

KIC 003247777

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})
003247777-01	OBS	No	195.057908	309.464486	2541.6	11.972	20.7	13.5	153.06	3286	848.97	0.00
003247777-02	OBS	No	224.702342	218.763650	53029.2	46.756	30.8	64.7	153.06	3286	6368.80	0.00
003247777-03	OBS	No	145.058487	228.758541	1188.8	30.137	14.4	14.5	153.06	3286	1151.44	0.00
003247777-04	OBS	No	286.199253	326.031674	166.1	15.000	12.6	-1.0	153.06	3286	180.97	3113.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247777-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003247777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003247777-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
003247777-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—INCONSISTENT_TRANS—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.

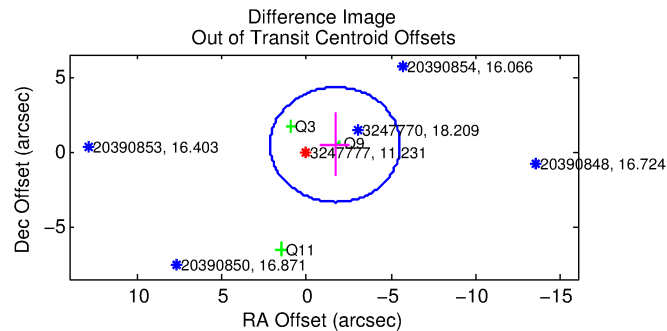
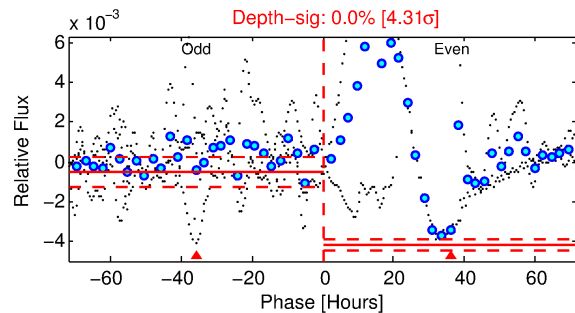
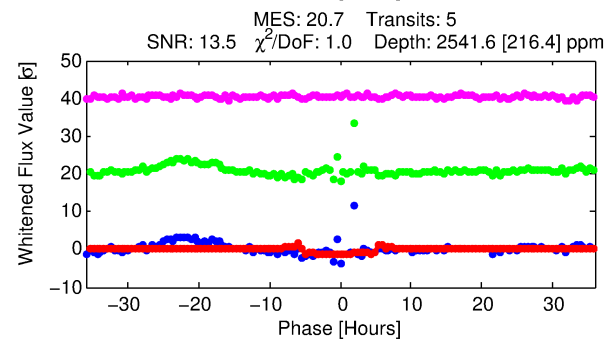
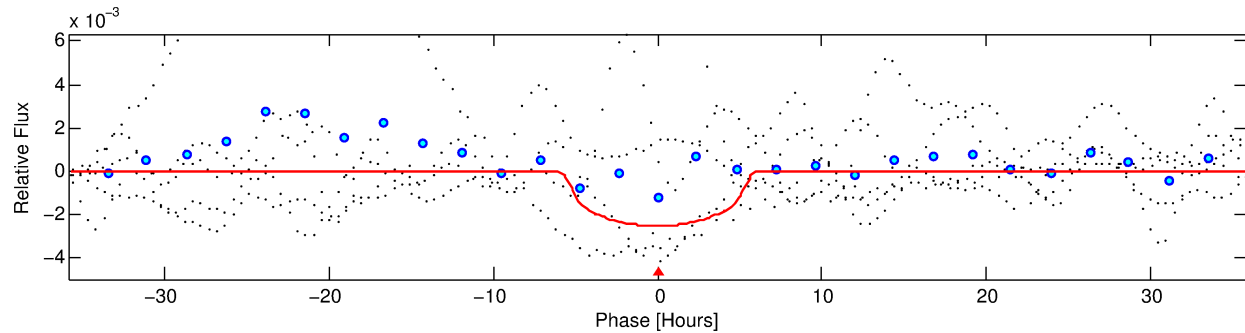
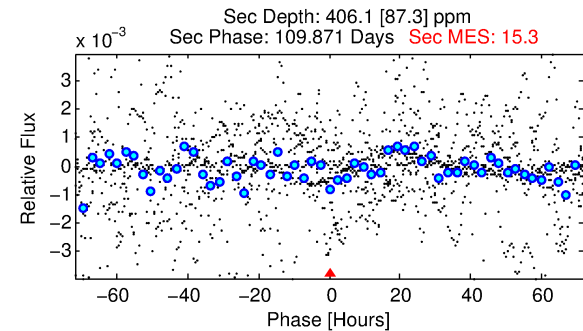
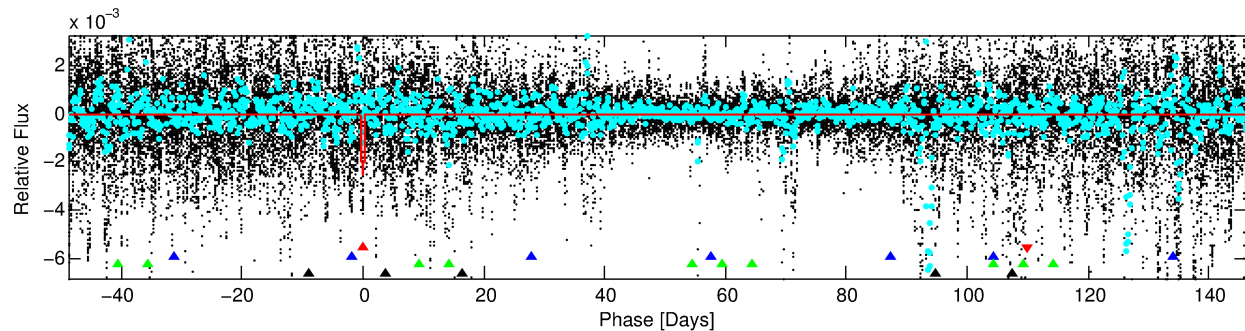
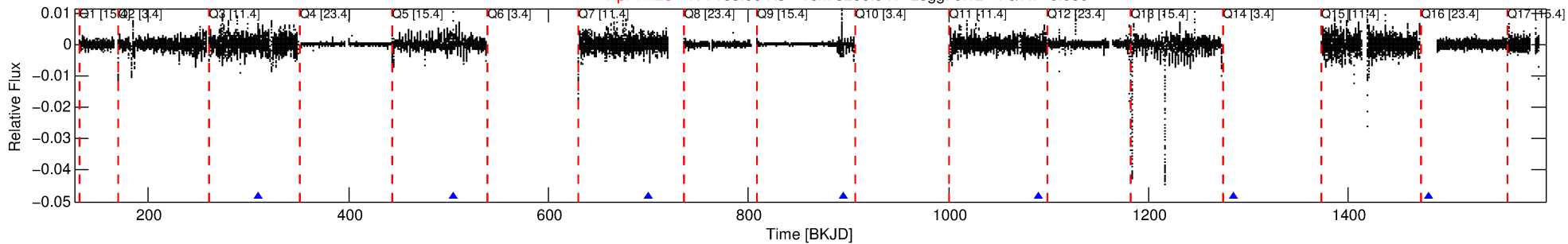
Ephemeris Match Information For 003247777-01

No Significant Match Found

DV One-Page Summary

KIC: 3247777 Candidate: 1 of 4 Period: 195.058 d

Kp: 11.23 R*: 153.06 Rs Teff: 3286.0 K Logg: 0.12 Fe/H: -0.080



DV Fit Results:

Period = 195.05791 [0.00199] d
Epoch = 309.4645 [0.0062] BKJD
Rp/R* = 0.0508 [0.0024]
a/R* = 92.42 [5.46]
b = 0.74 [0.04]
Seff = N/A
Teq = N/A
Rp = 848.97 [158.19] Re
a = N/A
Ag = N/A
Teffp = N/A

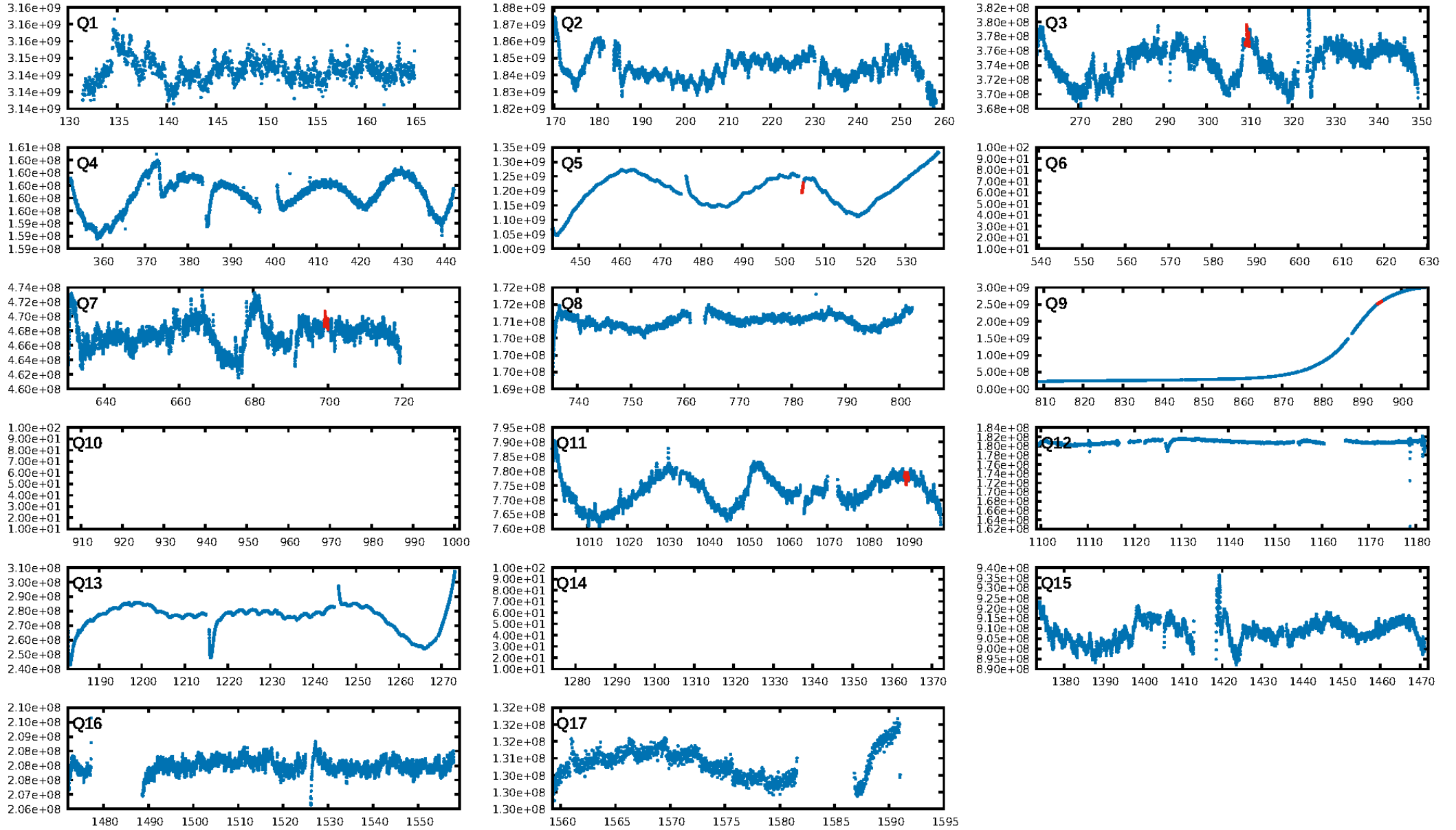
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.00σ]
LongPeriod-sig: 100.0% [14.74σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.08545
Centroid-sig: 1.7%
Centroid-so: 0.644 arcsec [4.85σ]
OotOffset-rm: 1.745 arcsec [1.36σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 2.453 arcsec [1.53σ]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.75 [3/4]

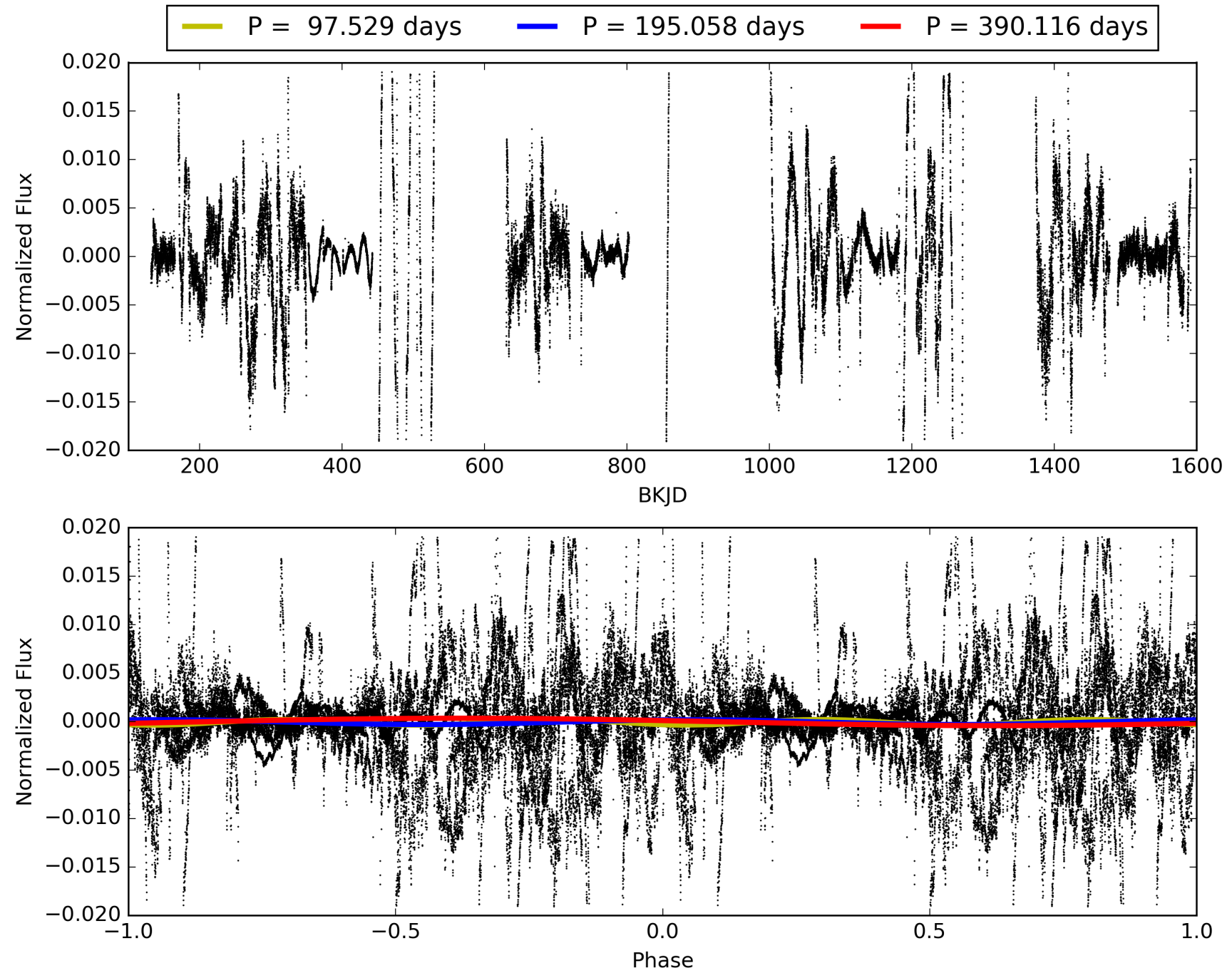
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003247777-01, PDC Light Curves

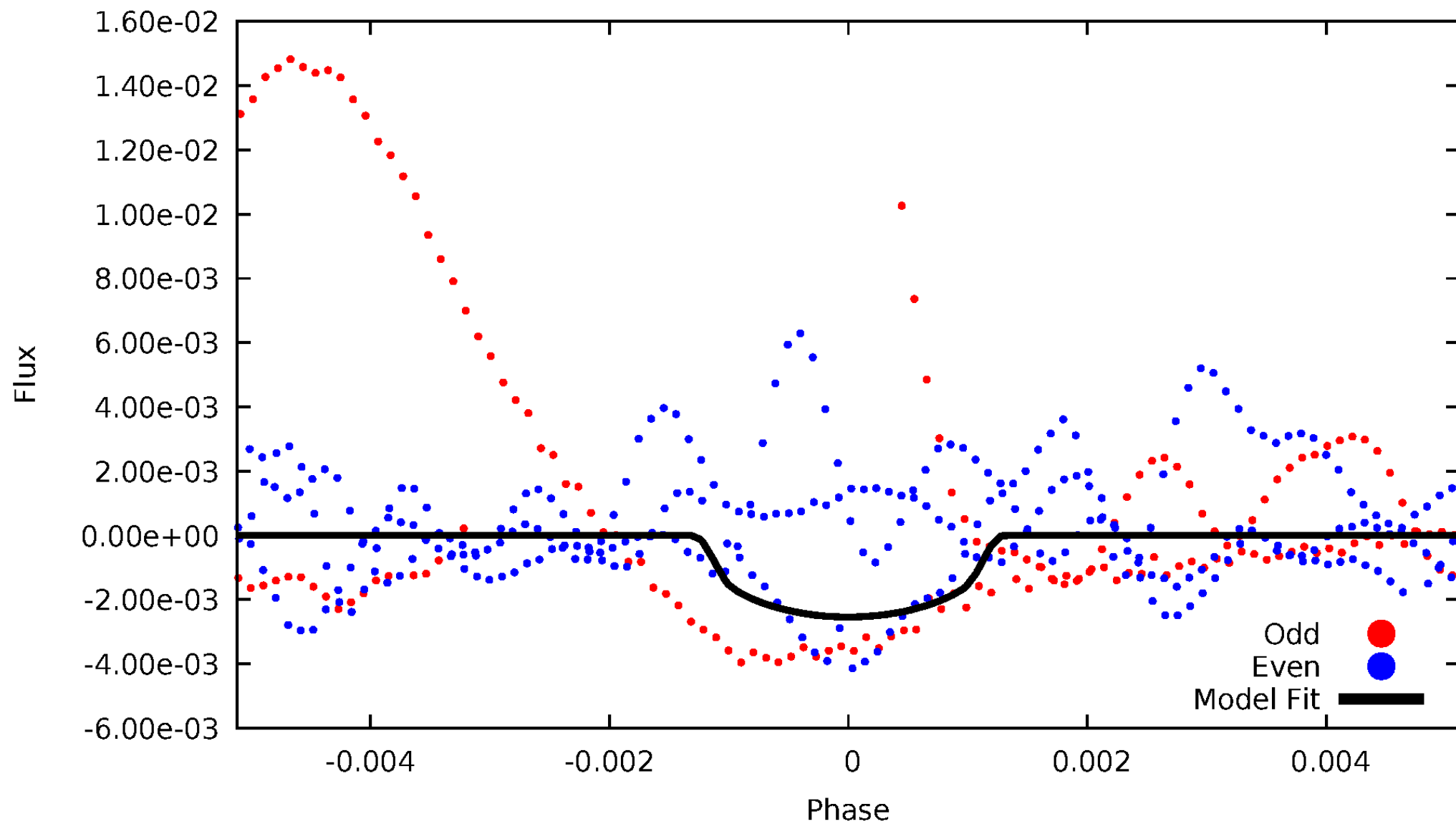


TCE 003247777-01



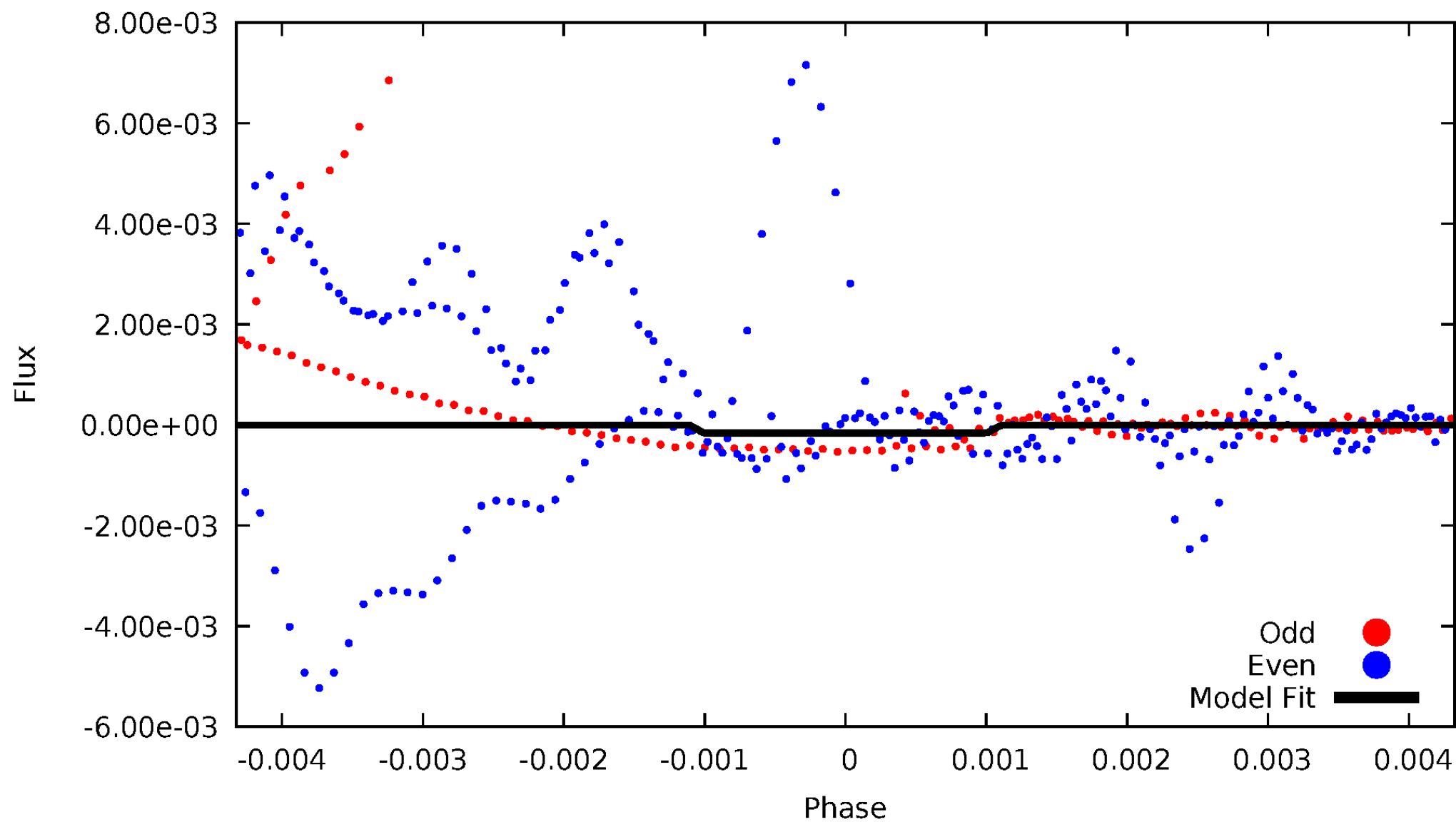
DV Odd/Even

TCE 003247777-01



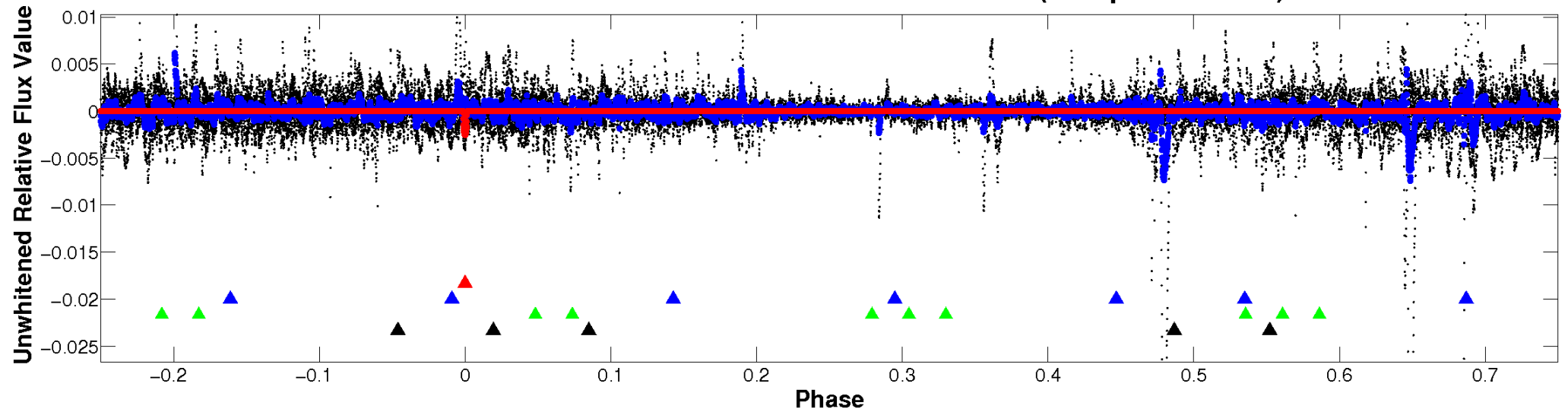
ALT Odd/Even

TCE 003247777-01

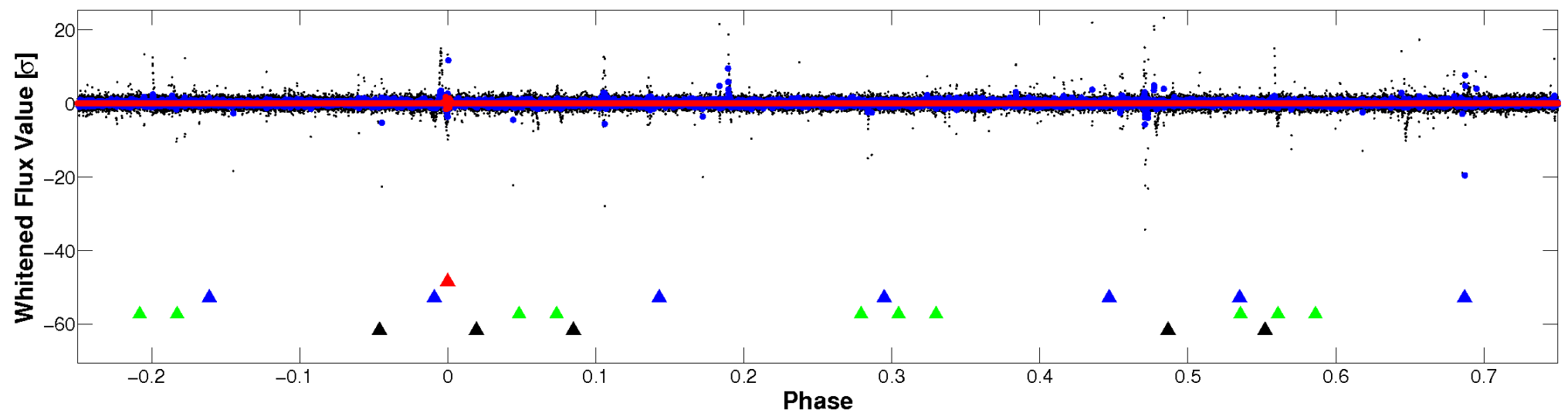


Non-Whitened Vs. Whitened Light Curve

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

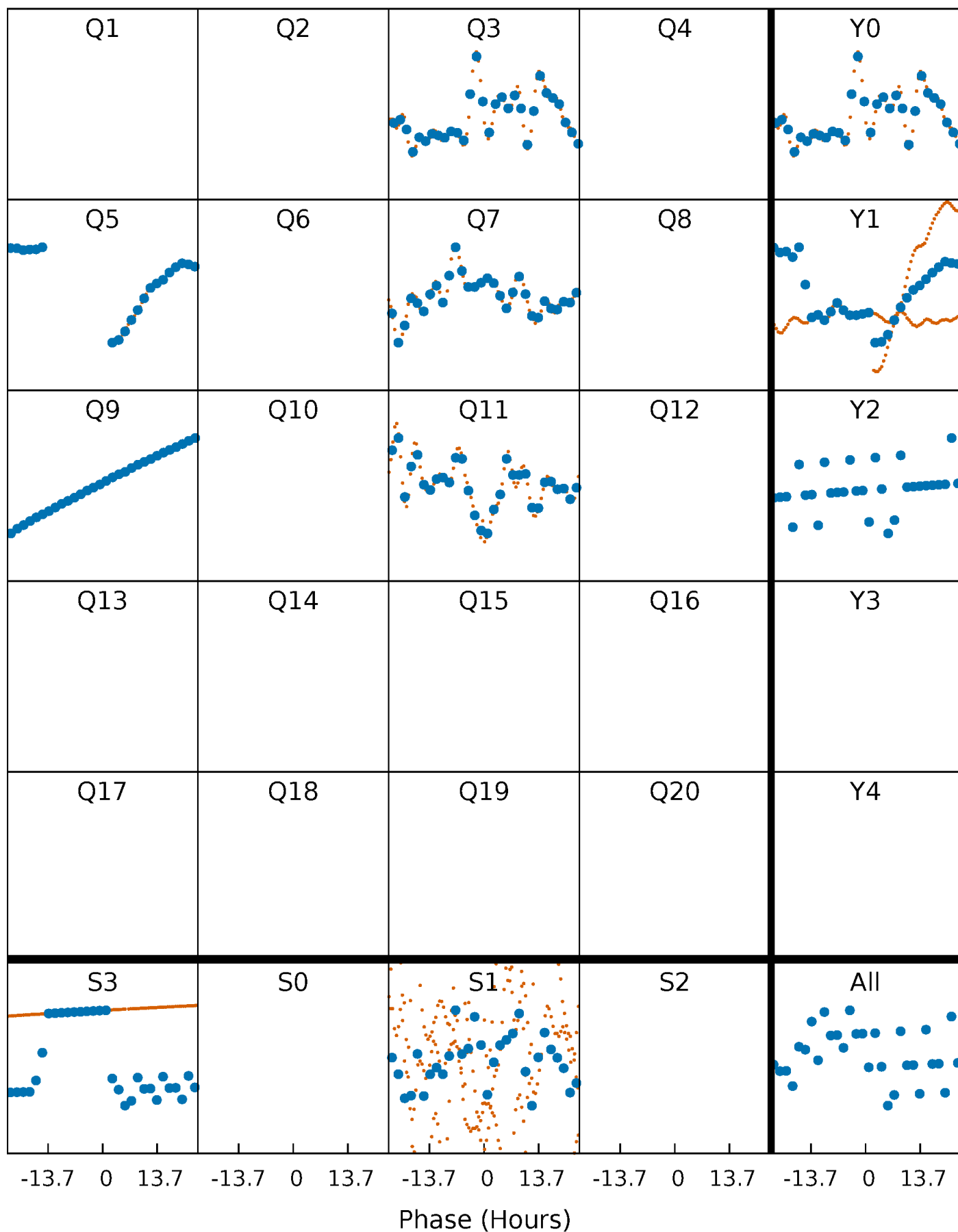


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



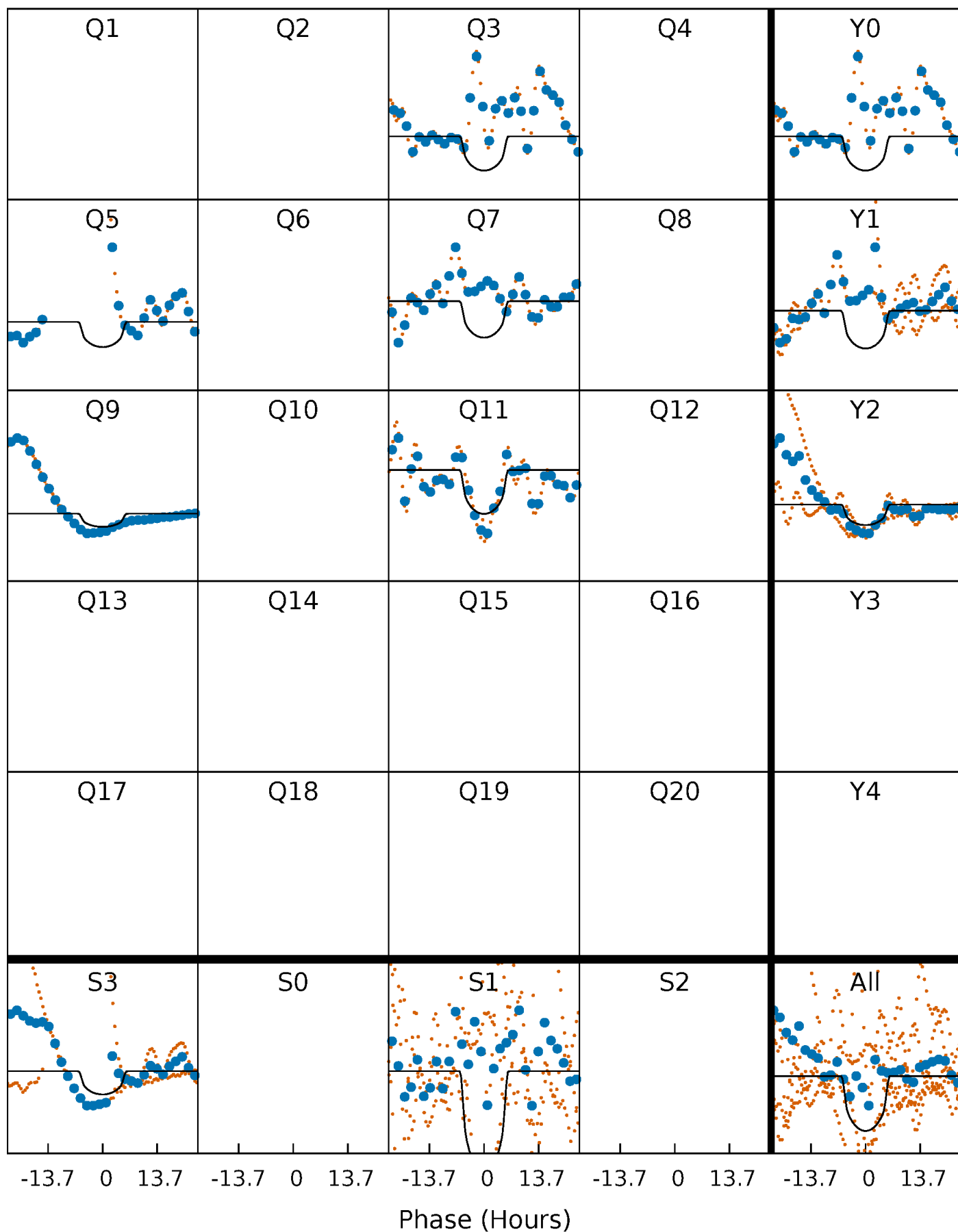
PDC Quarter-Phased Transit Curves

TCE 003247777-01 P=195.057908 Days $T_0=309.464486$ (BKJD)



