

KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

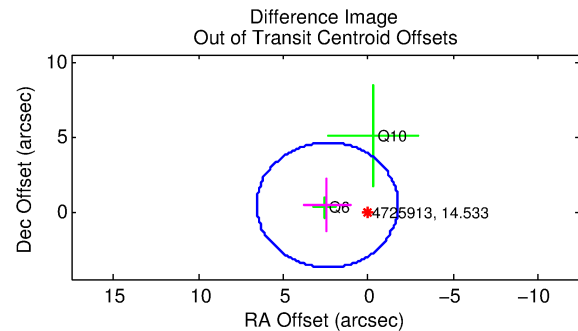
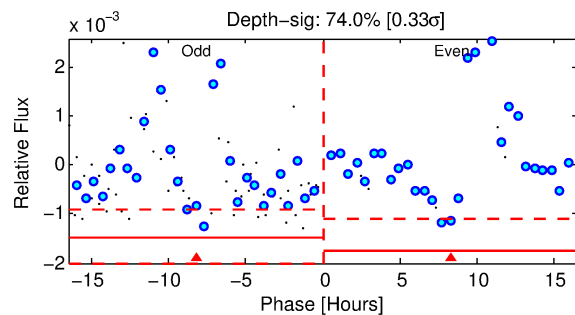
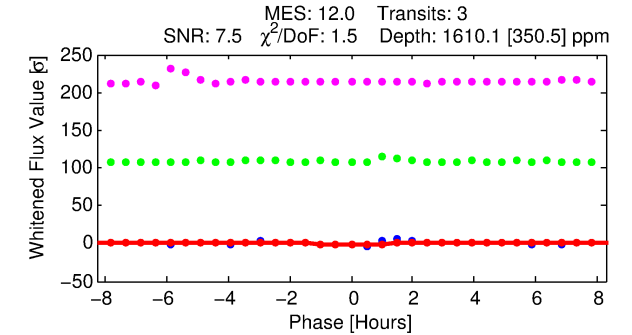
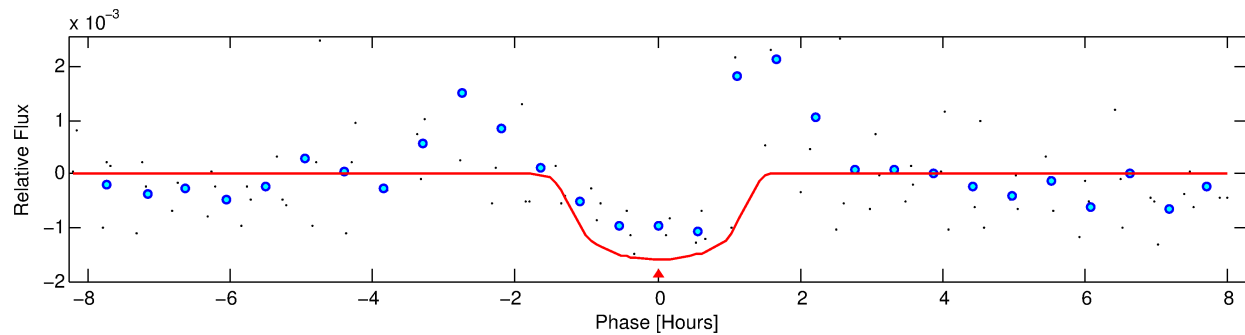
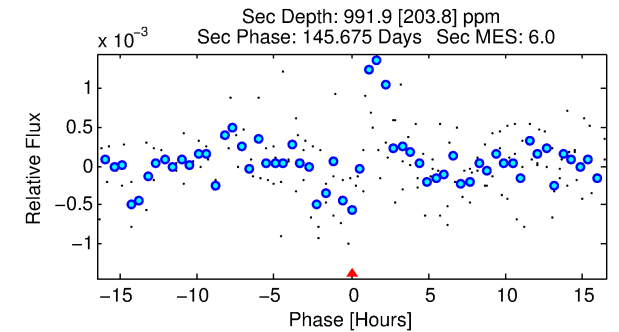
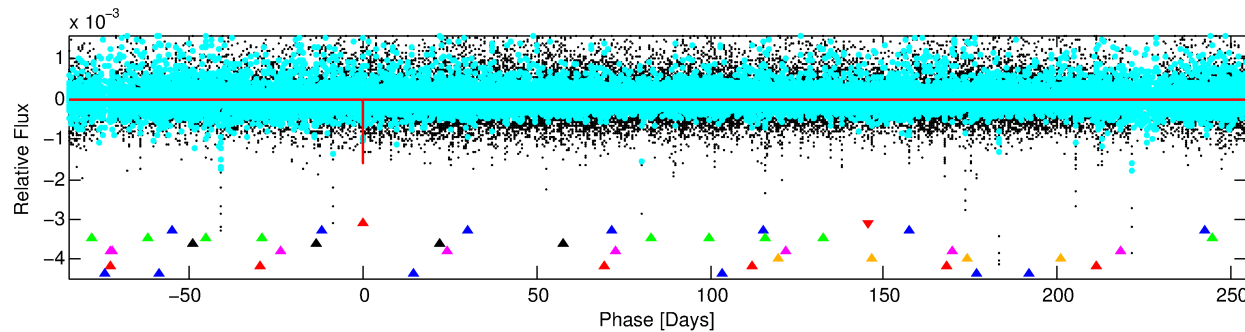
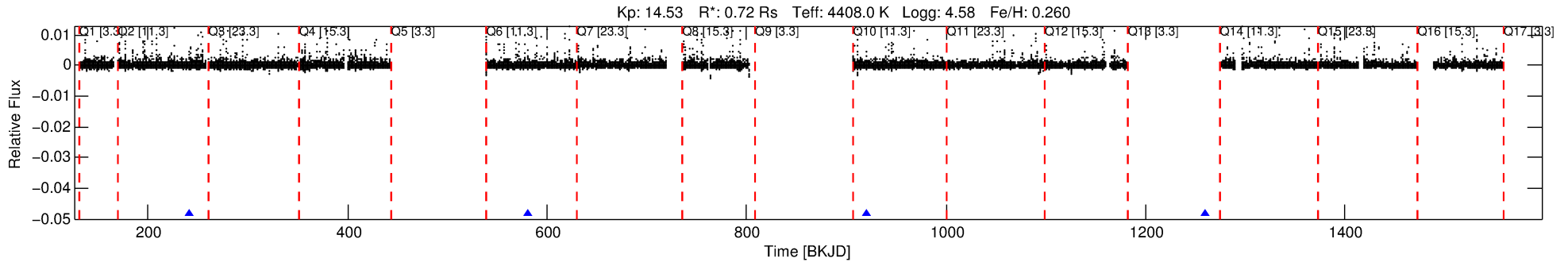
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-01

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 1 of 8 Period: 339.568 d



DV Fit Results:

Period = 339.56819 [0.00696] d
Epoch = 241.1332 [0.0083] BKJD
Rp/R* = 0.0395 [0.0702]
a/R* = 713.76 [3760.55]
b = 0.71 [3.80]
Seff = 0.24 [0.04]
Teq = 179 [7] K
Rp = 3.09 [5.49] Re
a = 0.8497 [0.0593] AU
Ag = 41354.32 [147195.26] [0.28 σ]
Teffp = 3936 [3503] K [1.07 σ]

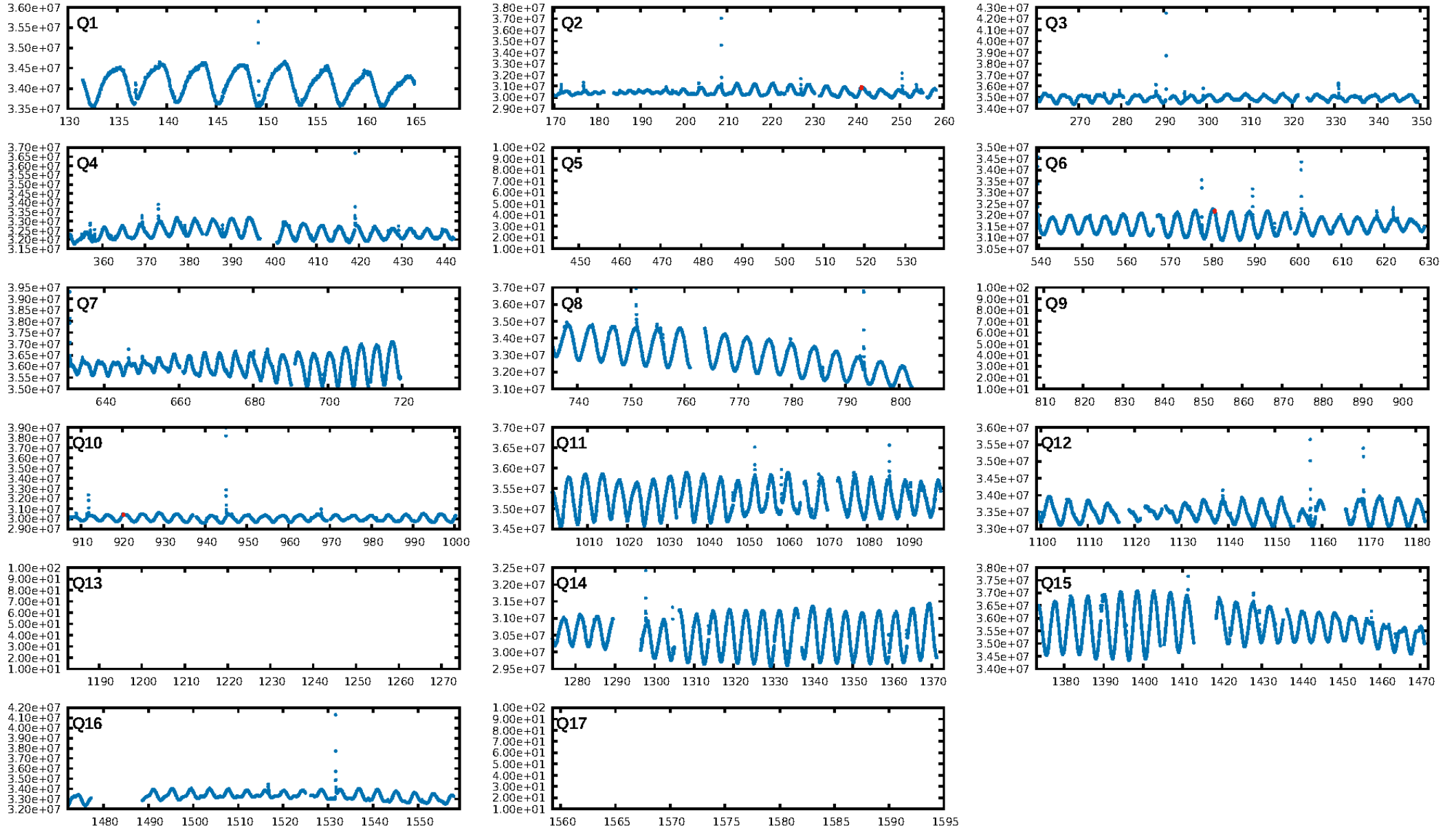
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [684.39 σ]
LongPeriod-sig: 100.0% [206.92 σ]
ModelChiSquare2-sig: 66.4%
ModelChiSquareGof-sig: 85.6%
Bootstrap-pfa: 9.08e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8175
Centroid-sig: 7.7%
Centroid-so: 1.048 arcsec [1.10 σ]
OotOffset-rm: 2.437 arcsec [1.75 σ]
KicOffset-rm: 2.601 arcsec [1.89 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

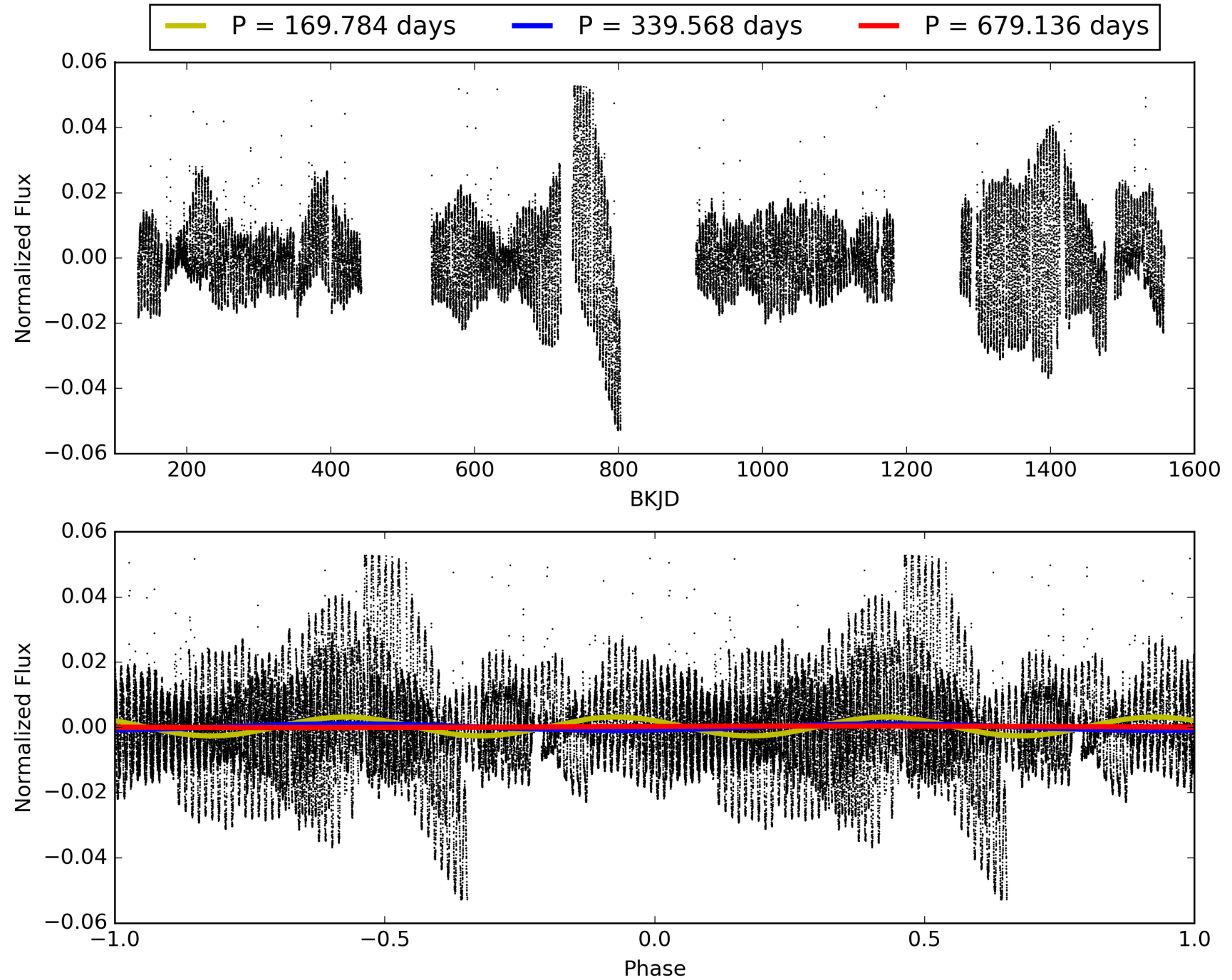
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:36:24 Z

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

TCE 004725913-01, PDC Light Curves

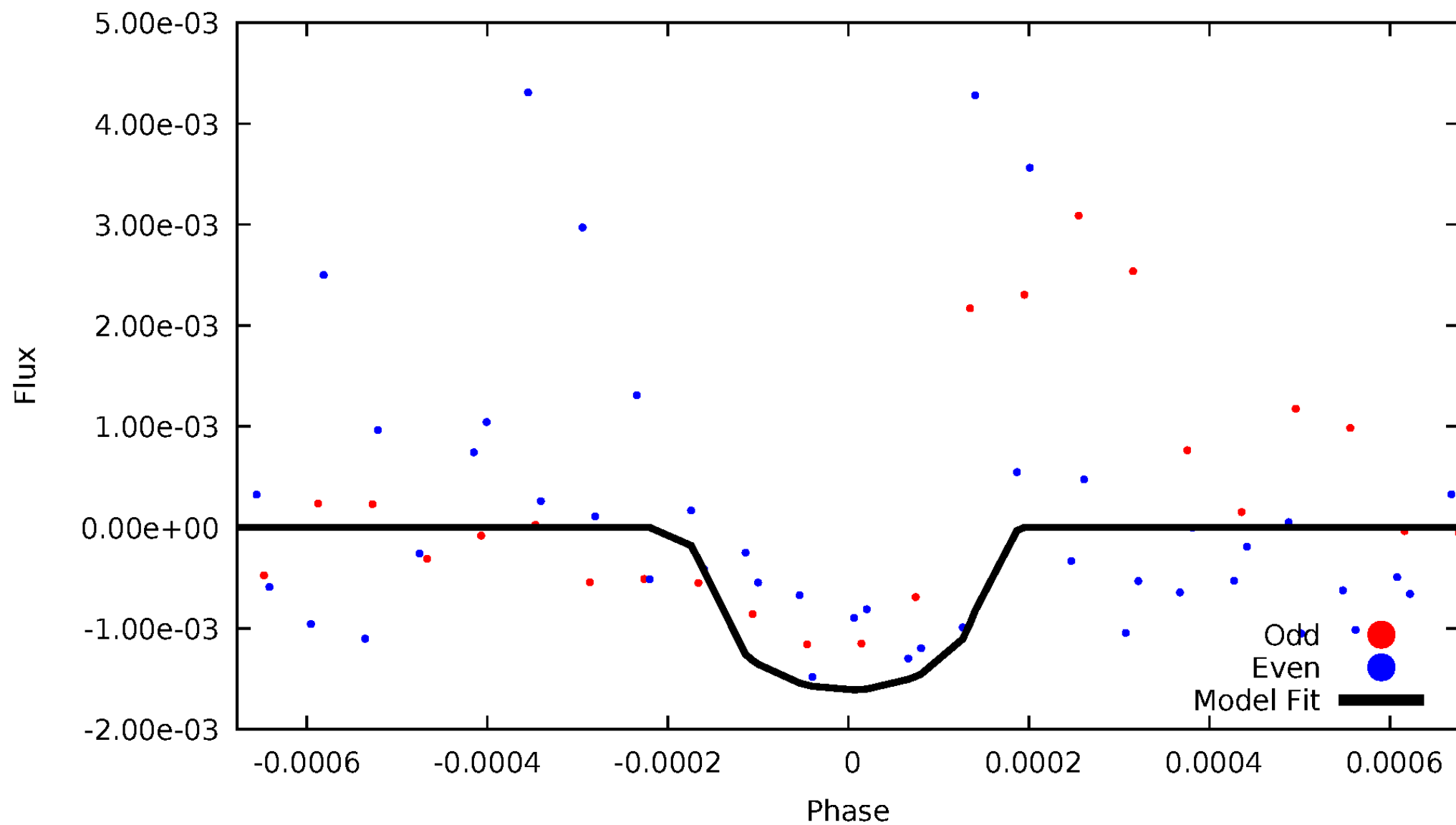


TCE 004725913-01



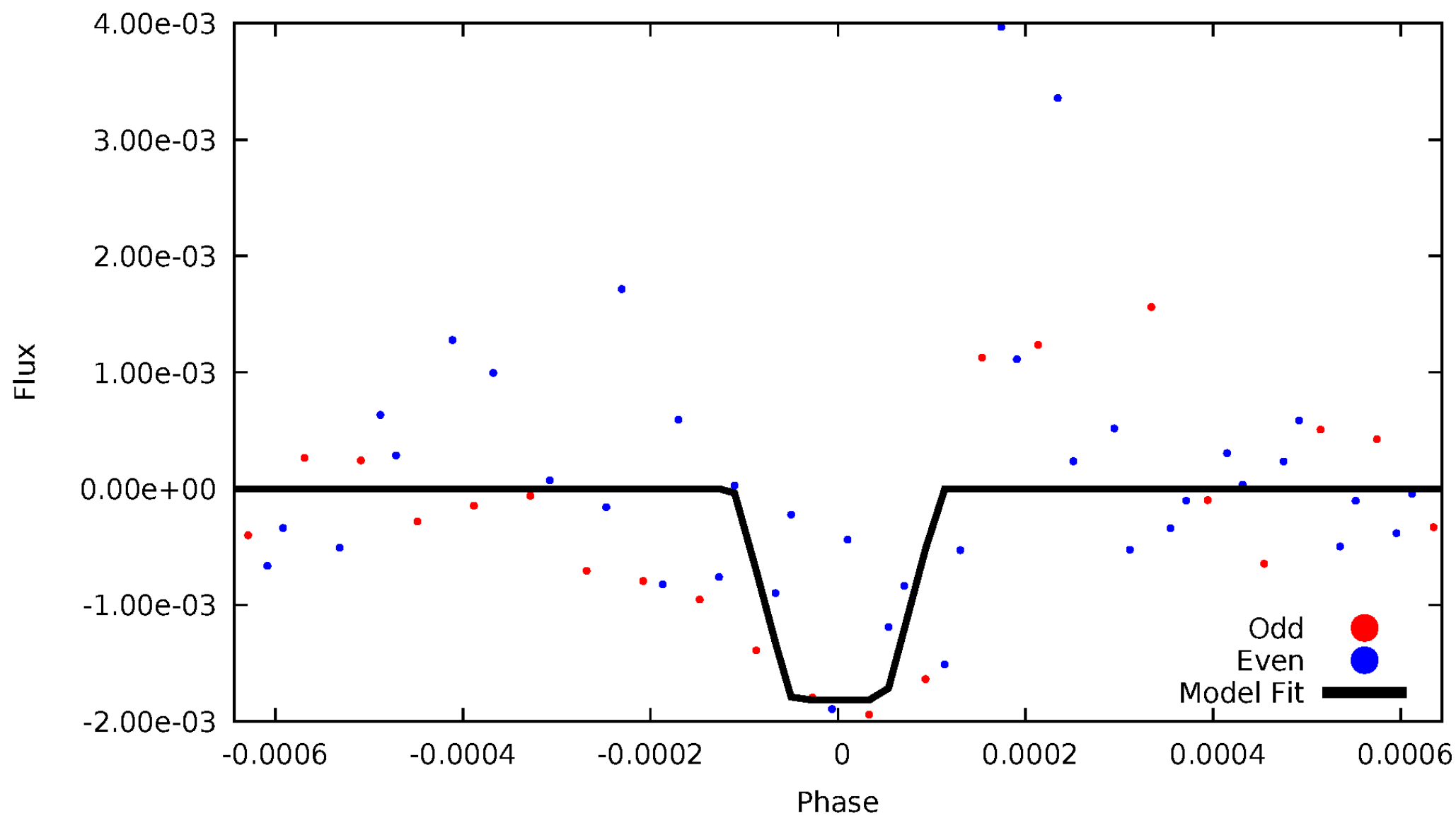
DV Odd/Even

TCE 004725913-01



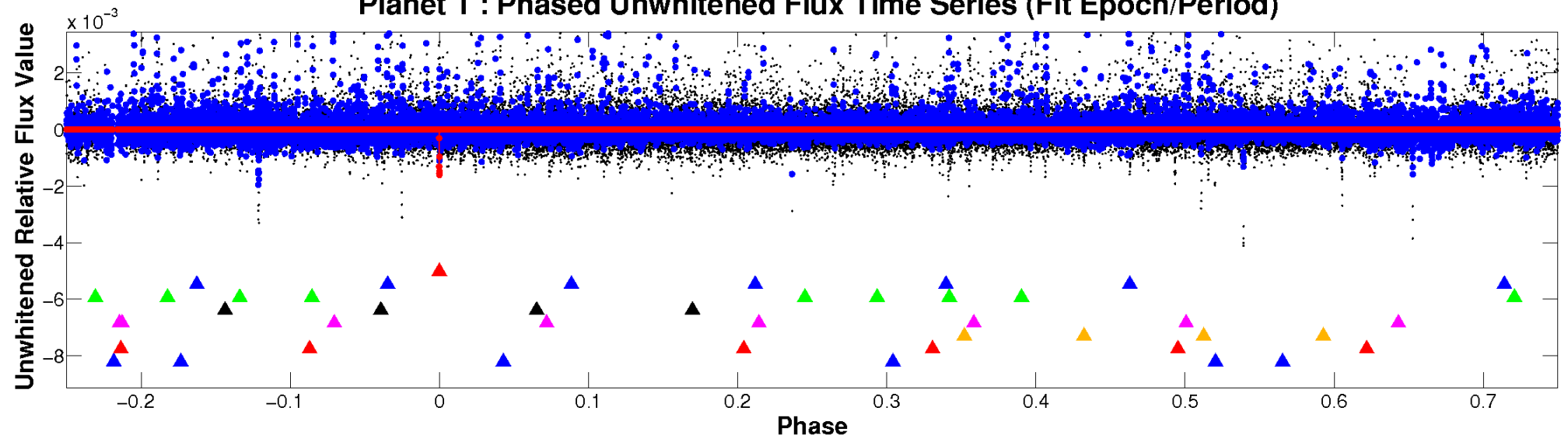
ALT Odd/Even

TCE 004725913-01

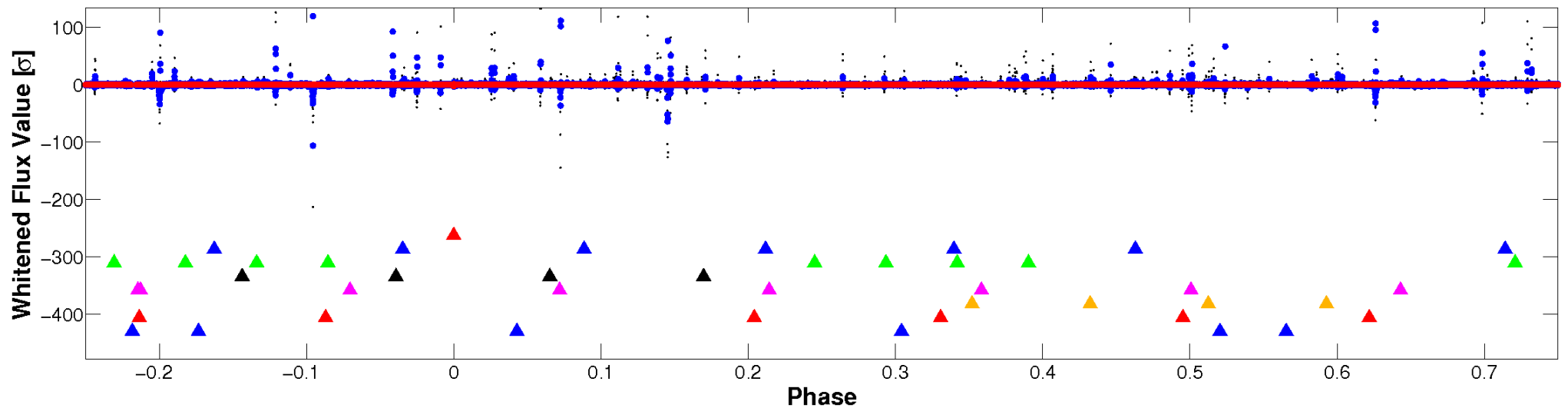


Non-Whitened Vs. Whitened Light Curve

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

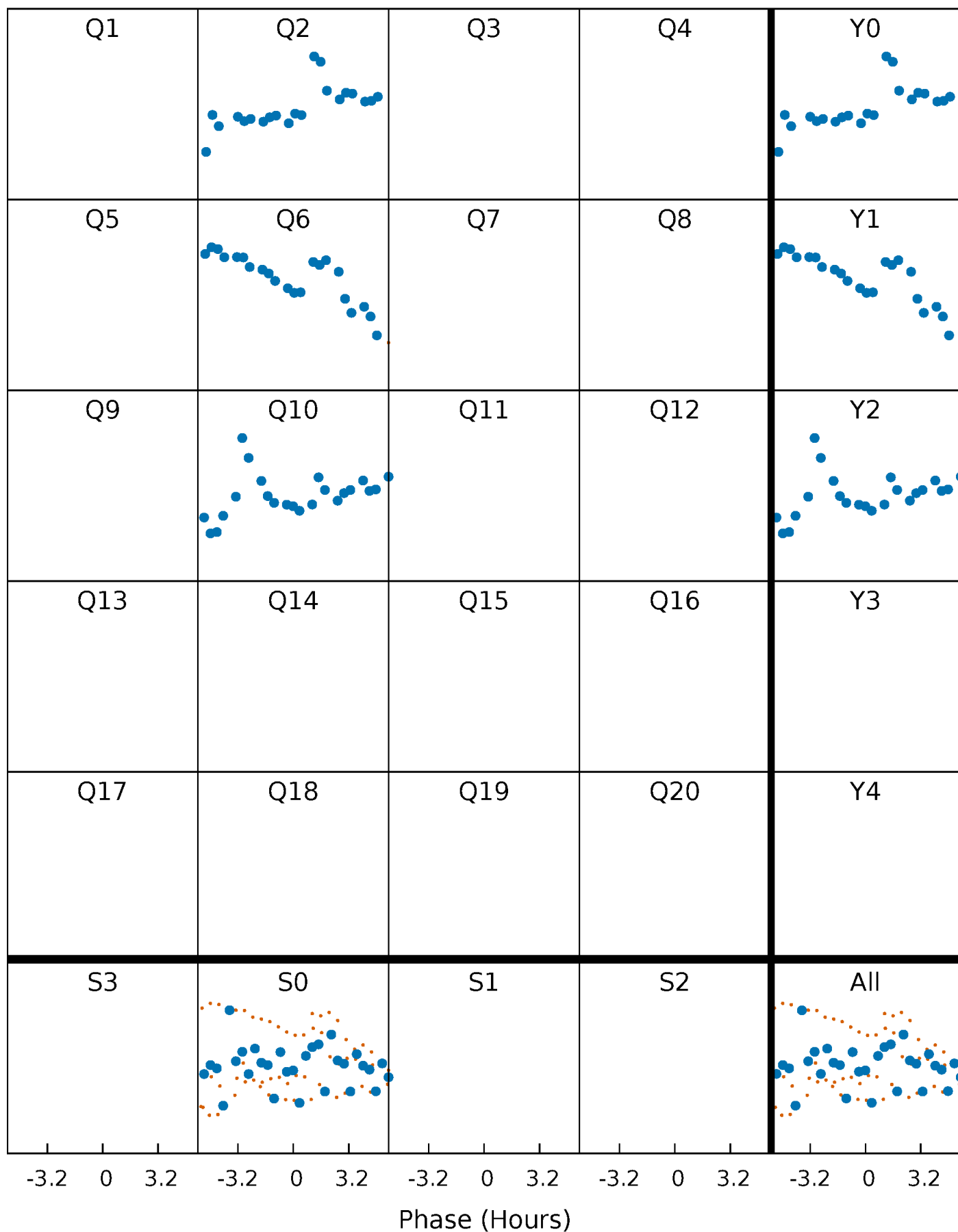


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



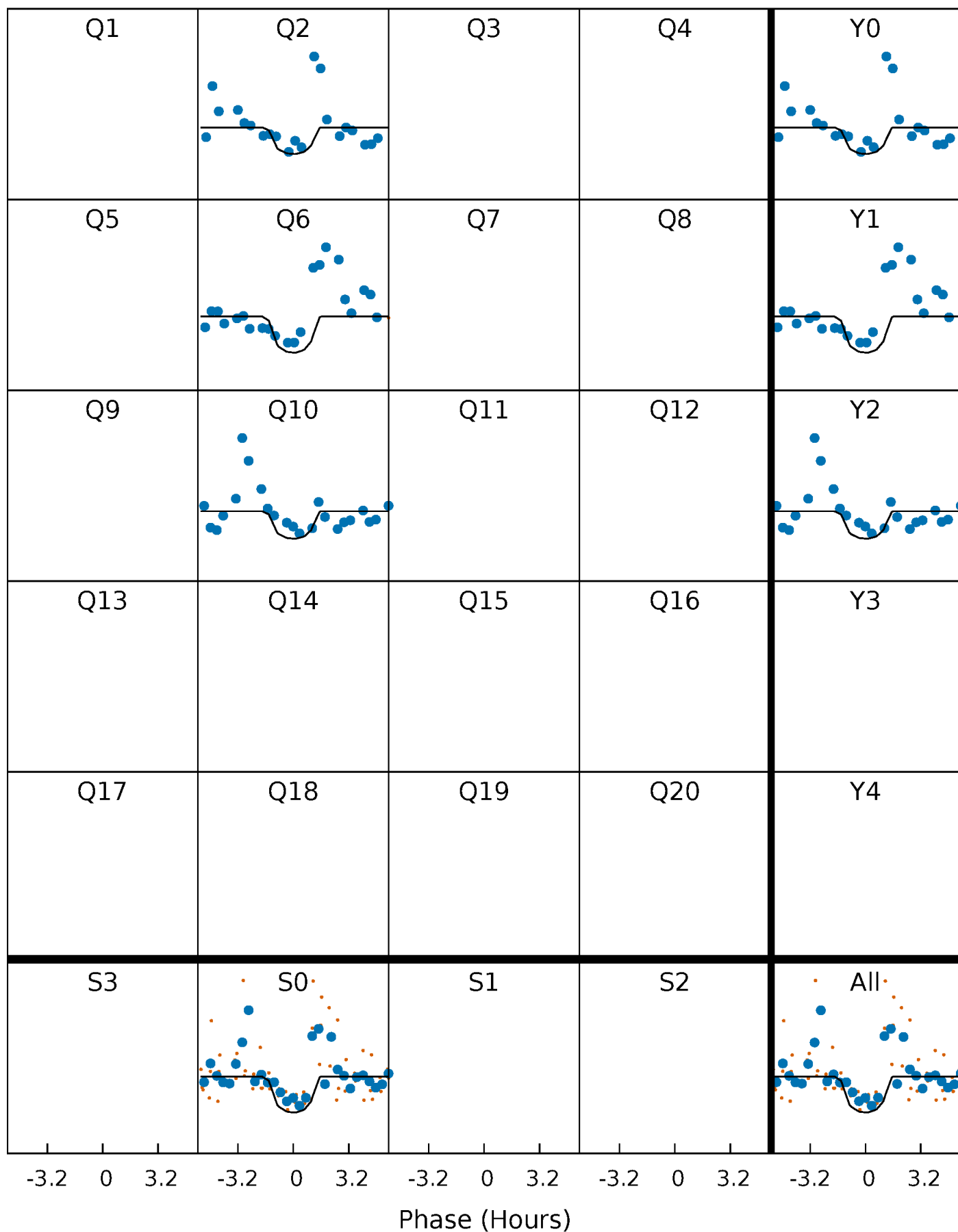
PDC Quarter-Phased Transit Curves

TCE 004725913-01 P=339.568185 Days $T_0=241.133226$ (BKJD)



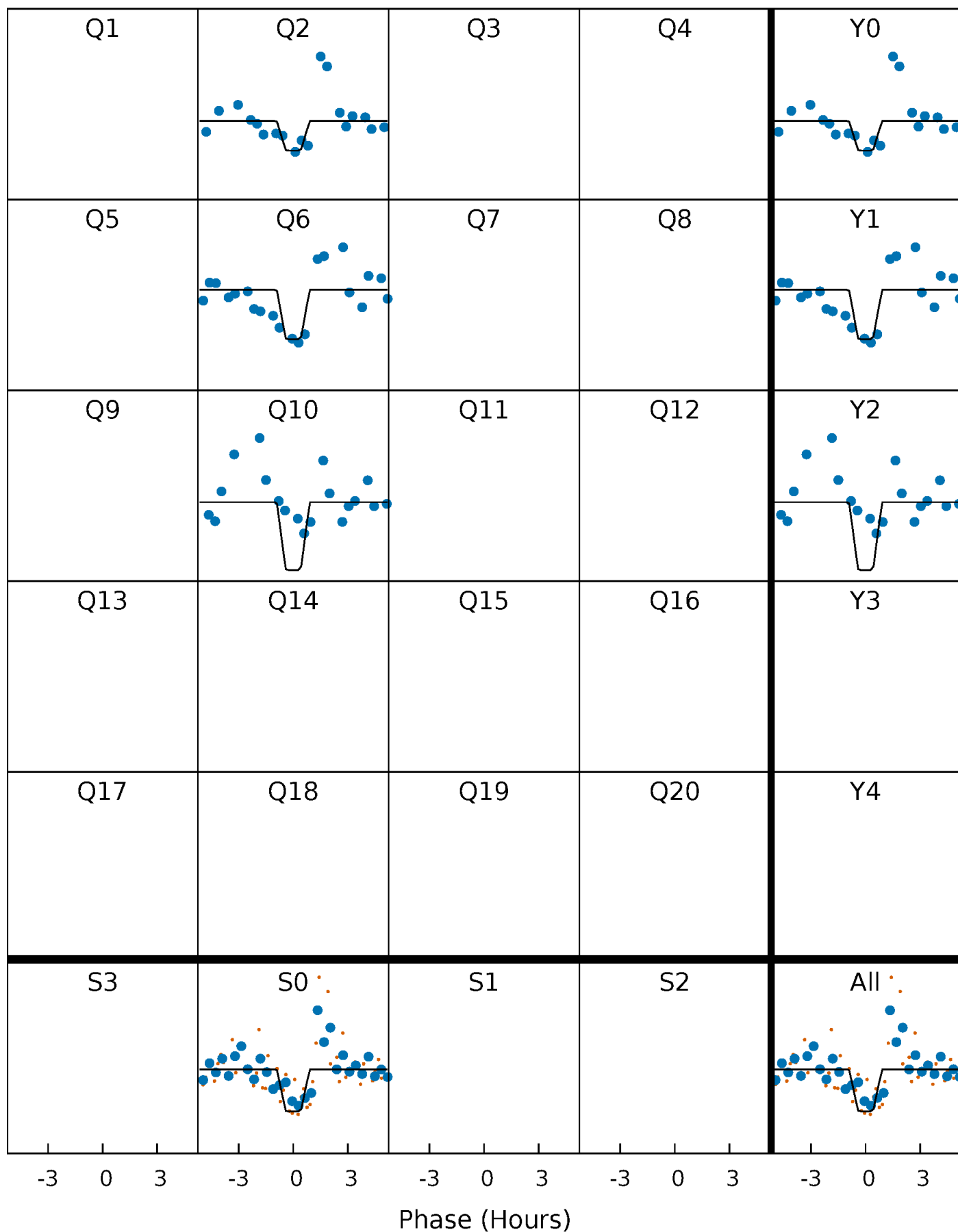
DV Quarter-Phased Transit Curves

TCE 004725913-01 P=339.568185 Days $T_0=241.133226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

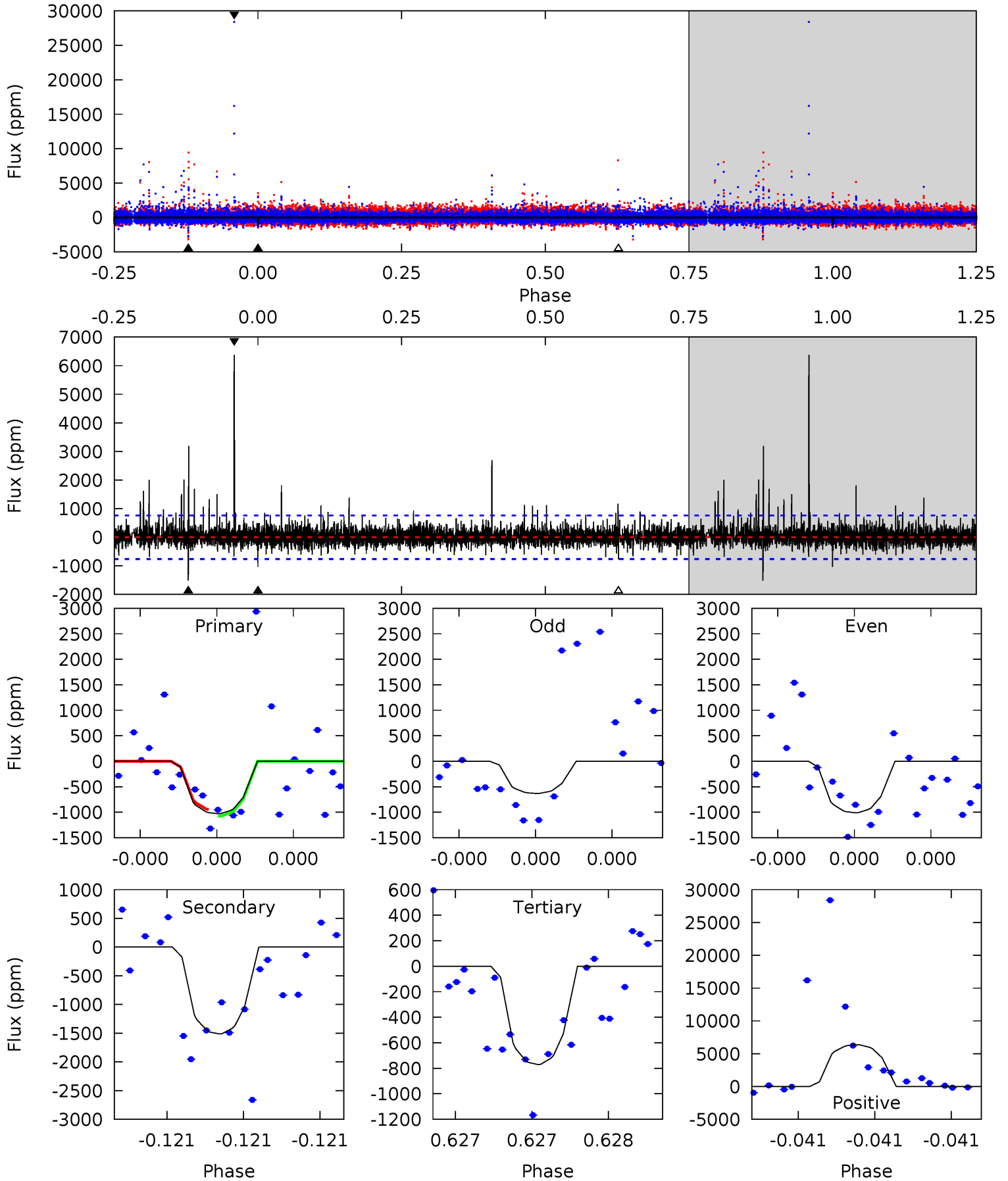
TCE 004725913-01 P=339.573181 Days $T_0=241.121930$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-01, P = 339.568185 Days, E = 241.133226 Days

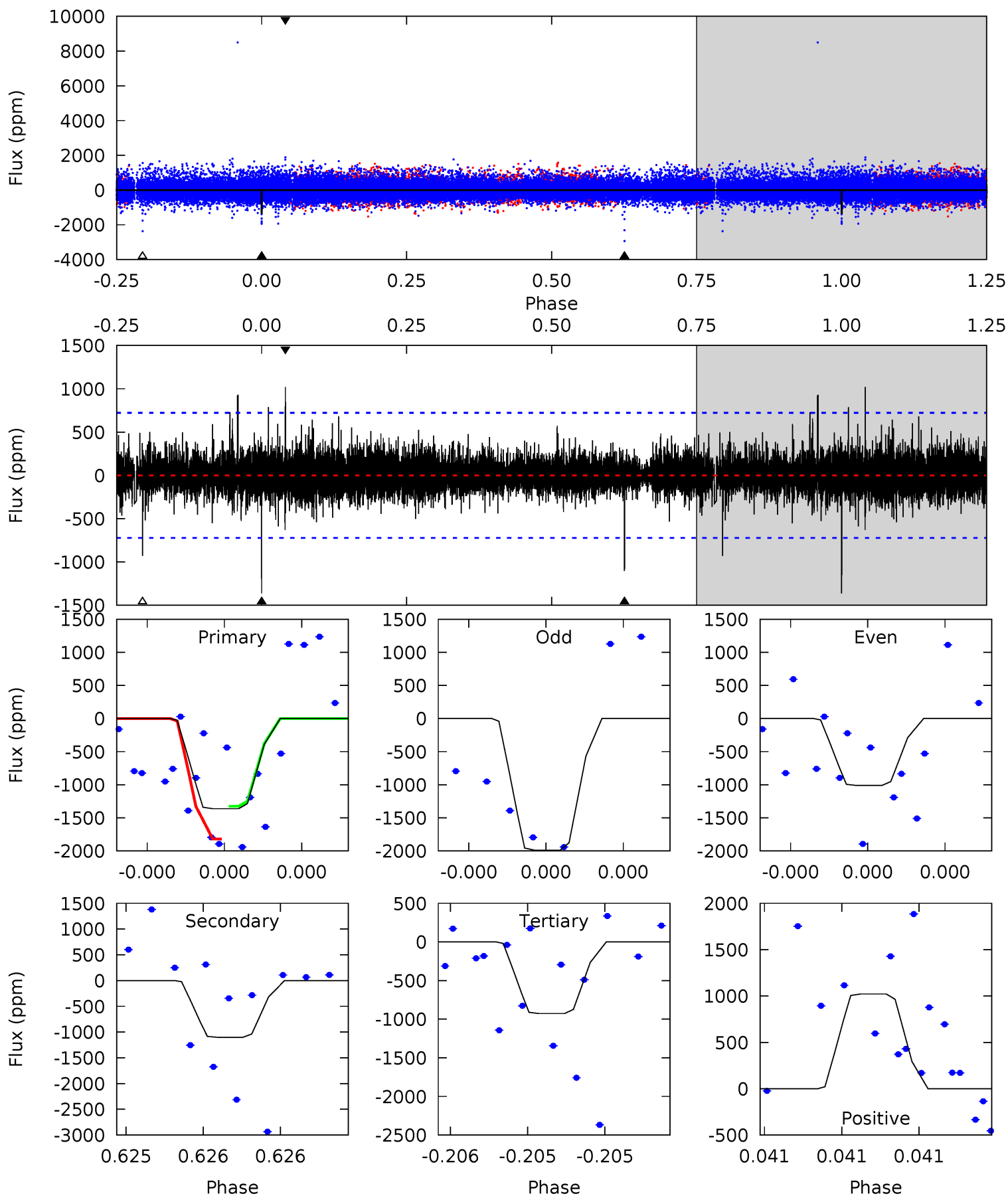
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	11.1	5.68	47.0	5.63	3.56	1.74	1.90	-39.4	5.47	-35.9	0.56	1.06	0.81	0.48



Alt Model-Shift Uniqueness Test

004725913-01, P = 339.573181 Days, E = 241.121930 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	8.76	7.37	8.13	5.75	3.74	1.08	3.47	2.71	1.39	0.63	3.07	0.91	0.43	1.82



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1513 ± 136	$5.06^{+4.91}_{-3.41}$	248^{+8}_{-8}	3668^{+2024}_{-675}	$24341^{+194430}_{-18308}$
Alt.	-1102 ± 126	$5.05^{+4.44}_{-3.41}$	247^{+8}_{-8}	3481^{+1771}_{-599}	$17390^{+139325}_{-12505}$

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

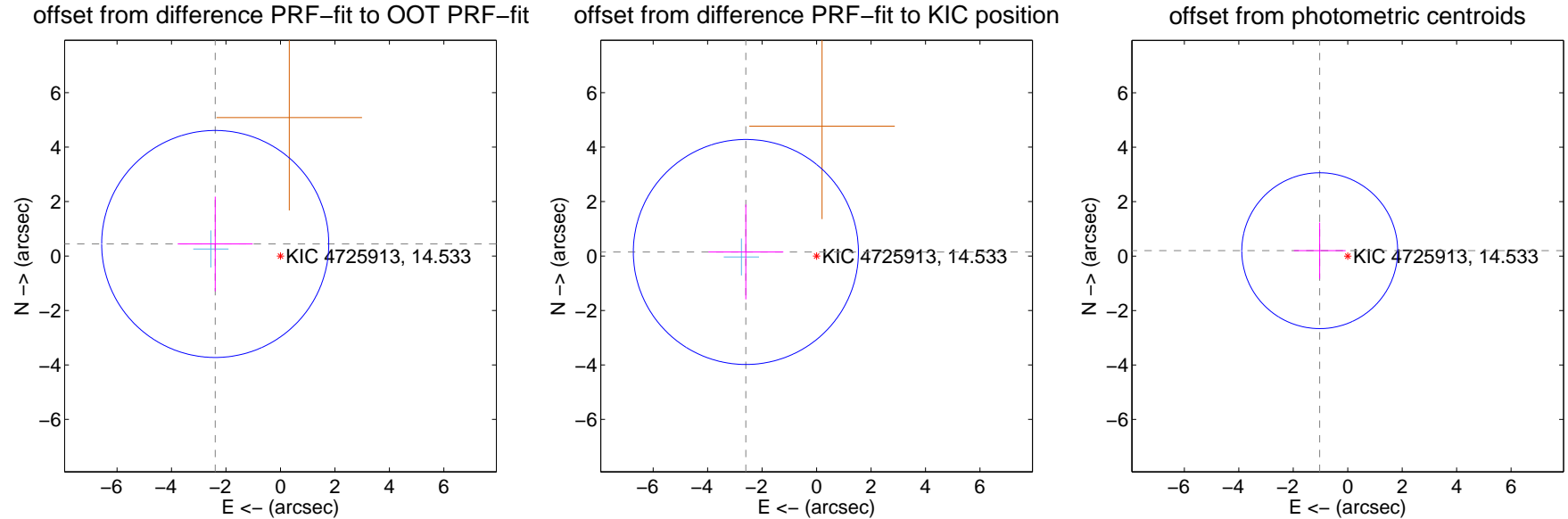
DV Centroid Data

Supplemental centroid analysis for 004725913-01. Kepler magnitude: 14.53. Transit SNR 7.45

There are 1 quarters with good PRF difference image offsets

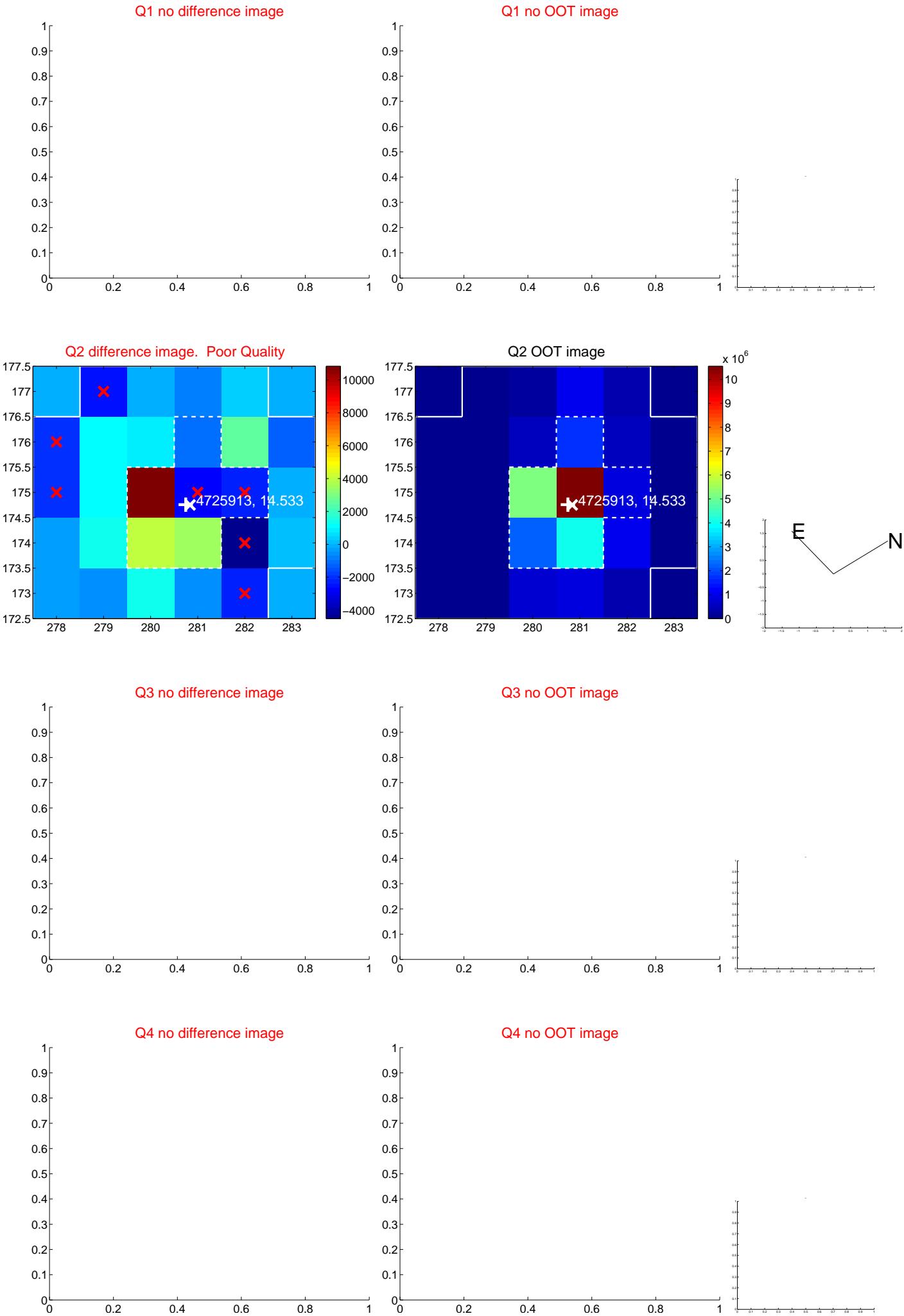
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.437 ± 1.390	1.75	2.396 ± 1.377	0.443 ± 1.740
PRF-fit source offset from KIC position	2.601 ± 1.378	1.89	2.597 ± 1.377	0.149 ± 1.740
photometric centroid source offset	1.05 ± 0.95	1.10	1.03 ± 0.95	0.20 ± 1.03

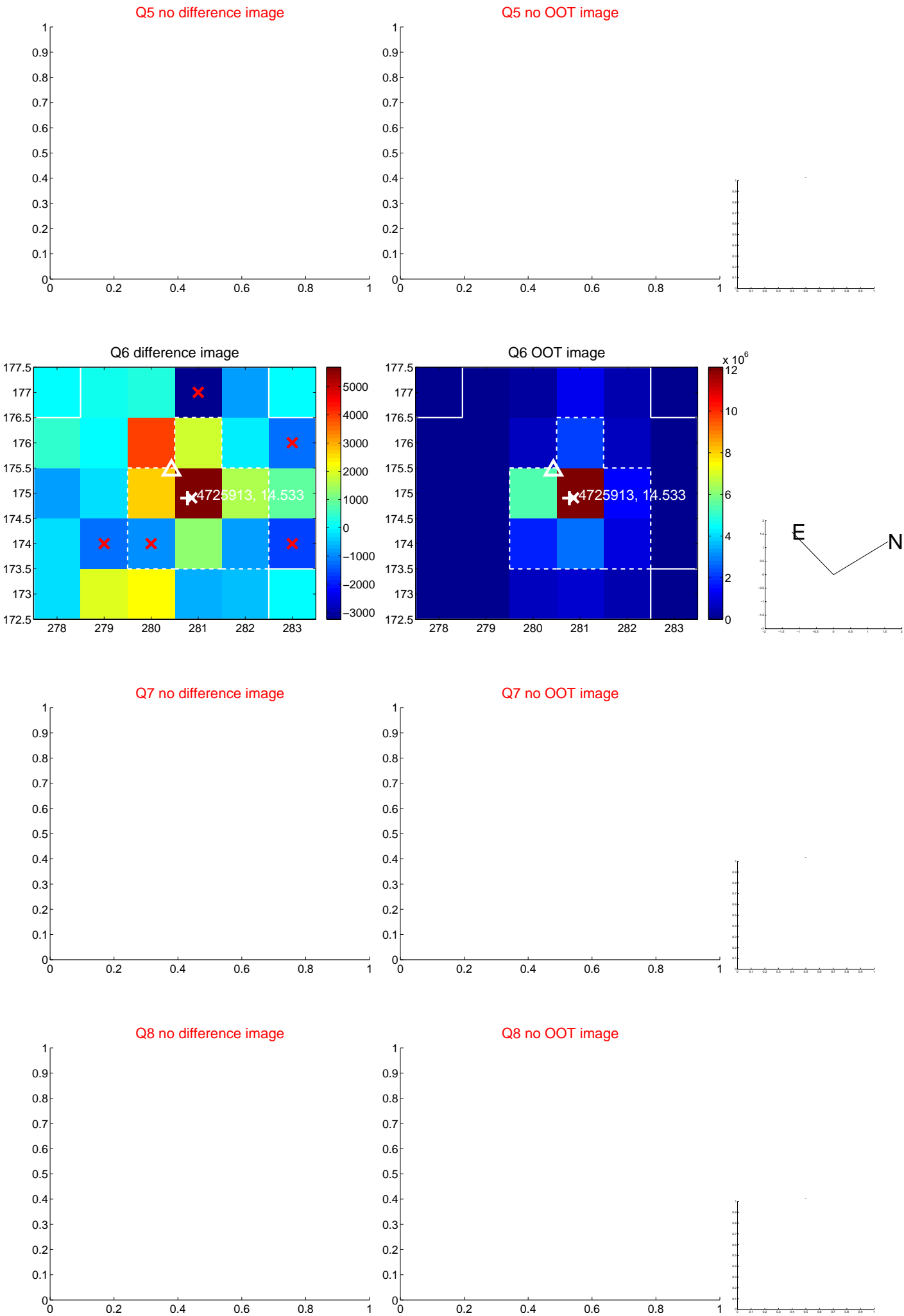


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

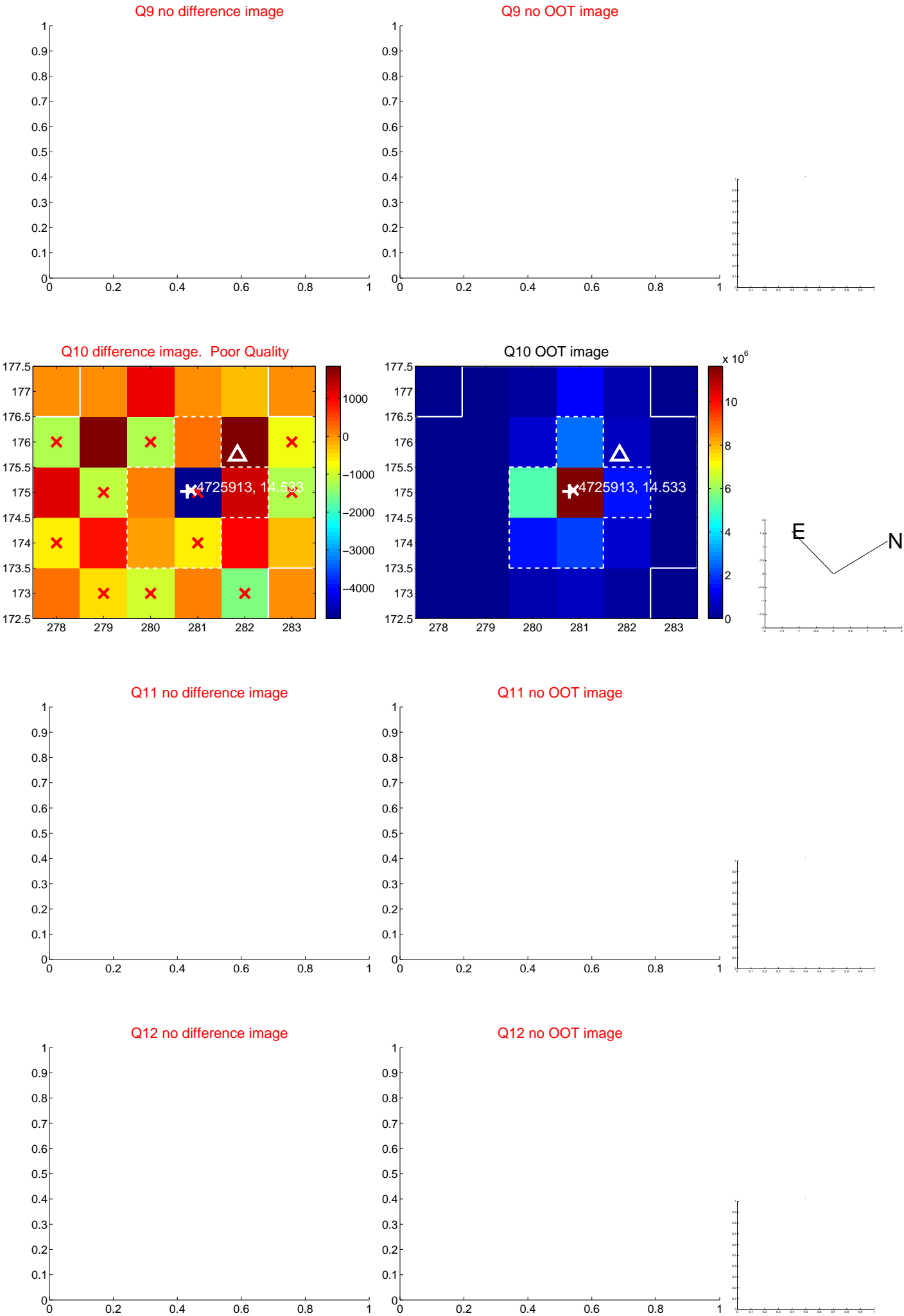
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



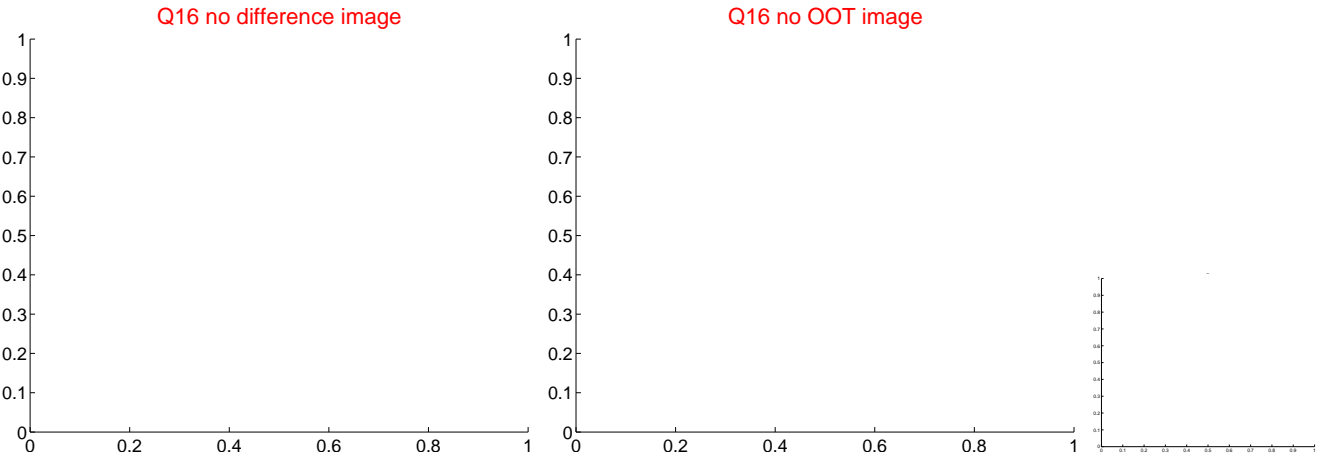
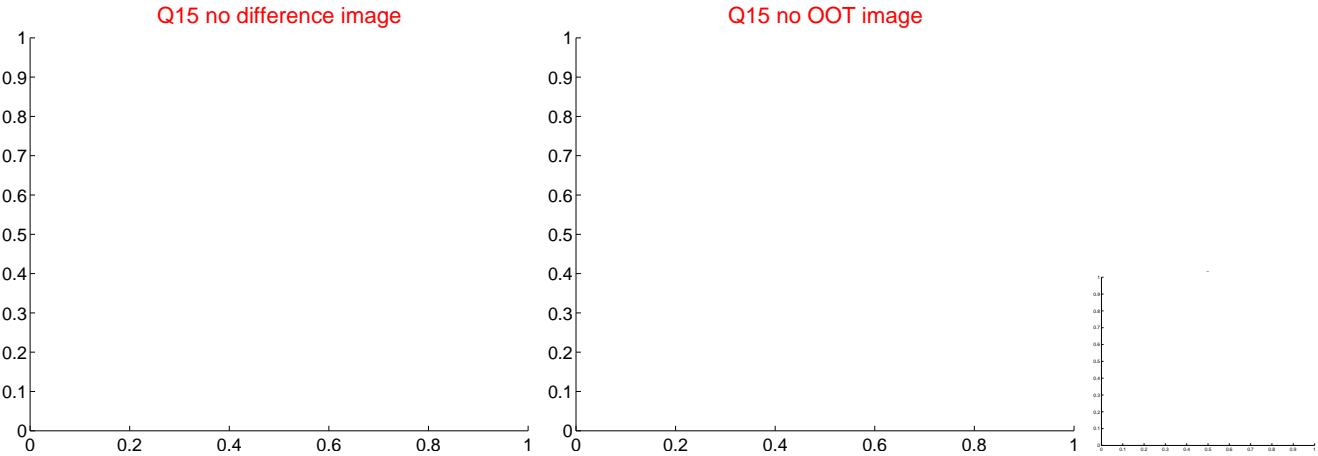
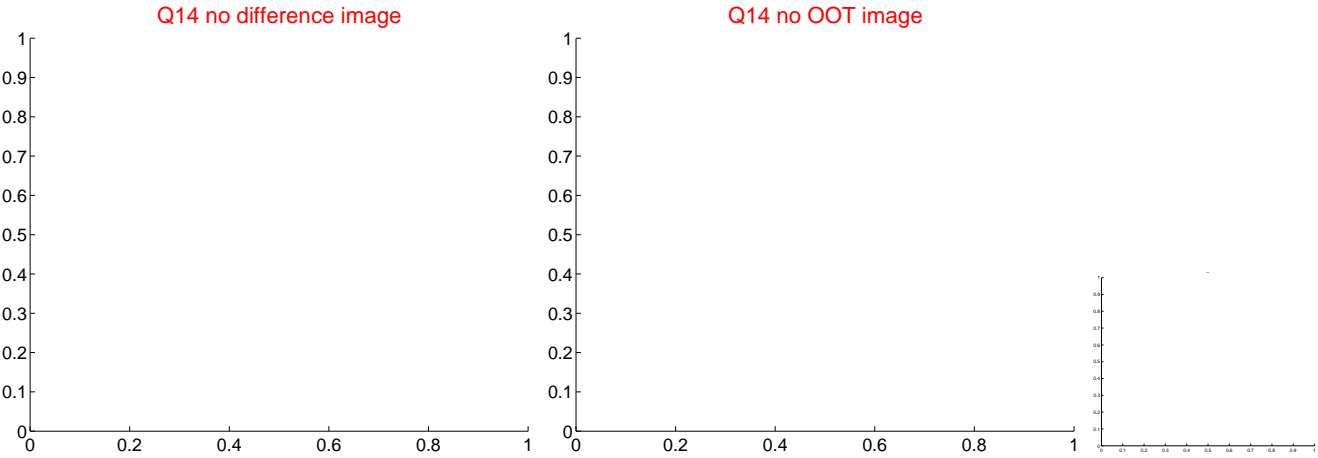
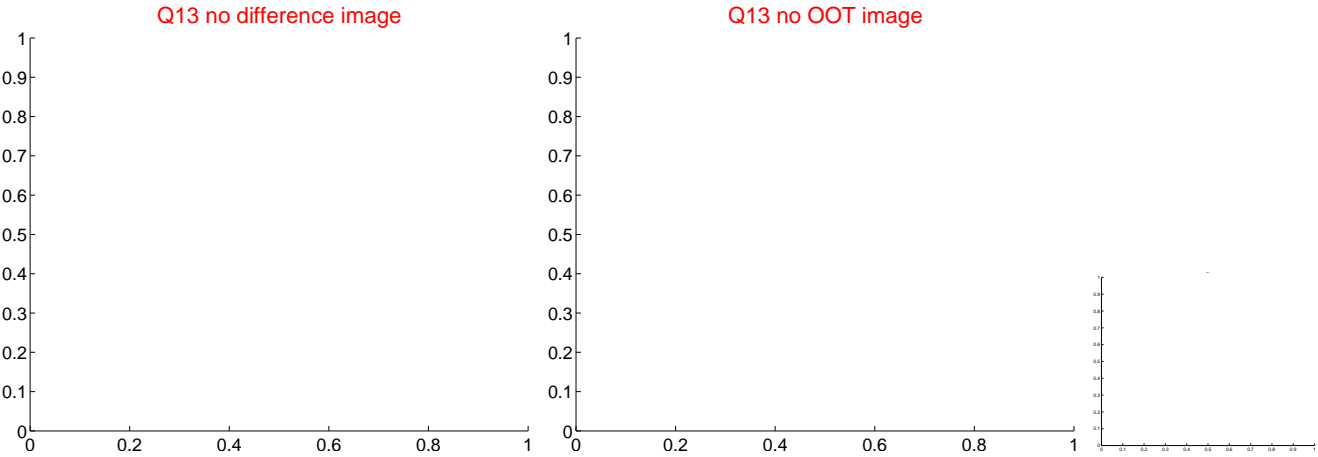
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



