

KIC 007218950

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})
007218950-01	OBS	No	493.915715	356.793865	2719.5	8.143	17.4	6.6	0.65	5277	3.36	0.27
007218950-02	OBS	No	322.986930	386.276245	1774.0	4.466	17.7	6.8	0.65	5277	2.72	0.47
007218950-03	OBS	No	328.712711	360.823288	1294.1	3.961	14.2	5.0	0.65	5277	2.36	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007218950-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007218950-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007218950-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

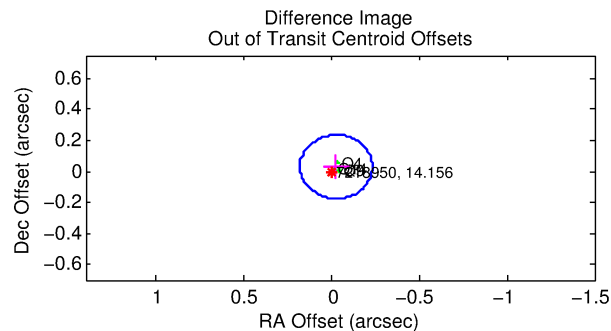
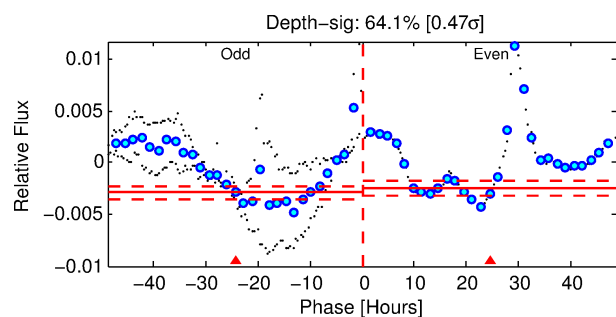
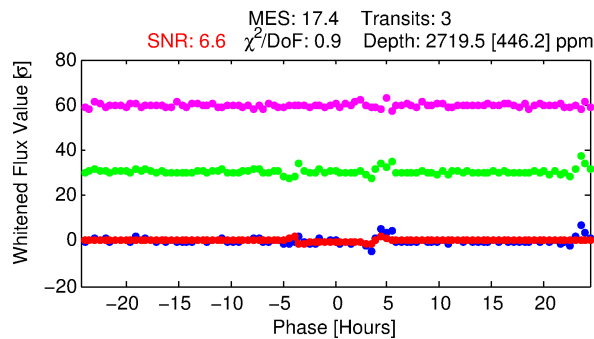
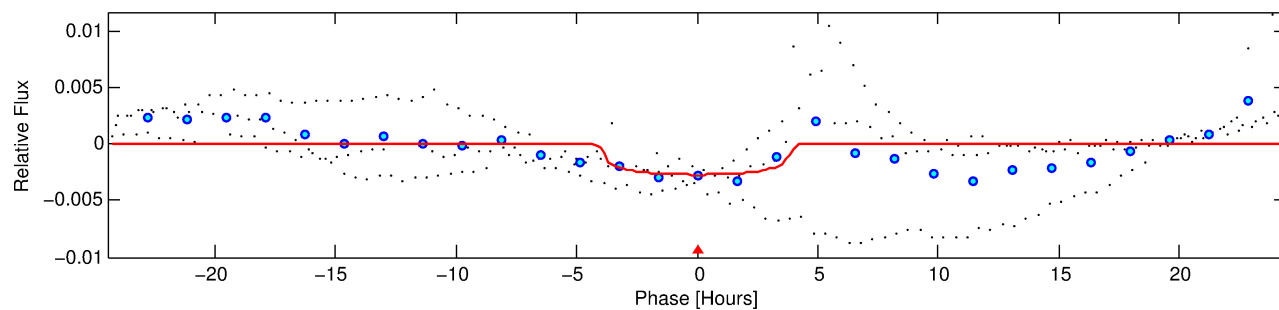
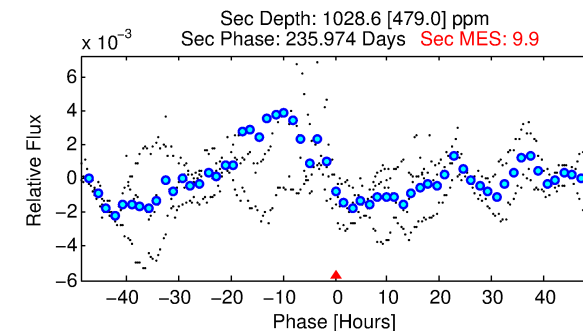
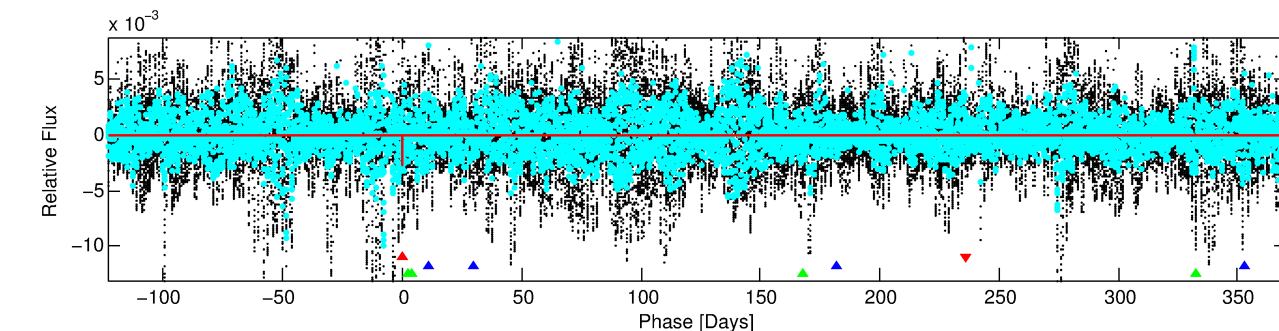
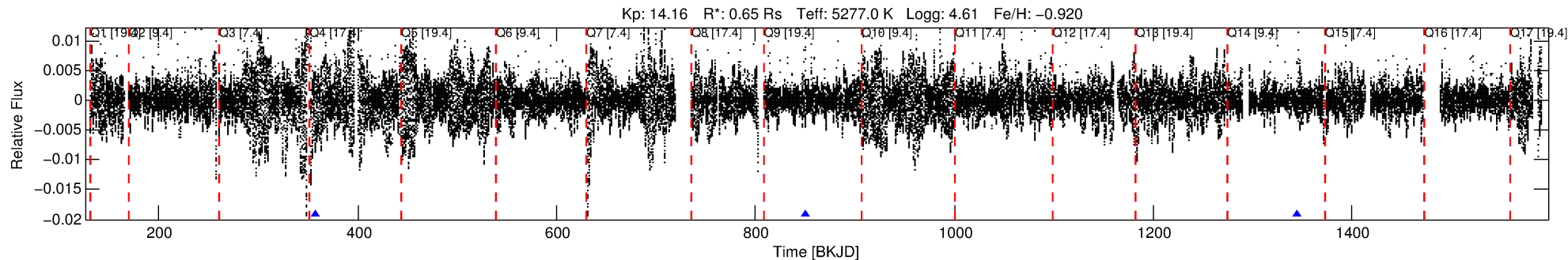
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007218950-01

No Significant Match Found

DV One-Page Summary

KIC: 7218950 Candidate: 1 of 3 Period: 493.916 d



DV Fit Results:

Period = 493.91571 [0.00320] d
Epoch = 356.7939 [0.0038] BKJD
Rp/R* = 0.0473 [0.0109]
a/R* = 485.24 [392.54]
b = 0.02 [46.56]
Seff = 0.27 [0.05]
Teq = 183 [8] K
Rp = 3.36 [0.83] Re
a = 1.0519 [0.0837] AU
Ag = 55347.00 [36891.51] [1.50σ]
Teffp = 4347 [723] K [5.76σ]

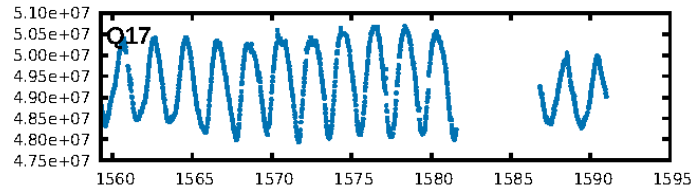
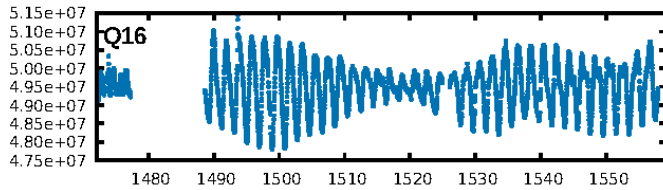
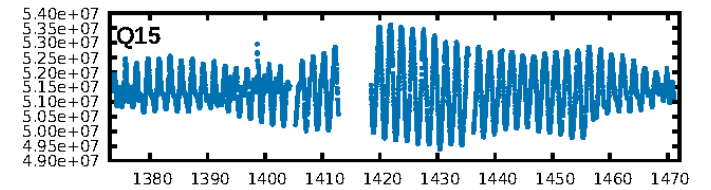
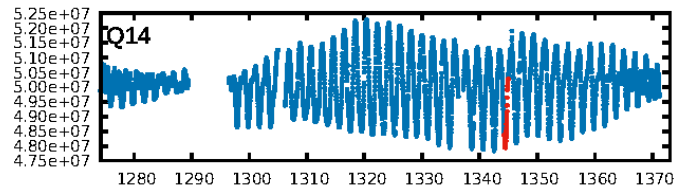
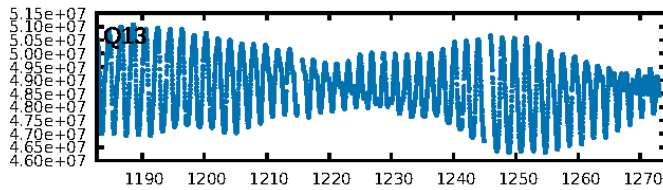
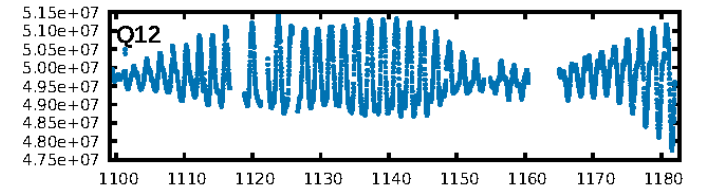
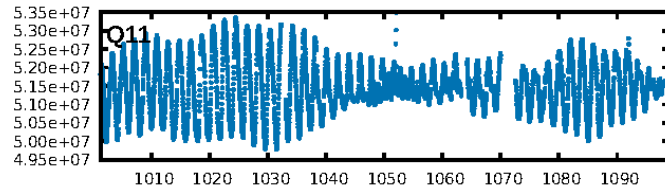
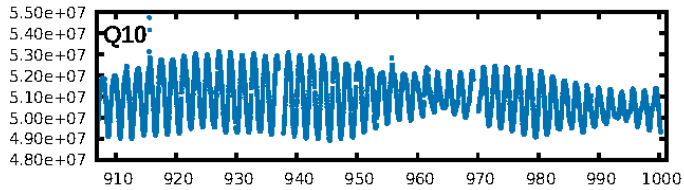
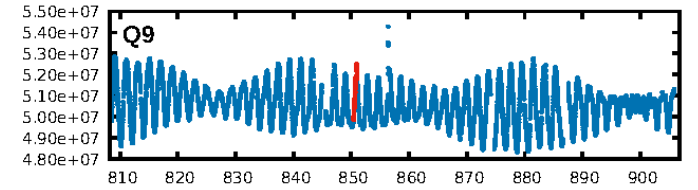
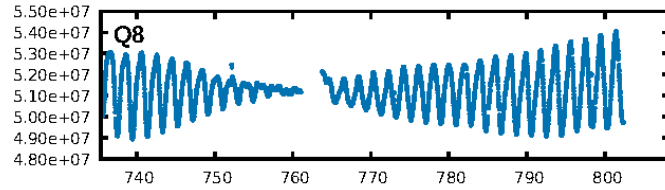
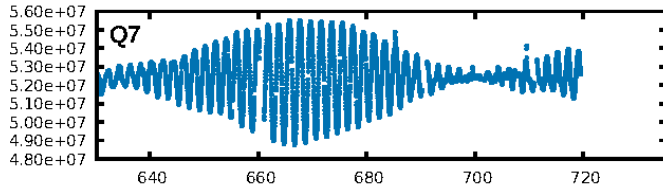
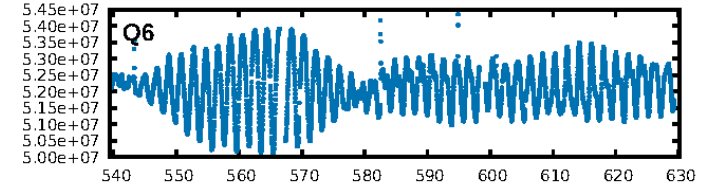
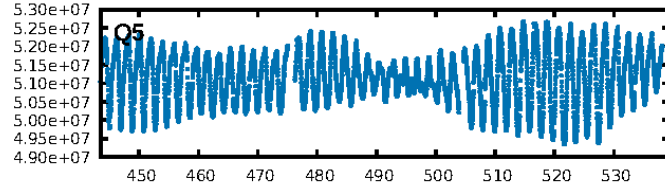
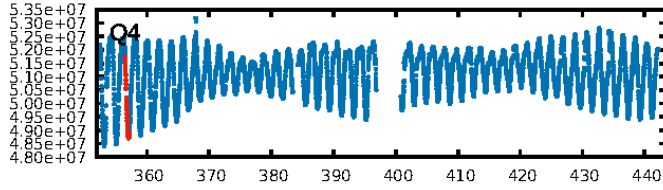
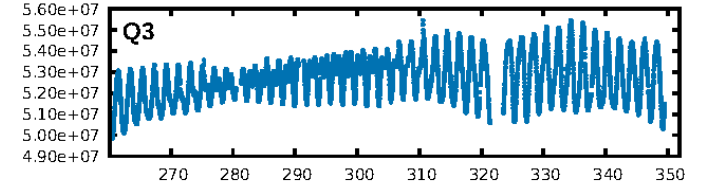
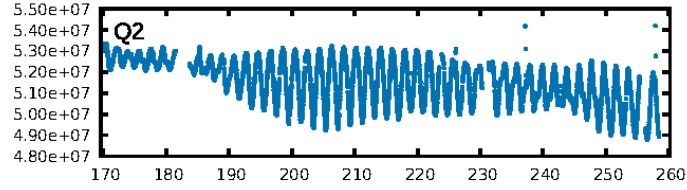
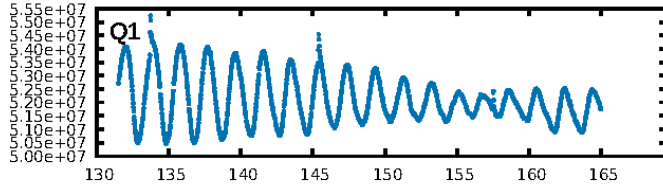
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [437.87σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 57.6%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1072
Centroid-sig: 67.7%
Centroid-so: 0.393 arcsec [1.31σ]
OotOffset-rm: 0.041 arcsec [0.59σ]
KicOffset-rm: 0.224 arcsec [3.01σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

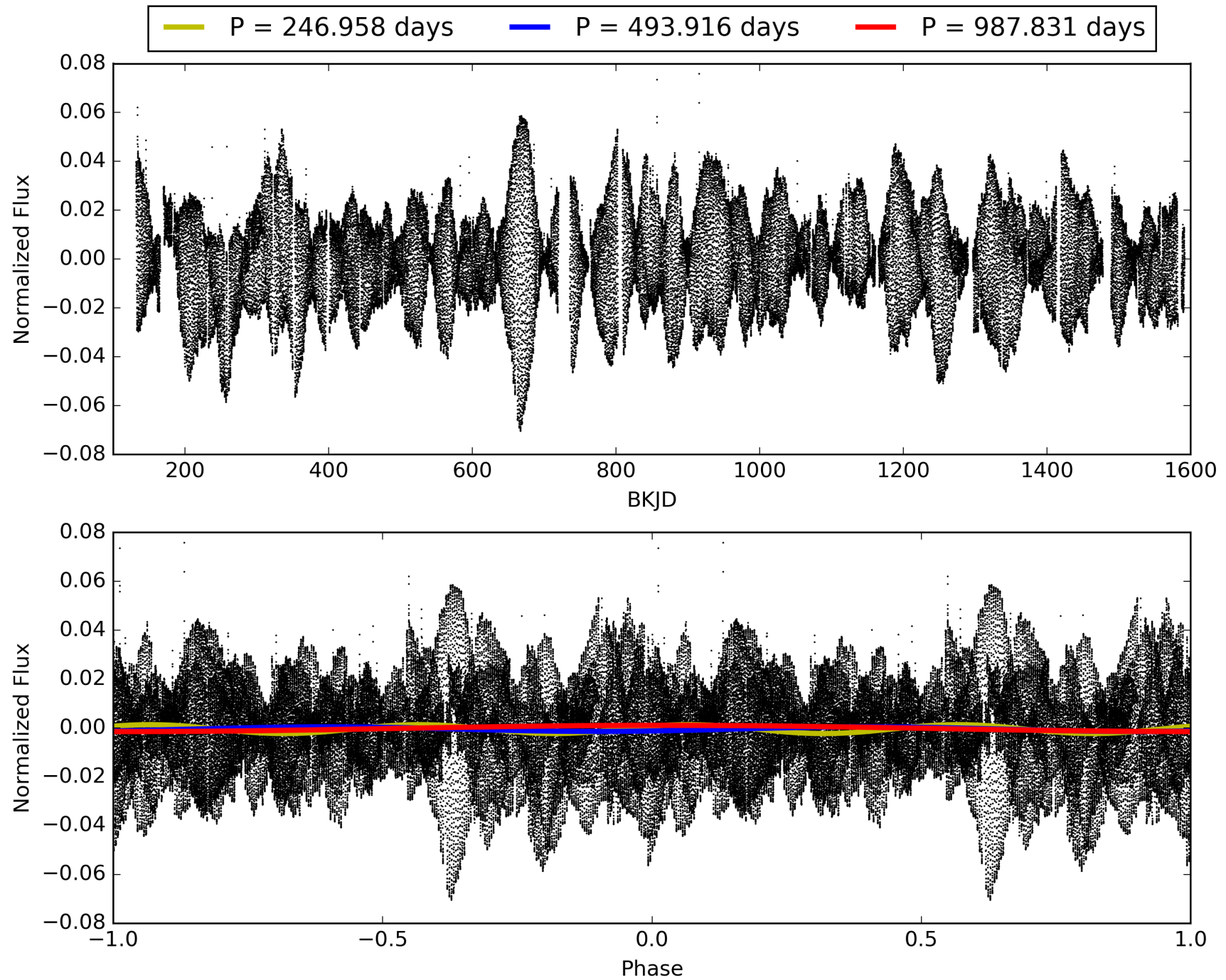
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:30:17 Z

