

KIC 012366740

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})
012366740-01	OBS	No	259.317040	315.875273	557.5	8.142	10.1	6.7	1.29	6366	3.39	3.70
012366740-02	OBS	No	275.261729	182.334590	852.3	8.008	10.7	10.7	1.29	6366	3.97	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366740-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012366740-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

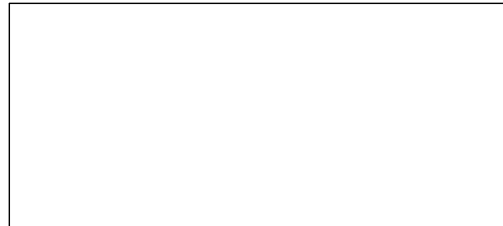
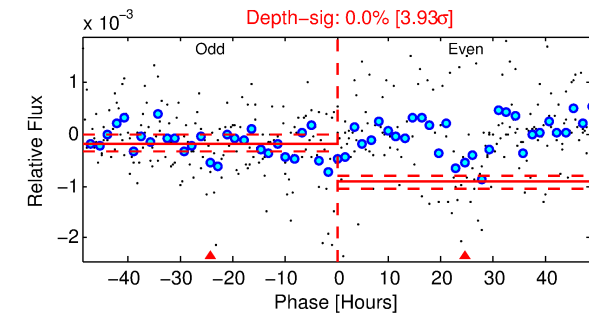
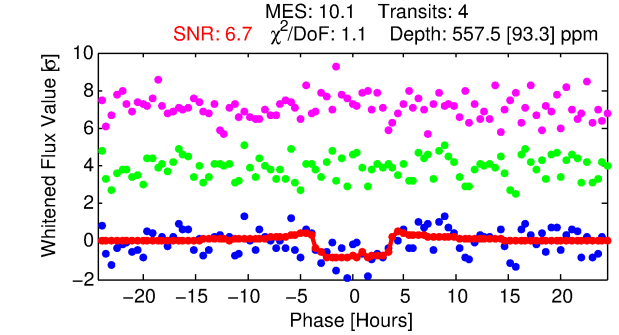
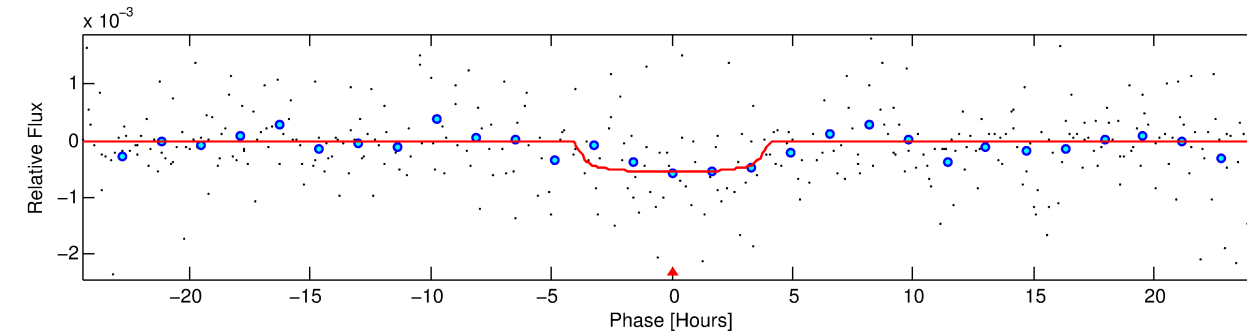
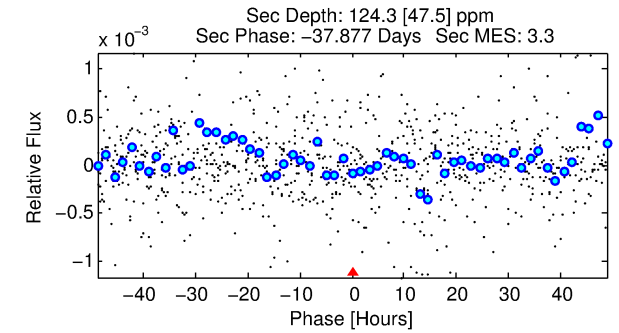
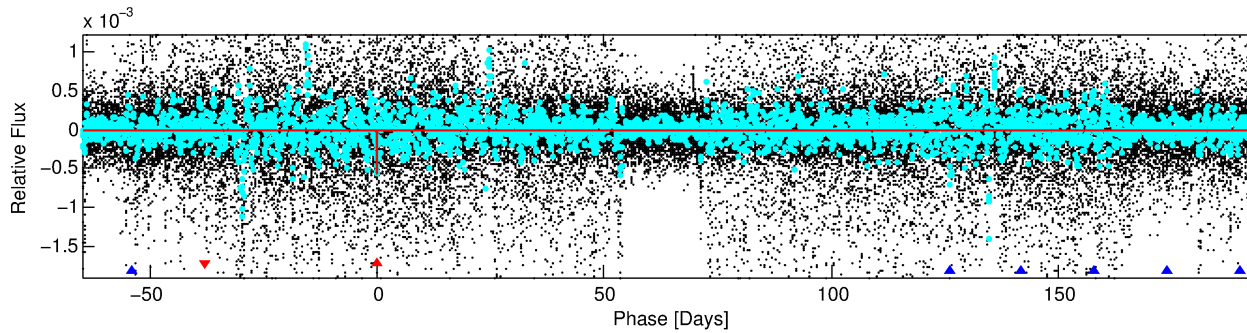
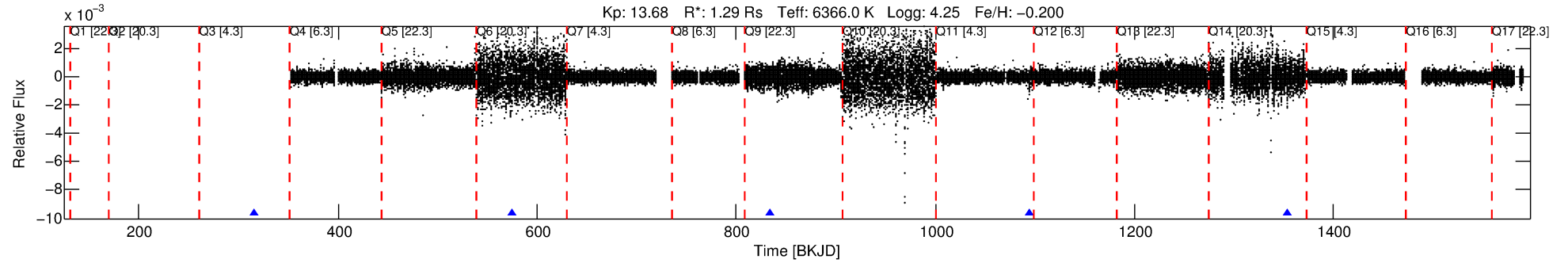
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366740-01

No Significant Match Found

DV One-Page Summary

KIC: 12366740 Candidate: 1 of 2 Period: 259.317 d



DV Fit Results:

Period = 259.31704 [0.01243] d
Epoch = 315.8753 [0.0323] BKJD
Rp/R* = 0.0240 [0.0072]
a/R* = 152.84 [229.31]
b = 0.81 [0.65]
Seff = 3.70 [1.45]
Teq = 354 [35] K
Rp = 3.39 [1.45] Re
a = 0.8168 [0.2055] AU
Ag = 3966.09 [3158.12] [1.26σ]
Teffp = 4339 [789] K [5.04σ]

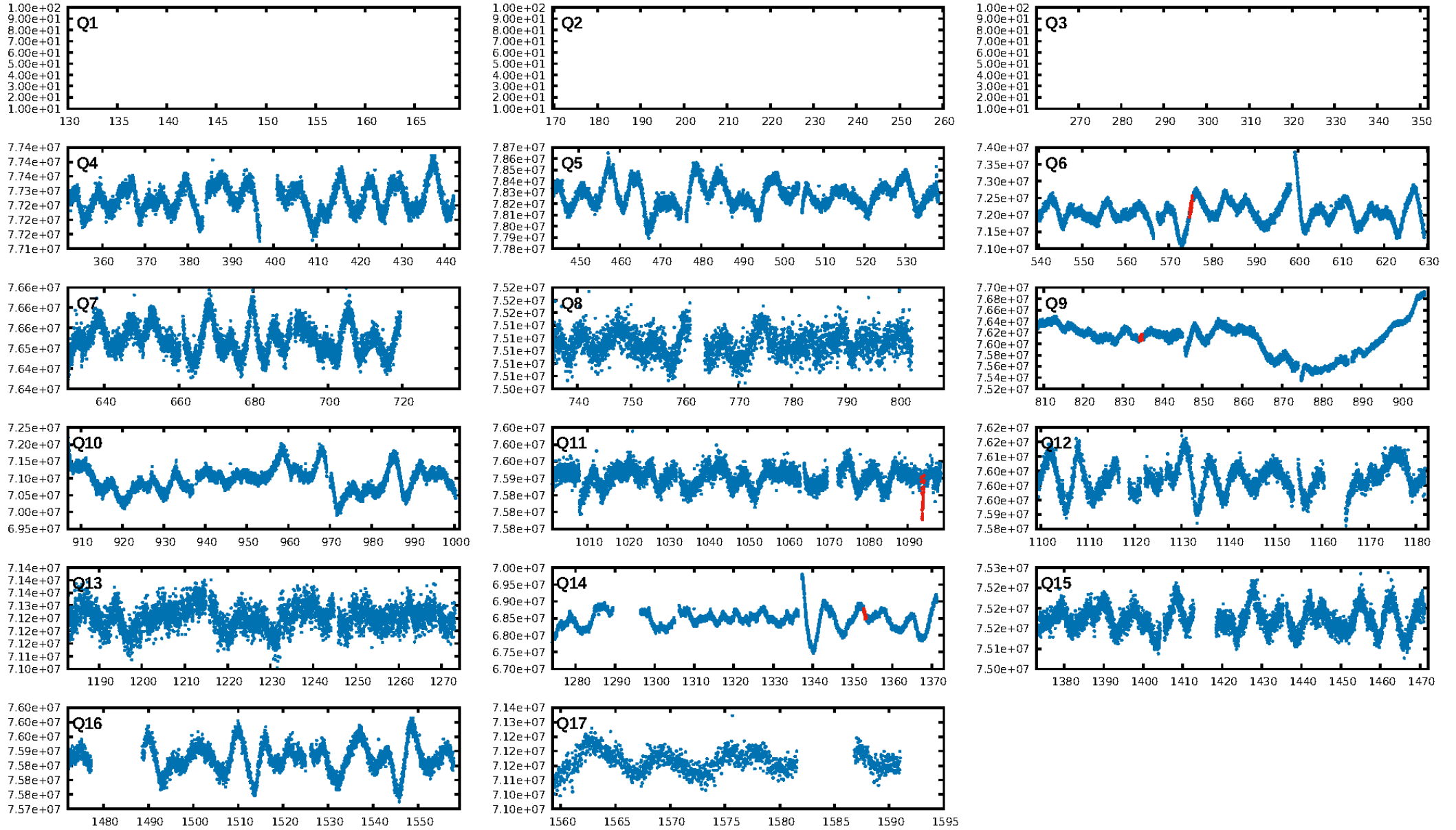
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [33.51σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 90.0%
Bootstrap-pfa: 1.33e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -5.558
Centroid-sig: 4.6%
Centroid-so: 2.261 arcsec [2.38σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [3/3]

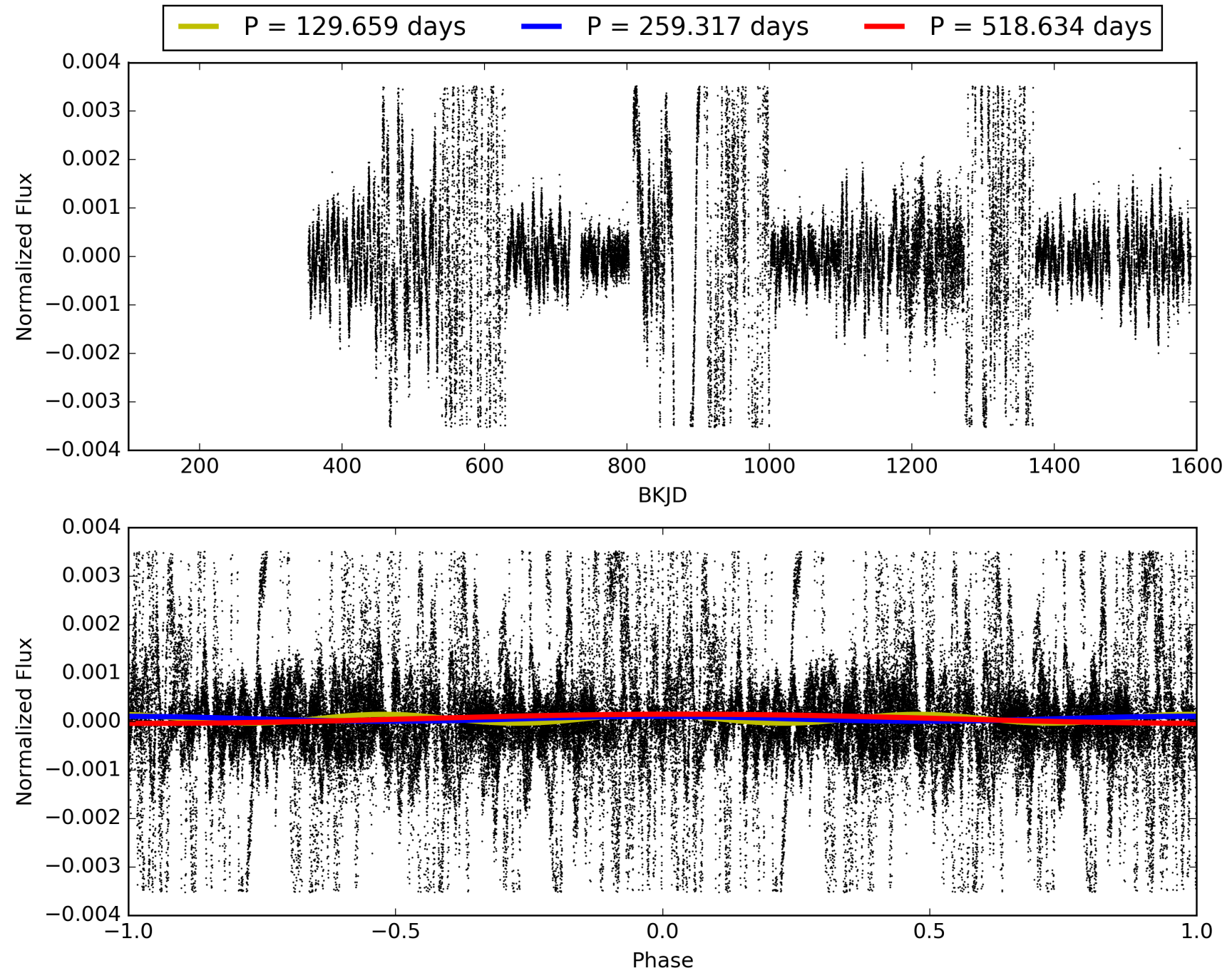
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:52:48 Z

