

KIC 005036966

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})
005036966-01	OBS	5998.01	62.735645	152.220304	242889.4	10.801	2029.2	1588.1	1.44	6211	88.07	28.69
005036966-02	OBS	No	62.735424	191.602932	21213.5	12.116	163.5	160.8	1.44	6211	33.41	28.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005036966-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_FEW_DIFFS
005036966-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

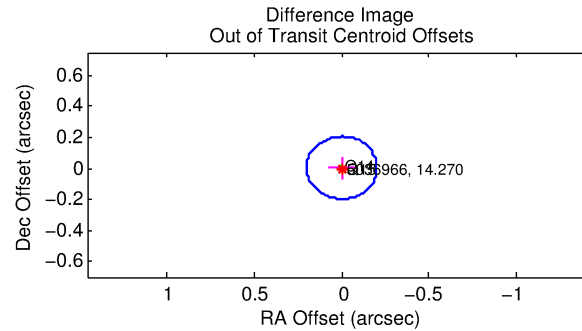
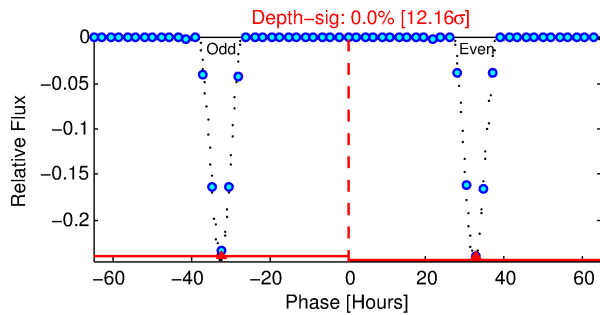
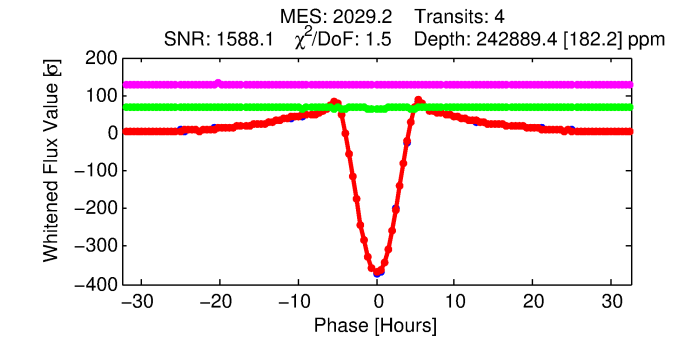
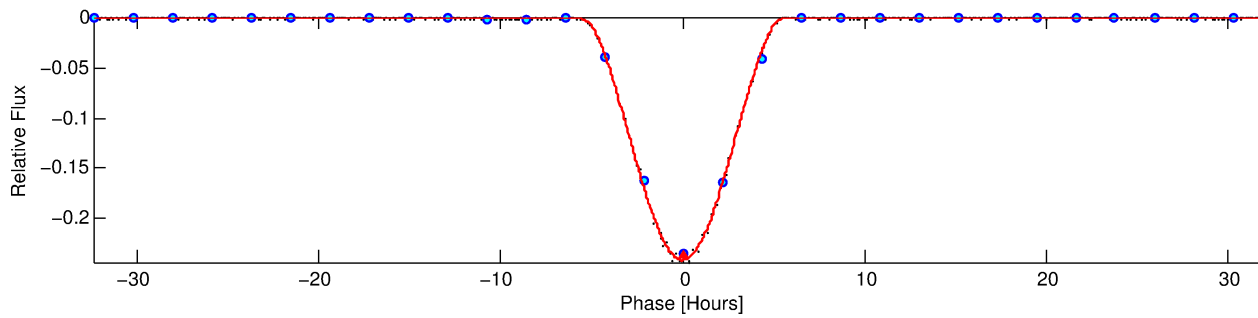
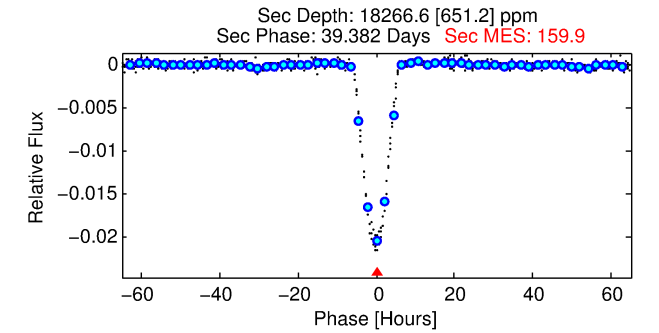
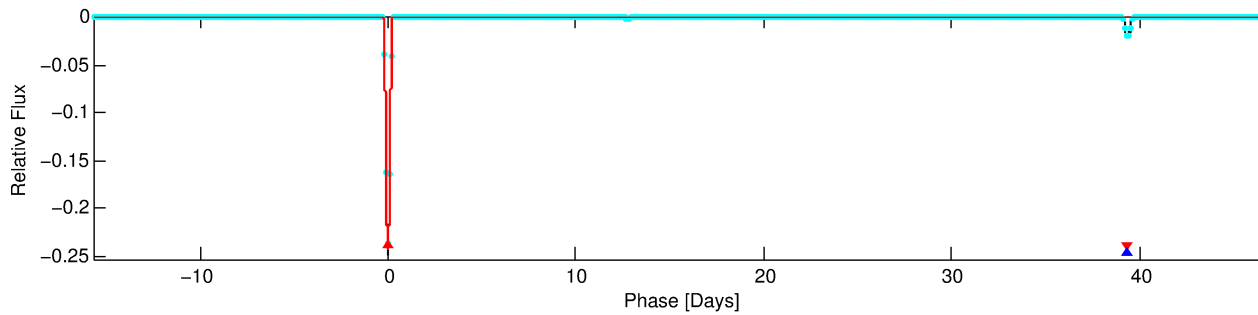
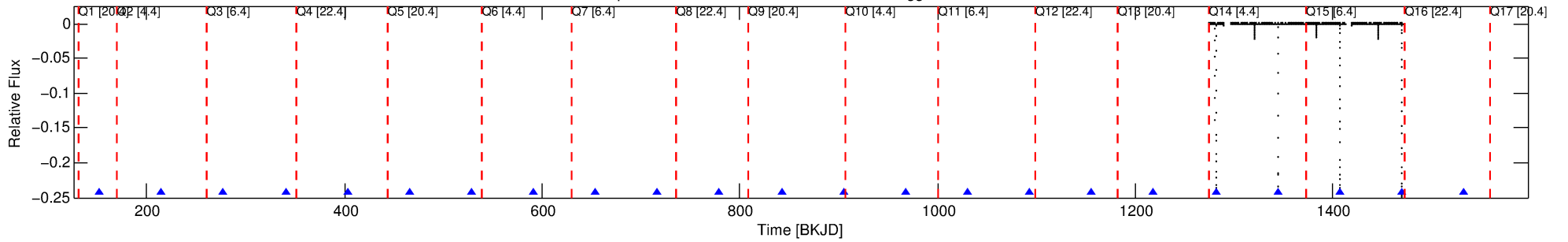
Ephemeris Match Information For 005036966-01

No Significant Match Found

DV One-Page Summary

KIC: 5036966 Candidate: 1 of 2 Period: 62.736 d
KOI: K05998.01 Corr: 0.994

Kp: 14.27 R*: 1.44 Rs Teff: 6211.0 K Logg: 4.13 Fe/H: -0.340



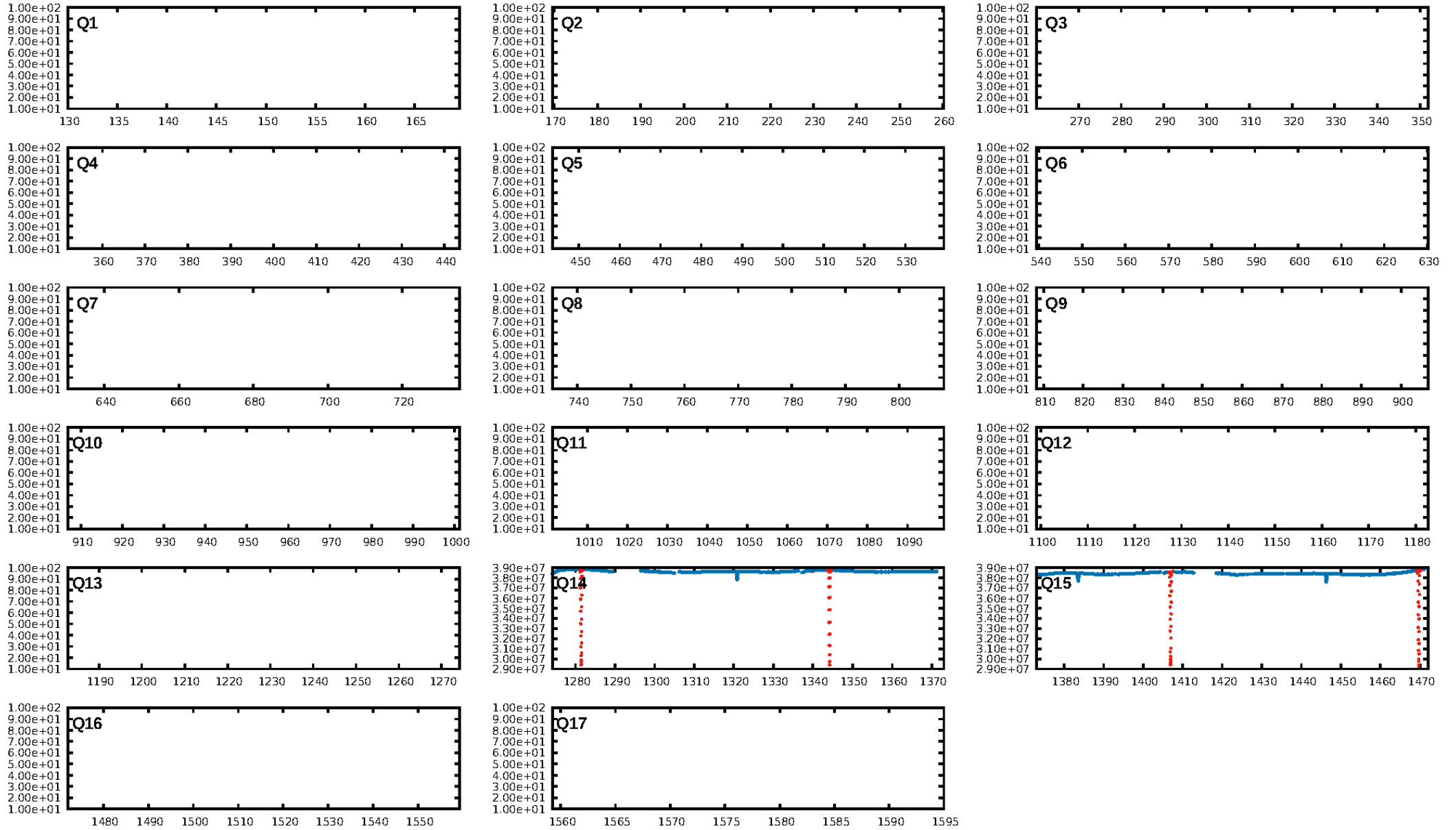
DV Fit Results:

Period = 62.73564 [0.00006] d
Epoch = 152.2203 [0.0012] BKJD
Rp/R* = 0.5604 [0.0308]
a/R* = 61.66 [0.39]
b = 0.71 [0.05]
Seff = 28.69 [14.84]
Teff = 590 [76] K
Rp = 88.07 [28.49] Re
a = 0.3104 [0.0960] AU
Ag = 124.86 [63.76] [1.94σ]
Teffp = 3050 [139] K [15.51σ]

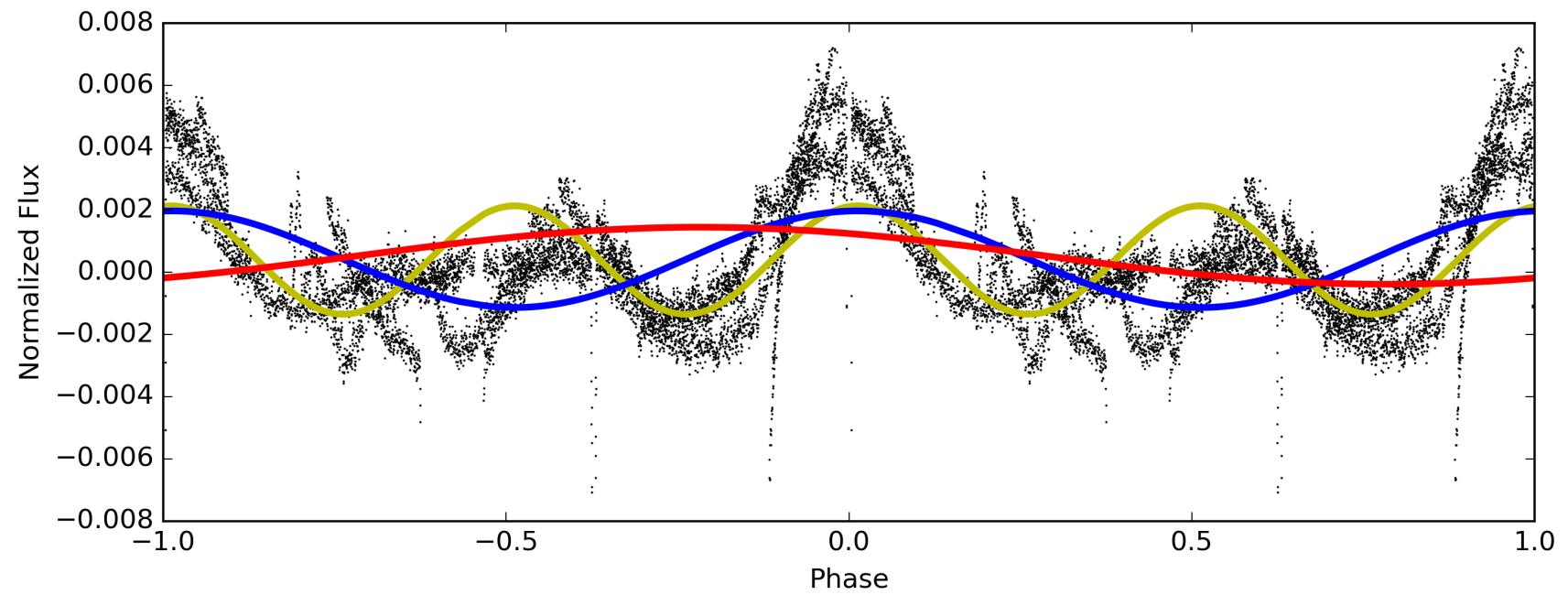
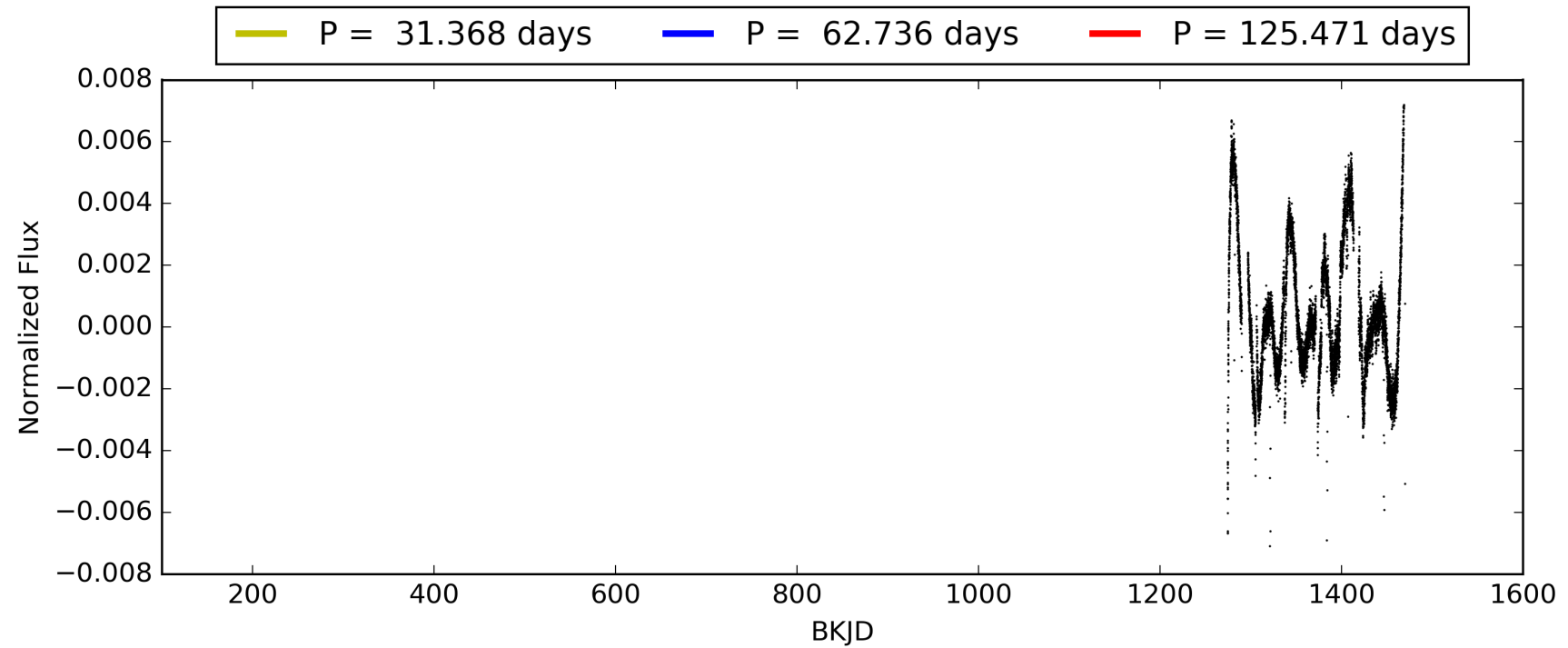
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 37.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.135
Centroid-sig: 0.0%
Centroid-so: 0.122 arcsec [38.17σ]
OotOffset-rm: 0.005 arcsec [0.07σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 0.092 arcsec [1.12σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 005036966-01, PDC Light Curves

