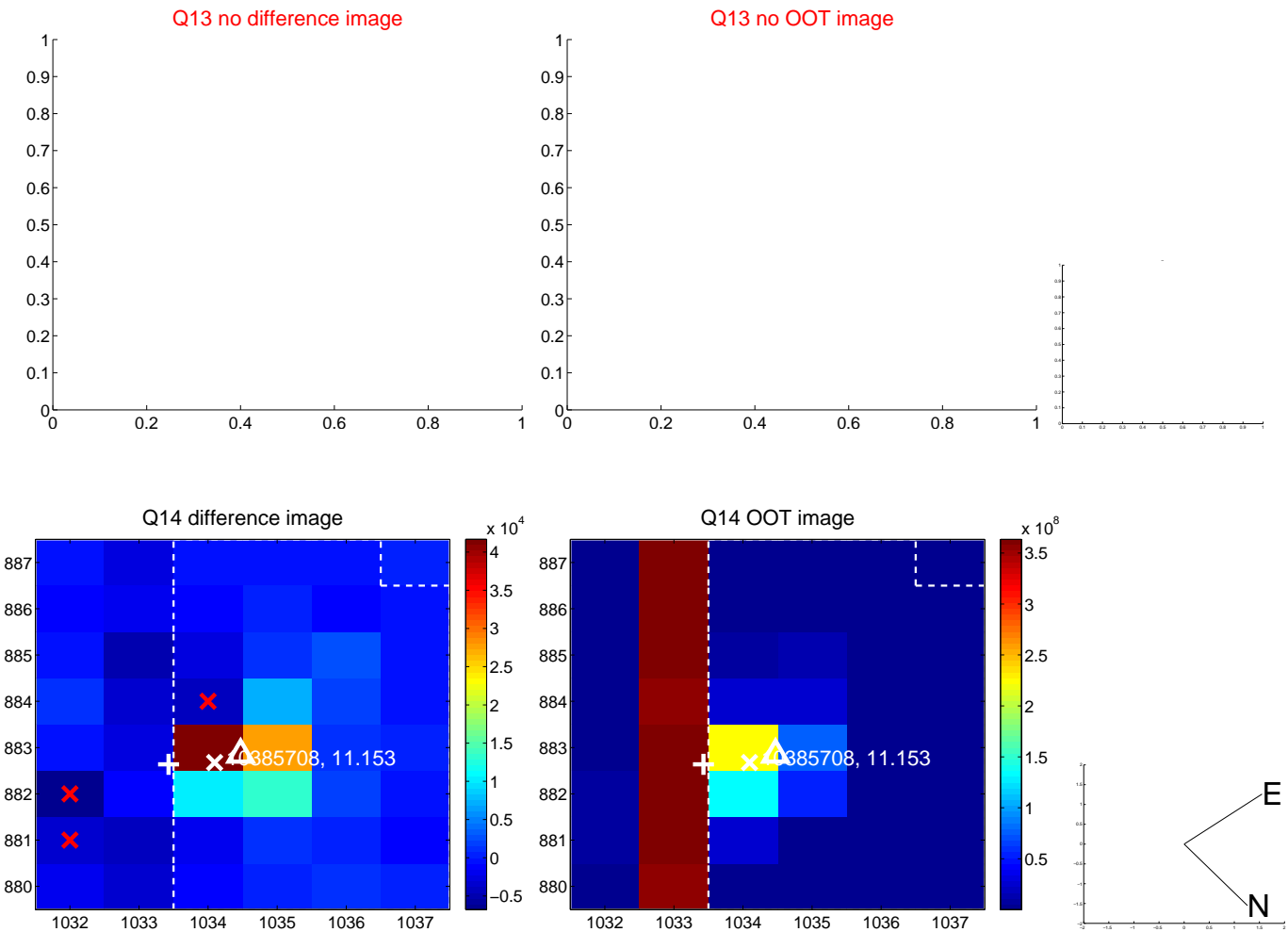
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



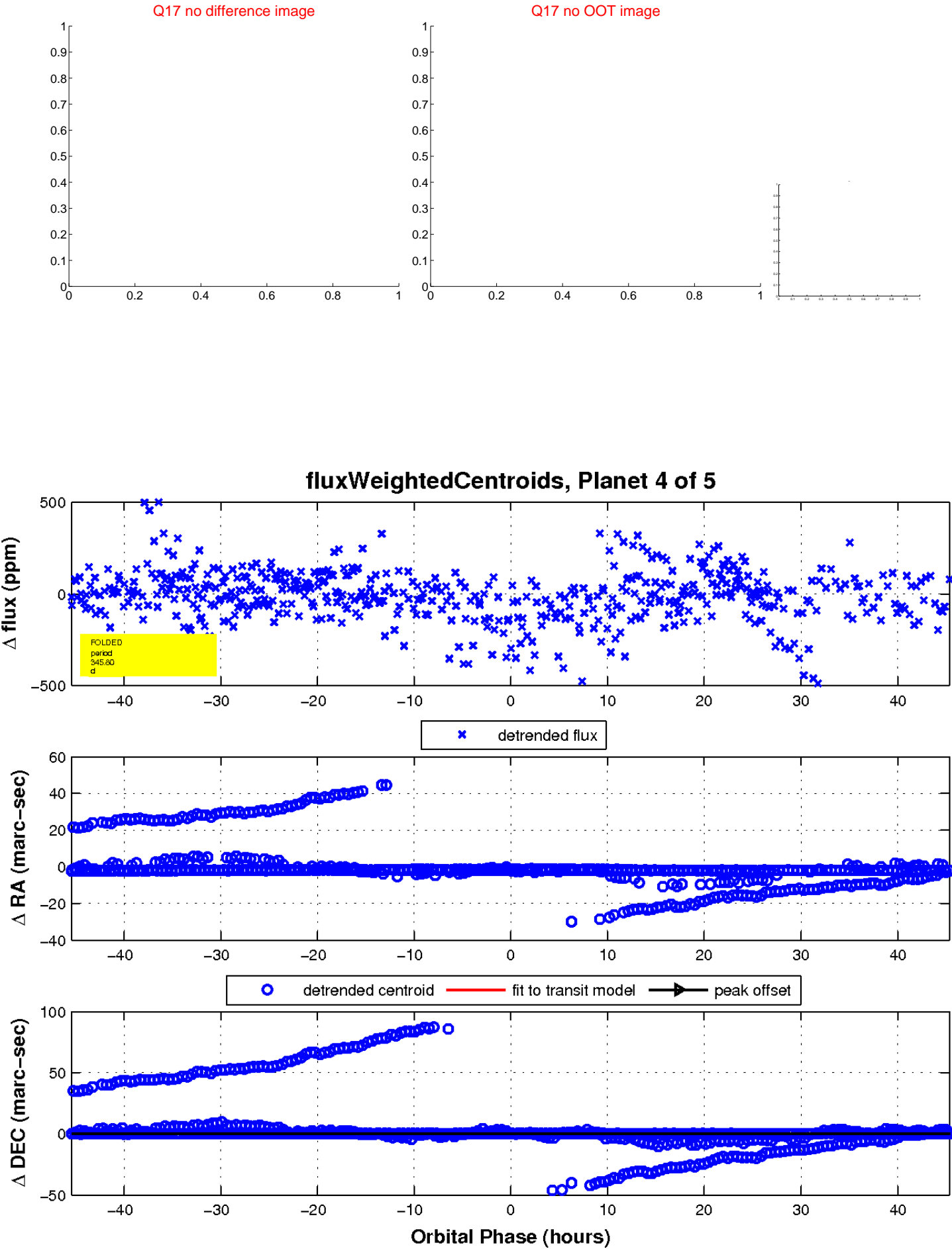
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

