

KIC 011124353

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})
011124353-01	OBS	No	393.780883	158.978007	1138.8	18.900	8.3	8.6	0.85	5743	3.74	0.66
011124353-02	OBS	8220.01	423.703711	548.936011	732.9	20.102	7.6	7.4	0.85	5743	2.37	0.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011124353-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
011124353-02	OBS	FP	0.16	1	0	0	0	ALL_TRANS_CHASES—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.

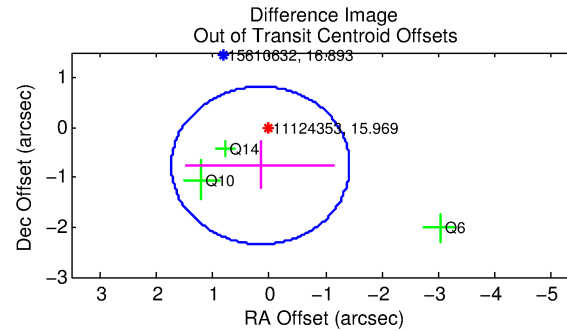
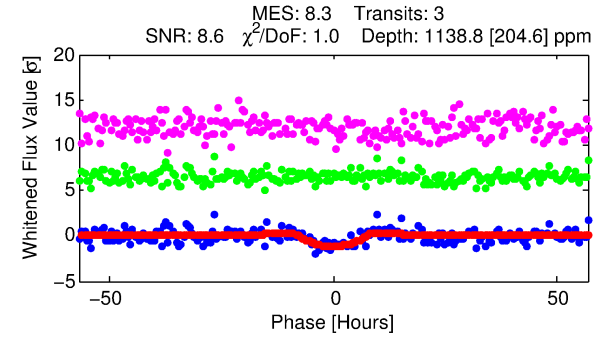
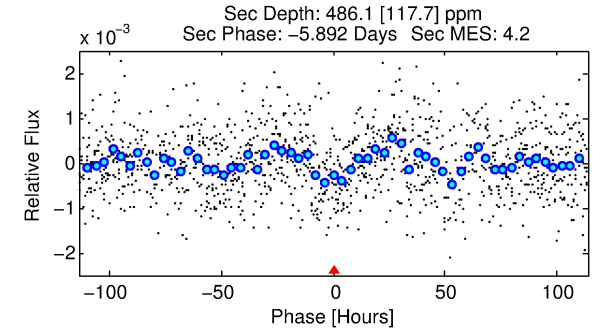
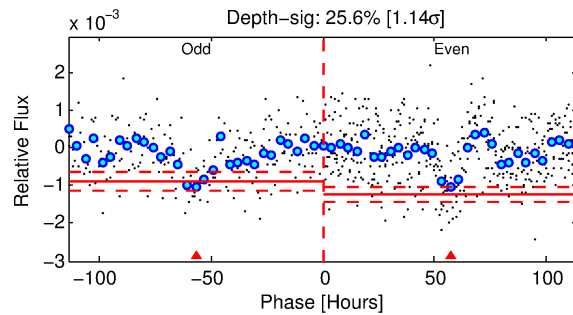
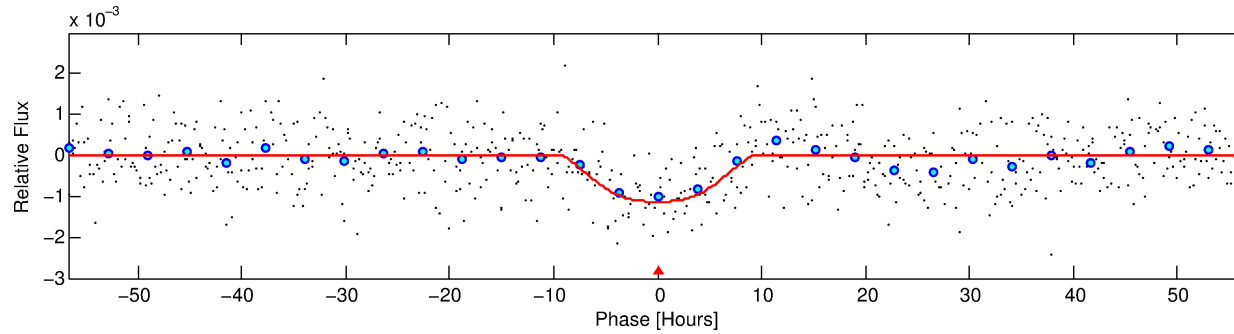
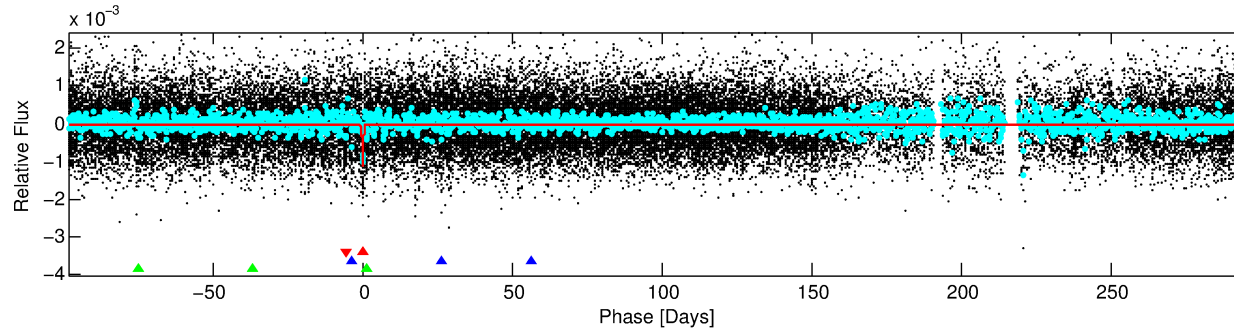
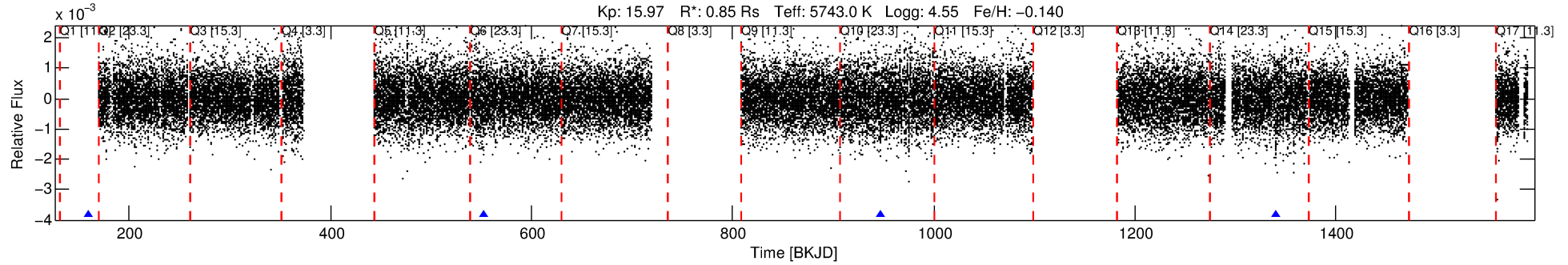
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011124353-01

No Significant Match Found

DV One-Page Summary

KIC: 11124353 Candidate: 1 of 3 Period: 393.781 d



DV Fit Results:

Period = 393.78088 [0.02685] d
Epoch = 158.9780 [0.0598] BKJD
Rp/R* = 0.0402 [0.0054]
a/R* = 64.33 [12.13]
b = 0.96 [0.02]
Seff = 0.66 [0.31]
Teq = 230 [27] K
Rp = 3.74 [1.32] Re
a = 1.0332 [0.2748] AU
Ag = 20386.92 [10623.02] [1.92 σ]
Teffp = 4253 [486] K [8.27 σ]

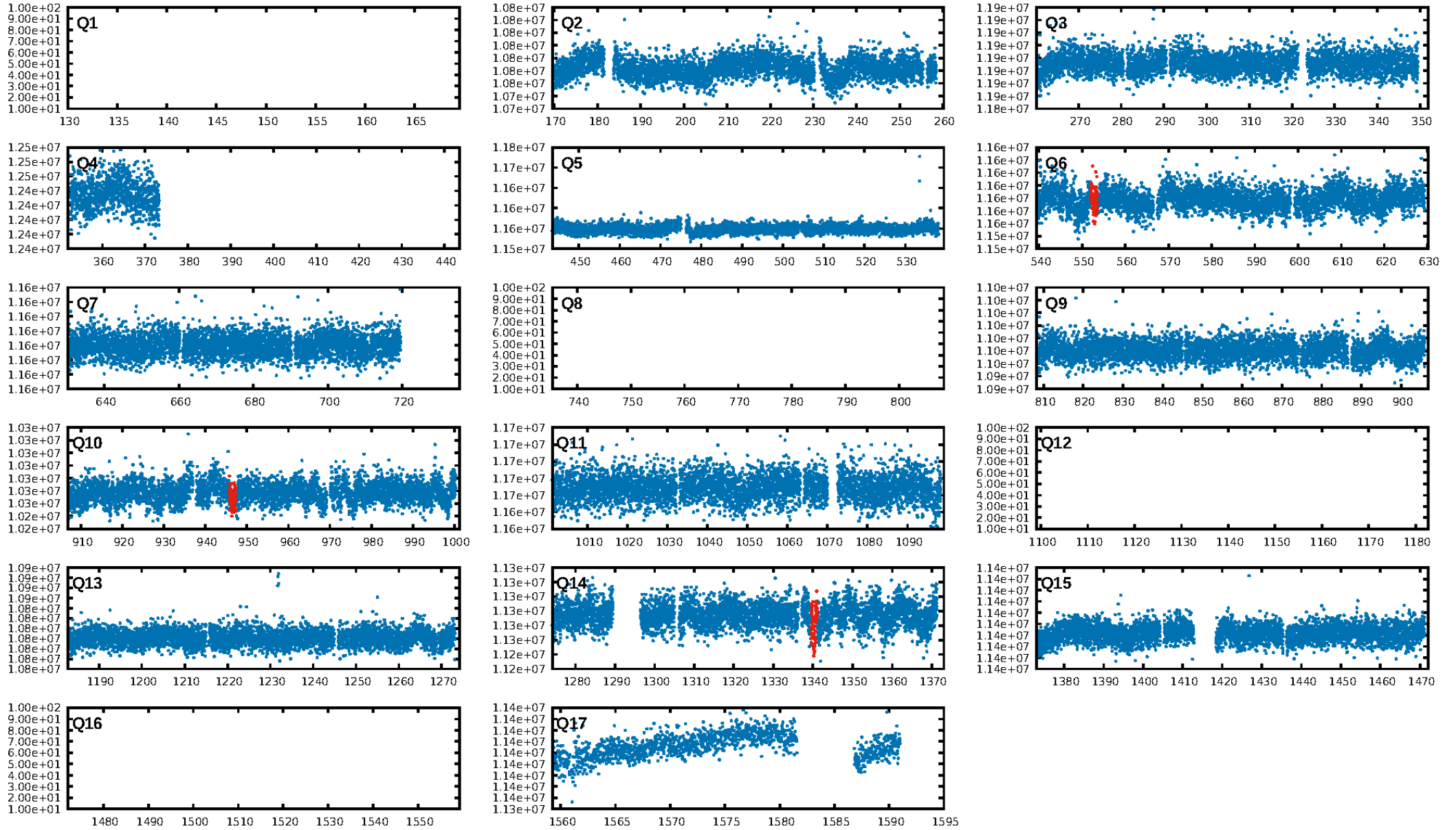
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [26.03 σ]
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.26e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.352
Centroid-sig: 47.3%
Centroid-so: 1.365 arcsec [1.09 σ]
OotOffset-rm: 0.781 arcsec [1.49 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 0.863 arcsec [0.81 σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

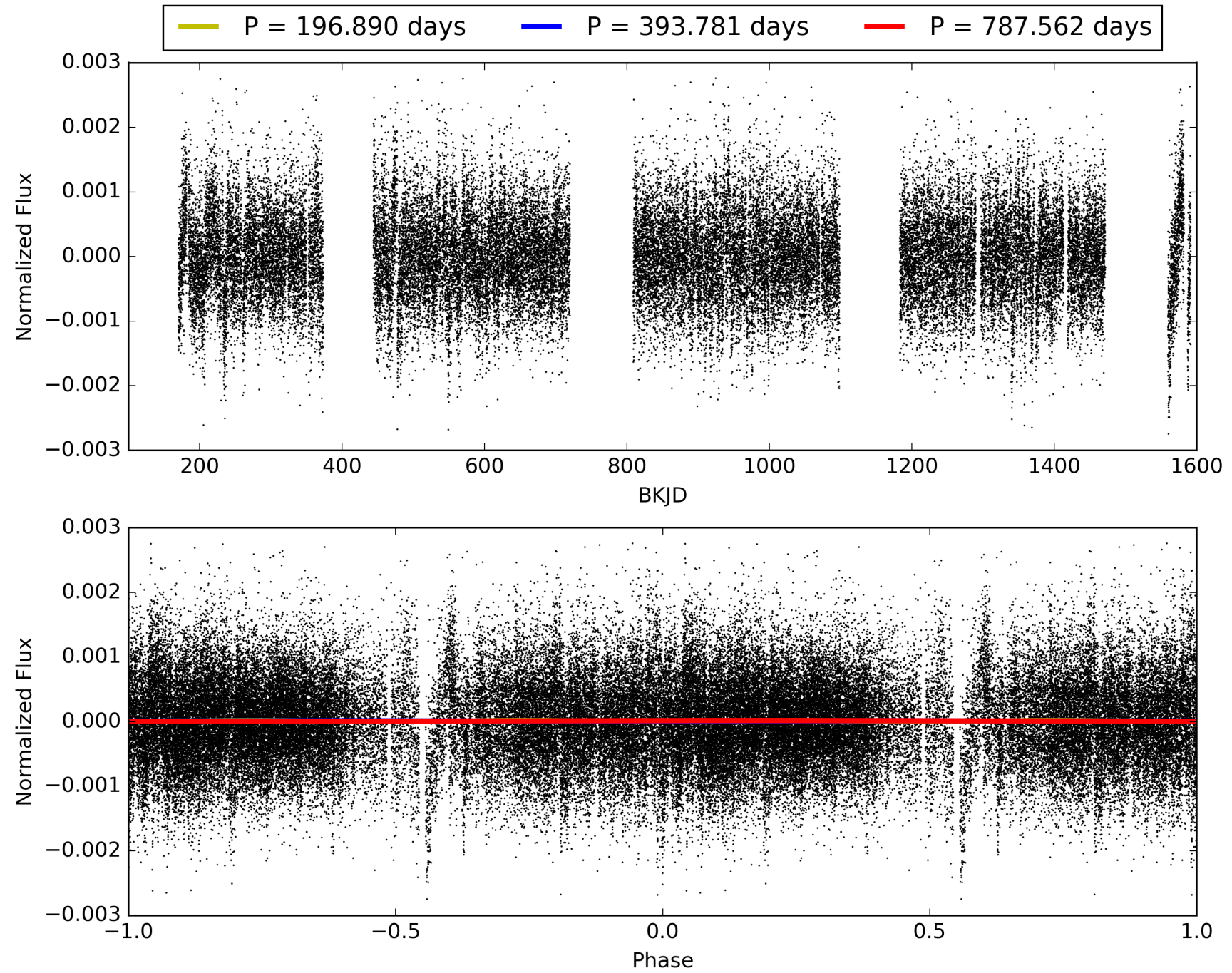
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:35:13 Z

