

KIC 008523595

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})
008523595-01	OBS	No	0.938914	132.041081	49.4	0.687	9.8	2.9	1.47	6785	1.06	9302.32
008523595-02	OBS	No	0.938927	131.566967	96.5	2.385	9.1	6.9	1.47	6785	1.54	9302.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008523595-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008523595-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

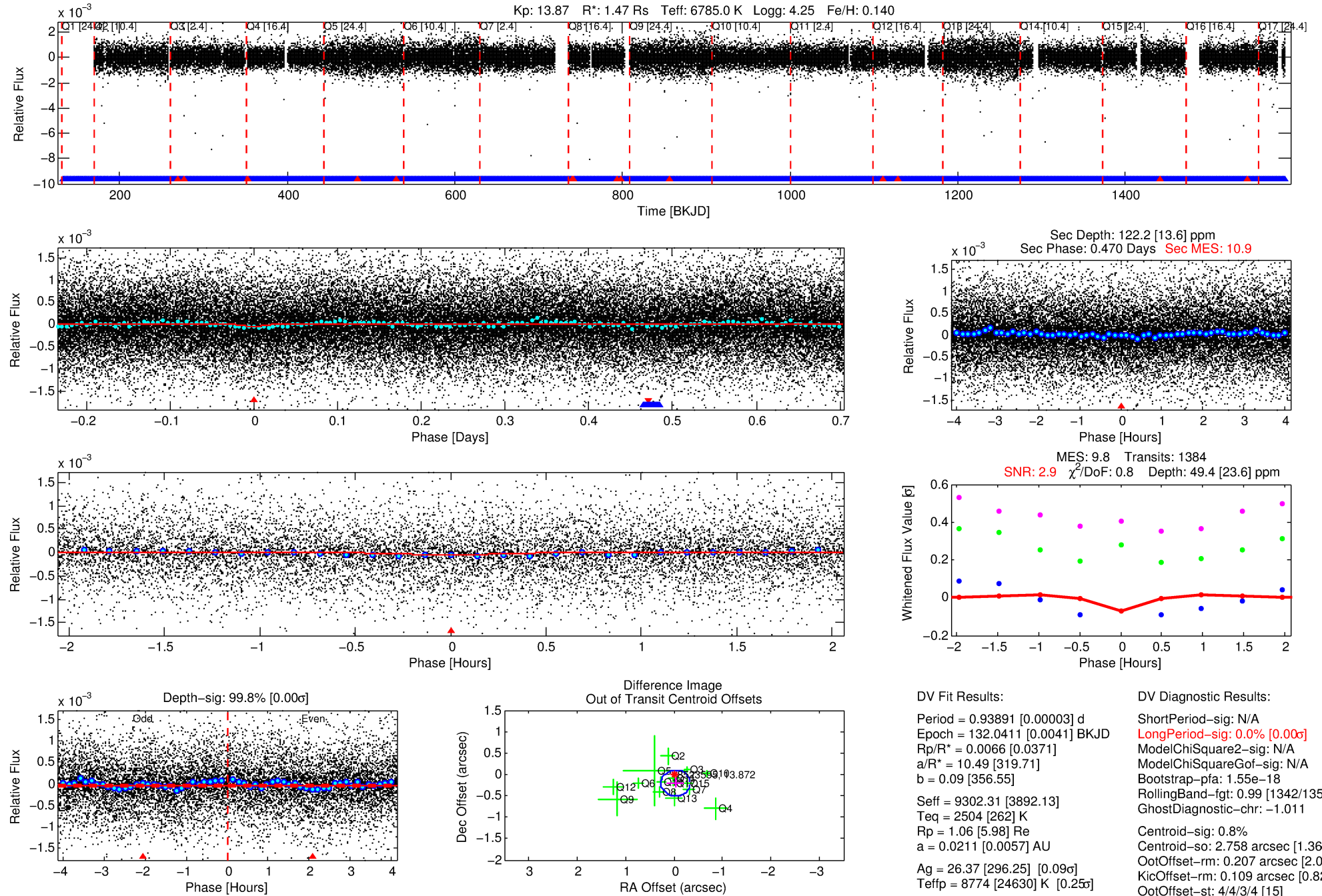
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008523595-01

No Significant Match Found

DV One-Page Summary

KIC: 8523595 Candidate: 1 of 2 Period: 0.939 d



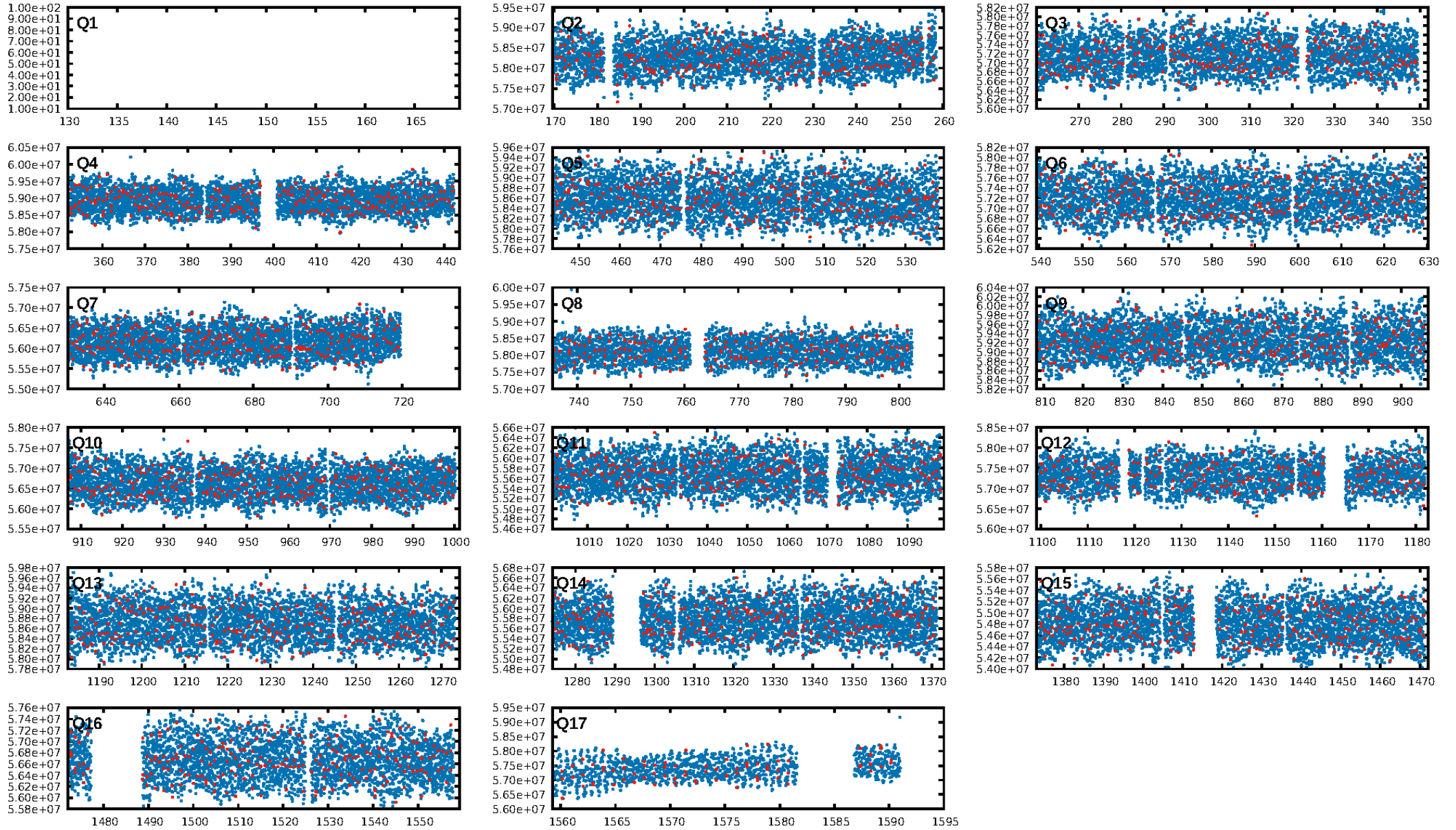
DV Fit Results:

Period = 0.93891 [0.00003] d
Epoch = 132.0411 [0.0041] BKJD
Rp/R* = 0.0066 [0.0371]
a/R* = 10.49 [319.71]
b = 0.09 [356.55]
Seff = 9302.31 [3892.13]
Teff = 2504 [262] K
Rp = 1.06 [5.98] Re
a = 0.0211 [0.0057] AU
Ag = 26.37 [296.25] [0.09σ]
Teffp = 8774 [24630] K [0.25σ]

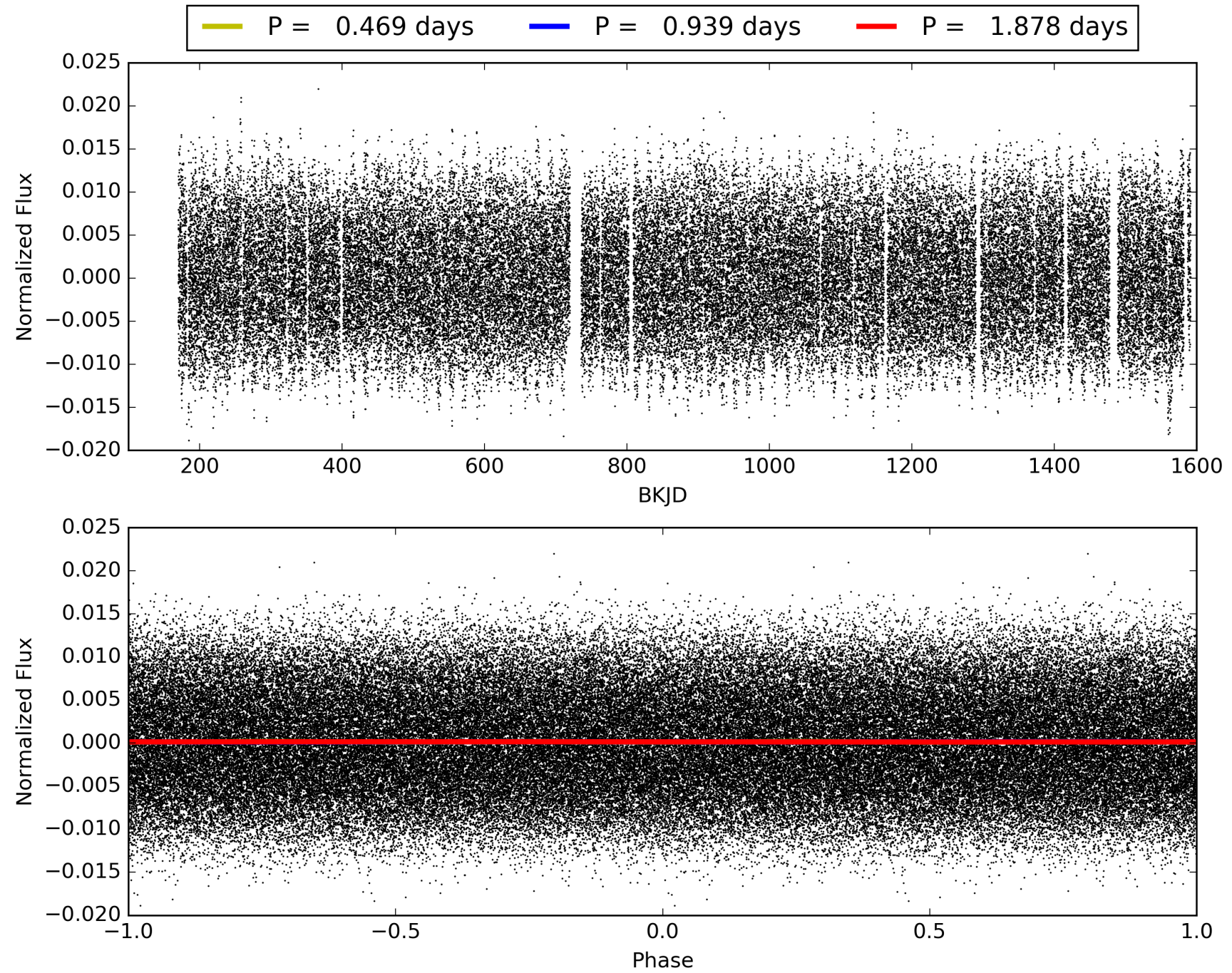
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.55e-18
RollingBand-fgt: 0.99 [1342/1357]
GhostDiagnostic-chr: -1.011
Centroid-sig: 0.8%
Centroid-so: 2.758 arcsec [1.36σ]
OotOffset-rm: 0.207 arcsec [2.05σ]
KicOffset-rm: 0.109 arcsec [0.82σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 008523595-01, PDC Light Curves

