

KIC 007686064

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})
007686064-01	OBS	No	392.923238	175.799656	396.0	16.235	7.3	7.0	0.85	5795	1.79	0.69
007686064-02	OBS	No	375.570027	186.218078	499.7	5.000	7.3	7.5	0.85	5795	2.09	0.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007686064-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007686064-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

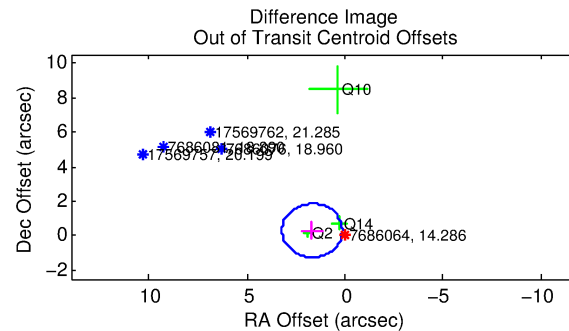
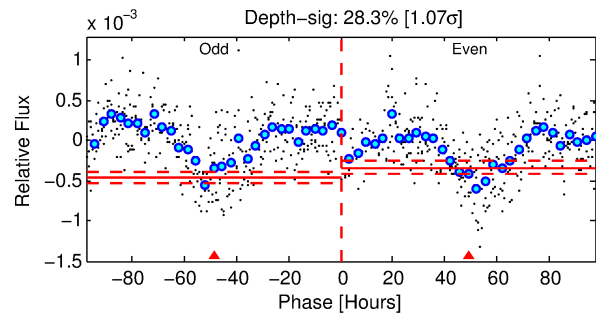
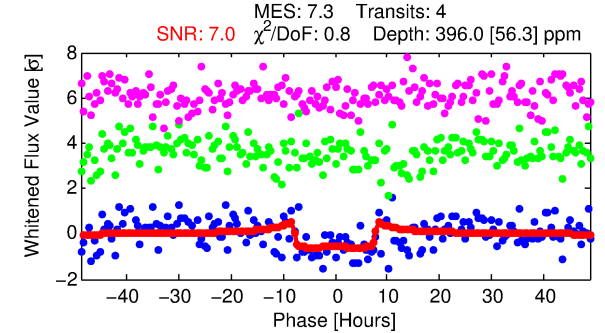
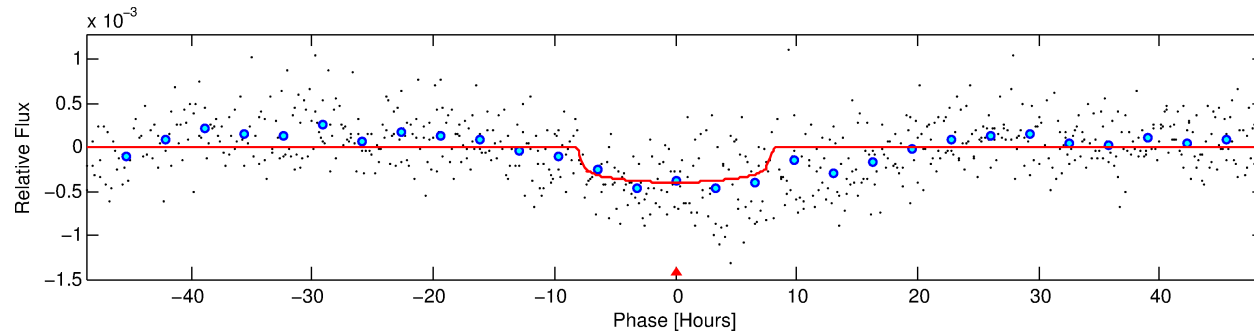
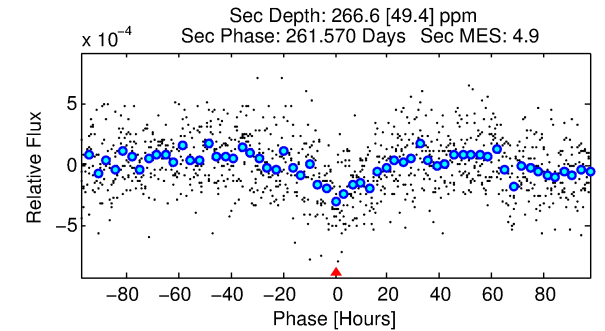
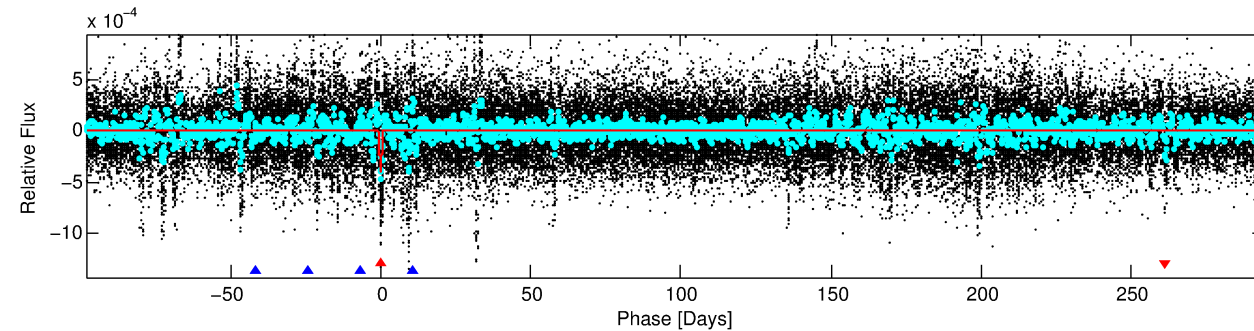
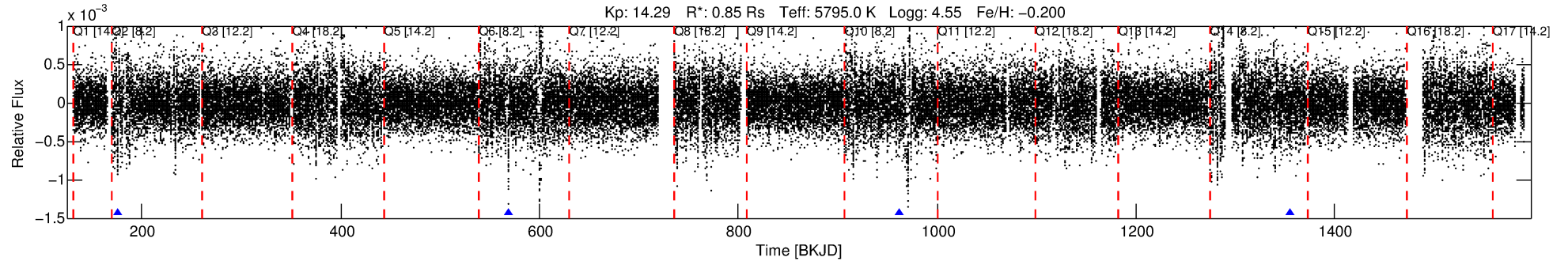
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007686064-01

No Significant Match Found

DV One-Page Summary

KIC: 7686064 Candidate: 1 of 2 Period: 392.923 d



DV Fit Results:

Period = 392.92324 [0.00935] d
Epoch = 175.7997 [0.0165] BKJD
Rp/R* = 0.0193 [0.0056]
a/R* = 141.09 [177.44]
b = 0.68 [1.01]
Seff = 0.69 [0.25]
Teq = 232 [21] K
Rp = 1.79 [0.74] Re
a = 1.0284 [0.2520] AU
Ag = 48450.79 [33923.61] [1.43 σ]
Teffp = 5325 [817] K [6.23 σ]

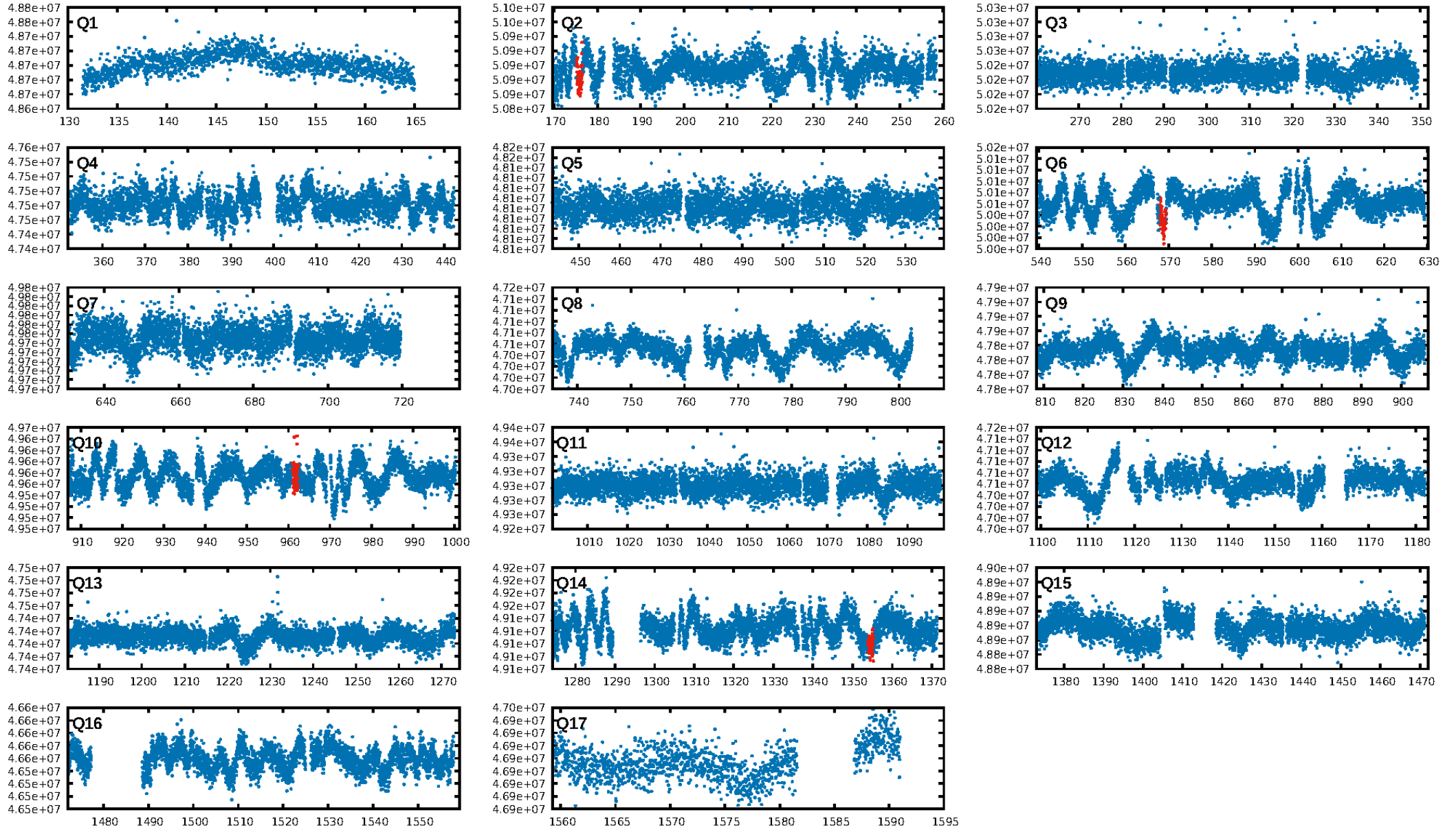
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.52 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 41.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.36e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.465
Centroid-sig: 0.1%
Centroid-so: 2.373 arcsec [1.77 σ]
OotOffset-rm: 1.707 arcsec [3.31 σ]
KicOffset-rm: 1.697 arcsec [3.29 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

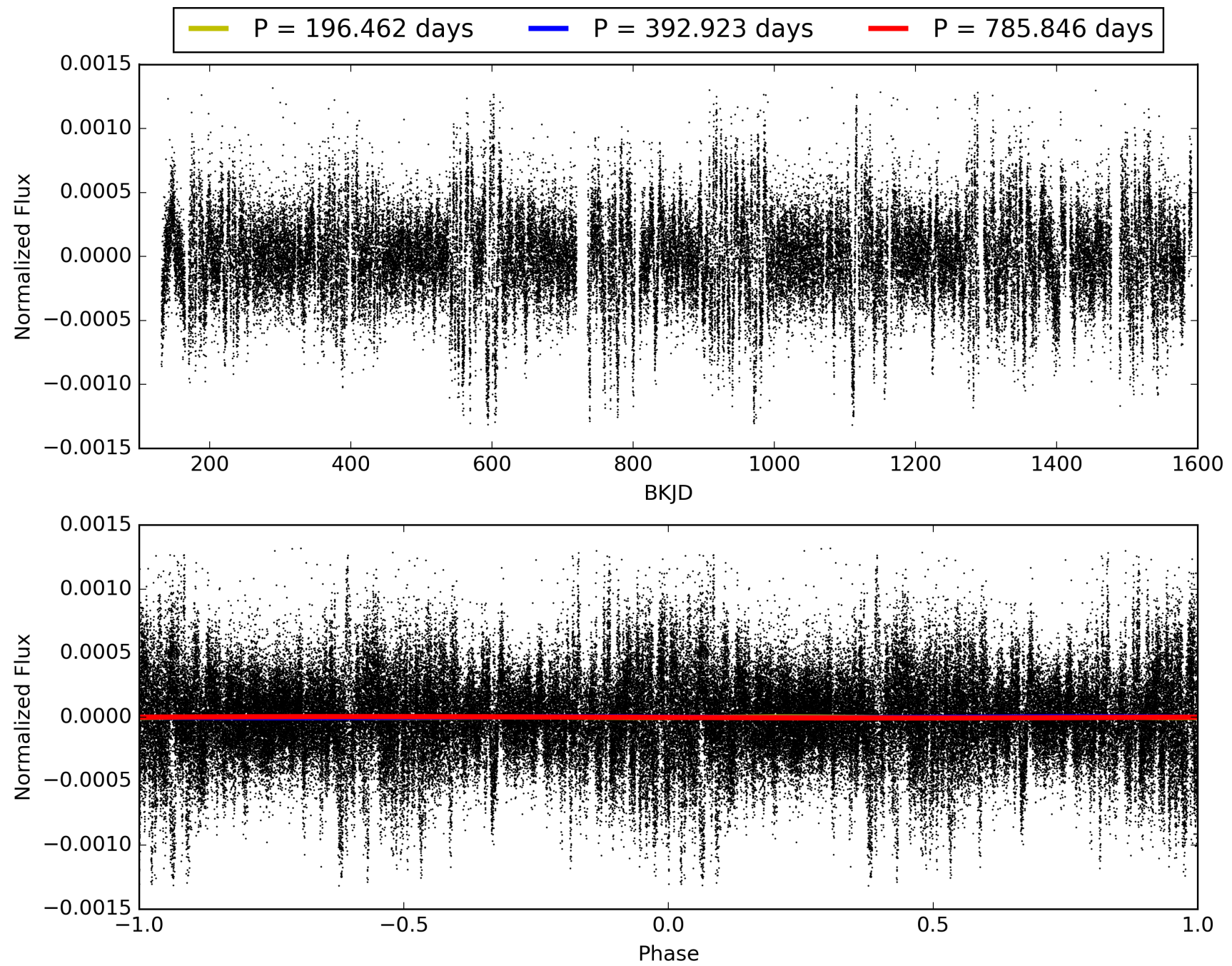
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:40:48 Z

