

KIC 007690604

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})
007690604-01	OBS	No	447.473140	186.209381	558.8	22.854	9.6	7.7	0.63	5247	1.52	0.26
007690604-02	OBS	No	362.859666	401.896188	907.6	23.796	8.1	9.9	0.63	5247	1.91	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007690604-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007690604-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

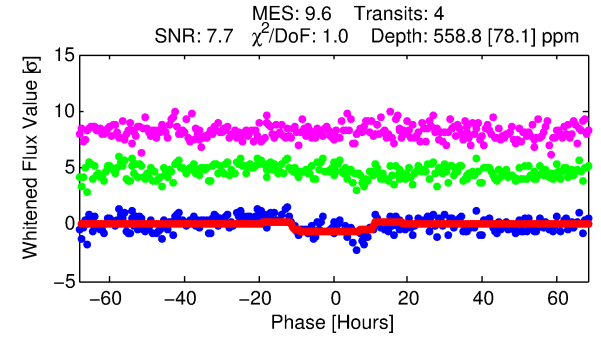
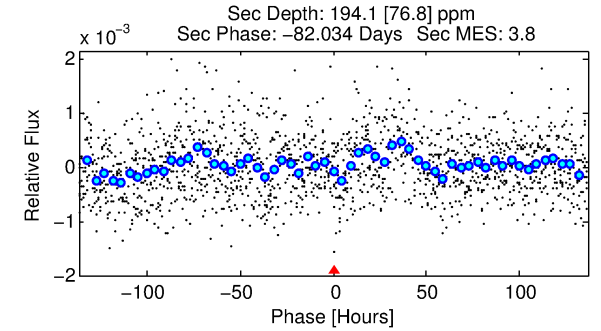
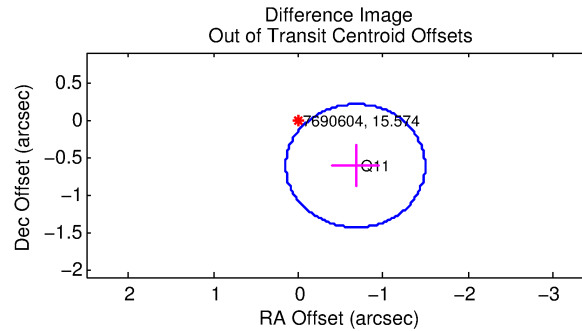
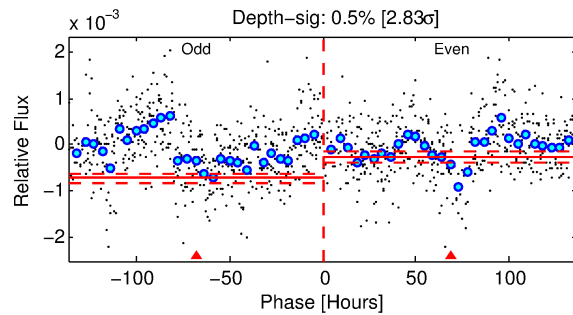
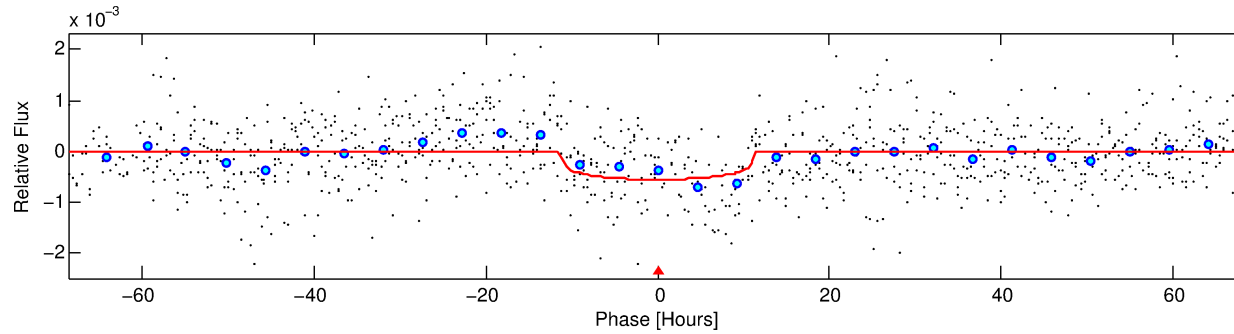
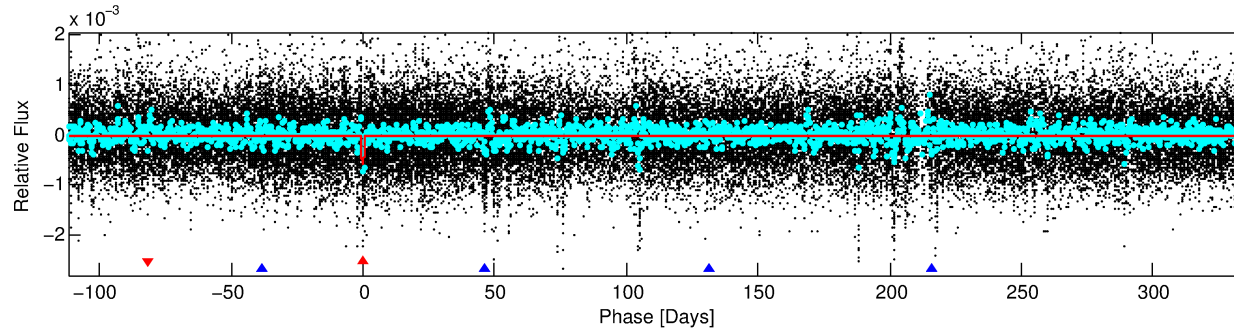
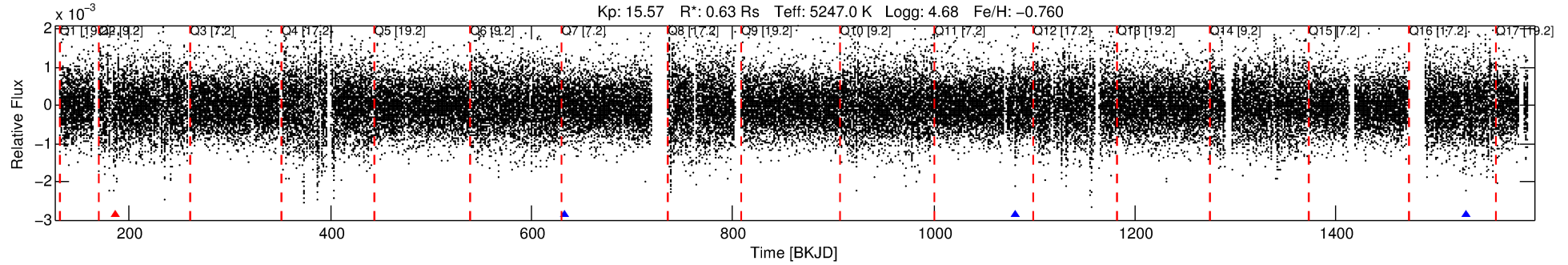
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007690604-01

No Significant Match Found

DV One-Page Summary

KIC: 7690604 Candidate: 1 of 2 Period: 447.473 d



DV Fit Results:

Period = 447.47314 [0.01552] d
Epoch = 186.2094 [0.0295] BKJD
Rp/R* = 0.0220 [0.0122]
a/R* = 134.60 [311.24]
b = 0.48 [3.67]
Seff = 0.26 [0.05]
Teq = 183 [8] K
Rp = 1.52 [0.86] Re
a = 1.0129 [0.1001] AU
Ag = 47640.90 [56416.02] [0.84 σ]
Teffp = 4173 [1233] K [3.24 σ]

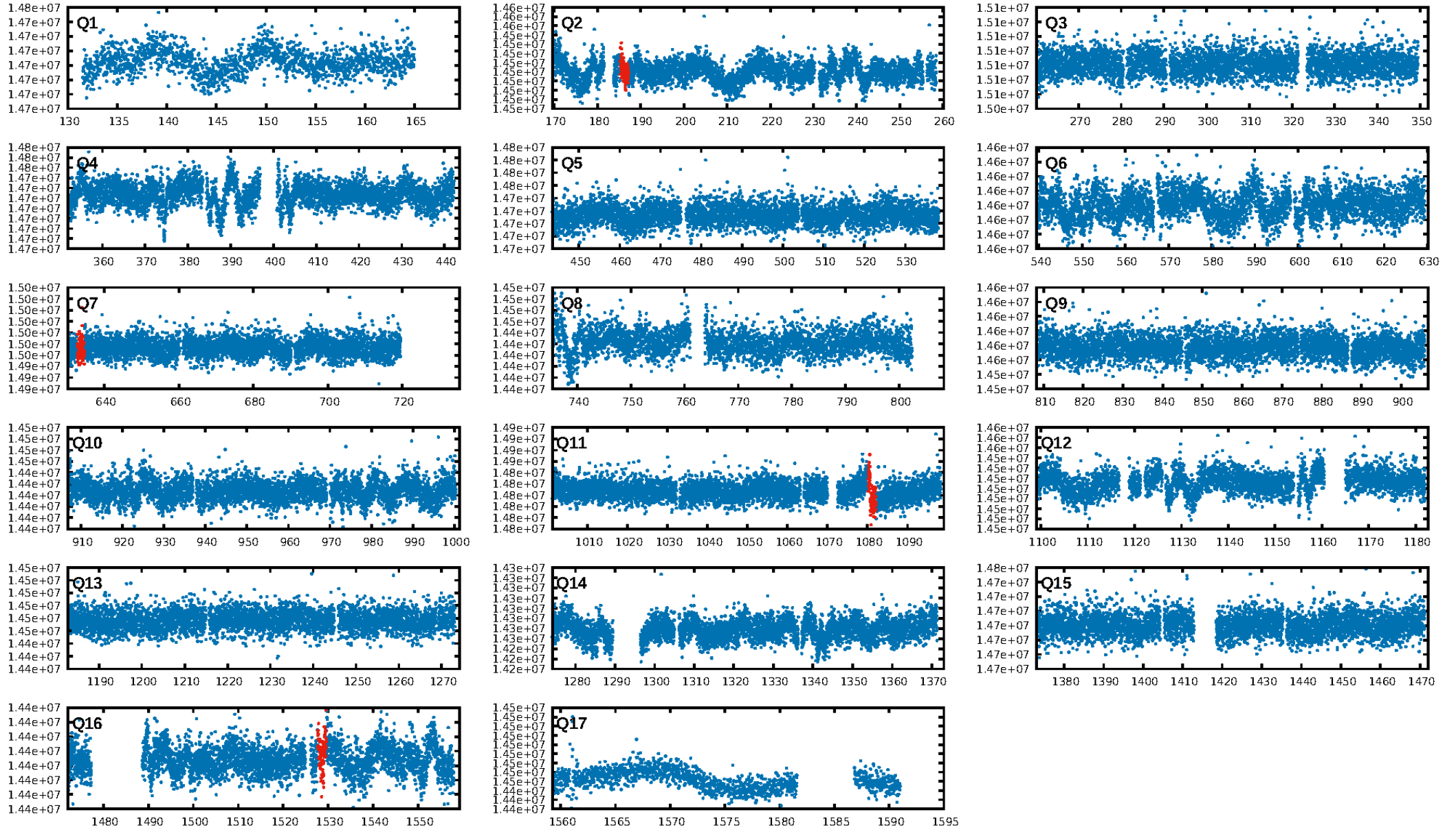
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [61.55 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.57e-11
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 2.449
Centroid-sig: 24.2%
Centroid-so: 2.518 arcsec [1.24 σ]
OotOffset-rm: 0.915 arcsec [3.34 σ]
KicOffset-rm: 0.888 arcsec [3.28 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

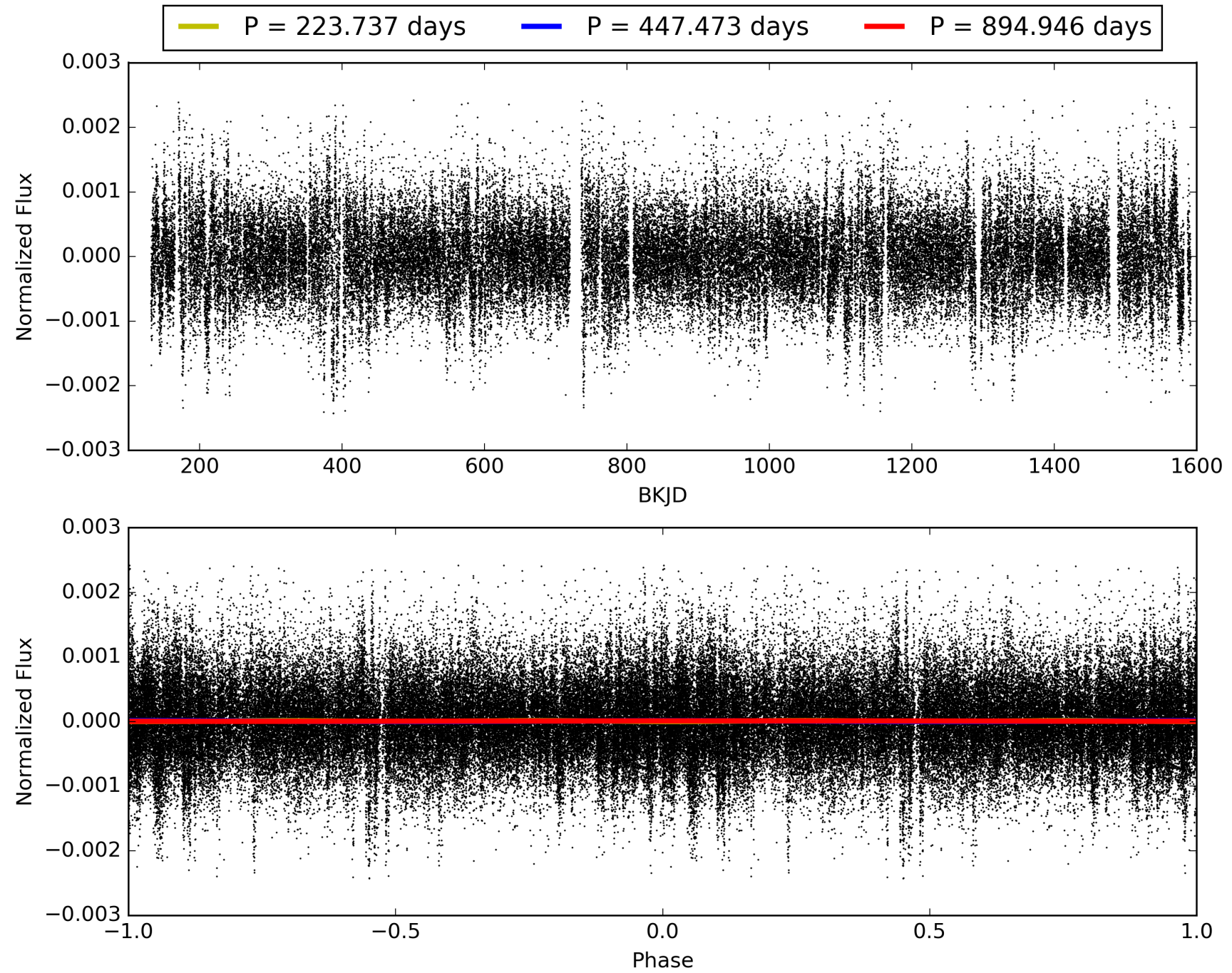
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:23:27 Z

