

KIC 009655909

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})
009655909-01	OBS	No	0.817040	131.819621	59.3	2.493	11.2	12.4	2.95	7598	2.64	56607.81
009655909-02	OBS	No	0.794831	132.113971	40.9	2.294	9.8	7.1	2.95	7598	2.16	58726.53
009655909-03	OBS	No	273.307293	138.944579	794.9	6.738	7.6	7.9	2.95	7598	12.85	24.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009655909-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009655909-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009655909-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

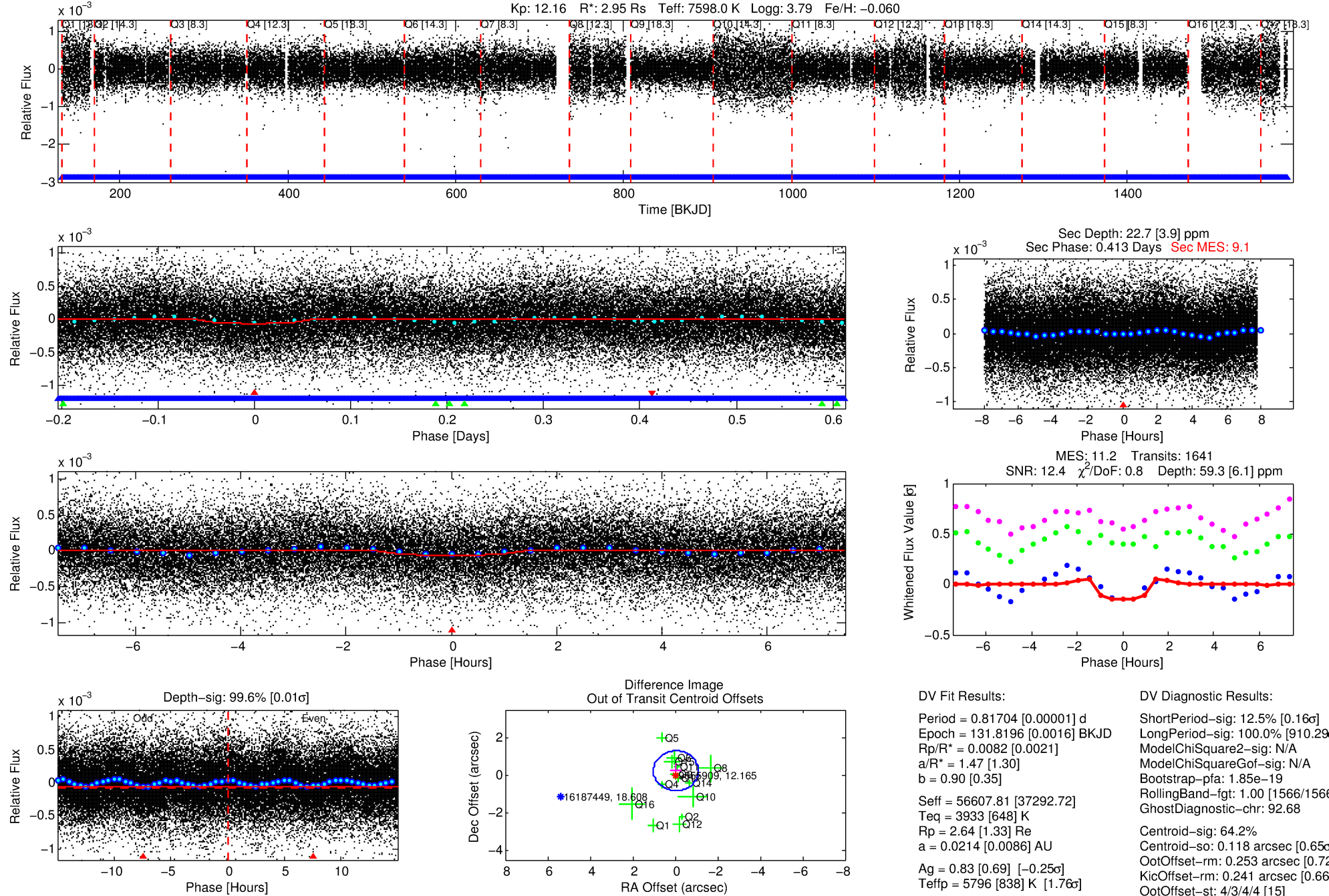
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009655909-01

No Significant Match Found

DV One-Page Summary

KIC: 9655909 Candidate: 1 of 3 Period: 0.817 d



DV Fit Results:

Period = 0.81704 [0.00001] d
Epoch = 131.8196 [0.0016] BKJD
Rp/R* = 0.0082 [0.0021]
a/R* = 1.47 [1.30]
b = 0.90 [0.35]
Seff = 56607.81 [37292.72]
Teff = 3933 [648] K
Rp = 2.64 [1.33] Re
a = 0.0214 [0.0086] AU
Ag = 0.83 [0.69] [-0.25σ]
Teffp = 5796 [838] K [1.7σ]

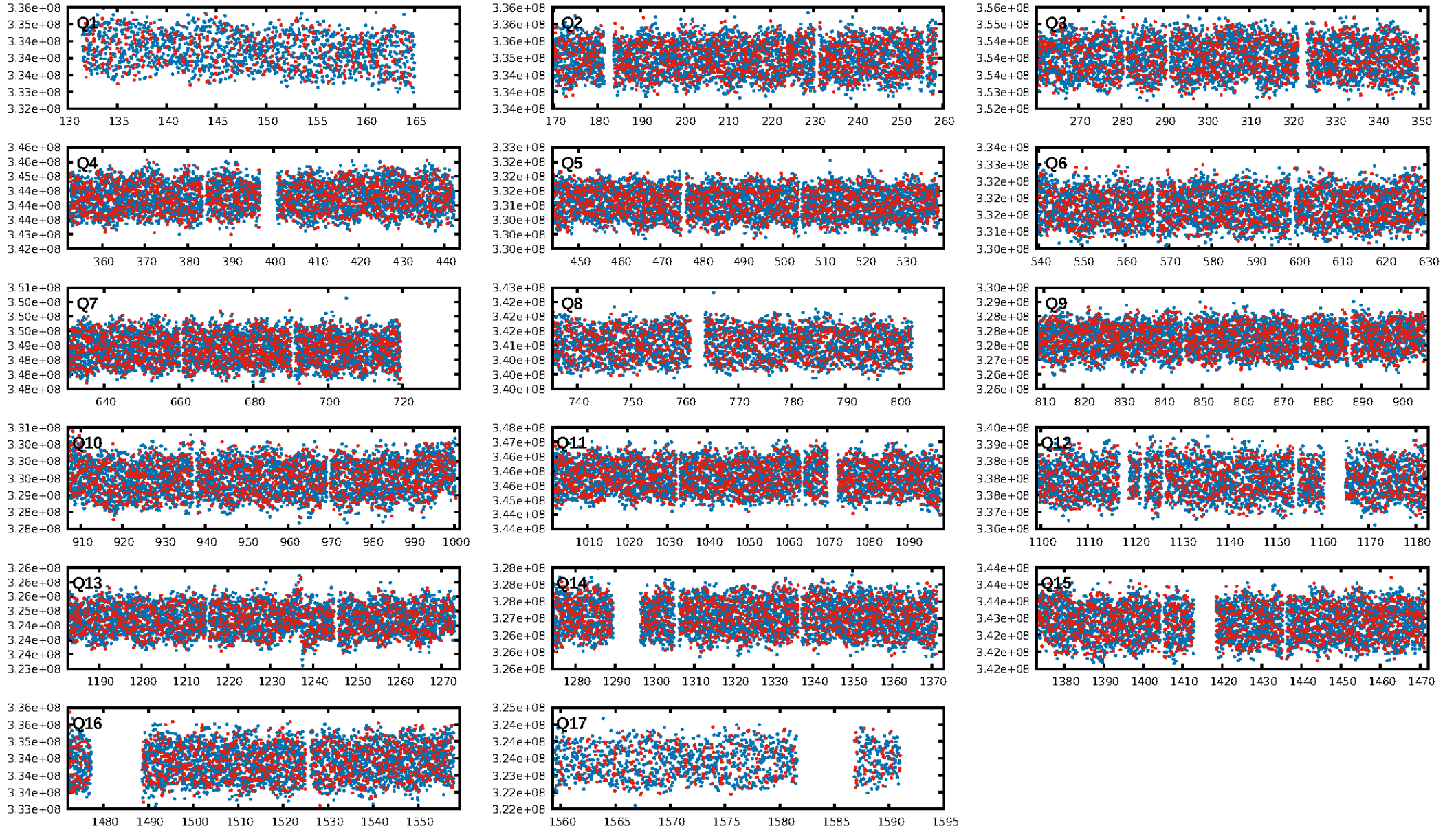
DV Diagnostic Results:

ShortPeriod-sig: 12.5% [0.16σ]
LongPeriod-sig: 100.0% [910.29σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.85e-19
RollingBand-fgt: 1.00 [1566/1566]
GhostDiagnostic-chr: 92.68
Centroid-sig: 64.2%
Centroid-so: 0.118 arcsec [0.65σ]
OotOffset-rm: 0.253 arcsec [0.72σ]
KicOffset-rm: 0.241 arcsec [0.66σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

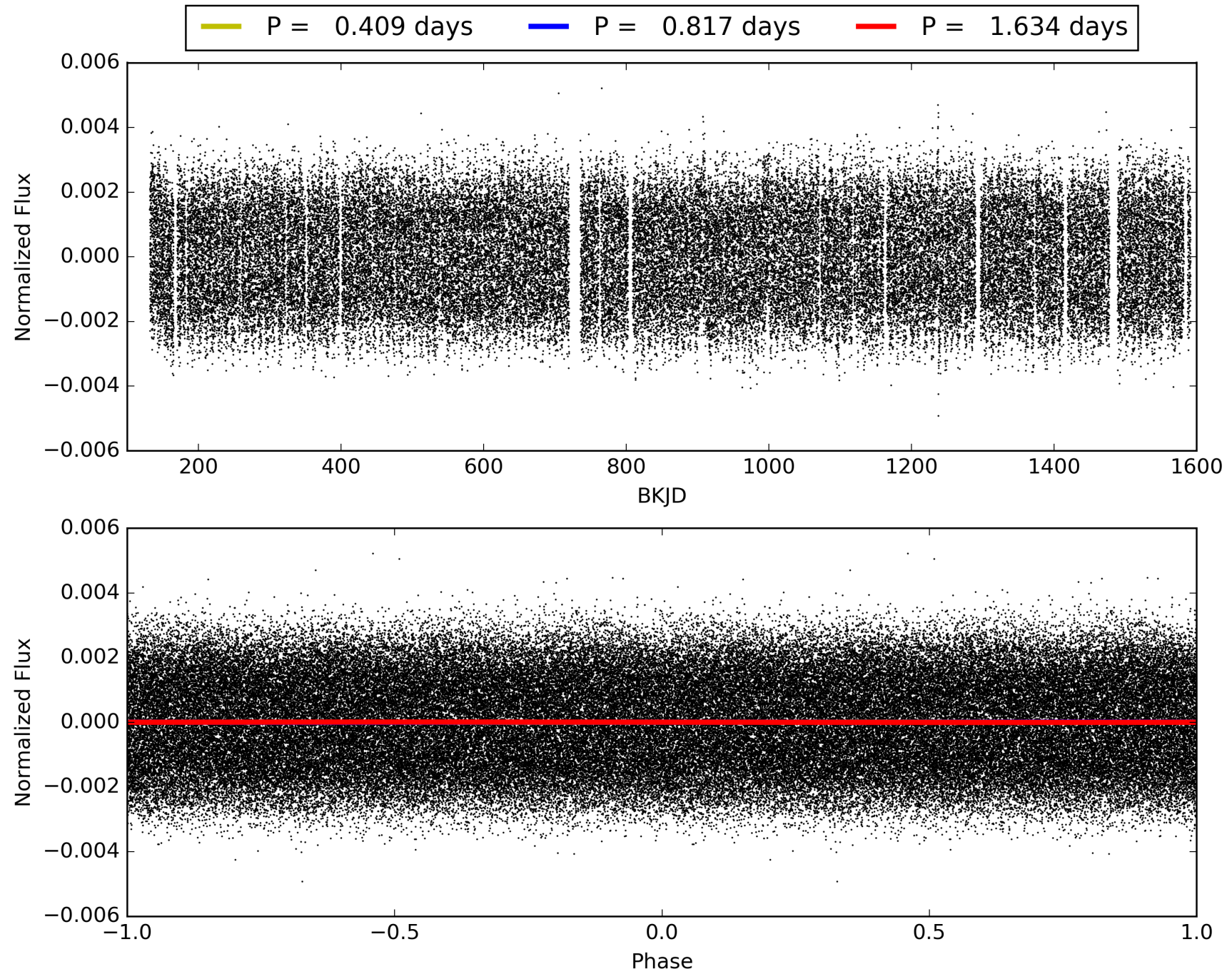
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:55:10 Z

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

TCE 009655909-01, PDC Light Curves

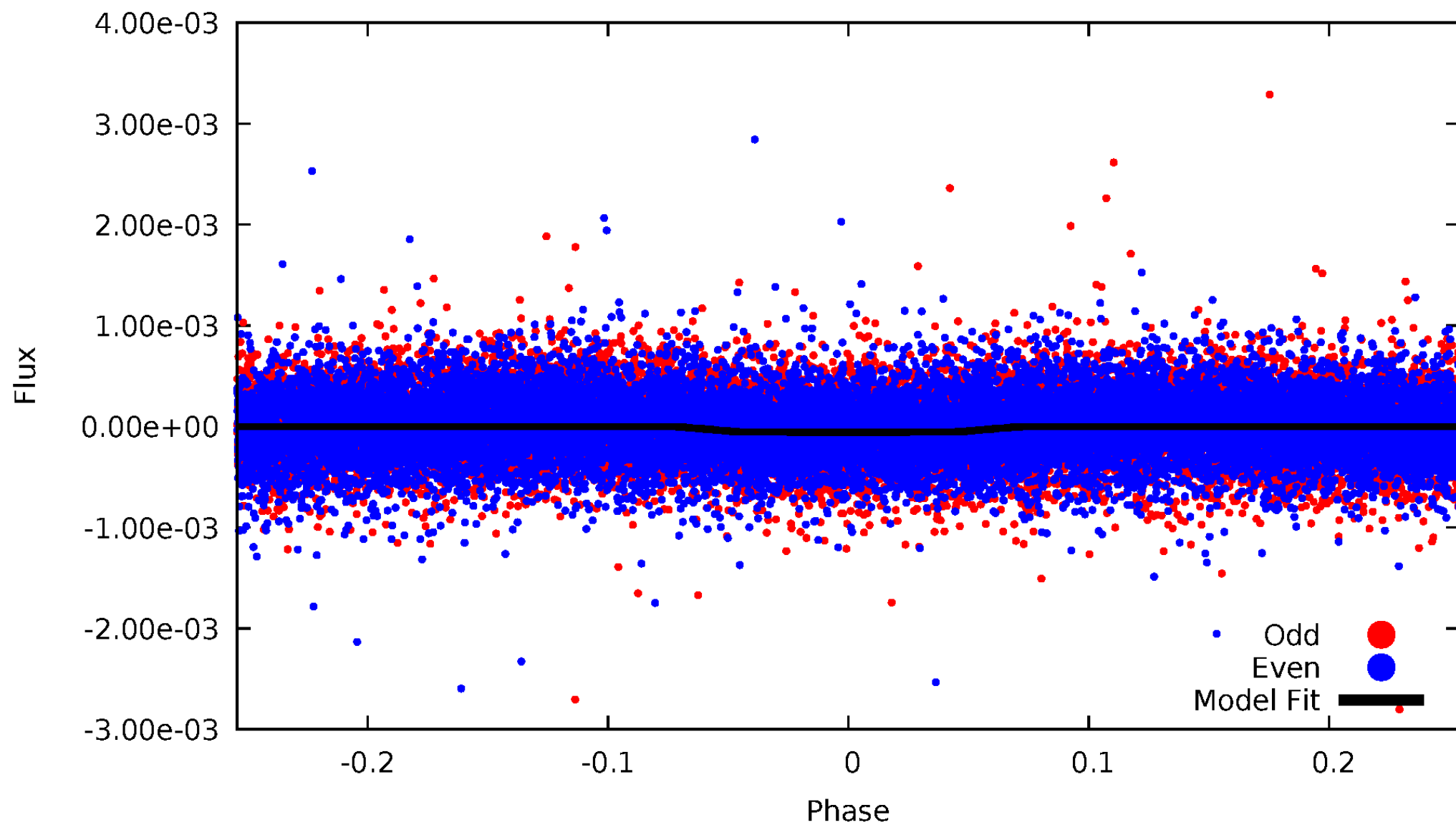


TCE 009655909-01



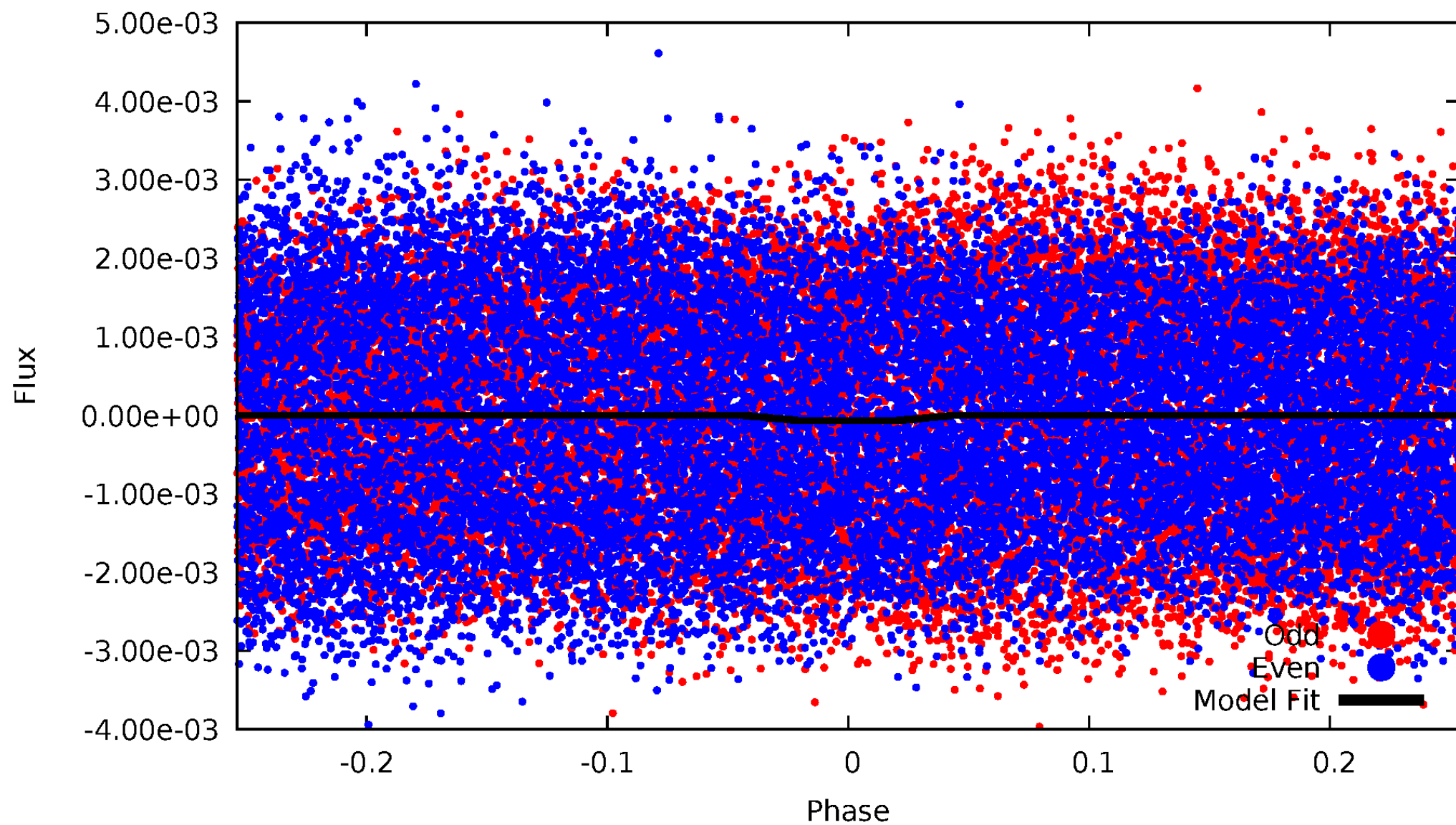
DV Odd/Even

TCE 009655909-01

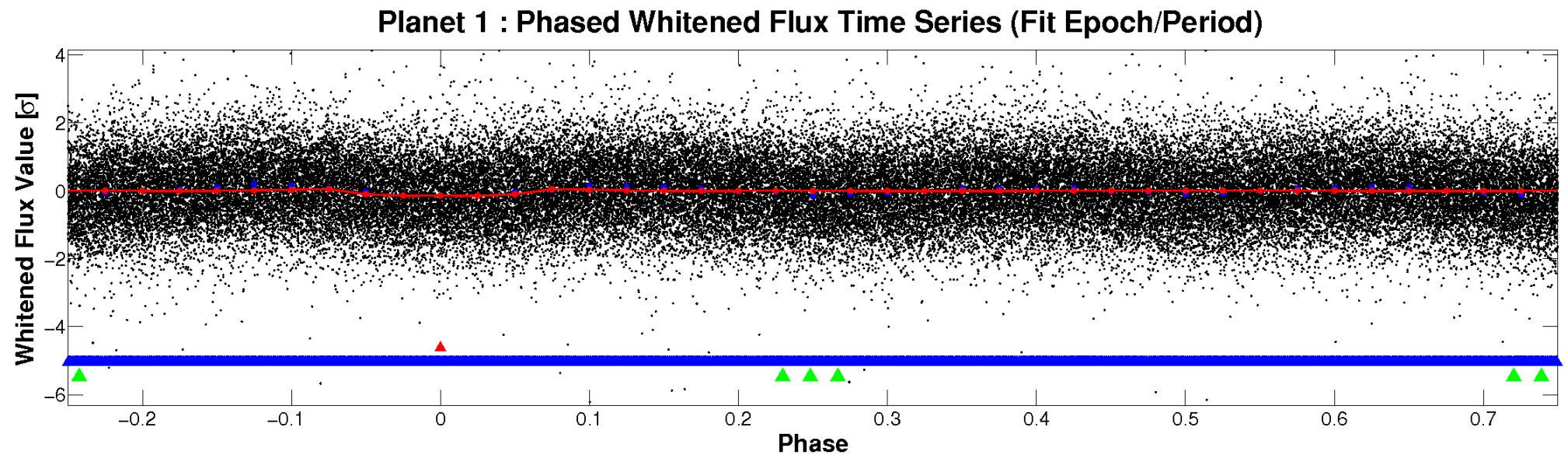
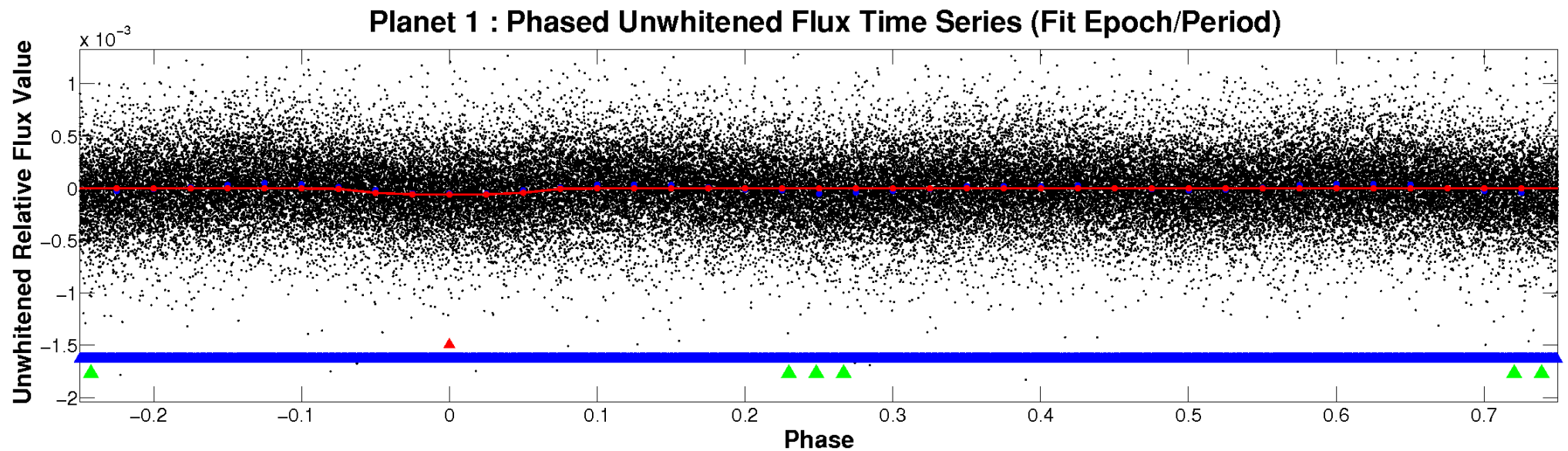


ALT Odd/Even

TCE 009655909-01

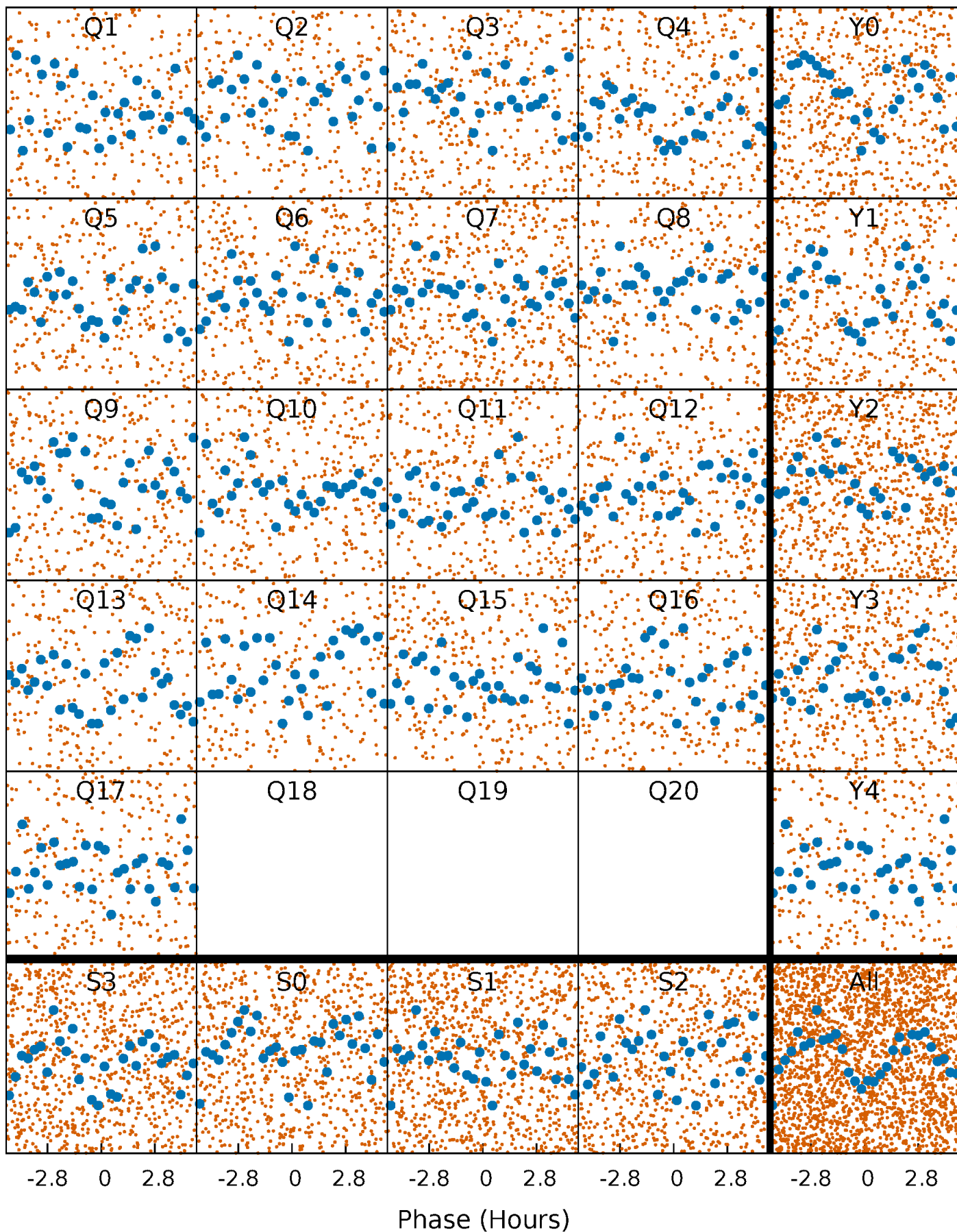


Non-Whitened Vs. Whitened Light Curve



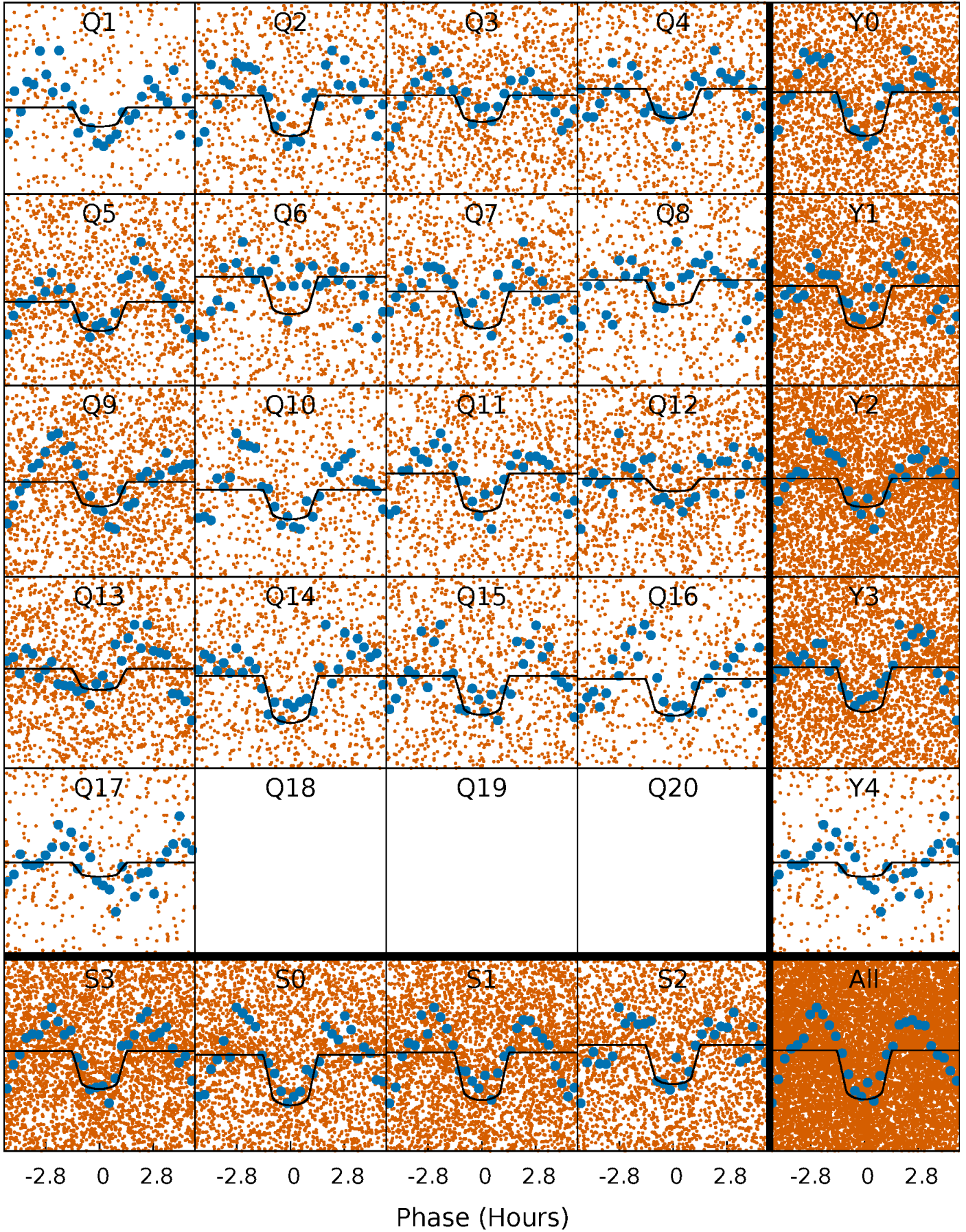
PDC Quarter-Phased Transit Curves

TCE 009655909-01 P= 0.817040 Days $T_0=131.819621$ (BKJD)