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

TCE 007218950-01, PDC Light Curves

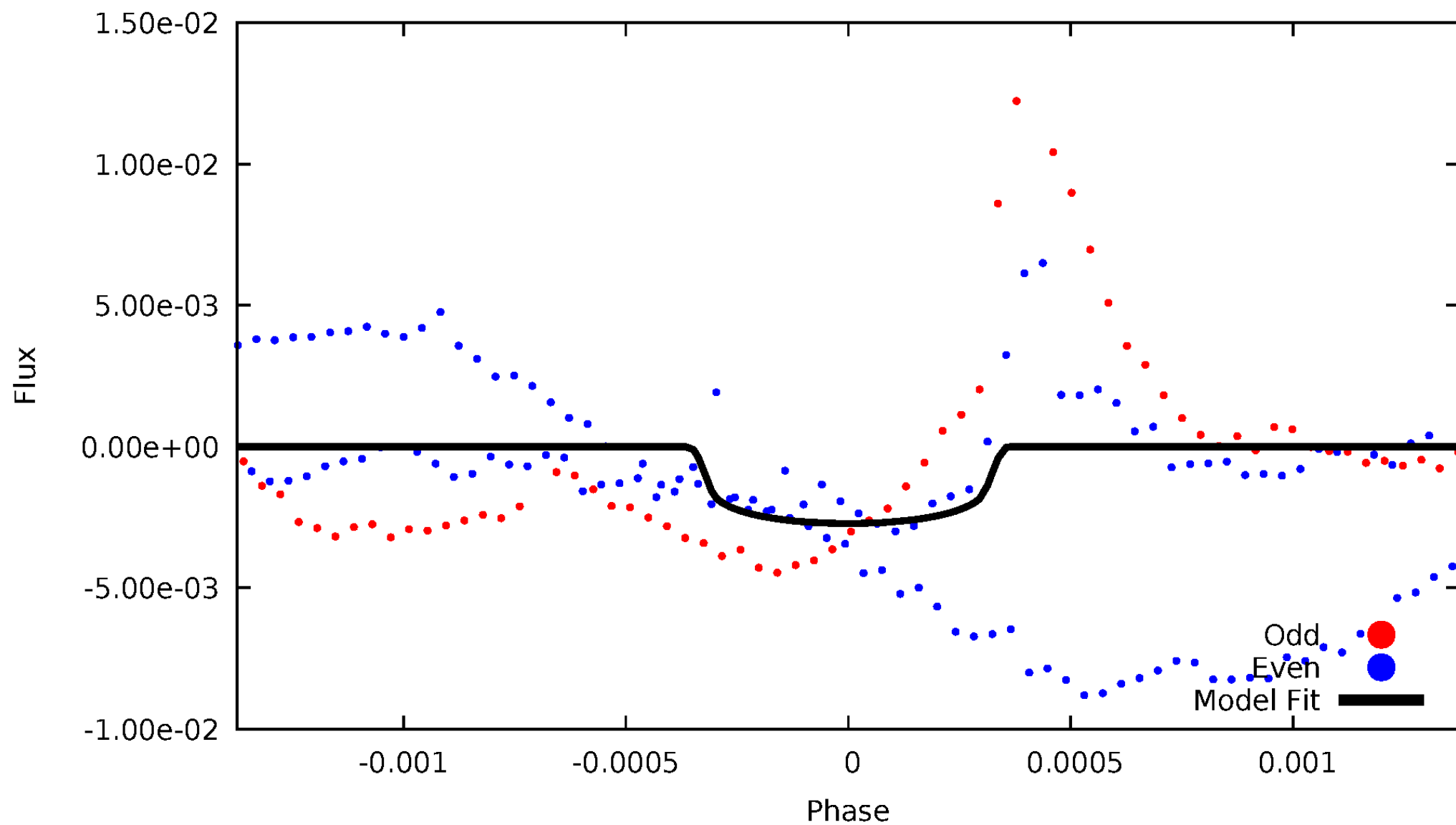


TCE 007218950-01



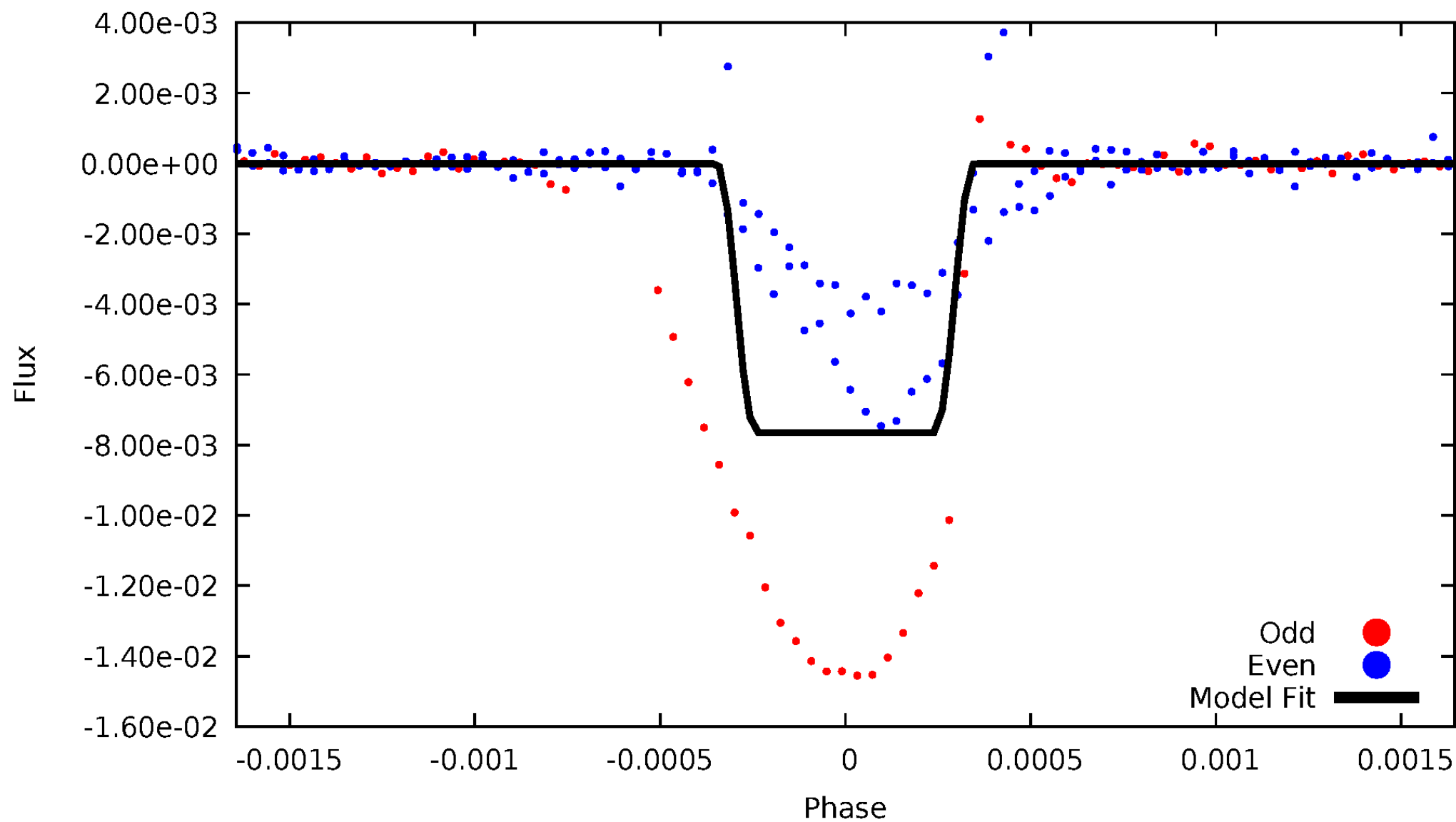
DV Odd/Even

TCE 007218950-01



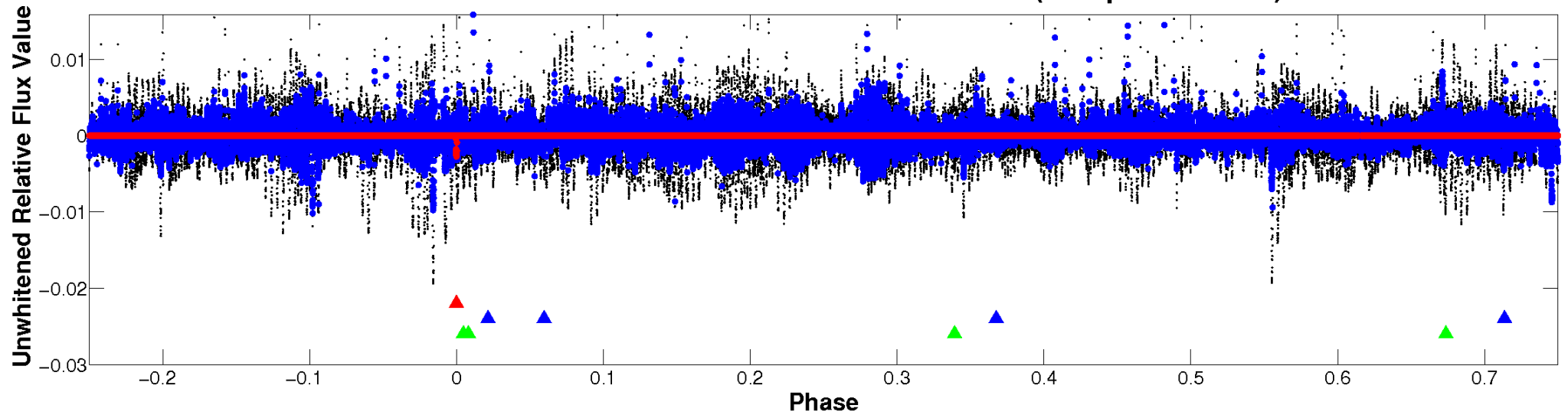
ALT Odd/Even

TCE 007218950-01

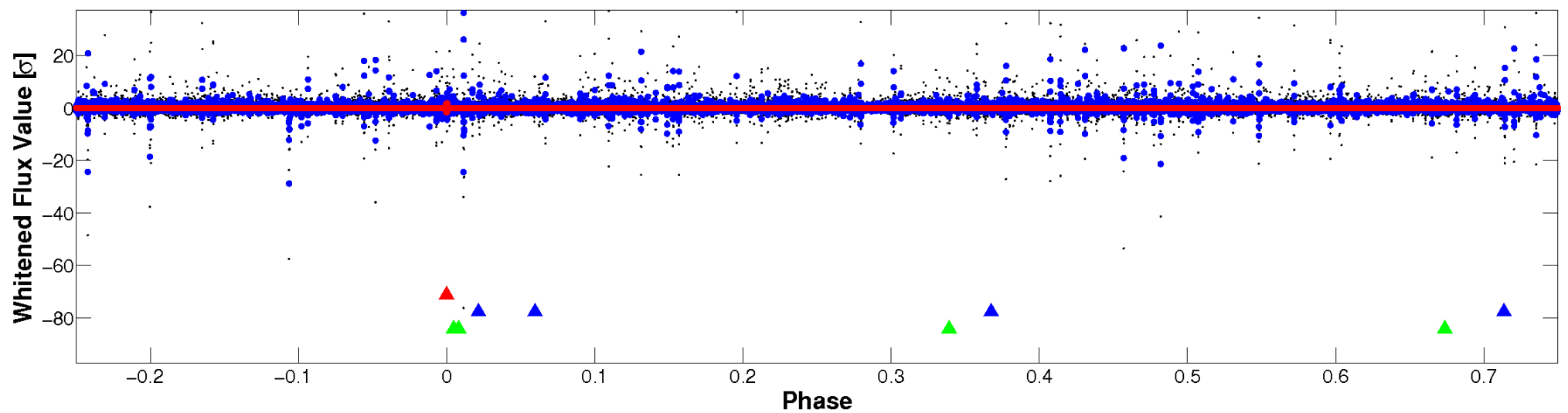


Non-Whitened Vs. Whitened Light Curve

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

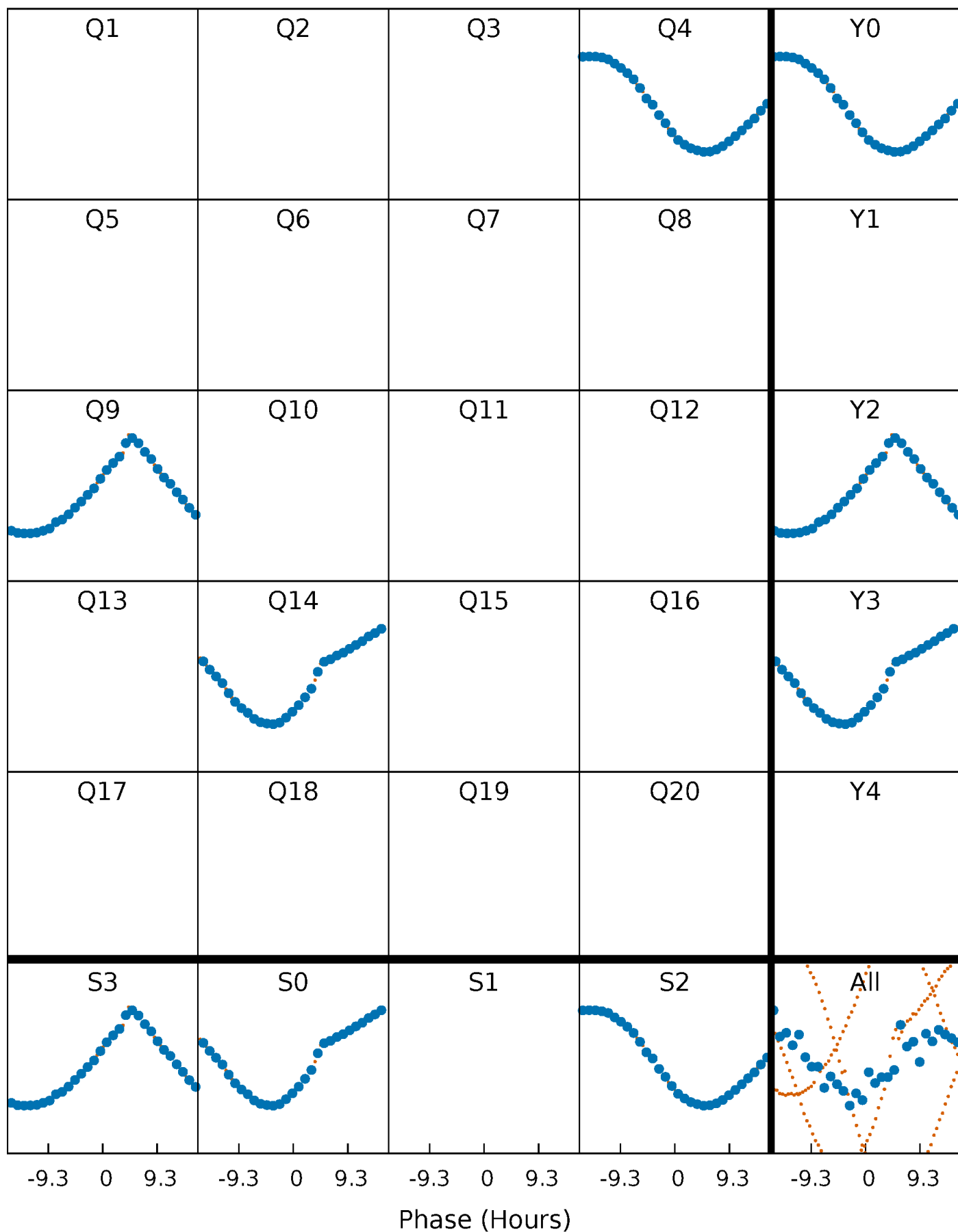


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



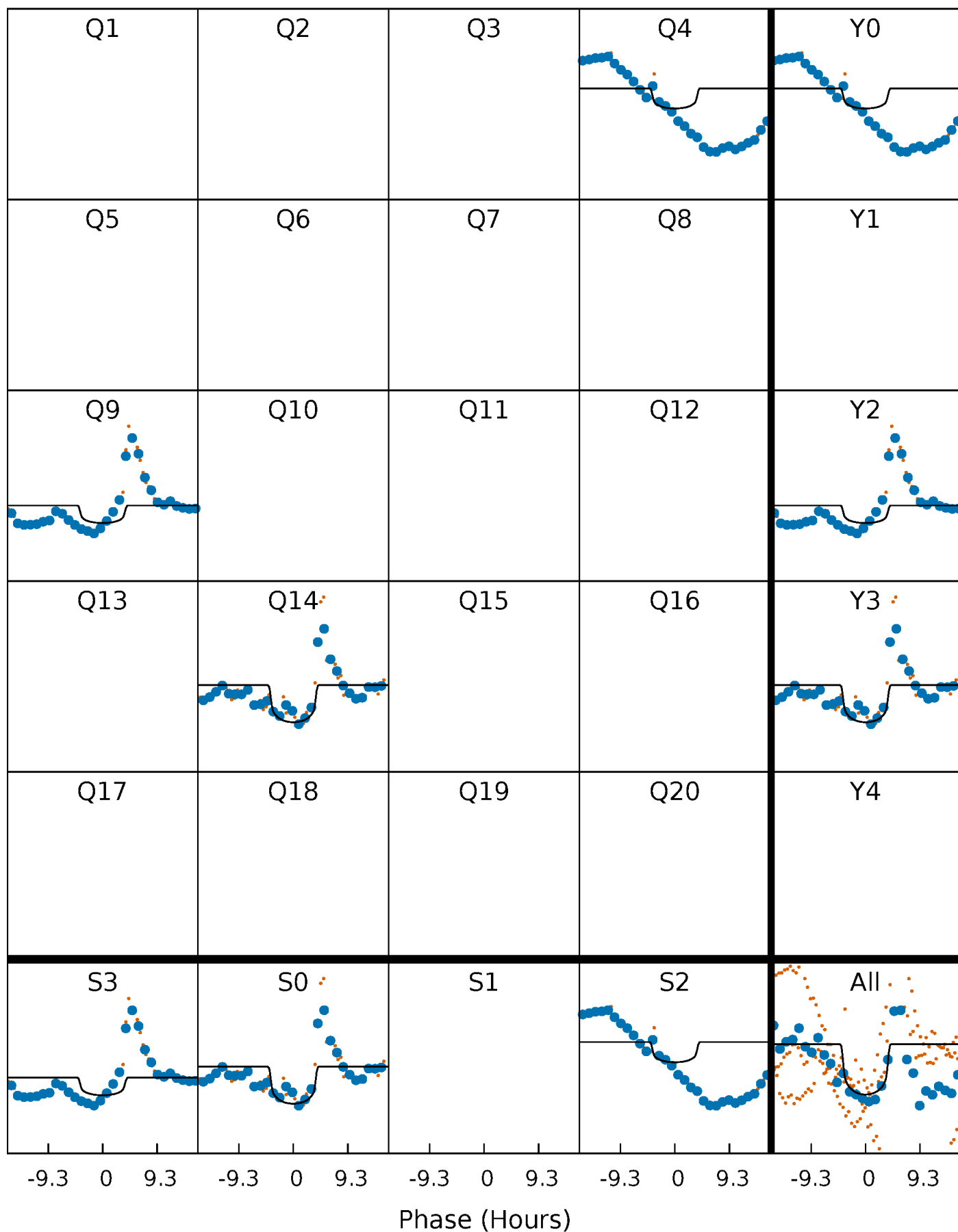
PDC Quarter-Phased Transit Curves

TCE 007218950-01 P=493.915715 Days $T_0=356.793865$ (BKJD)



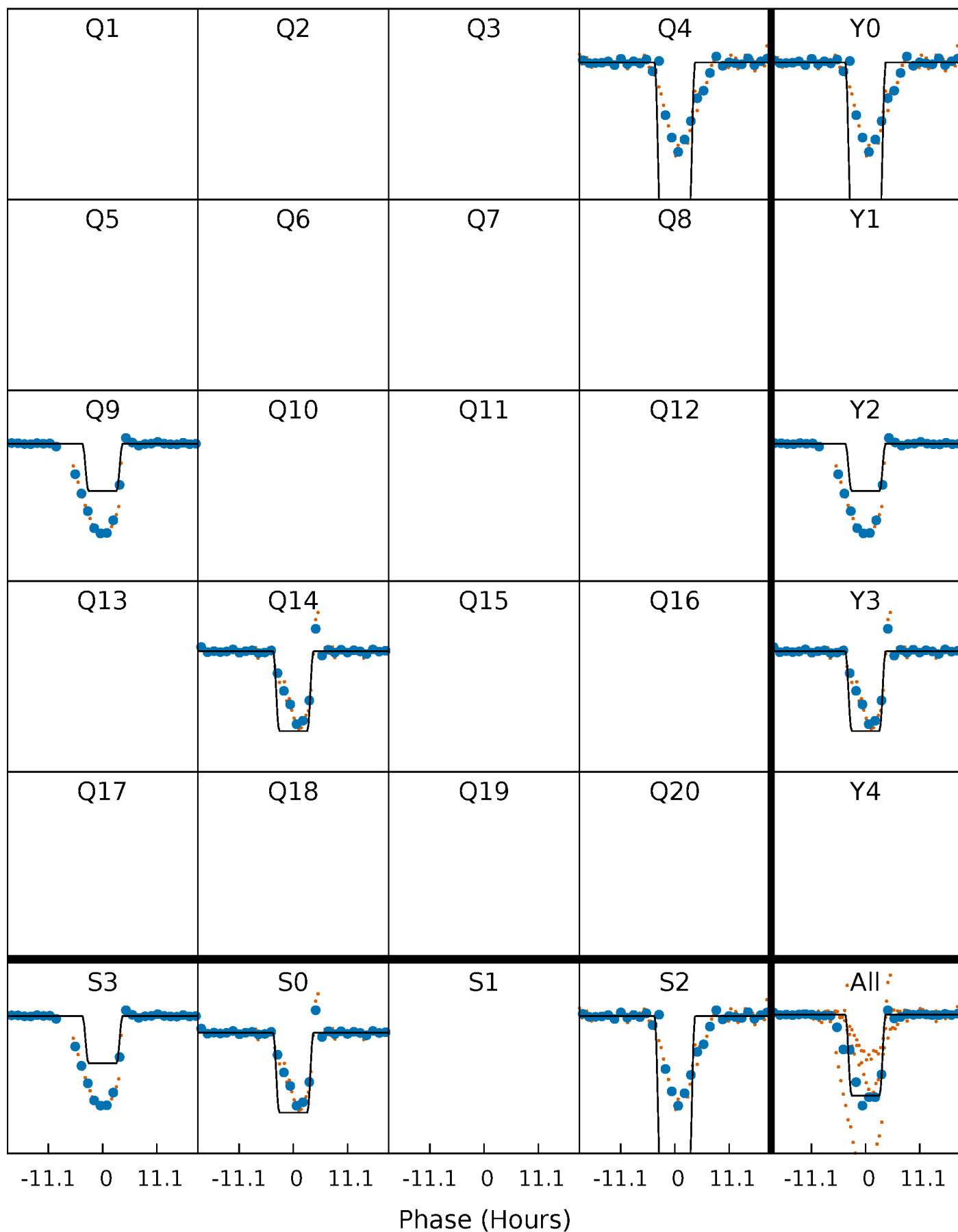
DV Quarter-Phased Transit Curves

TCE 007218950-01 P=493.915715 Days $T_0=356.793865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

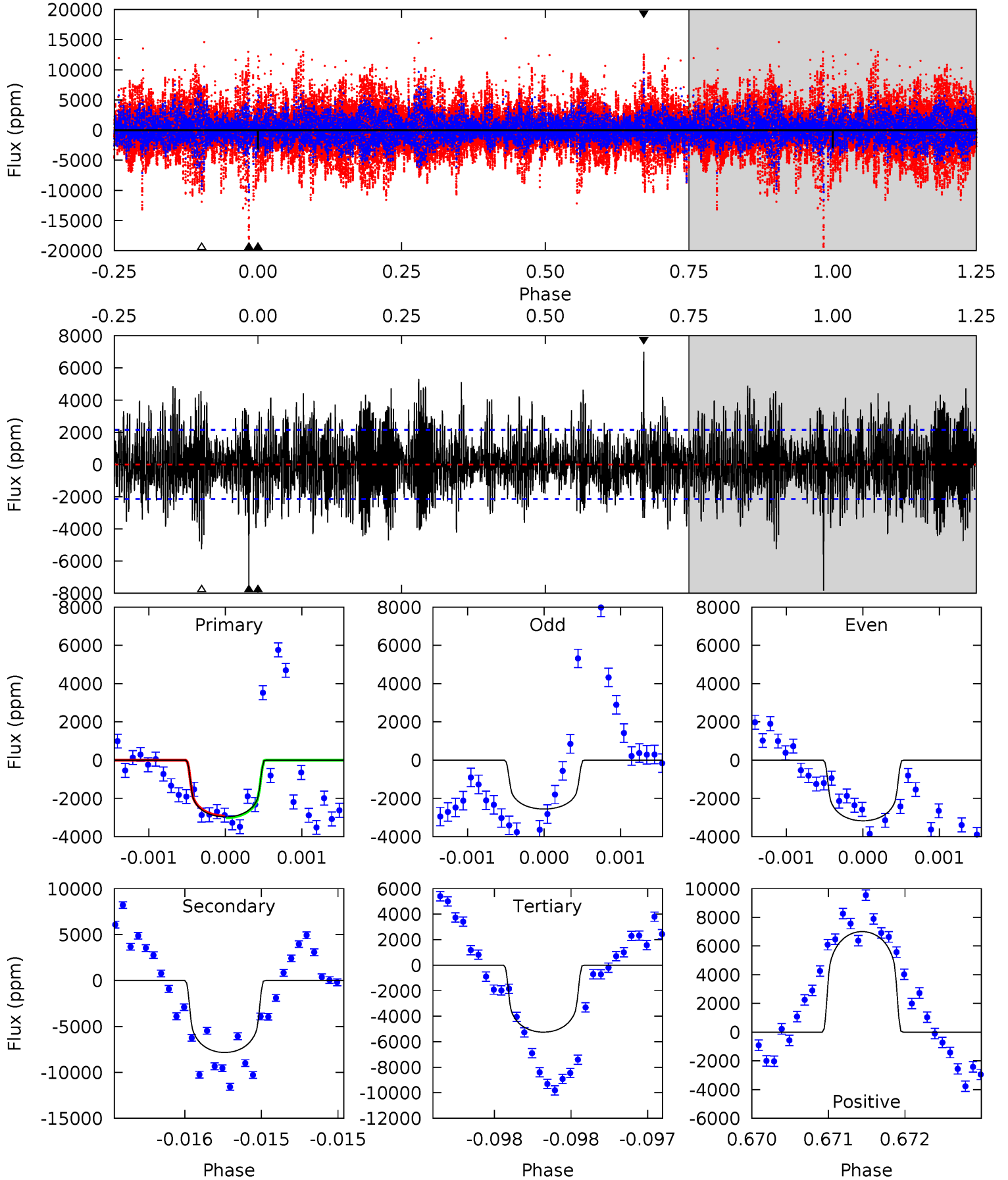
TCE 007218950-01 P=493.913201 Days $T_0=356.803902$ (BKJD)



DV Model-Shift Uniqueness Test

007218950-01, P = 493.915715 Days, E = 356.793865 Days

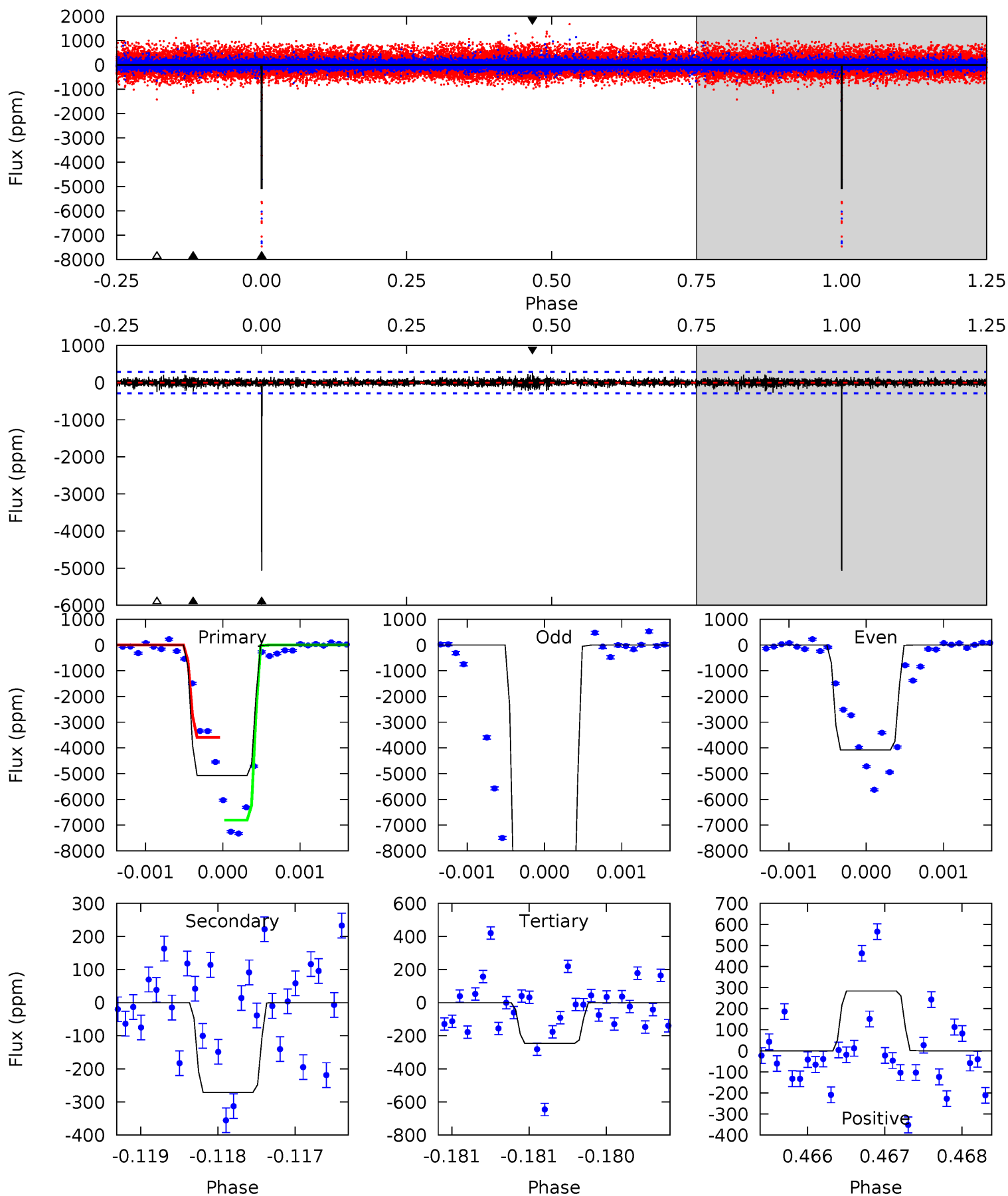
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.60	20.1	13.5	18.0	5.51	3.39	3.97	-5.85	-10.4	6.63	2.13	0.70	1.16	0.47	0.12



Alt Model-Shift Uniqueness Test

007218950-01, P = 493.913201 Days, E = 356.803902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
97.2	5.19	4.72	5.45	5.51	3.39	0.83	92.4	91.7	0.47	-0.25	121.2	1.36	0.05	0



Stellar Parameters For KIC 007218950

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5277^{+157}_{-157}	$4.613^{+0.072}_{-0.044}$	$-0.920^{+0.350}_{-0.300}$	$0.652^{+0.056}_{-0.056}$	$0.637^{+0.065}_{-0.023}$	$3.229^{+0.908}_{-0.547}$
	+3%/-3%	+2%/-1%	+38%/-33%	+9%/-9%	+10%/-4%	+28%/-17%
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 007218950-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7837 ± 390	$3.29^{+0.86}_{-0.81}$	255^{+10}_{-10}	7326^{+1482}_{-921}	$456079^{+346262}_{-178024}$
Alt.	-271 ± 52	$6.18^{+0.82}_{-0.80}$	254^{+10}_{-9}	2954^{+147}_{-137}	4356^{+1669}_{-1258}

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

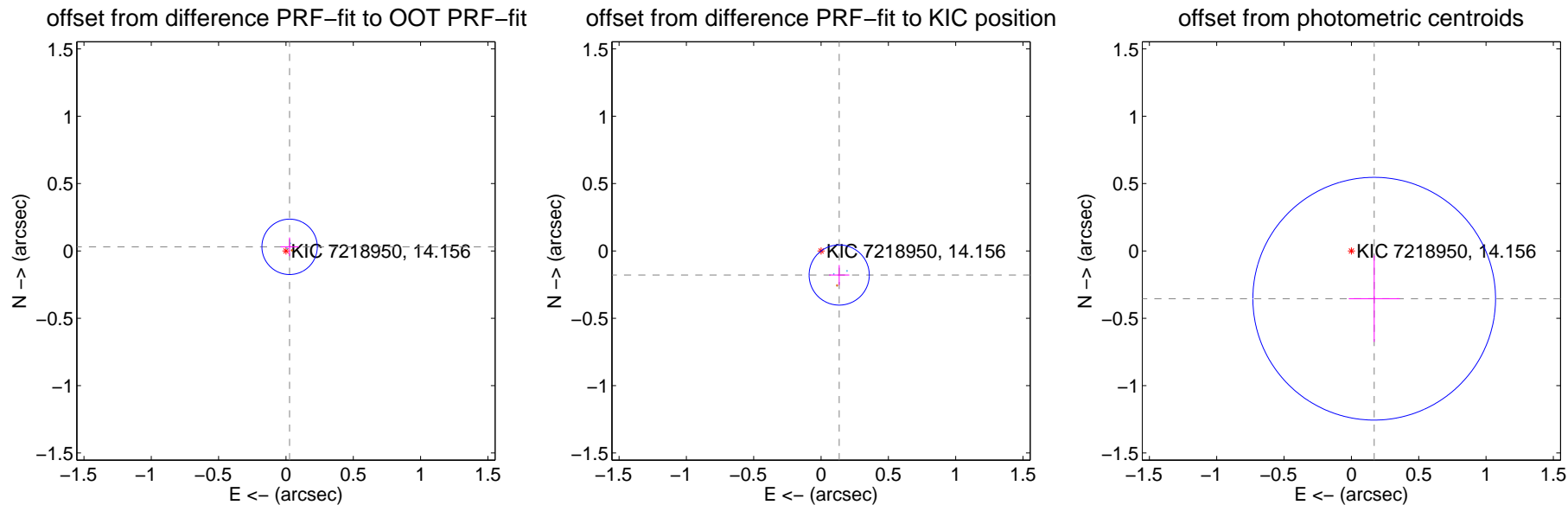
DV Centroid Data

Supplemental centroid analysis for 007218950-01. Kepler magnitude: 14.16. Transit SNR 6.60

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.069	0.59	-0.027 ± 0.068	0.030 ± 0.069
PRF-fit source offset from KIC position	0.224 ± 0.074	3.01	-0.135 ± 0.075	-0.179 ± 0.074
photometric centroid source offset	0.39 ± 0.30	1.31	-0.17 ± 0.19	-0.35 ± 0.32



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



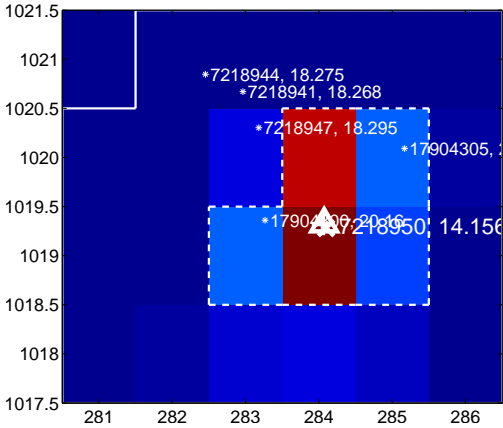
Q3 no difference image



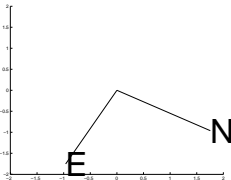
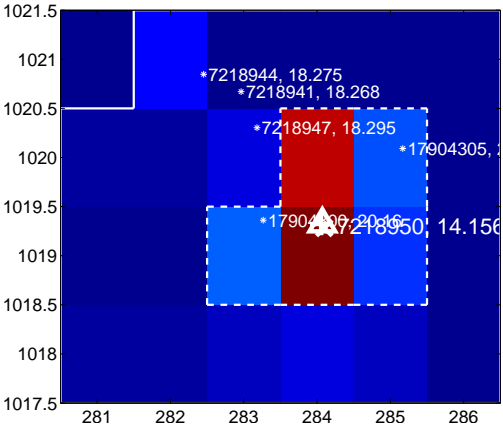
Q3 no OOT image