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

TCE 007690604-01, PDC Light Curves

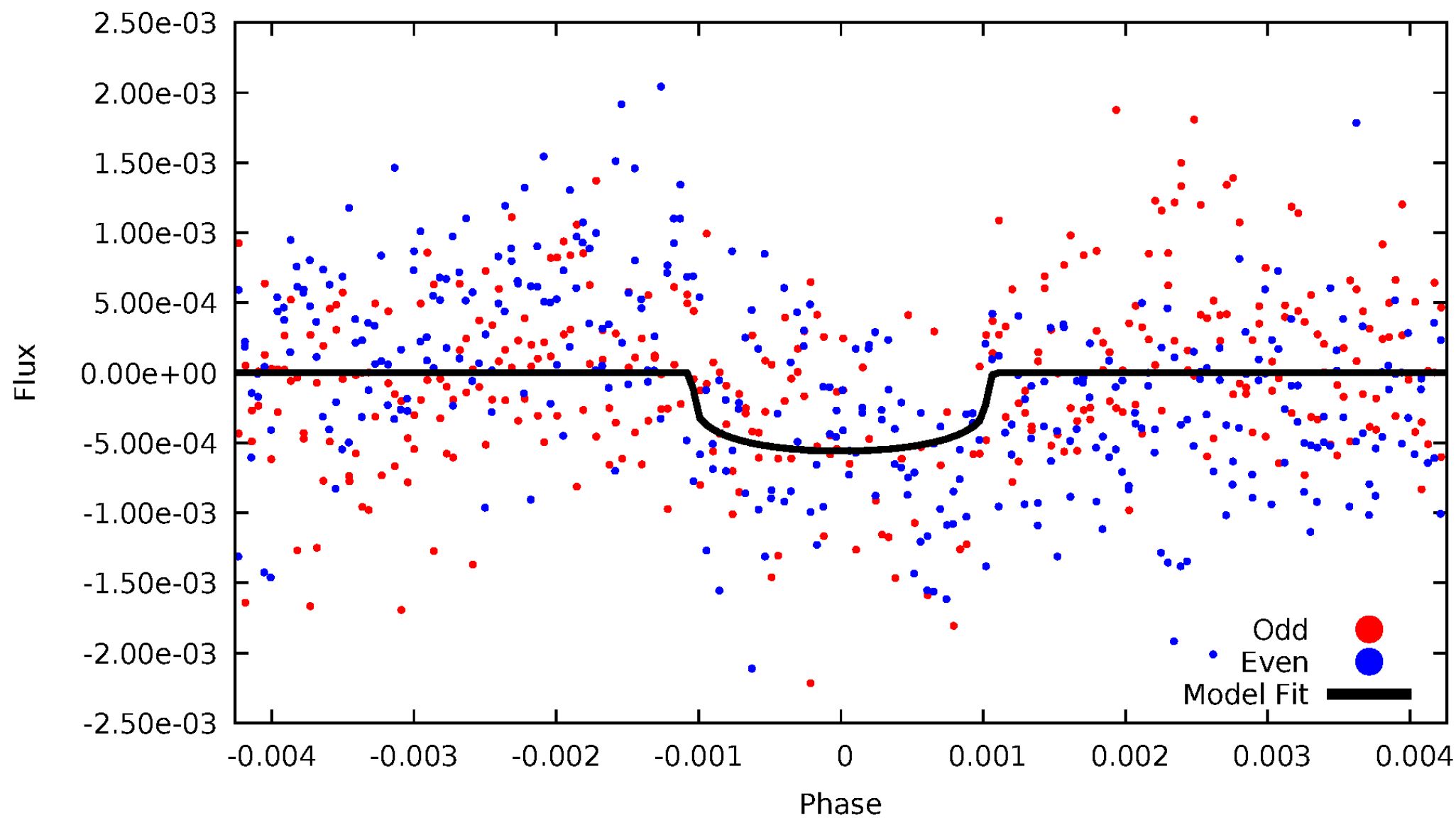


TCE 007690604-01



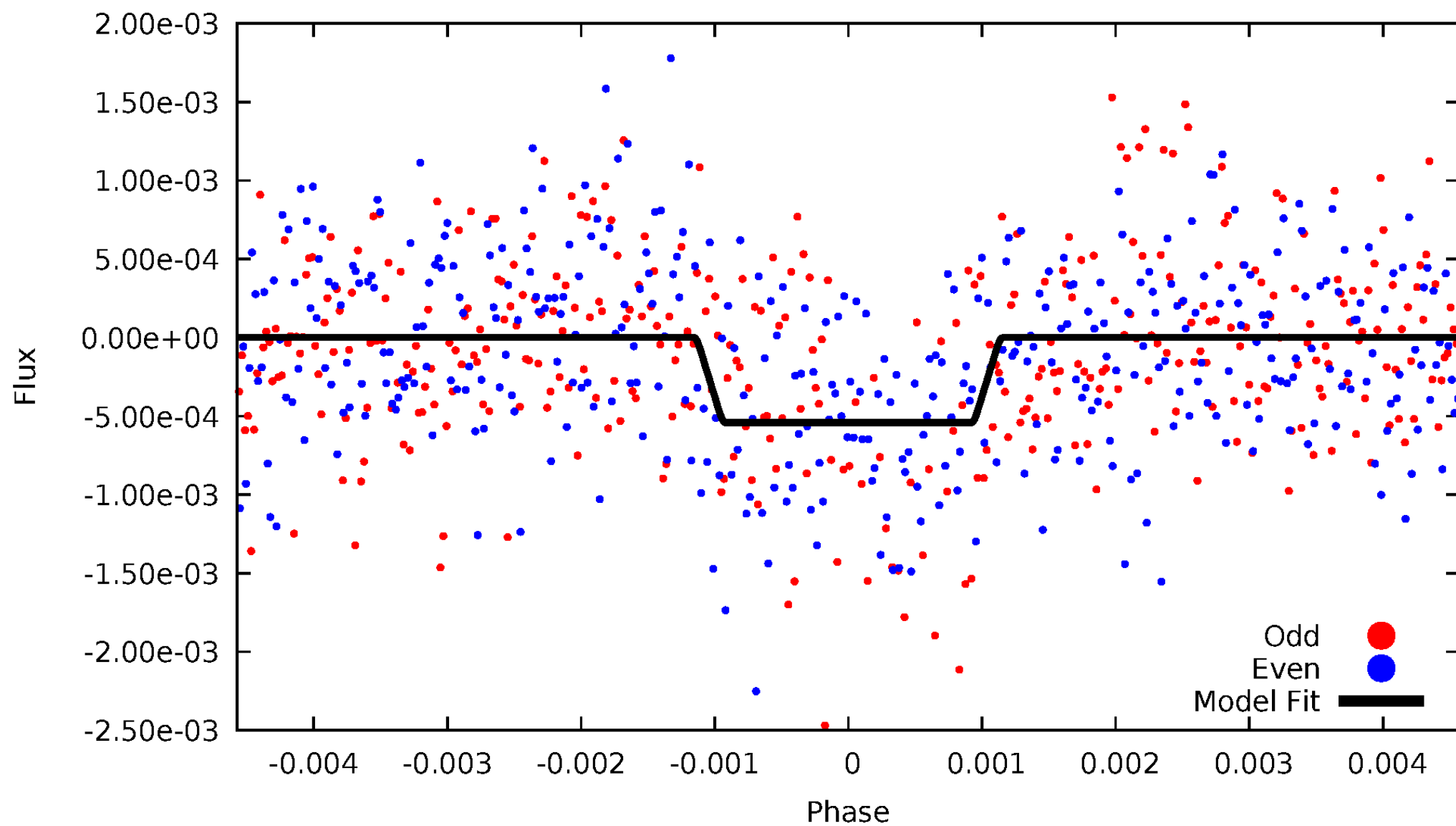
DV Odd/Even

TCE 007690604-01

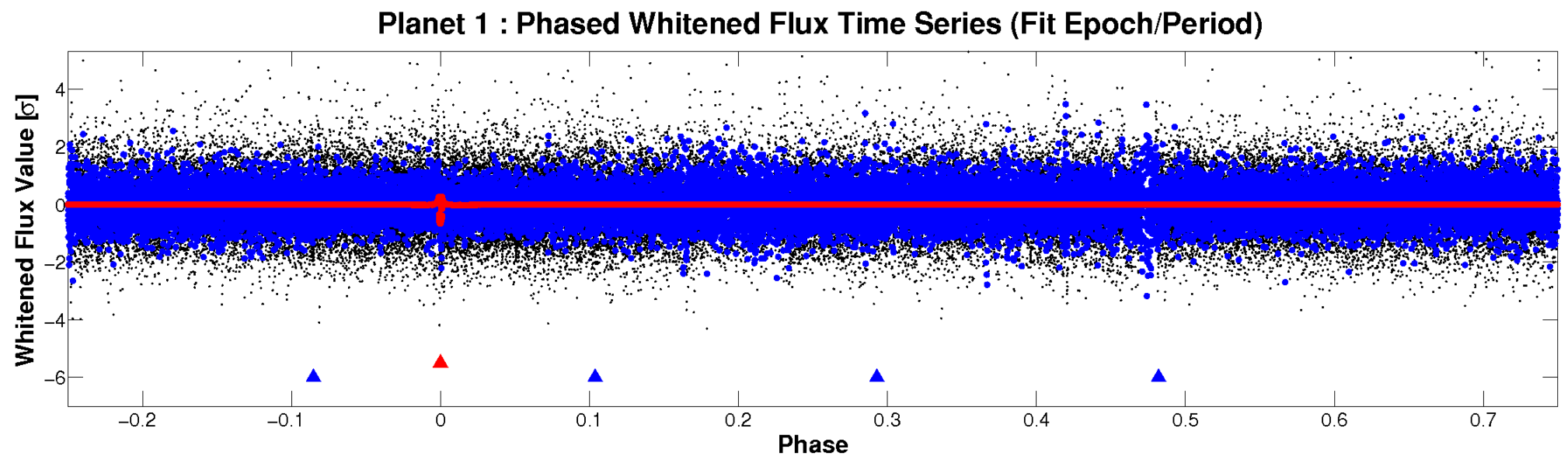
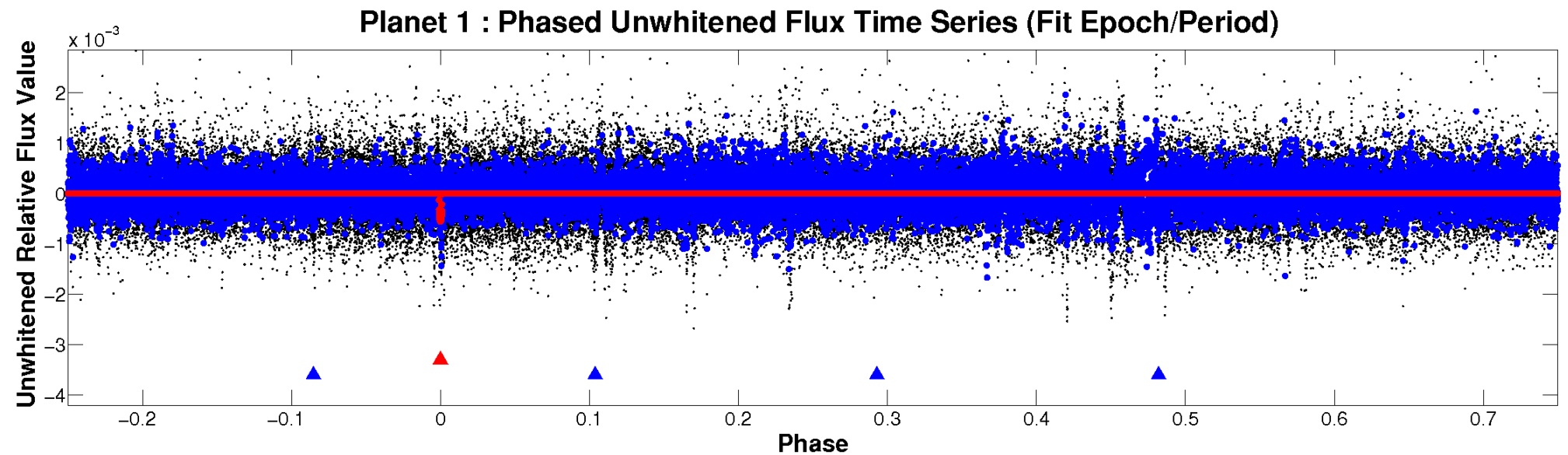