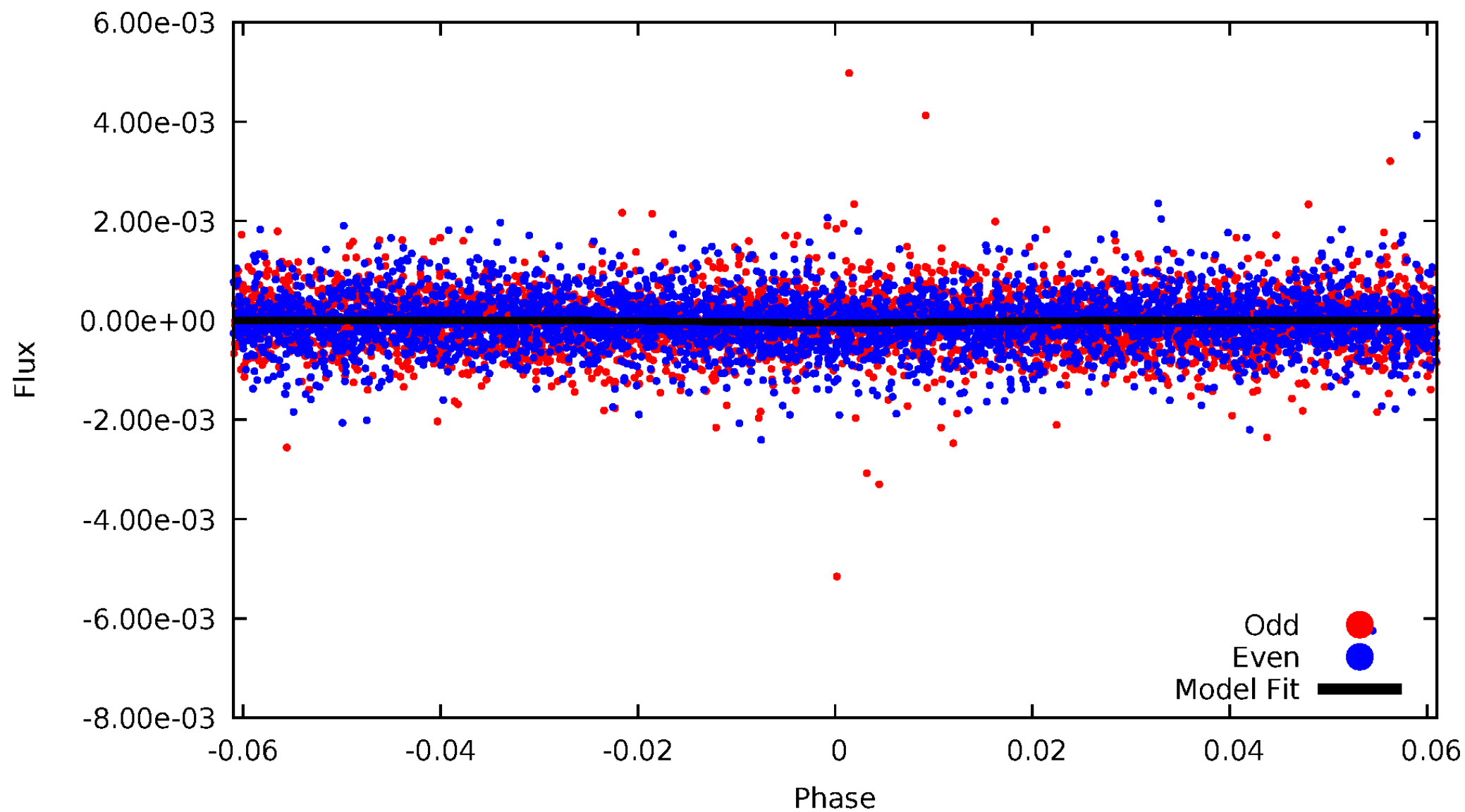


TCE 008523595-01



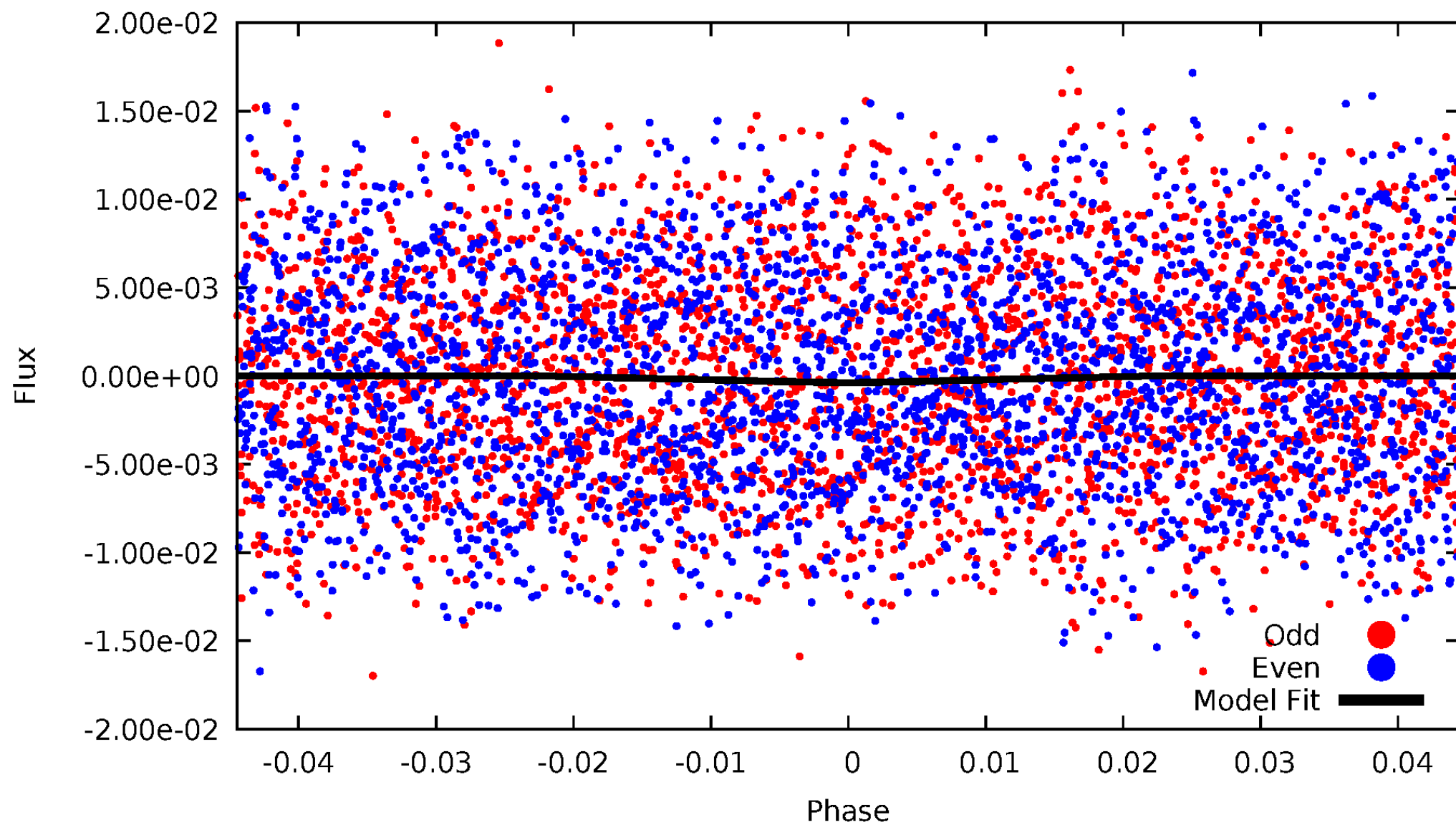
DV Odd/Even

TCE 008523595-01

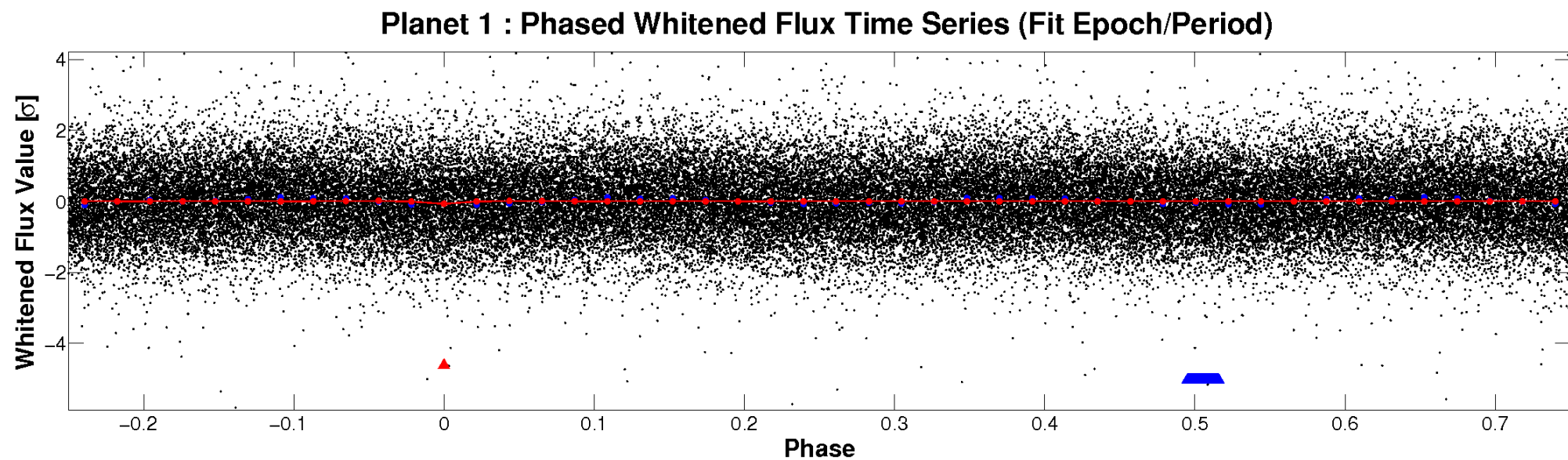
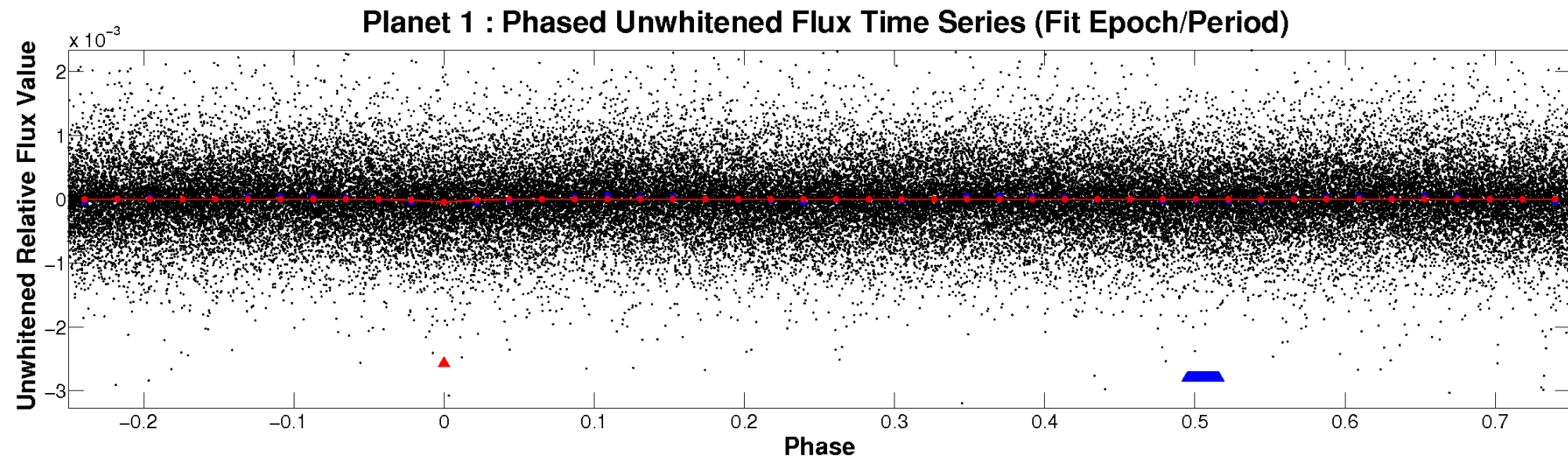


ALT Odd/Even

TCE 008523595-01

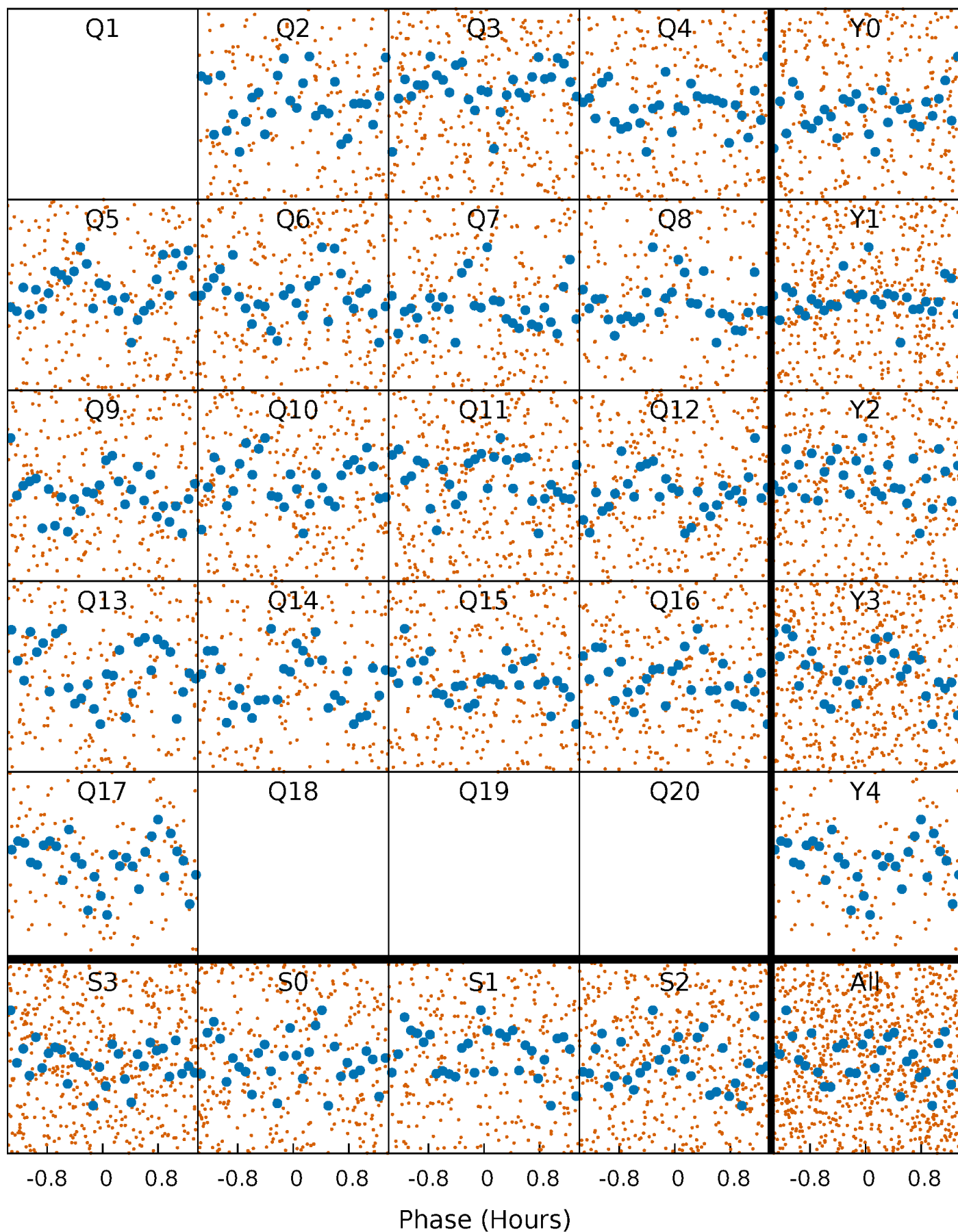


Non-Whitened Vs. Whitened Light Curve



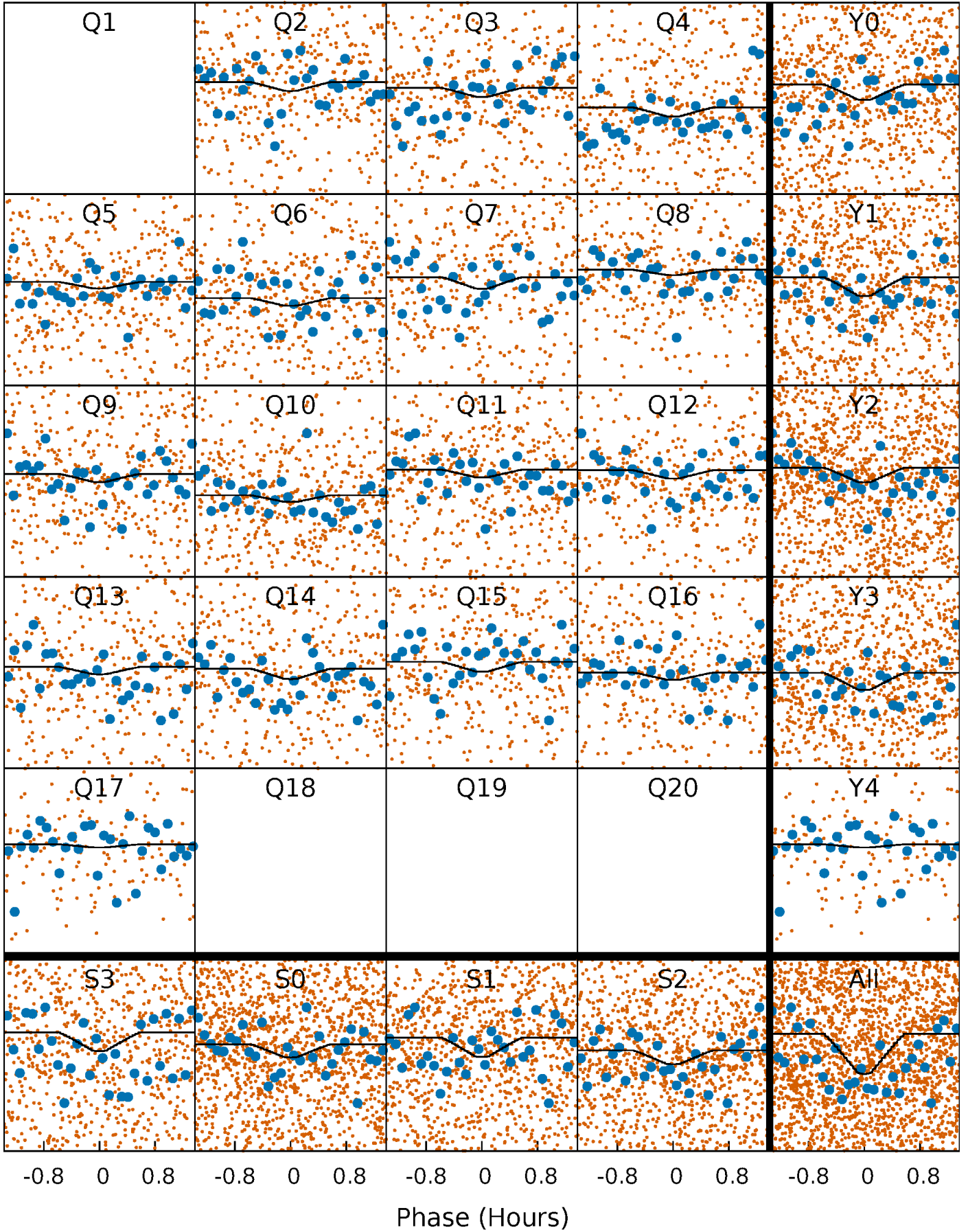
PDC Quarter-Phased Transit Curves

TCE 008523595-01 P= 0.938914 Days $T_0=132.041081$ (BKJD)



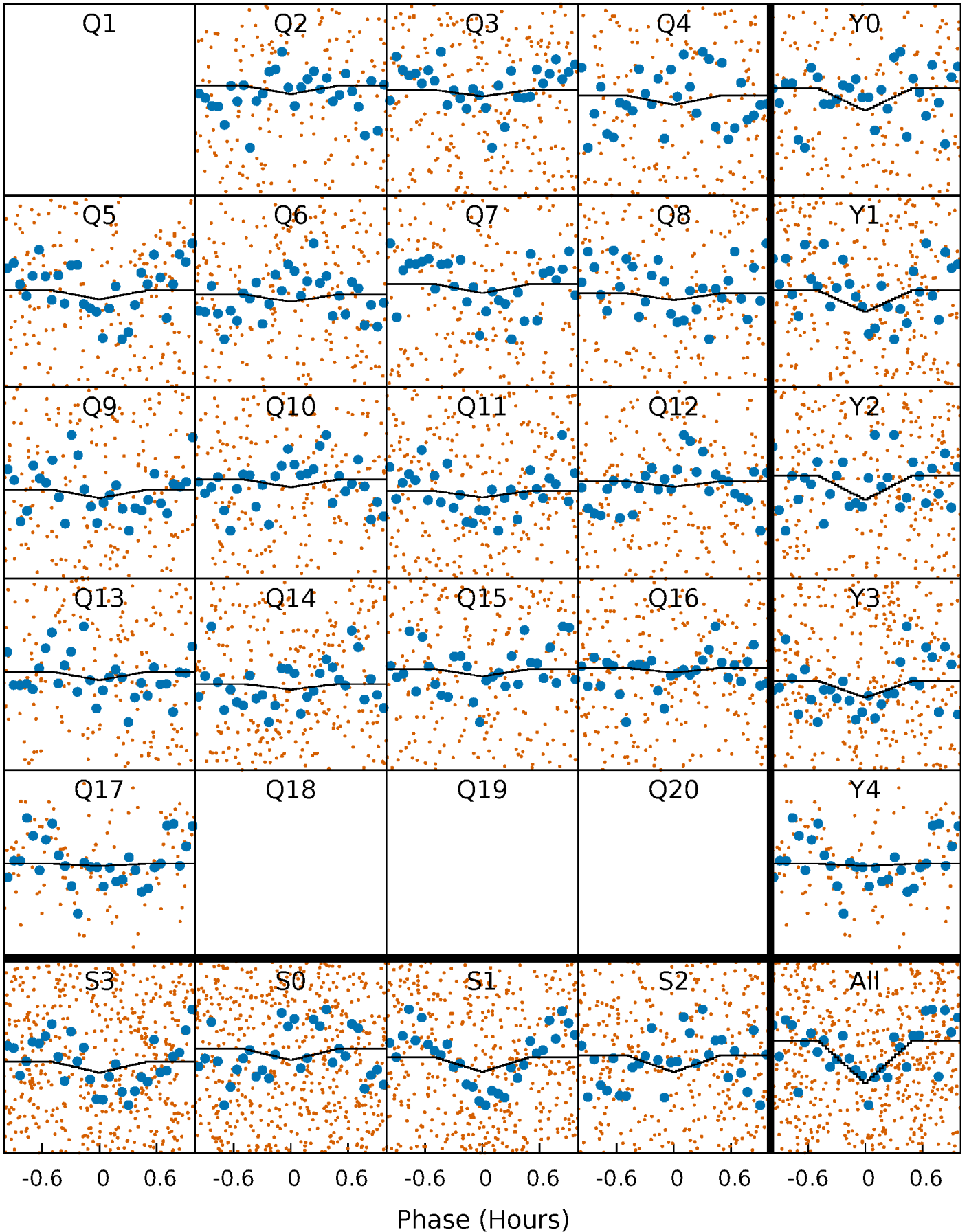
DV Quarter-Phased Transit Curves

TCE 008523595-01 P= 0.938914 Days $T_0=132.041081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

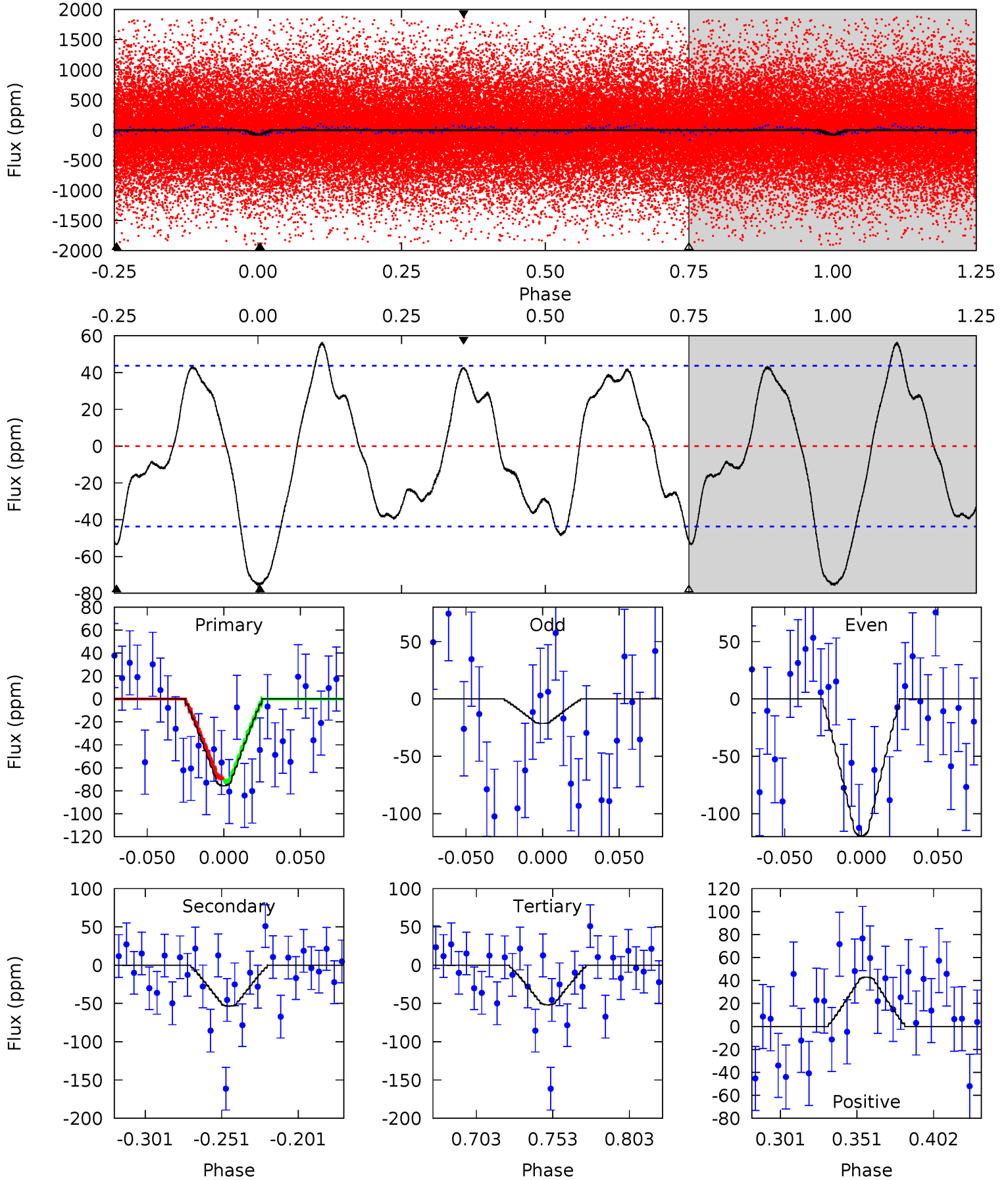
TCE 008523595-01 P= 0.938959 Days $T_0=132.035184$ (BKJD)