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

TCE 012366740-01, PDC Light Curves

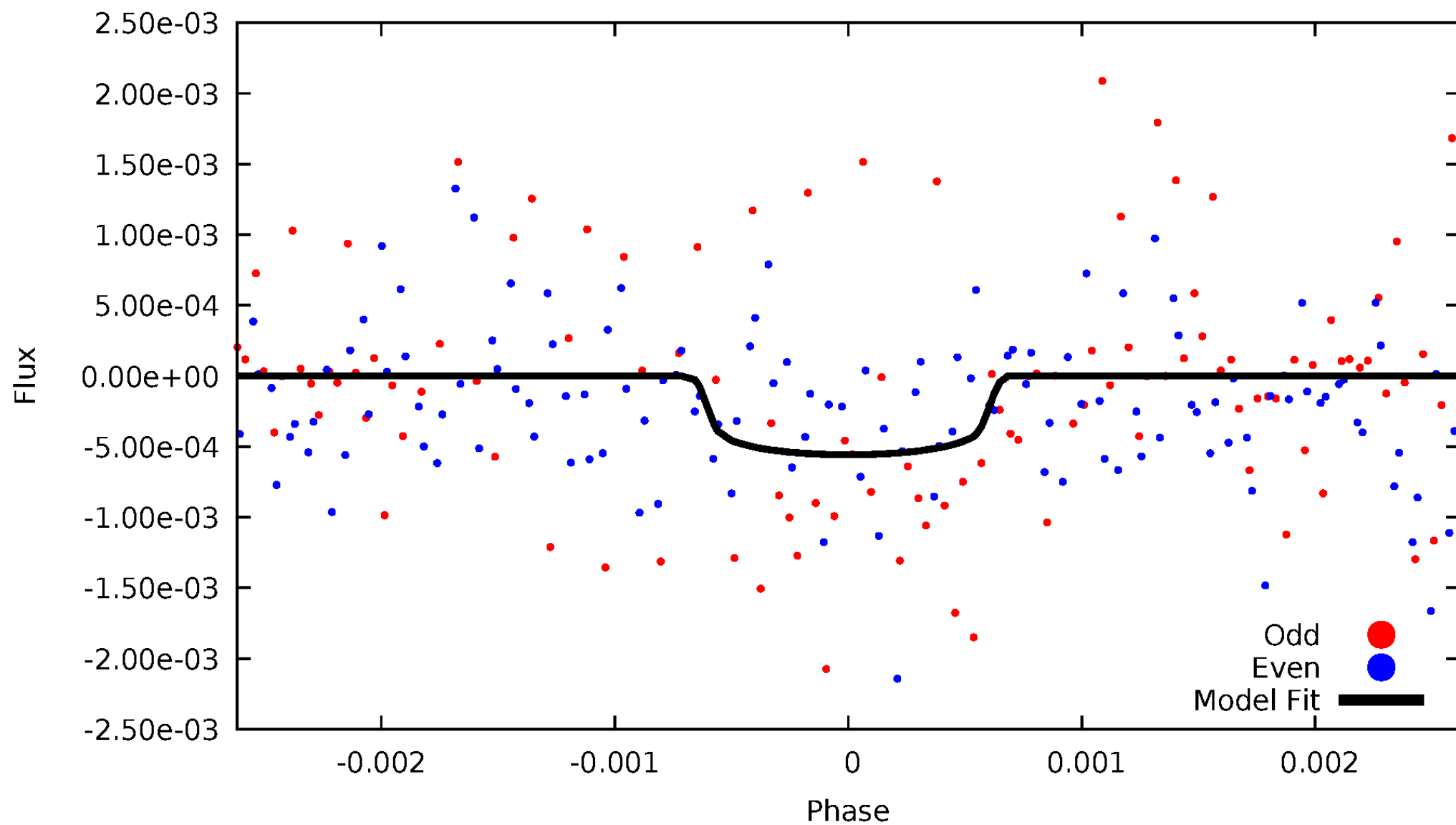


TCE 012366740-01



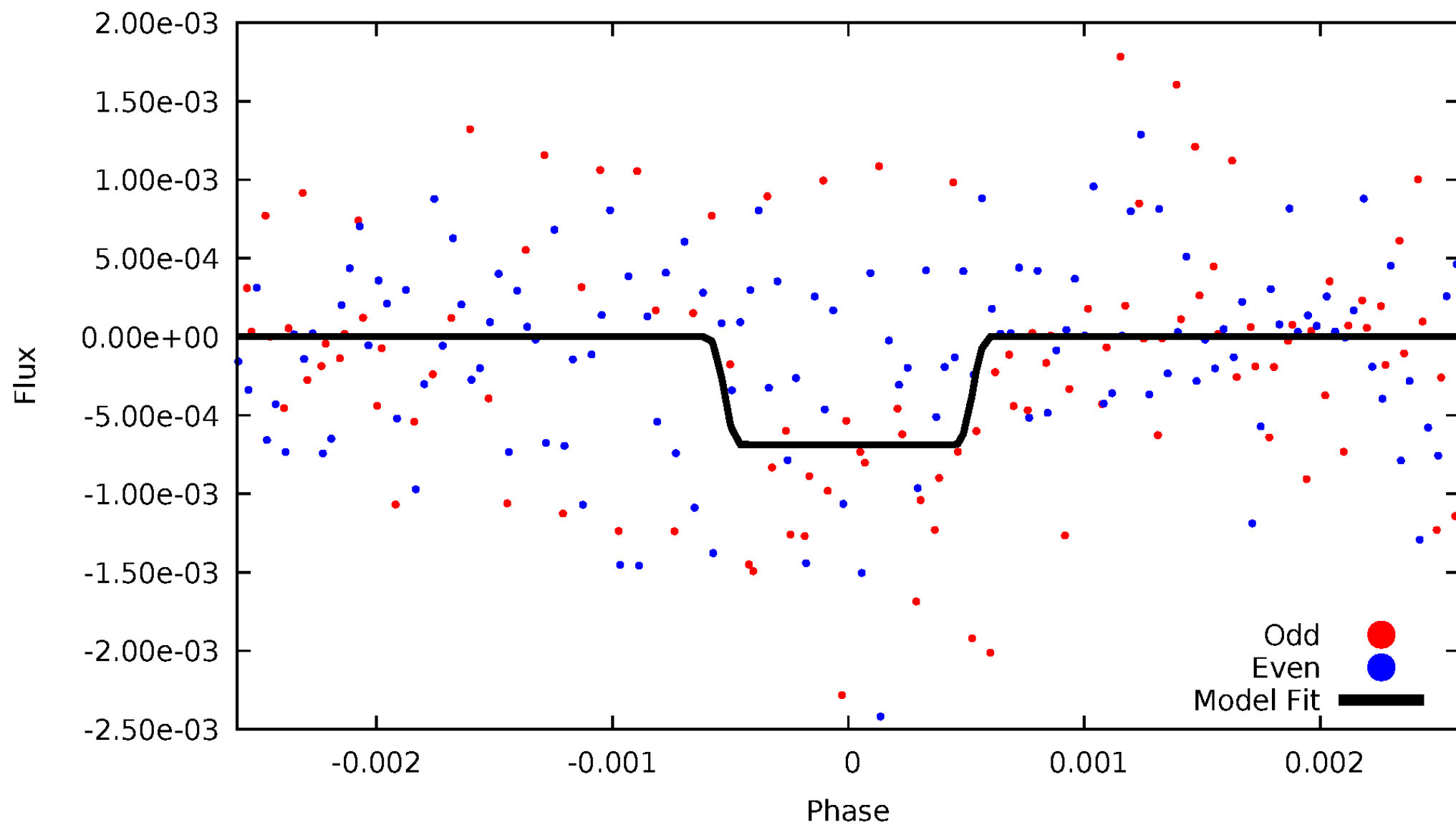
DV Odd/Even

TCE 012366740-01



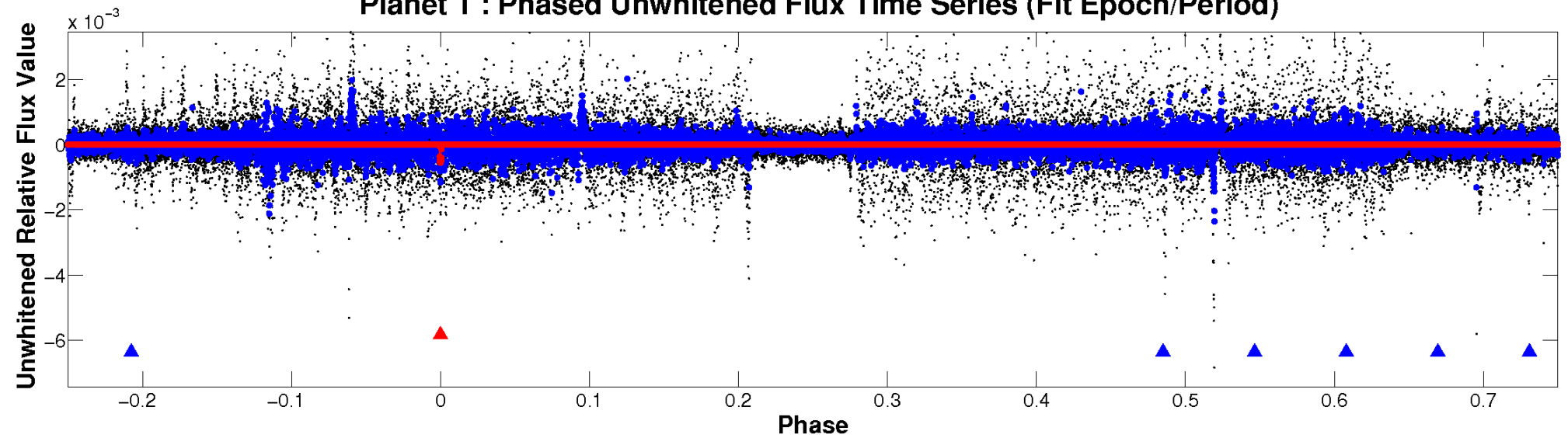
ALT Odd/Even

TCE 012366740-01

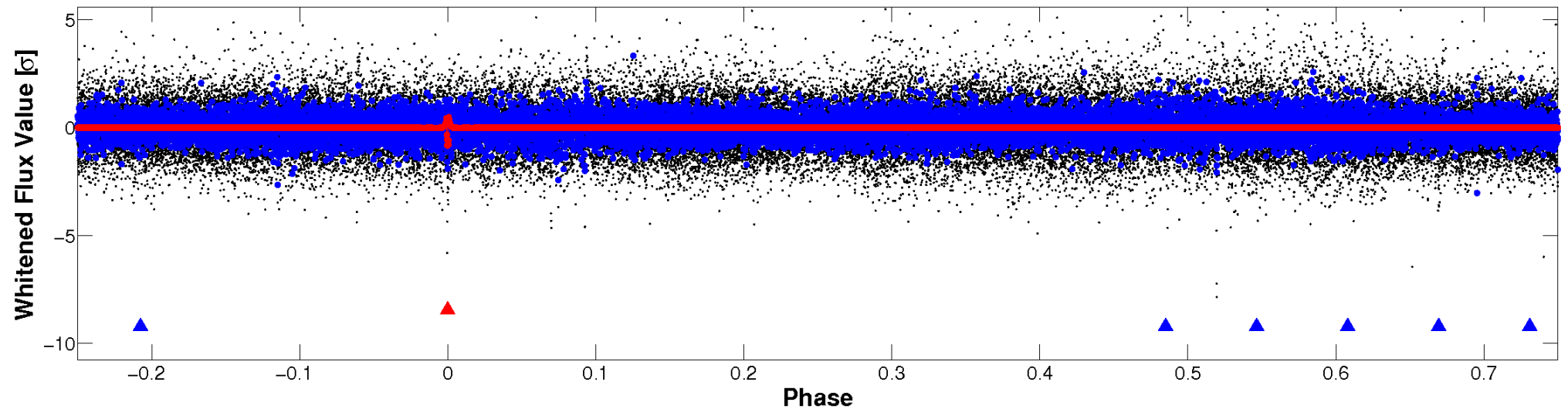


Non-Whitened Vs. Whitened Light Curve

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

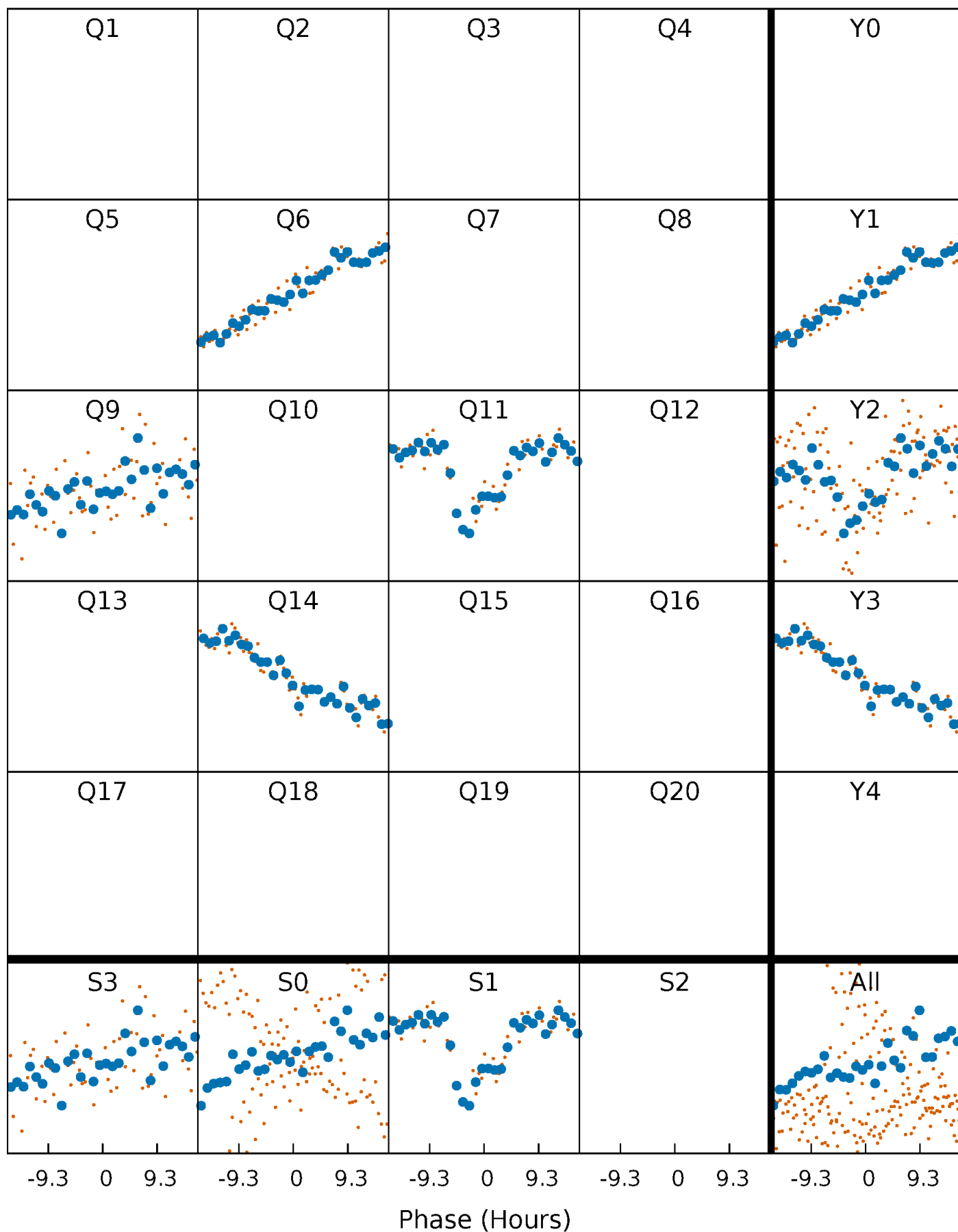


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



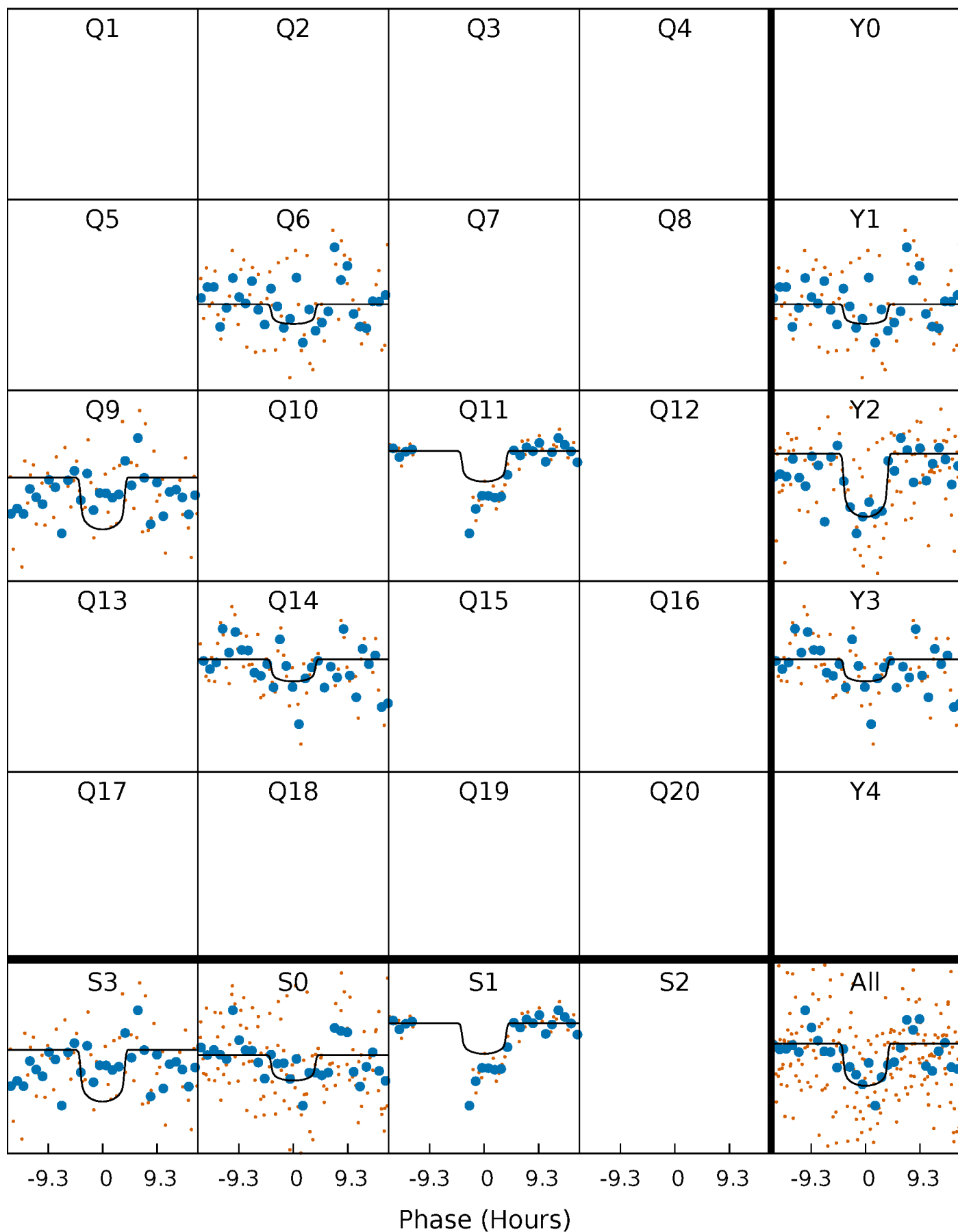
PDC Quarter-Phased Transit Curves

TCE 012366740-01 P=259.317040 Days $T_0=315.875273$ (BKJD)



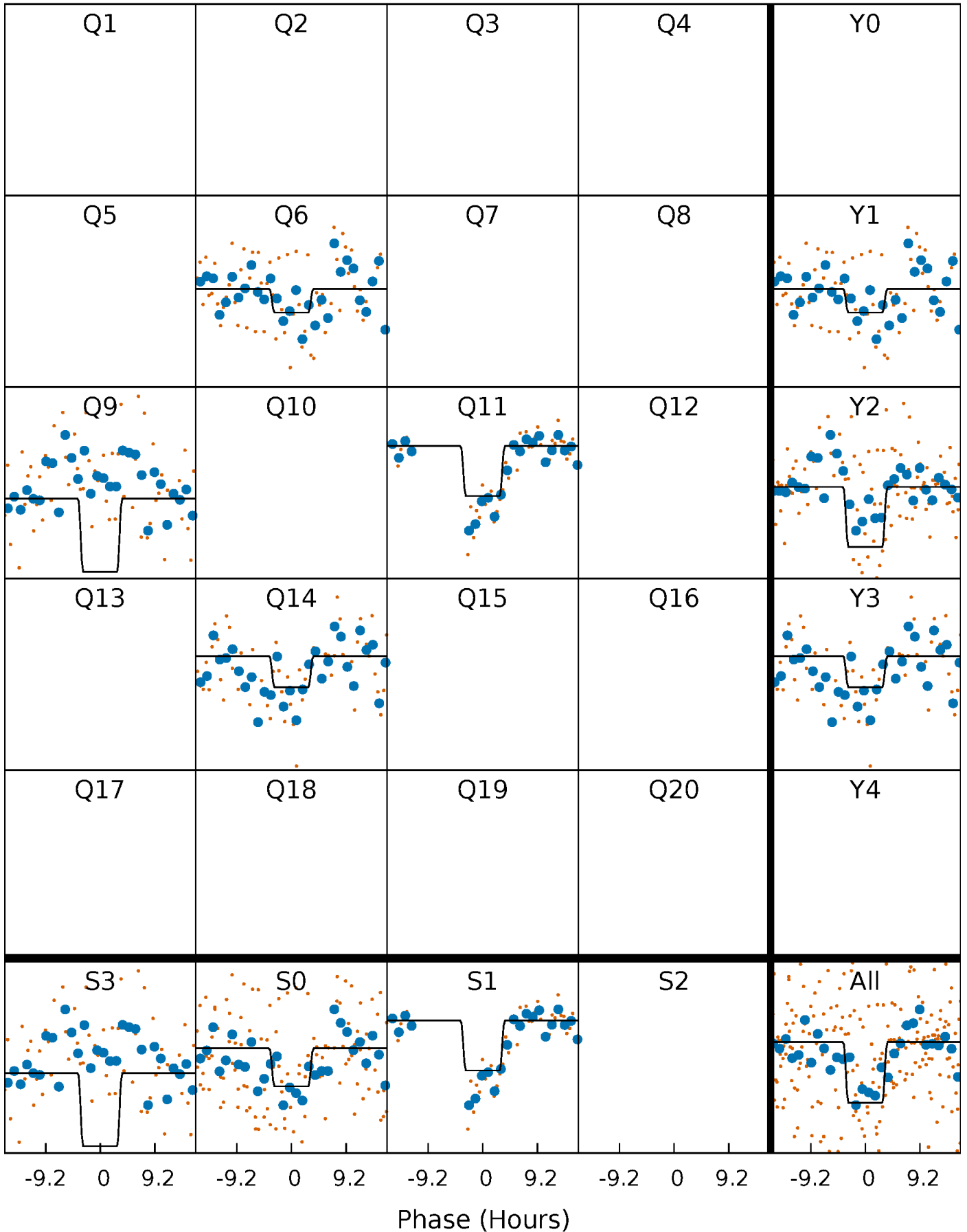
DV Quarter-Phased Transit Curves

TCE 012366740-01 P=259.317040 Days $T_0=315.875273$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