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

TCE 011124353-01, PDC Light Curves

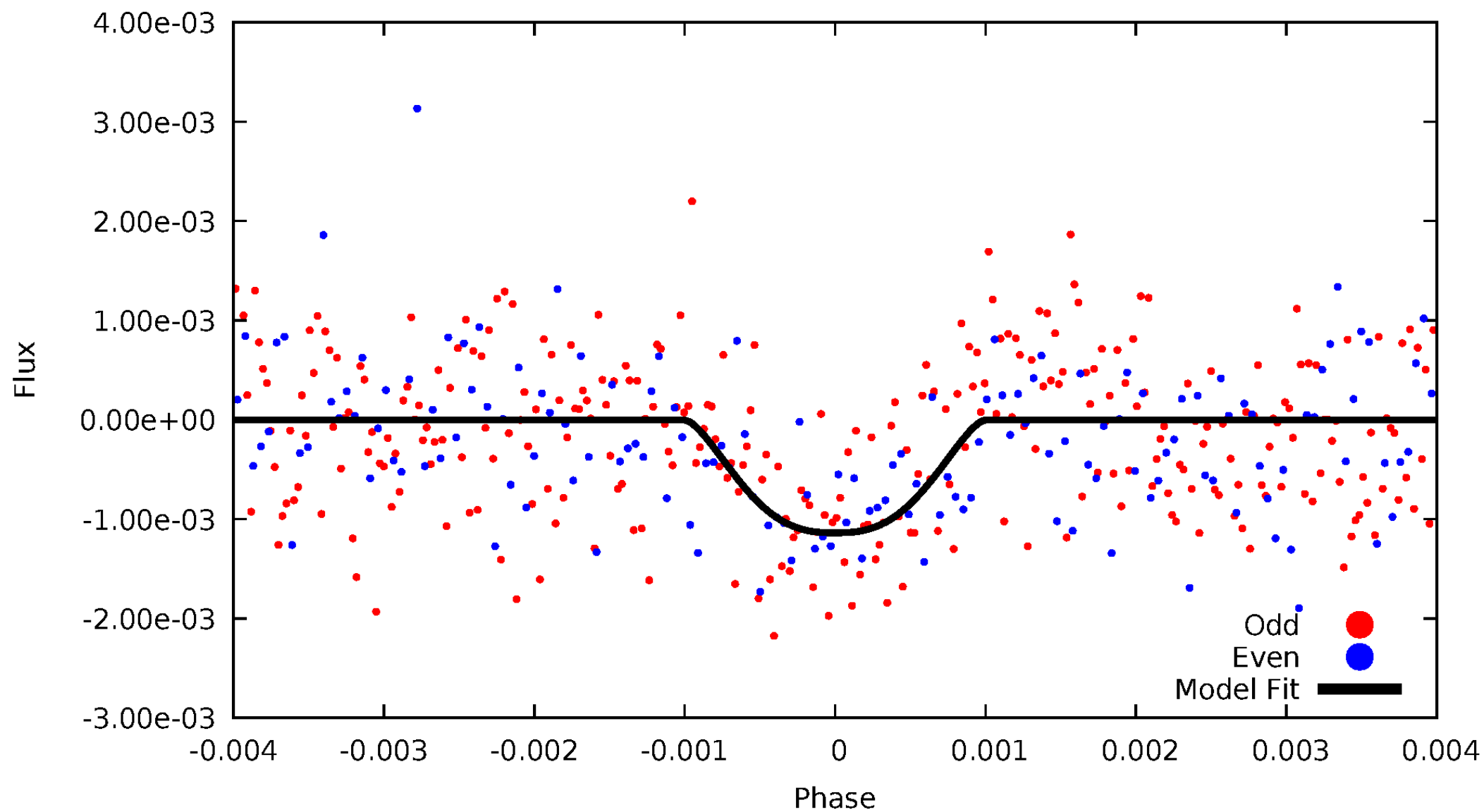


TCE 011124353-01



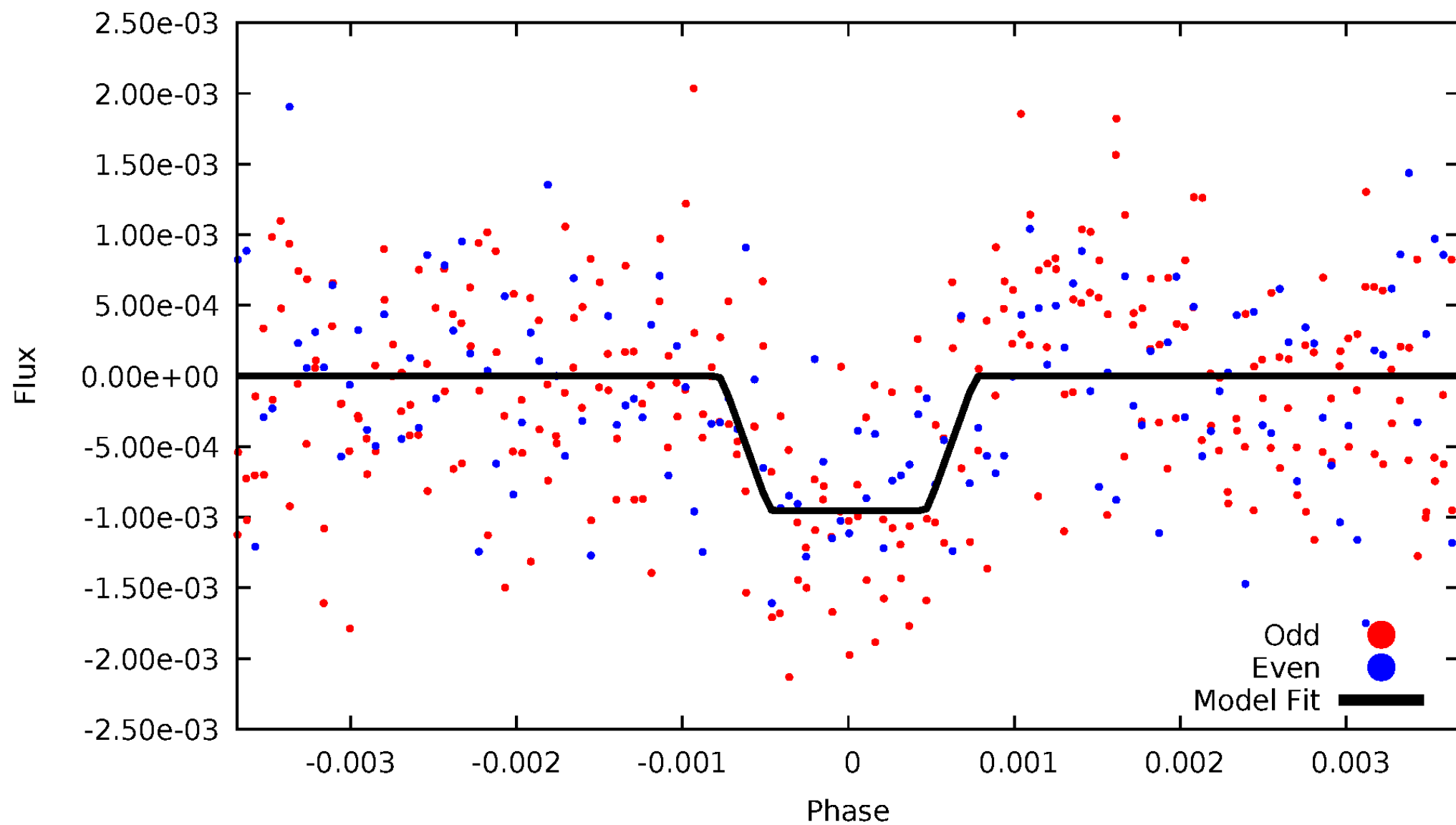
DV Odd/Even

TCE 011124353-01

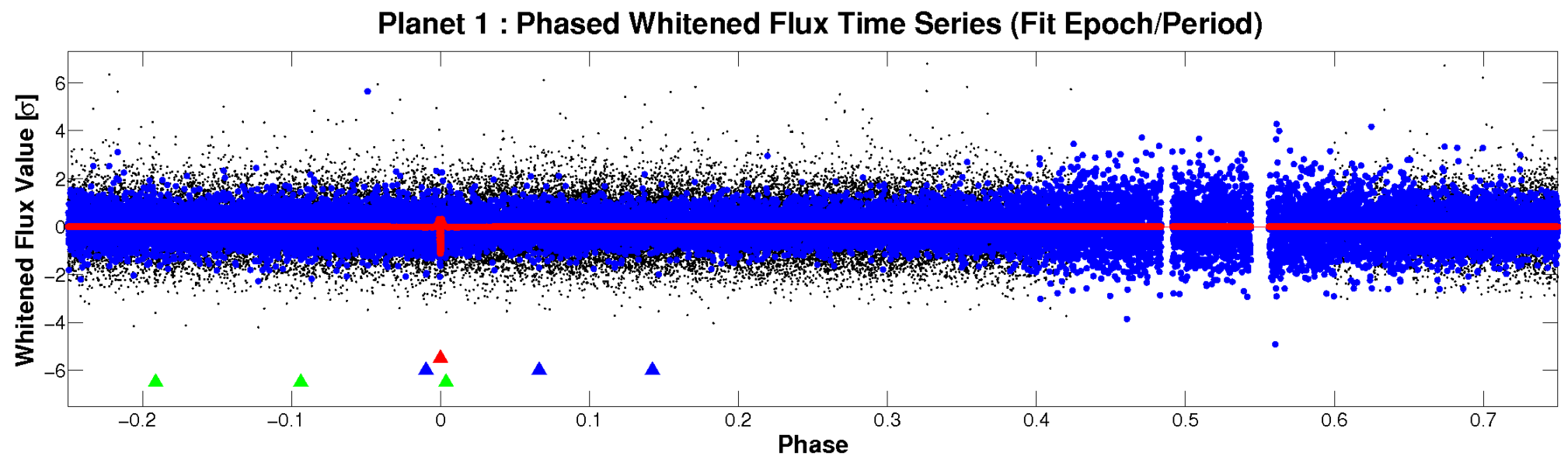
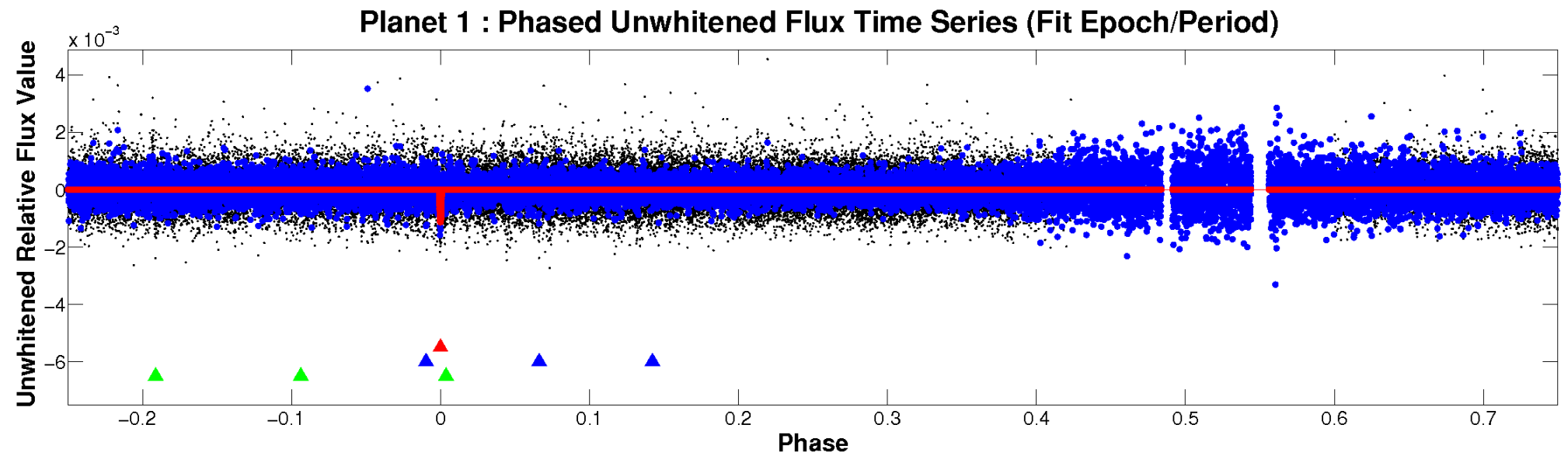


ALT Odd/Even

TCE 011124353-01

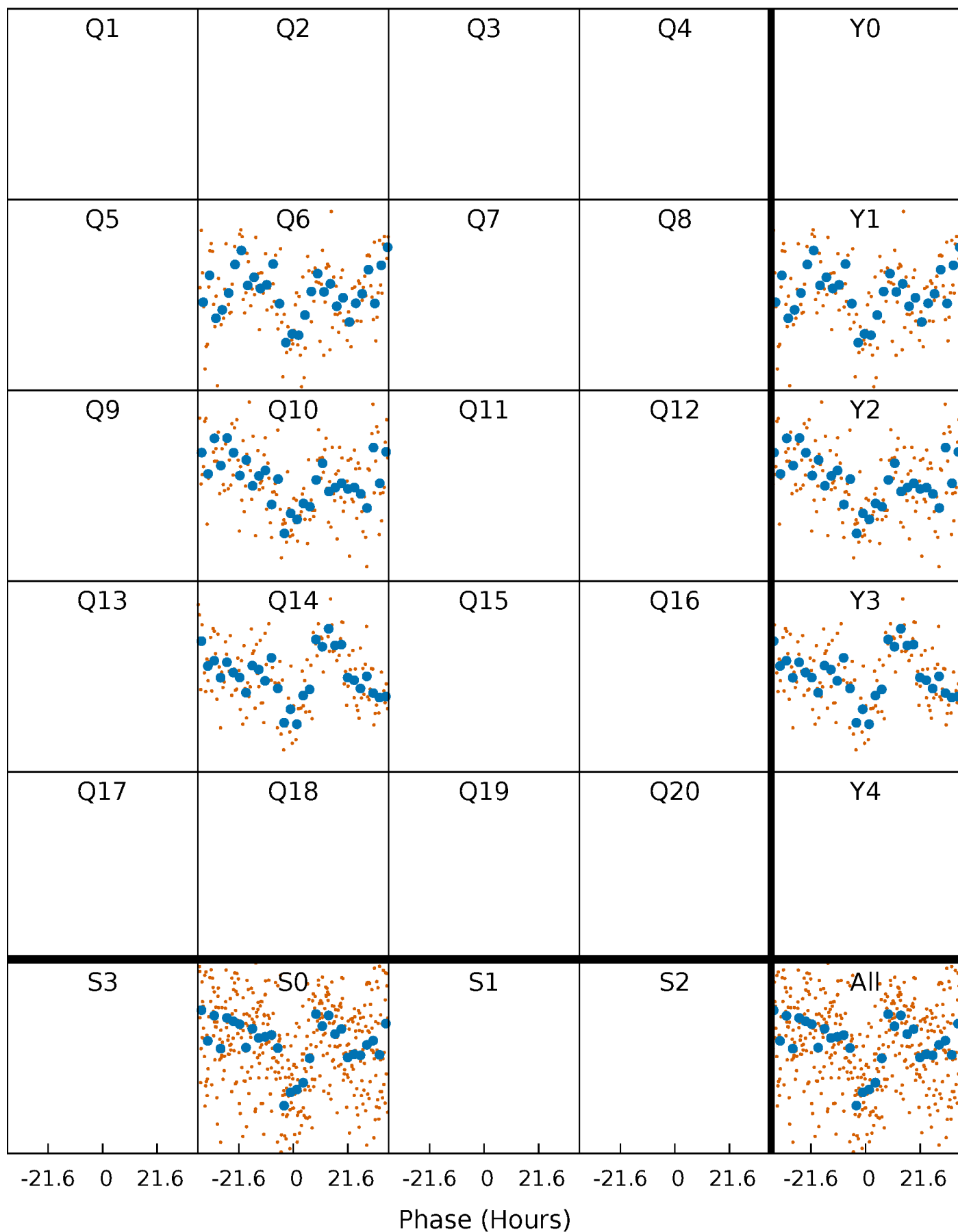


Non-Whitened Vs. Whitened Light Curve



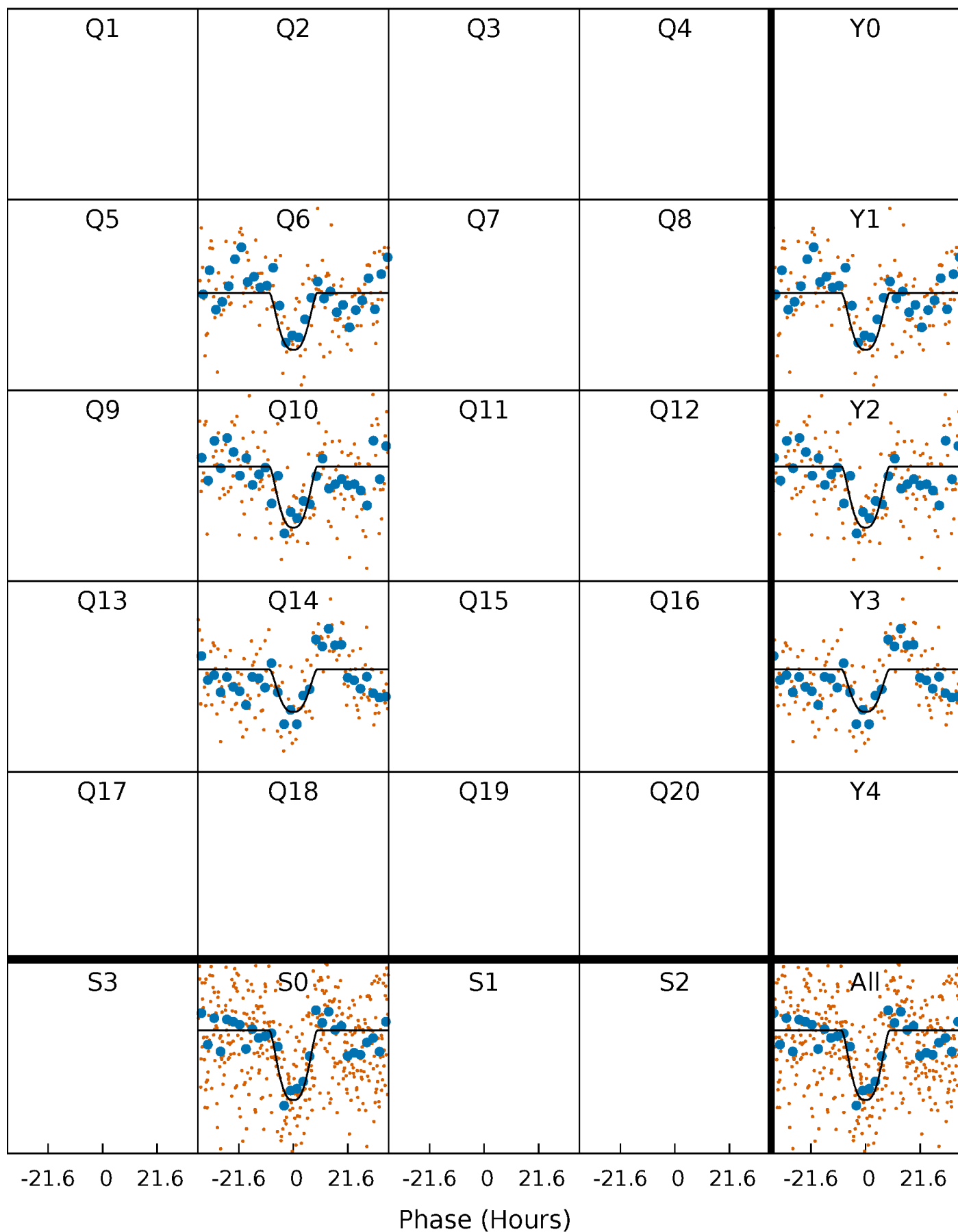
PDC Quarter-Phased Transit Curves

TCE 011124353-01 P=393.780883 Days $T_0=158.978007$ (BKJD)



