

KIC 011017401

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})
011017401-01	OBS	No	0.789496	131.821372	112.3	2.982	10.2	5.2	0.84	5645	0.99	2855.32
011017401-02	OBS	No	0.788328	132.237632	44.9	2.892	8.4	1.4	0.84	5645	0.67	2860.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011017401-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
011017401-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

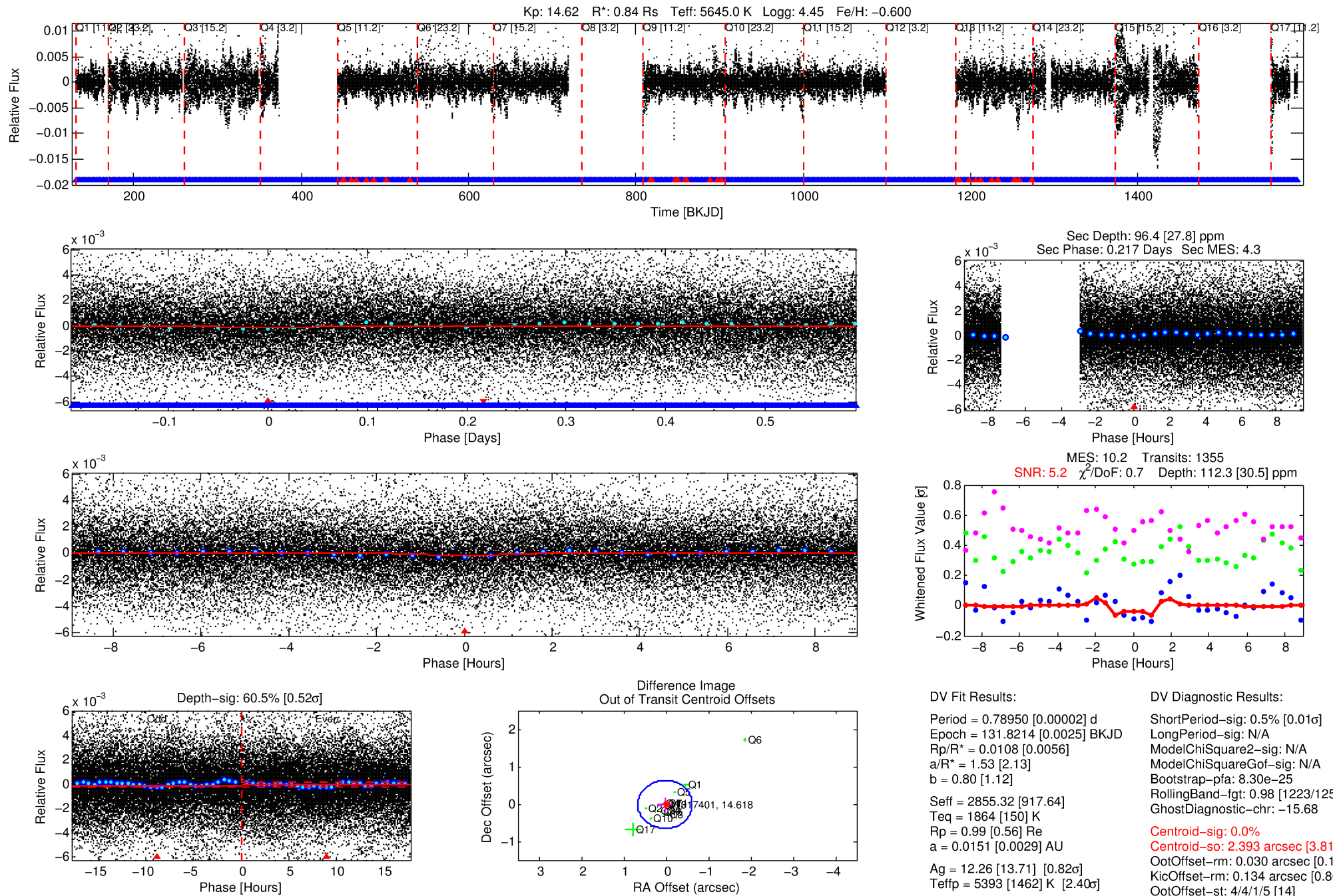
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011017401-01

No Significant Match Found

DV One-Page Summary

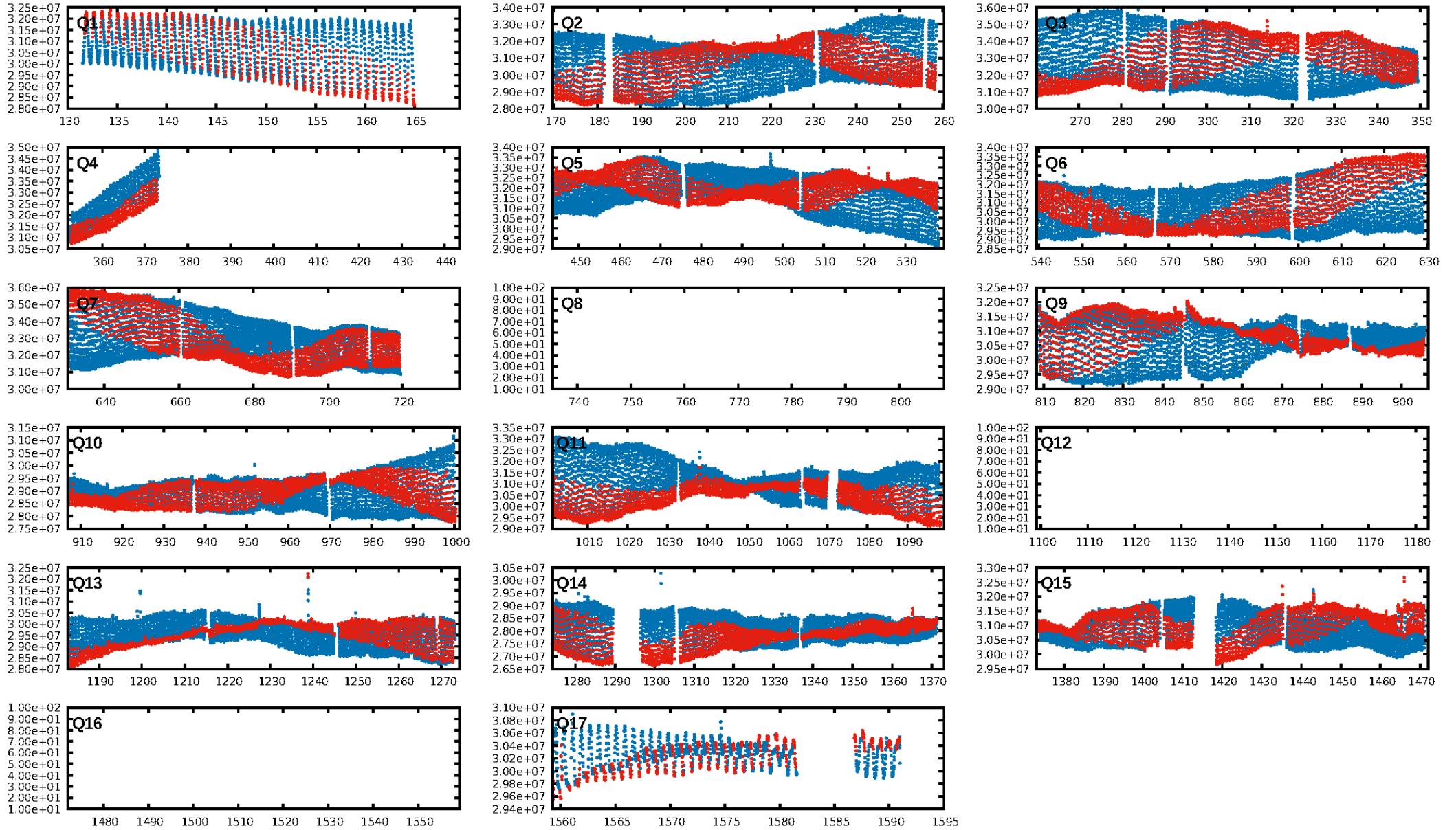
KIC: 11017401 Candidate: 1 of 2 Period: 0.789 d



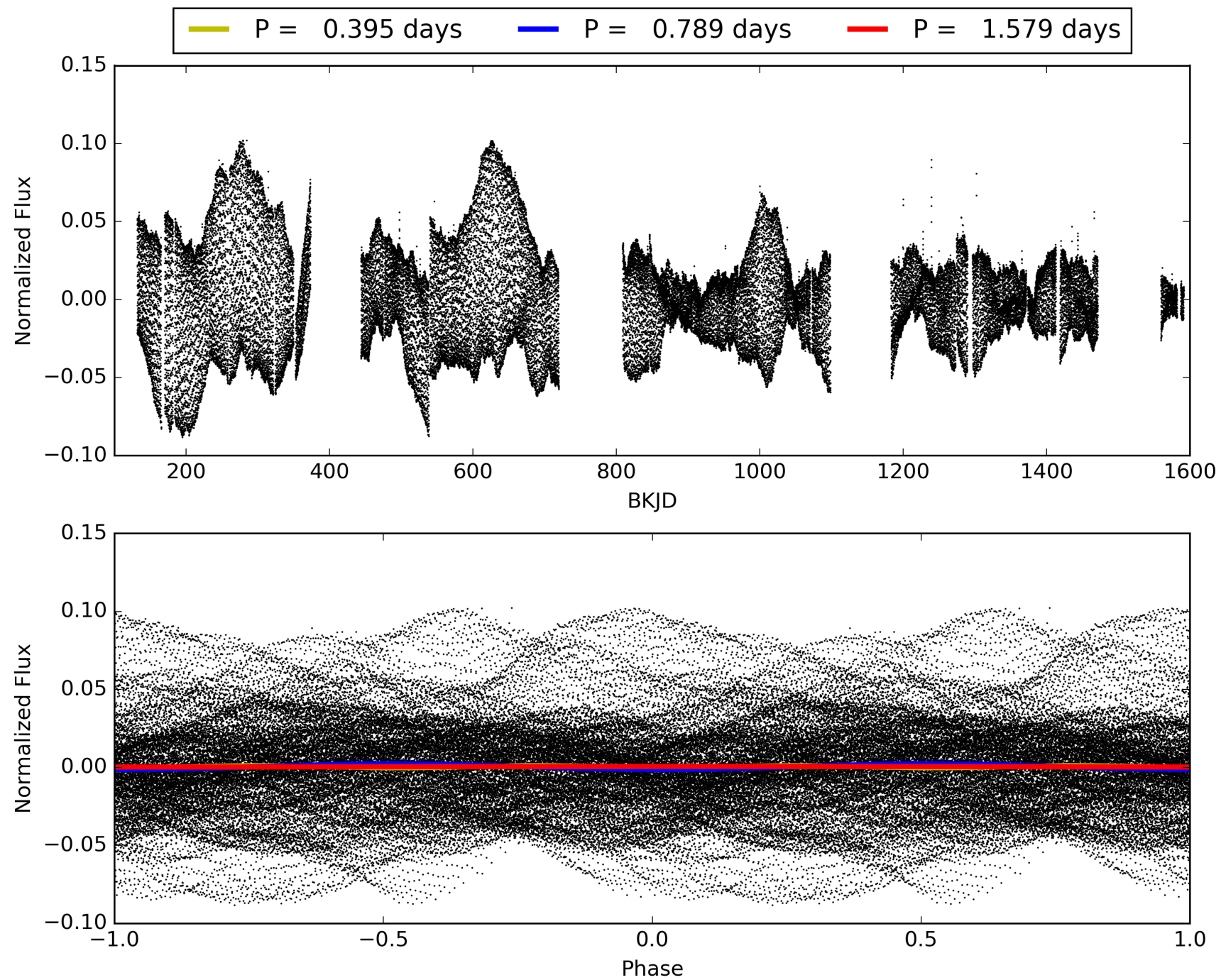
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:46:34 Z

