

KIC 002992668

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})
002992668-01	OBS	No	579.446807	249.953487	1178.9	2.902	10.6	7.0	0.59	3874	1.96	0.05
002992668-02	OBS	No	1.242209	133.029144	57.6	2.117	8.6	6.1	0.59	3874	0.44	194.53
002992668-03	OBS	No	528.955148	145.021667	1328.5	4.101	10.4	7.7	0.59	3874	3.57	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002992668-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002992668-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002992668-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

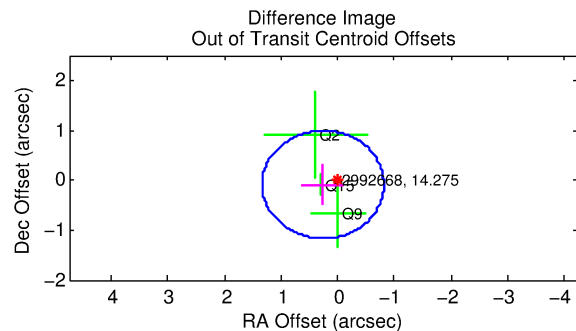
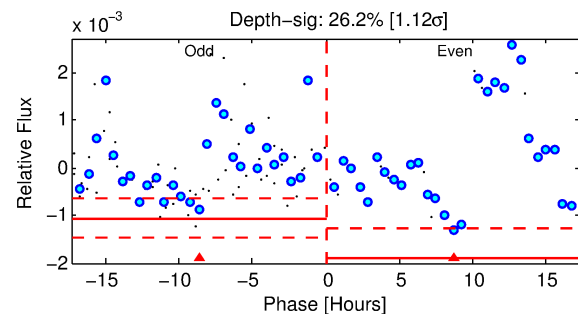
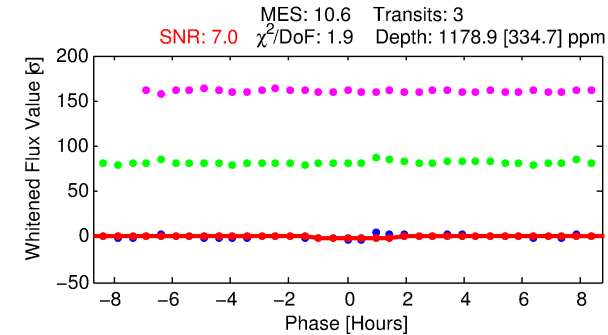
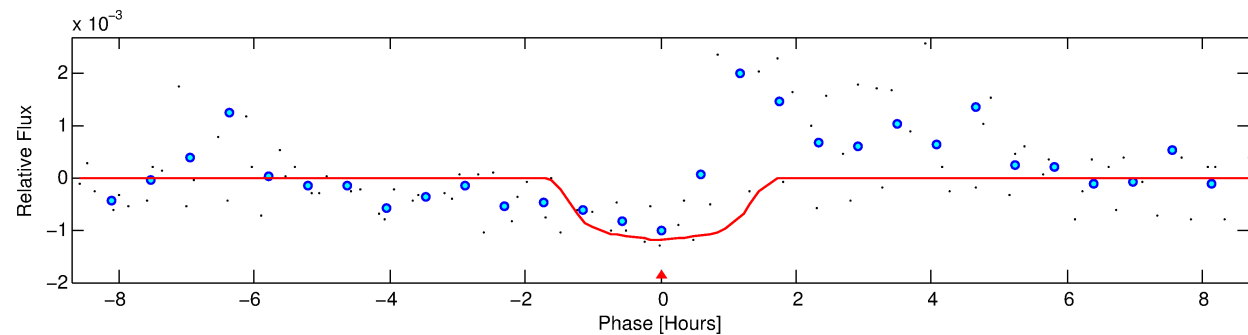
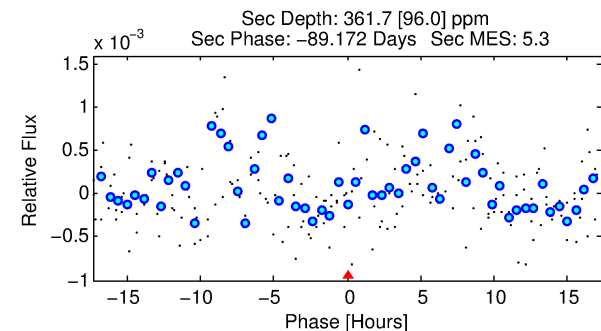
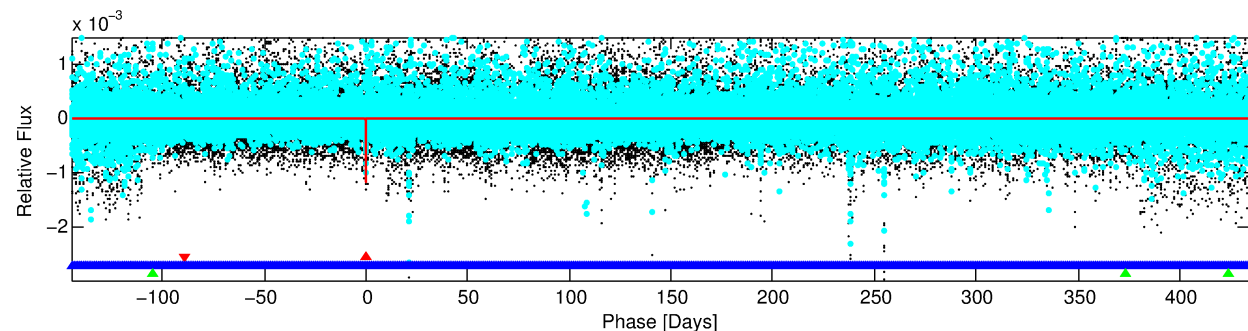
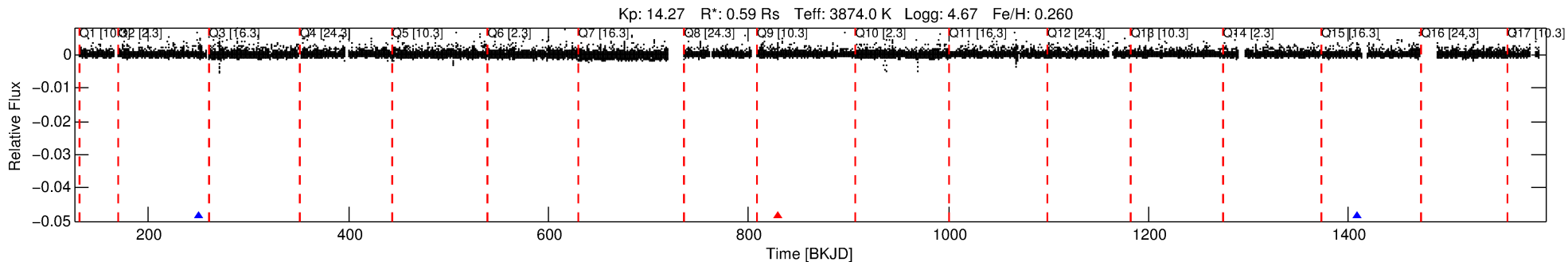
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002992668-01

No Significant Match Found

DV One-Page Summary

KIC: 2992668 Candidate: 1 of 3 Period: 579.447 d



DV Fit Results:

Period = 579.44681 [0.00834] d
Epoch = 249.9535 [0.0127] BKJD
Rp/R* = 0.0304 [0.1569]
a/R* = 1571.92 [26425.46]
b = 0.00 [31253.71]
Seff = 0.05 [0.01]
Teq = 123 [6] K
Rp = 1.96 [10.12] Re
a = 1.1449 [0.1082] AU
Ag = 67764.02 [699090.75] [0.10σ]
Teffp = 3063 [7900] K [0.37σ]

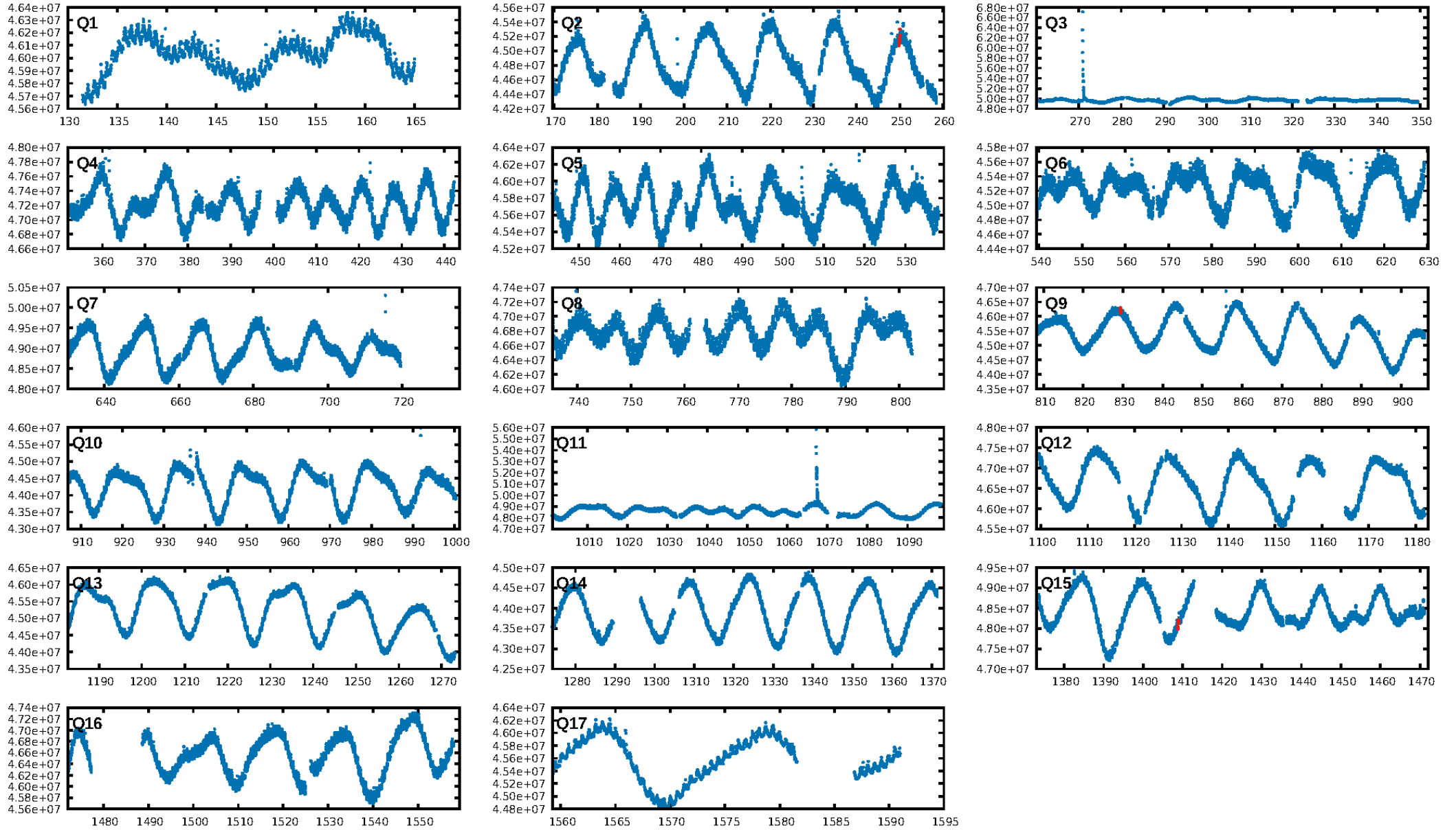
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [241.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.4%
ModelChiSquareGof-sig: 91.9%
Bootstrap-pfa: 3.12e-10
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 9.667
Centroid-sig: 3.7%
Centroid-so: 2.957 arcsec [2.48σ]
OotOffset-rm: 0.277 arcsec [0.77σ]
KicOffset-rm: 0.483 arcsec [1.34σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.33 [1/3]

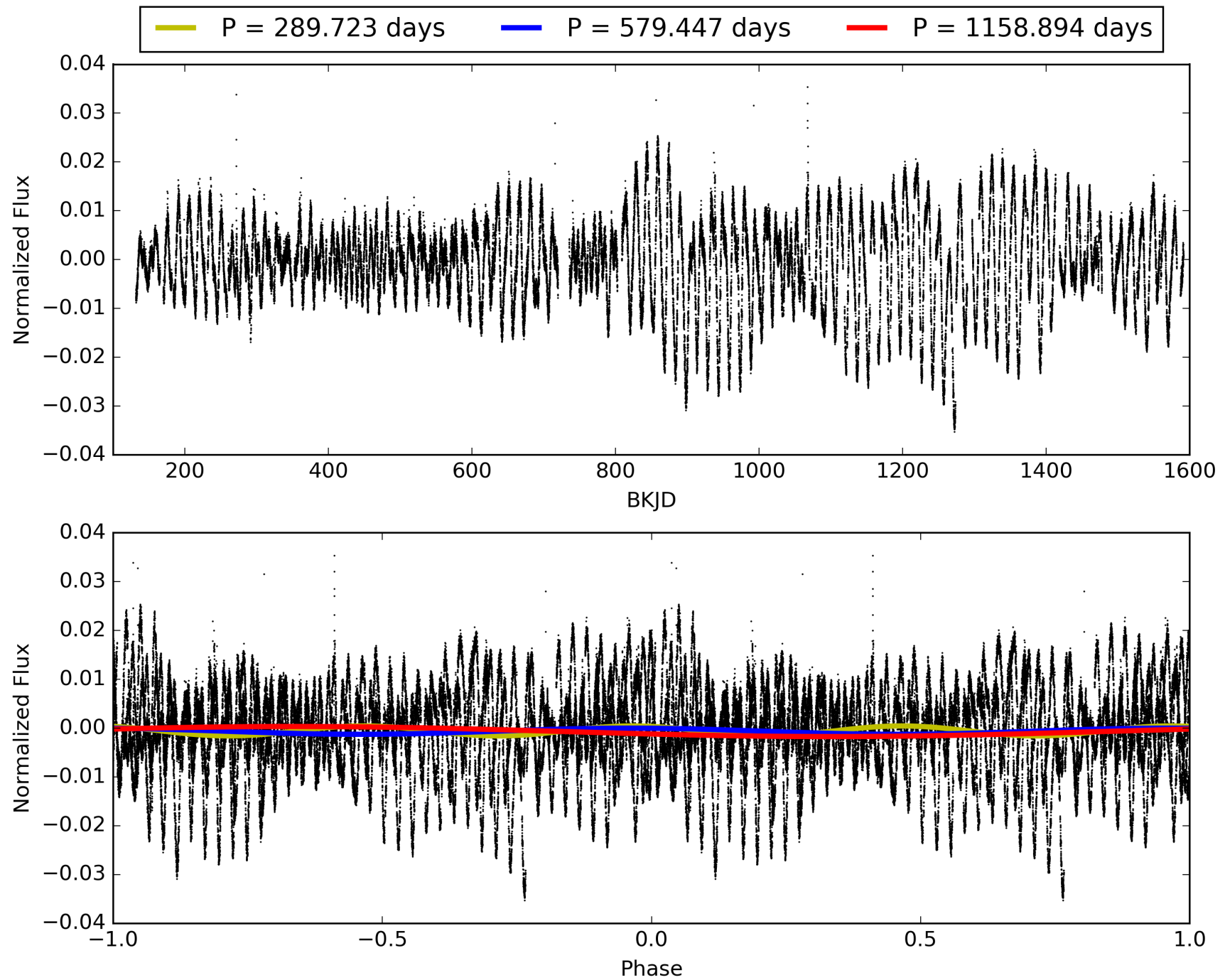
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:43:34 Z

