

KIC 006285094

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})
006285094-01	OBS	6683.01	5.243553	132.799658	74.0	13.980	9.2	9.4	0.96	6029	0.98	308.09
006285094-02	OBS	No	427.251642	212.987707	469.2	2.234	14.2	4.4	0.96	6029	2.36	0.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006285094-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006285094-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

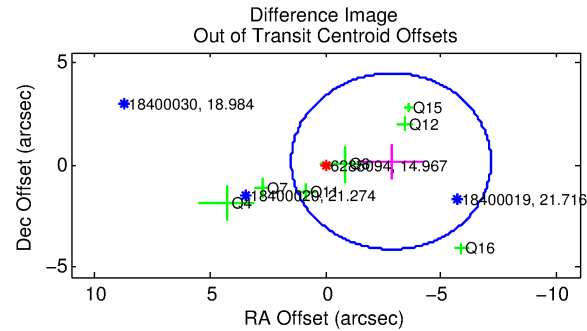
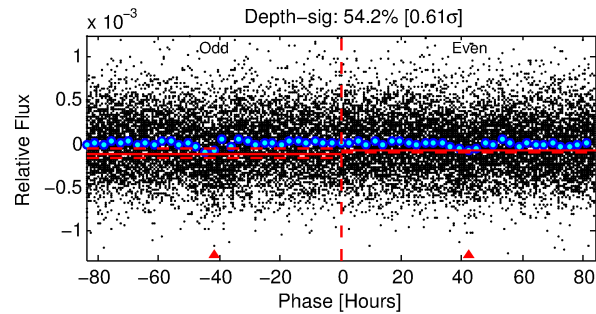
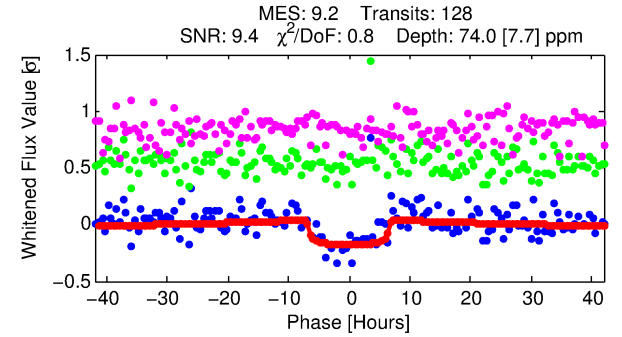
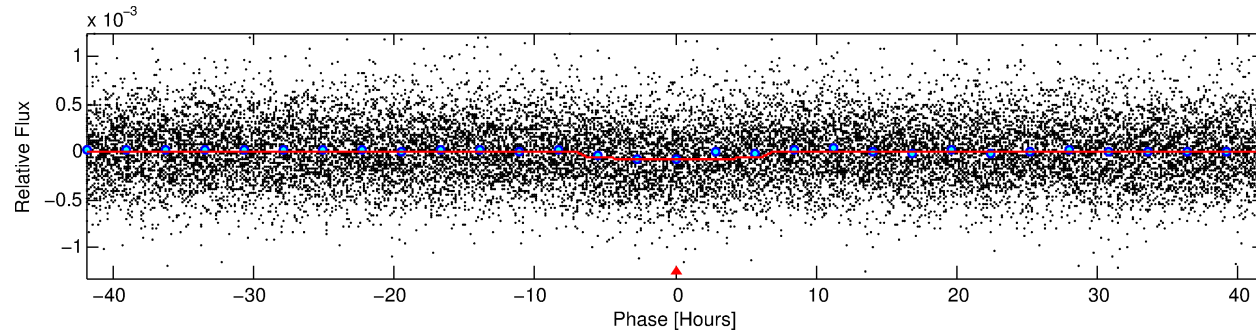
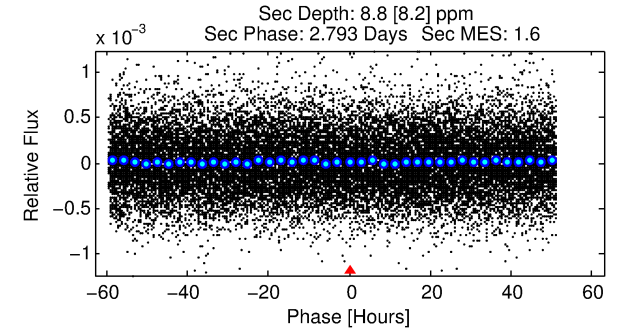
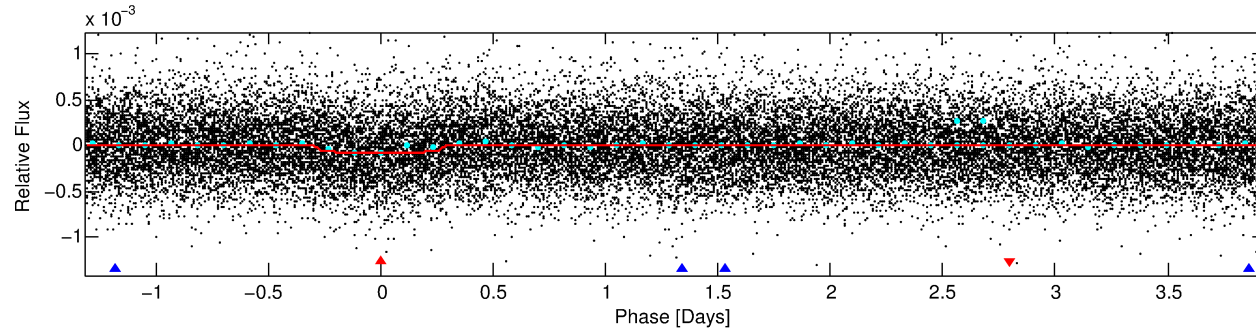
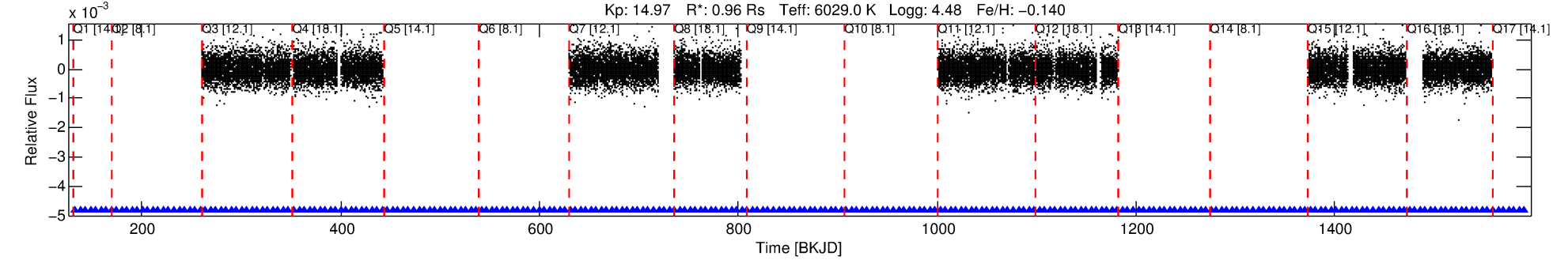
Ephemeris Match Information For 006285094-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
006285094-01	6285094	TT-Lyr-pri	6364290	1:1	219.0	-27	-49	9.49	14.96	11542.00	Direct-PRF	0	1.64	4.28

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6285094 Candidate: 1 of 2 Period: 5.244 d
KOI: K06683.01 Corr: 0.903



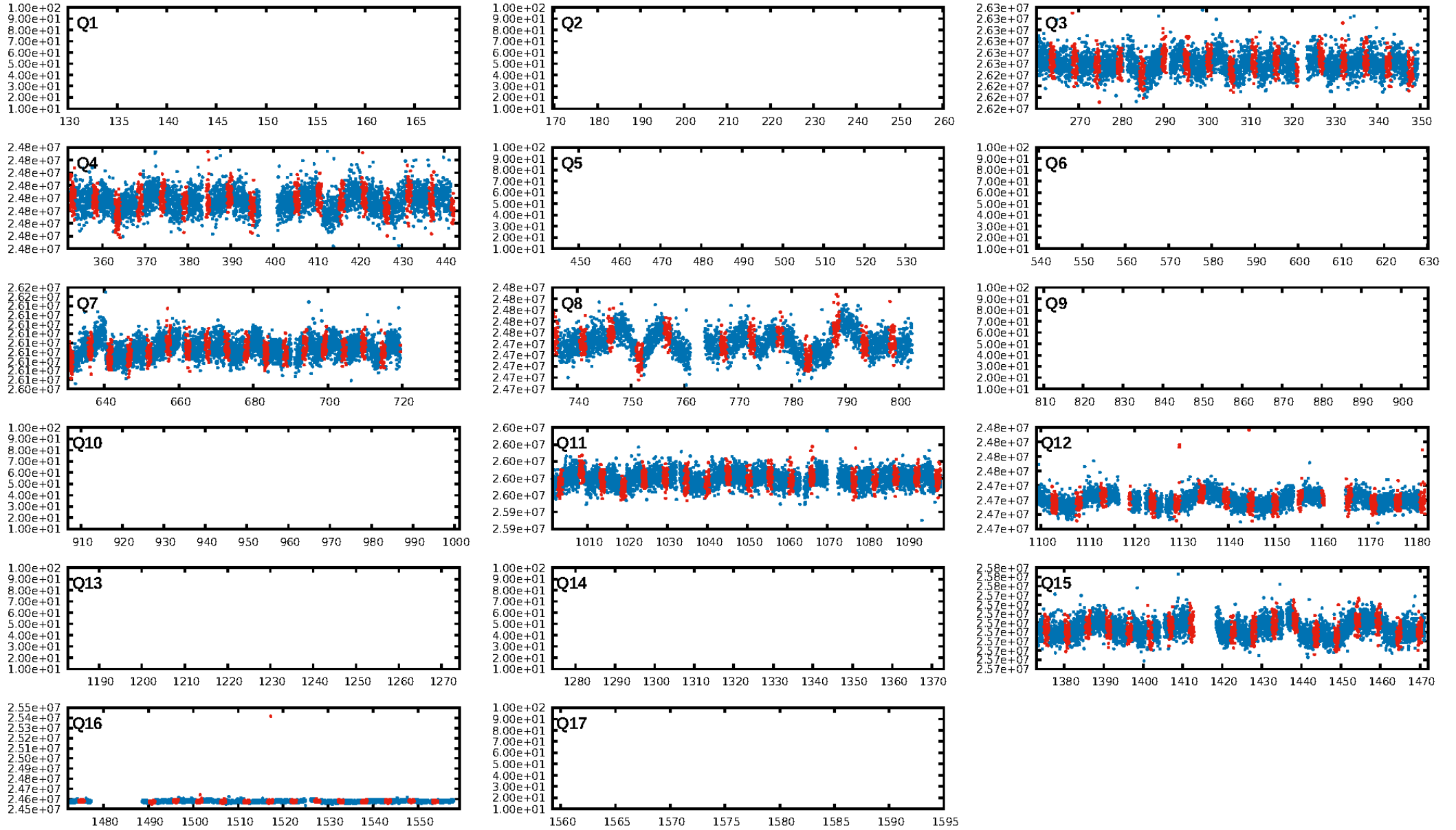
DV Fit Results:

Period = 5.24355 [0.00012] d
Epoch = 132.7997 [0.0183] BKJD
Rp/R* = 0.0094 [0.0016]
a/R* = 1.57 [0.82]
b = 0.91 [0.17]
Seff = 308.09 [130.26]
Teq = 1068 [113] K
Rp = 0.98 [0.36] Re
a = 0.0593 [0.0160] AU
Ag = 17.80 [19.00] [0.88σ]
Teffp = 3393 [851] K [2.71σ]

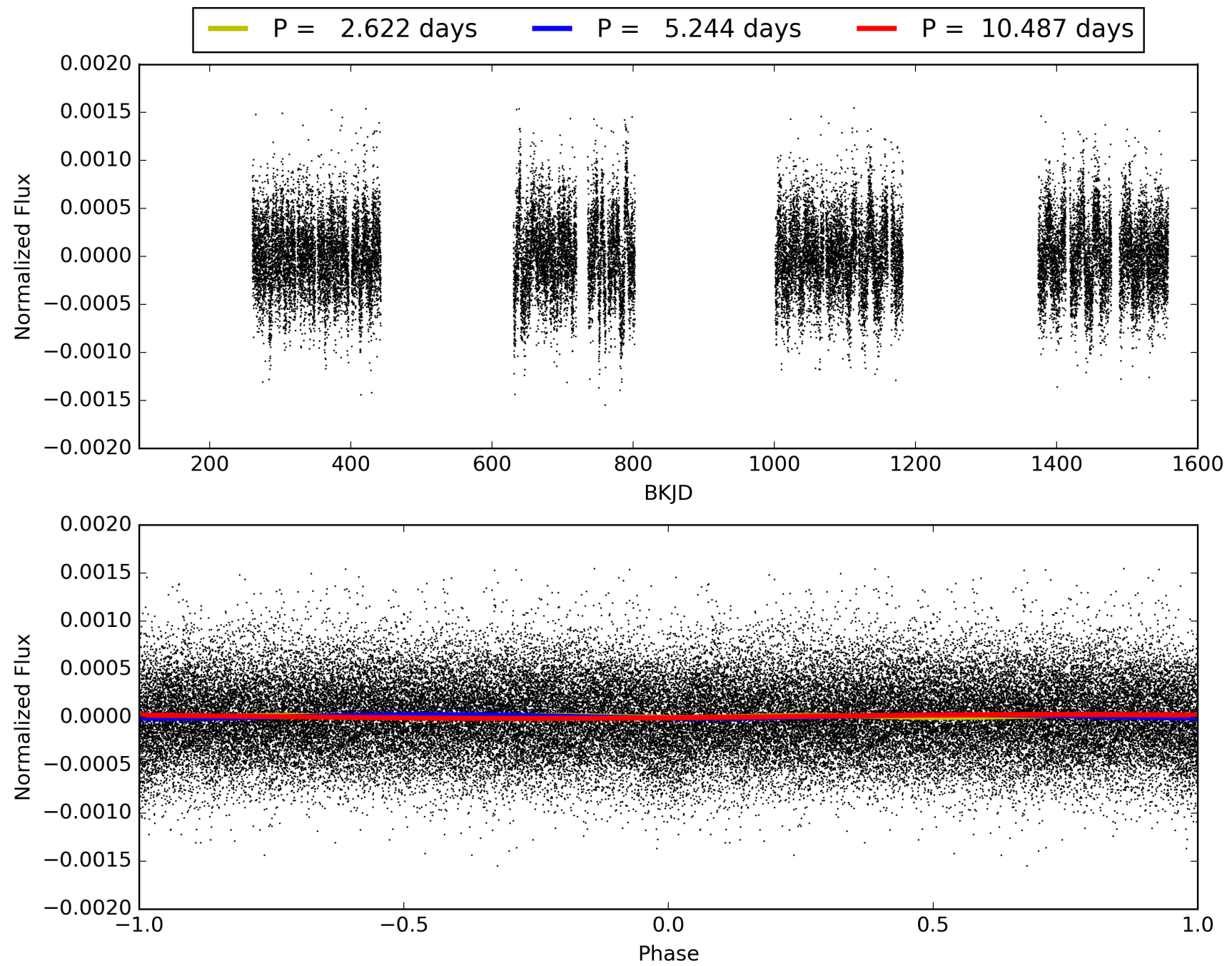
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [715.38σ]
ModelChiSquare2-sig: 57.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.81e-19
RollingBand-fgt: 1.00 [128/128]
GhostDiagnostic-chr: 0.03376
Centroid-sig: 0.0%
Centroid-so: 2.204 arcsec [1.97σ]
OotOffset-rm: 2.844 arcsec [1.98σ]
KicOffset-rm: 3.155 arcsec [2.34σ]
OotOffset-st: 0/3/4/0 [7]
KicOffset-st: 0/3/4/0 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 006285094-01, PDC Light Curves