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

TCE 011017401-01, PDC Light Curves

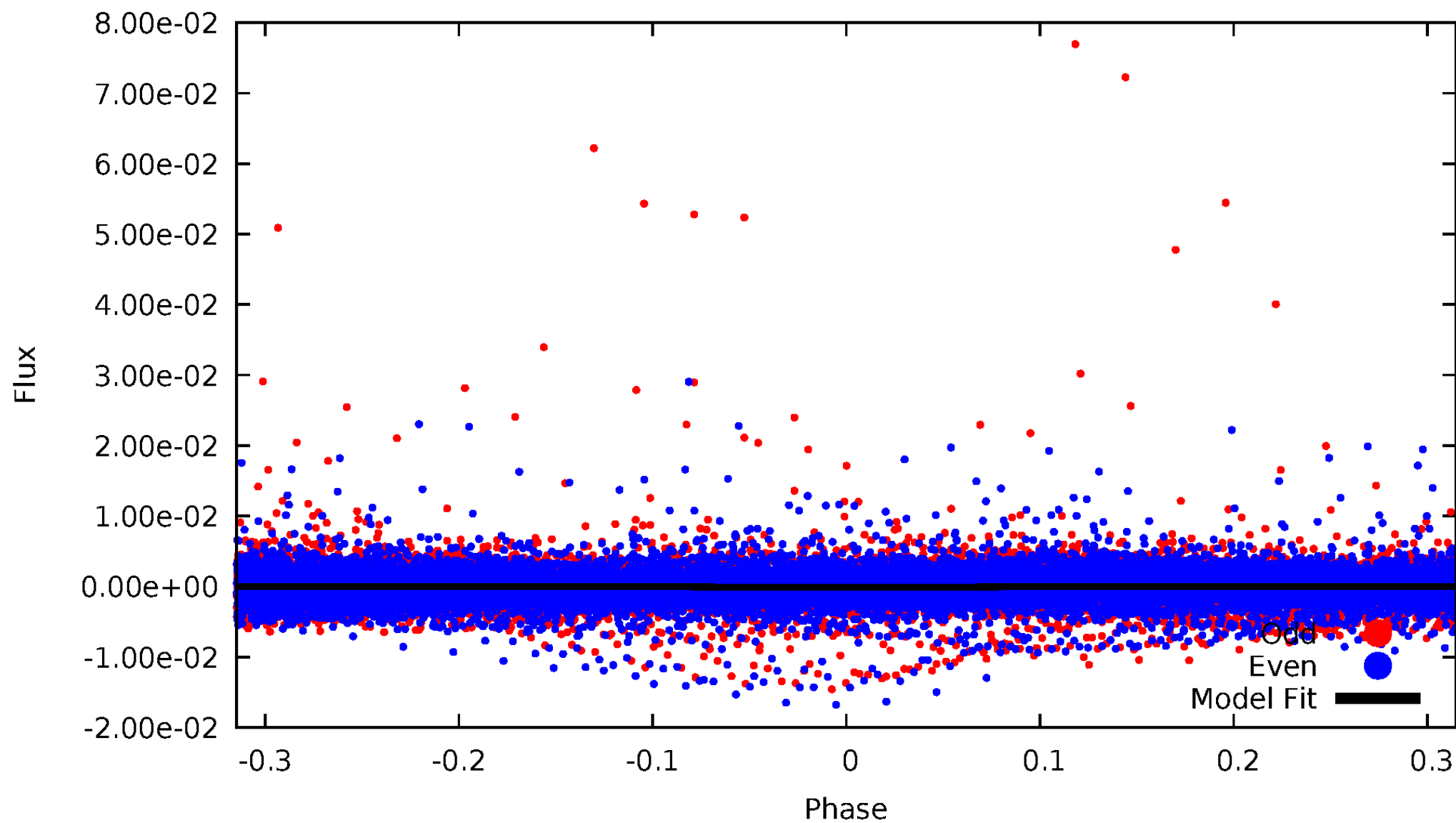


TCE 011017401-01



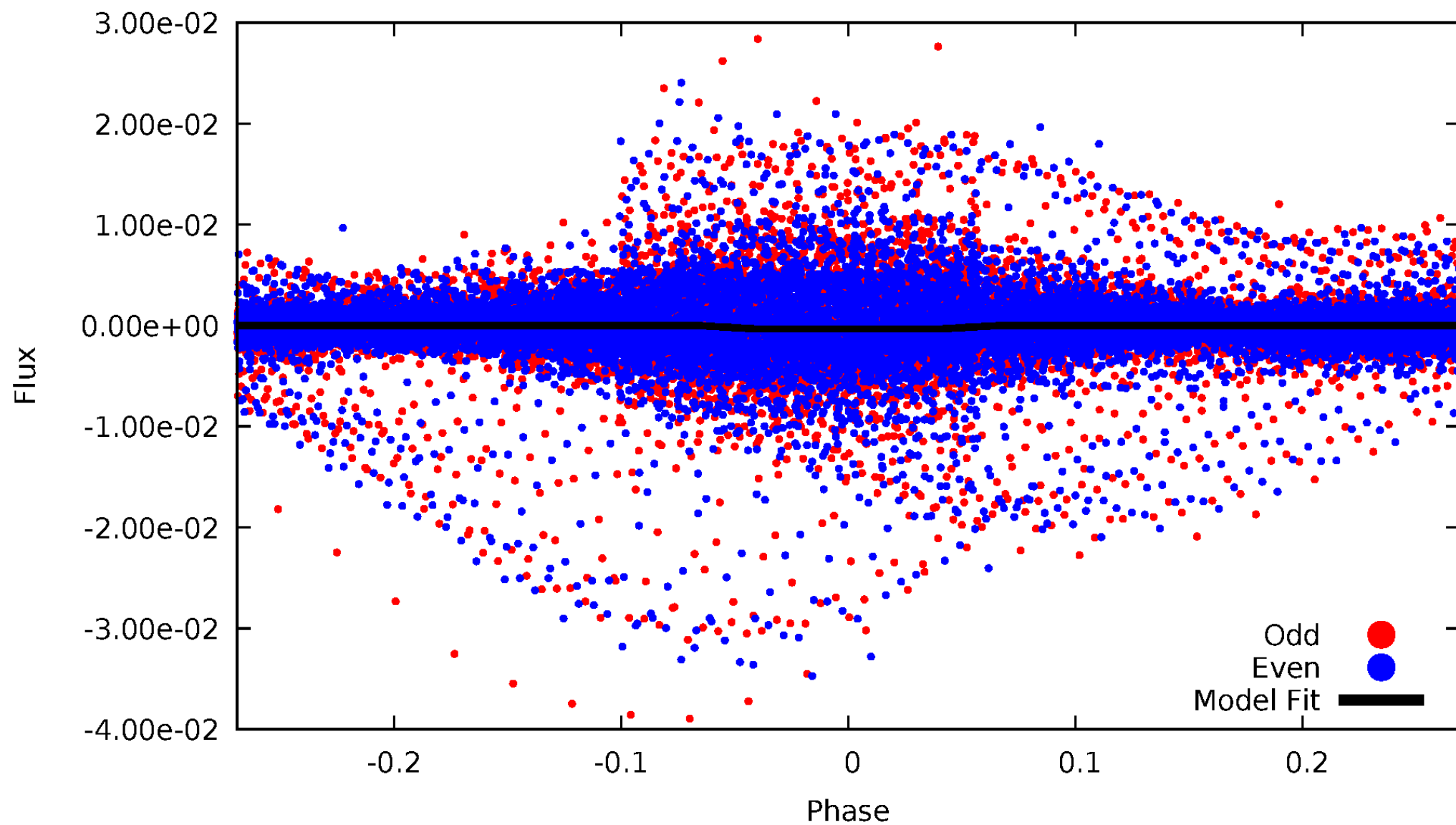
DV Odd/Even

TCE 011017401-01



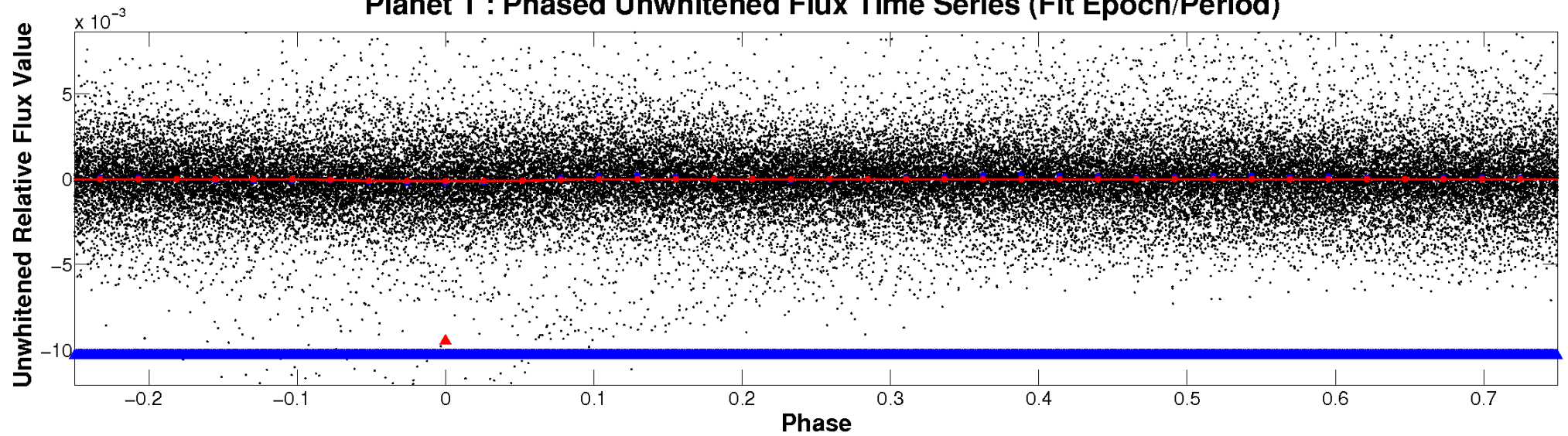
ALT Odd/Even

TCE 011017401-01

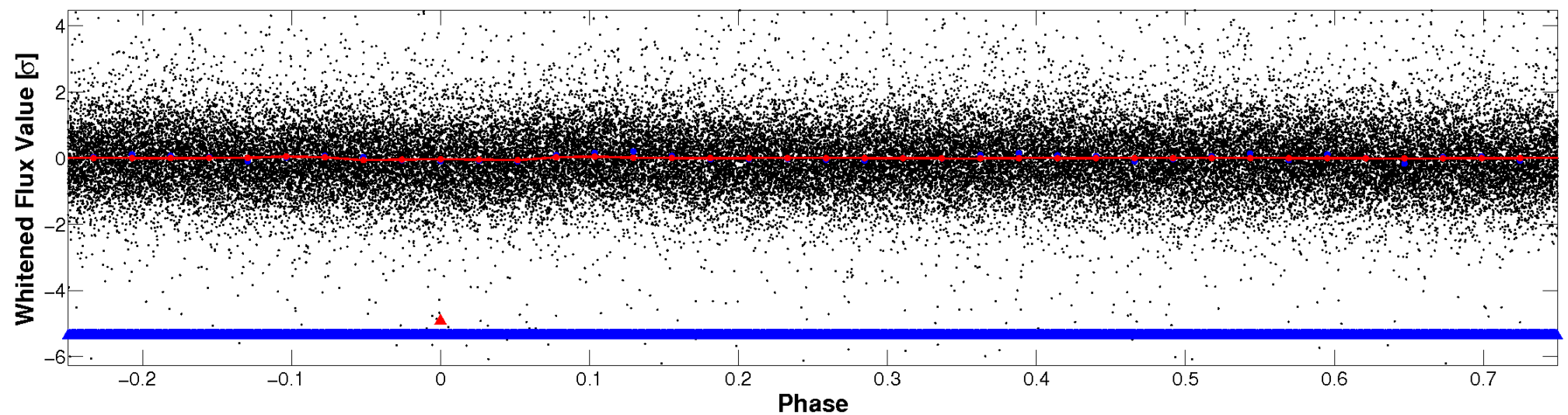


Non-Whitened Vs. Whitened Light Curve

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

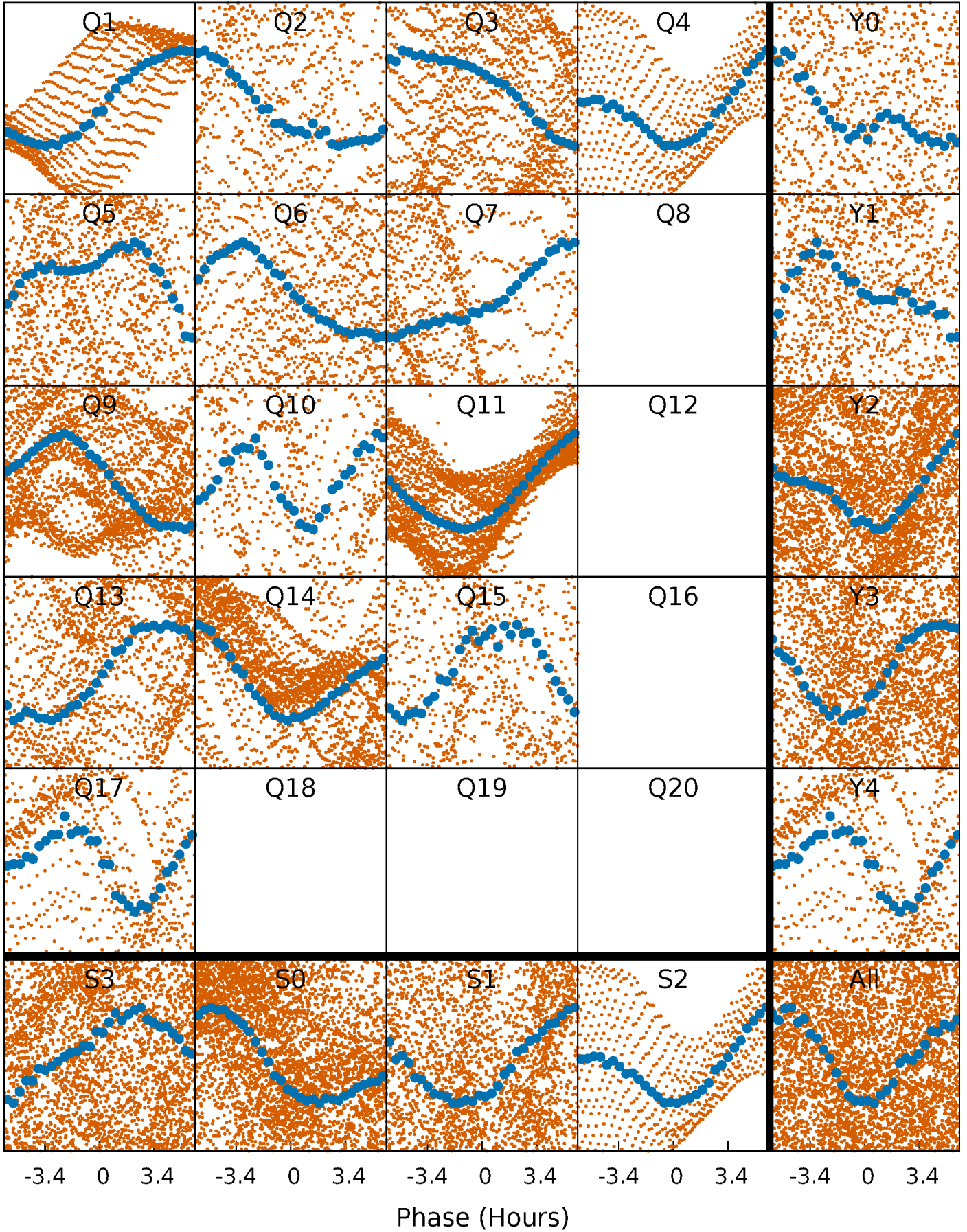


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



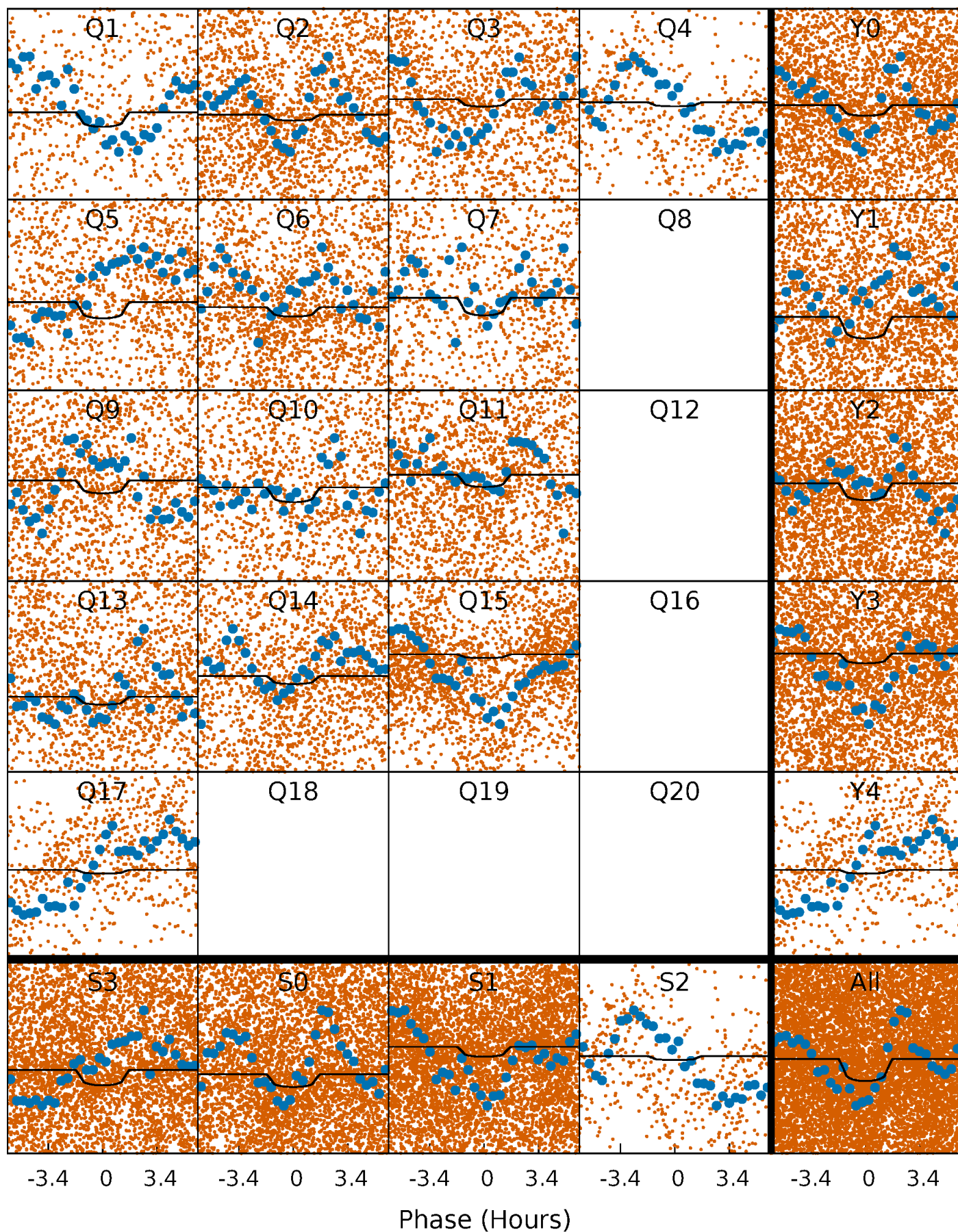
PDC Quarter-Phased Transit Curves

TCE 011017401-01 P= 0.789496 Days $T_0=131.821372$ (BKJD)



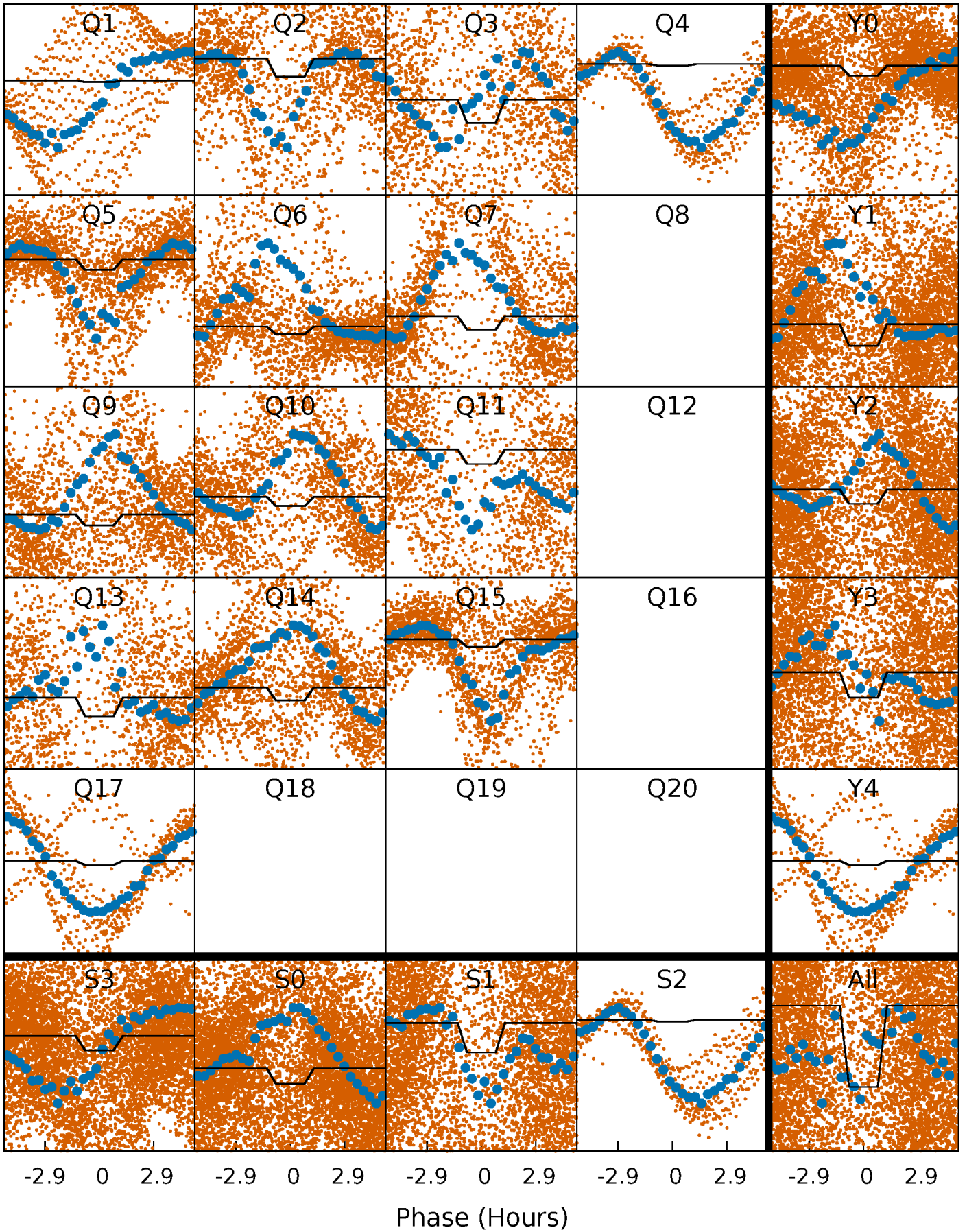
DV Quarter-Phased Transit Curves

TCE 011017401-01 P= 0.789496 Days $T_0=131.821372$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

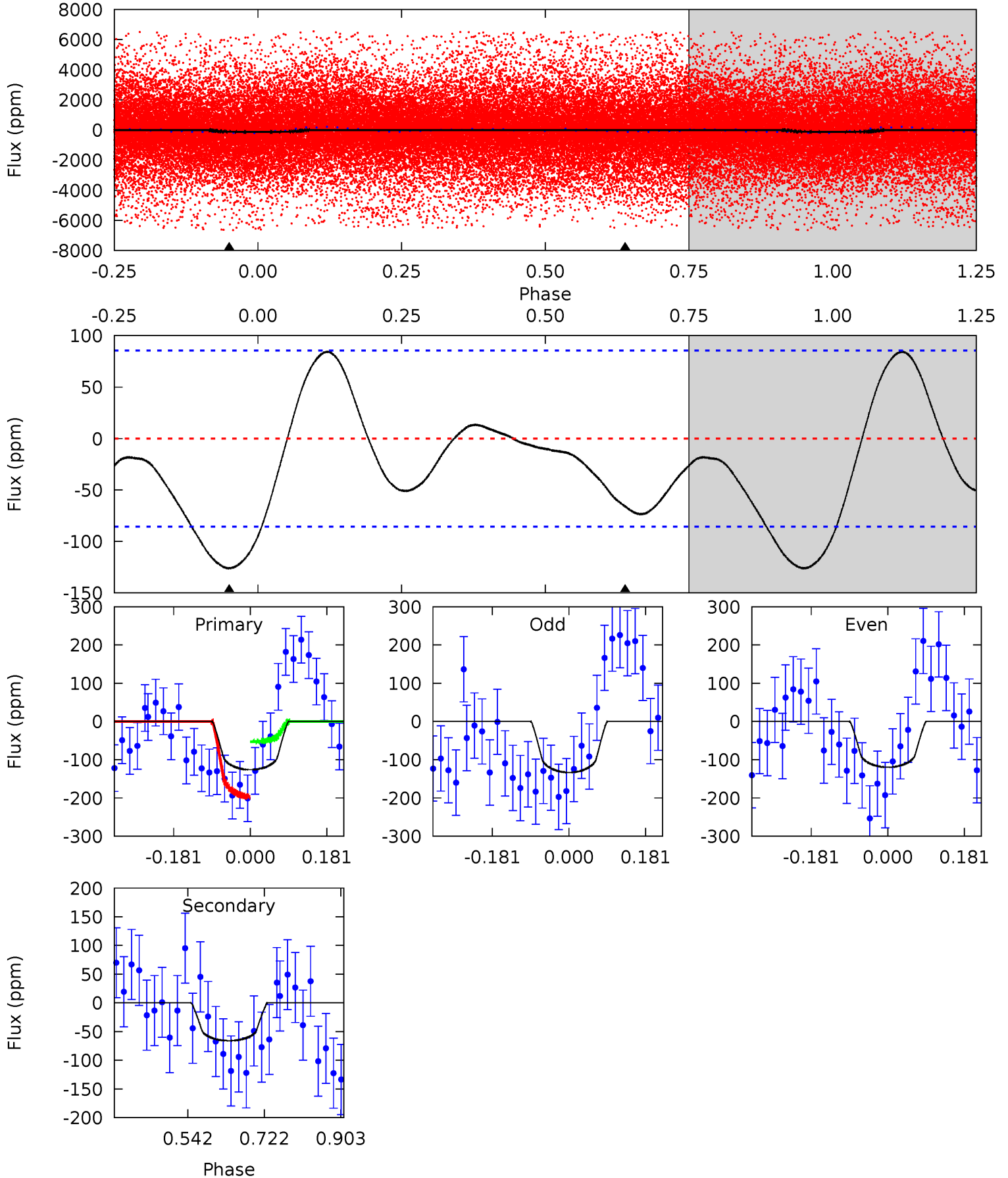
TCE 011017401-01 P= 0.789338 Days $T_0=131.836333$ (BKJD)



DV Model-Shift Uniqueness Test

011017401-01, P = 0.789496 Days, E = 131.031876 Days

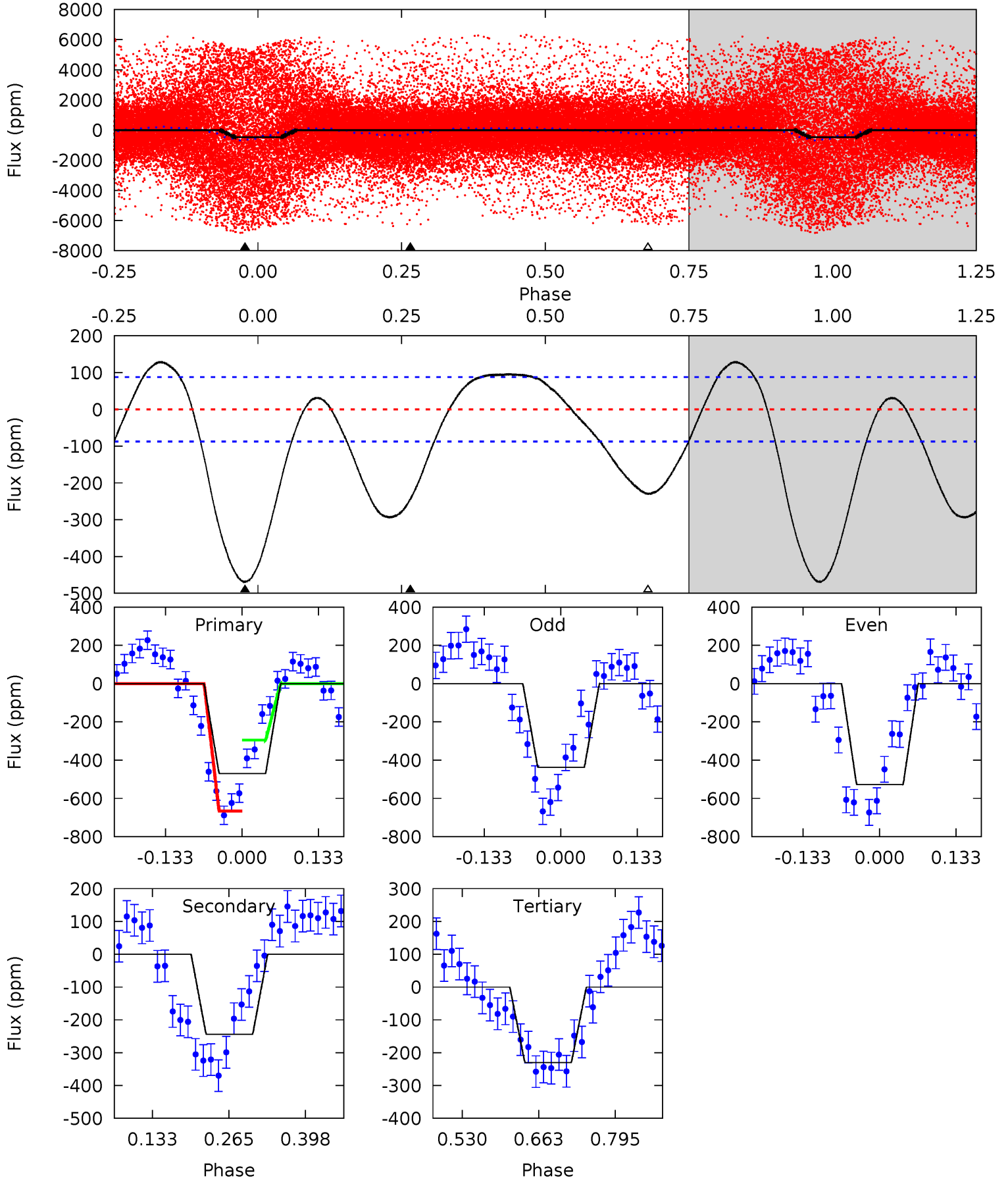
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.55	3.42	0	0	4.44	1.34	1.74	6.55	6.55	3.42	3.42	0.36	1.32	0.40	3.67



Alt Model-Shift Uniqueness Test

011017401-01, P = 0.789338 Days, E = 131.046995 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	12.6	11.8	0	4.51	1.50	6.04	12.3	24.2	0.73	12.6	2.33	0.49	0.22	7.00



Stellar Parameters For KIC 011017401

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5645^{+169}_{-152}	$4.450^{+0.155}_{-0.170}$	$-0.600^{+0.350}_{-0.300}$	$0.845^{+0.183}_{-0.133}$	$0.735^{+0.110}_{-0.039}$	$1.714^{+1.130}_{-0.799}$
	+3%/-3%	+3%/-4%	+58%/-50%	+22%/-16%	+15%/-5%	+66%/-47%
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 011017401-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-66 ± 19	$1.01^{+0.57}_{-0.50}$	2605^{+168}_{-142}	4878^{+1881}_{-835}	$8.326^{+21.235}_{-5.332}$
Alt.	-244 ± 19	$1.74^{+0.60}_{-0.53}$	2605^{+166}_{-151}	5153^{+965}_{-567}	10^{+11}_{-5}