ALT Odd/Even

TCE 007690604-01

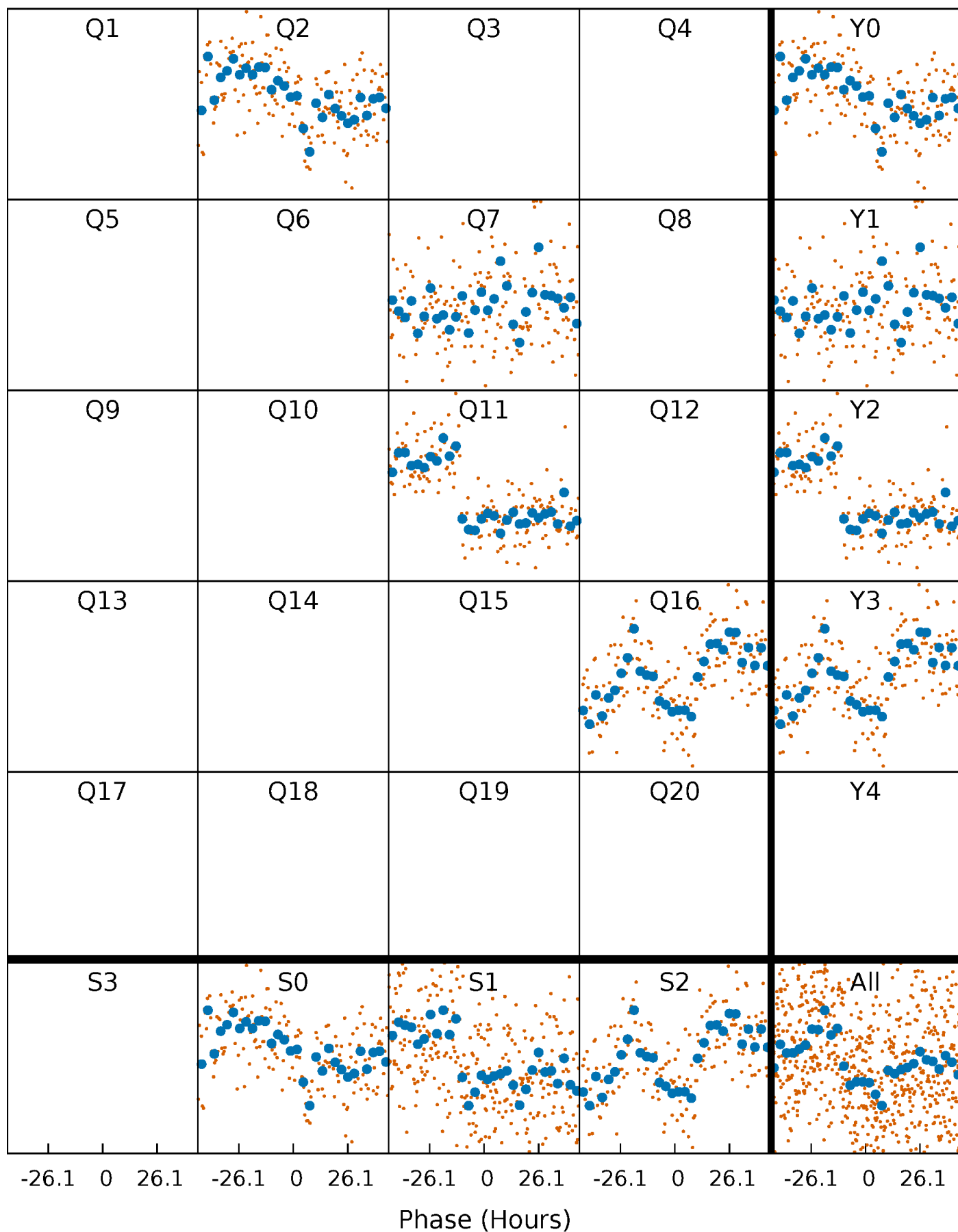


Non-Whitened Vs. Whitened Light Curve



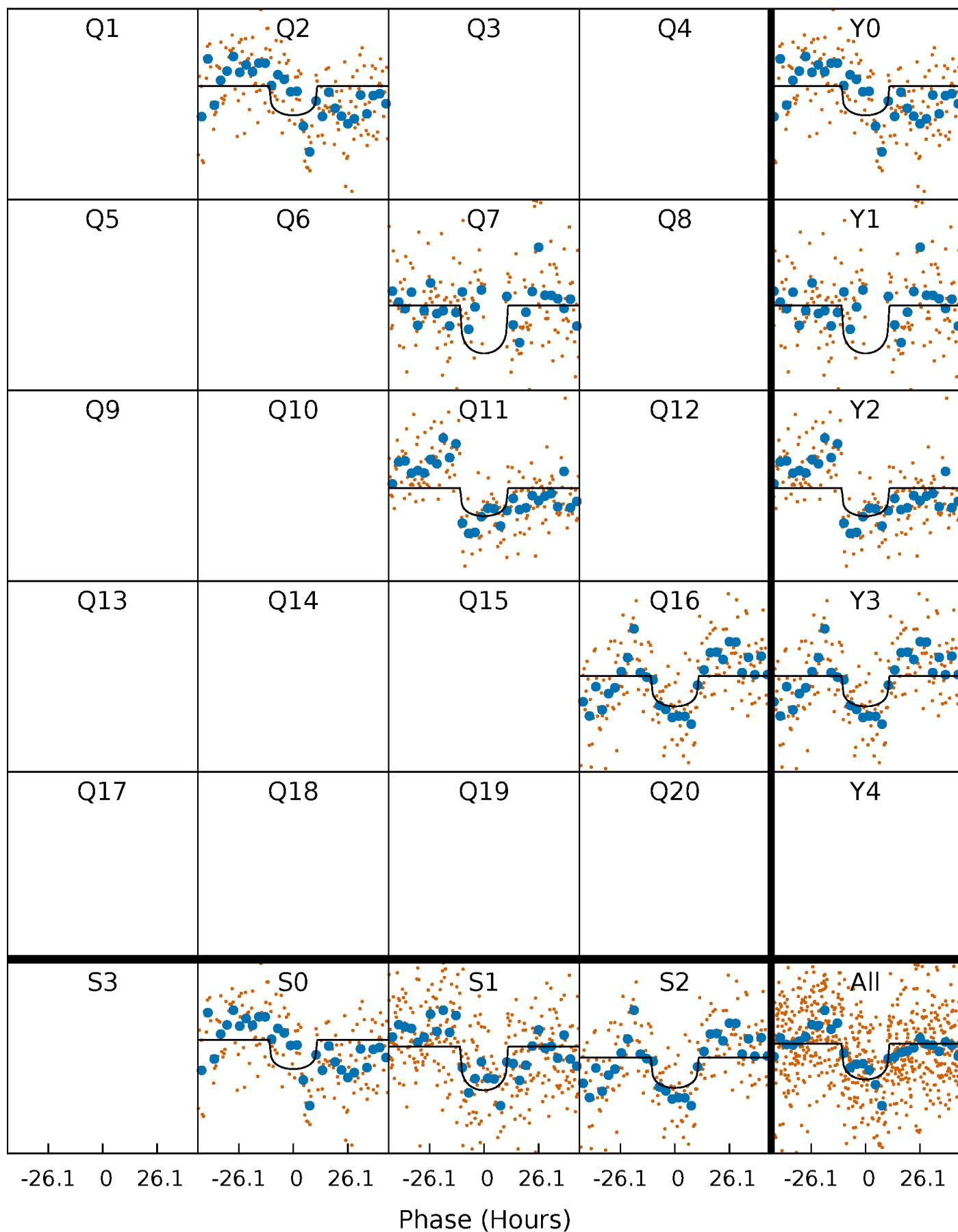
PDC Quarter-Phased Transit Curves

TCE 007690604-01 P=447.473140 Days $T_0=186.209381$ (BKJD)



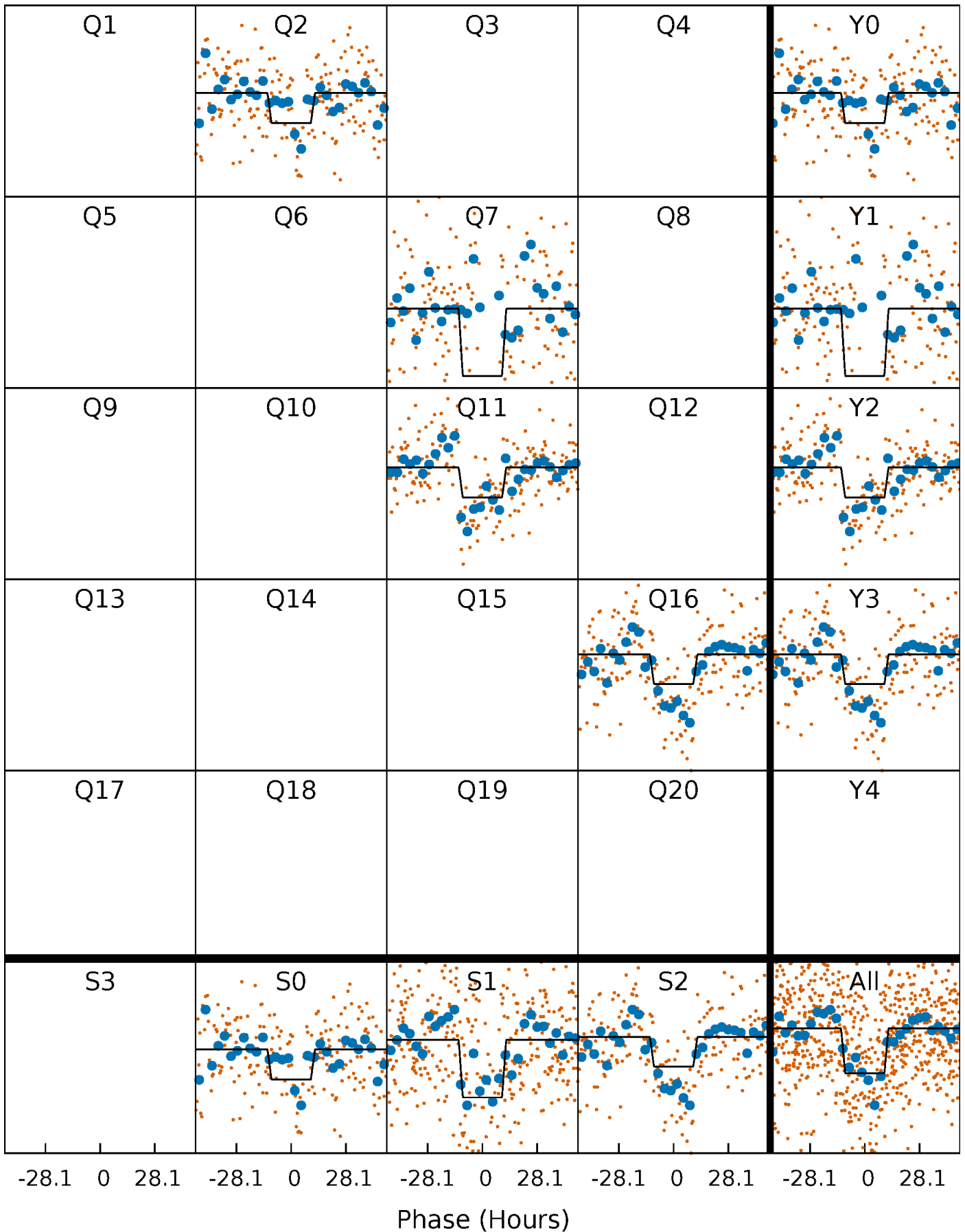
DV Quarter-Phased Transit Curves

TCE 007690604-01 P=447.473140 Days $T_0=186.209381$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

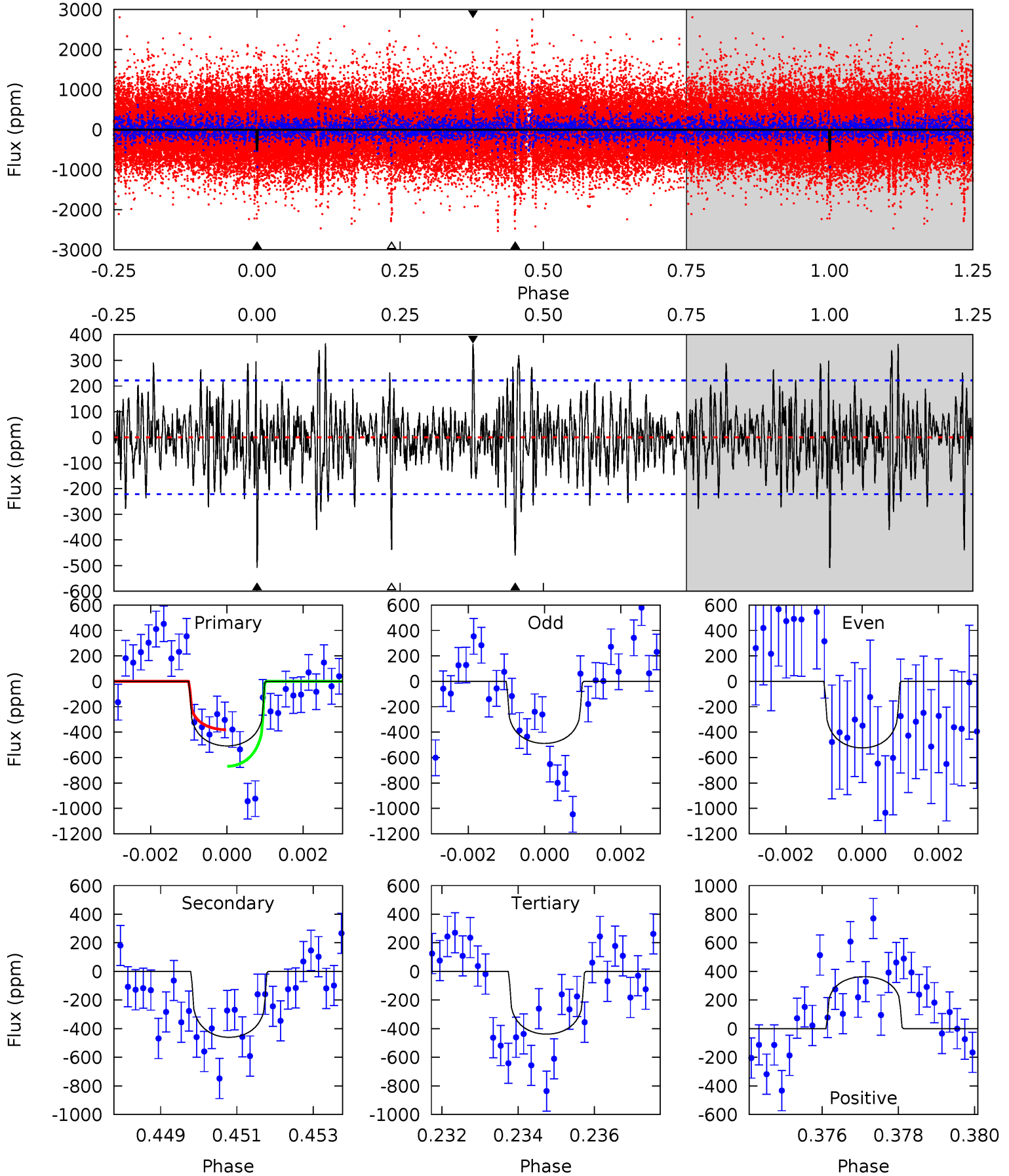
TCE 007690604-01 P=447.426852 Days $T_0=186.331325$ (BKJD)



DV Model-Shift Uniqueness Test

007690604-01, P = 447.473140 Days, E = 186.209381 Days

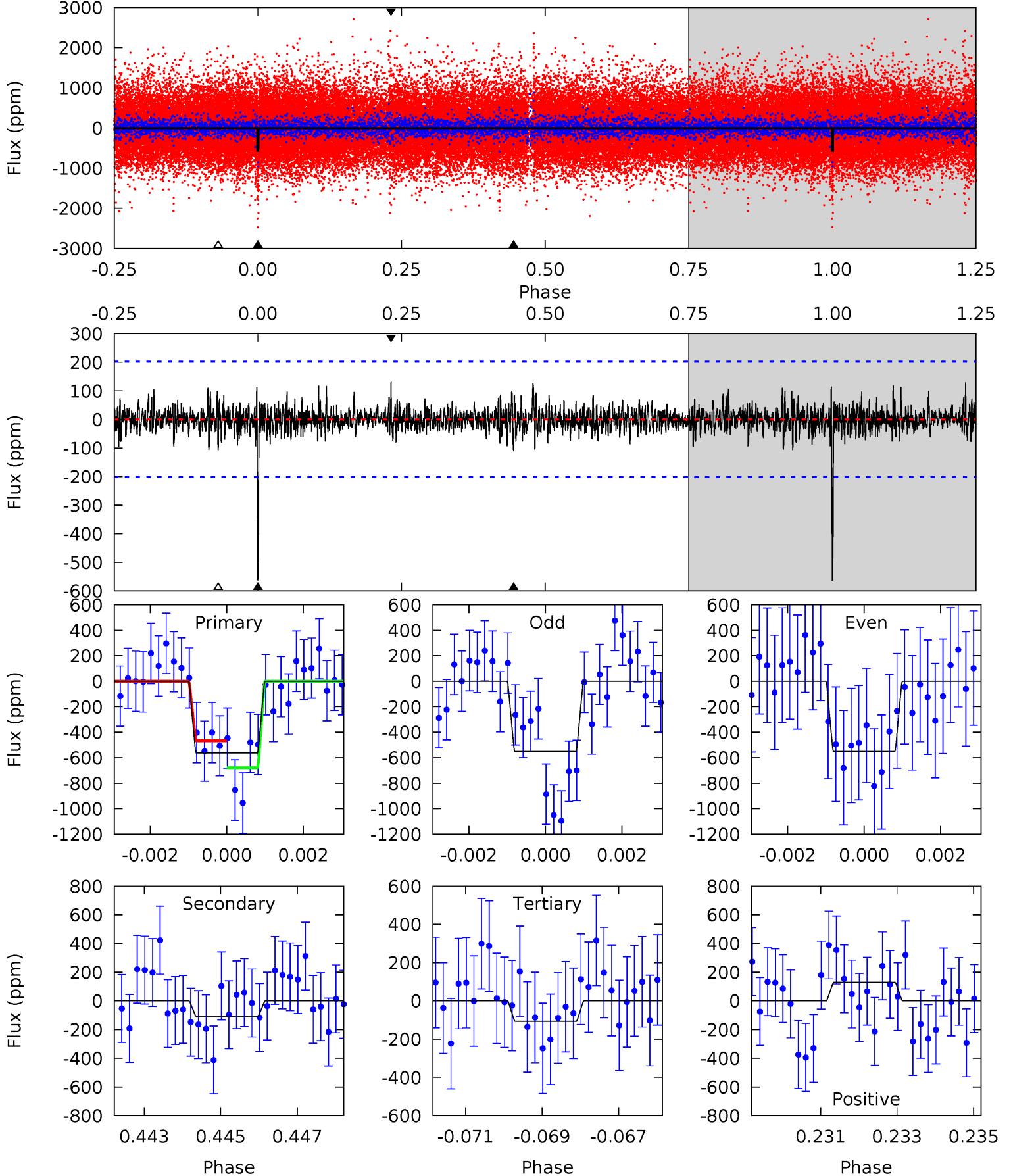
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	11.0	10.5	8.71	5.31	3.07	2.35	1.68	3.47	0.52	2.31	0.42	0.86	0.42	3.41



