

KIC 007809755

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})
007809755-01	OBS	No	365.507541	466.348951	1089.8	18.358	11.0	6.4	0.52	3823	1.80	0.08
007809755-02	OBS	No	433.767433	498.015166	1444.2	4.476	9.5	7.4	0.52	3823	2.01	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007809755-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS
007809755-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

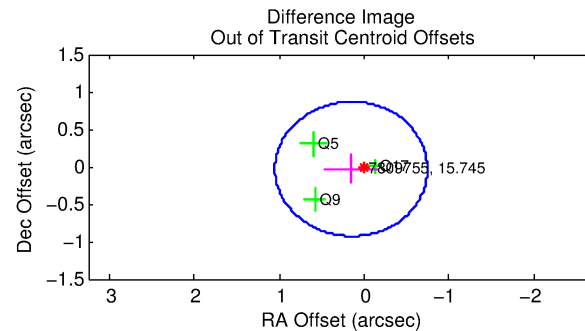
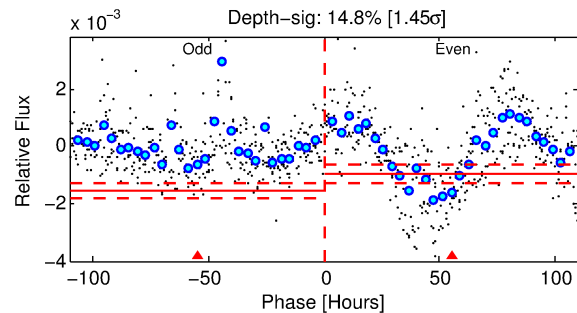
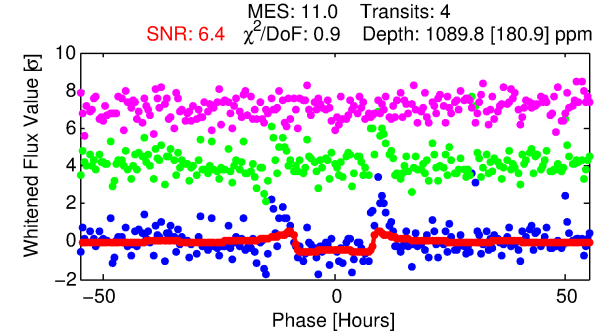
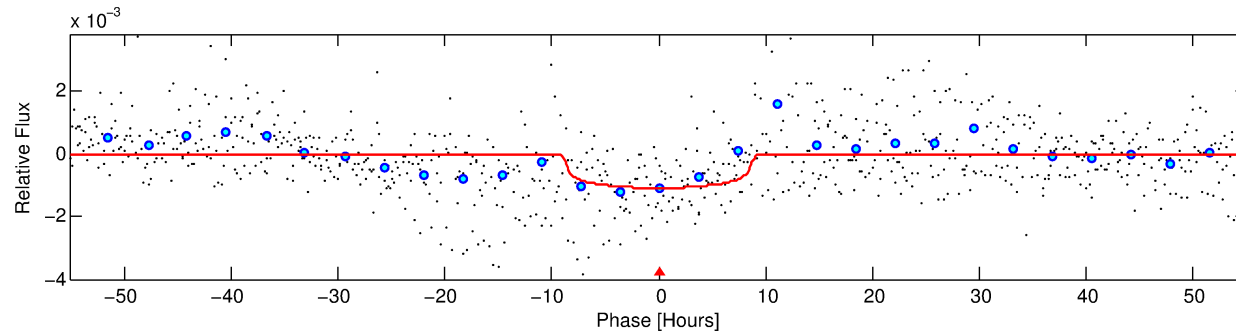
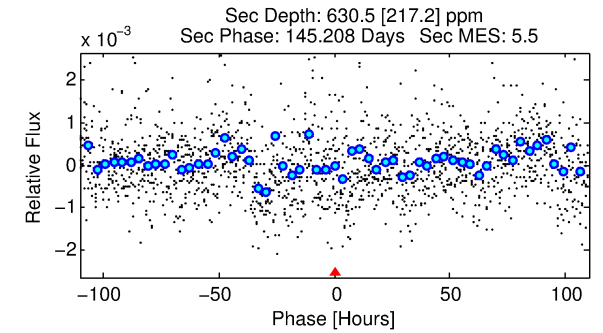
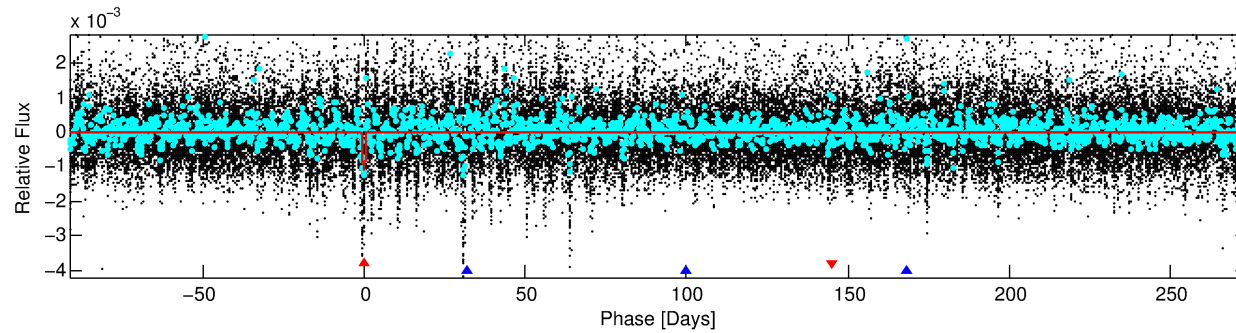
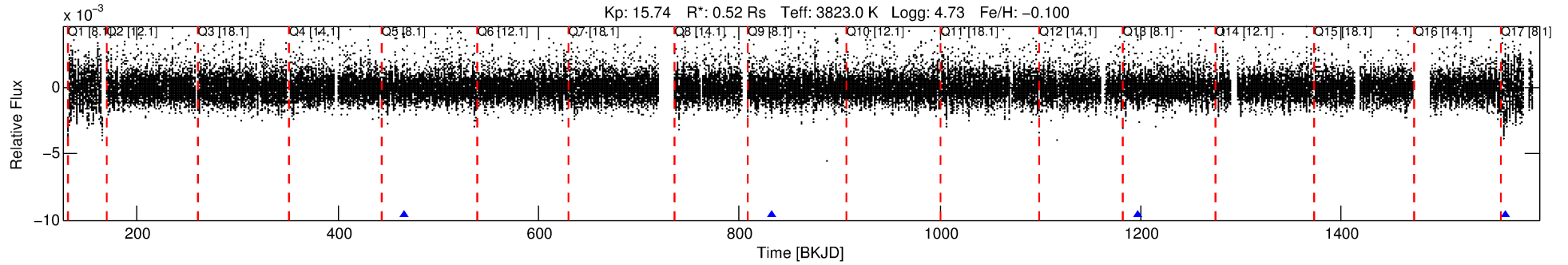
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007809755-01

No Significant Match Found

DV One-Page Summary

KIC: 7809755 Candidate: 1 of 2 Period: 365.508 d



DV Fit Results:

Period = 365.50754 [0.00968] d
Epoch = 466.3490 [0.0189] BKJD
Rp/R* = 0.0319 [0.0060]
a/R* = 120.28 [83.15]
b = 0.66 [0.59]
Seff = 0.08 [0.01]
Teq = 135 [4] K
Rp = 1.80 [0.36] Re
a = 0.8076 [0.0418] AU
Ag = 69522.61 [35654.78] [1.95σ]
Teffp = 3391 [437] K [7.45σ]

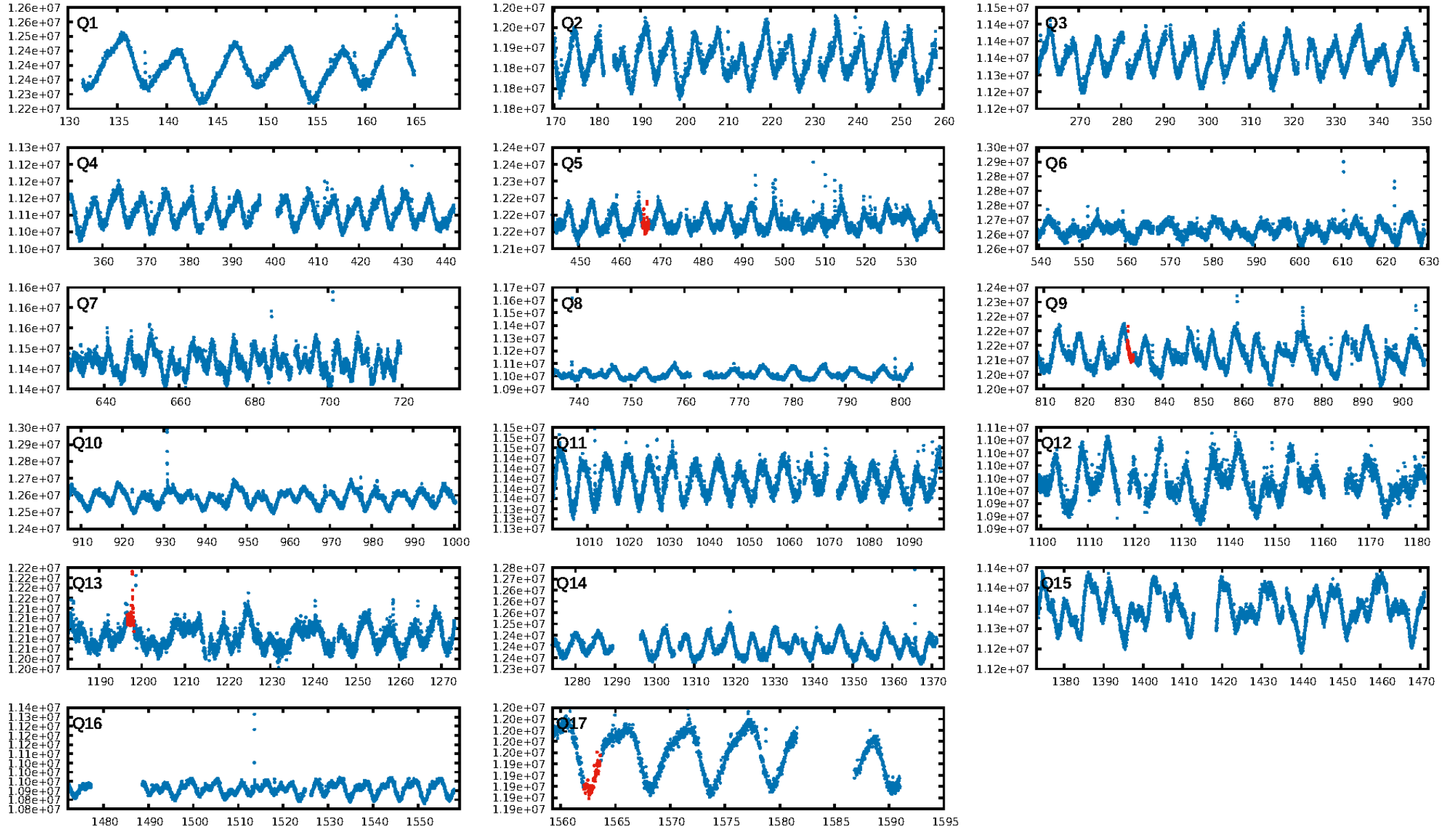
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [86.70σ]
ModelChiSquare2-sig: 63.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.58e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.978
Centroid-sig: 0.7%
Centroid-so: 1.479 arcsec [2.03σ]
OotOffset-rm: 0.152 arcsec [0.51σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 0.106 arcsec [0.39σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

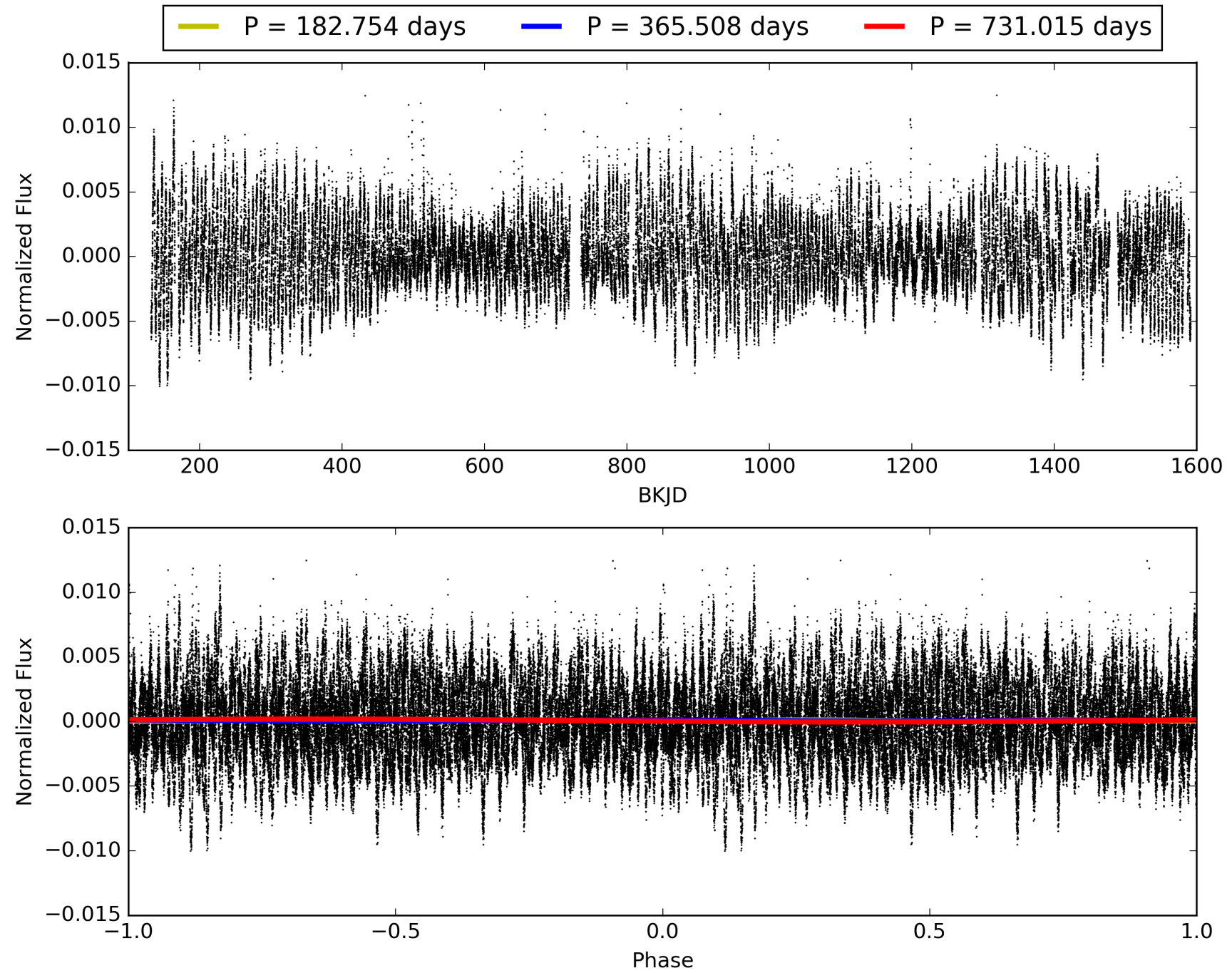
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:26:05 Z

