

KIC 005632093

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})
005632093-01	OBS	No	1.003074	132.019375	17.4	1.942	10.4	9.2	2.00	8254	0.96	29549.39
005632093-02	OBS	No	0.501554	131.665316	21.0	0.650	8.8	11.8	2.00	8254	1.00	74456.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005632093-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005632093-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

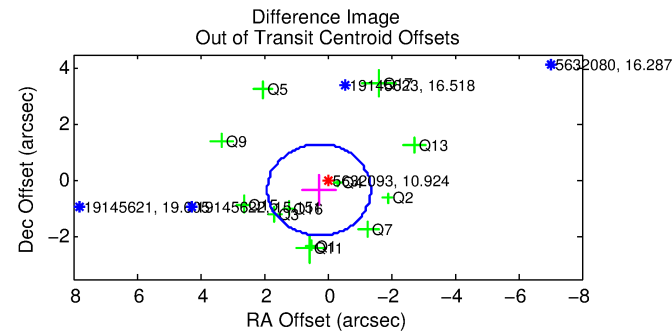
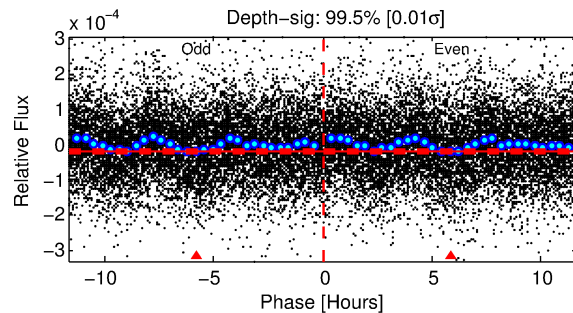
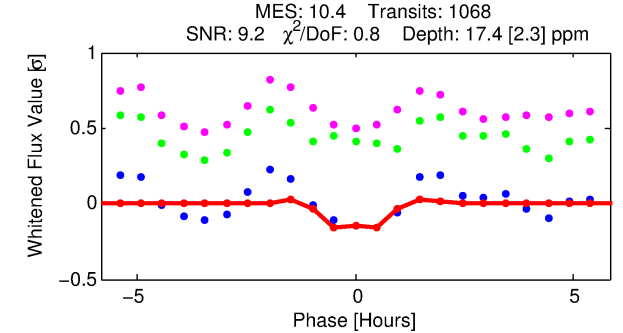
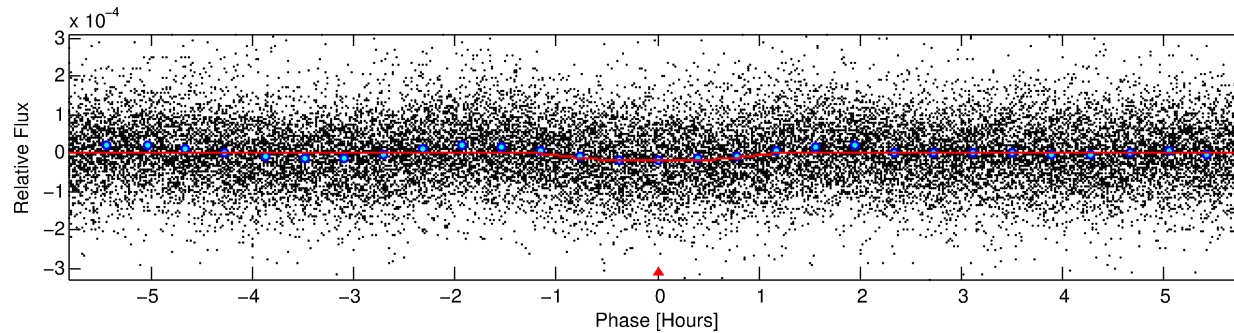
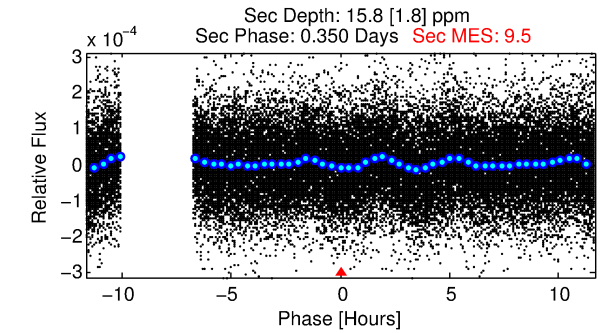
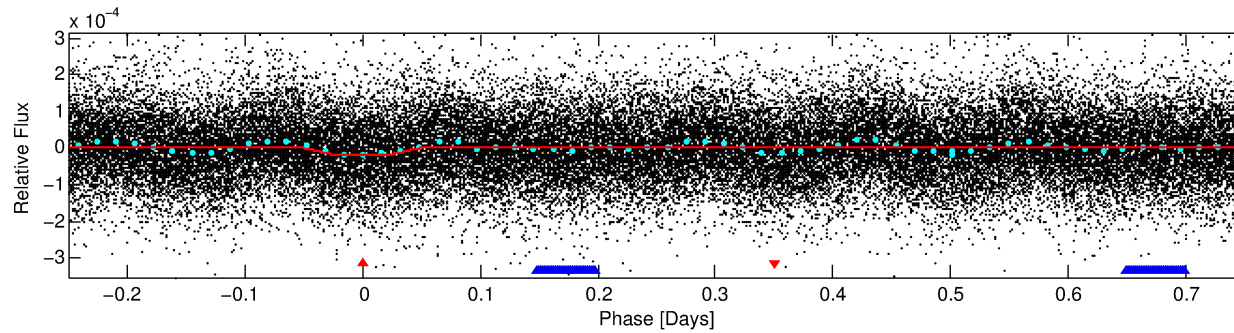
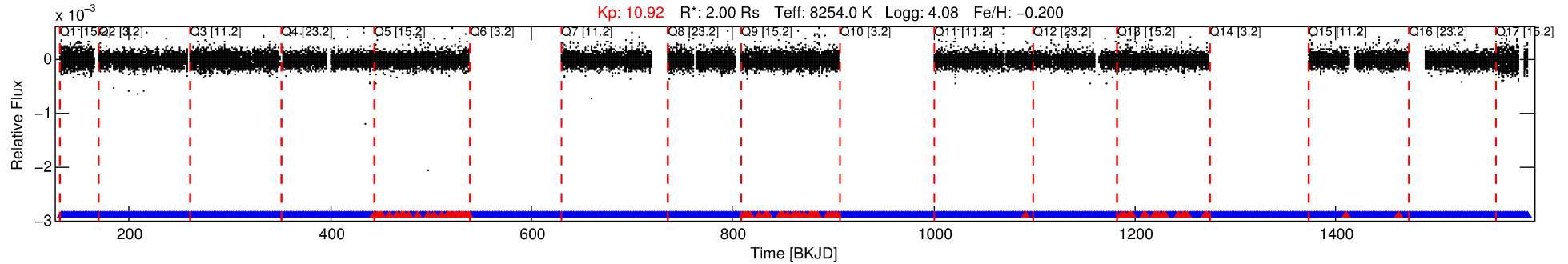
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005632093-01