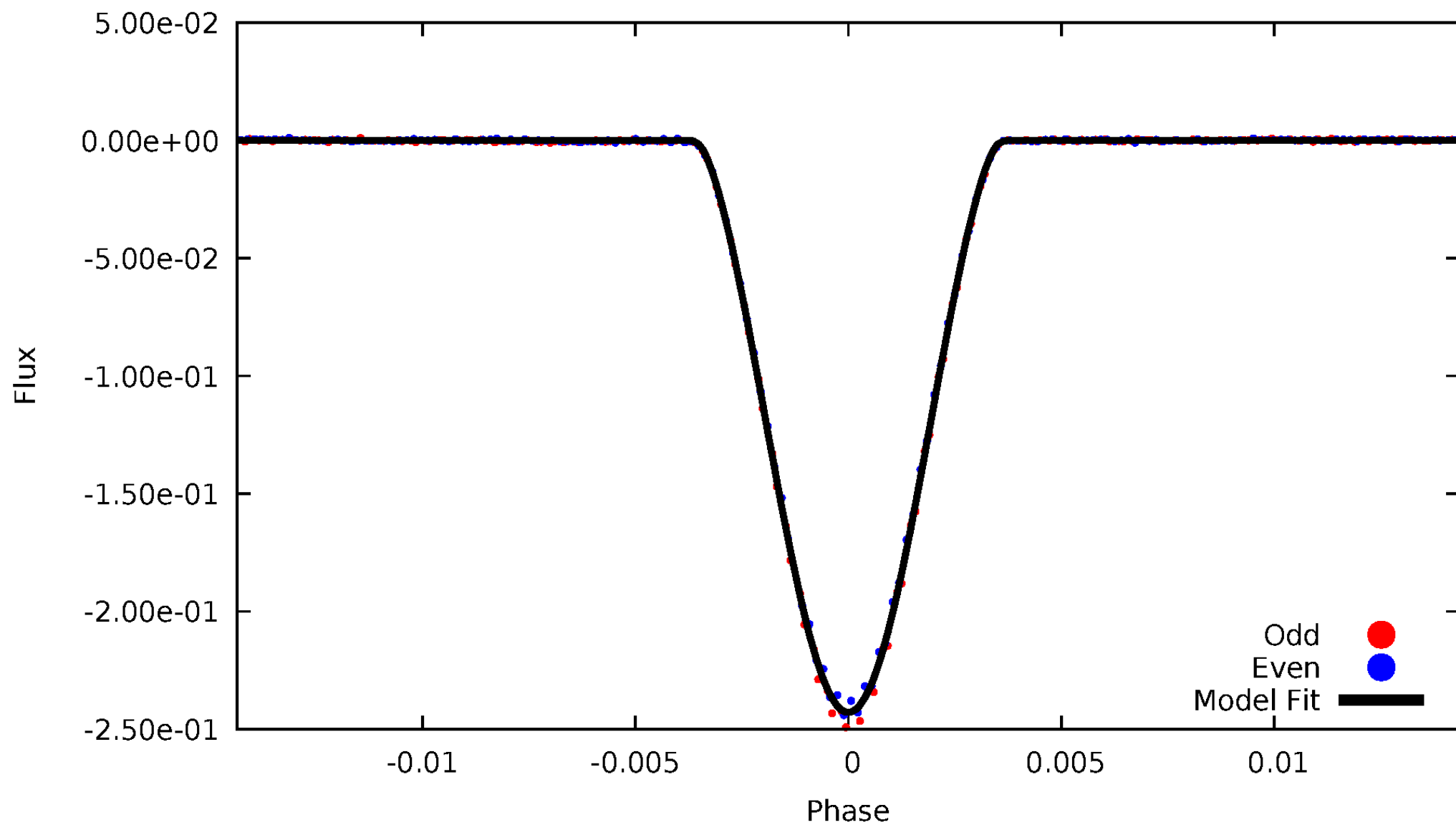


TCE 005036966-01



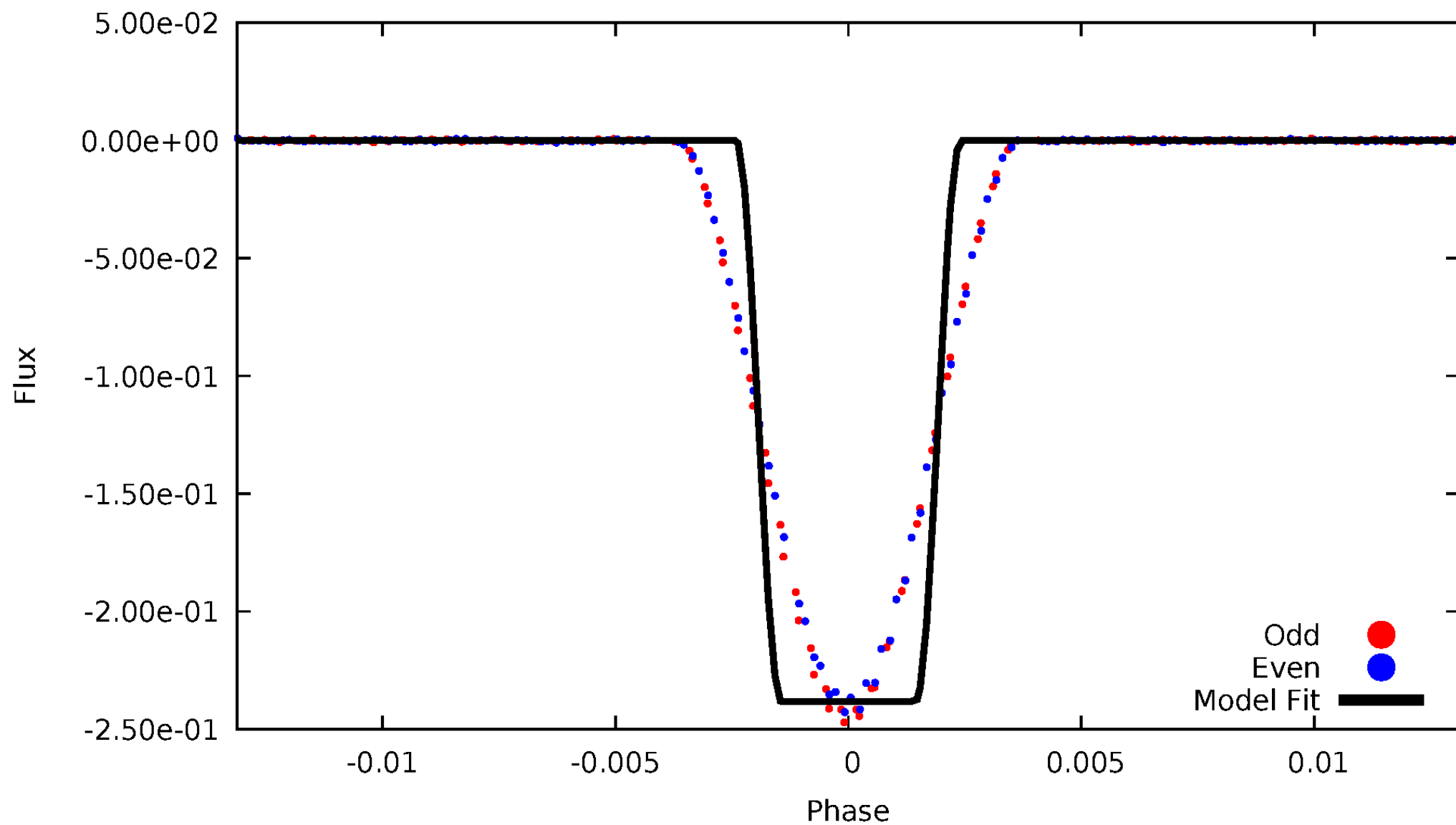
DV Odd/Even

TCE 005036966-01



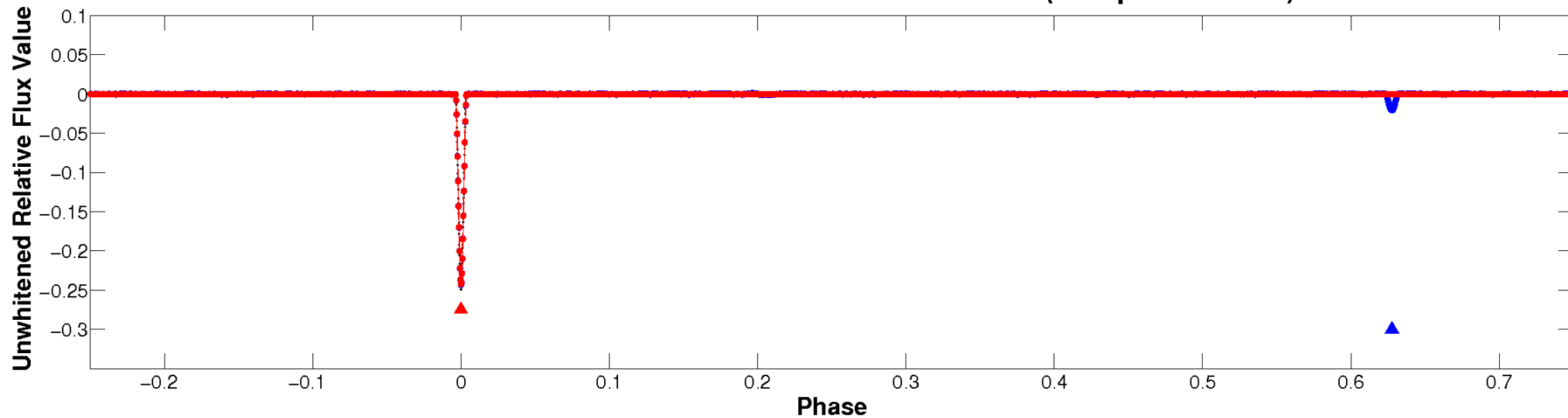
ALT Odd/Even

TCE 005036966-01

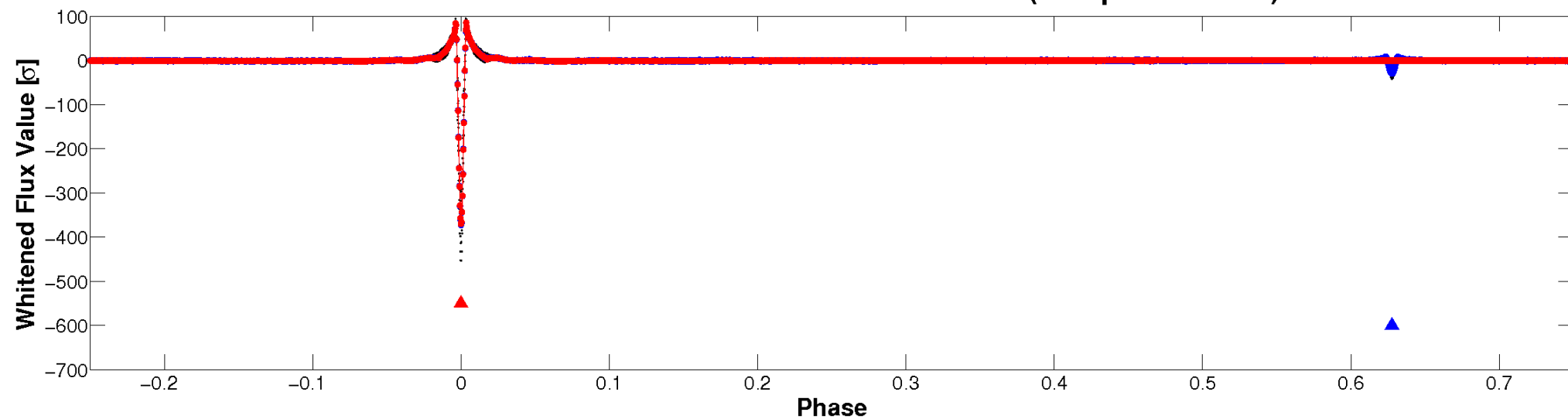


Non-Whitened Vs. Whitened Light Curve

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

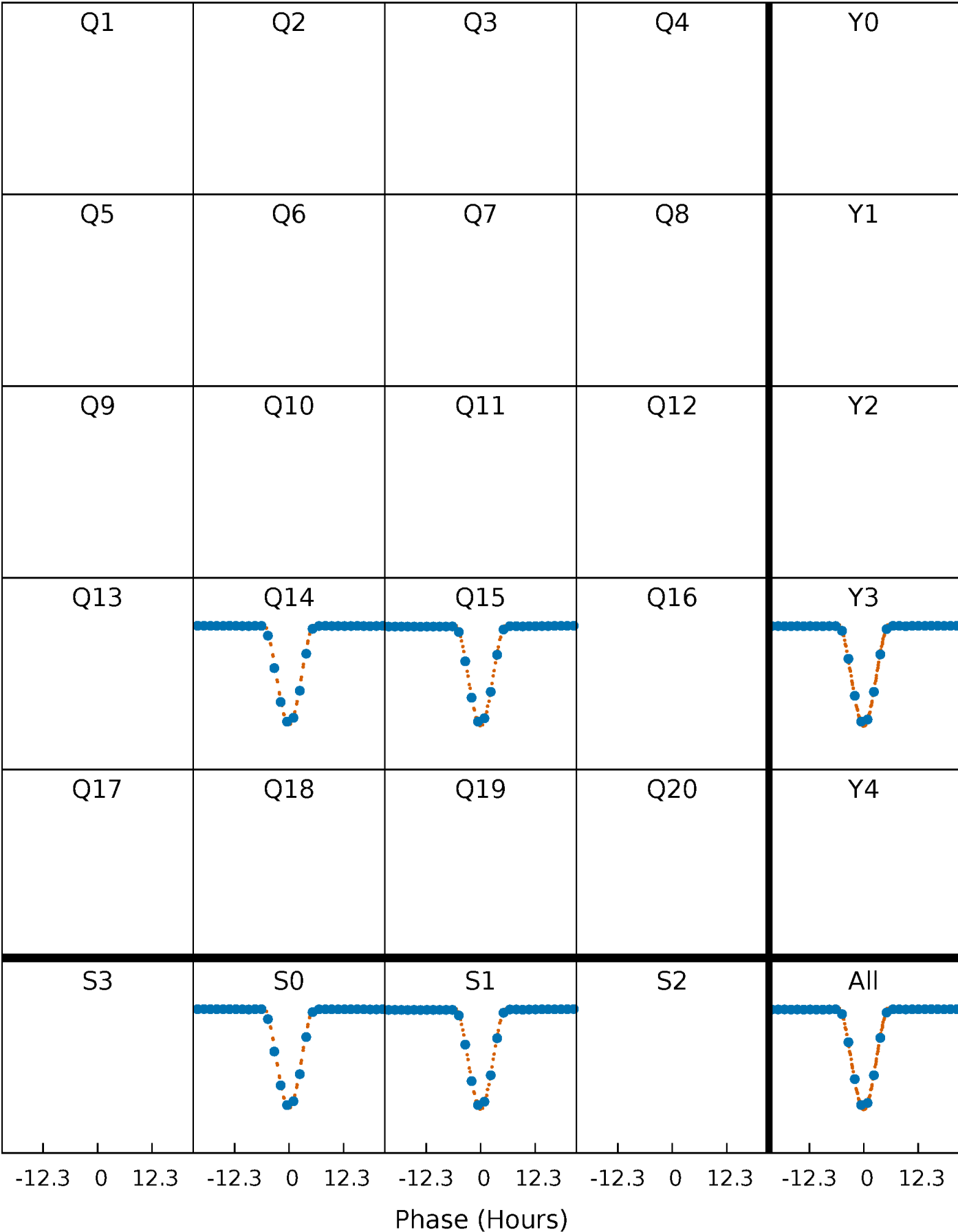


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



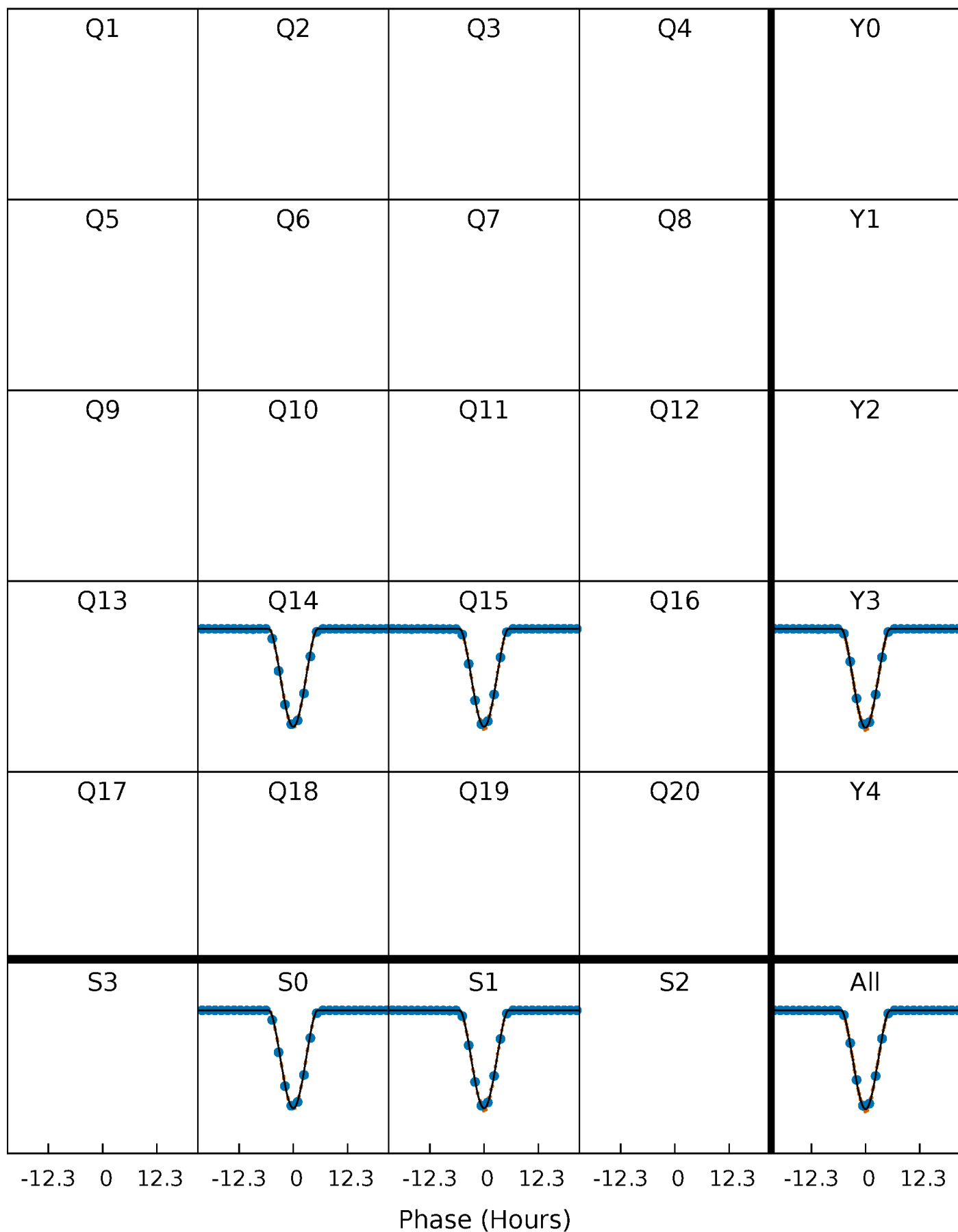