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

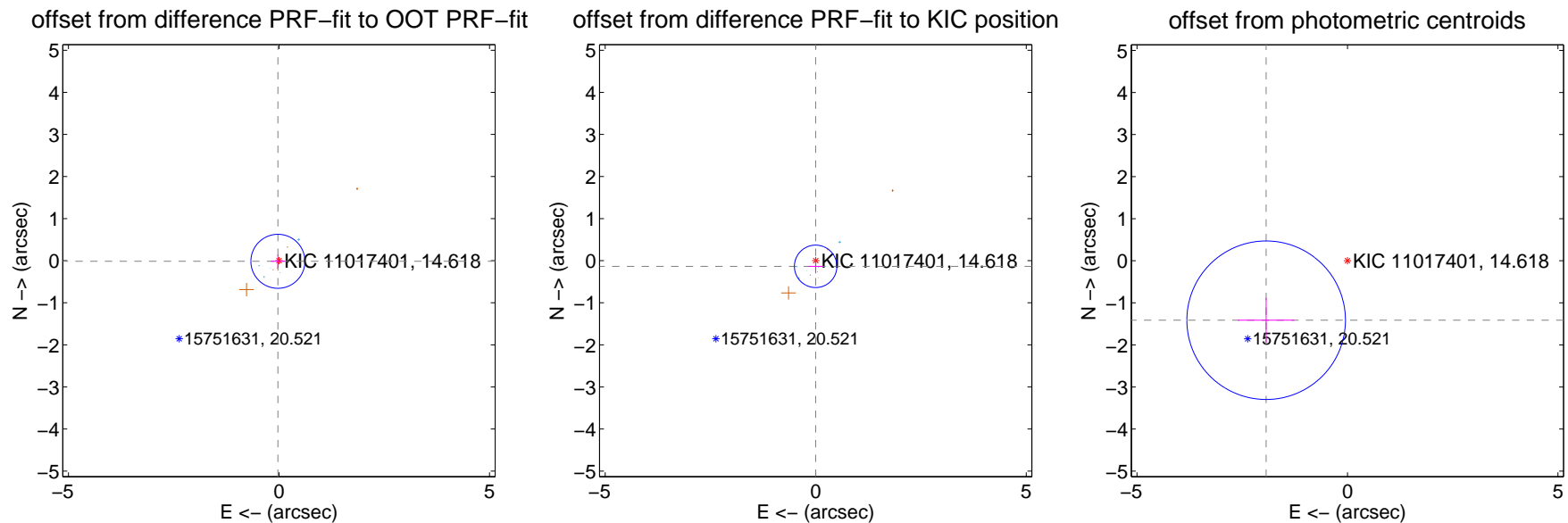
DV Centroid Data

Supplemental centroid analysis for 011017401-01. Kepler magnitude: 14.62. Transit SNR 5.24

There are 8 quarters with good PRF difference image offsets

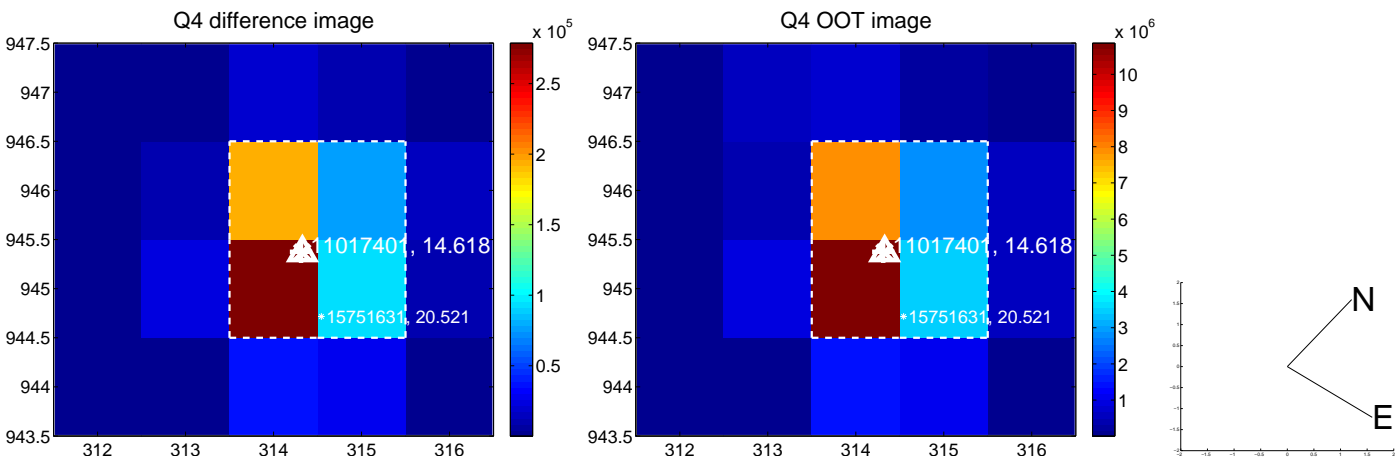
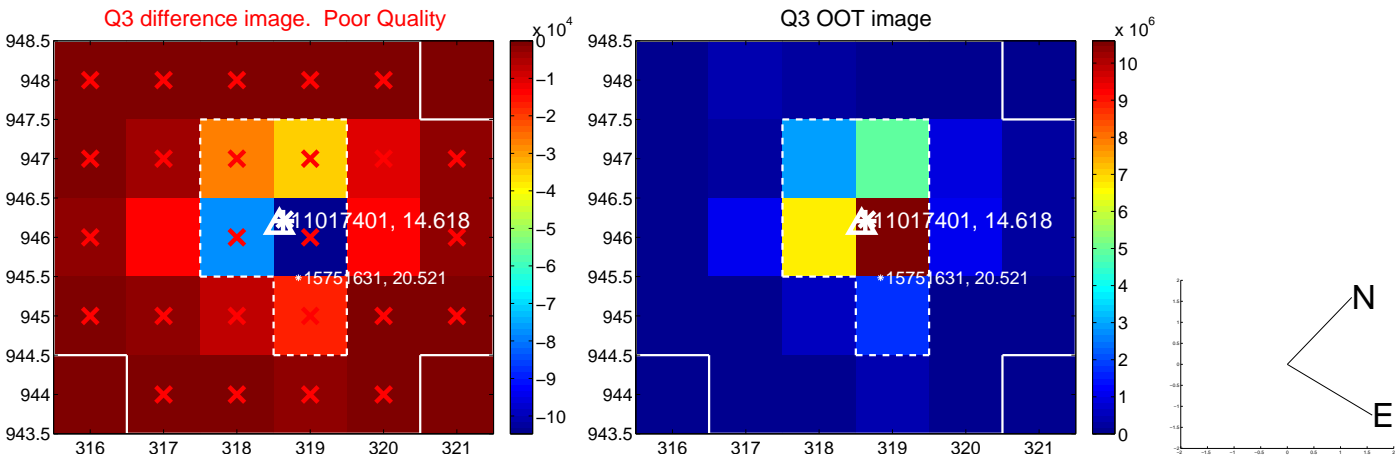
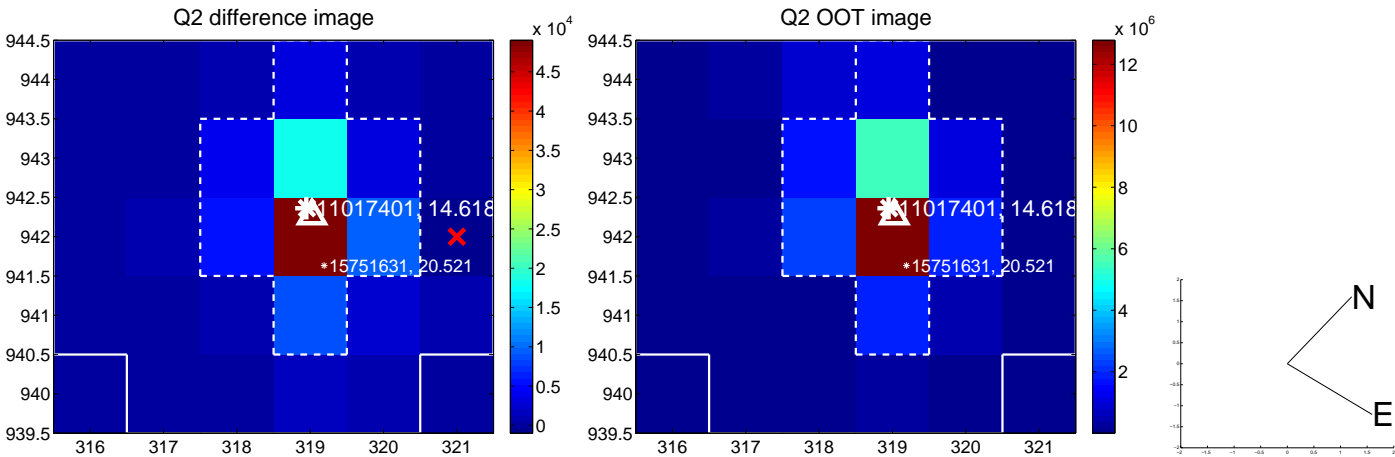
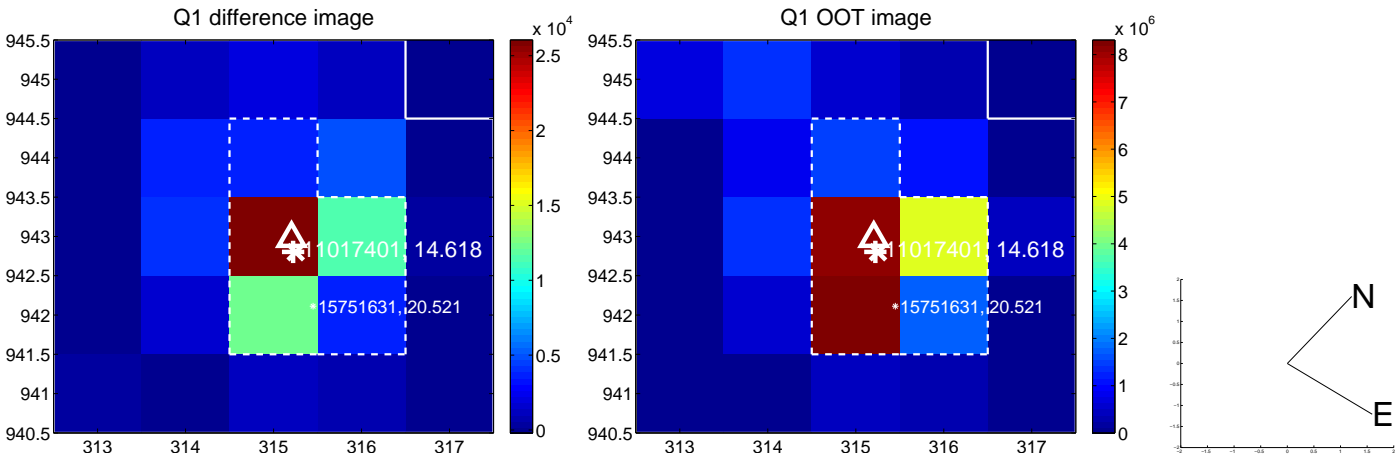
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.030 ± 0.214	0.14	0.026 ± 0.167	-0.015 ± 0.160
PRF-fit source offset from KIC position	0.134 ± 0.168	0.80	0.002 ± 0.173	-0.134 ± 0.166
photometric centroid source offset	2.39 ± 0.63	3.81	1.93 ± 0.67	-1.41 ± 0.53

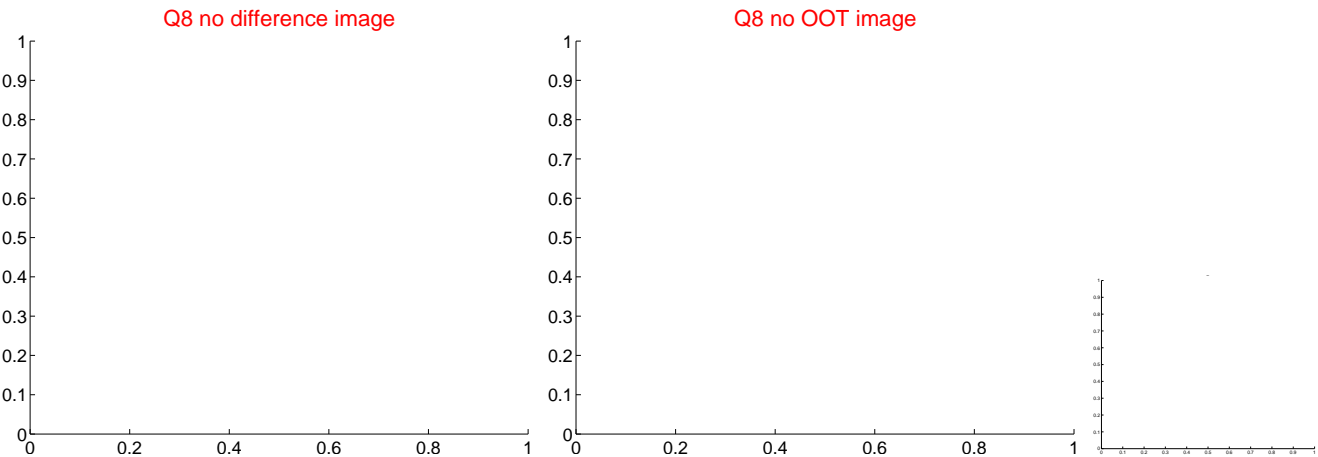
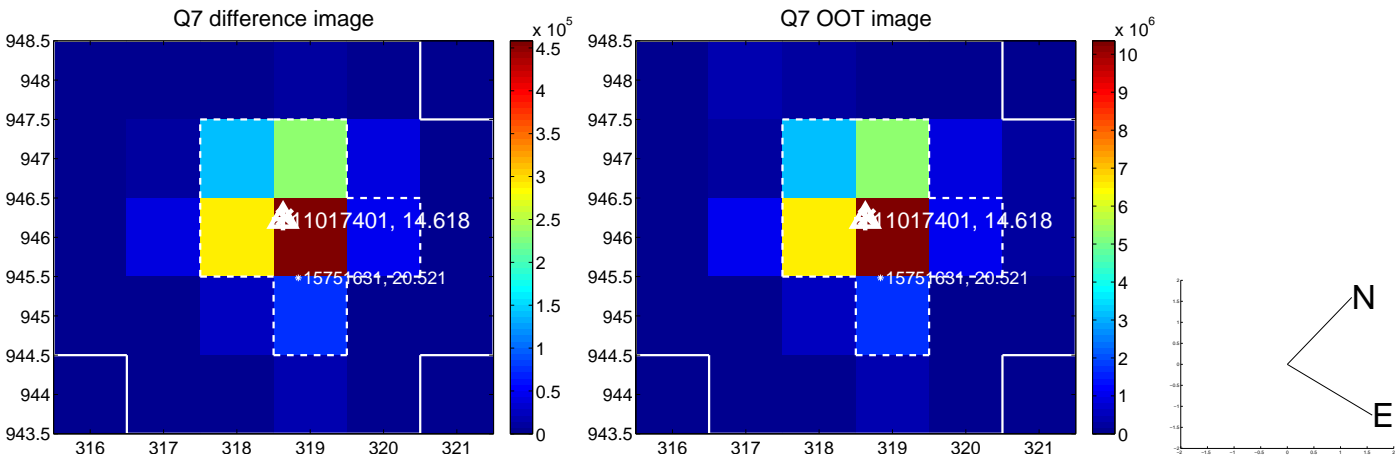
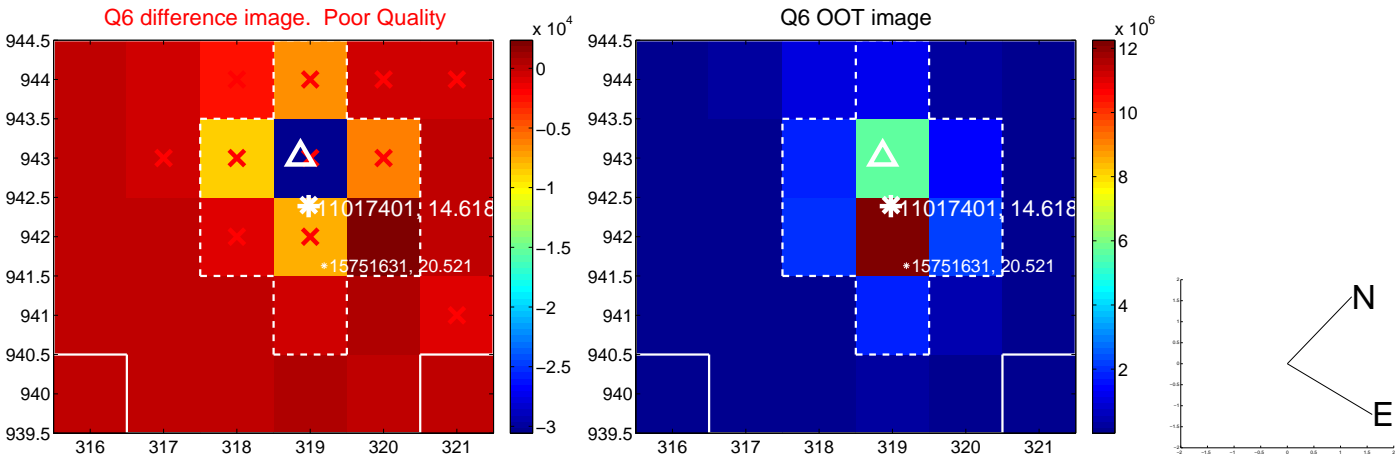
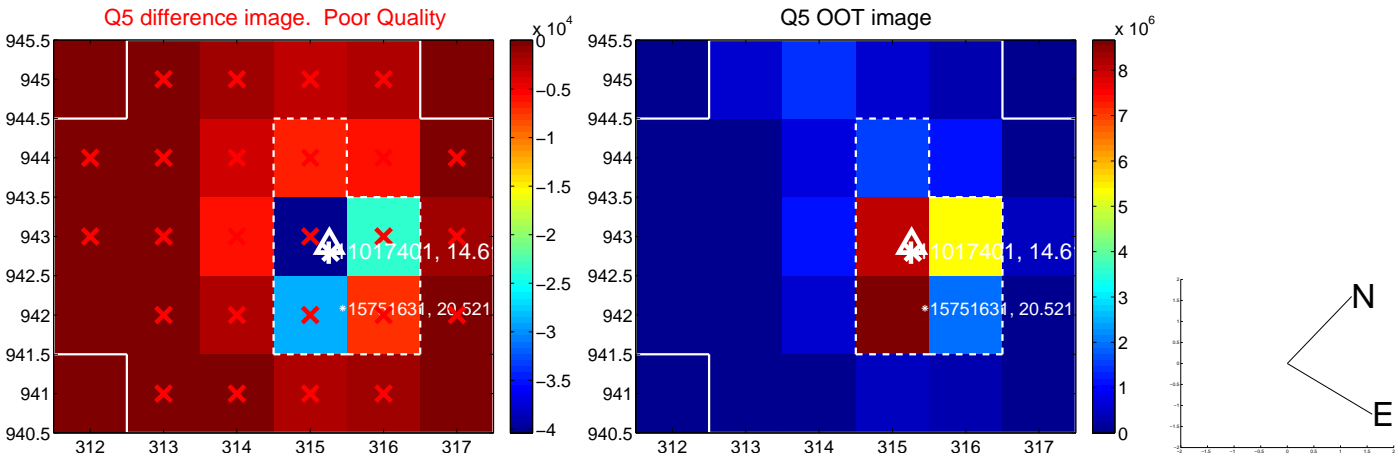