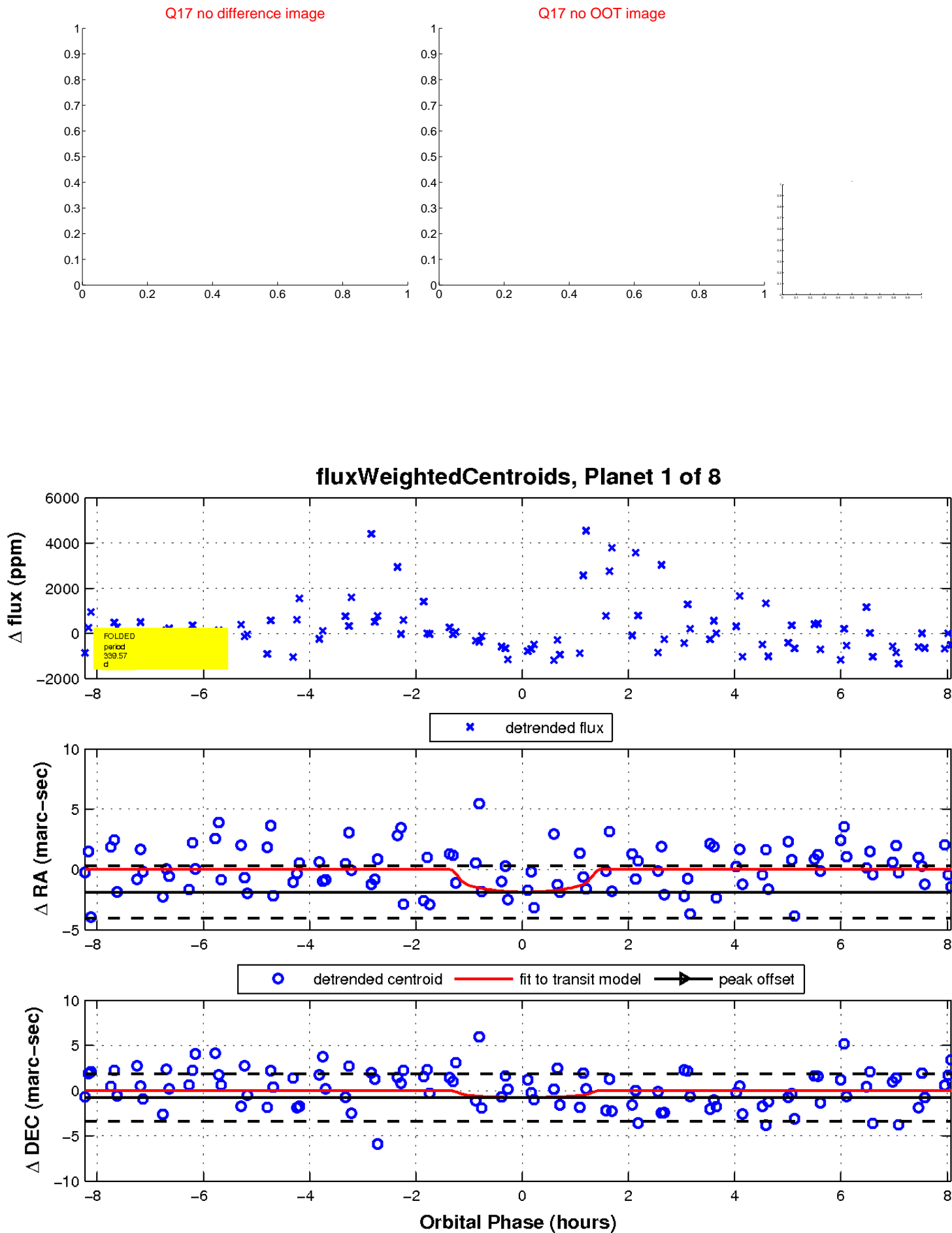
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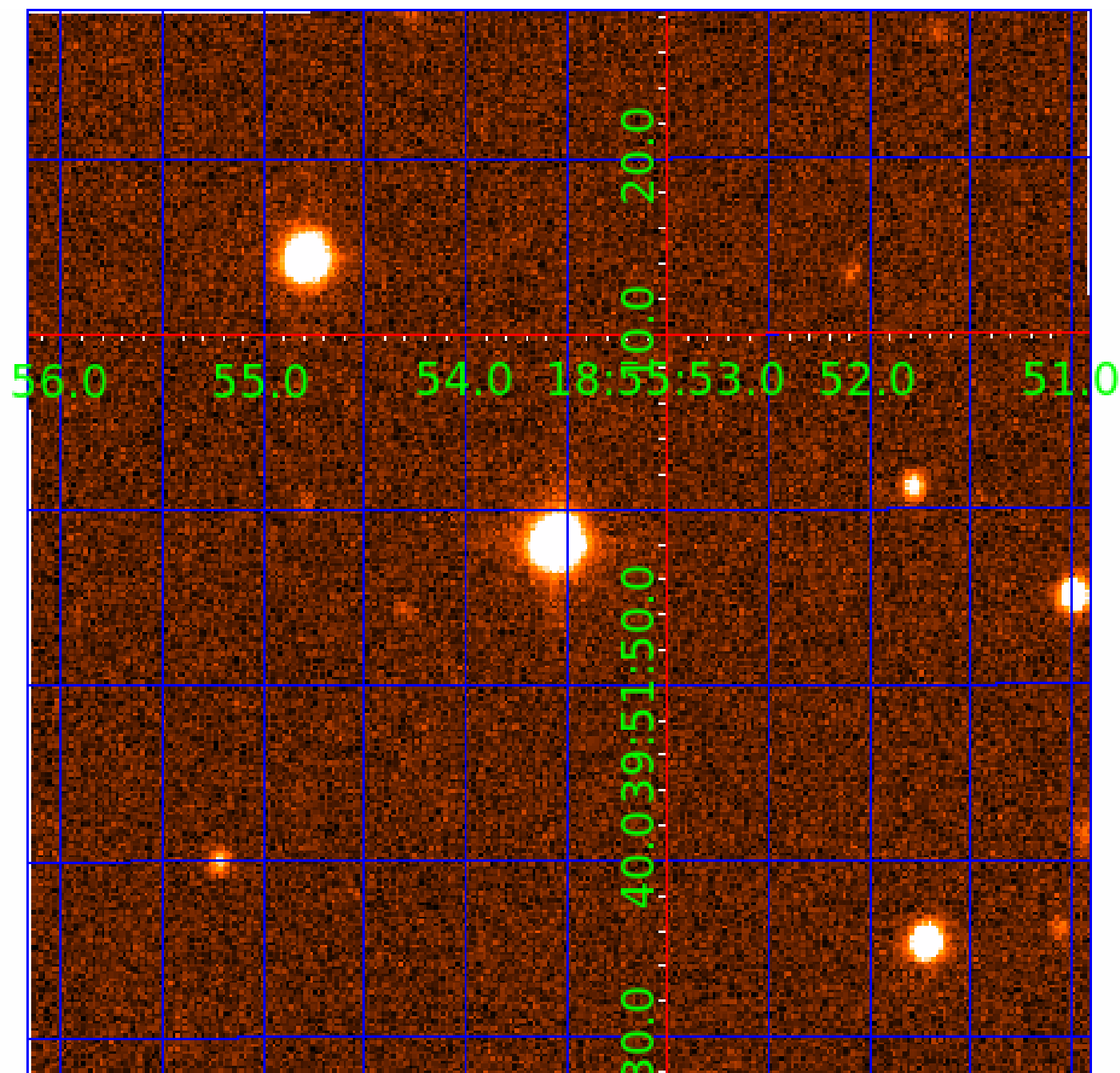


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
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004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

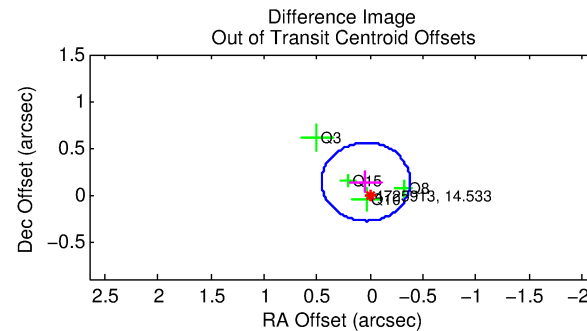
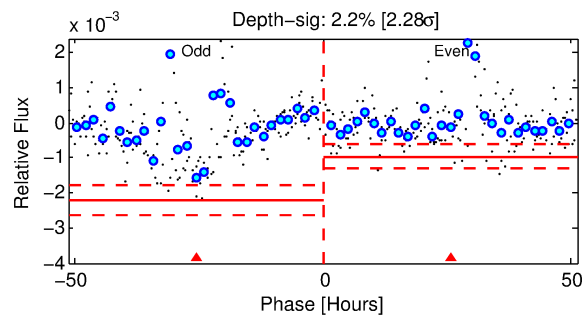
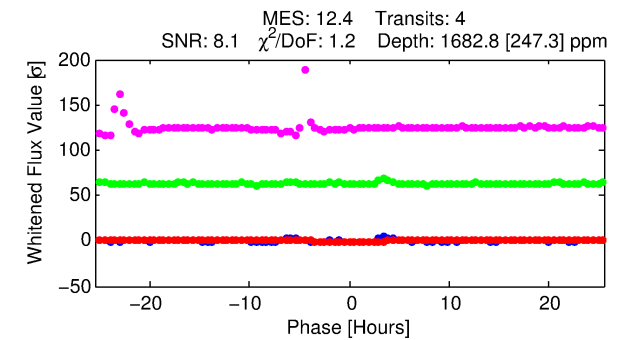
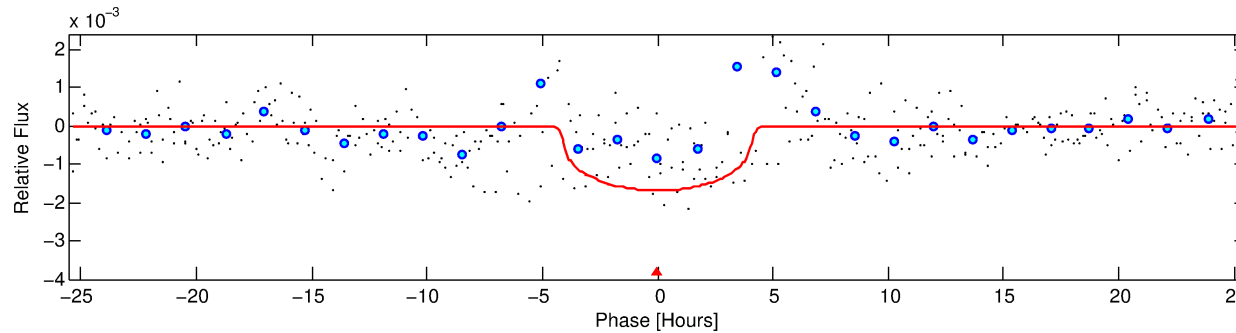
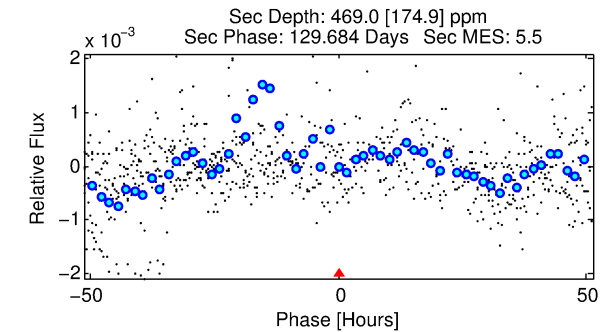
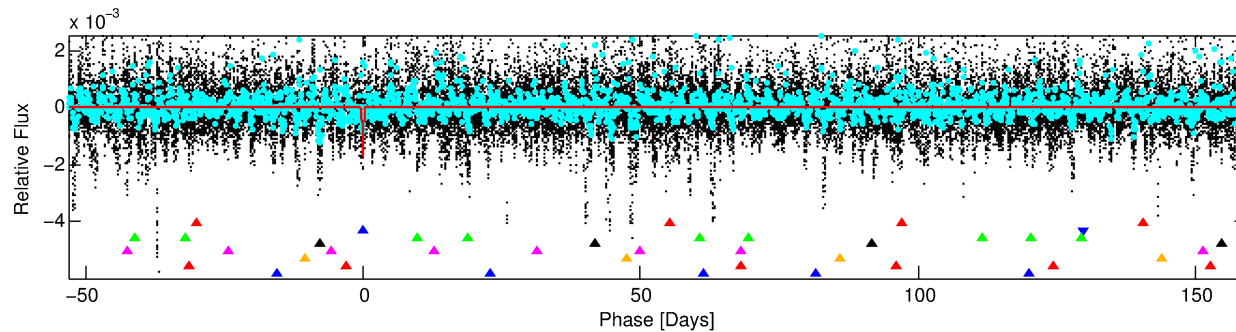
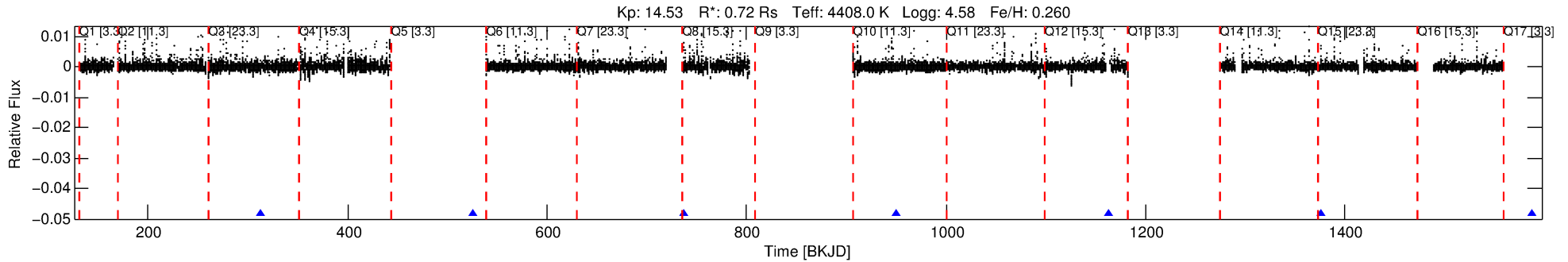
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-02

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 2 of 8 Period: 212.431 d



DV Fit Results:

Period = 212.43147 [0.00249] d
Epoch = 313.0499 [0.0082] BKJD
Rp/R* = 0.0359 [0.0251]
a/R* = 193.91 [379.67]
b = 0.19 [10.11]
Seff = 0.45 [0.07]
Teq = 209 [8] K
Rp = 2.81 [1.98] Re
a = 0.6215 [0.0434] AU
Ag = 12660.52 [18394.02] [0.69σ]
Teffp = 3423 [1244] K [2.58σ]

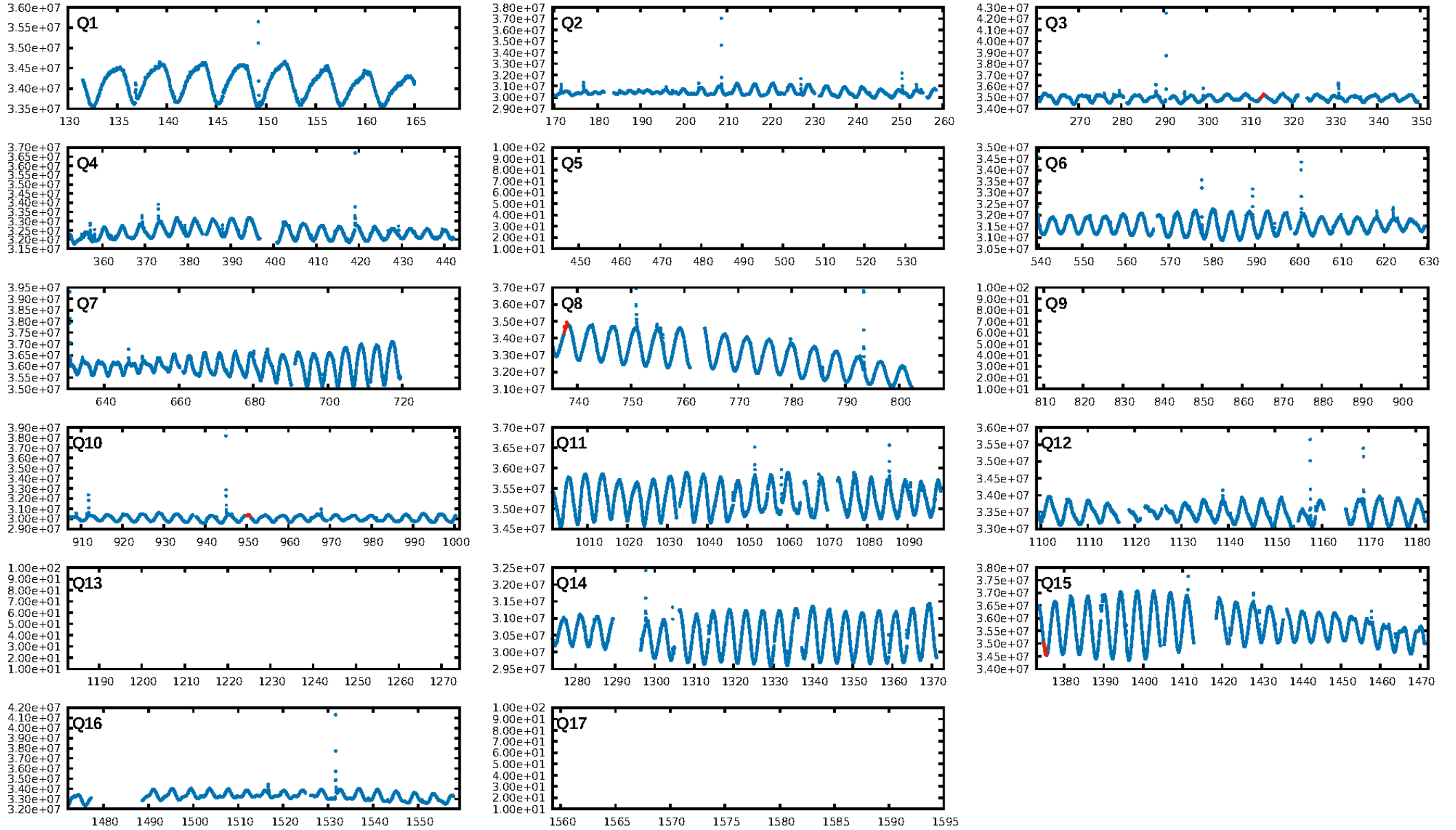
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.27σ]
LongPeriod-sig: 100.0% [57.31σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 83.7%
Bootstrap-pfa: 2.92e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5156
Centroid-sig: 56.8%
Centroid-so: 0.229 arcsec [0.50σ]
OotOffset-rm: 0.144 arcsec [1.03σ]
KicOffset-rm: 0.131 arcsec [0.73σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

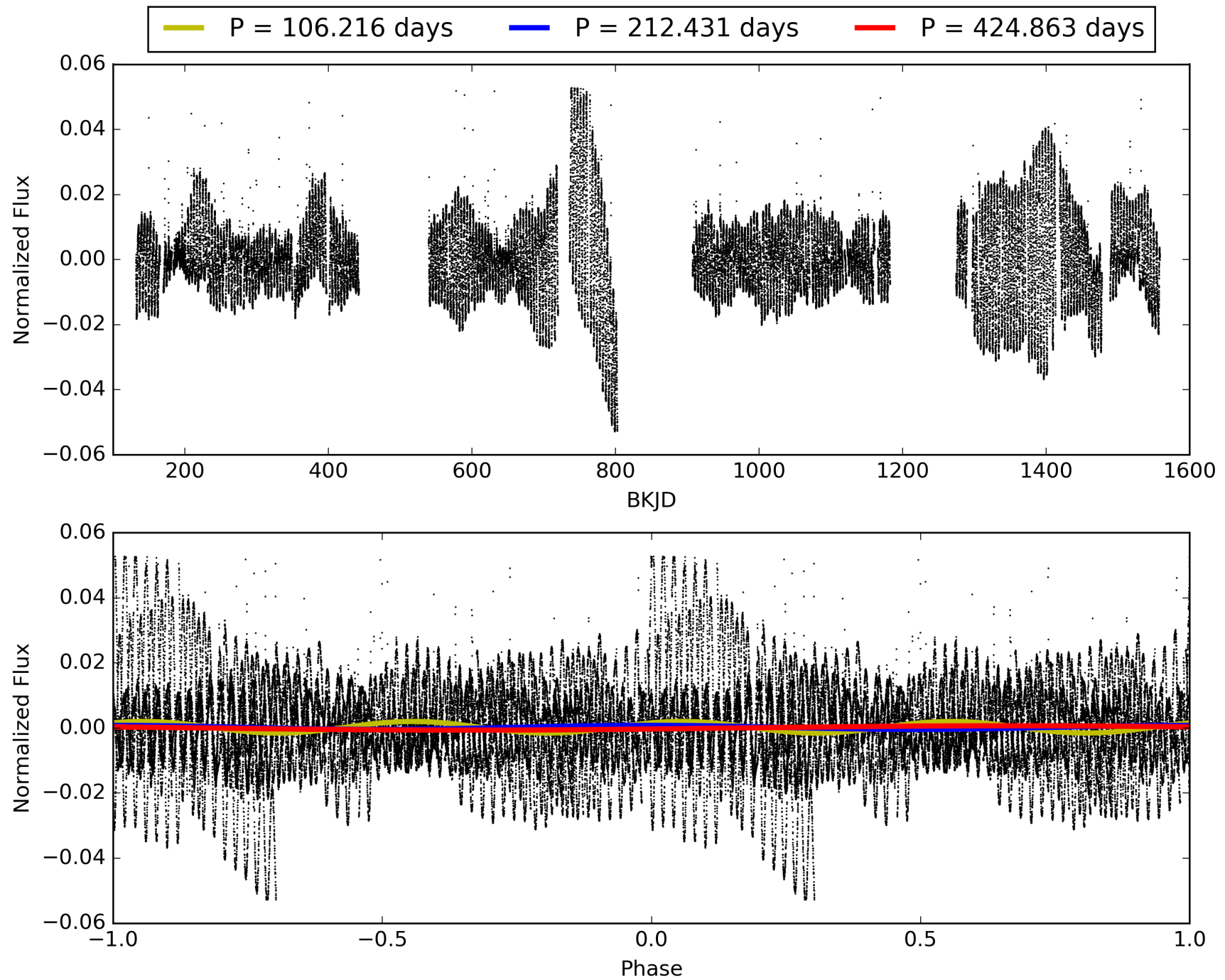
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:36:31 Z

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

TCE 004725913-02, PDC Light Curves

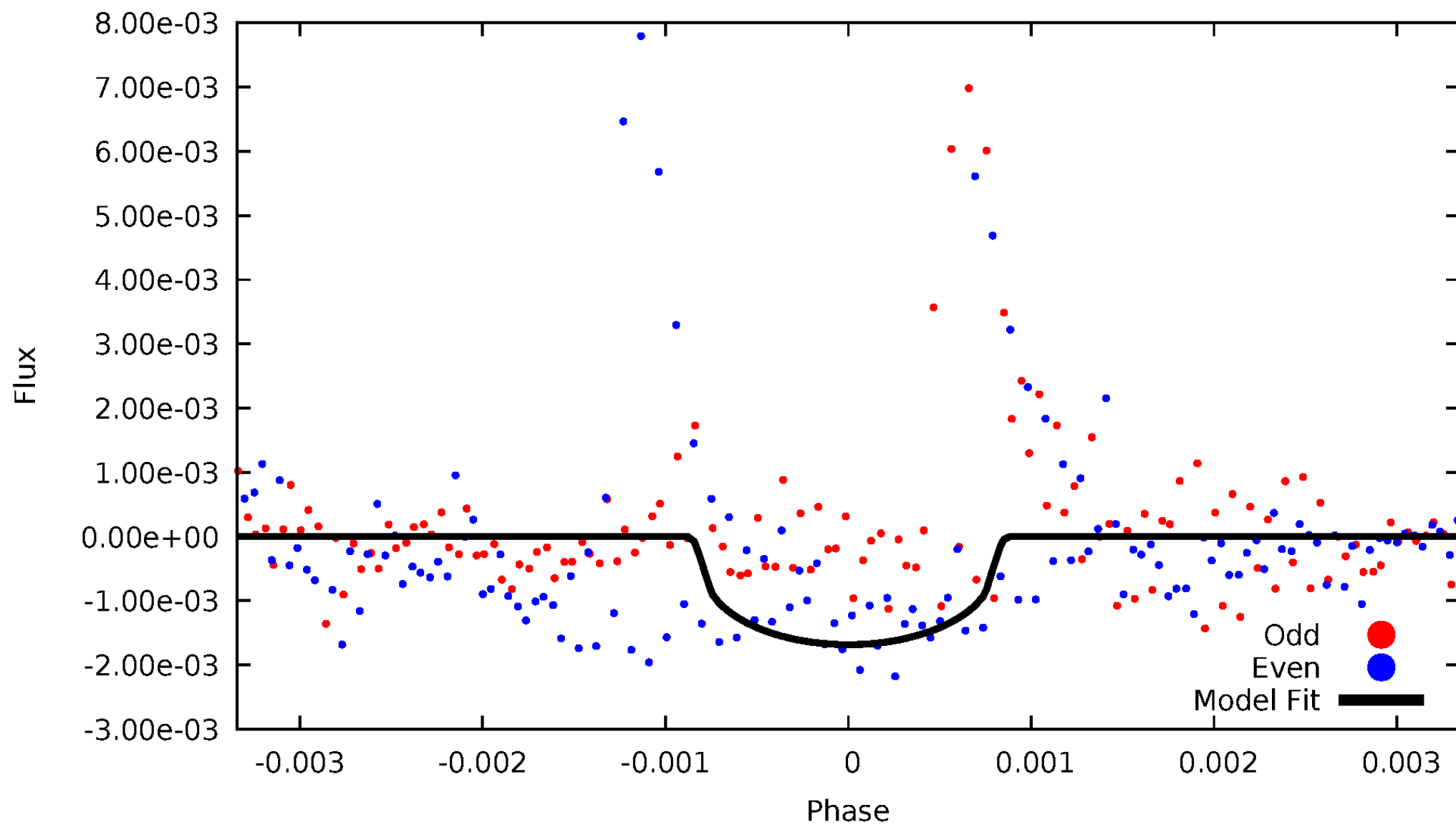


TCE 004725913-02



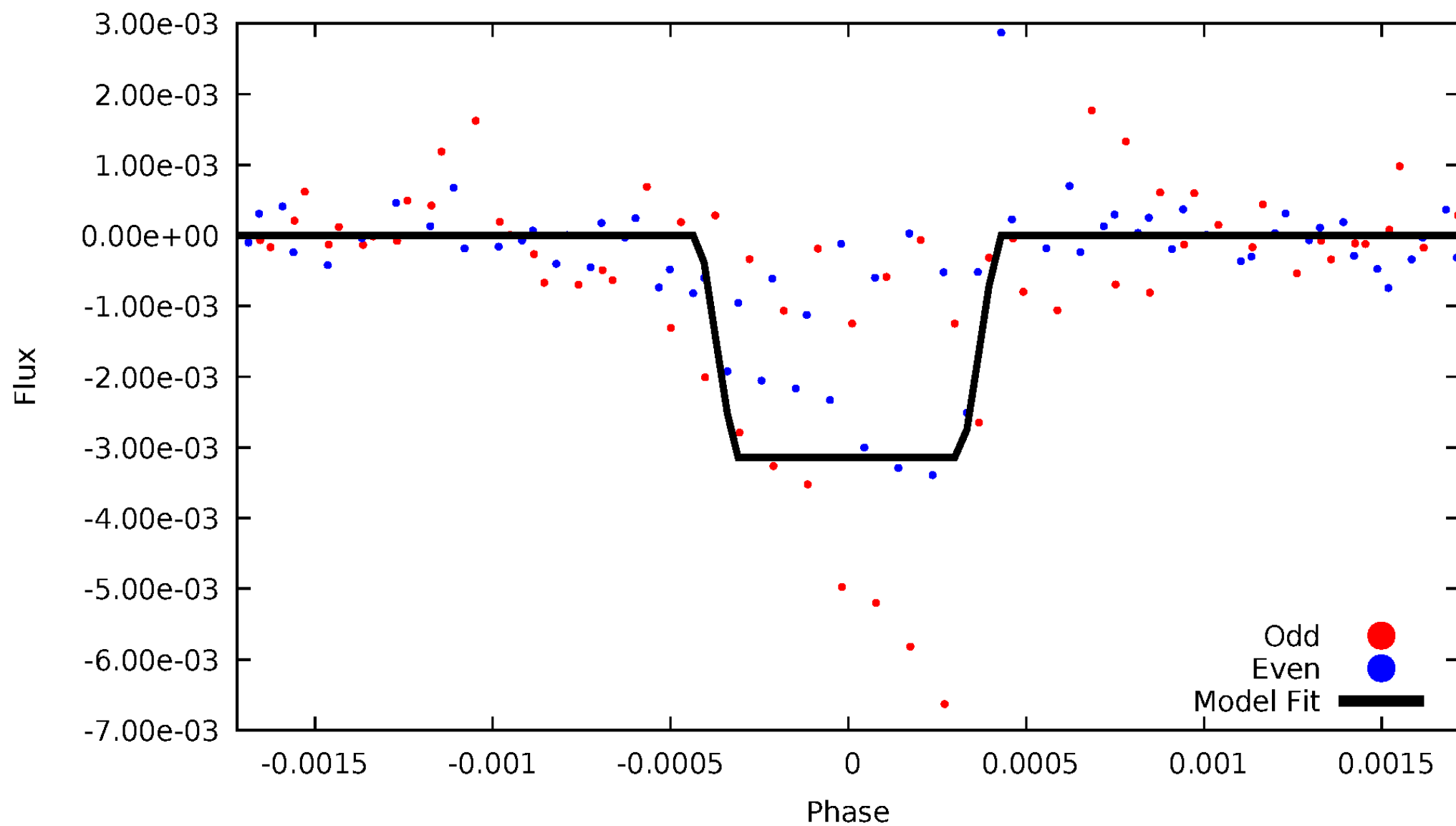
DV Odd/Even

TCE 004725913-02



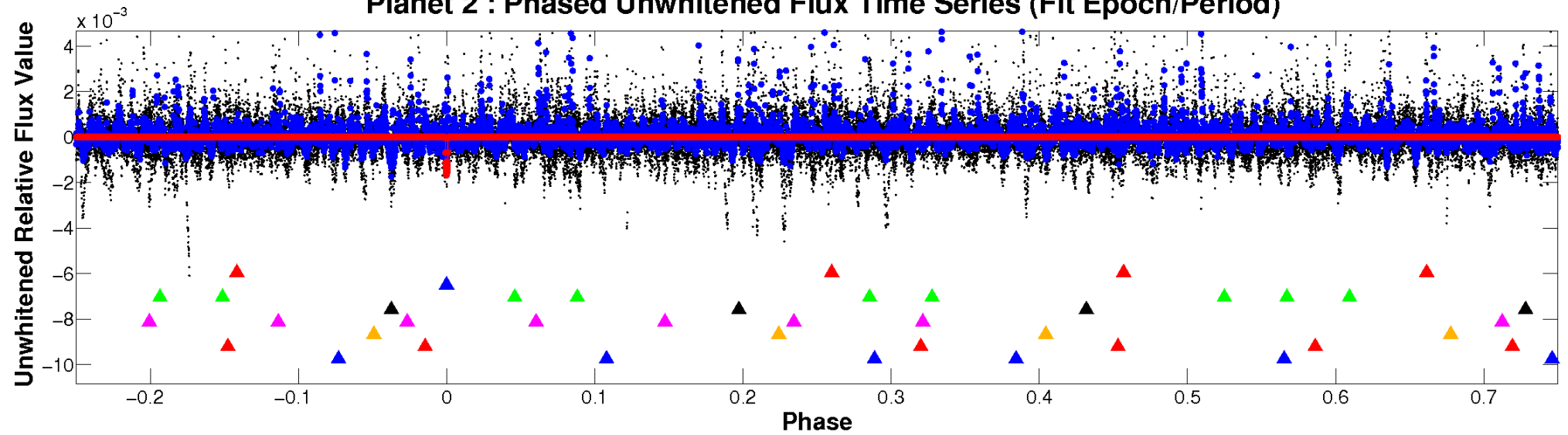
ALT Odd/Even

TCE 004725913-02

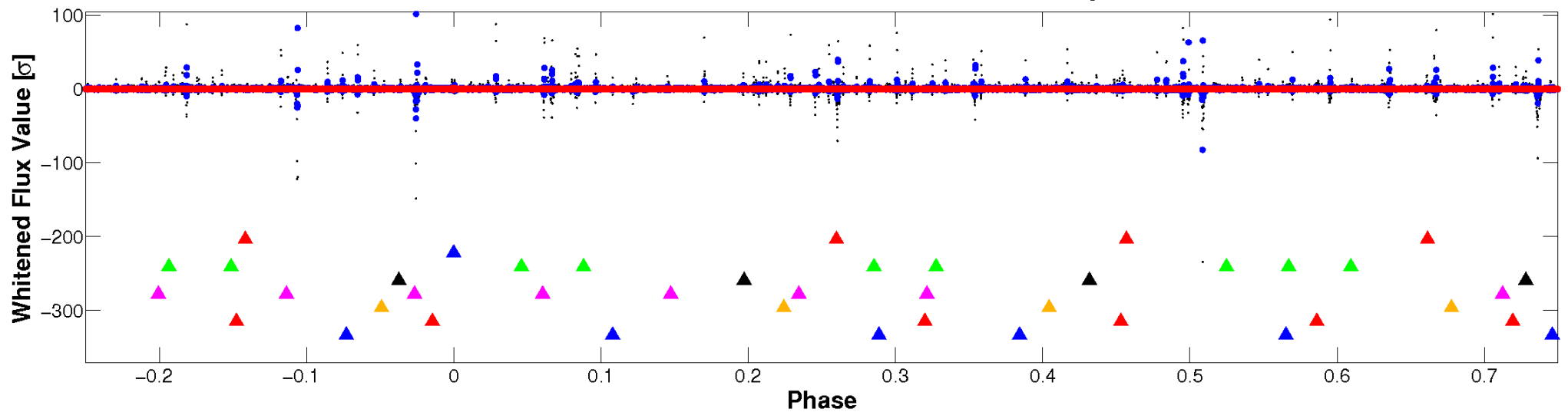


Non-Whitened Vs. Whitened Light Curve

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



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



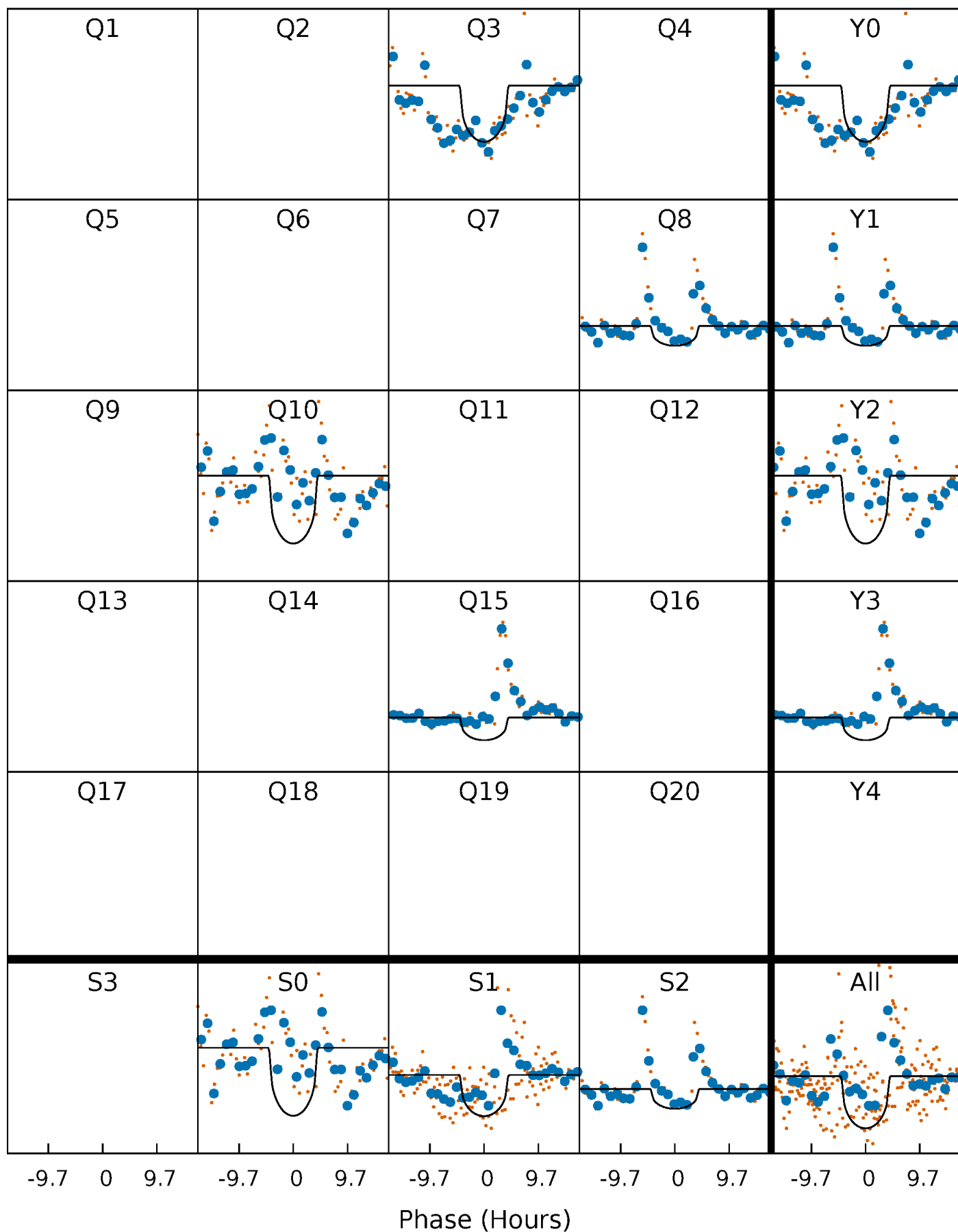
PDC Quarter-Phased Transit Curves

TCE 004725913-02 P=212.431472 Days $T_0=313.049856$ (BKJD)



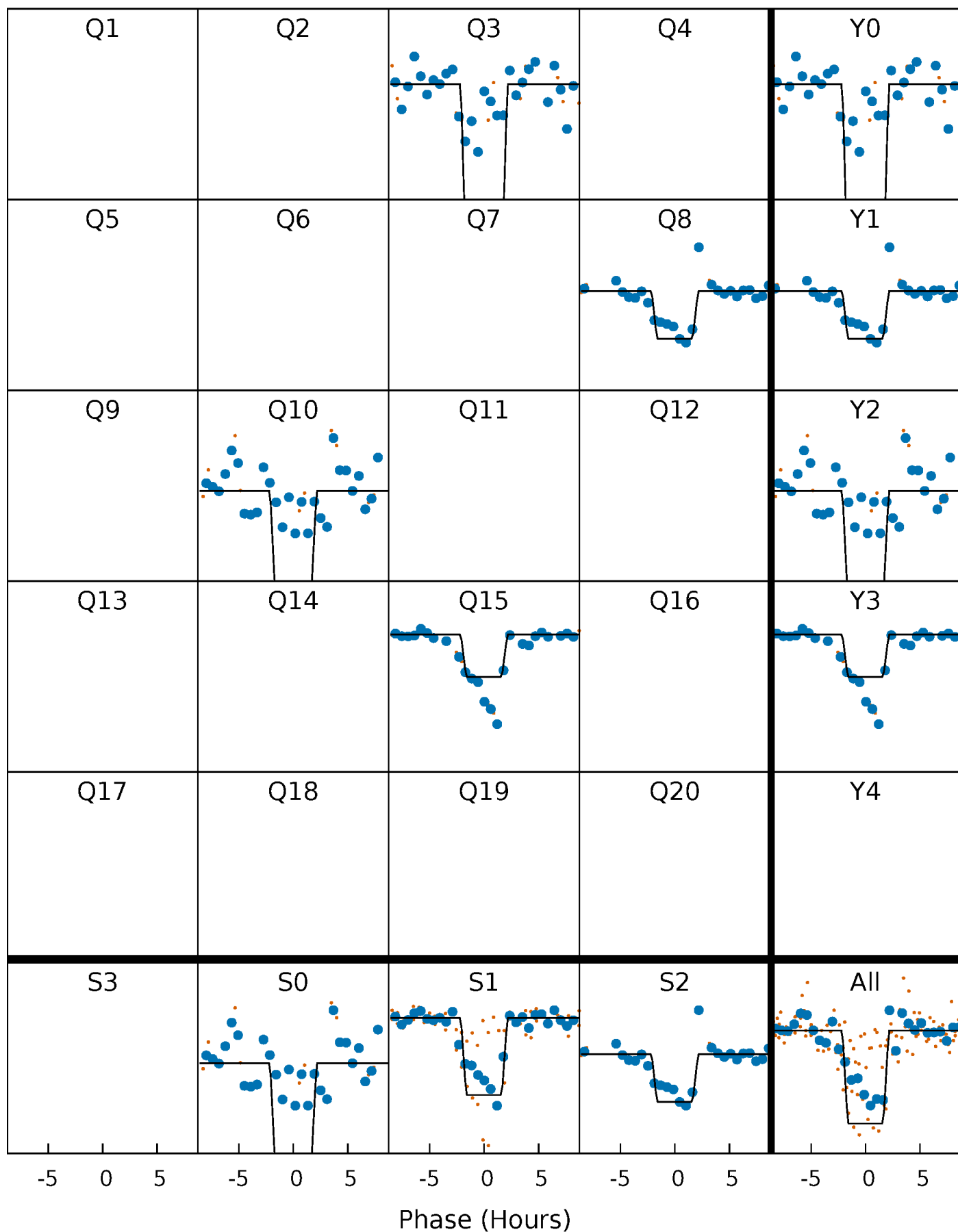
DV Quarter-Phased Transit Curves

TCE 004725913-02 $P=212.431472$ Days $T_0=313.049856$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

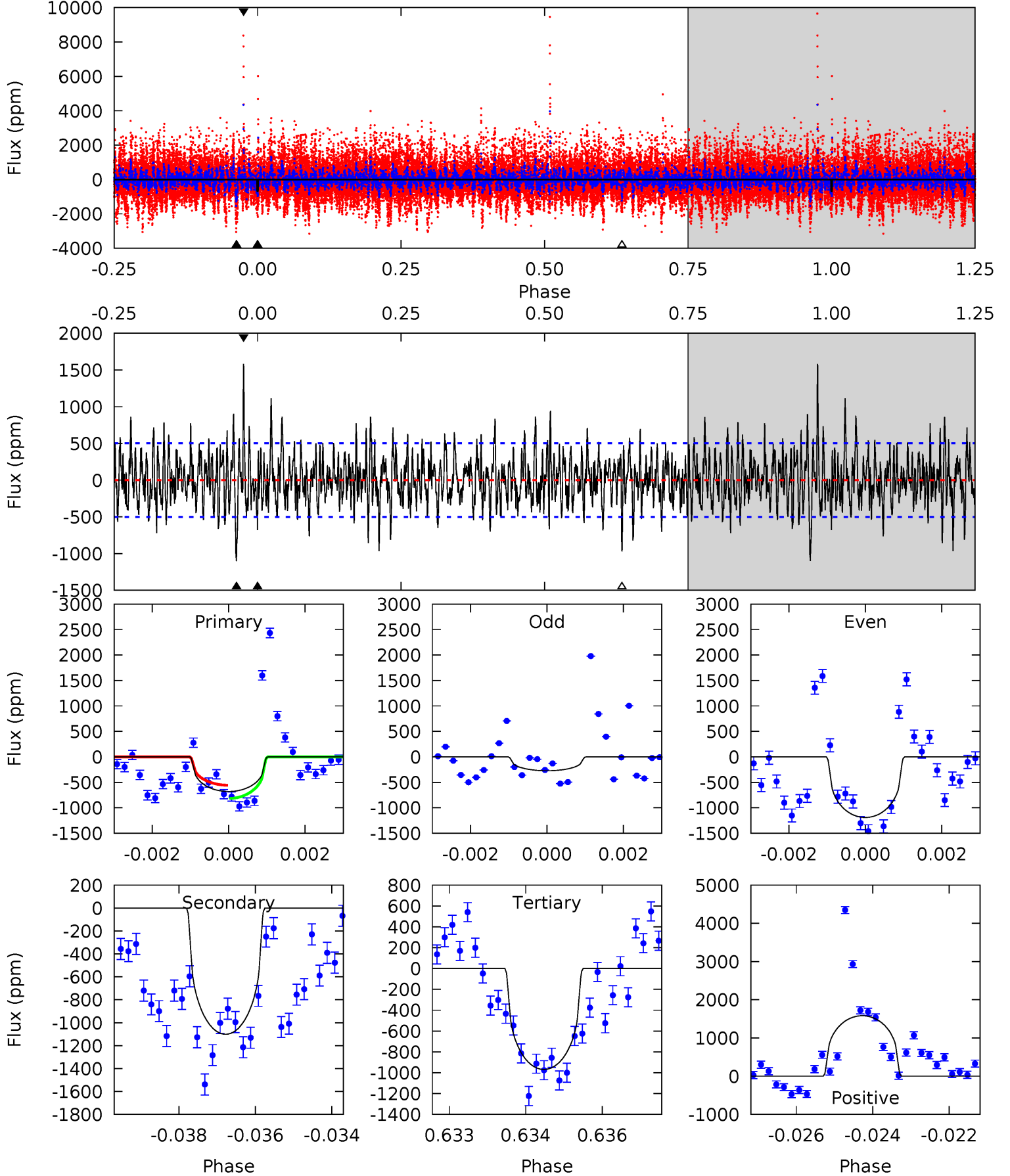
TCE 004725913-02 P=212.419877 Days $T_0=313.129112$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-02, $P = 212.431472$ Days, $E = 100.618384$ Days

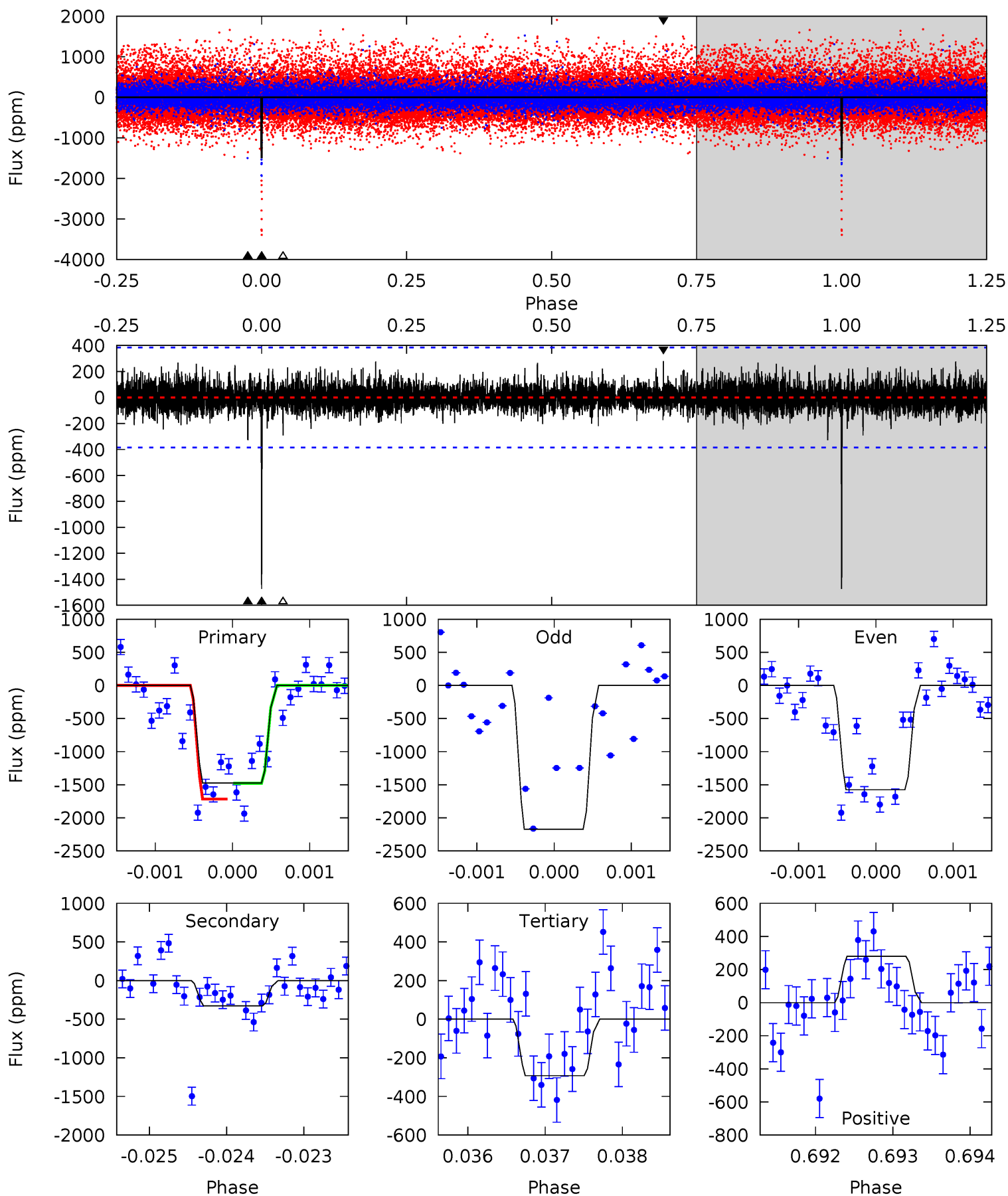
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	11.7	10.3	16.9	5.35	3.13	3.05	-3.08	-9.62	1.41	-5.13	4.14	1.01	0.59	1.40



Alt Model-Shift Uniqueness Test

004725913-02, $P = 212.419877$ Days, $E = 100.709235$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	4.69	4.17	4.00	5.49	3.35	0.96	16.9	17.0	0.51	0.69	4.39	1.28	0.16	0



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1101 ± 94	$2.97^{+1.83}_{-1.66}$	290^{+9}_{-11}	4161^{+1655}_{-641}	$27020^{+114457}_{-16679}$
Alt.	-328 ± 70	$4.34^{+1.88}_{-1.91}$	290^{+9}_{-10}	3041^{+594}_{-322}	3726^{+8224}_{-2015}

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

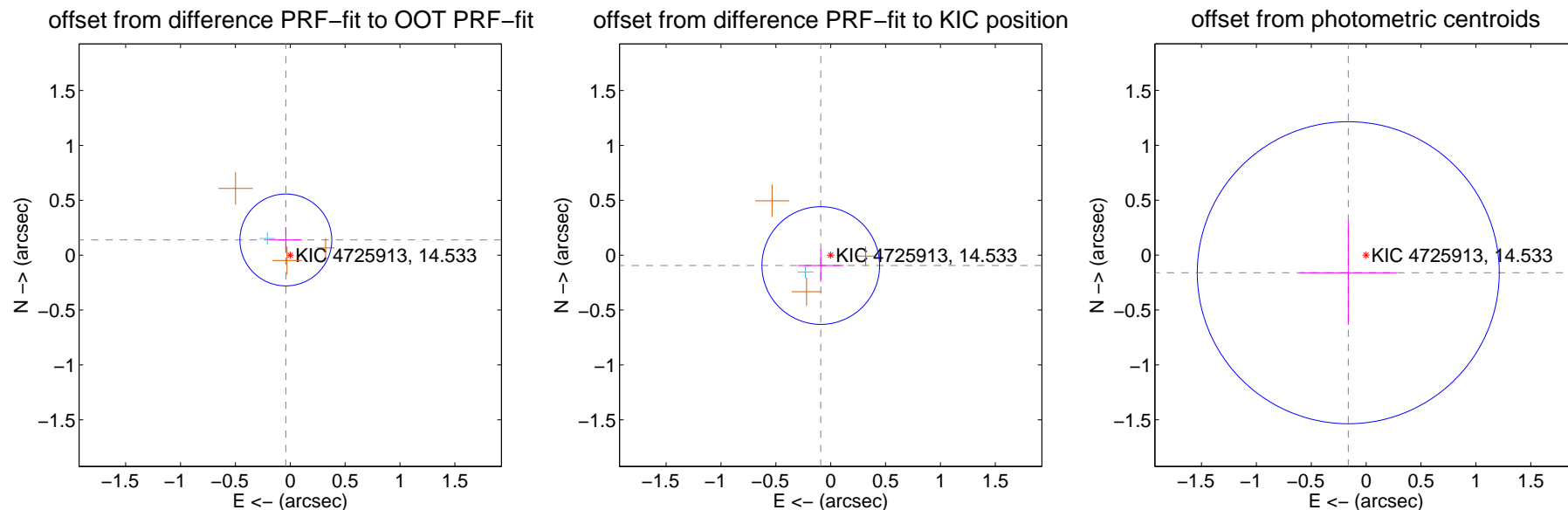
DV Centroid Data

Supplemental centroid analysis for 004725913-02. Kepler magnitude: 14.53. Transit SNR 8.06

There are 1 quarters with good PRF difference image offsets

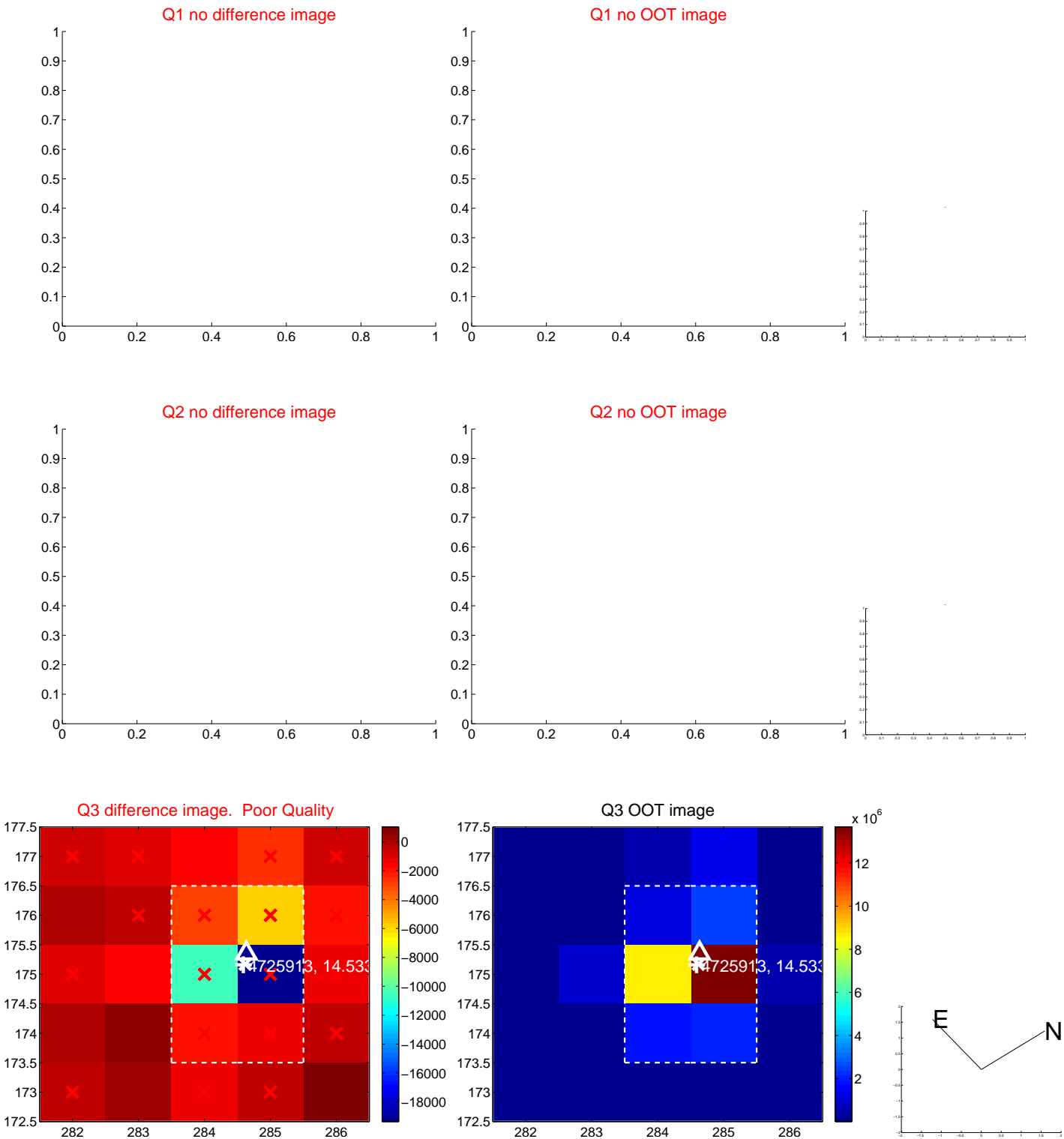
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.144 ± 0.140	1.03	0.040 ± 0.145	0.139 ± 0.118
PRF-fit source offset from KIC position	0.131 ± 0.179	0.73	0.091 ± 0.208	-0.094 ± 0.147
photometric centroid source offset	0.23 ± 0.46	0.50	0.16 ± 0.44	-0.16 ± 0.48

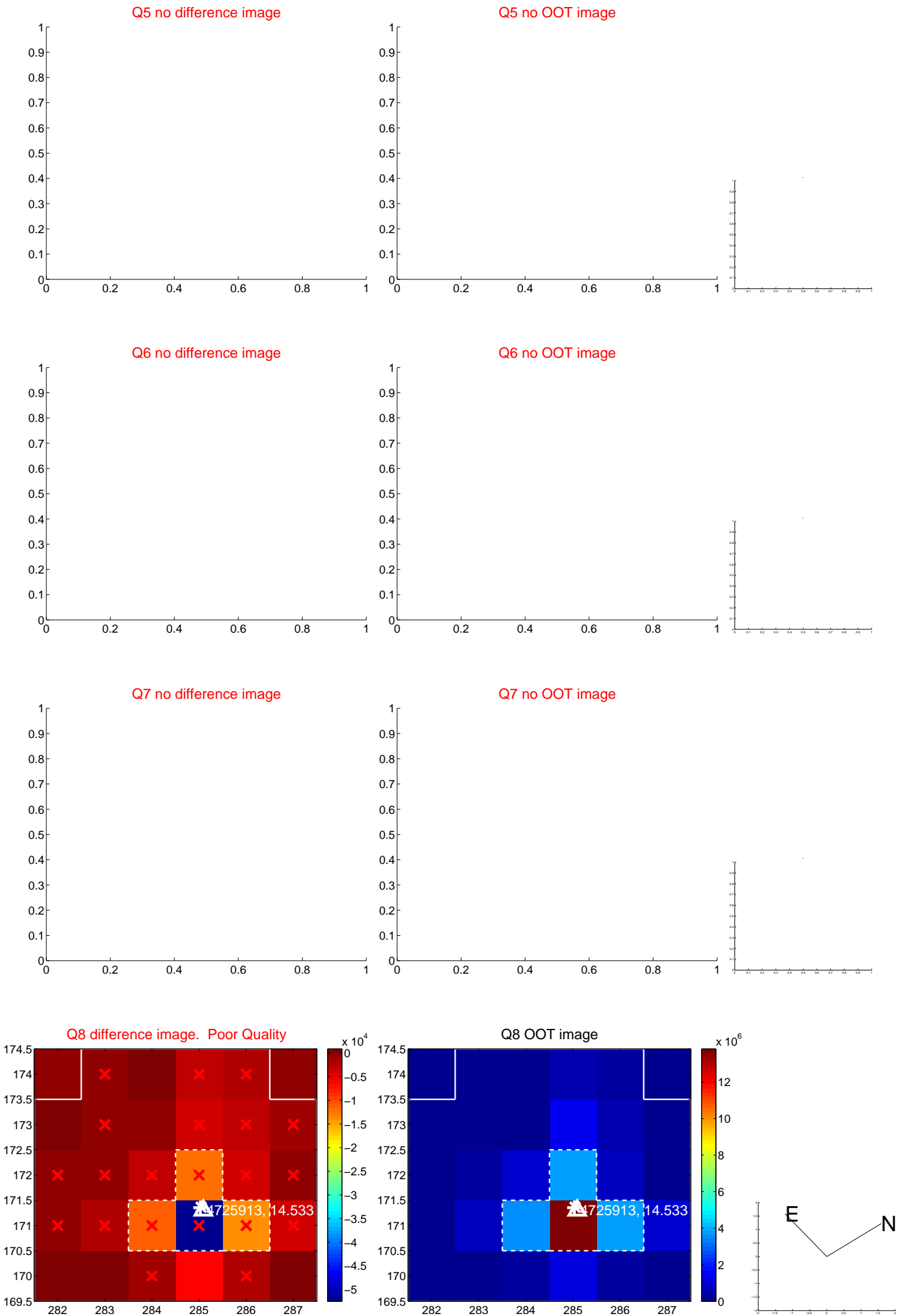


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

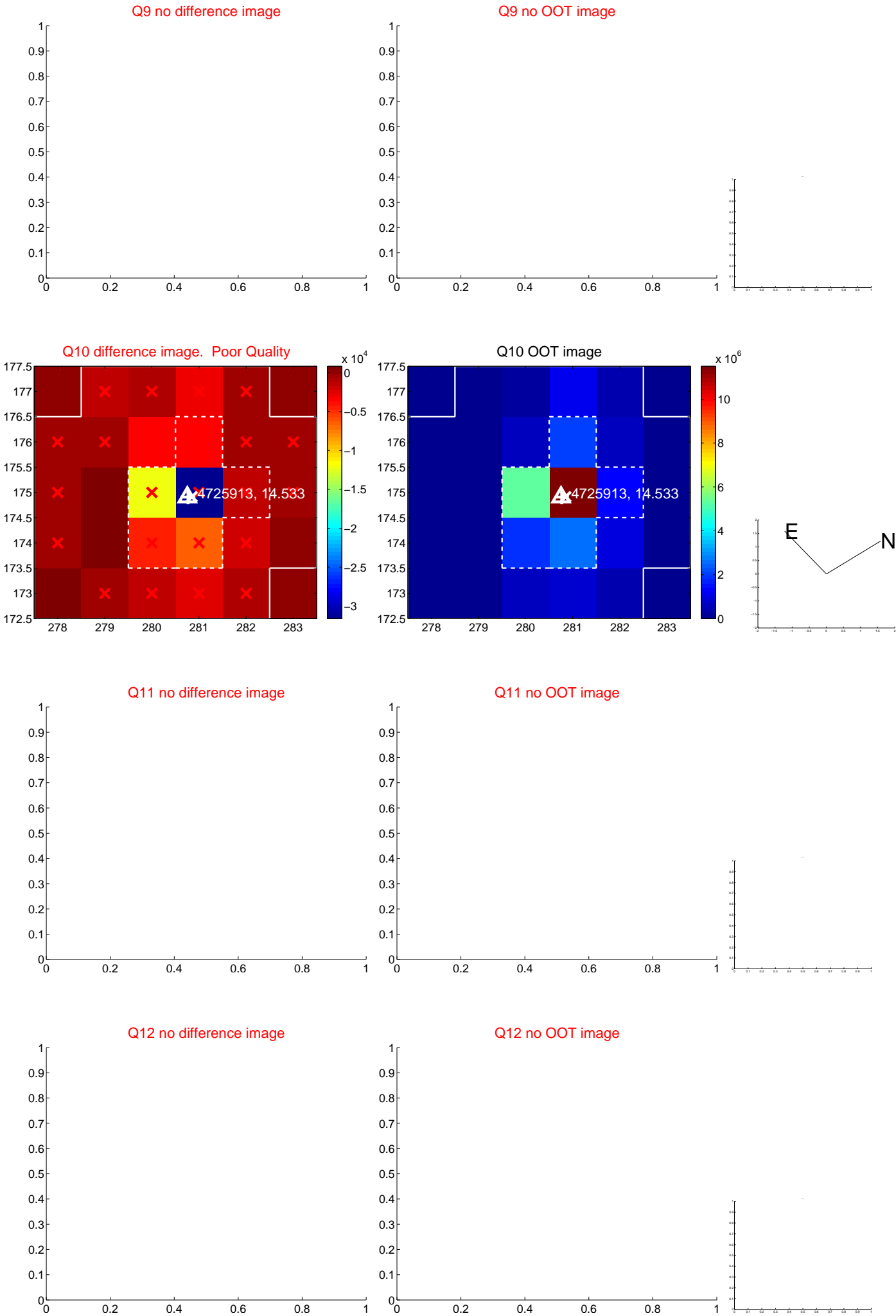
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

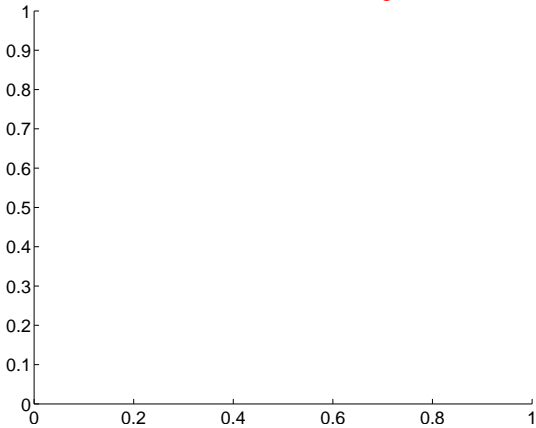


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

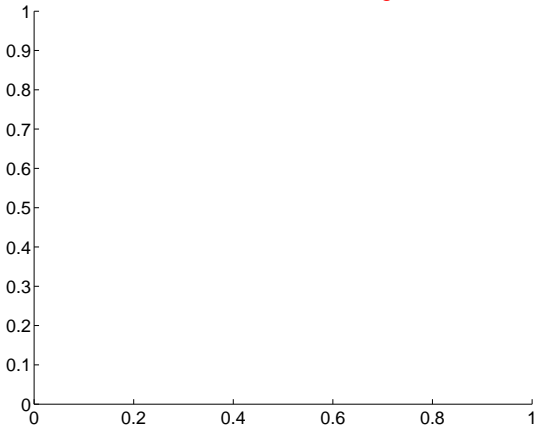
Q13 no difference image



Q13 no OOT image



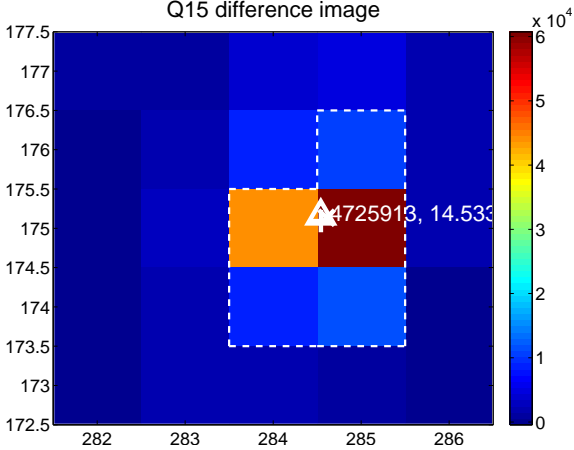
Q14 no difference image



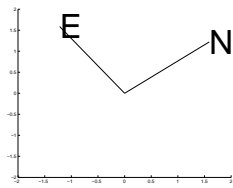
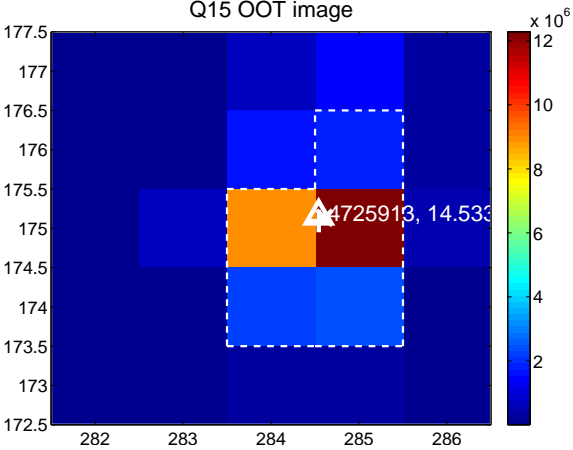
Q14 no OOT image



