

KIC 007463750

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})
007463750-01	OBS	No	540.830961	453.921122	474.0	10.360	13.2	3.5	2.16	5453	4.74	2.03
007463750-02	OBS	No	694.824260	142.305198	592.9	4.558	11.2	6.6	2.16	5453	5.54	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007463750-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007463750-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

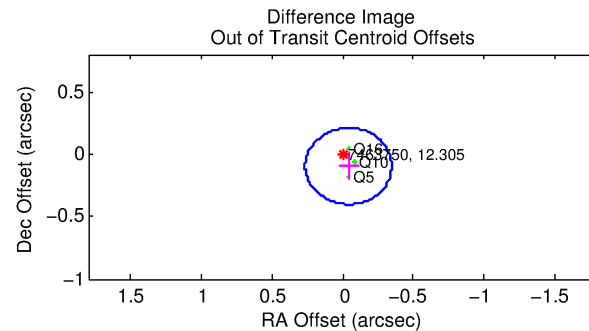
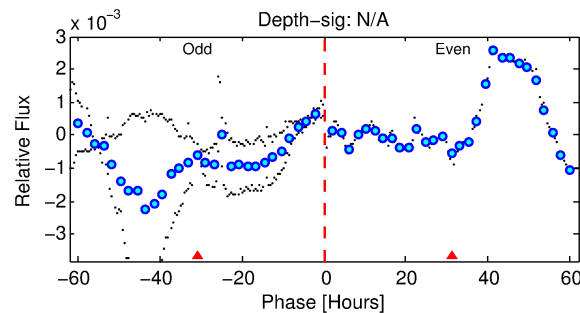
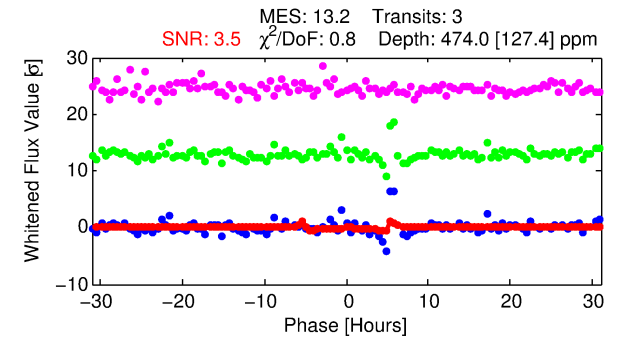
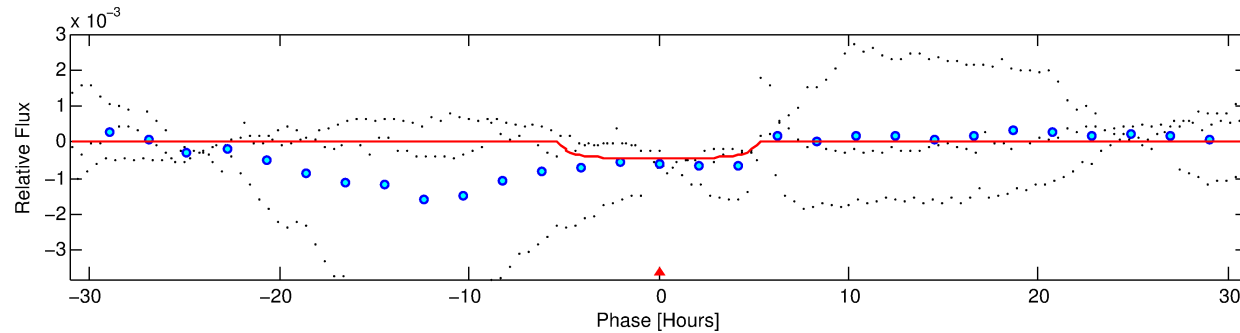
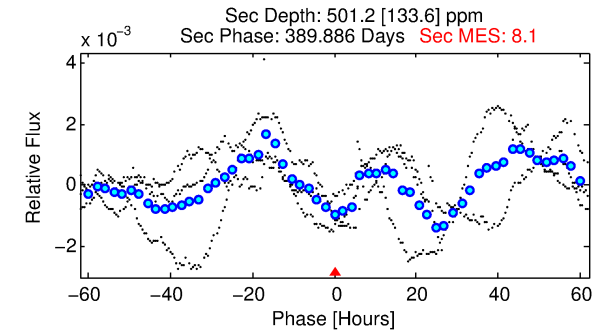
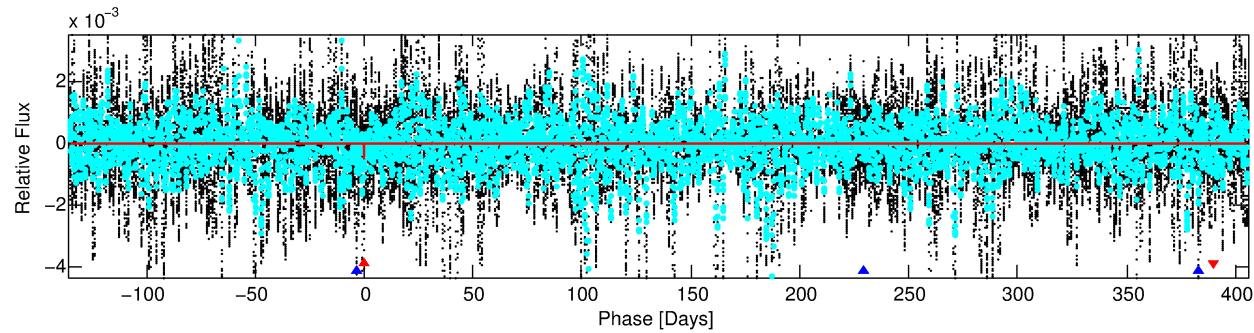
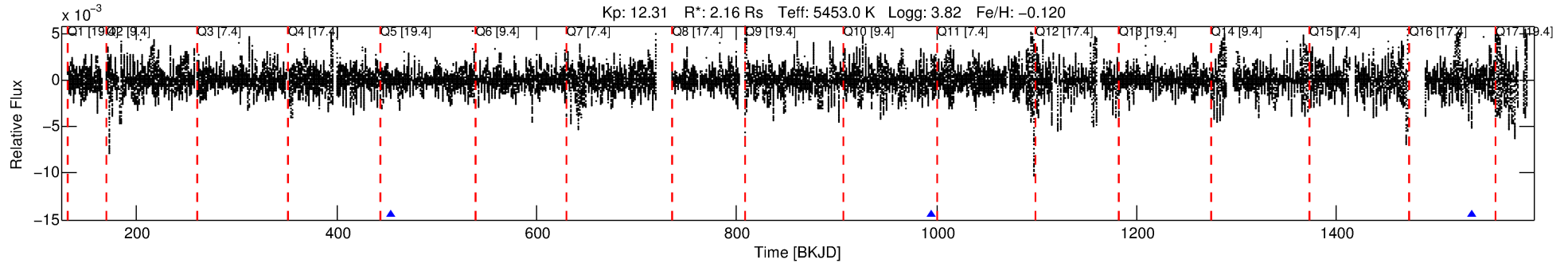
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007463750-01

No Significant Match Found

DV One-Page Summary

KIC: 7463750 Candidate: 1 of 2 Period: 540.831 d



DV Fit Results:

Period = 540.83096 [0.00454] d
Epoch = 453.9211 [0.0060] BKJD
Rp/R* = 0.0201 [0.0182]
a/R* = 366.66 [1407.35]
b = 0.44 [7.02]
Seff = 2.03 [2.18]
Teq = 304 [82] K
Rp = 4.74 [5.12] Re
a = 1.3493 [0.8546] AU
Ag = 22336.35 [47232.97] [0.47 σ]
Teffp = 5750 [2632] K [2.07 σ]

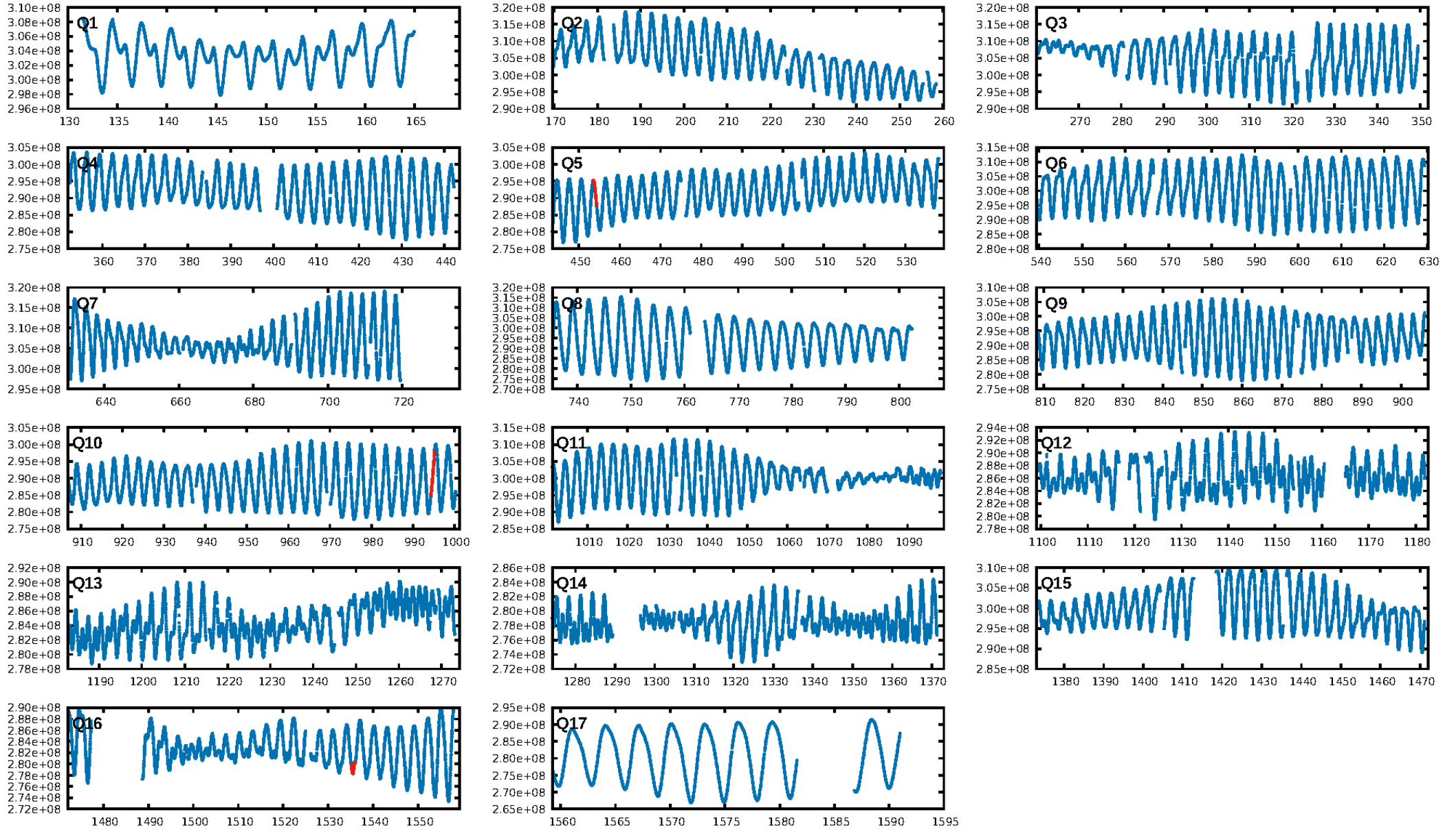
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [326.53 σ]
ModelChiSquare2-sig: 11.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.11e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.95
Centroid-sig: N/A
Centroid-so: 3.143 arcsec [1.01 σ]
OotOffset-rm: 0.104 arcsec [1.02 σ]
KicOffset-rm: 0.034 arcsec [0.29 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

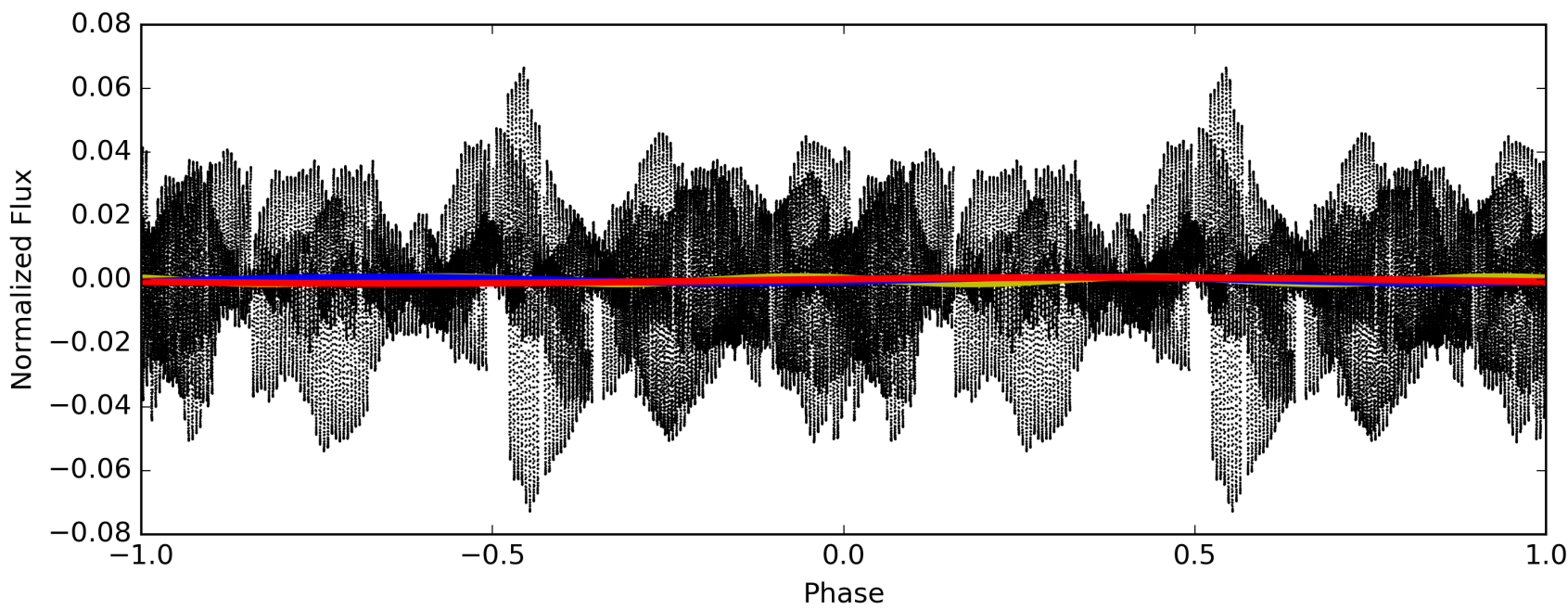
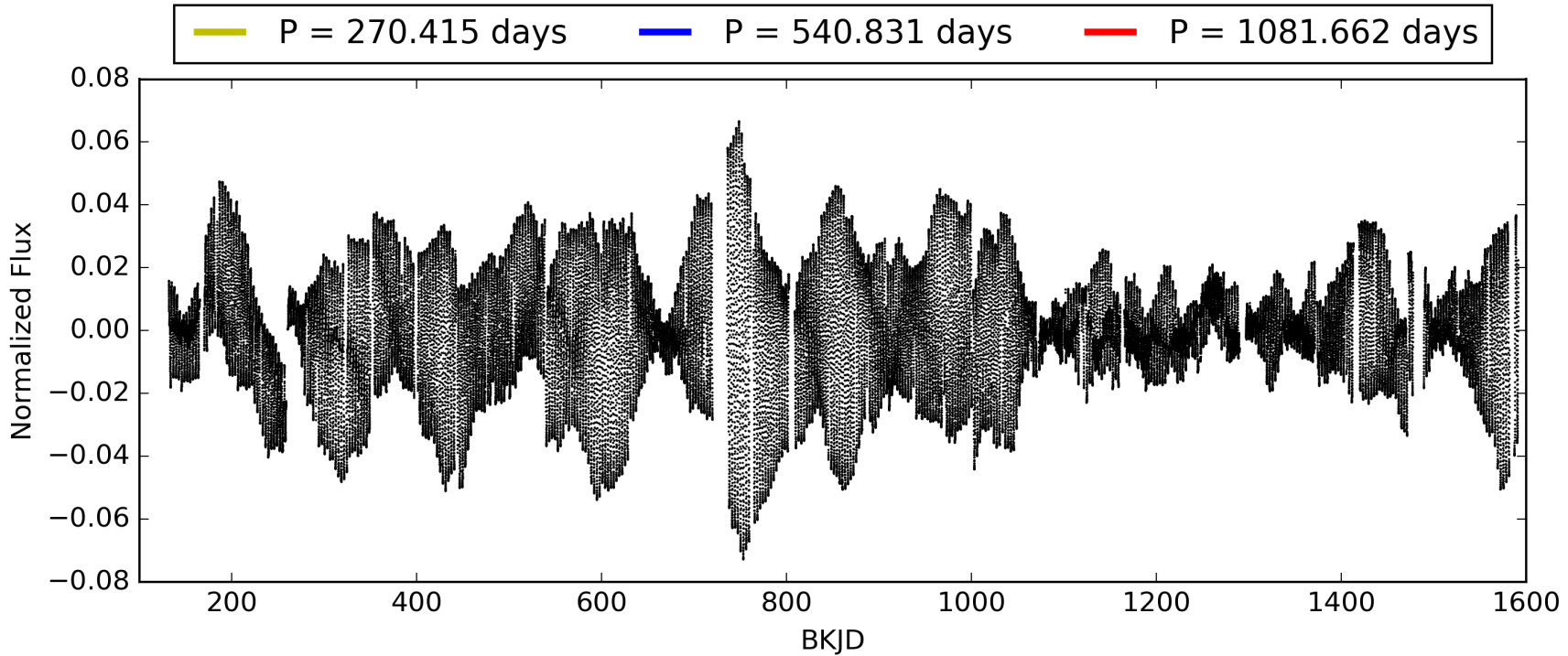
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:12:24 Z