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

TCE 007686064-01, PDC Light Curves

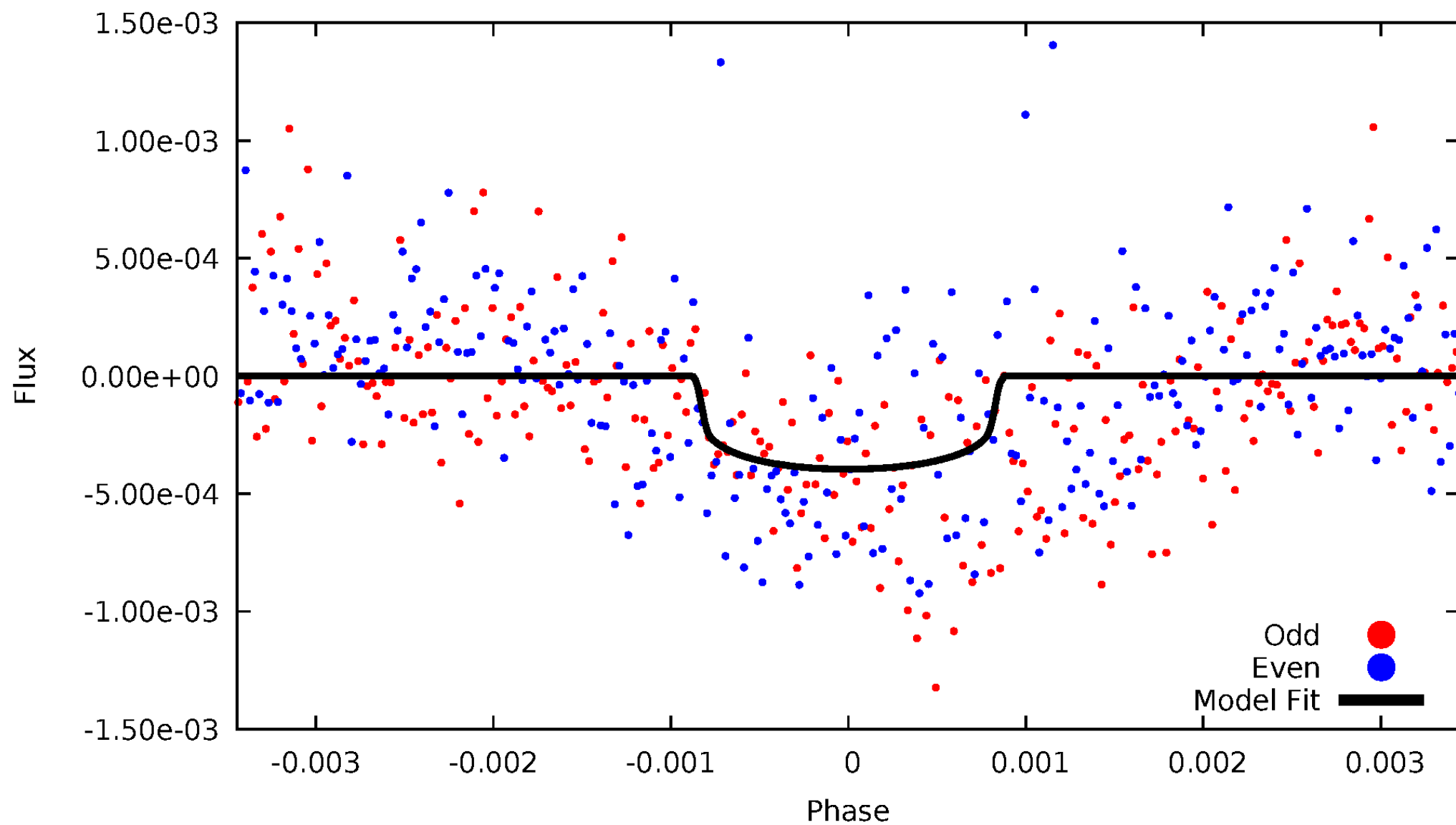


TCE 007686064-01



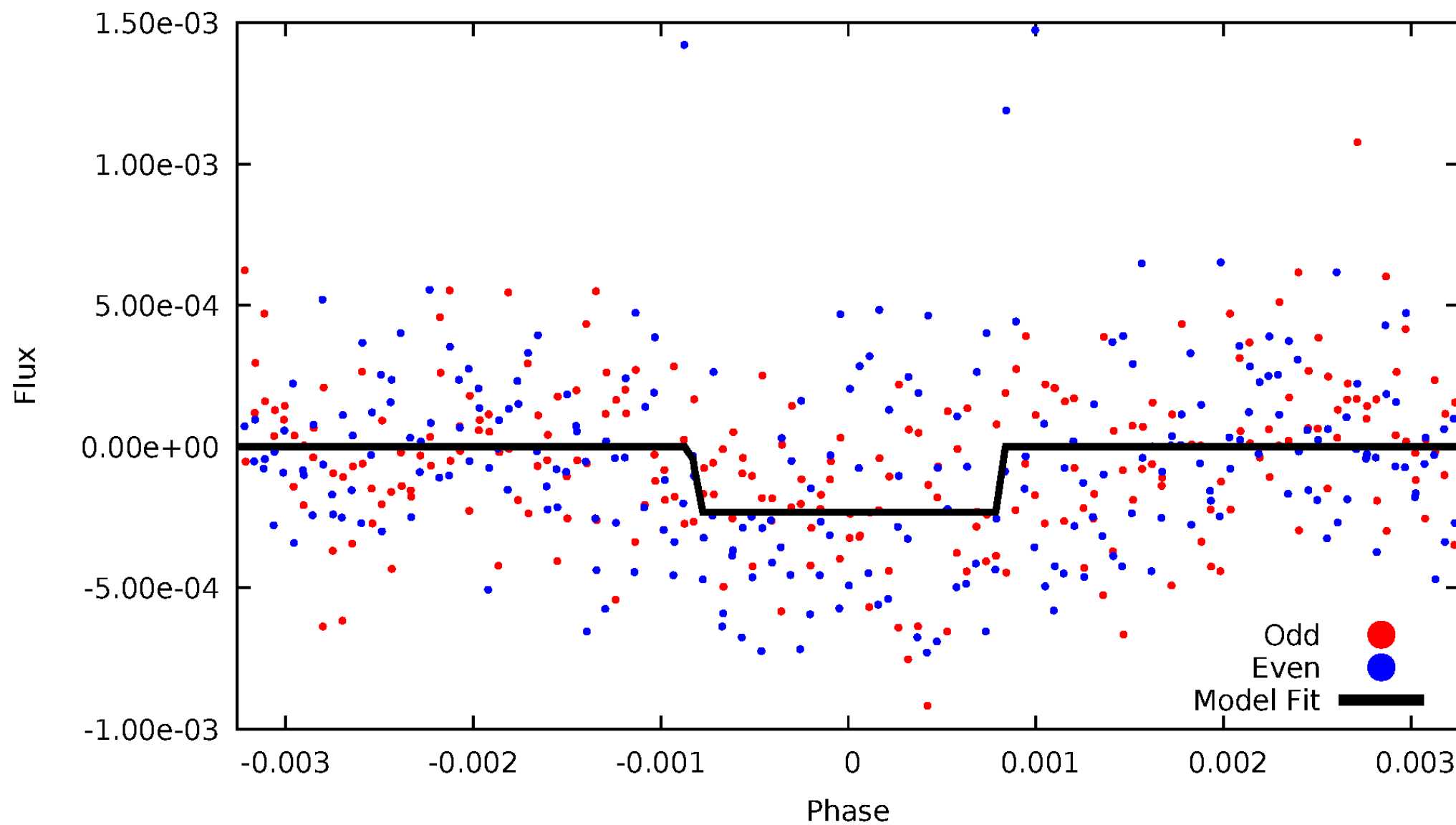
DV Odd/Even

TCE 007686064-01

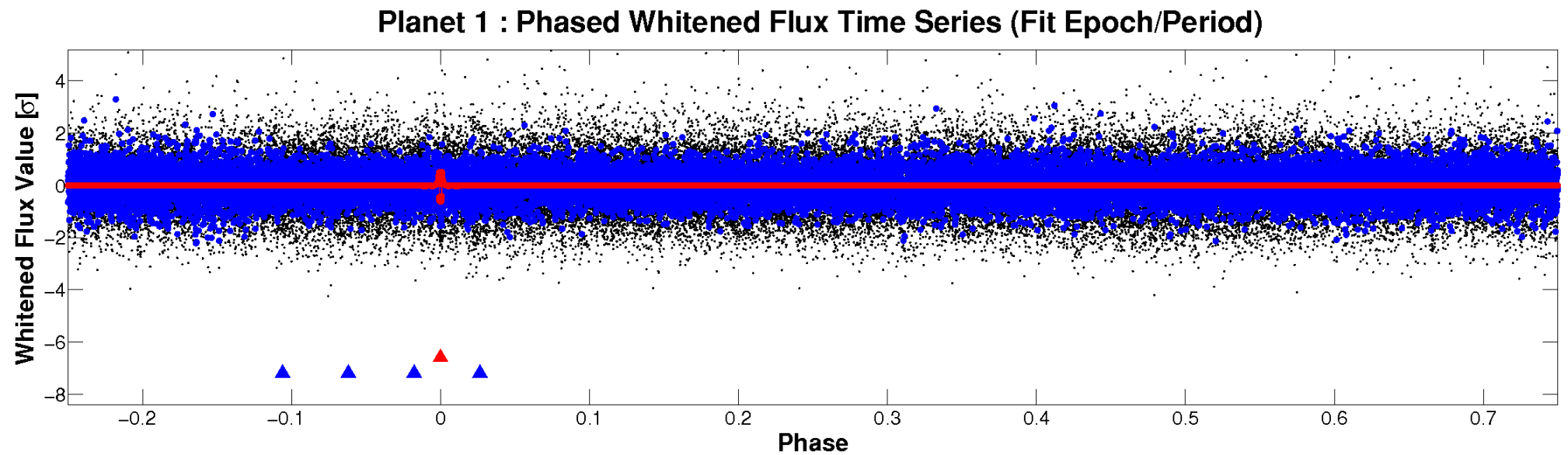
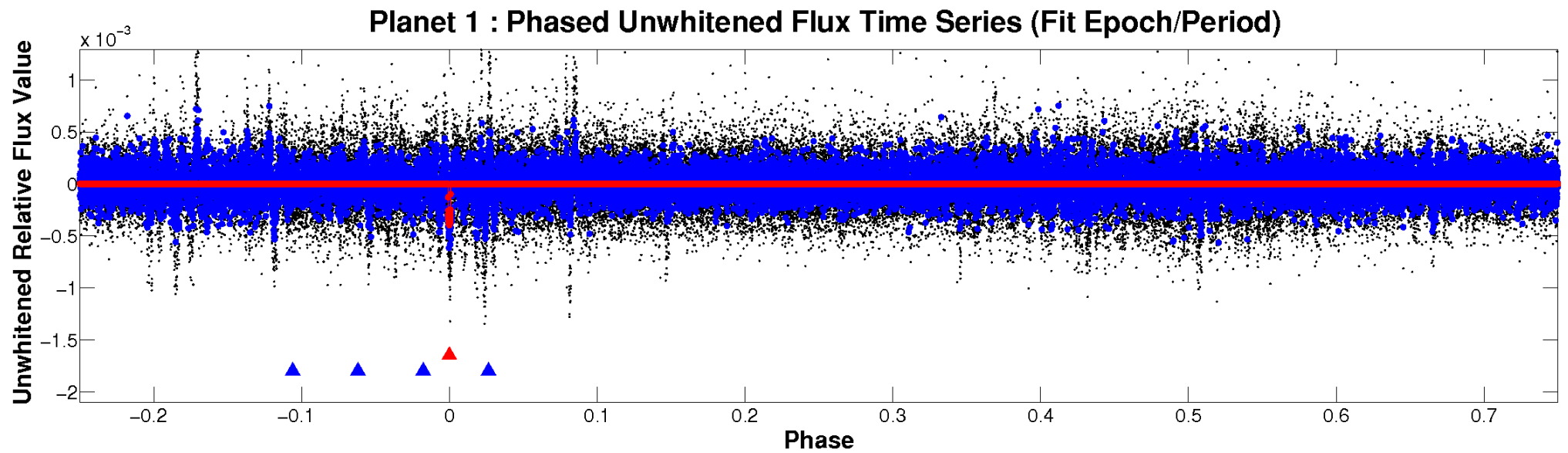


ALT Odd/Even

TCE 007686064-01

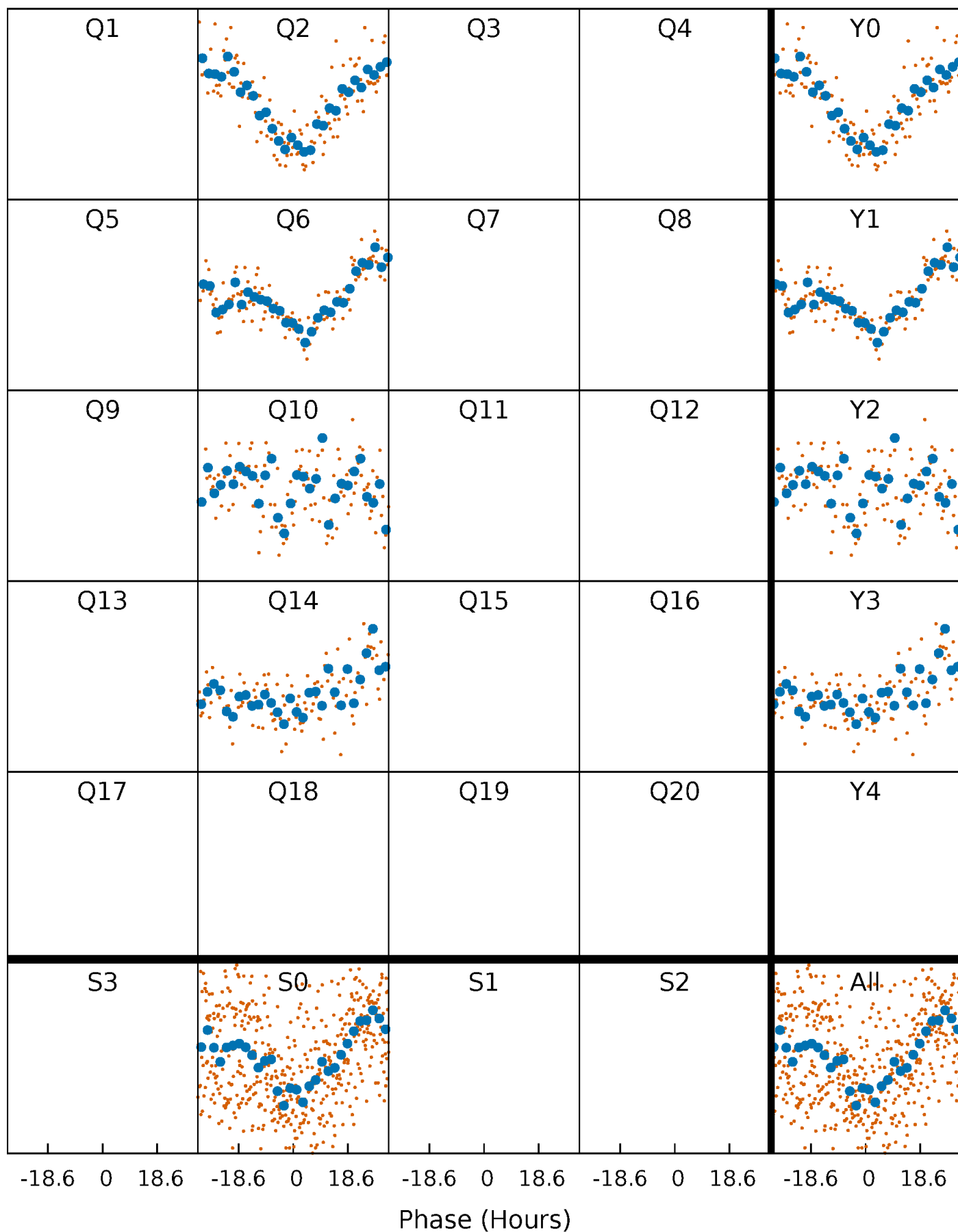


Non-Whitened Vs. Whitened Light Curve



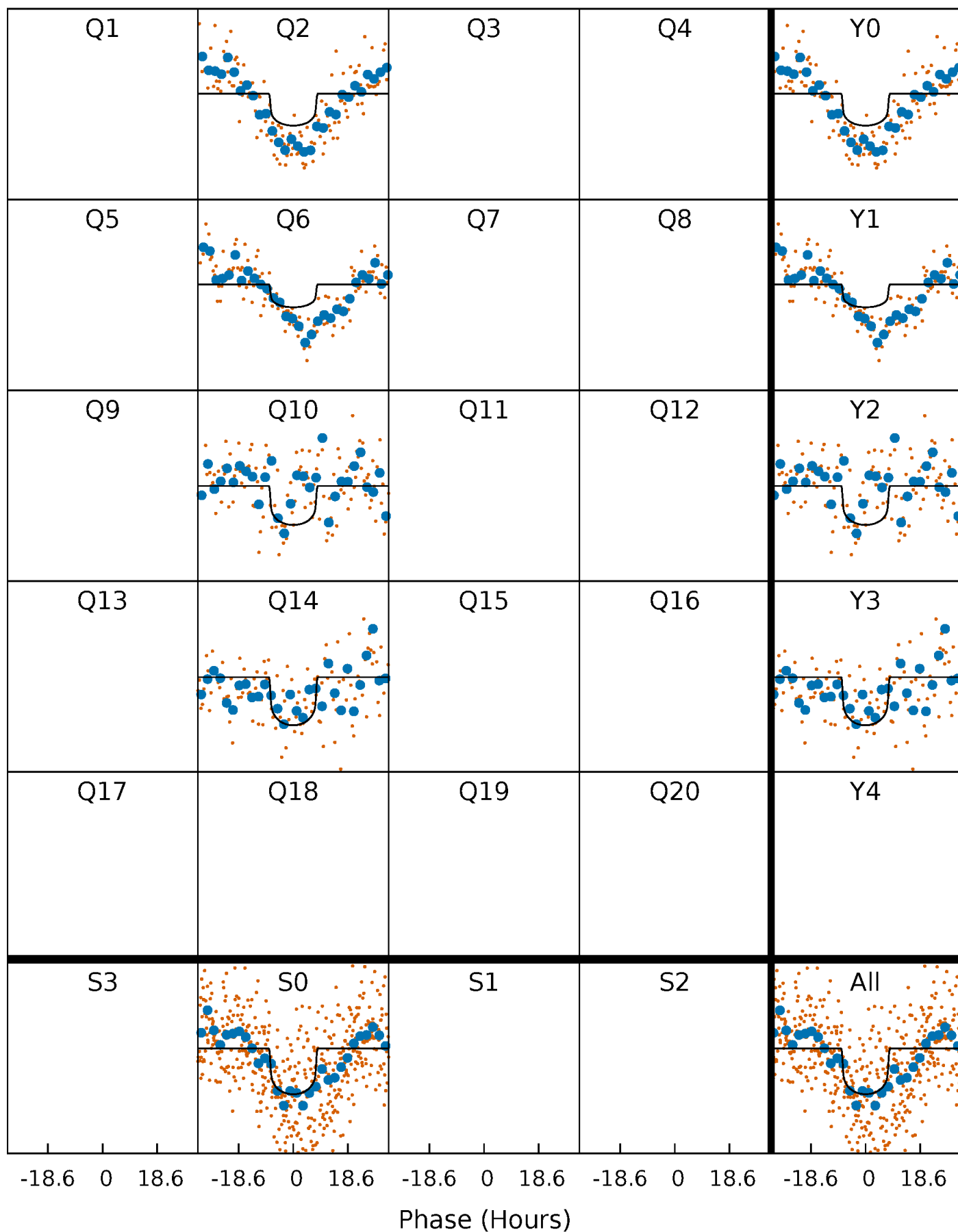
PDC Quarter-Phased Transit Curves

TCE 007686064-01 P=392.923238 Days $T_0=175.799656$ (BKJD)