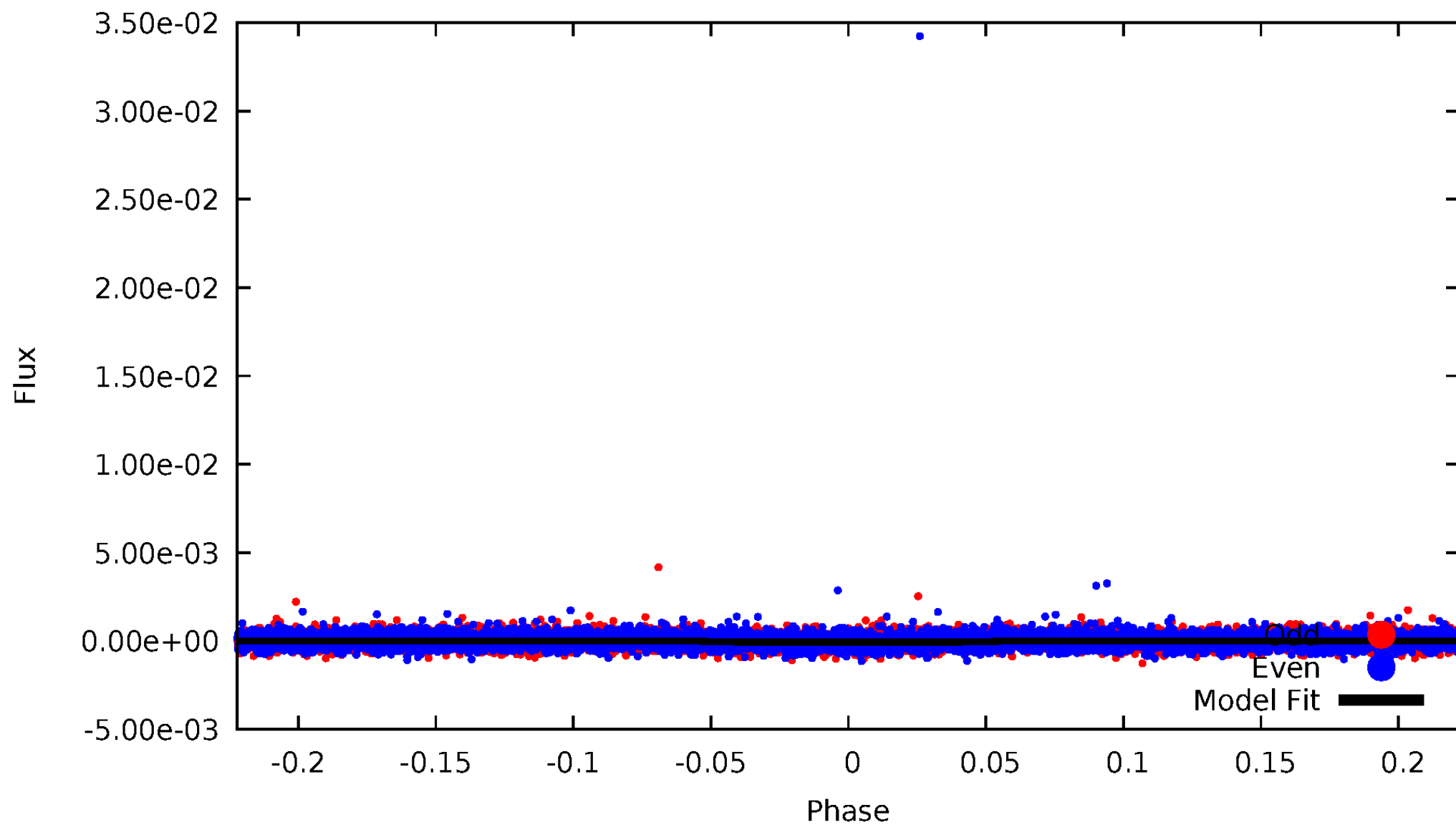


TCE 006285094-01



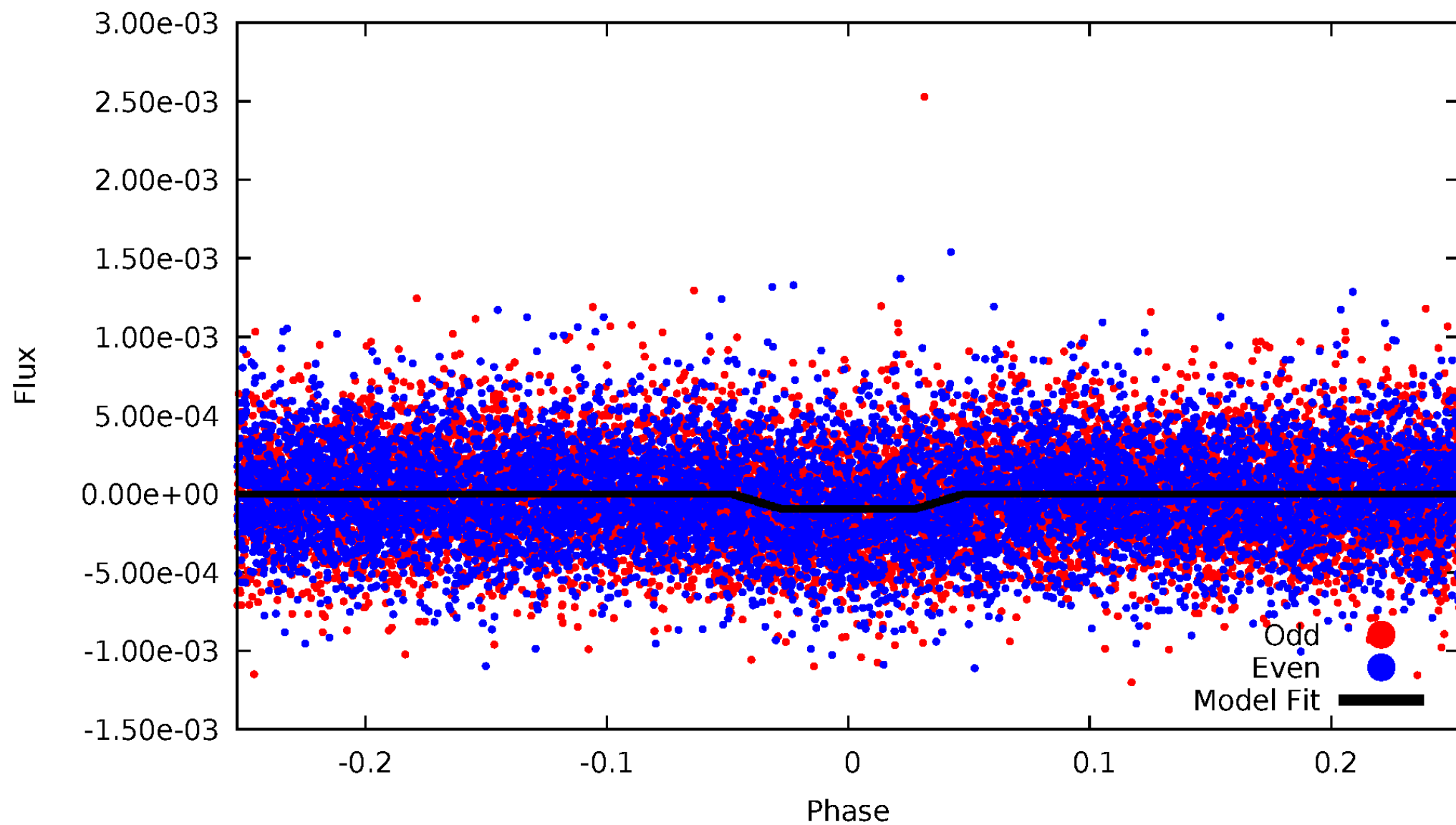
DV Odd/Even

TCE 006285094-01



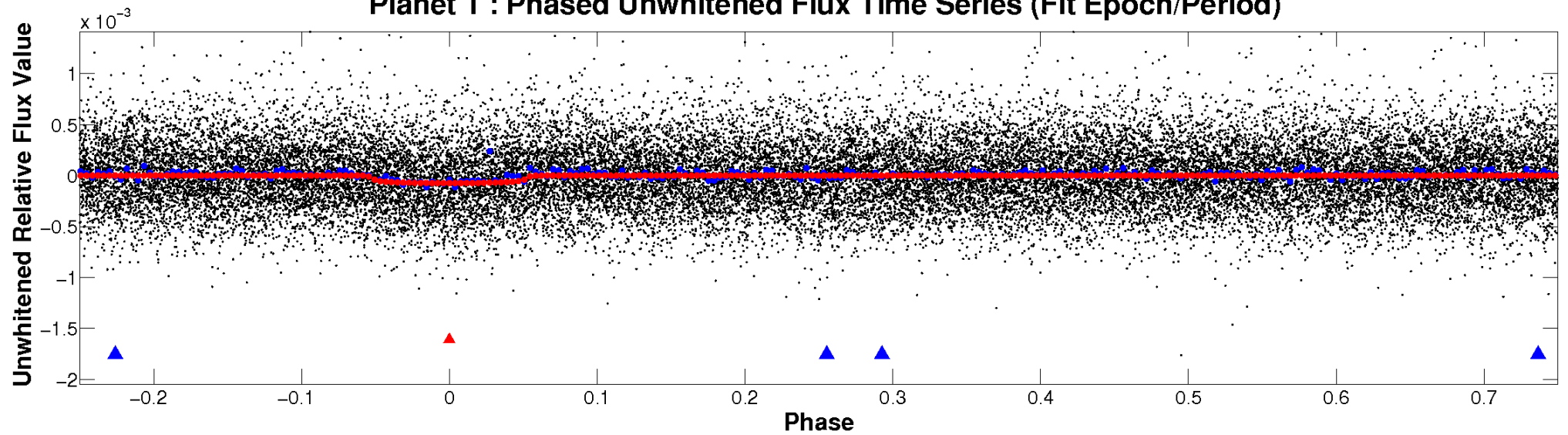
ALT Odd/Even

TCE 006285094-01

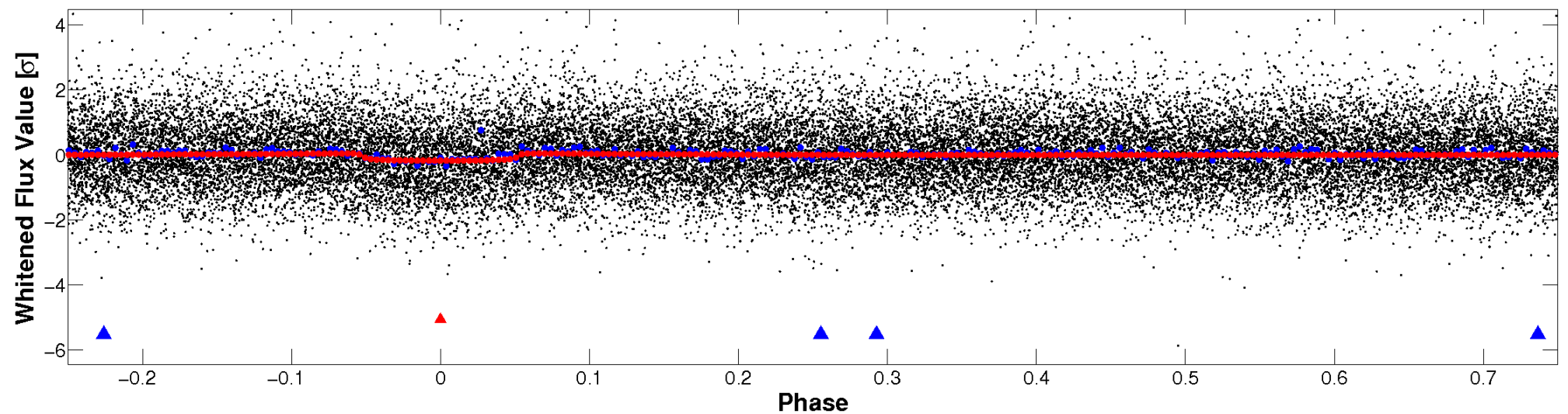


Non-Whitened Vs. Whitened Light Curve

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

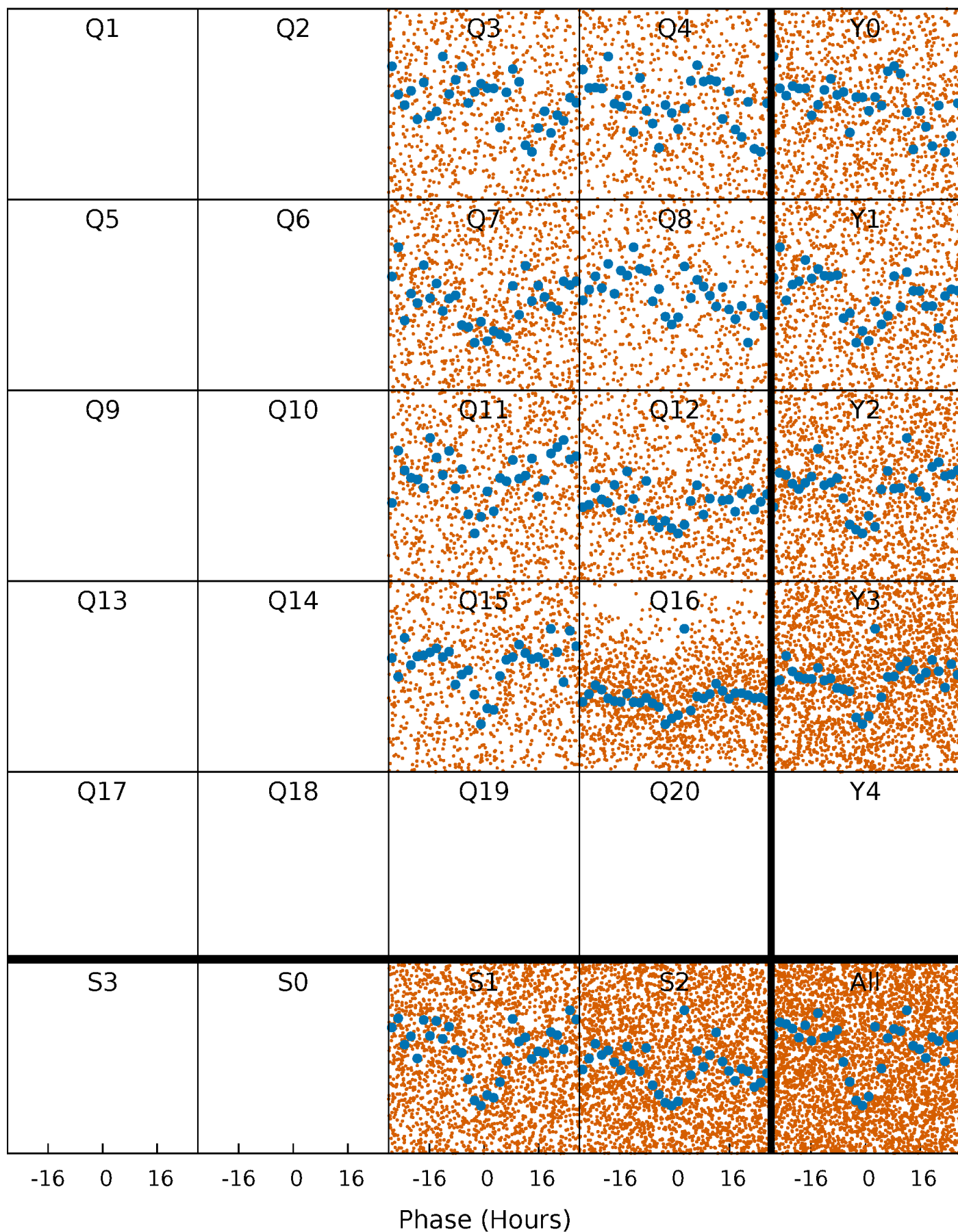


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



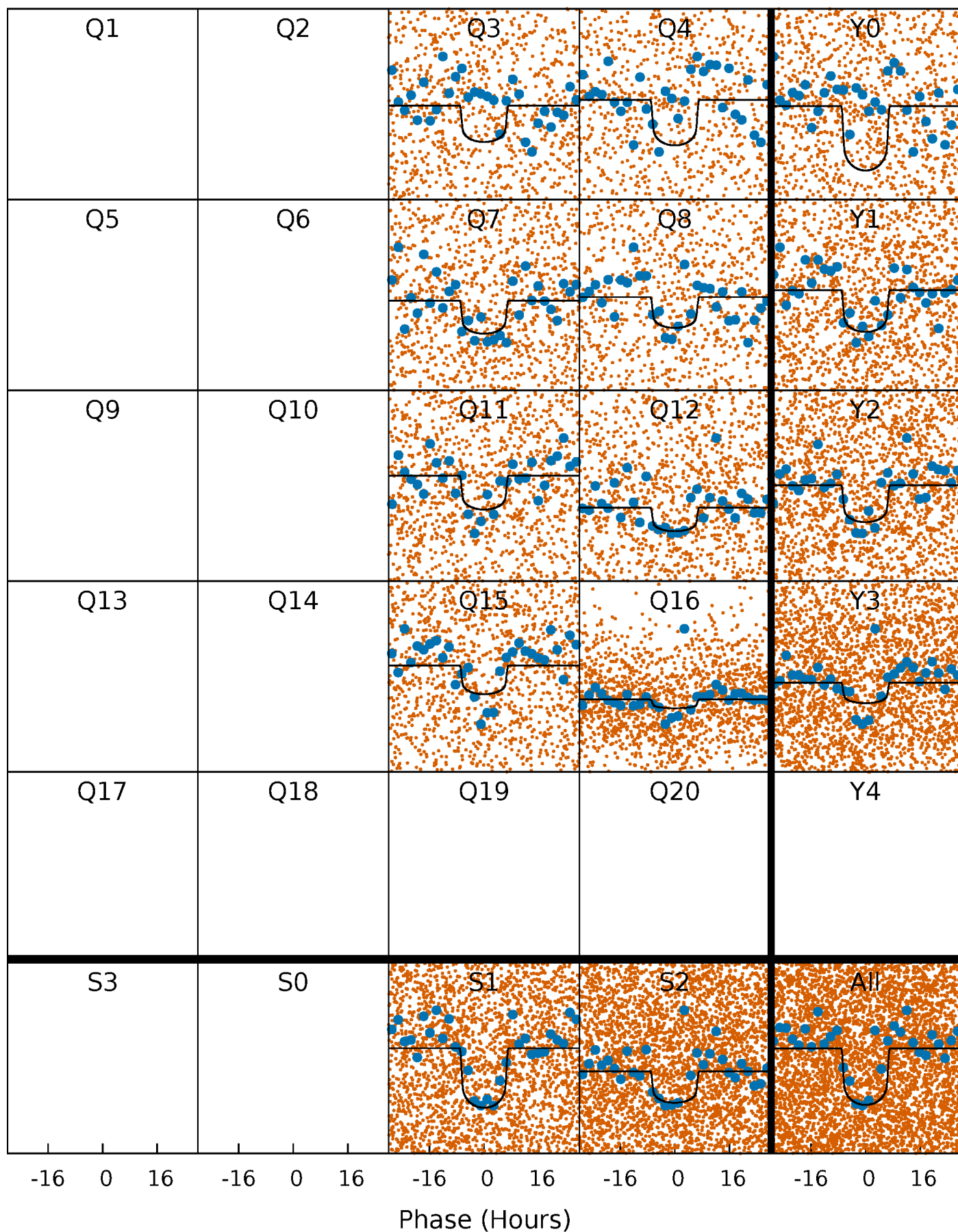
PDC Quarter-Phased Transit Curves

TCE 006285094-01 P= 5.243553 Days $T_0=132.799658$ (BKJD)



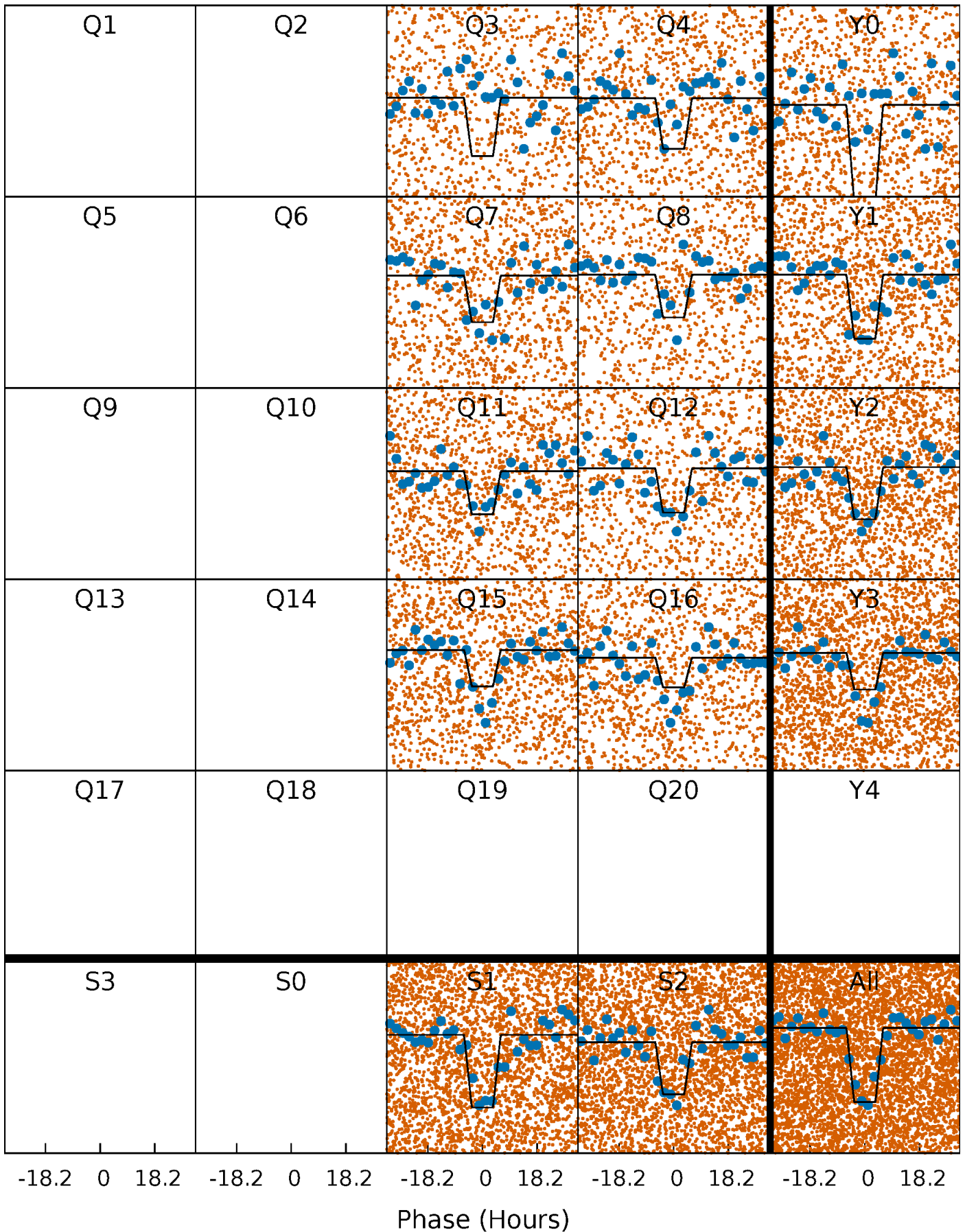
DV Quarter-Phased Transit Curves

TCE 006285094-01 P= 5.243553 Days $T_0=132.799658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