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

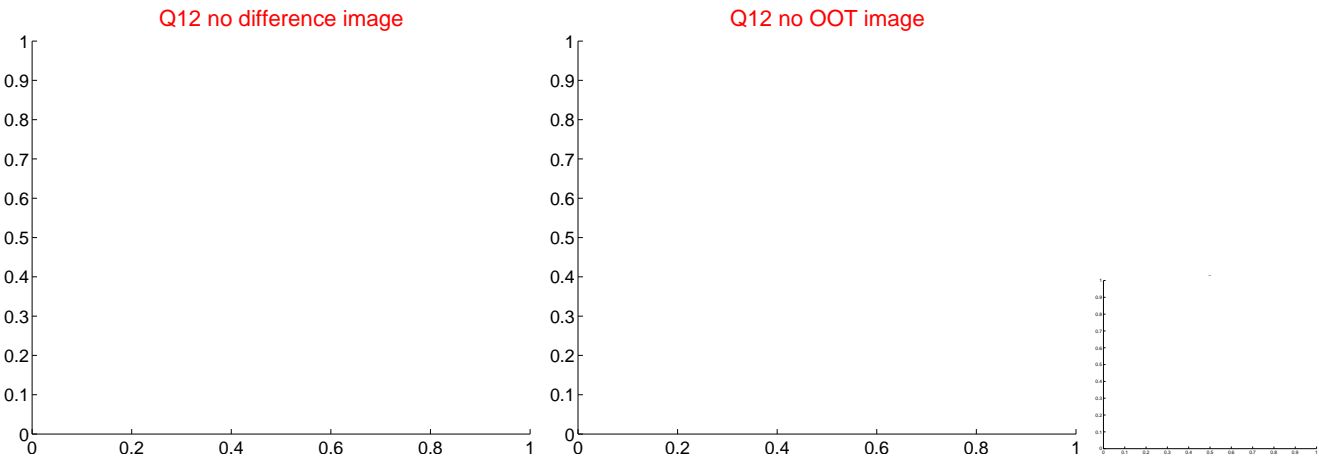
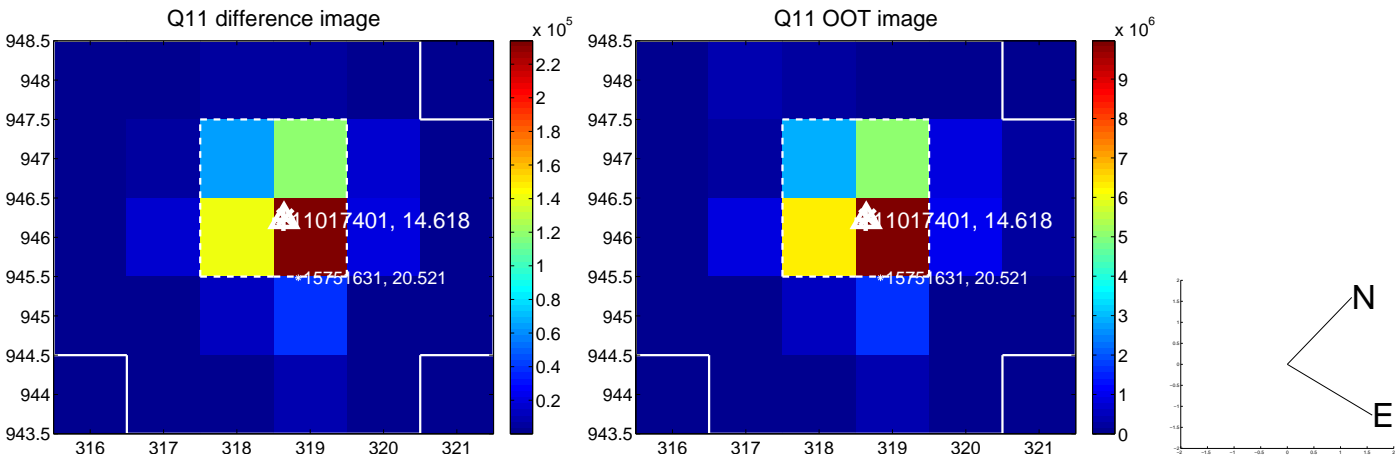
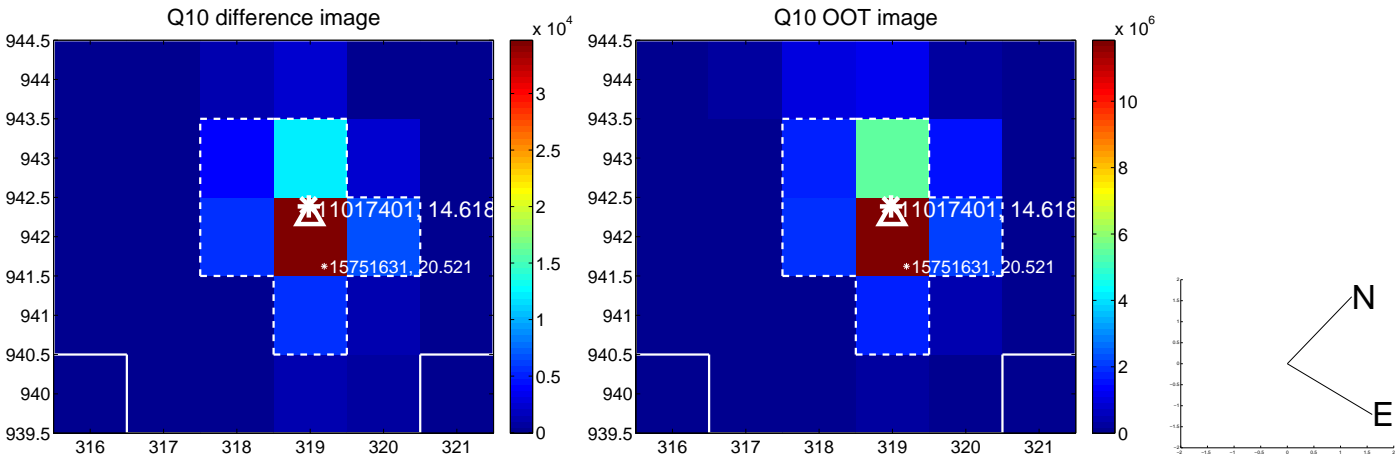
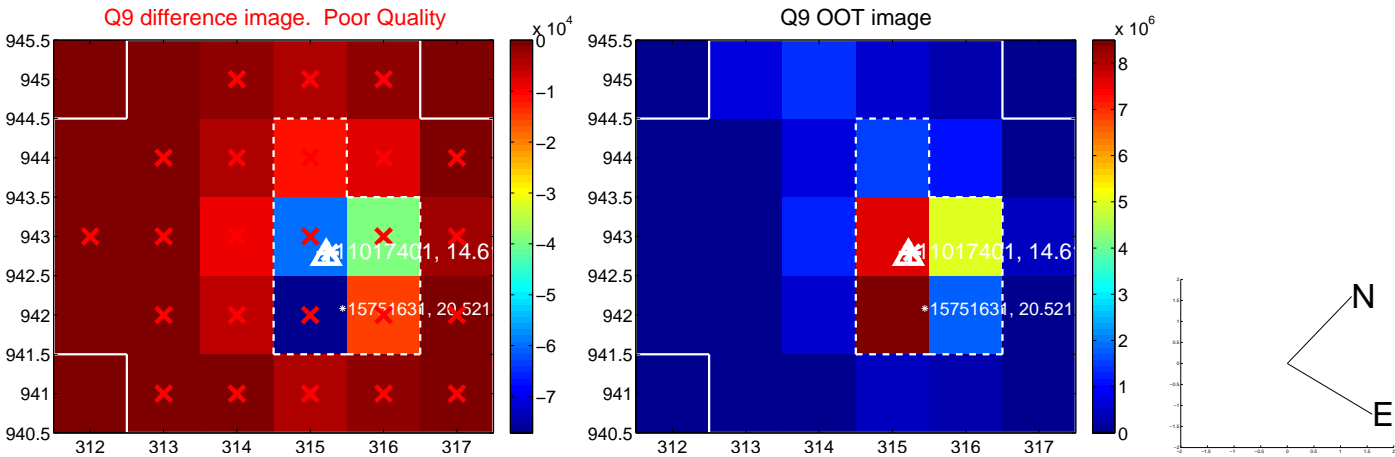
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



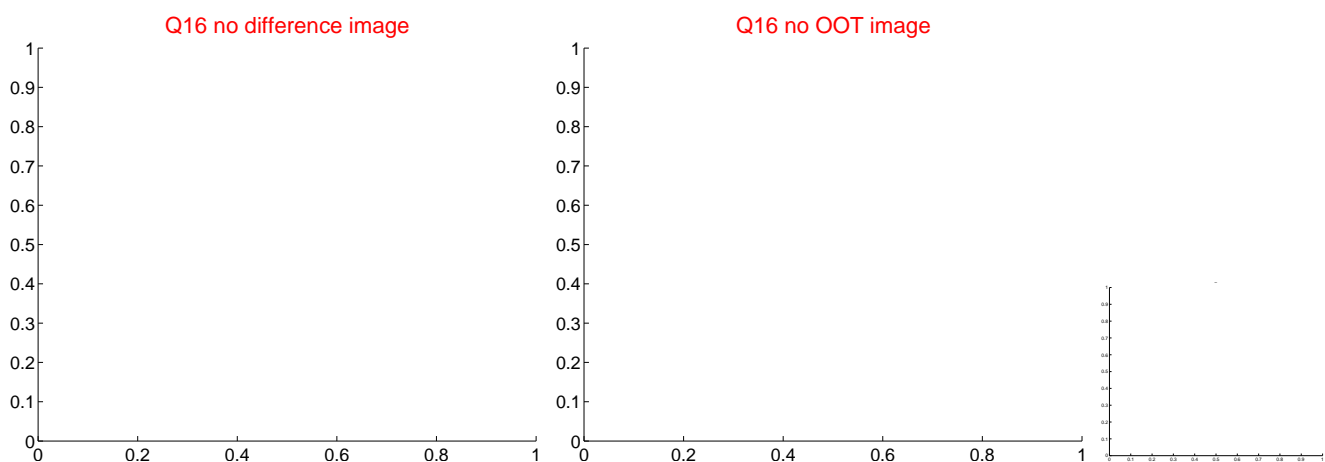
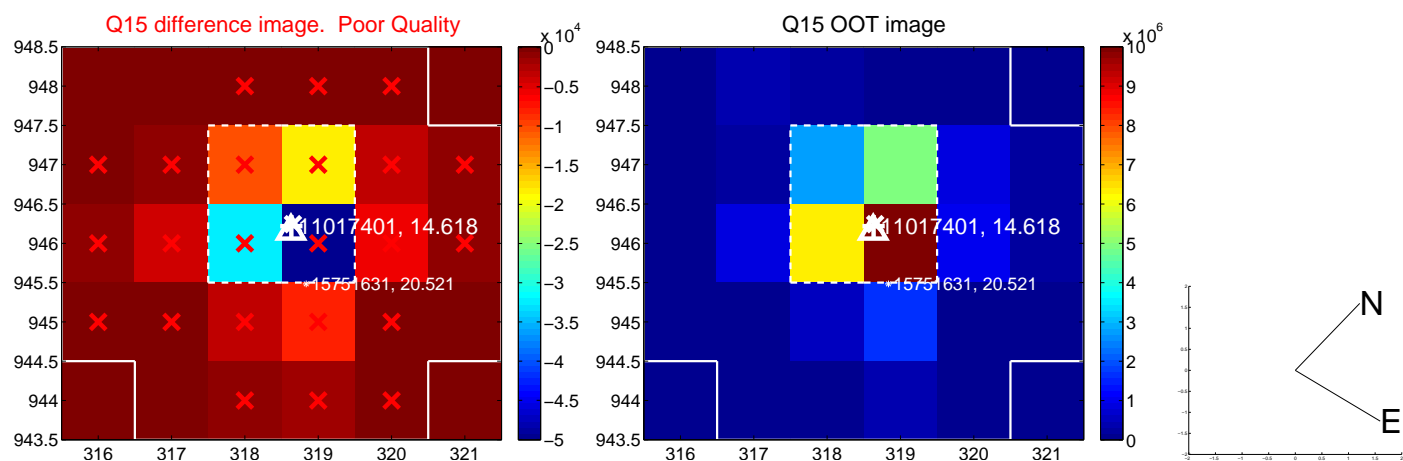
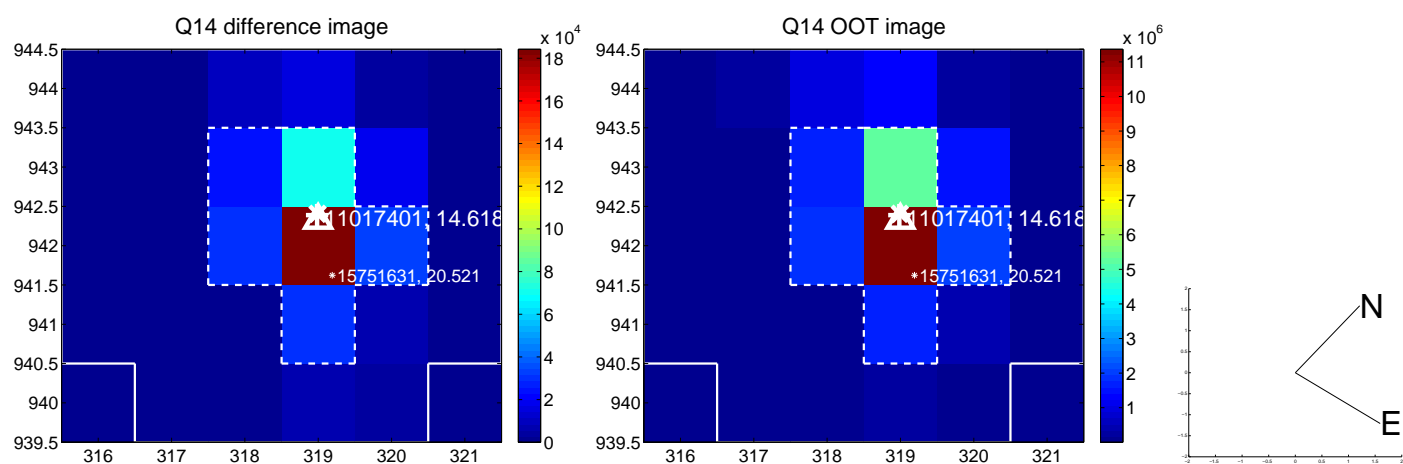
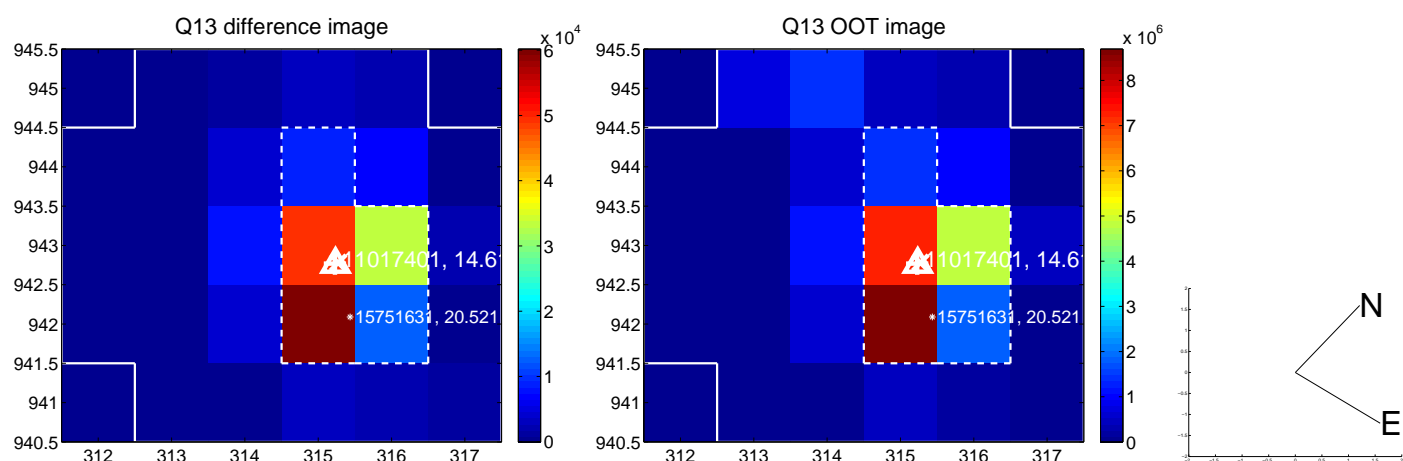
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



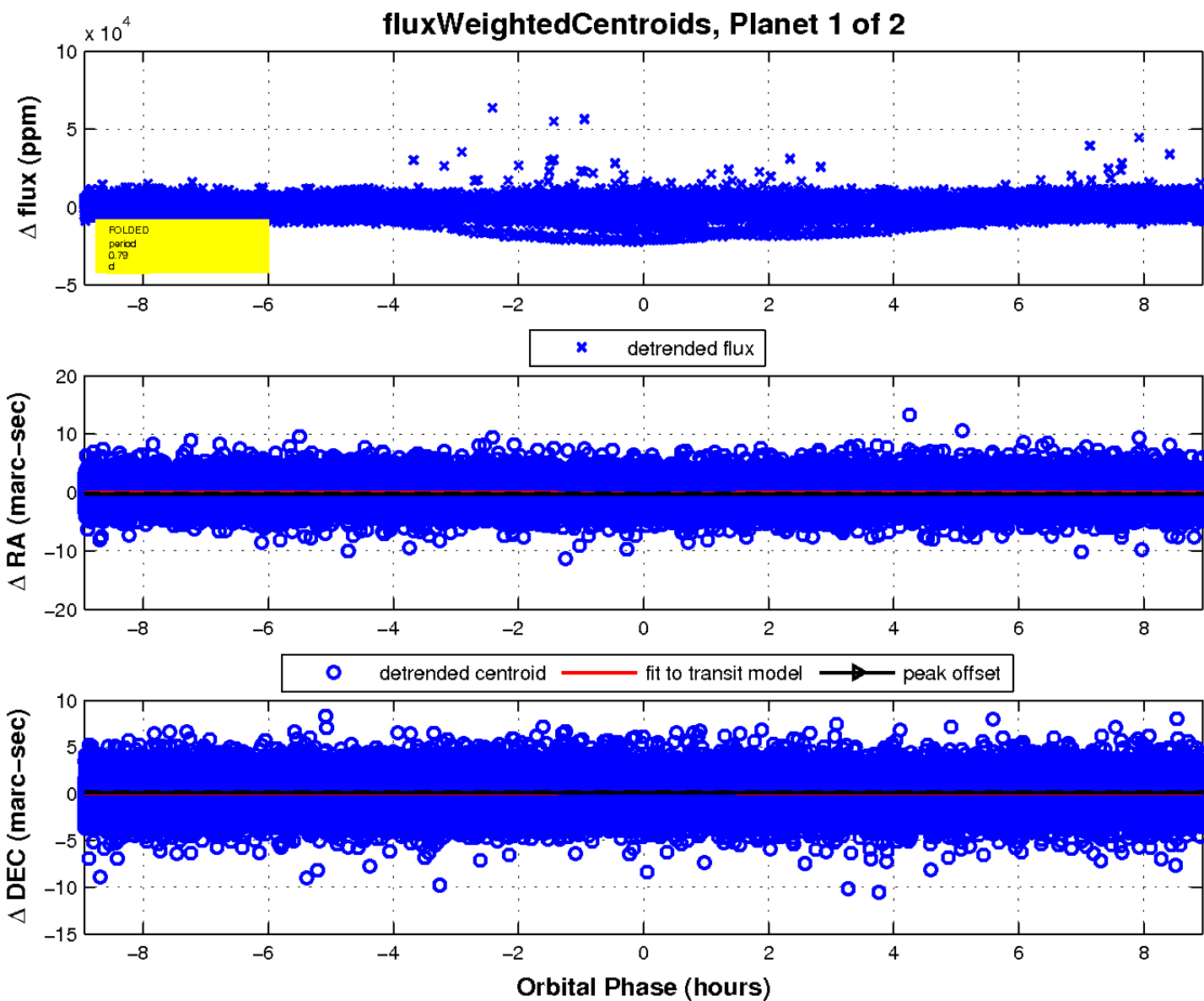
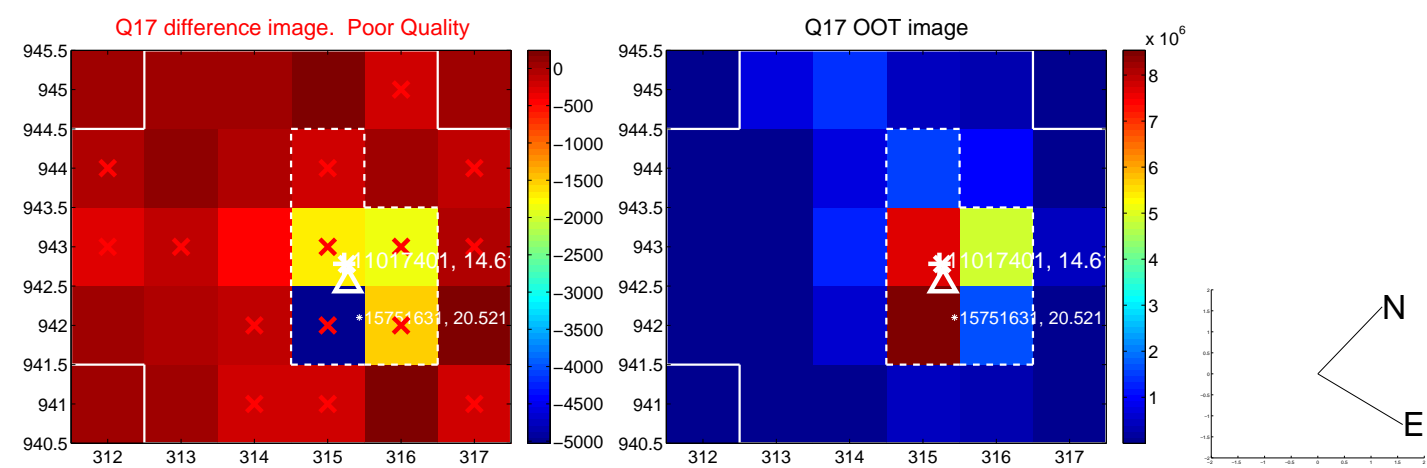
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

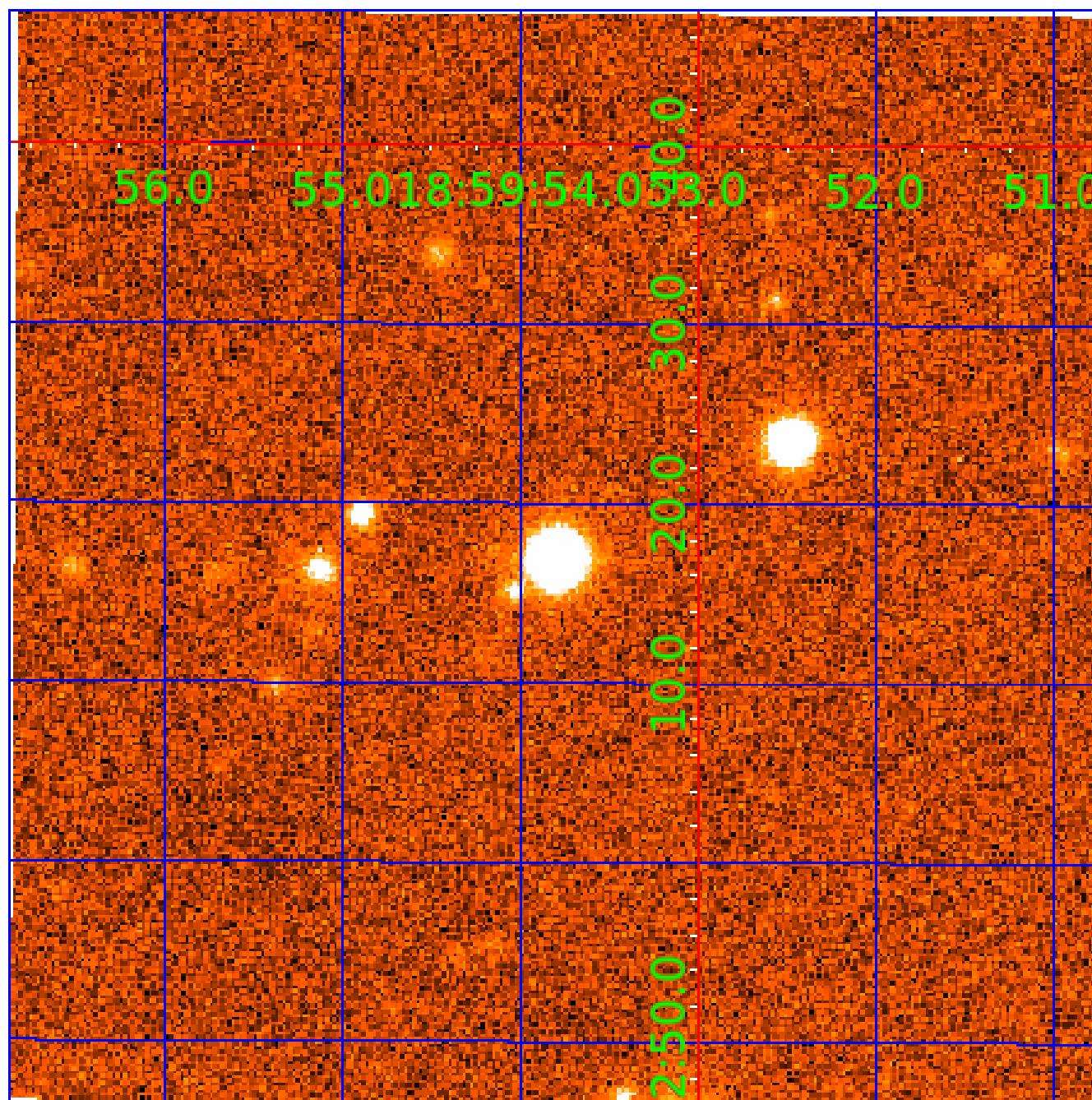


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011017401

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})
011017401-01	OBS	No	0.789496	131.821372	112.3	2.982	10.2	5.2	0.84	5645	0.99	2855.32
011017401-02	OBS	No	0.788328	132.237632	44.9	2.892	8.4	1.4	0.84	5645	0.67	2860.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011017401-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
011017401-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