Q4 difference image



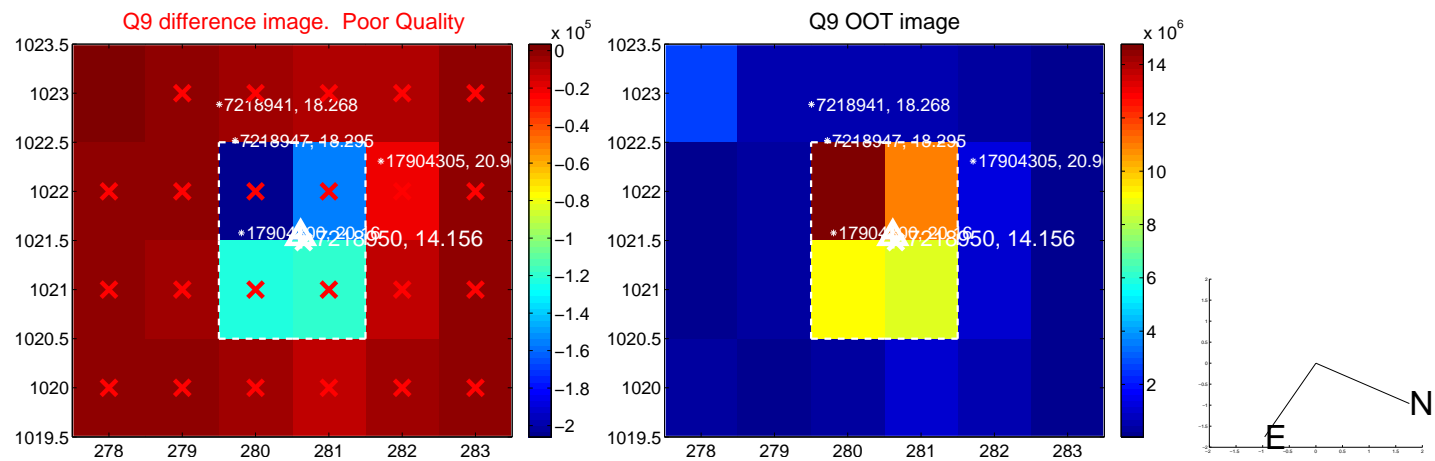
Q4 OOT image



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

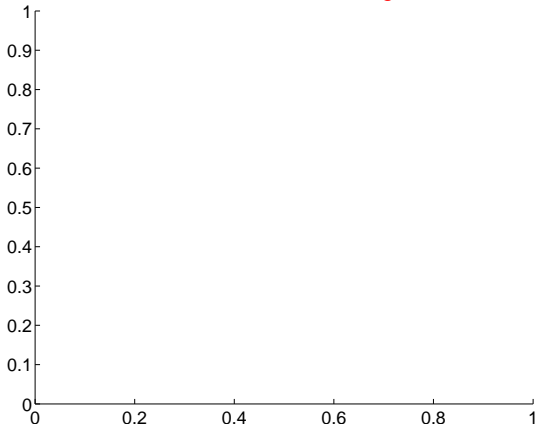


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

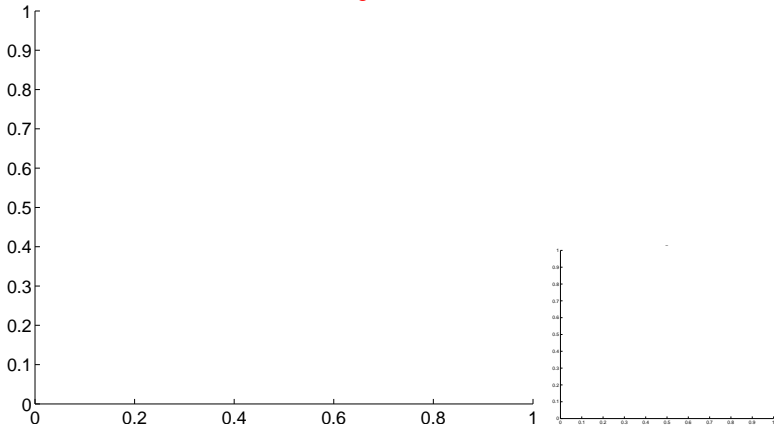


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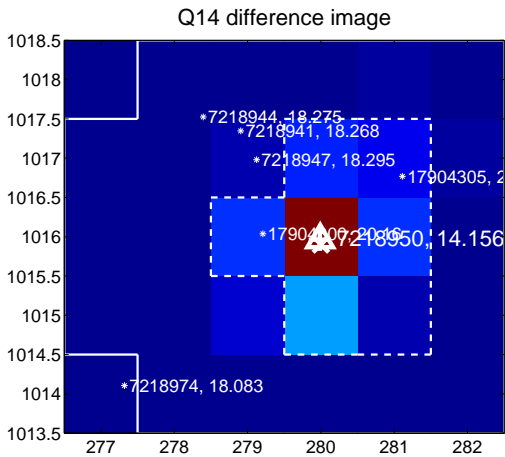
Q13 no difference image



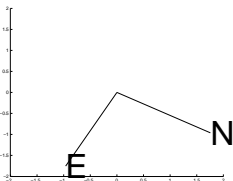
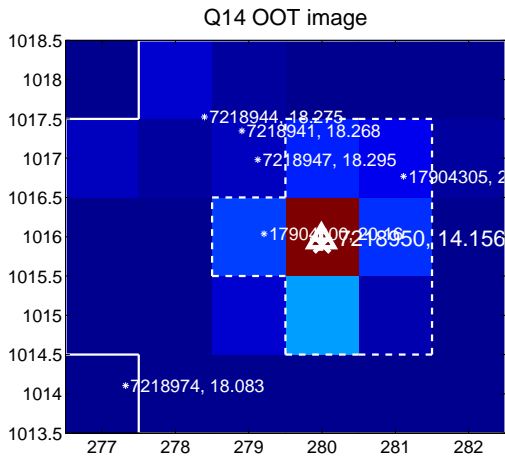
Q13 no OOT image



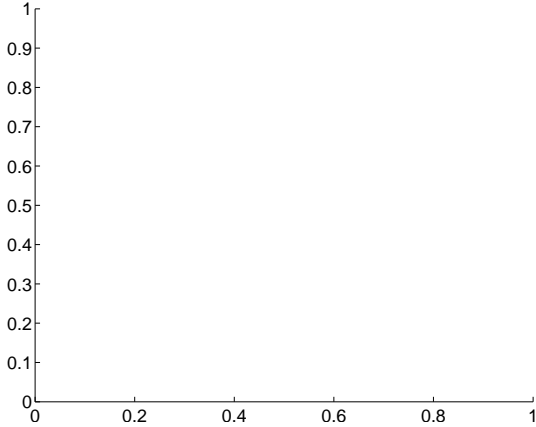
Q14 difference image



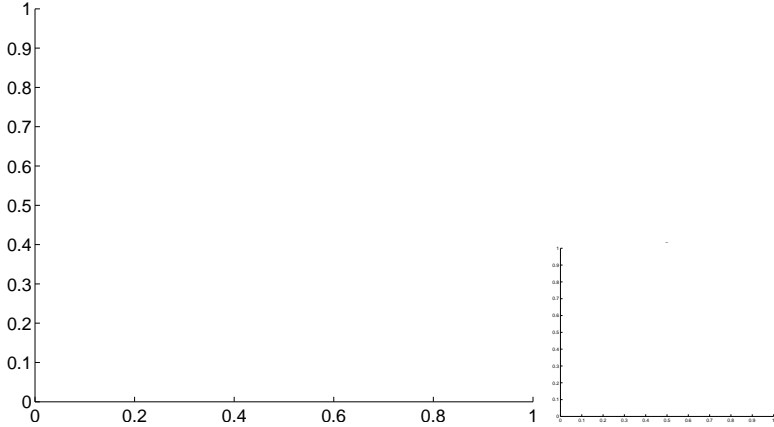
Q14 OOT image



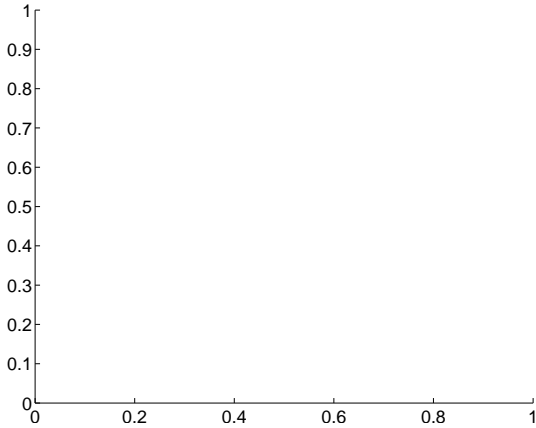
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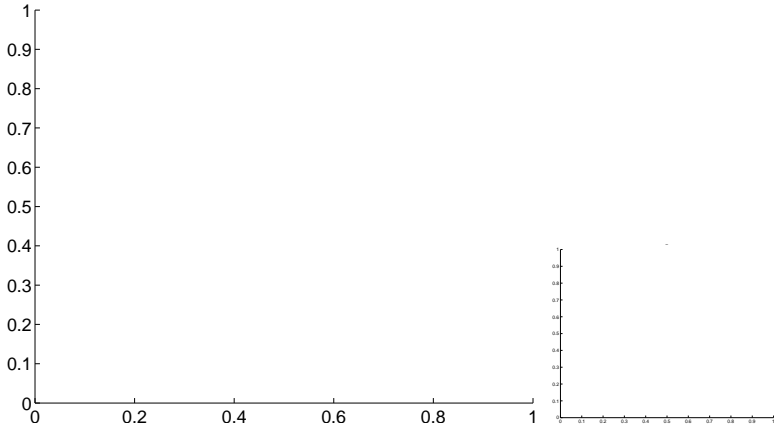
Q15 no OOT image



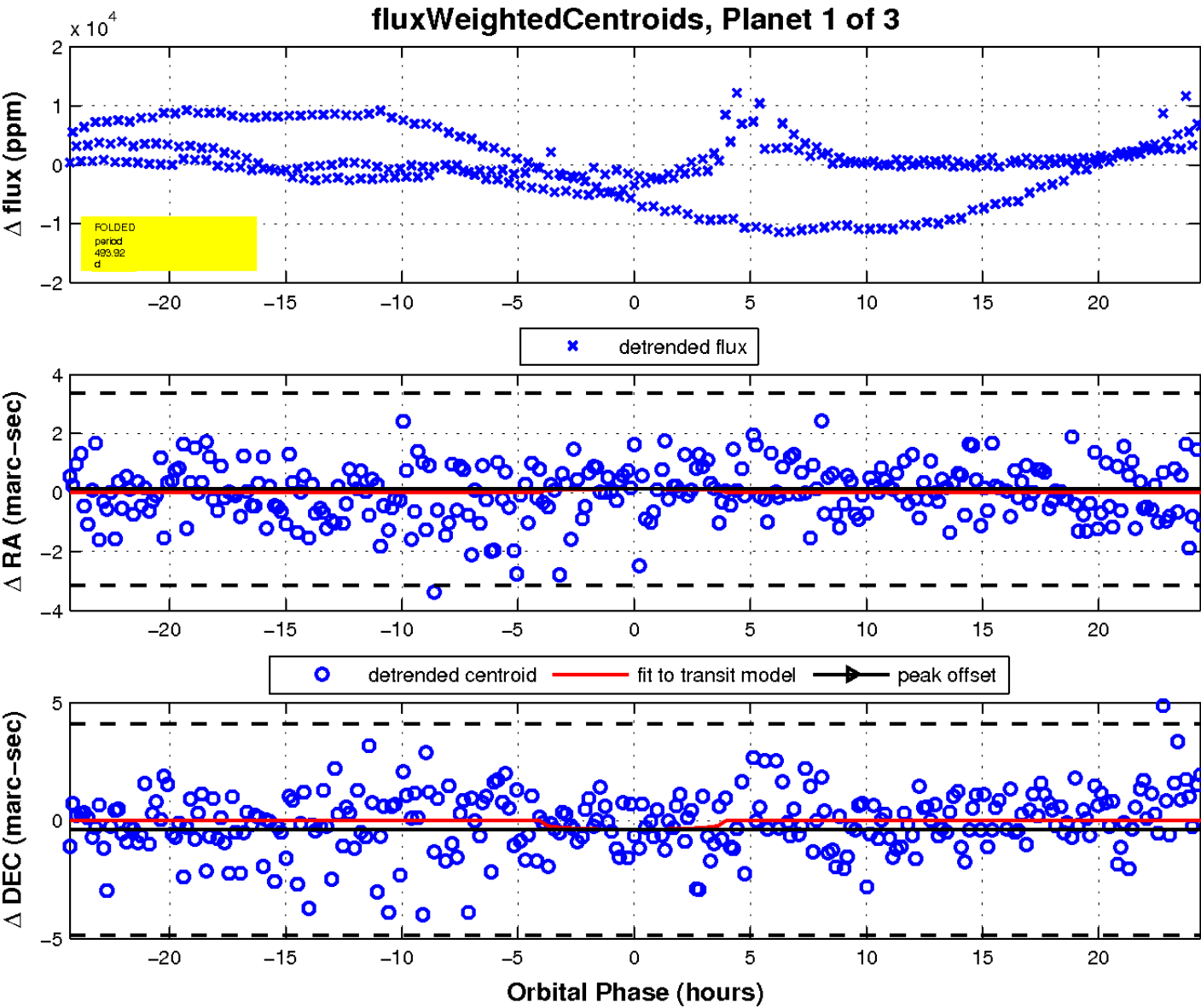
Q16 no difference image



Q16 no OOT image

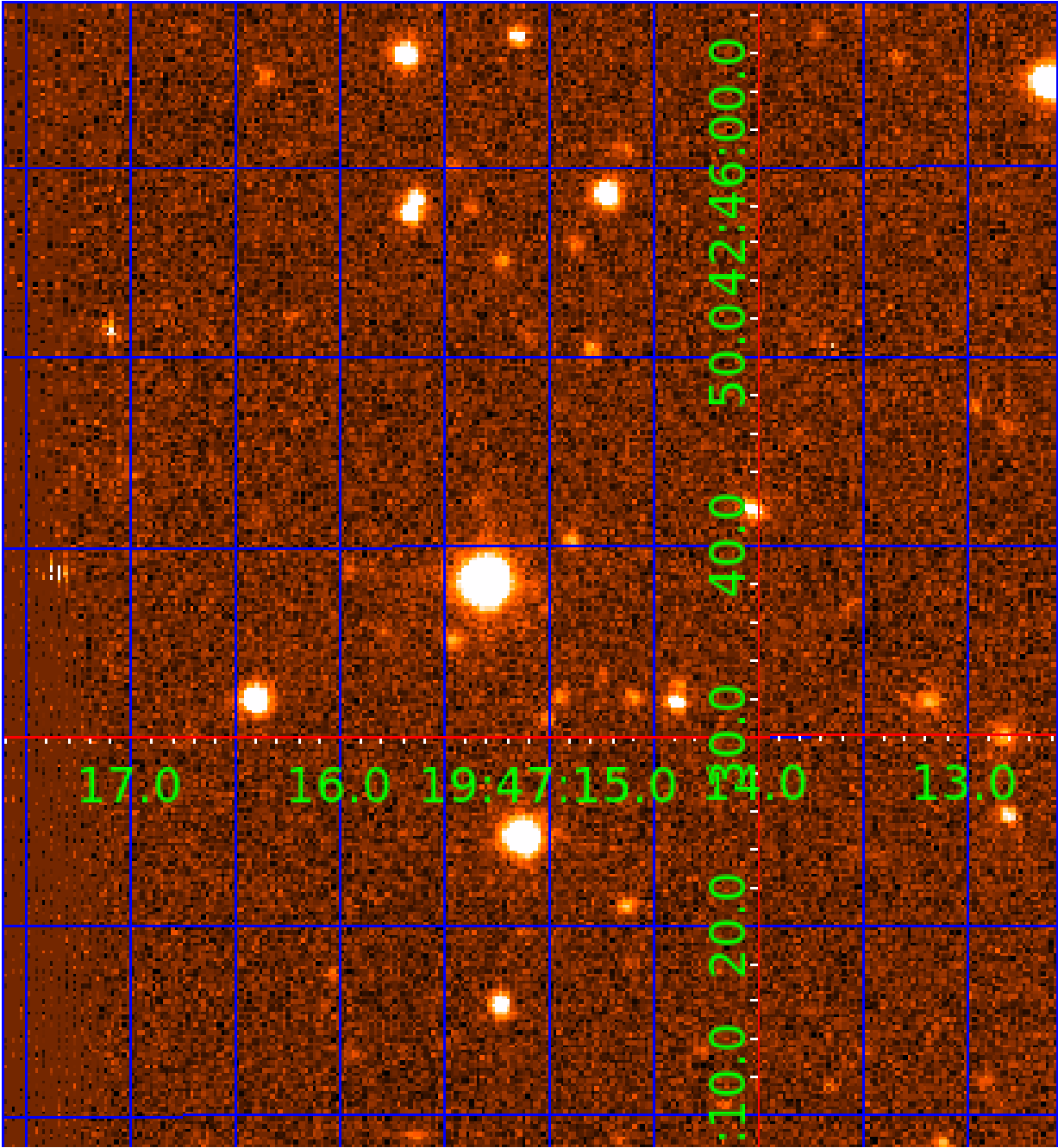


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007218950

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007218950-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007218950-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007218950-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

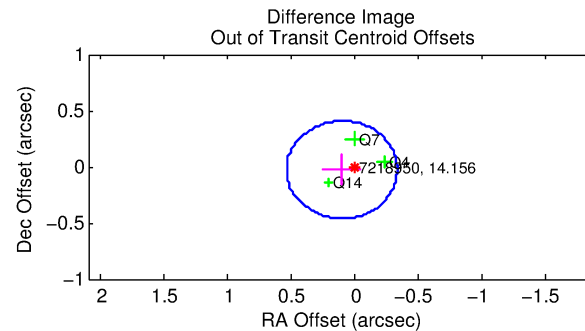
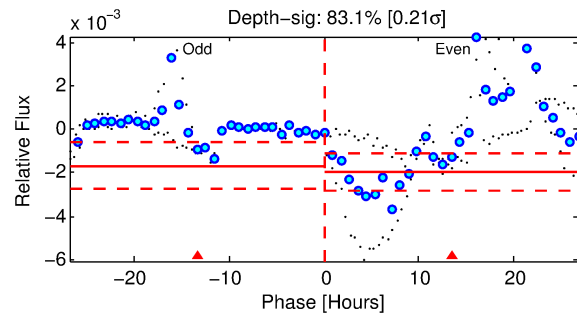
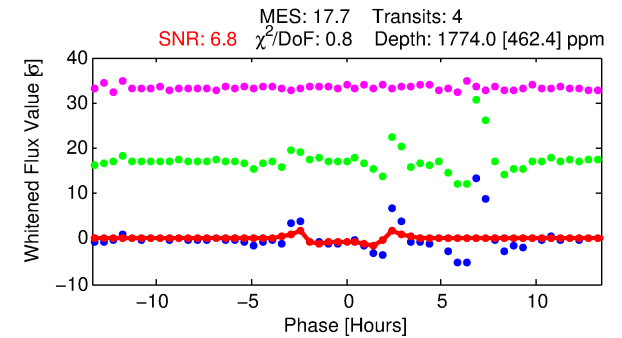
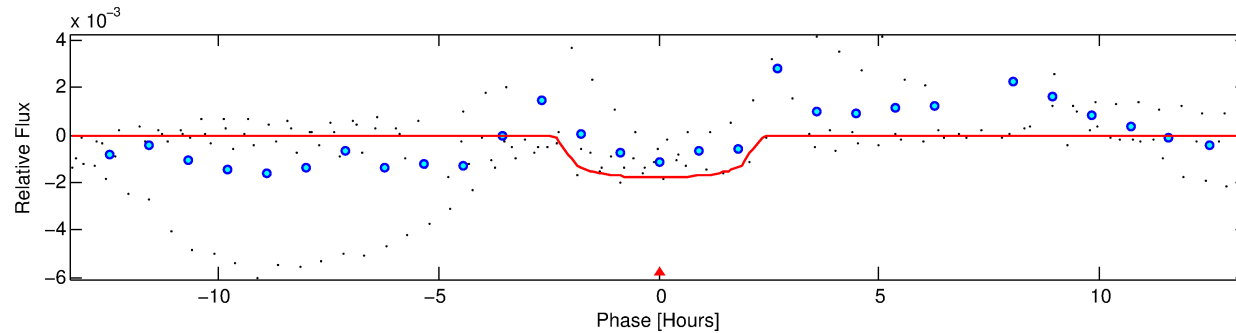
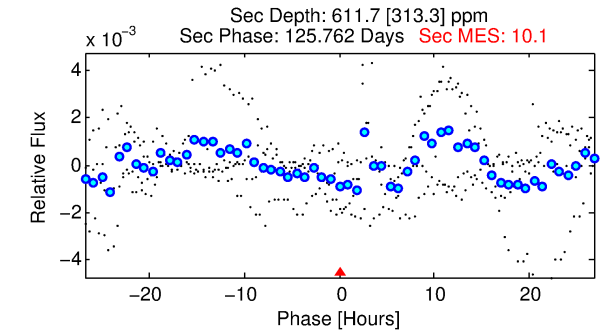
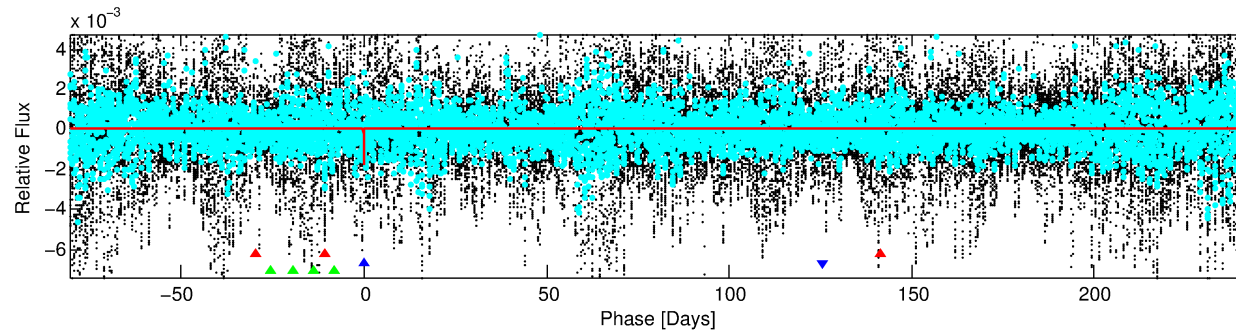
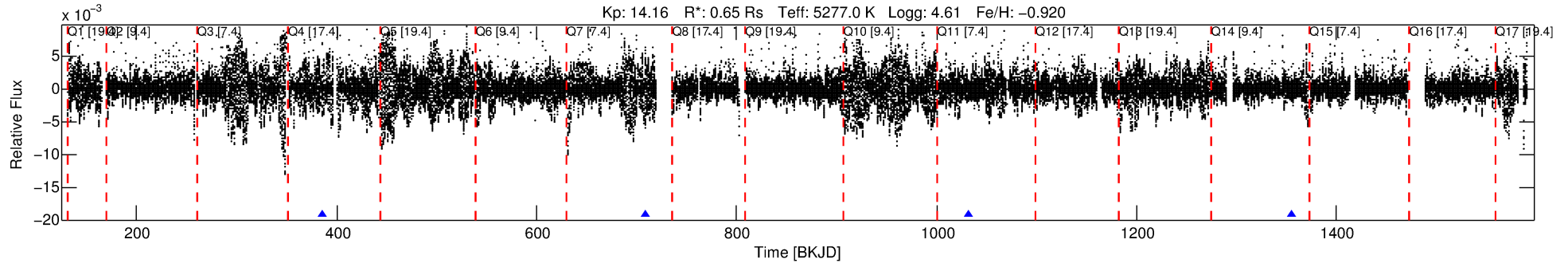
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007218950-02

No Significant Match Found

DV One-Page Summary

KIC: 7218950 Candidate: 2 of 3 Period: 322.987 d



DV Fit Results:

Period = 322.98693 [0.00296] d
Epoch = 386.2762 [0.0054] BKJD
Rp/R* = 0.0382 [0.0490]
a/R* = 573.53 [3106.00]
b = 0.00 [1726.22]
Seff = 0.47 [0.08]
Teq = 211 [9] K
Rp = 2.72 [3.49] Re
a = 0.7925 [0.0631] AU
Ag = 28626.58 [74922.96] [0.38 σ]
Teffp = 4247 [2778] K [1.45 σ]

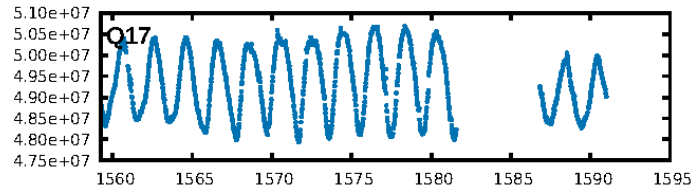
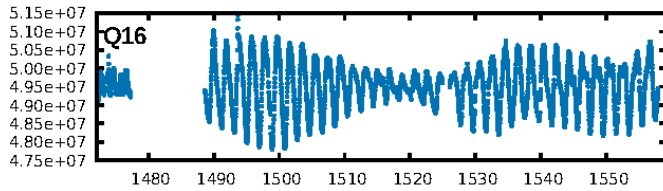
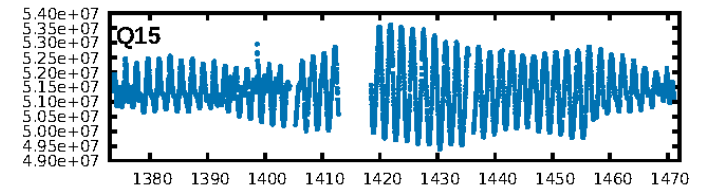
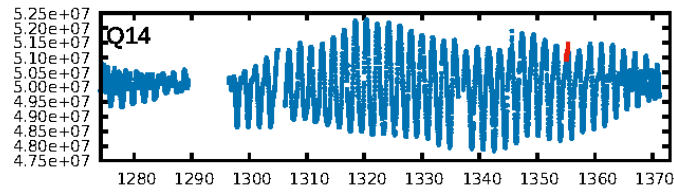
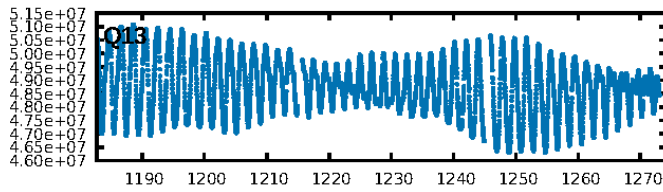
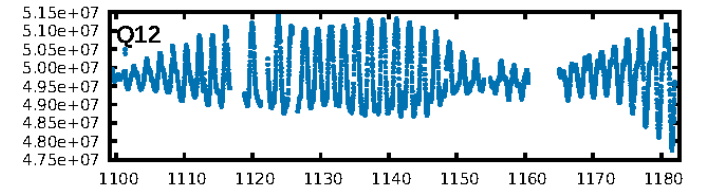
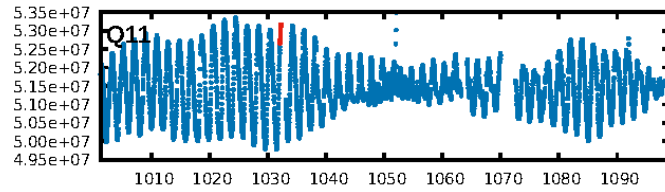
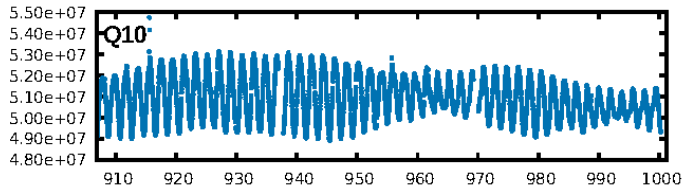
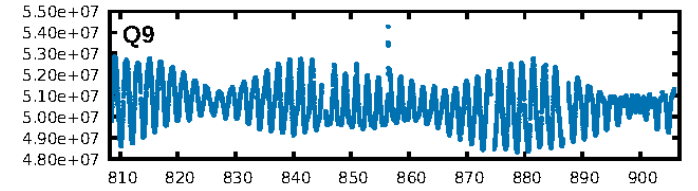
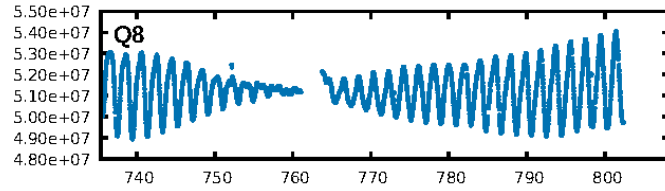
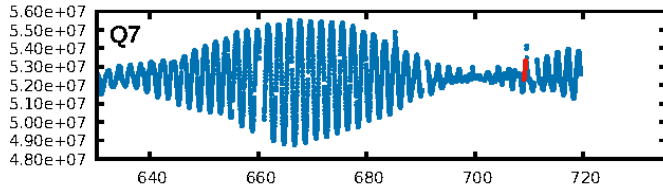
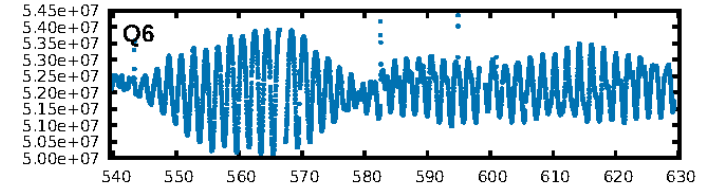
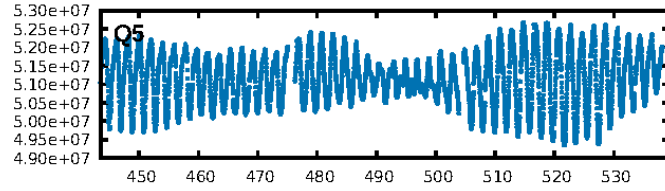
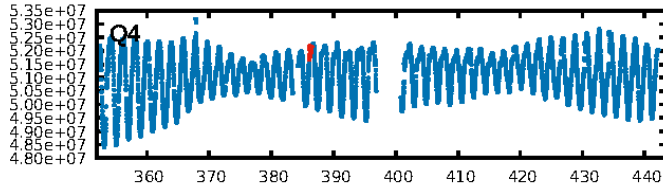
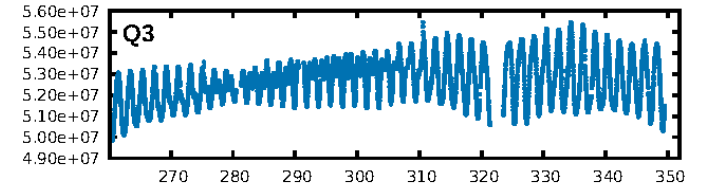
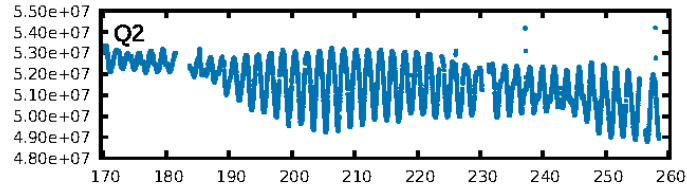
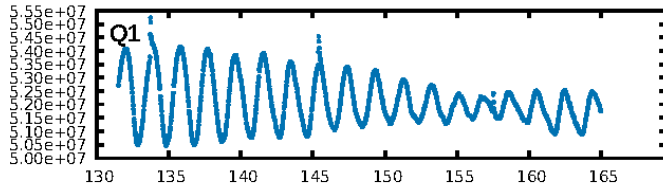
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [23.02 σ]
ModelChiSquare2-sig: 47.9%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7798
Centroid-sig: 63.8%
Centroid-so: 0.256 arcsec [0.44 σ]
OotOffset-rm: 0.110 arcsec [0.76 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.218 arcsec [1.69 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