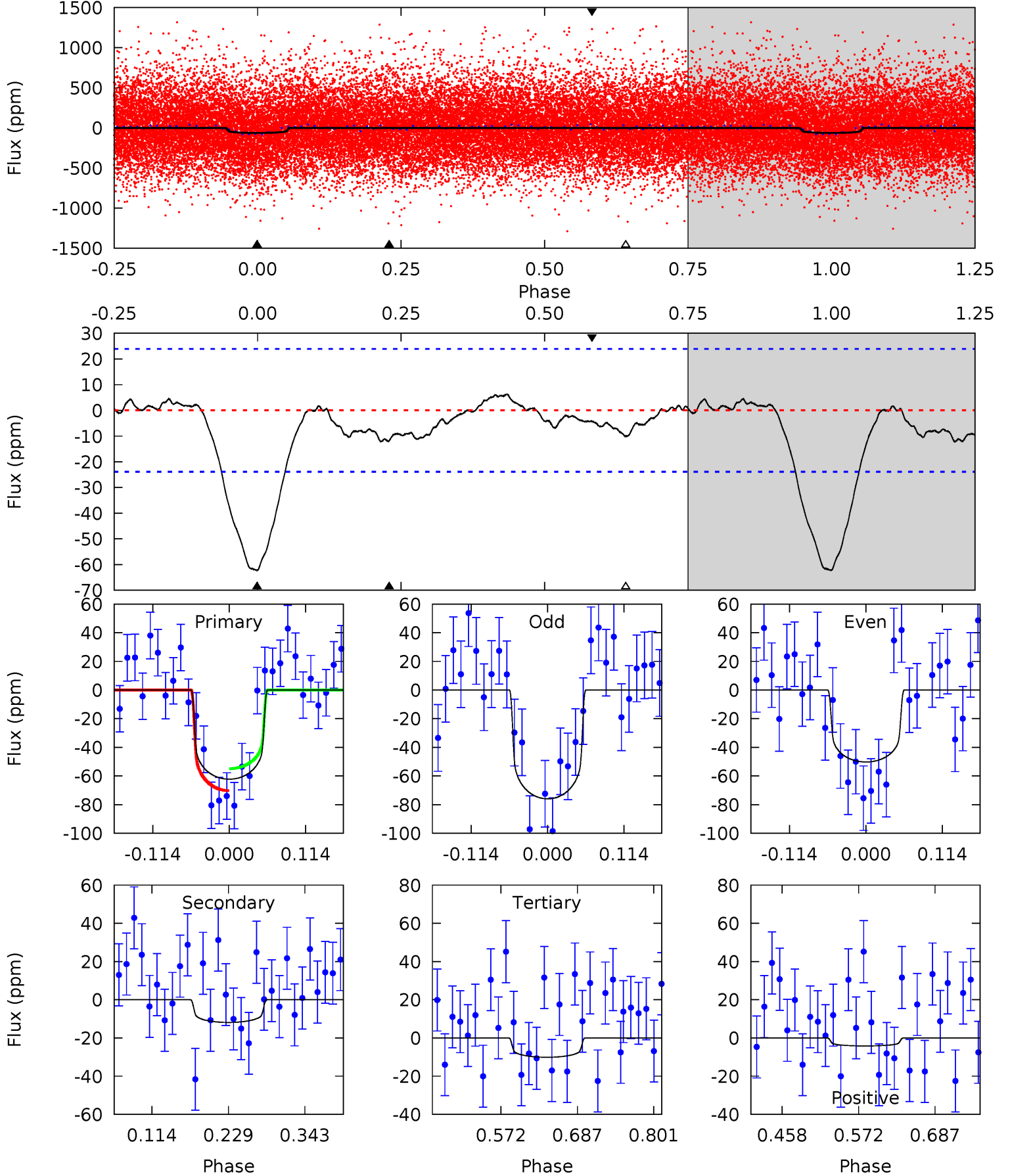
TCE 006285094-01 P= 5.243648 Days $T_0=132.742812$ (BKJD)



DV Model-Shift Uniqueness Test

006285094-01, P = 5.243553 Days, E = 132.799658 Days

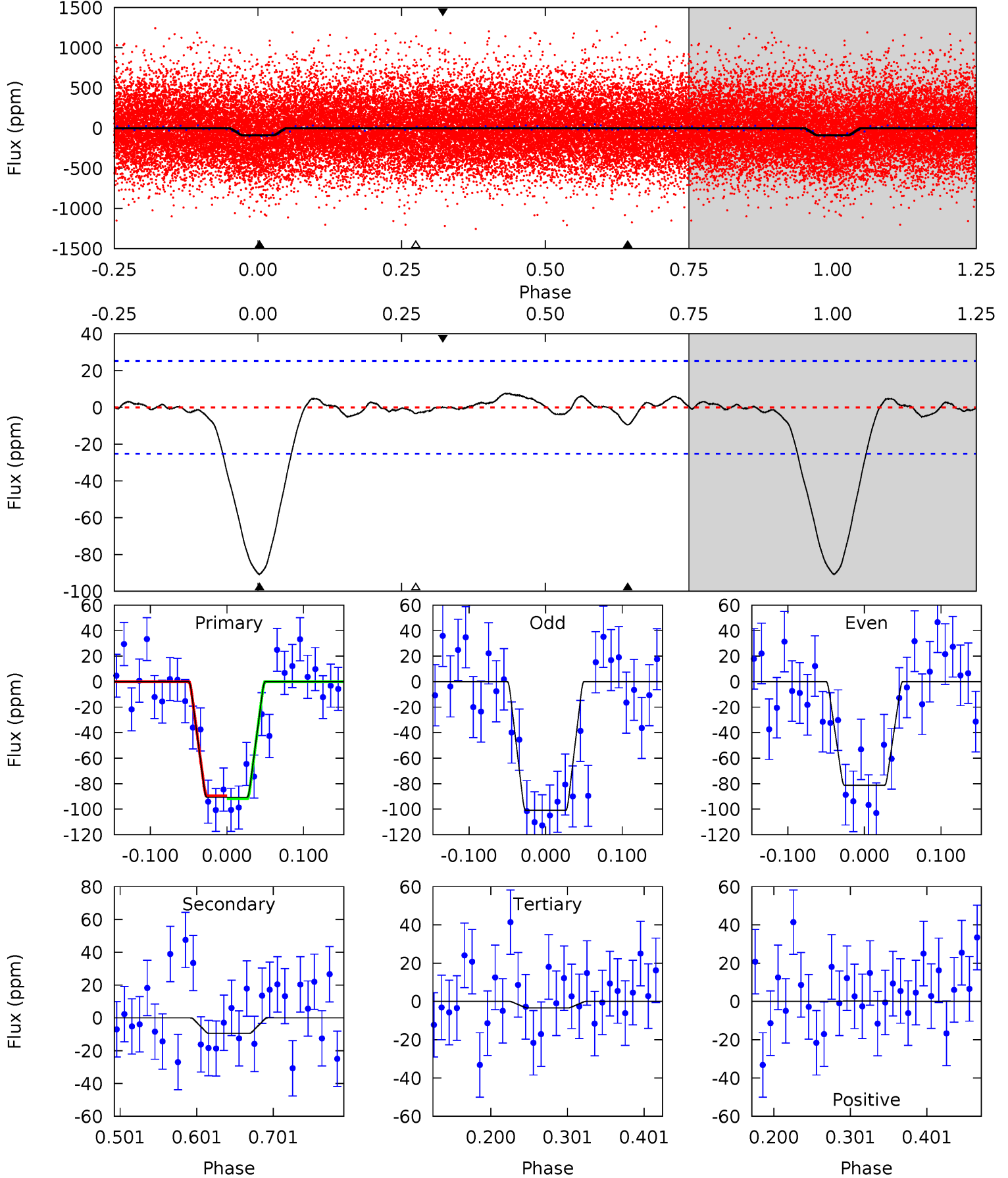
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	2.25	1.92	-0.79	4.54	1.58	0.73	9.90	12.6	0.34	3.05	2.44	0.74	0.09	1.46



Alt Model-Shift Uniqueness Test

006285094-01, P = 5.243648 Days, E = 132.742812 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	1.71	0.62	0.03	4.56	1.64	0.51	15.8	16.4	1.10	1.68	1.78	0.94	0.08	0.19



Stellar Parameters For KIC 006285094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+188}_{-230}	$4.481^{+0.054}_{-0.216}$	$-0.140^{+0.300}_{-0.300}$	$0.956^{+0.306}_{-0.102}$	$1.005^{+0.144}_{-0.118}$	$1.617^{+0.471}_{-0.861}$
	+3%/-4%	+1%/-5%	+214%/-214%	+32%/-11%	+14%/-12%	+29%/-53%
Source	KIC0	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 006285094-01 / KOI 6683.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 5	$1.03^{+0.24}_{-0.20}$	1523^{+109}_{-80}	3935^{+424}_{-450}	21^{+16}_{-11}
Alt.	-9 ± 6	$1.07^{+0.23}_{-0.20}$	1519^{+118}_{-78}	3740^{+424}_{-529}	16^{+13}_{-10}

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

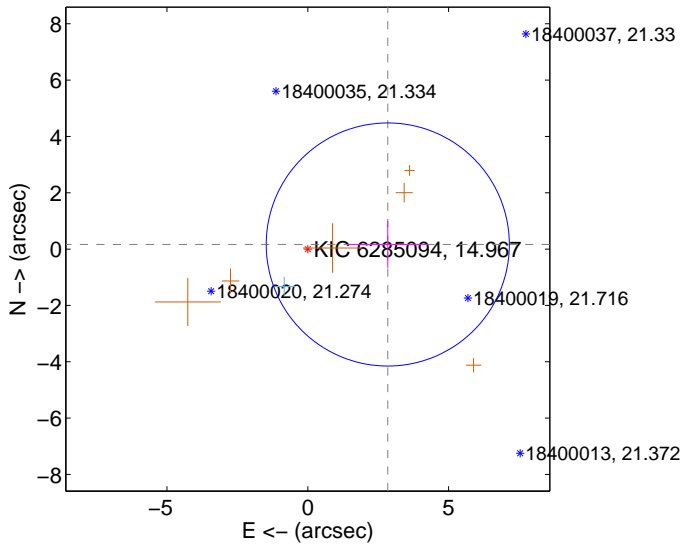
Supplemental centroid analysis for 006285094-01. Kepler magnitude: 14.97. Transit SNR 9.44

There are 1 quarters with good PRF difference image offsets

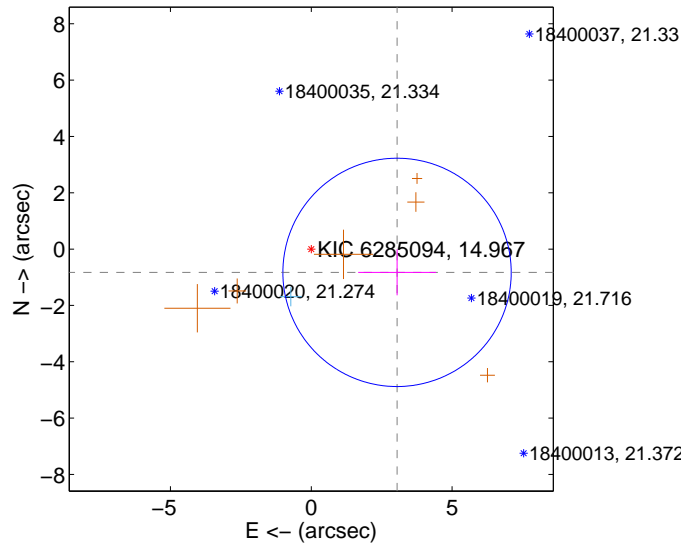
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.844 ± 1.438	1.98	-2.840 ± 1.427	0.163 ± 0.827
PRF-fit source offset from KIC position	3.155 ± 1.351	2.34	-3.045 ± 1.382	-0.827 ± 0.815
photometric centroid source offset	2.20 ± 1.12	1.97	1.27 ± 1.15	1.80 ± 1.10

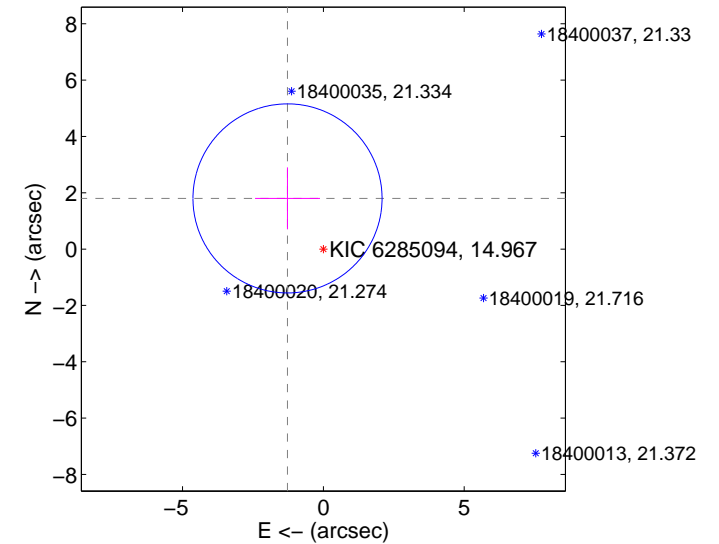
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



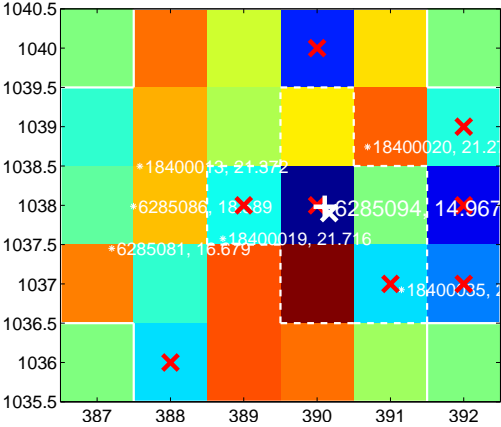
Q2 no difference image



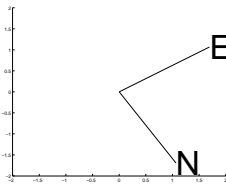
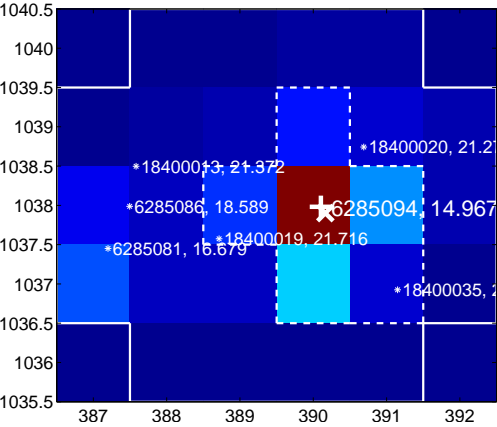
Q2 no OOT image



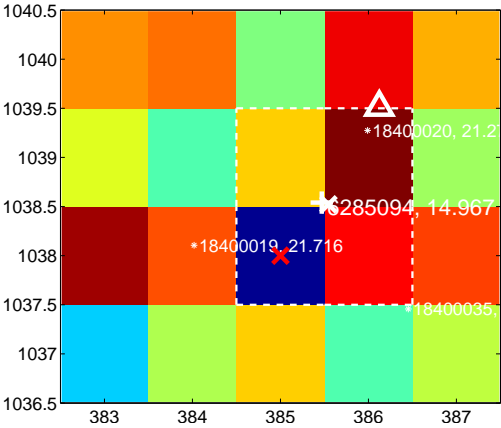
Q3 difference image. Poor Quality



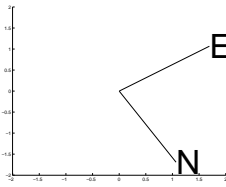
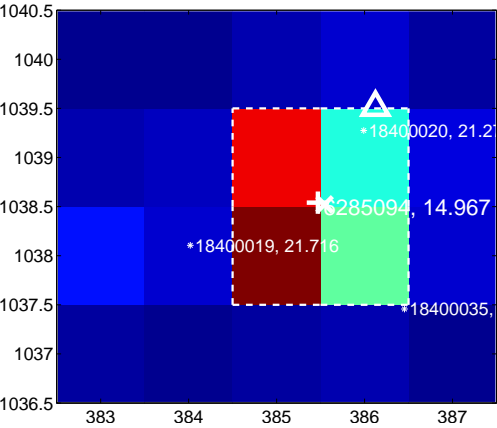
Q3 OOT image