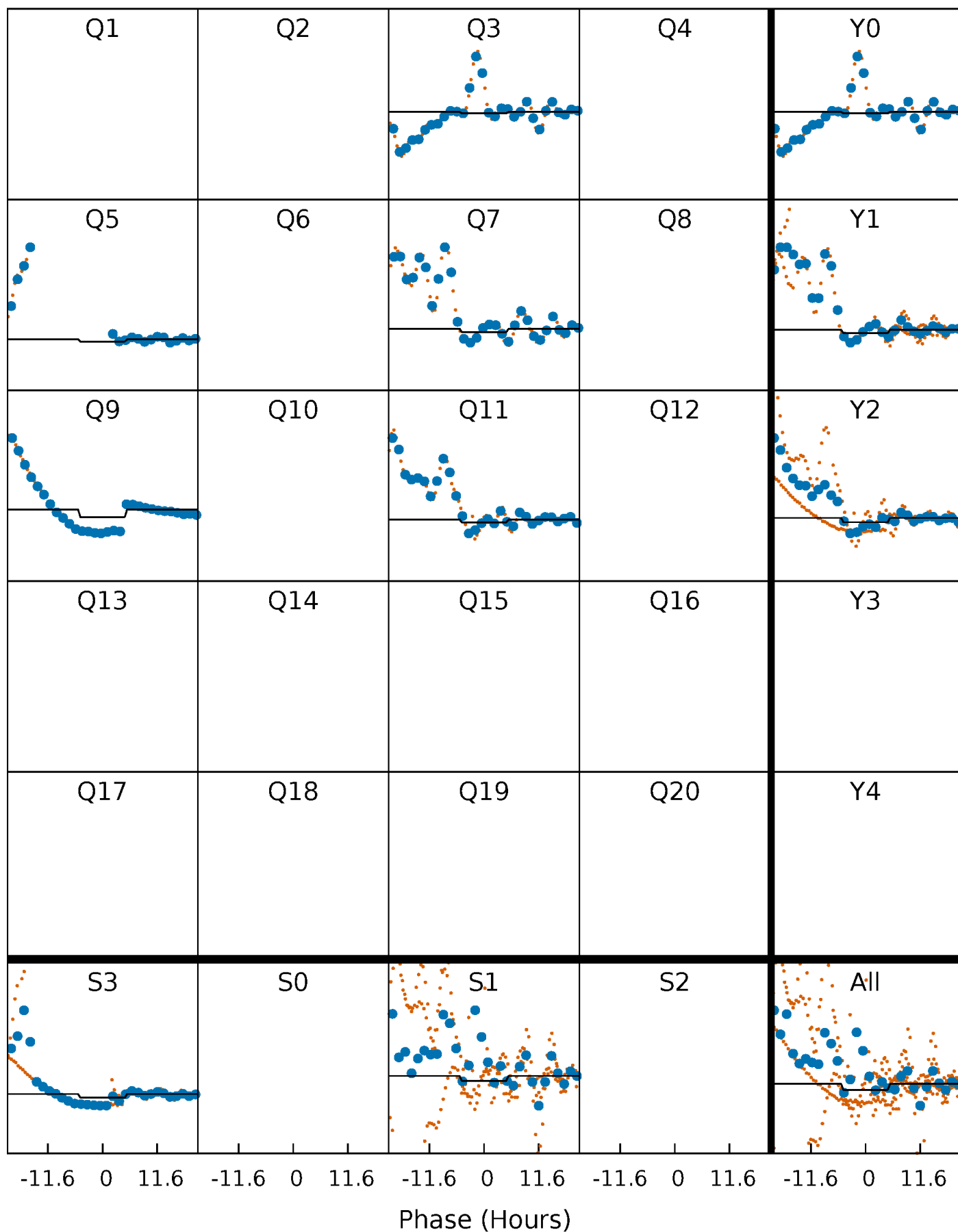
DV Quarter-Phased Transit Curves

TCE 003247777-01 P=195.057908 Days $T_0=309.464486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

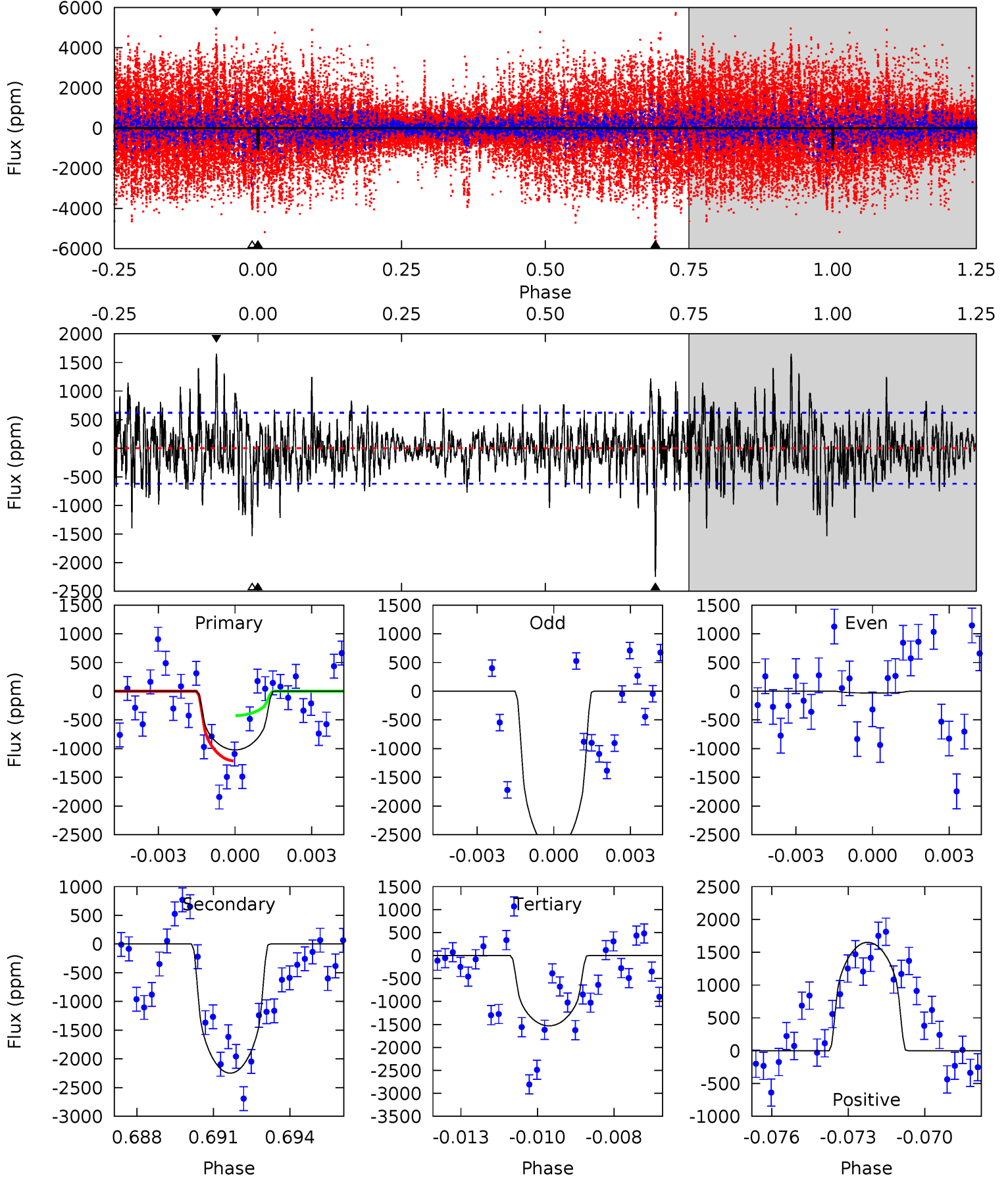
TCE 003247777-01 P=195.086008 Days $T_0=309.440677$ (BKJD)



DV Model-Shift Uniqueness Test

003247777-01, P = 195.057908 Days, E = 114.406578 Days

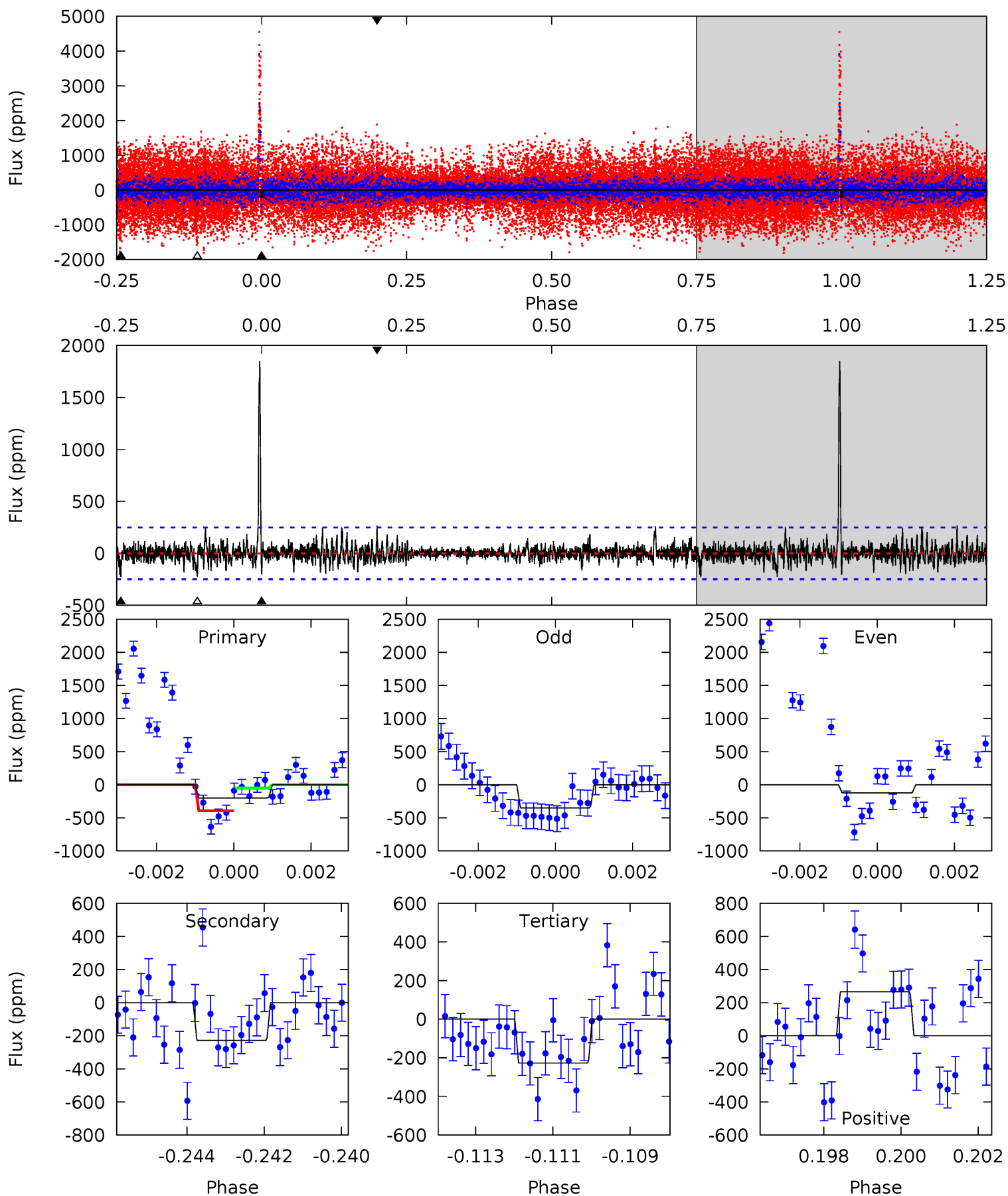
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.68	19.1	13.0	14.0	5.28	3.01	3.13	-4.31	-5.33	6.09	5.07	9.60	0.51	0.42	3.16



Alt Model-Shift Uniqueness Test

003247777-01, P = 195.086008 Days, E = 114.354669 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.25	4.87	4.85	5.67	5.31	3.06	1.80	-0.59	-1.42	0.02	-0.80	1.46	-2.04	0.89	3.61



Stellar Parameters For KIC 003247777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3286^{+117}_{-88}	$0.123^{+0.200}_{-0.050}$	$-0.080^{+0.250}_{-0.150}$	$153.058^{+9.192}_{-27.576}$	$1.134^{+0.191}_{-0.143}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+163%/-41%	+312%/-188%	+6%/-18%	+17%/-13%	+89%/-14%
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 003247777-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2249 ± 118	$831.50^{+67.79}_{-98.69}$	2983^{+137}_{-166}	3044^{+121}_{-125}	$0.869^{+0.226}_{-0.129}$
Alt.	-228 ± 47	$207.77^{+40.61}_{-44.98}$	2984^{+134}_{-154}	3332^{+350}_{-272}	$1.384^{+0.944}_{-0.467}$

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 $A_{obs} \gg 1.0$

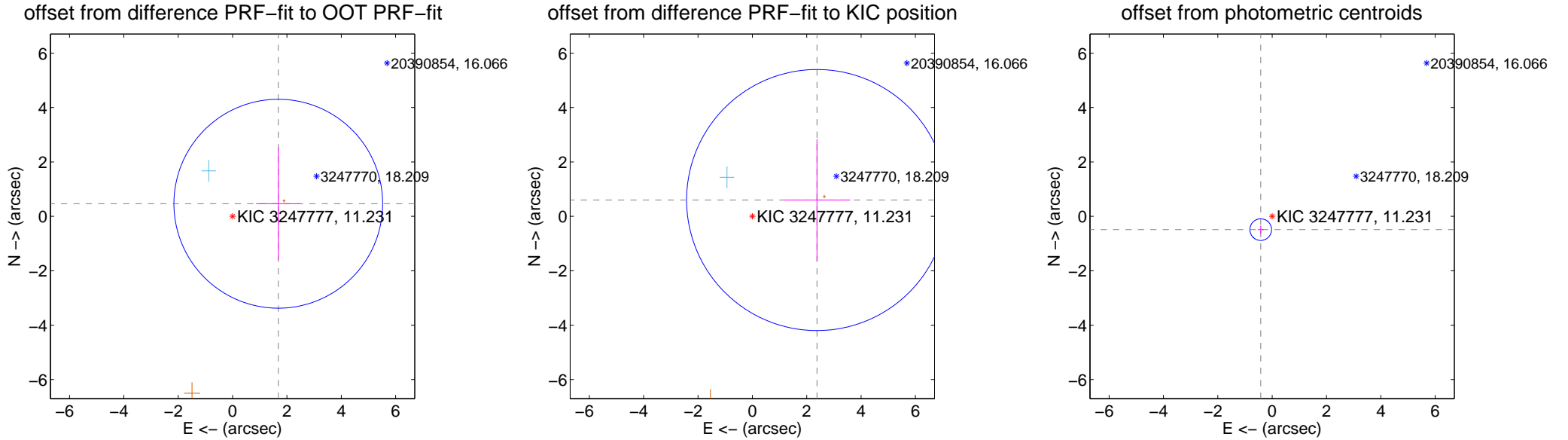
DV Centroid Data

Supplemental centroid analysis for 003247777-01. **Kepler magnitude: 11.23.** Transit SNR 13.50

There are 1 quarters with good PRF difference image offsets

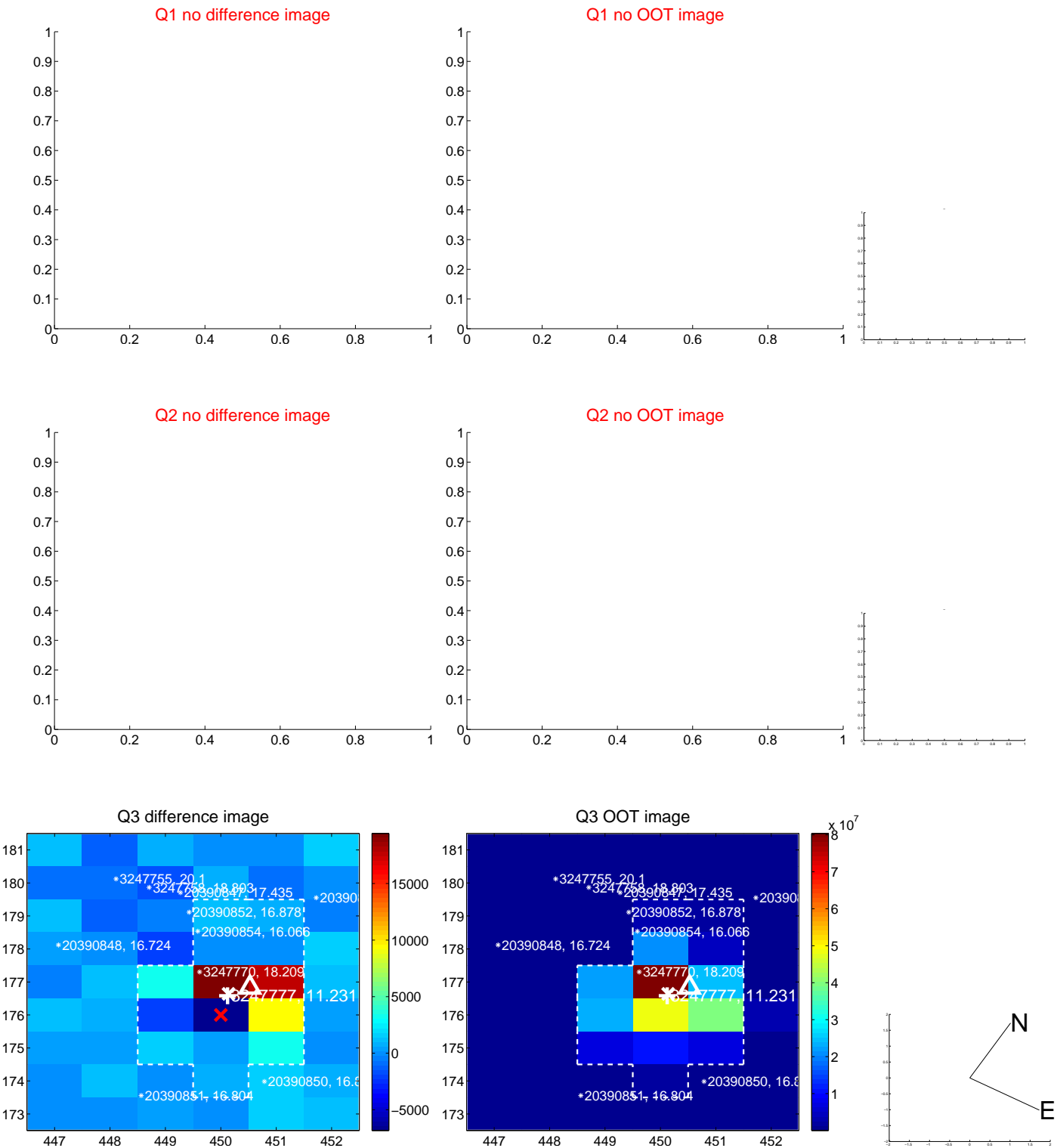
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.745 ± 1.280	1.36	-1.682 ± 0.817	0.464 ± 2.064
PRF-fit source offset from KIC position	2.453 ± 1.599	1.53	-2.379 ± 1.227	0.600 ± 2.236
photometric centroid source offset	0.64 ± 0.13	4.85	0.42 ± 0.11	-0.49 ± 0.15

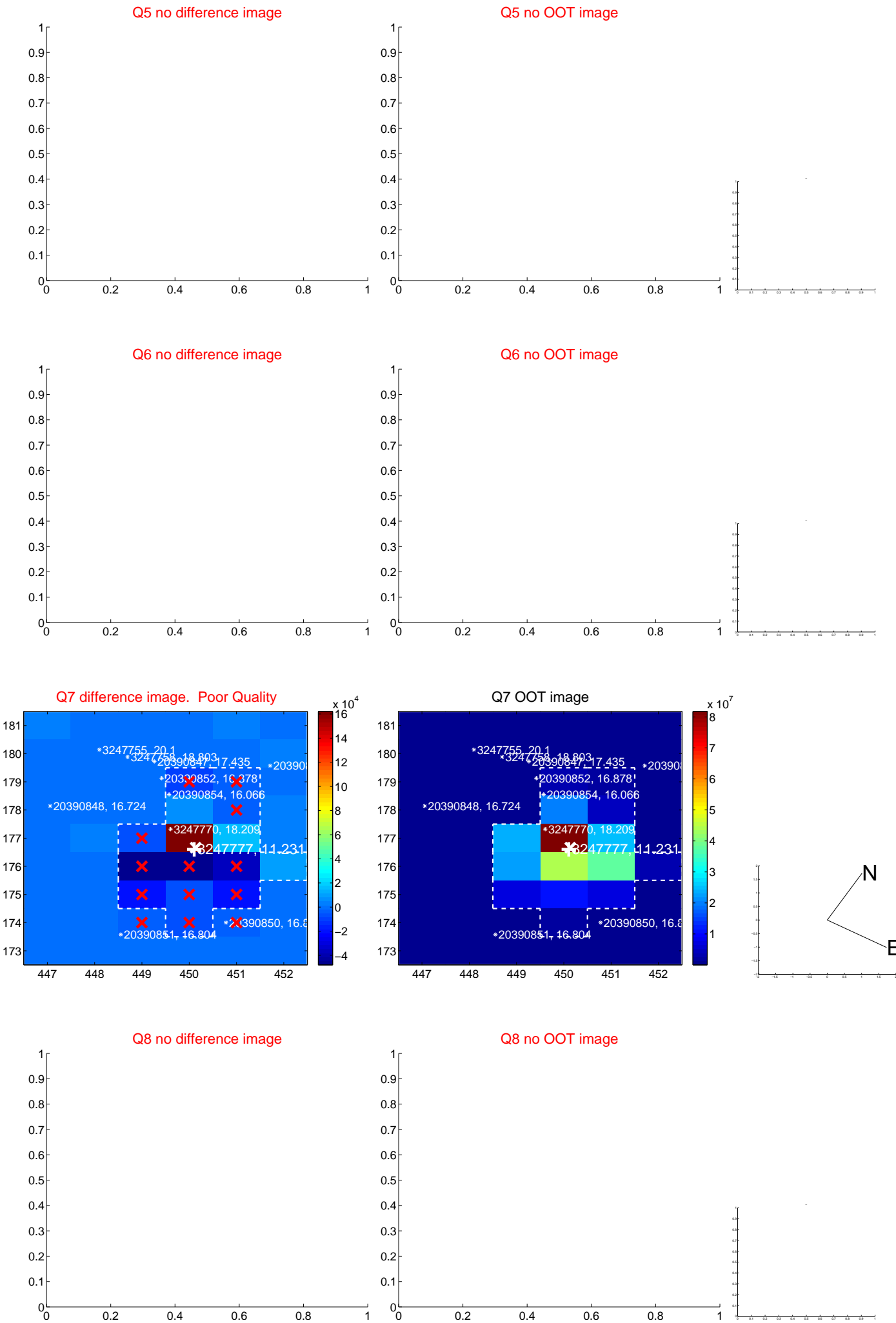


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

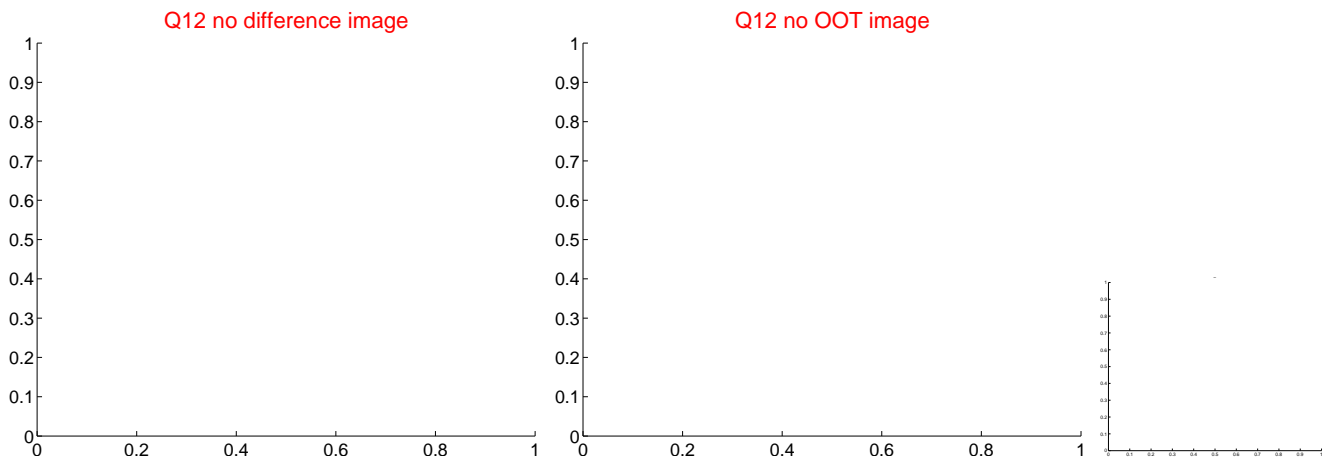
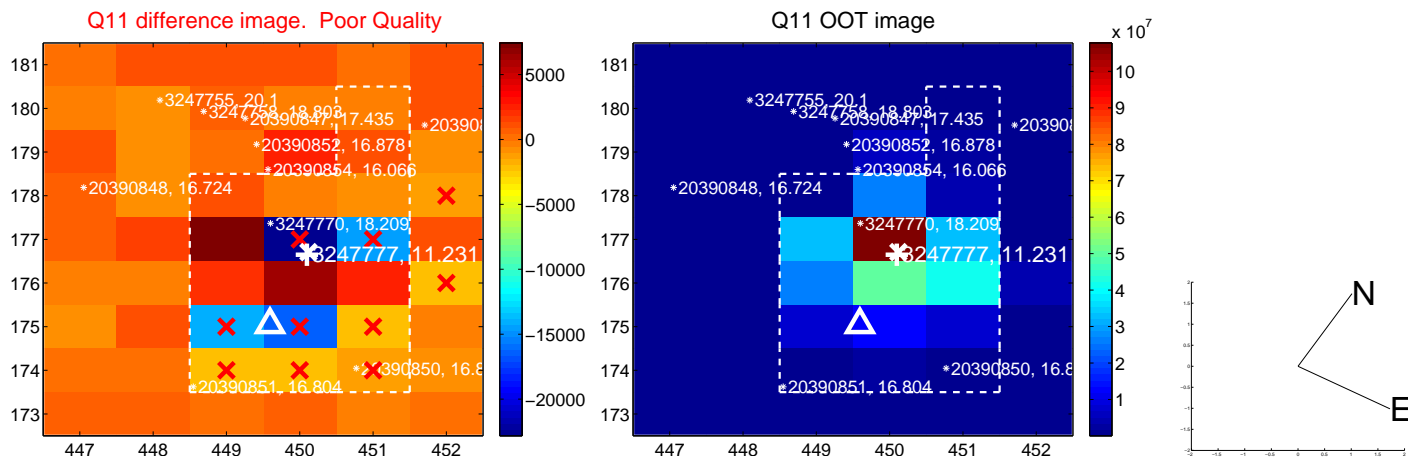
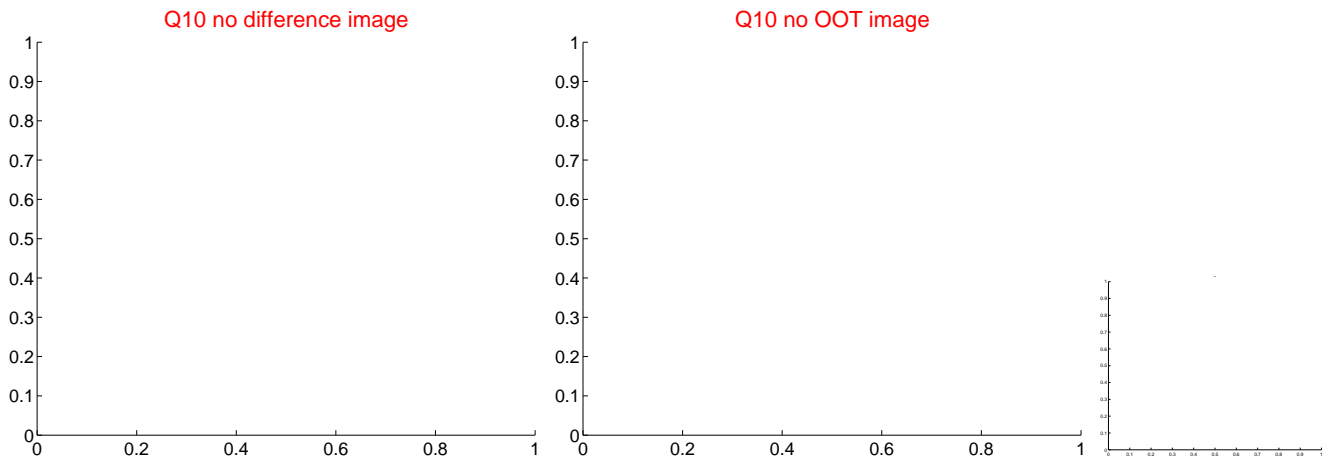
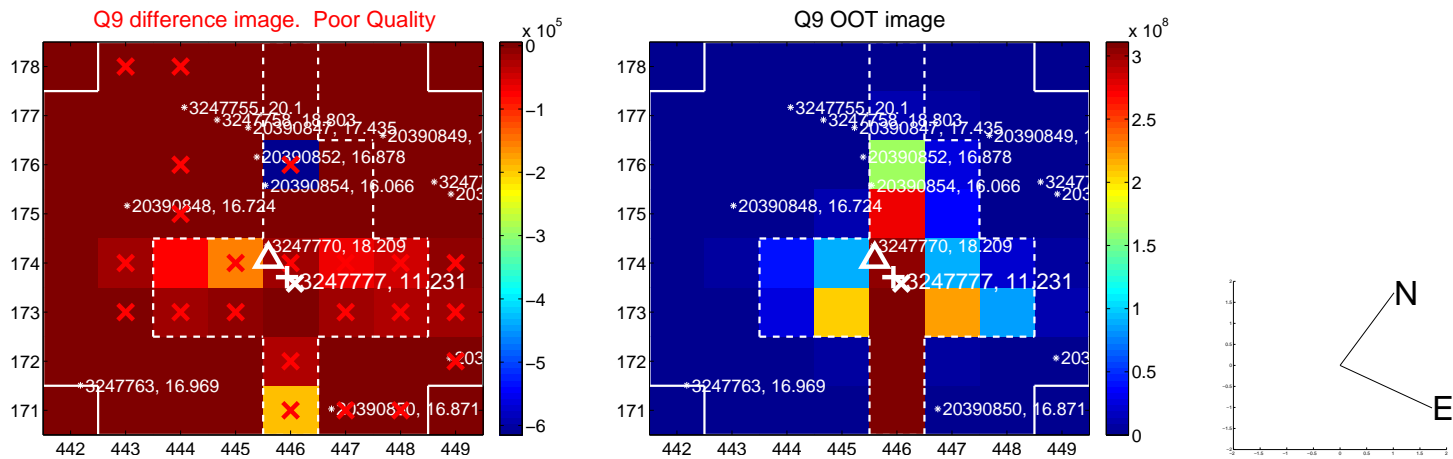
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