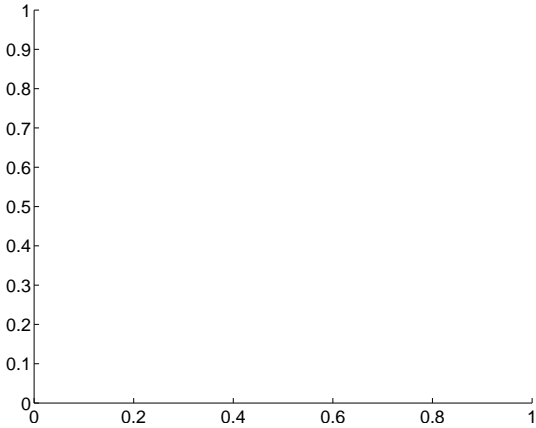
Q15 difference image



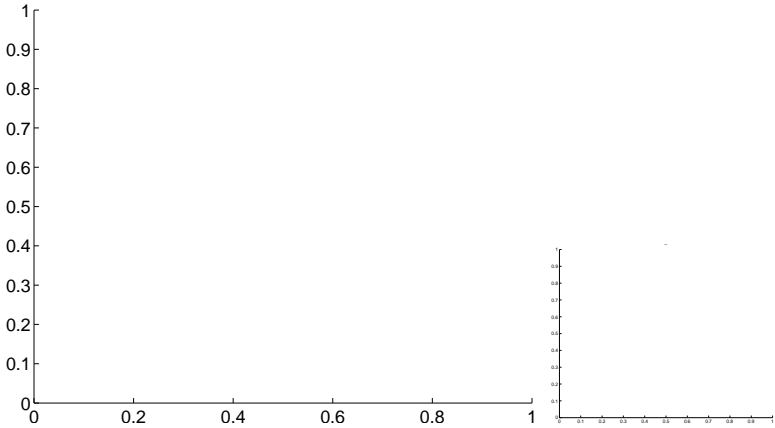
Q15 OOT image



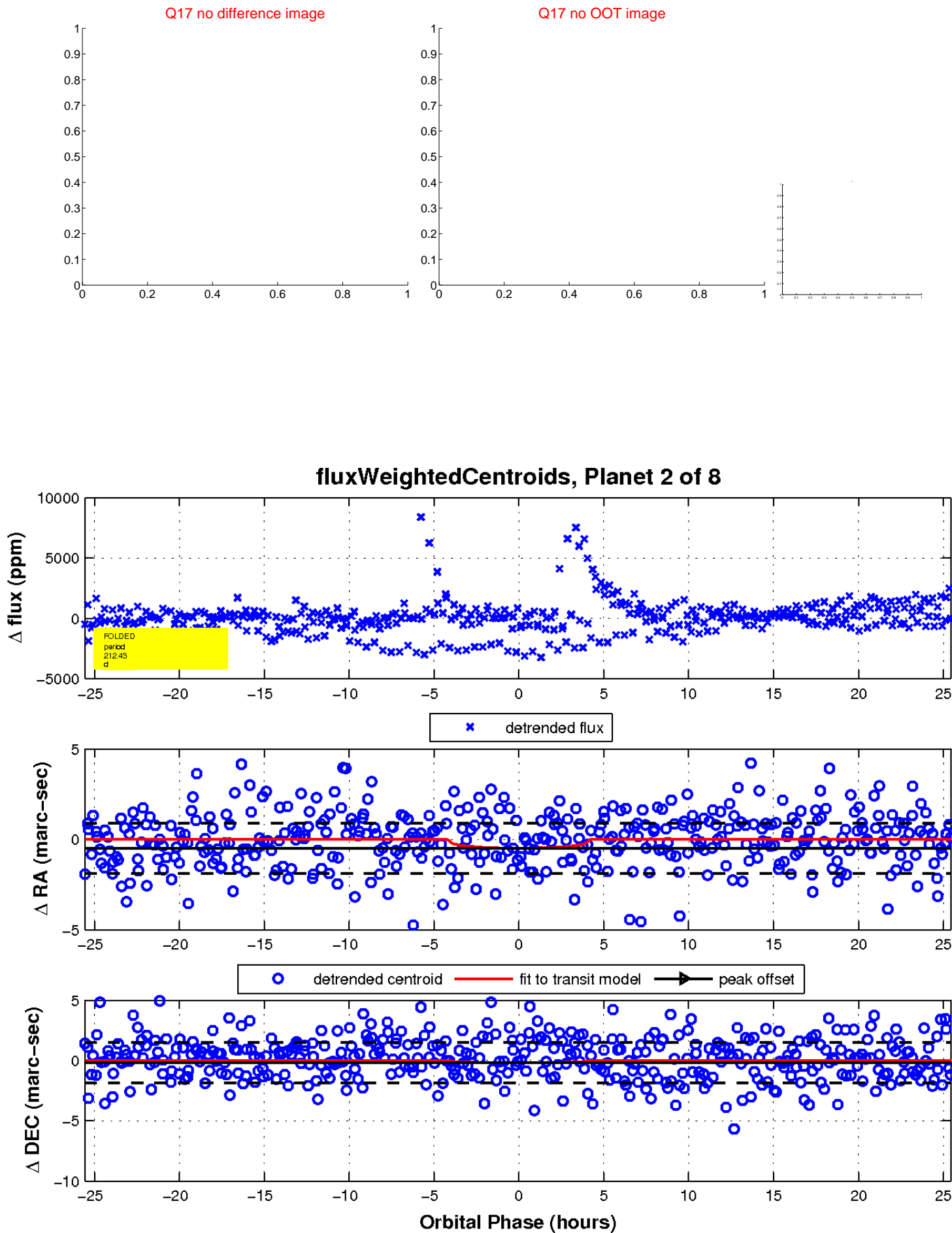
Q16 no difference image



Q16 no OOT image

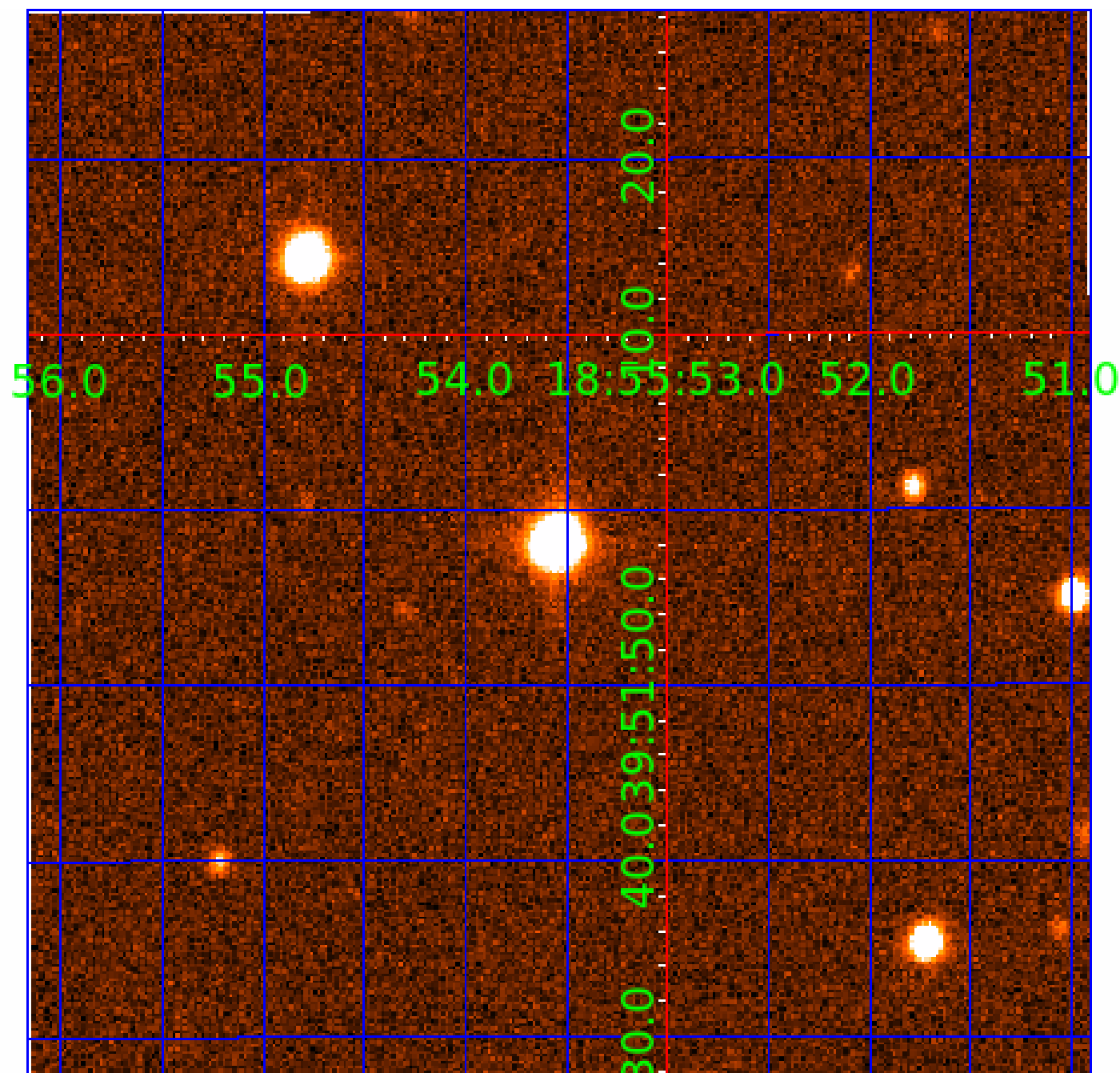


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

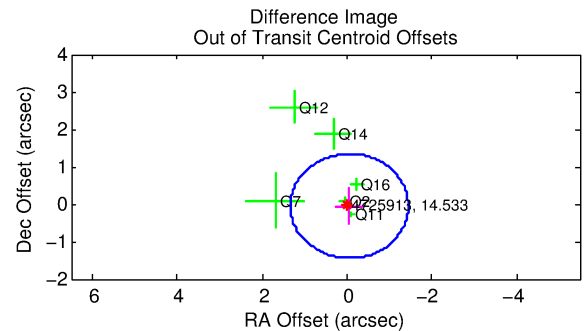
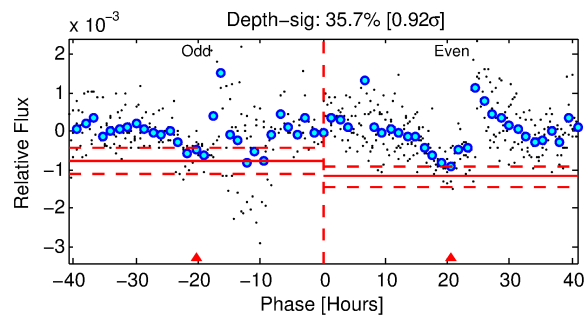
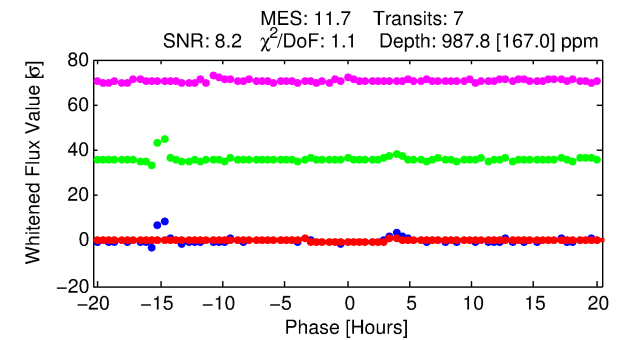
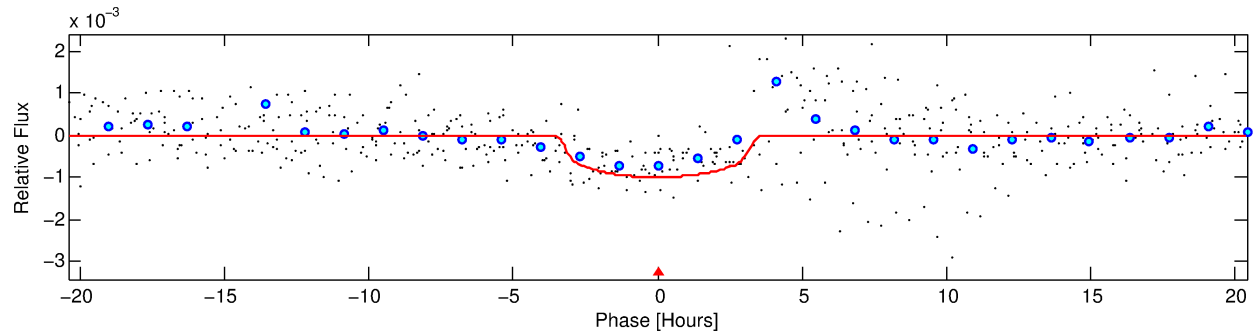
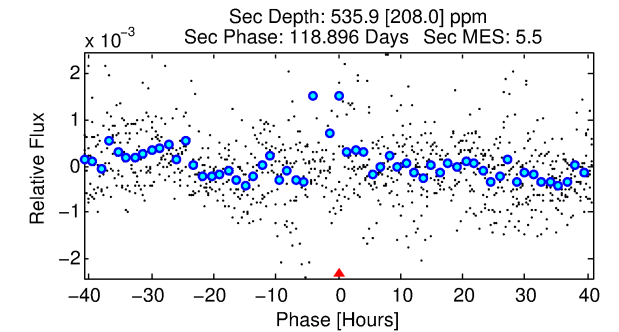
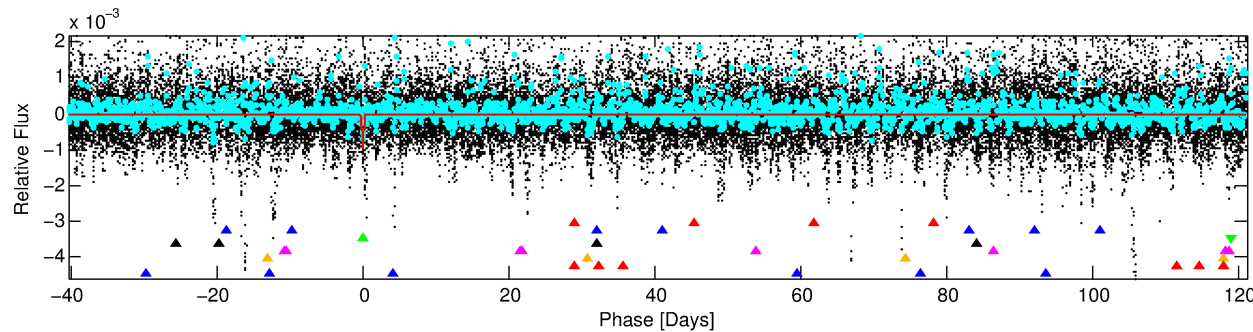
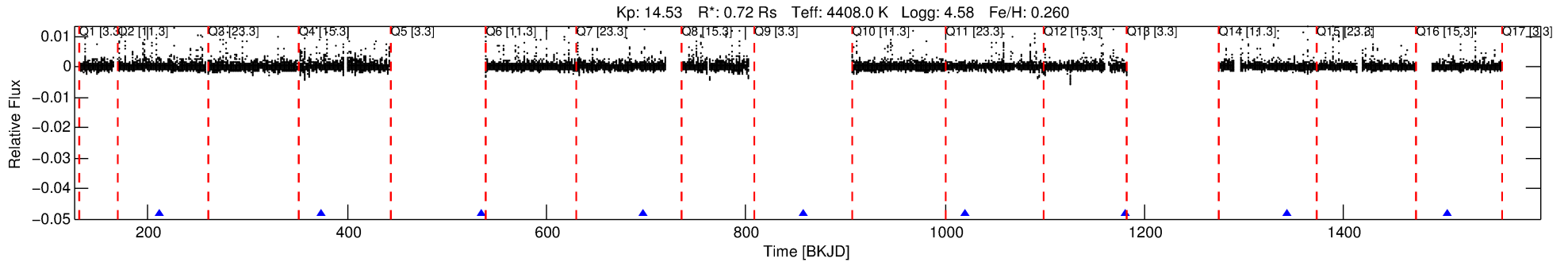
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-03

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 3 of 8 Period: 161.565 d



DV Fit Results:

Period = 161.56539 [0.00241] d
Epoch = 212.1221 [0.0128] BKJD
Rp/R* = 0.0301 [0.0190]
a/R* = 145.37 [266.77]
b = 0.65 [1.69]
Seff = 0.65 [0.10]
Teq = 229 [9] K
Rp = 2.35 [1.49] Re
a = 0.5179 [0.0361] AU
Ag = 14339.85 [18982.91] [0.76σ]
Teffp = 3869 [1282] K [2.84σ]

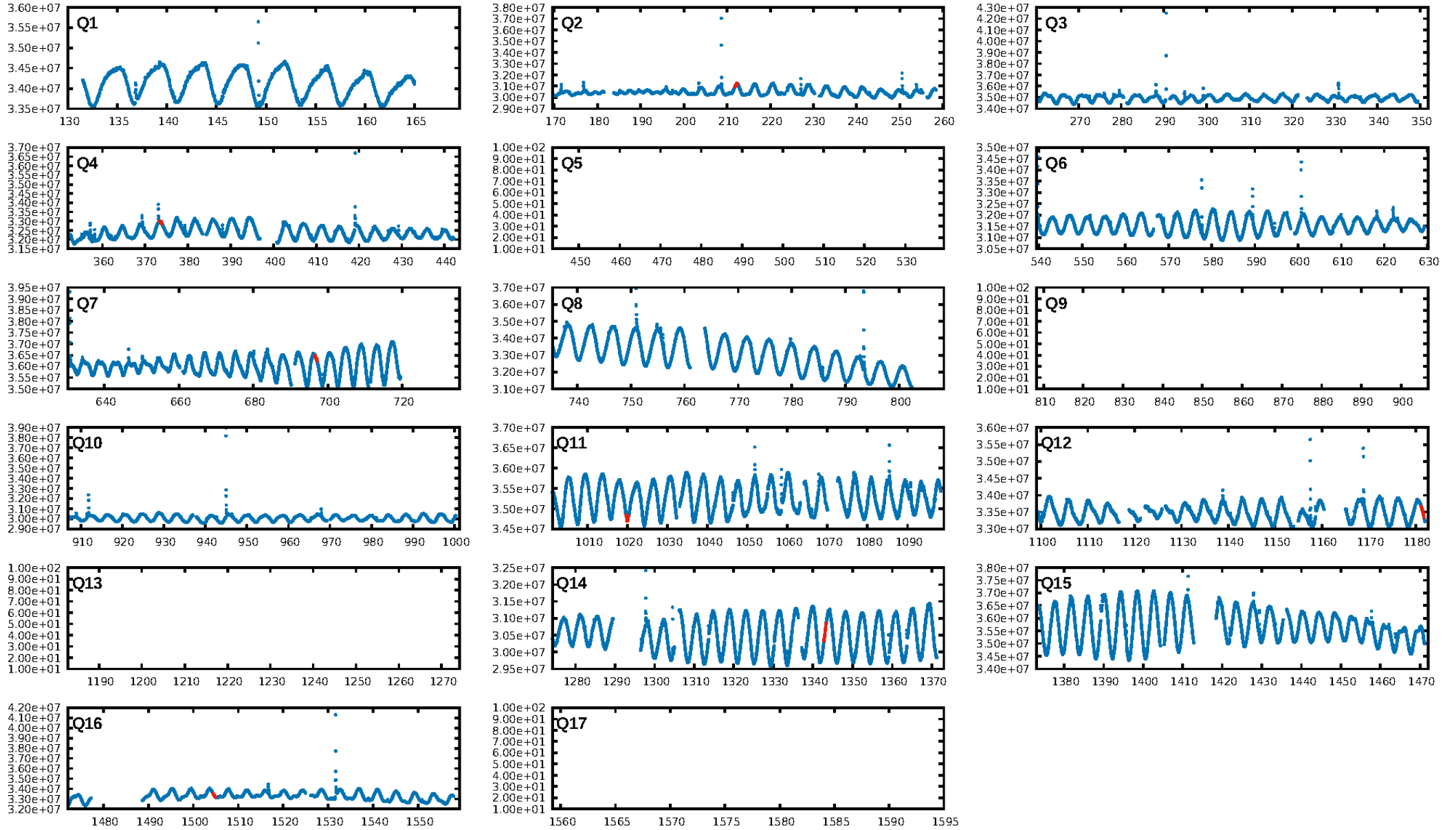
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [60.94σ]
ModelChiSquare2-sig: 33.4%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 3.13e-12
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 3.864
Centroid-sig: 2.0%
Centroid-so: 1.459 arcsec [2.30σ]
OotOffset-rm: 0.079 arcsec [0.17σ]
OotOffset-st: 2/2/2/0 [6]
KicOffset-rm: 0.325 arcsec [0.80σ]
KicOffset-st: 2/2/2/0 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [6/6]

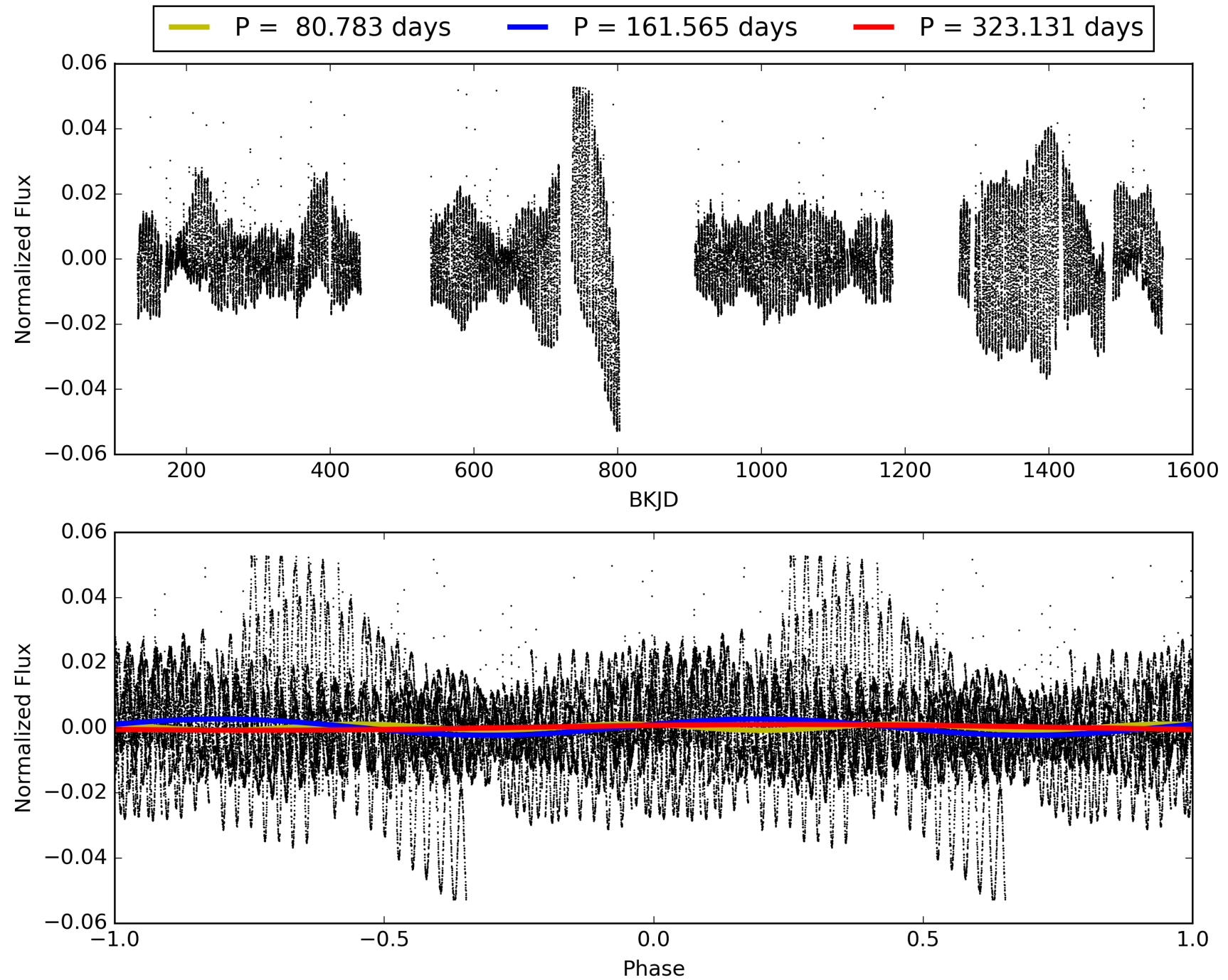
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:36:38 Z

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

TCE 004725913-03, PDC Light Curves

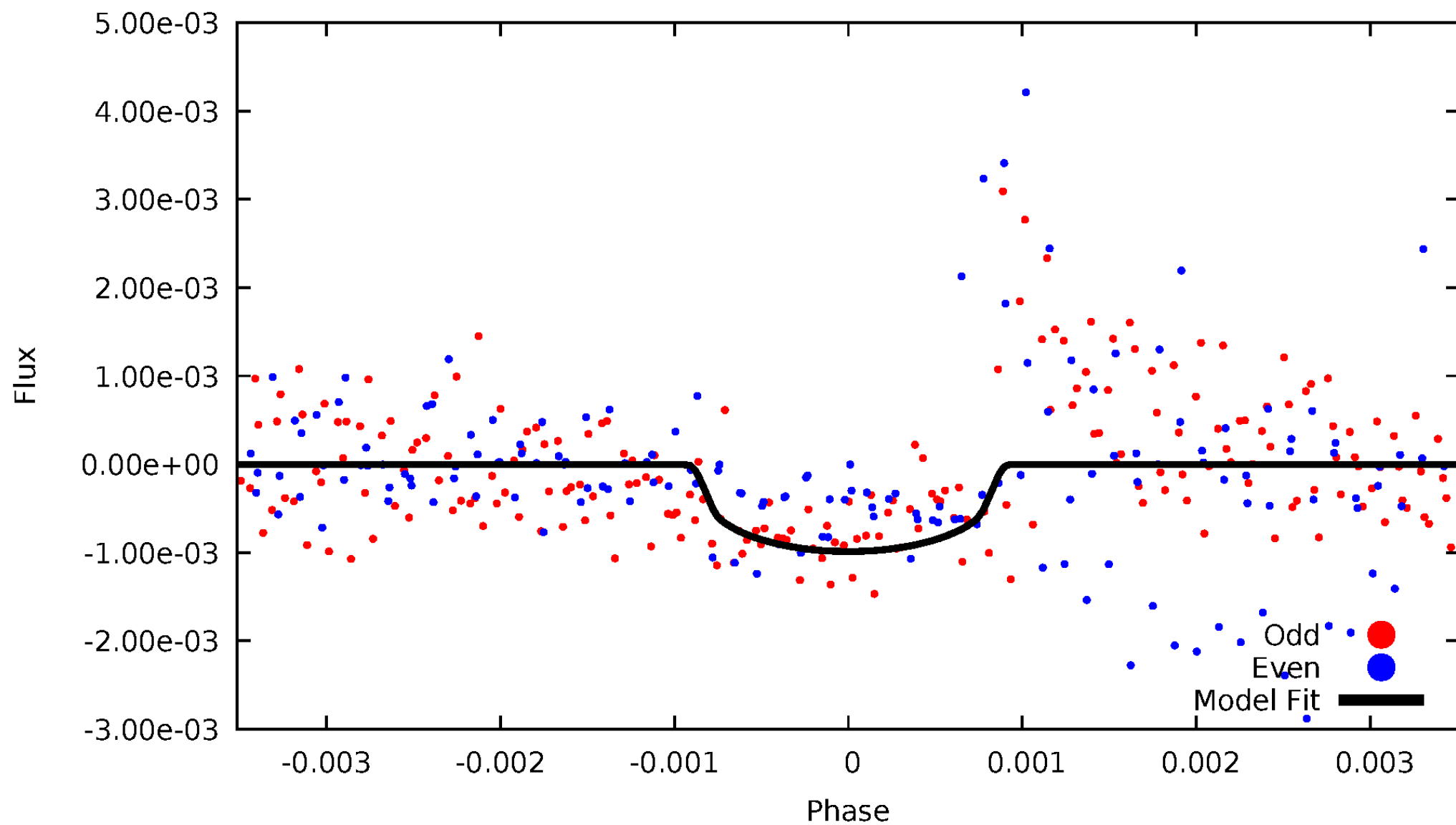


TCE 004725913-03



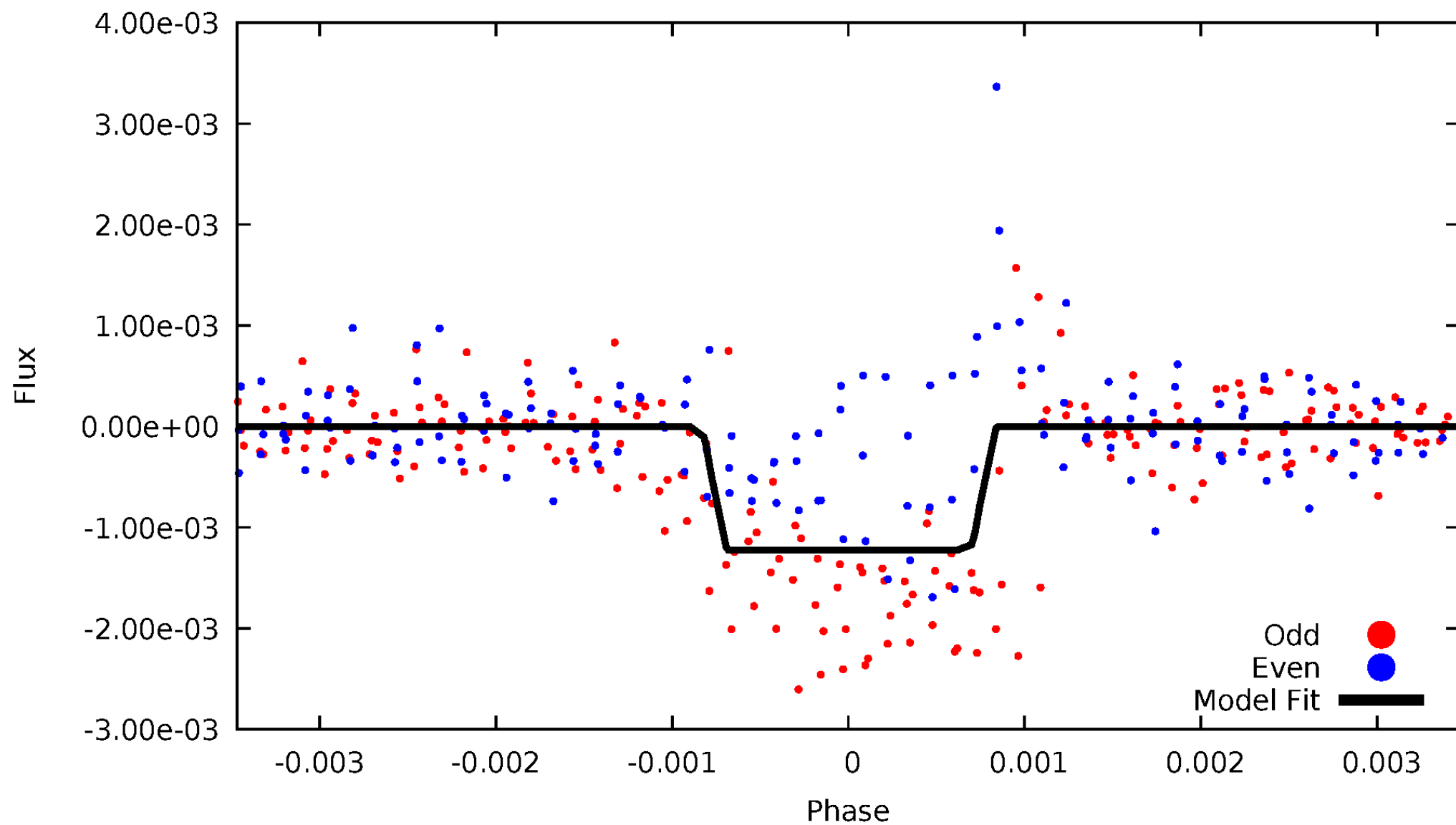
DV Odd/Even

TCE 004725913-03



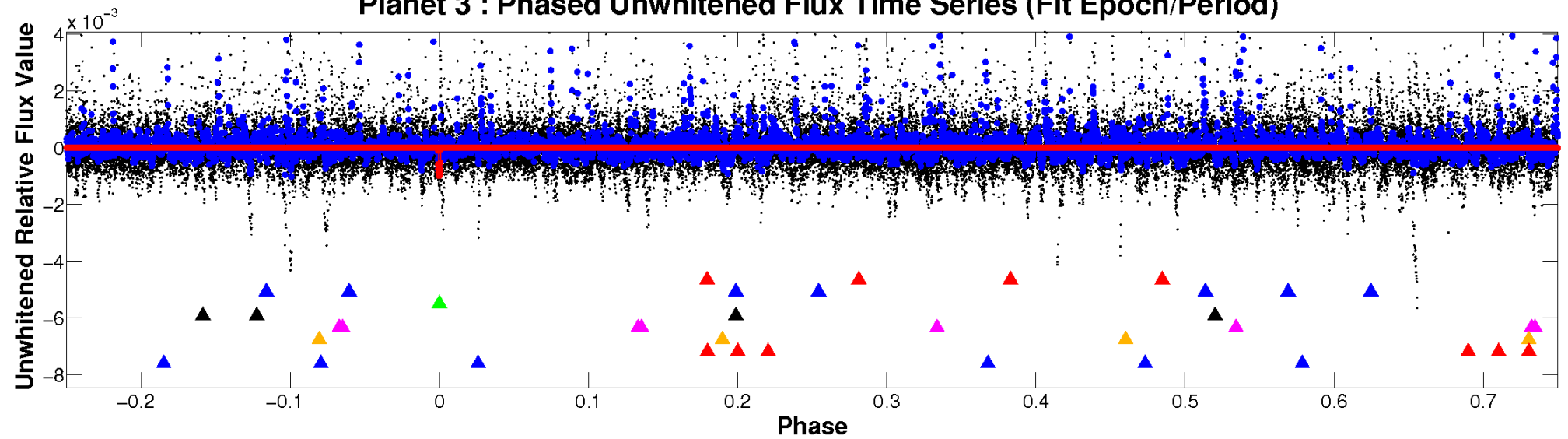
ALT Odd/Even

TCE 004725913-03

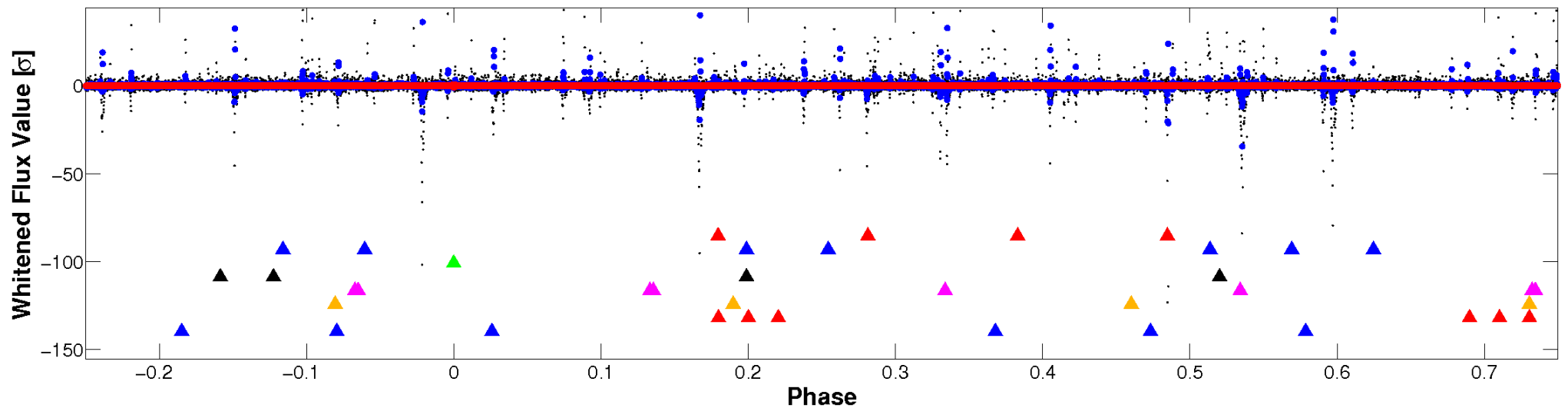


Non-Whitened Vs. Whitened Light Curve

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

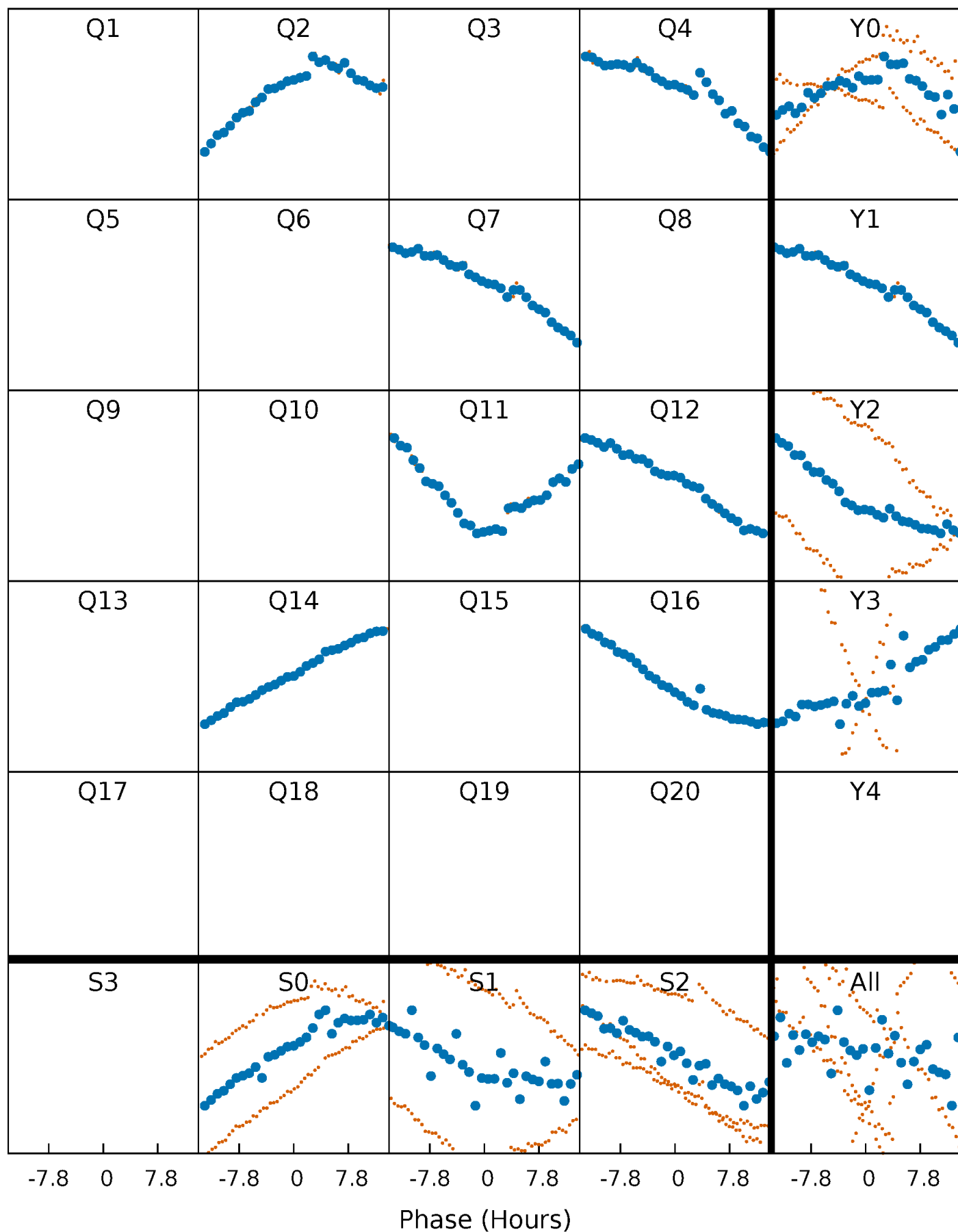


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



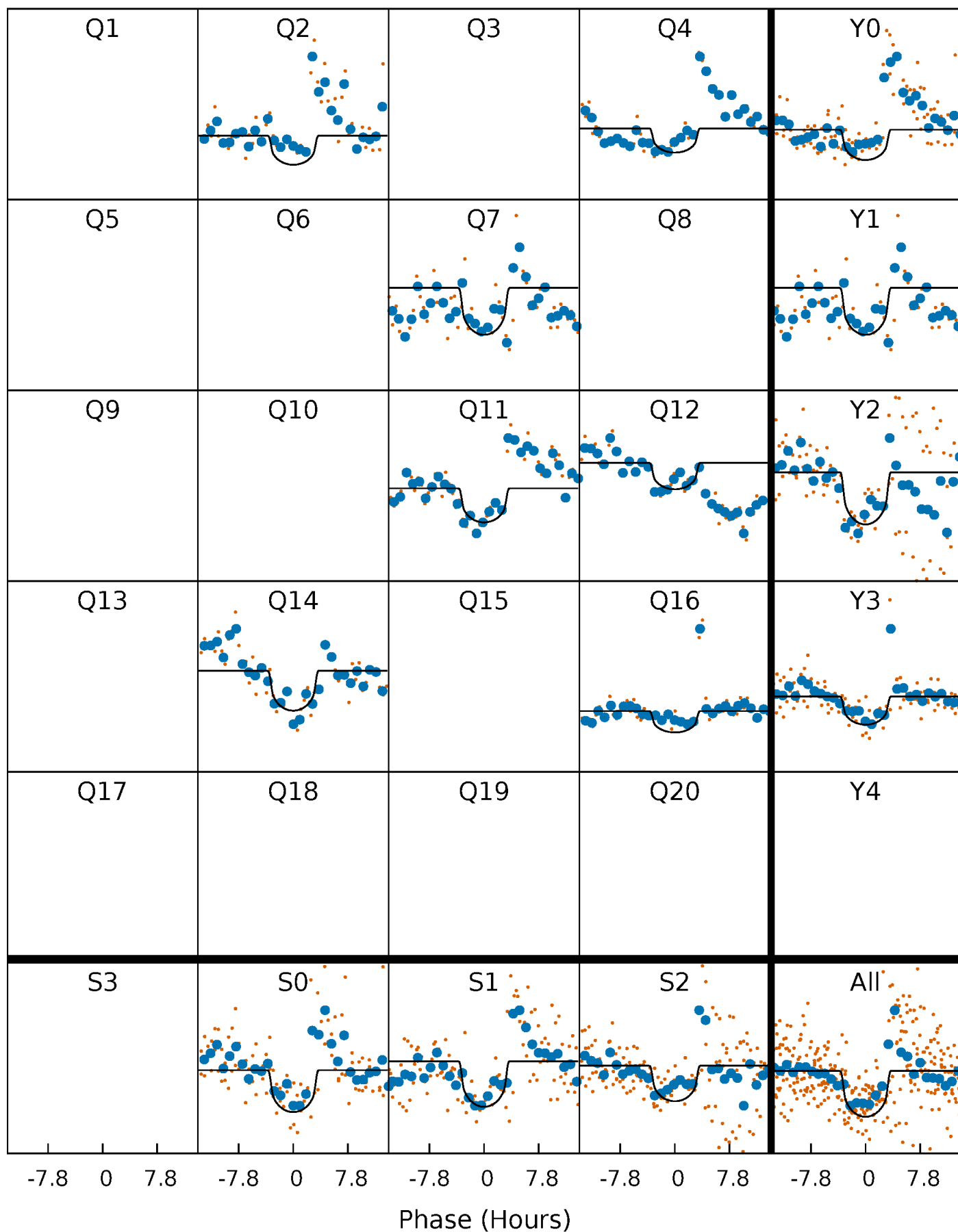
PDC Quarter-Phased Transit Curves

TCE 004725913-03 P=161.565391 Days $T_0=212.122081$ (BKJD)



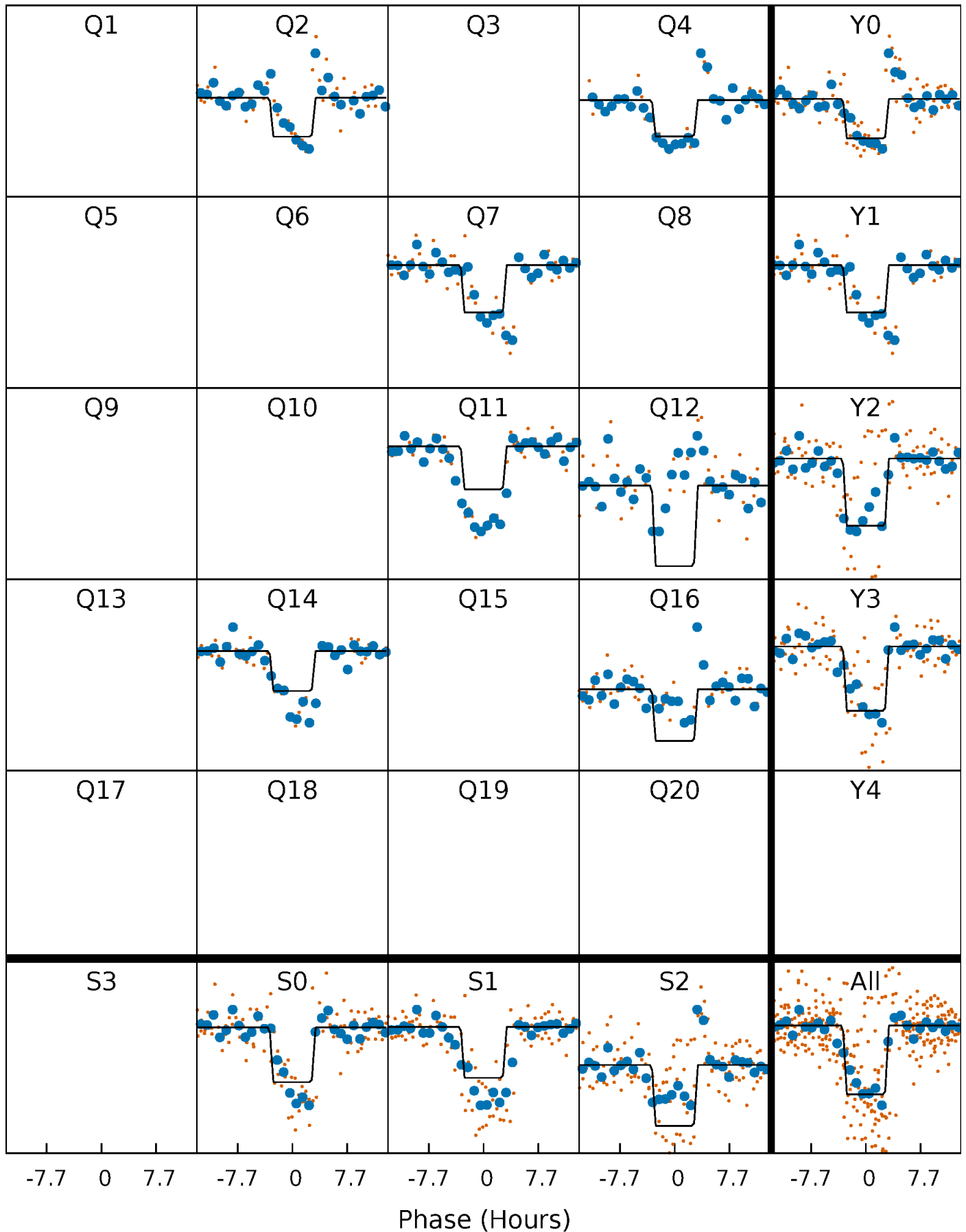
DV Quarter-Phased Transit Curves

TCE 004725913-03 P=161.565391 Days $T_0=212.122081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

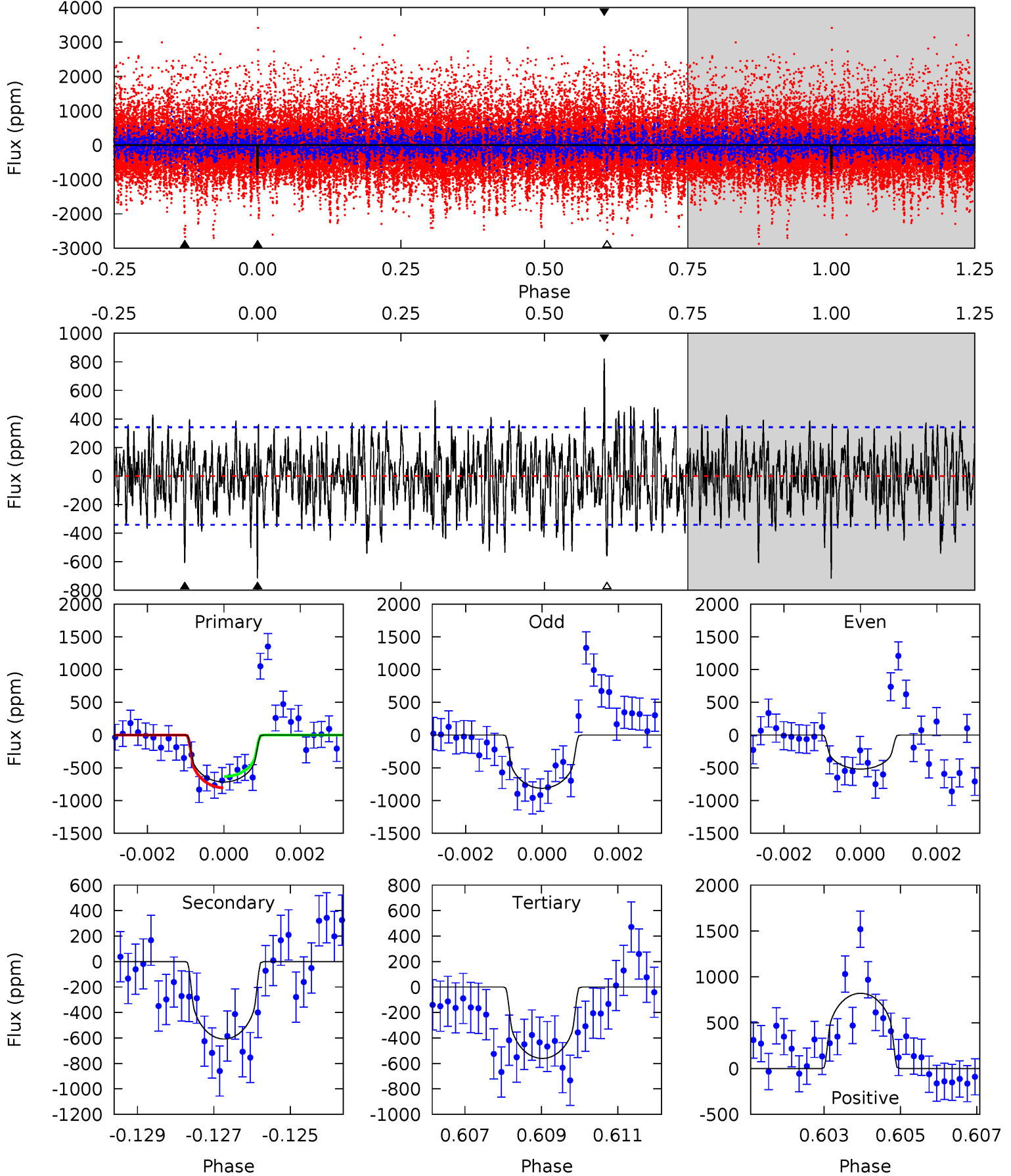
TCE 004725913-03 P=161.568090 Days $T_0=212.109294$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-03, P = 161.565391 Days, E = 50.556690 Days

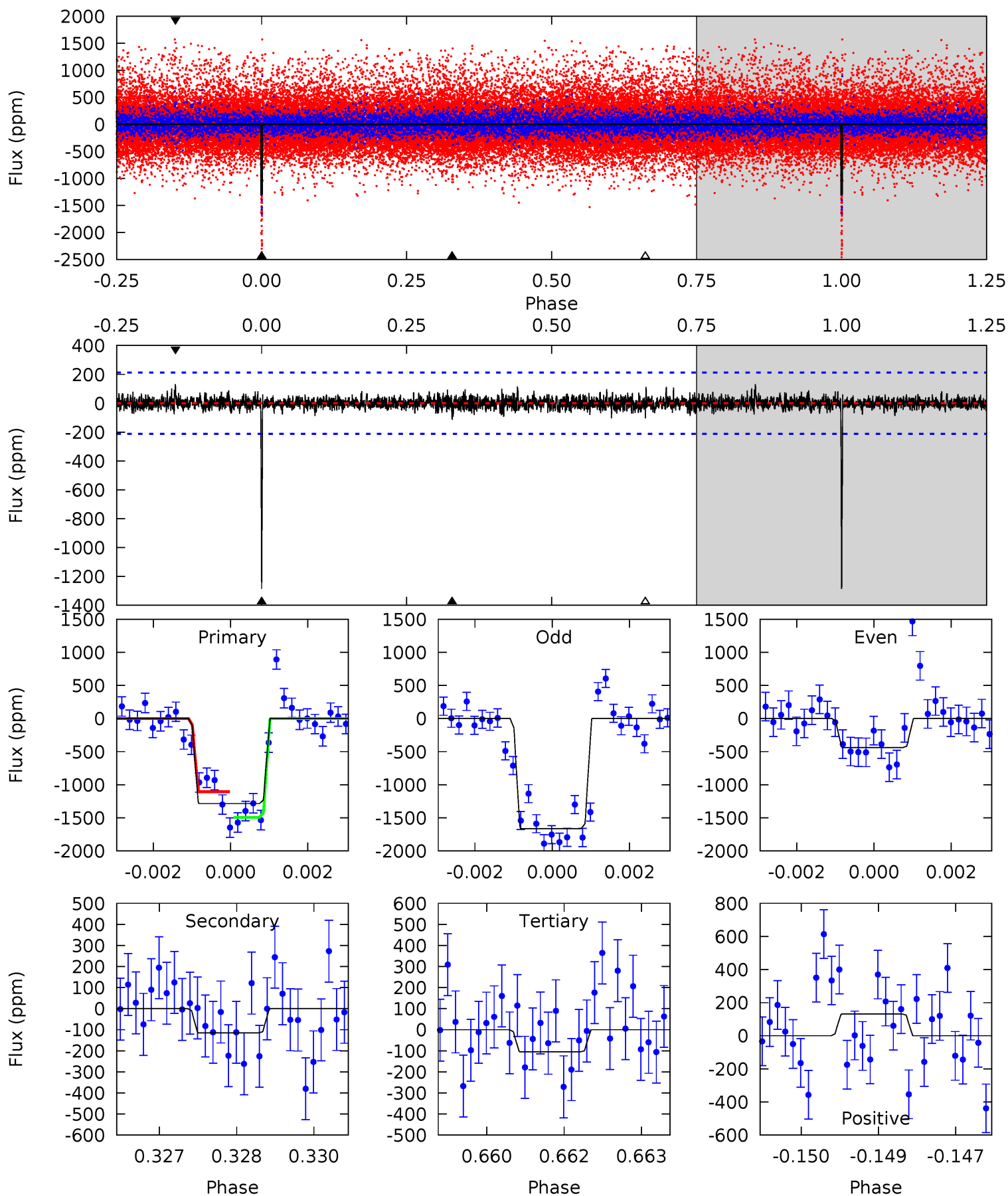
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	9.50	8.76	12.8	5.34	3.11	2.88	2.46	-1.60	0.75	-3.31	2.19	0.94	0.53	1.34



Alt Model-Shift Uniqueness Test

004725913-03, P = 161.568090 Days, E = 50.541204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.4	2.90	2.64	3.30	5.36	3.15	0.68	29.7	29.1	0.26	-0.41	16.0	1.04	0.09	4.89



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-608 ± 64	$2.41^{+1.56}_{-1.28}$	318^{+11}_{-11}	4030^{+1462}_{-598}	15760^{+54453}_{-9960}
Alt.	-115 ± 40	$2.79^{+1.38}_{-1.45}$	317^{+11}_{-11}	2974^{+720}_{-334}	2177^{+7467}_{-1262}

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

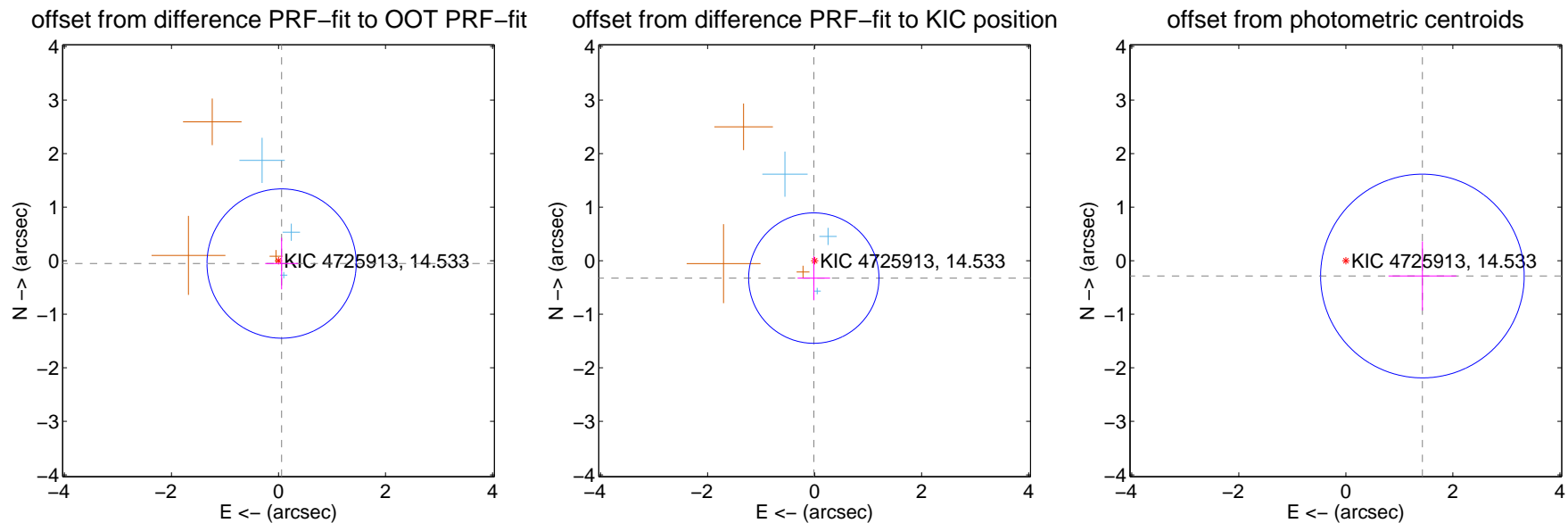
DV Centroid Data

Supplemental centroid analysis for 004725913-03. Kepler magnitude: 14.53. Transit SNR 8.18

There are 3 quarters with good PRF difference image offsets

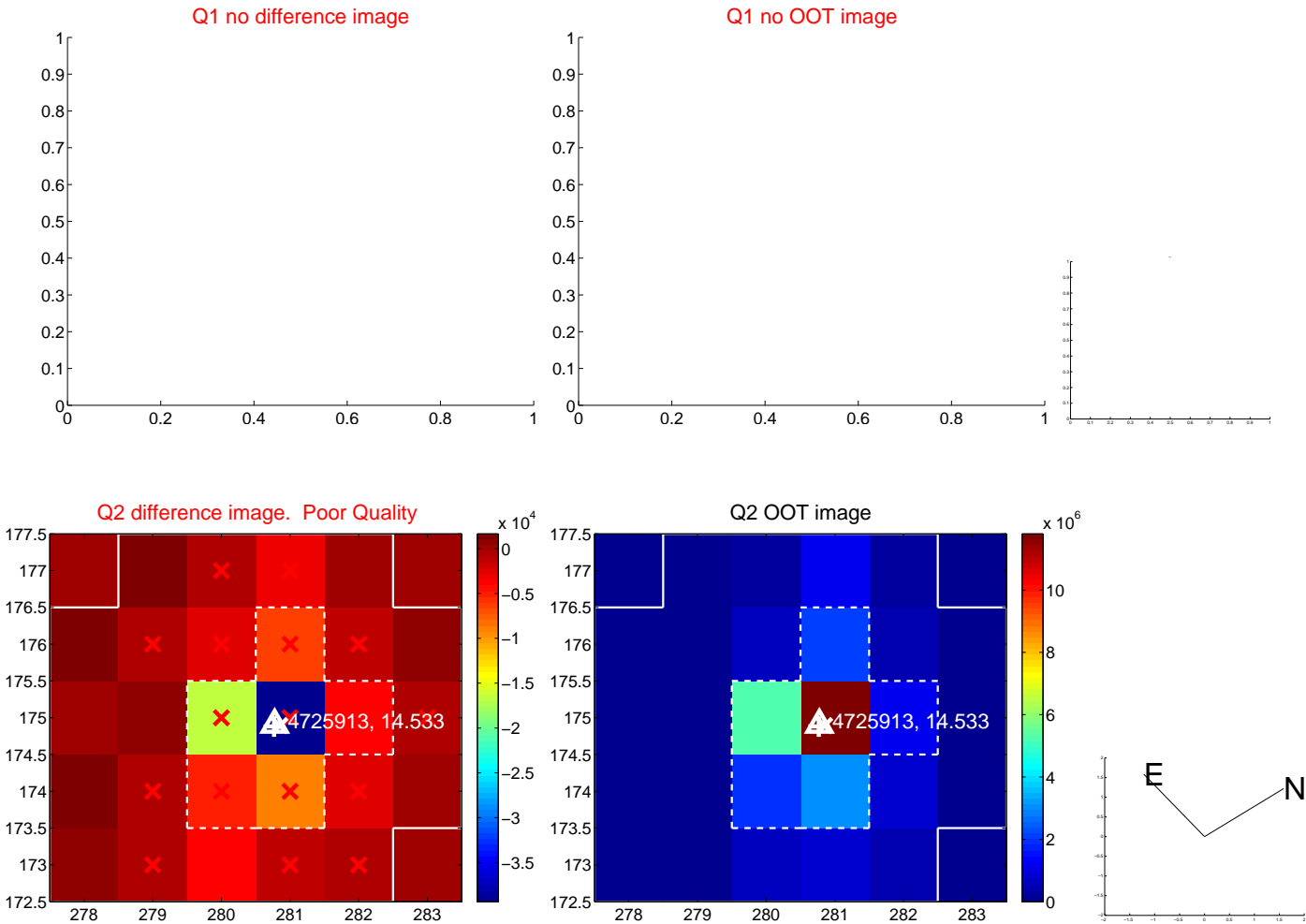
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.079 ± 0.465	0.17	-0.058 ± 0.307	-0.053 ± 0.483
PRF-fit source offset from KIC position	0.325 ± 0.406	0.80	0.015 ± 0.304	-0.325 ± 0.410
photometric centroid source offset	1.46 ± 0.63	2.30	-1.43 ± 0.63	-0.29 ± 0.64



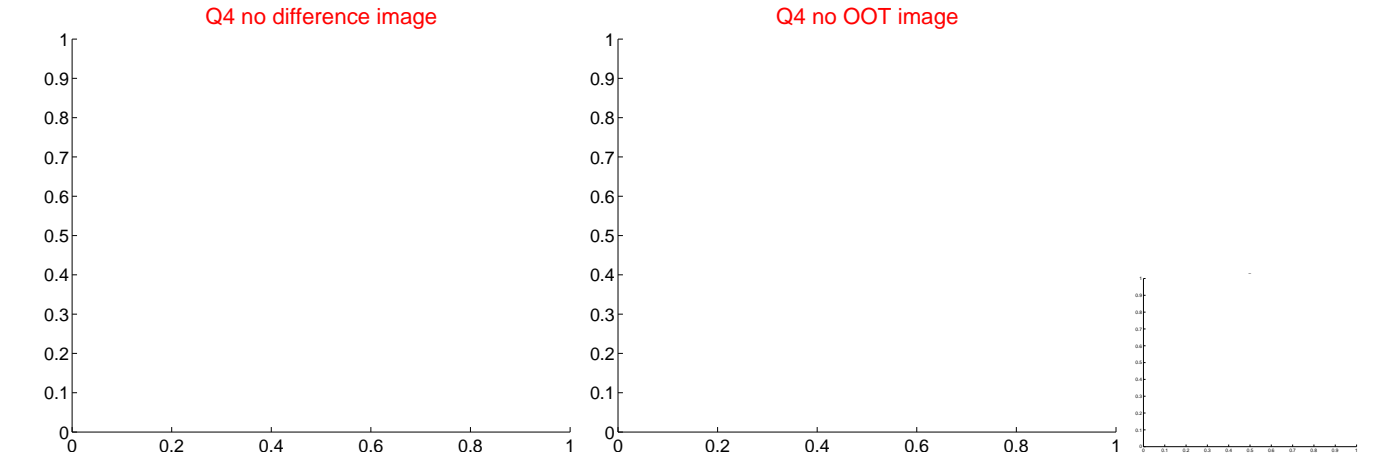
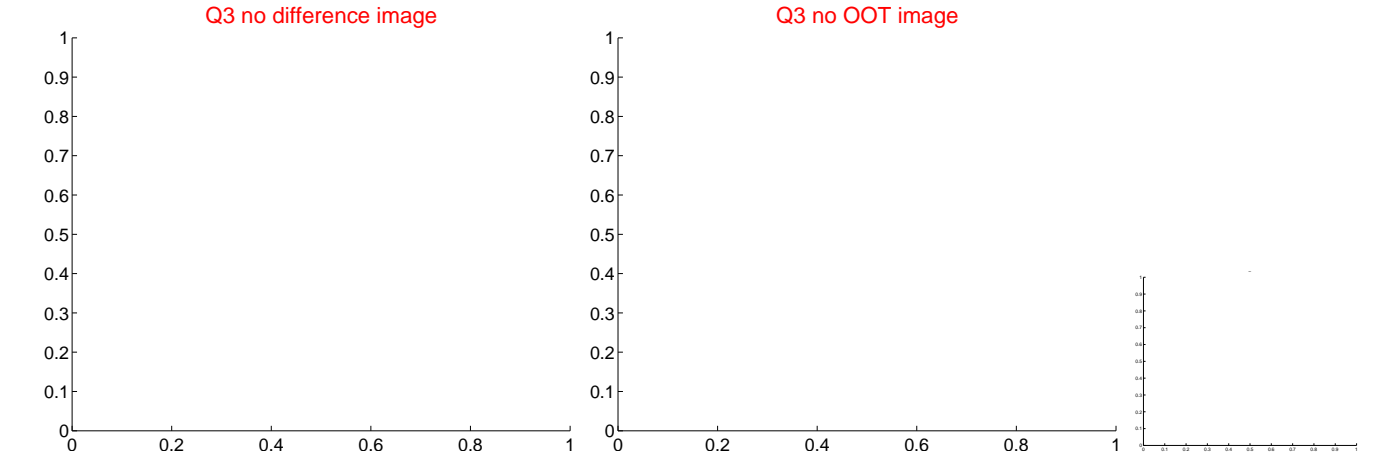
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

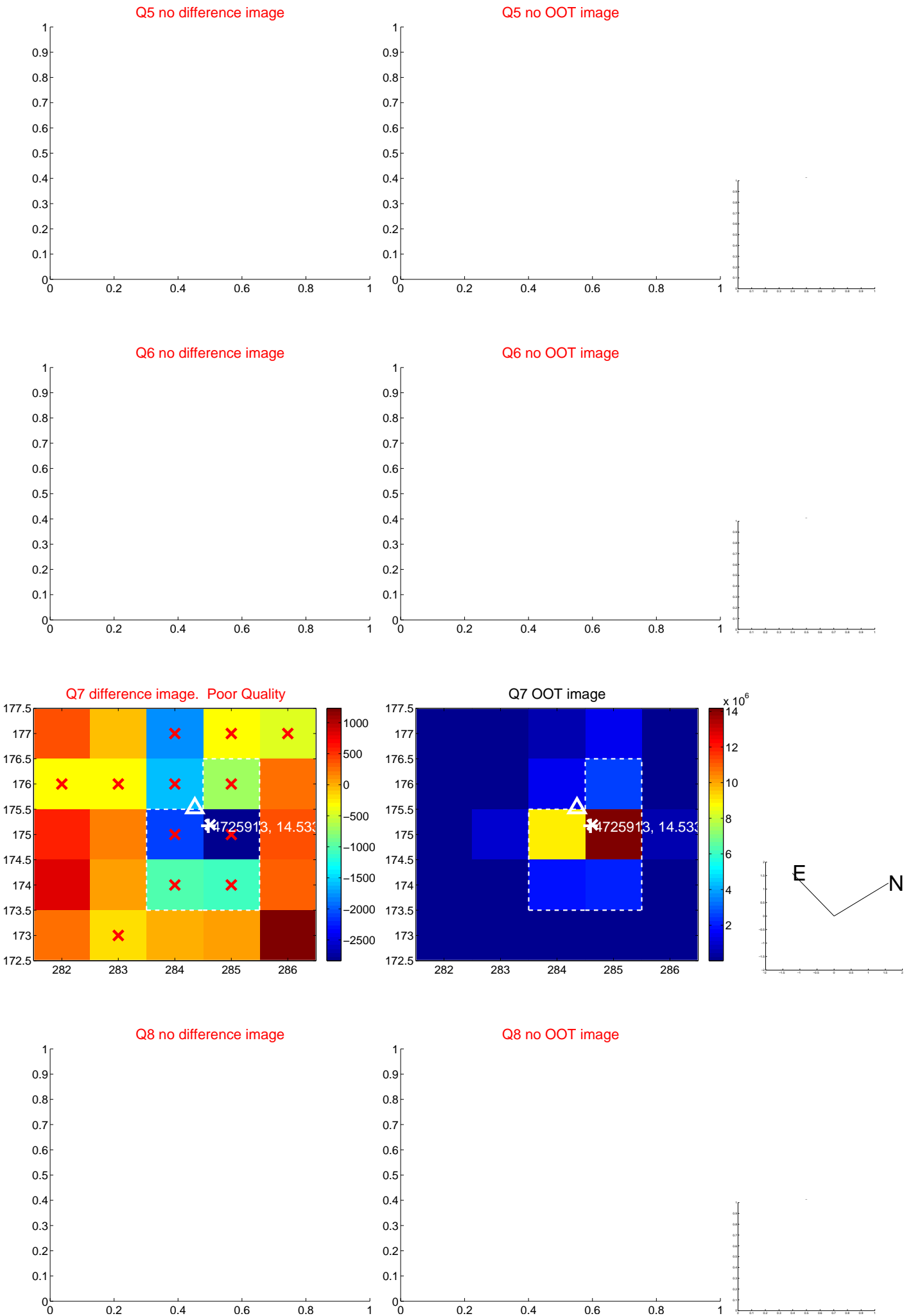


Q2 difference image. Poor Quality

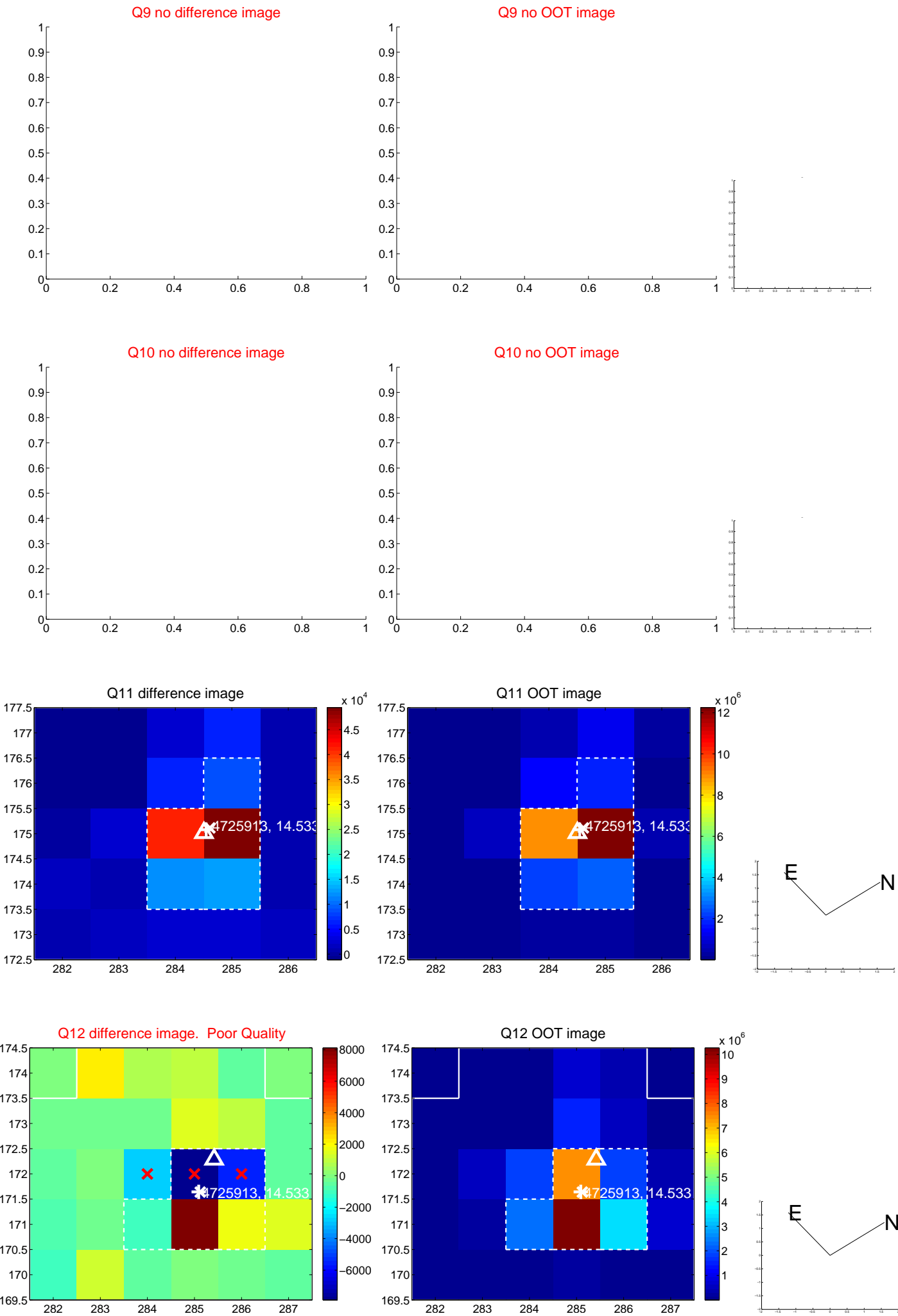
Q2 OOT image



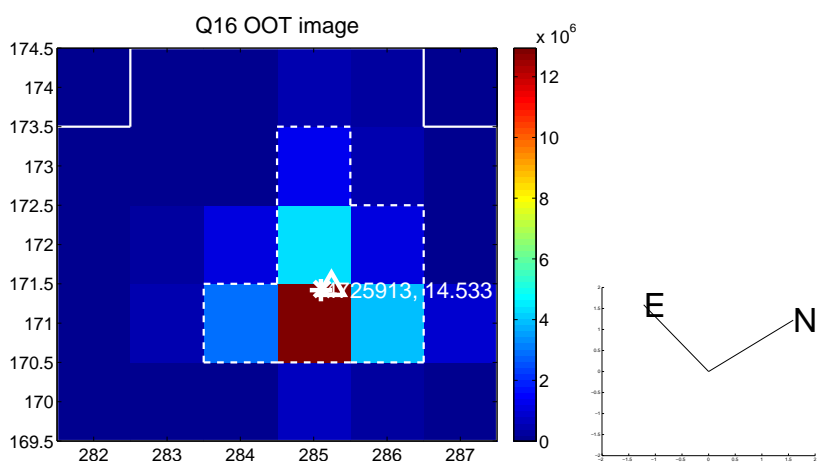
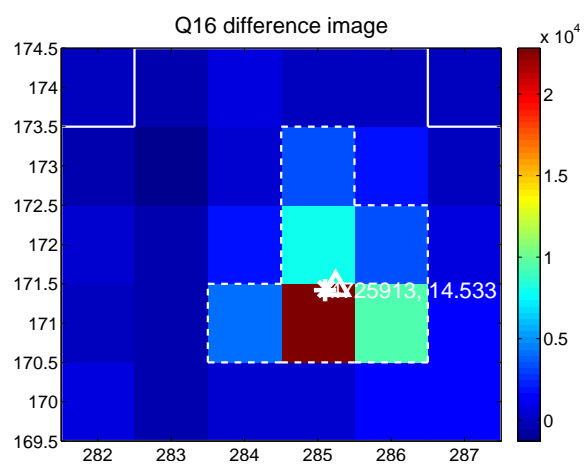
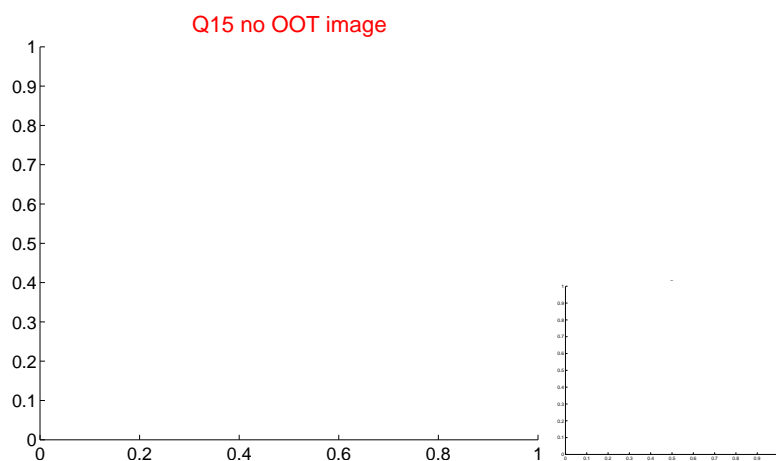
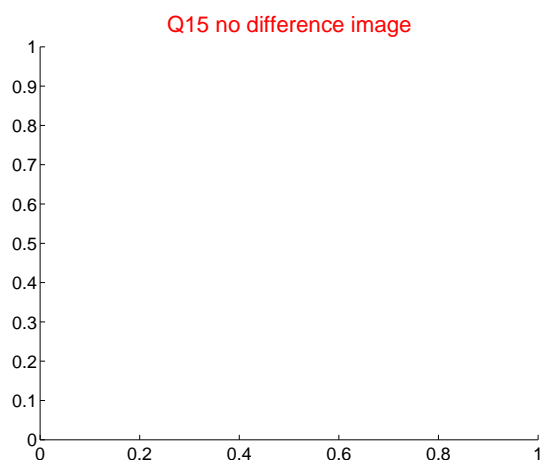
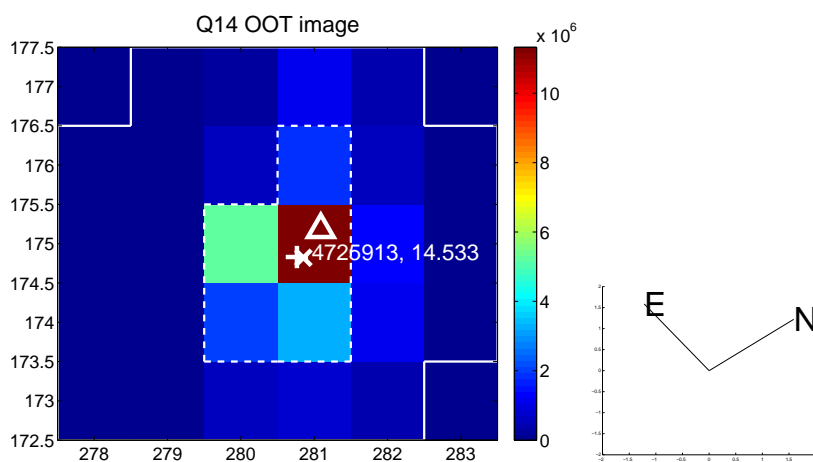
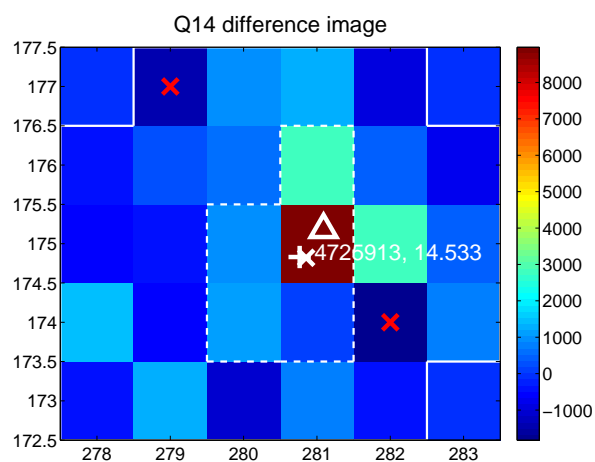
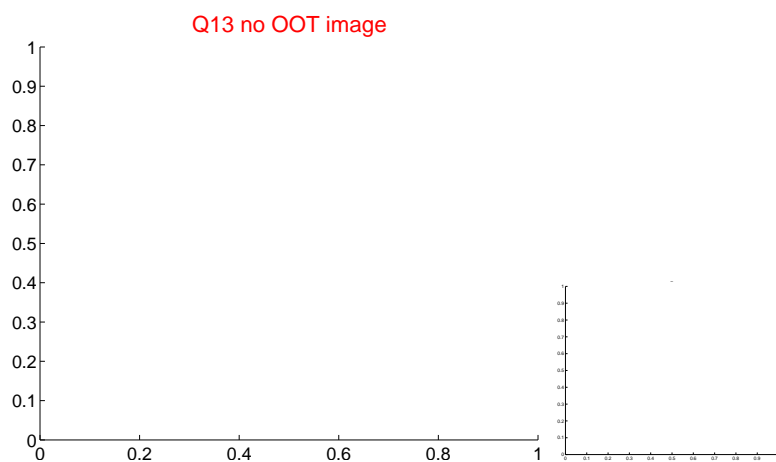
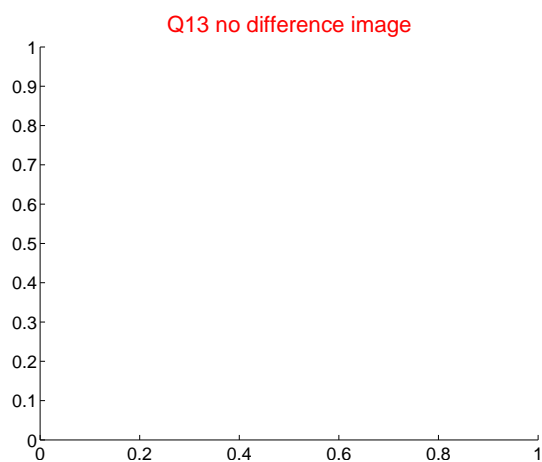
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