PDC Quarter-Phased Transit Curves

TCE 005036966-01 P= 62.735645 Days T₀=152.220304 (BKJD)



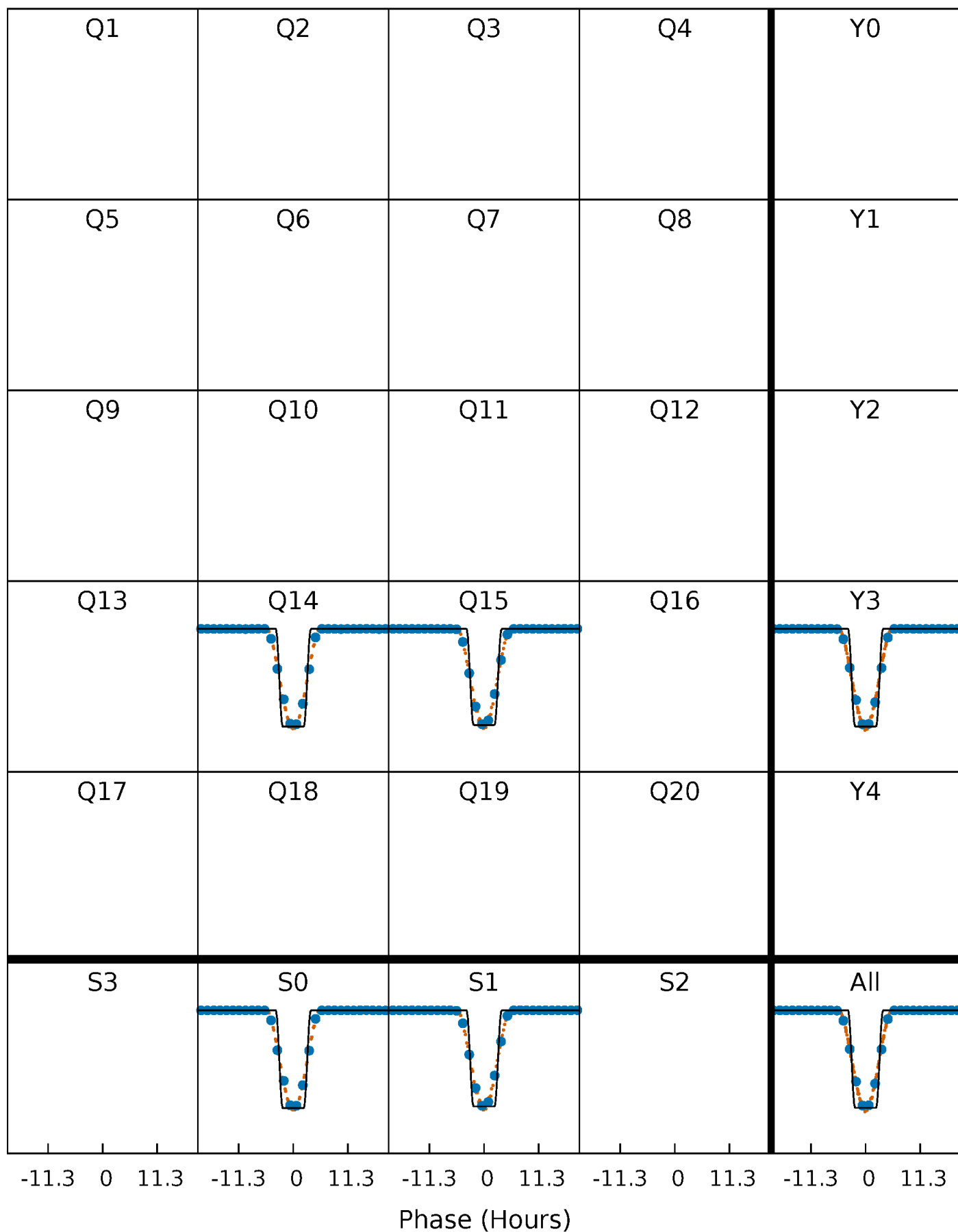
DV Quarter-Phased Transit Curves

TCE 005036966-01 P= 62.735645 Days $T_0=152.220304$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

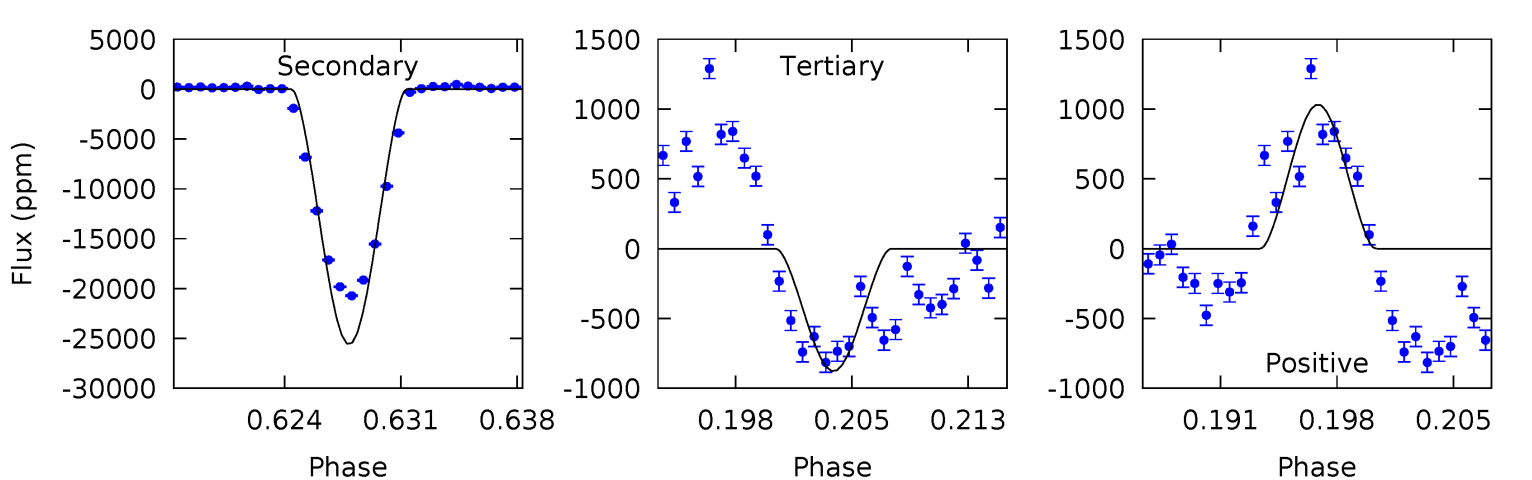
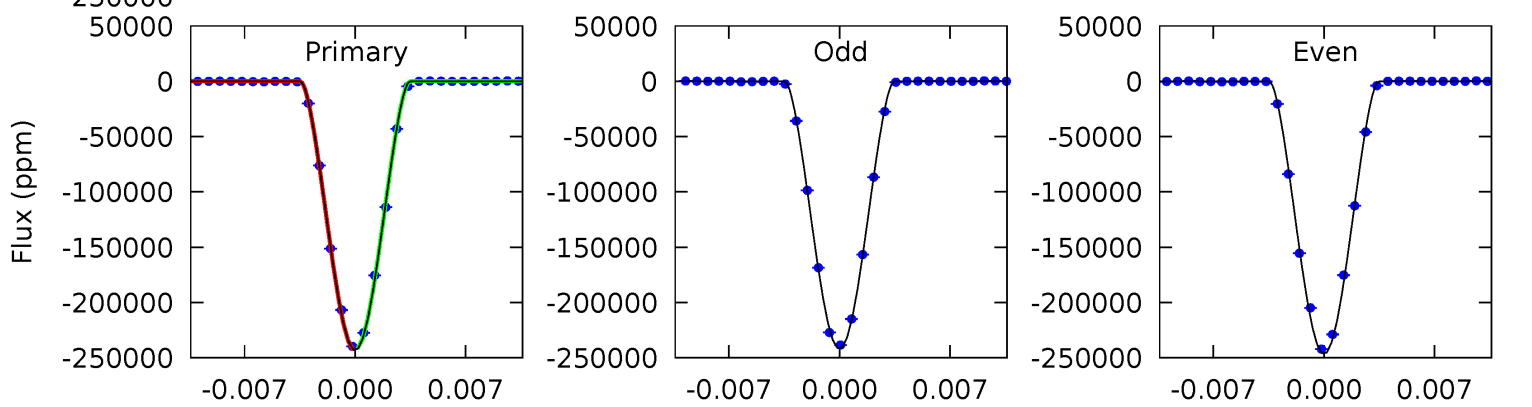
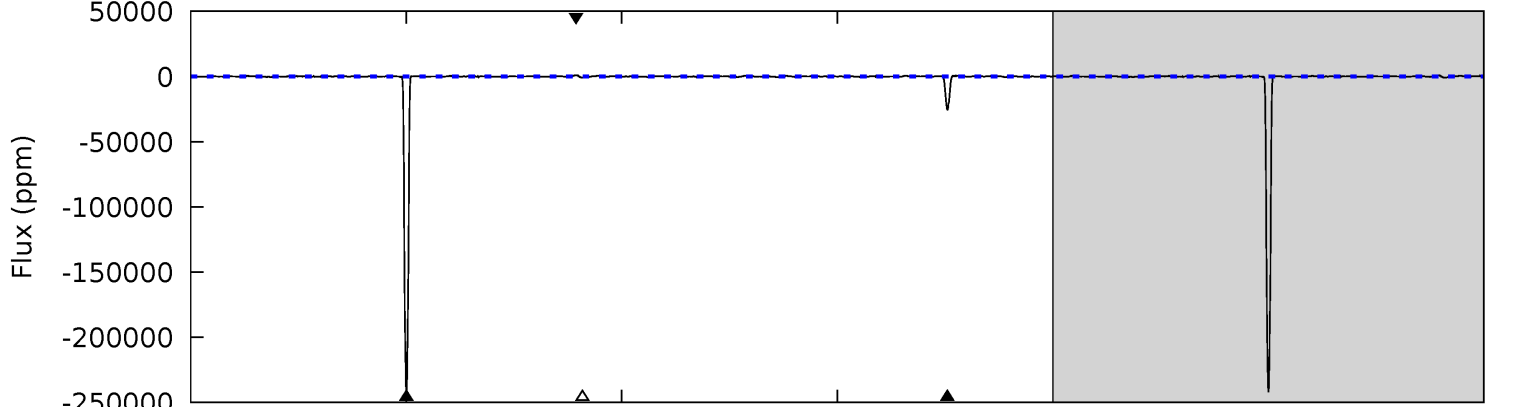
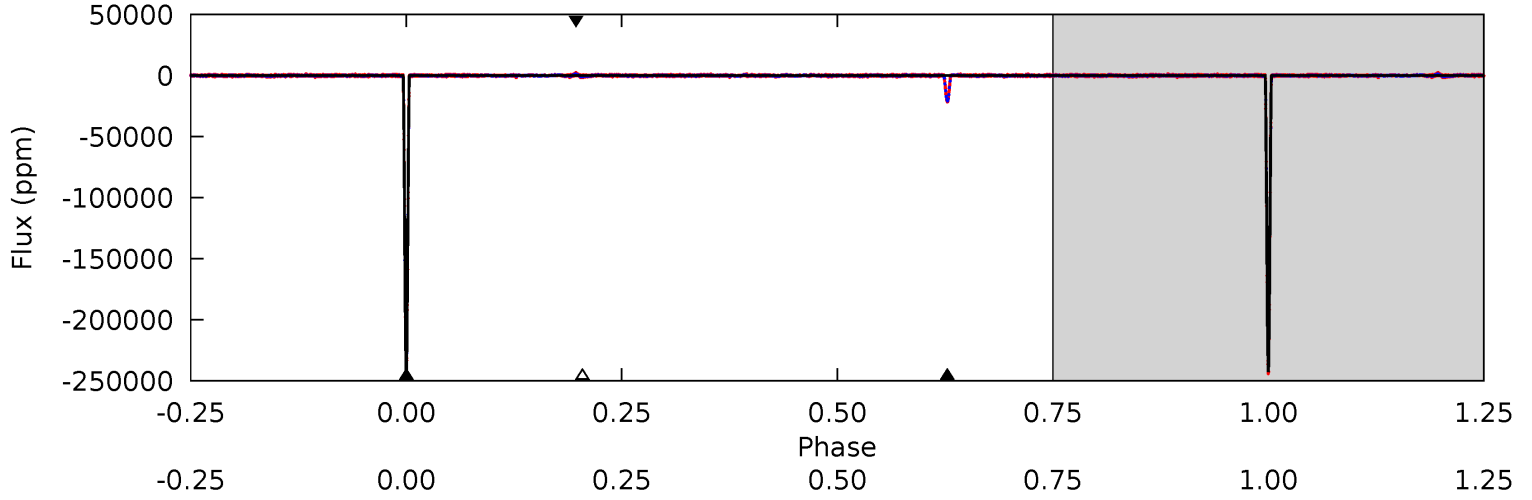
TCE 005036966-01 P= 62.736924 Days $T_0=152.195588$ (BKJD)