No Significant Match Found

DV One-Page Summary

KIC: 5632093 Candidate: 1 of 2 Period: 1.003 d



DV Fit Results:

Period = 1.00307 [0.00001] d
Epoch = 132.0194 [0.0021] BKJD
Rp/R* = 0.0044 [0.0006]
a/R* = 2.06 [1.12]
b = 0.89 [0.17]
Seff = 29549.39 [9758.39]
Teq = 3343 [276] K
Rp = 0.96 [0.25] Re
a = 0.0237 [0.0046] AU
Ag = 5.28 [2.18] [1.97σ]
Teffp = 7837 [638] K [6.47σ]

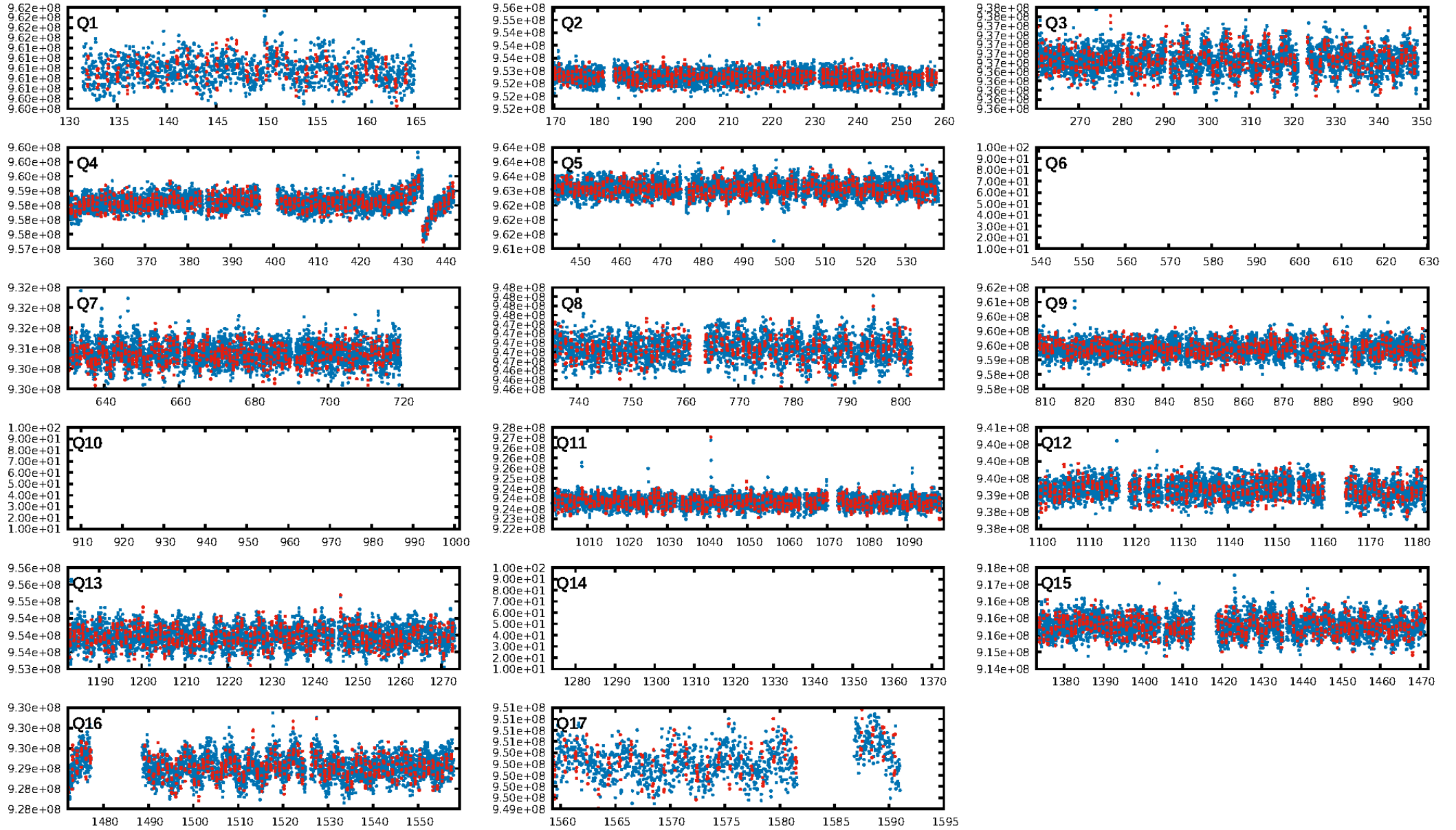
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.13e-19
RollingBand-fgt: 0.92 [932/1008]
GhostDiagnostic-chr: 1.662
Centroid-sig: 65.5%
Centroid-so: 0.405 arcsec [0.45σ]
OotOffset-rm: 0.423 arcsec [0.78σ]
OotOffset-st: 1/4/2/5 [12]
KicOffset-rm: 0.479 arcsec [0.80σ]
KicOffset-st: 1/4/2/5 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.00 [0/14]