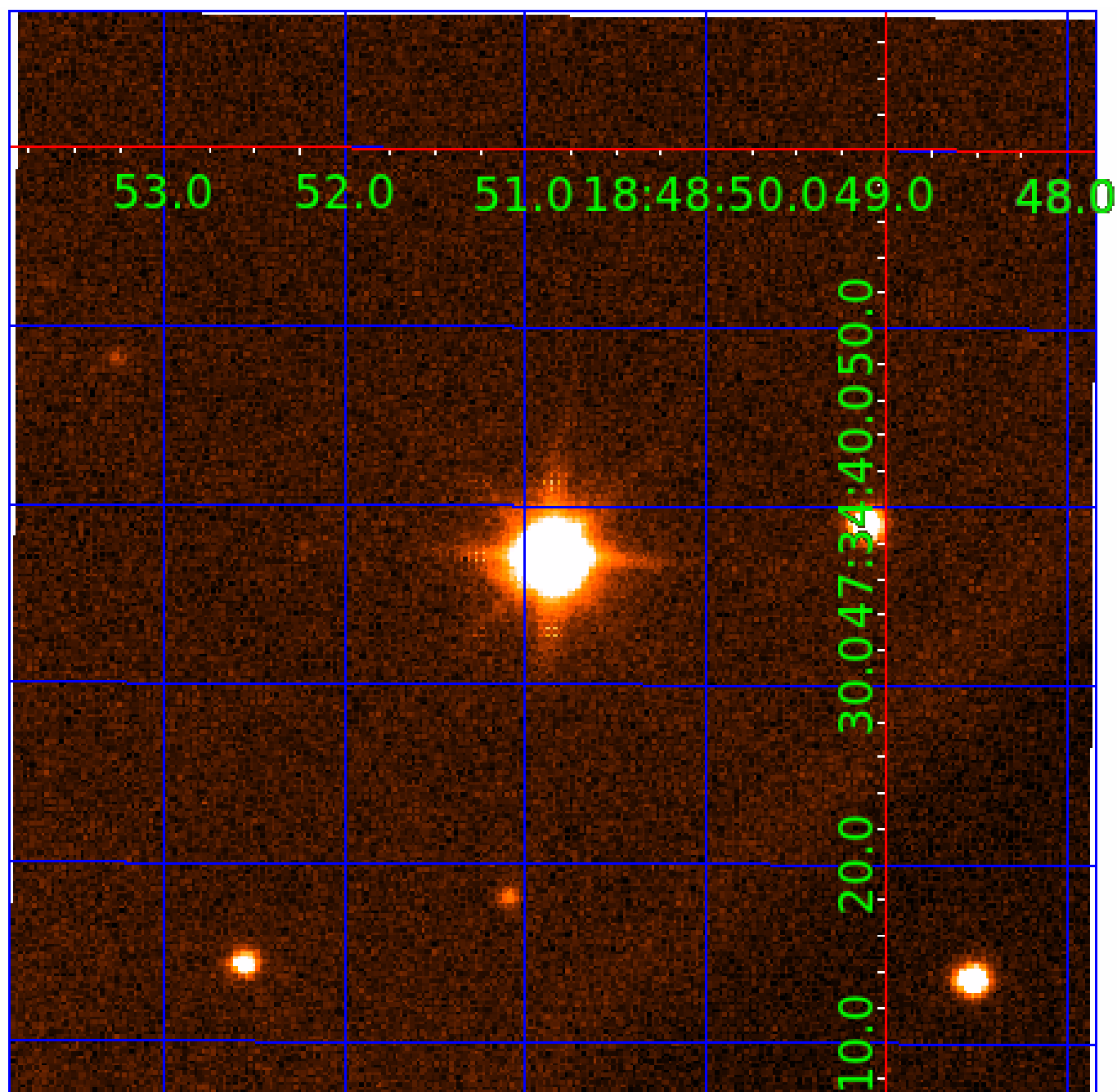


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010385708

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})
010385708-01	OBS	No	500.748698	177.527508	241.2	8.406	10.4	8.3	1.70	5845	2.93	1.85
010385708-02	OBS	No	372.856039	273.201354	233.6	17.295	9.7	9.1	1.70	5845	2.74	2.74
010385708-03	OBS	No	384.433275	256.269268	341.9	16.341	10.1	10.1	1.70	5845	6.33	2.63
010385708-04	OBS	8206.01	345.804444	320.333361	174.8	15.166	10.3	8.1	1.70	5845	2.43	3.03
010385708-05	OBS	No	411.722612	187.219690	109.1	15.000	10.6	-1.0	1.70	5845	1.76	2.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010385708-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010385708-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010385708-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

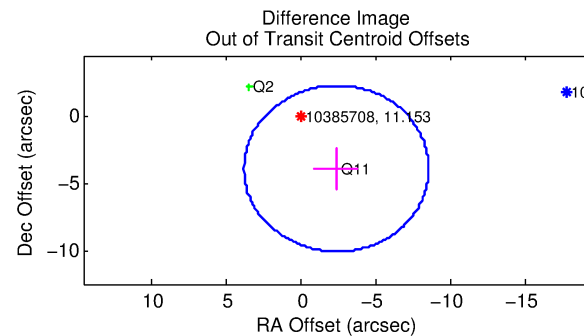
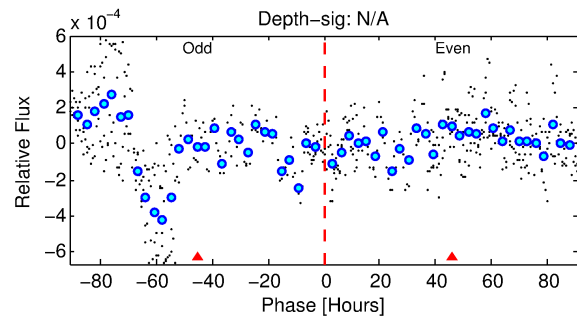
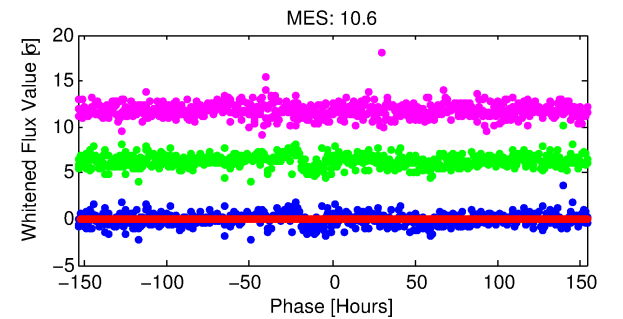
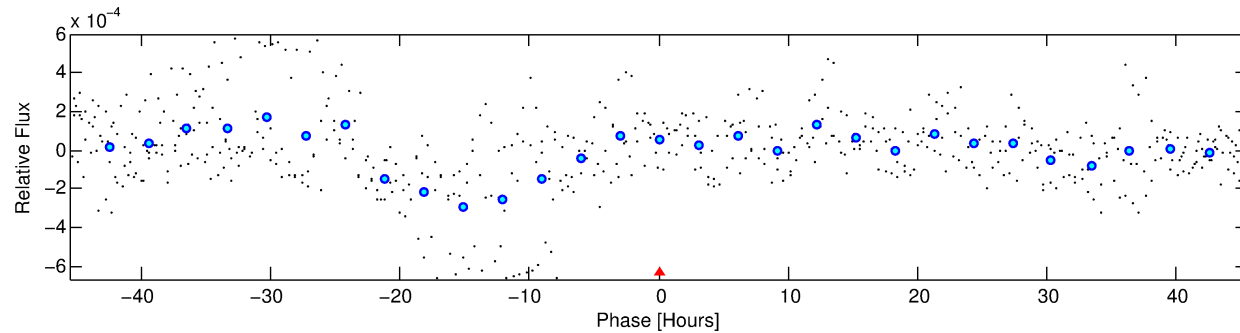
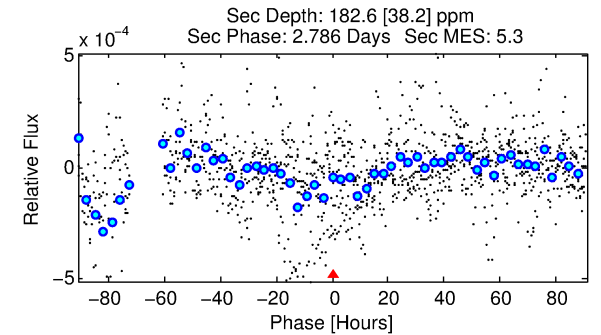
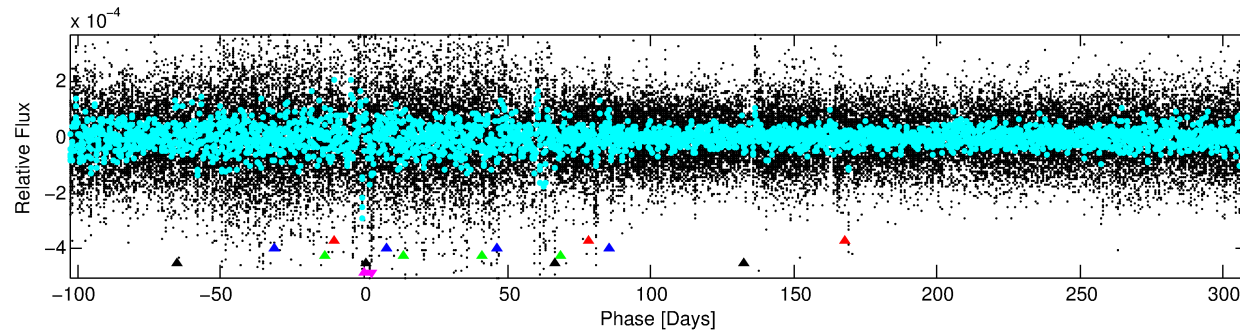
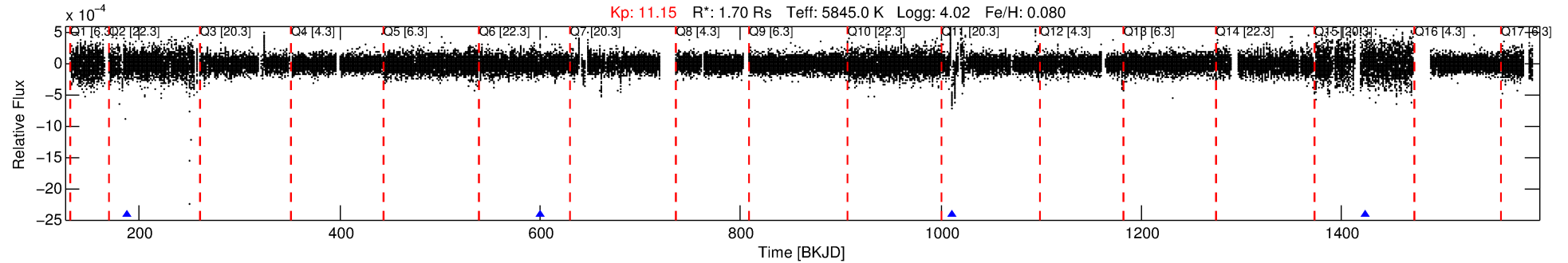
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010385708-05

No Significant Match Found

DV One-Page Summary

KIC: 10385708 Candidate: 5 of 5 Period: 411.723 d



TPS TCE Results:

Period = 411.72261 d

Epoch = 187.2197 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.53σ]

LongPeriod-sig: 100.0% [124.26σ]