DV Model-Shift Uniqueness Test

008523595-01, P = 0.938914 Days, E = 132.041081 Days

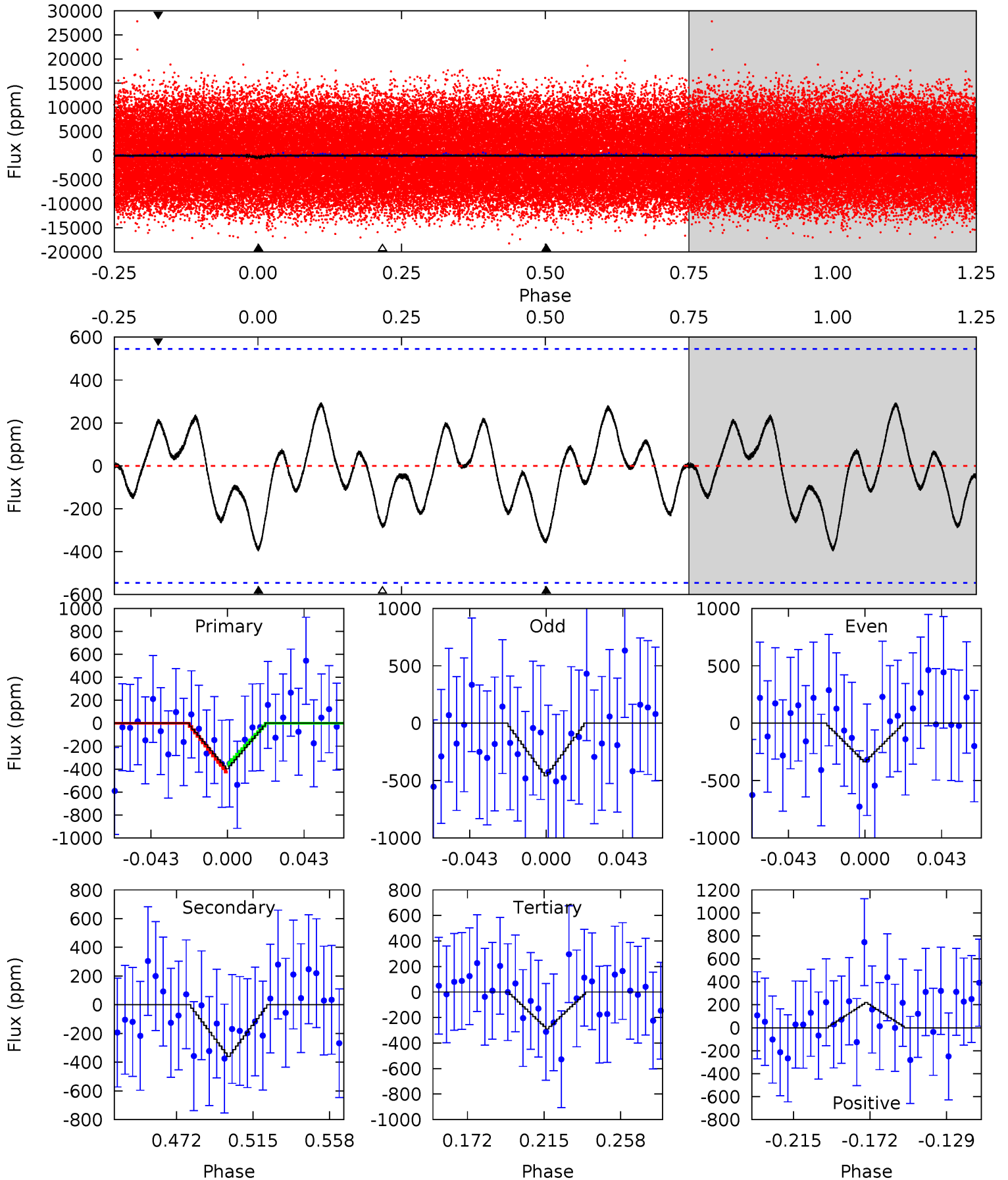
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.14	5.77	5.57	4.61	4.71	1.96	3.07	2.57	3.53	0.19	1.15	5.29	1.08	0.43	0.18



Alt Model-Shift Uniqueness Test

008523595-01, P = 0.938959 Days, E = 132.035184 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.45	3.13	2.51	1.90	4.74	2.02	1.15	0.94	1.56	0.62	1.23	0.53	0.52	0.43	0.25



Stellar Parameters For KIC 008523595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6785^{+189}_{-283}	$4.251^{+0.087}_{-0.203}$	$0.140^{+0.200}_{-0.350}$	$1.474^{+0.495}_{-0.228}$	$1.412^{+0.196}_{-0.218}$	$0.622^{+0.263}_{-0.352}$
	+3%/-4%	+2%/-5%	+143%/-250%	+34%/-15%	+14%/-15%	+42%/-57%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008523595-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-54 ± 9	$4.80^{+4.78}_{-3.61}$	3540^{+292}_{-198}	3333^{+3397}_{-6441}	$0.559^{+9.011}_{-0.424}$
Alt.	-360 ± 115	$5.53^{+5.56}_{-3.73}$	3537^{+302}_{-213}	4978^{+4218}_{-1400}	$2.763^{+23.215}_{-2.088}$

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 $A_{obs} \gg 1.0$

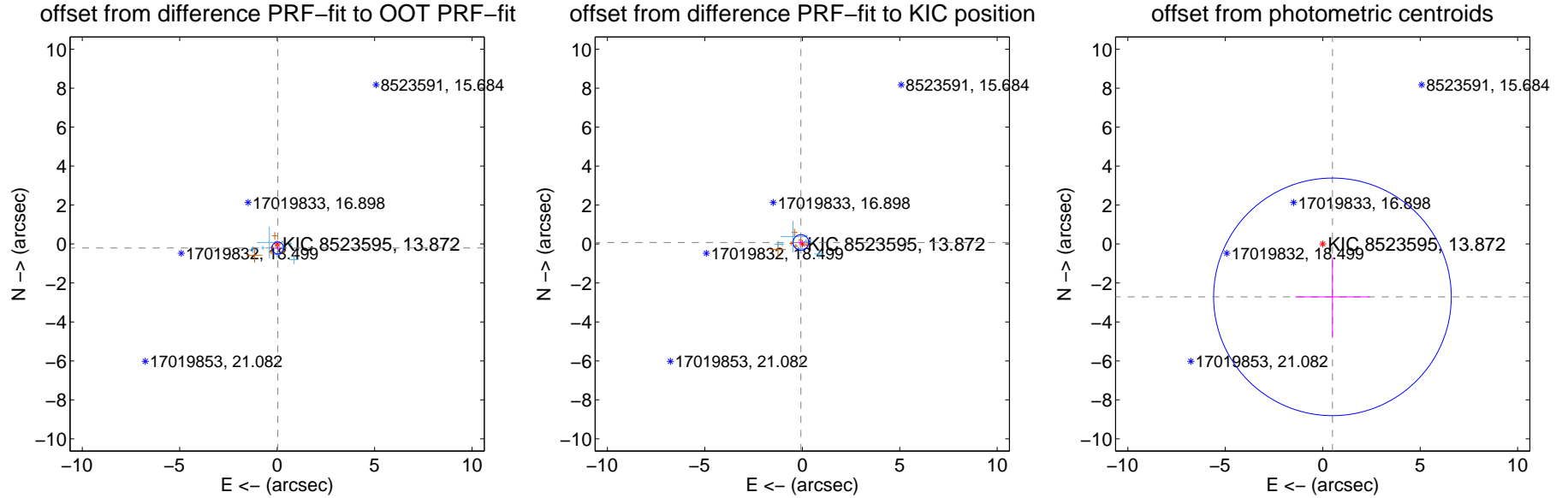
DV Centroid Data

Supplemental centroid analysis for 008523595-01. Kepler magnitude: 13.87. Transit SNR 2.88

There are 9 quarters with good PRF difference image offsets

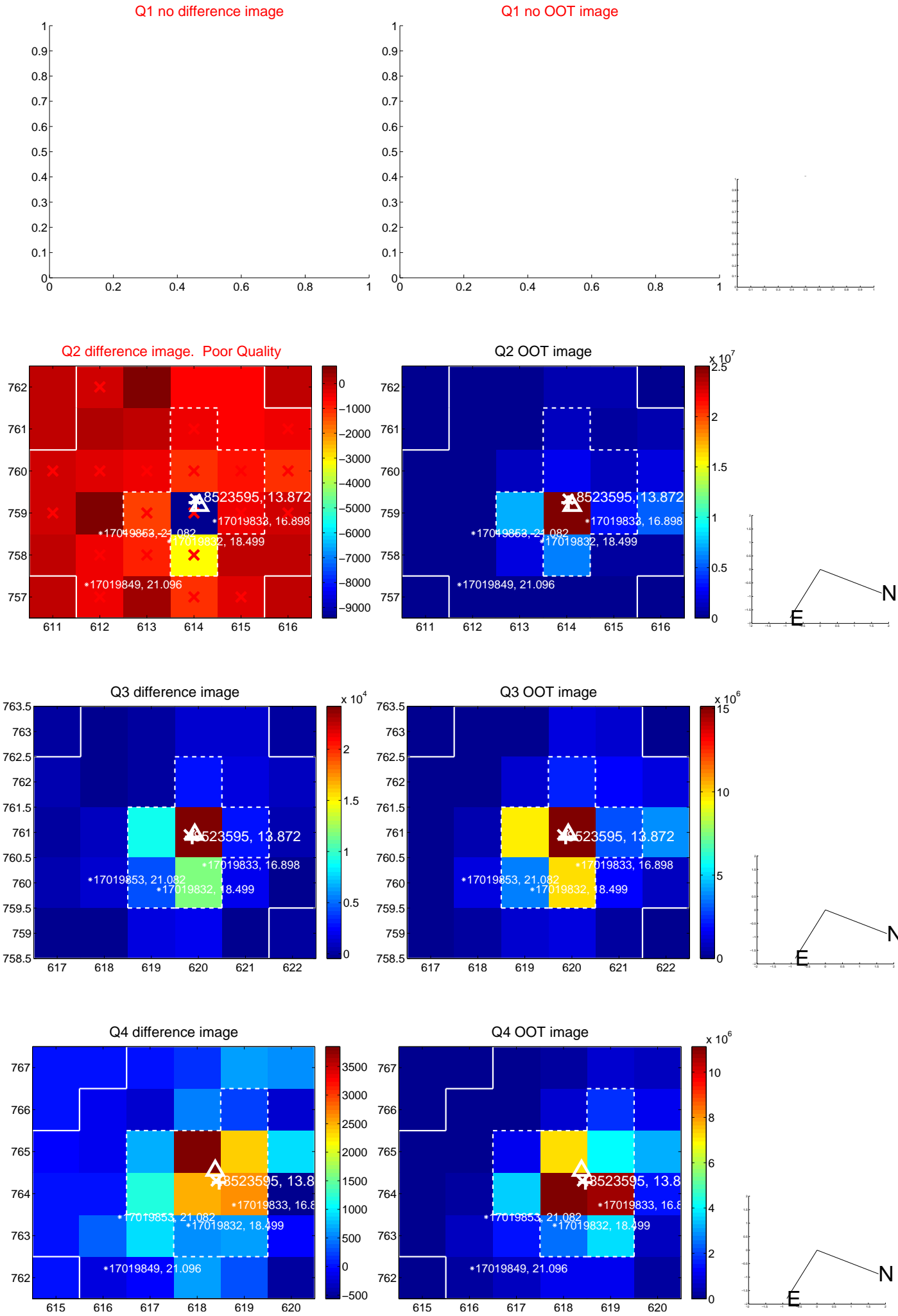
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.207 ± 0.101	2.05	-0.032 ± 0.164	-0.205 ± 0.102
PRF-fit source offset from KIC position	0.109 ± 0.133	0.82	0.074 ± 0.156	0.080 ± 0.099
photometric centroid source offset	2.76 ± 2.03	1.36	-0.50 ± 1.92	-2.71 ± 2.04