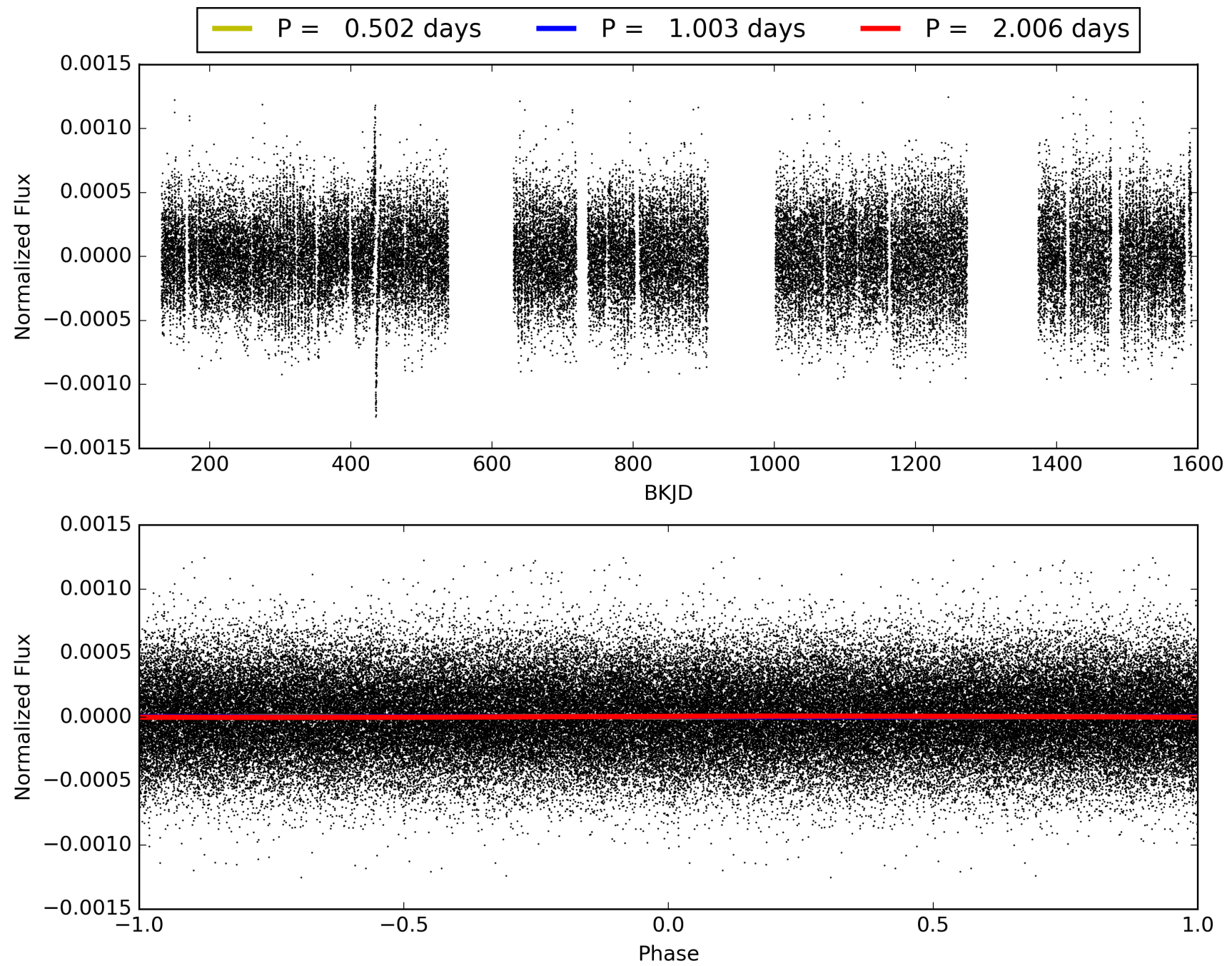
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:52:54 Z