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: 1.36e-11

RollingBand-fgt: 1.00 [4/4]

GhostDiagnostic-chr: -1.099

Centroid-sig: N/A

Centroid-so: 8.682 arcsec [1.36σ]

OotOffset-rm: 4.599 arcsec [2.23σ]

KicOffset-rm: 5.126 arcsec [1.71σ]

OotOffset-st: 1/1/0/0 [2]

KicOffset-st: 1/1/0/0 [2]

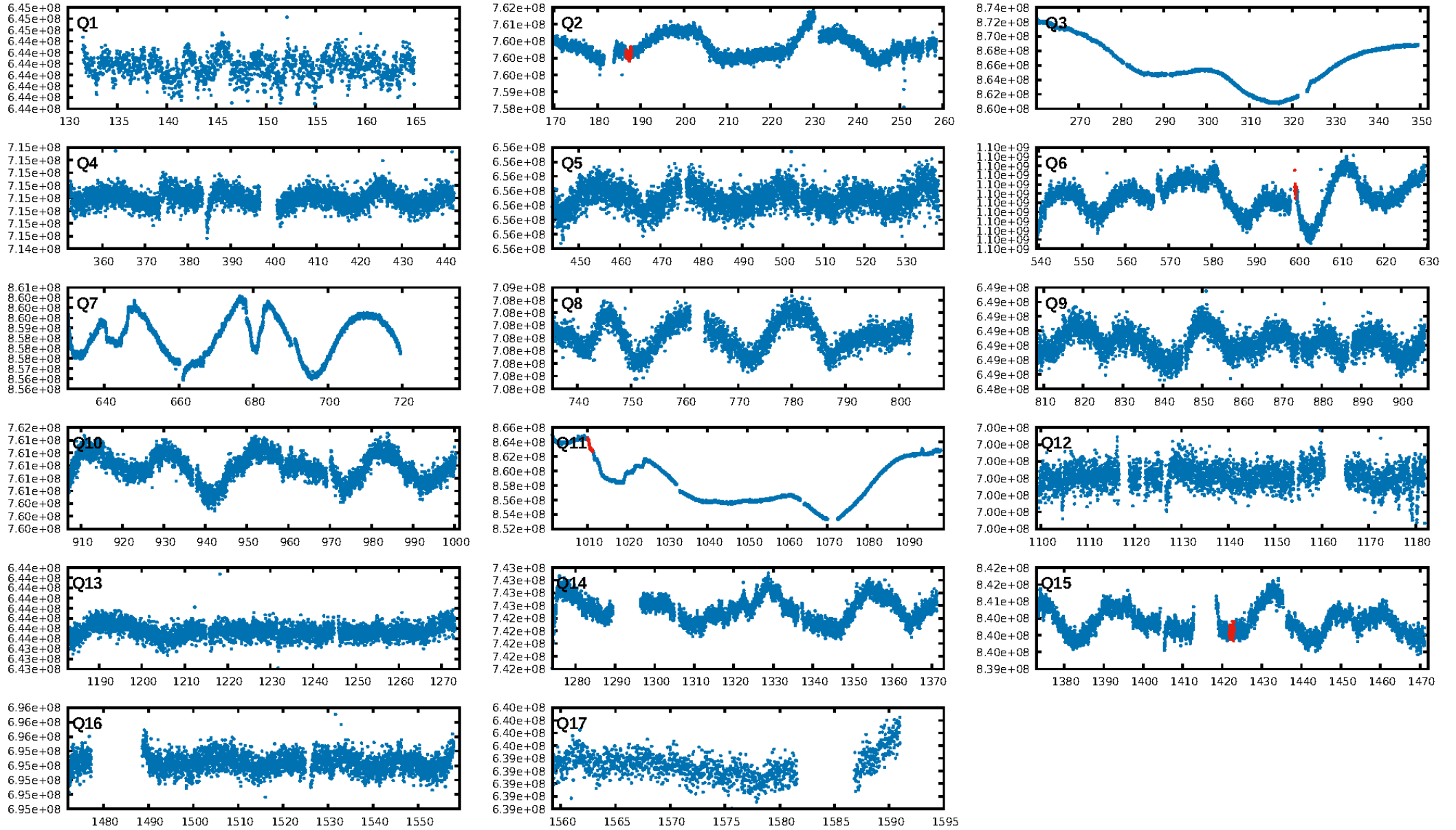
DiffImageQuality-fgm: 0.50 [1/2]

DiffImageOverlap-fno: 0.67 [2/3]

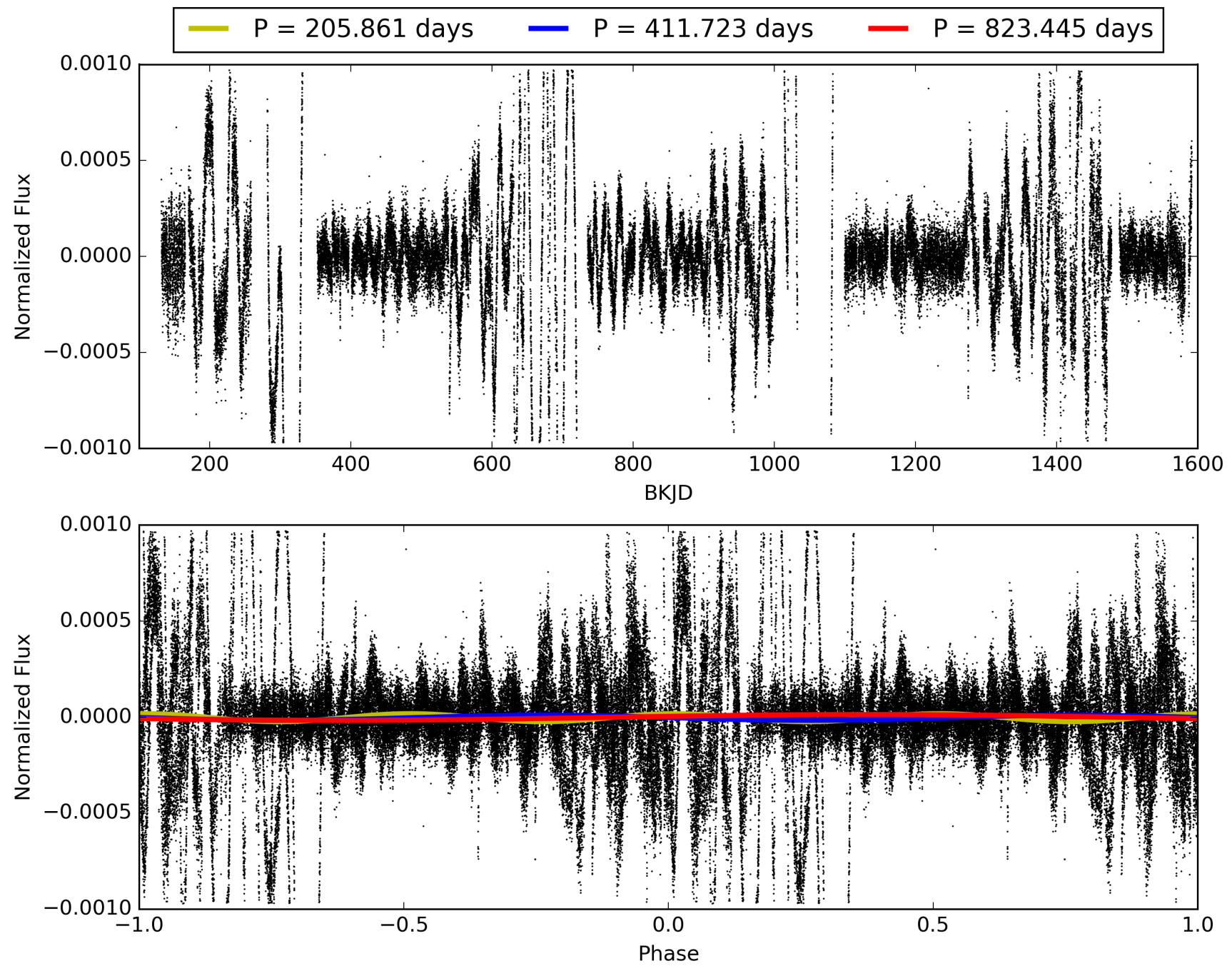
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:25:15 Z

