

KIC 011972666

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})
011972666-01	OBS	0545.01	2.183484	132.160133	167.3	2.189	13.5	20.3	0.79	5354	1.22	460.35
011972666-02	OBS	No	2.183464	133.257937	171.0	2.107	17.6	20.4	0.79	5354	1.37	460.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011972666-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
011972666-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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.

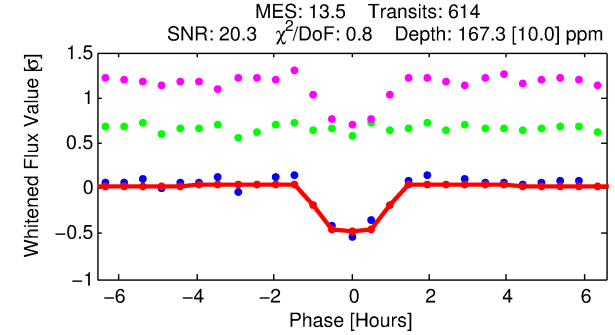
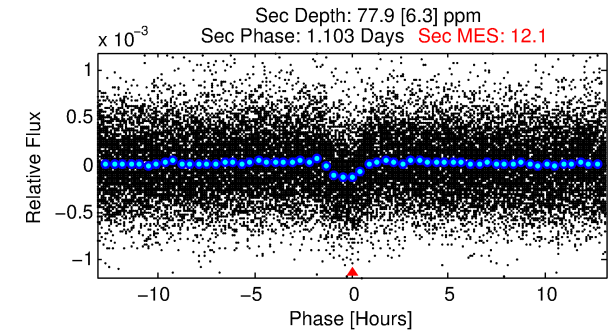
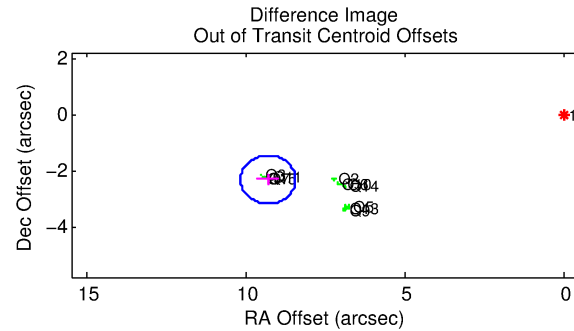
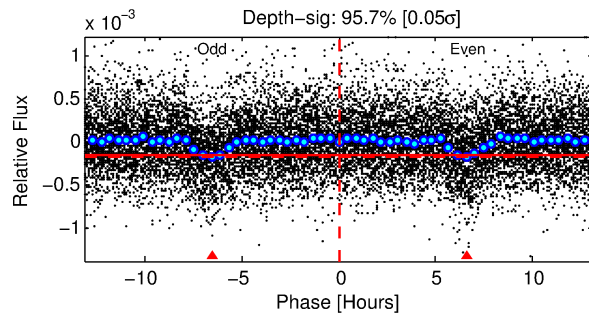
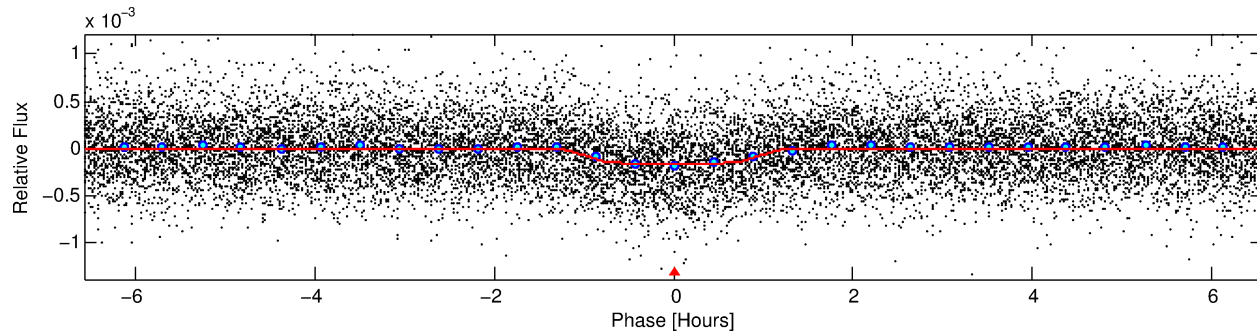
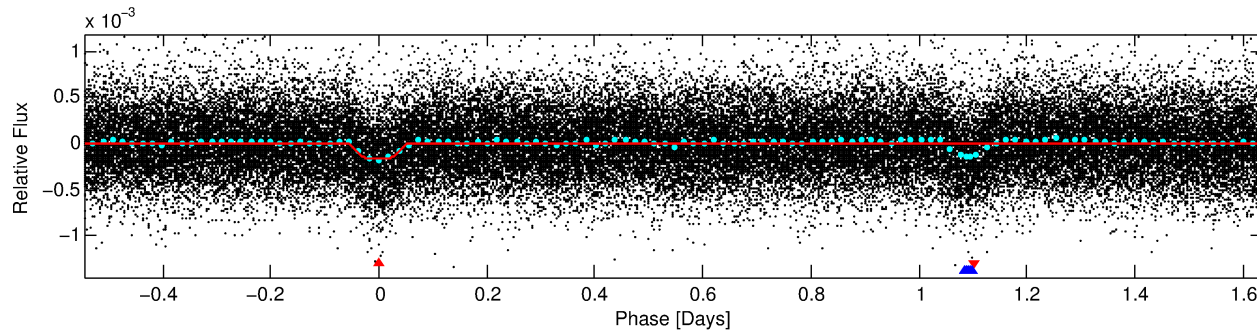
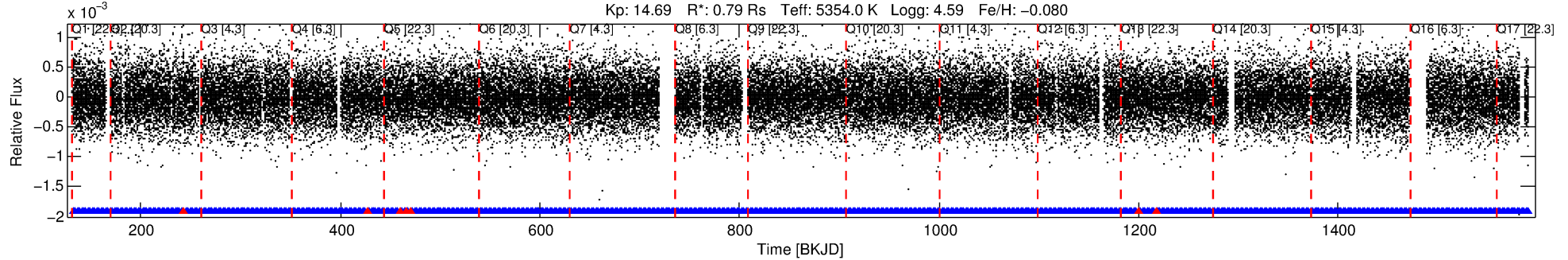
Ephemeris Match Information For 011972666-01

No Significant Match Found

DV One-Page Summary

KIC: 11972666 Candidate: 1 of 2 Period: 2.183 d
KOI: K00545 Corr: No Ephemeris Match

Kp: 14.69 R*: 0.79 Rs Teff: 5354.0 K Logg: 4.59 Fe/H: -0.080



DV Fit Results:

Period = 2.18348 [0.00001] d
Epoch = 132.1601 [0.0016] BKJD
Rp/R* = 0.0142 [0.0059]
a/R* = 3.79 [6.34]
b = 0.89 [0.42]
Seff = 460.35 [114.73]
Teq = 1181 [74] K
Rp = 1.22 [0.55] Re
a = 0.0315 [0.0048] AU
Ag = 28.70 [24.86] [1.11σ]
Teffp = 4227 [894] K [3.39σ]

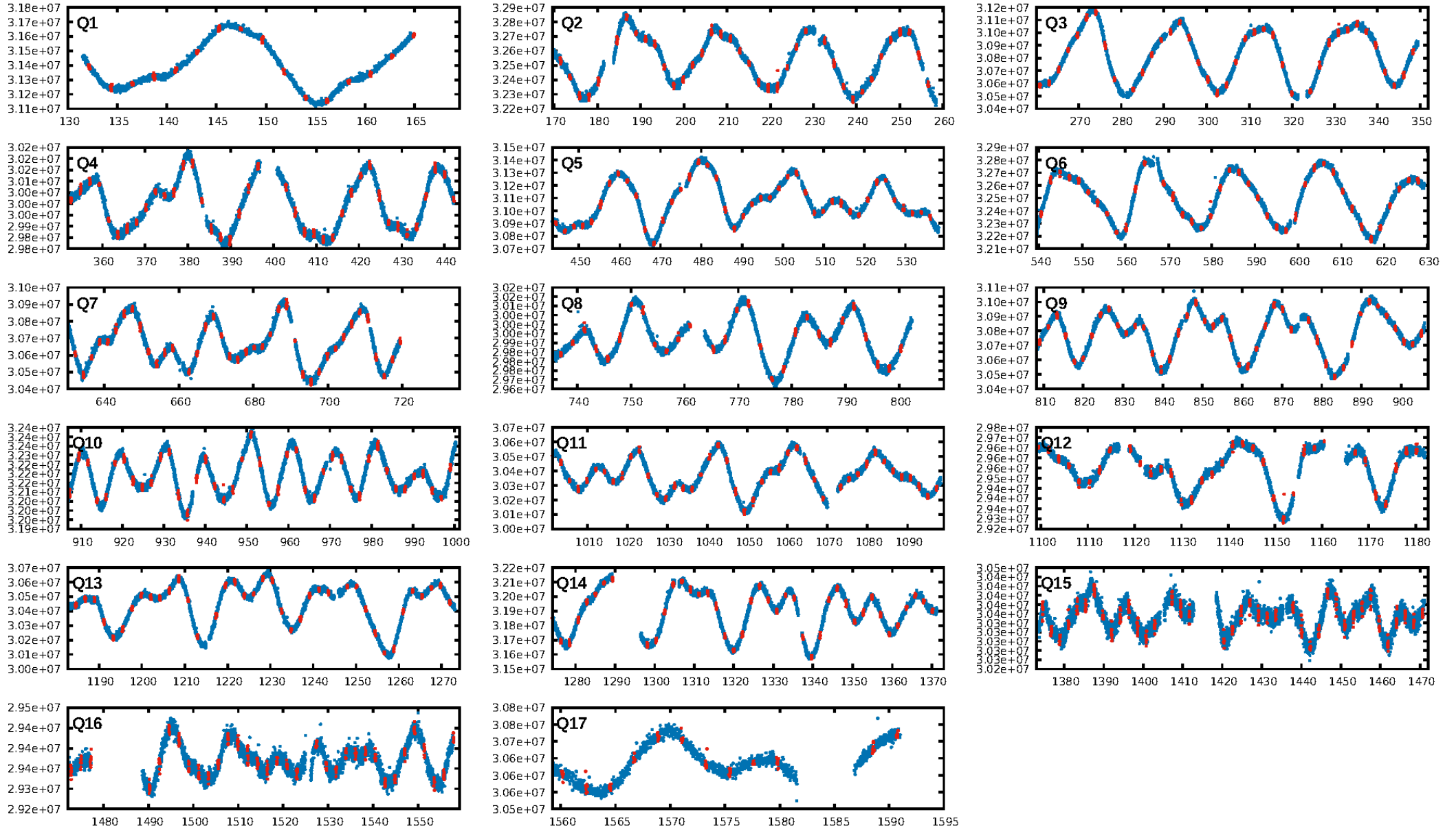
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.52e-38
RollingBand-fgt: 0.99 [579/586]
GhostDiagnostic-chr: -0.1681
Centroid-sig: 0.0%
Centroid-so: 91.876 arcsec [115.13σ]
OotOffset-rm: 9.587 arcsec [33.43σ]
KicOffset-rm: 9.523 arcsec [30.22σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/0/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

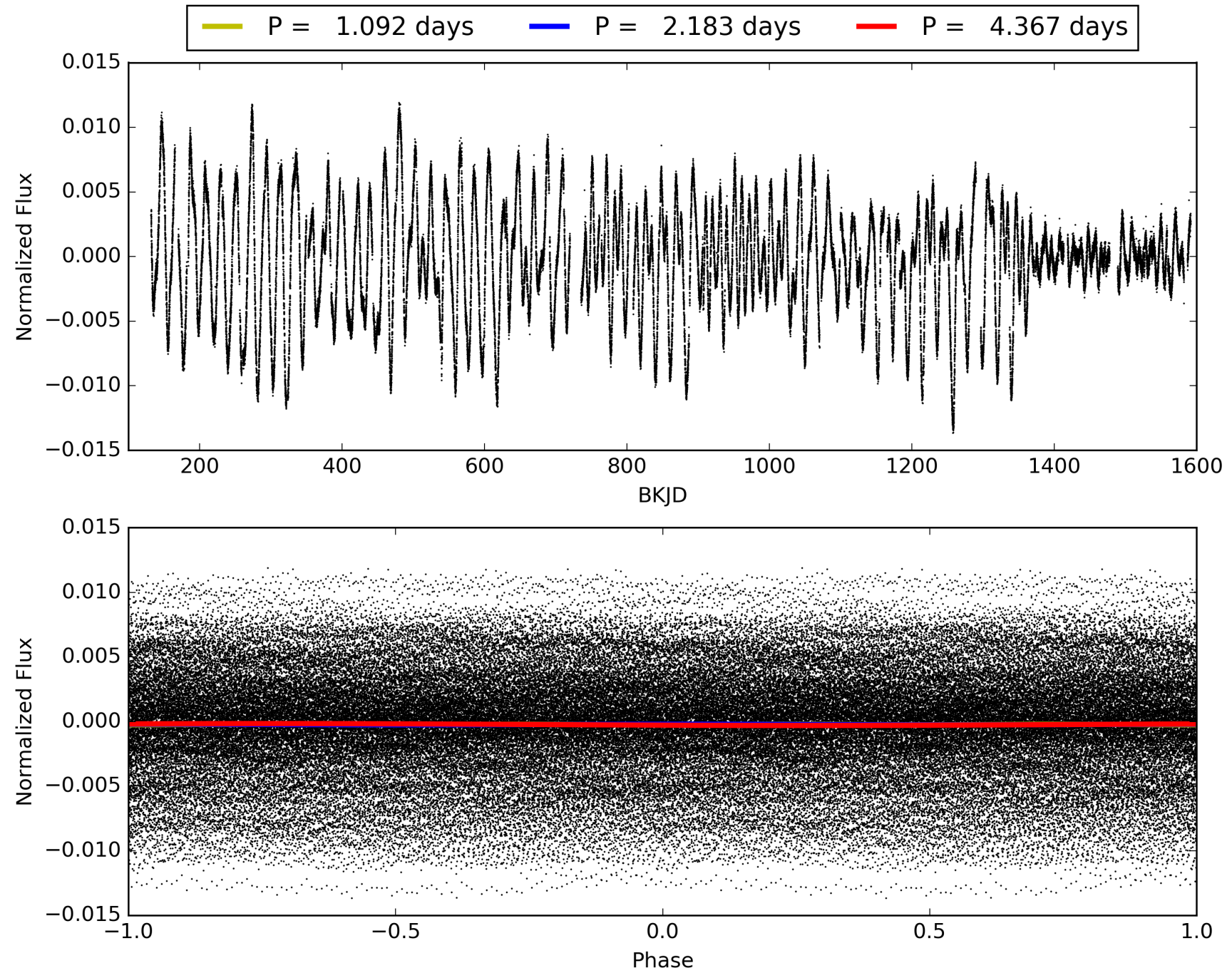
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:28:59 Z