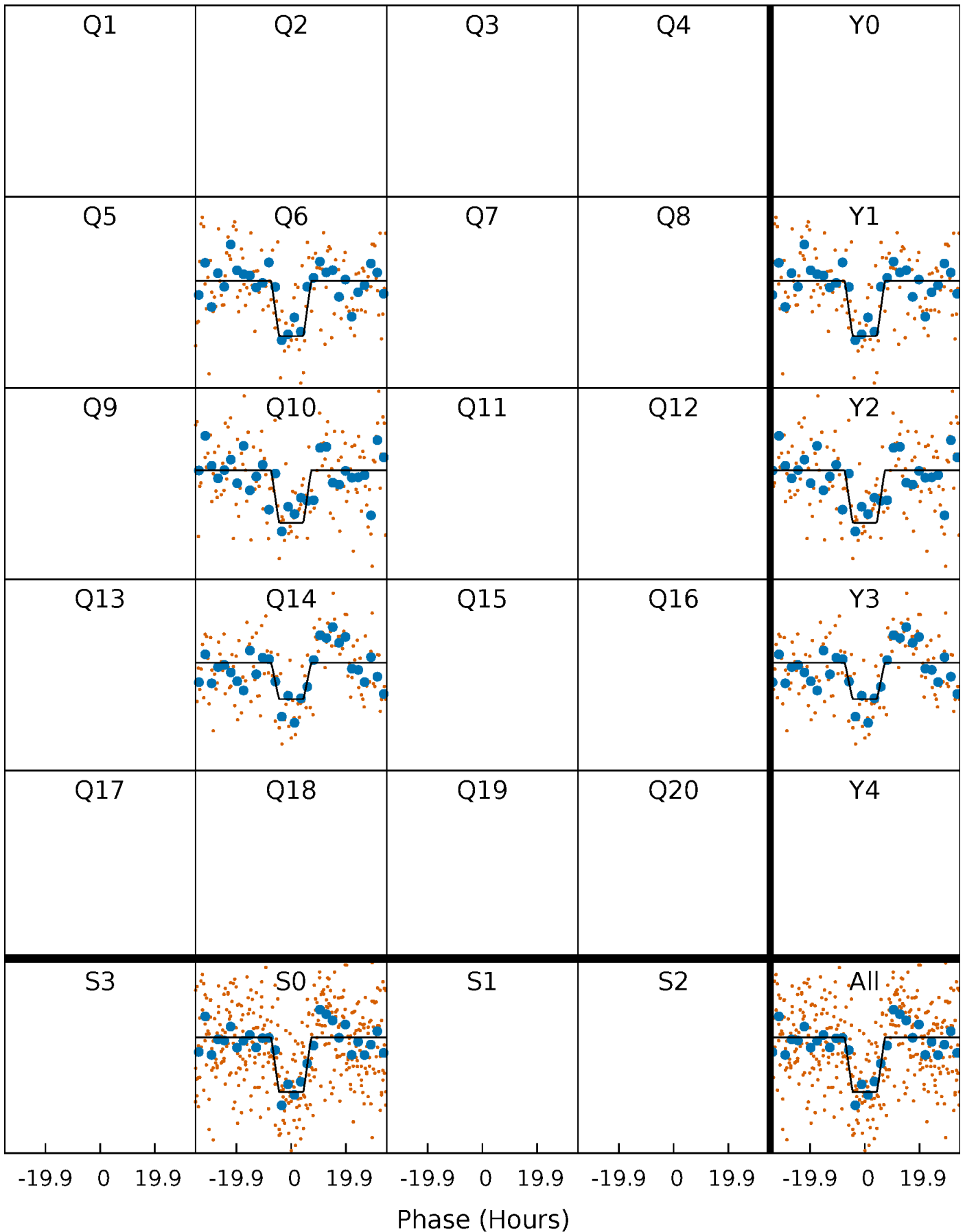
DV Quarter-Phased Transit Curves

TCE 011124353-01 P=393.780883 Days $T_0=158.978007$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

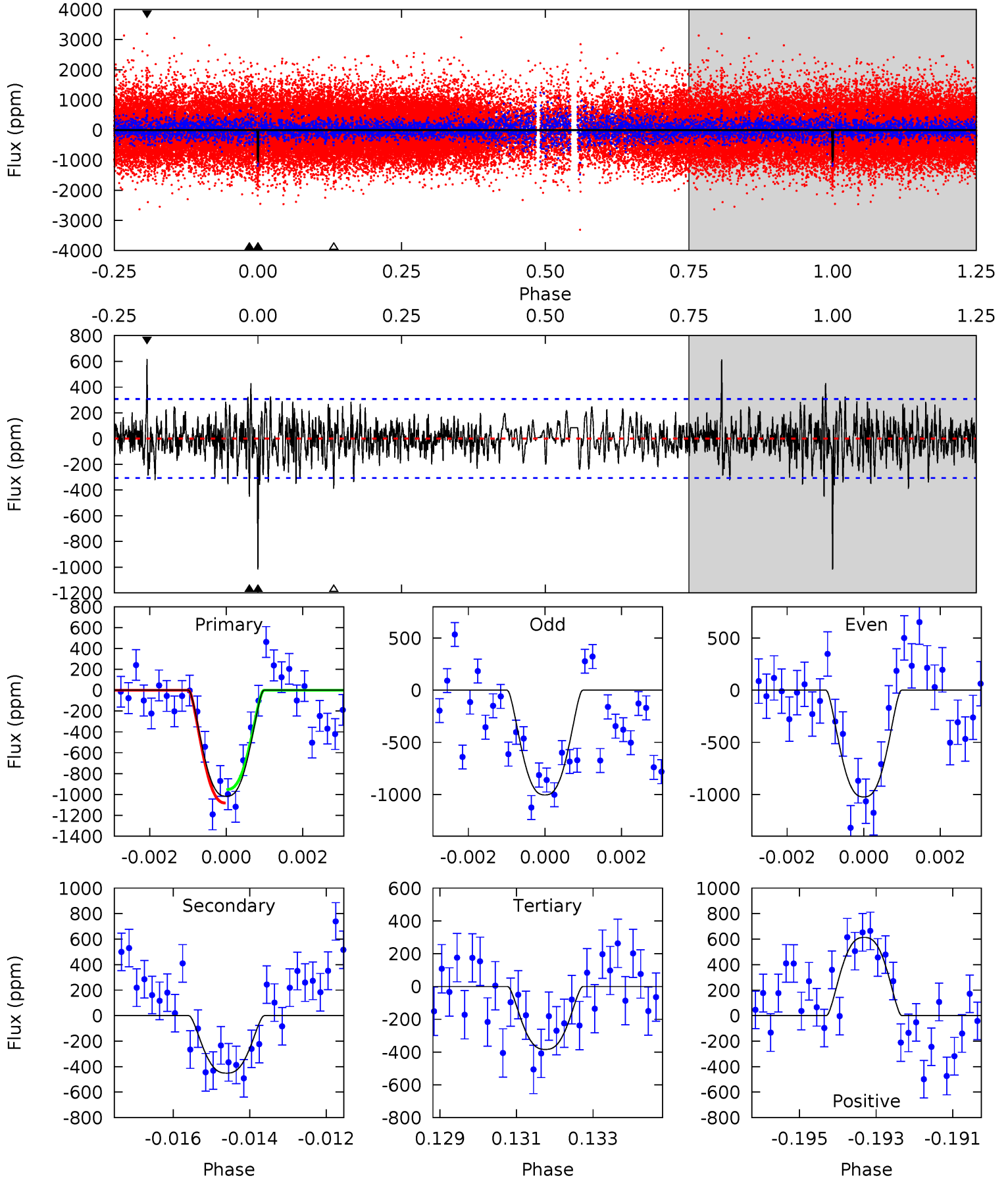
TCE 011124353-01 P=393.775135 Days $T_0=158.975911$ (BKJD)



DV Model-Shift Uniqueness Test

011124353-01, P = 393.780883 Days, E = 158.978007 Days

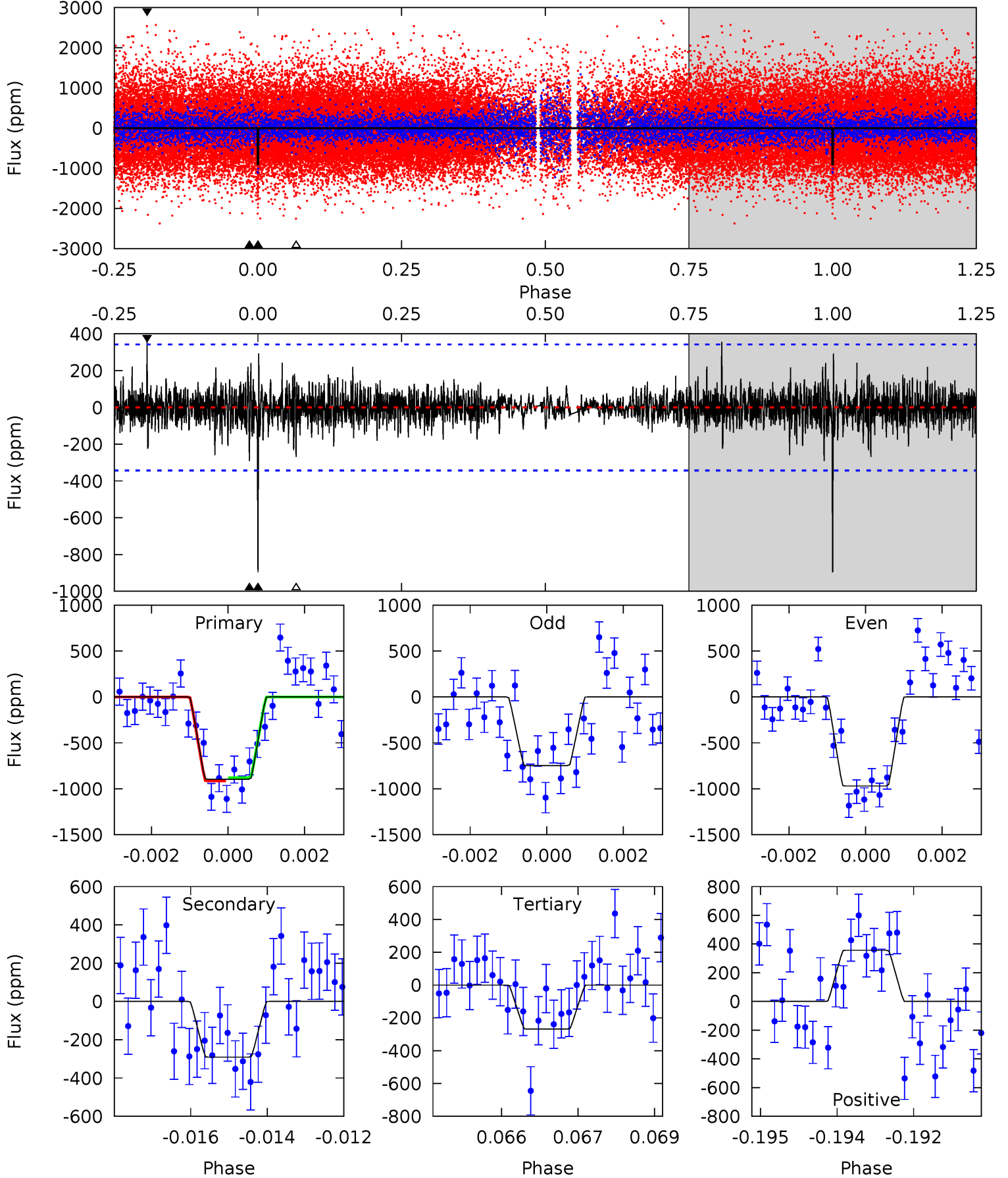
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	7.81	6.65	10.6	5.32	3.08	1.84	11.0	7.00	1.16	-2.81	0.16	1.01	0.38	1.12



Alt Model-Shift Uniqueness Test

011124353-01, P = 393.775135 Days, E = 158.975911 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	4.56	4.20	5.59	5.37	3.16	1.00	9.85	8.46	0.36	-1.03	1.66	1.14	0.28	0.29



Stellar Parameters For KIC 011124353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5743^{+330}_{-403}	$4.553^{+0.050}_{-0.200}$	$-0.140^{+0.300}_{-0.300}$	$0.853^{+0.278}_{-0.099}$	$0.949^{+0.133}_{-0.133}$	$2.155^{+0.617}_{-1.138}$
	+6%/-7%	+1%/-4%	+214%/-214%	+33%/-12%	+14%/-14%	+29%/-53%
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 011124353-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-451 ± 58	$3.92^{+0.78}_{-0.64}$	331^{+25}_{-25}	4374^{+355}_{-318}	16863^{+7064}_{-5116}
Alt.	-291 ± 64	$3.00^{+0.75}_{-0.53}$	331^{+28}_{-27}	4451^{+467}_{-421}	18406^{+9951}_{-6867}

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

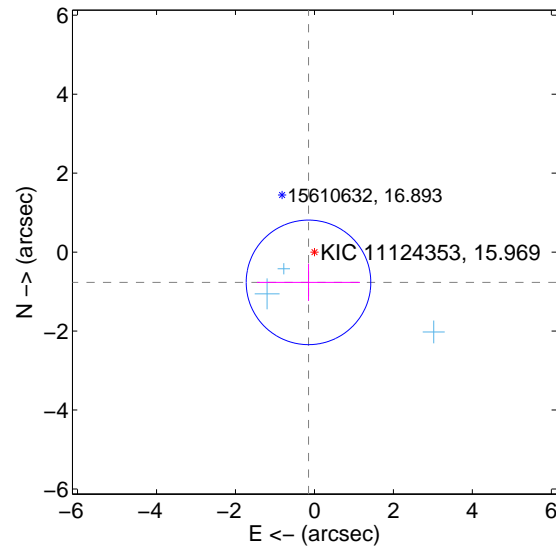
Supplemental centroid analysis for 011124353-01. Kepler magnitude: 15.97. Transit SNR 8.55

There are 3 quarters with good PRF difference image offsets

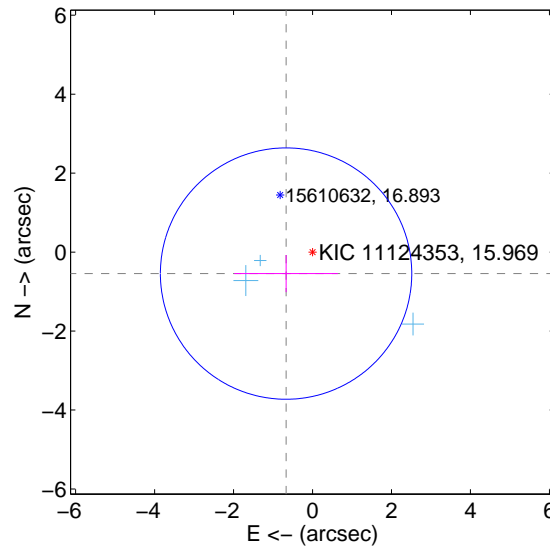
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.781 ± 0.526	1.49	0.150 ± 1.305	-0.766 ± 0.471
PRF-fit source offset from KIC position	0.863 ± 1.061	0.81	0.670 ± 1.312	-0.544 ± 0.471
photometric centroid source offset	1.37 ± 1.25	1.09	1.36 ± 1.25	-0.12 ± 1.41

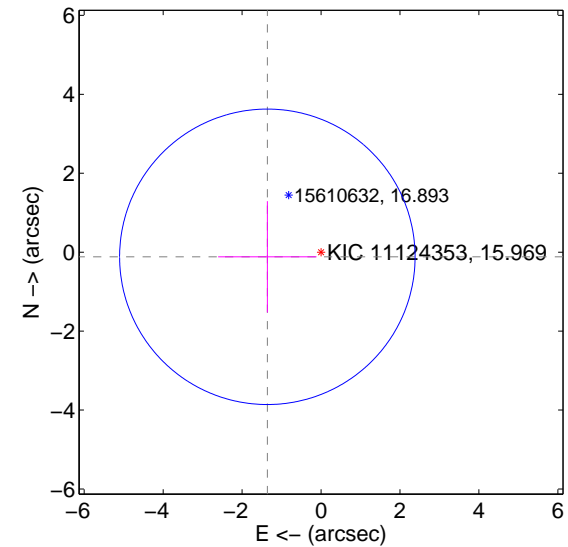
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