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

TCE 010385708-05, PDC Light Curves

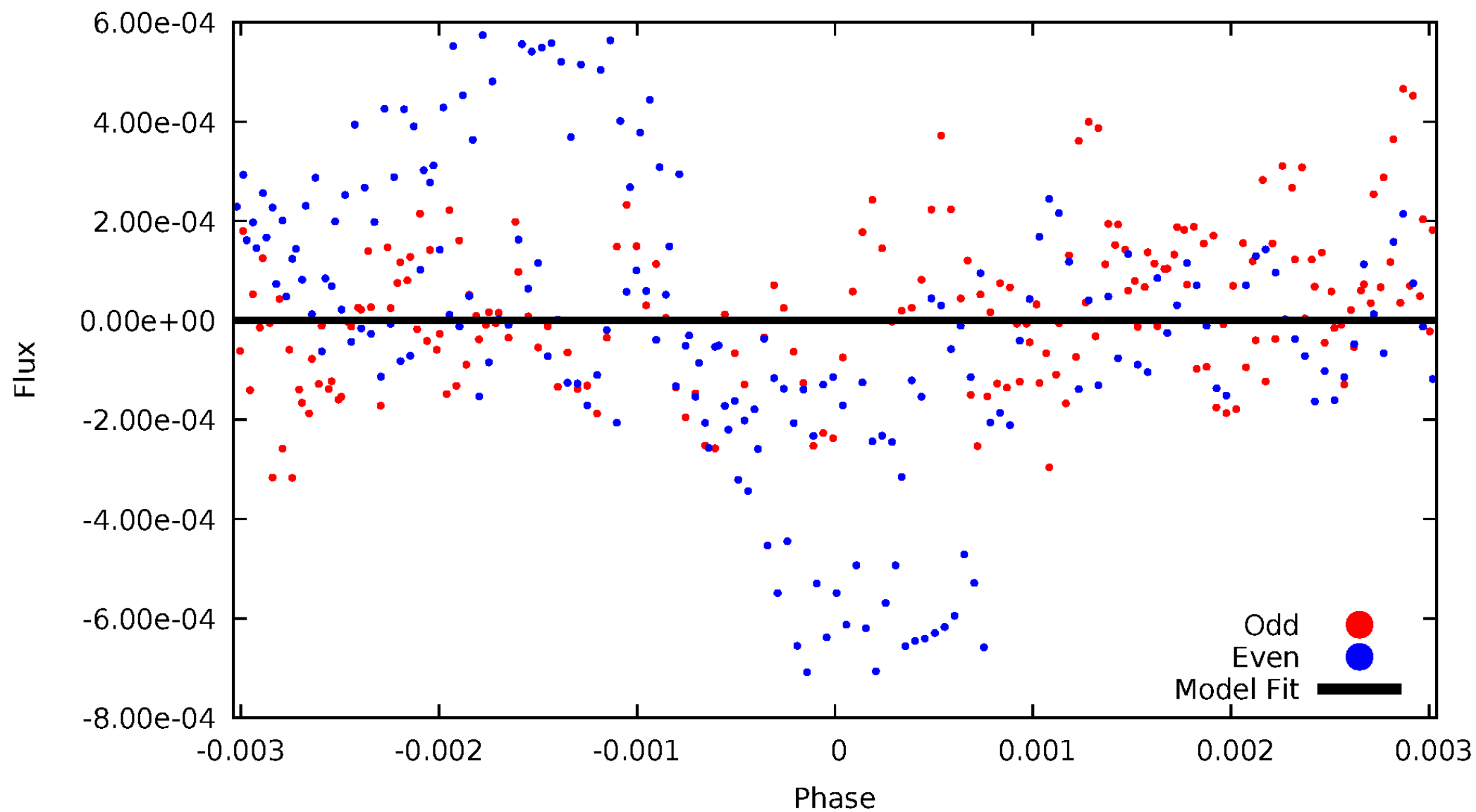


TCE 010385708-05



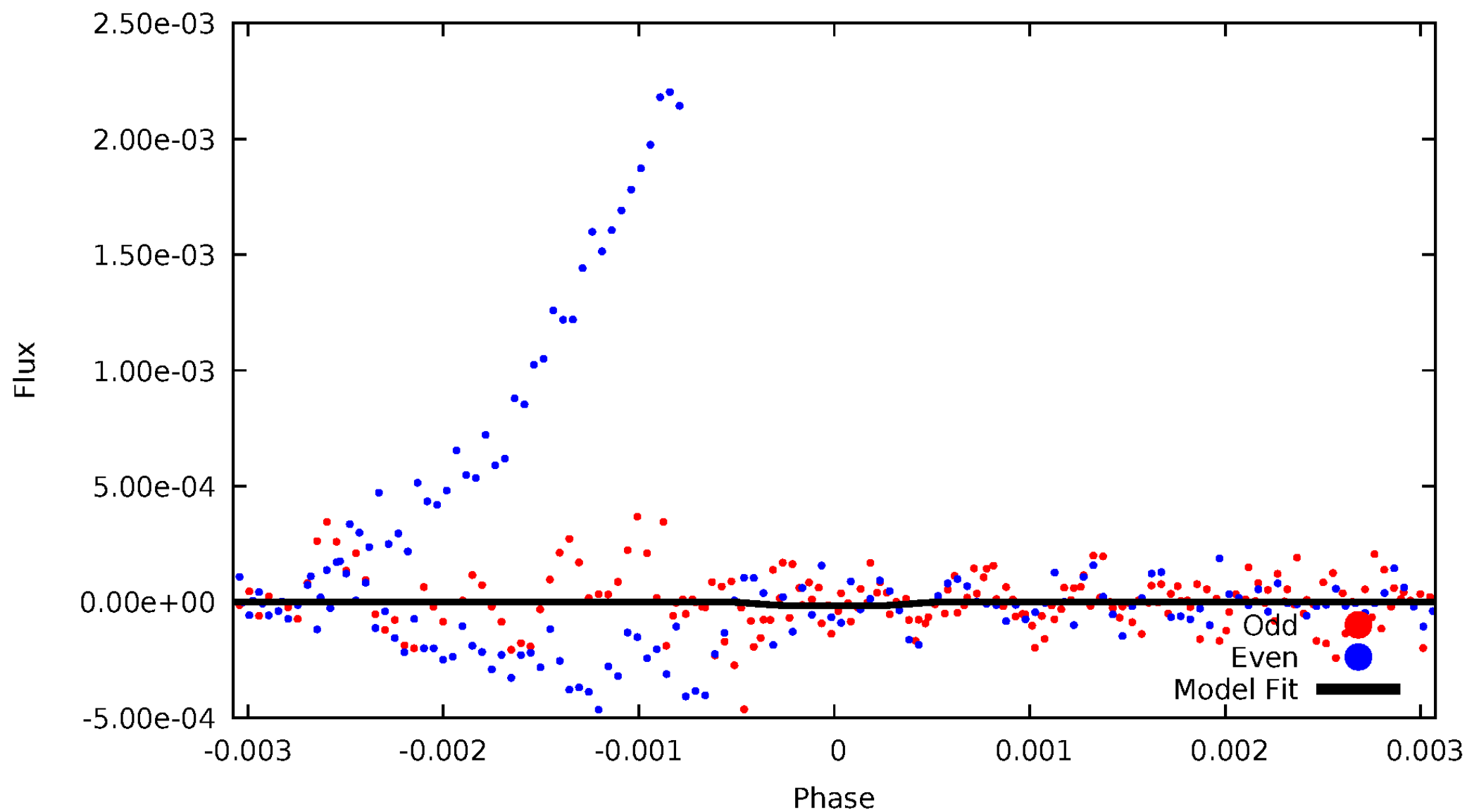
DV Odd/Even

TCE 010385708-05

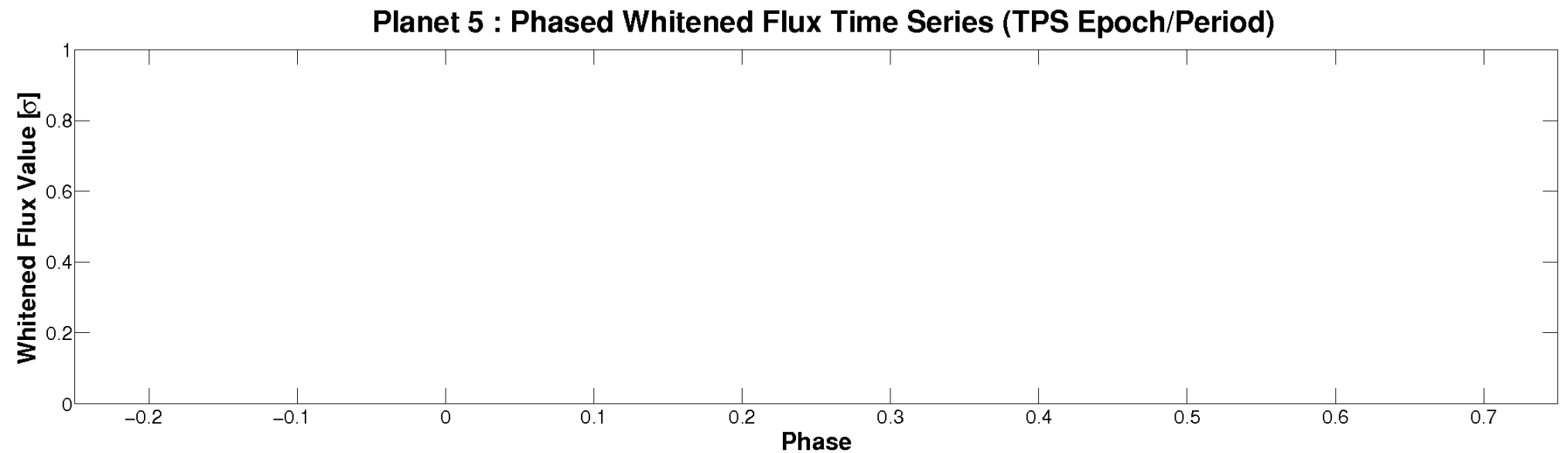
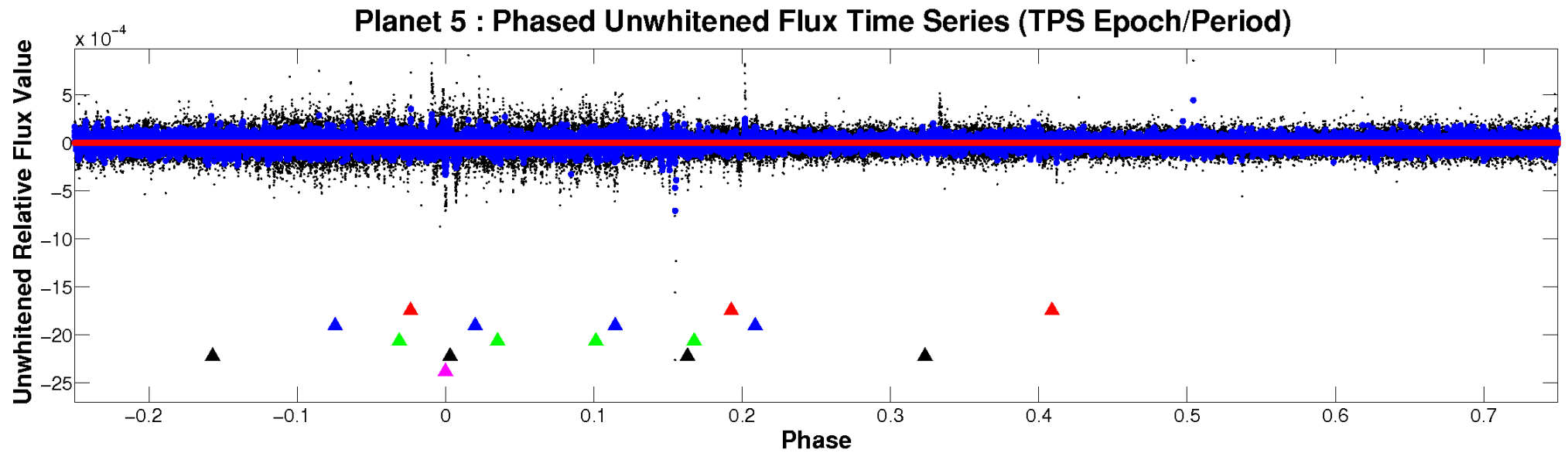