DV Model-Shift Uniqueness Test

005036966-01, P = 62.735645 Days, E = 152.220304 Days

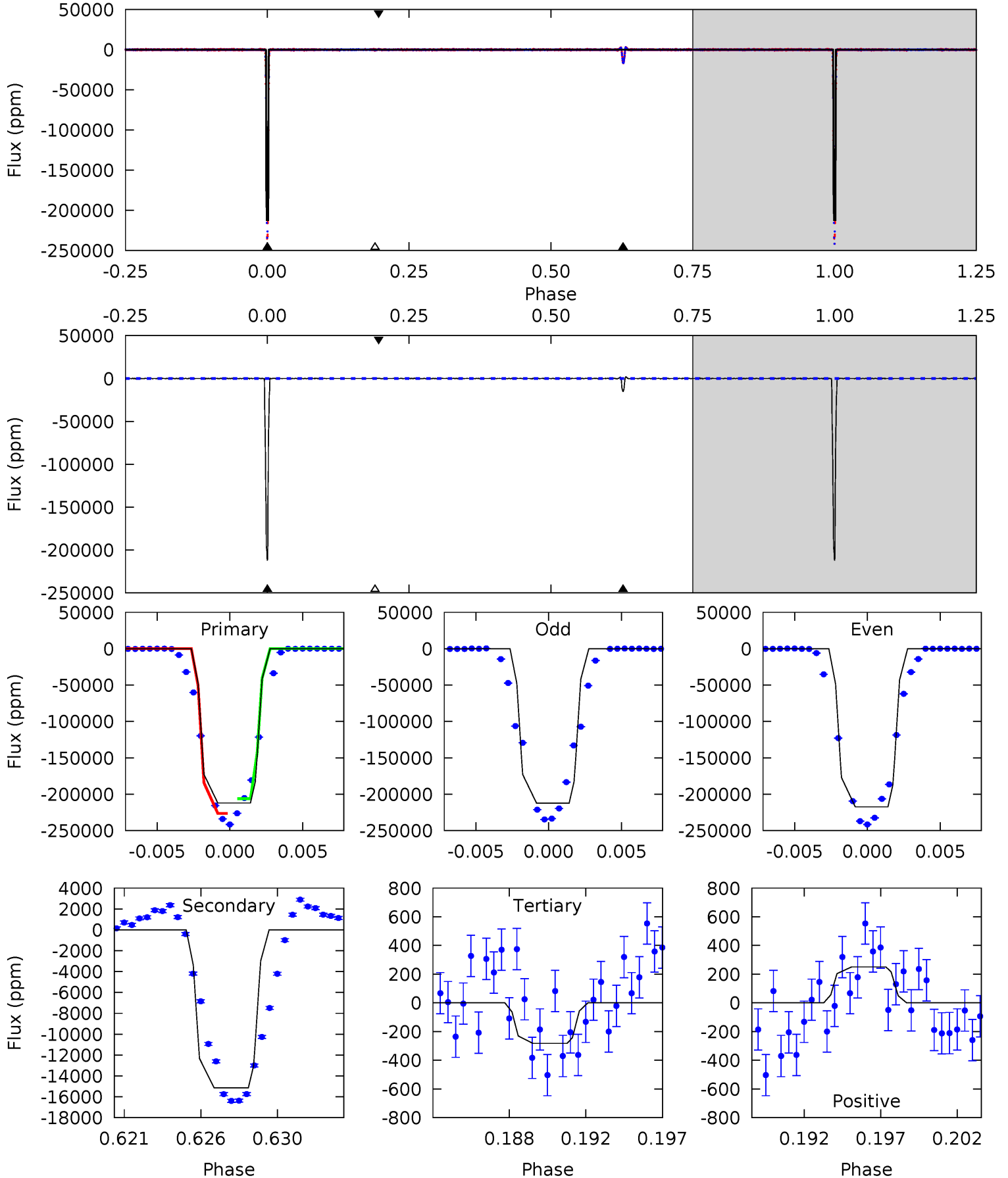
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5037	530.3	18.2	21.4	5.09	2.68	3.85	5019	5016	512.1	508.9	56.7	1.00	0.00	0



Alt Model-Shift Uniqueness Test

005036966-01, P = 62.736924 Days, E = 152.195588 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3641	259.9	4.85	4.30	5.16	2.82	8.28	3636	3637	255.0	255.5	52.5	1.00	0.01	0



Stellar Parameters For KIC 005036966

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6211^{+219}_{-219}	$4.127^{+0.293}_{-0.158}$	$-0.340^{+0.300}_{-0.300}$	$1.440^{+0.417}_{-0.459}$	$1.013^{+0.169}_{-0.123}$	$0.477^{+0.924}_{-0.210}$
	+4%/-4%	+7%/-4%	+88%/-88%	+29%/-32%	+17%/-12%	+194%/-44%
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 005036966-01 / KOI 5998.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-25465 ± 48	$86.68^{+14.35}_{-15.34}$	811^{+71}_{-74}	3738^{+112}_{-117}	191^{+81}_{-52}
Alt.	-15135 ± 58	$74.87^{+13.91}_{-13.92}$	810^{+67}_{-70}	3589^{+107}_{-112}	148^{+69}_{-41}

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

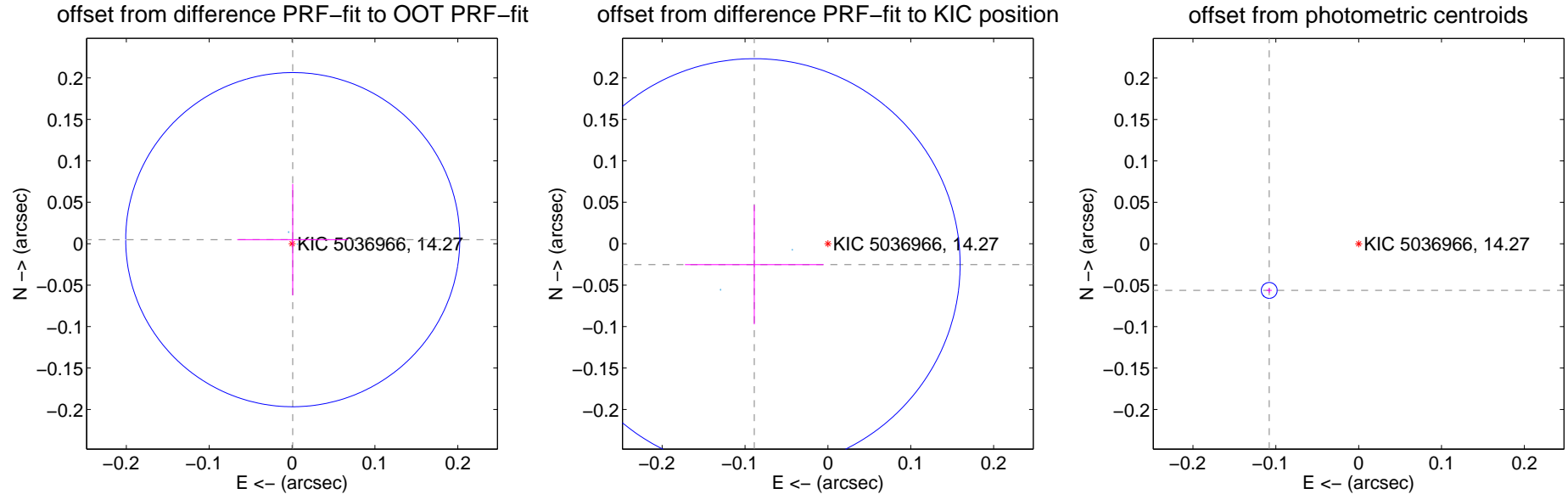
DV Centroid Data

Supplemental centroid analysis for 005036966-01. Kepler magnitude: 14.27. Transit SNR 1588.07

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.07	-0.001 ± 0.067	0.005 ± 0.067
PRF-fit source offset from KIC position	0.092 ± 0.083	1.12	0.089 ± 0.084	-0.025 ± 0.072
photometric centroid source offset	0.12 ± 0.00	38.17	0.11 ± 0.00	-0.06 ± 0.00



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.



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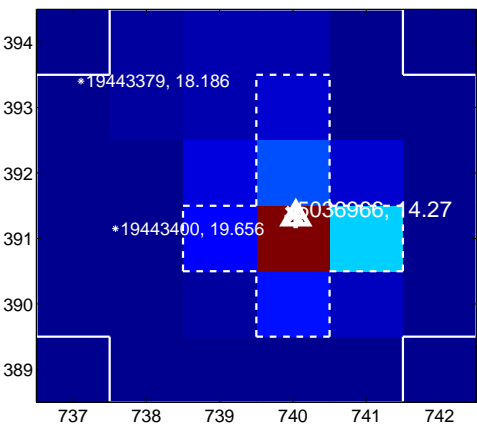
Q13 no difference image



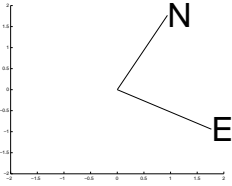
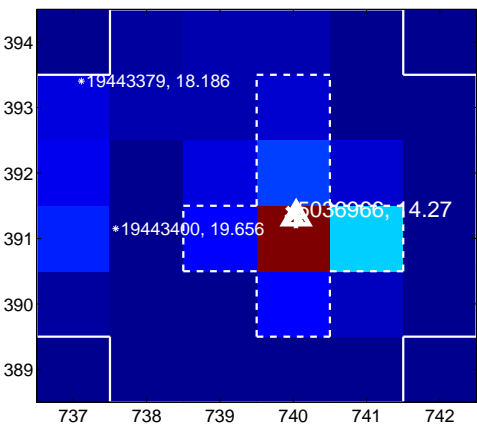
Q13 no OOT image



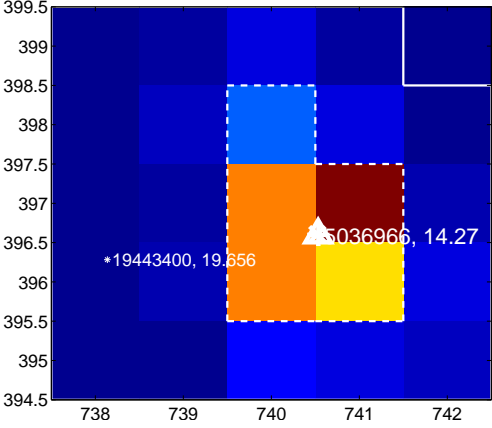
Q14 difference image



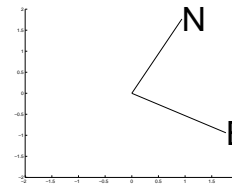
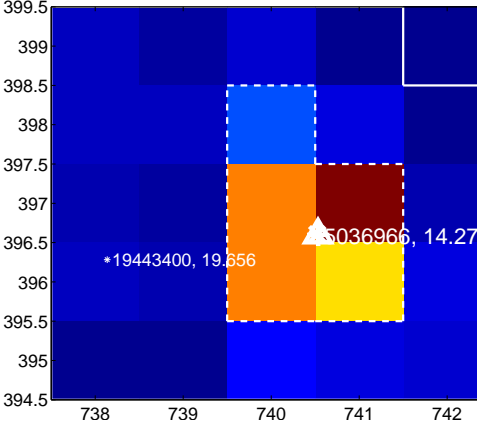
Q14 OOT image