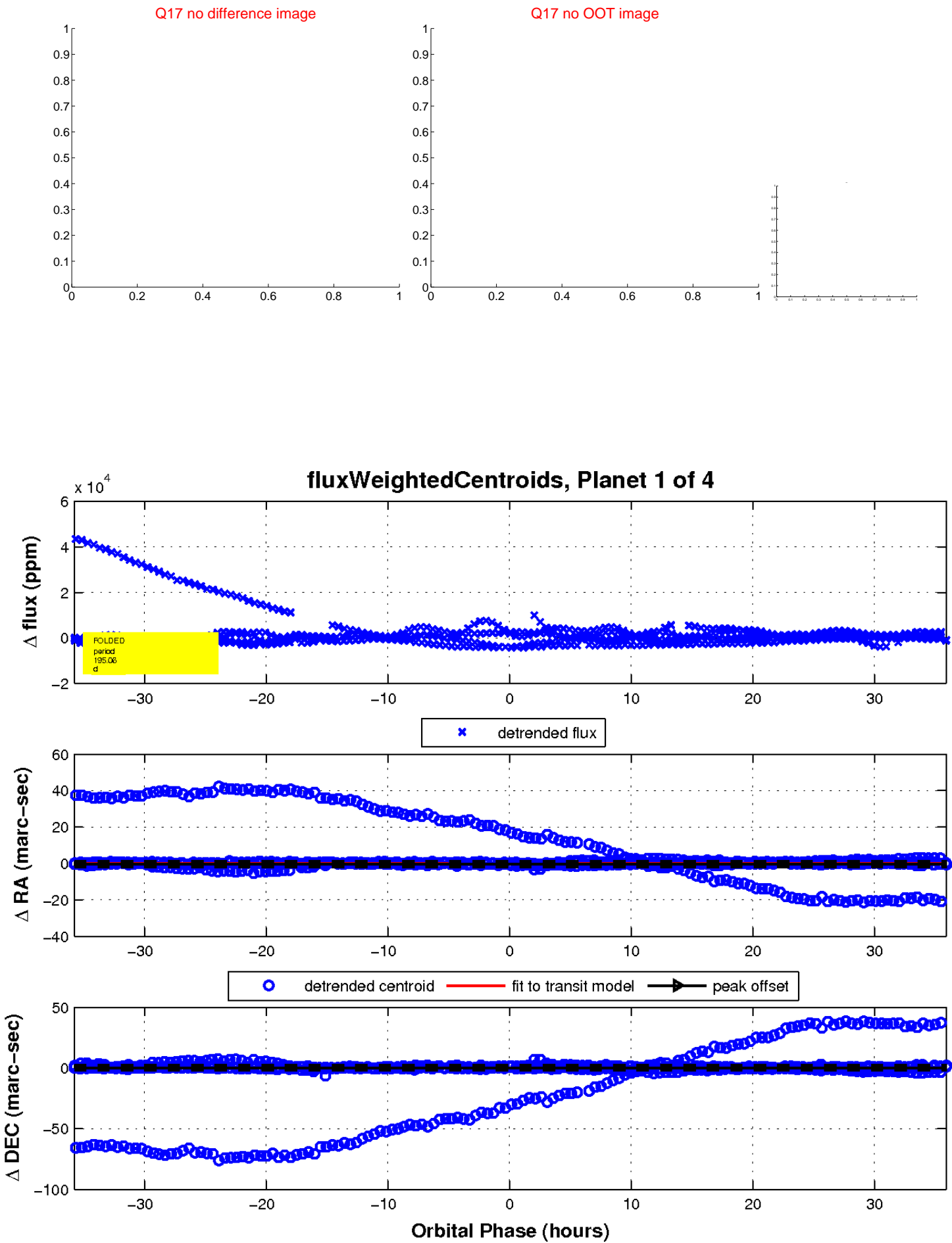
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

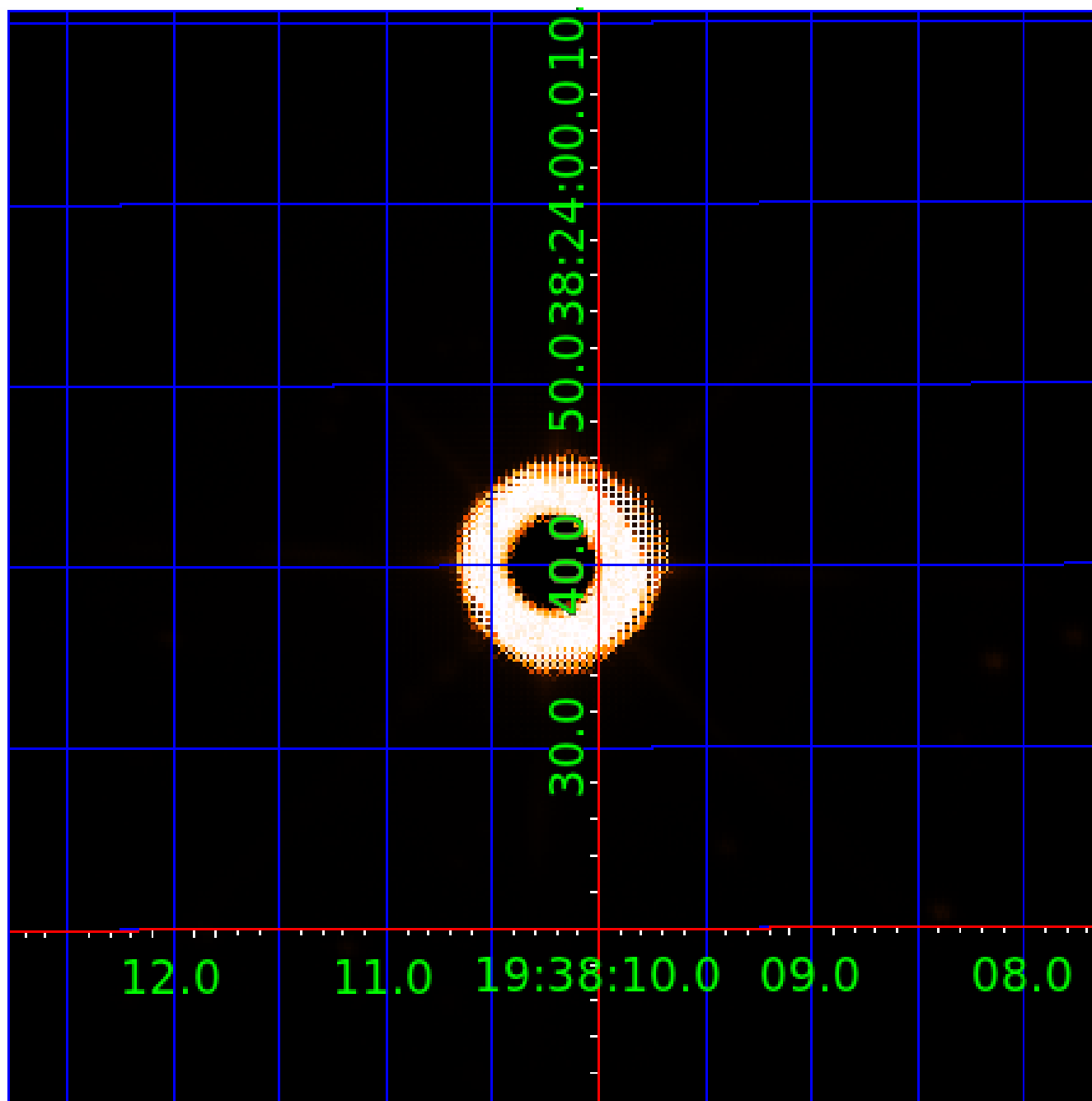


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UKIRT Image

Declination



KIC 003247777

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})
003247777-01	OBS	No	195.057908	309.464486	2541.6	11.972	20.7	13.5	153.06	3286	848.97	0.00
003247777-02	OBS	No	224.702342	218.763650	53029.2	46.756	30.8	64.7	153.06	3286	6368.80	0.00
003247777-03	OBS	No	145.058487	228.758541	1188.8	30.137	14.4	14.5	153.06	3286	1151.44	0.00
003247777-04	OBS	No	286.199253	326.031674	166.1	15.000	12.6	-1.0	153.06	3286	180.97	3113.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247777-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003247777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003247777-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
003247777-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

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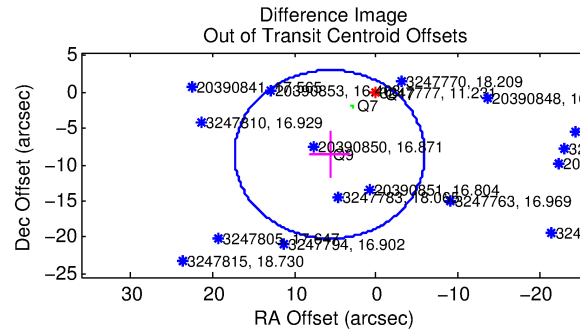
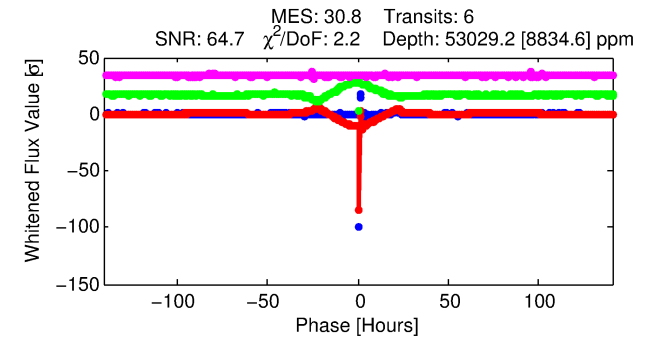
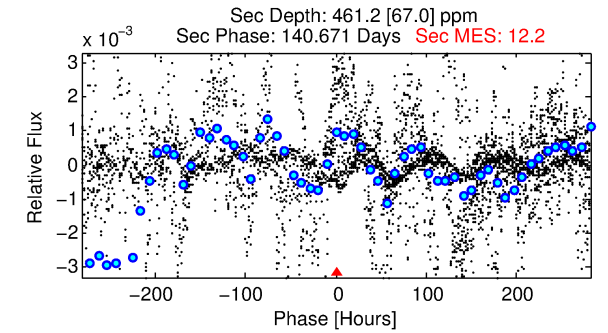
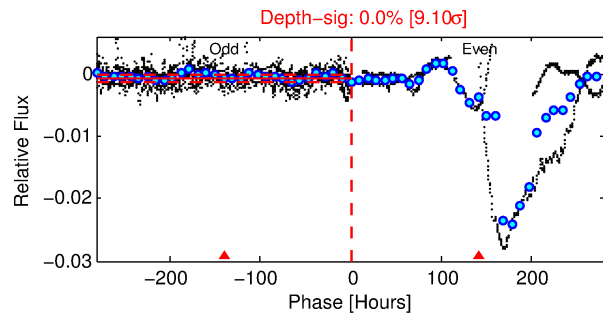
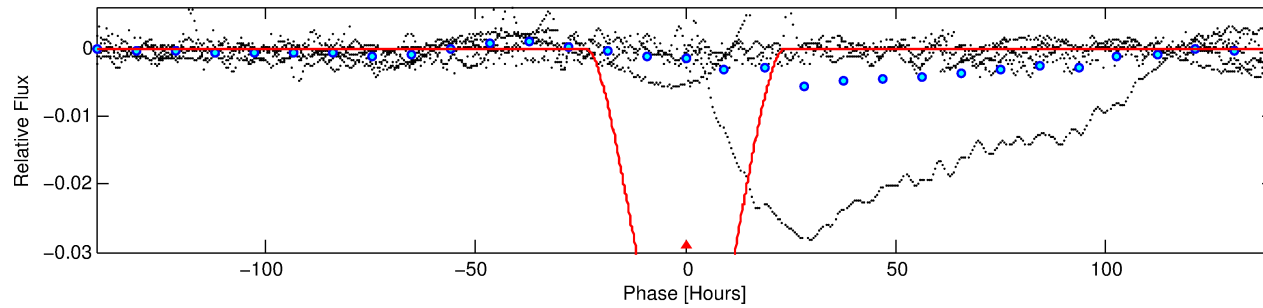
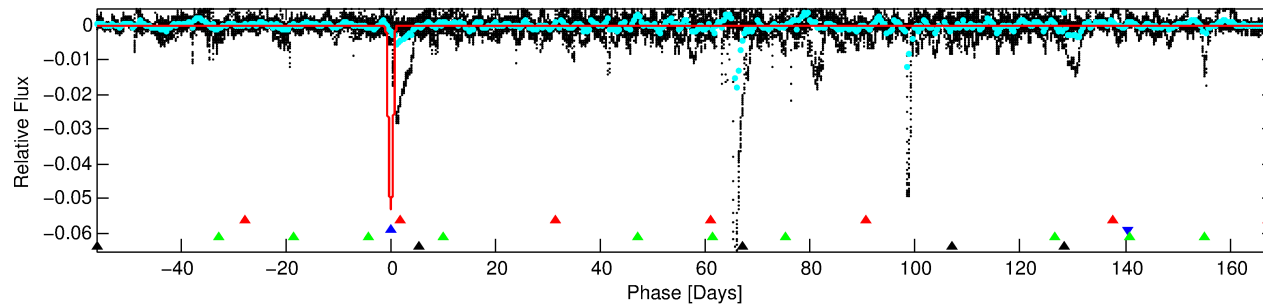
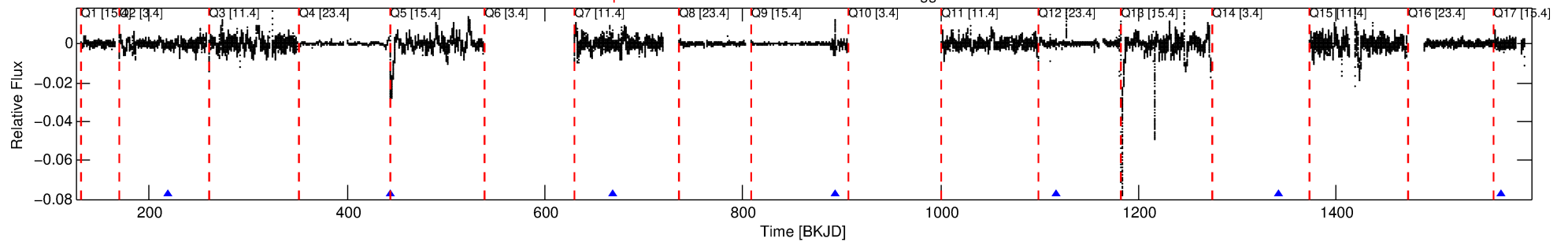
Ephemeris Match Information For 003247777-02

No Significant Match Found

DV One-Page Summary

KIC: 3247777 Candidate: 2 of 4 Period: 224.702 d

Kp: 11.23 R*: 153.06 Rs Teff: 3286.0 K Logg: 0.12 Fe/H: -0.080



DV Fit Results:

Period = 224.70234 [0.00340] d
Epoch = 218.7636 [0.0109] BKJD
Rp/R* = 0.3813 [0.3958]
a/R* = 35.01 [1.14]
b = 1.00 [0.55]
Seff = N/A
Teq = N/A
Rp = 6368.80 [6710.03] Re
a = N/A
Ag = N/A
Teffp = N/A

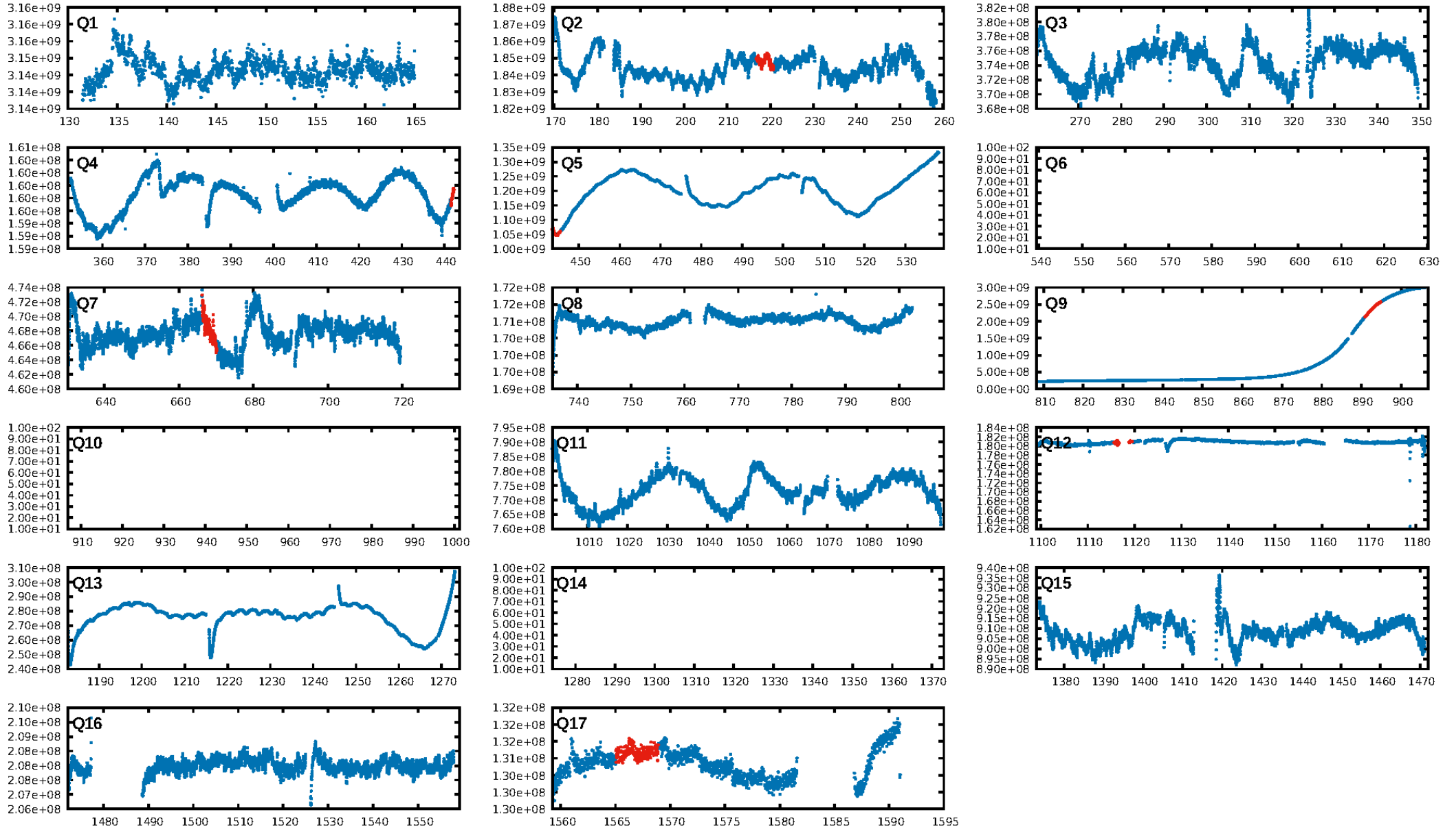
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.74σ]
LongPeriod-sig: 100.0% [30.06σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 38.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.582
Centroid-sig: 4.0%
Centroid-so: 0.559 arcsec [71.49σ]
OotOffset-rm: 10.294 arcsec [2.66σ]
KicOffset-rm: 9.821 arcsec [5.40σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.75 [3/4]

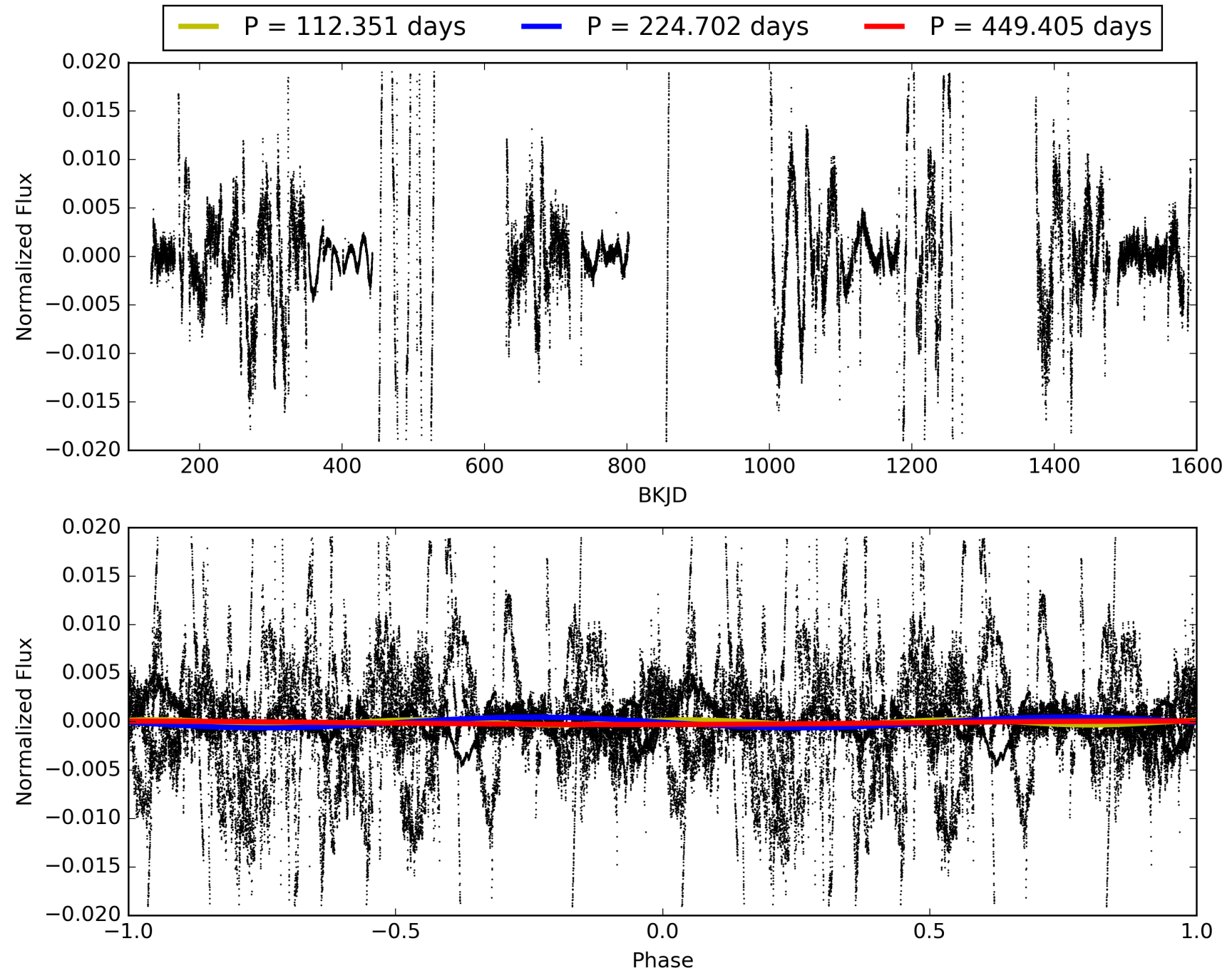
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003247777-02, PDC Light Curves

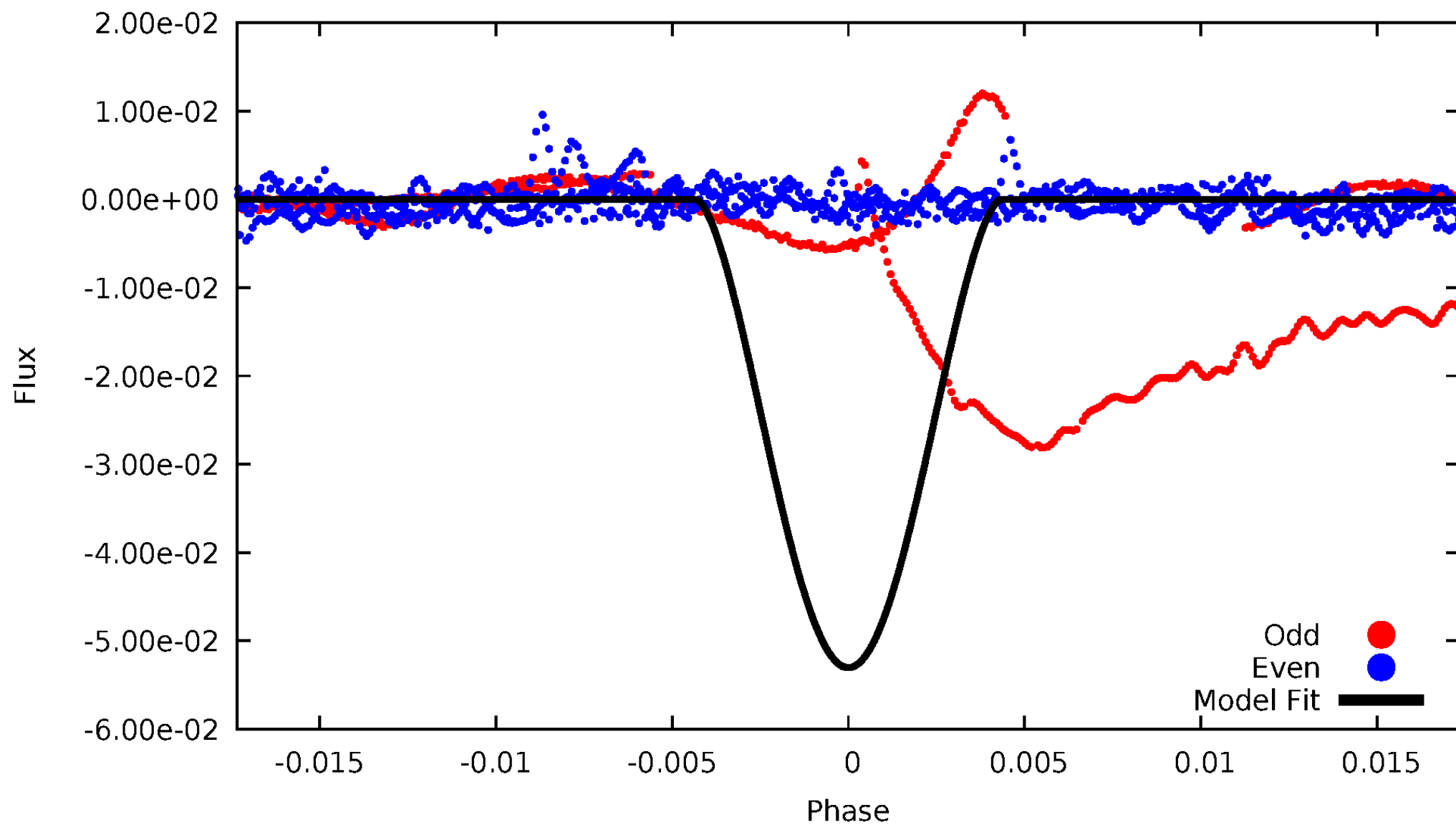


TCE 003247777-02



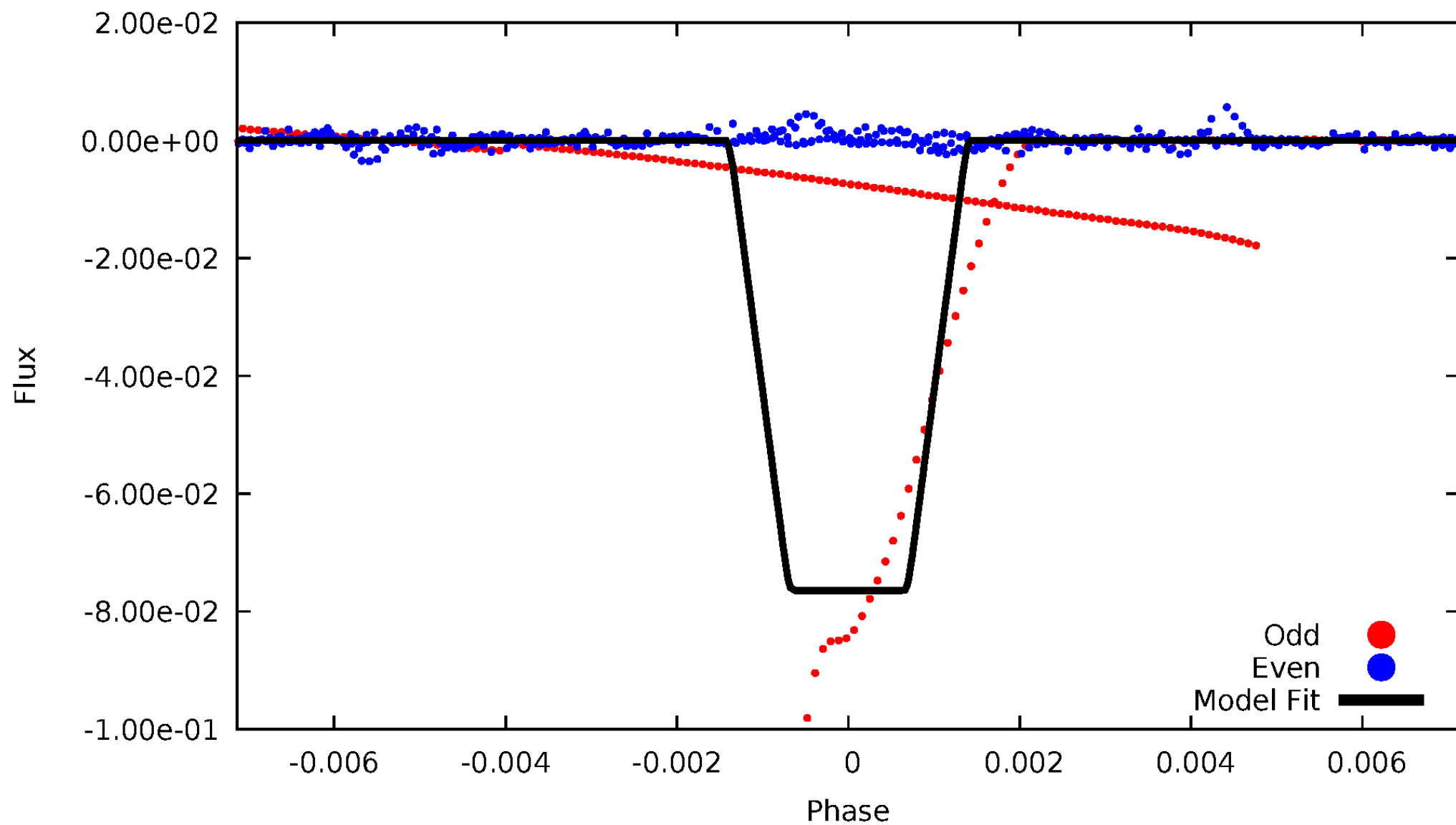
DV Odd/Even

TCE 00324777-02



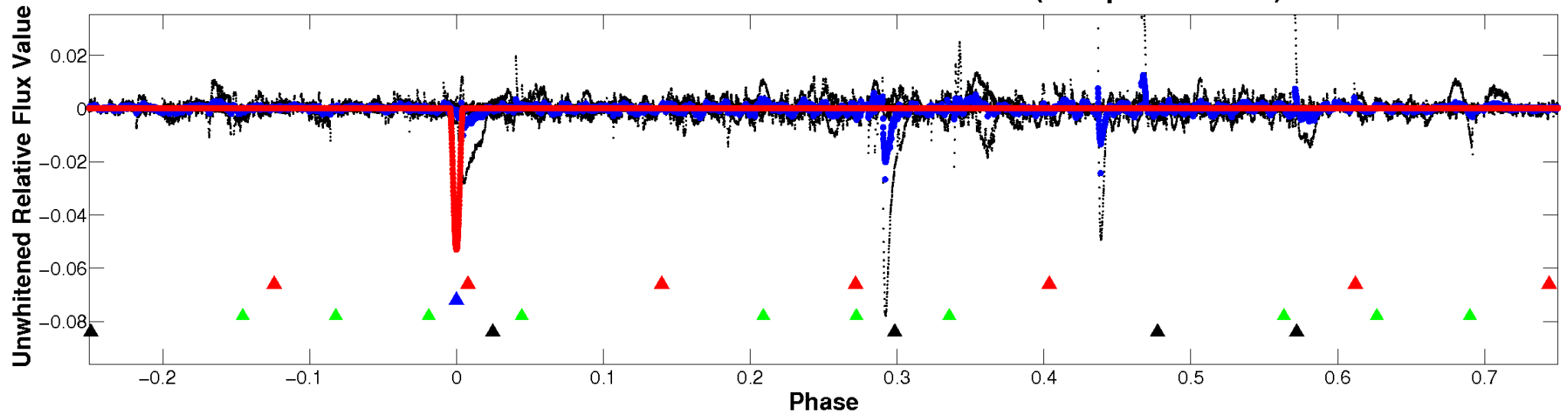
ALT Odd/Even

TCE 003247777-02

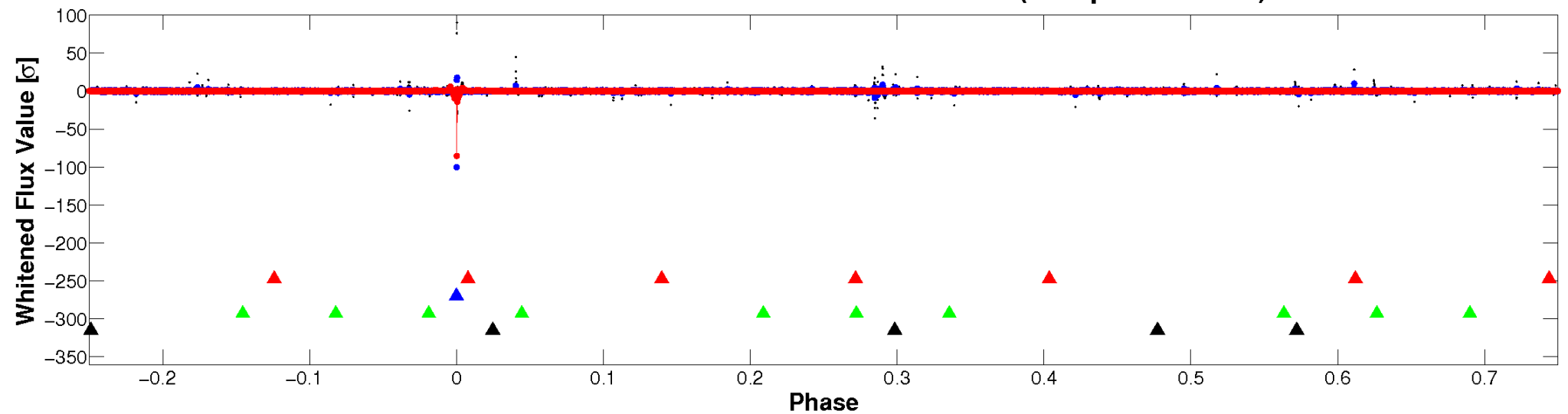


Non-Whitened Vs. Whitened Light Curve

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



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



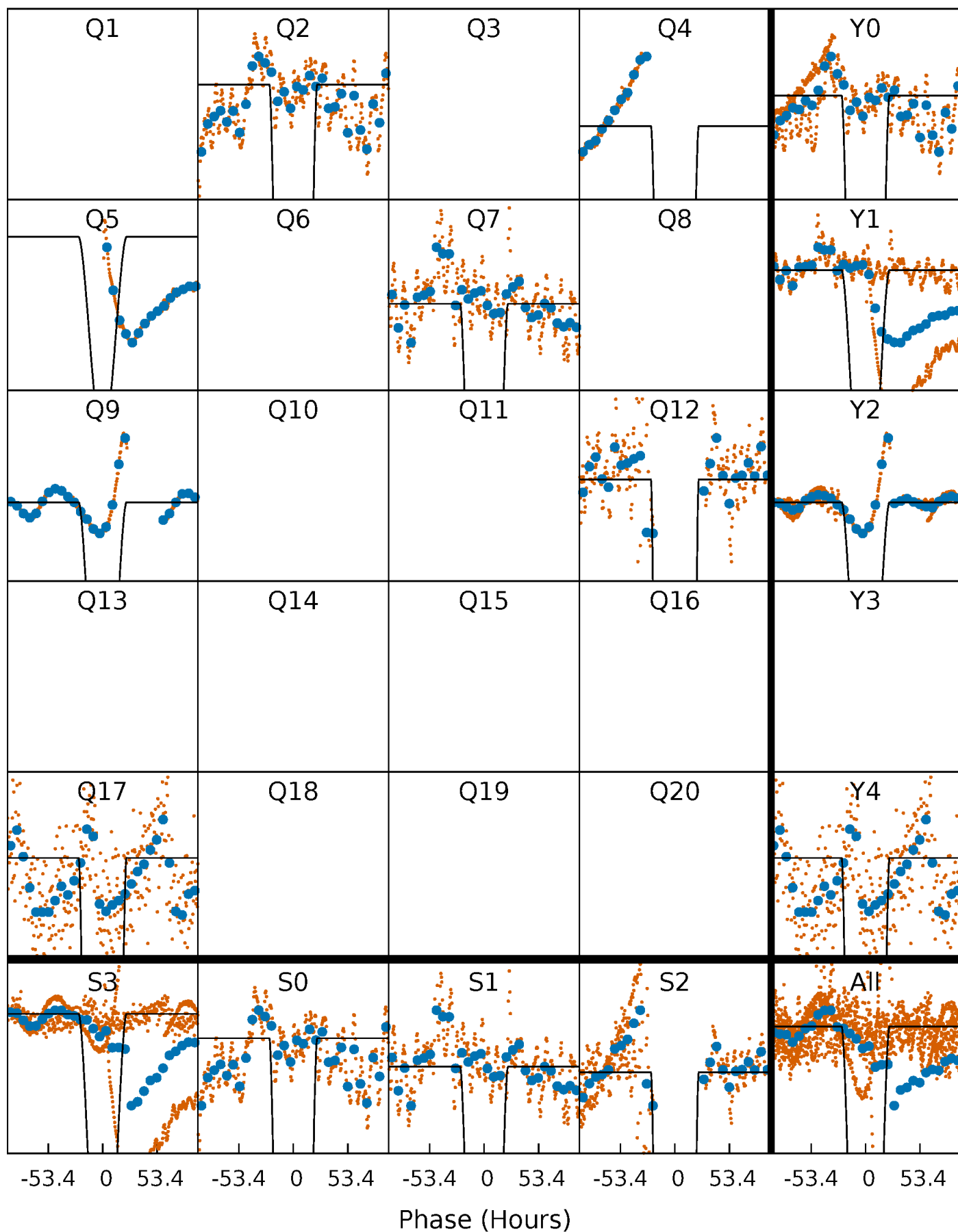
PDC Quarter-Phased Transit Curves

TCE 003247777-02 P=224.702342 Days $T_0=218.763650$ (BKJD)