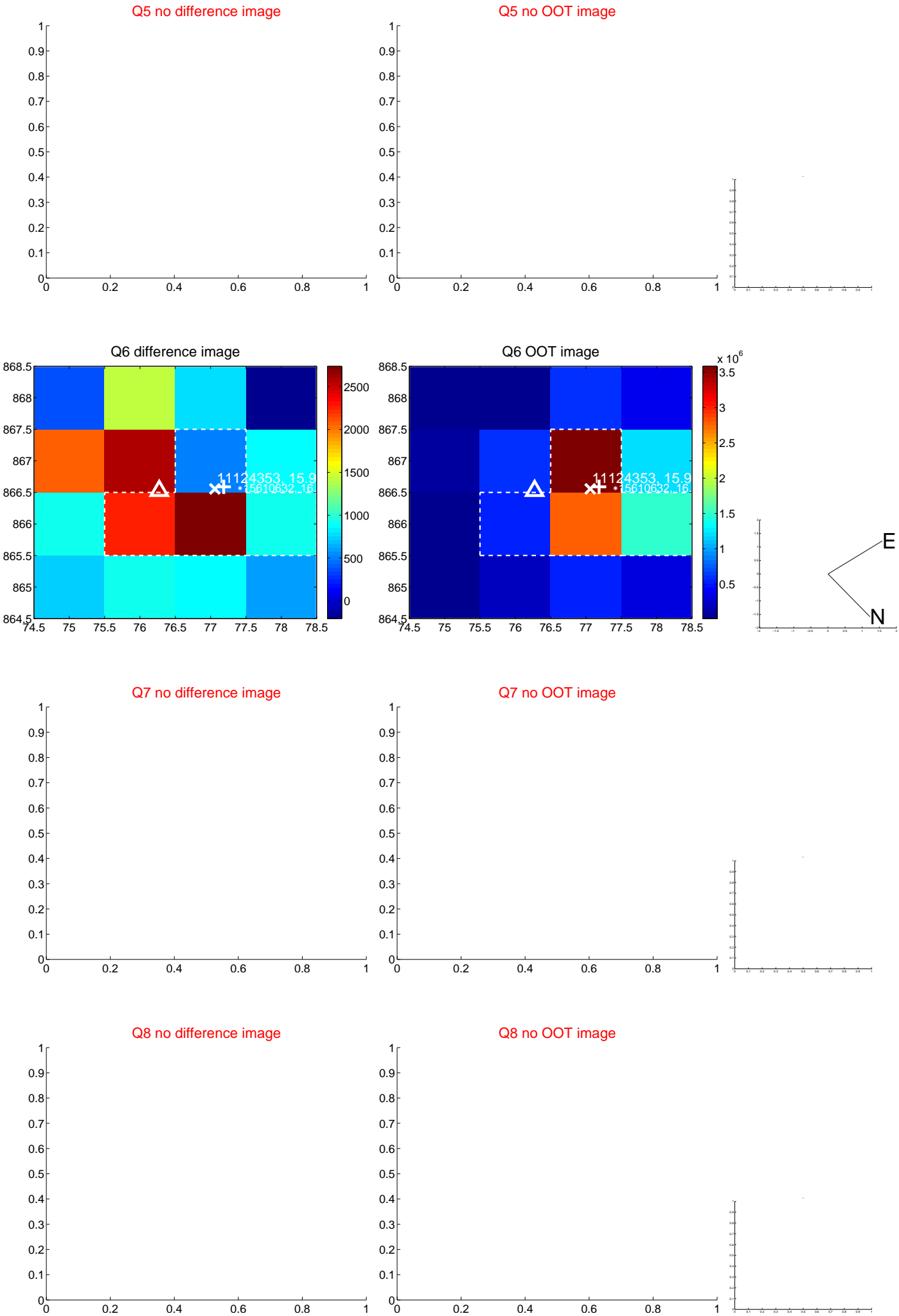


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

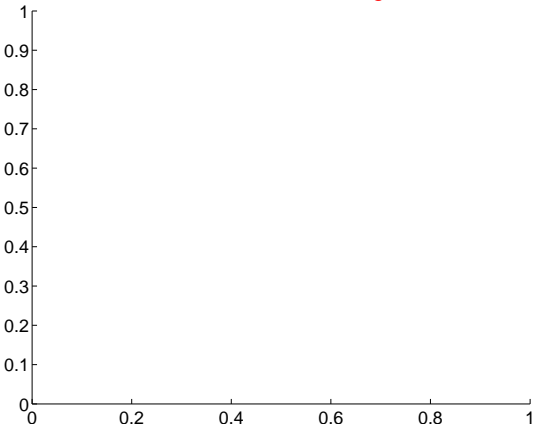


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

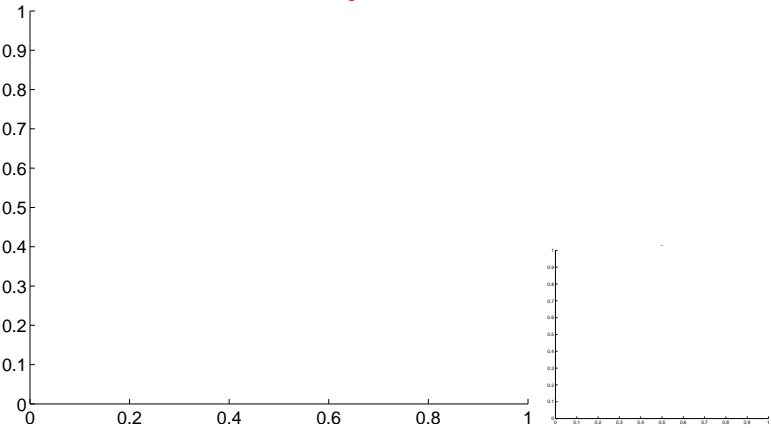


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

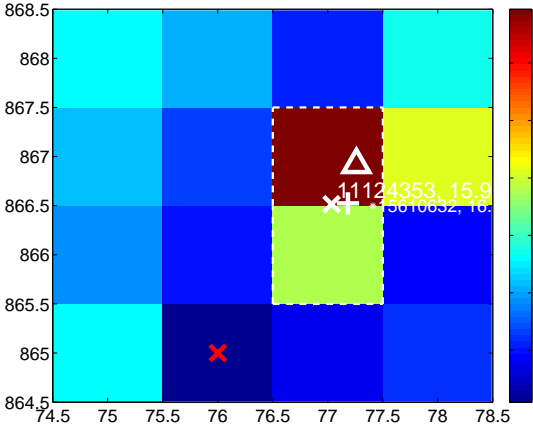
Q9 no difference image



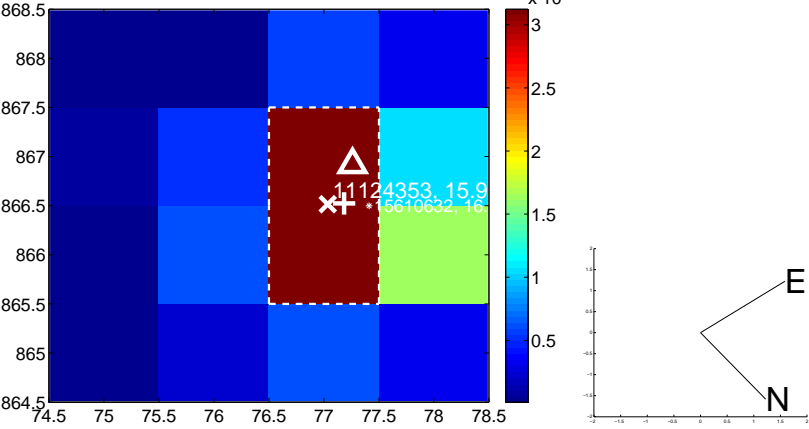
Q9 no OOT image



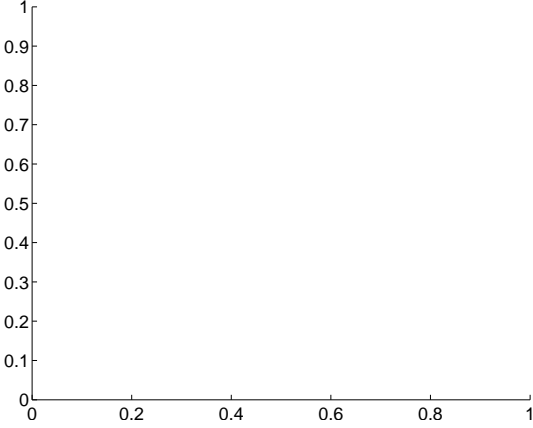
Q10 difference image



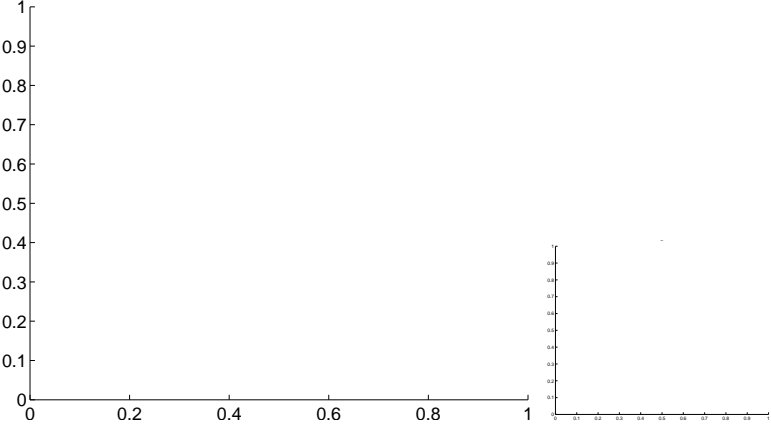
Q10 OOT image



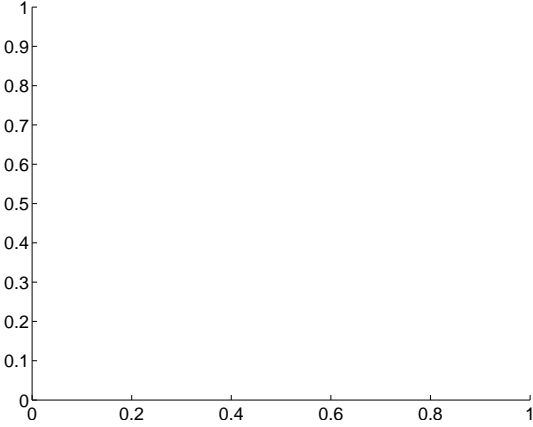
Q11 no difference image



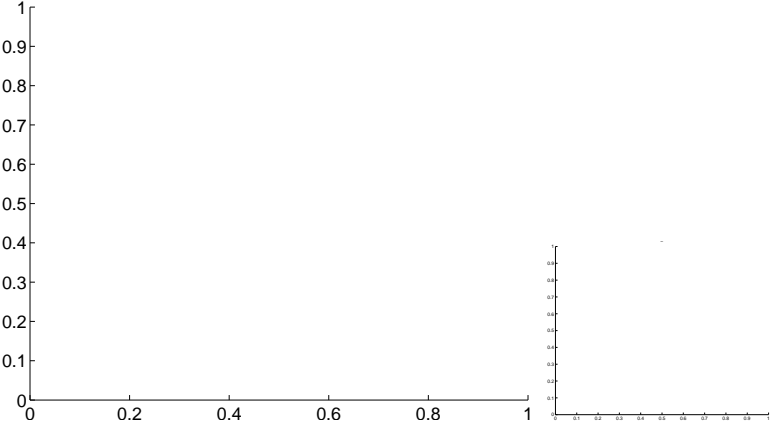
Q11 no OOT image



Q12 no difference image

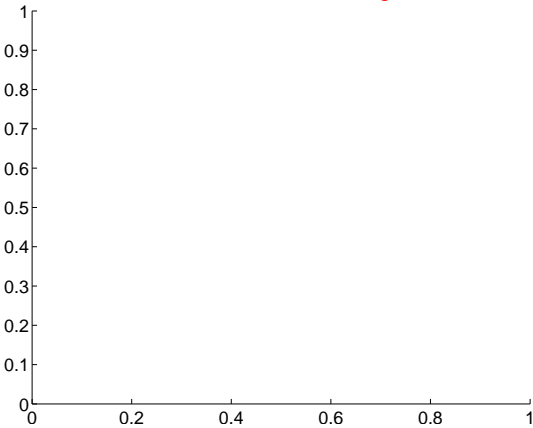


Q12 no OOT image

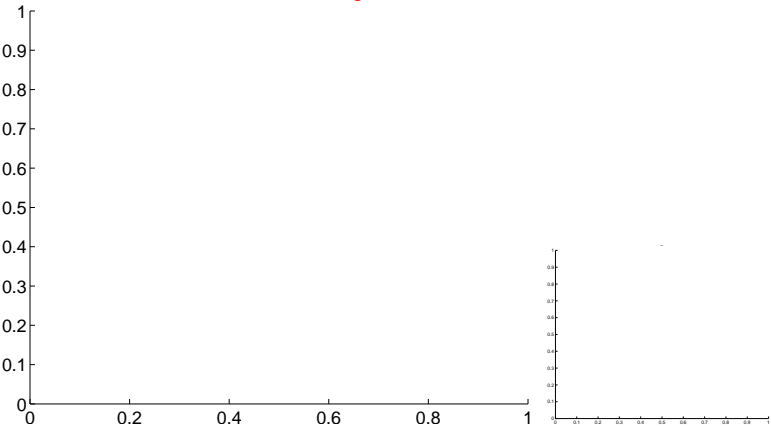


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

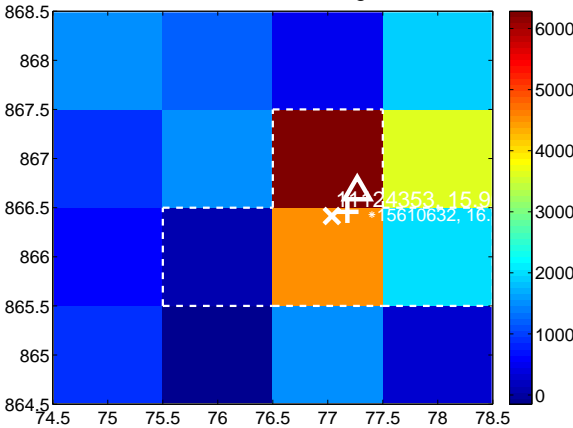
Q13 no difference image



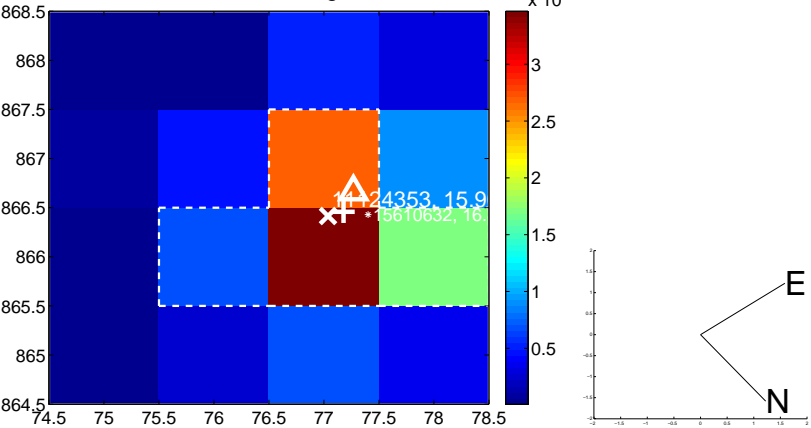
Q13 no OOT image



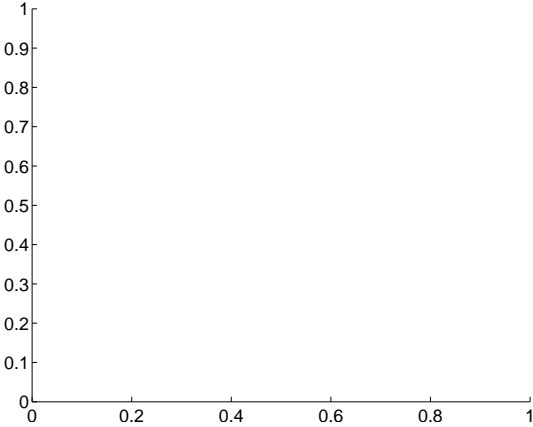
Q14 difference image



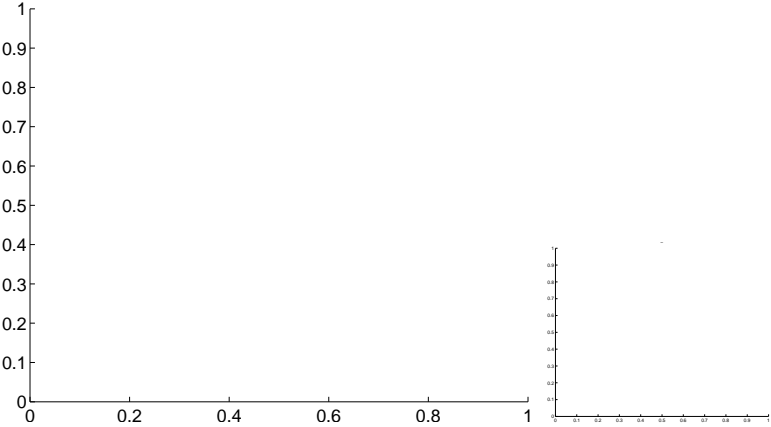
Q14 OOT image



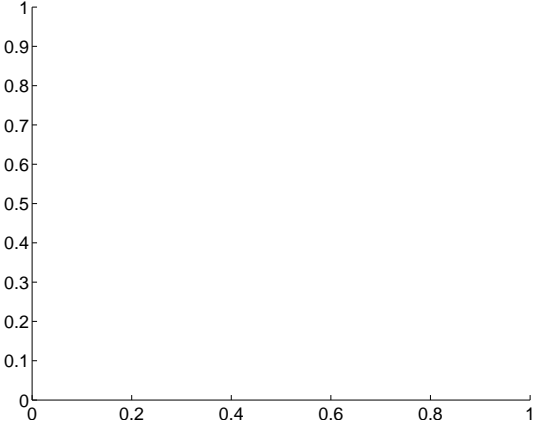
Q15 no difference image



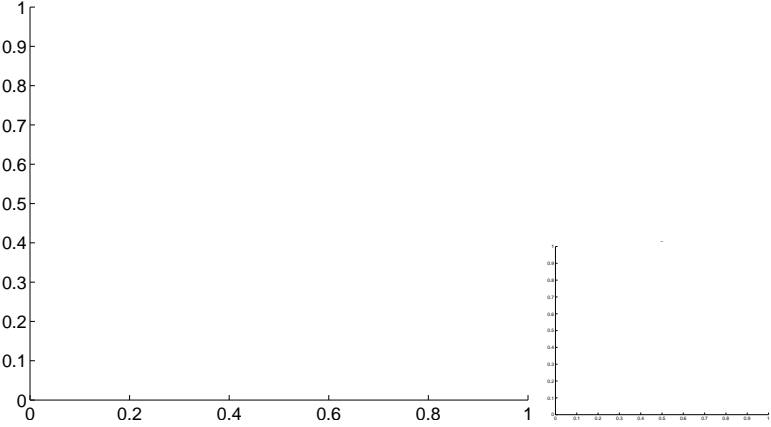
Q15 no OOT image



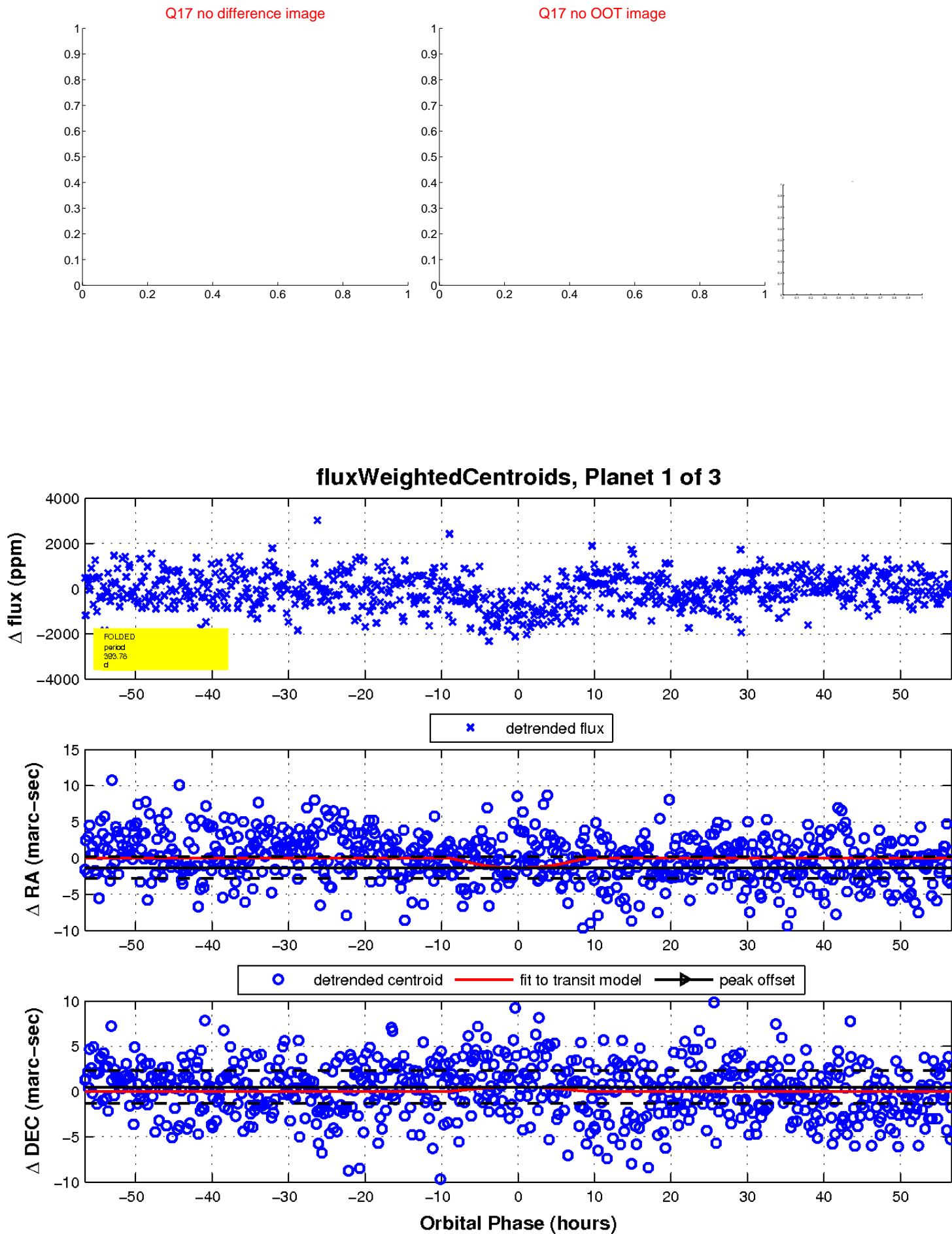
Q16 no difference image



Q16 no OOT image

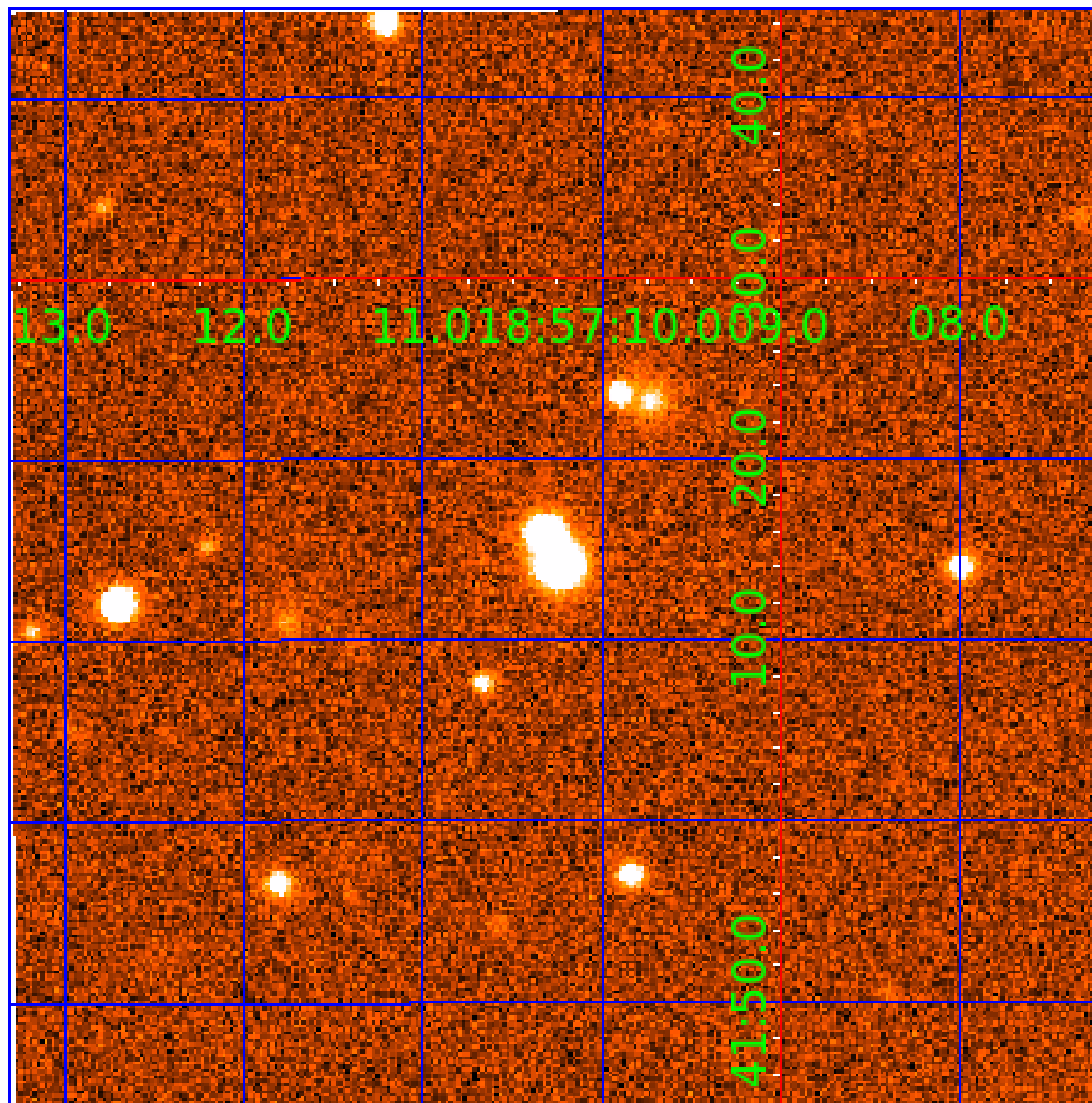


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011124353

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})
011124353-01	OBS	No	393.780883	158.978007	1138.8	18.900	8.3	8.6	0.85	5743	3.74	0.66
