

KIC 003100479

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})
003100479-01	OBS	No	593.400689	263.160634	2175.0	11.888	11.3	6.7	0.75	5385	3.45	0.28
003100479-02	OBS	No	622.777535	199.541742	1247.0	3.442	9.4	6.2	0.75	5385	2.62	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003100479-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003100479-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

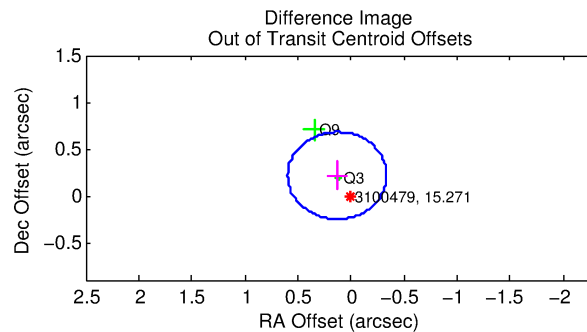
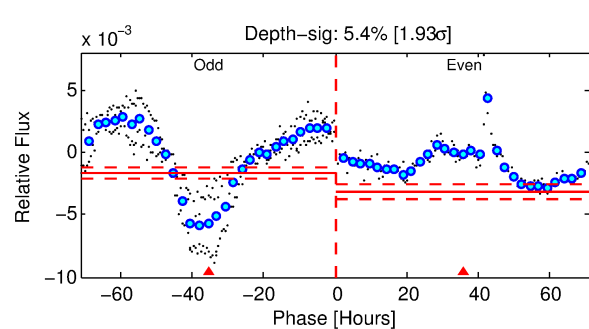
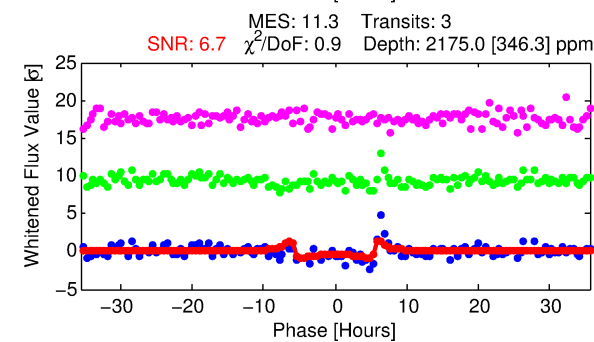
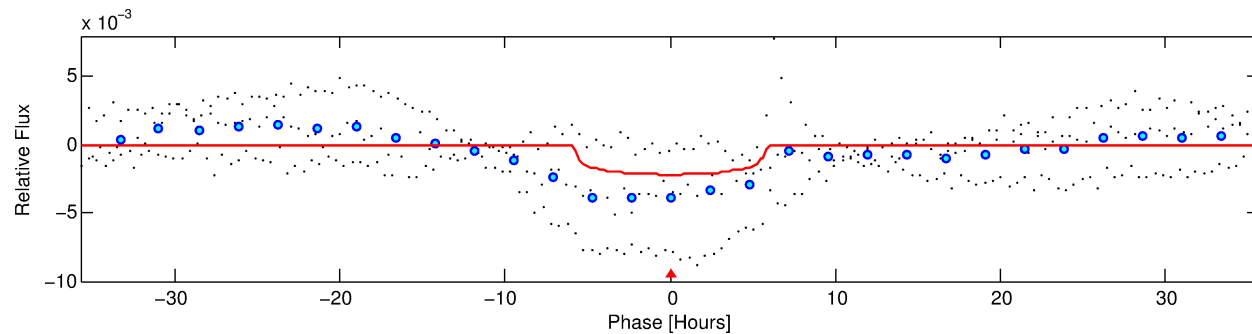
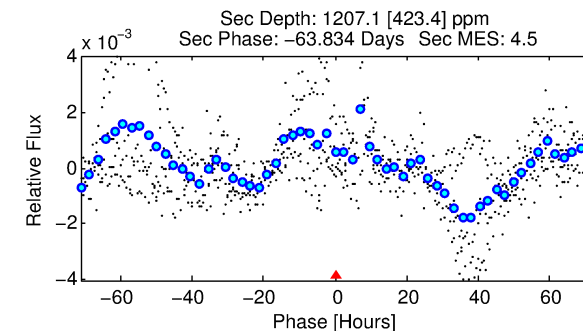
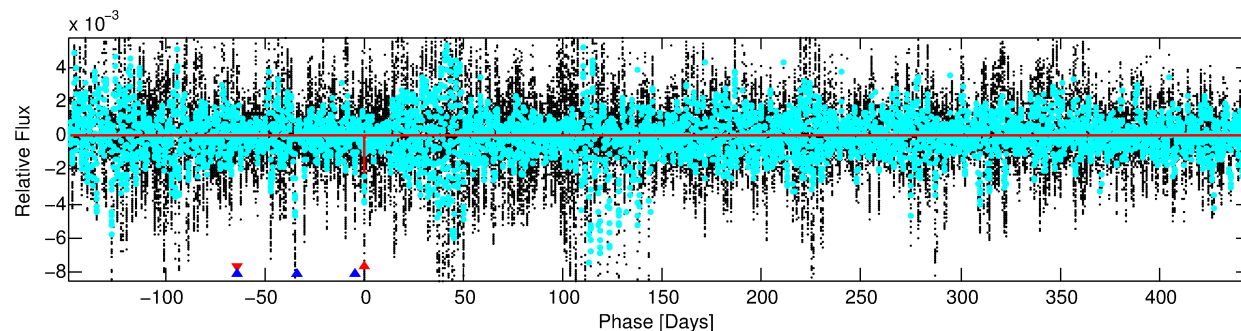
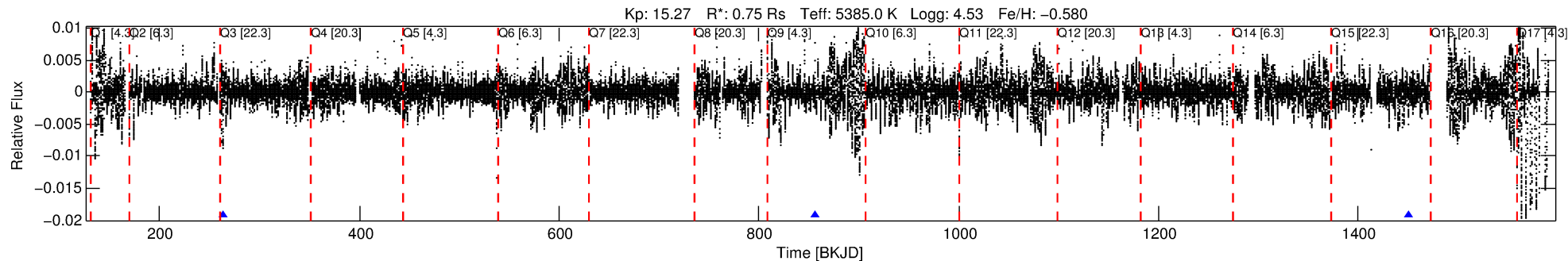
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003100479-01

No Significant Match Found

DV One-Page Summary

KIC: 3100479 Candidate: 1 of 2 Period: 593.401 d



DV Fit Results:

Period = 593.40069 [0.00517] d
Epoch = 263.1606 [0.0066] BKJD
Rp/R* = 0.0422 [0.0125]
a/R* = 397.36 [447.92]
b = 0.01 [77.55]
Seff = 0.28 [0.07]
Teq = 186 [11] K
Rp = 3.45 [1.13] Re
a = 1.2264 [0.1512] AU
Ag = 83849.07 [59960.43] [1.40σ]
Teffp = 4888 [861] K [5.46σ]

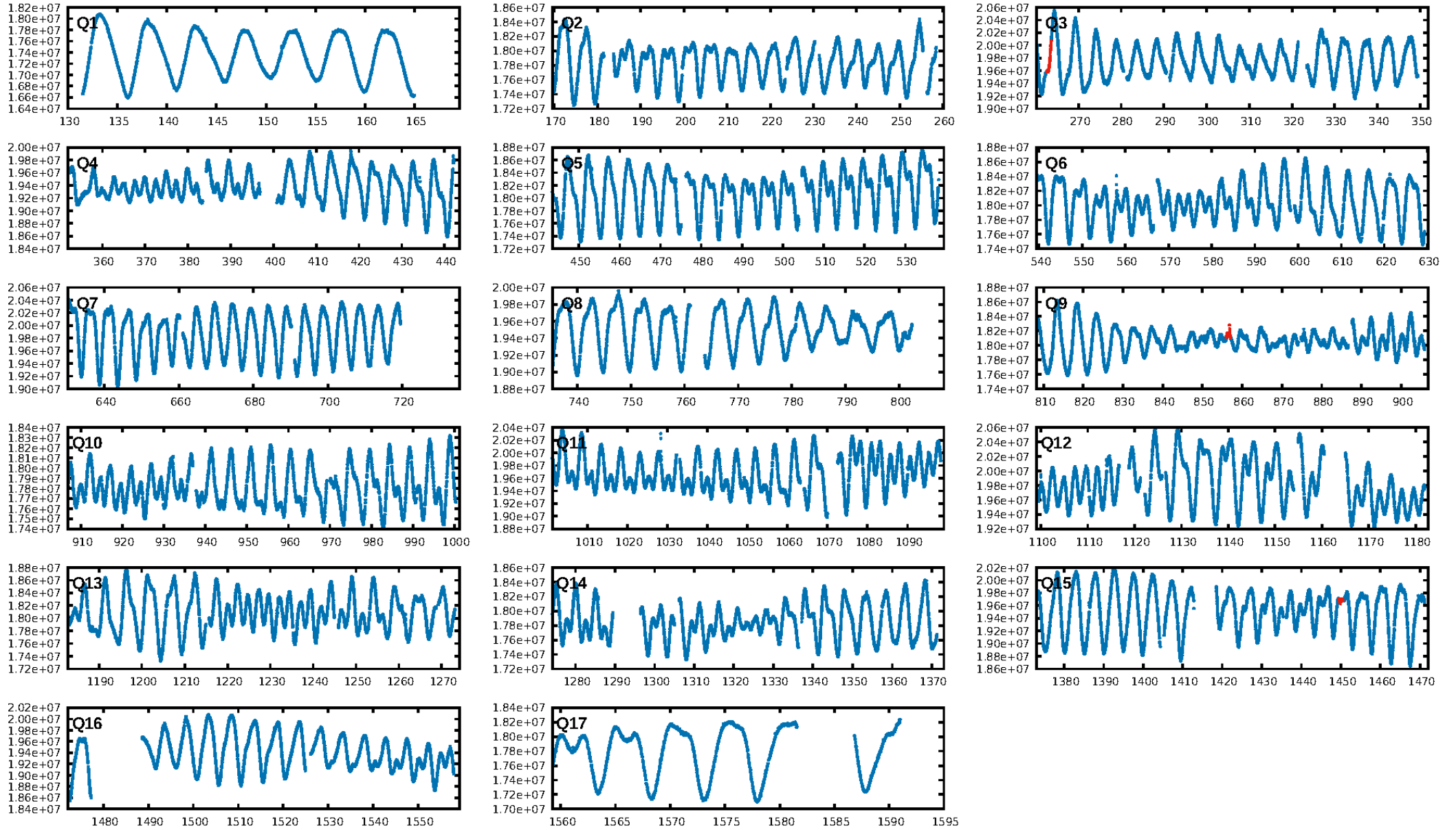
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [56.97σ]
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 97.1%
Bootstrap-pfa: 4.50e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.331
Centroid-sig: 6.5%
Centroid-so: 0.134 arcsec [0.16σ]
OotOffset-rm: 0.251 arcsec [1.61σ]
KicOffset-rm: 0.223 arcsec [1.01σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

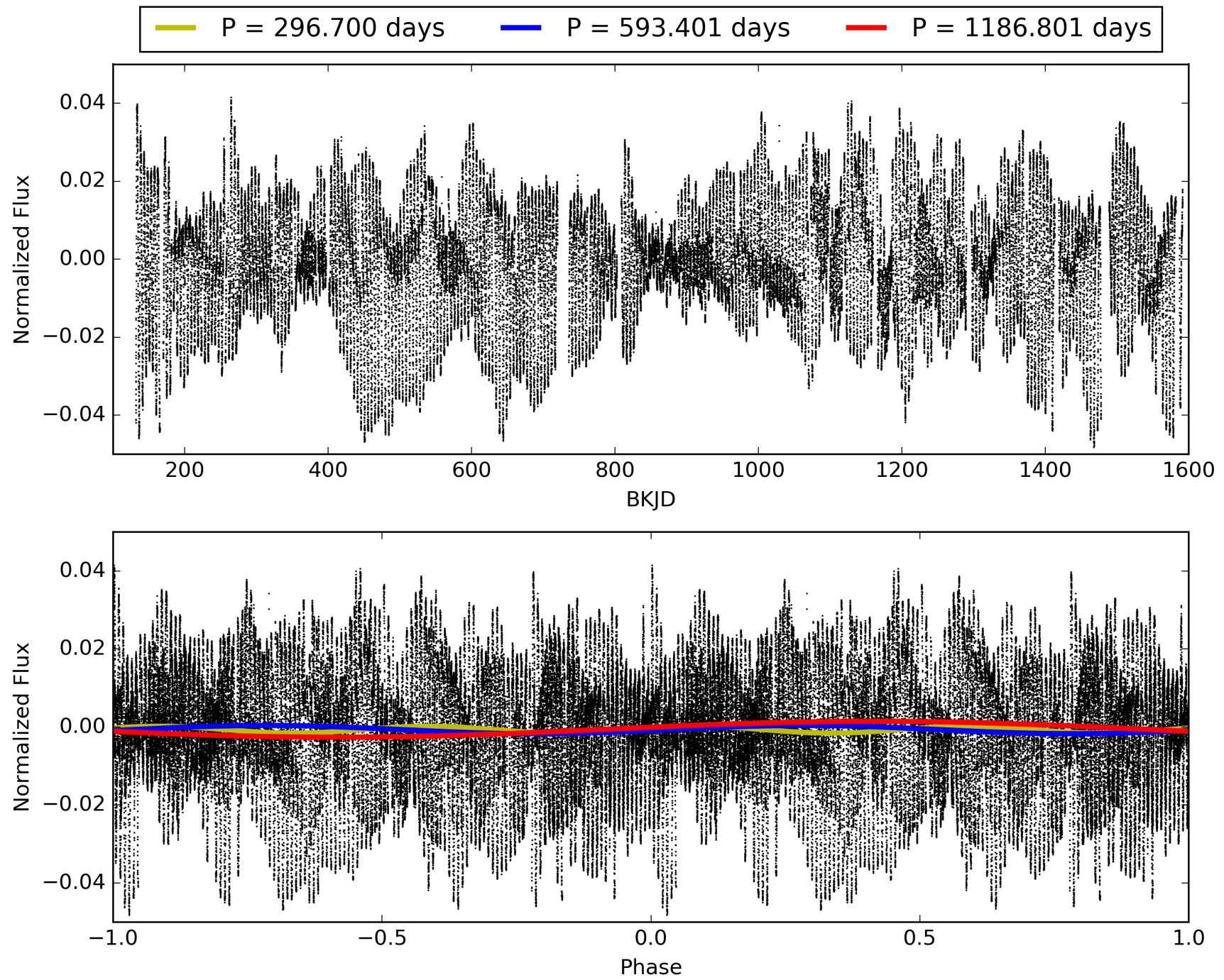
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:30:56 Z