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

TCE 007463750-01, PDC Light Curves

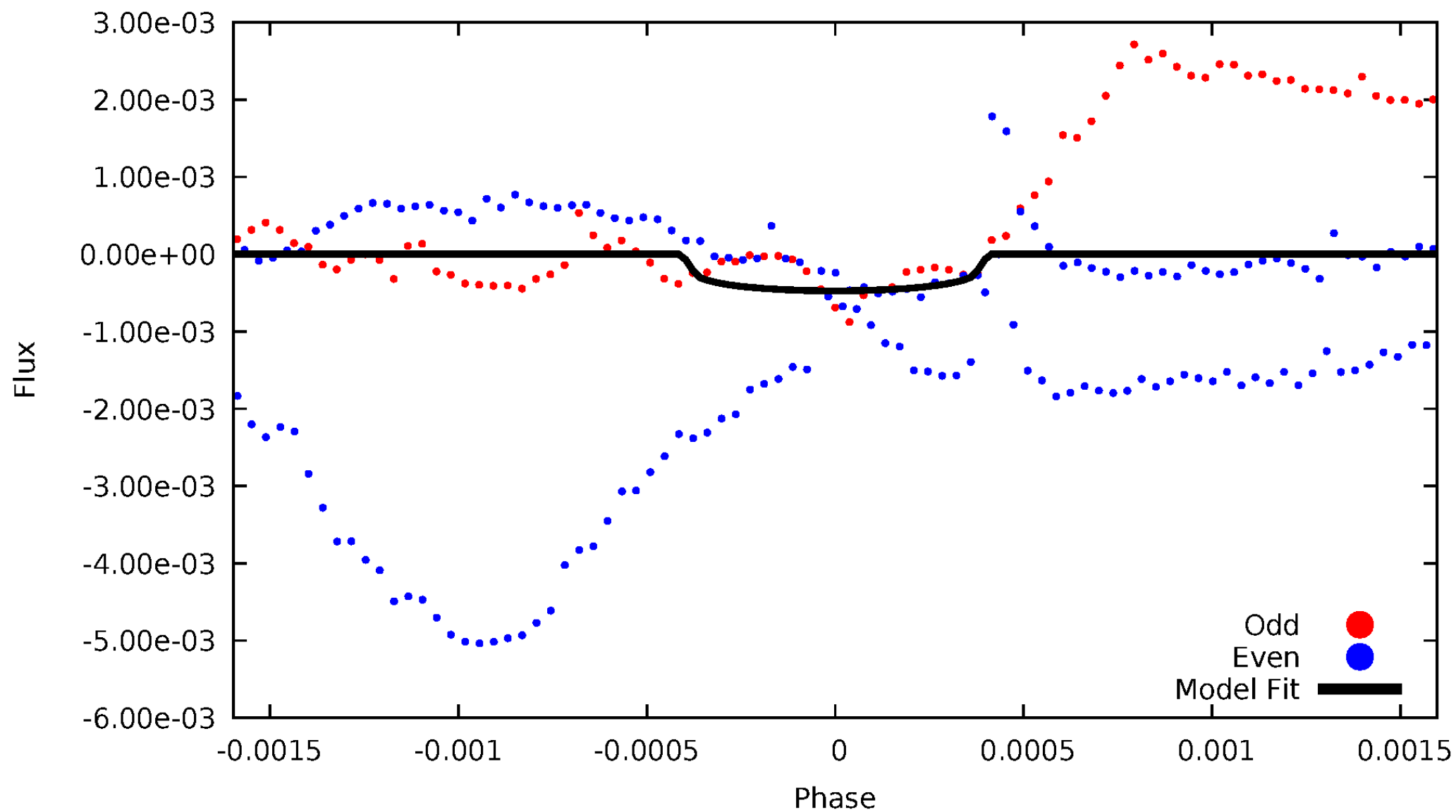


TCE 007463750-01



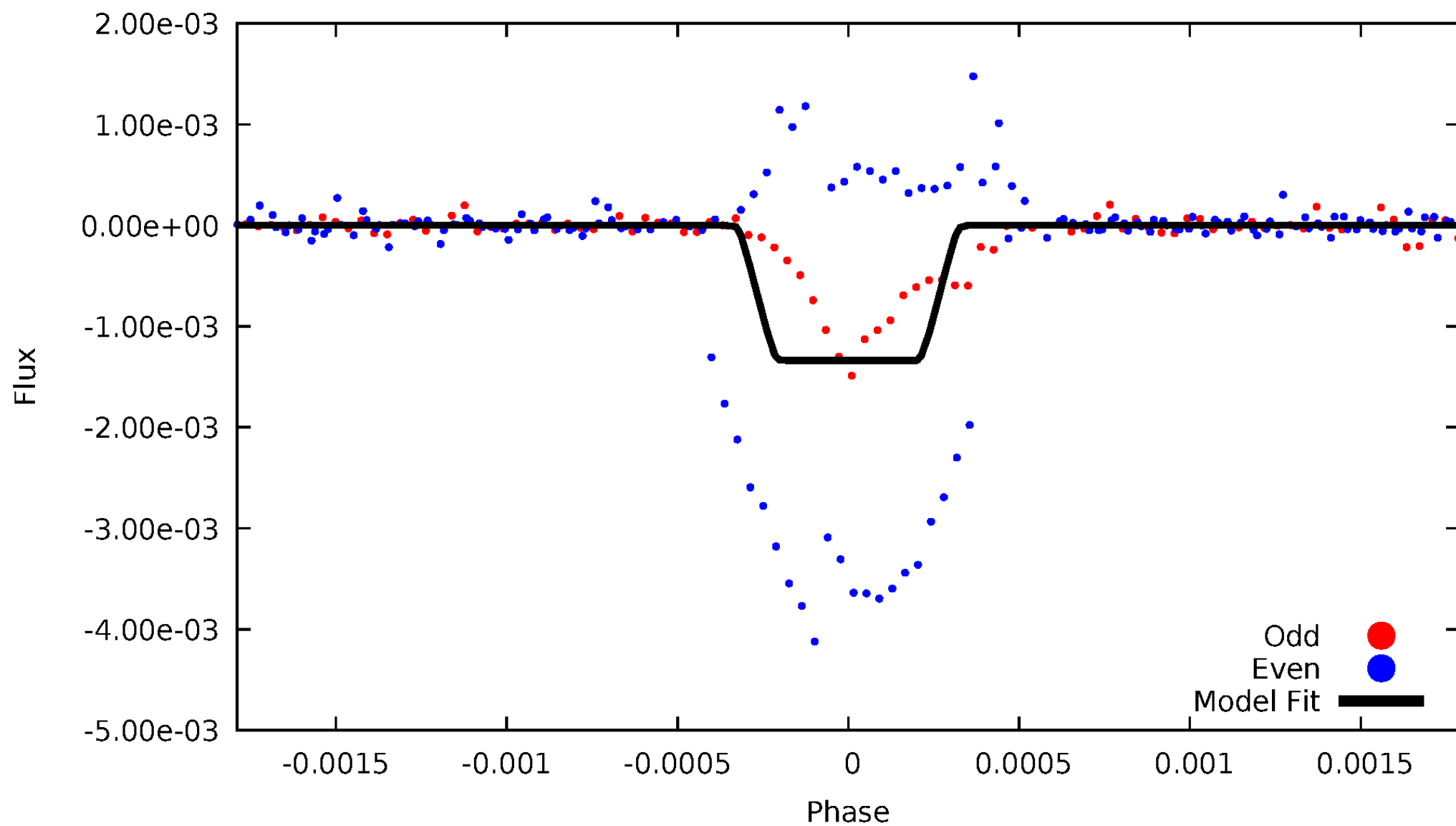
DV Odd/Even

TCE 007463750-01



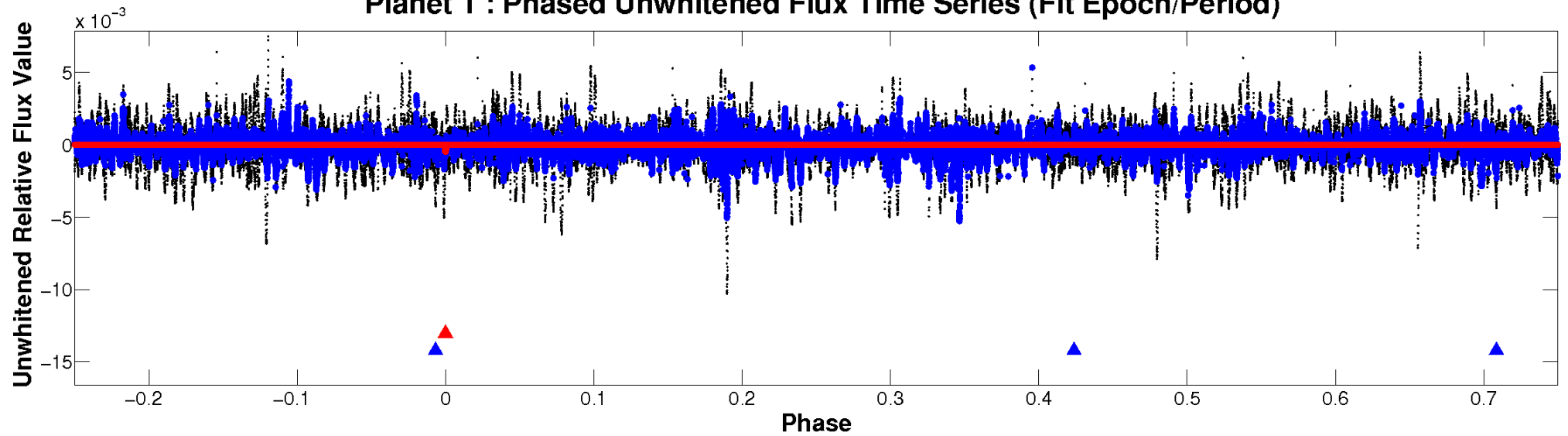
ALT Odd/Even

TCE 007463750-01

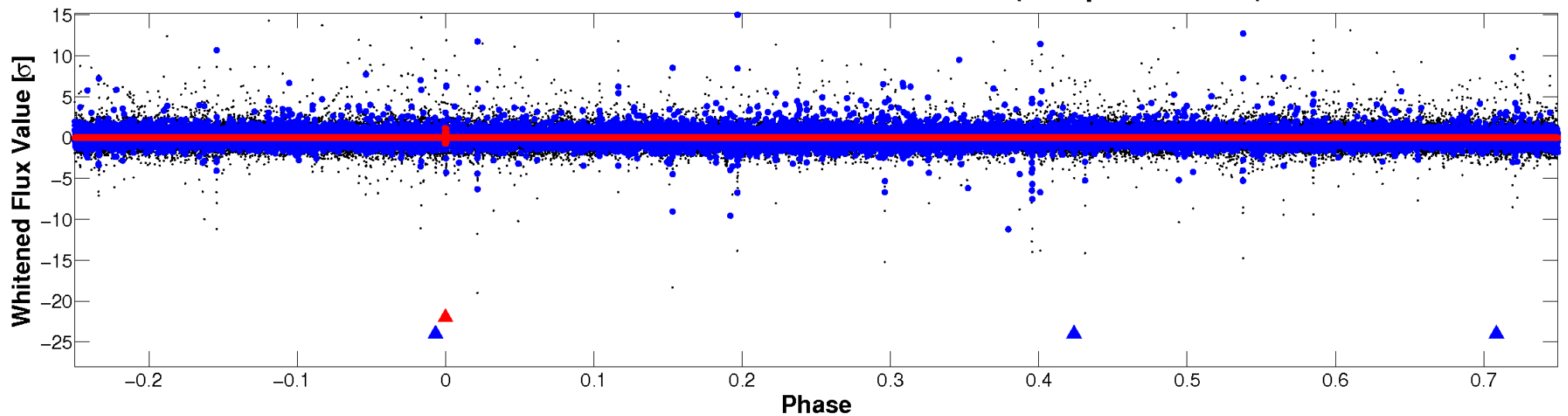


Non-Whitened Vs. Whitened Light Curve

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

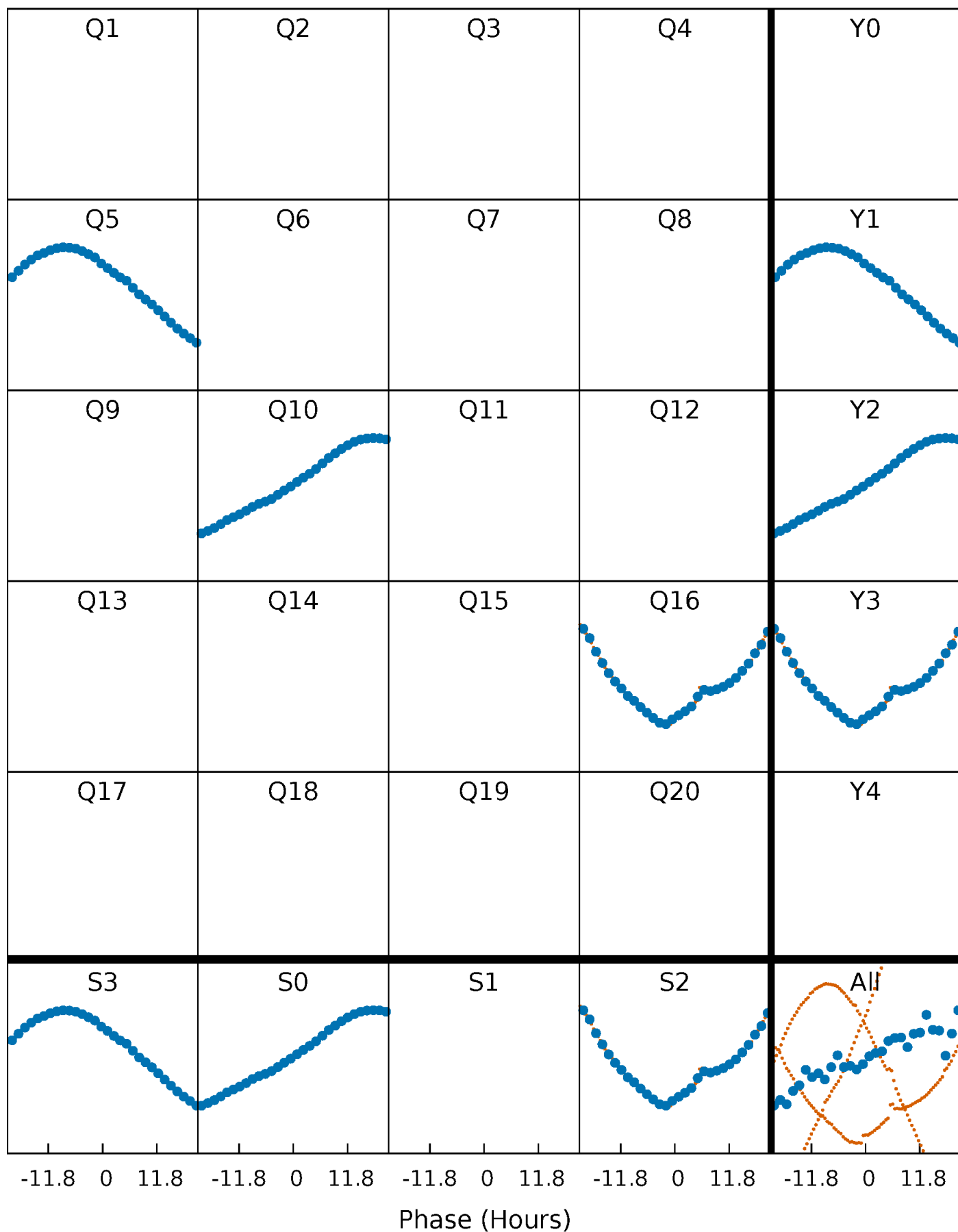


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



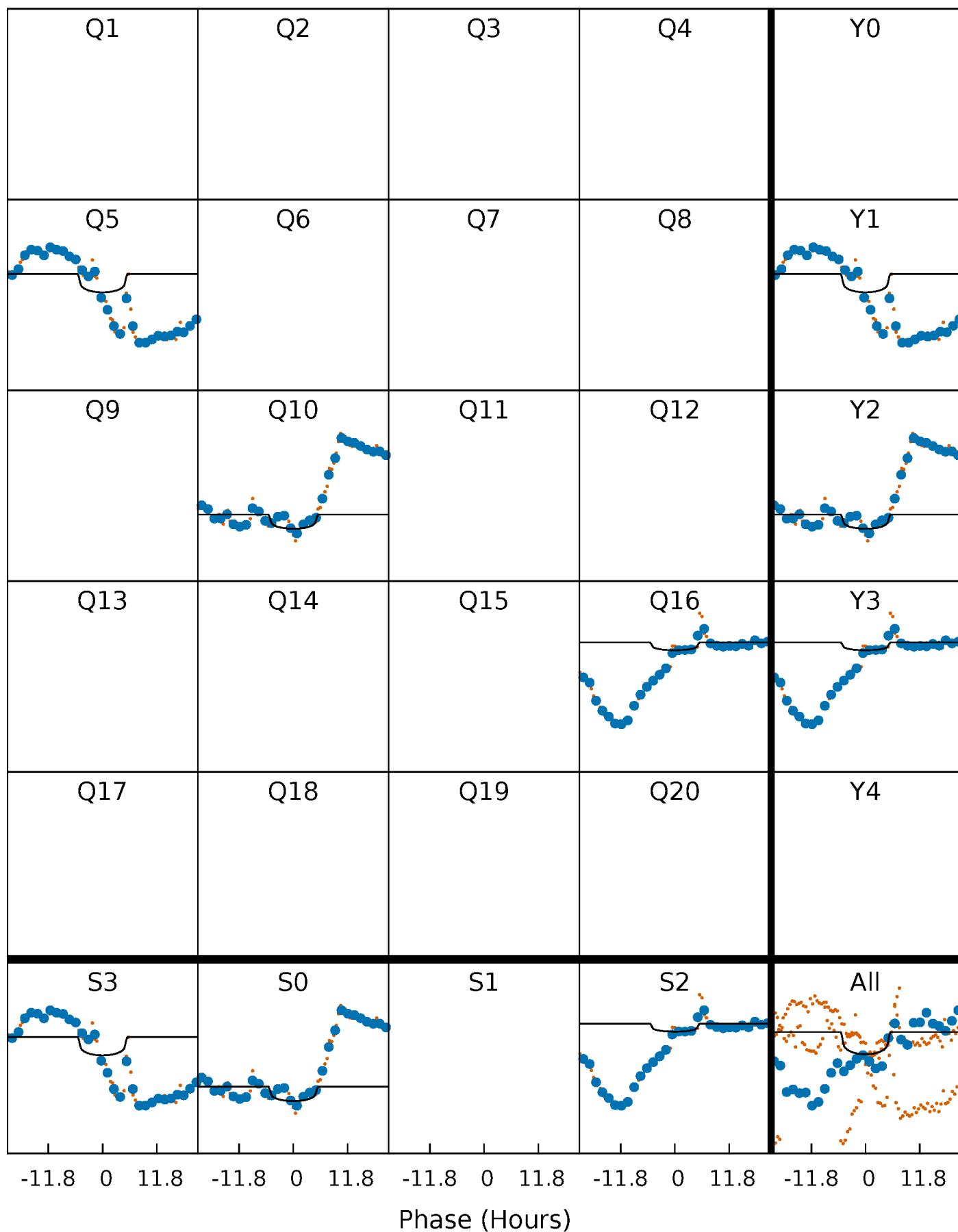
PDC Quarter-Phased Transit Curves

TCE 007463750-01 P=540.830961 Days $T_0=453.921122$ (BKJD)