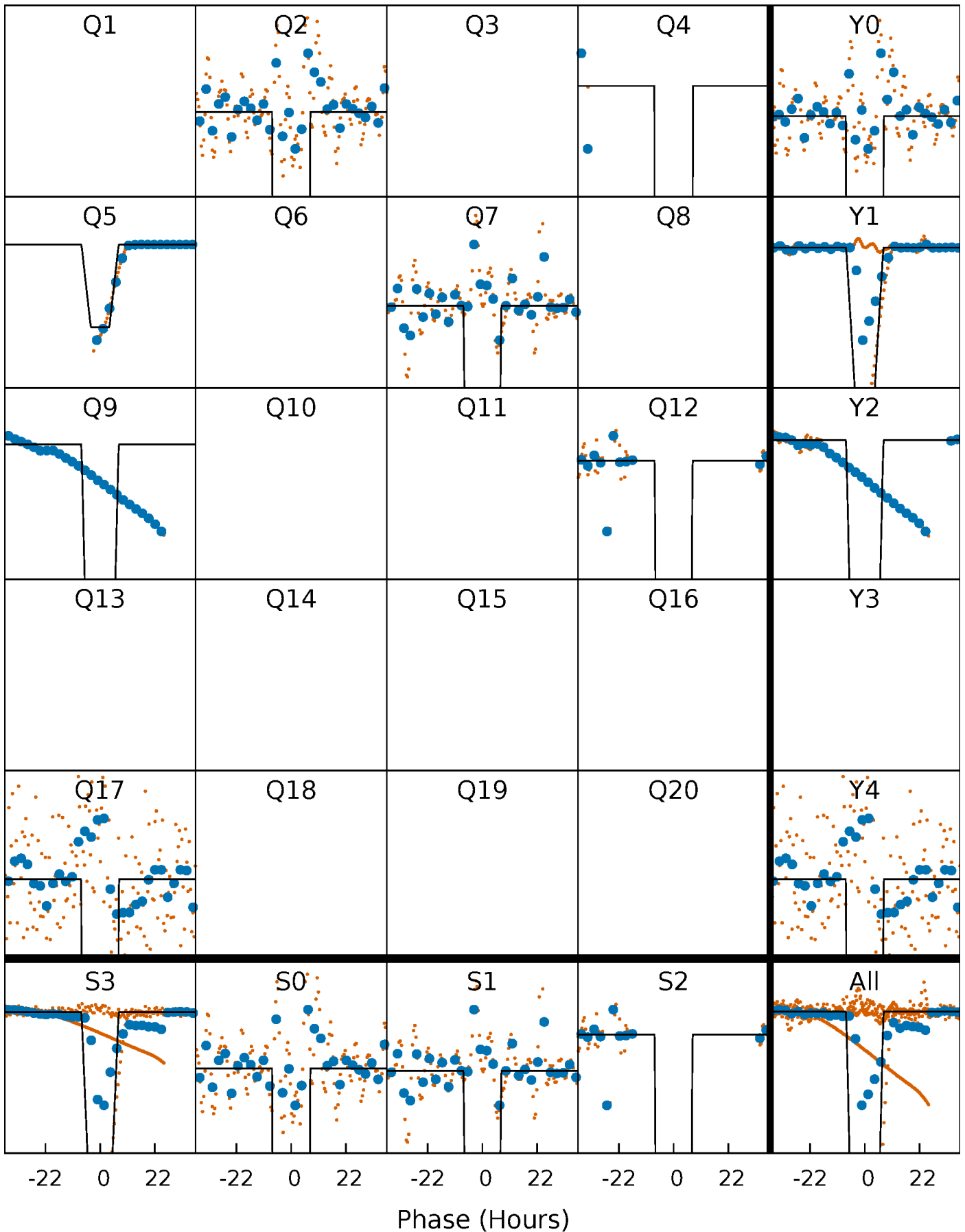
DV Quarter-Phased Transit Curves

TCE 003247777-02 P=224.702342 Days $T_0=218.763650$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

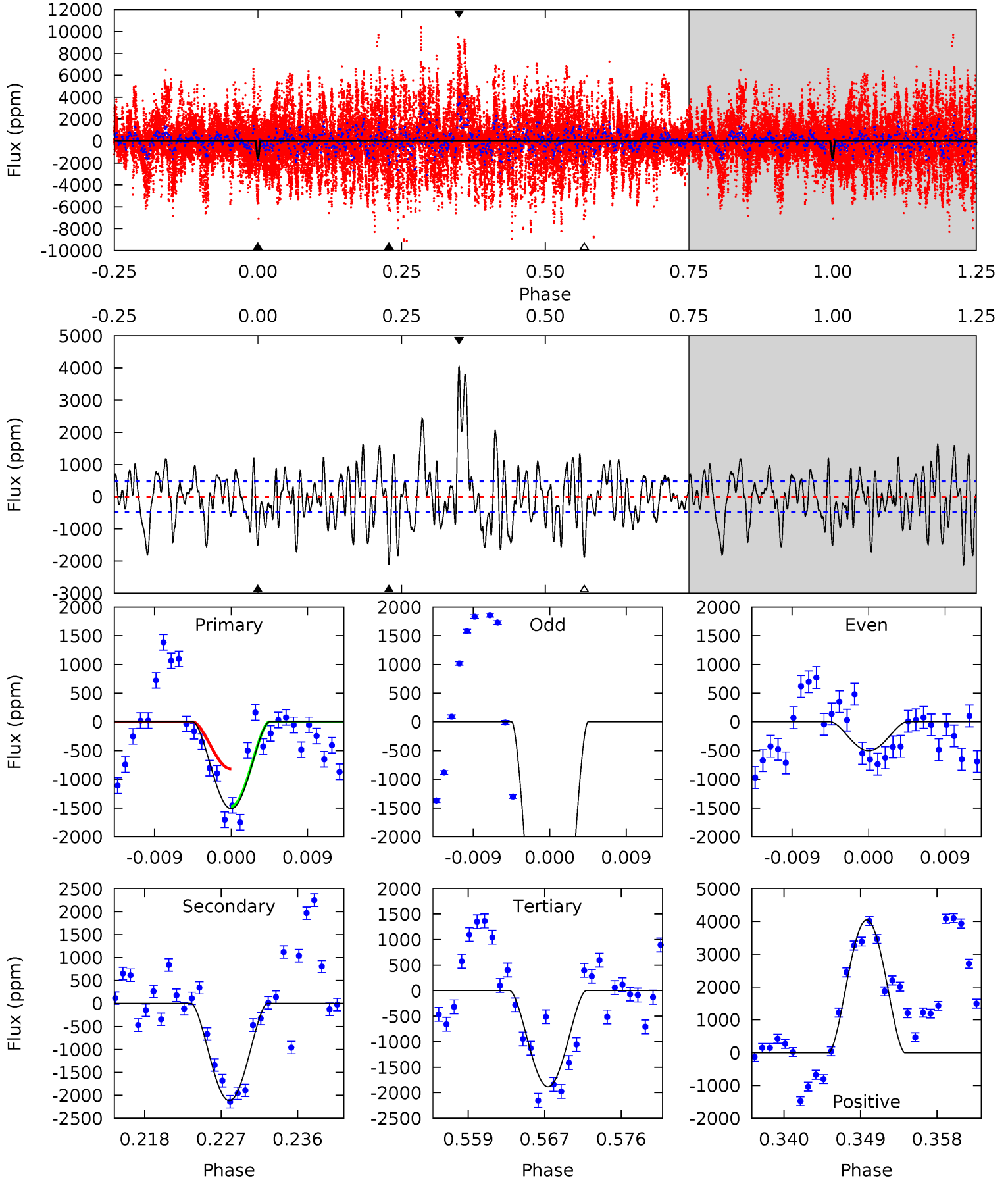
TCE 003247777-02 P=224.592069 Days $T_0=219.025515$ (BKJD)



DV Model-Shift Uniqueness Test

003247777-02, P = 224.702342 Days, E = 218.763650 Days

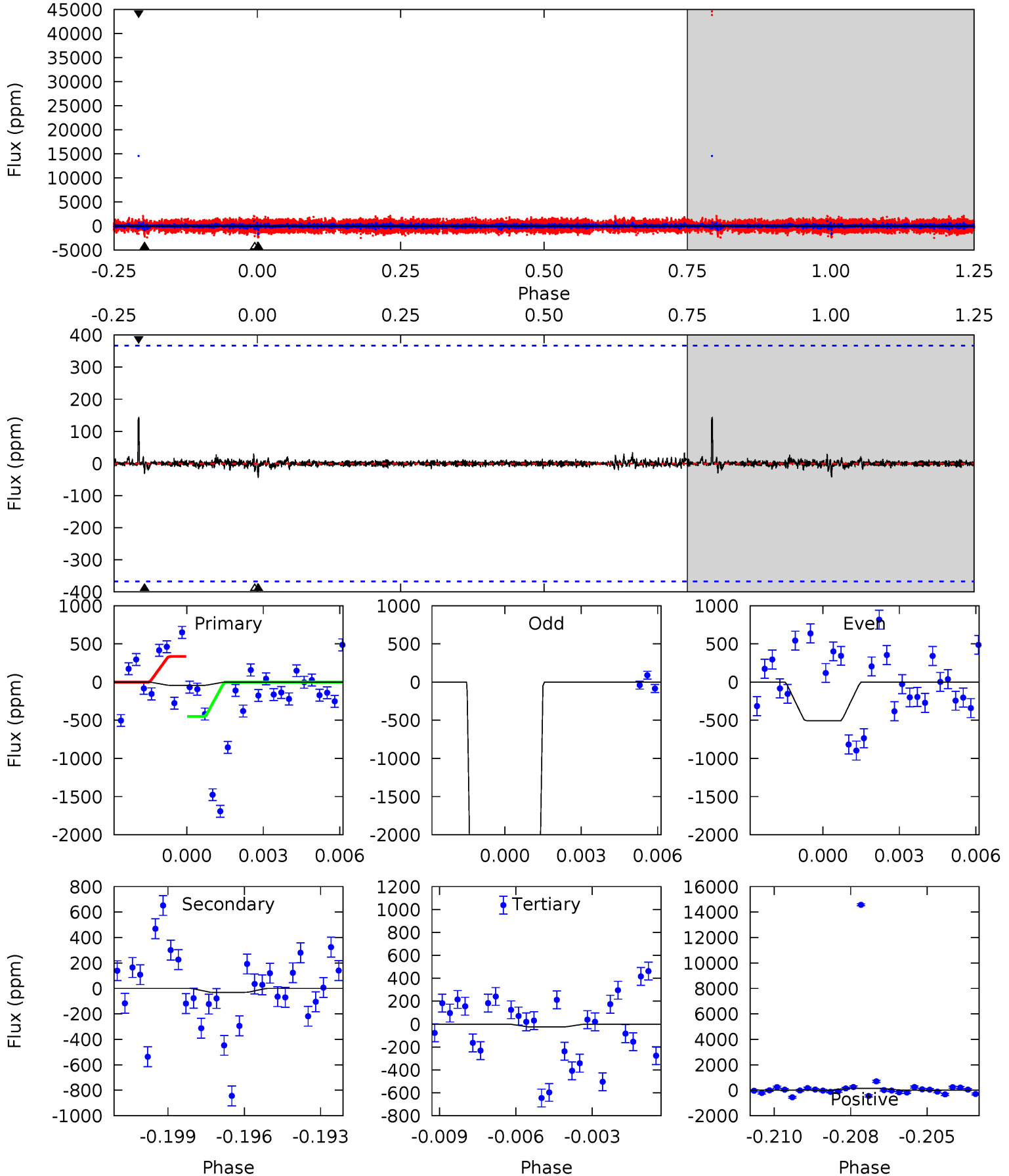
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	22.5	20.0	43.0	5.05	2.62	8.36	-3.91	-26.9	2.50	-20.5	23.9	2.94	0.66	3.15



Alt Model-Shift Uniqueness Test

003247777-02, P = 224.592069 Days, E = 219.025515 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.61	0.44	0.35	2.04	5.26	2.98	0.10	0.26	-1.42	0.08	-1.60	10.1	145.6	0.77	0



Stellar Parameters For KIC 003247777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} \text{ (g}\cdot\text{cm}^{-3}\text{)}$
	3286^{+117}_{-88}	$0.123^{+0.200}_{-0.050}$	$-0.080^{+0.250}_{-0.150}$	$153.058^{+9.192}_{-27.576}$	$1.134^{+0.191}_{-0.143}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+163%/-41%	+312%/-188%	+6%/-18%	+17%/-13%	+89%/-14%
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 003247777-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2115 ± 94	$7423.39^{+5517.39}_{-4699.70}$	2840^{+127}_{-157}	-2662^{+167}_{-102}	$0.012^{+0.076}_{-0.008}$
Alt.	-30 ± 70	$6732.74^{+5381.47}_{-4433.47}$	2843^{+124}_{-146}	-2706^{+97}_{-88}	$0.000^{+0.002}_{-0.000}$

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 $A_{obs} \gg 1.0$

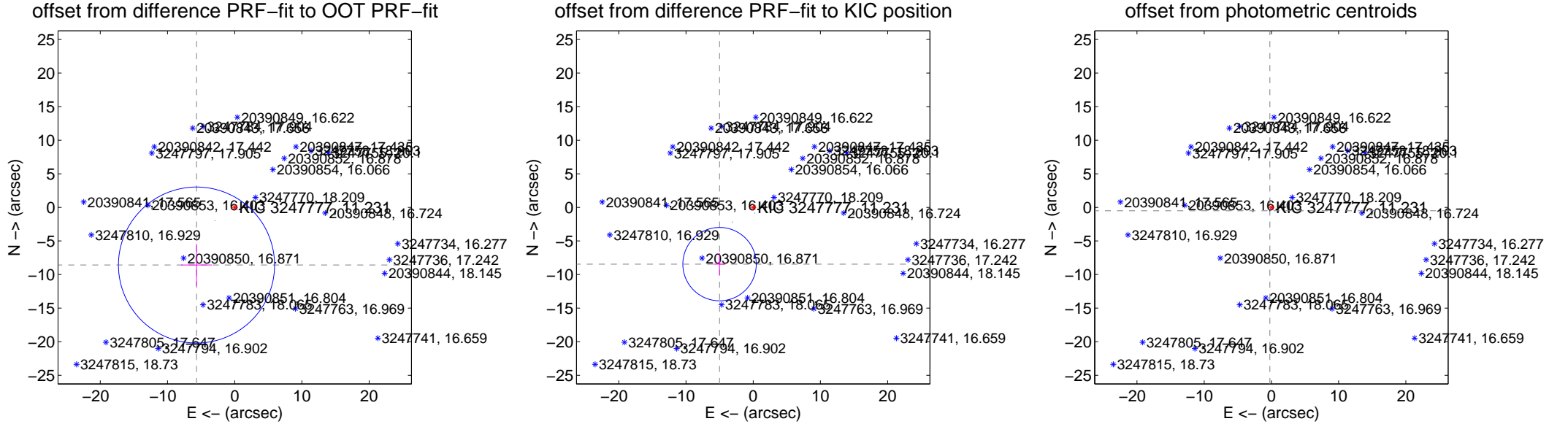
DV Centroid Data

Supplemental centroid analysis for 003247777-02. **Kepler magnitude: 11.23.** Transit SNR 64.70

There are 1 quarters with good PRF difference image offsets

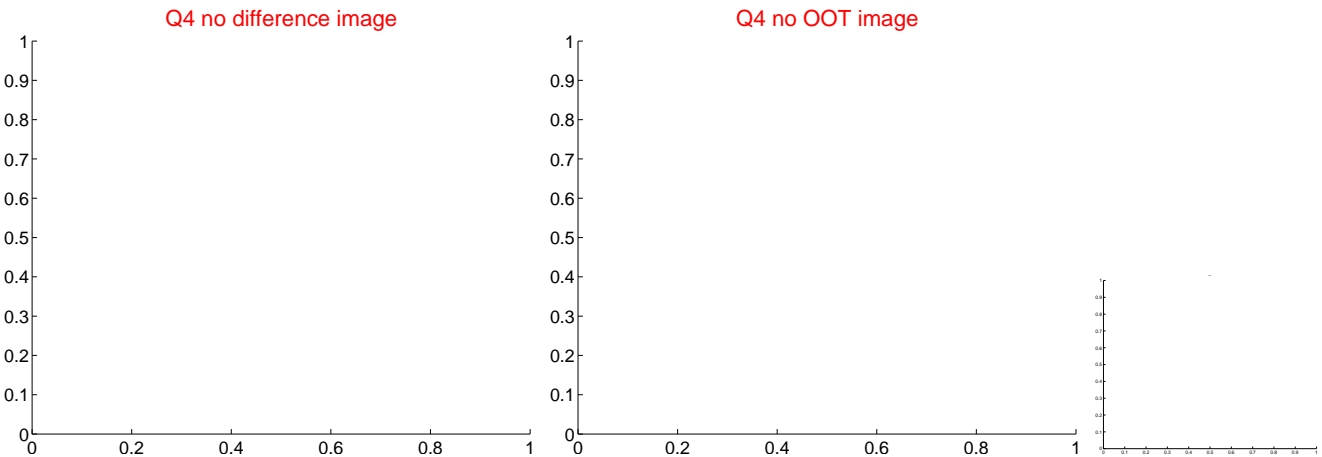
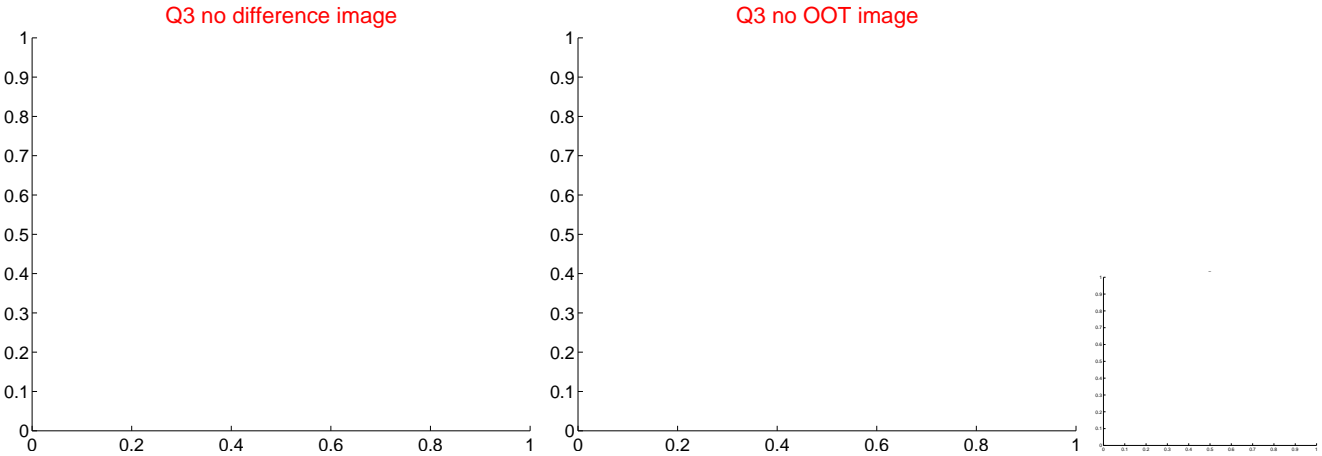
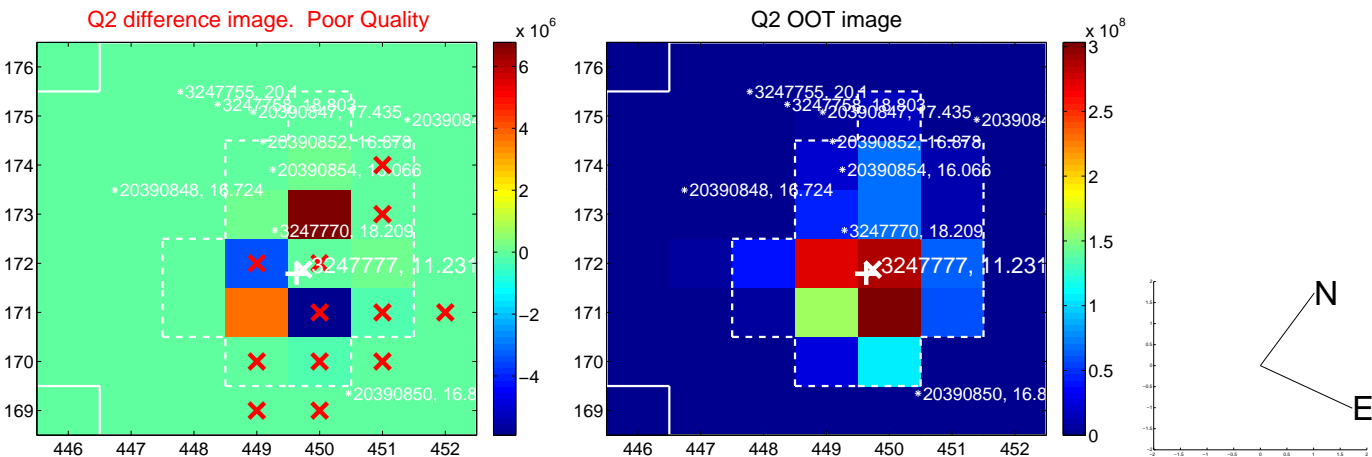
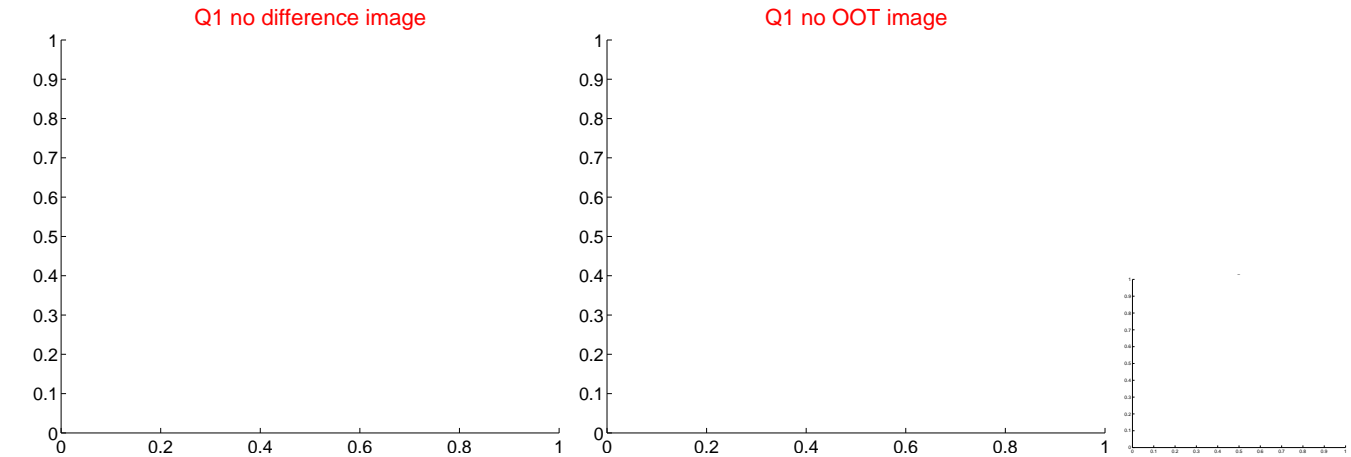
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.294 ± 3.871	2.66	5.683 ± 2.291	-8.583 ± 3.152
PRF-fit source offset from KIC position	9.821 ± 1.820	5.40	5.005 ± 0.881	-8.451 ± 1.649
photometric centroid source offset	0.56 ± 0.01	71.49	0.23 ± 0.01	-0.51 ± 0.01