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

TCE 011972666-01, PDC Light Curves

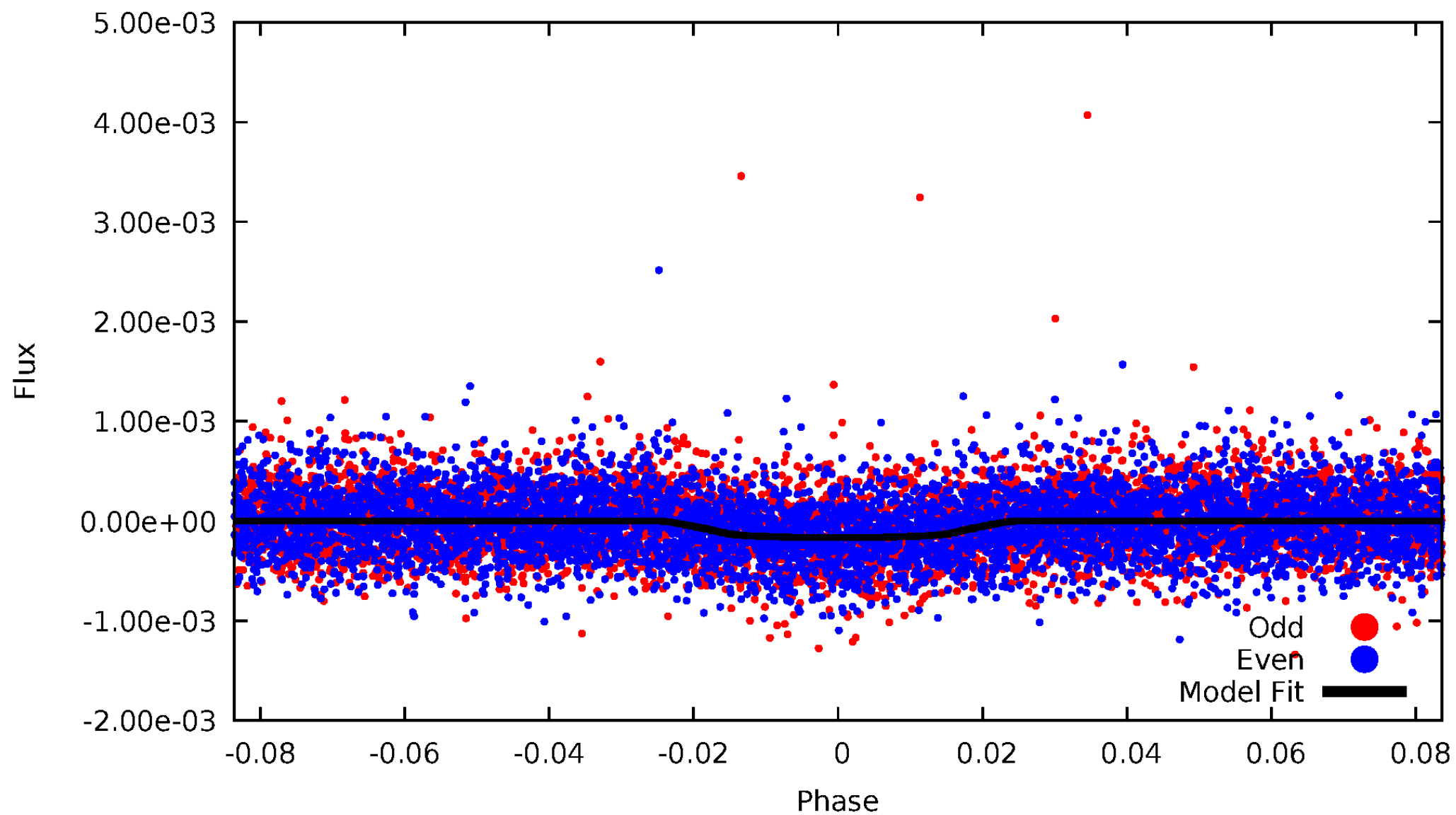


TCE 011972666-01



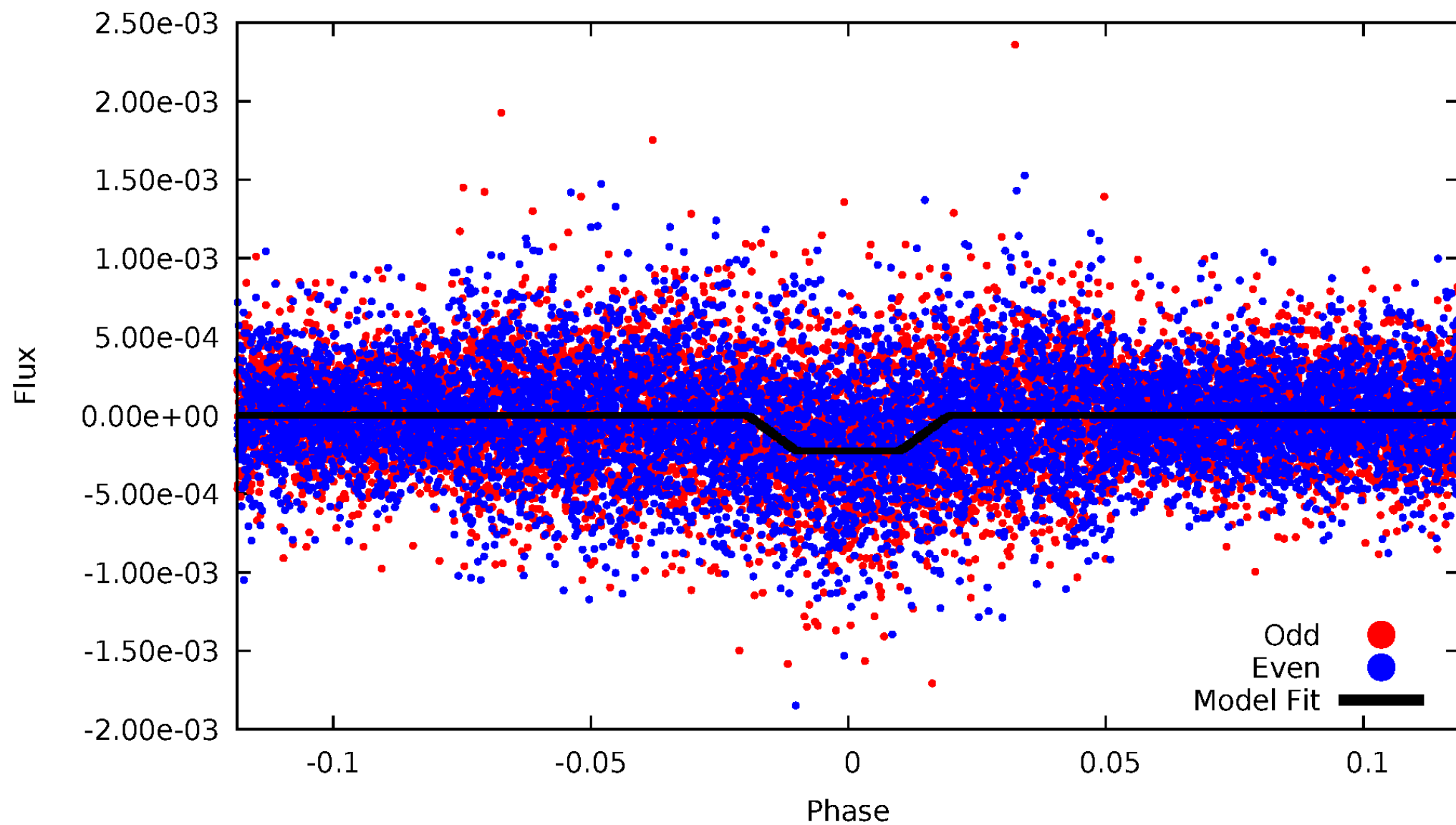
DV Odd/Even

TCE 011972666-01



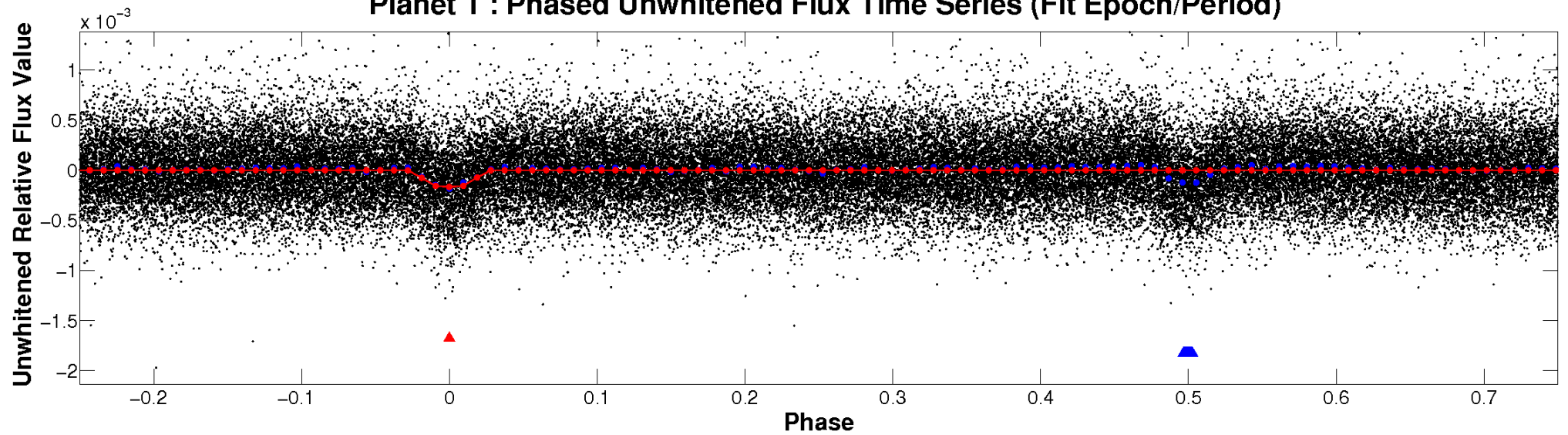
ALT Odd/Even

TCE 011972666-01

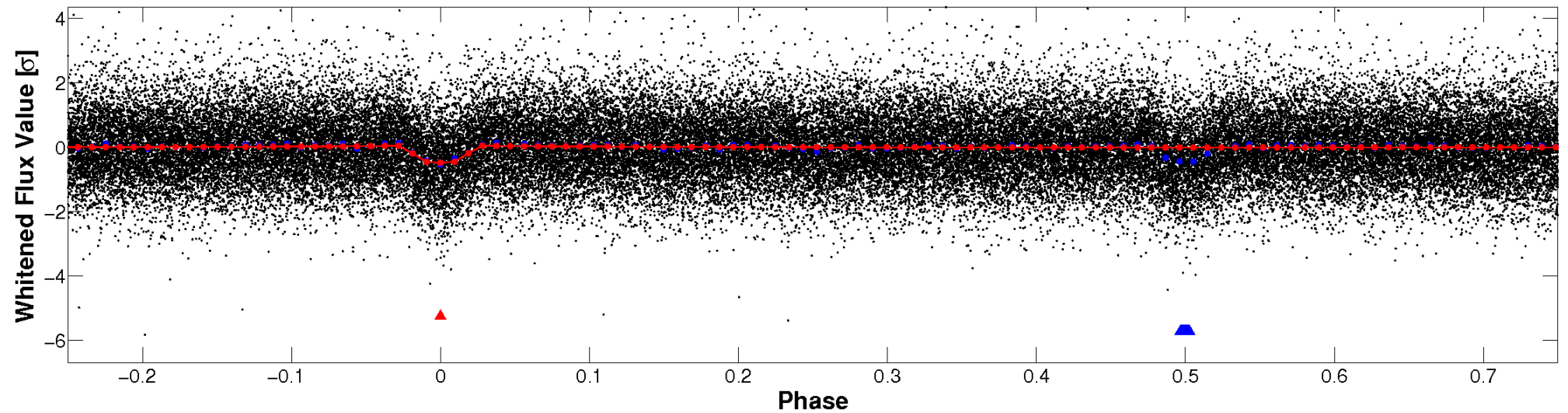


Non-Whitened Vs. Whitened Light Curve

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

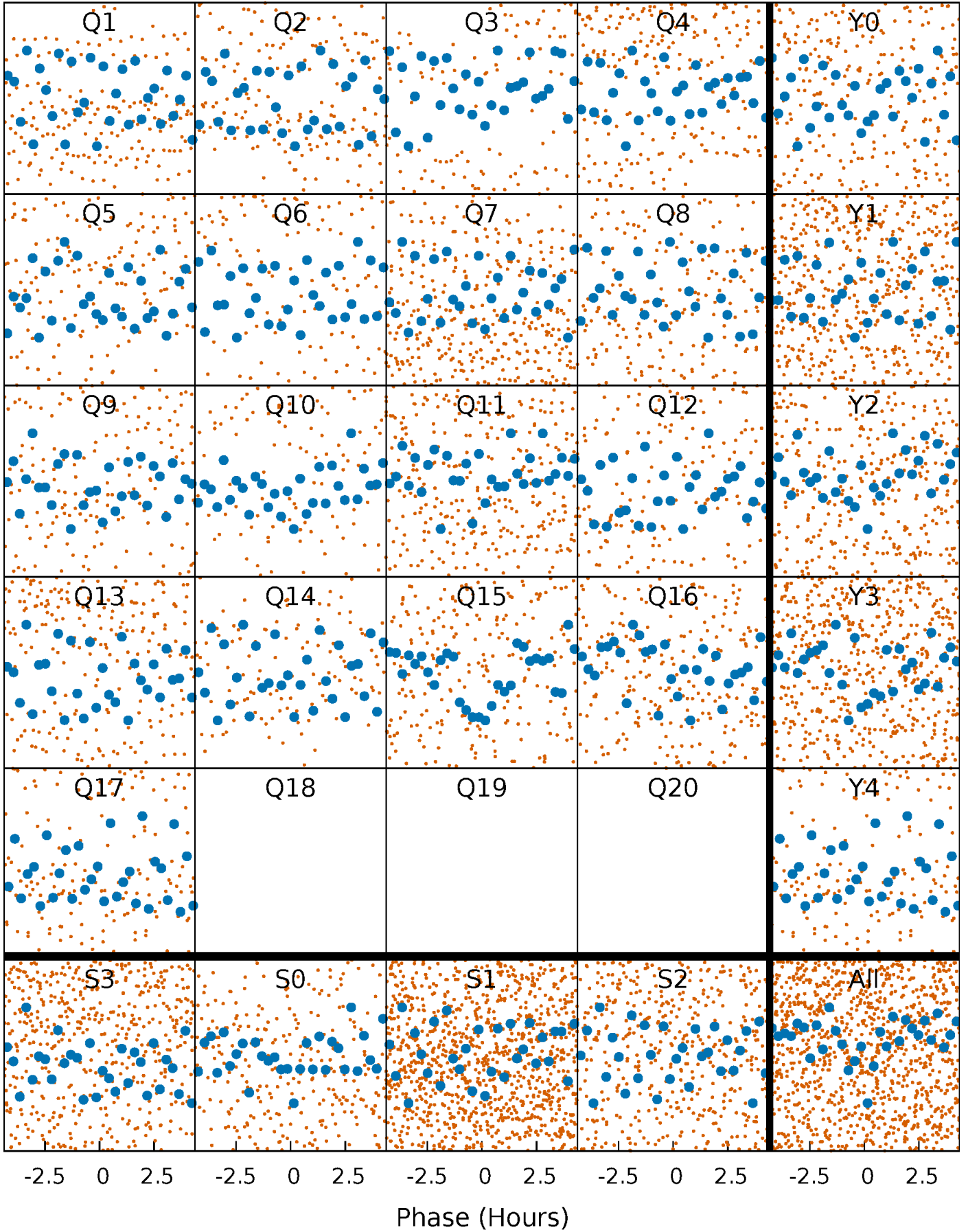


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



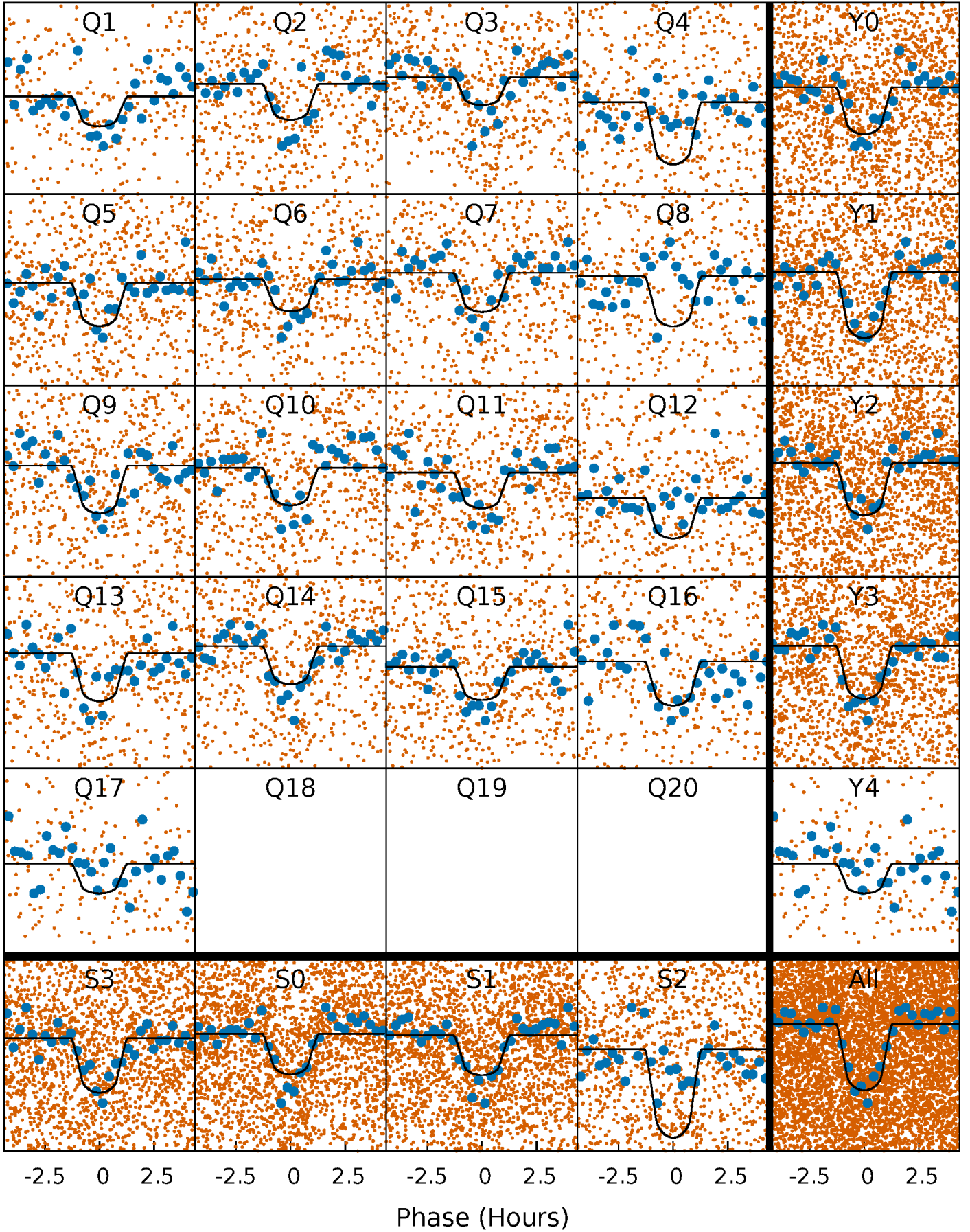
PDC Quarter-Phased Transit Curves

TCE 011972666-01 P= 2.183484 Days $T_0=132.160133$ (BKJD)



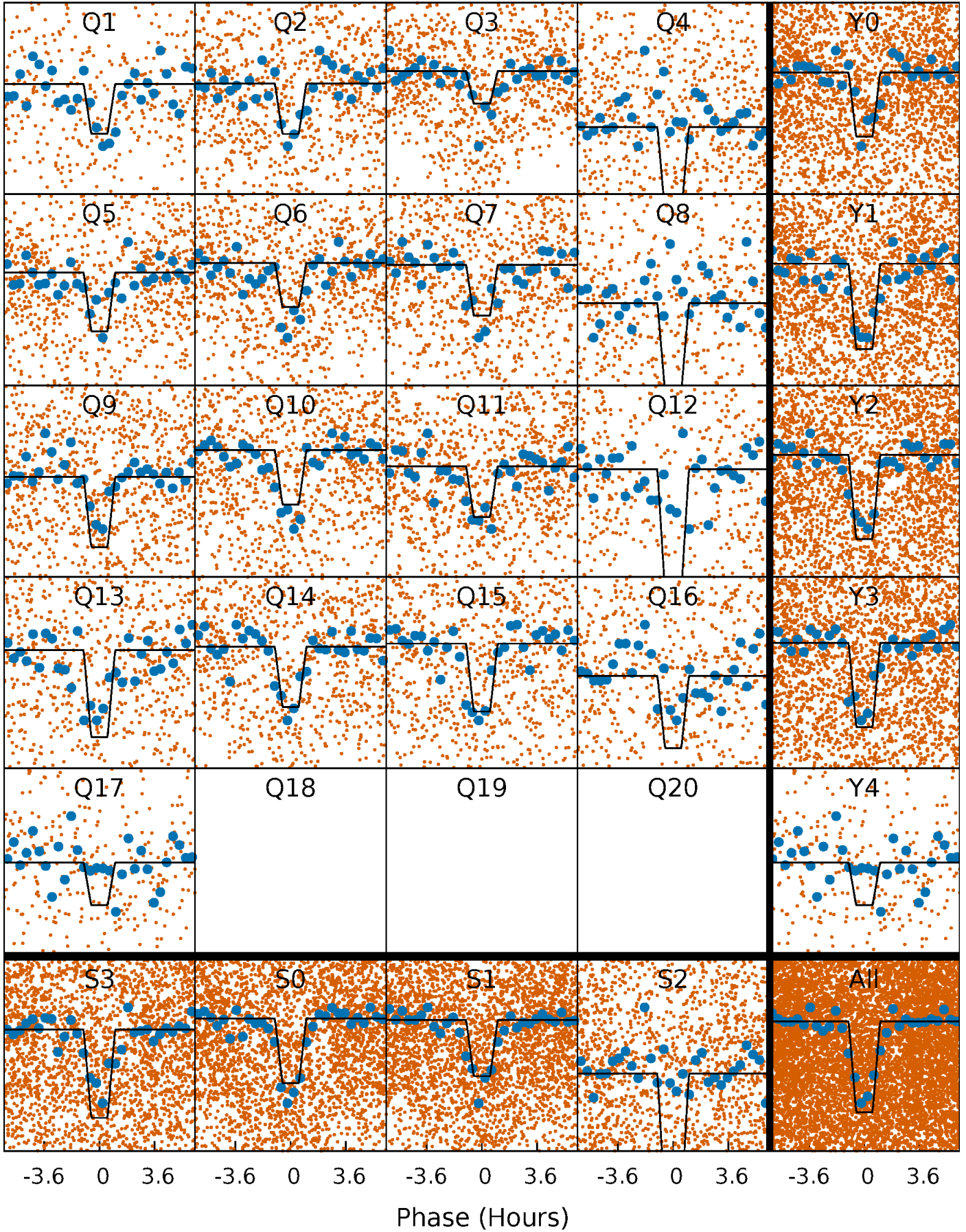
DV Quarter-Phased Transit Curves

TCE 011972666-01 P= 2.183484 Days $T_0=132.160133$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

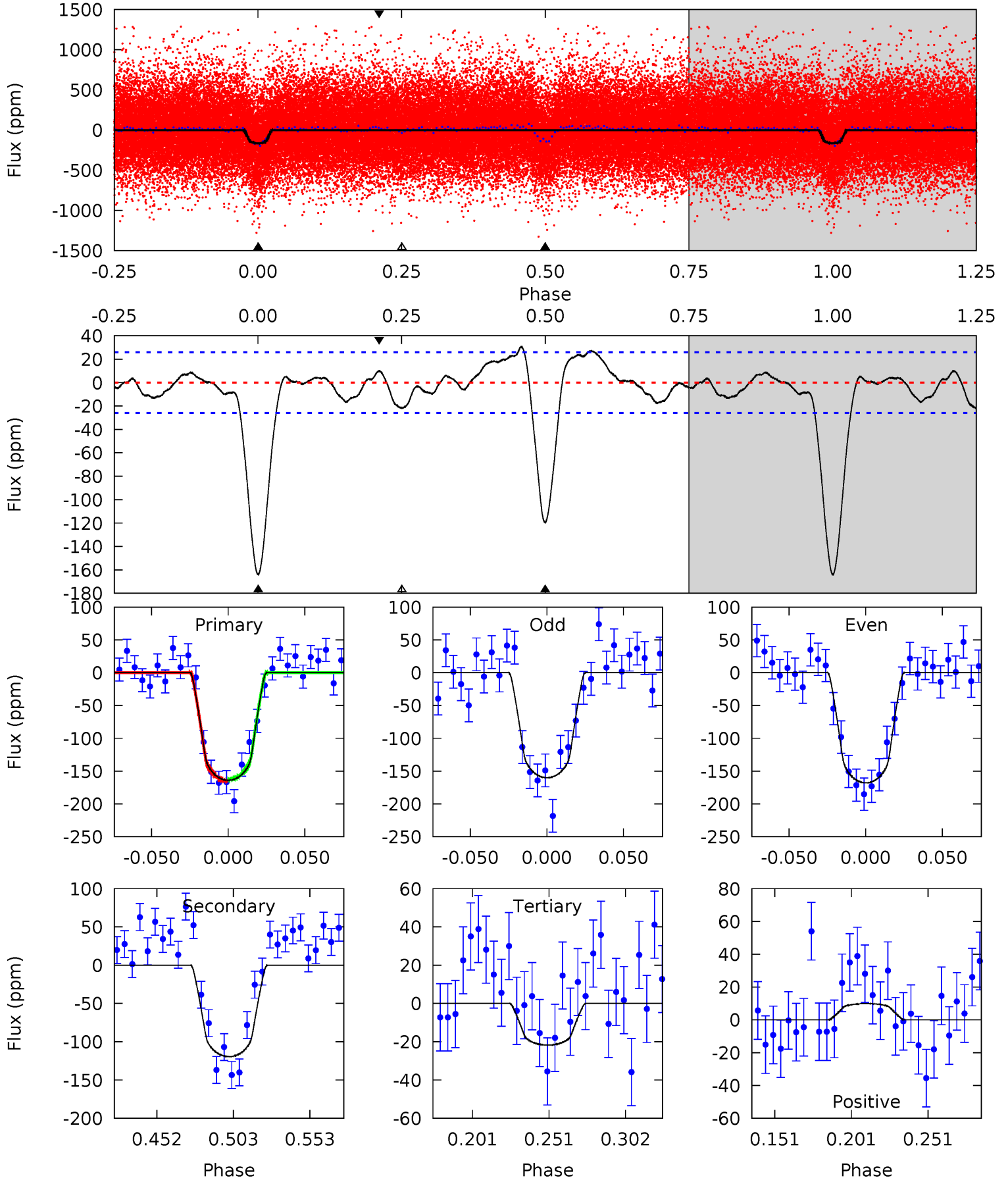
TCE 011972666-01 P= 2.183513 Days $T_0=132.152449$ (BKJD)



DV Model-Shift Uniqueness Test

011972666-01, P = 2.183484 Days, E = 129.976649 Days

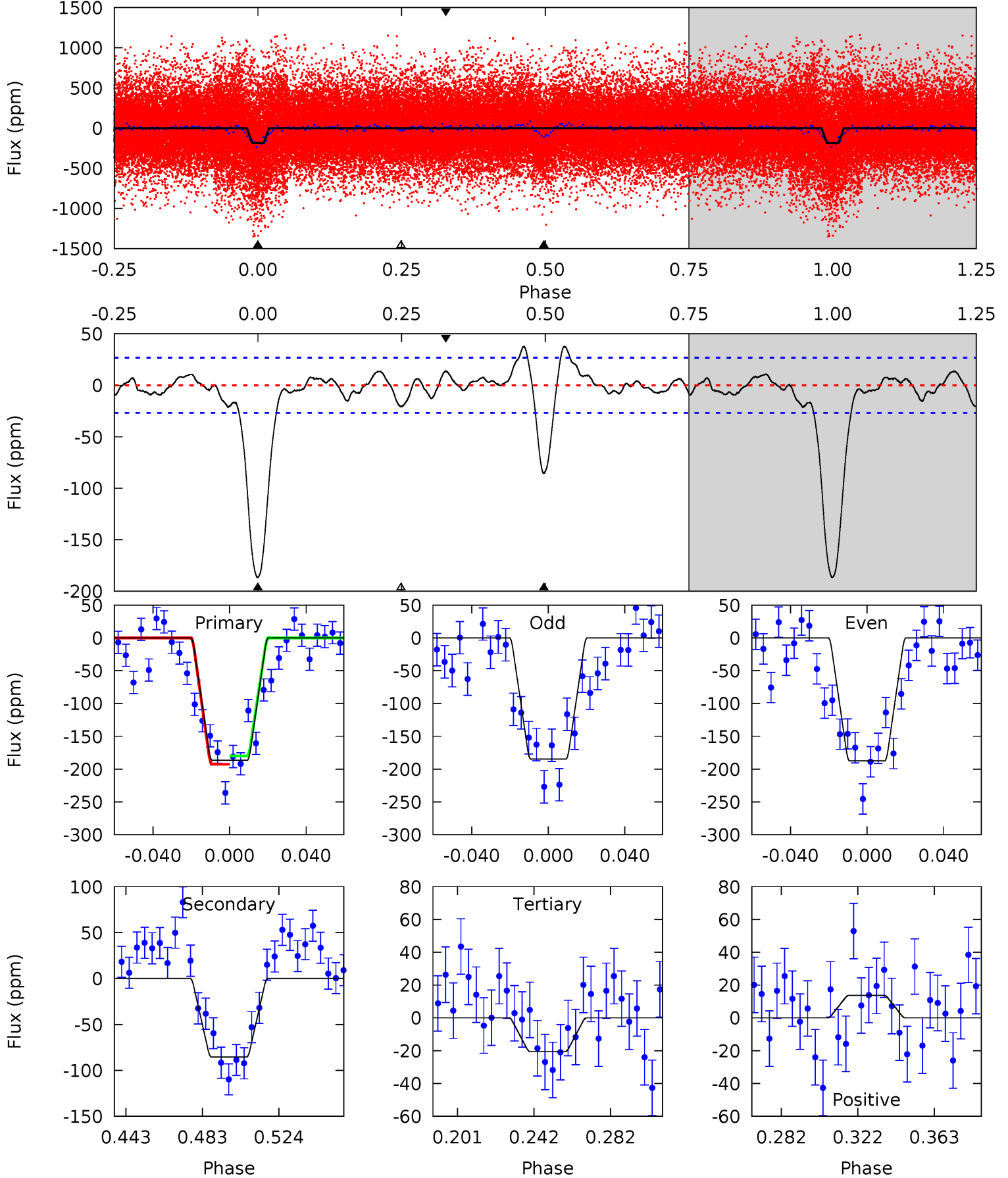
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.8	21.7	3.95	1.80	4.71	1.96	2.00	25.8	28.0	17.7	19.9	0.70	0.99	0.16	0.21