Alt Model-Shift Uniqueness Test

007690604-01, P = 447.426852 Days, E = 186.331325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	2.91	2.81	3.40	5.30	3.05	0.79	12.0	11.4	0.10	-0.49	0.01	0.89	0.19	2.76



Stellar Parameters For KIC 007690604

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5247^{+156}_{-156}	$4.678^{+0.028}_{-0.077}$	$-0.760^{+0.300}_{-0.300}$	$0.631^{+0.075}_{-0.034}$	$0.694^{+0.059}_{-0.053}$	$3.885^{+0.481}_{-0.924}$
	+3%/-3%	+1%/-2%	+39%/-39%	+12%/-5%	+9%/-8%	+12%/-24%
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 007690604-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-460 ± 42	$1.60^{+0.89}_{-0.80}$	258^{+10}_{-10}	5143^{+2115}_{-868}	$103543^{+308221}_{-61844}$
Alt.	-111 ± 38	$1.66^{+0.86}_{-0.75}$	258^{+10}_{-9}	3783^{+1065}_{-493}	21211^{+59333}_{-12422}

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

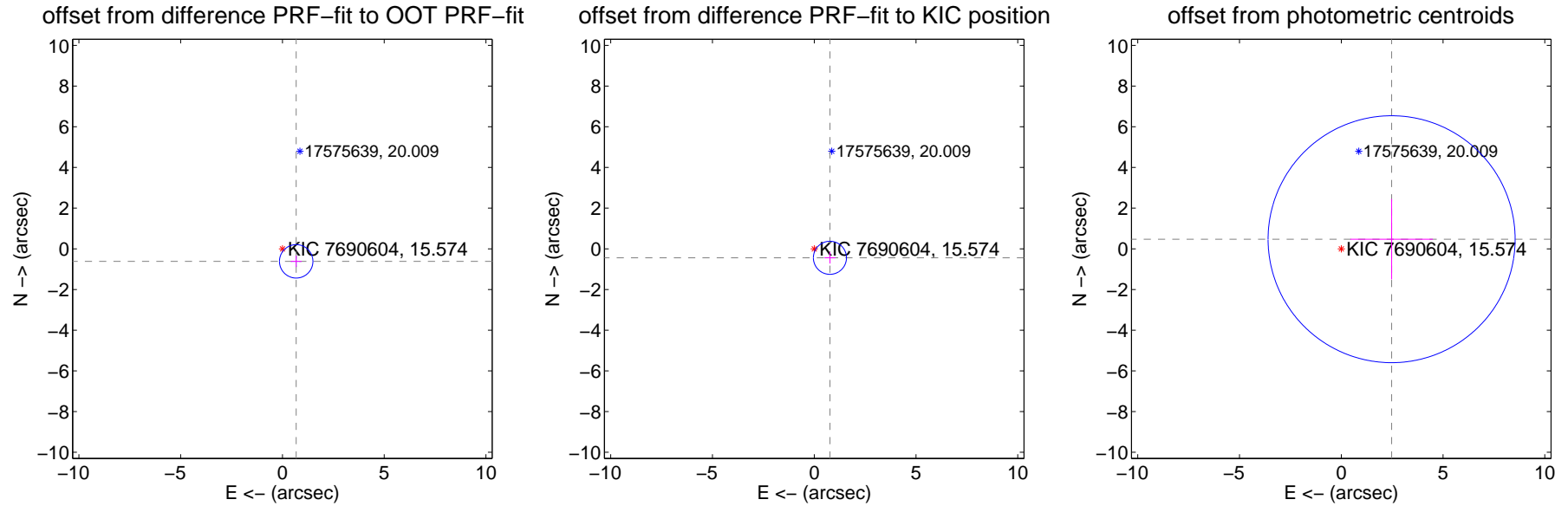
DV Centroid Data

Supplemental centroid analysis for 007690604-01. Kepler magnitude: 15.57. Transit SNR 7.71

There are 1 quarters with good PRF difference image offsets

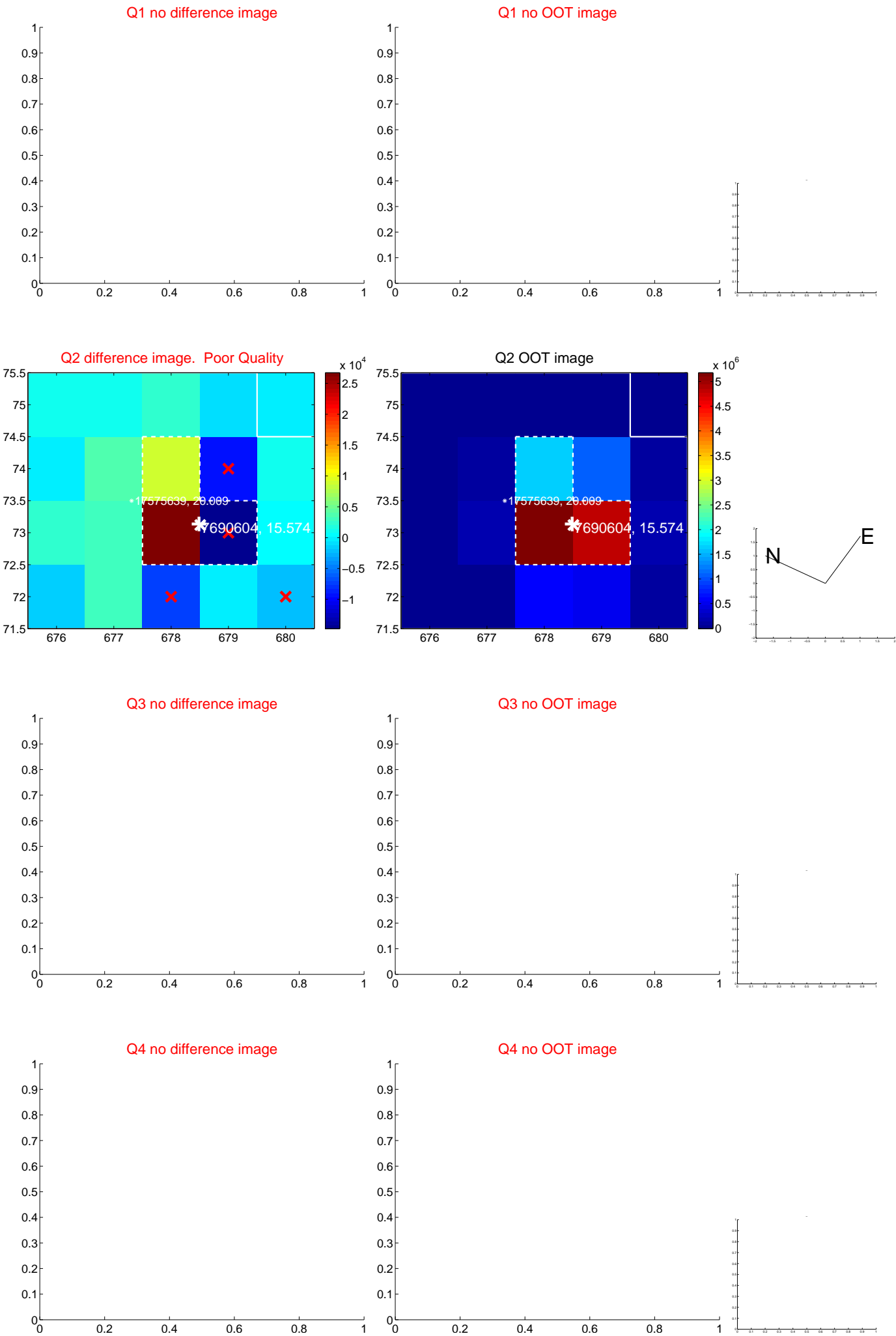
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.915 ± 0.274	3.34	-0.677 ± 0.267	-0.615 ± 0.282
PRF-fit source offset from KIC position	0.888 ± 0.271	3.28	-0.771 ± 0.267	-0.441 ± 0.282
photometric centroid source offset	2.52 ± 2.02	1.24	-2.47 ± 2.03	0.47 ± 1.98



