

KIC 011497012

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})
011497012-01	OBS	No	2.518753	133.080461	51.4	13.342	8.6	9.7	2.62	7884	1.90	11741.50
011497012-02	OBS	No	372.970720	247.420346	472.7	10.792	8.6	8.4	2.62	7884	6.72	14.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011497012-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
011497012-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

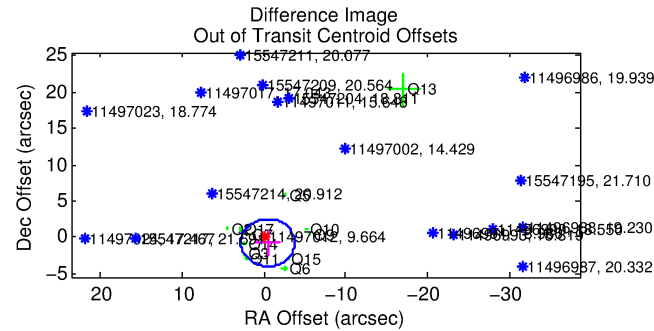
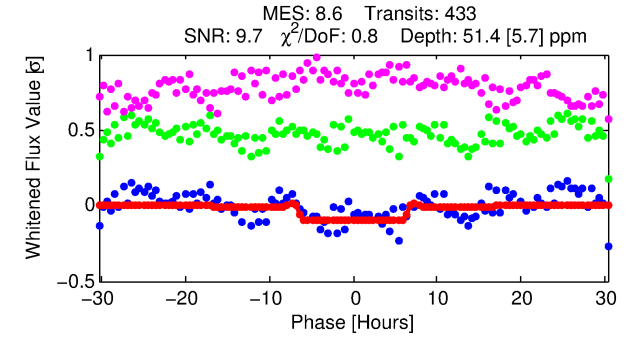
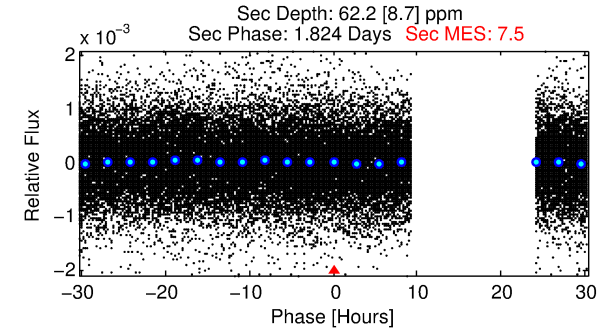
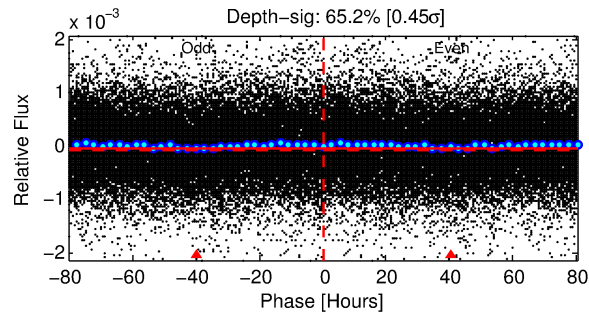
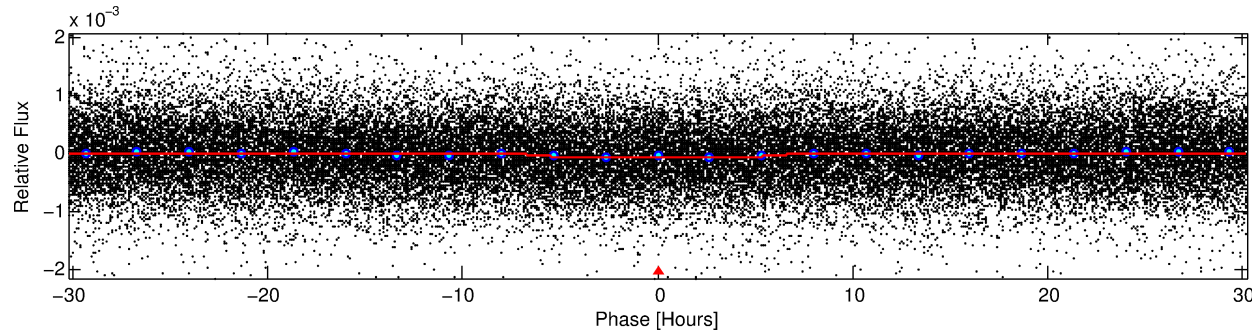
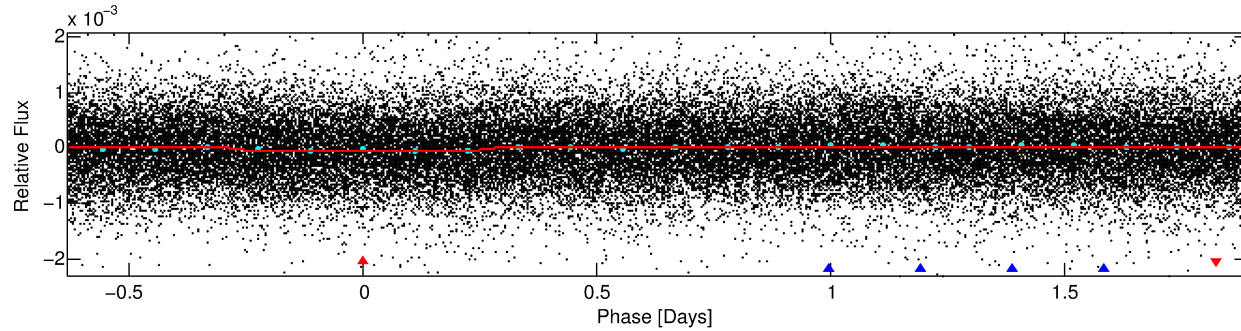
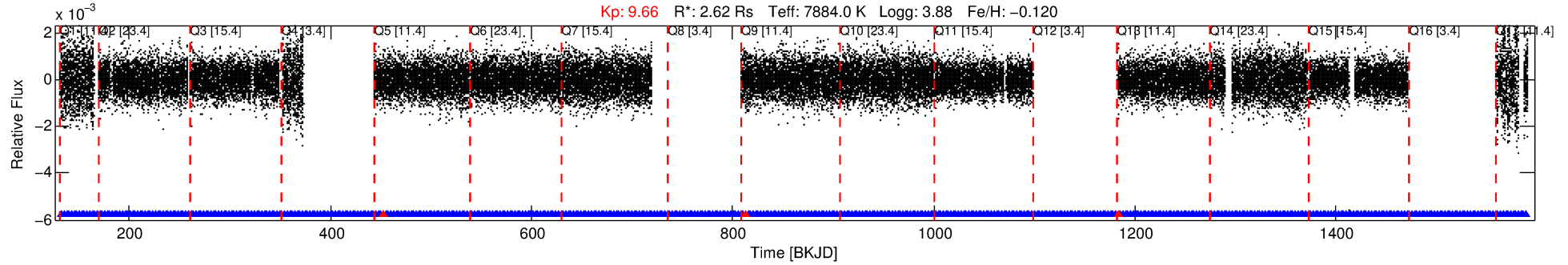
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011497012-01

No Significant Match Found

DV One-Page Summary

KIC: 11497012 Candidate: 1 of 2 Period: 2.519 d



DV Fit Results:

Period = 2.51875 [0.00005] d
Epoch = 133.0805 [0.0109] BKJD
Rp/R* = 0.0067 [0.0091]
a/R* = 1.56 [7.26]
b = 0.17 [45.12]
Seff = 11741.50 [6522.45]
Teq = 2654 [369] K
Rp = 1.90 [2.68] Re
a = 0.0450 [0.0152] AU
Ag = 19.11 [53.02] [0.34 σ]
Teffp = 8581 [5852] K [1.01 σ]

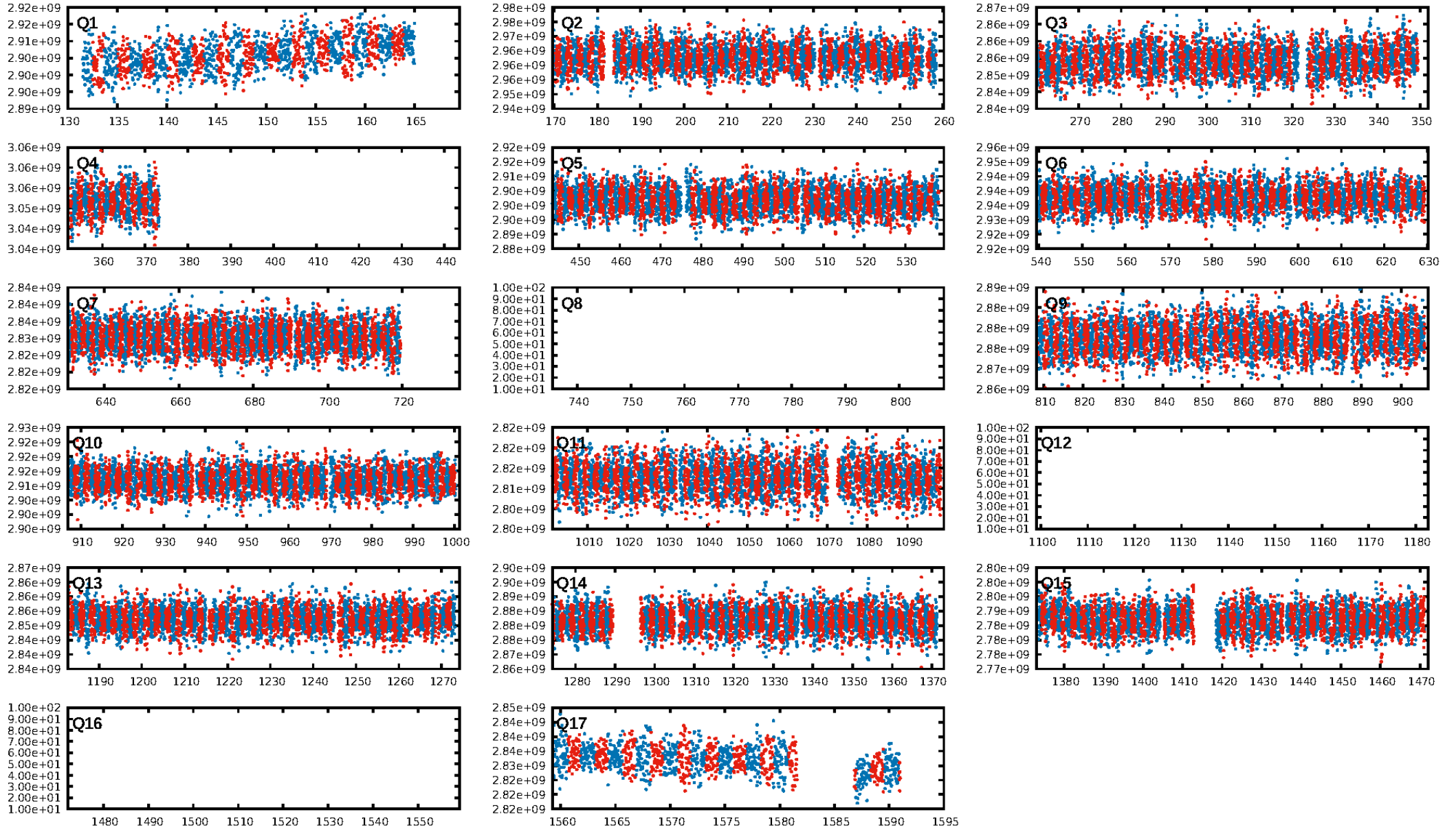
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [518.12 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.03e-13
RollingBand-fgt: 0.99 [398/401]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.944 arcsec [2.40 σ]
OotOffset-rm: 0.909 arcsec [0.83 σ]
KicOffset-rm: 0.464 arcsec [0.19 σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/0/4 [12]
DiffImageQuality-fgm: 0.00 [0/12]
DiffImageOverlap-fno: 1.00 [14/14]

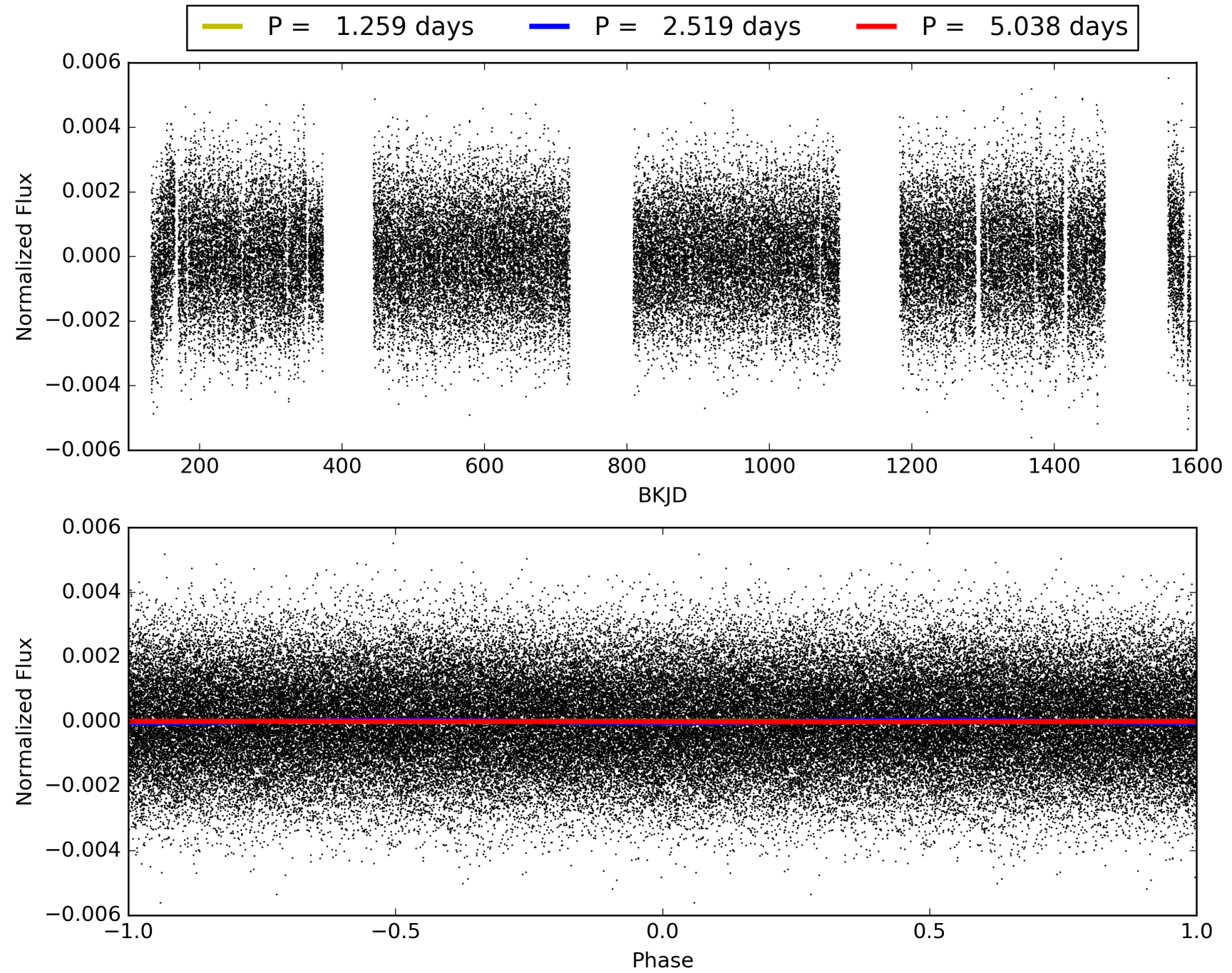
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:34:46 Z