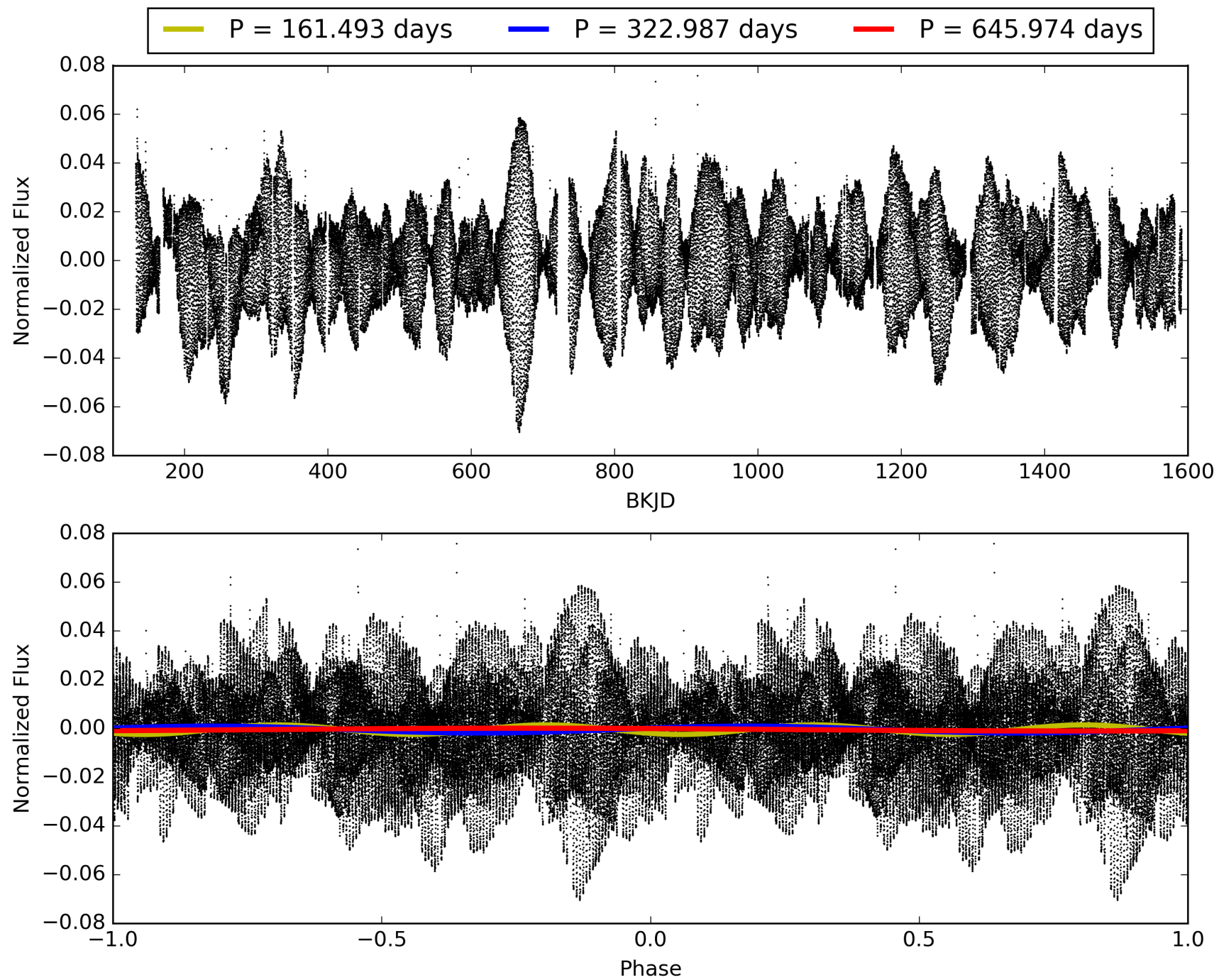
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:30:30 Z

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

TCE 007218950-02, PDC Light Curves

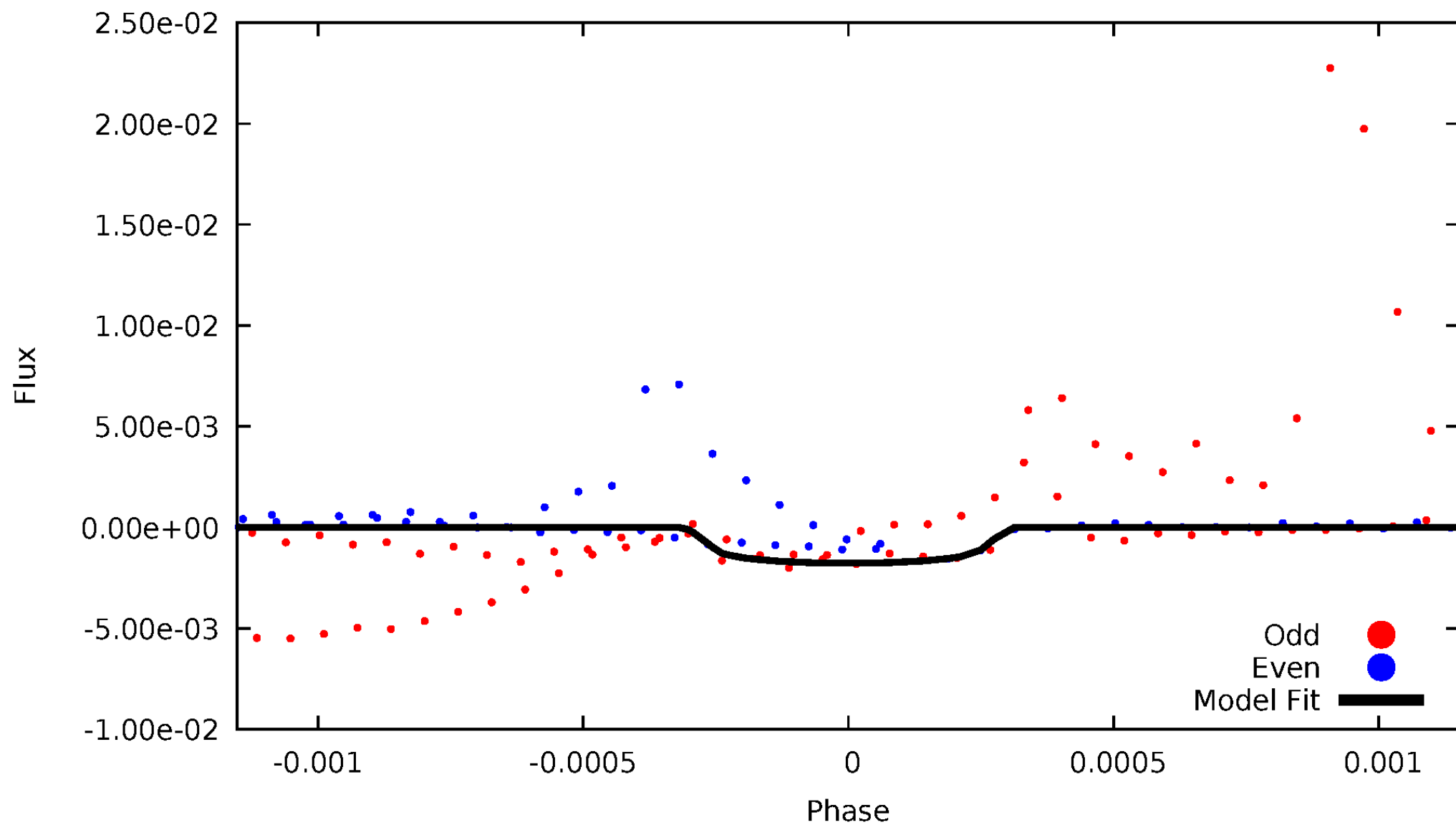


TCE 007218950-02



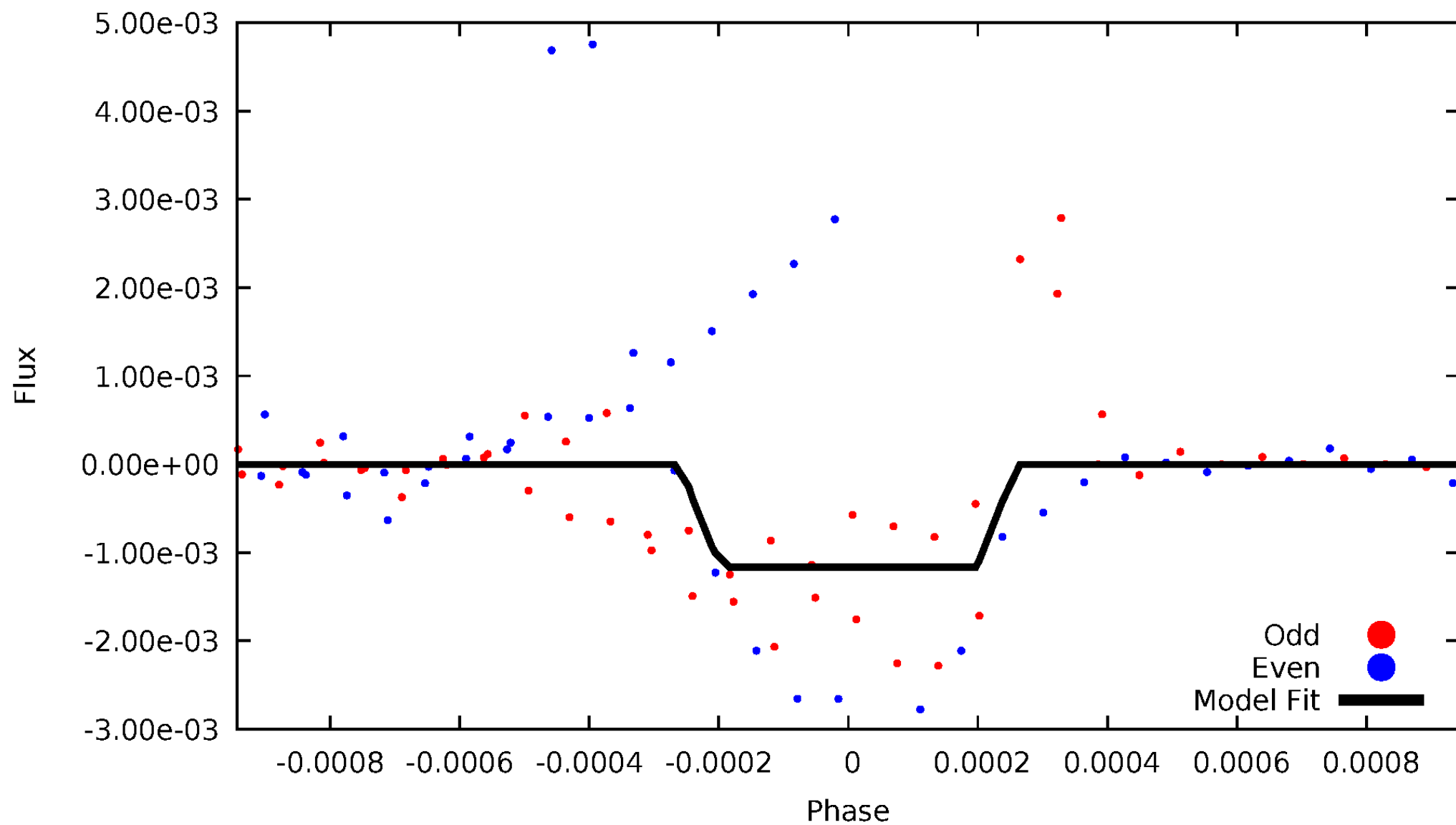
DV Odd/Even

TCE 007218950-02



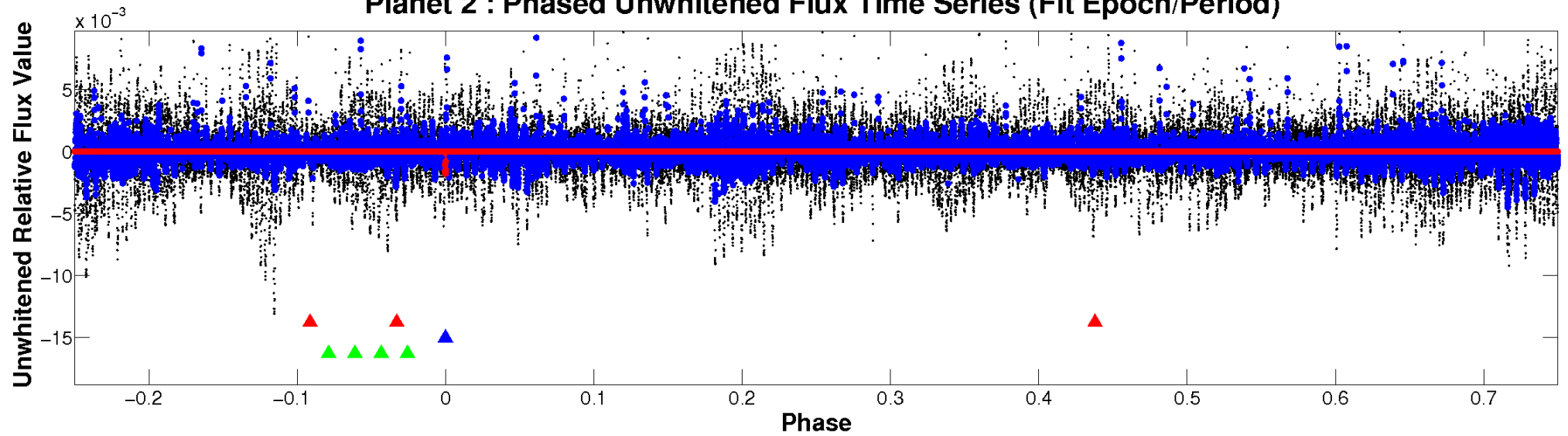
ALT Odd/Even

TCE 007218950-02

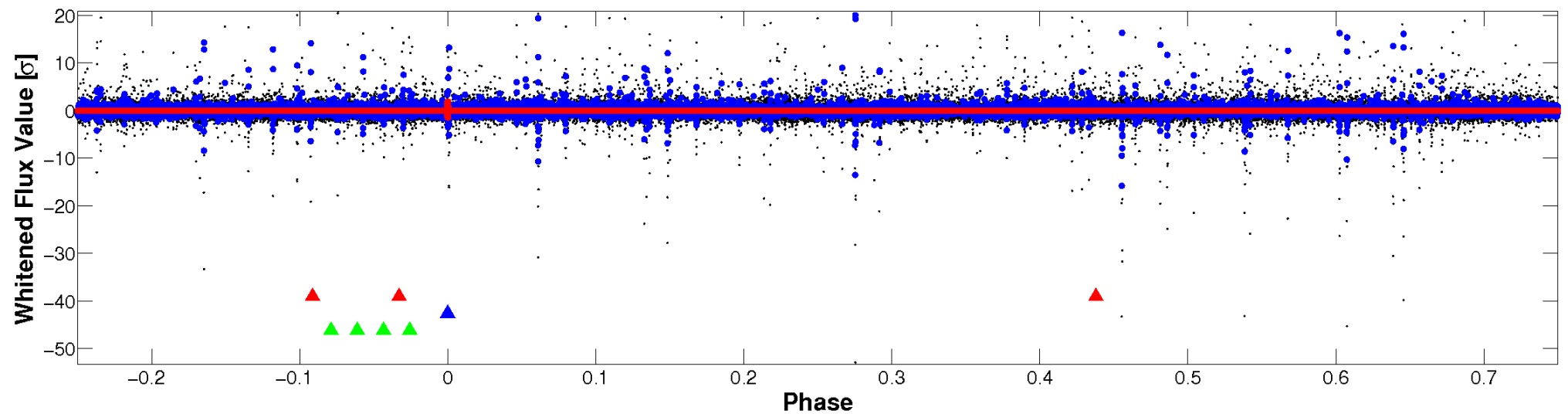


Non-Whitened Vs. Whitened Light Curve

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

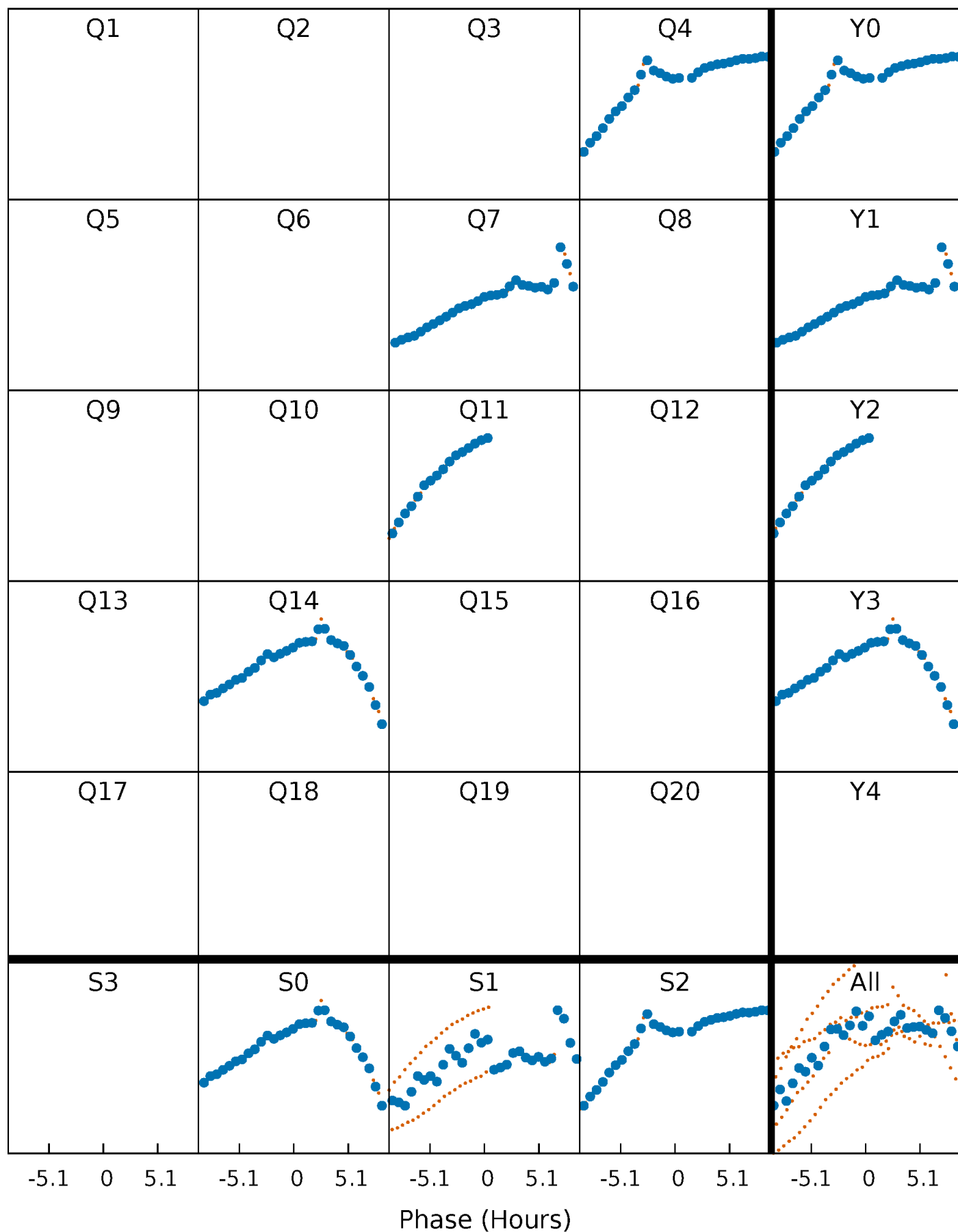


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



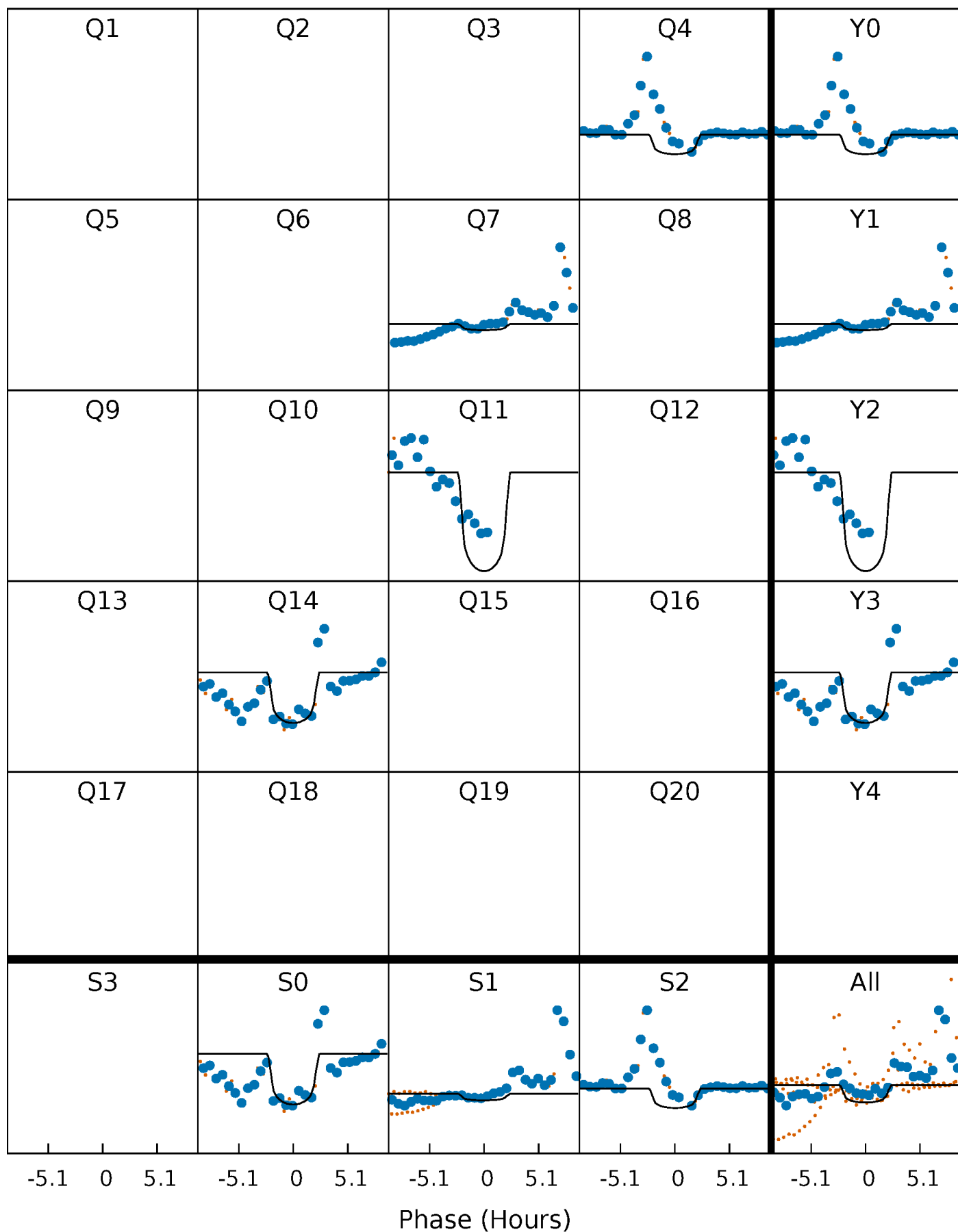
PDC Quarter-Phased Transit Curves

TCE 007218950-02 P=322.986930 Days $T_0=386.276245$ (BKJD)