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



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



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

Q9 no difference image



Q9 no OOT image



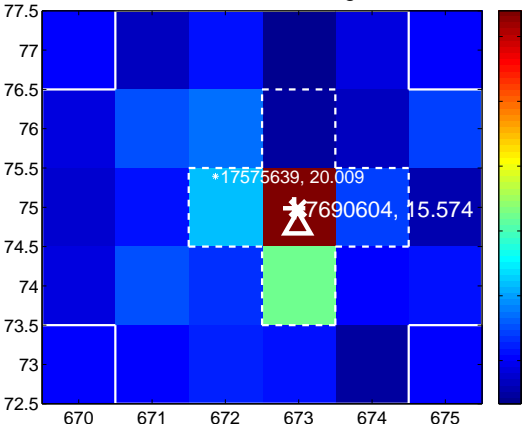
Q10 no difference image



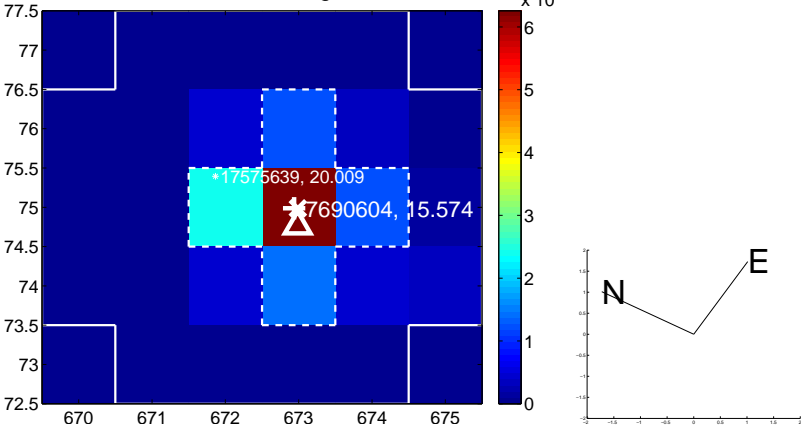
Q10 no OOT image



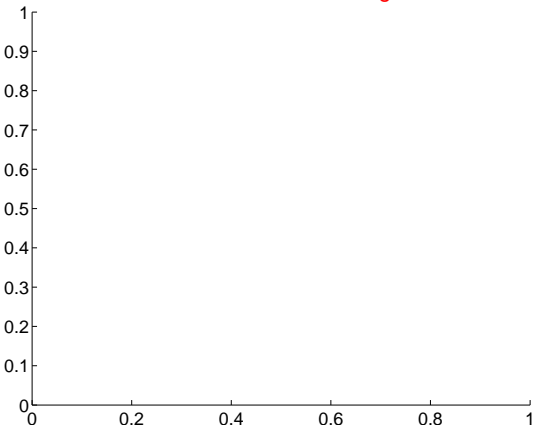
Q11 difference image



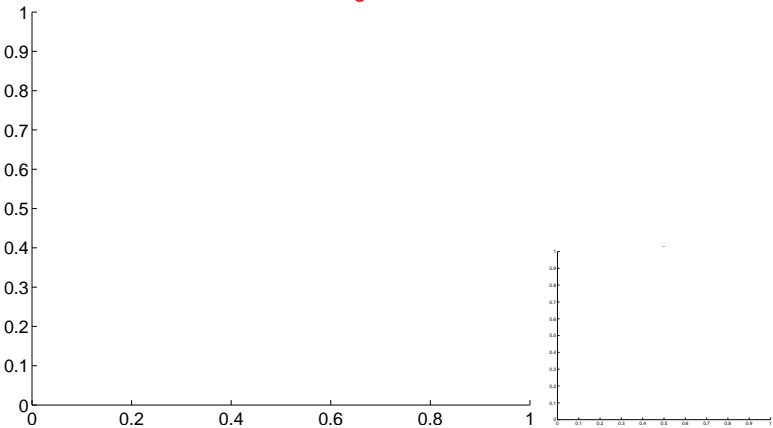
Q11 OOT image



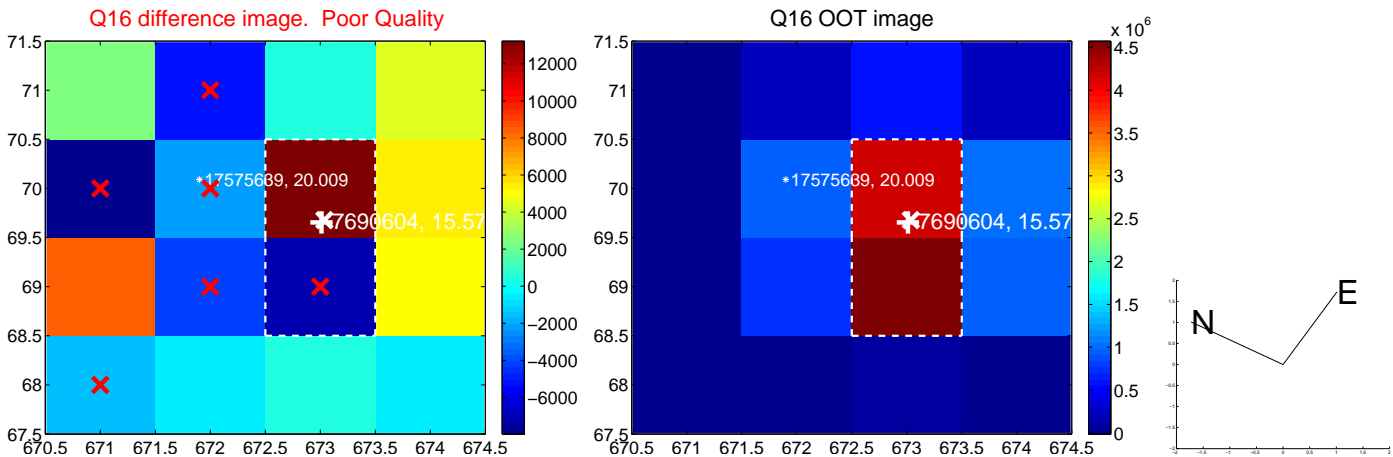
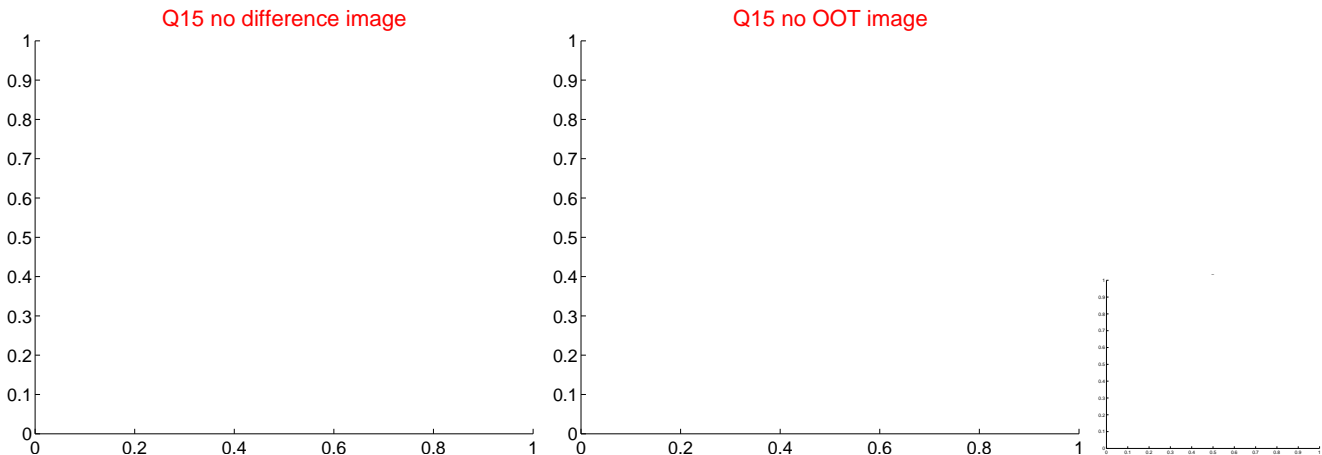
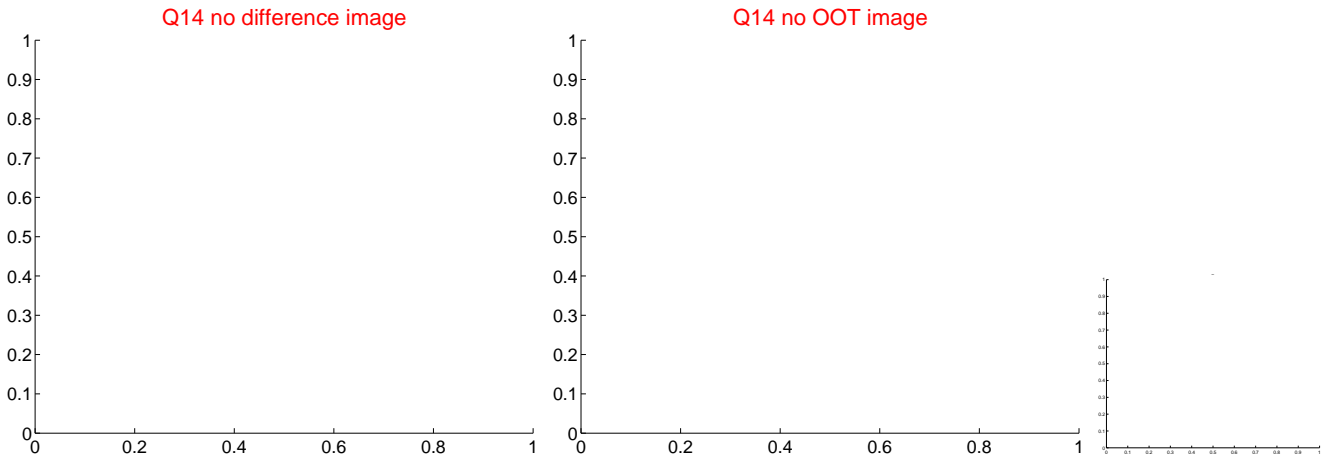
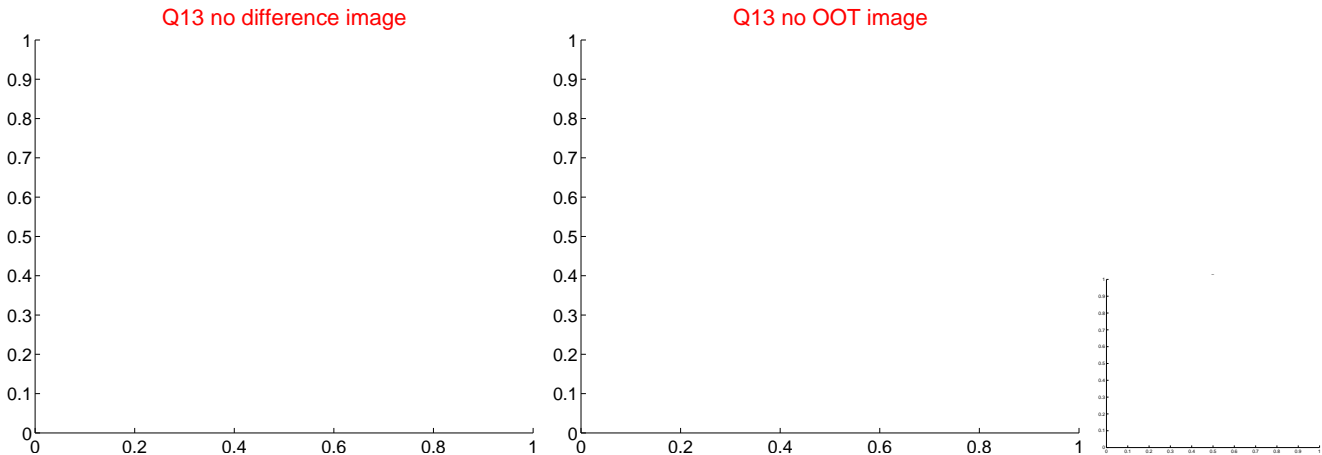
Q12 no difference image



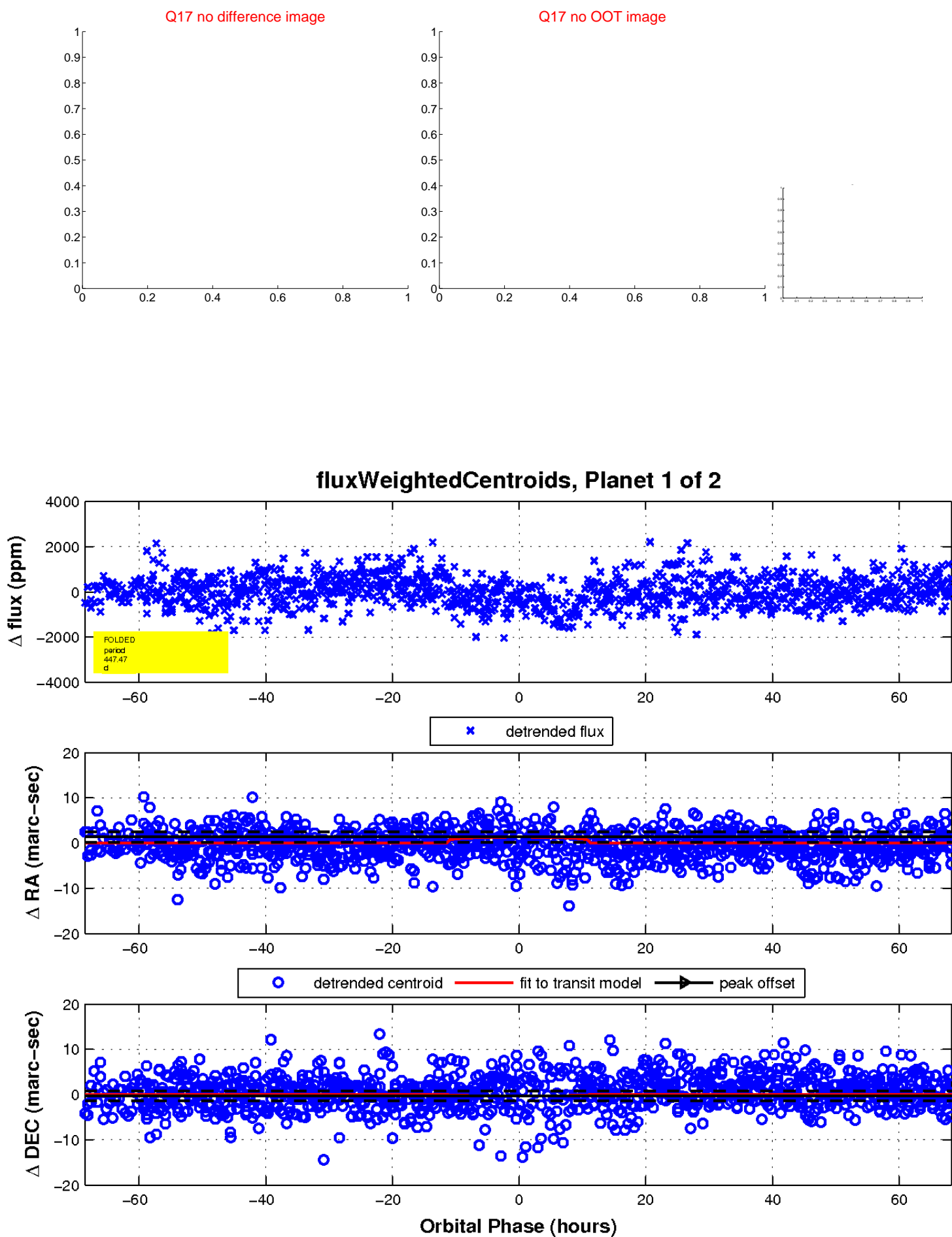
Q12 no OOT image



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

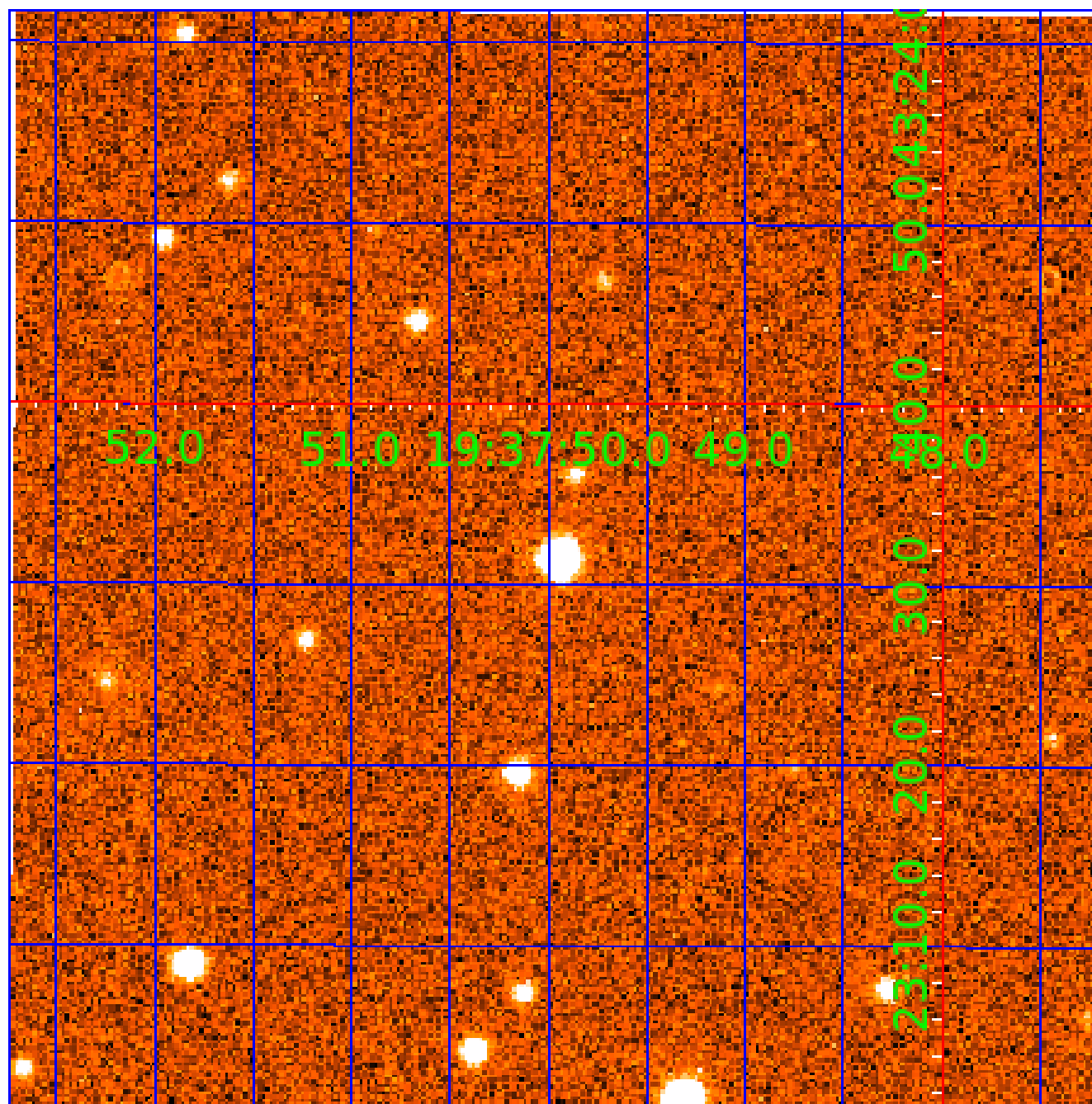


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007690604

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})
007690604-01	OBS	No	447.473140	186.209381	558.8	22.854	9.6	7.7	0.63	5247	1.52	0.26
007690604-02	OBS	No	362.859666	401.896188	907.6	23.796	8.1	9.9	0.63	5247	1.91	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007690604-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007690604-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

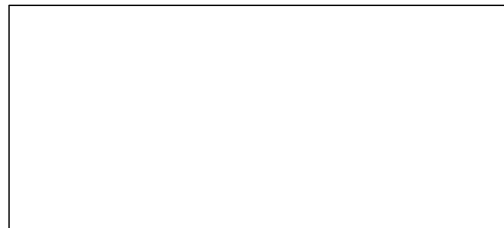
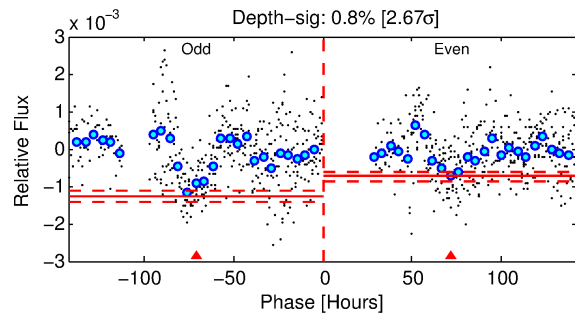
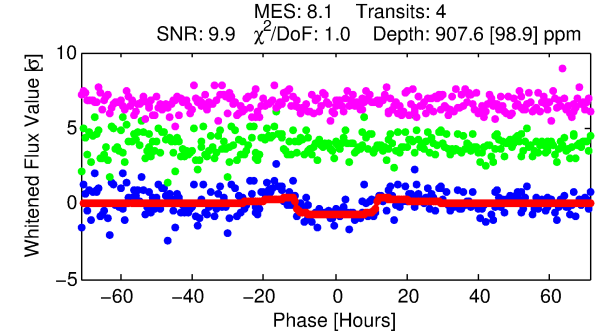
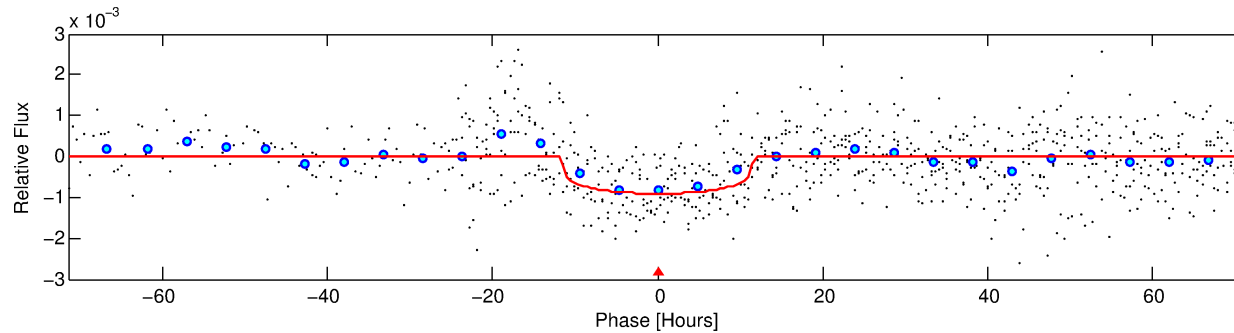
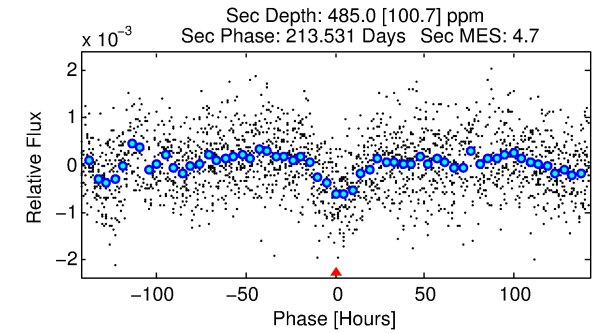
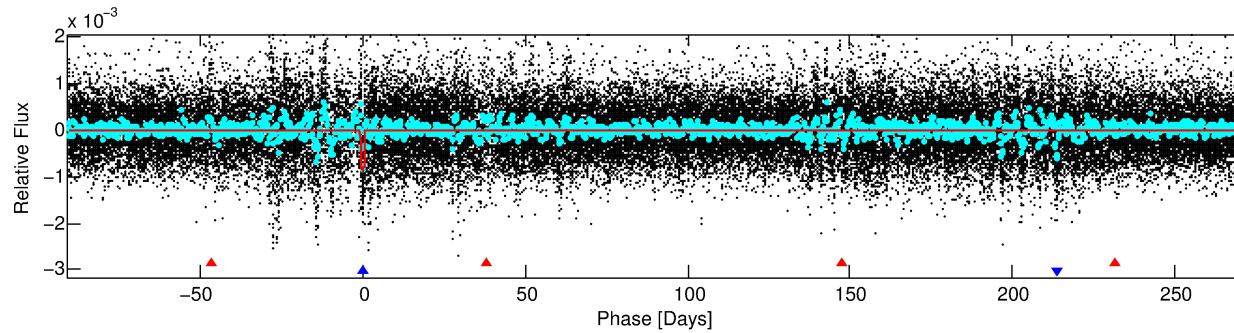
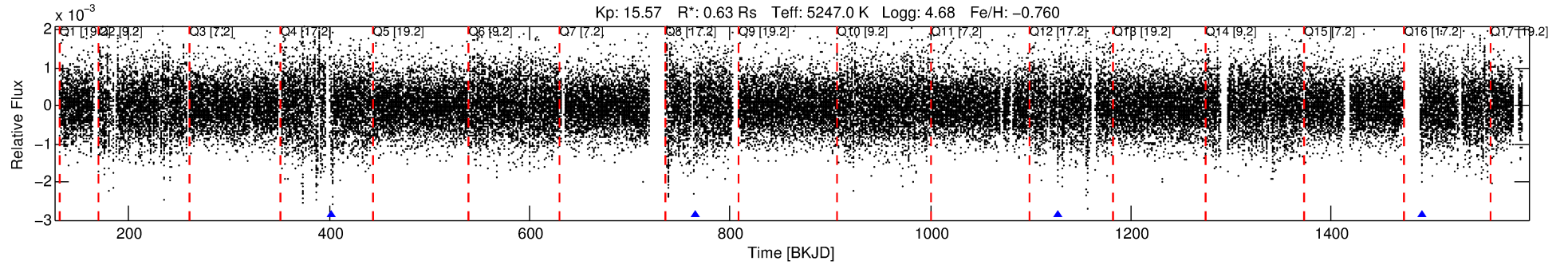
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007690604-02