011124353-02	OBS	8220.01	423.703711	548.936011	732.9	20.102	7.6	7.4	0.85	5743	2.37	0.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011124353-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
011124353-02	OBS	FP	0.16	1	0	0	0	ALL_TRANS_CHASES—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.

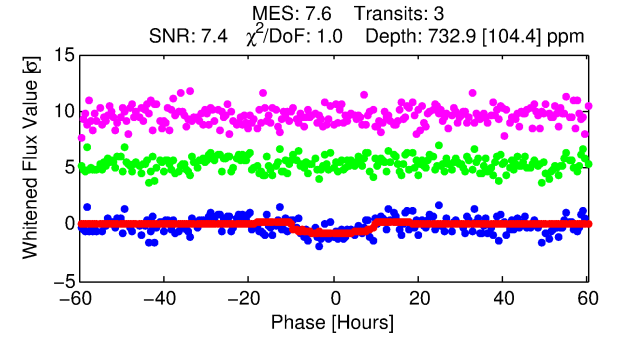
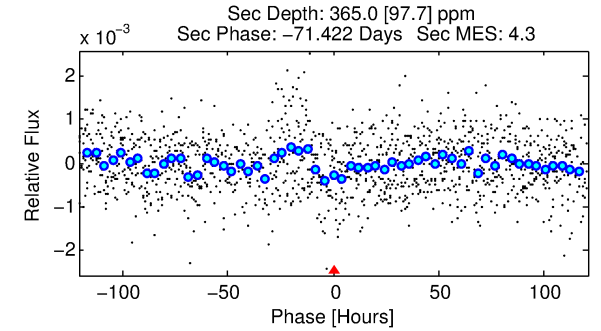
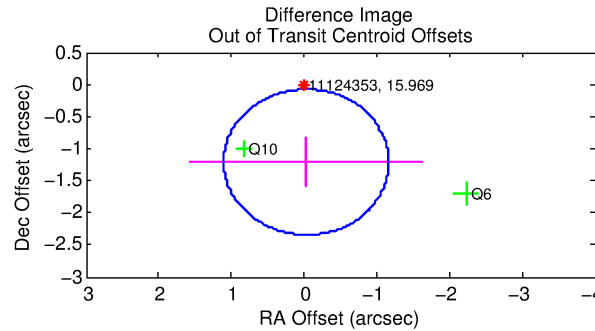
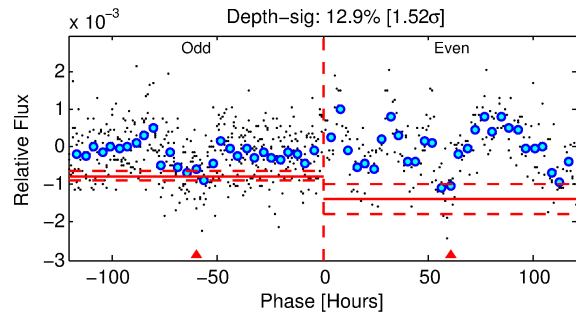
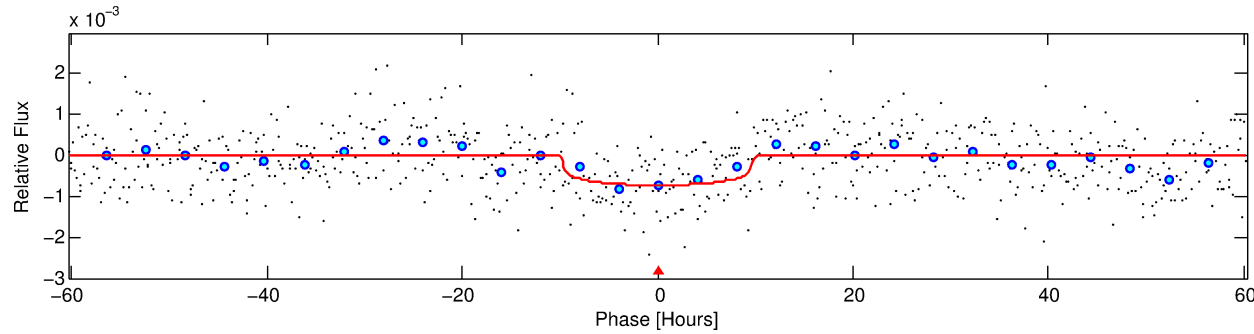
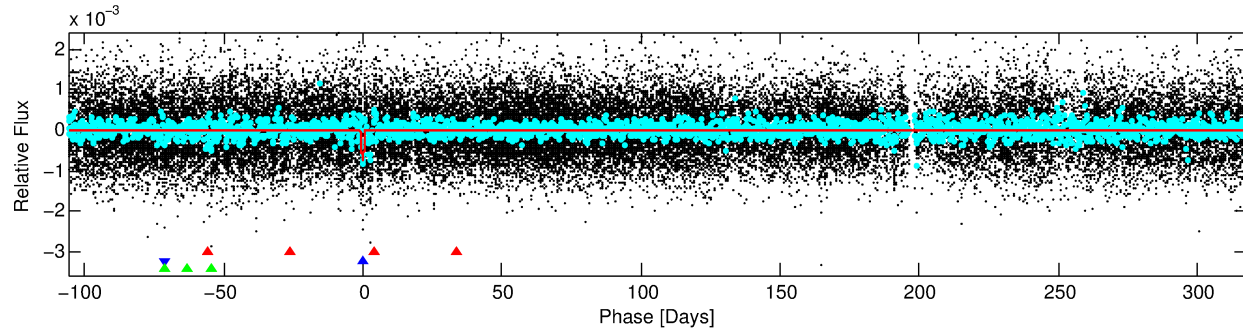
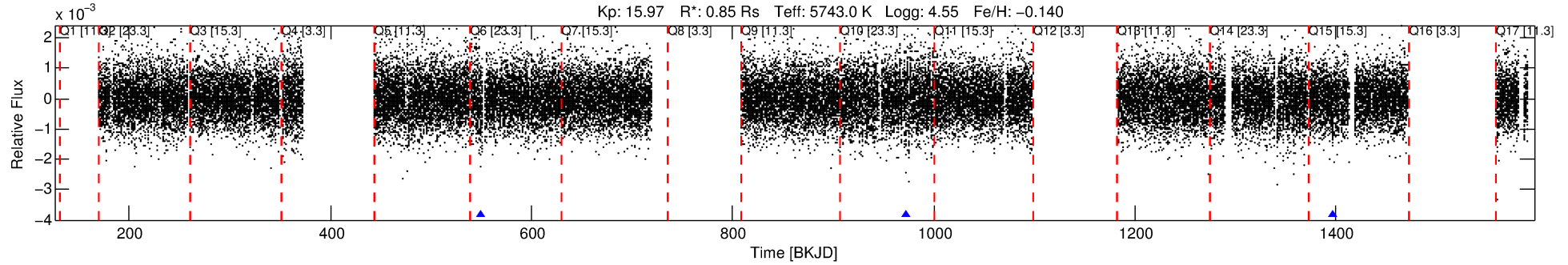
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011124353-02

No Significant Match Found

DV One-Page Summary

KIC: 11124353 Candidate: 2 of 3 Period: 423.704 d



DV Fit Results:

Period = 423.70371 [0.01959] d
Epoch = 548.9360 [0.0264] BKJD
Rp/R* = 0.0254 [0.0107]
a/R* = 142.23 [258.39]
b = 0.52 [2.55]
Seff = 0.60 [0.28]
Teq = 225 [26] K
Rp = 2.37 [1.26] Re
a = 1.0849 [0.2886] AU
Ag = 42138.68 [40321.07] [1.05 σ]
Teff = 4977 [1149] K [4.13 σ]

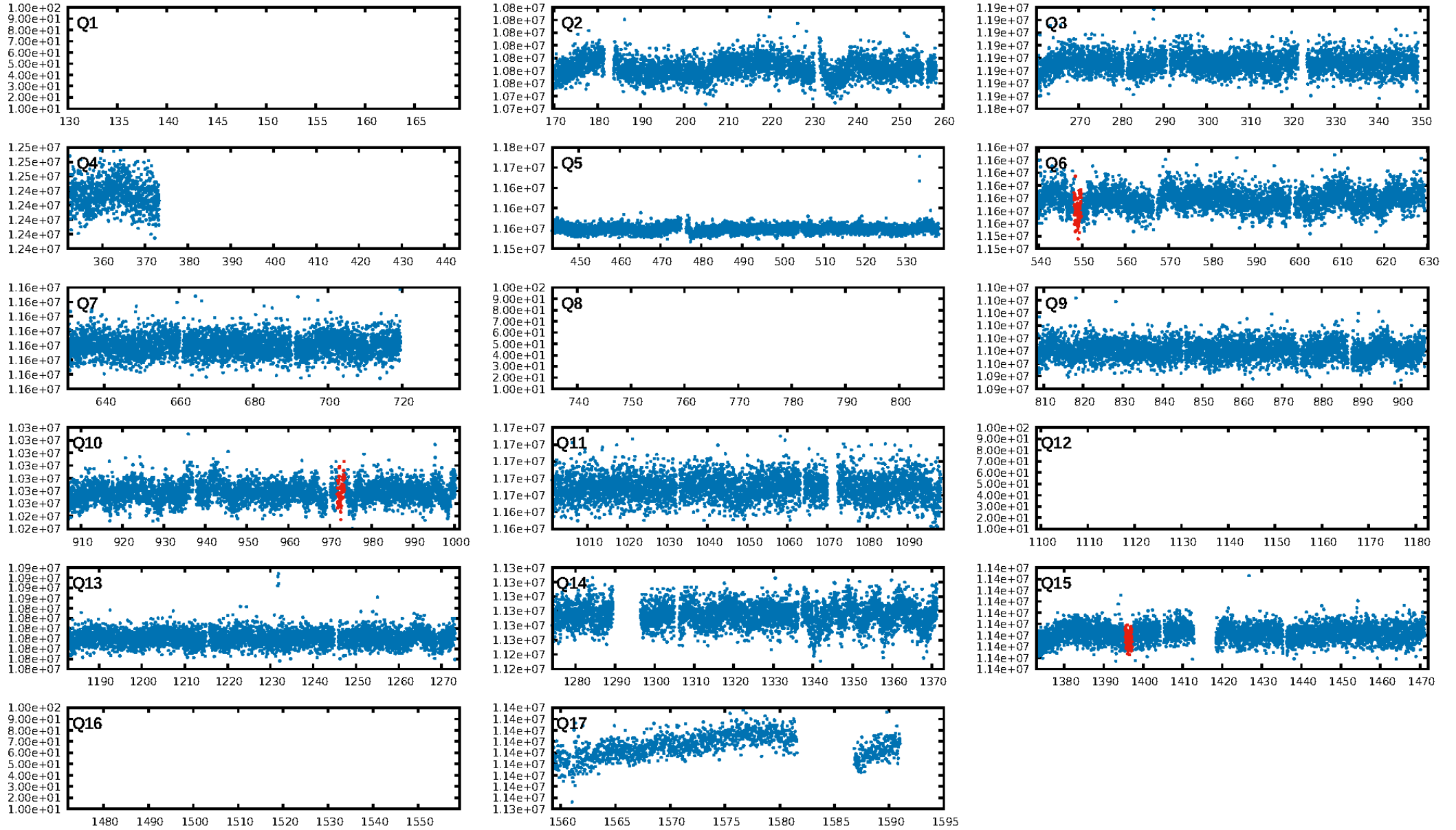
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.03 σ]
LongPeriod-sig: 100.0% [6.51 σ]
ModelChiSquare2-sig: 44.5%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.01e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7918
Centroid-sig: 6.7%
Centroid-so: 1.871 arcsec [1.13 σ]
OotOffset-rm: 1.211 arcsec [3.20 σ]
KicOffset-rm: 1.018 arcsec [1.19 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

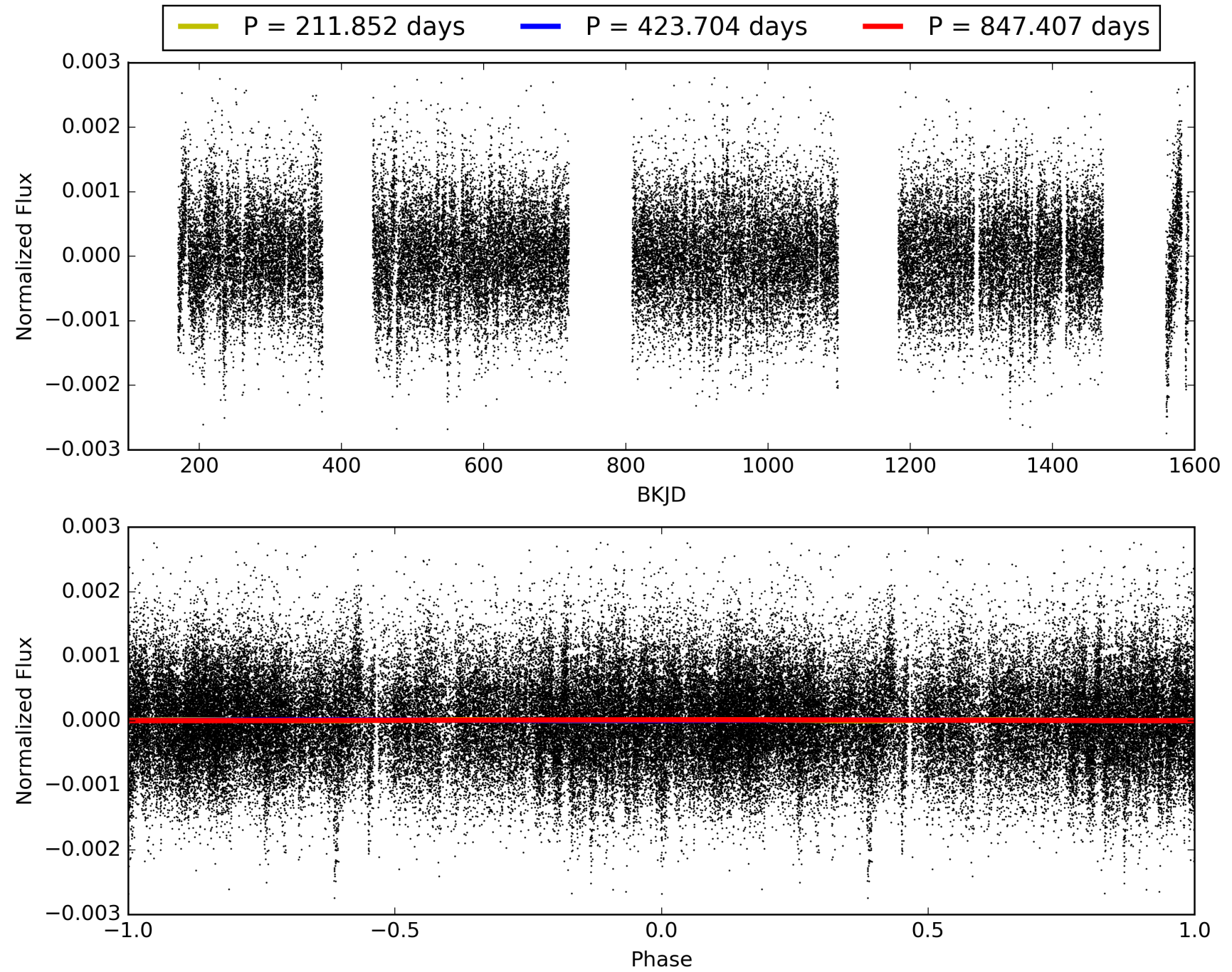
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:35:21 Z