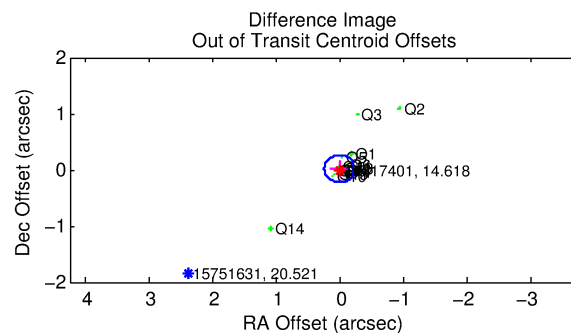
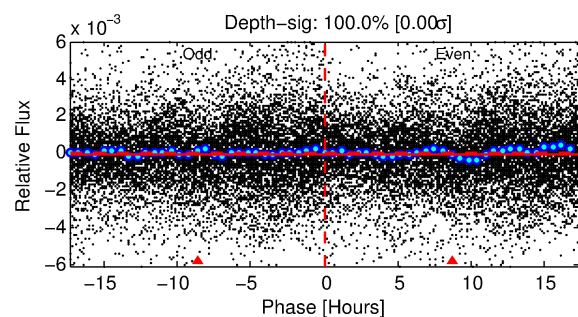
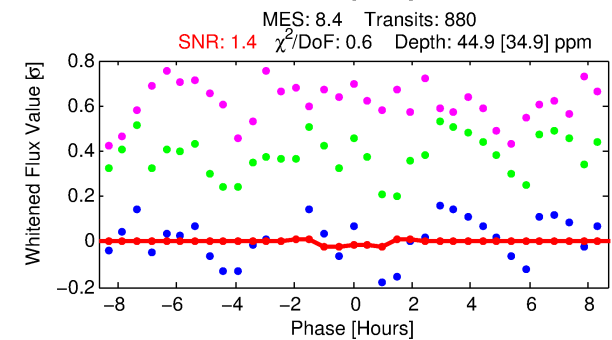
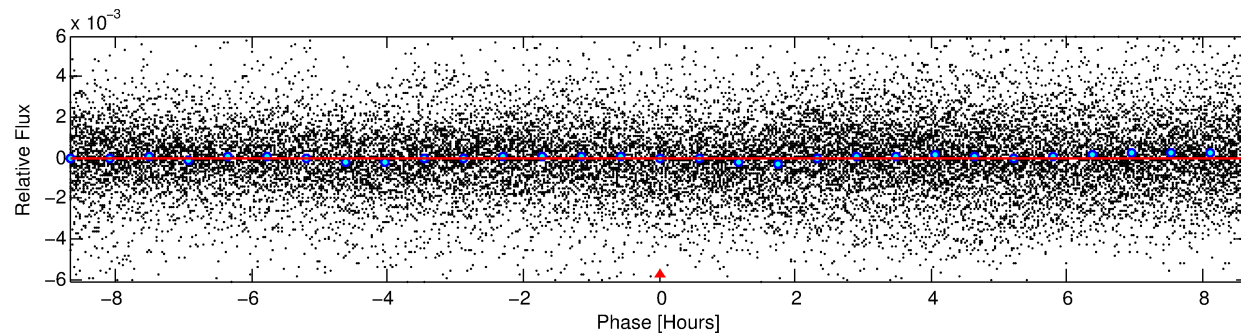
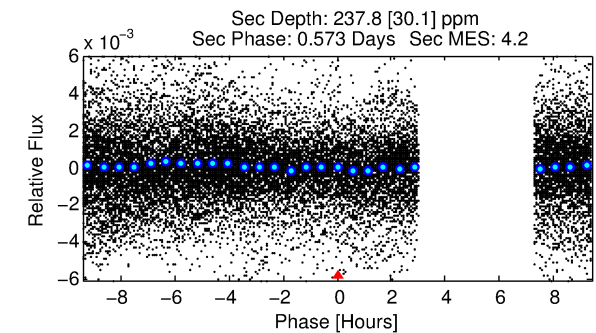
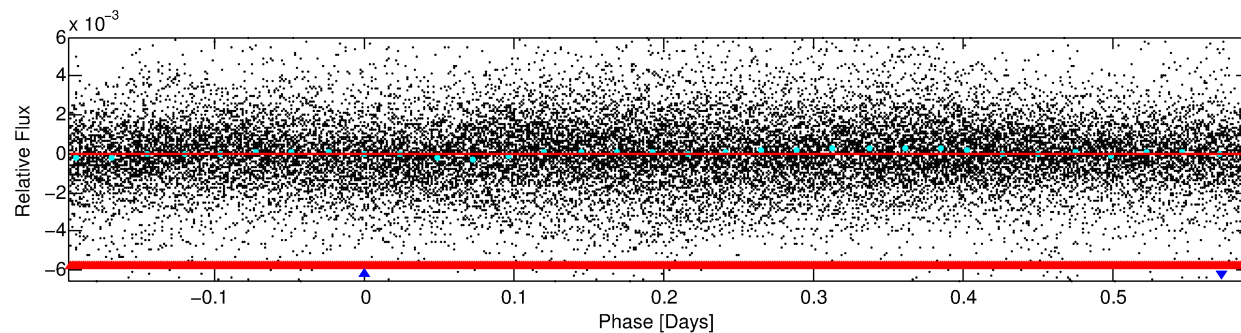
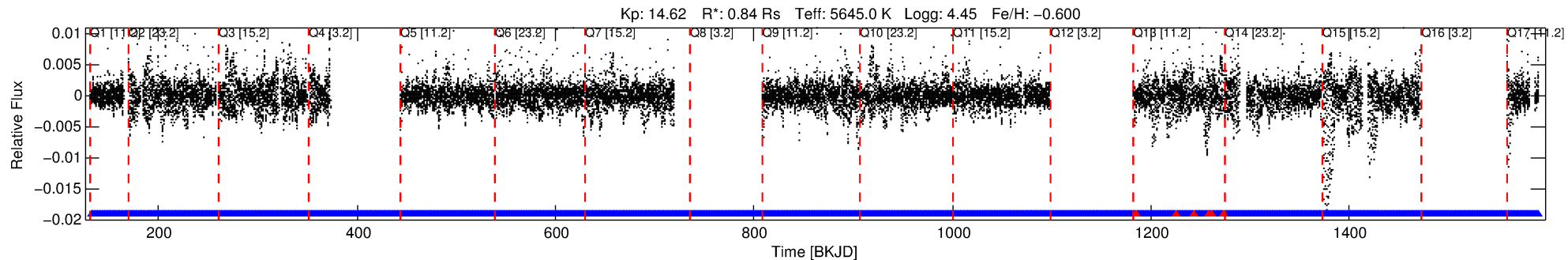
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011017401-02

No Significant Match Found

DV One-Page Summary

KIC: 11017401 Candidate: 2 of 2 Period: 0.788 d



DV Fit Results:

Period = 0.78833 [0.00006] d
Epoch = 132.2376 [0.0095] BKJD
Rp/R* = 0.0073 [0.0120]
a/R* = 1.33 [4.71]
b = 0.90 [1.75]
Seff = 2860.96 [919.46]
Teff = 1865 [150] K
Rp = 0.67 [1.11] Re
a = 0.0151 [0.0029] AU
Ag = 66.29 [219.45] [0.30σ]
Teffp = 8227 [6786] K [0.94σ]

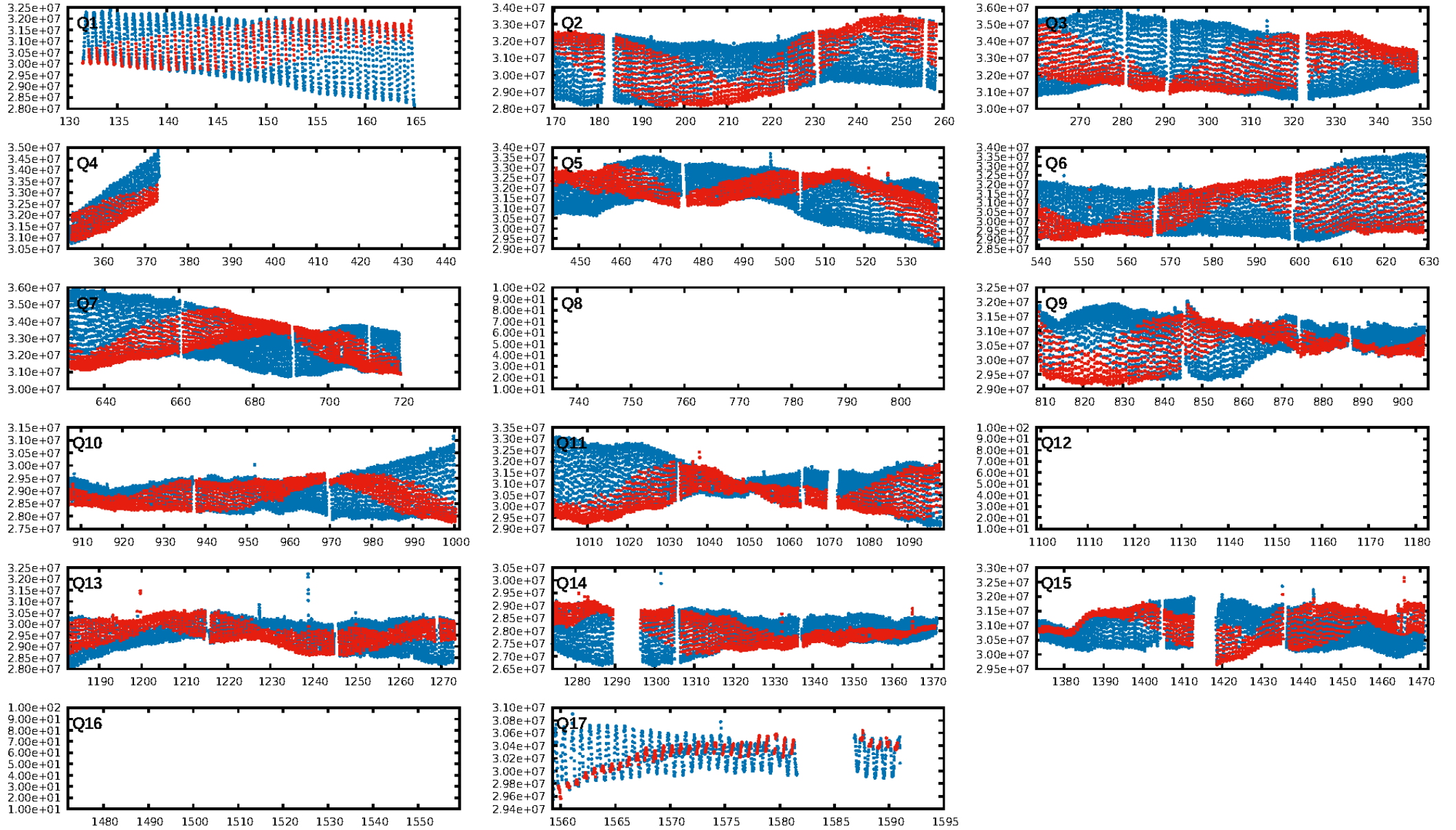
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.5% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.69e-18
RollingBand-fgt: 0.99 [811/817]
GhostDiagnostic-chr: 0.3026
Centroid-sig: 8.6%
Centroid-so: 2.070 arcsec [1.34σ]
OotOffset-rm: 0.021 arcsec [0.27σ]
KicOffset-rm: 0.093 arcsec [0.78σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.21 [3/14]

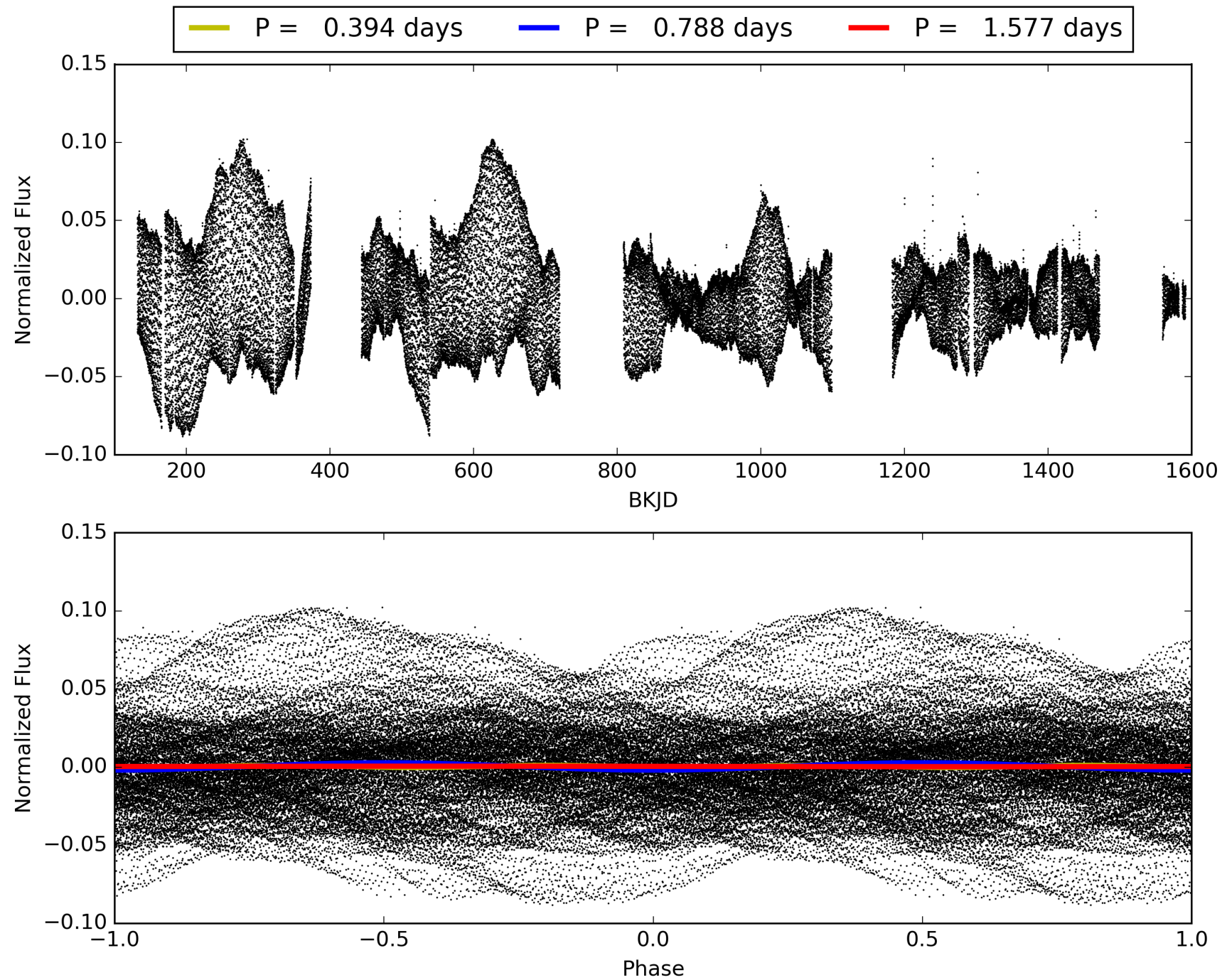
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:46:45 Z