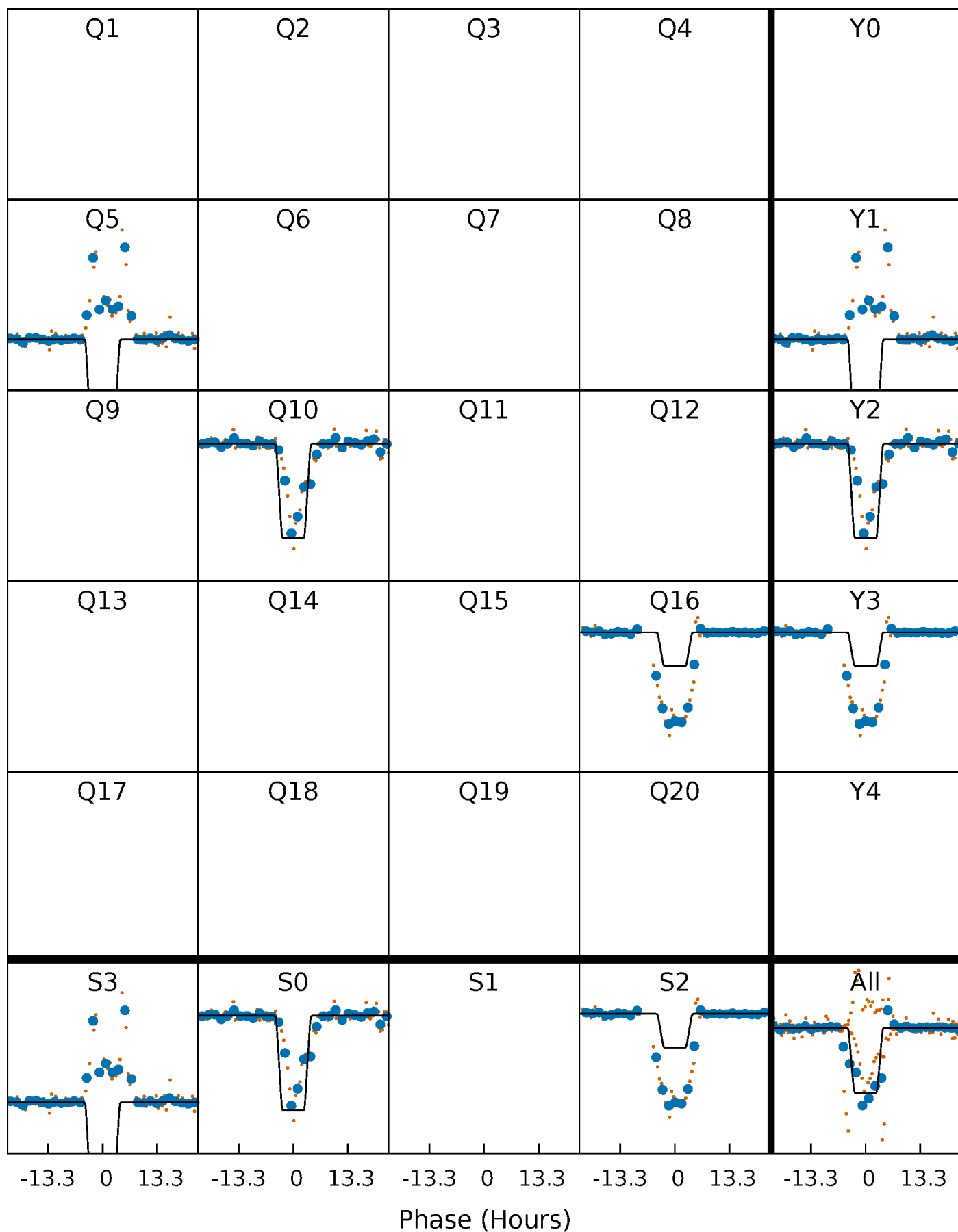
DV Quarter-Phased Transit Curves

TCE 007463750-01 P=540.830961 Days $T_0=453.921122$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

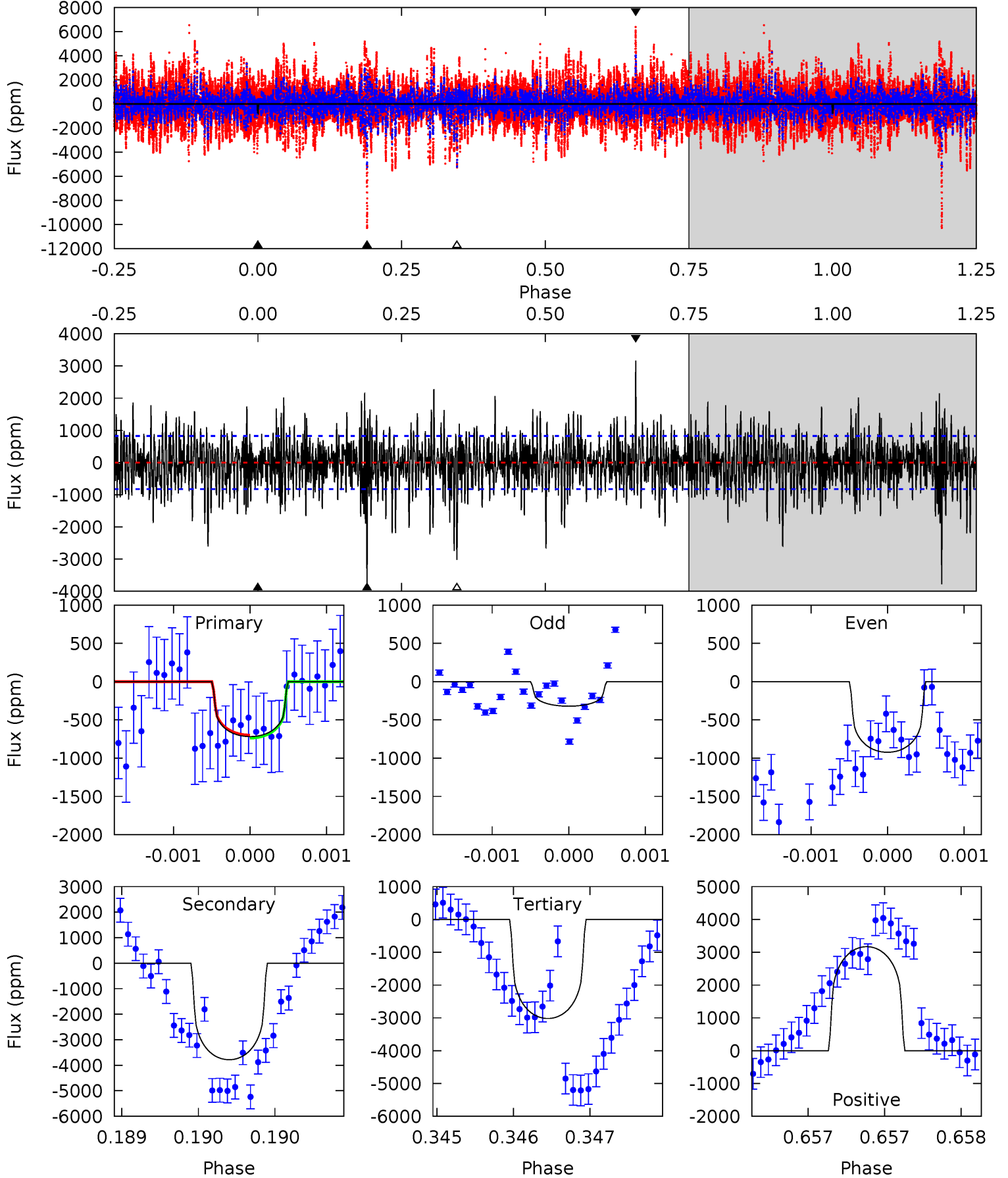
TCE 007463750-01 P=540.828655 Days $T_0=453.938393$ (BKJD)



DV Model-Shift Uniqueness Test

007463750-01, P = 540.830961 Days, E = 453.921122 Days

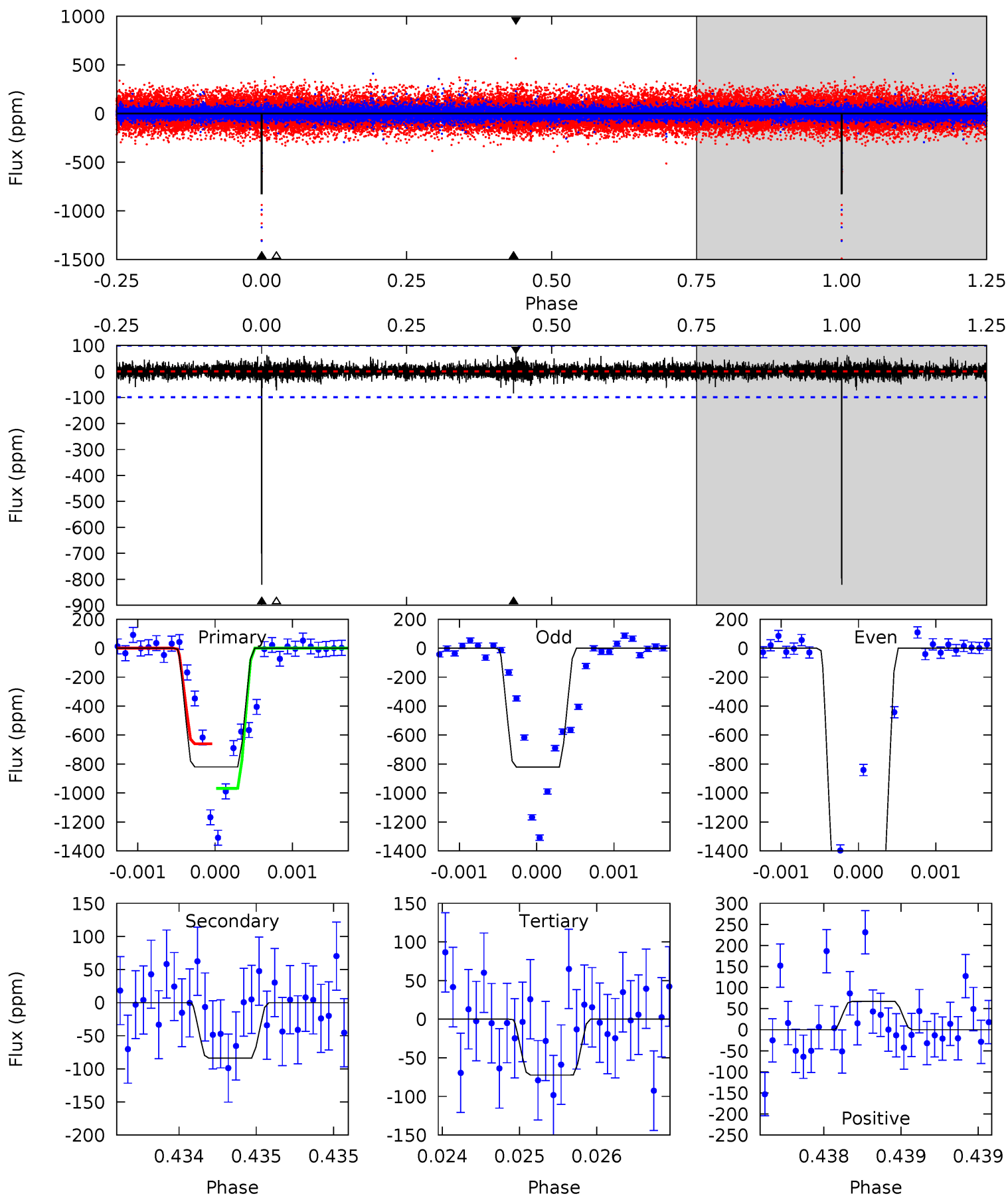
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.78	25.2	20.1	21.1	5.48	3.34	4.33	-15.3	-16.3	5.08	4.08	1.82	0.99	0.46	0.13



Alt Model-Shift Uniqueness Test

007463750-01, P = 540.828655 Days, E = 453.938393 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.6	4.67	4.02	3.74	5.52	3.40	0.71	41.6	41.9	0.64	0.93	39.3	1.56	0.08	0



Stellar Parameters For KIC 007463750

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5453^{+180}_{-147}	$3.819^{+0.645}_{-0.172}$	$-0.120^{+0.350}_{-0.250}$	$2.158^{+0.688}_{-1.279}$	$1.120^{+0.168}_{-0.274}$	$0.157^{+1.775}_{-0.084}$
	+3%/-3%	+17%/-5%	+292%/-208%	+32%/-59%	+15%/-24%	+1131%/-54%
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 007463750-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3784 ± 150	$4.68^{+4.14}_{-2.83}$	416^{+42}_{-63}	9620^{+10928}_{-2795}	$168230^{+953166}_{-119935}$
Alt.	-84 ± 18	$7.52^{+4.75}_{-3.79}$	414^{+40}_{-68}	3289^{+715}_{-375}	1535^{+4417}_{-987}

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

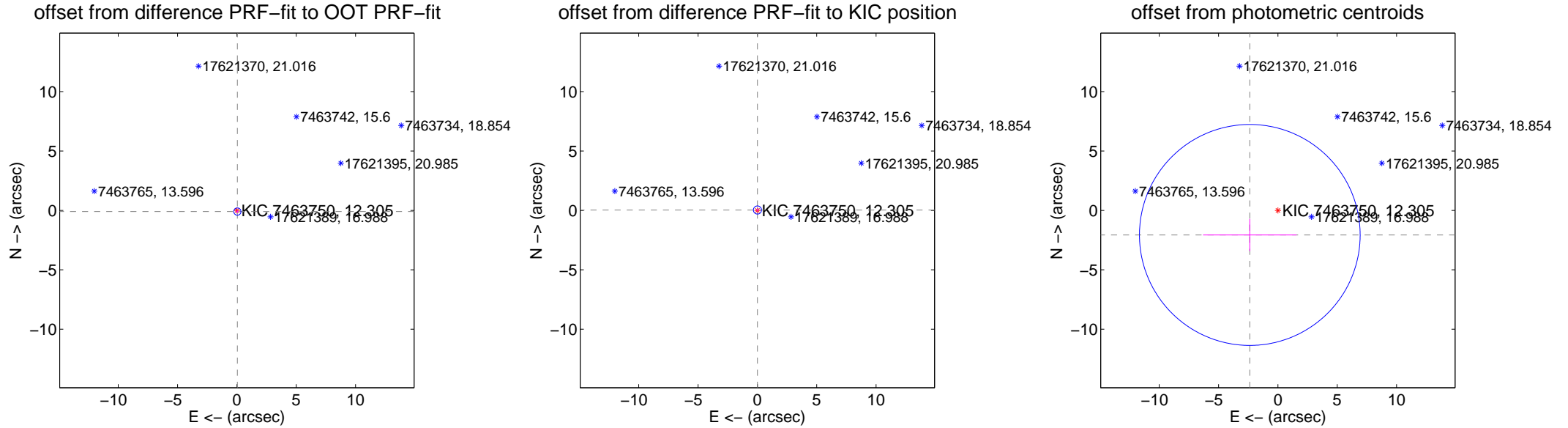
DV Centroid Data

Supplemental centroid analysis for 007463750-01. Kepler magnitude: 12.30. Transit SNR 3.46

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.102	1.02	-0.040 ± 0.067	-0.096 ± 0.107
PRF-fit source offset from KIC position	0.034 ± 0.114	0.29	-0.006 ± 0.068	0.033 ± 0.115
photometric centroid source offset	3.14 ± 3.10	1.01	2.37 ± 3.94	-2.07 ± 1.36