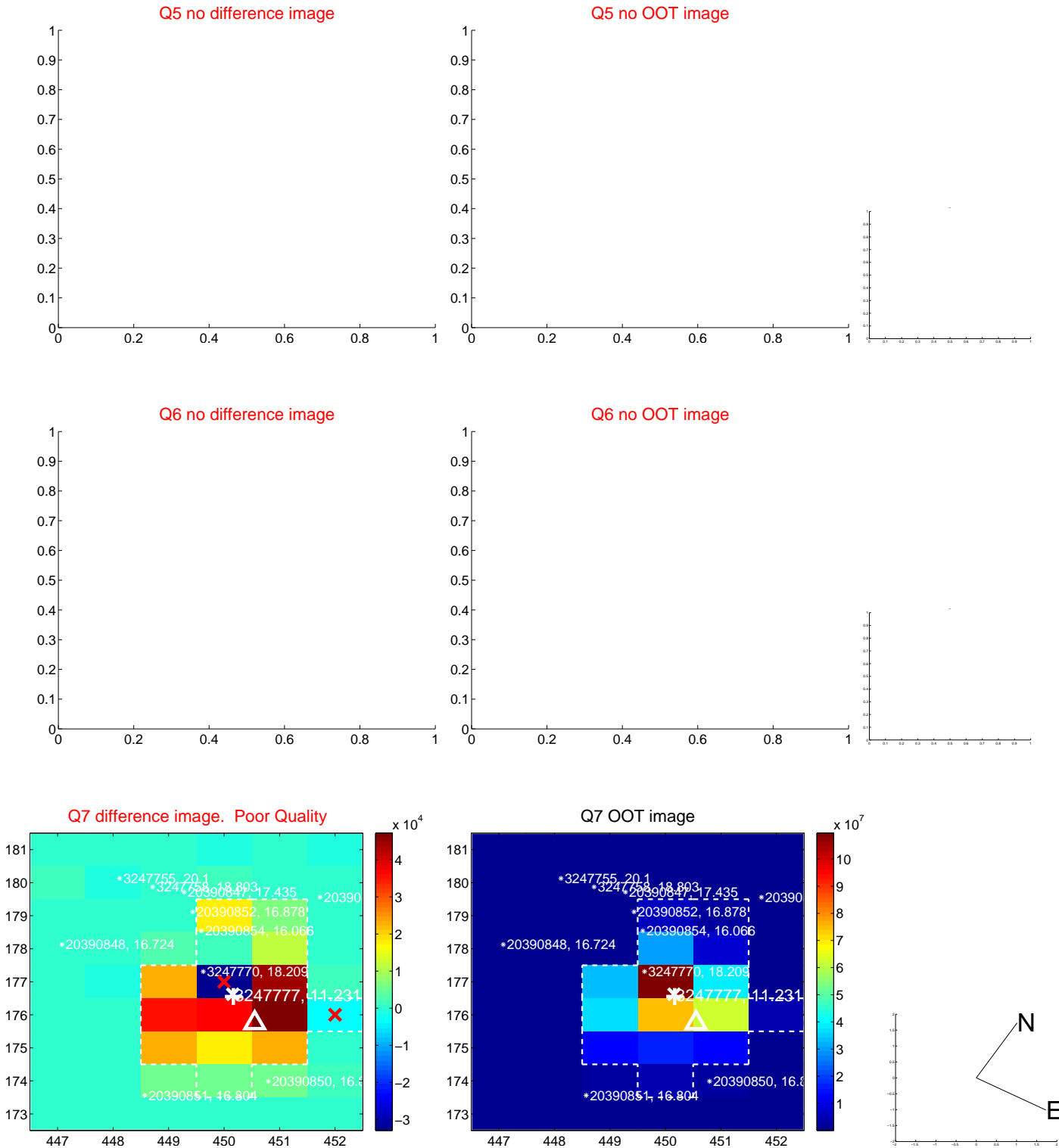


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

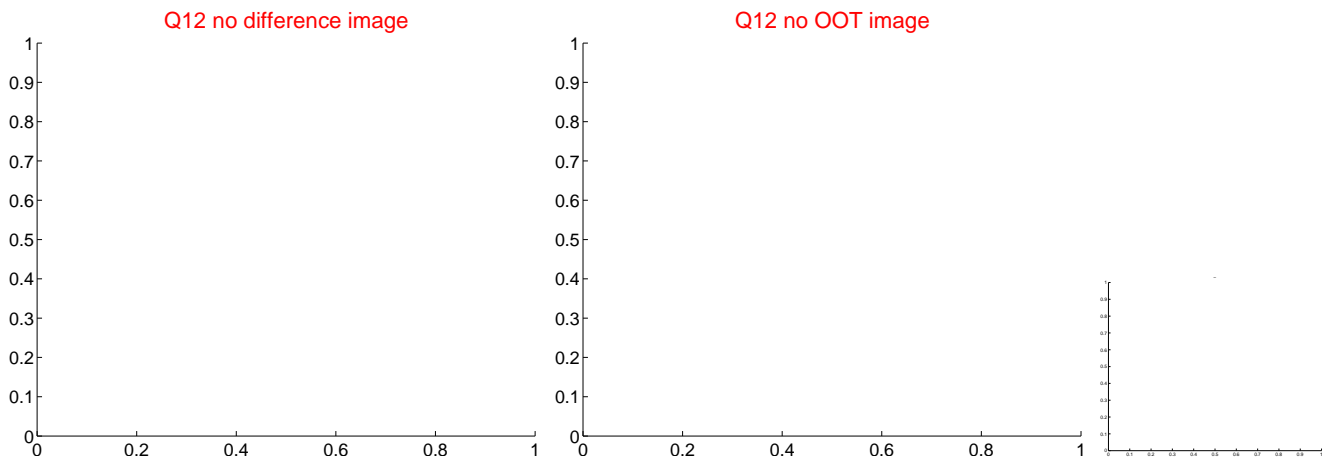
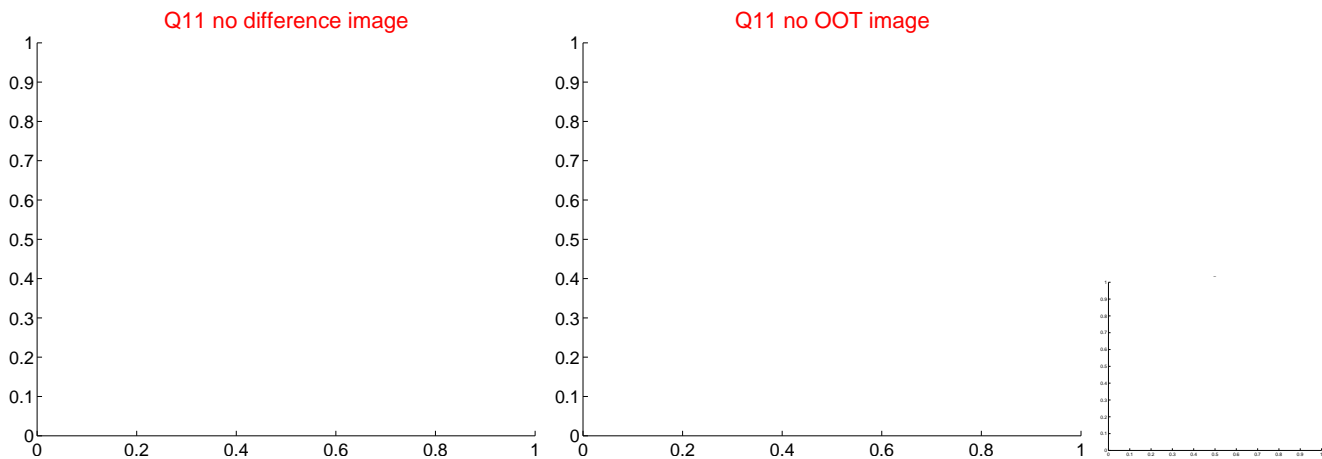
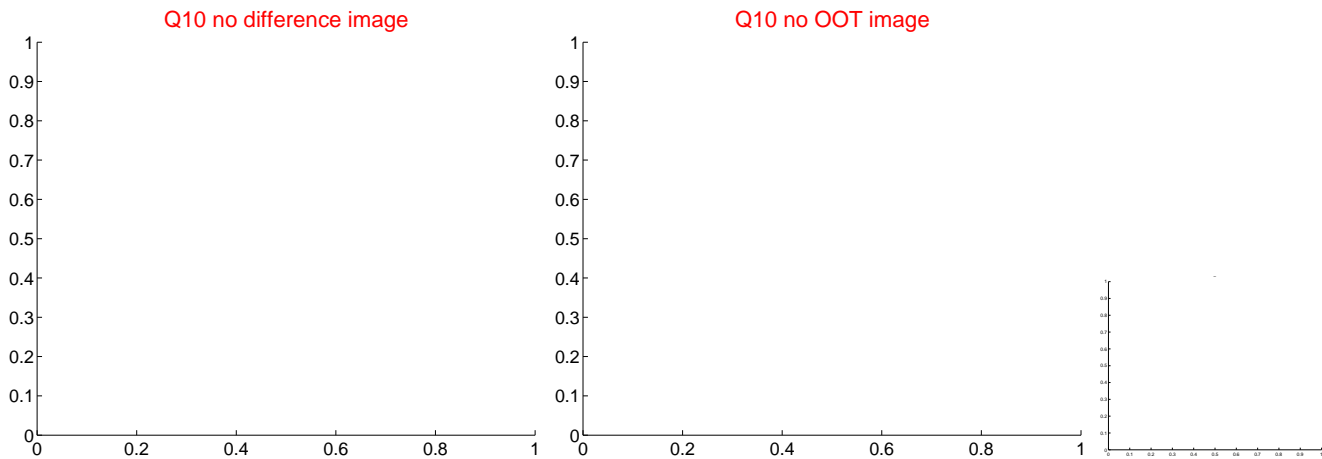
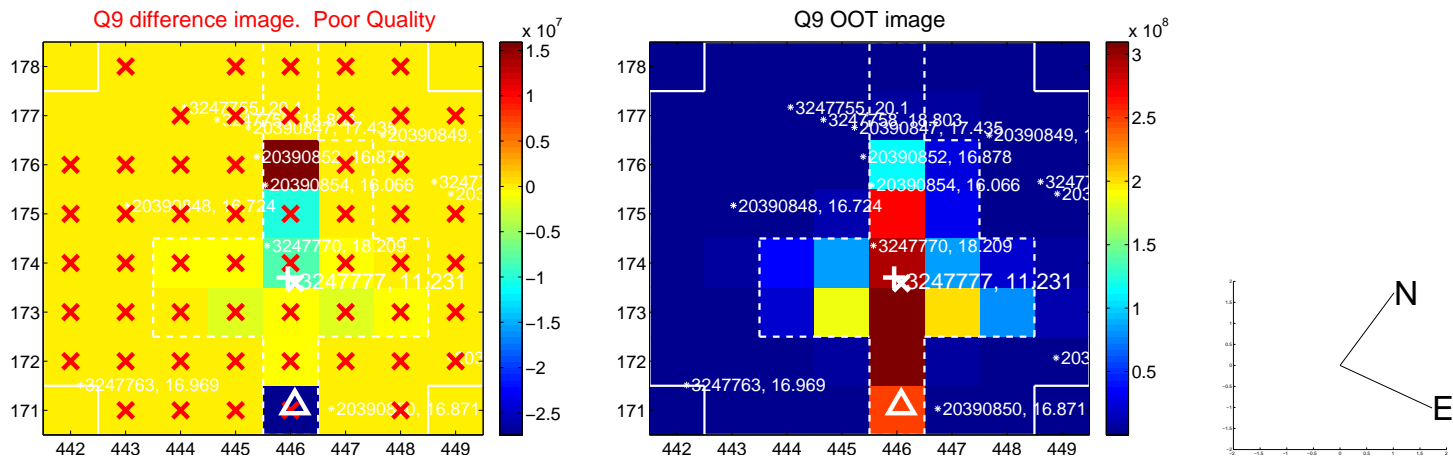
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



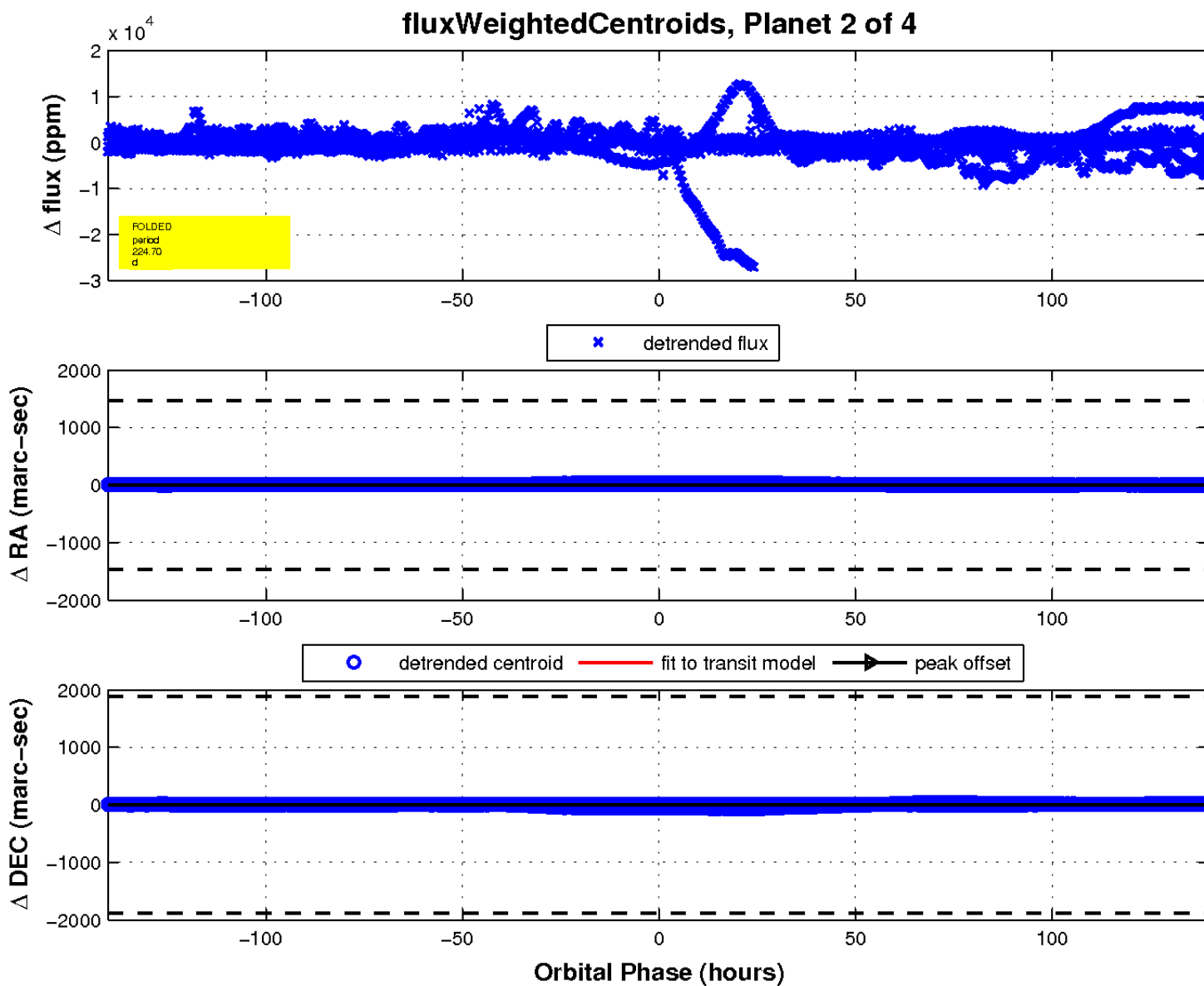
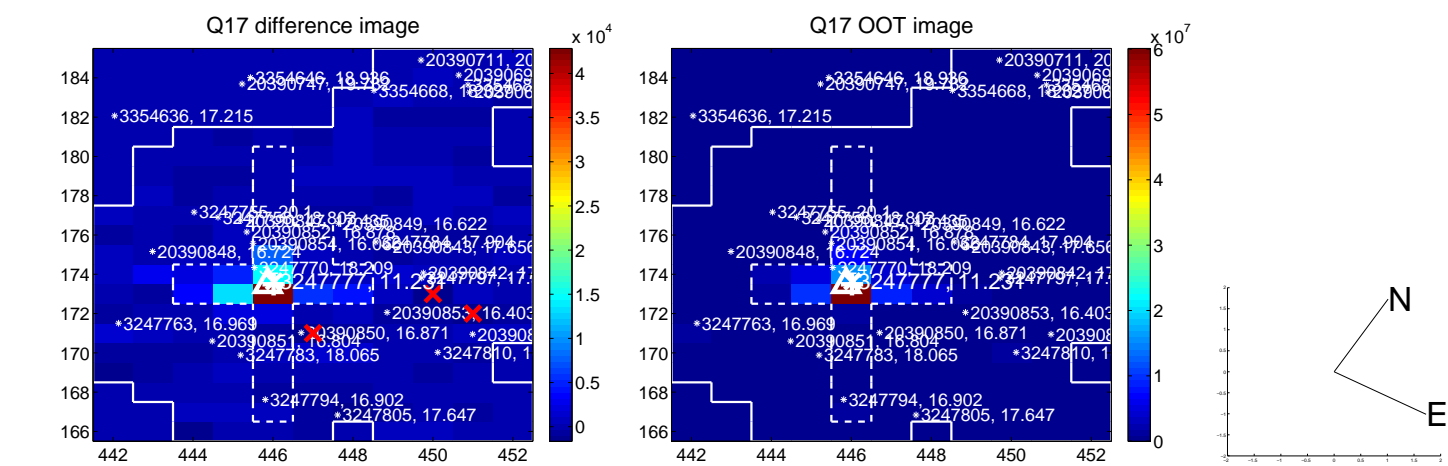
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

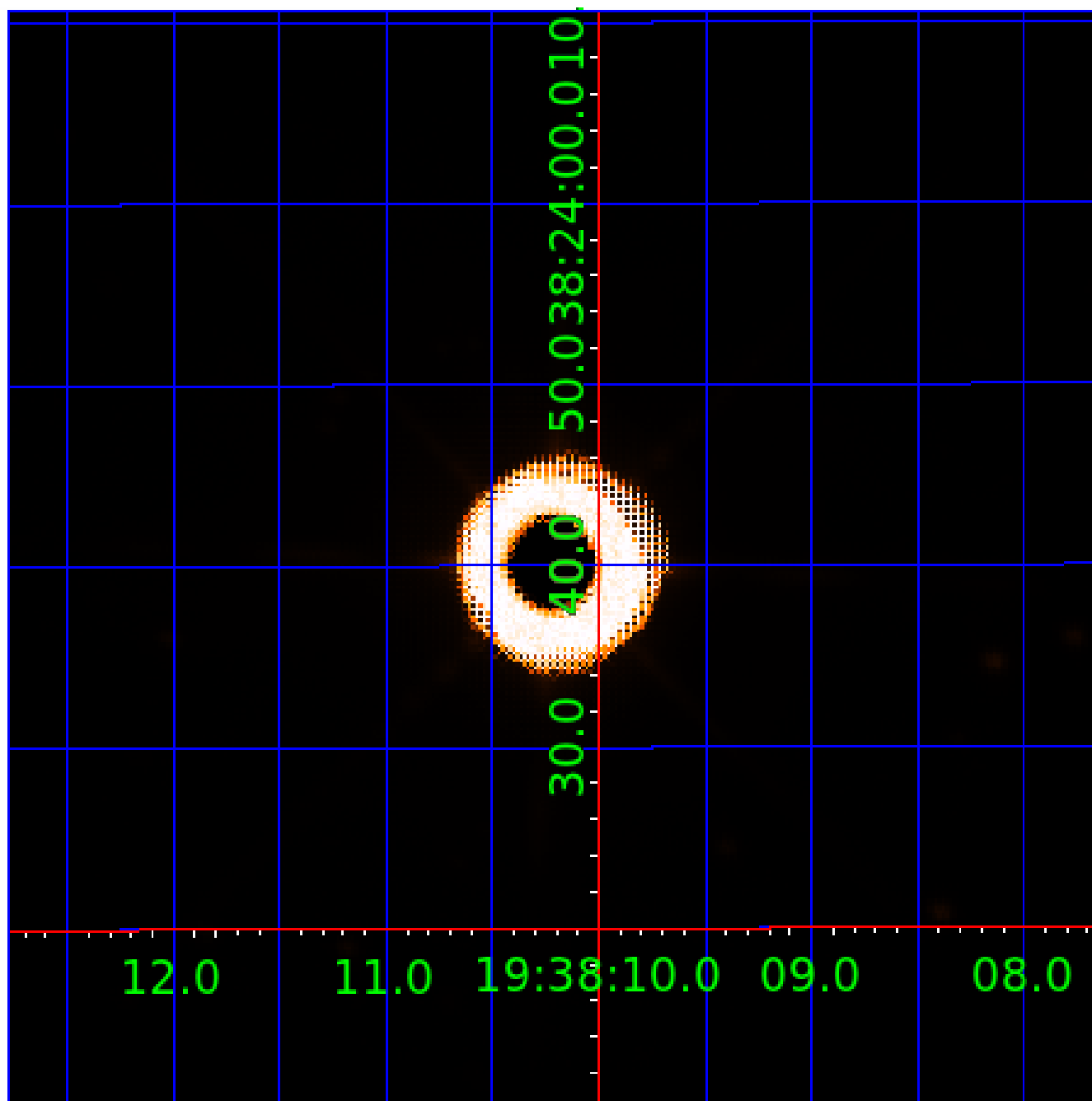


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003247777

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})
003247777-01	OBS	No	195.057908	309.464486	2541.6	11.972	20.7	13.5	153.06	3286	848.97	0.00
003247777-02	OBS	No	224.702342	218.763650	53029.2	46.756	30.8	64.7	153.06	3286	6368.80	0.00
003247777-03	OBS	No	145.058487	228.758541	1188.8	30.137	14.4	14.5	153.06	3286	1151.44	0.00
003247777-04	OBS	No	286.199253	326.031674	166.1	15.000	12.6	-1.0	153.06	3286	180.97	3113.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247777-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003247777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003247777-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
003247777-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

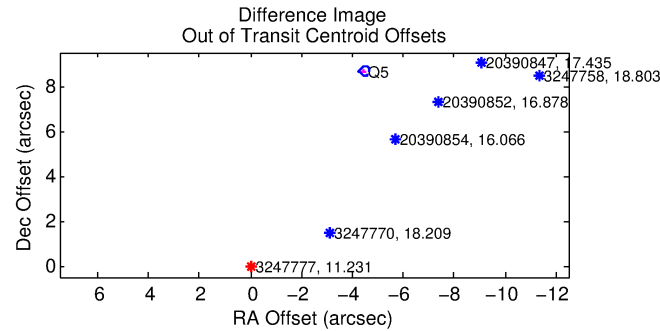
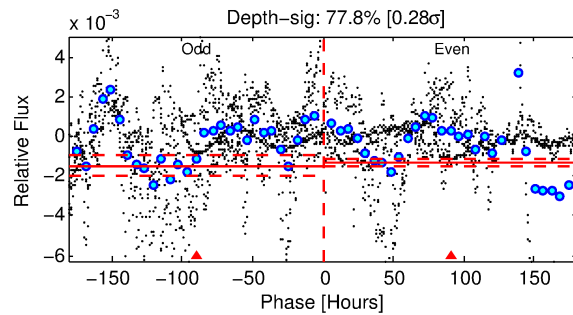
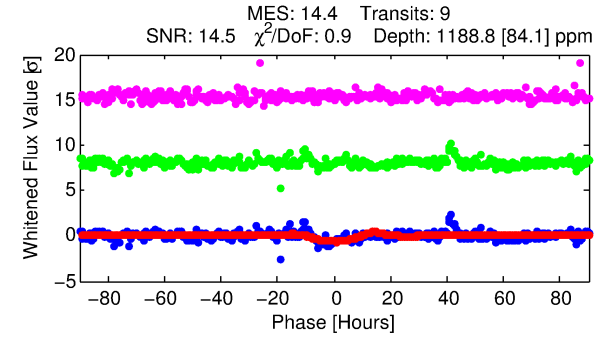
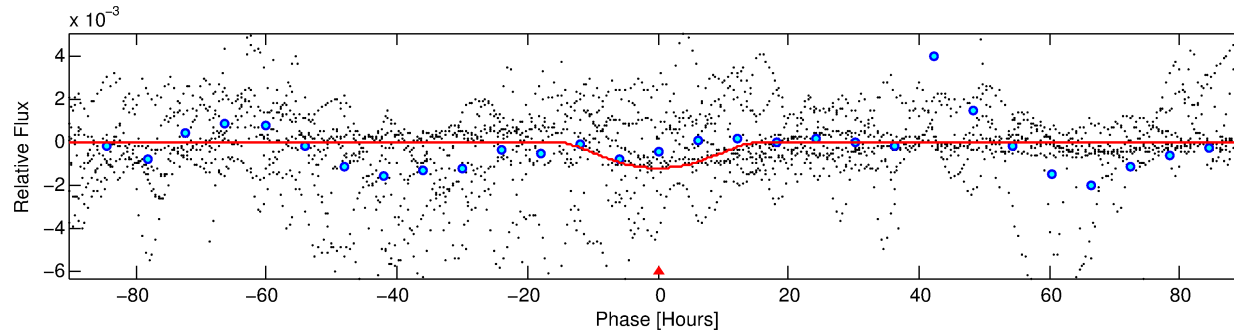
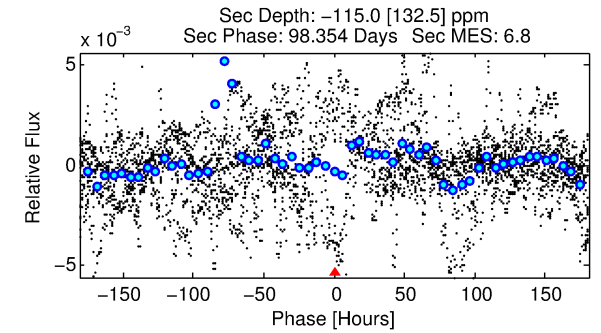
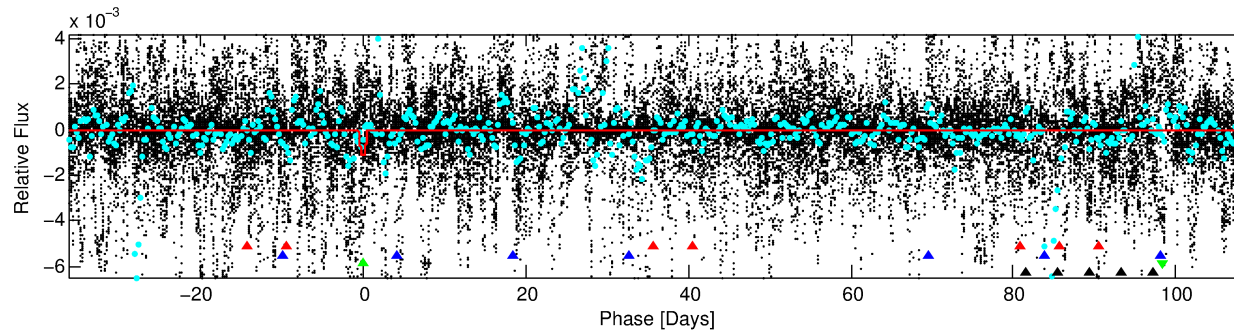
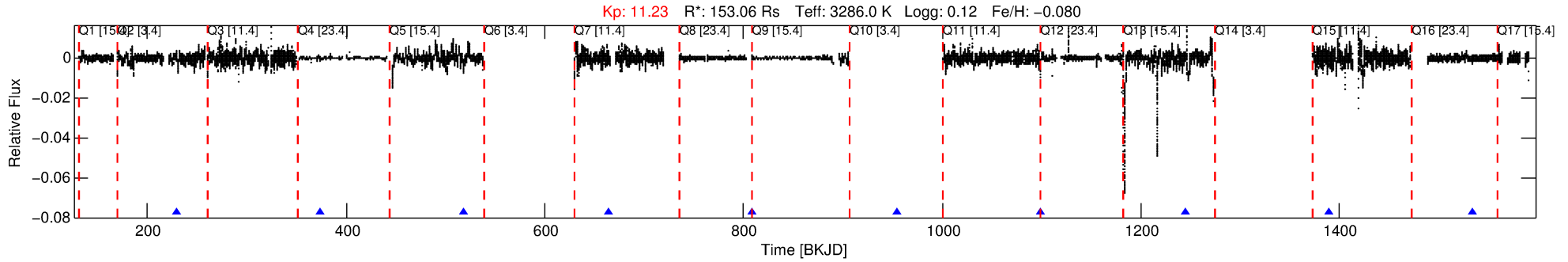
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003247777-03

No Significant Match Found

DV One-Page Summary

KIC: 3247777 Candidate: 3 of 4 Period: 145.058 d



DV Fit Results:

Period = 145.05849 [0.01053] d
Epoch = 228.7585 [0.0413] BKJD
Rp/R* = 0.0689 [0.0599]
a/R* = 13.99 [2.59]
b = 1.00 [0.08]
Seff = N/A
Teq = N/A
Rp = 1151.44 [1021.16] Re
a = N/A
Ag = N/A
Teff = N/A

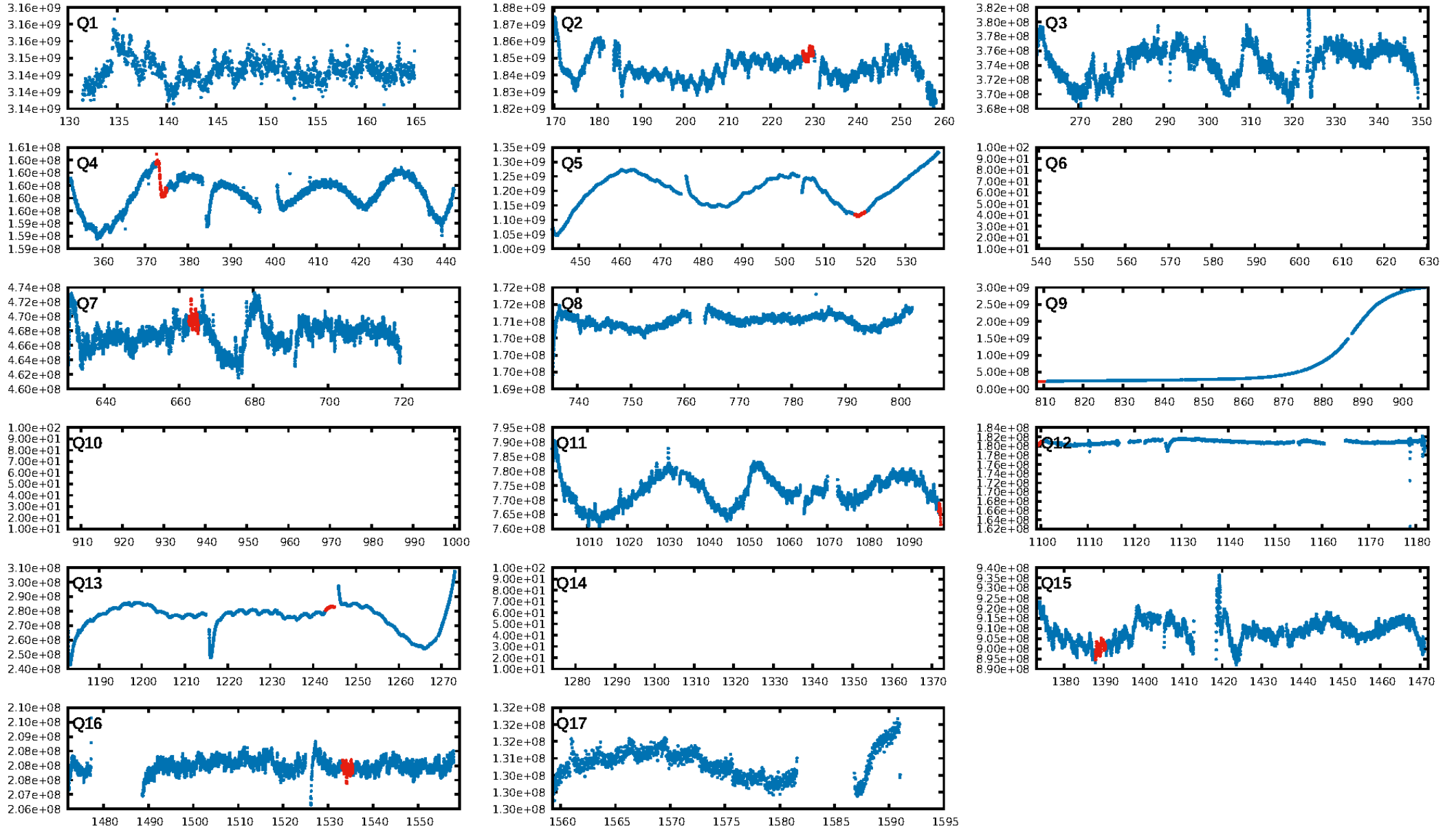
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [37.00σ]
ModelChiSquare2-sig: 26.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -1.14
Centroid-sig: 49.0%
Centroid-so: 0.426 arcsec [1.74σ]
OotOffset-rm: 9.744 arcsec [145.95σ]
KicOffset-rm: 10.178 arcsec [152.46σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

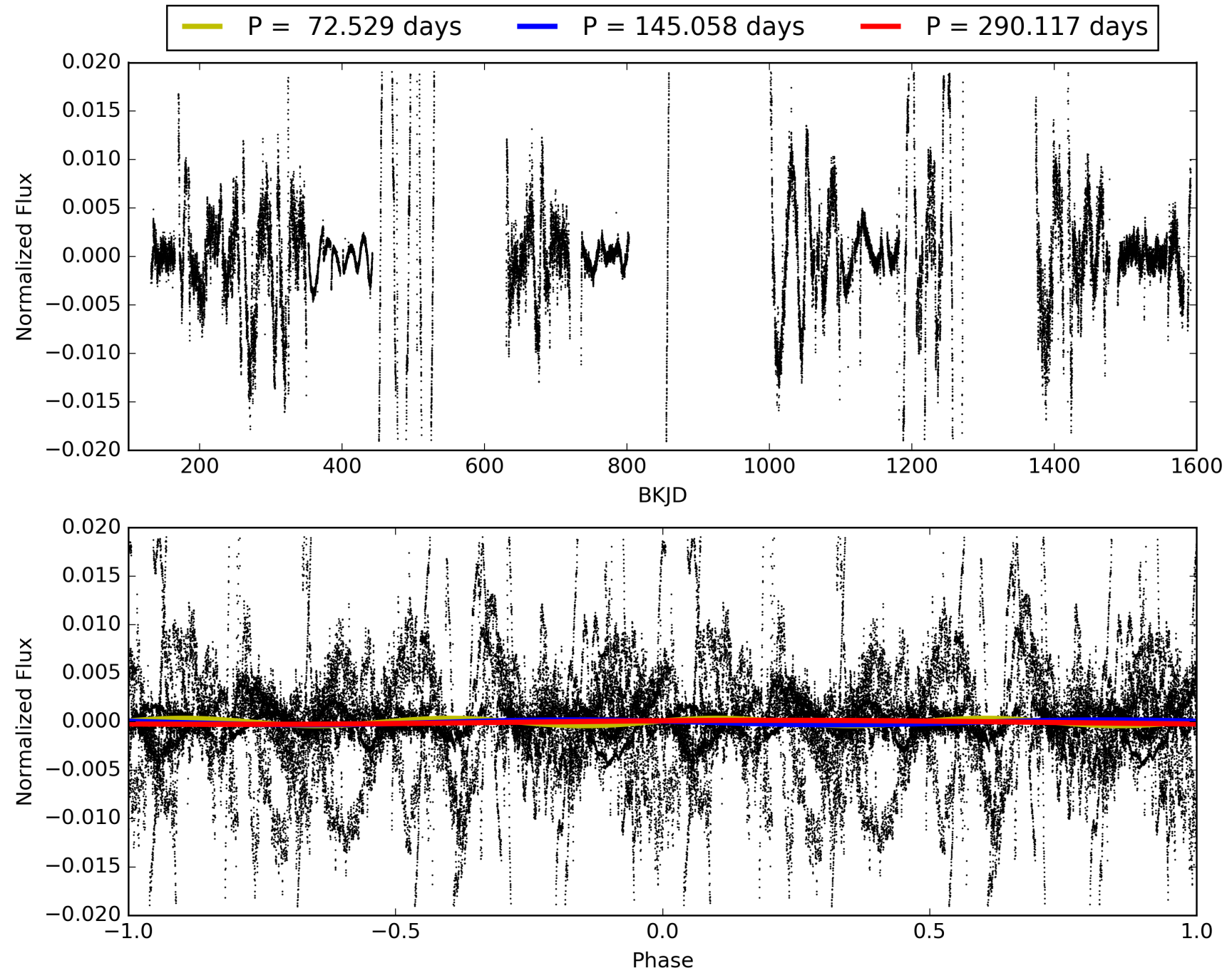
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:29:40 Z