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

TCE 003100479-01, PDC Light Curves

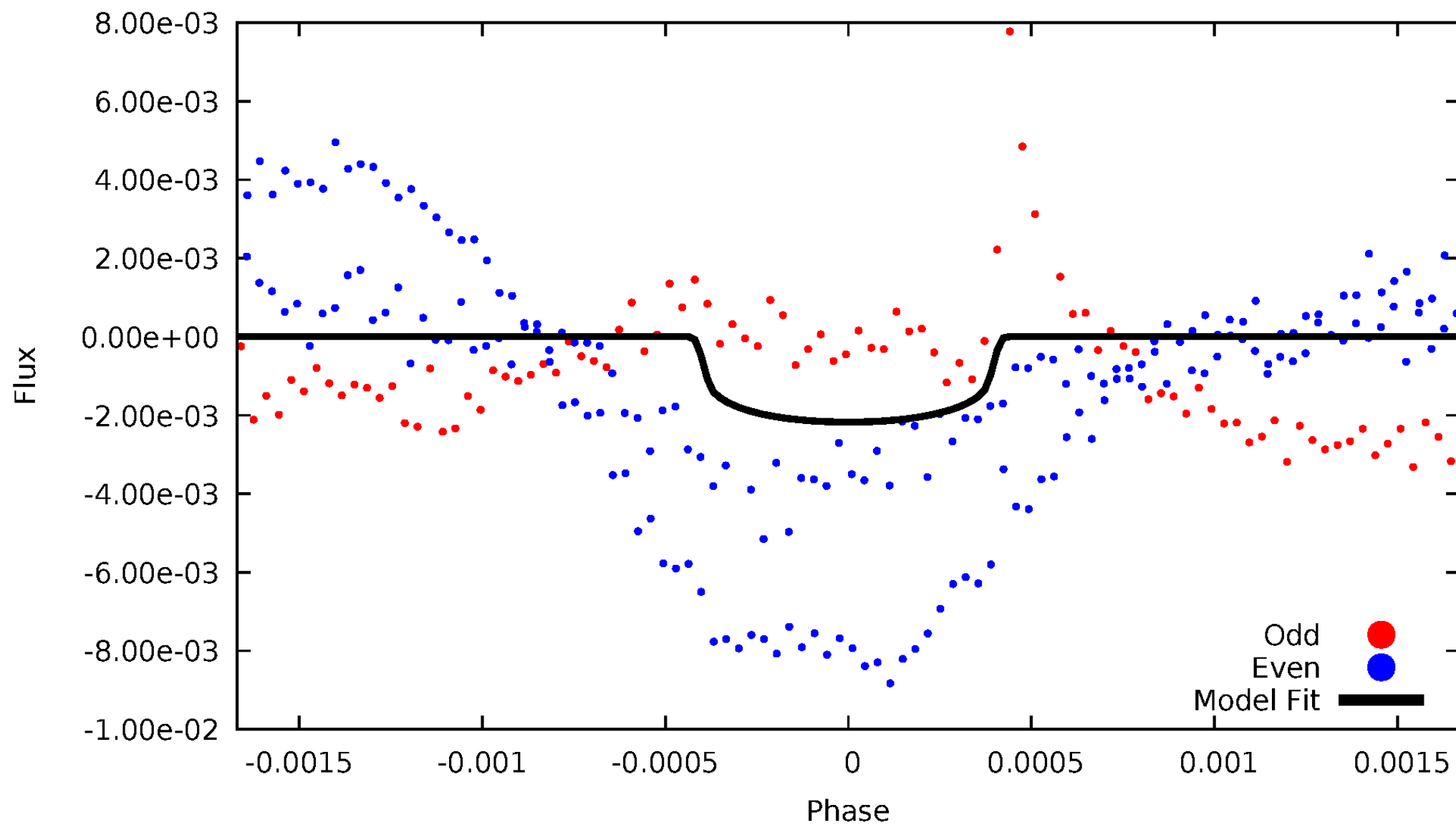


TCE 003100479-01



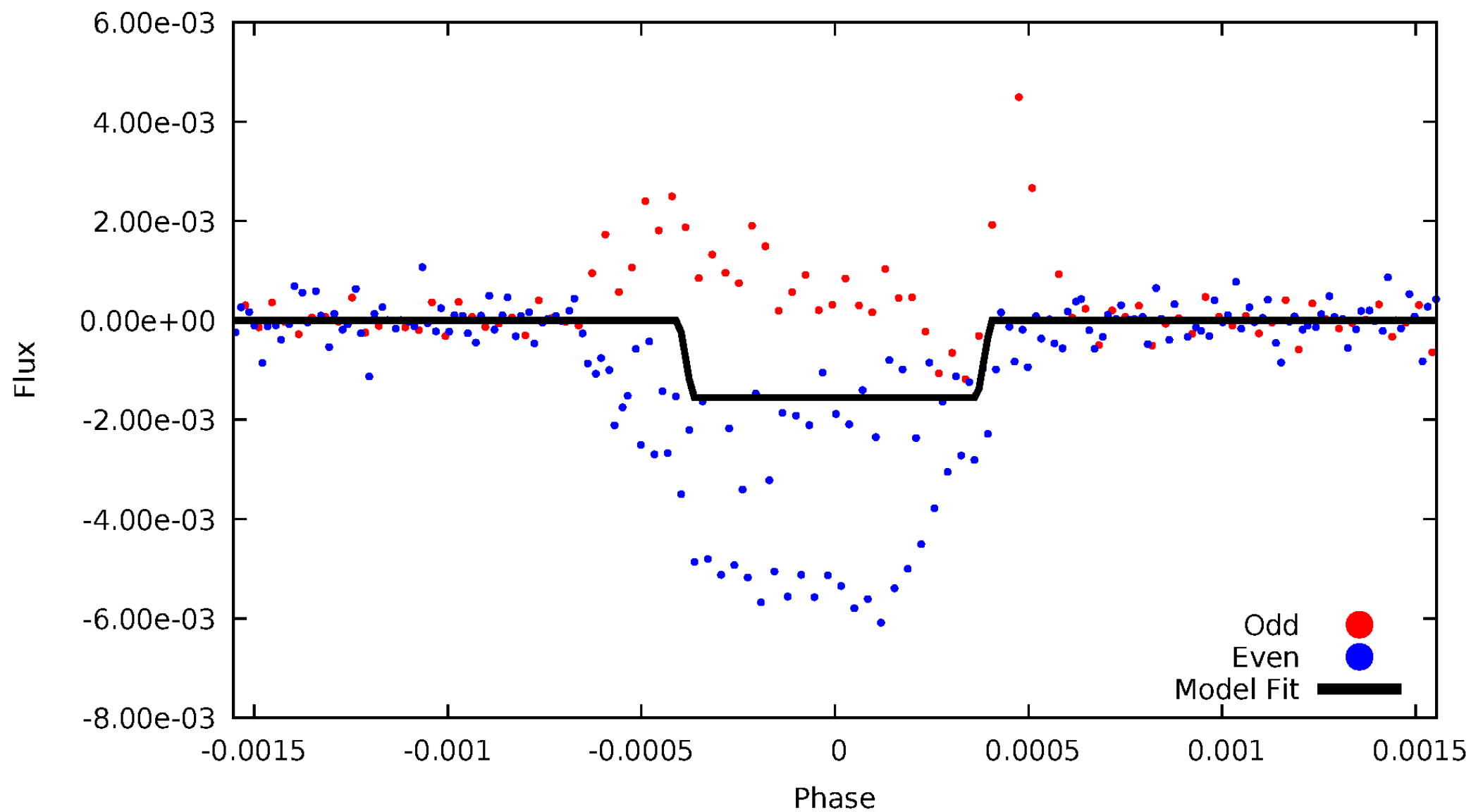
DV Odd/Even

TCE 003100479-01



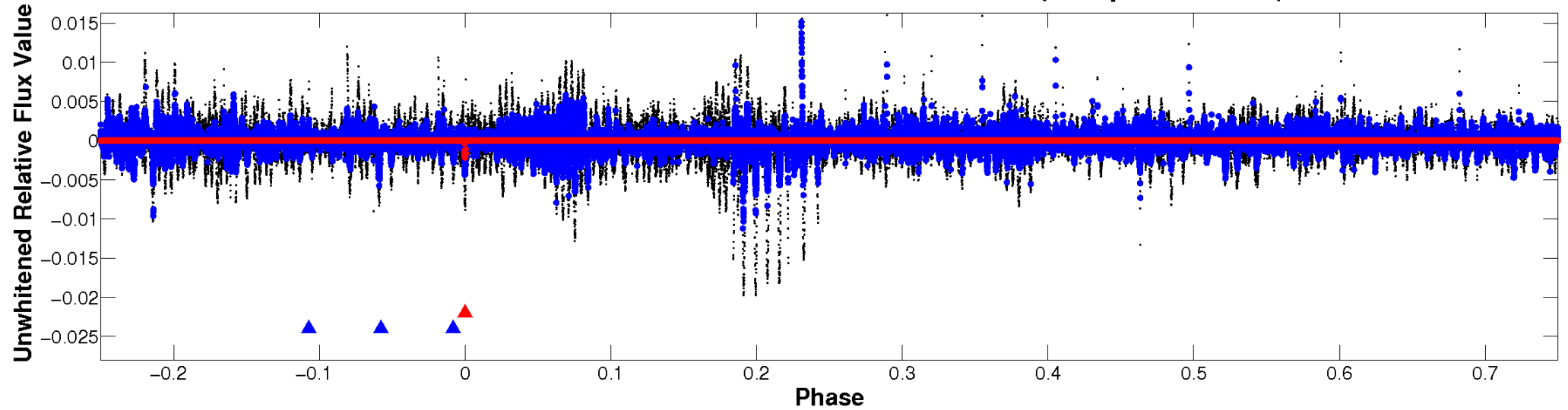
ALT Odd/Even

TCE 003100479-01

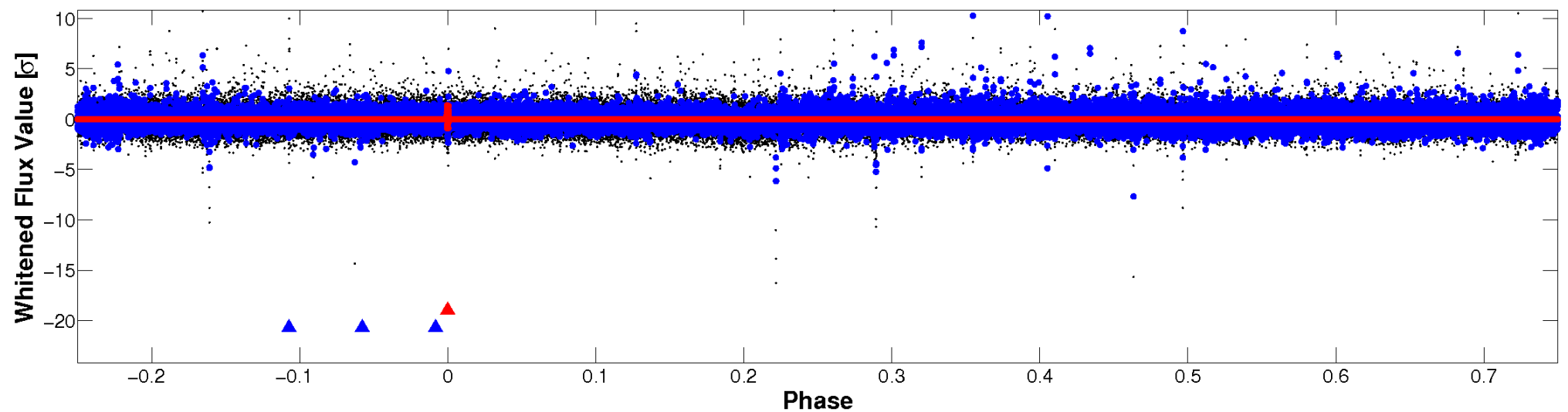


Non-Whitened Vs. Whitened Light Curve

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

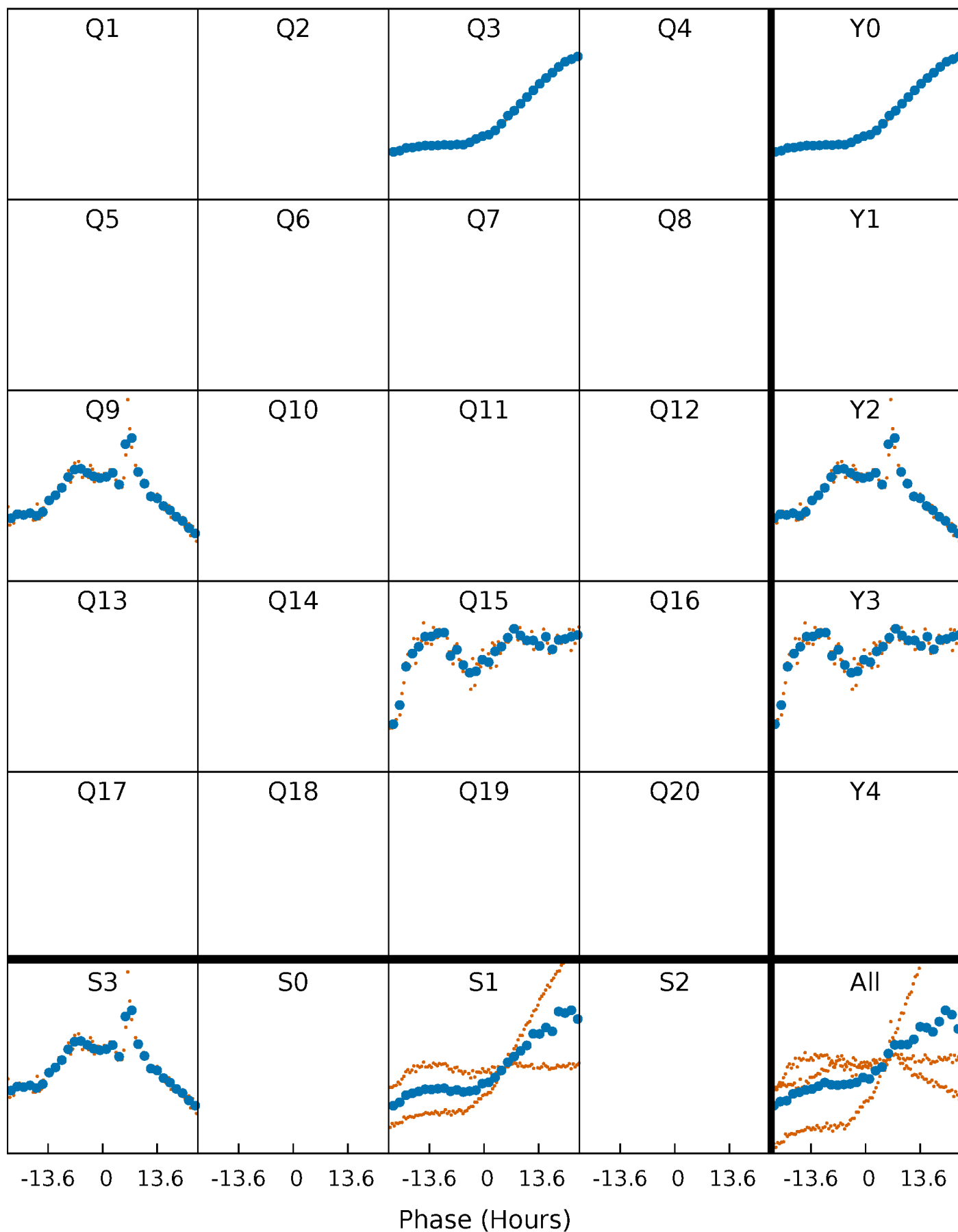


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



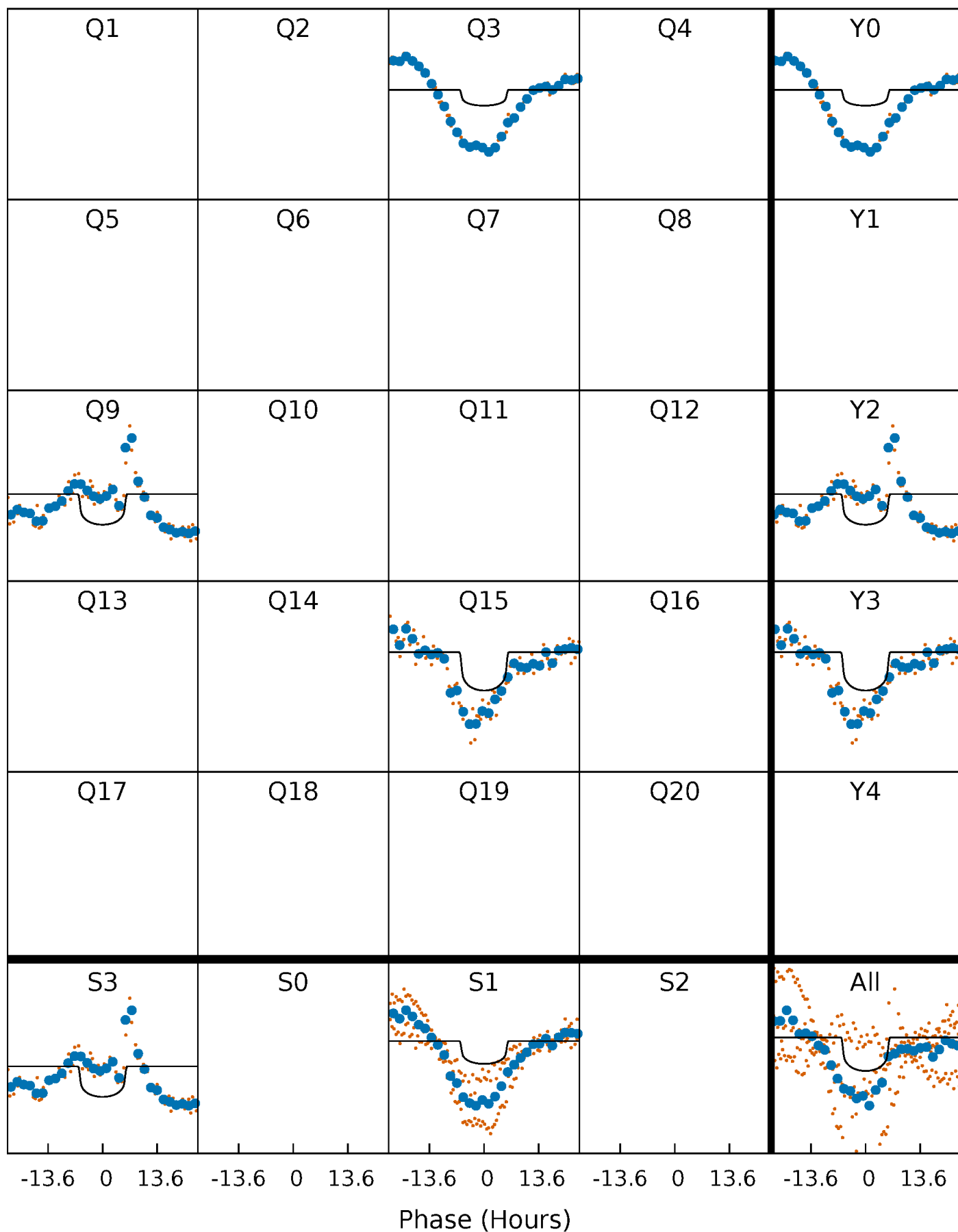
PDC Quarter-Phased Transit Curves

TCE 003100479-01 P=593.400689 Days $T_0=263.160634$ (BKJD)