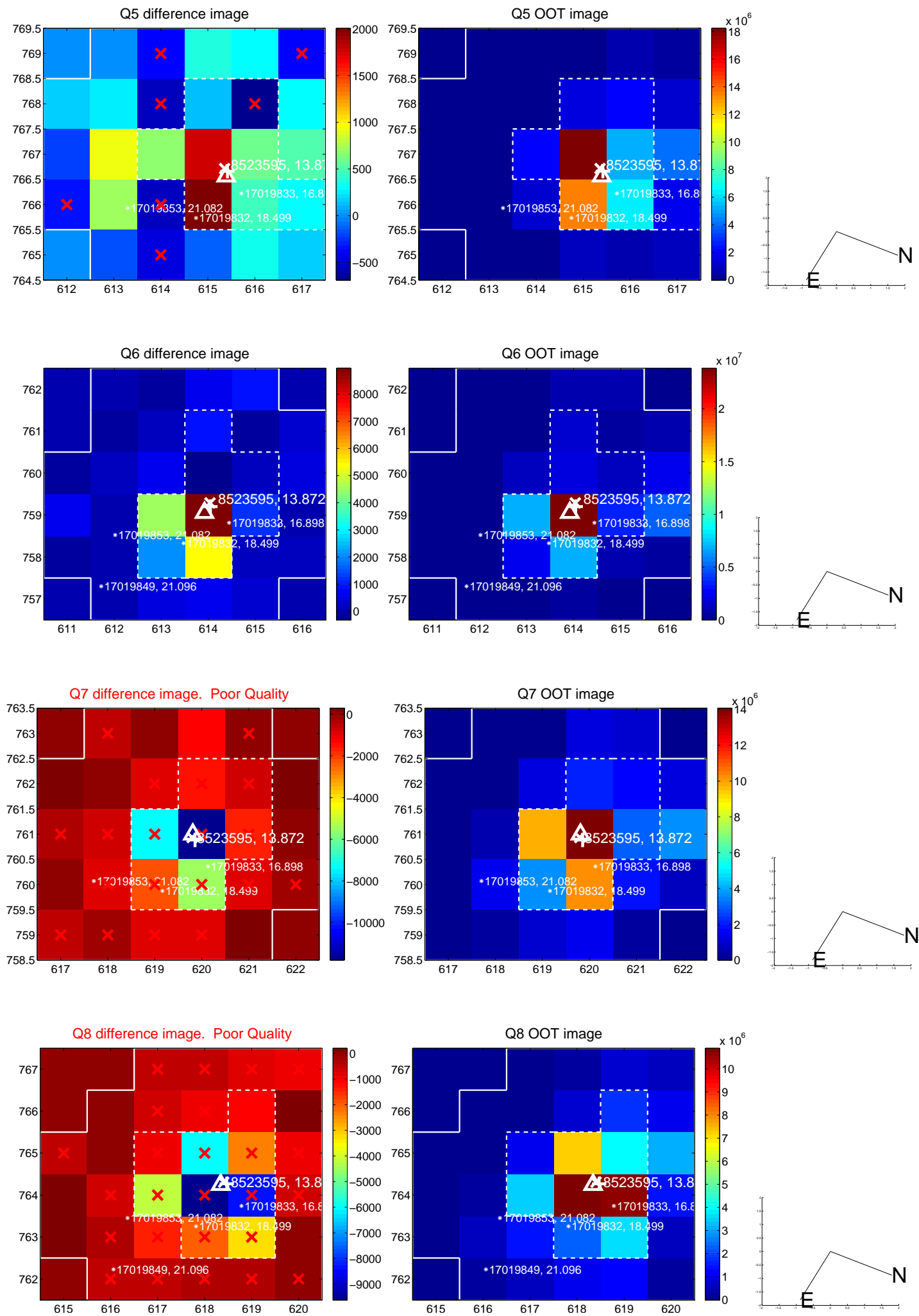


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

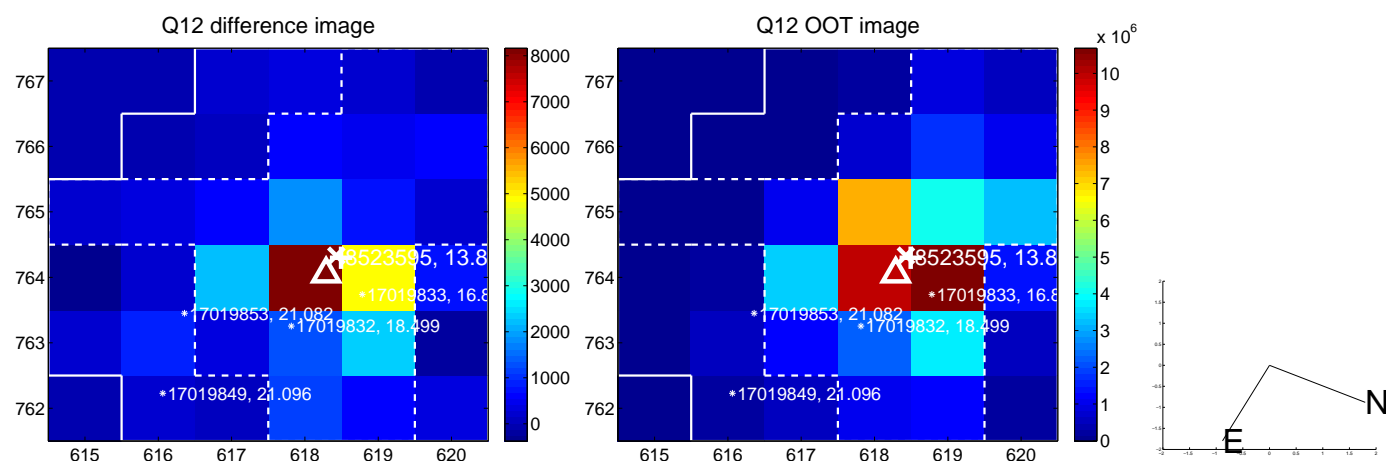
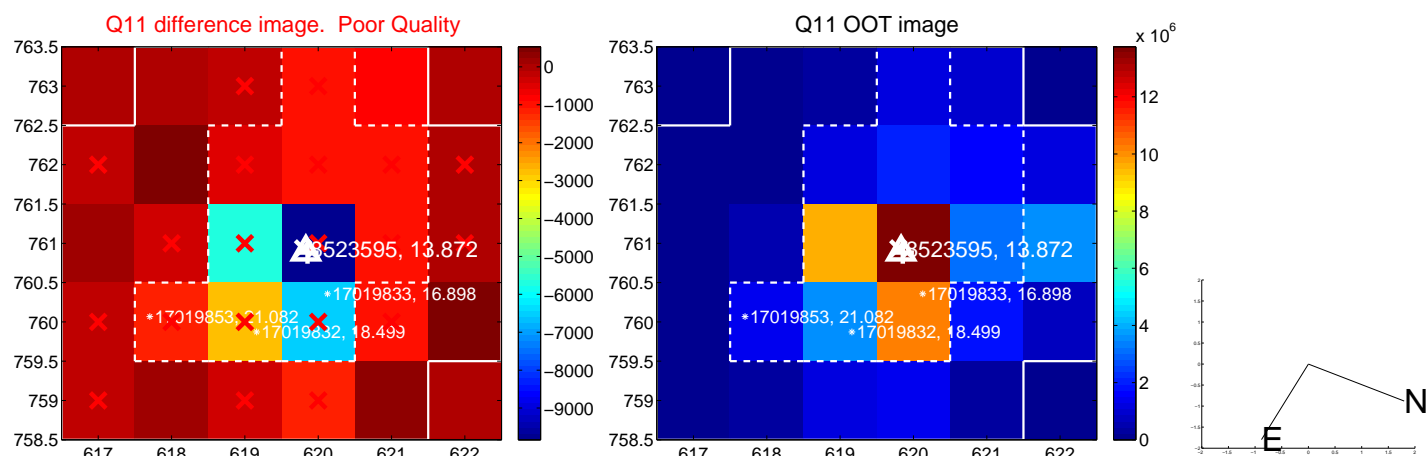
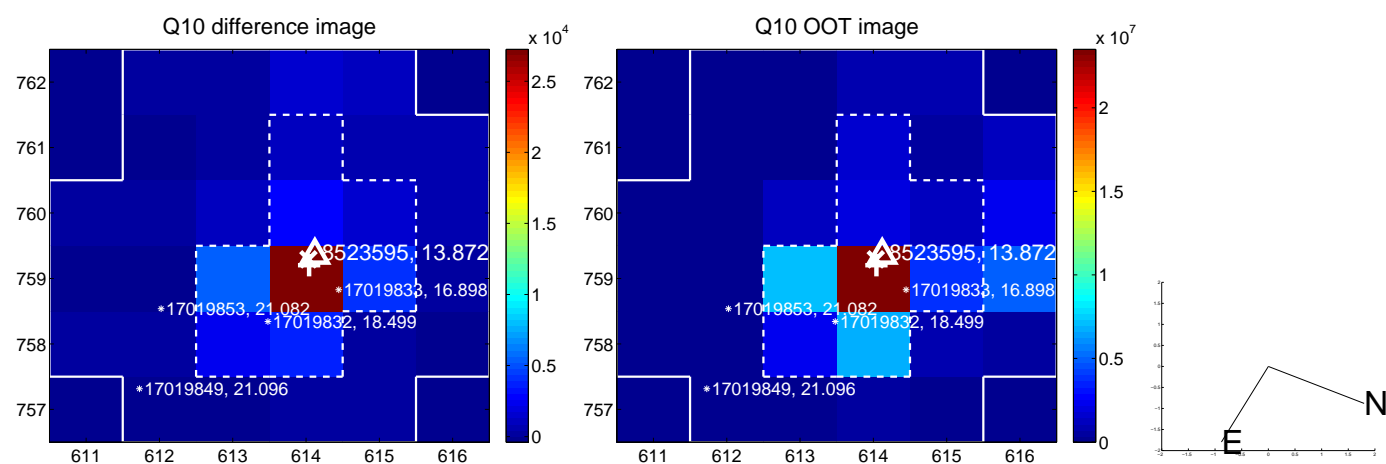
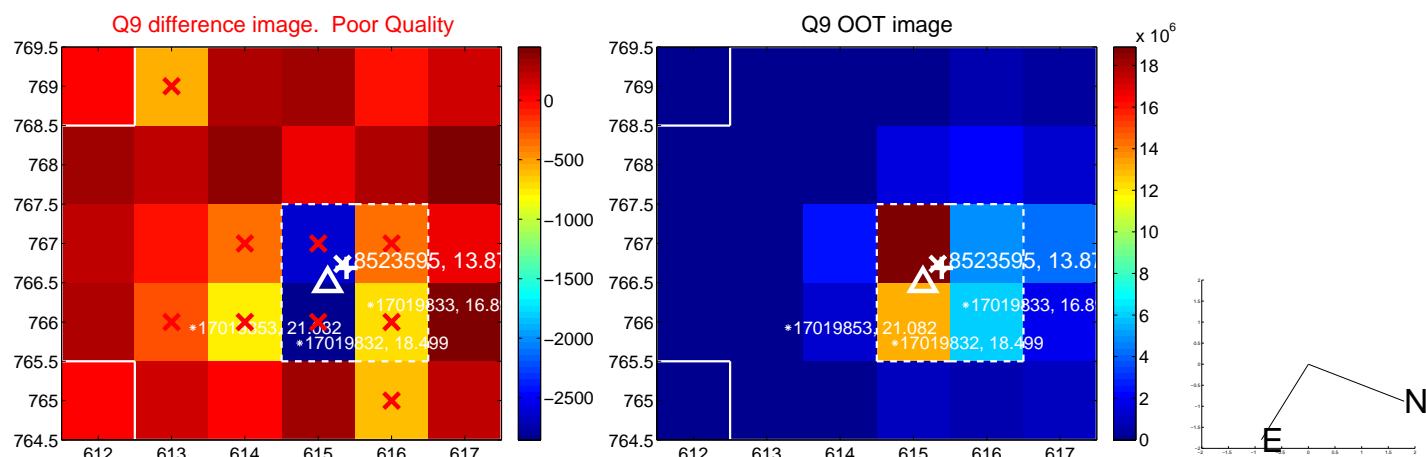
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



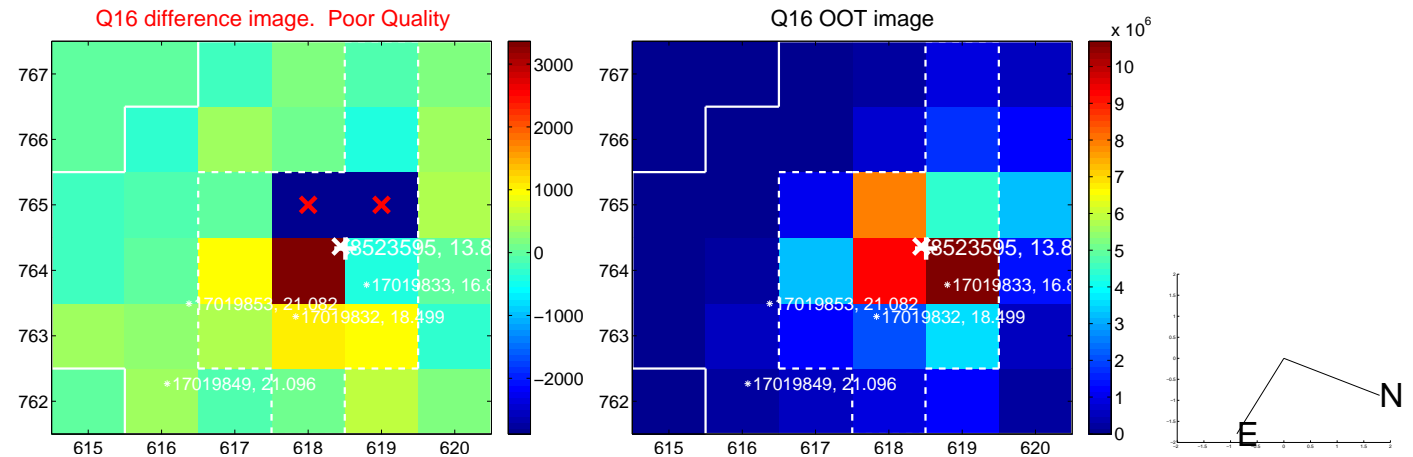
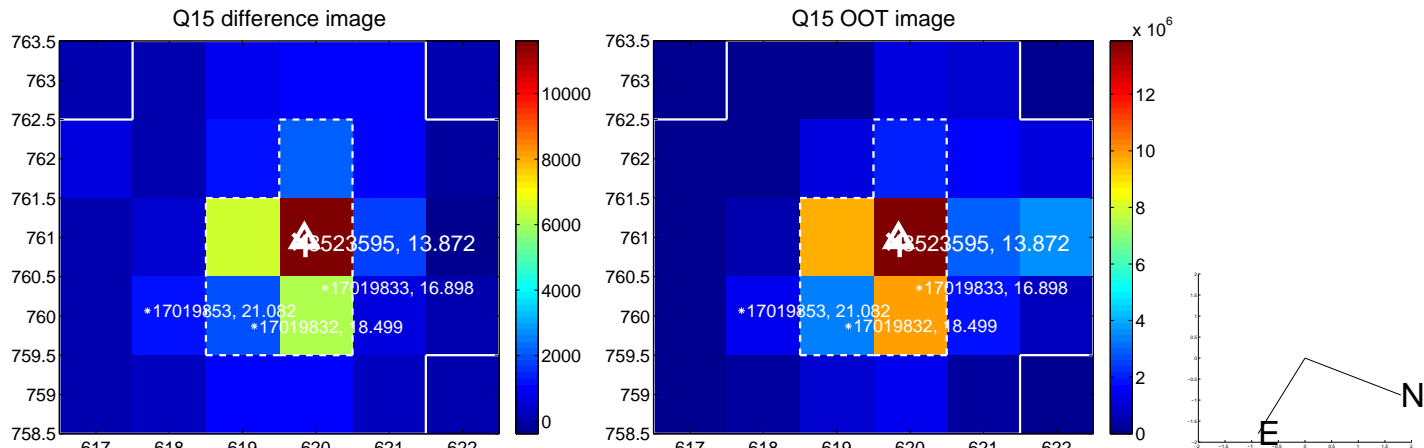
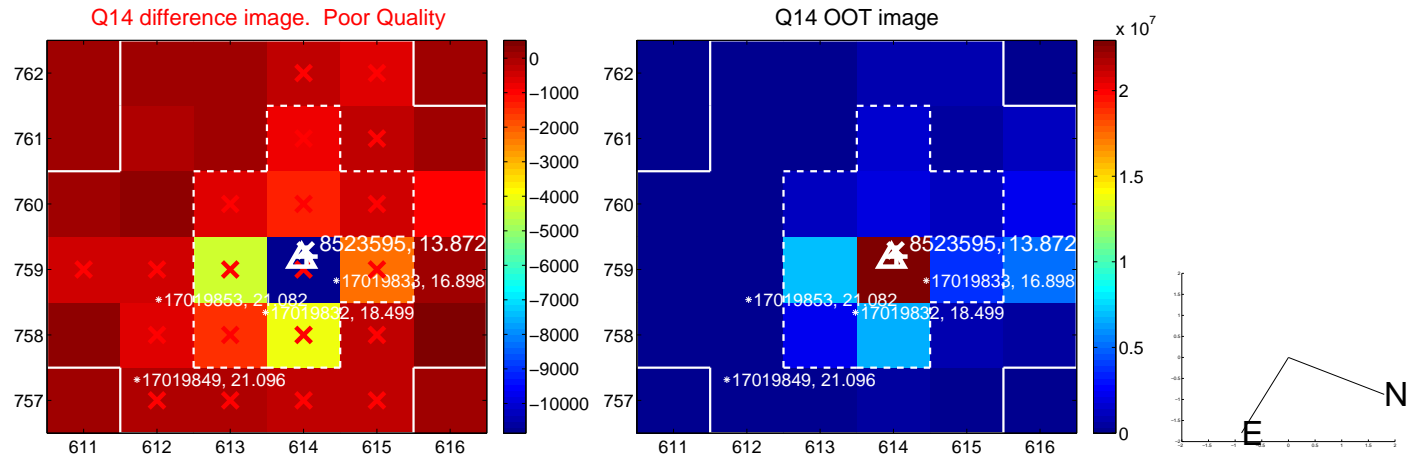
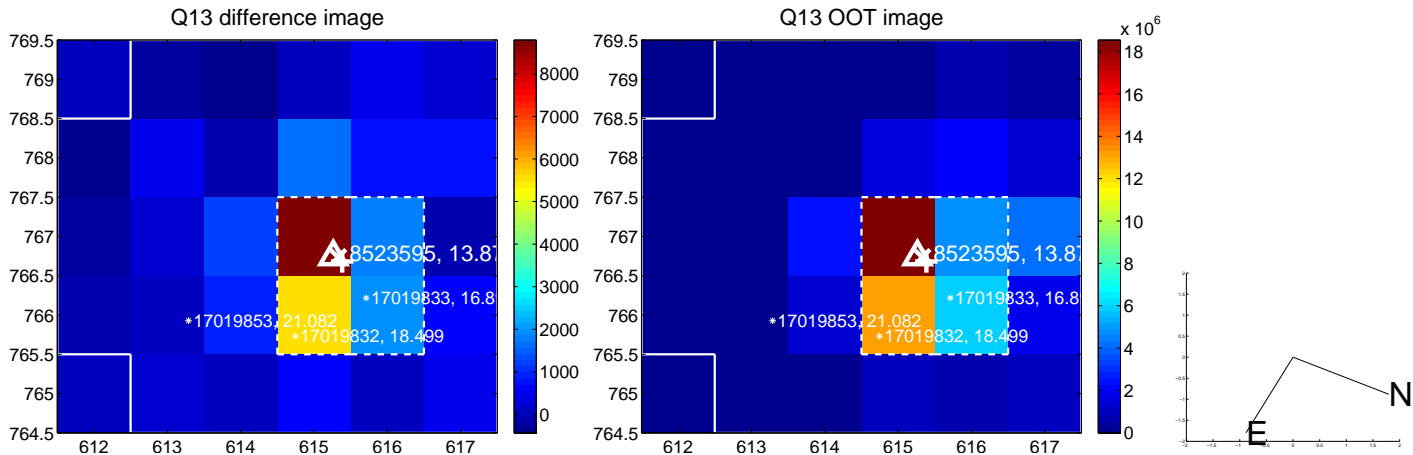
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



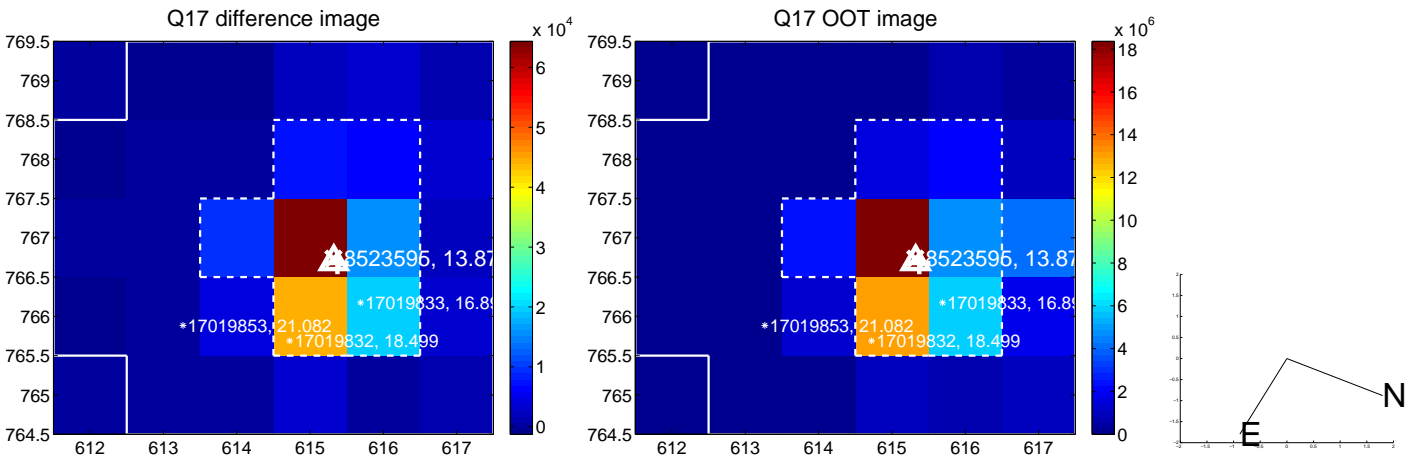
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



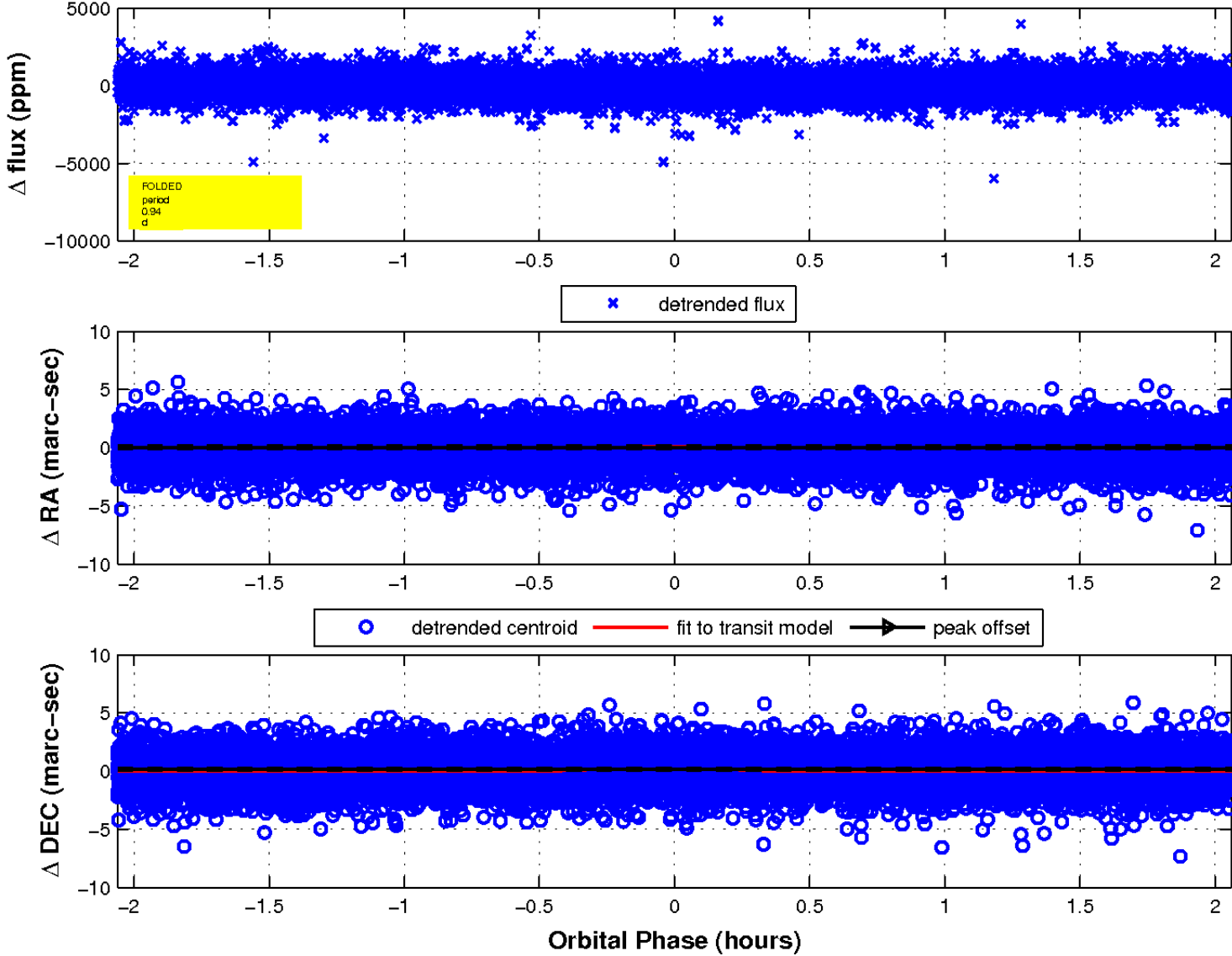
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