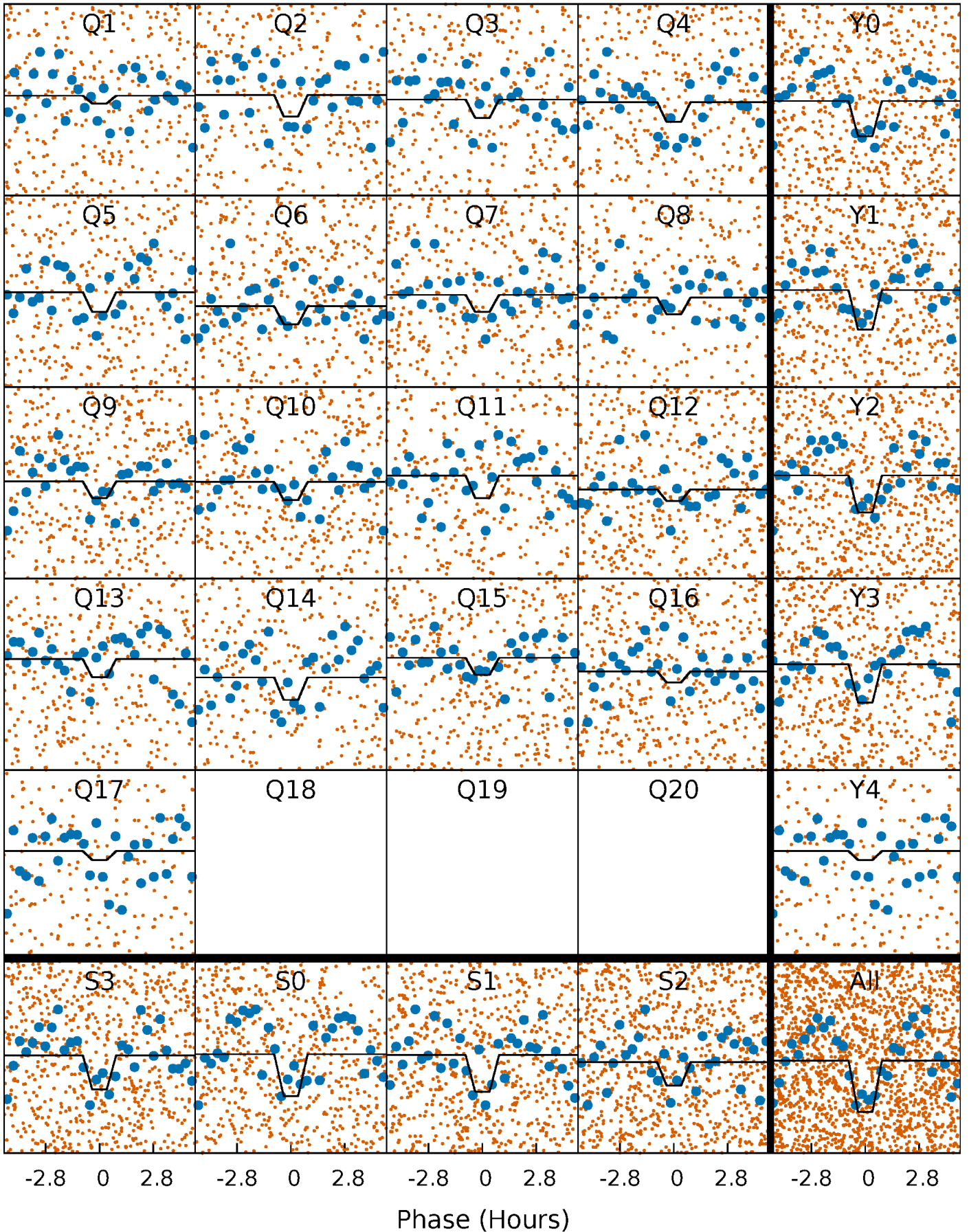
DV Quarter-Phased Transit Curves

TCE 009655909-01 P= 0.817040 Days $T_0=131.819621$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

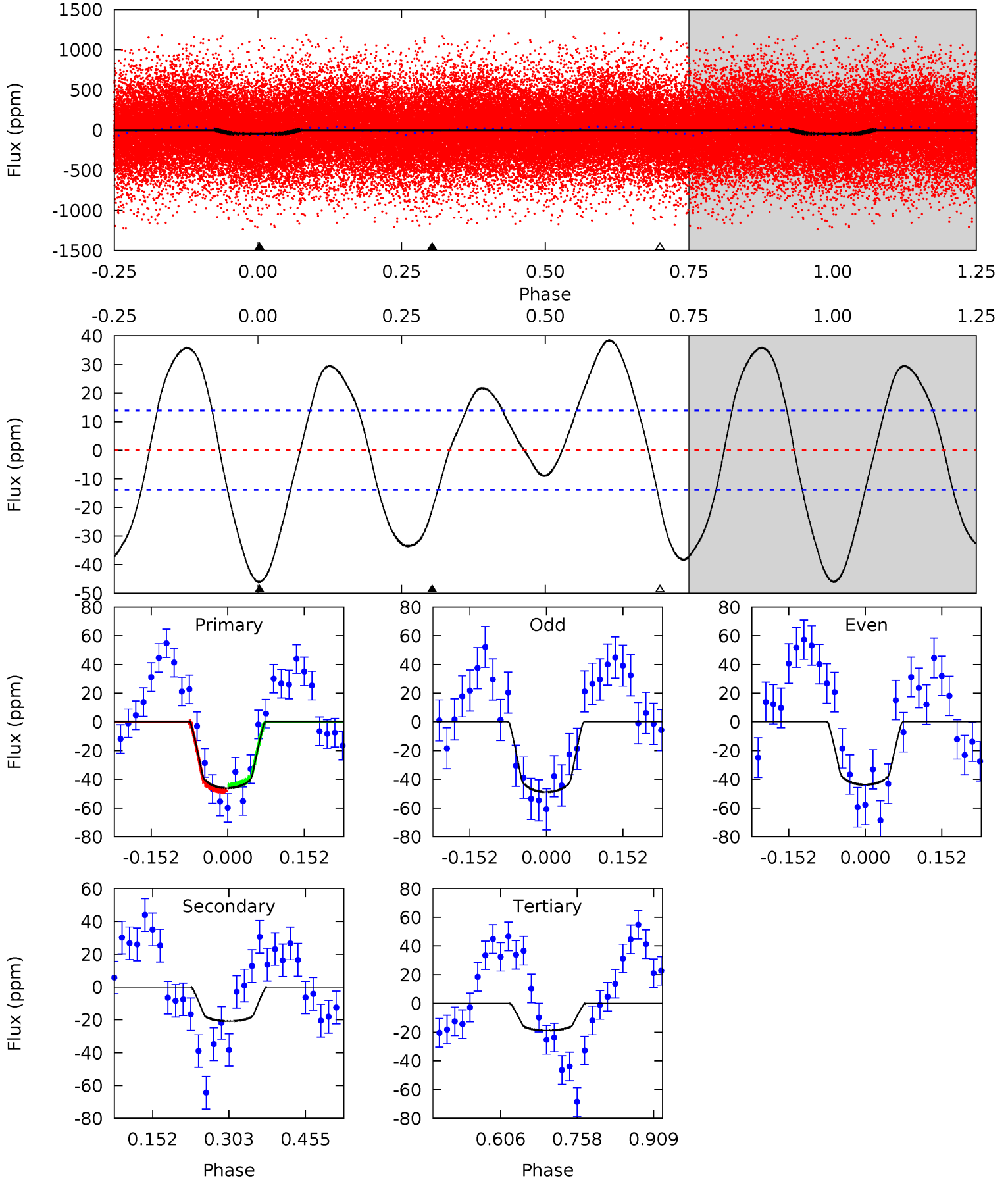
TCE 009655909-01 P= 0.817043 Days $T_0=131.819272$ (BKJD)



DV Model-Shift Uniqueness Test

009655909-01, P = 0.817040 Days, E = 131.002581 Days

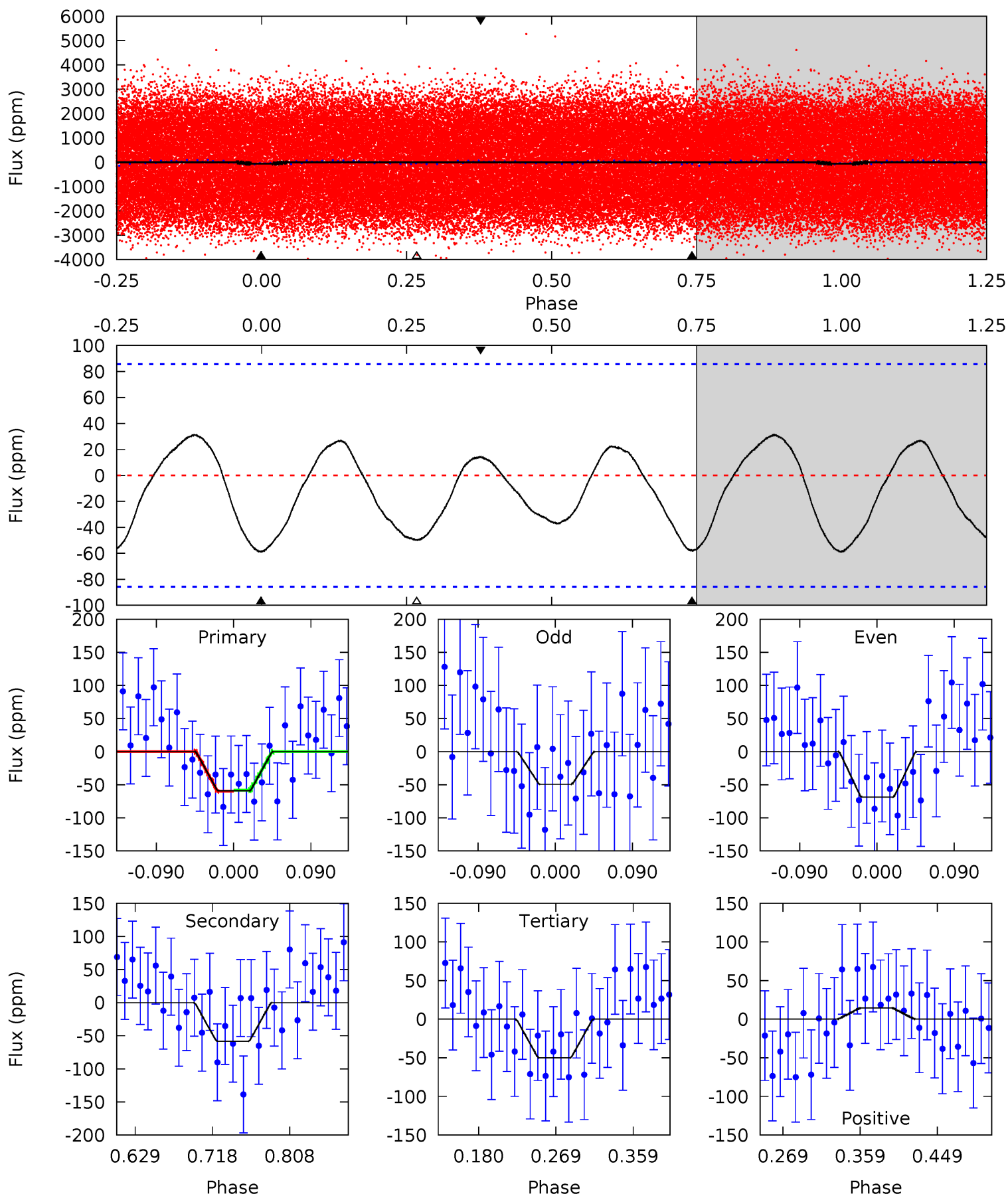
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	6.72	6.06	0	4.48	1.43	7.54	8.83	14.9	0.66	6.72	0.84	0.92	0.45	0.60



Alt Model-Shift Uniqueness Test

009655909-01, P = 0.817043 Days, E = 131.002229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.16	3.12	2.68	0.77	4.59	1.70	1.34	0.48	2.39	0.44	2.34	0.51	0.85	0.35	0.05



Stellar Parameters For KIC 009655909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7598^{+209}_{-340}	$3.792^{+0.368}_{-0.092}$	$-0.060^{+0.200}_{-0.350}$	$2.953^{+0.425}_{-1.275}$	$1.970^{+0.088}_{-0.500}$	$0.108^{+0.335}_{-0.032}$
	+3%/-4%	+10%/-2%	+333%/-583%	+14%/-43%	+4%/-25%	+311%/-30%
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 009655909-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 ± 3	$2.40^{+0.77}_{-0.74}$	5326^{+363}_{-568}	5100^{+1059}_{-949}	$0.896^{+0.919}_{-0.399}$
Alt.	-58 ± 19	$2.53^{+0.77}_{-0.79}$	5337^{+374}_{-527}	6738^{+1658}_{-1137}	$2.193^{+2.452}_{-1.083}$

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 $A_{obs} \gg 1.0$

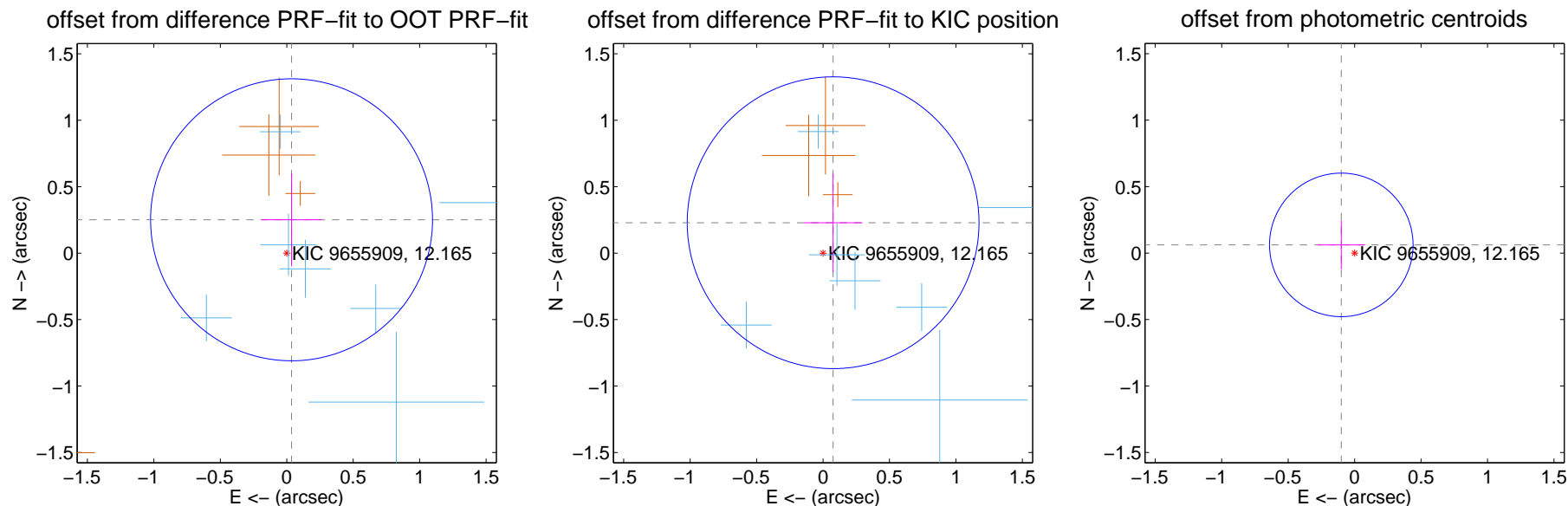
DV Centroid Data

Supplemental centroid analysis for 009655909-01. Kepler magnitude: 12.16. Transit SNR 12.37

There are 10 quarters with good PRF difference image offsets

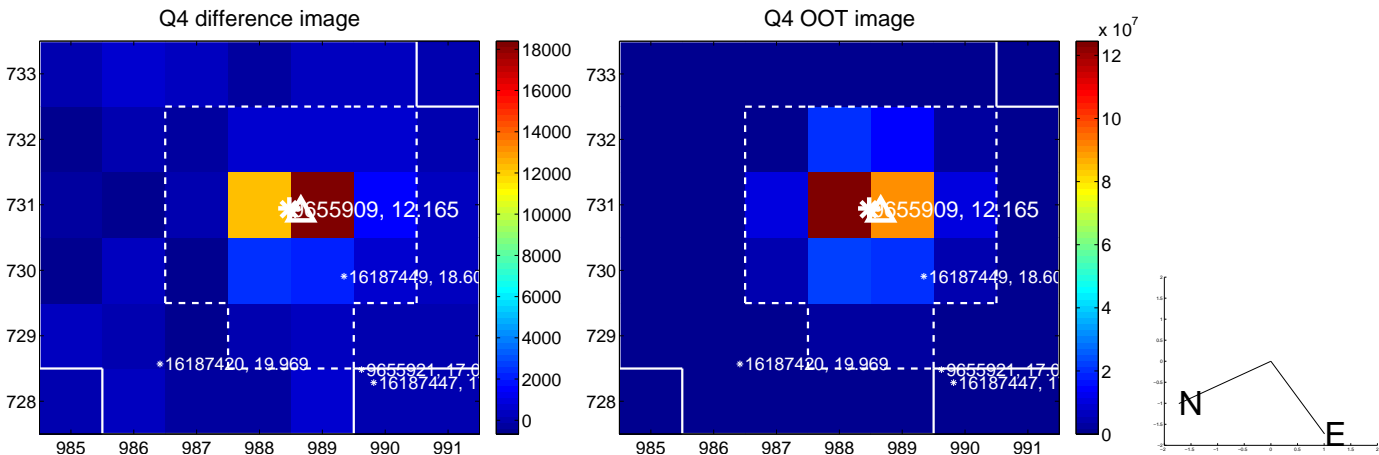
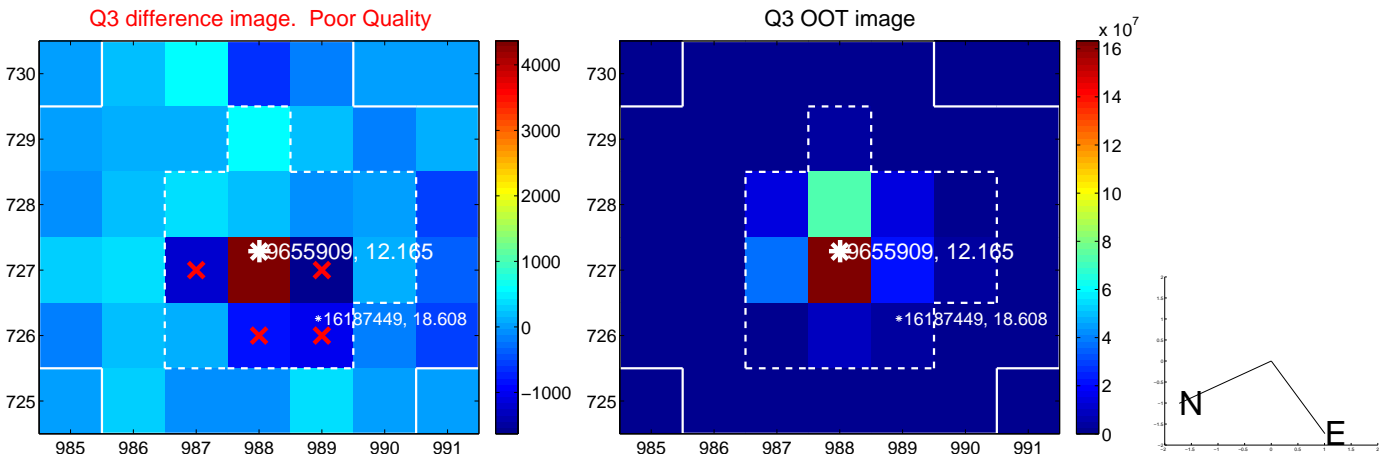
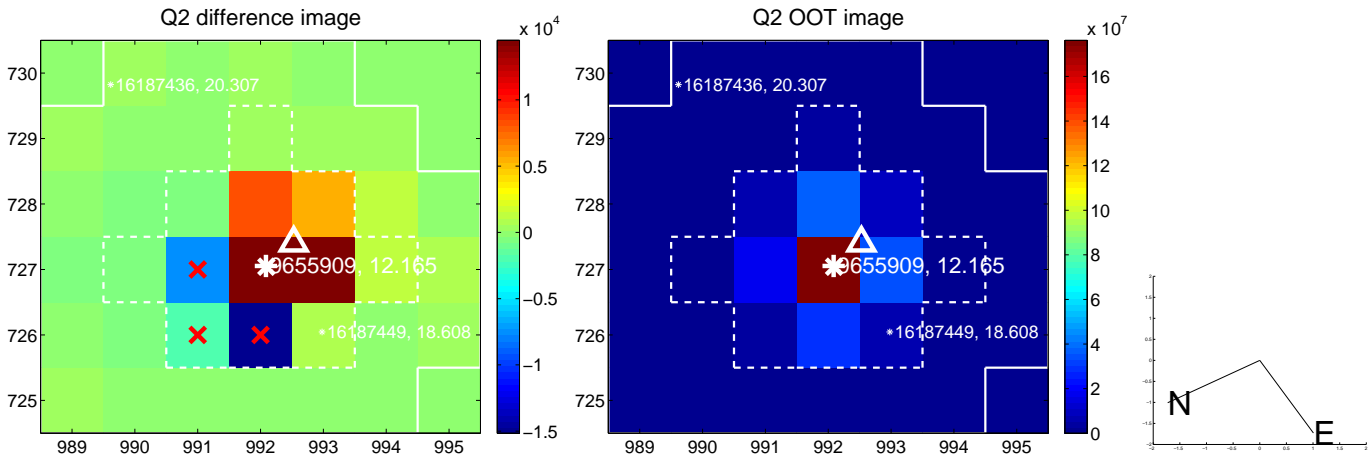
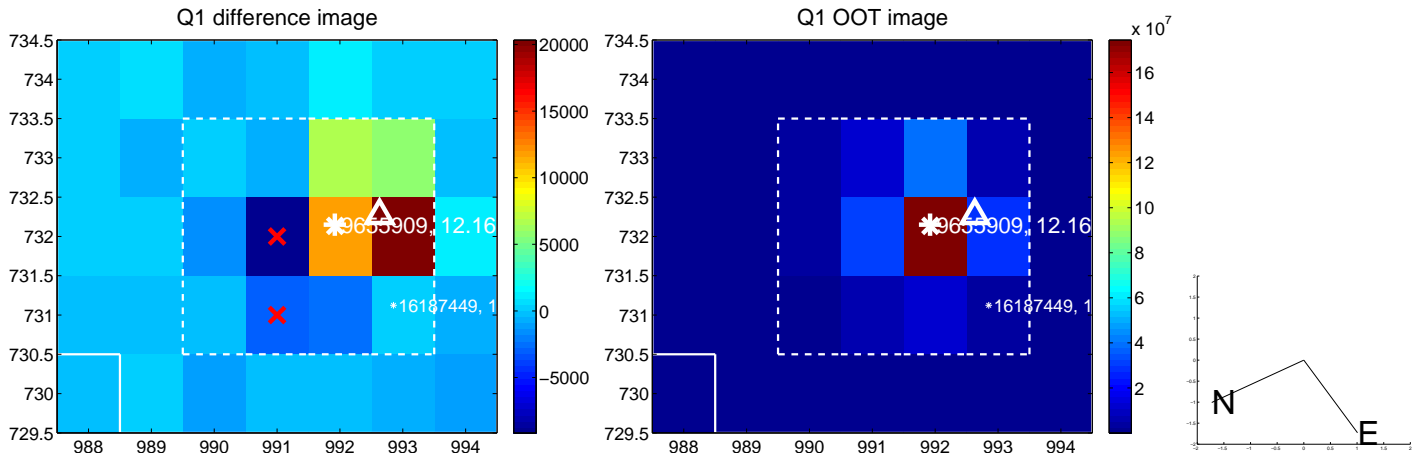
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.354	0.72	-0.036 ± 0.227	0.251 ± 0.350
PRF-fit source offset from KIC position	0.241 ± 0.366	0.66	-0.076 ± 0.220	0.229 ± 0.368
photometric centroid source offset	0.12 ± 0.18	0.65	0.10 ± 0.18	0.06 ± 0.18