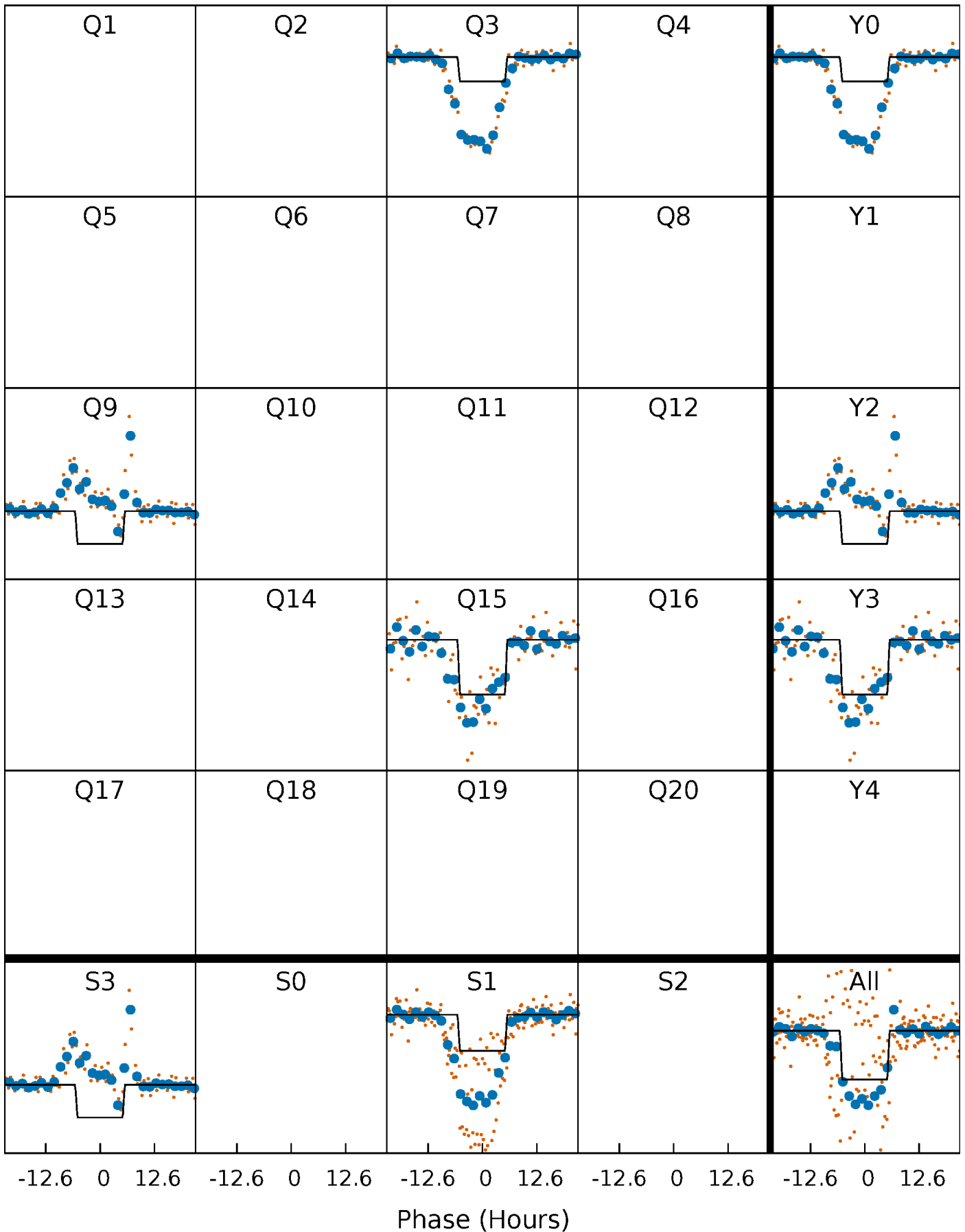
DV Quarter-Phased Transit Curves

TCE 003100479-01 P=593.400689 Days $T_0=263.160634$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

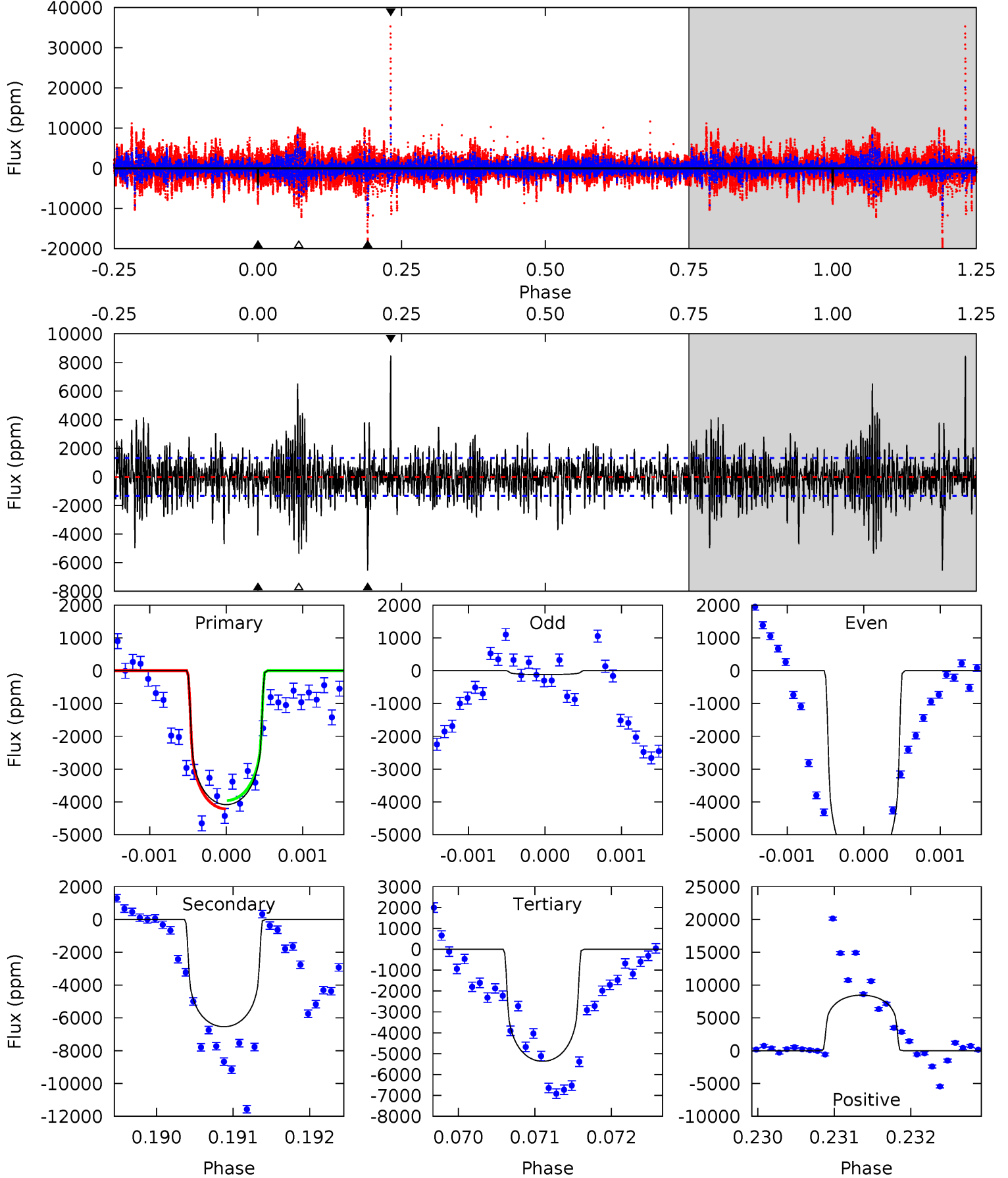
TCE 003100479-01 P=593.404205 Days $T_0=263.157541$ (BKJD)



DV Model-Shift Uniqueness Test

003100479-01, P = 593.400689 Days, E = 263.160634 Days

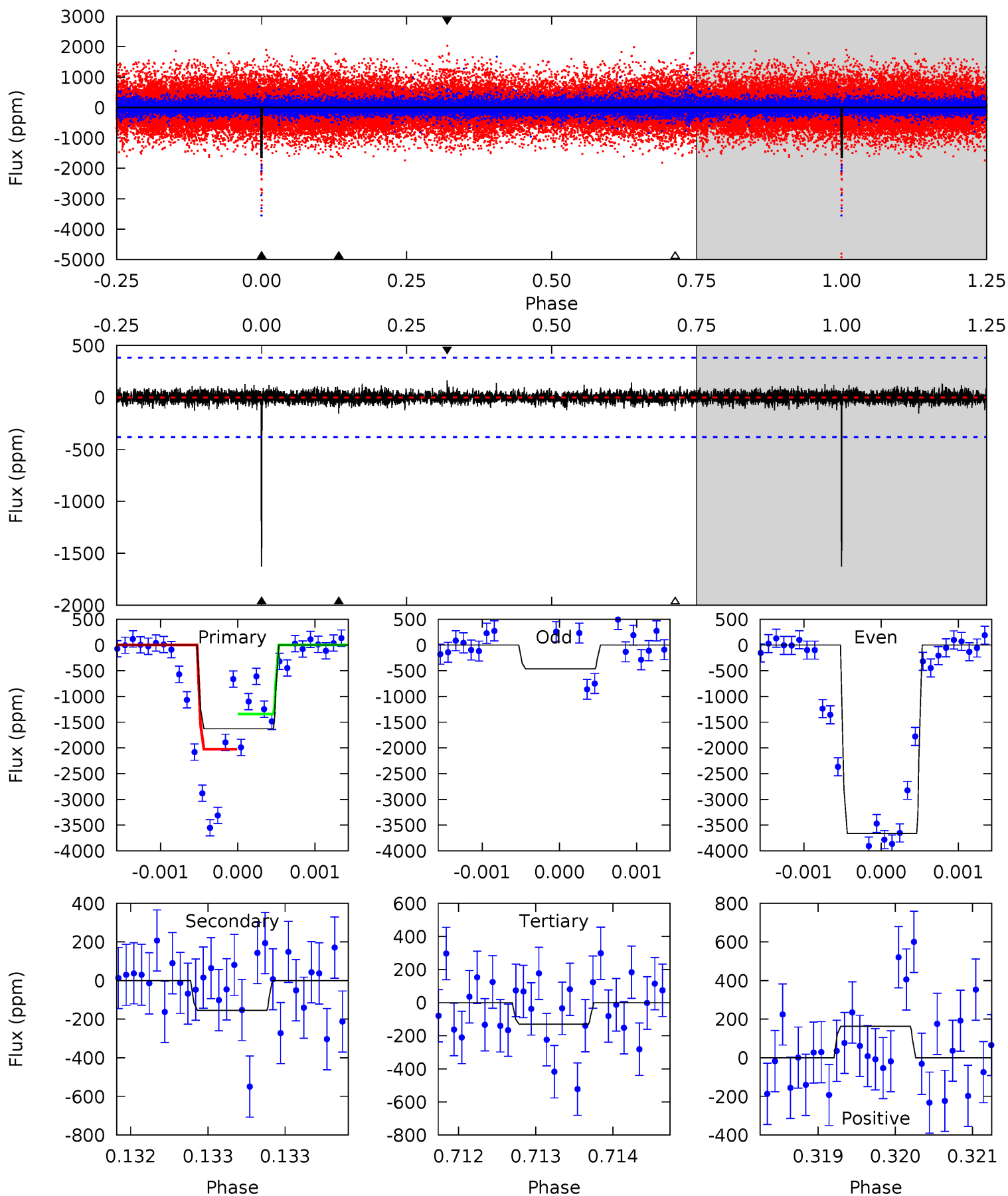
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	27.1	22.3	35.1	5.48	3.34	5.02	-5.33	-18.2	4.87	-7.98	10.8	1.13	0.56	0.53



Alt Model-Shift Uniqueness Test

003100479-01, P = 593.404205 Days, E = 263.157541 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	2.21	1.87	2.35	5.50	3.36	0.44	21.6	21.1	0.35	-0.13	28.5	1.15	0.09	4.59



Stellar Parameters For KIC 003100479

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5385^{+187}_{-187}	$4.532^{+0.105}_{-0.086}$	$-0.580^{+0.350}_{-0.300}$	$0.750^{+0.105}_{-0.086}$	$0.698^{+0.100}_{-0.043}$	$2.331^{+1.066}_{-0.616}$
	+3%/-3%	+2%/-2%	+60%/-52%	+14%/-11%	+14%/-6%	+46%/-26%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003100479-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6540 ± 241	$3.44^{+0.98}_{-1.05}$	259^{+13}_{-13}	7578^{+1953}_{-993}	$474321^{+491655}_{-192098}$
Alt.	-154 ± 69	$3.21^{+1.02}_{-1.03}$	258^{+13}_{-13}	3456^{+606}_{-384}	12182^{+17929}_{-6656}

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 $A_{obs} \gg 1.0$

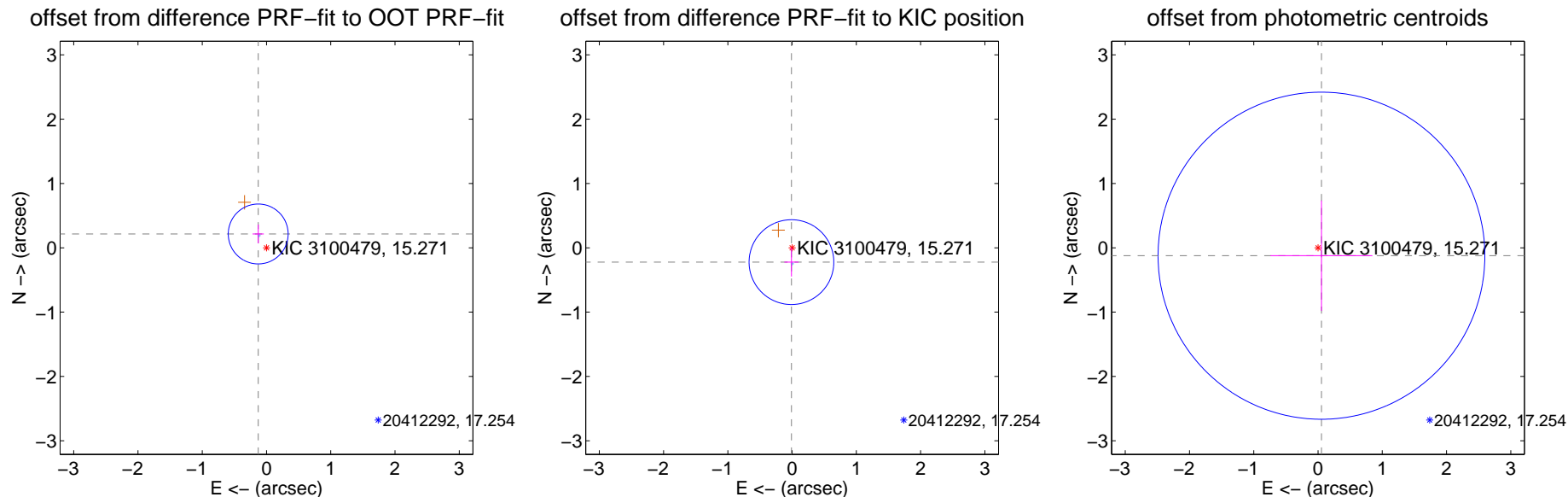
DV Centroid Data

Supplemental centroid analysis for 003100479-01. Kepler magnitude: 15.27. Transit SNR 6.71

There are 1 quarters with good PRF difference image offsets

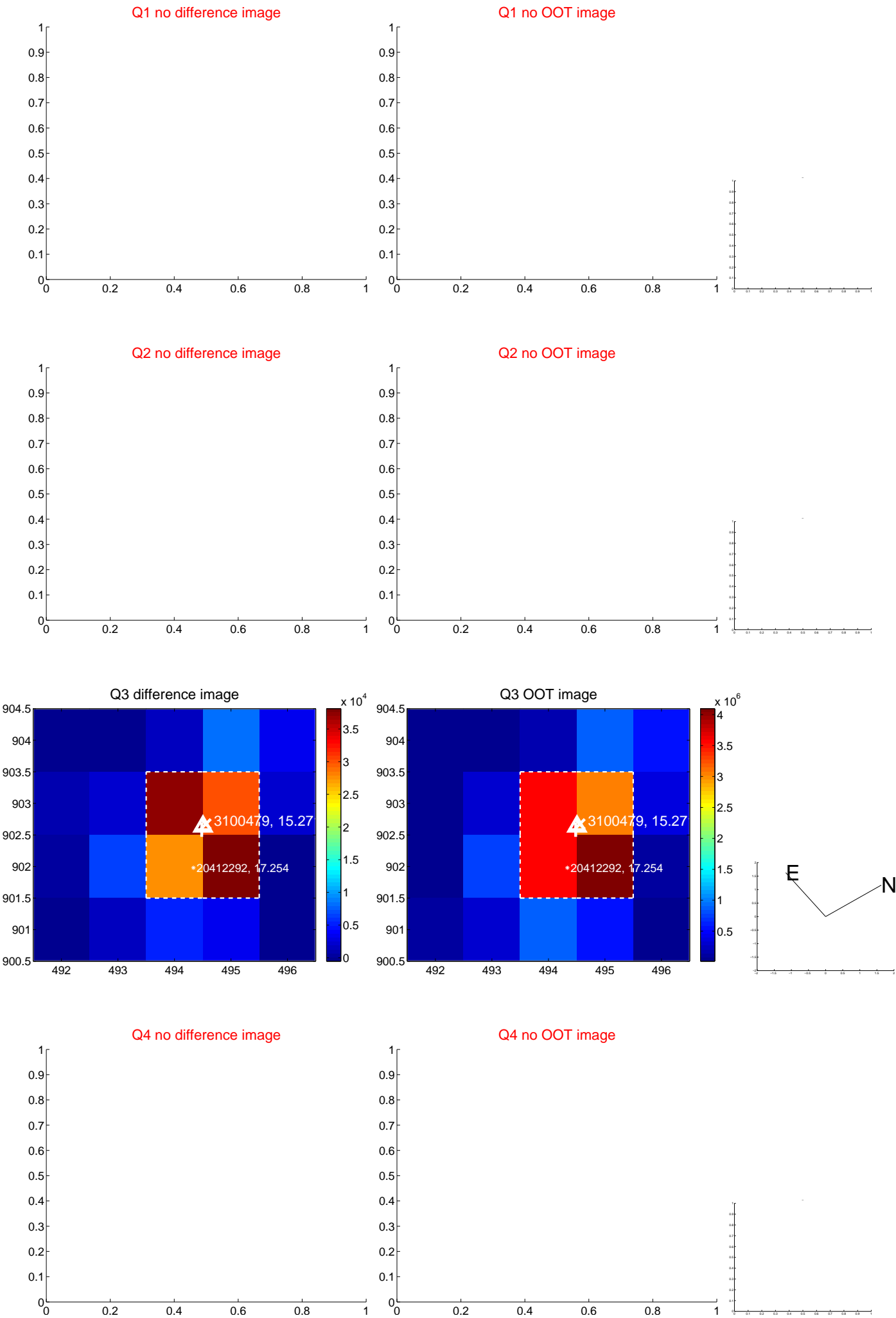
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.251 ± 0.155	1.61	0.129 ± 0.088	0.215 ± 0.146
PRF-fit source offset from KIC position	0.223 ± 0.220	1.01	0.010 ± 0.111	-0.223 ± 0.224
photometric centroid source offset	0.13 ± 0.85	0.16	-0.05 ± 0.79	-0.12 ± 0.86



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.