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

TCE 002992668-01, PDC Light Curves

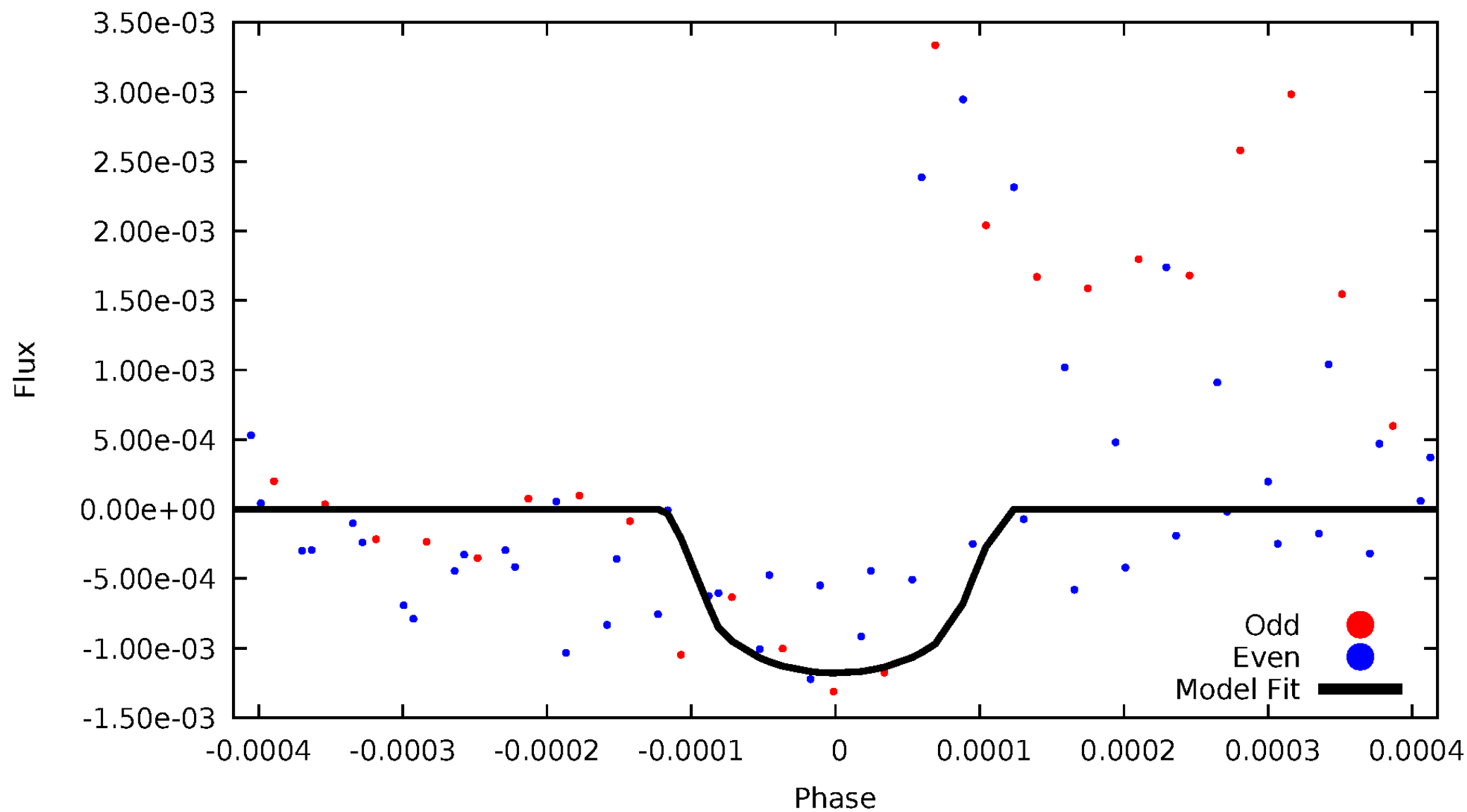


TCE 002992668-01



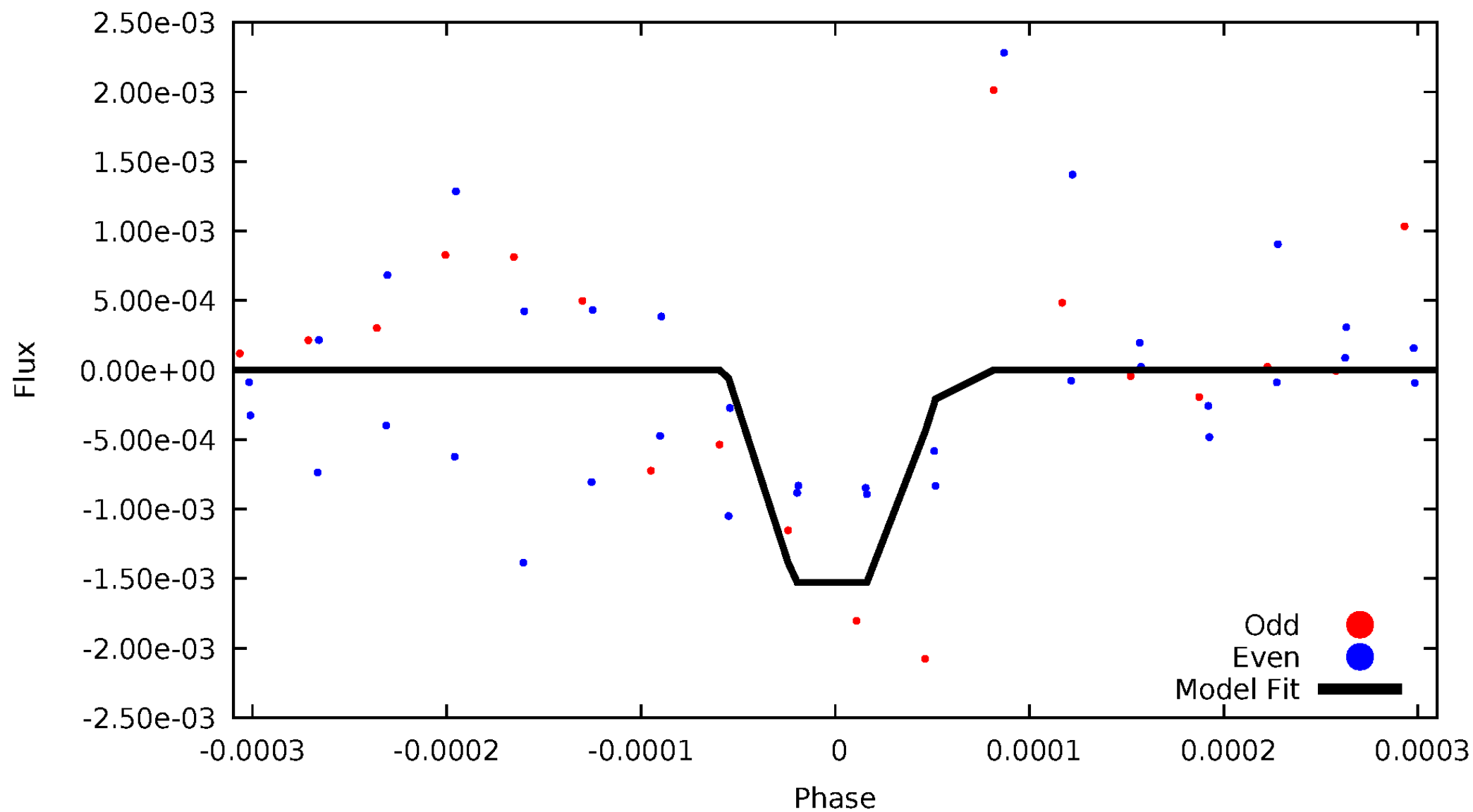
DV Odd/Even

TCE 002992668-01



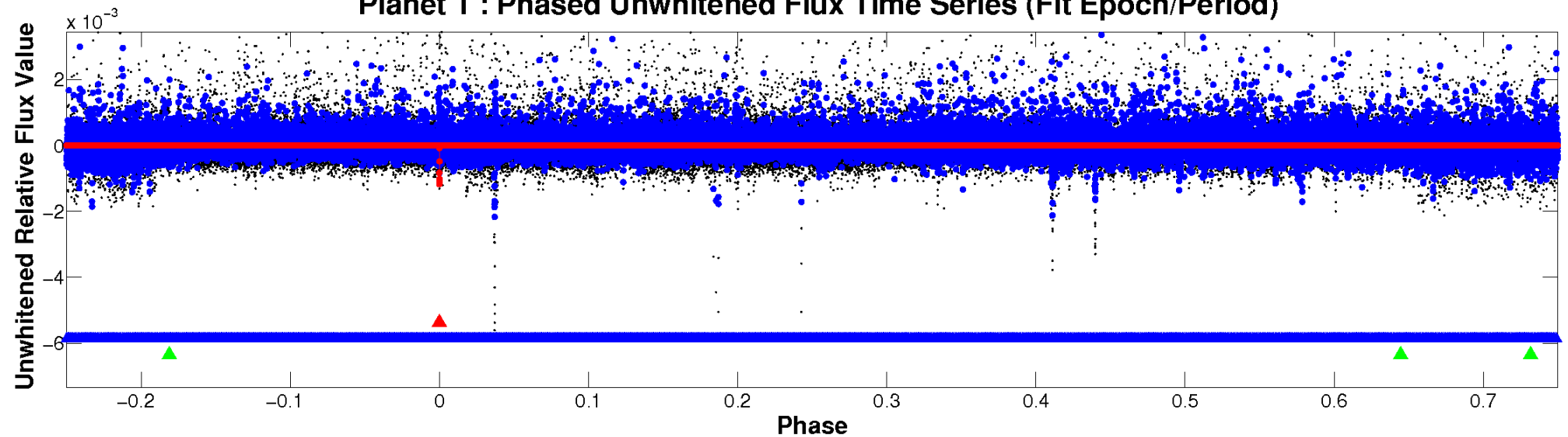
ALT Odd/Even

TCE 002992668-01

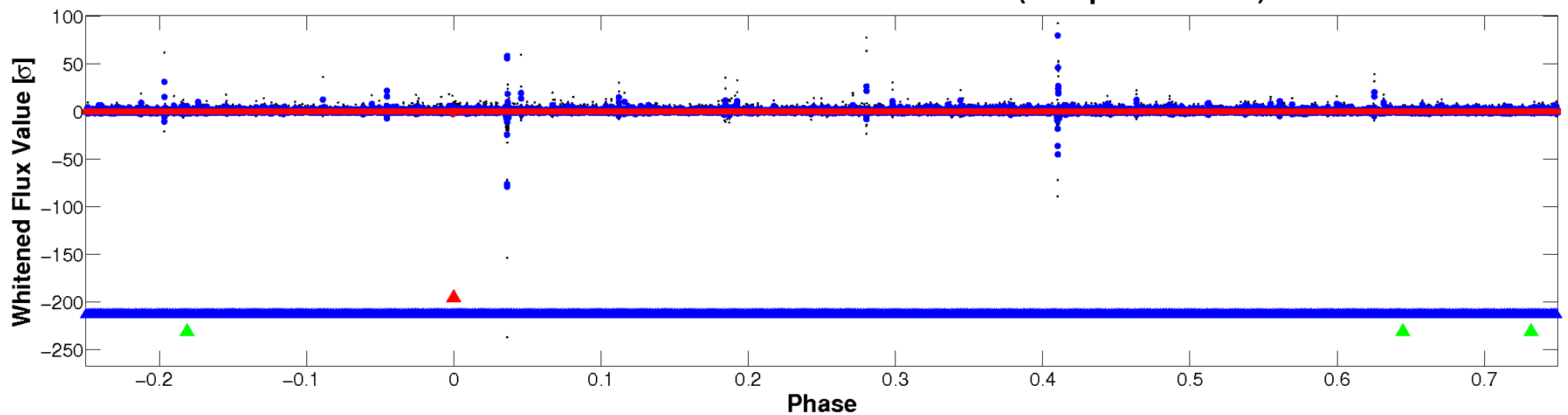


Non-Whitened Vs. Whitened Light Curve

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

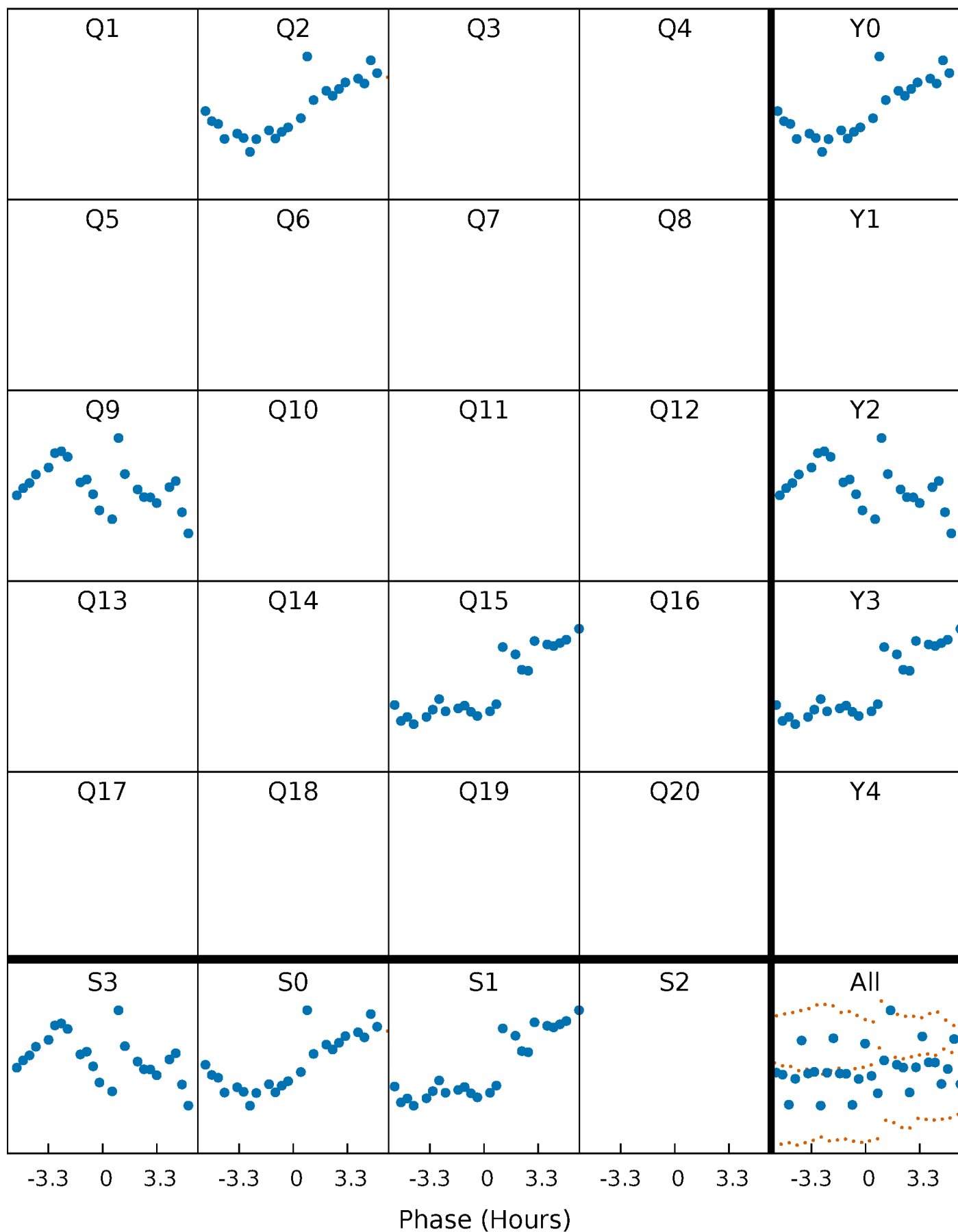


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



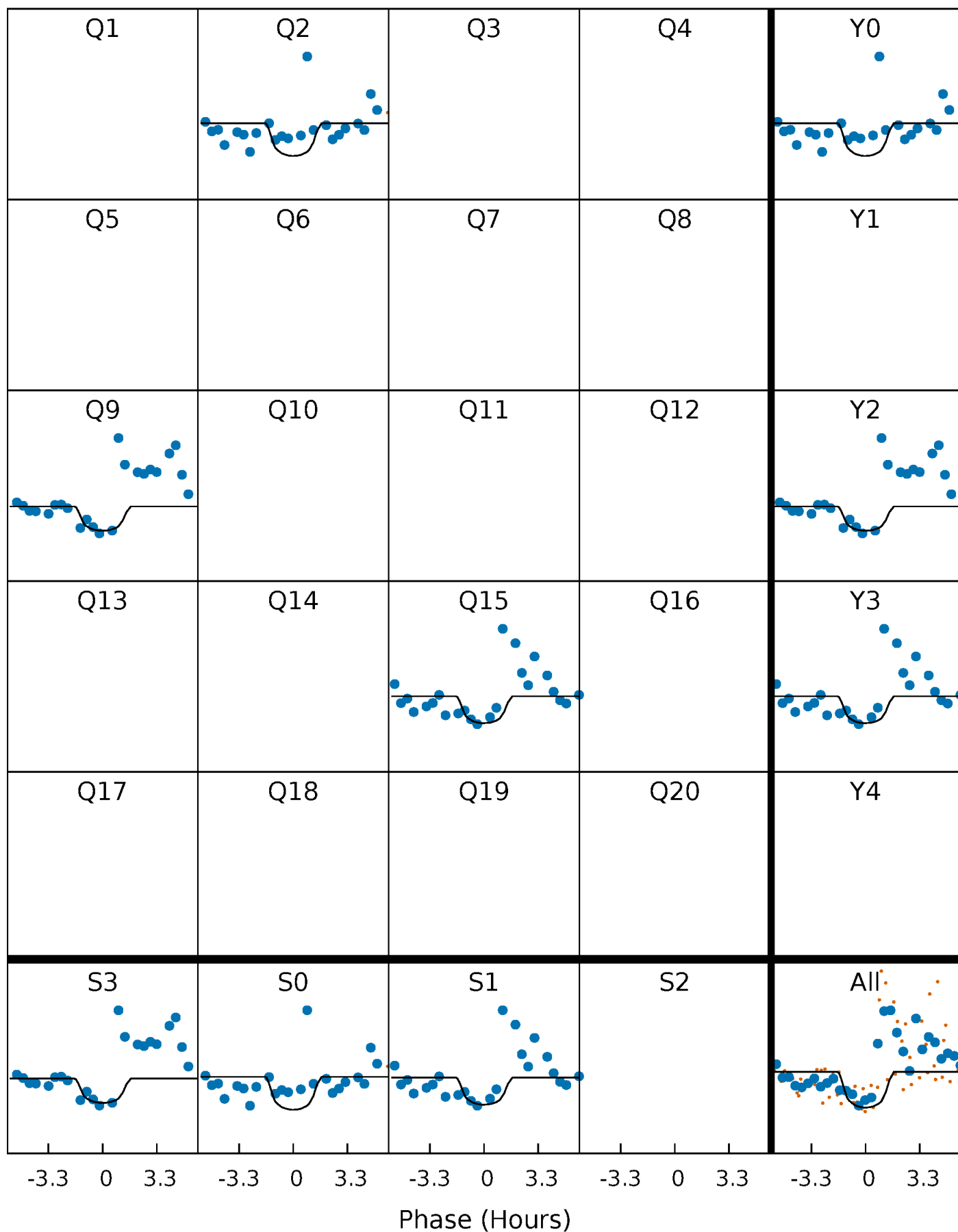
PDC Quarter-Phased Transit Curves

TCE 002992668-01 P=579.446807 Days $T_0=249.953487$ (BKJD)



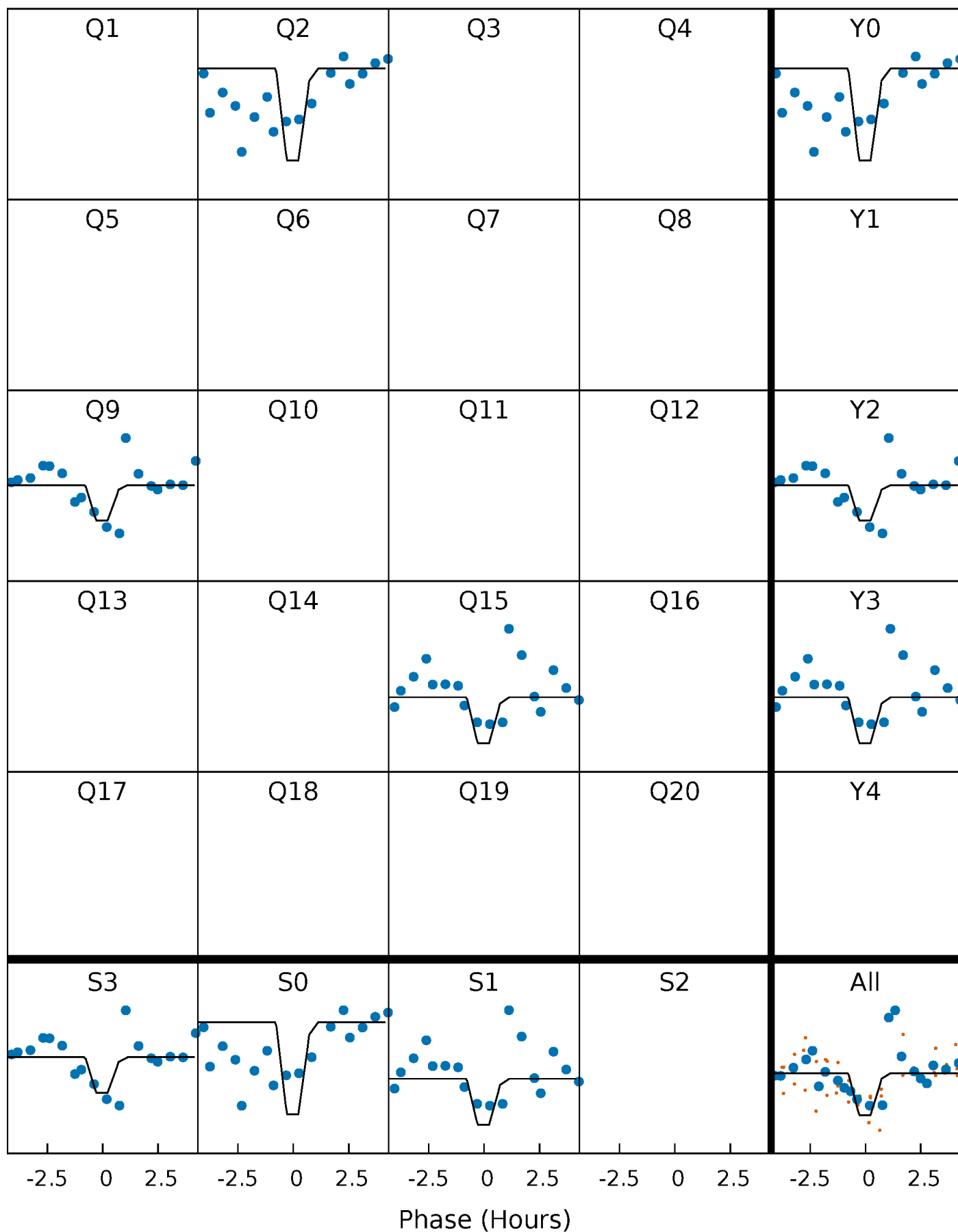
DV Quarter-Phased Transit Curves

TCE 002992668-01 P=579.446807 Days $T_0=249.953487$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

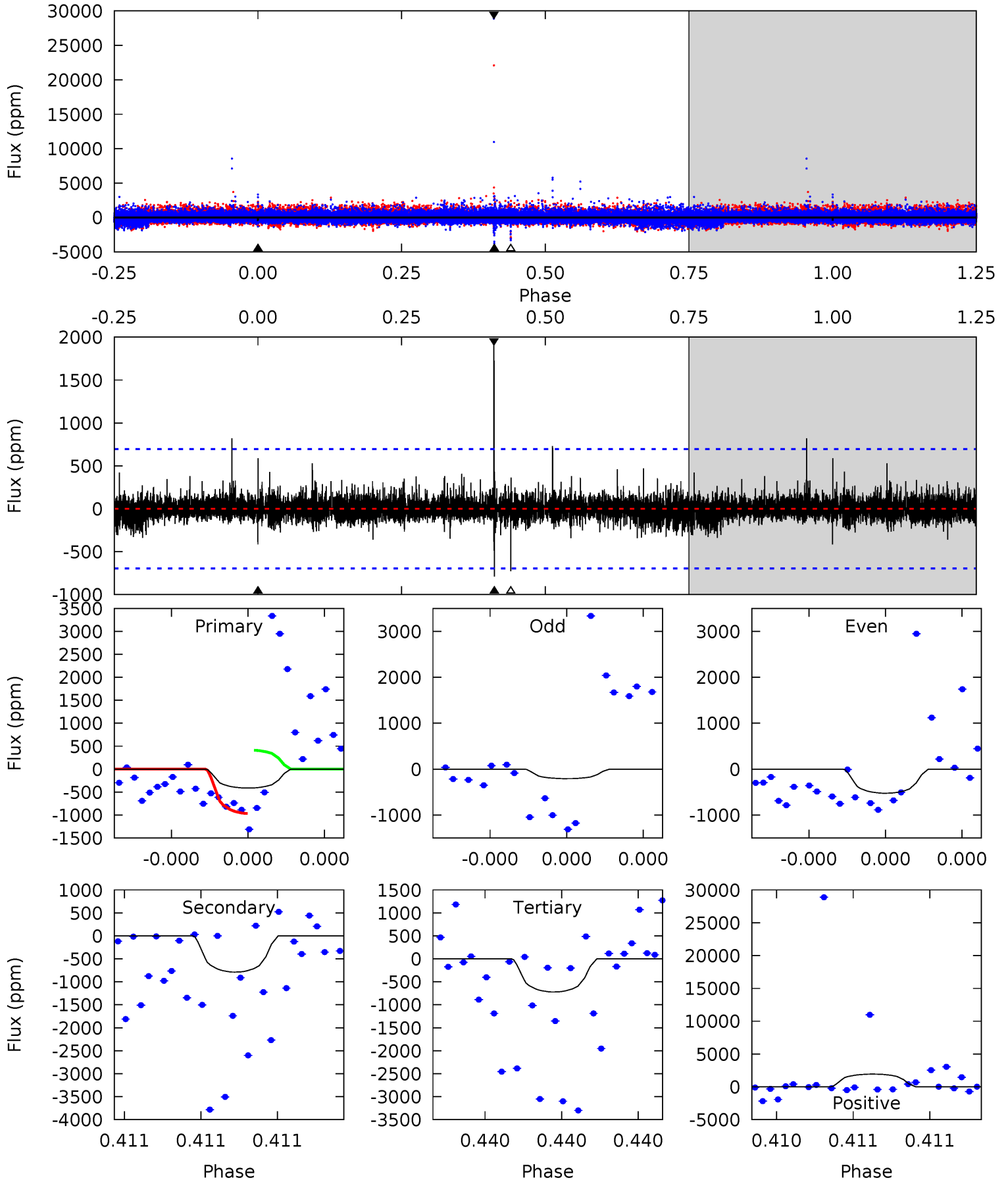
TCE 002992668-01 P=579.454895 Days $T_0=249.938276$ (BKJD)



DV Model-Shift Uniqueness Test

002992668-01, P = 579.446807 Days, E = 249.953487 Days

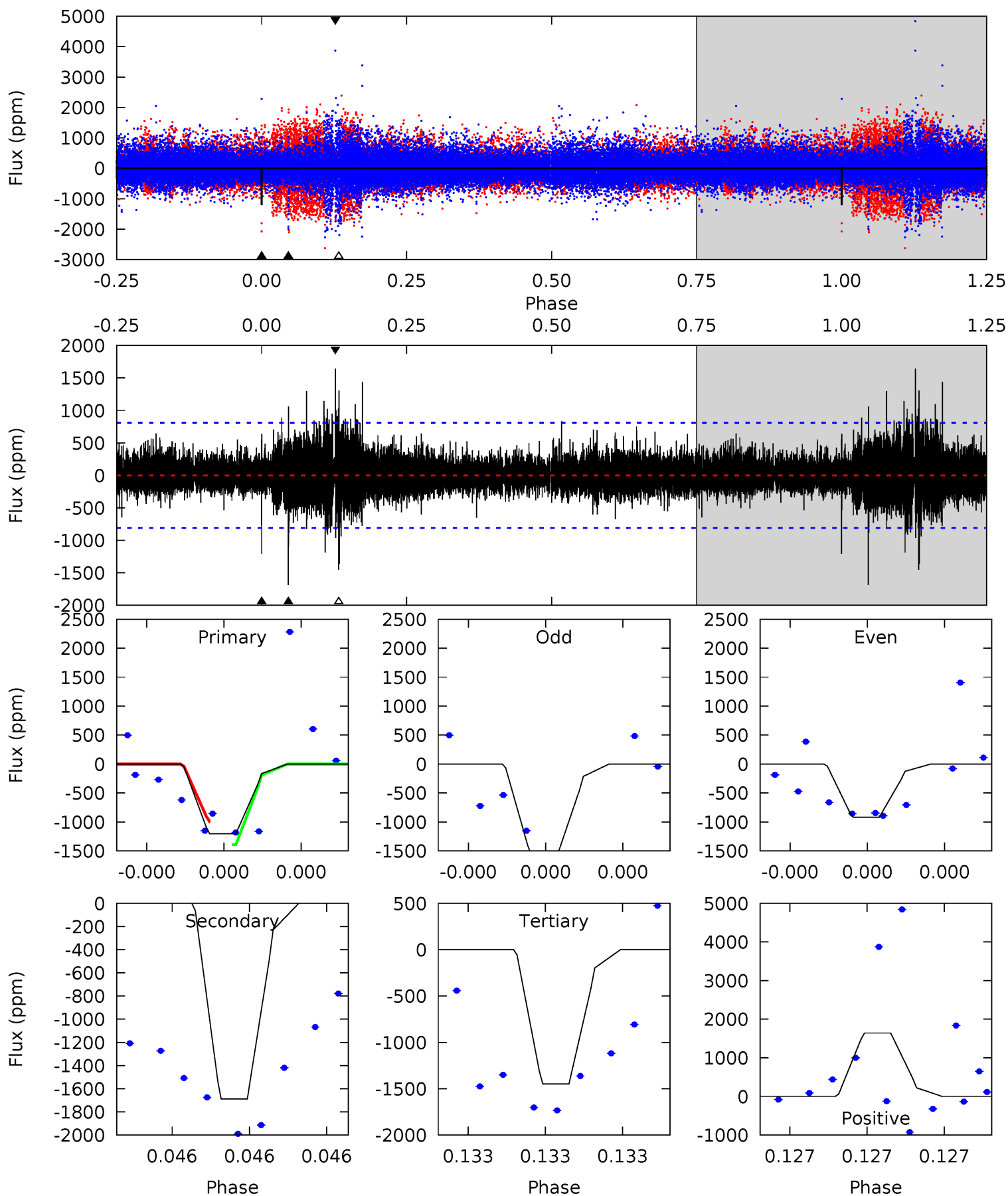
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.40	6.50	5.95	15.9	5.71	3.69	0.77	-2.55	-12.5	0.55	-9.44	0.69	1.10	0.71	2.32



Alt Model-Shift Uniqueness Test

002992668-01, P = 579.454895 Days, E = 249.938276 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.67	12.2	10.4	11.8	5.84	3.88	1.42	-1.76	-3.15	1.73	0.34	1.78	1.32	0.49	1.43



Stellar Parameters For KIC 002992668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3874^{+136}_{-136}	$4.670^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.591^{+0.033}_{-0.072}$	$0.595^{+0.041}_{-0.067}$	$4.065^{+1.291}_{-0.454}$
	+4%/-4%	+1%/-0%	+77%/-115%	+6%/-12%	+7%/-11%	+32%/-11%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002992668-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-790 ± 122	$8.05^{+7.43}_{-5.34}$	170^{+7}_{-6}	2514^{+876}_{-363}	9004^{+66020}_{-6626}
Alt.	-1688 ± 139	$7.91^{+8.20}_{-5.36}$	170^{+6}_{-6}	2796^{+1138}_{-473}	$19839^{+169518}_{-14987}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

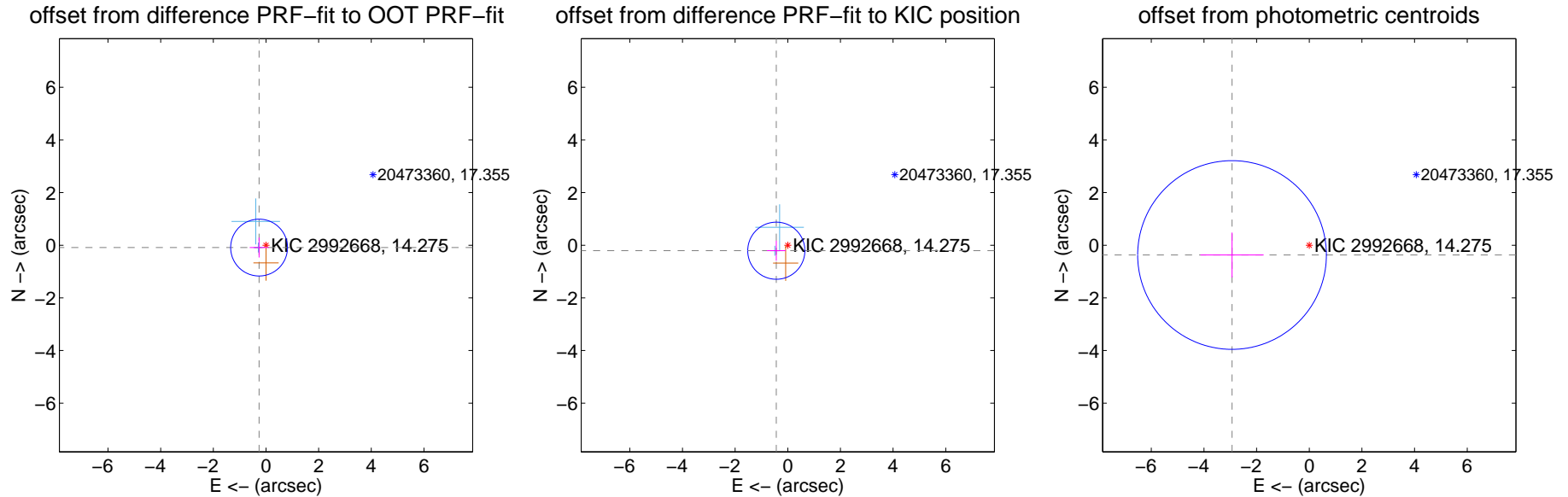
DV Centroid Data

Supplemental centroid analysis for 002992668-01. Kepler magnitude: 14.28. Transit SNR 7.04

There are 2 quarters with good PRF difference image offsets

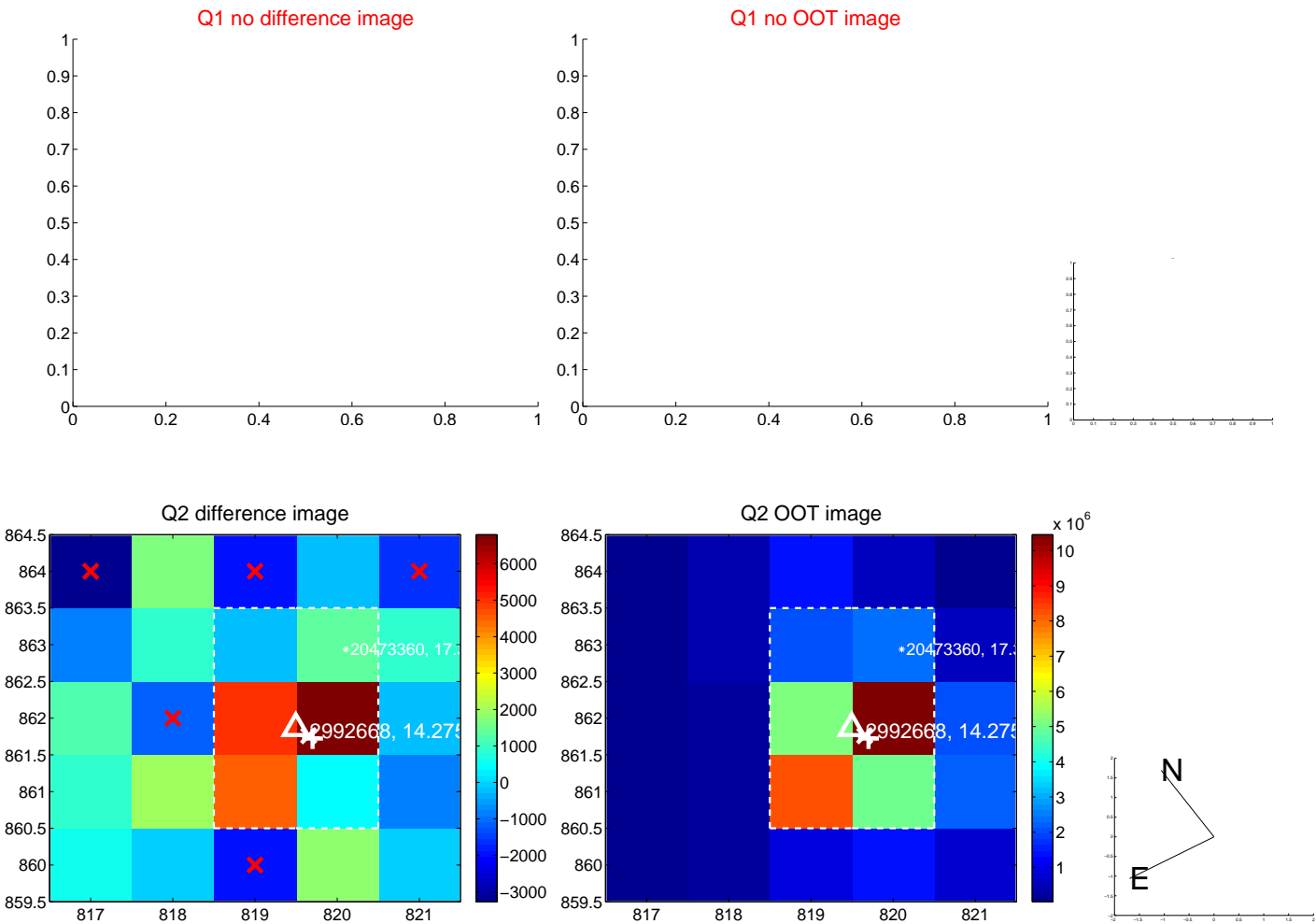
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.277 ± 0.360	0.77	0.262 ± 0.358	-0.089 ± 0.379
PRF-fit source offset from KIC position	0.483 ± 0.362	1.34	0.436 ± 0.358	-0.208 ± 0.379
photometric centroid source offset	2.96 ± 1.19	2.48	2.93 ± 1.20	-0.37 ± 0.85



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.