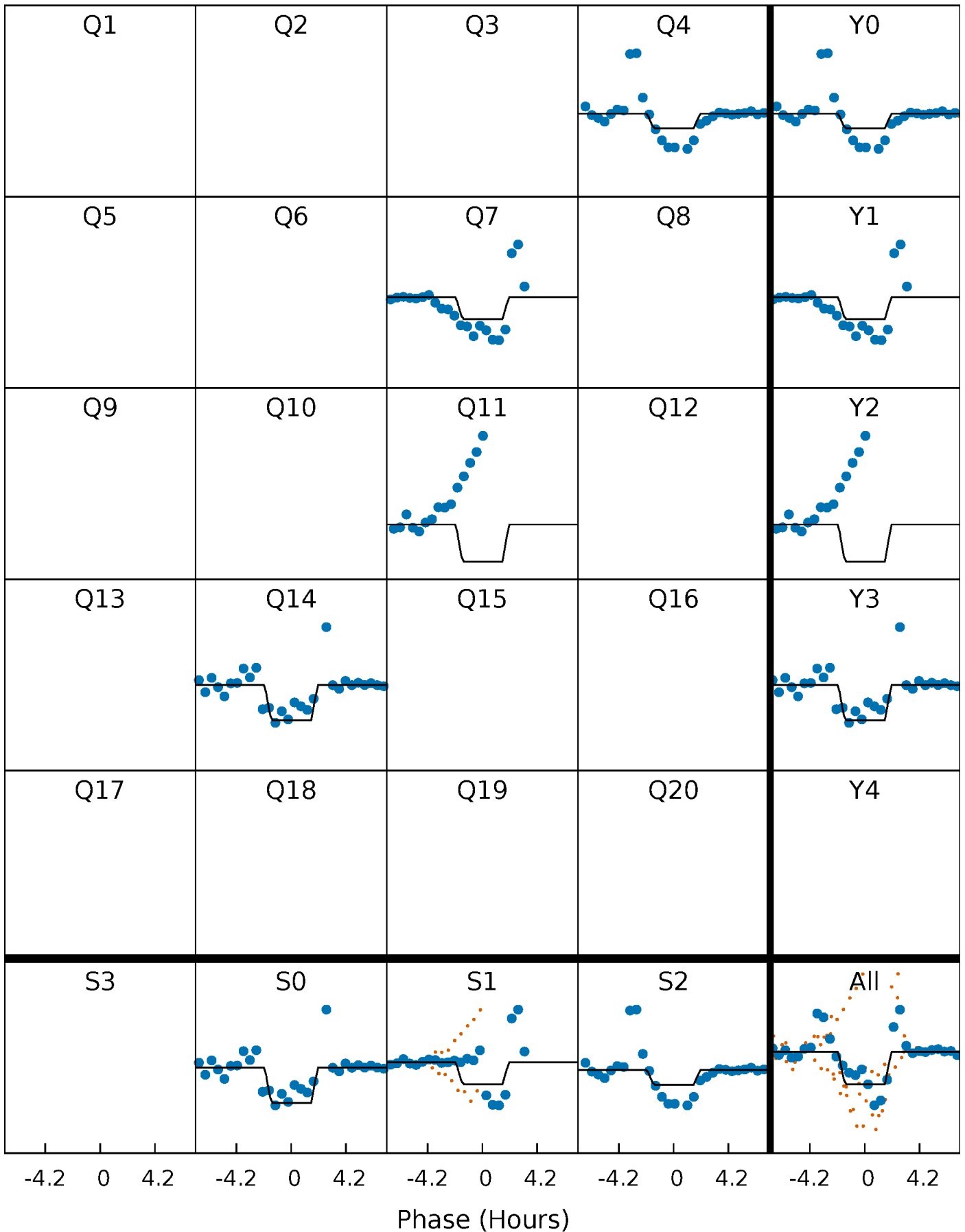
DV Quarter-Phased Transit Curves

TCE 007218950-02 $P=322.986930$ Days $T_0=386.276245$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

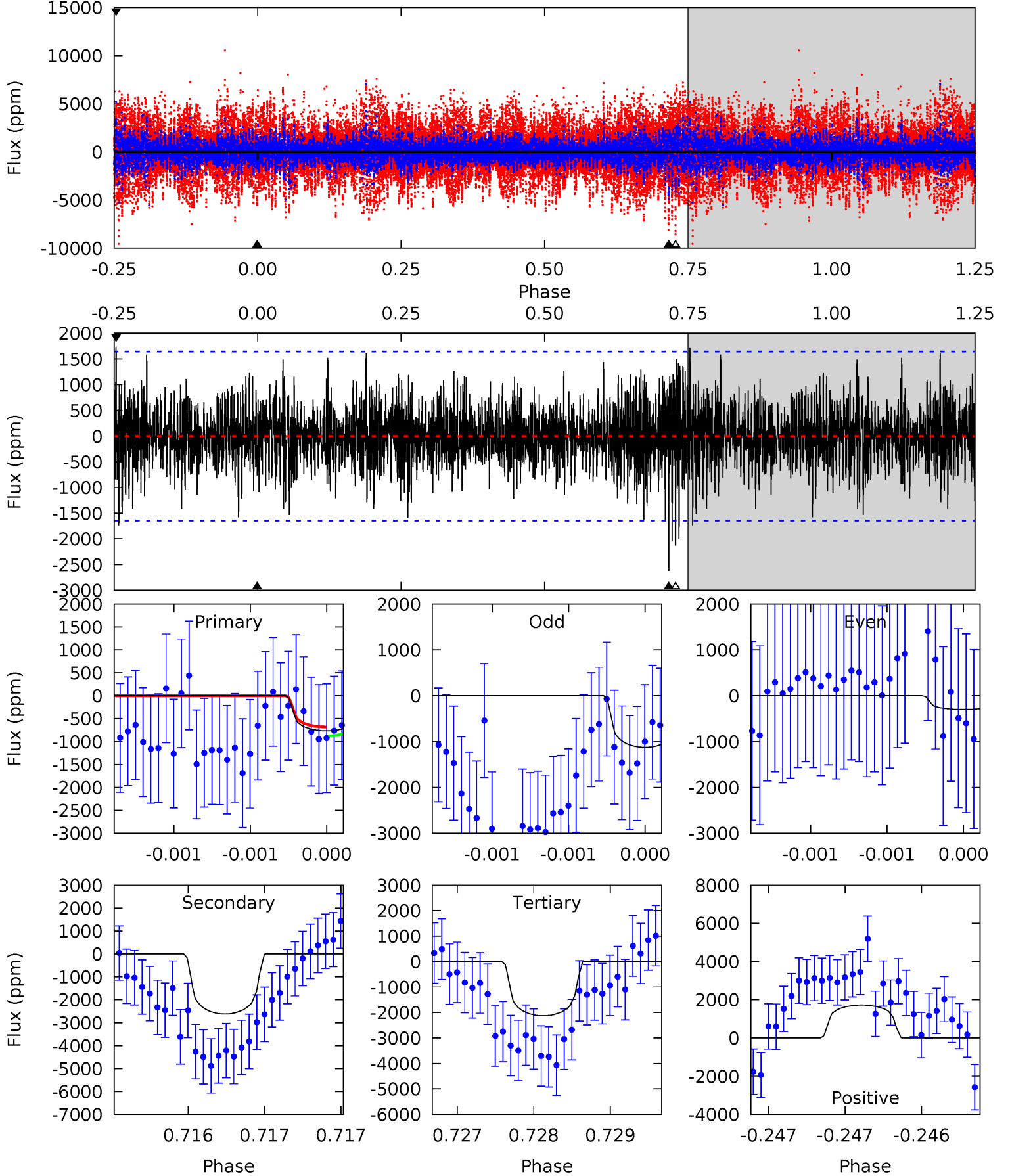
TCE 007218950-02 P=322.986472 Days $T_0=386.300666$ (BKJD)



DV Model-Shift Uniqueness Test

007218950-02, $P = 322.986930$ Days, $E = 63.289315$ Days

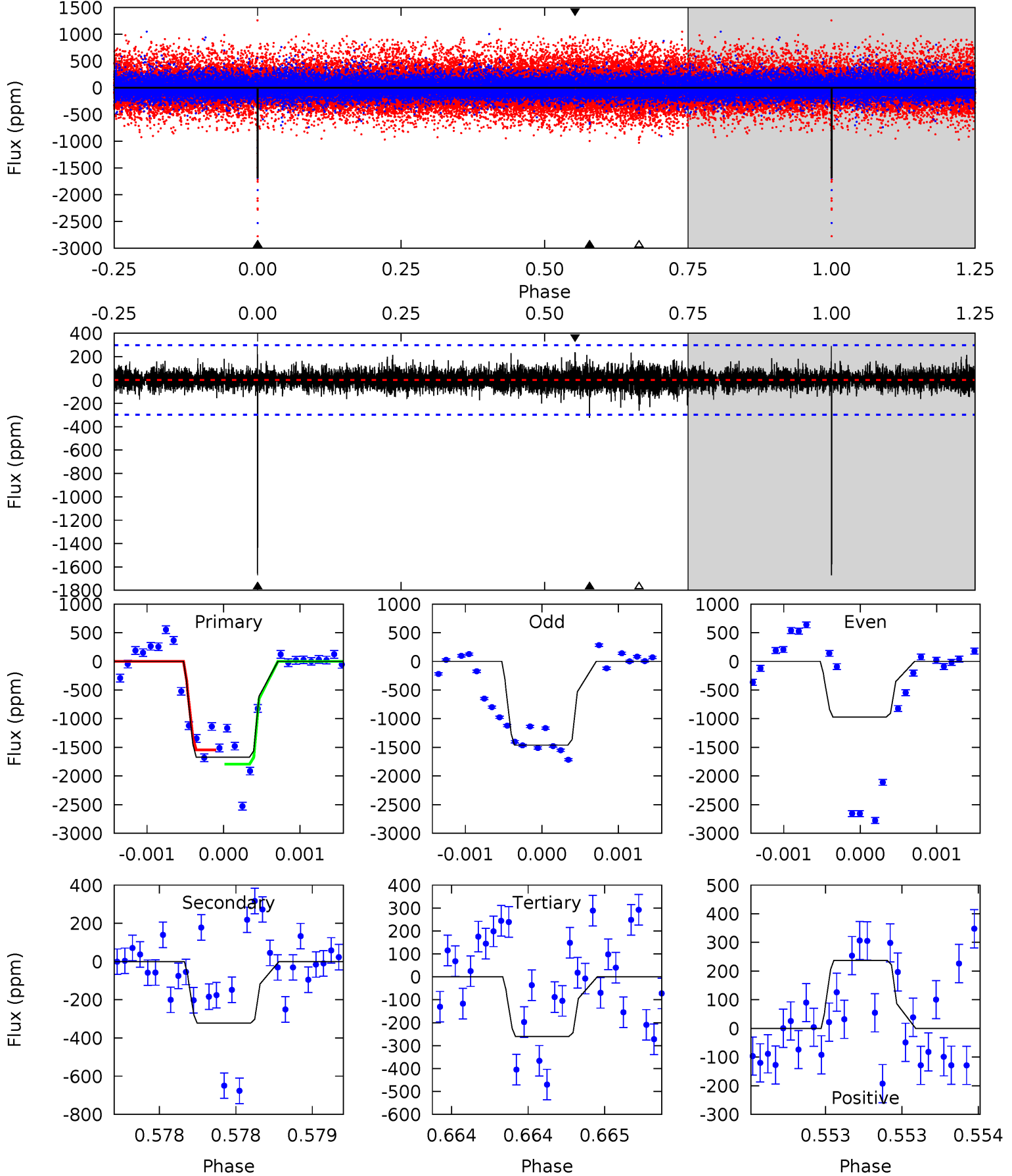
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.57	8.83	7.17	5.80	5.54	3.43	1.63	-4.60	-3.23	1.66	3.03	1.26	0.99	0.40	0.33



Alt Model-Shift Uniqueness Test

007218950-02, $P = 322.986472$ Days, $E = 63.314194$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	6.04	4.87	4.45	5.57	3.47	0.90	26.4	26.8	1.17	1.60	5.12	0.51	0.15	0



Stellar Parameters For KIC 007218950

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5277^{+157}_{-157}	$4.613^{+0.072}_{-0.044}$	$-0.920^{+0.350}_{-0.300}$	$0.652^{+0.056}_{-0.056}$	$0.637^{+0.065}_{-0.023}$	$3.229^{+0.908}_{-0.547}$
	+3%/-3%	+2%/-1%	+38%/-33%	+9%/-9%	+10%/-4%	+28%/-17%
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 007218950-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2622 ± 297	$3.76^{+3.12}_{-2.46}$	293^{+11}_{-11}	5195^{+4200}_{-1111}	$64588^{+477685}_{-45179}$
Alt.	-323 ± 53	$3.39^{+2.82}_{-2.10}$	293^{+11}_{-10}	3646^{+1649}_{-650}	9973^{+60796}_{-7142}

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

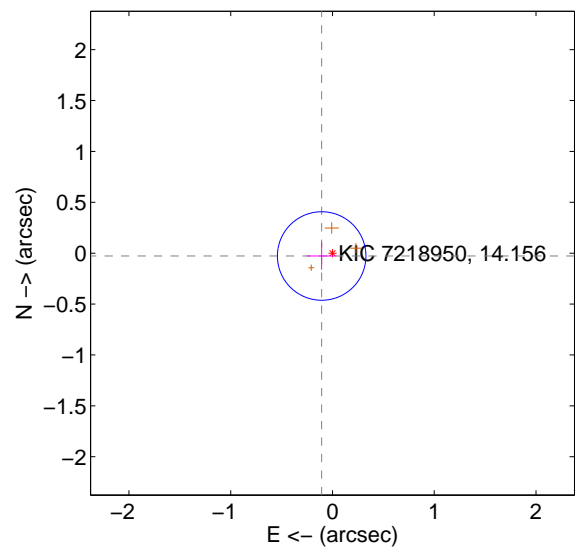
Supplemental centroid analysis for 007218950-02. Kepler magnitude: 14.16. Transit SNR 6.76

There are 0 quarters with good PRF difference image offsets

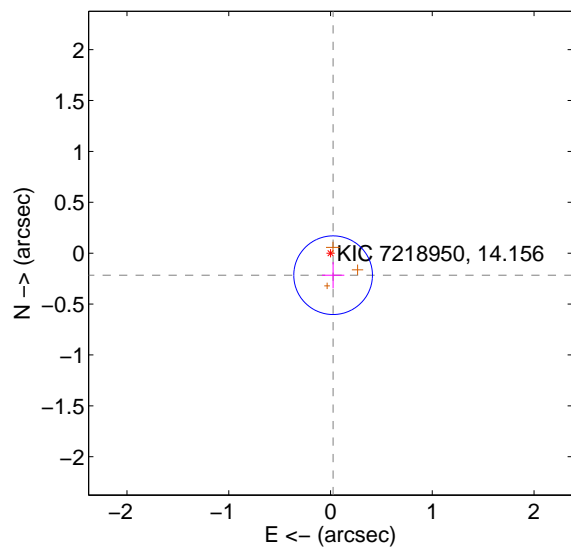
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.110 ± 0.145	0.76	0.106 ± 0.146	-0.028 ± 0.135
PRF-fit source offset from KIC position	0.218 ± 0.129	1.69	-0.026 ± 0.110	-0.216 ± 0.129
photometric centroid source offset	0.26 ± 0.58	0.44	-0.03 ± 0.41	-0.25 ± 0.58

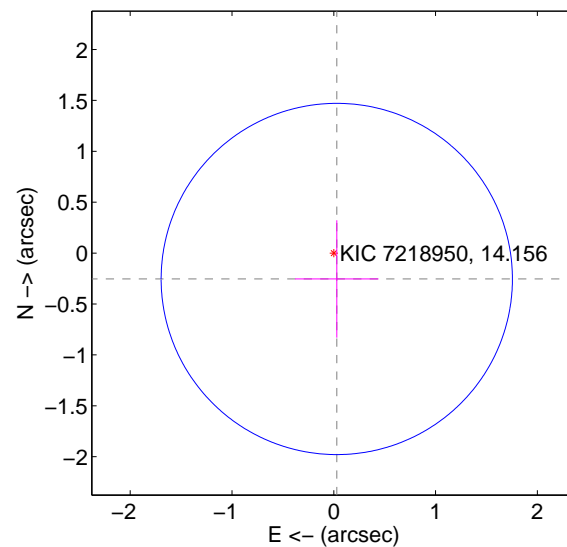
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



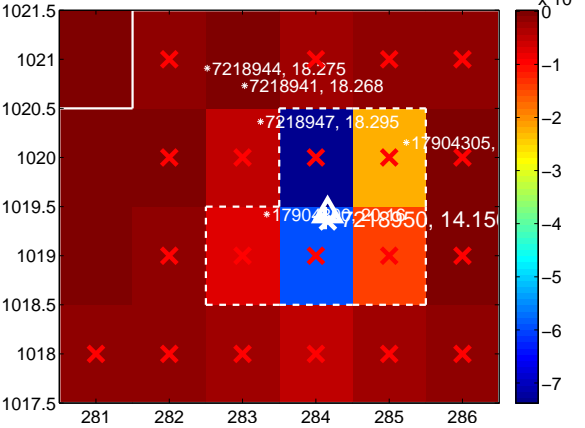
Q3 no difference image



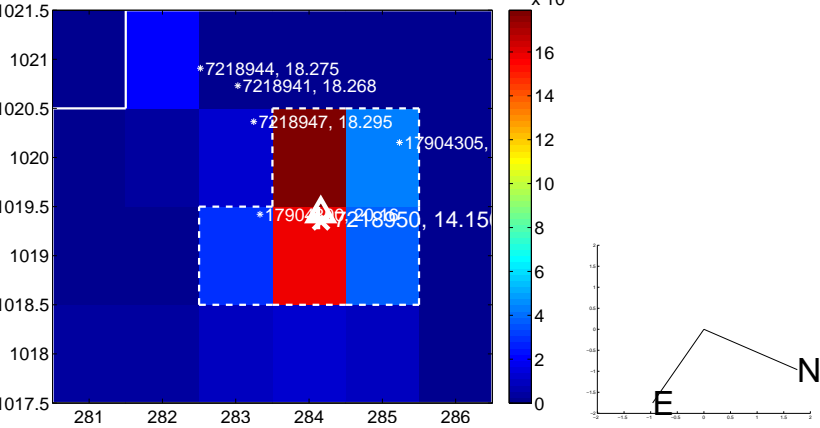
Q3 no OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

Q5 no difference image



Q5 no OOT image



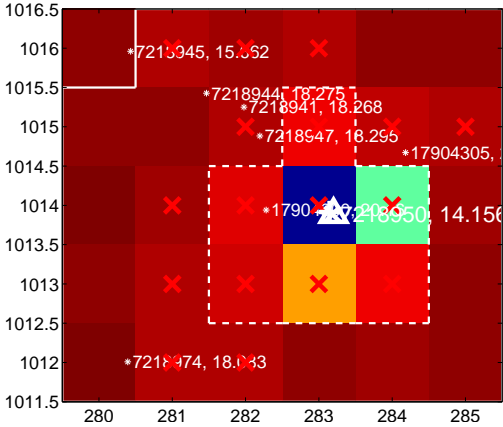
Q6 no difference image



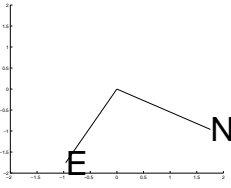
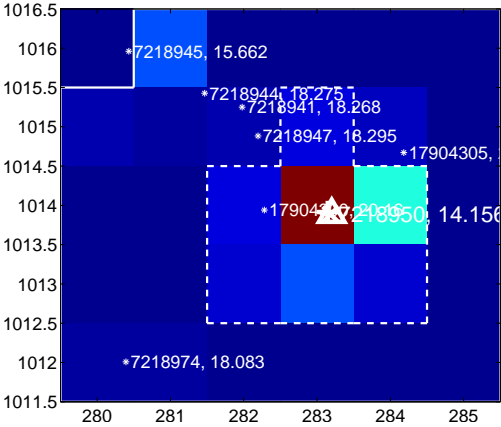
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image