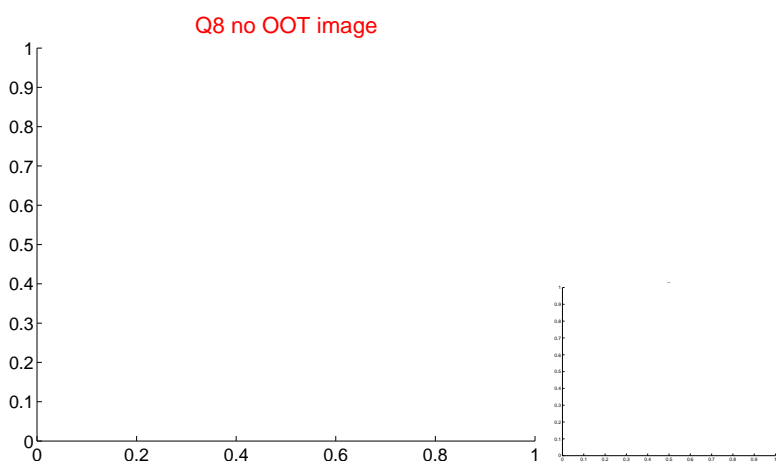
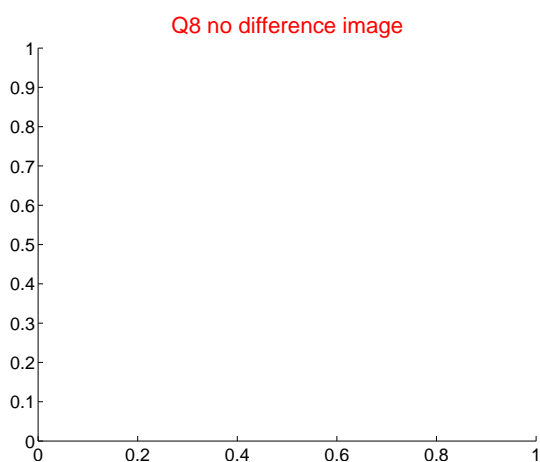
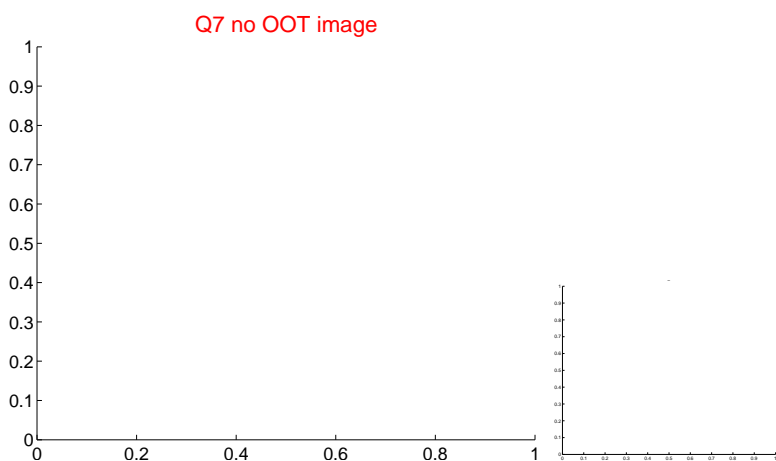
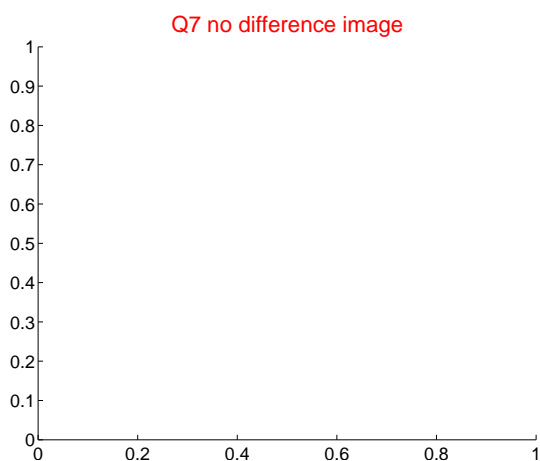
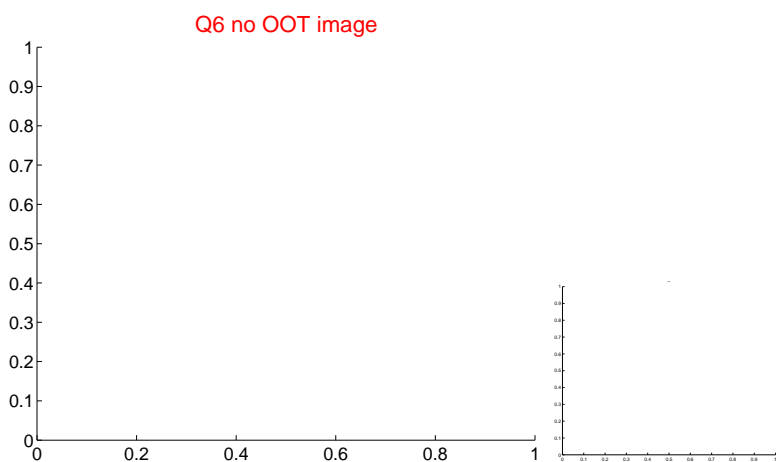
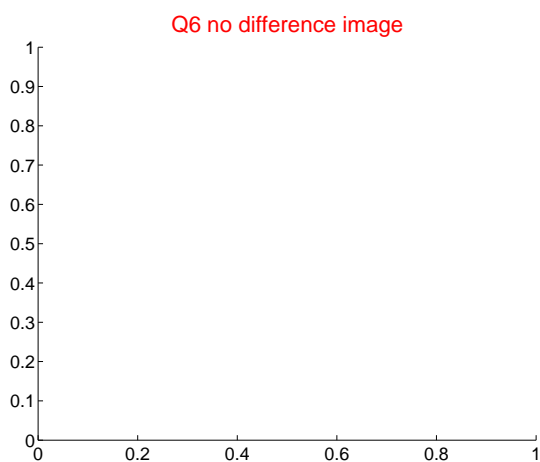
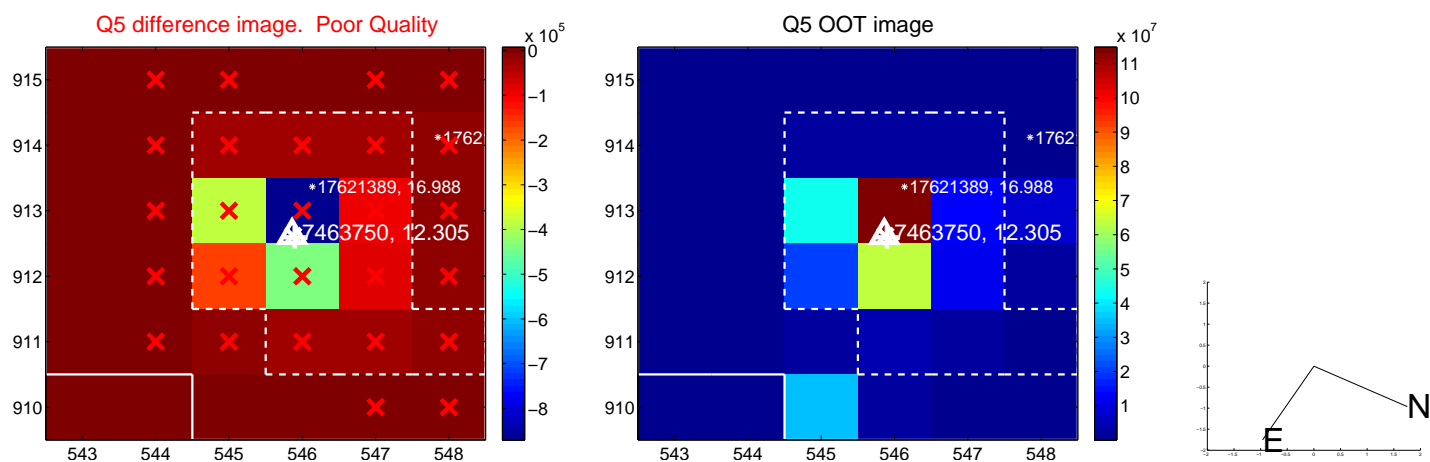


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

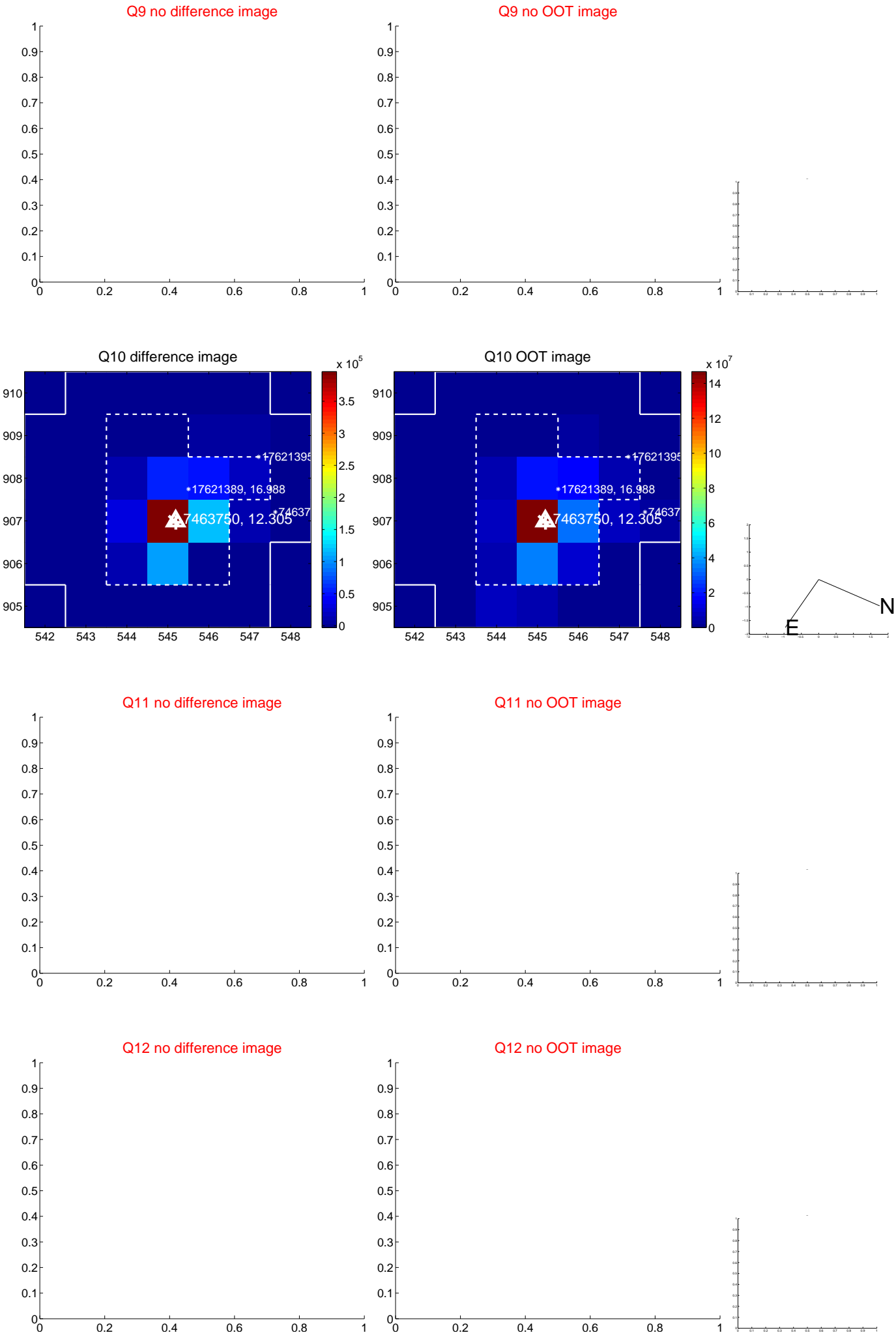
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



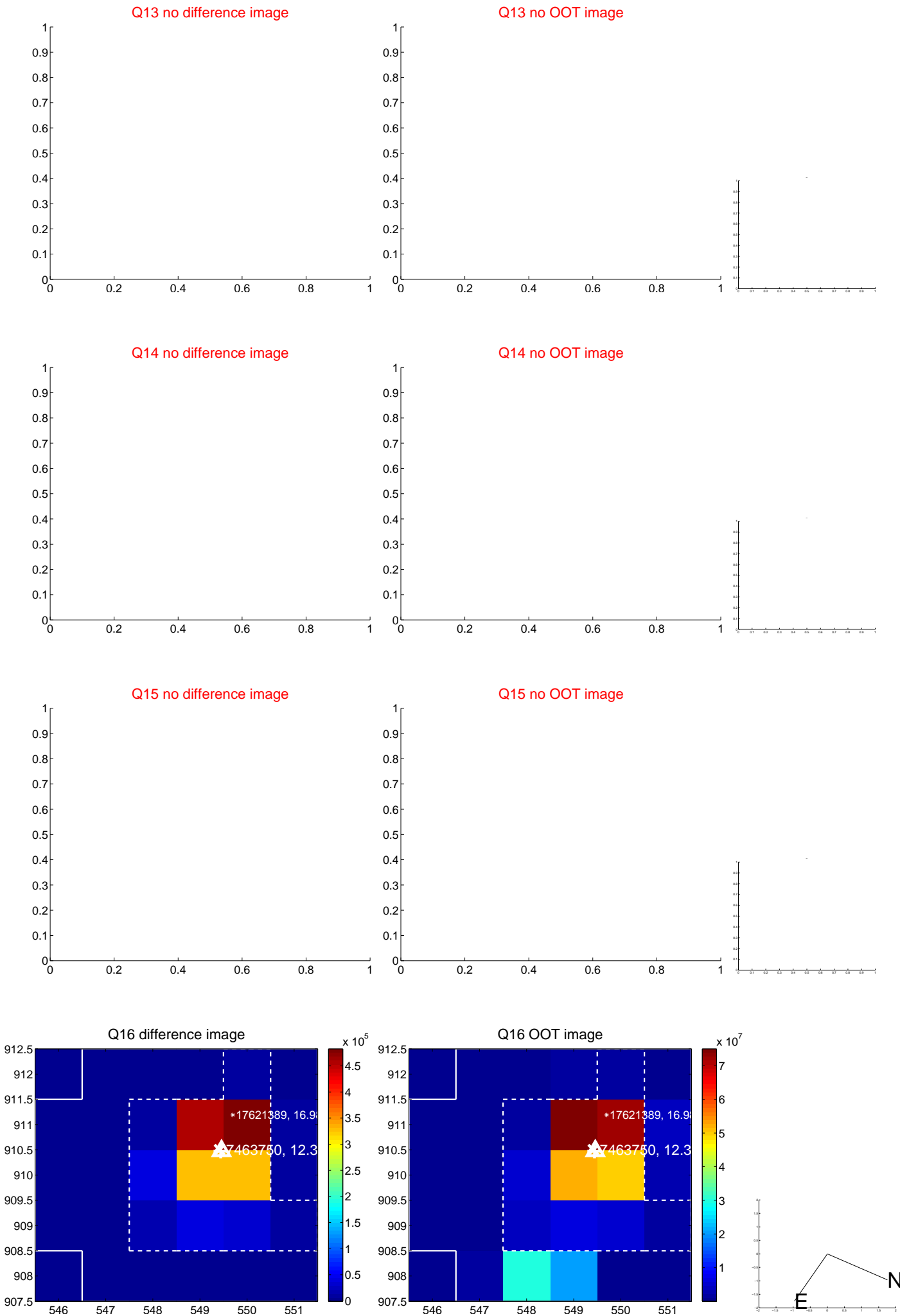
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



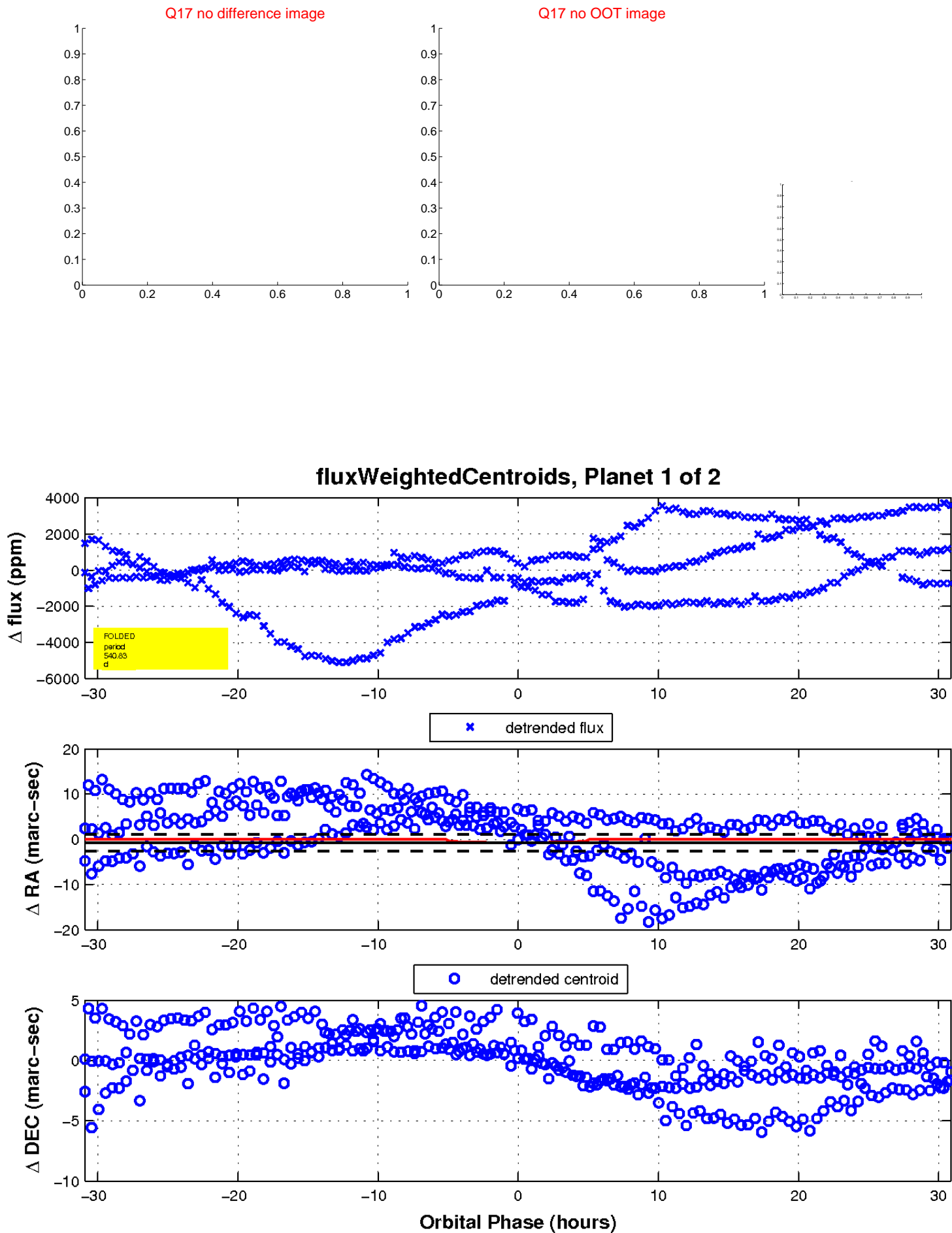
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