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

TCE 011124353-02, PDC Light Curves

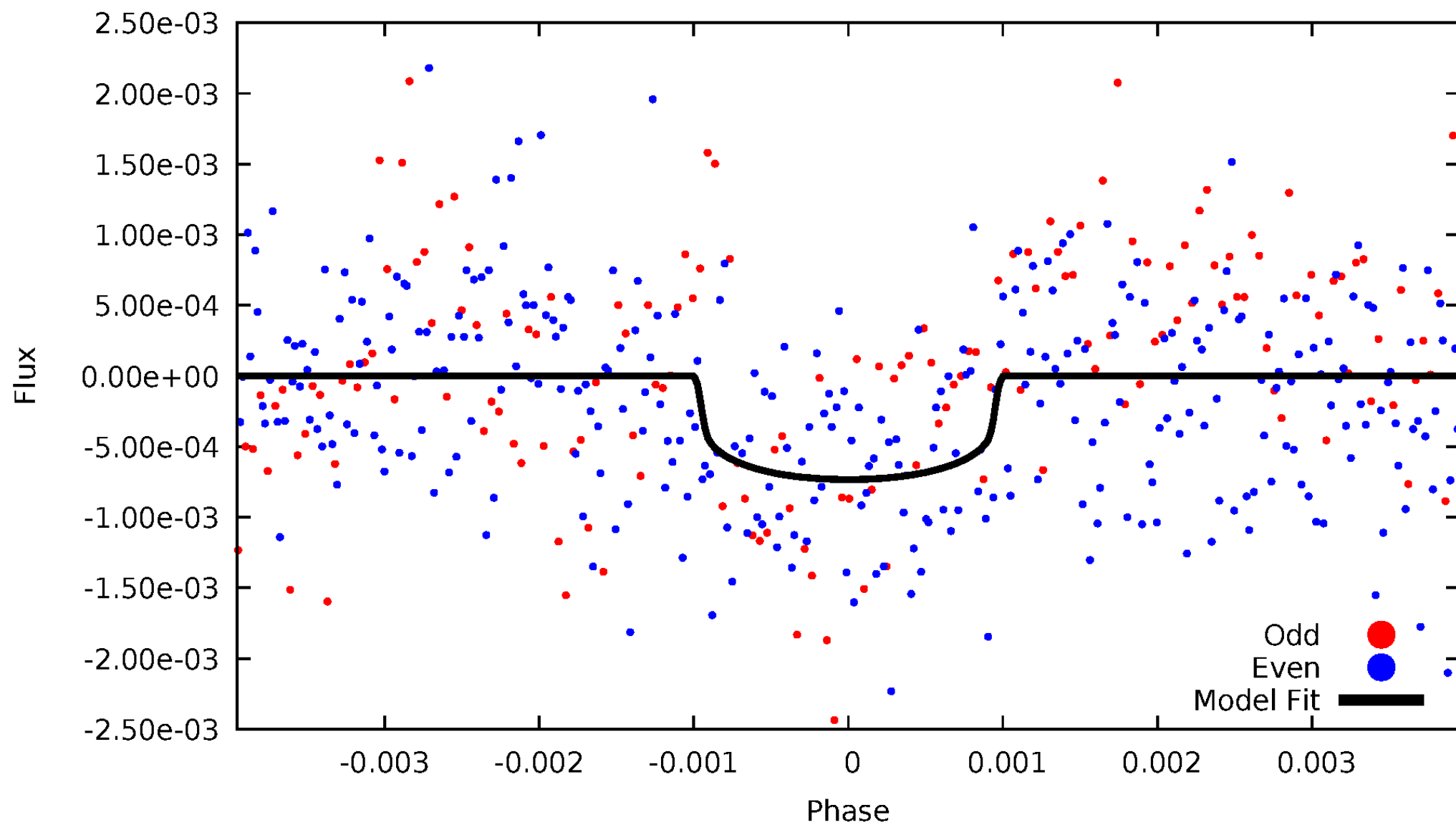


TCE 011124353-02



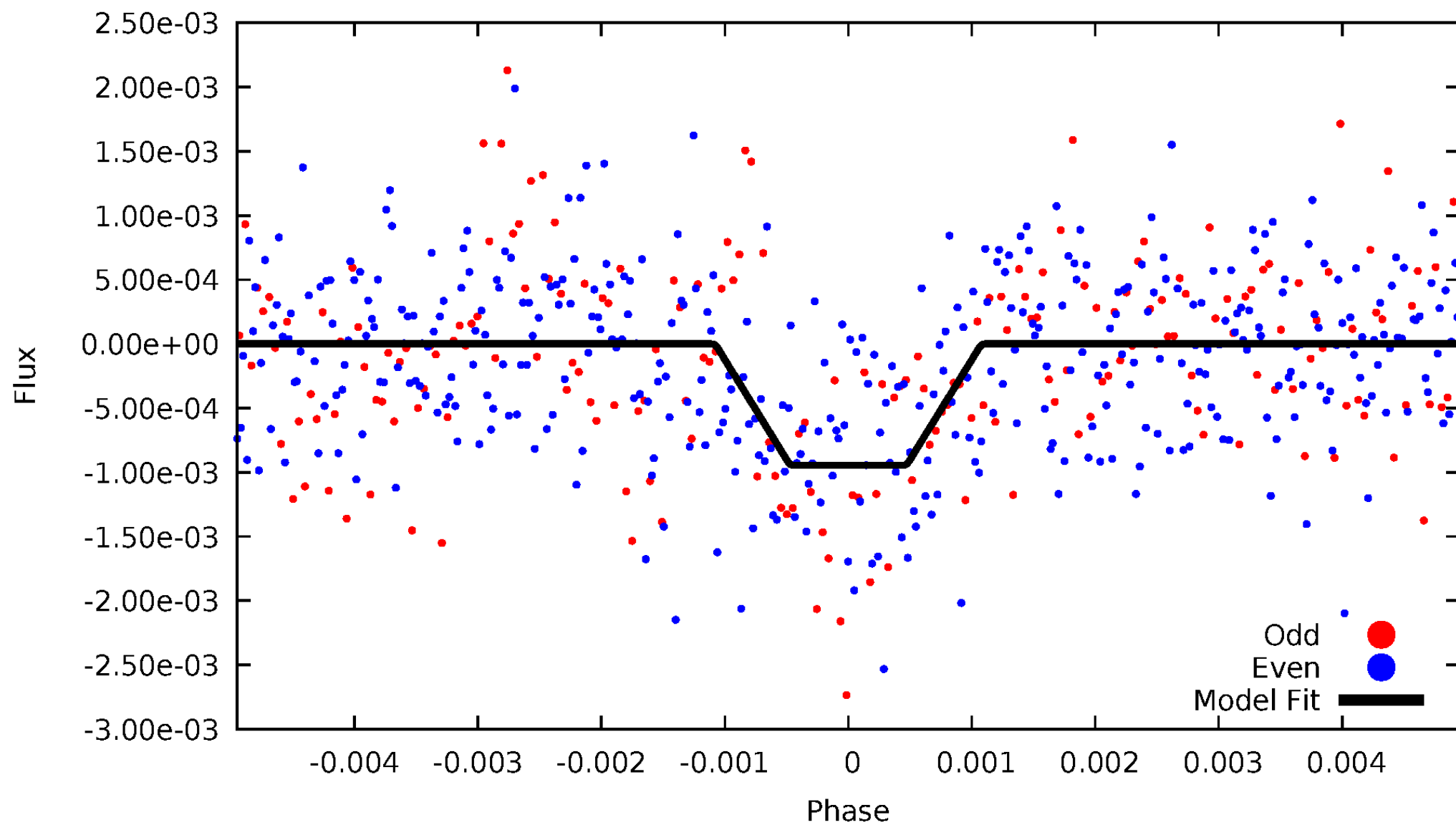
DV Odd/Even

TCE 011124353-02



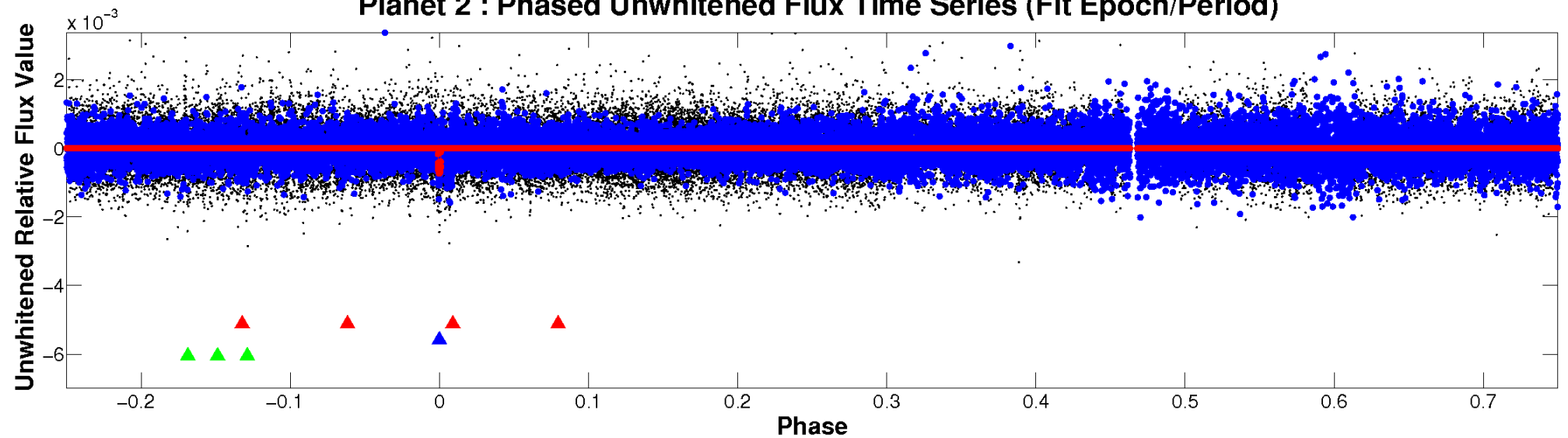
ALT Odd/Even

TCE 011124353-02

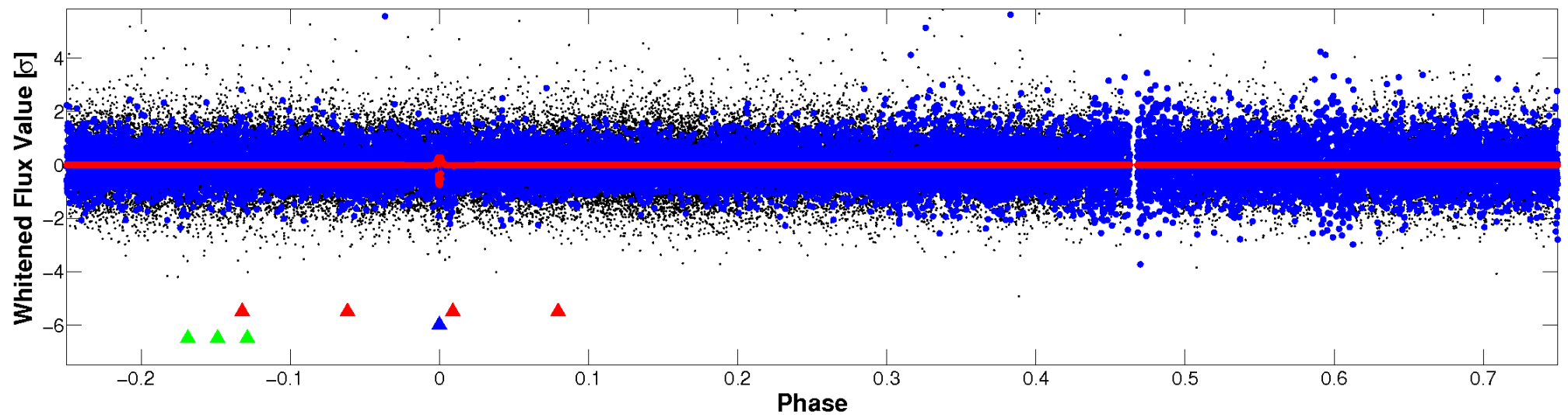


Non-Whitened Vs. Whitened Light Curve

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

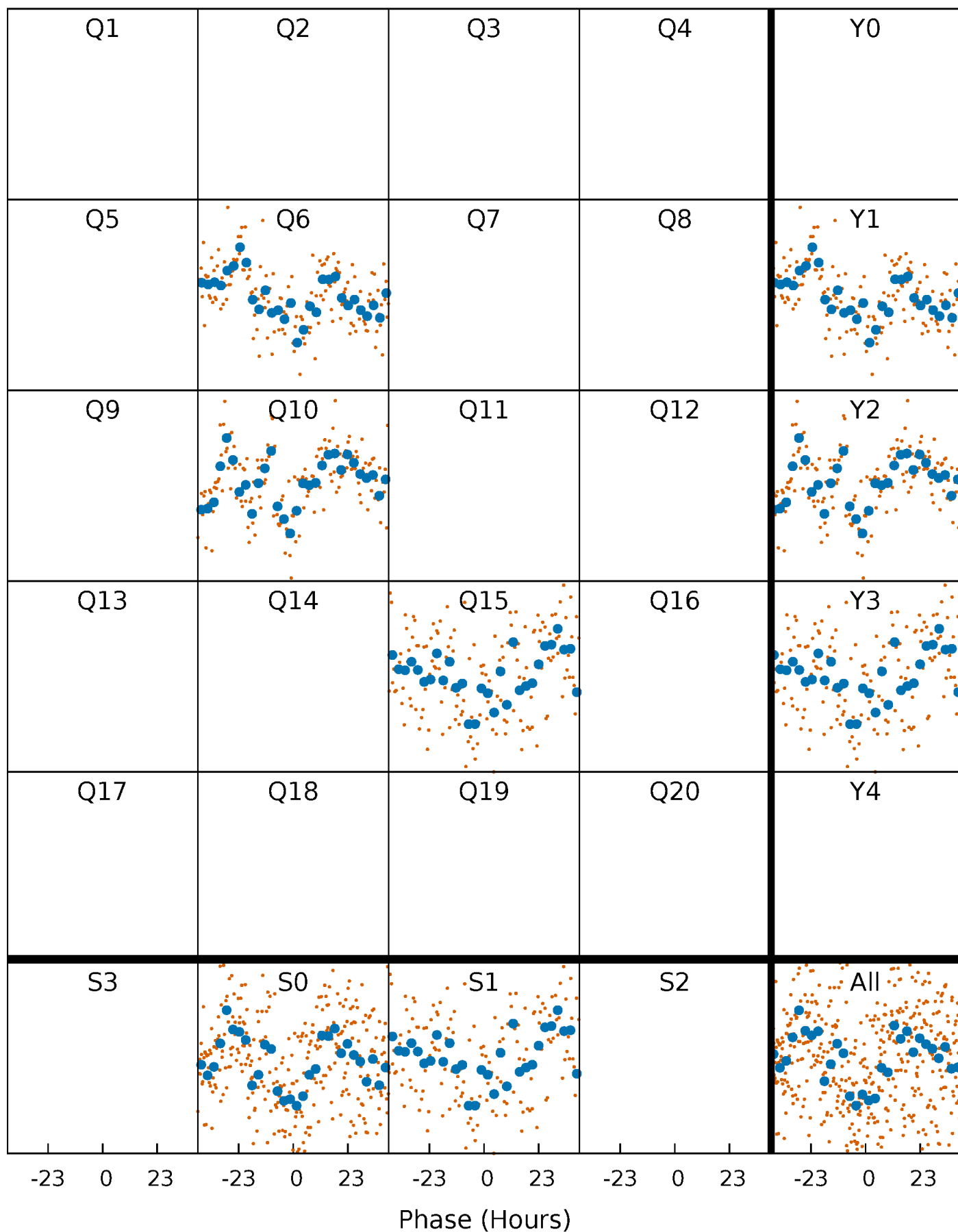


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



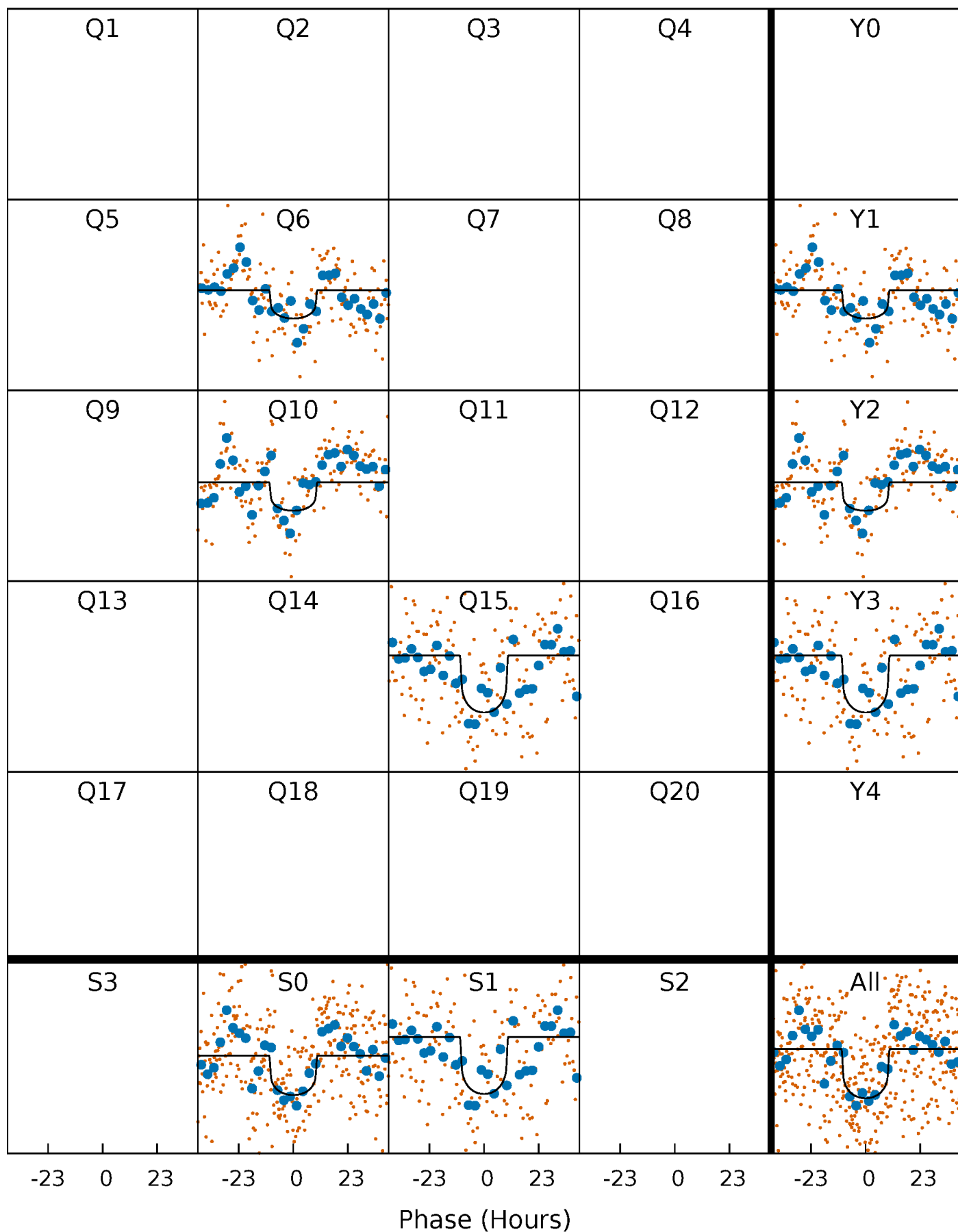
PDC Quarter-Phased Transit Curves

TCE 011124353-02 P=423.703711 Days $T_0=548.936011$ (BKJD)