Alt Model-Shift Uniqueness Test

011972666-01, P = 2.183513 Days, E = 129.968936 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.1	15.1	3.63	2.42	4.75	2.05	1.54	29.4	30.6	11.5	12.7	0.24	0.98	0.17	1.12



Stellar Parameters For KIC 011972666

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5354^{+159}_{-159}	$4.587^{+0.028}_{-0.119}$	$-0.080^{+0.300}_{-0.300}$	$0.788^{+0.143}_{-0.061}$	$0.884^{+0.070}_{-0.104}$	$2.542^{+0.396}_{-0.898}$
	+3%/-3%	+1%/-3%	+375%/-375%	+18%/-8%	+8%/-12%	+16%/-35%
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 011972666-01 / KOI 0545.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-119 ± 6	$1.27^{+0.55}_{-0.49}$	1678^{+80}_{-68}	4740^{+1202}_{-583}	39^{+67}_{-20}
Alt.	-85 ± 6	$1.34^{+0.58}_{-0.54}$	1685^{+70}_{-68}	4375^{+1049}_{-536}	26^{+47}_{-13}

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

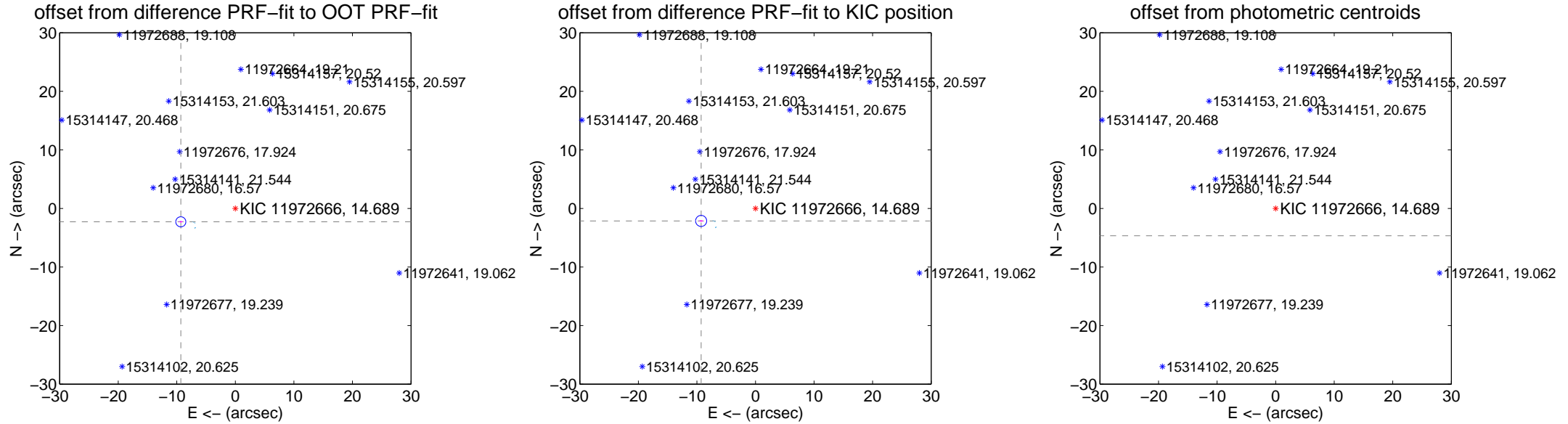
DV Centroid Data

Supplemental centroid analysis for 011972666-01. Kepler magnitude: 14.69. Transit SNR 20.29

There are 12 quarters with good PRF difference image offsets

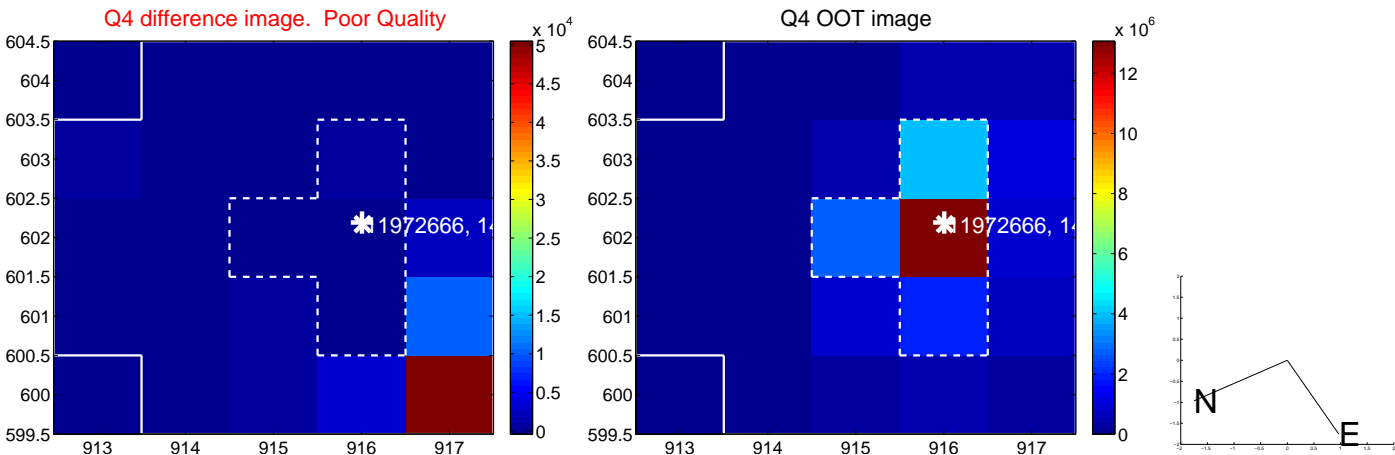
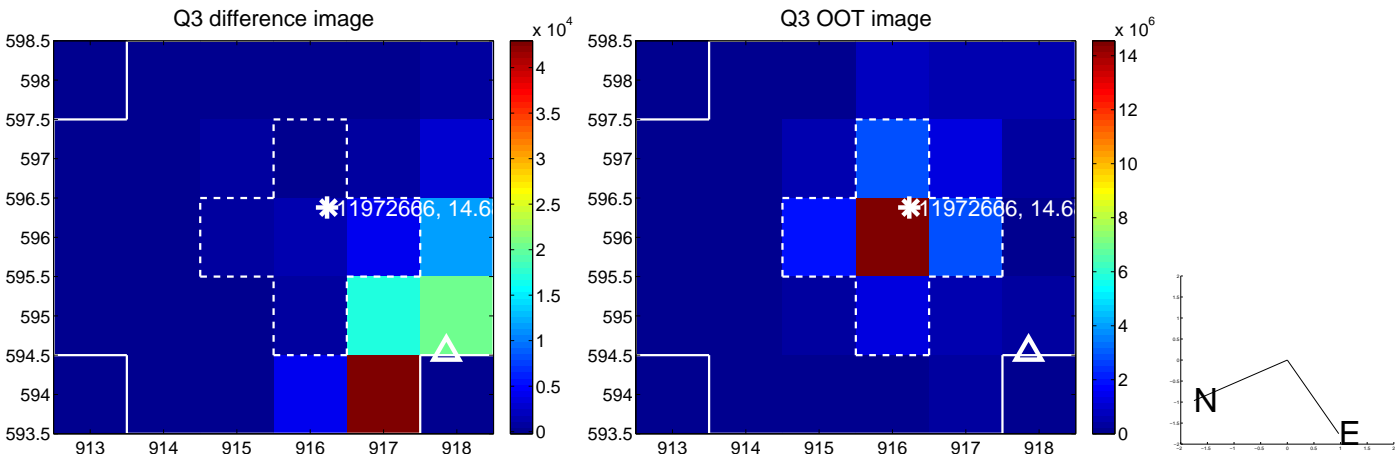
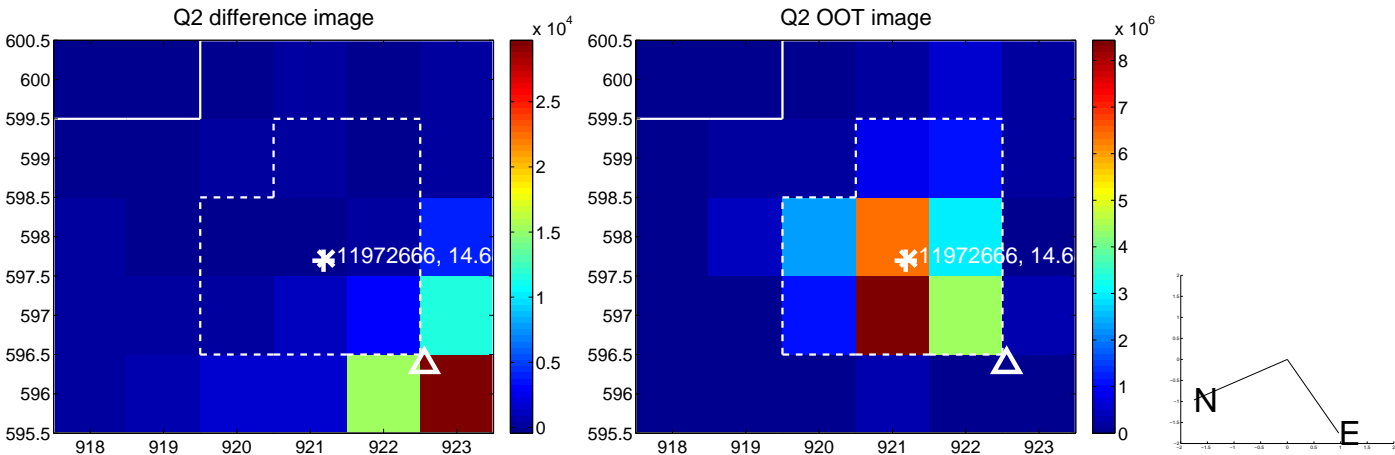
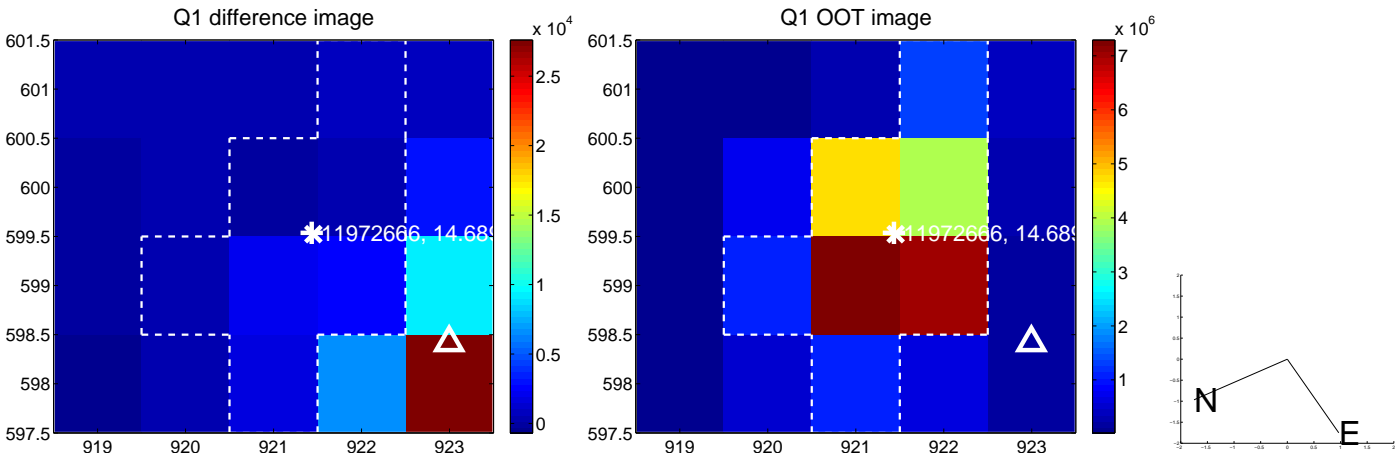
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.587 \pm 0.287	33.43	9.311 \pm 0.315	-2.283 \pm 0.159
PRF-fit source offset from KIC position	9.523 \pm 0.315	30.22	9.282 \pm 0.340	-2.131 \pm 0.154
photometric centroid source offset	91.88 \pm 0.80	115.13	91.76 \pm 0.80	-4.66 \pm 0.68

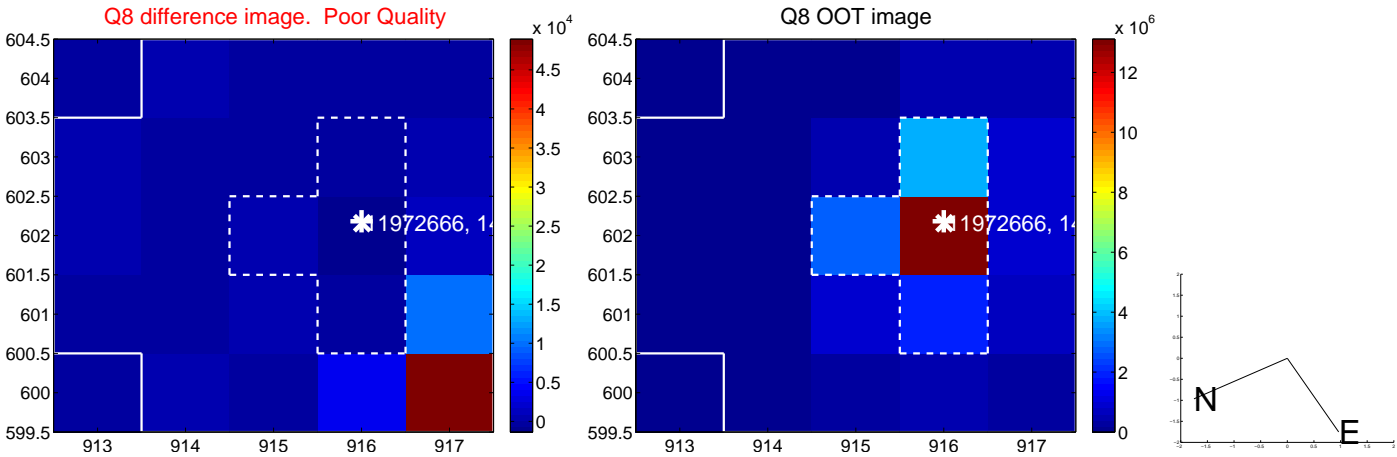
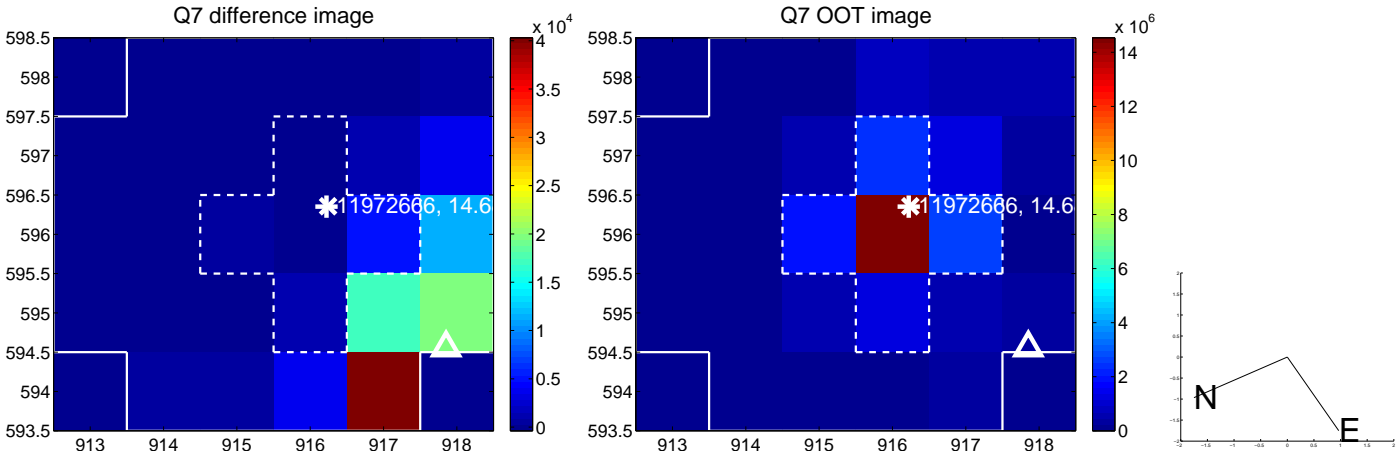
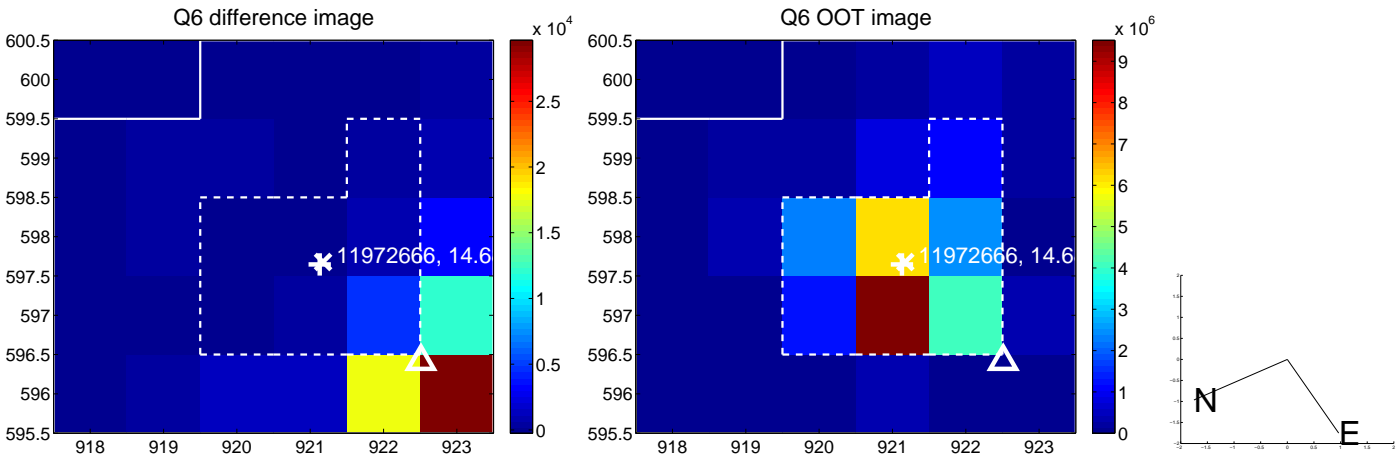
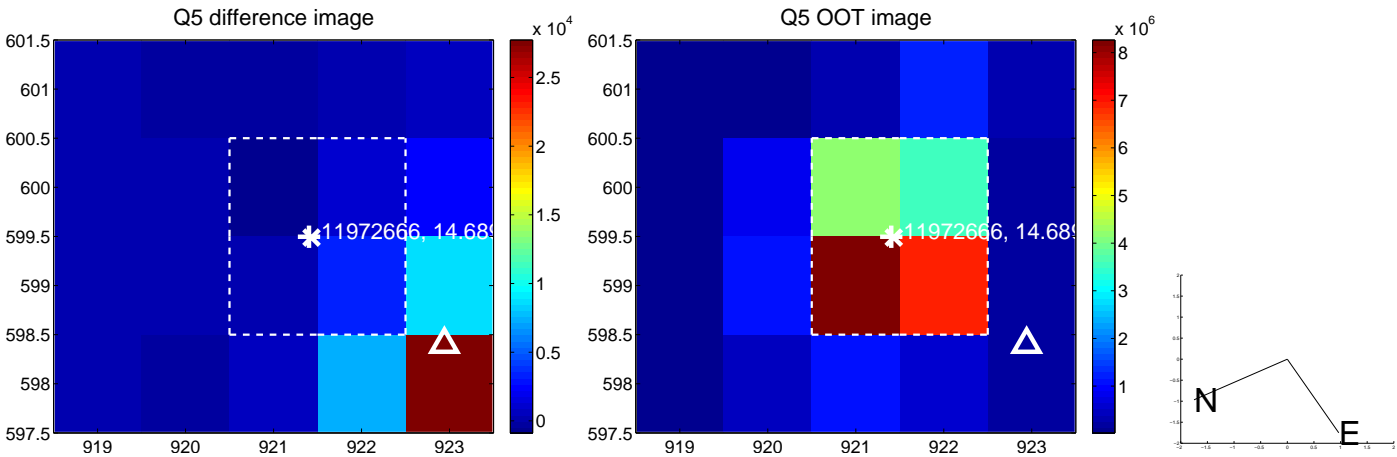