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

TCE 011497012-01, PDC Light Curves

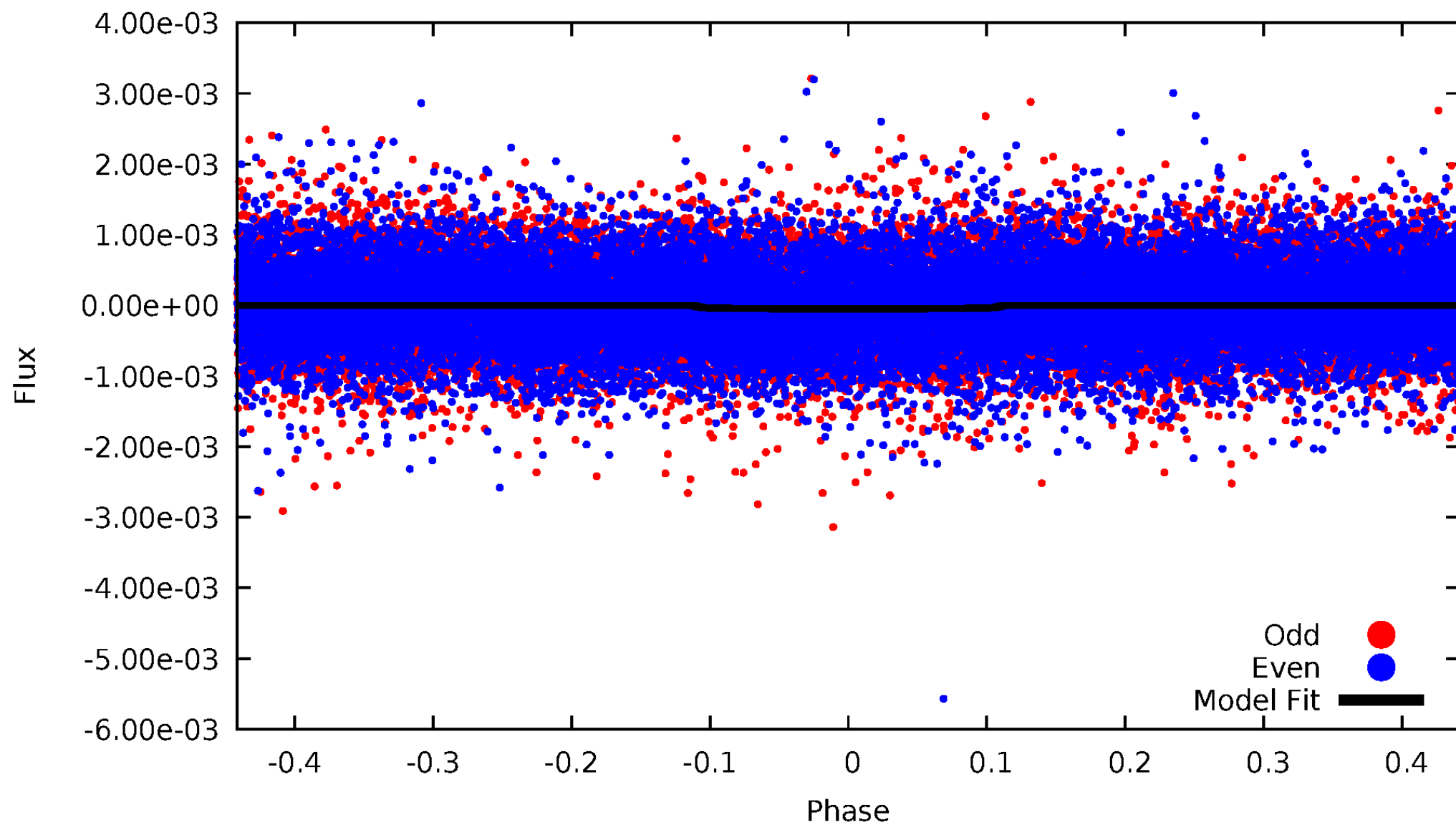


TCE 011497012-01



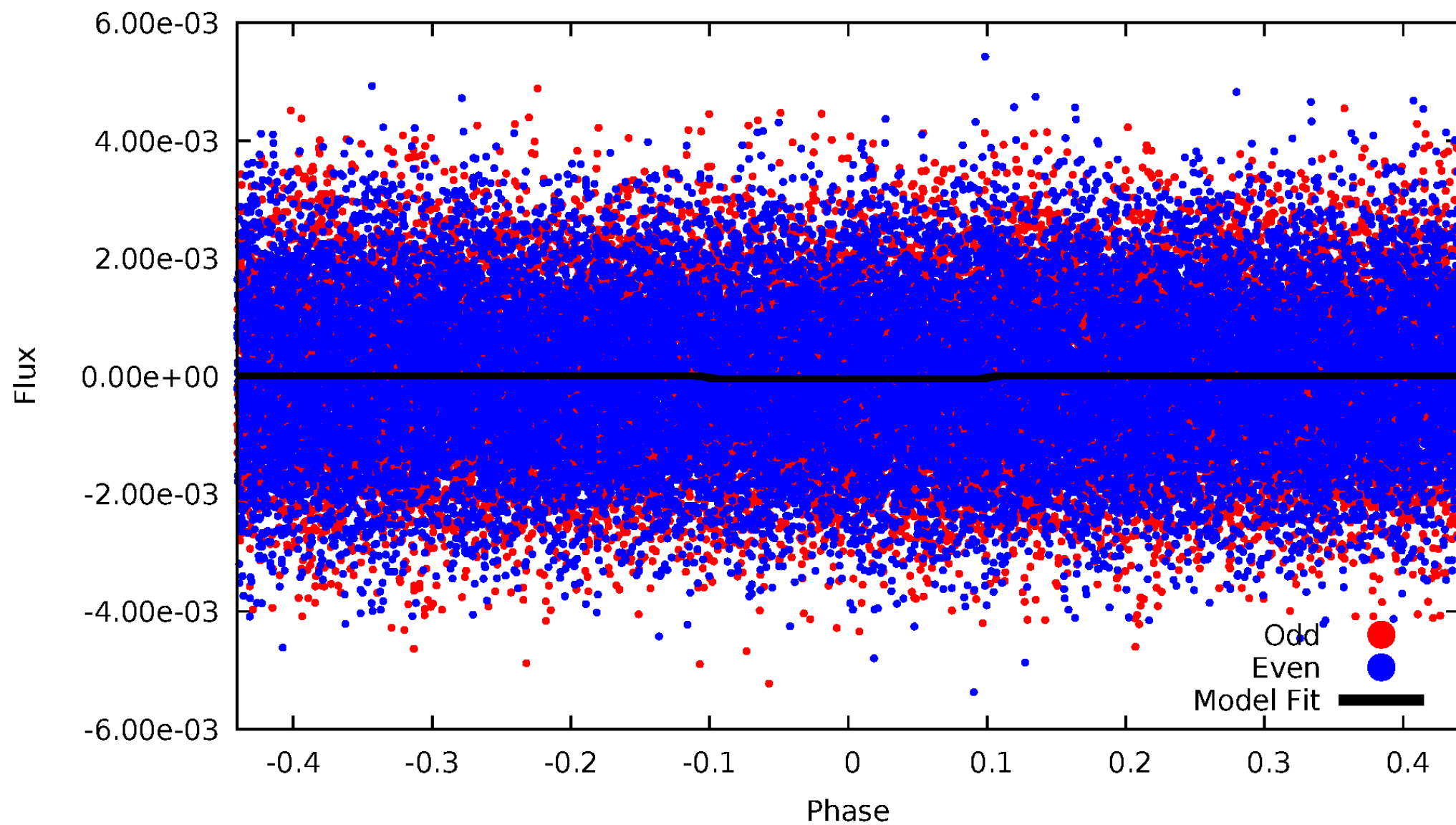
DV Odd/Even

TCE 011497012-01



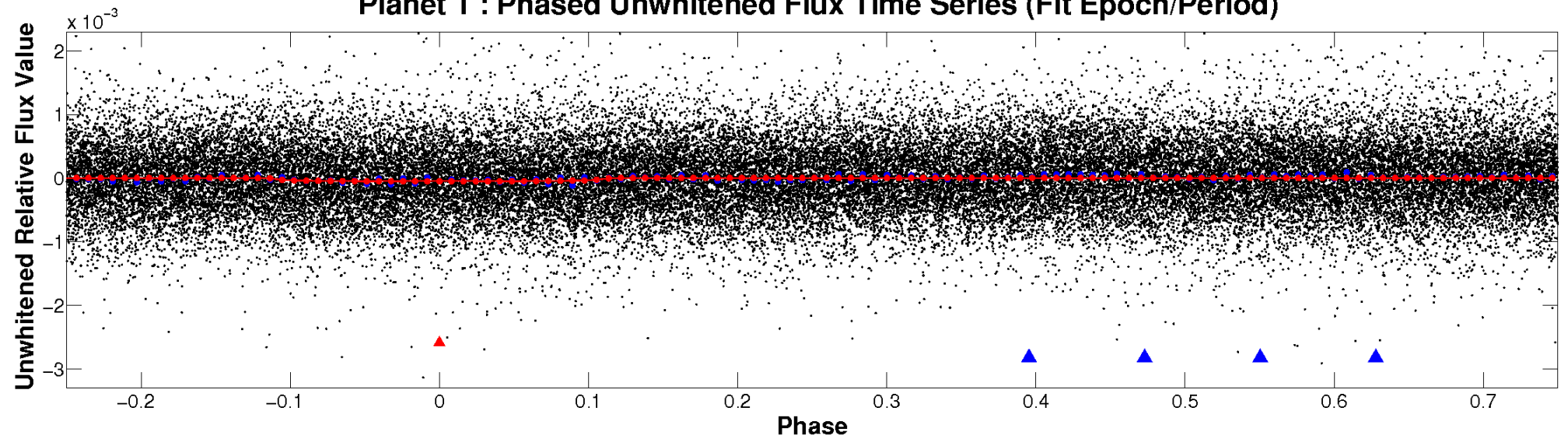
ALT Odd/Even

TCE 011497012-01

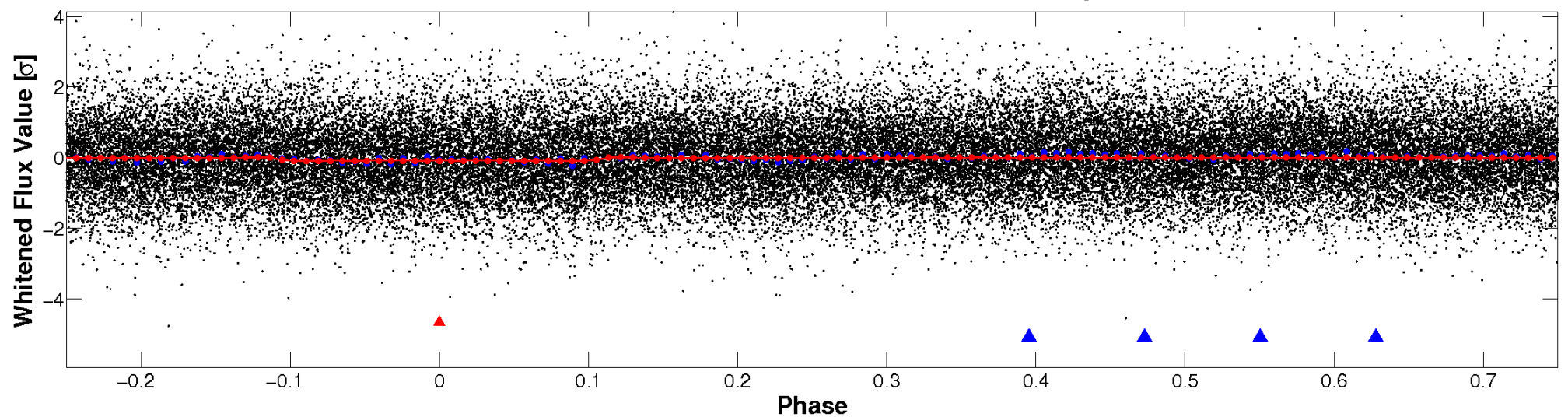


Non-Whitened Vs. Whitened Light Curve

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

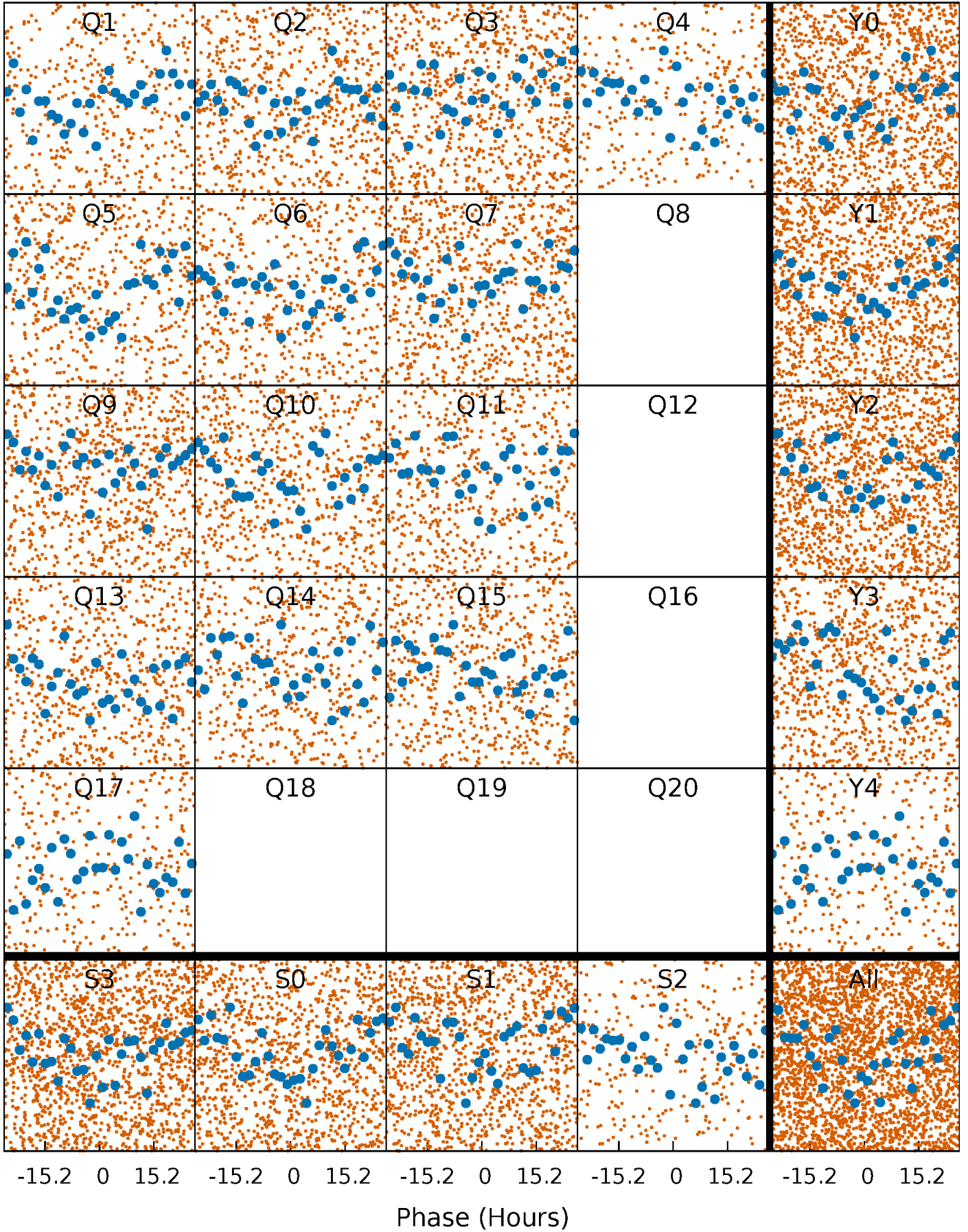


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



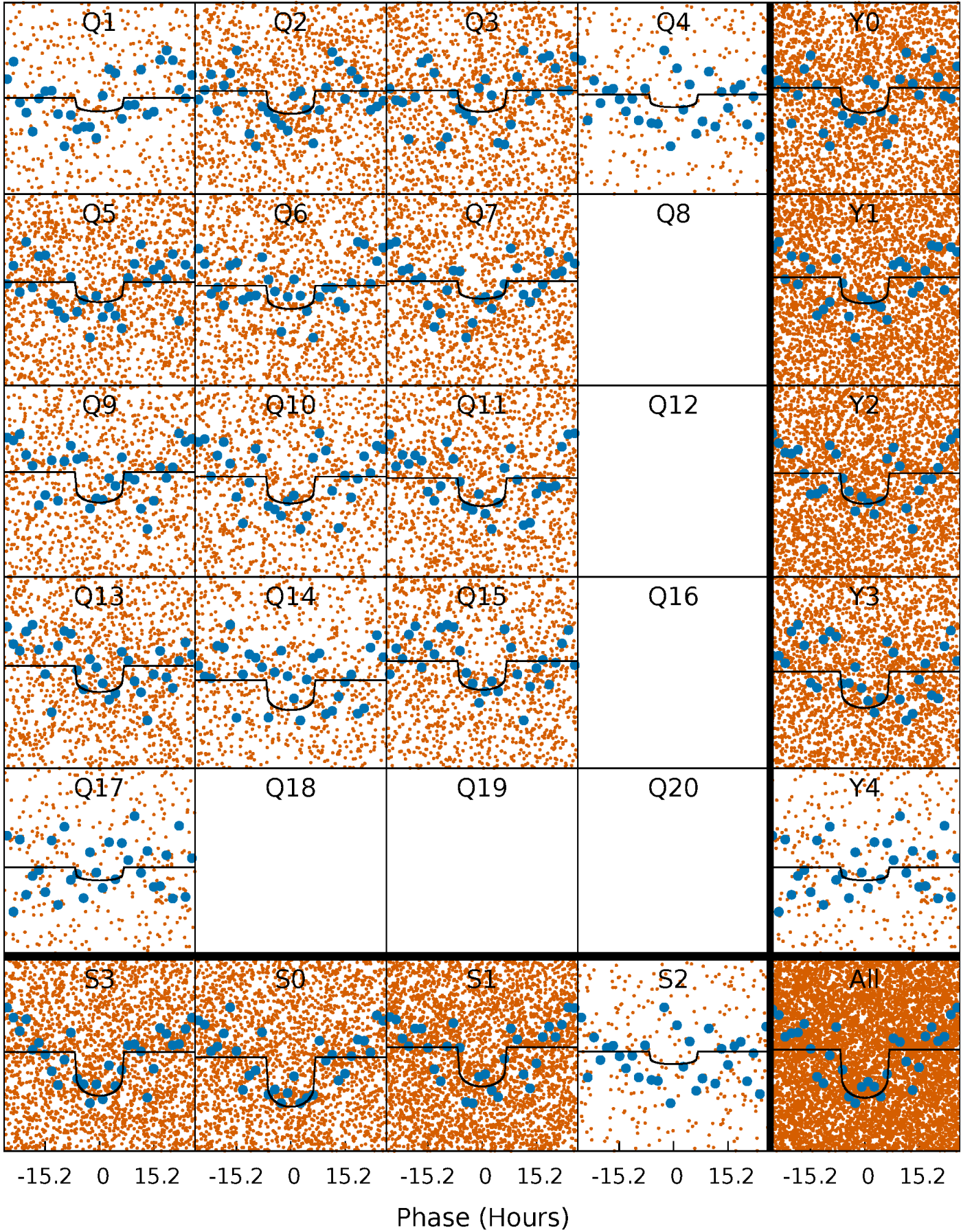
PDC Quarter-Phased Transit Curves

TCE 011497012-01 P= 2.518753 Days $T_0=133.080461$ (BKJD)