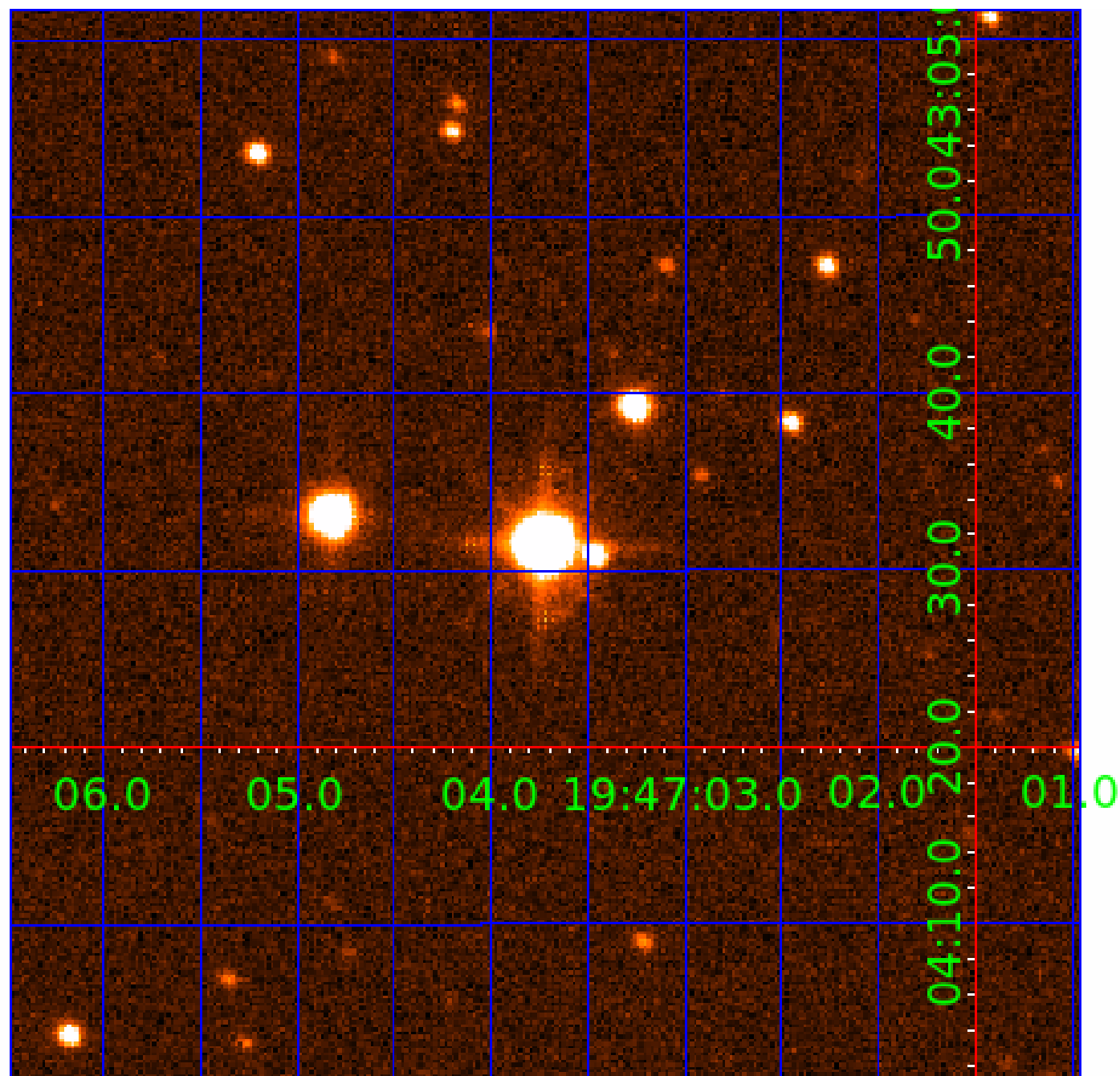


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007463750

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})
007463750-01	OBS	No	540.830961	453.921122	474.0	10.360	13.2	3.5	2.16	5453	4.74	2.03
007463750-02	OBS	No	694.824260	142.305198	592.9	4.558	11.2	6.6	2.16	5453	5.54	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007463750-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007463750-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

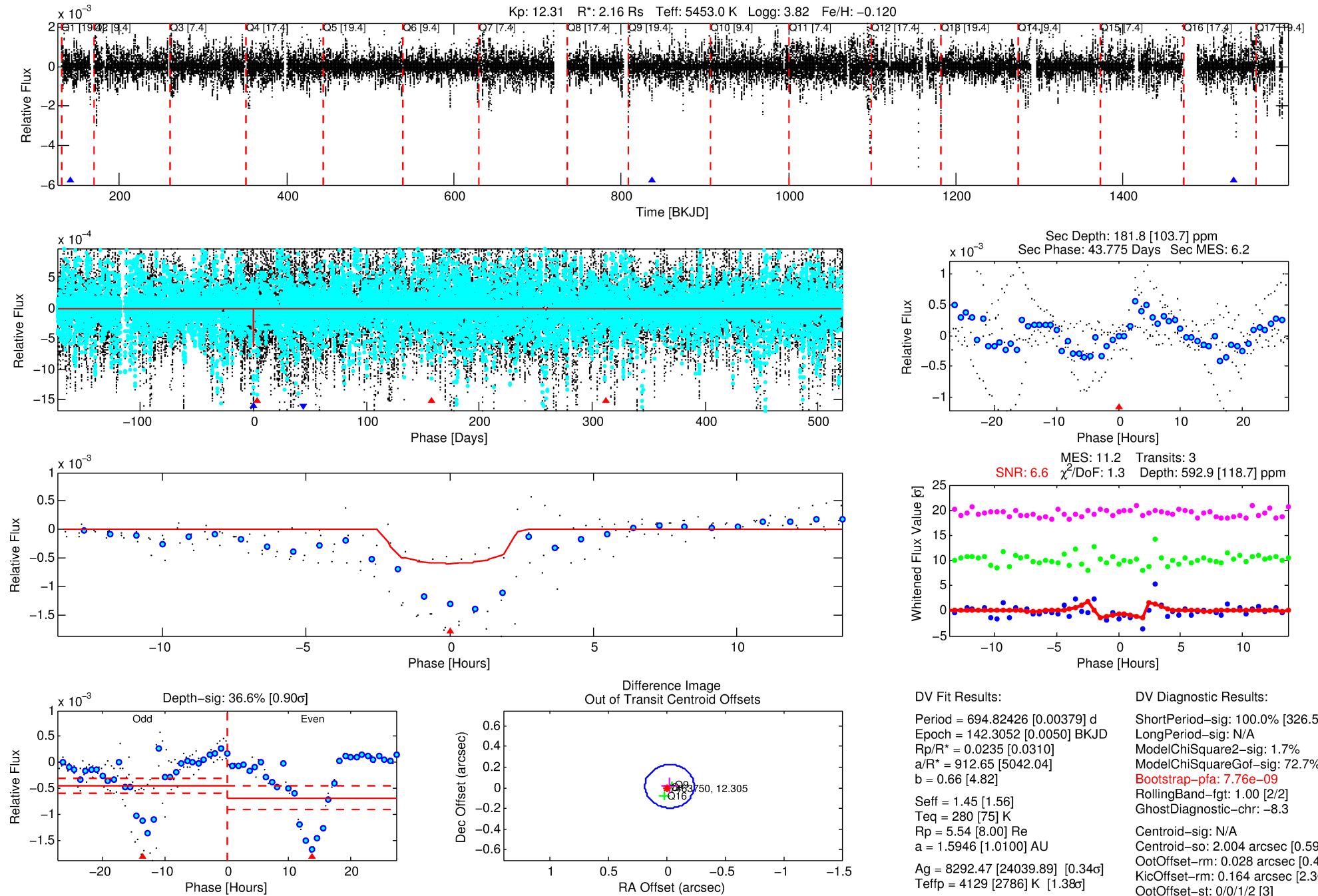
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007463750-02

No Significant Match Found

DV One-Page Summary

KIC: 7463750 Candidate: 2 of 2 Period: 694.824 d



DV Fit Results:

Period = 694.82426 [0.00379] d
Epoch = 142.3052 [0.0050] BKJD
Rp/R* = 0.0235 [0.0310]
a/R* = 912.65 [5042.04]
b = 0.66 [4.82]
Seff = 1.45 [1.56]
Teq = 280 [75] K
Rp = 5.54 [8.00] Re
a = 1.5946 [1.0100] AU
Ag = 8292.47 [24039.89] [0.34 σ]
Teffp = 4129 [2786] K [1.38 σ]

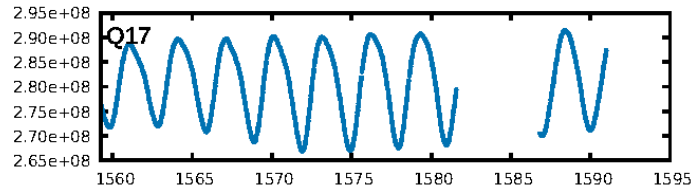
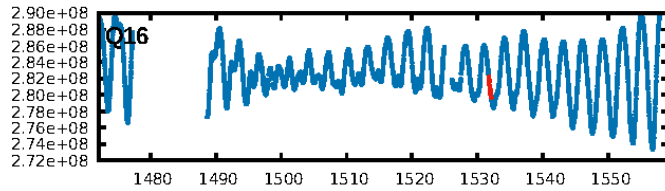
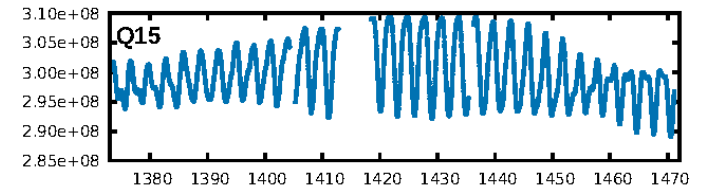
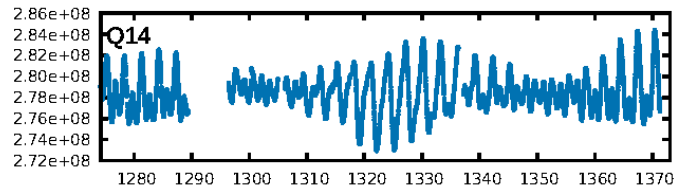
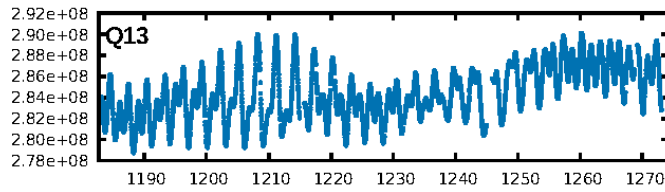
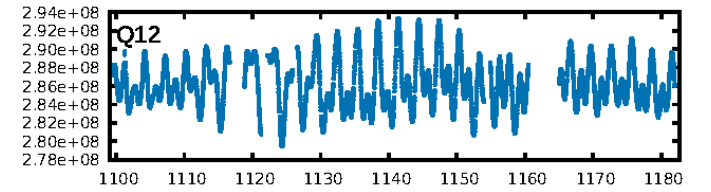
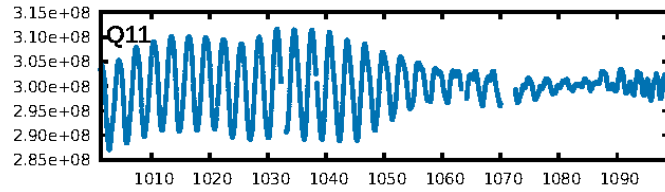
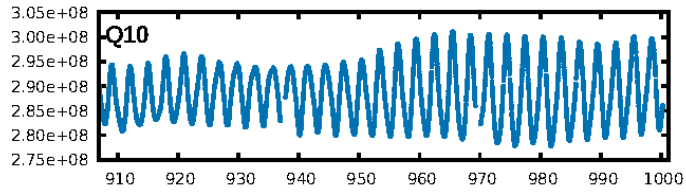
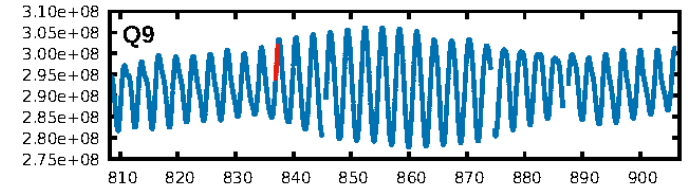
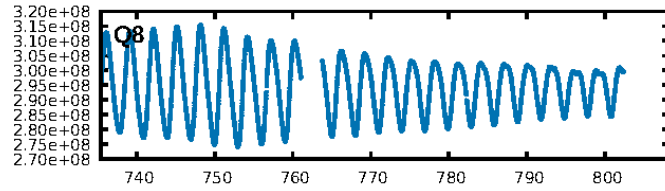
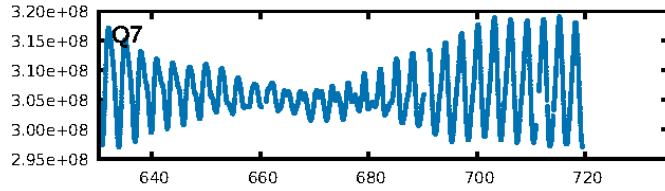
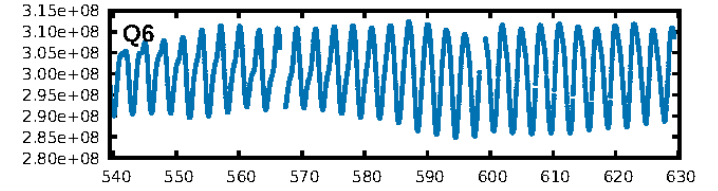
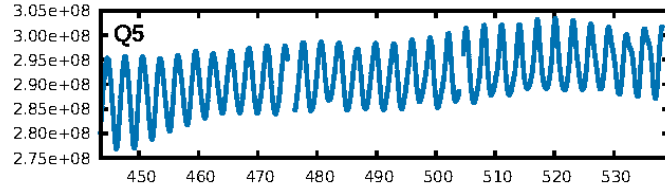
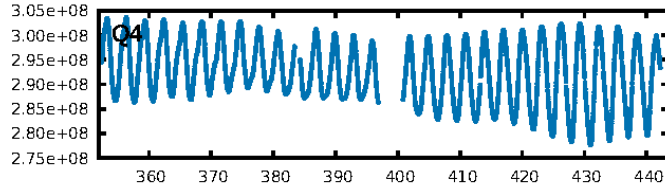
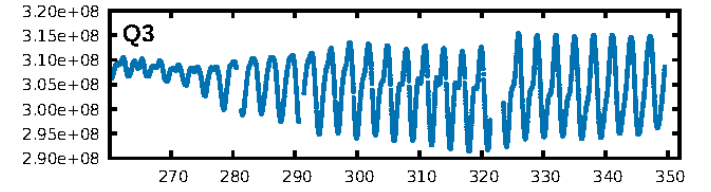
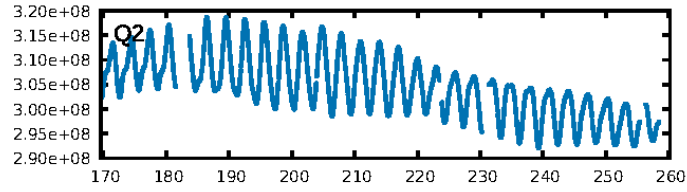
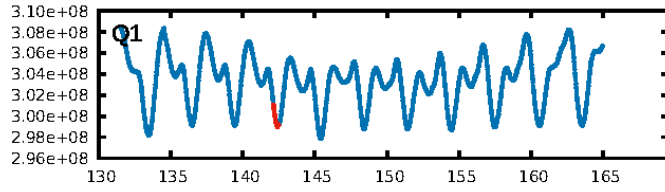
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [326.53 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 72.7%
Bootstrap-pfa: 7.76e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -8.3
Centroid-sig: N/A
Centroid-so: 2.004 arcsec [0.59 σ]
OotOffset-rm: 0.028 arcsec [0.40 σ]
KicOffset-rm: 0.164 arcsec [2.30 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

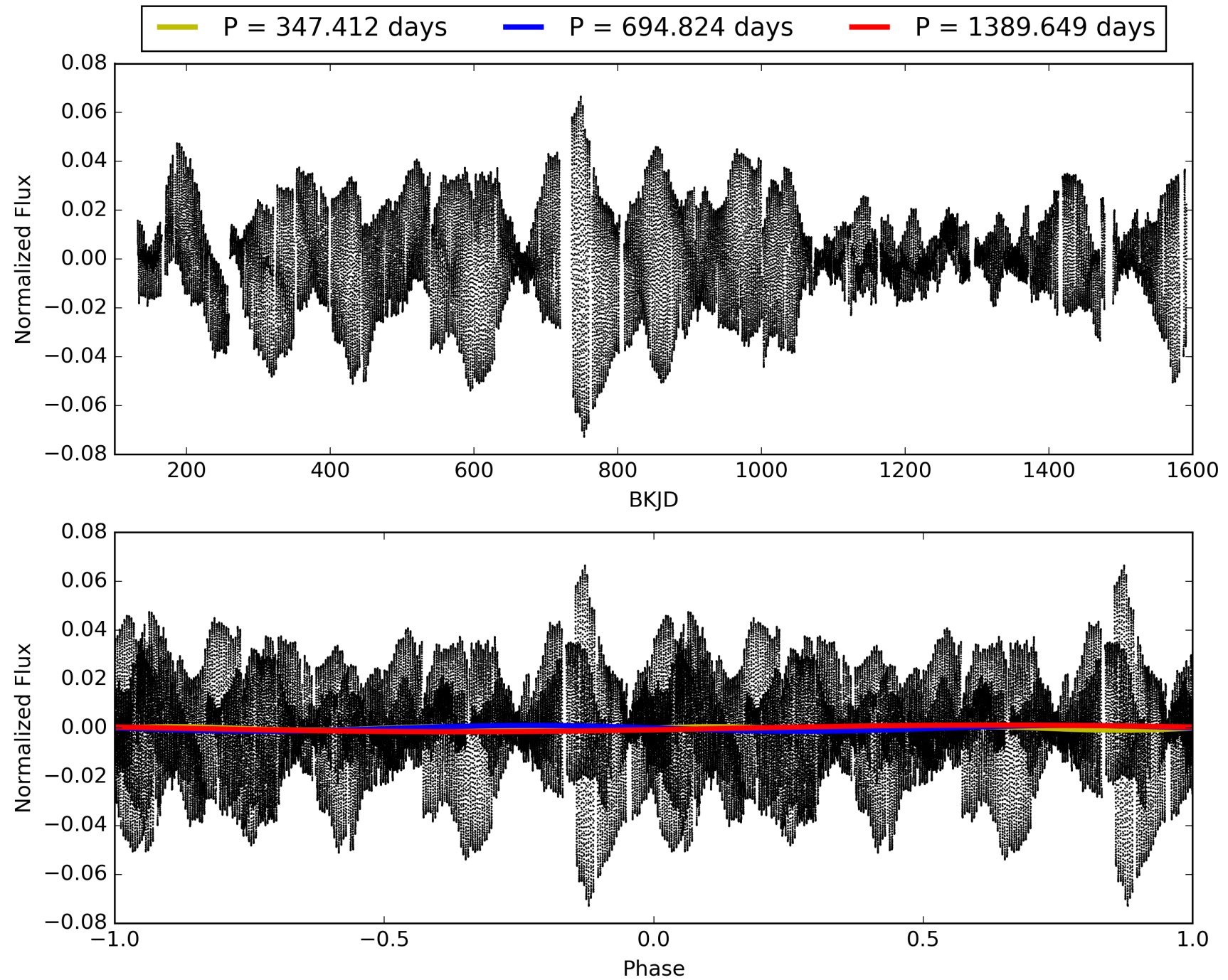
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:12:44 Z