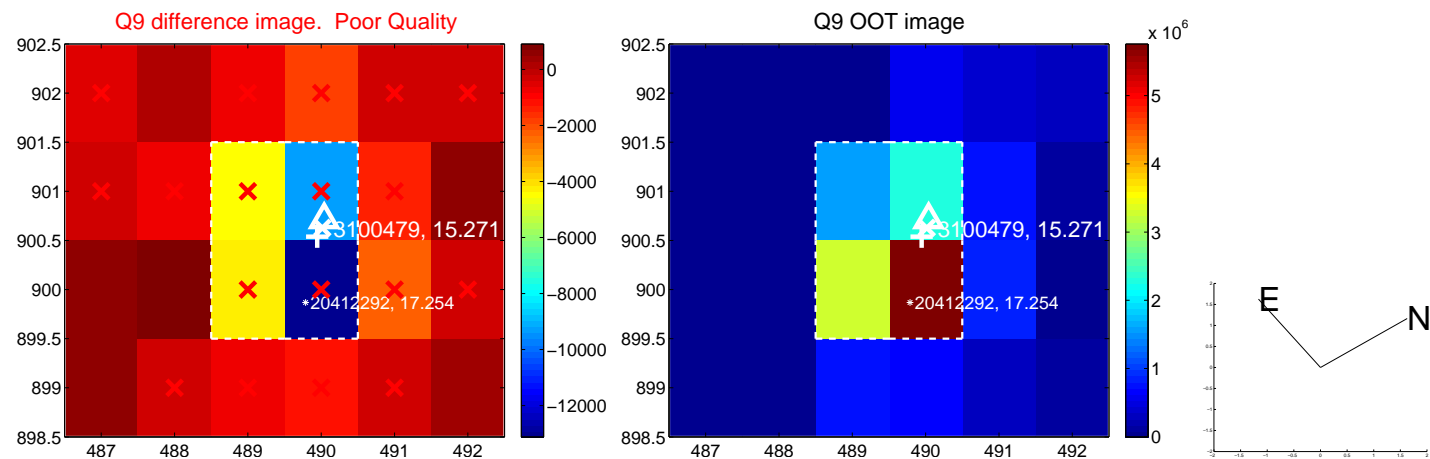
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



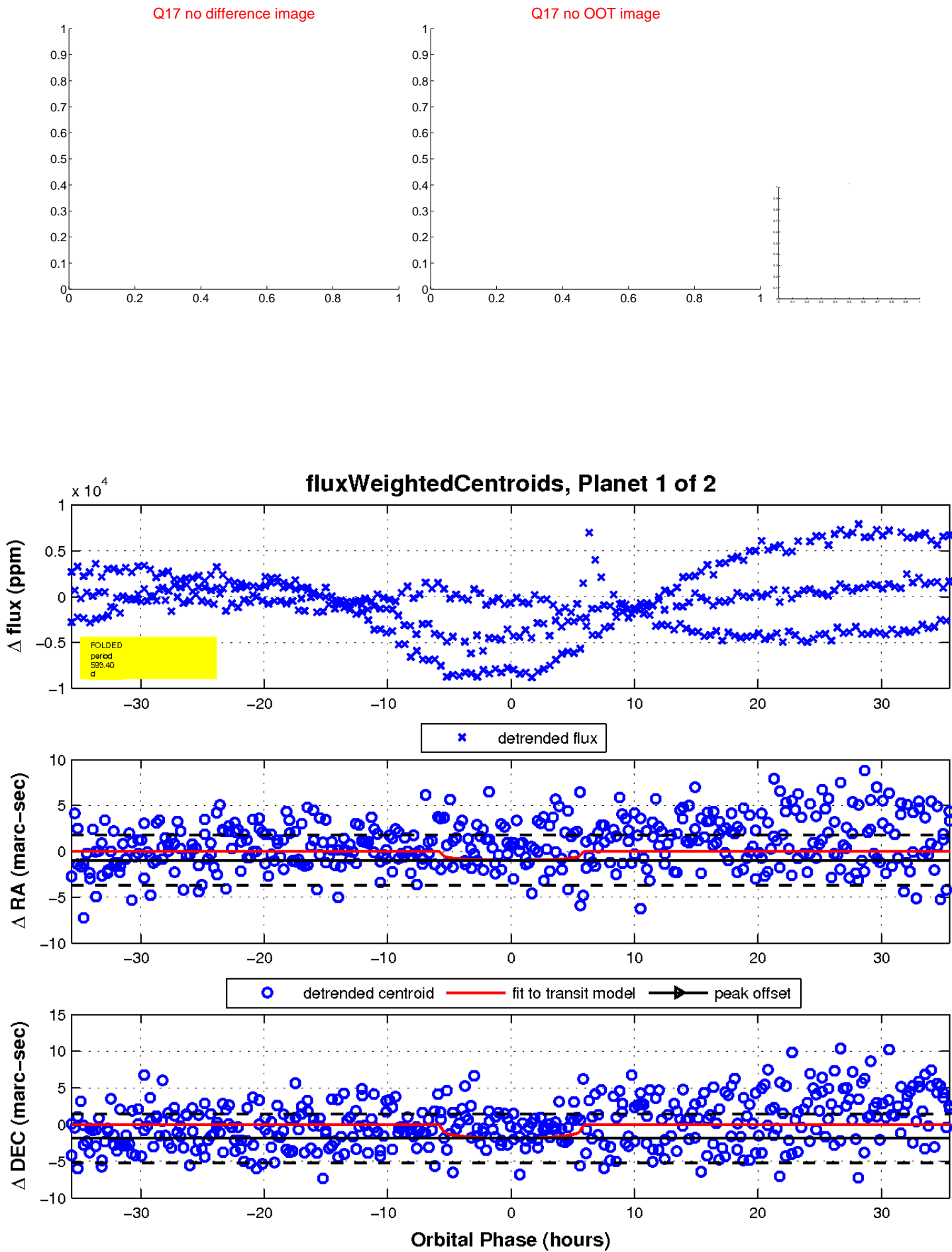
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

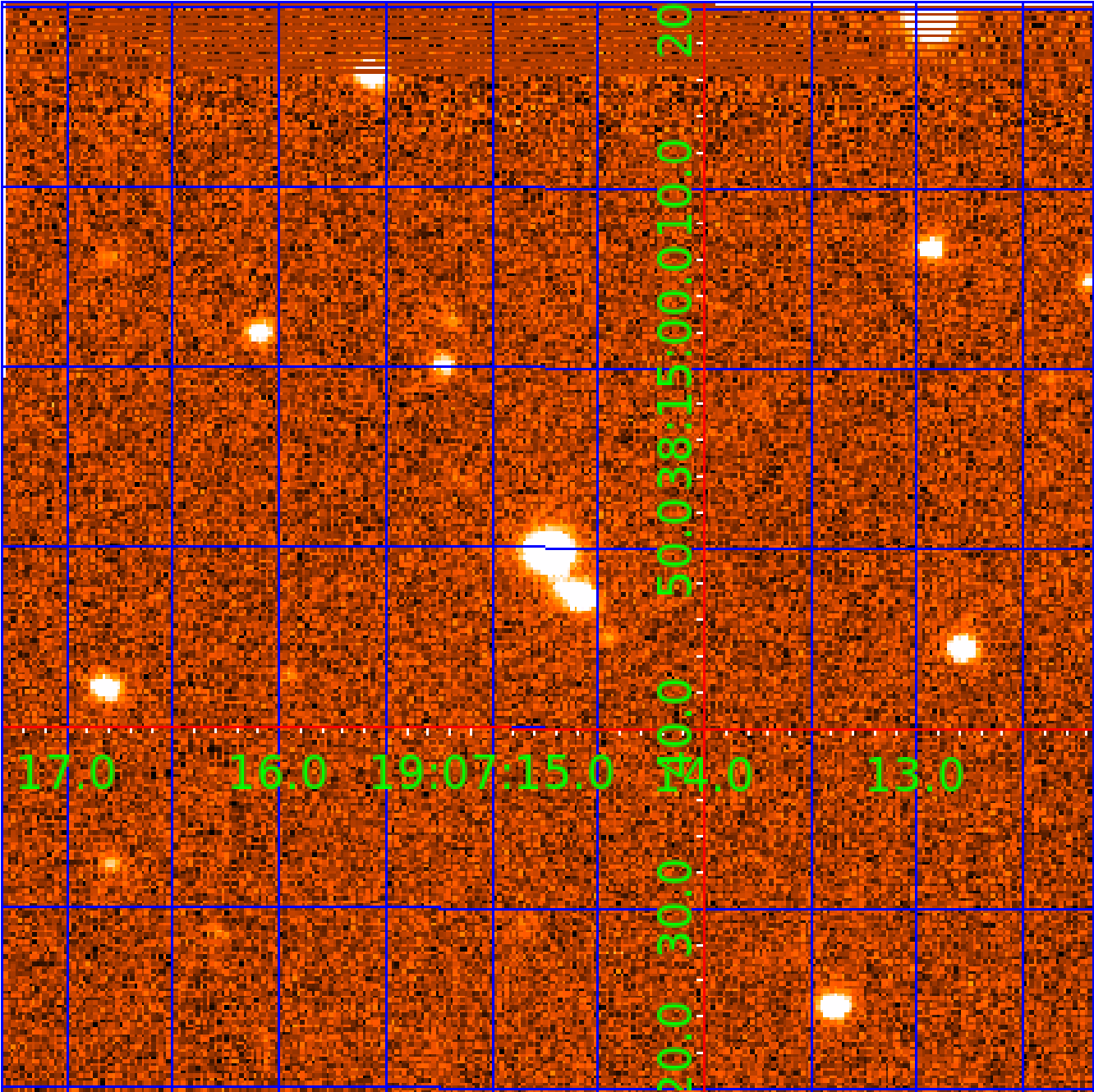


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003100479

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})
003100479-01	OBS	No	593.400689	263.160634	2175.0	11.888	11.3	6.7	0.75	5385	3.45	0.28
003100479-02	OBS	No	622.777535	199.541742	1247.0	3.442	9.4	6.2	0.75	5385	2.62	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003100479-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003100479-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

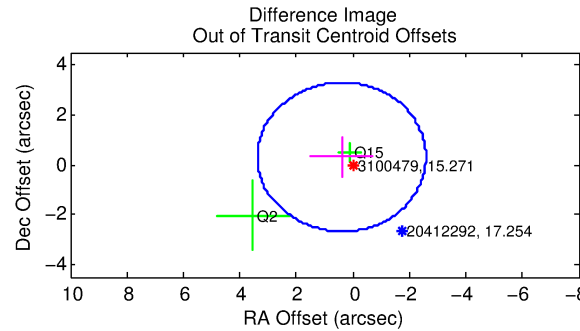
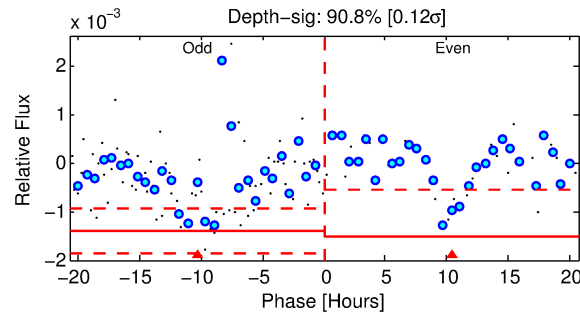
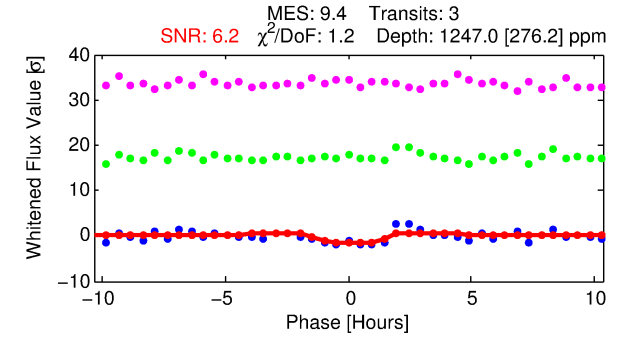
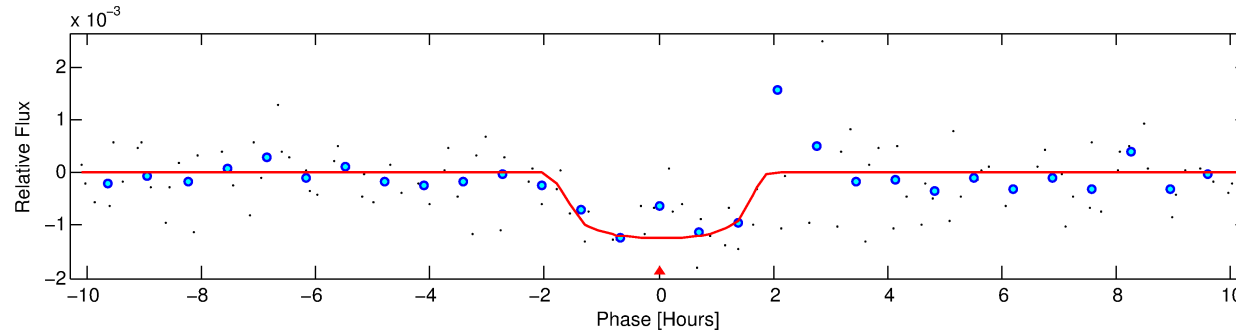
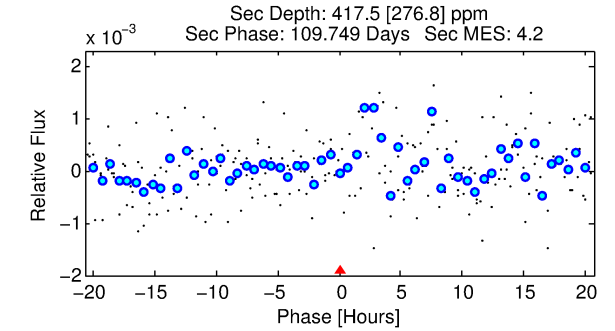
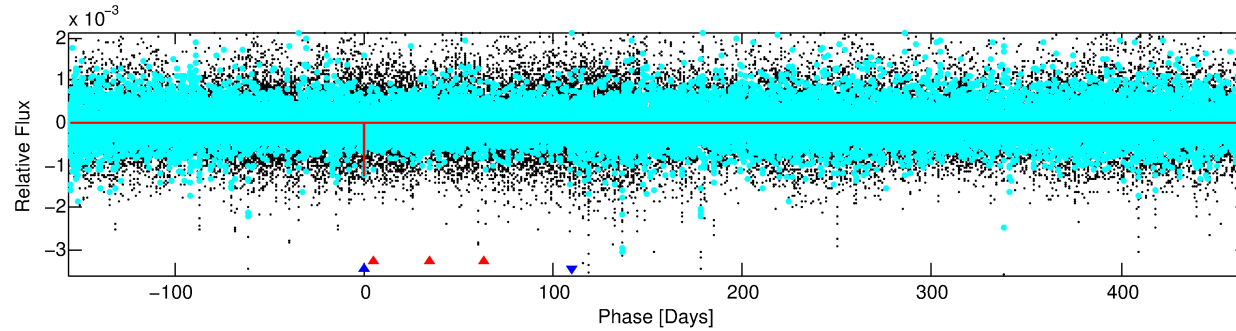
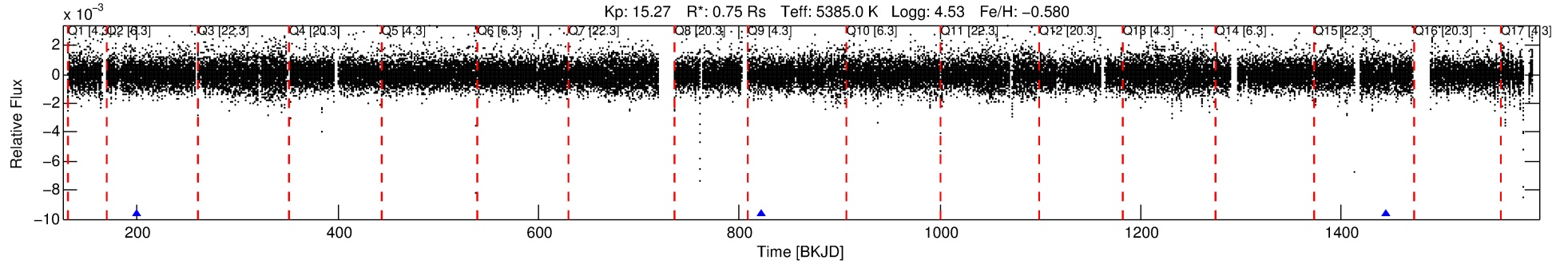
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003100479-02