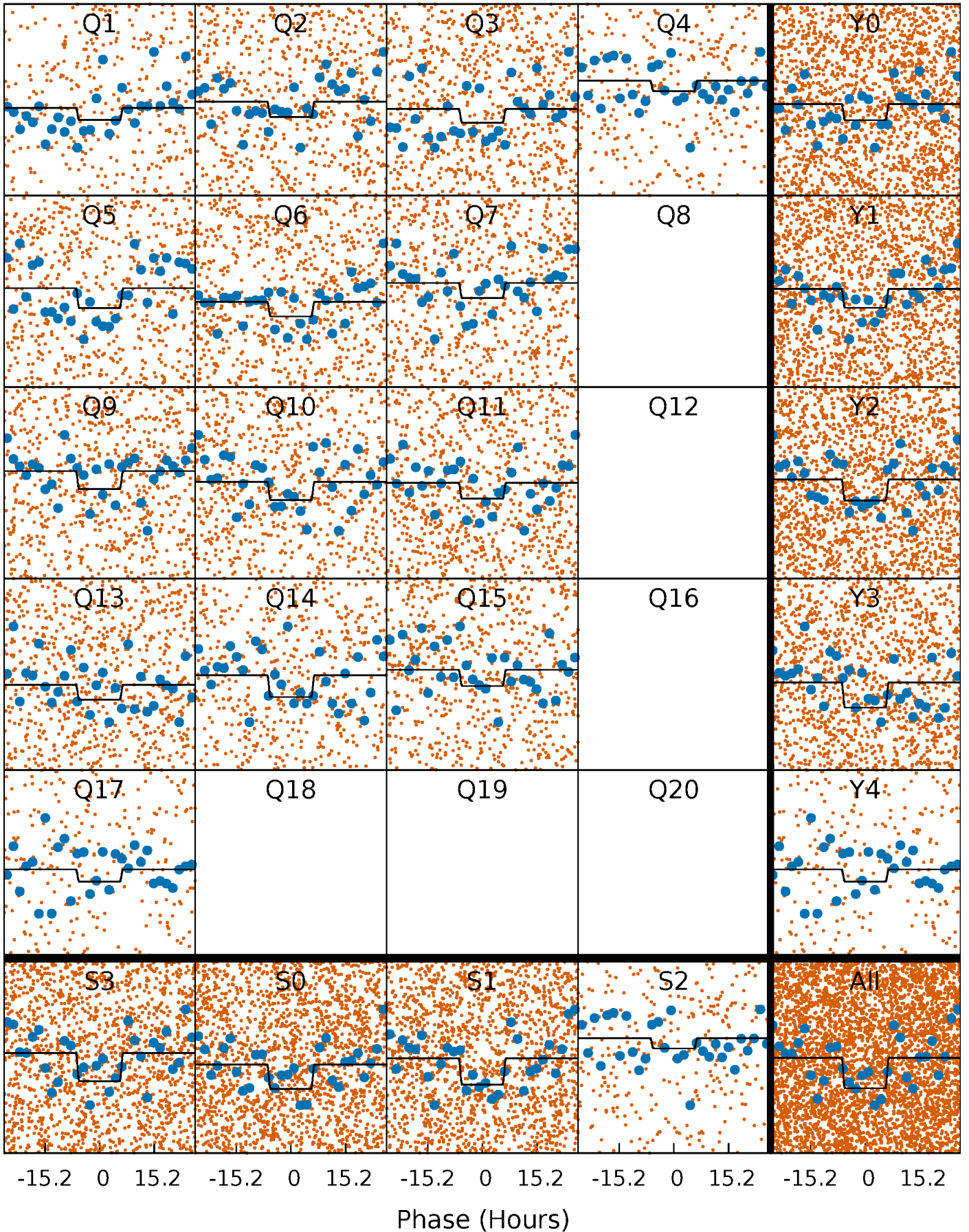
DV Quarter-Phased Transit Curves

TCE 011497012-01 P= 2.518753 Days $T_0=133.080461$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

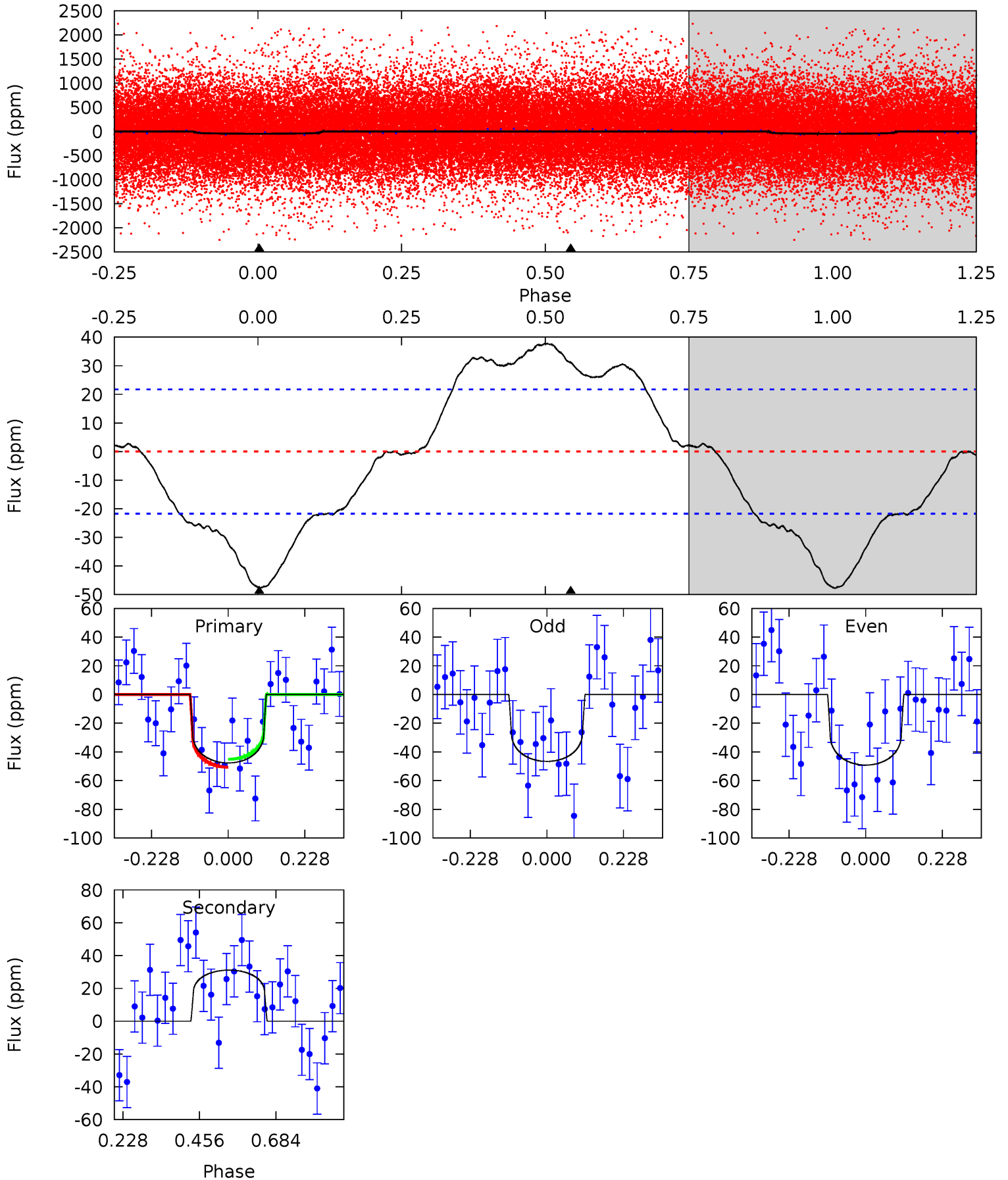
TCE 011497012-01 P= 2.518335 Days $T_0=133.206761$ (BKJD)



DV Model-Shift Uniqueness Test

011497012-01, P = 2.518753 Days, E = 130.561708 Days

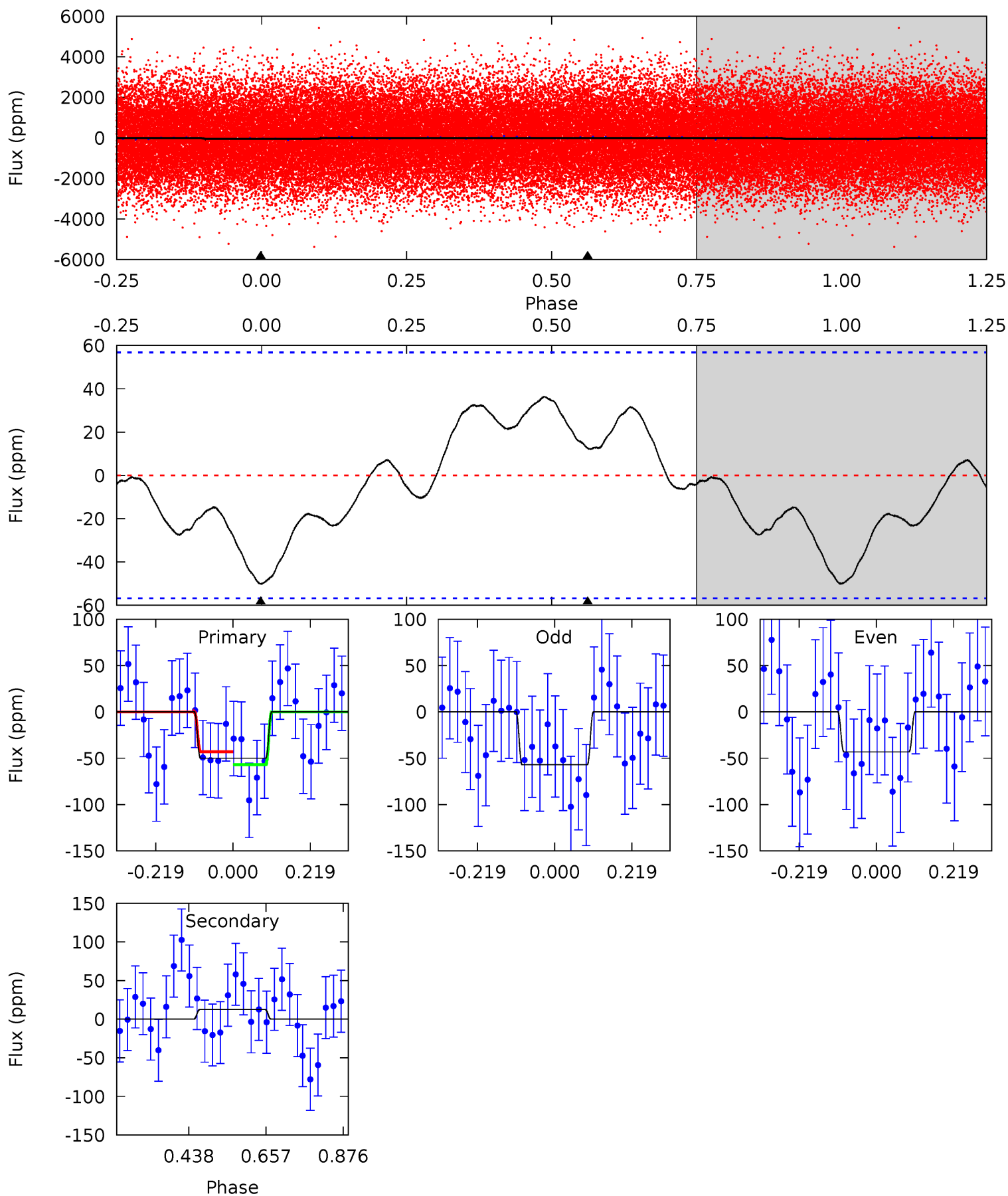
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.62	-6.28	0	0	4.39	1.21	0.74	9.62	9.62	-6.28	-6.28	0.26	1.11	0.44	0.56



Alt Model-Shift Uniqueness Test

011497012-01, P = 2.518335 Days, E = 130.688426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.87	-0.97	0	0	4.40	1.23	0.84	3.87	3.87	-0.97	-0.97	0.54	1.08	0.42	0.54



Stellar Parameters For KIC 011497012

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7884^{+218}_{-327}	$3.883^{+0.307}_{-0.102}$	$-0.120^{+0.200}_{-0.350}$	$2.619^{+0.409}_{-0.954}$	$1.912^{+0.104}_{-0.442}$	$0.150^{+0.333}_{-0.049}$
	+3%/-4%	+8%/-3%	+167%/-292%	+16%/-36%	+5%/-23%	+222%/-33%
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 011497012-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	31 ± 5	$2.44^{+2.07}_{-1.62}$	3653^{+208}_{-369}	-6024^{+1339}_{-5620}	$-5.491^{+3.854}_{-45.646}$
Alt.	13 ± 13	$2.44^{+2.27}_{-1.67}$	3637^{+251}_{-363}	-4706^{+1515}_{-3598}	$-1.564^{+1.671}_{-17.341}$

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

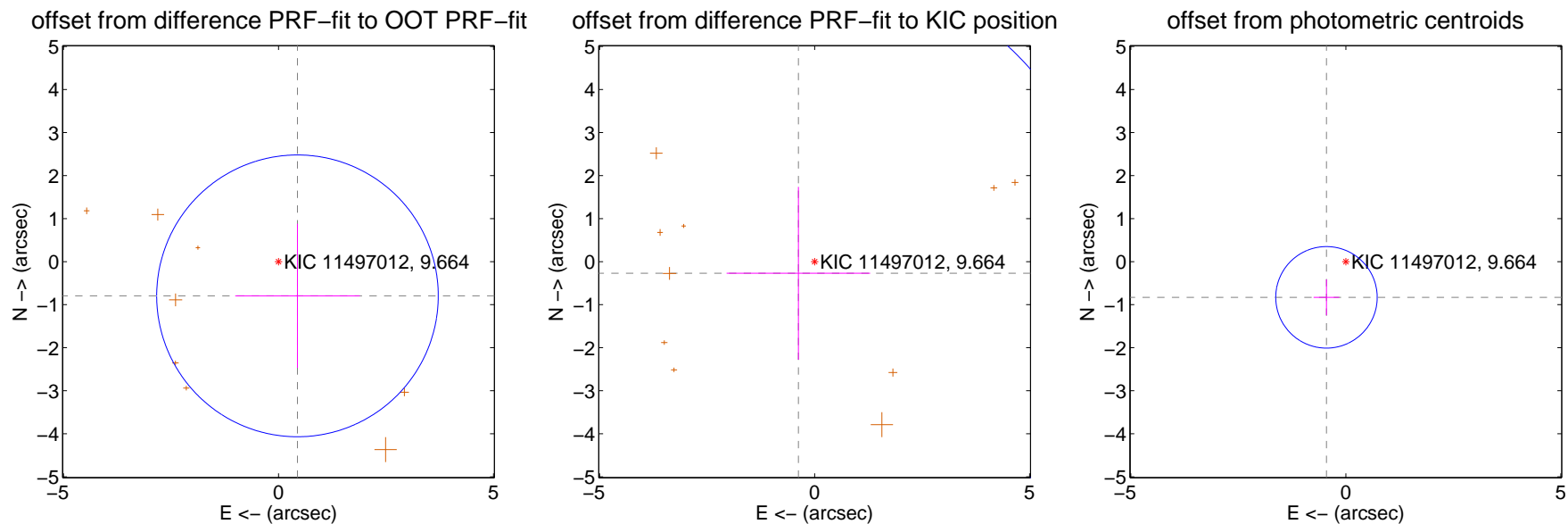
DV Centroid Data

Supplemental centroid analysis for 011497012-01. **Kepler magnitude: 9.66.** Transit SNR 9.66

There are 0 quarters with good PRF difference image offsets

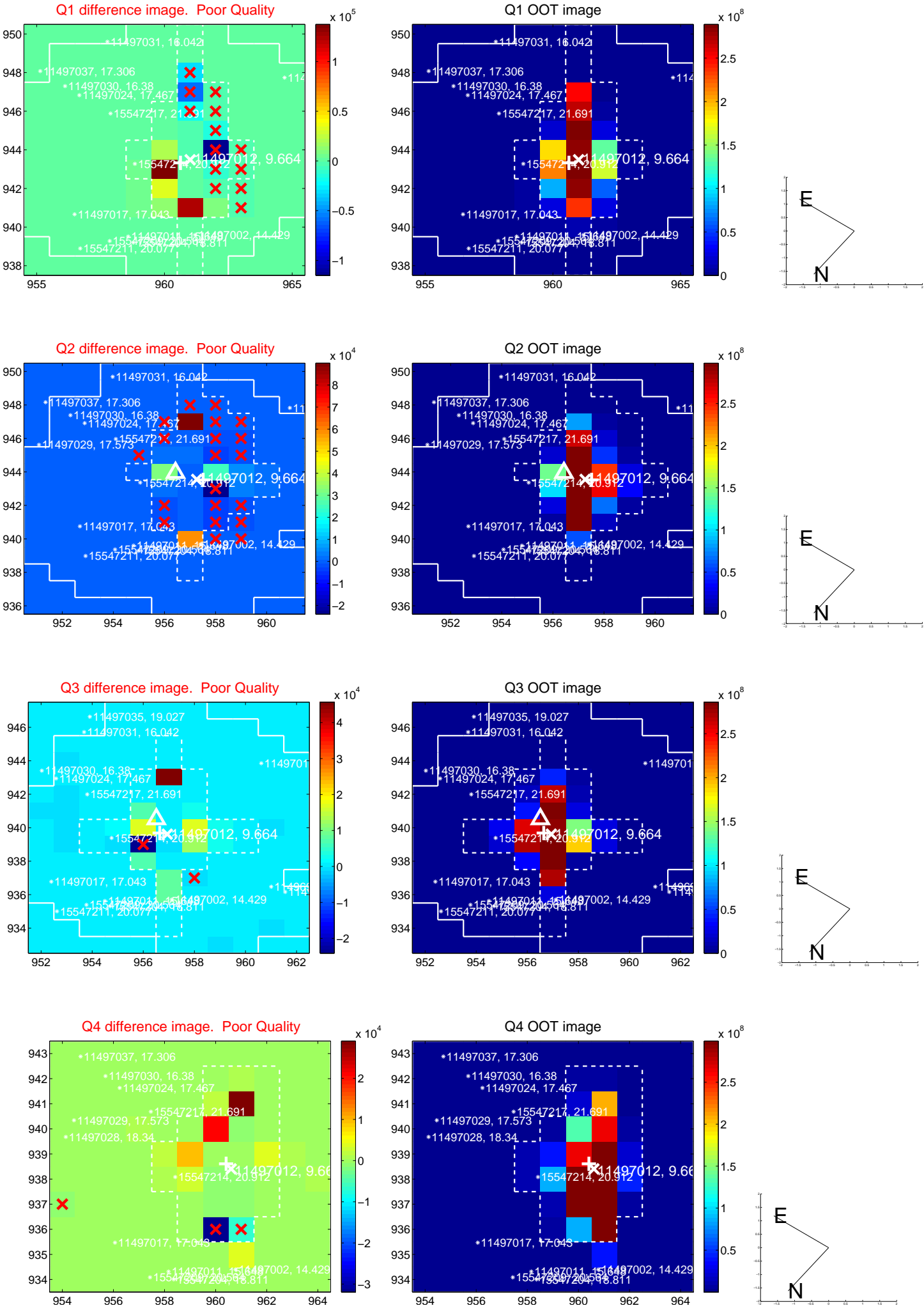
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.909 ± 1.091	0.83	-0.441 ± 1.449	-0.795 ± 1.675
PRF-fit source offset from KIC position	0.464 ± 2.395	0.19	0.377 ± 1.669	-0.270 ± 2.009
photometric centroid source offset	0.94 ± 0.39	2.40	0.45 ± 0.30	-0.83 ± 0.42