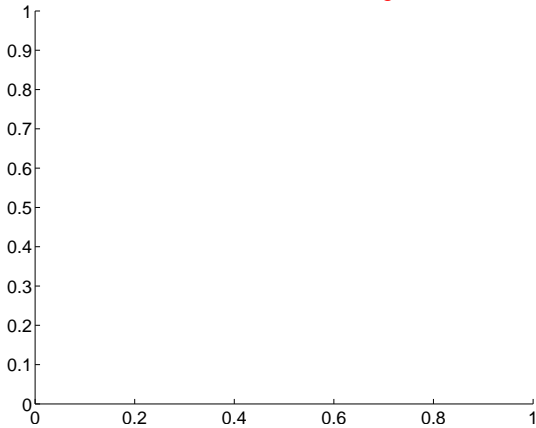


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

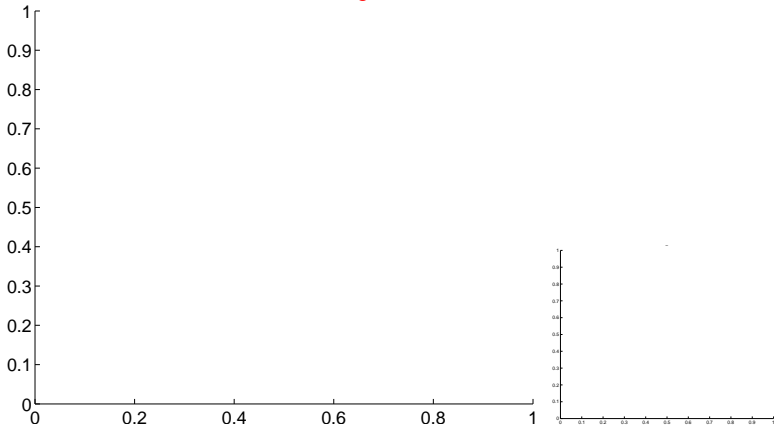


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

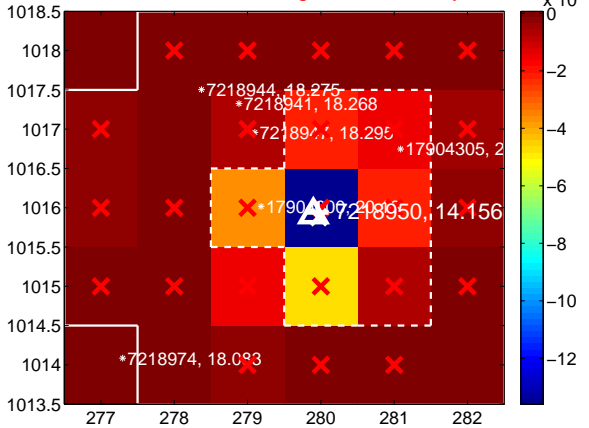
Q13 no difference image



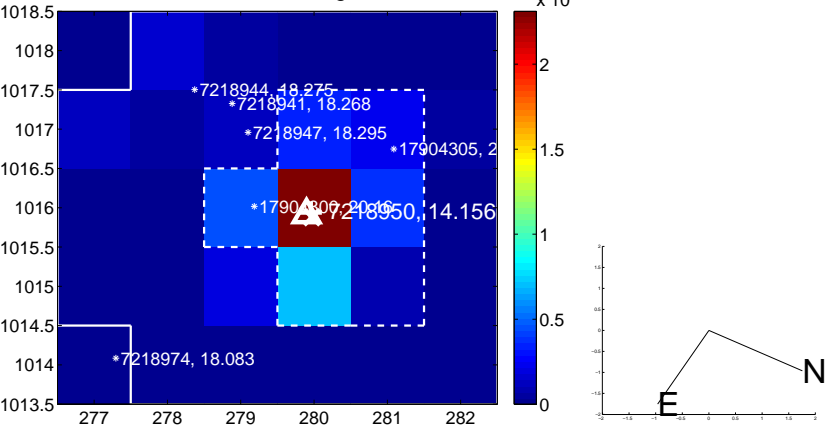
Q13 no OOT image



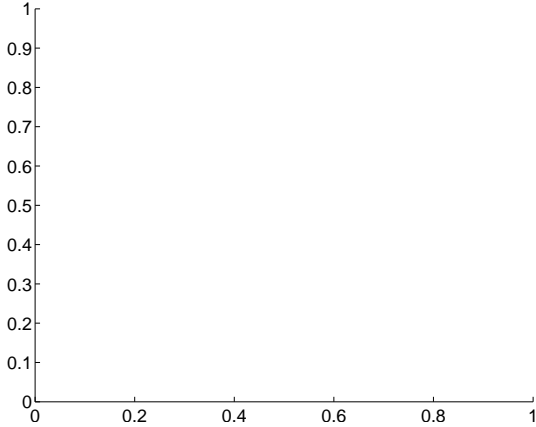
Q14 difference image. Poor Quality



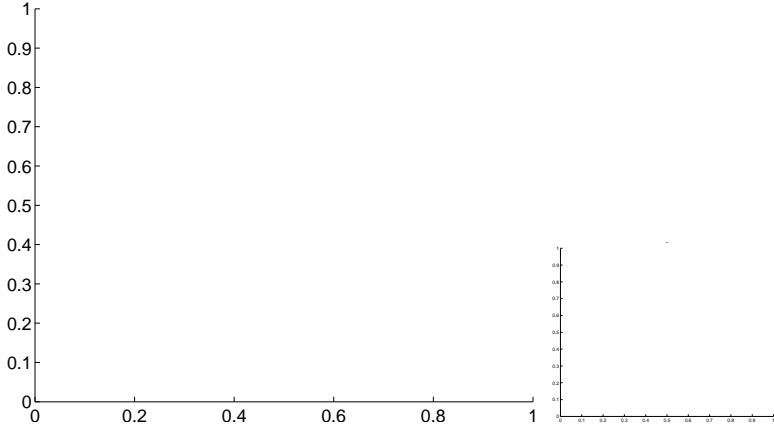
Q14 OOT image



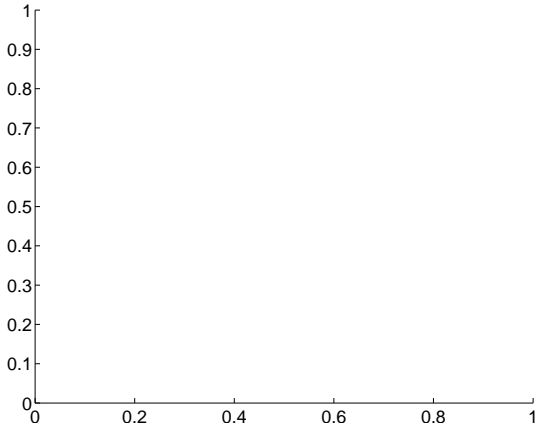
Q15 no difference image



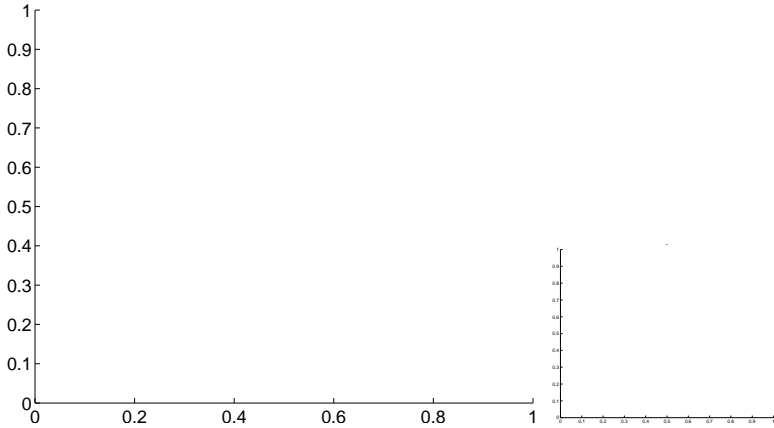
Q15 no OOT image



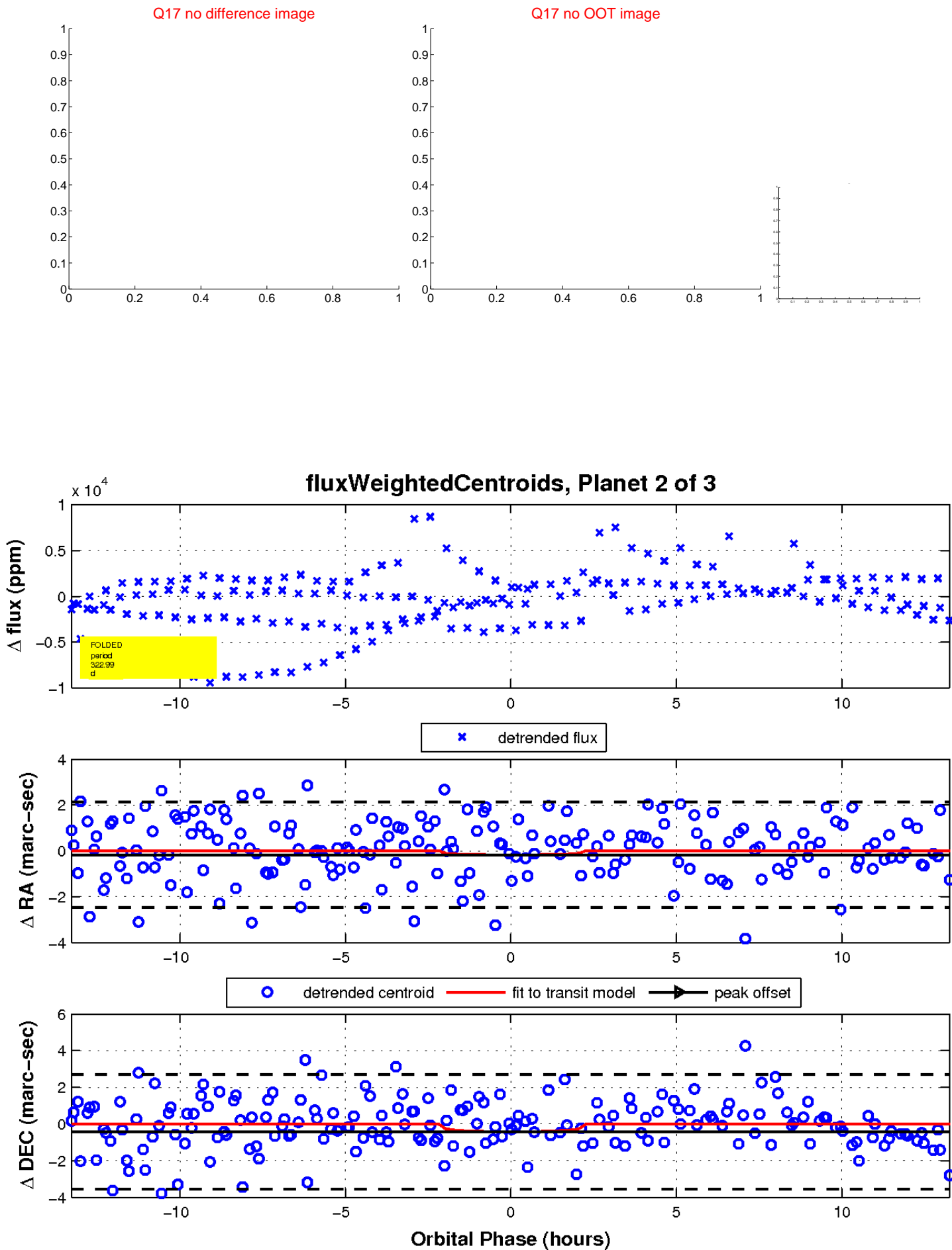
Q16 no difference image



Q16 no OOT image

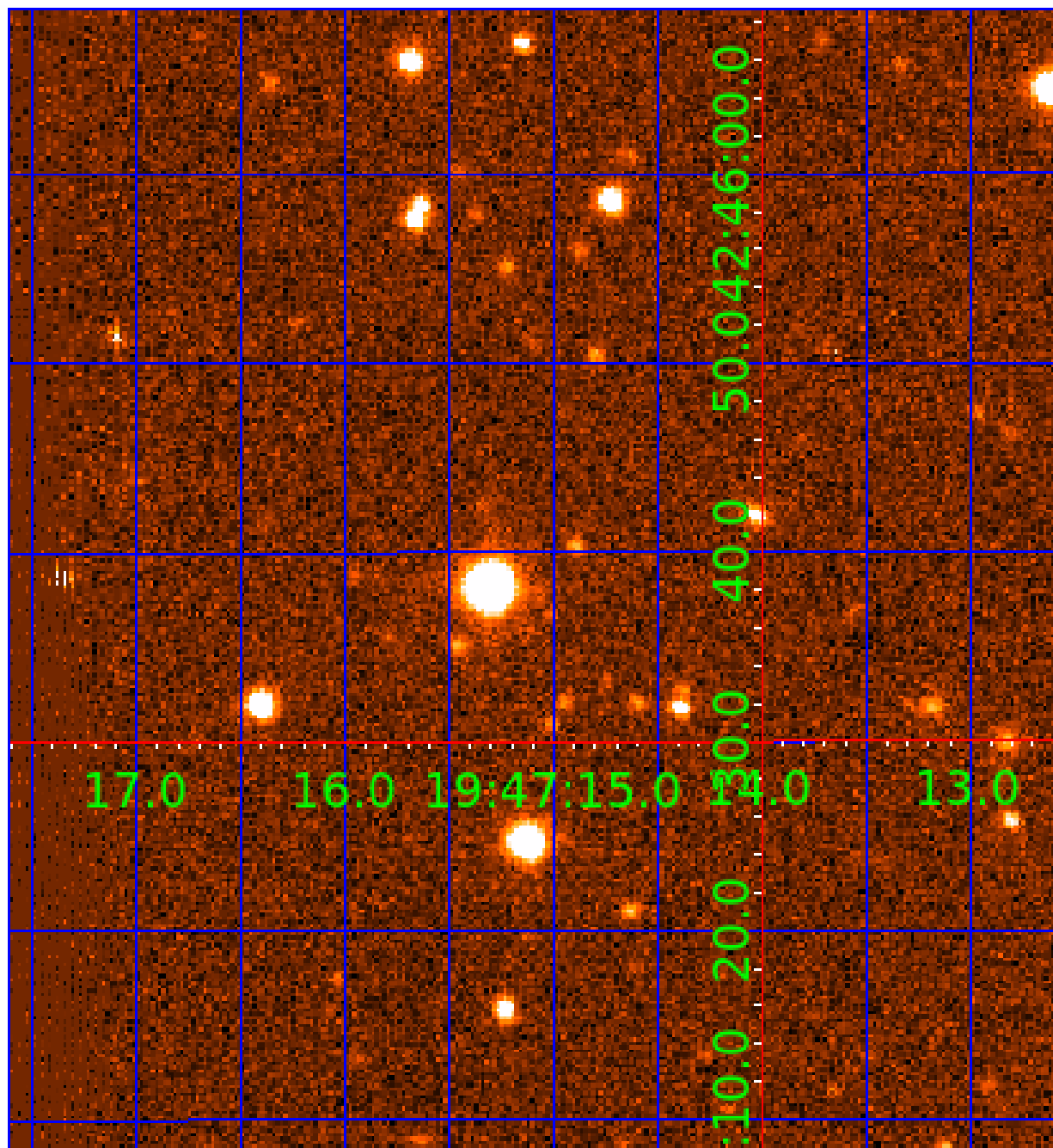


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007218950

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})
007218950-01	OBS	No	493.915715	356.793865	2719.5	8.143	17.4	6.6	0.65	5277	3.36	0.27
007218950-02	OBS	No	322.986930	386.276245	1774.0	4.466	17.7	6.8	0.65	5277	2.72	0.47
007218950-03	OBS	No	328.712711	360.823288	1294.1	3.961	14.2	5.0	0.65	5277	2.36	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007218950-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007218950-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007218950-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

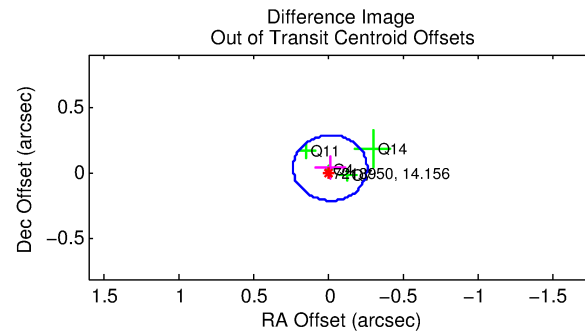
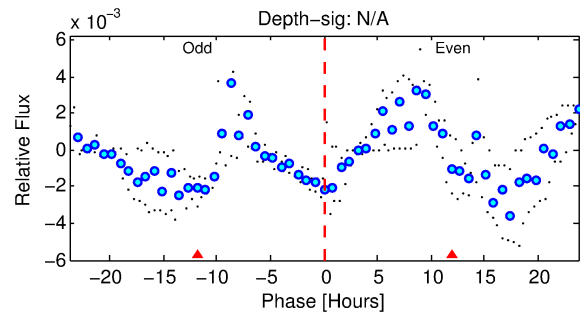
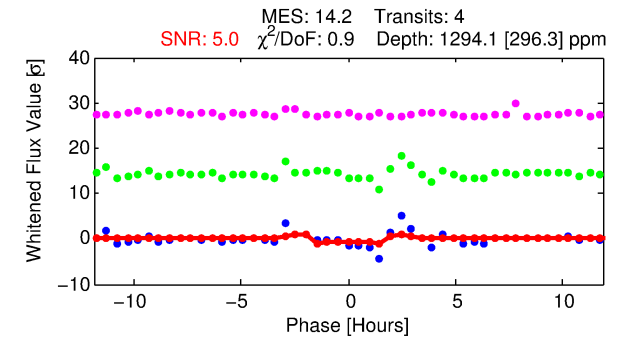
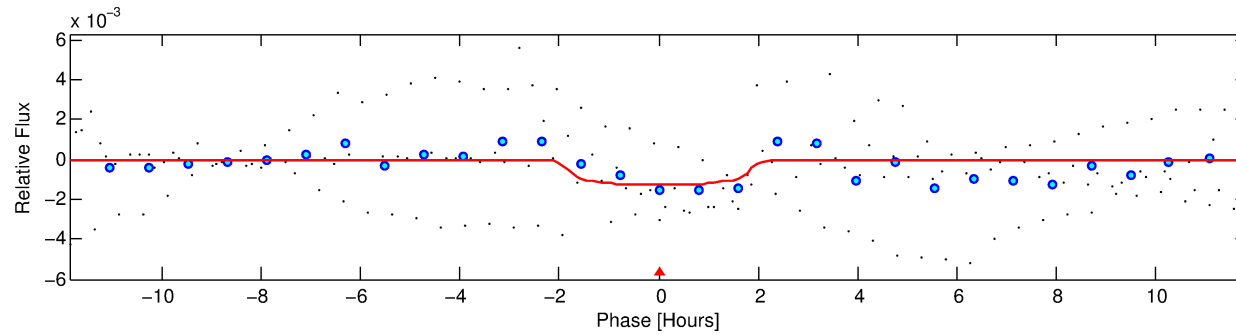
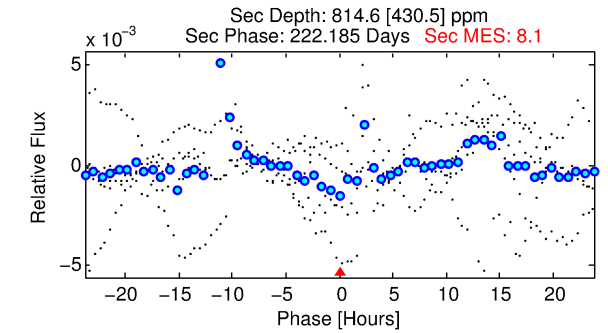
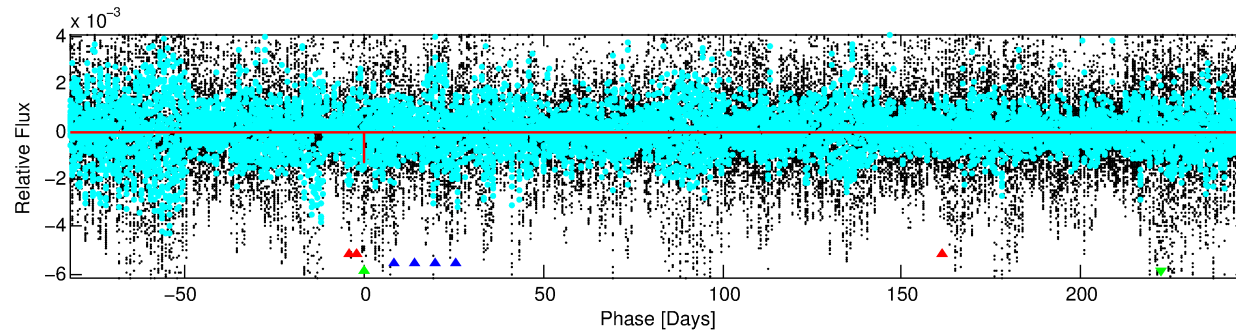
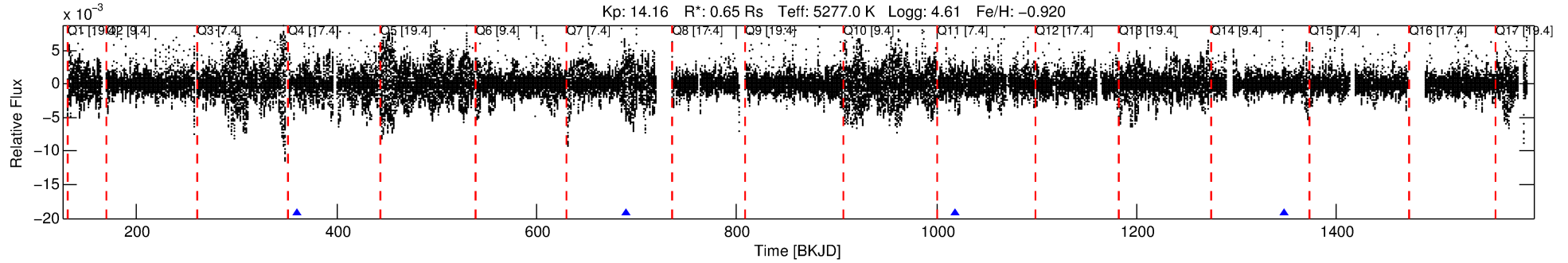
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007218950-03

No Significant Match Found

DV One-Page Summary

KIC: 7218950 Candidate: 3 of 3 Period: 328.713 d



DV Fit Results:

Period = 328.71271 [0.00357] d
Epoch = 360.8233 [0.0064] BKJD
Rp/R* = 0.0332 [0.0490]
a/R* = 612.36 [3916.19]
b = 0.37 [15.20]
Seff = 0.46 [0.08]
Teq = 210 [9] K
Rp = 2.36 [3.50] Re
a = 0.8018 [0.0638] AU
Ag = 51789.06 [155806.94] [0.33] σ
Teffp = 4896 [3682] K [1.27] σ

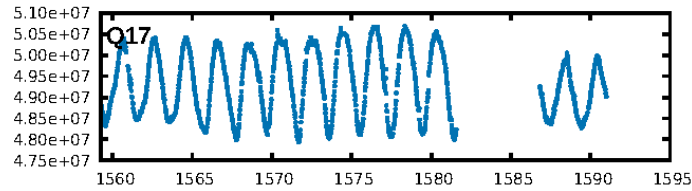
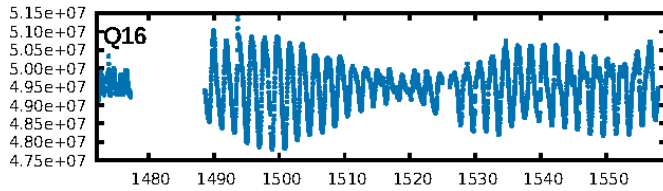
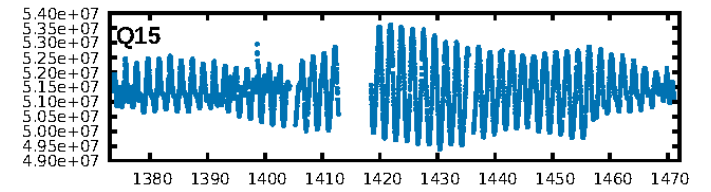
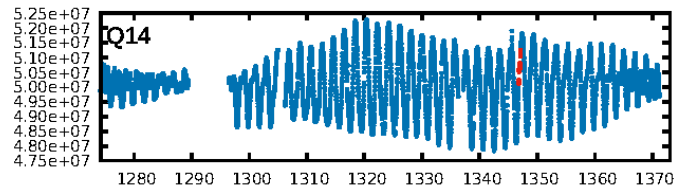
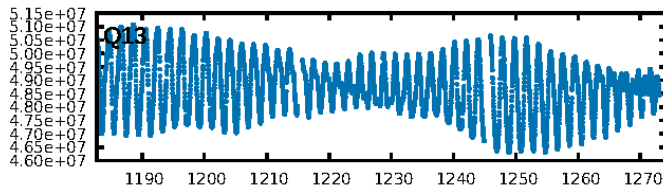
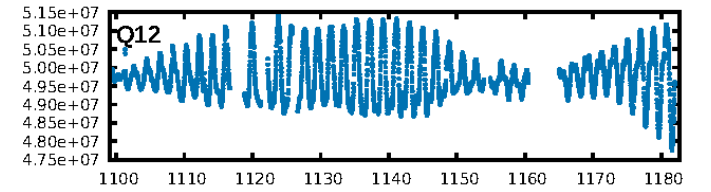
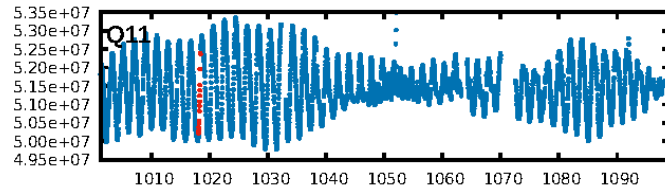
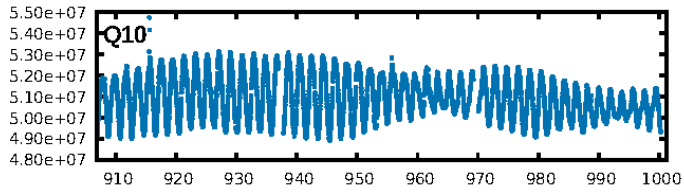
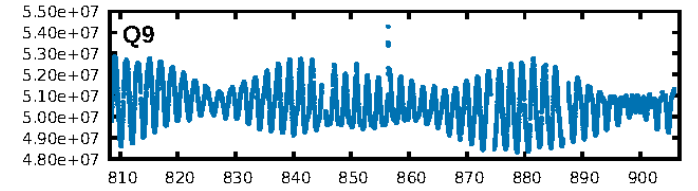
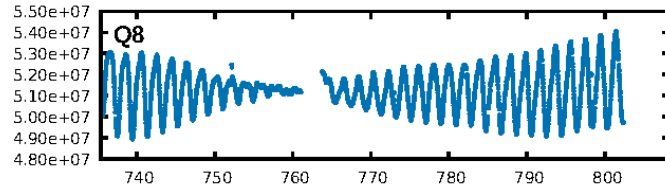
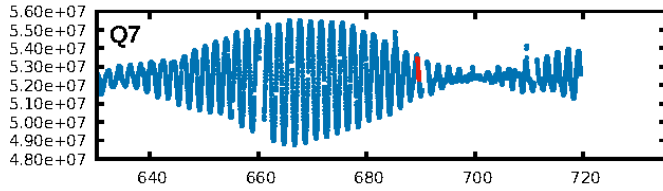
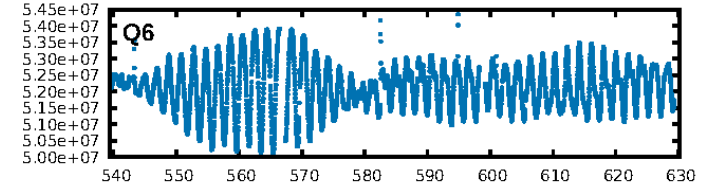
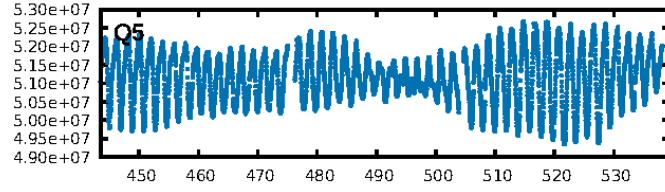
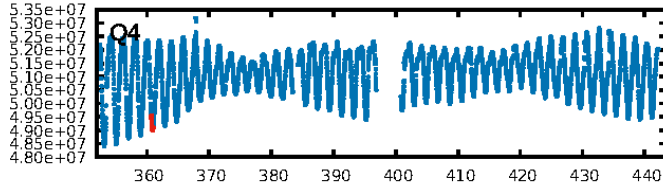
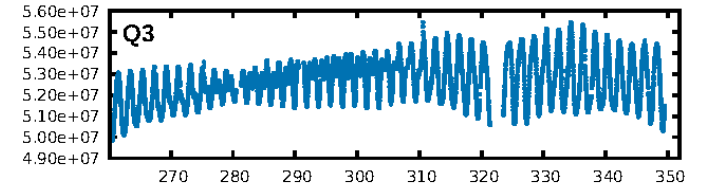
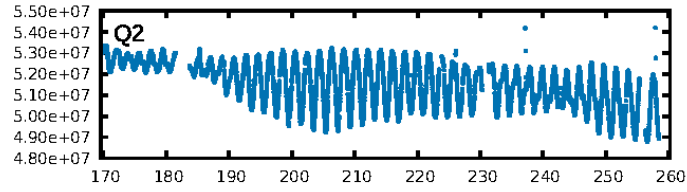
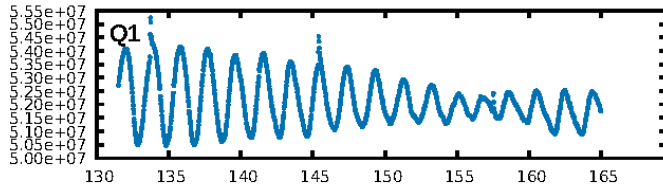
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.02] σ
LongPeriod-sig: 100.0% [437.87] σ
ModelChiSquare2-sig: 93.4%
ModelChiSquareGo-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4854
Centroid-sig: 80.4%
Centroid-so: 0.251 arcsec [0.34] σ
OotOffset-rm: 0.043 arcsec [0.52] σ
OotOffset-st: 1/2/1/0 [4]
KicOffset-rm: 0.188 arcsec [2.18] σ
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

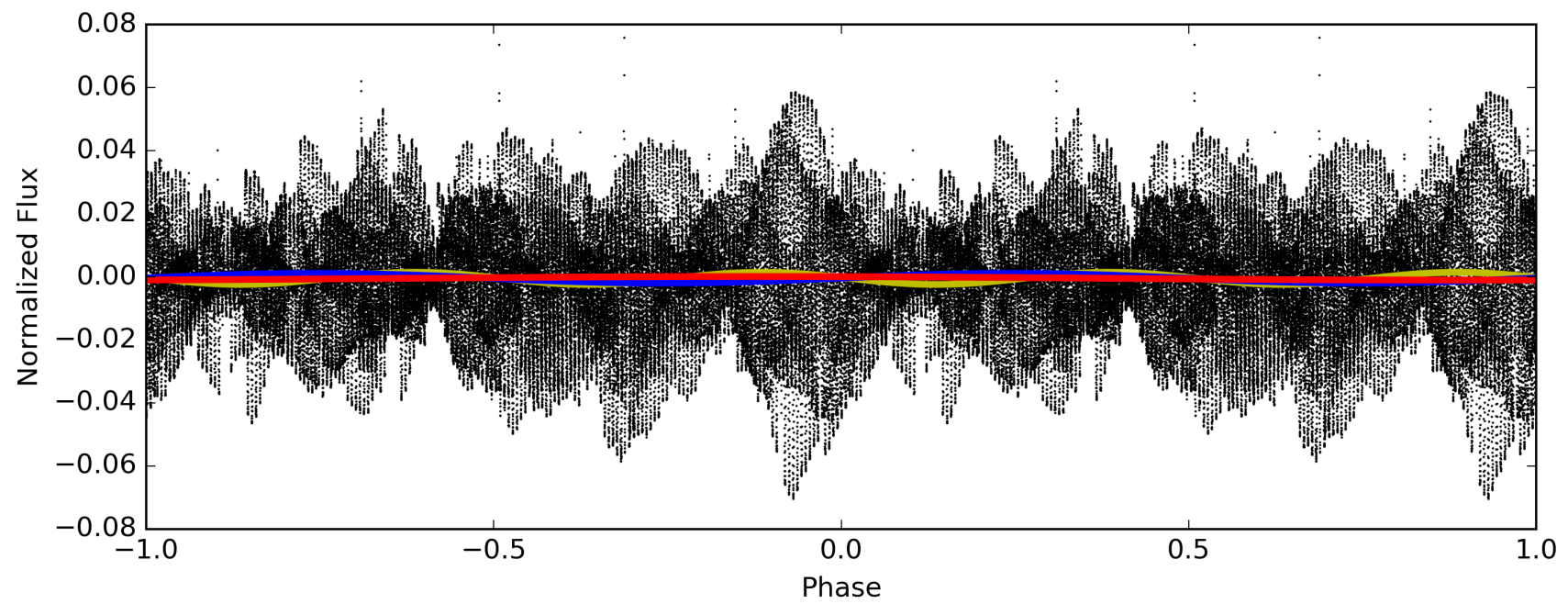
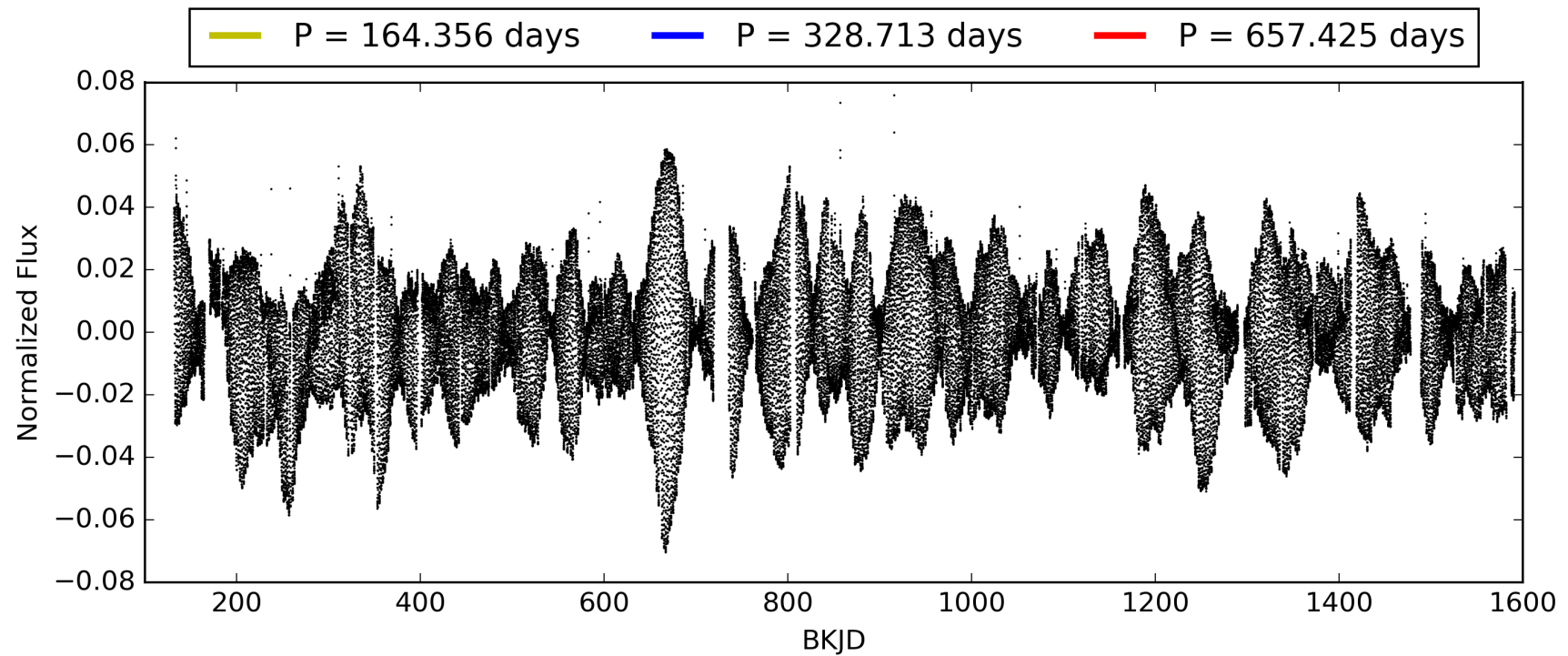
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:30:44 Z