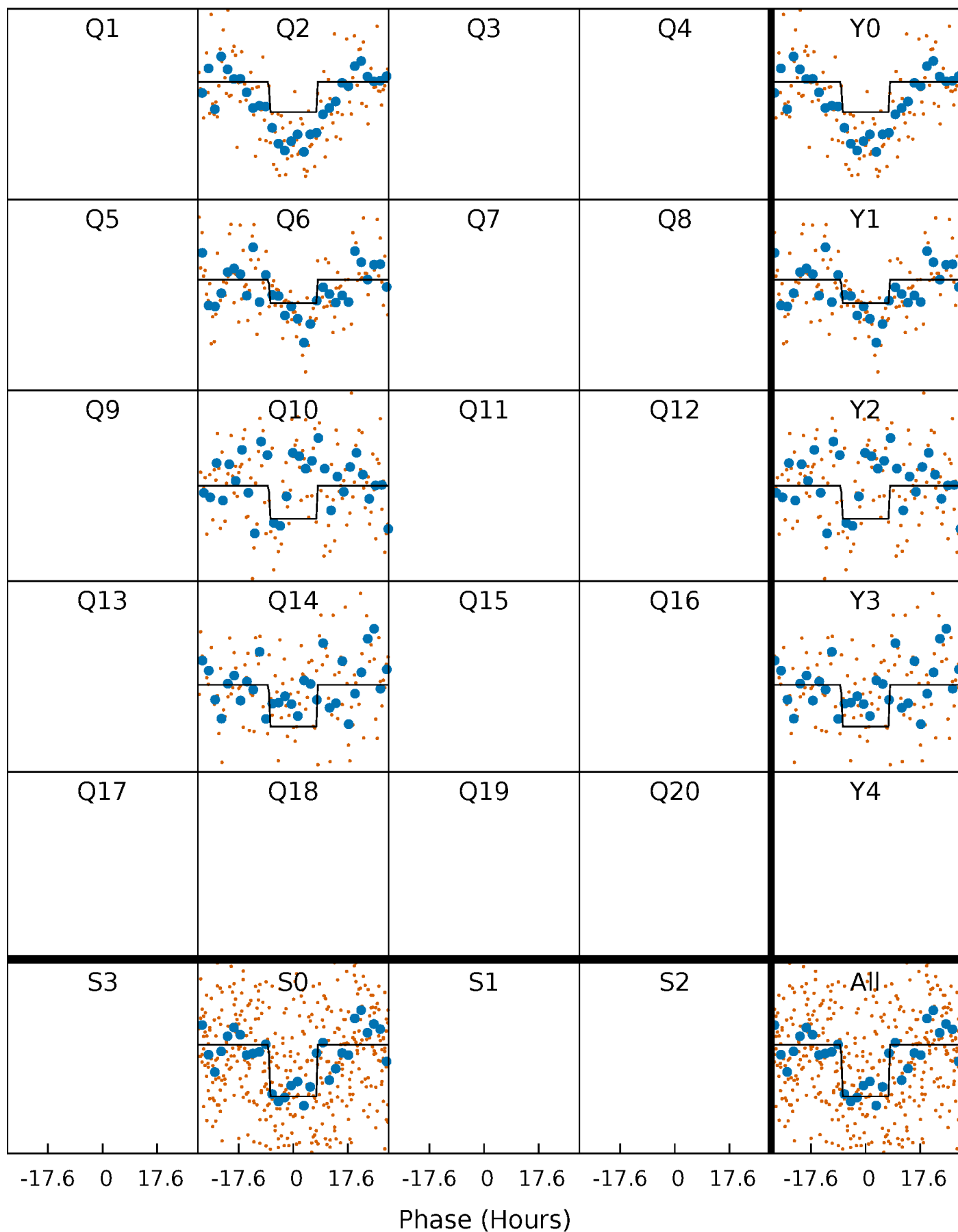
DV Quarter-Phased Transit Curves

TCE 007686064-01 P=392.923238 Days $T_0=175.799656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

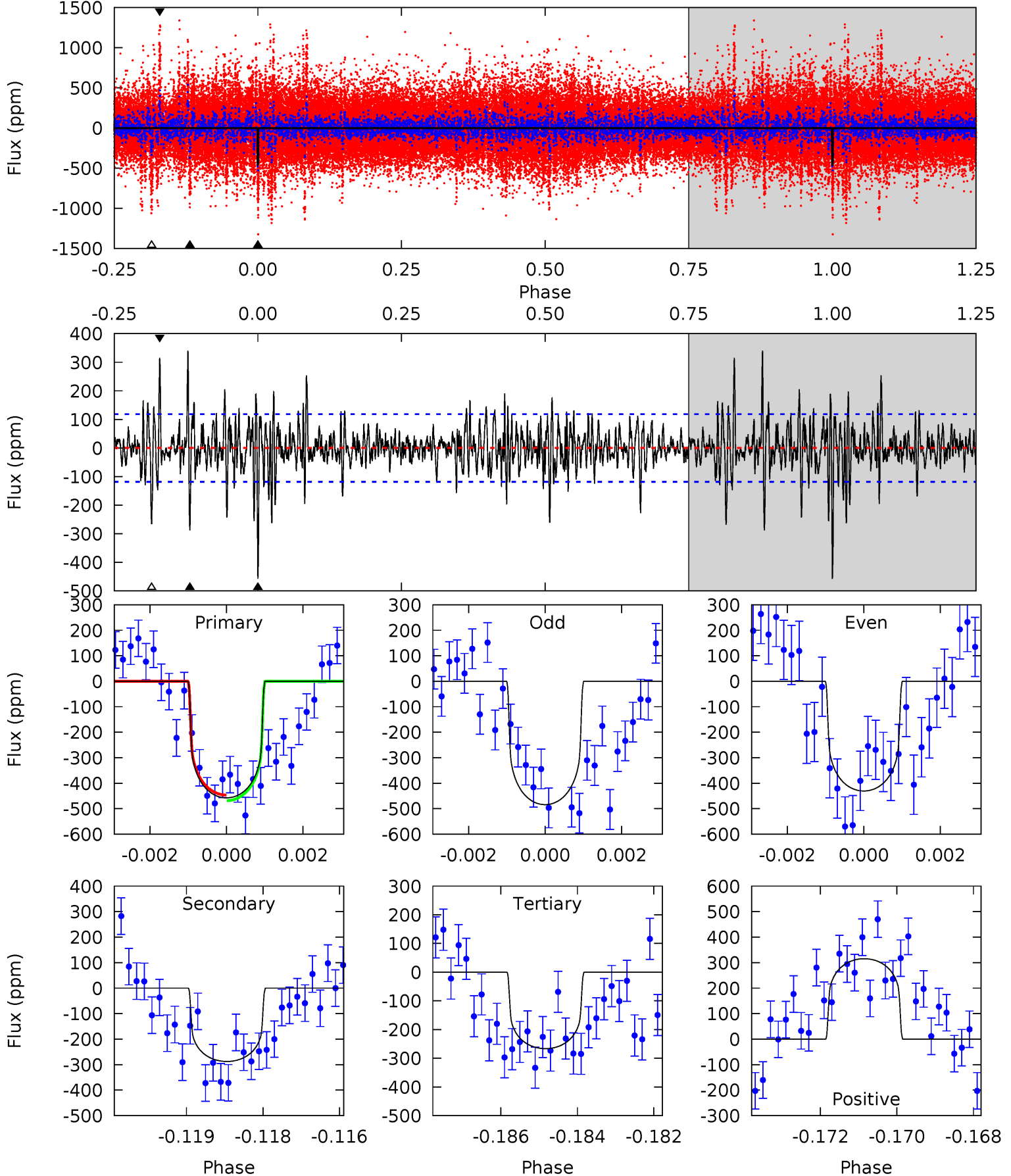
TCE 007686064-01 P=392.957792 Days $T_0=175.791962$ (BKJD)



DV Model-Shift Uniqueness Test

007686064-01, P = 392.923238 Days, E = 175.799656 Days

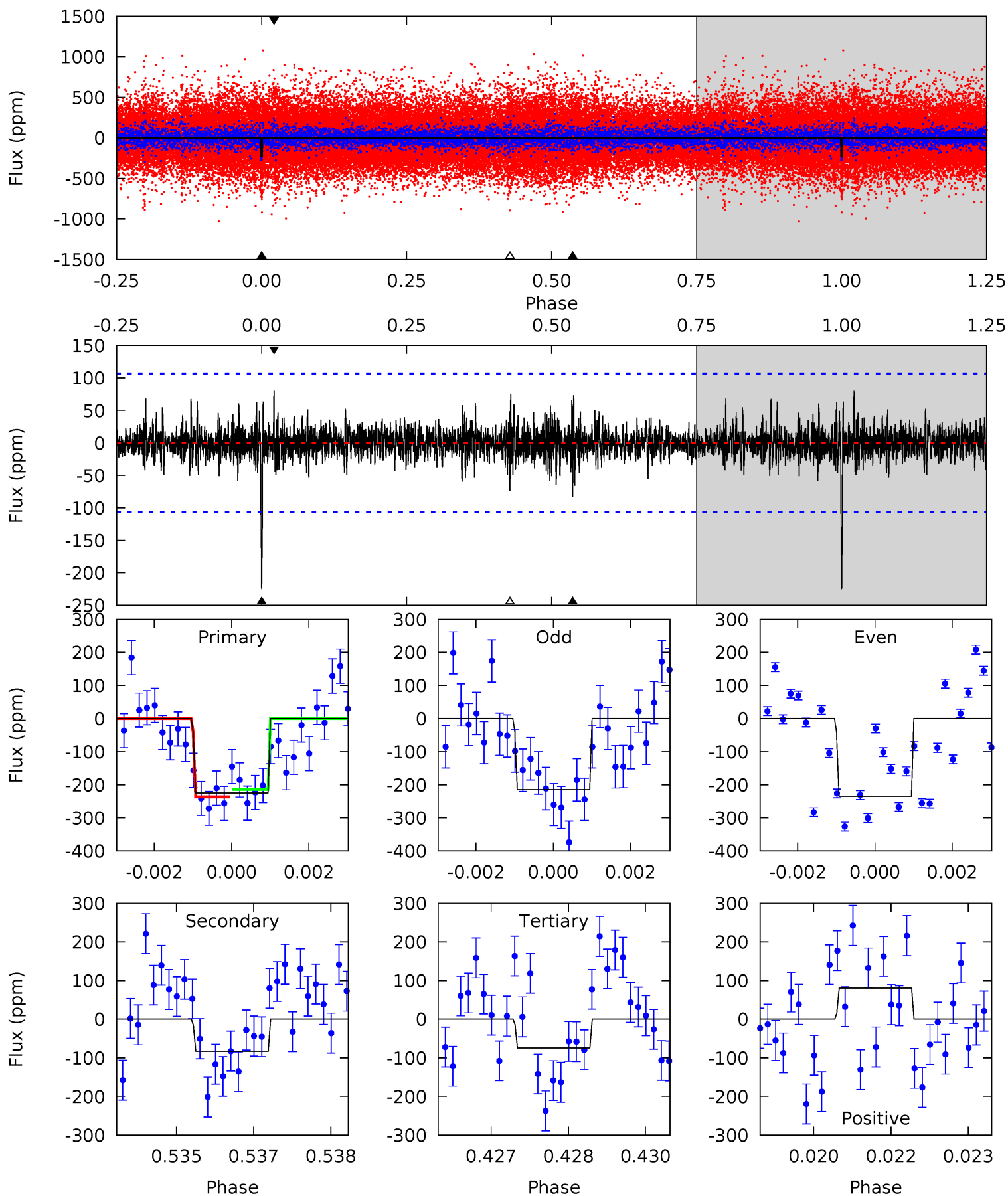
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	13.0	12.0	14.2	5.35	3.13	2.89	8.62	6.41	0.95	-1.26	1.21	0.92	0.43	0.50



Alt Model-Shift Uniqueness Test

007686064-01, P = 392.957792 Days, E = 175.791962 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.19	3.73	4.02	5.36	3.14	0.85	7.56	7.28	0.45	0.17	0.51	1.05	0.26	0.57



Stellar Parameters For KIC 007686064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5795^{+143}_{-158}	$4.554^{+0.036}_{-0.192}$	$-0.200^{+0.300}_{-0.300}$	$0.848^{+0.249}_{-0.083}$	$0.938^{+0.098}_{-0.109}$	$2.167^{+0.413}_{-1.088}$
	+2%/-3%	+1%/-4%	+150%/-150%	+29%/-10%	+10%/-12%	+19%/-50%
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 007686064-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-288 ± 22	$1.89^{+0.62}_{-0.56}$	333^{+21}_{-14}	5467^{+1045}_{-635}	45798^{+47056}_{-19877}
Alt.	-83 ± 20	$1.48^{+0.58}_{-0.55}$	332^{+23}_{-14}	4633^{+1025}_{-549}	21684^{+33514}_{-10781}

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 $A_{obs} \gg 1.0$

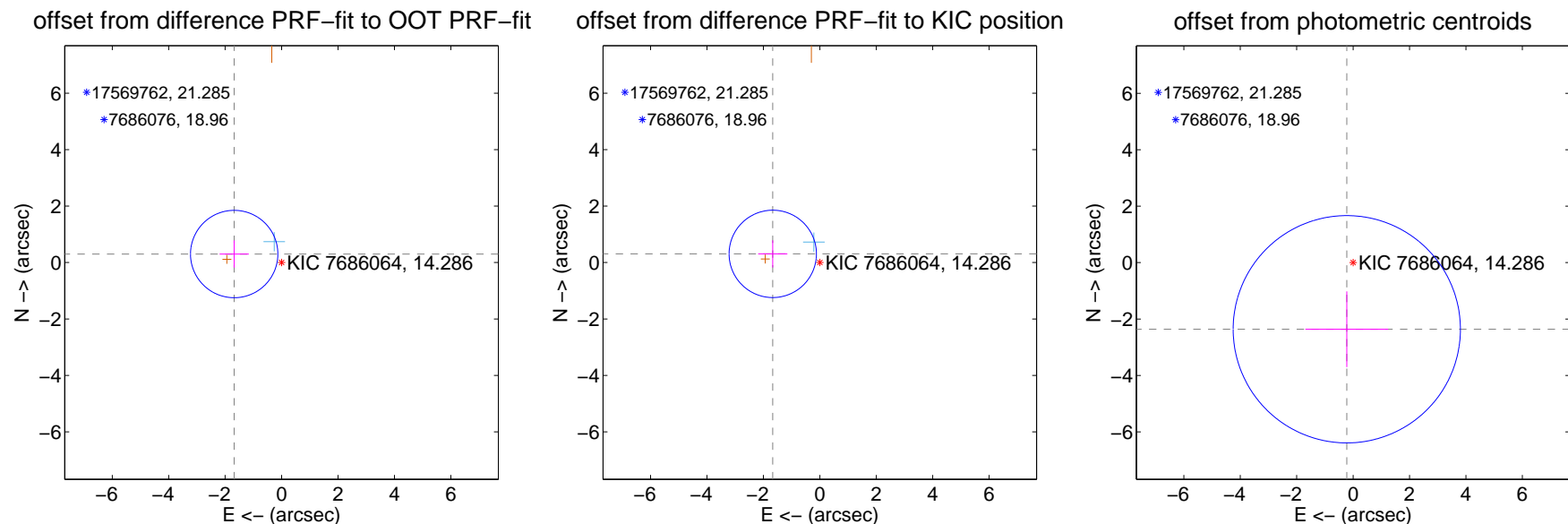
DV Centroid Data

Supplemental centroid analysis for 007686064-01. Kepler magnitude: 14.29. Transit SNR 6.99