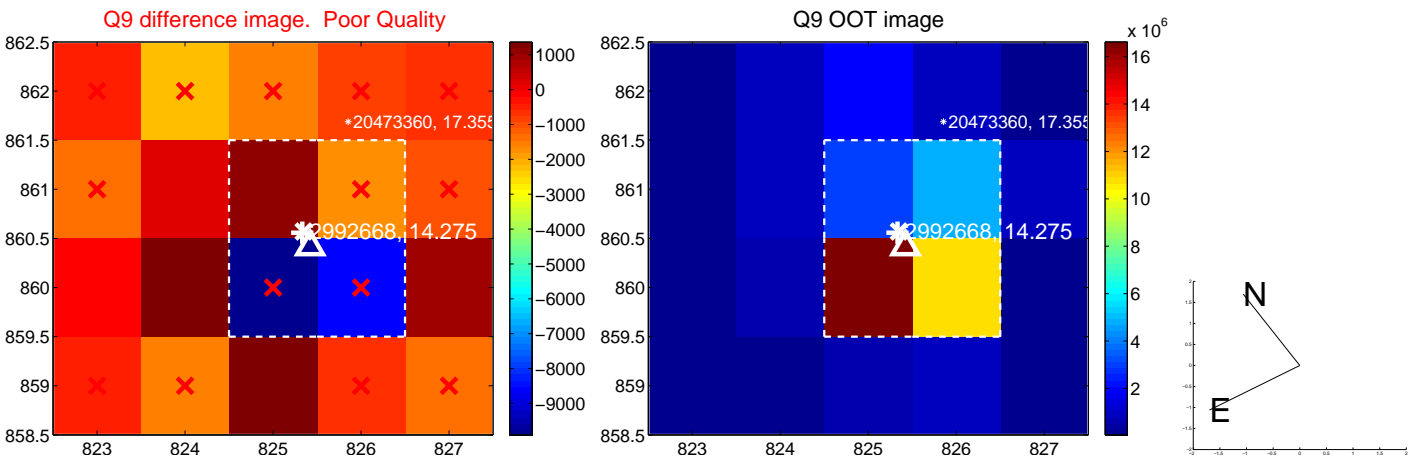
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



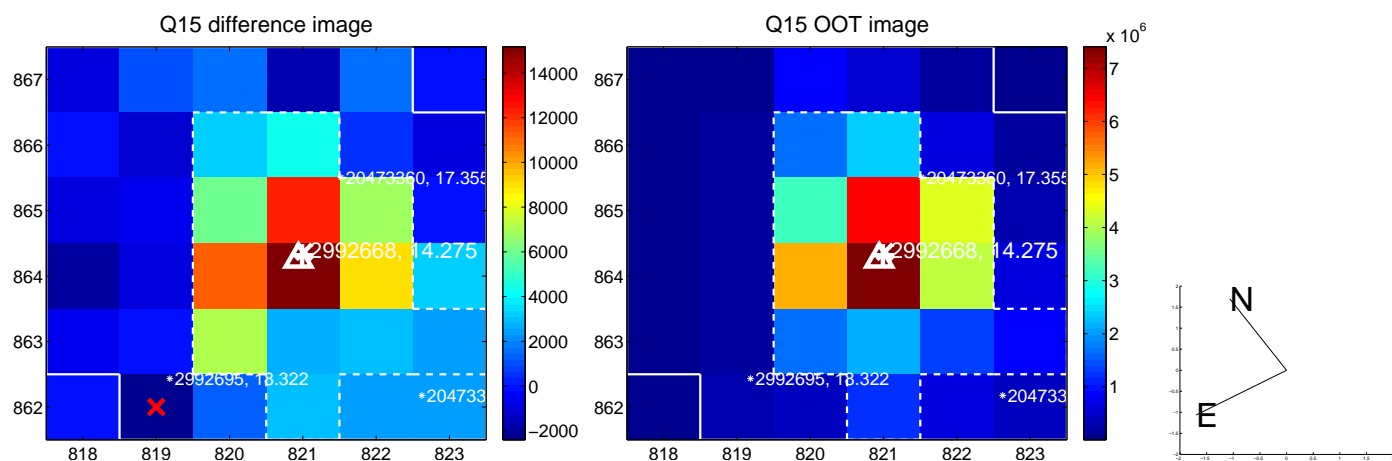
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



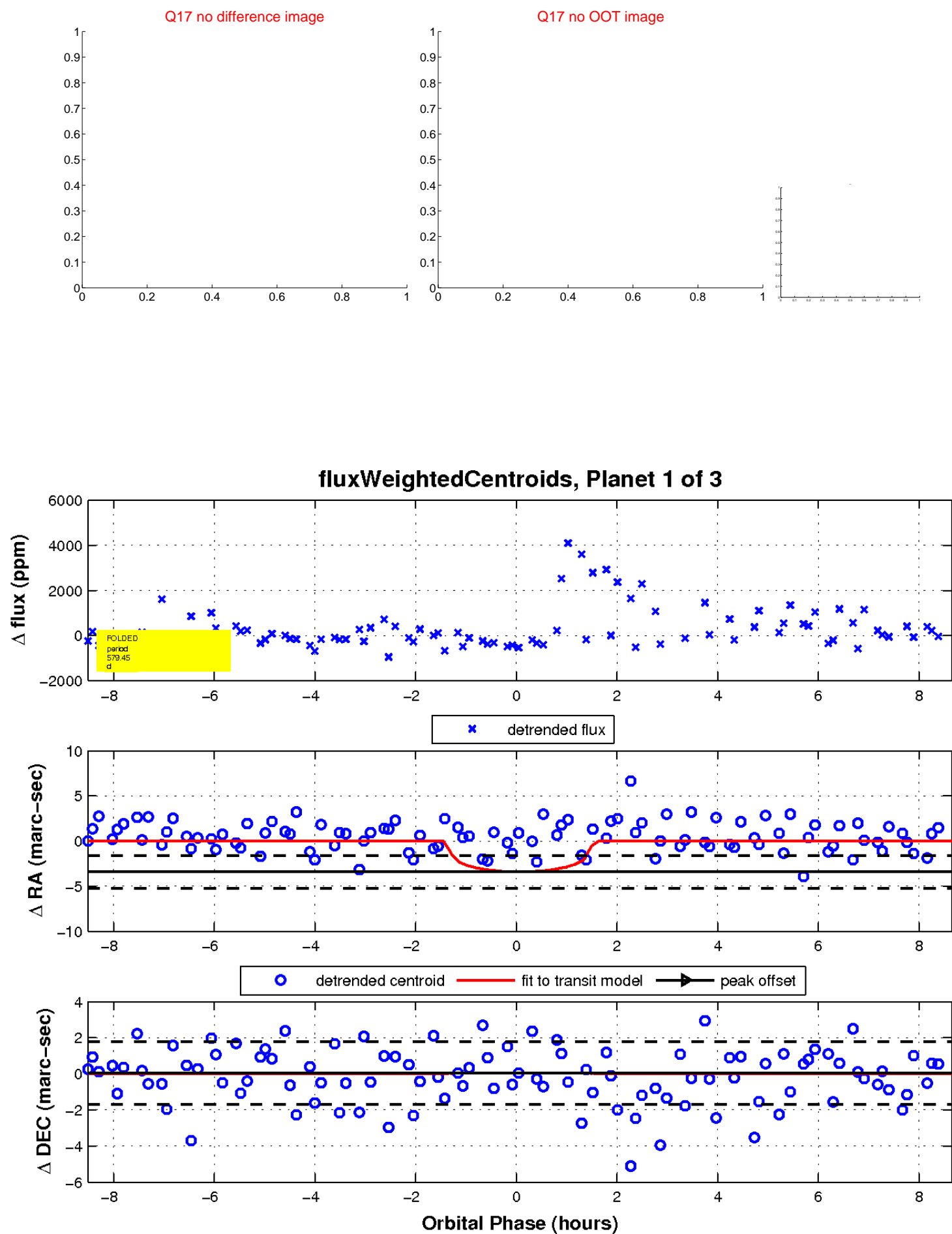
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

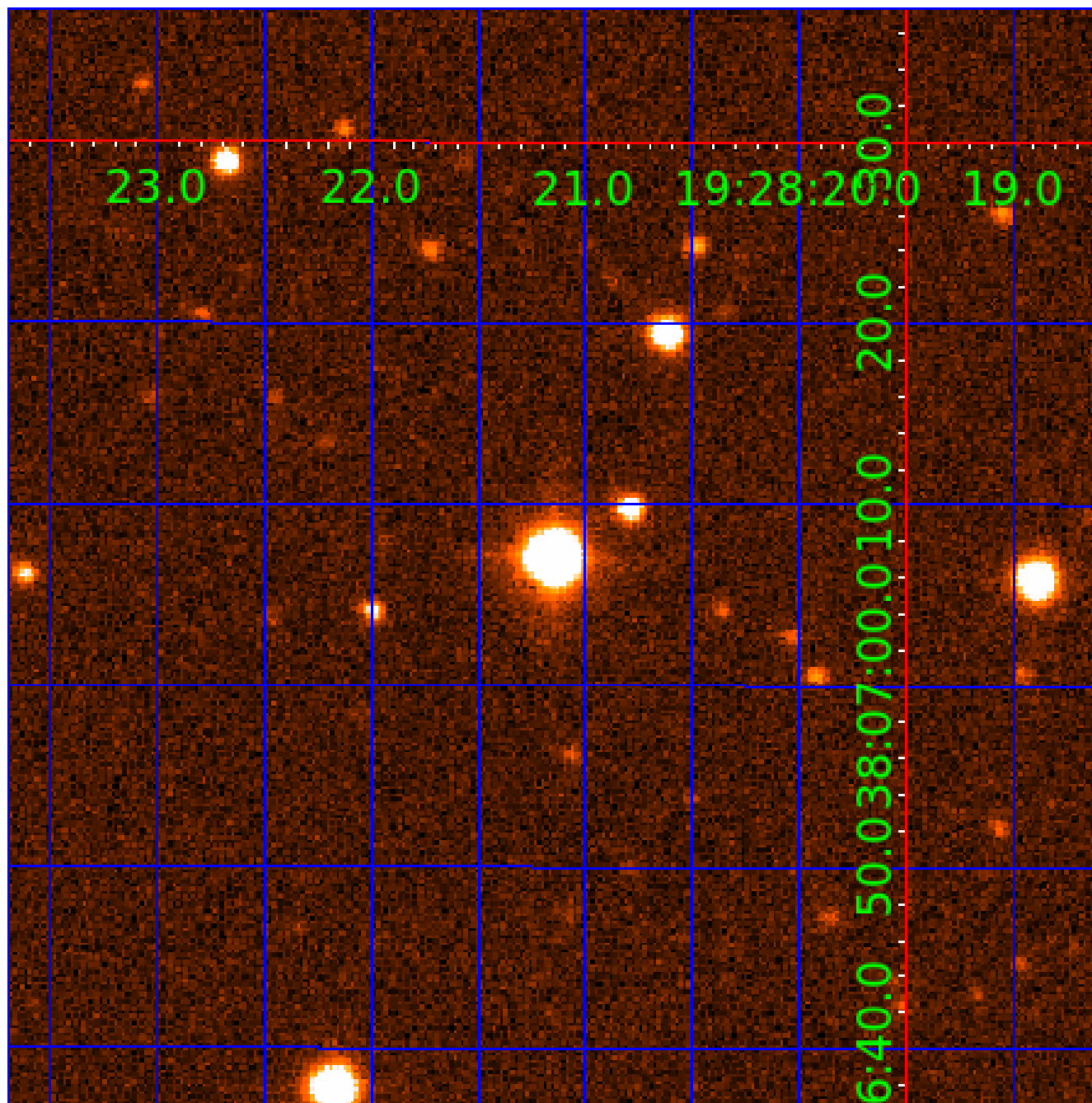


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002992668

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})
002992668-01	OBS	No	579.446807	249.953487	1178.9	2.902	10.6	7.0	0.59	3874	1.96	0.05
002992668-02	OBS	No	1.242209	133.029144	57.6	2.117	8.6	6.1	0.59	3874	0.44	194.53
002992668-03	OBS	No	528.955148	145.021667	1328.5	4.101	10.4	7.7	0.59	3874	3.57	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002992668-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002992668-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002992668-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

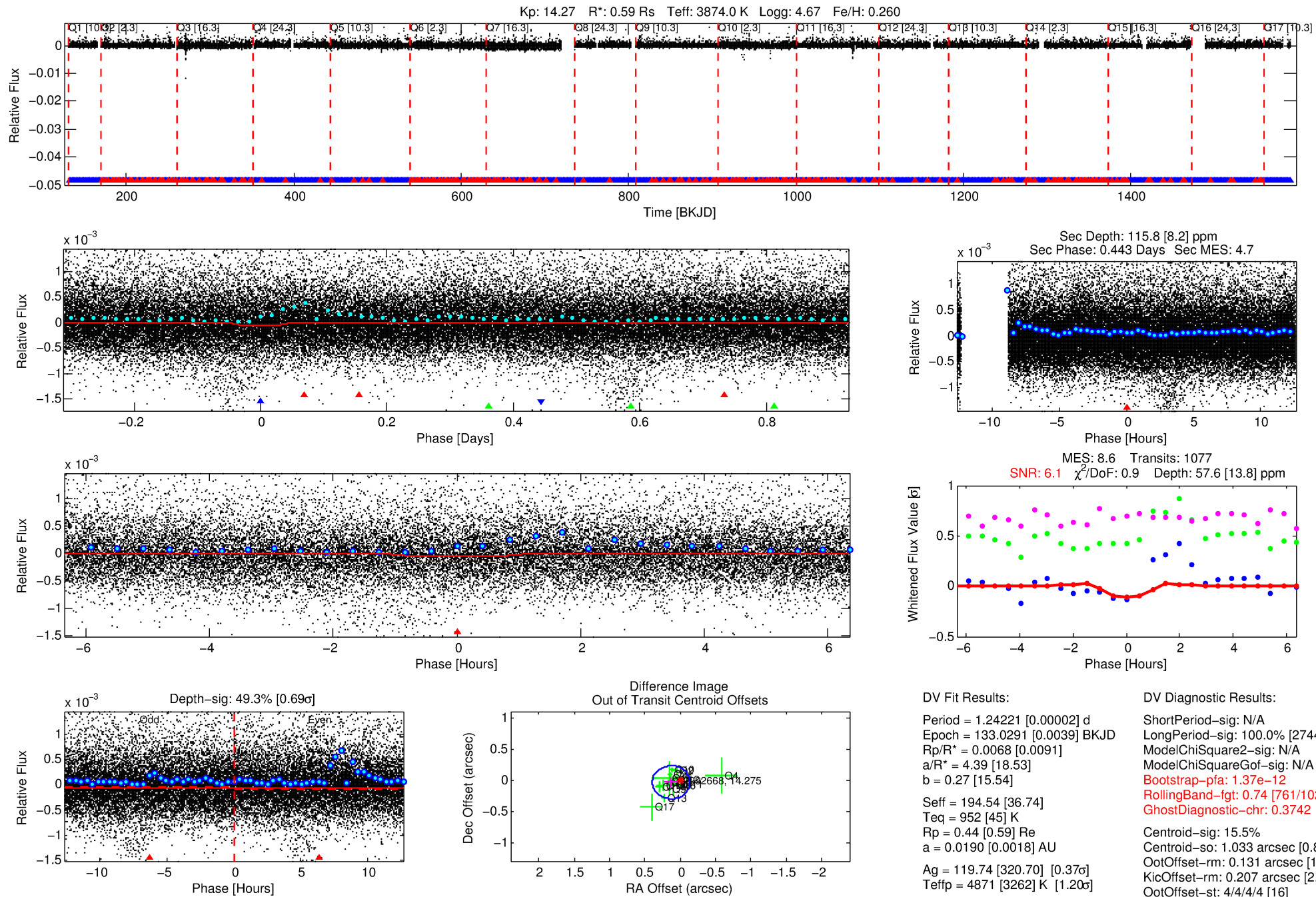
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002992668-02

No Significant Match Found

DV One-Page Summary

KIC: 2992668 Candidate: 2 of 3 Period: 1.242 d



DV Fit Results:

Period = 1.24221 [0.00002] d
Epoch = 133.0291 [0.0039] BKJD
Rp/R* = 0.0068 [0.0091]
a/R* = 4.39 [18.53]
b = 0.27 [15.54]
Seff = 194.54 [36.74]
Teff = 952 [45] K
Rp = 0.44 [0.59] Re
a = 0.0190 [0.0018] AU
Ag = 119.74 [320.70] [0.37 σ]
Teffp = 4871 [3262] K [1.20 σ]

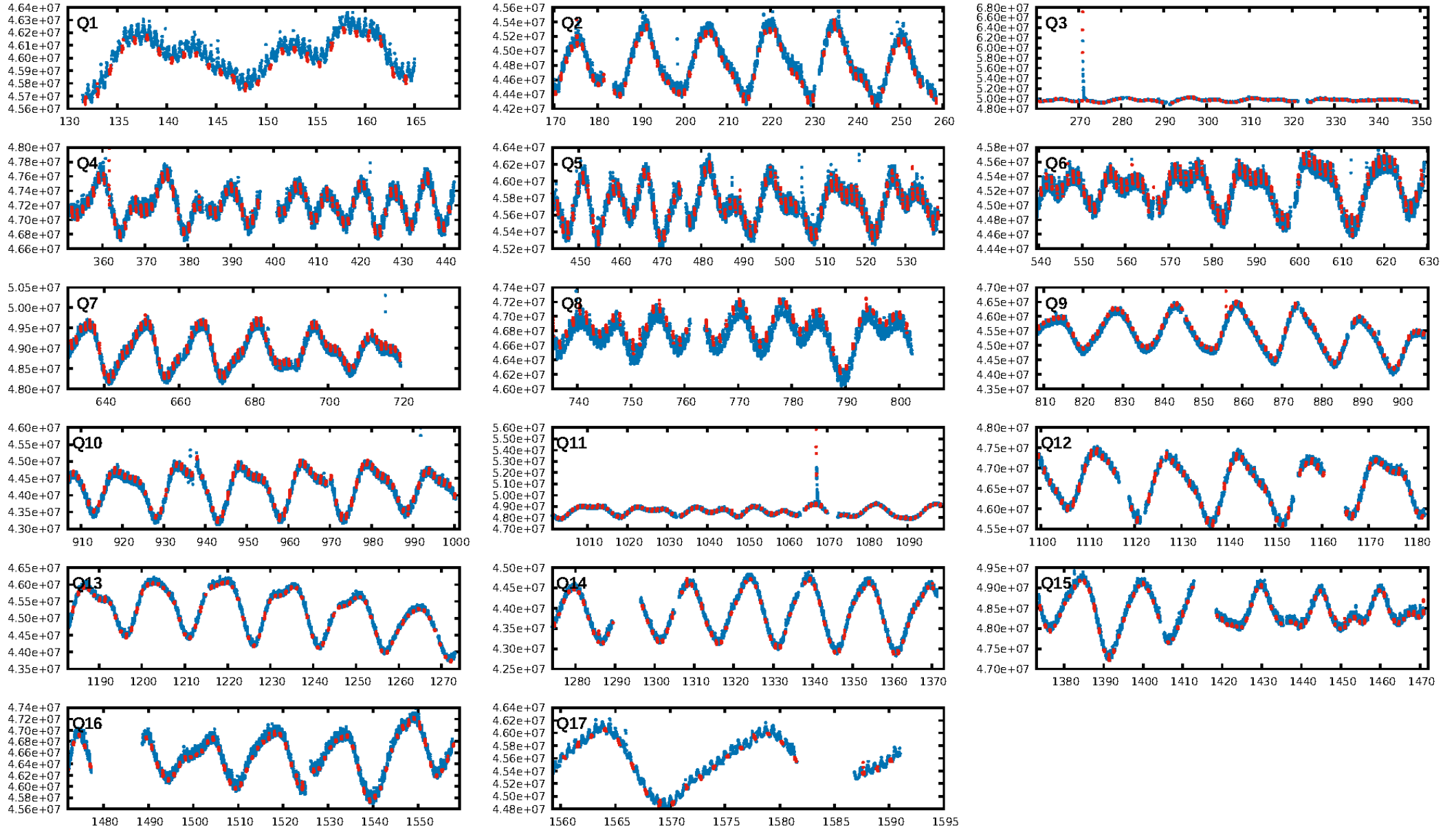
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [2744.32 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.37e-12
RollingBand-fgt: 0.74 [761/1029]
GhostDiagnostic-chr: 0.3742
Centroid-sig: 15.5%
Centroid-so: 1.033 arcsec [0.86 σ]
OotOffset-rm: 0.131 arcsec [1.48 σ]
KicOffset-rm: 0.207 arcsec [2.43 σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

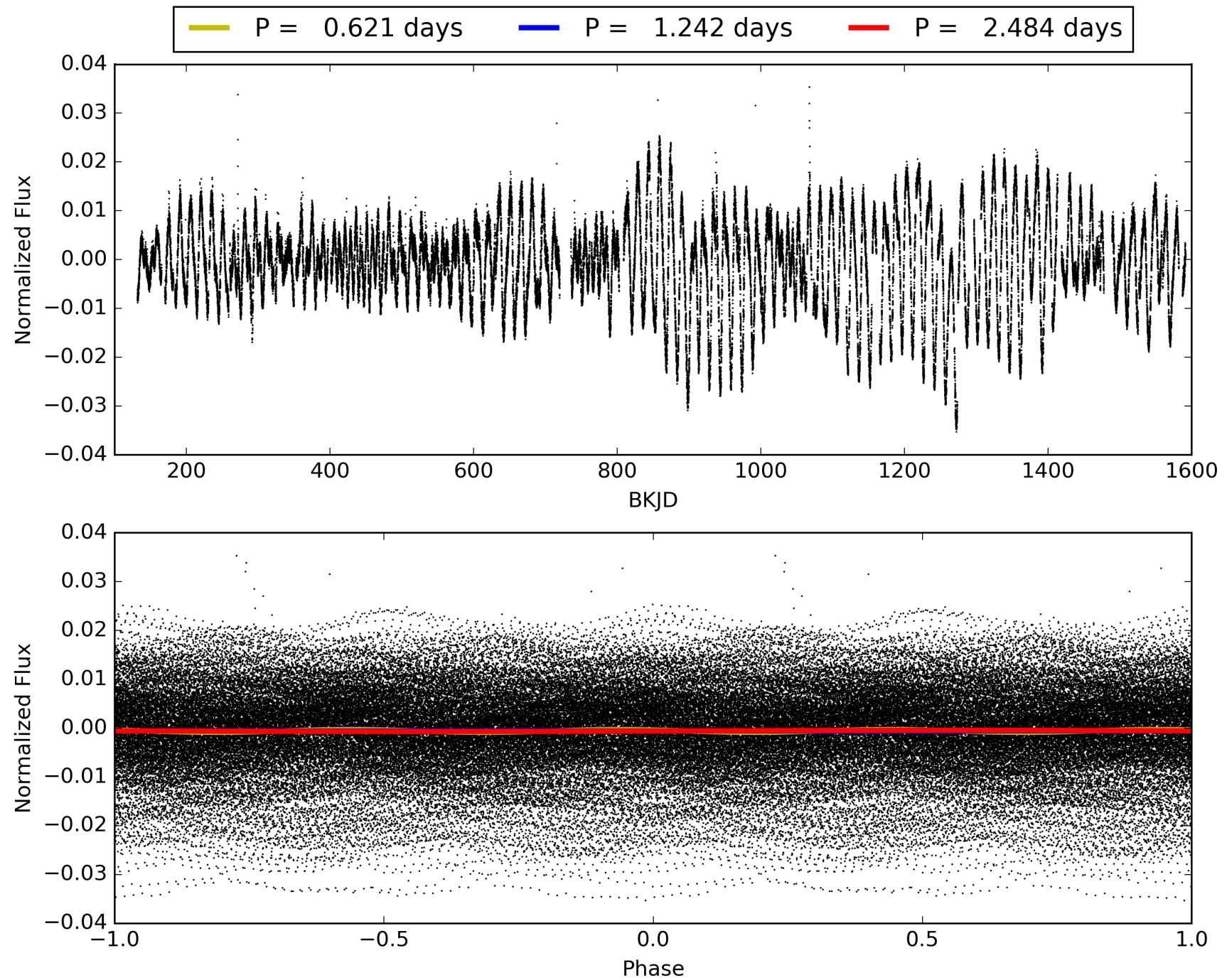
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:43:42 Z