No Significant Match Found

DV One-Page Summary

KIC: 3100479 Candidate: 2 of 2 Period: 622.778 d



DV Fit Results:

Period = 622.77754 [0.00772] d
Epoch = 199.5417 [0.0085] BKJD
Rp/R* = 0.0321 [0.1835]
a/R* = 1407.01 [34345.77]
b = 0.17 [140.51]
Seff = 0.26 [0.06]
Teq = 183 [11] K
Rp = 2.62 [15.02] Re
a = 1.2666 [0.1562] AU
Ag = 53480.29 [612988.79] [0.09 σ]
Teffp = 4298 [12316] K [0.33 σ]

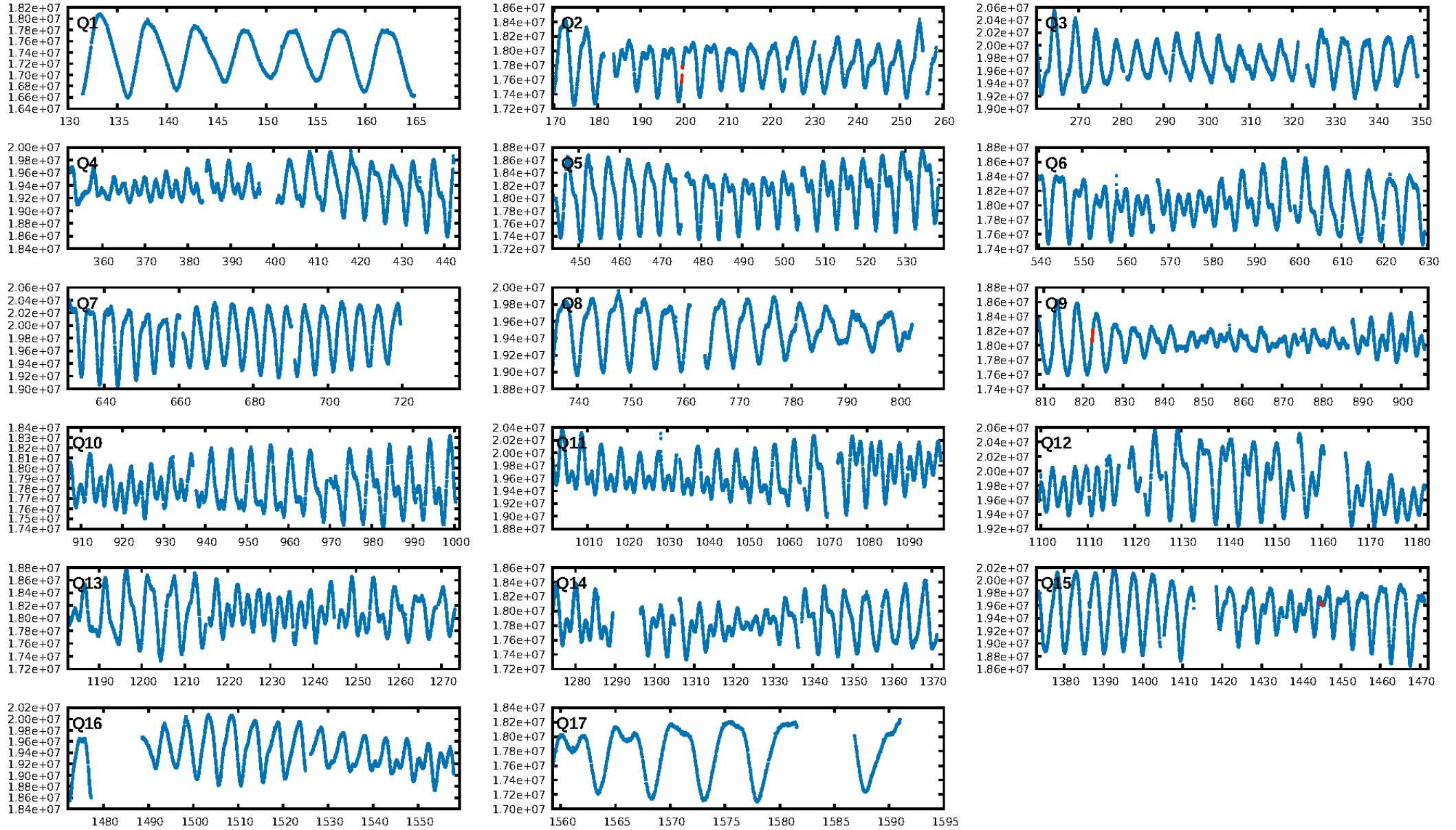
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [56.97 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.4%
ModelChiSquareGof-sig: 82.4%
Bootstrap-pfa: 1.20e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.14
Centroid-sig: 32.2%
Centroid-so: 0.660 arcsec [0.40 σ]
OotOffset-rm: 0.499 arcsec [0.50 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 0.289 arcsec [0.15 σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

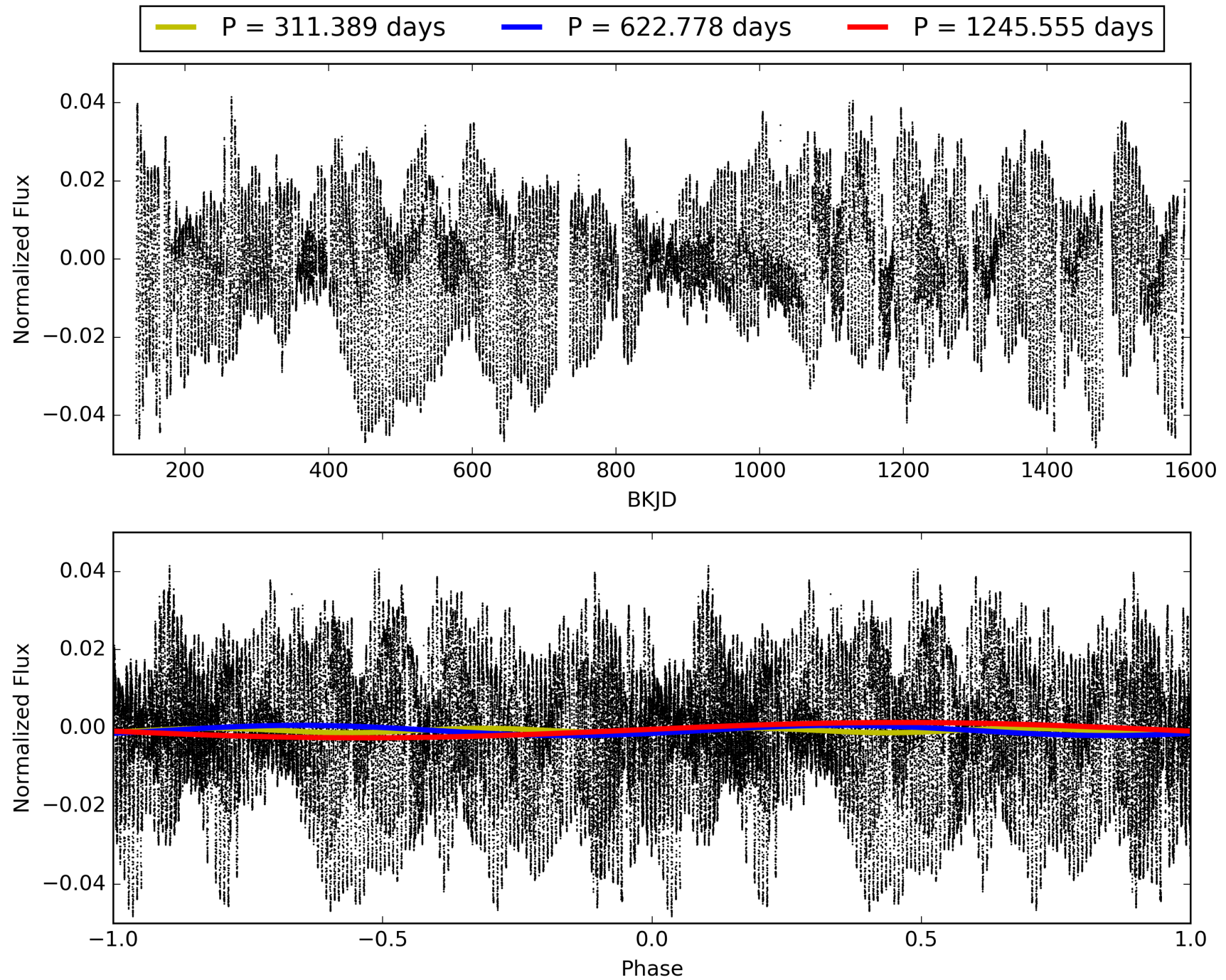
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:31:26 Z