No Significant Match Found

DV One-Page Summary

KIC: 7690604 Candidate: 2 of 2 Period: 362.860 d



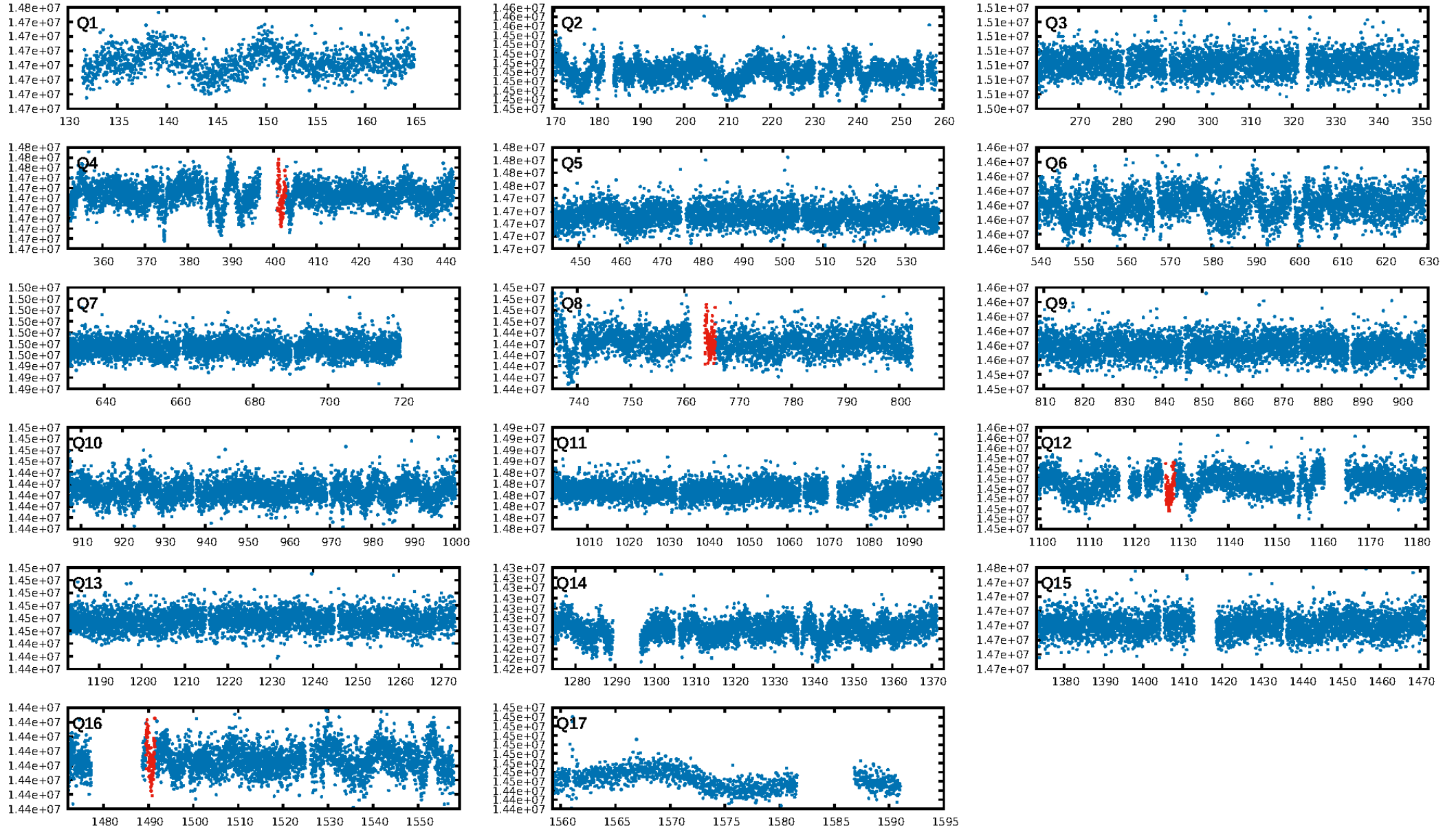
DV Fit Results:

Period = 362.85967 [0.01112] d
Epoch = 401.8962 [0.0217] BKJD
Rp/R* = 0.0278 [0.0131]
a/R* = 109.75 [213.80]
b = 0.41 [3.97]
Seff = 0.35 [0.06]
Teq = 196 [9] K
Rp = 1.91 [0.93] Re
a = 0.8808 [0.0871] AU
Ag = 56503.10 [55081.44] [1.03σ]
Teffp = 4670 [1135] K [3.94σ]

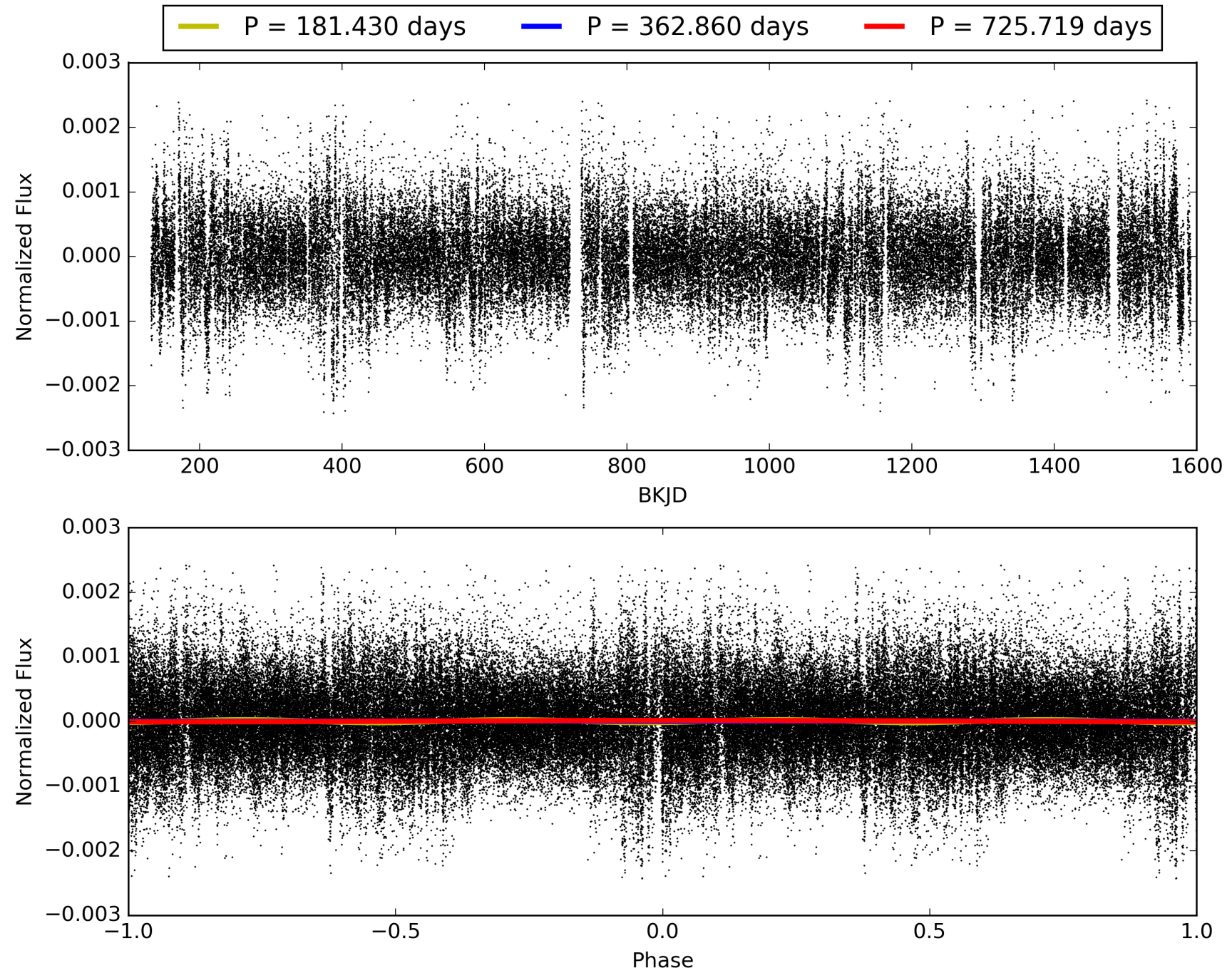
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [61.55σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.48e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.884
Centroid-sig: 32.6%
Centroid-so: 1.494 arcsec [0.82σ]
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: N/A