ALT Odd/Even

TCE 010385708-05

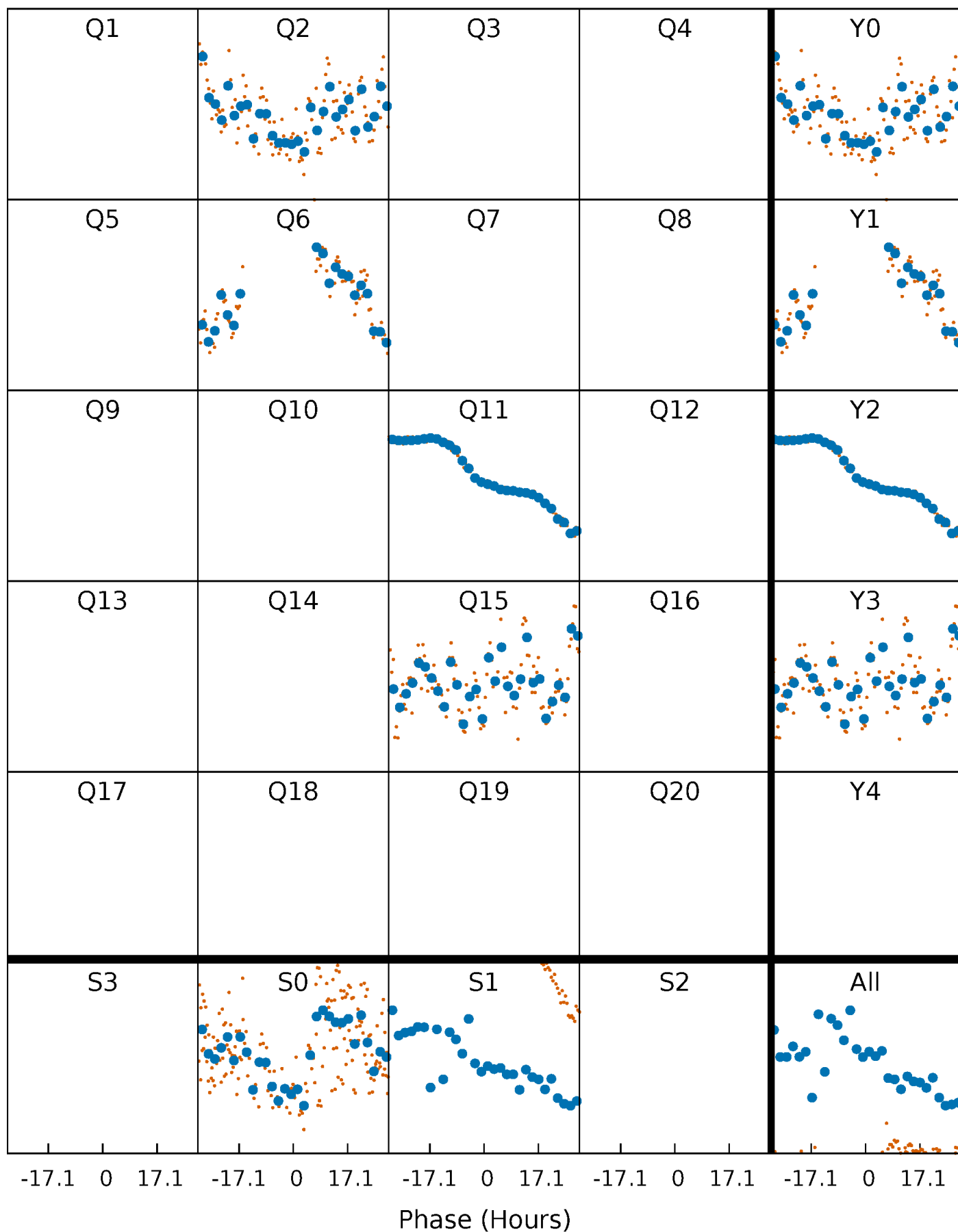


Non-Whitened Vs. Whitened Light Curve



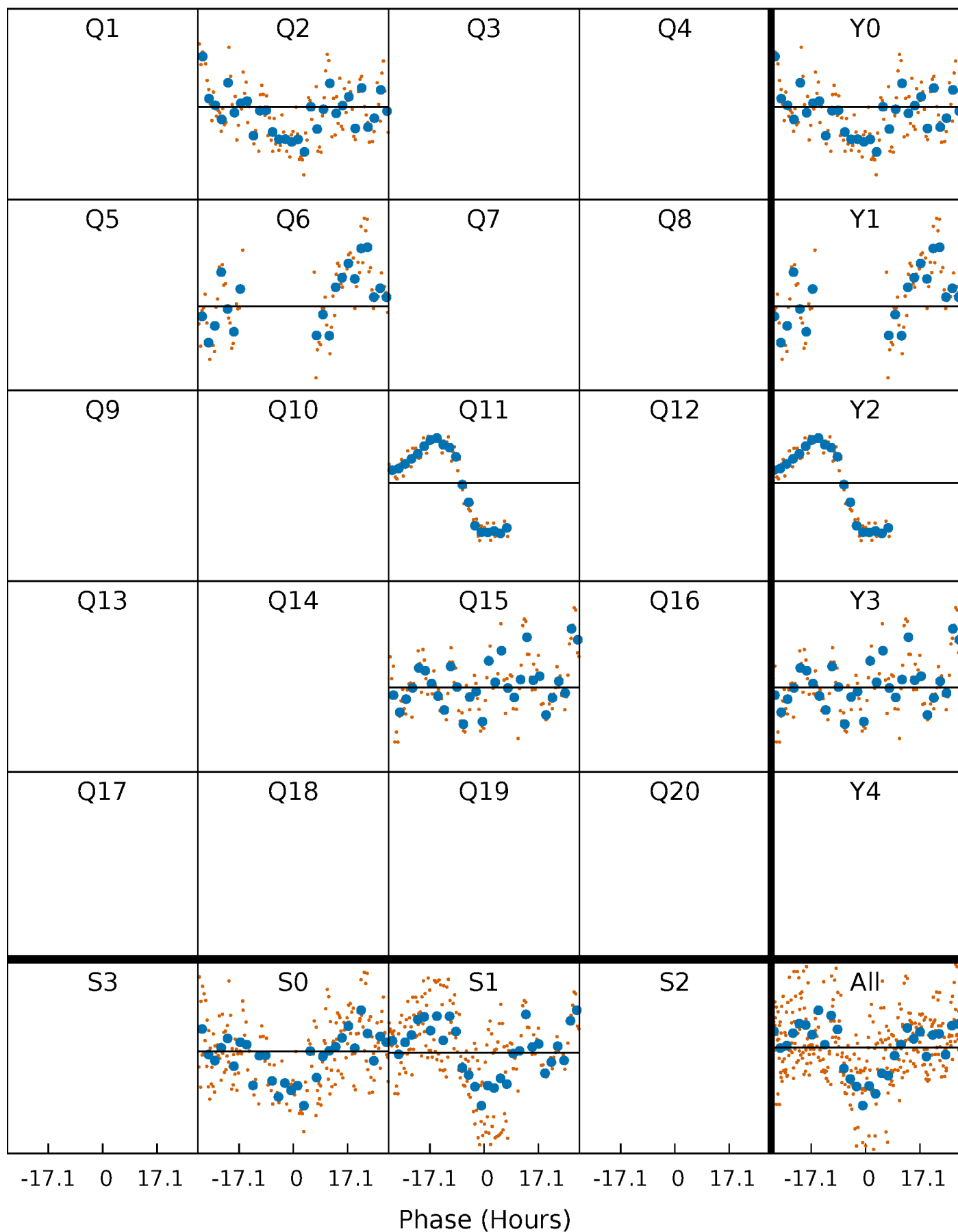
PDC Quarter-Phased Transit Curves

TCE 010385708-05 $P=411.722612$ Days $T_0=187.219690$ (BKJD)