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

TCE 002992668-02, PDC Light Curves

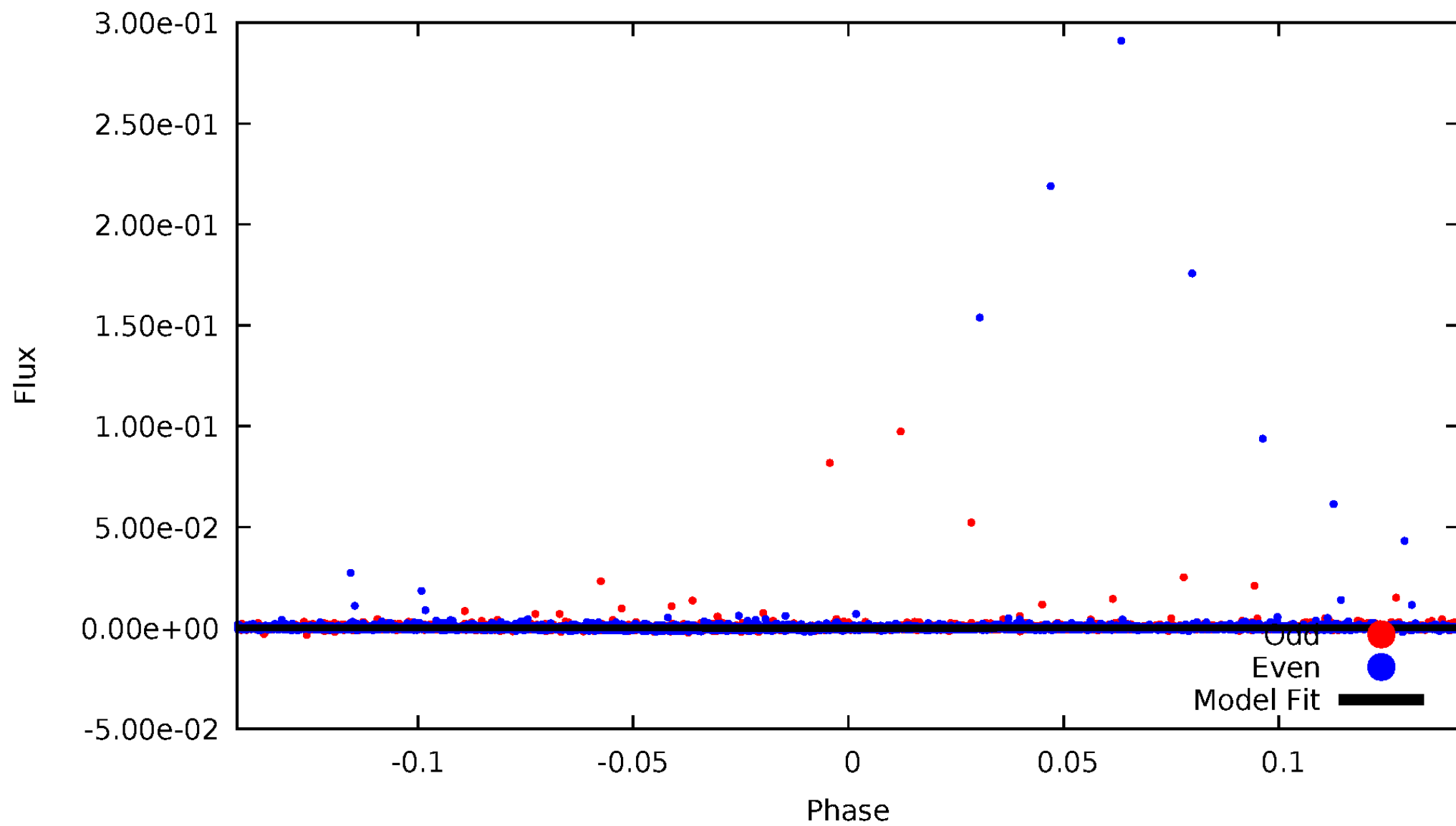


TCE 002992668-02



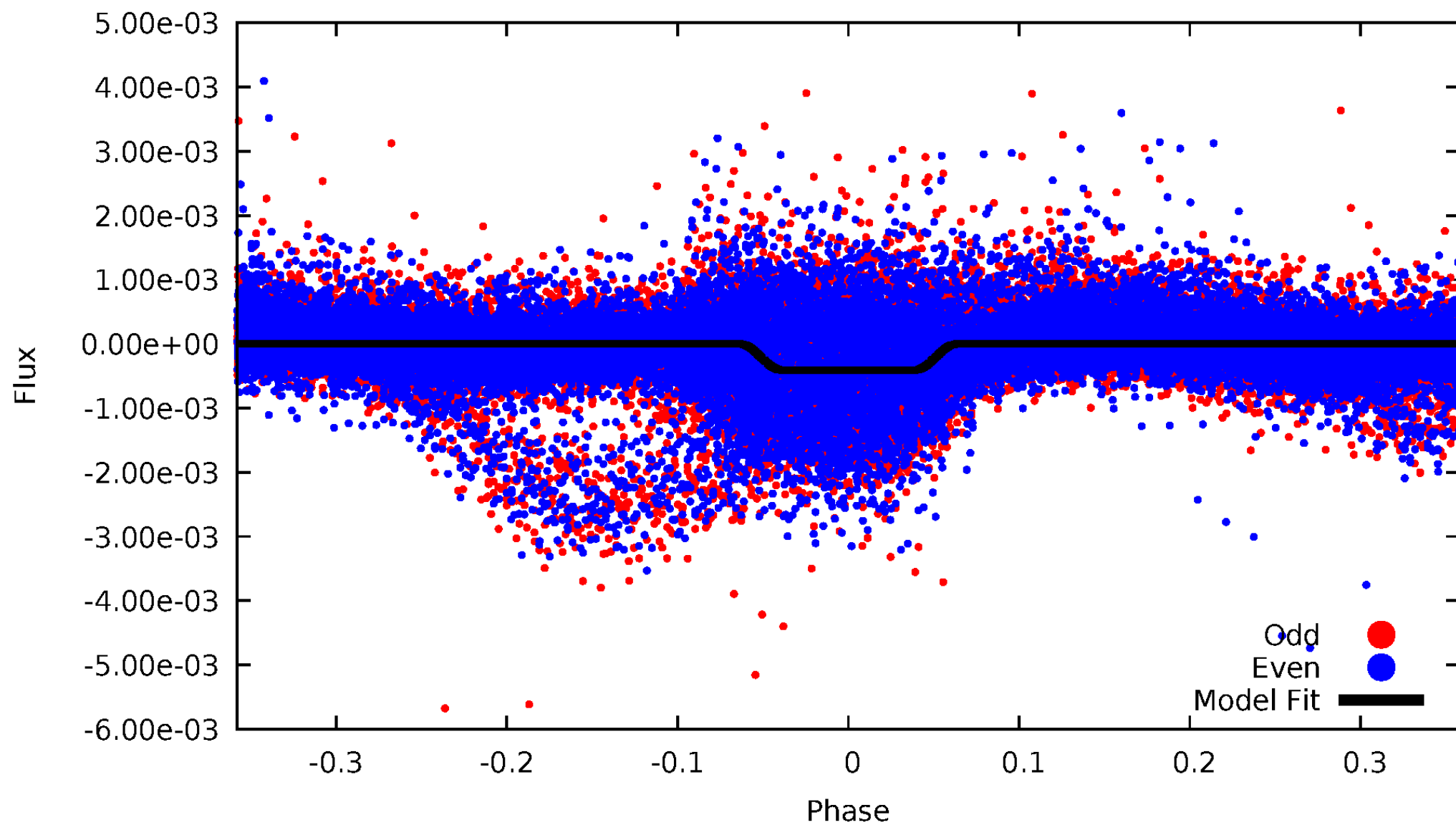
DV Odd/Even

TCE 002992668-02



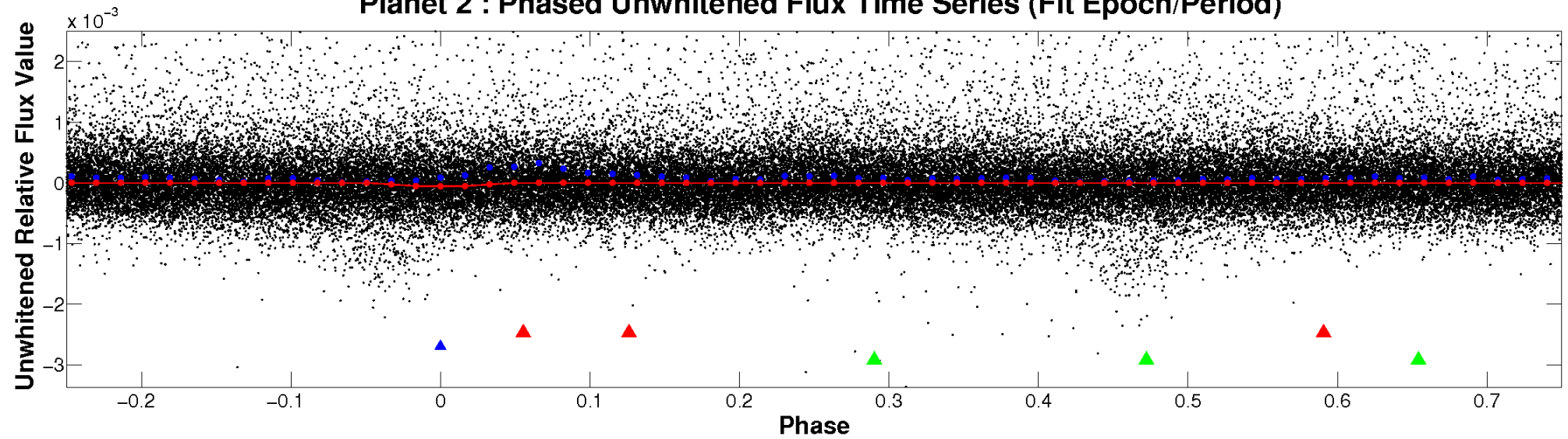
ALT Odd/Even

TCE 002992668-02

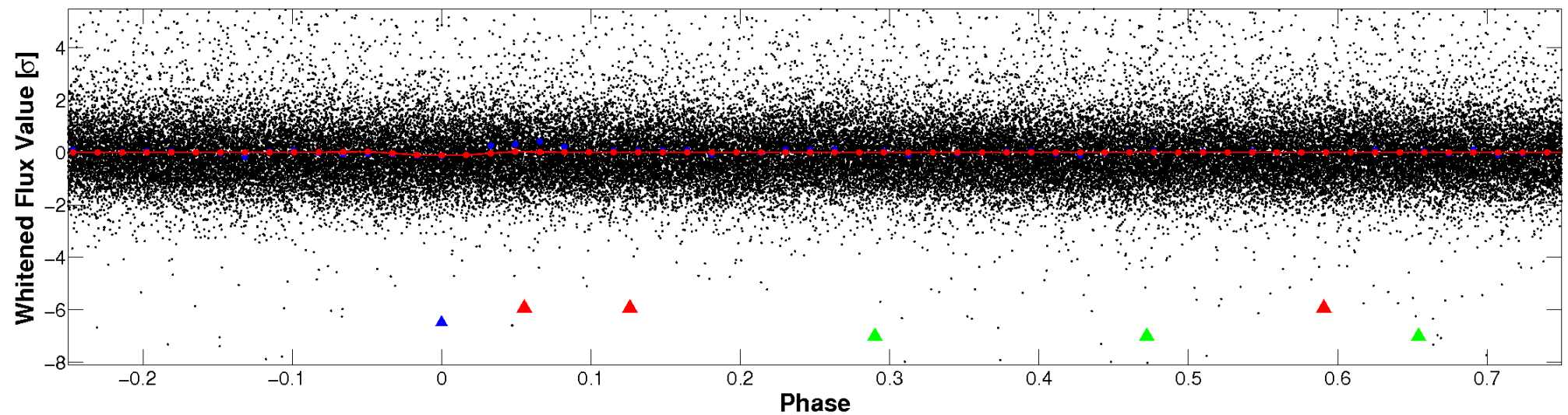


Non-Whitened Vs. Whitened Light Curve

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

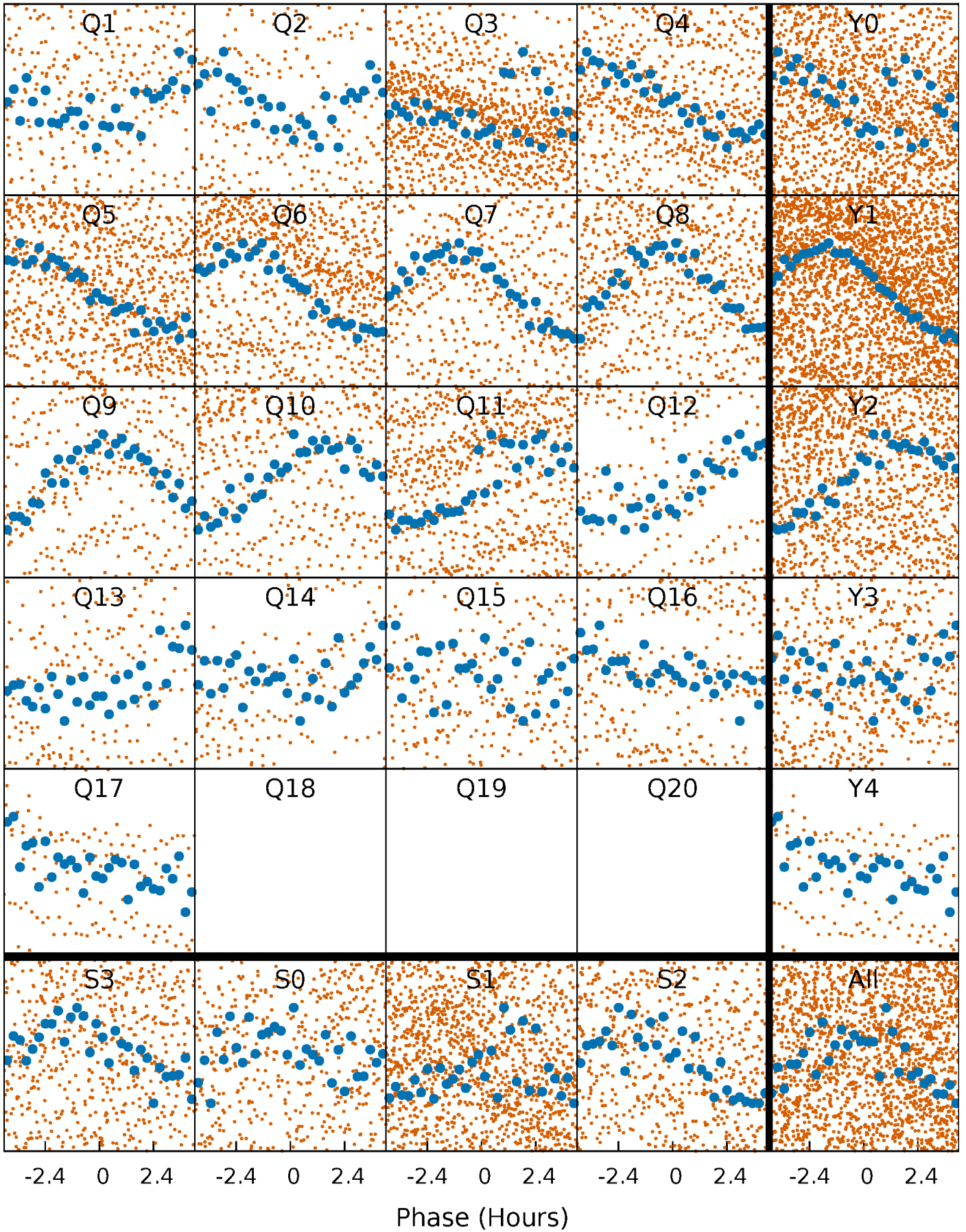


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



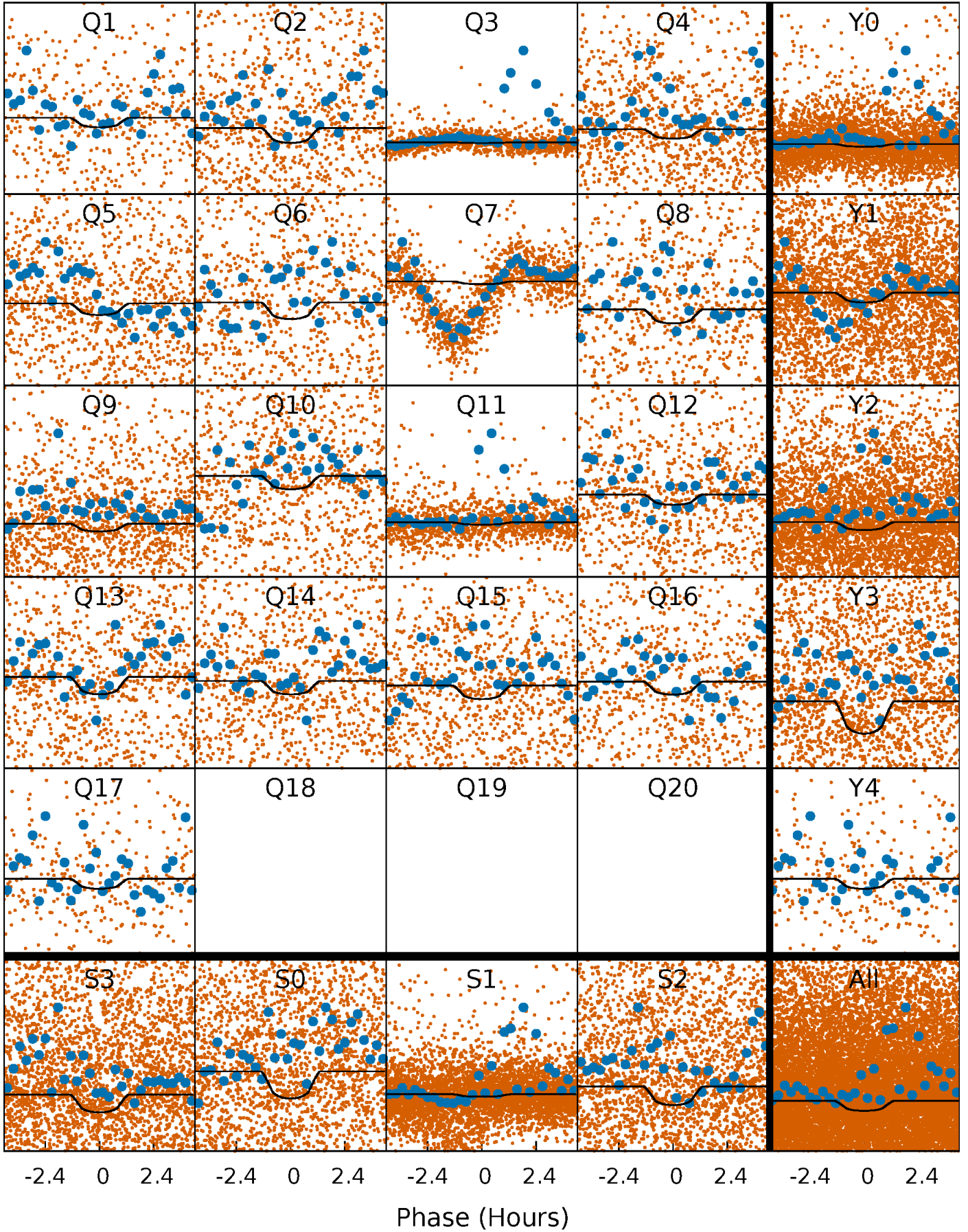
PDC Quarter-Phased Transit Curves

TCE 002992668-02 P= 1.242209 Days $T_0=133.029144$ (BKJD)



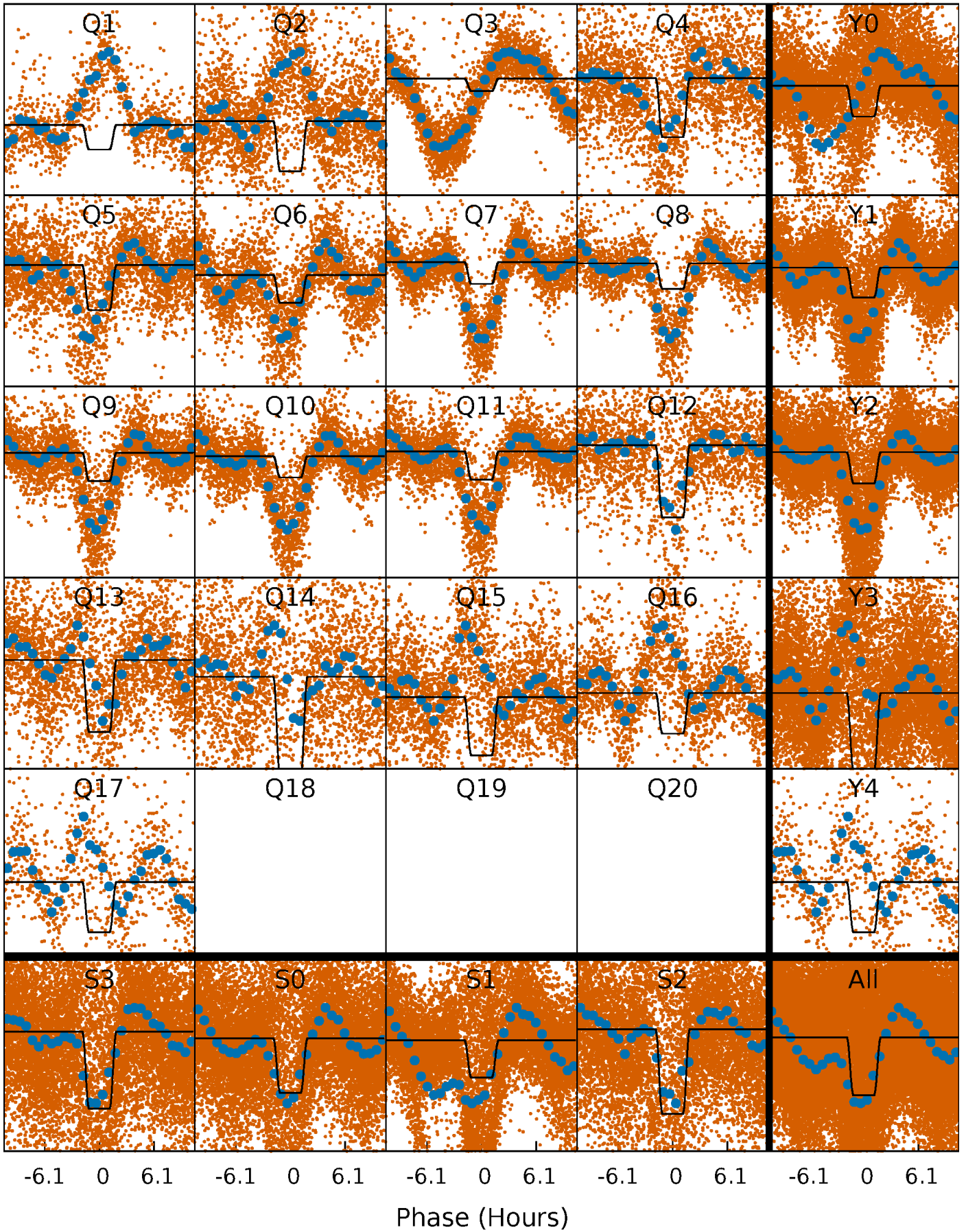
DV Quarter-Phased Transit Curves

TCE 002992668-02 P= 1.242209 Days $T_0=133.029144$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

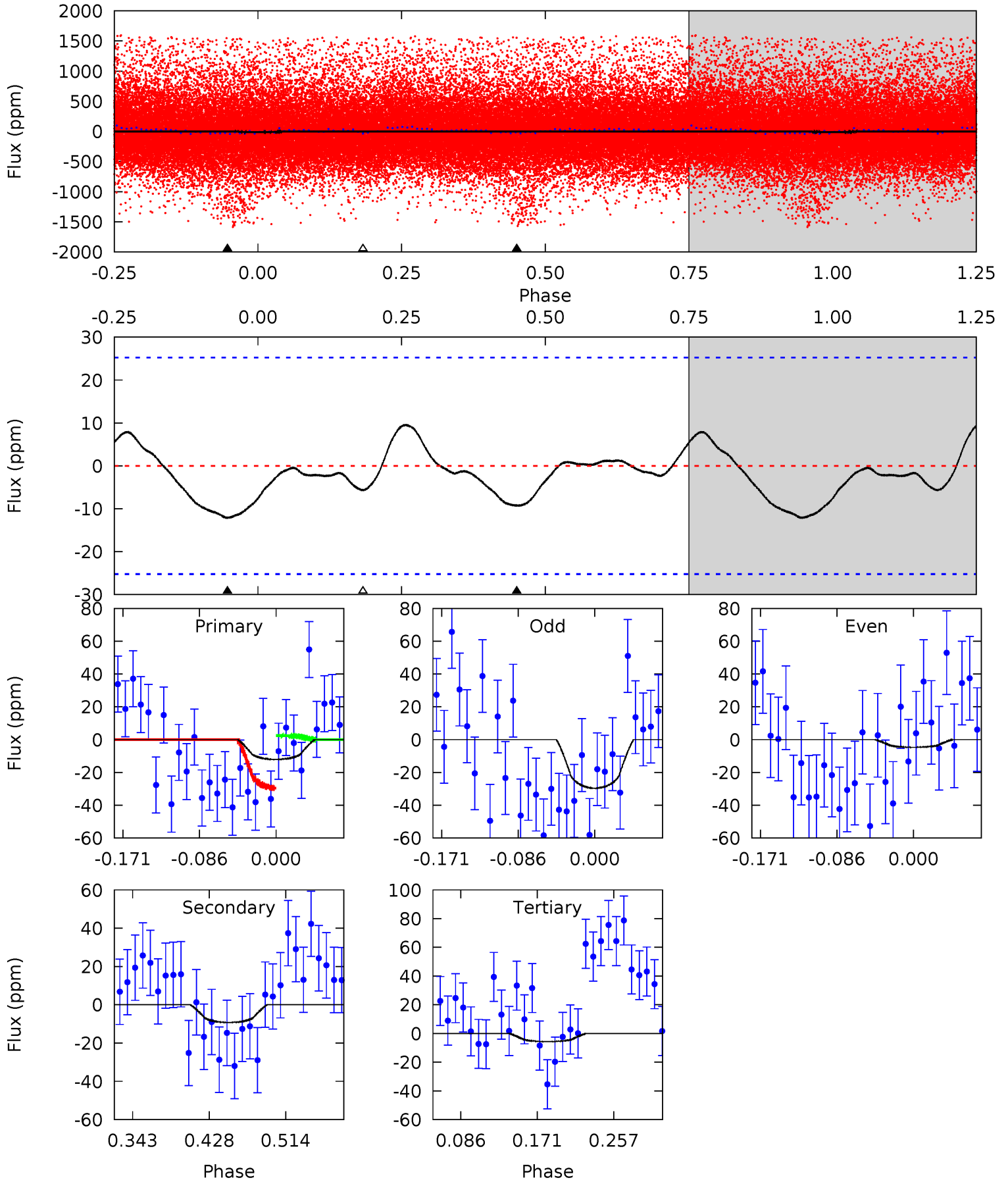
TCE 002992668-02 P= 1.242669 Days $T_0=132.618668$ (BKJD)



DV Model-Shift Uniqueness Test

002992668-02, P = 1.242209 Days, E = 130.544726 Days

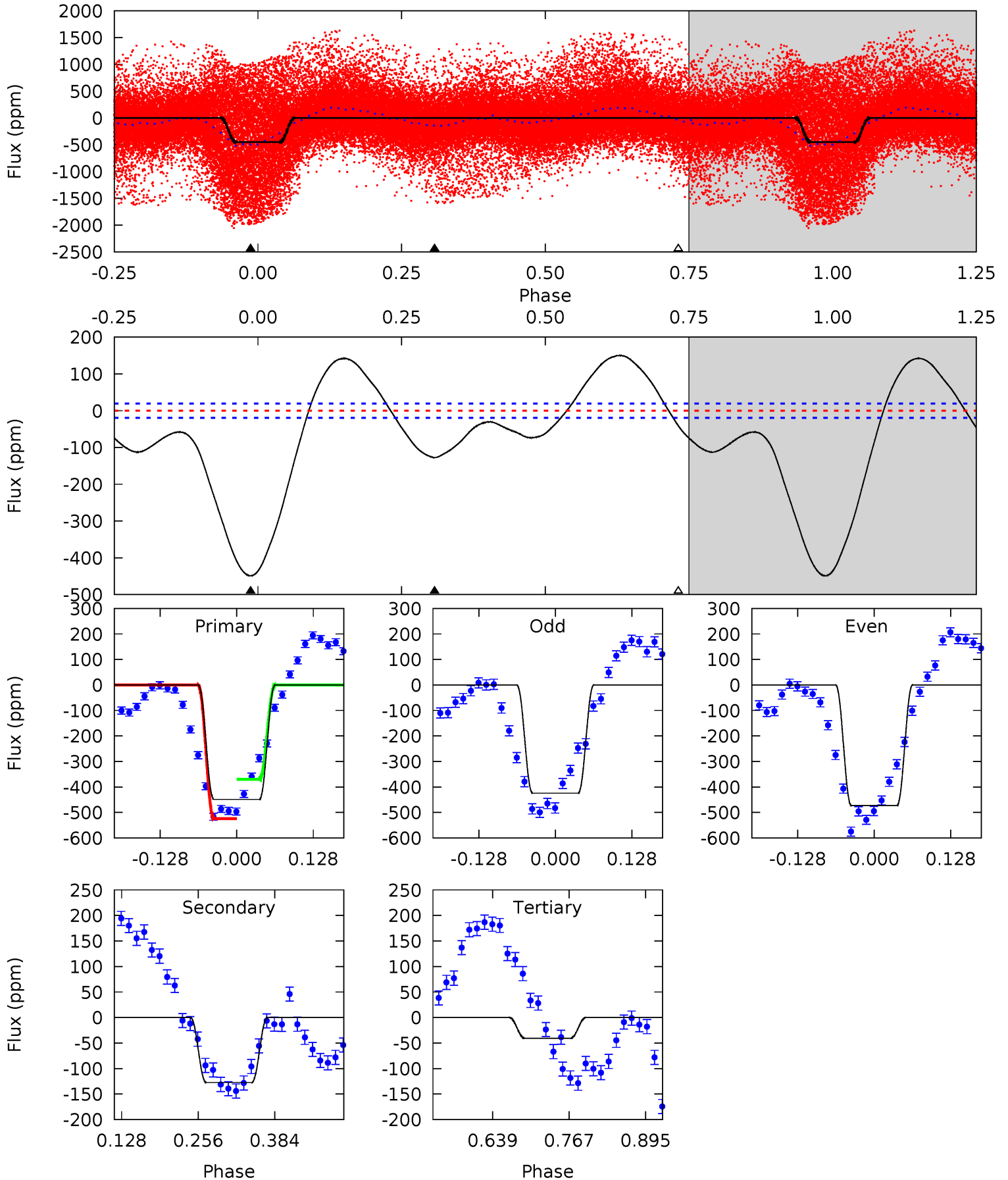
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.21	1.69	1.03	0	4.60	1.72	0.66	1.18	2.21	0.66	1.69	2.26	-121.3	0.44	2.42



Alt Model-Shift Uniqueness Test

002992668-02, P = 1.242669 Days, E = 131.375999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.9	29.5	9.41	0	4.51	1.52	21.5	94.5	103.9	20.1	29.5	5.64	1.00	0.25	18.2



Stellar Parameters For KIC 002992668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3874^{+136}_{-136}	$4.670^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.591^{+0.033}_{-0.072}$	$0.595^{+0.041}_{-0.067}$	$4.065^{+1.291}_{-0.454}$
	+4%/-4%	+1%/-0%	+77%/-115%	+6%/-12%	+7%/-11%	+32%/-11%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002992668-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 5	$0.58^{+0.52}_{-0.37}$	1319^{+51}_{-49}	2698^{+1074}_{-517}	$4.461^{+36.730}_{-3.436}$
Alt.	-127 ± 4	$1.29^{+0.63}_{-0.54}$	1319^{+52}_{-55}	3200^{+598}_{-371}	15^{+28}_{-8}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