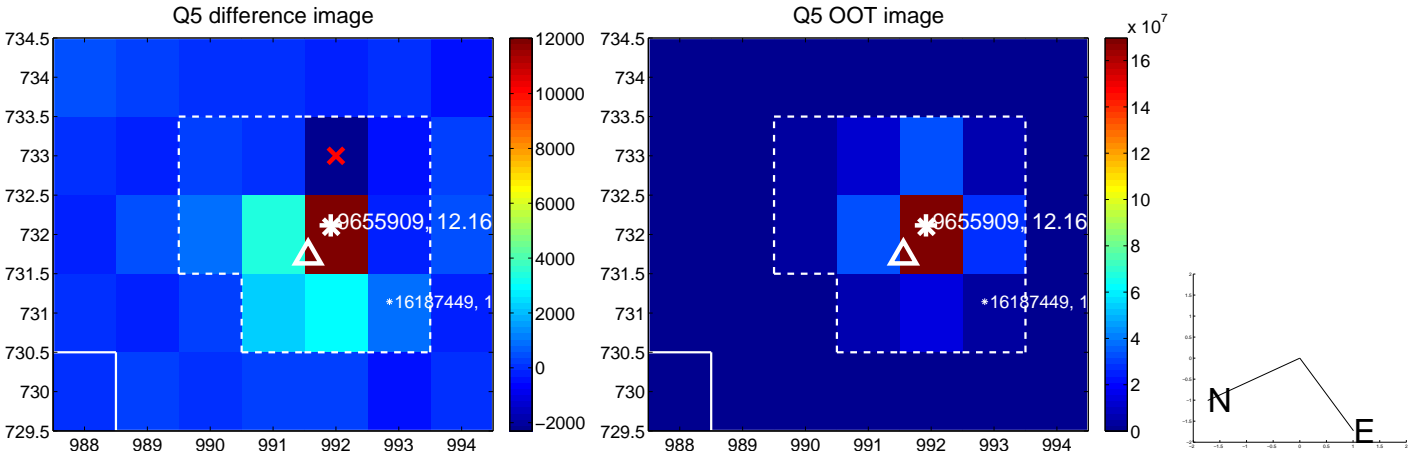


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

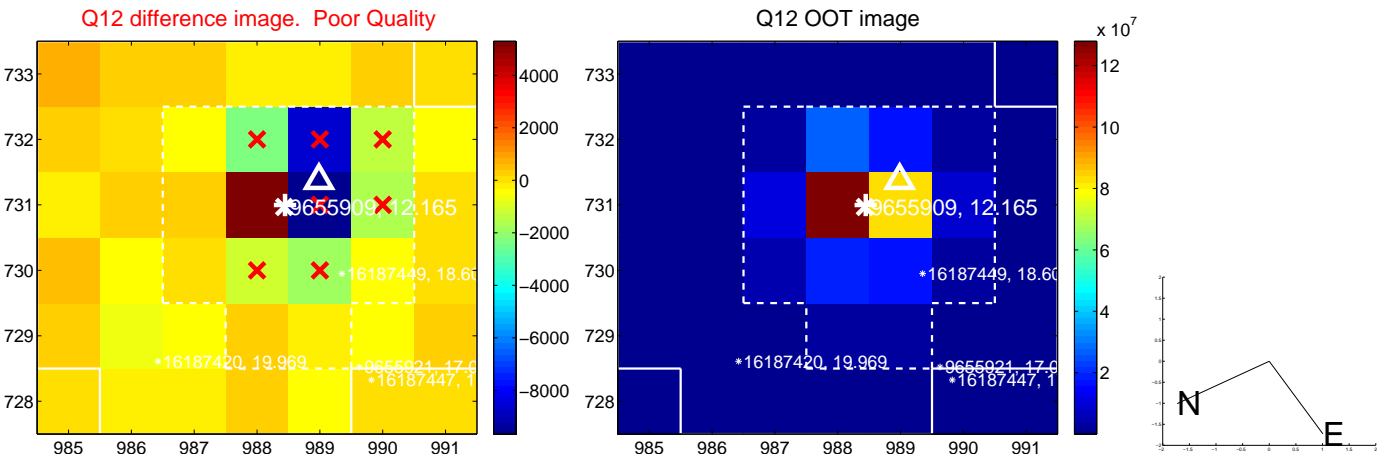
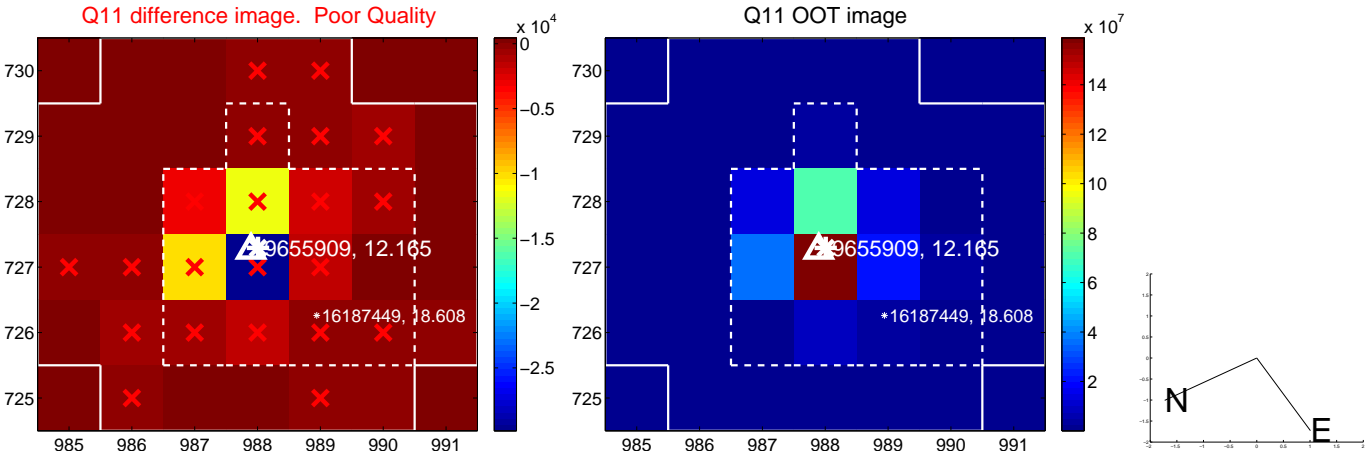
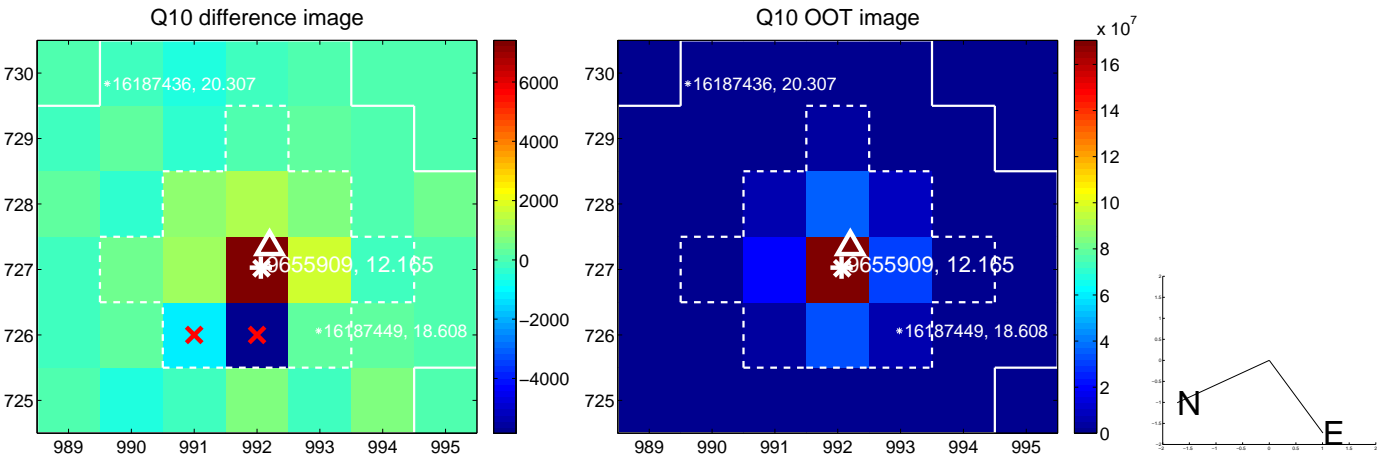
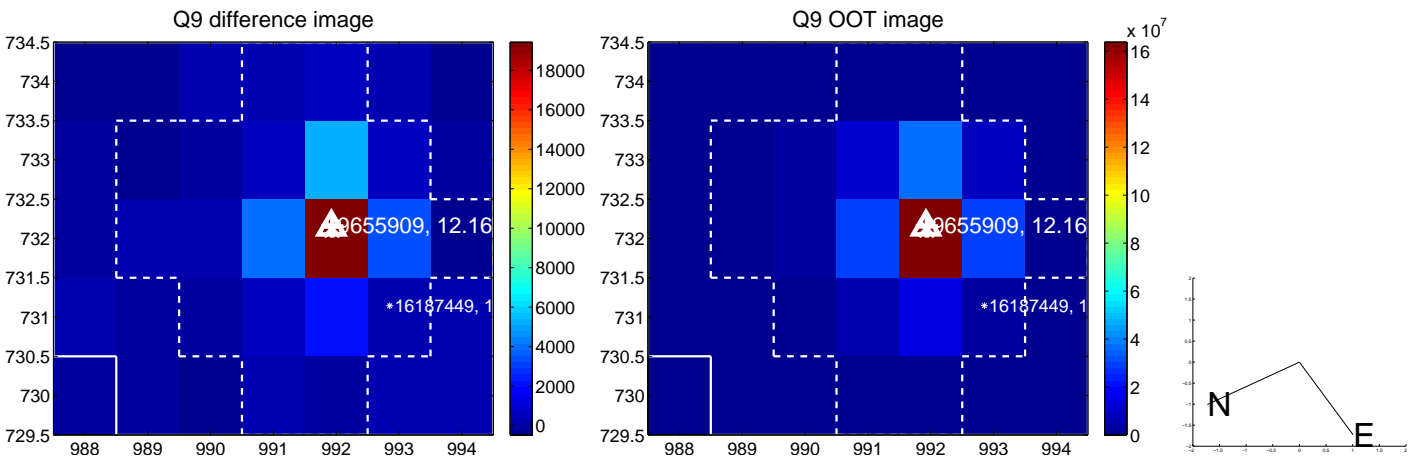
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



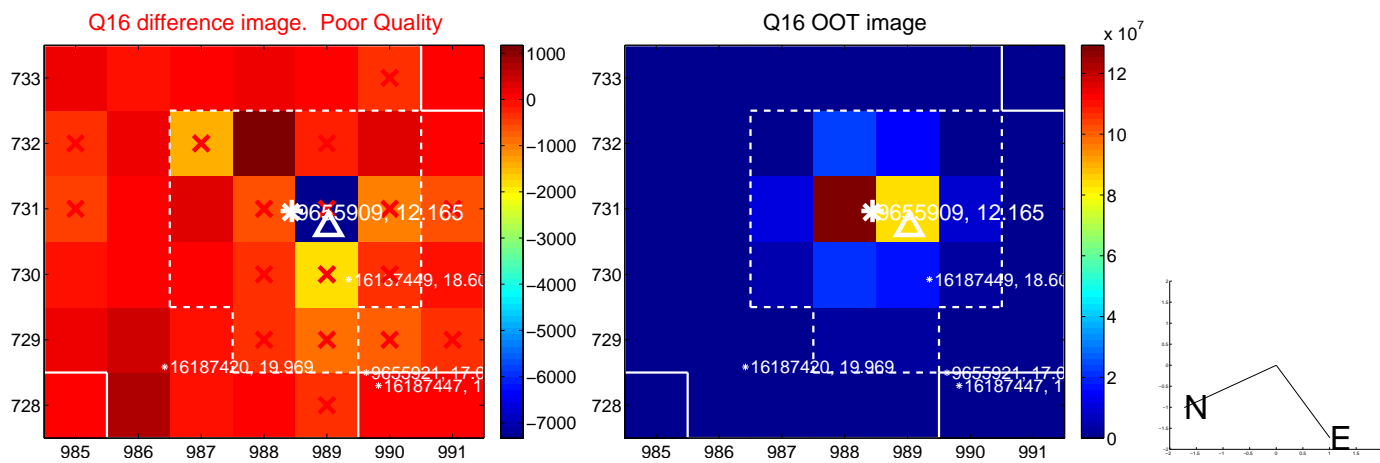
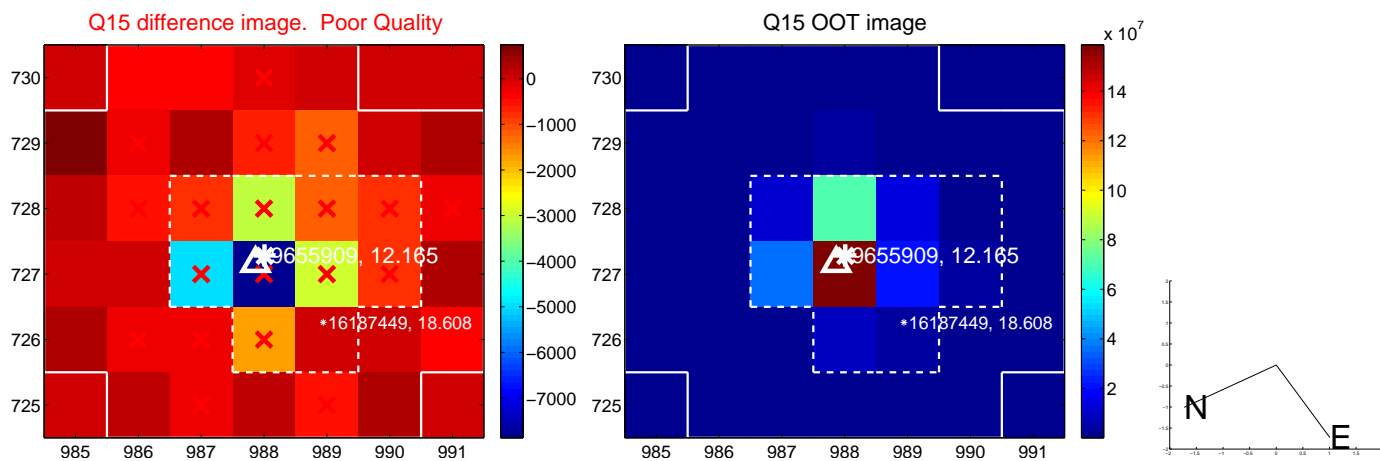
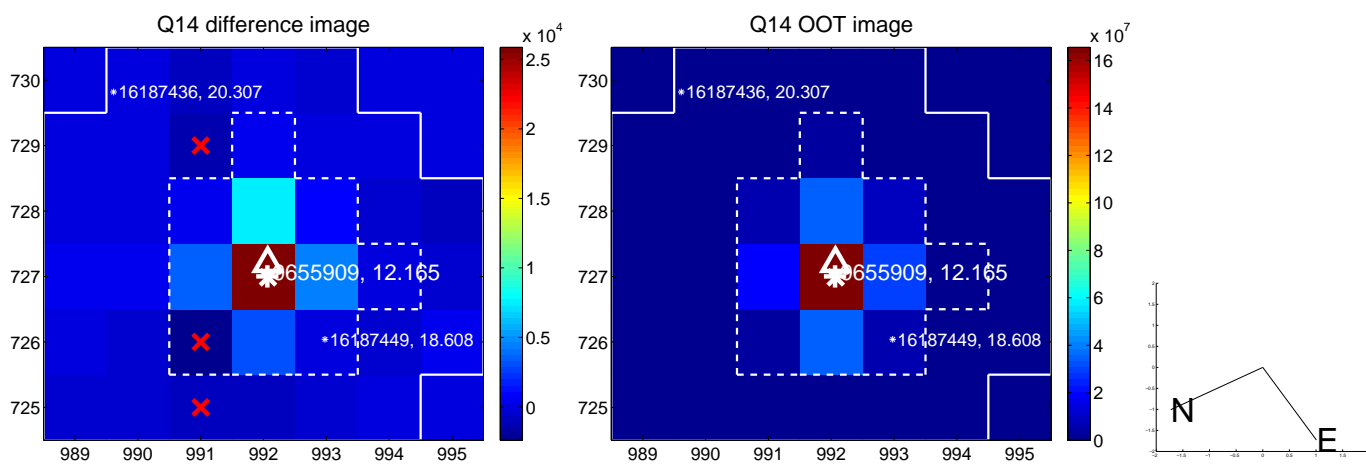
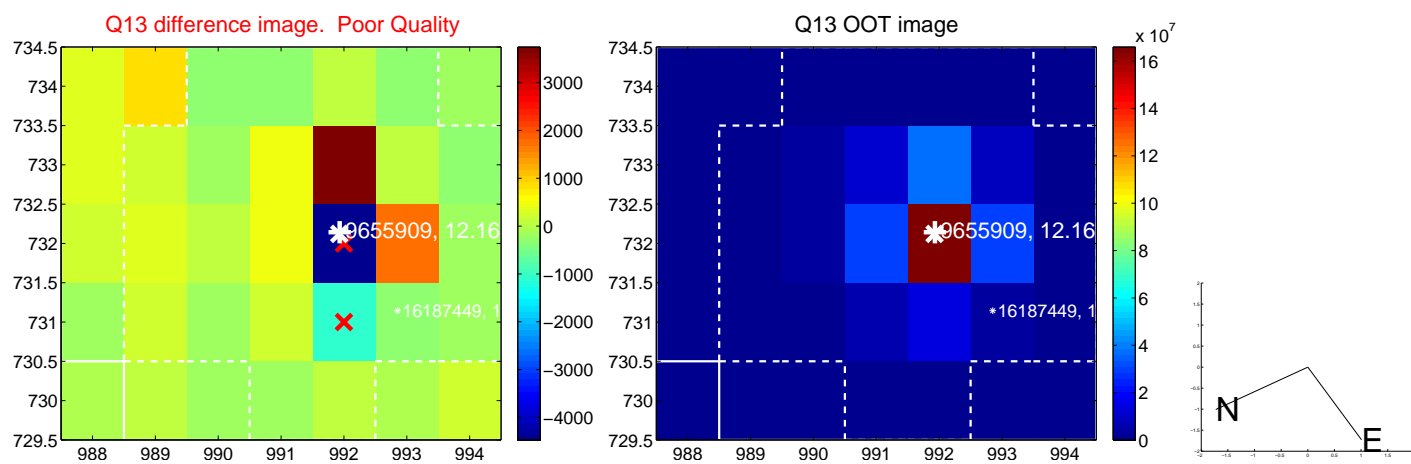
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



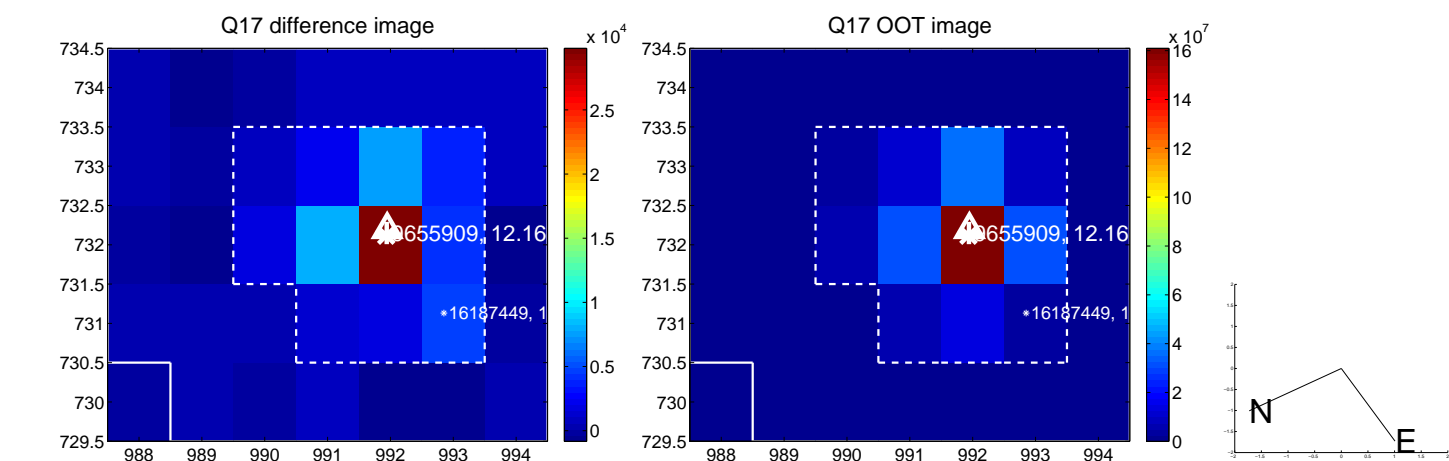
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



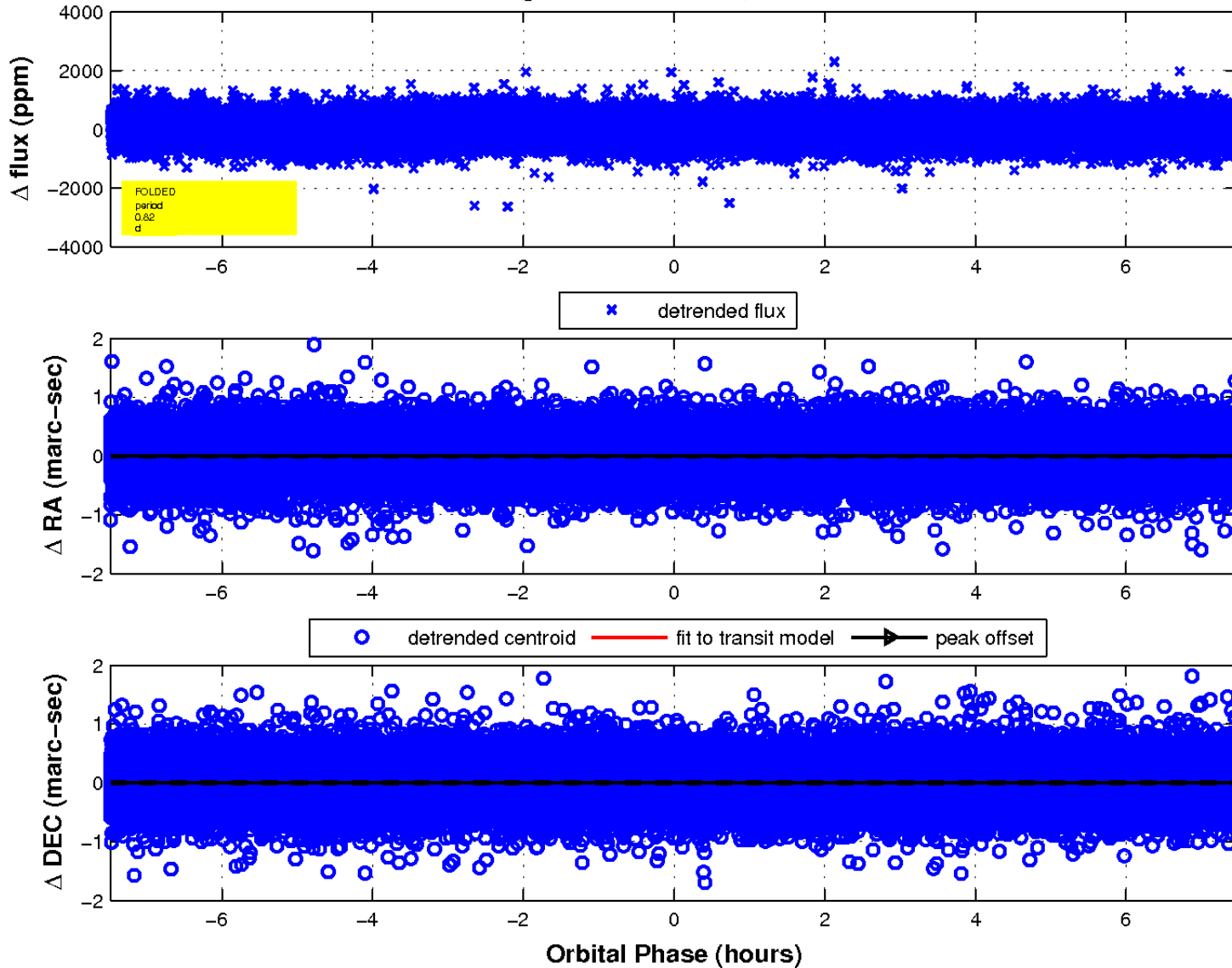
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

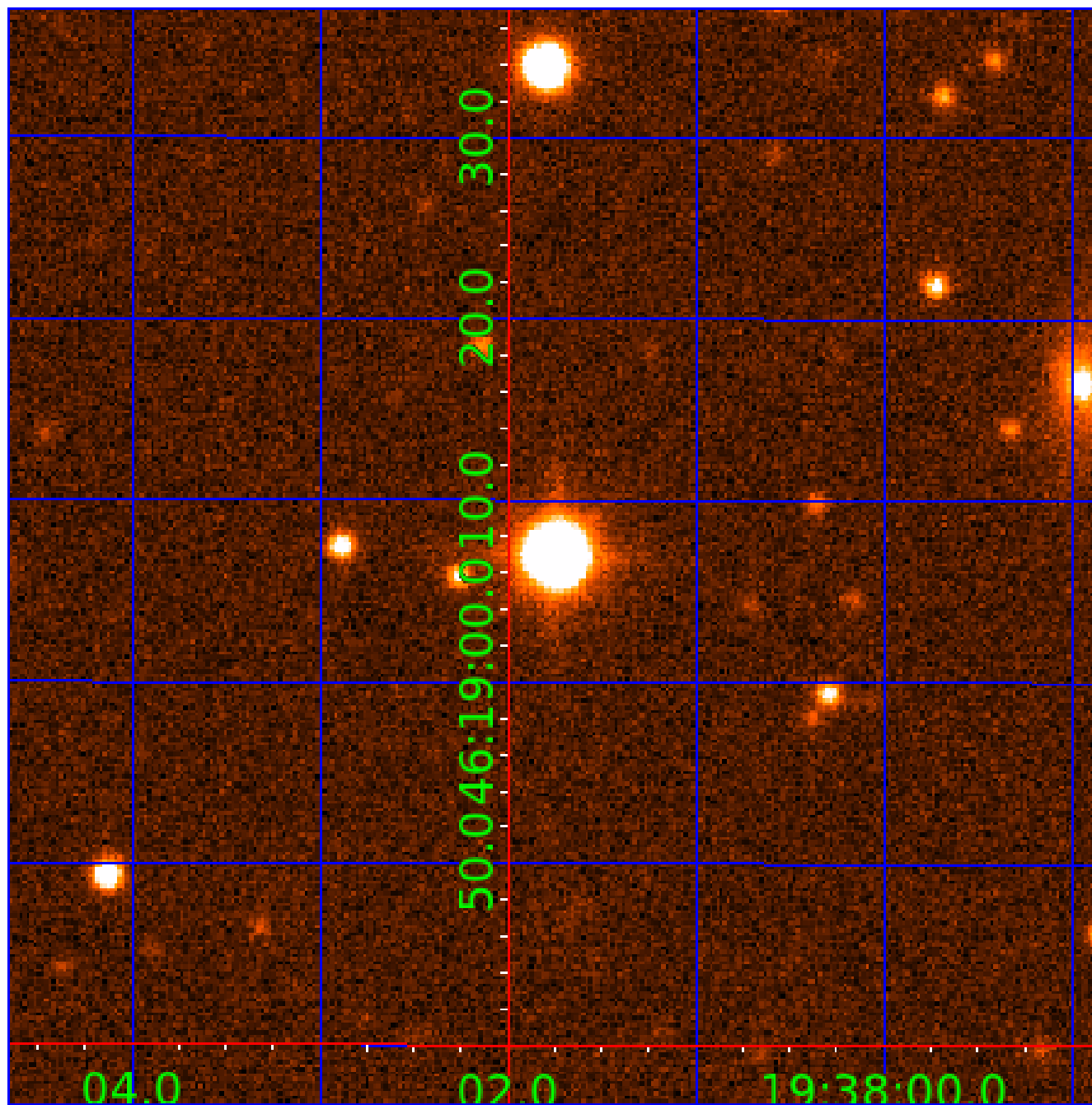


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 009655909

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})
009655909-01	OBS	No	0.817040	131.819621	59.3	2.493	11.2	12.4	2.95	7598	2.64	56607.81
009655909-02	OBS	No	0.794831	132.113971	40.9	2.294	9.8	7.1	2.95	7598	2.16	58726.53
009655909-03	OBS	No	273.307293	138.944579	794.9	6.738	7.6	7.9	2.95	7598	12.85	24.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009655909-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009655909-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009655909-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

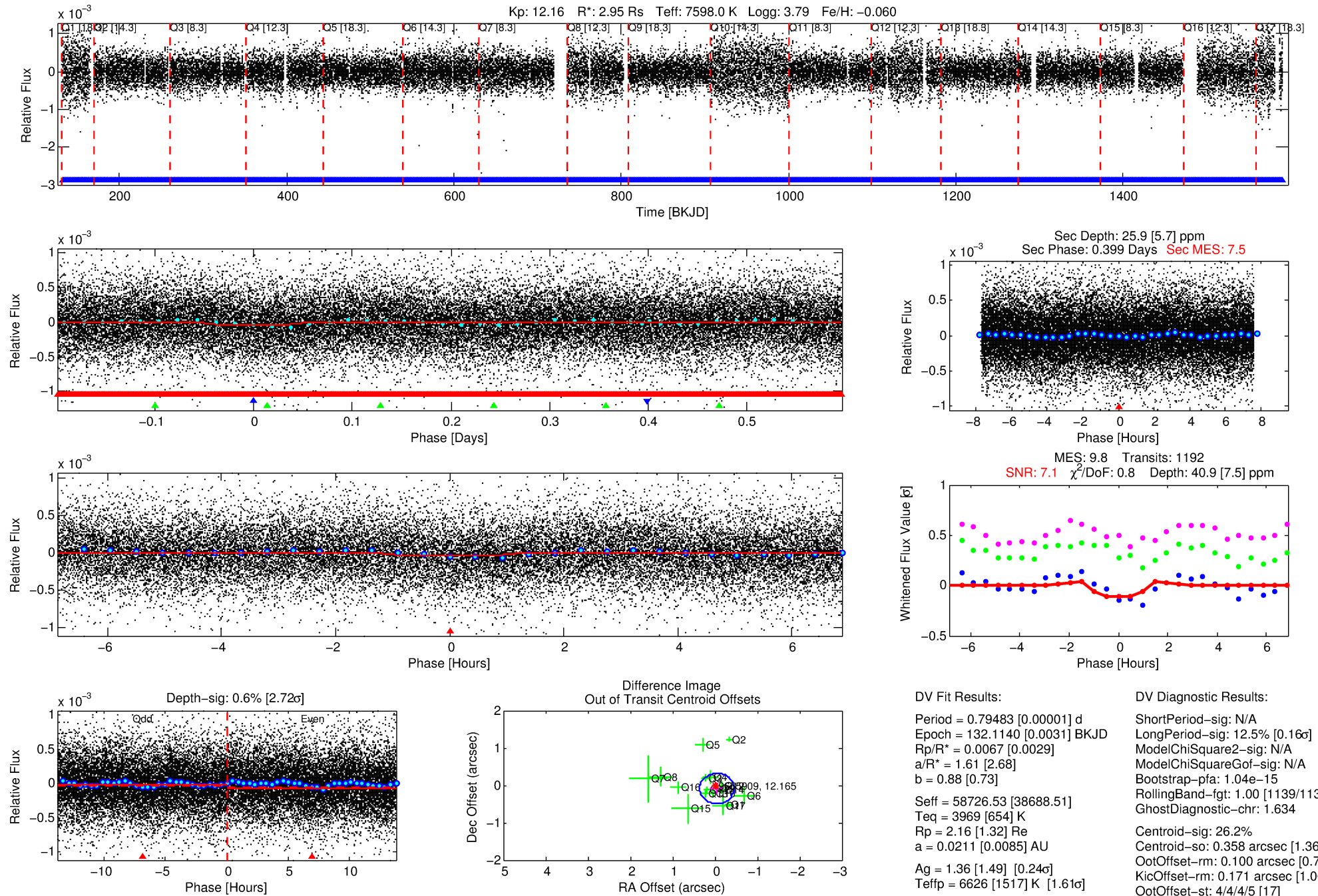
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009655909-02

No Significant Match Found

DV One-Page Summary

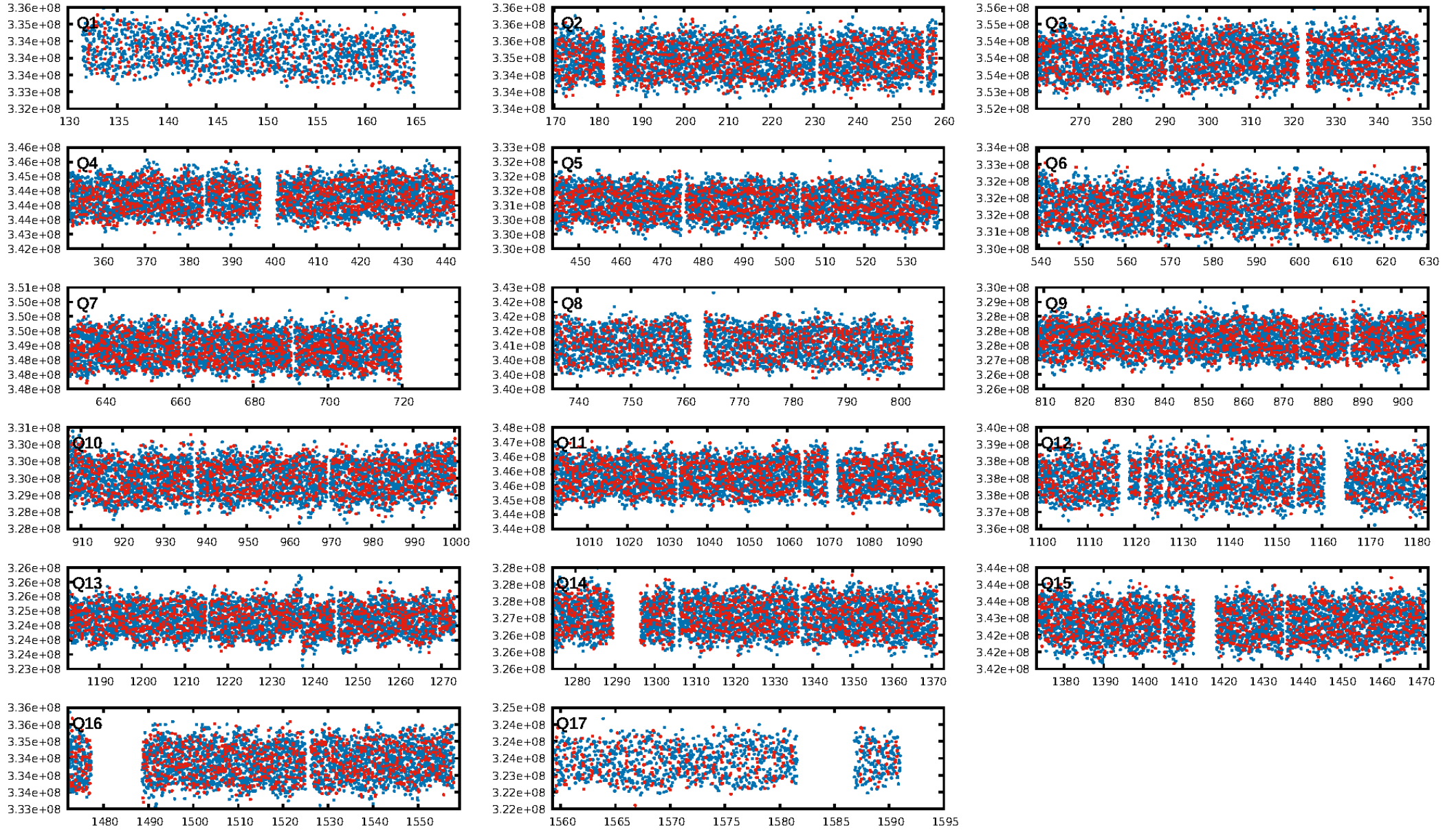
KIC: 9655909 Candidate: 2 of 3 Period: 0.795 d