TCE 007690604-02, PDC Light Curves

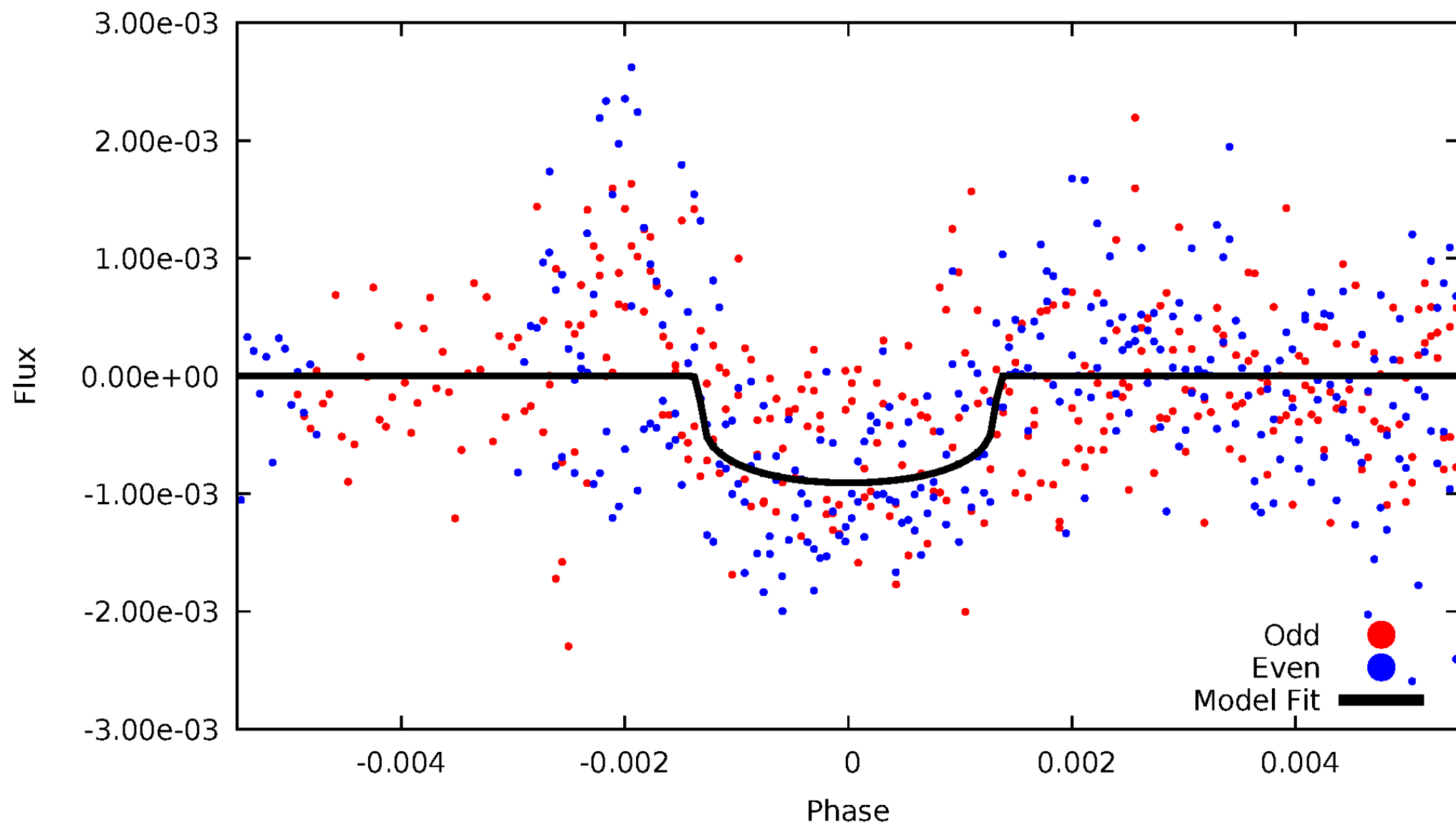


TCE 007690604-02



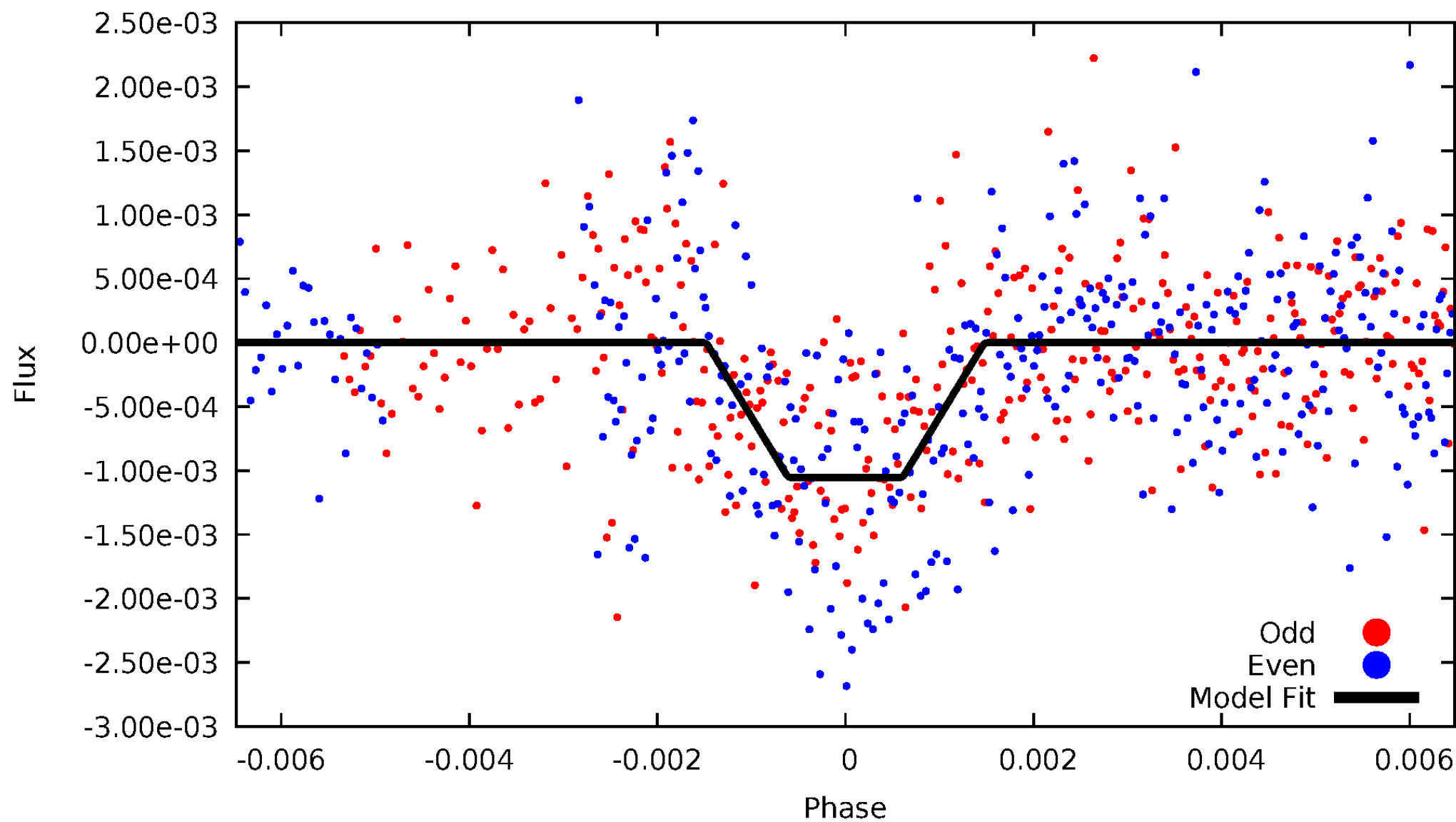
DV Odd/Even

TCE 007690604-02



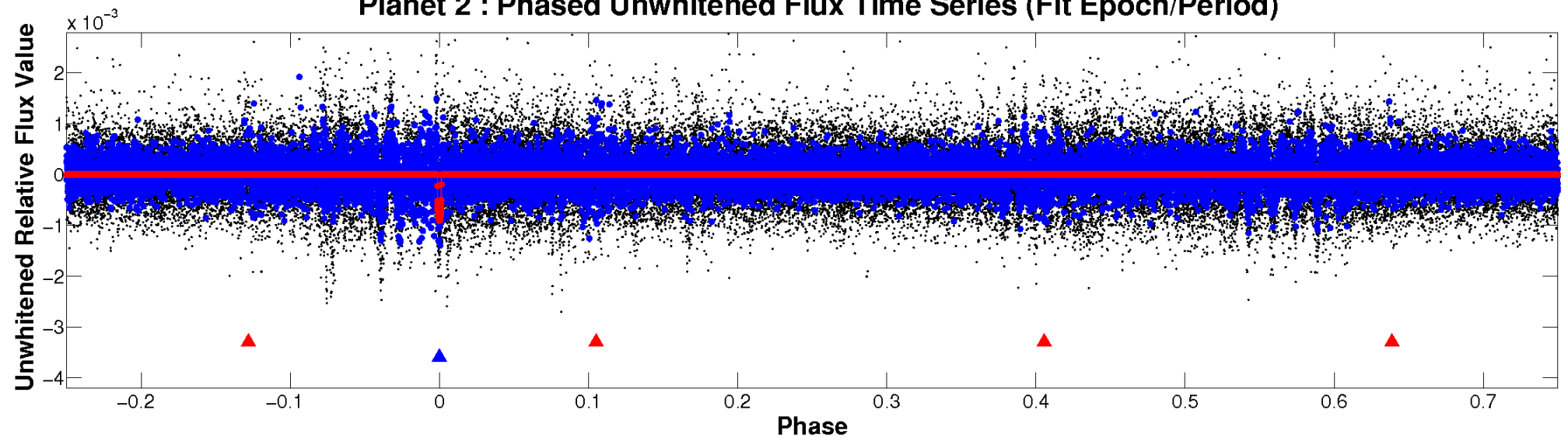
ALT Odd/Even

TCE 007690604-02

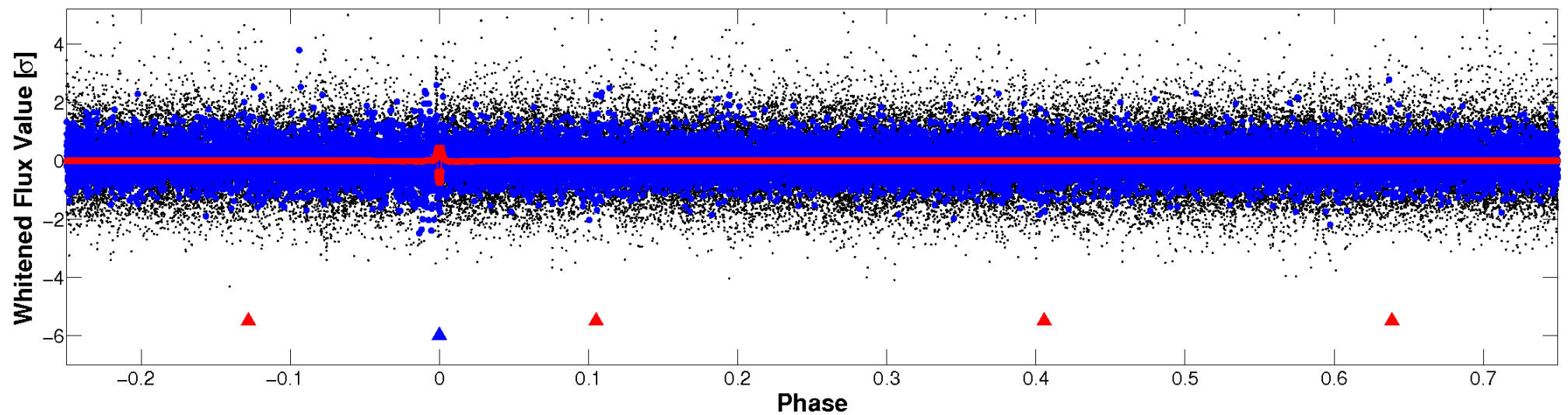


Non-Whitened Vs. Whitened Light Curve

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



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



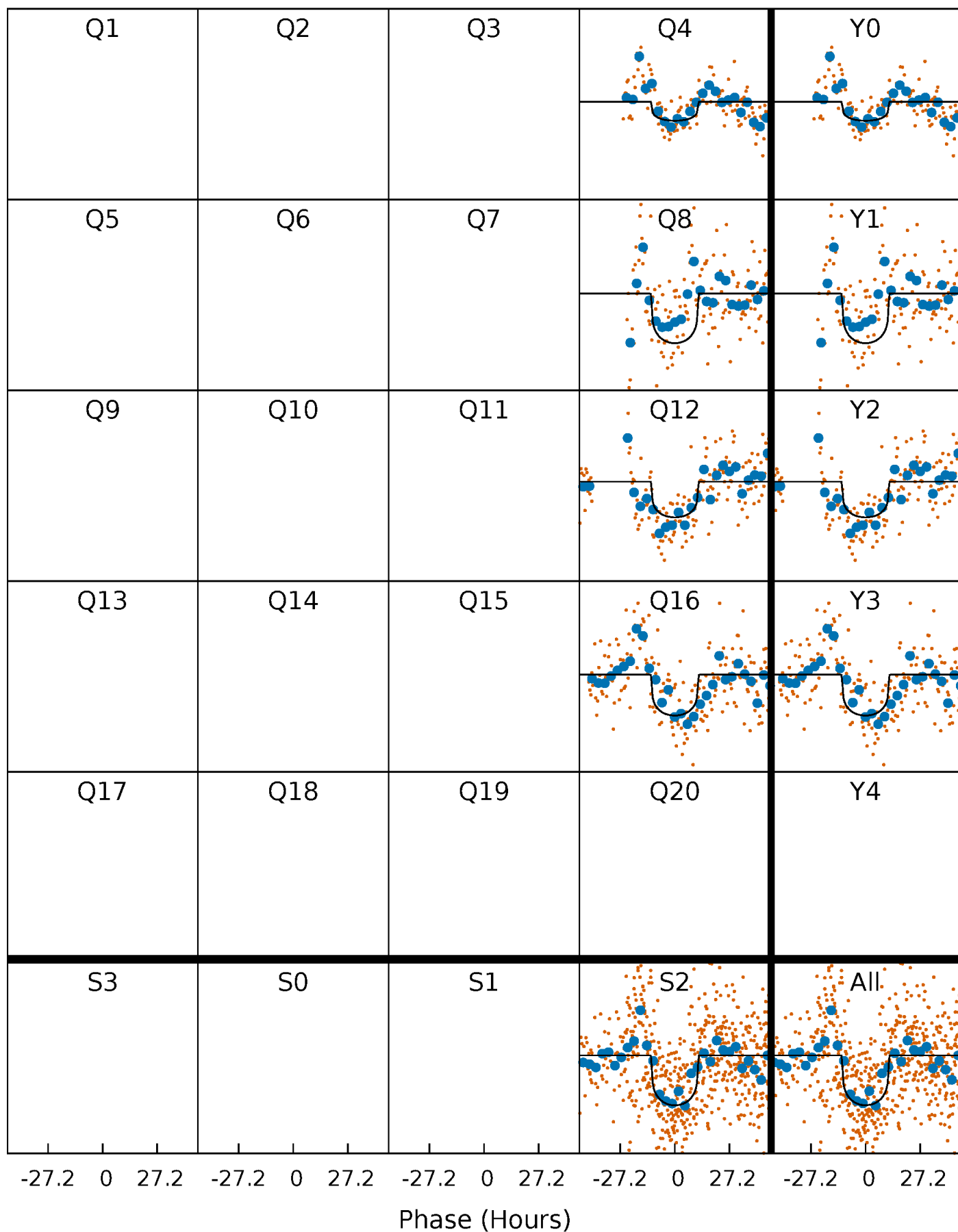
PDC Quarter-Phased Transit Curves

TCE 007690604-02 $P=362.859666$ Days $T_0=401.896188$ (BKJD)



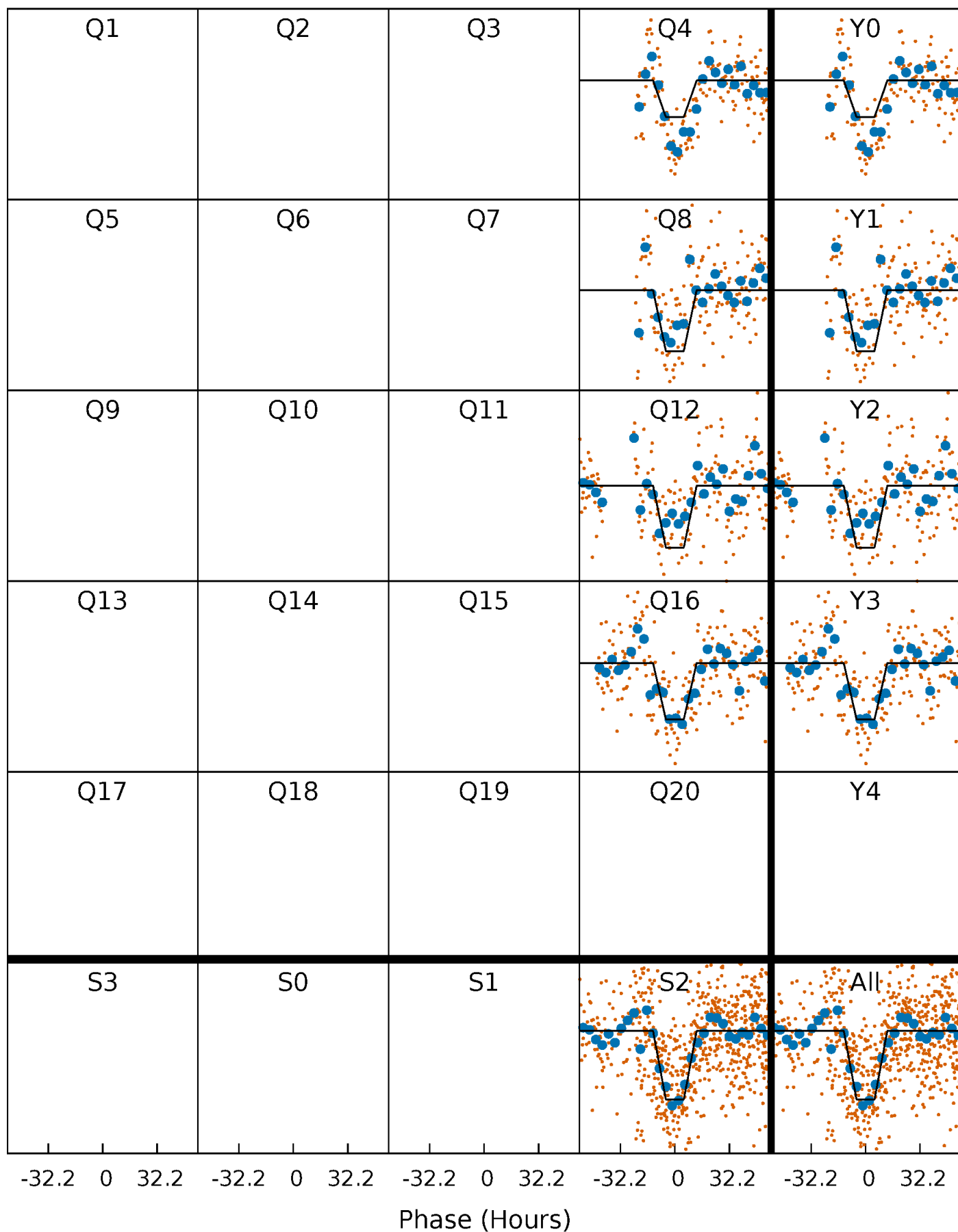
DV Quarter-Phased Transit Curves

TCE 007690604-02 $P=362.859666$ Days $T_0=401.896188$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