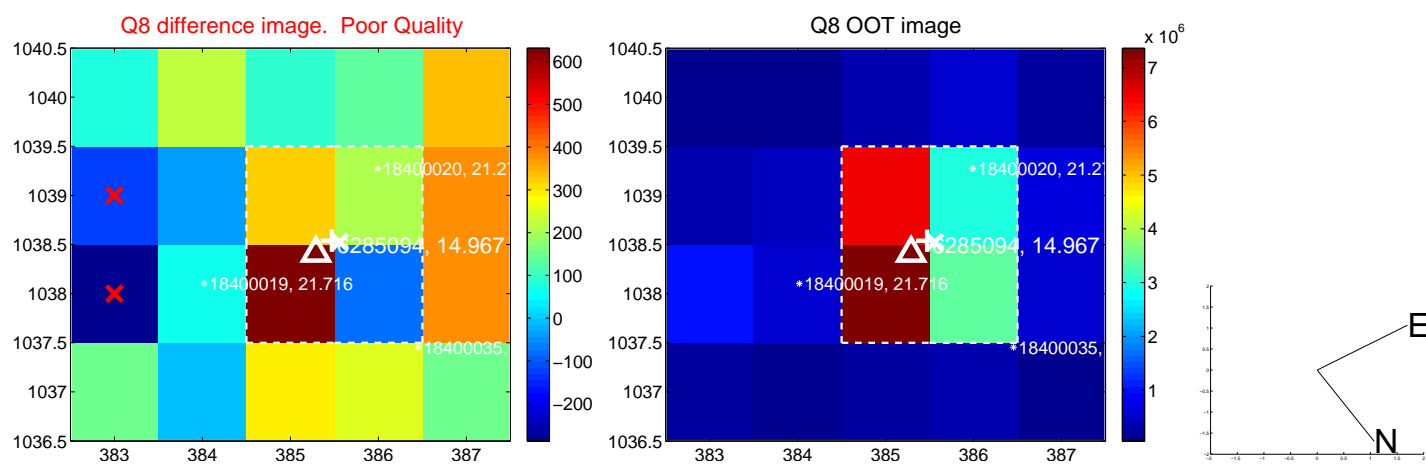
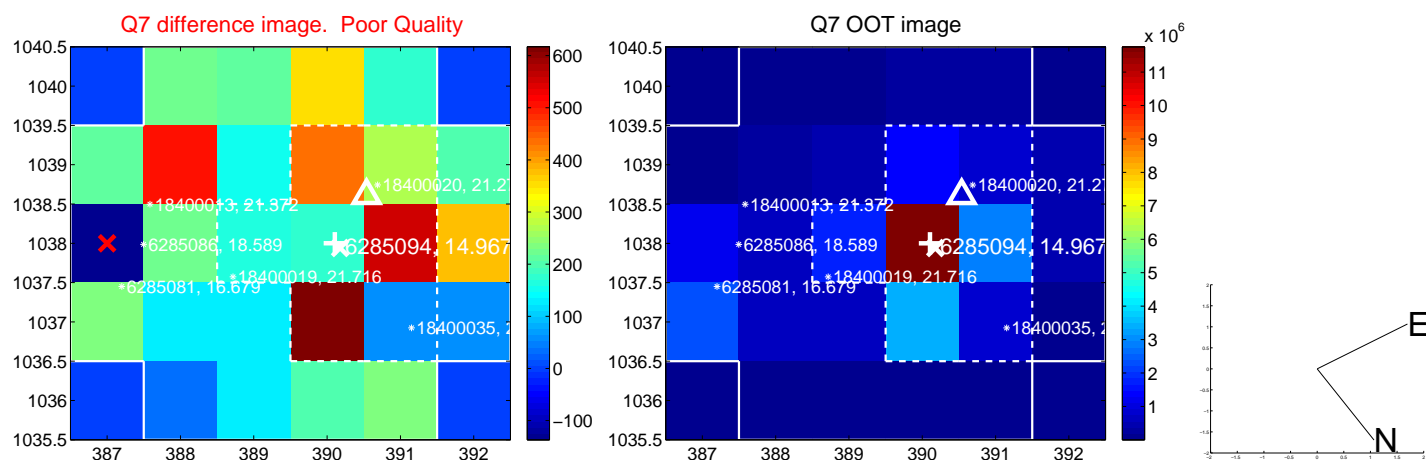
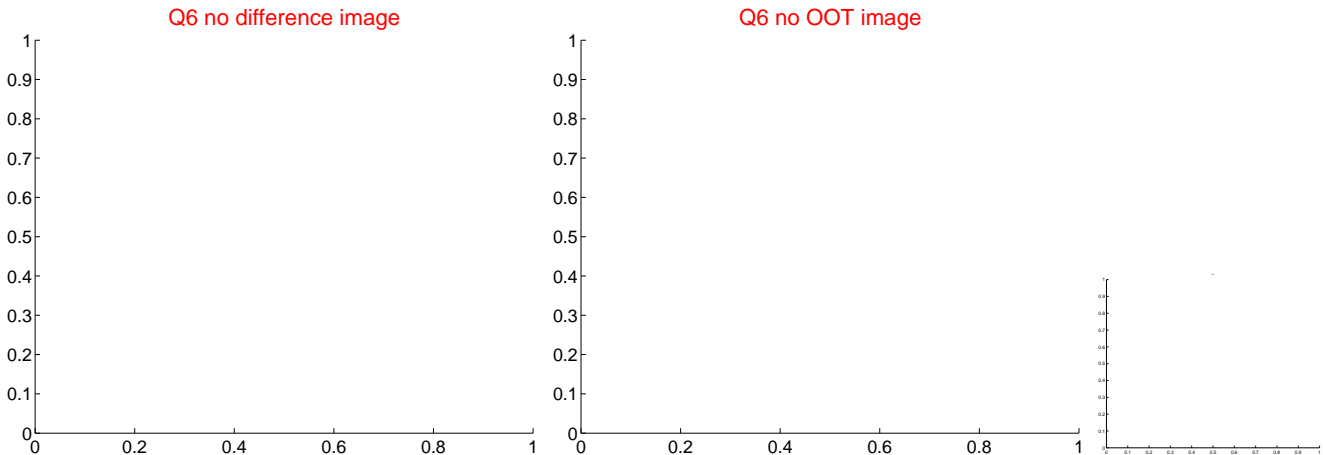
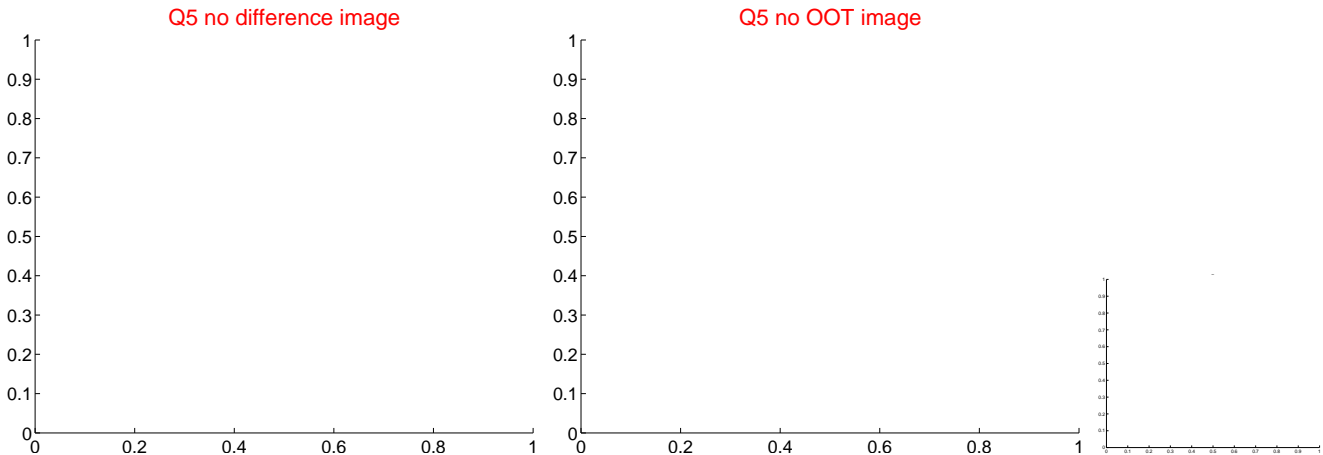
Q4 difference image. Poor Quality



Q4 OOT image



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



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

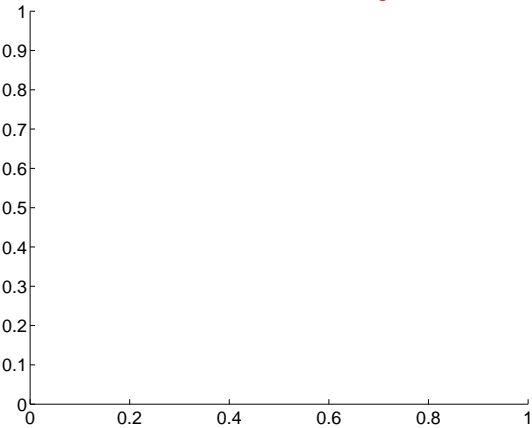
Q9 no difference image



Q9 no OOT image



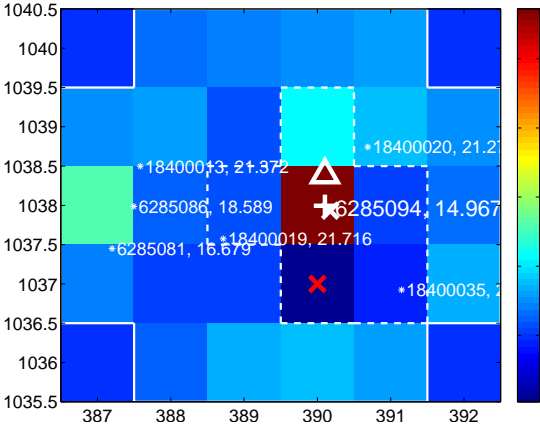
Q10 no difference image



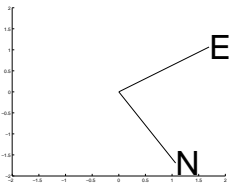
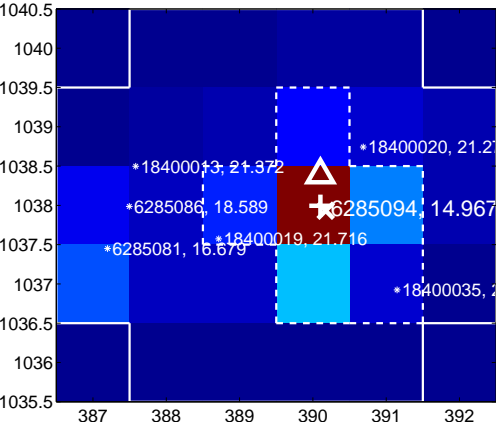
Q10 no OOT image



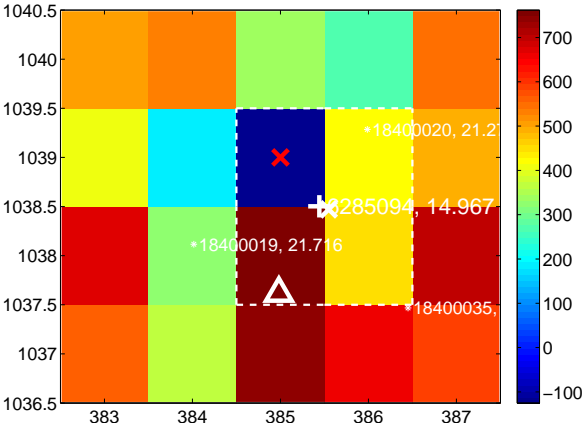
Q11 difference image



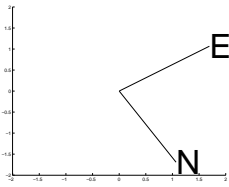
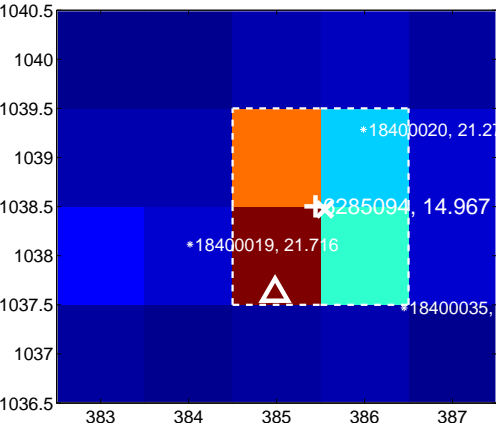
Q11 OOT image



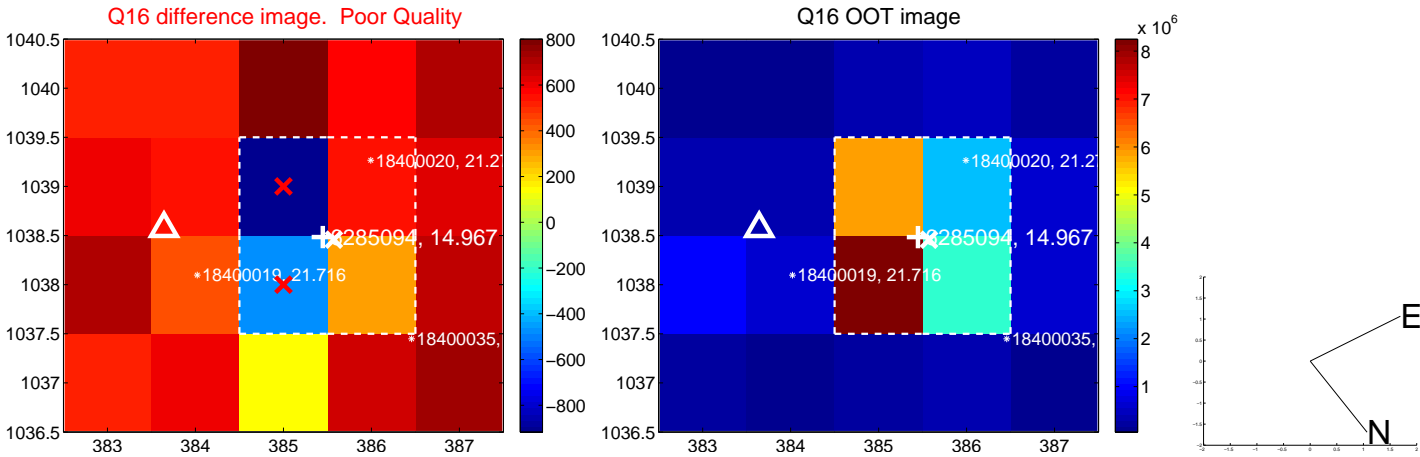
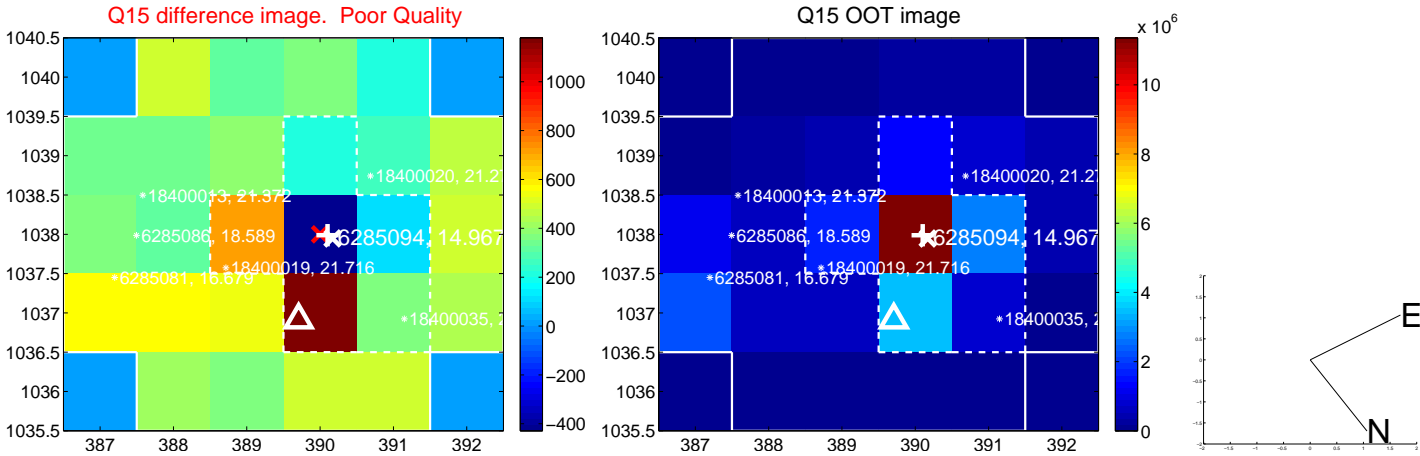
Q12 difference image. Poor Quality