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

TCE 003100479-02, PDC Light Curves

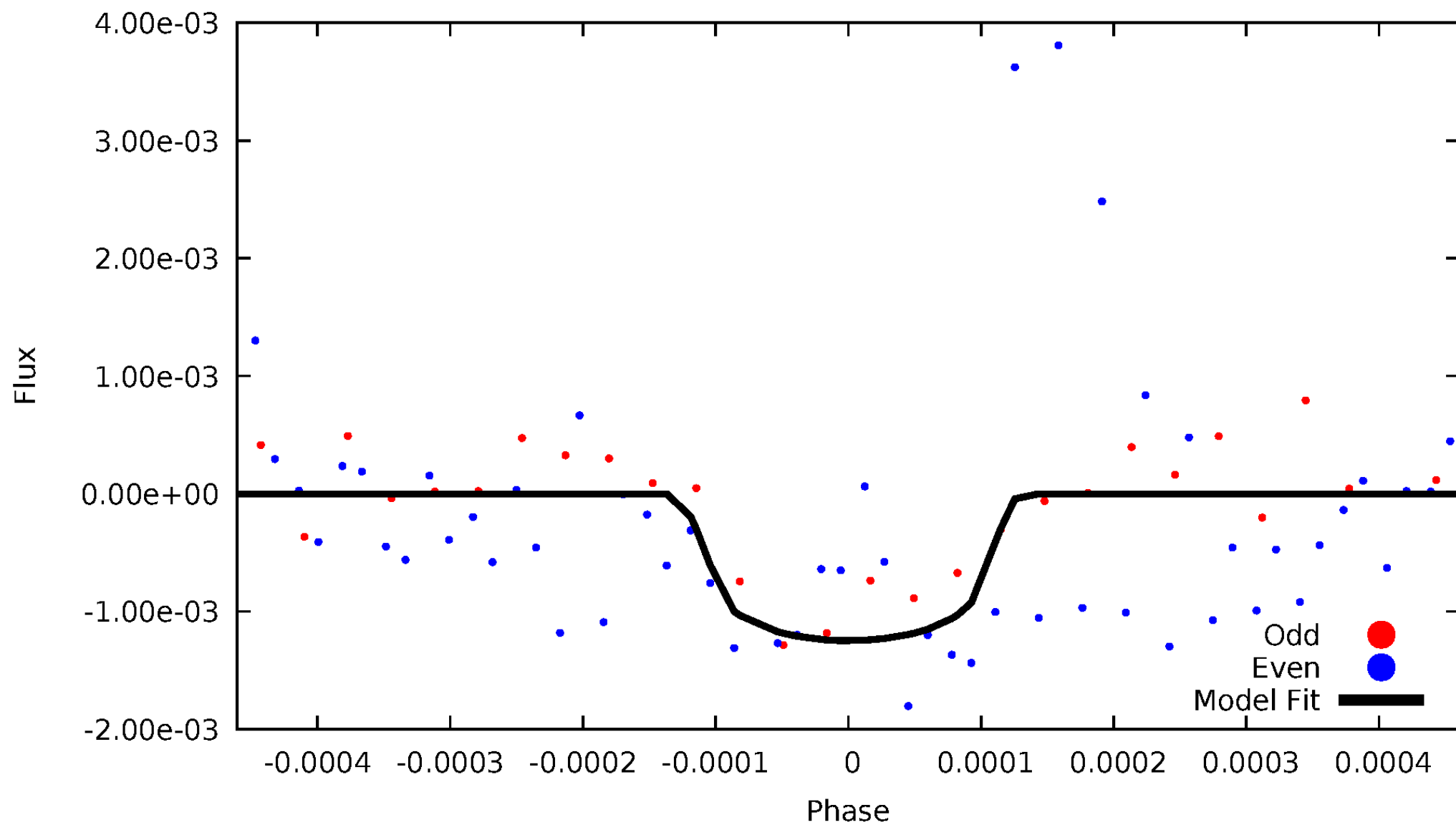


TCE 003100479-02



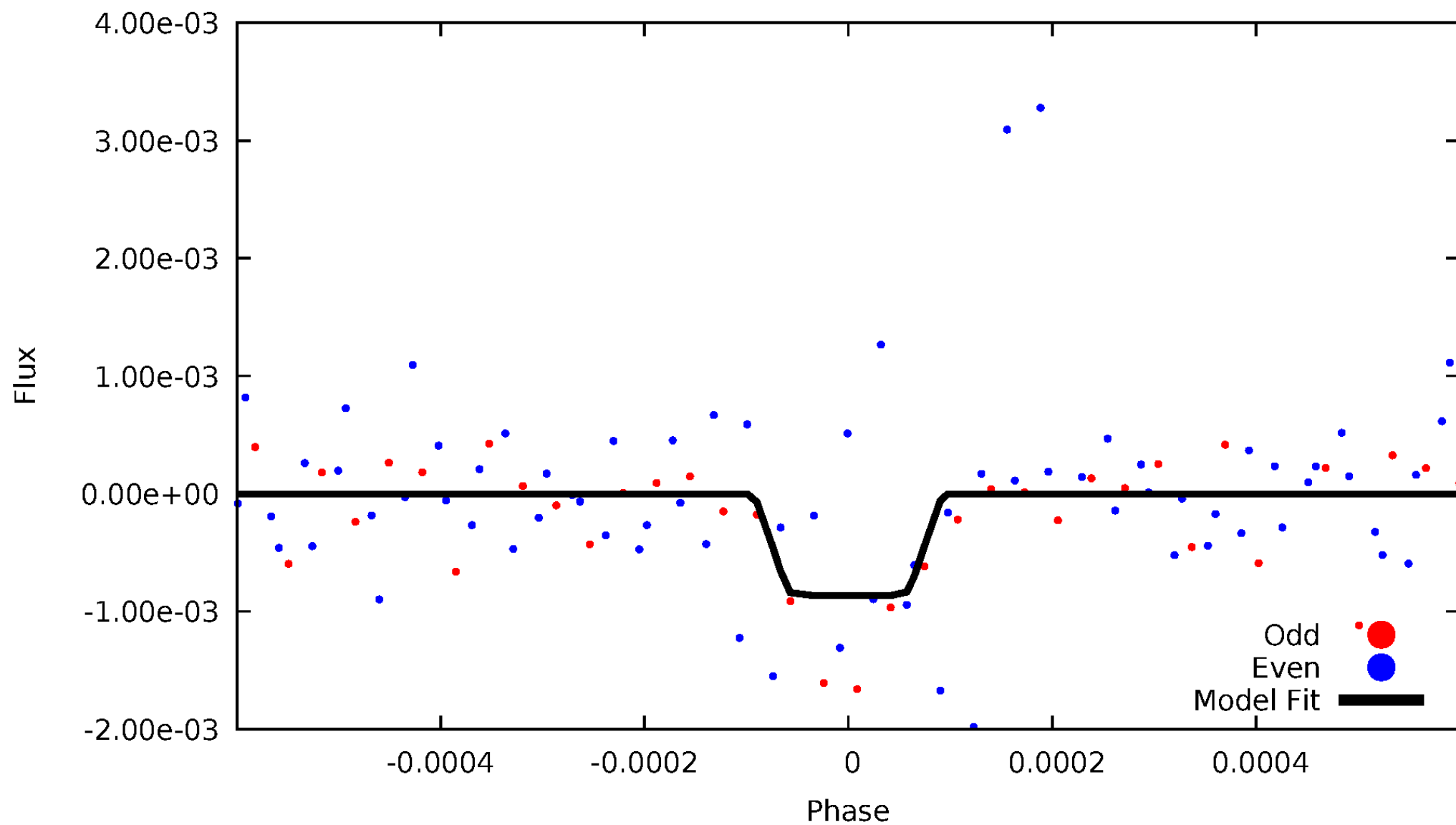
DV Odd/Even

TCE 003100479-02



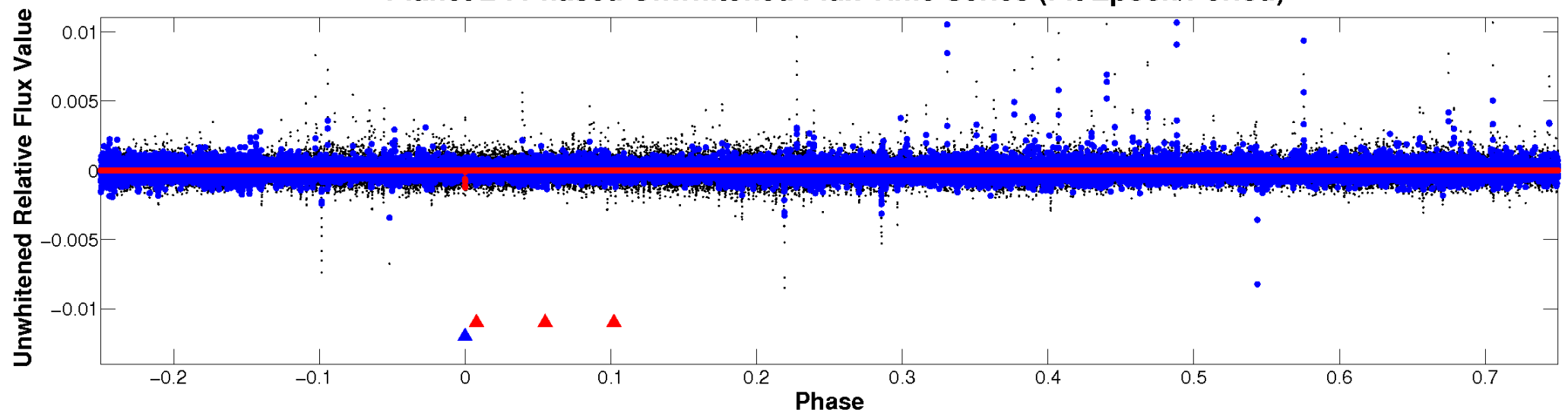
ALT Odd/Even

TCE 003100479-02

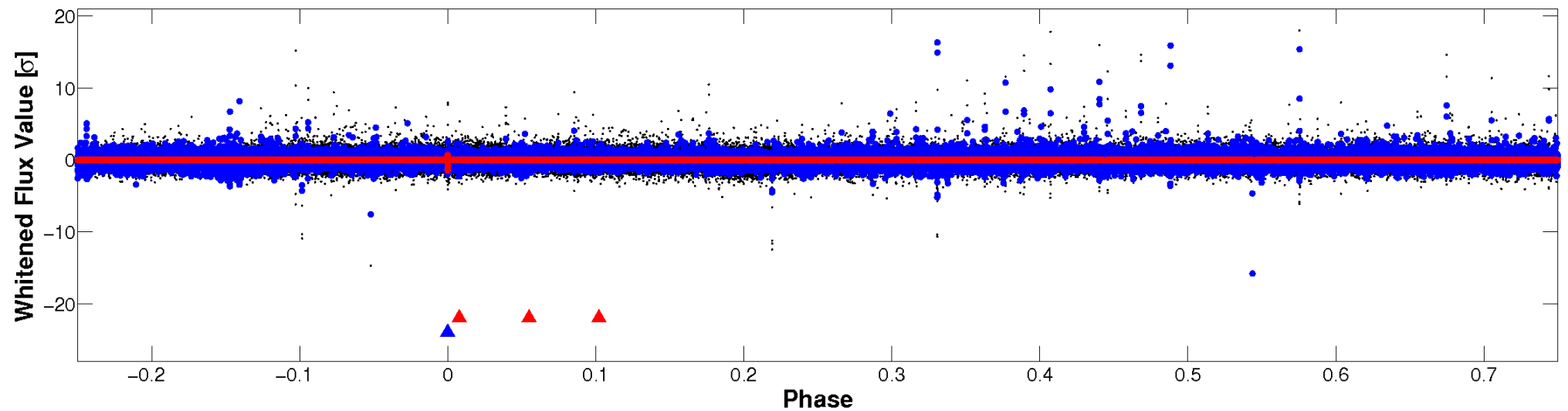


Non-Whitened Vs. Whitened Light Curve

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

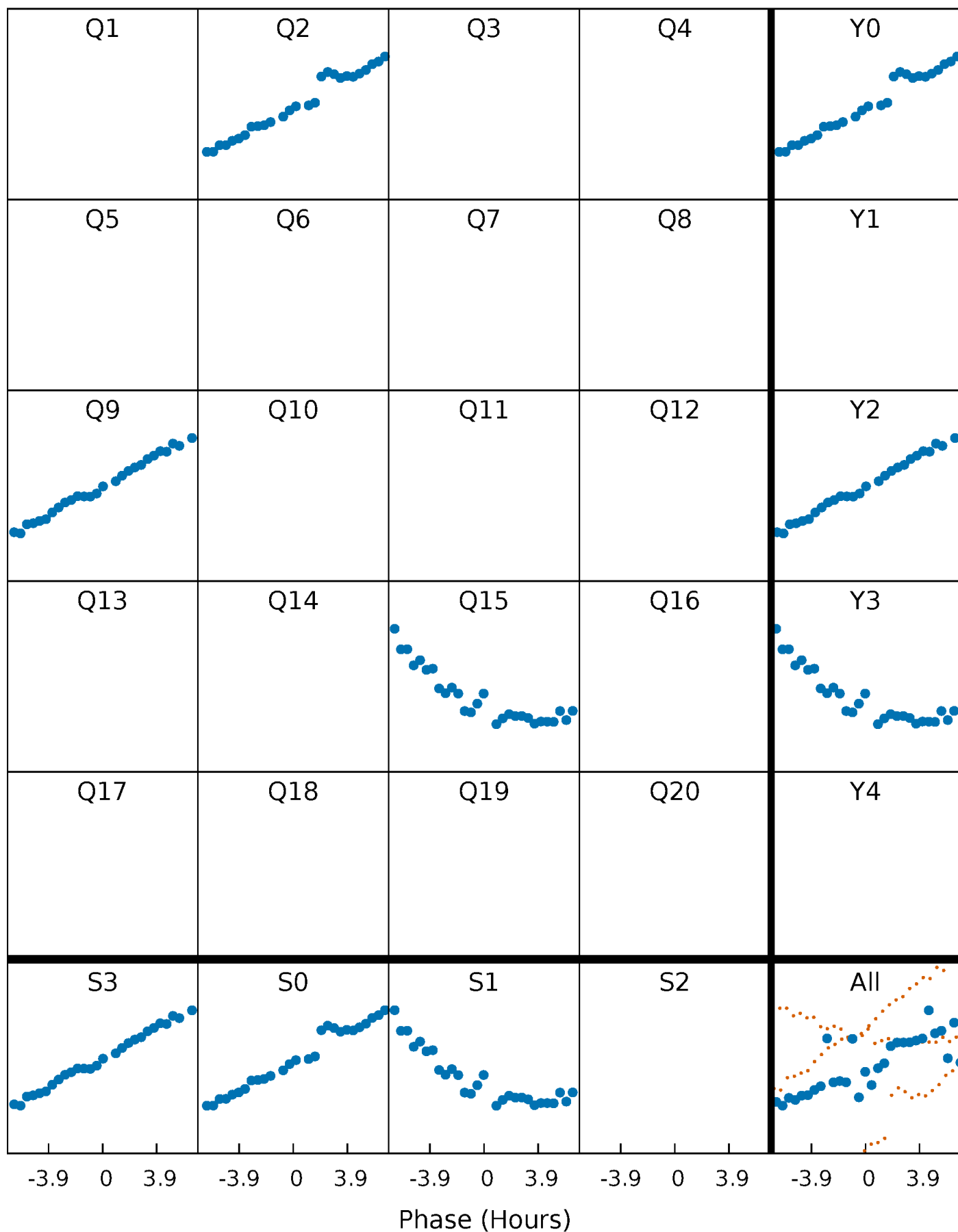


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



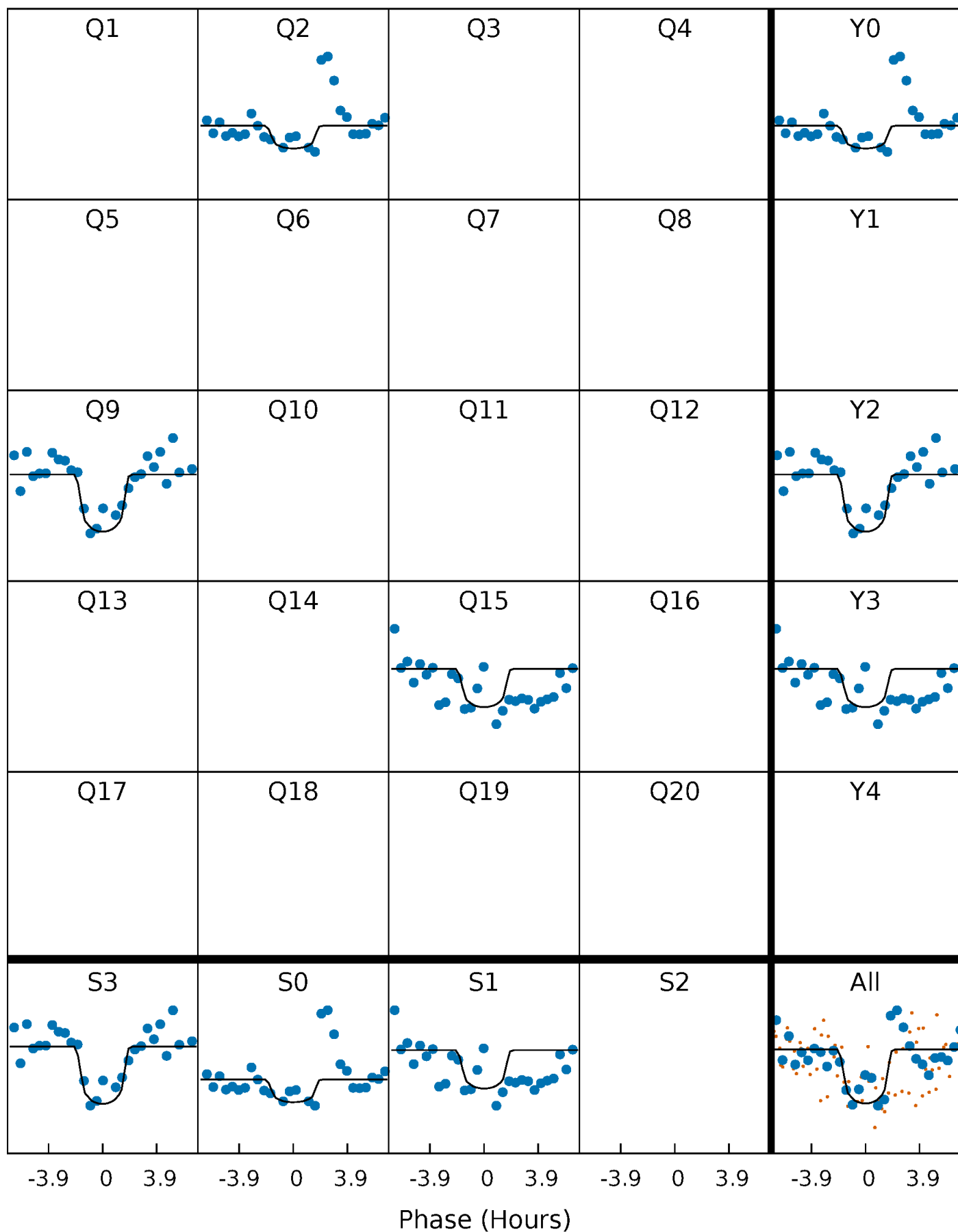
PDC Quarter-Phased Transit Curves

TCE 003100479-02 P=622.777535 Days $T_0=199.541742$ (BKJD)



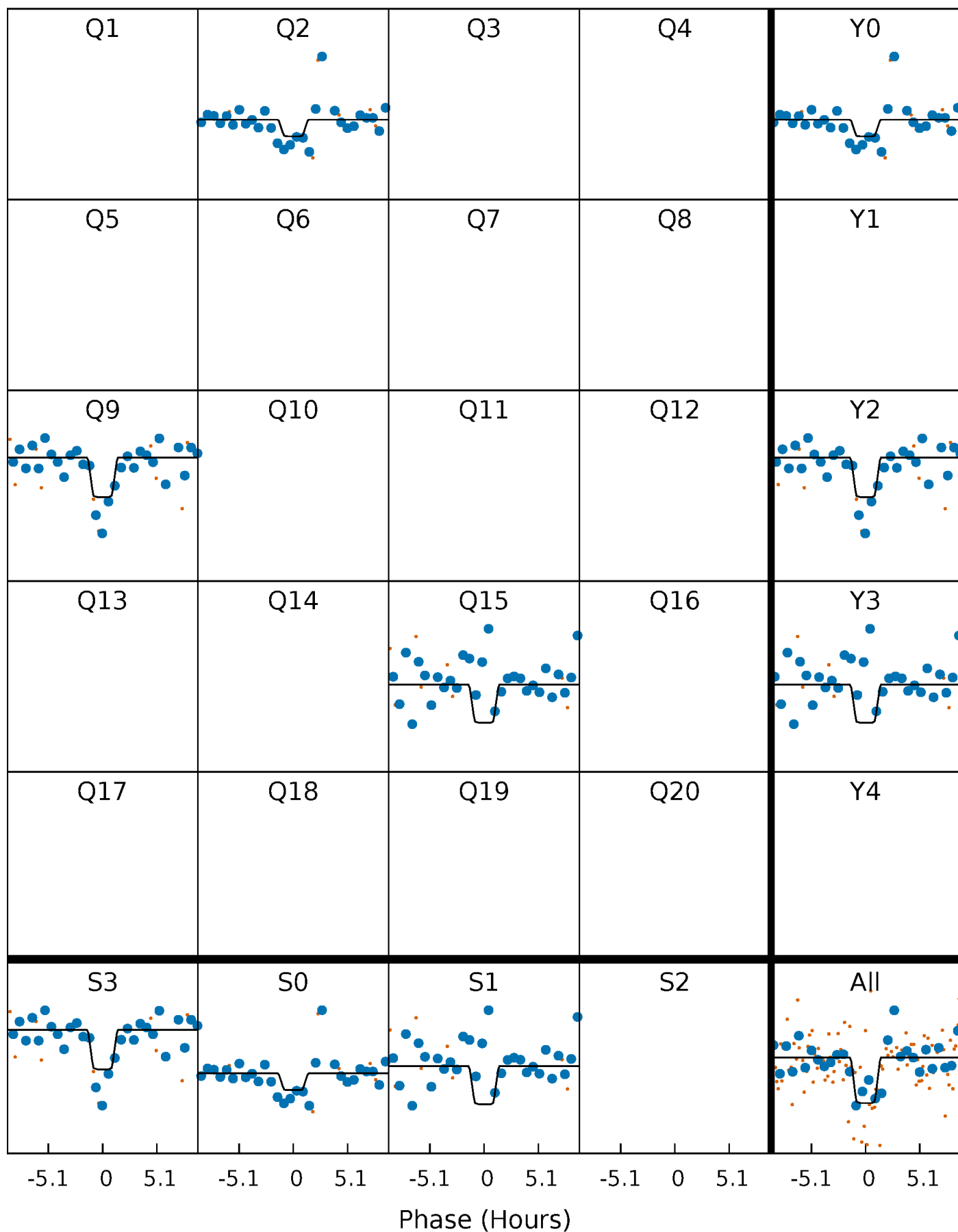
DV Quarter-Phased Transit Curves

TCE 003100479-02 P=622.777535 Days $T_0=199.541742$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

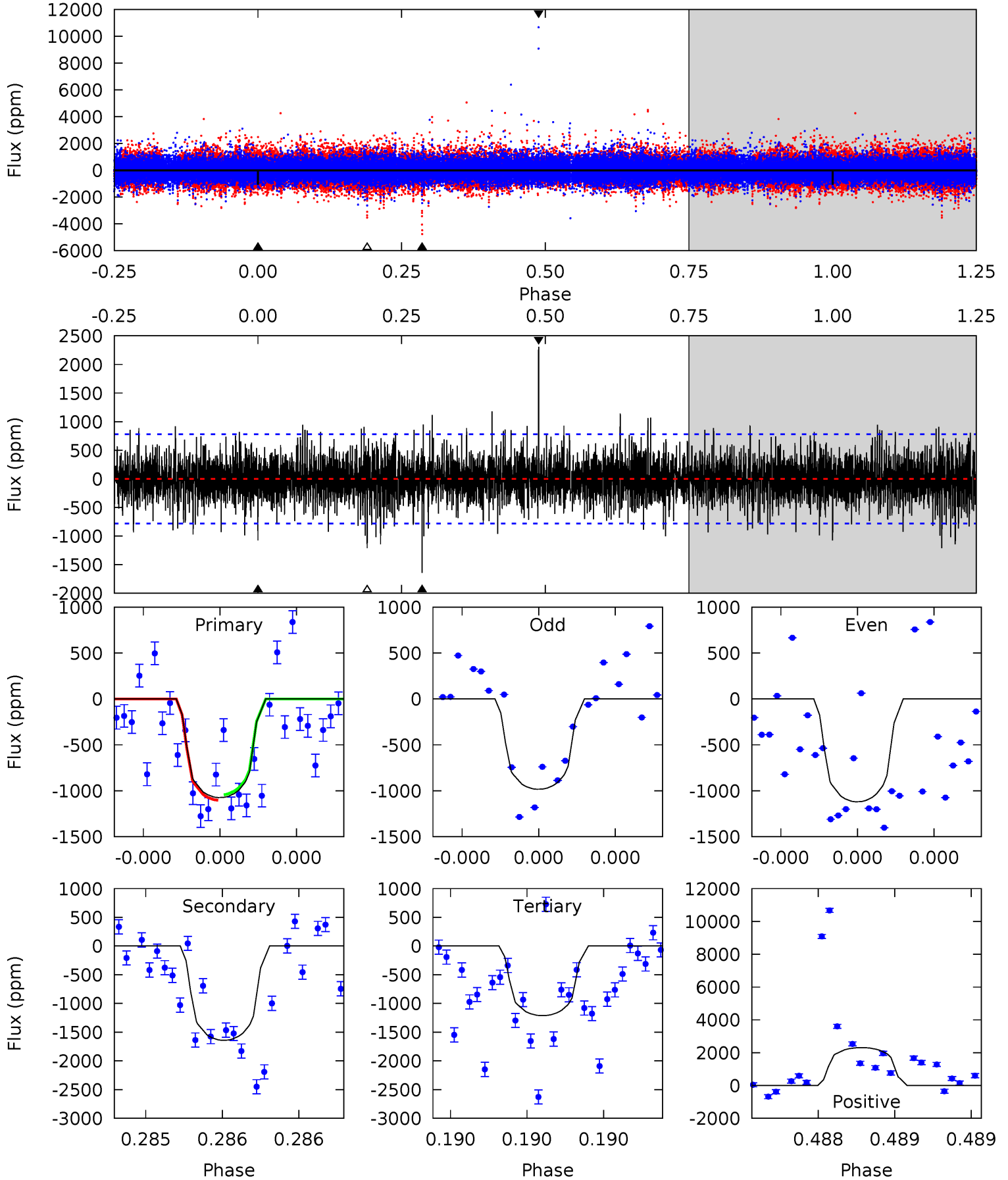
TCE 003100479-02 P=622.780853 Days $T_0=199.522879$ (BKJD)