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

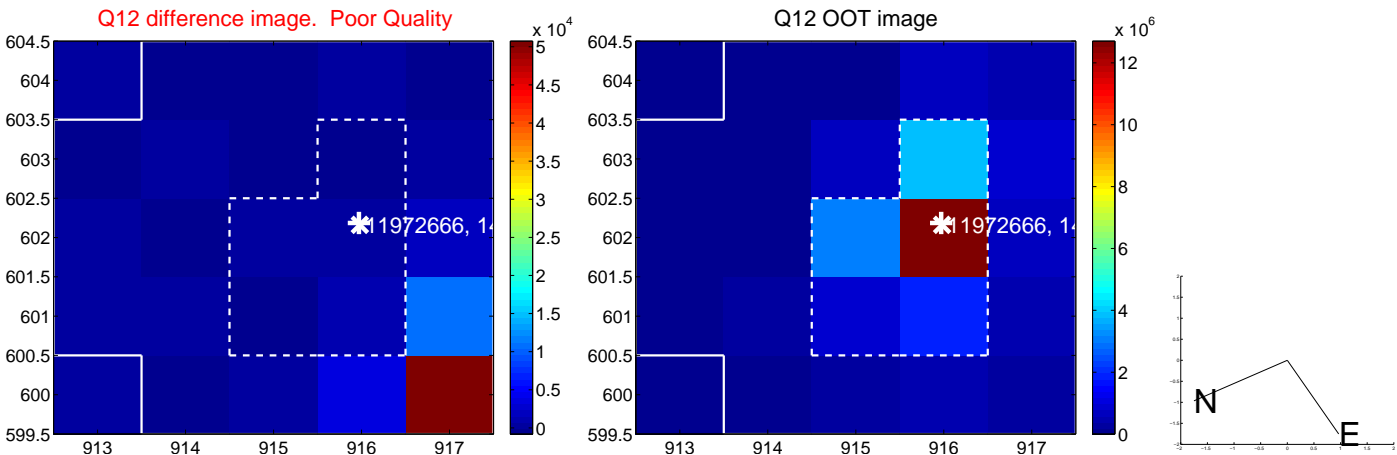
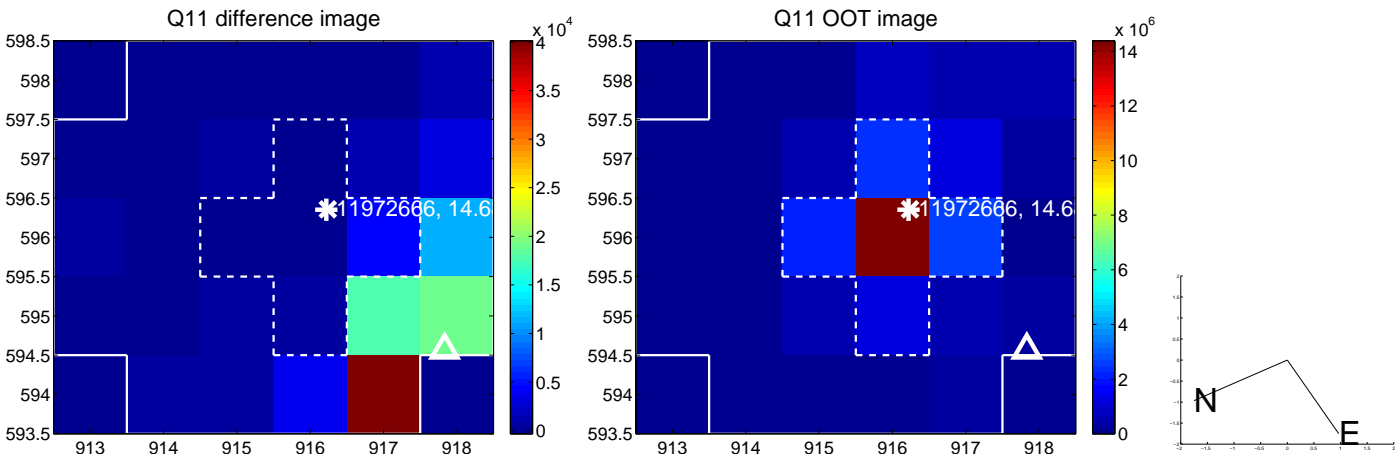
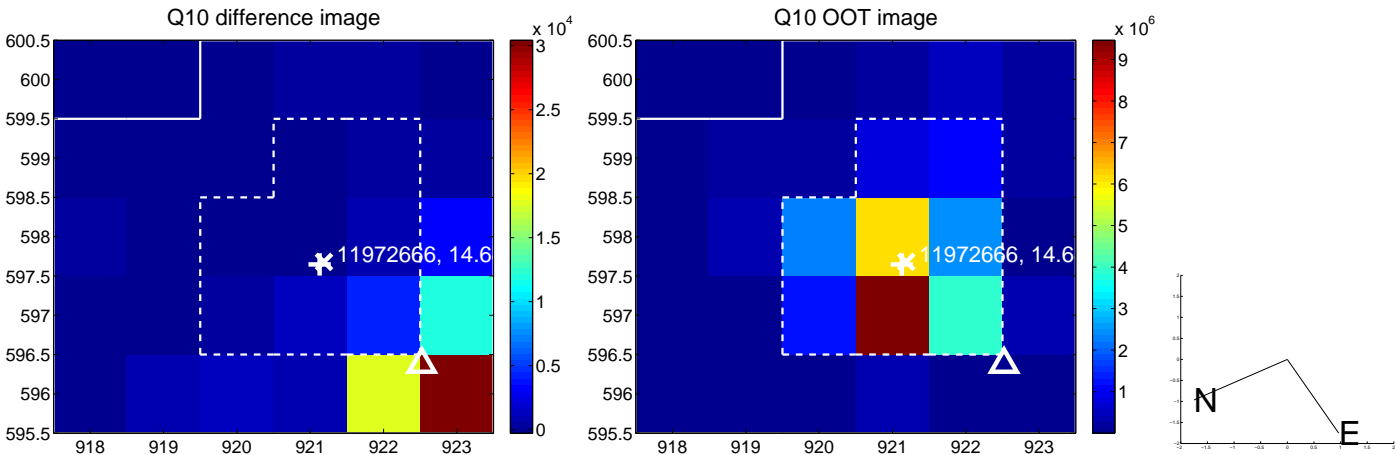
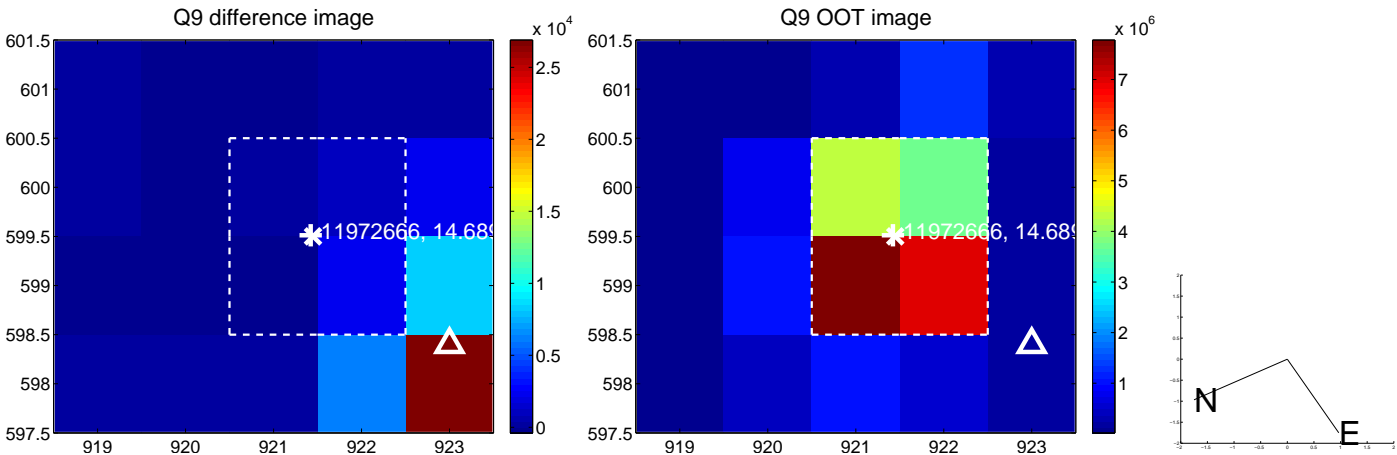
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



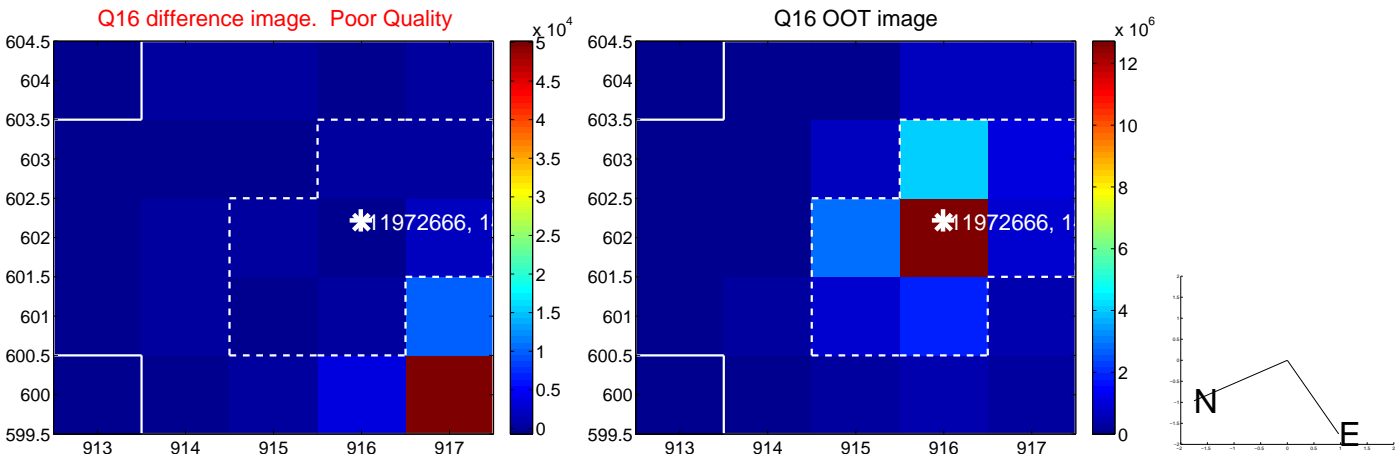
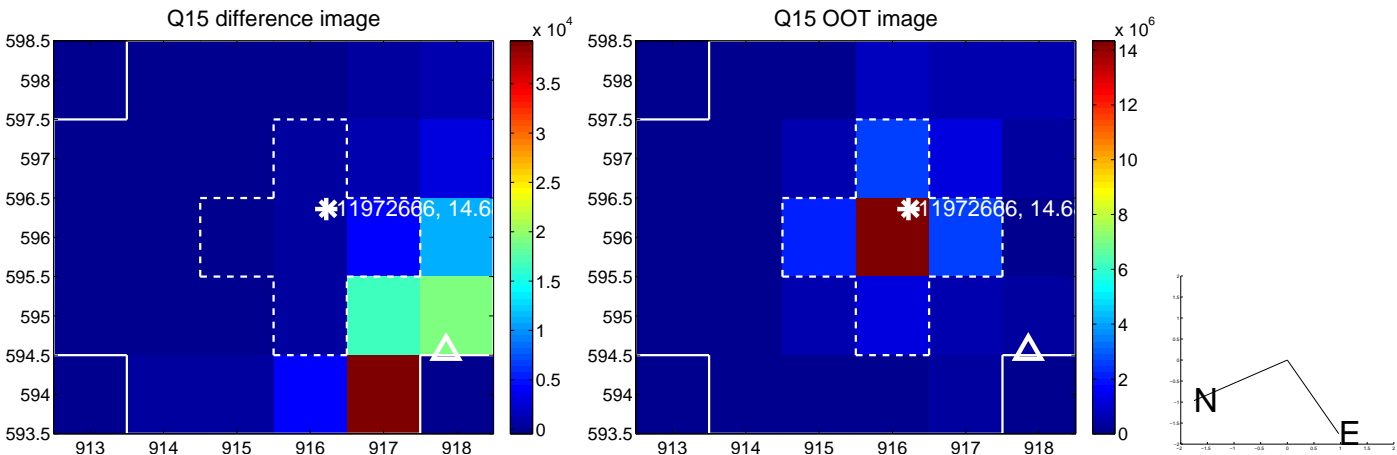
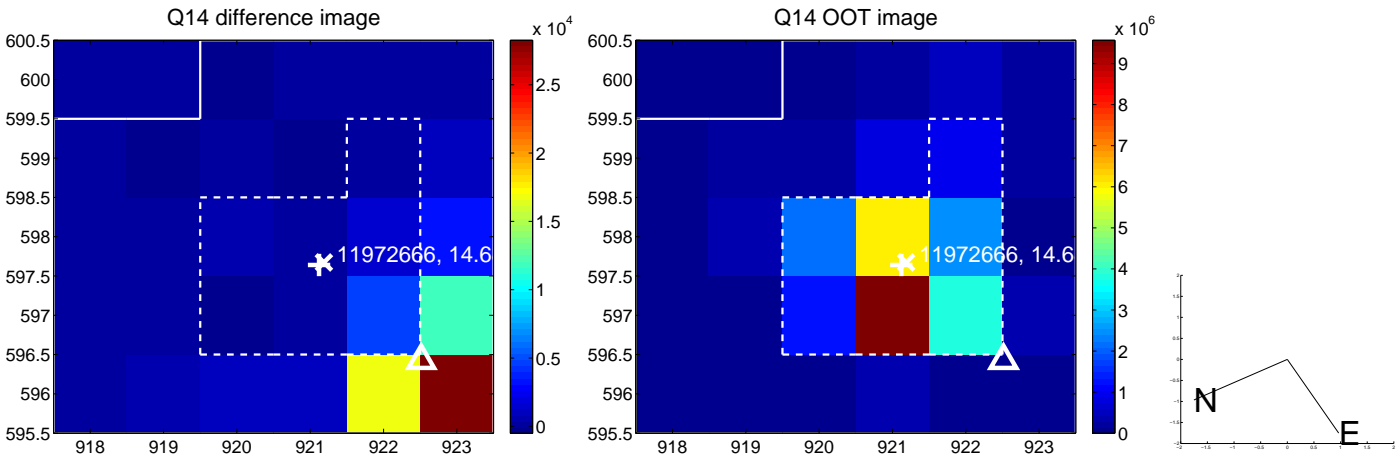
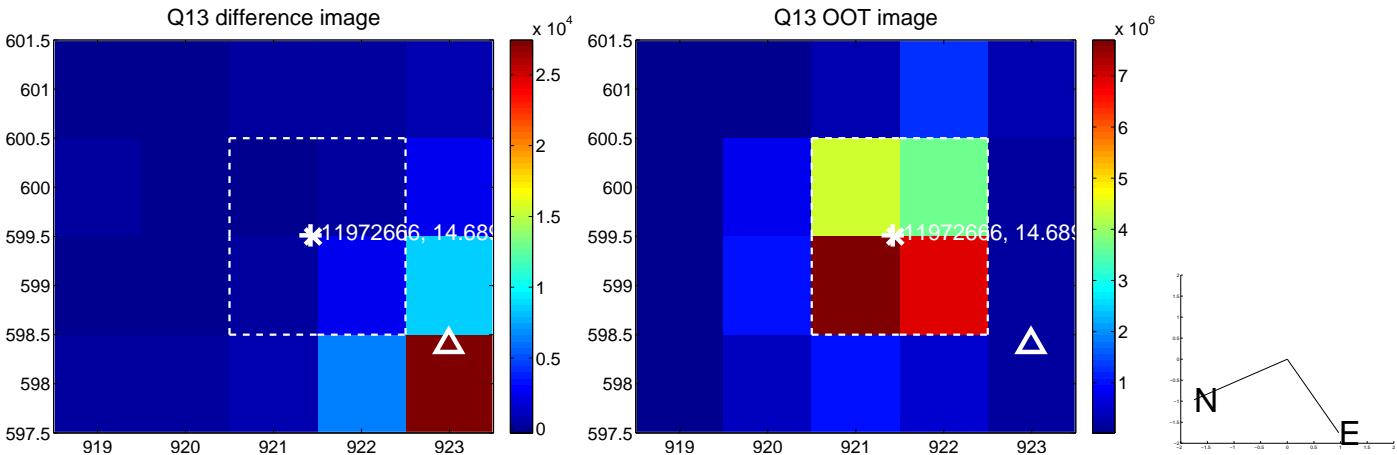
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



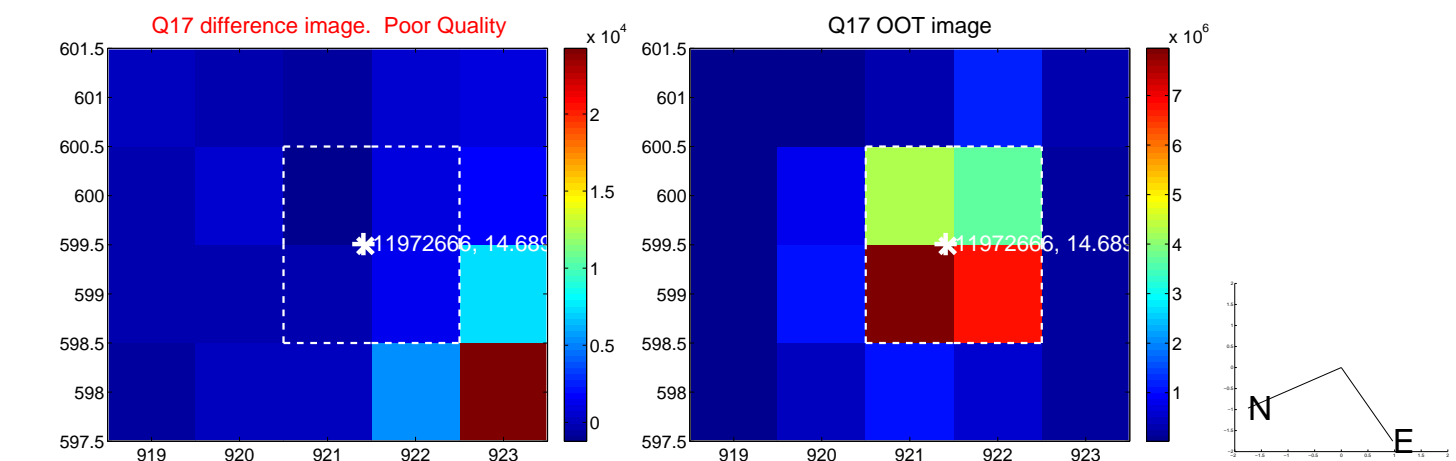
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



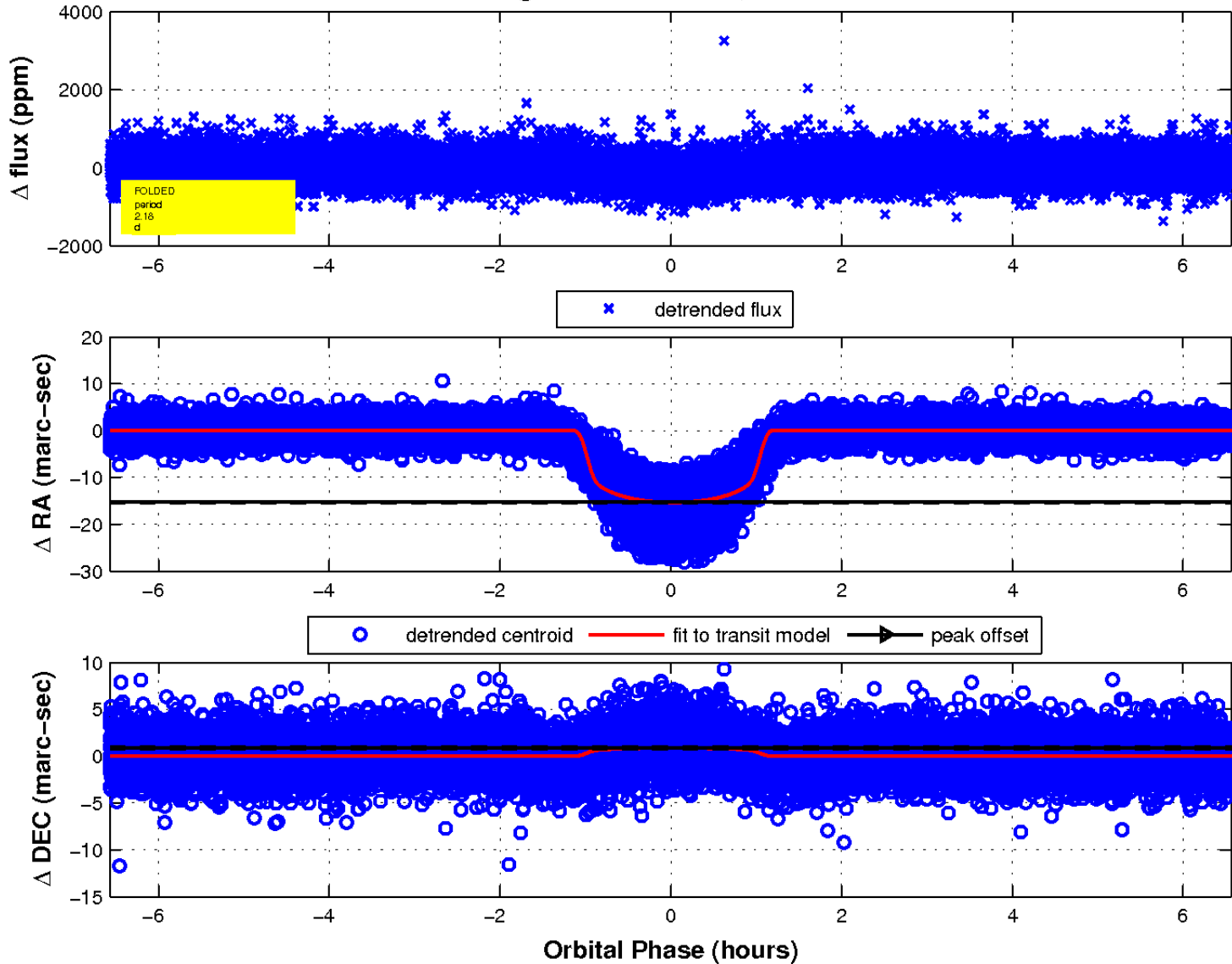
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