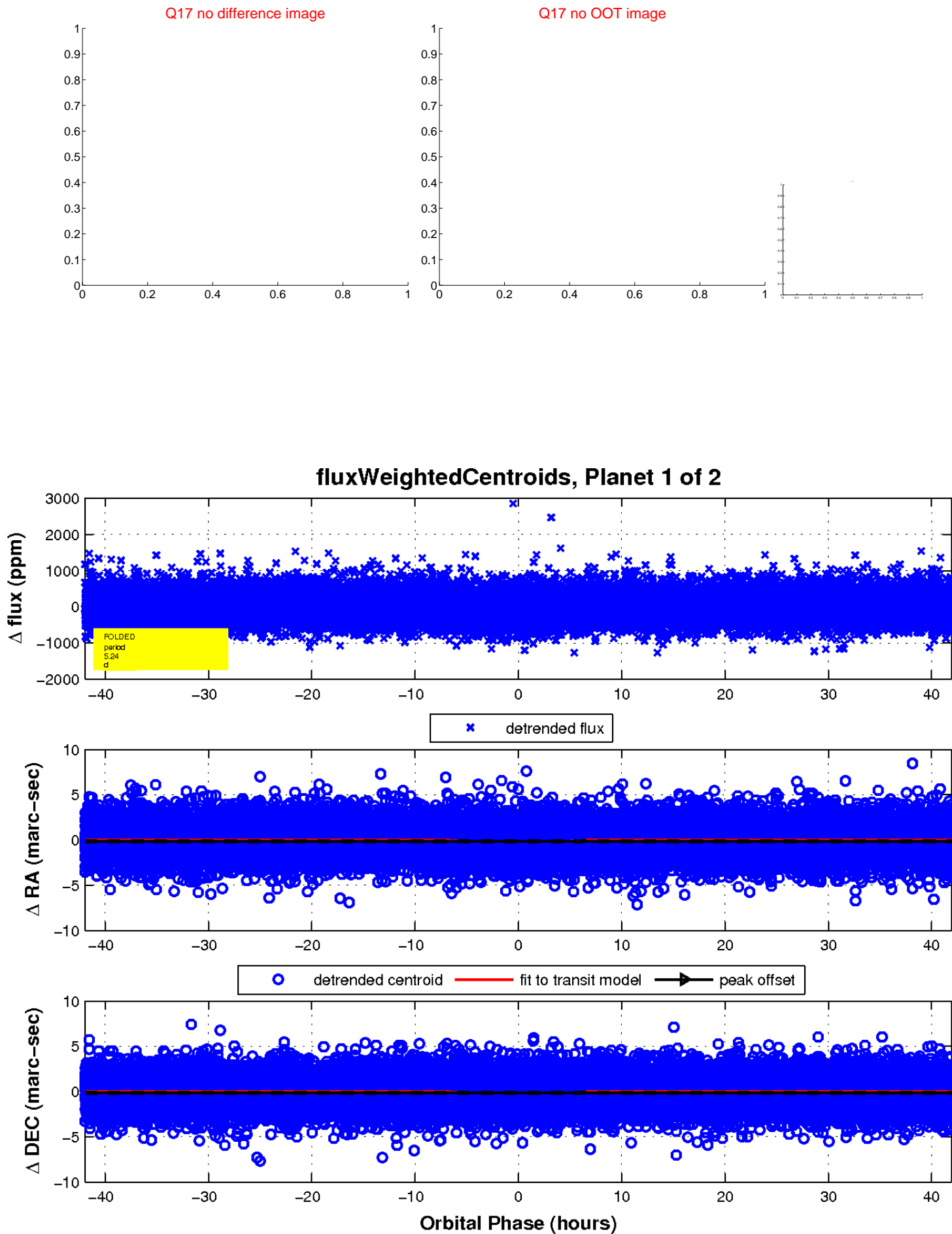
Q12 OOT image



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

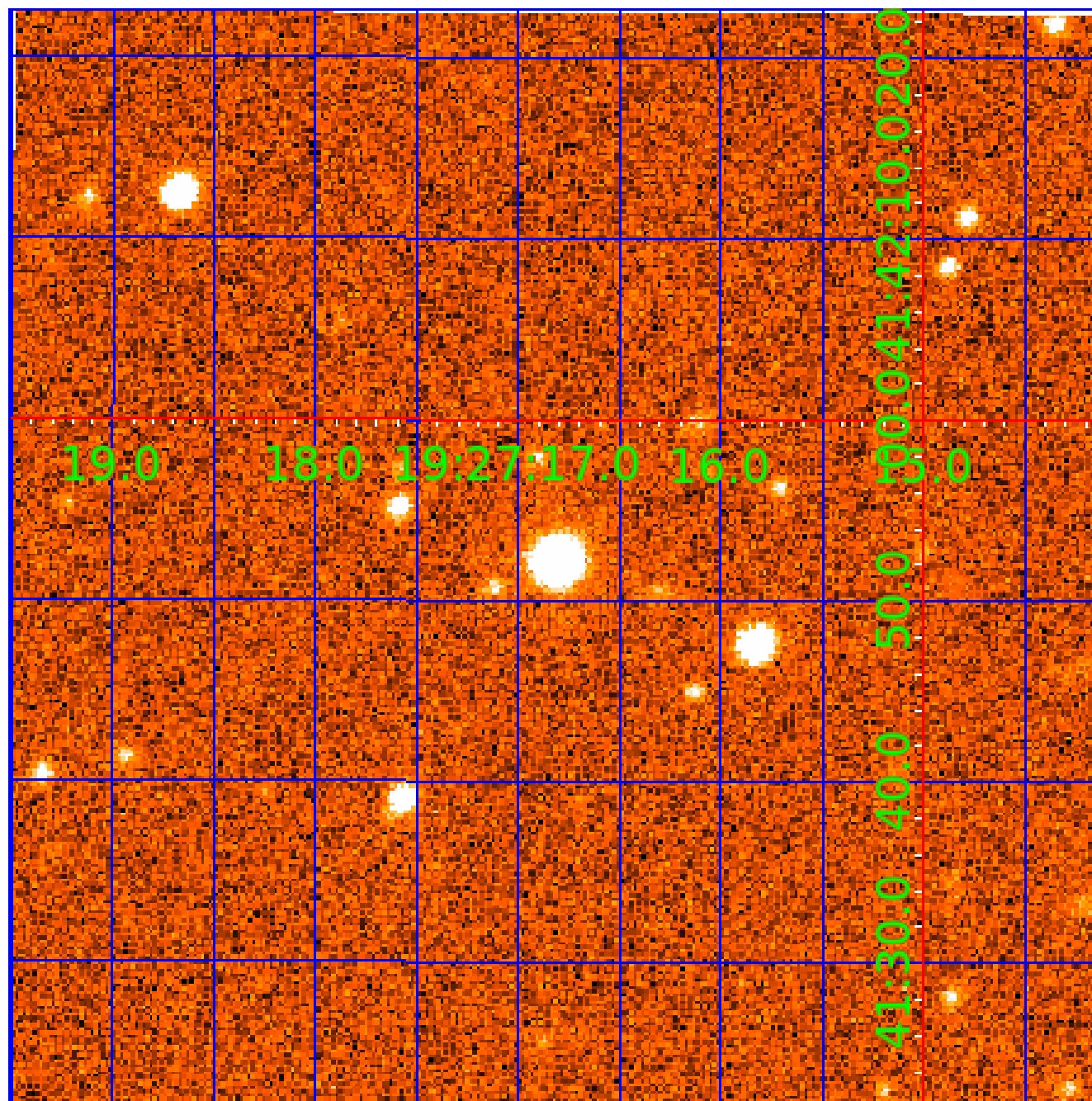


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006285094

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})
006285094-01	OBS	6683.01	5.243553	132.799658	74.0	13.980	9.2	9.4	0.96	6029	0.98	308.09
006285094-02	OBS	No	427.251642	212.987707	469.2	2.234	14.2	4.4	0.96	6029	2.36	0.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006285094-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
006285094-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

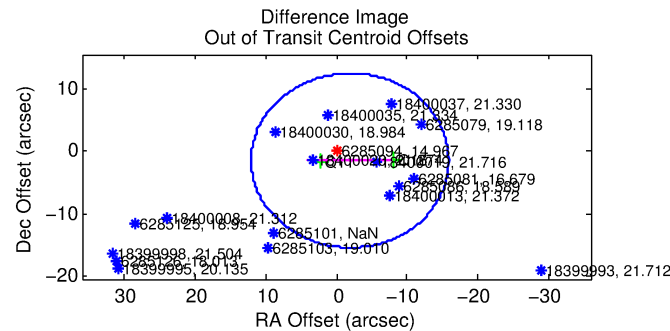
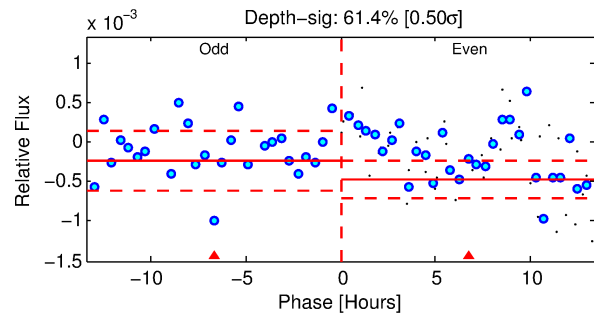
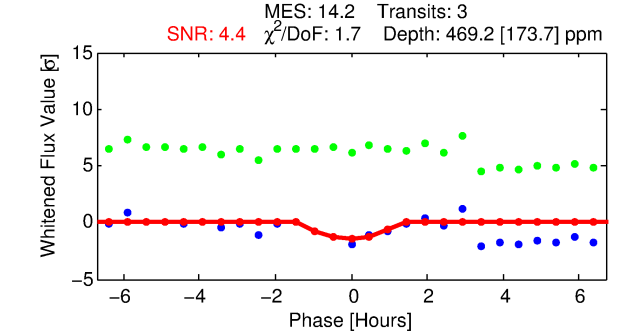
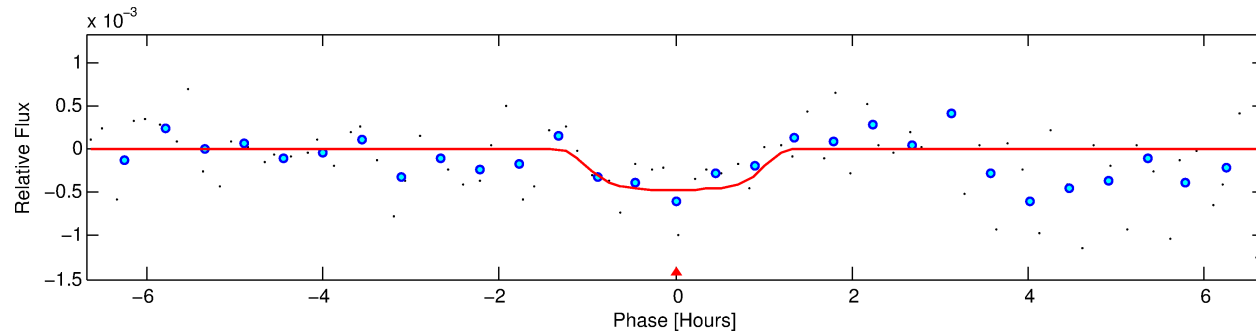
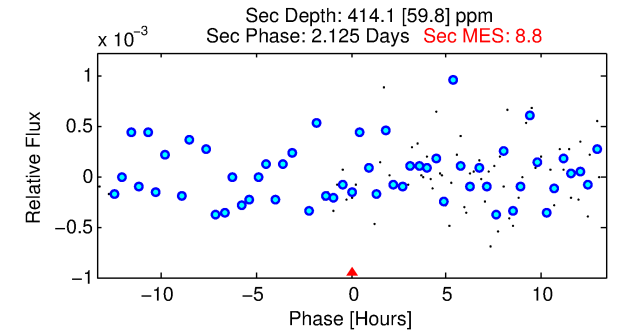
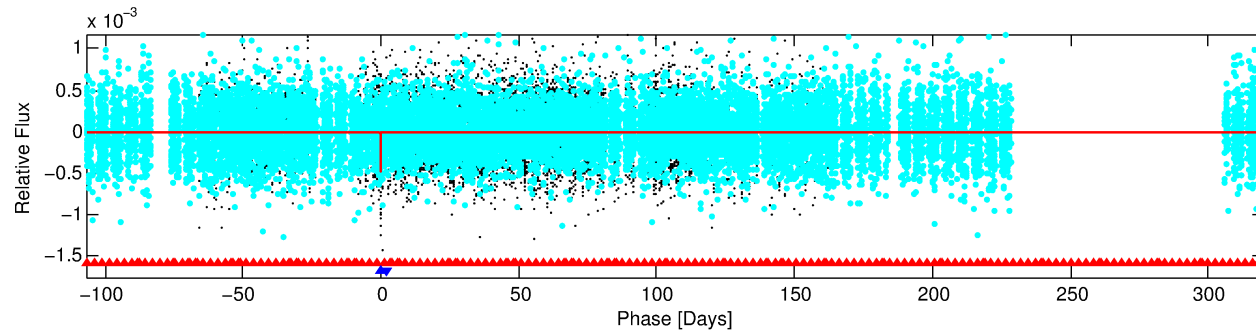
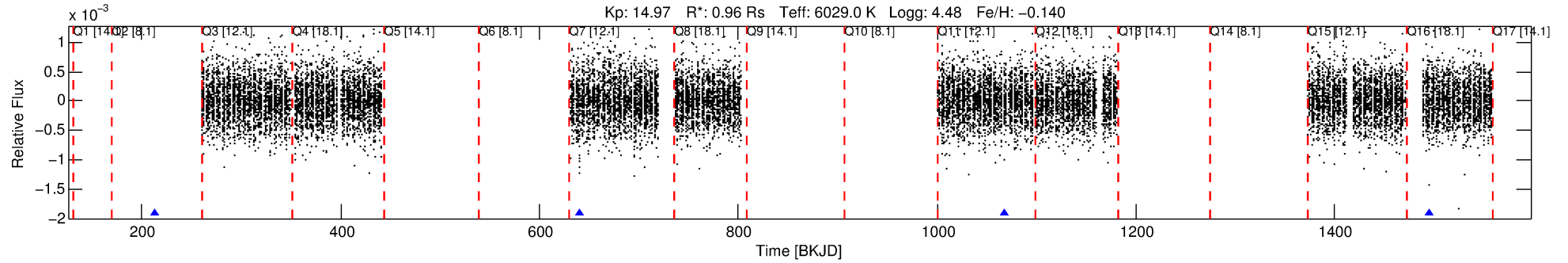
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006285094-02

No Significant Match Found

DV One-Page Summary

KIC: 6285094 Candidate: 2 of 2 Period: 427.252 d
KOI: K06683 Corr: No Ephemeris Match



DV Fit Results:

Period = 427.25164 [0.01167] d
Epoch = 212.9877 [0.0287] BKJD
Rp/R* = 0.0226 [0.0638]
a/R* = 823.45 [11603.10]
b = 0.85 [4.56]
Seff = 0.87 [0.37]
Teff = 246 [26] K
Rp = 2.36 [6.70] Re
a = 1.1138 [0.3010] AU
Ag = 50661.30 [286290.66] [0.18 σ]
Teffp = 5716 [8059] K [0.68 σ]

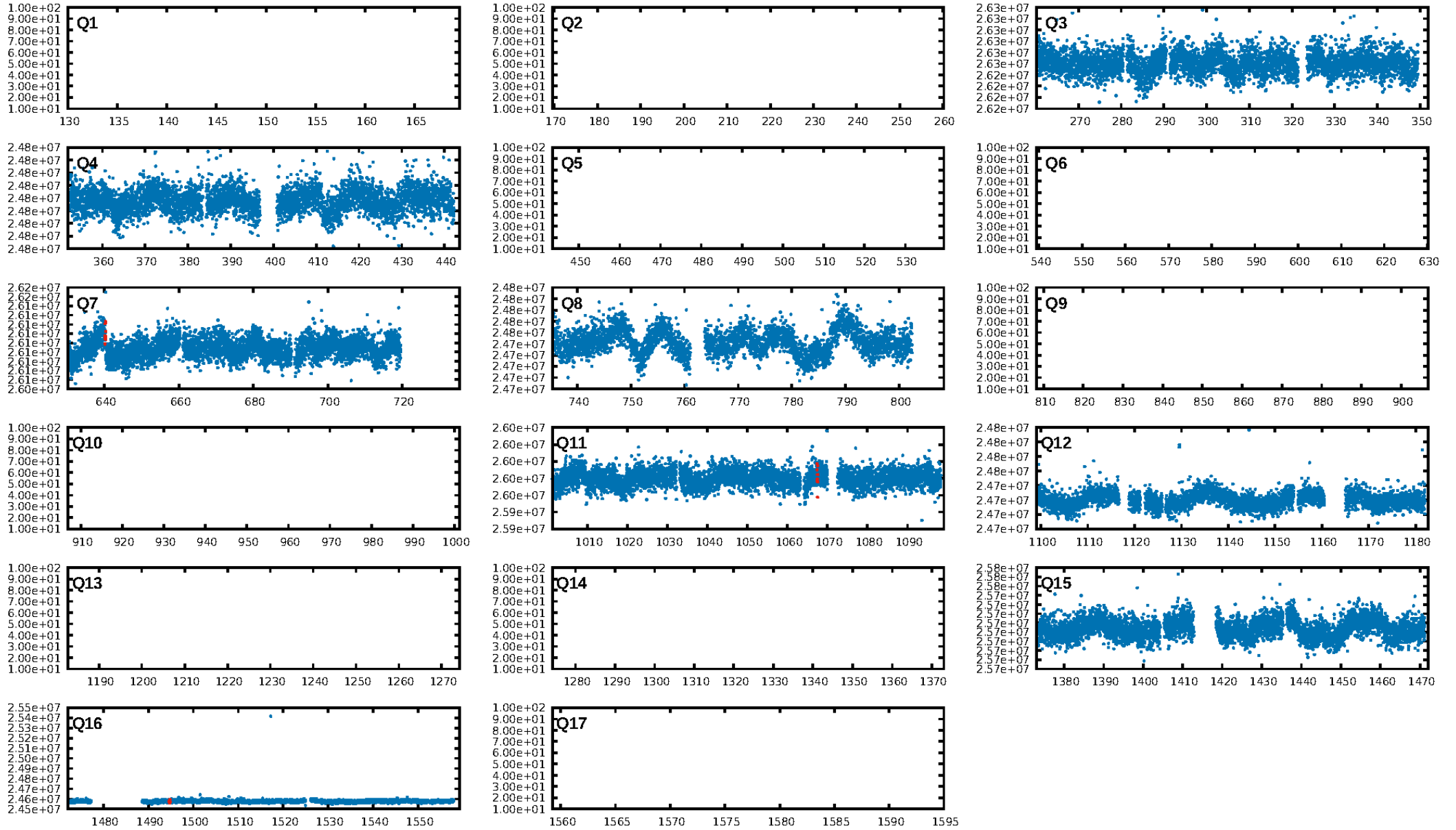
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [715.38 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 20.6%
ModelChiSquareGof-sig: 80.8%
Bootstrap-pfa: 8.29e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 10.23
Centroid-sig: 9.8%
Centroid-so: 4.407 arcsec [1.48 σ]
OotOffset-rm: 2.439 arcsec [0.52 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 2.840 arcsec [0.62 σ]
KicOffset-st: 0/1/1/0 [2]
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DiffImageOverlap-fno: 1.00 [3/3]

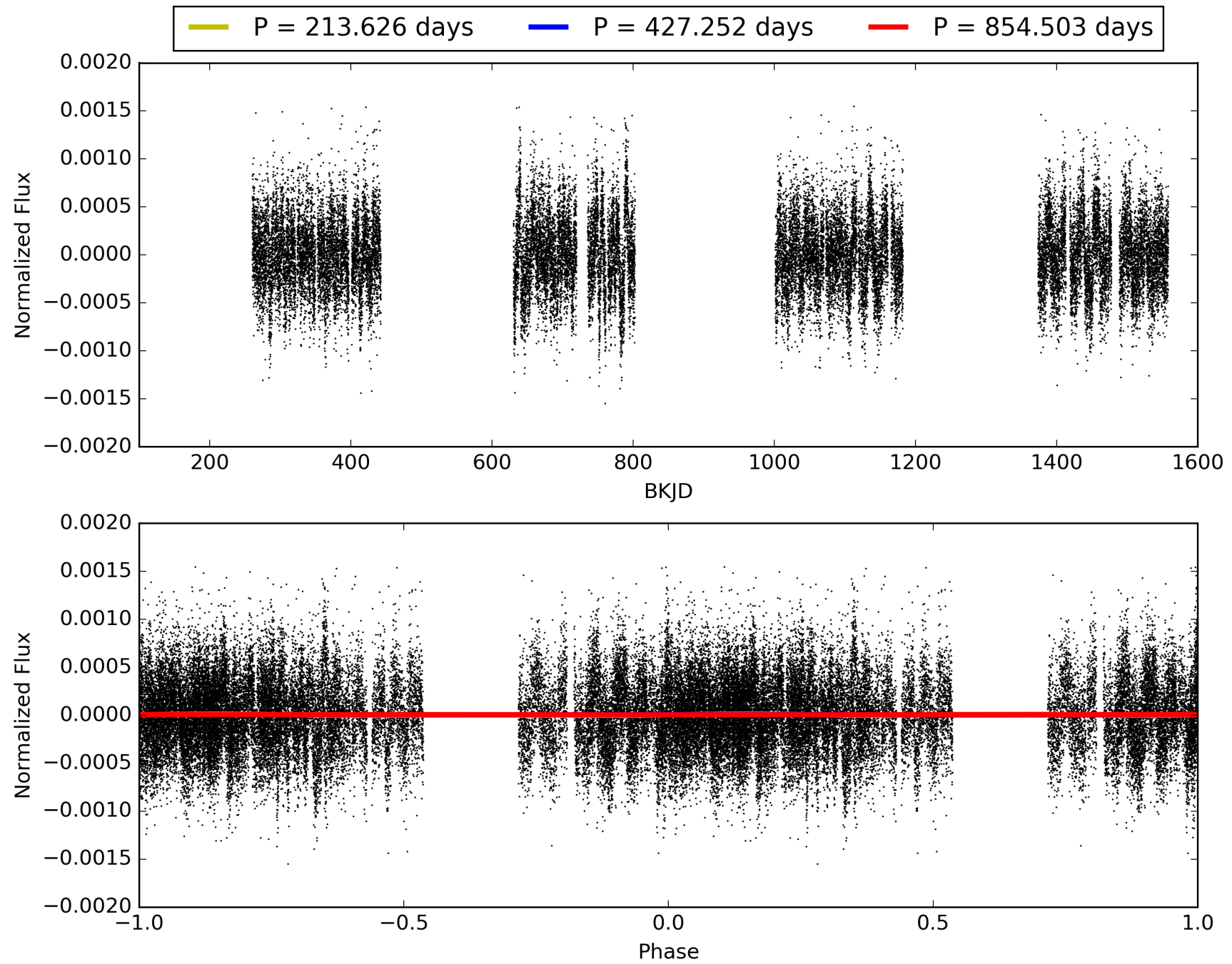
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:59:25 Z