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

TCE 007463750-02, PDC Light Curves

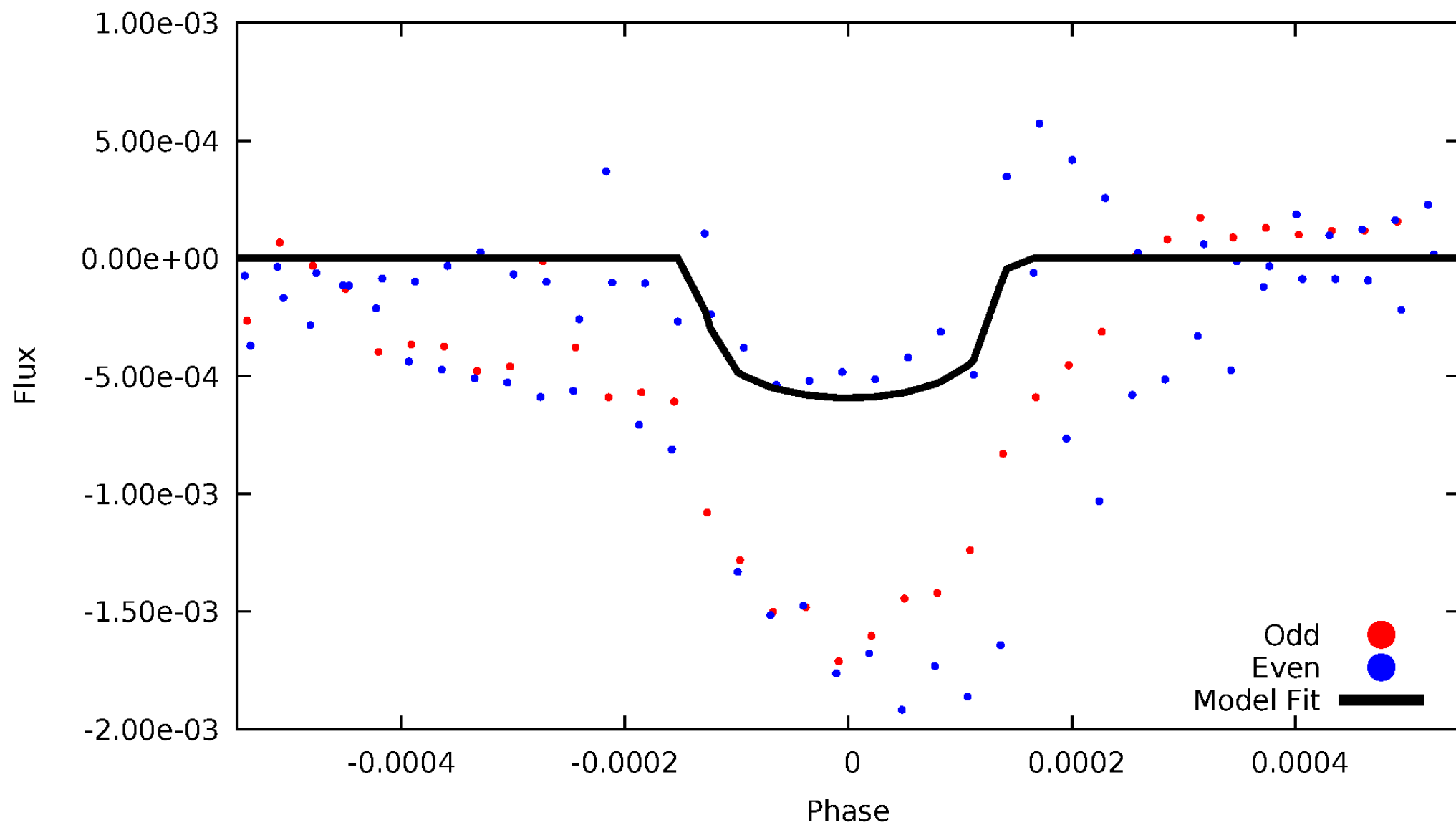


TCE 007463750-02



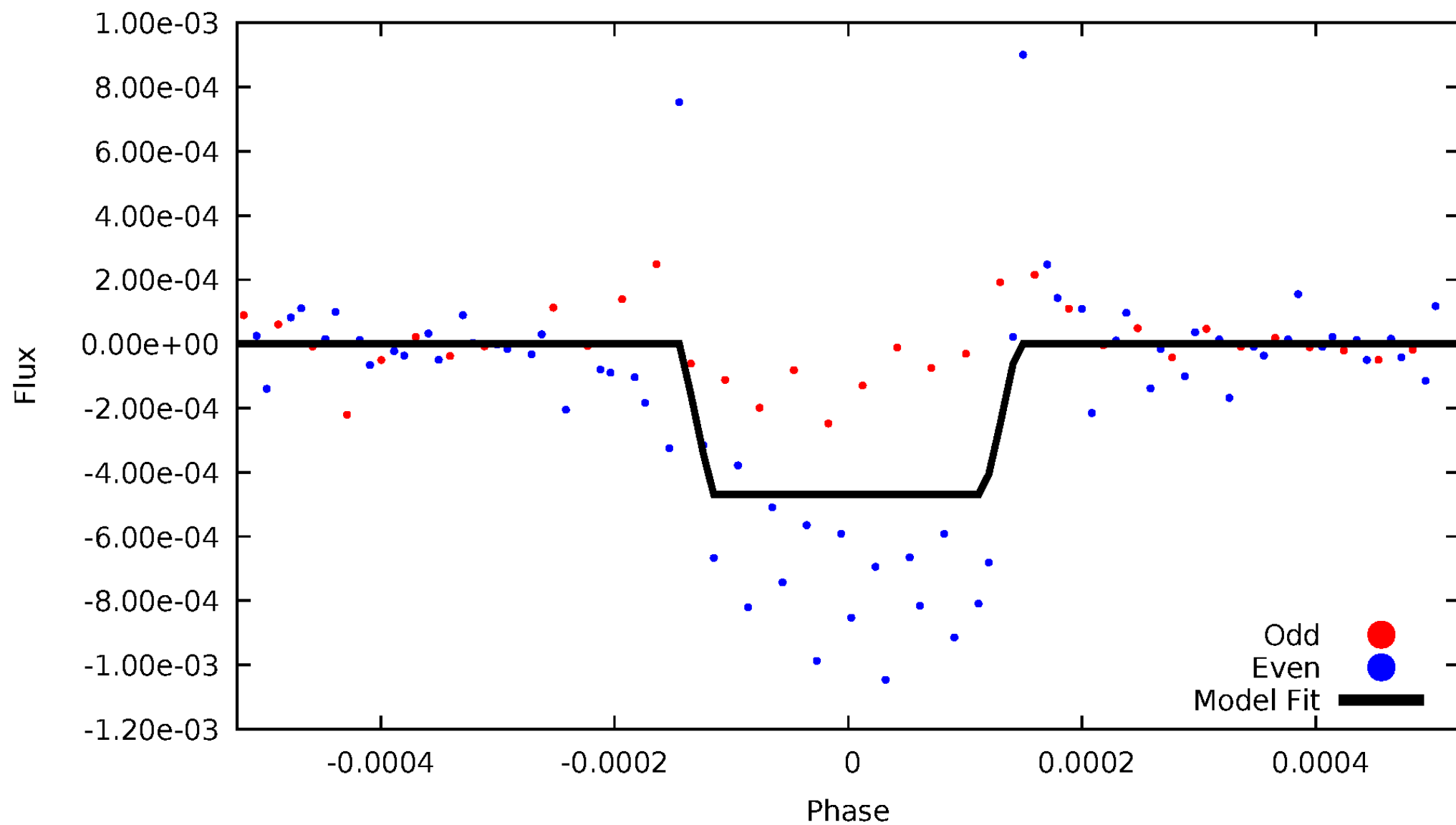
DV Odd/Even

TCE 007463750-02



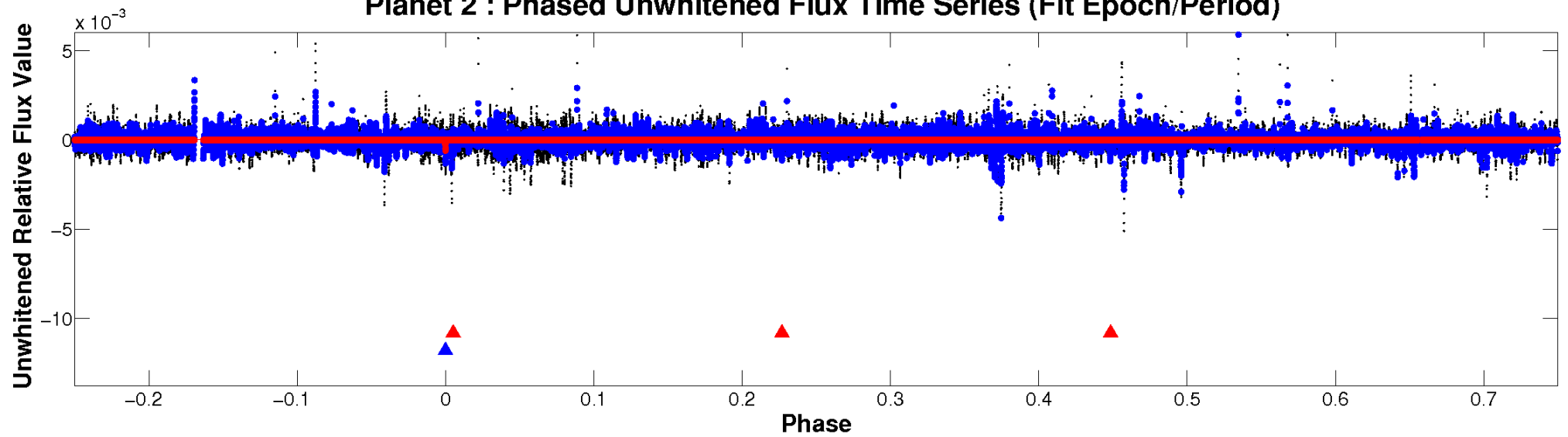
ALT Odd/Even

TCE 007463750-02

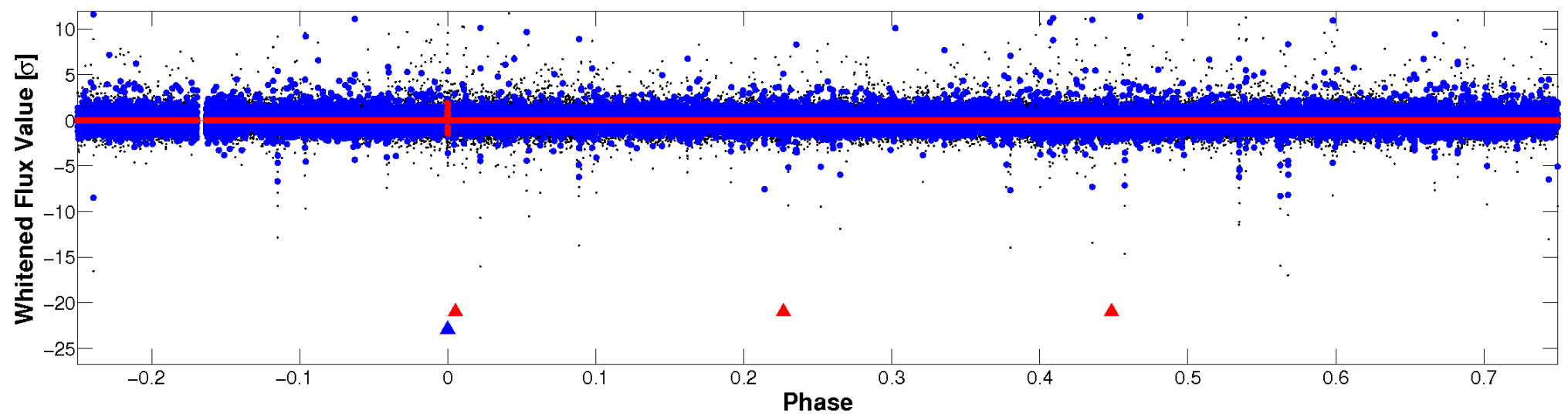


Non-Whitened Vs. Whitened Light Curve

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

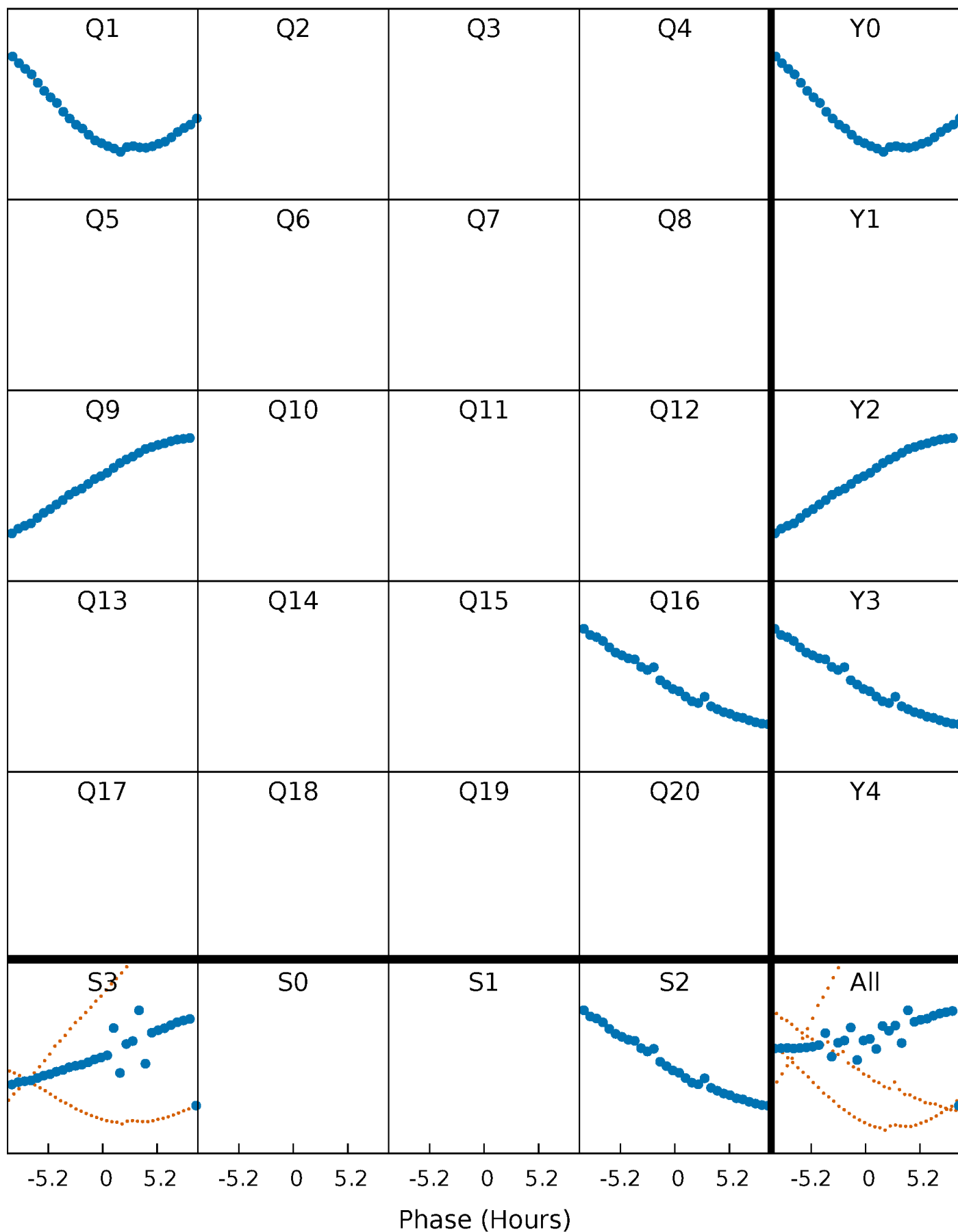


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



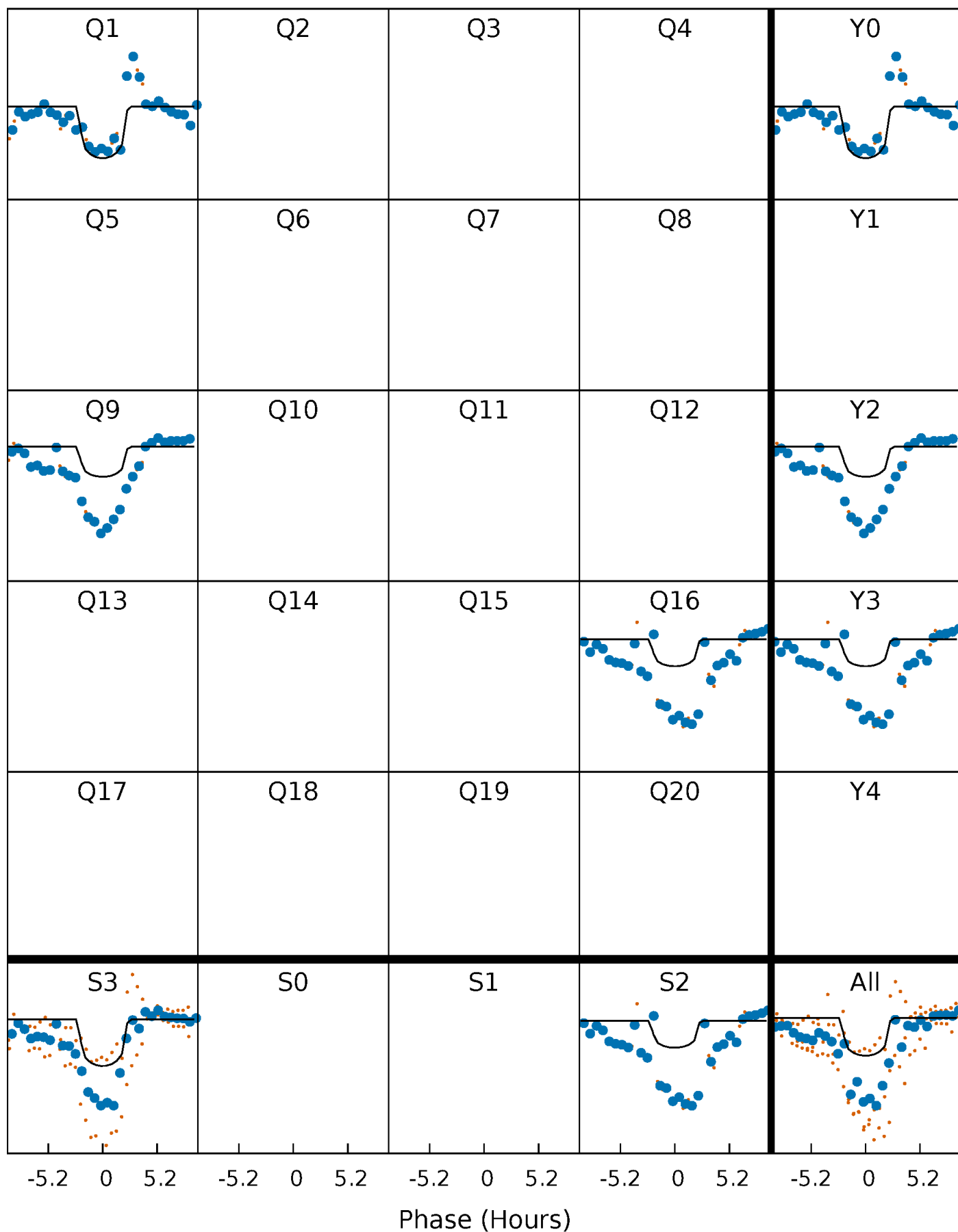
PDC Quarter-Phased Transit Curves

TCE 007463750-02 P=694.824260 Days $T_0=142.305198$ (BKJD)



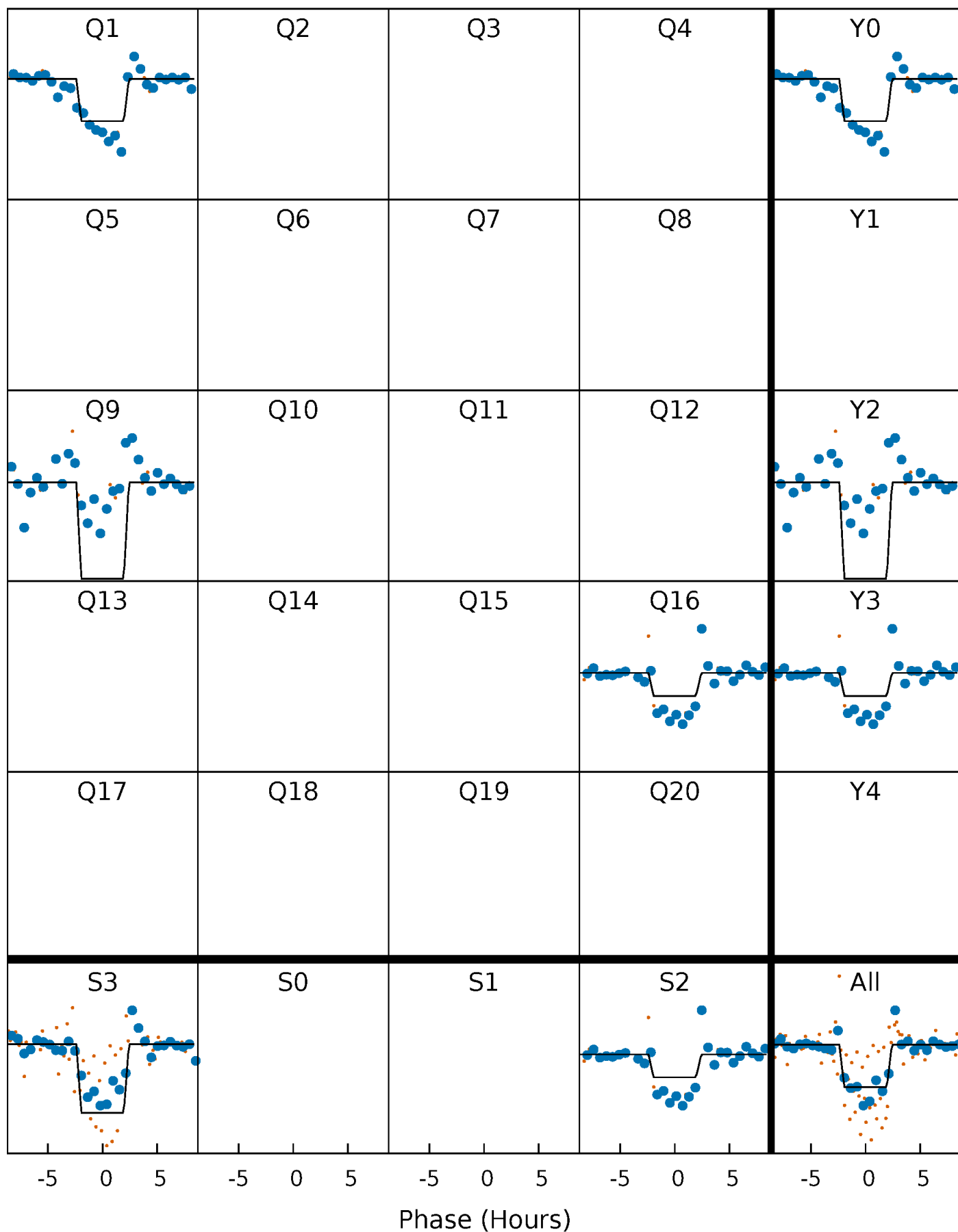
DV Quarter-Phased Transit Curves

TCE 007463750-02 $P=694.824260$ Days $T_0=142.305198$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

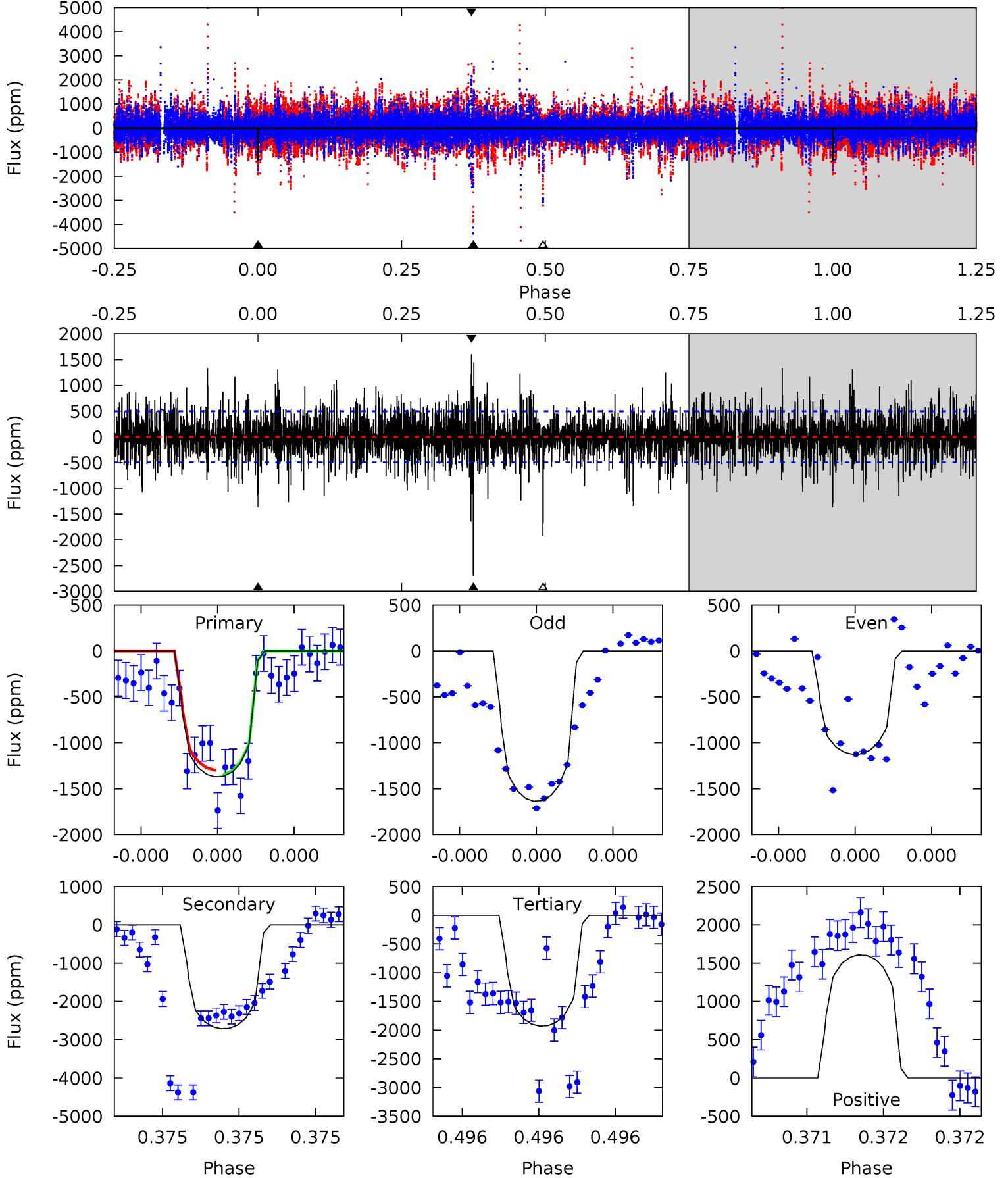
TCE 007463750-02 P=694.829585 Days $T_0=142.305773$ (BKJD)



DV Model-Shift Uniqueness Test

007463750-02, P = 694.824260 Days, E = 142.305198 Days

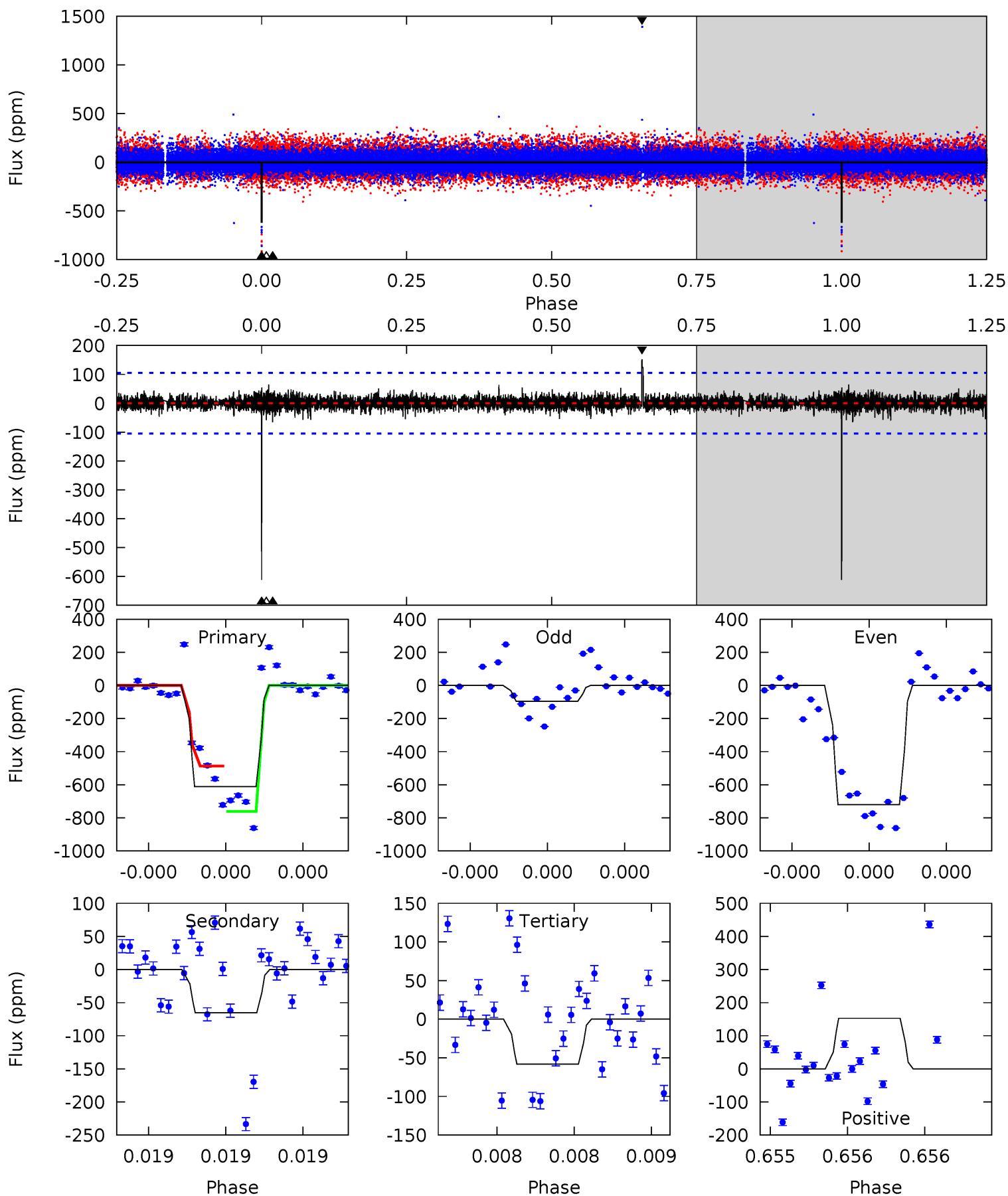