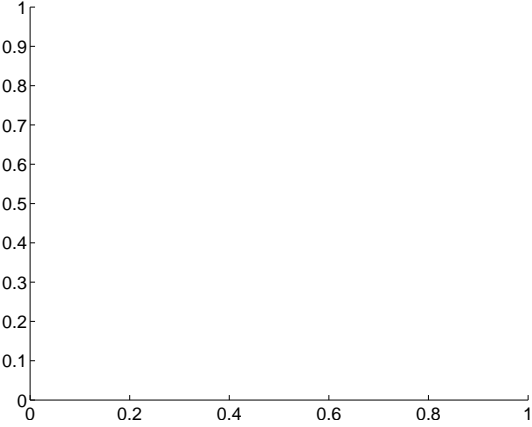
Q15 difference image



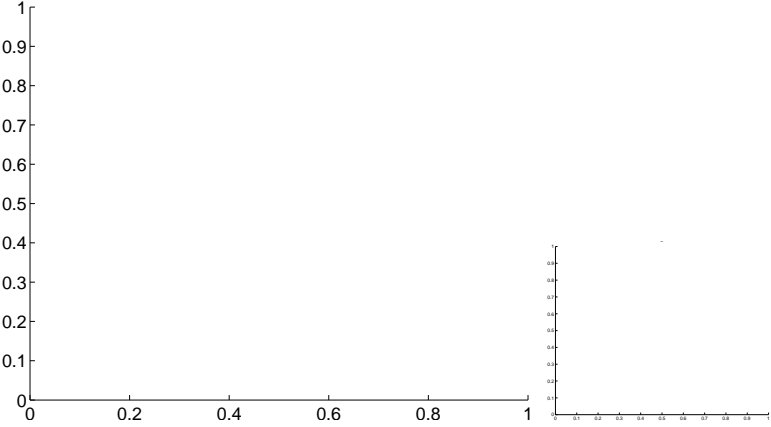
Q15 OOT image



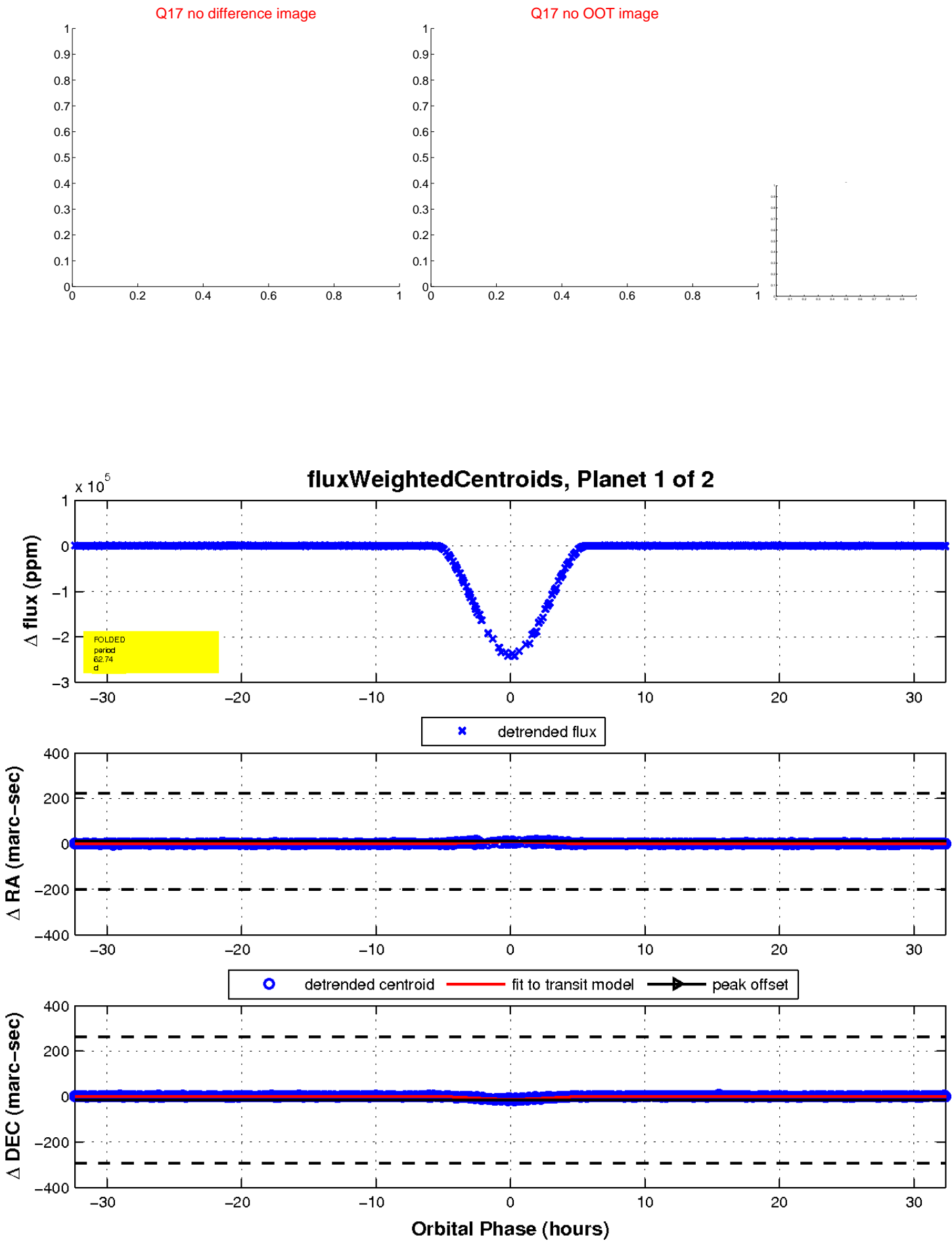
Q16 no difference image



Q16 no OOT image

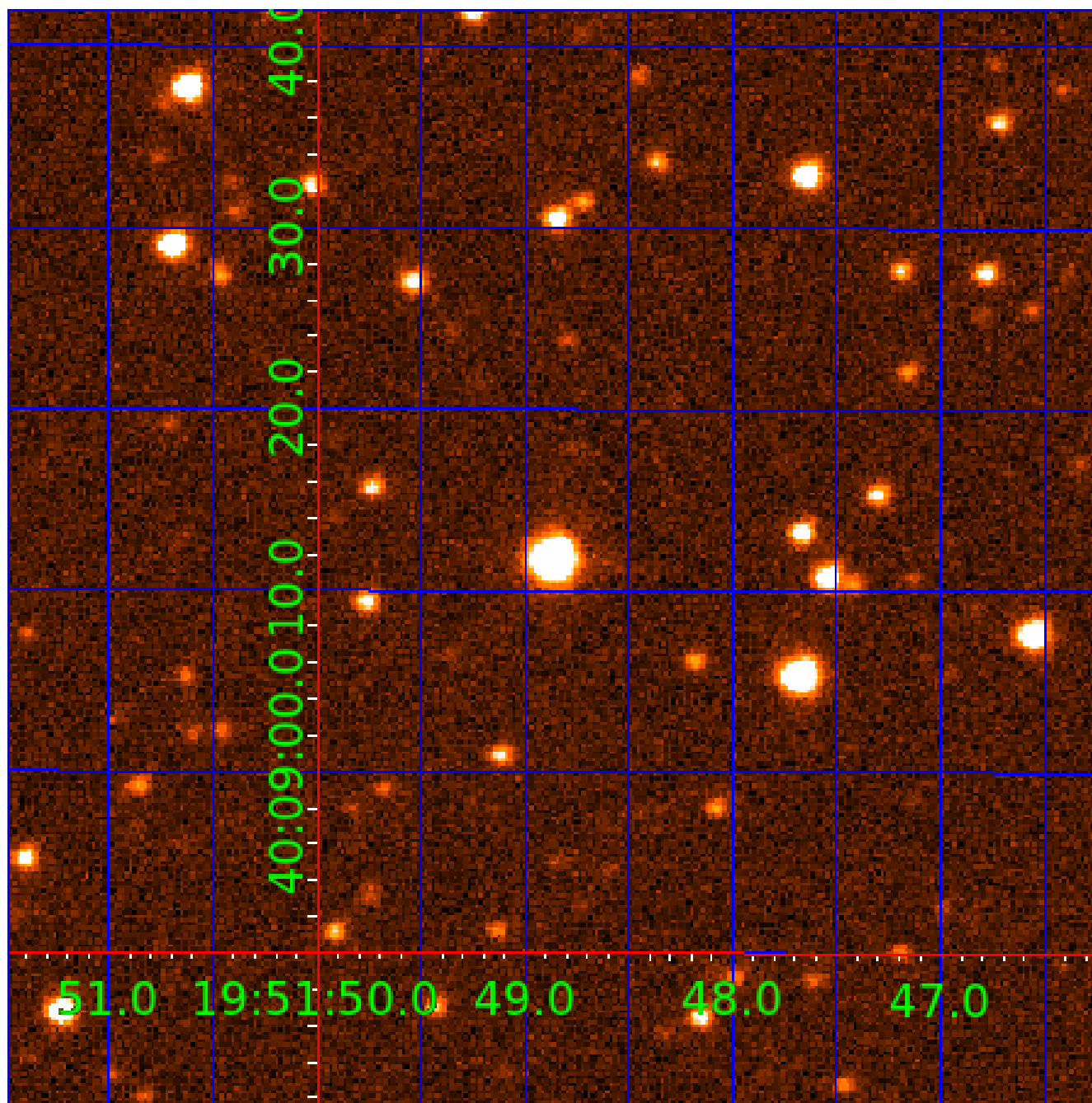


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005036966

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})
005036966-01	OBS	5998.01	62.735645	152.220304	242889.4	10.801	2029.2	1588.1	1.44	6211	88.07	28.69
005036966-02	OBS	No	62.735424	191.602932	21213.5	12.116	163.5	160.8	1.44	6211	33.41	28.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005036966-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_FEW_DIFFS
005036966-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

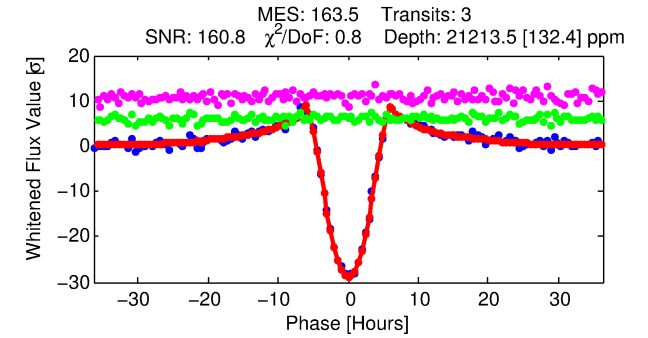
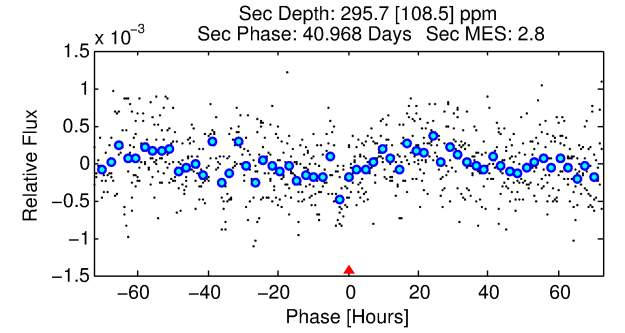
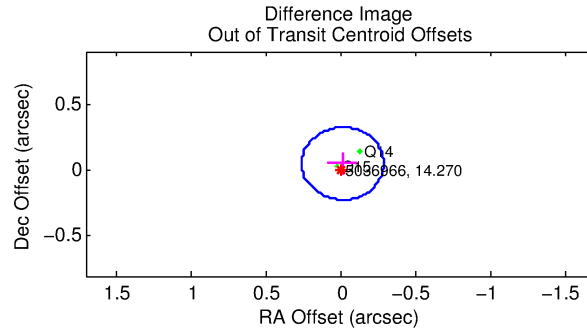
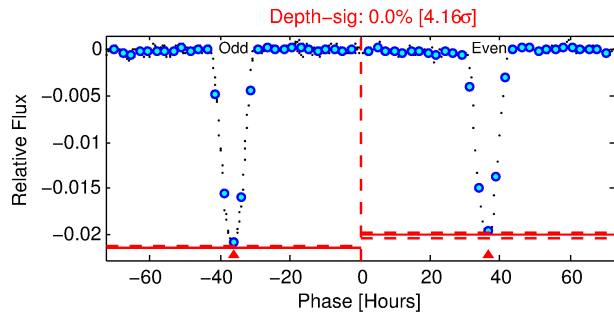
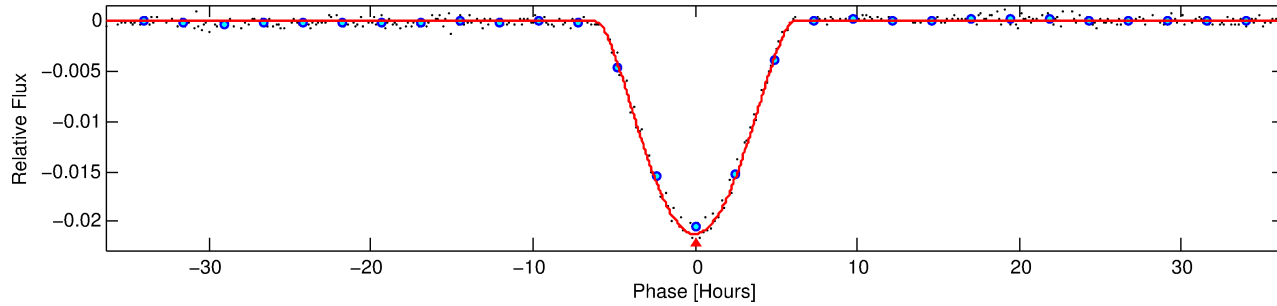
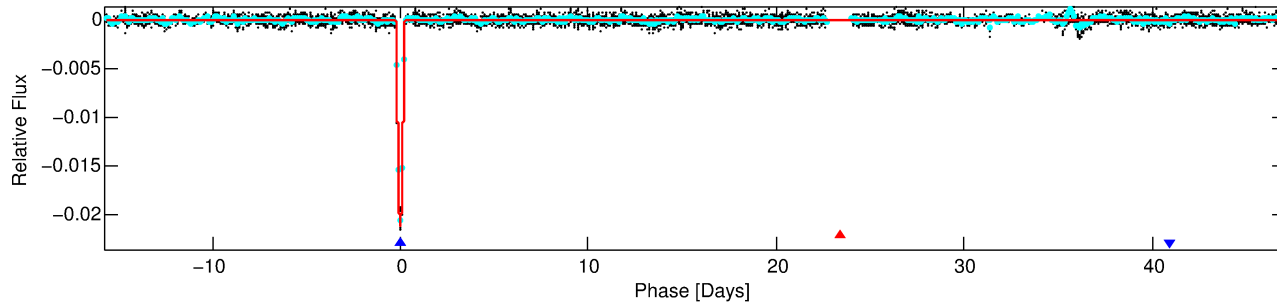
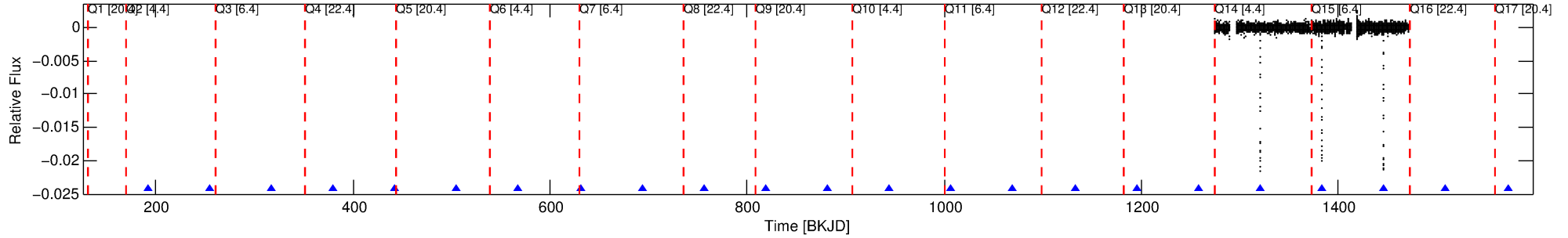
Ephemeris Match Information For 005036966-02

No Significant Match Found

DV One-Page Summary

KIC: 5036966 Candidate: 2 of 2 Period: 62.735 d
KOI: K05998 Corr: No Ephemeris Match

Kp: 14.27 R*: 1.44 Rs Teff: 6211.0 K Logg: 4.13 Fe/H: -0.340



DV Fit Results:

Period = 62.73542 [0.00077] d
Epoch = 191.6029 [0.0145] BKJD
Rp/R* = 0.2126 [0.0334]
a/R* = 28.70 [0.60]
b = 0.97 [0.05]
Seff = 28.69 [14.84]
Teq = 590 [76] K
Rp = 33.41 [11.87] Re
a = 0.3104 [0.0960] AU
Ag = 14.04 [9.73] [1.34σ]
Teff = 1766 [222] K [5.01σ]

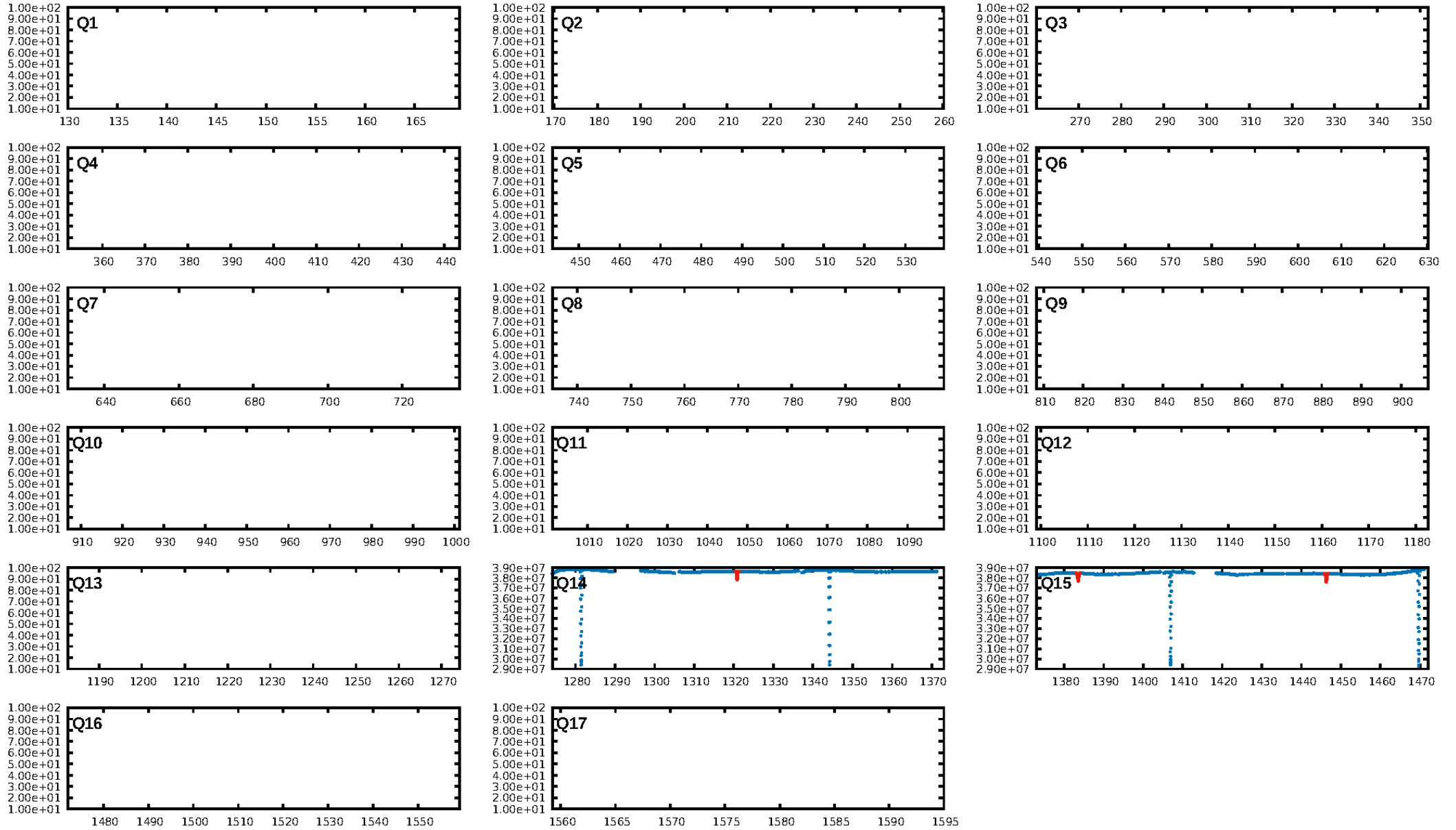
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.859
Centroid-sig: 0.8%
Centroid-so: 0.141 arcsec [4.05σ]
OotOffset-rm: 0.053 arcsec [0.58σ]
KicOffset-rm: 0.035 arcsec [0.52σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