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

TCE 011017401-02, PDC Light Curves

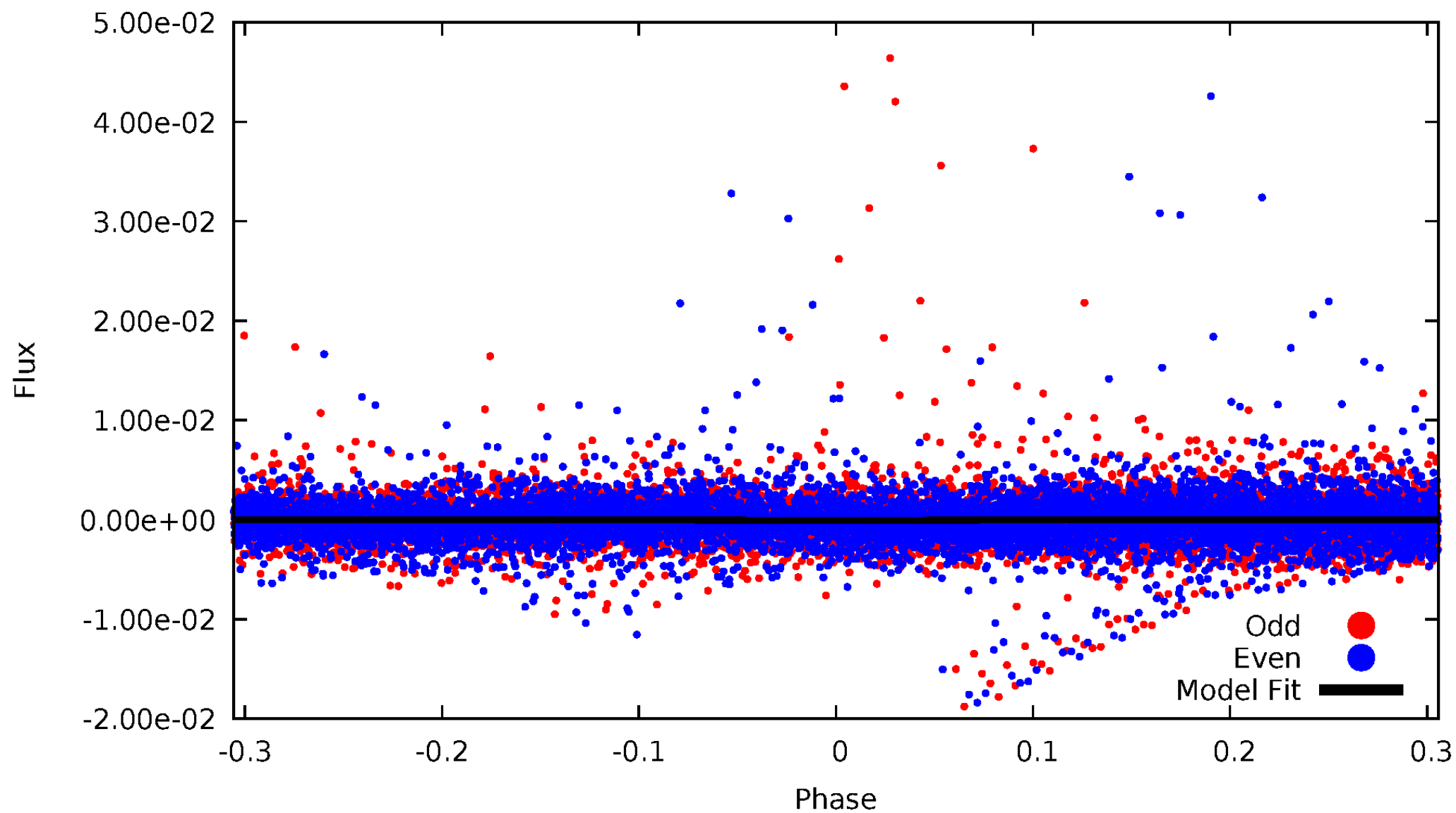


TCE 011017401-02



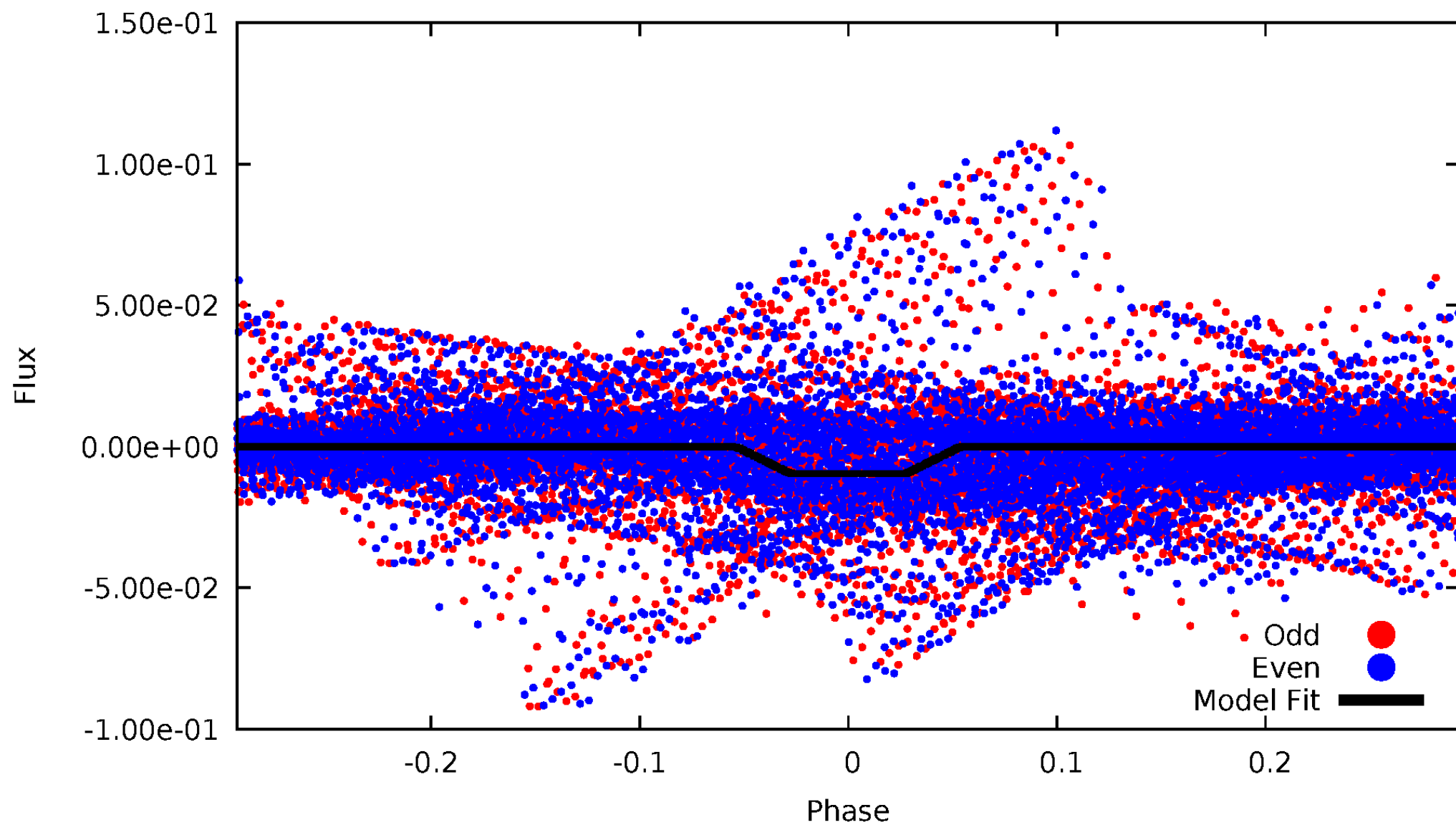
DV Odd/Even

TCE 011017401-02



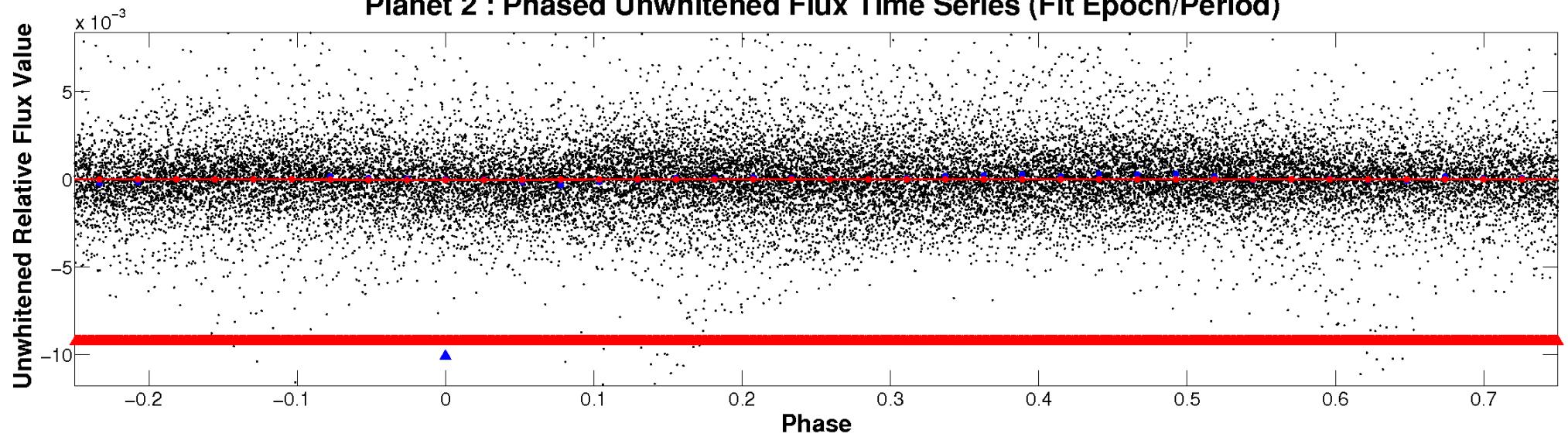
ALT Odd/Even

TCE 011017401-02

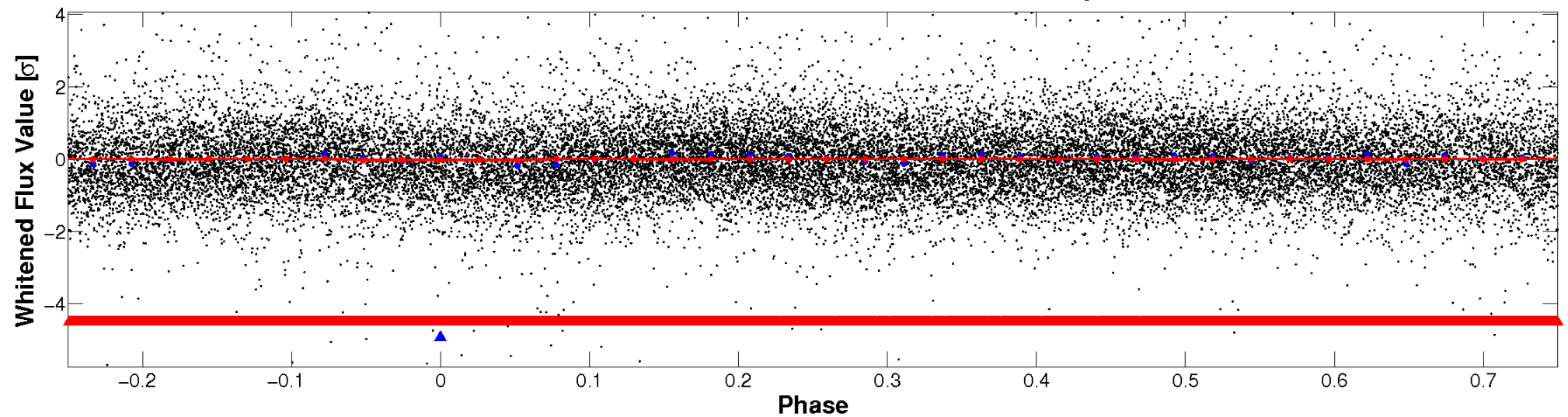


Non-Whitened Vs. Whitened Light Curve

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

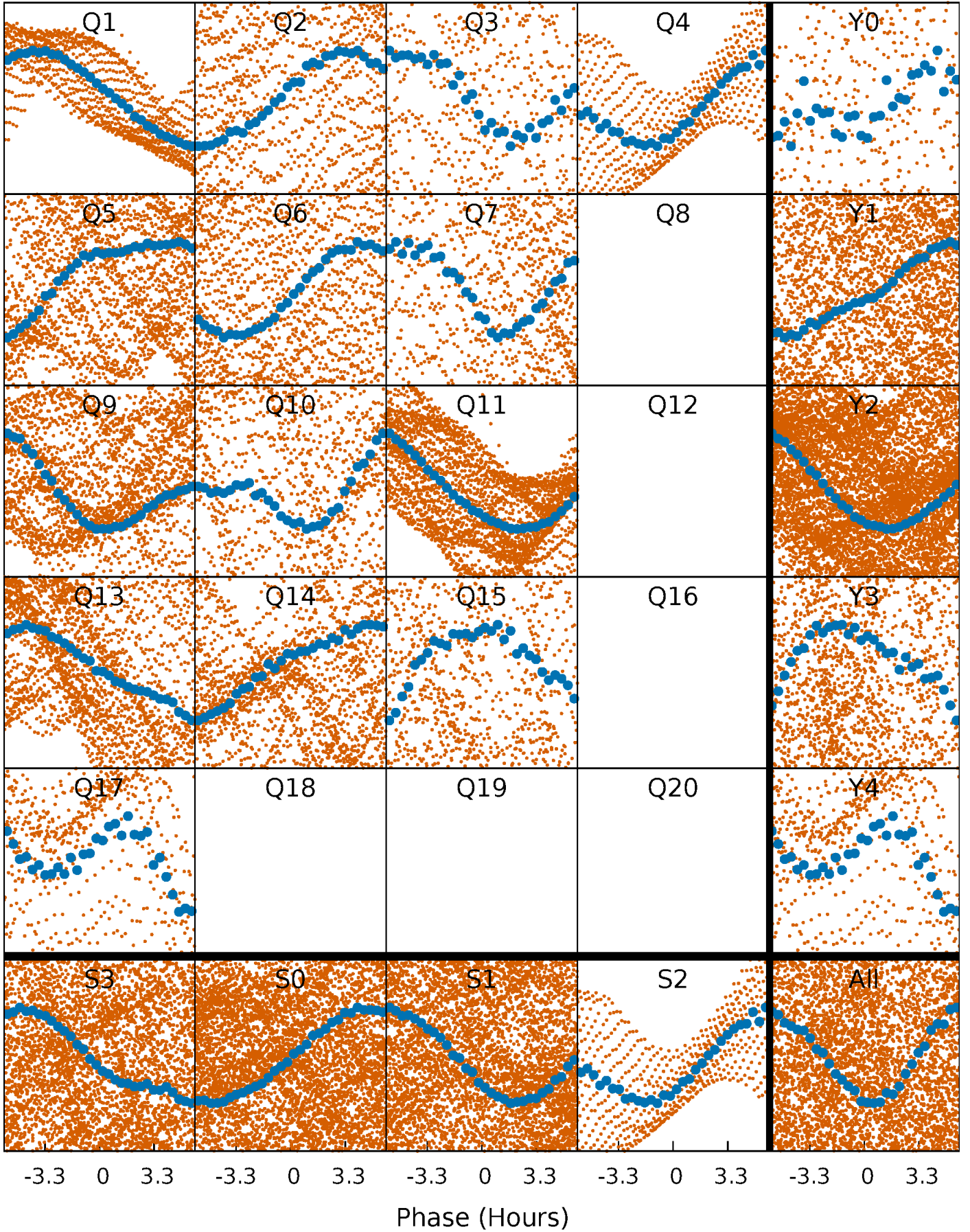


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



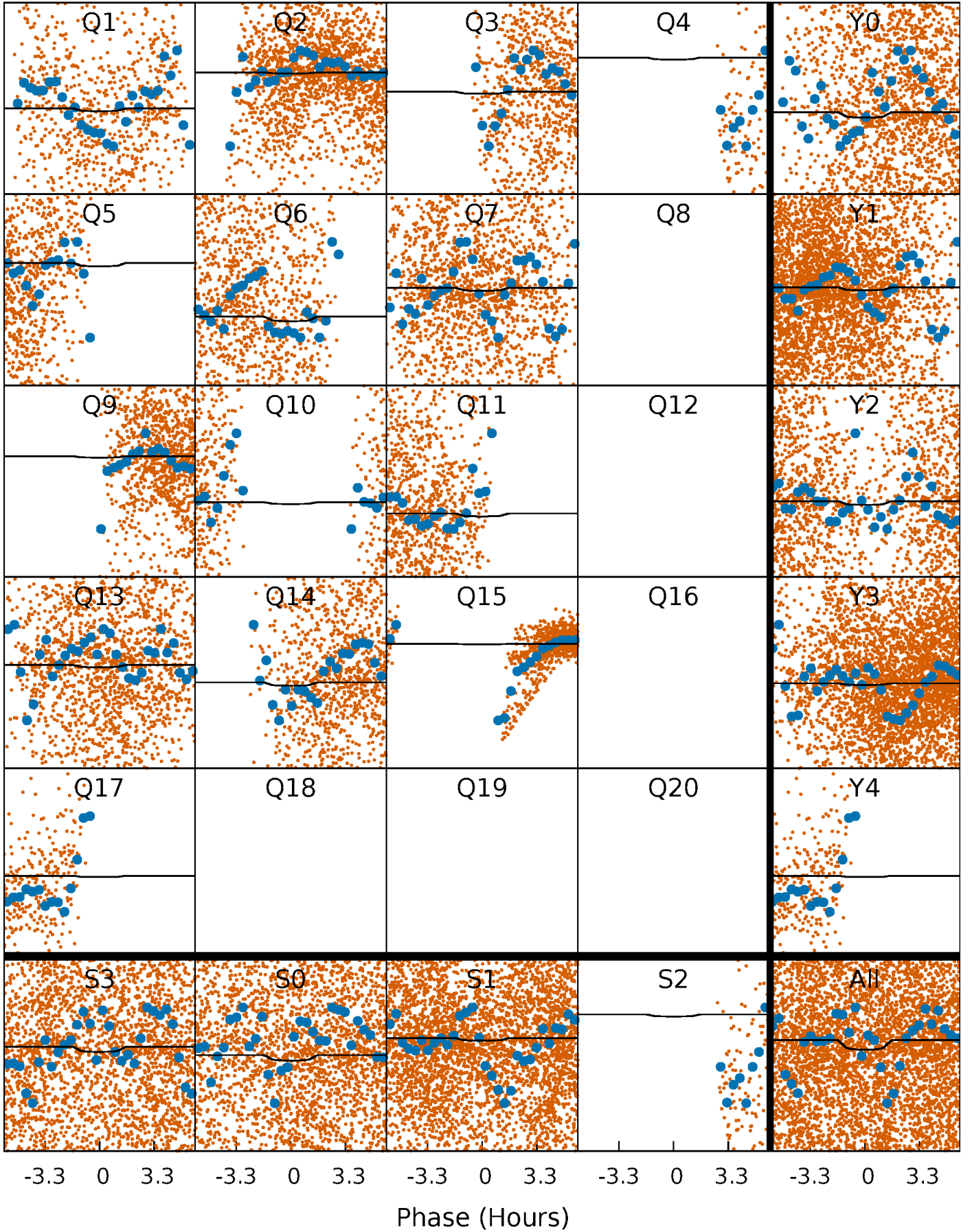
PDC Quarter-Phased Transit Curves

TCE 011017401-02 P= 0.788328 Days $T_0=132.237632$ (BKJD)



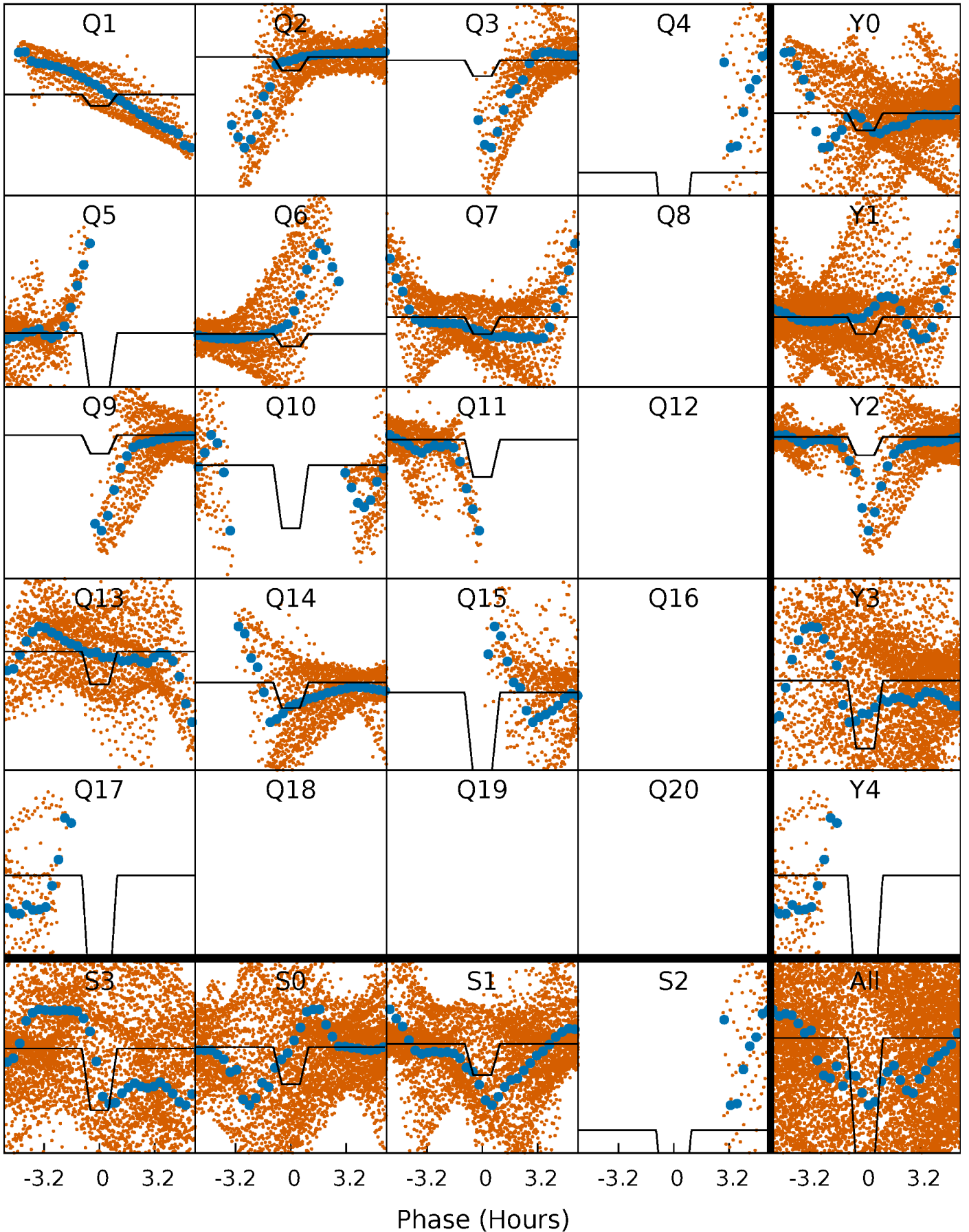
DV Quarter-Phased Transit Curves

TCE 011017401-02 $P = 0.788328$ Days $T_0 = 132.237632$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

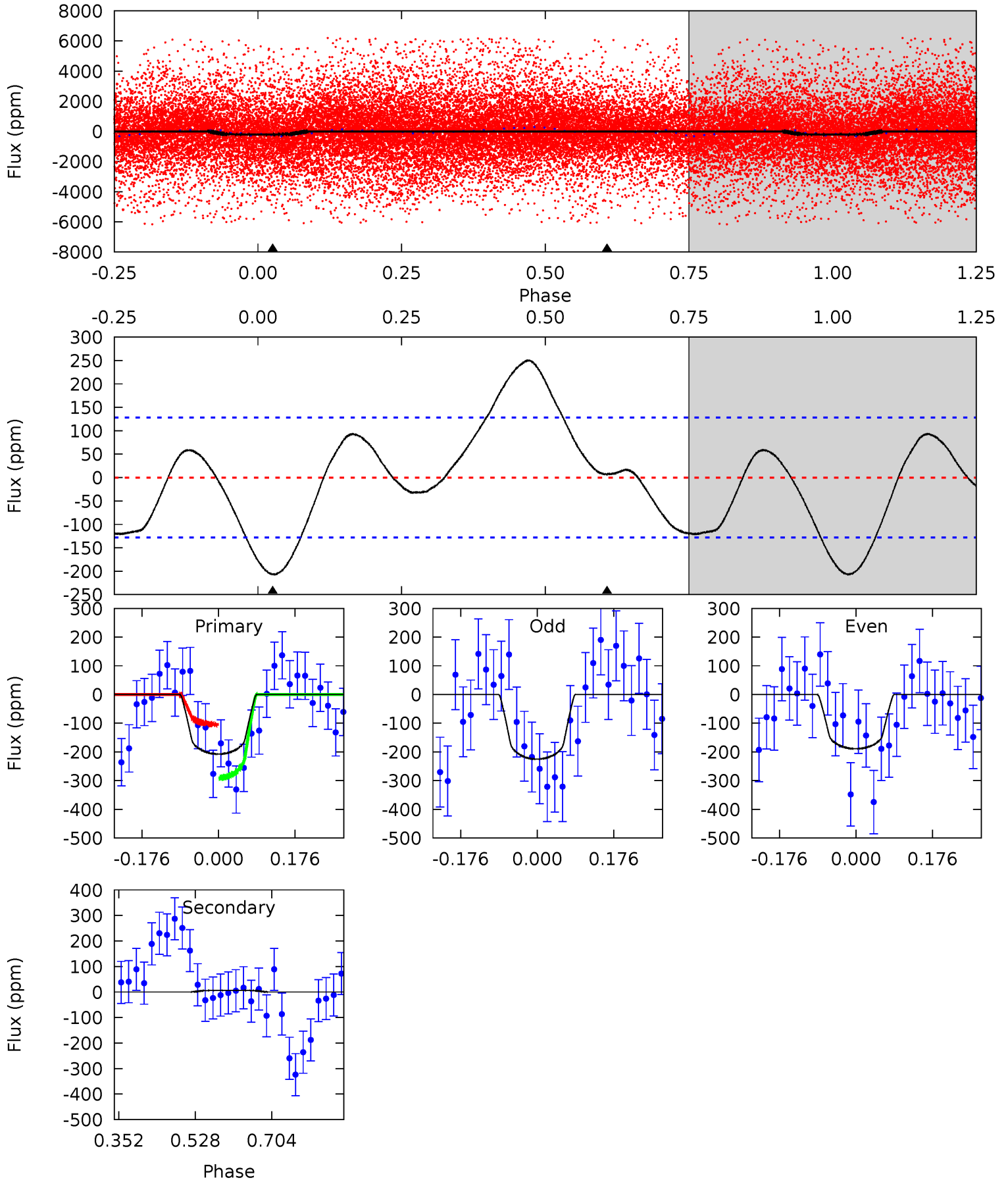
TCE 011017401-02 P= 0.788358 Days $T_0=132.226086$ (BKJD)



DV Model-Shift Uniqueness Test

011017401-02, P = 0.788328 Days, E = 131.449304 Days

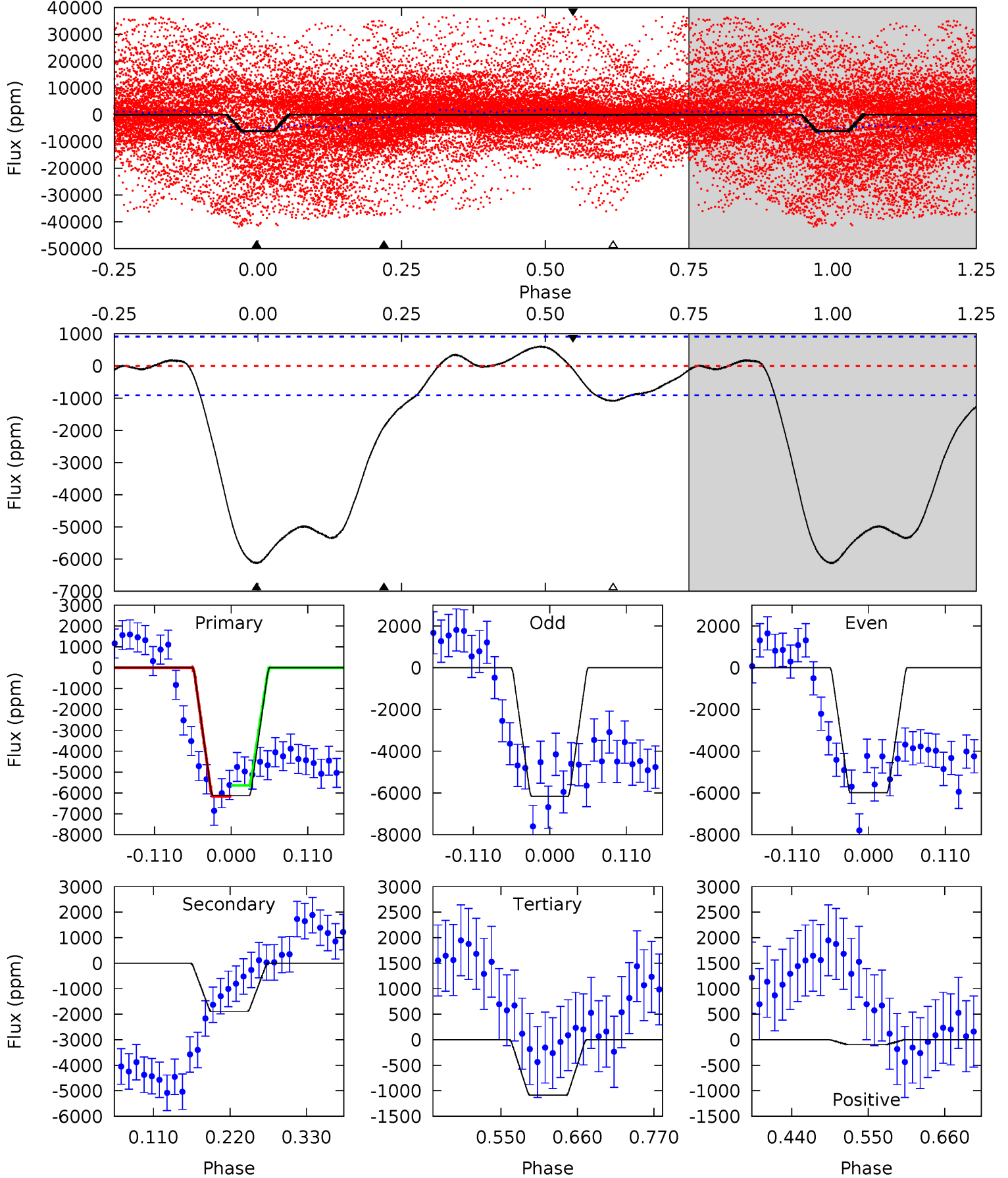
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	-0.23	0	0	4.44	1.35	2.61	7.20	7.20	-0.23	-0.23	0.68	0.08	0.55	3.29