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

TCE 007809755-01, PDC Light Curves

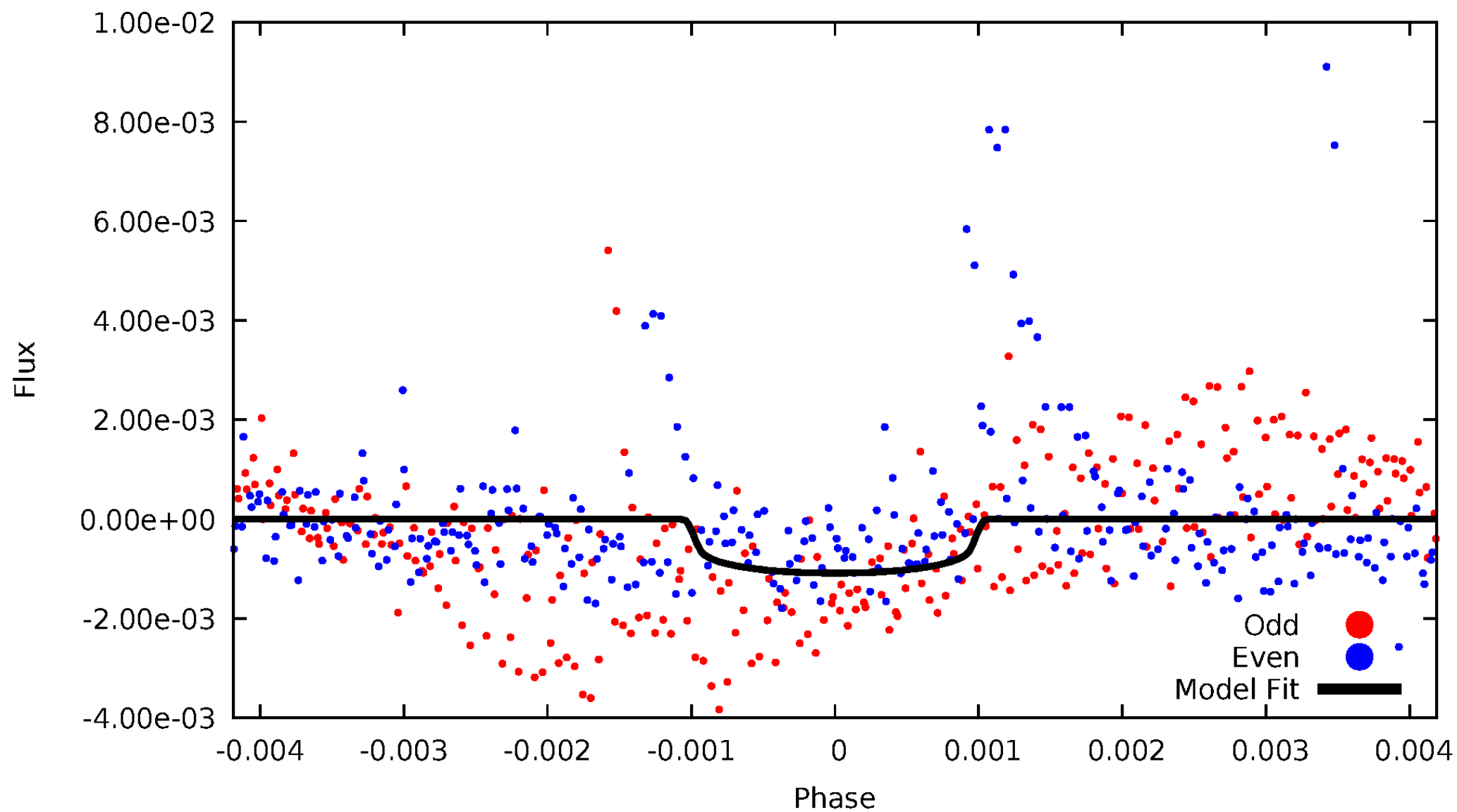


TCE 007809755-01



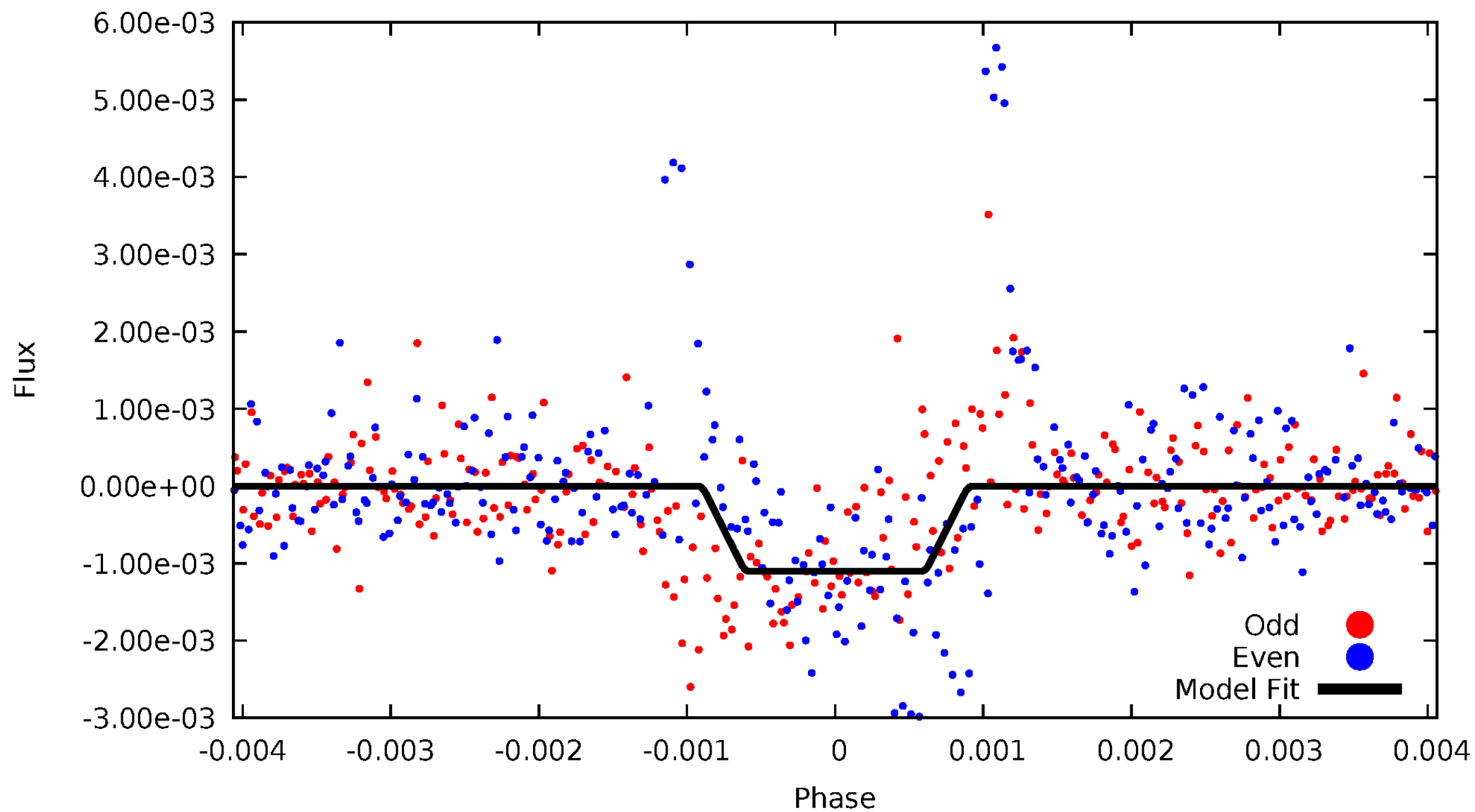
DV Odd/Even

TCE 007809755-01



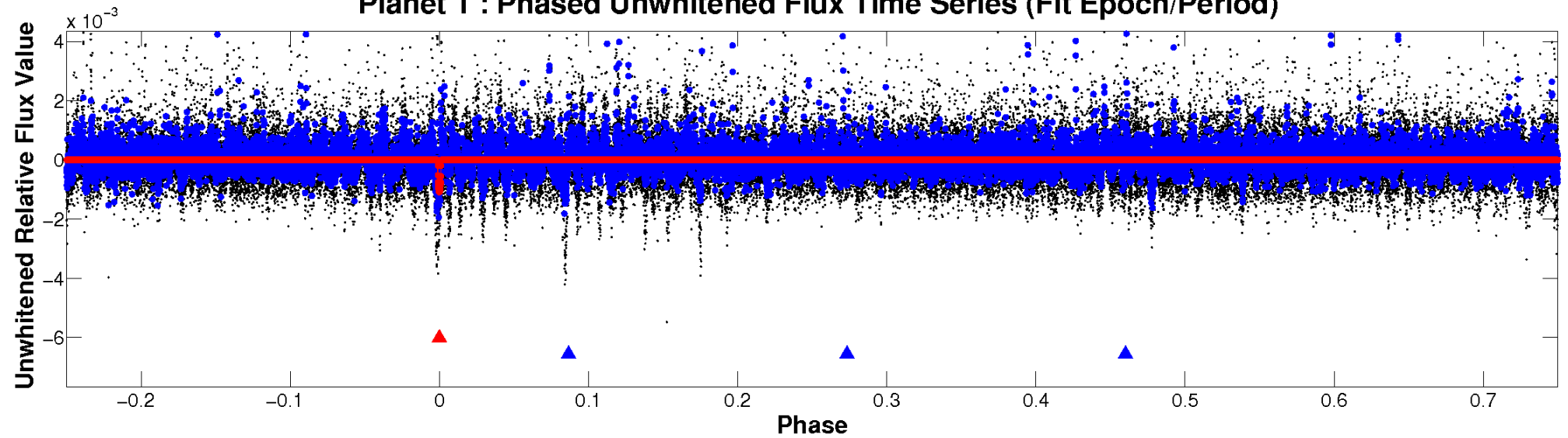
ALT Odd/Even

TCE 007809755-01

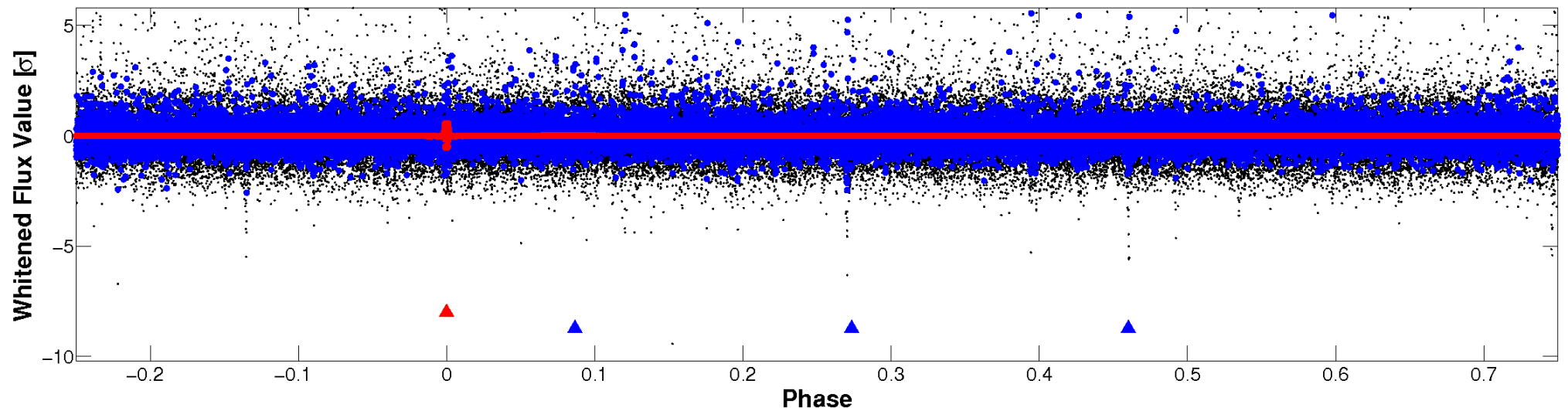


Non-Whitened Vs. Whitened Light Curve

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

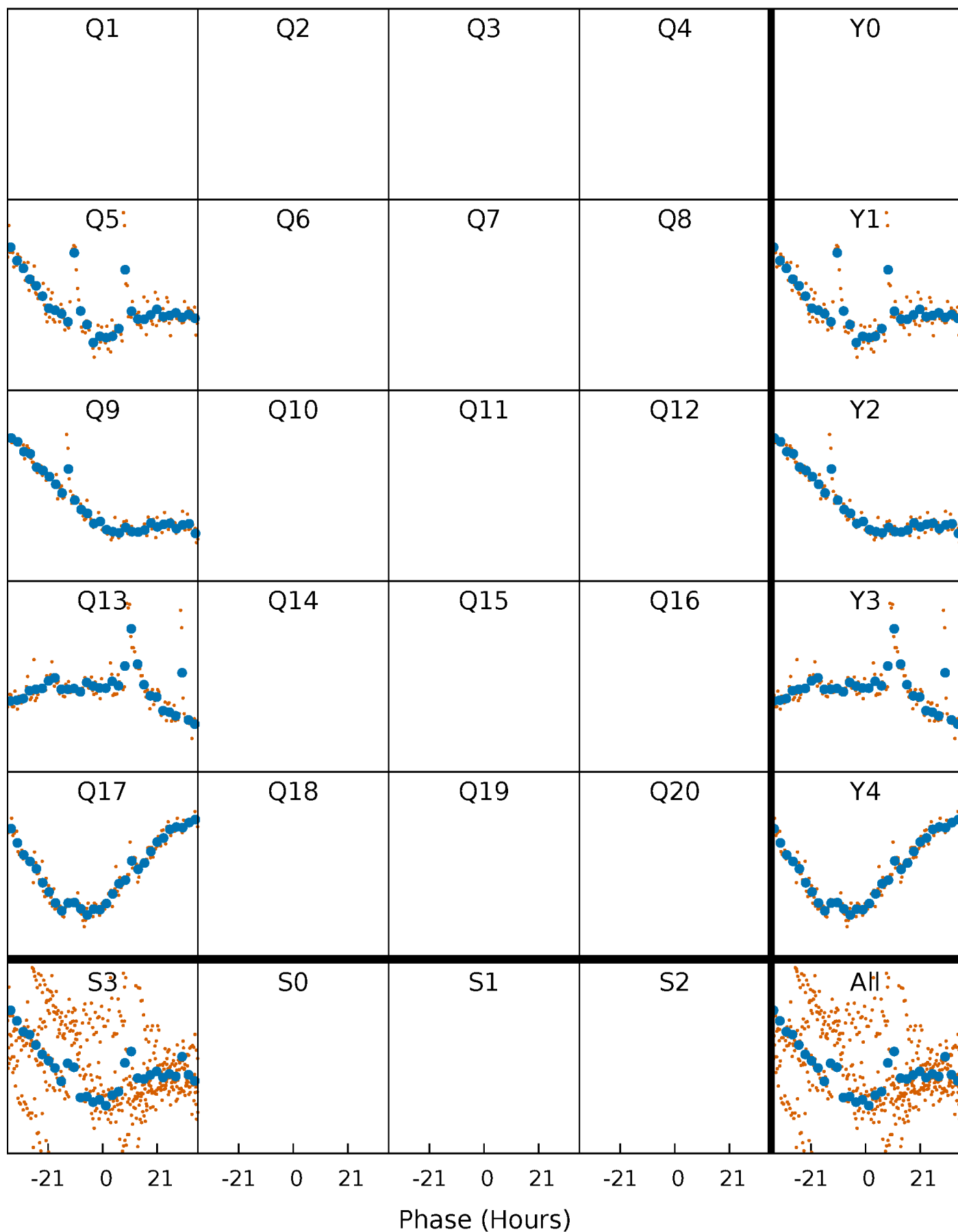


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



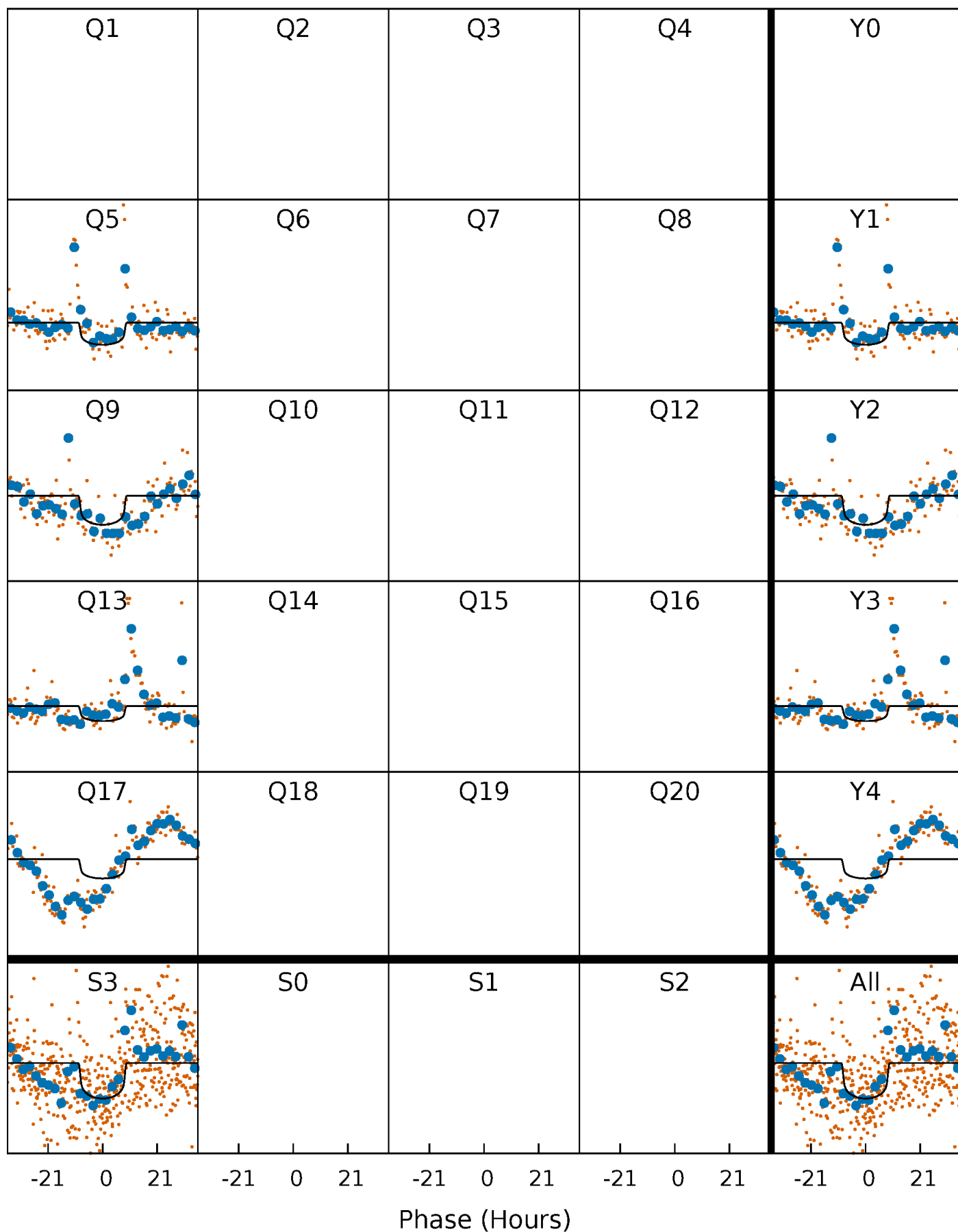
PDC Quarter-Phased Transit Curves

TCE 007809755-01 $P=365.507541$ Days $T_0=466.348951$ (BKJD)