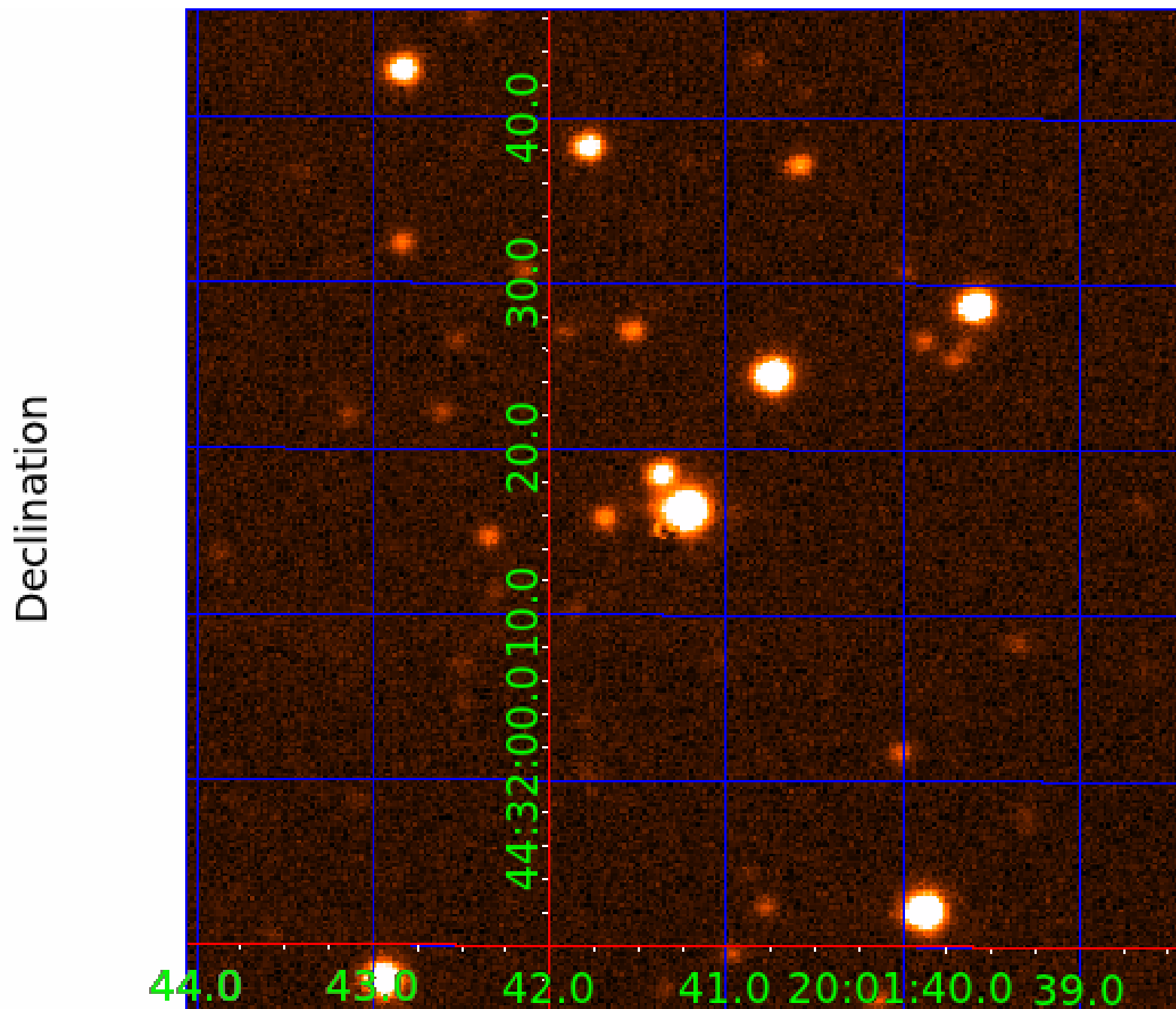
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 008523595

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})
008523595-01	OBS	No	0.938914	132.041081	49.4	0.687	9.8	2.9	1.47	6785	1.06	9302.32
008523595-02	OBS	No	0.938927	131.566967	96.5	2.385	9.1	6.9	1.47	6785	1.54	9302.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008523595-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008523595-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

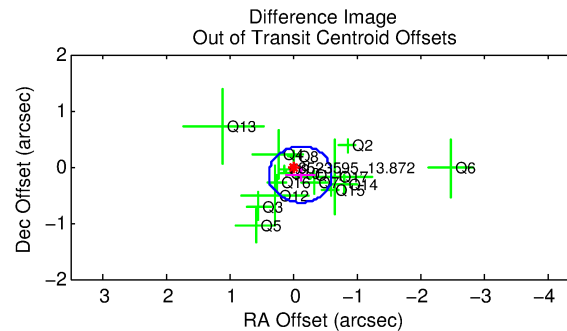
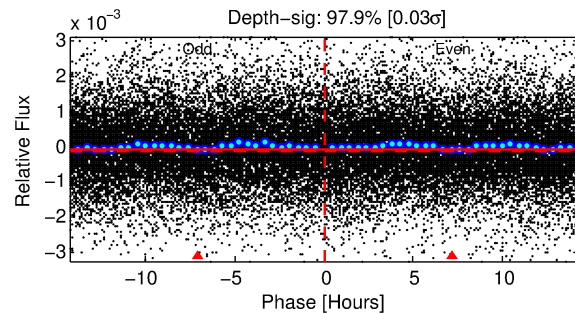
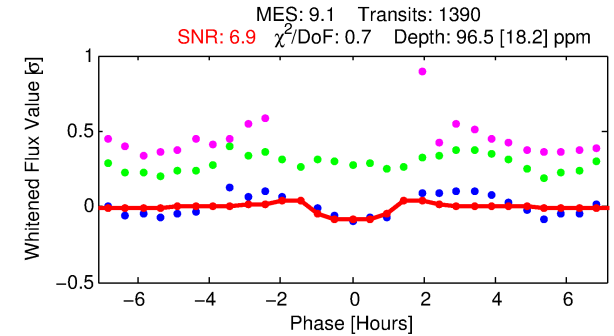
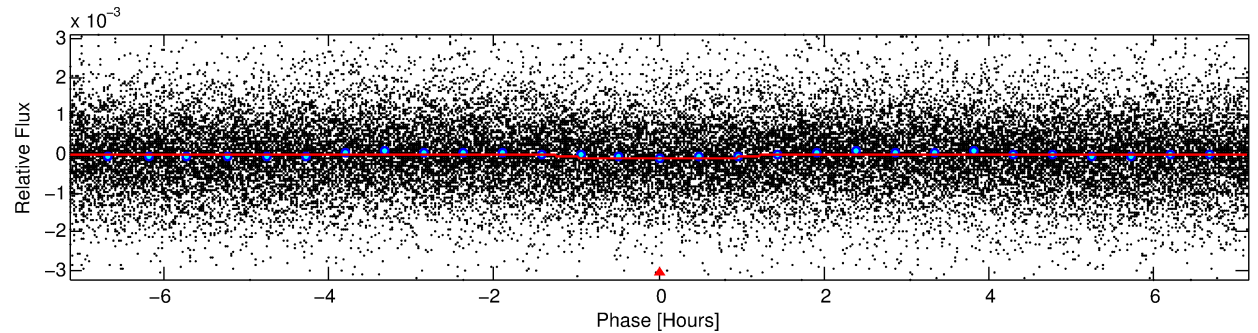
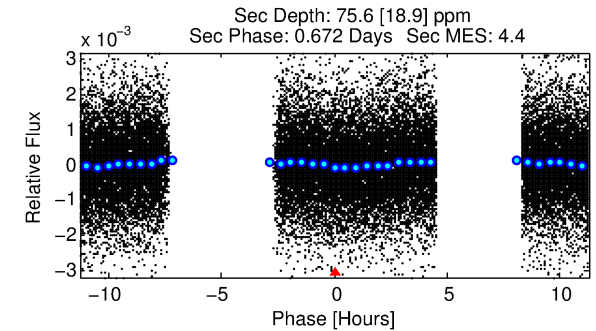
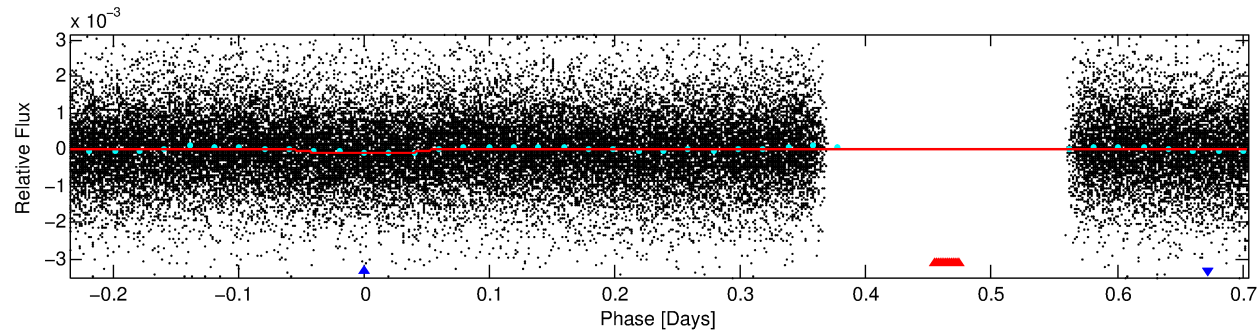
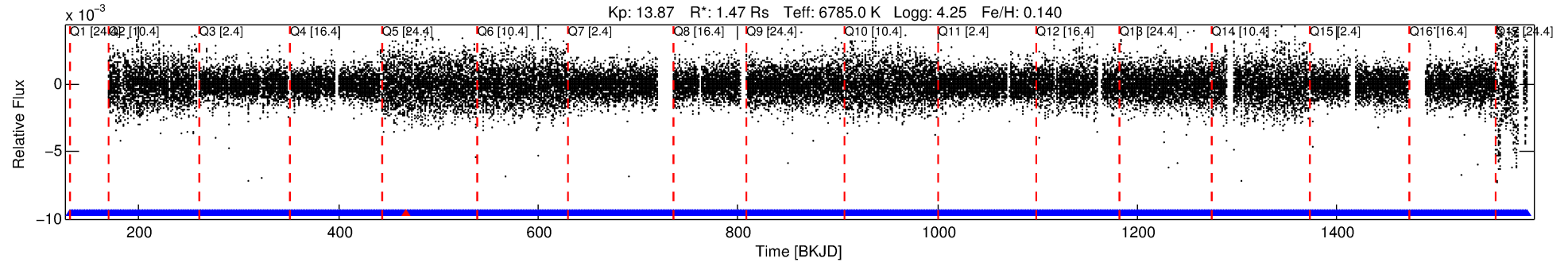
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008523595-02

No Significant Match Found

DV One-Page Summary

KIC: 8523595 Candidate: 2 of 2 Period: 0.939 d



DV Fit Results:

Period = 0.93893 [0.00001] d
Epoch = 131.5670 [0.0028] BKJD
Rp/R* = 0.0096 [0.0036]
a/R* = 2.42 [4.05]
b = 0.67 [1.70]
Seff = 9302.15 [3892.06]
Teq = 2504 [262] K
Rp = 1.54 [0.77] Re
a = 0.0211 [0.0057] AU
Ag = 7.78 [6.80] [1.00σ]
Teffp = 6465 [1299] K [2.99σ]

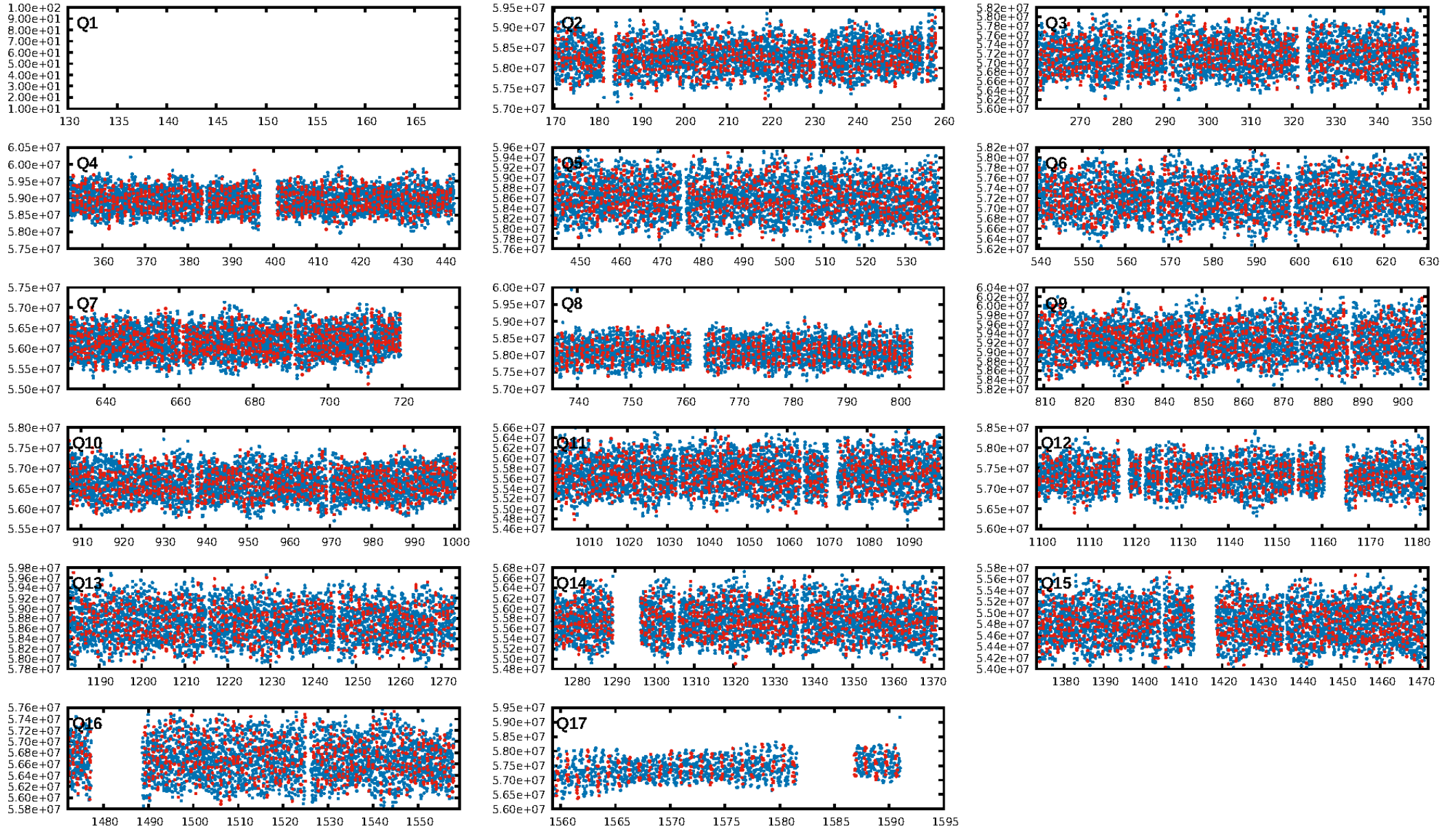
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.21e-18
RollingBand-fgt: 1.00 [1360/1361]
GhostDiagnostic-chr: 0.3303
Centroid-sig: 59.1%
Centroid-so: 1.031 arcsec [1.80σ]
OotOffset-rm: 0.183 arcsec [1.10σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.145 arcsec [1.15σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [16/16]

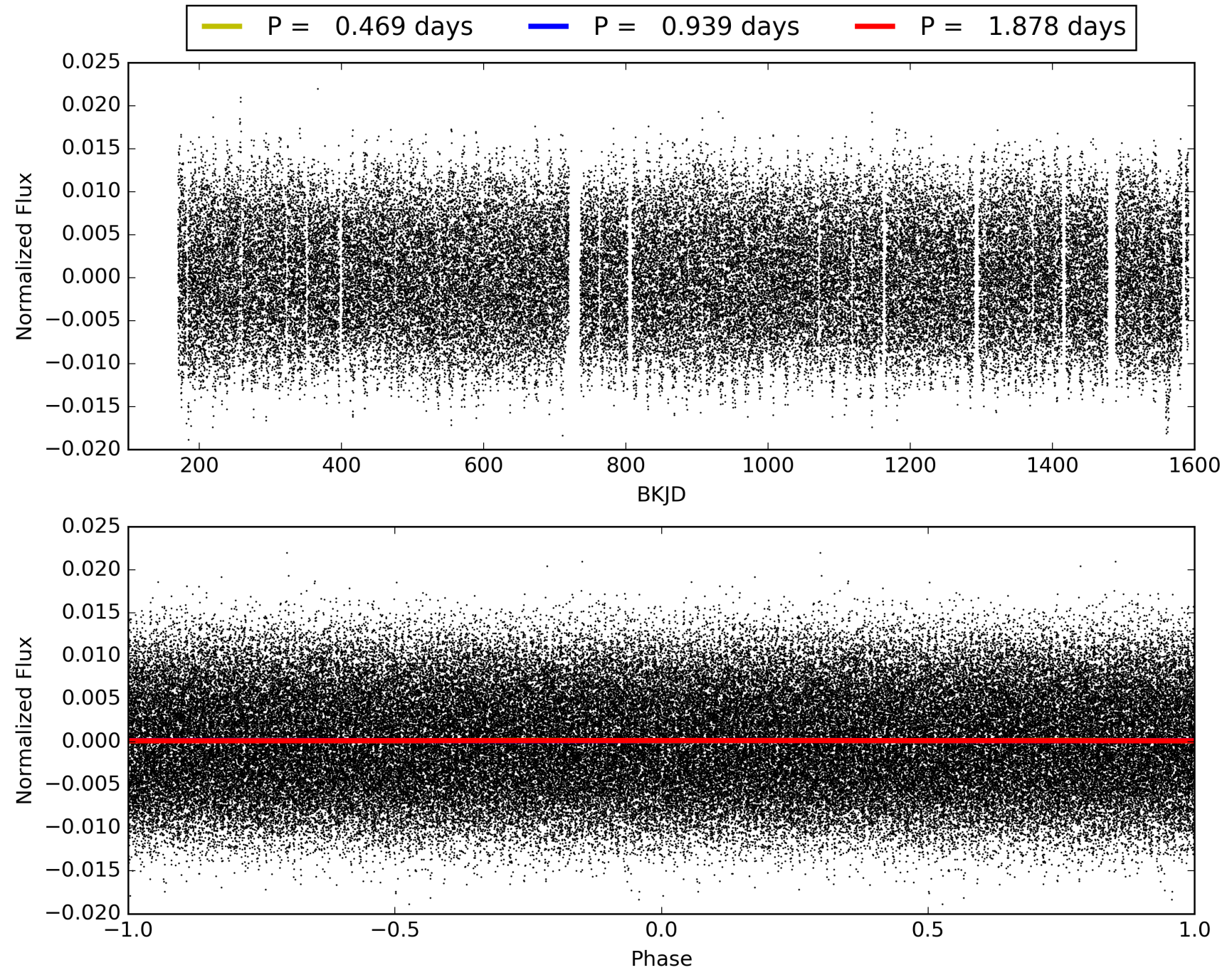
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:36:13 Z