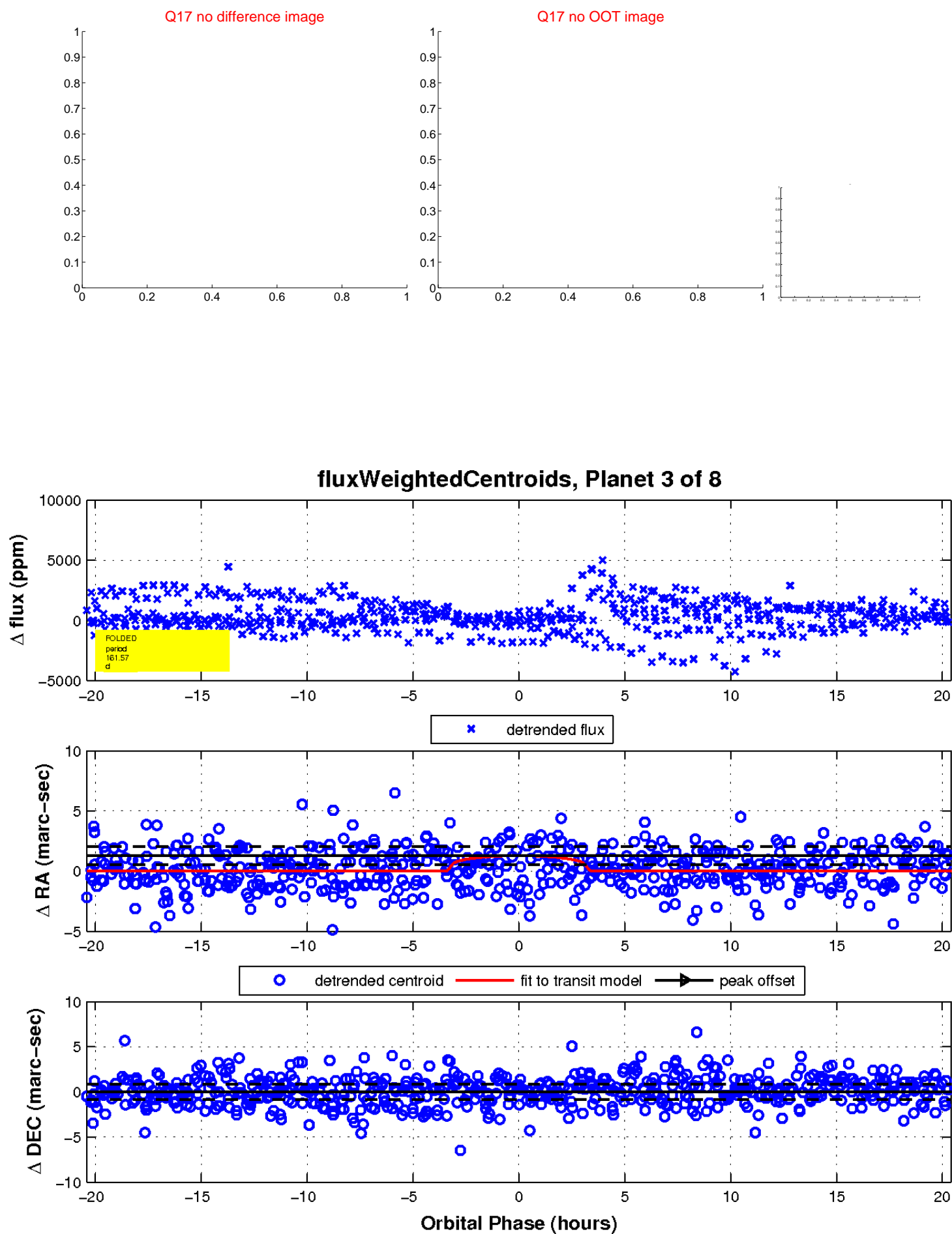
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

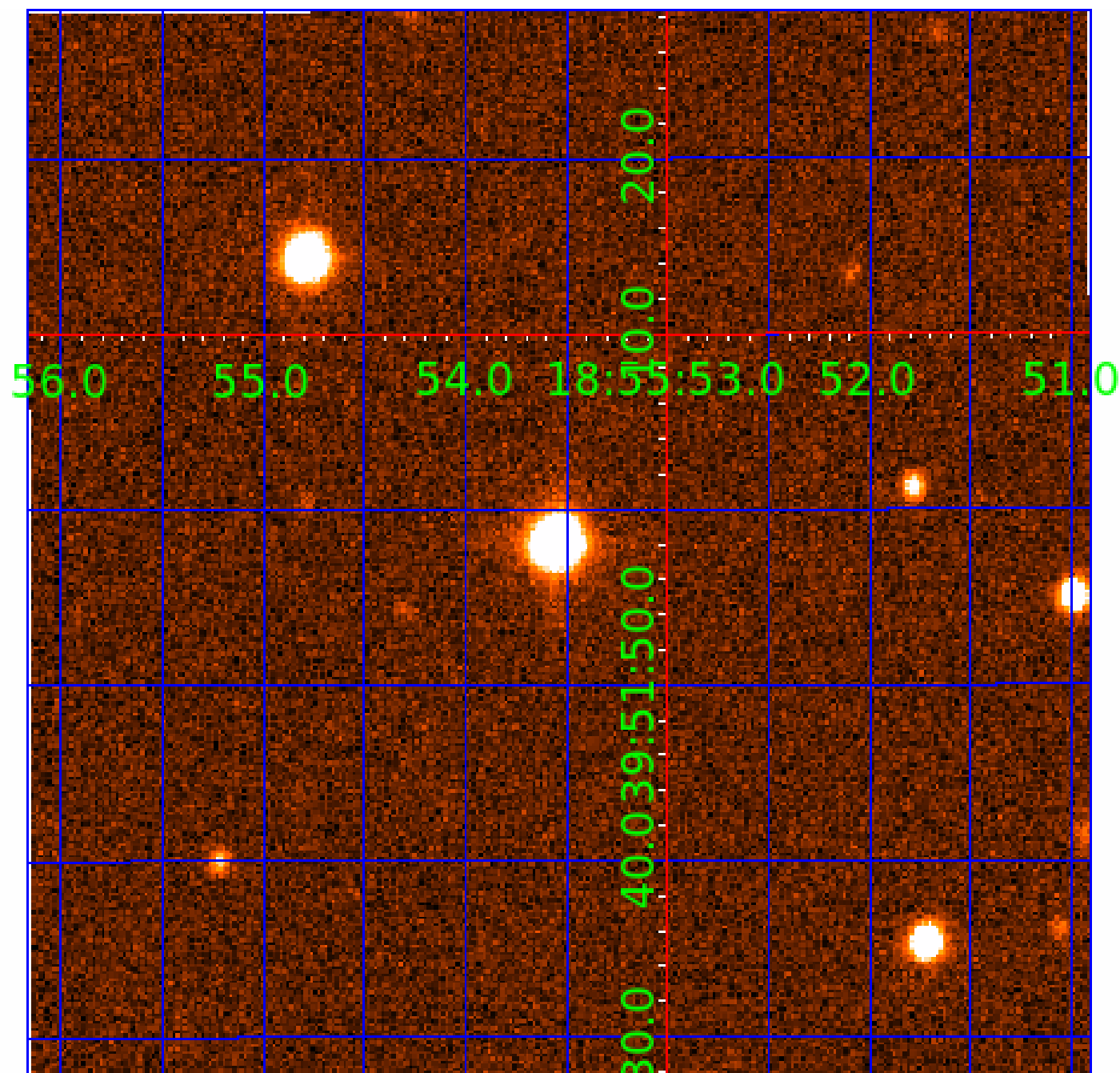


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

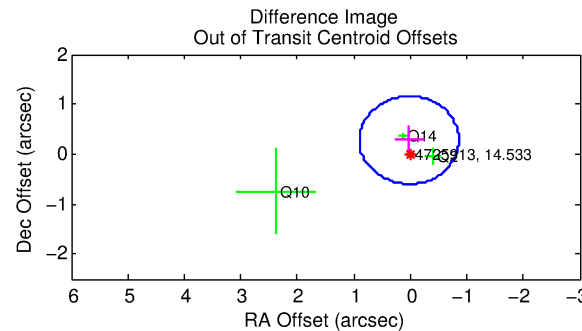
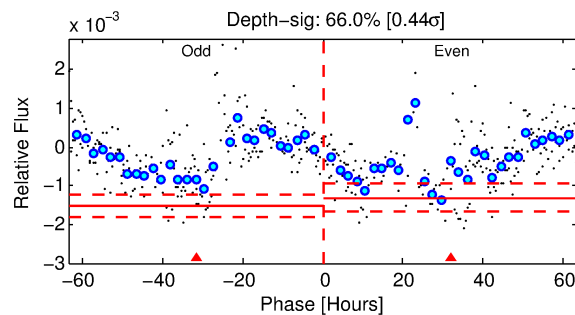
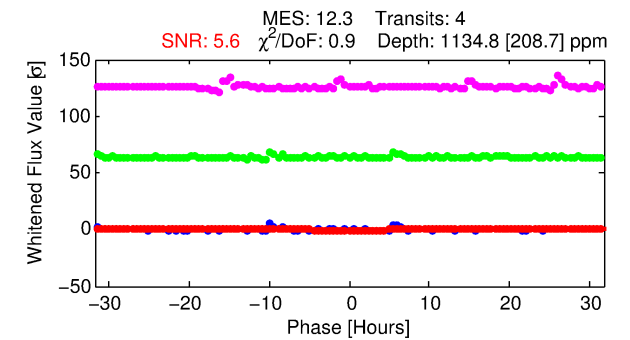
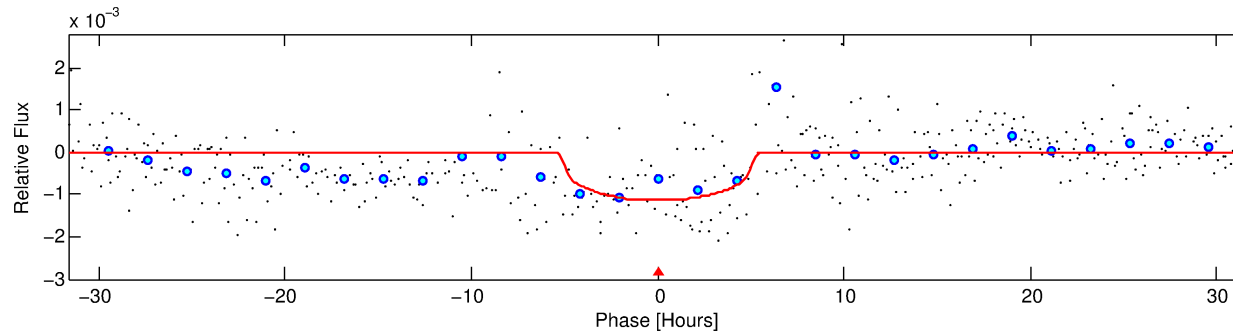
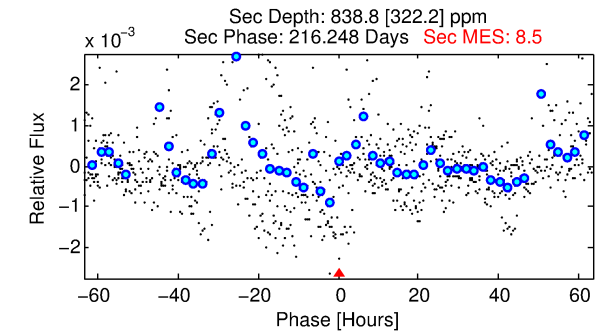
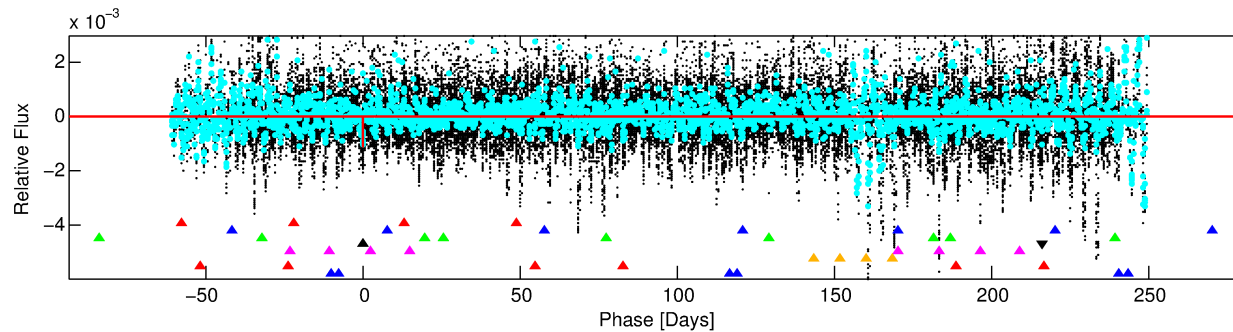
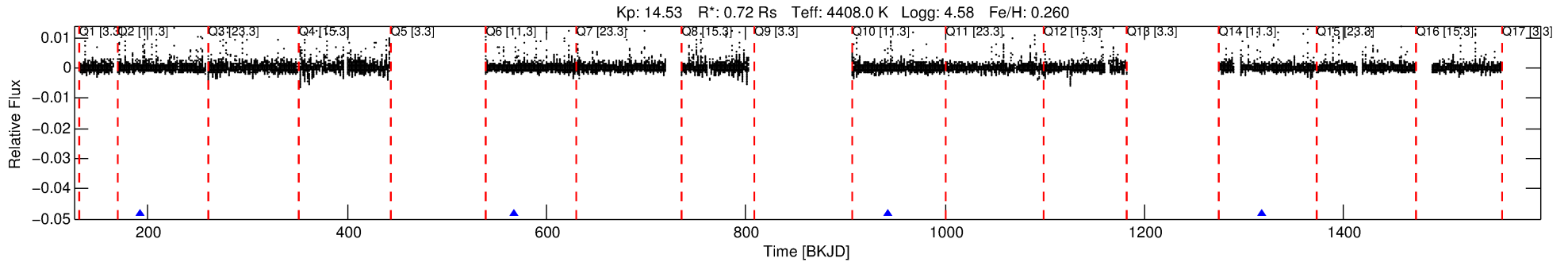
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-04

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 4 of 8 Period: 375.042 d



DV Fit Results:

Period = 375.04227 [0.00621] d
Epoch = 192.3403 [0.0127] BKJD
Rp/R* = 0.0314 [0.0161]
a/R* = 233.12 [344.82]
b = 0.57 [1.76]
Seff = 0.21 [0.03]
Teq = 173 [7] K
Rp = 2.46 [1.28] Re
a = 0.9079 [0.0633] AU
Ag = 63093.46 [69475.62] [0.91σ]
Teffp = 4232 [1167] K [3.48σ]

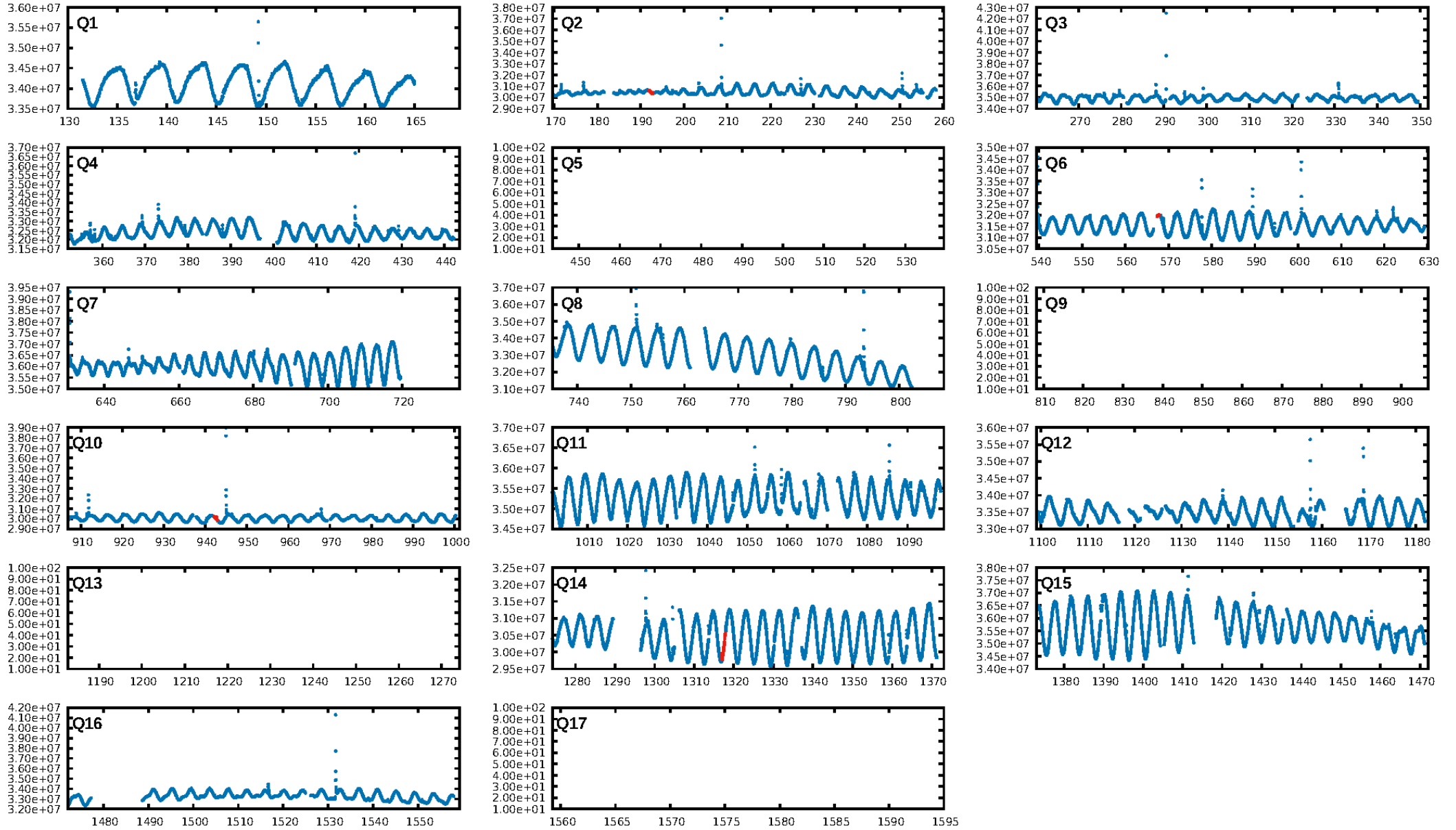
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.53σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 96.6%
Bootstrap-pfa: 3.00e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.451
Centroid-sig: 39.5%
Centroid-so: 0.428 arcsec [0.61σ]
OotOffset-rm: 0.282 arcsec [0.96σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 0.204 arcsec [0.28σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

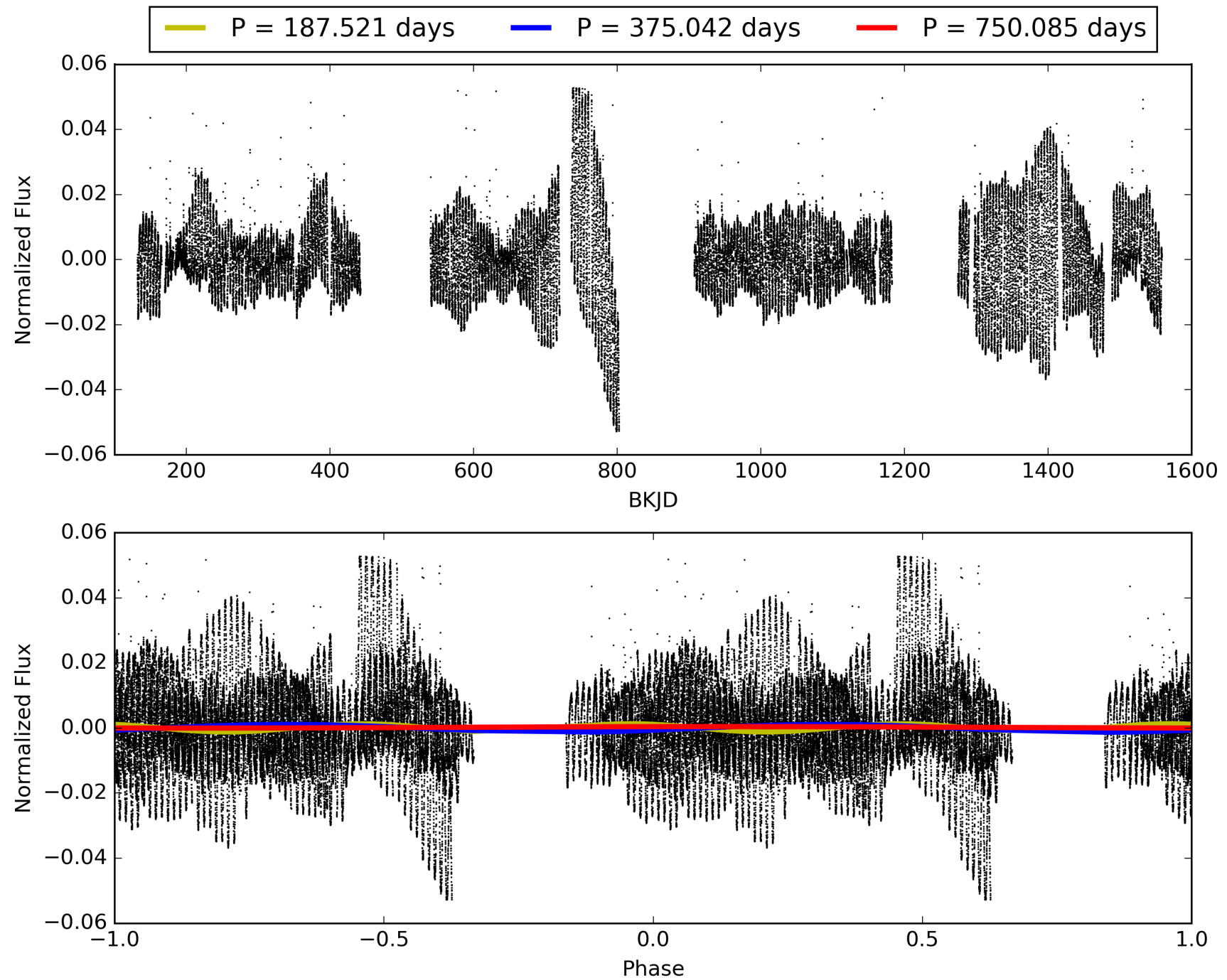
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:36:45 Z

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

TCE 004725913-04, PDC Light Curves

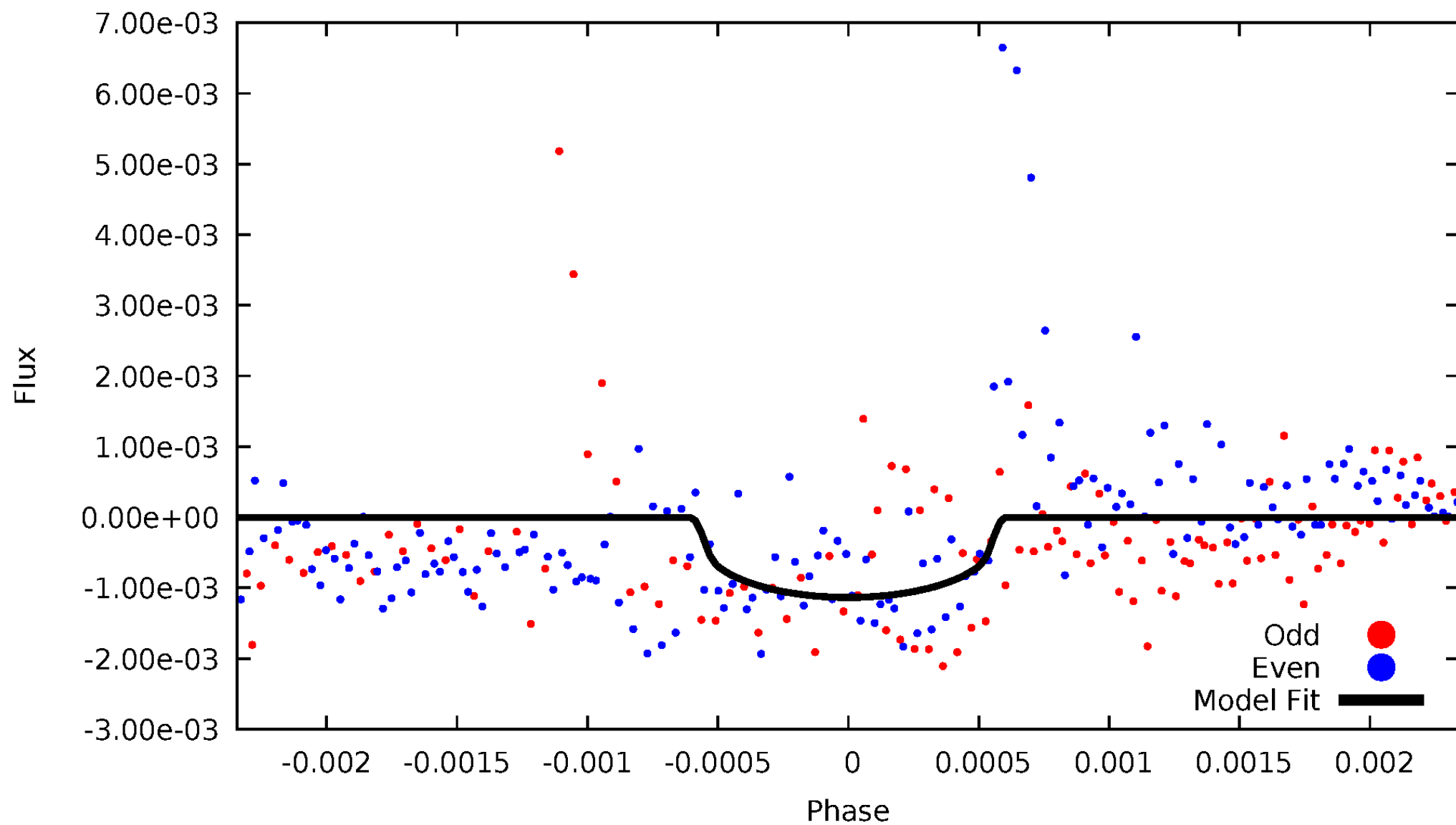


TCE 004725913-04



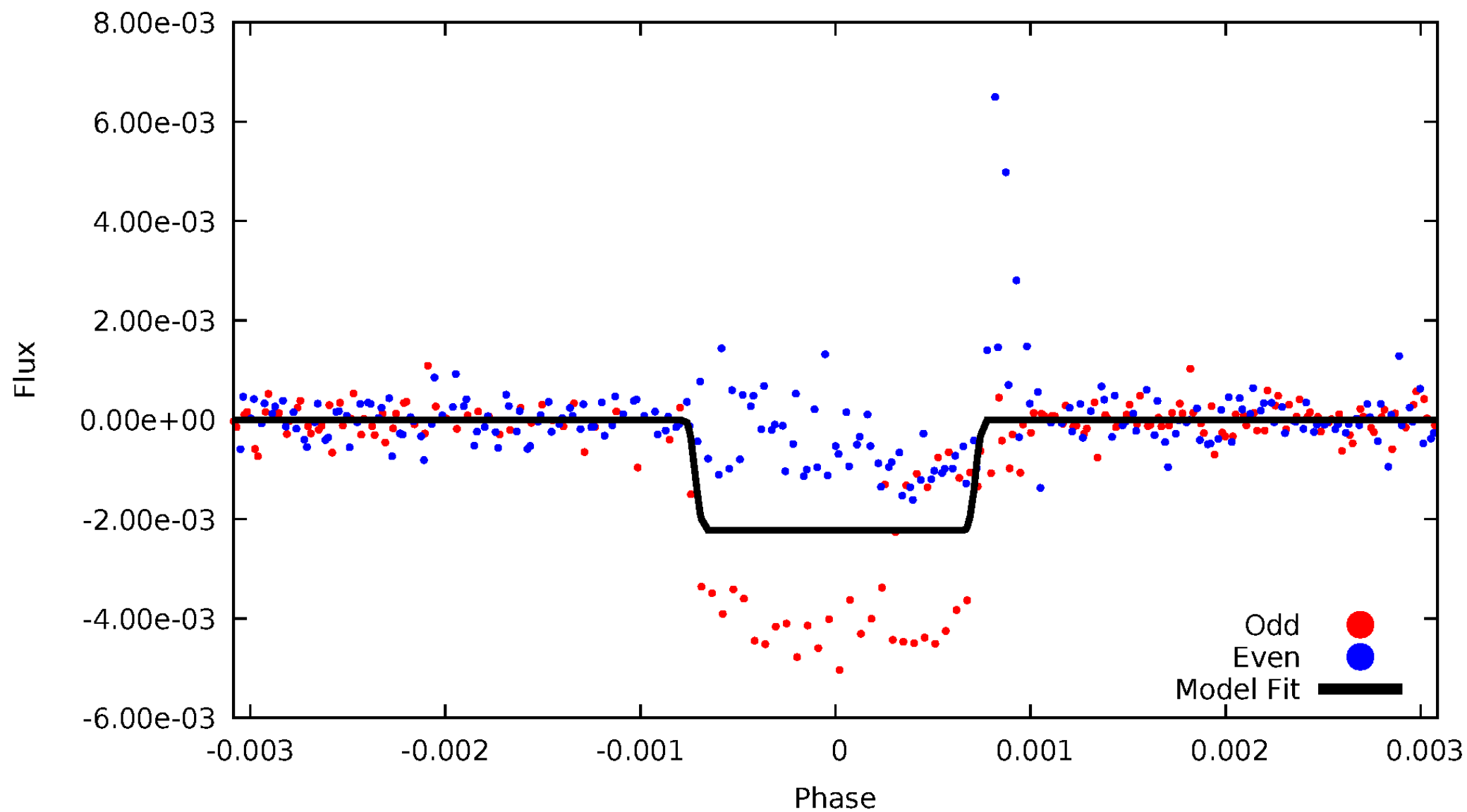
DV Odd/Even

TCE 004725913-04



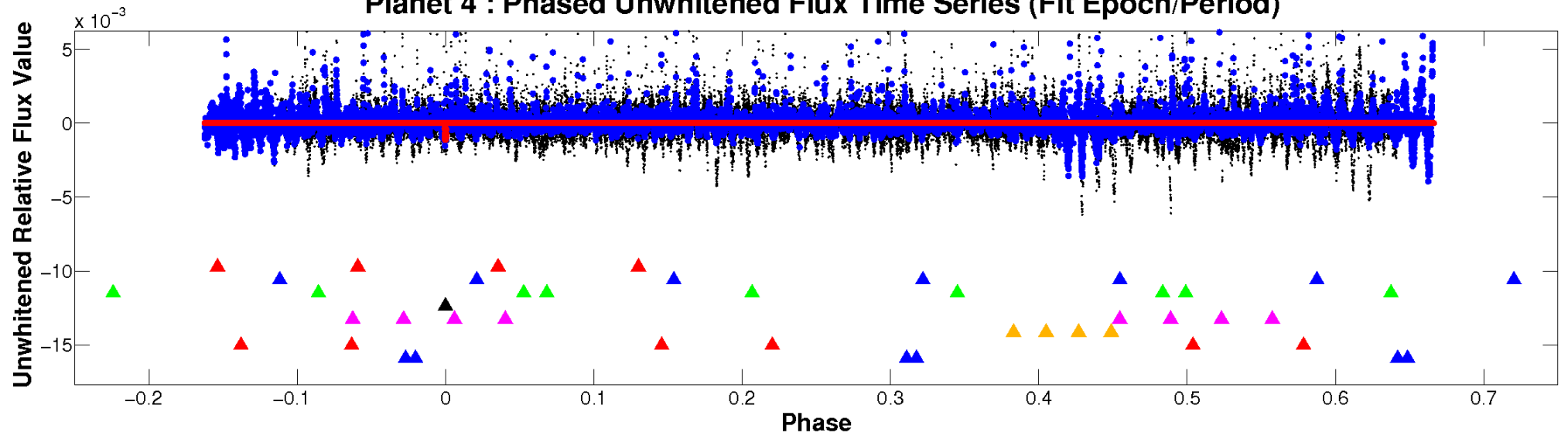
ALT Odd/Even

TCE 004725913-04

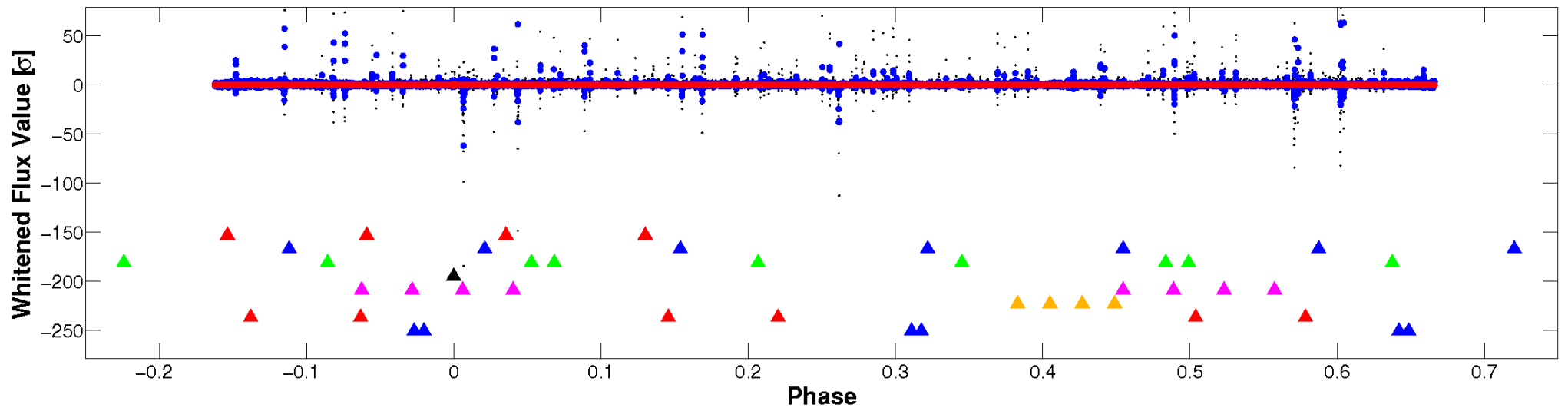


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

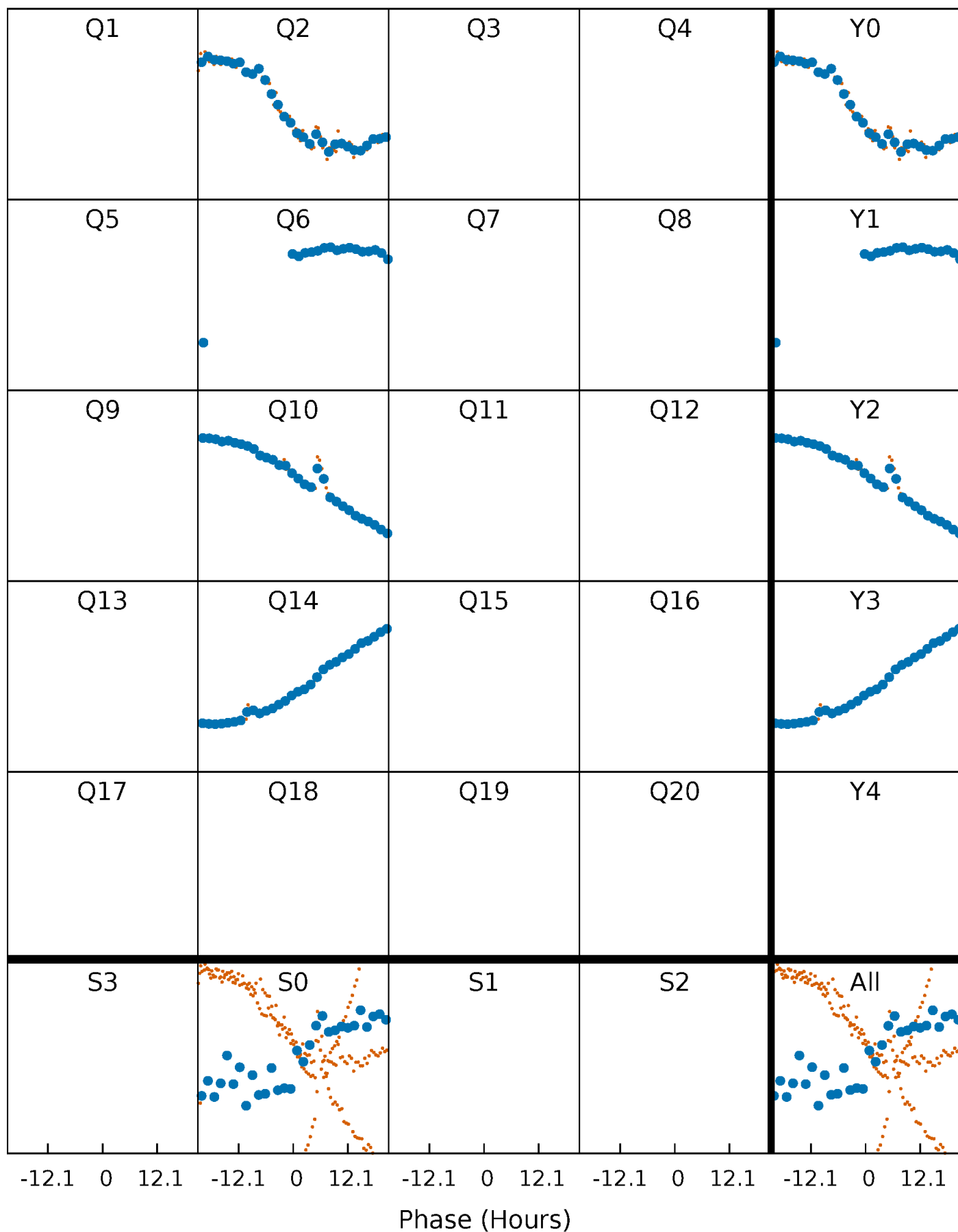


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



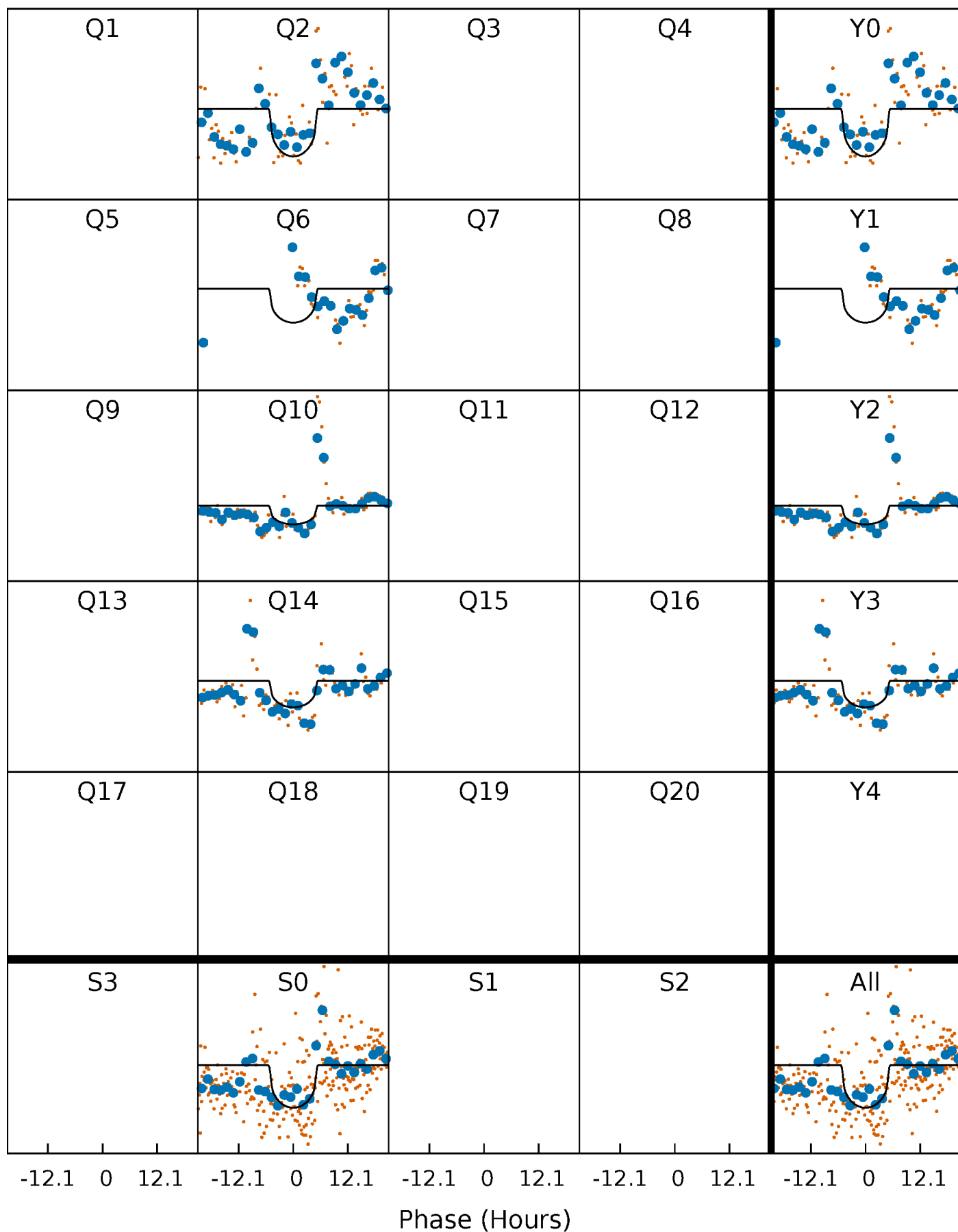
PDC Quarter-Phased Transit Curves

TCE 004725913-04 P=375.042268 Days $T_0=192.340327$ (BKJD)



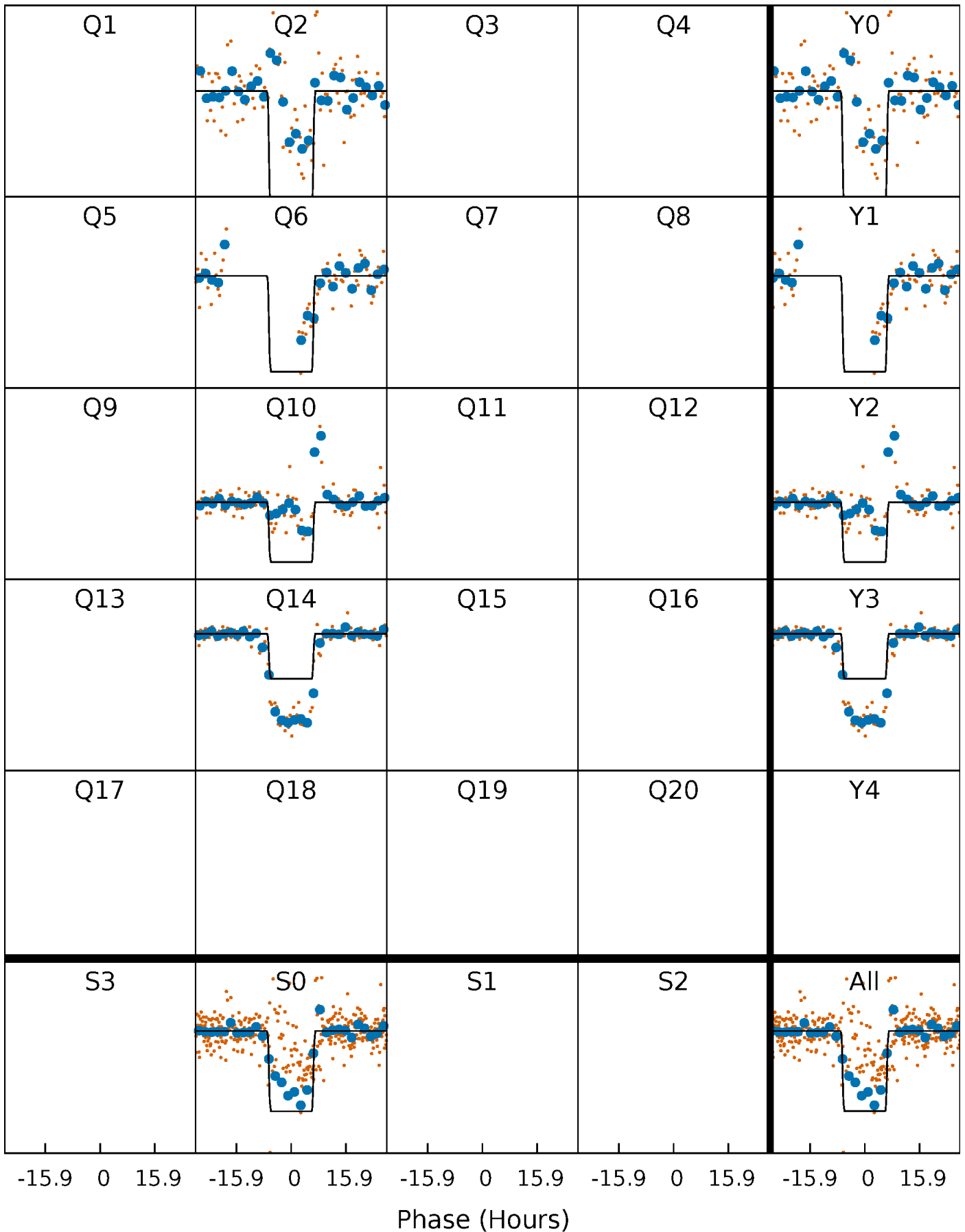
DV Quarter-Phased Transit Curves

TCE 004725913-04 P=375.042268 Days $T_0=192.340327$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

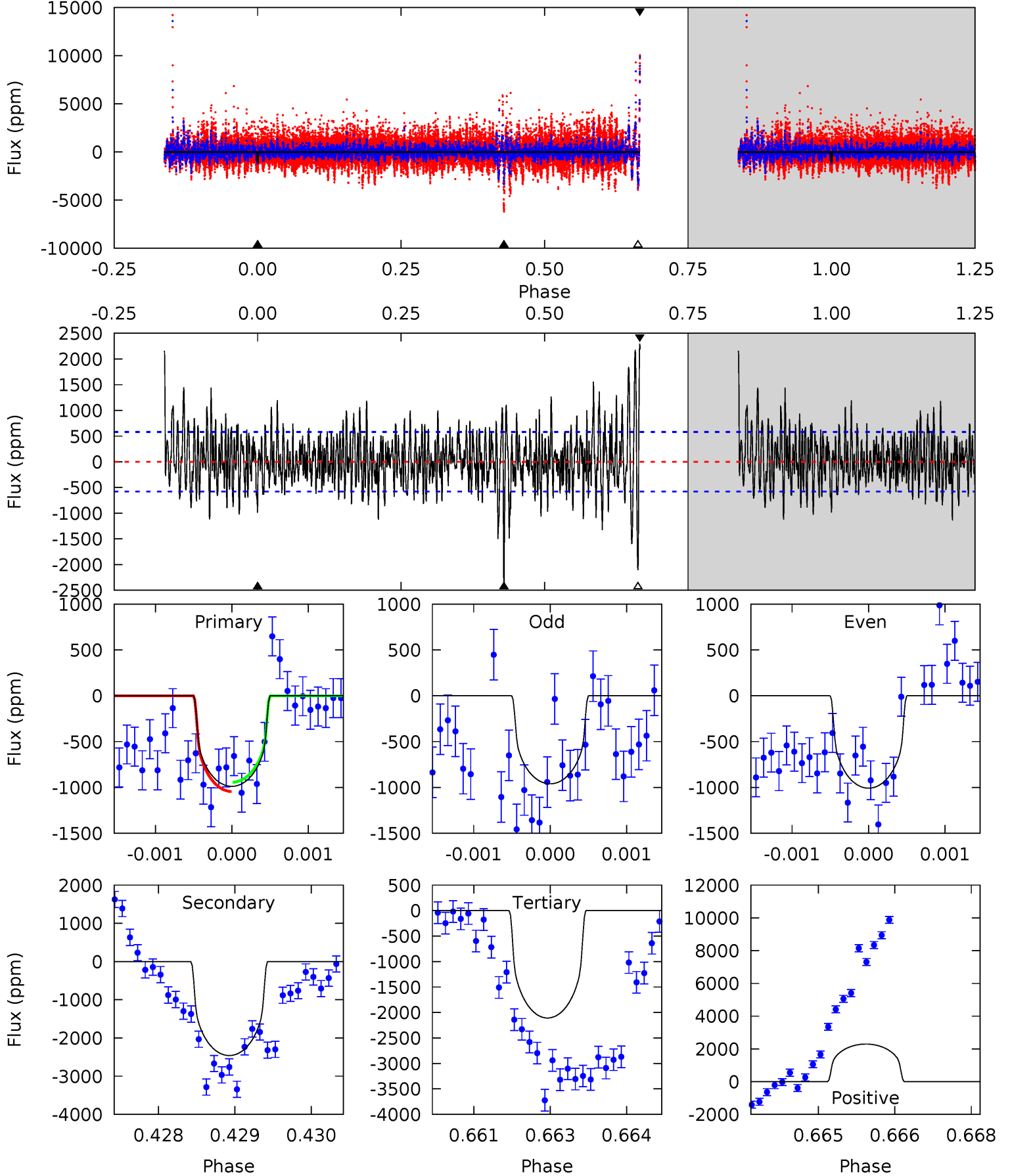
TCE 004725913-04 P=375.051183 Days $T_0=192.257765$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-04, P = 375.042268 Days, E = 192.340327 Days

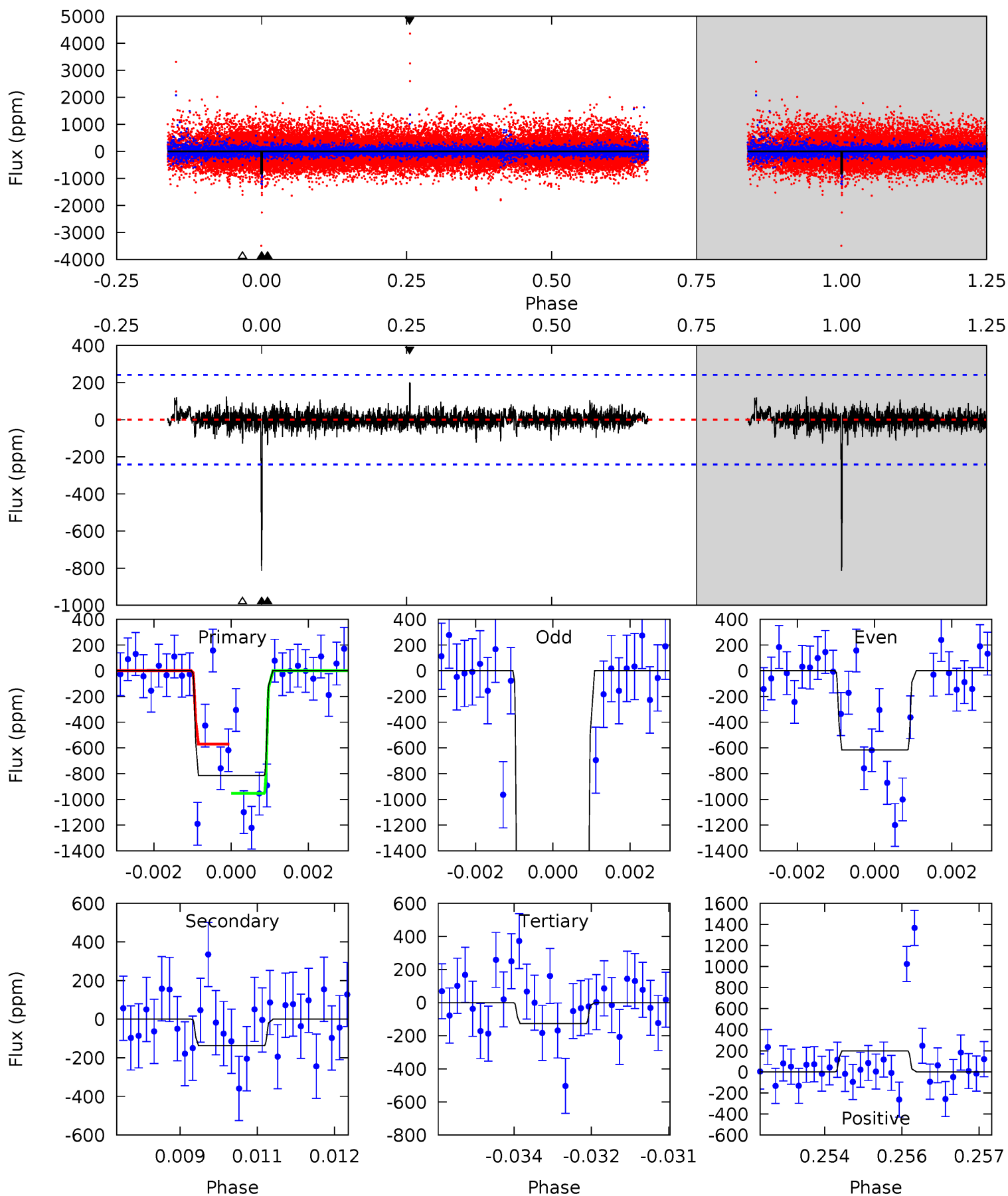
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.23	23.0	19.7	21.4	5.42	3.24	4.11	-10.5	-12.2	3.28	1.54	0.17	0.80	0.48	0.45



Alt Model-Shift Uniqueness Test

004725913-04, P = 375.051183 Days, E = 192.257765 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	3.04	2.83	4.42	5.37	3.17	0.63	15.3	13.7	0.21	-1.37	36.9	1.79	0.20	0



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2459 ± 107	$2.51^{+1.22}_{-1.18}$	239^{+8}_{-7}	5276^{+1929}_{-831}	$180863^{+474854}_{-100024}$
Alt.	-137 ± 45	$3.64^{+1.15}_{-1.30}$	240^{+9}_{-8}	2834^{+366}_{-265}	4687^{+6217}_{-2451}

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

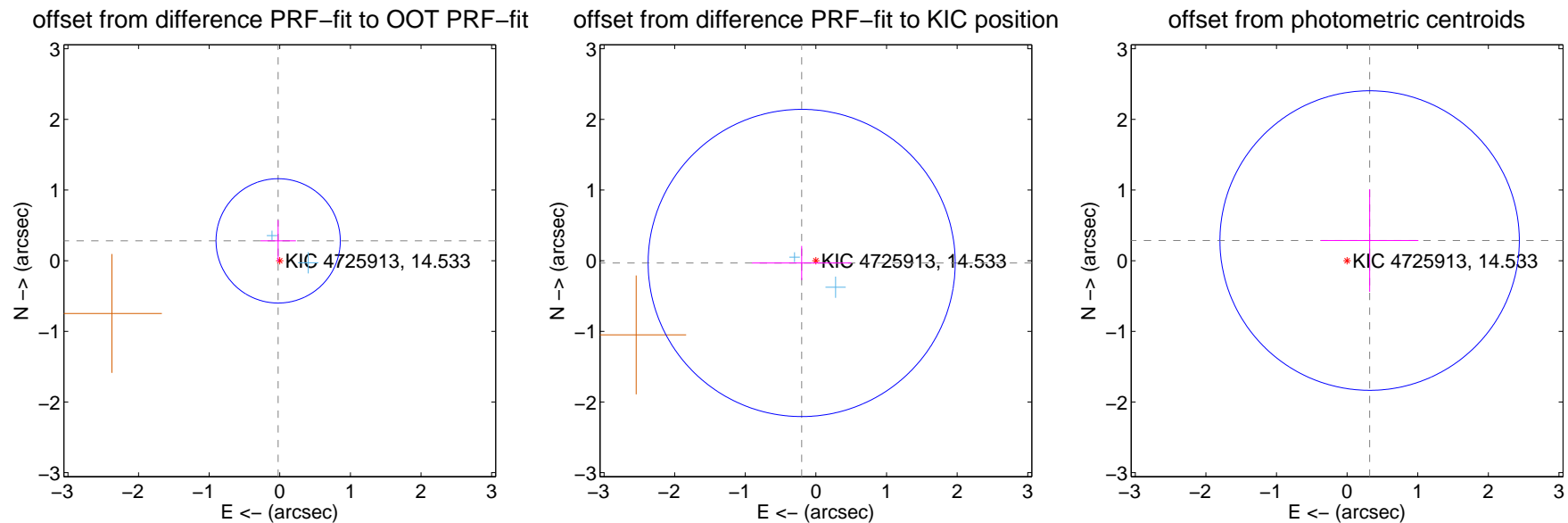
DV Centroid Data

Supplemental centroid analysis for 004725913-04. Kepler magnitude: 14.53. Transit SNR 5.64

There are 2 quarters with good PRF difference image offsets

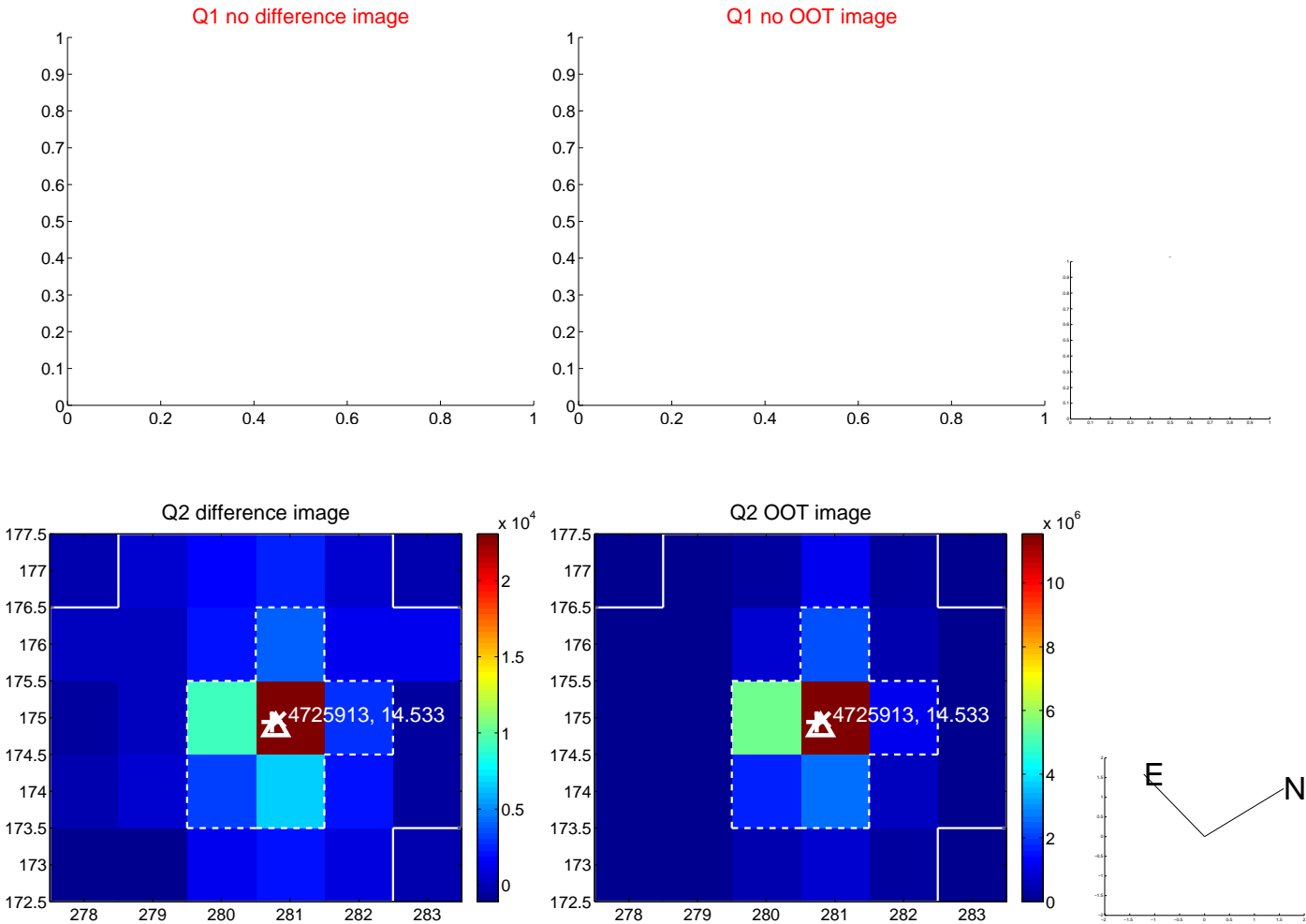
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.282 ± 0.293	0.96	0.023 ± 0.251	0.281 ± 0.294
PRF-fit source offset from KIC position	0.204 ± 0.725	0.28	0.202 ± 0.704	-0.032 ± 0.241
photometric centroid source offset	0.43 ± 0.71	0.61	-0.32 ± 0.69	0.29 ± 0.73



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.