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

TCE 005632093-01, PDC Light Curves

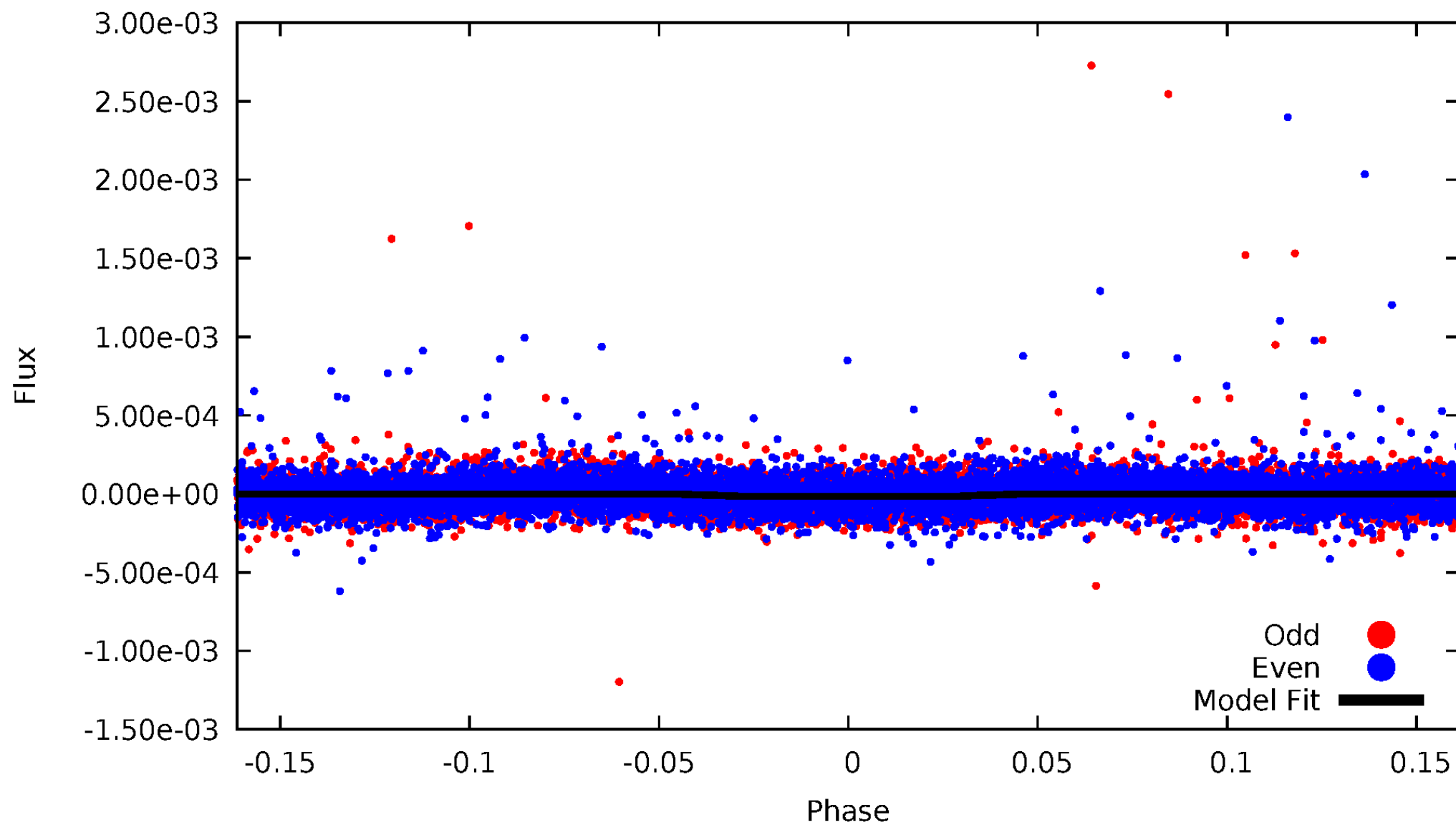


TCE 005632093-01



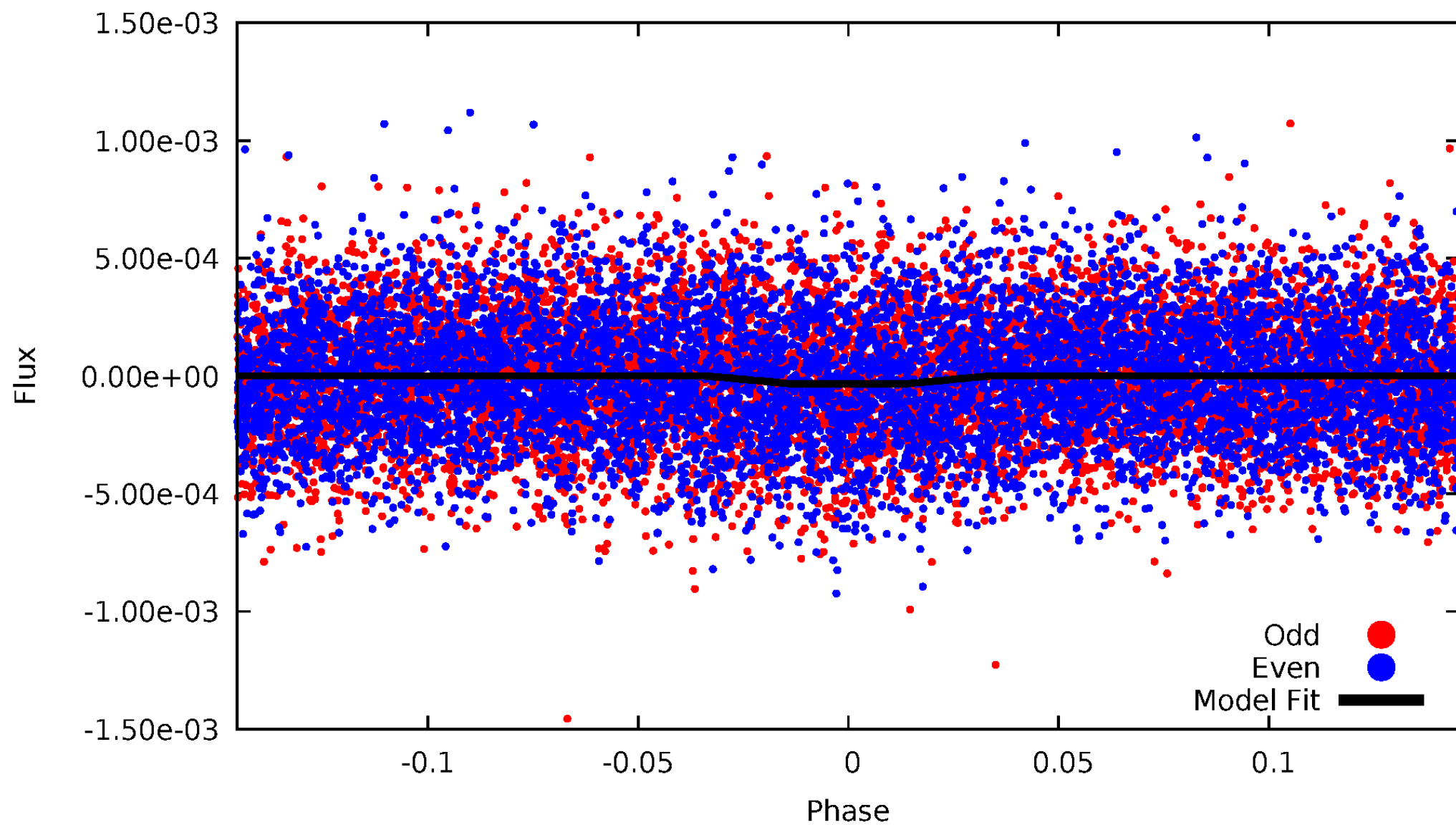
DV Odd/Even