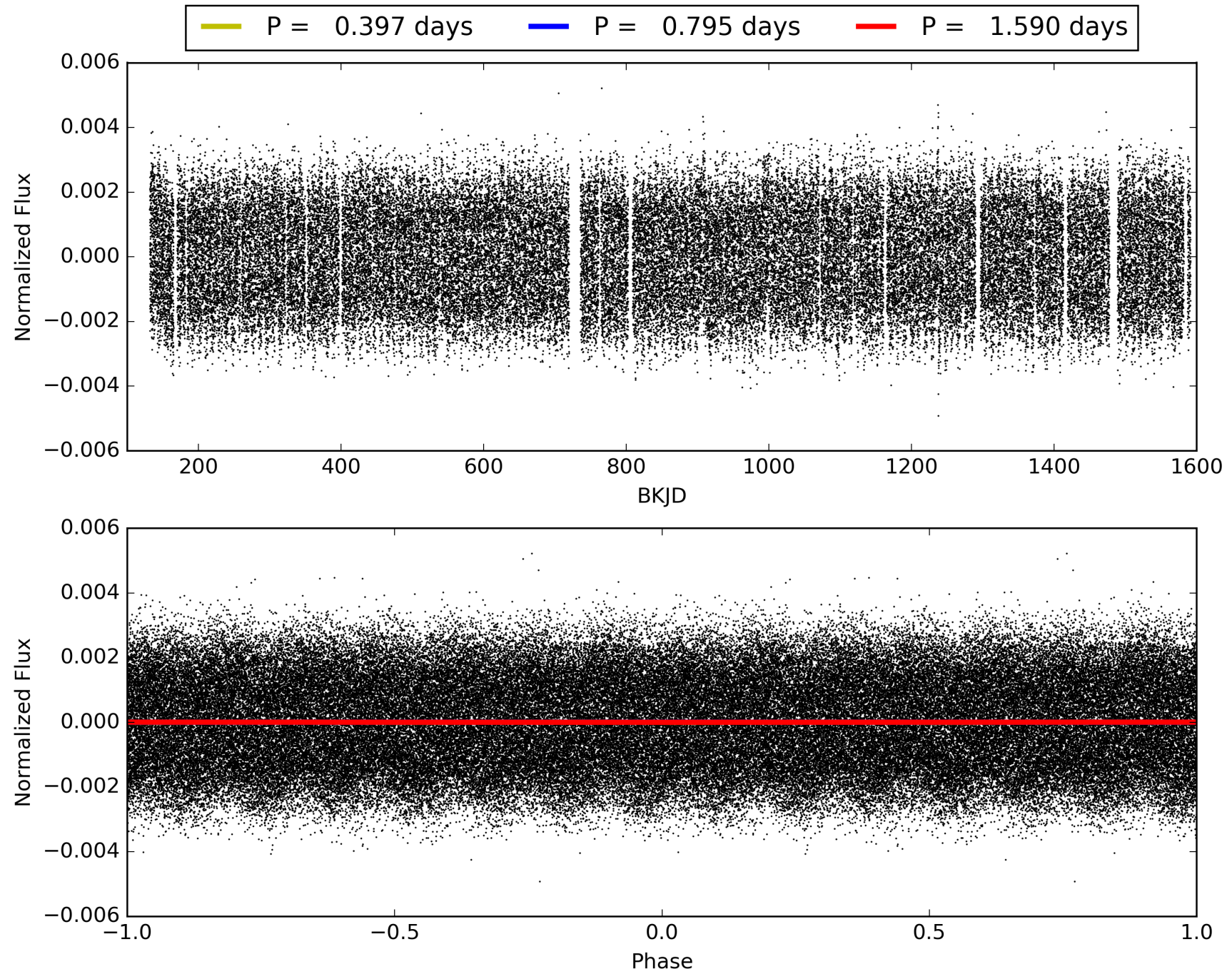
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:55:21 Z

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

TCE 009655909-02, PDC Light Curves

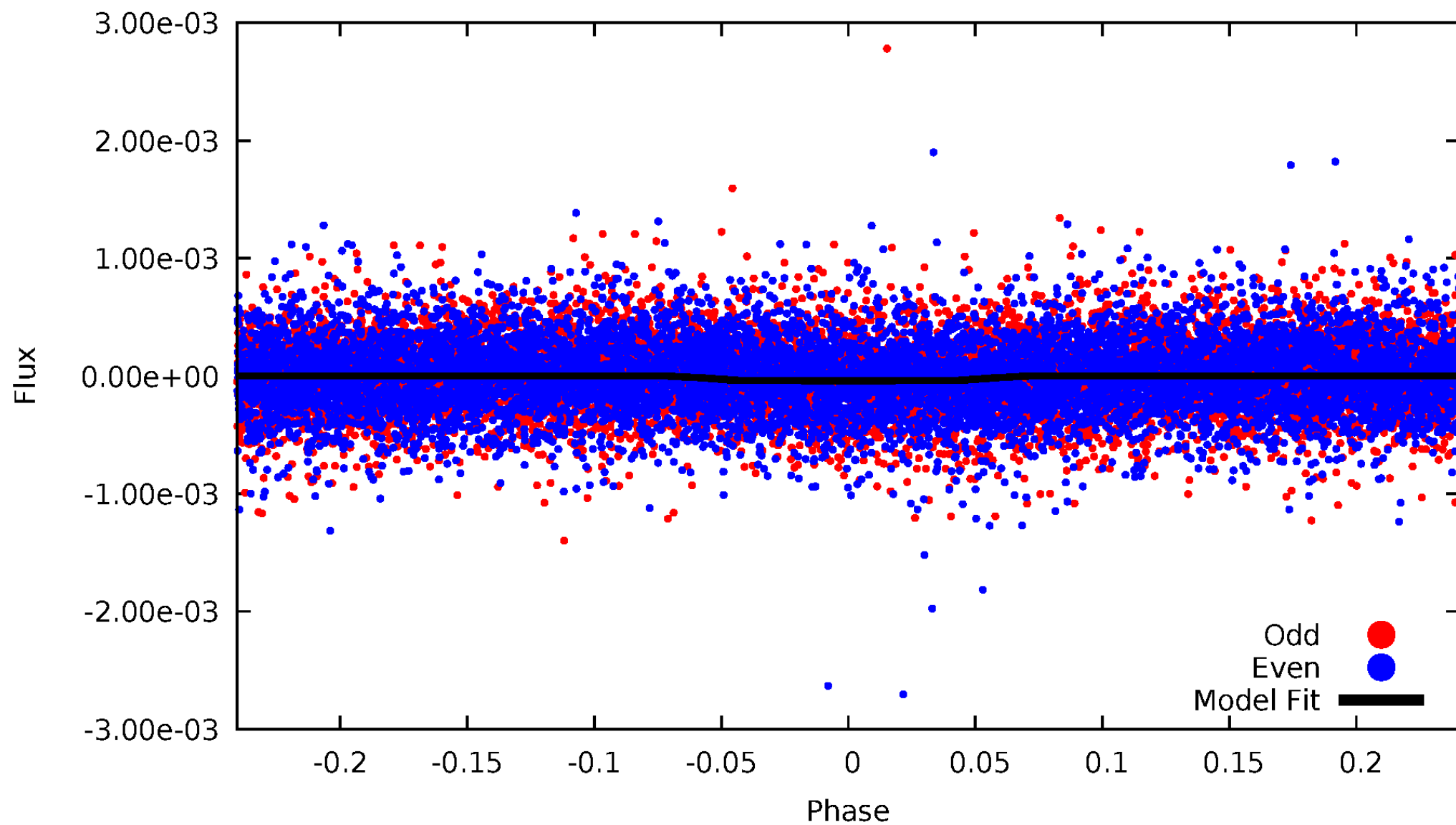


TCE 009655909-02



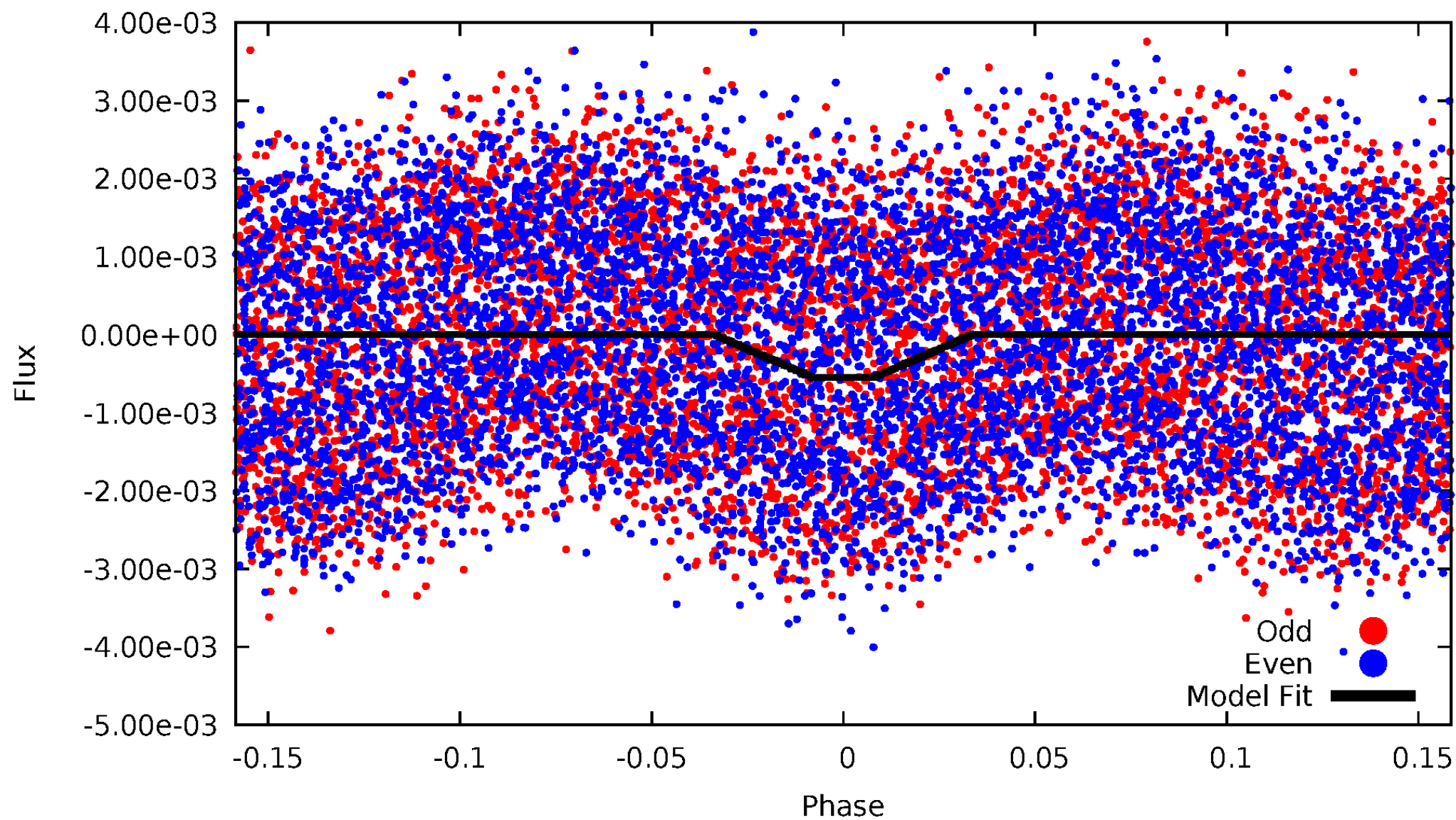
DV Odd/Even

TCE 009655909-02



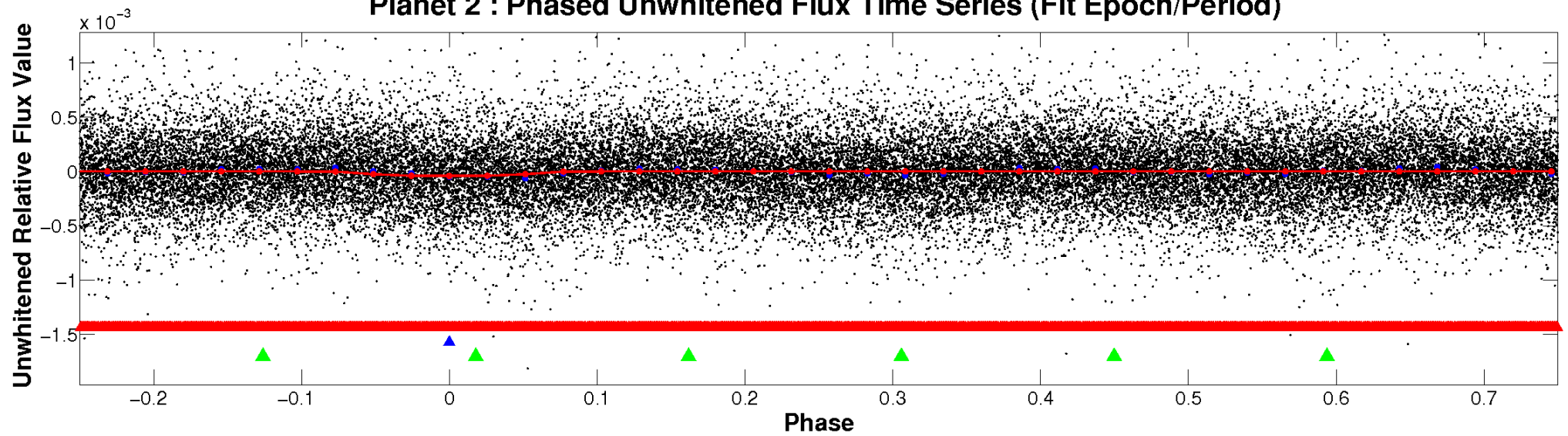
ALT Odd/Even

TCE 009655909-02

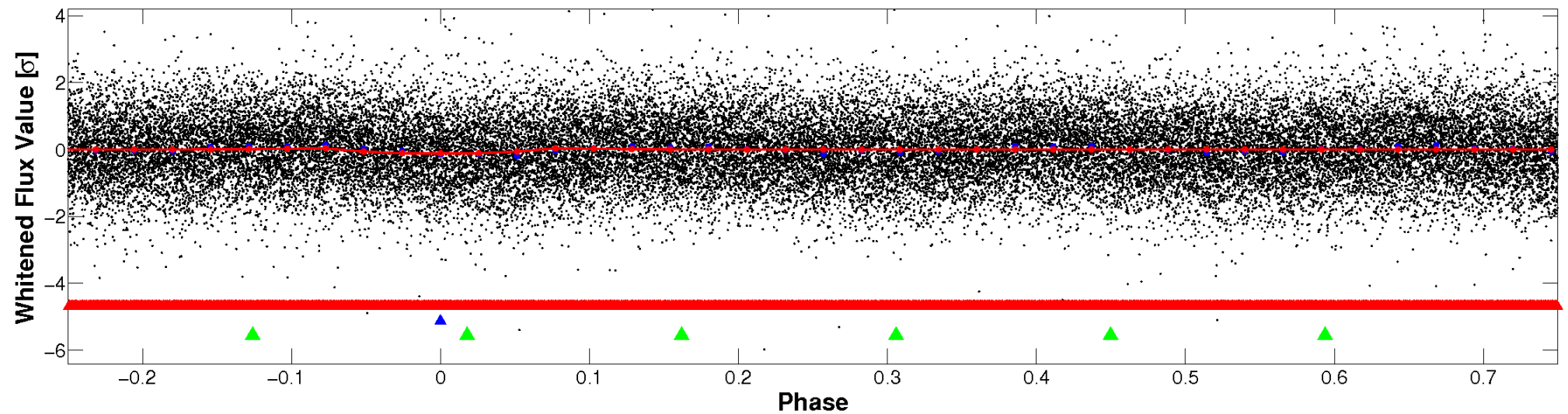


Non-Whitened Vs. Whitened Light Curve

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

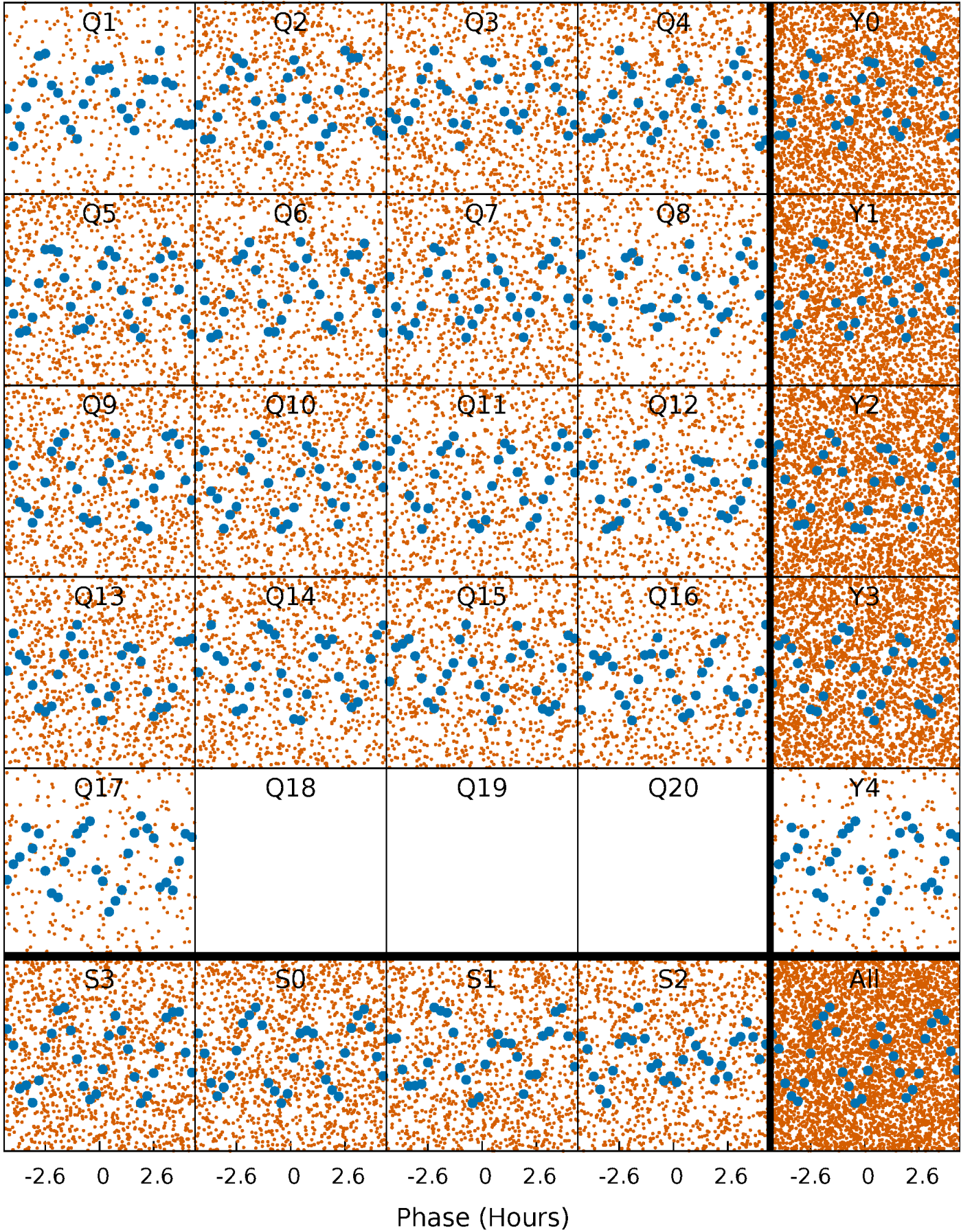


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



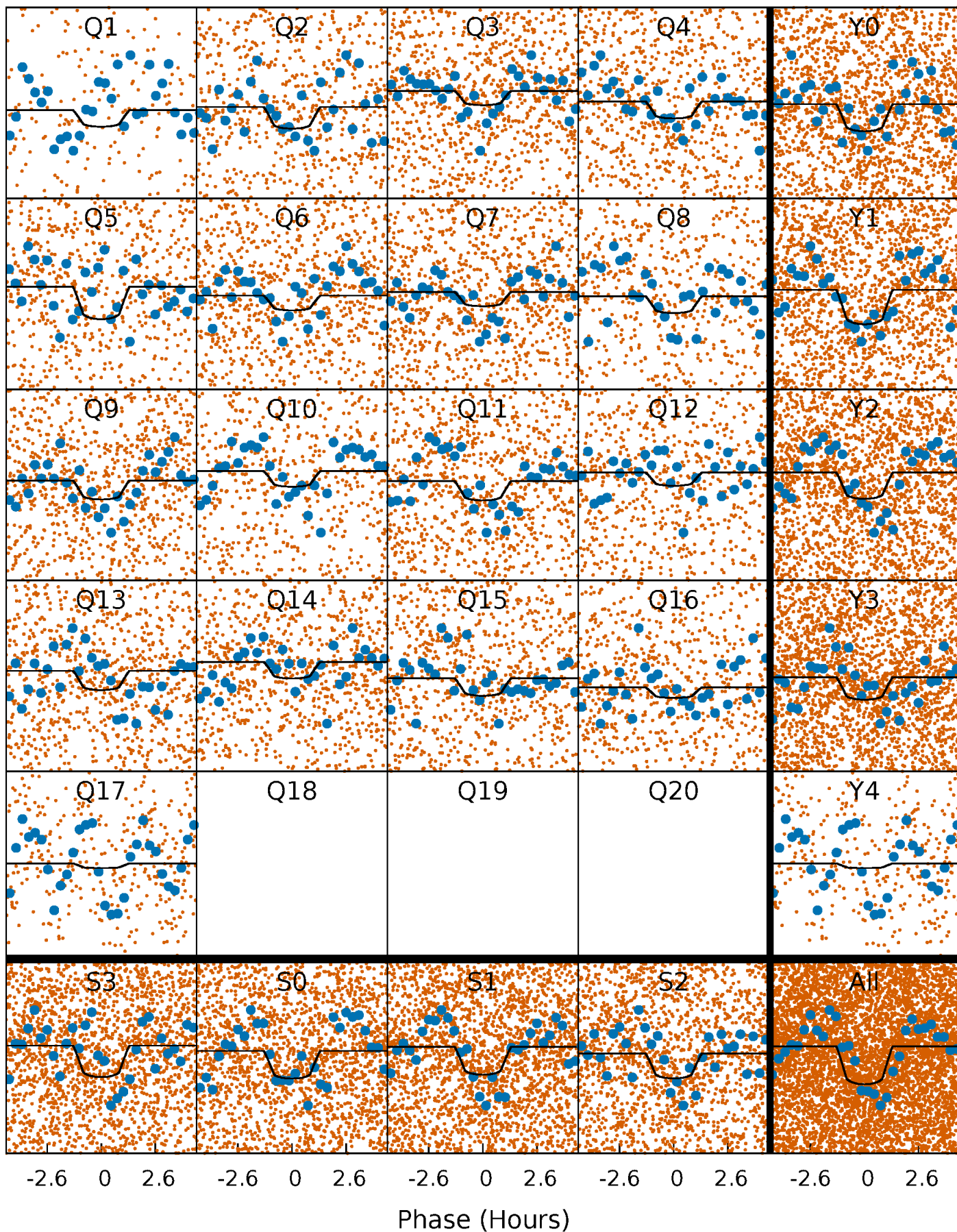
PDC Quarter-Phased Transit Curves

TCE 009655909-02 P= 0.794831 Days $T_0=132.113971$ (BKJD)



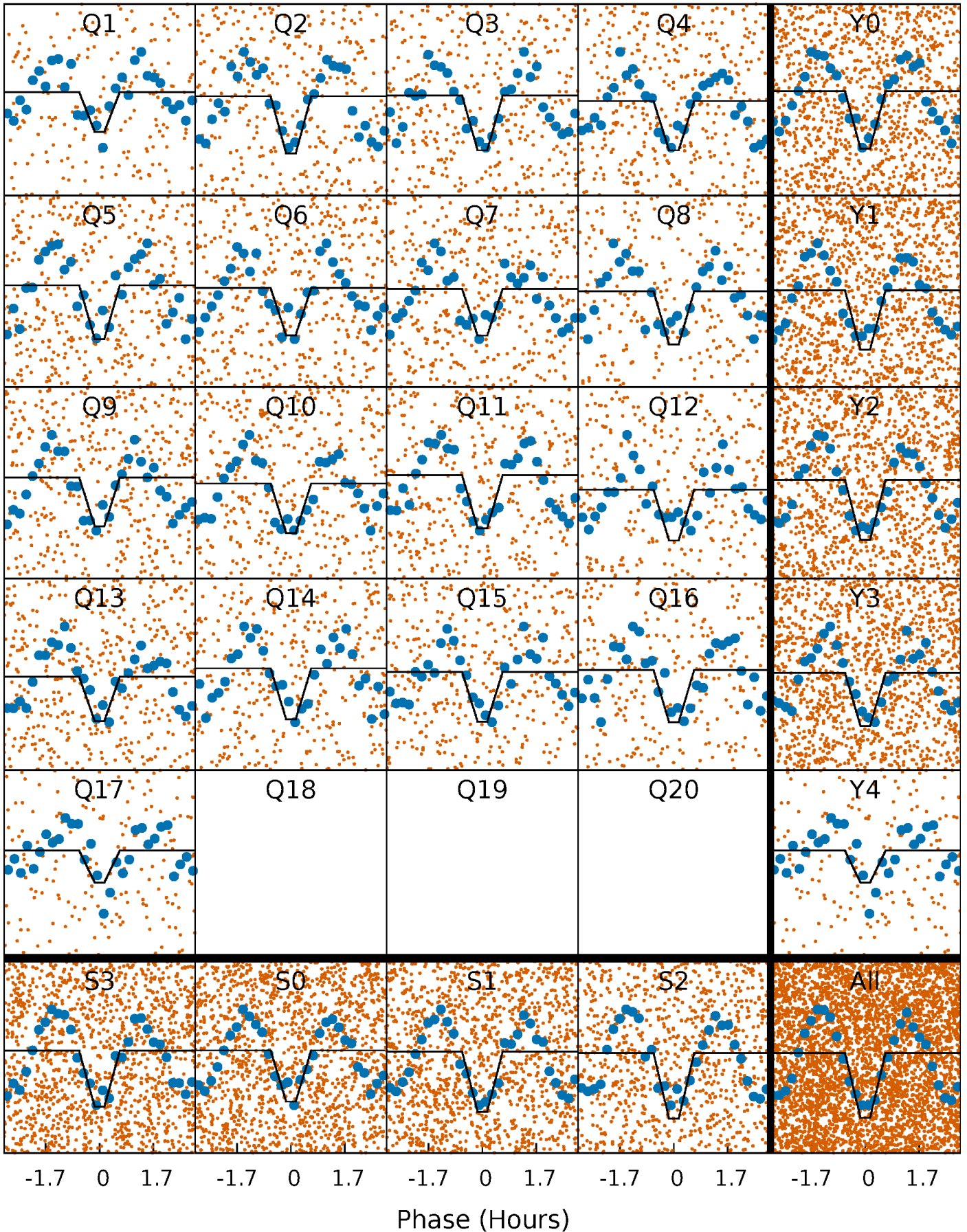
DV Quarter-Phased Transit Curves

TCE 009655909-02 P= 0.794831 Days $T_0=132.113971$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

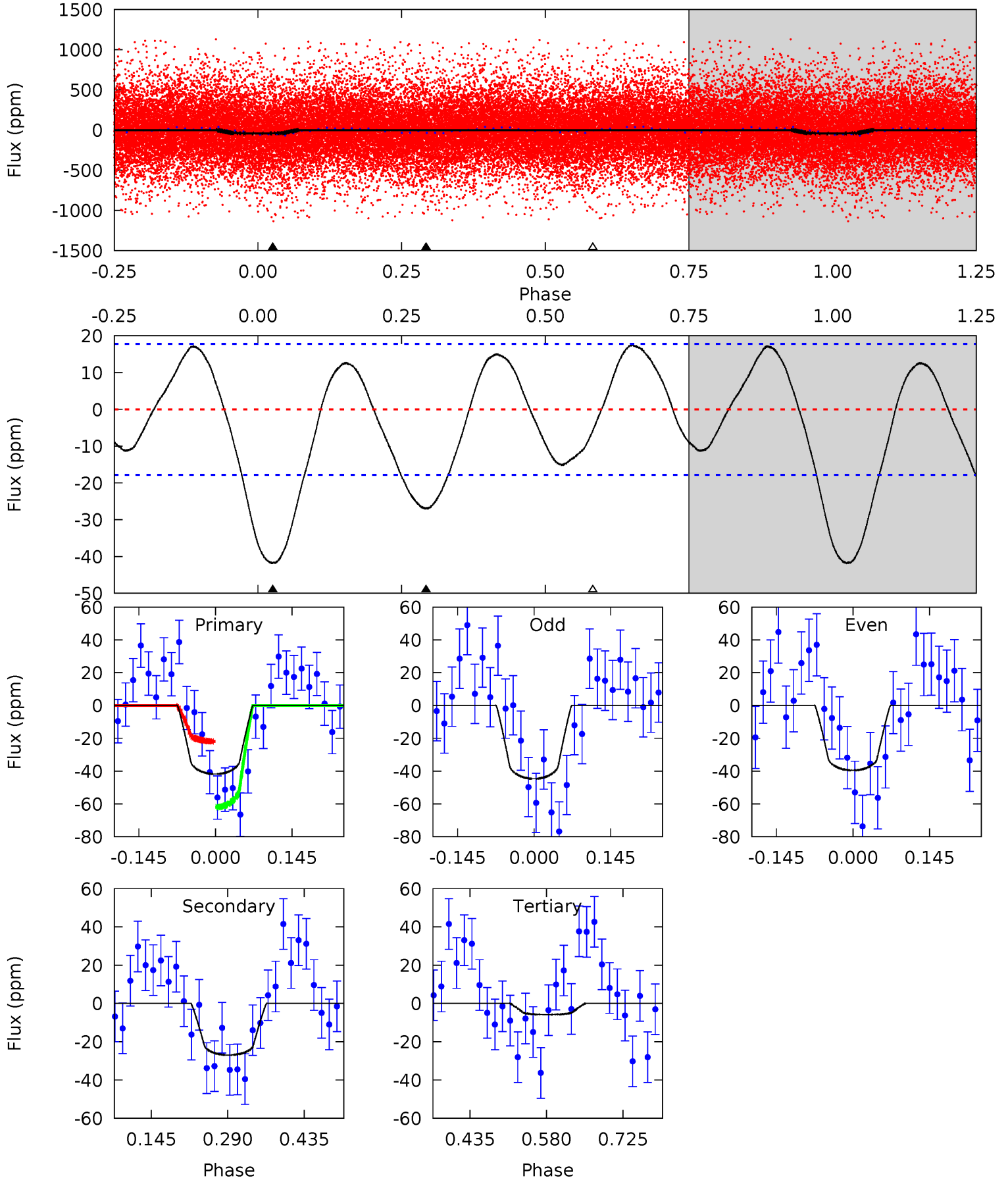
TCE 009655909-02 P= 0.794868 Days $T_0=132.063188$ (BKJD)