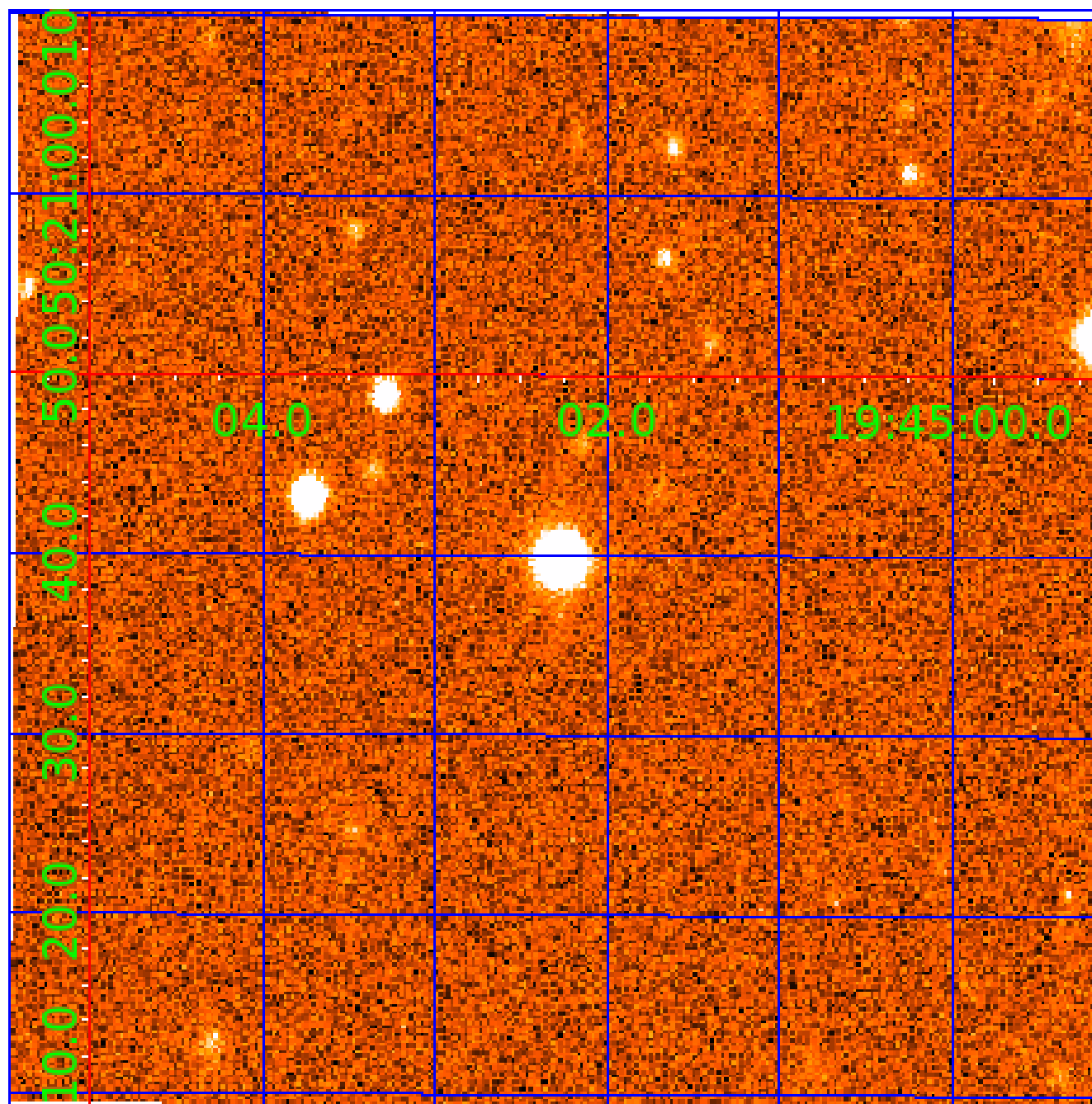


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011972666

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})
011972666-01	OBS	0545.01	2.183484	132.160133	167.3	2.189	13.5	20.3	0.79	5354	1.22	460.35
011972666-02	OBS	No	2.183464	133.257937	171.0	2.107	17.6	20.4	0.79	5354	1.37	460.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011972666-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
011972666-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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 011972666-02

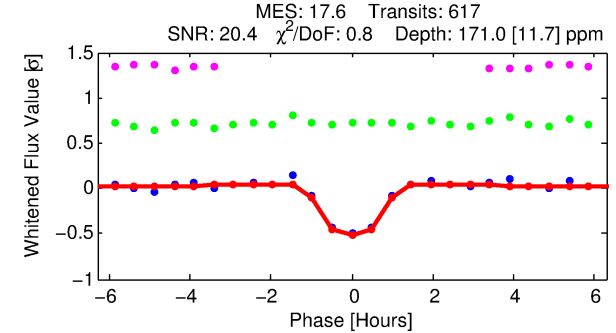
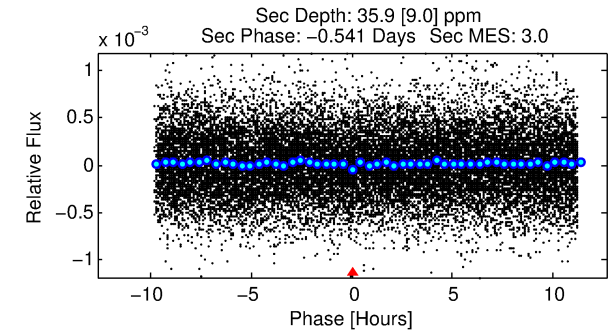
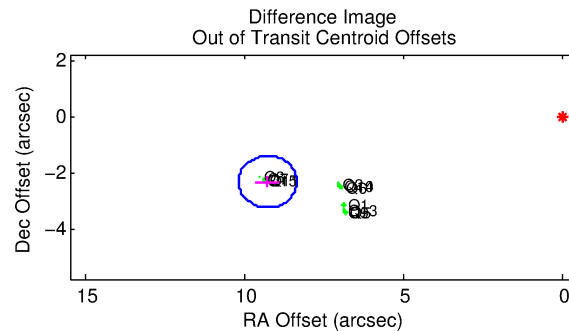
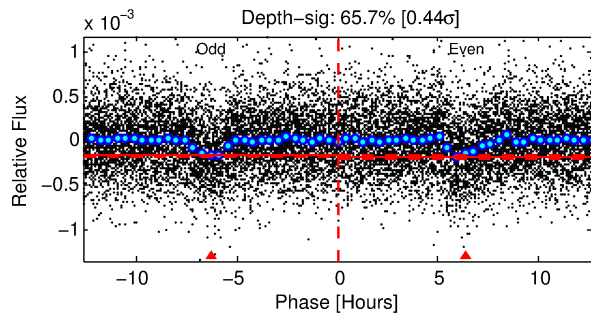
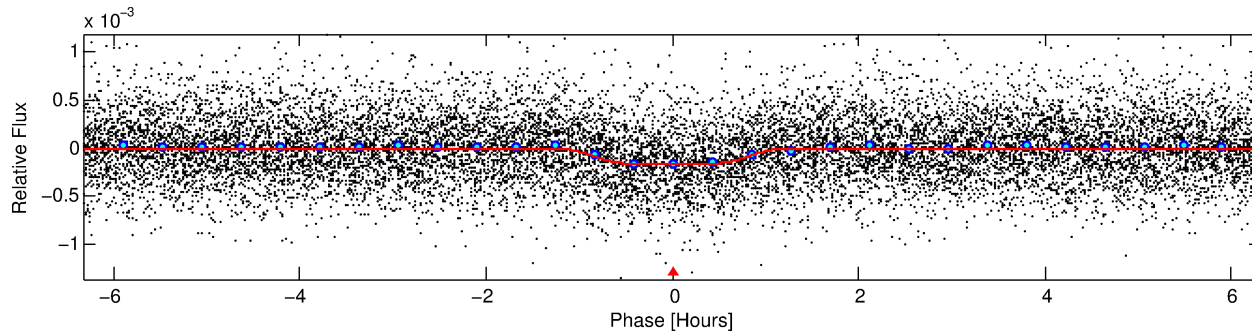
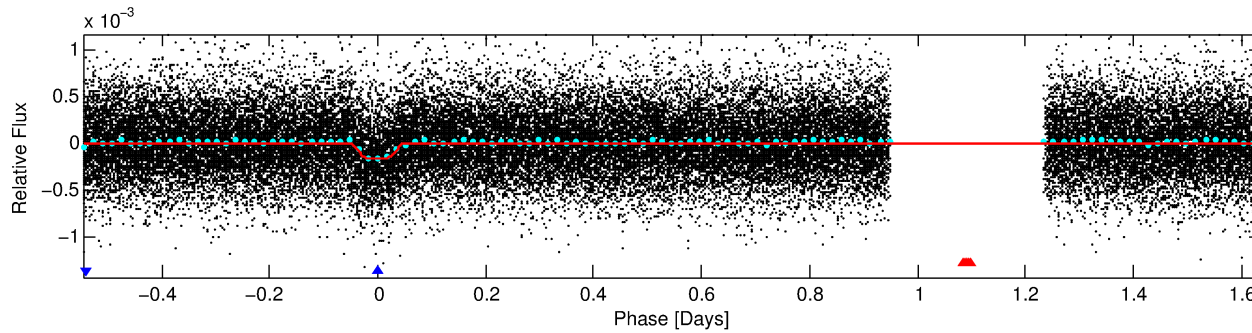
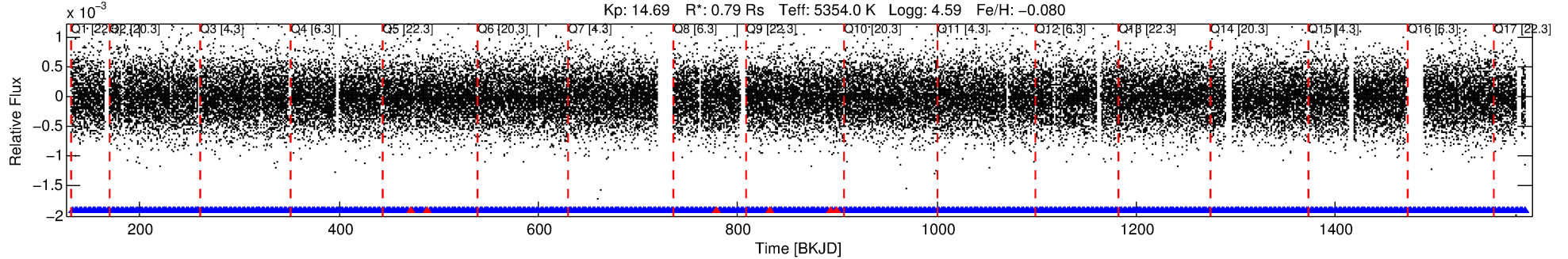
No Significant Match Found

DV One-Page Summary

KIC: 11972666 Candidate: 2 of 2 Period: 2.183 d

KOI: K00545 Corr: No Ephemeris Match

Kp: 14.69 R*: 0.79 Rs Teff: 5354.0 K Logg: 4.59 Fe/H: -0.080



DV Fit Results:

Period = 2.18346 [0.00001] d
Epoch = 133.2579 [0.0015] BKJD
Rp/R* = 0.0159 [0.0017]
a/R* = 2.78 [1.14]
b = 0.96 [0.04]
Seff = 460.36 [114.74]
Teq = 1181 [74] K
Rp = 1.37 [0.29] Re
a = 0.0315 [0.0048] AU
Ag = 10.48 [4.16] [2.28σ]
Teffp = 3286 [289] K [7.06σ]

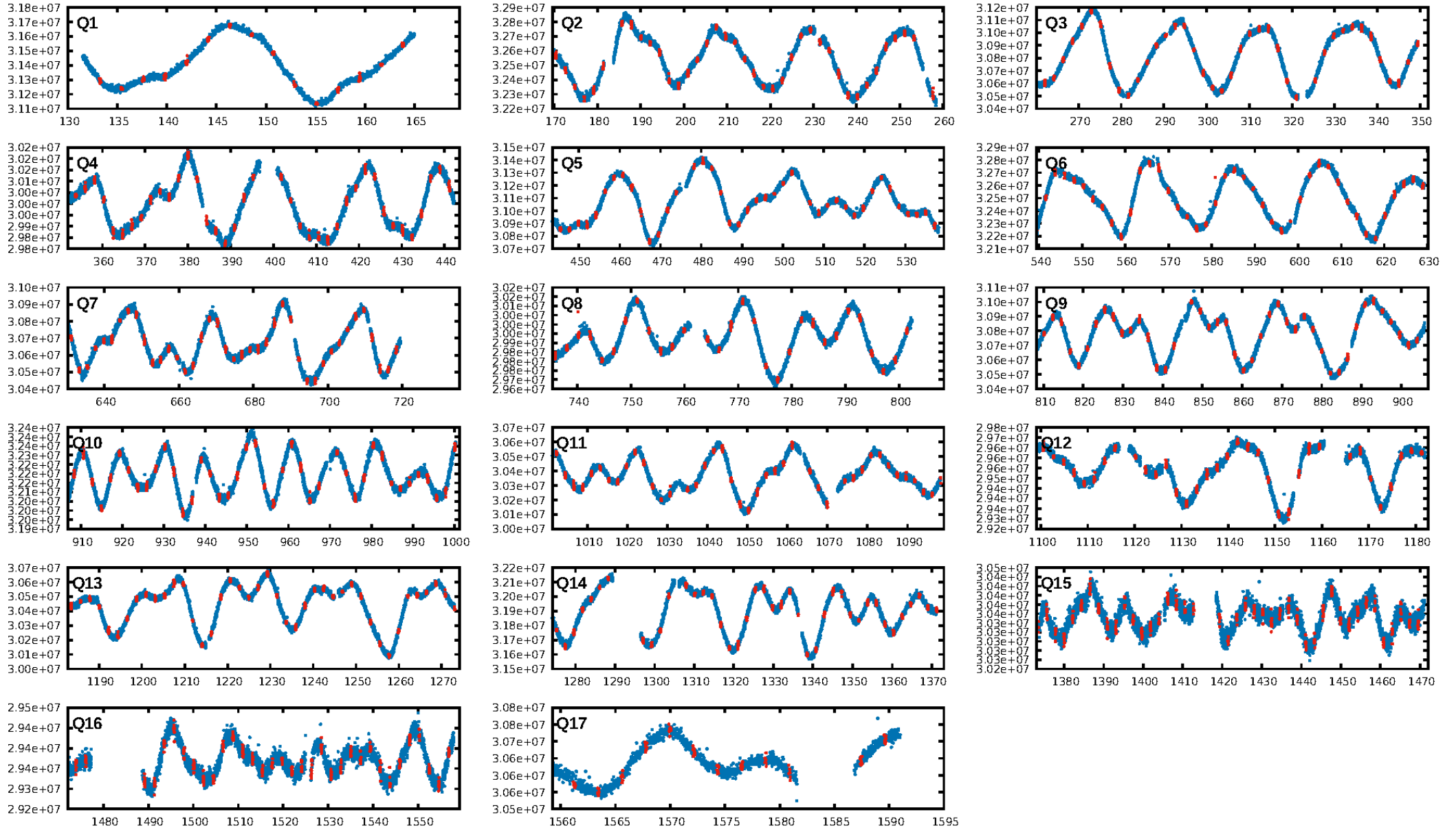
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.51e-64
RollingBand-fgt: 0.99 [584/590]
GhostDiagnostic-chr: -0.1719
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: 9.563 arcsec [31.14σ]
KicOffset-rm: 9.499 arcsec [28.53σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/0/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

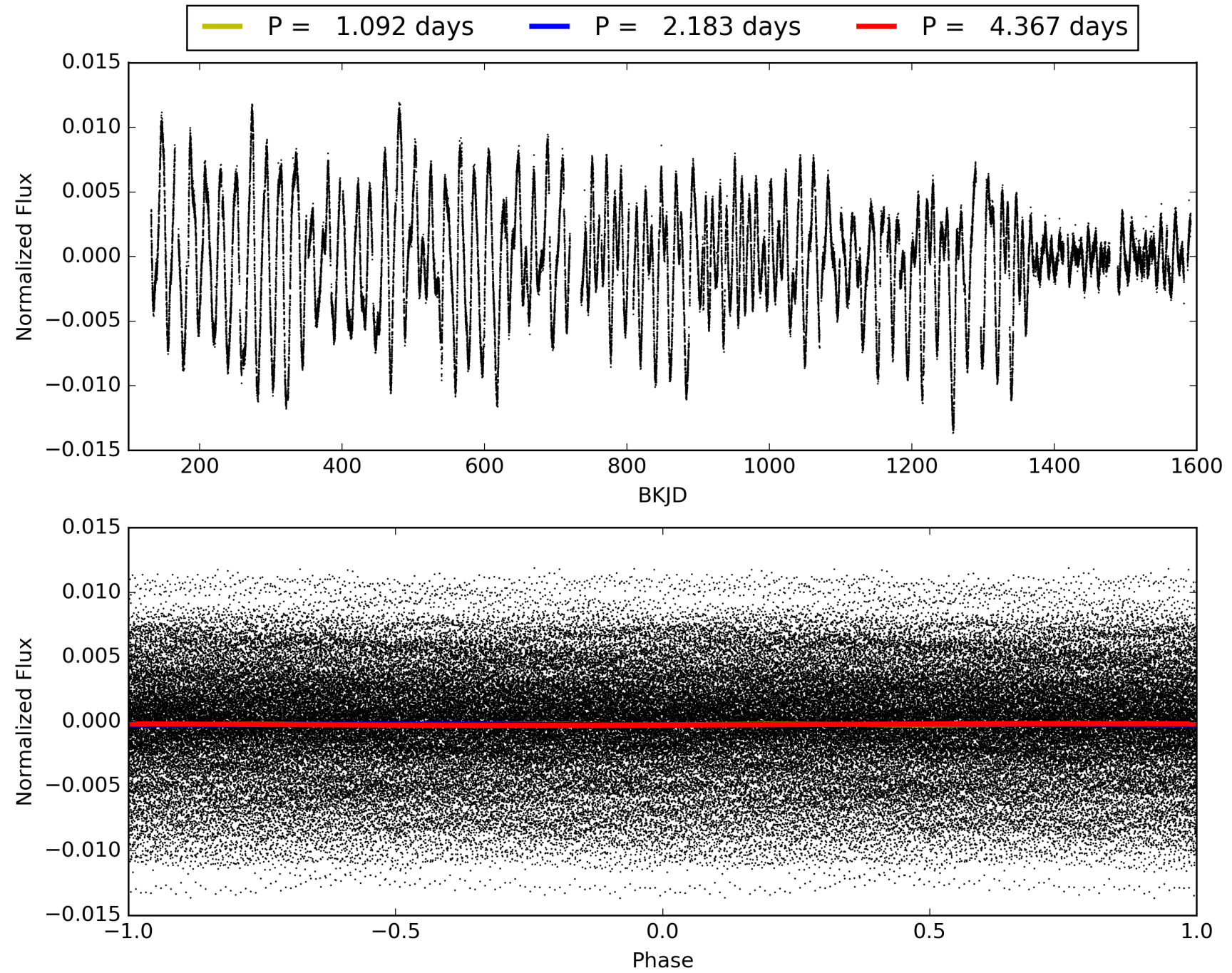
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:29:08 Z