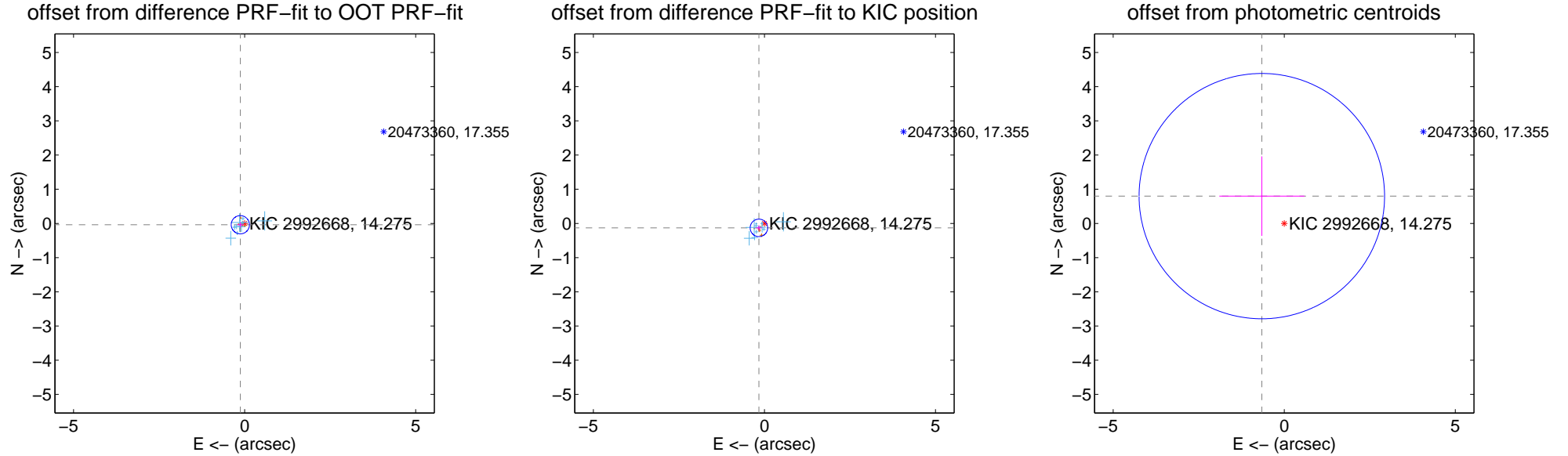
DV Centroid Data

Supplemental centroid analysis for 002992668-02. Kepler magnitude: 14.28. Transit SNR 6.13

There are 10 quarters with good PRF difference image offsets

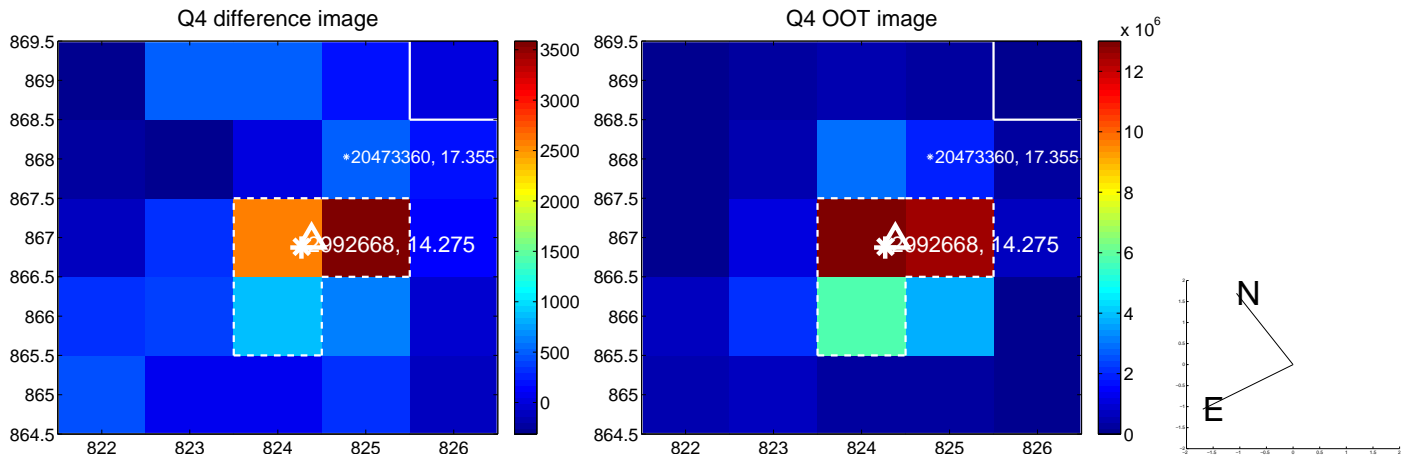
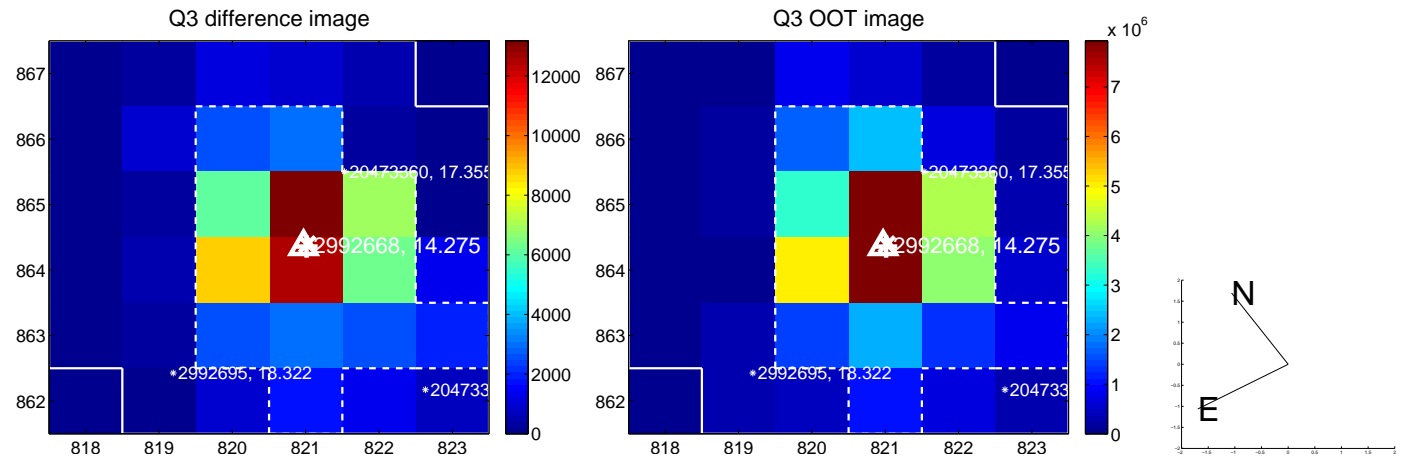
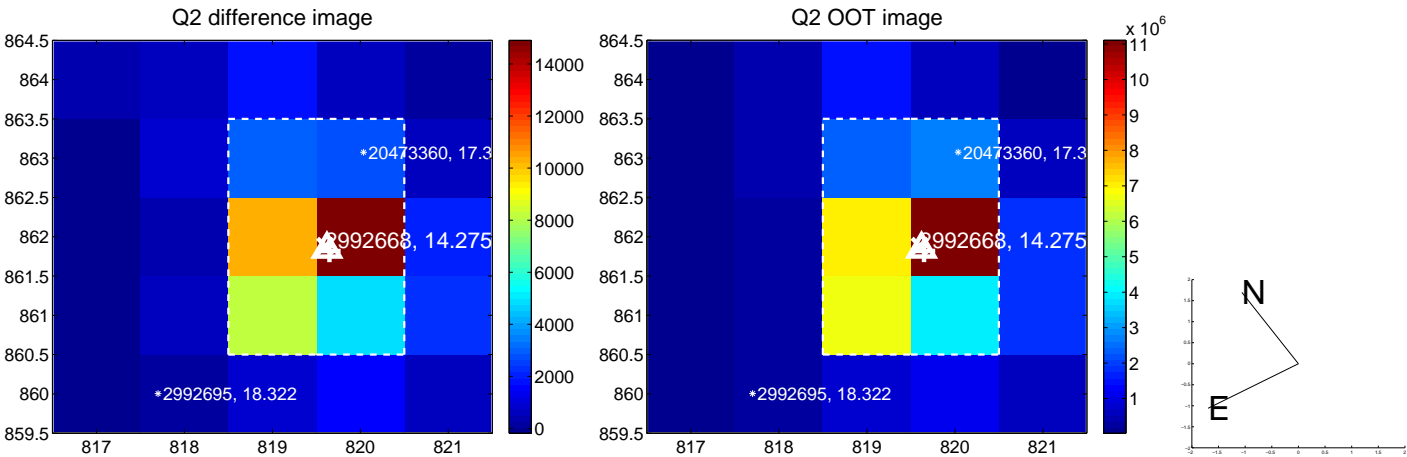
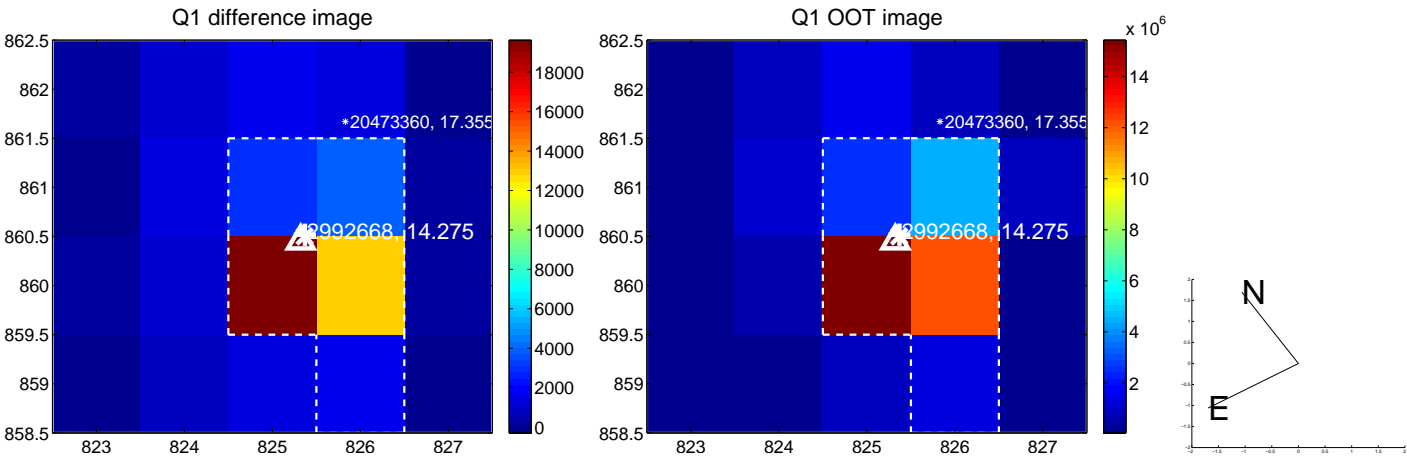
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.131 ± 0.089	1.48	0.126 ± 0.086	-0.038 ± 0.076
PRF-fit source offset from KIC position	0.207 ± 0.085	2.43	0.161 ± 0.084	-0.130 ± 0.074
photometric centroid source offset	1.03 ± 1.20	0.86	0.66 ± 1.24	0.80 ± 1.16

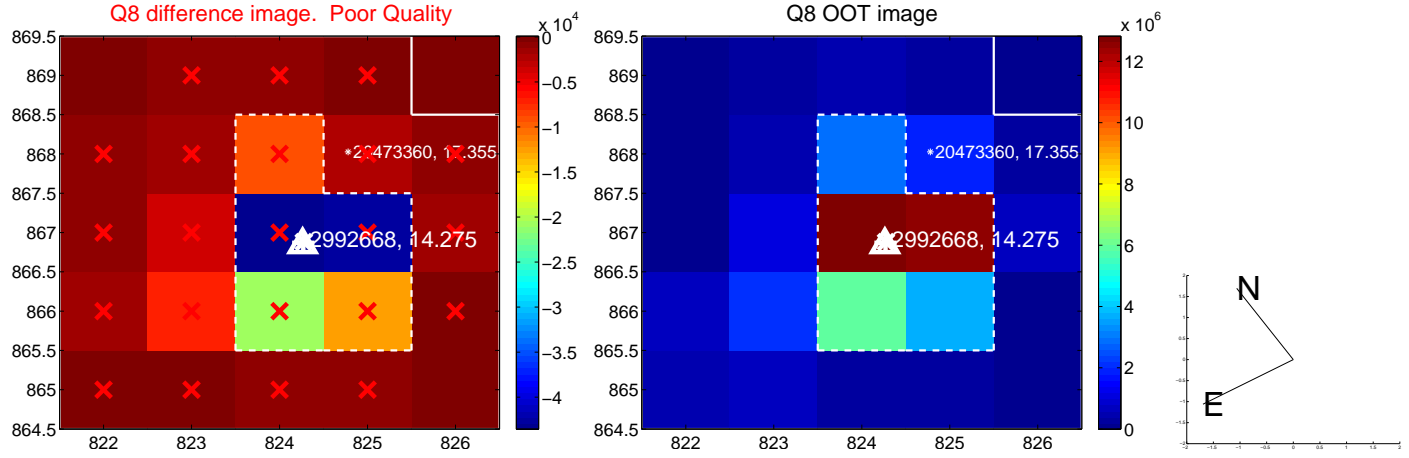
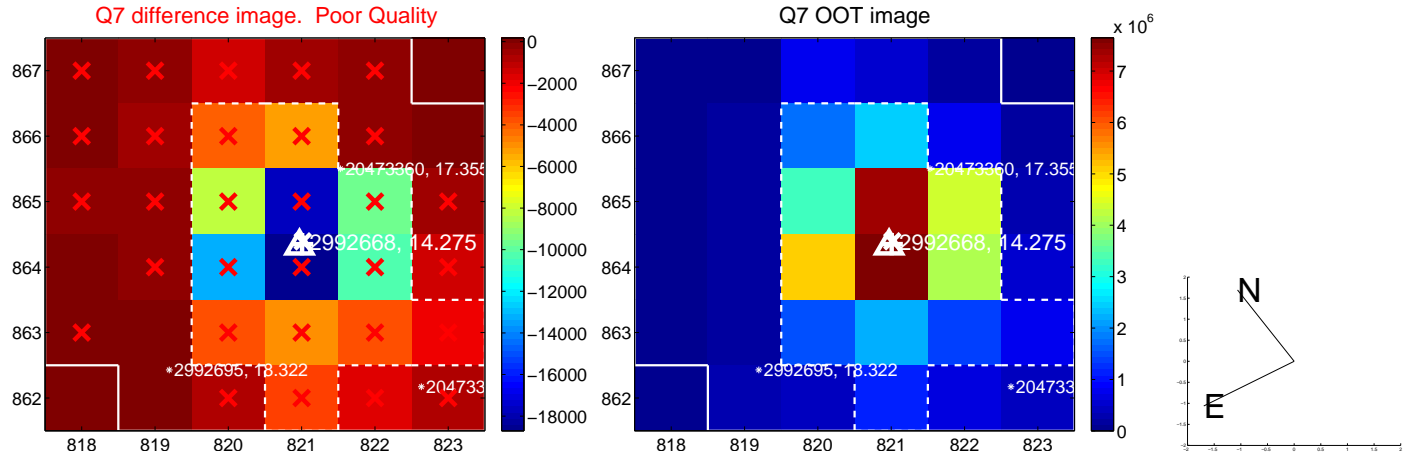
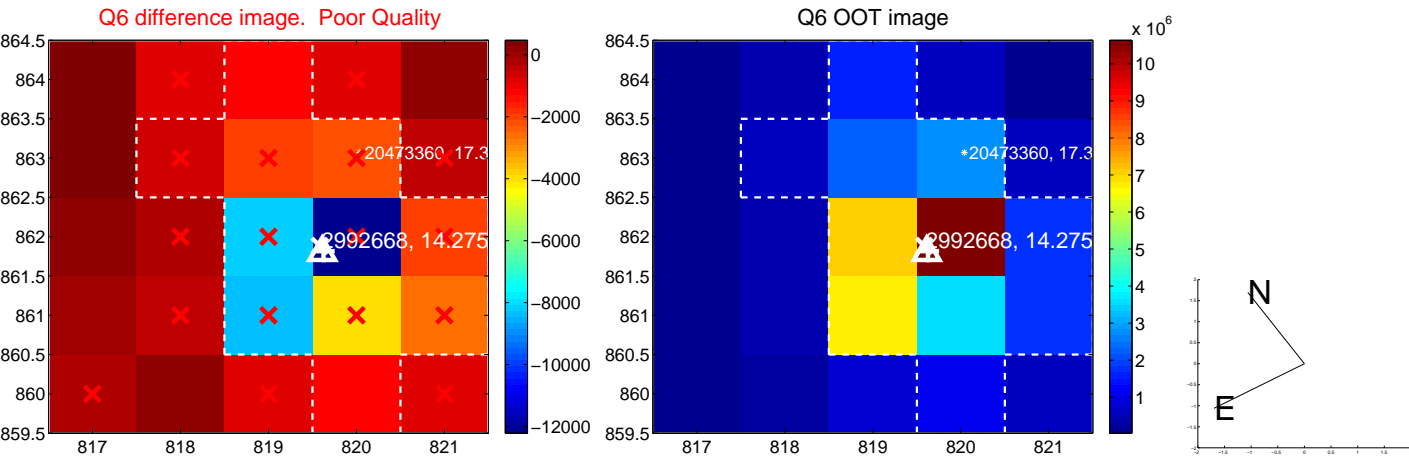
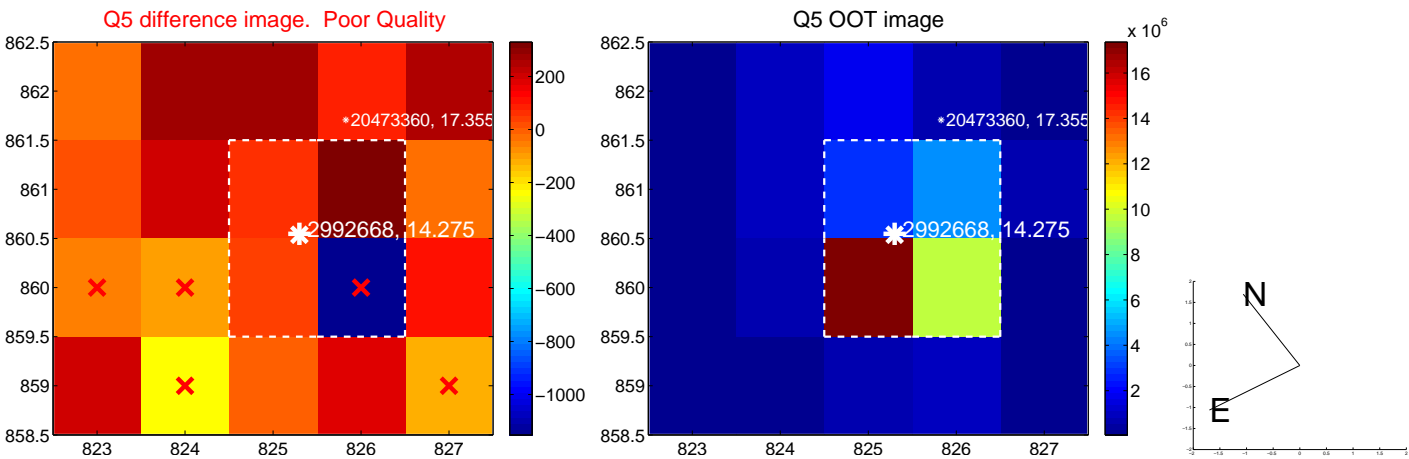


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

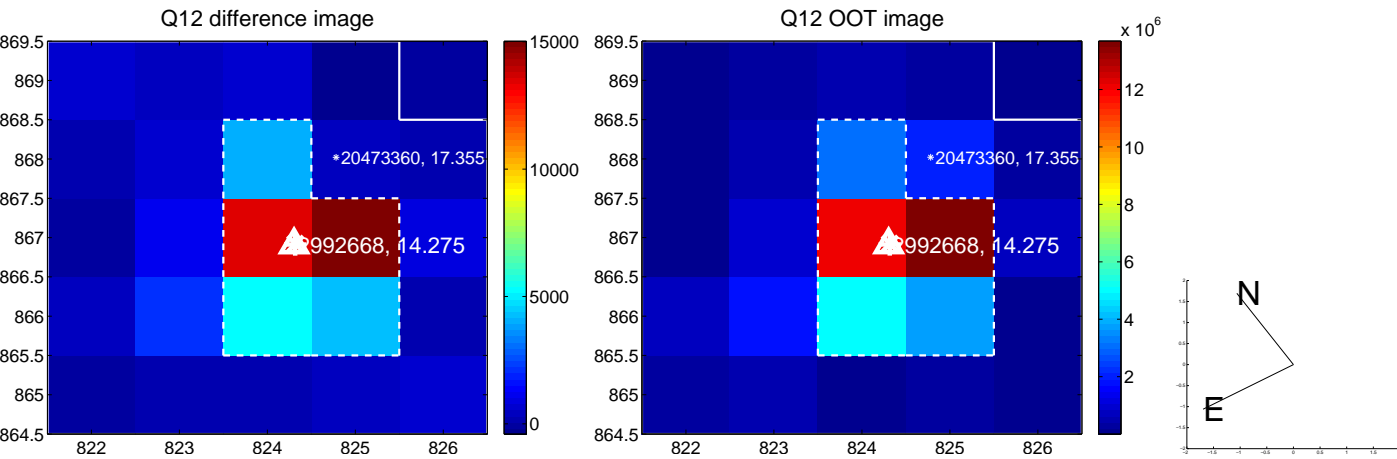
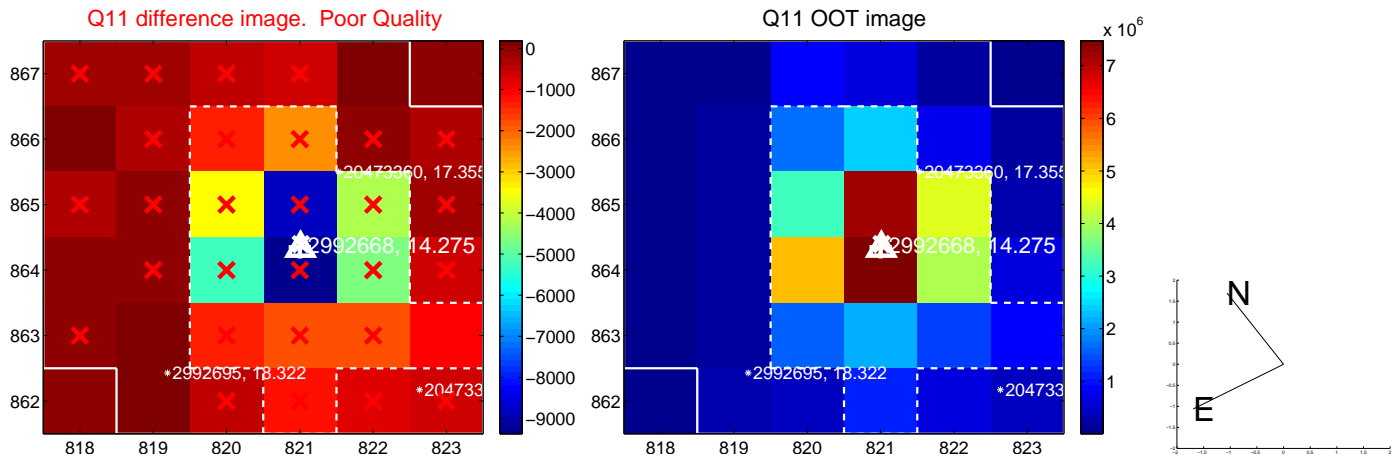
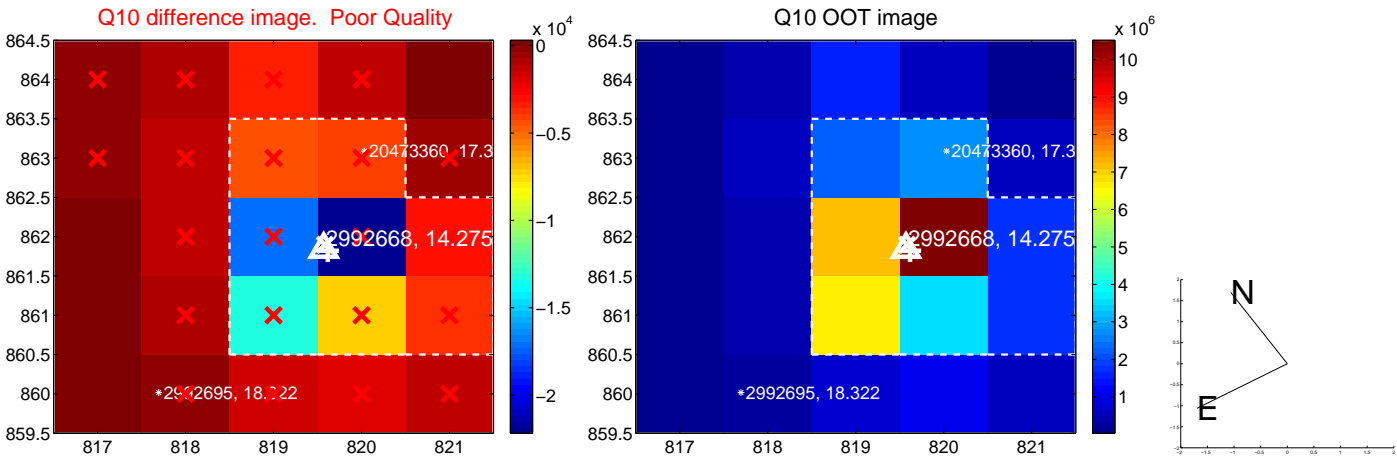
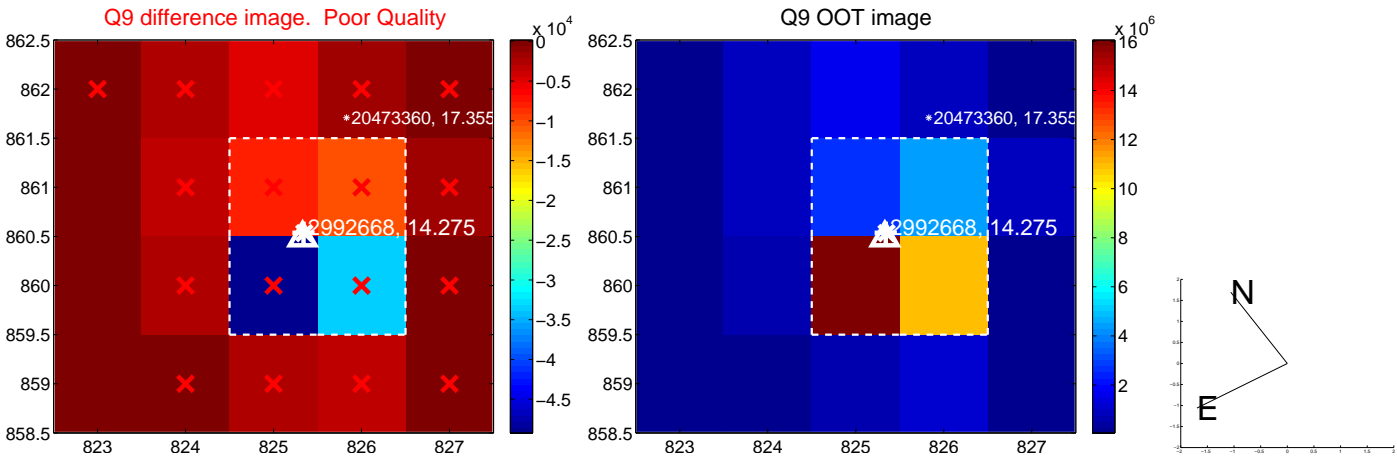
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