DV Model-Shift Uniqueness Test

009655909-02, P = 0.794831 Days, E = 131.319140 Days

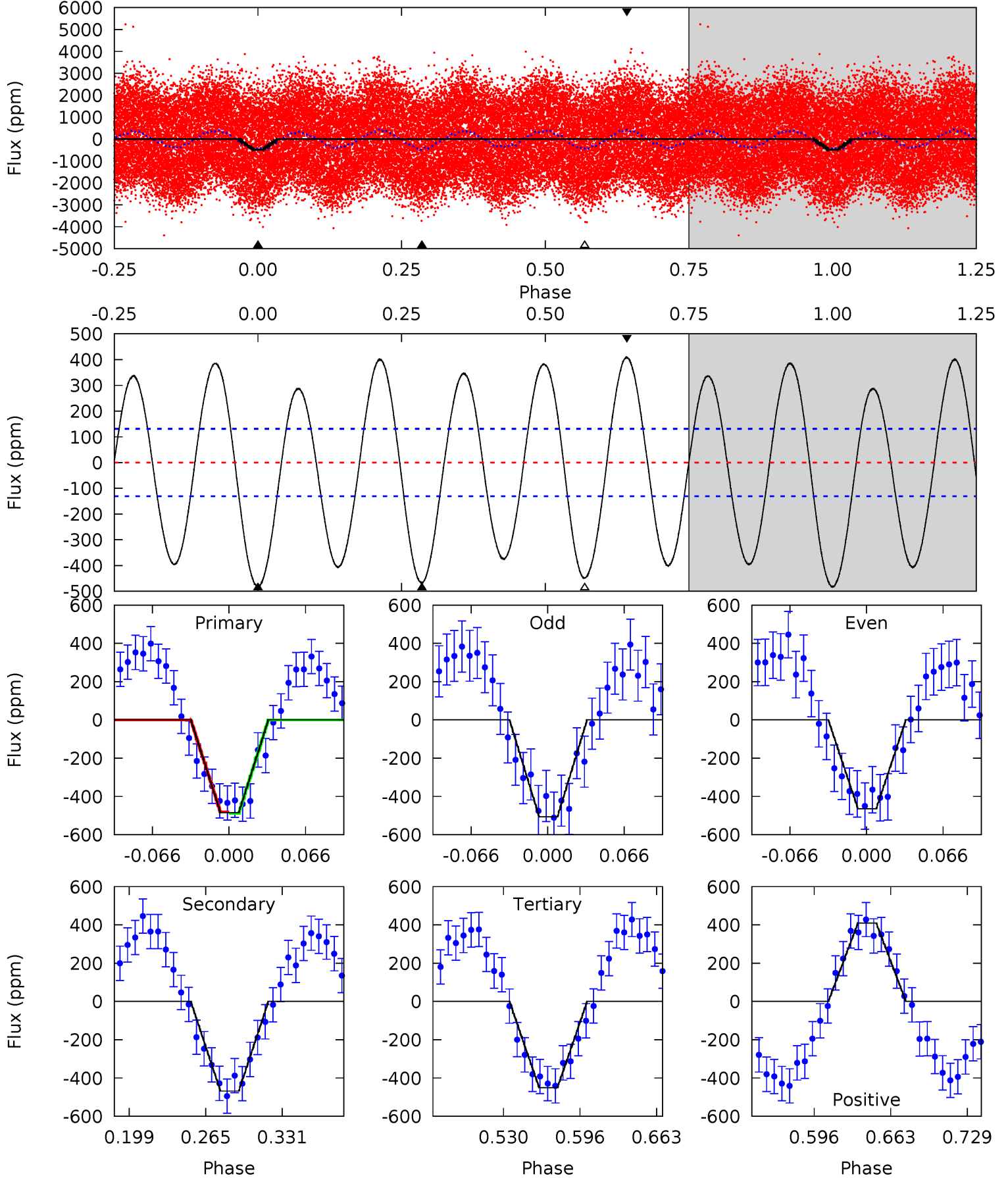
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.79	1.47	0	4.49	1.46	2.57	9.06	10.5	5.32	6.79	0.65	1.21	0.30	5.03



Alt Model-Shift Uniqueness Test

009655909-02, P = 0.794868 Days, E = 131.268320 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	16.7	16.0	14.6	4.65	1.84	9.88	1.22	2.69	0.63	2.10	0.75	0.99	0.46	0.14



Stellar Parameters For KIC 009655909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7598^{+209}_{-340}	$3.792^{+0.368}_{-0.092}$	$-0.060^{+0.200}_{-0.350}$	$2.953^{+0.425}_{-1.275}$	$1.970^{+0.088}_{-0.500}$	$0.108^{+0.335}_{-0.032}$
	+3%/-4%	+10%/-2%	+333%/-583%	+14%/-43%	+4%/-25%	+311%/-30%
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 009655909-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 4	$1.92^{+0.96}_{-0.86}$	5383^{+393}_{-558}	6300^{+2676}_{-1425}	$1.786^{+3.704}_{-1.027}$
Alt.	-468 ± 28	$6.94^{+1.44}_{-1.65}$	5379^{+379}_{-629}	6938^{+679}_{-562}	$2.309^{+1.483}_{-0.703}$

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 $A_{obs} \gg 1.0$

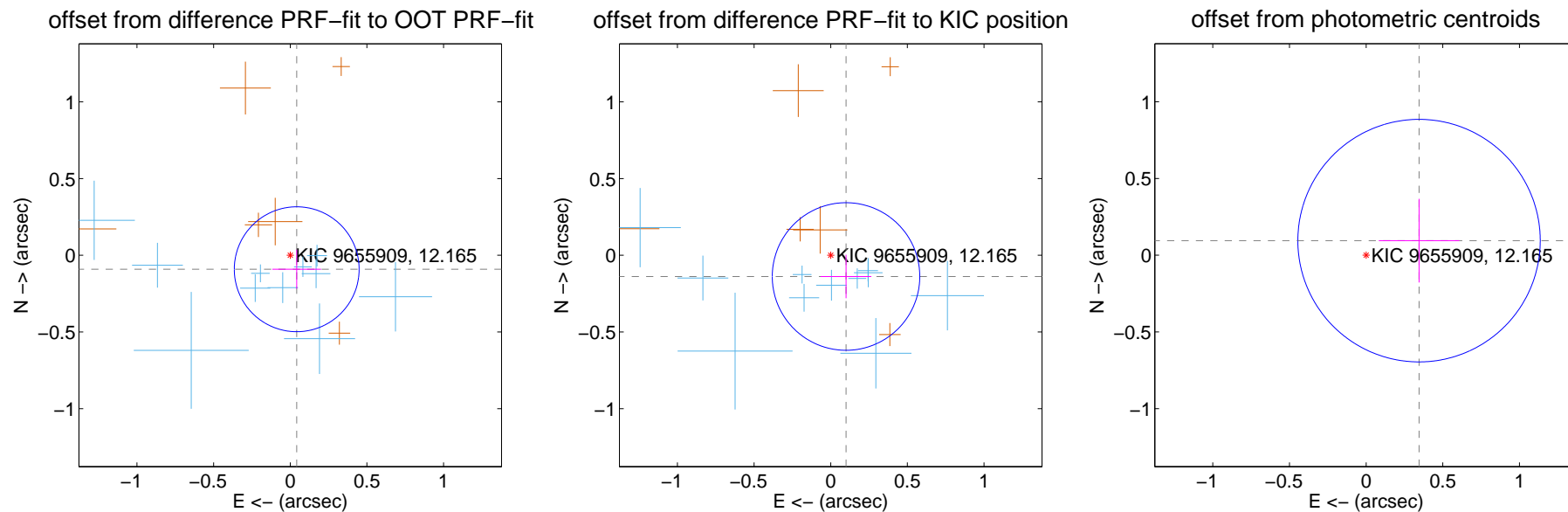
DV Centroid Data

Supplemental centroid analysis for 009655909-02. Kepler magnitude: 12.16. Transit SNR 7.07

There are 11 quarters with good PRF difference image offsets

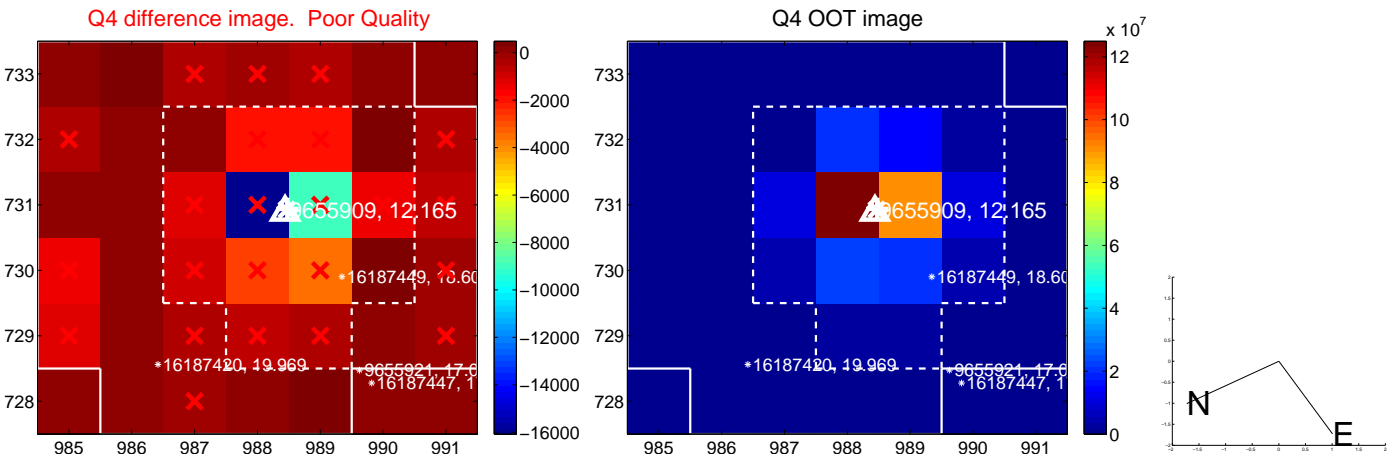
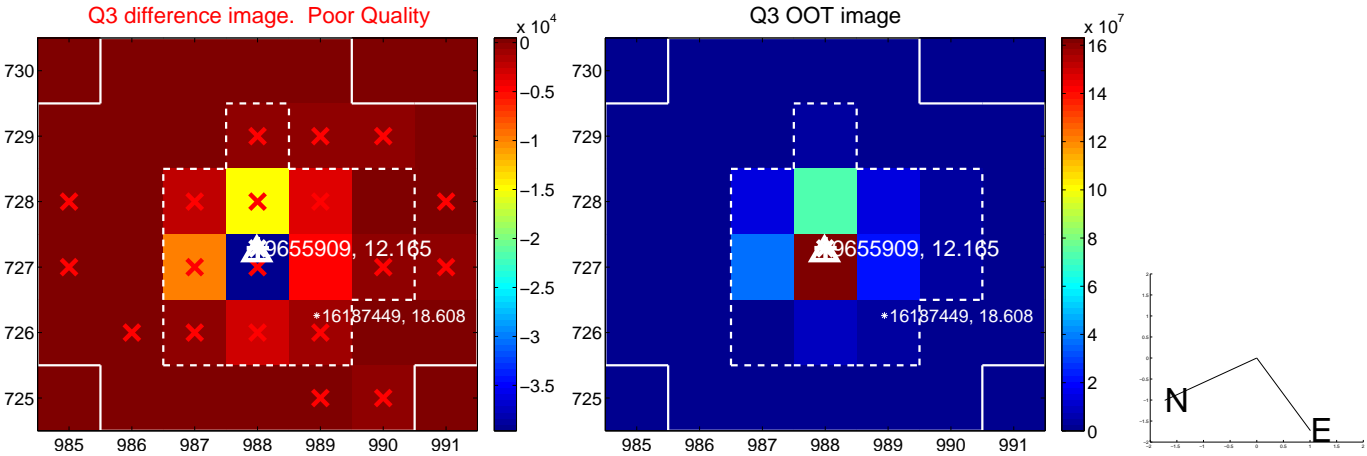
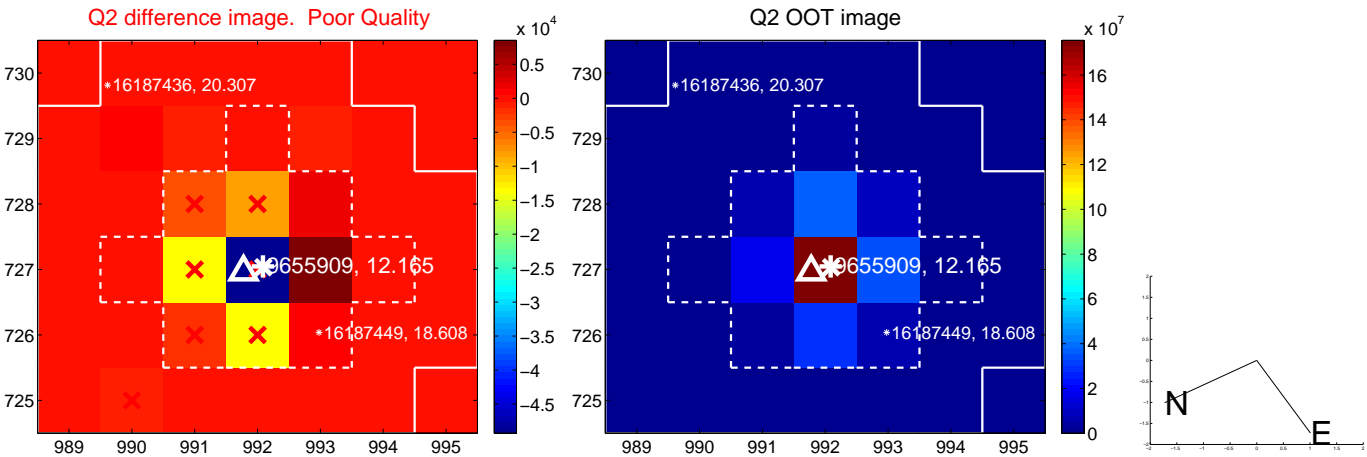
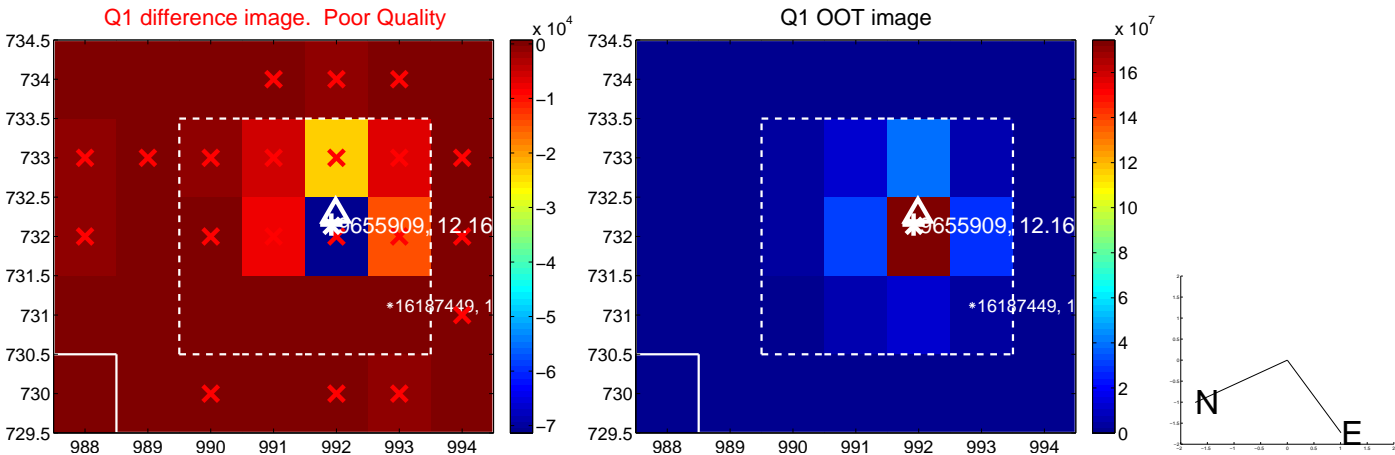
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.100 ± 0.136	0.74	-0.042 ± 0.159	-0.091 ± 0.127
PRF-fit source offset from KIC position	0.171 ± 0.160	1.06	-0.100 ± 0.165	-0.138 ± 0.142
photometric centroid source offset	0.36 ± 0.26	1.36	-0.35 ± 0.26	0.09 ± 0.27

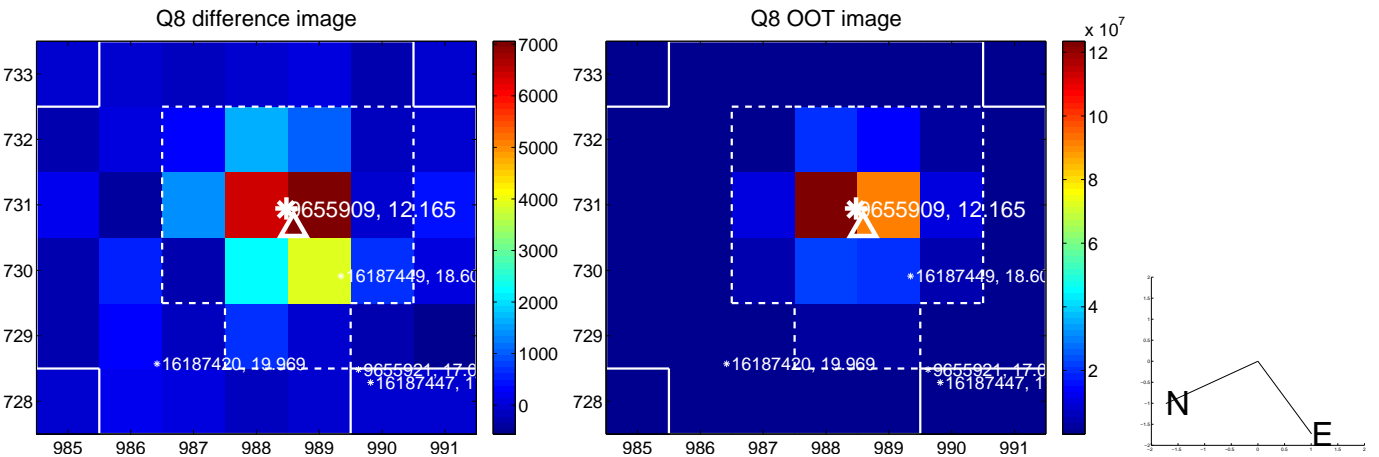
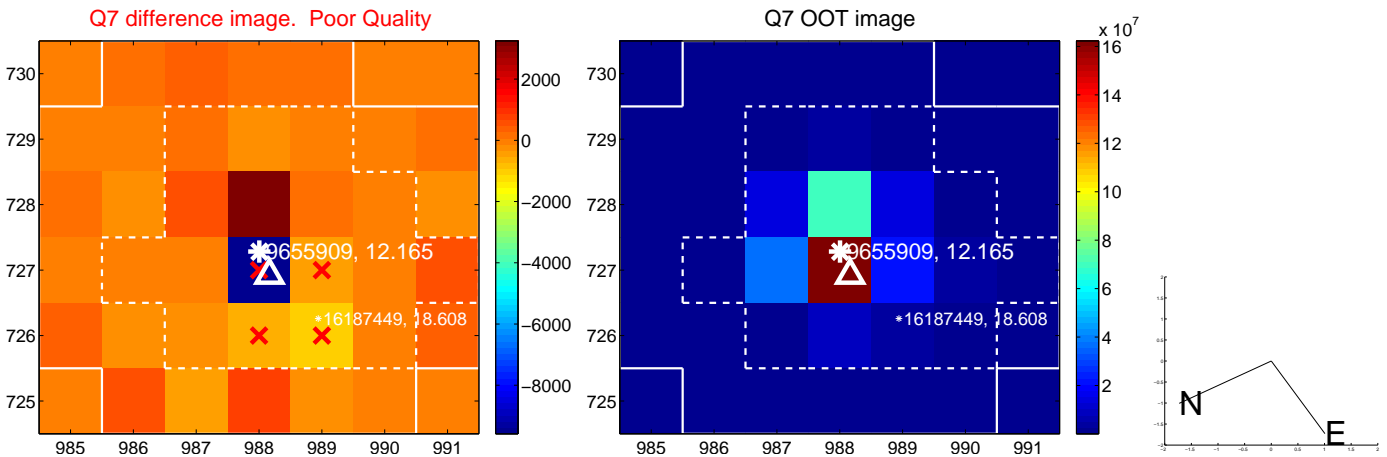
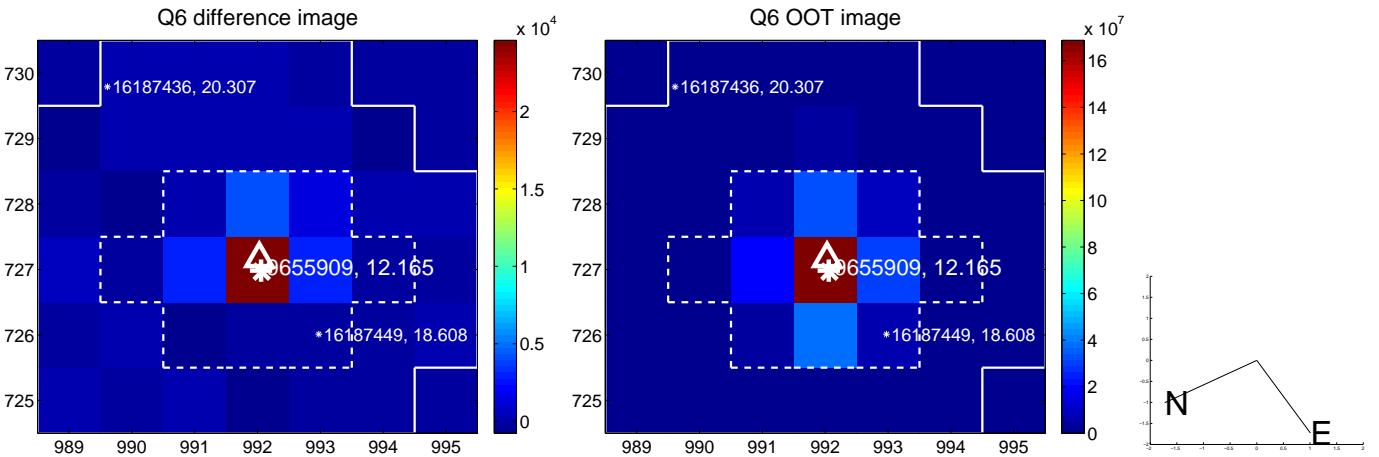
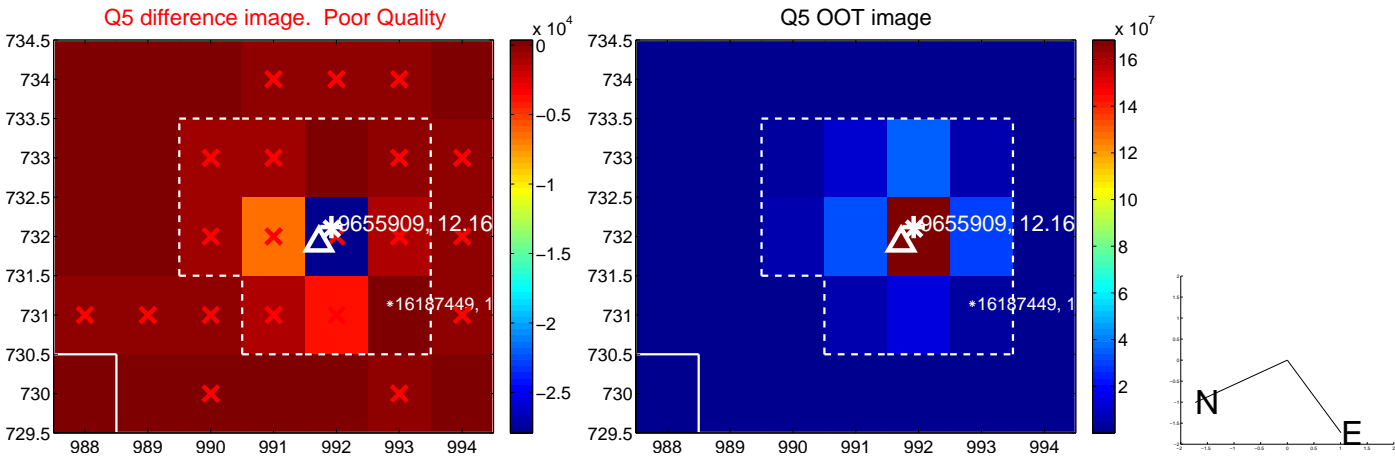


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

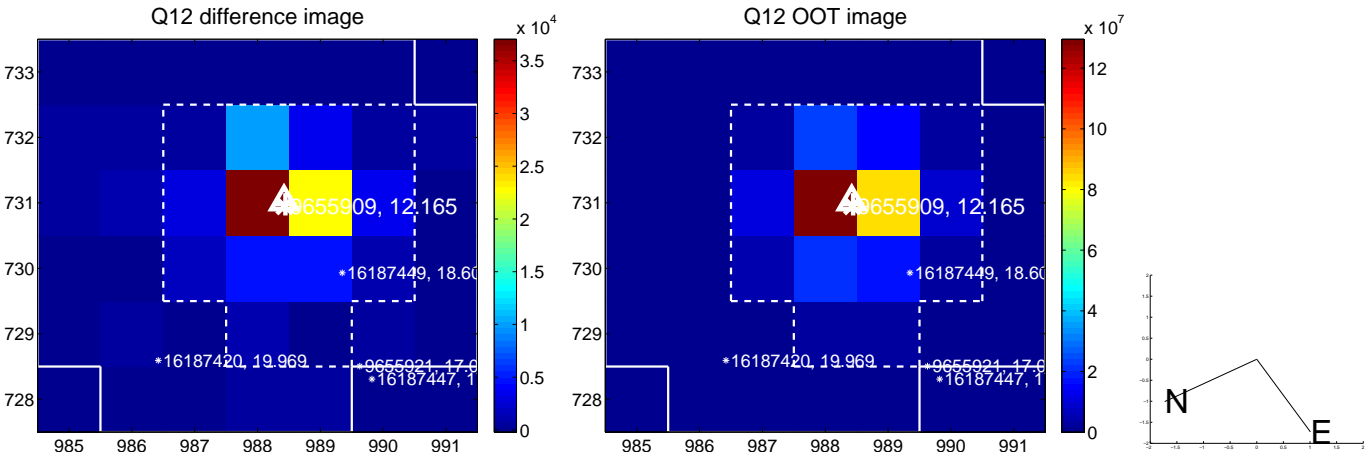
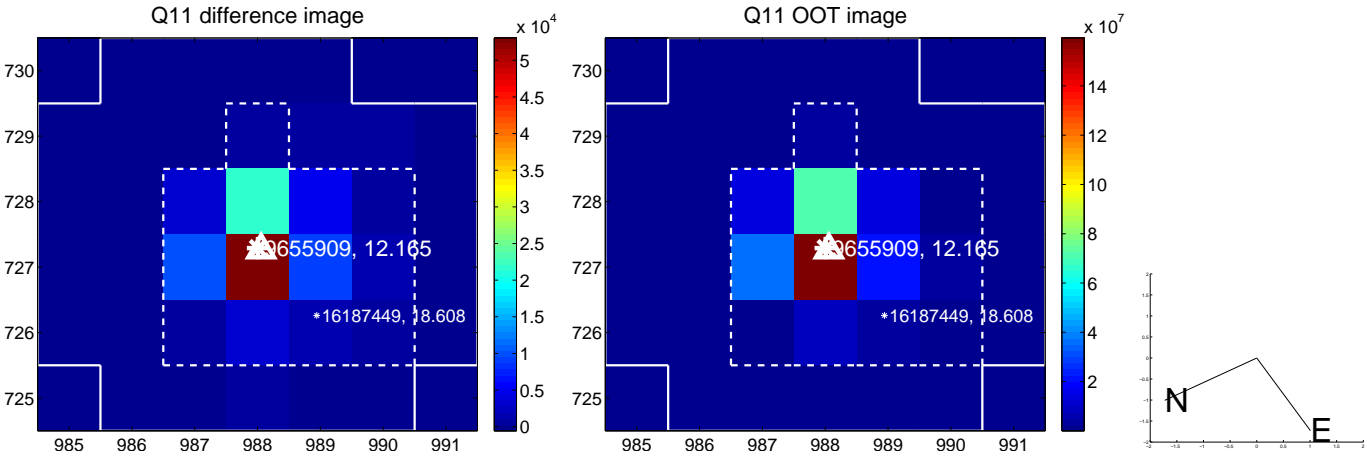
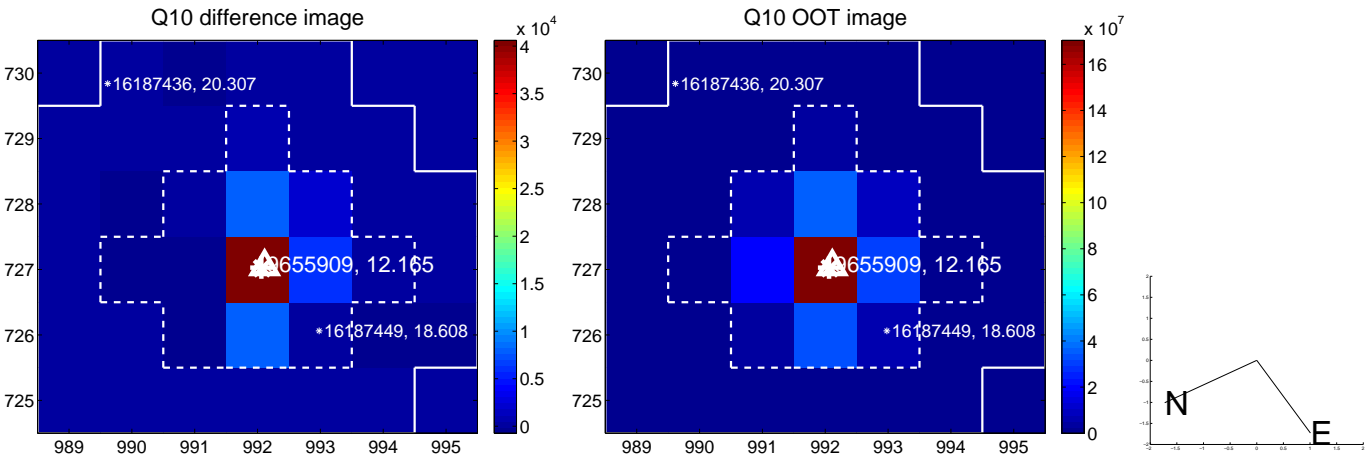
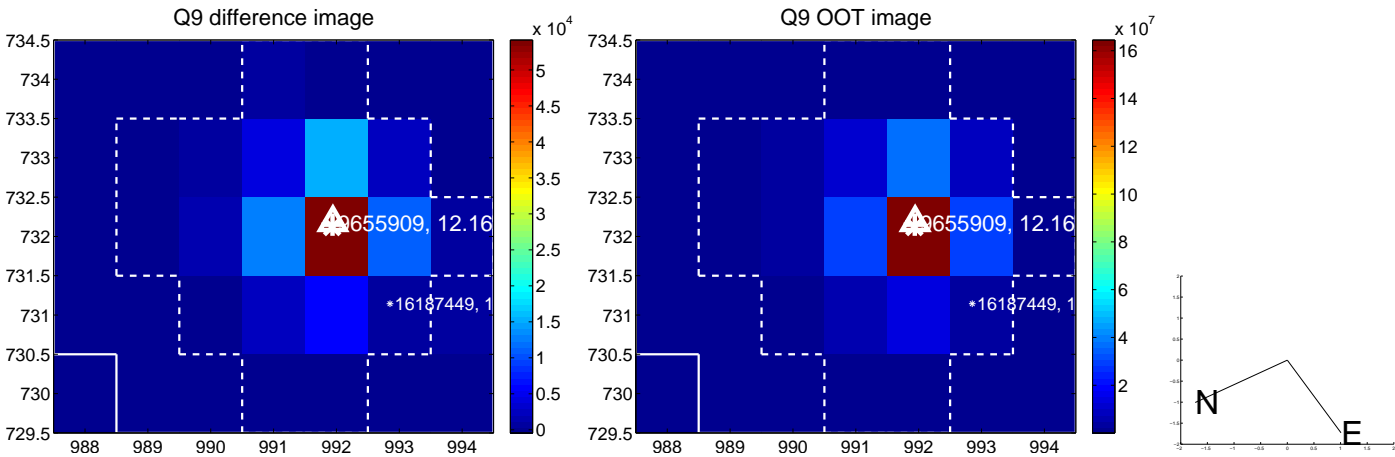
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