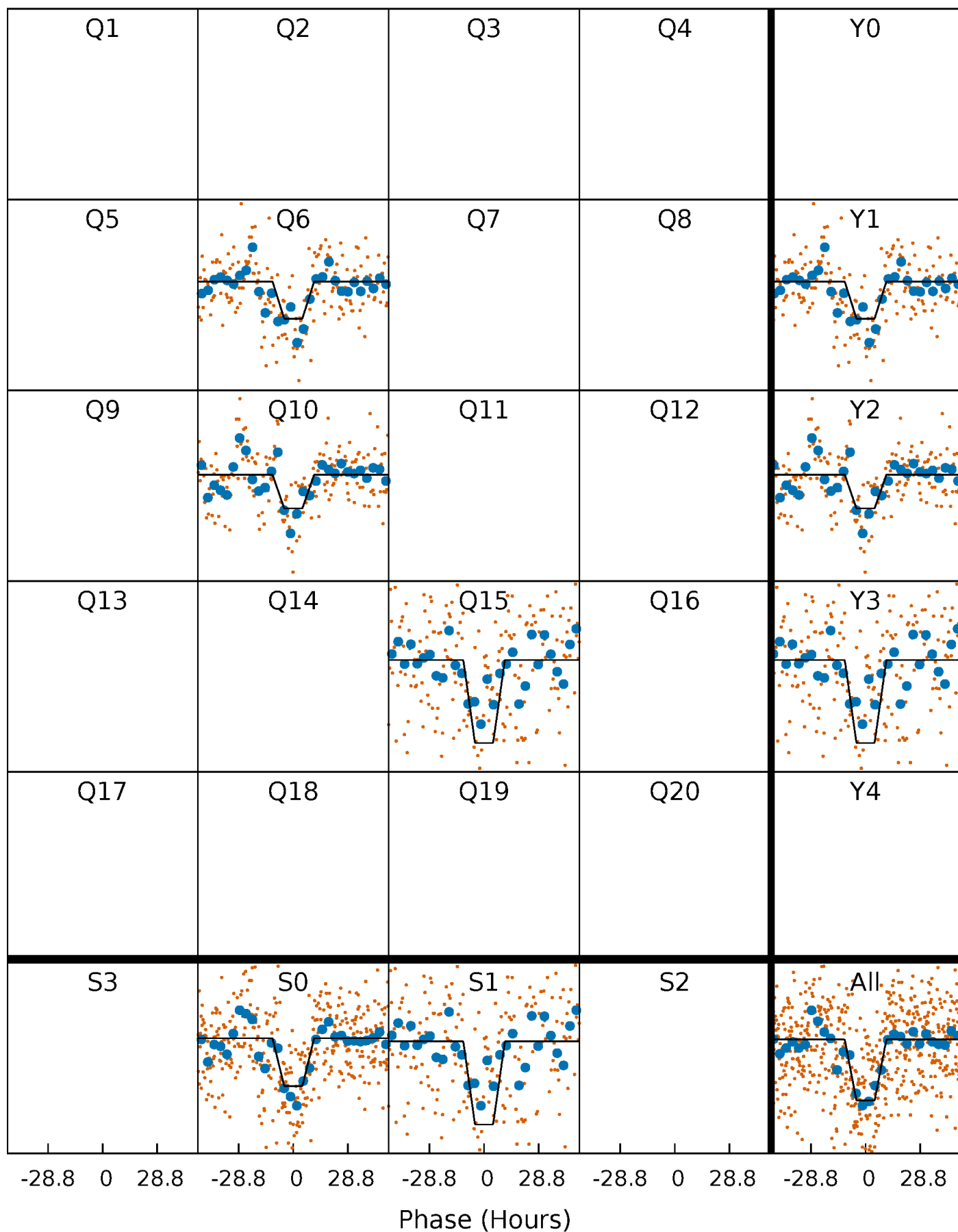
DV Quarter-Phased Transit Curves

TCE 011124353-02 P=423.703711 Days $T_0=548.936011$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

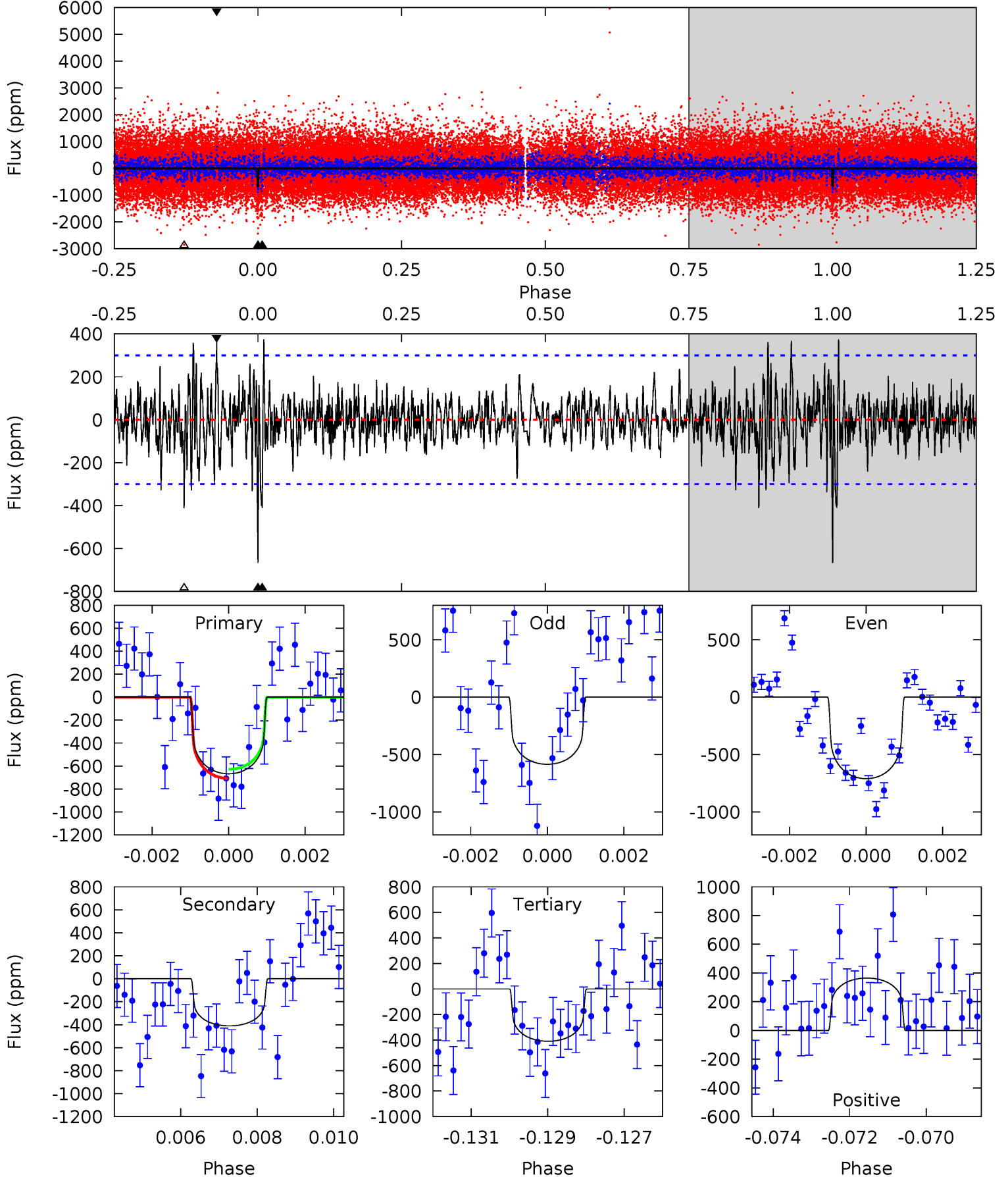
TCE 011124353-02 P=423.676244 Days $T_0=548.931478$ (BKJD)



DV Model-Shift Uniqueness Test

011124353-02, P = 423.703711 Days, E = 125.232300 Days

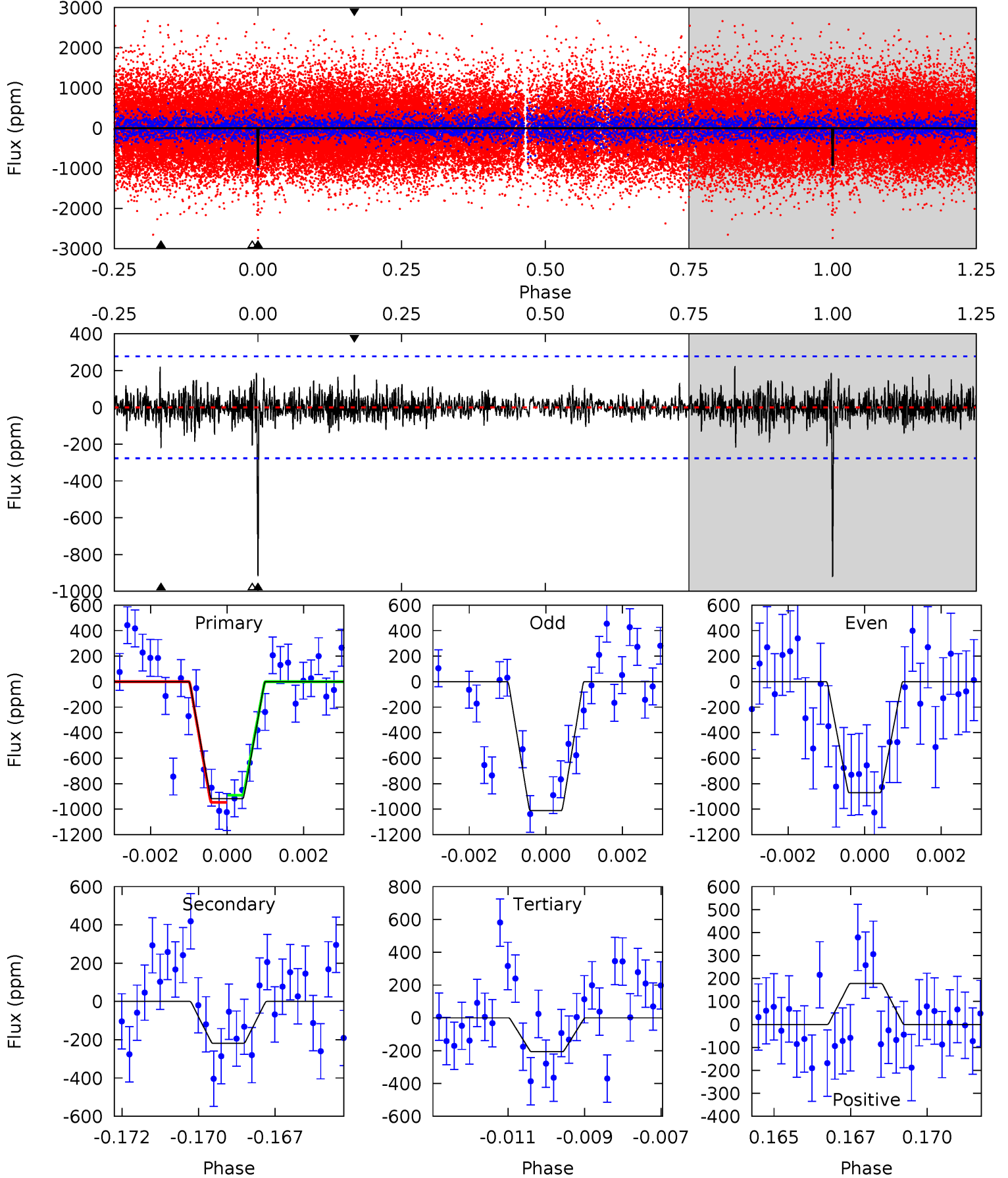
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	7.29	7.28	6.48	5.33	3.09	1.57	4.58	5.38	0.01	0.81	1.05	1.08	0.36	0.70



Alt Model-Shift Uniqueness Test

011124353-02, P = 423.676244 Days, E = 125.255234 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	4.18	3.95	3.41	5.31	3.06	0.89	13.6	14.2	0.22	0.77	1.28	0.90	0.19	0.53



Stellar Parameters For KIC 011124353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5743^{+330}_{-403}	$4.553^{+0.050}_{-0.200}$	$-0.140^{+0.300}_{-0.300}$	$0.853^{+0.278}_{-0.099}$	$0.949^{+0.133}_{-0.133}$	$2.155^{+0.617}_{-1.138}$
	+6%/-7%	+1%/-4%	+214%/-214%	+33%/-12%	+14%/-14%	+29%/-53%
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 011124353-02 / KOI 8220.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-411 ± 56	$2.45^{+1.15}_{-1.04}$	320^{+29}_{-23}	5189^{+1628}_{-776}	42319^{+83837}_{-21946}
Alt.	-218 ± 52	$2.96^{+1.17}_{-1.04}$	322^{+27}_{-25}	4239^{+816}_{-533}	15981^{+20990}_{-8325}

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

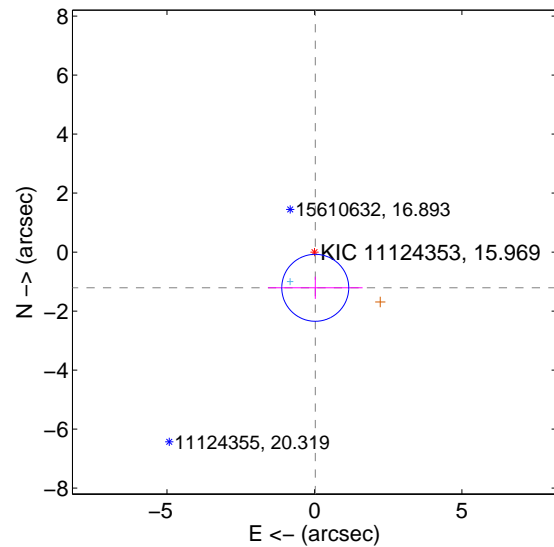
Supplemental centroid analysis for 011124353-02. Kepler magnitude: 15.97. Transit SNR 7.41

There are 1 quarters with good PRF difference image offsets

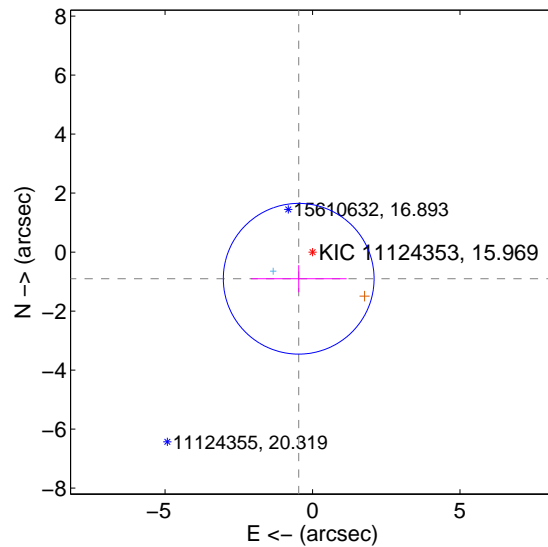
The direct PRF centroid is offset from the target star catalog position by about 0.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.211 ± 0.378	3.20	-0.028 ± 1.604	-1.210 ± 0.377
PRF-fit source offset from KIC position	1.018 ± 0.852	1.19	0.469 ± 1.624	-0.903 ± 0.459
photometric centroid source offset	1.87 ± 1.66	1.13	-1.02 ± 1.51	-1.57 ± 1.71

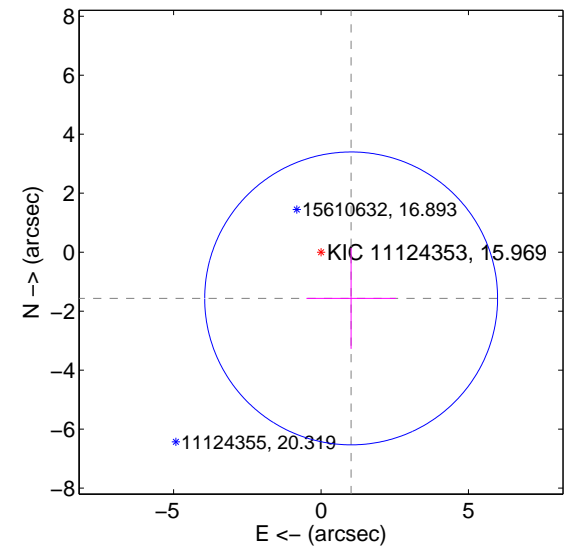
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