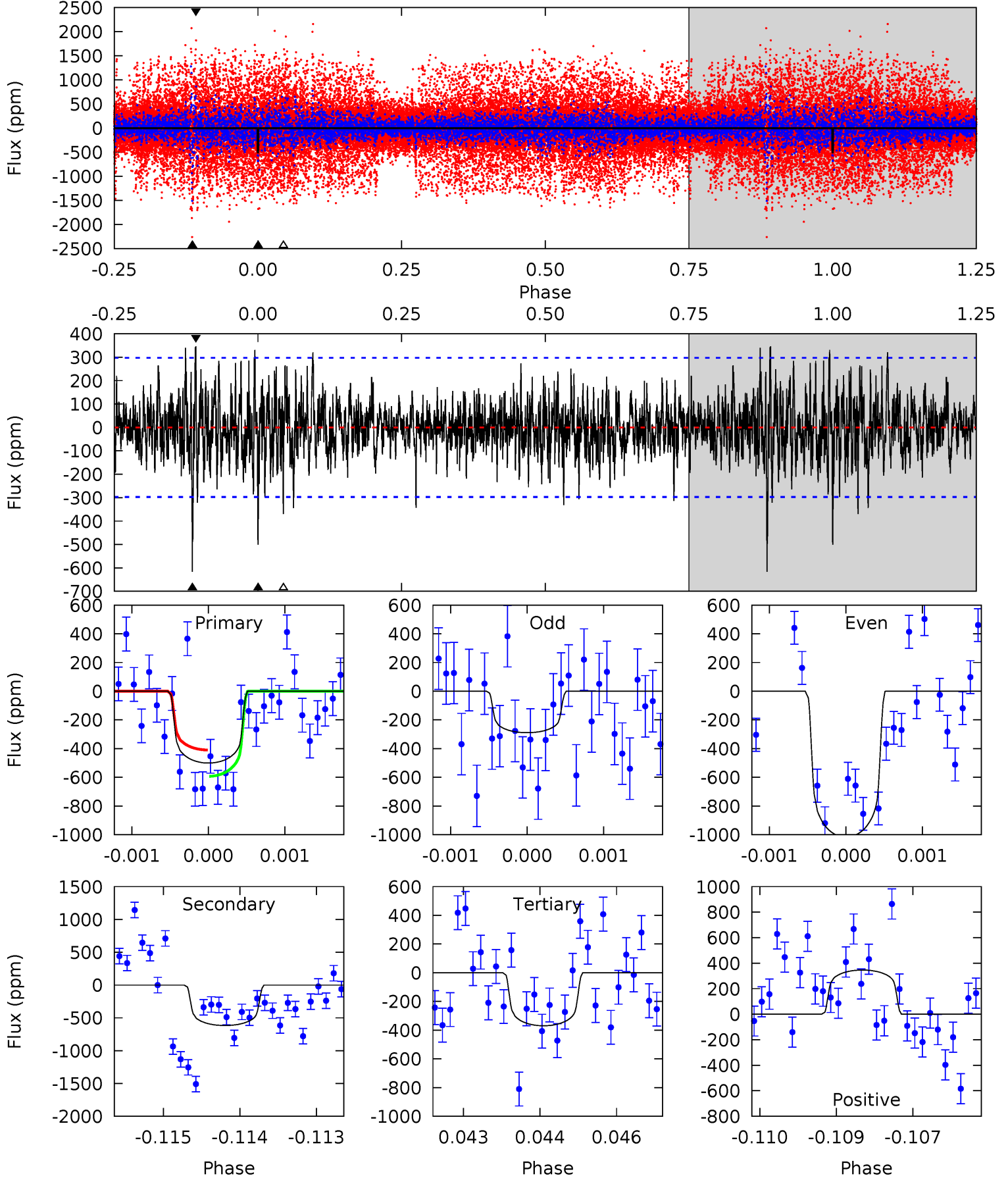
TCE 012366740-01 P=259.329121 Days $T_0=315.845957$ (BKJD)



DV Model-Shift Uniqueness Test

012366740-01, P = 259.317040 Days, E = 315.875273 Days

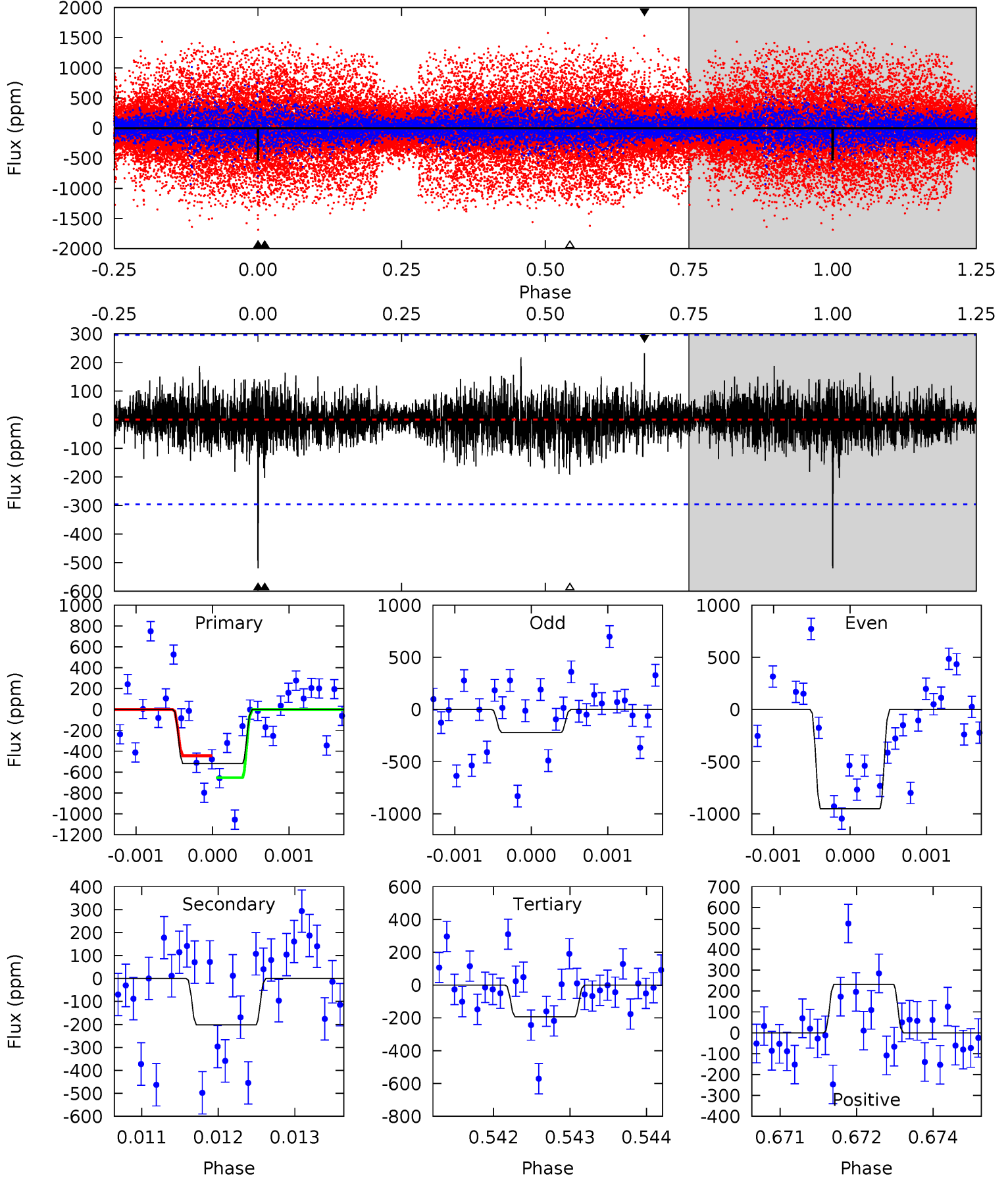
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.10	11.2	6.71	6.29	5.40	3.21	1.65	2.39	2.81	4.50	4.92	6.34	1.12	0.36	1.70



Alt Model-Shift Uniqueness Test

012366740-01, P = 259.329121 Days, E = 315.845957 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	3.70	3.55	4.25	5.42	3.24	0.87	5.95	5.24	0.16	-0.55	6.46	0.78	0.31	1.95



Stellar Parameters For KIC 012366740

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6366^{+181}_{-250}	$4.247^{+0.175}_{-0.193}$	$-0.200^{+0.250}_{-0.300}$	$1.295^{+0.395}_{-0.263}$	$1.078^{+0.193}_{-0.129}$	$0.698^{+0.560}_{-0.362}$
	+3%/-4%	+4%/-5%	+125%/-150%	+31%/-20%	+18%/-12%	+80%/-52%
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 012366740-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-617 ± 55	$3.41^{+1.28}_{-1.04}$	491^{+39}_{-33}	6403^{+1447}_{-807}	19841^{+20518}_{-9440}
Alt.	-202 ± 55	$3.68^{+1.23}_{-1.00}$	493^{+40}_{-35}	4808^{+726}_{-519}	5457^{+5526}_{-2606}

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

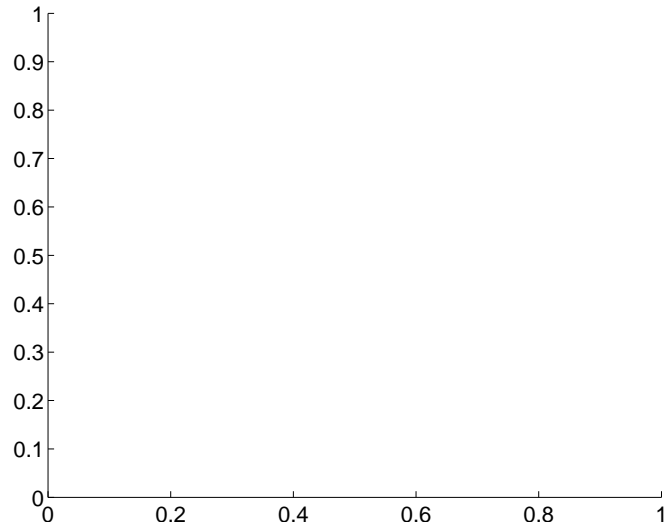
Supplemental centroid analysis for 012366740-01. Kepler magnitude: 13.68. Transit SNR 6.66

There are 0 quarters with good PRF difference image offsets

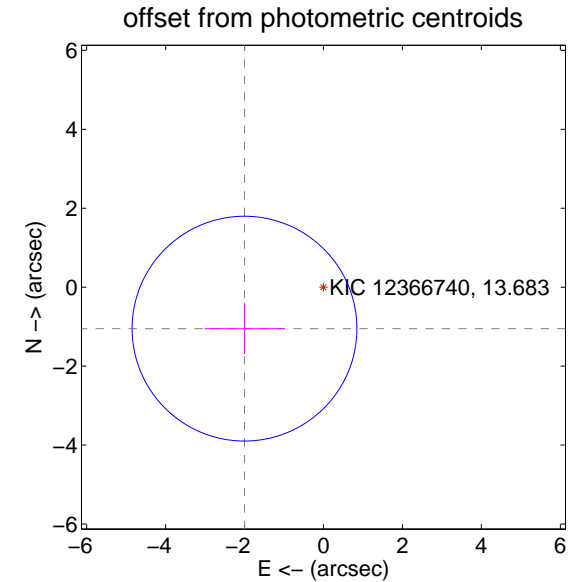
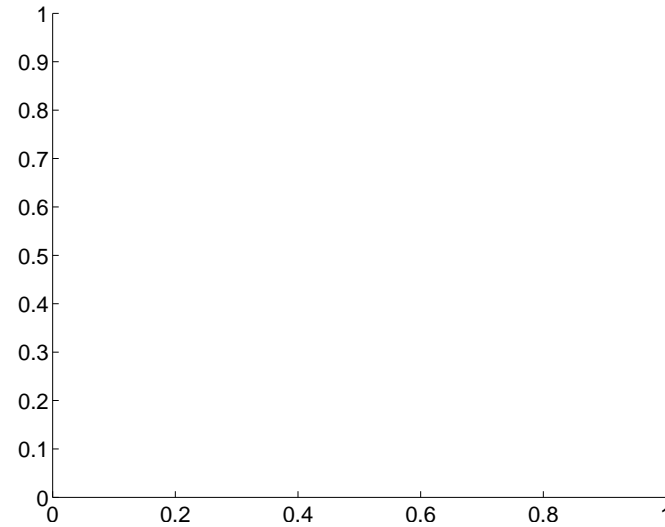
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.26 ± 0.95	2.38	2.00 ± 1.02	-1.05 ± 0.66

There is no PRF-fit offset from OOT-fit

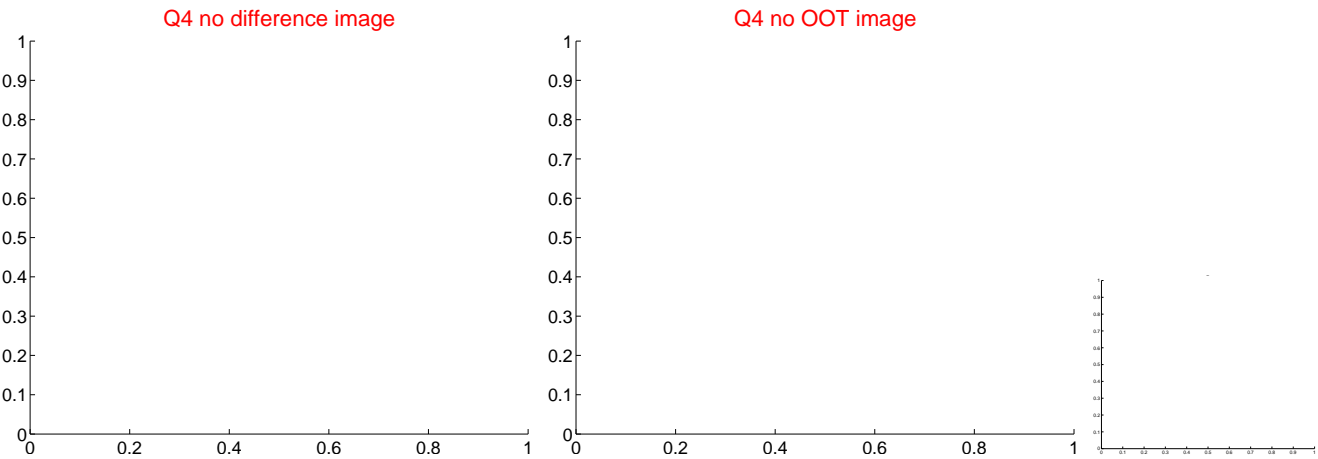
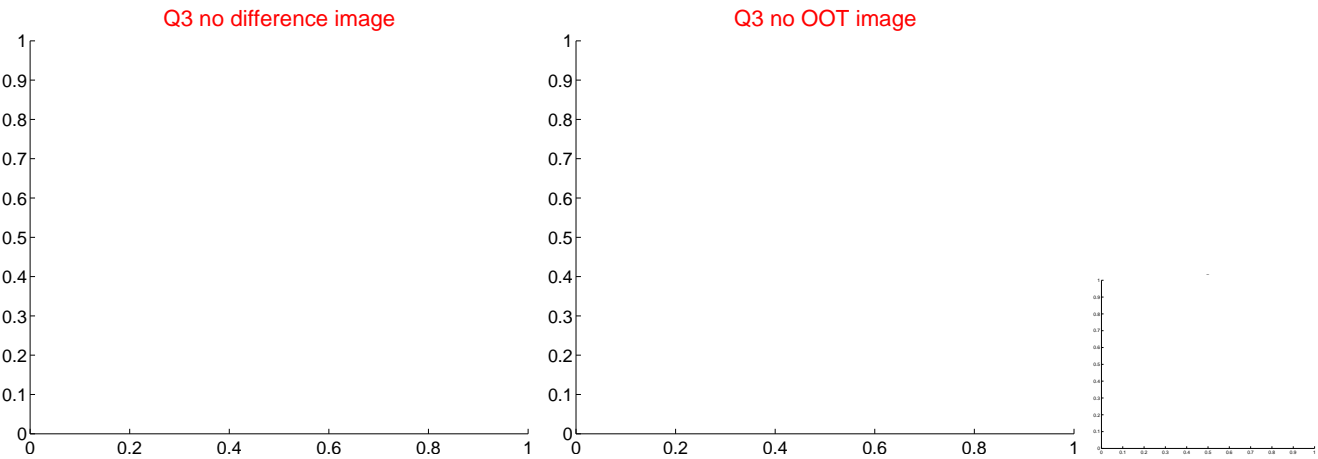
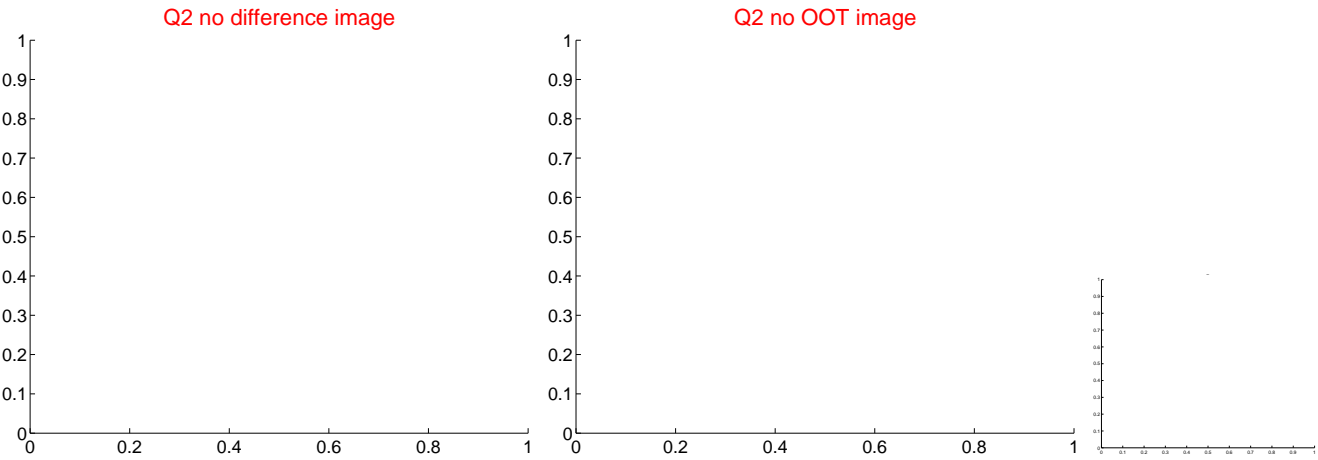
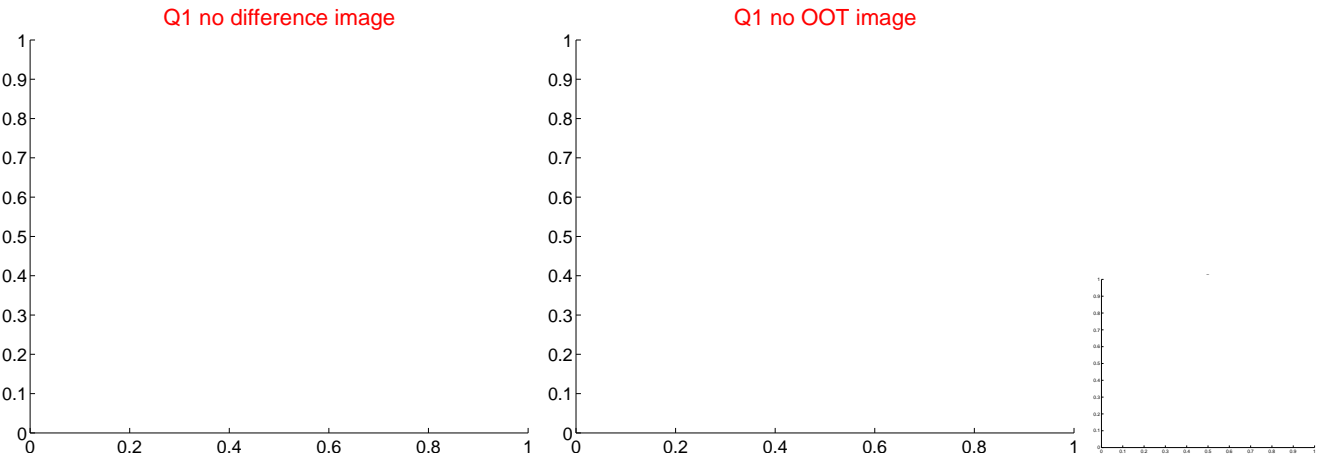