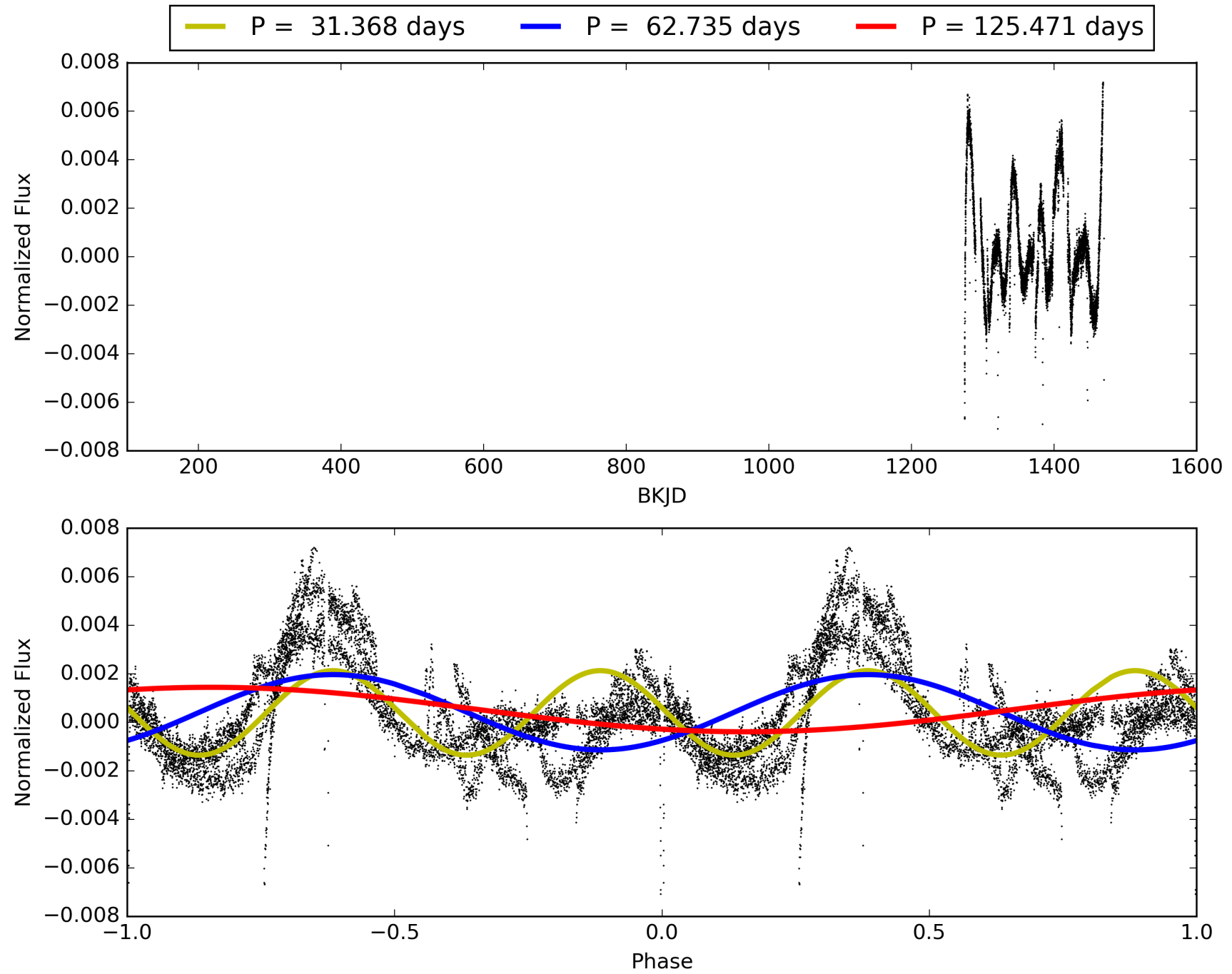
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:00:25 Z

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

TCE 005036966-02, PDC Light Curves

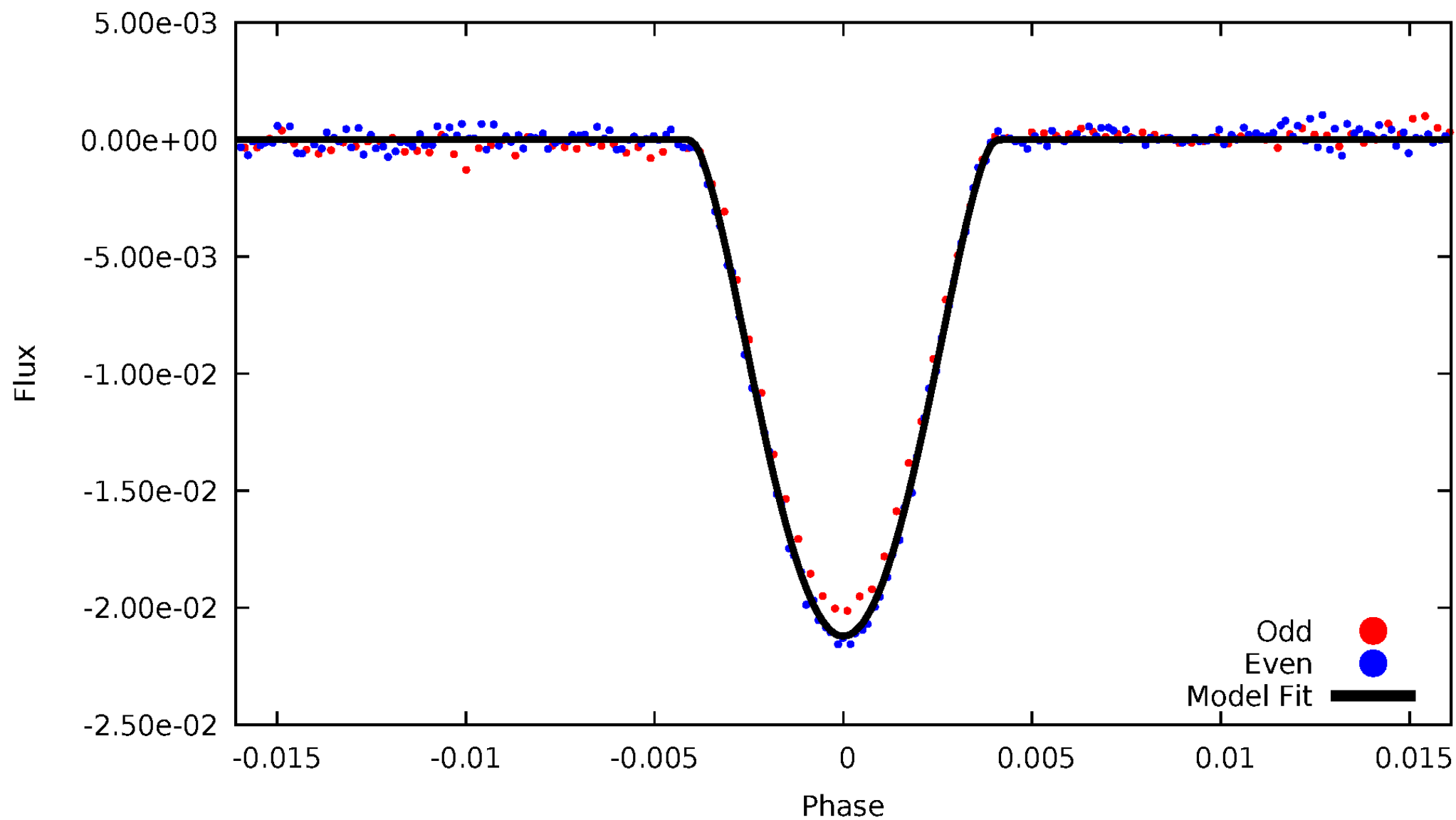


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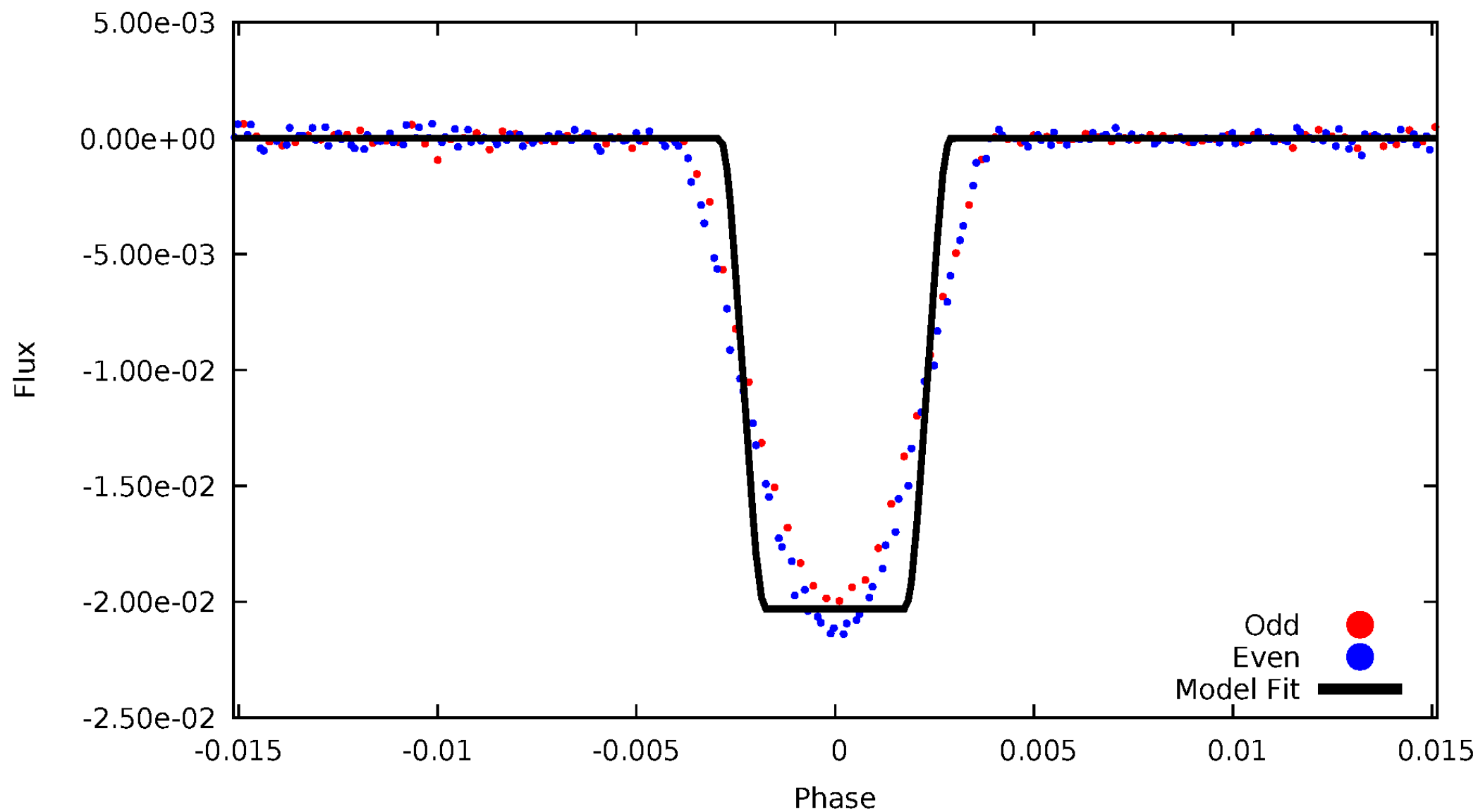
DV Odd/Even