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

TCE 011972666-02, PDC Light Curves

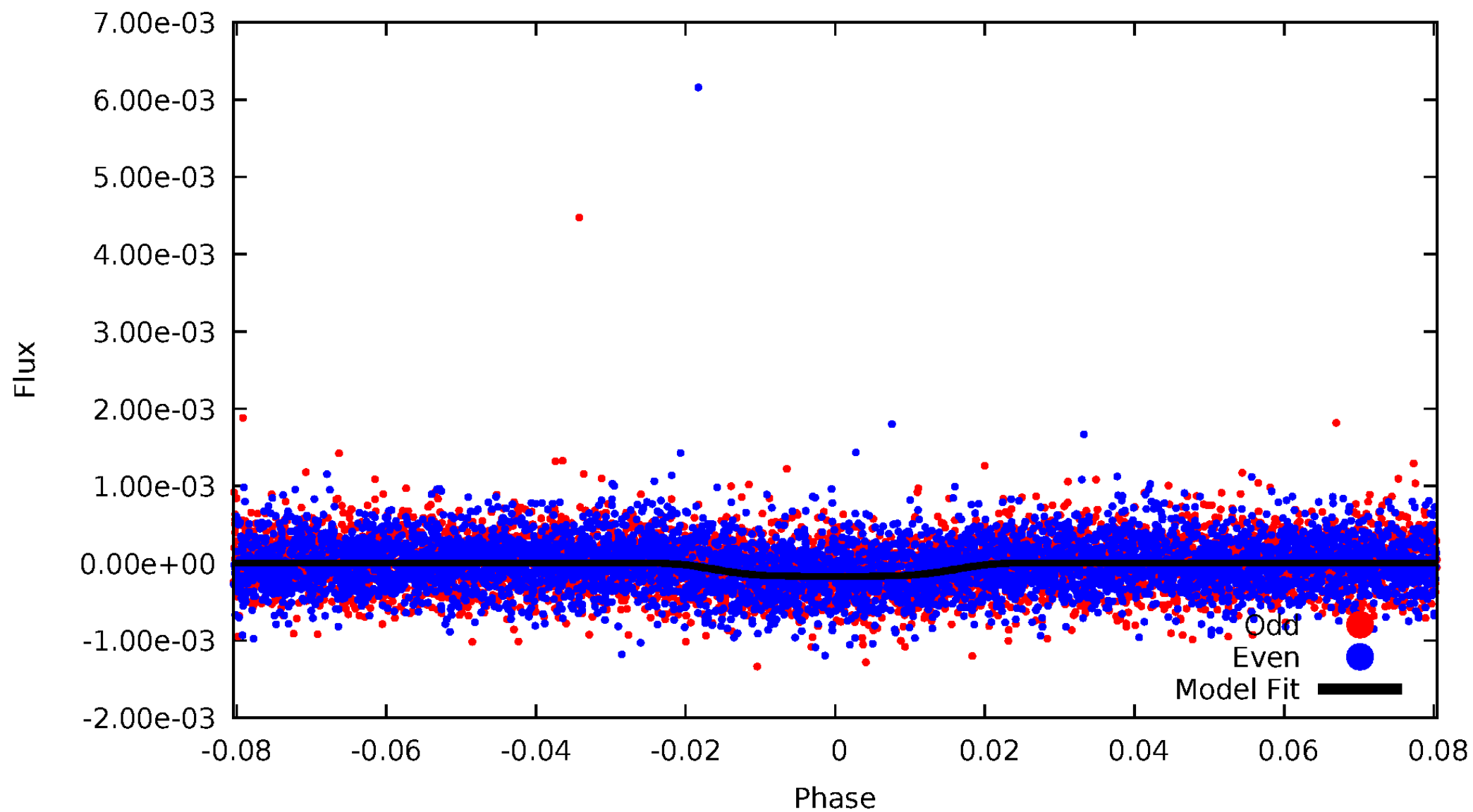


TCE 011972666-02



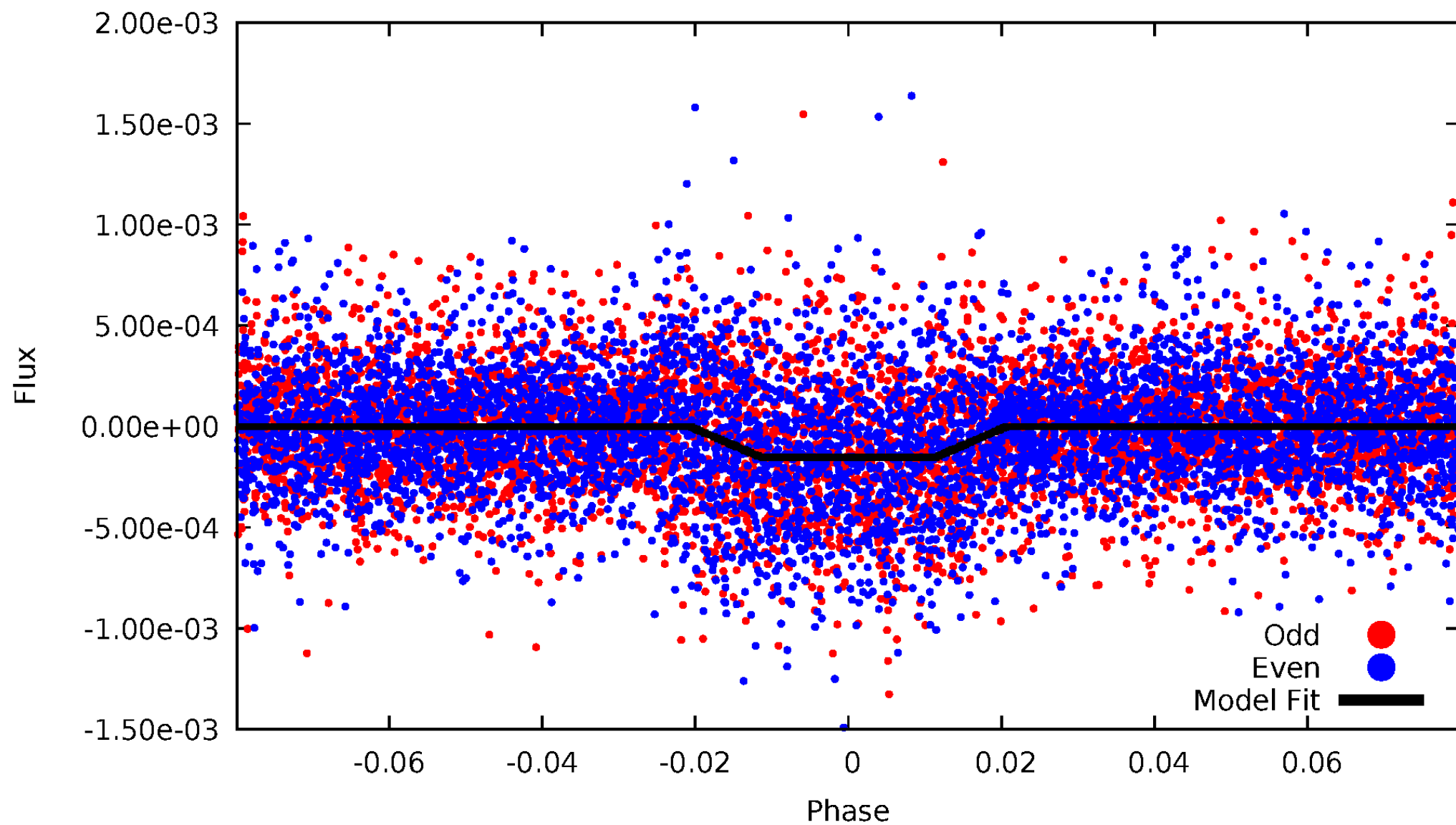
DV Odd/Even

TCE 011972666-02



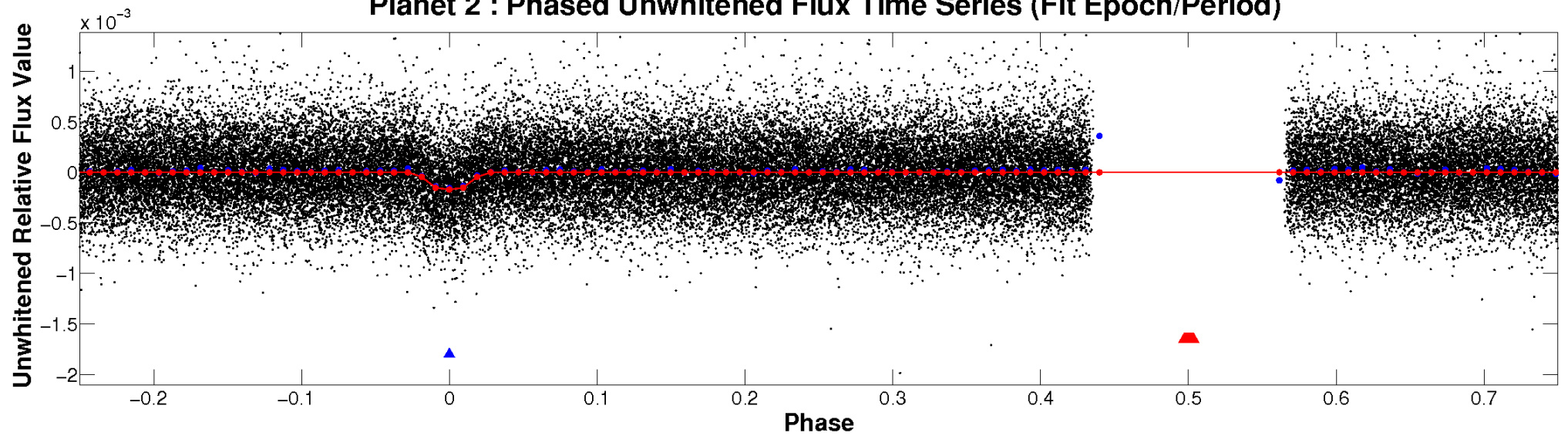
ALT Odd/Even

TCE 011972666-02

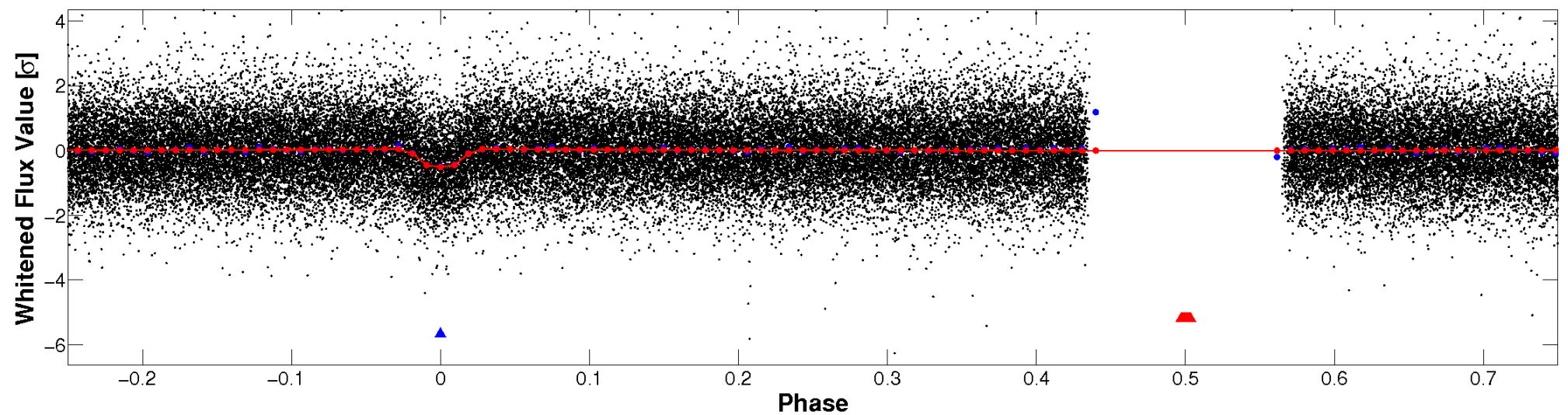


Non-Whitened Vs. Whitened Light Curve

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

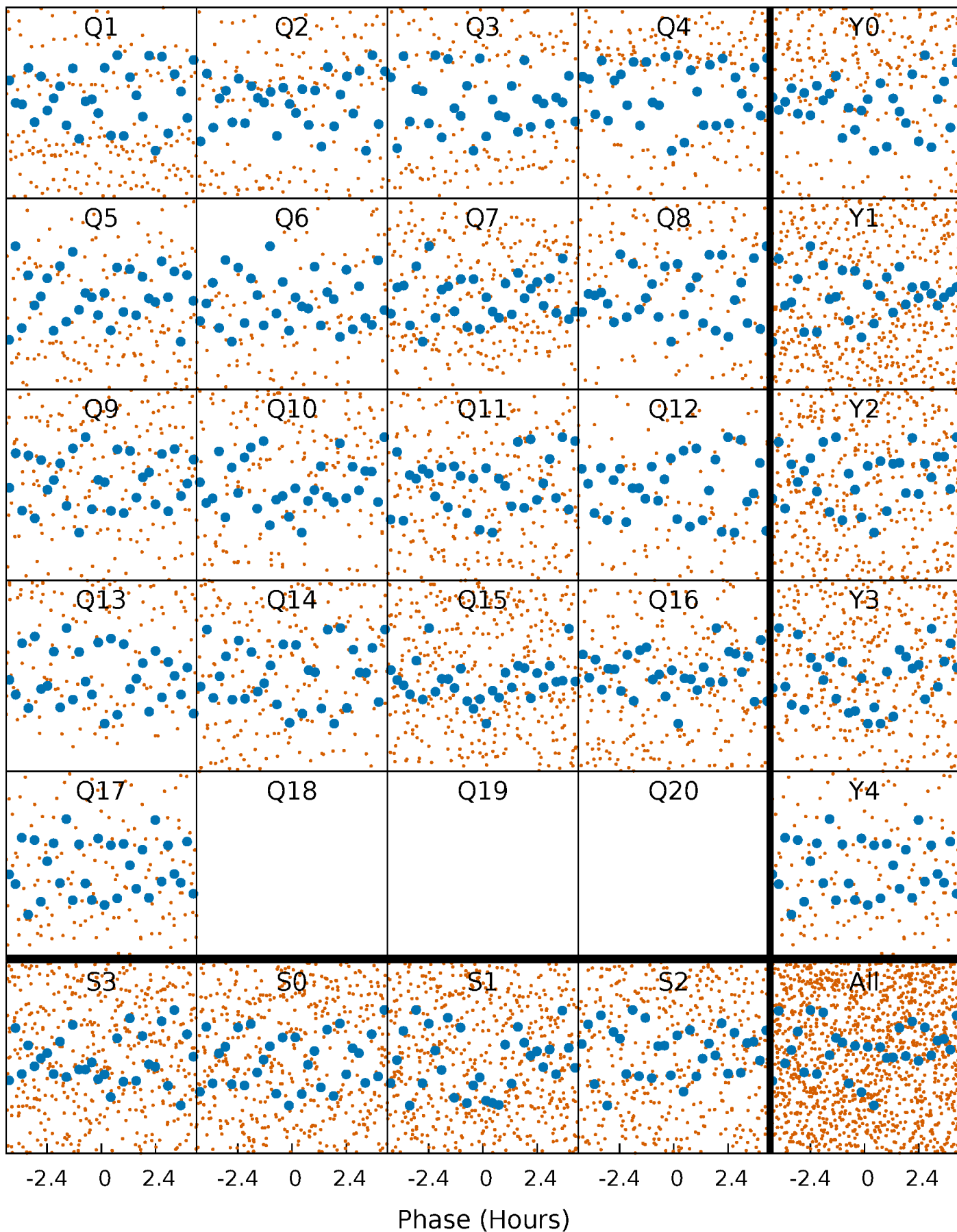


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



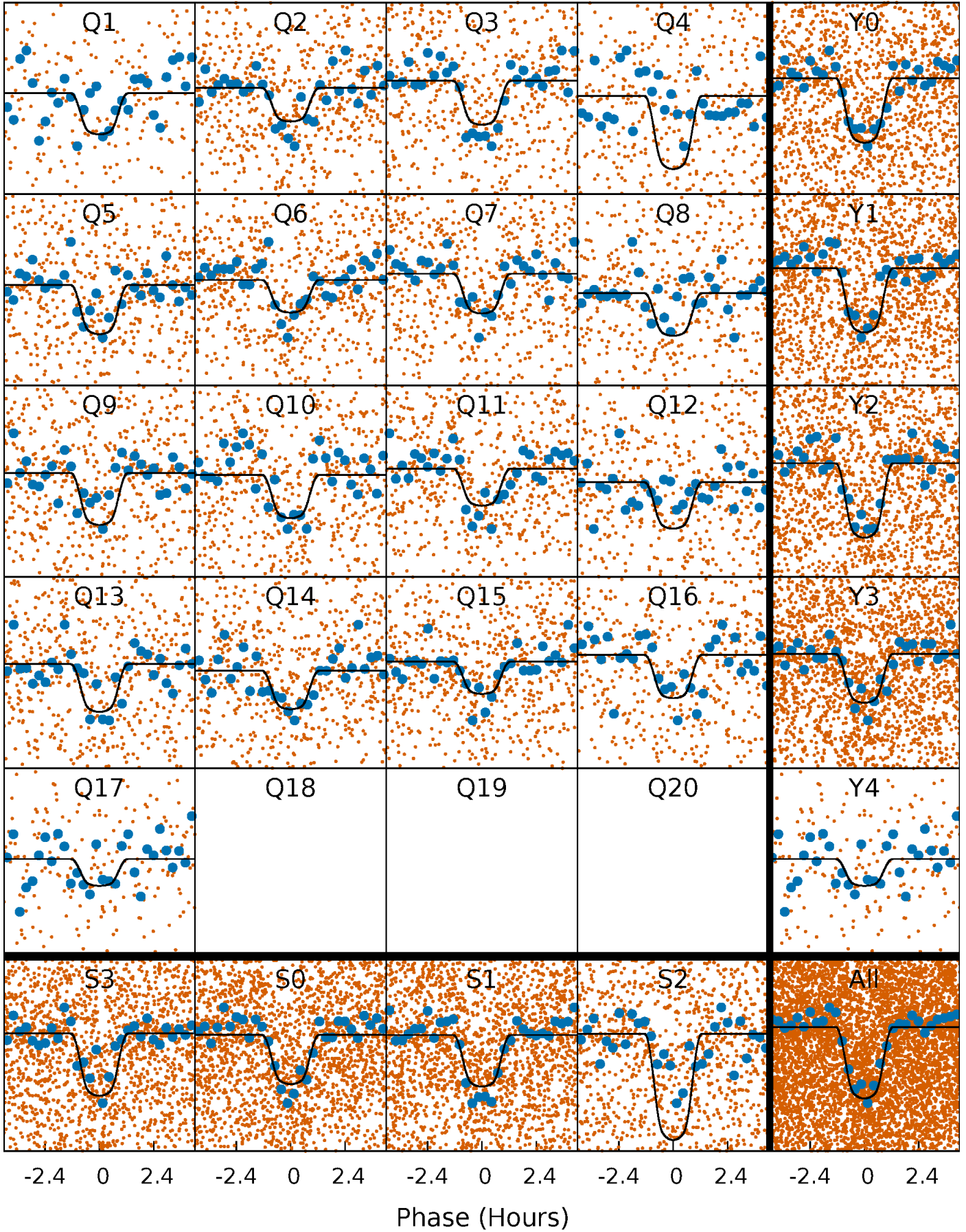
PDC Quarter-Phased Transit Curves

TCE 011972666-02 P= 2.183464 Days $T_0=133.257937$ (BKJD)



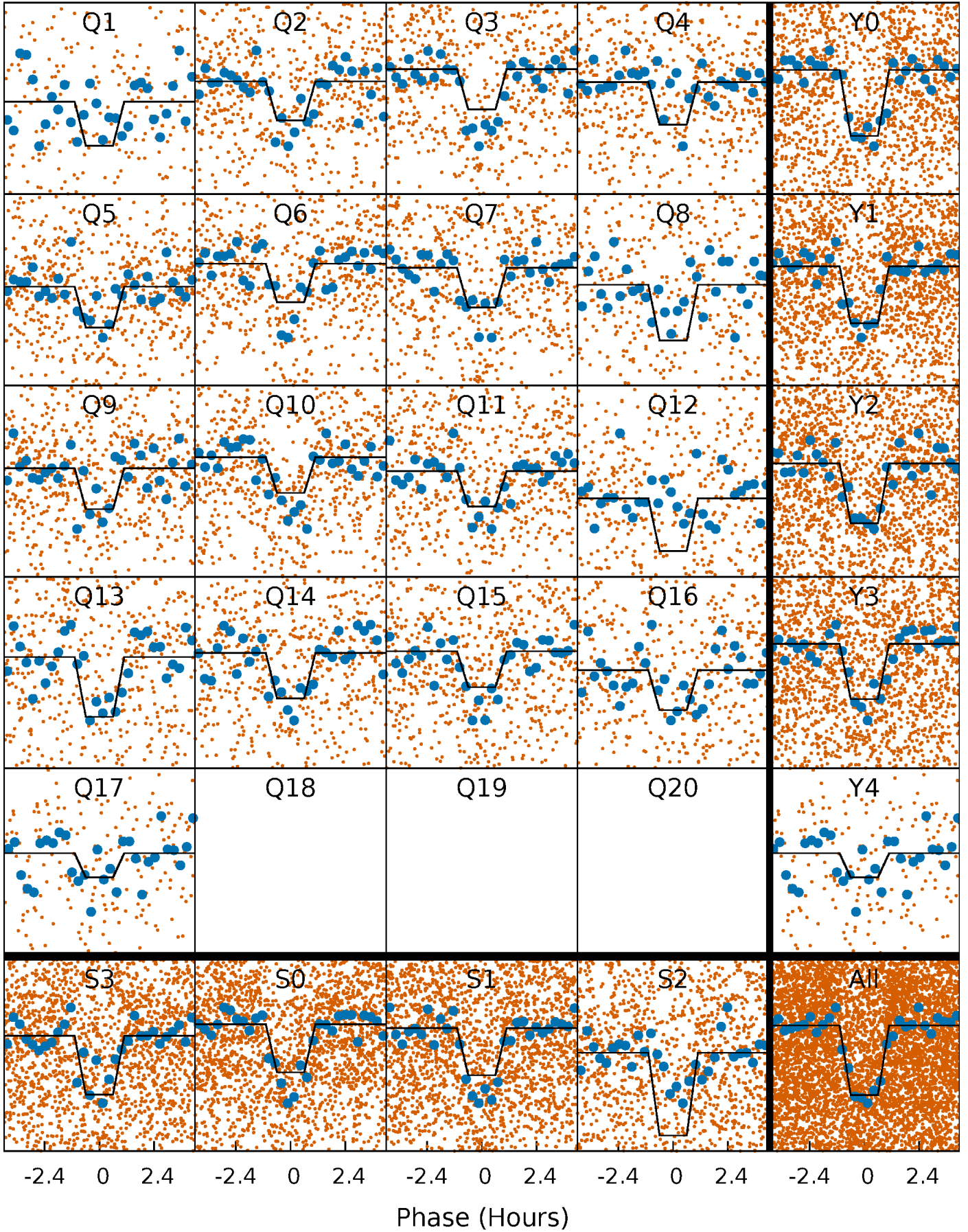
DV Quarter-Phased Transit Curves

TCE 011972666-02 P= 2.183464 Days $T_0=133.257937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

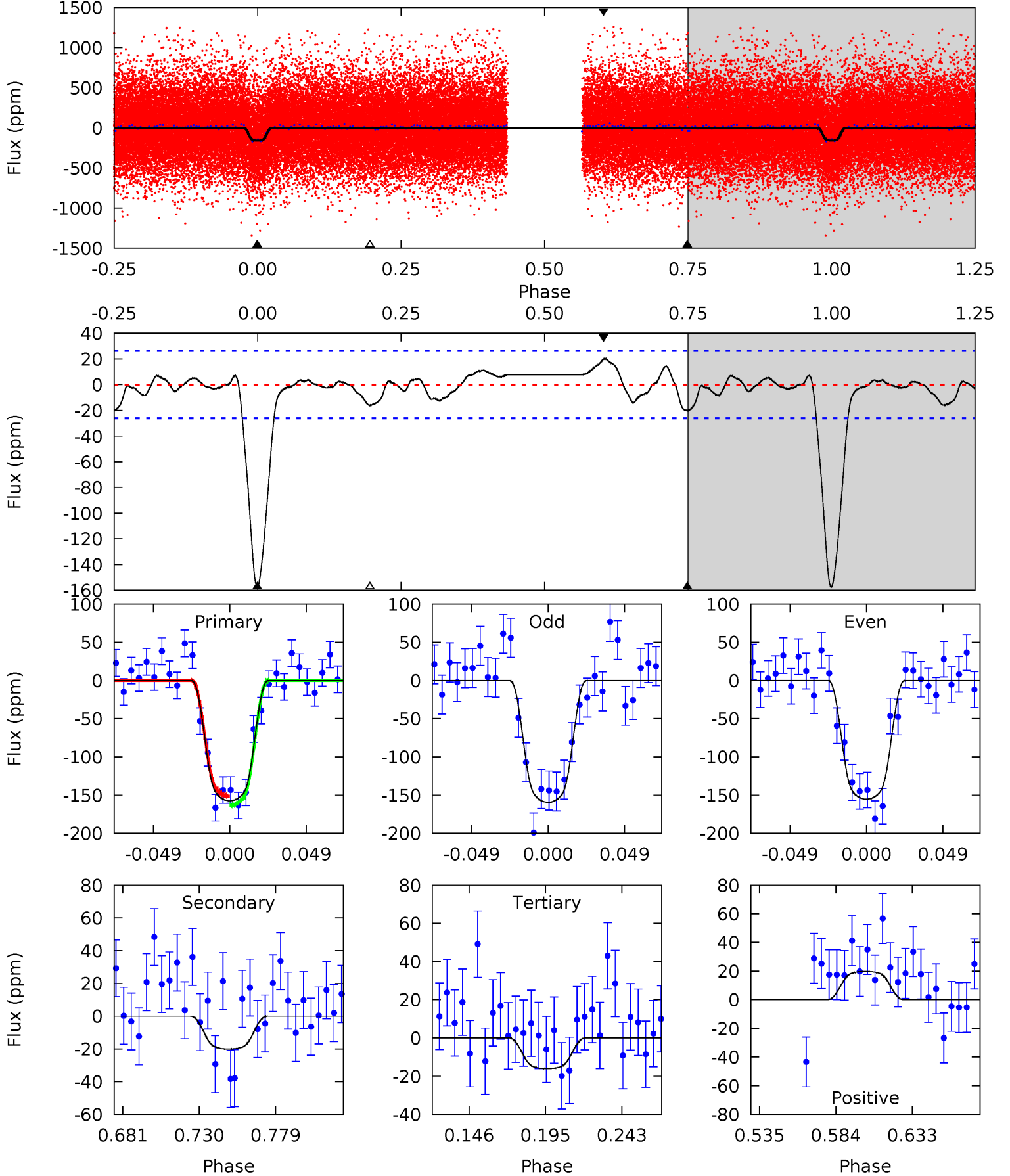
TCE 011972666-02 P= 2.183461 Days $T_0=133.256655$ (BKJD)