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

TCE 003247777-03, PDC Light Curves

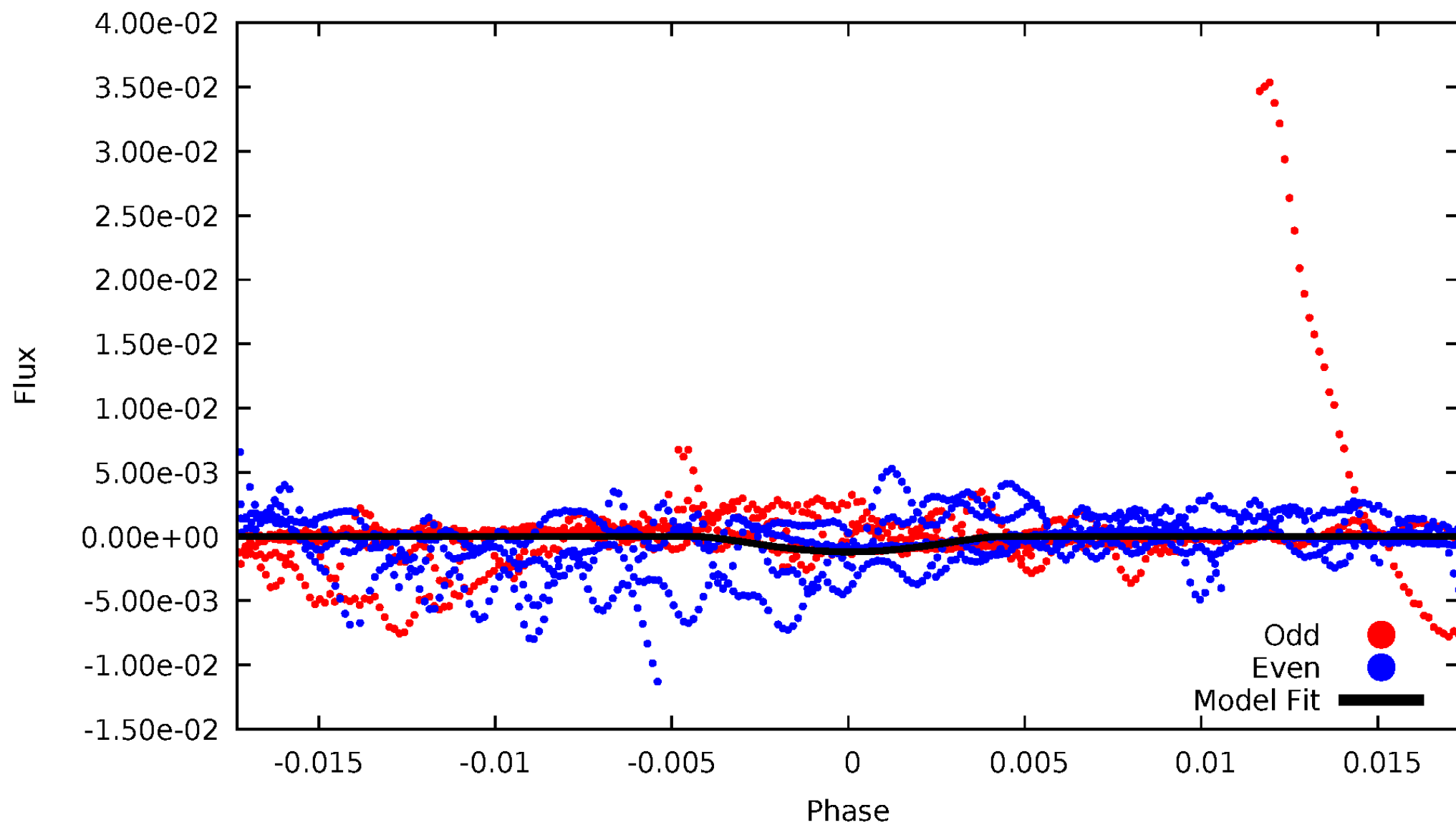


TCE 003247777-03



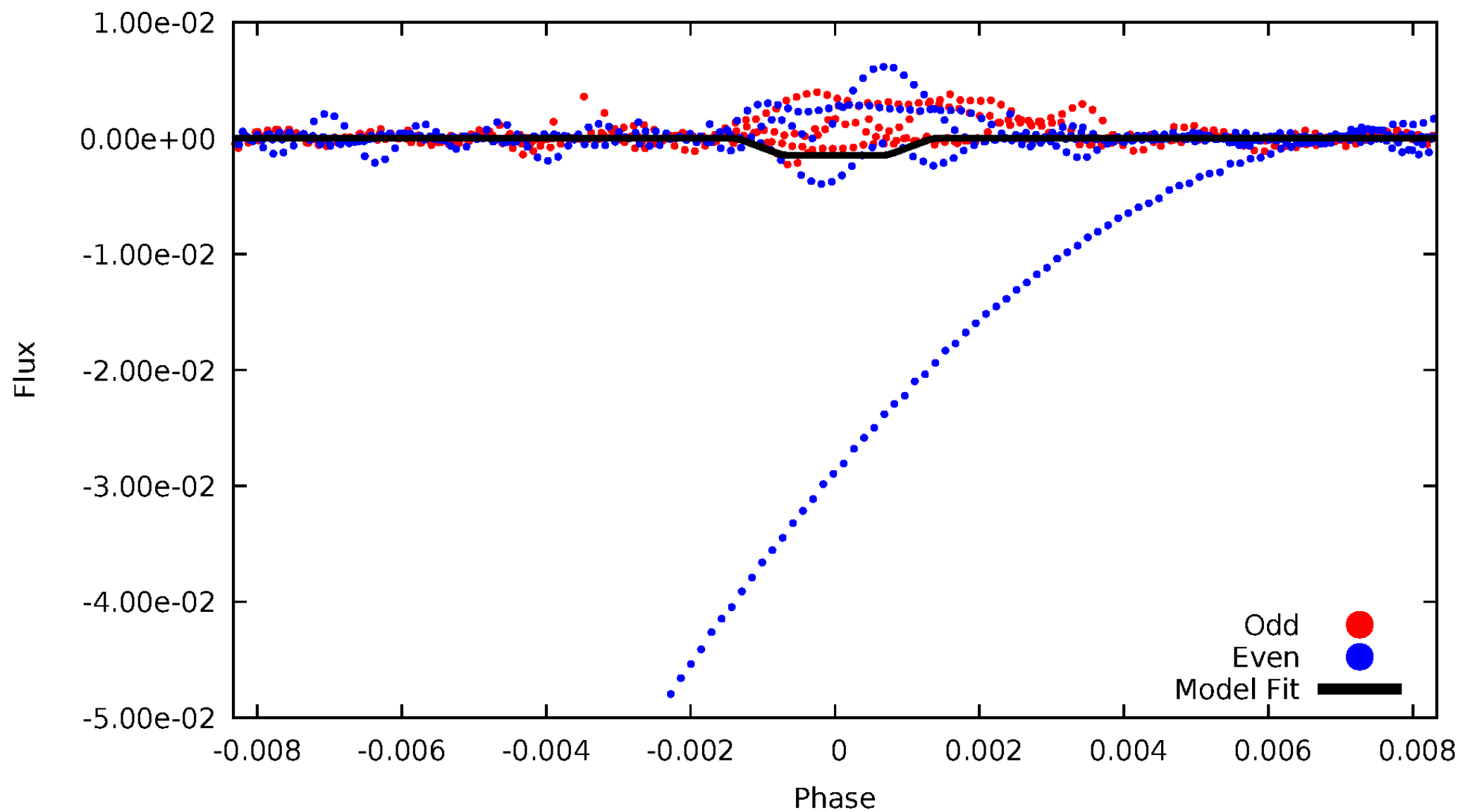
DV Odd/Even

TCE 003247777-03



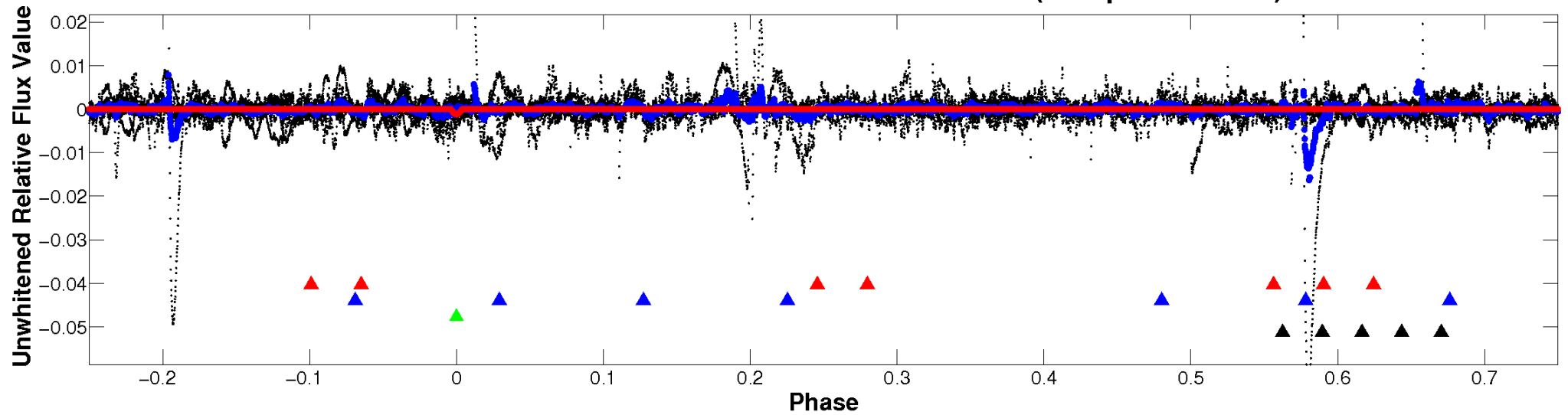
ALT Odd/Even

TCE 003247777-03

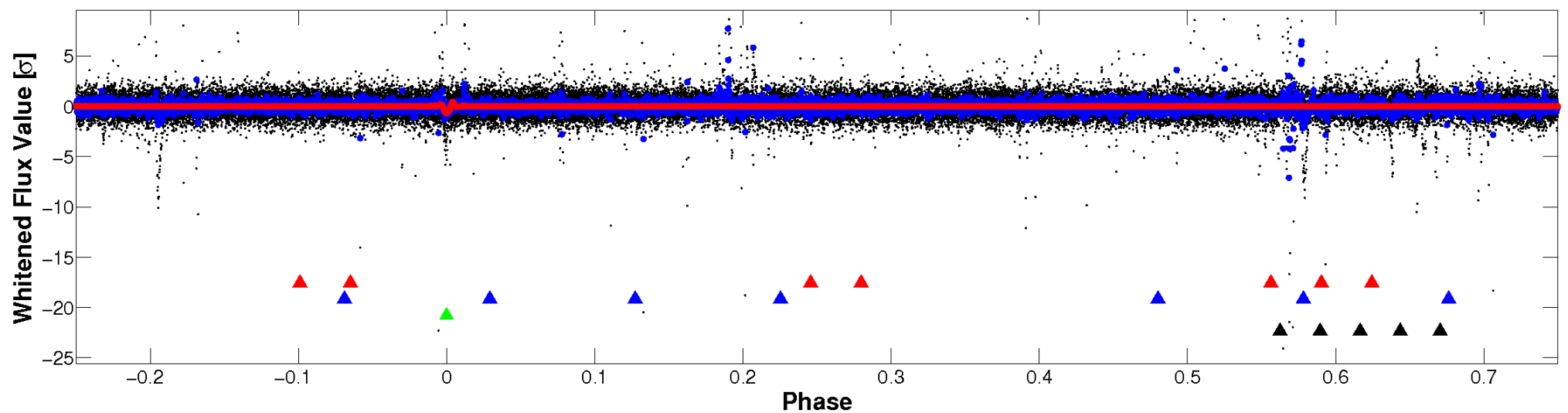


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

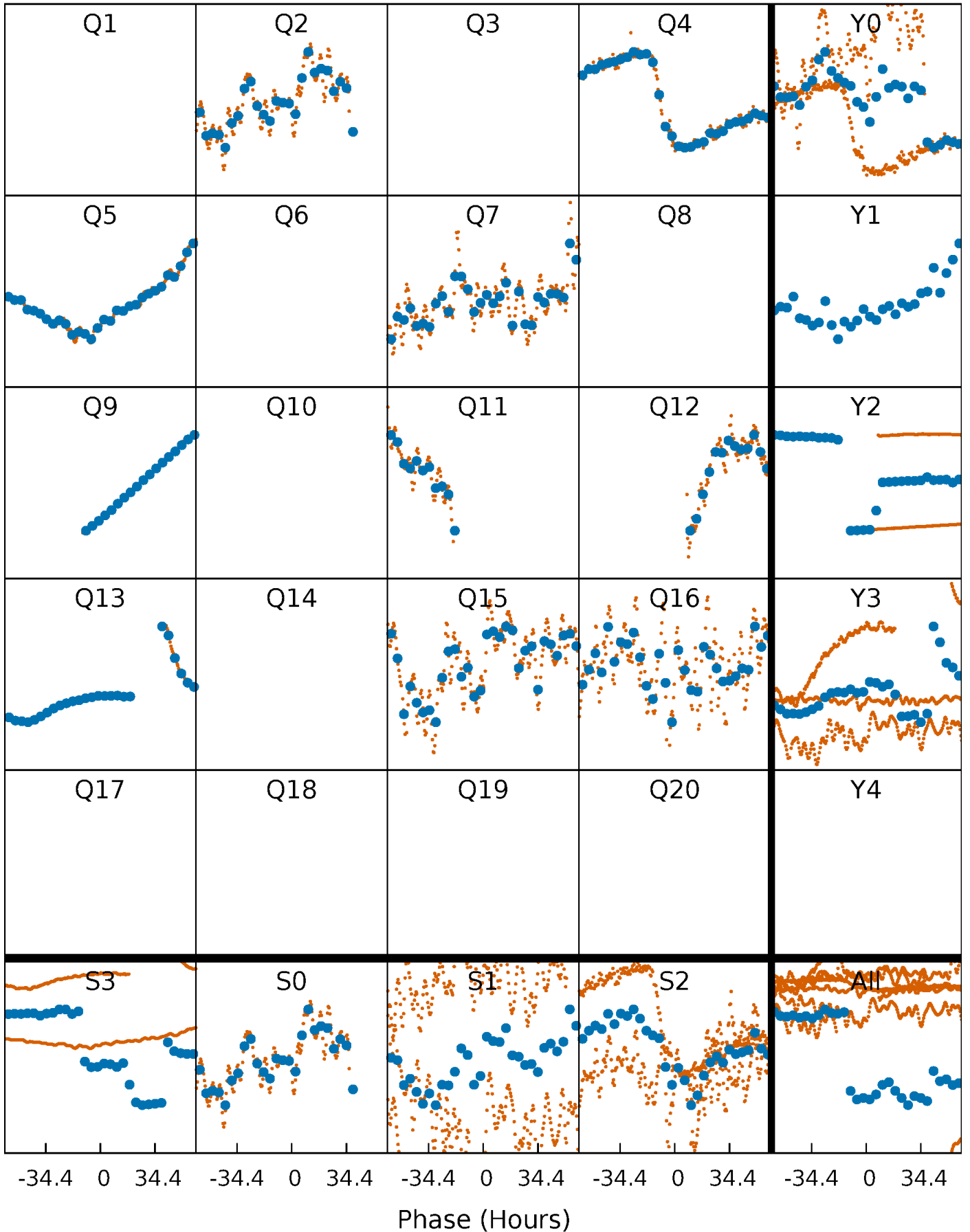


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 003247777-03 P=145.058487 Days $T_0=228.758541$ (BKJD)



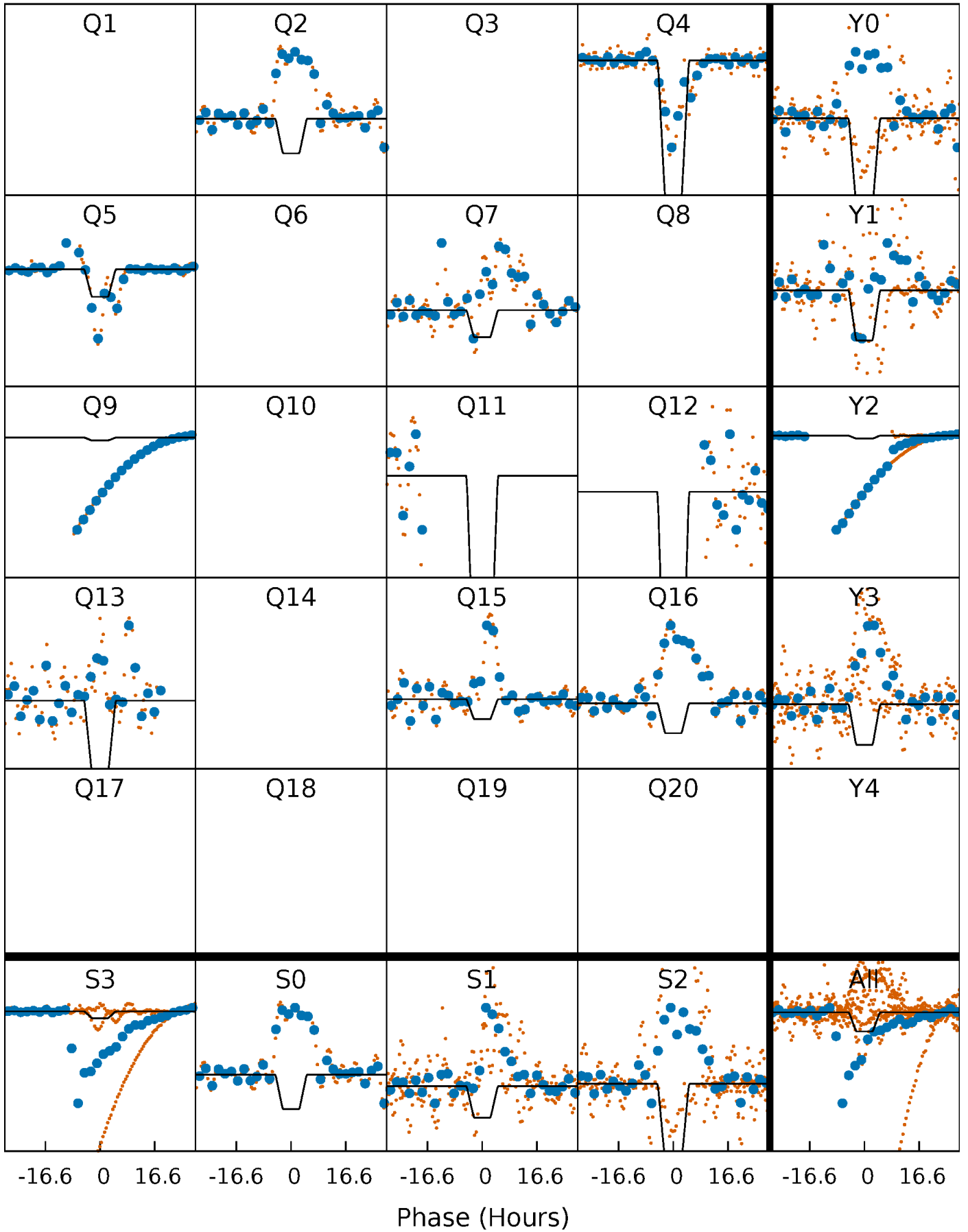
DV Quarter-Phased Transit Curves

TCE 003247777-03 P=145.058487 Days $T_0=228.758541$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

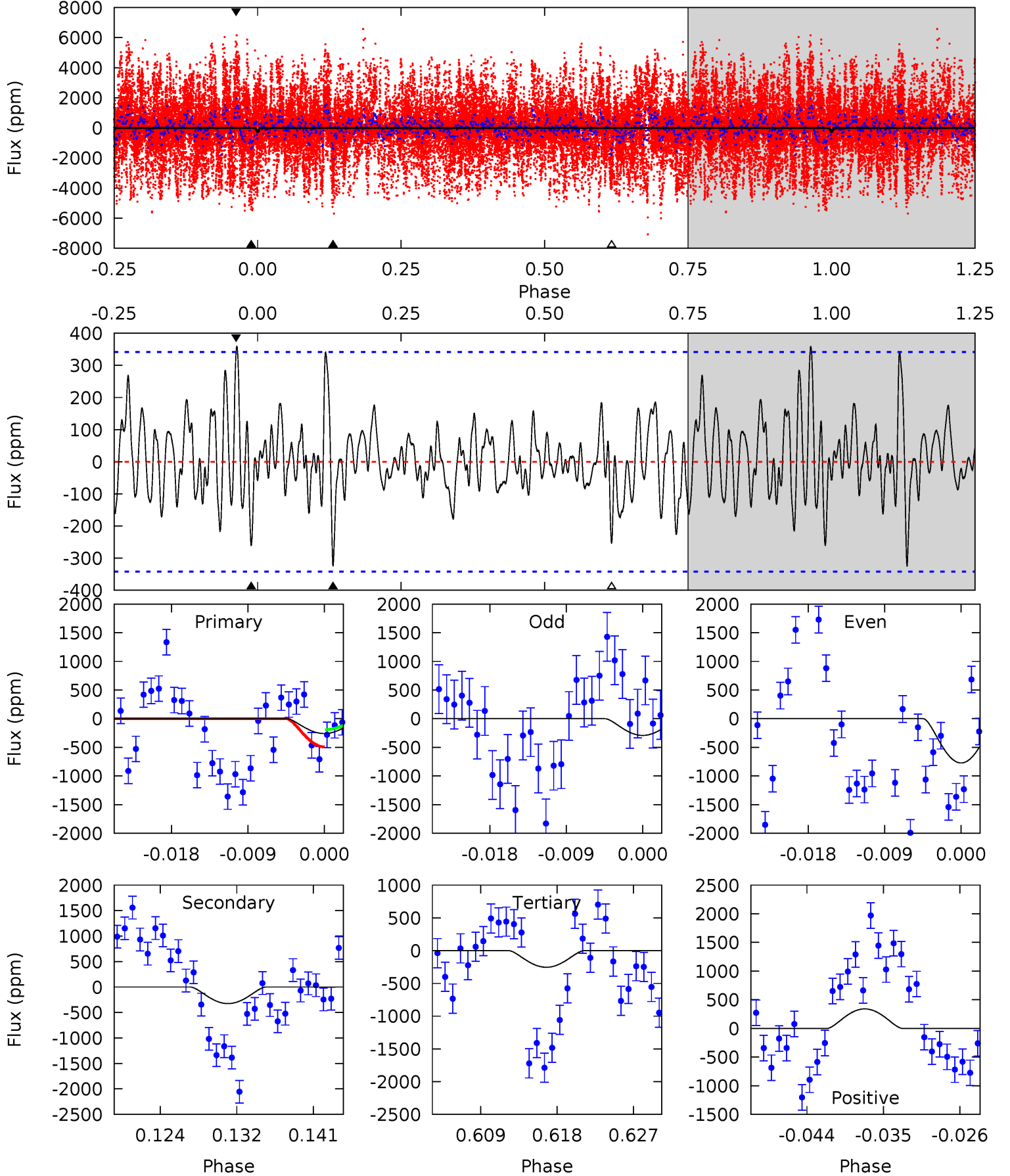
TCE 003247777-03 P=145.105521 Days $T_0=228.443905$ (BKJD)



DV Model-Shift Uniqueness Test

003247777-03, P = 145.058487 Days, E = 83.700054 Days

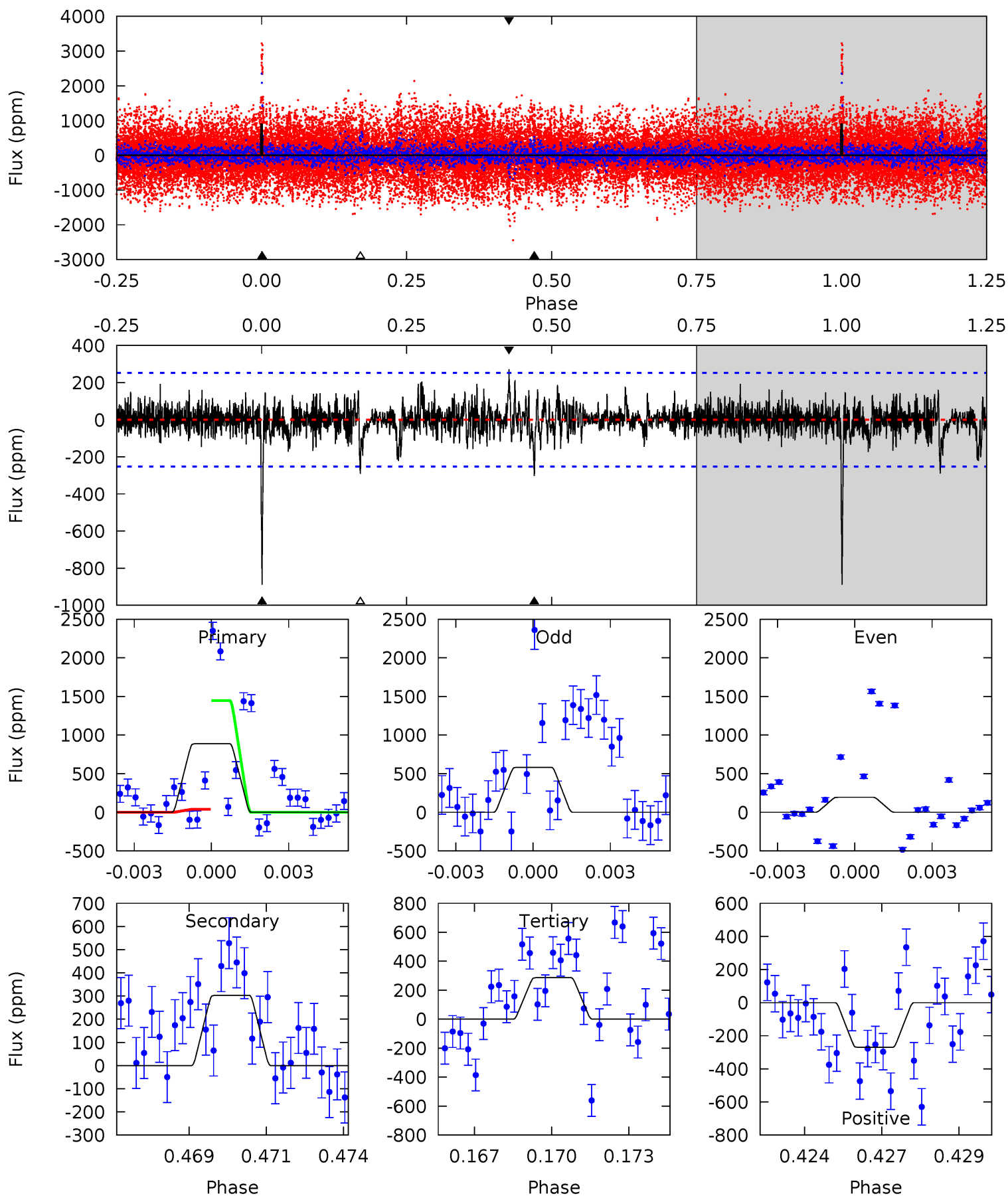
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.84	4.80	3.75	5.03	5.05	2.62	1.42	0.09	-1.19	1.05	-0.23	2.11	1.91	0.52	2.21



Alt Model-Shift Uniqueness Test

003247777-03, P = 145.105521 Days, E = 83.338384 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	6.32	5.98	5.64	5.27	2.99	1.23	12.6	12.9	0.34	0.69	3.83	-4.52	0.23	0



Stellar Parameters For KIC 003247777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3286^{+117}_{-88}	$0.123^{+0.200}_{-0.050}$	$-0.080^{+0.250}_{-0.150}$	$153.058^{+9.192}_{-27.576}$	$1.134^{+0.191}_{-0.143}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+163%/-41%	+312%/-188%	+6%/-18%	+17%/-13%	+89%/-14%
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 003247777-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-325 ± 68	$1215.04^{+941.73}_{-698.12}$	3289^{+144}_{-173}	-2841^{+394}_{-133}	$0.038^{+0.178}_{-0.026}$
Alt.	-303 ± 48	$892.70^{+830.70}_{-577.23}$	3276^{+153}_{-180}	-2779^{+5578}_{-163}	$0.065^{+0.478}_{-0.048}$

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 $A_{obs} \gg 1.0$

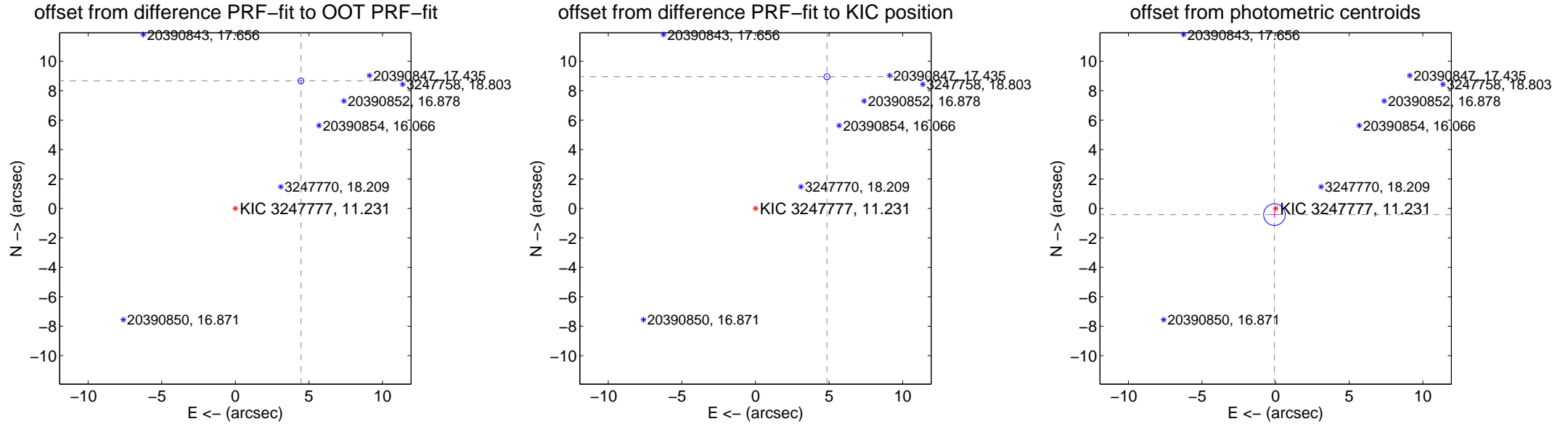
DV Centroid Data

Supplemental centroid analysis for 003247777-03. **Kepler magnitude: 11.23.** Transit SNR 14.46

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.744 ± 0.067	145.95	-4.457 ± 0.067	8.664 ± 0.067
PRF-fit source offset from KIC position	10.178 ± 0.067	152.46	-4.853 ± 0.067	8.947 ± 0.067
photometric centroid source offset	0.43 ± 0.24	1.74	0.08 ± 0.22	-0.42 ± 0.25

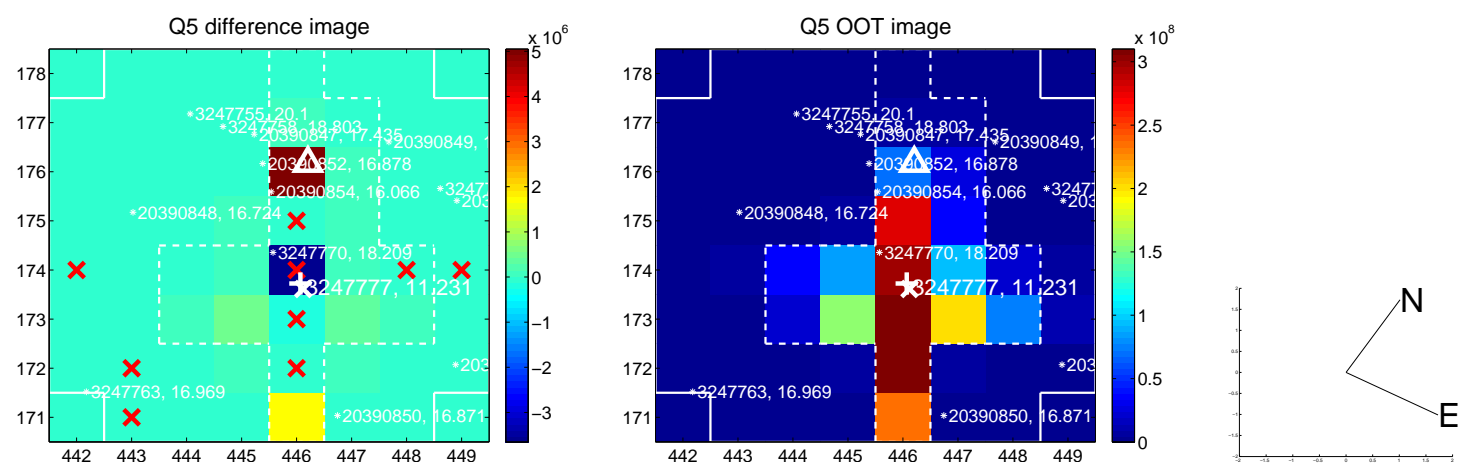


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



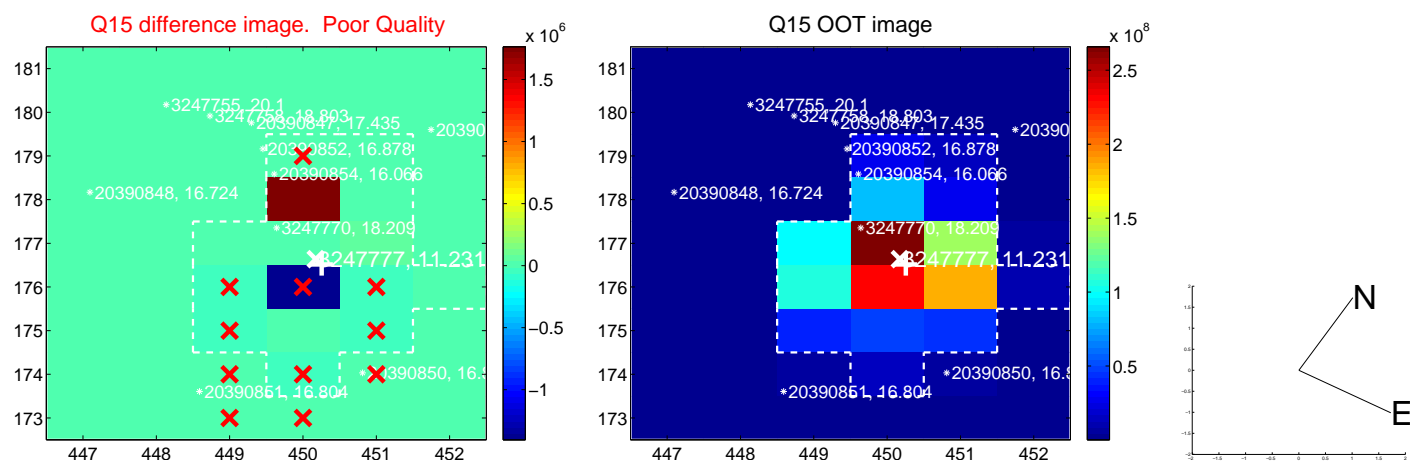
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