Alt Model-Shift Uniqueness Test

011017401-02, P = 0.788358 Days, E = 131.437728 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.5	9.40	5.42	-0.48	4.54	1.60	2.81	25.1	31.0	3.98	9.88	0.44	0.95	0.09	1.16



Stellar Parameters For KIC 011017401

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5645^{+169}_{-152}	$4.450^{+0.155}_{-0.170}$	$-0.600^{+0.350}_{-0.300}$	$0.845^{+0.183}_{-0.133}$	$0.735^{+0.110}_{-0.039}$	$1.714^{+1.130}_{-0.799}$
	+3%/-3%	+3%/-4%	+58%/-50%	+22%/-16%	+15%/-5%	+66%/-47%
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 011017401-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	7 ± 29	$1.09^{+0.94}_{-0.74}$	2618^{+180}_{-158}	-3206^{+7311}_{-1665}	$-0.359^{+3.746}_{-6.717}$
Alt.	-1886 ± 201	$9.16^{+1.65}_{-1.51}$	2608^{+175}_{-148}	3968^{+257}_{-222}	$2.853^{+1.251}_{-0.849}$

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 $A_{obs} \gg 1.0$

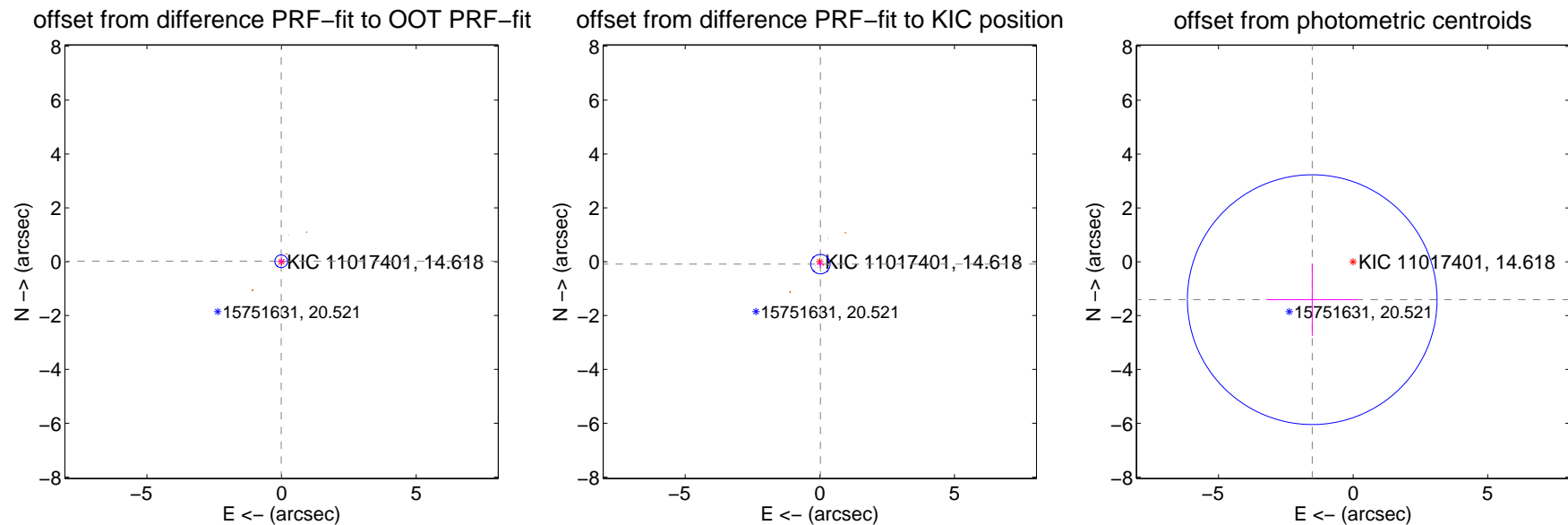
DV Centroid Data

Supplemental centroid analysis for 011017401-02. Kepler magnitude: 14.62. Transit SNR 1.38

There are 6 quarters with good PRF difference image offsets

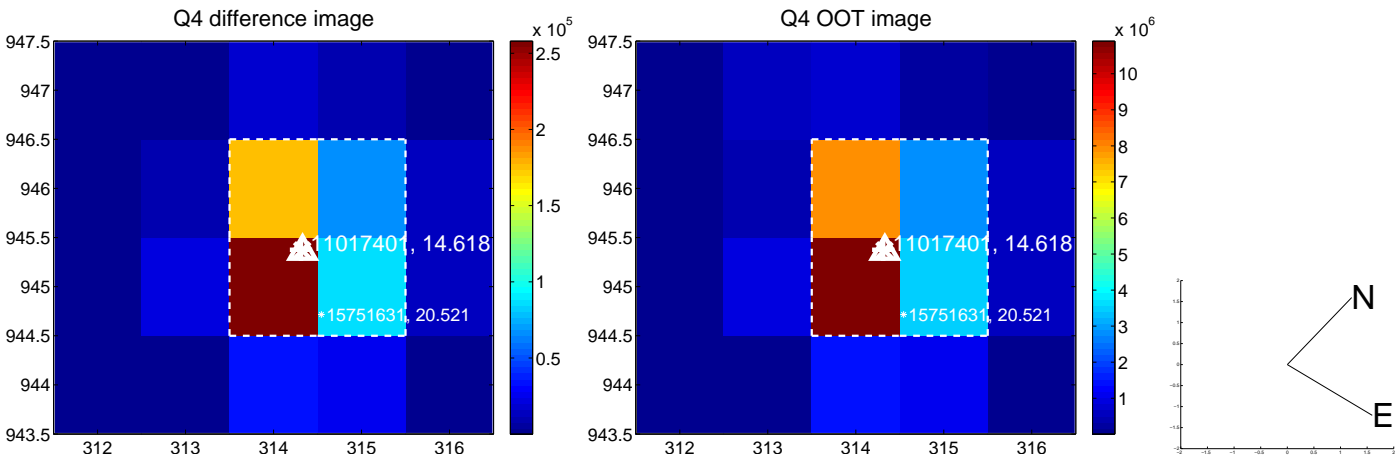
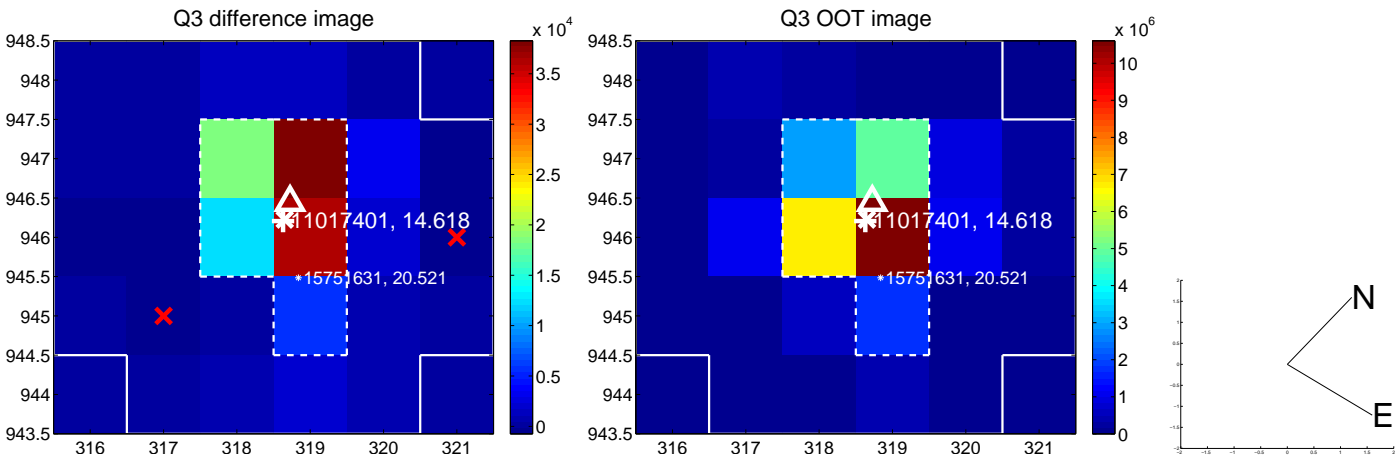
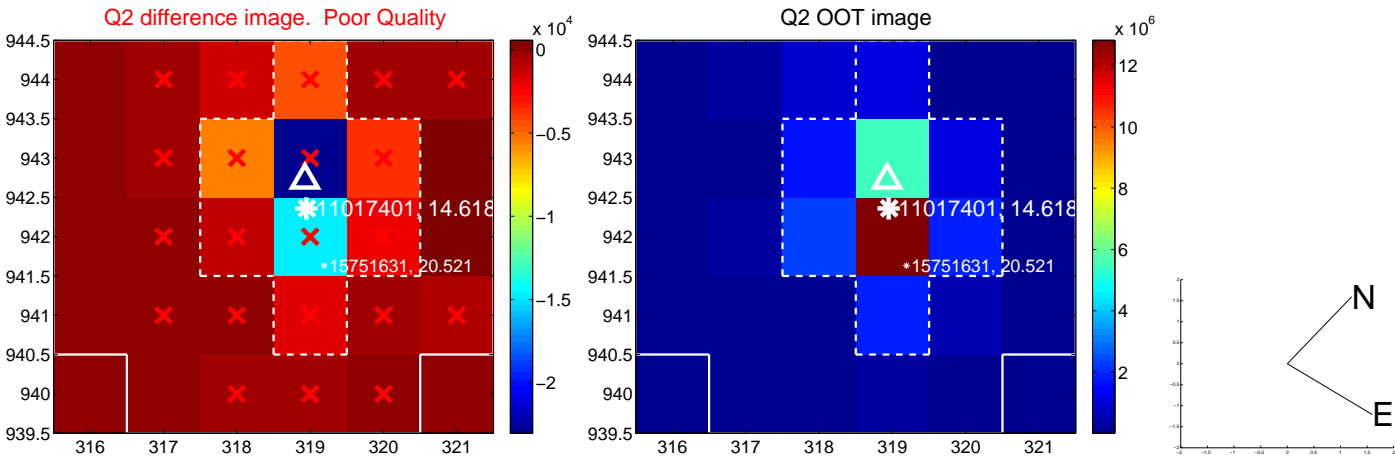
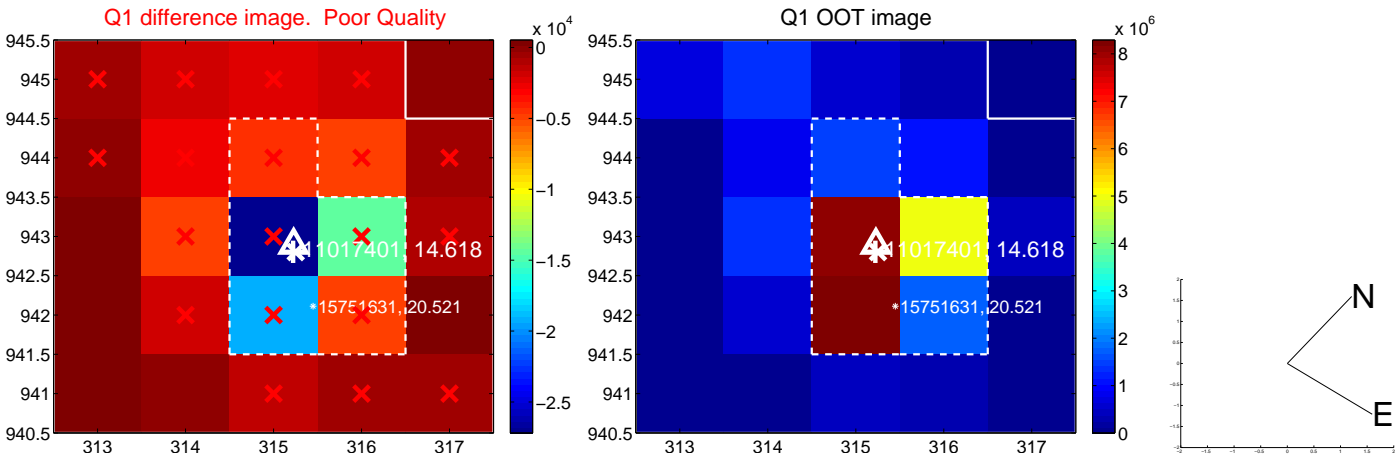
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.079	0.27	0.014 ± 0.128	0.016 ± 0.148
PRF-fit source offset from KIC position	0.093 ± 0.120	0.78	-0.022 ± 0.128	-0.091 ± 0.143
photometric centroid source offset	2.07 ± 1.55	1.34	1.52 ± 1.70	-1.41 ± 1.34

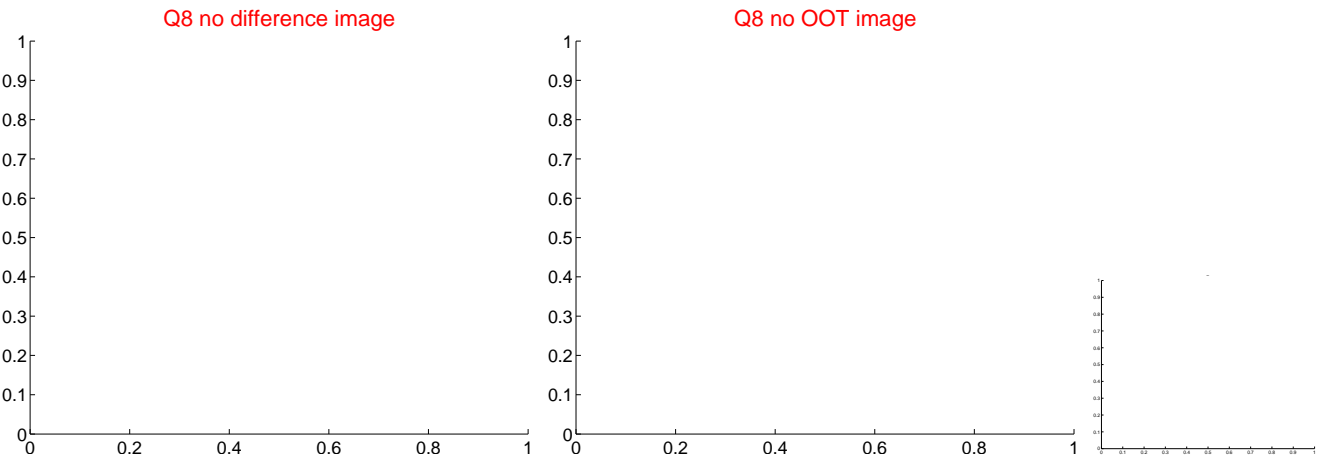
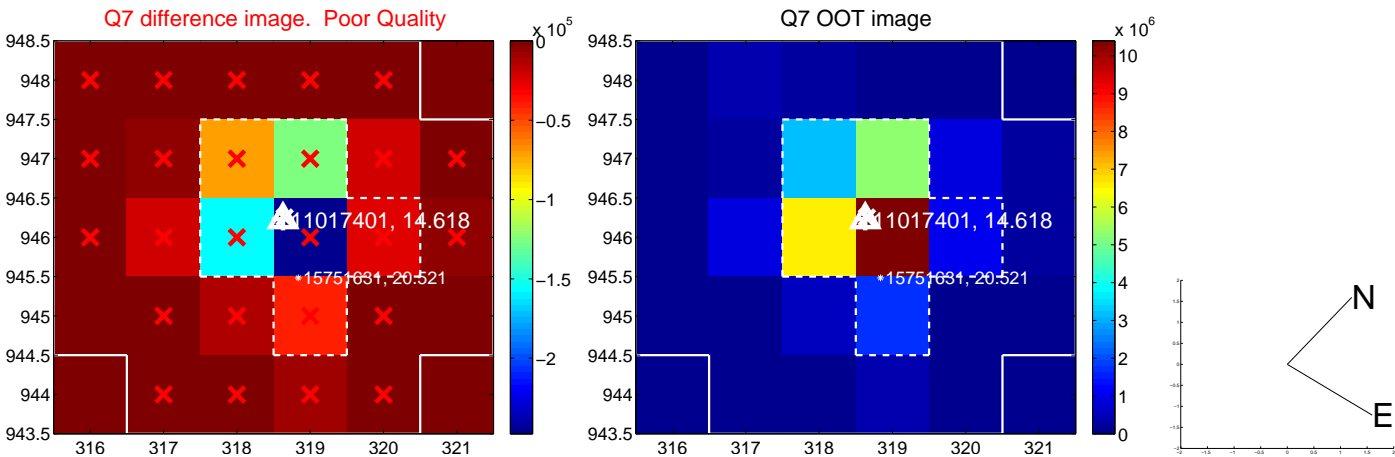
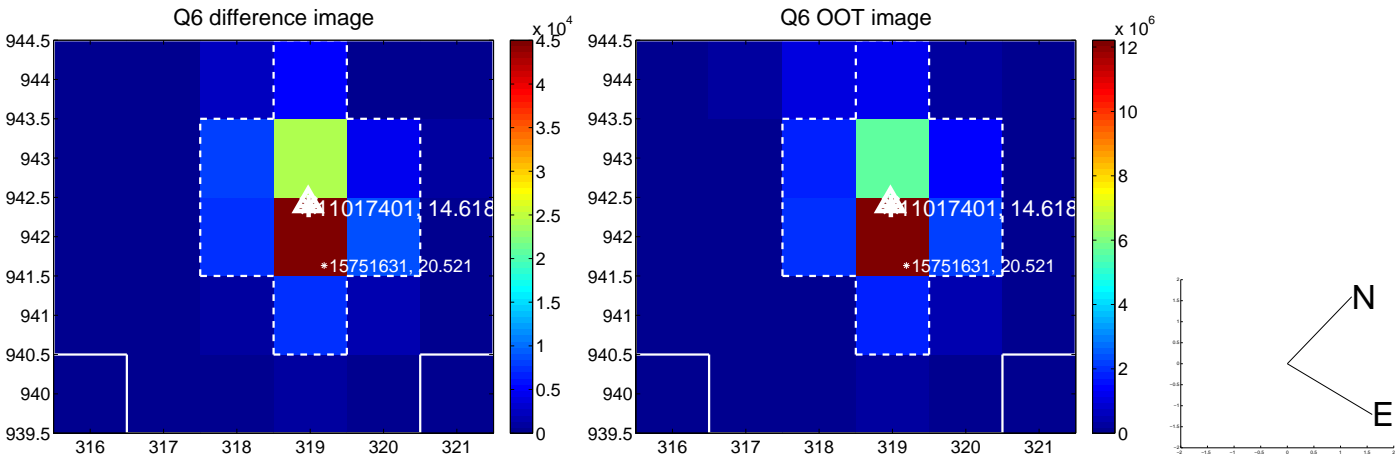
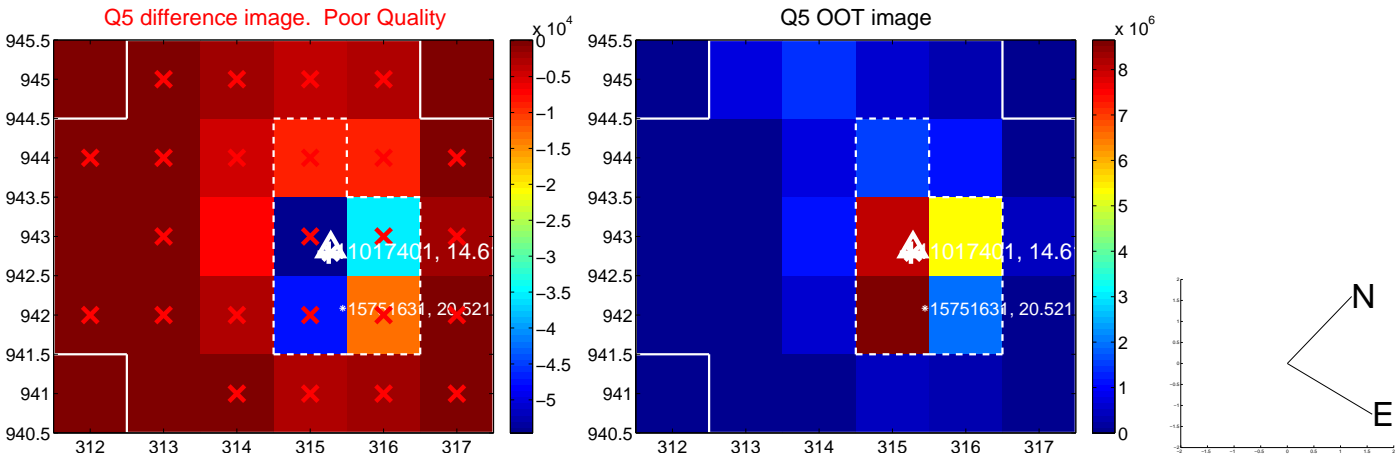