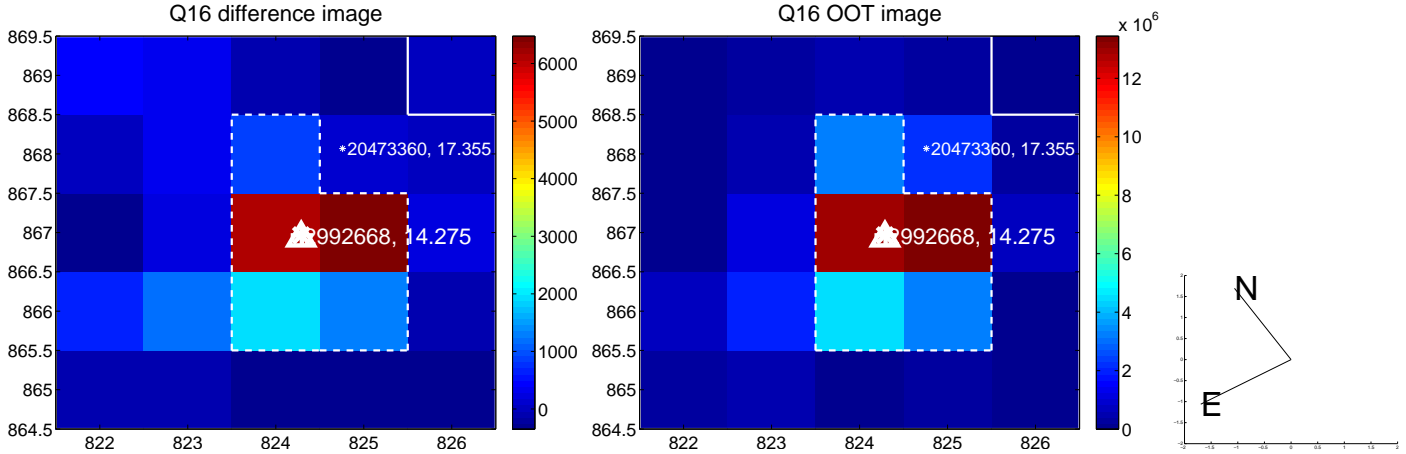
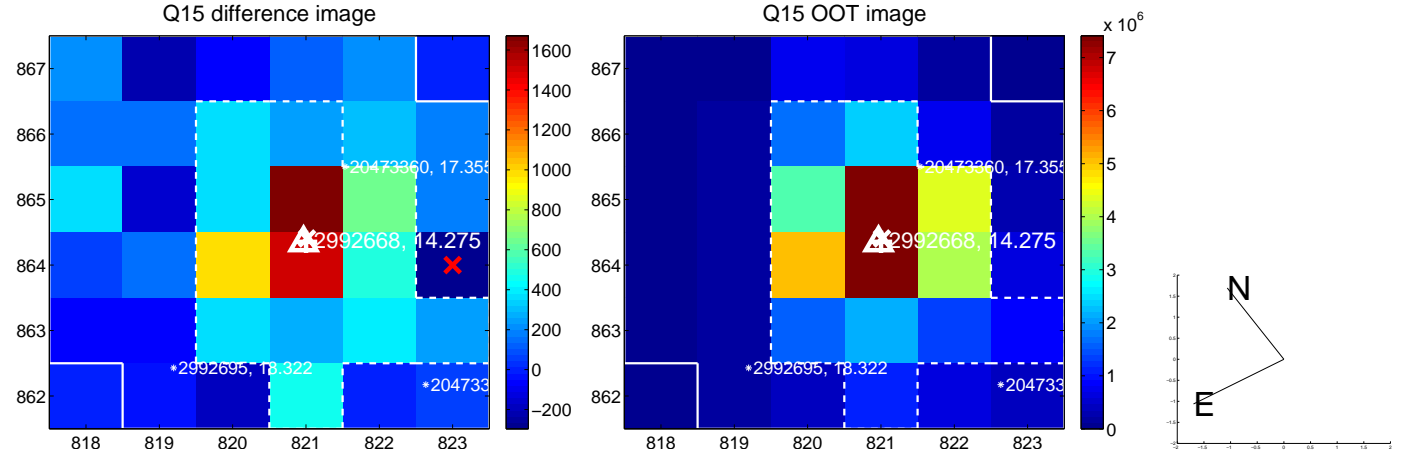
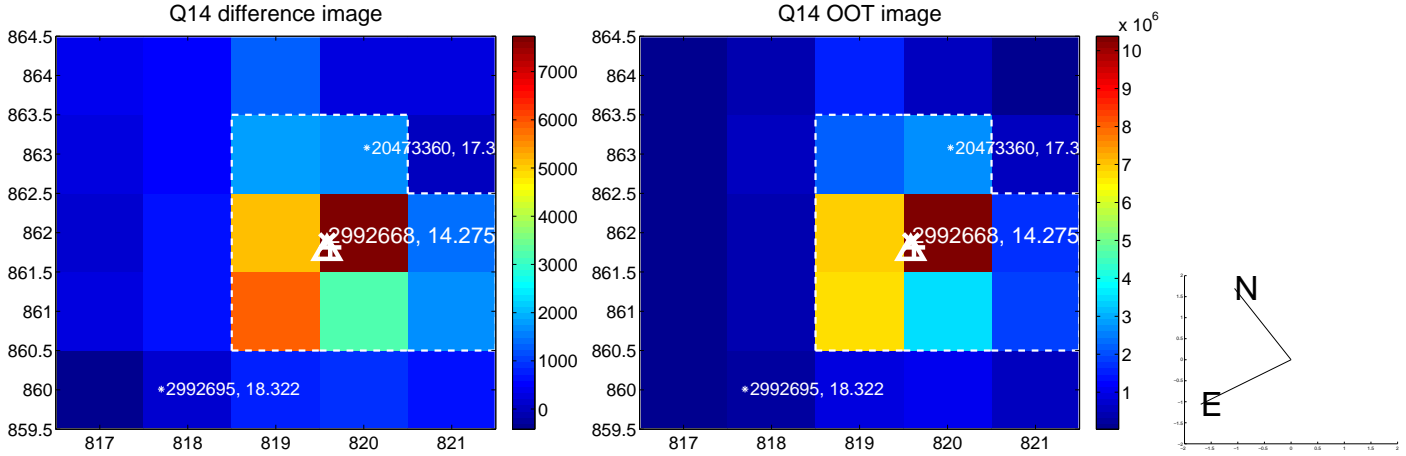
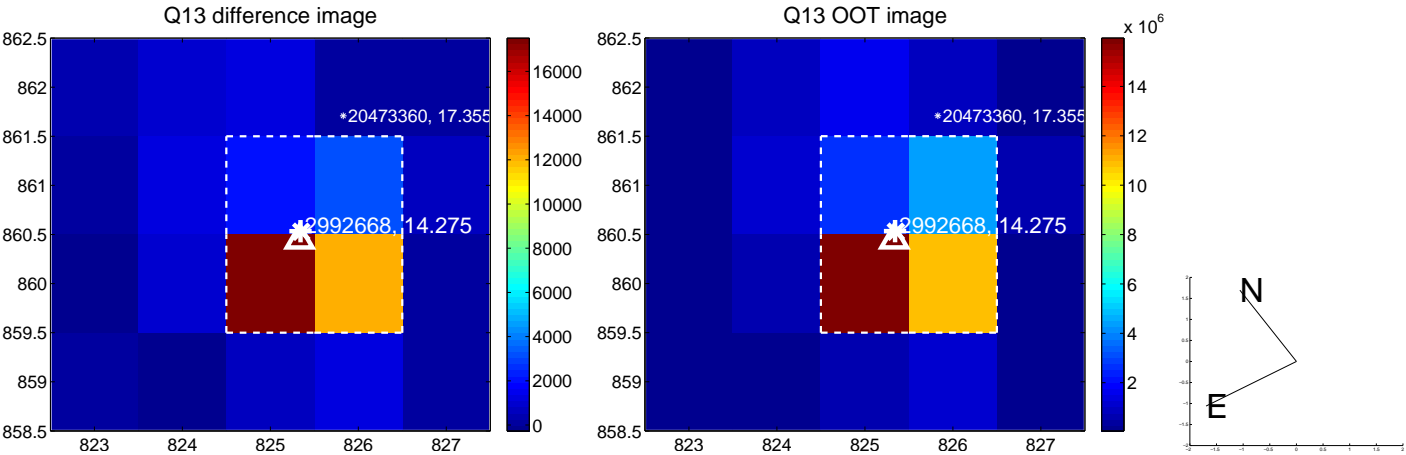
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



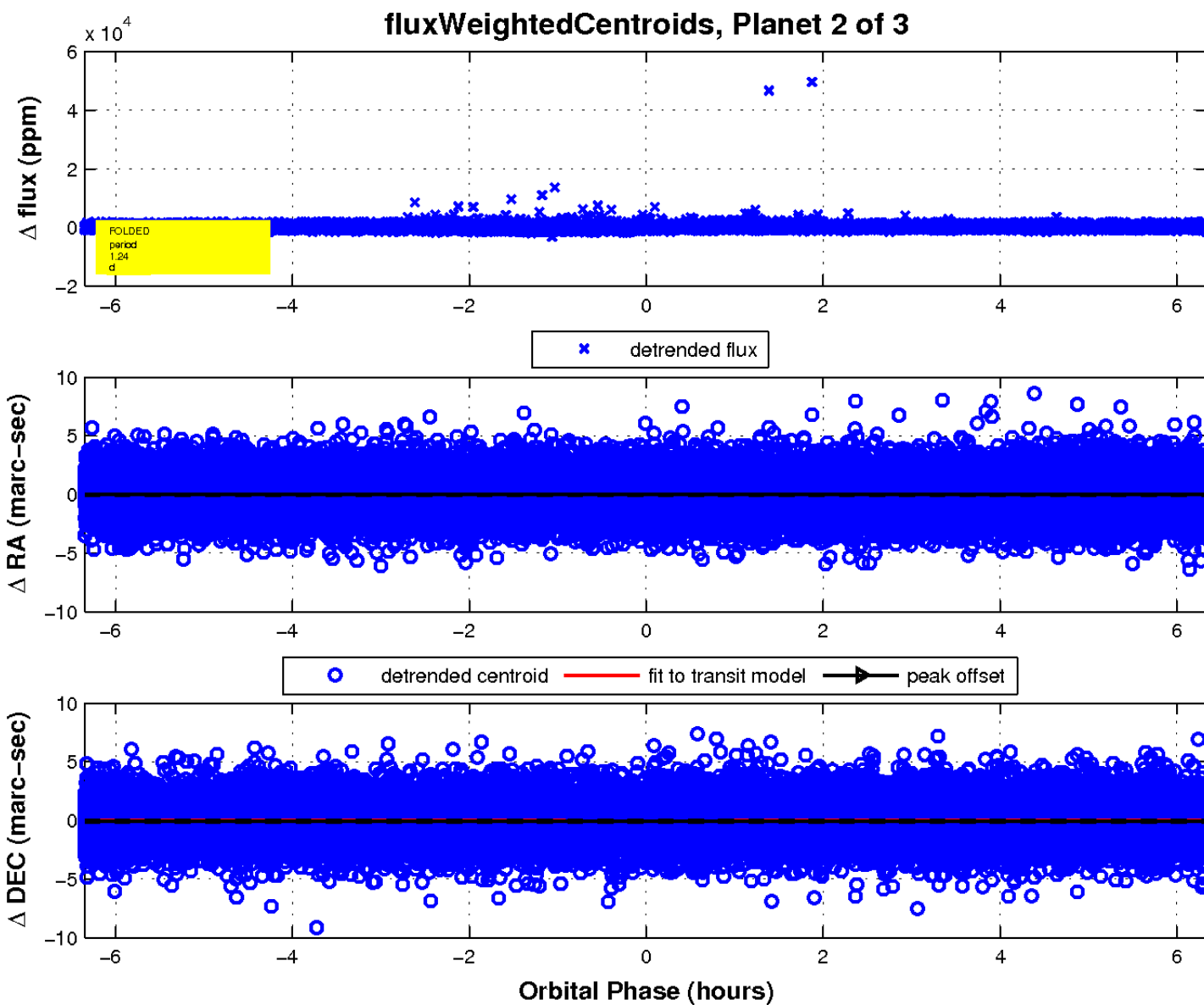
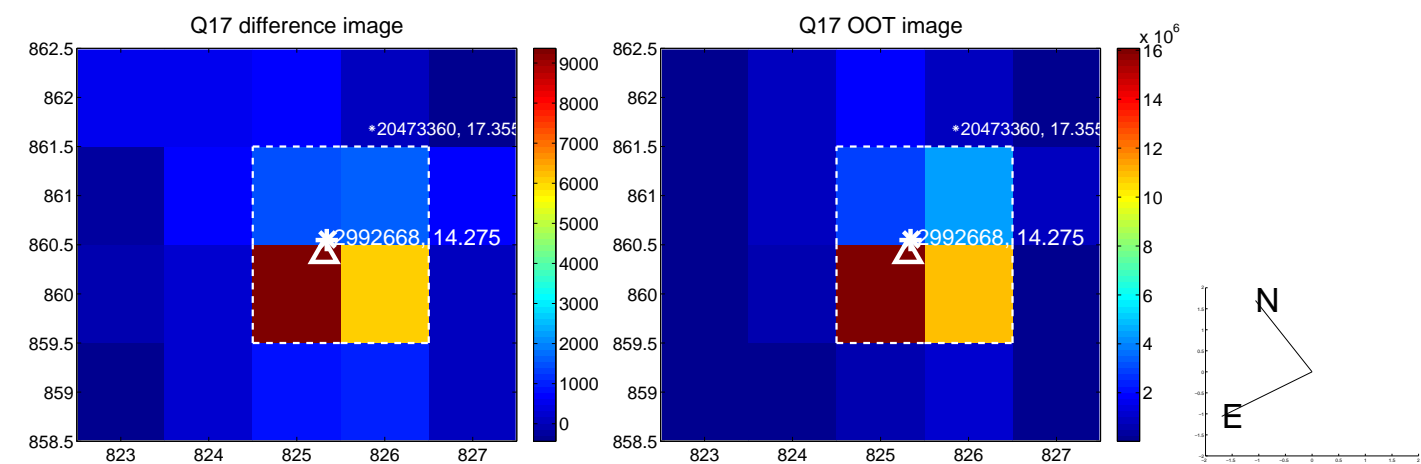
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

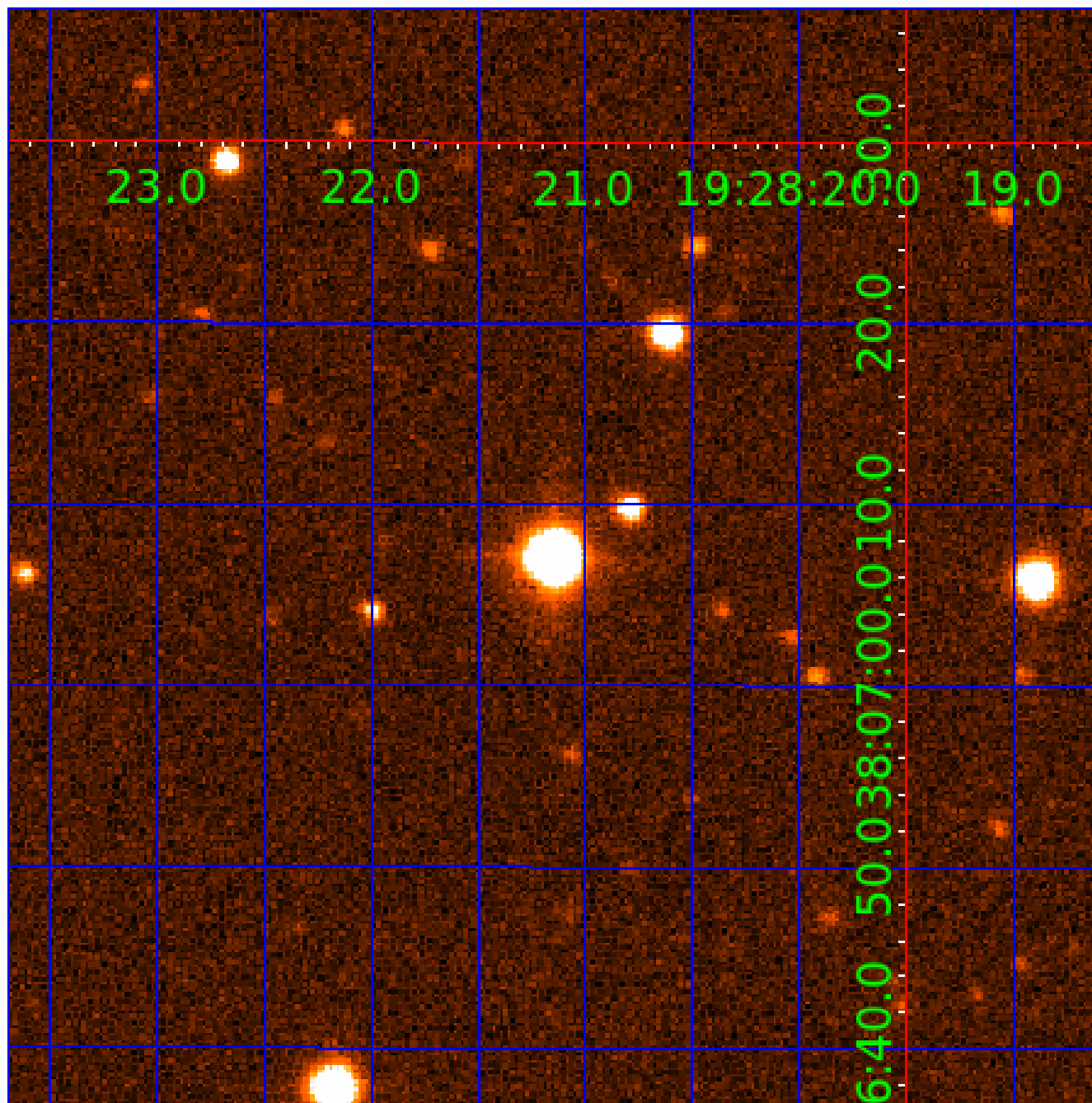


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002992668

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})
002992668-01	OBS	No	579.446807	249.953487	1178.9	2.902	10.6	7.0	0.59	3874	1.96	0.05
002992668-02	OBS	No	1.242209	133.029144	57.6	2.117	8.6	6.1	0.59	3874	0.44	194.53
002992668-03	OBS	No	528.955148	145.021667	1328.5	4.101	10.4	7.7	0.59	3874	3.57	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002992668-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002992668-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002992668-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

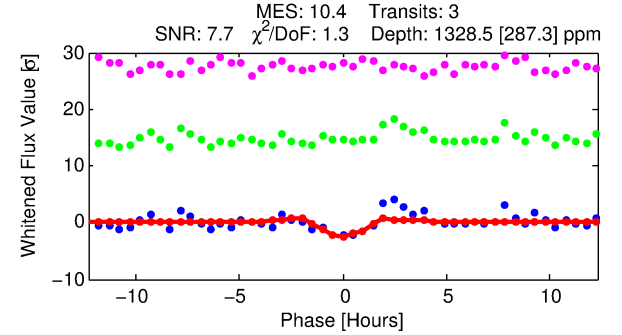
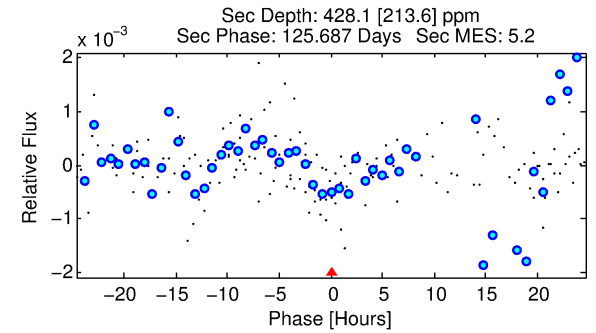
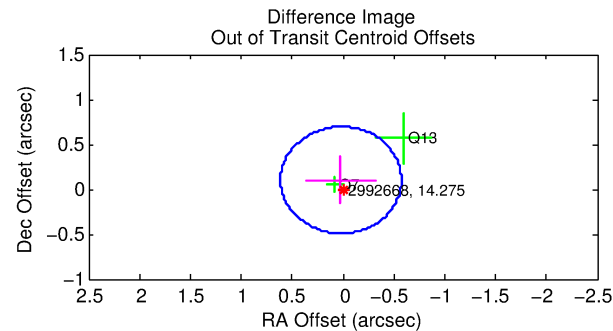
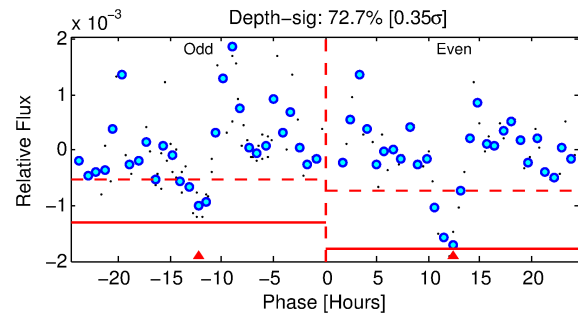
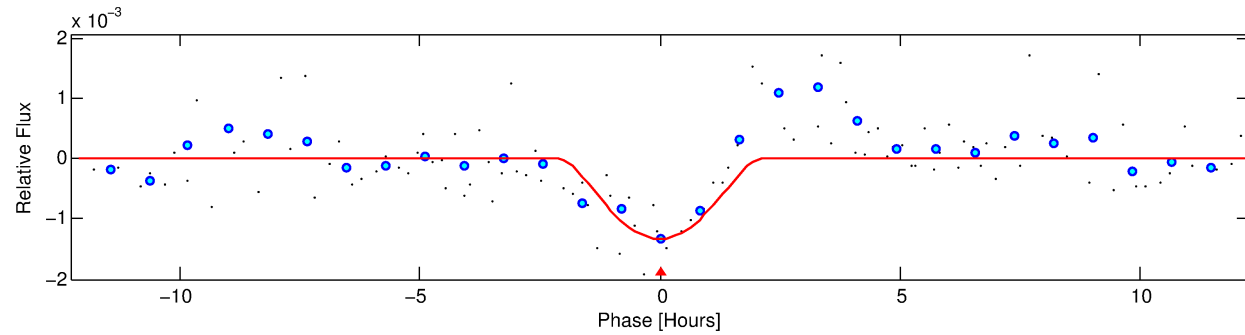
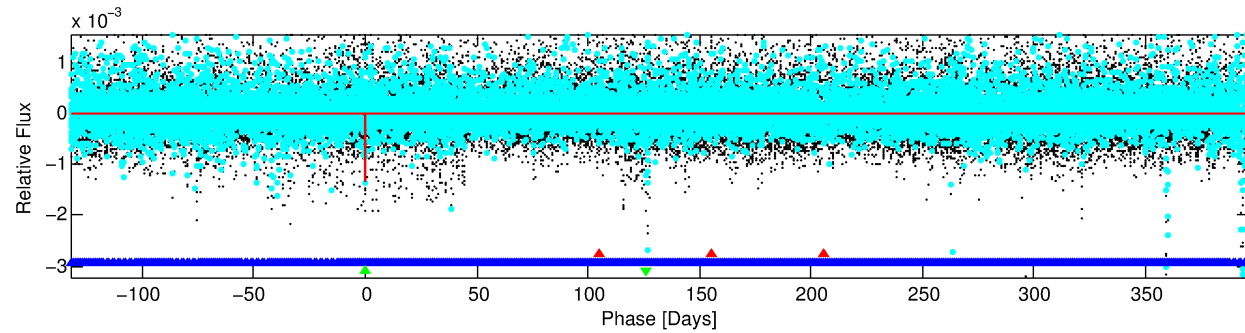
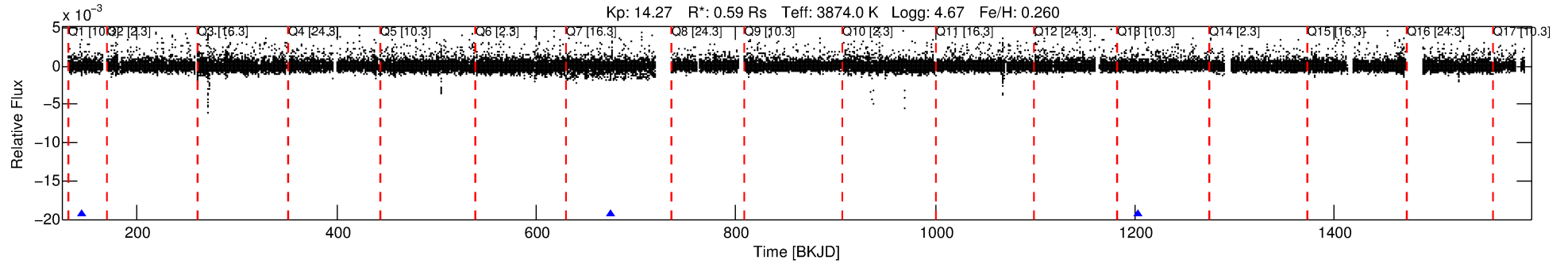
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002992668-03

No Significant Match Found

DV One-Page Summary

KIC: 2992668 Candidate: 3 of 3 Period: 528.955 d



DV Fit Results:

Period = 528.95515 [0.00779] d
Epoch = 145.0217 [0.0103] BKJD
Rp/R* = 0.0554 [0.1375]
a/R* = 385.04 [314.36]
b = 0.98 [0.24]
Seff = 0.06 [0.01]
Teq = 127 [6] K
Rp = 3.57 [8.88] Re
a = 1.0774 [0.1018] AU
Ag = 21445.81 [107085.92] [0.20 σ]
Teffp = 2368 [2957] K [0.76 σ]