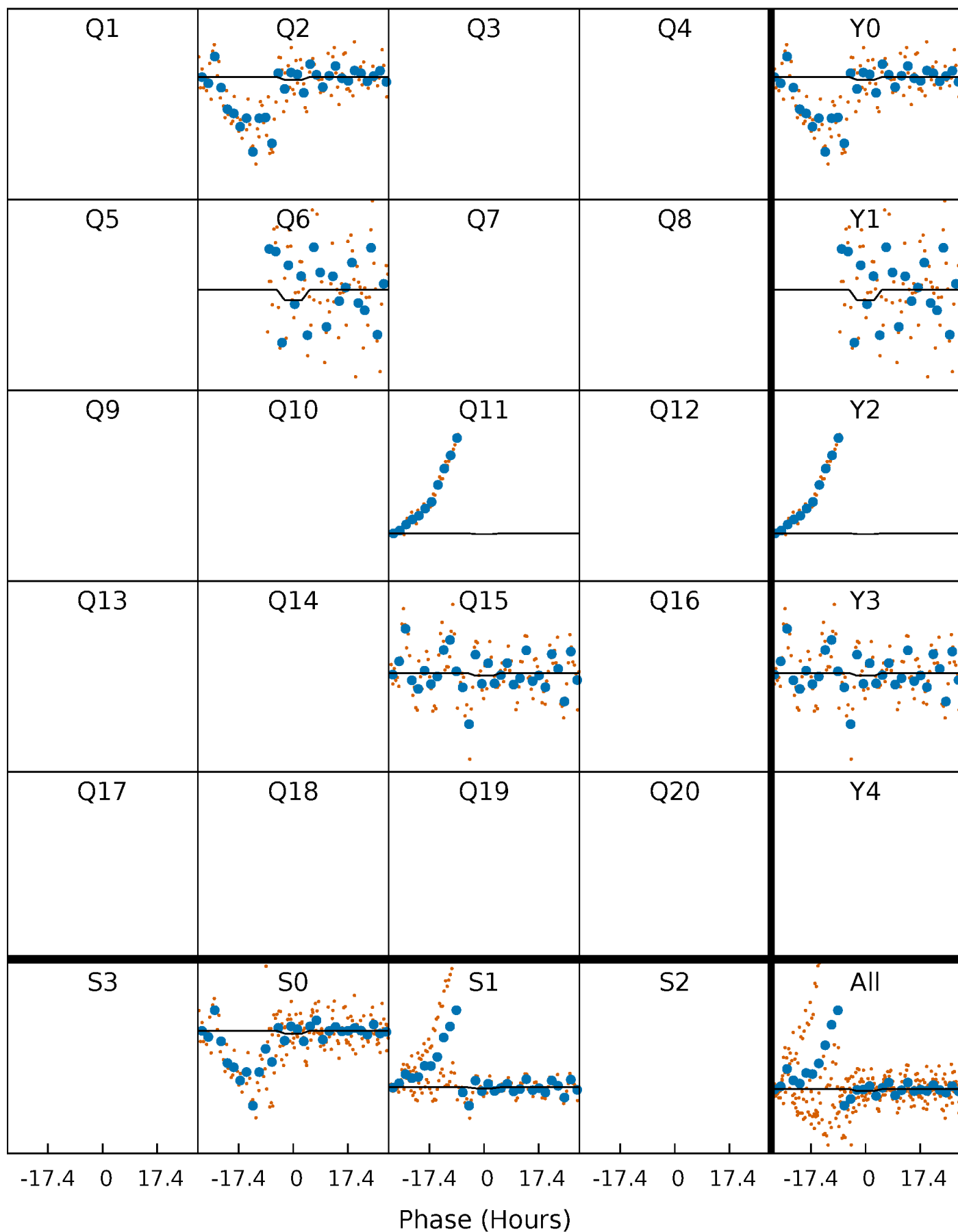
DV Quarter-Phased Transit Curves

TCE 010385708-05 $P=411.722612$ Days $T_0=187.219690$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

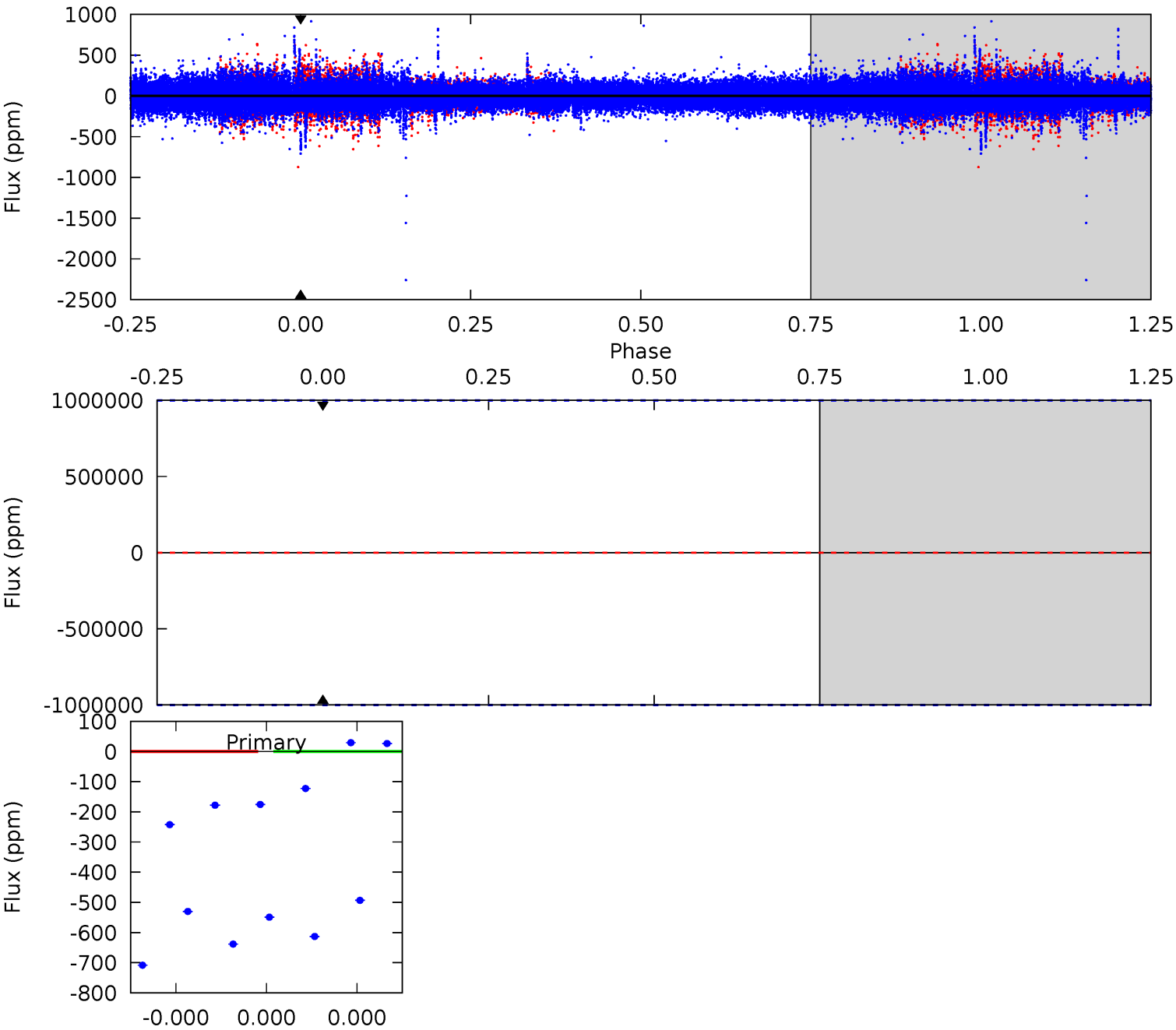
TCE 010385708-05 $P=411.722612$ Days $T_0=187.855152$ (BKJD)