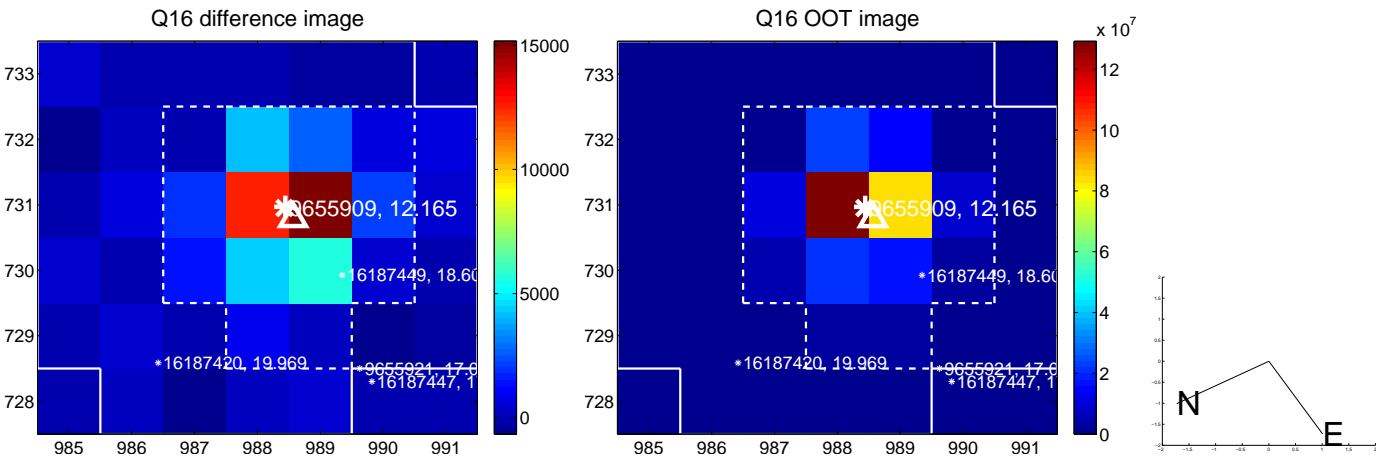
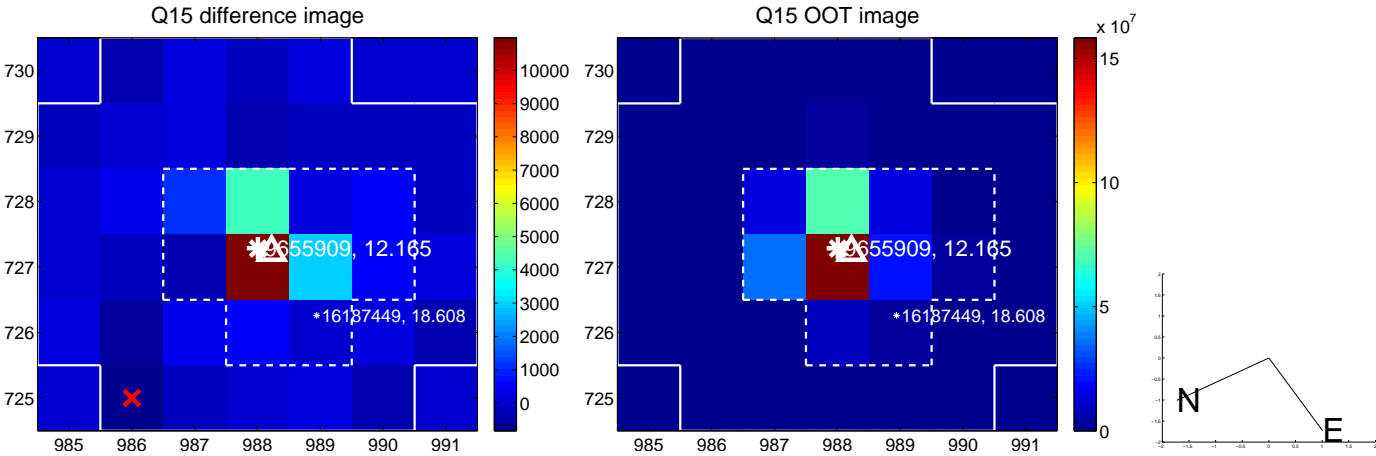
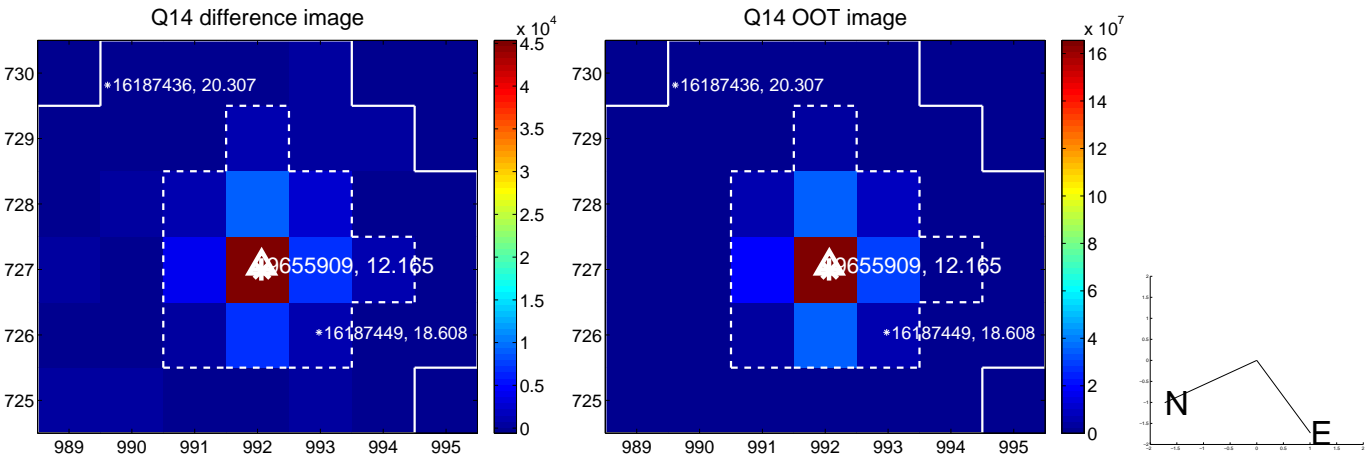
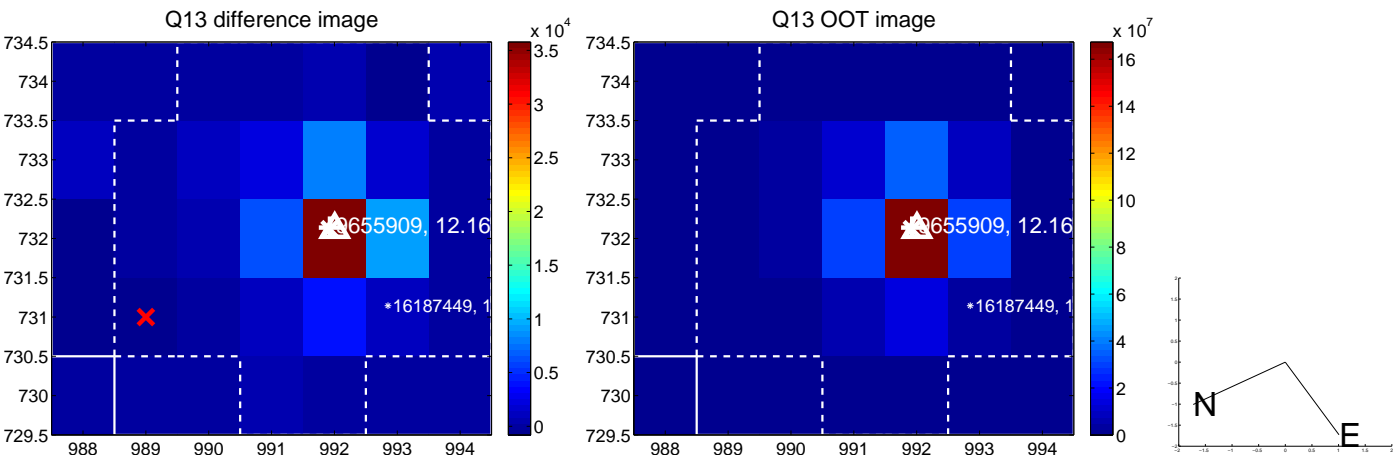
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



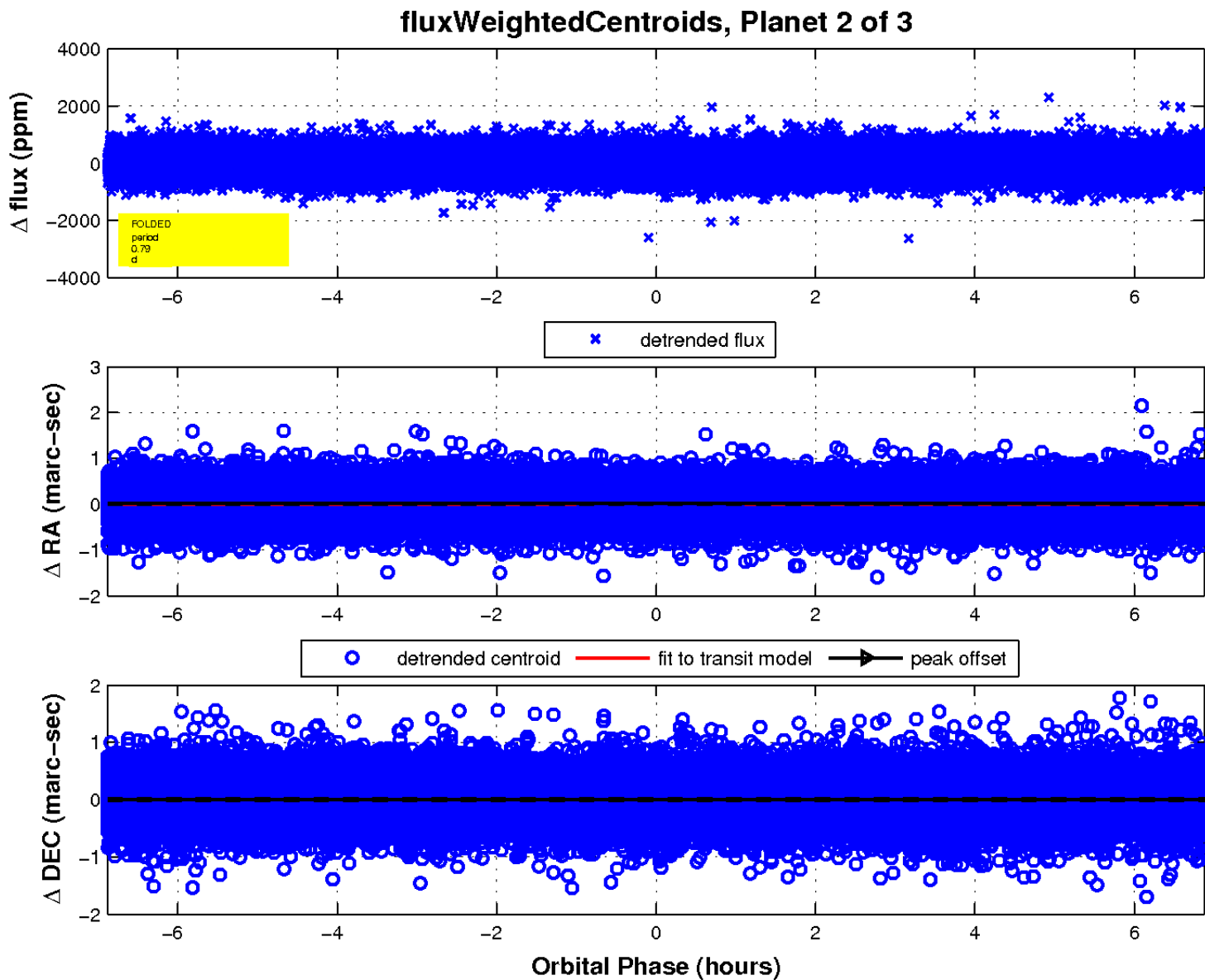
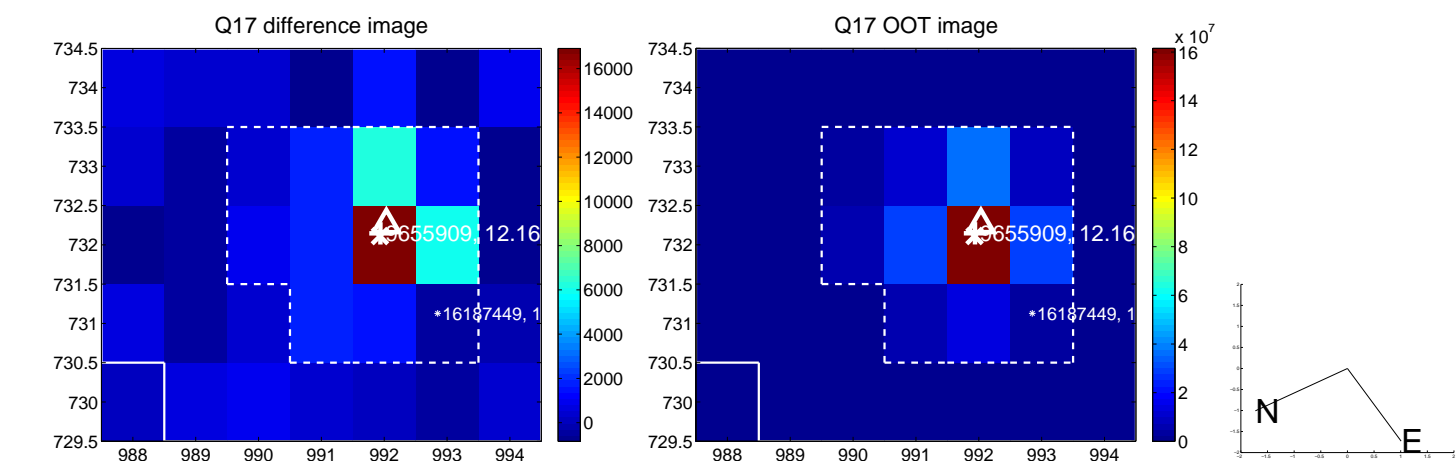
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

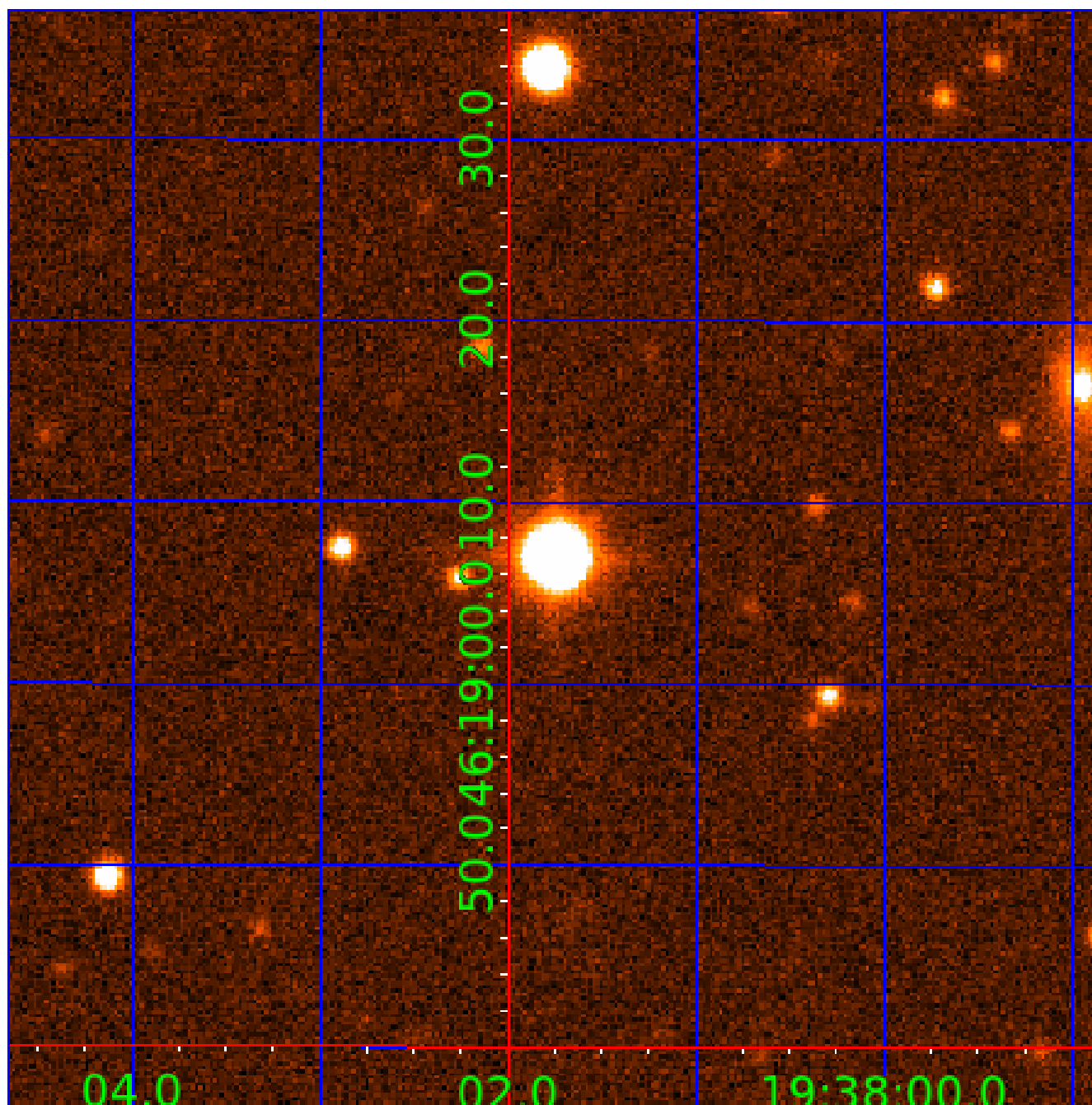


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009655909

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})
009655909-01	OBS	No	0.817040	131.819621	59.3	2.493	11.2	12.4	2.95	7598	2.64	56607.81
009655909-02	OBS	No	0.794831	132.113971	40.9	2.294	9.8	7.1	2.95	7598	2.16	58726.53
009655909-03	OBS	No	273.307293	138.944579	794.9	6.738	7.6	7.9	2.95	7598	12.85	24.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009655909-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009655909-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009655909-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

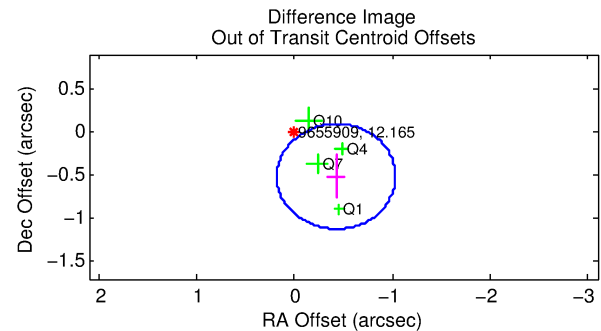
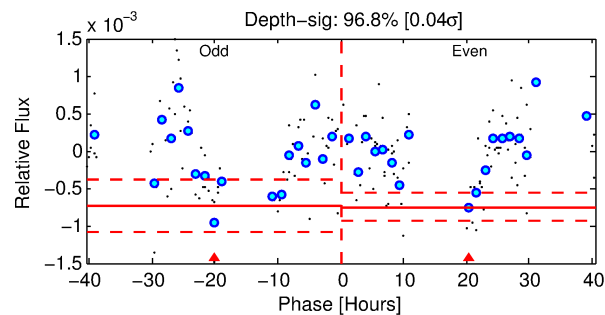
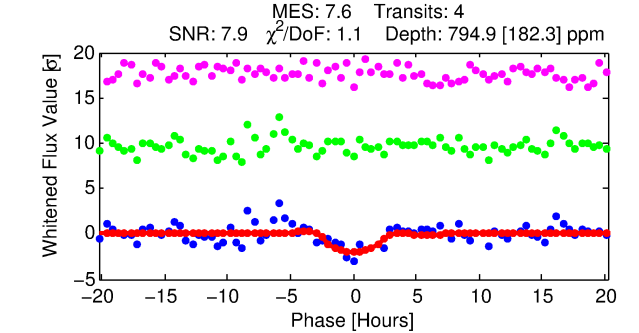
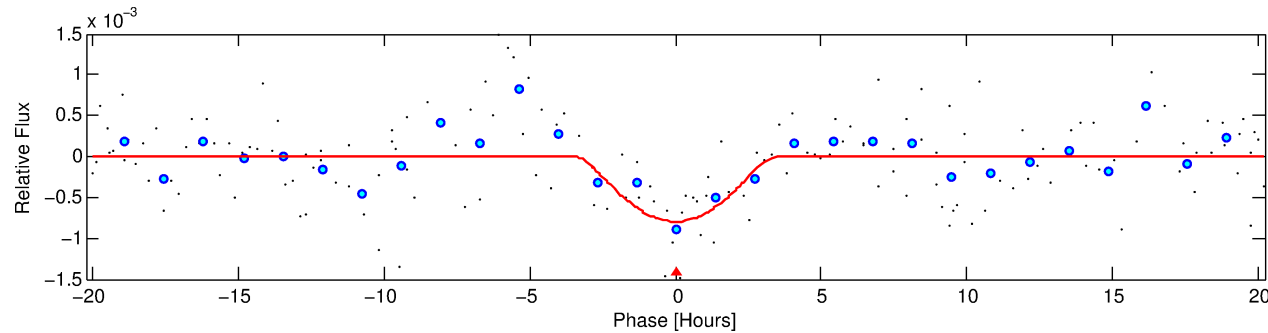
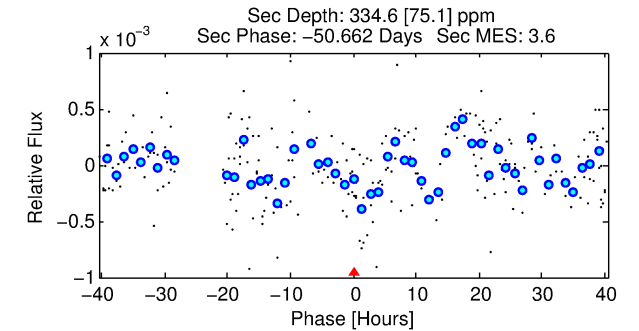
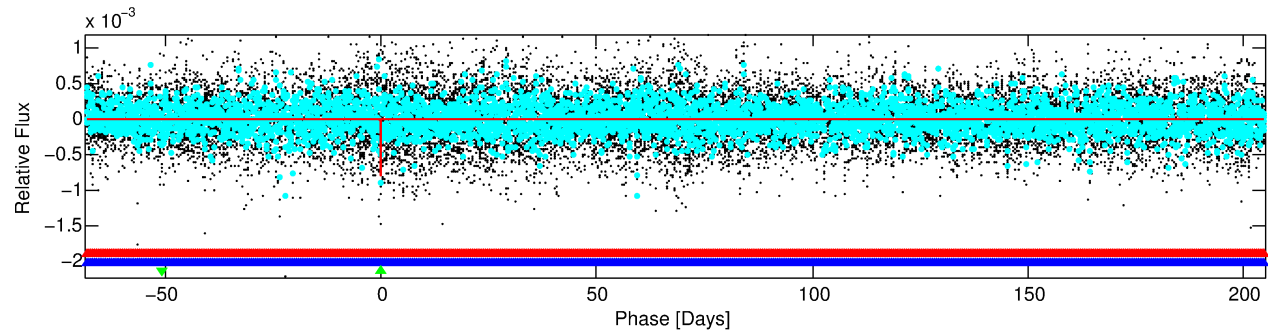
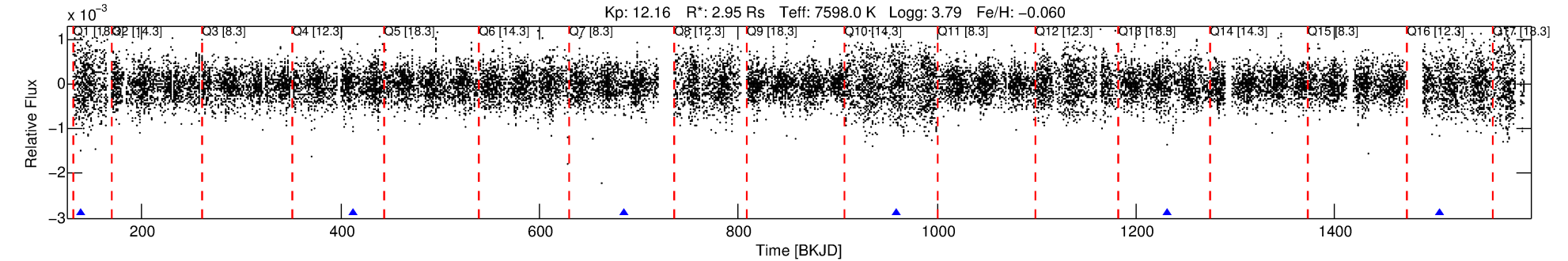
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009655909-03

No Significant Match Found

DV One-Page Summary

KIC: 9655909 Candidate: 3 of 3 Period: 273.307 d



DV Fit Results:

Period = 273.30729 [0.01292] d
Epoch = 138.9446 [0.0221] BKJD
Rp/R* = 0.0399 [0.0907]
a/R* = 102.13 [90.61]
b = 0.99 [0.17]
Seff = 24.38 [16.06]
Teq = 567 [93] K
Rp = 12.85 [29.76] Re
a = 1.0335 [0.4168] AU
Ag = 1190.57 [5476.76] [0.22 σ]
Teffp = 5146 [5866] K [0.78 σ]

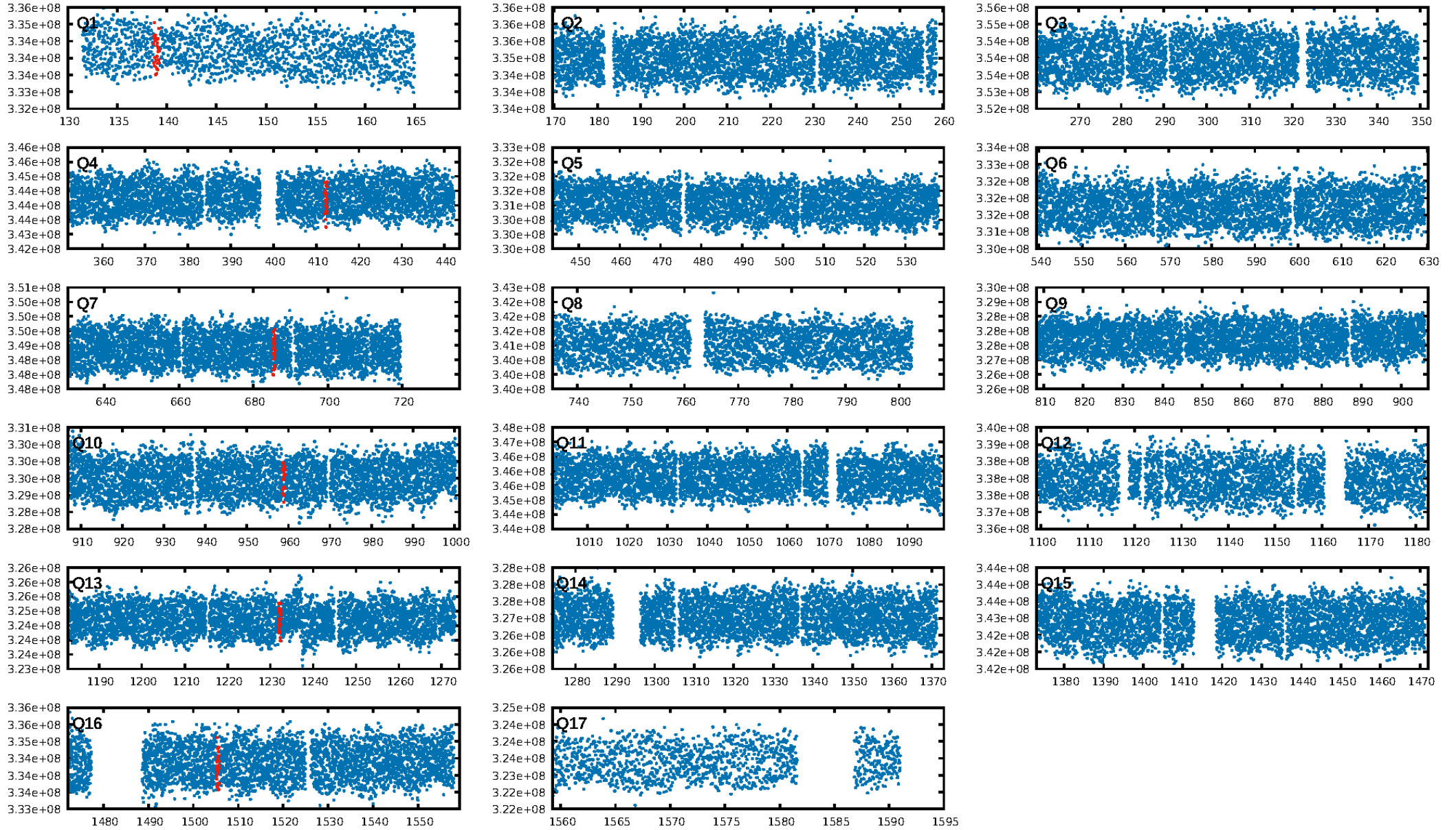
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [910.29 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.95e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.64
Centroid-sig: 4.0%
Centroid-so: 0.357 arcsec [1.83 σ]
OotOffset-rm: 0.667 arcsec [3.30 σ]
KicOffset-rm: 0.718 arcsec [3.64 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