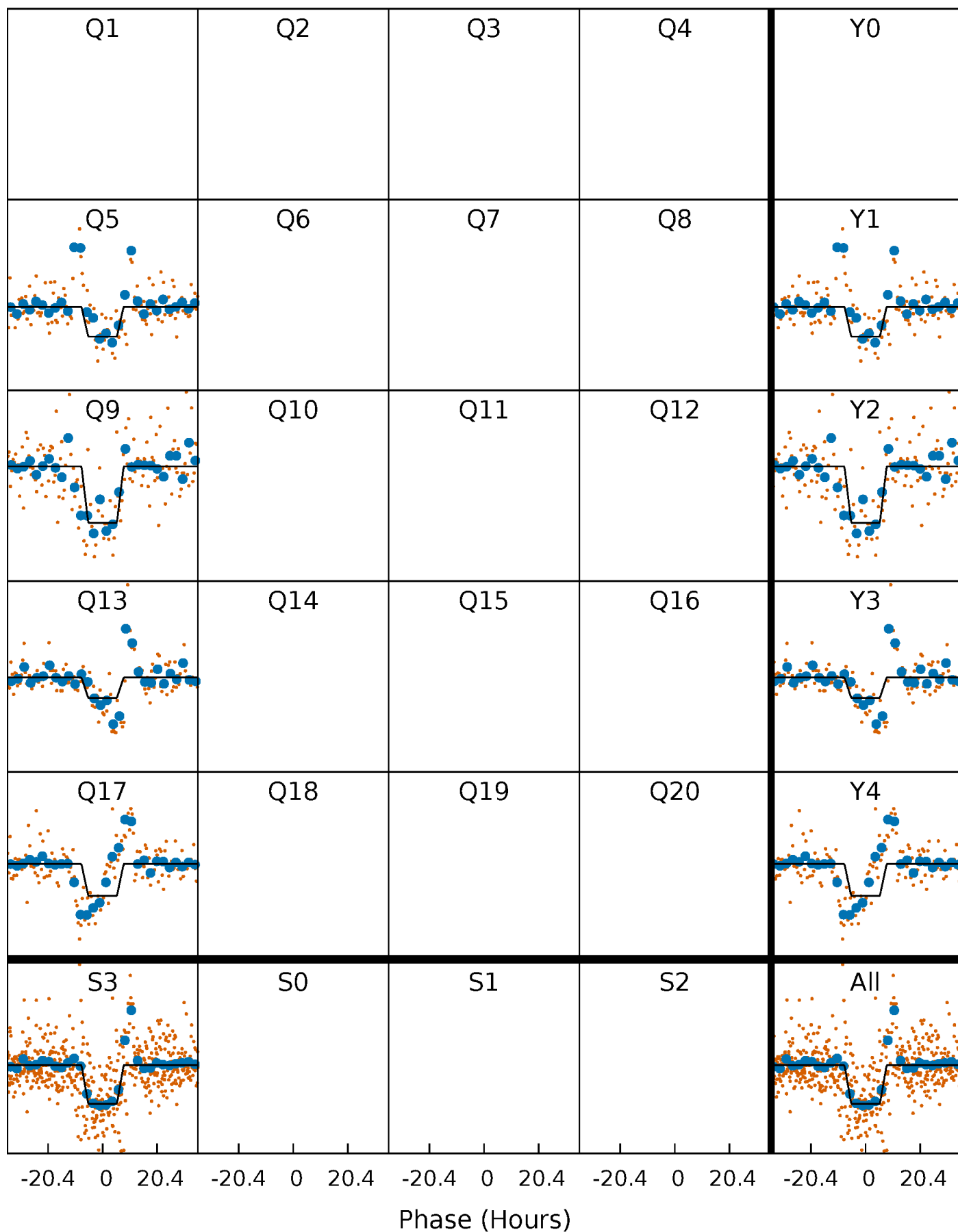
DV Quarter-Phased Transit Curves

TCE 007809755-01 P=365.507541 Days $T_0=466.348951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

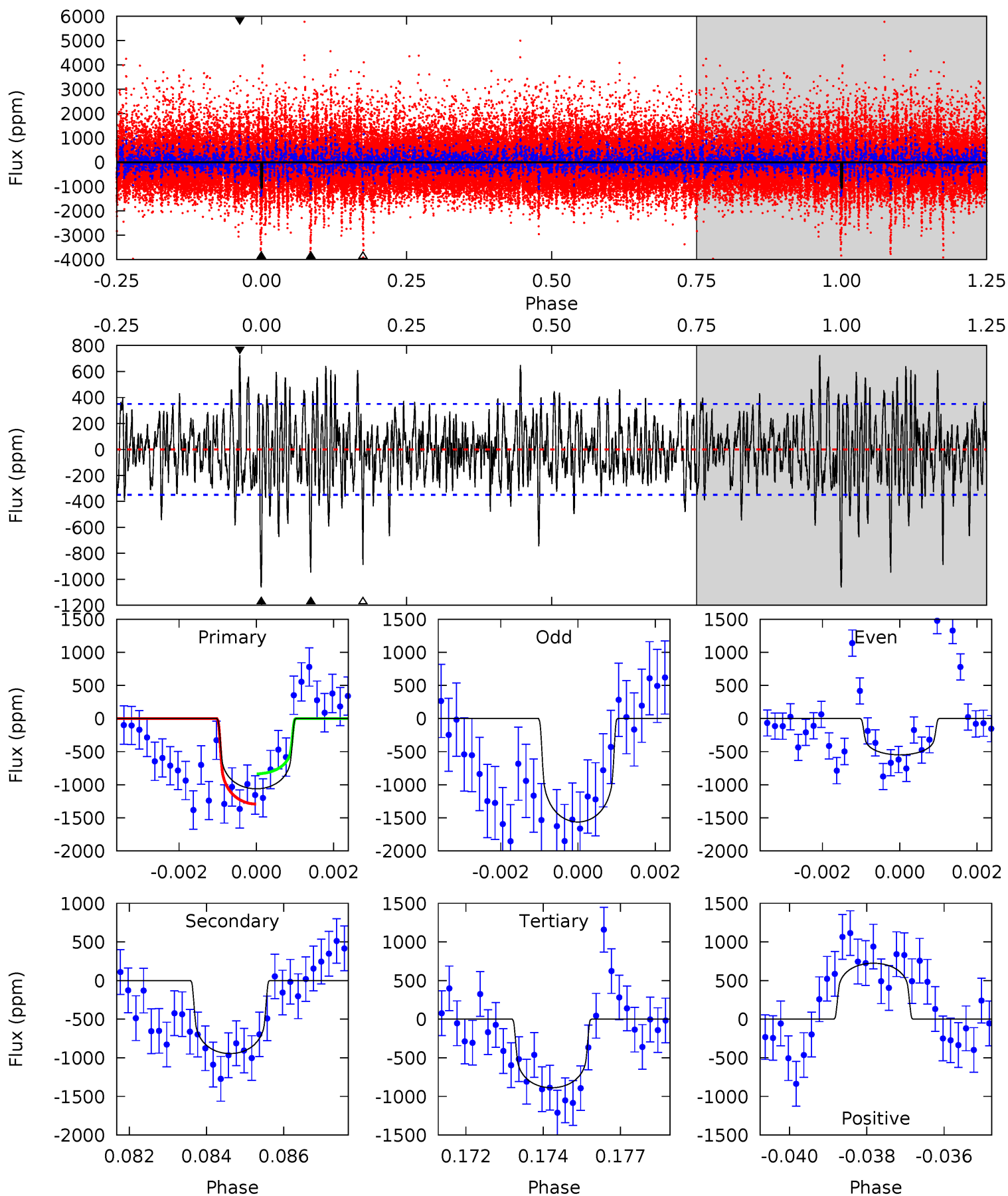
TCE 007809755-01 P=365.549577 Days $T_0=466.285997$ (BKJD)



DV Model-Shift Uniqueness Test

007809755-01, $P = 365.507541$ Days, $E = 100.841410$ Days

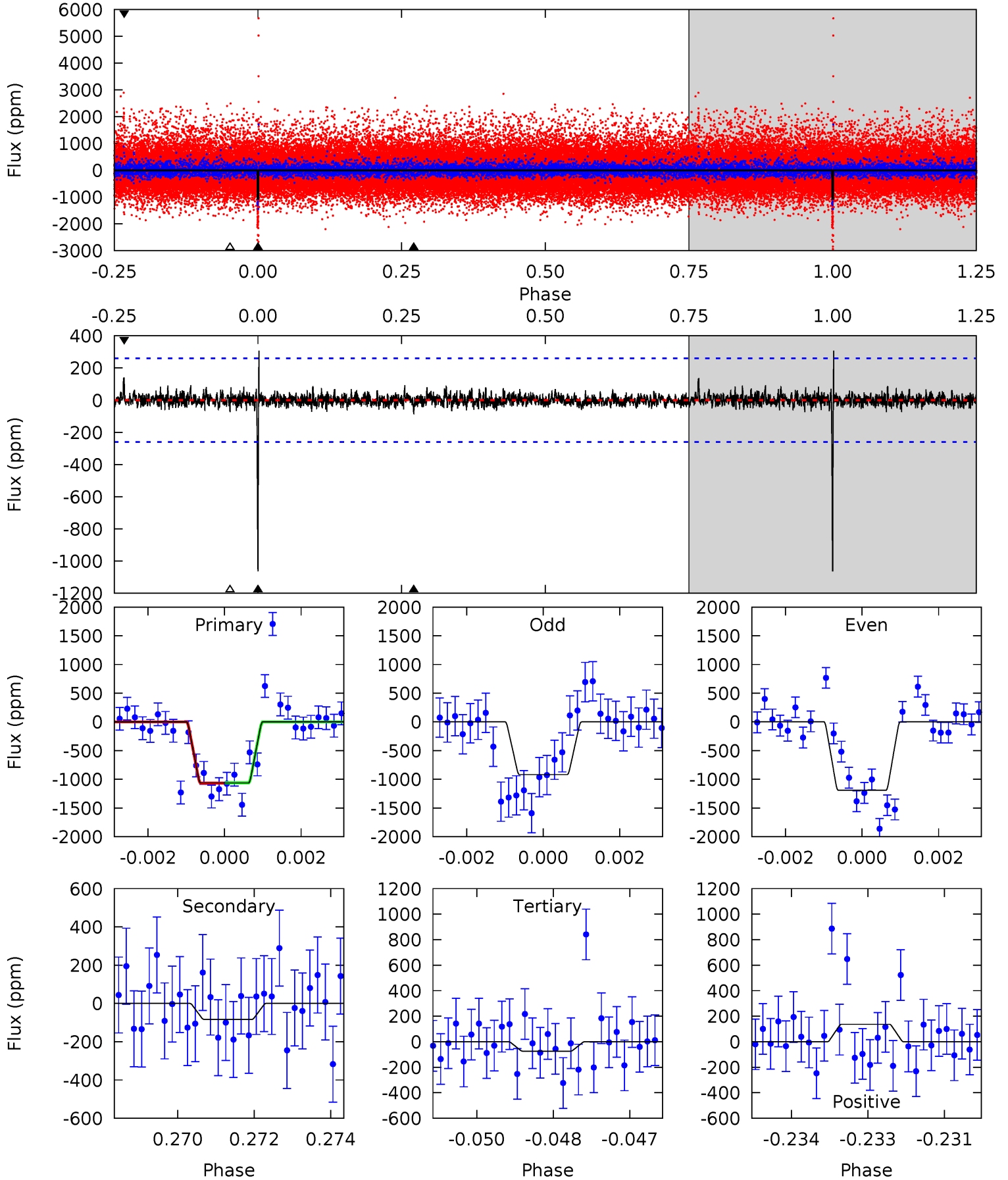
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	14.4	13.5	11.0	5.32	3.08	3.21	2.65	5.13	0.88	3.36	7.39	1.15	0.41	3.49



Alt Model-Shift Uniqueness Test

007809755-01, P = 365.549577 Days, E = 100.736420 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	1.71	1.52	2.81	5.34	3.11	0.48	20.4	19.1	0.19	-1.10	2.79	1.10	0.22	0.05



Stellar Parameters For KIC 007809755

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3823^{+77}_{-84}	$4.730^{+0.036}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.518^{+0.028}_{-0.034}$	$0.526^{+0.030}_{-0.030}$	$5.321^{+0.877}_{-0.559}$
	+2%/-2%	+1%/-0%	+100%/-100%	+5%/-7%	+6%/-6%	+16%/-11%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007809755-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-945 ± 66	$1.80^{+0.32}_{-0.35}$	188^{+4}_{-5}	3768^{+304}_{-232}	105972^{+55106}_{-31520}
Alt.	-83 ± 49	$1.87^{+0.34}_{-0.34}$	188^{+4}_{-5}	2616^{+222}_{-256}	8460^{+7147}_{-4825}

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 $A_{obs} \gg 1.0$

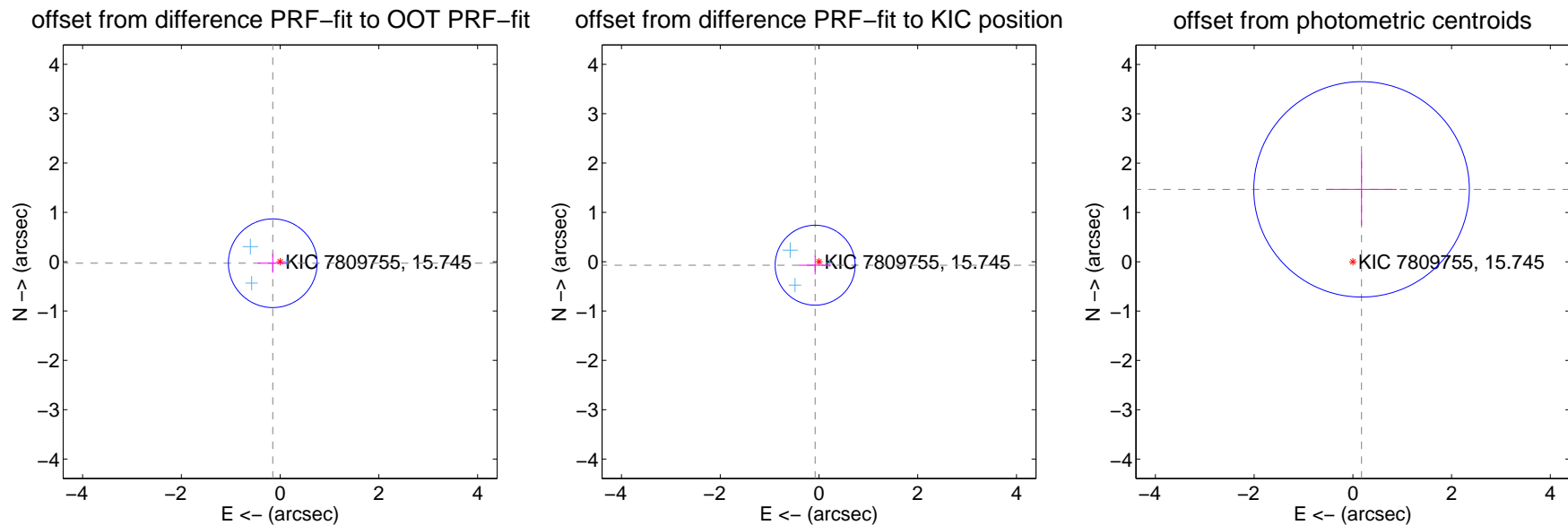
DV Centroid Data

Supplemental centroid analysis for 007809755-01. Kepler magnitude: 15.74. Transit SNR 6.40

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.152 ± 0.300	0.51	0.149 ± 0.303	-0.031 ± 0.193
PRF-fit source offset from KIC position	0.106 ± 0.270	0.39	0.078 ± 0.322	-0.071 ± 0.191
photometric centroid source offset	1.48 ± 0.73	2.03	-0.18 ± 0.71	1.47 ± 0.73