There are 1 quarters with good PRF difference image offsets

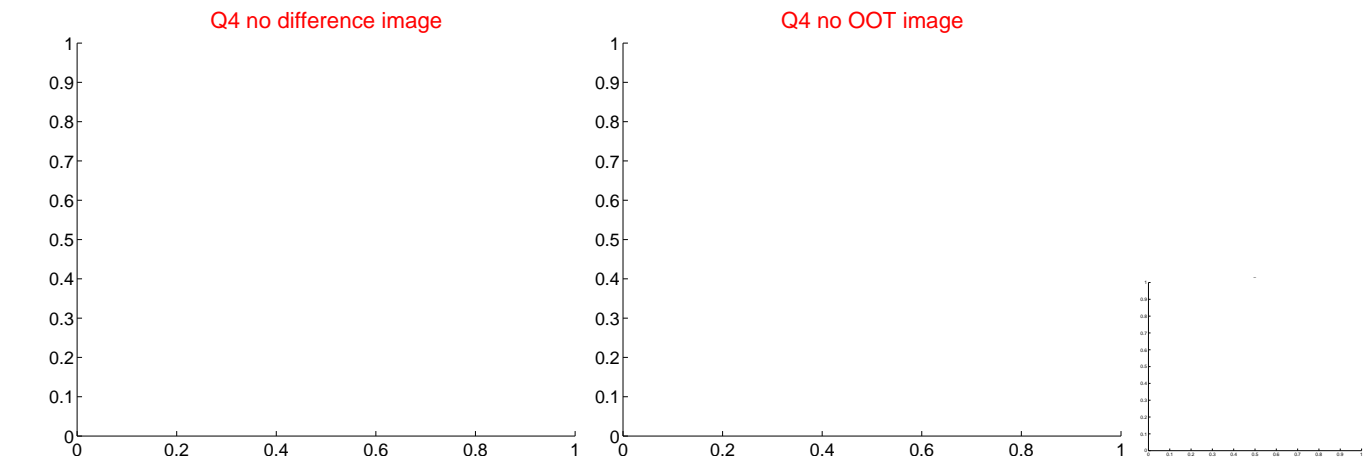
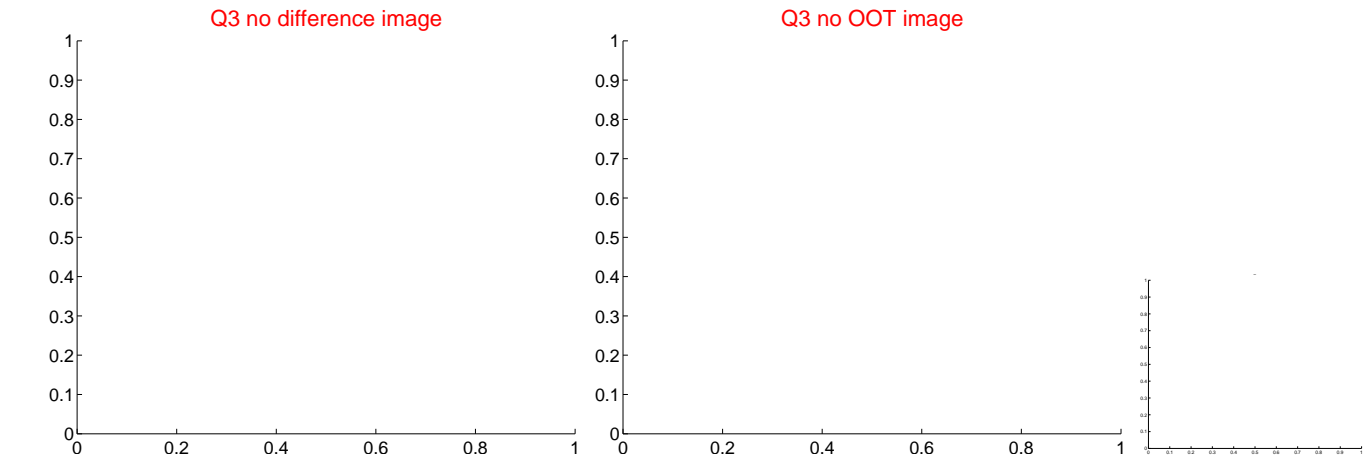
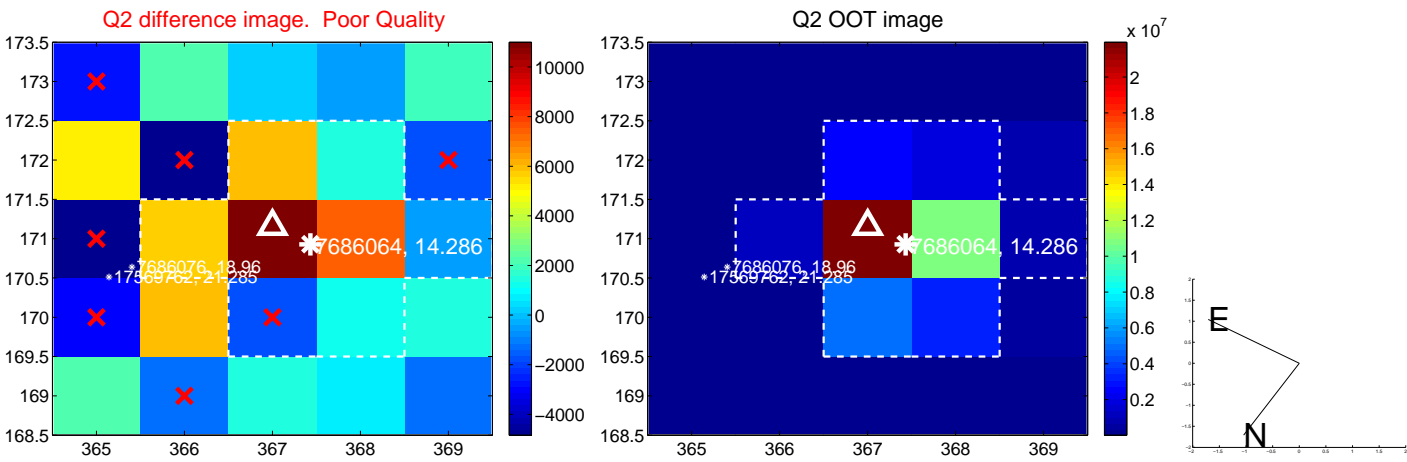
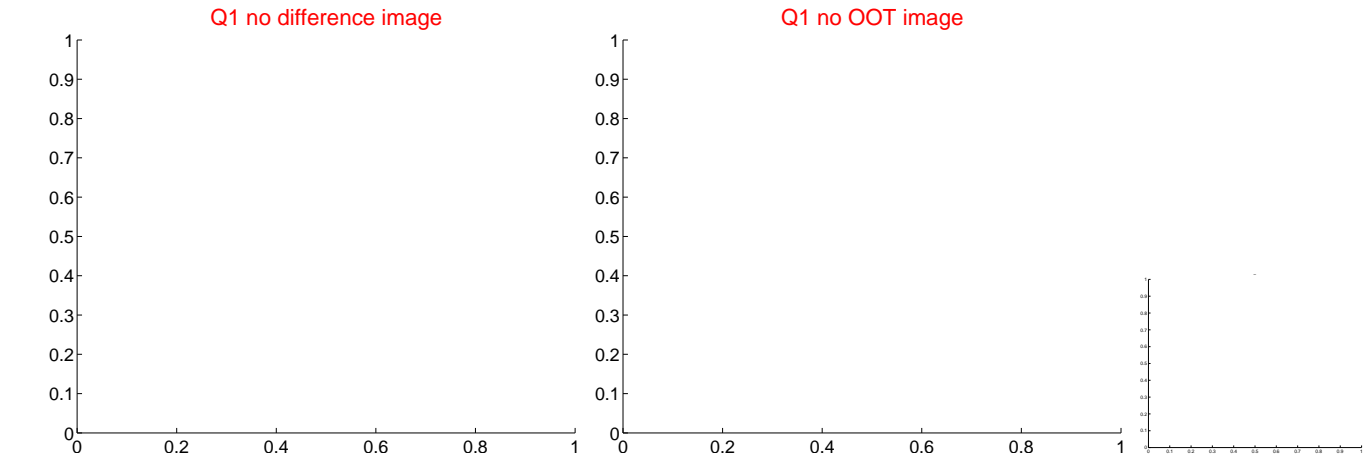
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.707 ± 0.516	3.31	1.680 ± 0.517	0.301 ± 0.482
PRF-fit source offset from KIC position	1.697 ± 0.516	3.29	1.669 ± 0.517	0.307 ± 0.482
photometric centroid source offset	2.37 ± 1.34	1.77	0.22 ± 1.47	-2.36 ± 1.34



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.

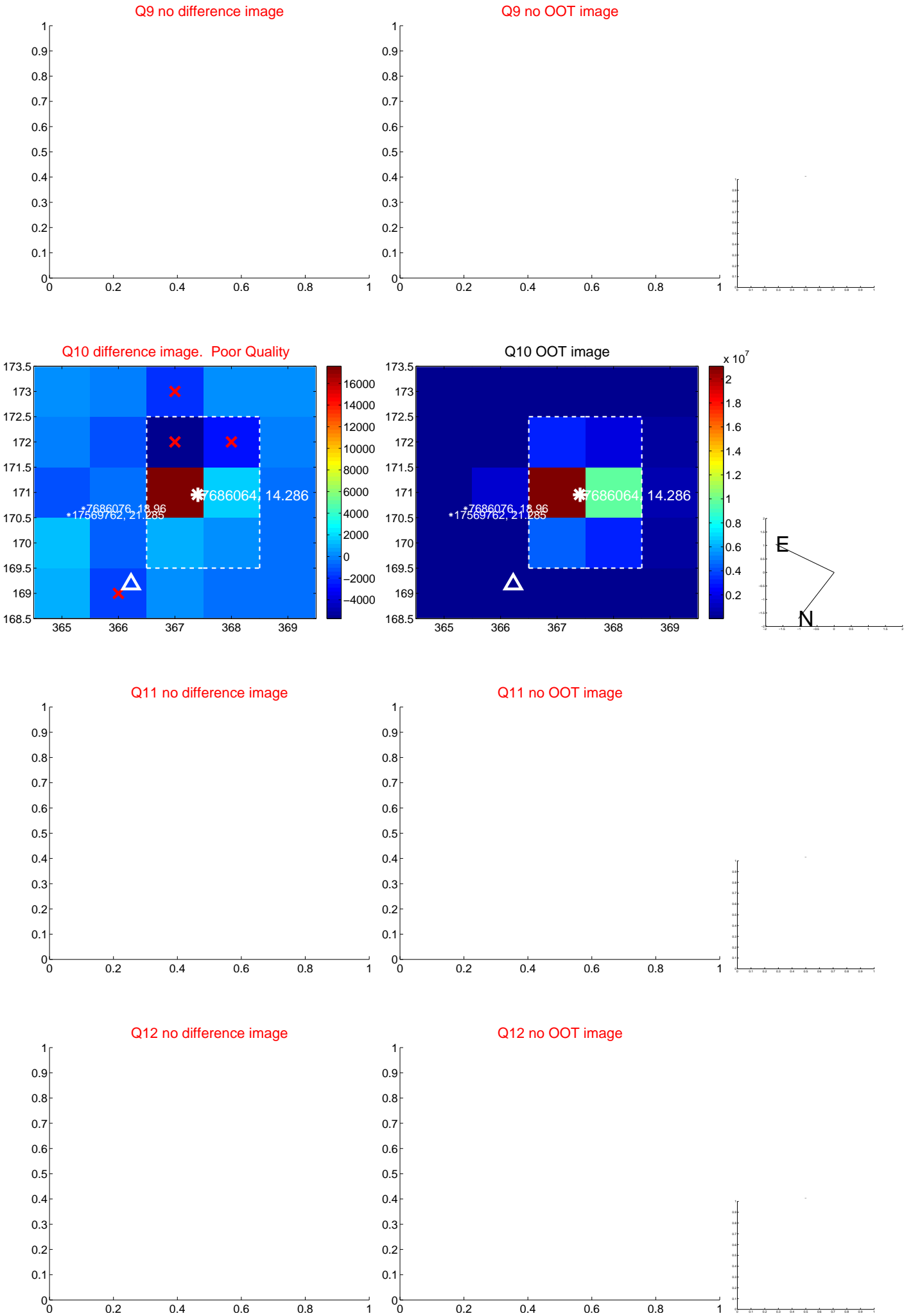
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



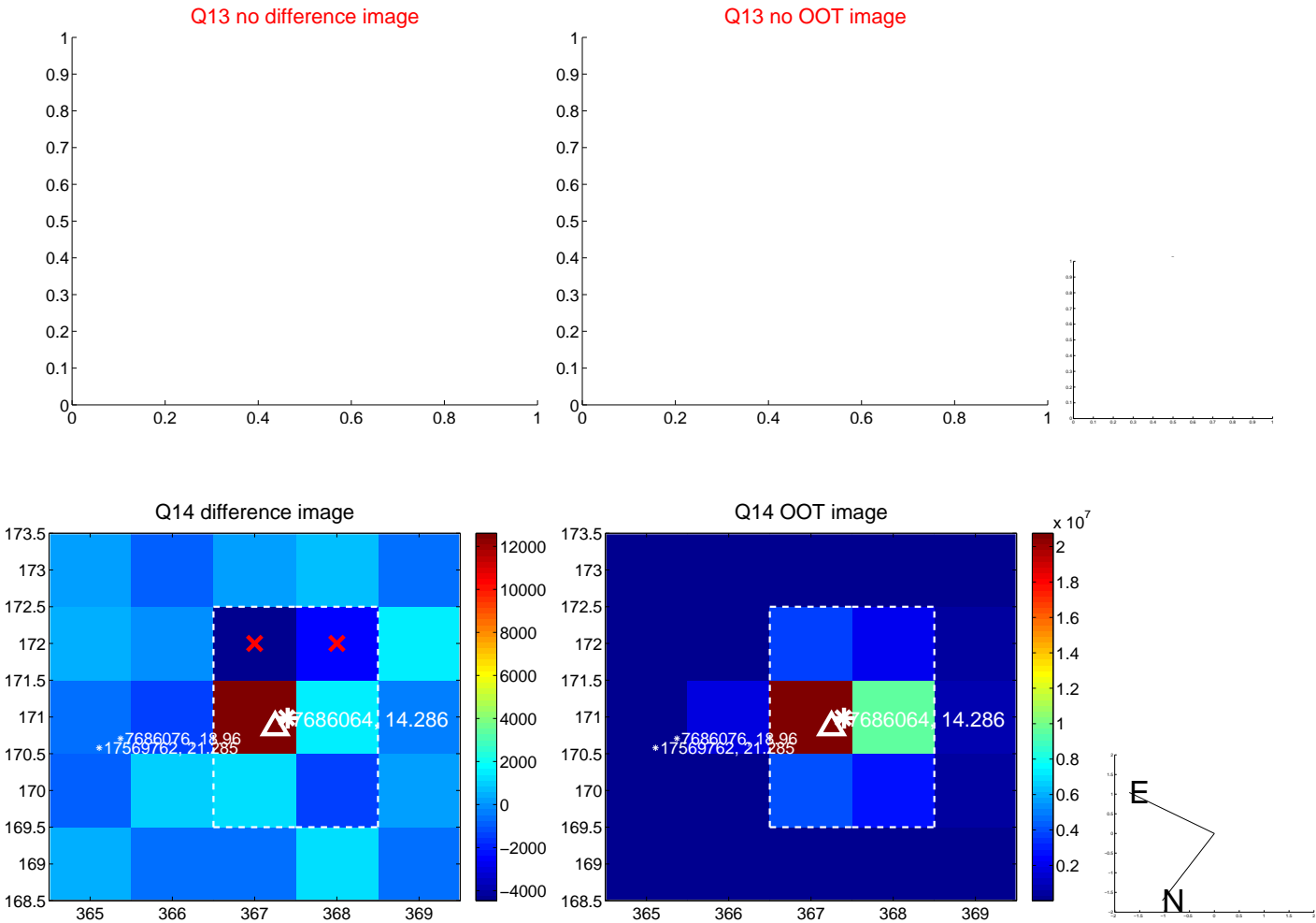
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



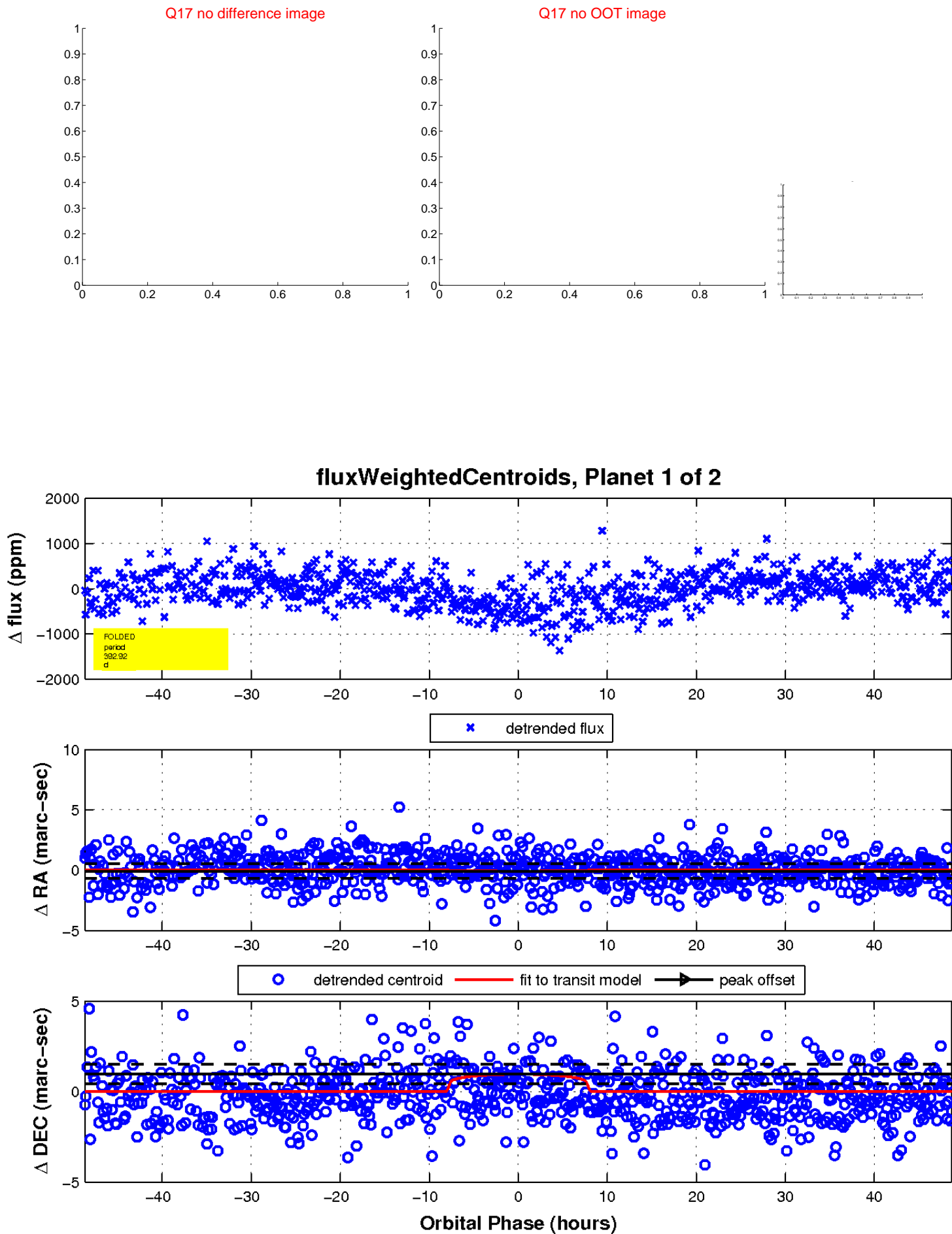
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