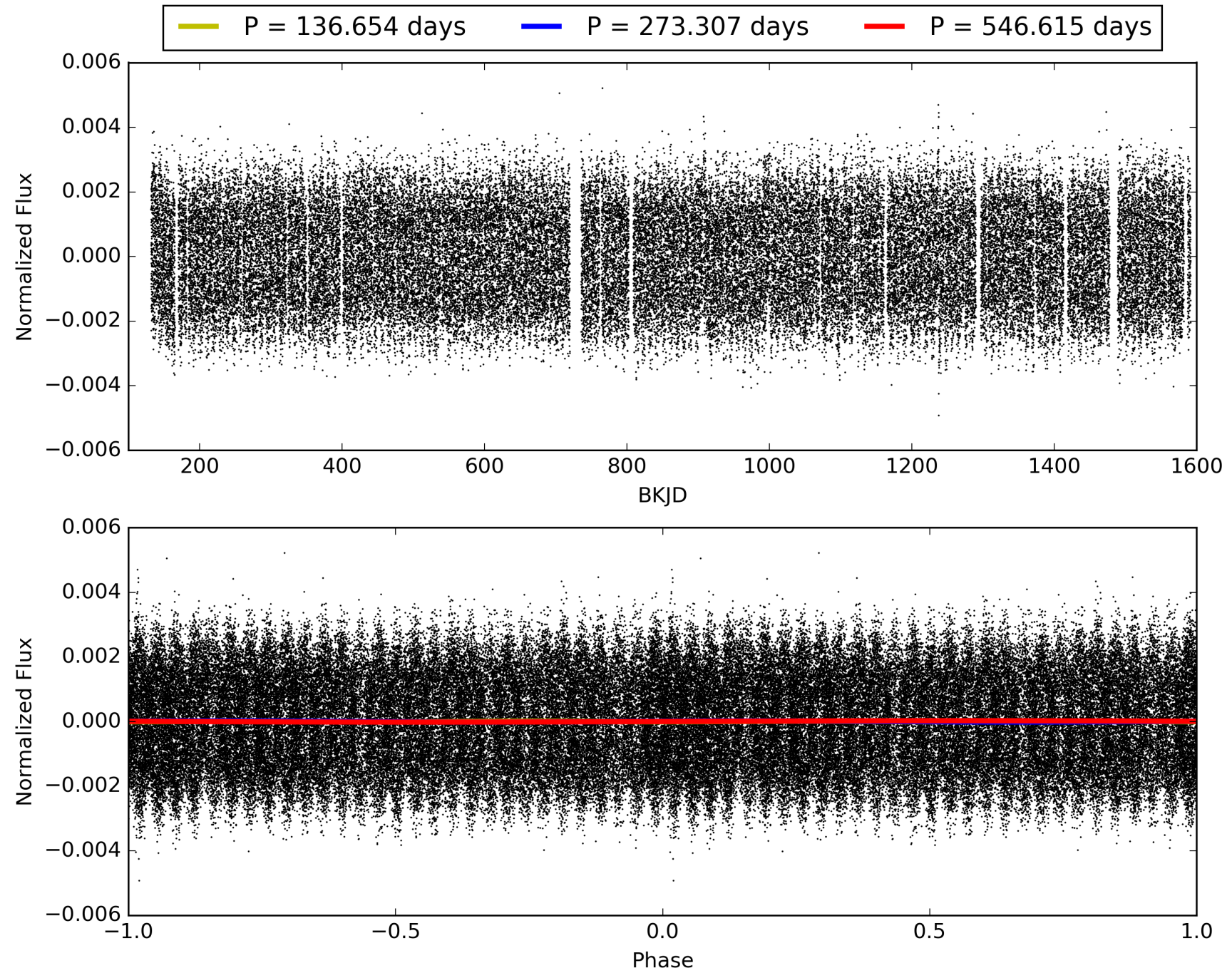
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:55:30 Z

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

TCE 009655909-03, PDC Light Curves

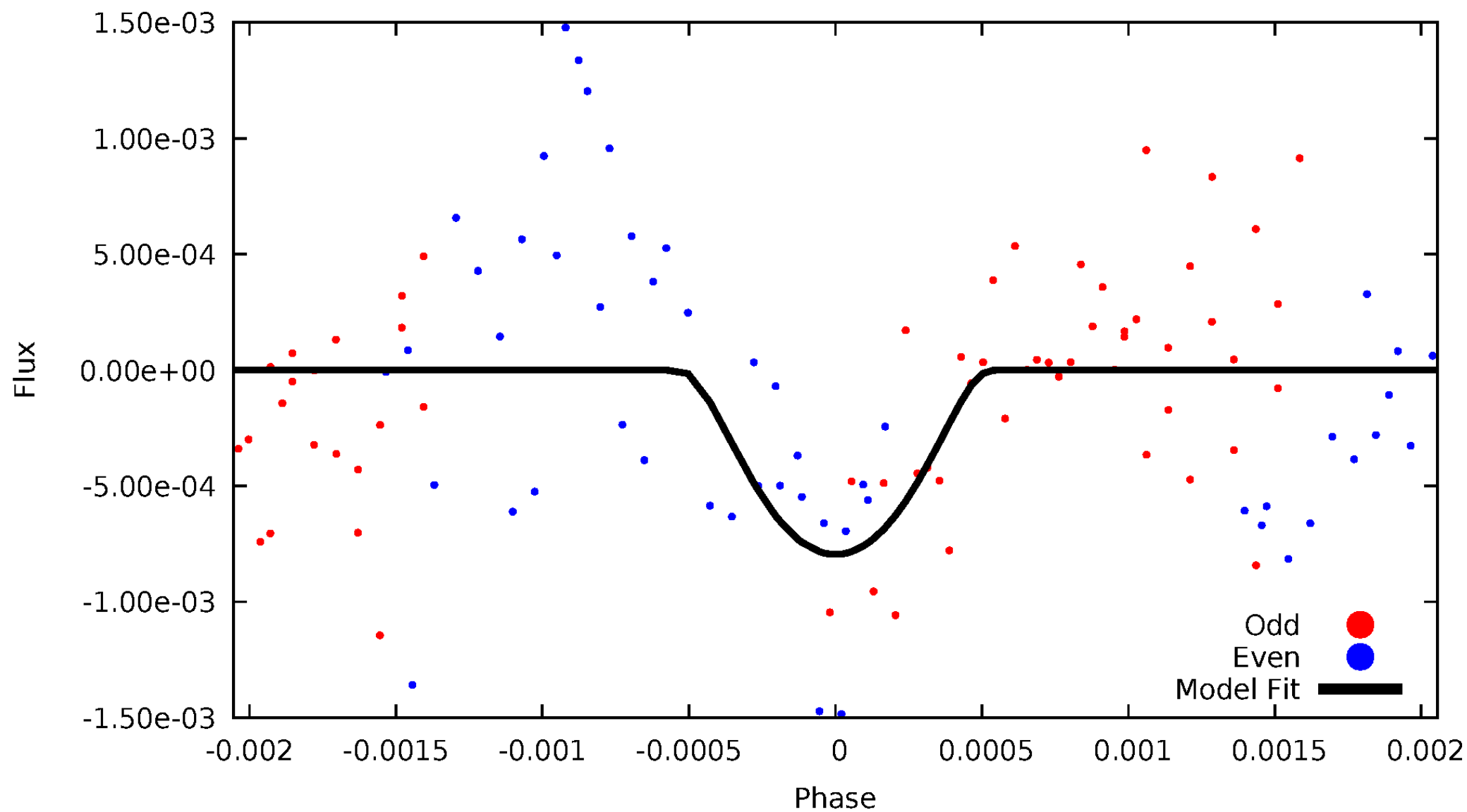


TCE 009655909-03



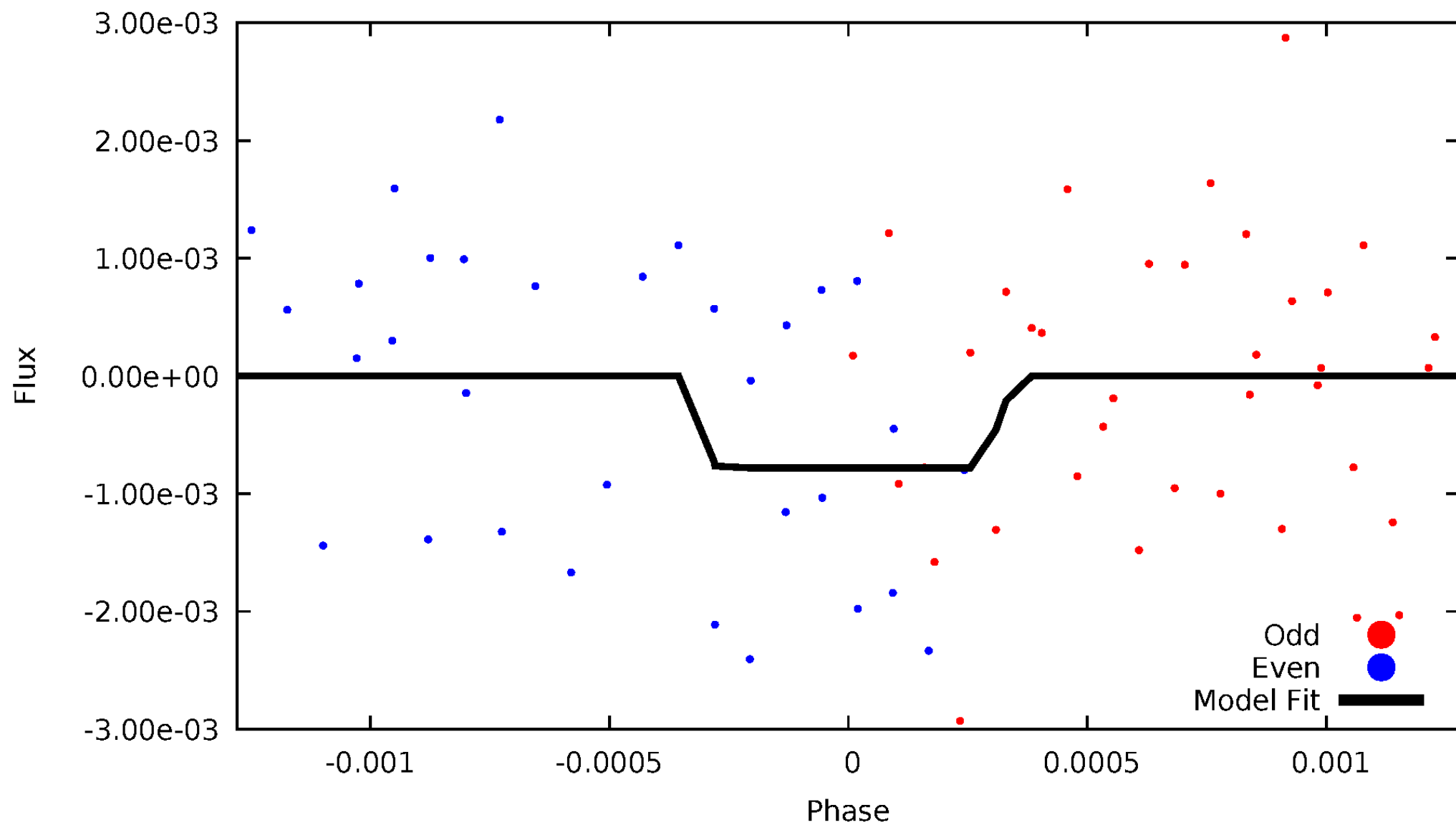
DV Odd/Even

TCE 009655909-03



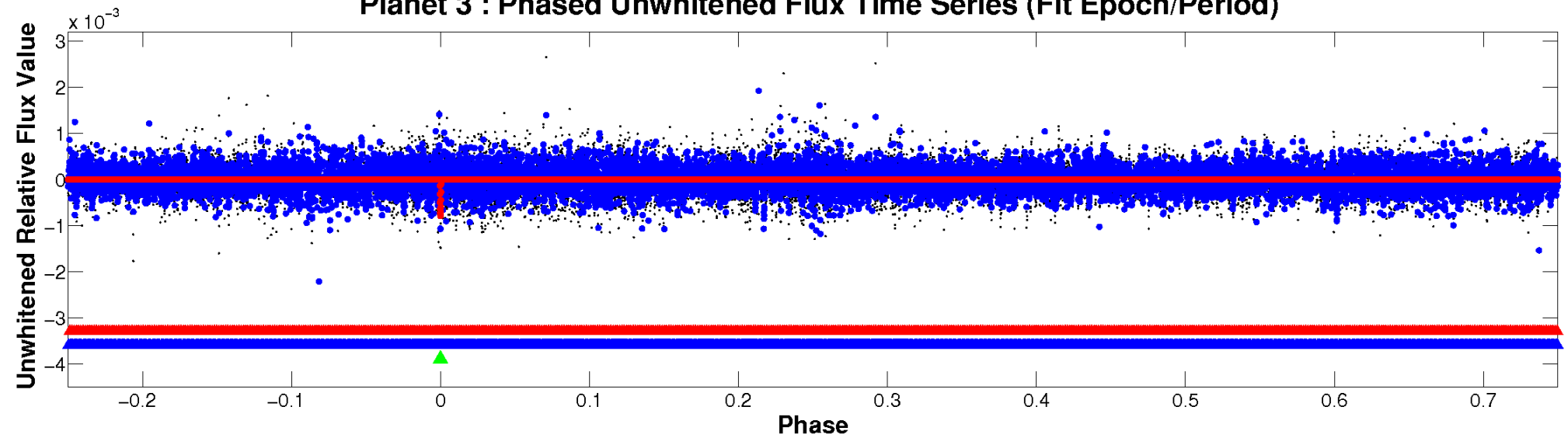
ALT Odd/Even

TCE 009655909-03

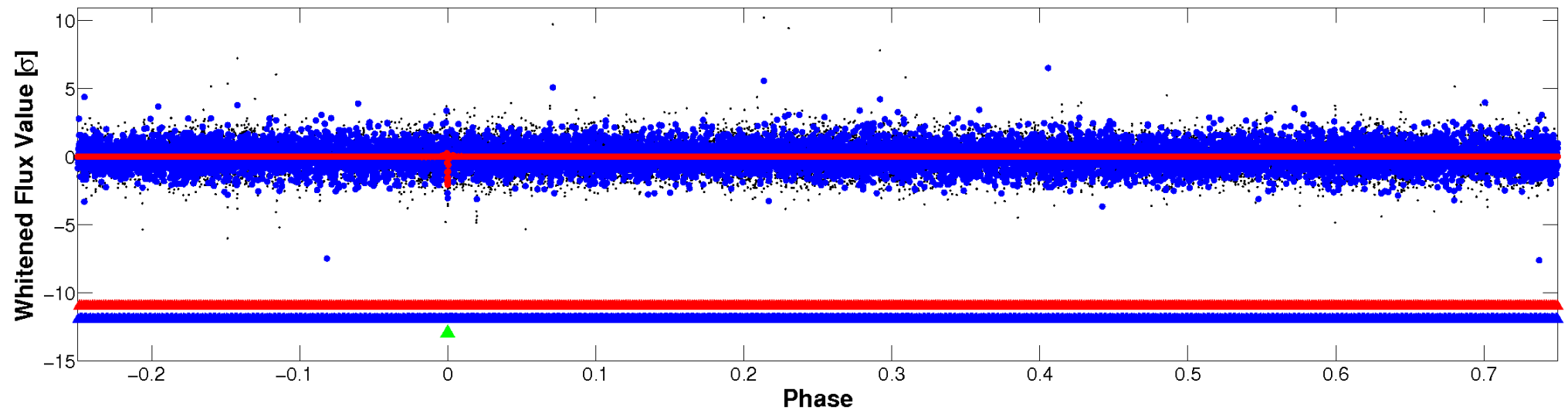


Non-Whitened Vs. Whitened Light Curve

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

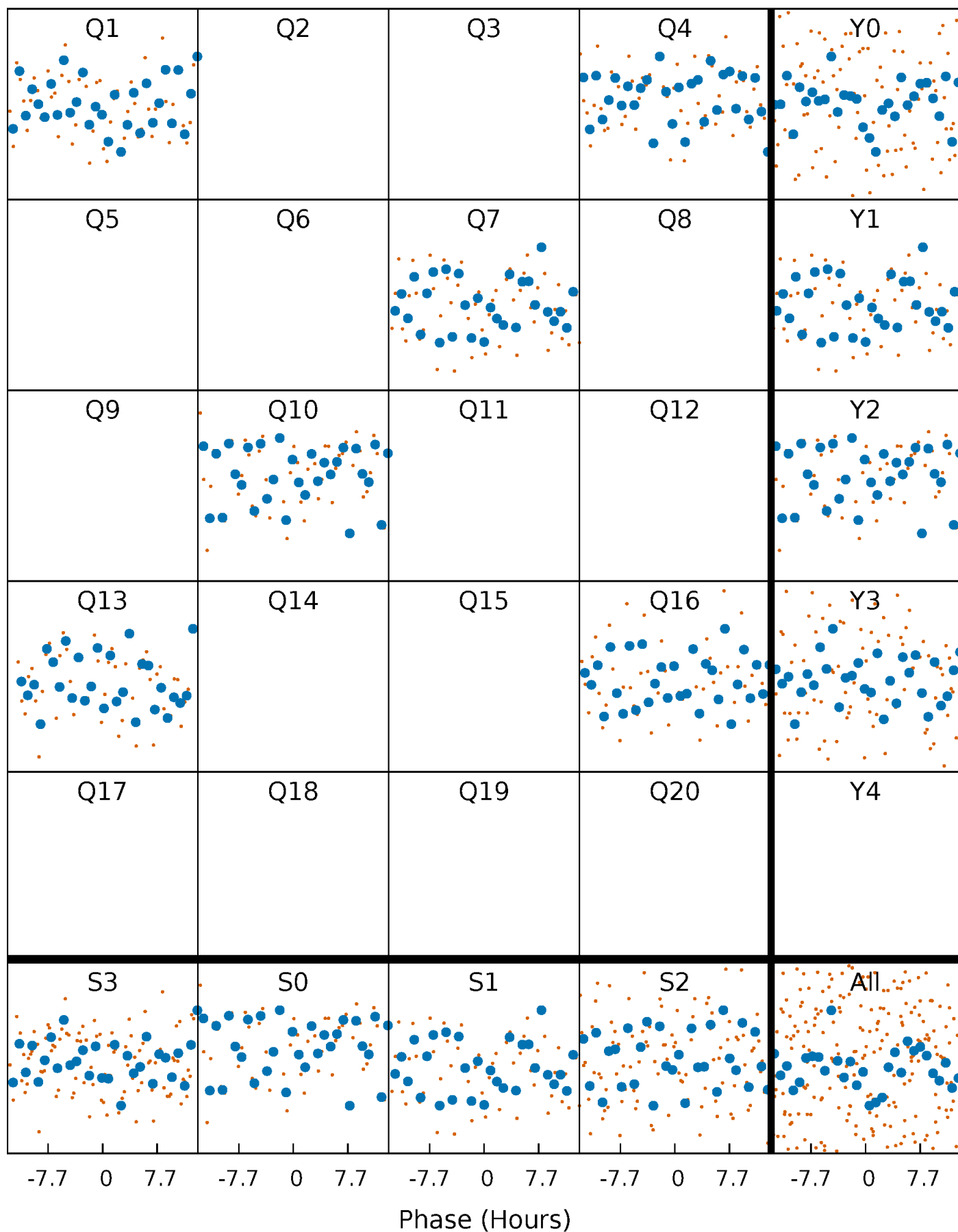


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



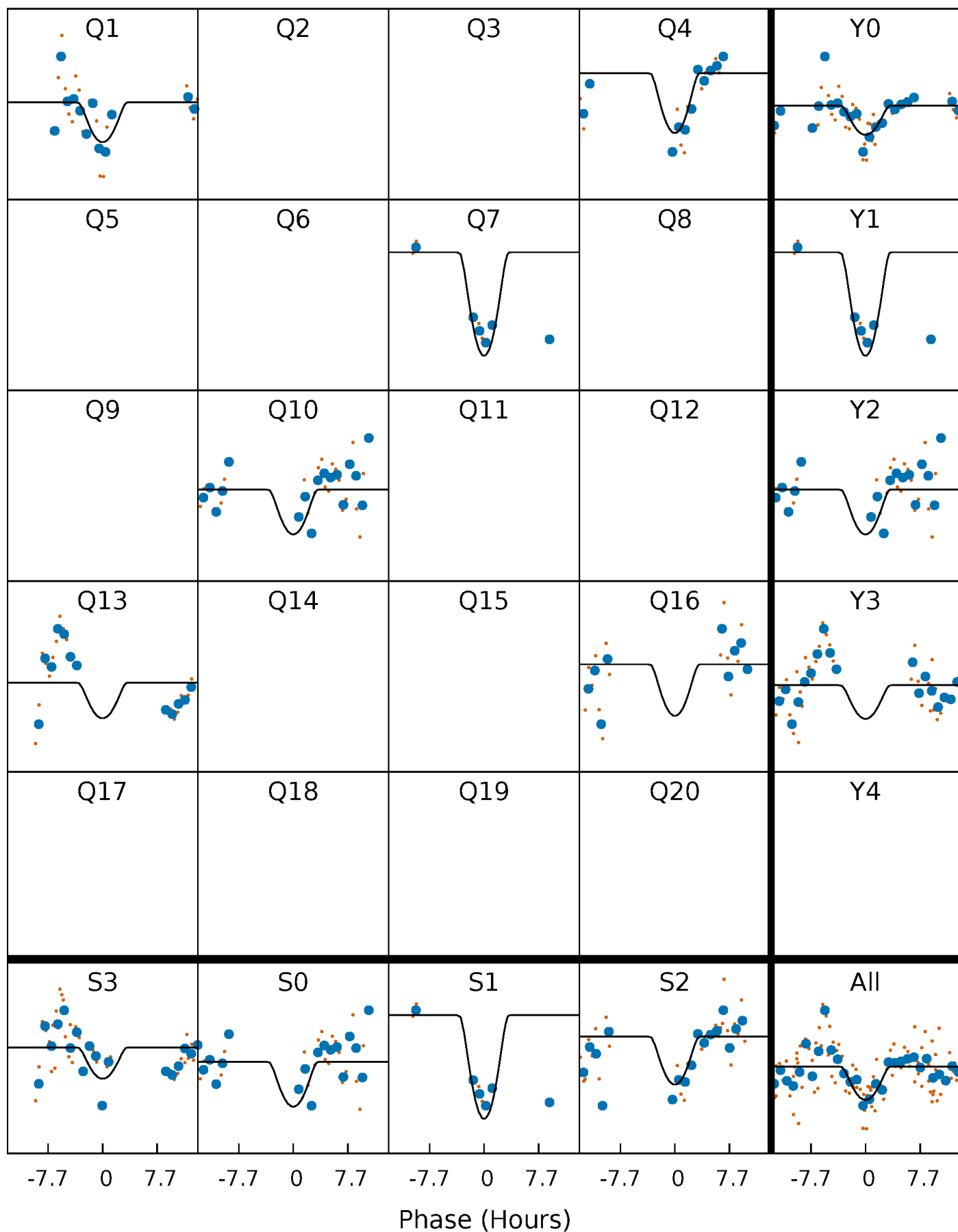
PDC Quarter-Phased Transit Curves

TCE 009655909-03 $P=273.307293$ Days $T_0=138.944579$ (BKJD)



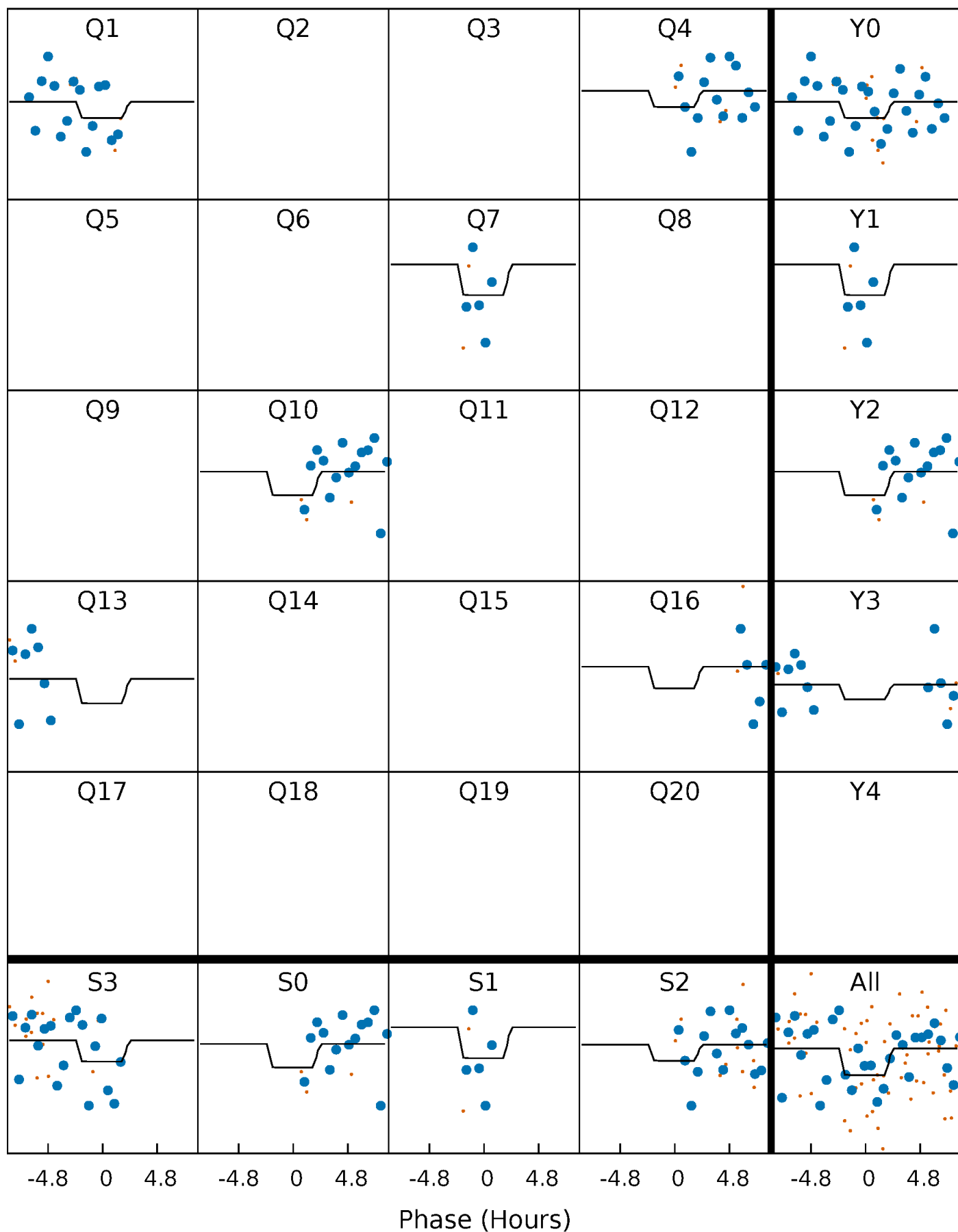
DV Quarter-Phased Transit Curves

TCE 009655909-03 $P=273.307293$ Days $T_0=138.944579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

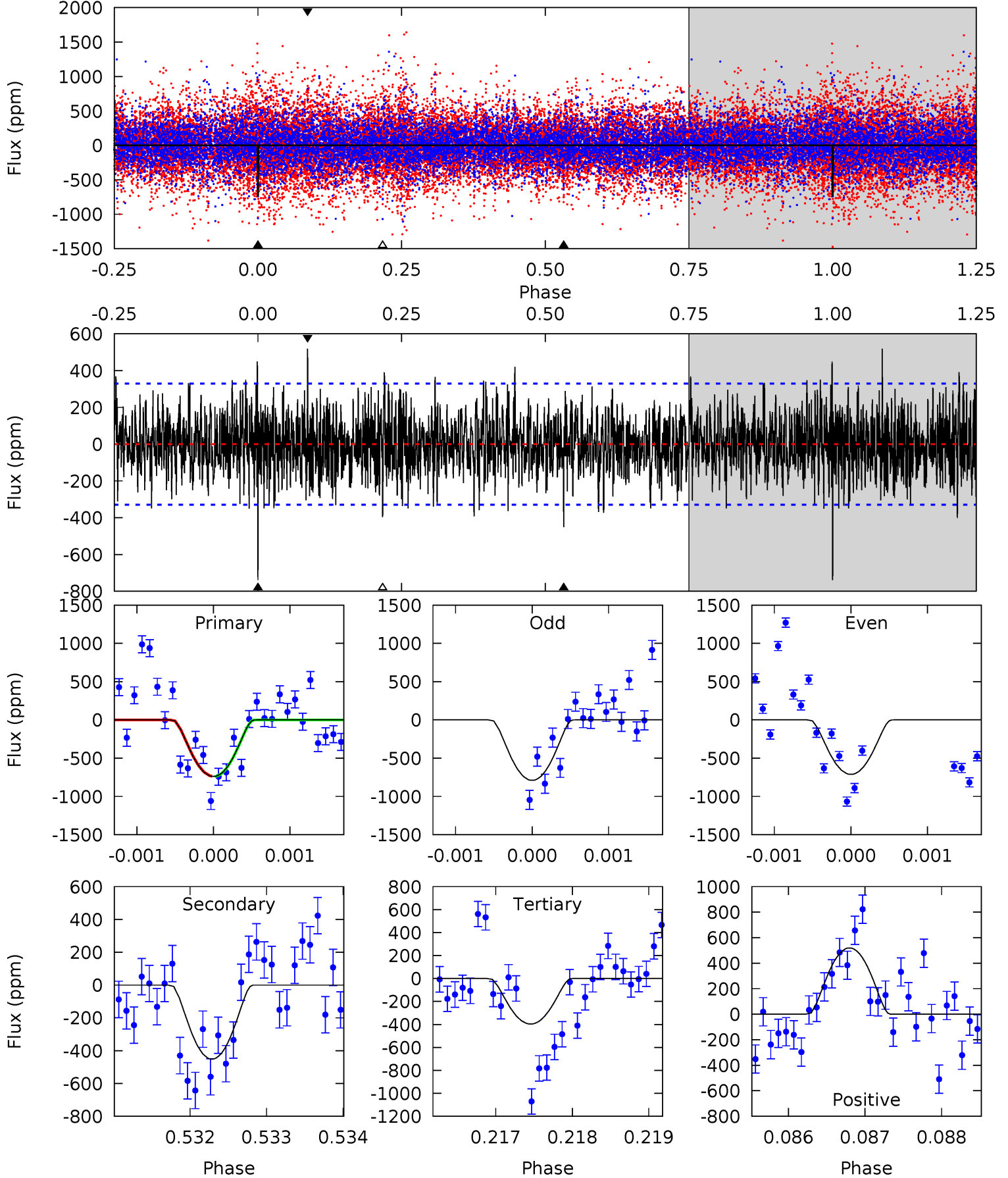
TCE 009655909-03 $P=273.319299$ Days $T_0=138.924676$ (BKJD)