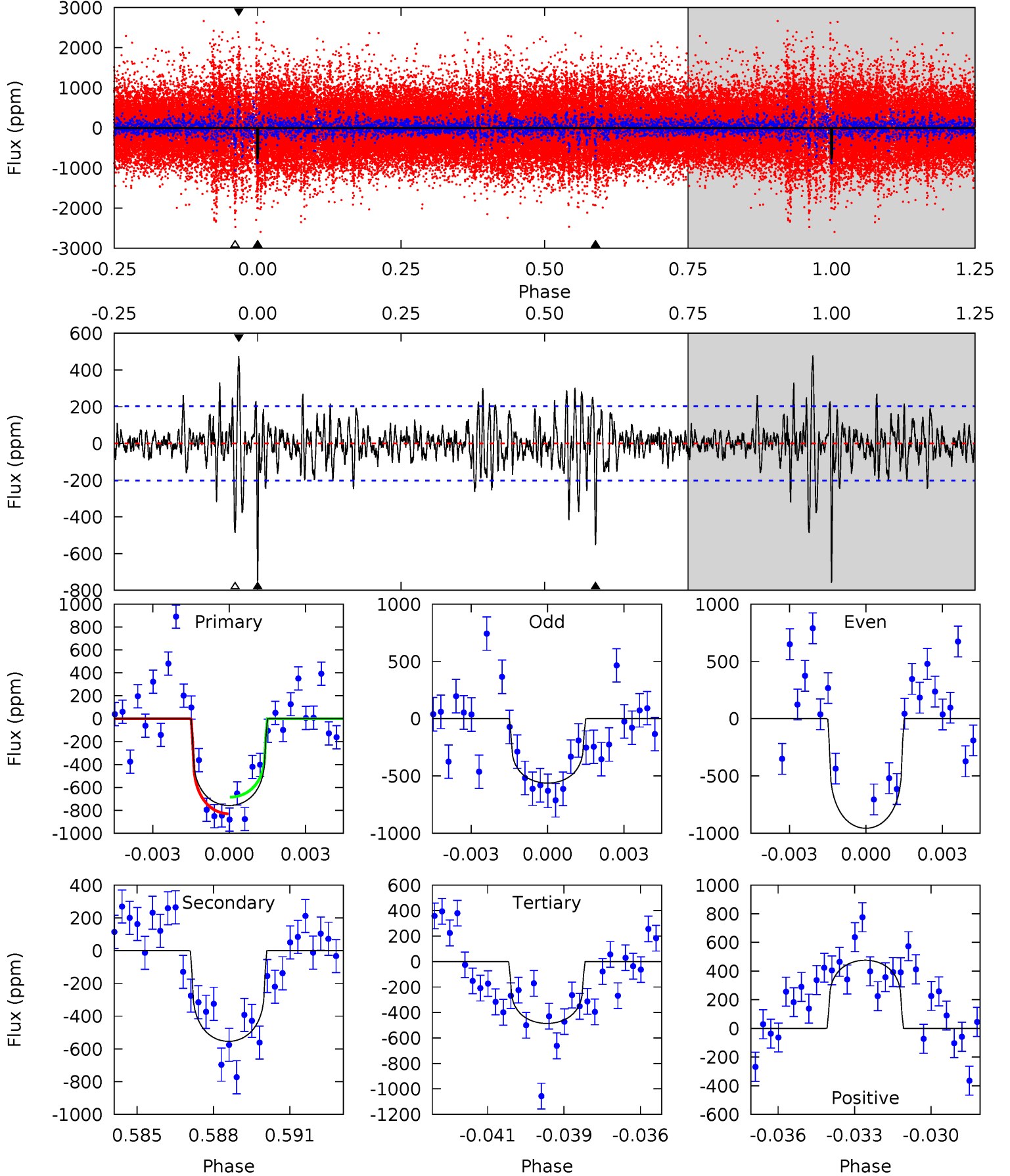
TCE 007690604-02 P=362.947704 Days $T_0=401.780051$ (BKJD)



DV Model-Shift Uniqueness Test

007690604-02, P = 362.859666 Days, E = 39.036522 Days

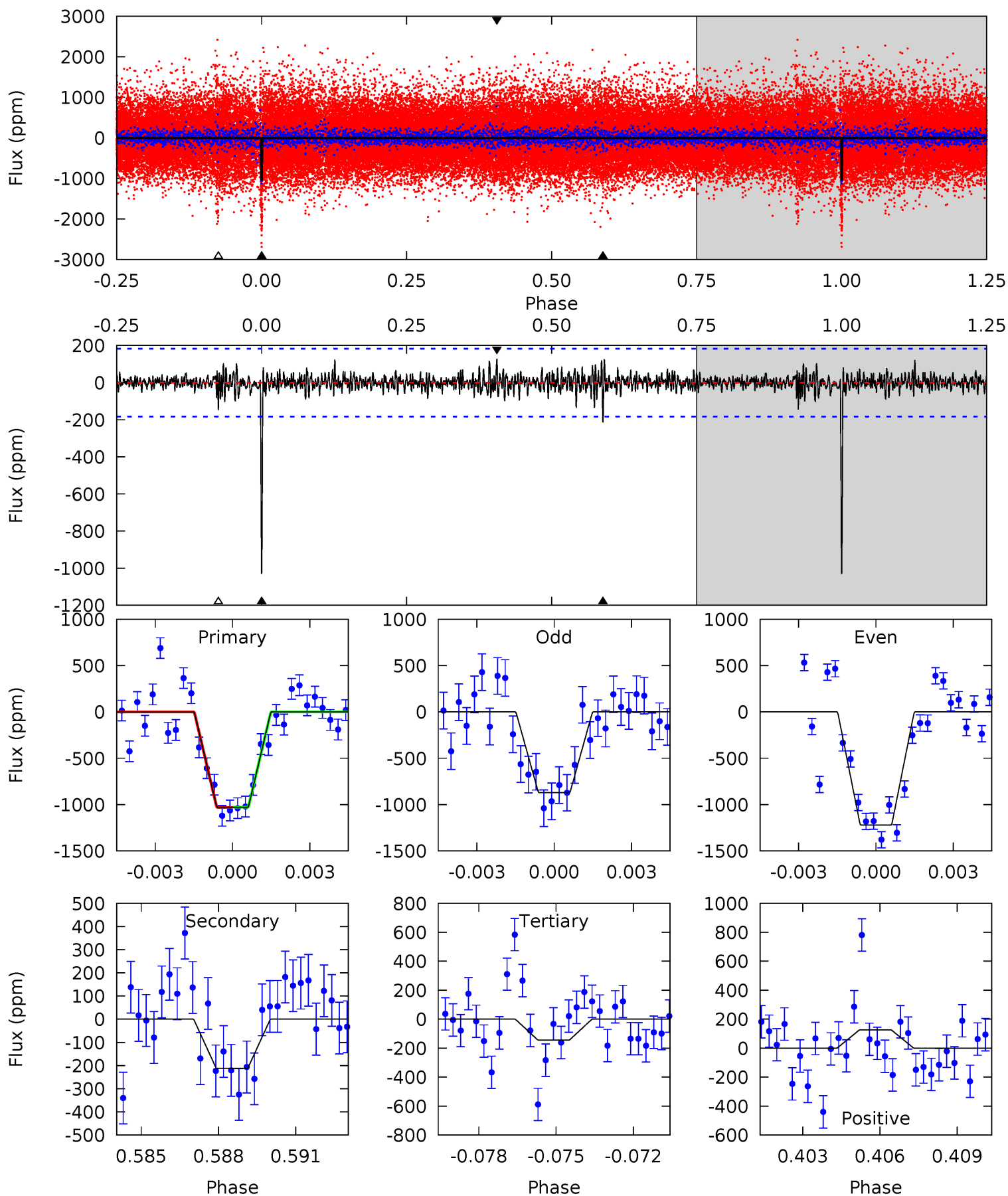
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	14.4	12.6	12.4	5.27	2.99	2.45	7.07	7.34	1.77	2.03	5.14	0.97	0.39	1.88



Alt Model-Shift Uniqueness Test

007690604-02, P = 362.947704 Days, E = 38.832347 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	6.10	4.15	3.65	5.25	2.97	0.91	25.4	25.9	1.95	2.45	5.00	1.19	0.11	0.03



Stellar Parameters For KIC 007690604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5247^{+156}_{-156}	$4.678^{+0.028}_{-0.077}$	$-0.760^{+0.300}_{-0.300}$	$0.631^{+0.075}_{-0.034}$	$0.694^{+0.059}_{-0.053}$	$3.885^{+0.481}_{-0.924}$
	+3%/-3%	+1%/-2%	+39%/-39%	+12%/-5%	+9%/-8%	+12%/-24%
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 007690604-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-554 ± 38	$1.98^{+0.95}_{-0.89}$	276^{+10}_{-10}	4840^{+1521}_{-658}	$58869^{+138735}_{-31439}$
Alt.	-212 ± 35	$2.25^{+0.95}_{-0.89}$	276^{+10}_{-9}	3858^{+793}_{-440}	17864^{+32301}_{-9181}

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

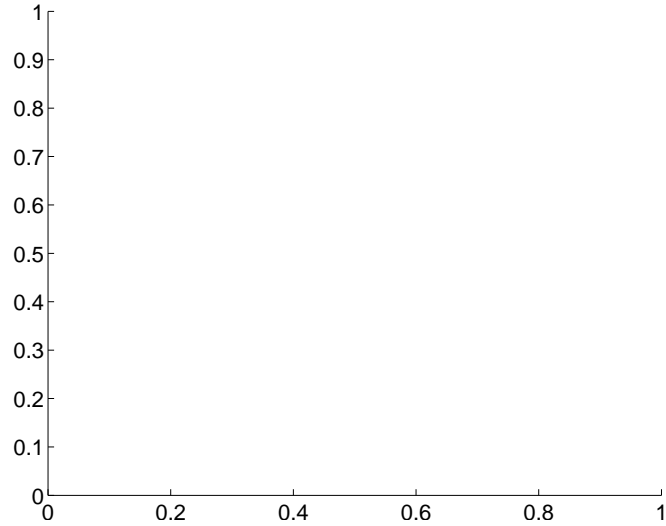
Supplemental centroid analysis for 007690604-02. Kepler magnitude: 15.57. Transit SNR 9.90

There are 0 quarters with good PRF difference image offsets

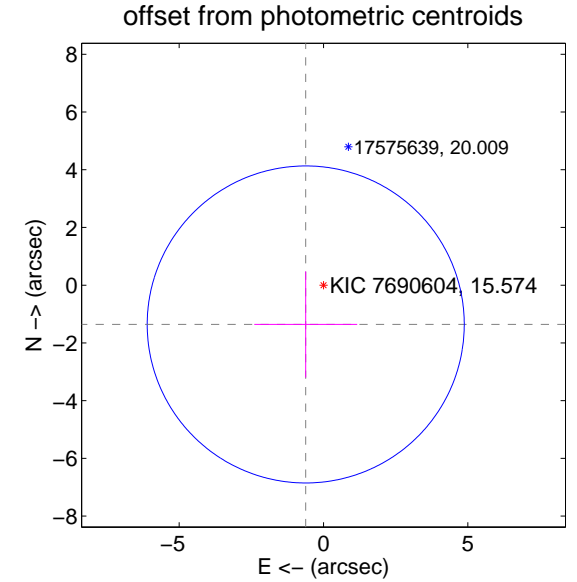
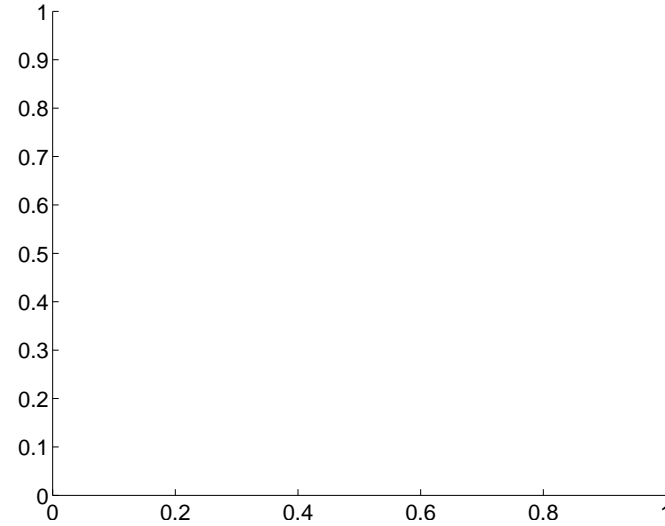
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	1.49 ± 1.83	0.82	0.62 ± 1.78	-1.36 ± 1.84

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.



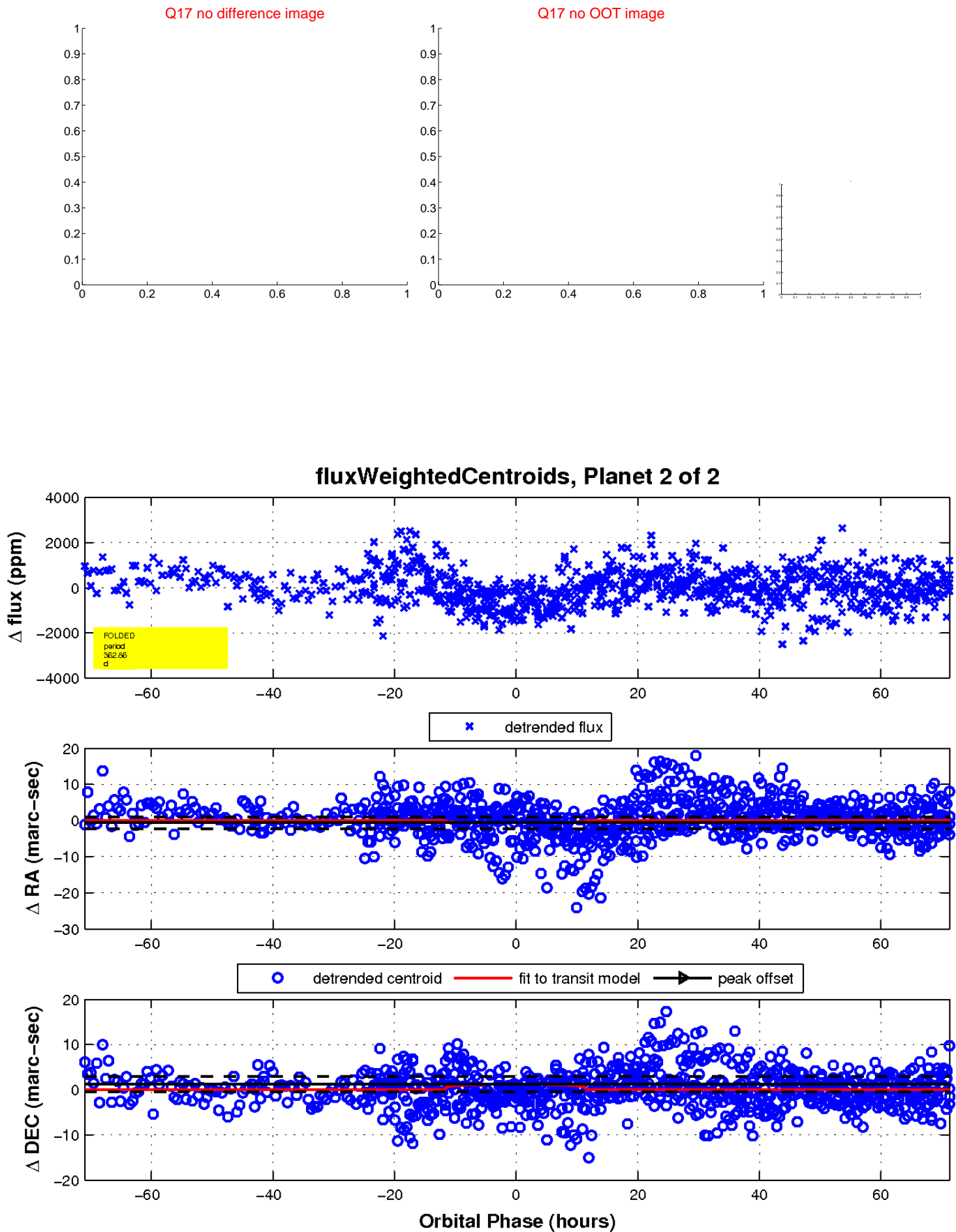
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