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

TCE 007218950-03, PDC Light Curves

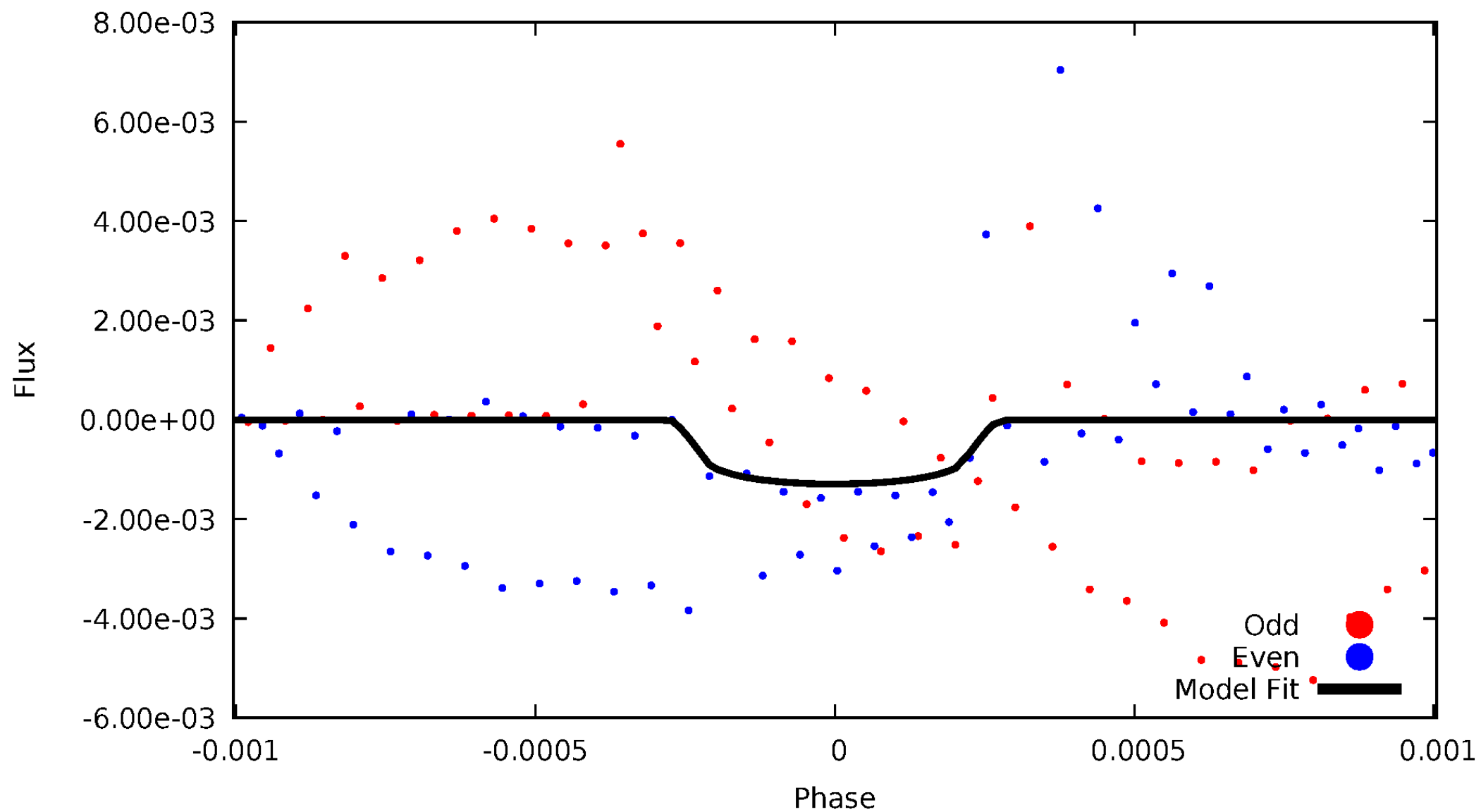


TCE 007218950-03



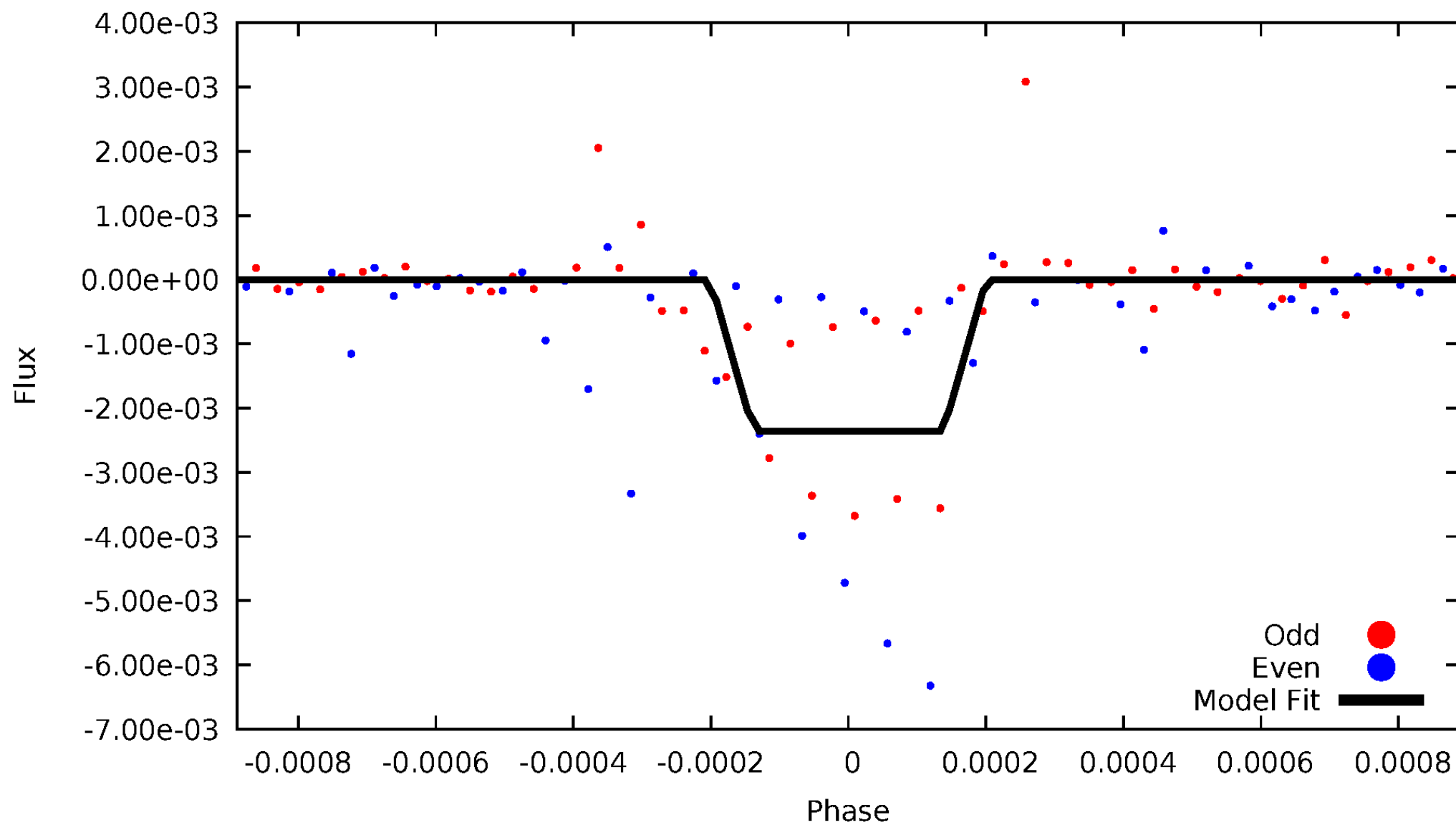
DV Odd/Even

TCE 007218950-03



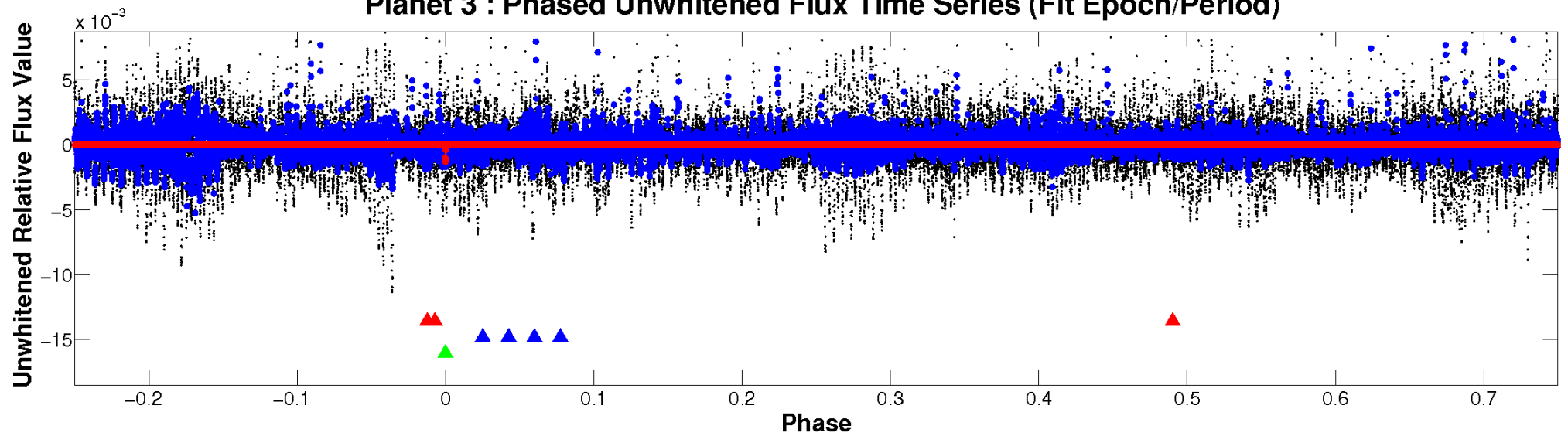
ALT Odd/Even

TCE 007218950-03

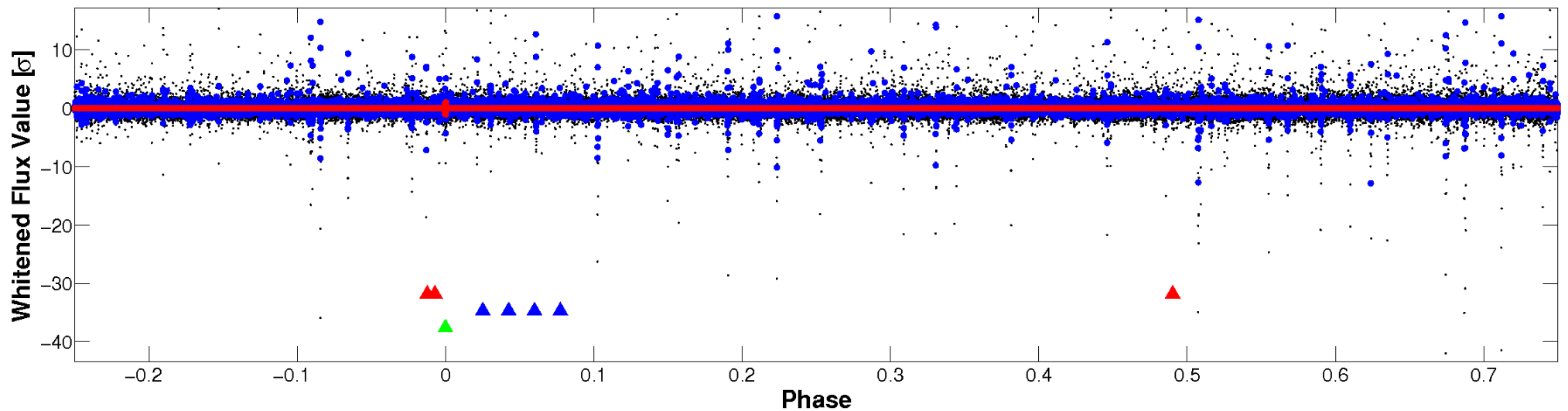


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

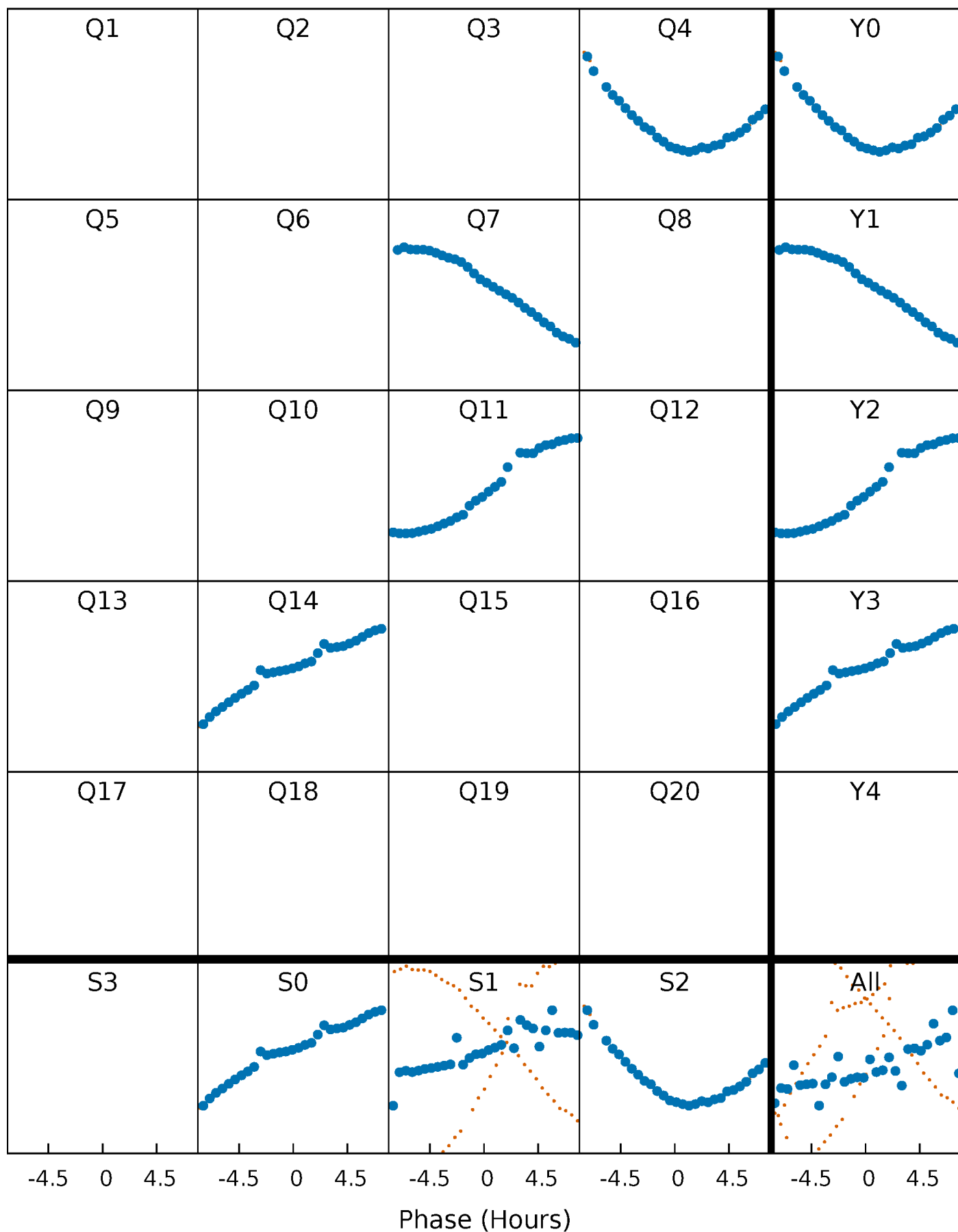


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



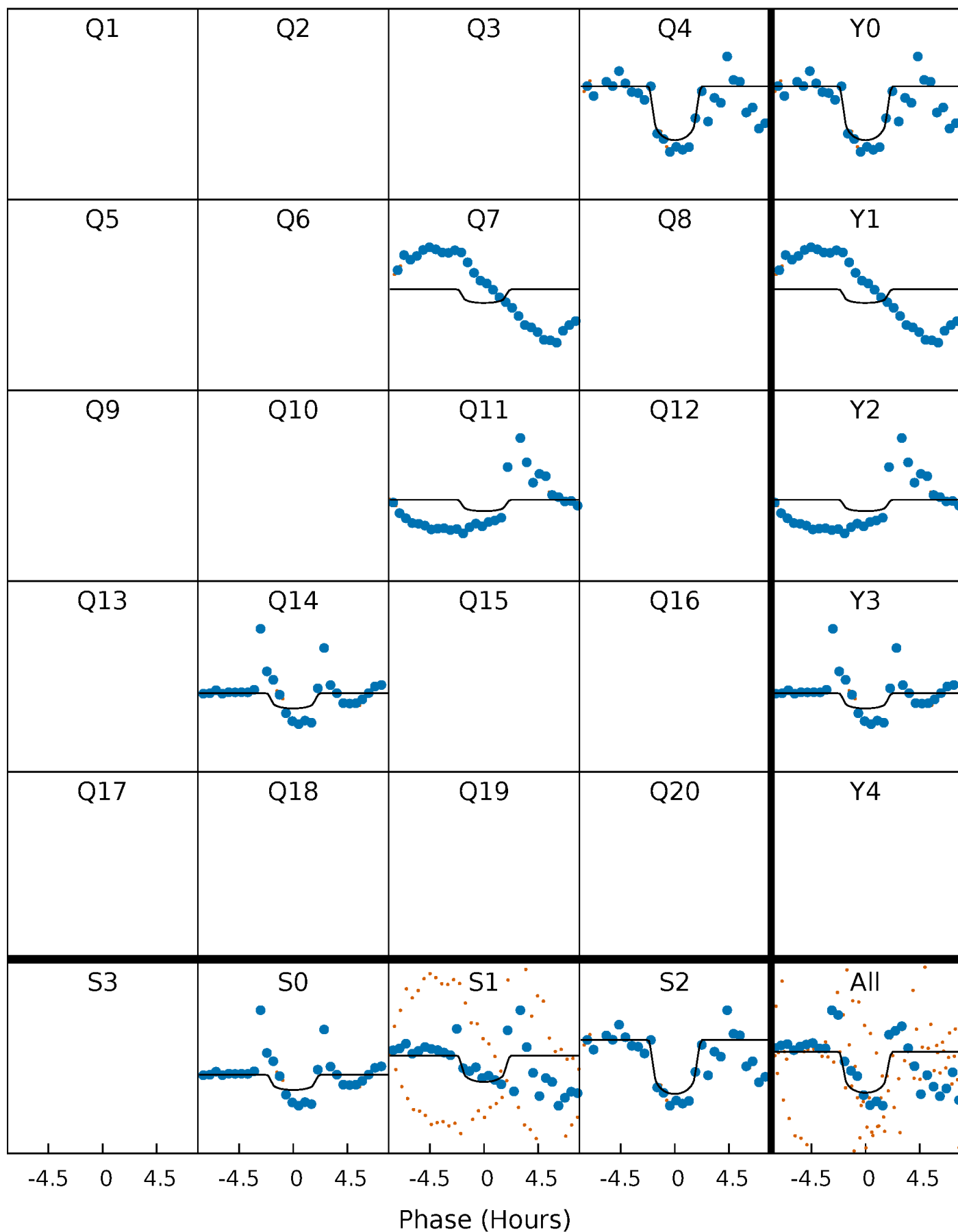
PDC Quarter-Phased Transit Curves

TCE 007218950-03 $P=328.712711$ Days $T_0=360.823288$ (BKJD)



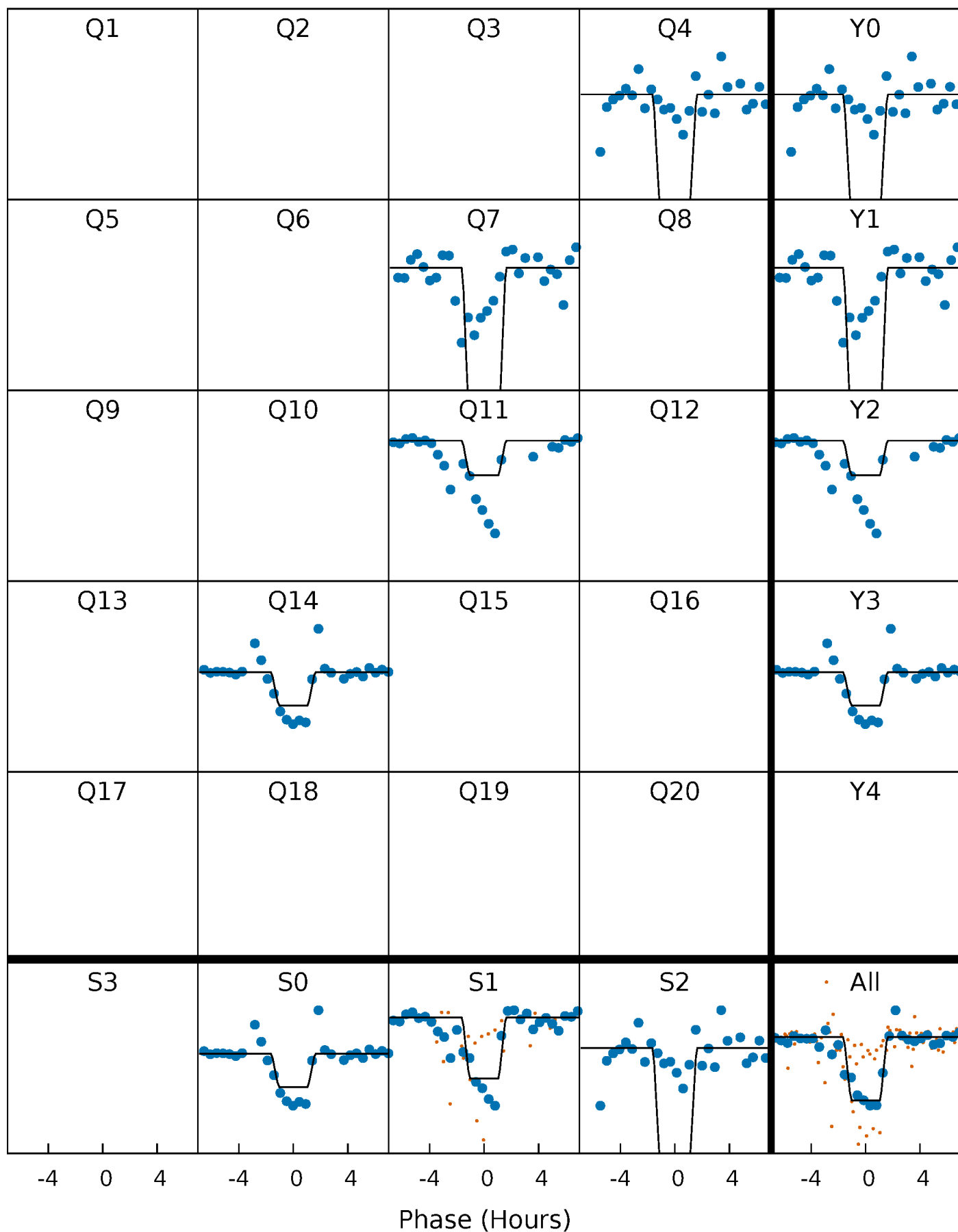
DV Quarter-Phased Transit Curves

TCE 007218950-03 $P=328.712711$ Days $T_0=360.823288$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

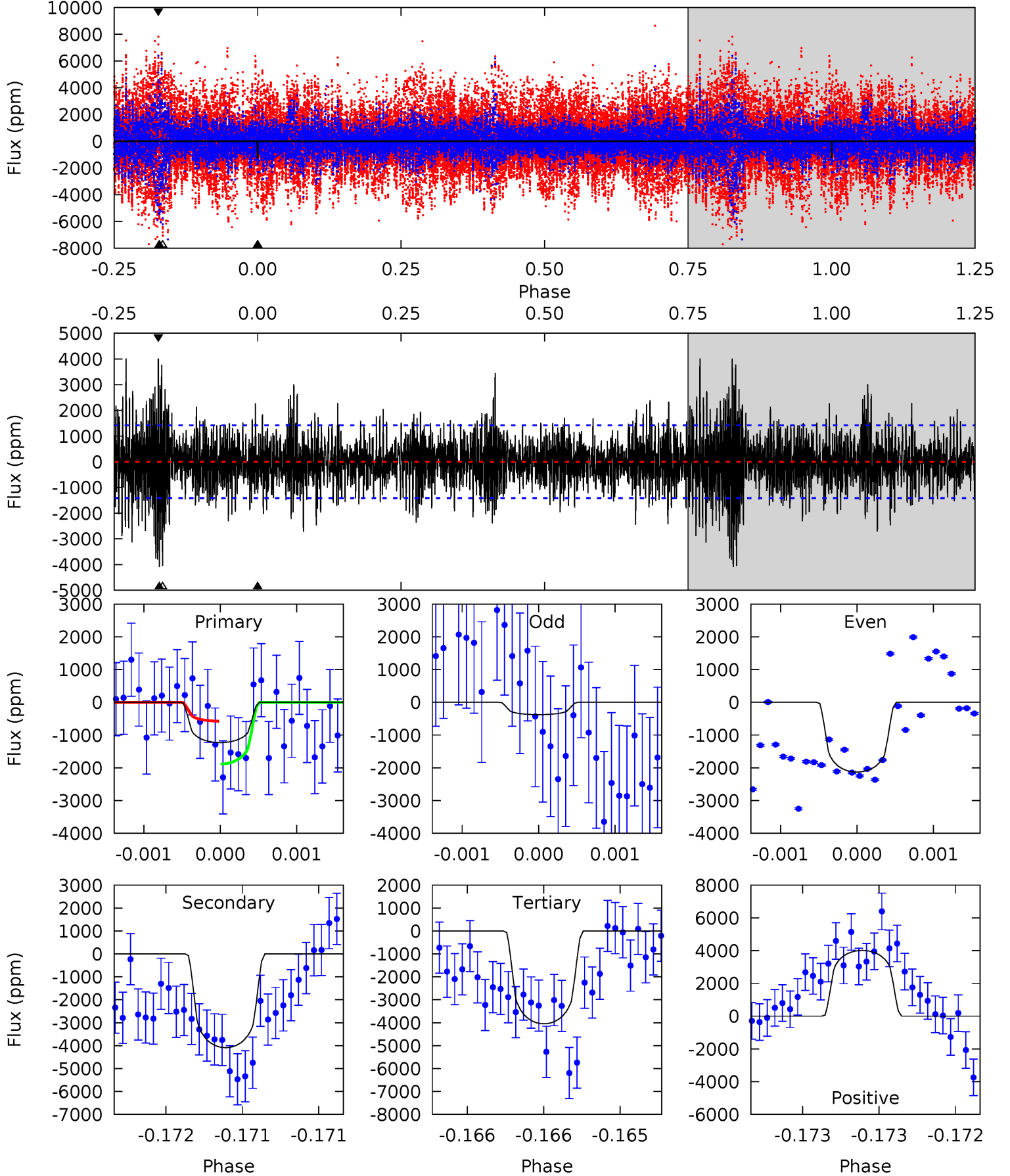
TCE 007218950-03 P=328.711571 Days $T_0=360.848954$ (BKJD)



DV Model-Shift Uniqueness Test

007218950-03, $P = 328.712711$ Days, $E = 32.110577$ Days

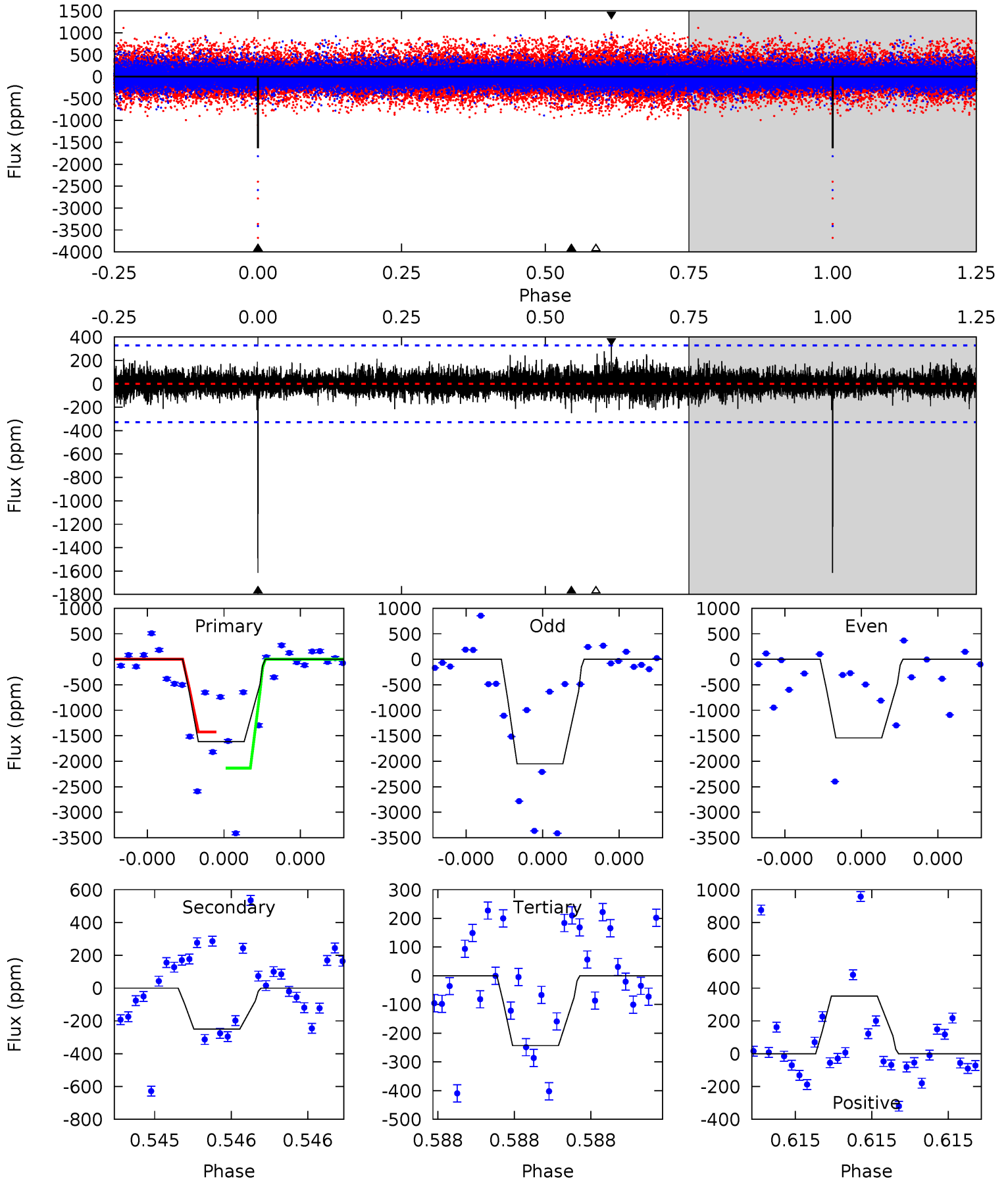
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.81	16.0	15.8	15.7	5.55	3.45	3.21	-11.0	-10.9	0.17	0.31	3.23	0.79	0.50	2.54