DV Model-Shift Uniqueness Test

011972666-02, P = 2.183464 Days, E = 131.074473 Days

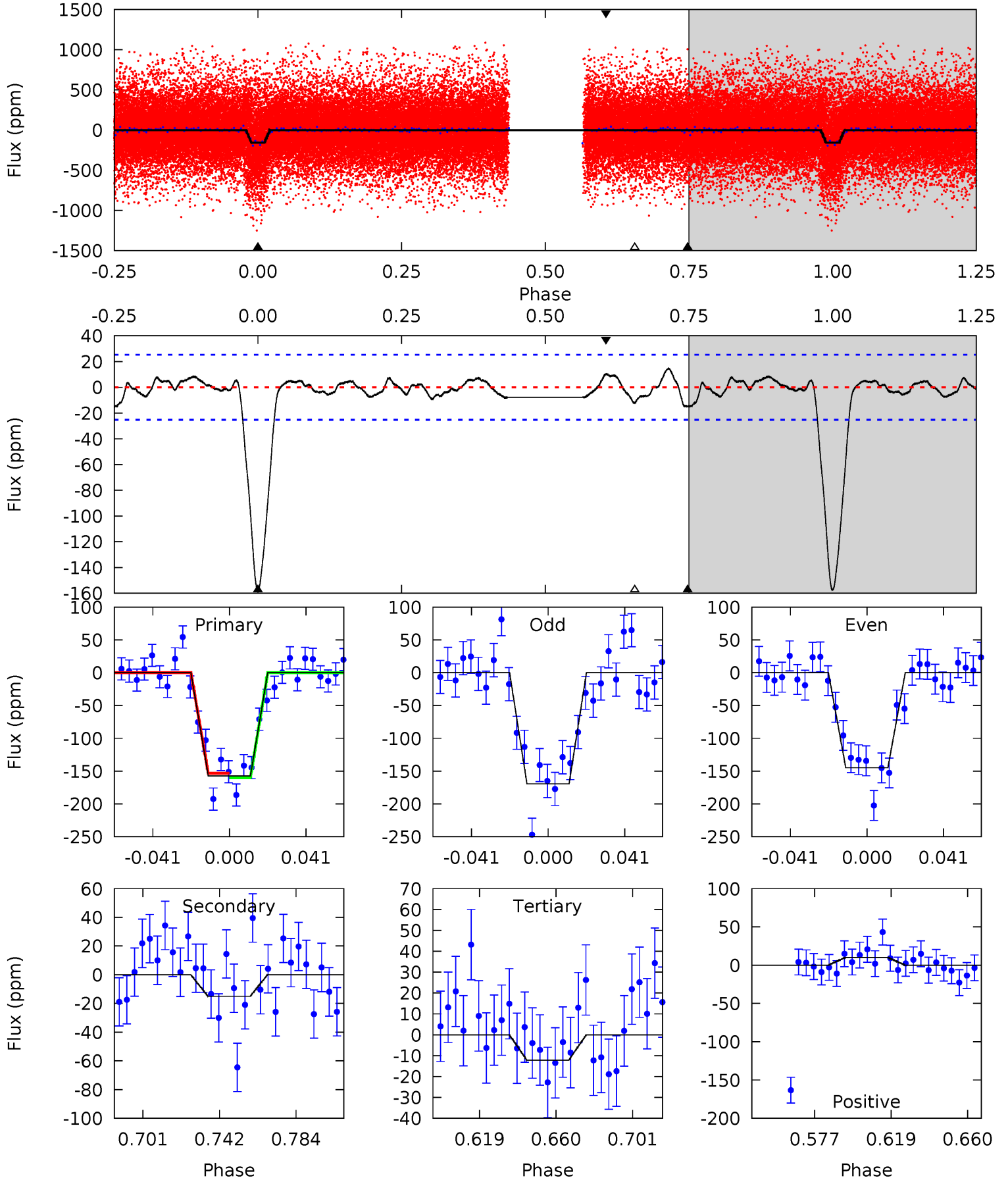
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	3.62	2.89	3.57	4.71	1.97	1.37	25.5	24.8	0.73	0.05	0.37	0.94	0.11	1.09



Alt Model-Shift Uniqueness Test

011972666-02, P = 2.183461 Days, E = 131.073194 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	2.83	2.28	1.91	4.75	2.04	0.92	27.3	27.7	0.55	0.92	2.31	0.97	0.09	0.66



Stellar Parameters For KIC 011972666

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5354^{+159}_{-159}	$4.587^{+0.028}_{-0.119}$	$-0.080^{+0.300}_{-0.300}$	$0.788^{+0.143}_{-0.061}$	$0.884^{+0.070}_{-0.104}$	$2.542^{+0.396}_{-0.898}$
	+3%/-3%	+1%/-3%	+375%/-375%	+18%/-8%	+8%/-12%	+16%/-35%
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 011972666-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 6	$1.41^{+0.21}_{-0.17}$	1678^{+85}_{-64}	3313^{+199}_{-187}	$5.274^{+2.208}_{-1.714}$
Alt.	-15 ± 5	$1.09^{+0.20}_{-0.16}$	1679^{+75}_{-63}	3443^{+271}_{-267}	$6.738^{+3.747}_{-2.698}$

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

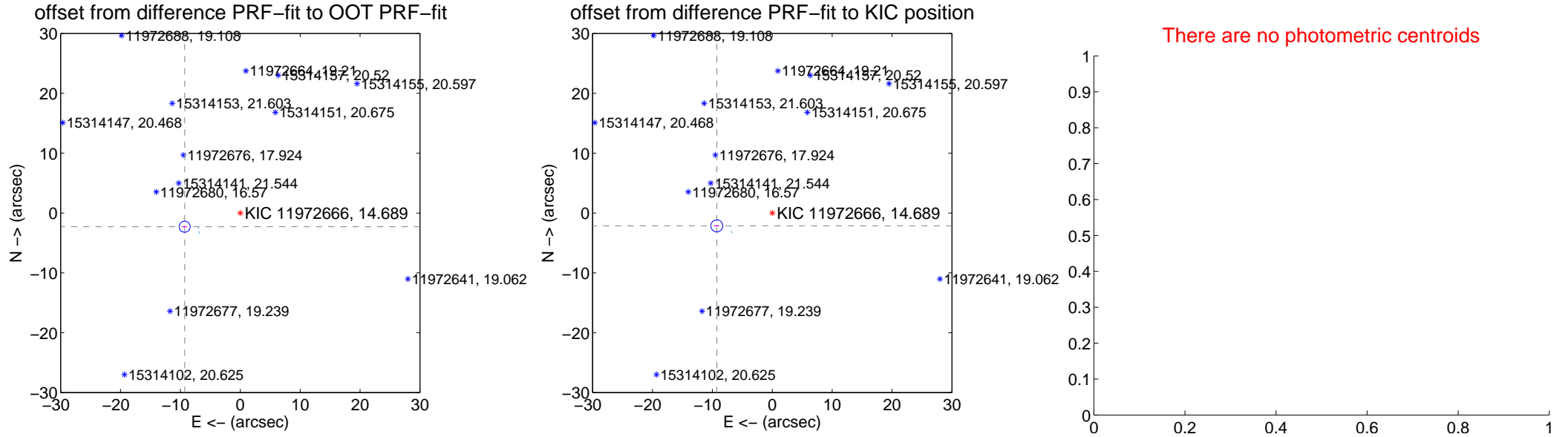
DV Centroid Data

Supplemental centroid analysis for 011972666-02. Kepler magnitude: 14.69. Transit SNR 20.40

There are 12 quarters with good PRF difference image offsets

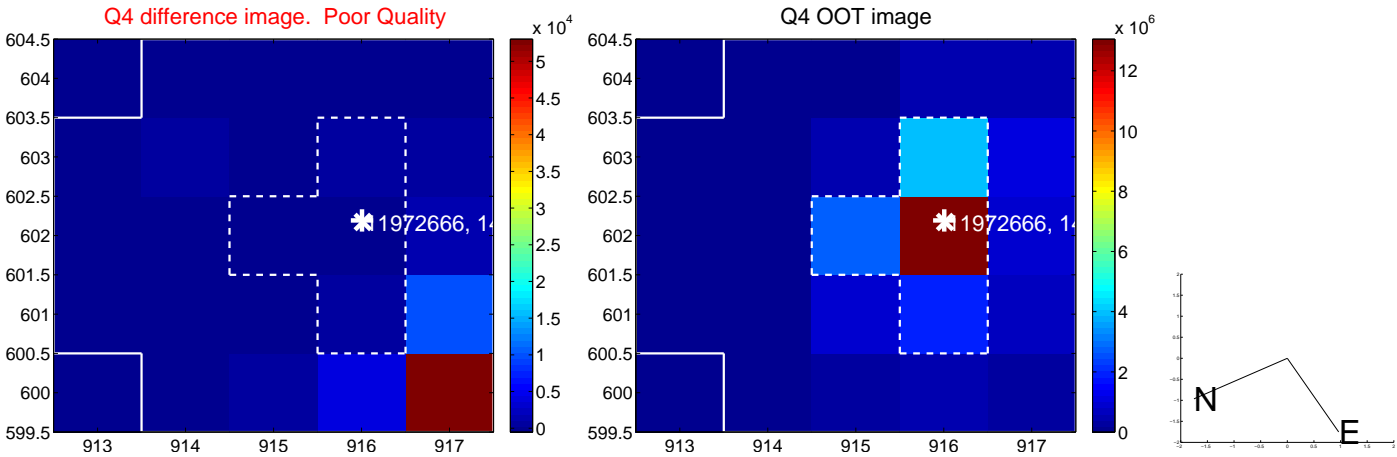
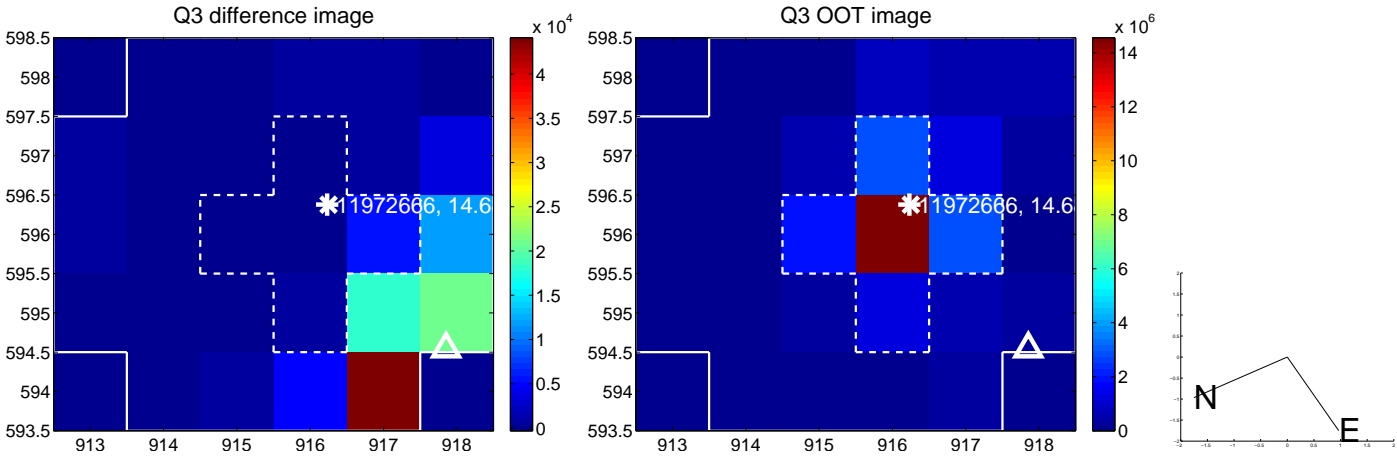
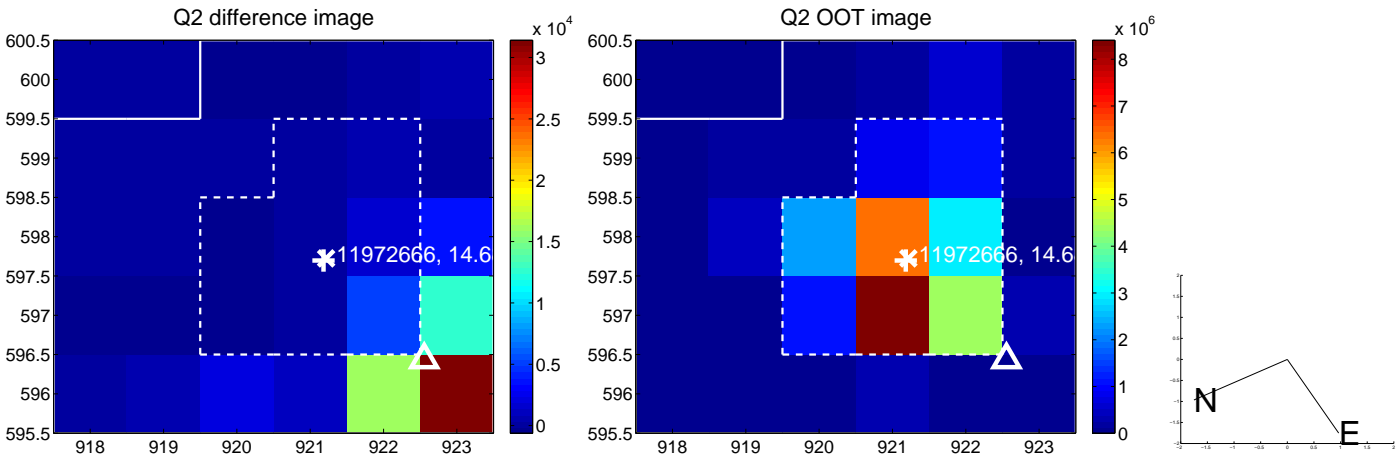
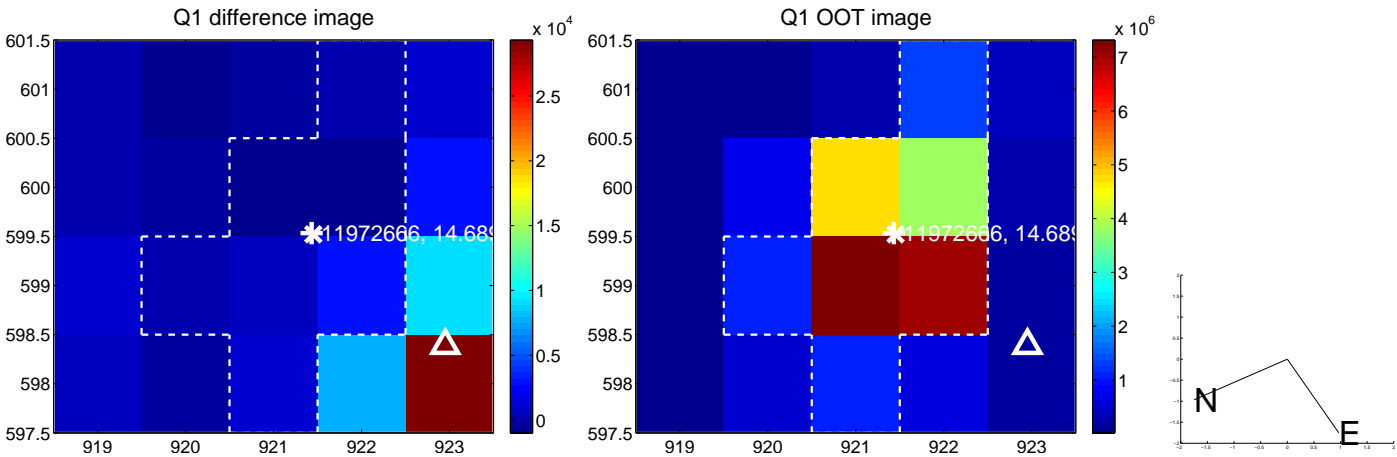
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.563 \pm 0.307	31.14	9.284 \pm 0.337	-2.291 \pm 0.146
PRF-fit source offset from KIC position	9.499 \pm 0.333	28.53	9.254 \pm 0.362	-2.142 \pm 0.163
photometric centroid source offset	—	—	—	—

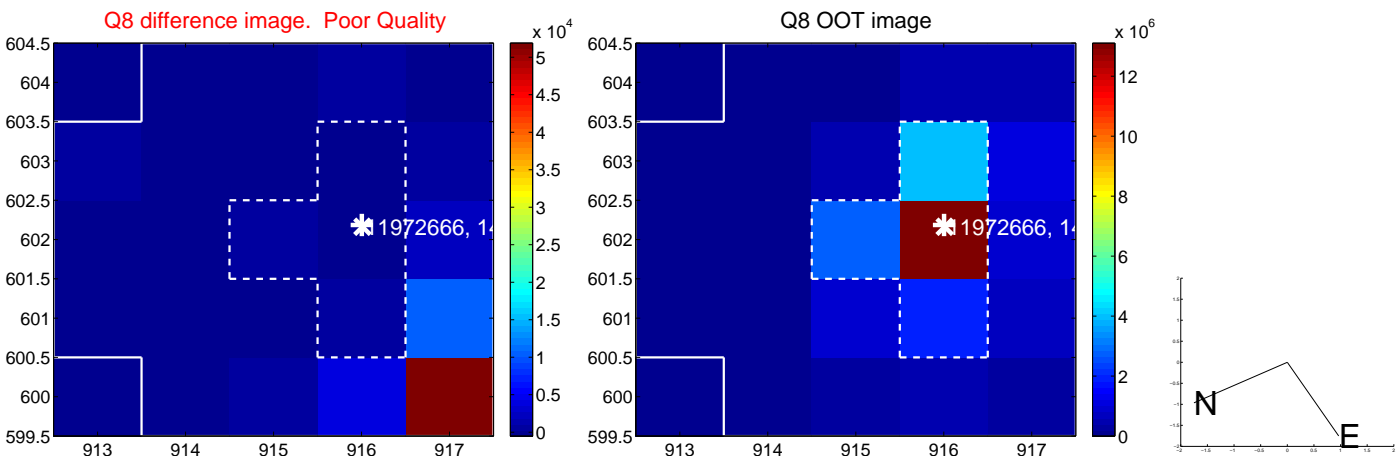
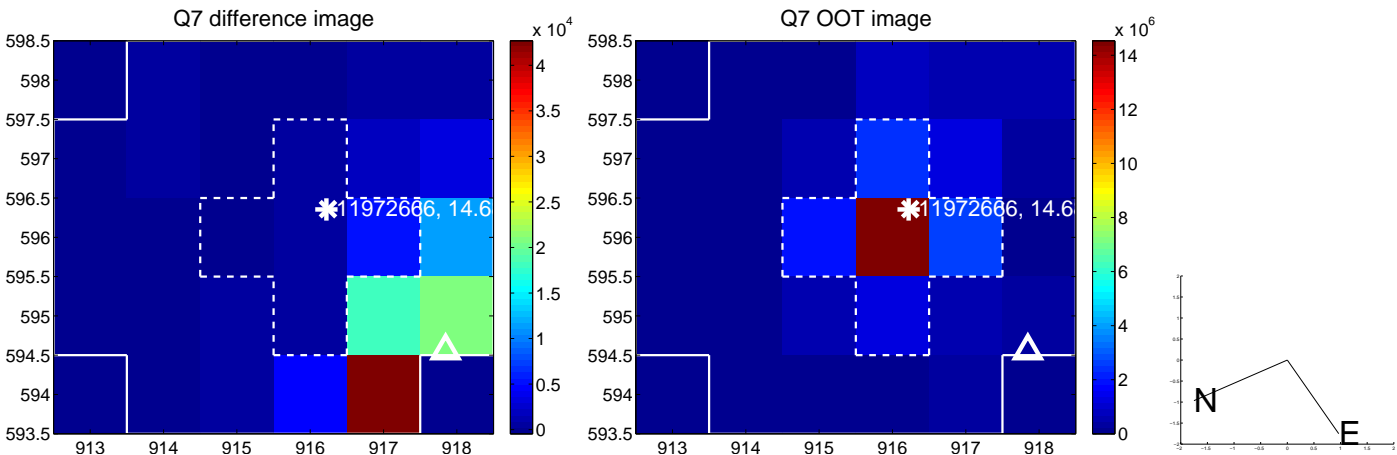
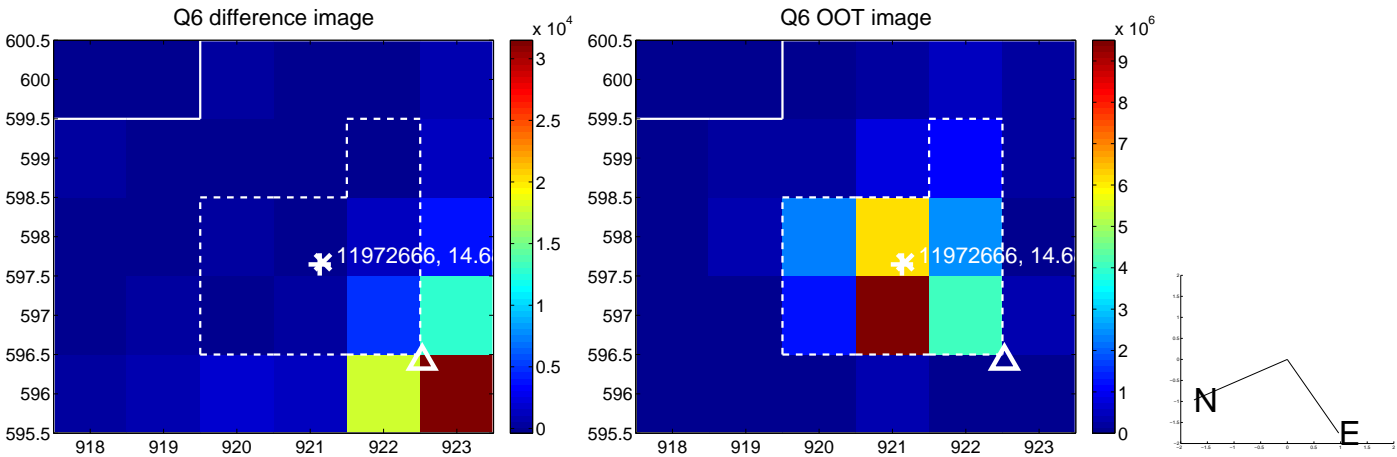
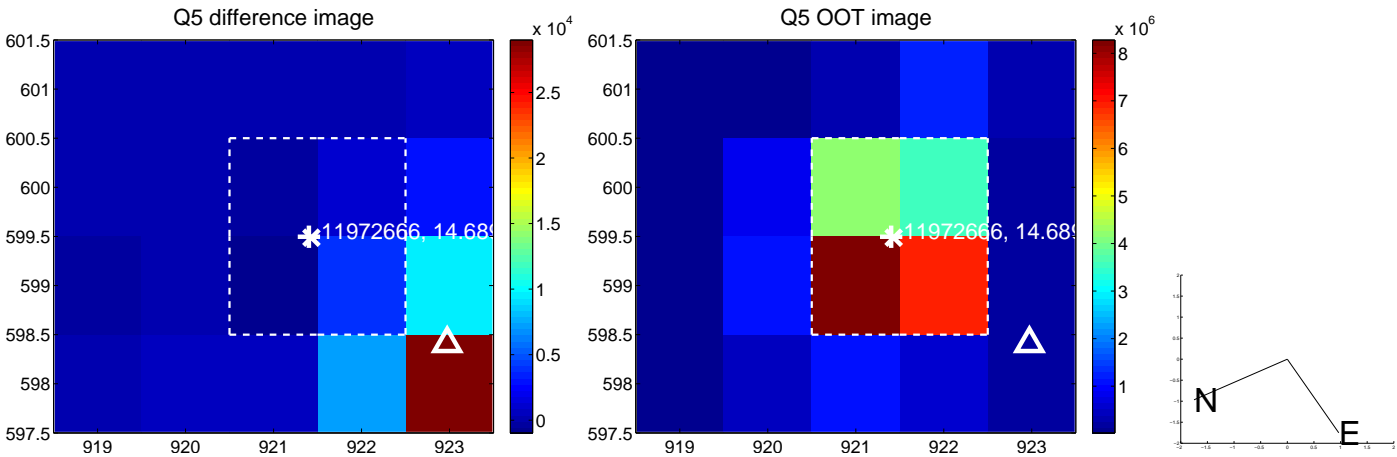