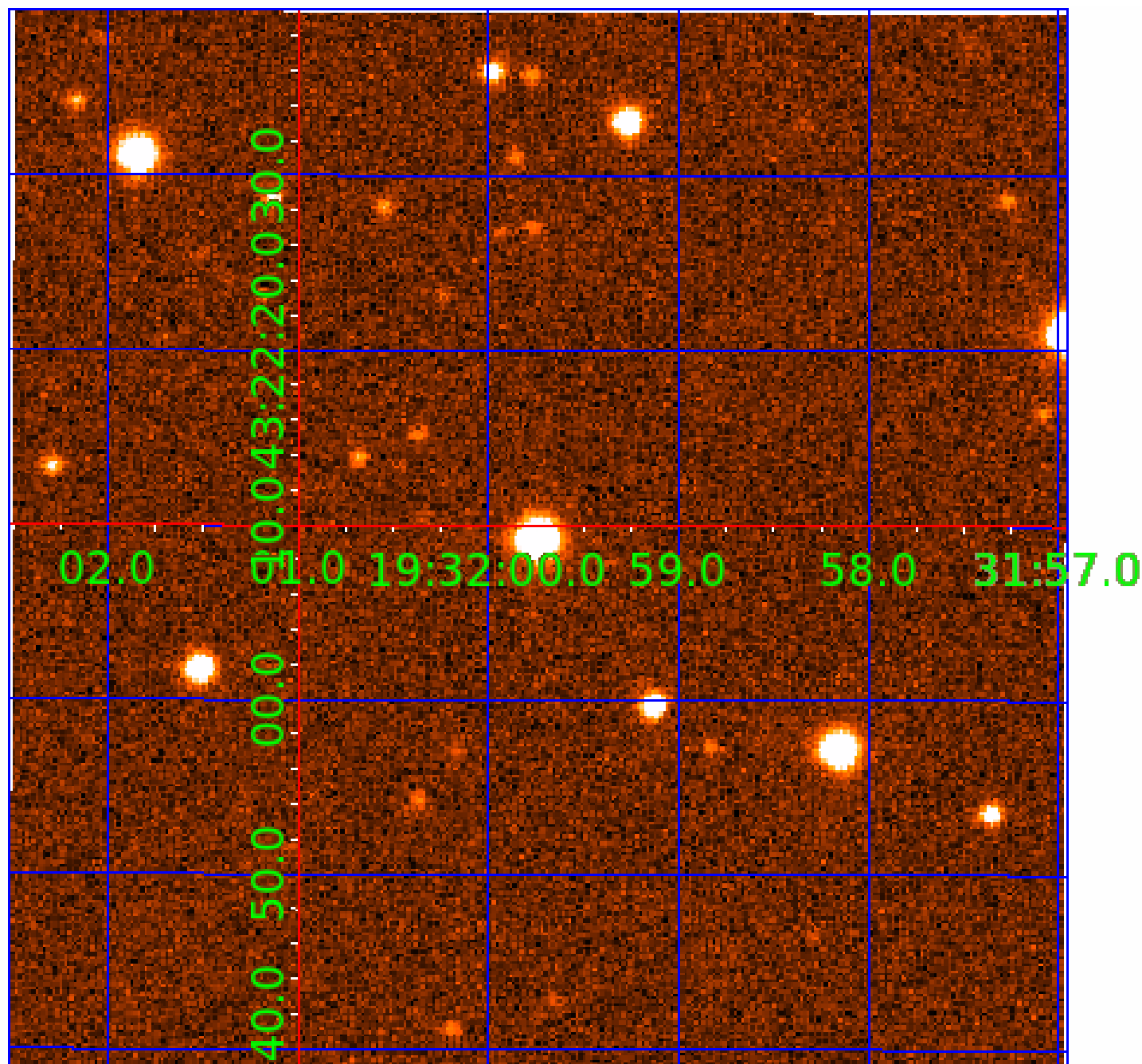


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007686064

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})
007686064-01	OBS	No	392.923238	175.799656	396.0	16.235	7.3	7.0	0.85	5795	1.79	0.69
007686064-02	OBS	No	375.570027	186.218078	499.7	5.000	7.3	7.5	0.85	5795	2.09	0.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007686064-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007686064-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

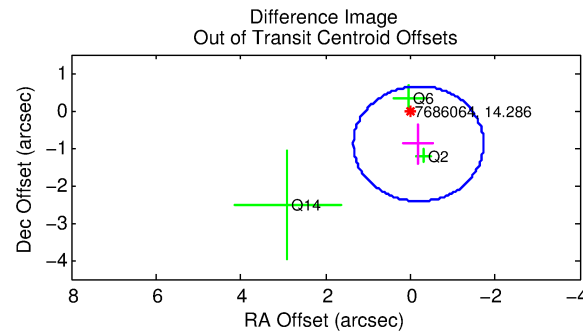
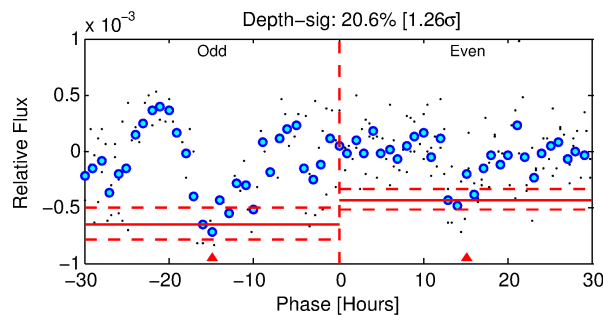
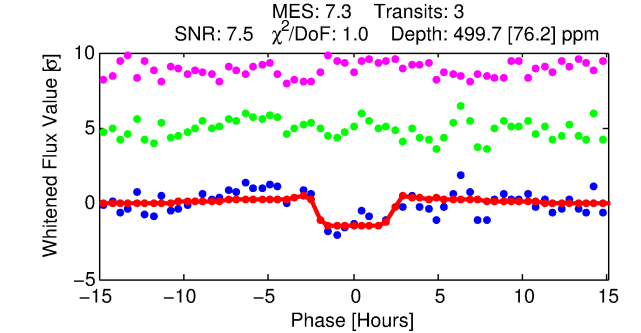
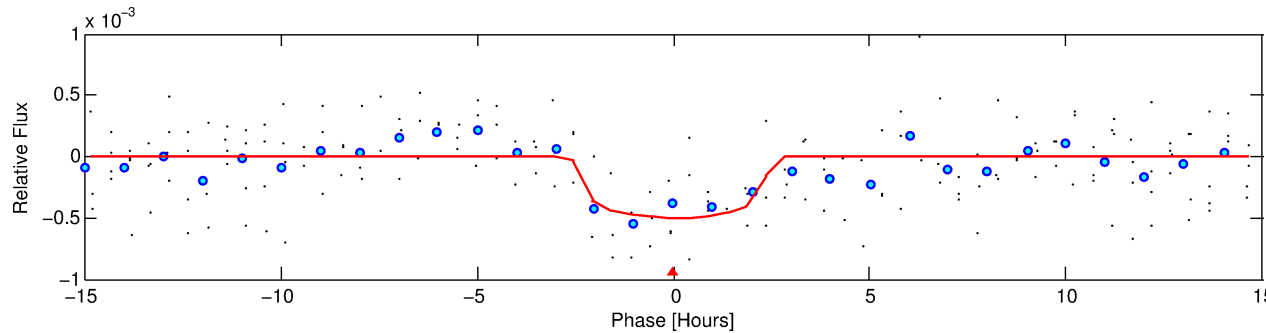
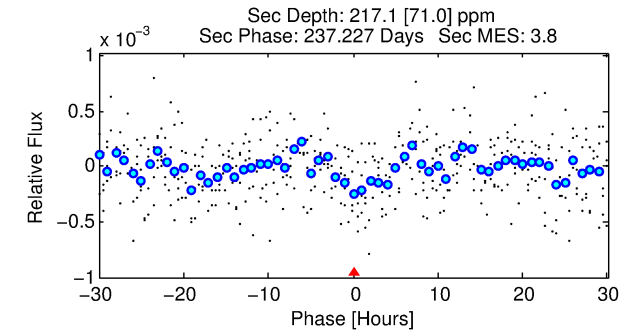
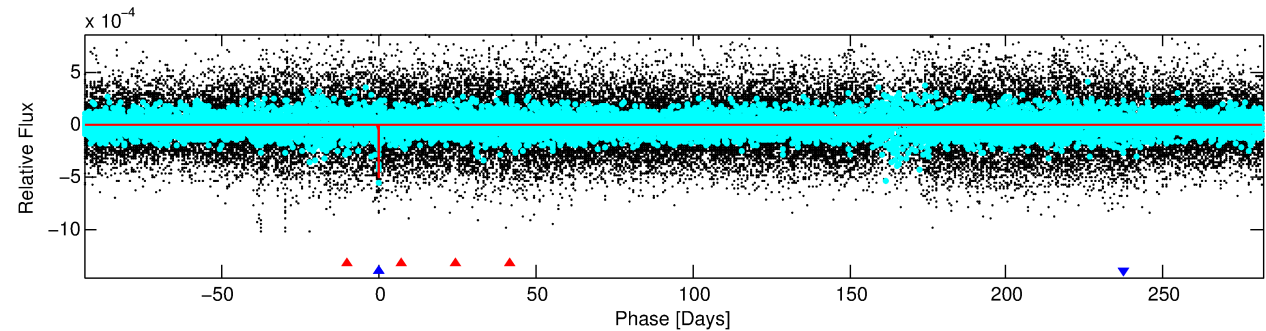
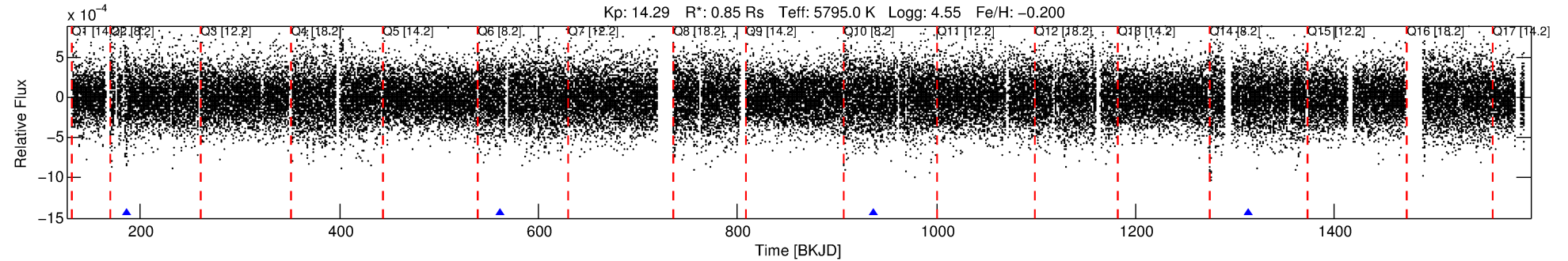
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007686064-02

No Significant Match Found

DV One-Page Summary

KIC: 7686064 Candidate: 2 of 2 Period: 375.570 d



DV Fit Results:

Period = 375.57003 [0.00547] d
Epoch = 186.2181 [0.0104] BKJD
Rp/R* = 0.0226 [0.0172]
a/R* = 372.35 [1276.46]
b = 0.79 [1.66]
Seff = 0.73 [0.27]
Teq = 236 [22] K
Rp = 2.09 [1.71] Re
a = 0.9979 [0.2445] AU
Ag = 27144.12 [43270.31] [0.63 σ]
Teffp = 4677 [1822] K [2.44 σ]

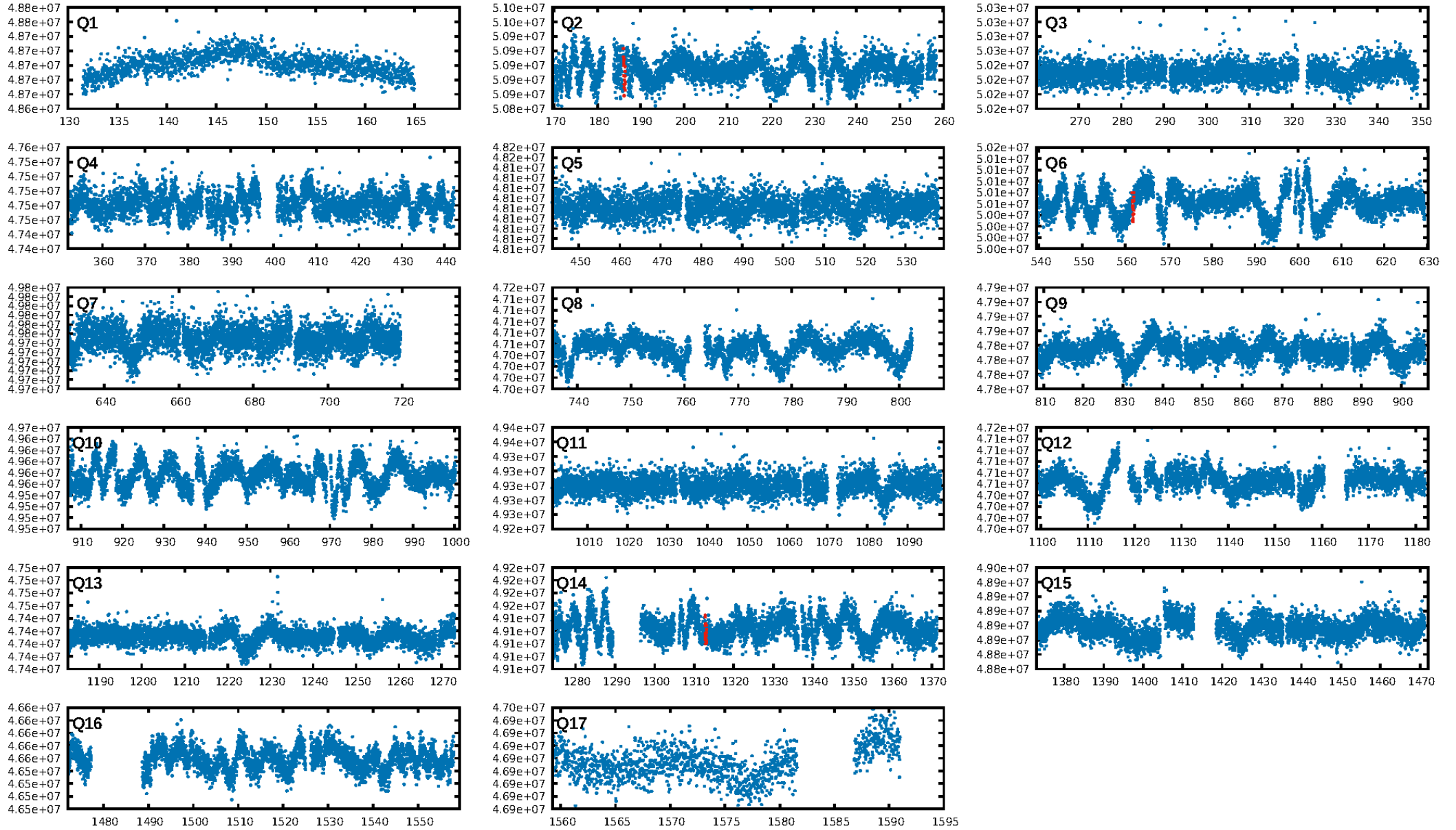
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [24.52 σ]
ModelChiSquare2-sig: 29.7%
ModelChiSquareGof-sig: 97.3%
Bootstrap-pfa: 1.55e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 30.15
Centroid-sig: 0.0%
Centroid-so: 3.935 arcsec [2.29 σ]
OotOffset-rm: 0.909 arcsec [1.78 σ]
KicOffset-rm: 0.896 arcsec [1.21 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

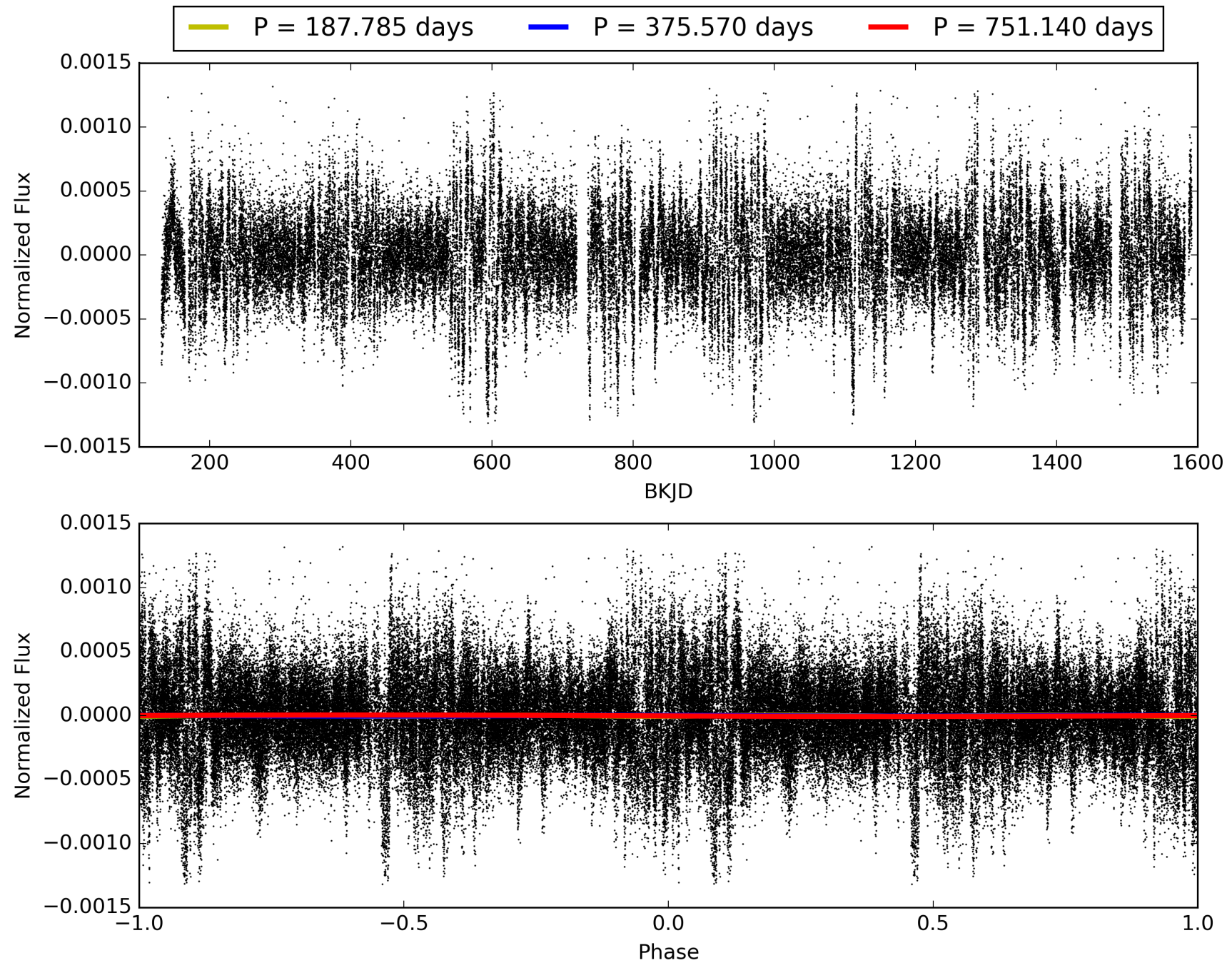
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:41:02 Z