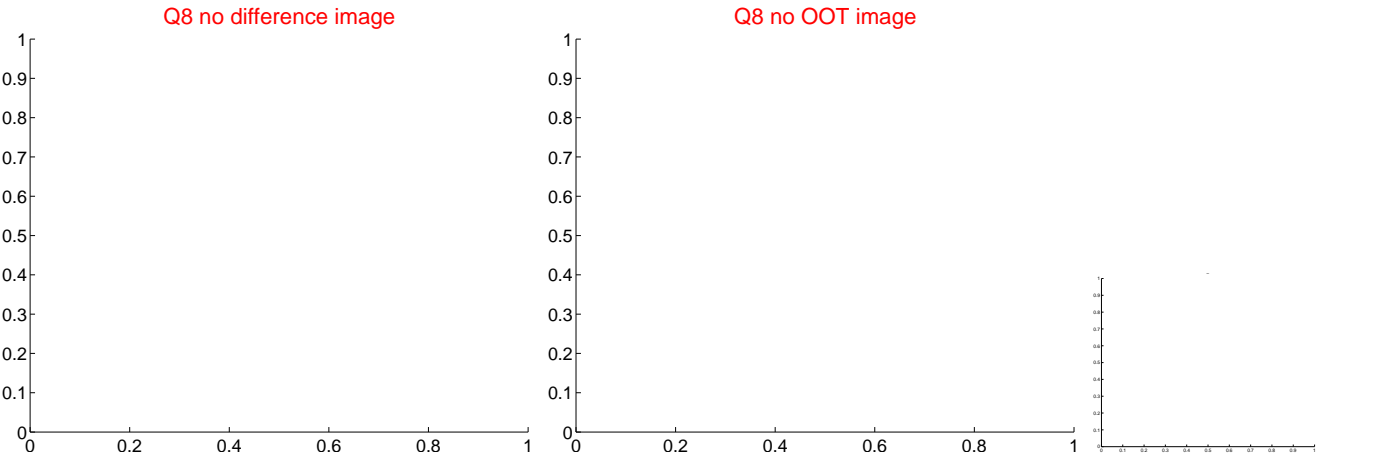
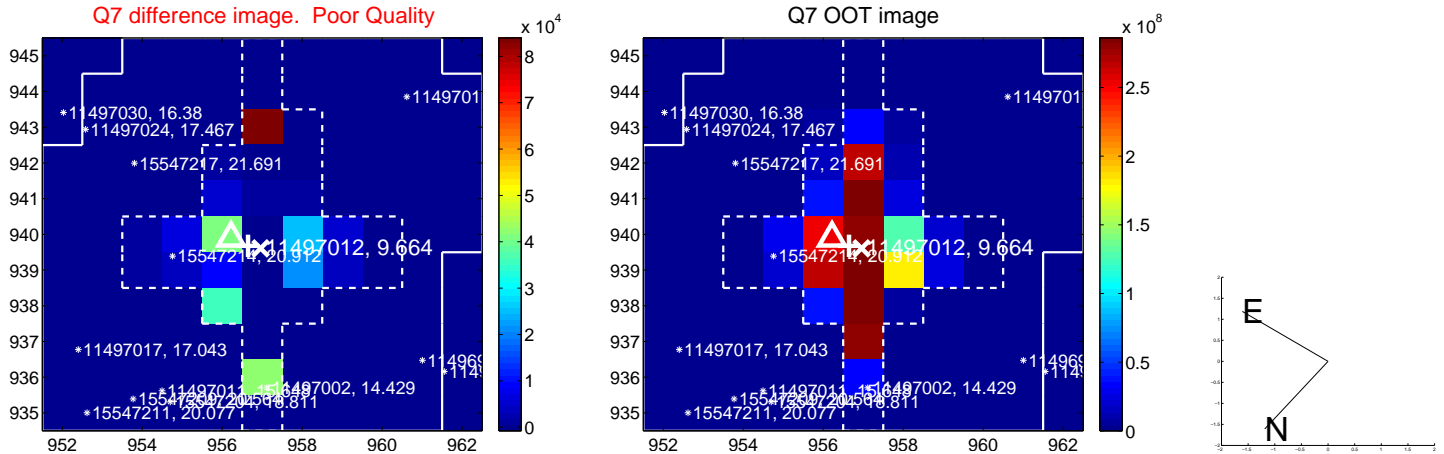
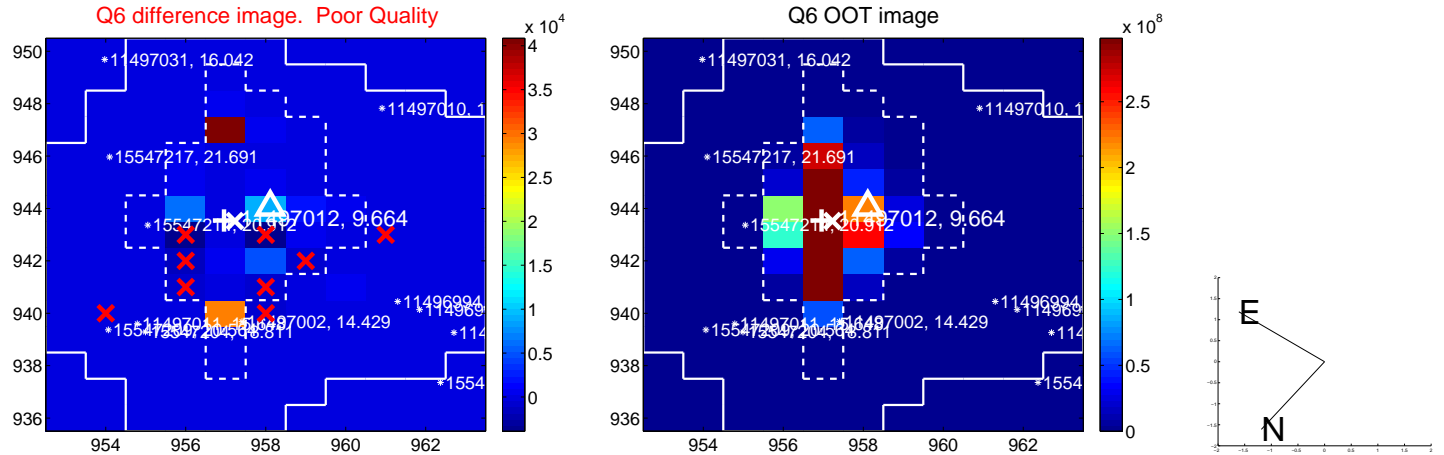
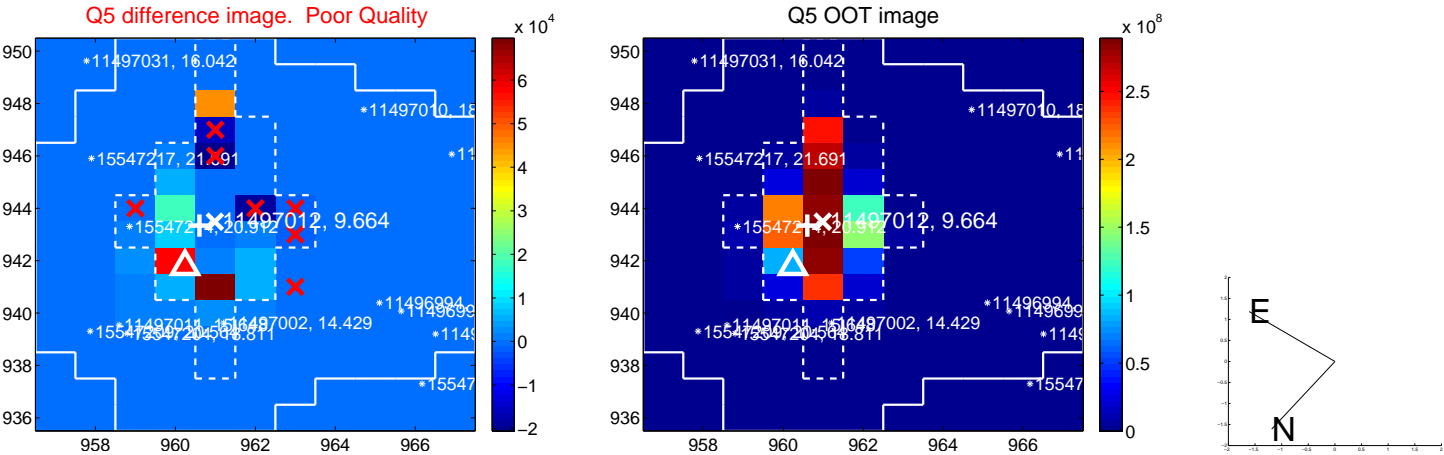


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

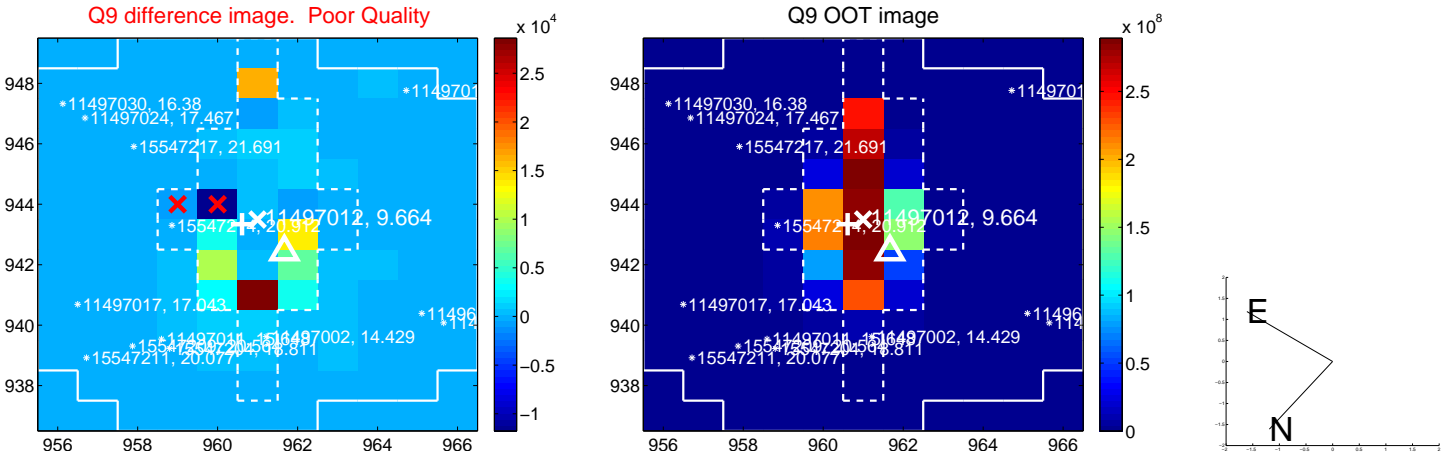
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



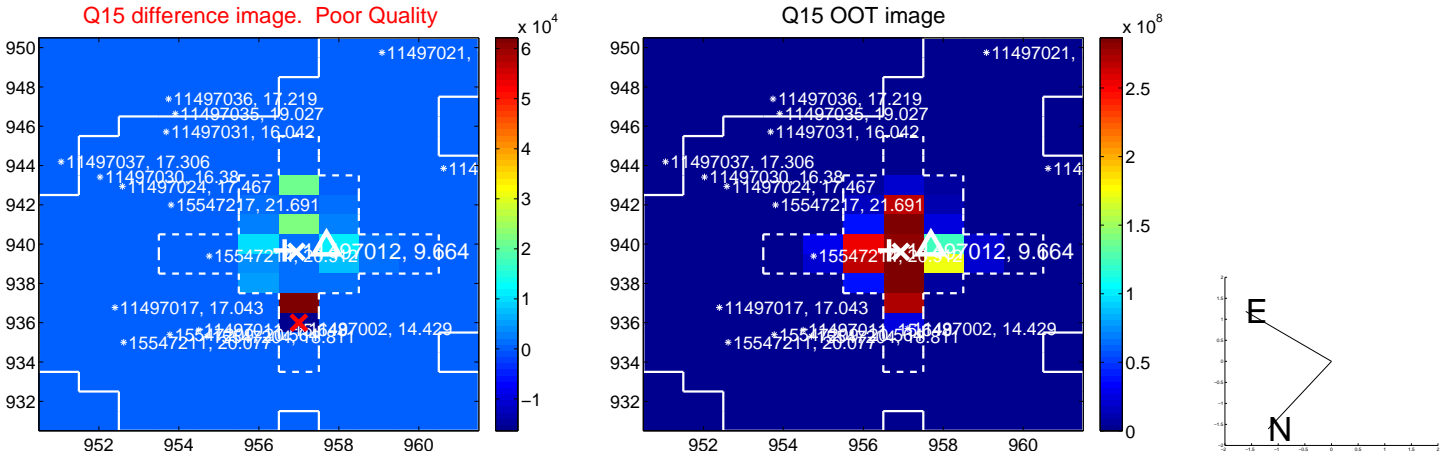
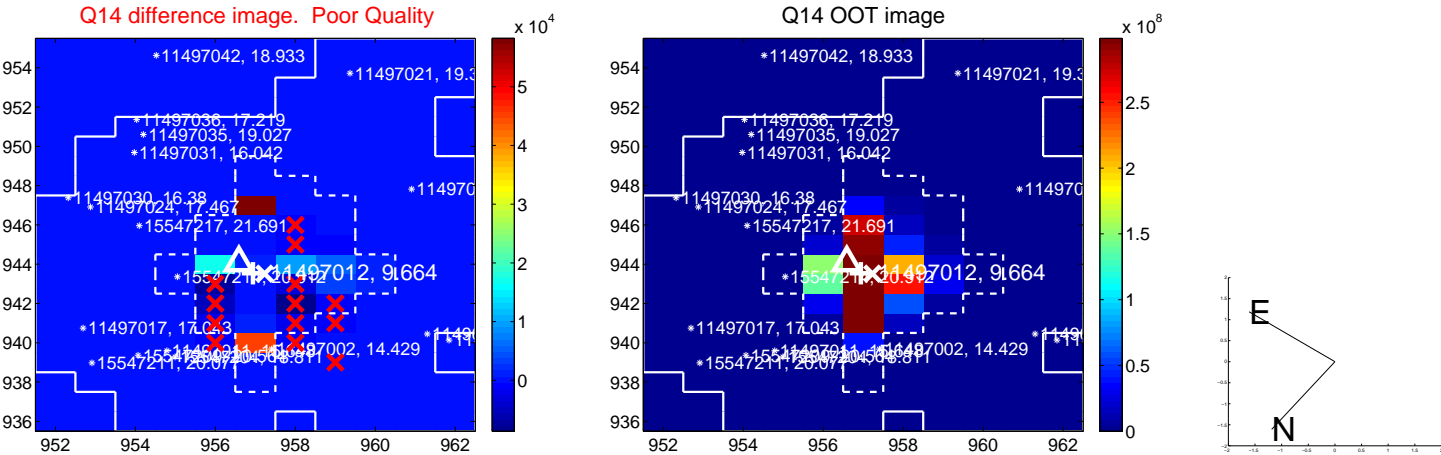
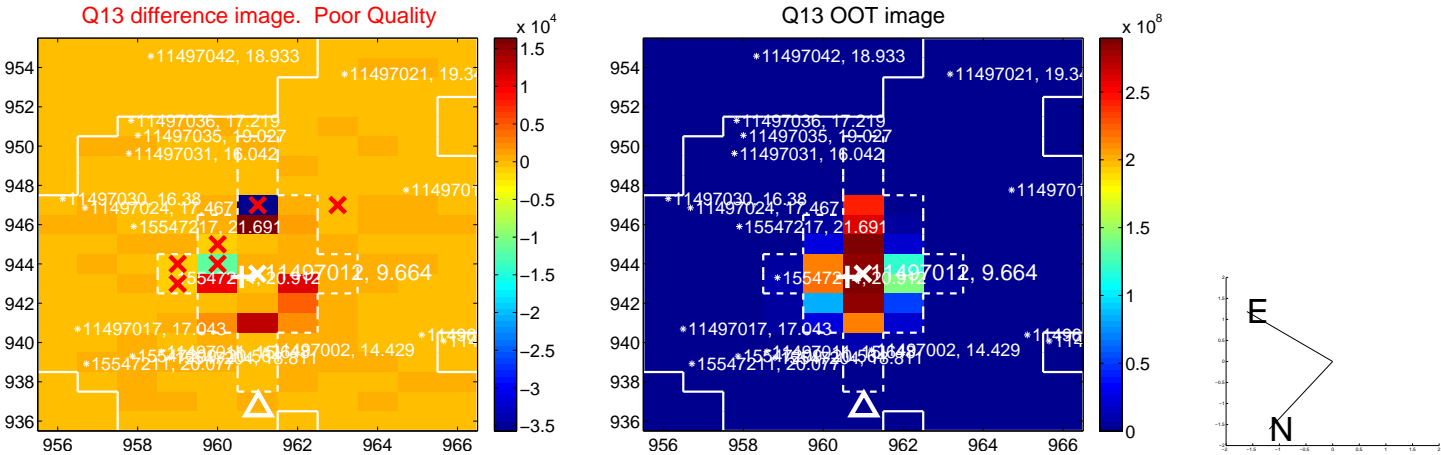
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