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	30.9	22.0	18.4	5.68	3.64	3.33	-6.39	-2.74	8.93	12.6	2.84	0.80	0.37	0.30



Alt Model-Shift Uniqueness Test

007463750-02, P = 694.829585 Days, E = 142.305773 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	3.53	3.15	8.22	5.67	3.63	0.63	29.8	24.8	0.38	-4.69	19.9	0.87	0.20	6.95



Stellar Parameters For KIC 007463750

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5453^{+180}_{-147}	$3.819^{+0.645}_{-0.172}$	$-0.120^{+0.350}_{-0.250}$	$2.158^{+0.688}_{-1.279}$	$1.120^{+0.168}_{-0.274}$	$0.157^{+1.775}_{-0.084}$
	+3%/-3%	+17%/-5%	+292%/-208%	+32%/-59%	+15%/-24%	+1131%/-54%
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 007463750-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2701 ± 87	$6.83^{+6.78}_{-4.34}$	382^{+38}_{-62}	6787^{+6112}_{-1684}	$78688^{+495355}_{-57912}$
Alt.	-65 ± 19	$6.54^{+6.06}_{-4.32}$	384^{+37}_{-60}	3314^{+1548}_{-531}	2088^{+18151}_{-1558}

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 $A_{obs} \gg 1.0$

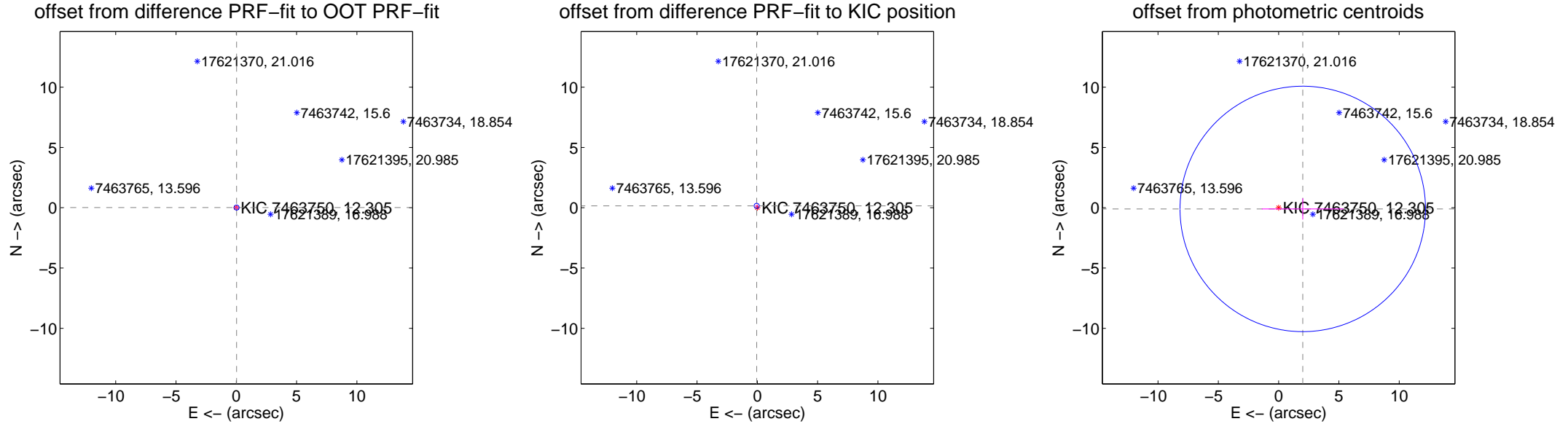
DV Centroid Data

Supplemental centroid analysis for 007463750-02. Kepler magnitude: 12.30. Transit SNR 6.60