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

TCE 007686064-02, PDC Light Curves

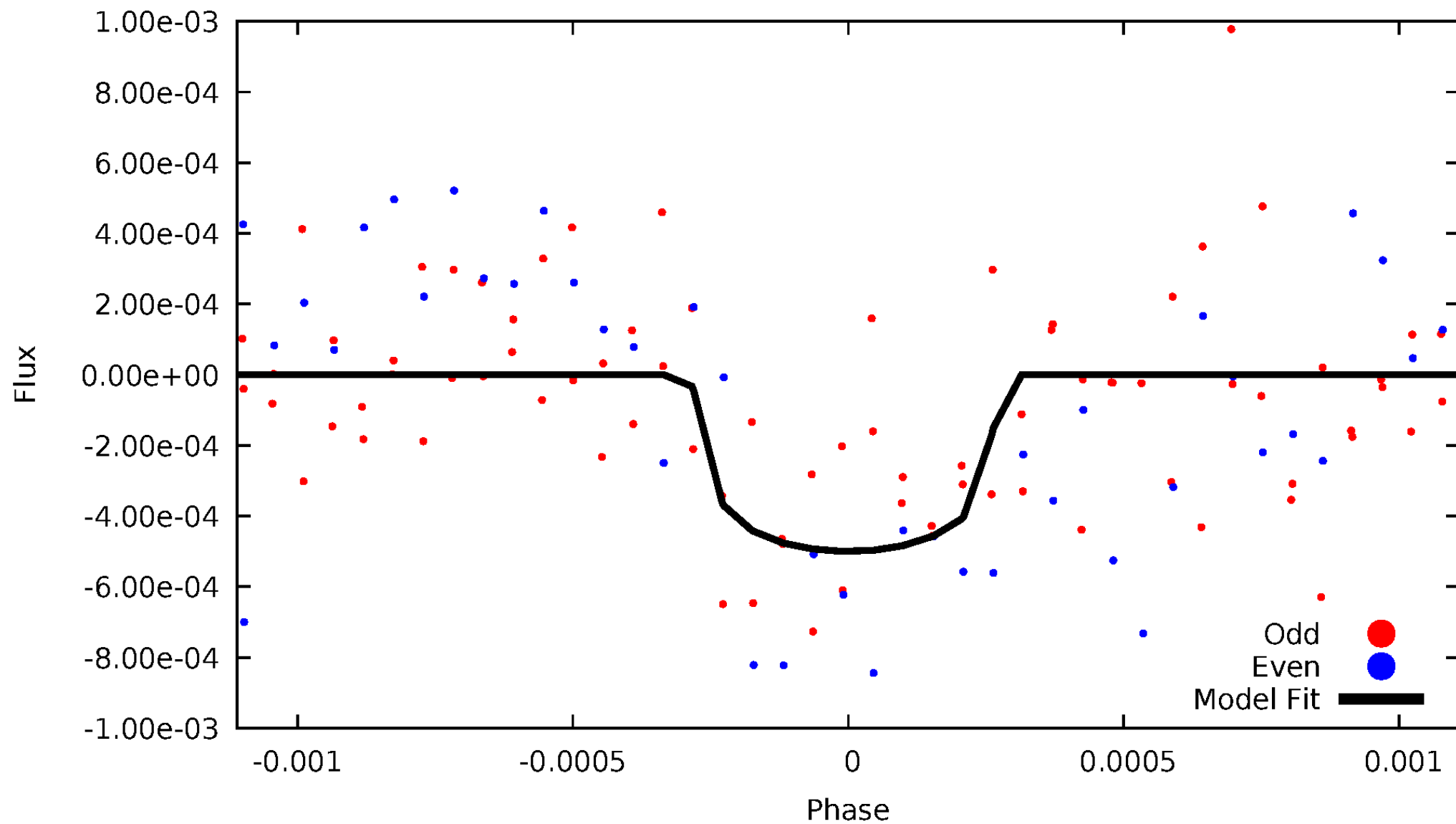


TCE 007686064-02



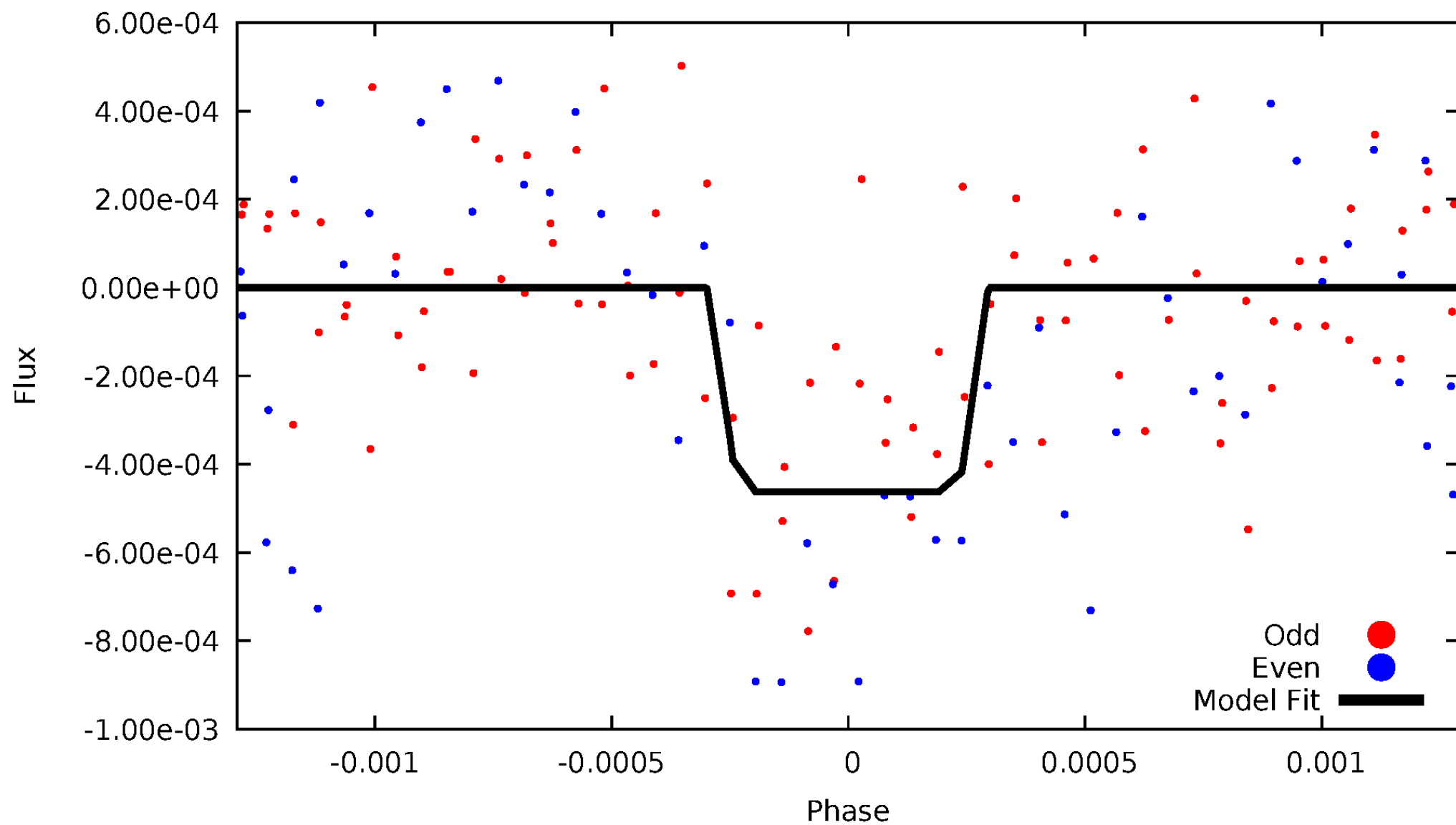
DV Odd/Even

TCE 007686064-02



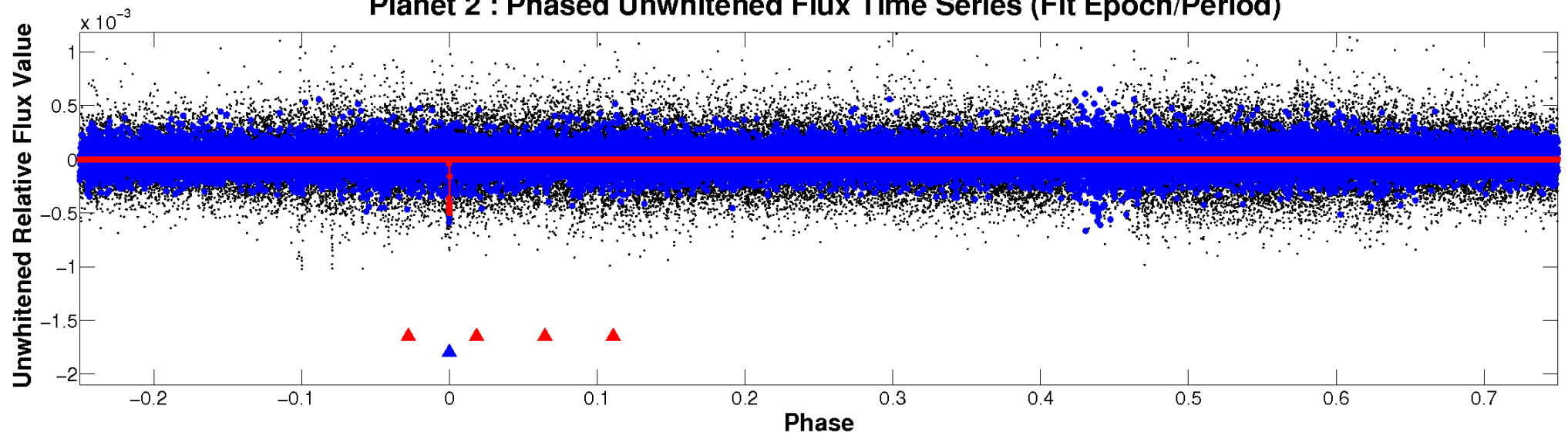
ALT Odd/Even

TCE 007686064-02

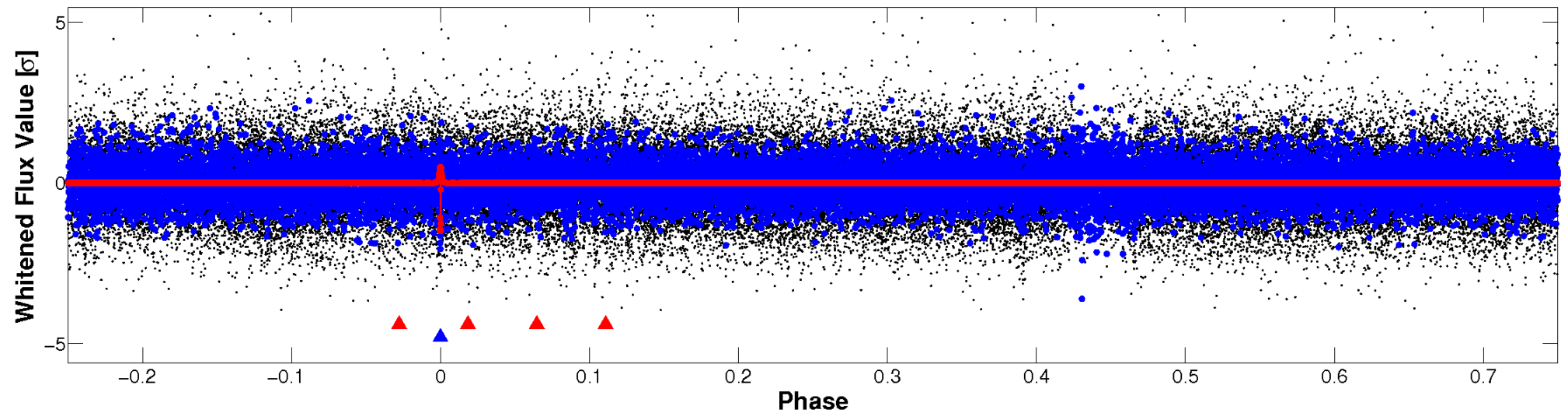


Non-Whitened Vs. Whitened Light Curve

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

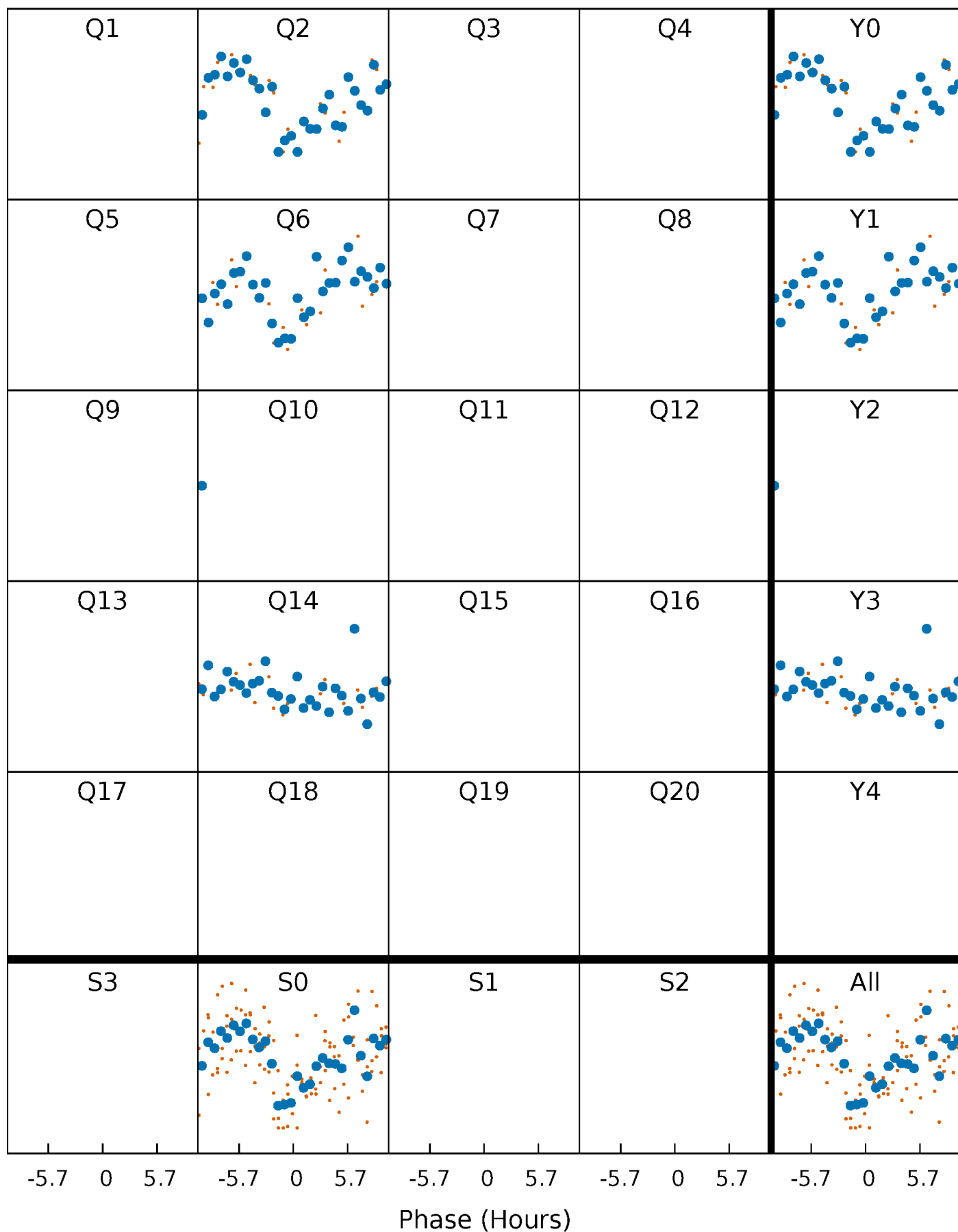


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



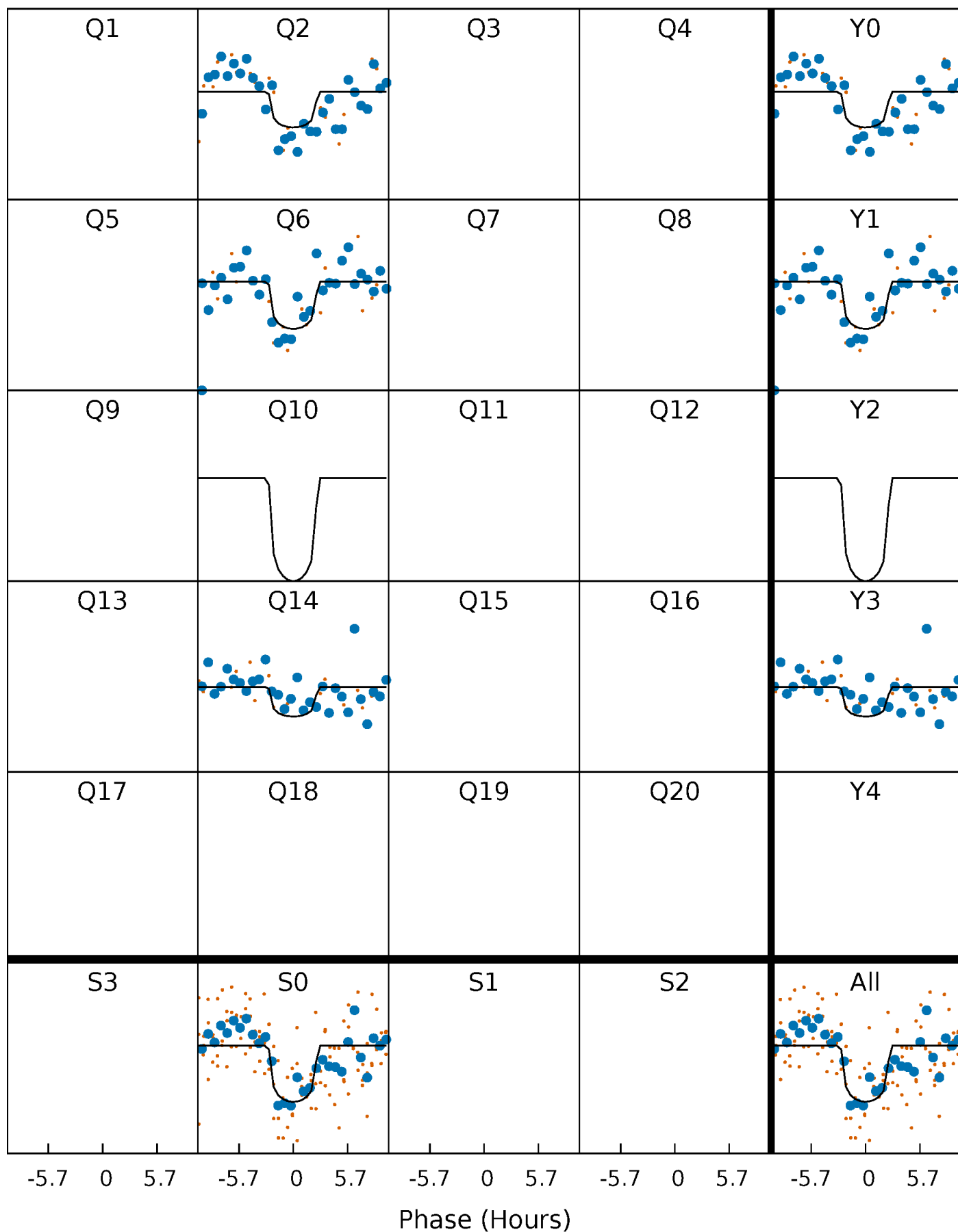
PDC Quarter-Phased Transit Curves

TCE 007686064-02 P=375.570027 Days $T_0=186.218078$ (BKJD)