There is no PRF-fit offset from KIC



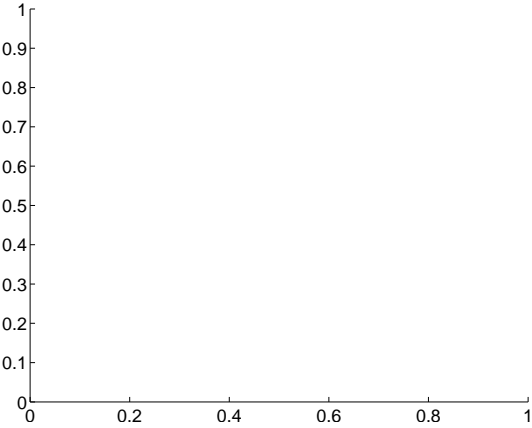
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

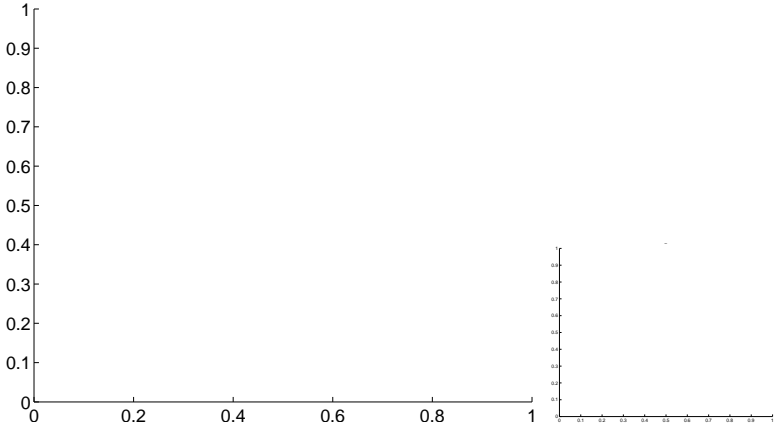


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

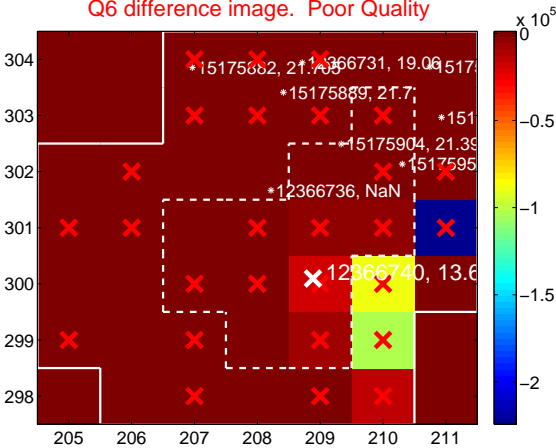
Q5 no difference image



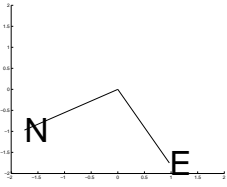
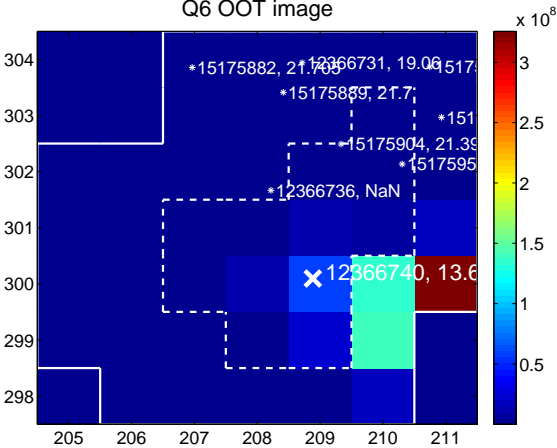
Q5 no OOT image



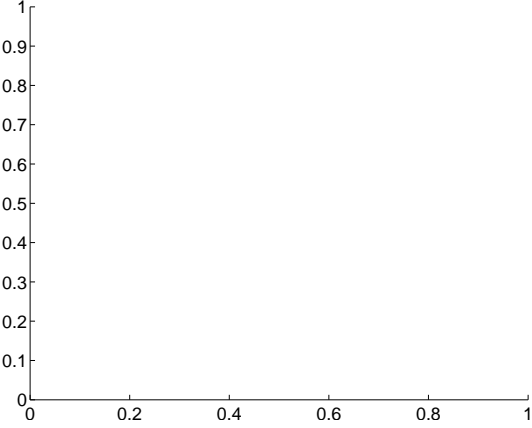
Q6 difference image. Poor Quality



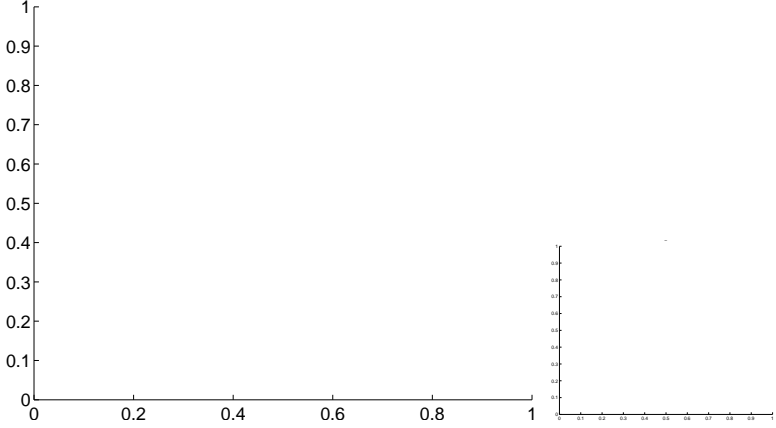
Q6 OOT image



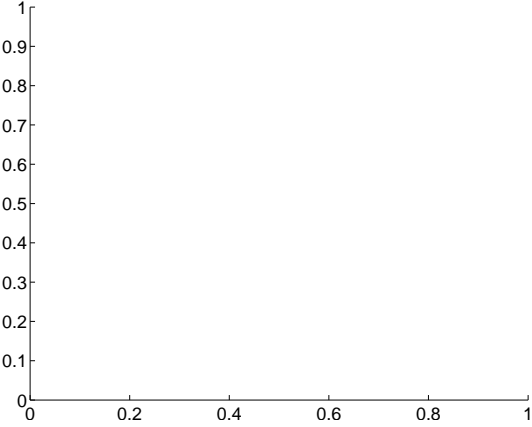
Q7 no difference image



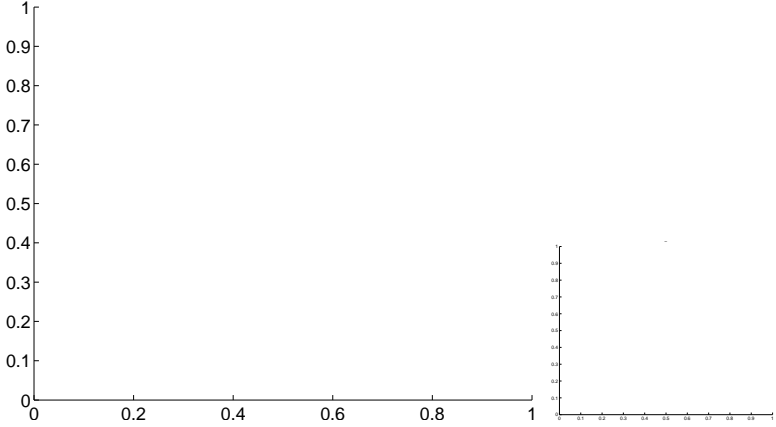
Q7 no OOT image



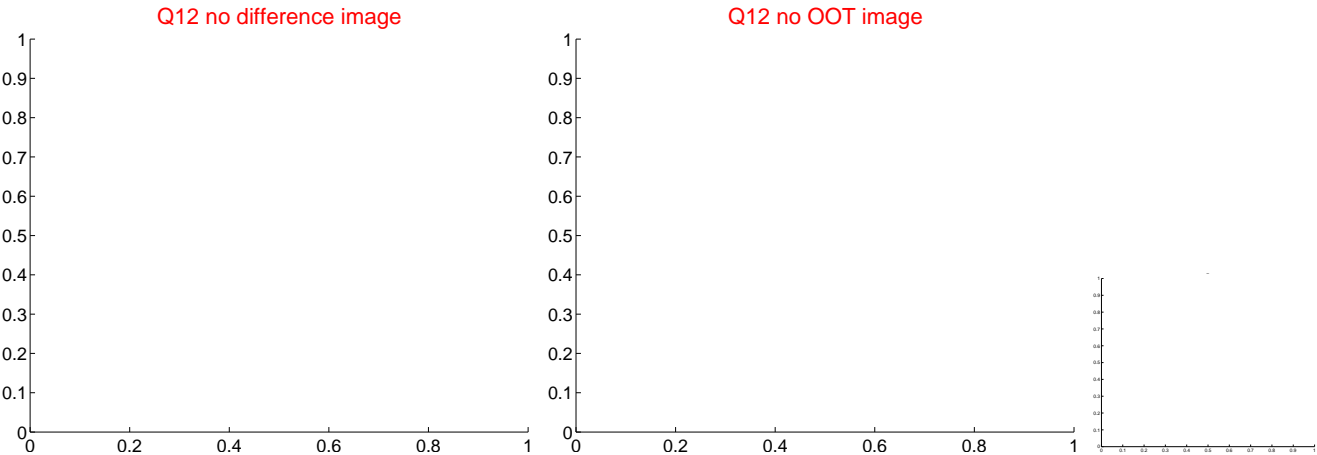
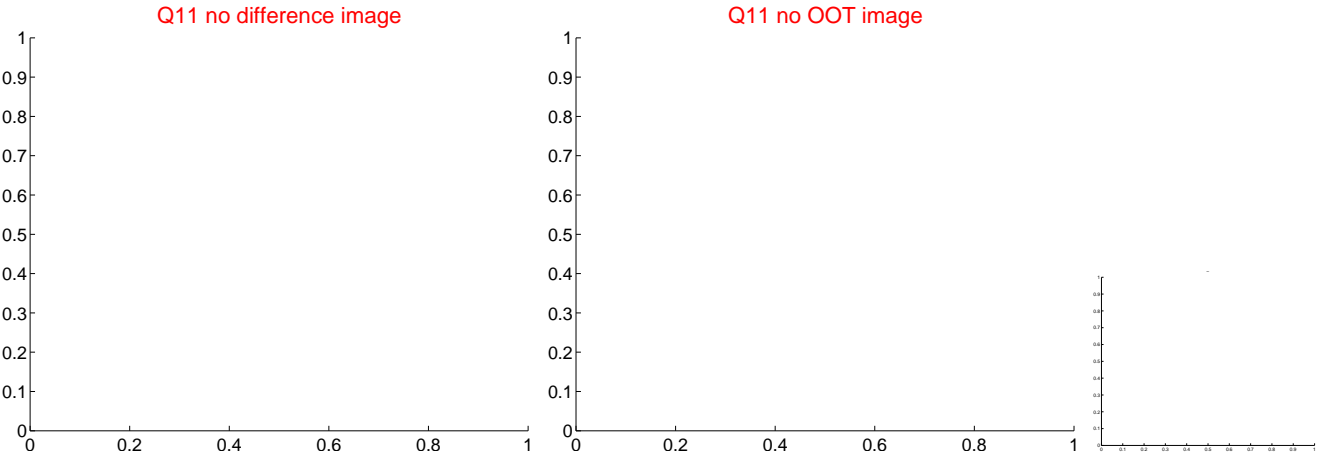
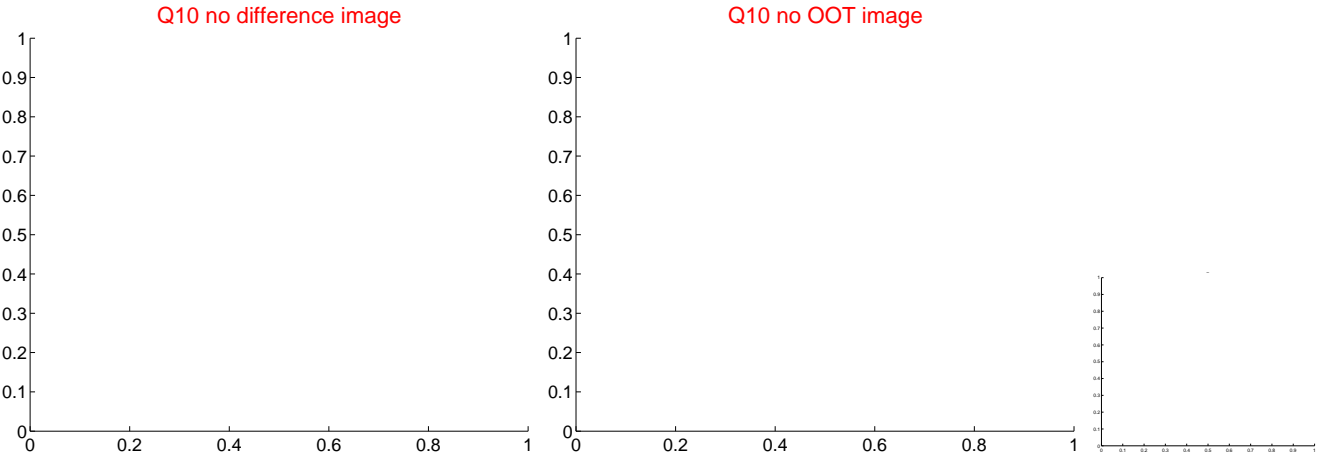
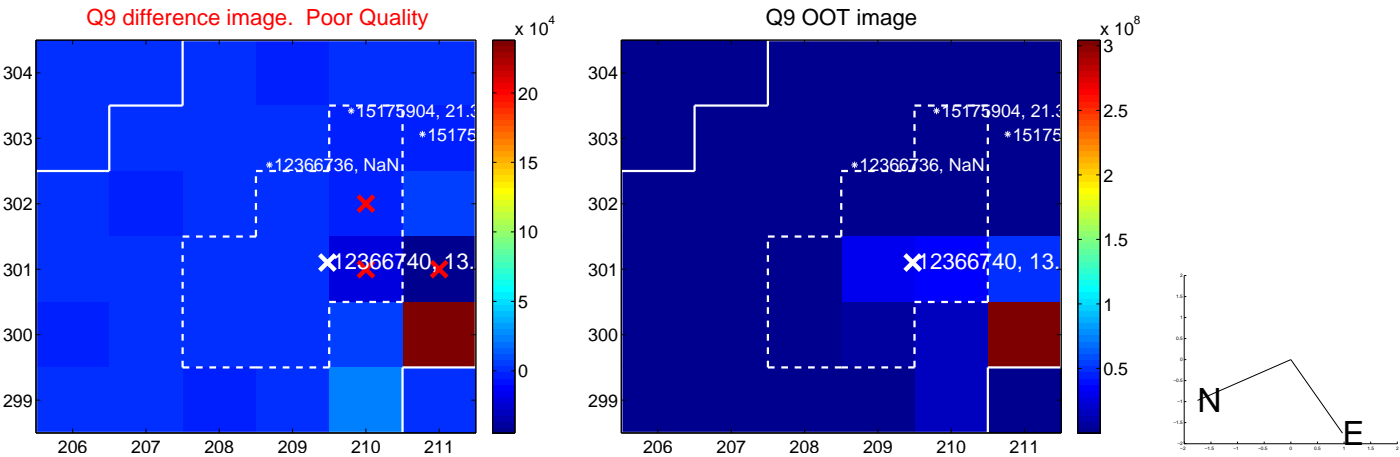
Q8 no difference image