TCE 005036966-02



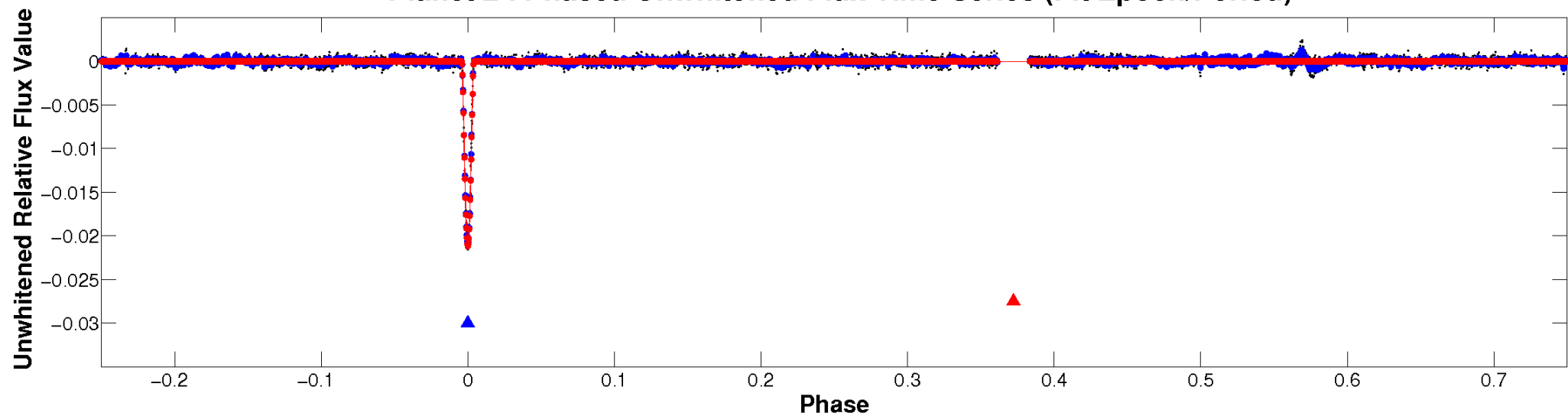
ALT Odd/Even

TCE 005036966-02

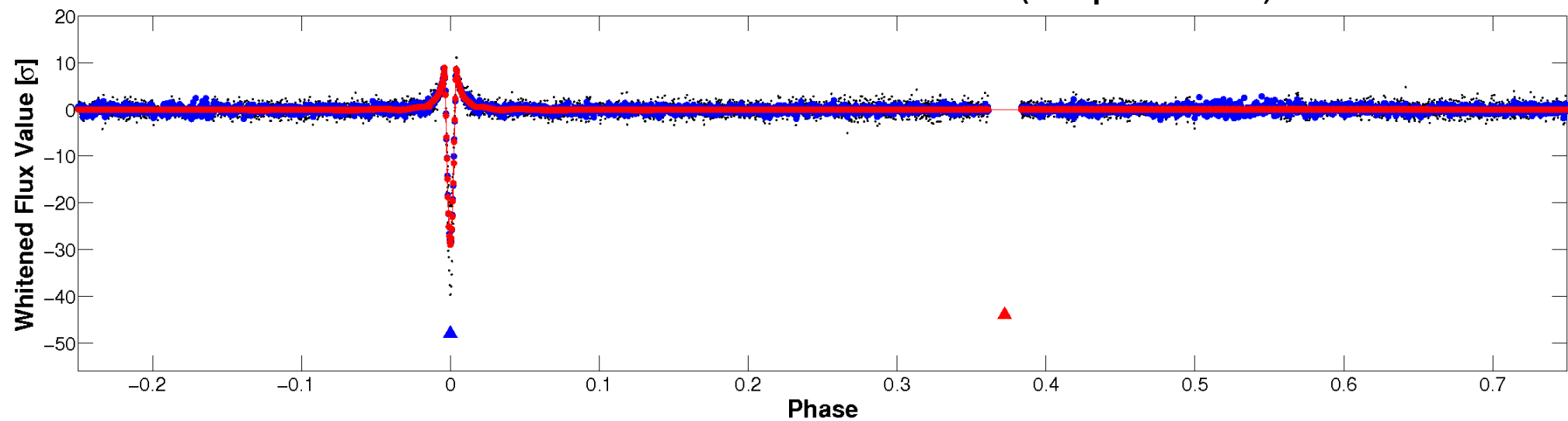


Non-Whitened Vs. Whitened Light Curve

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

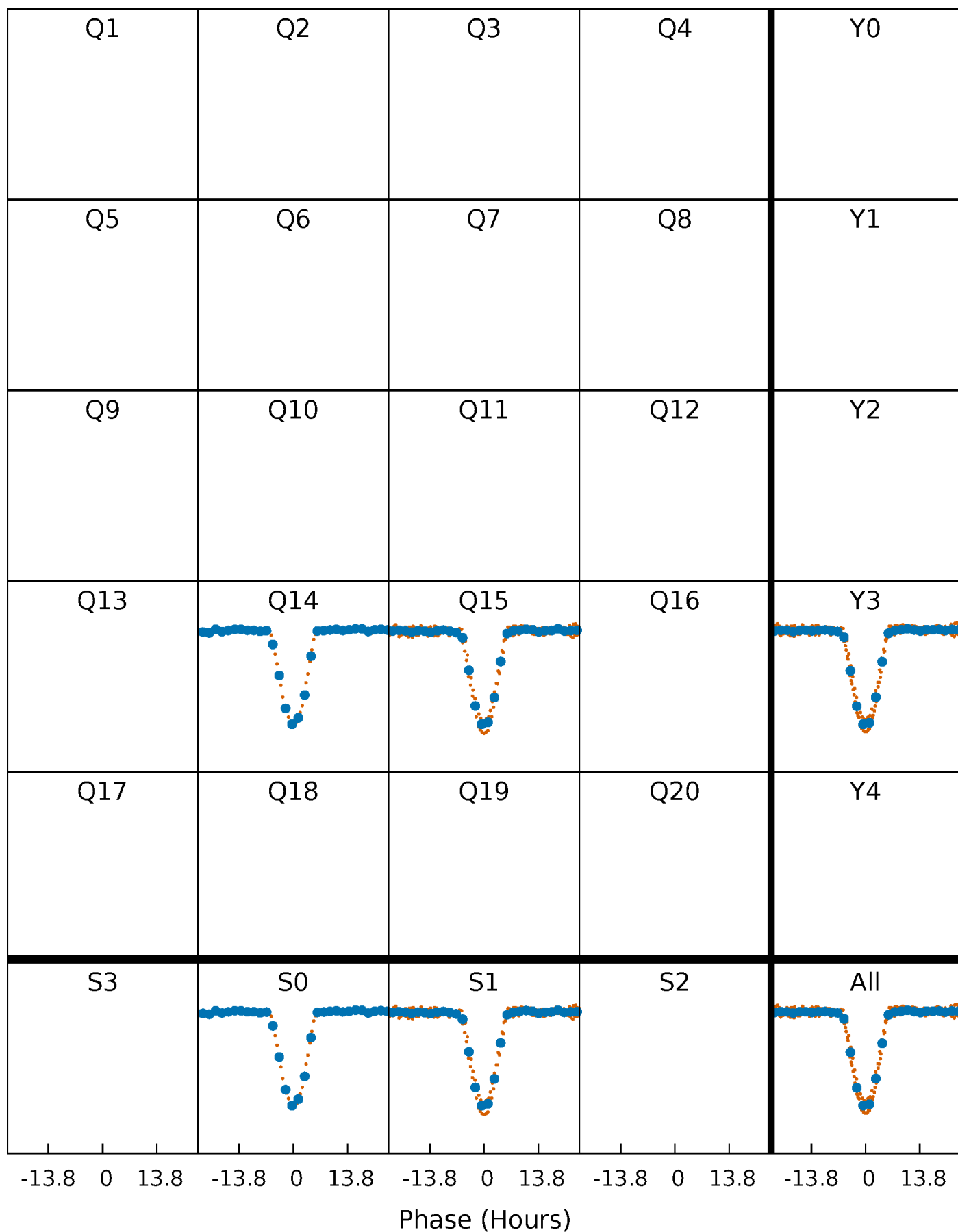


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



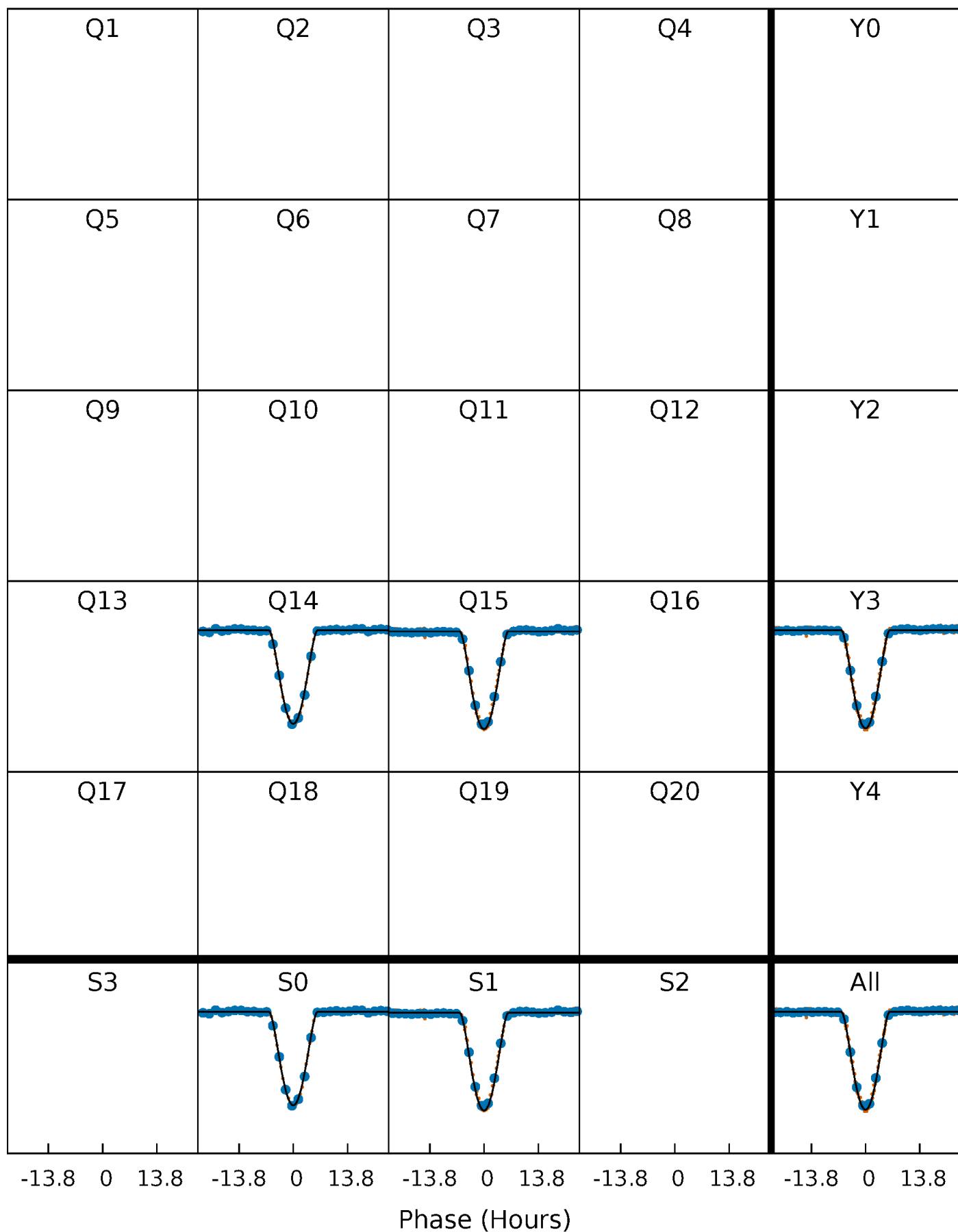
PDC Quarter-Phased Transit Curves

TCE 005036966-02 P= 62.735424 Days $T_0=191.602932$ (BKJD)



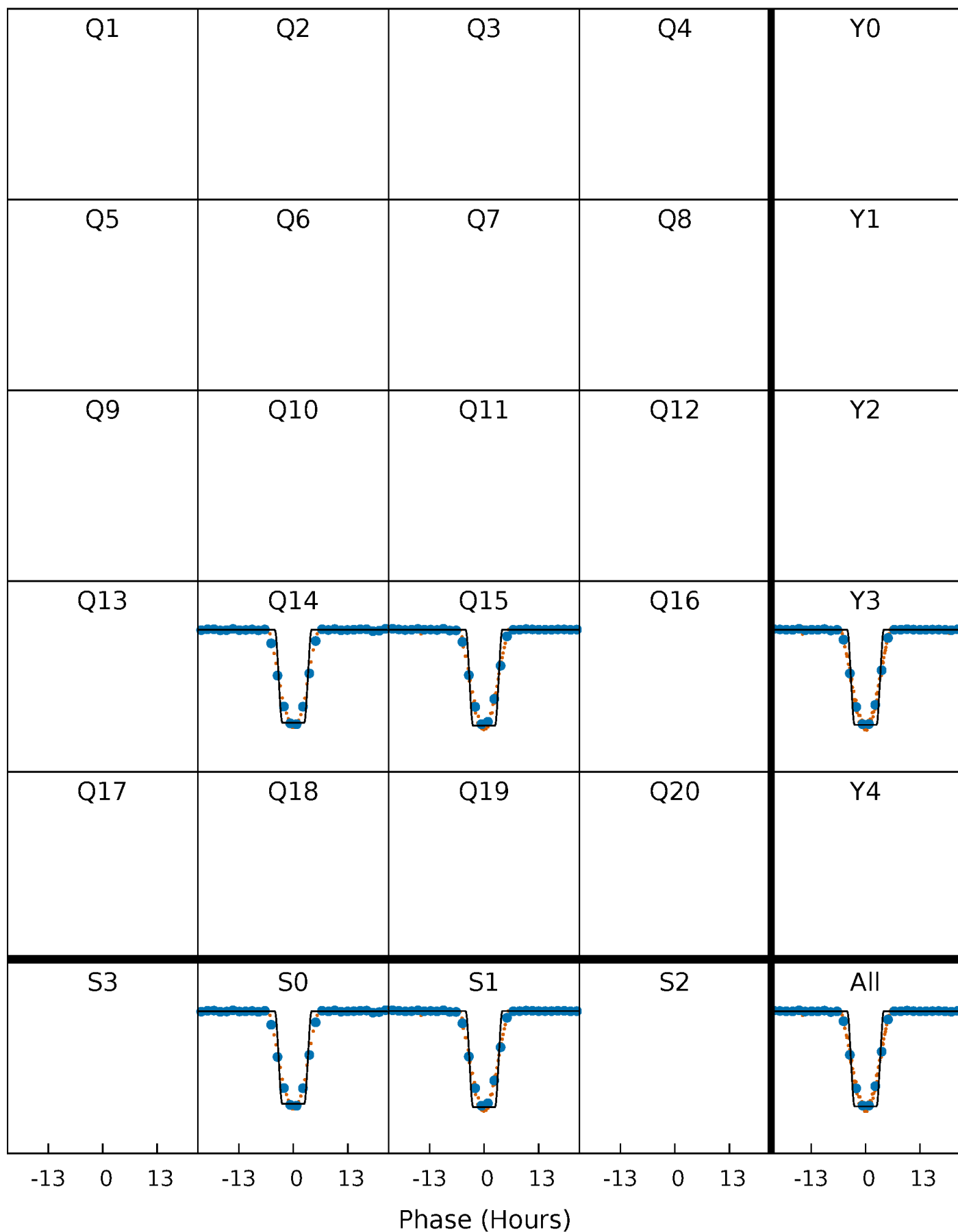
DV Quarter-Phased Transit Curves

TCE 005036966-02 P= 62.735424 Days $T_0=191.602932$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

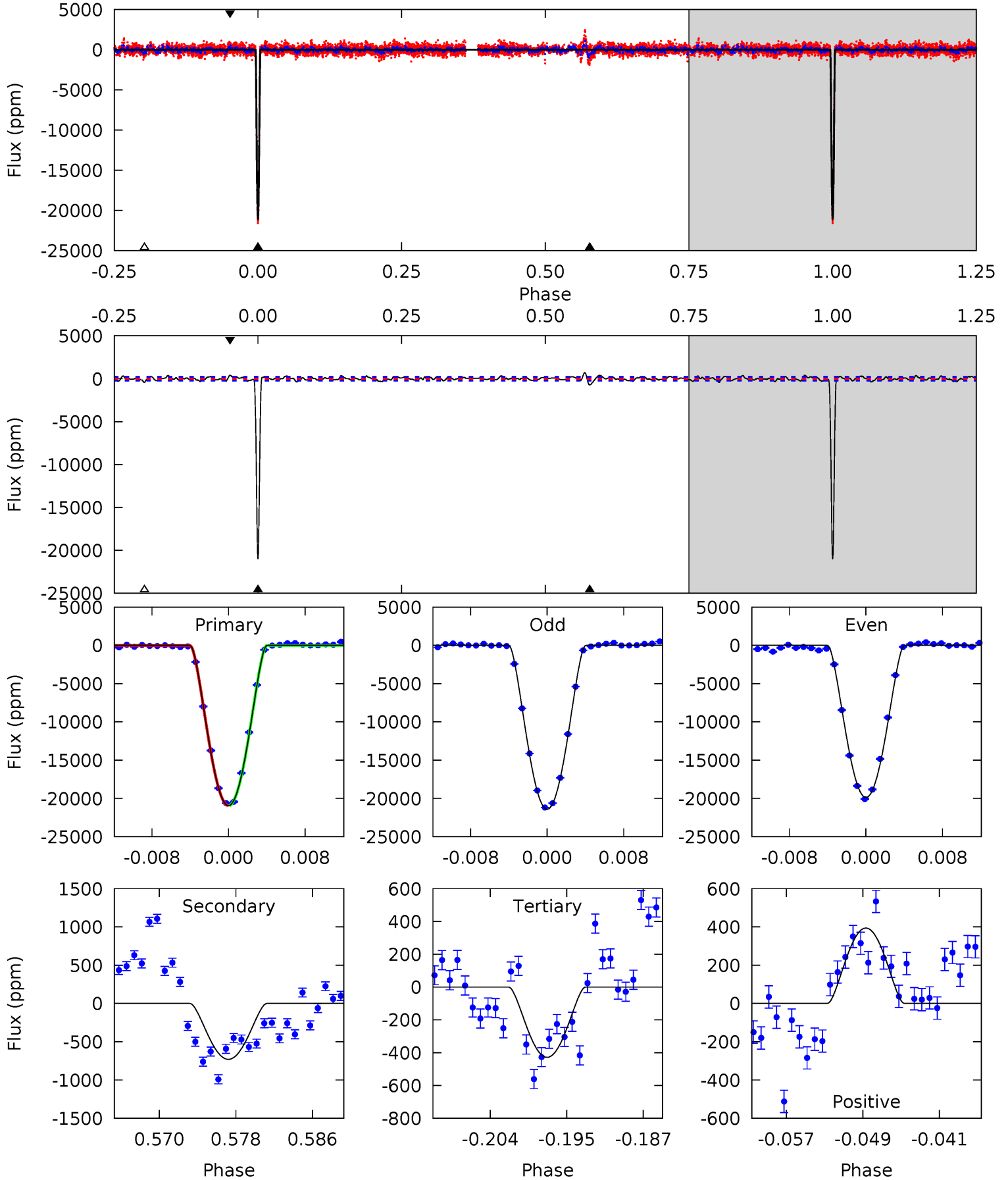
TCE 005036966-02 P= 62.737037 Days $T_0=191.572465$ (BKJD)