Alt Model-Shift Uniqueness Test

007218950-03, $P = 328.711571$ Days, $E = 32.137383$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	4.28	4.17	6.02	5.62	3.55	0.94	23.5	21.6	0.12	-1.74	4.56	1.12	0.18	0



Stellar Parameters For KIC 007218950

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5277^{+157}_{-157}	$4.613^{+0.072}_{-0.044}$	$-0.920^{+0.350}_{-0.300}$	$0.652^{+0.056}_{-0.056}$	$0.637^{+0.065}_{-0.023}$	$3.229^{+0.908}_{-0.547}$
	+3%/-3%	+2%/-1%	+38%/-33%	+9%/-9%	+10%/-4%	+28%/-17%
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 007218950-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4091 ± 256	$3.82^{+2.82}_{-2.44}$	292^{+11}_{-11}	5736^{+4718}_{-1192}	$102087^{+657900}_{-67600}$
Alt.	-250 ± 58	$4.09^{+3.14}_{-2.55}$	292^{+11}_{-10}	3291^{+1382}_{-500}	5484^{+32924}_{-3837}

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

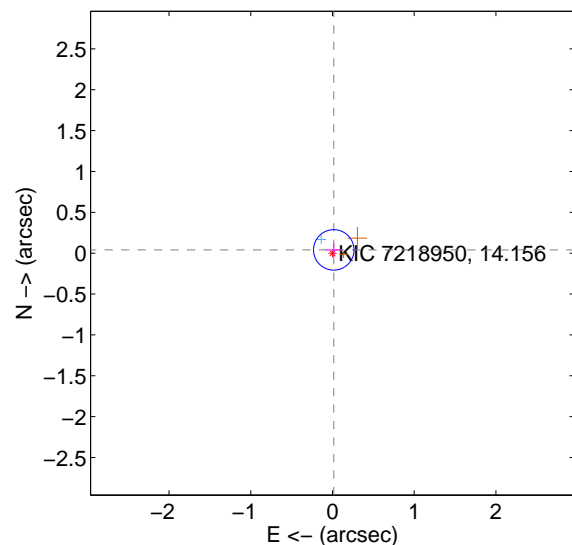
Supplemental centroid analysis for 007218950-03. Kepler magnitude: 14.16. Transit SNR 5.04

There are 2 quarters with good PRF difference image offsets

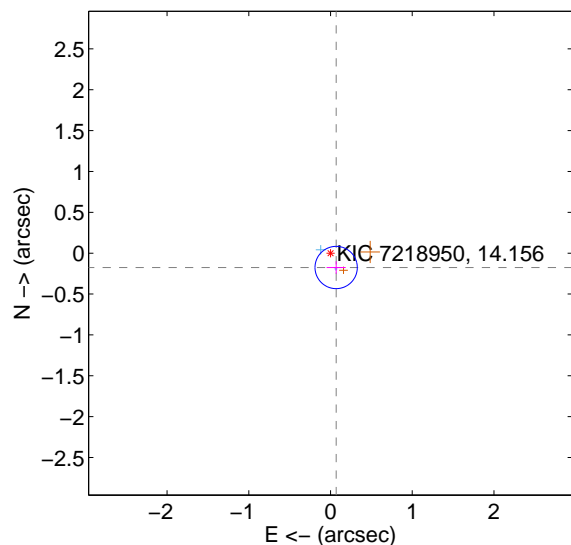
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.083	0.52	-0.016 ± 0.102	0.040 ± 0.081
PRF-fit source offset from KIC position	0.188 ± 0.086	2.18	-0.069 ± 0.117	-0.175 ± 0.077
photometric centroid source offset	0.25 ± 0.74	0.34	-0.04 ± 0.54	-0.25 ± 0.74

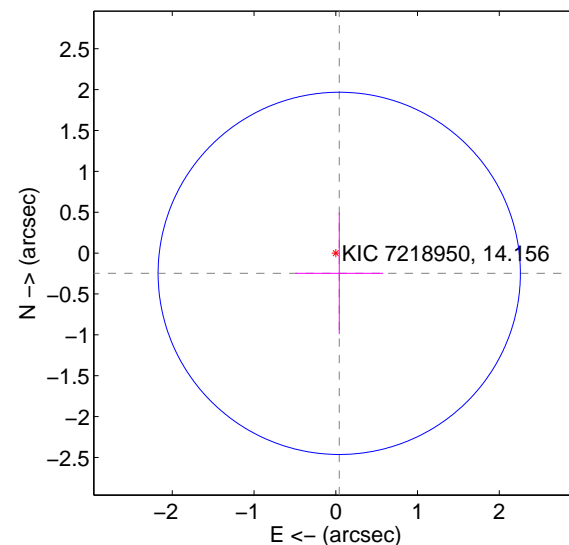
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



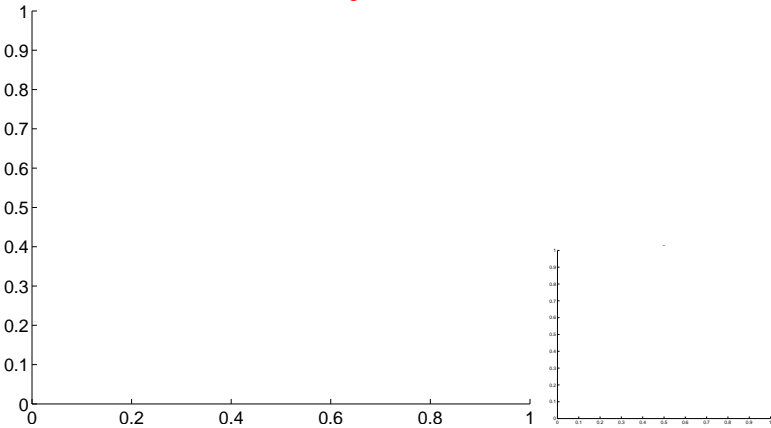
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q1 no difference image



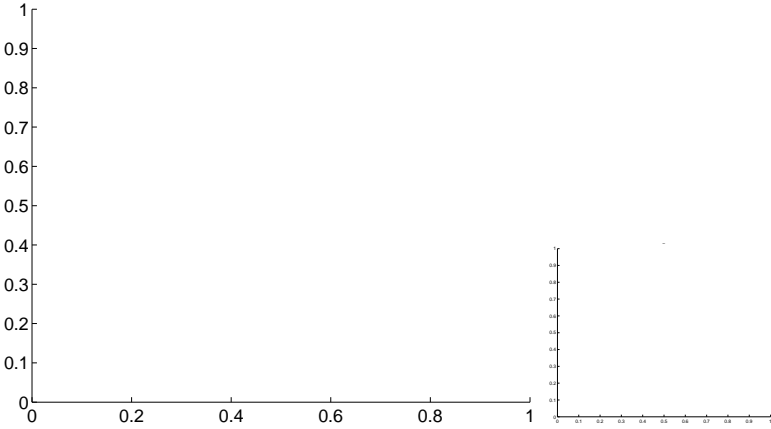
Q1 no OOT image



Q2 no difference image



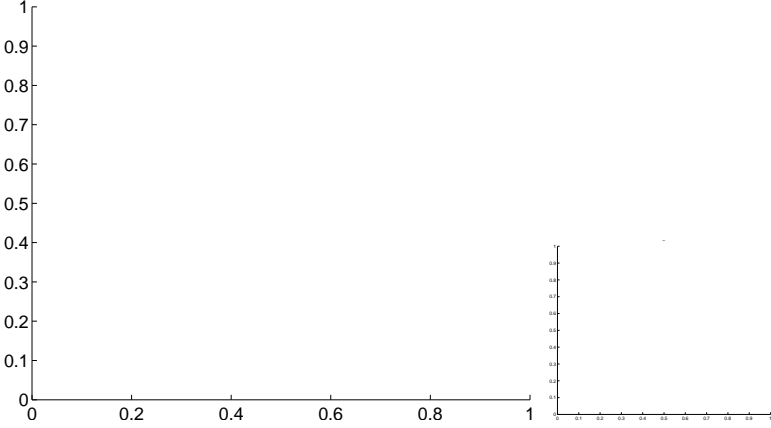
Q2 no OOT image



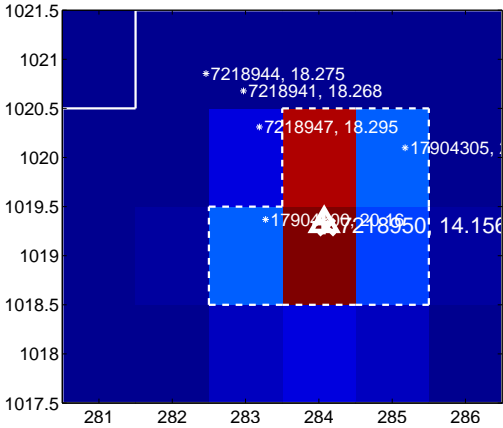
Q3 no difference image



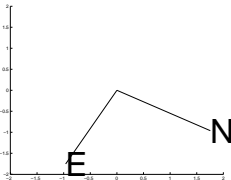
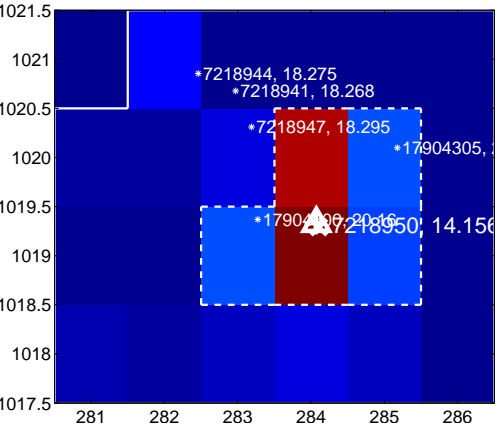
Q3 no OOT image



Q4 difference image



Q4 OOT image



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

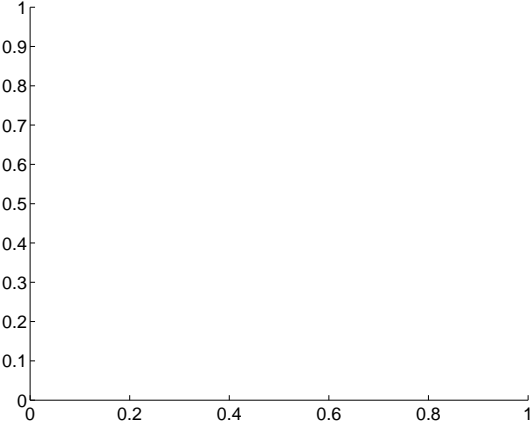
Q5 no difference image



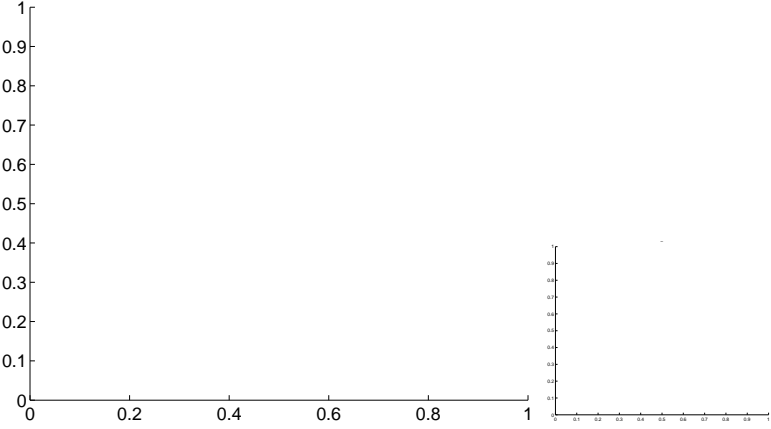
Q5 no OOT image



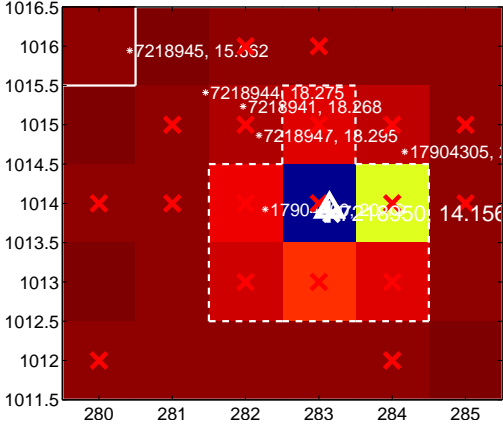
Q6 no difference image



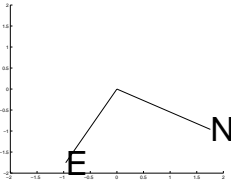
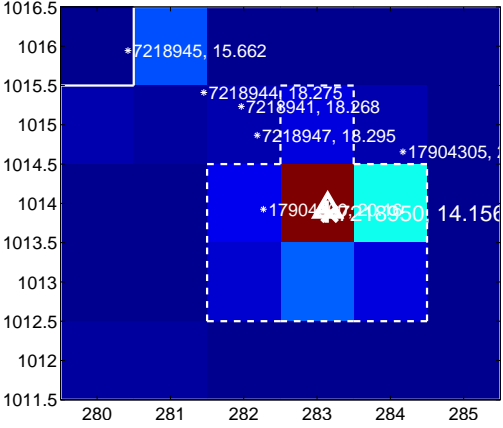
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 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.

Q9 no difference image



Q9 no OOT image



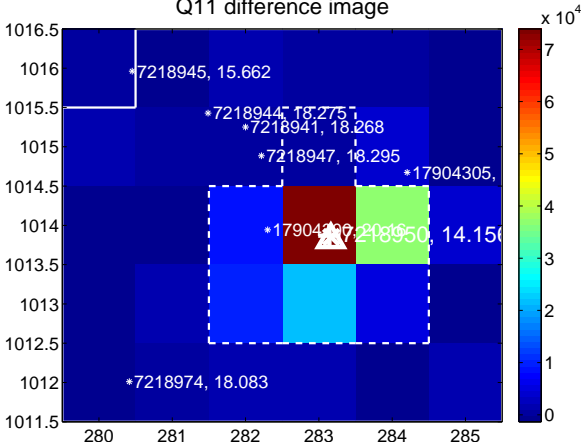
Q10 no difference image



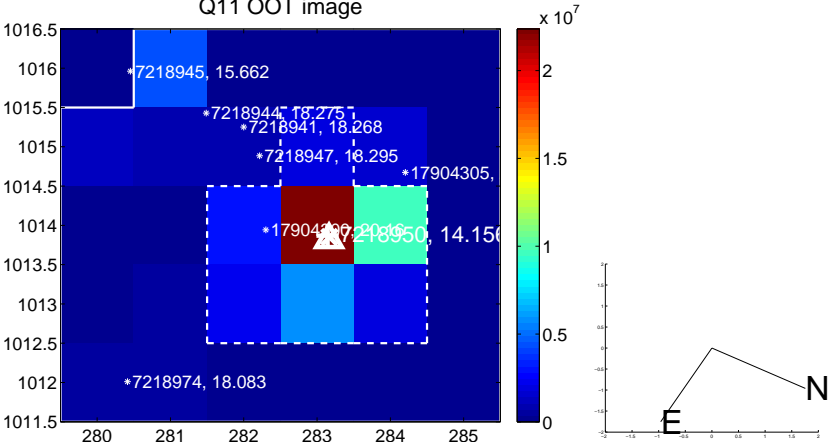
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image

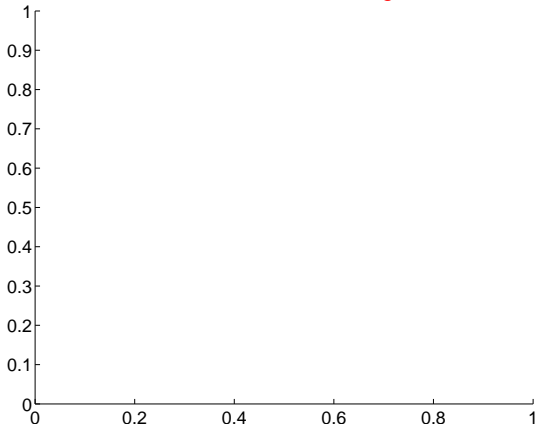


Q12 no OOT image

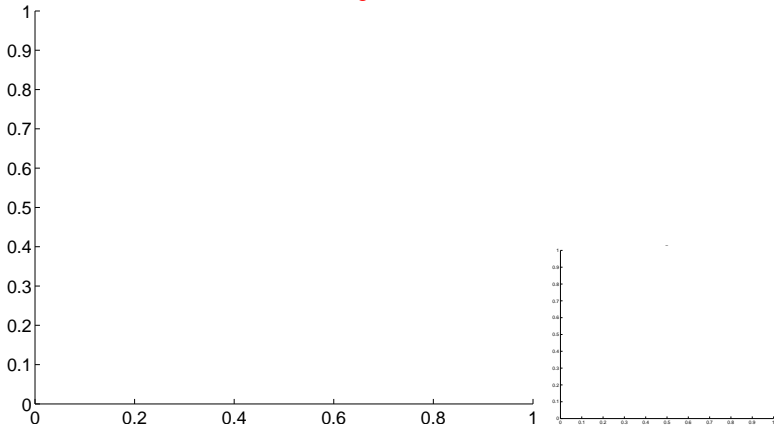


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

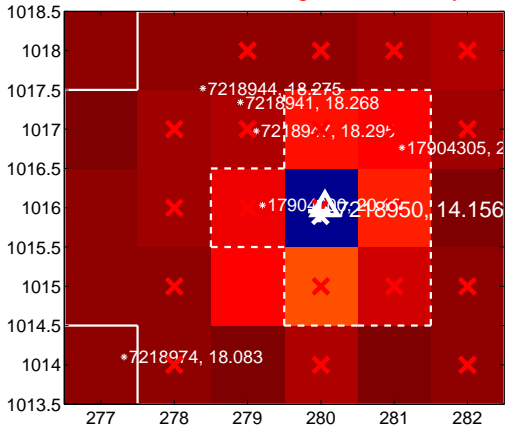
Q13 no difference image



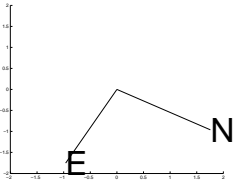
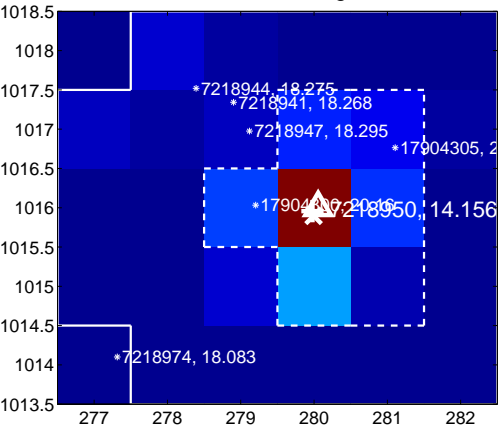
Q13 no OOT image



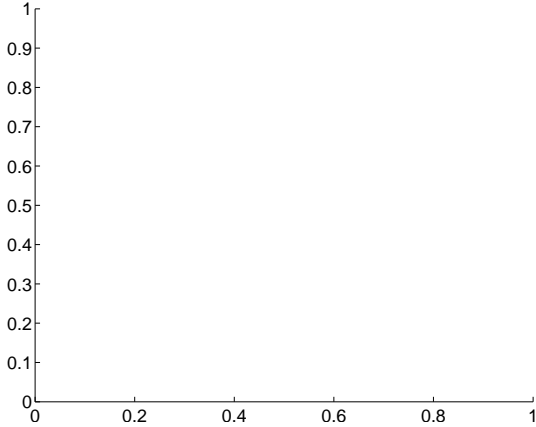
Q14 difference image. Poor Quality



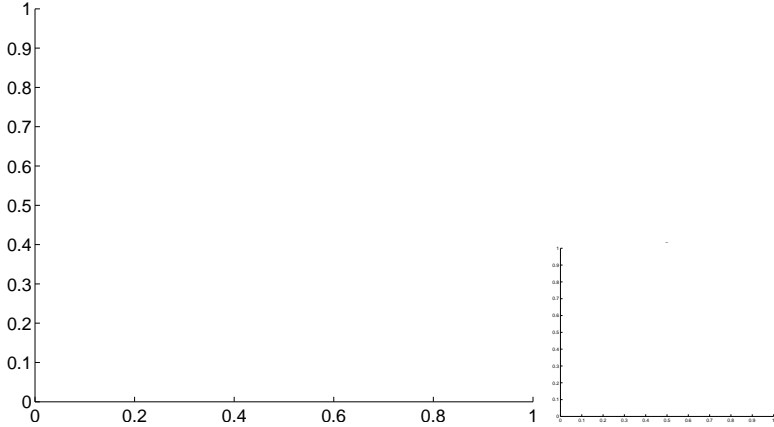
Q14 OOT image



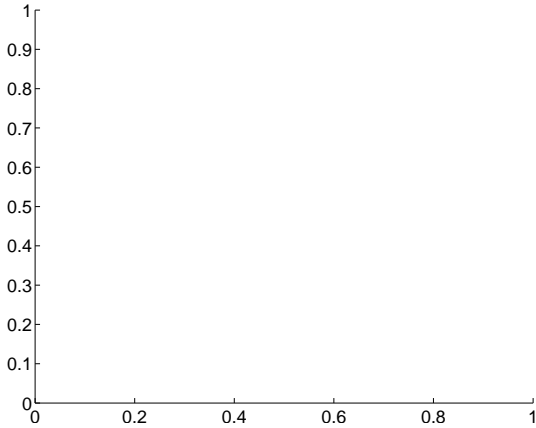
Q15 no difference image



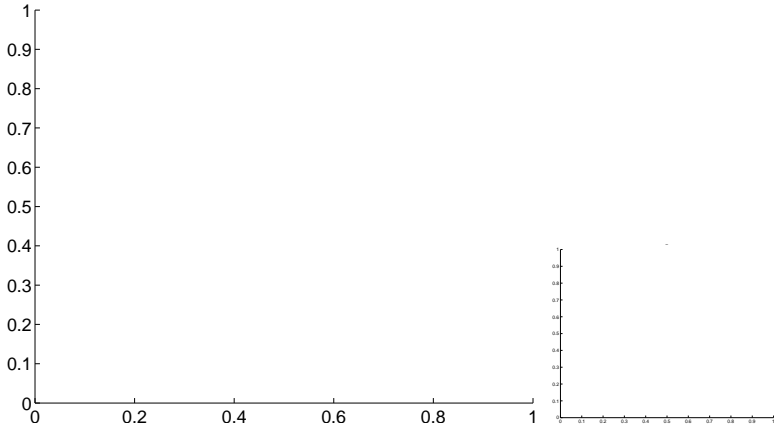
Q15 no OOT image



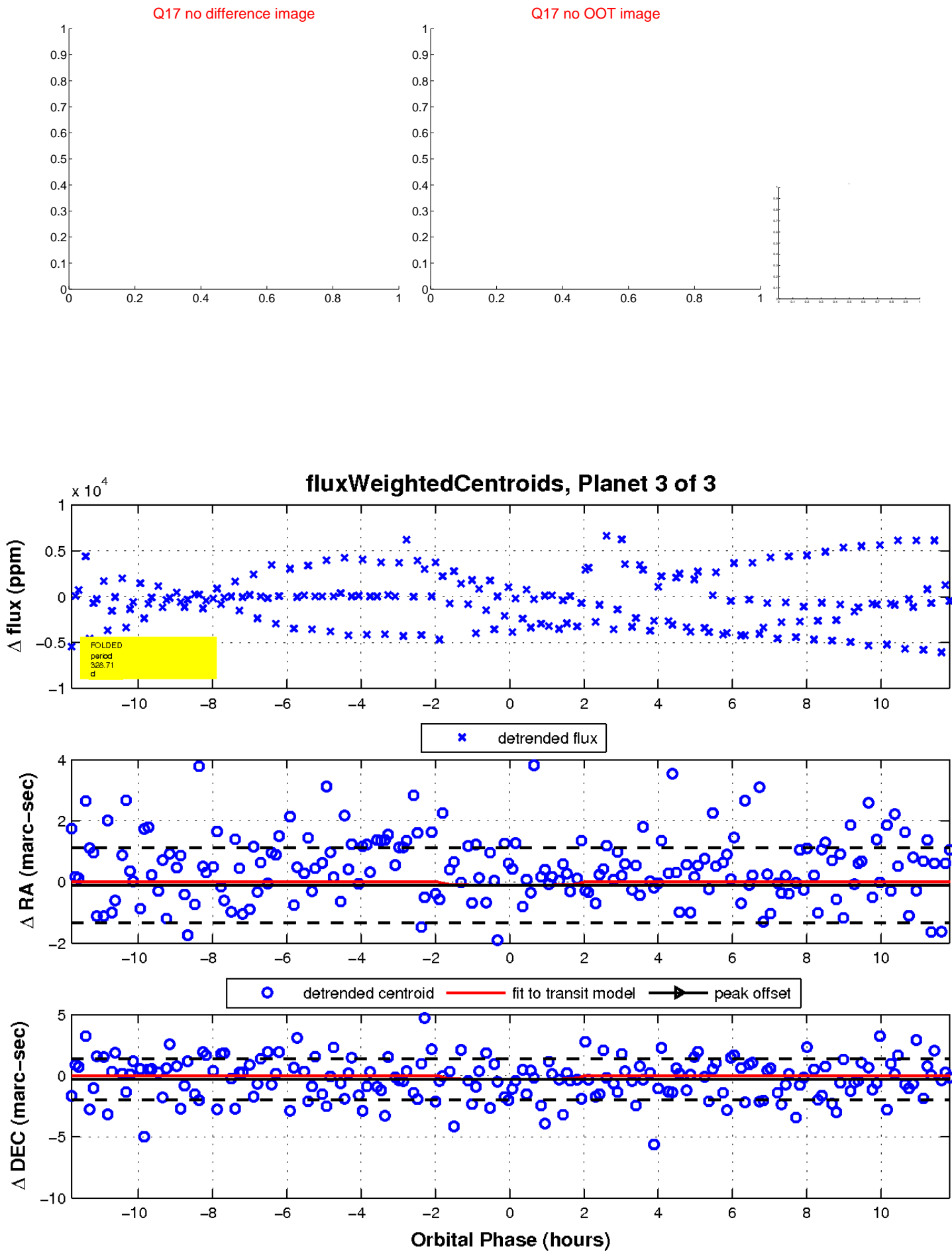
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