Q8 no OOT image

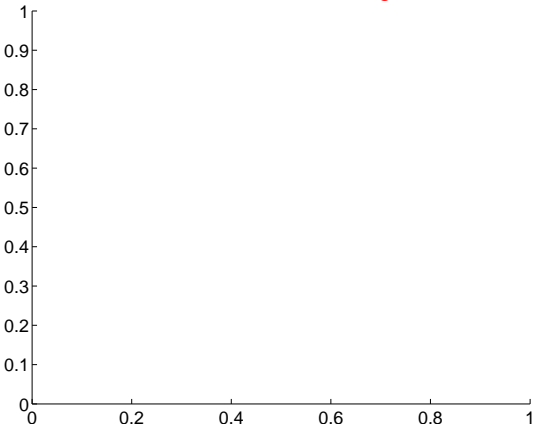


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

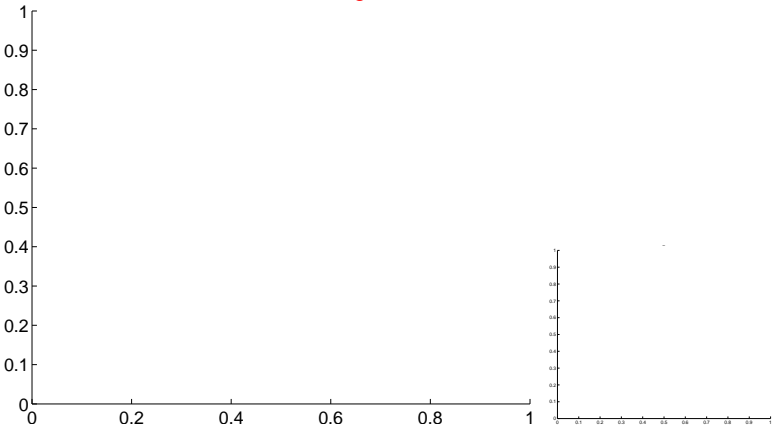


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

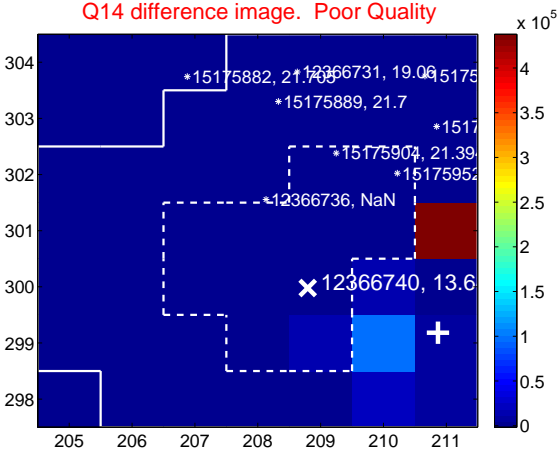
Q13 no difference image



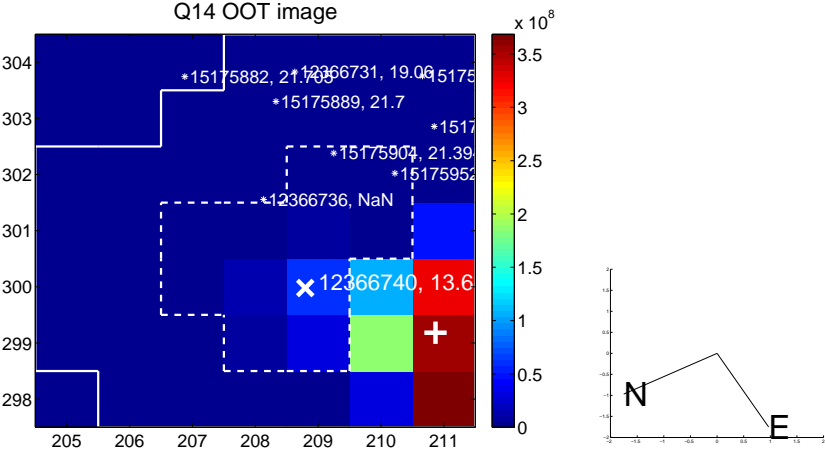
Q13 no OOT image



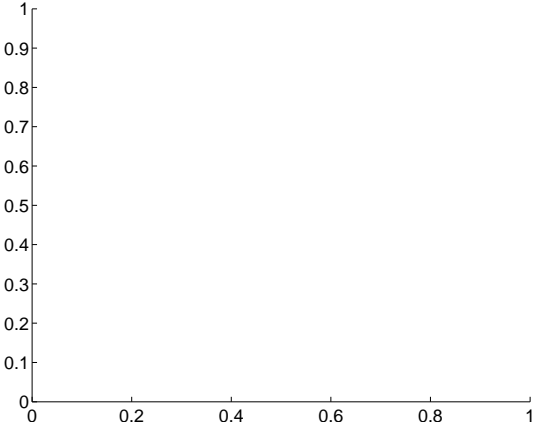
Q14 difference image. Poor Quality



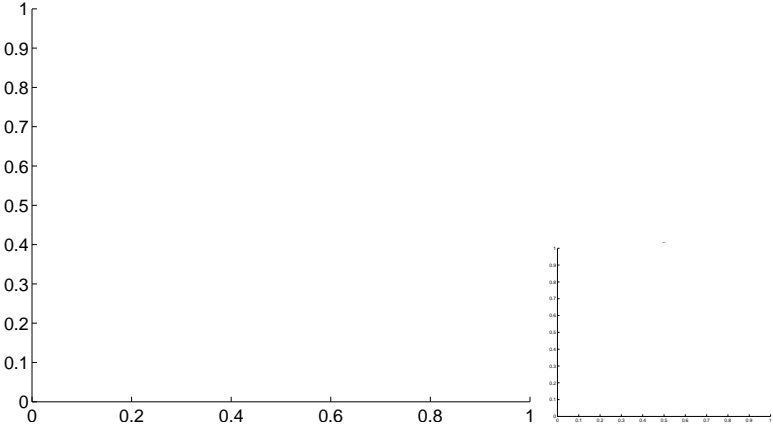
Q14 OOT image



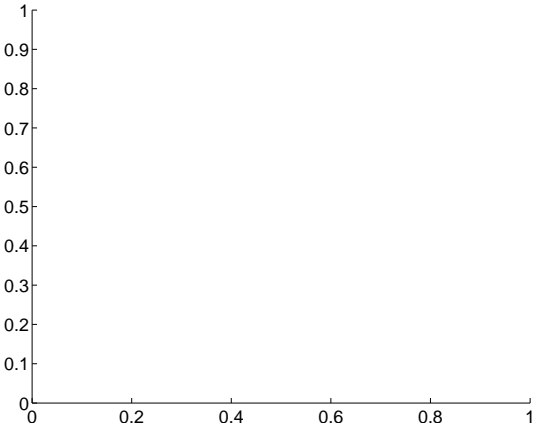
Q15 no difference image



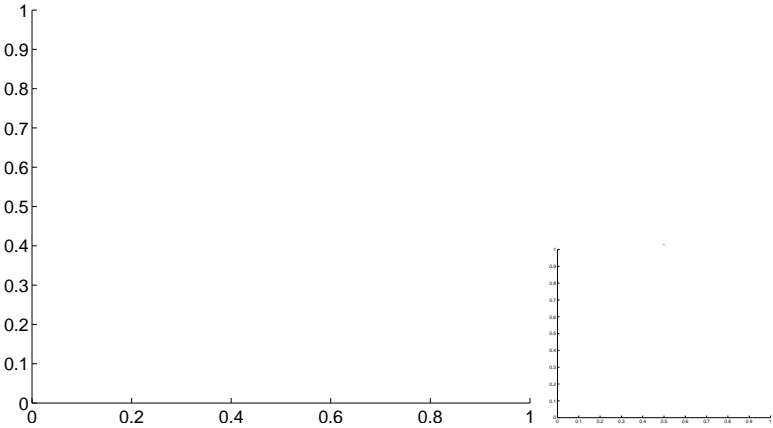
Q15 no OOT image



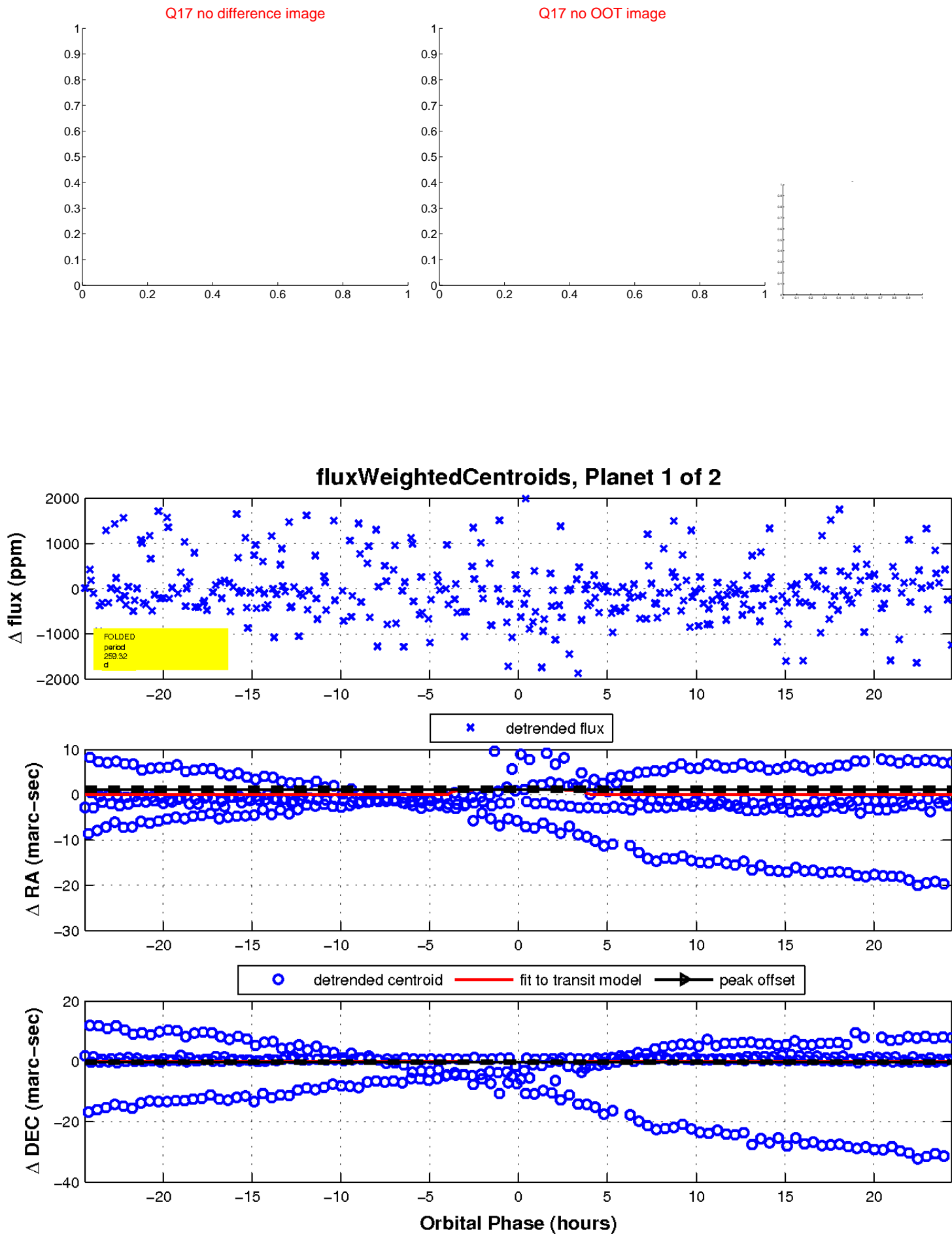
Q16 no difference image



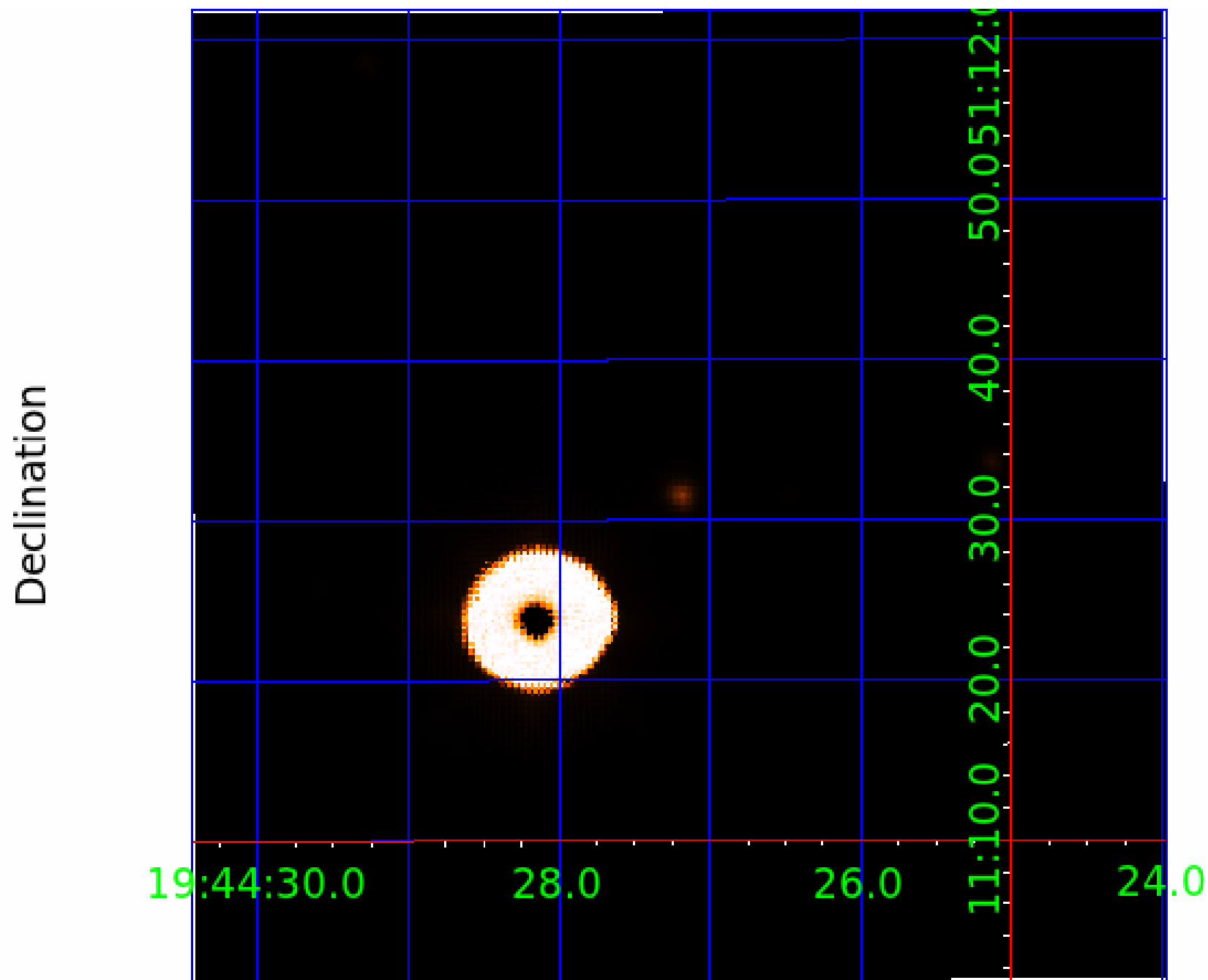
Q16 no OOT image



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



UKIRT Image



KIC 012366740

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})
012366740-01	OBS	No	259.317040	315.875273	557.5	8.142	10.1	6.7	1.29	6366	3.39	3.70
012366740-02	OBS	No	275.261729	182.334590	852.3	8.008	10.7	10.7	1.29	6366	3.97	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366740-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012366740-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

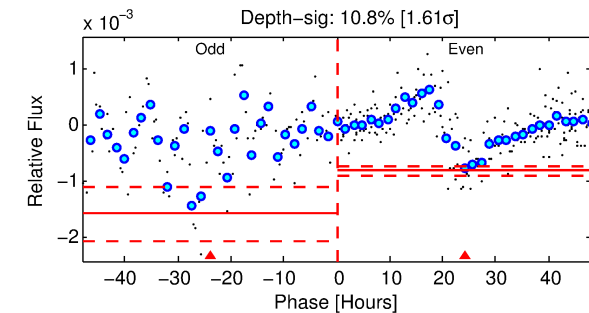
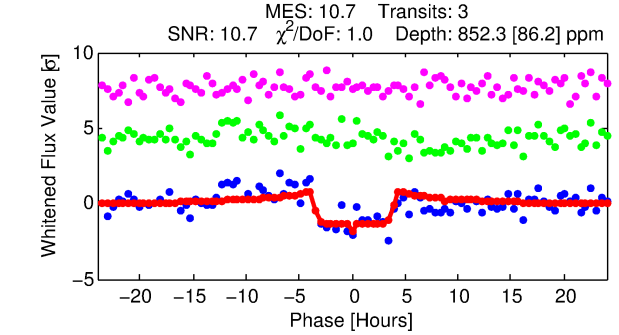
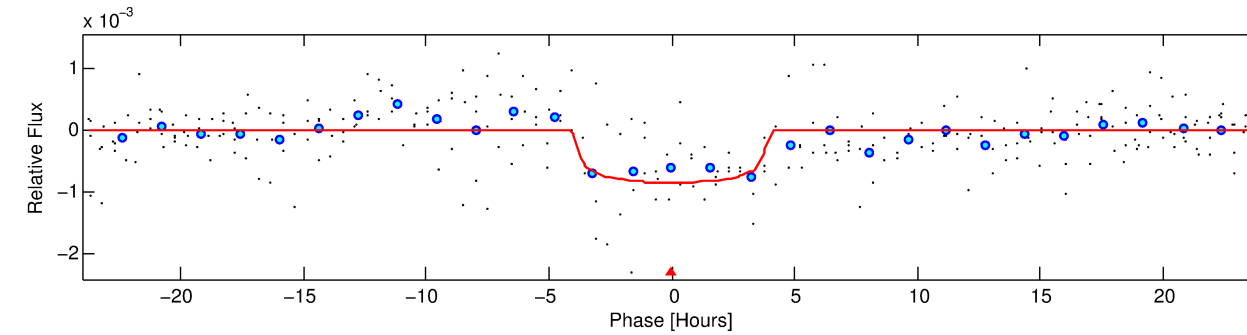
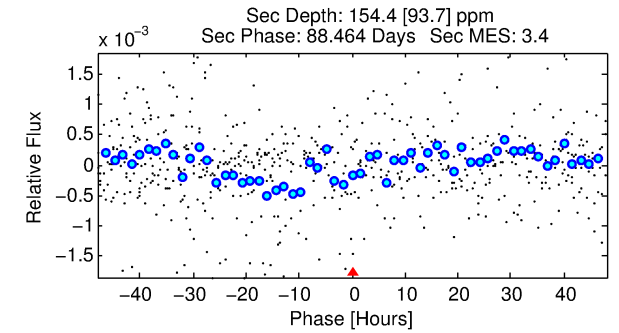
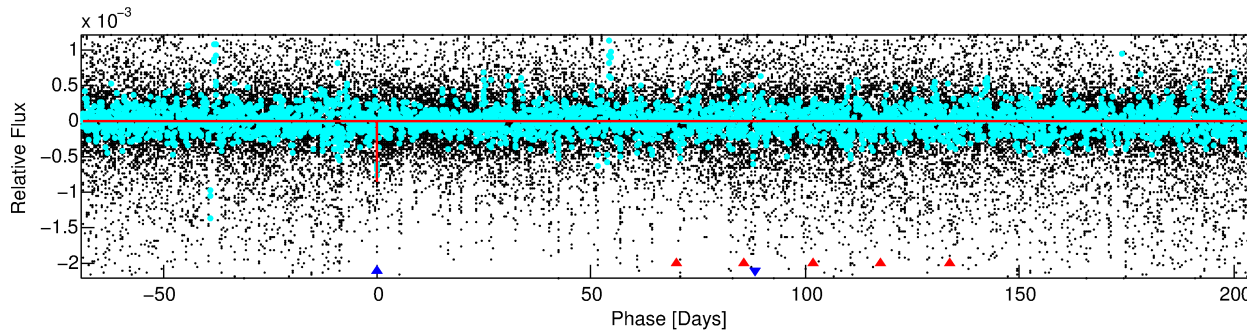
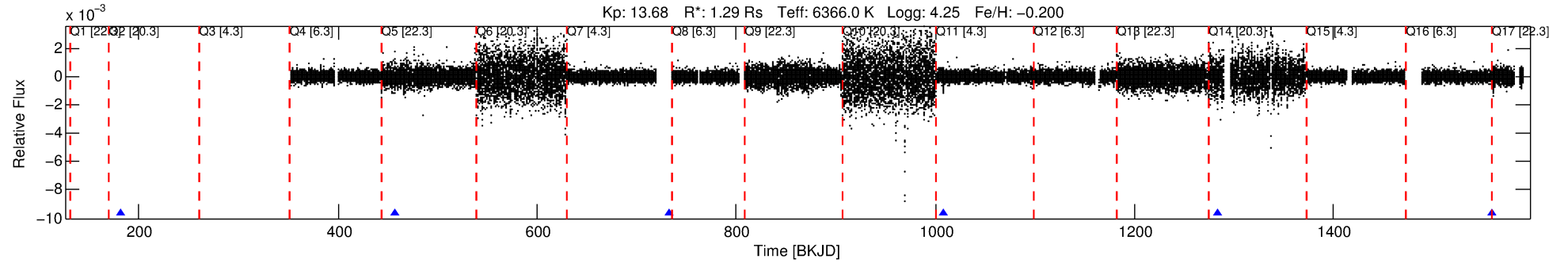
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366740-02