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

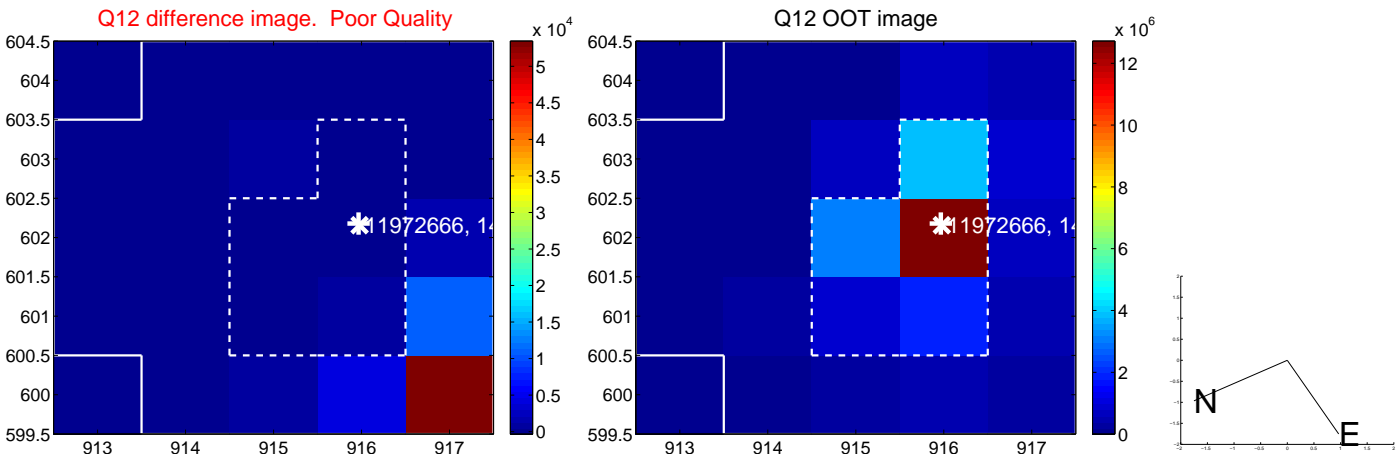
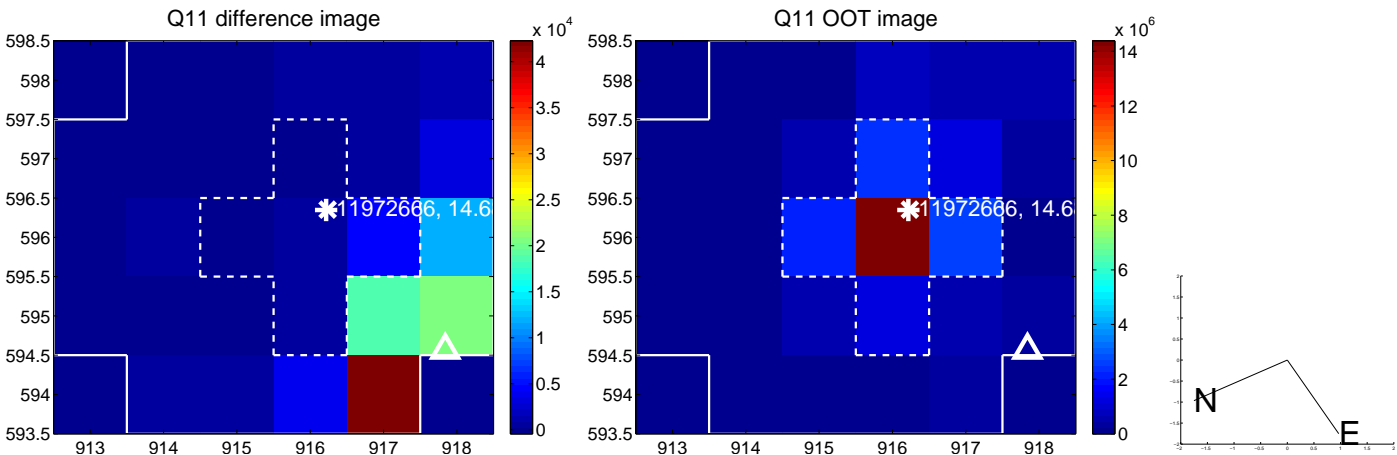
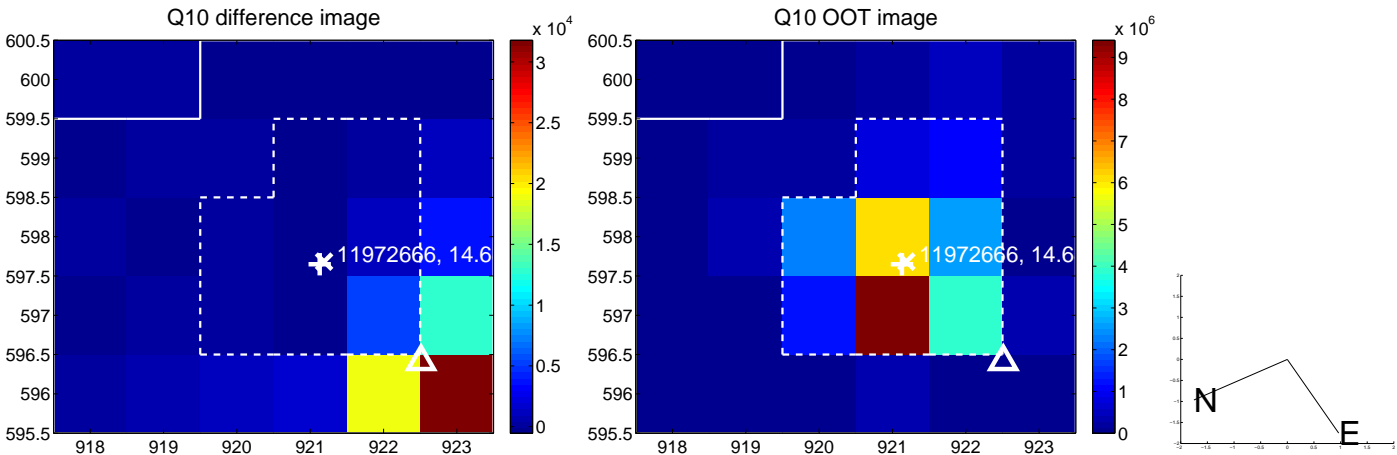
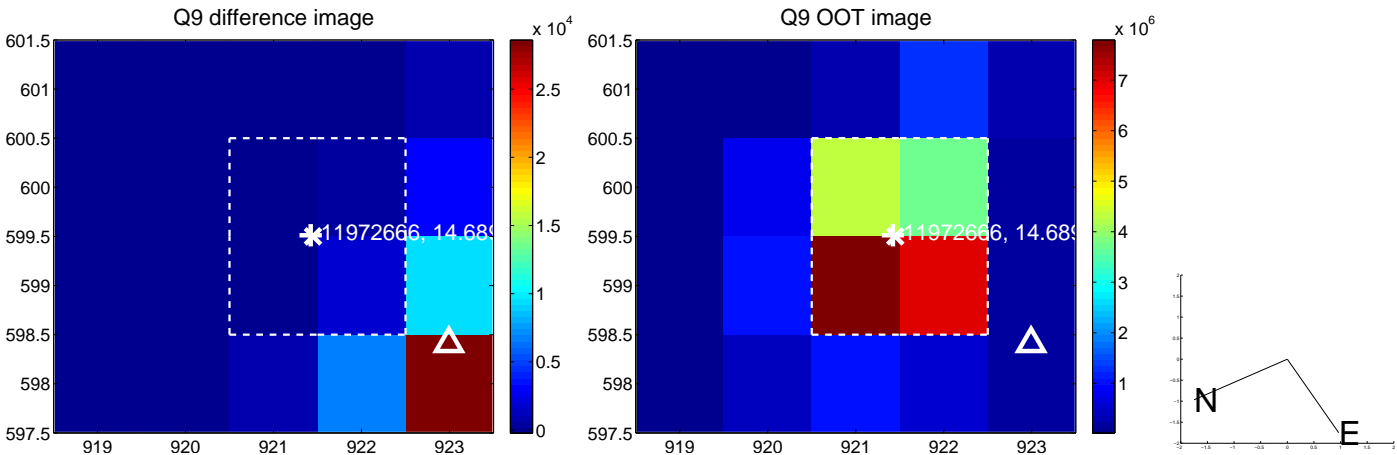
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



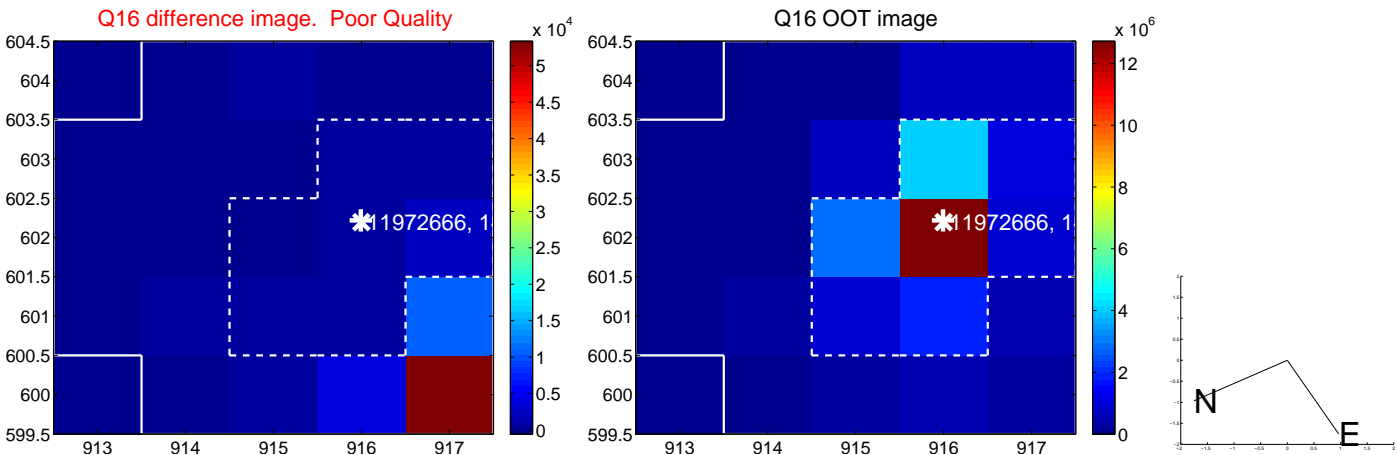
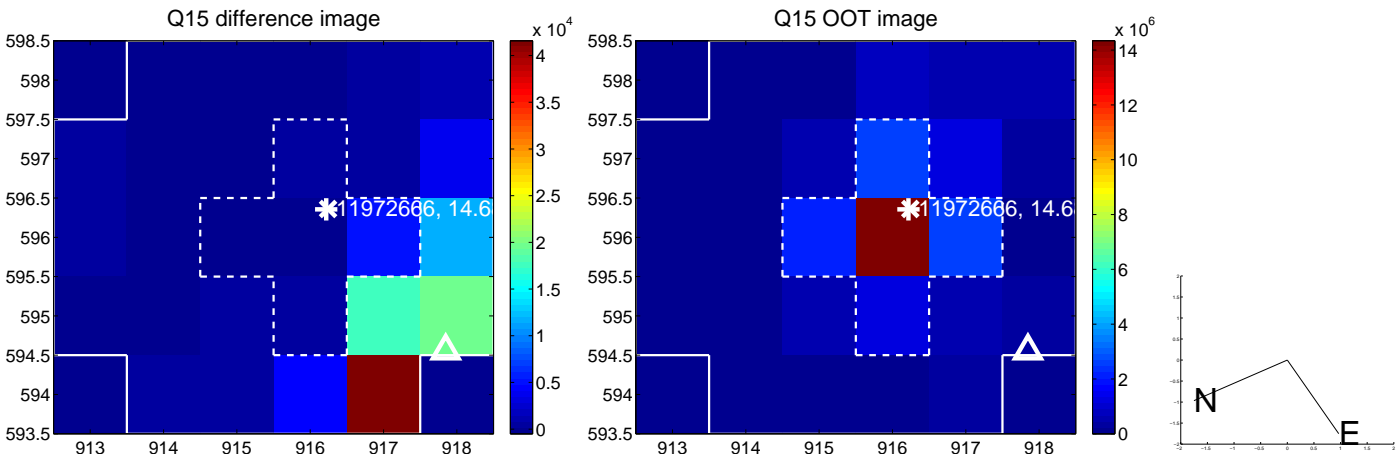
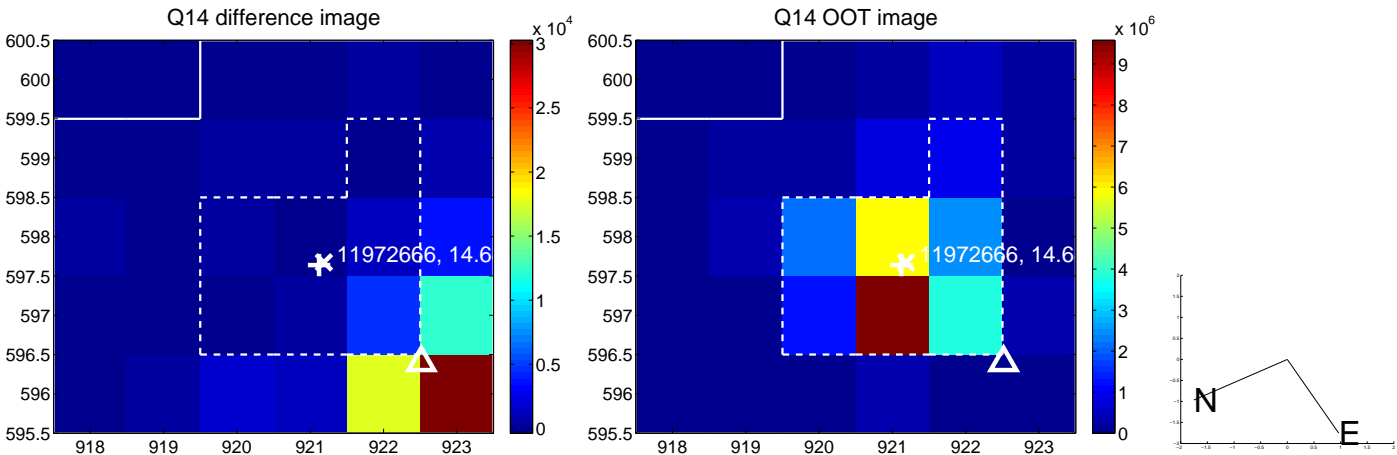
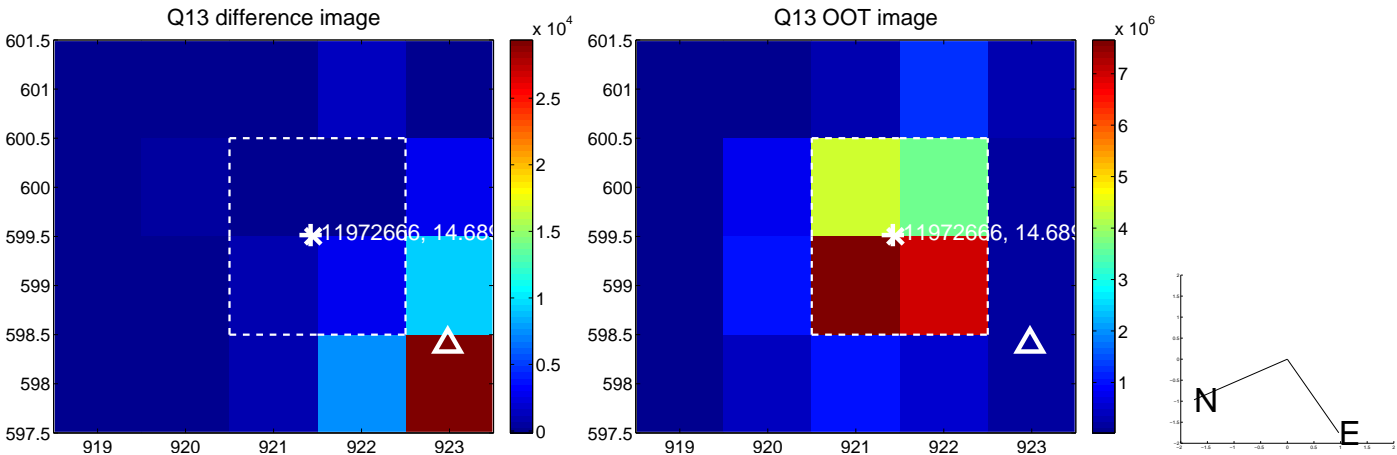
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



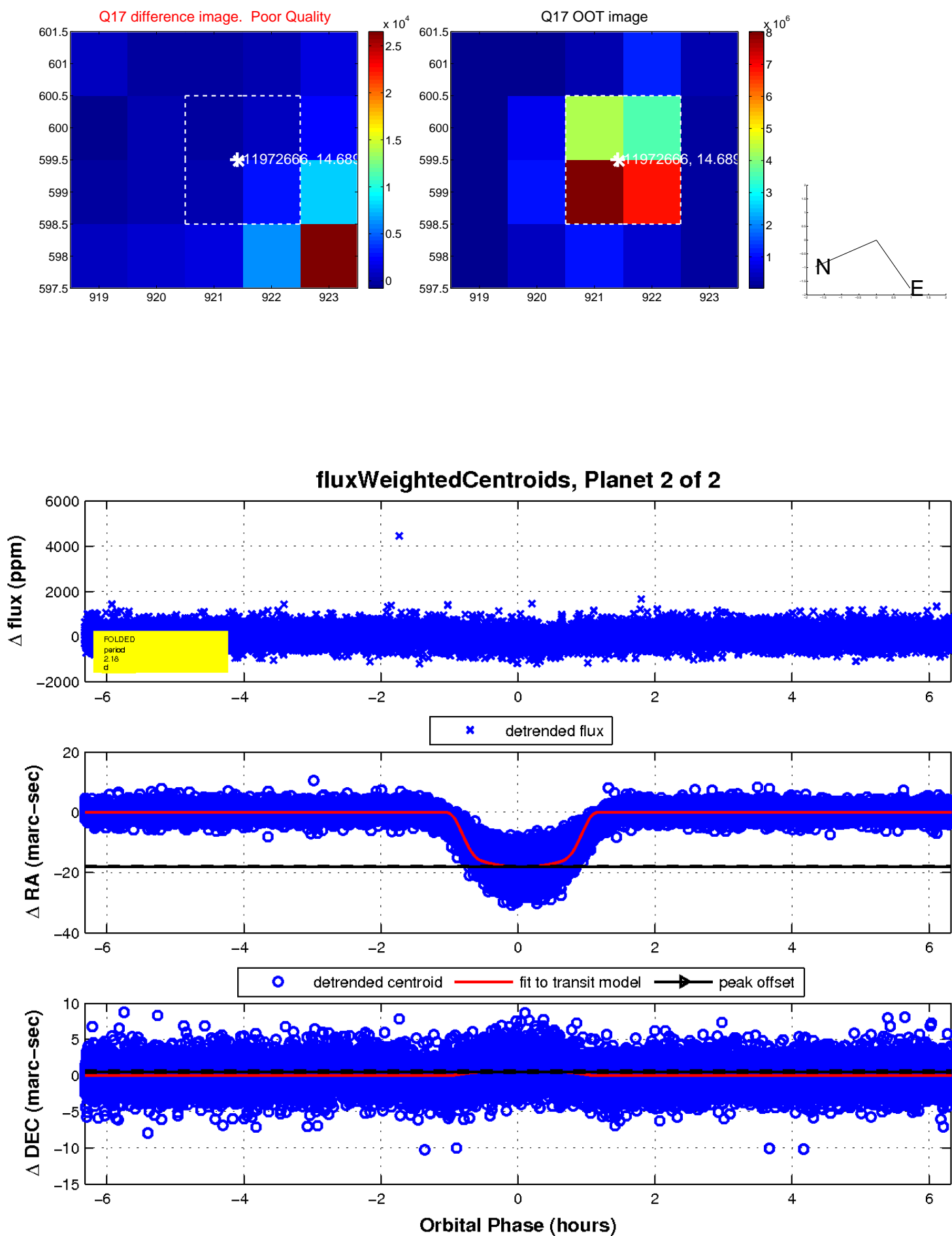
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