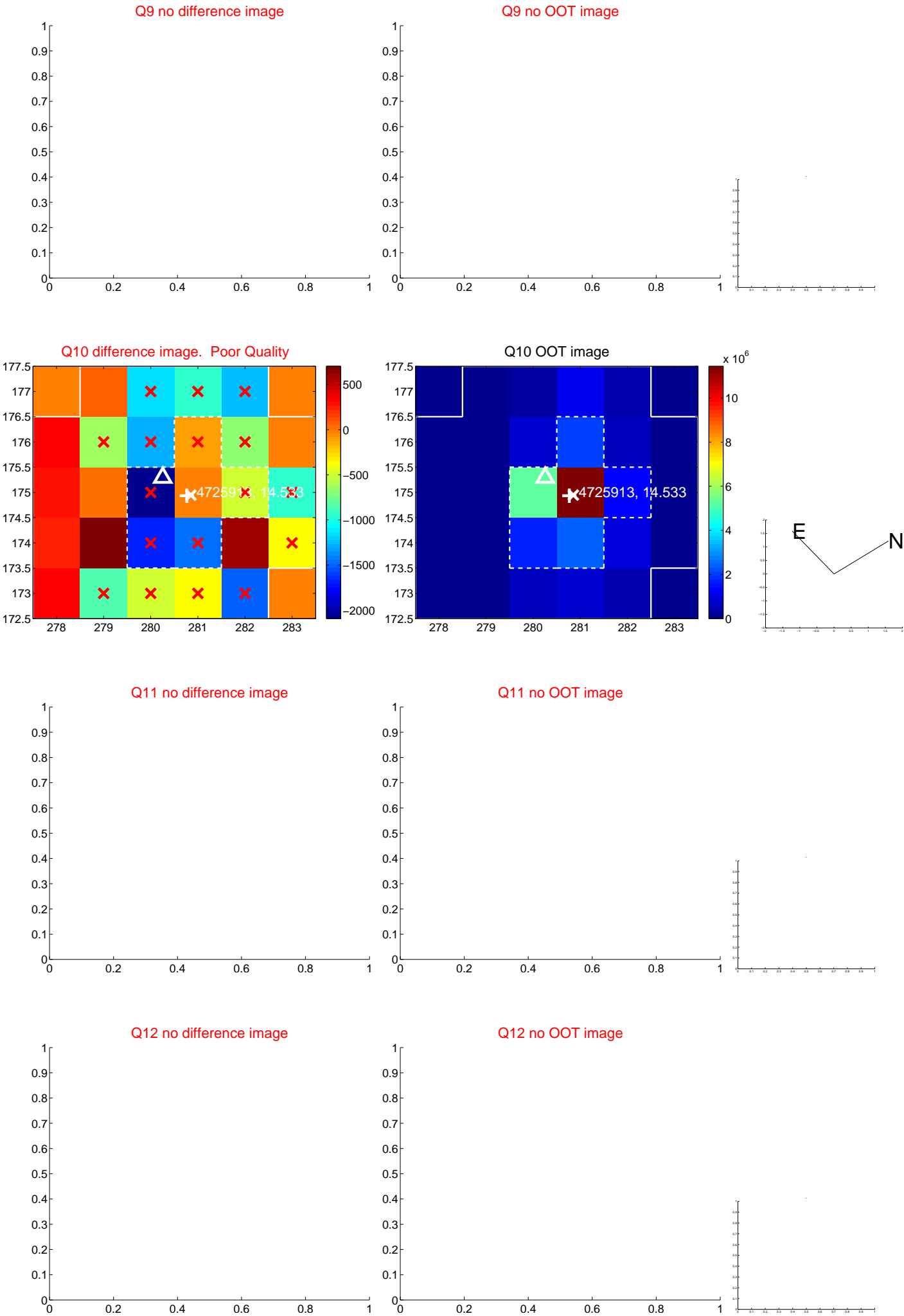
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

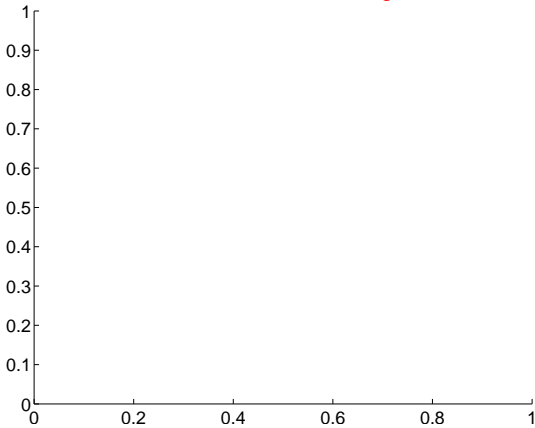


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

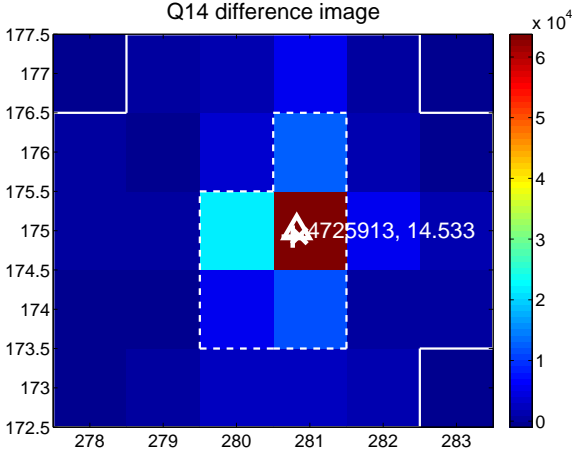
Q13 no difference image



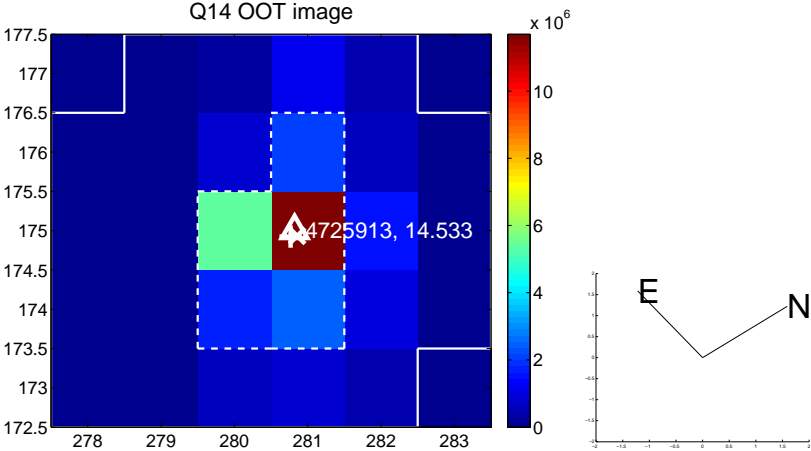
Q13 no OOT image



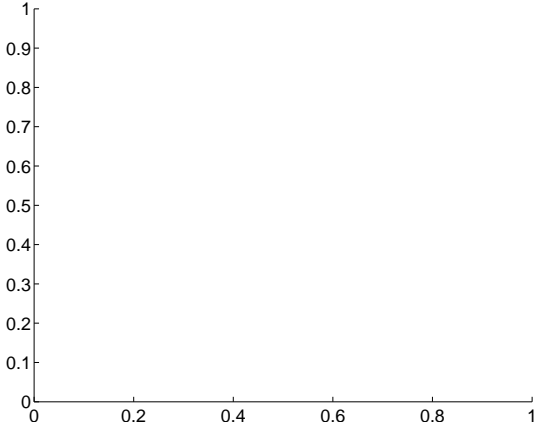
Q14 difference image



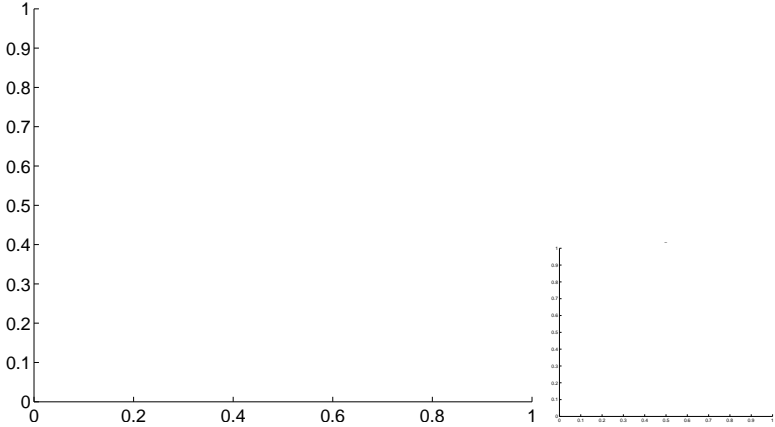
Q14 OOT image



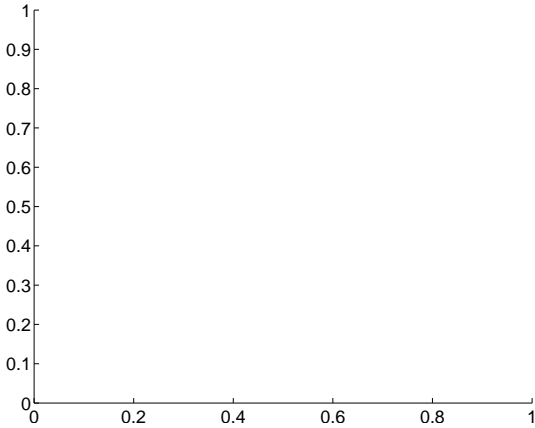
Q15 no difference image



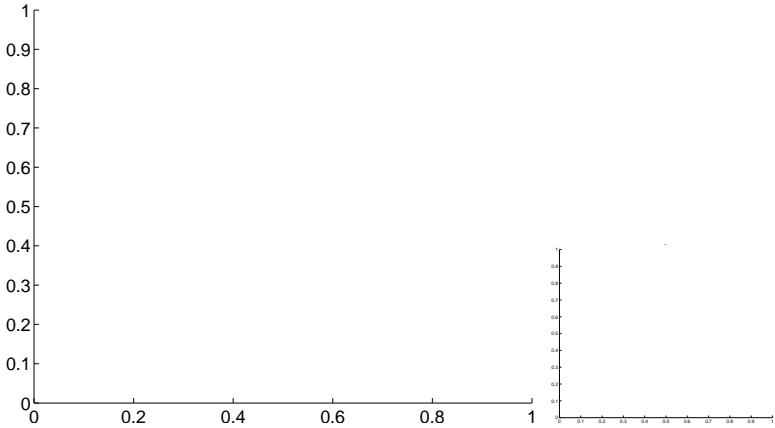
Q15 no OOT image



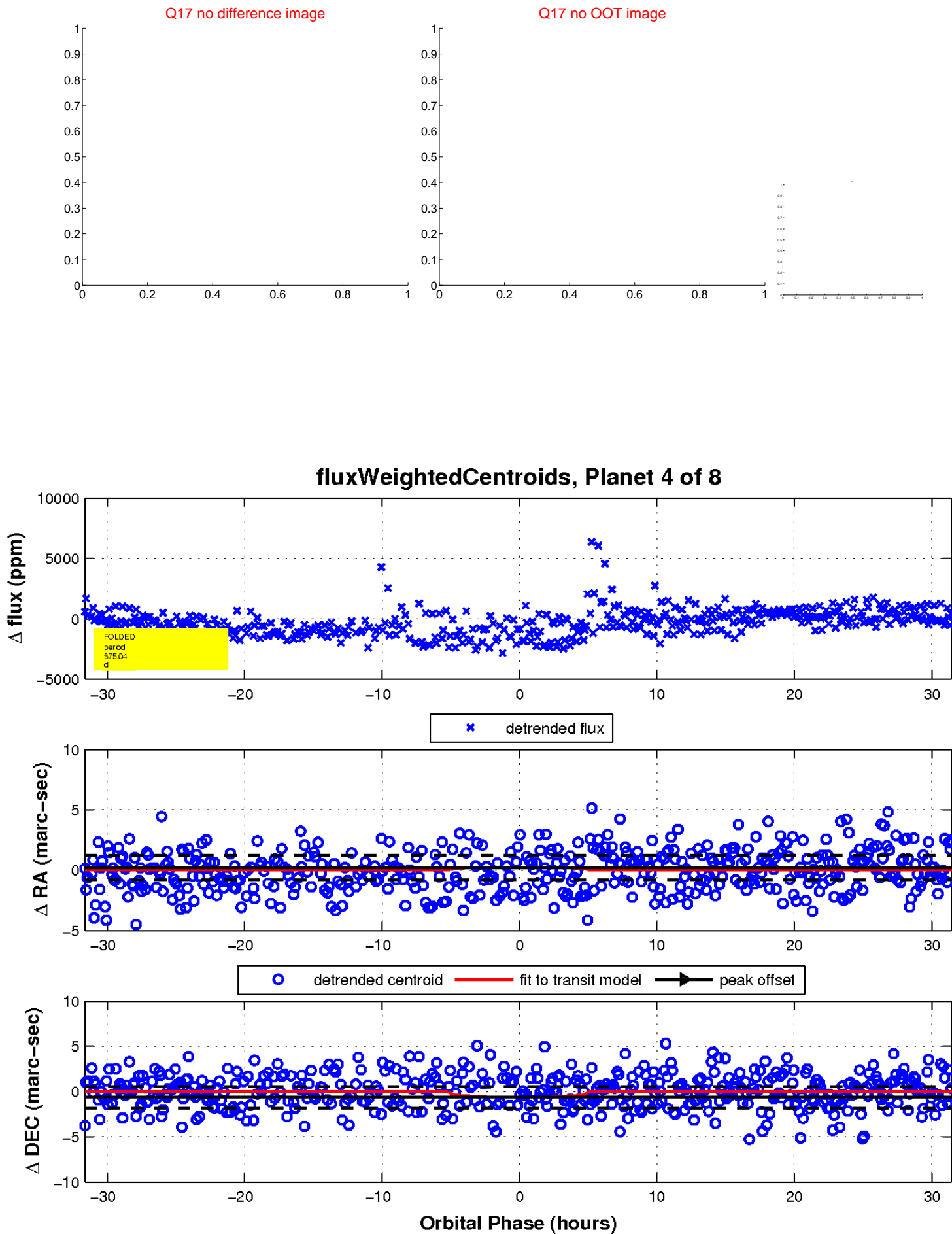
Q16 no difference image



Q16 no OOT image

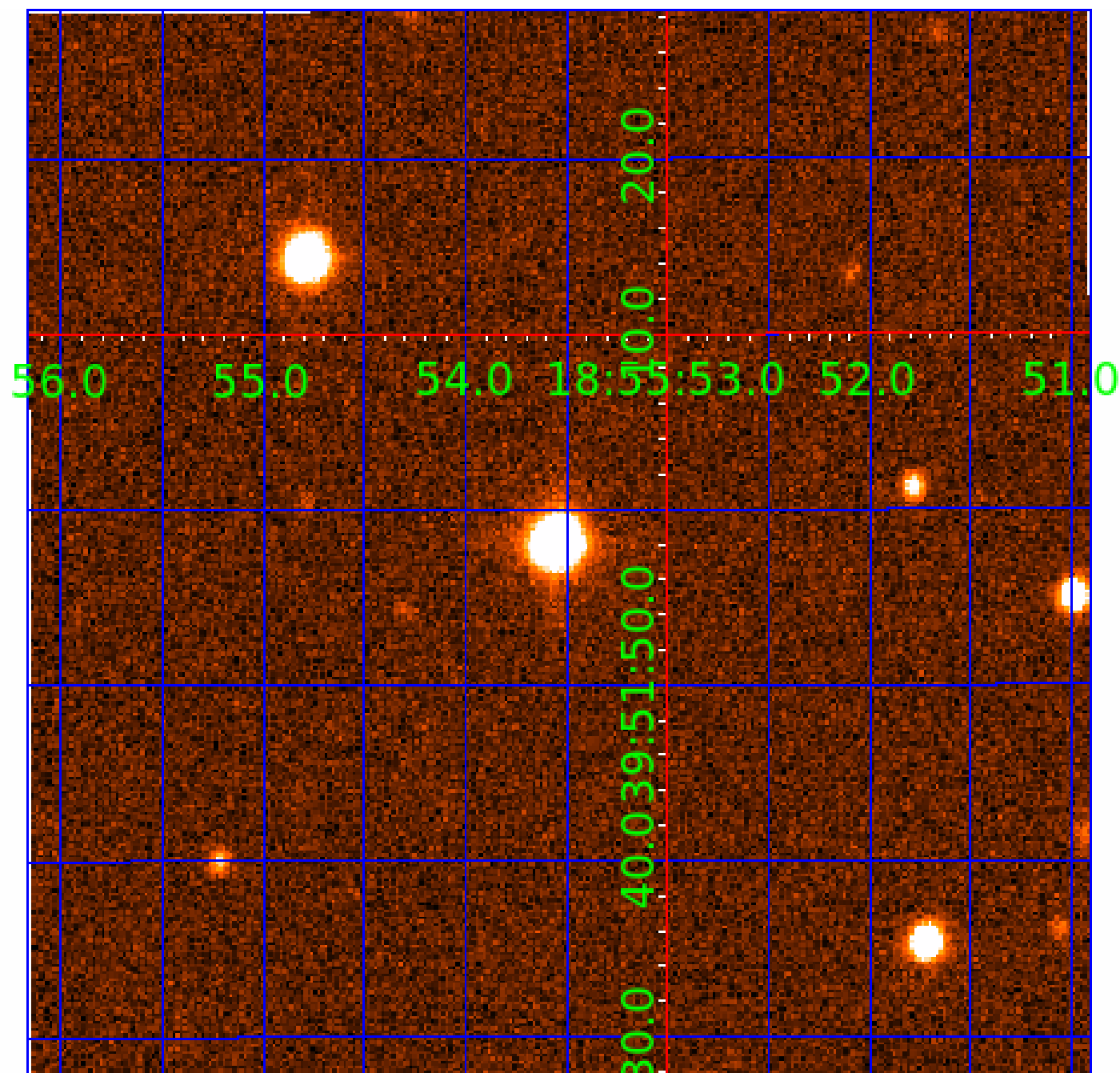


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

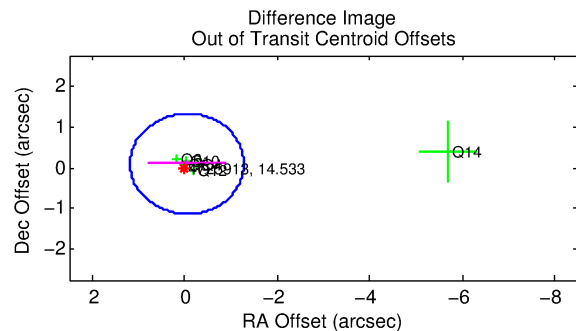
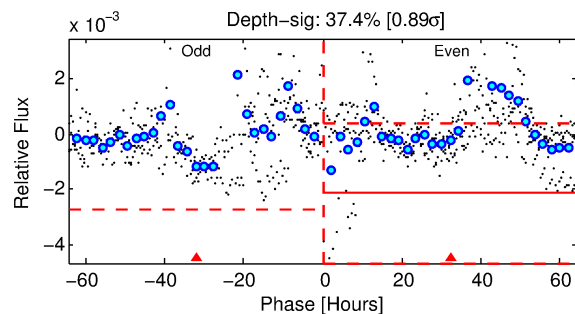
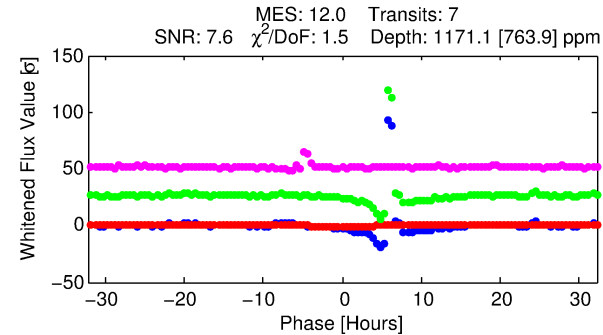
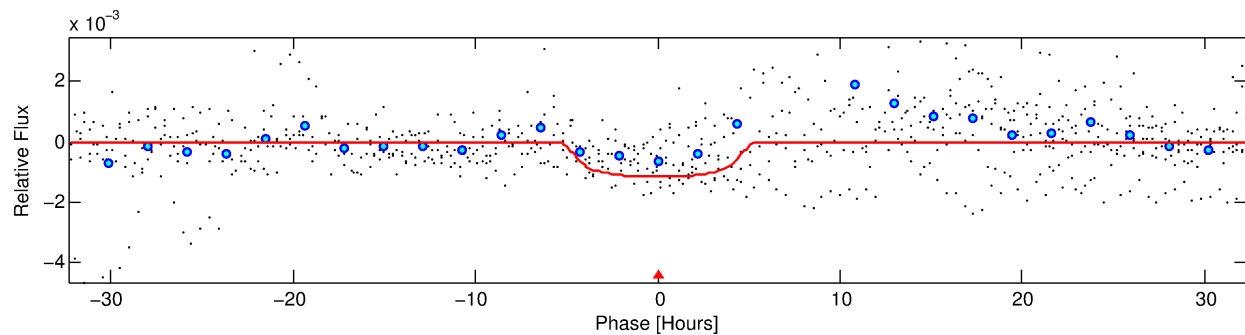
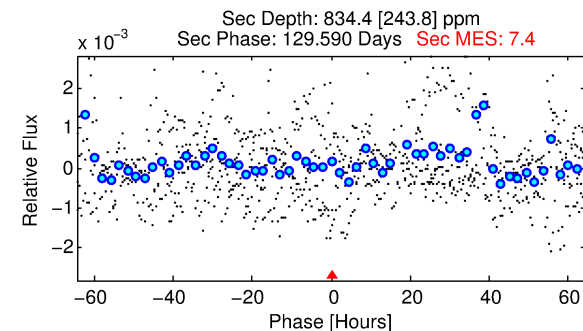
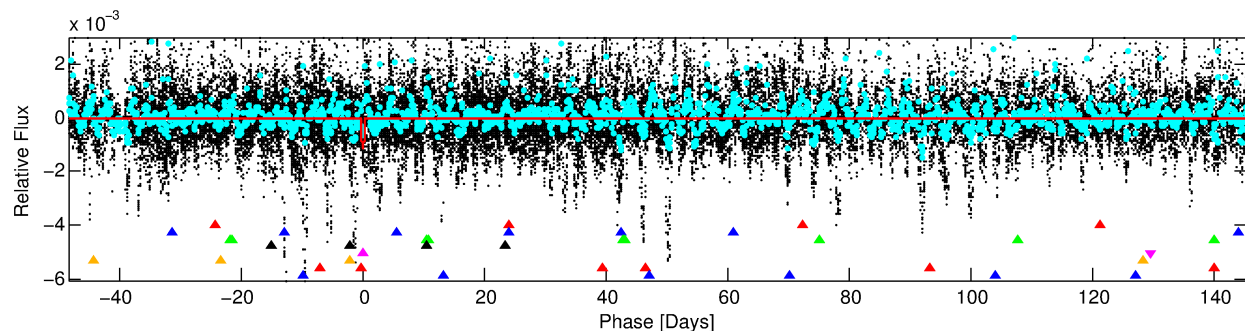
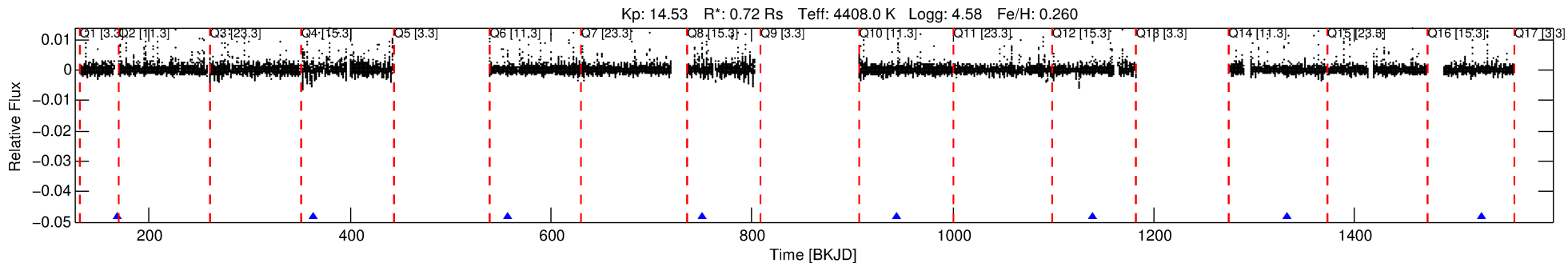
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-05

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 5 of 8 Period: 193.950 d



DV Fit Results:

Period = 193.95049 [0.01706] d
Epoch = 168.8906 [0.0798] BKJD
Rp/R* = 0.0378 [0.0183]
a/R* = 76.71 [82.32]
b = 0.87 [0.30]
Seff = 0.51 [0.08]
Teq = 215 [8] K
Rp = 2.95 [1.45] Re
a = 0.5849 [0.0408] AU
Ag = 18036.92 [18380.09] [0.98σ]
Teffp = 3855 [984] K [3.70σ]

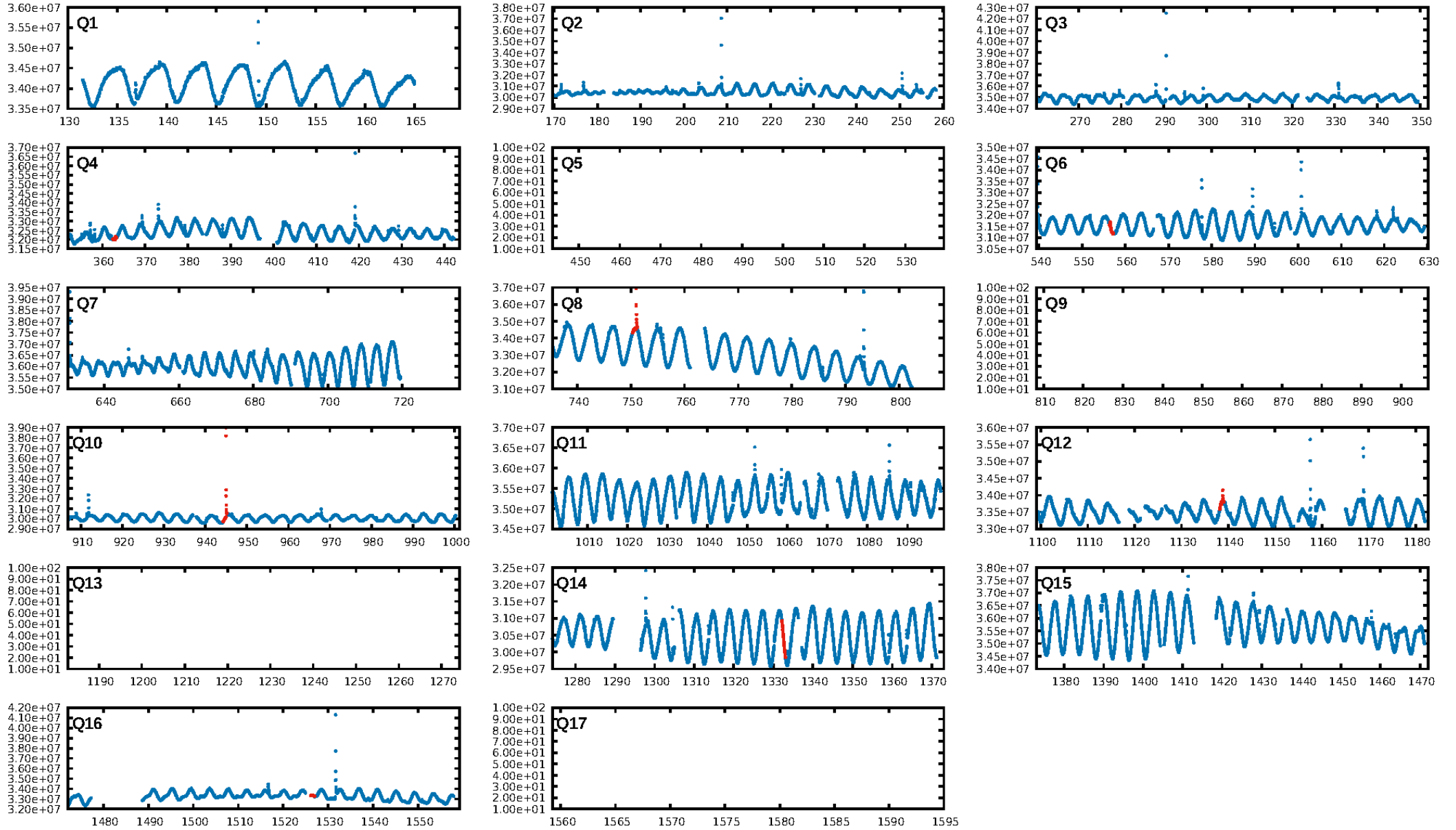
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [60.94σ]
LongPeriod-sig: 100.0% [32.27σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 78.9%
Bootstrap-pfa: 5.90e-12
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.988
Centroid-sig: 98.6%
Centroid-so: 0.347 arcsec [0.74σ]
OotOffset-rm: 0.103 arcsec [0.25σ]
KicOffset-rm: 0.110 arcsec [0.64σ]
OotOffset-st: 3/0/3/0 [6]
KicOffset-st: 3/0/3/0 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [6/6]

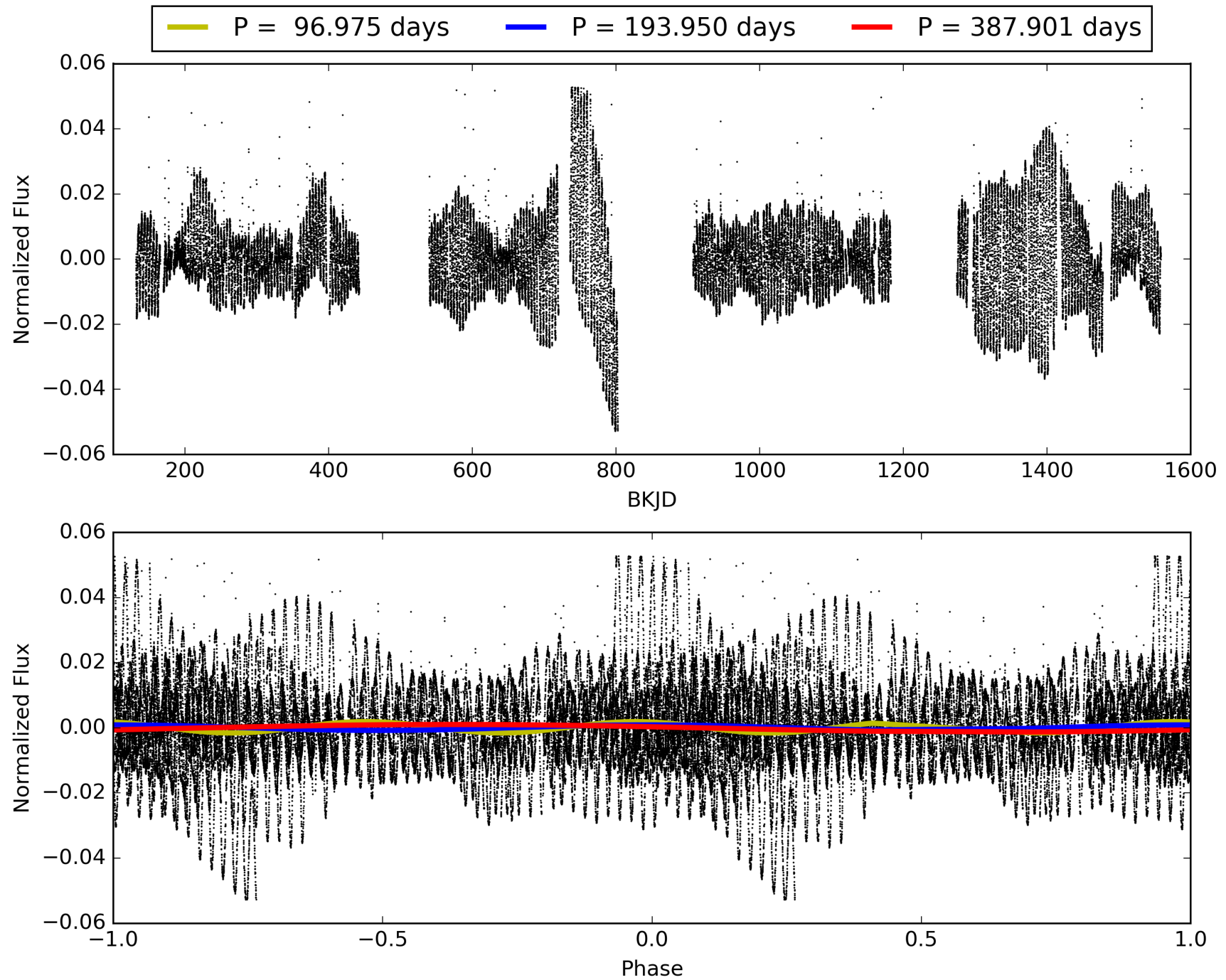
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:36:51 Z

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

TCE 004725913-05, PDC Light Curves

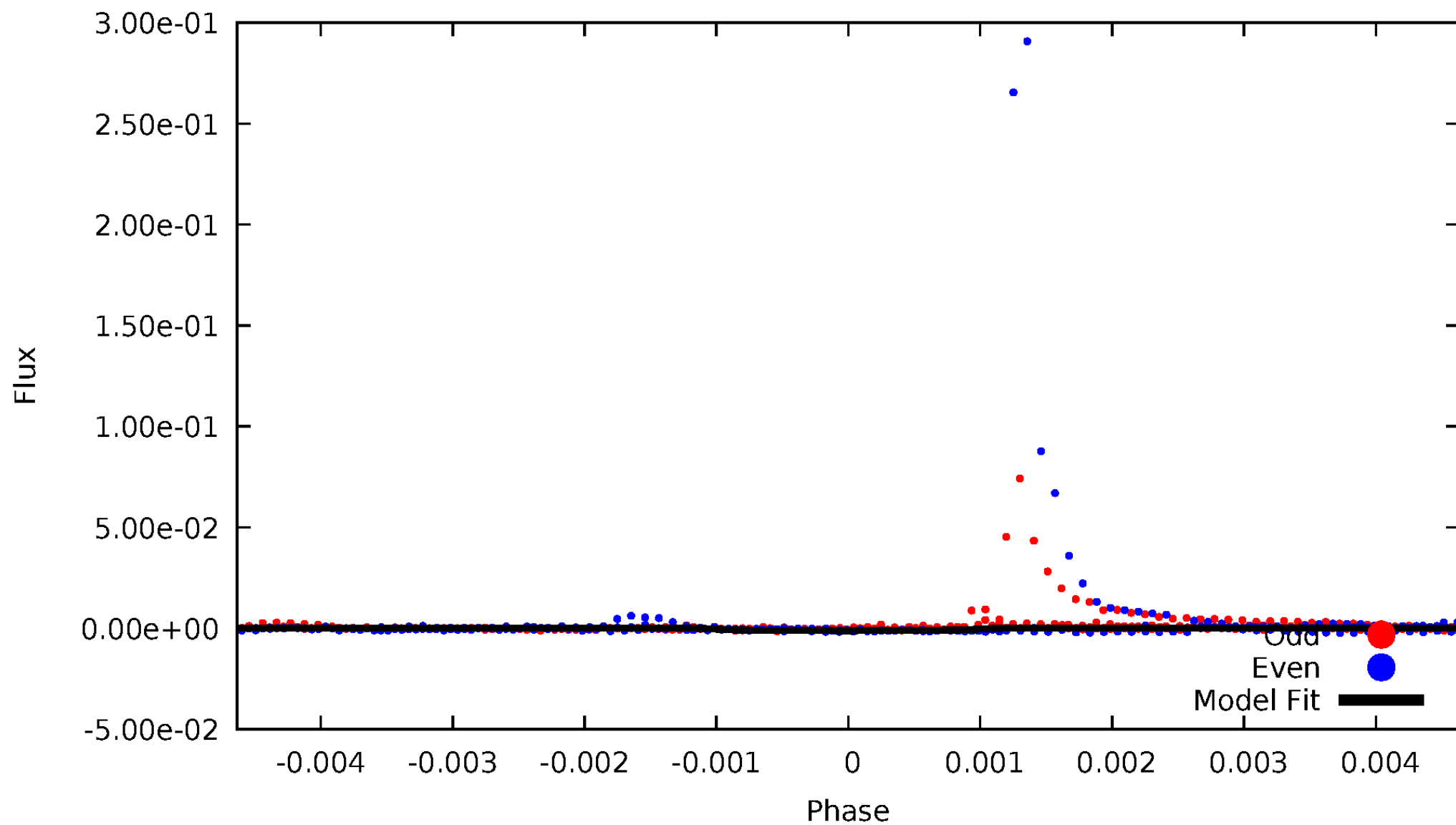


TCE 004725913-05



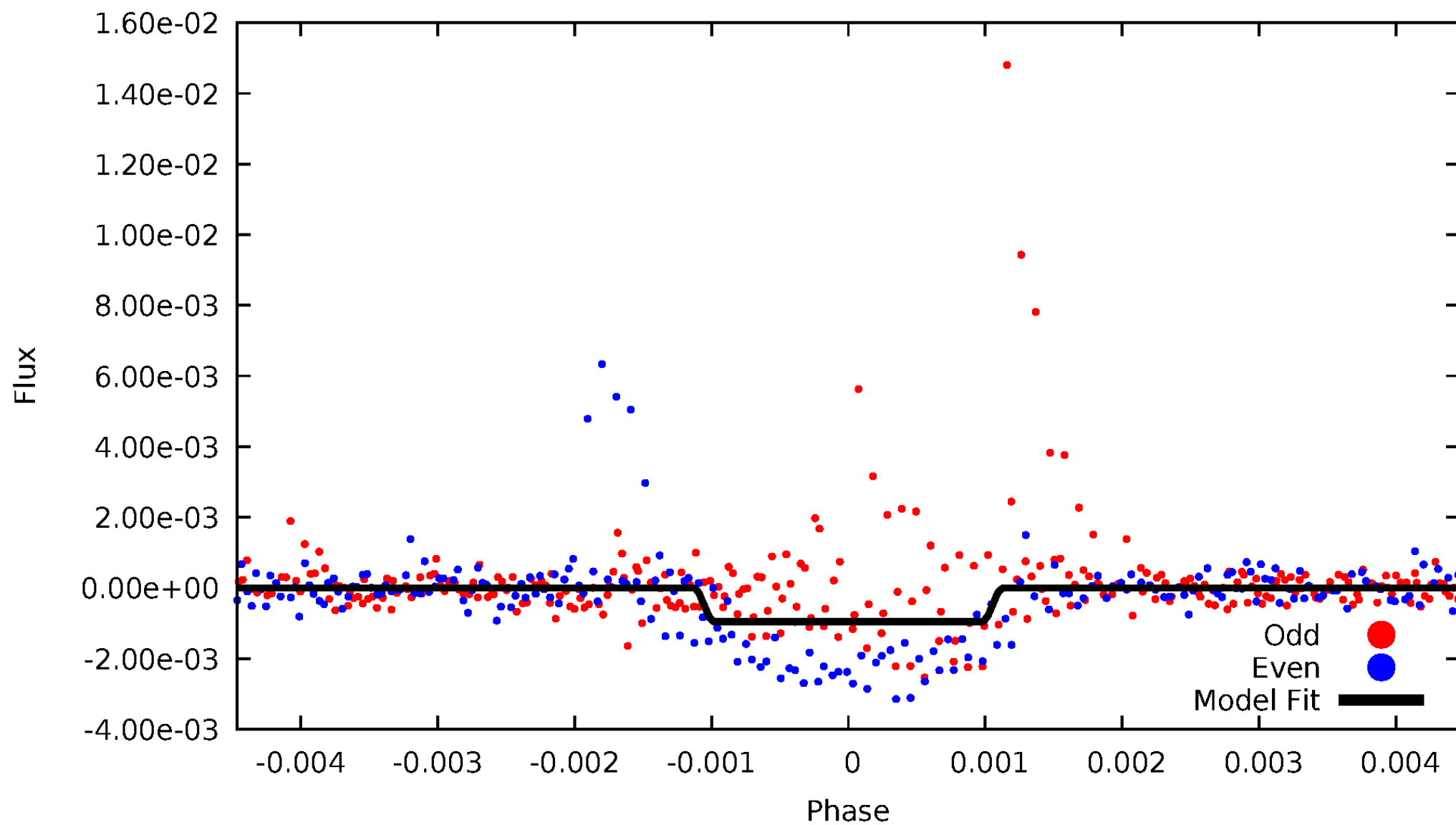
DV Odd/Even

TCE 004725913-05



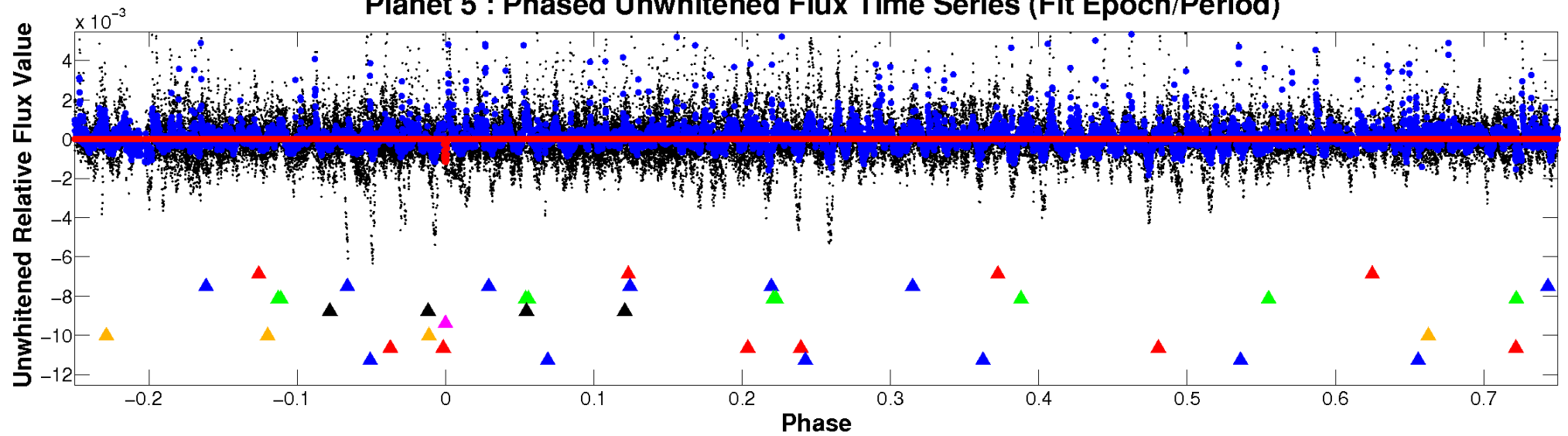
ALT Odd/Even

TCE 004725913-05

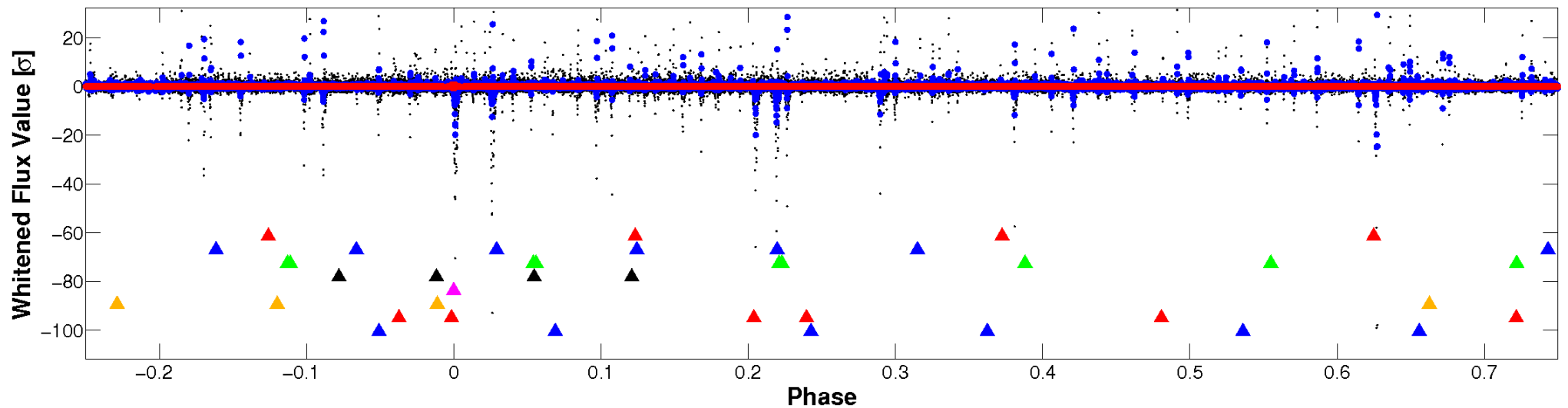


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

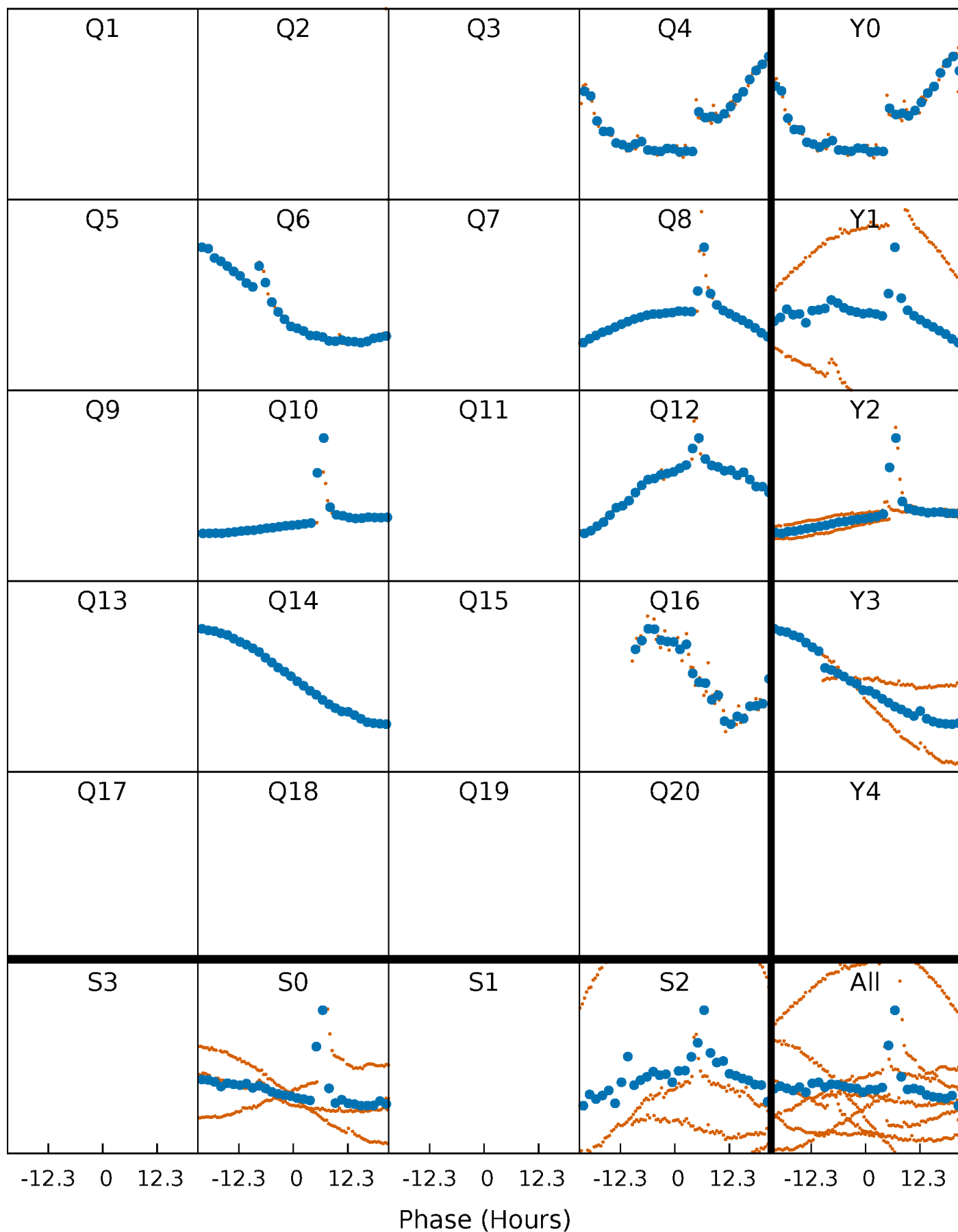


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



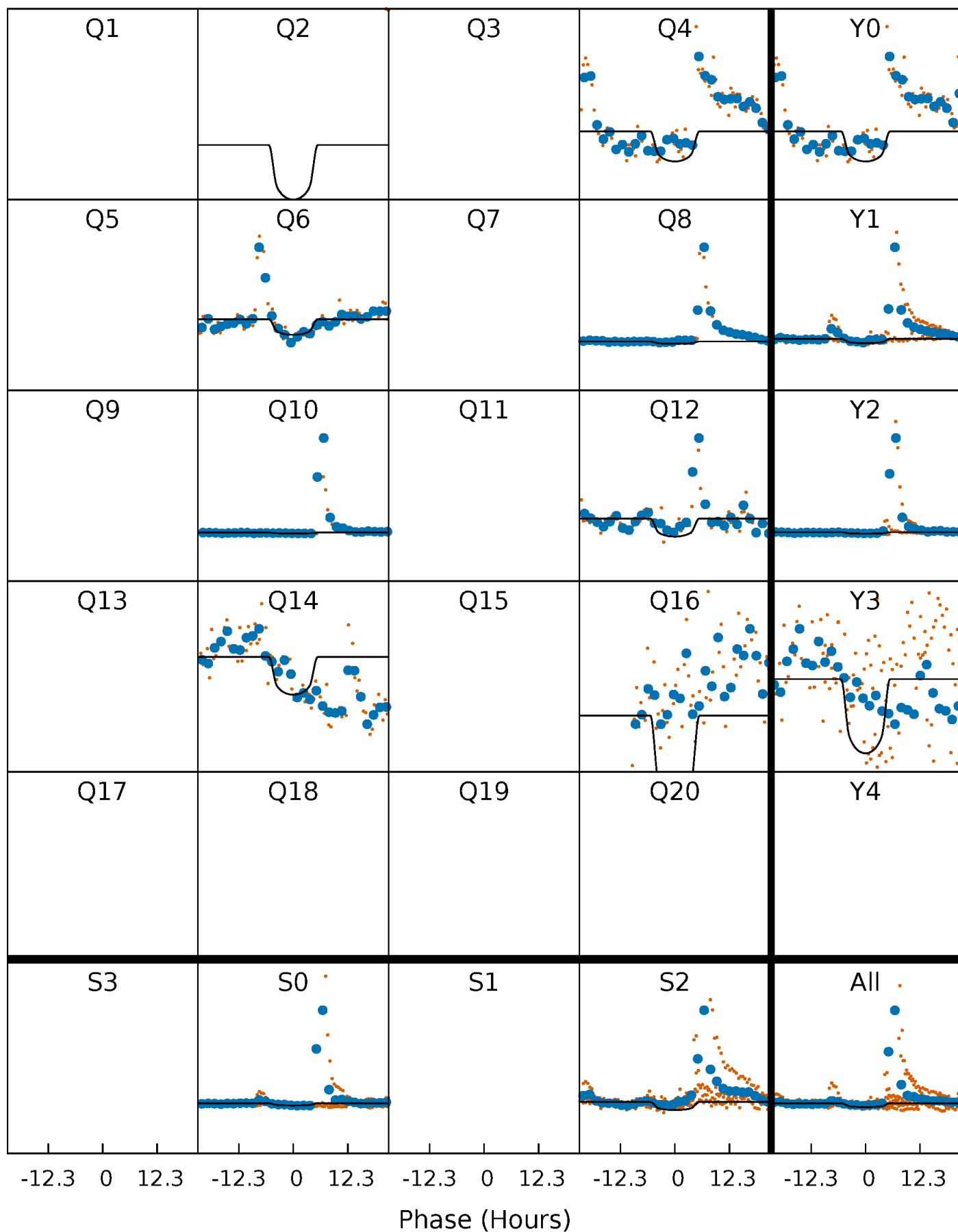
PDC Quarter-Phased Transit Curves

TCE 004725913-05 P=193.950494 Days $T_0=168.890598$ (BKJD)



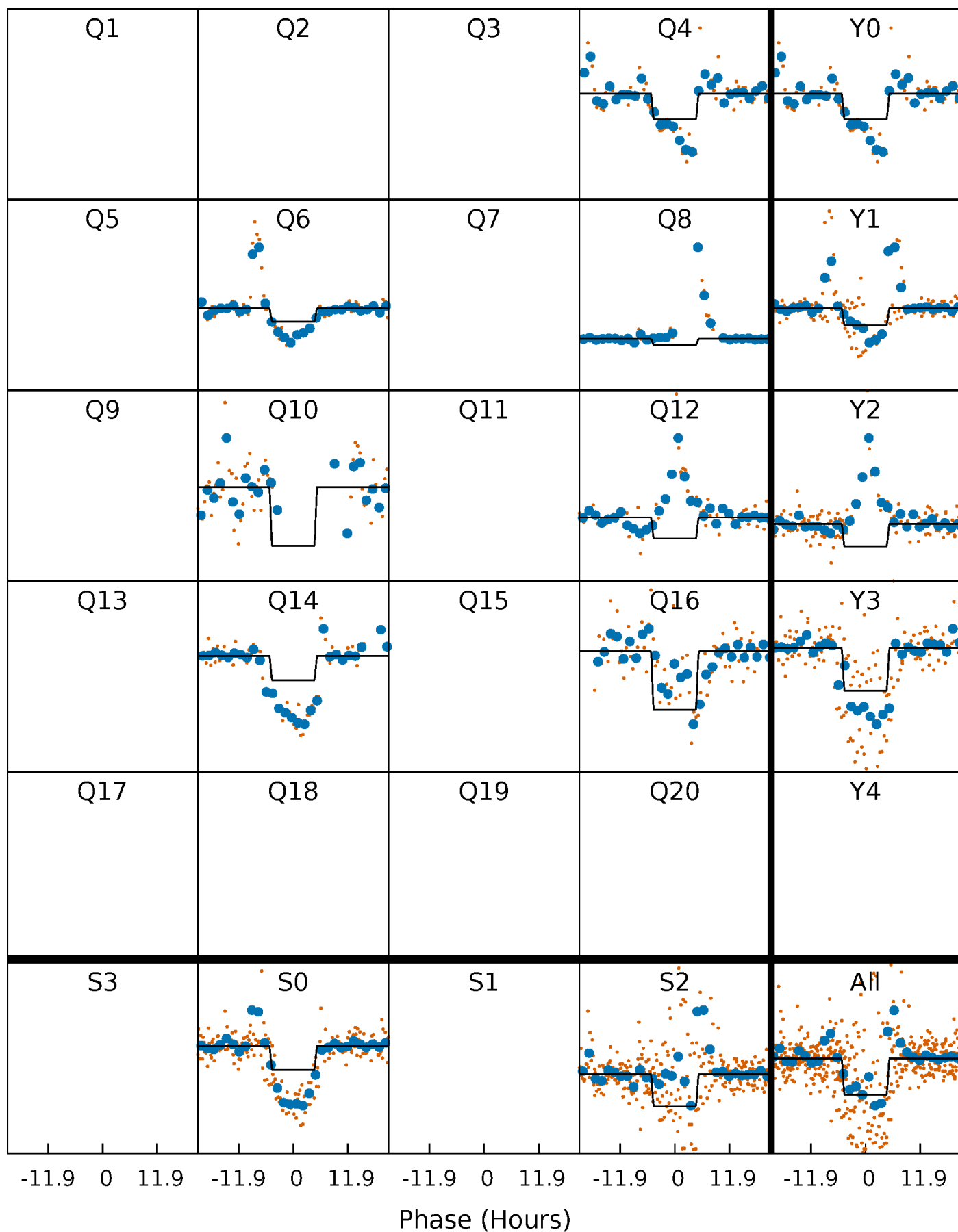
DV Quarter-Phased Transit Curves

TCE 004725913-05 $P=193.950494$ Days $T_0=168.890598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

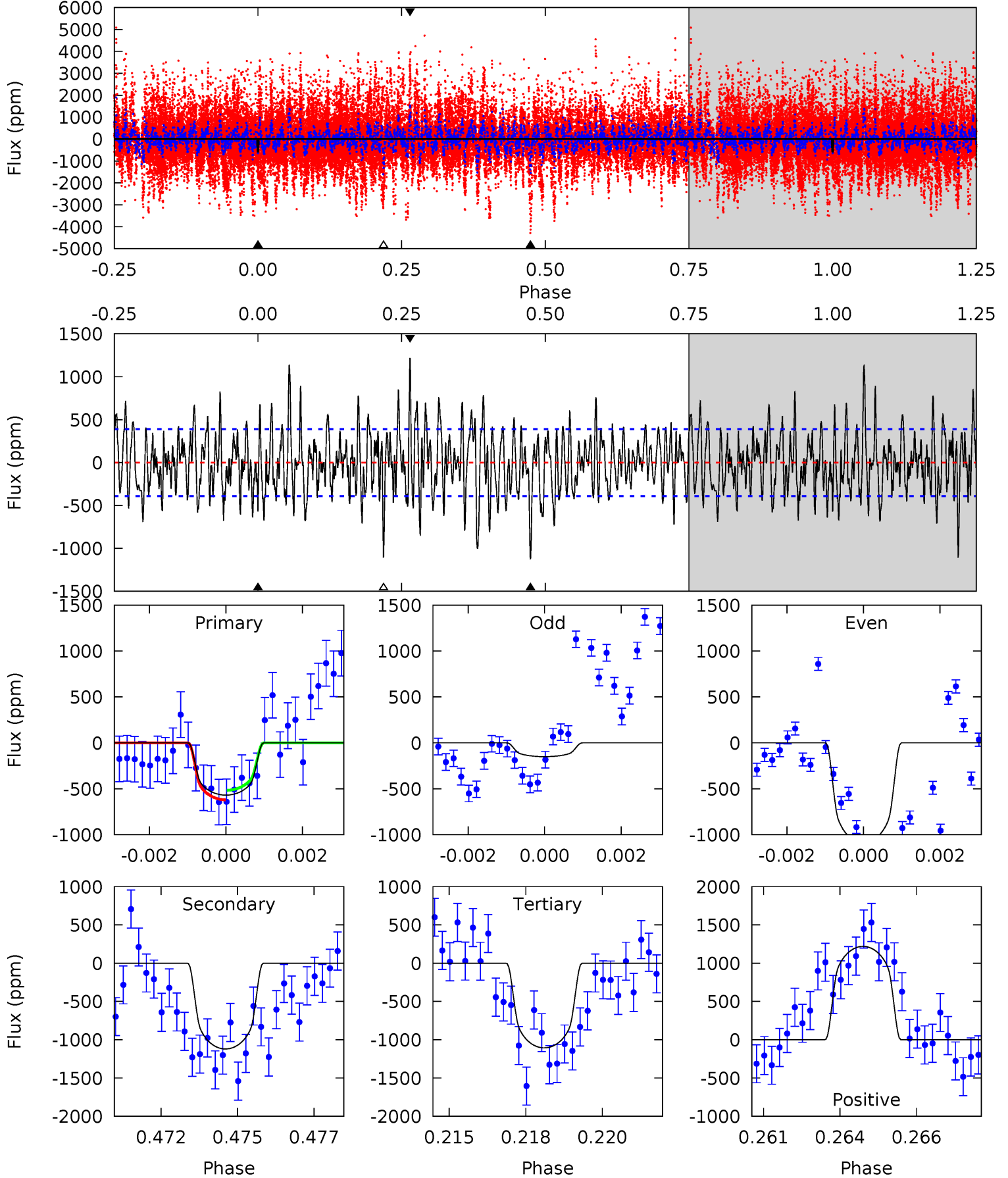
TCE 004725913-05 P=194.009841 Days $T_0=168.801552$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-05, P = 193.950494 Days, E = 168.890598 Days

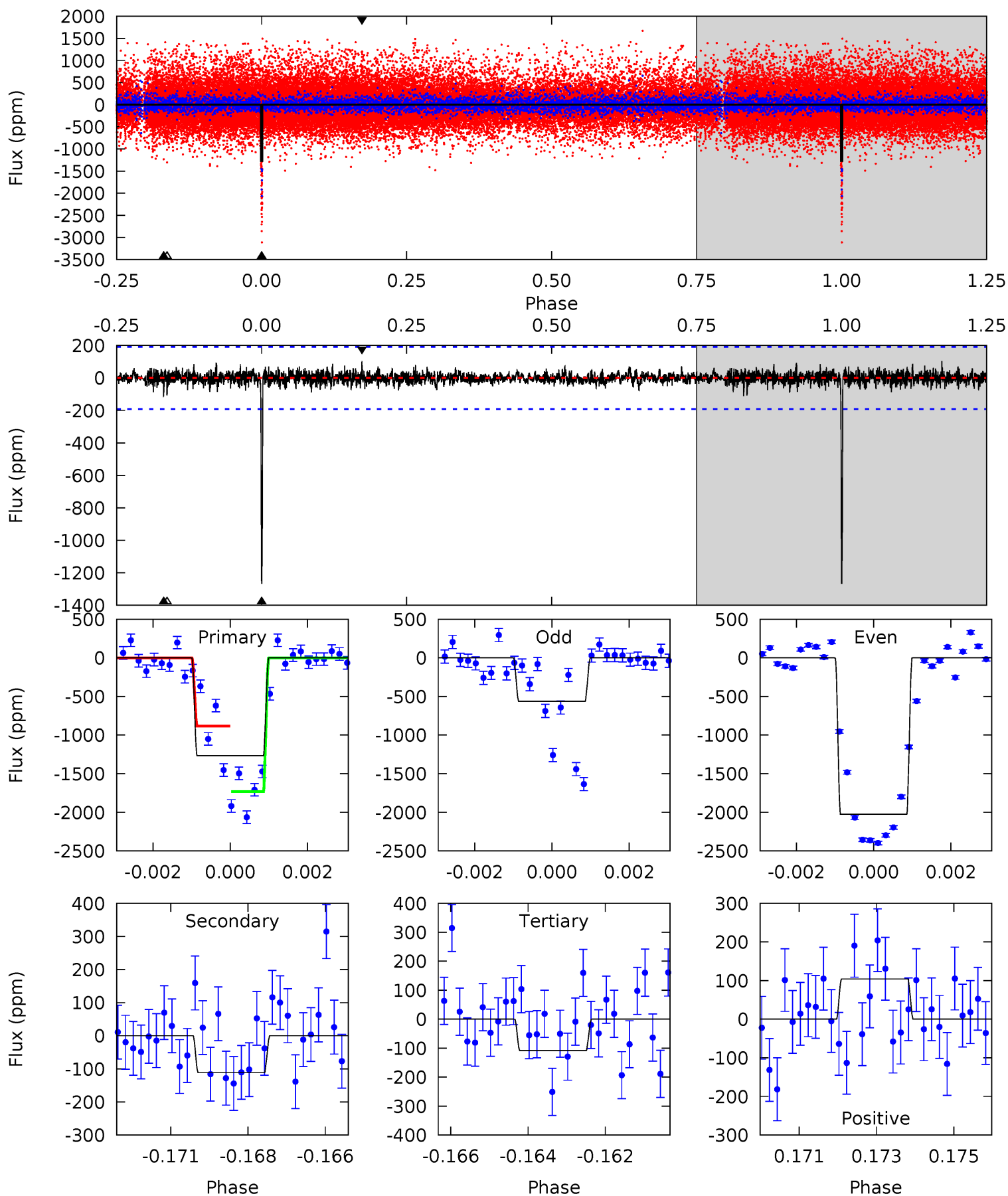
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.72	15.2	15.0	16.5	5.29	3.03	4.30	-7.30	-8.83	0.19	-1.34	6.03	0.98	0.52	0.71



Alt Model-Shift Uniqueness Test

004725913-05, P = 194.009841 Days, E = 168.801552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	3.09	3.00	2.88	5.30	3.05	0.63	32.1	32.2	0.08	0.20	21.1	1.29	0.08	11.6



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1121 ± 74	$2.84^{+1.48}_{-1.24}$	298^{+10}_{-11}	4251^{+1136}_{-577}	26731^{+56667}_{-15331}
Alt.	-111 ± 36	$2.43^{+1.49}_{-1.25}$	299^{+10}_{-11}	3032^{+833}_{-373}	3312^{+12156}_{-2049}

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

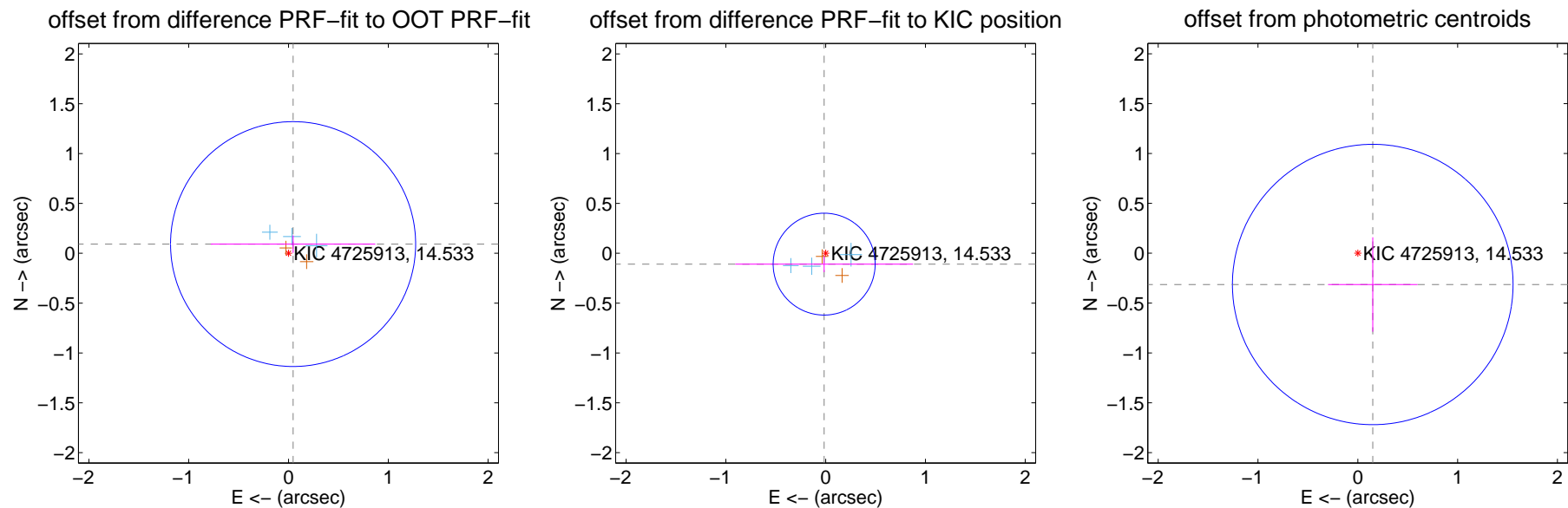
DV Centroid Data

Supplemental centroid analysis for 004725913-05. Kepler magnitude: 14.53. Transit SNR 7.56

There are 3 quarters with good PRF difference image offsets

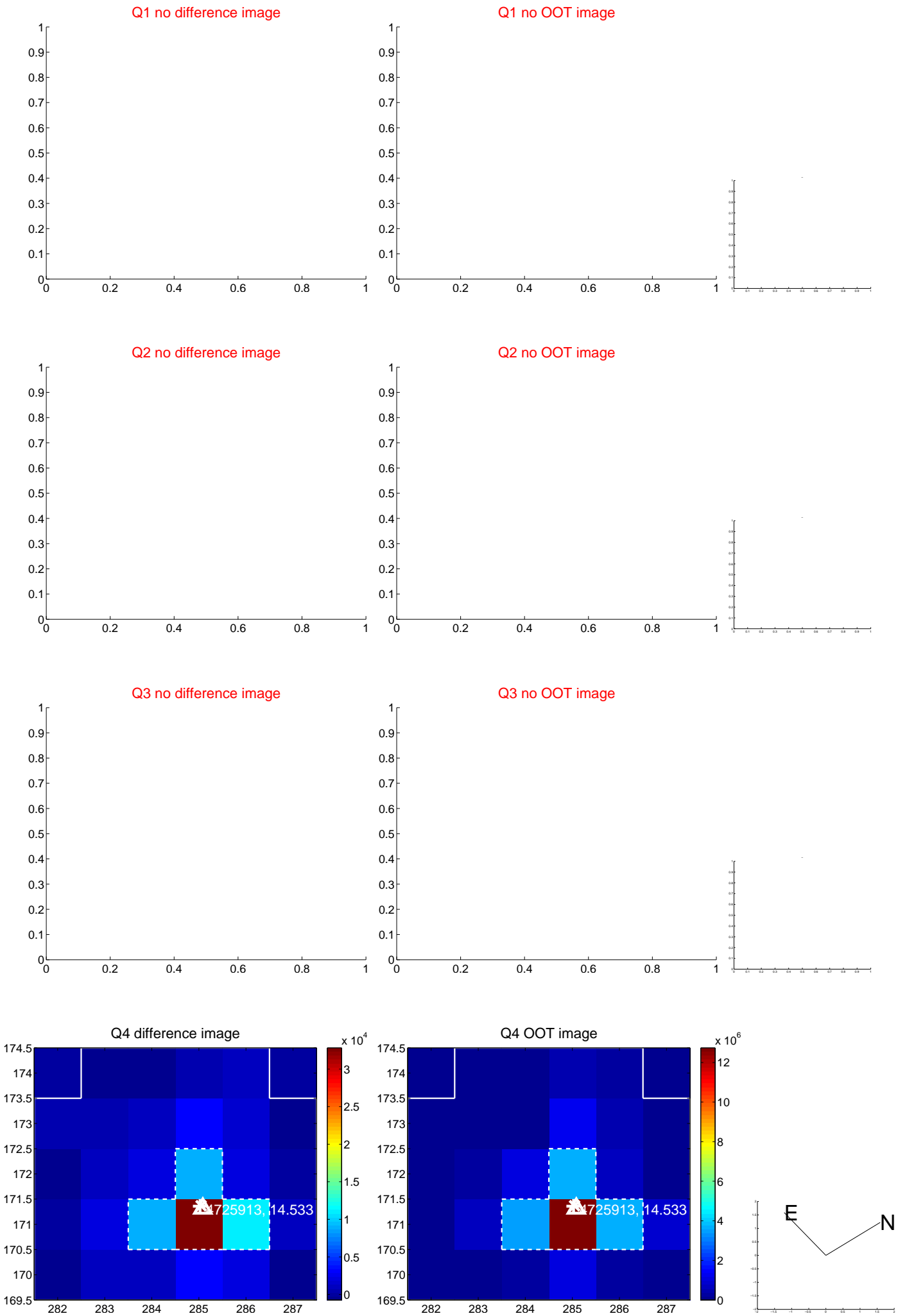
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.409	0.25	-0.046 ± 0.824	0.092 ± 0.088
PRF-fit source offset from KIC position	0.110 ± 0.170	0.64	0.015 ± 0.890	-0.109 ± 0.080
photometric centroid source offset	0.35 ± 0.47	0.74	-0.15 ± 0.45	-0.31 ± 0.47

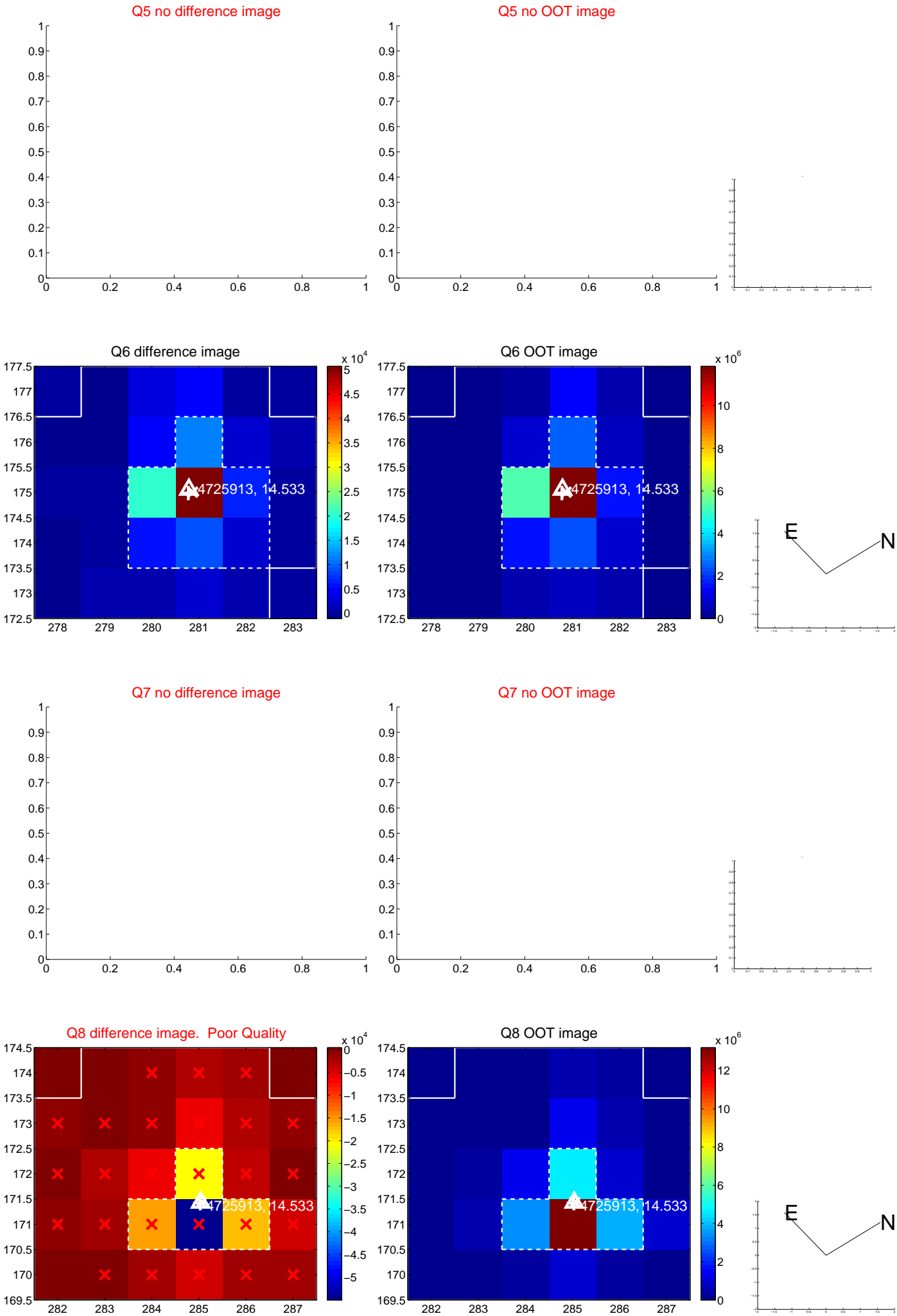


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

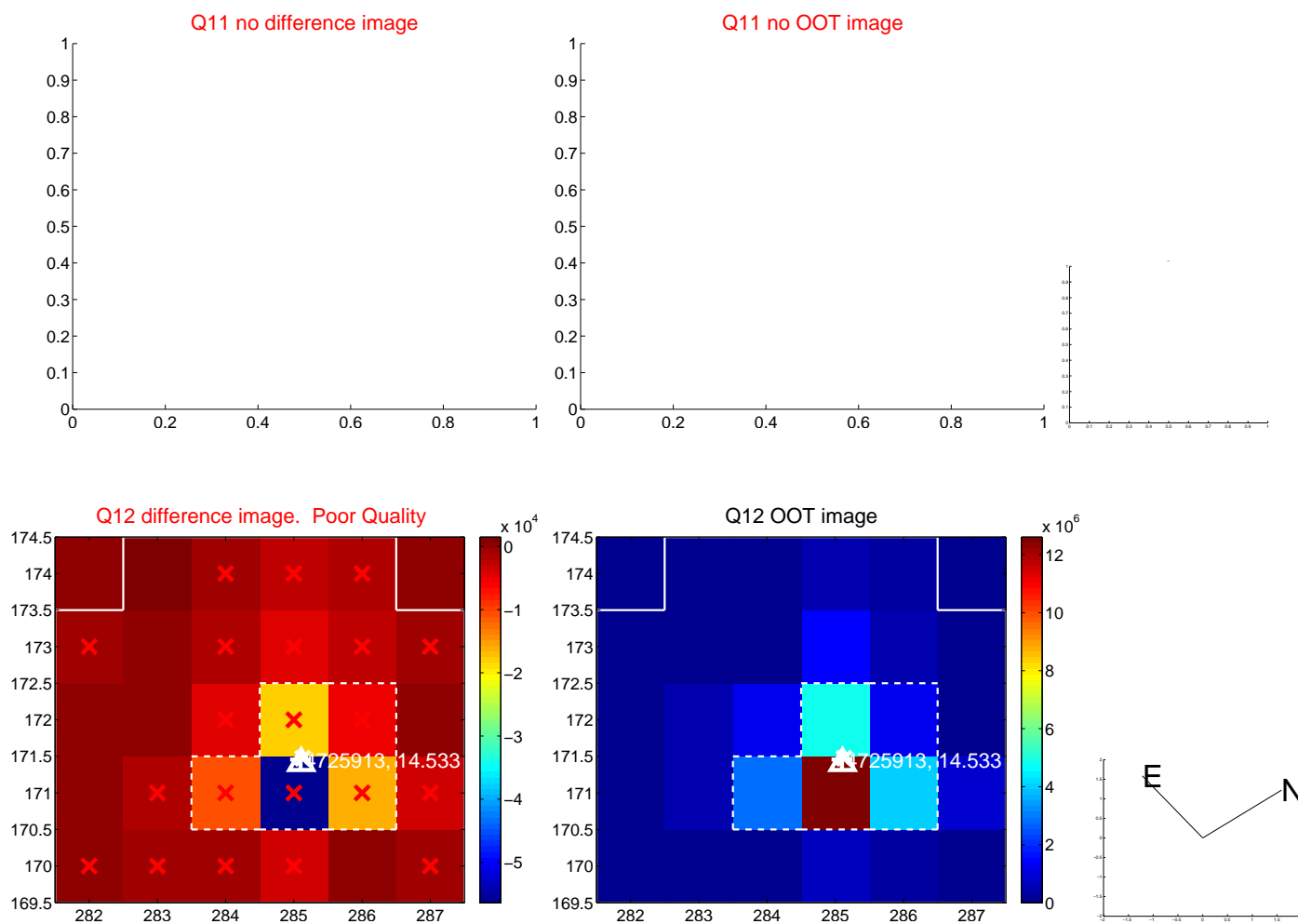
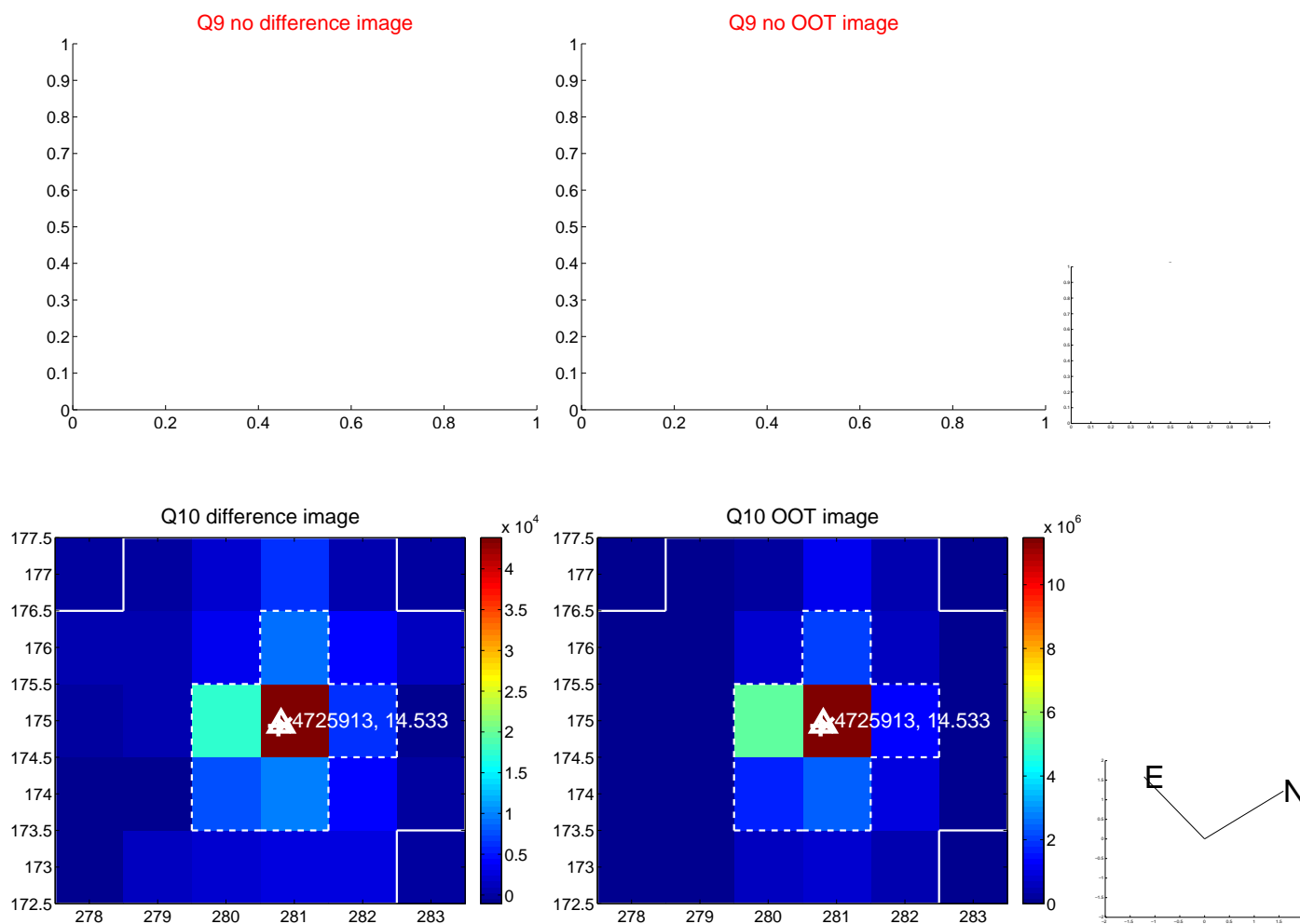
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