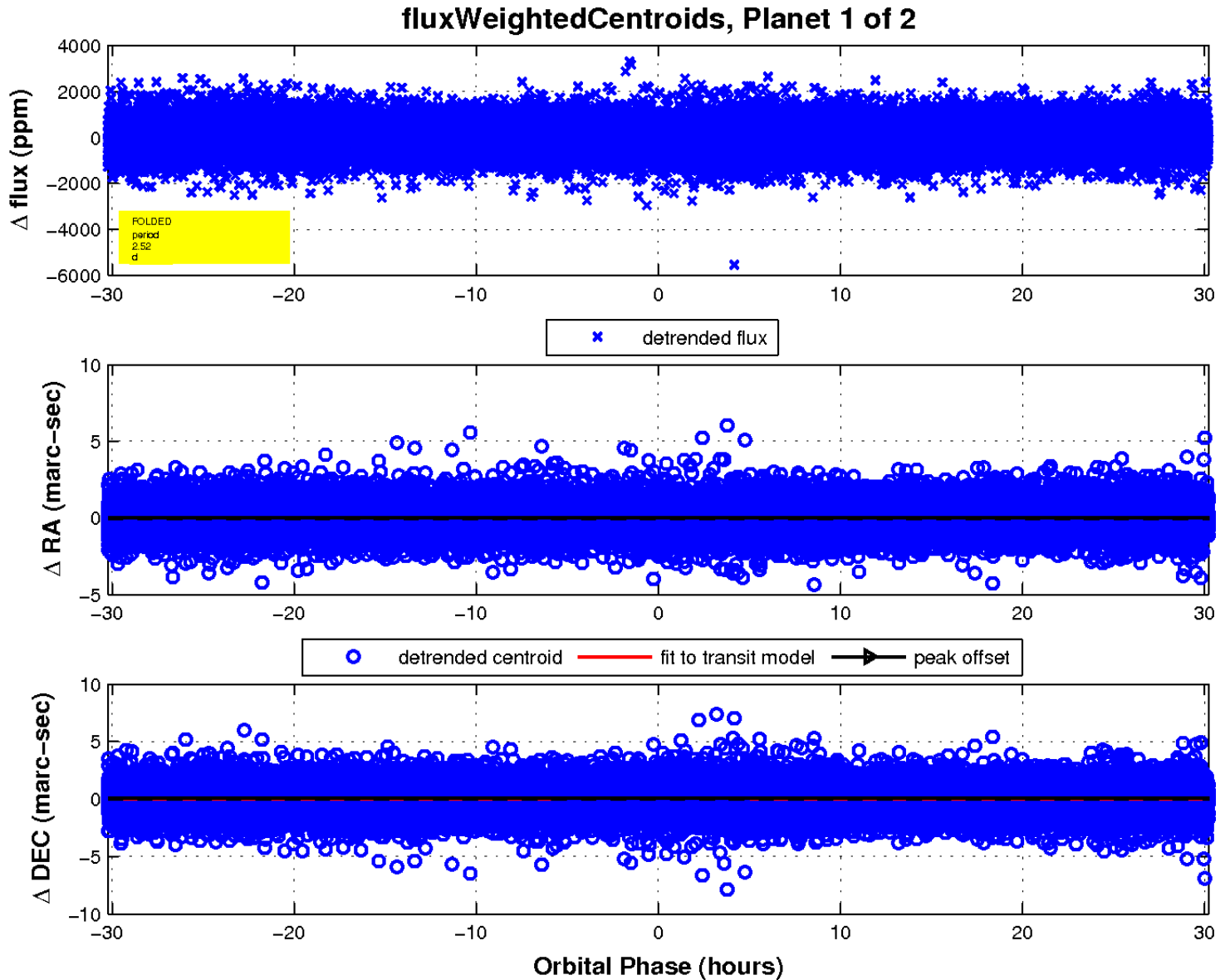
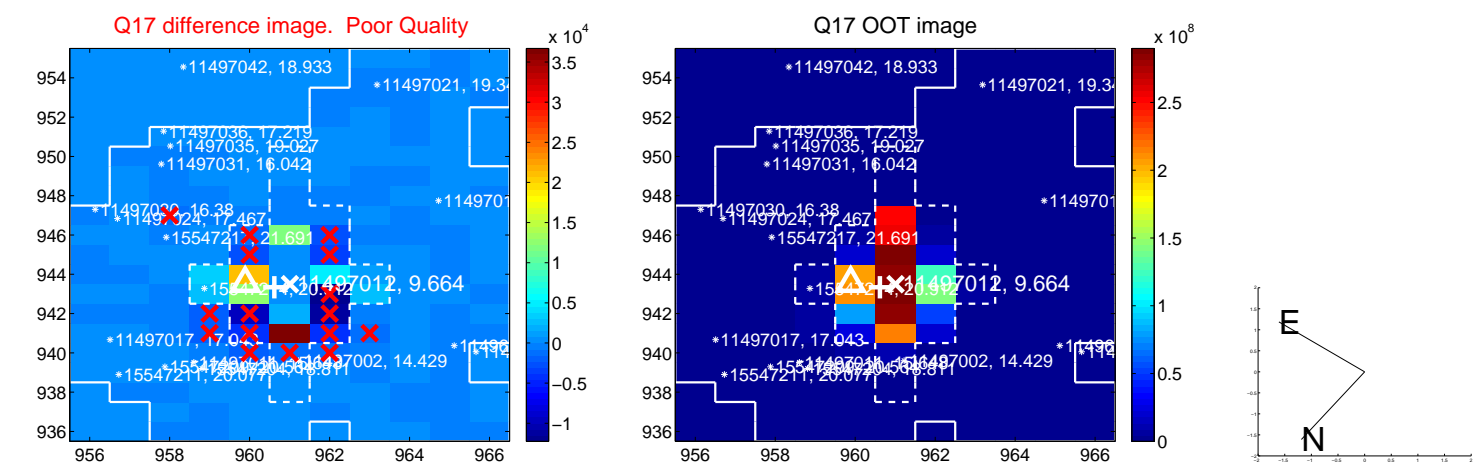
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



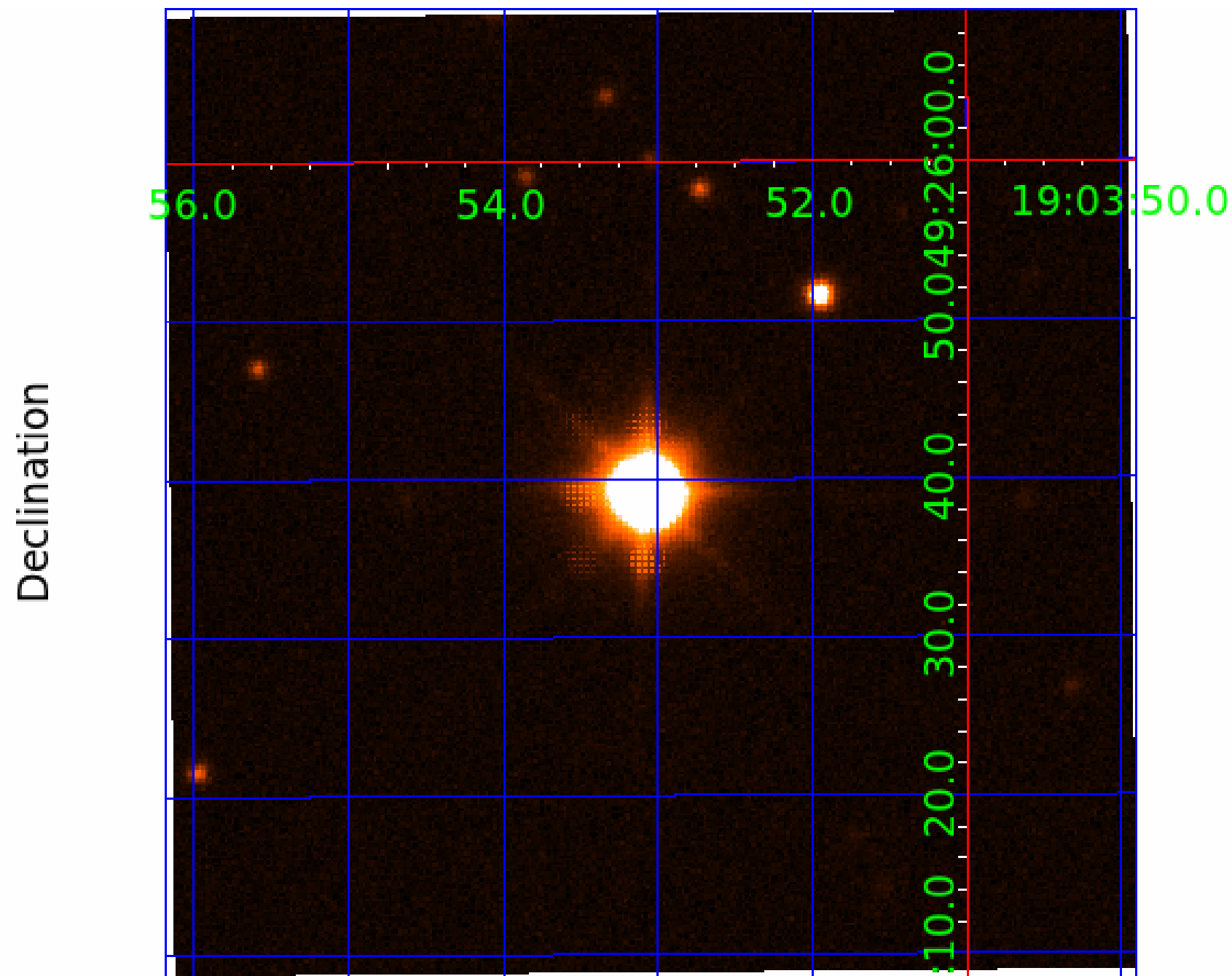
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011497012

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})
011497012-01	OBS	No	2.518753	133.080461	51.4	13.342	8.6	9.7	2.62	7884	1.90	11741.50
011497012-02	OBS	No	372.970720	247.420346	472.7	10.792	8.6	8.4	2.62	7884	6.72	14.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011497012-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
011497012-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

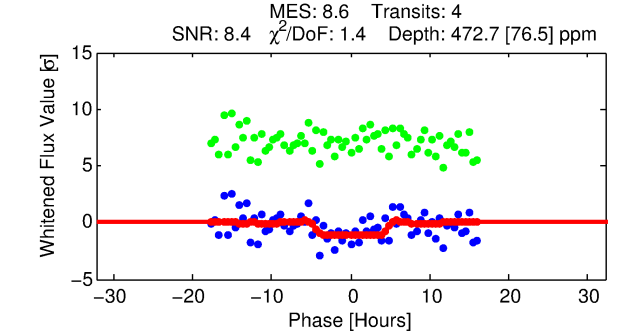
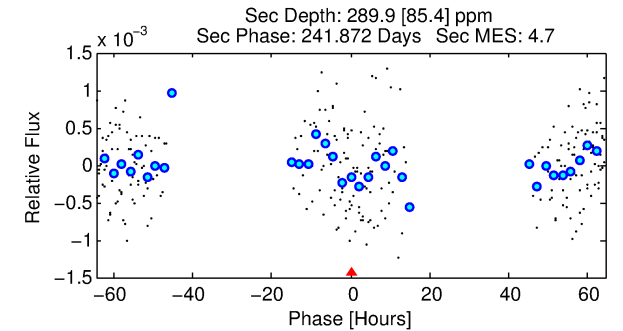
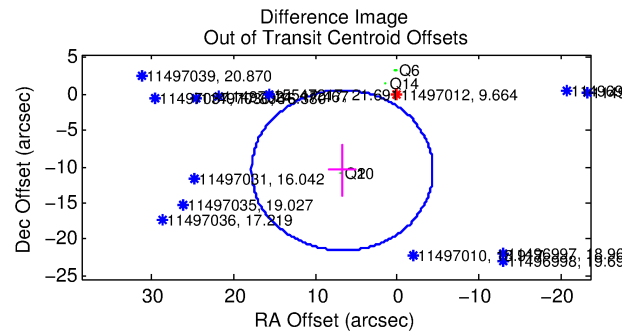
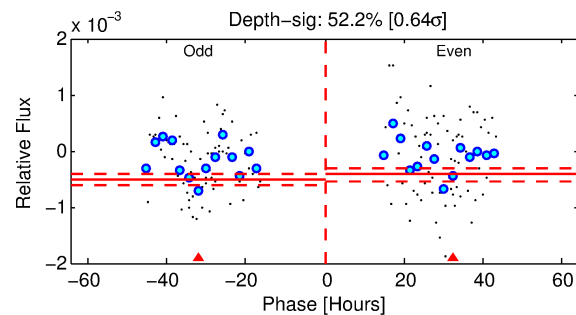
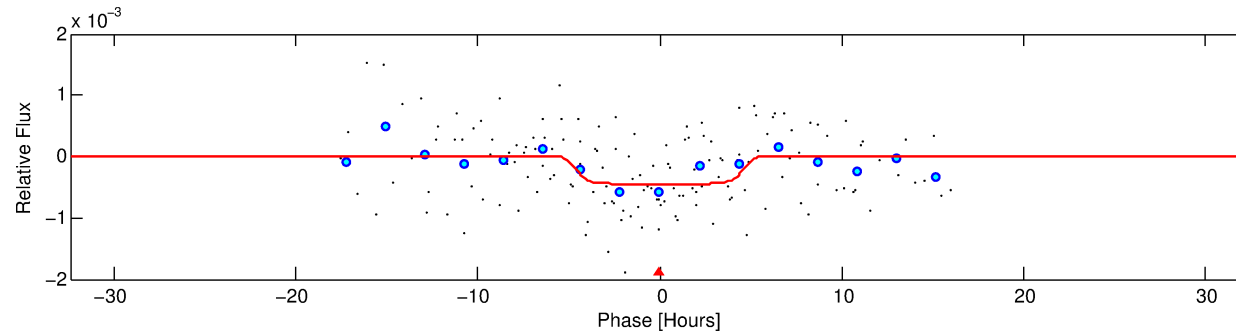
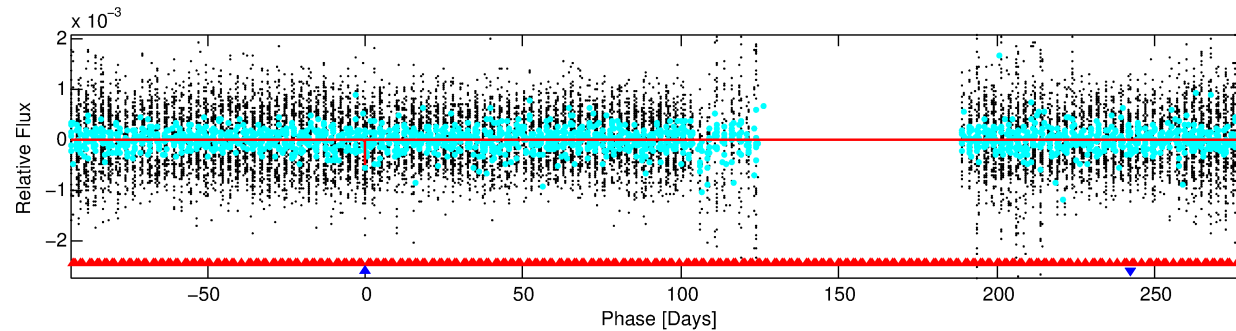
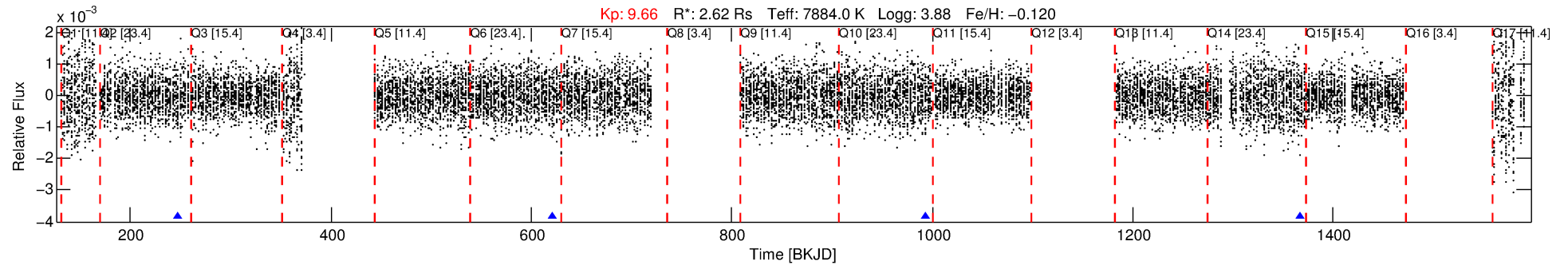
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011497012-02

No Significant Match Found

DV One-Page Summary

KIC: 11497012 Candidate: 2 of 2 Period: 372.971 d



DV Fit Results:

Period = 372.97072 [0.01969] d

Epoch = 247.4203 [0.0337] BKJD

Rp/R* = 0.0235 [0.0036]

a/R* = 119.49 [90.62]

b = 0.92 [0.13]

Seff = 14.99 [8.33]

Teq = 502 [70] K

Rp = 6.72 [2.66] Re

a = 1.2586 [0.4259] AU

Ag = 5598.61 [3806.00] [1.47 σ]

Teff = 6710 [766] K [8.07 σ]

DV Diagnostic Results:

ShortPeriod-sig: 100.0% [518.12 σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: 84.3%

ModelChiSquareGof-sig: 75.8%

Bootstrap-pfa: 1.38e-09

RollingBand-fgt: 1.00 [4/4]

GhostDiagnostic-chr: N/A

Centroid-sig: 51.1%

Centroid-so: 0.340 arcsec [0.91 σ]

OotOffset-rm: 12.470 arcsec [3.38 σ]

KicOffset-rm: 12.856 arcsec [3.60 σ]

OotOffset-st: 4/0/0/0 [4]

KicOffset-st: 4/0/0/0 [4]

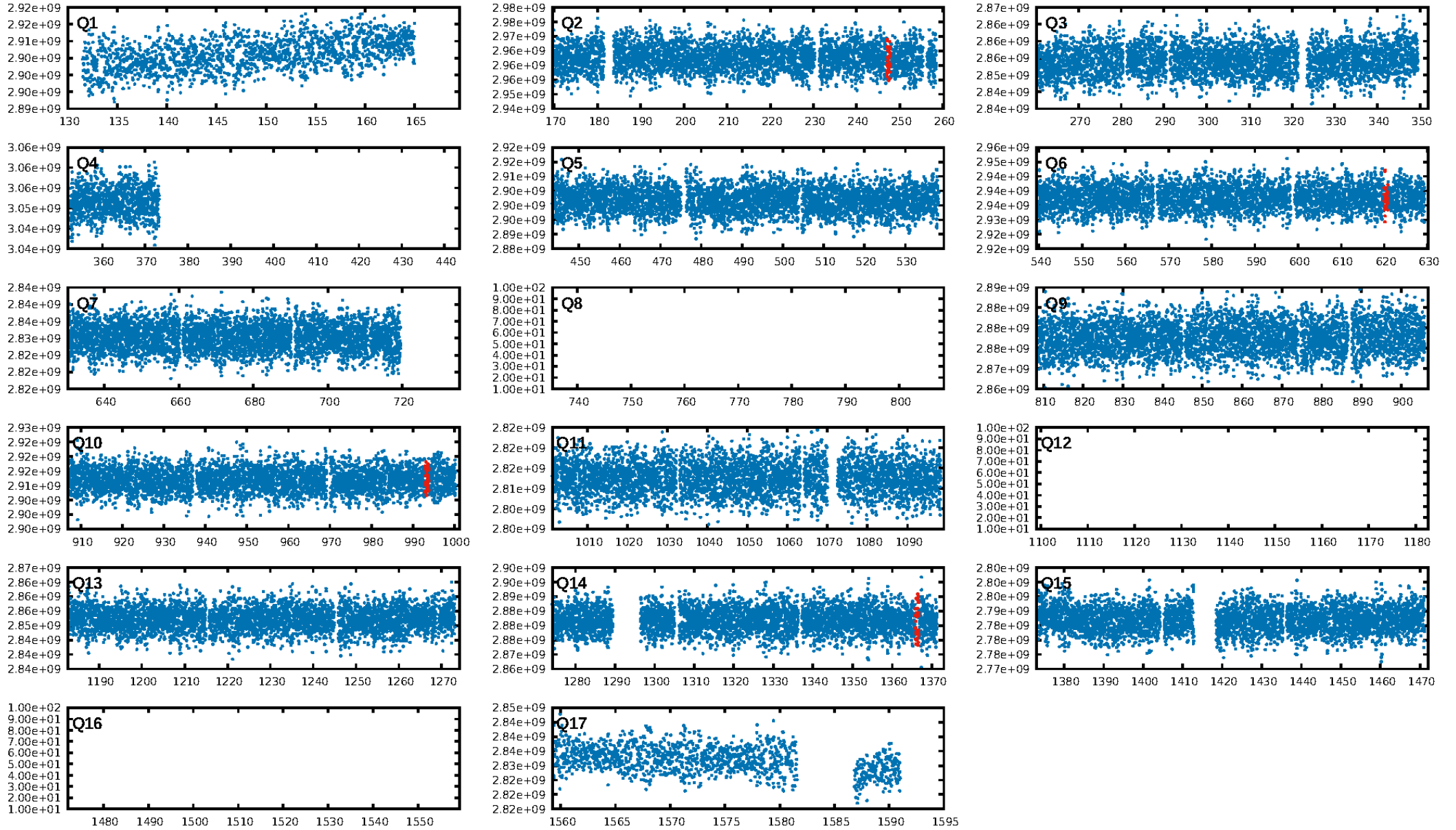
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DiffImageOverlap-fno: 0.50 [2/4]