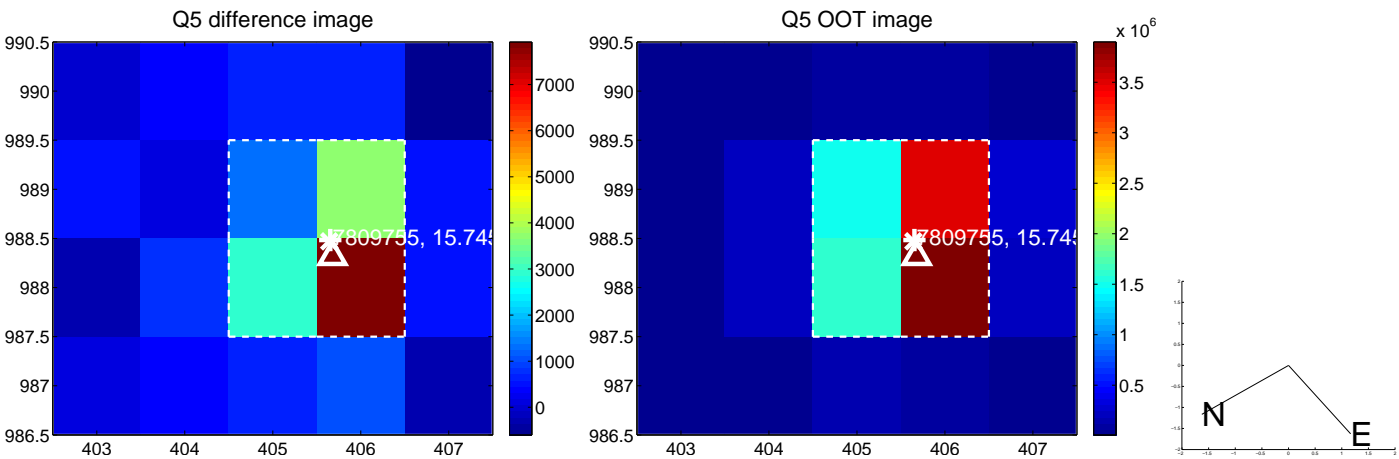


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

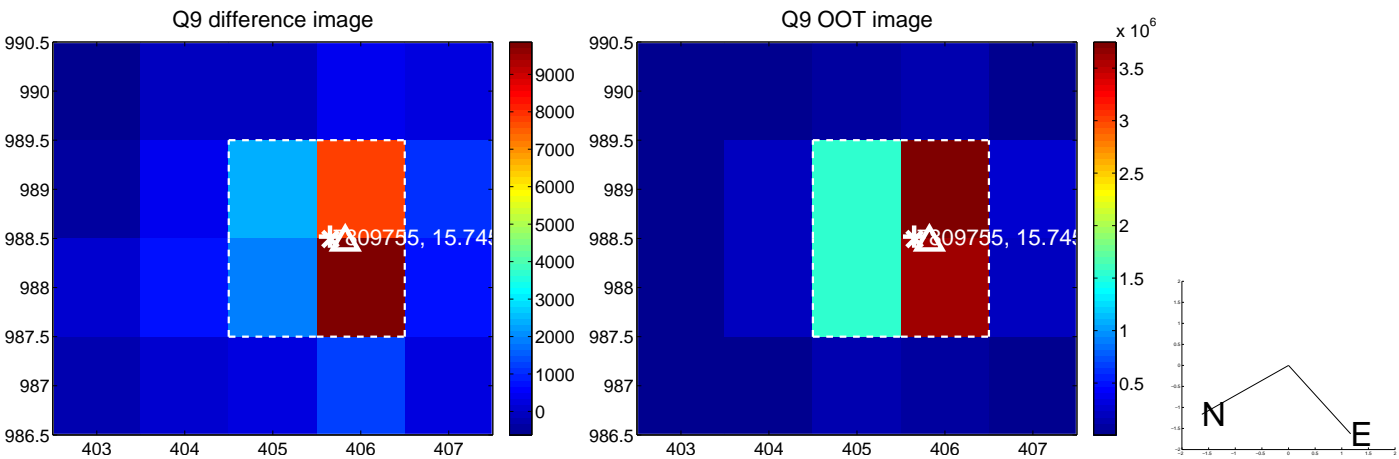
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



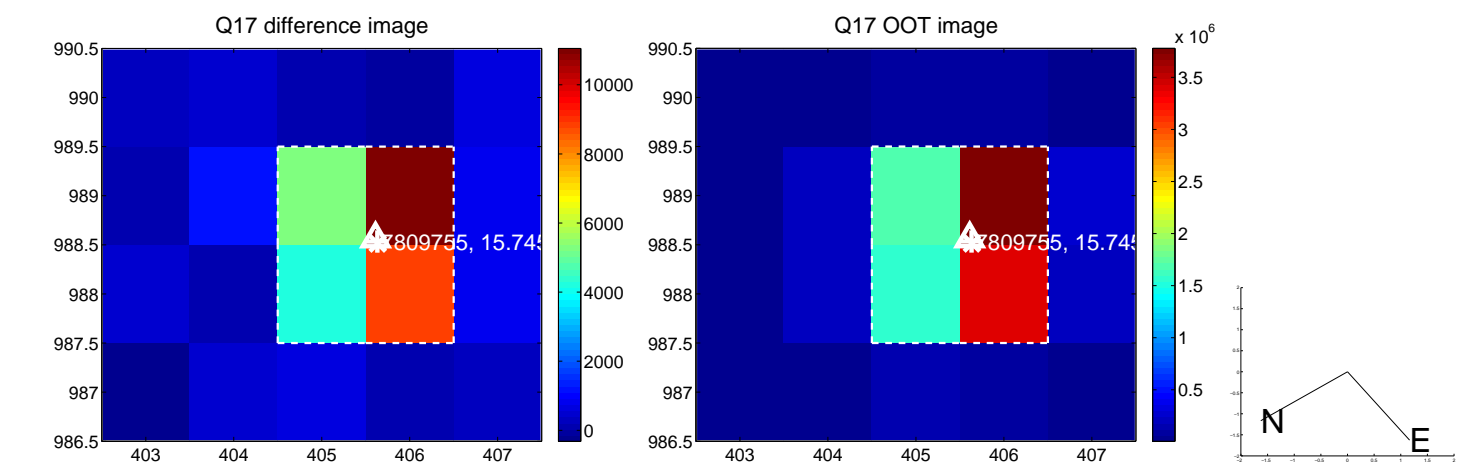
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



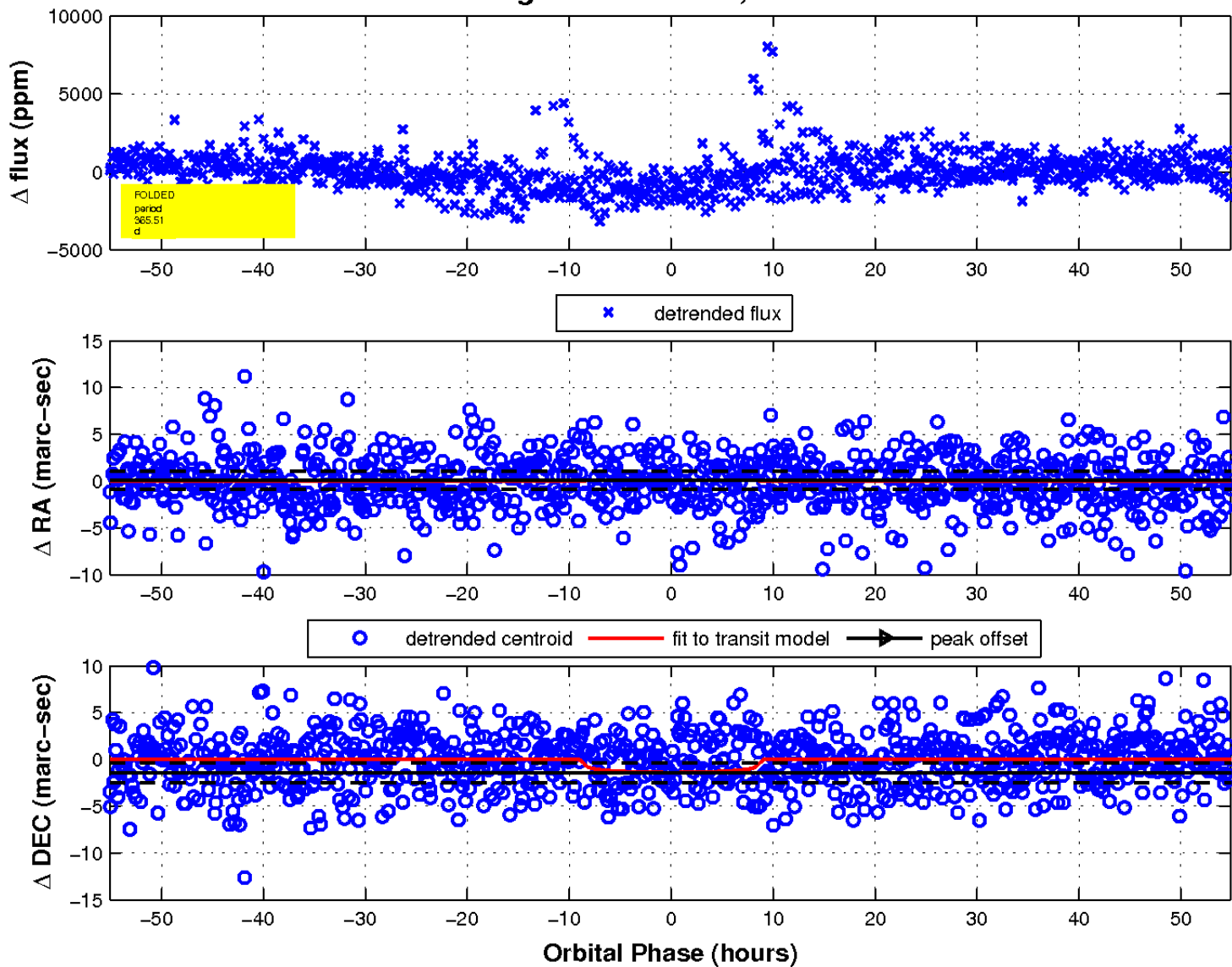
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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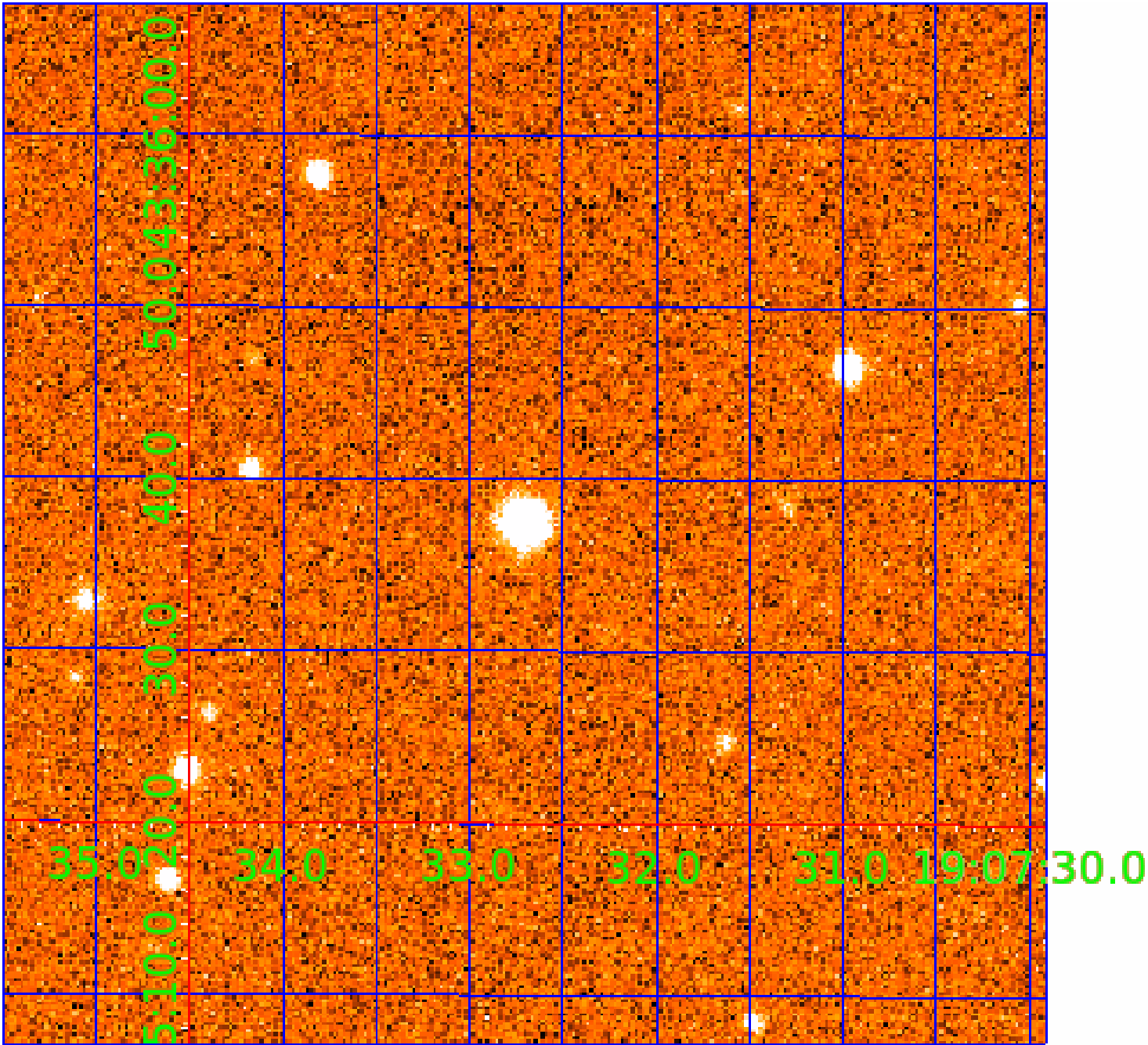


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007809755

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})
007809755-01	OBS	No	365.507541	466.348951	1089.8	18.358	11.0	6.4	0.52	3823	1.80	0.08
007809755-02	OBS	No	433.767433	498.015166	1444.2	4.476	9.5	7.4	0.52	3823	2.01	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007809755-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS
007809755-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