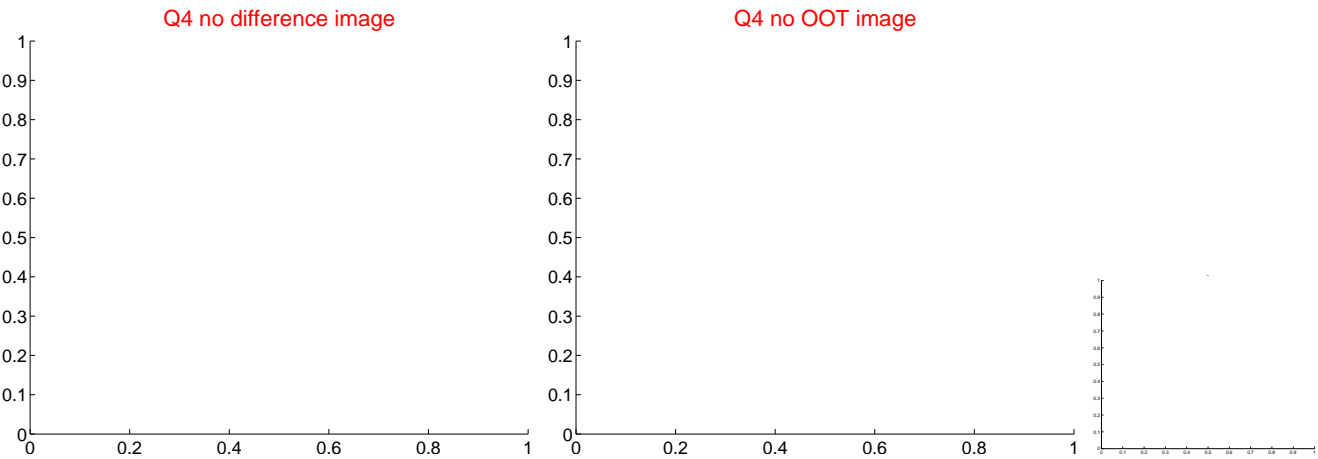
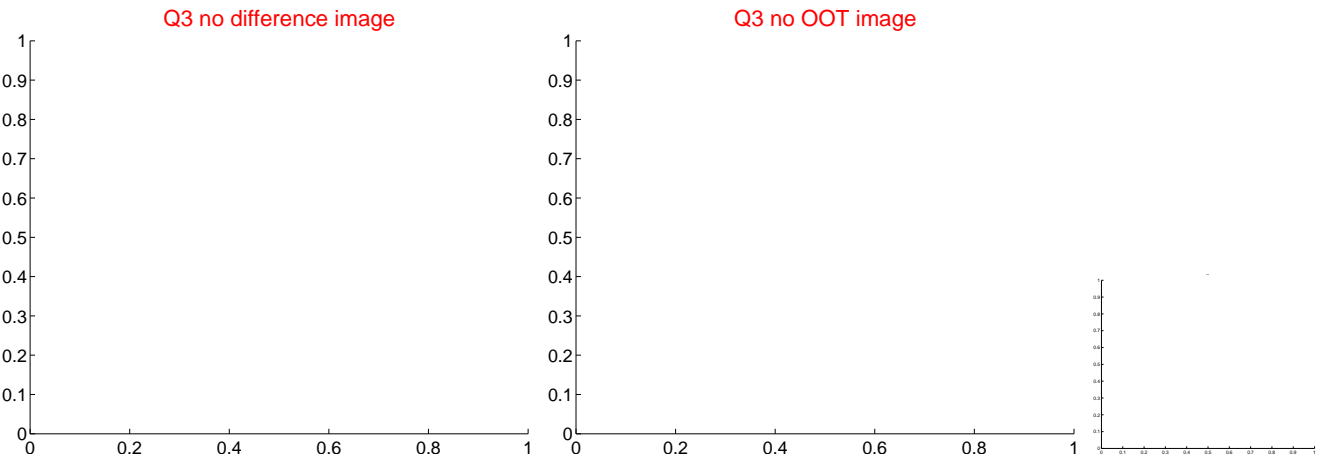
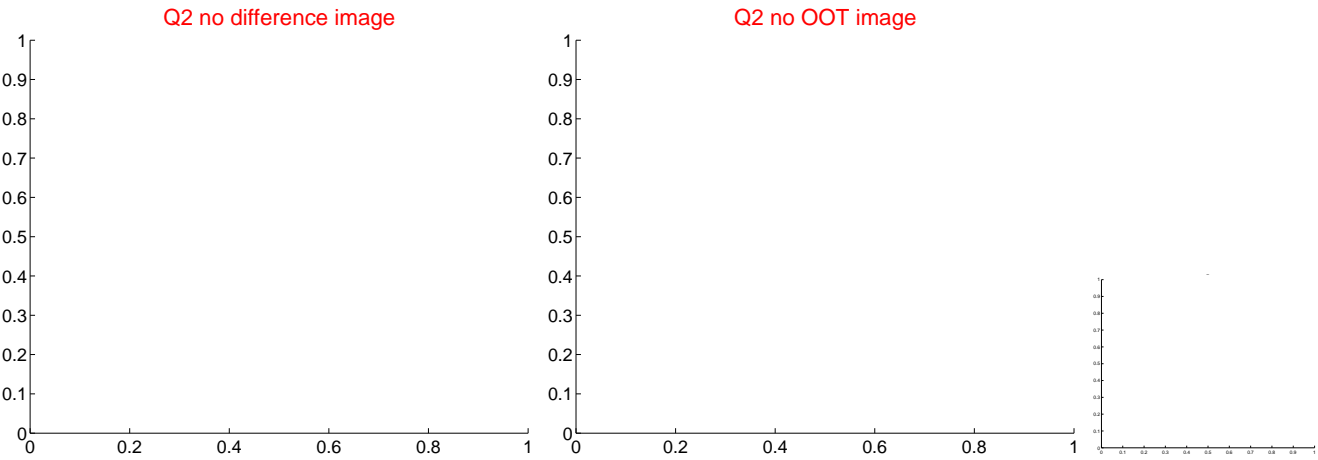
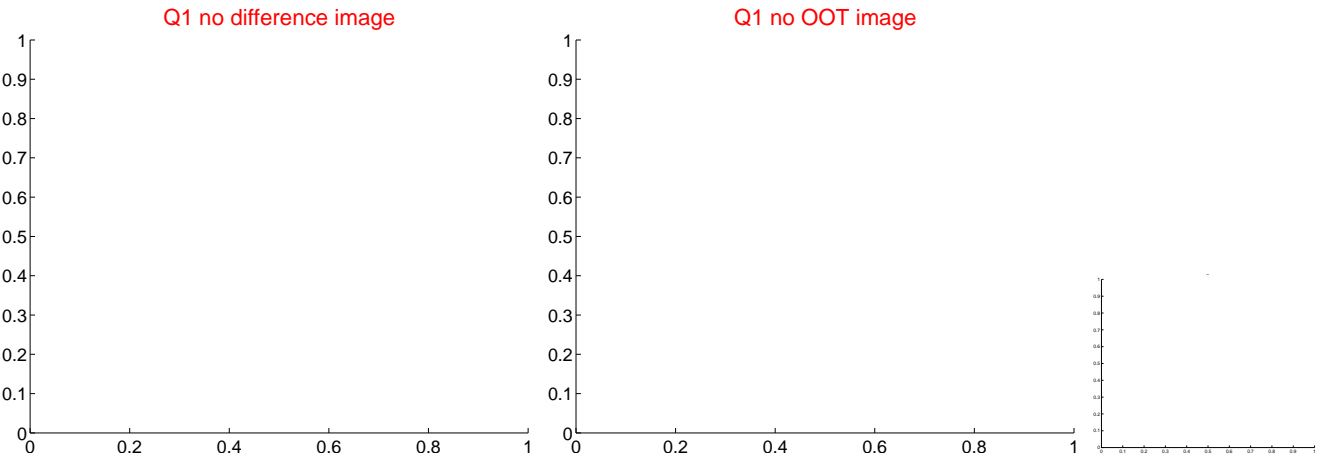


offset from photometric centroids

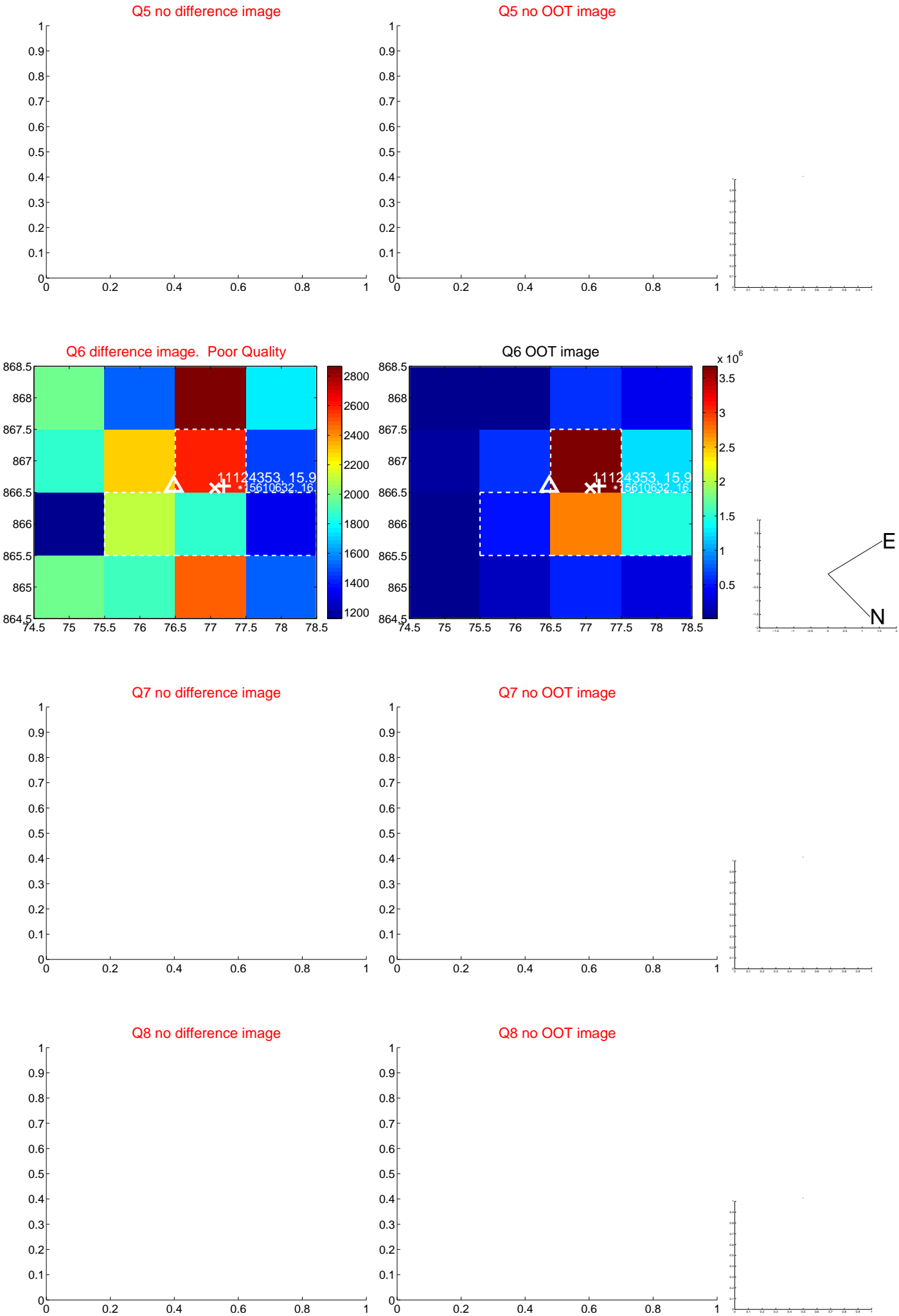


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

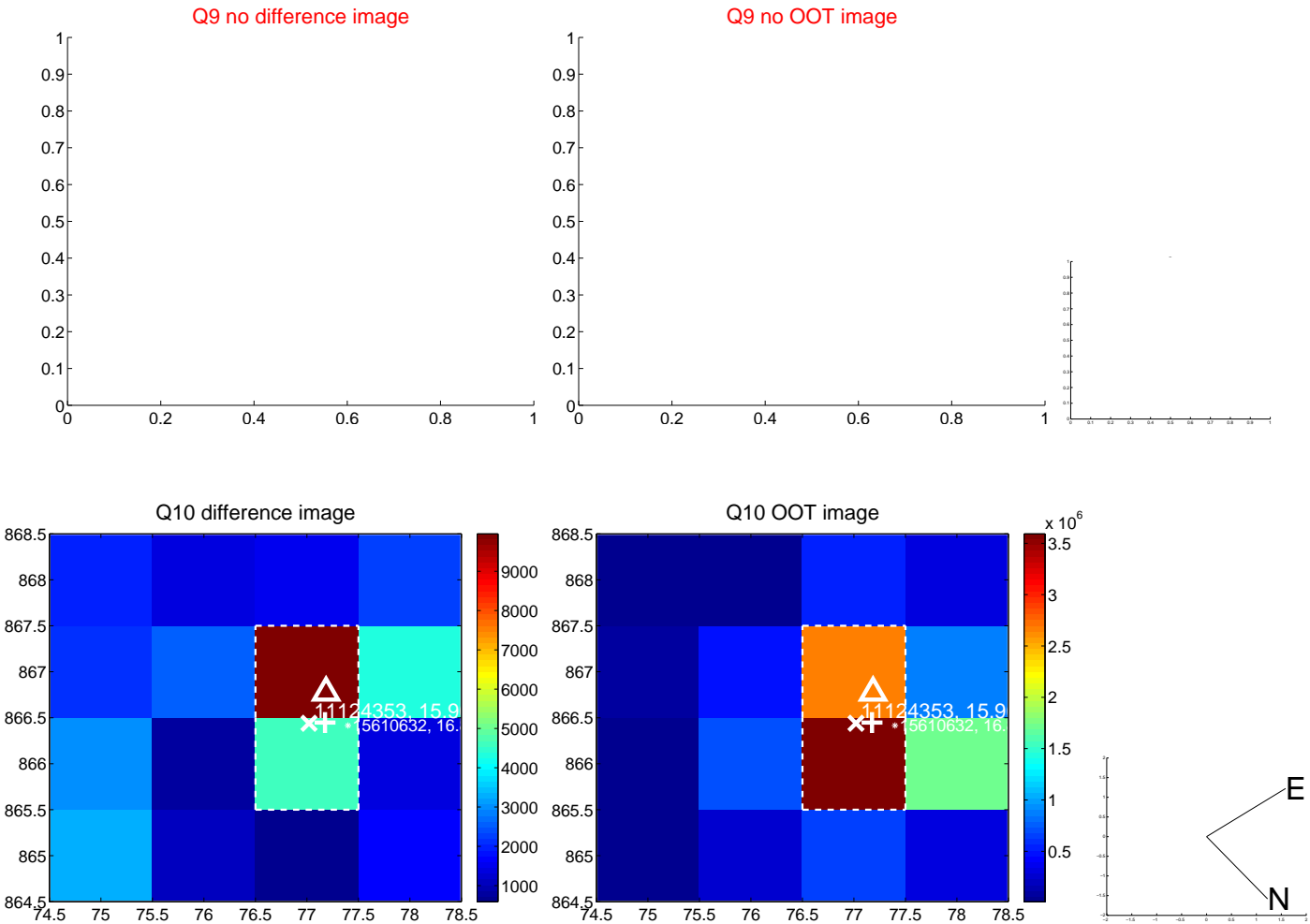
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



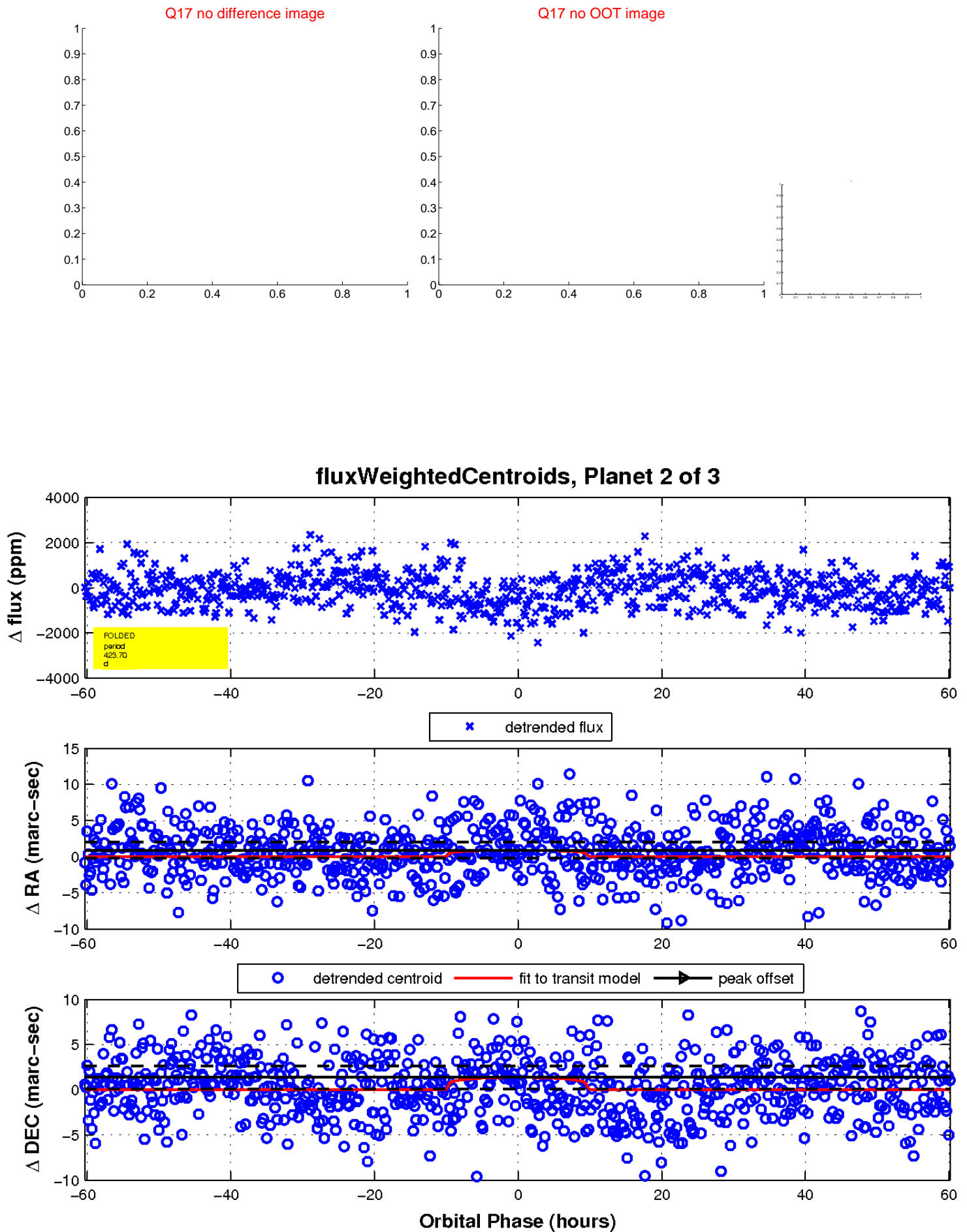
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