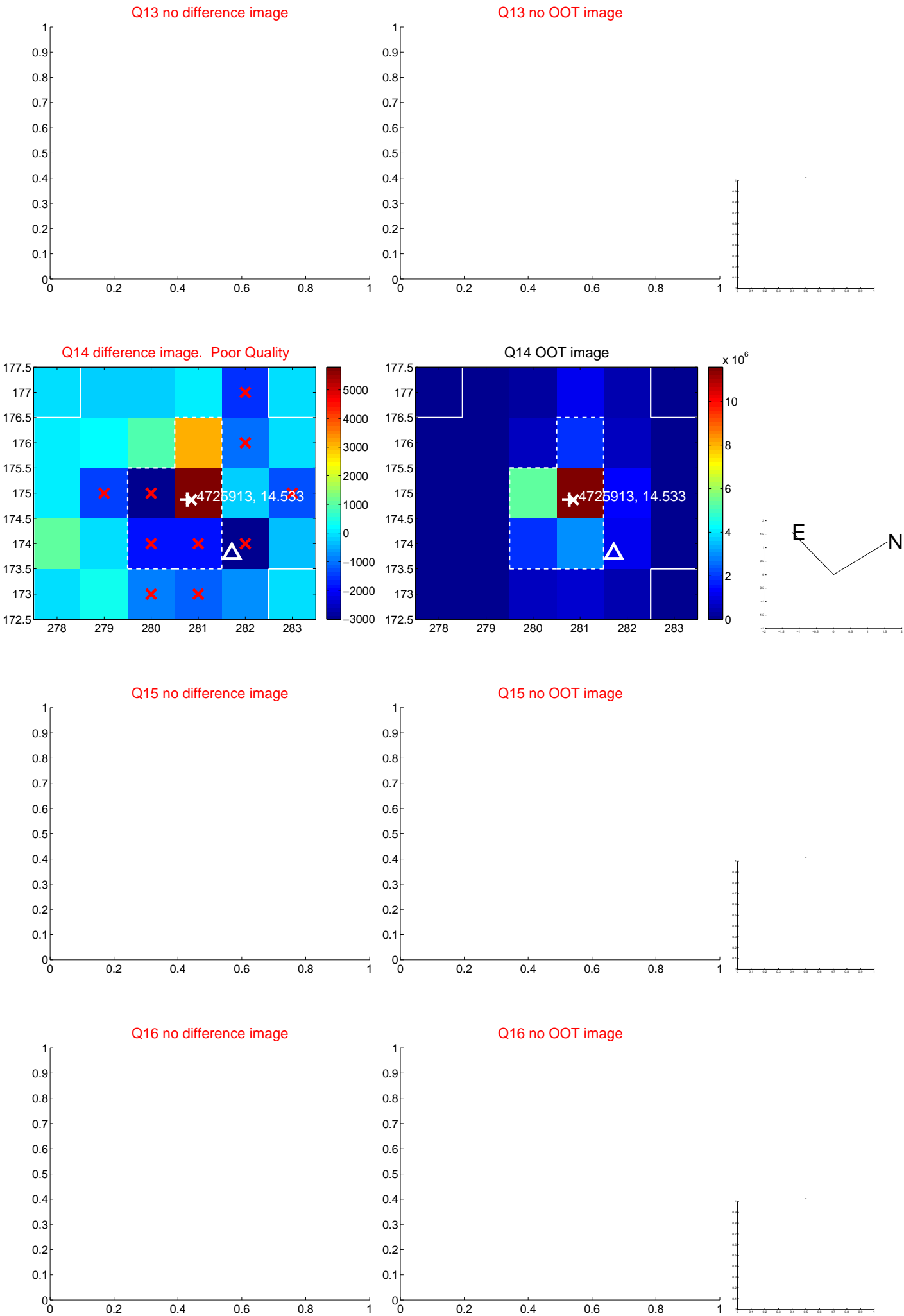
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



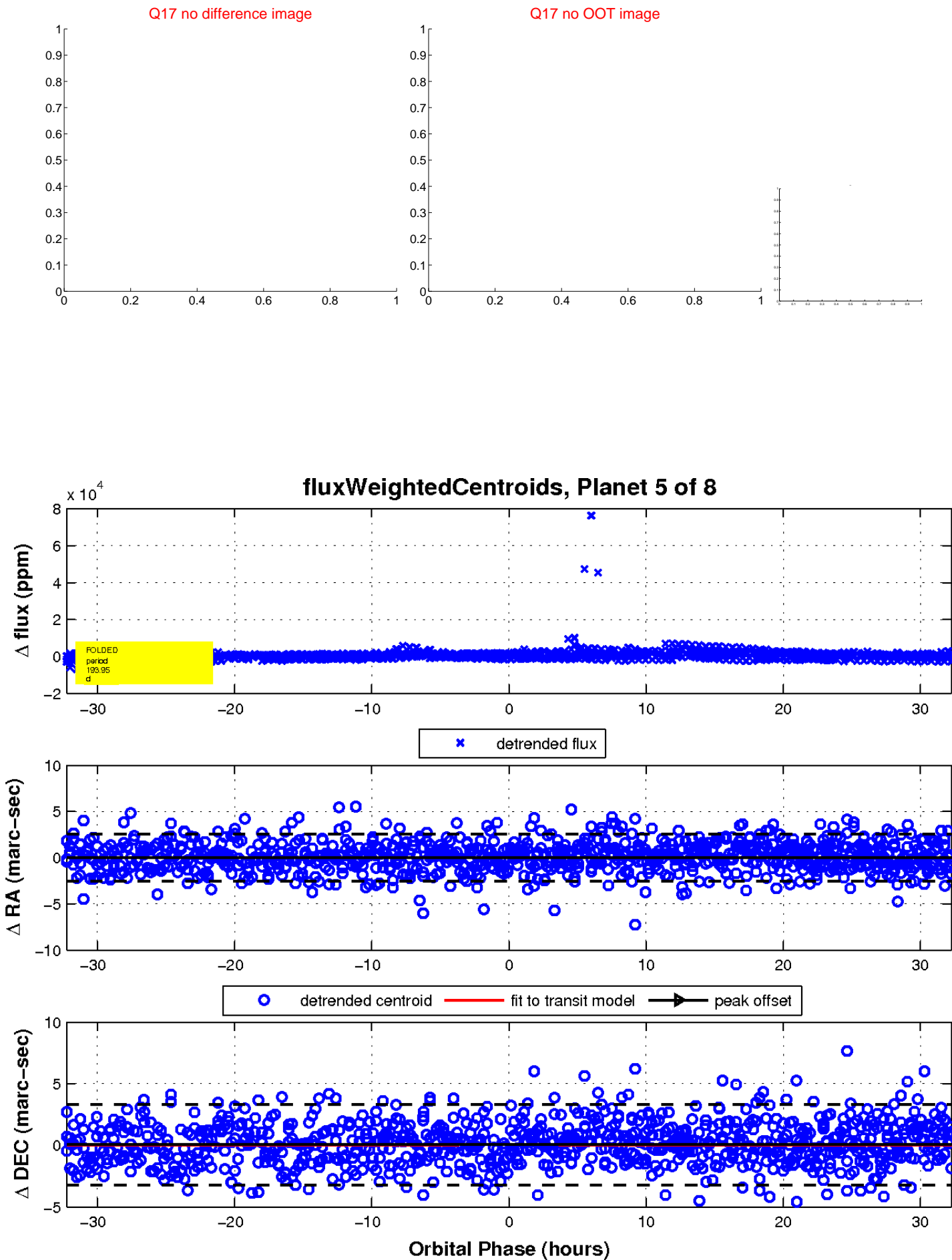
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

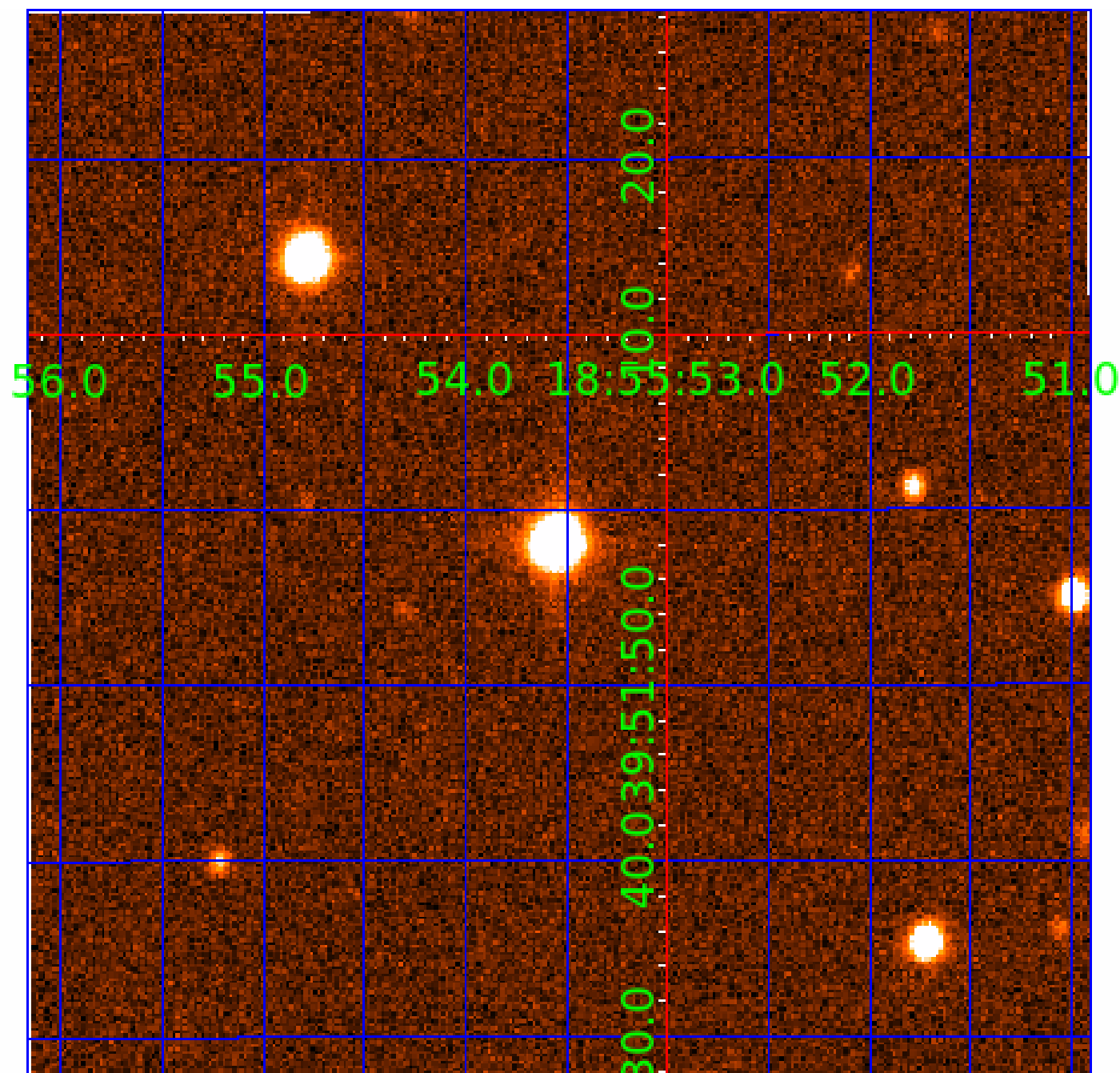


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

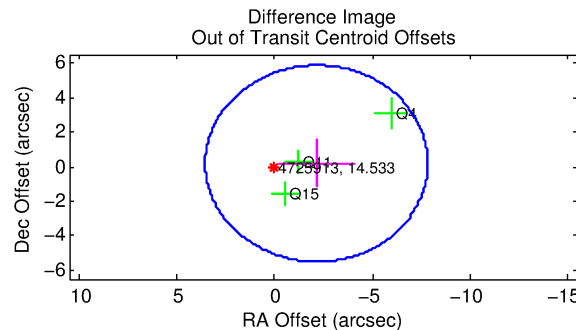
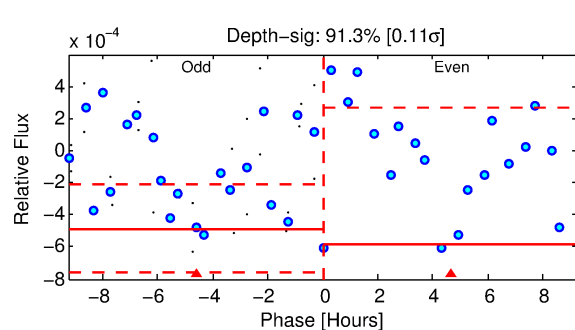
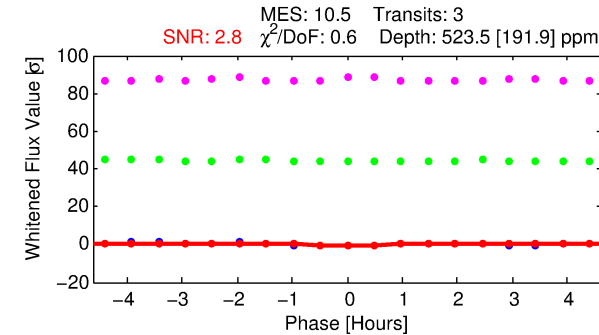
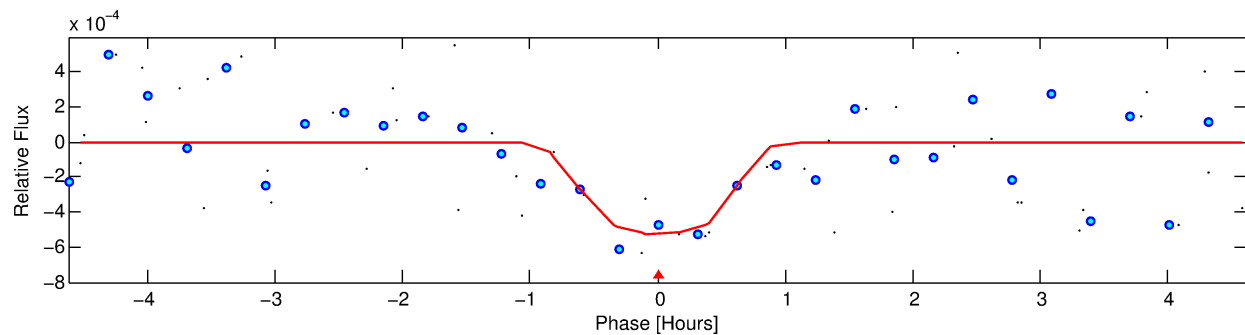
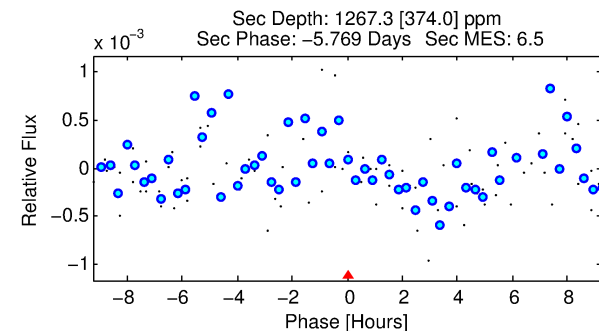
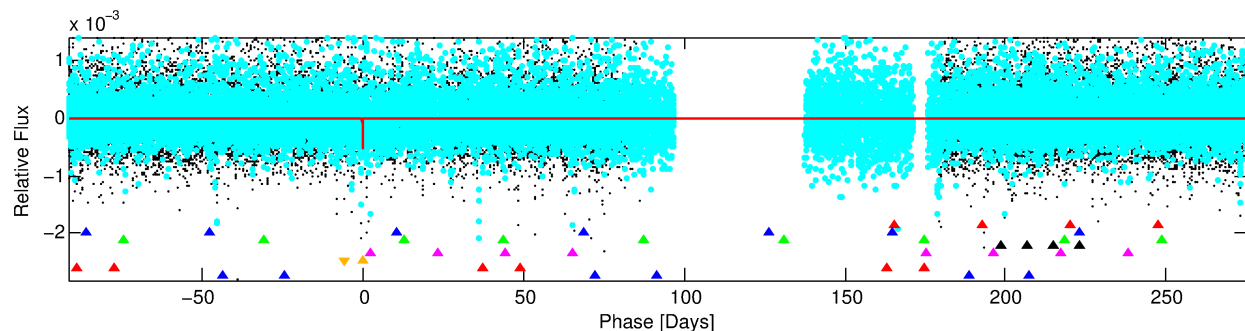
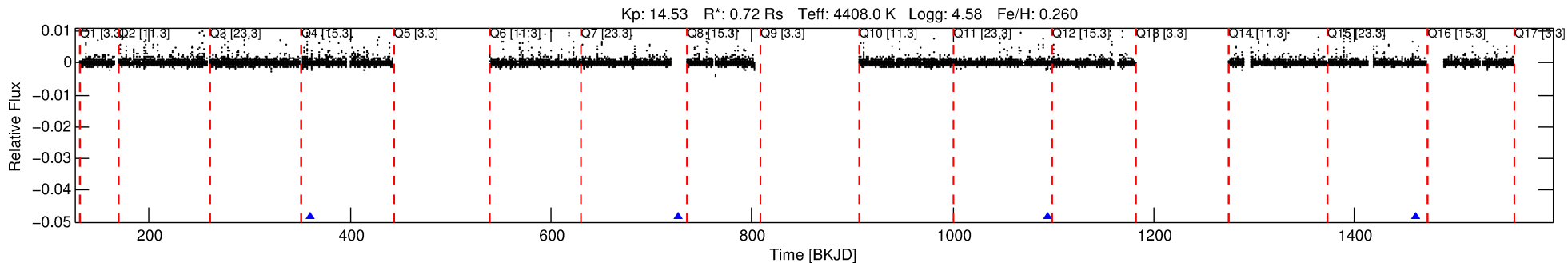
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-06

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 6 of 8 Period: 366.813 d



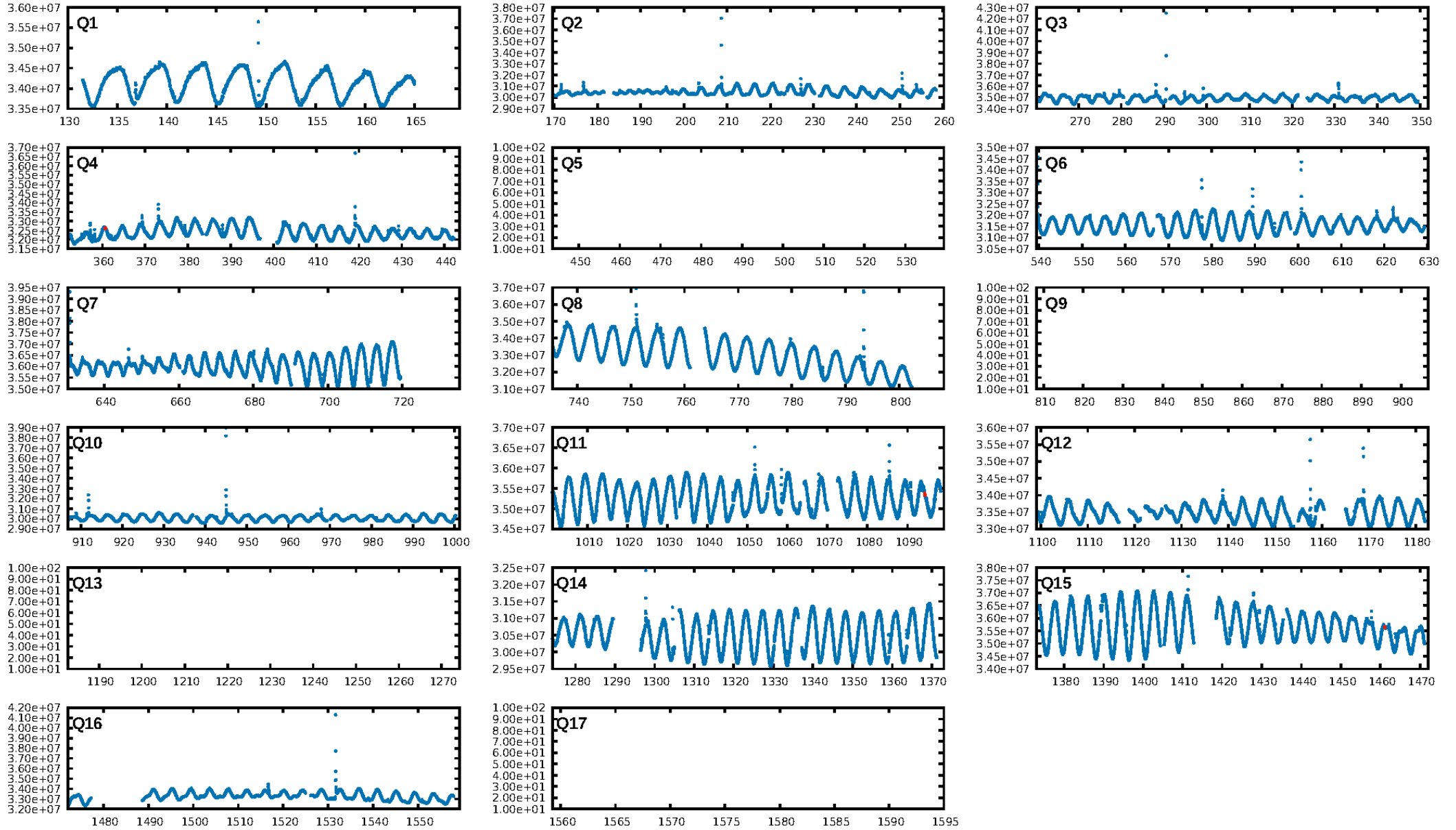
DV Fit Results:

Period = 366.81324 [0.00461] d
Epoch = 360.6771 [0.0104] BKJD
Rp/R* = 0.0261 [0.0777]
a/R* = 906.93 [9267.25]
b = 0.90 [2.35]
Seff = 0.22 [0.03]
Teq = 174 [7] K
Rp = 2.04 [6.08] Re
a = 0.8945 [0.0624] AU
Ag = 134086.03 [799553.39] [0.17σ]
Teffp = 5147 [7674] K [0.65σ]

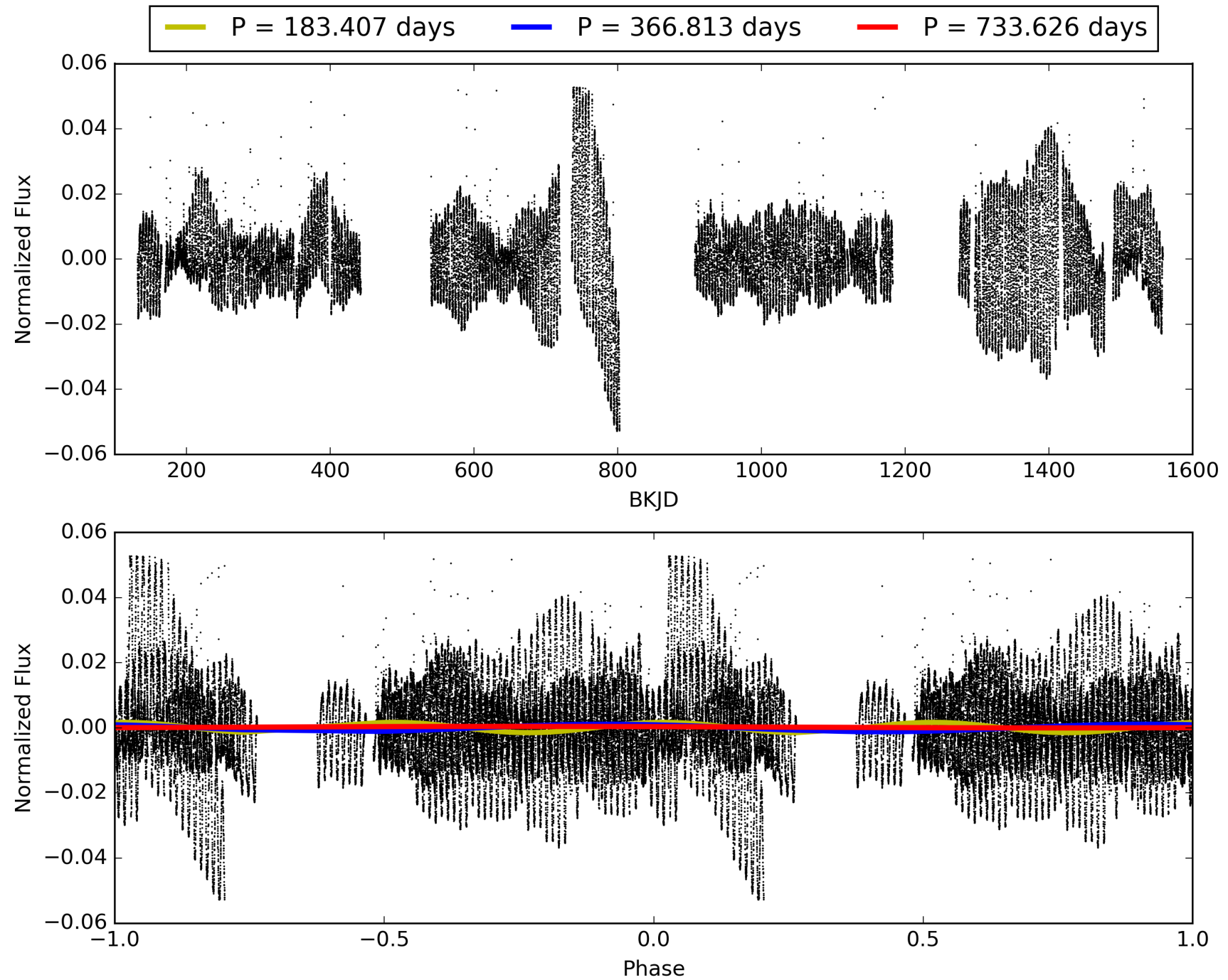
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [206.92σ]
LongPeriod-sig: 100.0% [18.53σ]
ModelChiSquare2-sig: 95.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.88e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3071
Centroid-sig: 72.7%
Centroid-so: 1.424 arcsec [0.41σ]
OotOffset-rm: 2.152 arcsec [1.14σ]
KicOffset-rm: 2.152 arcsec [1.14σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 004725913-06, PDC Light Curves

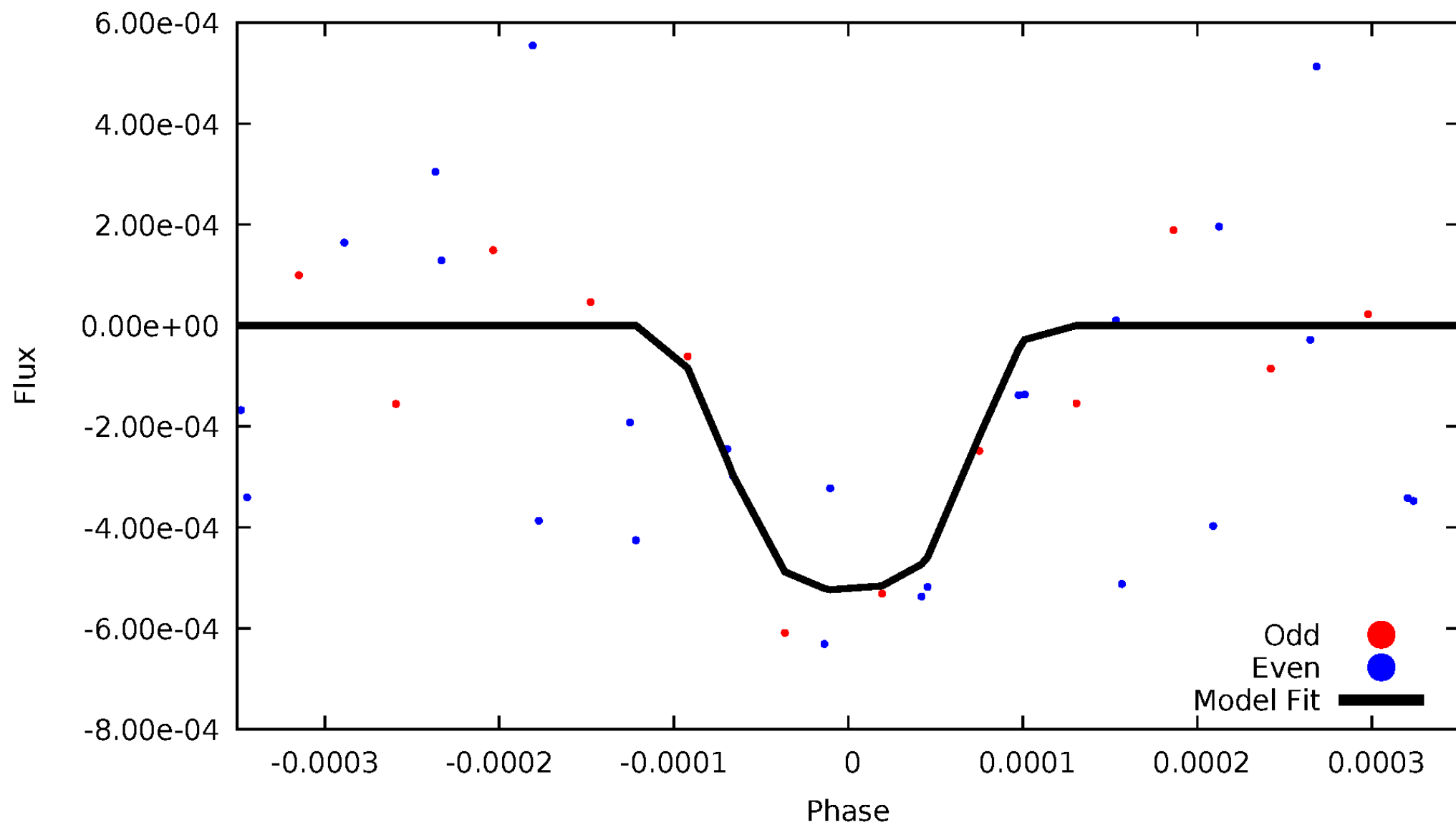


TCE 004725913-06



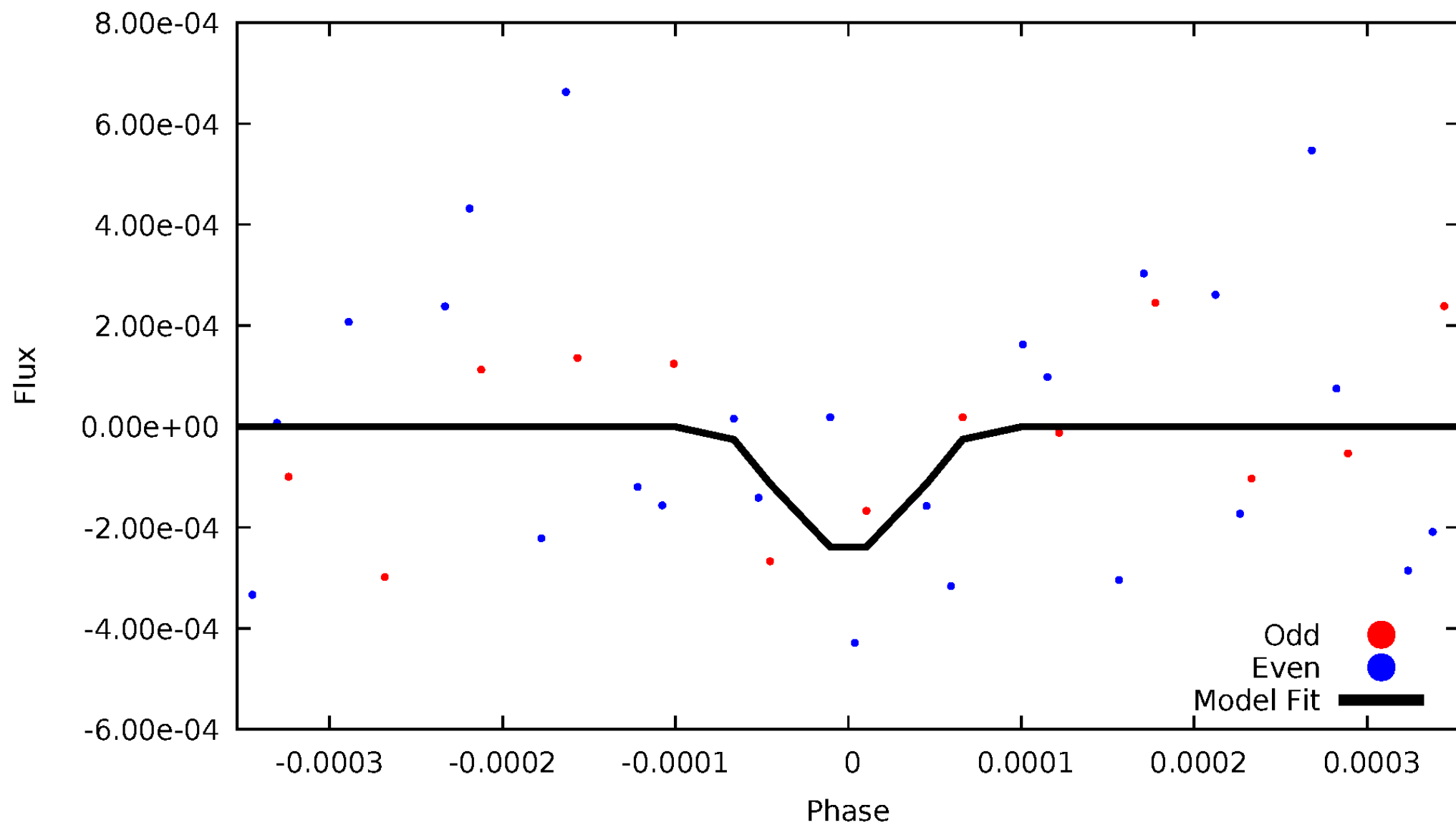
DV Odd/Even

TCE 004725913-06



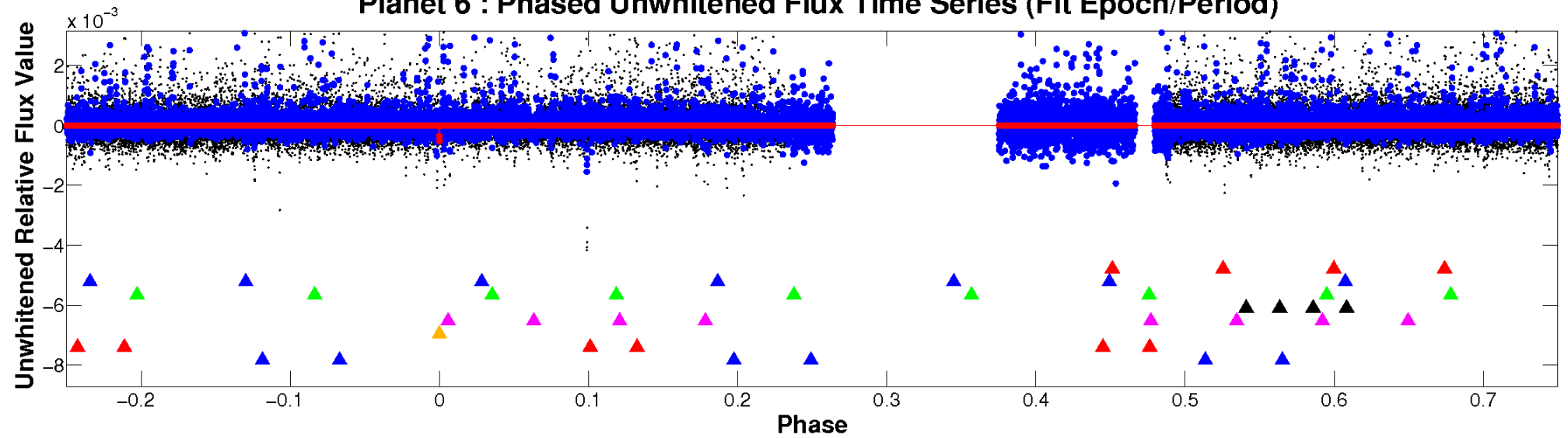
ALT Odd/Even

TCE 004725913-06

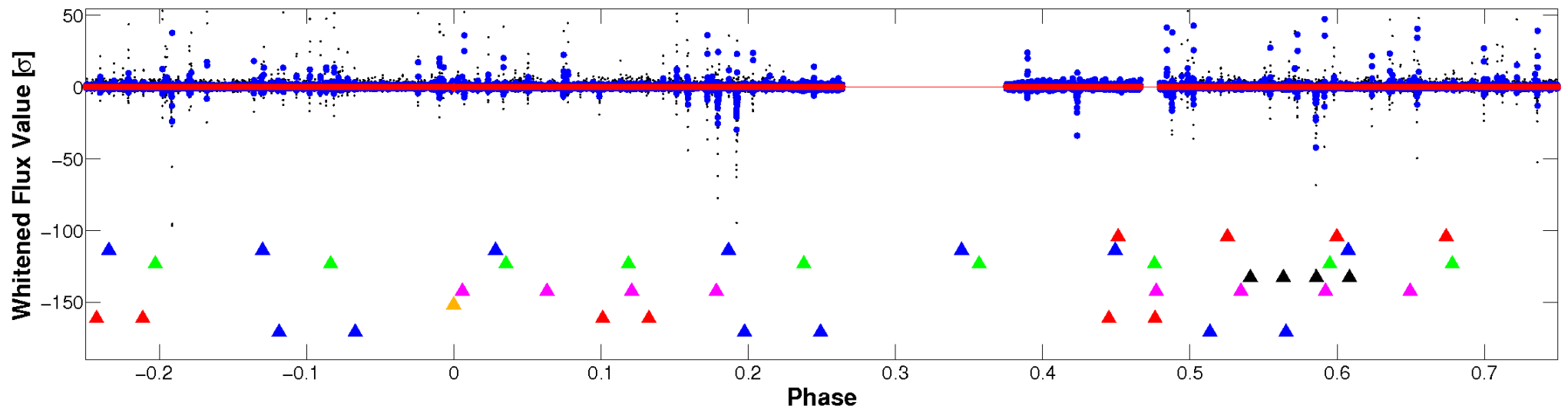


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

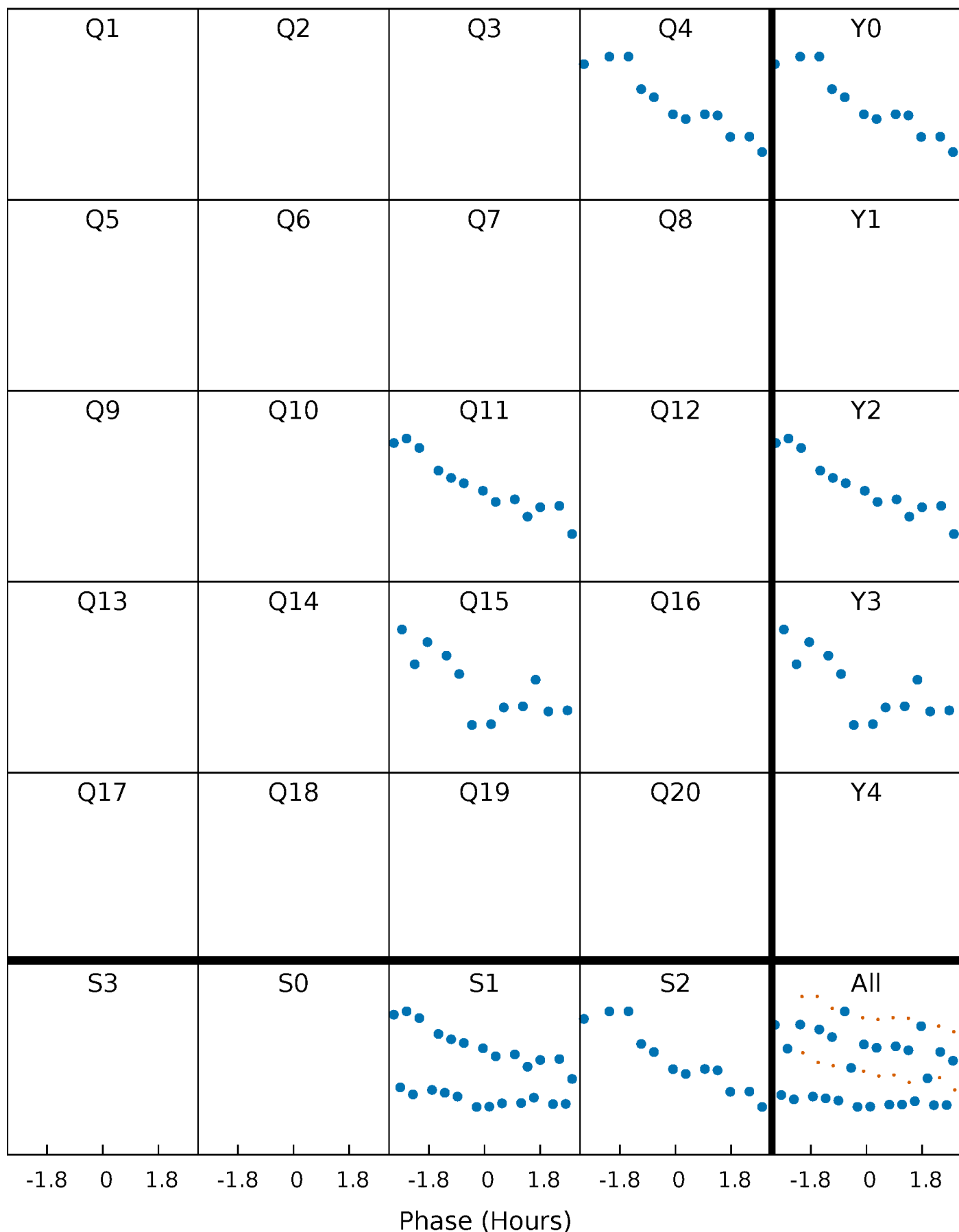


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



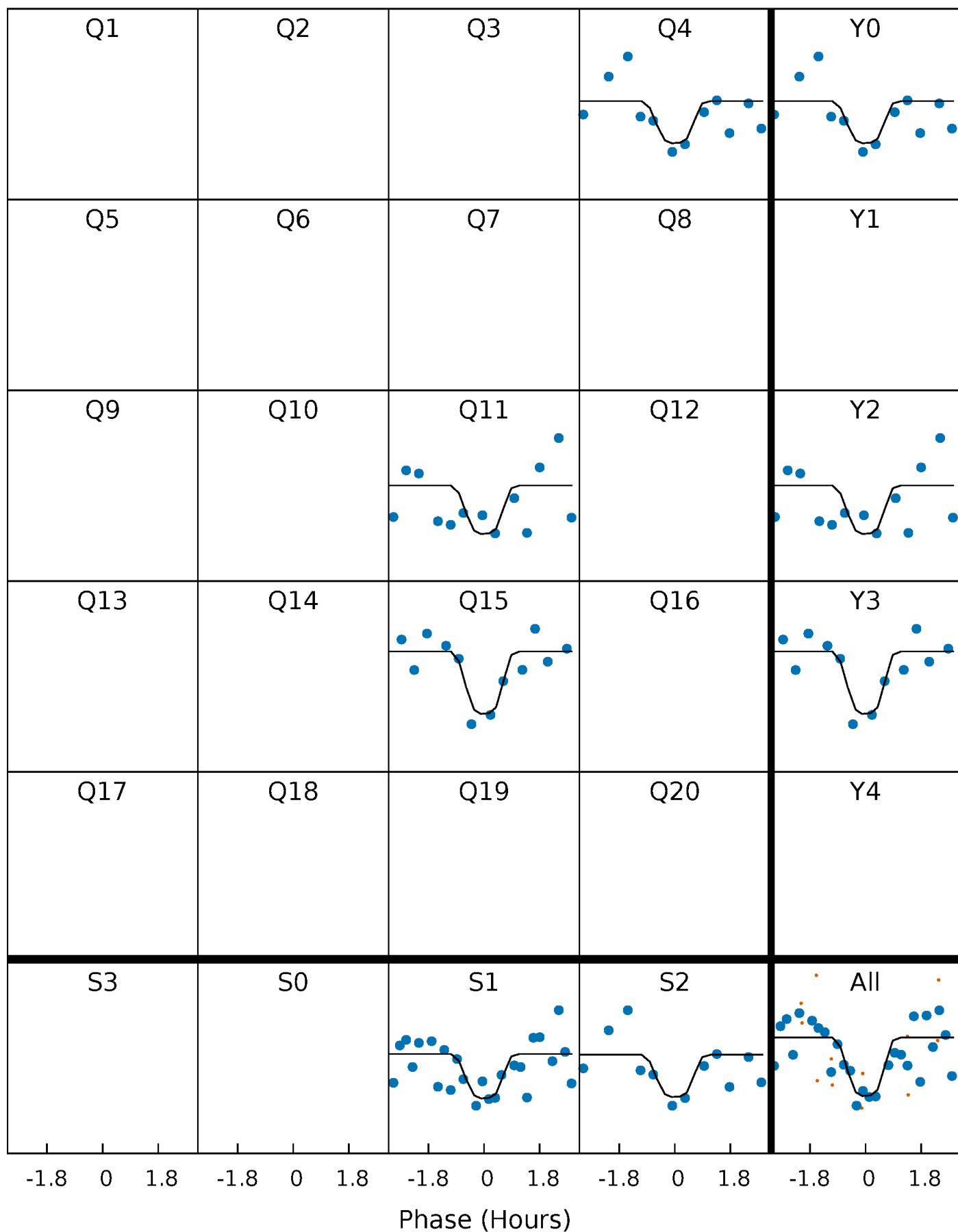
PDC Quarter-Phased Transit Curves

TCE 004725913-06 P=366.813240 Days $T_0=360.677084$ (BKJD)



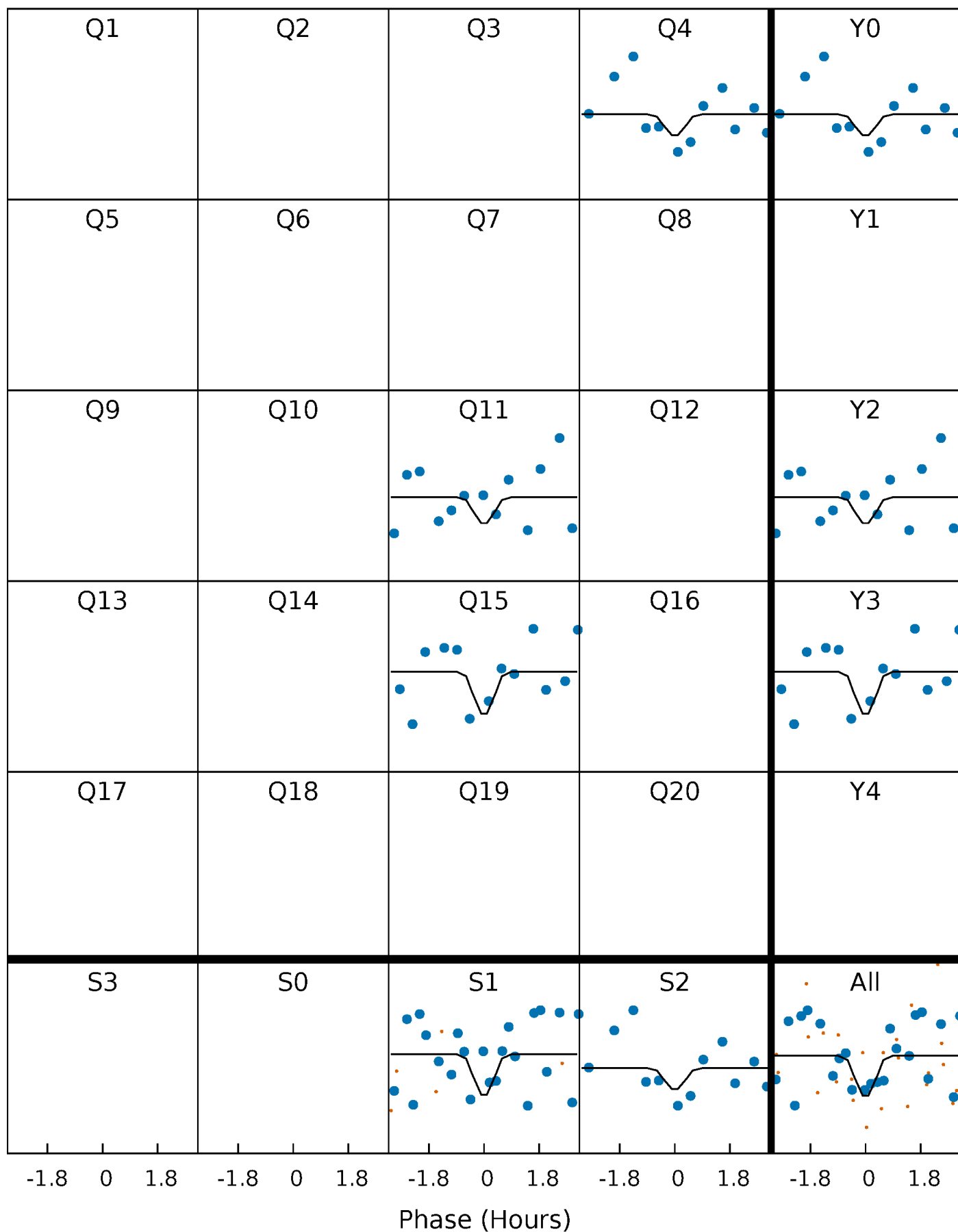
DV Quarter-Phased Transit Curves

TCE 004725913-06 P=366.813240 Days $T_0=360.677084$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

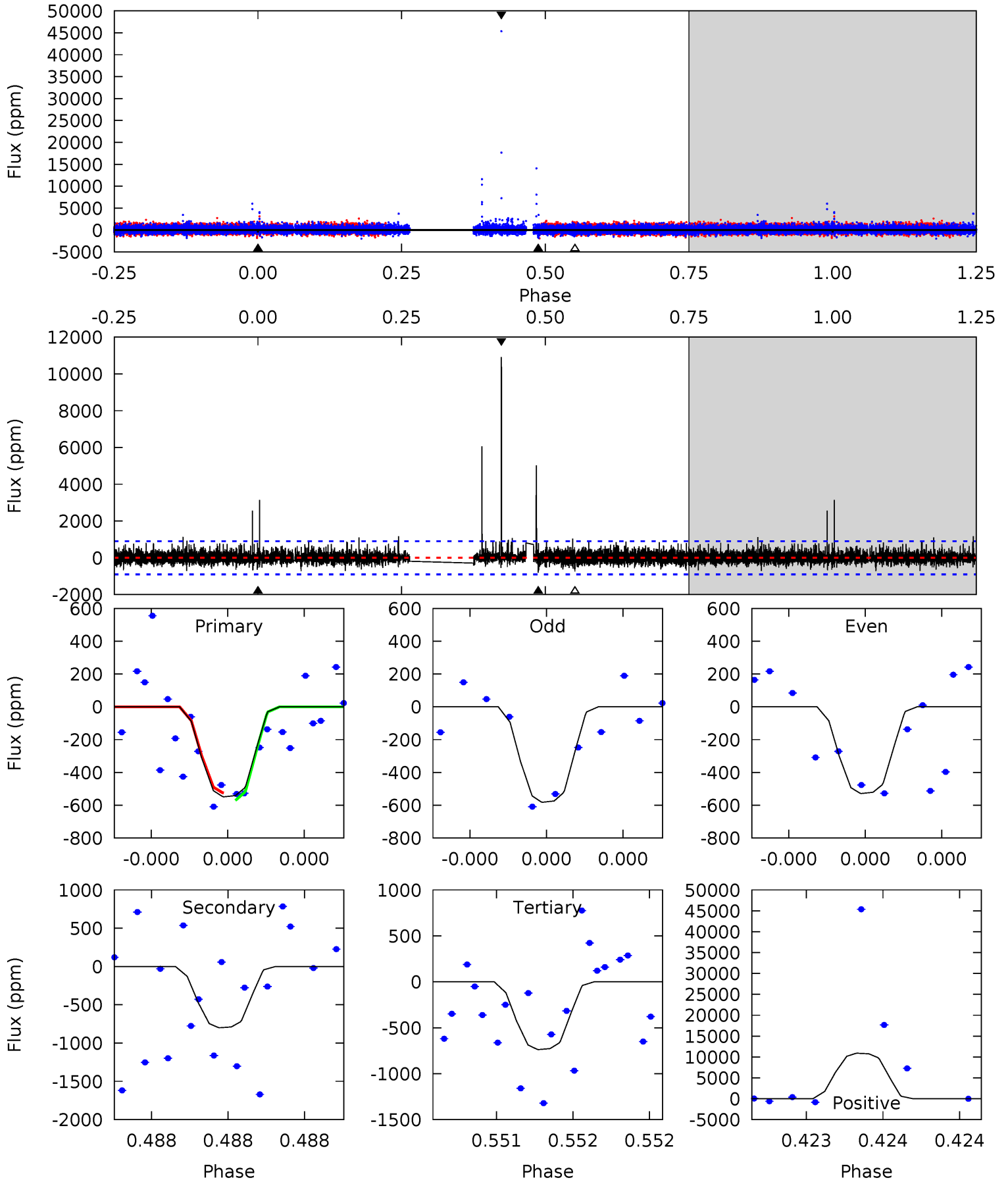
TCE 004725913-06 P=366.816458 Days $T_0=360.670681$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-06, P = 366.813240 Days, E = 360.677084 Days

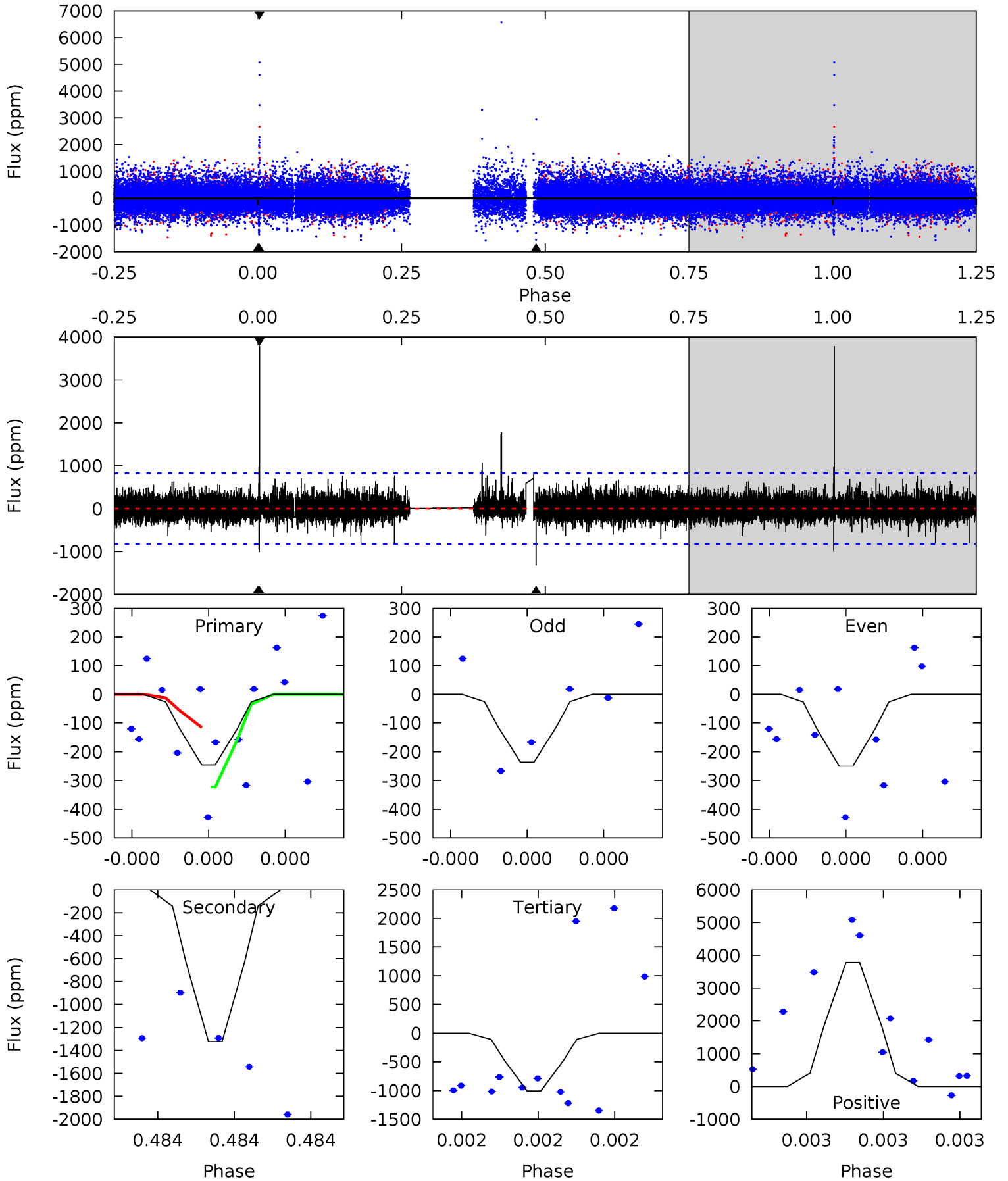
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.50	5.10	4.70	69.6	5.74	3.73	1.61	-1.20	-66.1	0.40	-64.5	0.07	0.93	0.93	0.14



Alt Model-Shift Uniqueness Test

004725913-06, P = 366.816458 Days, E = 360.670681 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.73	9.34	7.11	26.7	5.82	3.85	1.16	-5.37	-25.0	2.23	-17.4	0.05	1.05	0.74	0.70



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-800 ± 157	$4.90^{+4.72}_{-3.38}$	241^{+8}_{-8}	3351^{+1753}_{-579}	$14556^{+143459}_{-10584}$
Alt.	-1324 ± 142	$4.28^{+4.53}_{-2.88}$	241^{+8}_{-8}	3779^{+2132}_{-744}	$32871^{+271984}_{-25340}$

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

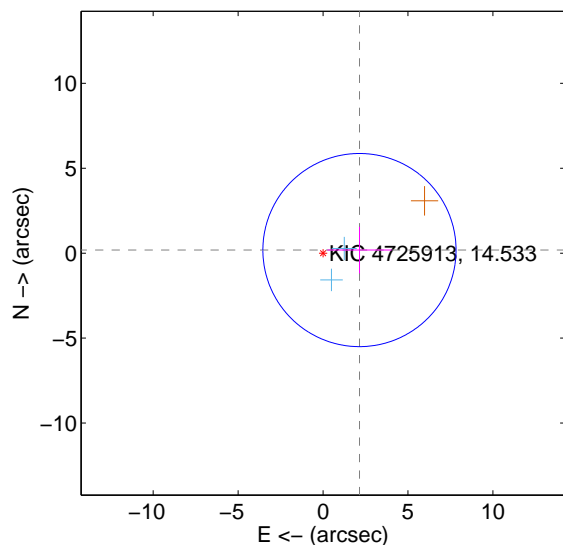
Supplemental centroid analysis for 004725913-06. Kepler magnitude: 14.53. Transit SNR 2.76

There are 2 quarters with good PRF difference image offsets

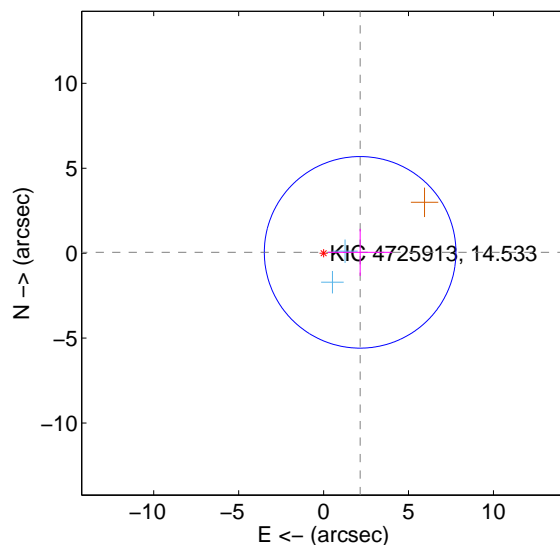
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.152 ± 1.895	1.14	-2.144 ± 1.898	0.183 ± 1.370
PRF-fit source offset from KIC position	2.152 ± 1.880	1.14	-2.151 ± 1.880	0.049 ± 1.385
photometric centroid source offset	1.42 ± 3.48	0.41	1.40 ± 3.49	0.24 ± 3.32

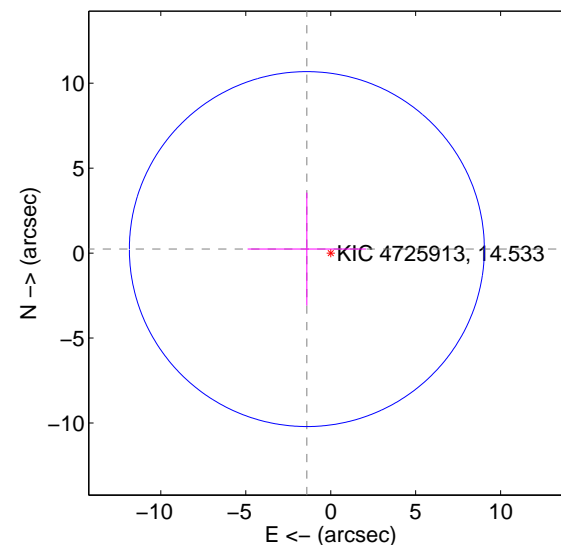
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

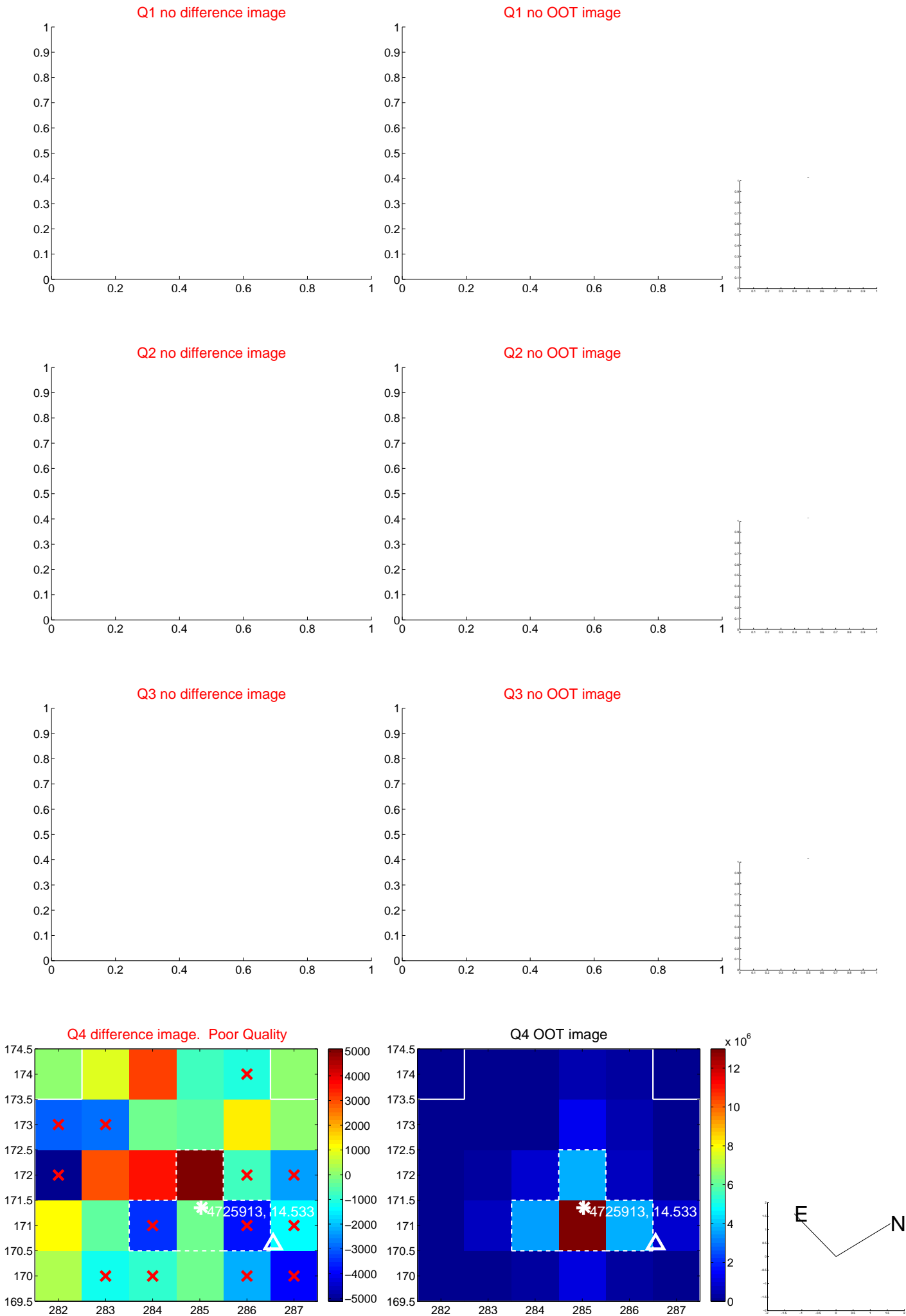


offset from photometric centroids



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.