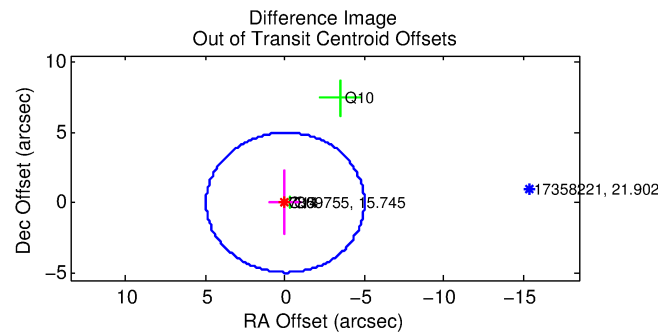
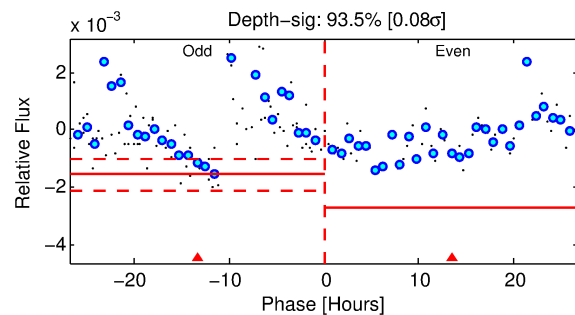
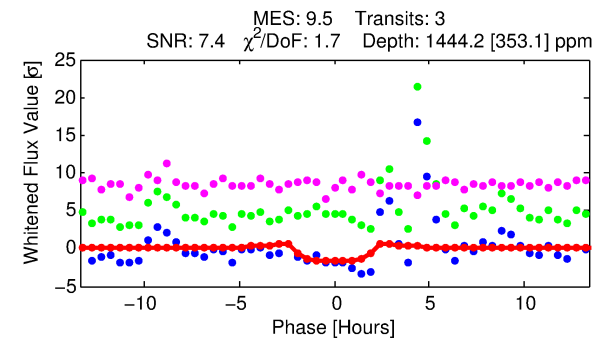
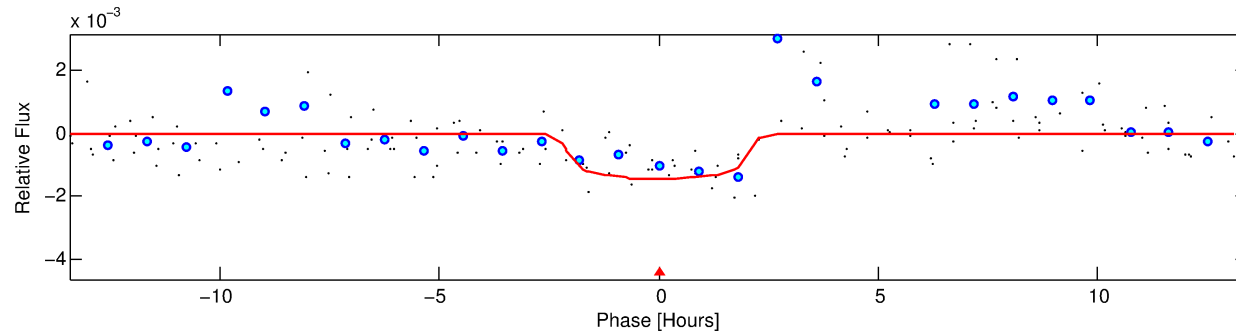
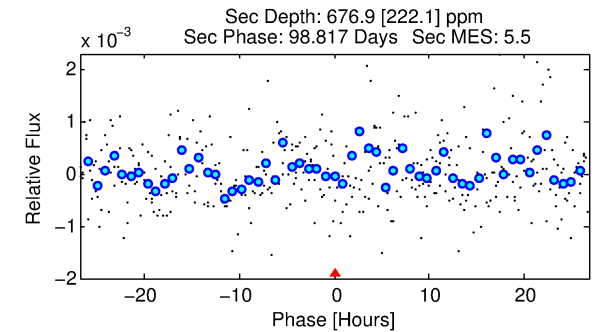
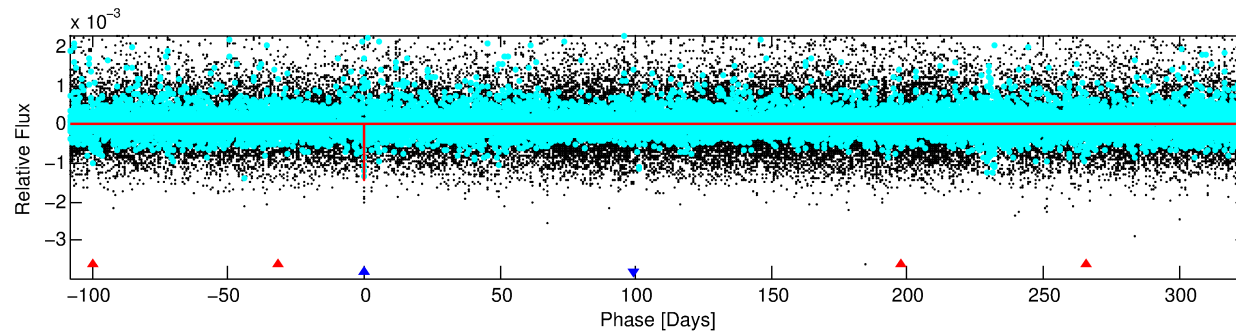
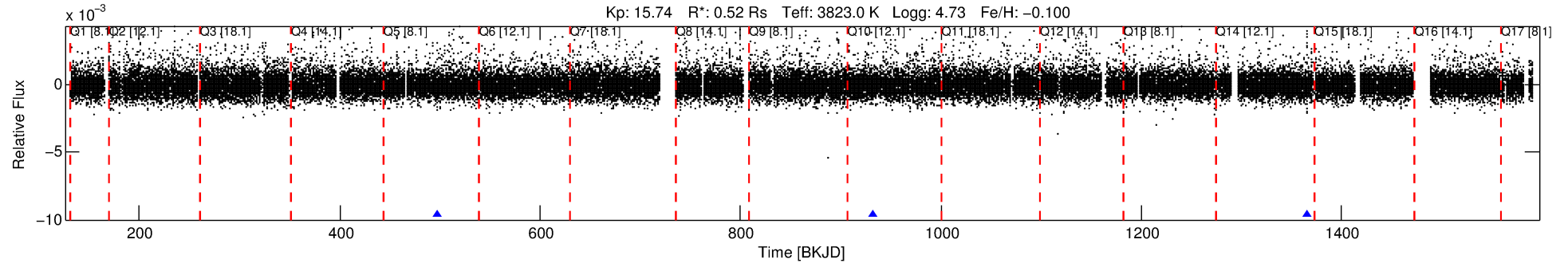
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007809755-02

No Significant Match Found

DV One-Page Summary

KIC: 7809755 Candidate: 2 of 2 Period: 433.767 d



DV Fit Results:

Period = 433.76743 [0.01087] d
Epoch = 498.0152 [0.0140] BKJD
Rp/R* = 0.0355 [0.0933]
a/R* = 677.46 [7761.79]
b = 0.48 [18.23]
Seff = 0.06 [0.01]
Teq = 128 [4] K
Rp = 2.01 [5.28] Re
a = 0.9052 [0.0468] AU
Ag = 75772.46 [399122.31] [0.19σ]
Teffp = 3273 [4310] K [0.73σ]

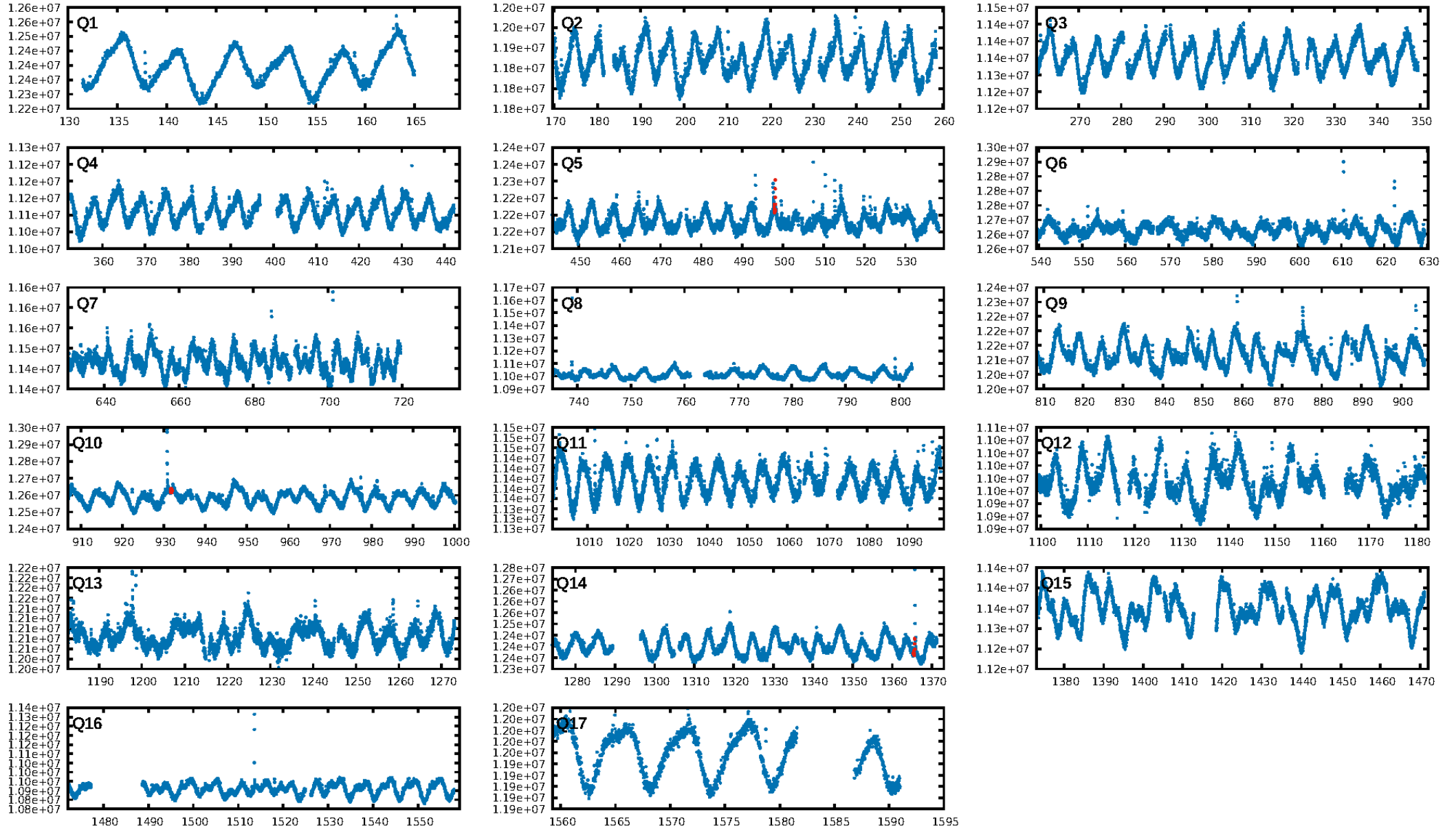
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.70σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 88.0%
Bootstrap-pfa: 1.14e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.972
Centroid-sig: 45.8%
Centroid-so: 0.980 arcsec [0.88σ]
OotOffset-rm: 0.028 arcsec [0.02σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-rm: 0.162 arcsec [0.11σ]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

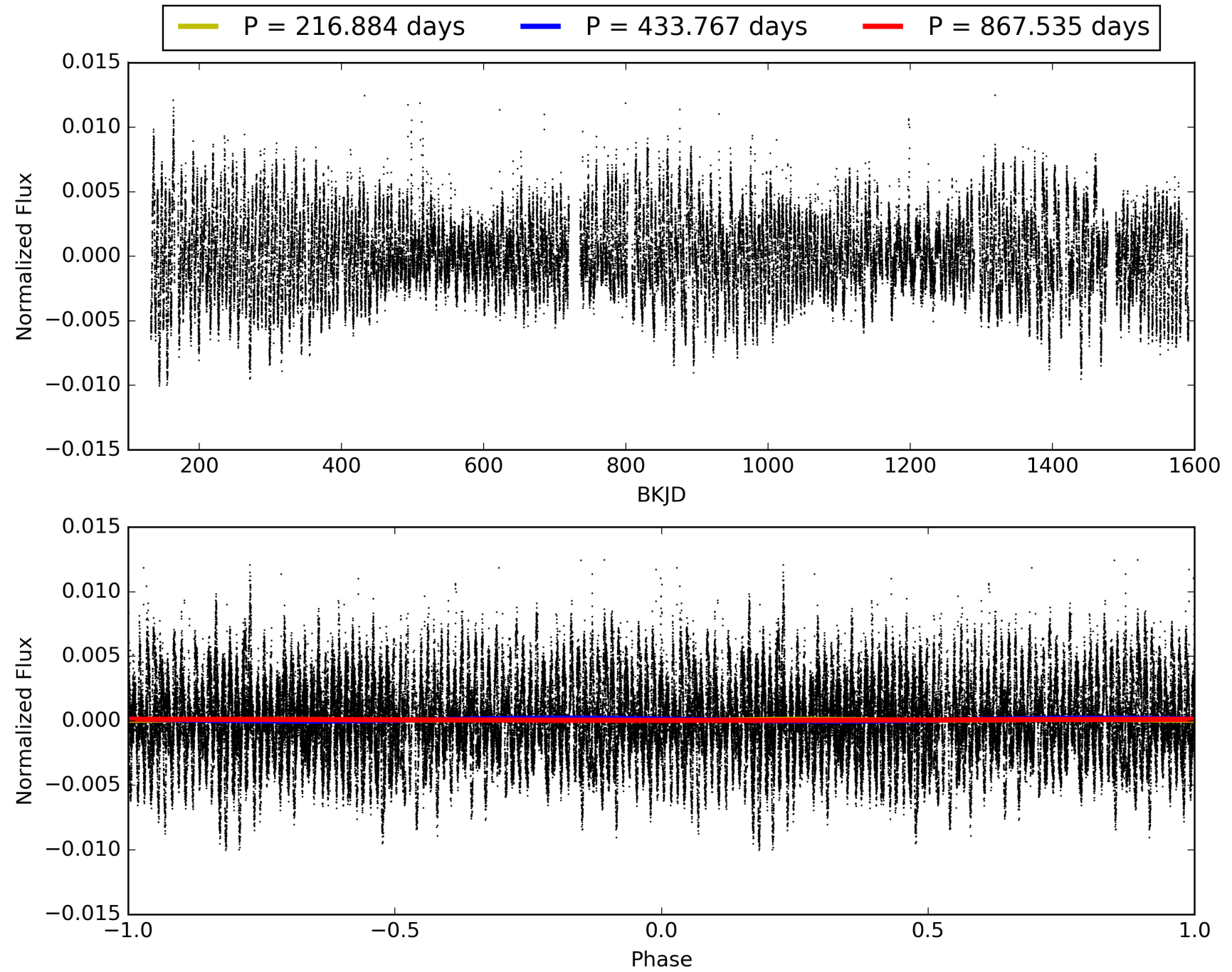
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:26:20 Z