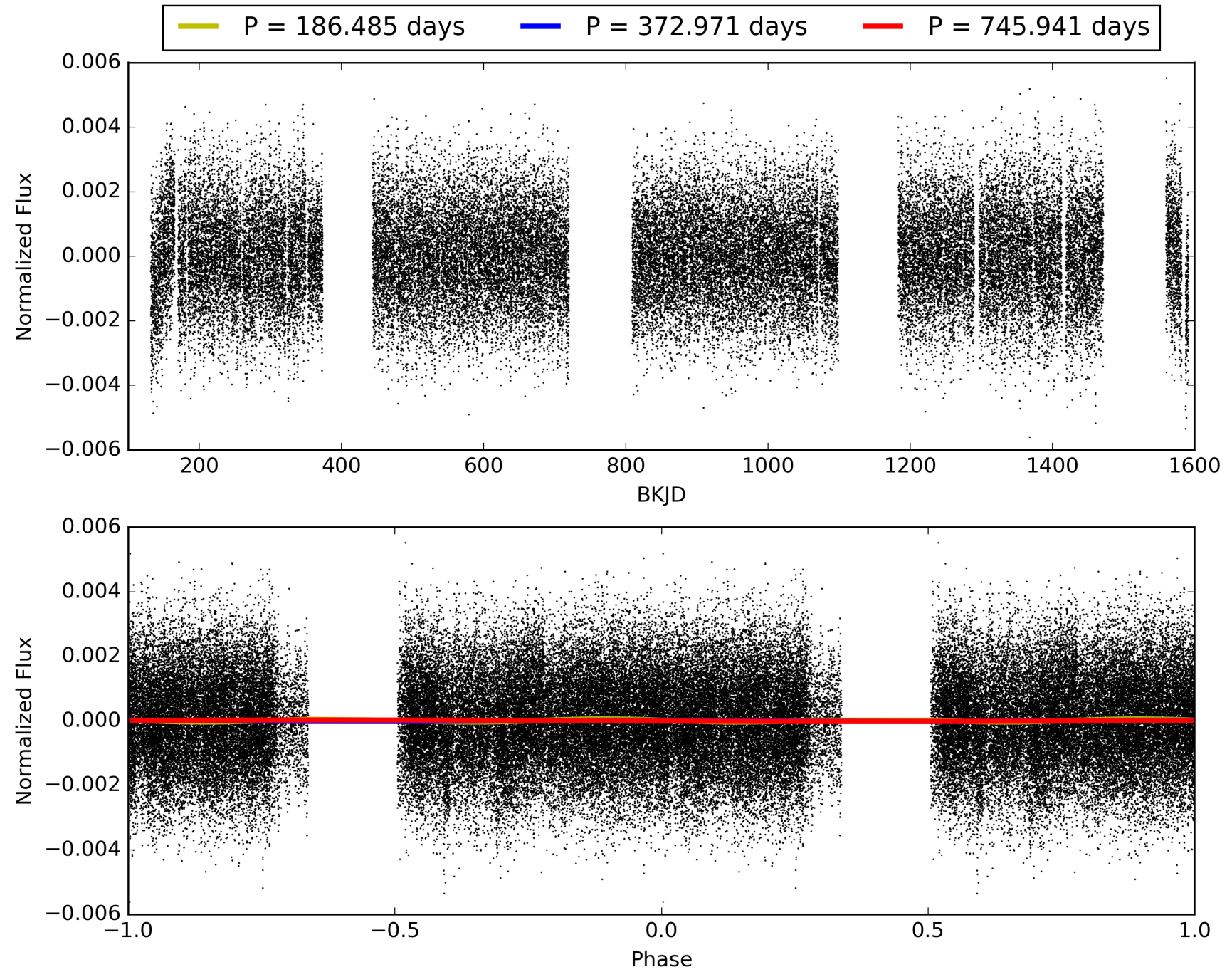
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:34:57 Z

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

TCE 011497012-02, PDC Light Curves

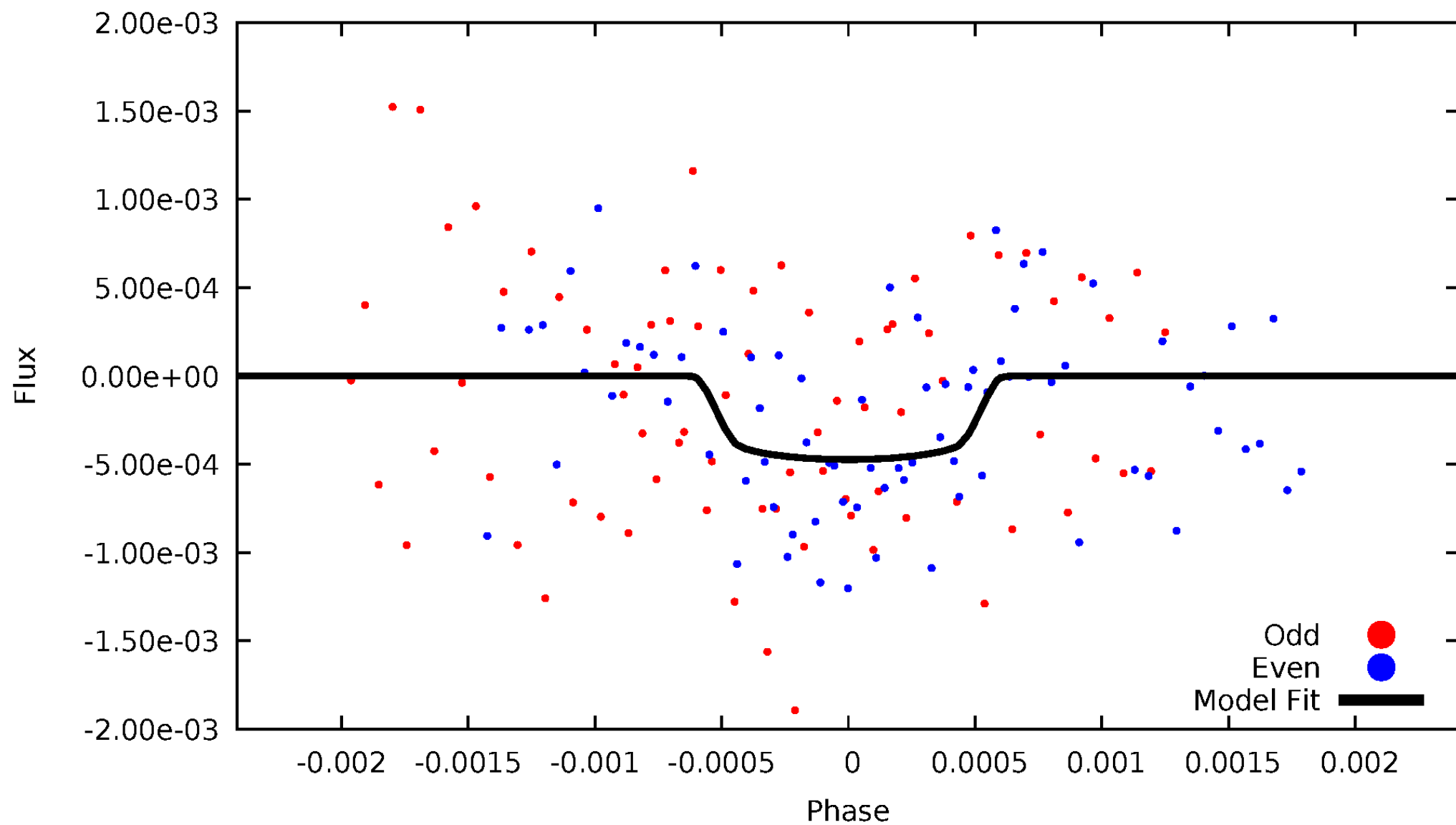


TCE 011497012-02



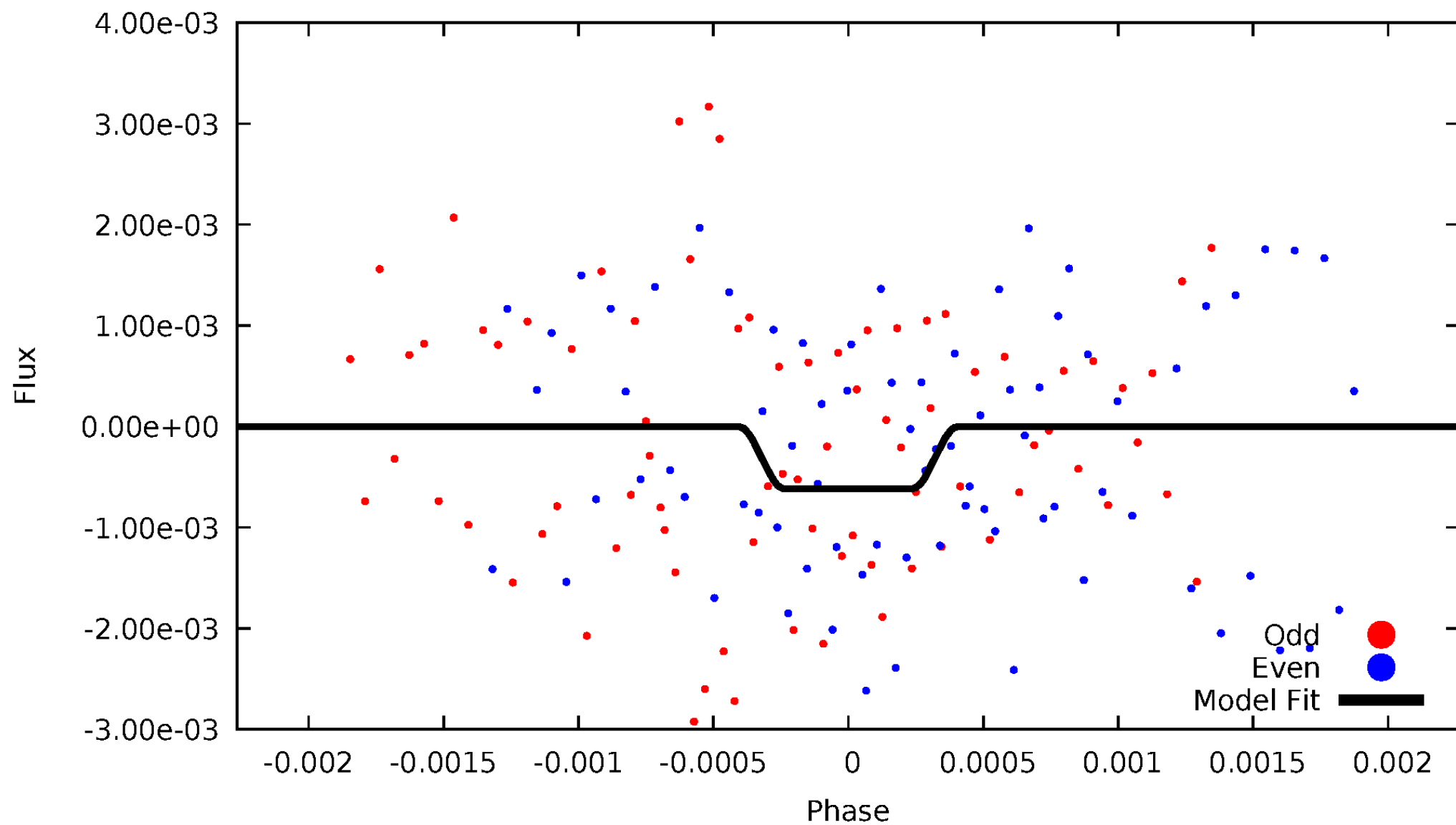
DV Odd/Even

TCE 011497012-02



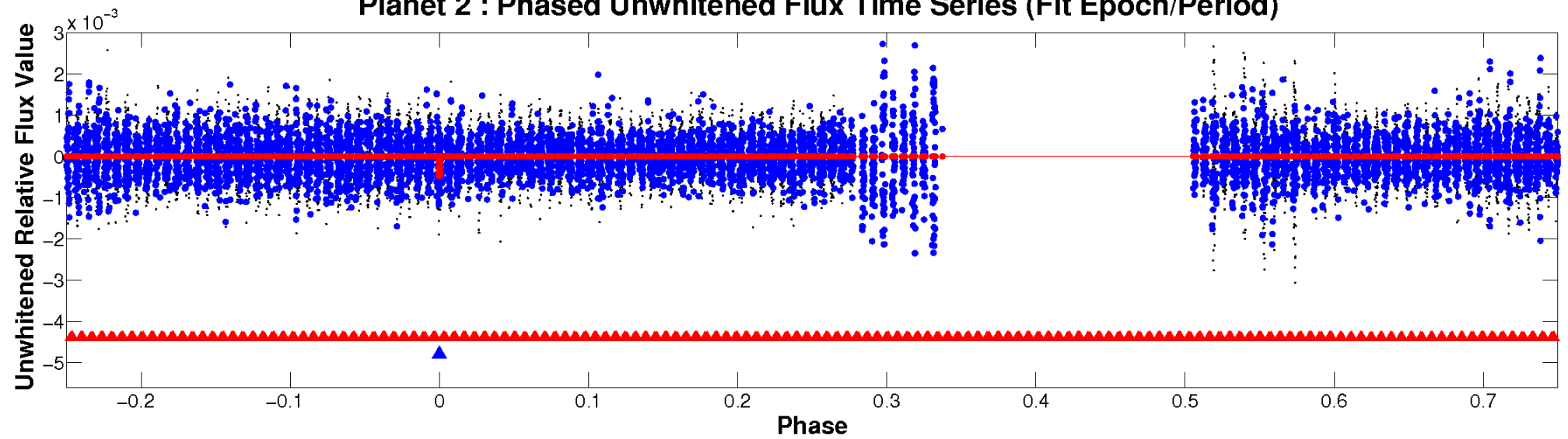
ALT Odd/Even

TCE 011497012-02

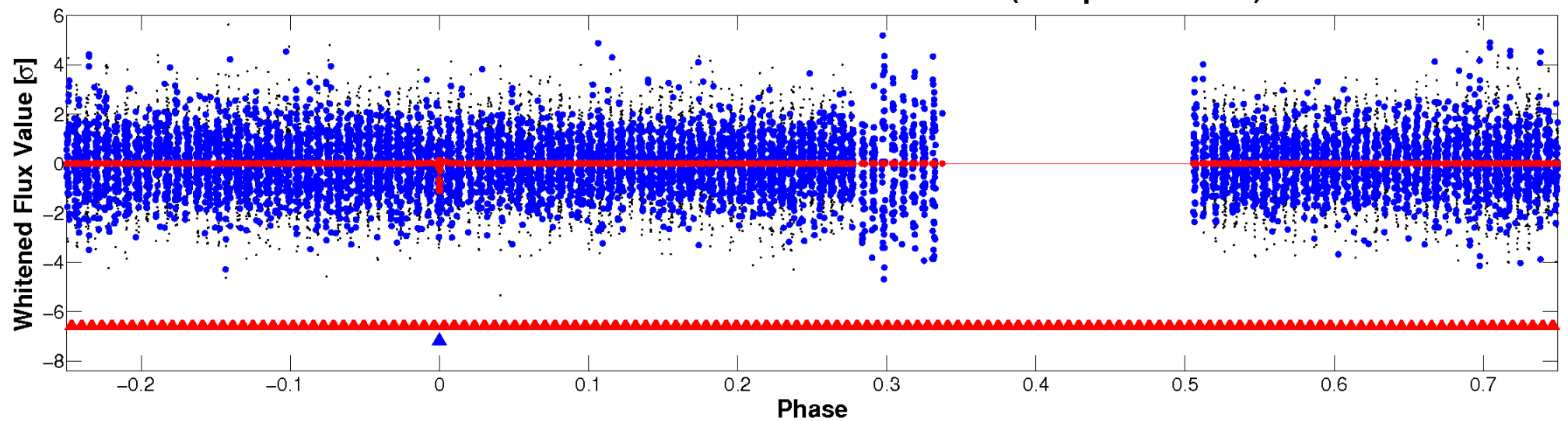


Non-Whitened Vs. Whitened Light Curve

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



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



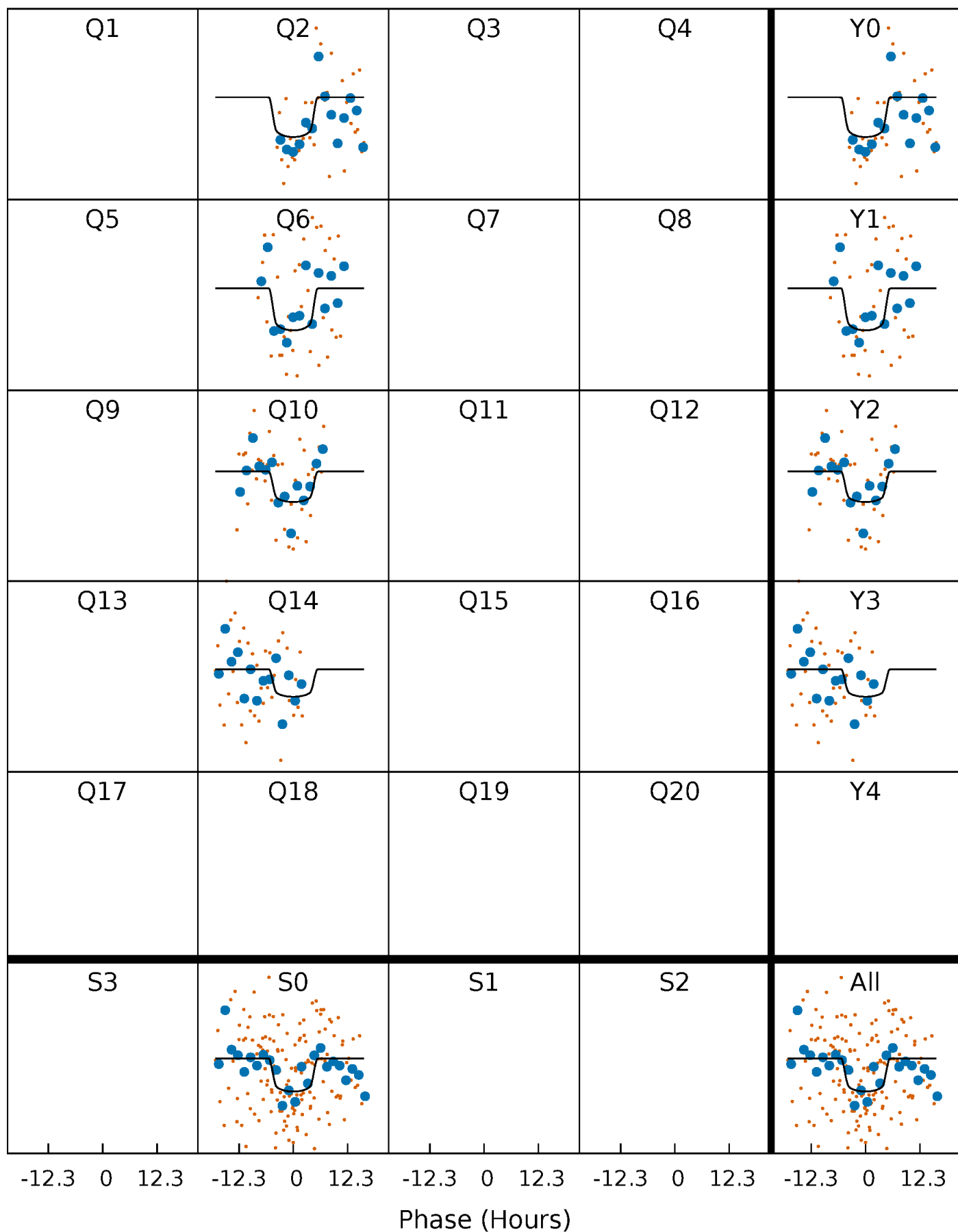
PDC Quarter-Phased Transit Curves

TCE 011497012-02 P=372.970720 Days $T_0=247.420346$ (BKJD)