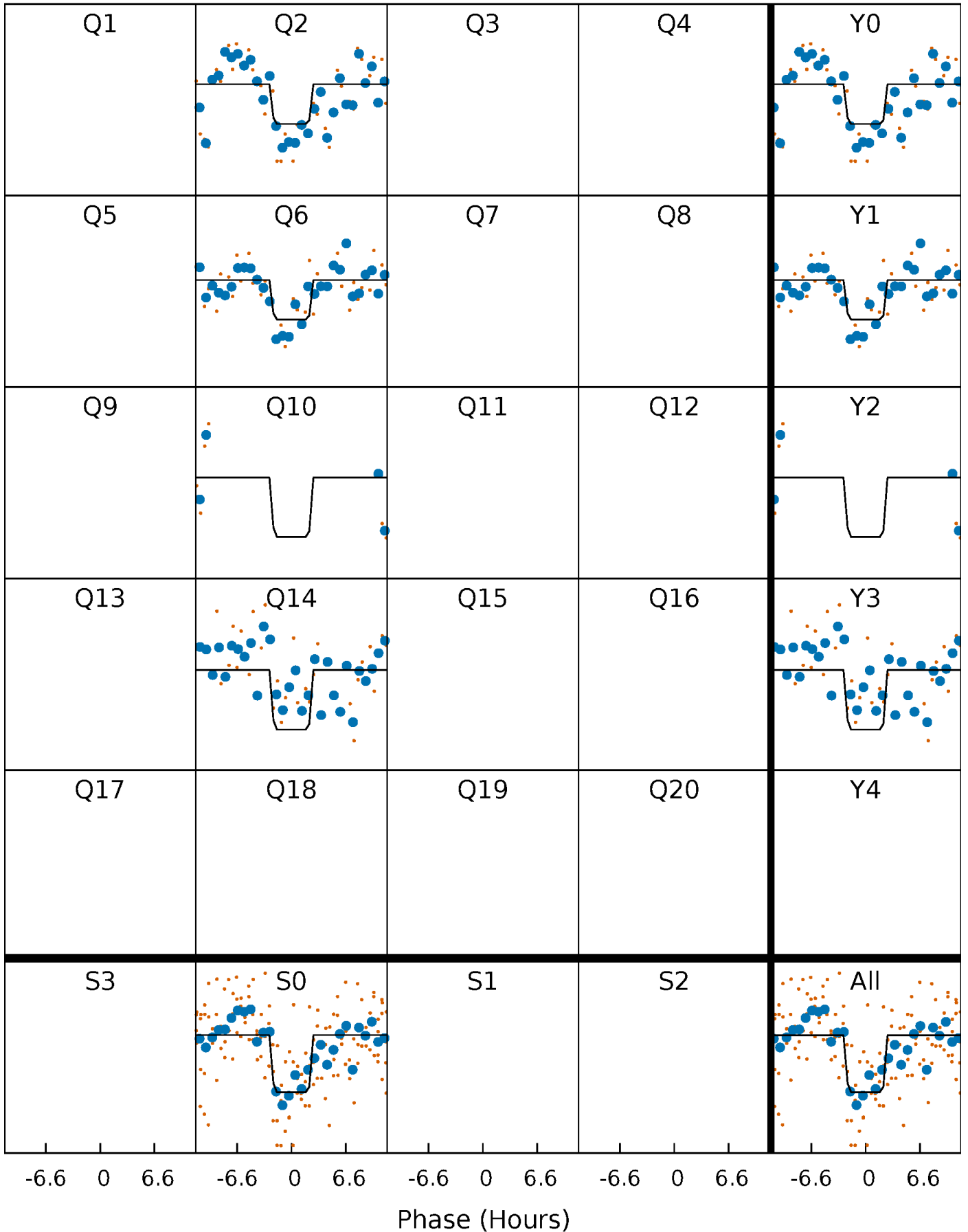
DV Quarter-Phased Transit Curves

TCE 007686064-02 P=375.570027 Days $T_0=186.218078$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

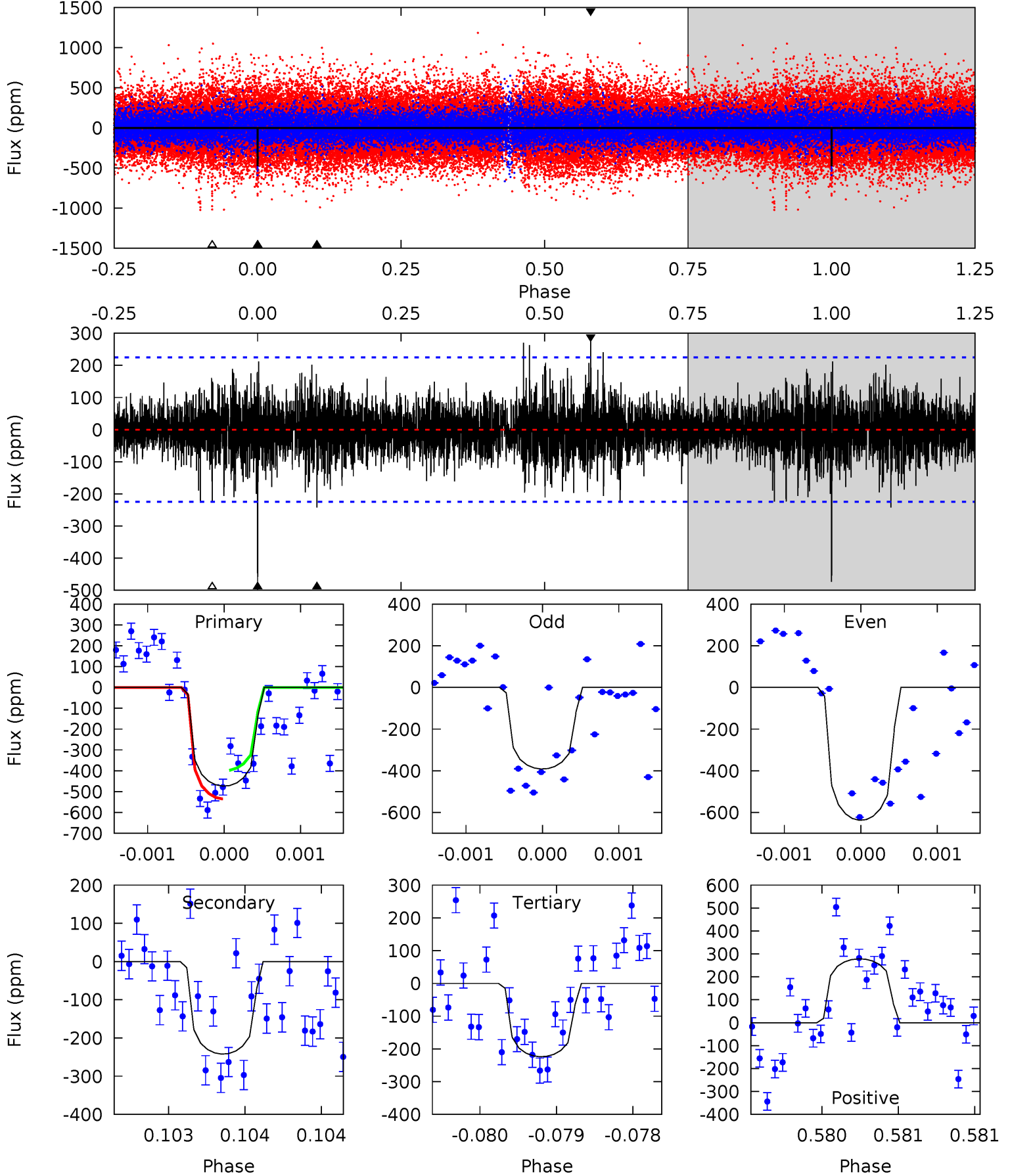
TCE 007686064-02 P=375.568833 Days $T_0=186.227012$ (BKJD)



DV Model-Shift Uniqueness Test

007686064-02, P = 375.570027 Days, E = 186.218078 Days

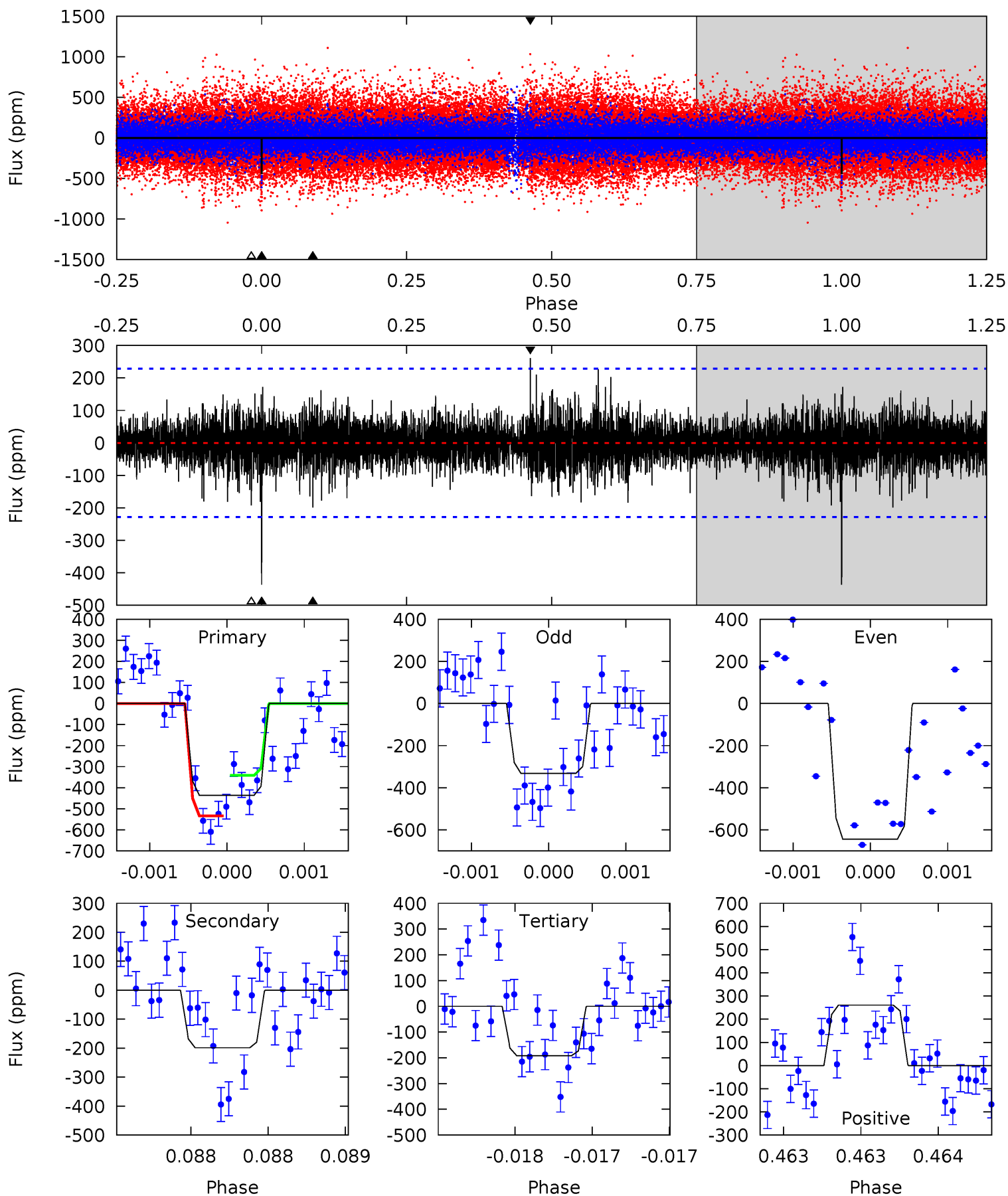
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	5.97	5.52	6.87	5.54	3.43	1.38	6.16	4.81	0.45	-0.90	2.89	0.95	0.37	1.69



Alt Model-Shift Uniqueness Test

007686064-02, P = 375.568833 Days, E = 186.227012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	4.83	4.67	6.34	5.56	3.46	1.13	5.94	4.26	0.16	-1.52	3.69	0.91	0.37	2.33



Stellar Parameters For KIC 007686064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5795^{+143}_{-158}	$4.554^{+0.036}_{-0.192}$	$-0.200^{+0.300}_{-0.300}$	$0.848^{+0.249}_{-0.083}$	$0.938^{+0.098}_{-0.109}$	$2.167^{+0.413}_{-1.088}$
	+2%/-3%	+1%/-4%	+150%/-150%	+29%/-10%	+10%/-12%	+19%/-50%
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 007686064-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-242 ± 41	$2.45^{+1.61}_{-1.46}$	337^{+21}_{-14}	4714^{+2415}_{-832}	$21647^{+118772}_{-13930}$
Alt.	-199 ± 41	$2.41^{+1.60}_{-1.43}$	337^{+22}_{-14}	4502^{+2446}_{-718}	18578^{+91006}_{-12246}

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 $A_{obs} \gg 1.0$

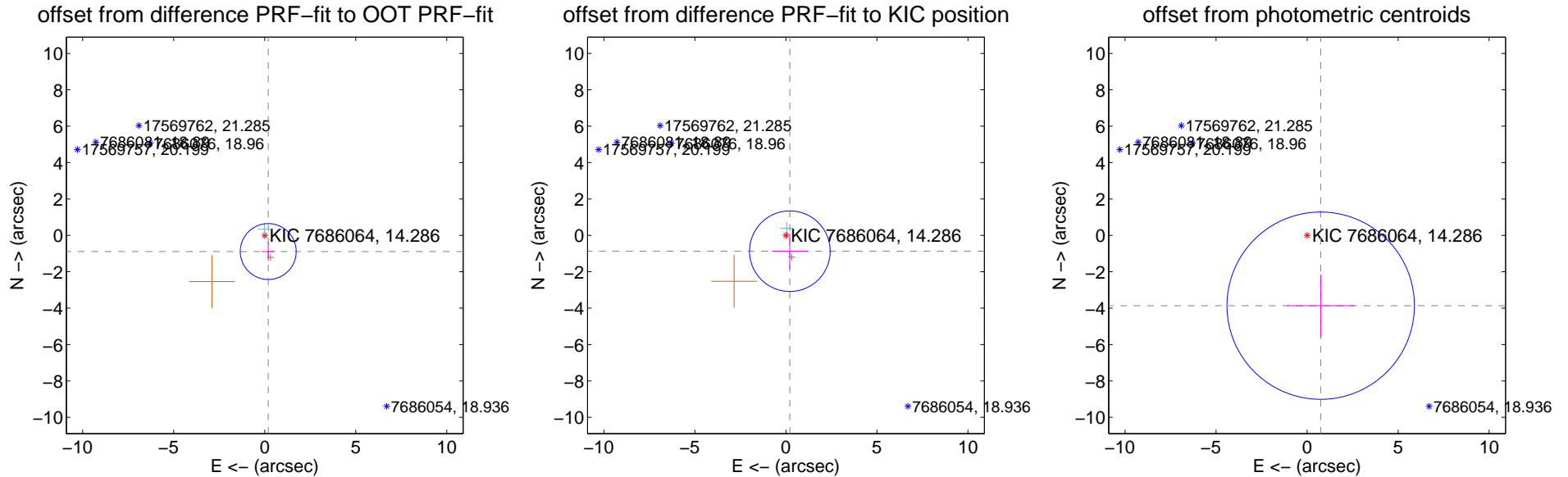
DV Centroid Data

Supplemental centroid analysis for 007686064-02. Kepler magnitude: 14.29. Transit SNR 7.54