There are 2 quarters with good PRF difference image offsets

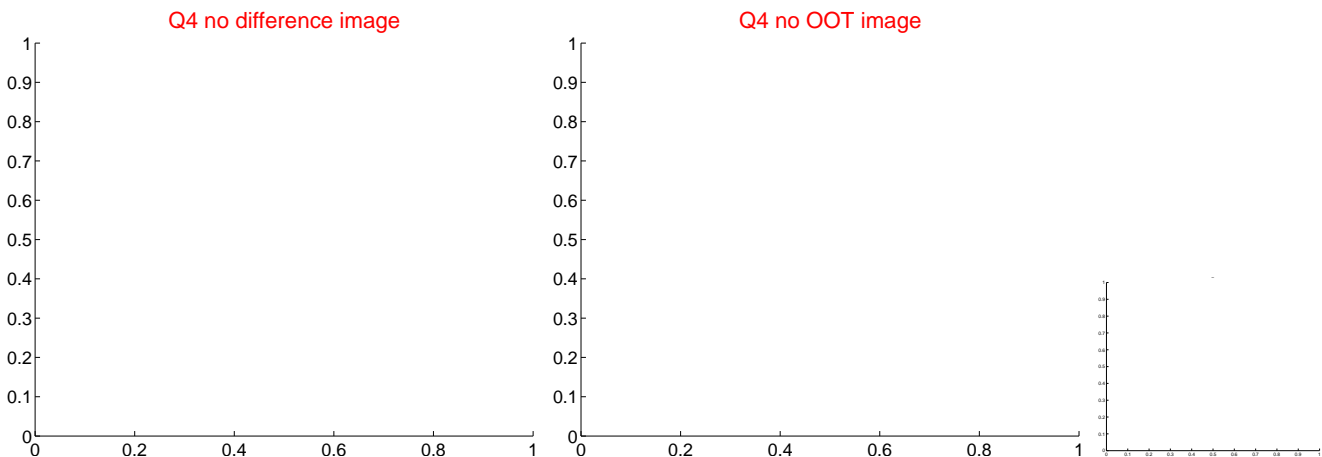
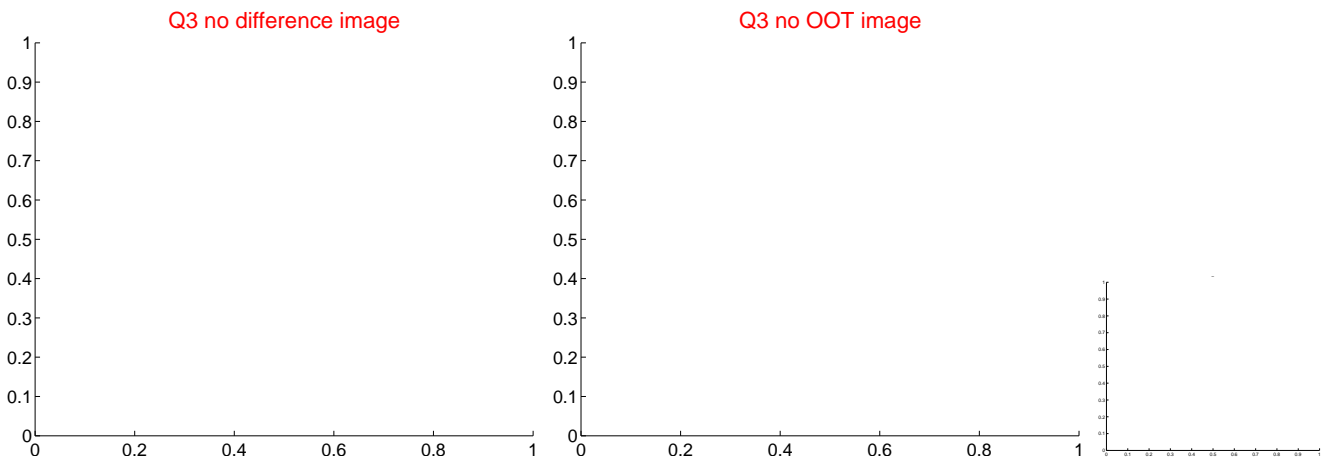
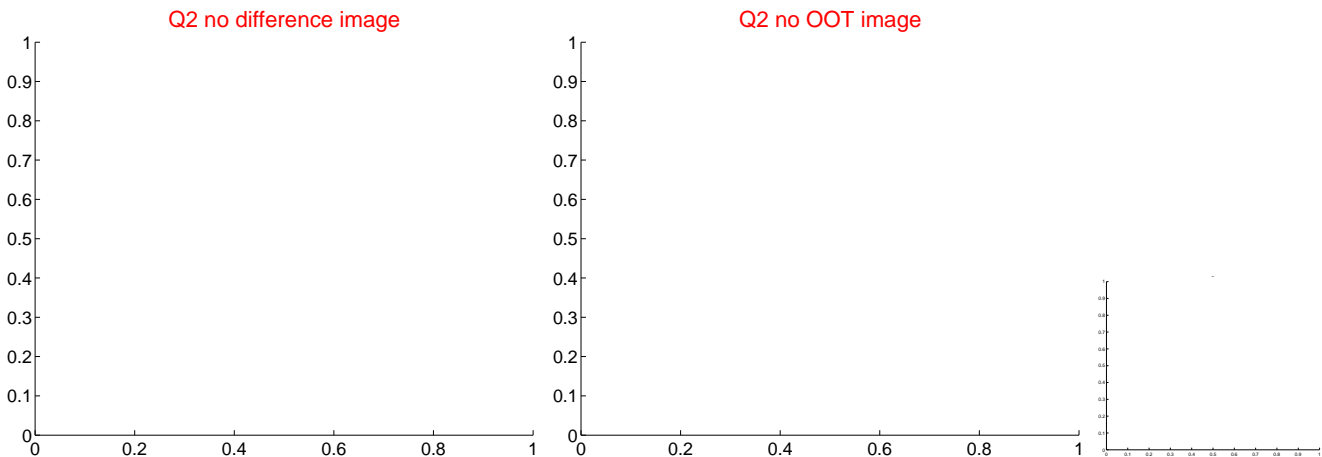
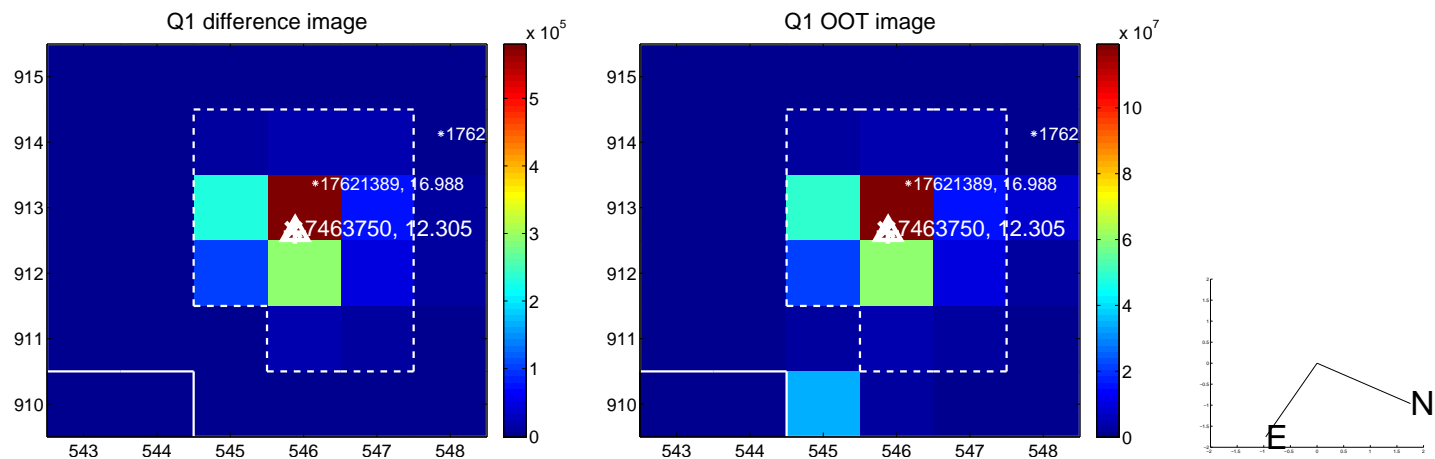
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.070	0.40	-0.023 ± 0.068	0.015 ± 0.070
PRF-fit source offset from KIC position	0.164 ± 0.071	2.30	0.054 ± 0.068	0.154 ± 0.073
photometric centroid source offset	2.00 ± 3.39	0.59	-2.00 ± 3.40	-0.10 ± 0.88



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.

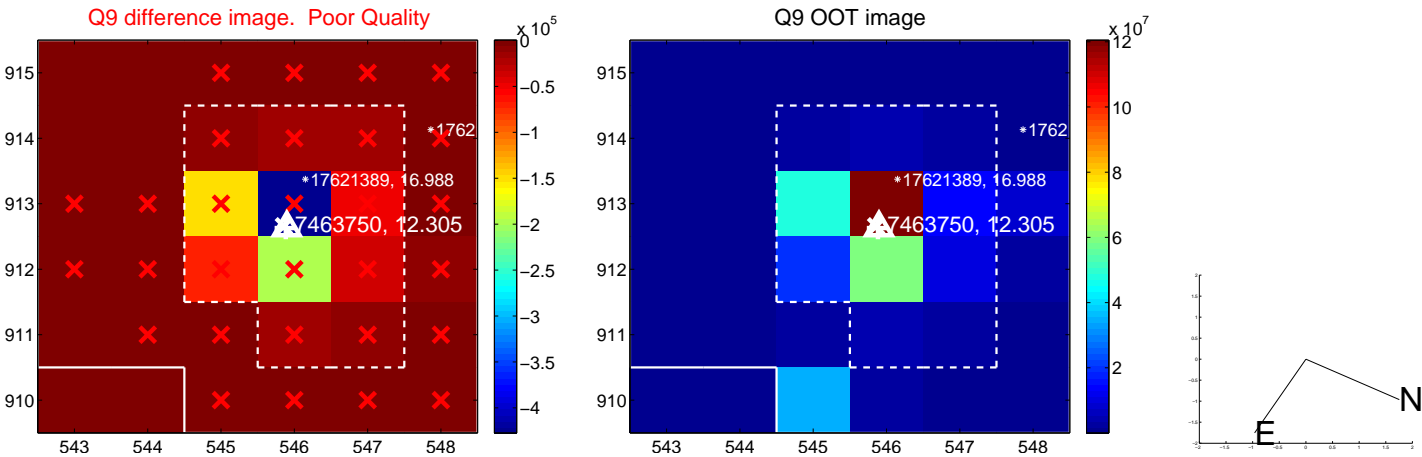
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



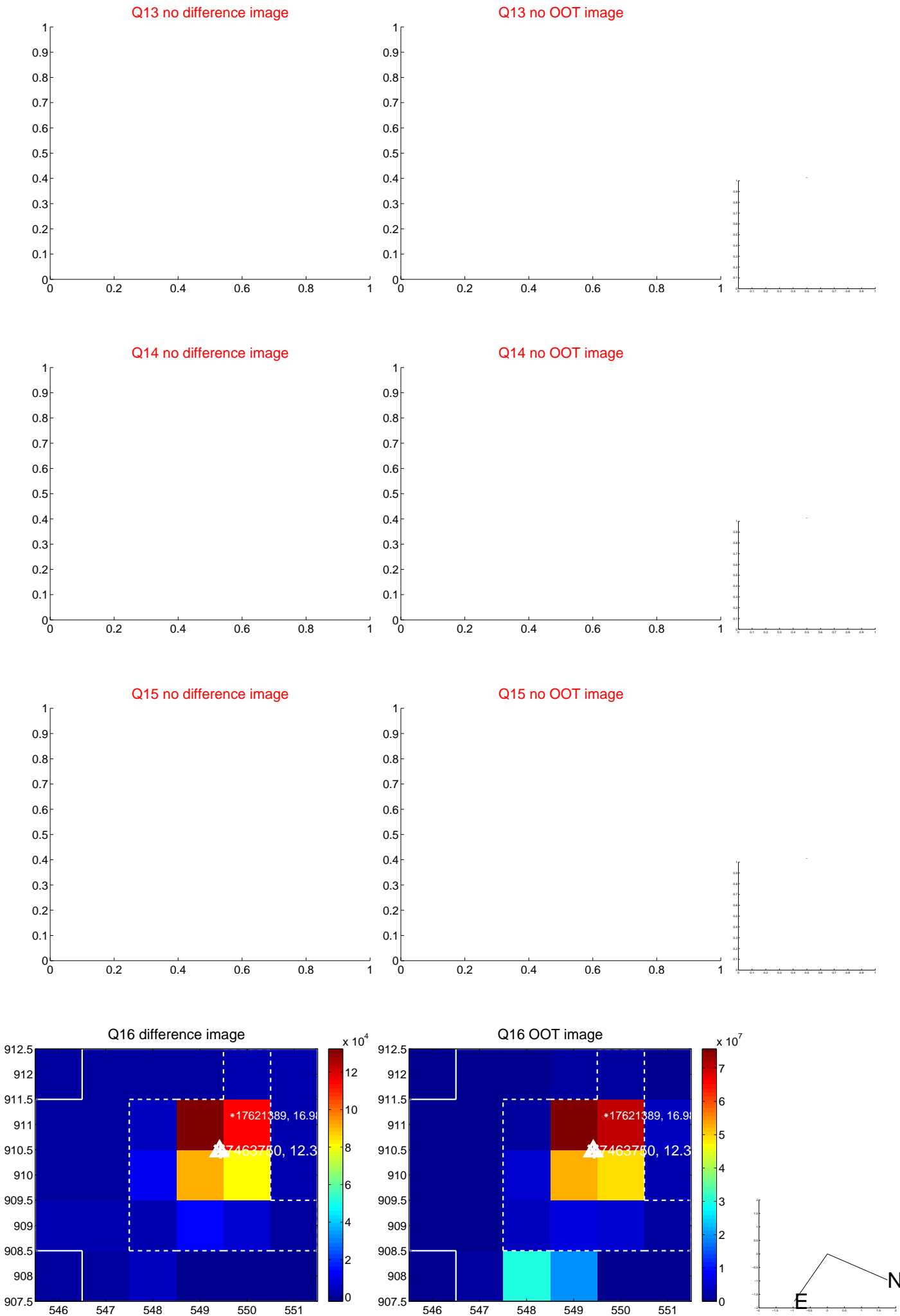
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



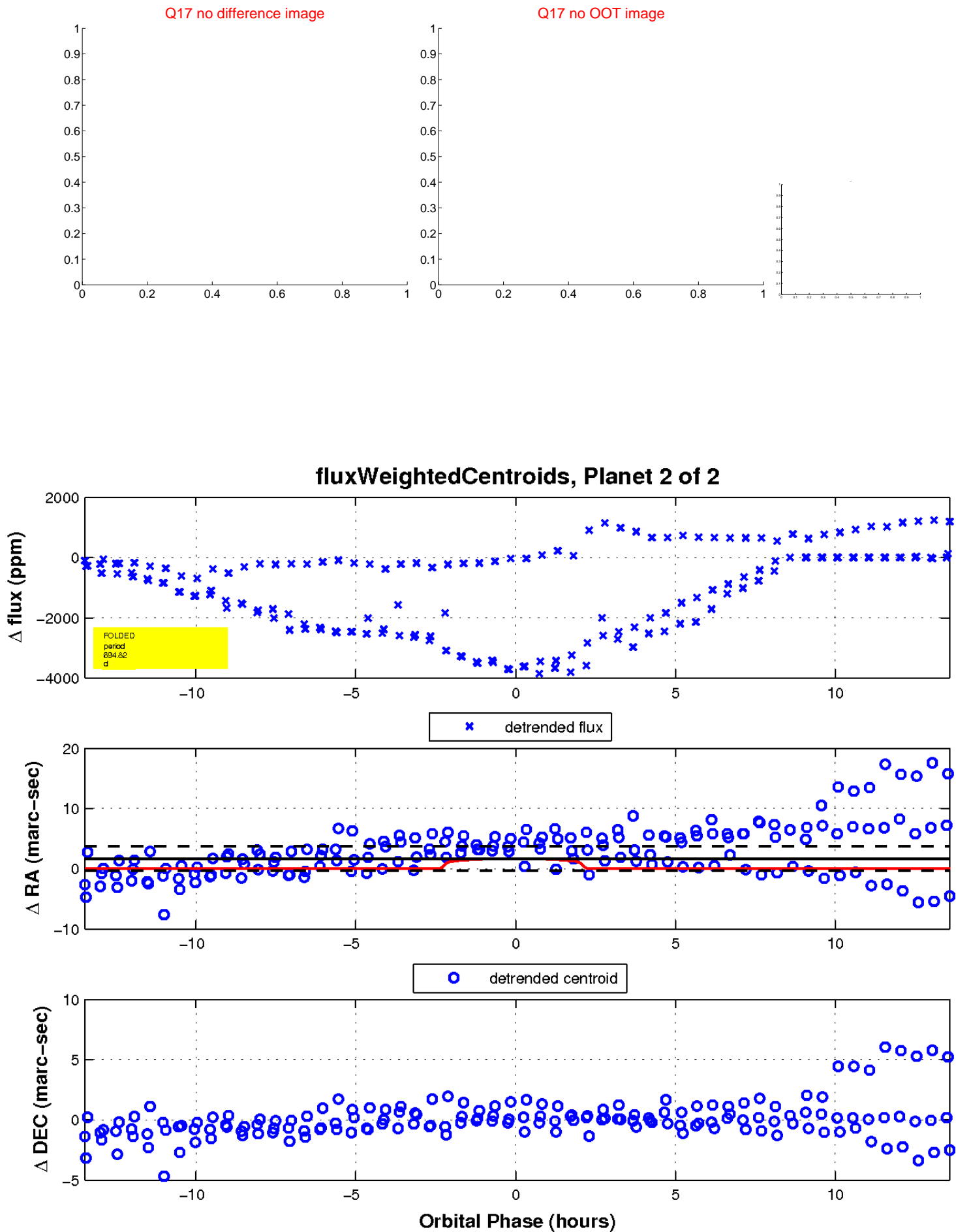
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