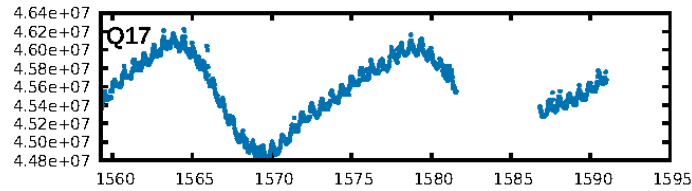
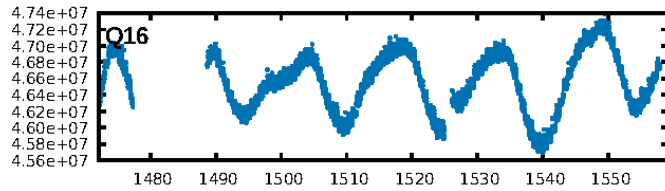
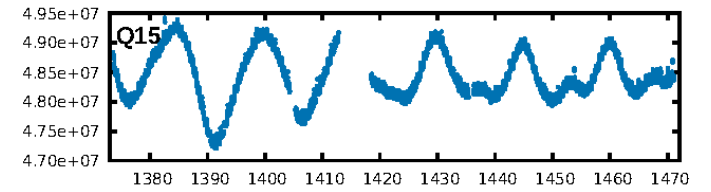
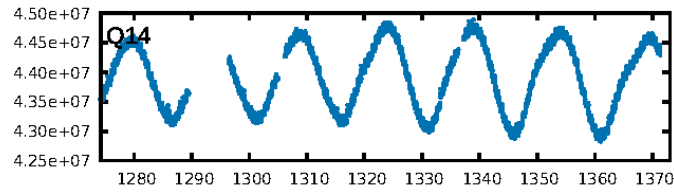
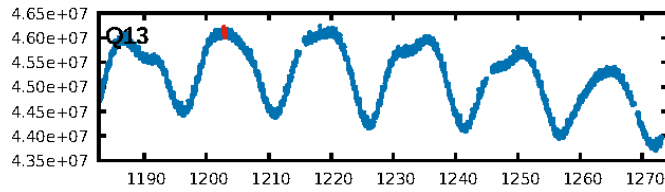
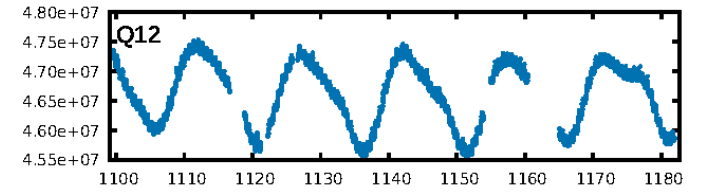
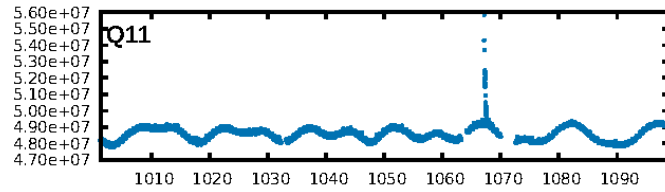
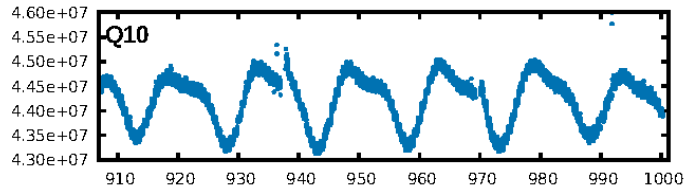
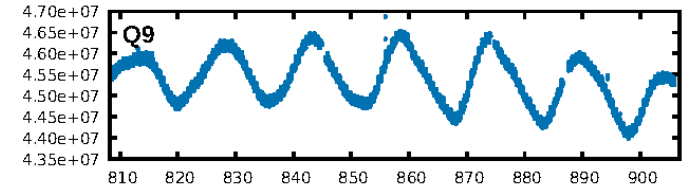
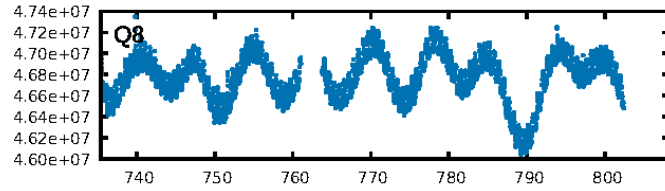
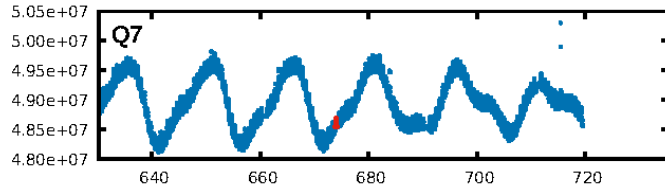
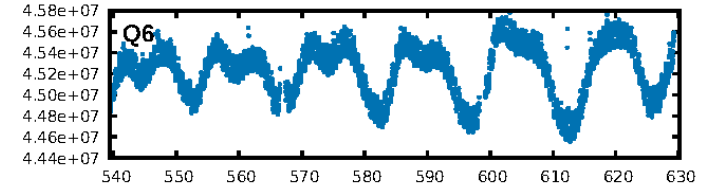
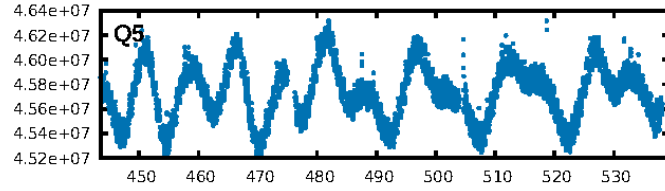
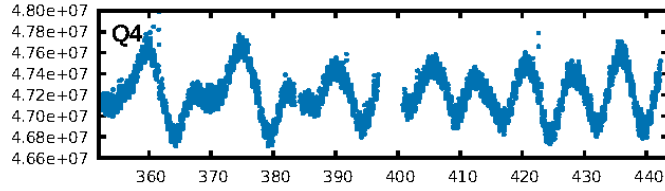
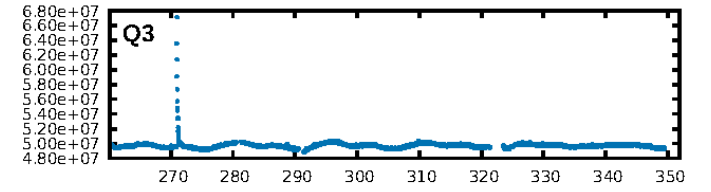
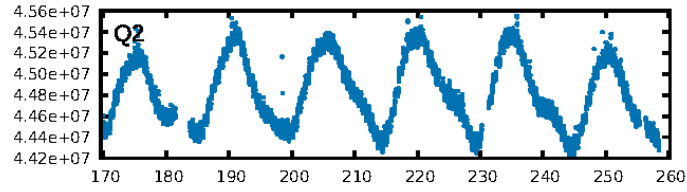
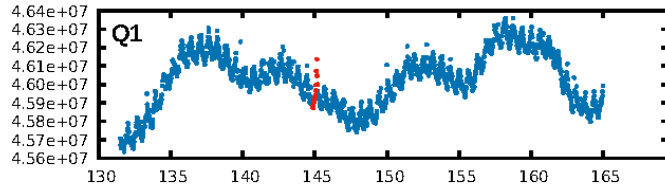
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2744.32 σ]
LongPeriod-sig: 100.0% [241.21 σ]
ModelChiSquare2-sig: 17.1%
ModelChiSquareGof-sig: 90.3%
Bootstrap-pfa: 6.05e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.443
Centroid-sig: 15.6%
Centroid-so: 1.155 arcsec [1.31 σ]
OotOffset-rm: 0.102 arcsec [0.52 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.142 arcsec [0.58 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.33 [1/3]

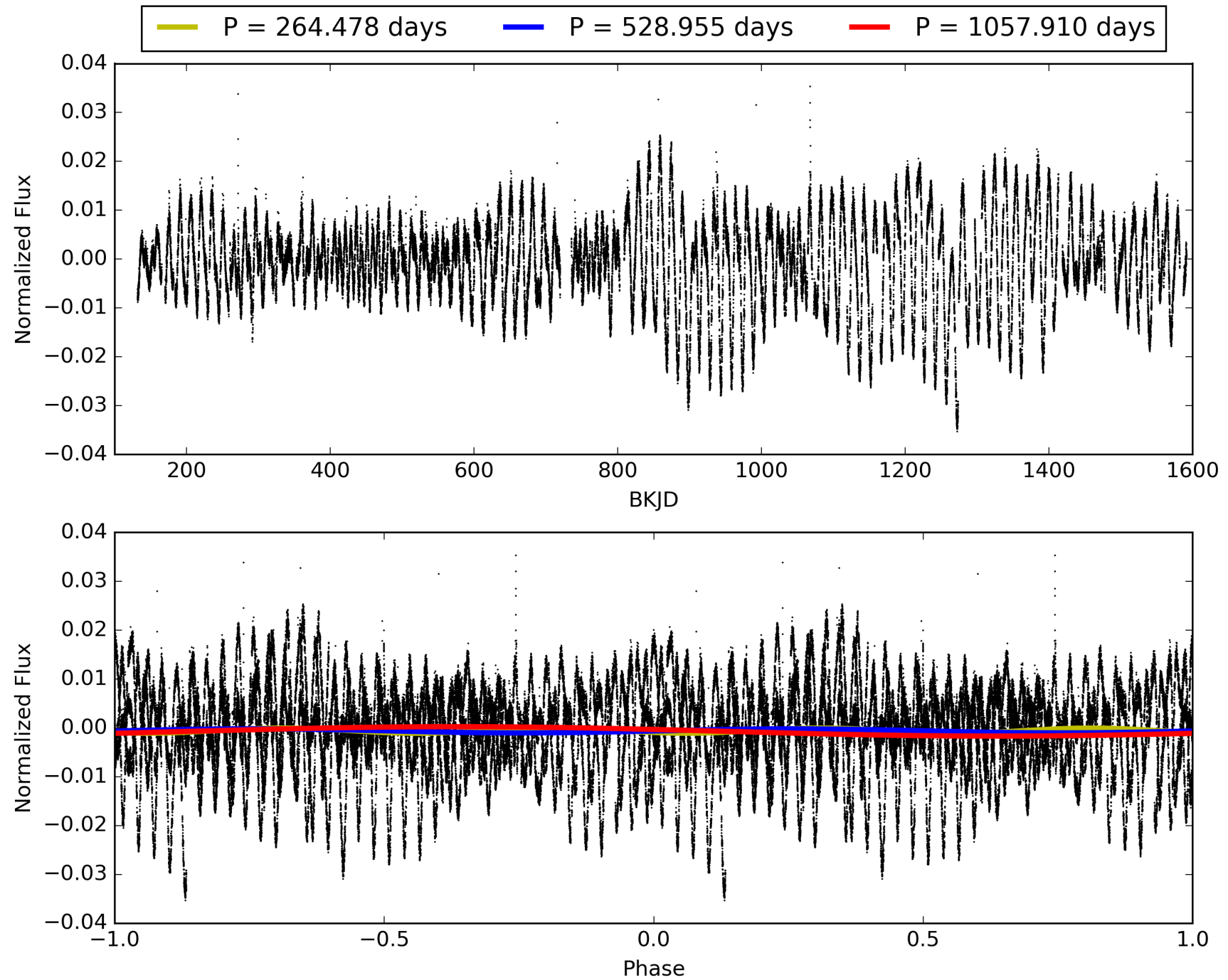
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:43:59 Z

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

TCE 002992668-03, PDC Light Curves

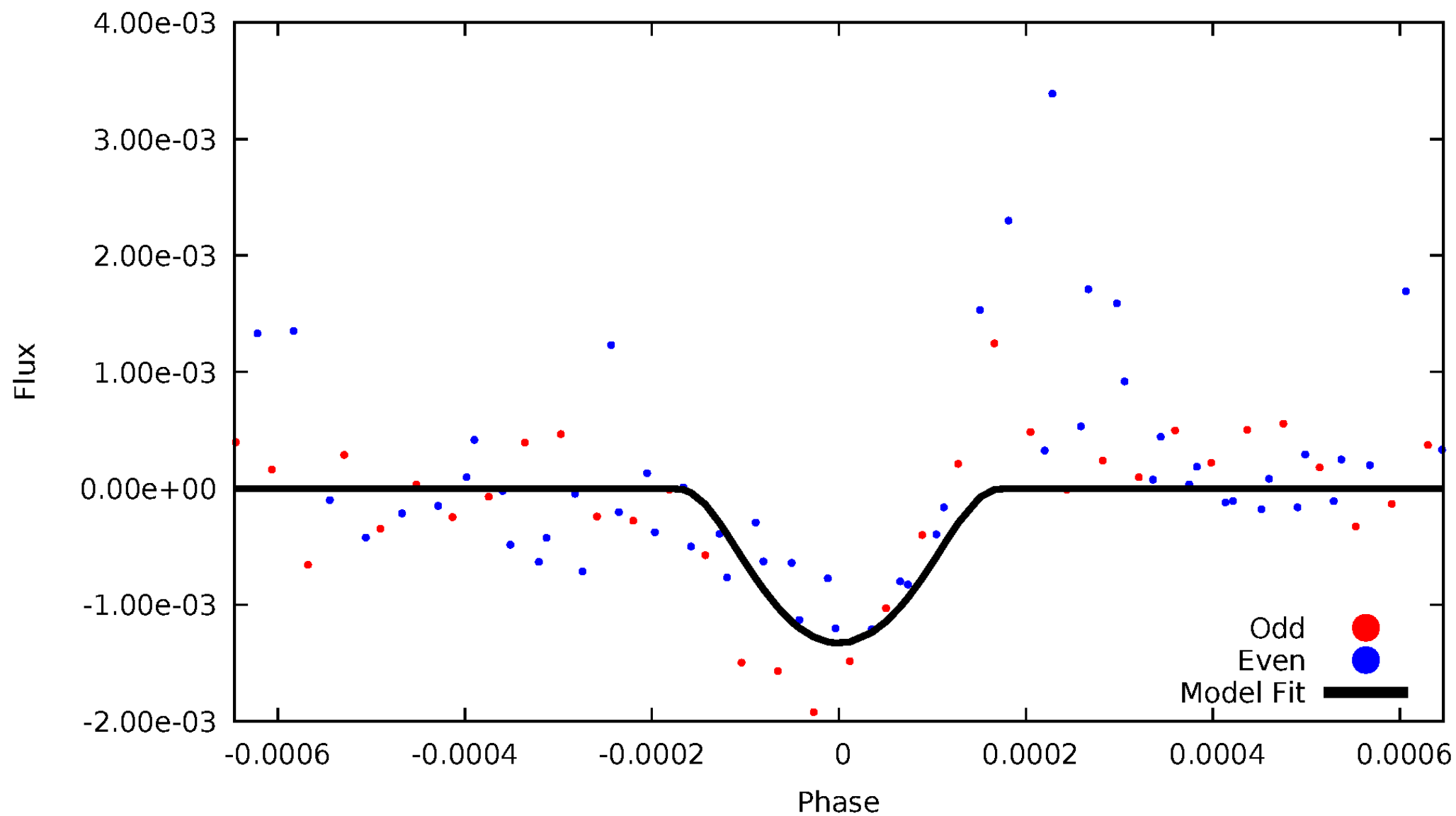


TCE 002992668-03



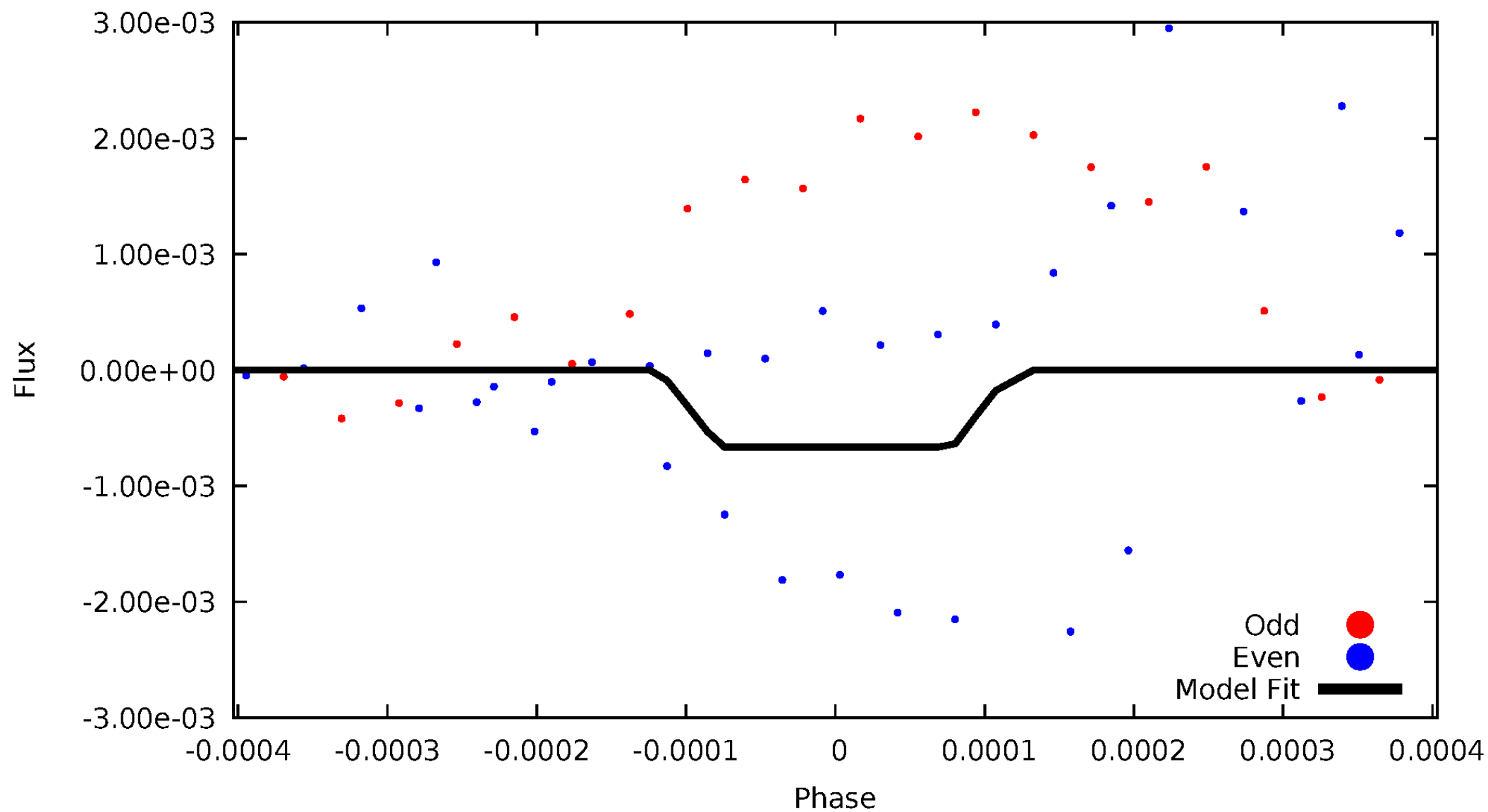
DV Odd/Even

TCE 002992668-03



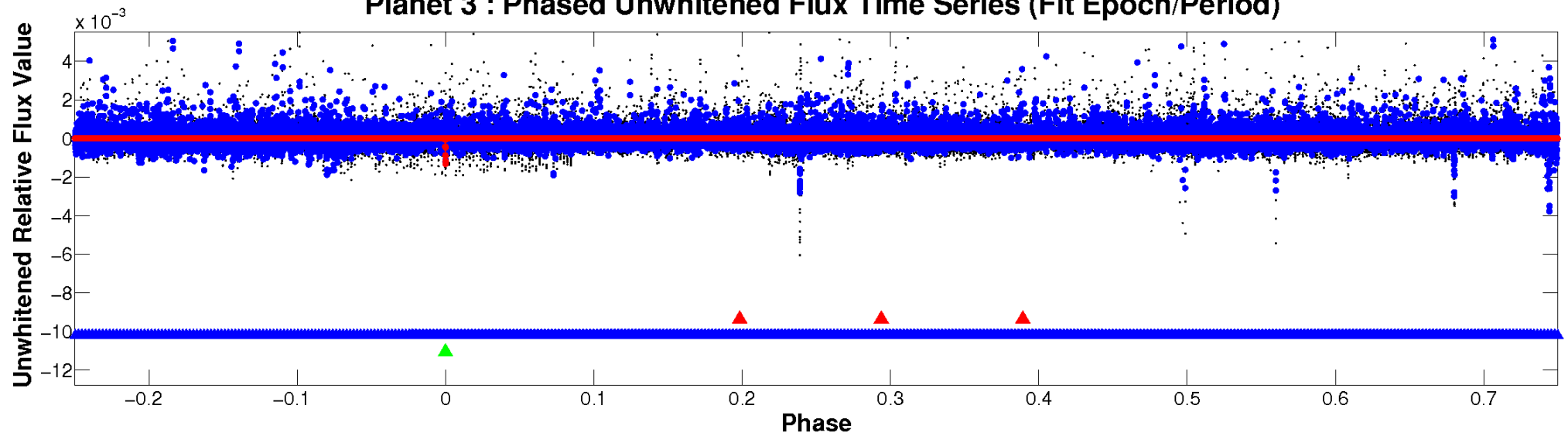
ALT Odd/Even

TCE 002992668-03

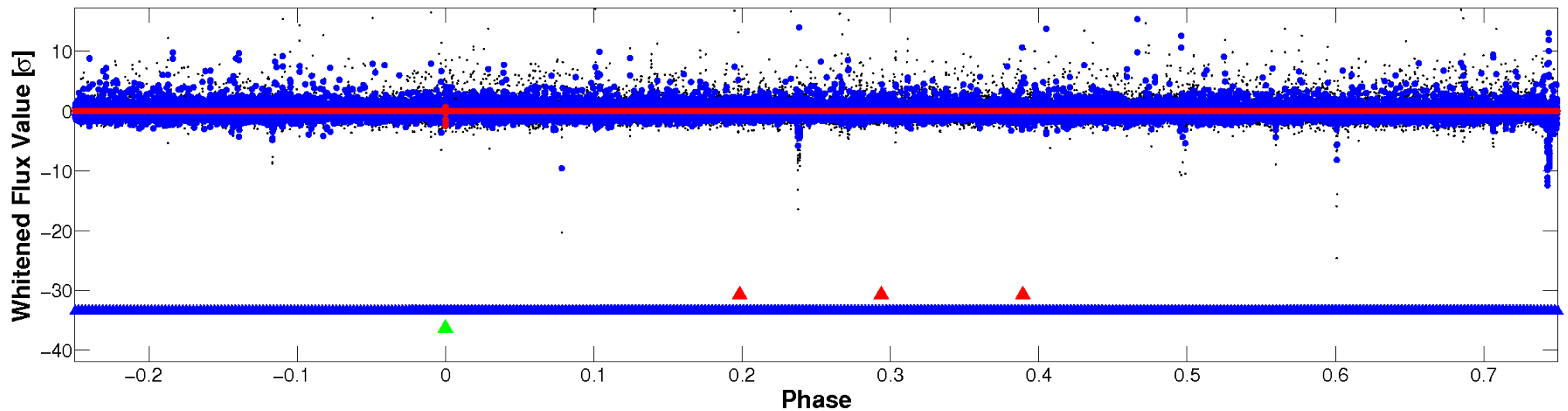


Non-Whitened Vs. Whitened Light Curve

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

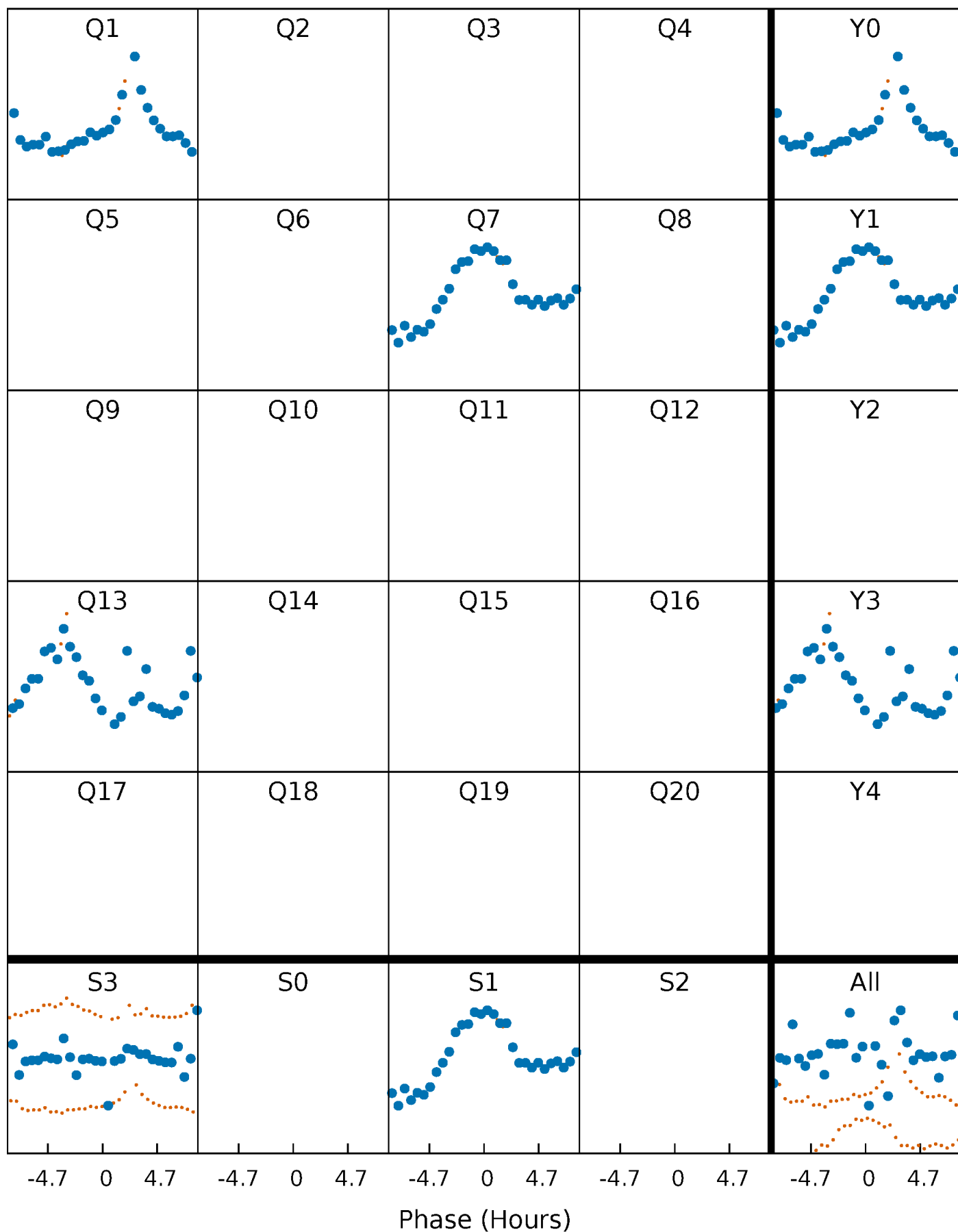


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



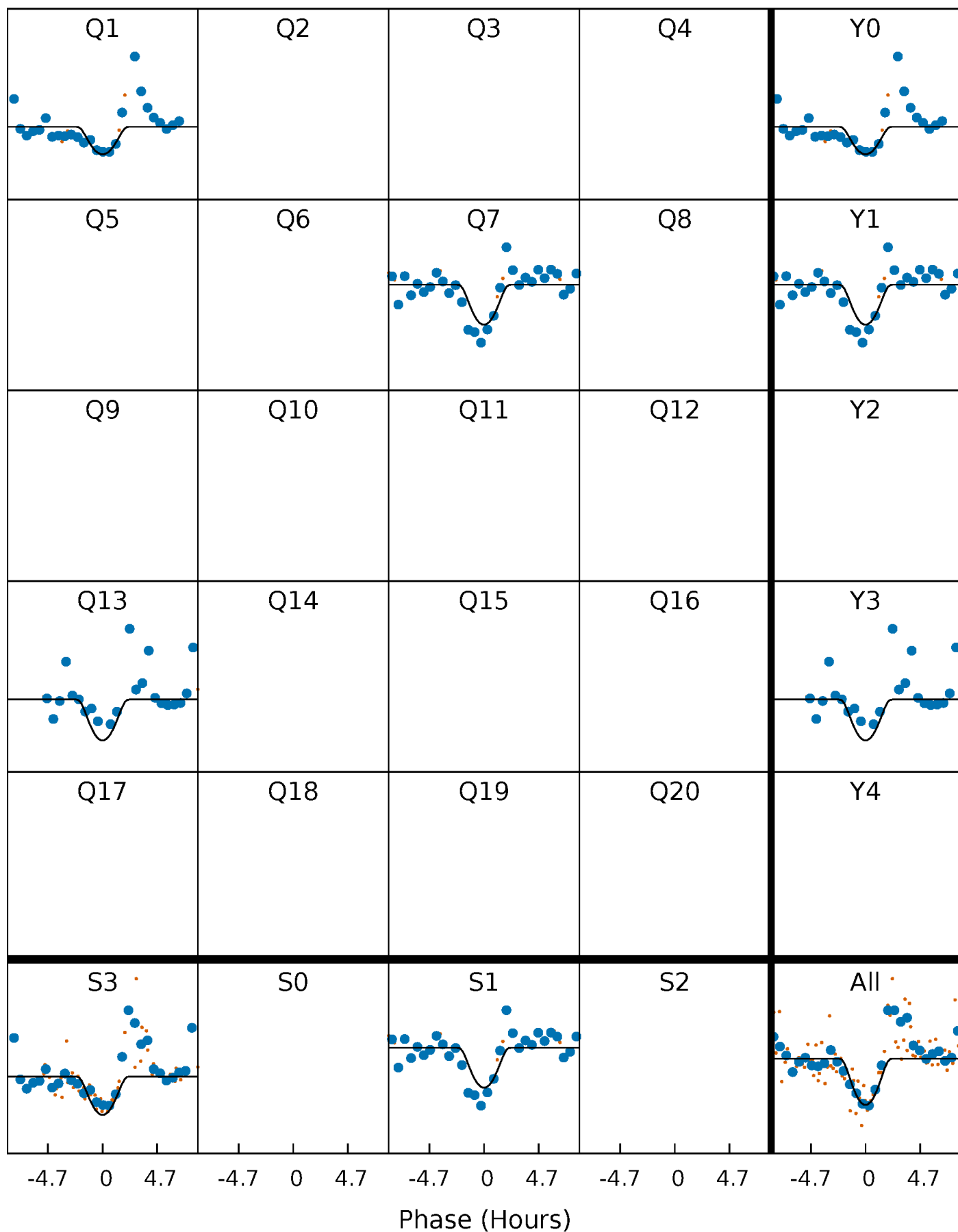
PDC Quarter-Phased Transit Curves

TCE 002992668-03 $P=528.955148$ Days $T_0=145.021667$ (BKJD)