There are 1 quarters with good PRF difference image offsets

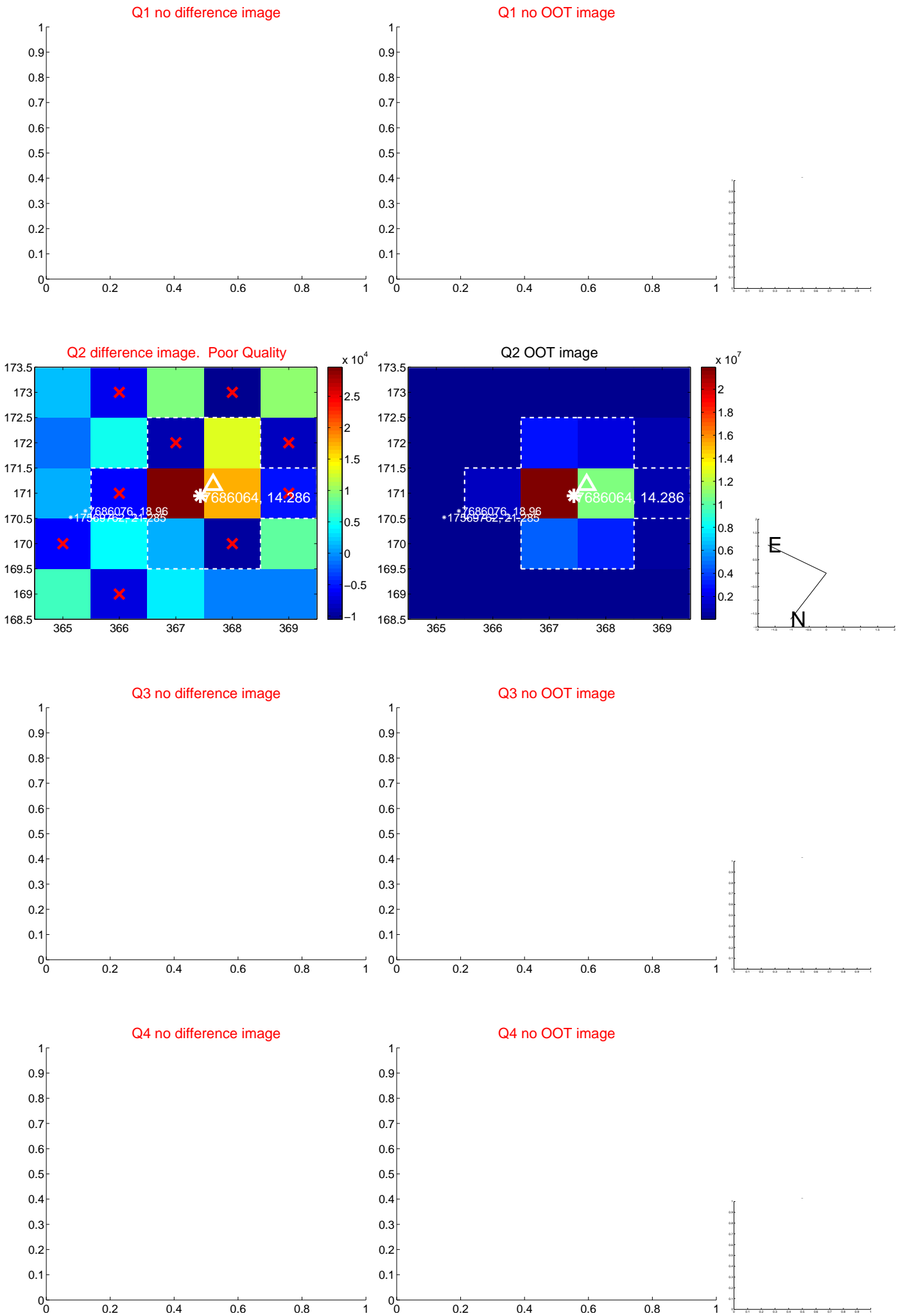
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.909 ± 0.512	1.78	-0.193 ± 0.361	-0.888 ± 0.518
PRF-fit source offset from KIC position	0.896 ± 0.738	1.21	-0.216 ± 0.980	-0.869 ± 0.974
photometric centroid source offset	3.94 ± 1.72	2.29	-0.75 ± 1.85	-3.86 ± 1.71

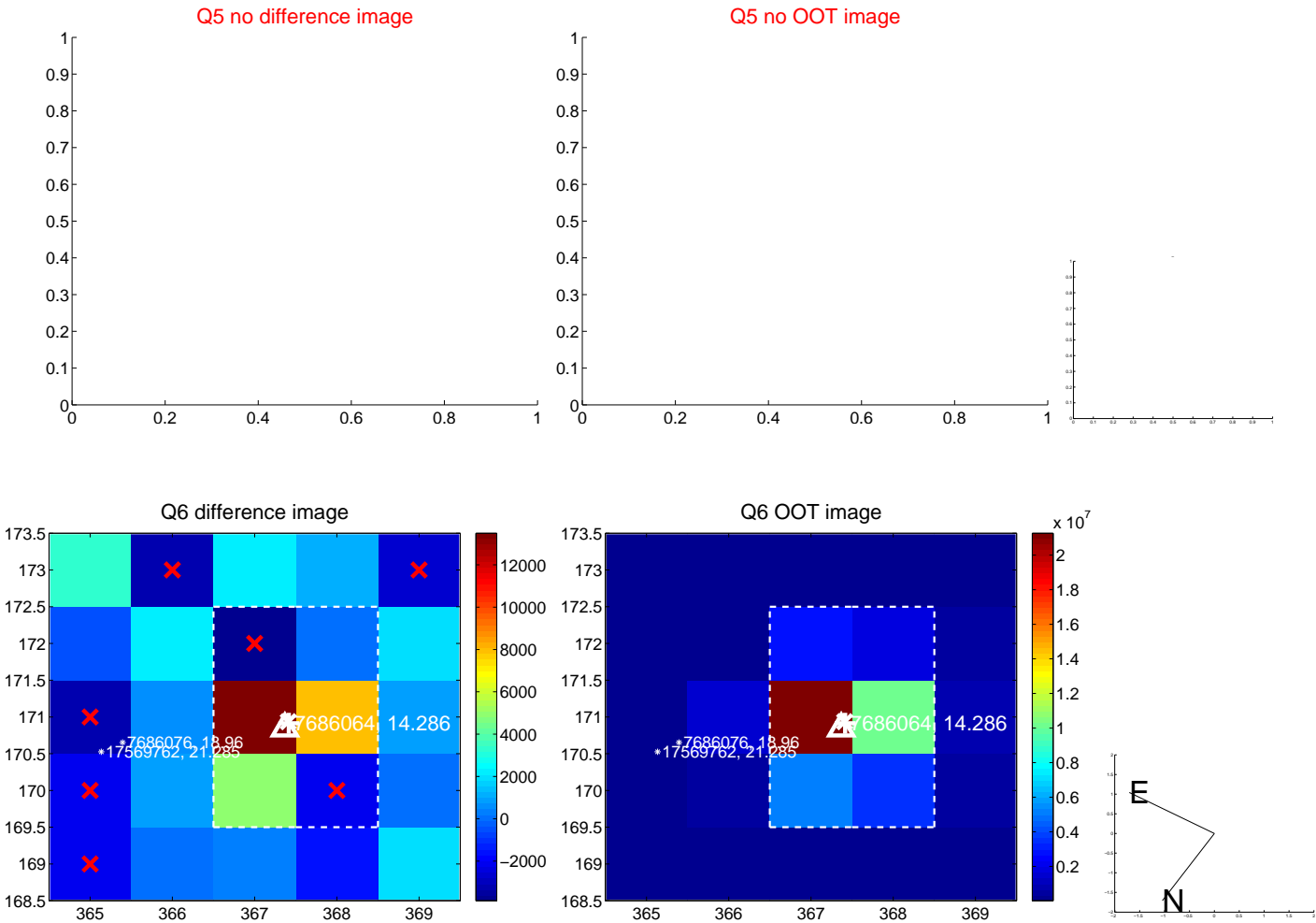


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



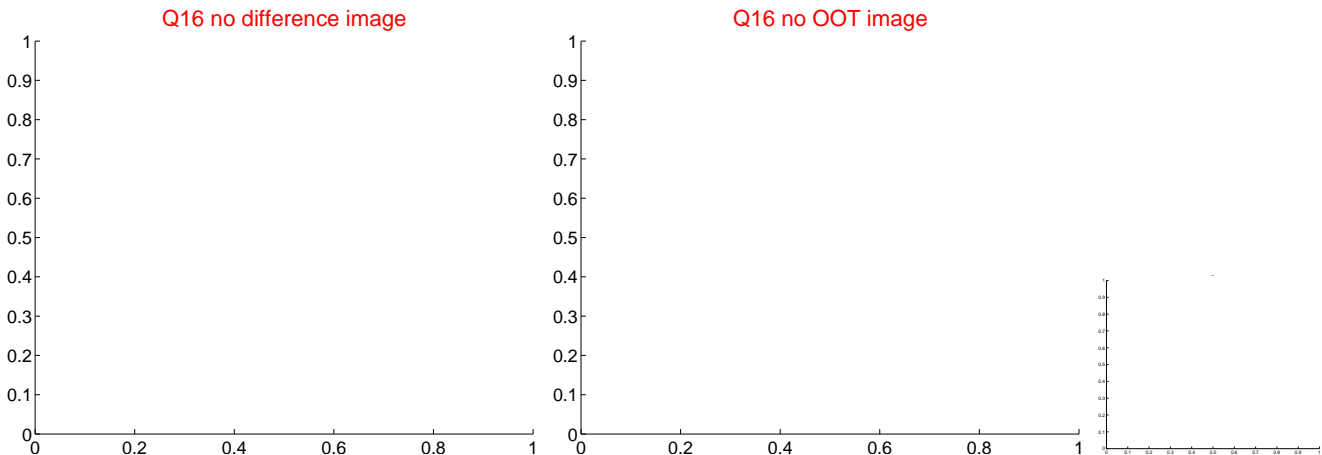
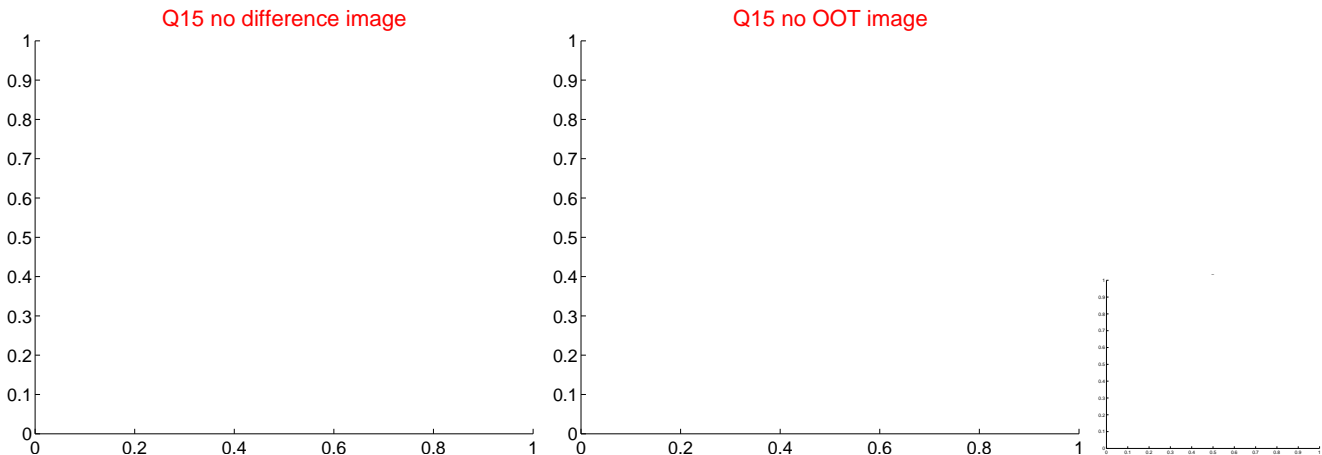
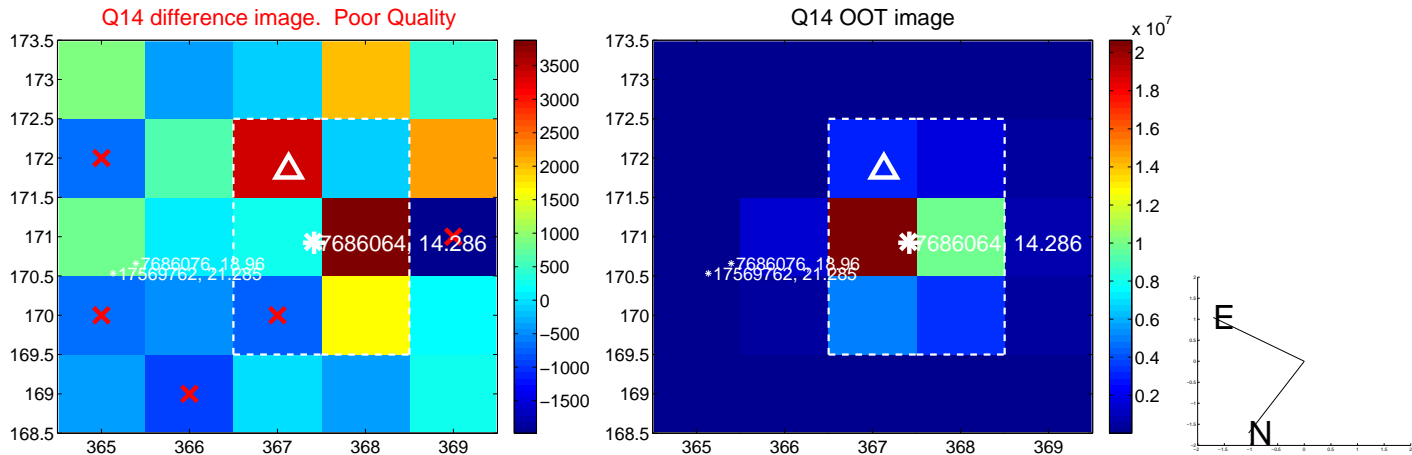
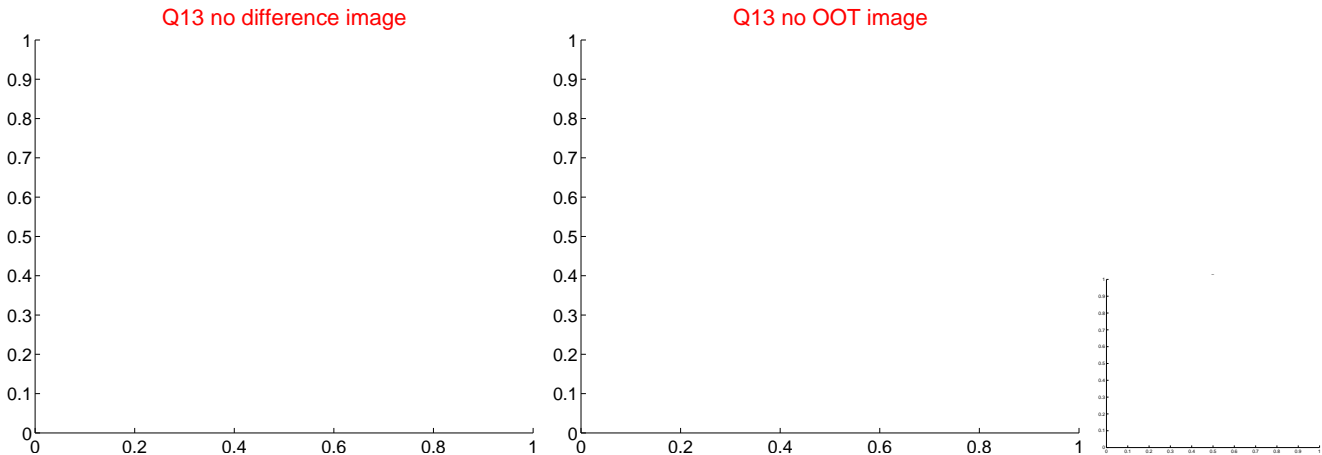
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



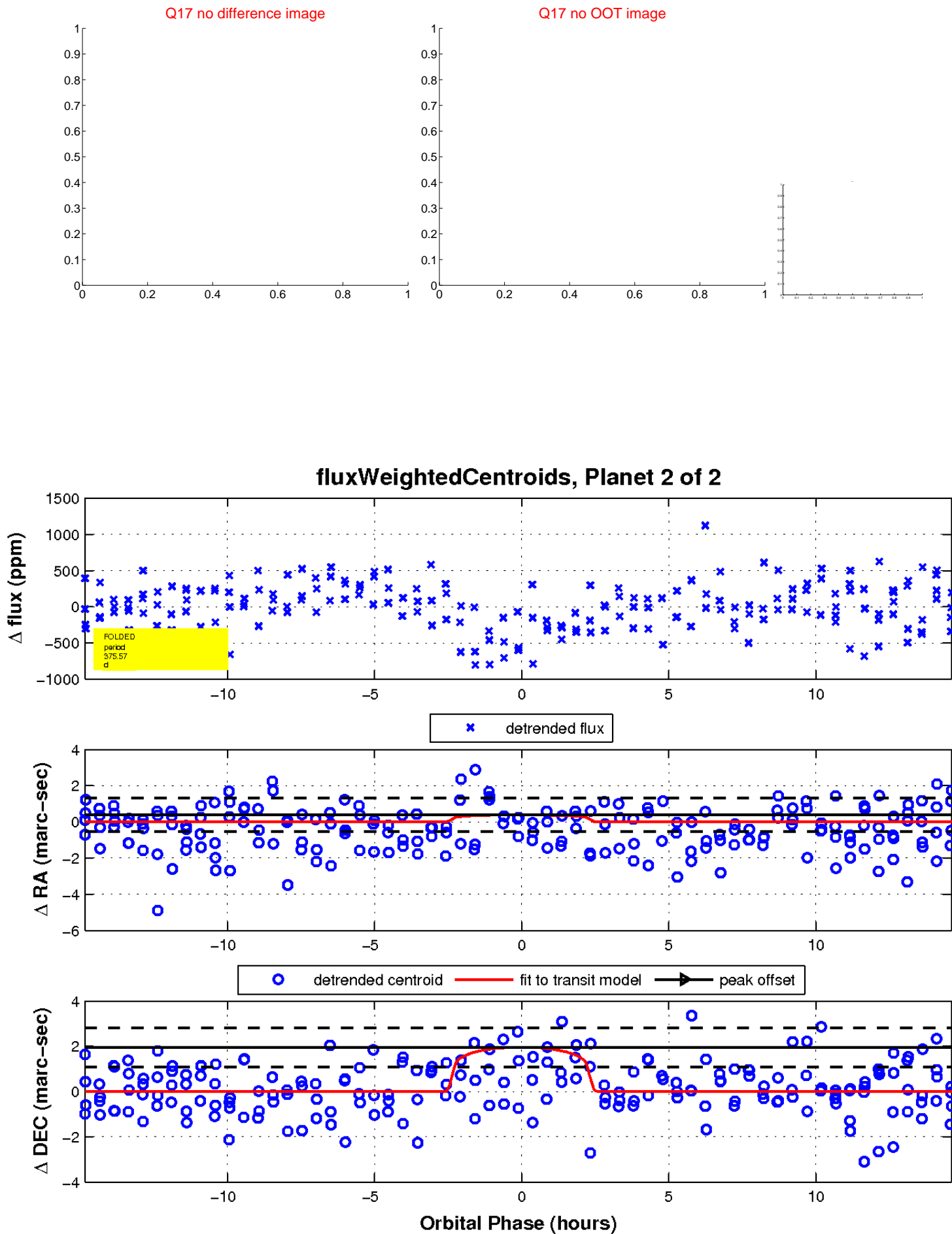
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