TCE 005632093-01

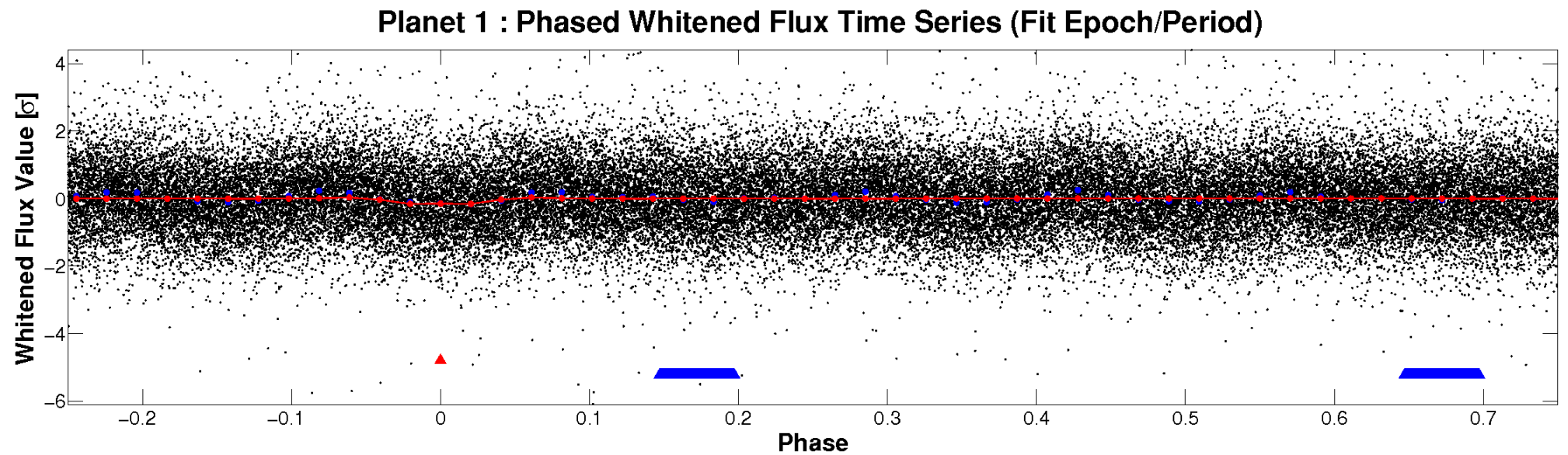
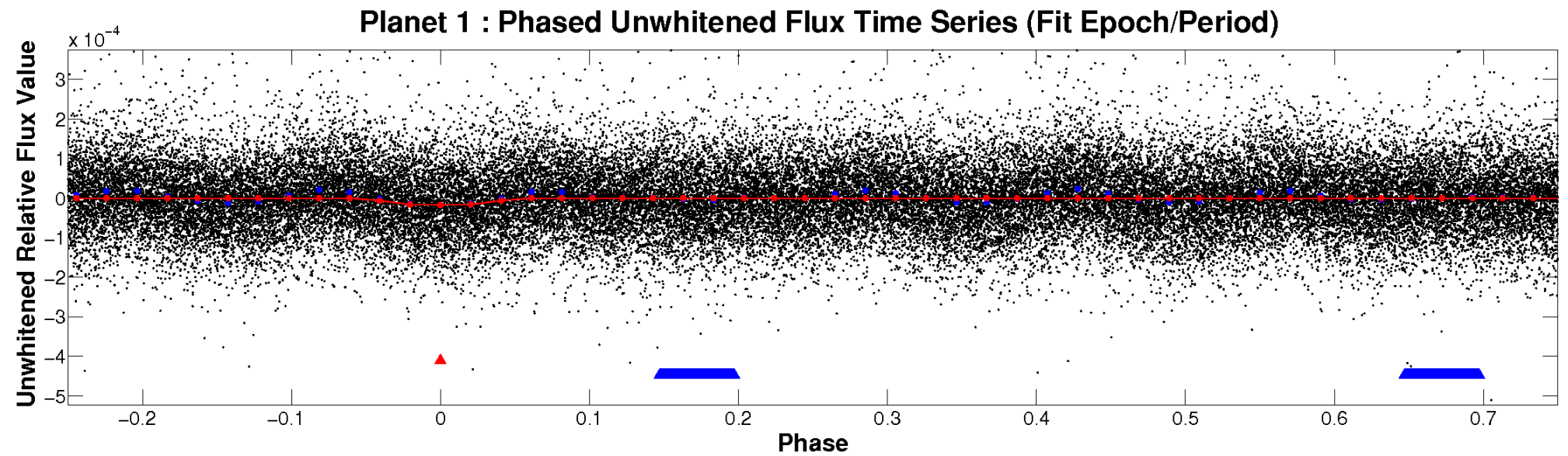