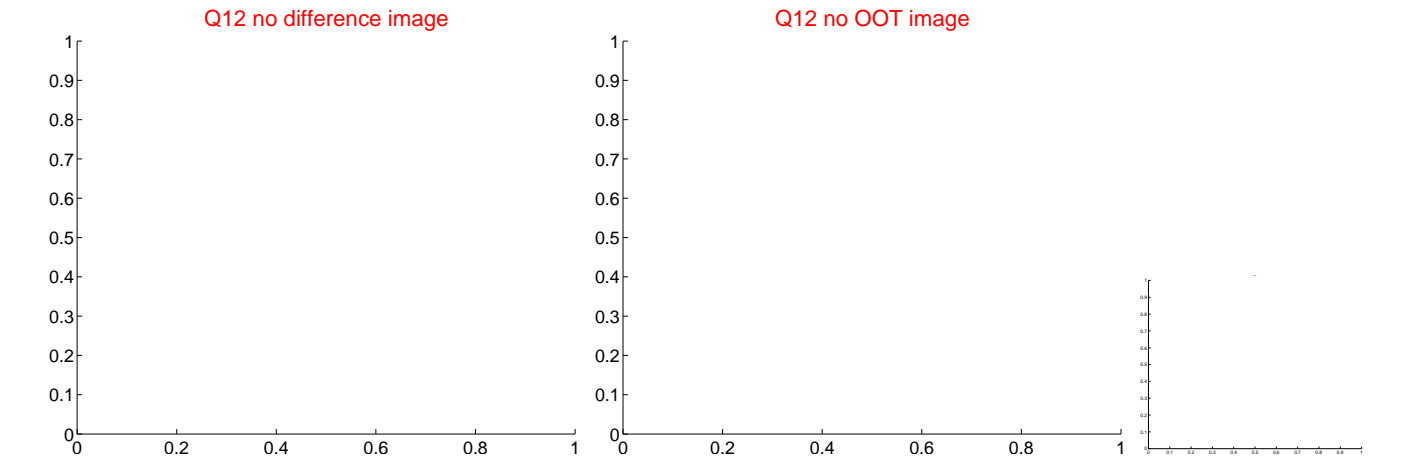
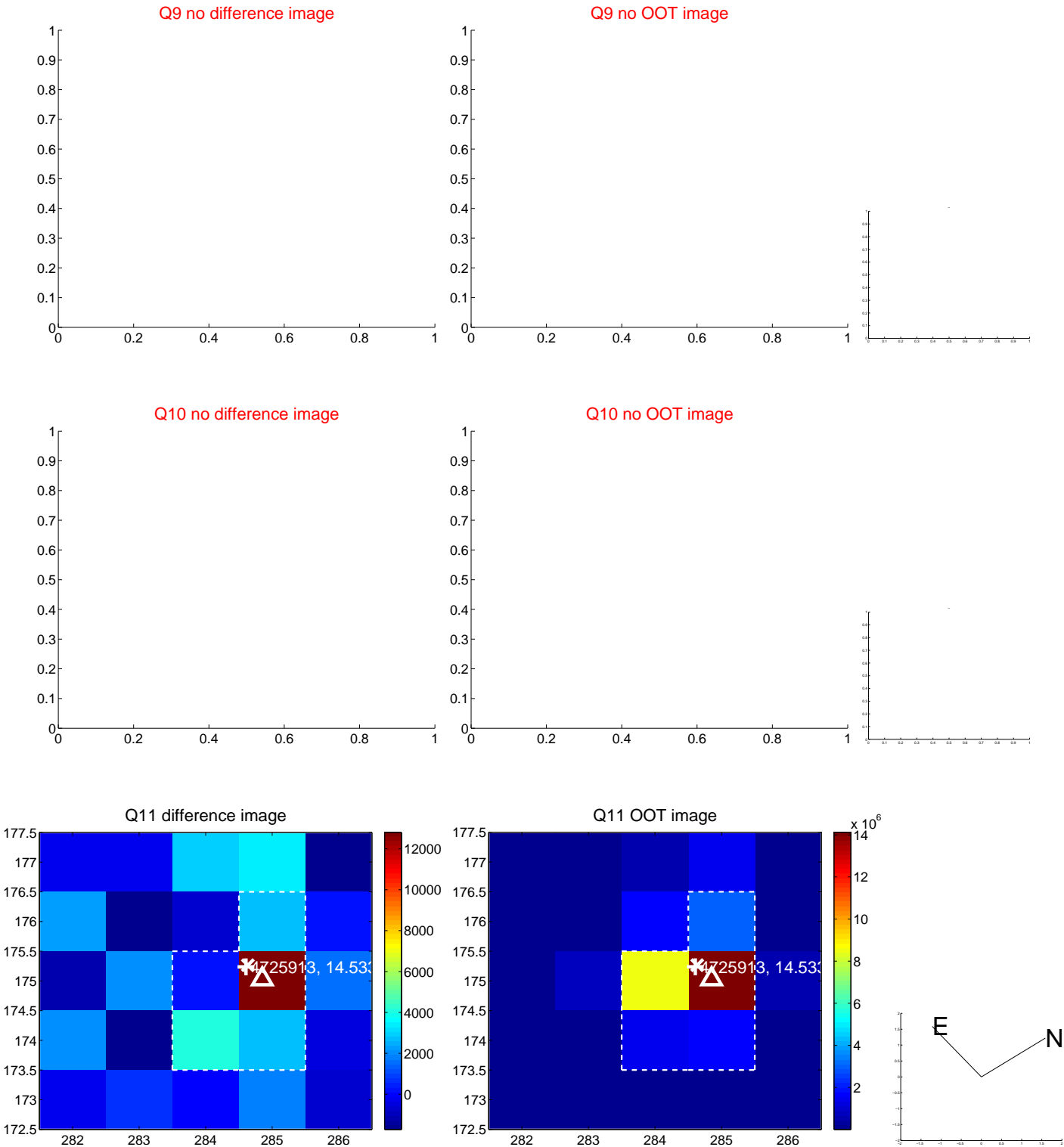
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



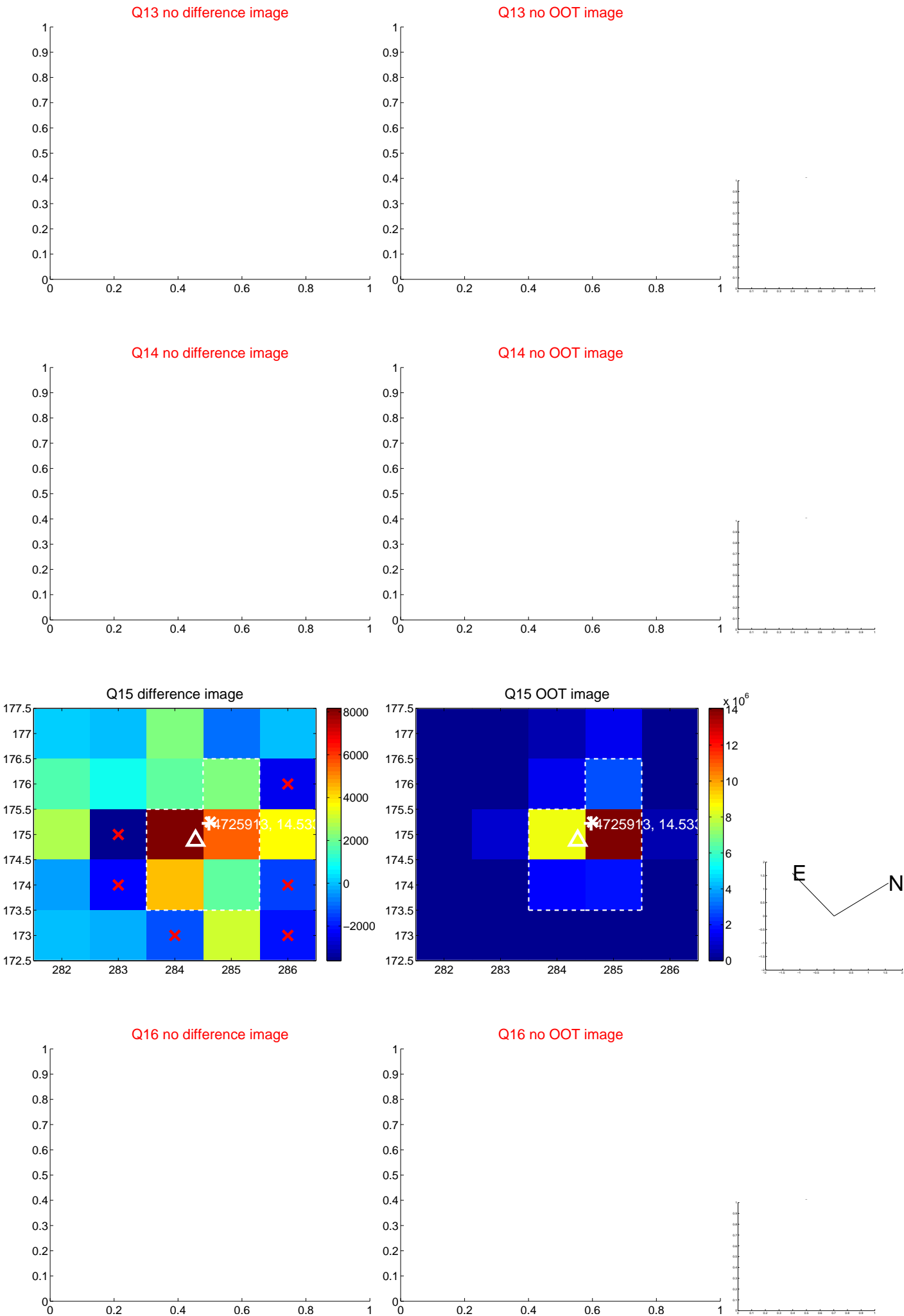
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



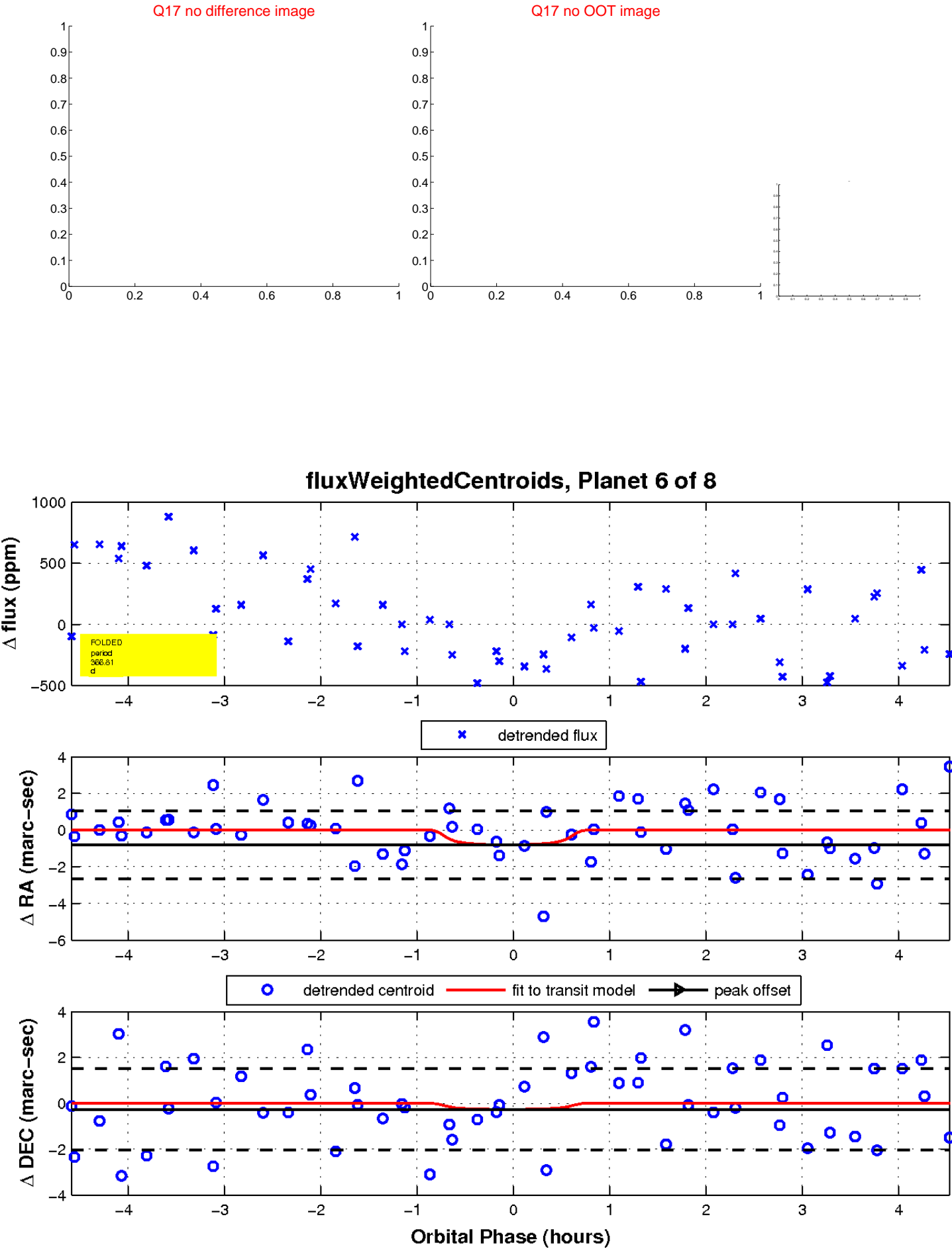
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

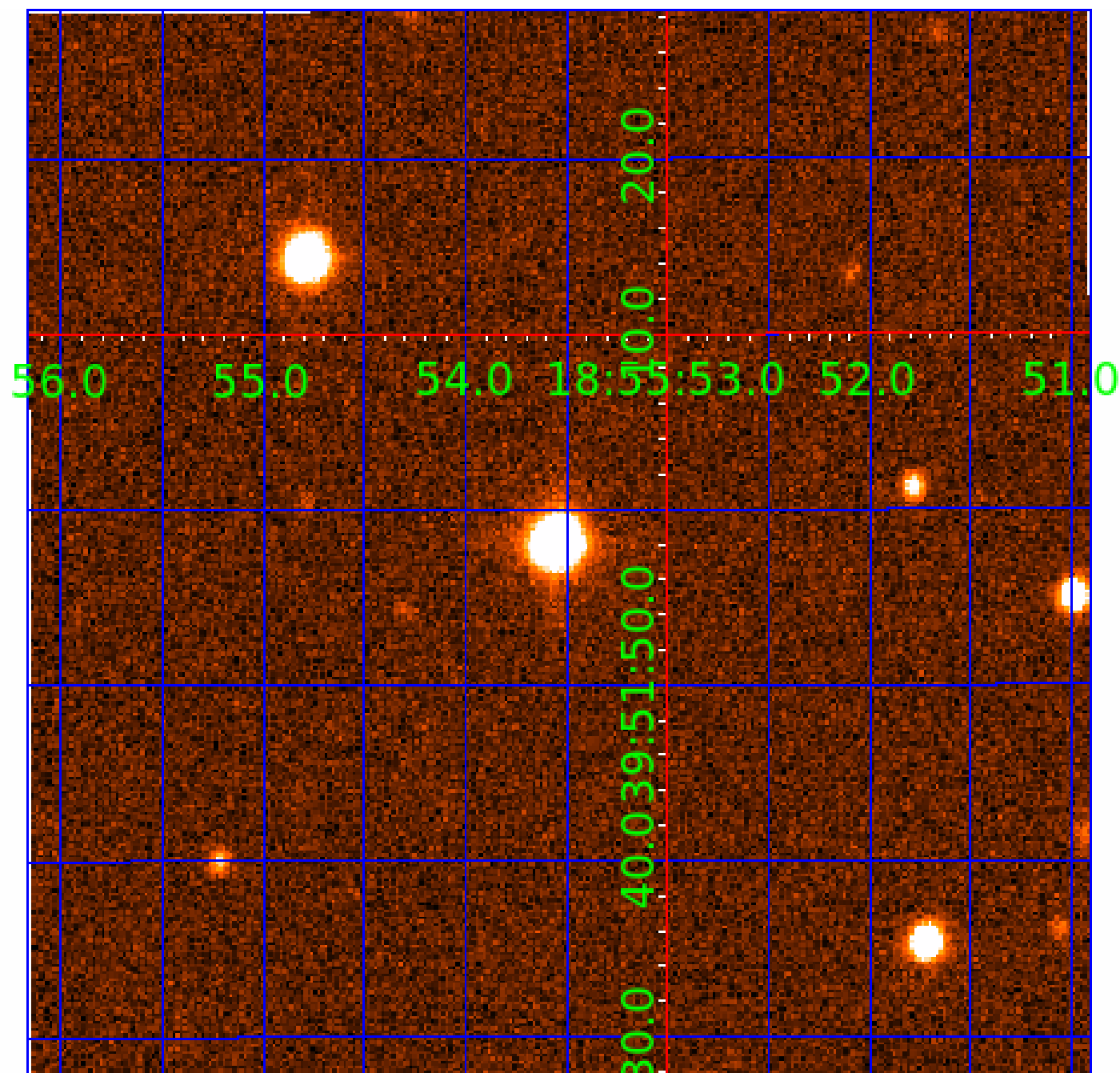


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

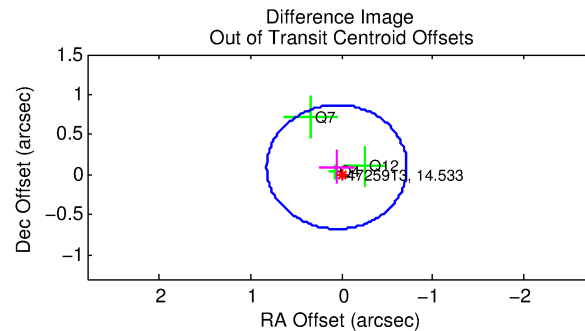
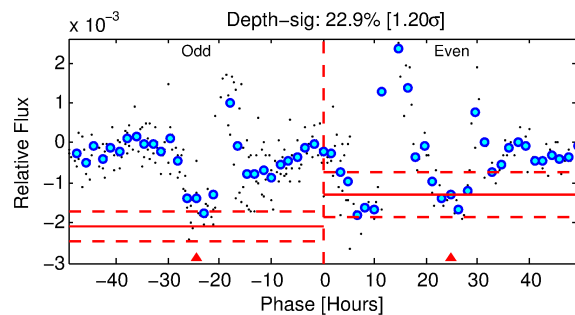
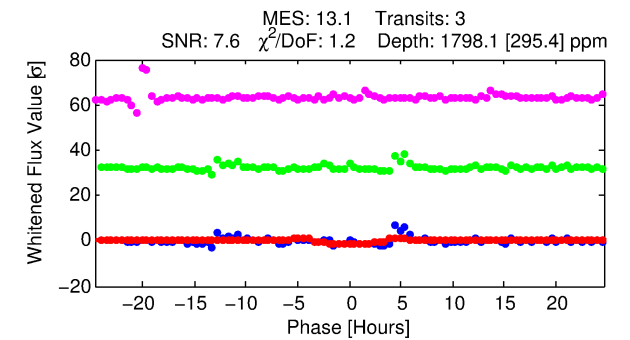
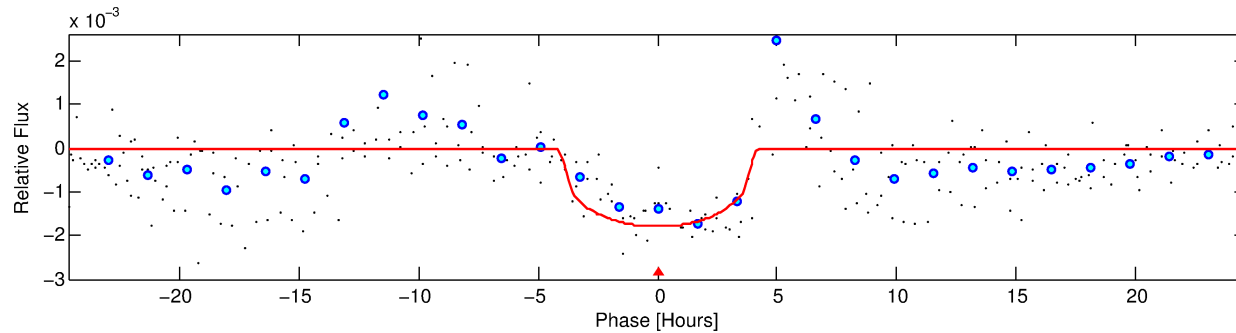
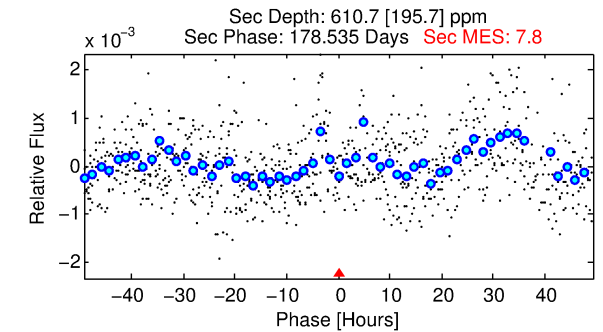
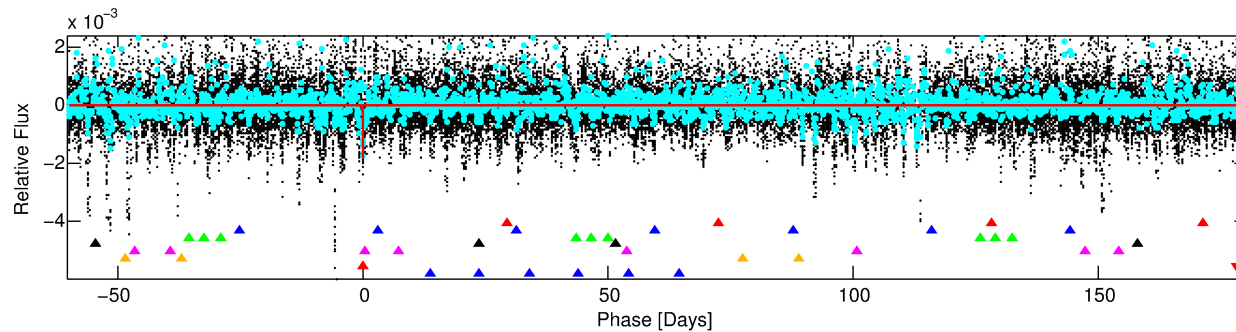
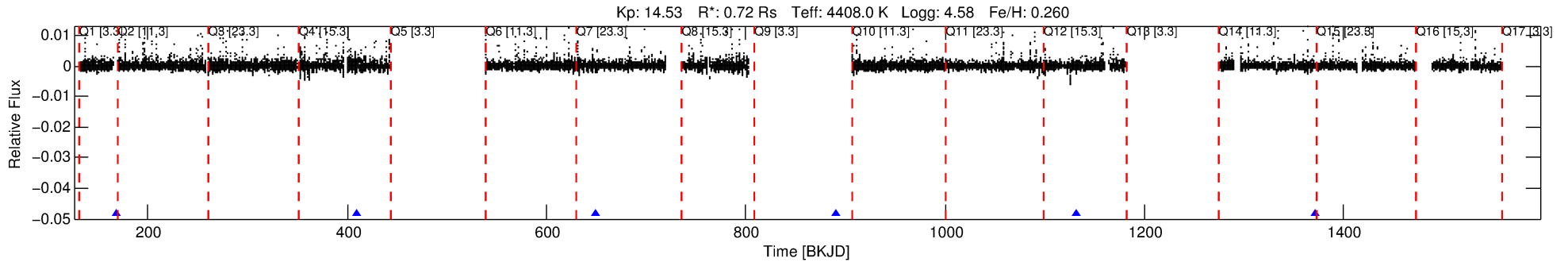
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-07

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 7 of 8 Period: 240.705 d



DV Fit Results:

Period = 240.70546 [0.00430] d
Epoch = 168.6036 [0.0115] BKJD
Rp/R* = 0.0392 [0.0232]
a/R* = 198.42 [337.86]
b = 0.54 [2.28]
Seff = 0.38 [0.06]
Teq = 200 [8] K
Rp = 3.06 [1.83] Re
a = 0.6755 [0.0471] AU
Ag = 16327.78 [20108.17] [0.81σ]
Teffp = 3499 [1079] K [3.06σ]

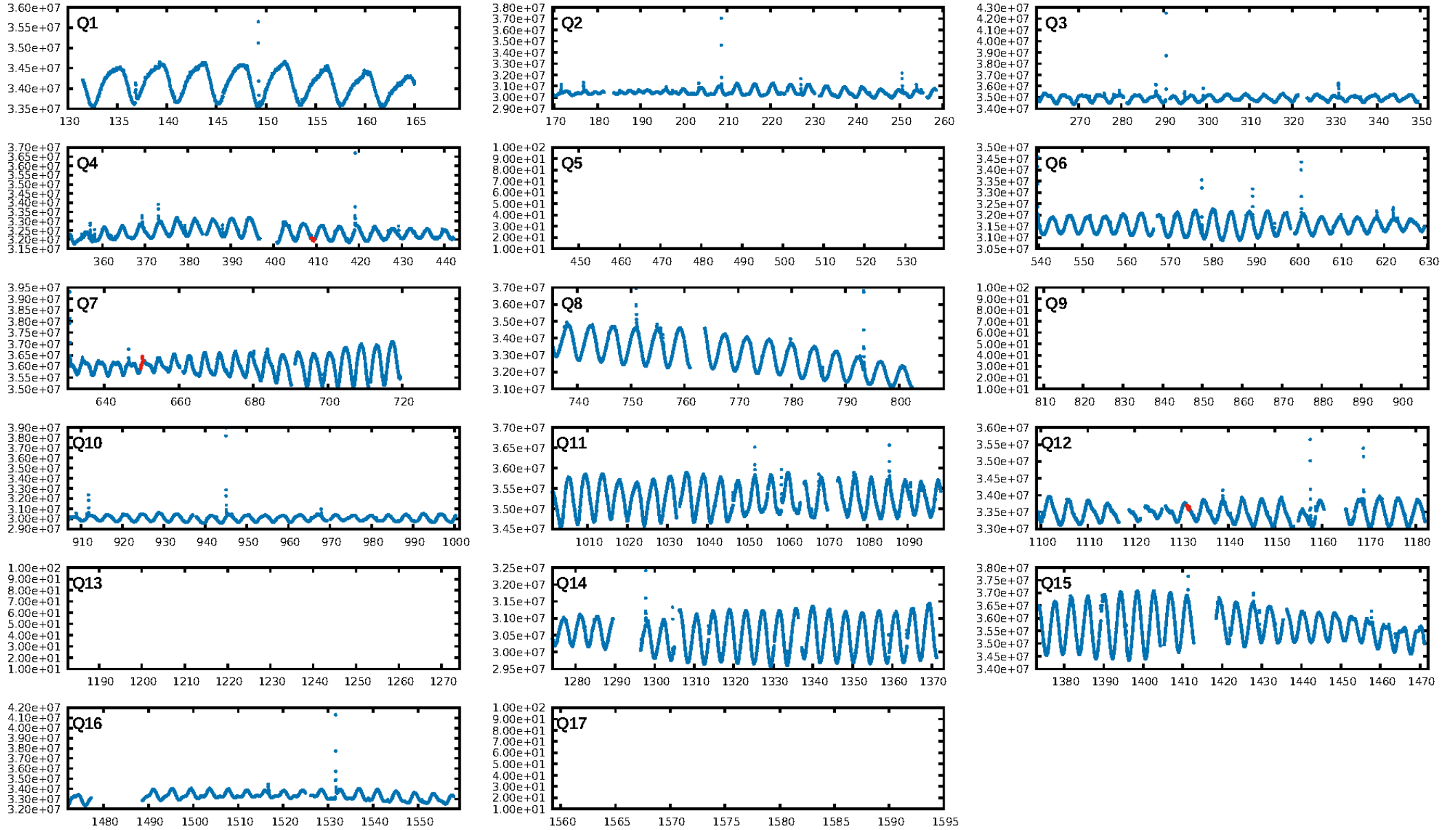
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.31σ]
LongPeriod-sig: 100.0% [29.20σ]
ModelChiSquare2-sig: 67.4%
ModelChiSquareGof-sig: 92.9%
Bootstrap-pfa: 3.08e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 8.303
Centroid-sig: 79.6%
Centroid-so: 0.511 arcsec [1.02σ]
OotOffset-rm: 0.109 arcsec [0.42σ]
KicOffset-rm: 0.133 arcsec [0.95σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

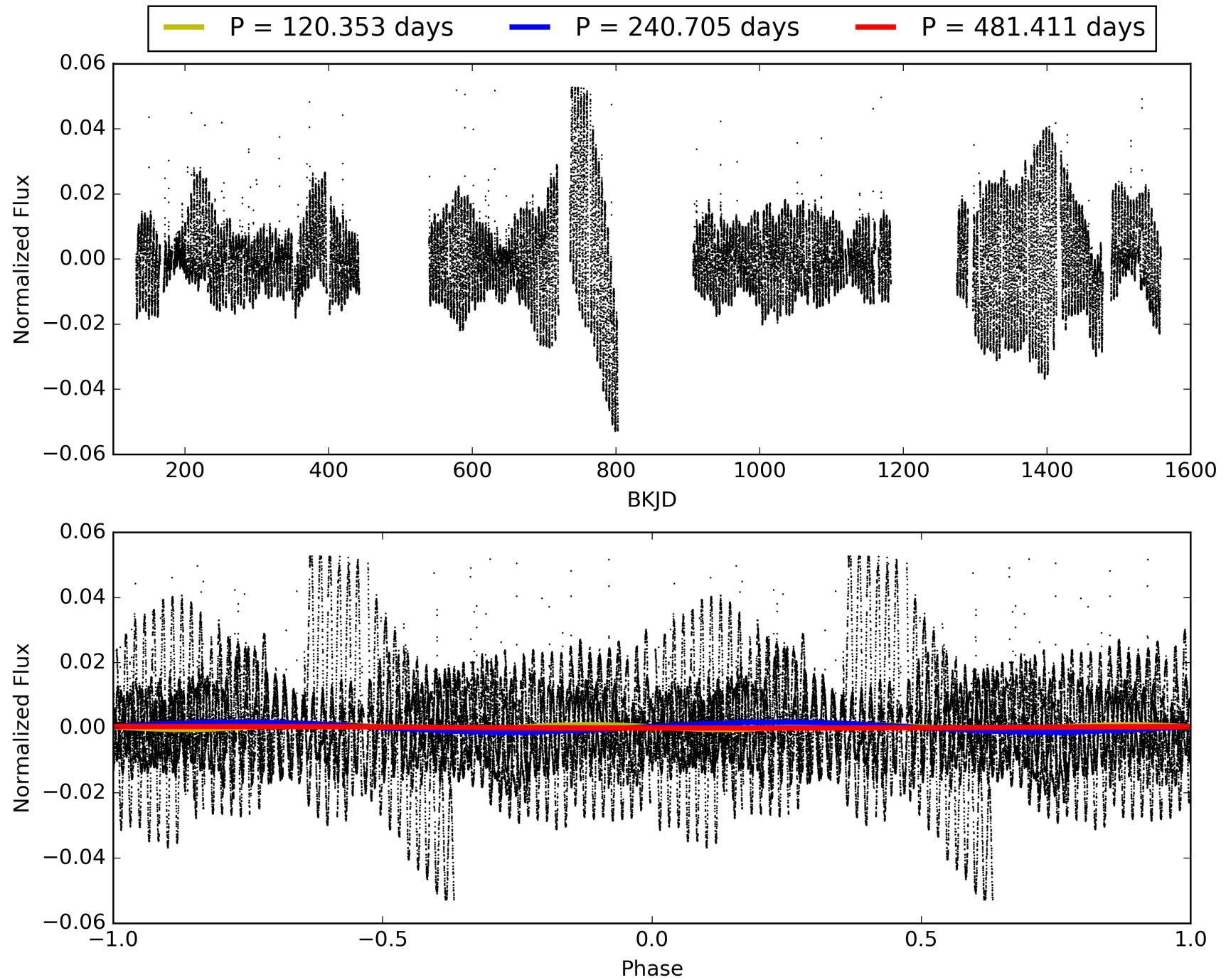
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:37:21 Z

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

TCE 004725913-07, PDC Light Curves

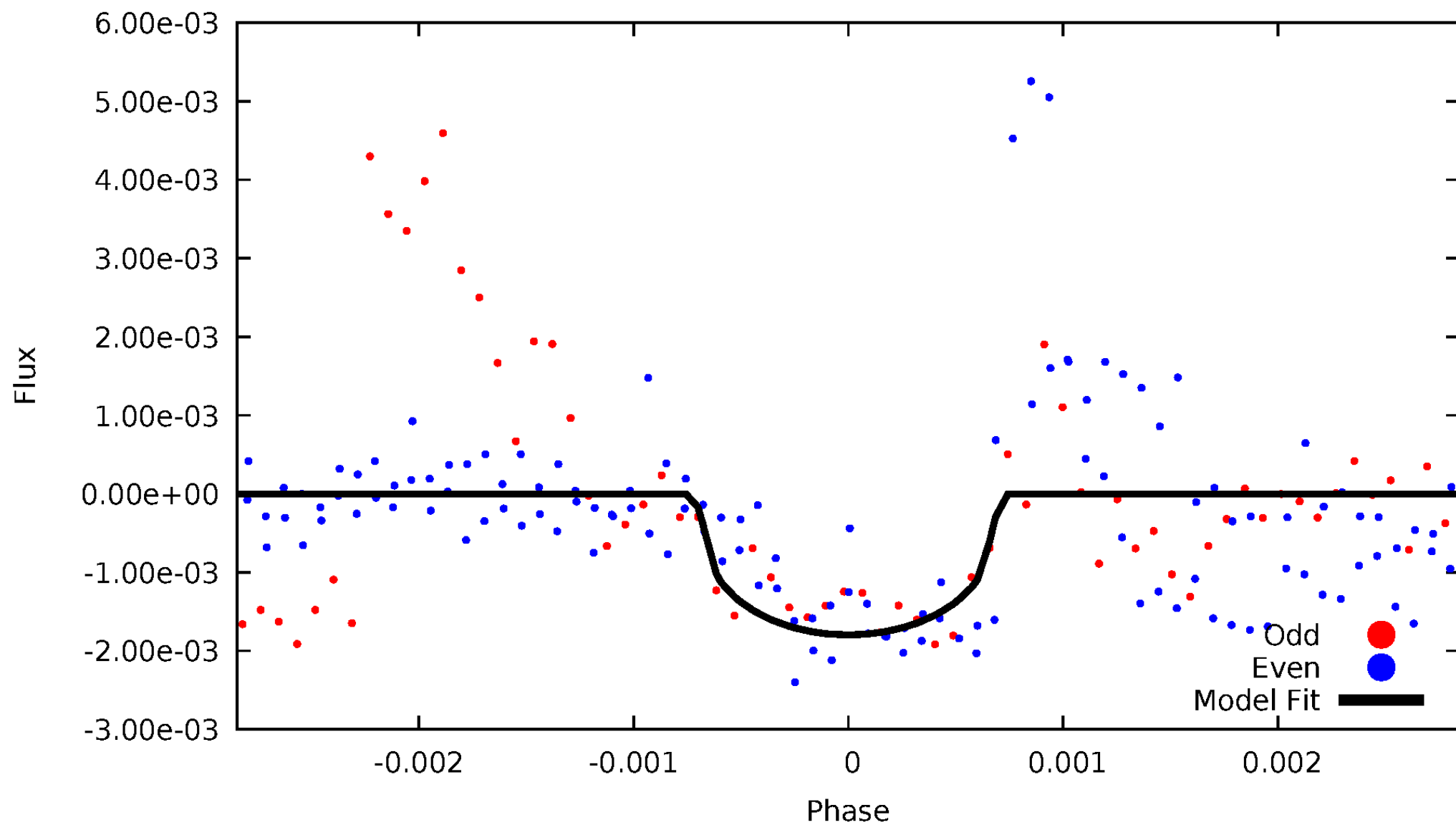


TCE 004725913-07



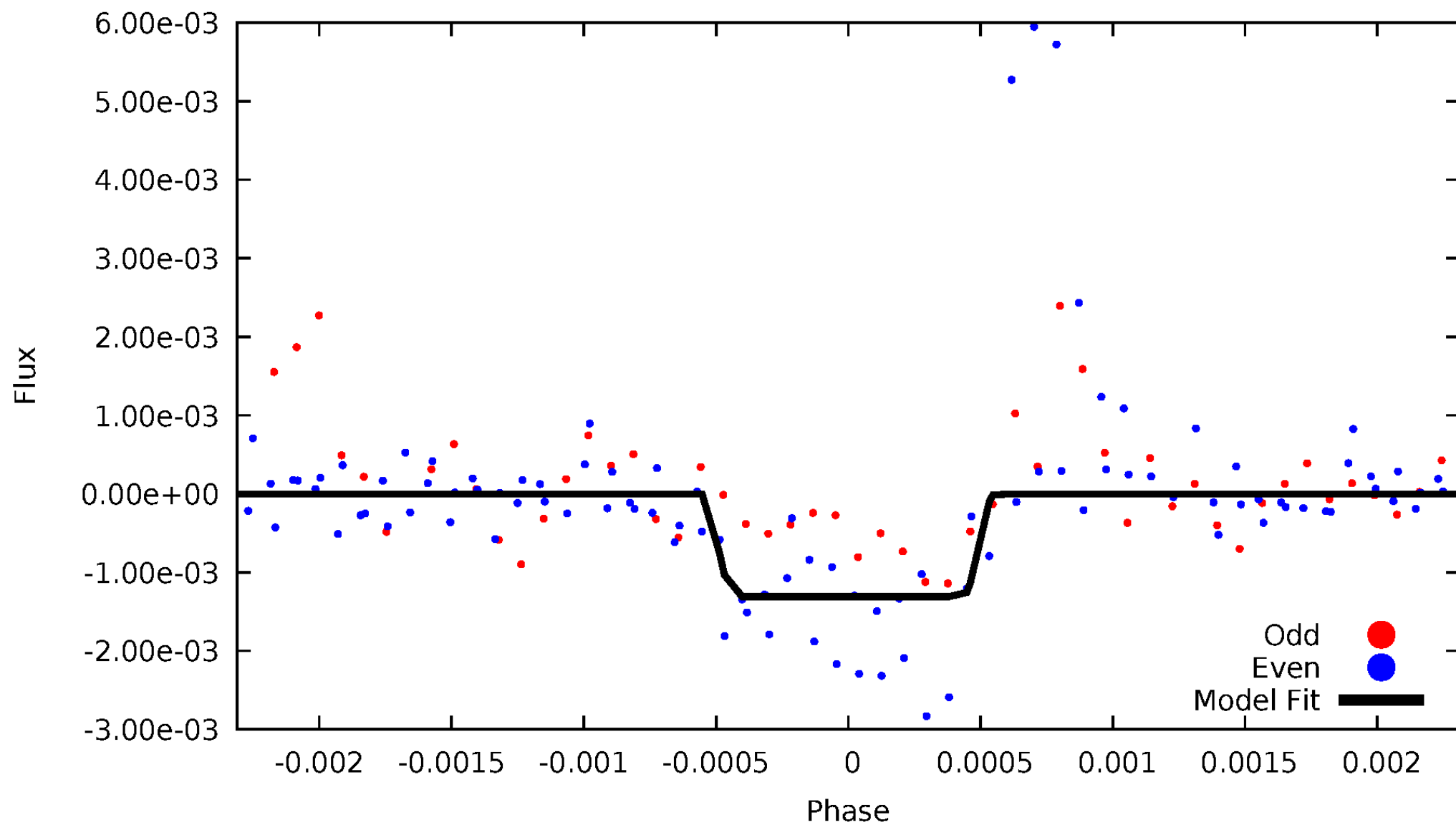
DV Odd/Even

TCE 004725913-07



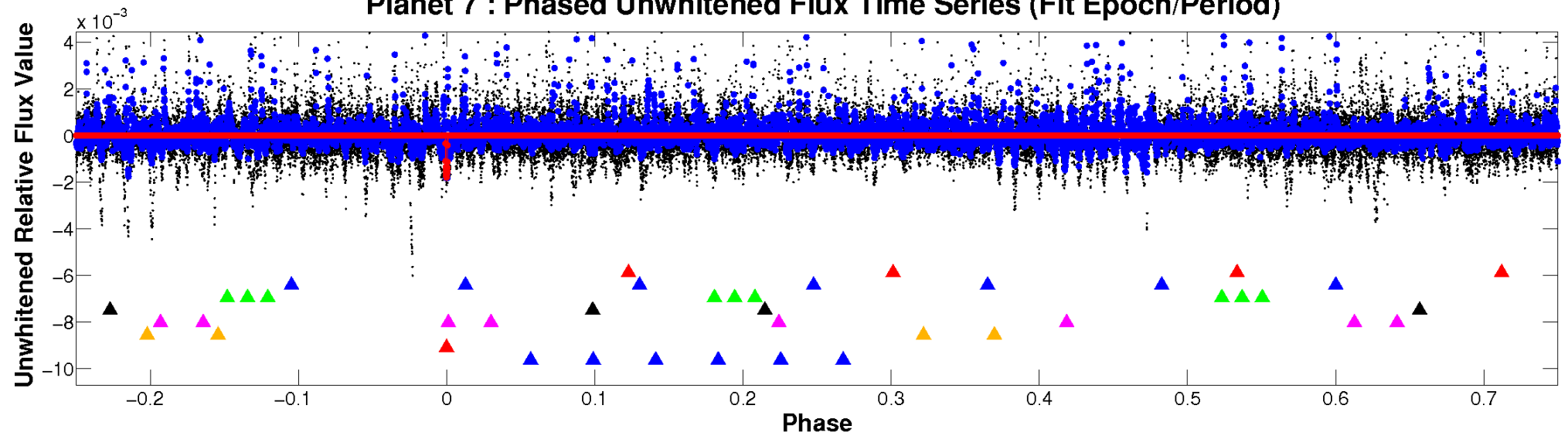
ALT Odd/Even

TCE 004725913-07

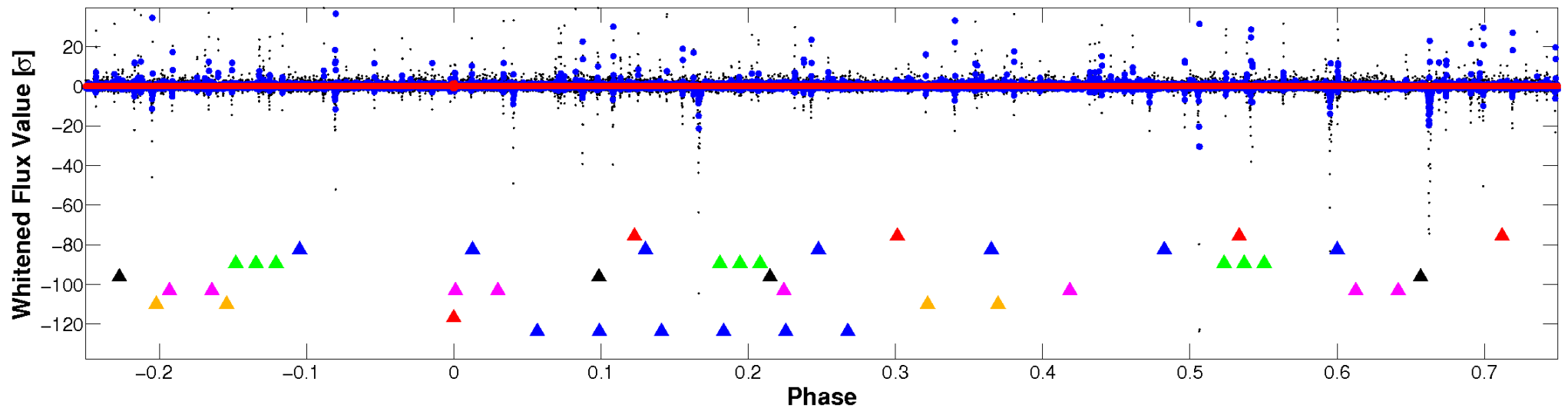


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

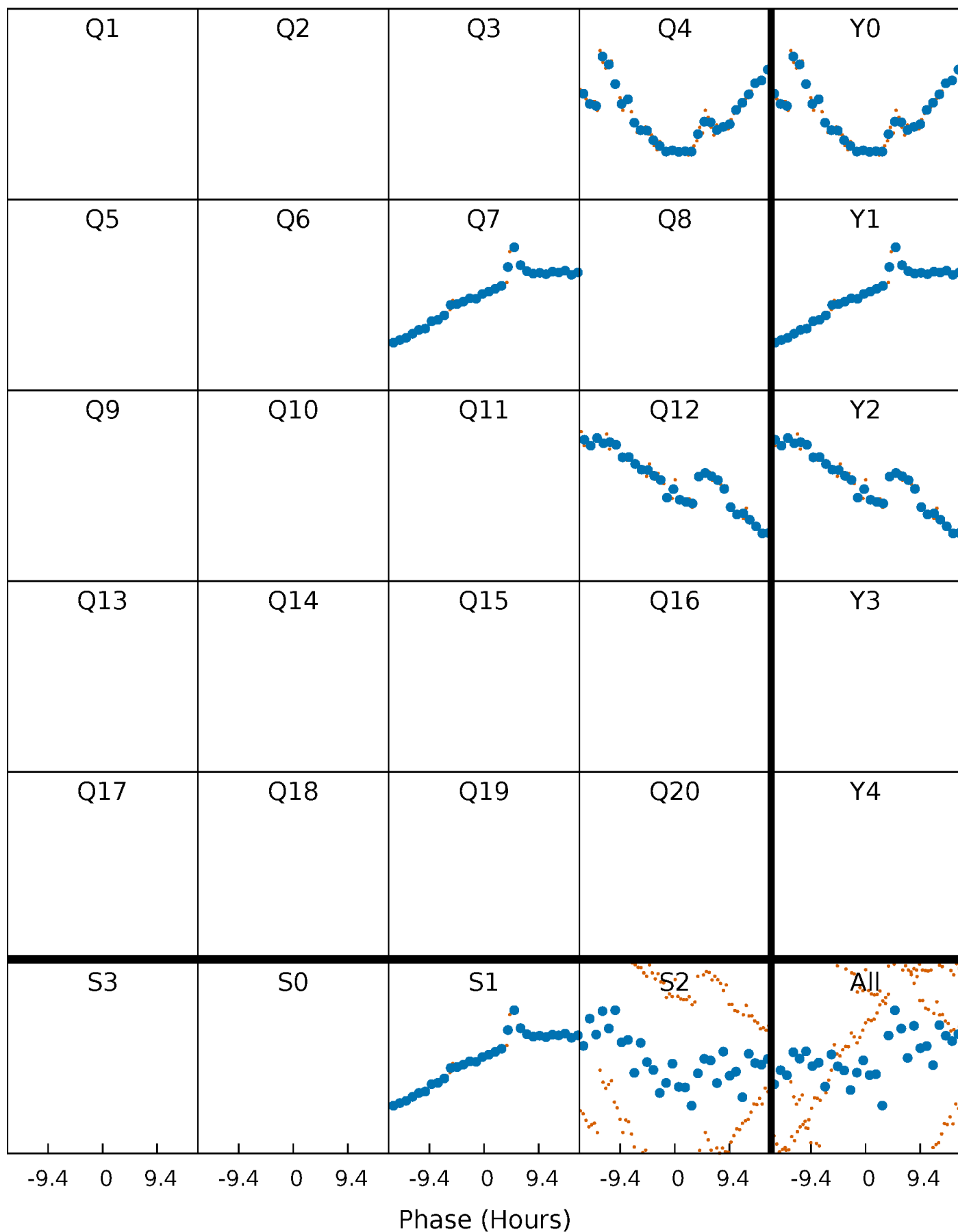


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 004725913-07 $P=240.705458$ Days $T_0=168.603637$ (BKJD)



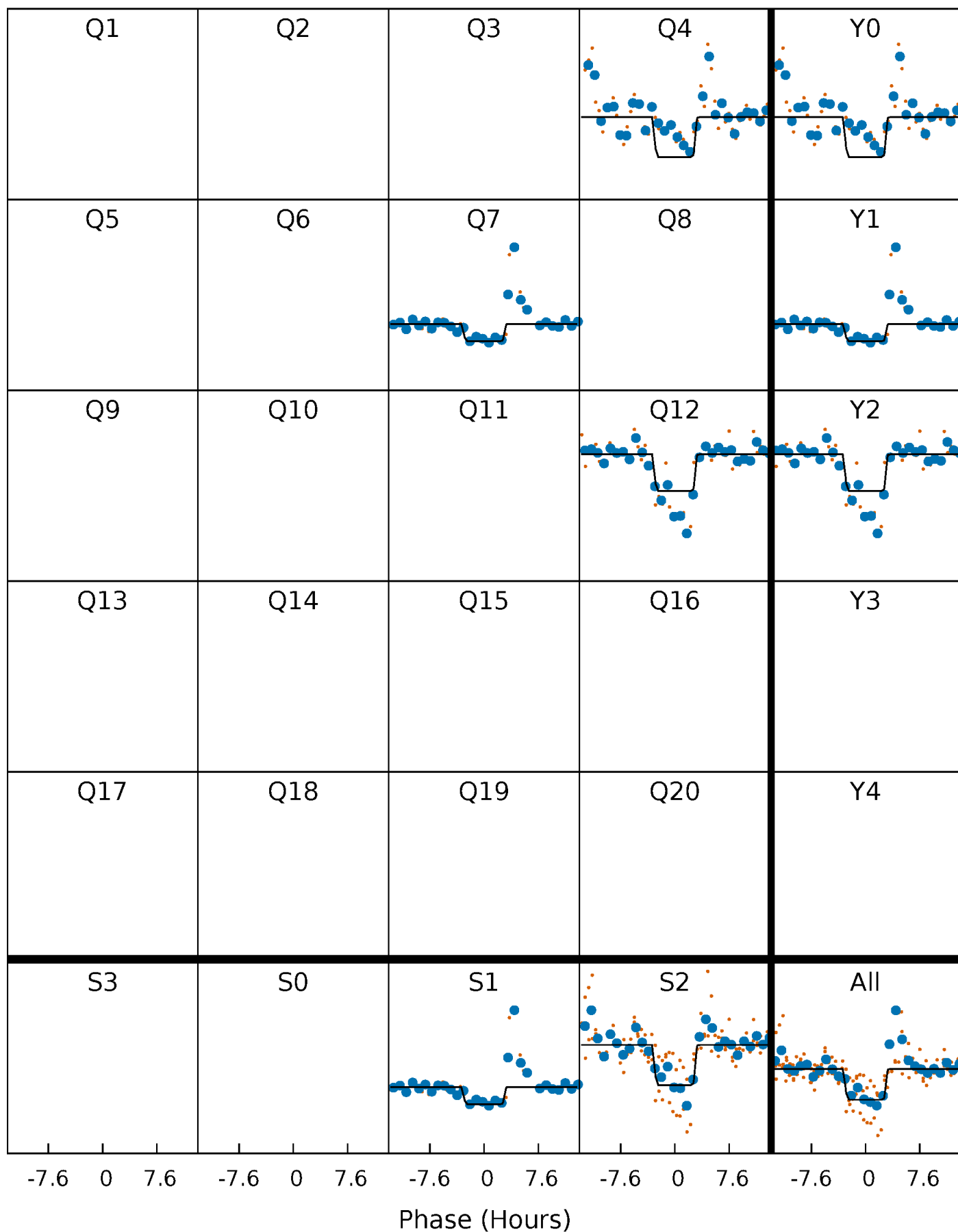
DV Quarter-Phased Transit Curves

TCE 004725913-07 $P=240.705458$ Days $T_0=168.603637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

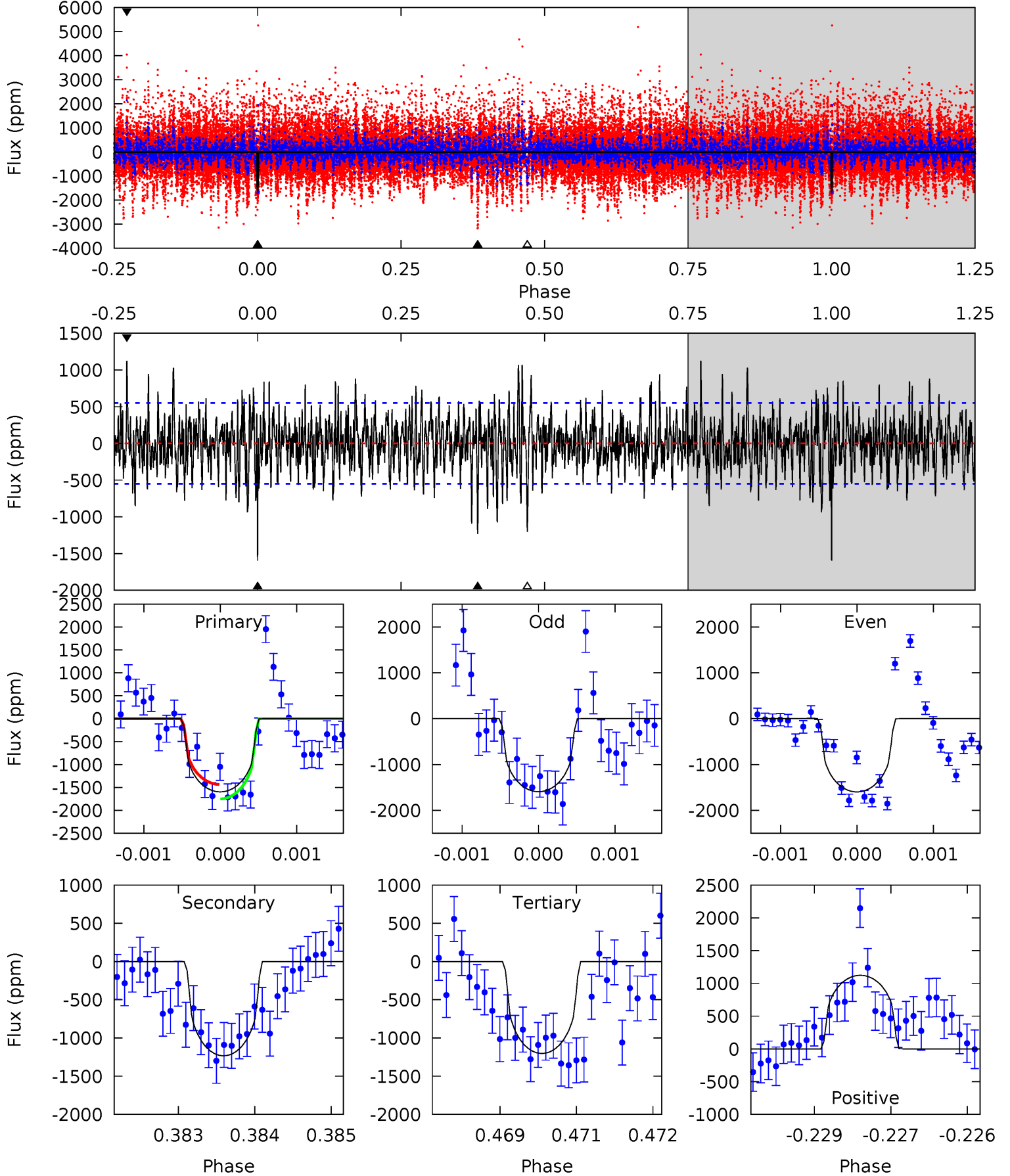
TCE 004725913-07 $P=240.714148$ Days $T_0=168.622071$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-07, P = 240.705458 Days, E = 168.603637 Days

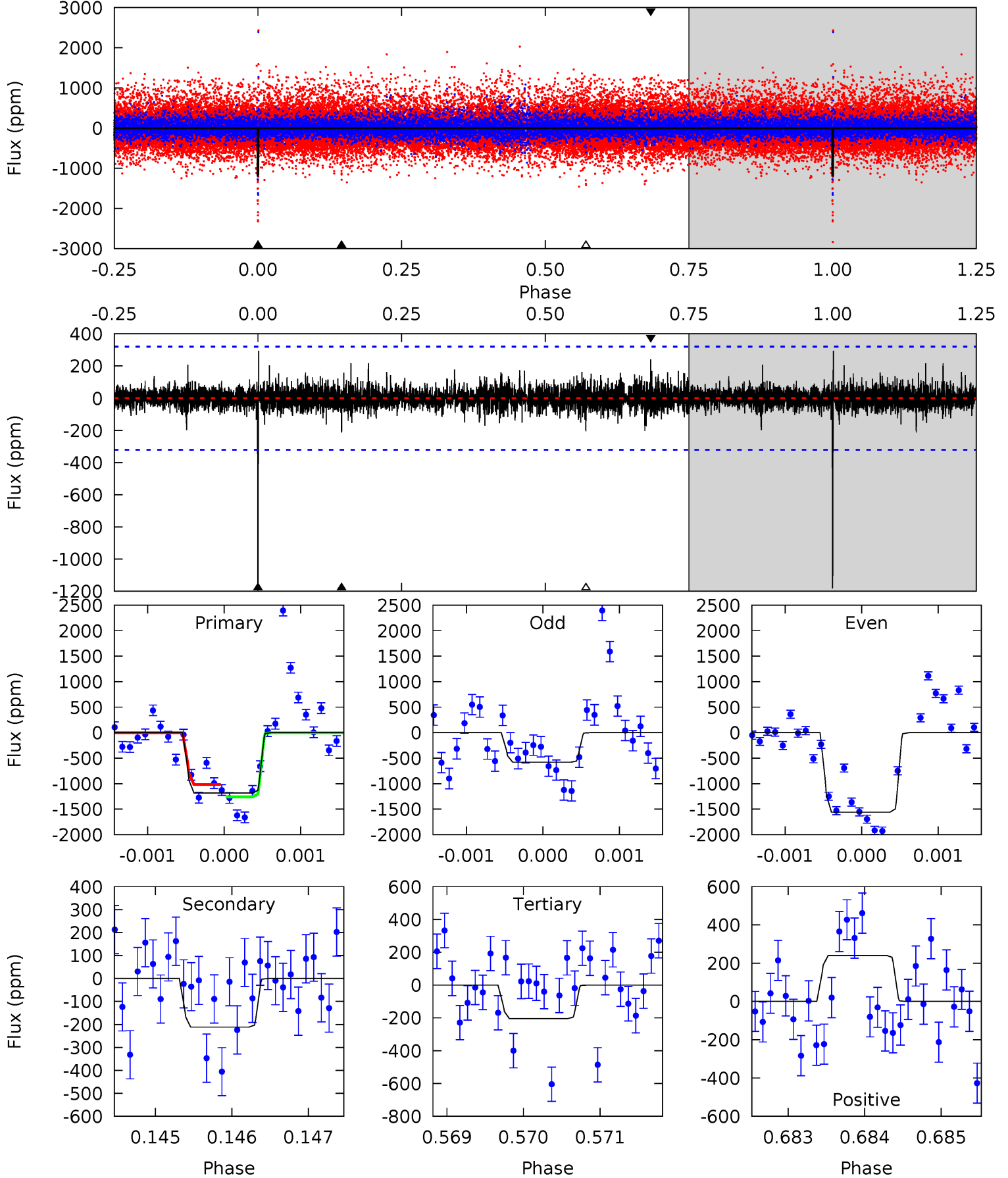
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	12.1	11.8	11.0	5.38	3.18	2.91	3.86	4.64	0.30	1.08	0.02	1.00	0.41	1.54



Alt Model-Shift Uniqueness Test

004725913-07, P = 240.714148 Days, E = 168.622071 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	3.60	3.47	4.09	5.45	3.29	0.76	16.6	16.0	0.13	-0.49	7.66	1.03	0.20	2.05



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1233 ± 102	$3.06^{+1.86}_{-1.65}$	278^{+9}_{-10}	4223^{+1682}_{-631}	$33431^{+121523}_{-20383}$
Alt.	-212 ± 59	$2.96^{+1.66}_{-1.53}$	278^{+9}_{-9}	3184^{+885}_{-424}	6175^{+20320}_{-3911}

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

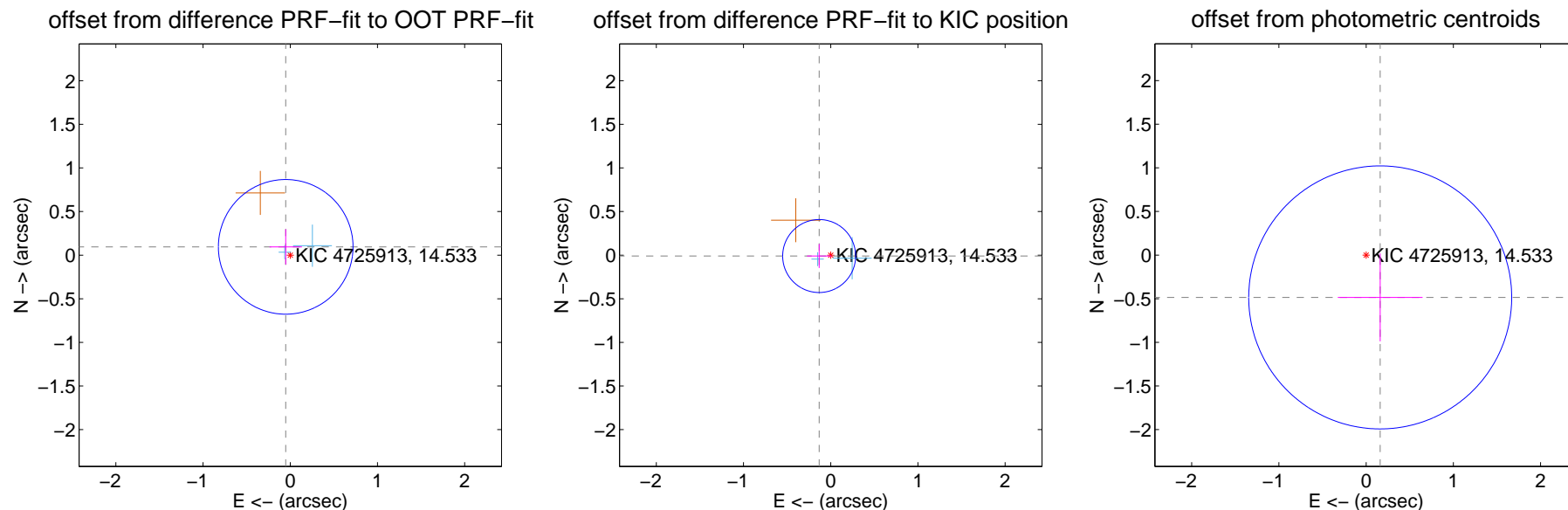
DV Centroid Data

Supplemental centroid analysis for 004725913-07. Kepler magnitude: 14.53. Transit SNR 7.57

There are 2 quarters with good PRF difference image offsets

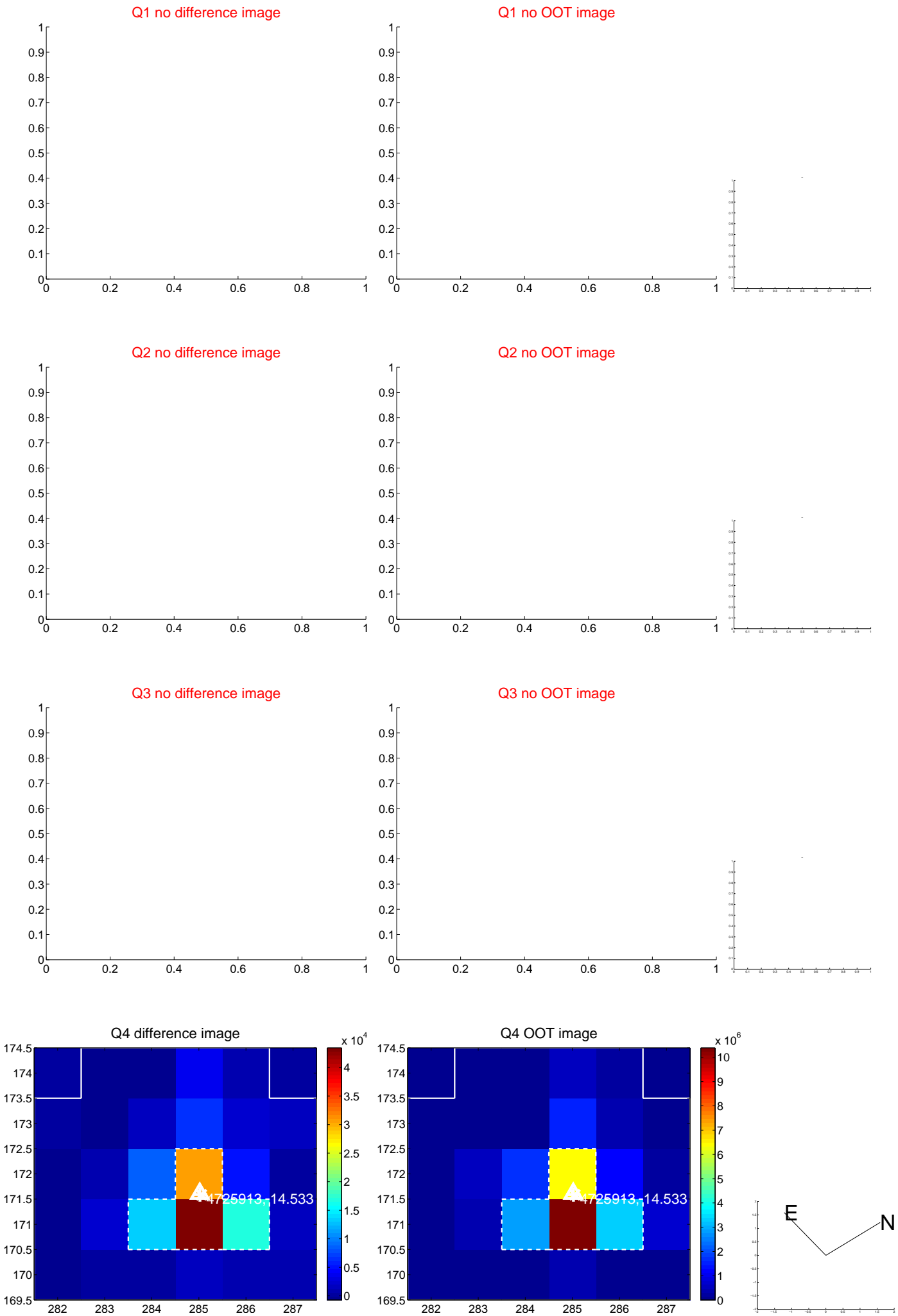
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.109 ± 0.257	0.42	0.052 ± 0.185	0.095 ± 0.203
PRF-fit source offset from KIC position	0.133 ± 0.139	0.95	0.133 ± 0.139	-0.010 ± 0.137
photometric centroid source offset	0.51 ± 0.50	1.02	-0.16 ± 0.49	-0.49 ± 0.50



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

Q5 no difference image



Q5 no OOT image



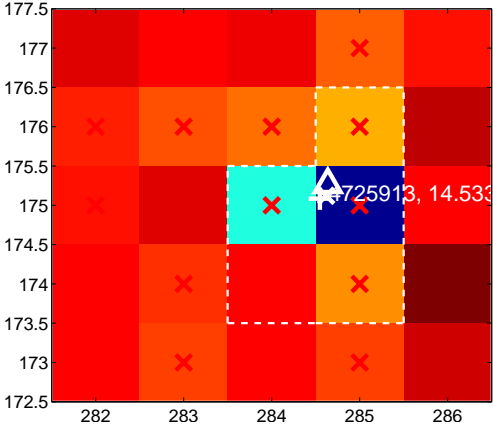
Q6 no difference image



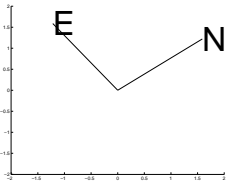
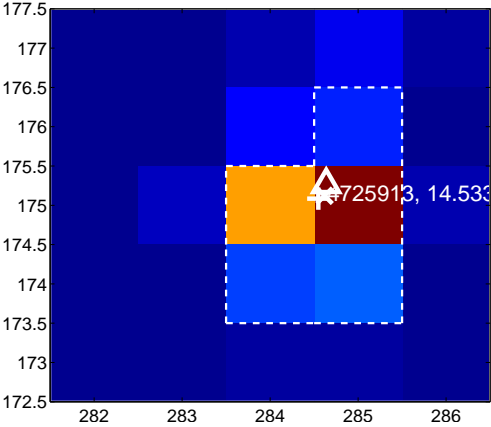
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



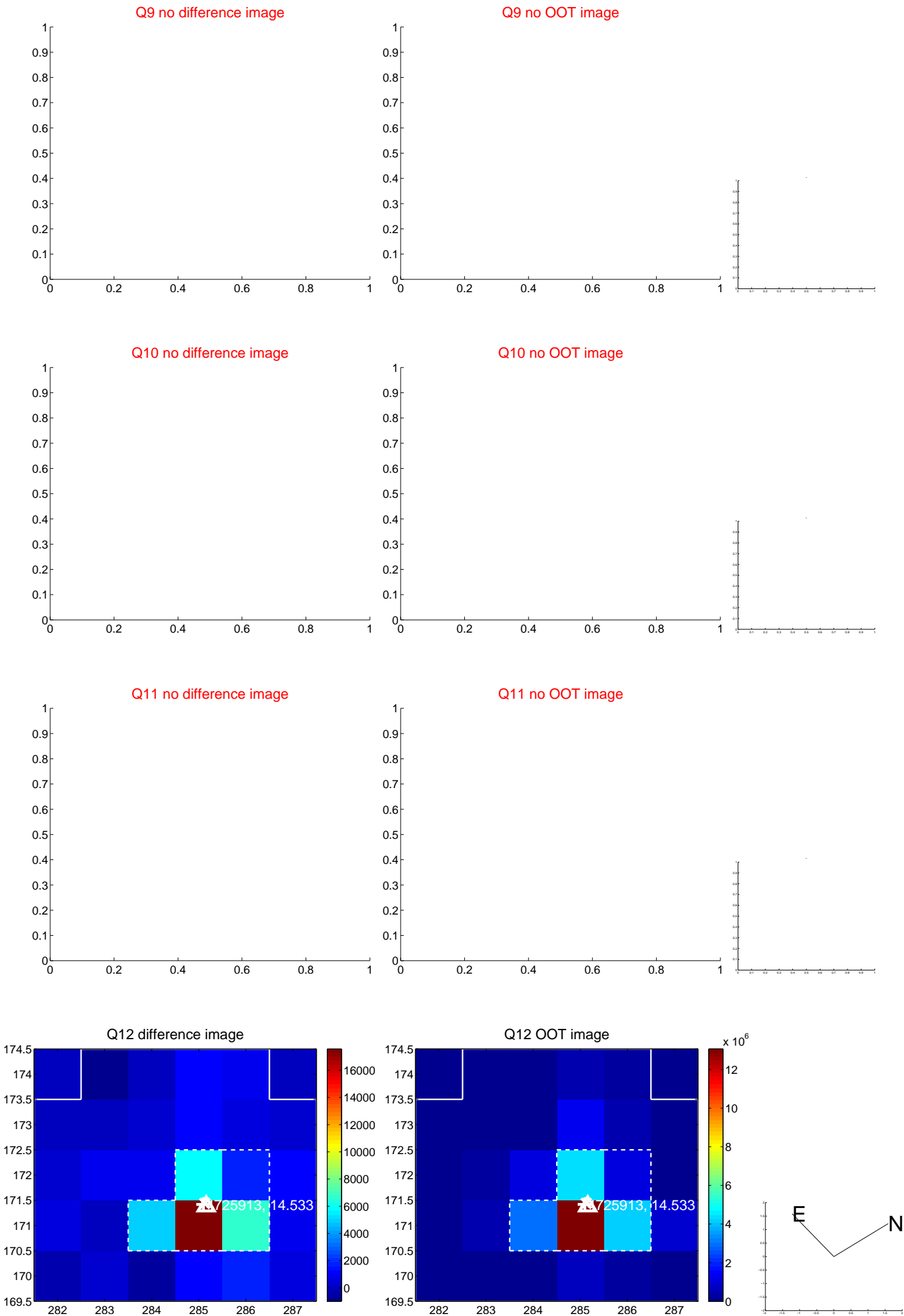
Q8 no difference image



Q8 no OOT image



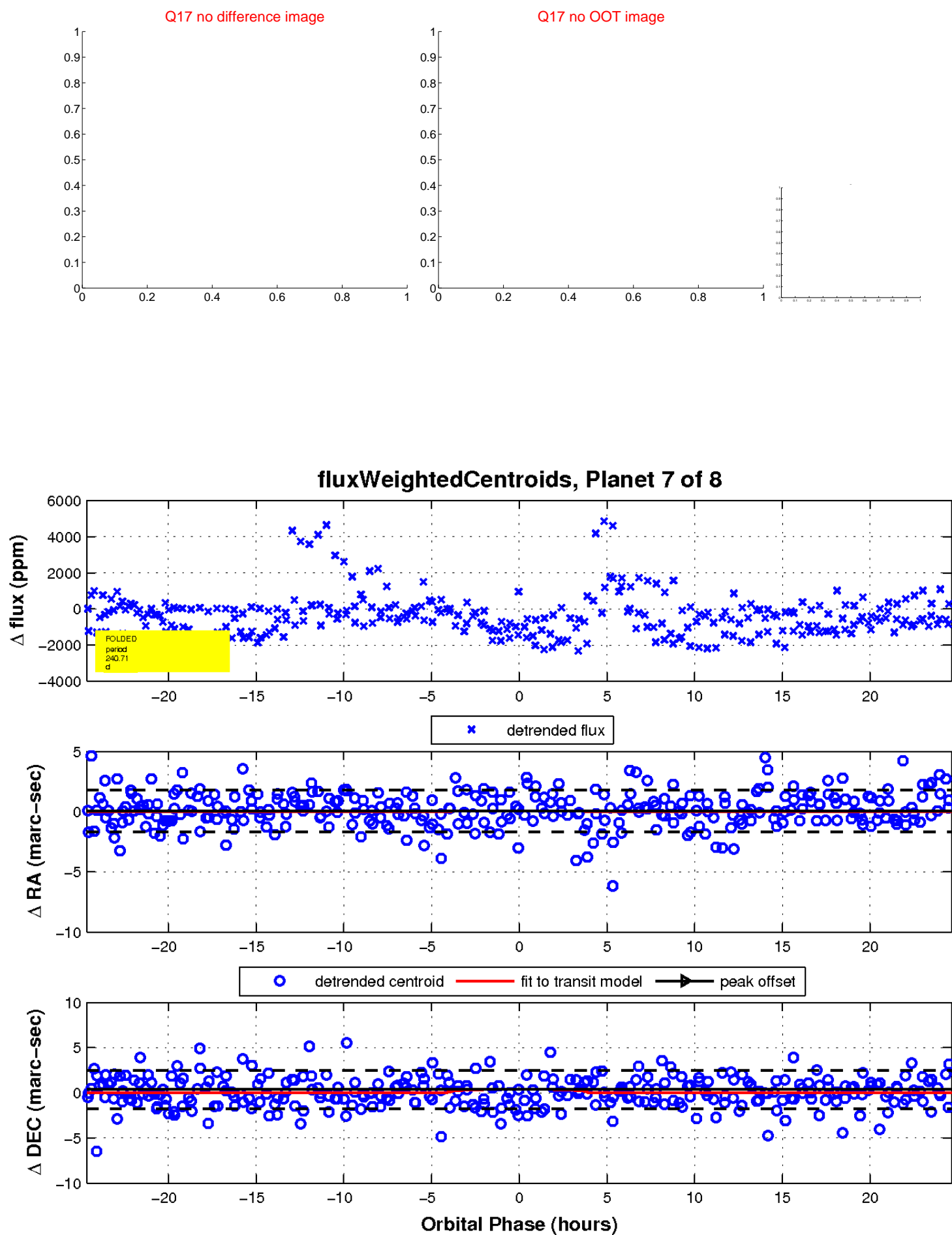
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