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

TCE 008523595-02, PDC Light Curves

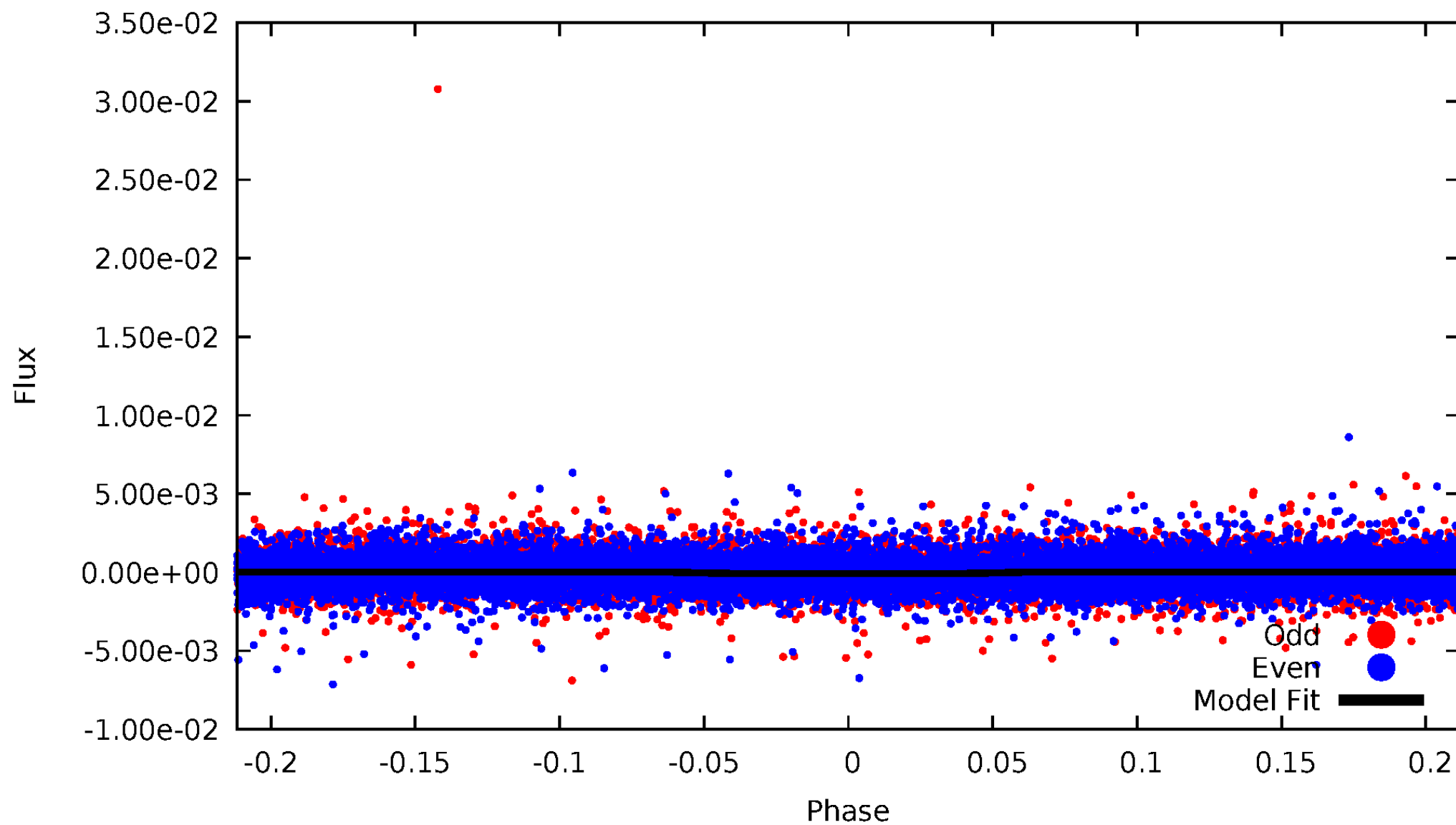


TCE 008523595-02



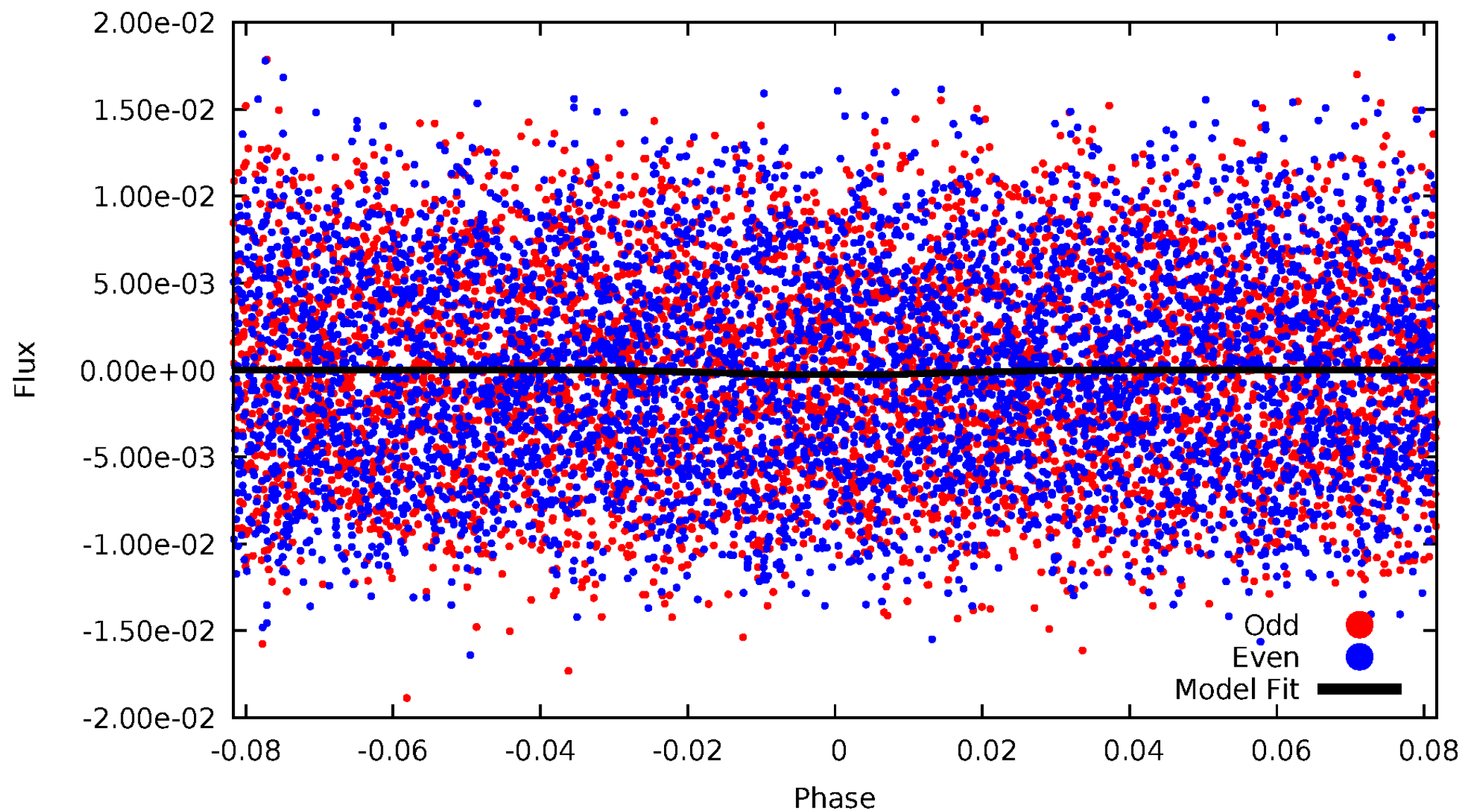
DV Odd/Even

TCE 008523595-02



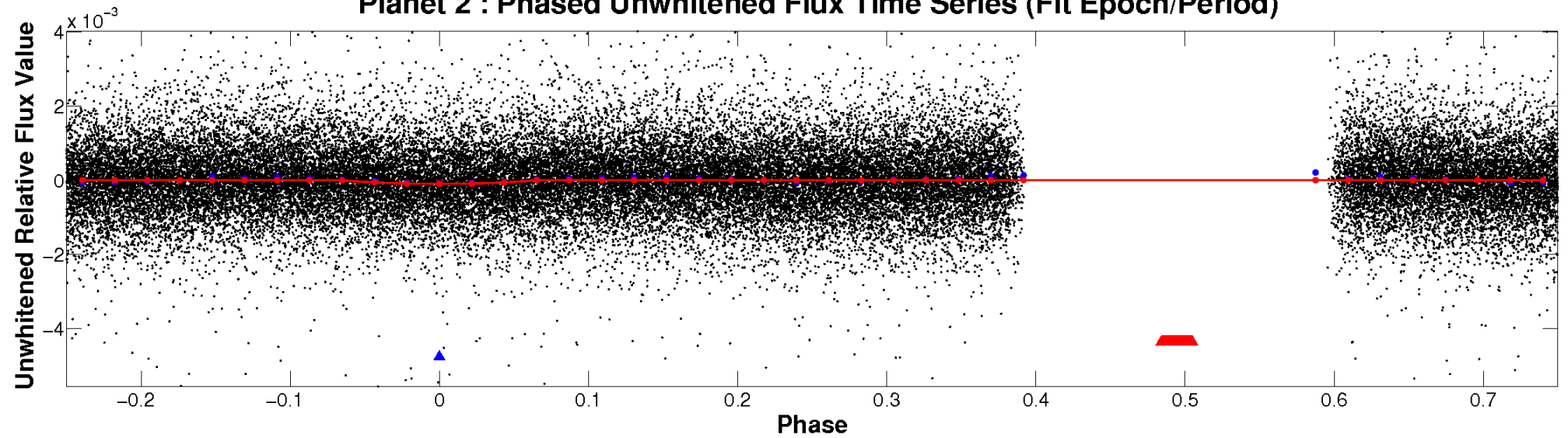
ALT Odd/Even

TCE 008523595-02

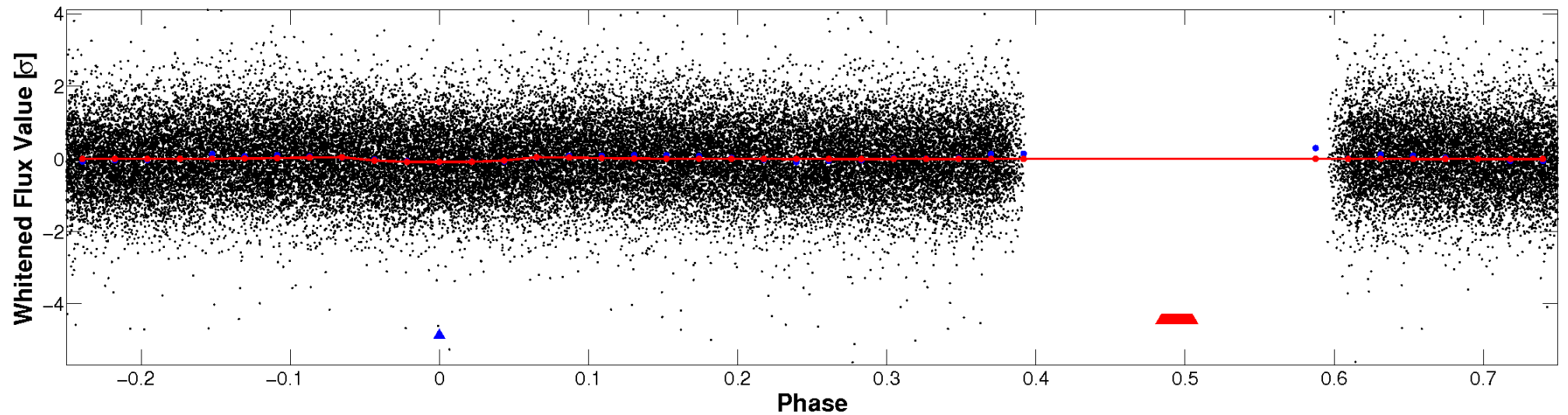


Non-Whitened Vs. Whitened Light Curve

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

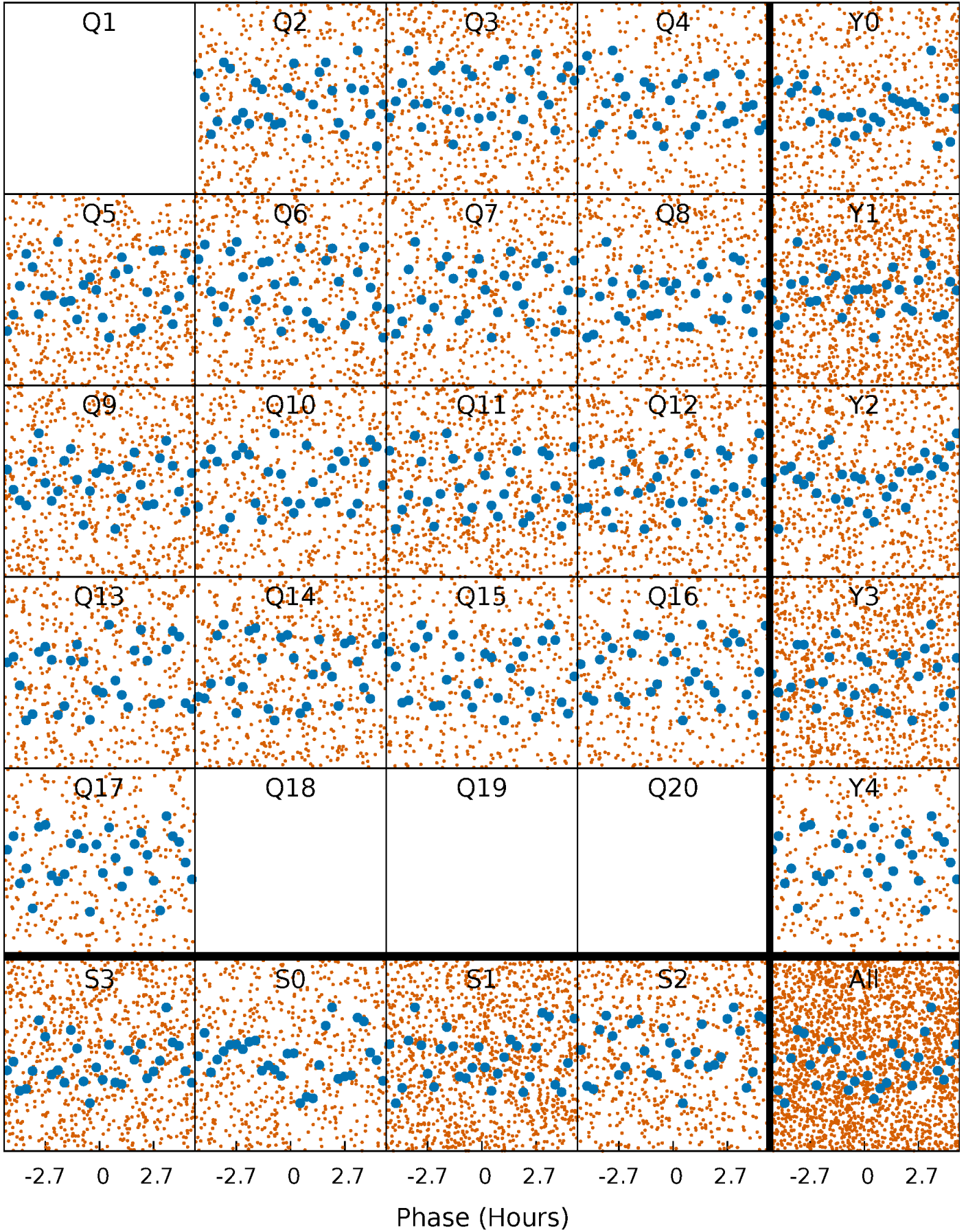


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



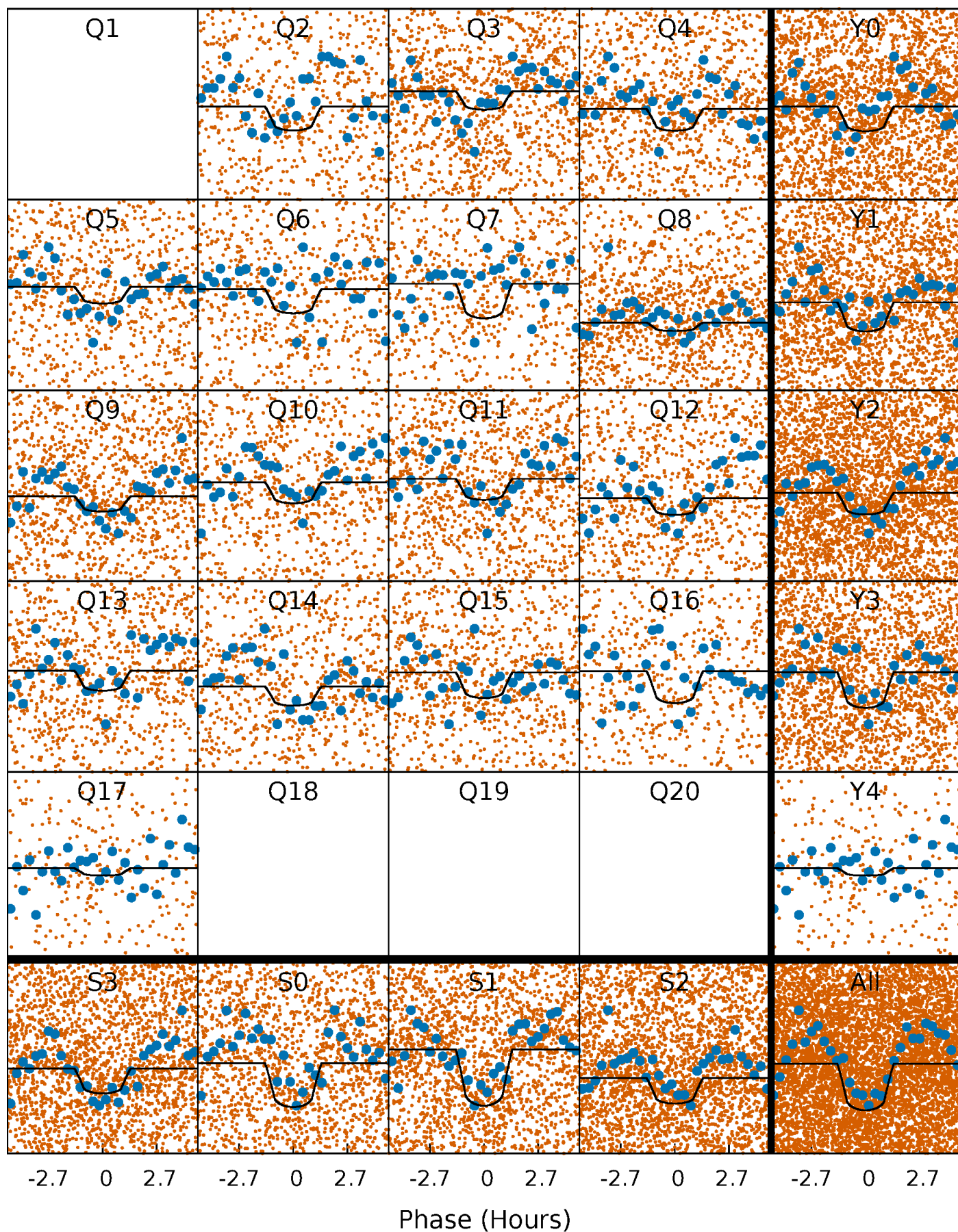
PDC Quarter-Phased Transit Curves

TCE 008523595-02 P= 0.938927 Days $T_0=131.566967$ (BKJD)



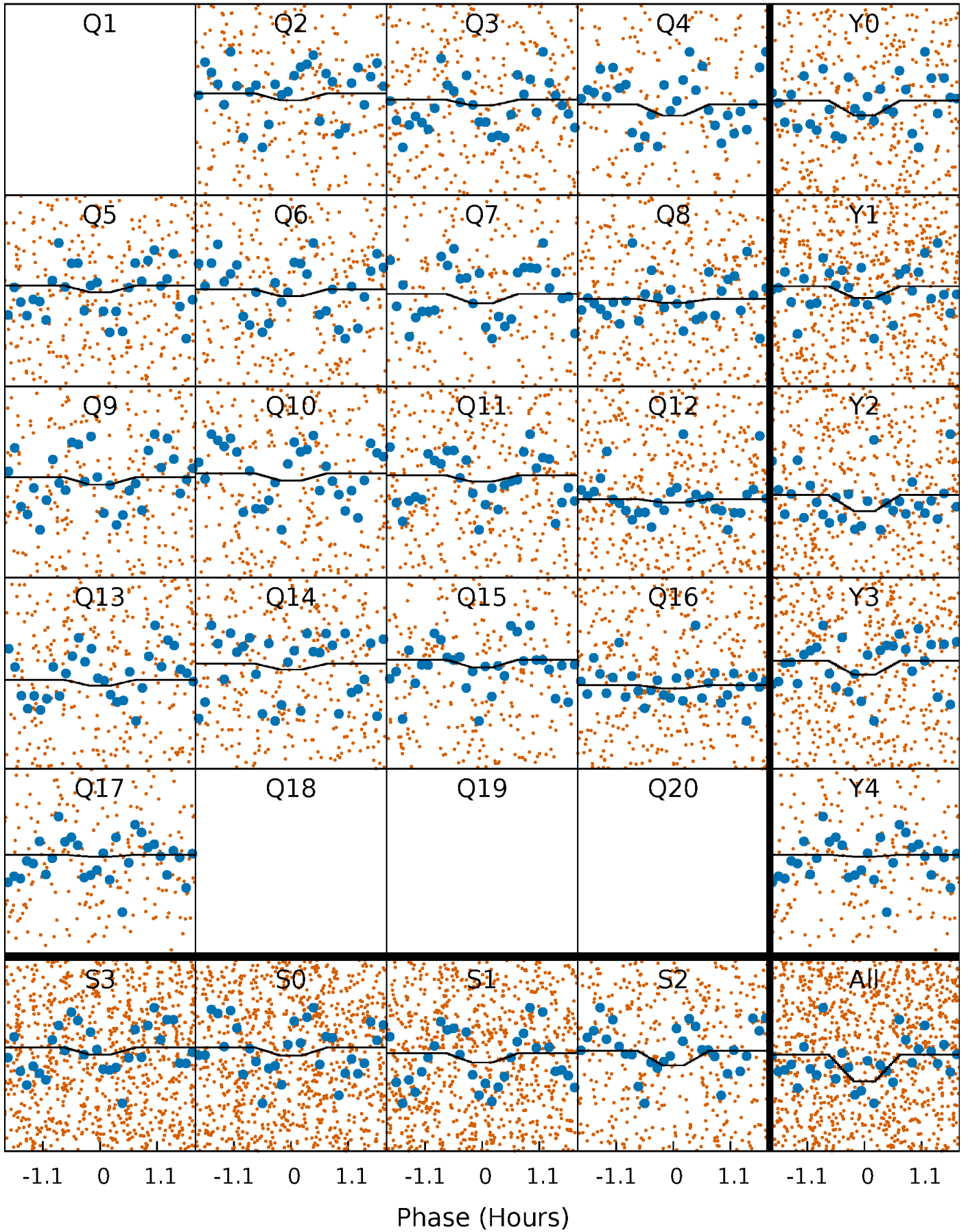
DV Quarter-Phased Transit Curves

TCE 008523595-02 P= 0.938927 Days $T_0=131.566967$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