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

TCE 006285094-02, PDC Light Curves

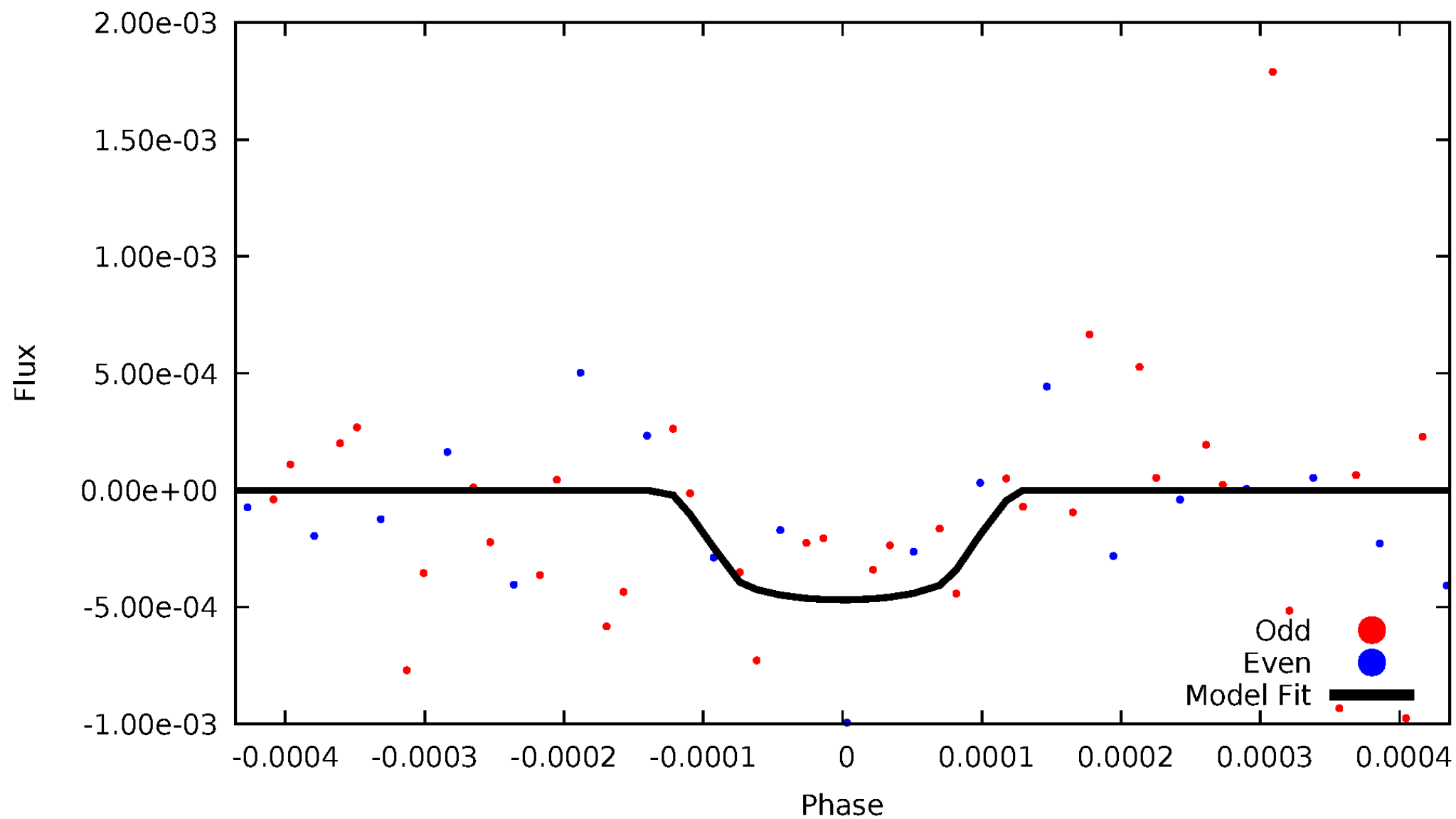


TCE 006285094-02



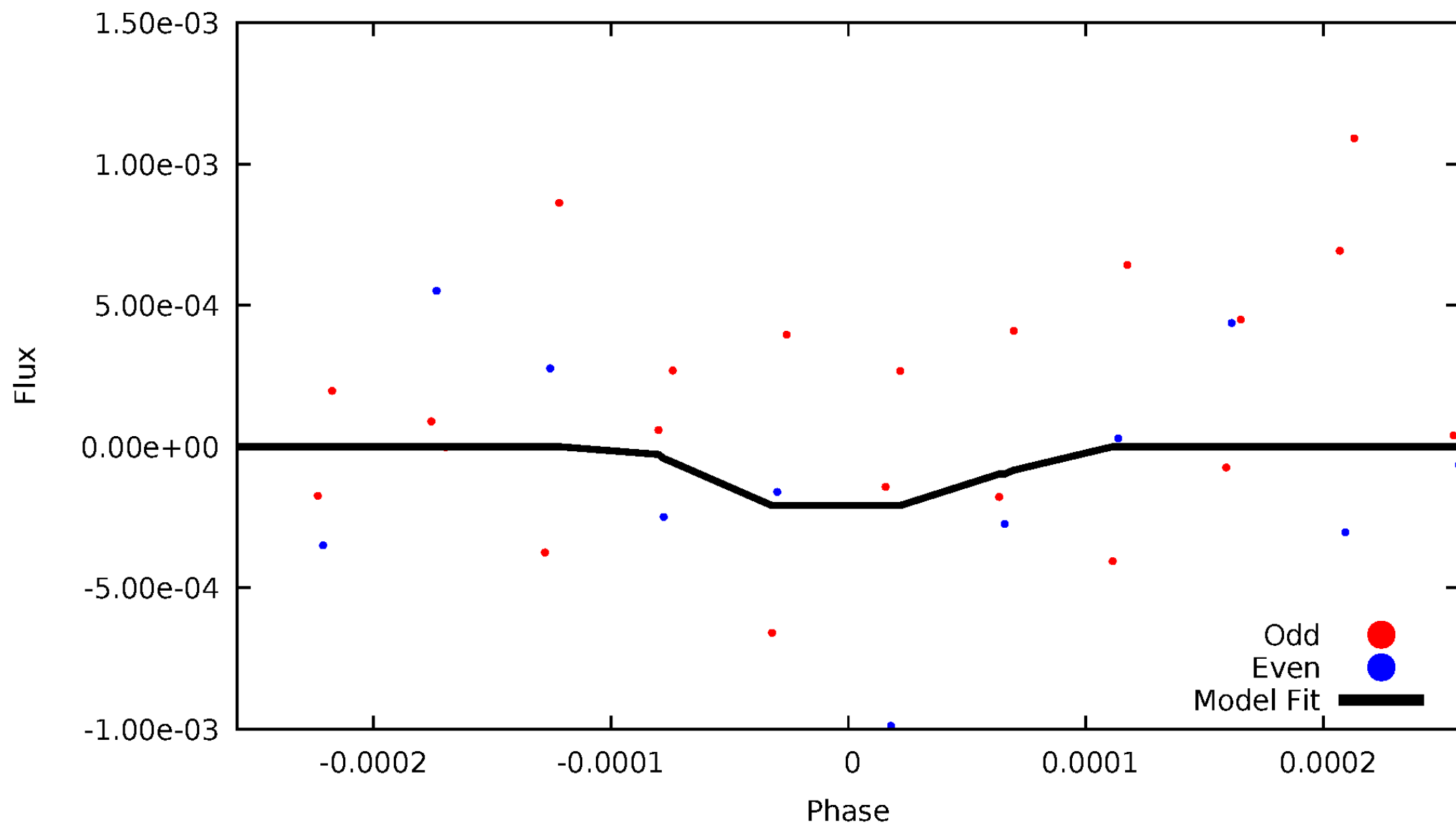
DV Odd/Even

TCE 006285094-02



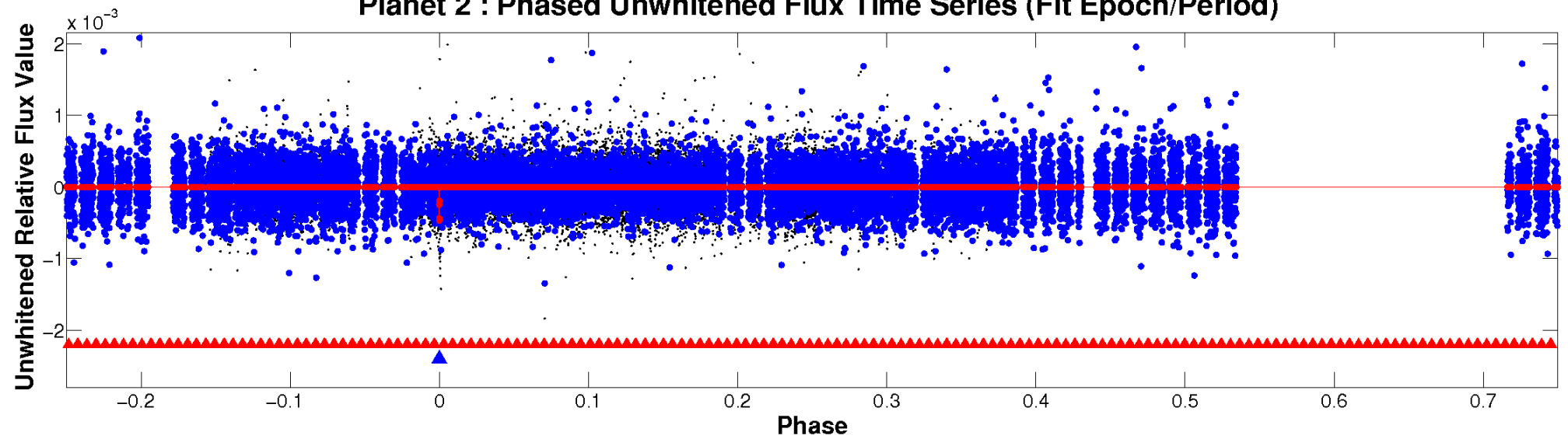
ALT Odd/Even

TCE 006285094-02

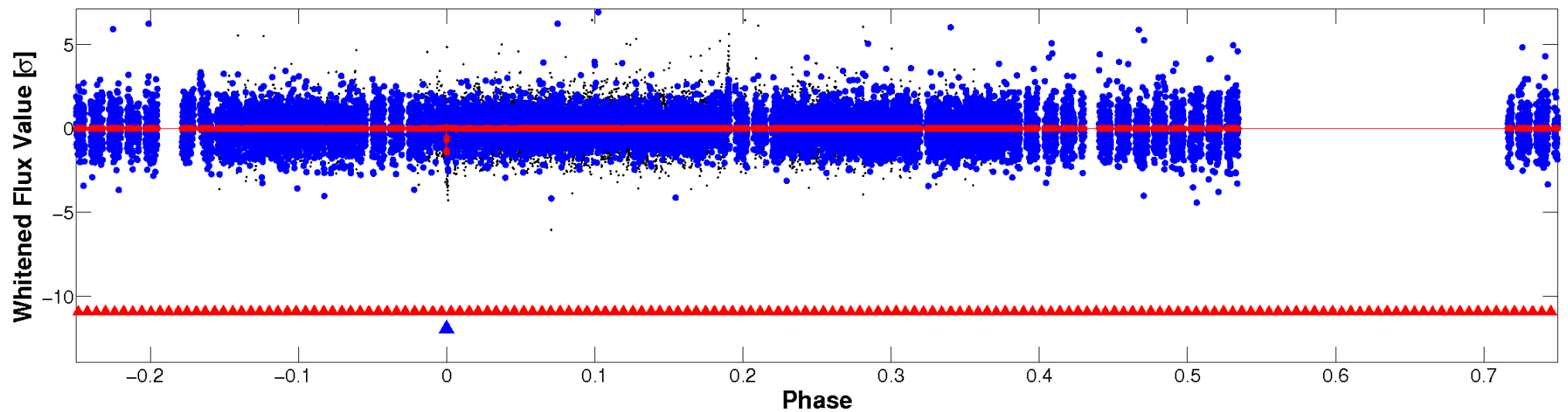


Non-Whitened Vs. Whitened Light Curve

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

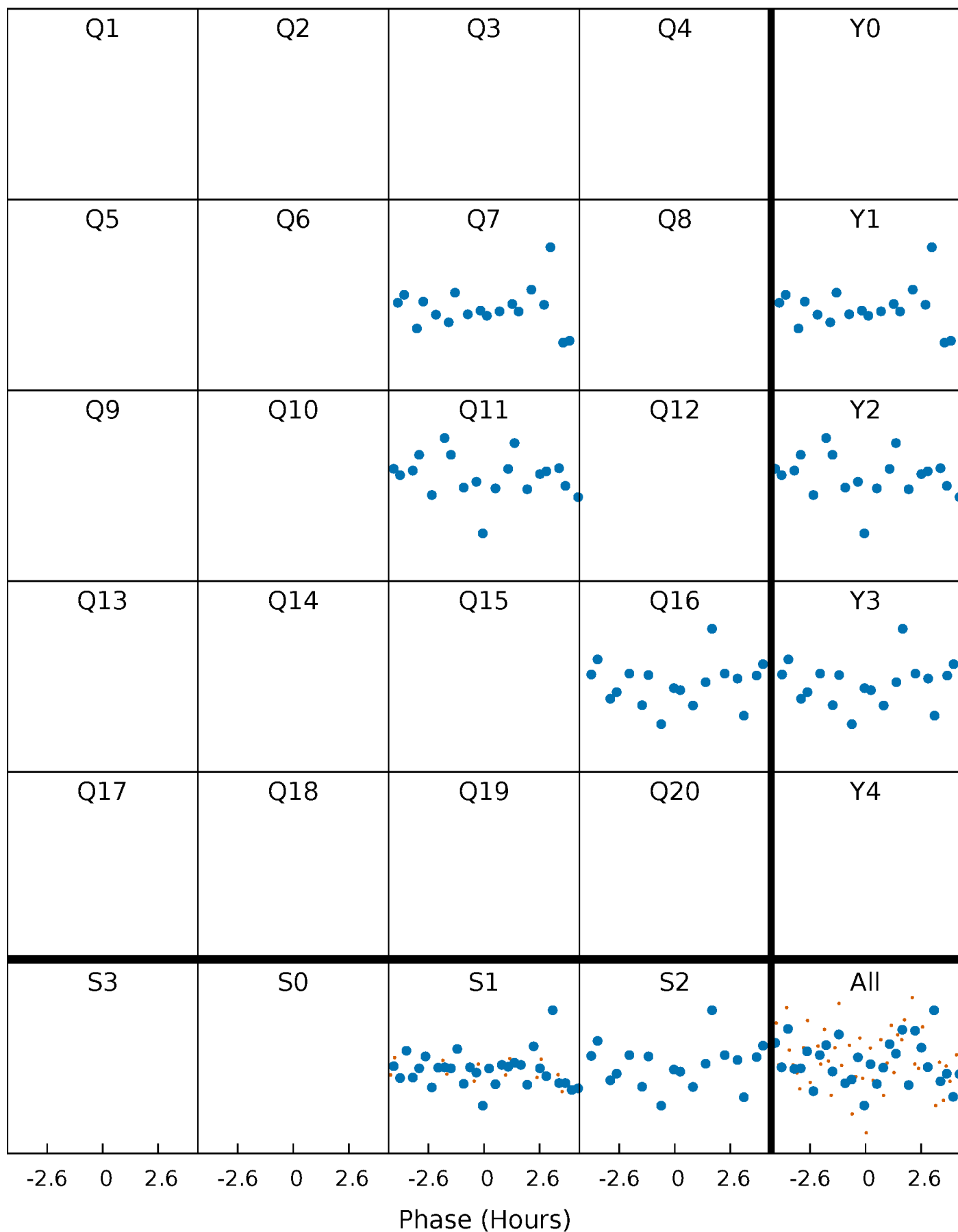


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



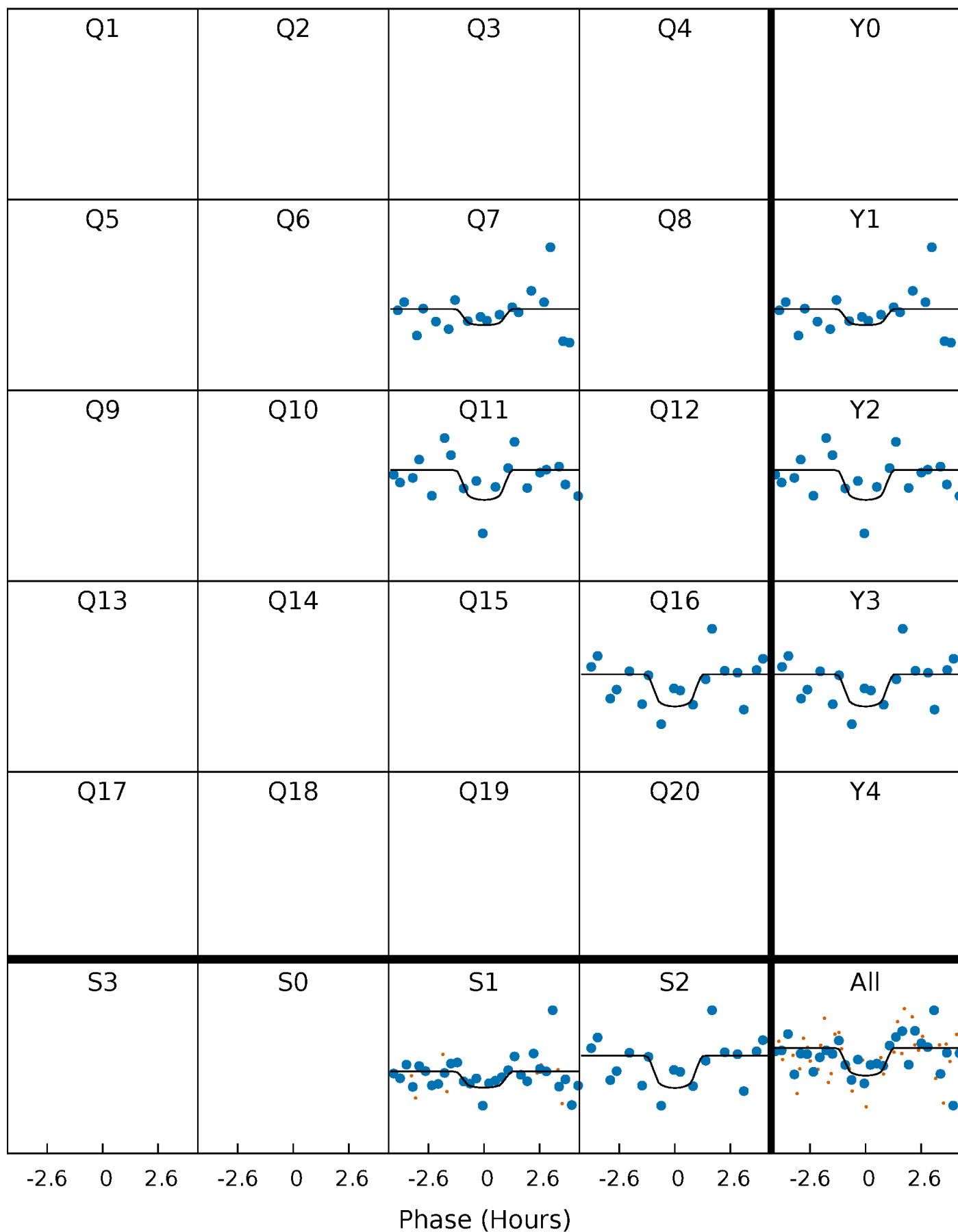
PDC Quarter-Phased Transit Curves

TCE 006285094-02 $P=427.251642$ Days $T_0=212.987707$ (BKJD)