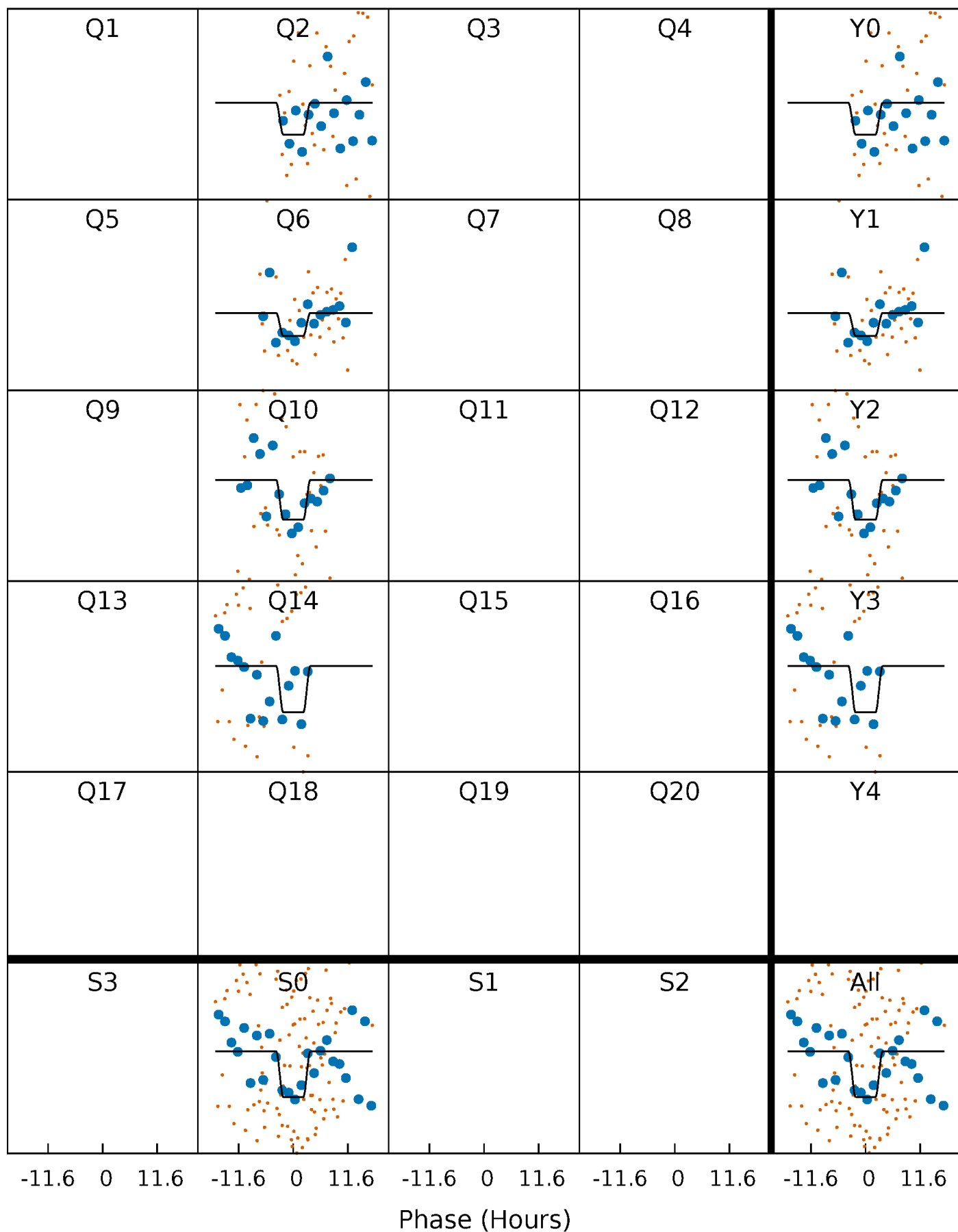
DV Quarter-Phased Transit Curves

TCE 011497012-02 P=372.970720 Days $T_0=247.420346$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

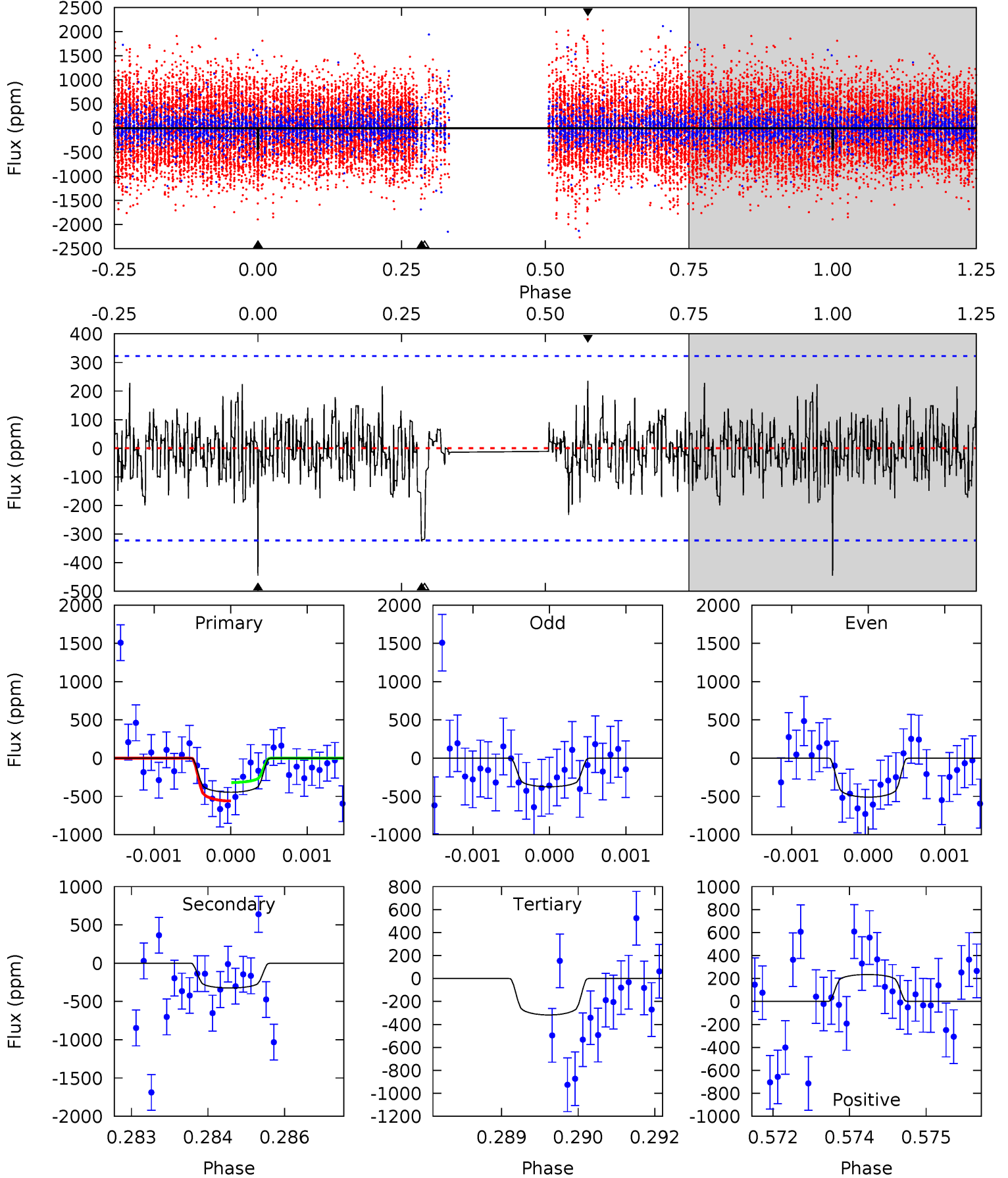
TCE 011497012-02 P=372.966959 Days $T_0=247.388187$ (BKJD)



DV Model-Shift Uniqueness Test

011497012-02, P = 372.970720 Days, E = 247.420346 Days

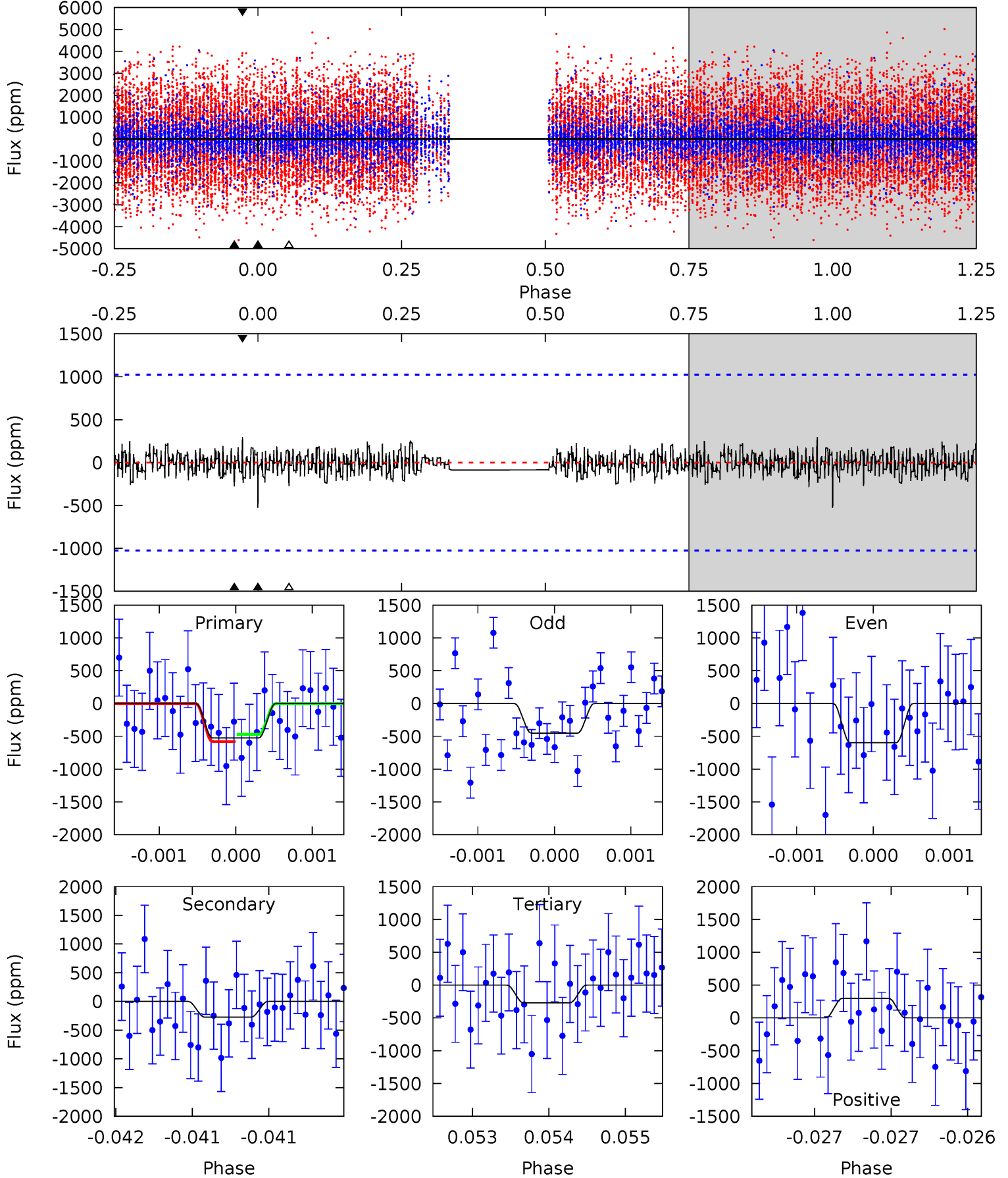
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.48	5.45	5.33	3.94	5.42	3.24	1.26	2.14	3.53	0.11	1.50	1.17	1.00	0.35	2.08



Alt Model-Shift Uniqueness Test

011497012-02, P = 372.966959 Days, E = 247.388187 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.82	1.47	1.45	1.60	5.49	3.36	0.47	1.36	1.22	0.02	-0.13	0.40	0.98	0.36	0.29



Stellar Parameters For KIC 011497012

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7884^{+218}_{-327}	$3.883^{+0.307}_{-0.102}$	$-0.120^{+0.200}_{-0.350}$	$2.619^{+0.409}_{-0.954}$	$1.912^{+0.104}_{-0.442}$	$0.150^{+0.333}_{-0.049}$
	+3%/-4%	+8%/-3%	+167%/-292%	+16%/-36%	+5%/-23%	+222%/-33%
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 011497012-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-324 ± 60	$6.35^{+1.41}_{-1.41}$	687^{+42}_{-63}	6710^{+800}_{-632}	6940^{+4202}_{-2522}
Alt.	-274 ± 186	$6.60^{+1.42}_{-1.37}$	683^{+44}_{-59}	6266^{+1095}_{-1534}	5353^{+4983}_{-3775}

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 $A_{obs} \gg 1.0$

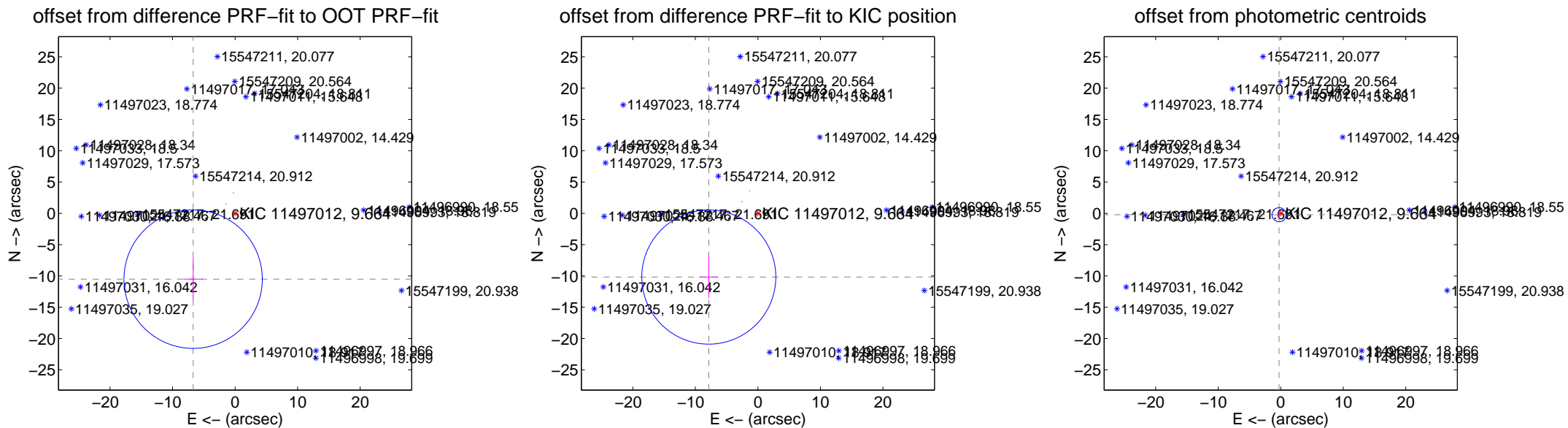
DV Centroid Data

Supplemental centroid analysis for 011497012-02. **Kepler magnitude: 9.66.** Transit SNR 8.38

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.470 \pm 3.686	3.38	6.708 \pm 1.561	-10.512 \pm 3.379
PRF-fit source offset from KIC position	12.856 \pm 3.571	3.60	7.850 \pm 1.547	-10.181 \pm 3.320
photometric centroid source offset	0.34 \pm 0.38	0.91	0.26 \pm 0.32	-0.22 \pm 0.44



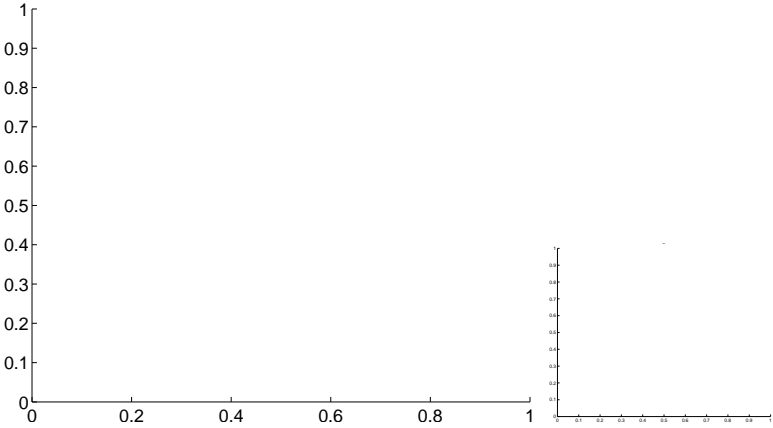
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