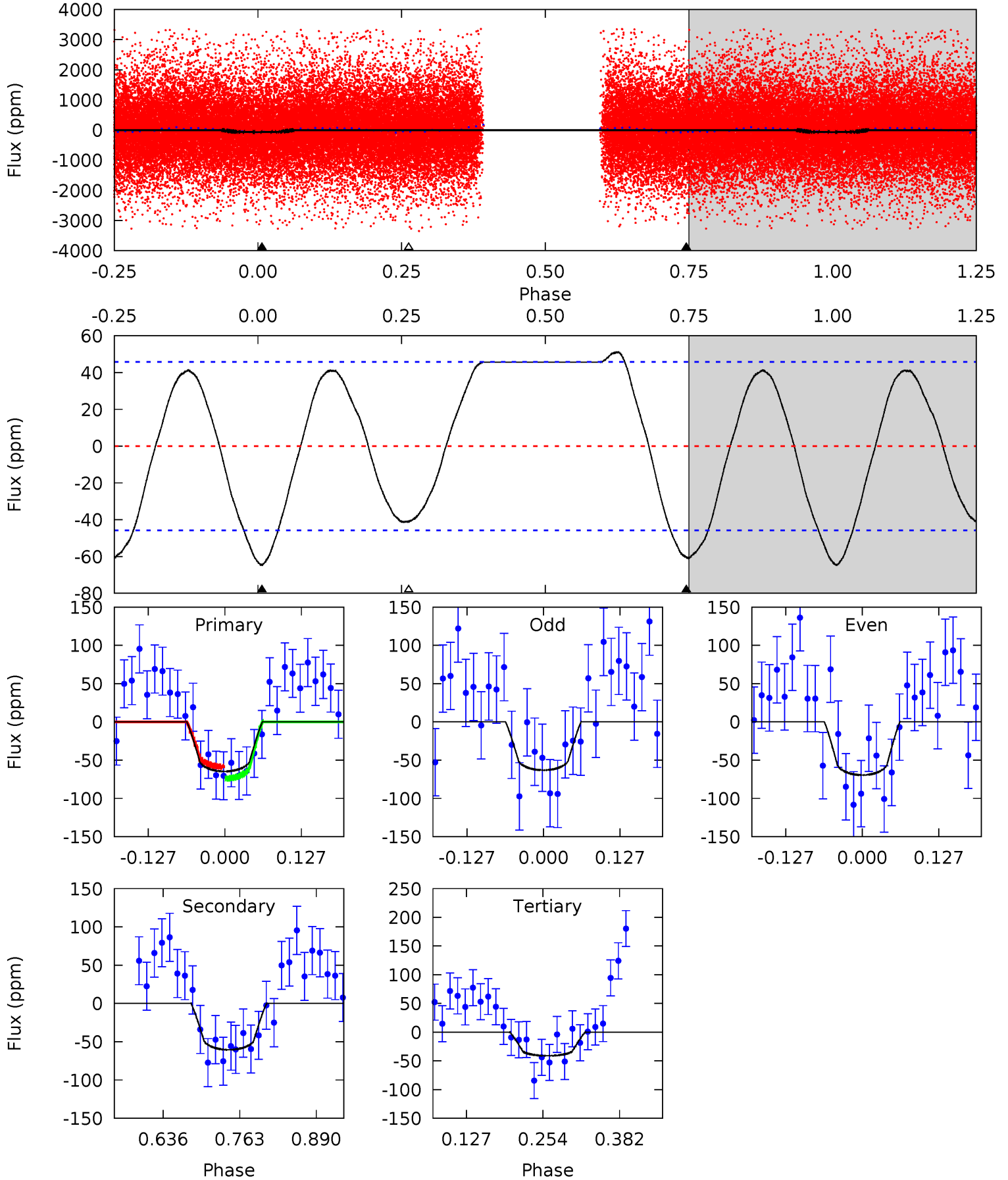
TCE 008523595-02 P= 0.938964 Days $T_0=131.557904$ (BKJD)



DV Model-Shift Uniqueness Test

008523595-02, P = 0.938927 Days, E = 131.566967 Days

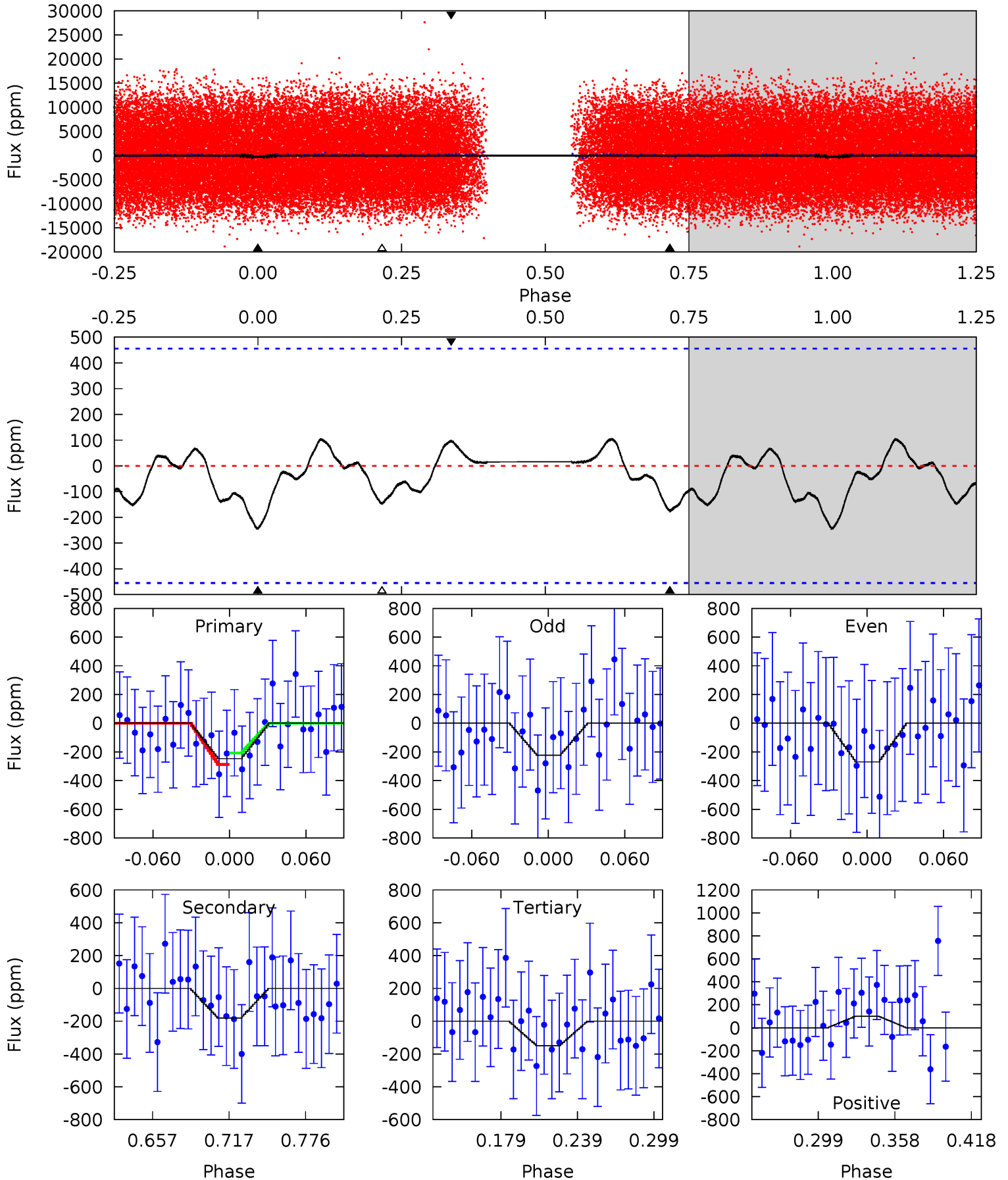
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.37	5.96	4.05	0	4.51	1.53	3.01	2.32	6.37	1.91	5.96	0.32	0.91	0.44	0.78



Alt Model-Shift Uniqueness Test

008523595-02, P = 0.938964 Days, E = 131.557904 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.53	1.86	1.54	1.03	4.67	1.88	0.72	1.00	1.50	0.32	0.82	0.24	0.66	0.30	0.41



Stellar Parameters For KIC 008523595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6785^{+189}_{-283}	$4.251^{+0.087}_{-0.203}$	$0.140^{+0.200}_{-0.350}$	$1.474^{+0.495}_{-0.228}$	$1.412^{+0.196}_{-0.218}$	$0.622^{+0.263}_{-0.352}$
	+3%/-4%	+2%/-5%	+143%/-250%	+34%/-15%	+14%/-15%	+42%/-57%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008523595-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-60 ± 10	$1.58^{+0.64}_{-0.62}$	3537^{+250}_{-203}	5959^{+1805}_{-899}	$5.985^{+8.882}_{-3.144}$
Alt.	-181 ± 97	$2.54^{+0.73}_{-0.66}$	3544^{+276}_{-212}	6114^{+1420}_{-1164}	$6.220^{+7.397}_{-3.718}$

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 $A_{obs} \gg 1.0$

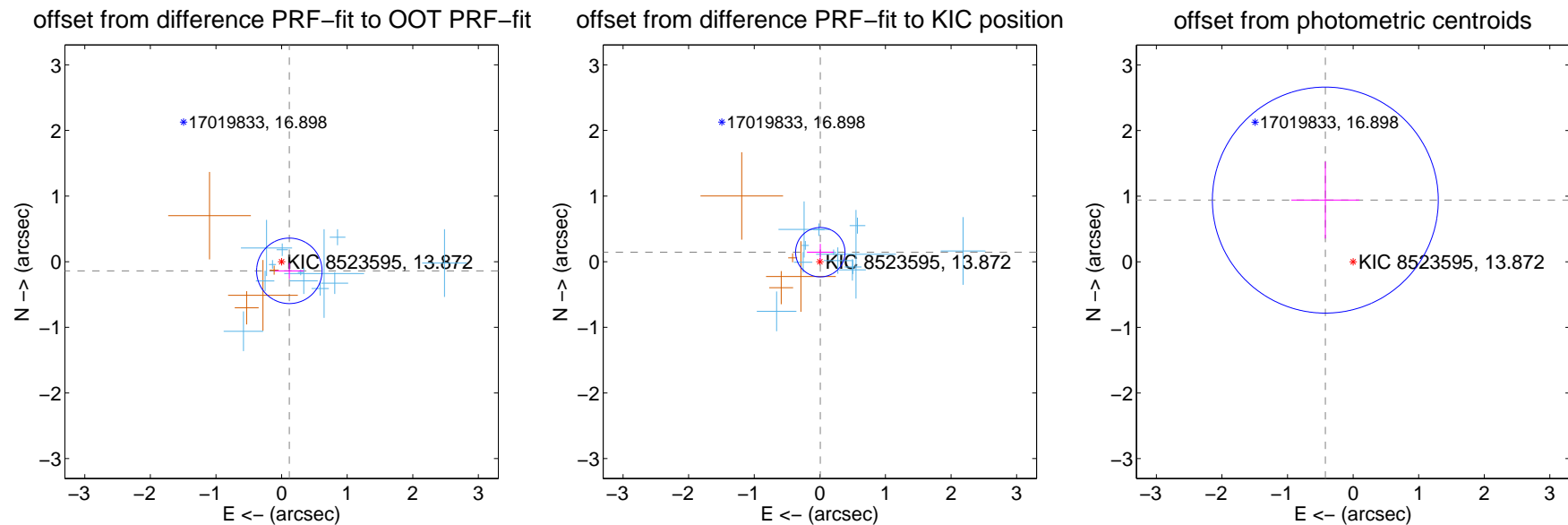
DV Centroid Data

Supplemental centroid analysis for 008523595-02. Kepler magnitude: 13.87. Transit SNR 6.88

There are 12 quarters with good PRF difference image offsets

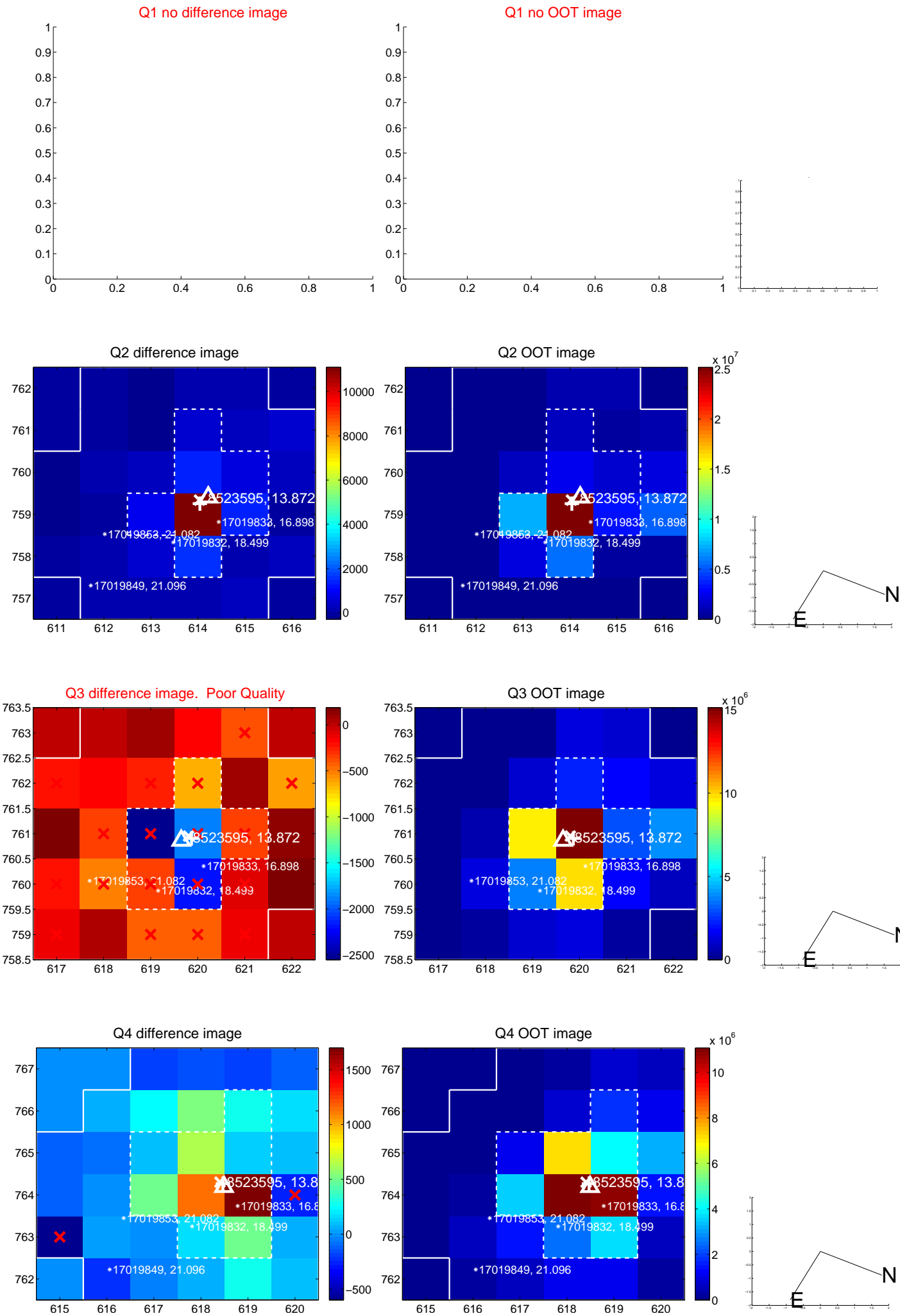
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.183 ± 0.166	1.10	-0.118 ± 0.219	-0.139 ± 0.122
PRF-fit source offset from KIC position	0.145 ± 0.125	1.15	-0.007 ± 0.203	0.145 ± 0.126
photometric centroid source offset	1.03 ± 0.57	1.80	0.42 ± 0.52	0.94 ± 0.58