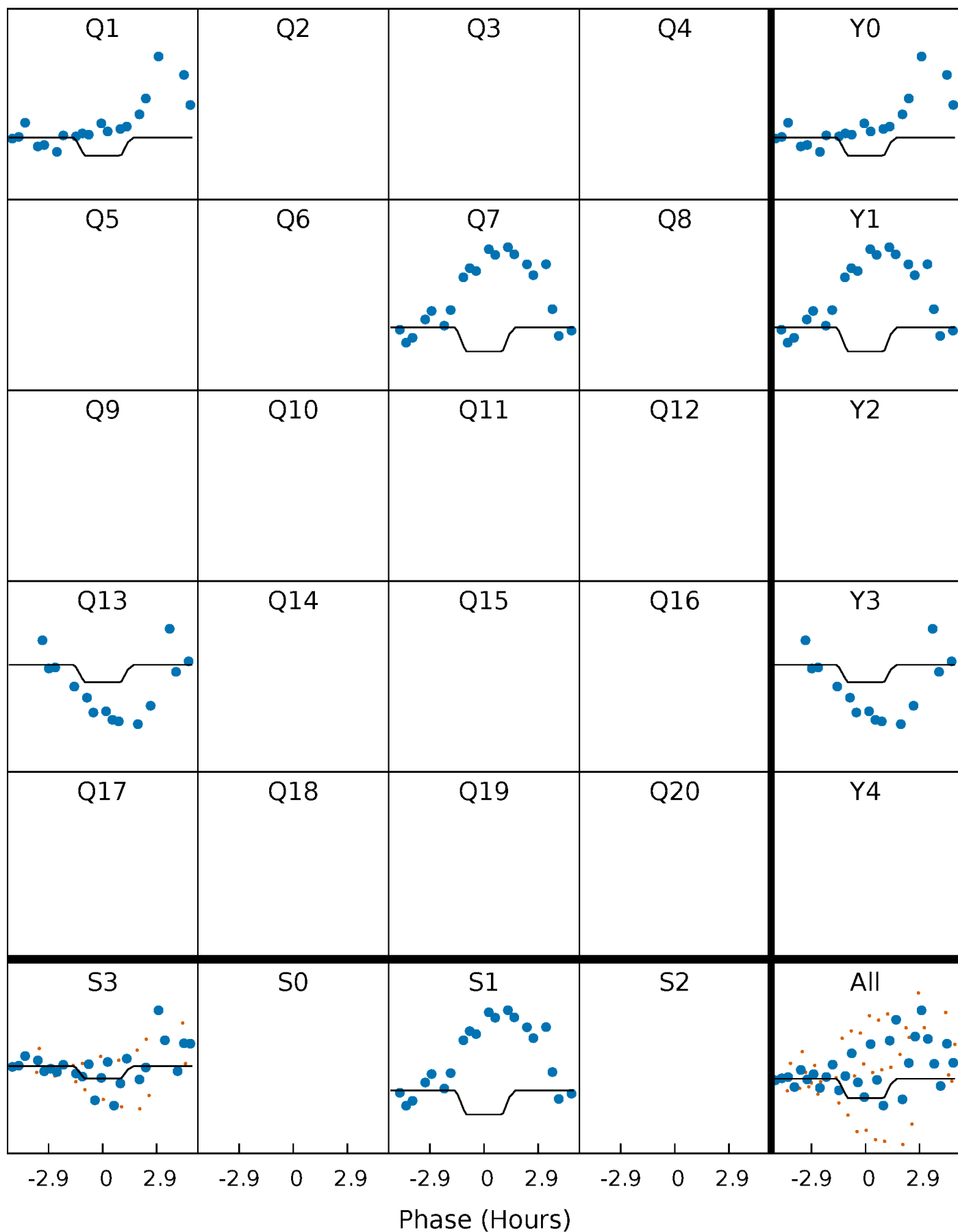
DV Quarter-Phased Transit Curves

TCE 002992668-03 $P=528.955148$ Days $T_0=145.021667$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

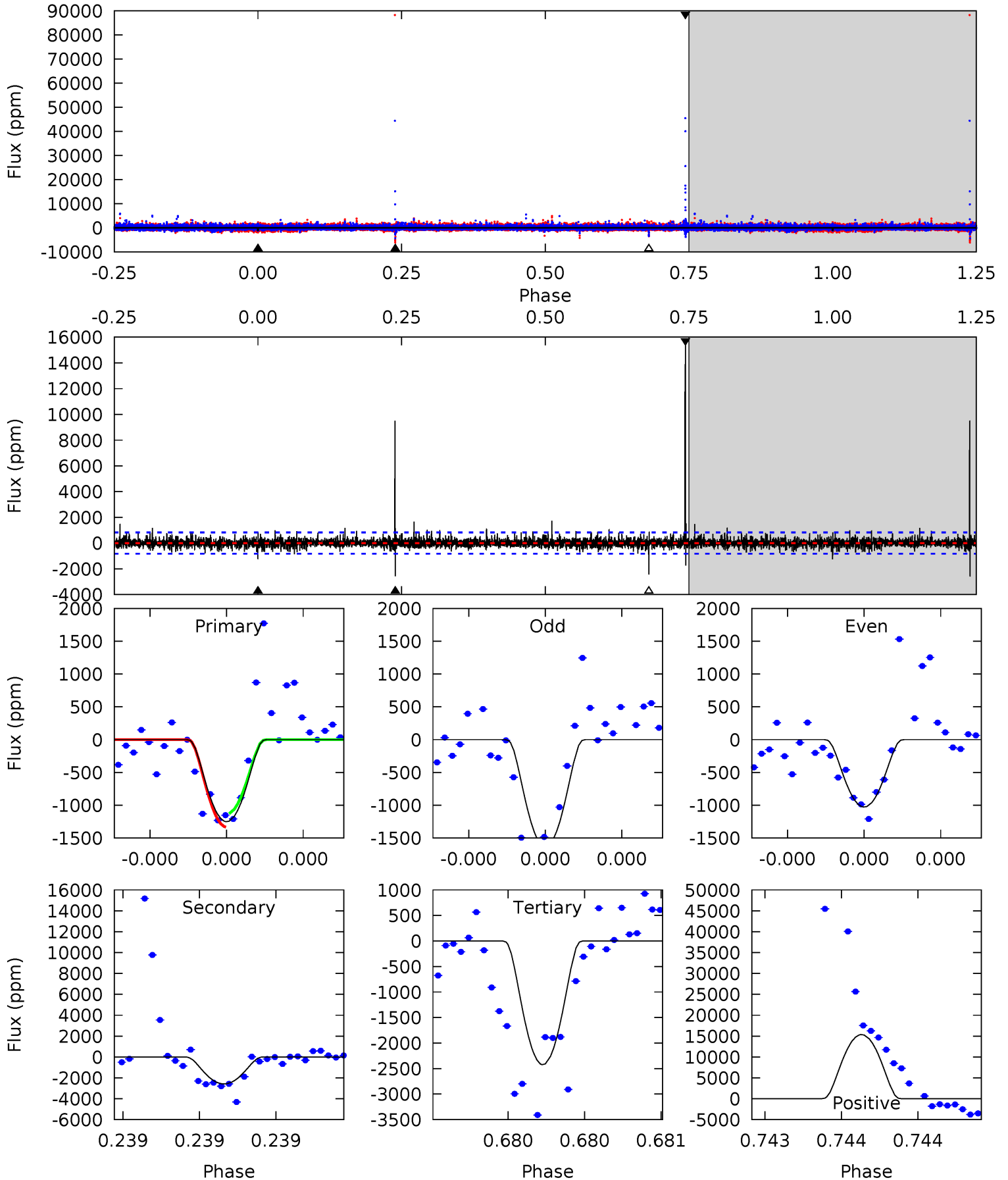
TCE 002992668-03 P=528.949945 Days $T_0=144.983377$ (BKJD)



DV Model-Shift Uniqueness Test

002992668-03, P = 528.955148 Days, E = 145.021667 Days

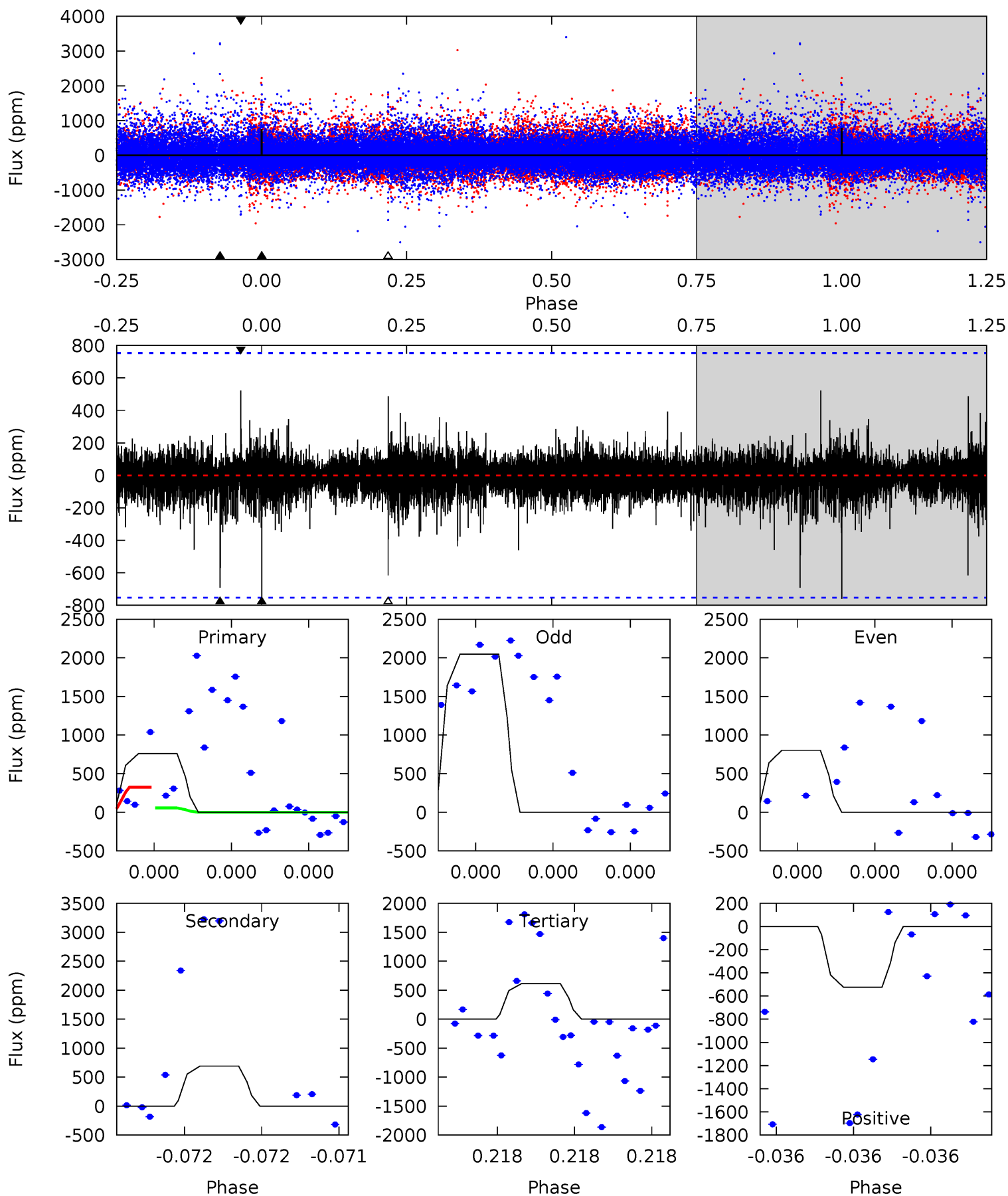
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.59	17.7	16.6	105.4	5.64	3.58	2.37	-8.05	-96.9	1.08	-87.7	2.06	1.02	0.86	0.71



Alt Model-Shift Uniqueness Test

002992668-03, P = 528.949945 Days, E = 144.983377 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	5.23	4.66	3.96	5.71	3.68	0.59	1.10	1.79	0.58	1.27	5.92	0.57	0.41	1.13



Stellar Parameters For KIC 002992668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3874^{+136}_{-136}	$4.670^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.591^{+0.033}_{-0.072}$	$0.595^{+0.041}_{-0.067}$	$4.065^{+1.291}_{-0.454}$
	+4%/-4%	+1%/-0%	+77%/-115%	+6%/-12%	+7%/-11%	+32%/-11%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002992668-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2582 ± 146	$7.43^{+7.39}_{-5.13}$	176^{+7}_{-7}	3004^{+1330}_{-510}	$29624^{+277318}_{-21740}$
Alt.	-691 ± 132	$6.45^{+6.57}_{-4.51}$	176^{+6}_{-7}	2606^{+1038}_{-412}	10445^{+99525}_{-7904}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

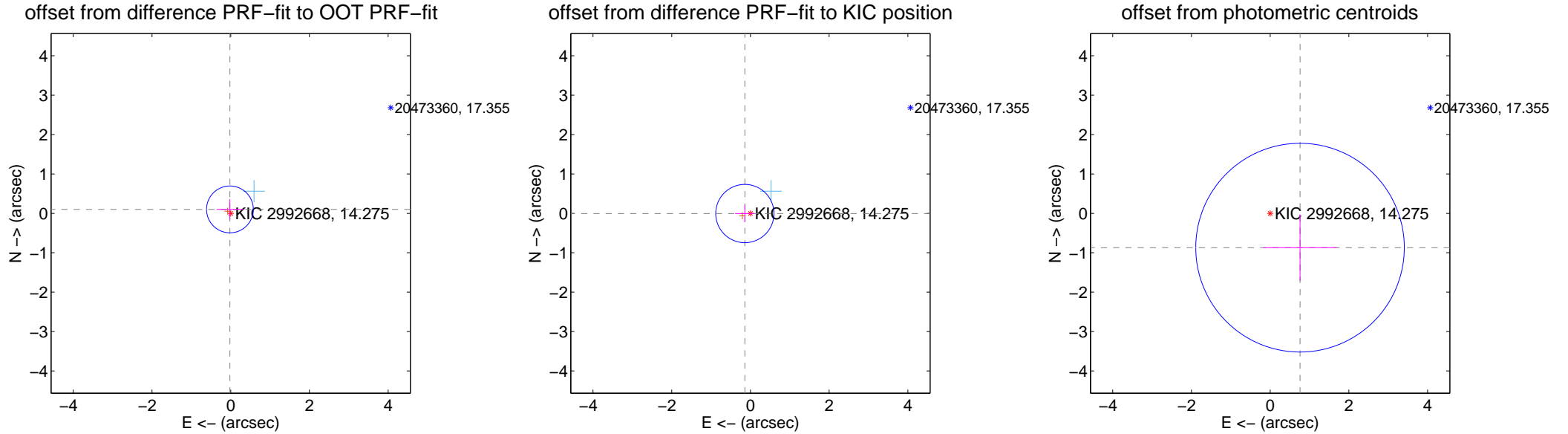
DV Centroid Data

Supplemental centroid analysis for 002992668-03. Kepler magnitude: 14.28. Transit SNR 7.74

There are 1 quarters with good PRF difference image offsets

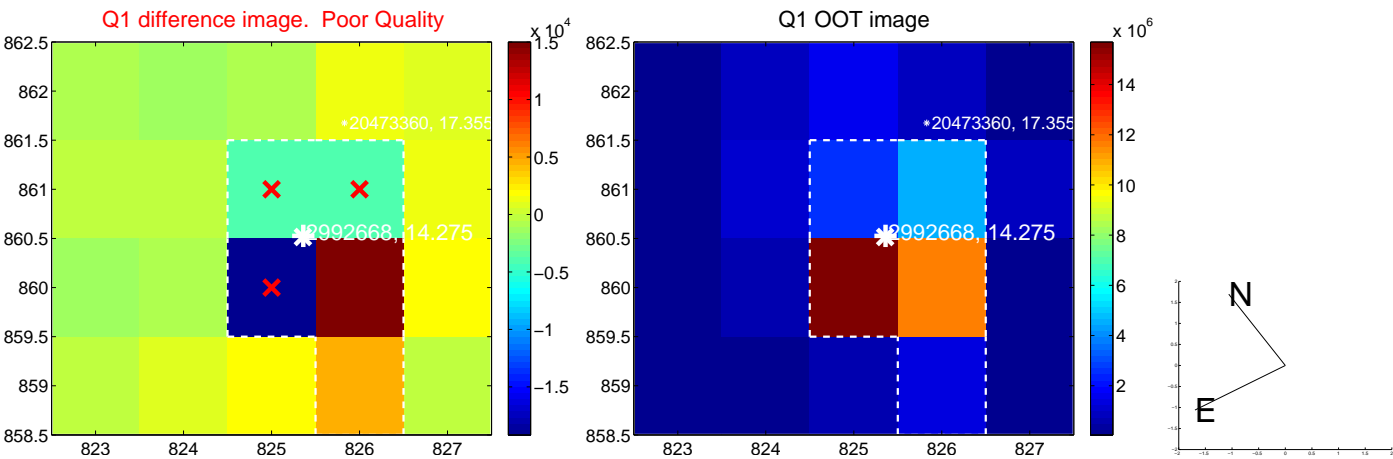
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.102 ± 0.198	0.52	0.019 ± 0.341	0.101 ± 0.263
PRF-fit source offset from KIC position	0.142 ± 0.247	0.58	0.142 ± 0.247	-0.005 ± 0.220
photometric centroid source offset	1.15 ± 0.88	1.31	-0.76 ± 0.93	-0.87 ± 0.84

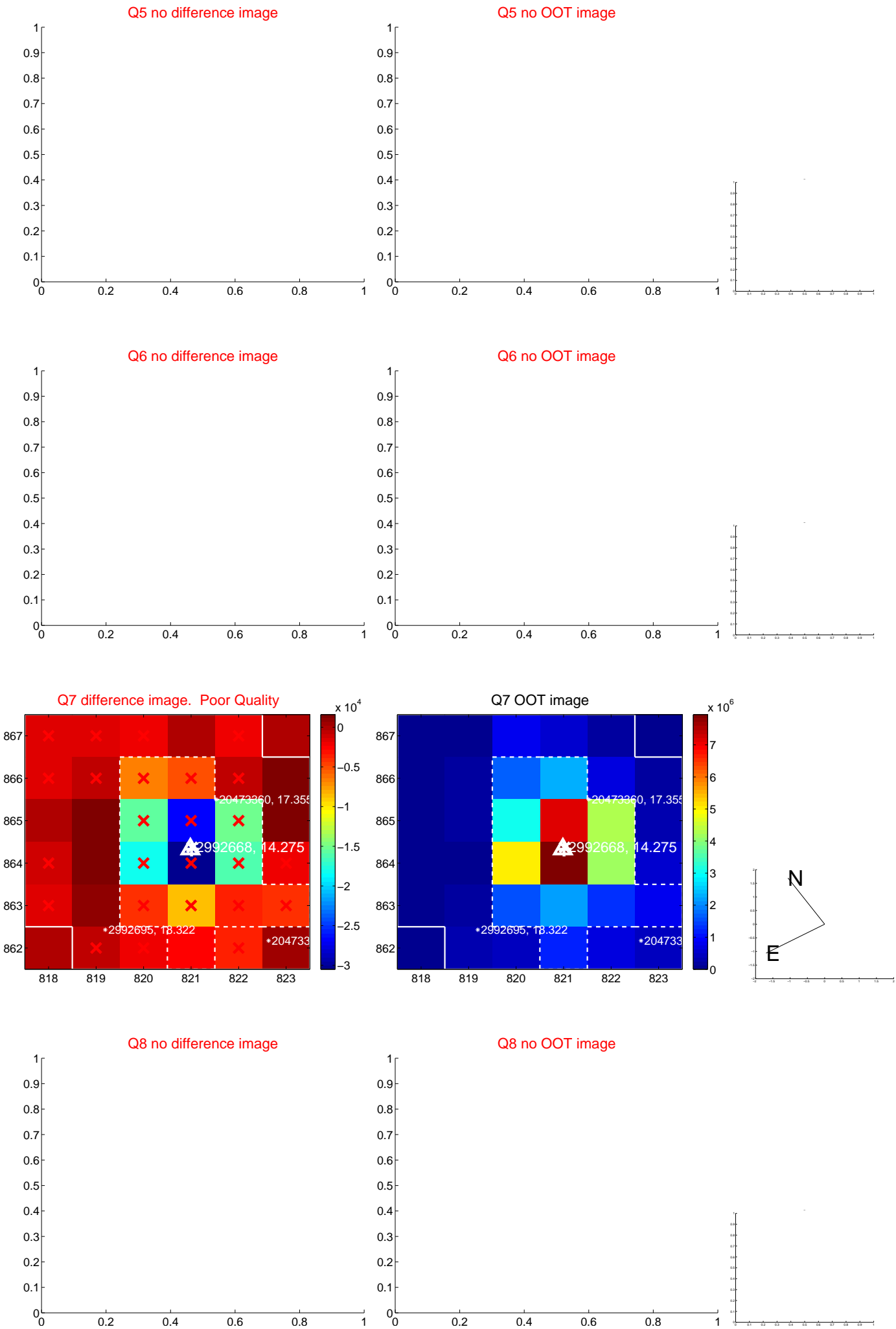


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



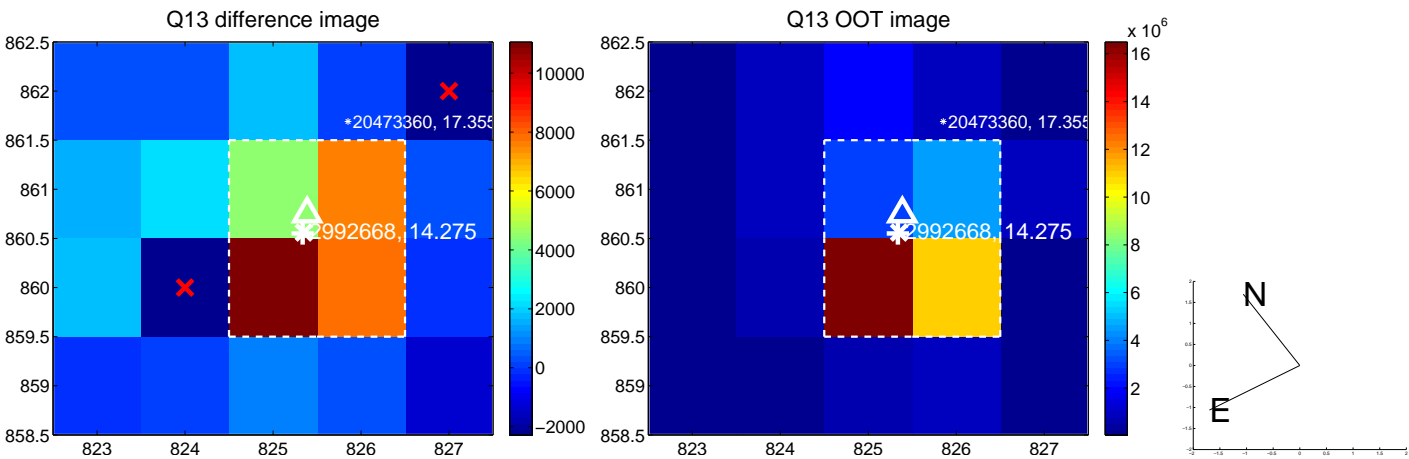
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



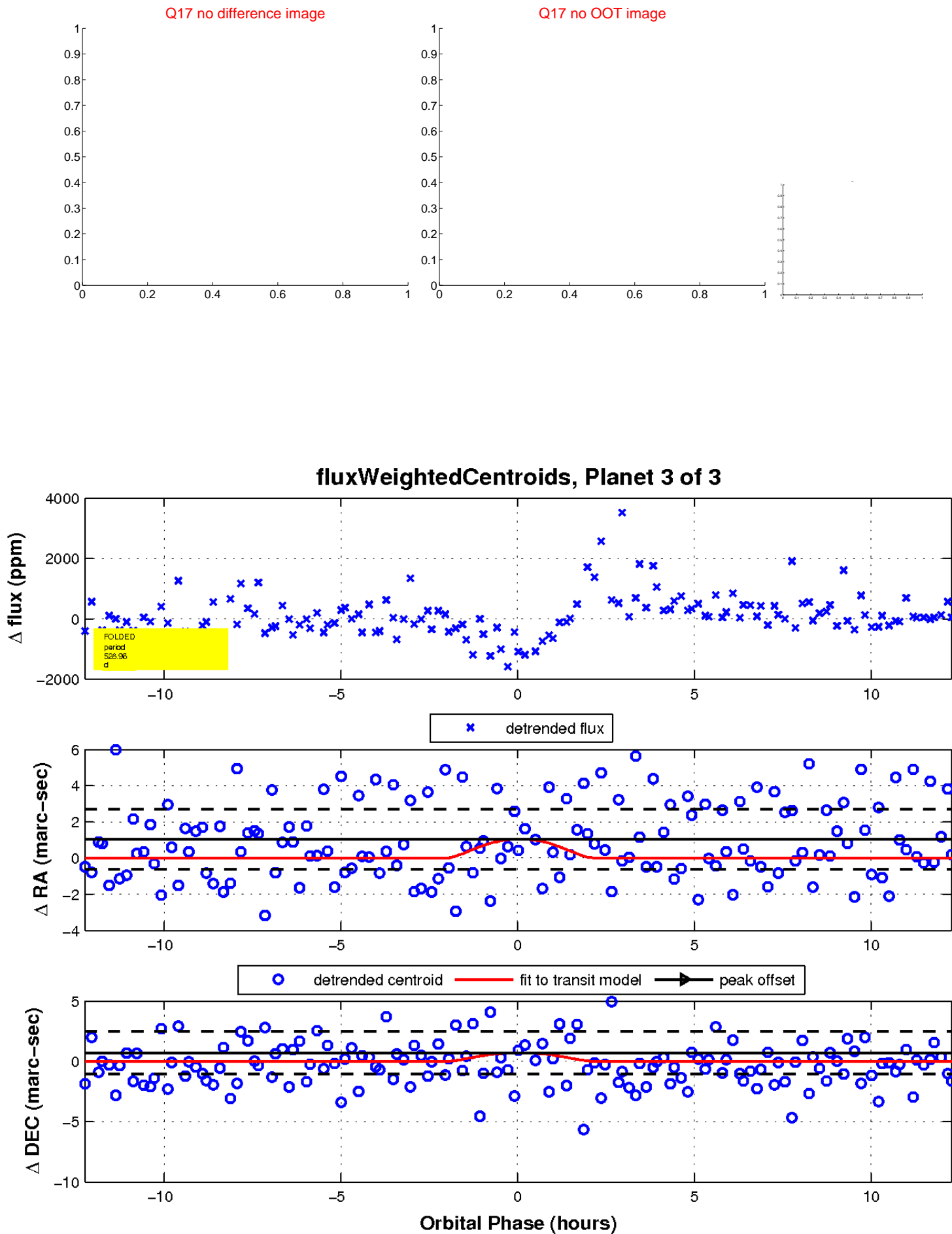
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