DV Model-Shift Uniqueness Test

010385708-05, P = 411.722612 Days, E = 187.219690 Days

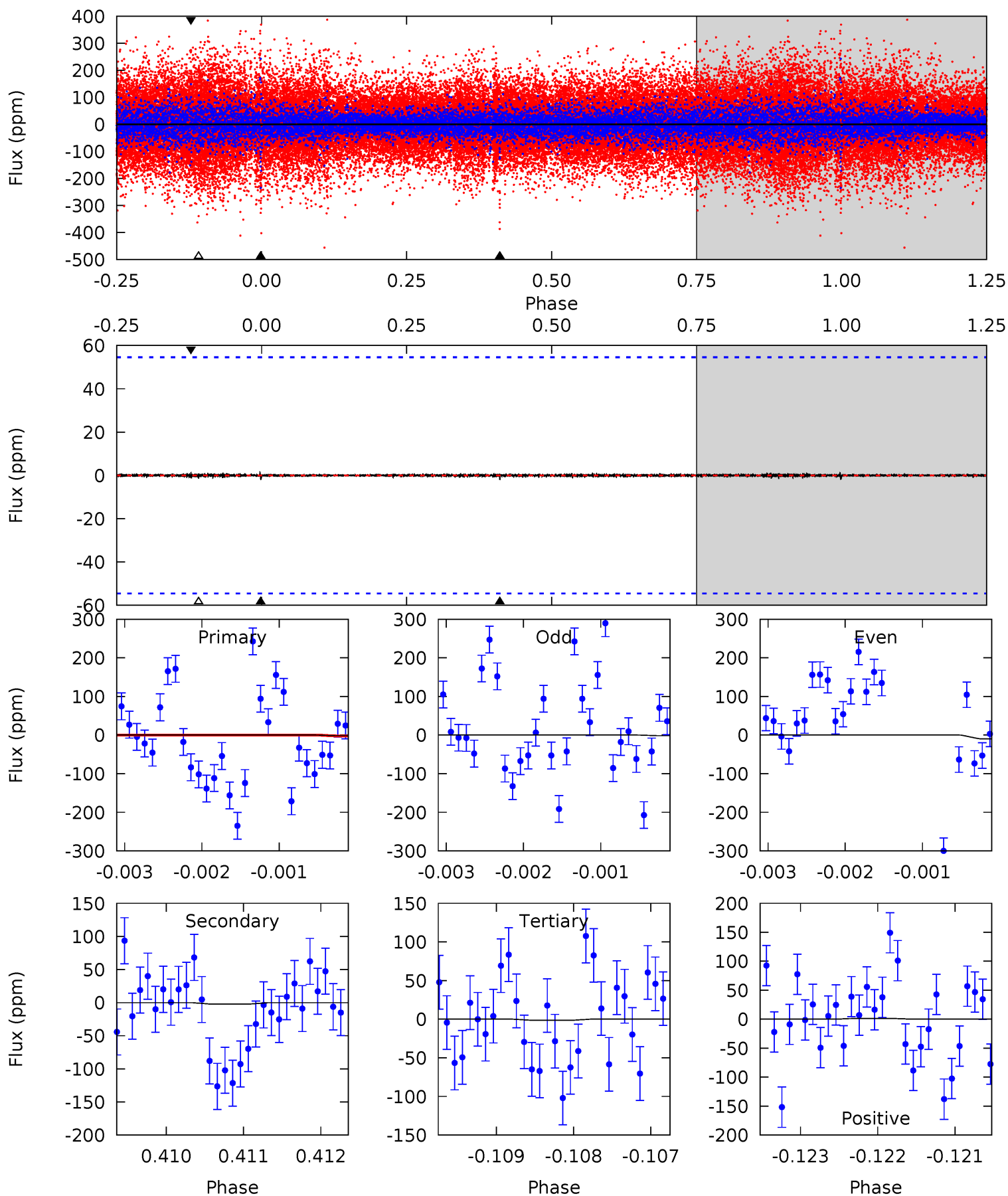
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010385708-05, P = 411.722612 Days, E = 187.855152 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.17	0.21	0.14	0.12	5.44	3.28	0.02	0.03	0.05	0.06	0.09	0.37	0.51	0.41	0.05



Stellar Parameters For KIC 010385708

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5845^{+79}_{-79}	$4.024^{+0.025}_{-0.020}$	$0.080^{+0.200}_{-0.150}$	$1.702^{+0.120}_{-0.083}$	$1.115^{+0.179}_{-0.060}$	$0.319^{+0.034}_{-0.028}$
	+1%/-1%	+1%/-0%	+250%/-188%	+7%/-5%	+16%/-5%	+11%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 010385708-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$12.69^{+13.99}_{-8.82}$	443^{+7}_{-8}	5174^{+25368}_{-26004}	$12871^{+1173780}_{-602623}$
Alt.	-2 ± 10	$12.63^{+13.03}_{-8.63}$	443^{+8}_{-8}	1790^{+743}_{-3951}	$5.968^{+135.286}_{-43.152}$

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

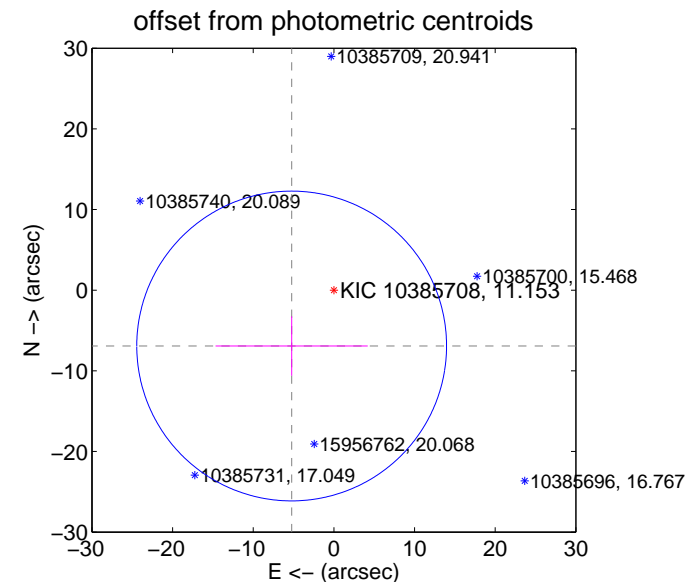
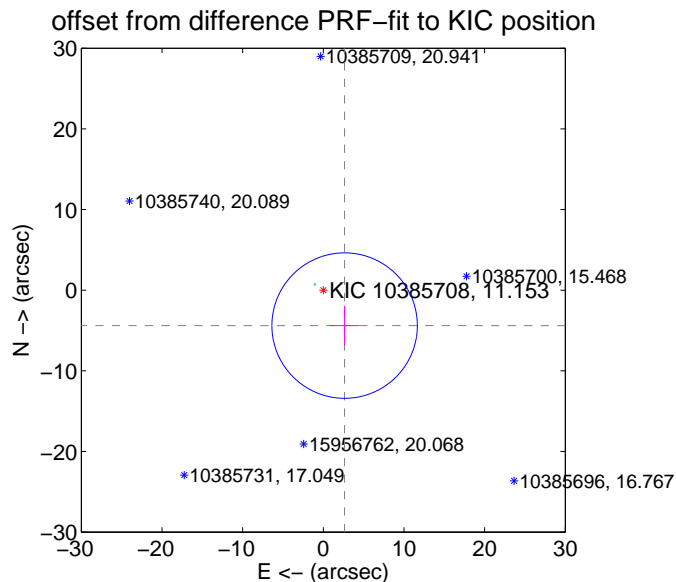
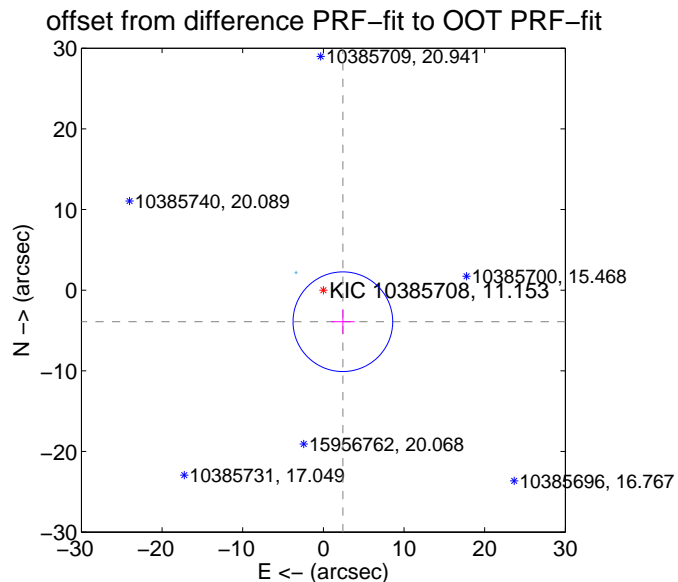
DV Centroid Data

Supplemental centroid analysis for 010385708-05. **Kepler magnitude: 11.15.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

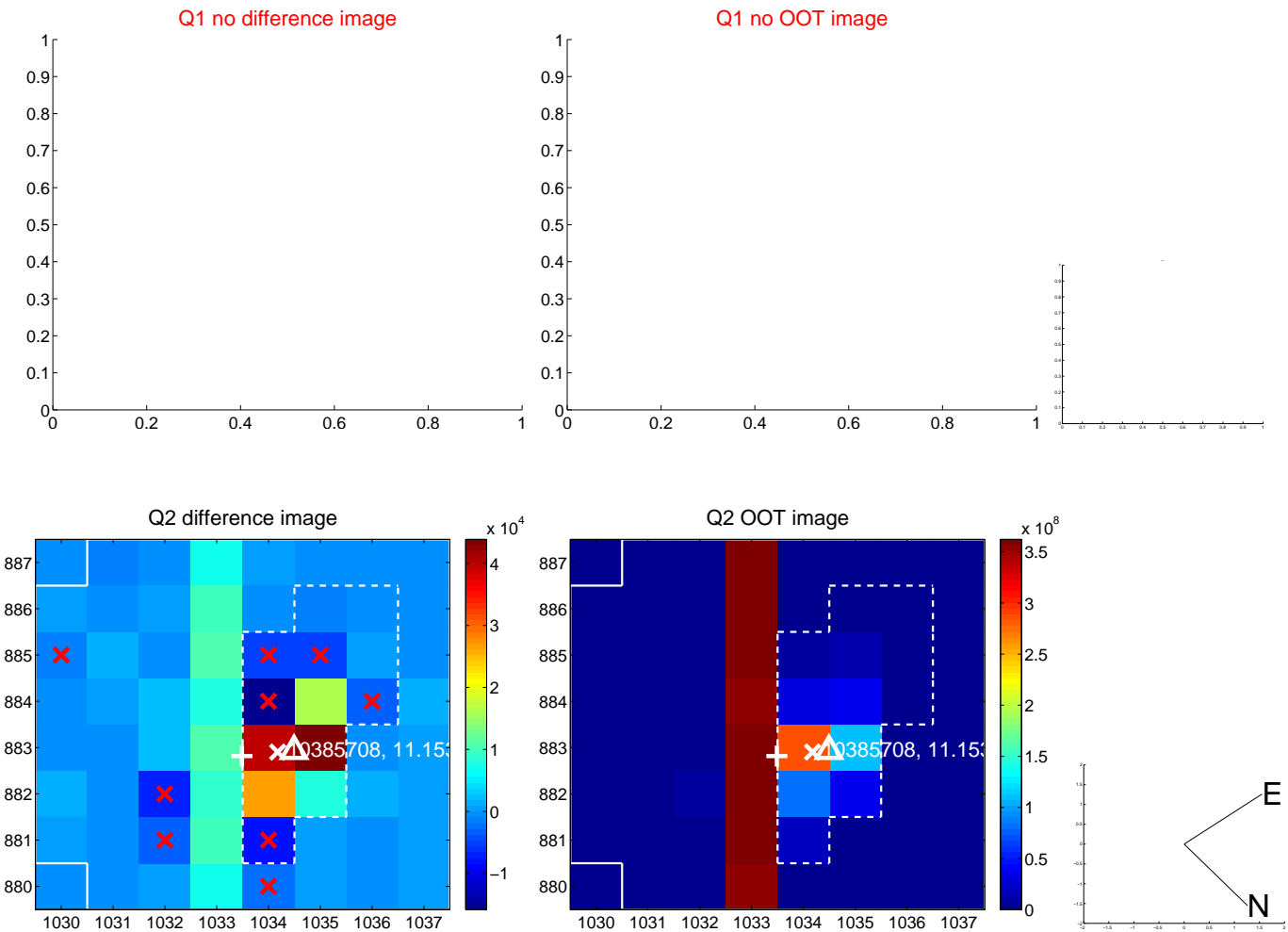
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.599 ± 2.060	2.23	-2.418 ± 1.453	-3.912 ± 1.524
PRF-fit source offset from KIC position	5.126 ± 3.006	1.71	-2.641 ± 1.763	-4.393 ± 2.448
photometric centroid source offset	8.68 ± 6.40	1.36	5.24 ± 9.43	-6.92 ± 3.68