DV Model-Shift Uniqueness Test

009655909-03, P = 273.307293 Days, E = 138.944579 Days

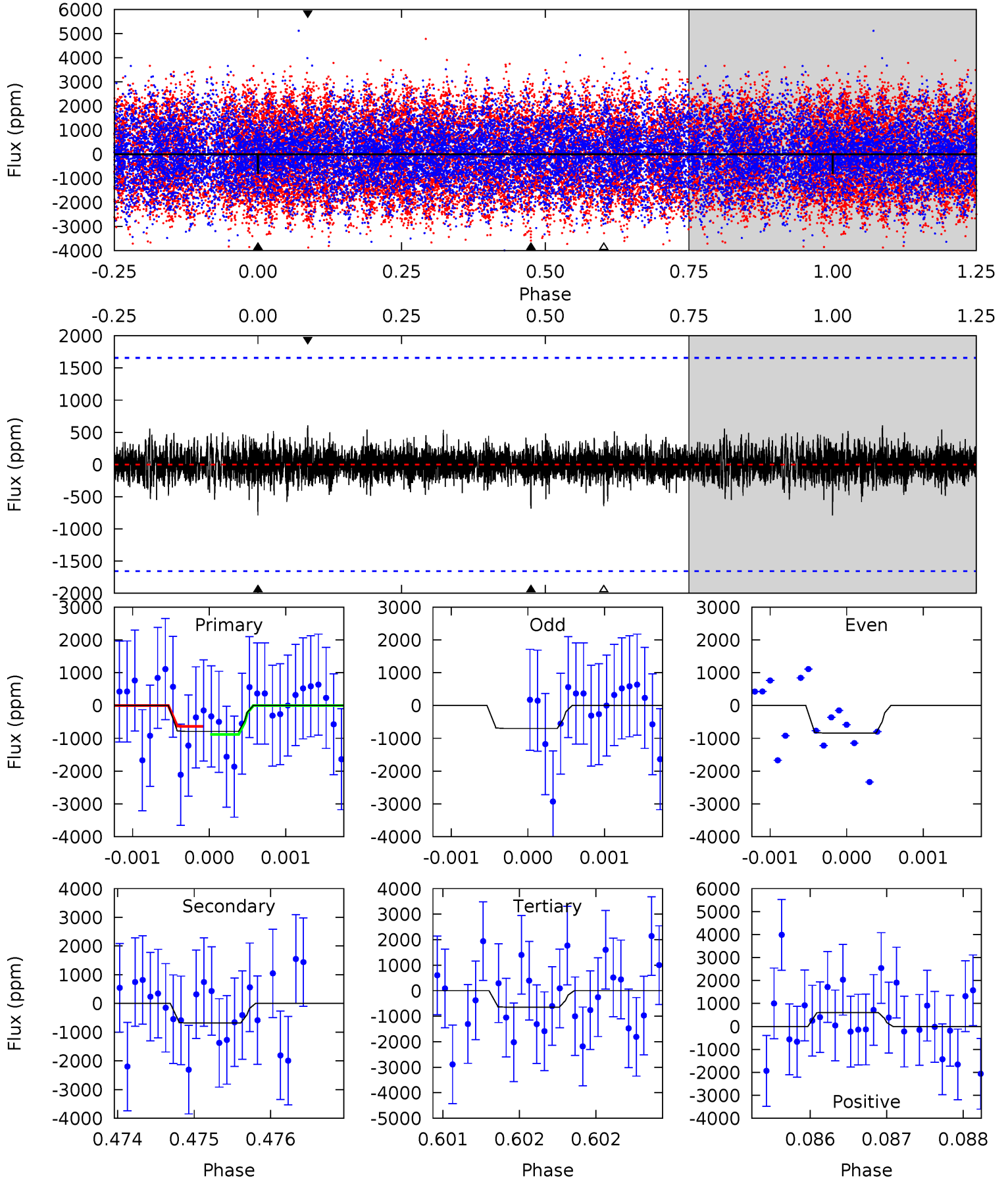
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	7.46	6.55	8.59	5.45	3.29	2.05	5.67	3.63	0.91	-1.13	0.66	0.99	0.41	0.04



Alt Model-Shift Uniqueness Test

009655909-03, P = 273.319299 Days, E = 138.924676 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.63	2.27	2.15	2.03	5.52	3.40	0.48	0.49	0.60	0.12	0.24	0.23	1.01	0.44	0.37



Stellar Parameters For KIC 009655909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7598^{+209}_{-340}	$3.792^{+0.368}_{-0.092}$	$-0.060^{+0.200}_{-0.350}$	$2.953^{+0.425}_{-1.275}$	$1.970^{+0.088}_{-0.500}$	$0.108^{+0.335}_{-0.032}$
	+3%/-4%	+10%/-2%	+333%/-583%	+14%/-43%	+4%/-25%	+311%/-30%
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 009655909-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-451 ± 60	$22.04^{+23.34}_{-14.68}$	765^{+55}_{-71}	4168^{+2742}_{-853}	501^{+4608}_{-381}
Alt.	-682 ± 300	$21.13^{+22.77}_{-15.07}$	767^{+54}_{-79}	4580^{+4033}_{-1124}	851^{+9057}_{-684}

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 $A_{obs} \gg 1.0$

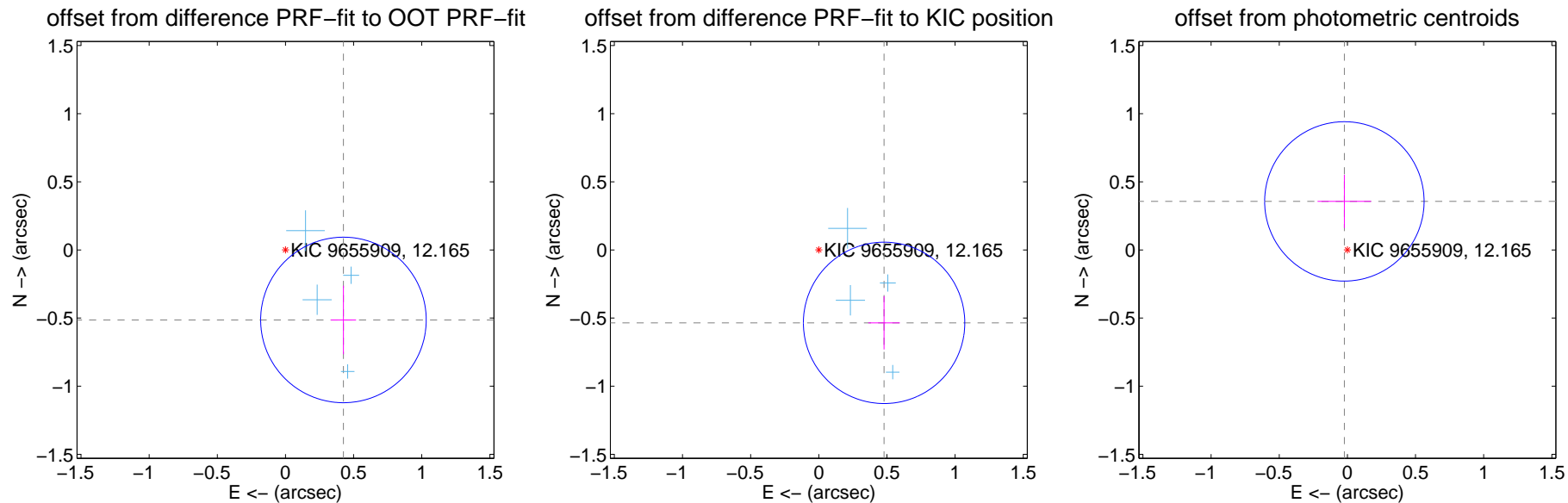
DV Centroid Data

Supplemental centroid analysis for 009655909-03. Kepler magnitude: 12.16. Transit SNR 7.89

There are 4 quarters with good PRF difference image offsets

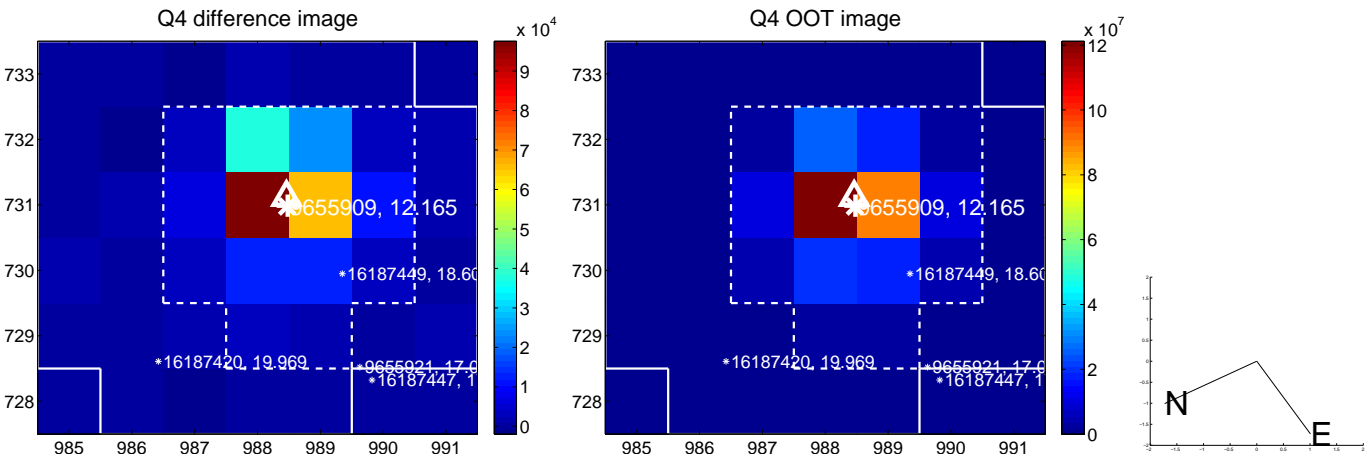
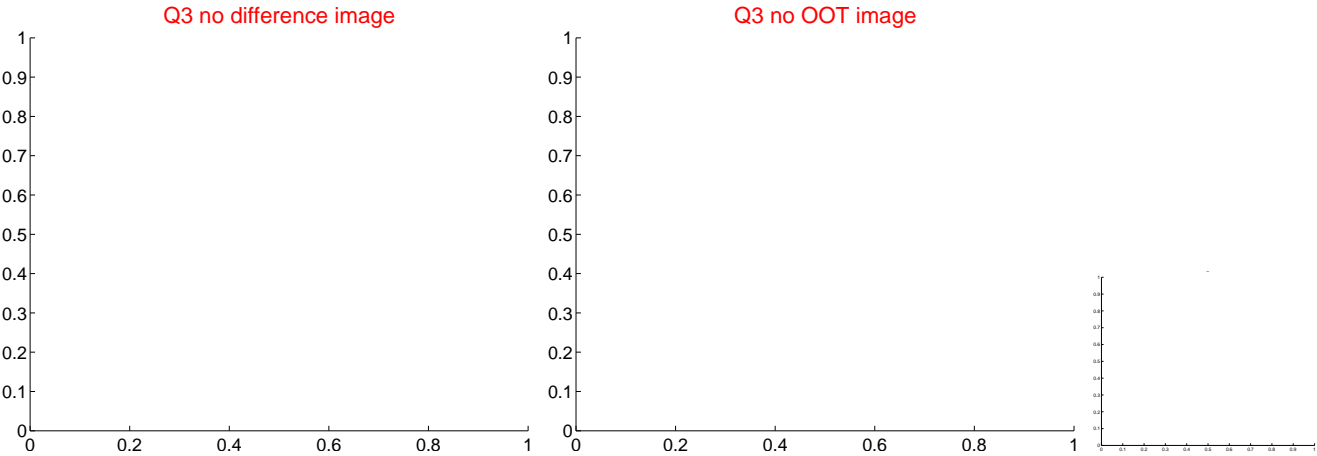
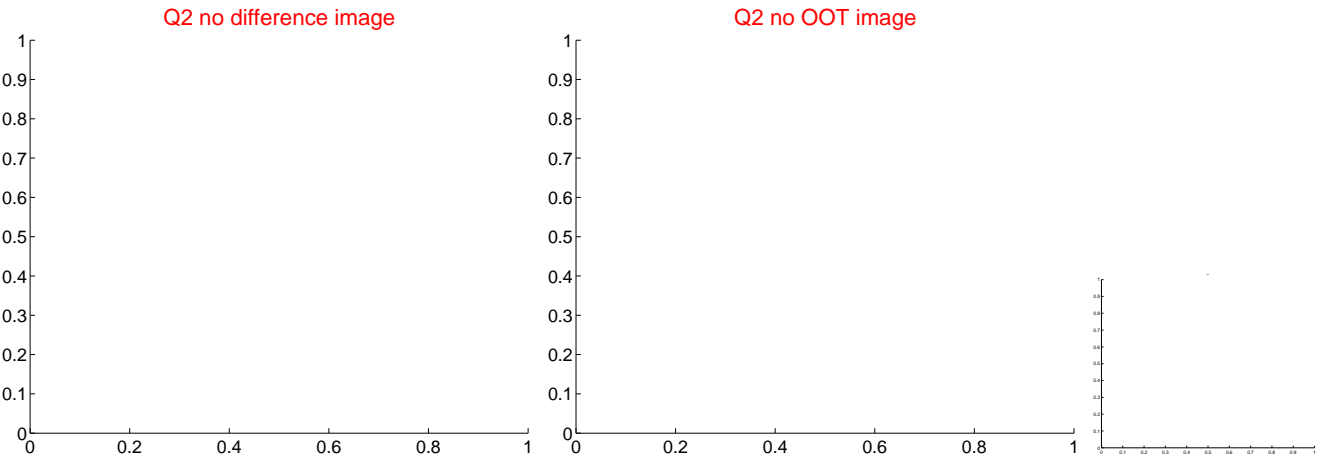
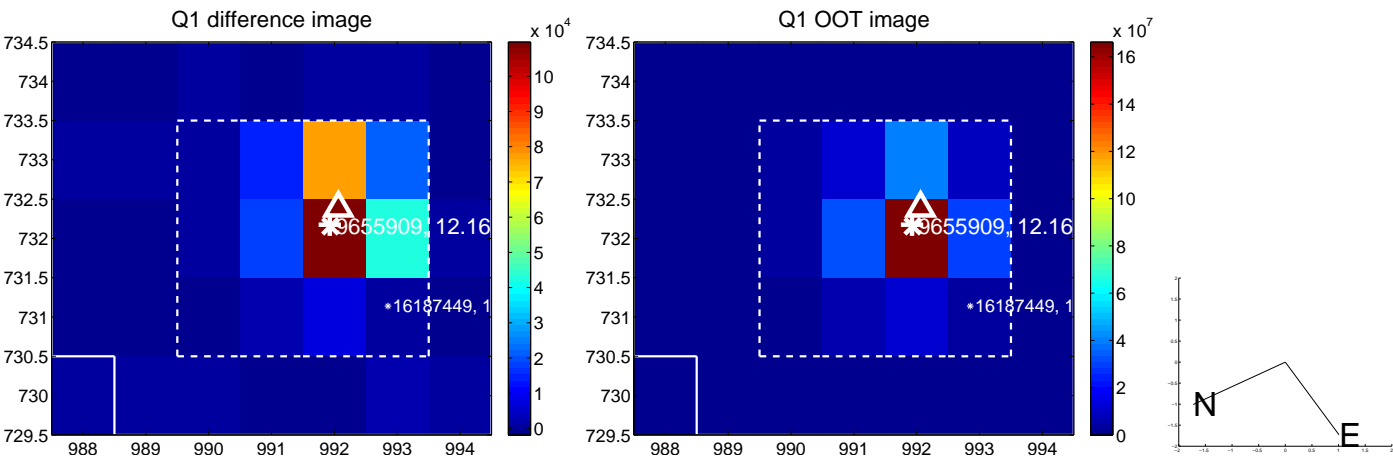
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.667 ± 0.202	3.30	-0.425 ± 0.093	-0.514 ± 0.251
PRF-fit source offset from KIC position	0.718 ± 0.197	3.64	-0.479 ± 0.116	-0.535 ± 0.195
photometric centroid source offset	0.36 ± 0.19	1.83	0.02 ± 0.20	0.36 ± 0.19

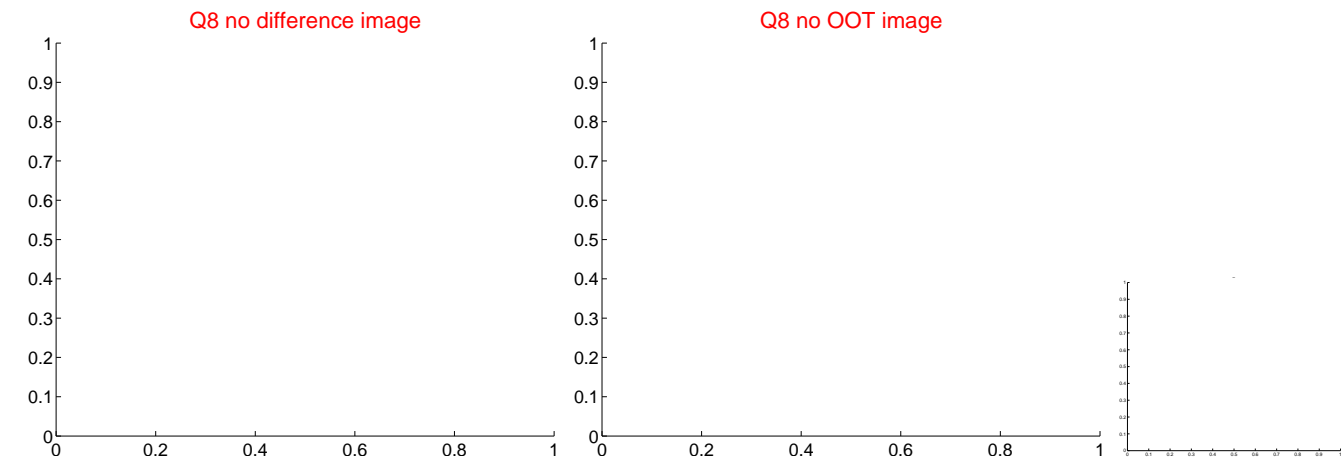
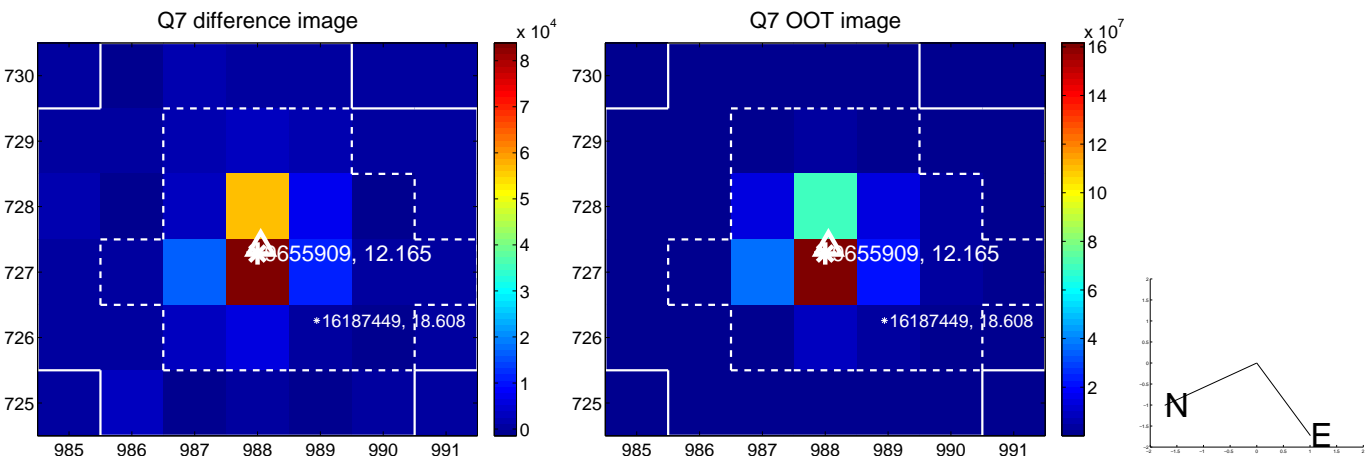
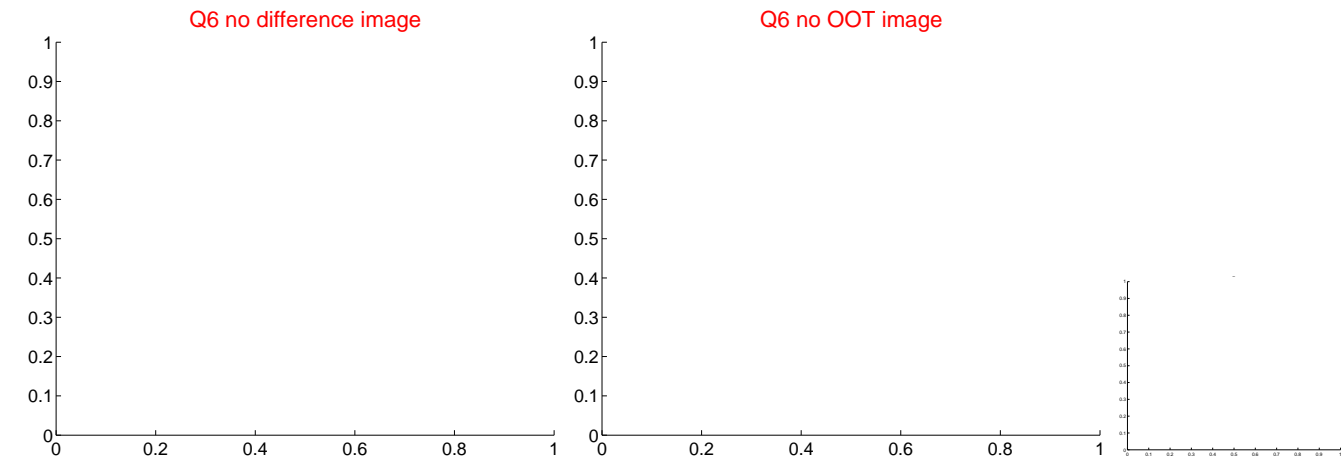


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

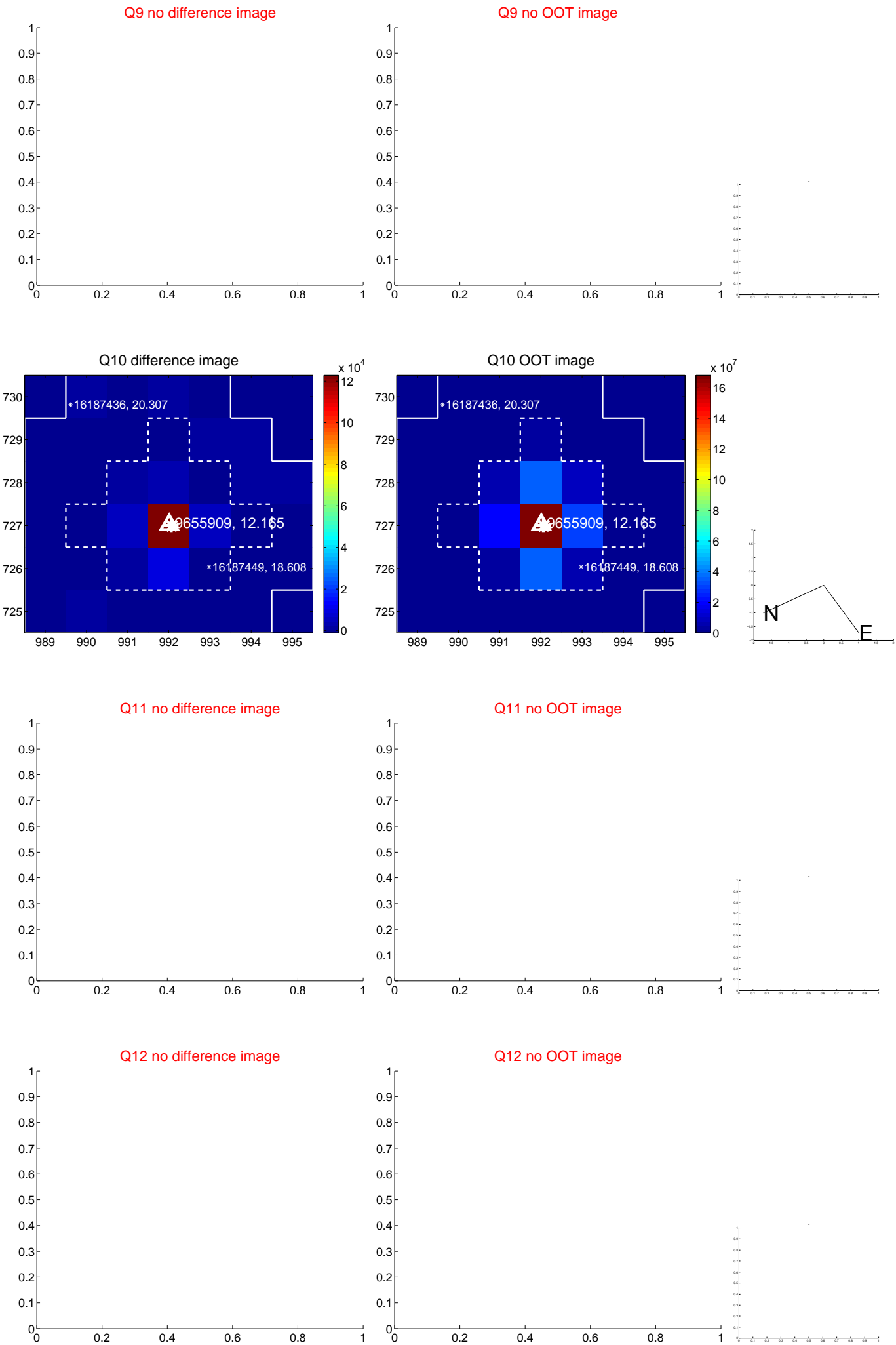
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



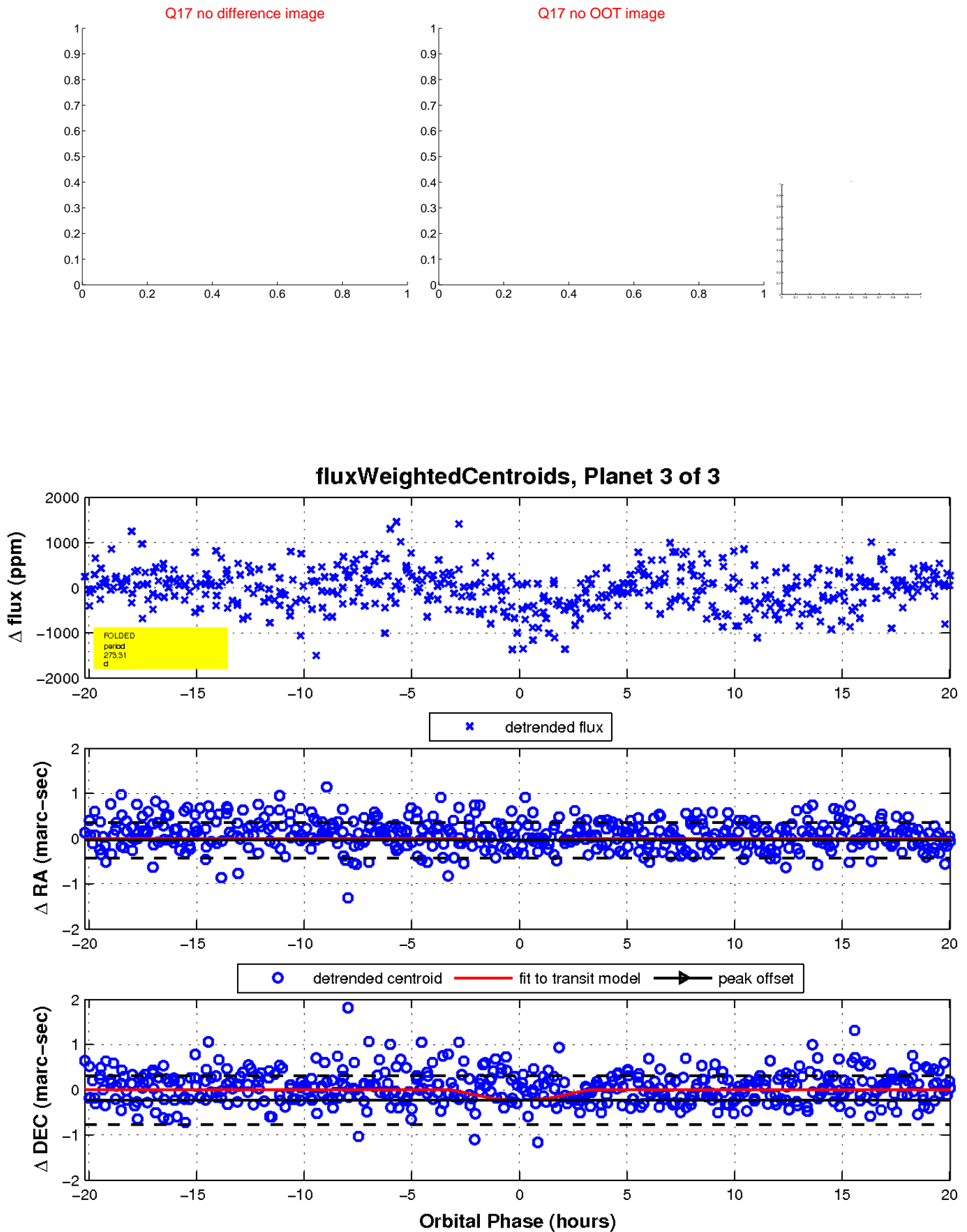
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