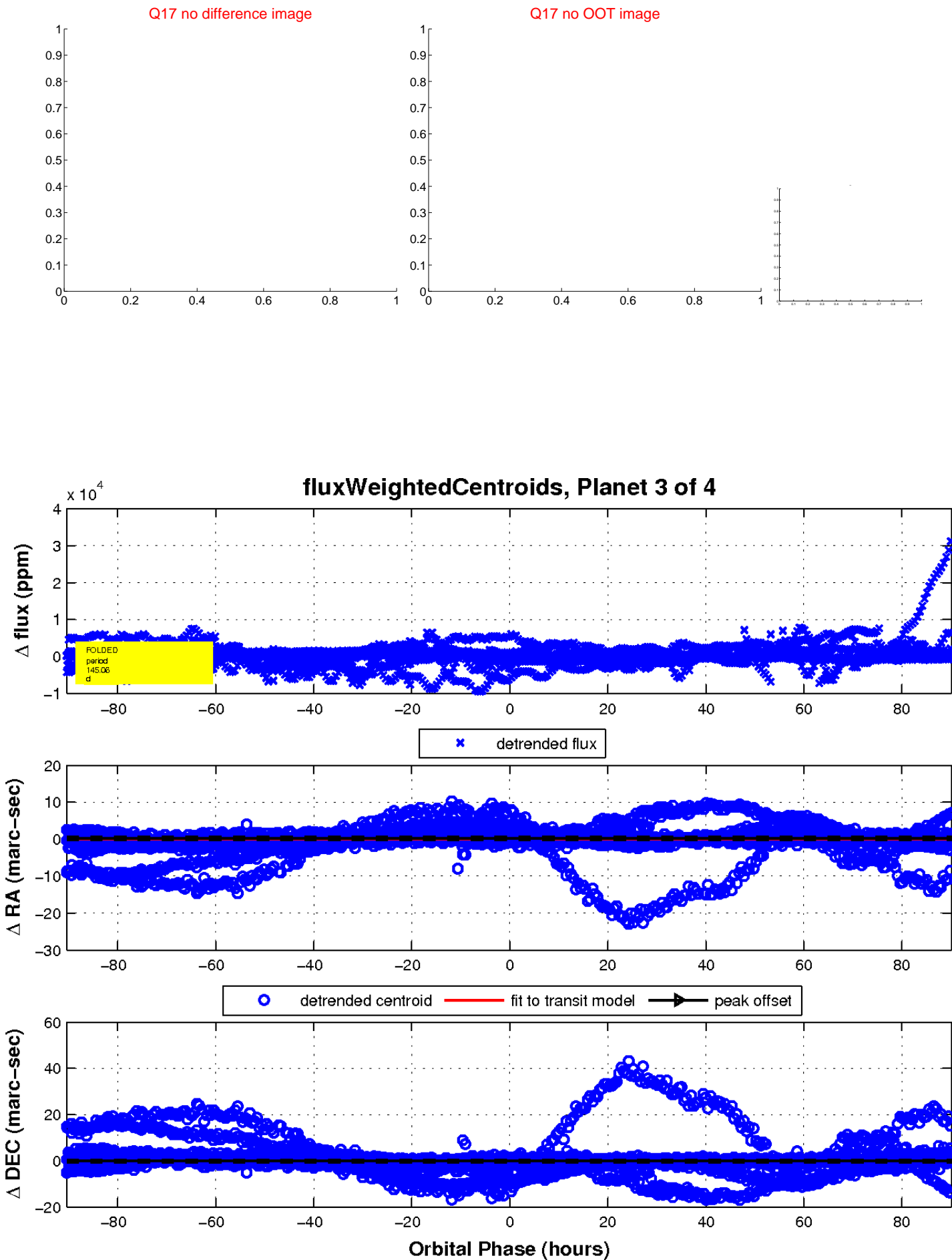
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



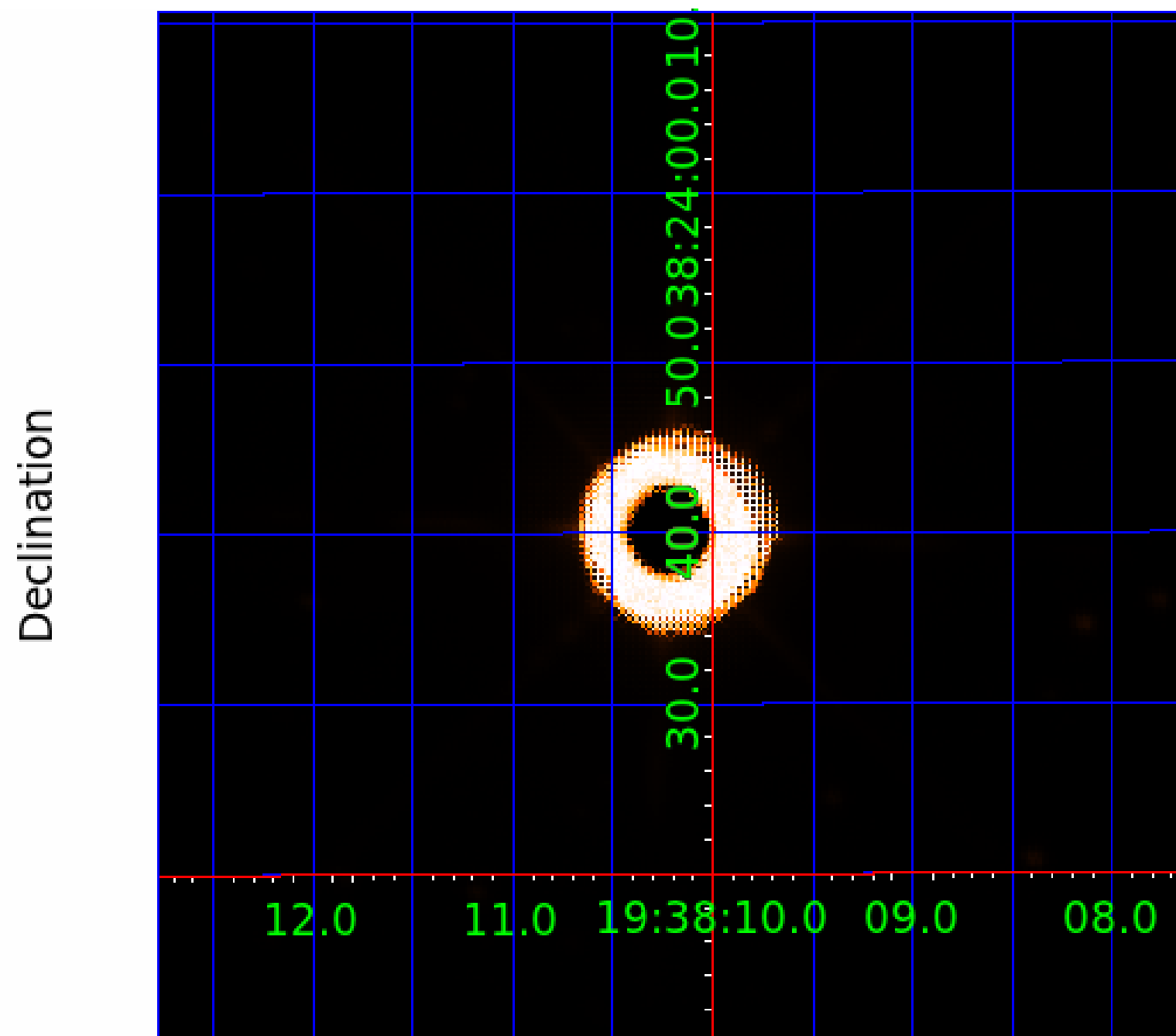
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 003247777

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})
003247777-01	OBS	No	195.057908	309.464486	2541.6	11.972	20.7	13.5	153.06	3286	848.97	0.00
003247777-02	OBS	No	224.702342	218.763650	53029.2	46.756	30.8	64.7	153.06	3286	6368.80	0.00
003247777-03	OBS	No	145.058487	228.758541	1188.8	30.137	14.4	14.5	153.06	3286	1151.44	0.00
003247777-04	OBS	No	286.199253	326.031674	166.1	15.000	12.6	-1.0	153.06	3286	180.97	3113.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003247777-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003247777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003247777-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
003247777-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA—LPP_DV—INCONSISTENT_TRANS—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.

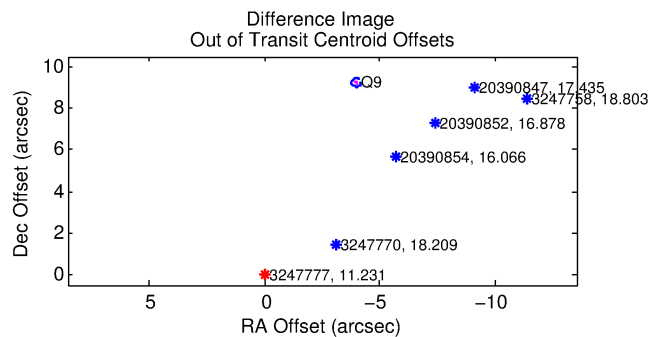
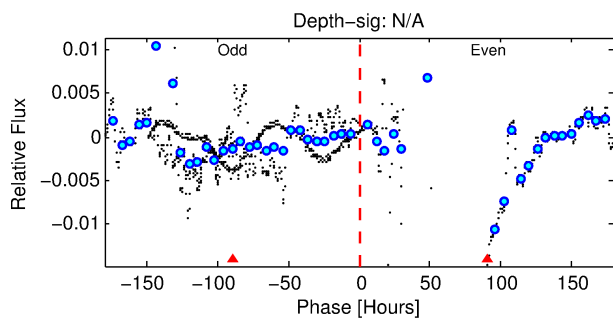
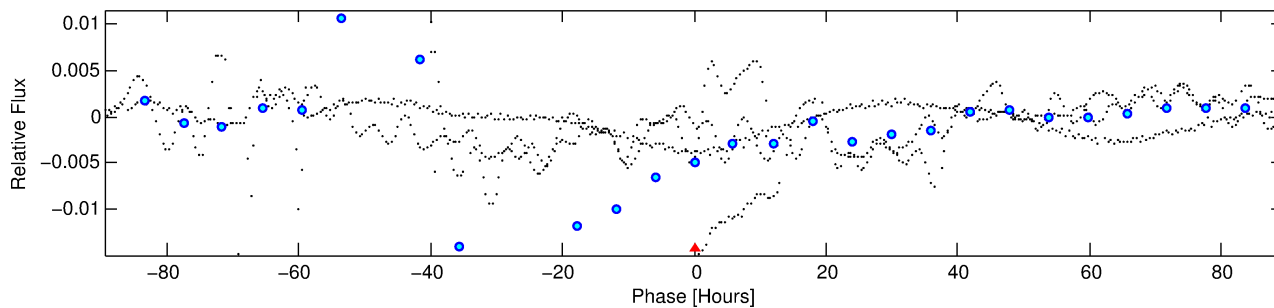
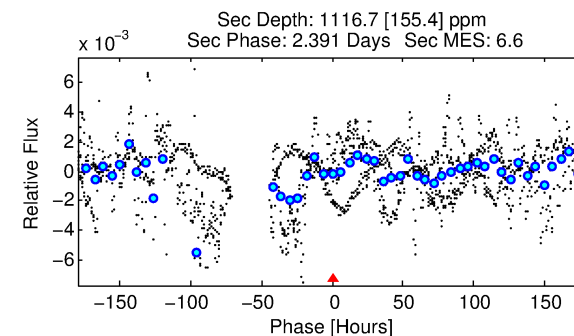
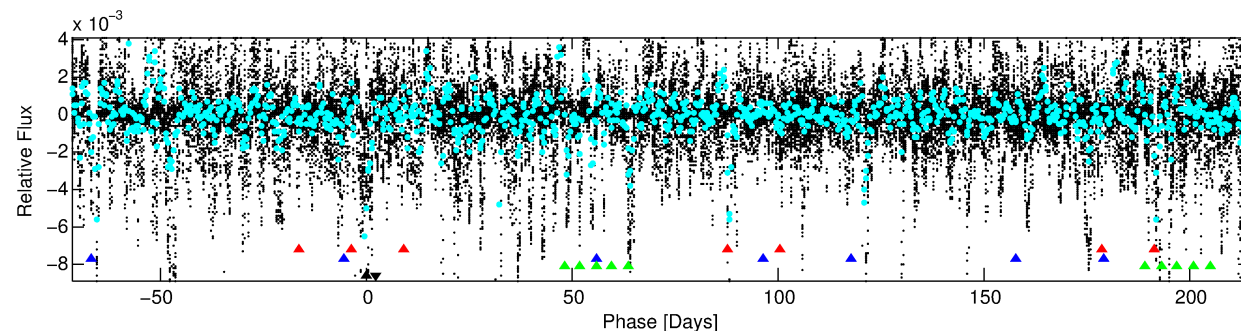
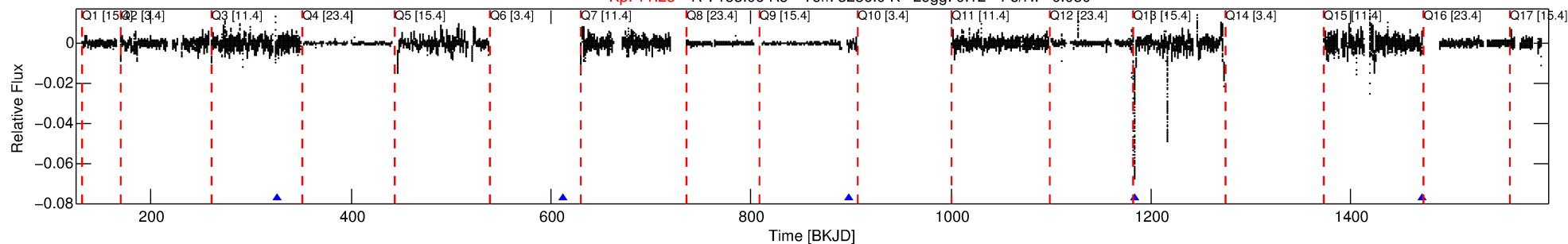
Ephemeris Match Information For 003247777-04

No Significant Match Found

DV One-Page Summary

KIC: 3247777 Candidate: 4 of 4 Period: 286.199 d

Kp: 11.23 R*: 153.06 Rs Teff: 3286.0 K Logg: 0.12 Fe/H: -0.080



TPS TCE Results:

Period = 286.19925 d
Epoch = 326.0317 BKJD

DV fit results are unavailable

DV Diagnostic Results:

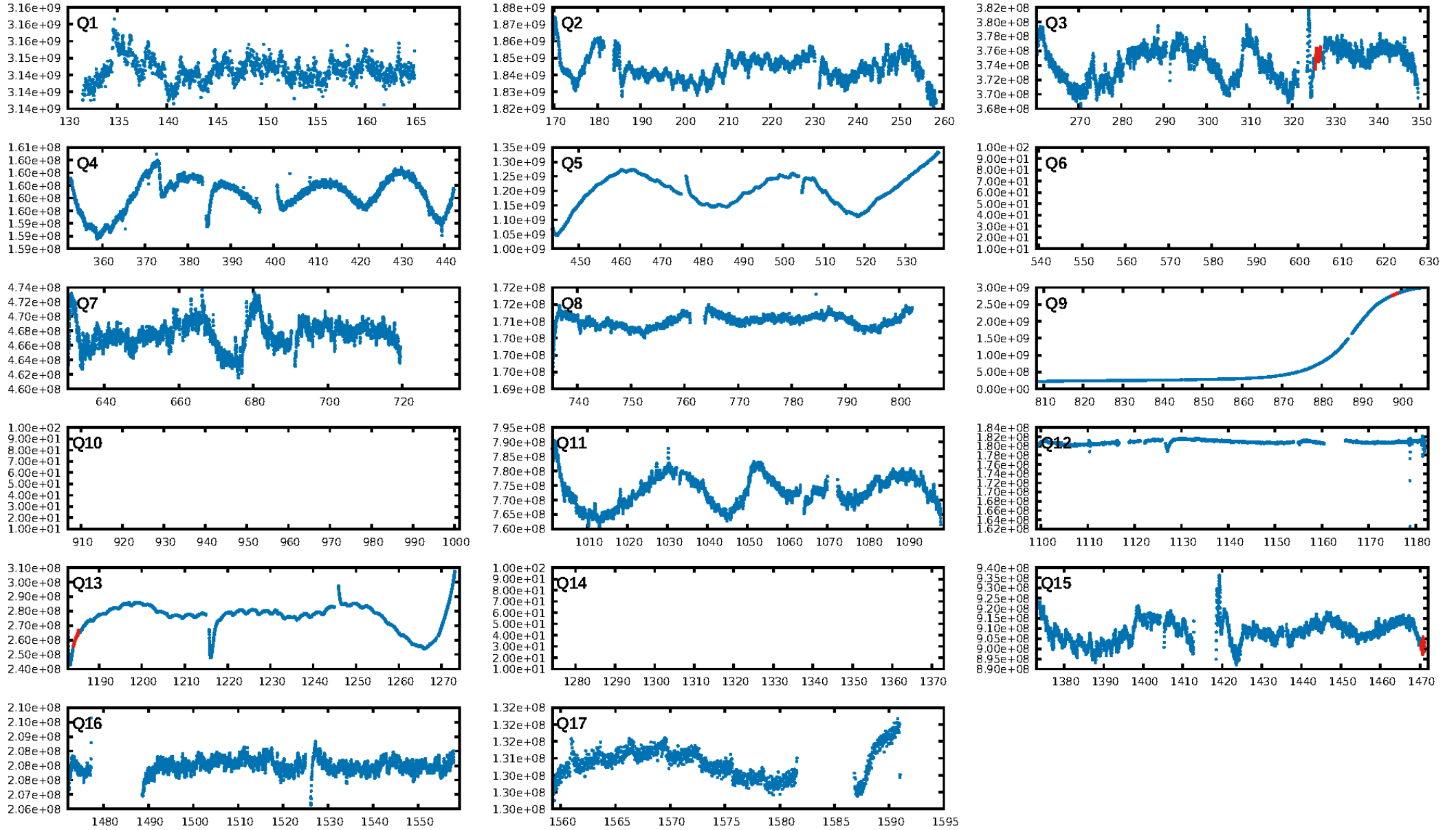
ShortPeriod-sig: 100.0% [30.06σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.157

Centroid-sig: 16.9%
Centroid-so: 0.569 arcsec [3.10σ]
OotOffset-rm: 10.066 arcsec [150.72σ]
KicOffset-rm: 10.554 arcsec [158.03σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

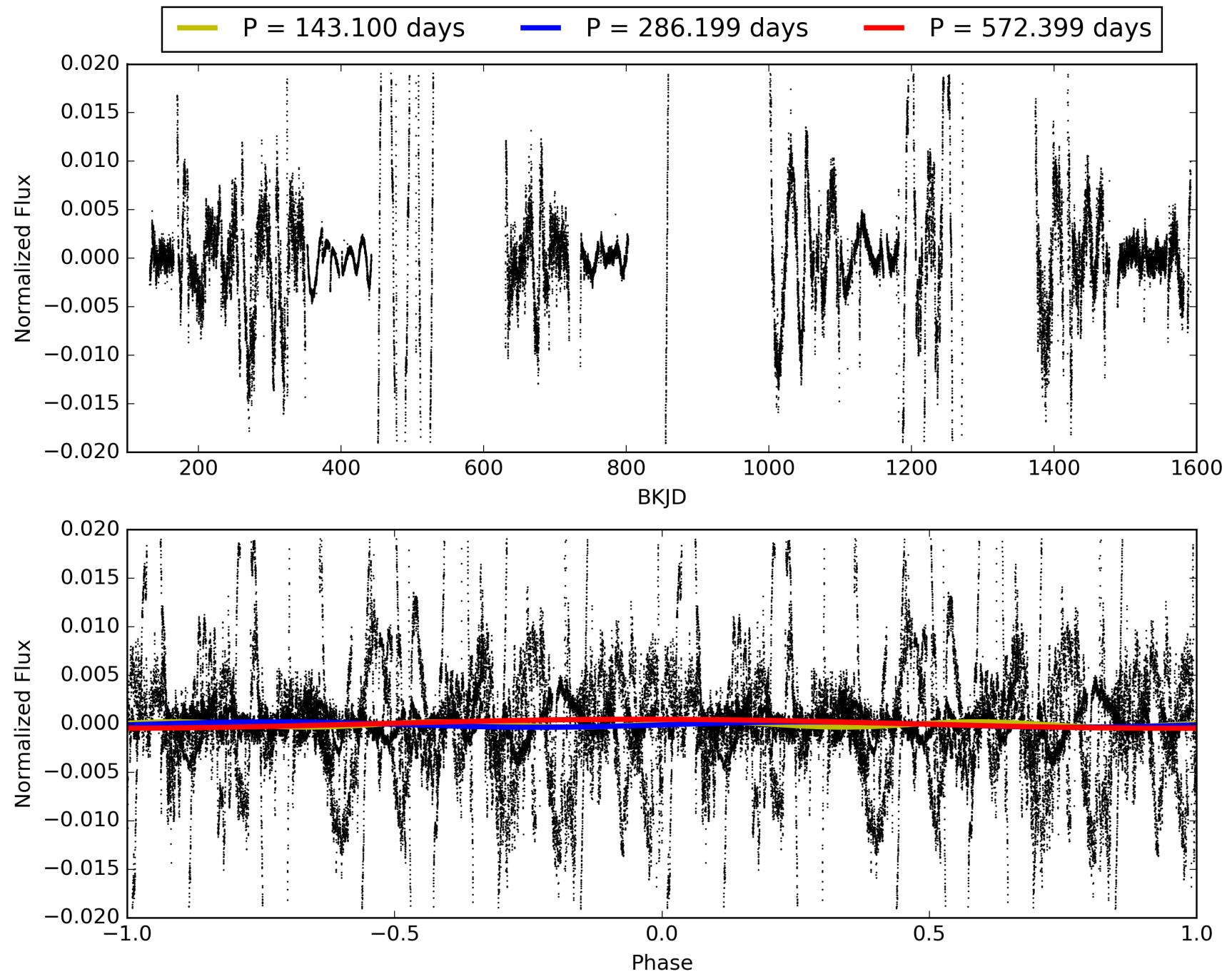
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:29:46 Z