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

TCE 007809755-02, PDC Light Curves

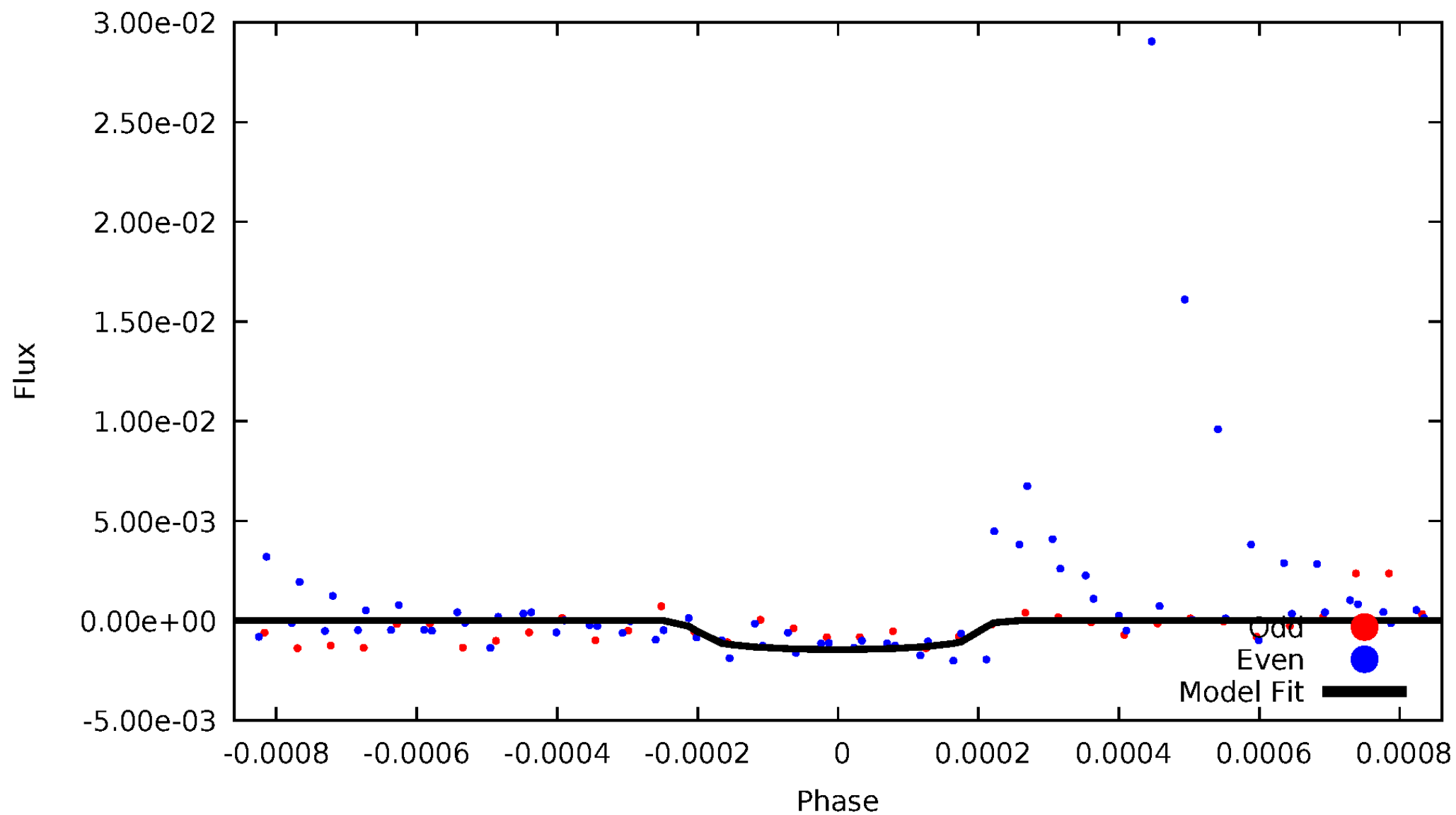


TCE 007809755-02



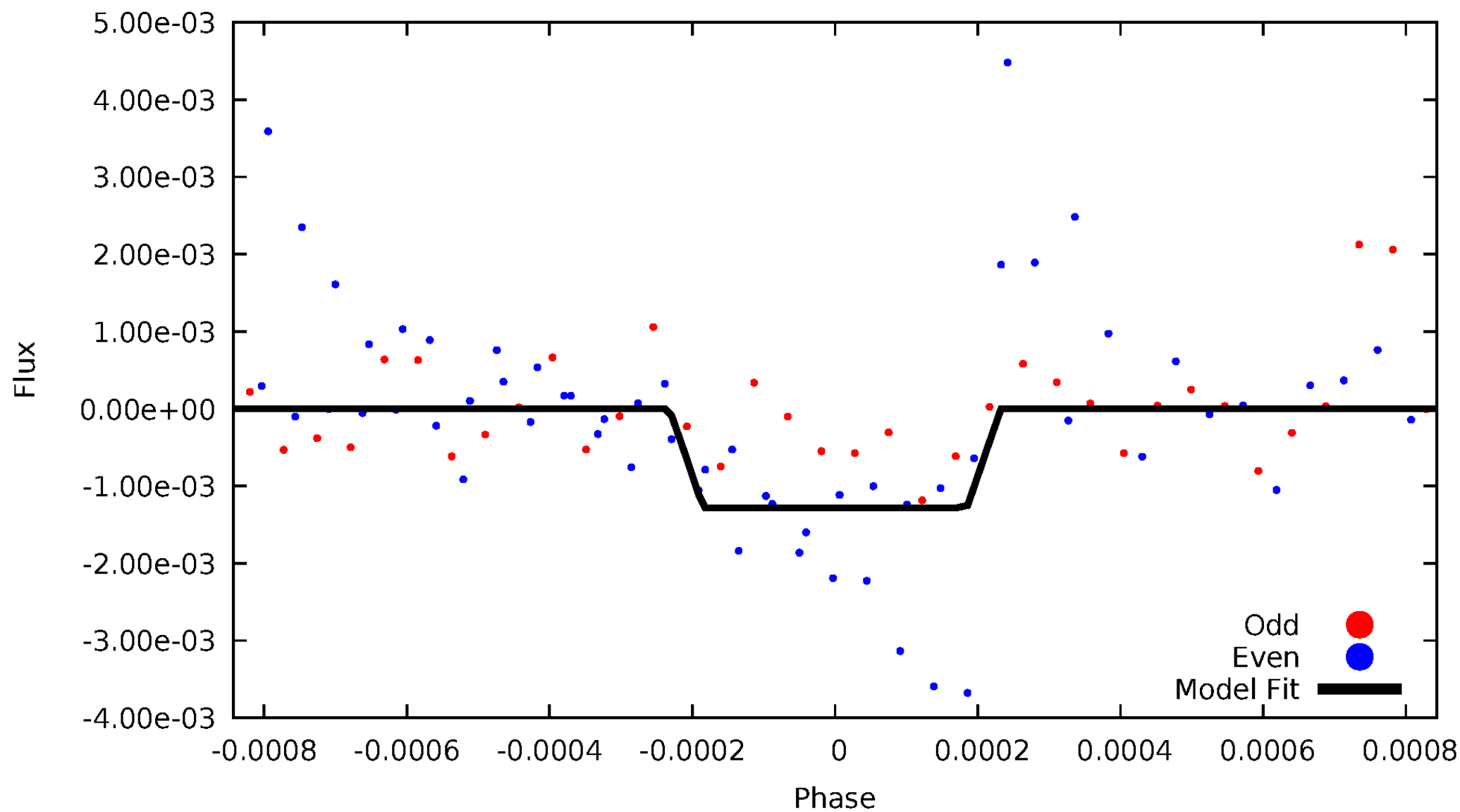
DV Odd/Even

TCE 007809755-02



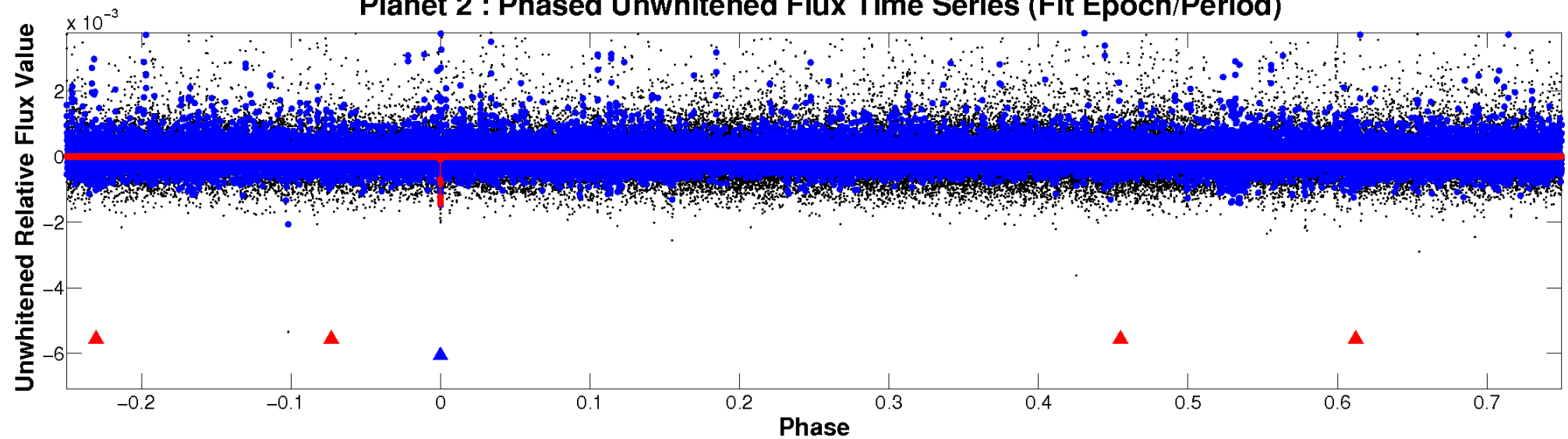
ALT Odd/Even

TCE 007809755-02

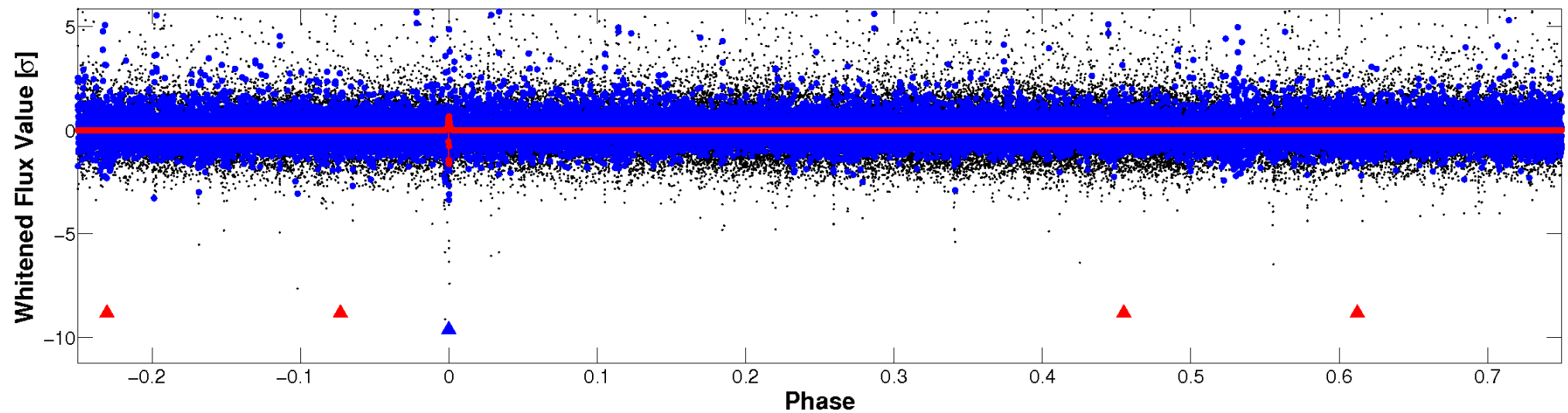


Non-Whitened Vs. Whitened Light Curve

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

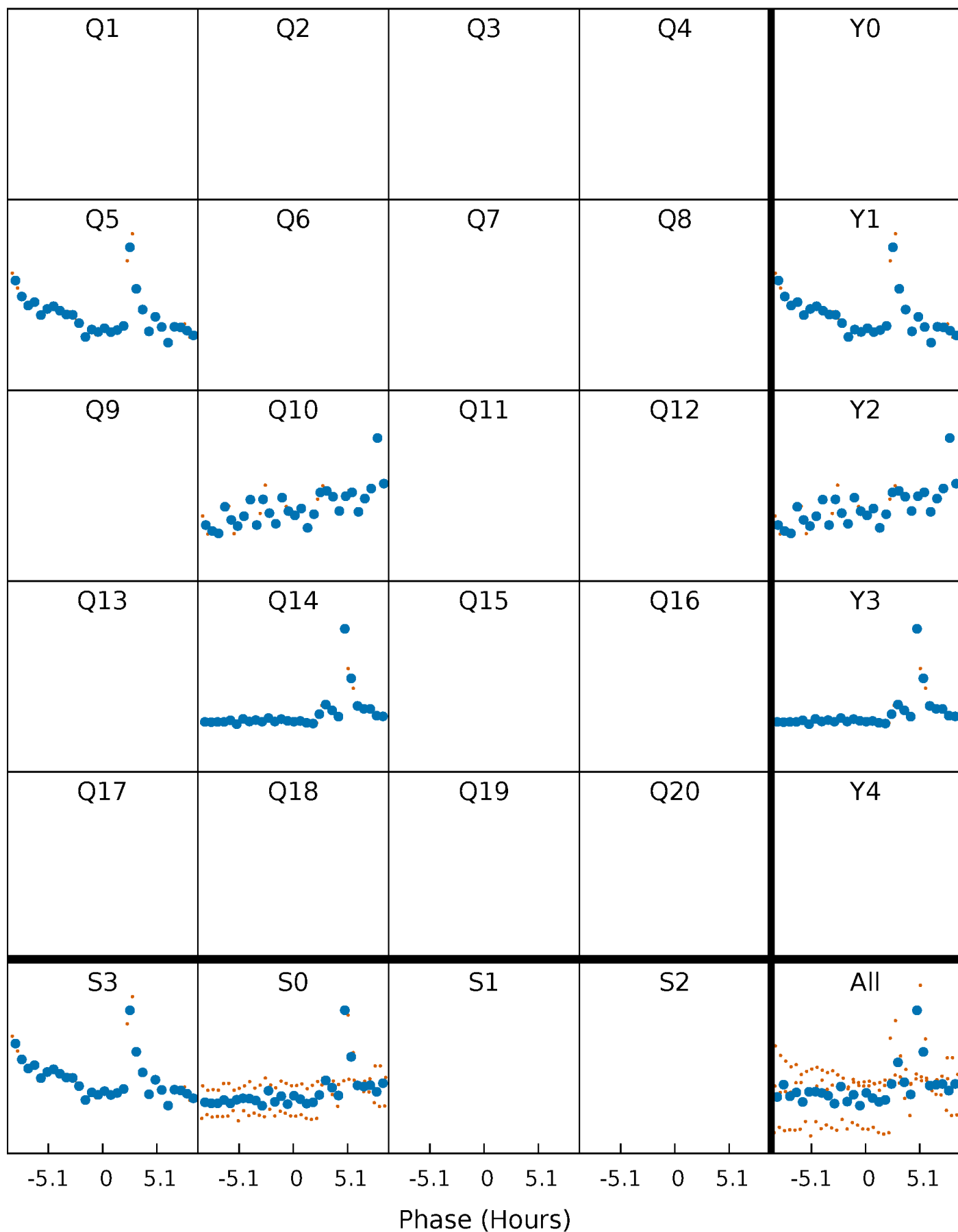


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



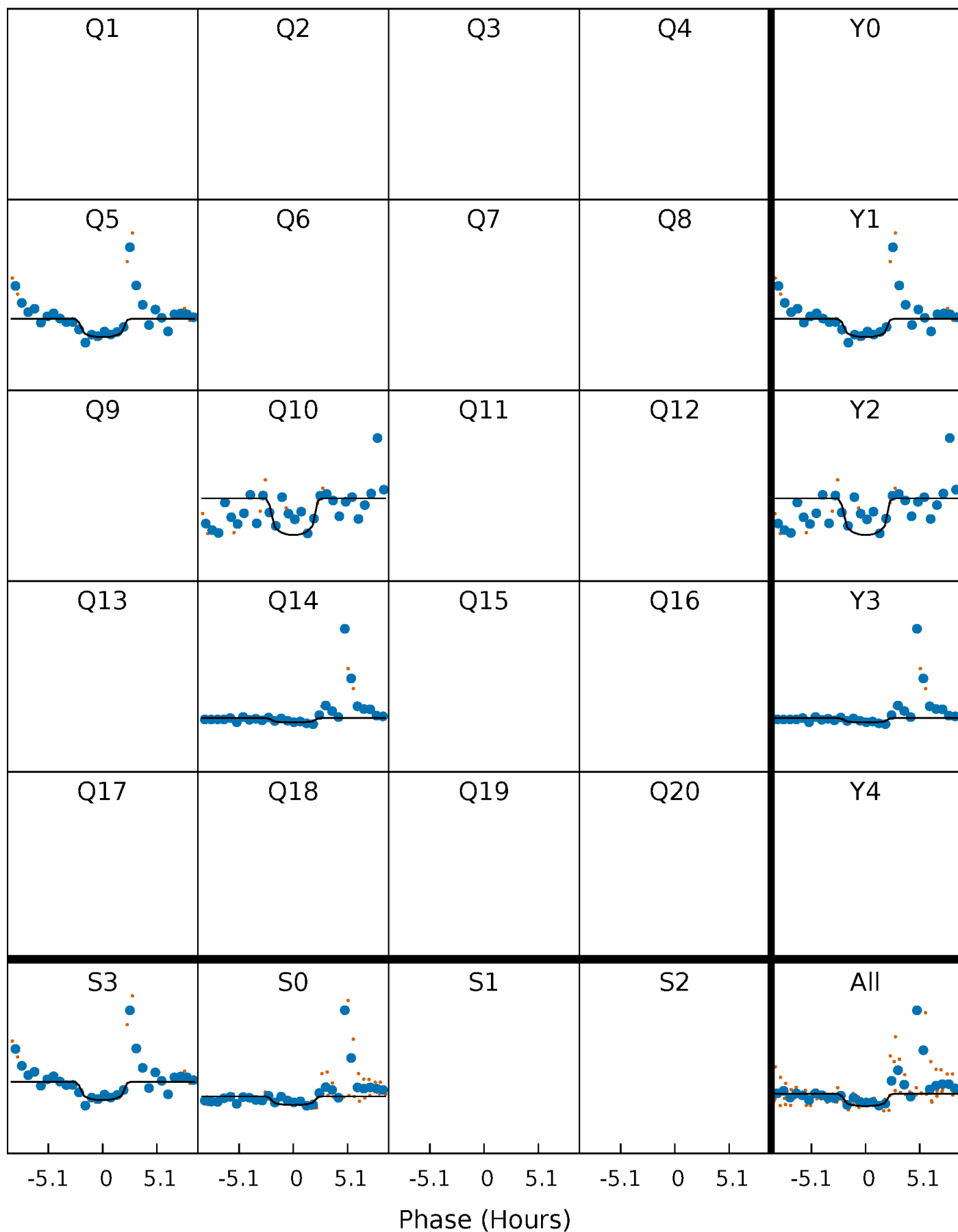
PDC Quarter-Phased Transit Curves

TCE 007809755-02 P=433.767433 Days $T_0=498.015166$ (BKJD)