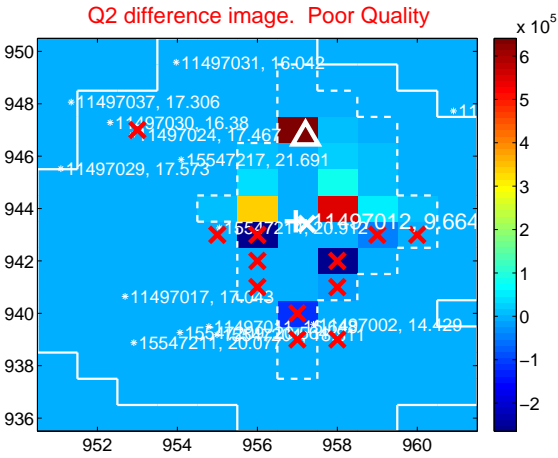
Q1 no difference image



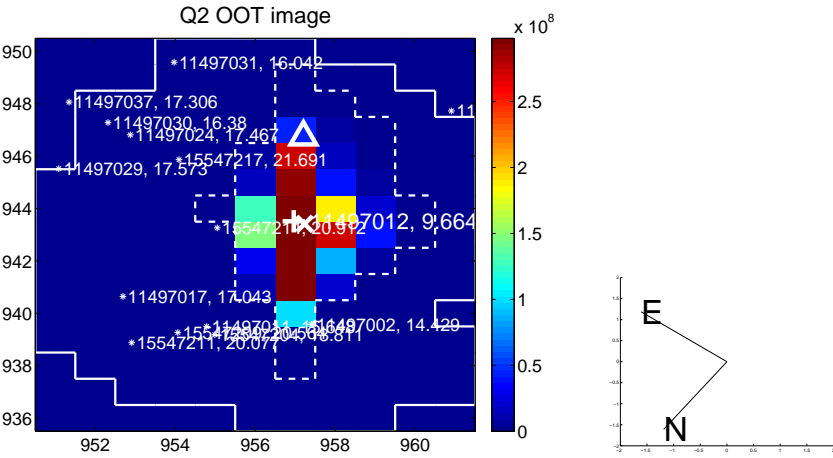
Q1 no OOT image



Q2 difference image. Poor Quality



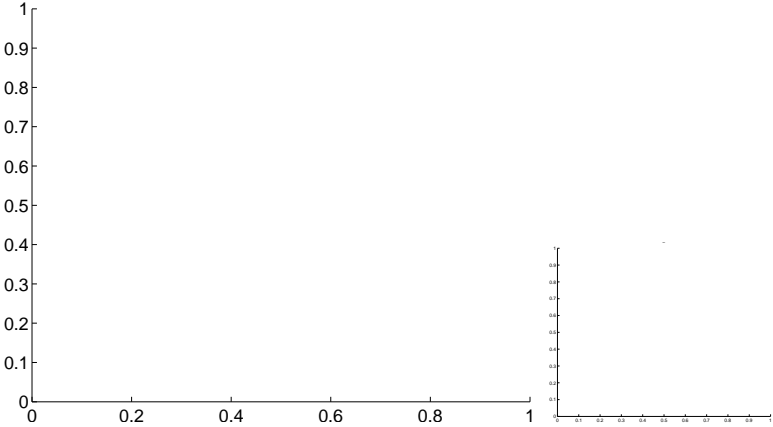
Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

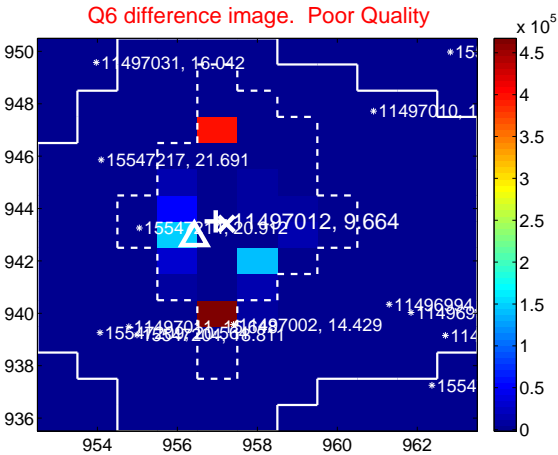
Q5 no difference image



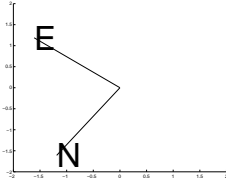
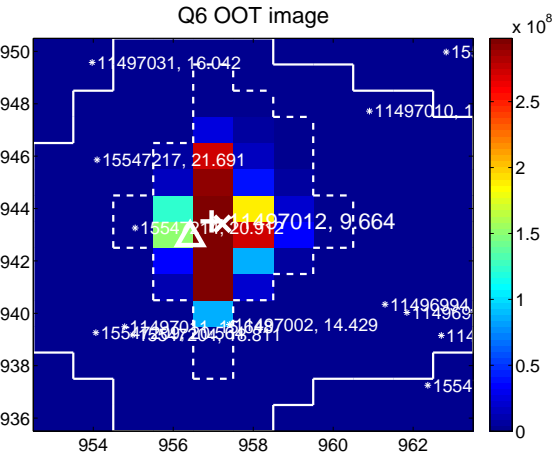
Q5 no OOT image



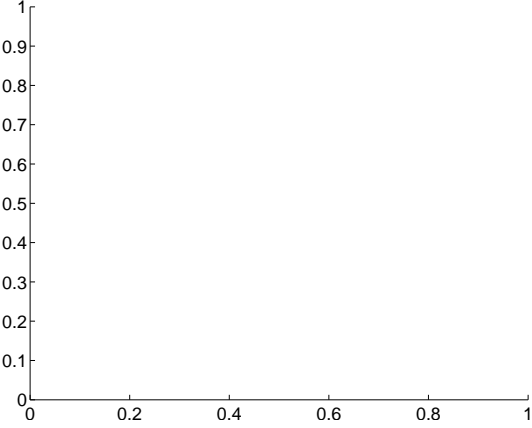
Q6 difference image. Poor Quality



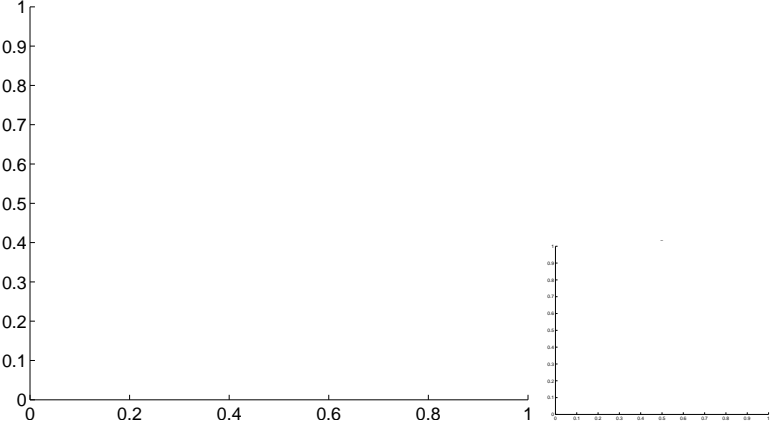
Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image

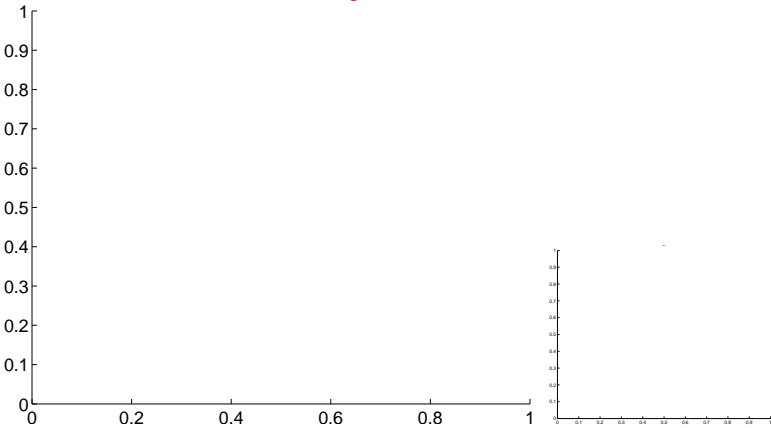


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

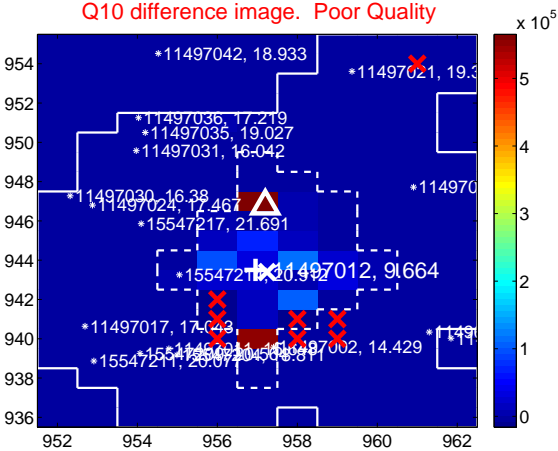
Q9 no difference image



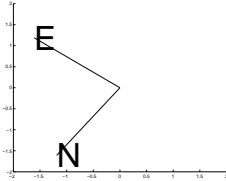
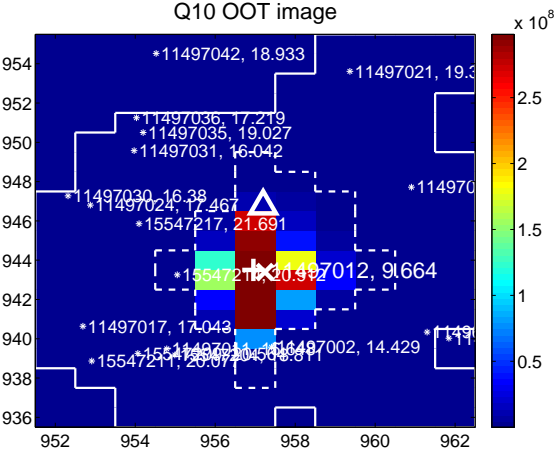
Q9 no OOT image



Q10 difference image. Poor Quality



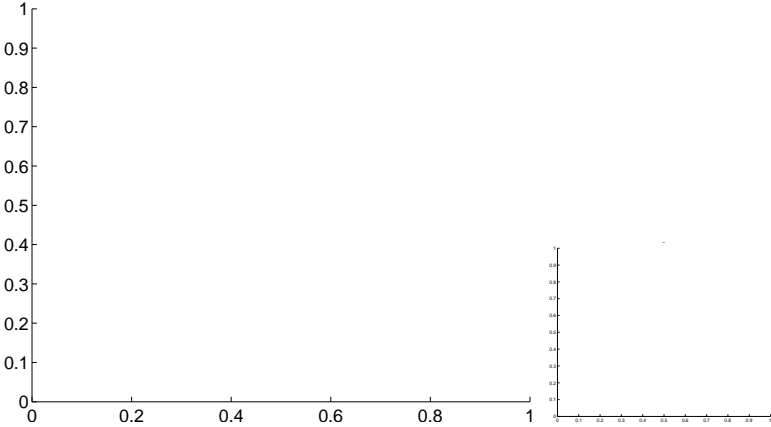
Q10 OOT image



Q11 no difference image



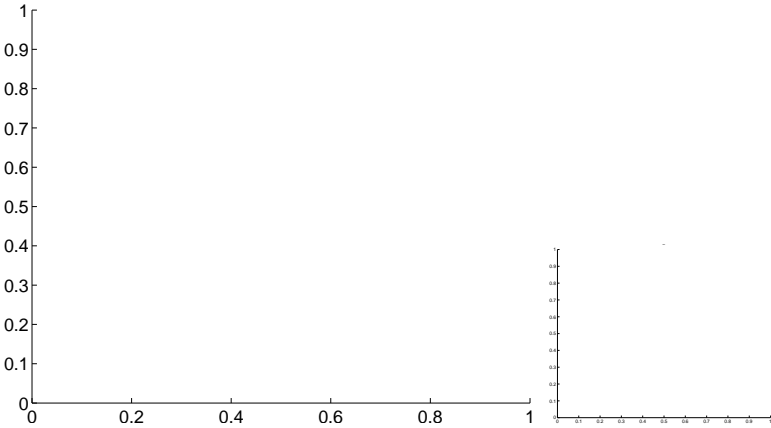
Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

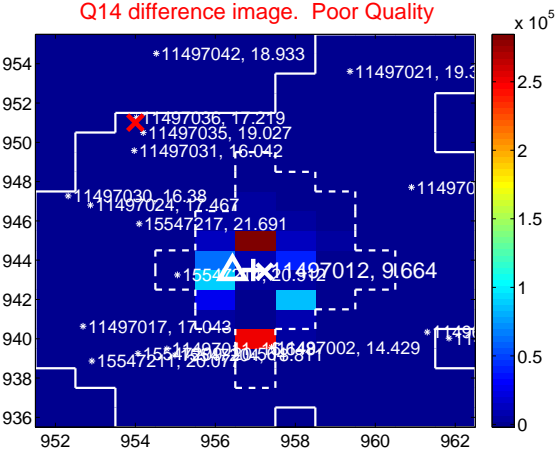
Q13 no difference image



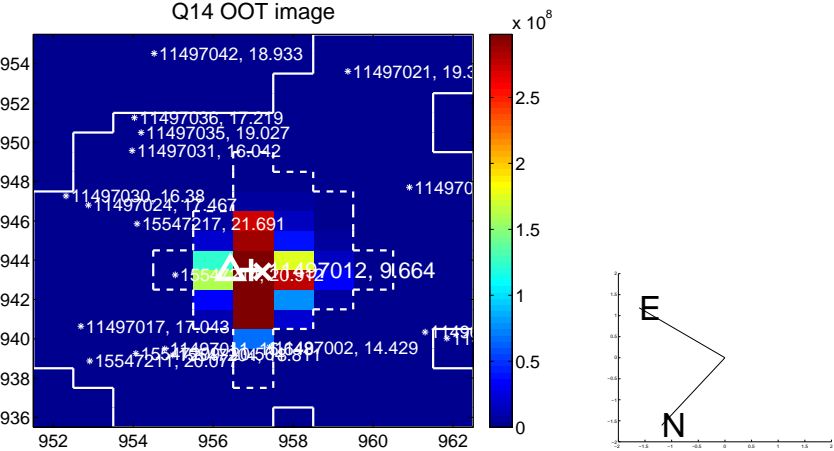
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



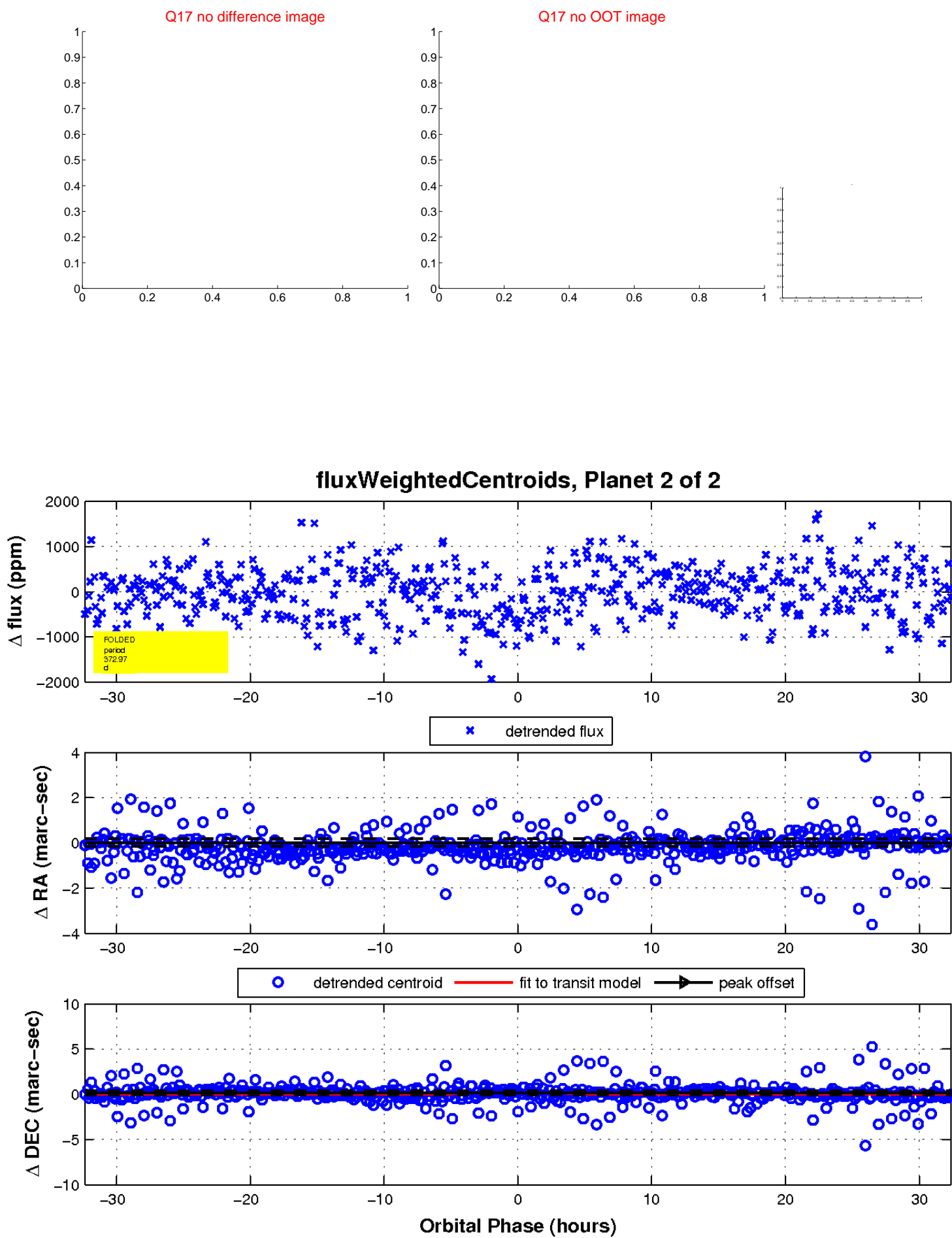
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