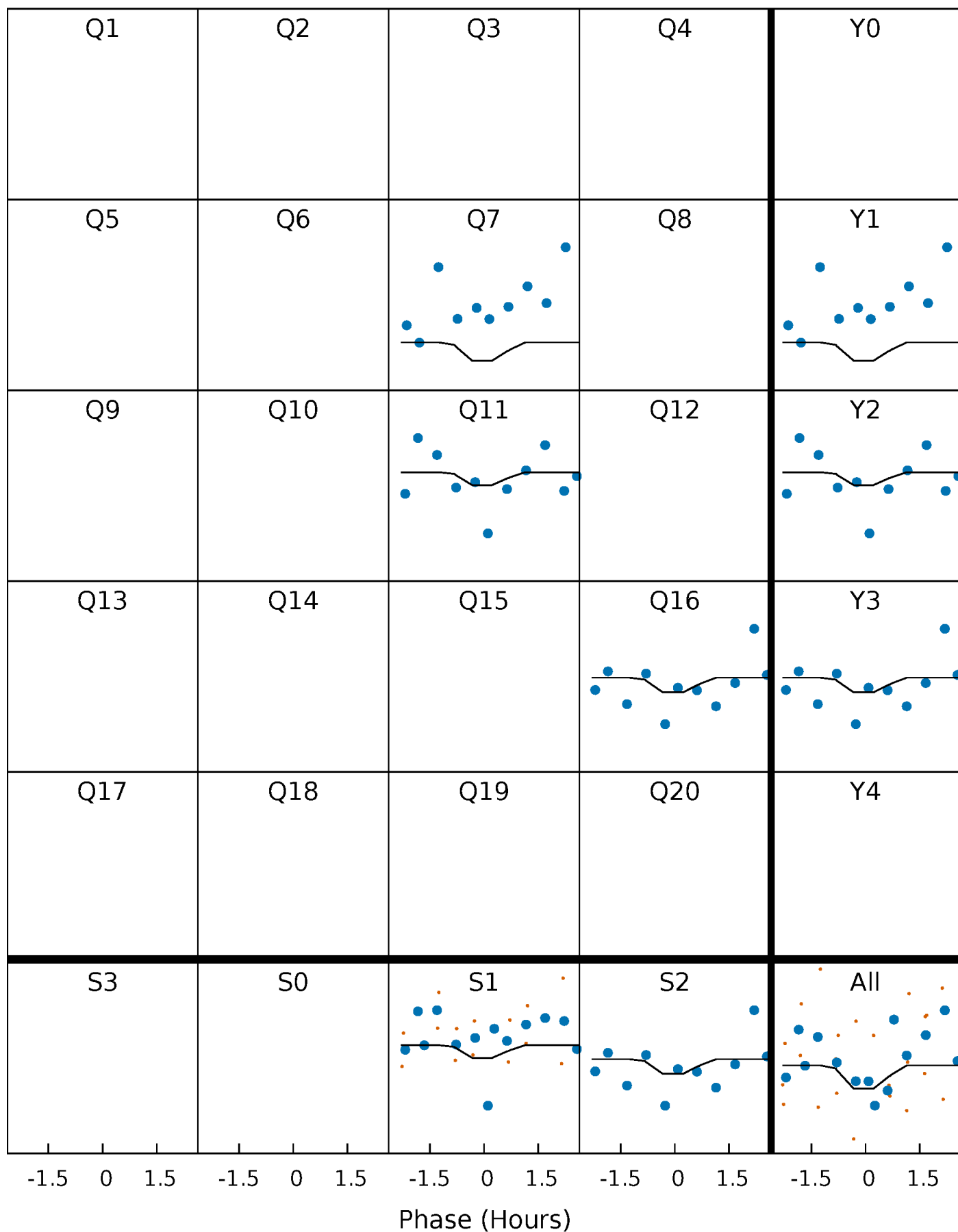
DV Quarter-Phased Transit Curves

TCE 006285094-02 P=427.251642 Days $T_0=212.987707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

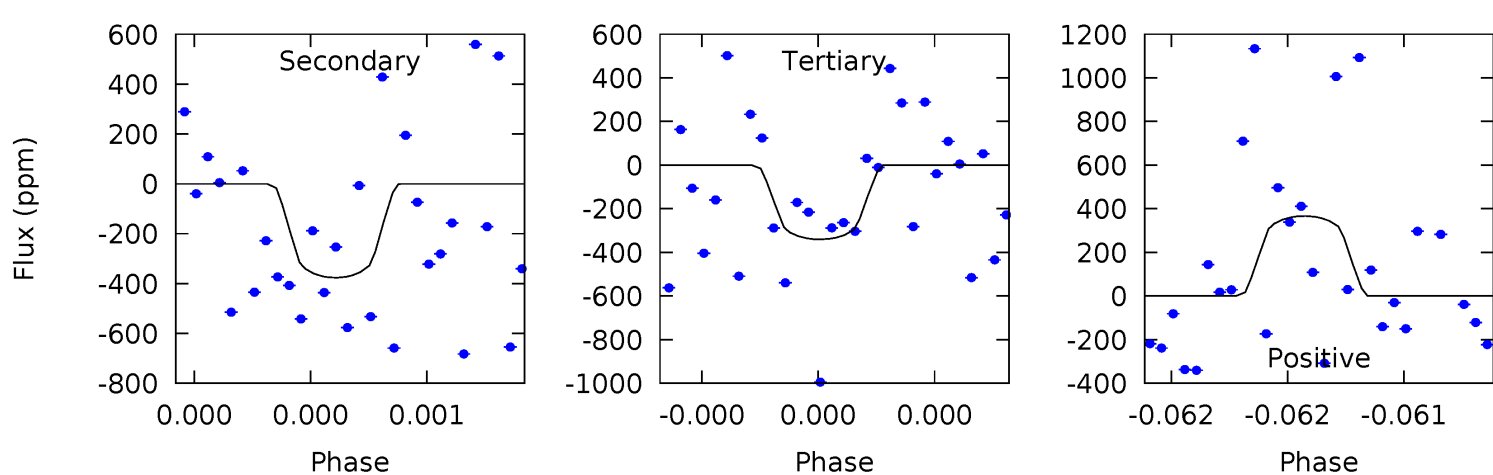
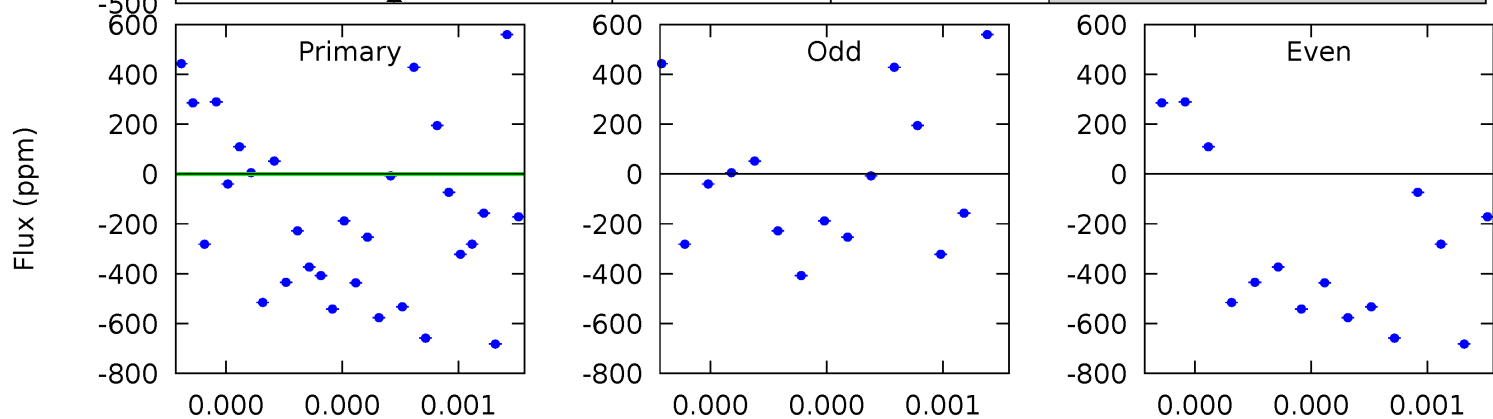
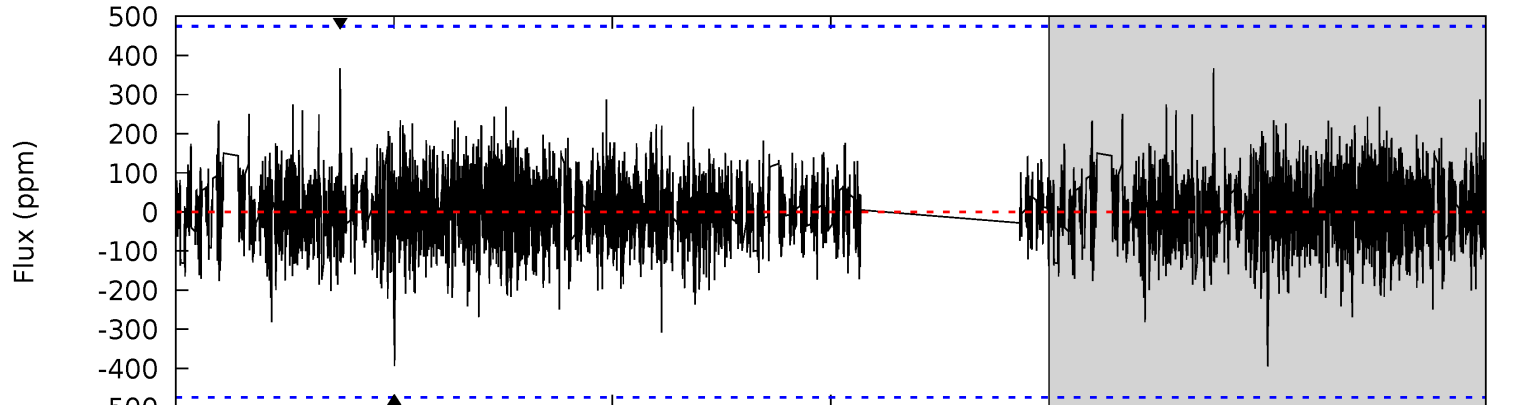
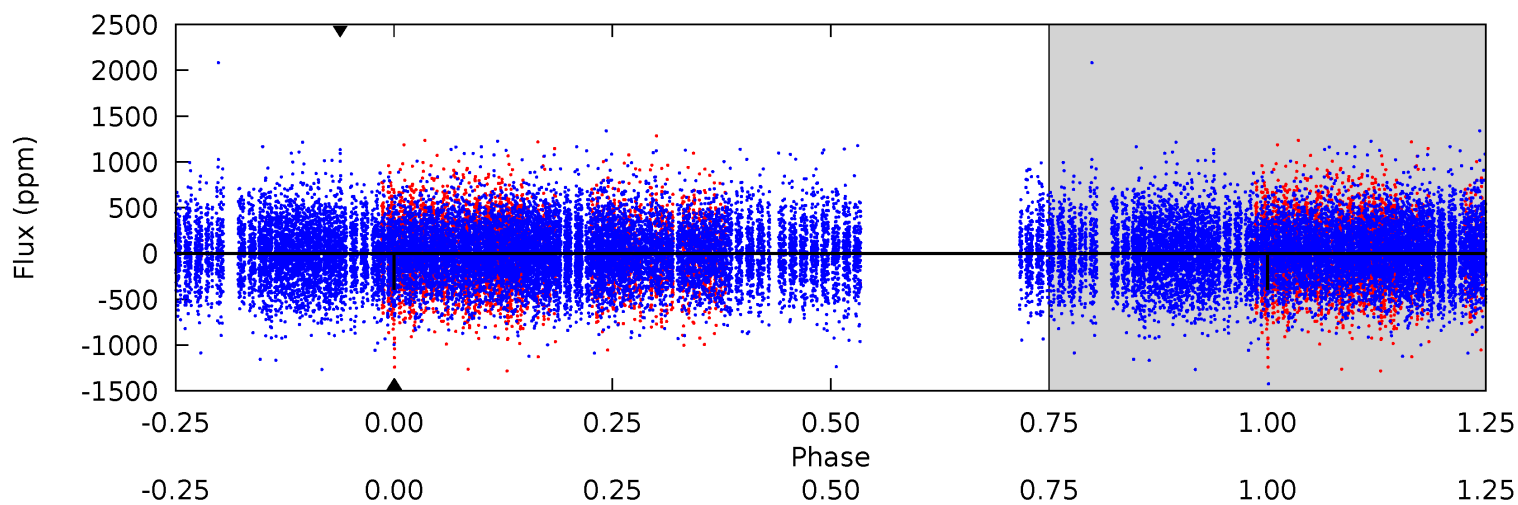
TCE 006285094-02 P=427.245306 Days $T_0=212.994089$ (BKJD)



DV Model-Shift Uniqueness Test

006285094-02, P = 427.251642 Days, E = 212.987707 Days

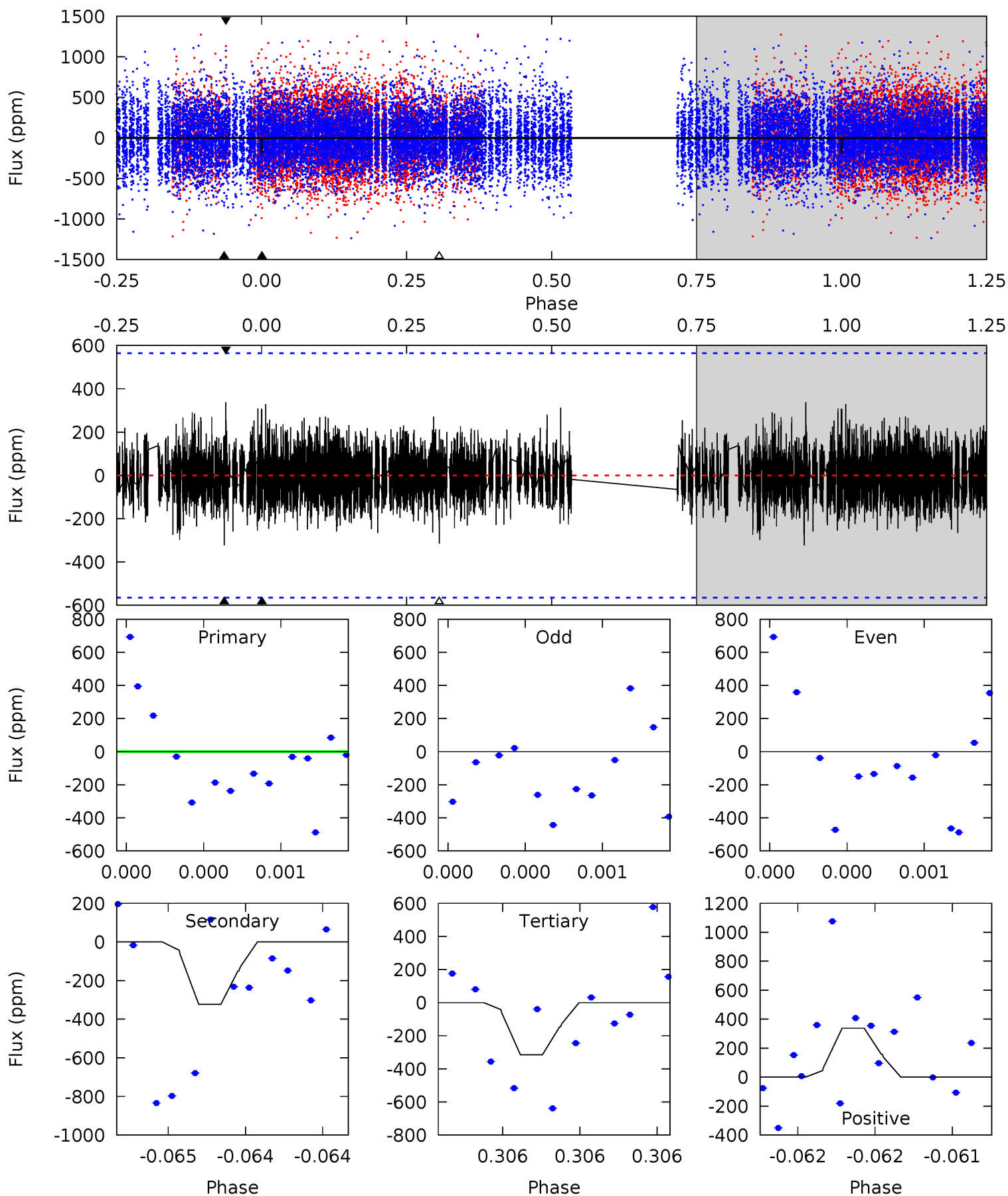
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.74	4.53	4.10	4.41	5.70	3.67	0.88	0.65	0.33	0.43	0.12	0.73	0.93	0.48	0.43



Alt Model-Shift Uniqueness Test

006285094-02, P = 427.245306 Days, E = 212.994089 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.97	3.29	3.20	3.44	5.74	3.73	0.85	-1.23	-1.47	0.09	-0.15	2.72	0.49	0.51	0.63



Stellar Parameters For KIC 006285094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+188}_{-230}	$4.481^{+0.054}_{-0.216}$	$-0.140^{+0.300}_{-0.300}$	$0.956^{+0.306}_{-0.102}$	$1.005^{+0.144}_{-0.118}$	$1.617^{+0.471}_{-0.861}$
	+3%/-4%	+1%/-5%	+214%/-214%	+32%/-11%	+14%/-12%	+29%/-53%
Source	KIC0	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 006285094-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-377 ± 83	$5.72^{+5.78}_{-4.08}$	353^{+26}_{-20}	3986^{+2868}_{-817}	7661^{+88192}_{-5868}
Alt.	-323 ± 98	$5.26^{+5.23}_{-3.57}$	353^{+27}_{-19}	4030^{+2402}_{-871}	7709^{+64998}_{-5948}