No Significant Match Found

DV One-Page Summary

KIC: 12366740 Candidate: 2 of 2 Period: 275.262 d



DV Fit Results:

Period = 275.26173 [0.00547] d
Epoch = 182.3346 [0.0148] BKJD
Rp/R* = 0.0281 [0.0114]
a/R* = 215.93 [450.61]
b = 0.62 [2.12]
Seff = 3.42 [1.34]
Teq = 347 [34] K
Rp = 3.97 [2.01] Re
a = 0.8499 [0.2138] AU
Ag = 3891.41 [4180.64] [0.93σ]
Teffp = 4233 [1084] K [3.58σ]

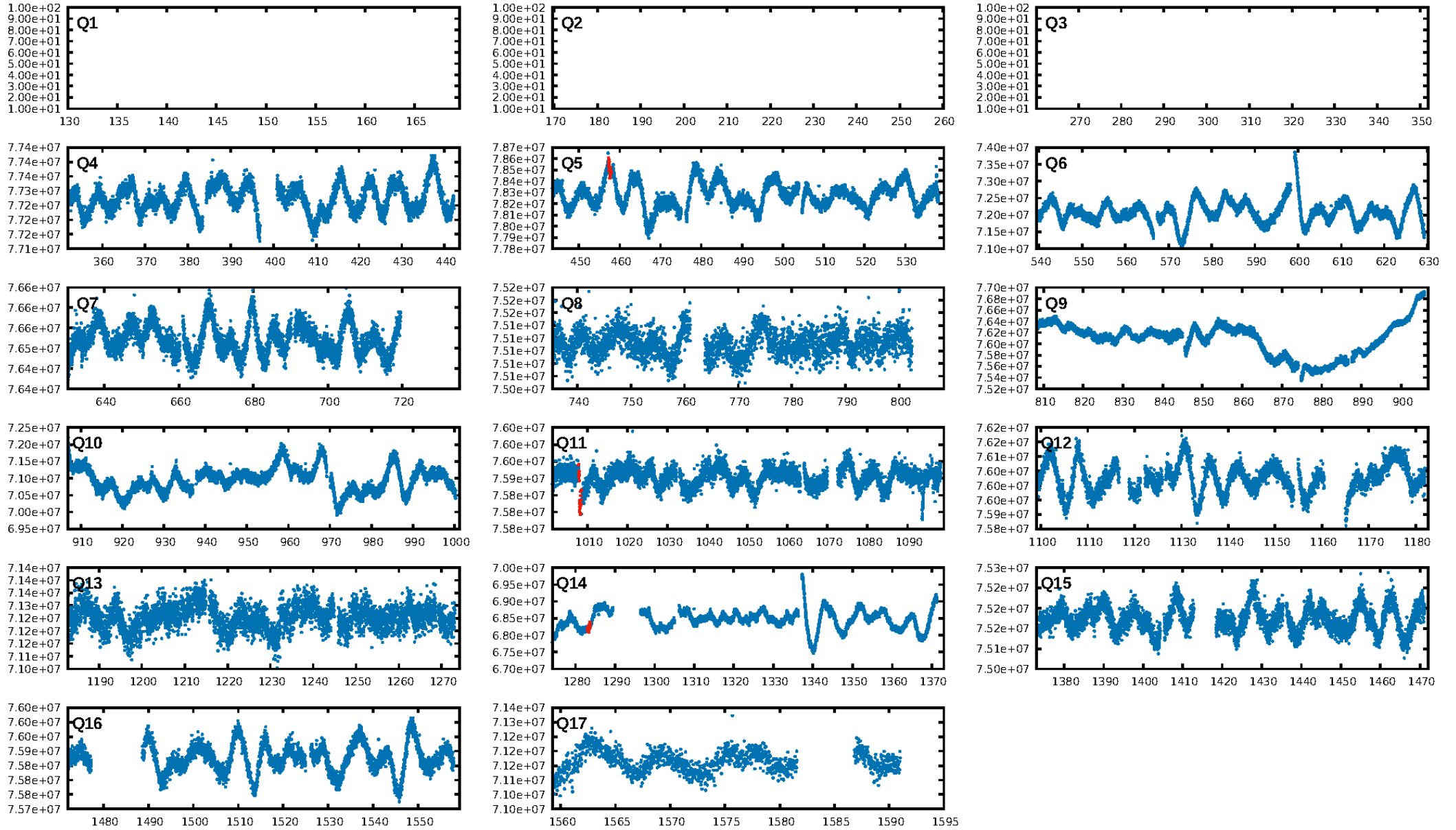
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.51σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.6%
ModelChiSquareGof-sig: 97.7%
Bootstrap-pfa: 2.80e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.338
Centroid-sig: 2.7%
Centroid-so: 4.693 arcsec [6.22σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

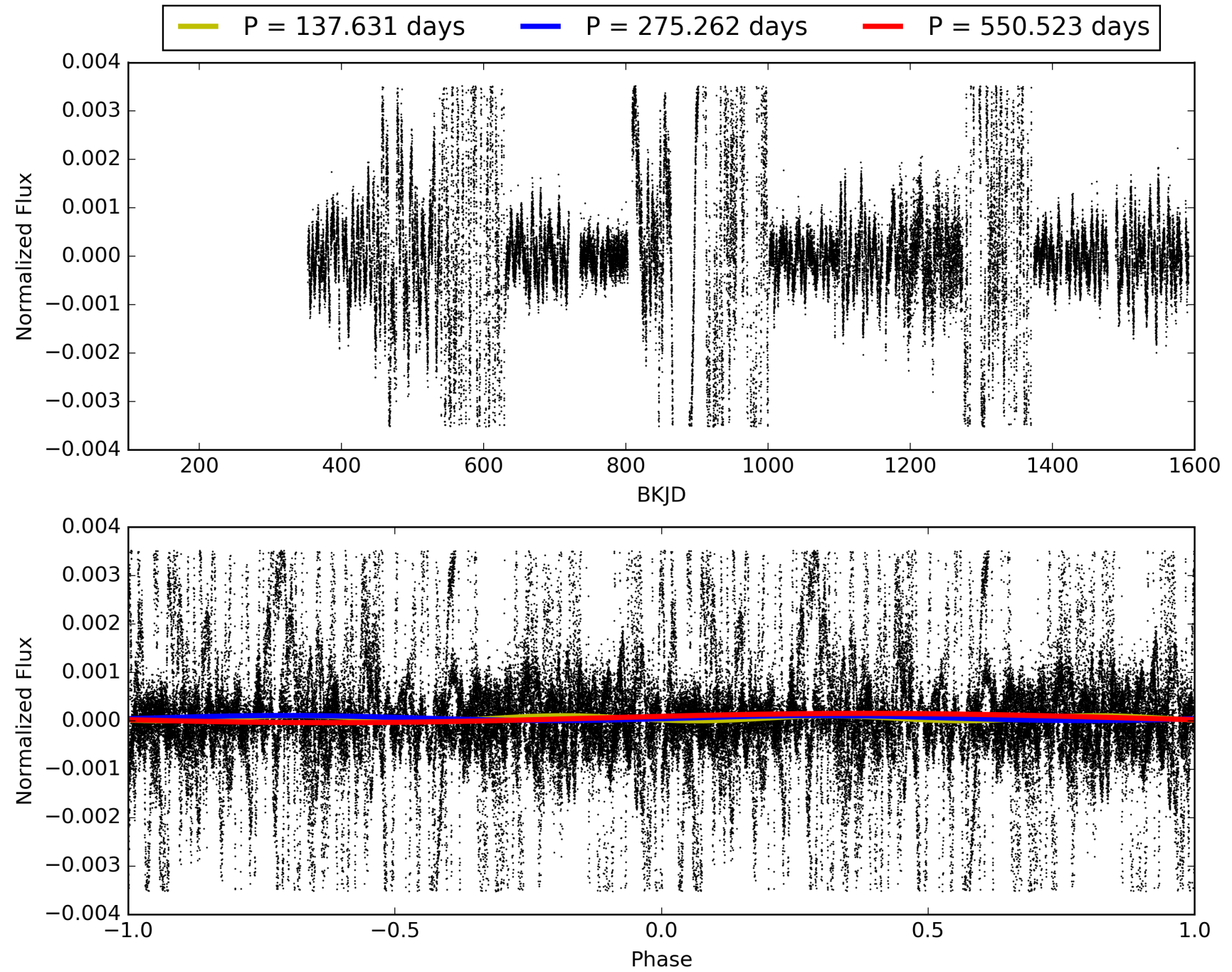
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:52:56 Z