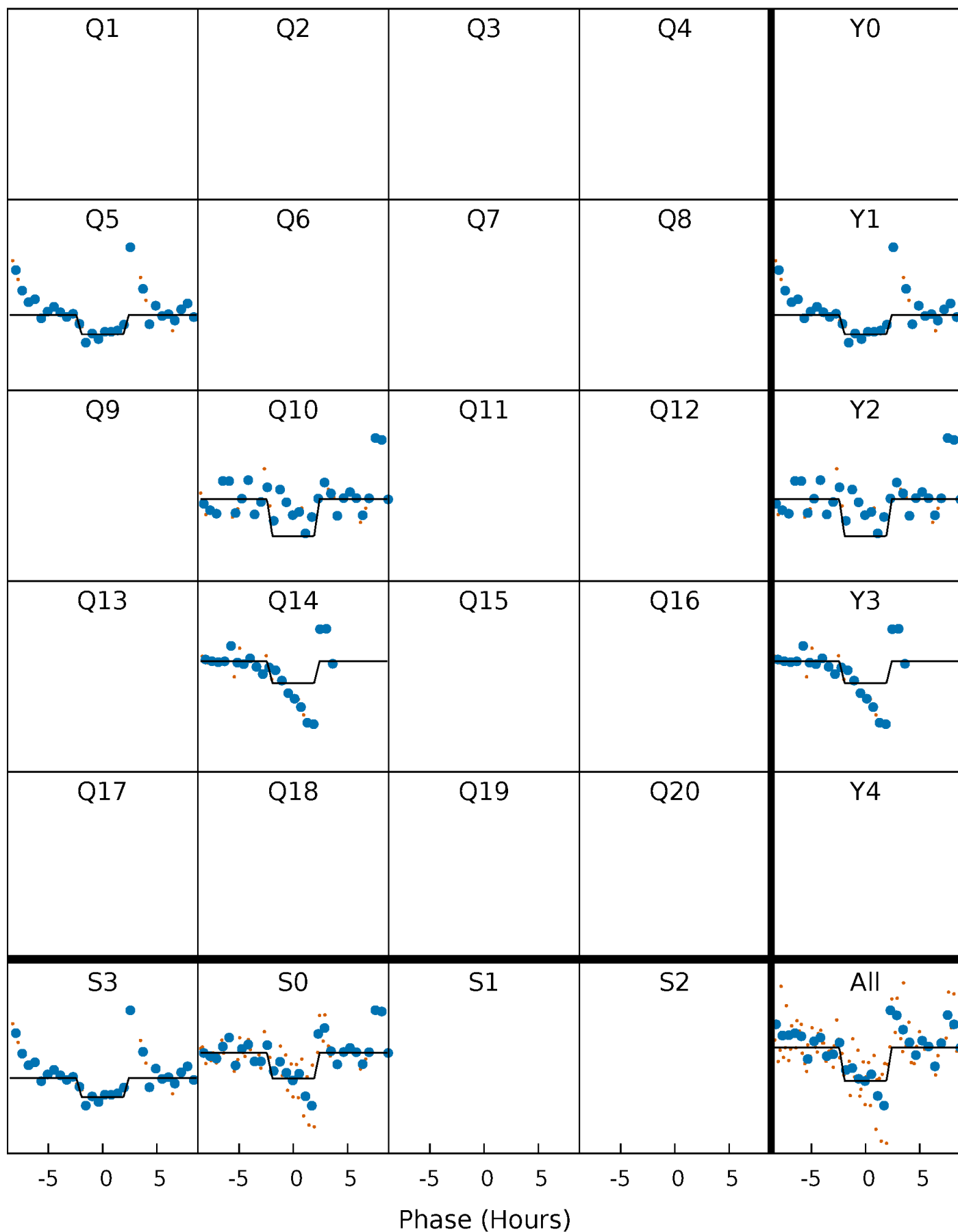
DV Quarter-Phased Transit Curves

TCE 007809755-02 P=433.767433 Days $T_0=498.015166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

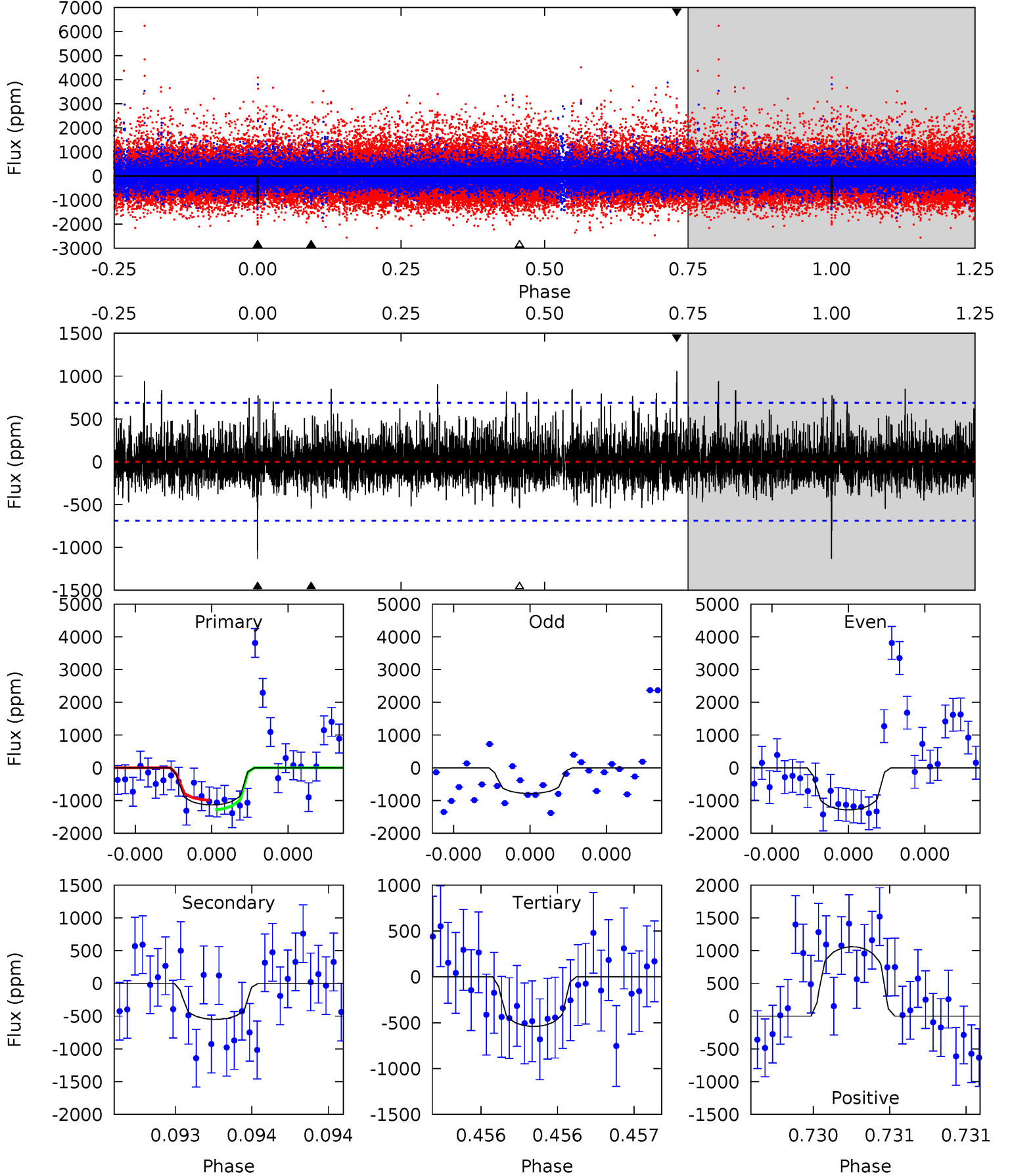
TCE 007809755-02 P=433.777234 Days $T_0=498.006697$ (BKJD)



DV Model-Shift Uniqueness Test

007809755-02, $P = 433.767433$ Days, $E = 64.247733$ Days

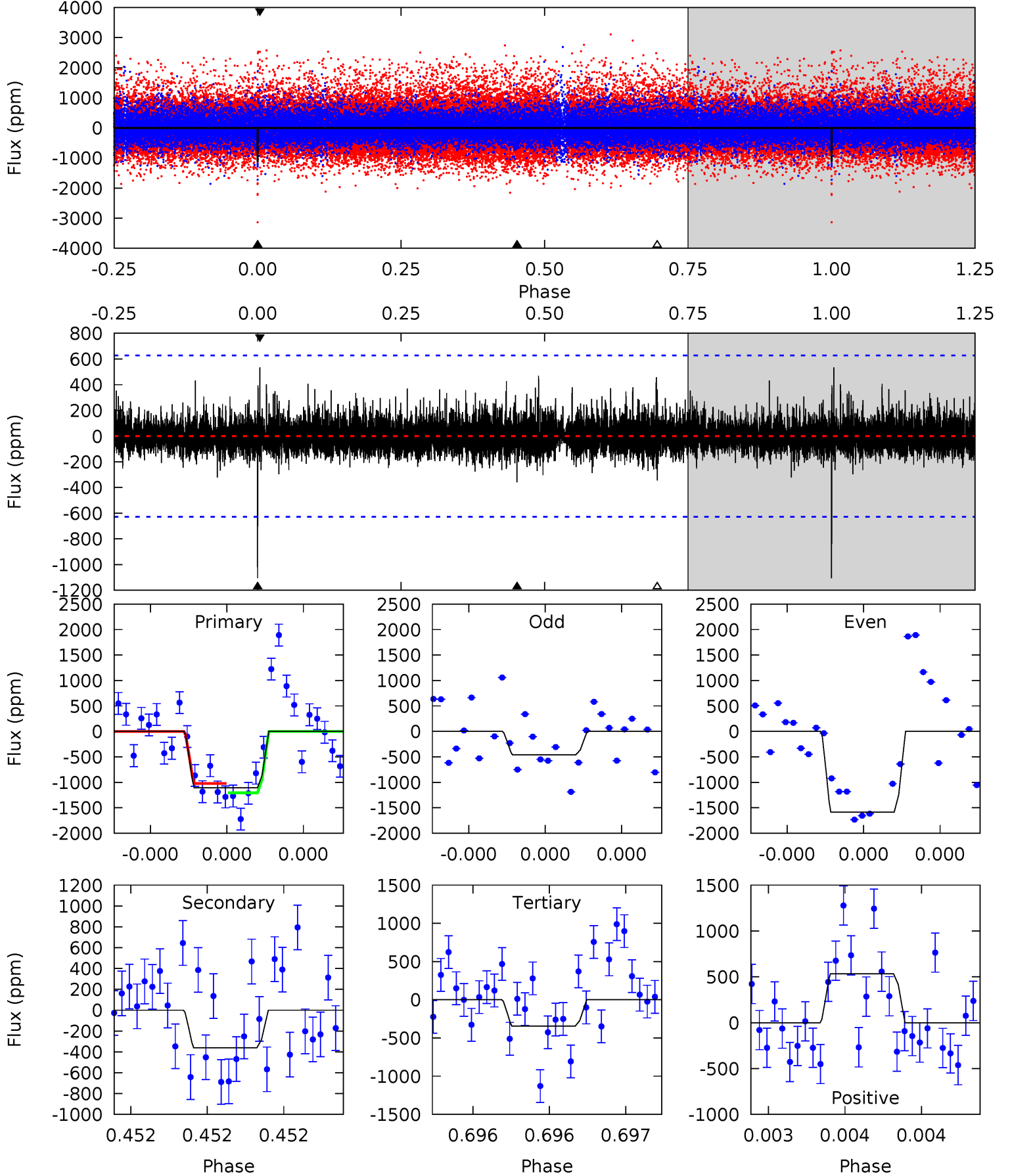
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.21	4.46	4.39	8.60	5.59	3.50	1.46	4.81	0.60	0.07	-4.14	1.65	0.89	0.48	1.19



Alt Model-Shift Uniqueness Test

007809755-02, P = 433.777234 Days, E = 64.229463 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.86	3.21	3.09	4.75	5.60	3.52	0.78	6.78	5.11	0.12	-1.54	4.71	1.07	0.33	0.82



Stellar Parameters For KIC 007809755

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3823^{+77}_{-84}	$4.730^{+0.036}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.518^{+0.028}_{-0.034}$	$0.526^{+0.030}_{-0.030}$	$5.321^{+0.877}_{-0.559}$
	+2%/-2%	+1%/-0%	+100%/-100%	+5%/-7%	+6%/-6%	+16%/-11%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007809755-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-549 ± 123	$4.52^{+3.98}_{-3.03}$	178^{+4}_{-5}	2645^{+1022}_{-385}	11724^{+99997}_{-8622}
Alt.	-360 ± 112	$4.36^{+4.51}_{-3.05}$	178^{+4}_{-4}	2530^{+1035}_{-397}	8178^{+82890}_{-6324}

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

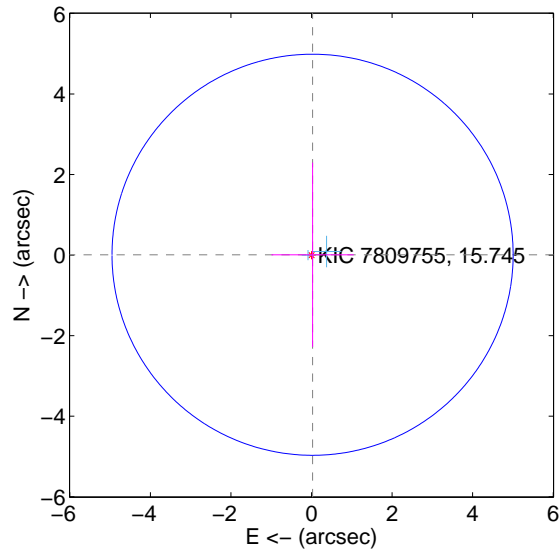
Supplemental centroid analysis for 007809755-02. Kepler magnitude: 15.74. Transit SNR 7.40

There are 2 quarters with good PRF difference image offsets

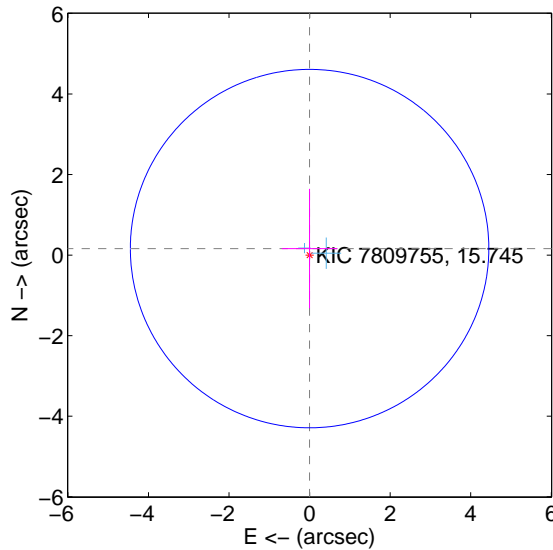
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 1.660	0.02	-0.027 ± 1.021	0.008 ± 2.287
PRF-fit source offset from KIC position	0.162 ± 1.483	0.11	0.000 ± 0.689	0.162 ± 1.483
photometric centroid source offset	0.98 ± 1.11	0.88	0.41 ± 1.05	0.89 ± 1.12

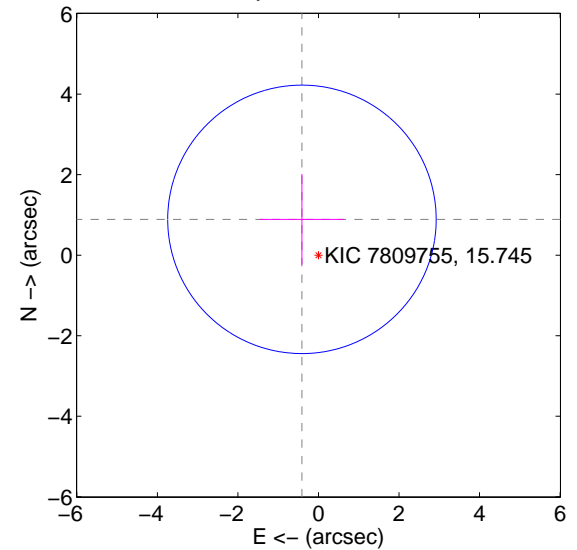
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