DV Model-Shift Uniqueness Test

003100479-02, P = 622.777535 Days, E = 199.541742 Days

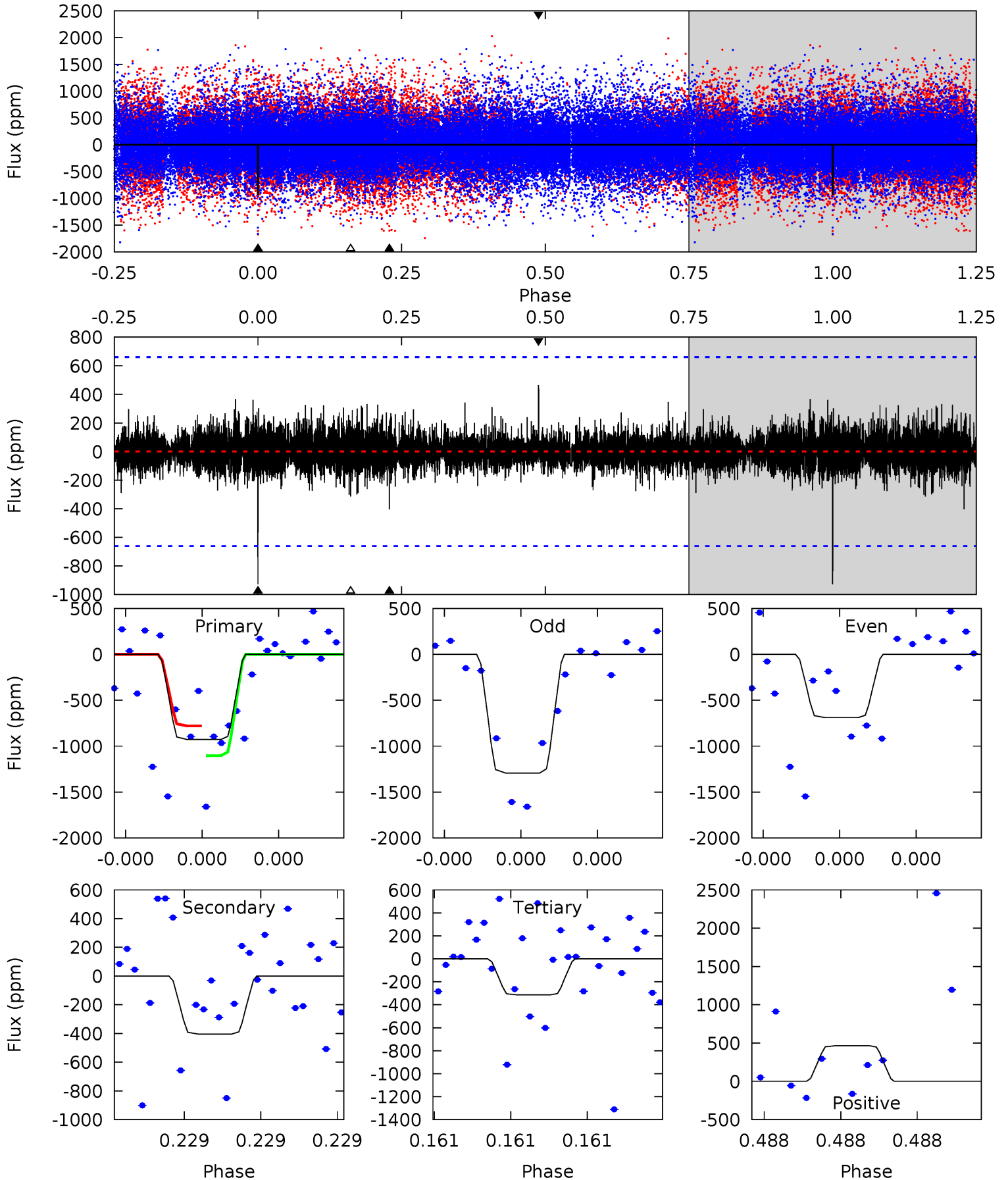
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	12.0	8.85	16.9	5.70	3.67	1.88	-1.01	-9.01	3.14	-4.86	0.45	1.01	0.58	0.22



Alt Model-Shift Uniqueness Test

003100479-02, P = 622.780853 Days, E = 199.522879 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.09	3.52	2.74	4.06	5.76	3.76	0.60	5.36	4.03	0.79	-0.54	2.60	0.62	0.33	1.42



Stellar Parameters For KIC 003100479

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5385^{+187}_{-187}	$4.532^{+0.105}_{-0.086}$	$-0.580^{+0.350}_{-0.300}$	$0.750^{+0.105}_{-0.086}$	$0.698^{+0.100}_{-0.043}$	$2.331^{+1.066}_{-0.616}$
	+3%/-3%	+2%/-2%	+60%/-52%	+14%/-11%	+14%/-6%	+46%/-26%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003100479-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1642 ± 137	$11.30^{+12.32}_{-8.08}$	255^{+14}_{-12}	3443^{+2056}_{-667}	$11704^{+129288}_{-9075}$
Alt.	-404 ± 115	$11.58^{+12.03}_{-8.11}$	255^{+12}_{-13}	2766^{+1184}_{-455}	2652^{+27276}_{-2039}

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

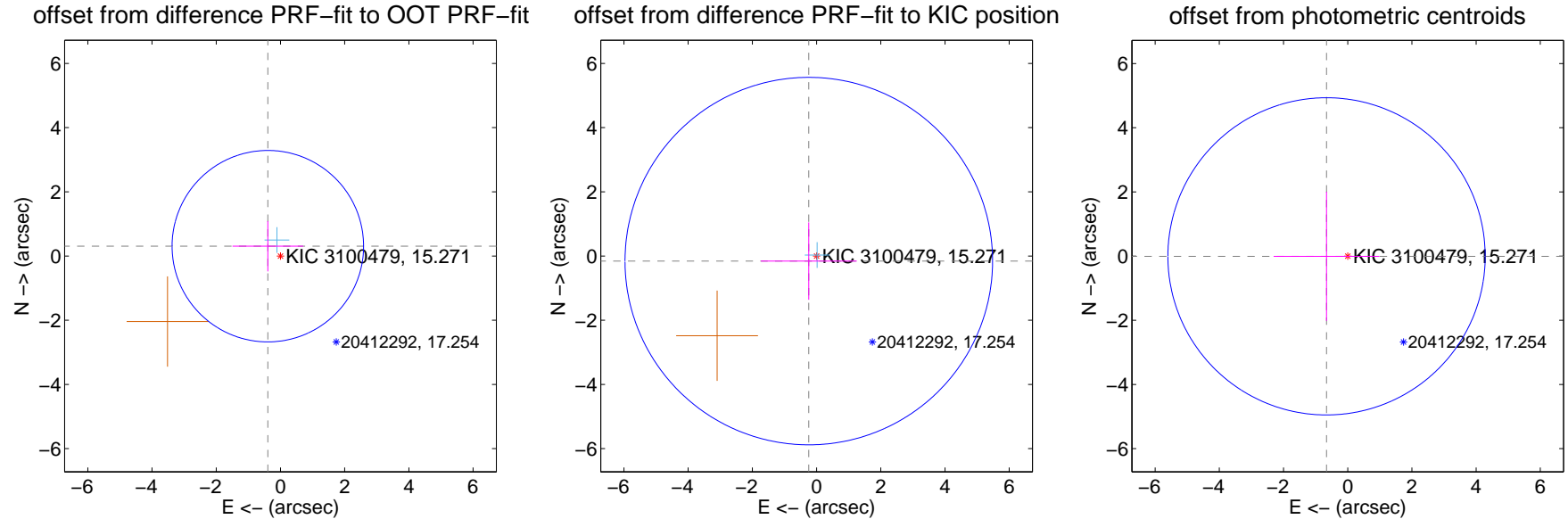
DV Centroid Data

Supplemental centroid analysis for 003100479-02. Kepler magnitude: 15.27. Transit SNR 6.21

There are 1 quarters with good PRF difference image offsets

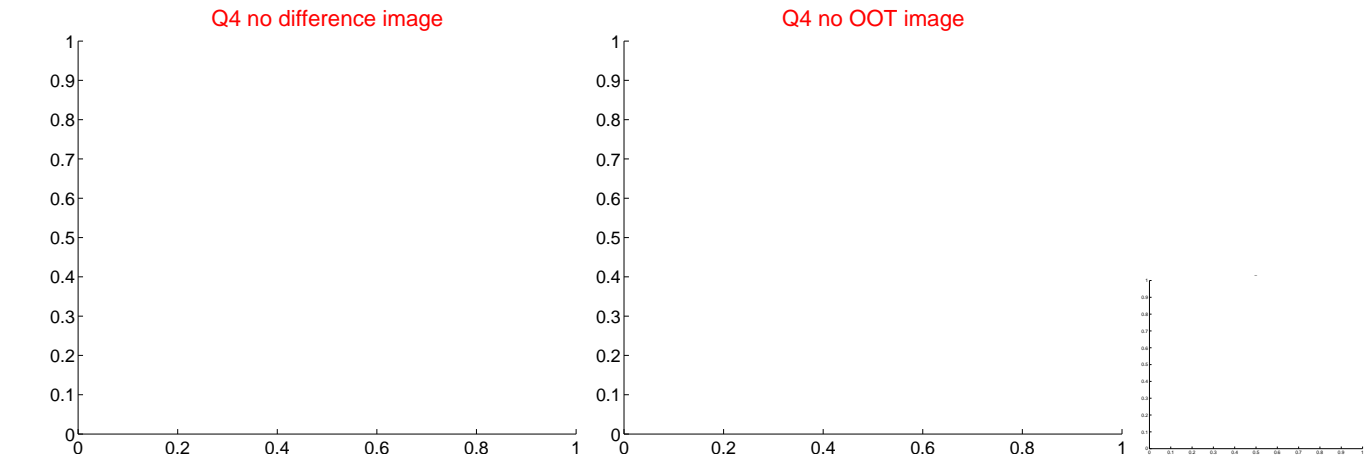
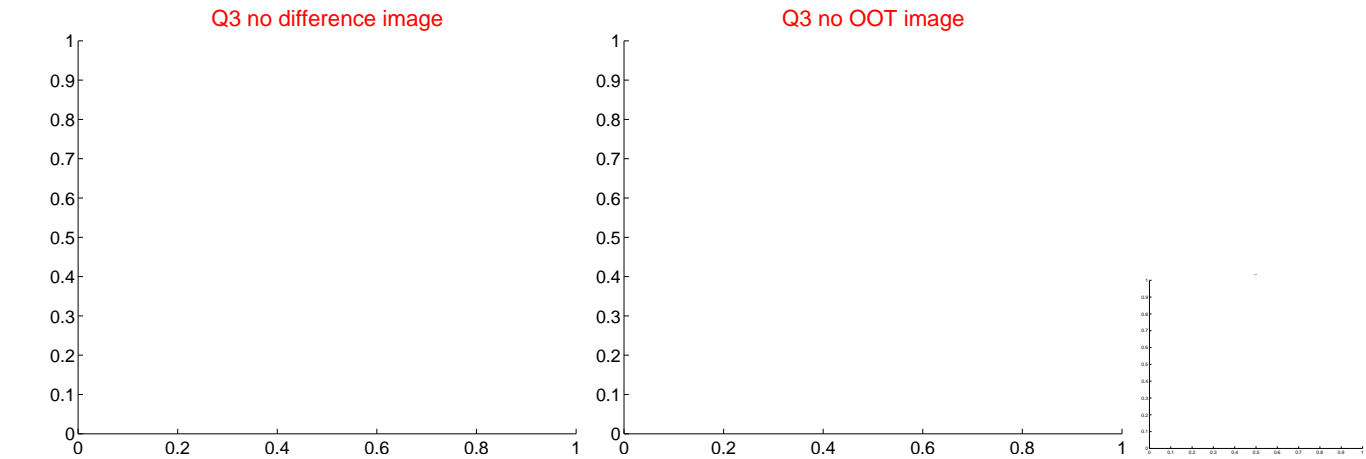
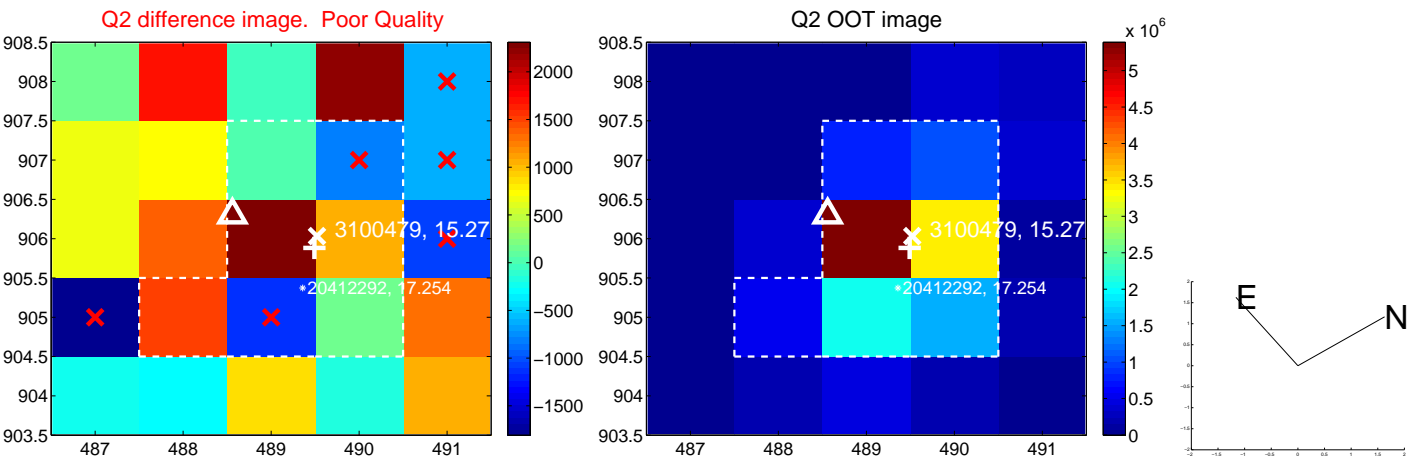
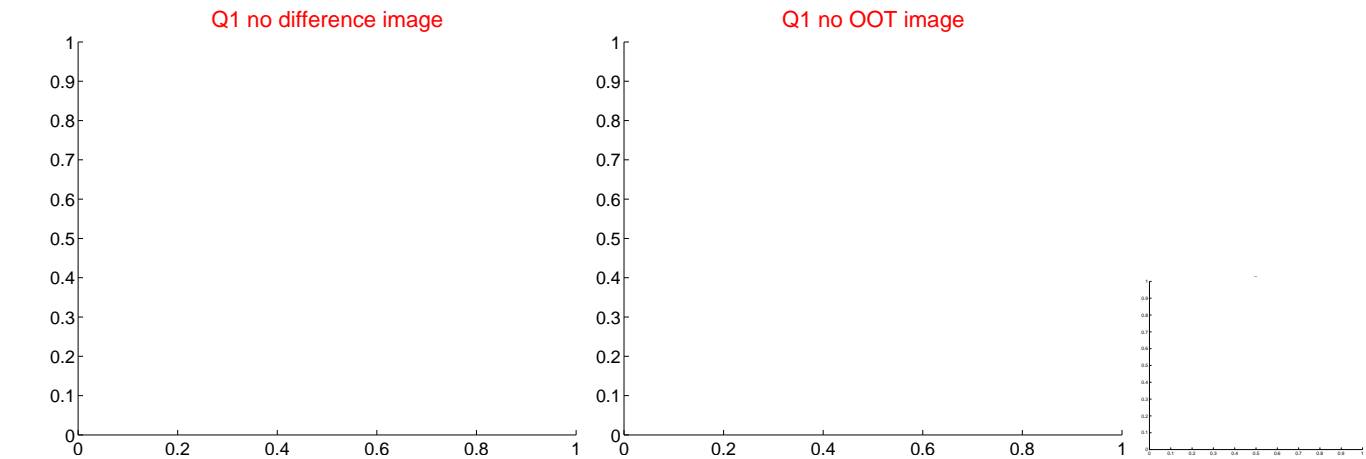
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.499 ± 0.994	0.50	0.393 ± 1.102	0.307 ± 0.785
PRF-fit source offset from KIC position	0.289 ± 1.908	0.15	0.242 ± 1.493	-0.158 ± 1.206
photometric centroid source offset	0.66 ± 1.65	0.40	0.66 ± 1.65	-0.01 ± 2.01