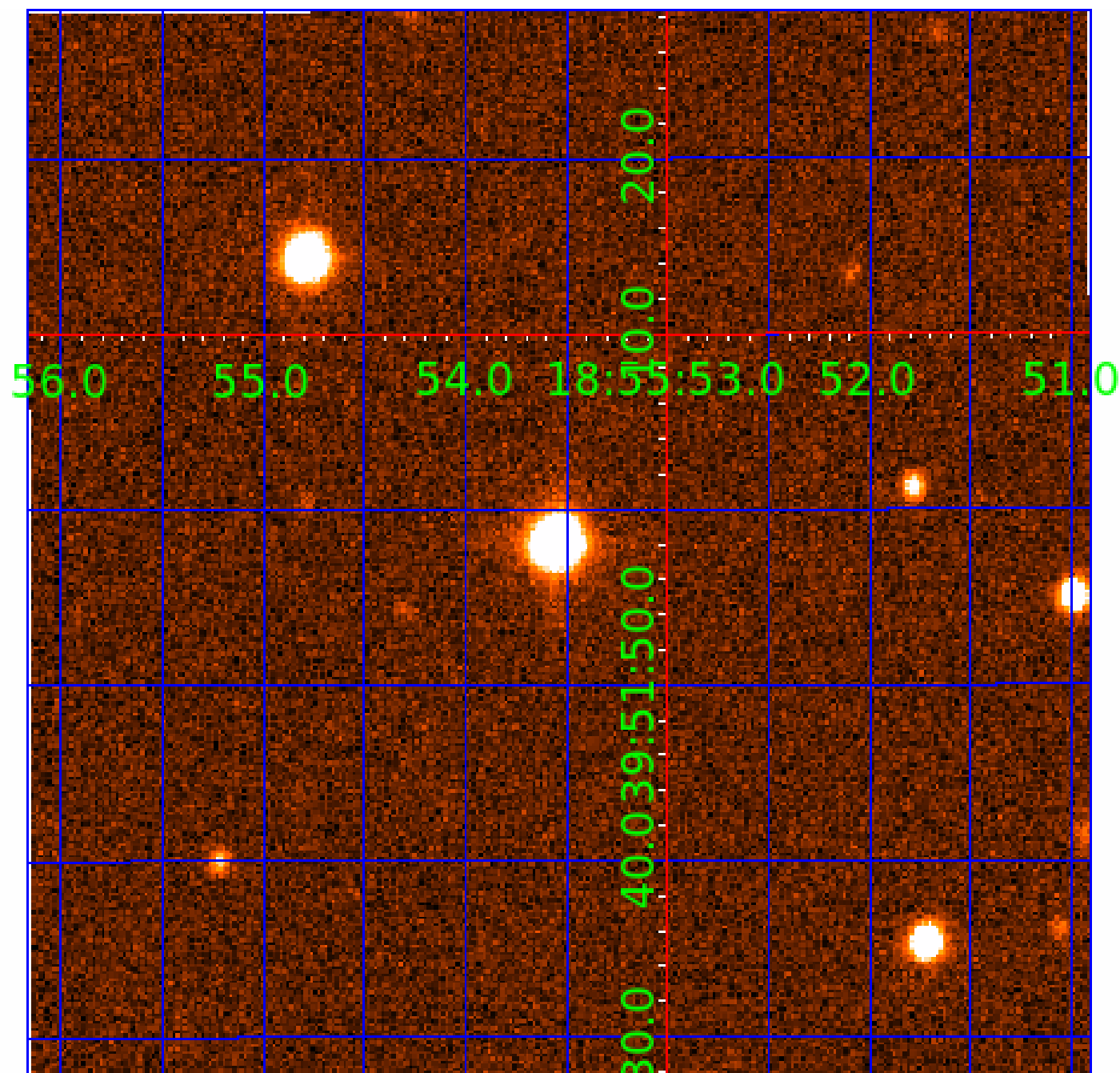


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725913

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})
004725913-01	OBS	No	339.568185	241.133226	1610.1	2.759	12.0	7.5	0.72	4408	3.09	0.24
004725913-02	OBS	No	212.431472	313.049856	1682.8	8.522	12.4	8.1	0.72	4408	2.81	0.45
004725913-03	OBS	No	161.565391	212.122081	987.8	6.811	11.7	8.2	0.72	4408	2.35	0.65
004725913-04	OBS	No	375.042268	192.340327	1134.8	10.544	12.3	5.6	0.72	4408	2.46	0.21
004725913-05	OBS	No	193.950494	168.890598	1171.1	10.783	12.0	7.6	0.72	4408	2.95	0.51
004725913-06	OBS	No	366.813240	360.677084	523.5	1.542	10.5	2.8	0.72	4408	2.04	0.22
004725913-07	OBS	No	240.705458	168.603637	1798.1	8.221	13.1	7.6	0.72	4408	3.06	0.38
004725913-08	OBS	No	250.859408	182.268790	402.8	1.438	12.0	2.2	0.72	4408	1.95	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-02	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
004725913-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV
004725913-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
004725913-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725913-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004725913-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

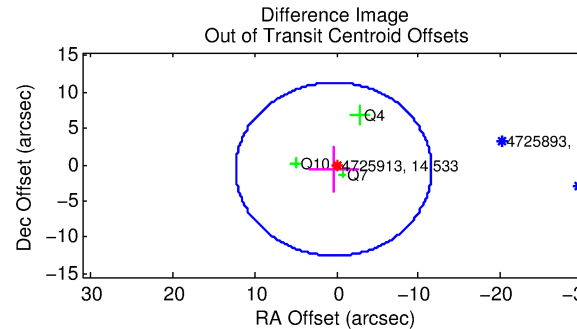
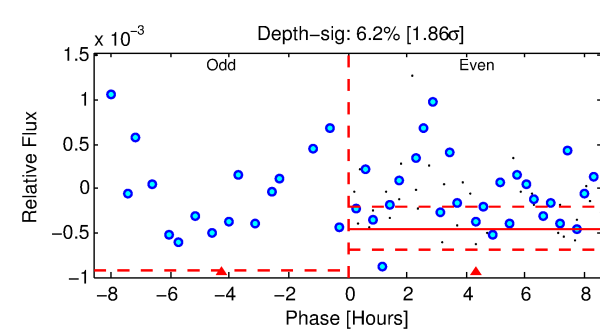
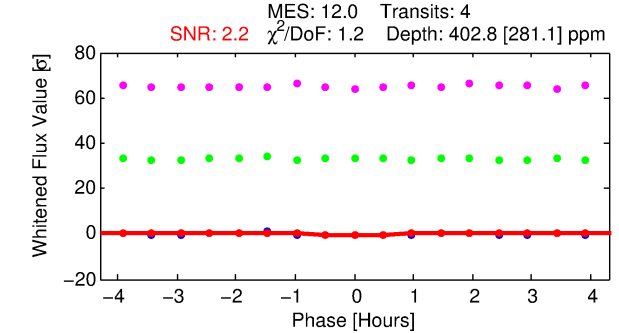
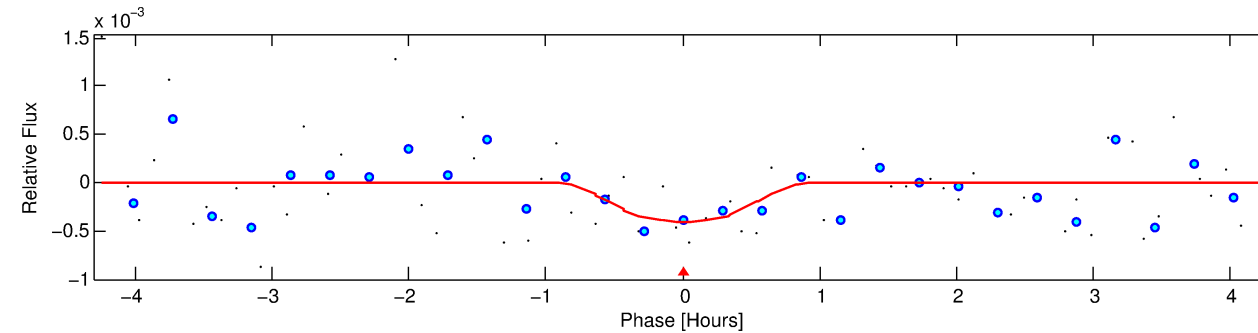
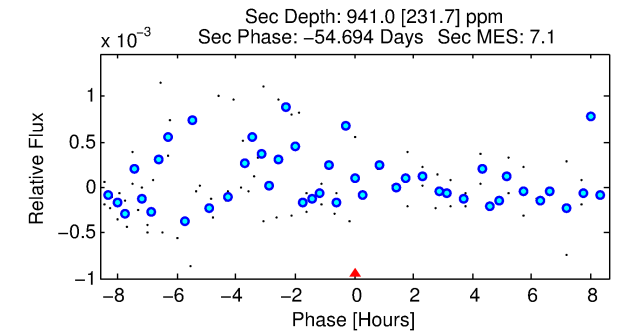
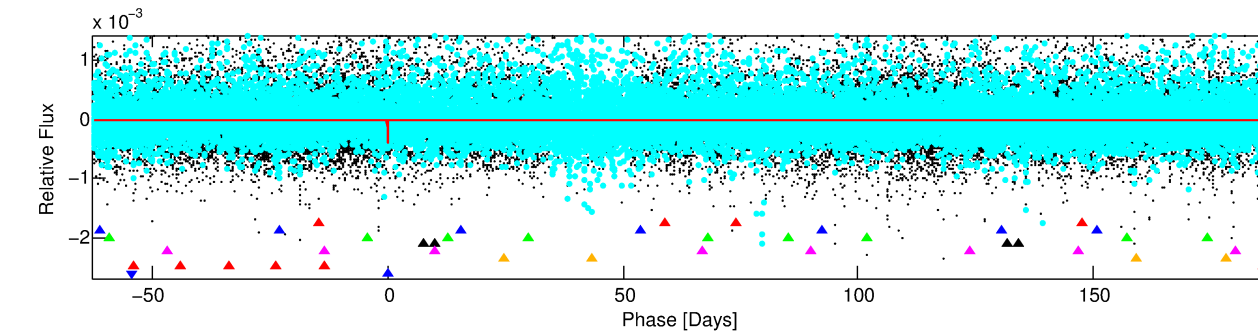
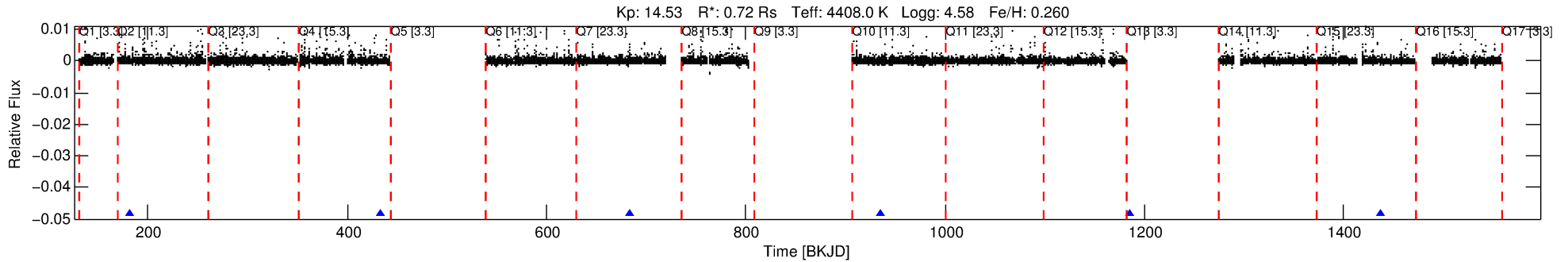
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004725913-08

No Significant Match Found

DV One-Page Summary

KIC: 4725913 Candidate: 8 of 8 Period: 250.859 d



DV Fit Results:

Period = 250.85941 [0.00574] d
Epoch = 182.2688 [0.0190] BKJD
Rp/R* = 0.0249 [0.0388]
a/R* = 520.81 [2984.55]
b = 0.95 [0.64]
Seff = 0.36 [0.06]
Teq = 197 [8] K
Rp = 1.95 [3.04] Re
a = 0.6944 [0.0484] AU
Ag = 65938.26 [206242.45] [0.32σ]
Teffp = 4892 [3826] K [1.23σ]

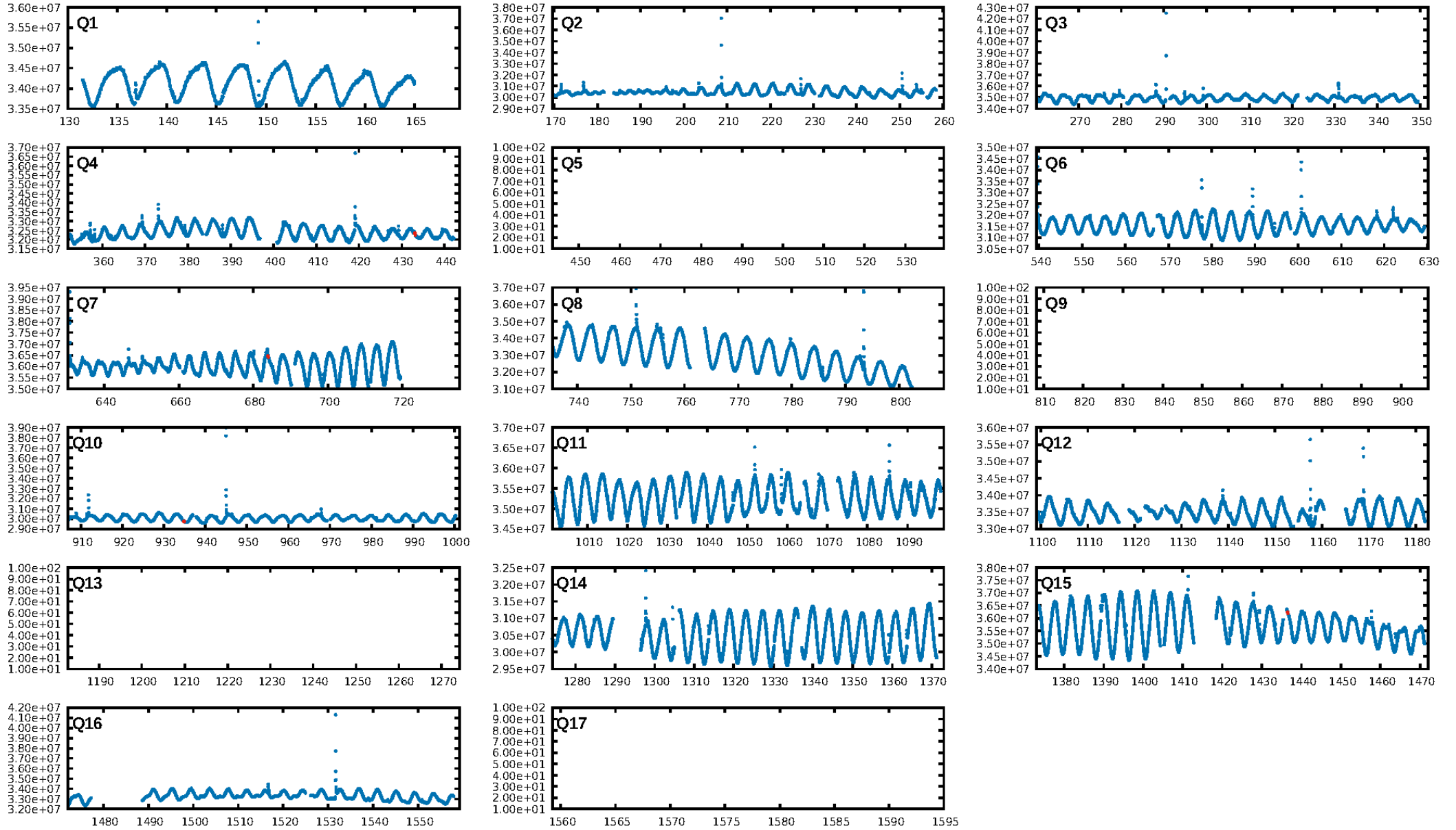
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.20σ]
LongPeriod-sig: 100.0% [684.39σ]
ModelChiSquare2-sig: 49.9%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: 4.98e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.59
Centroid-sig: 16.6%
Centroid-so: 4.083 arcsec [0.97σ]
OotOffset-rm: 0.720 arcsec [0.18σ]
KicOffset-rm: 0.933 arcsec [0.36σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

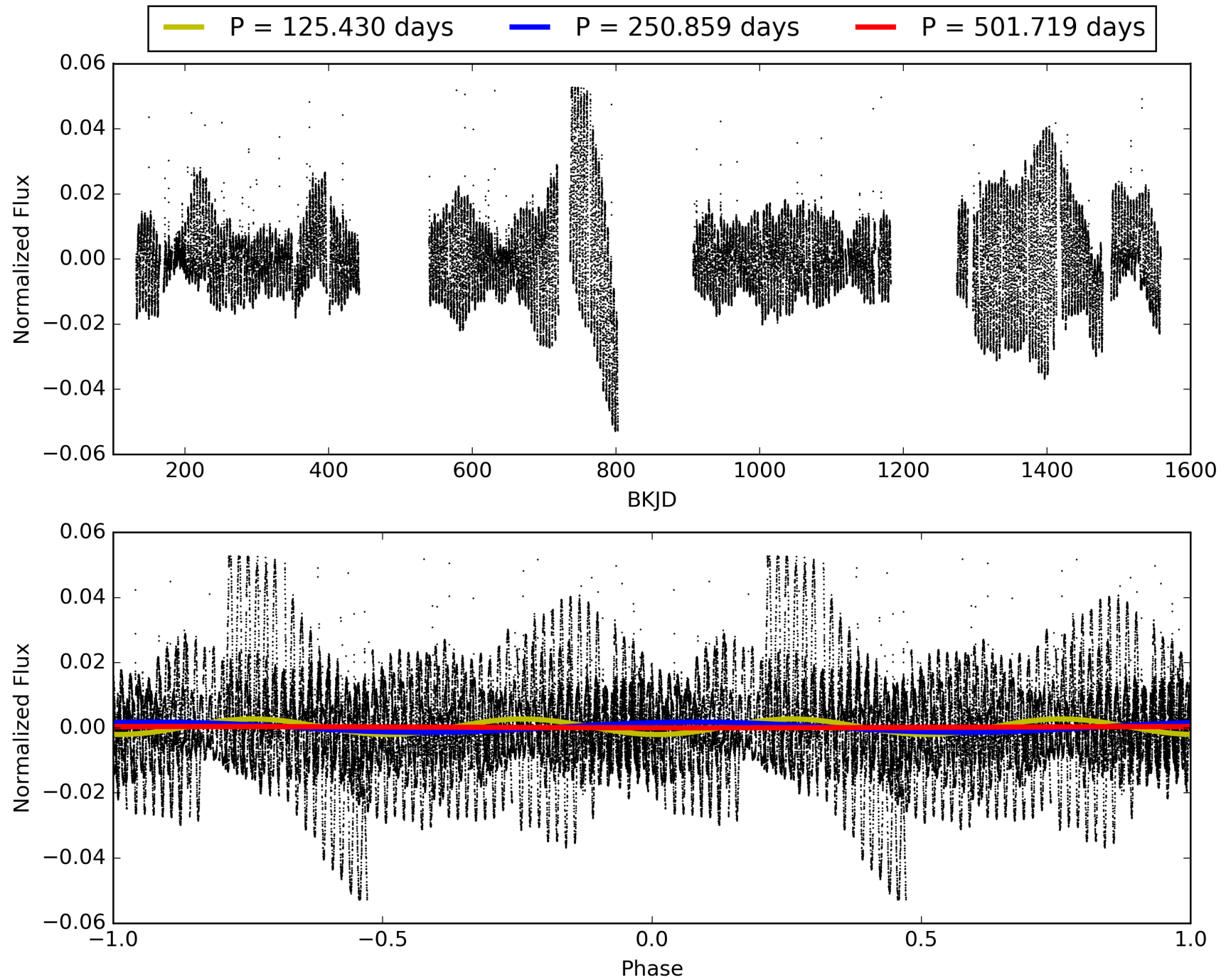
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:37:39 Z

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

TCE 004725913-08, PDC Light Curves

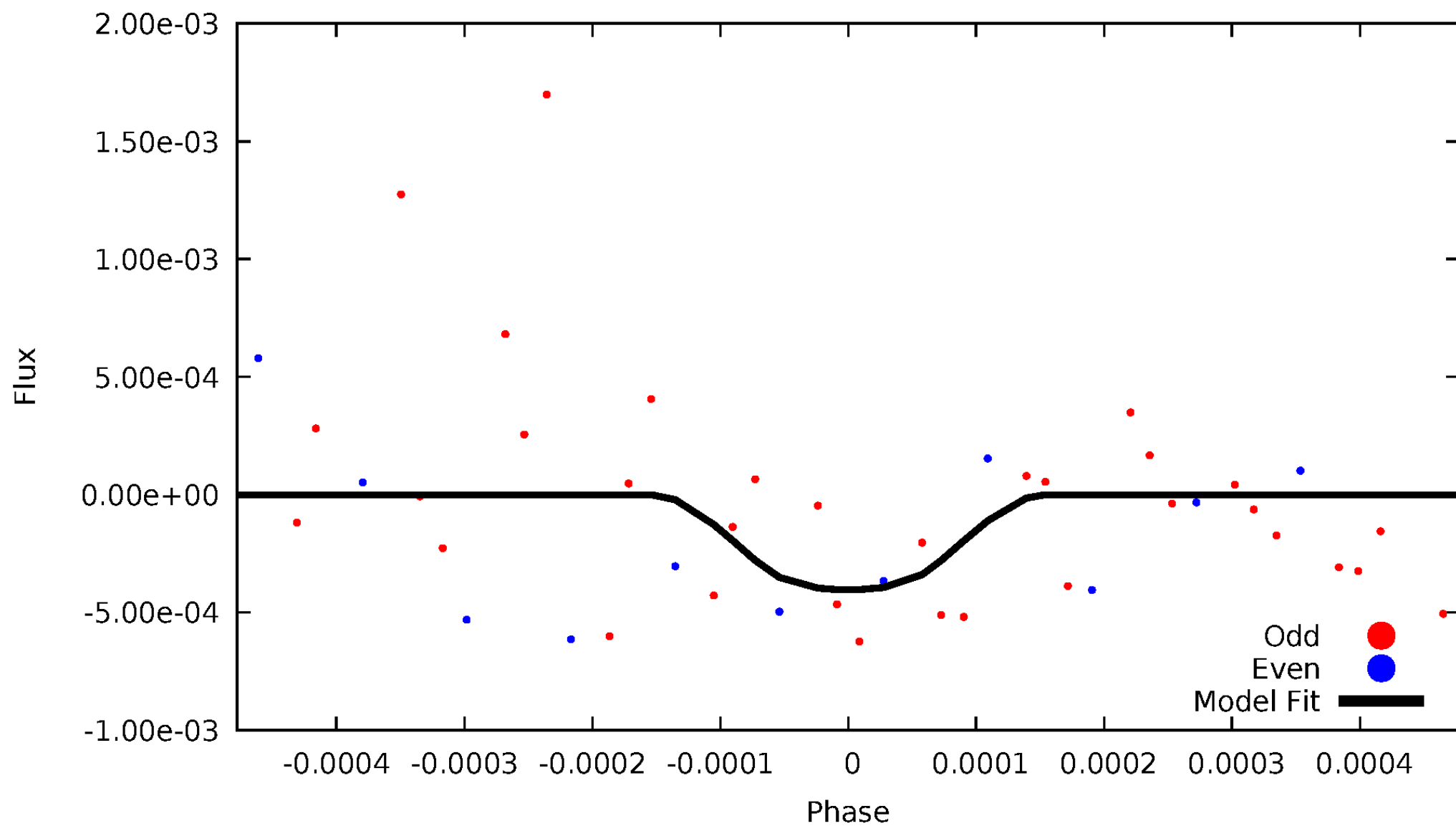


TCE 004725913-08



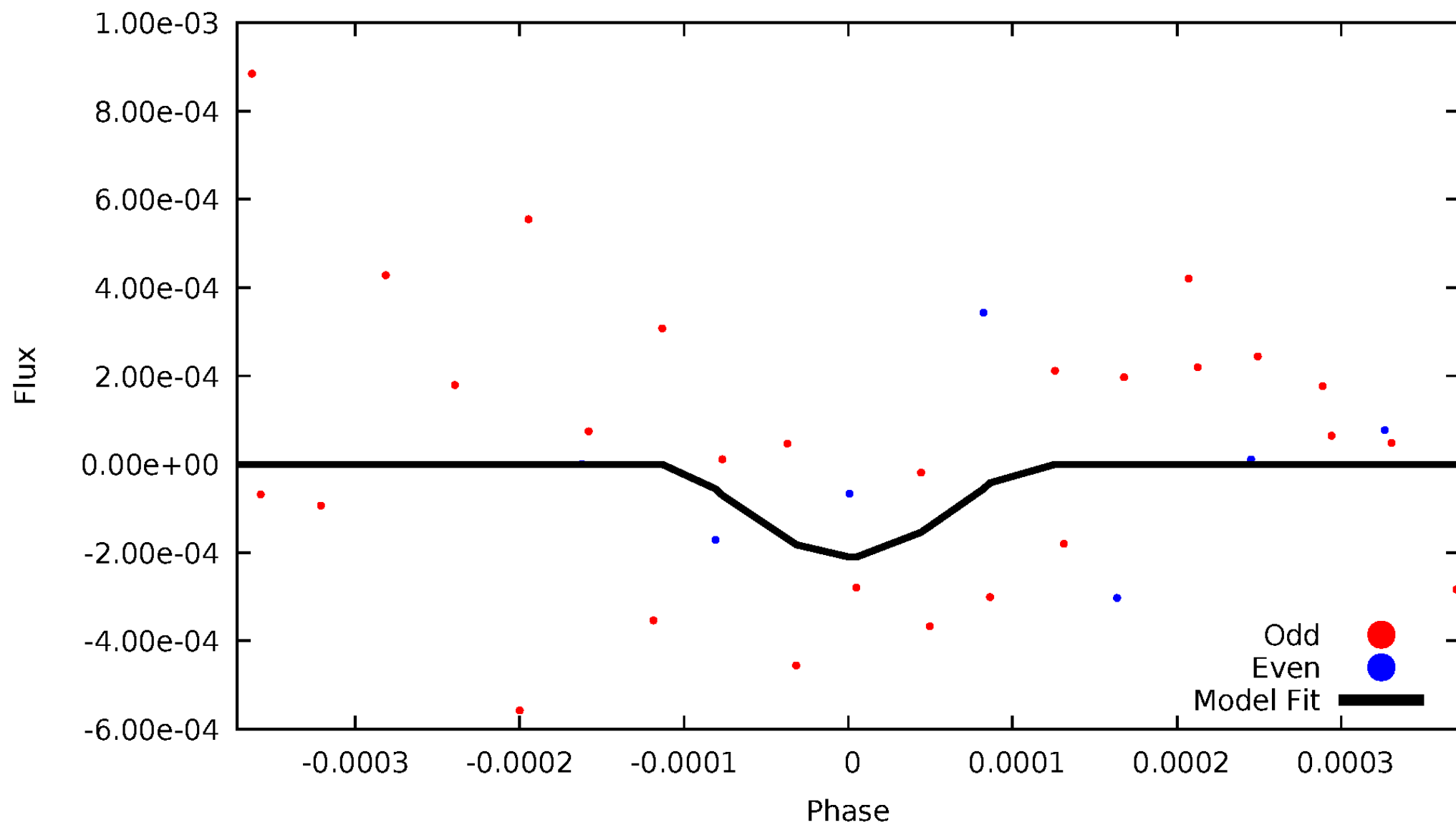
DV Odd/Even

TCE 004725913-08



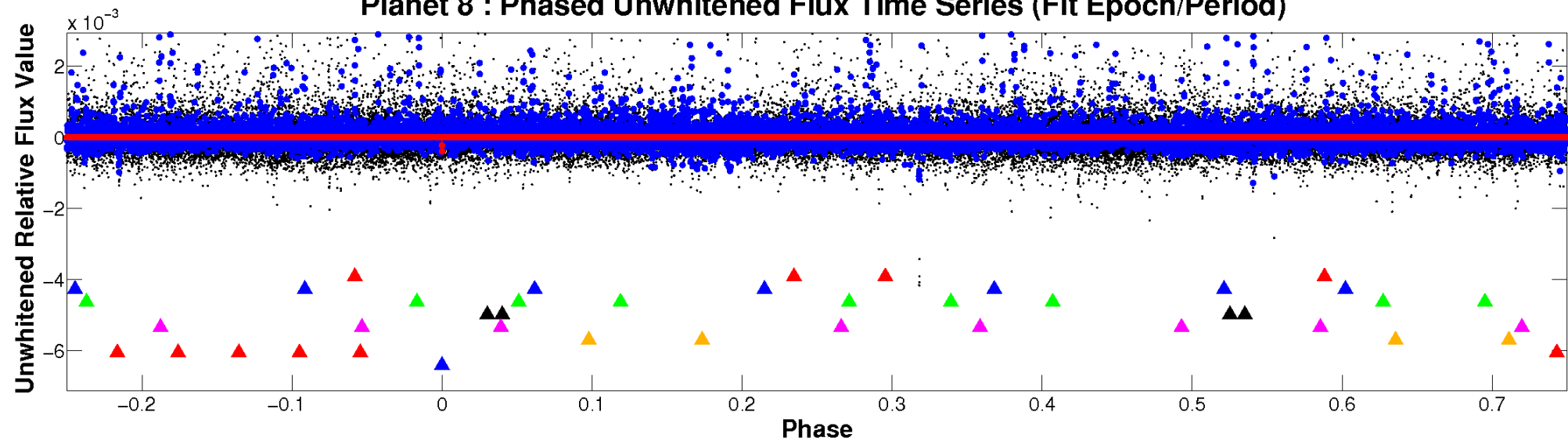
ALT Odd/Even

TCE 004725913-08

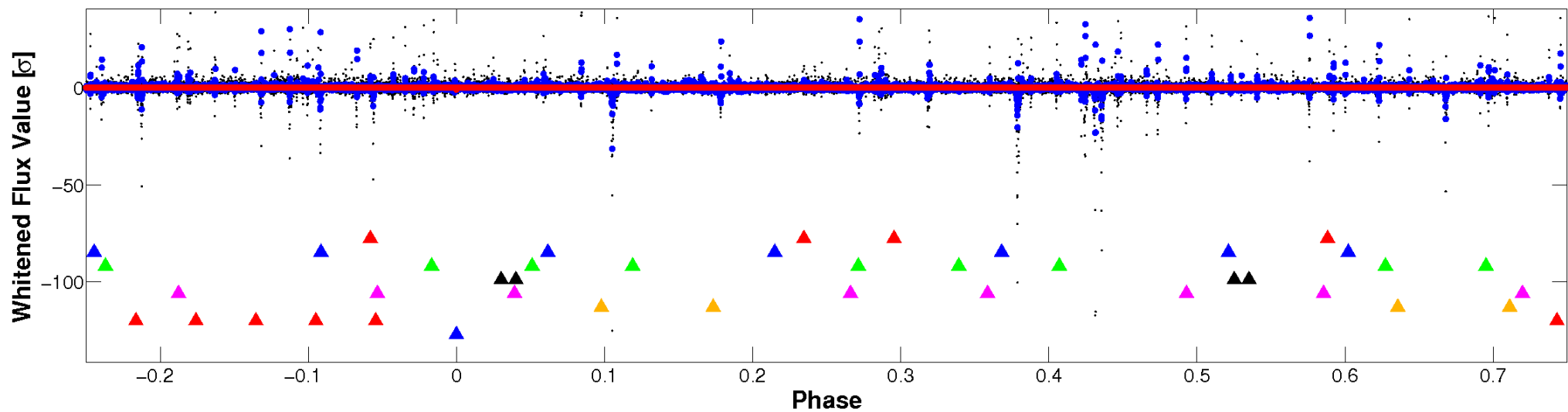


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

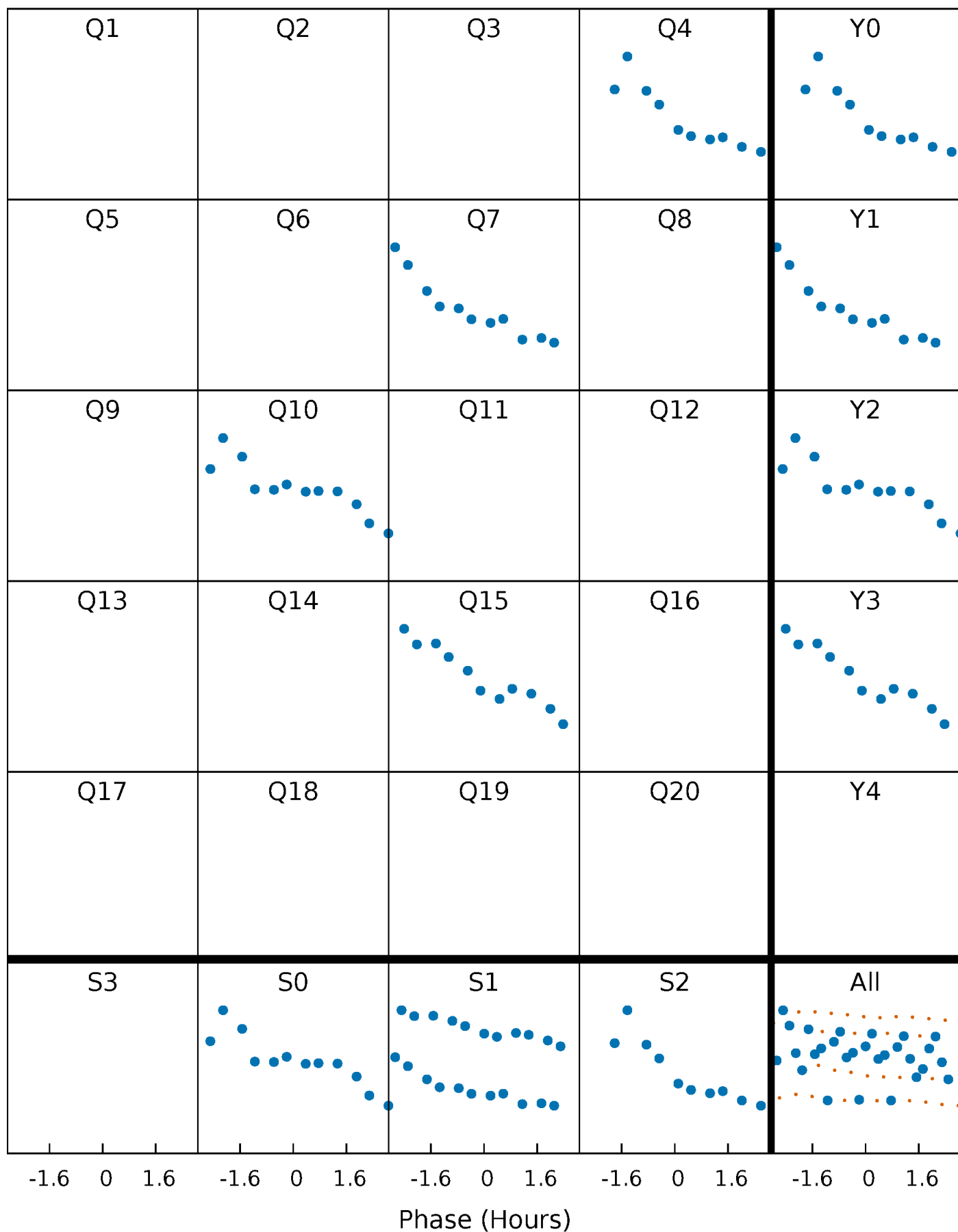


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



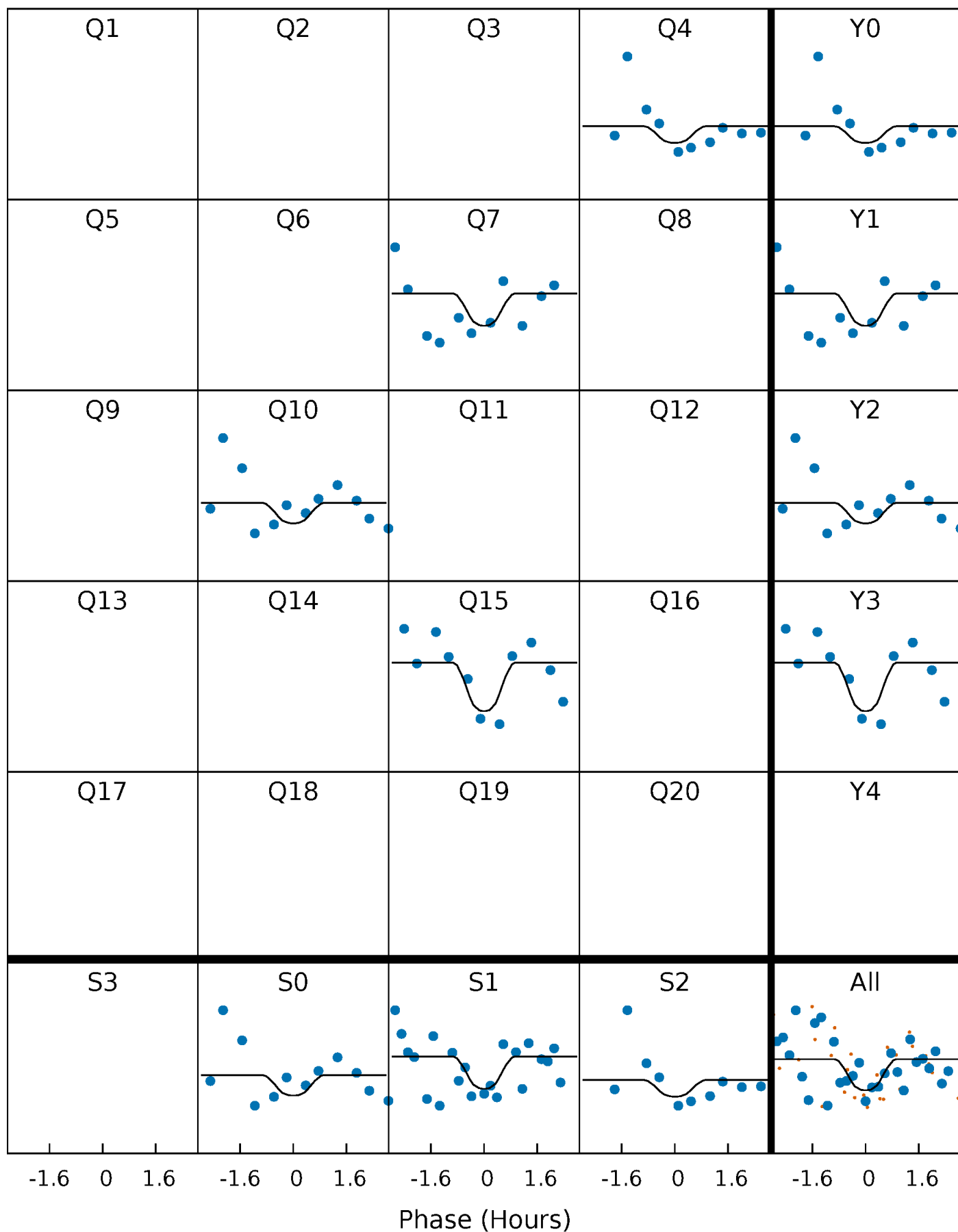
PDC Quarter-Phased Transit Curves

TCE 004725913-08 P=250.859408 Days $T_0=182.268790$ (BKJD)



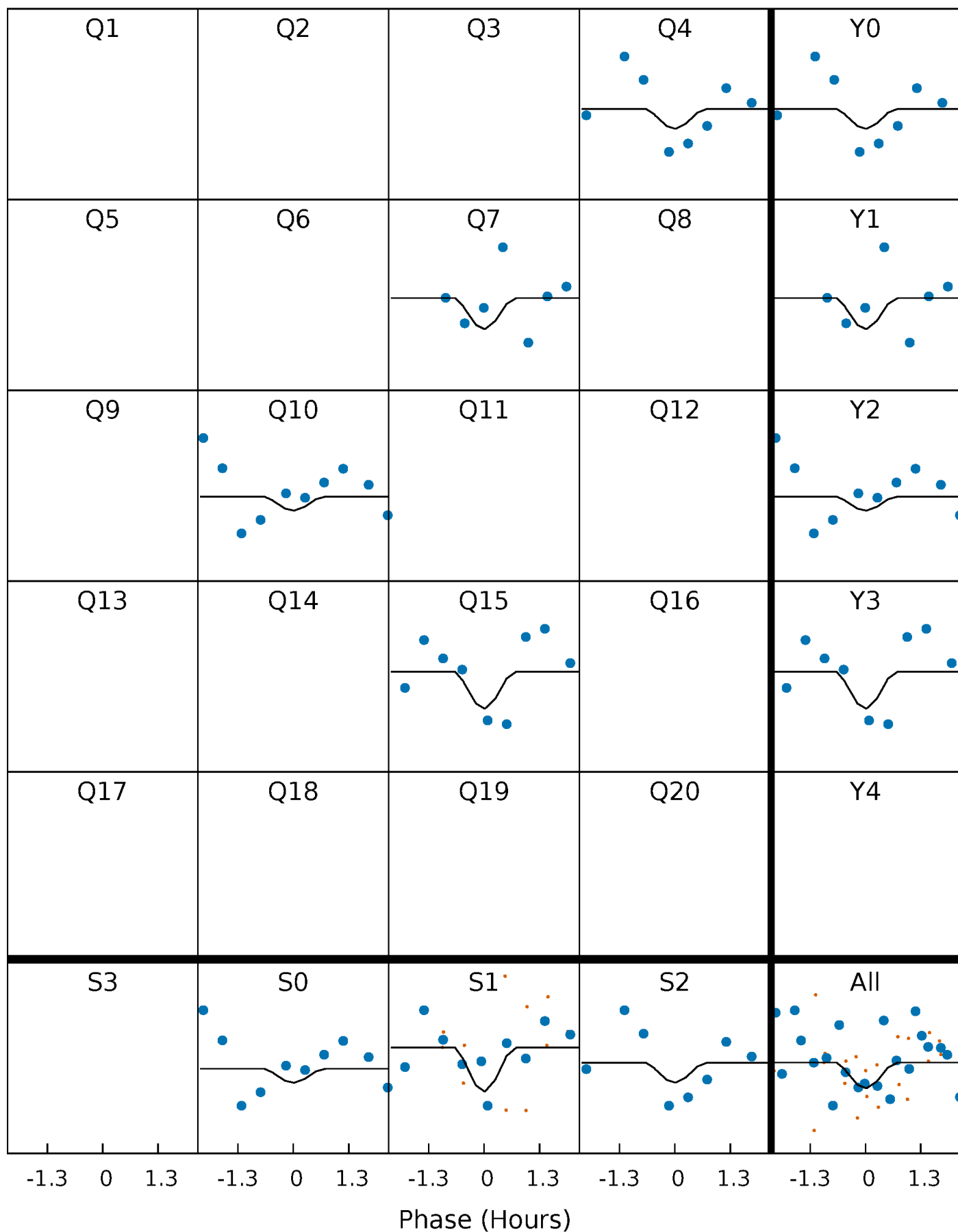
DV Quarter-Phased Transit Curves

TCE 004725913-08 P=250.859408 Days $T_0=182.268790$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

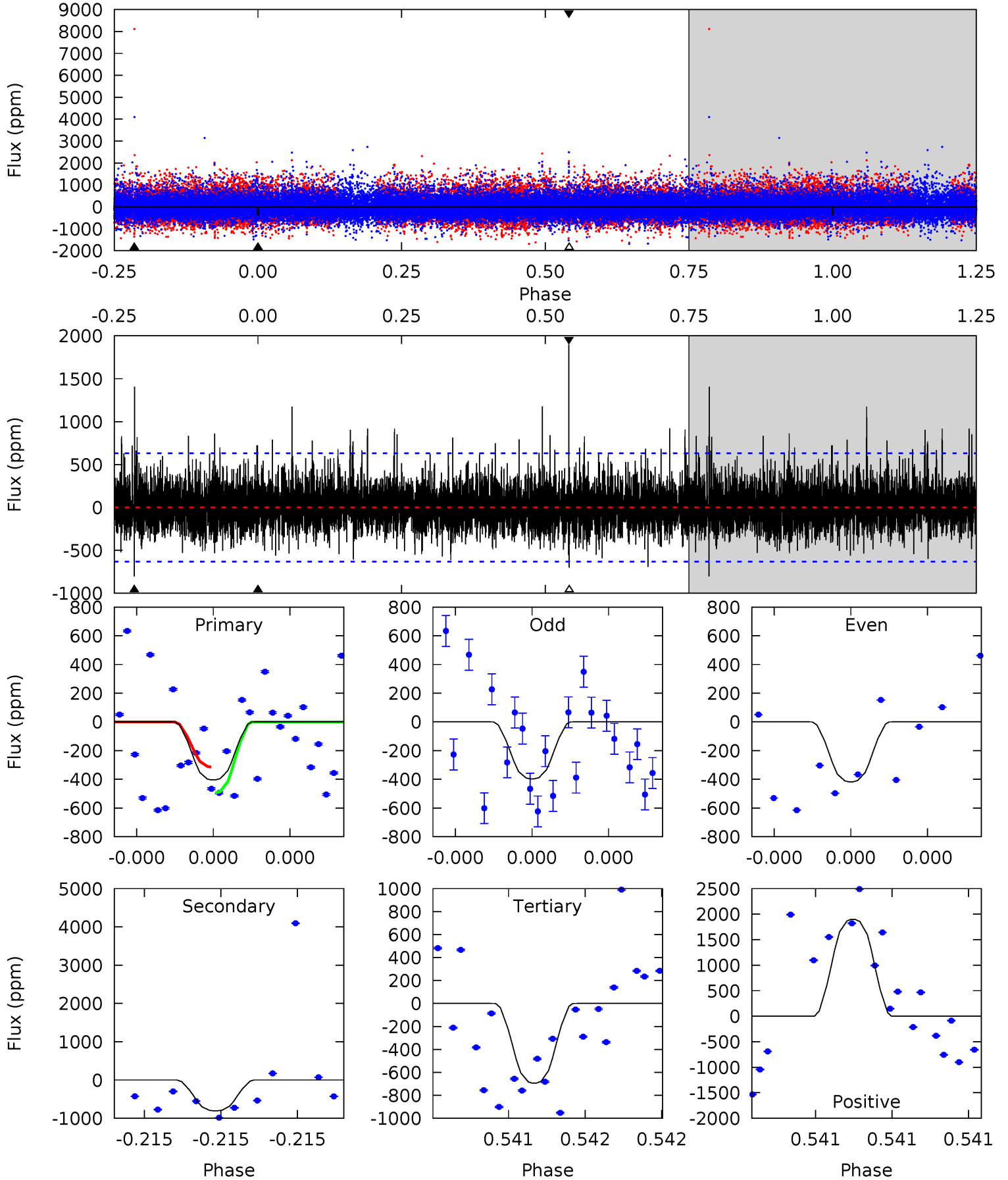
TCE 004725913-08 P=250.856005 Days $T_0=182.282351$ (BKJD)



DV Model-Shift Uniqueness Test

004725913-08, P = 250.859408 Days, E = 182.268790 Days

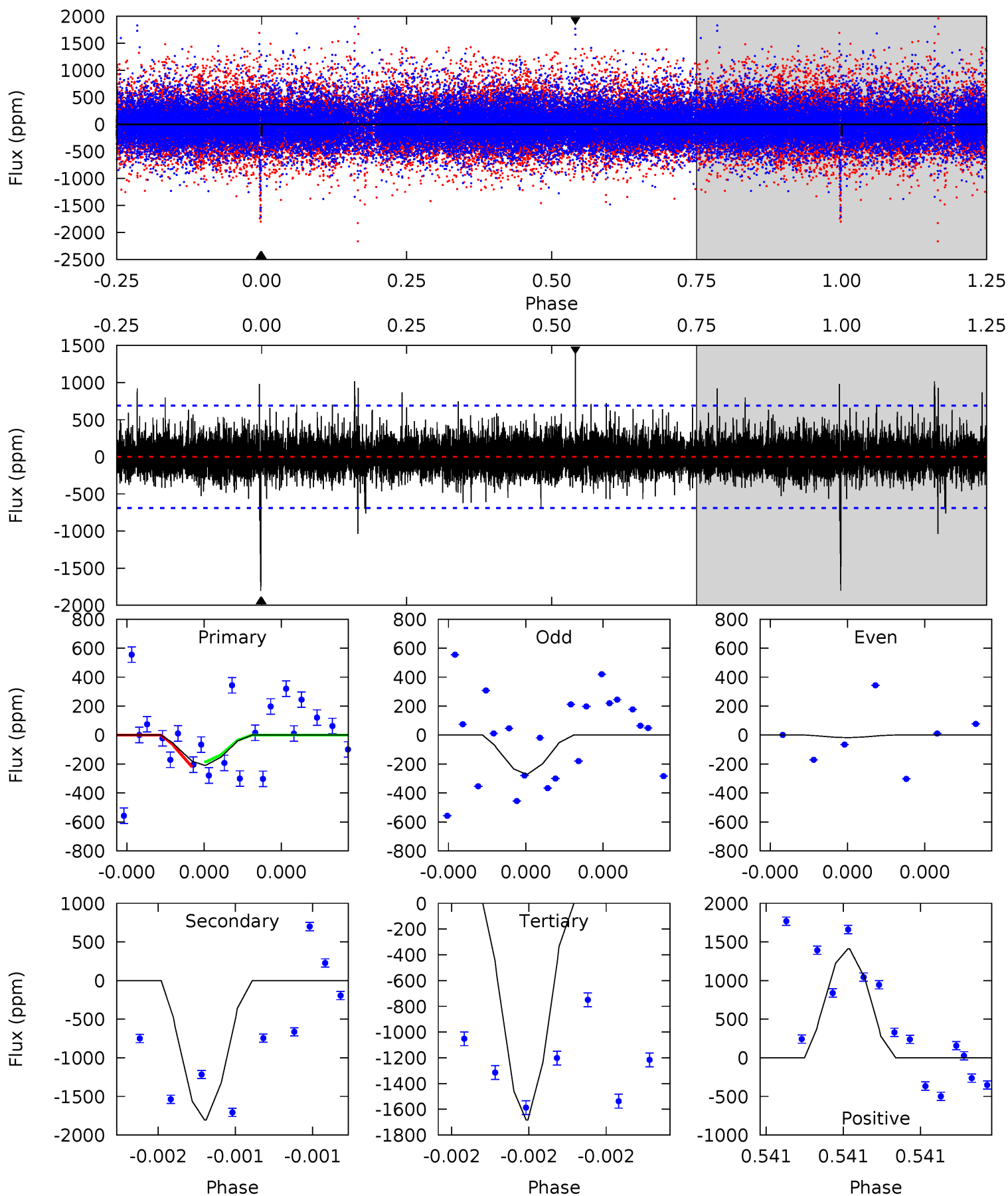
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.62	7.20	6.22	17.0	5.66	3.61	1.69	-2.59	-13.4	0.99	-9.79	0.06	0.89	0.70	0.80



Alt Model-Shift Uniqueness Test

004725913-08, P = 250.856005 Days, E = 182.282351 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.73	15.0	14.0	11.7	5.73	3.72	1.35	-12.3	-10.0	0.99	3.25	0.80	1.33	0.44	0.13



Stellar Parameters For KIC 004725913

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4408^{+132}_{-132}	$4.579^{+0.056}_{-0.016}$	$0.260^{+0.150}_{-0.300}$	$0.716^{+0.025}_{-0.059}$	$0.710^{+0.046}_{-0.050}$	$2.722^{+0.629}_{-0.182}$
	+3%/-3%	+1%/-0%	+58%/-115%	+3%/-8%	+6%/-7%	+23%/-7%
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 004725913-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-803 ± 112	$3.04^{+2.58}_{-2.01}$	274^{+9}_{-9}	3917^{+2296}_{-708}	$22948^{+185100}_{-16081}$
Alt.	-1804 ± 120	$2.44^{+2.40}_{-1.62}$	274^{+8}_{-10}	4959^{+3886}_{-1134}	$81676^{+629163}_{-61239}$

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

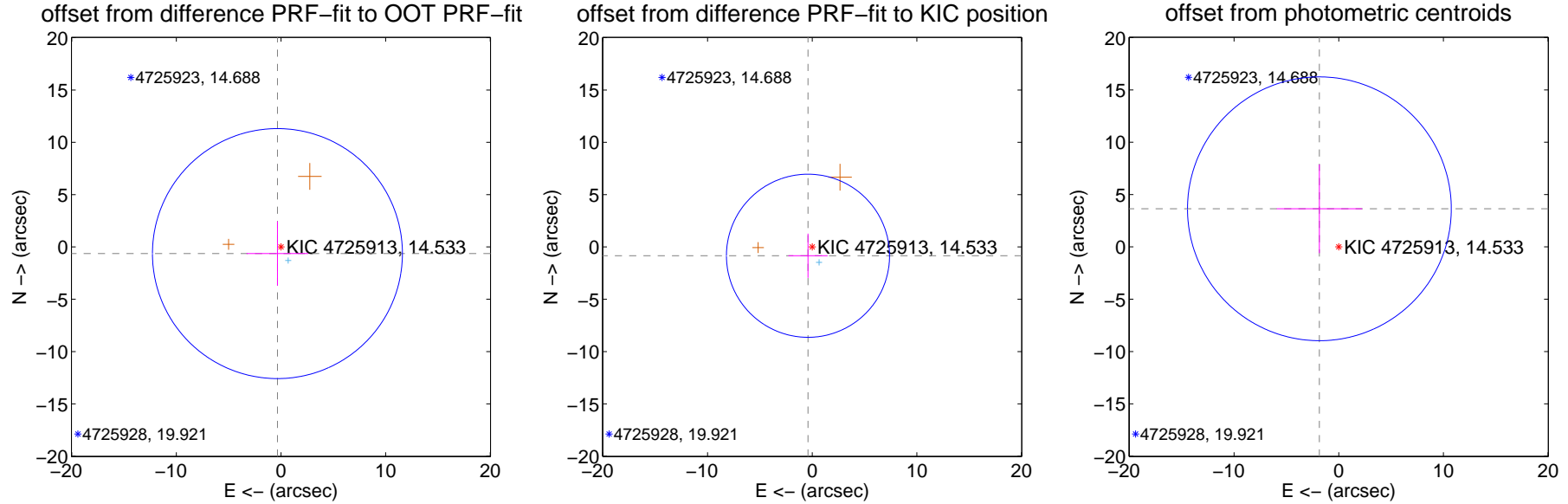
DV Centroid Data

Supplemental centroid analysis for 004725913-08. Kepler magnitude: 14.53. Transit SNR 2.18

There are 1 quarters with good PRF difference image offsets

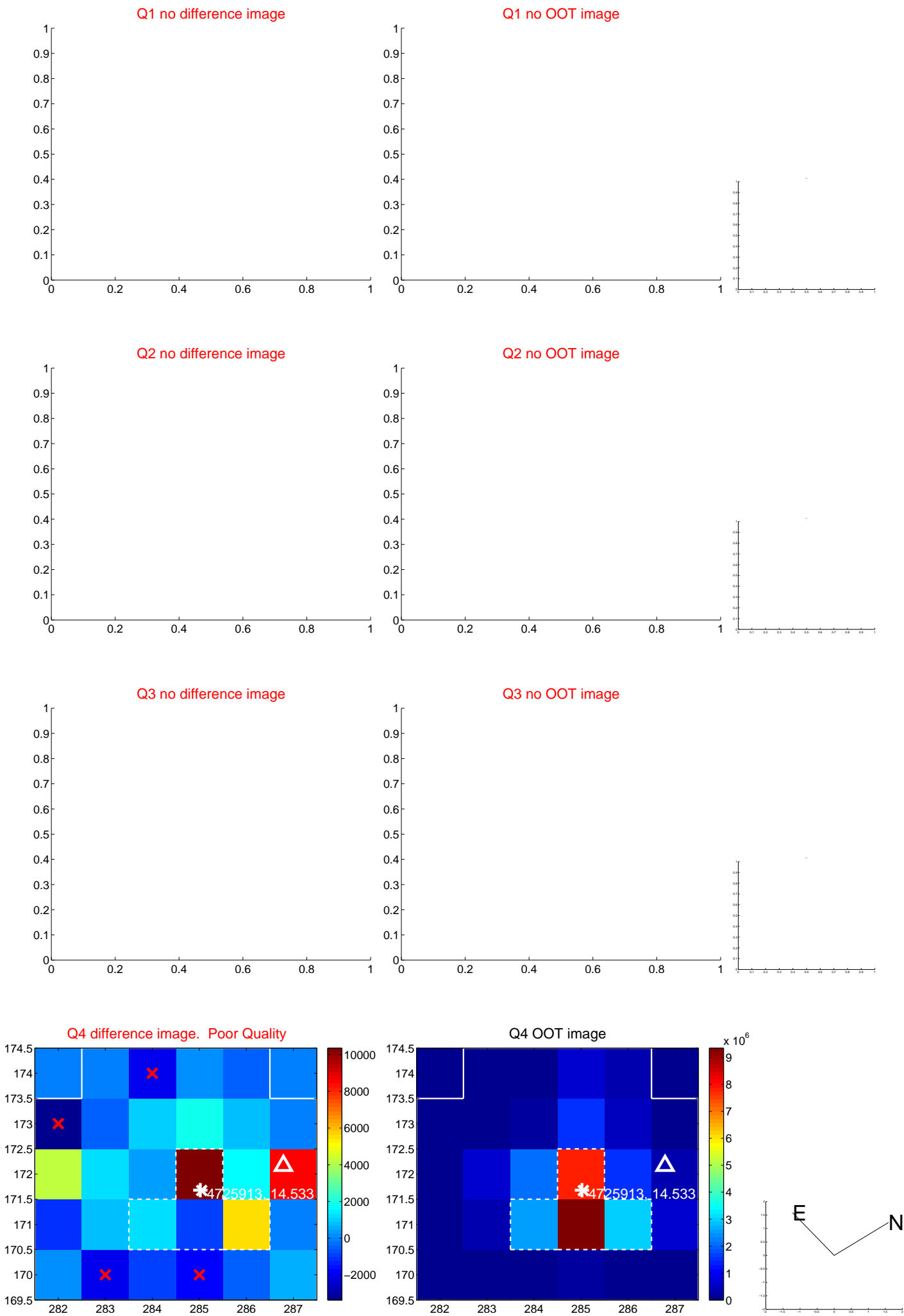
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.720 ± 3.982	0.18	0.340 ± 2.954	-0.634 ± 3.073
PRF-fit source offset from KIC position	0.933 ± 2.598	0.36	0.403 ± 1.877	-0.841 ± 2.115
photometric centroid source offset	4.08 ± 4.20	0.97	1.85 ± 4.08	3.64 ± 4.23

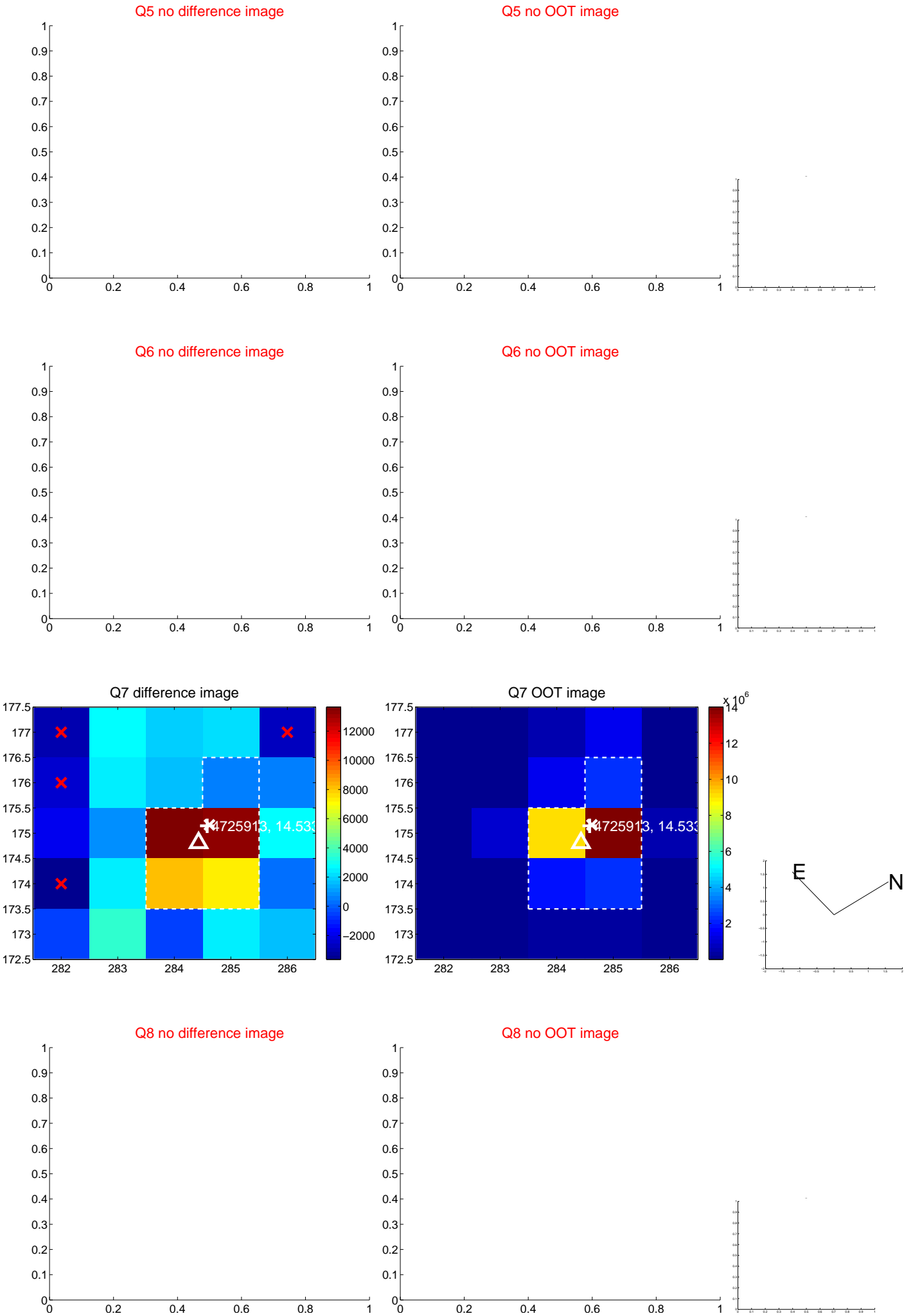


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

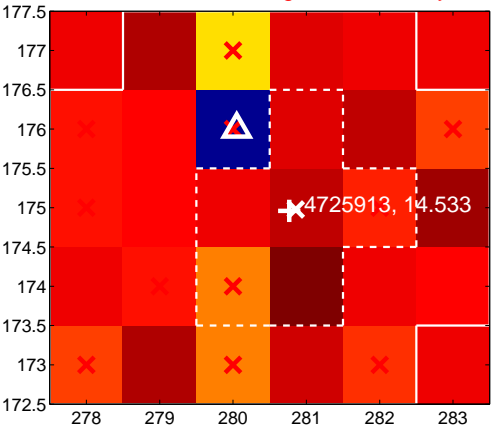
Q9 no difference image



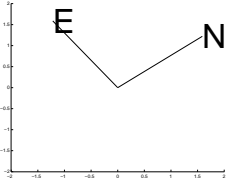
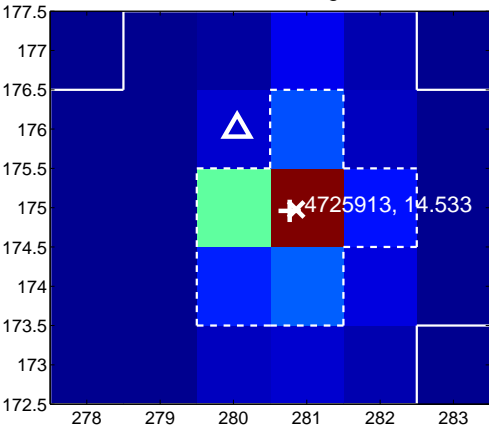
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



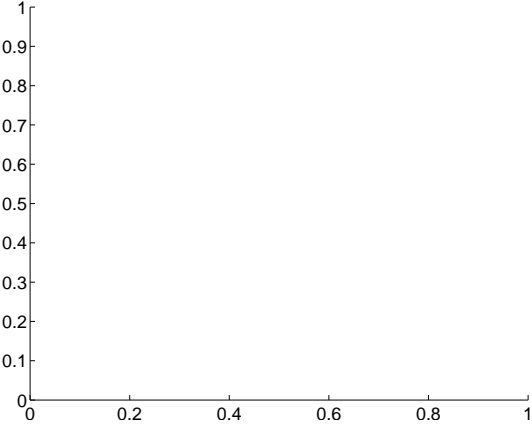
Q11 no difference image



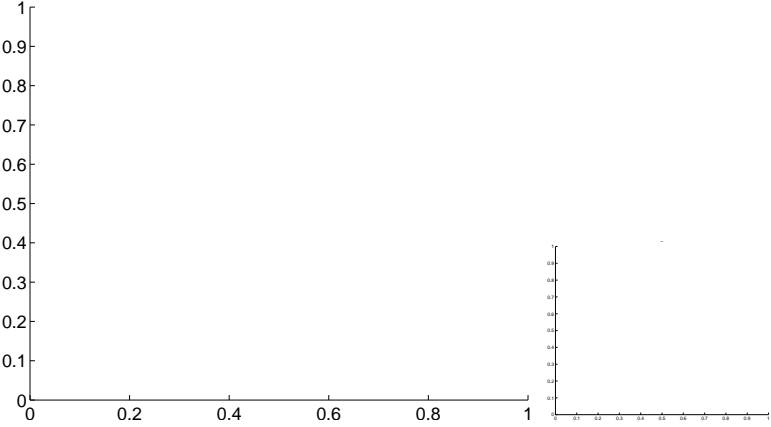
Q11 no OOT image



Q12 no difference image



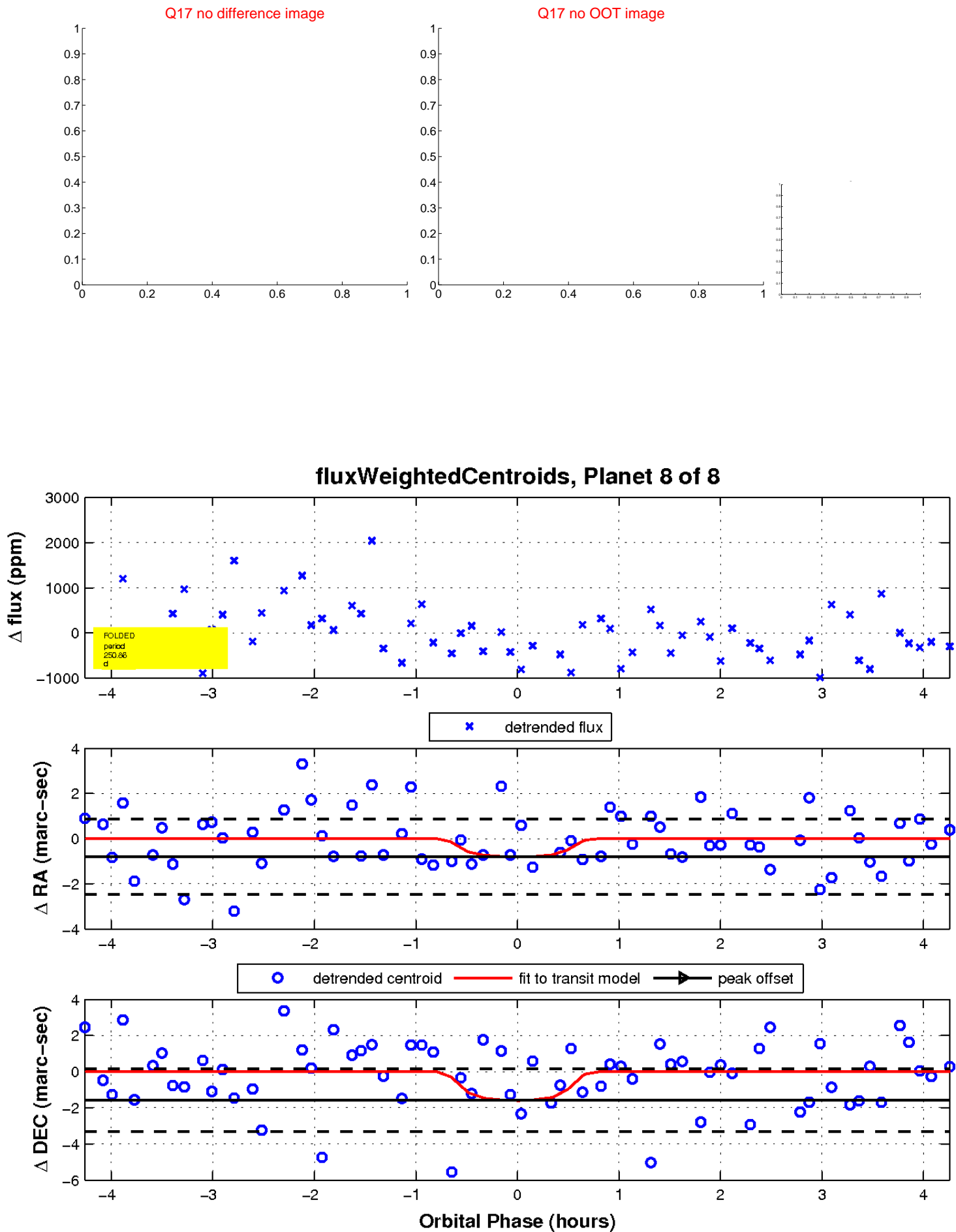
Q12 no OOT image



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