ALT Odd/Even

TCE 005632093-01

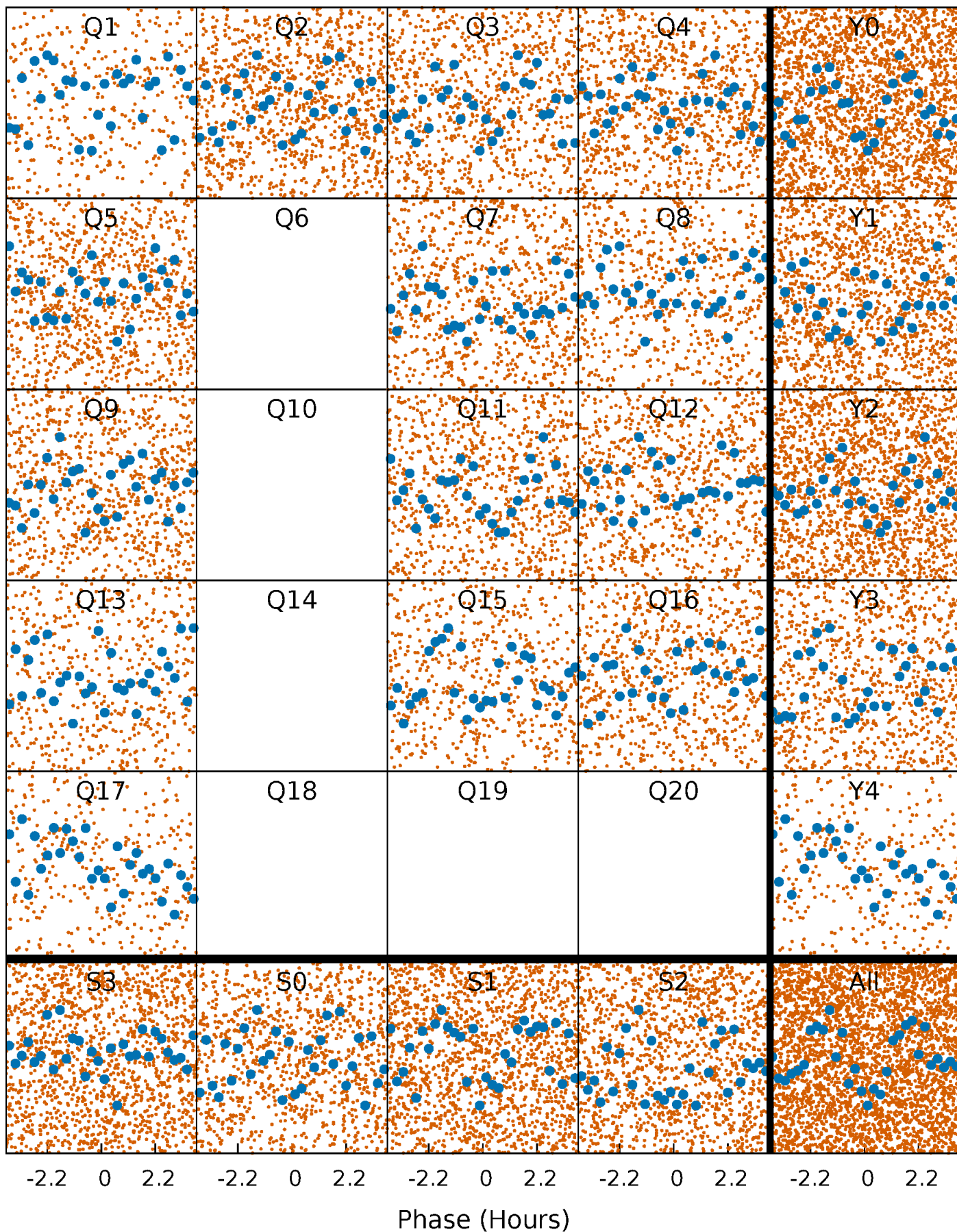


Non-Whitened Vs. Whitened Light Curve



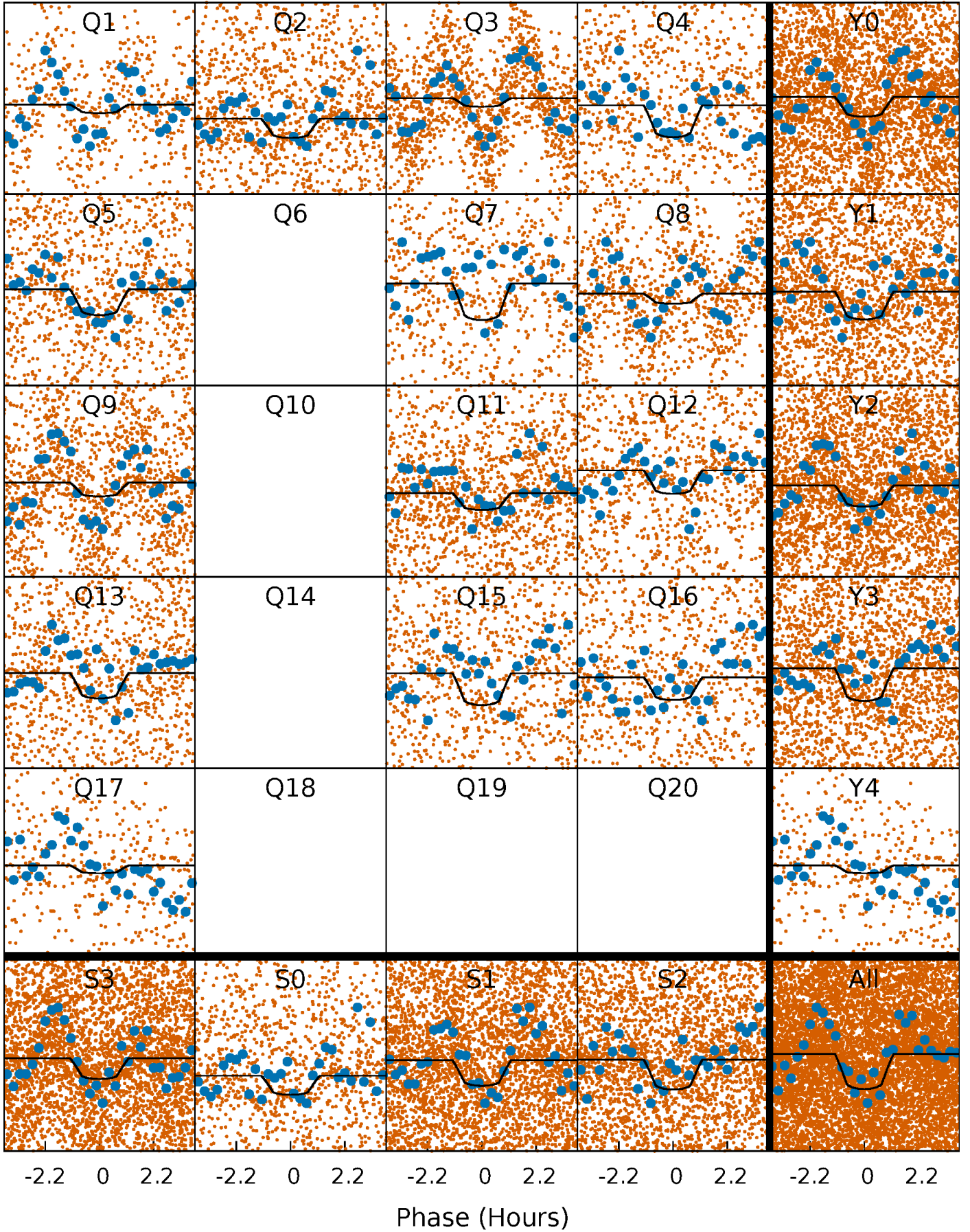
PDC Quarter-Phased Transit Curves