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 $A_{obs} \gg 1.0$

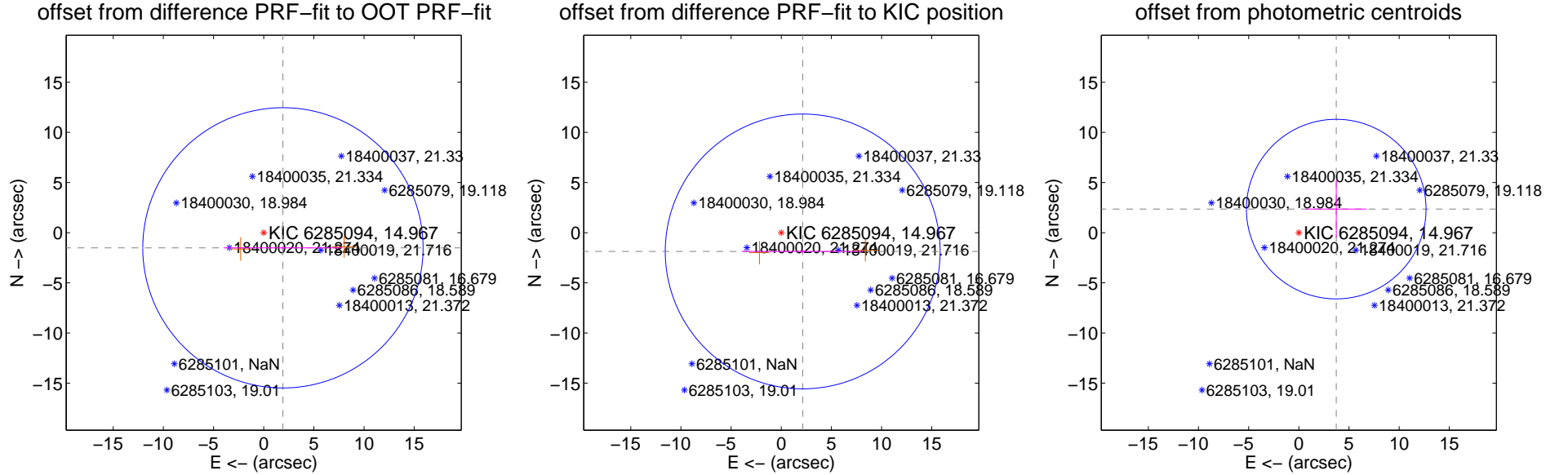
DV Centroid Data

Supplemental centroid analysis for 006285094-02. Kepler magnitude: 14.97. Transit SNR 4.36

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.439 ± 4.656	0.52	-1.915 ± 5.927	-1.510 ± 0.146
PRF-fit source offset from KIC position	2.840 ± 4.566	0.62	-2.137 ± 6.067	-1.871 ± 0.151
photometric centroid source offset	4.41 ± 2.98	1.48	-3.73 ± 3.03	2.35 ± 2.86



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.

Q5 no difference image



Q5 no OOT image



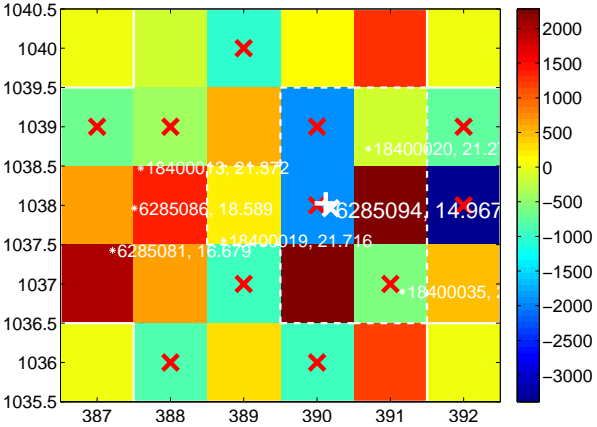
Q6 no difference image



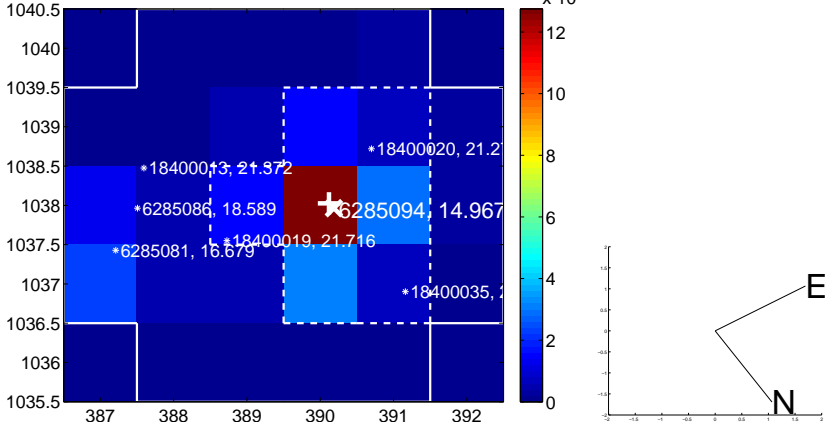
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



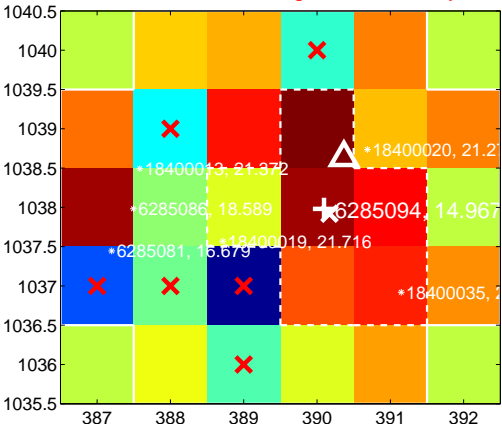
Q10 no difference image



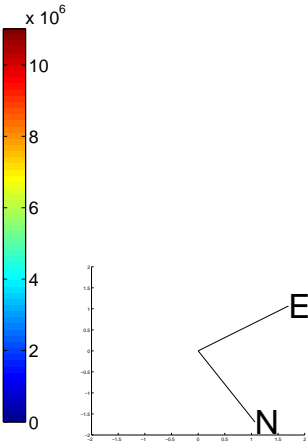
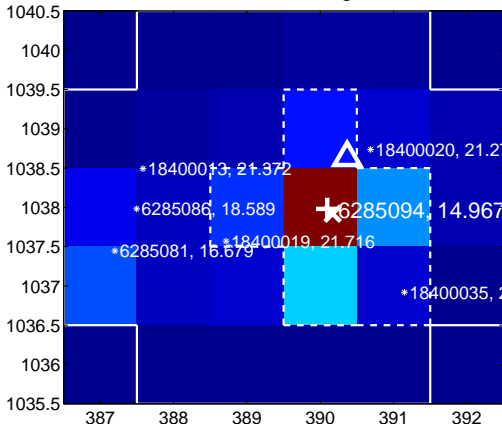
Q10 no OOT image



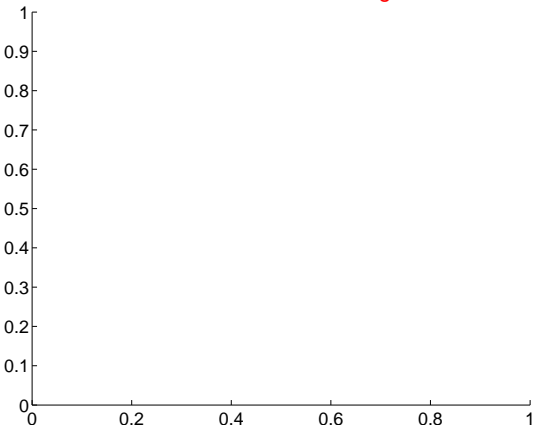
Q11 difference image. Poor Quality



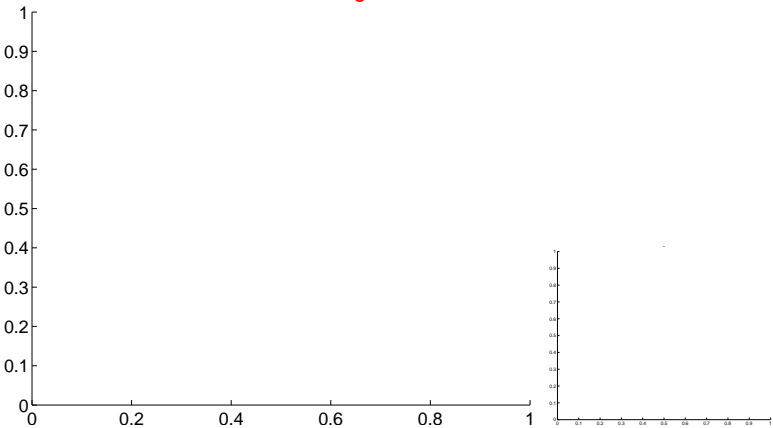
Q11 OOT image



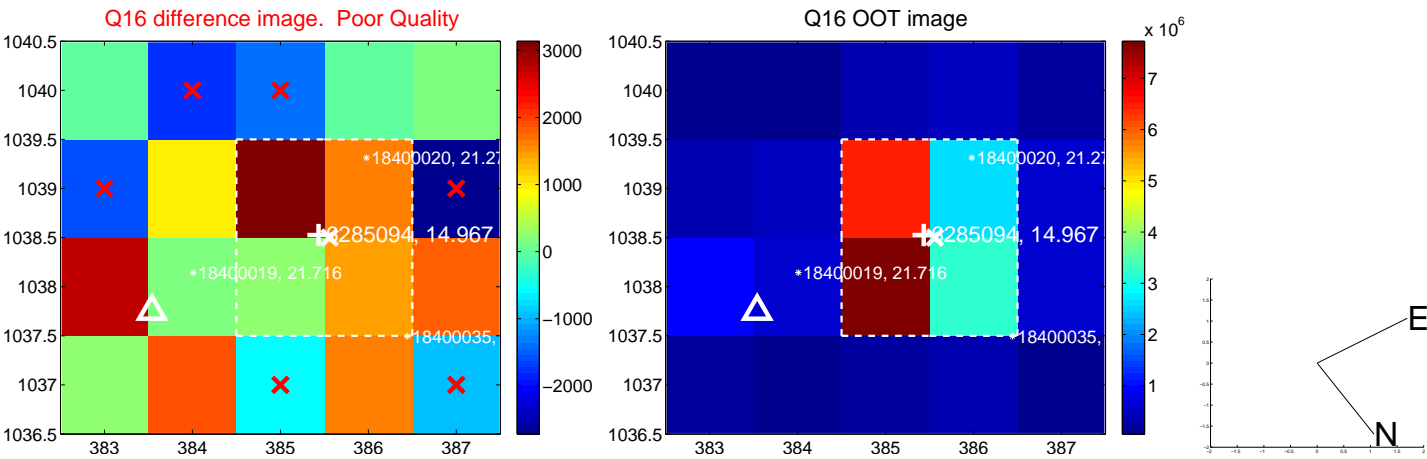
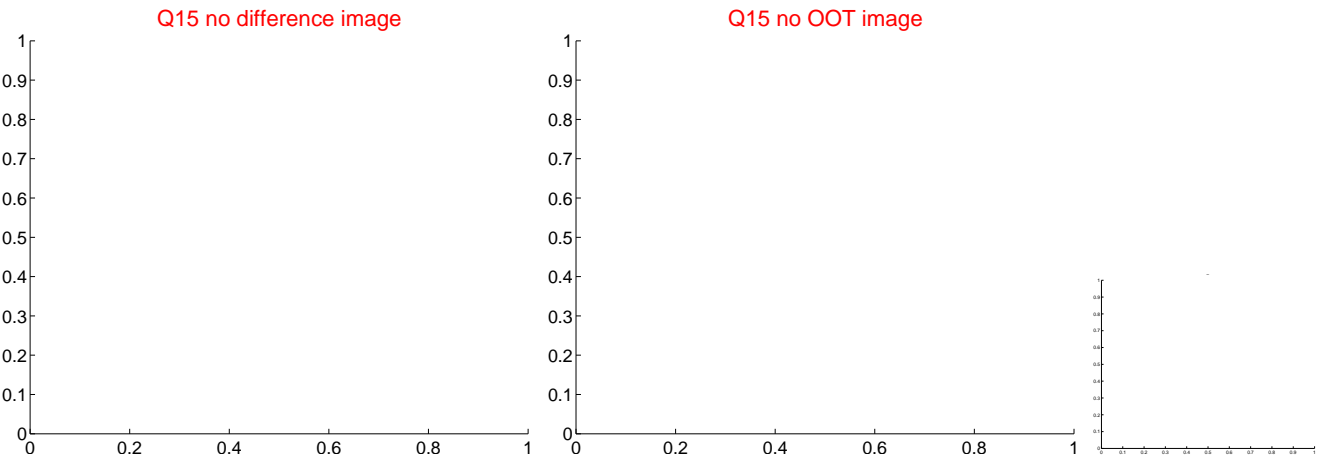
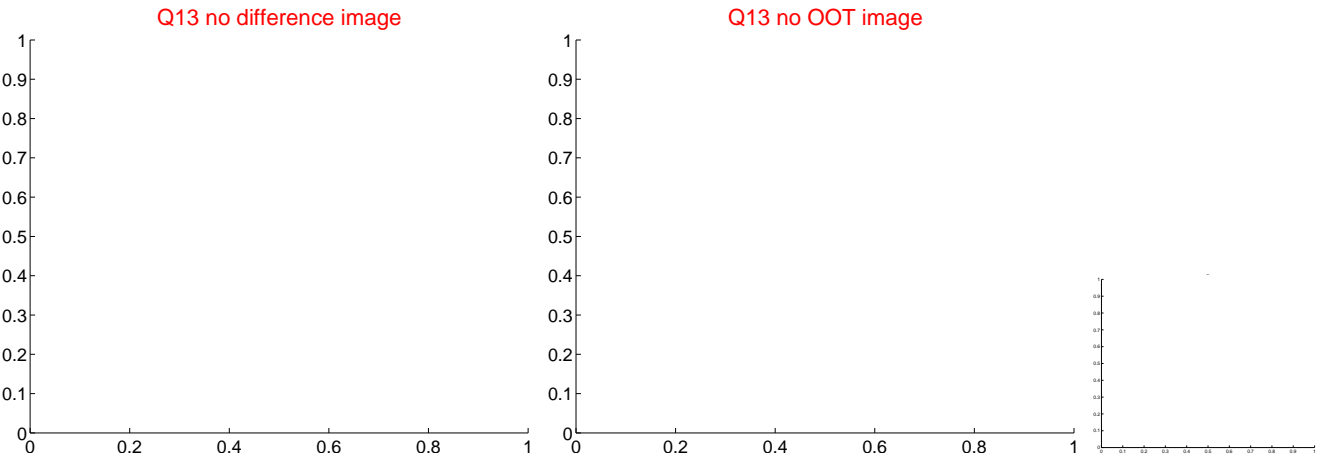
Q12 no difference image



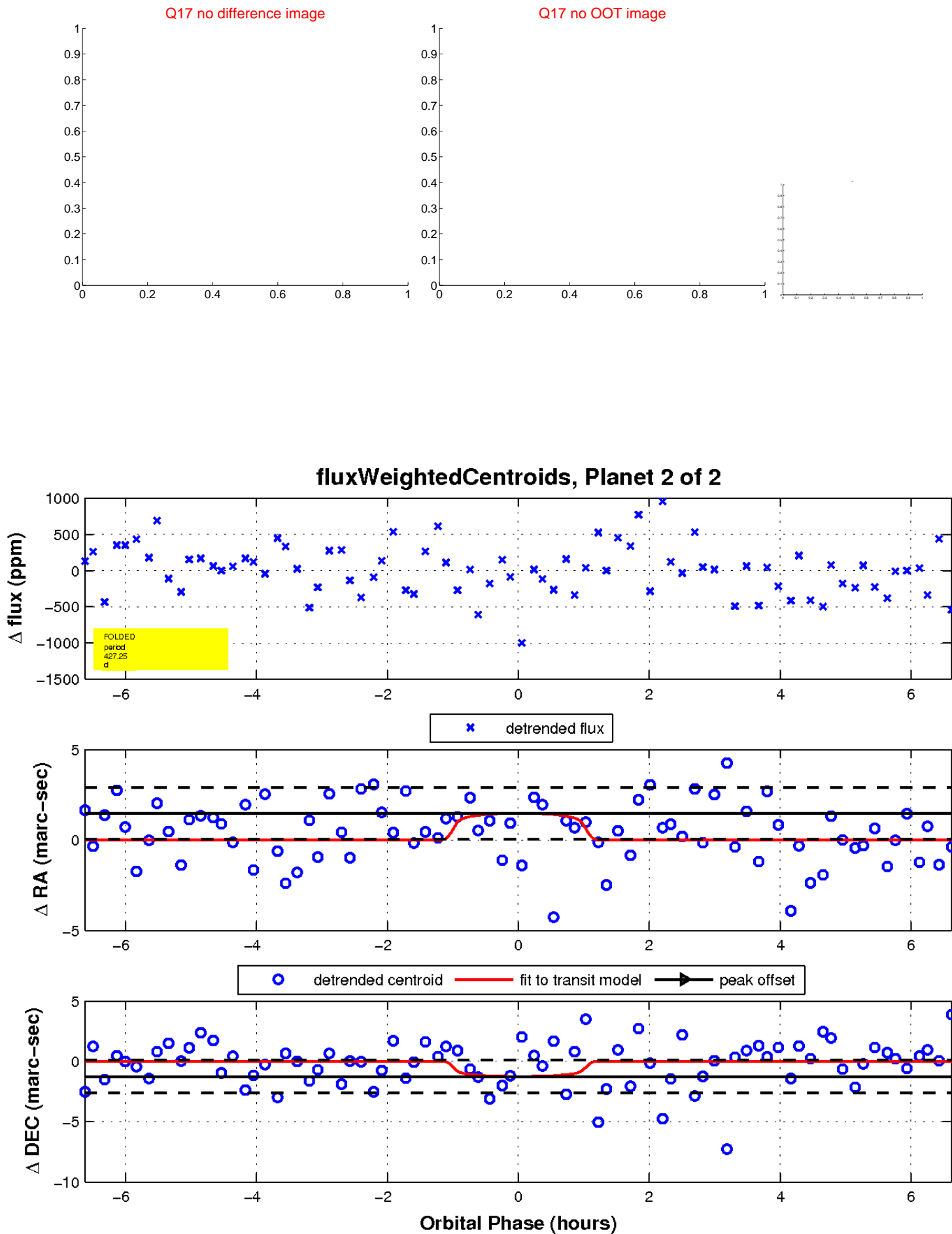
Q12 no OOT image



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.



UKIRT Image

Declination