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

TCE 012366740-02, PDC Light Curves

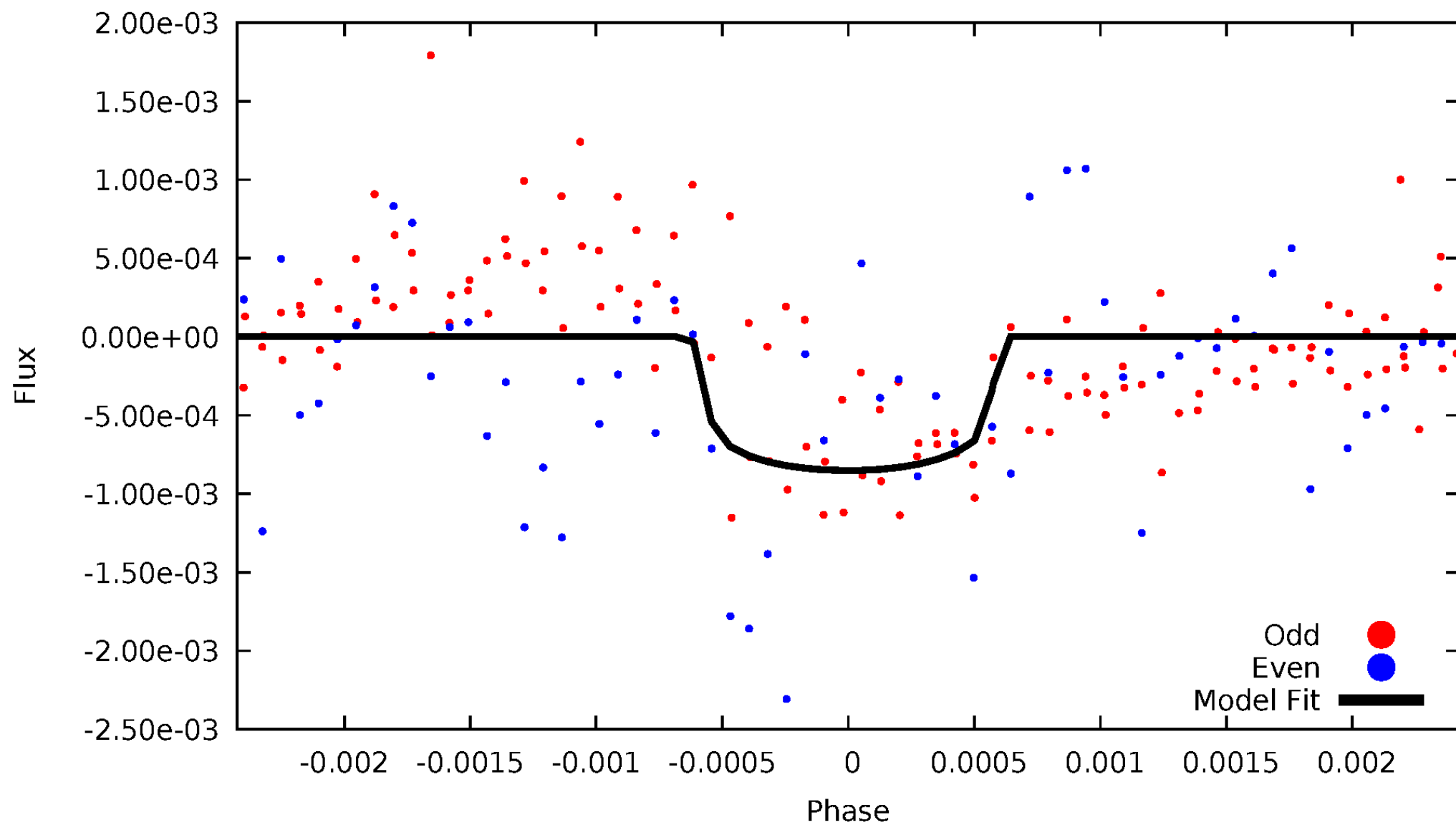


TCE 012366740-02



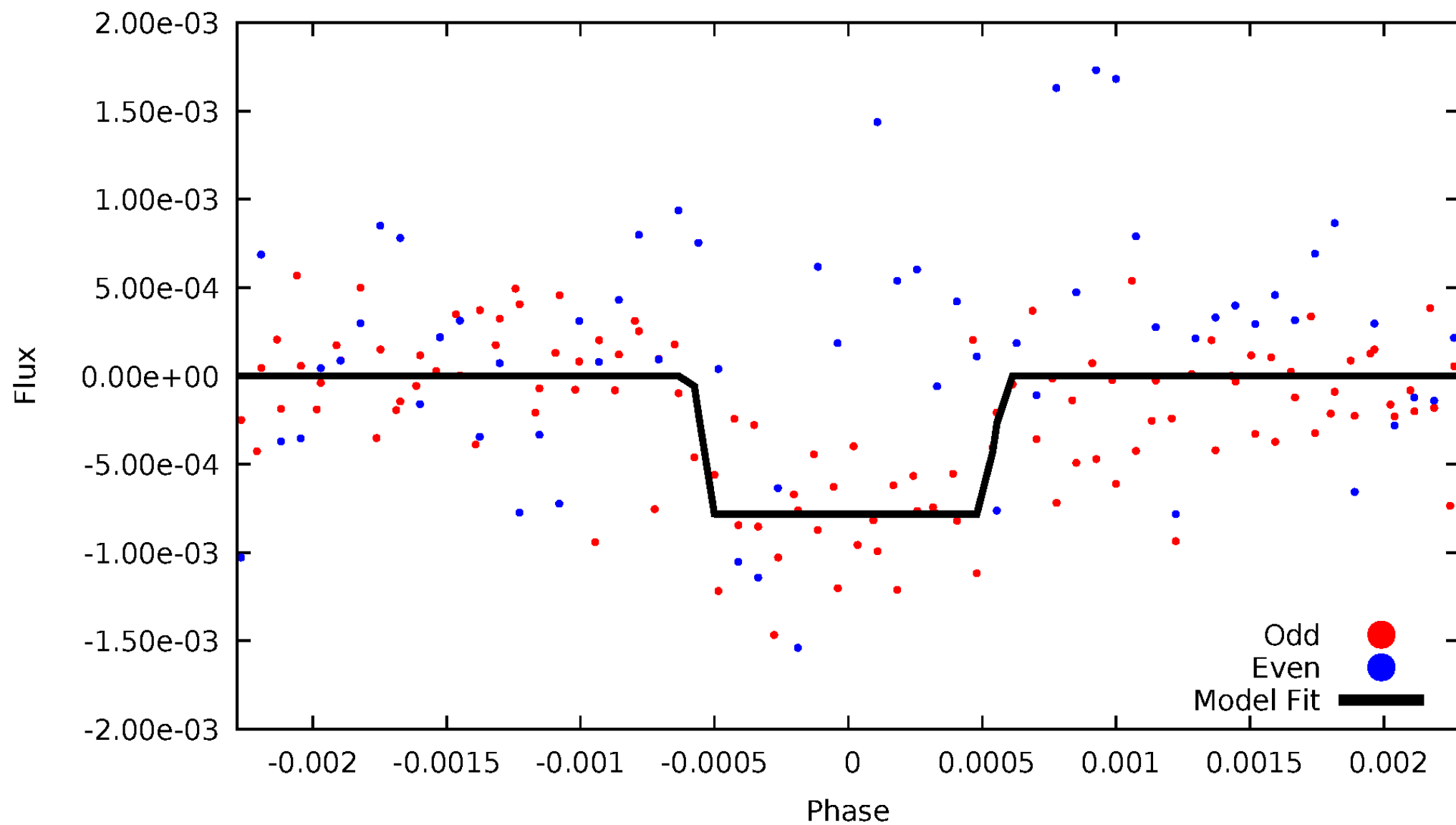
DV Odd/Even

TCE 012366740-02



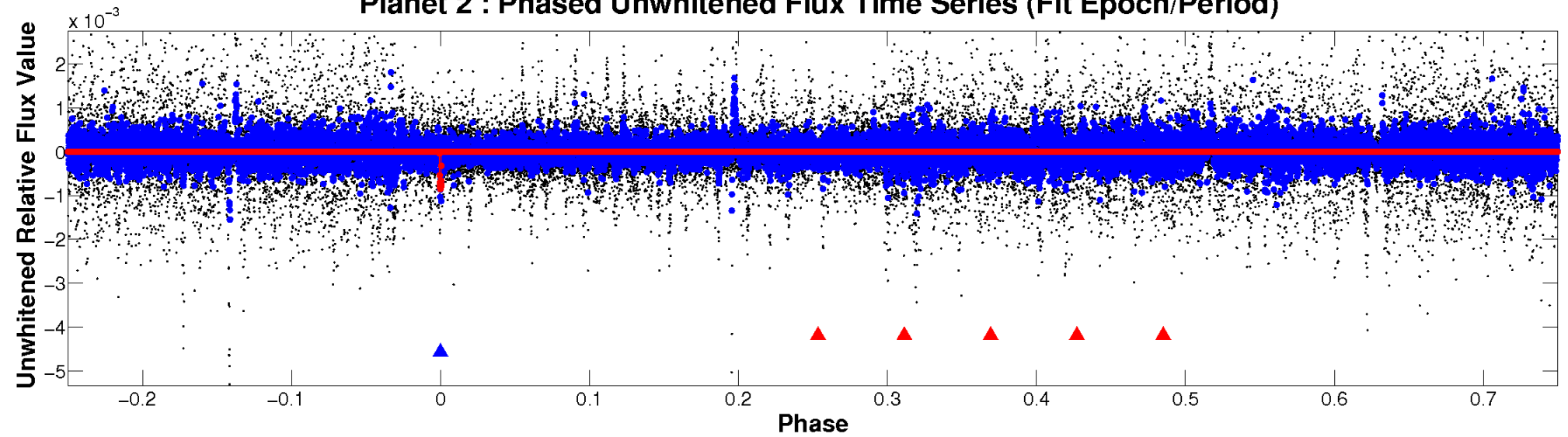
ALT Odd/Even

TCE 012366740-02

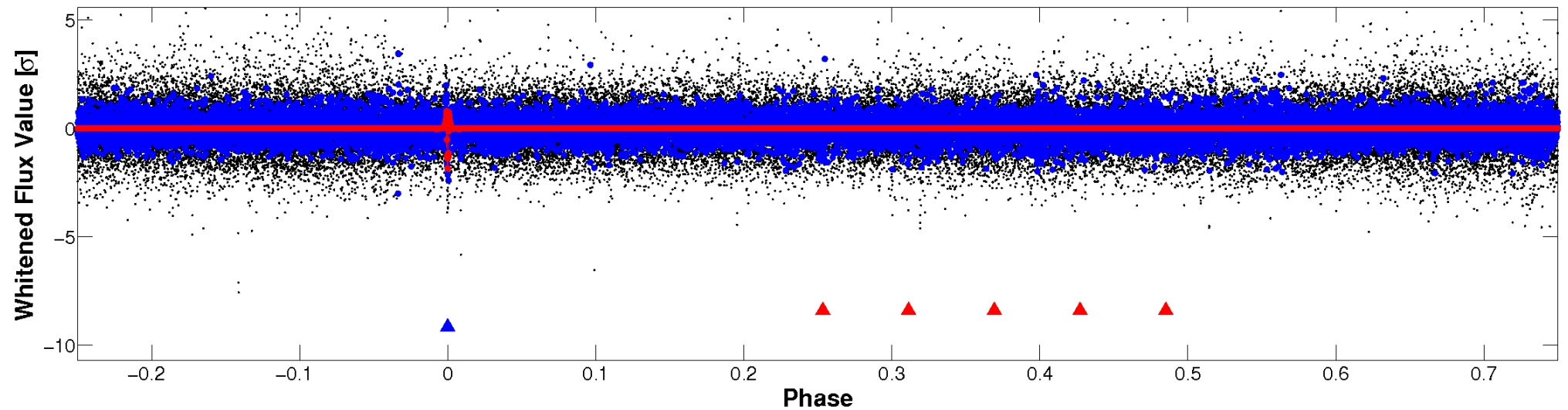


Non-Whitened Vs. Whitened Light Curve

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

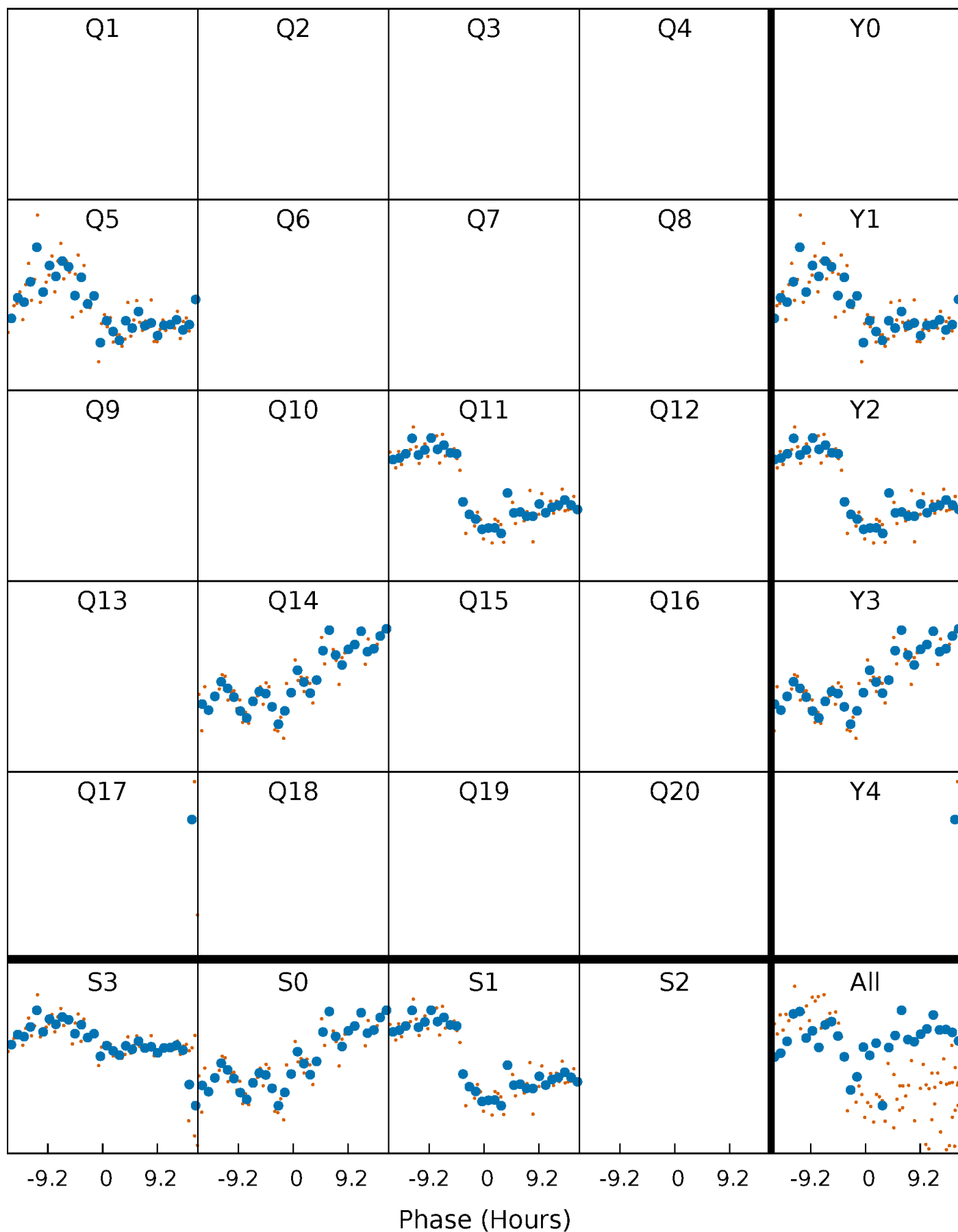


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



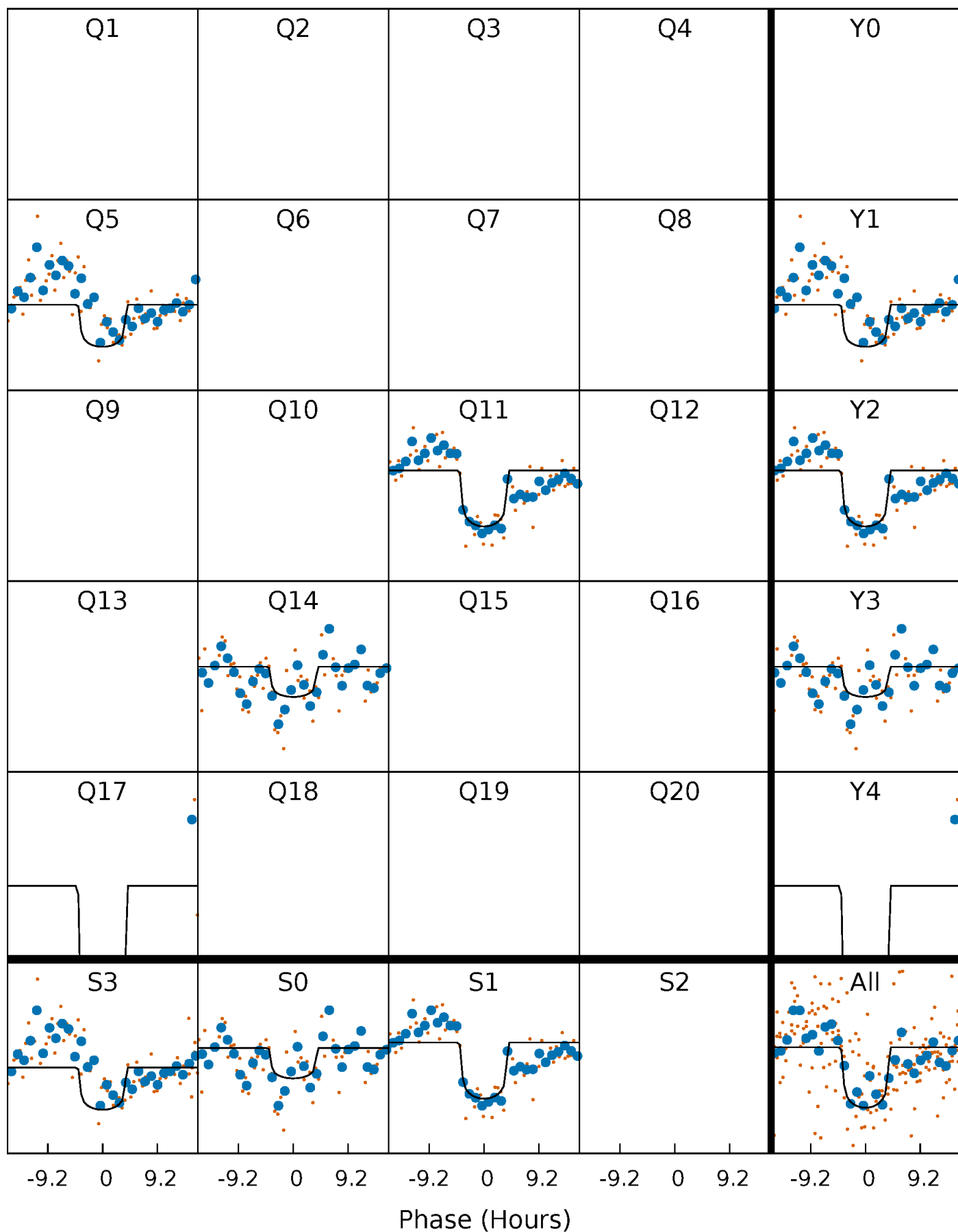
PDC Quarter-Phased Transit Curves

TCE 012366740-02 P=275.261729 Days $T_0=182.334590$ (BKJD)



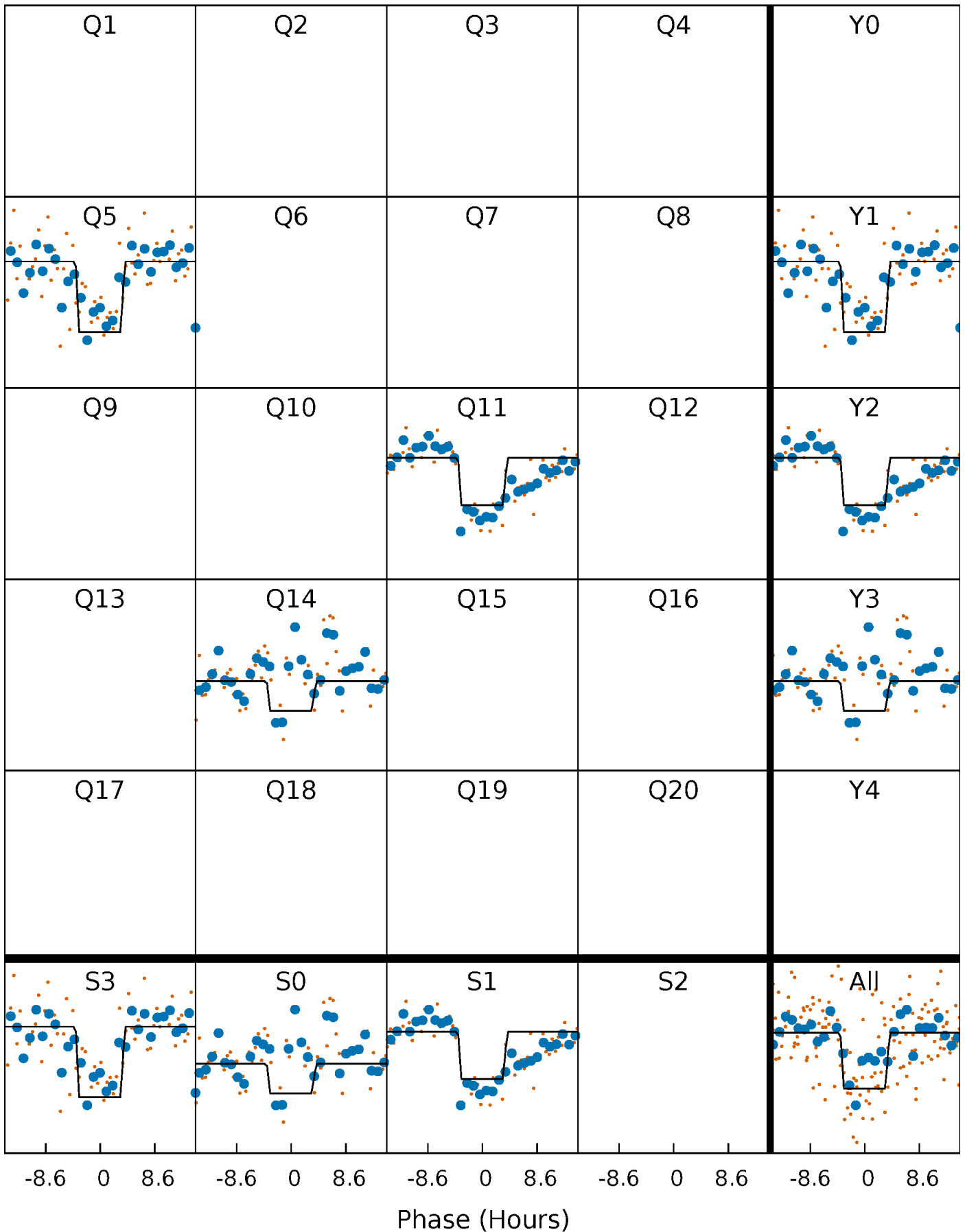
DV Quarter-Phased Transit Curves

TCE 012366740-02 $P=275.261729$ Days $T_0=182.334590$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

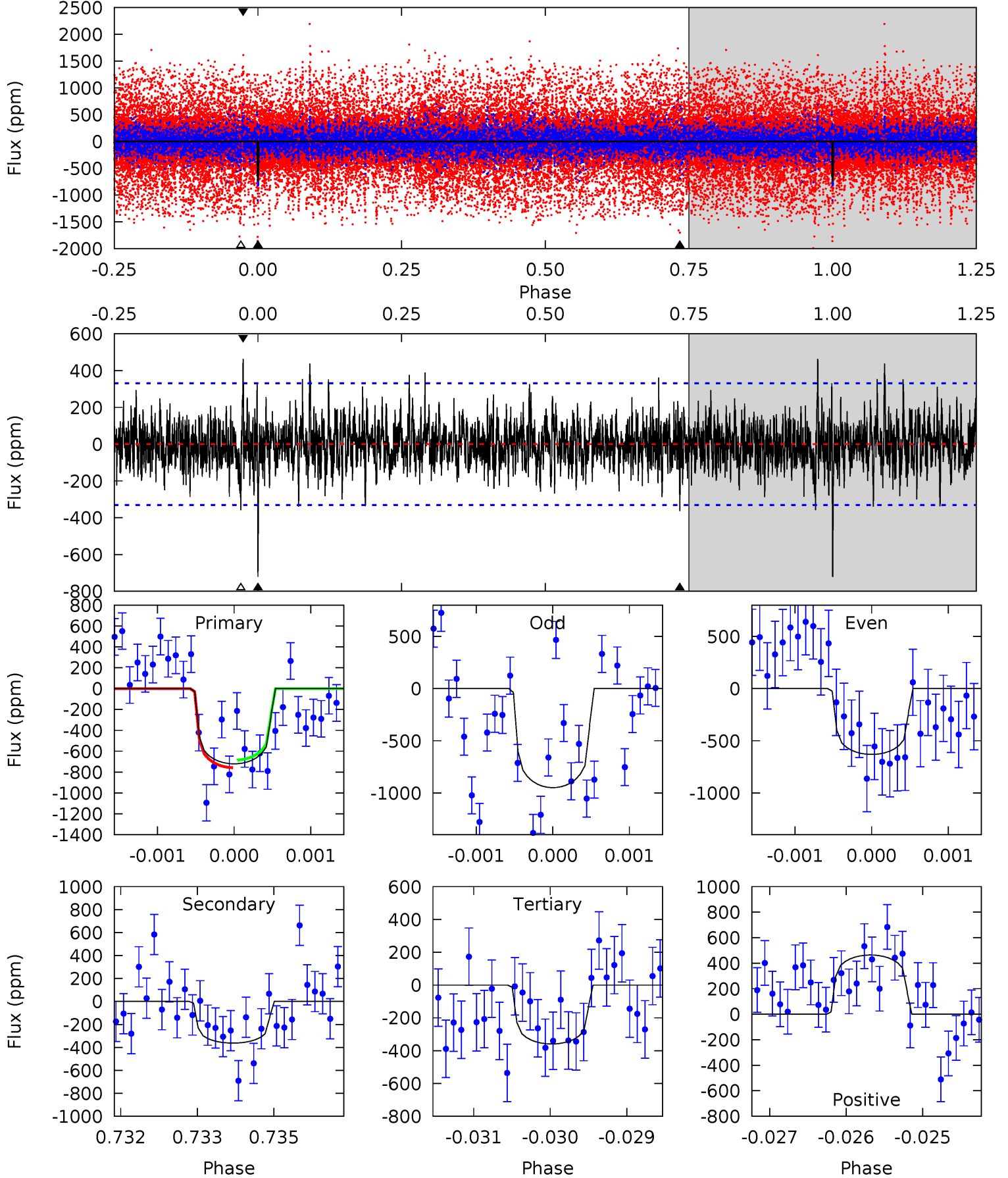
TCE 012366740-02 $P=275.240053$ Days $T_0=182.405552$ (BKJD)