DV Model-Shift Uniqueness Test

005036966-02, P = 62.735424 Days, E = 191.602932 Days

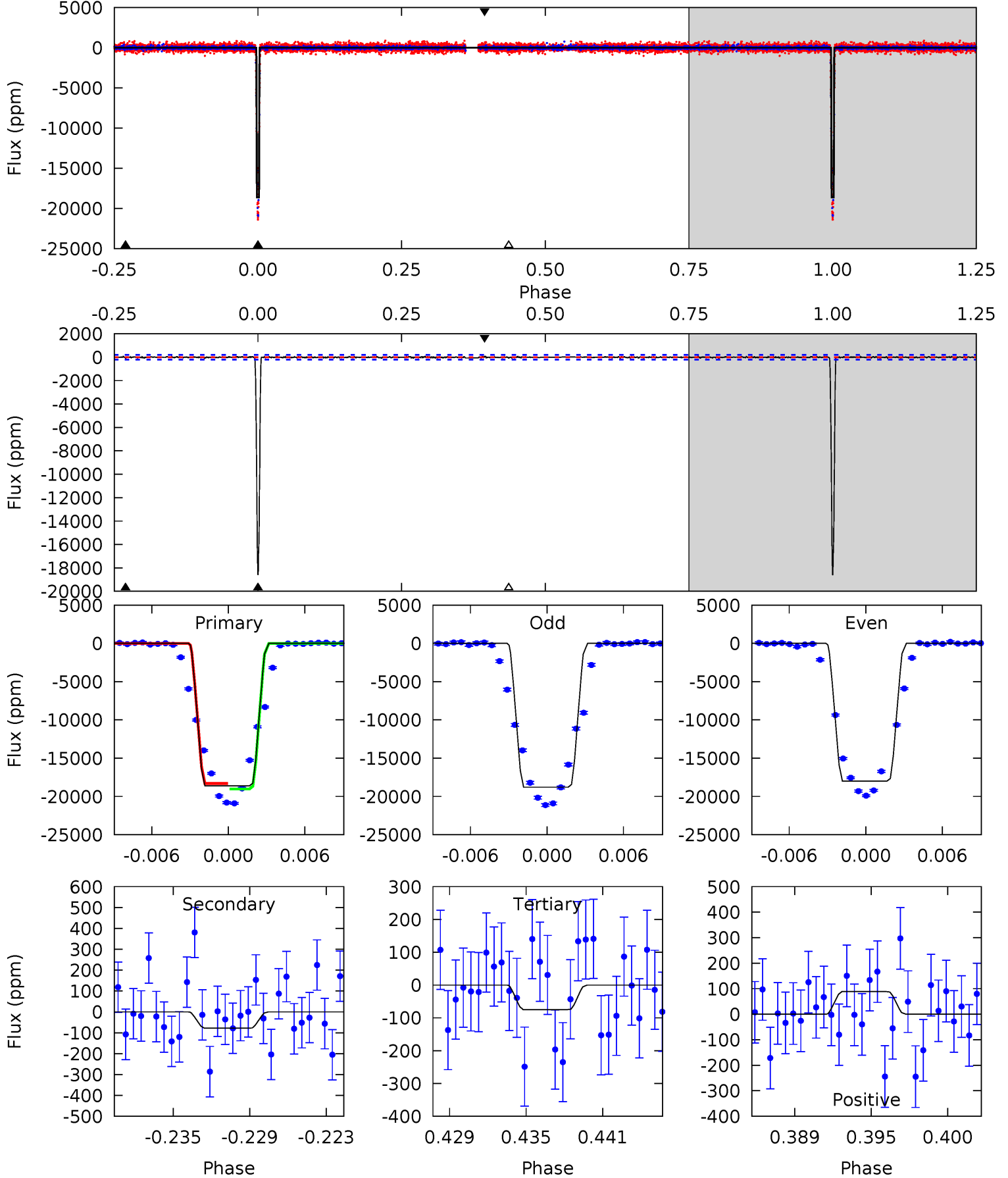
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
486.8	17.0	9.96	9.16	5.07	2.65	3.39	476.9	477.7	7.01	7.81	16.9	0.98	0.03	0.08



Alt Model-Shift Uniqueness Test

005036966-02, P = 62.737037 Days, E = 191.572465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
475.6	2.00	1.91	2.26	5.13	2.76	0.55	473.7	473.4	0.09	-0.27	10.4	0.98	0.00	9.07



Stellar Parameters For KIC 005036966

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6211^{+219}_{-219}	$4.127^{+0.293}_{-0.158}$	$-0.340^{+0.300}_{-0.300}$	$1.440^{+0.417}_{-0.459}$	$1.013^{+0.169}_{-0.123}$	$0.477^{+0.924}_{-0.210}$
	+4%/-4%	+7%/-4%	+88%/-88%	+29%/-32%	+17%/-12%	+194%/-44%
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 005036966-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-730 ± 43	$32.20^{+8.12}_{-6.92}$	814^{+67}_{-80}	2916^{+149}_{-131}	38^{+22}_{-14}
Alt.	-78 ± 39	$21.25^{+6.88}_{-5.09}$	815^{+64}_{-73}	2420^{+197}_{-202}	$8.830^{+9.281}_{-4.892}$

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

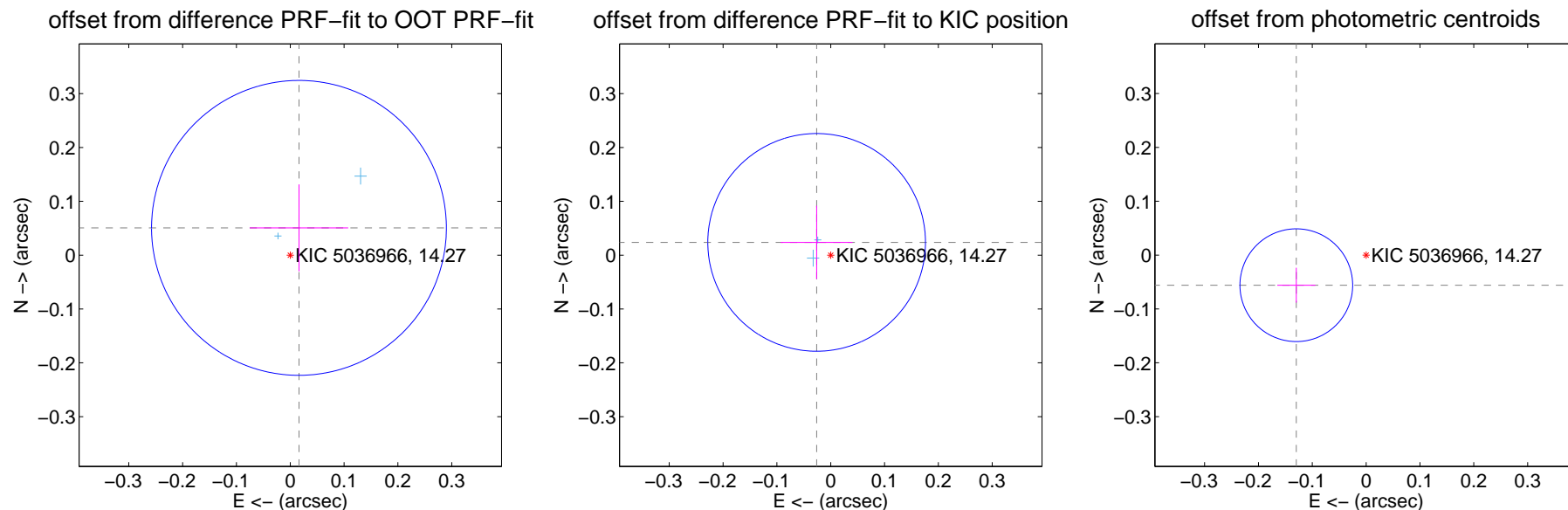
DV Centroid Data

Supplemental centroid analysis for 005036966-02. Kepler magnitude: 14.27. Transit SNR 160.83

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.091	0.58	-0.016 ± 0.092	0.051 ± 0.081
PRF-fit source offset from KIC position	0.035 ± 0.067	0.52	0.026 ± 0.067	0.024 ± 0.068
photometric centroid source offset	0.14 ± 0.03	4.05	0.13 ± 0.04	-0.06 ± 0.03



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.



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

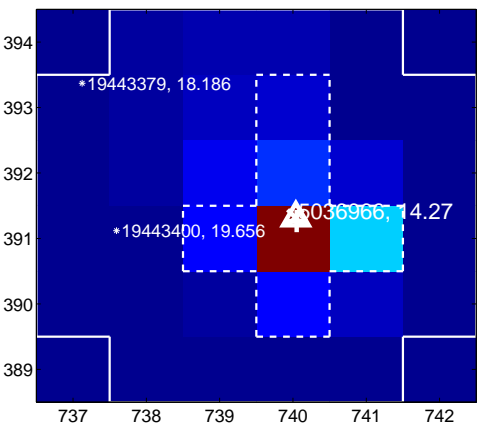
Q13 no difference image



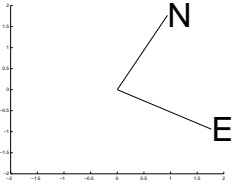
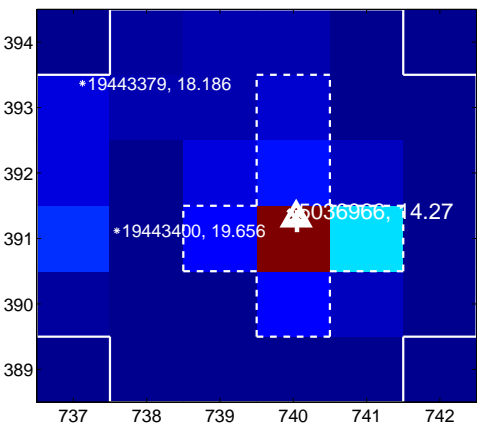
Q13 no OOT image



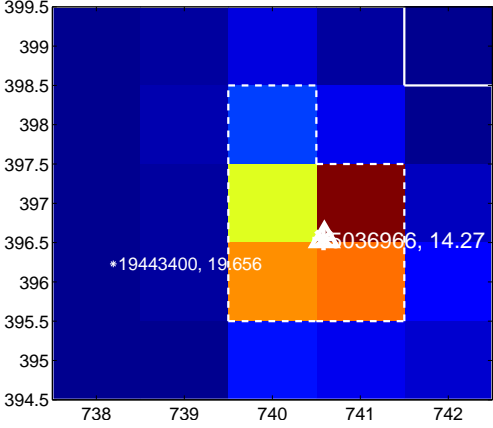
Q14 difference image



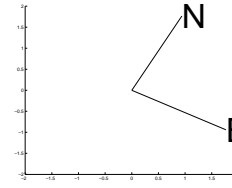
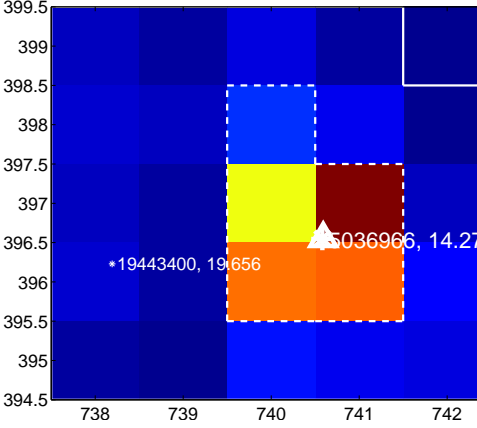
Q14 OOT image



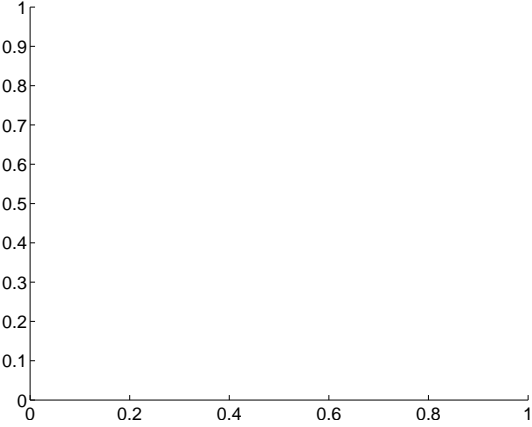
Q15 difference image



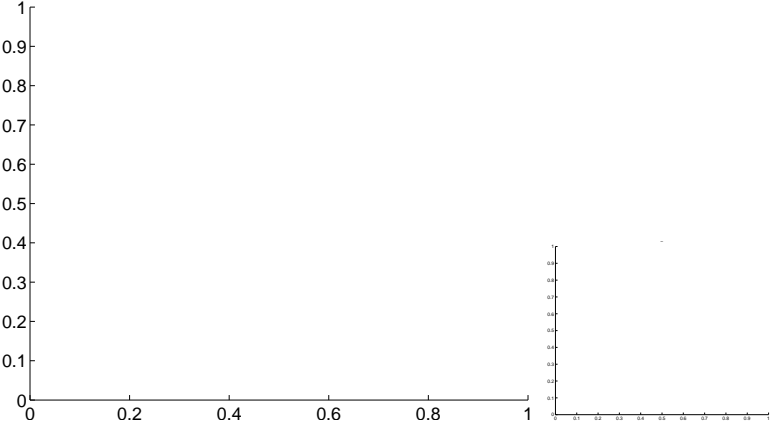
Q15 OOT image



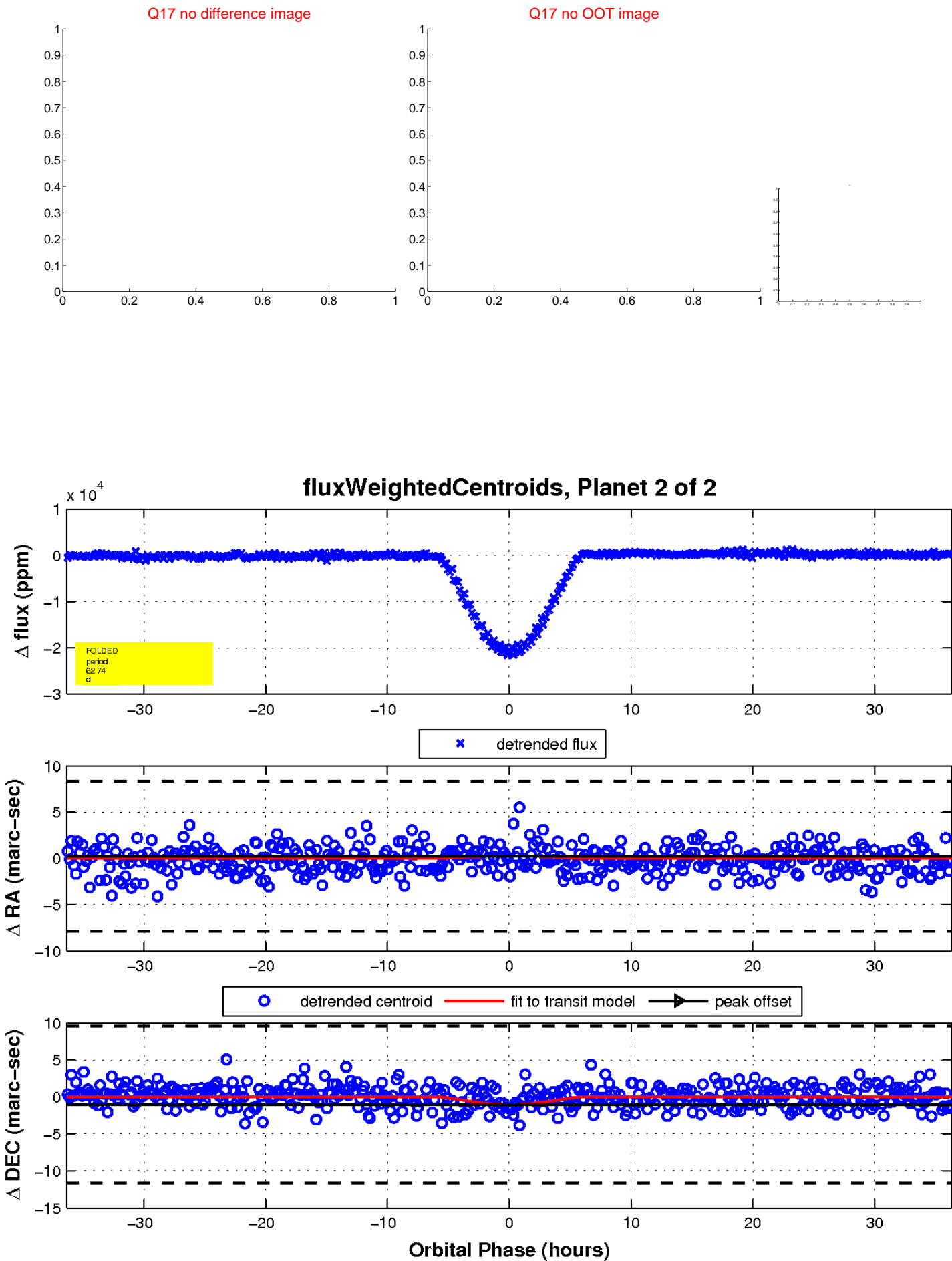
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