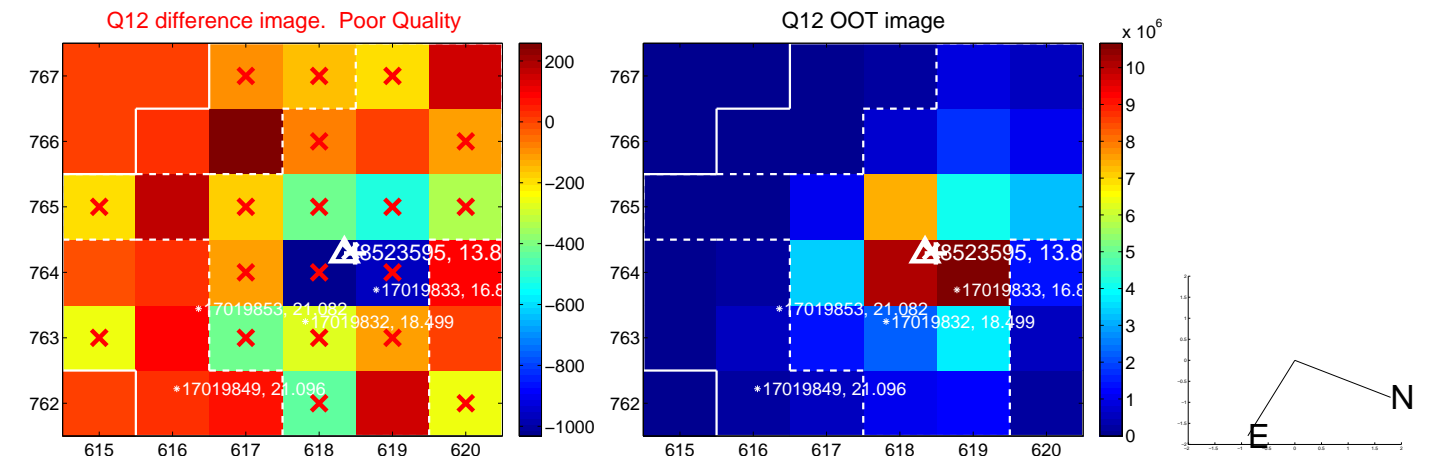
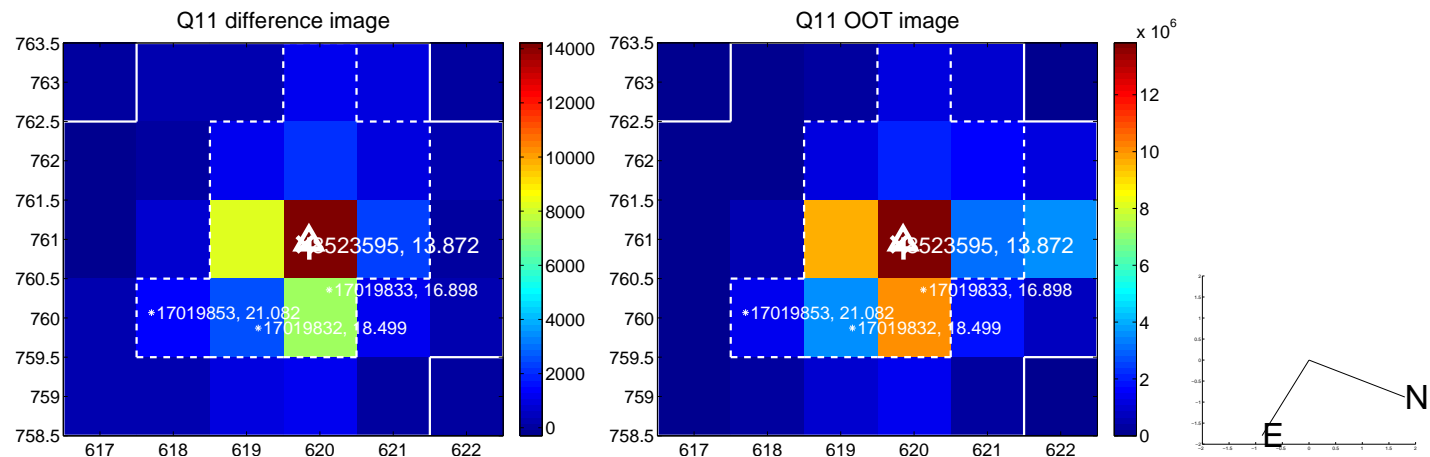
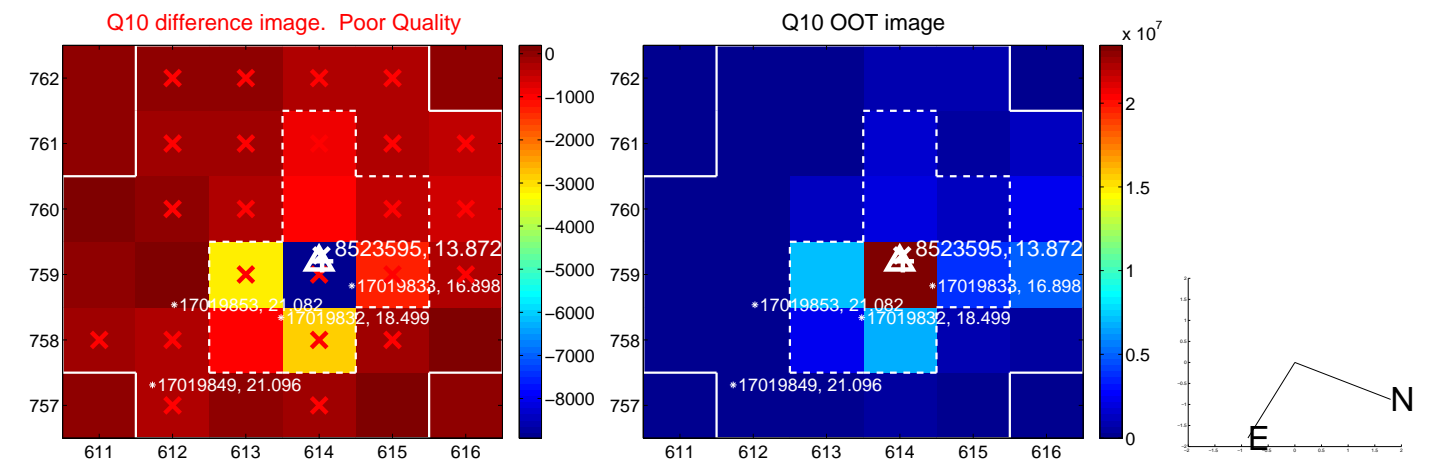
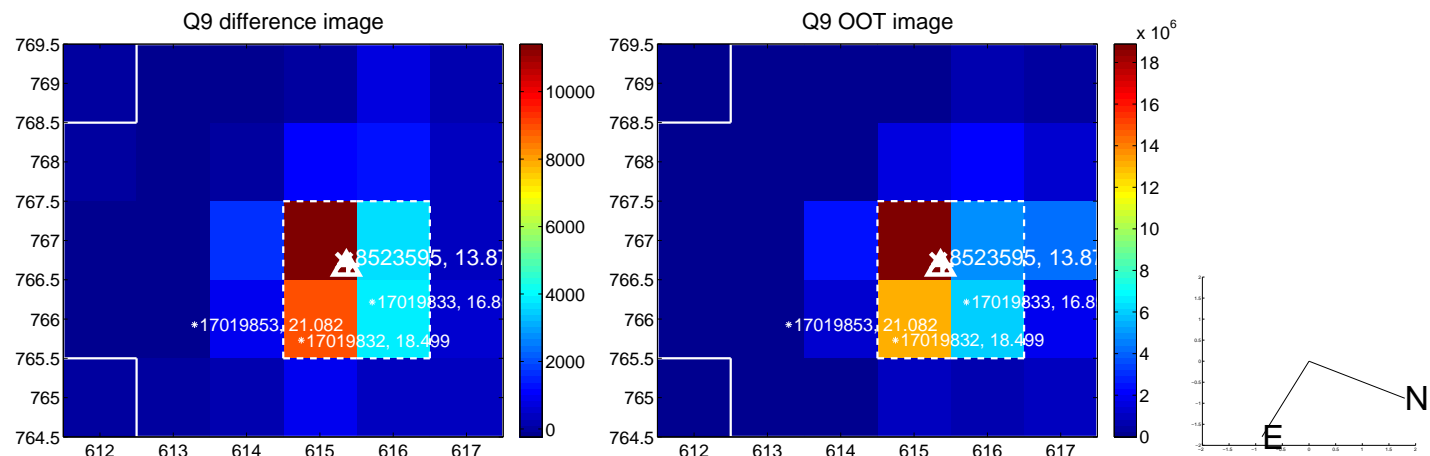


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

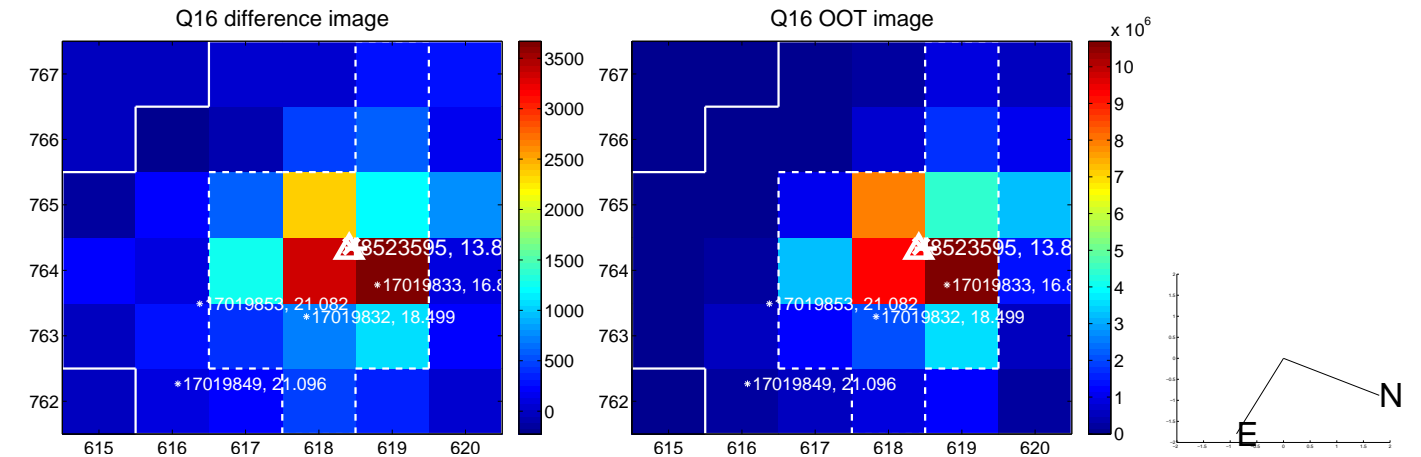
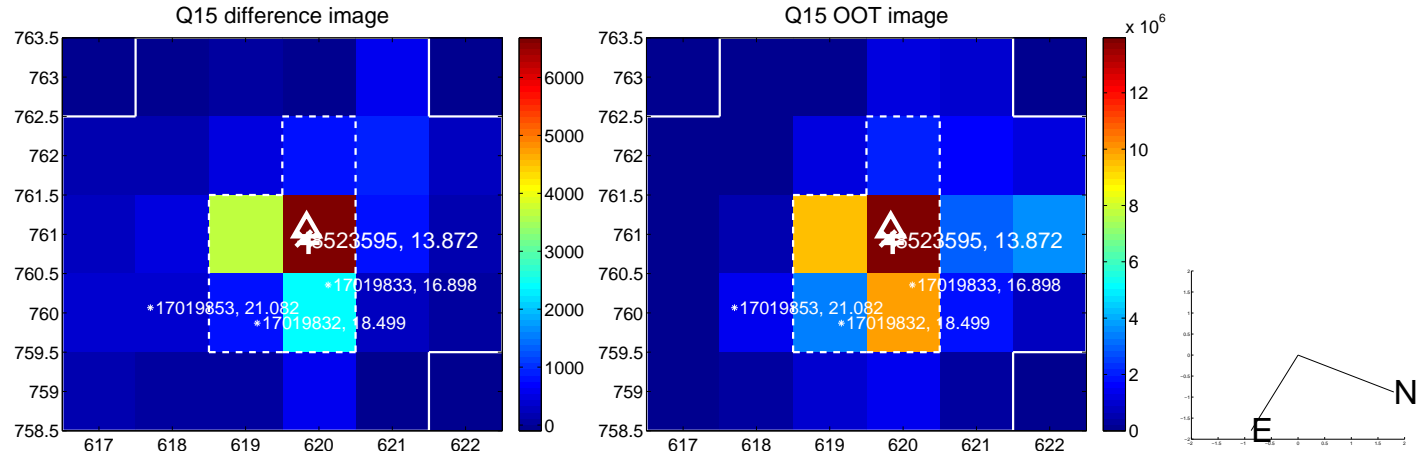
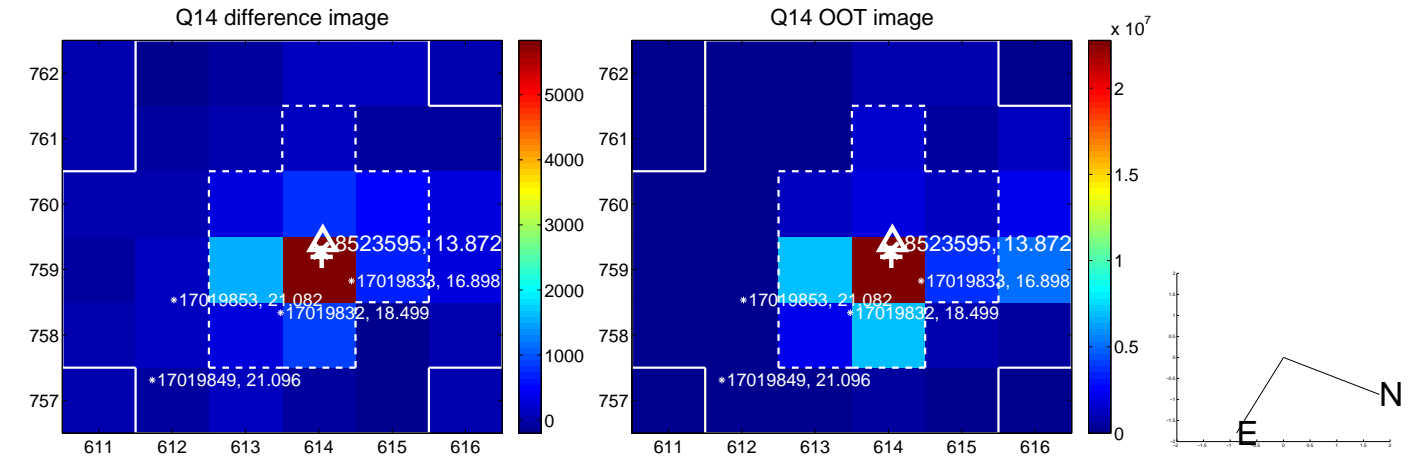
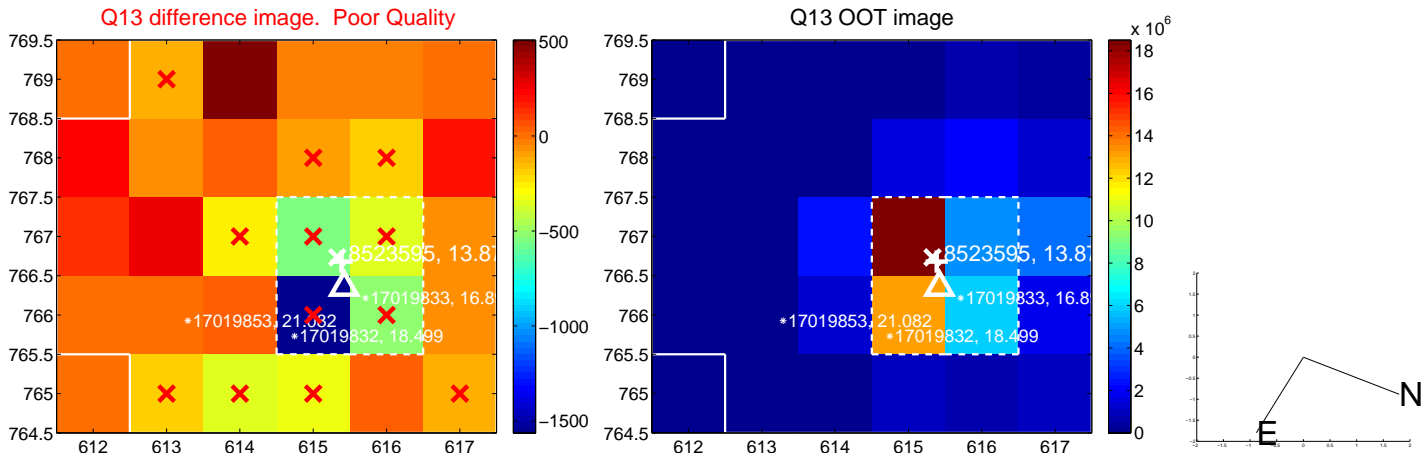
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



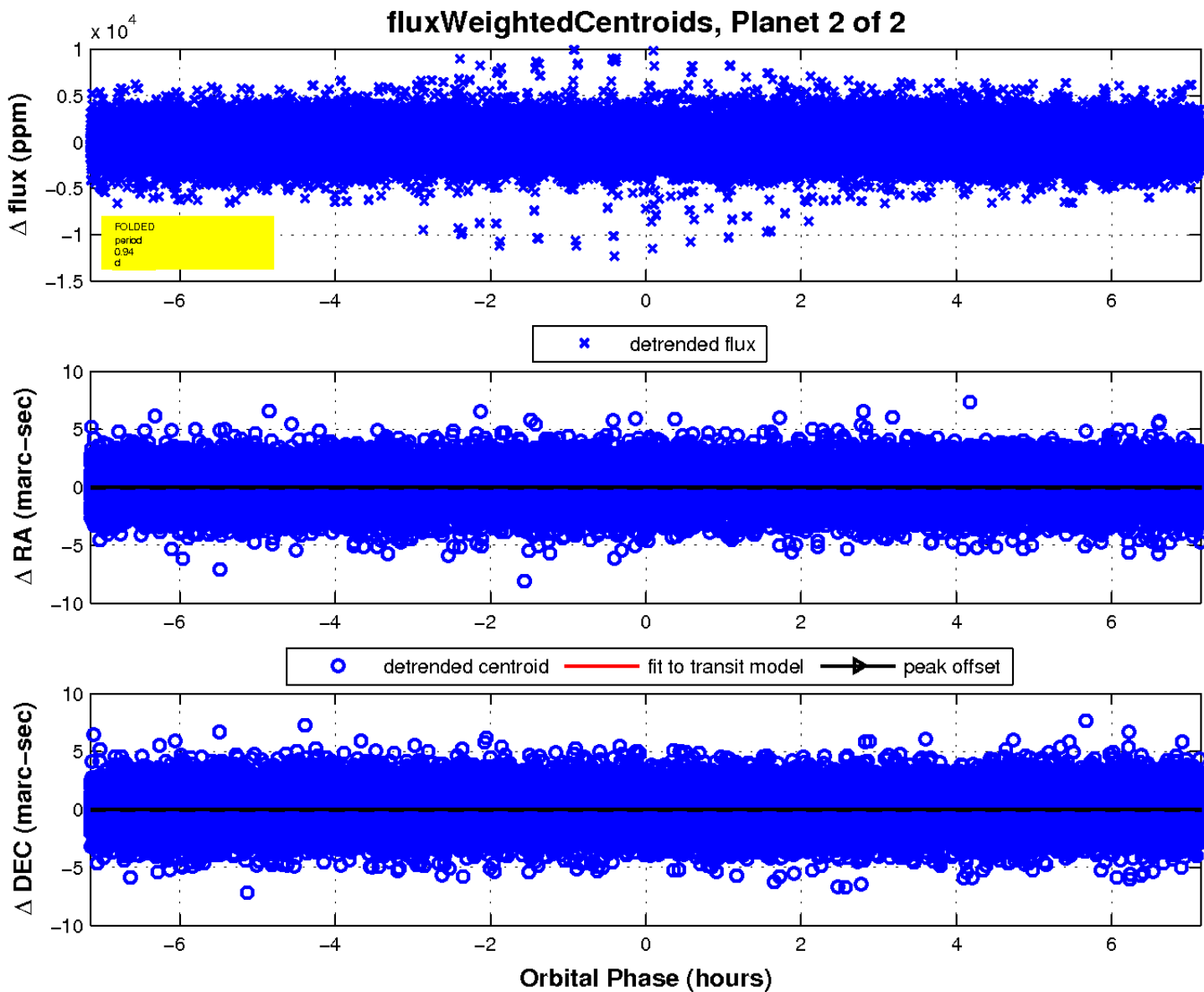
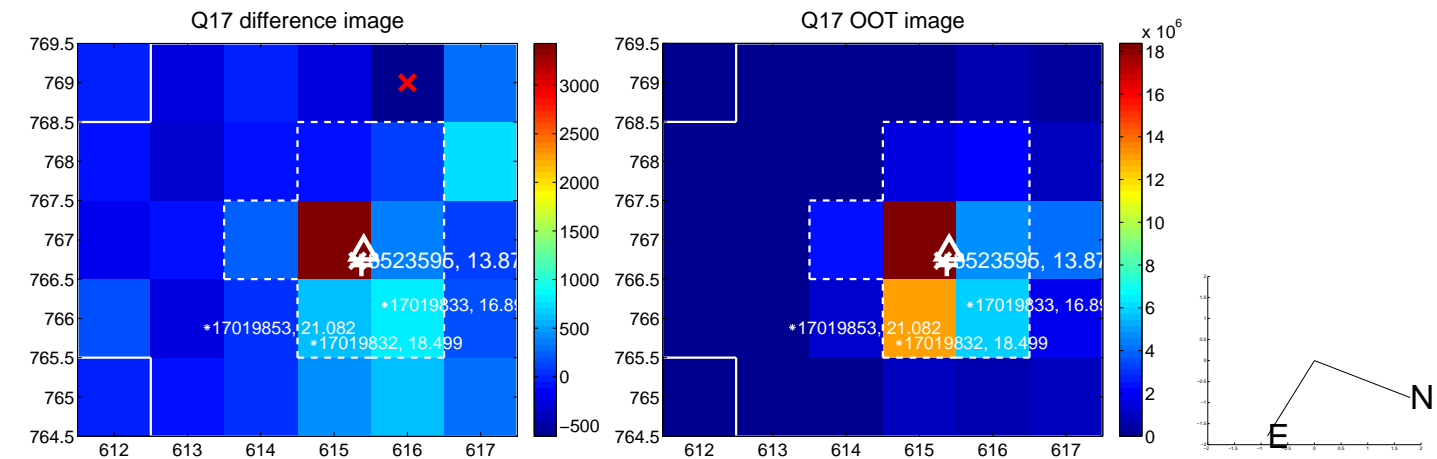
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