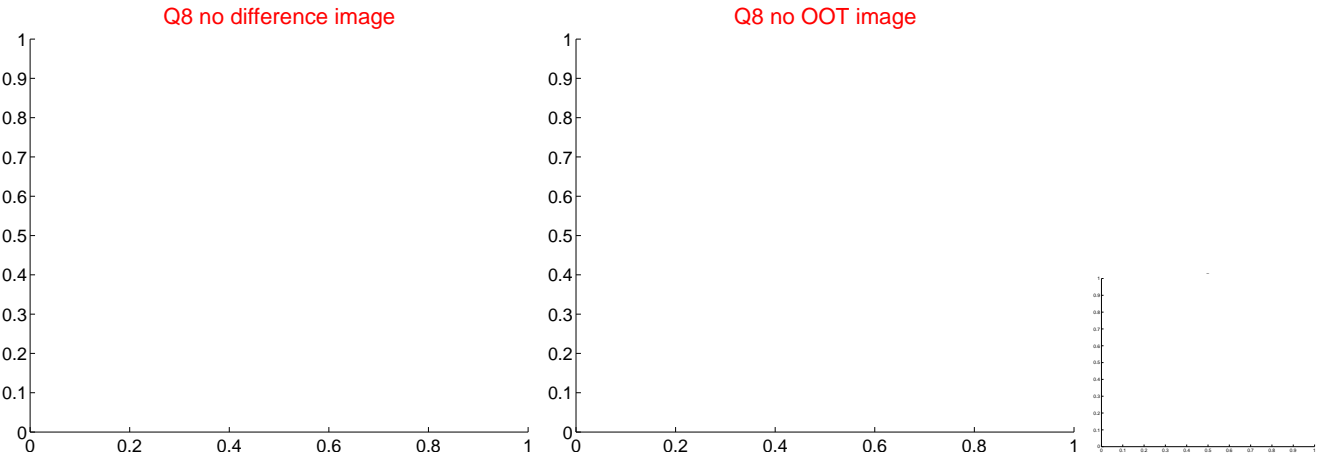
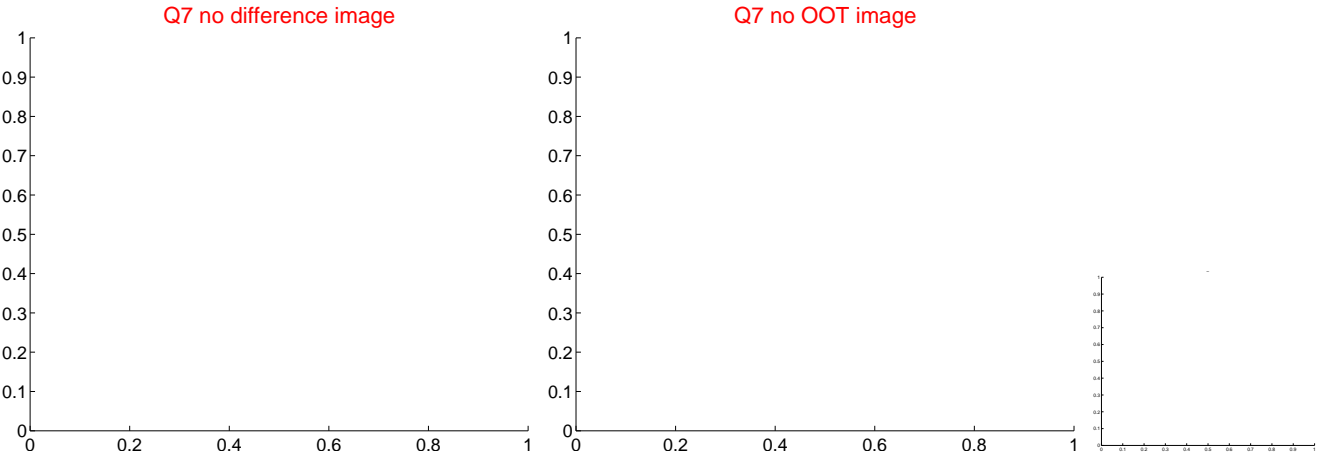
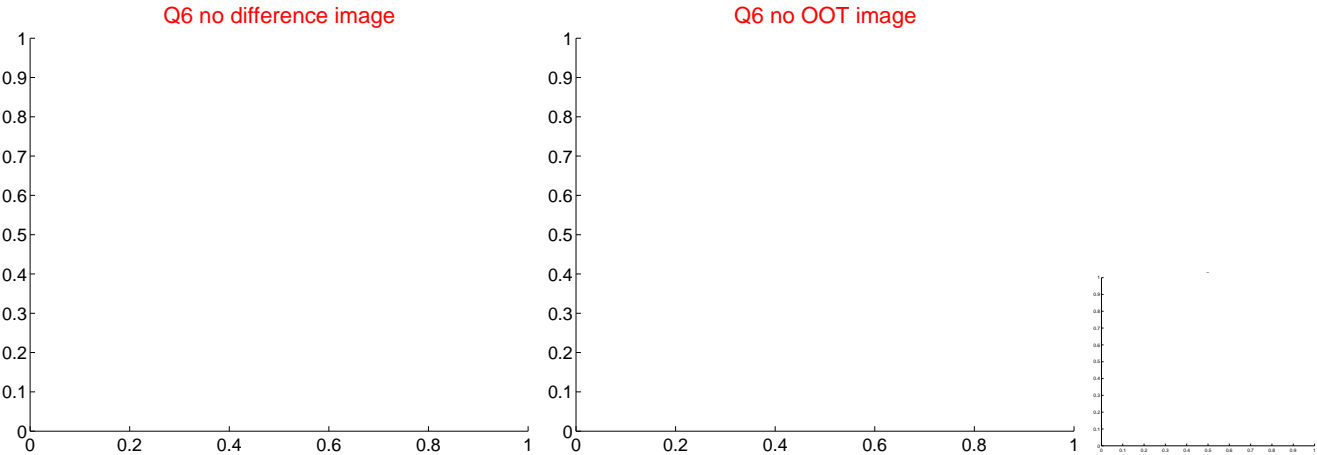
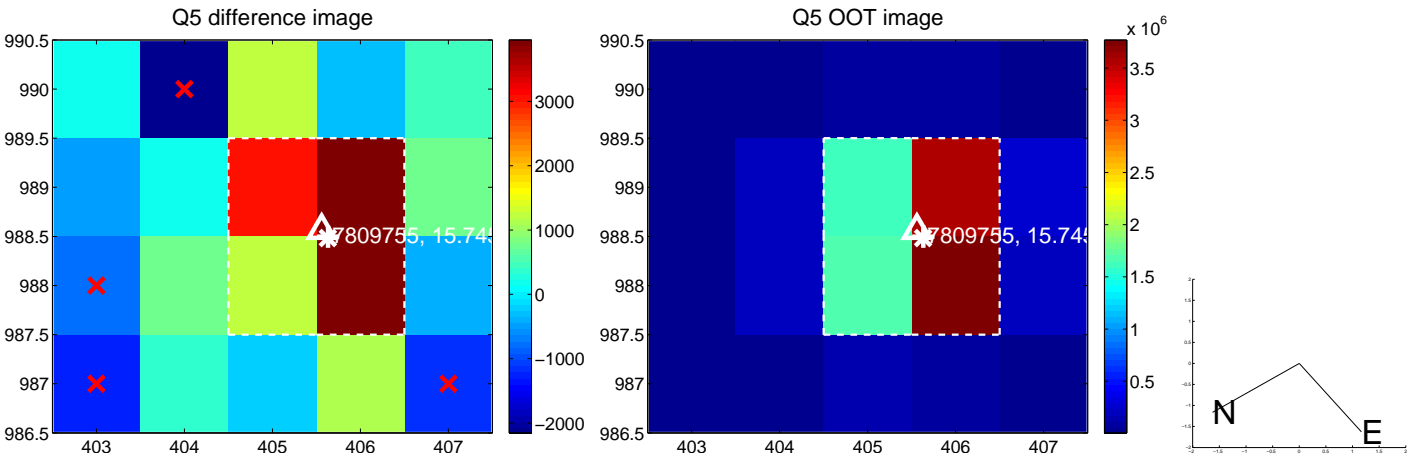


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

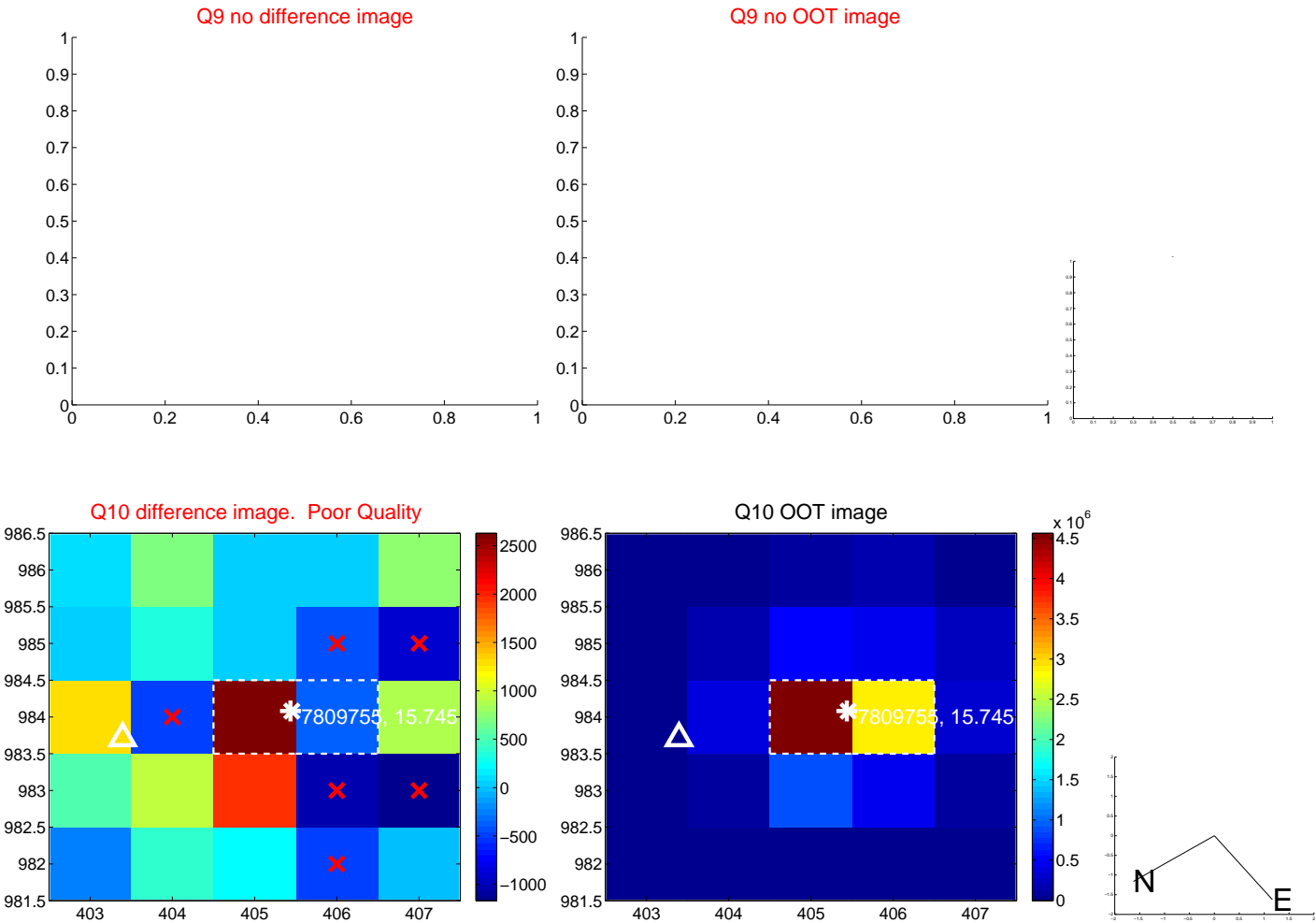
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



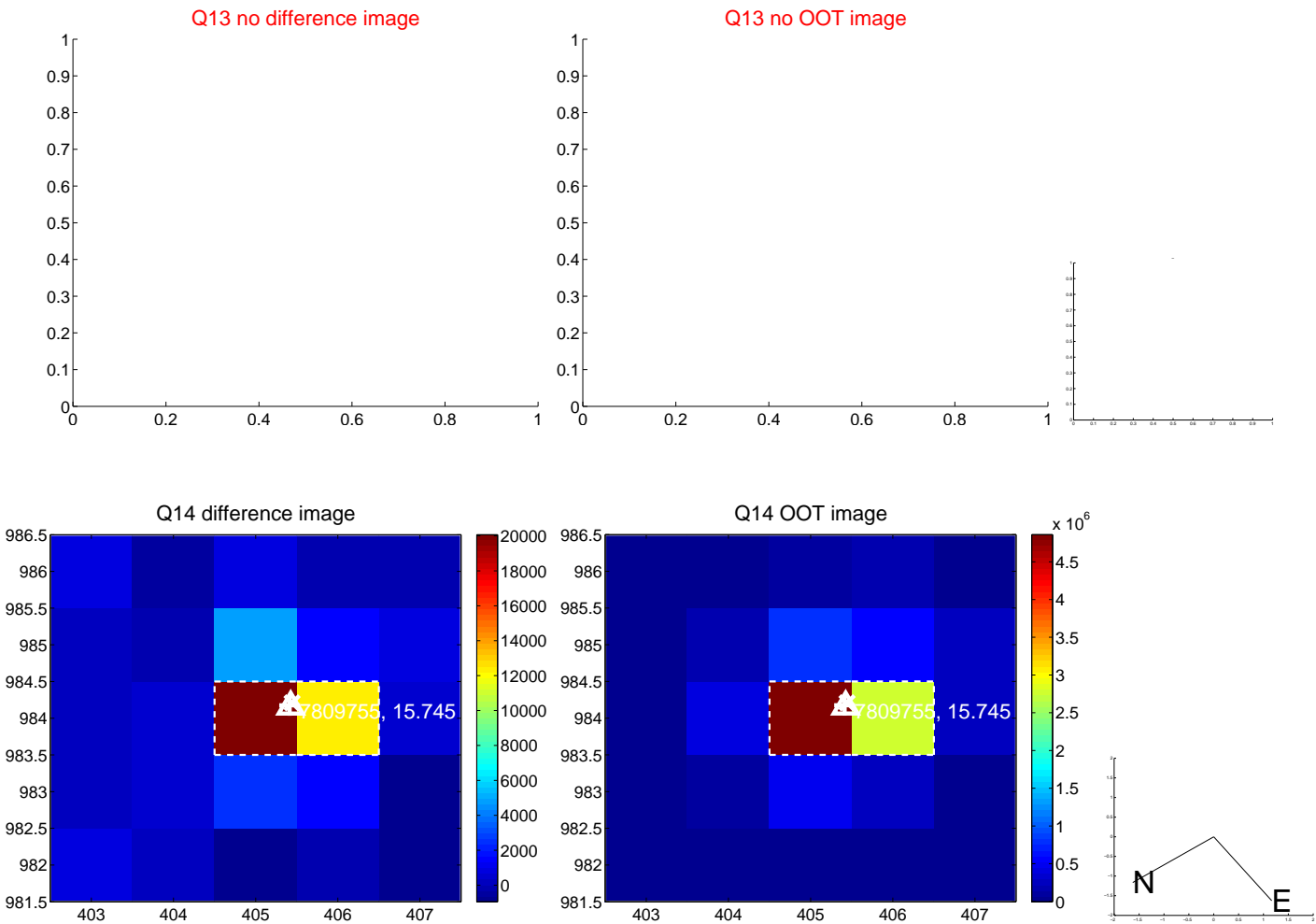
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



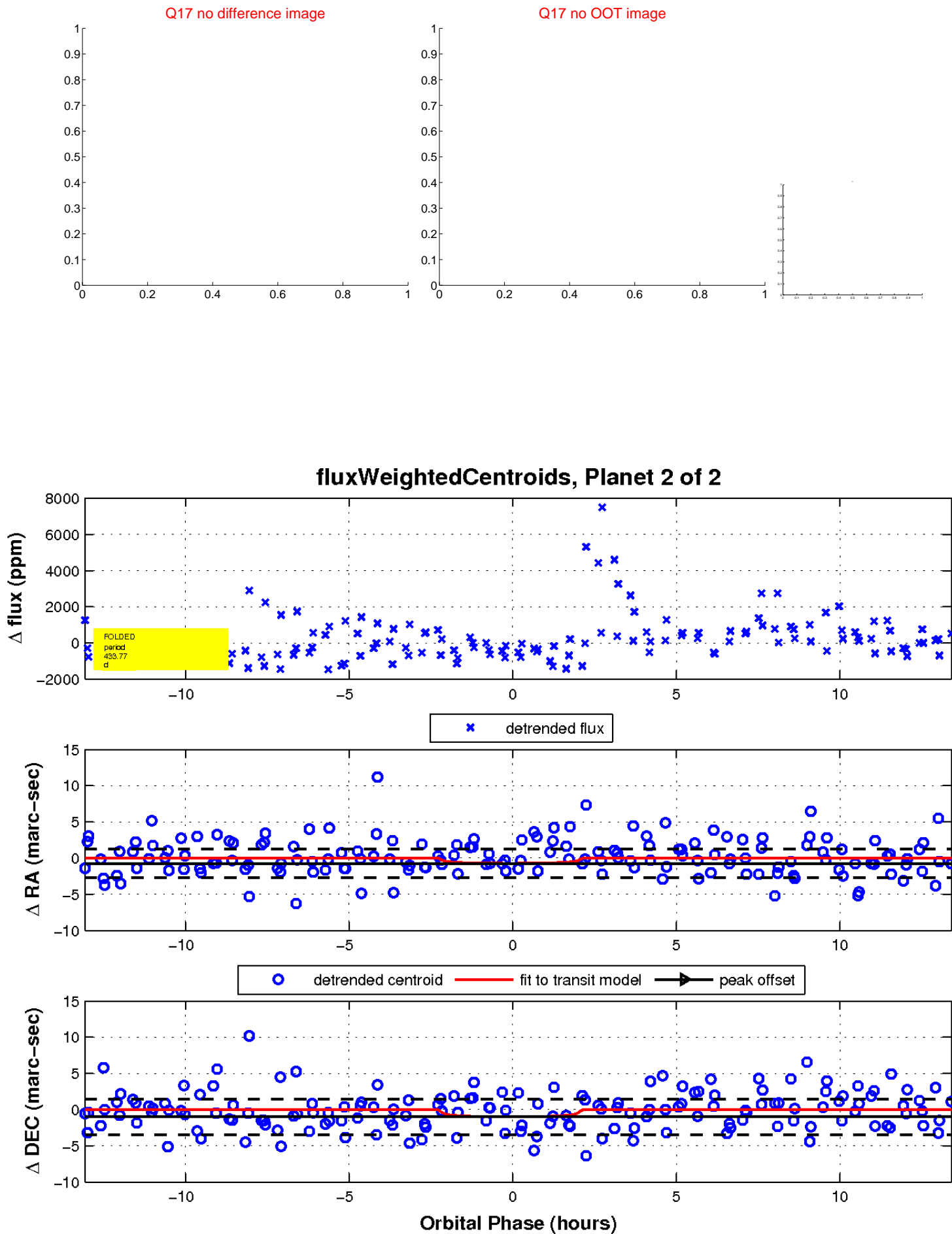
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

Declination