DV Model-Shift Uniqueness Test

012366740-02, P = 275.261729 Days, E = 182.334590 Days

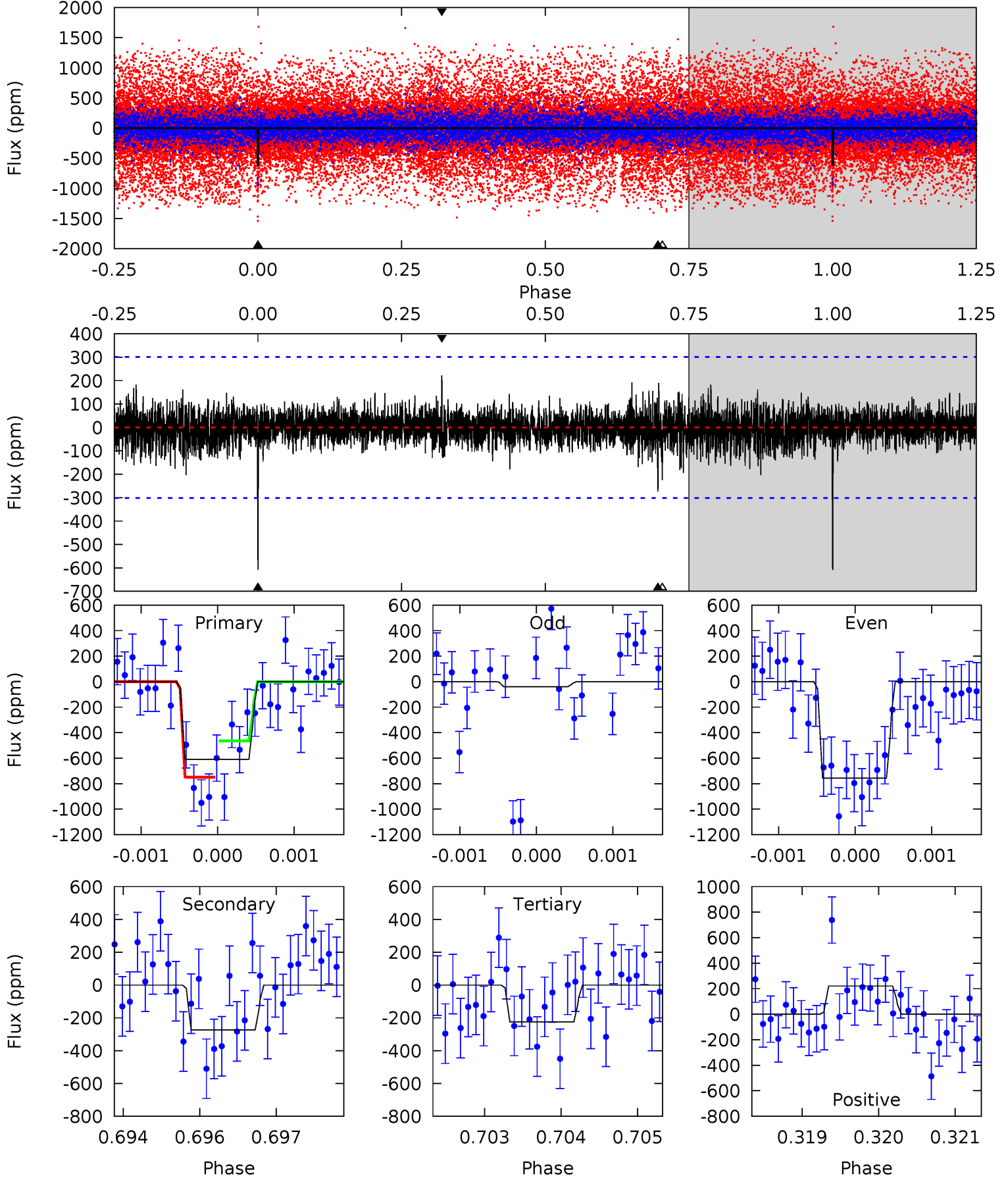
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	5.94	5.89	7.61	5.42	3.24	1.58	5.93	4.21	0.06	-1.66	2.22	0.79	0.39	0.61



Alt Model-Shift Uniqueness Test

012366740-02, P = 275.240053 Days, E = 182.405552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	4.93	4.04	3.98	5.42	3.25	0.85	6.91	6.97	0.89	0.95	6.04	0.92	0.27	2.61



Stellar Parameters For KIC 012366740

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6366^{+181}_{-250}	$4.247^{+0.175}_{-0.193}$	$-0.200^{+0.250}_{-0.300}$	$1.295^{+0.395}_{-0.263}$	$1.078^{+0.193}_{-0.129}$	$0.698^{+0.560}_{-0.362}$
	+3%/-4%	+4%/-5%	+125%/-150%	+31%/-20%	+18%/-12%	+80%/-52%
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 012366740-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-362 ± 61	$4.08^{+1.72}_{-1.71}$	483^{+38}_{-35}	5228^{+1505}_{-709}	8762^{+15245}_{-4488}
Alt.	-274 ± 56	$3.96^{+1.90}_{-1.57}$	485^{+40}_{-35}	4960^{+1238}_{-678}	6755^{+11575}_{-3594}

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

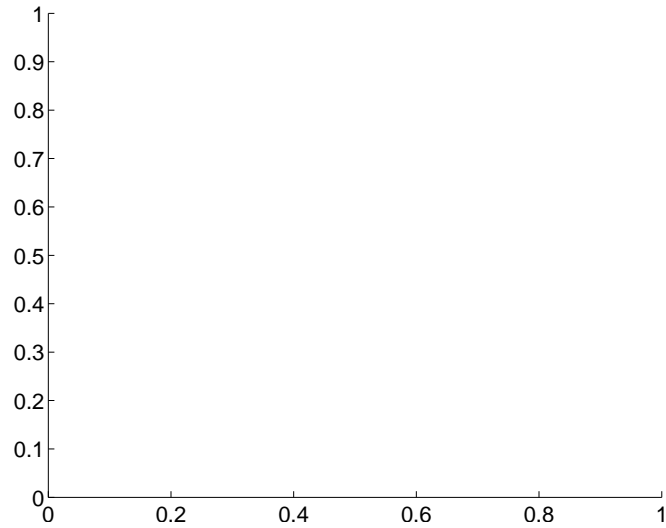
Supplemental centroid analysis for 012366740-02. Kepler magnitude: 13.68. Transit SNR 10.69

There are 0 quarters with good PRF difference image offsets

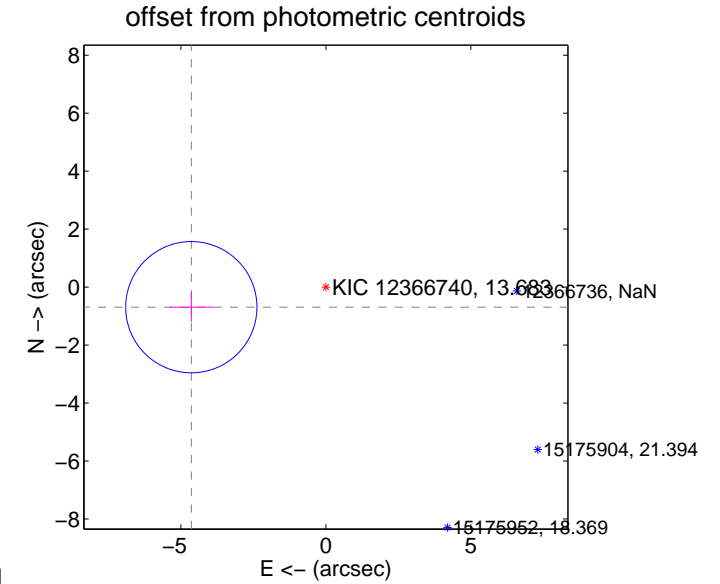
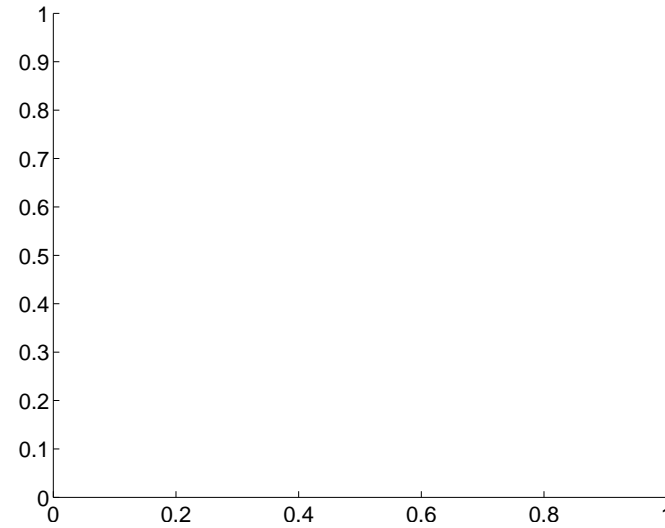
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.69 ± 0.75	6.22	4.64 ± 0.76	-0.69 ± 0.51

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

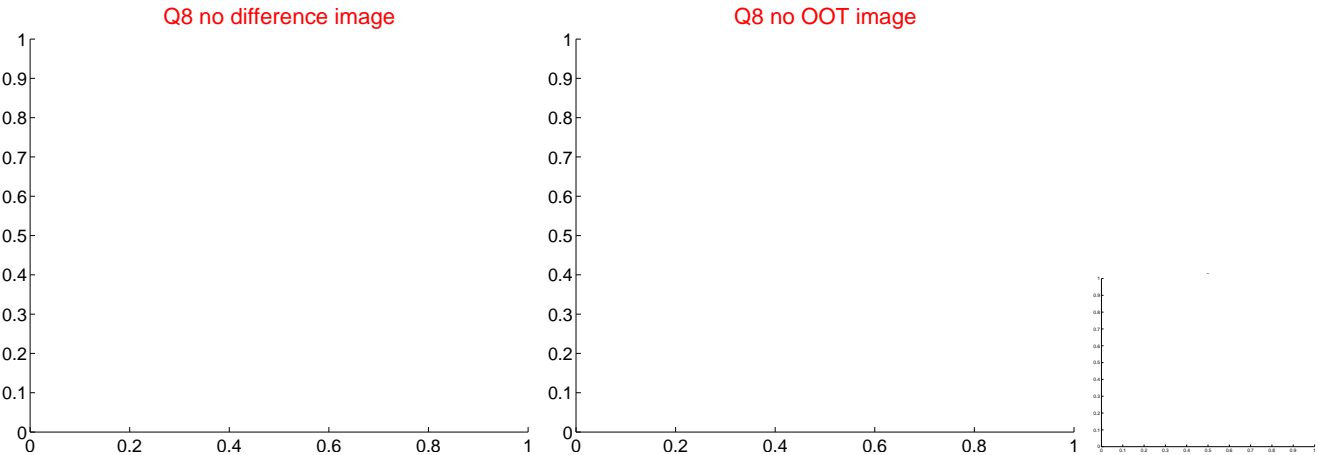
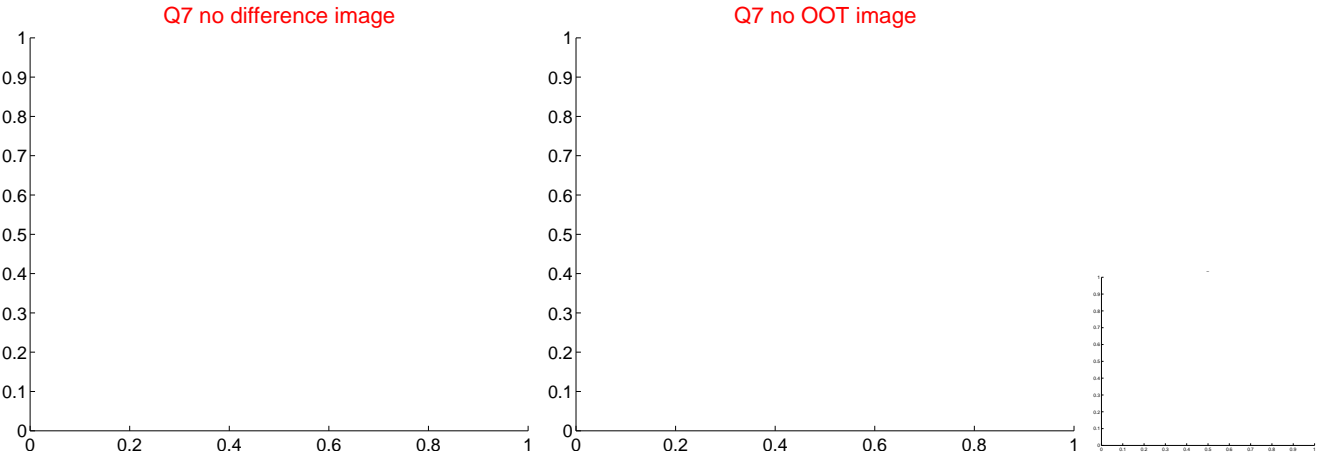
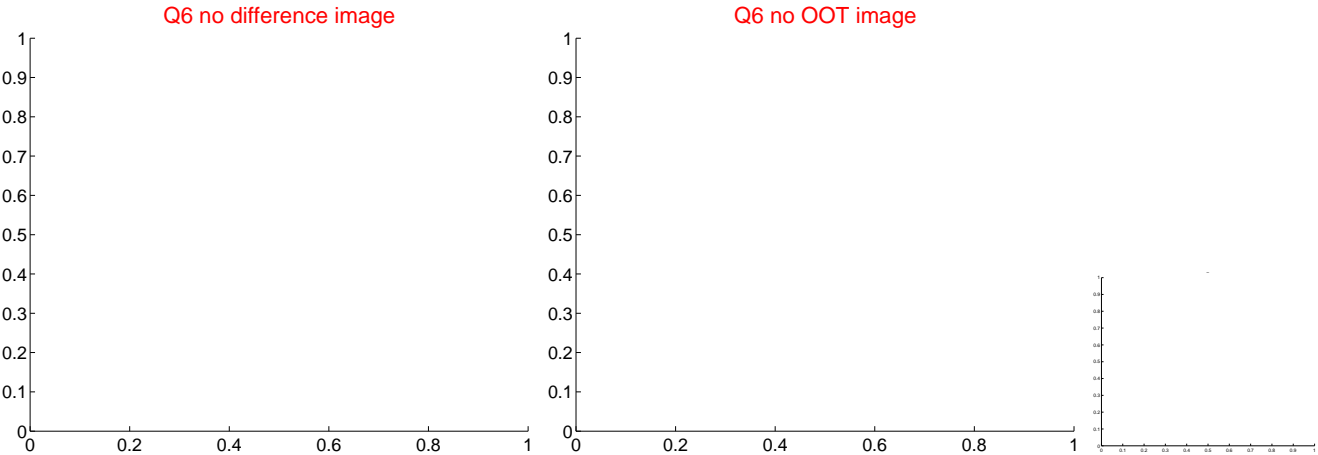
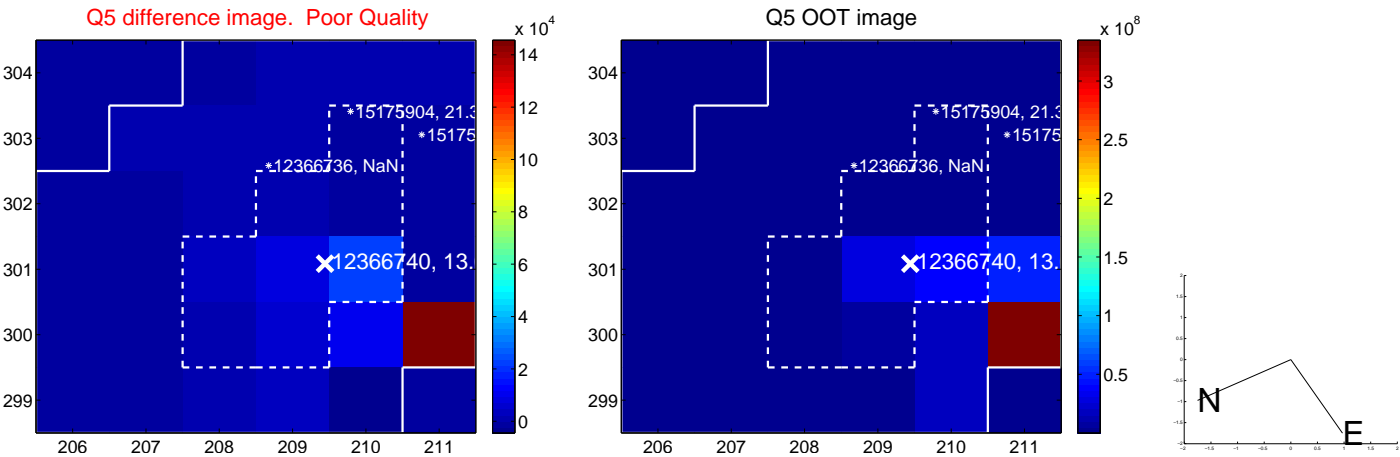


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



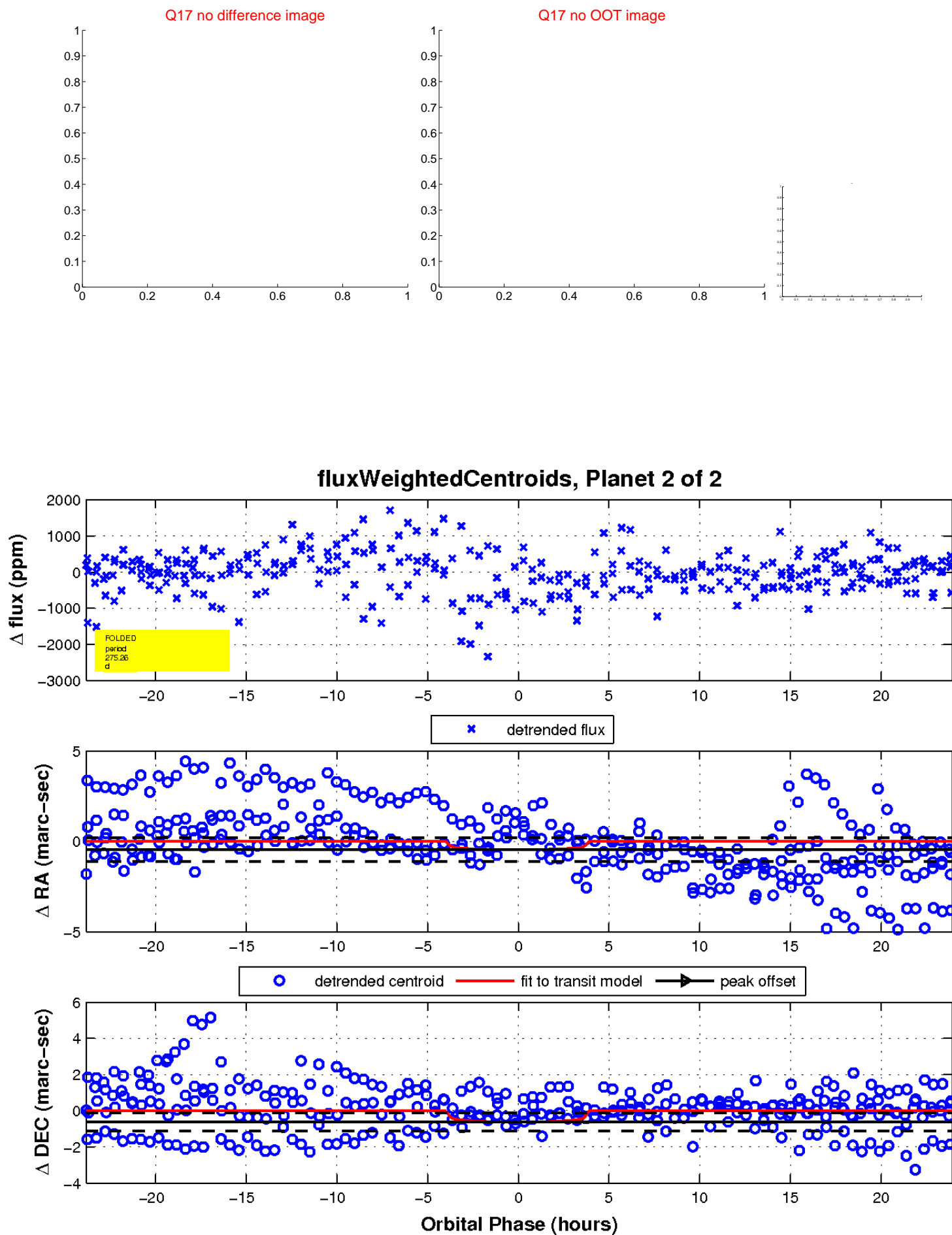
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