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

TCE 003247777-04, PDC Light Curves

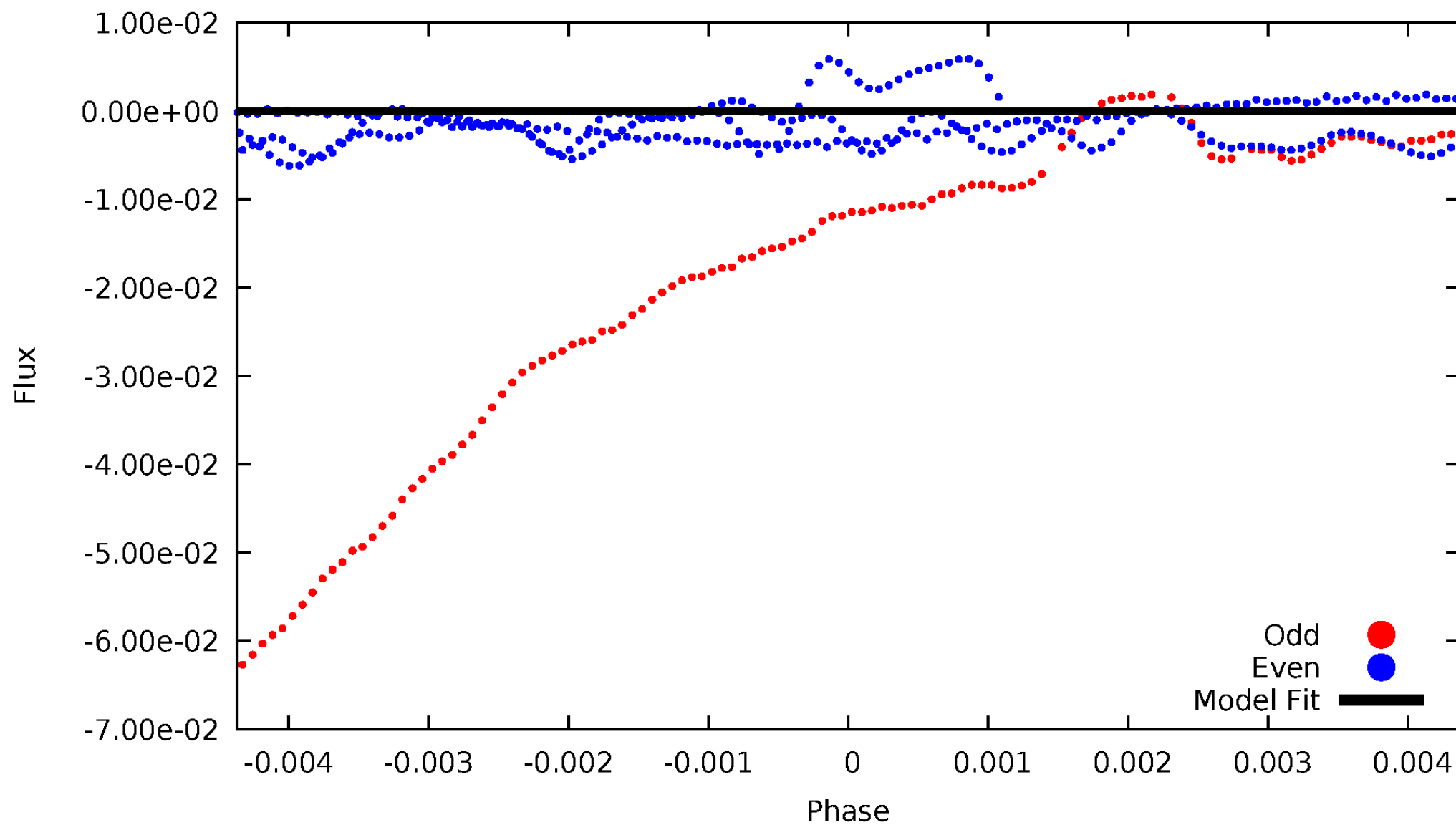


TCE 003247777-04



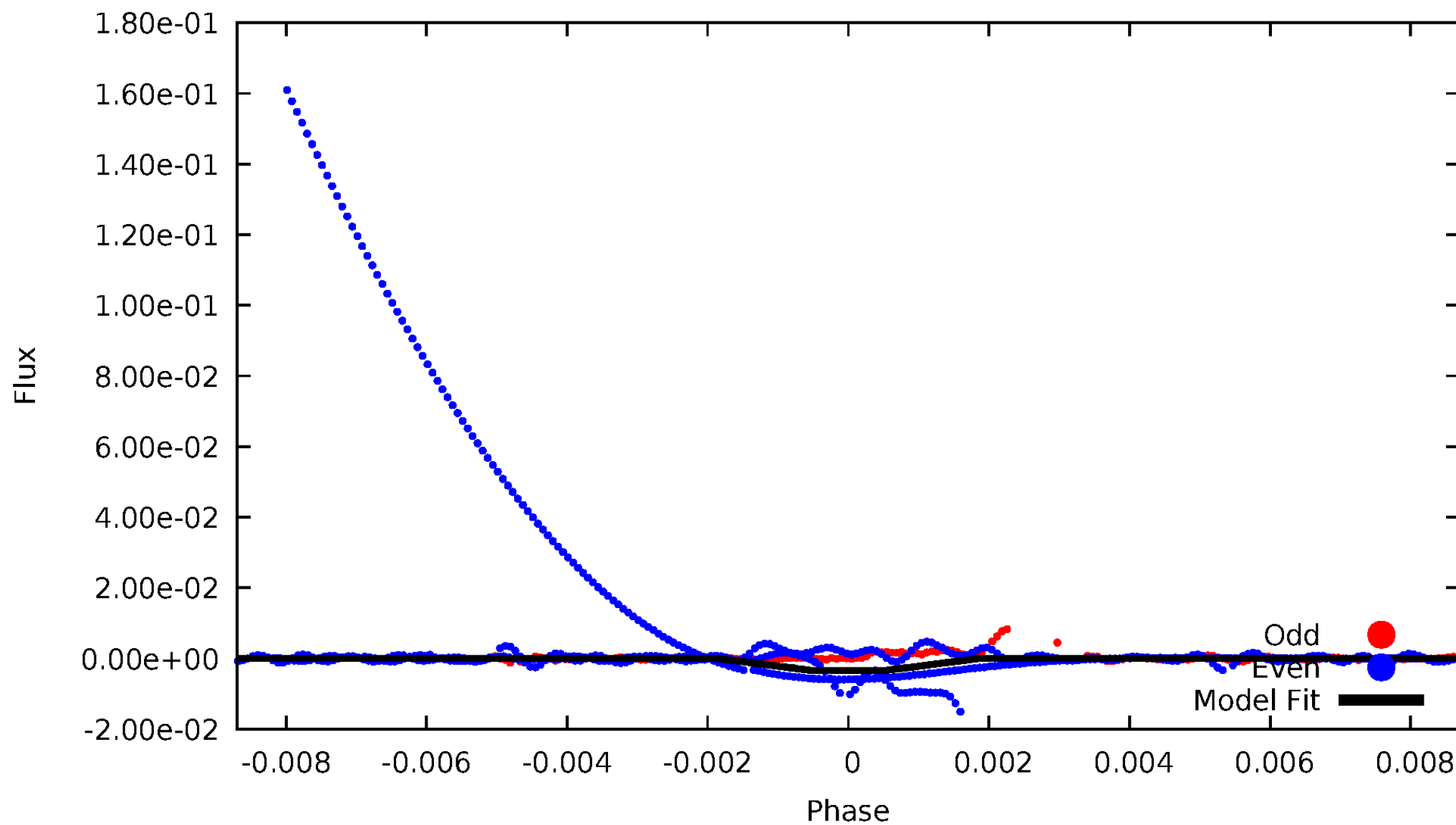
DV Odd/Even

TCE 003247777-04



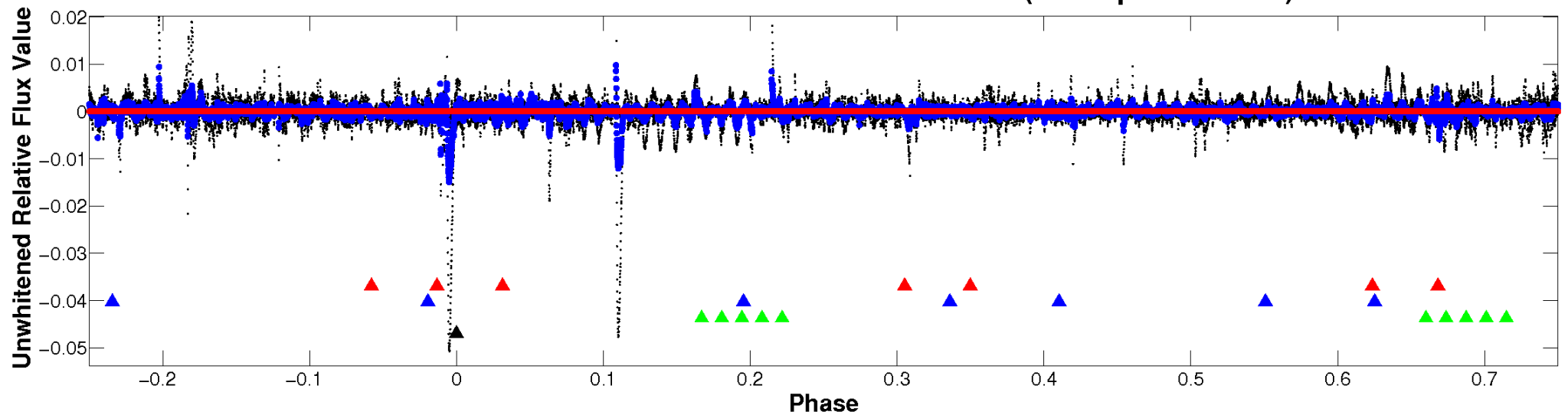
ALT Odd/Even

TCE 003247777-04



Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

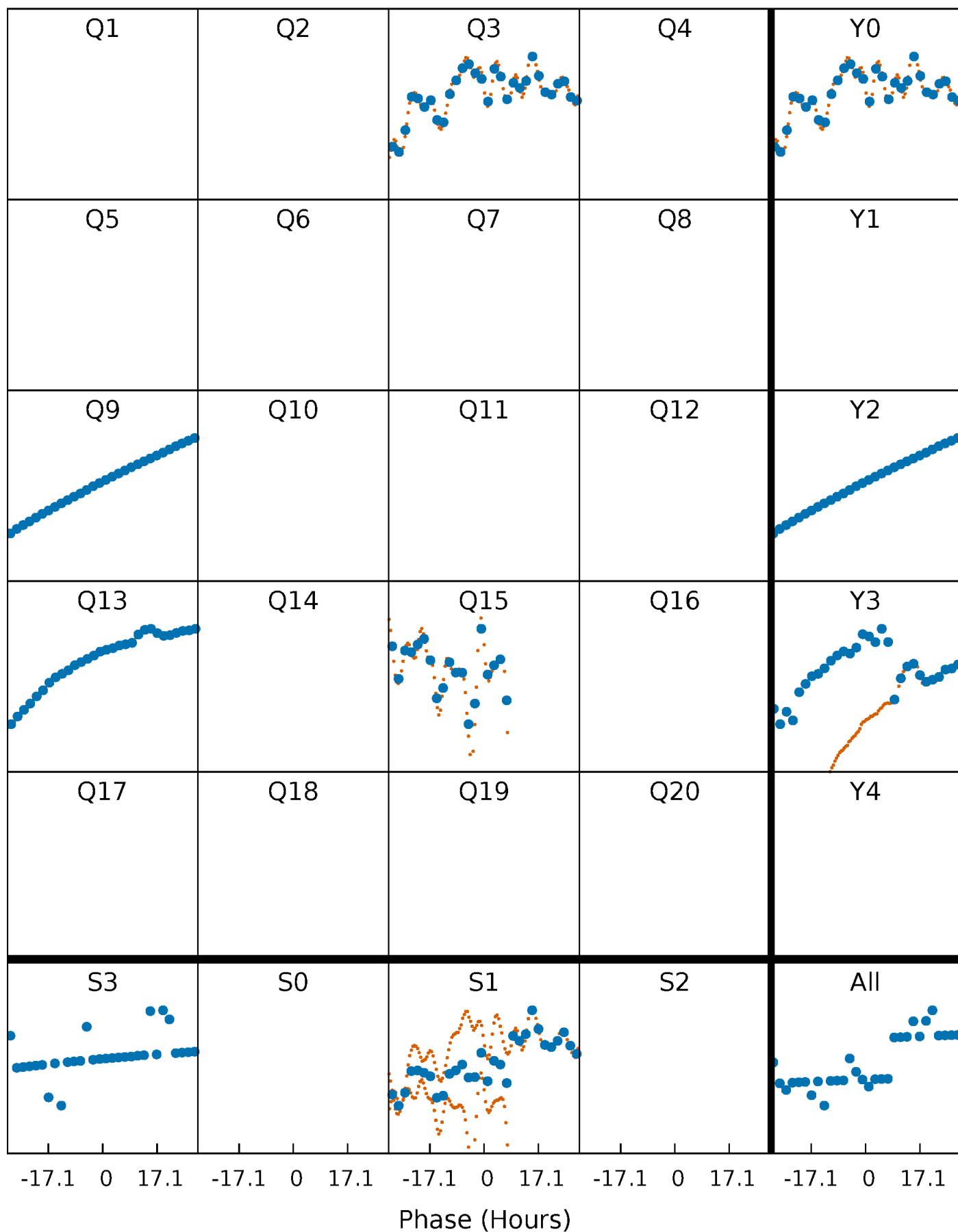


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



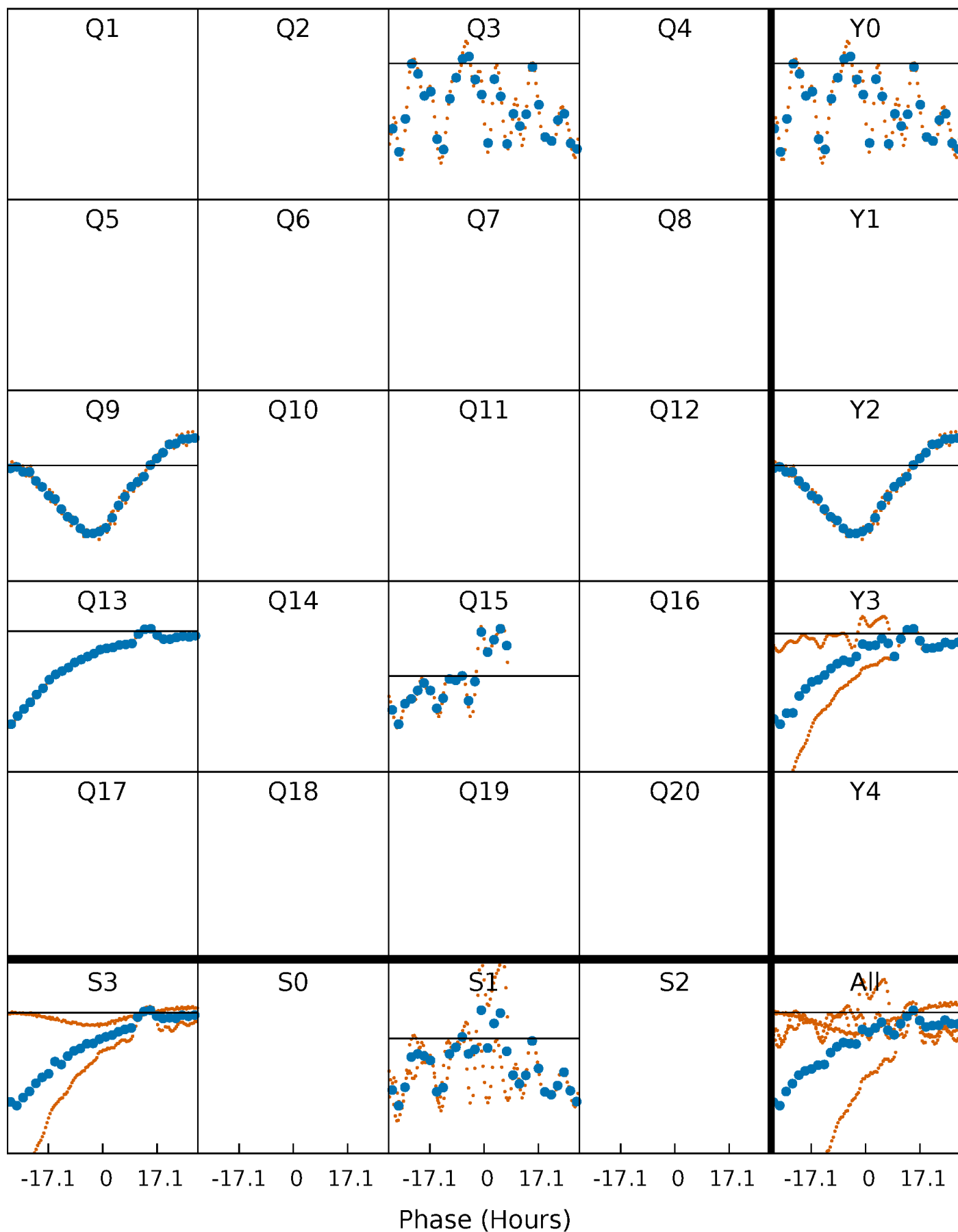
PDC Quarter-Phased Transit Curves

TCE 003247777-04 $P=286.199253$ Days $T_0=326.031674$ (BKJD)



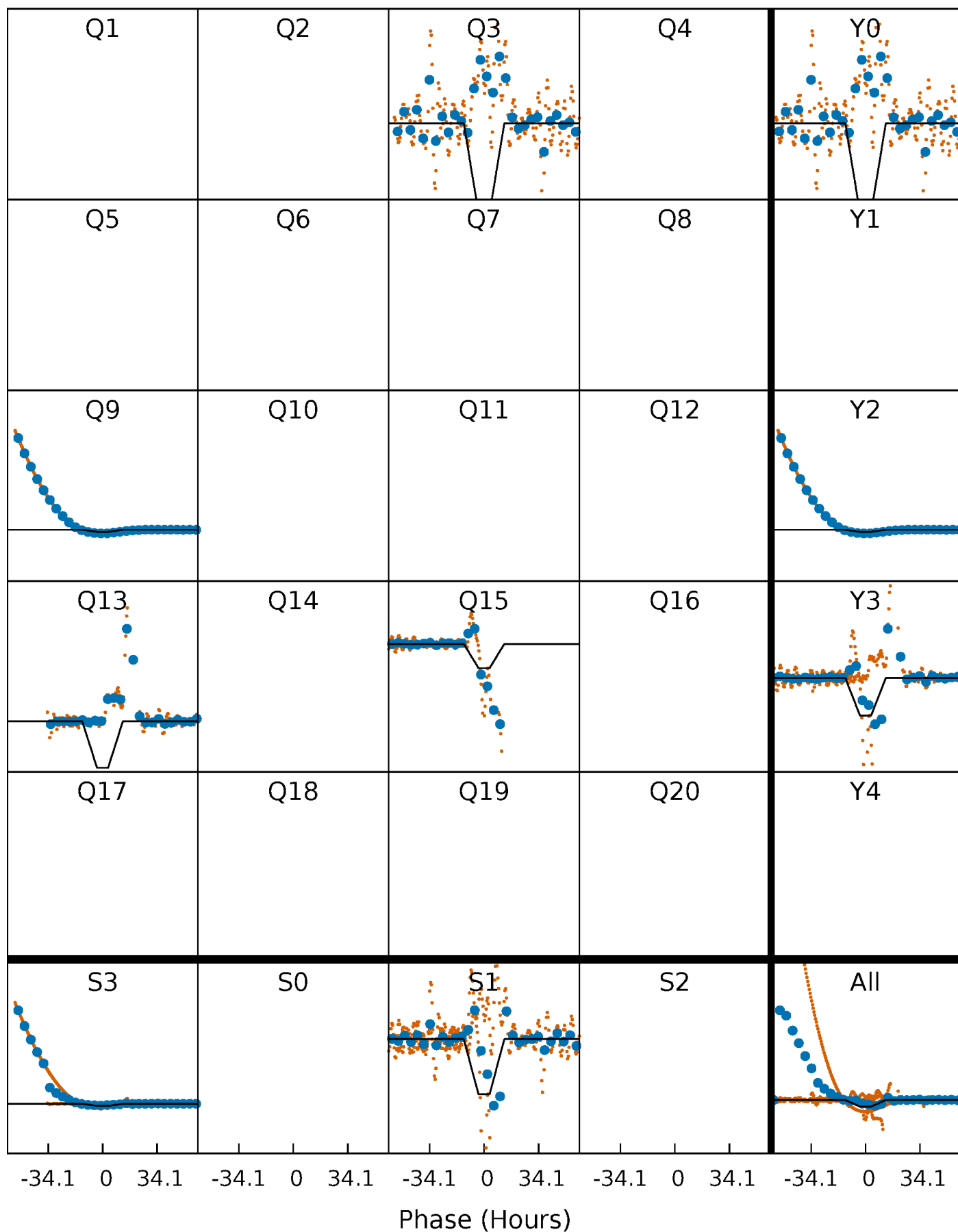
DV Quarter-Phased Transit Curves

TCE 003247777-04 $P=286.199253$ Days $T_0=326.031674$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

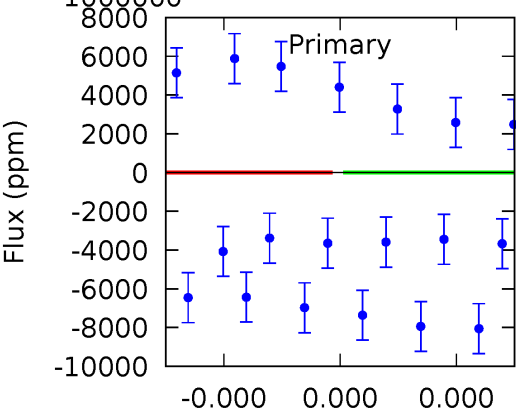
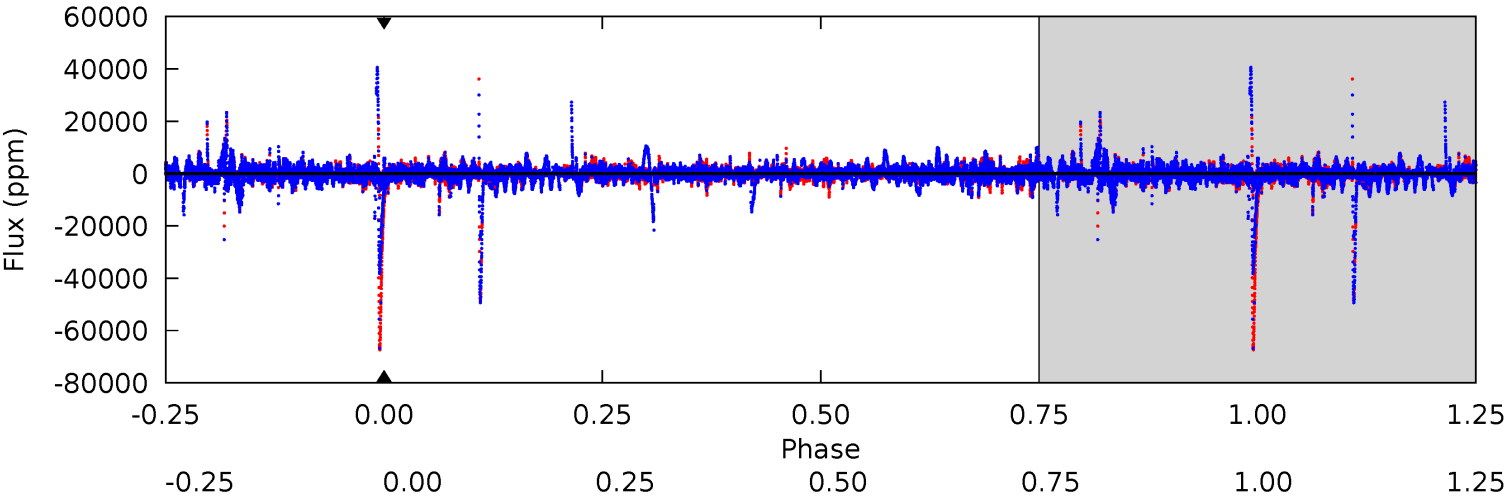
TCE 003247777-04 P=286.199253 Days $T_0=325.882877$ (BKJD)



DV Model-Shift Uniqueness Test

003247777-04, P = 286.199253 Days, E = 39.832421 Days

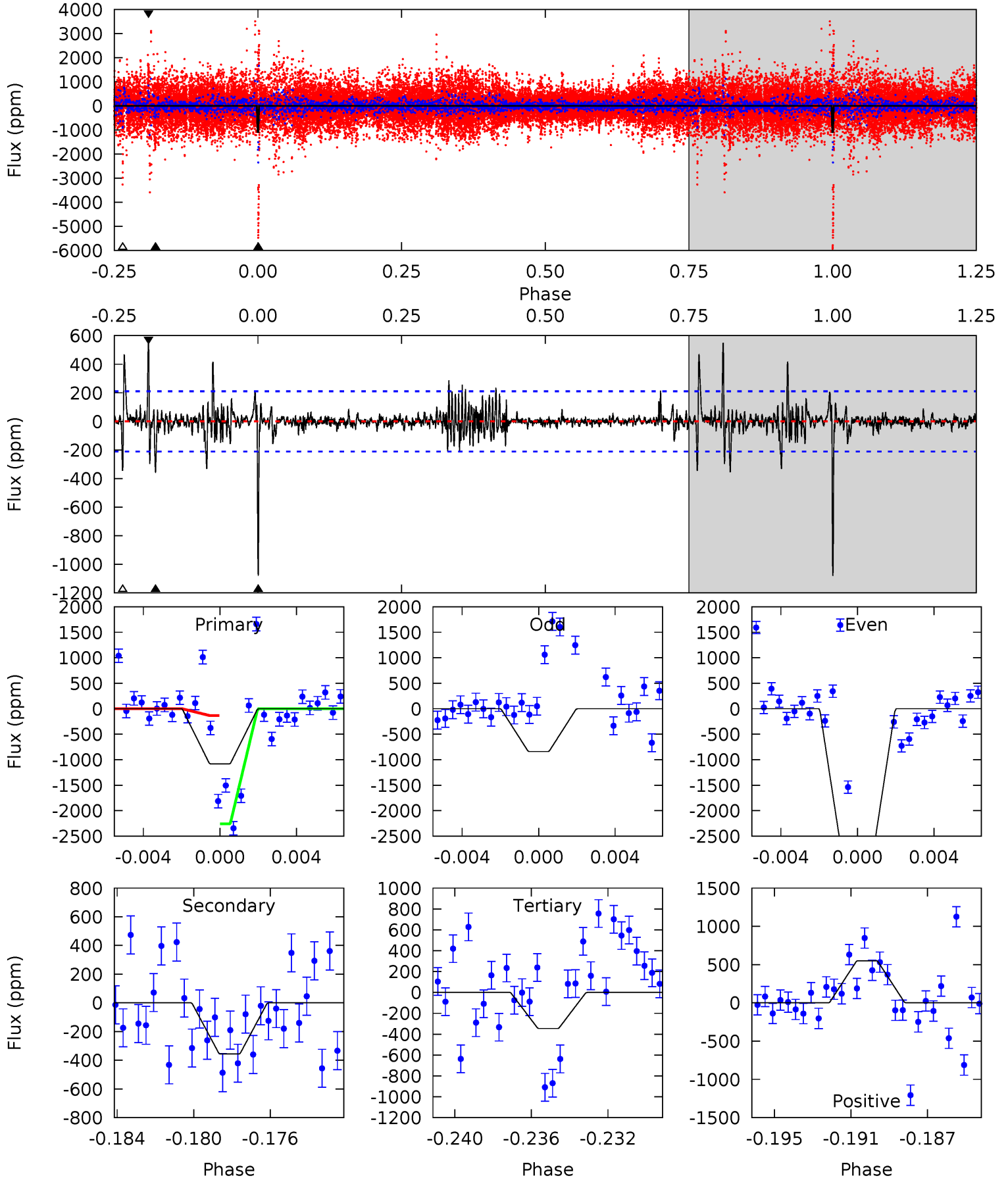
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003247777-04, P = 286.199253 Days, E = 39.683624 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	8.78	8.53	13.6	5.21	2.90	1.47	18.2	13.1	0.25	-4.79	26.8	0.95	0.34	26.5



Stellar Parameters For KIC 003247777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3286^{+117}_{-88}	$0.123^{+0.200}_{-0.050}$	$-0.080^{+0.250}_{-0.150}$	$153.058^{+9.192}_{-27.576}$	$1.134^{+0.191}_{-0.143}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+163%/-41%	+312%/-188%	+6%/-18%	+17%/-13%	+89%/-14%
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 003247777-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$1163.07^{+1186.98}_{-761.99}$	2618^{+111}_{-145}	-2911^{+8977}_{-3514}	$-0.517^{+46.448}_{-54.478}$
Alt.	-356 ± 40	$1517.15^{+1357.36}_{-977.67}$	2614^{+118}_{-132}	-2477^{+5007}_{-129}	$0.070^{+0.470}_{-0.051}$

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 $A_{obs} \gg 1.0$

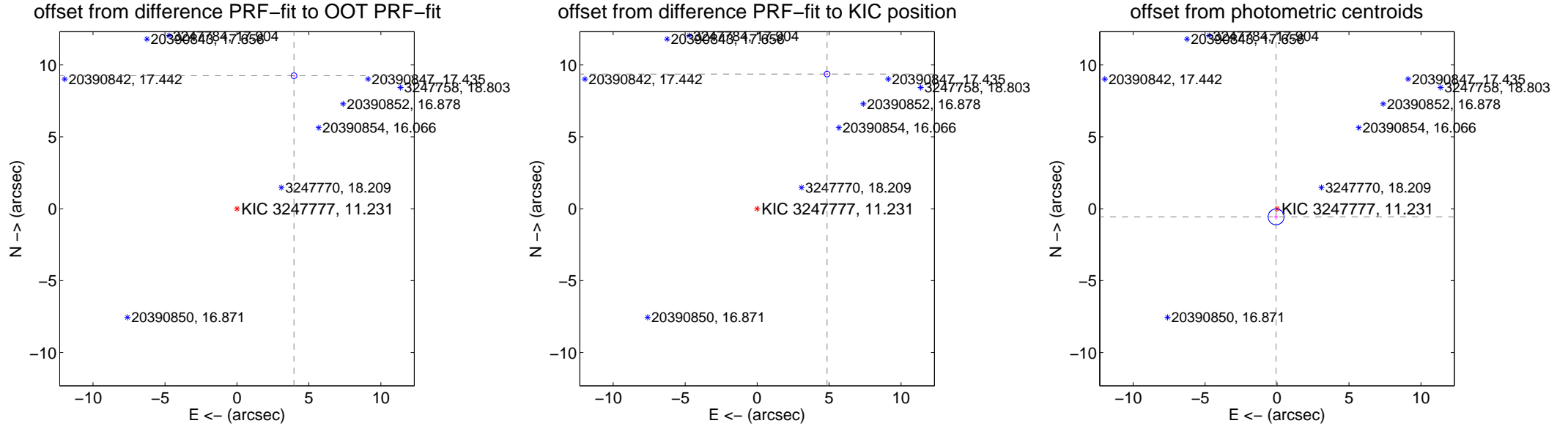
DV Centroid Data

Supplemental centroid analysis for 003247777-04. **Kepler magnitude: 11.23.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.90 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.066 \pm 0.067	150.72	-3.964 \pm 0.067	9.253 \pm 0.067
PRF-fit source offset from KIC position	10.554 \pm 0.067	158.03	-4.861 \pm 0.067	9.368 \pm 0.067
photometric centroid source offset	0.57 \pm 0.18	3.10	0.07 \pm 0.13	-0.57 \pm 0.18



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.

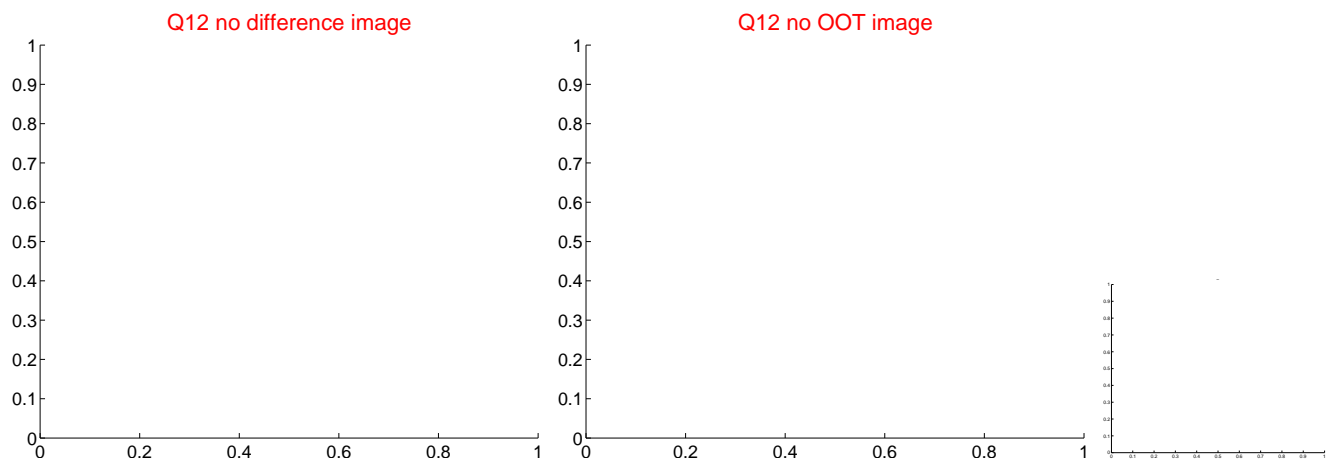
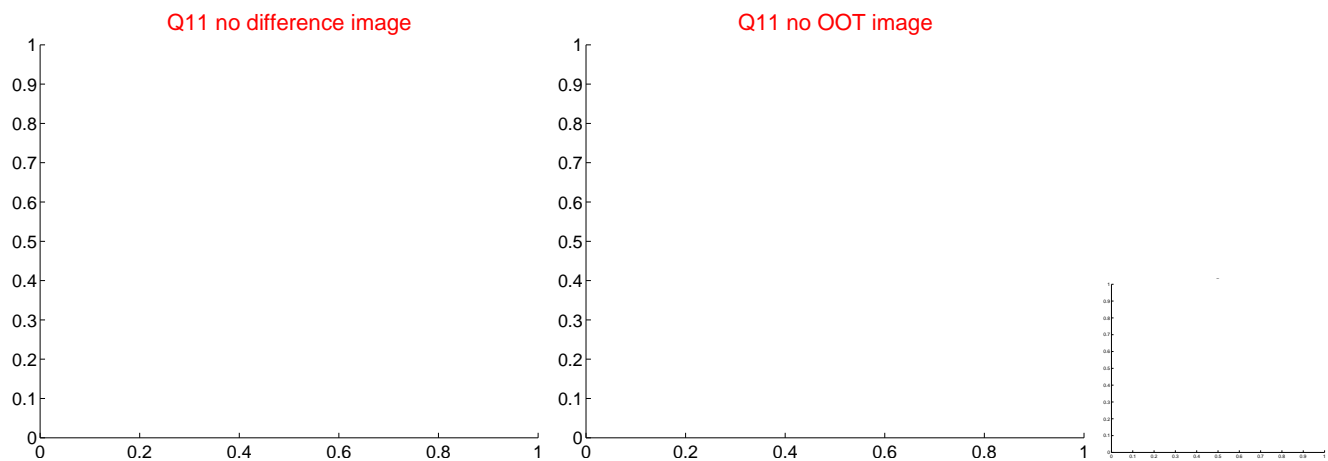
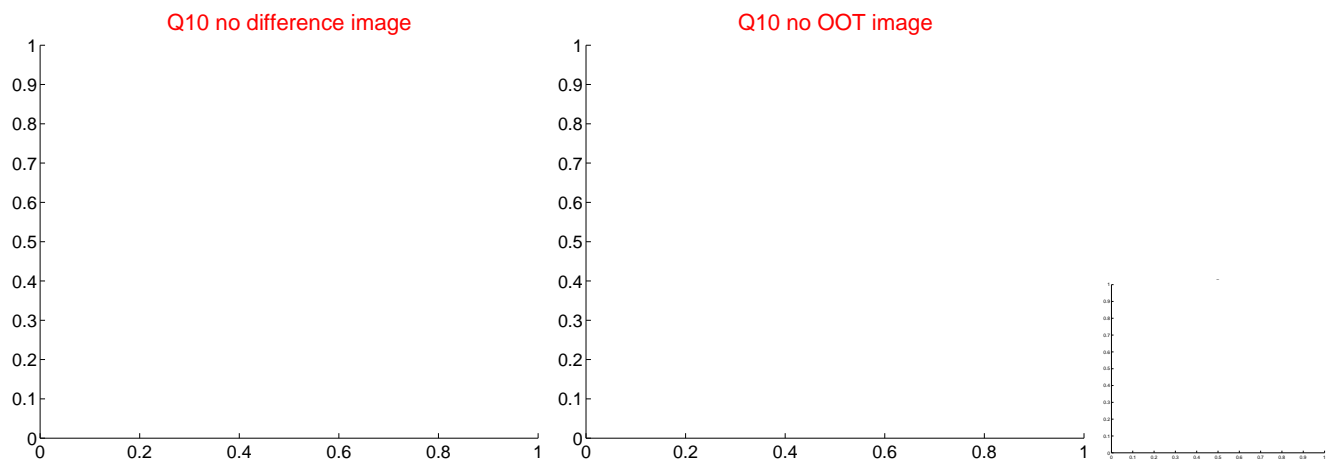
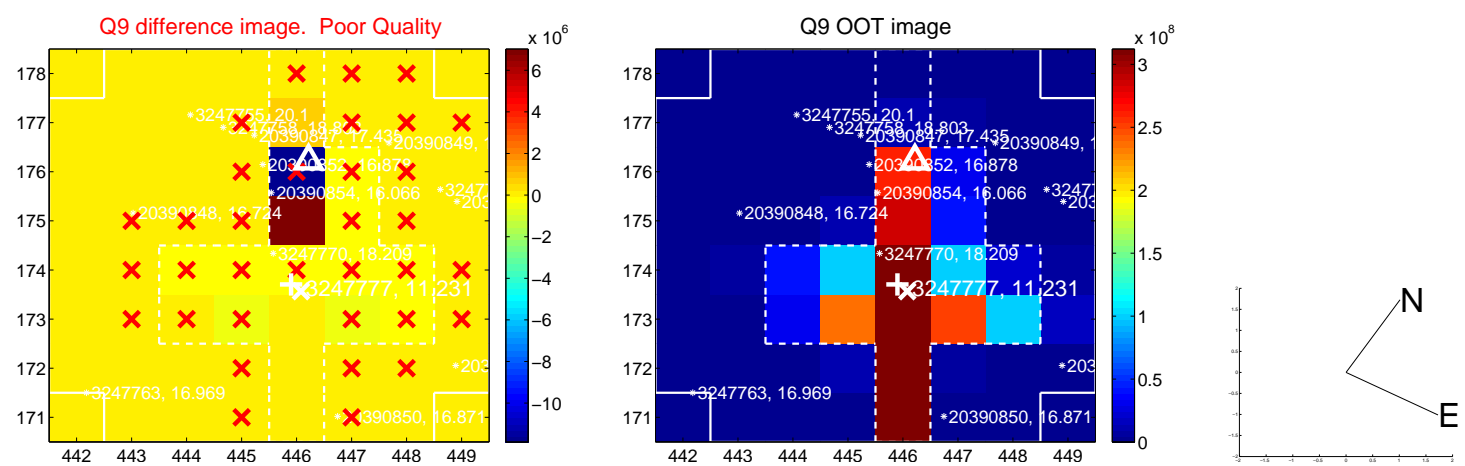
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



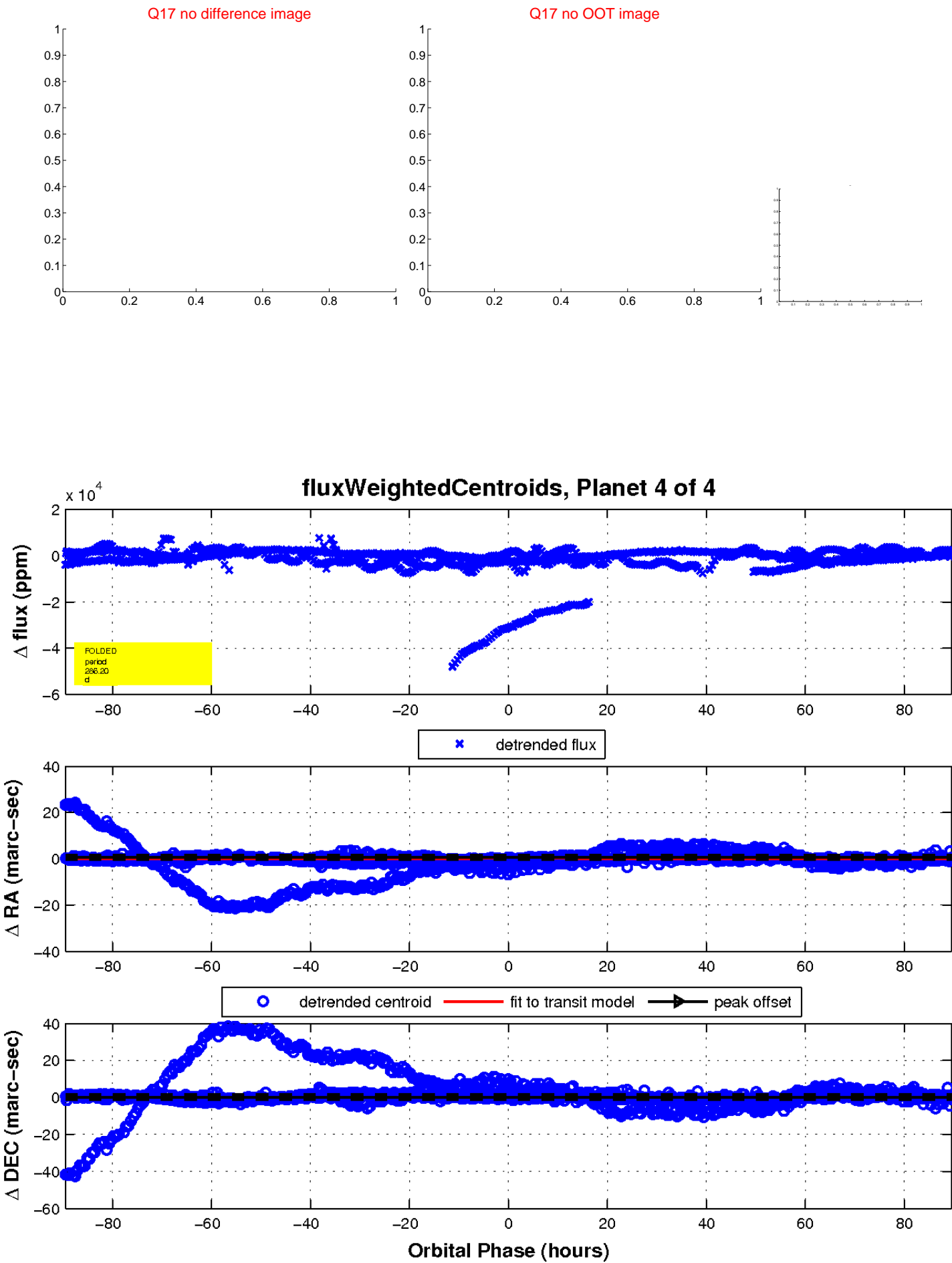
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