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

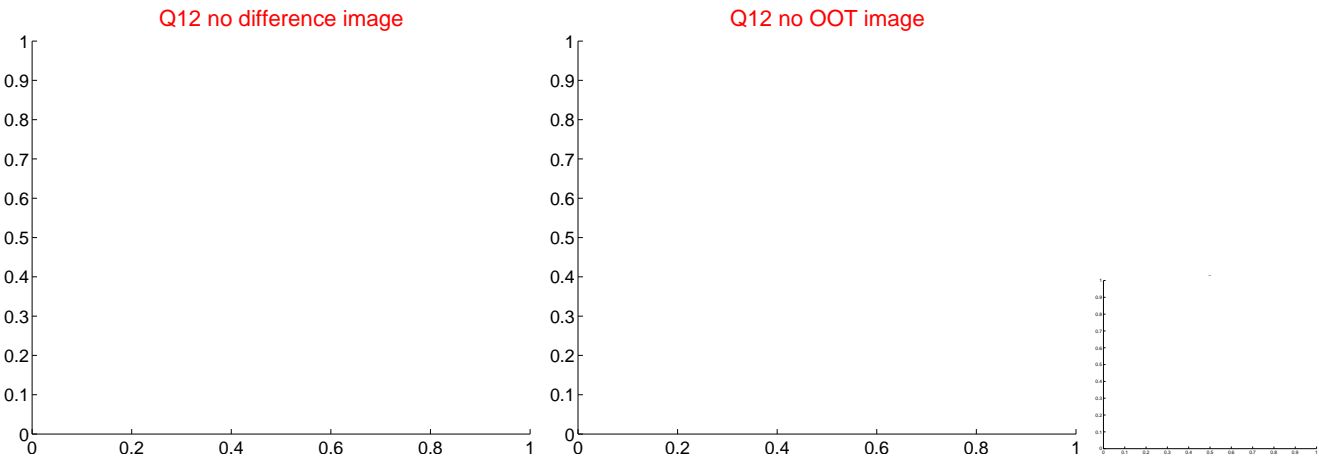
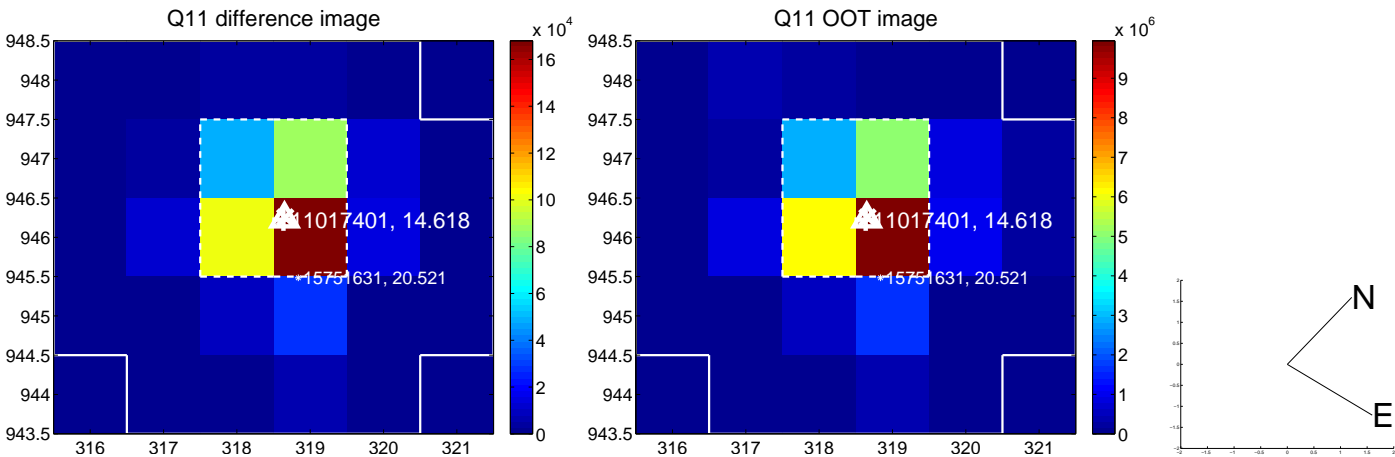
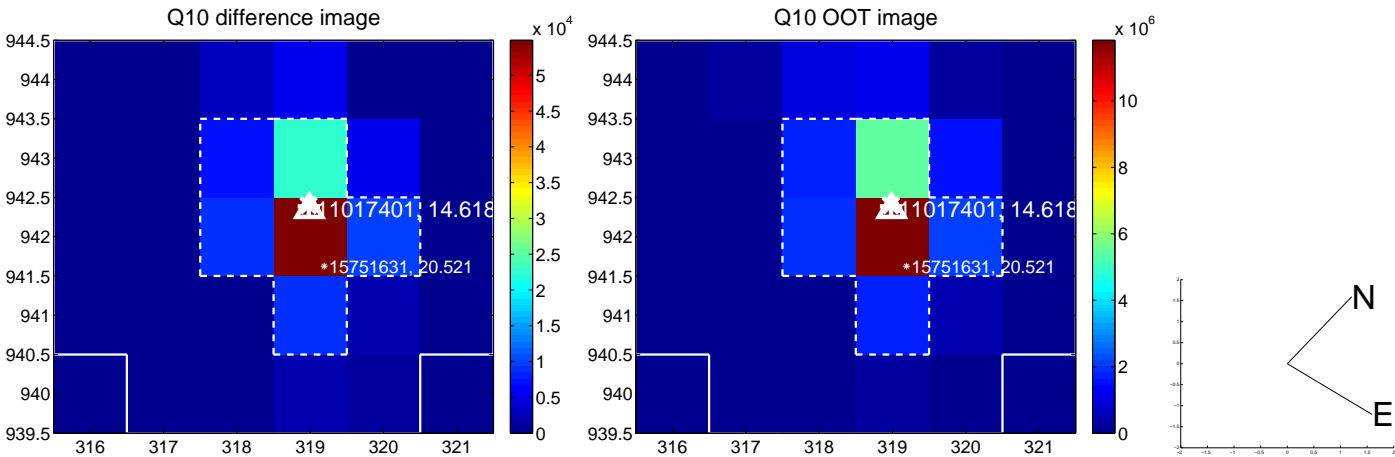
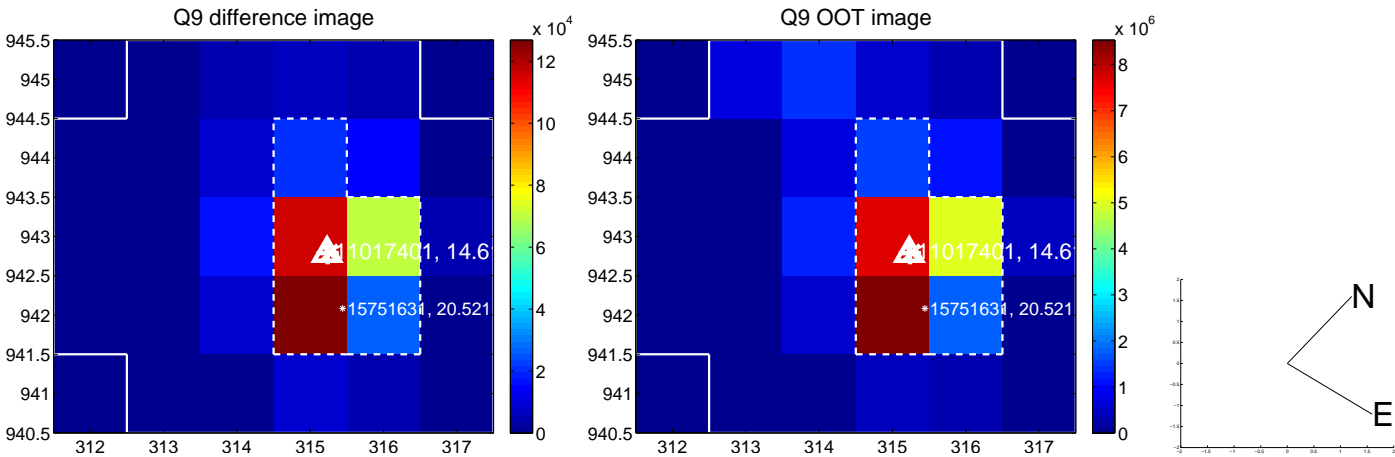
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



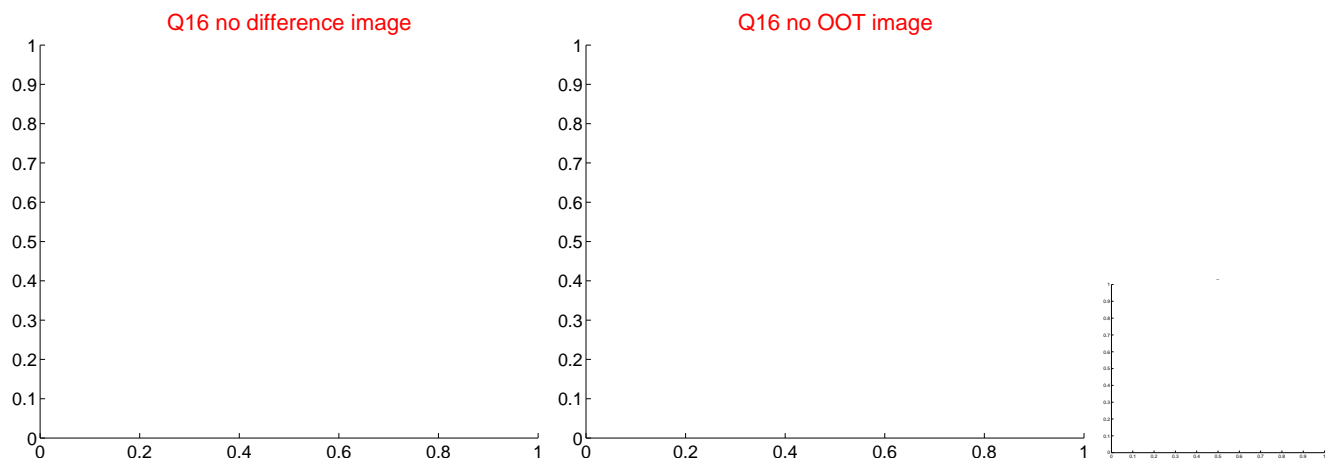
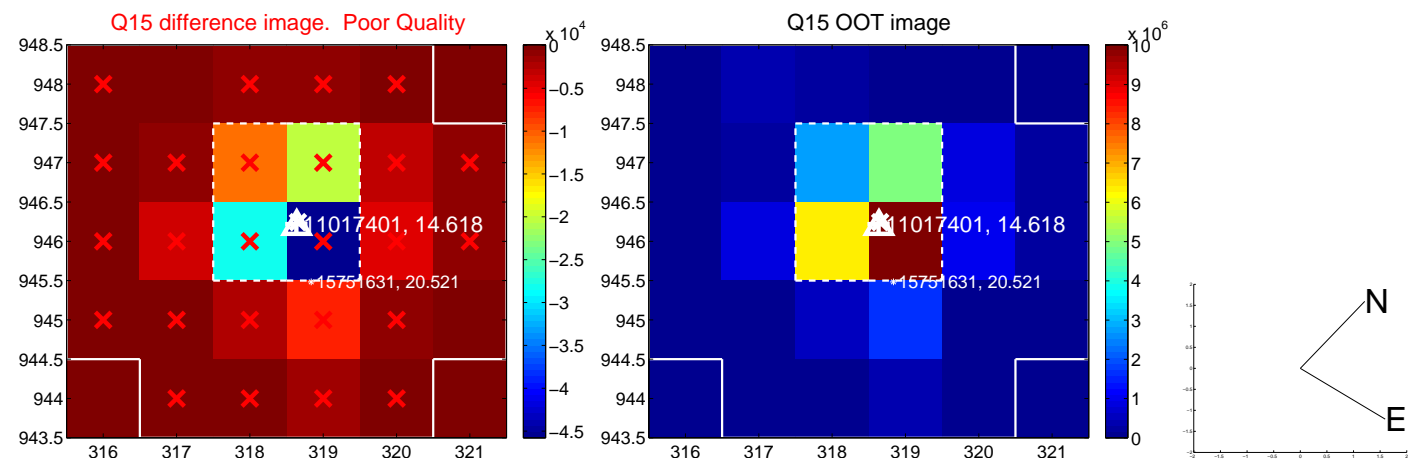
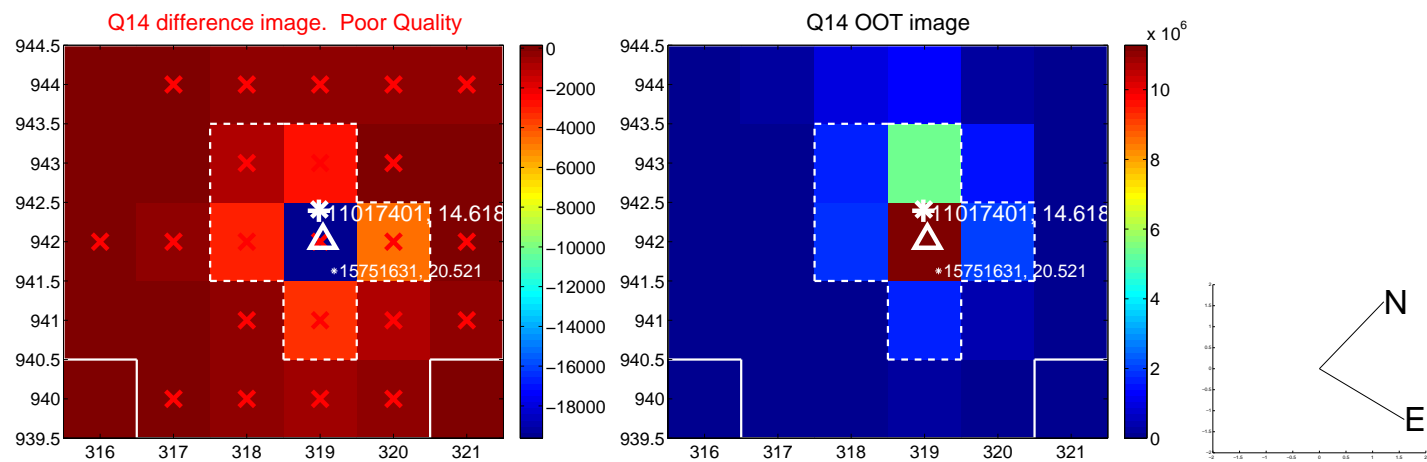
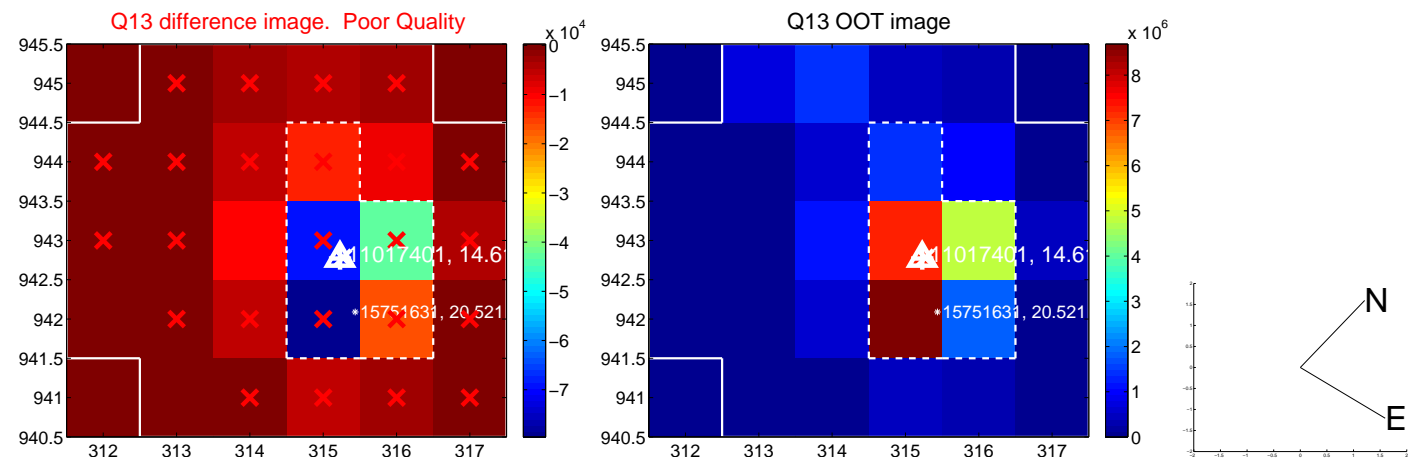
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



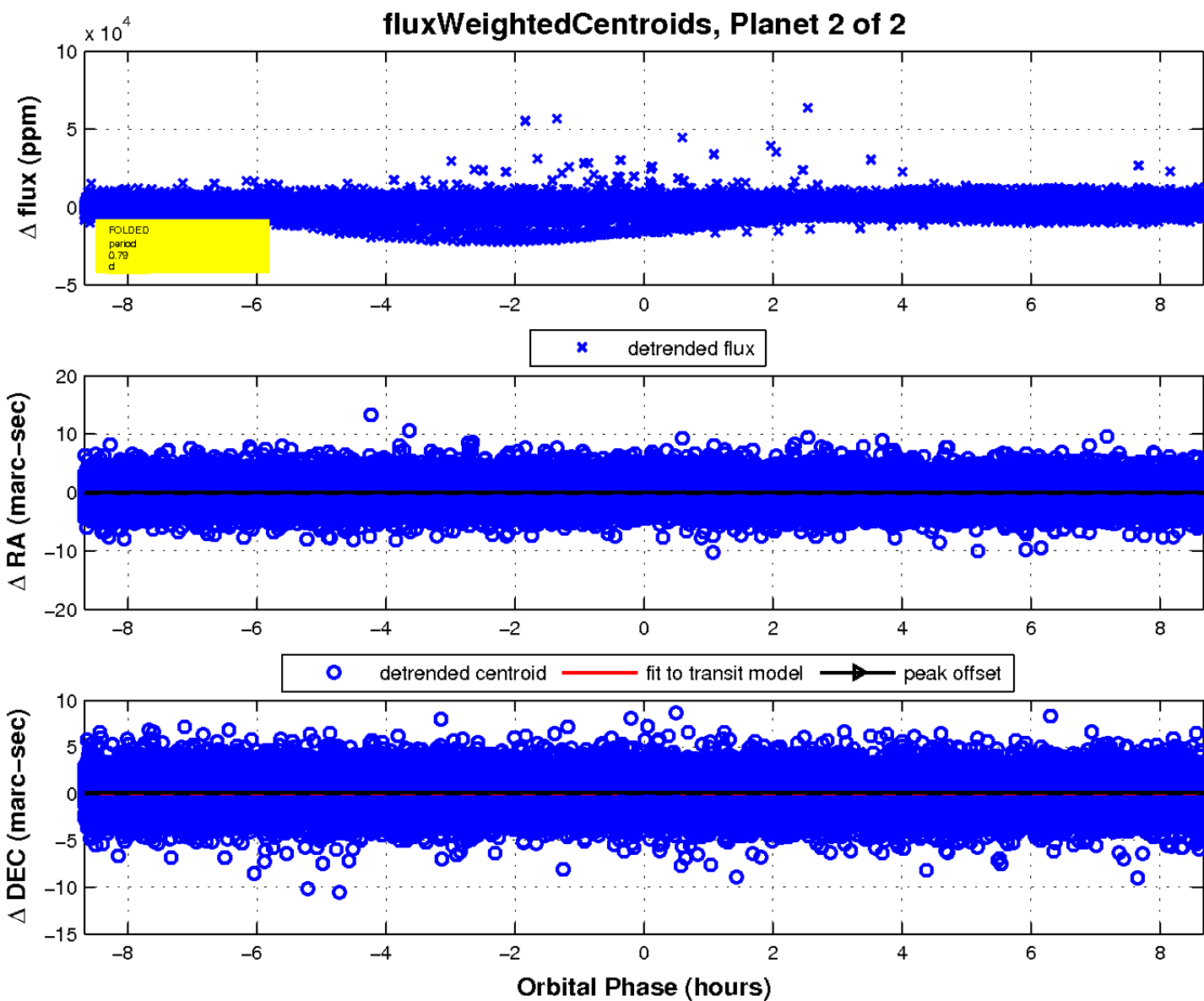
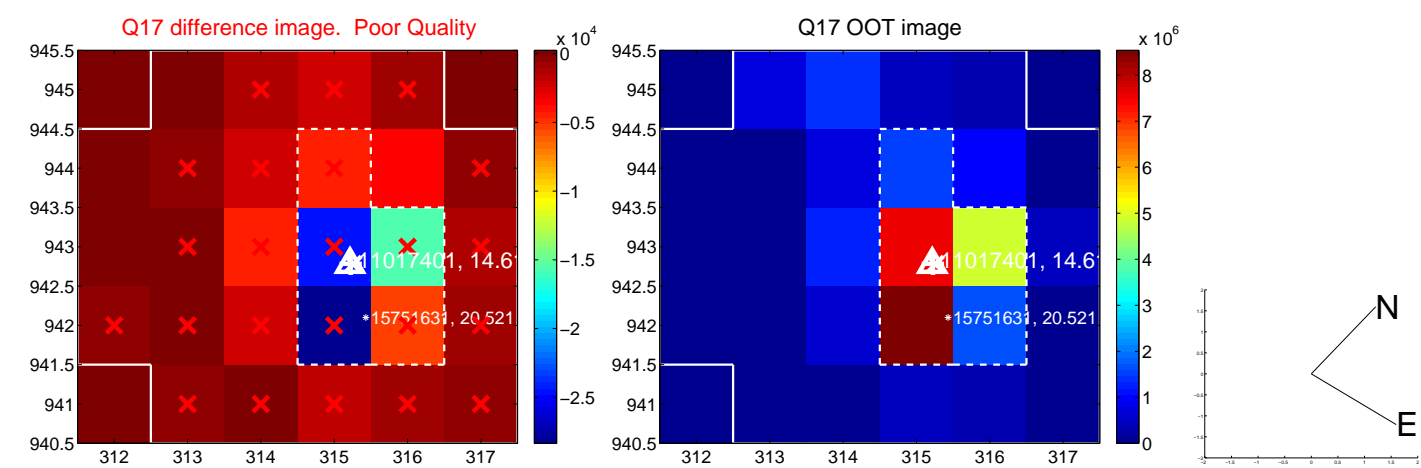
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