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.

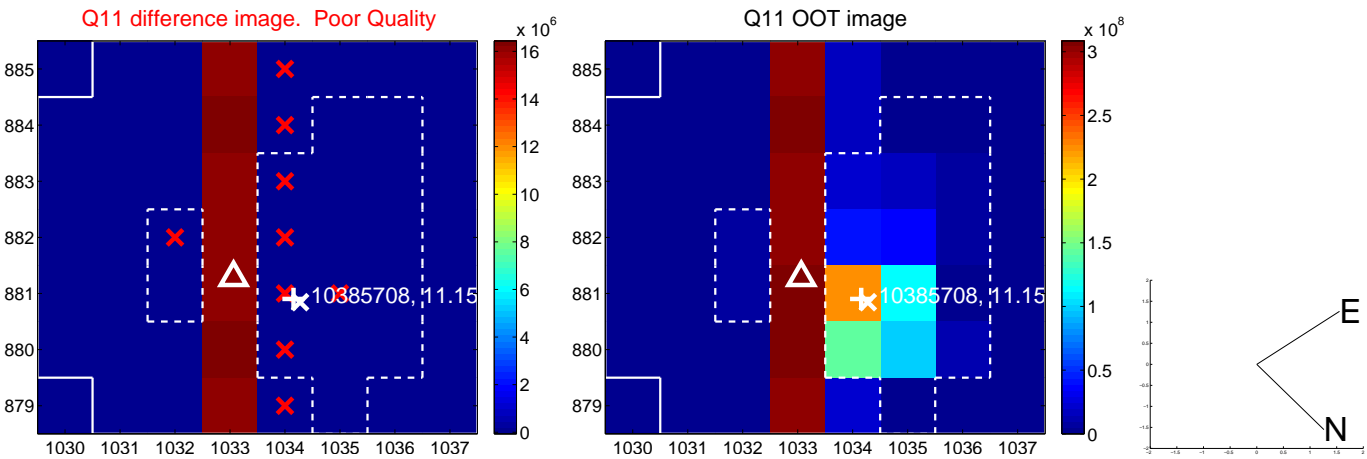
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



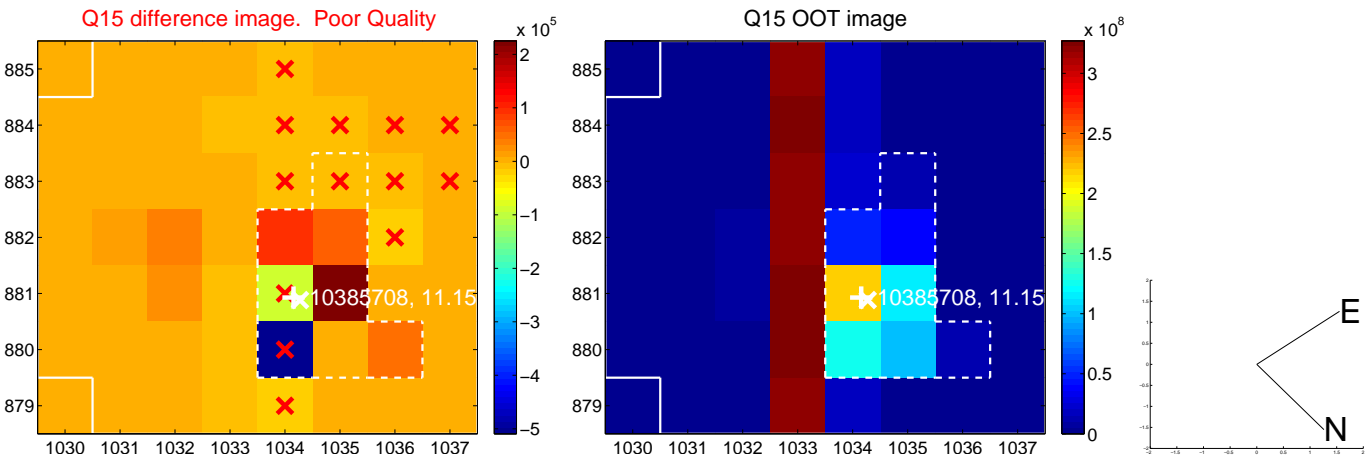
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



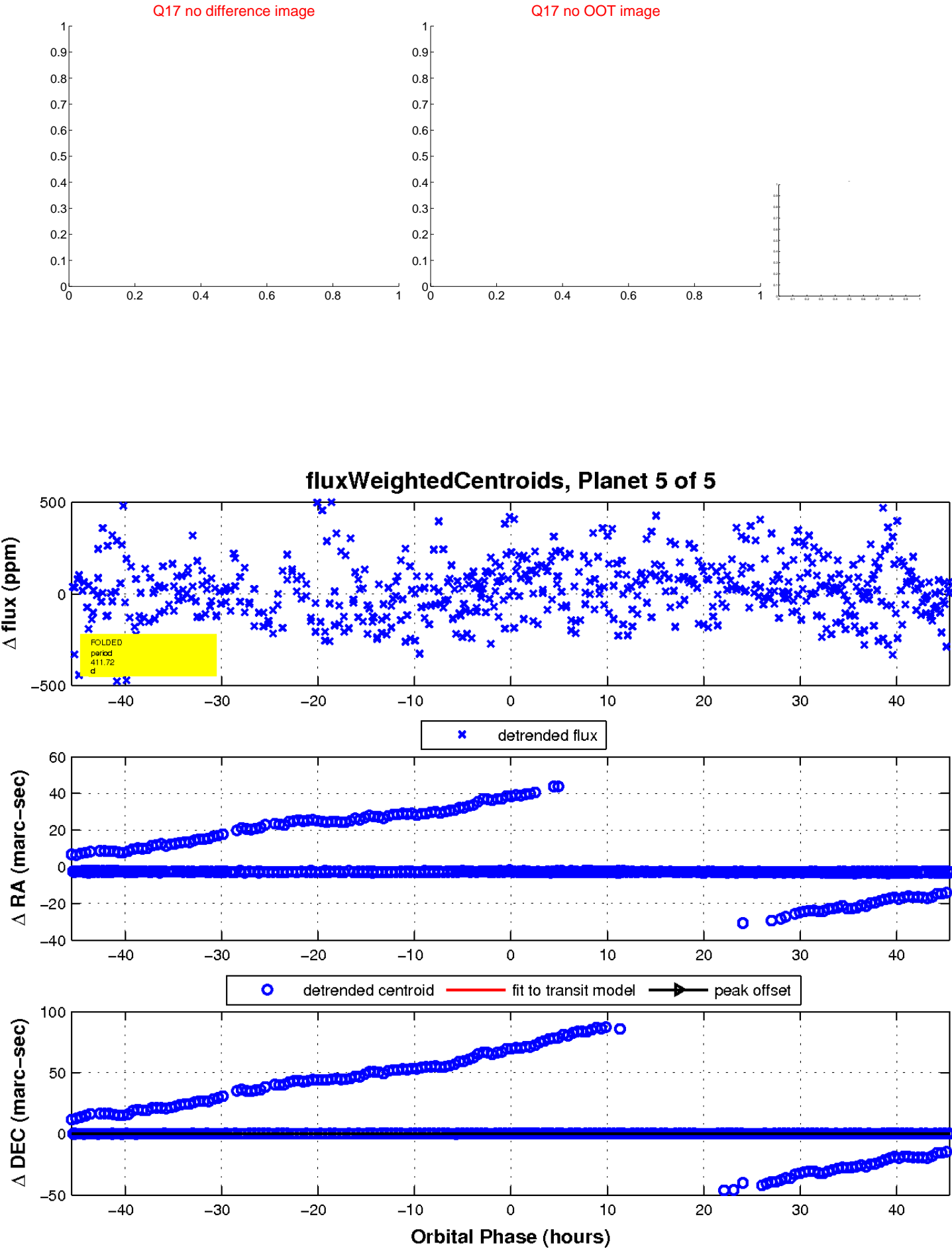
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