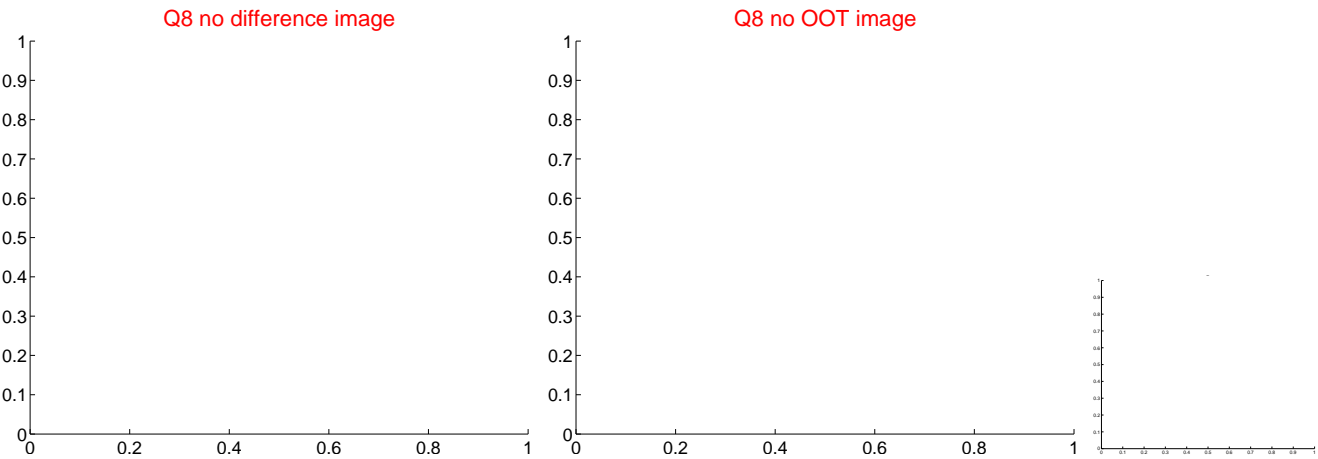
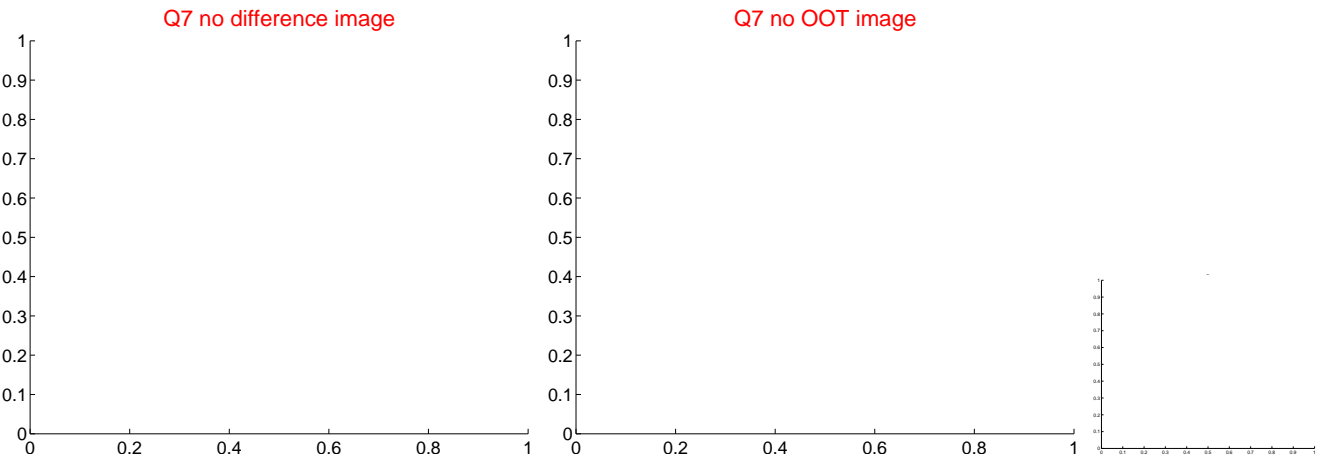
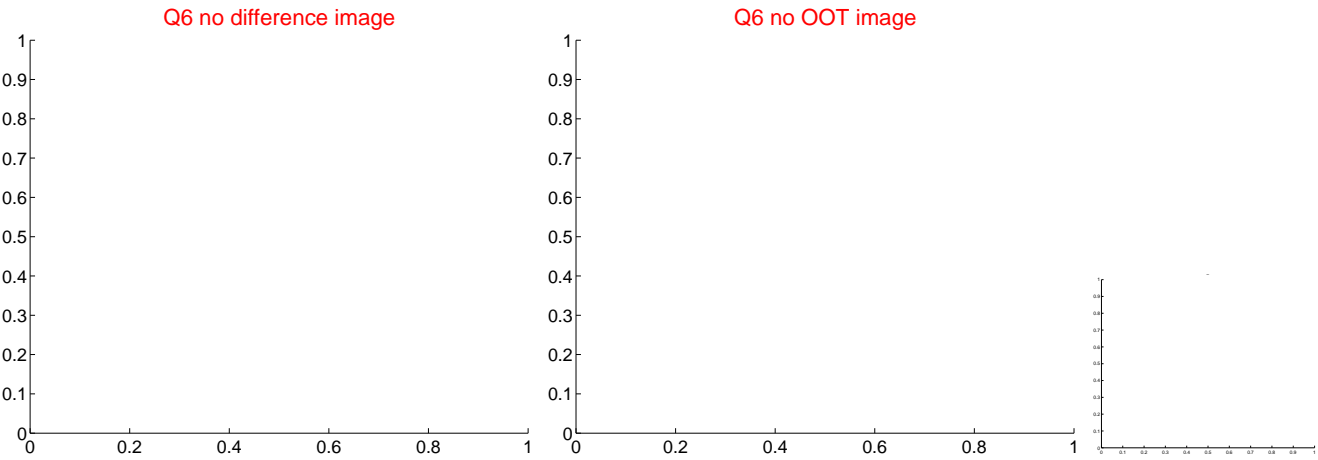
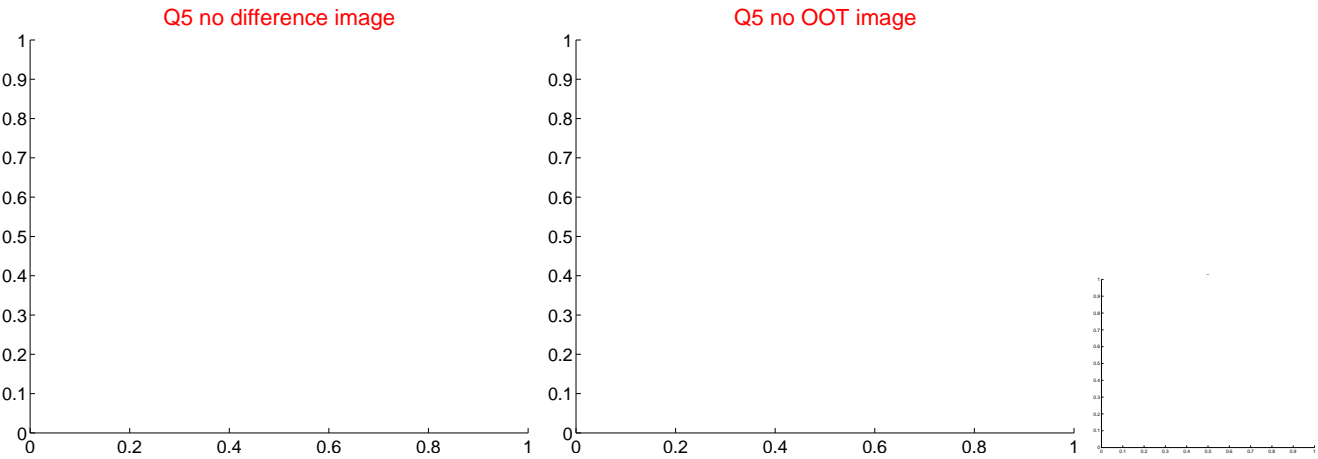


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

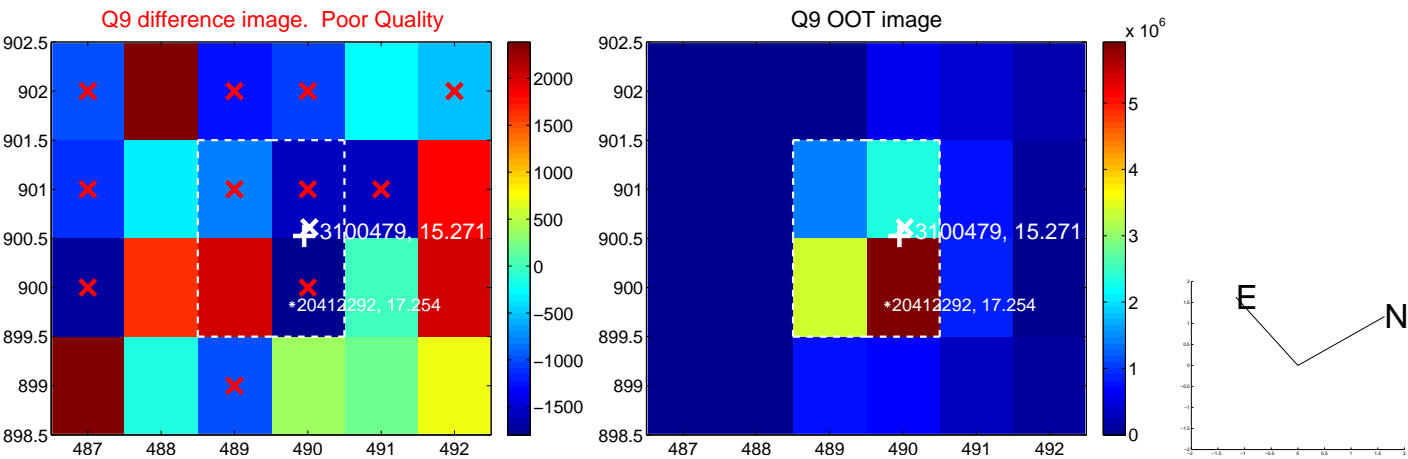
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



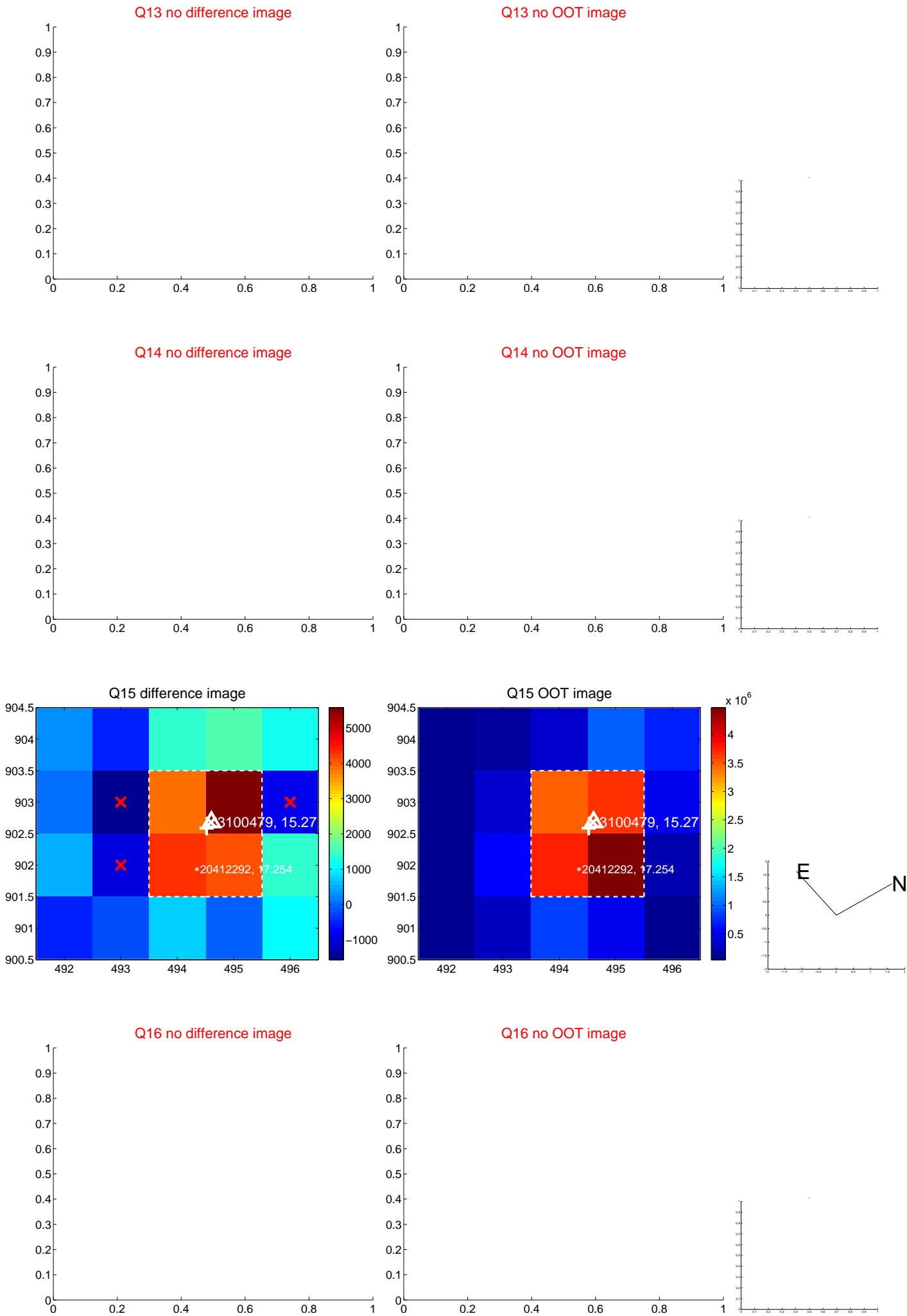
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



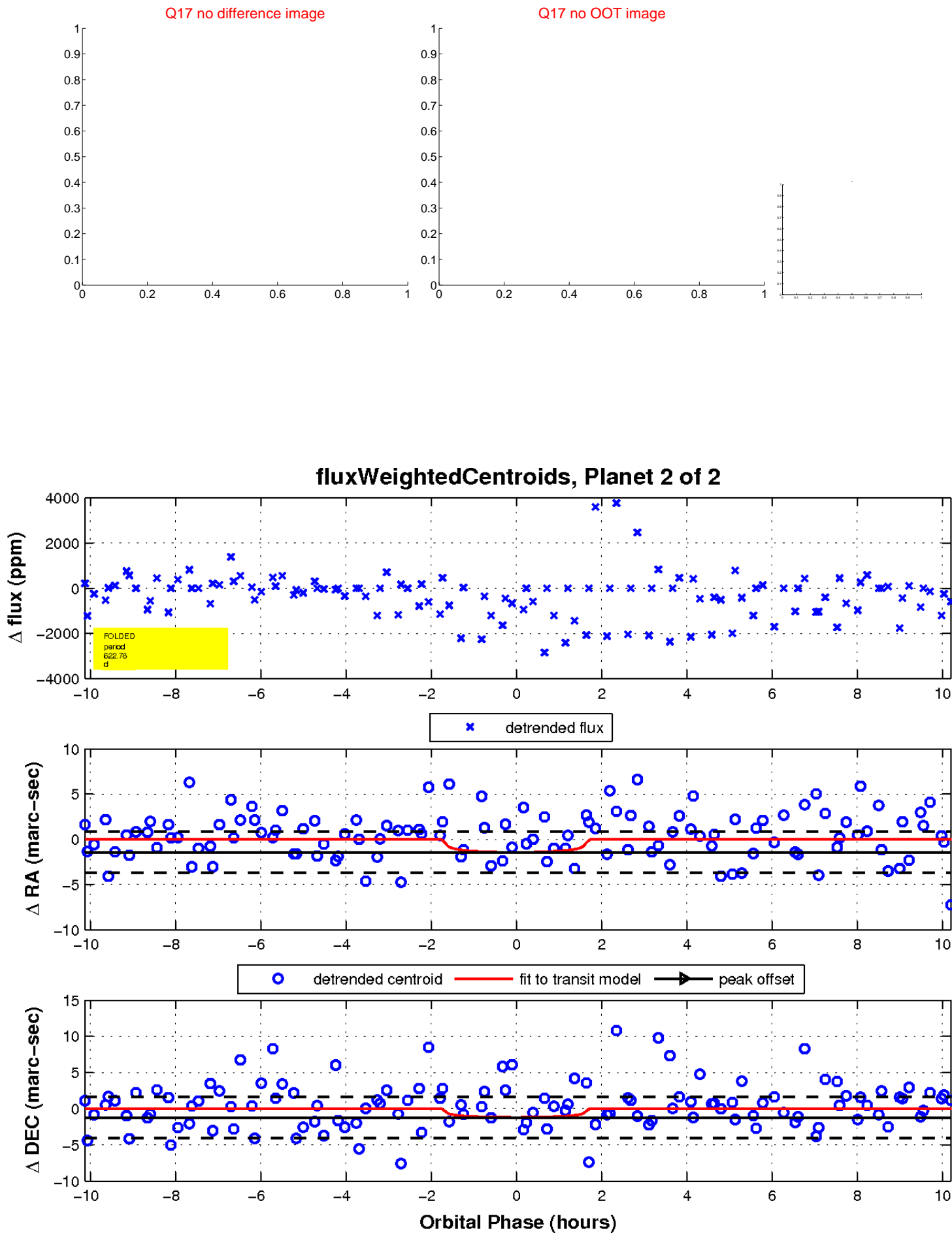
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