TCE 005632093-01 P= 1.003074 Days $T_0=132.019375$ (BKJD)



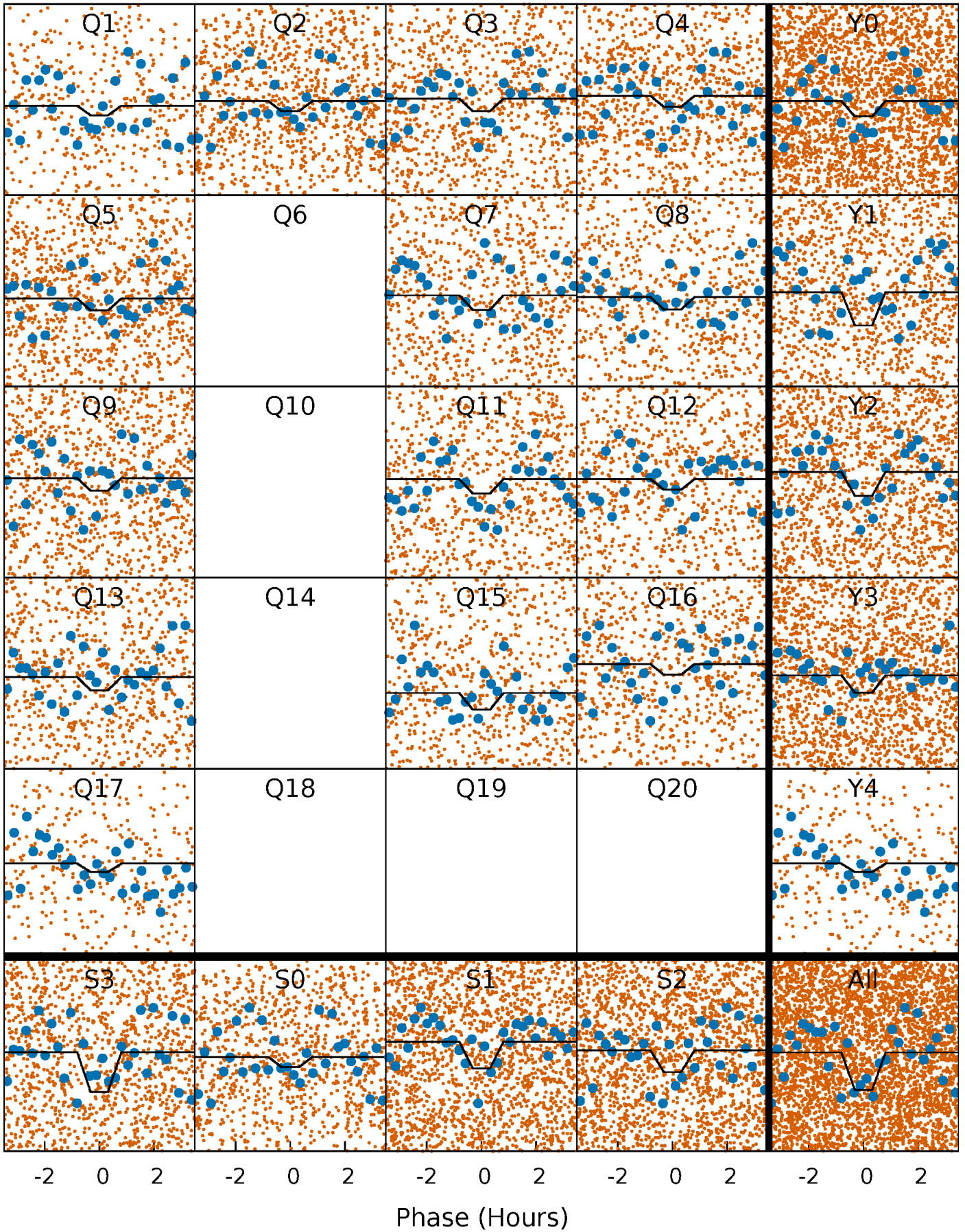
DV Quarter-Phased Transit Curves

TCE 005632093-01 P= 1.003074 Days $T_0=132.019375$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

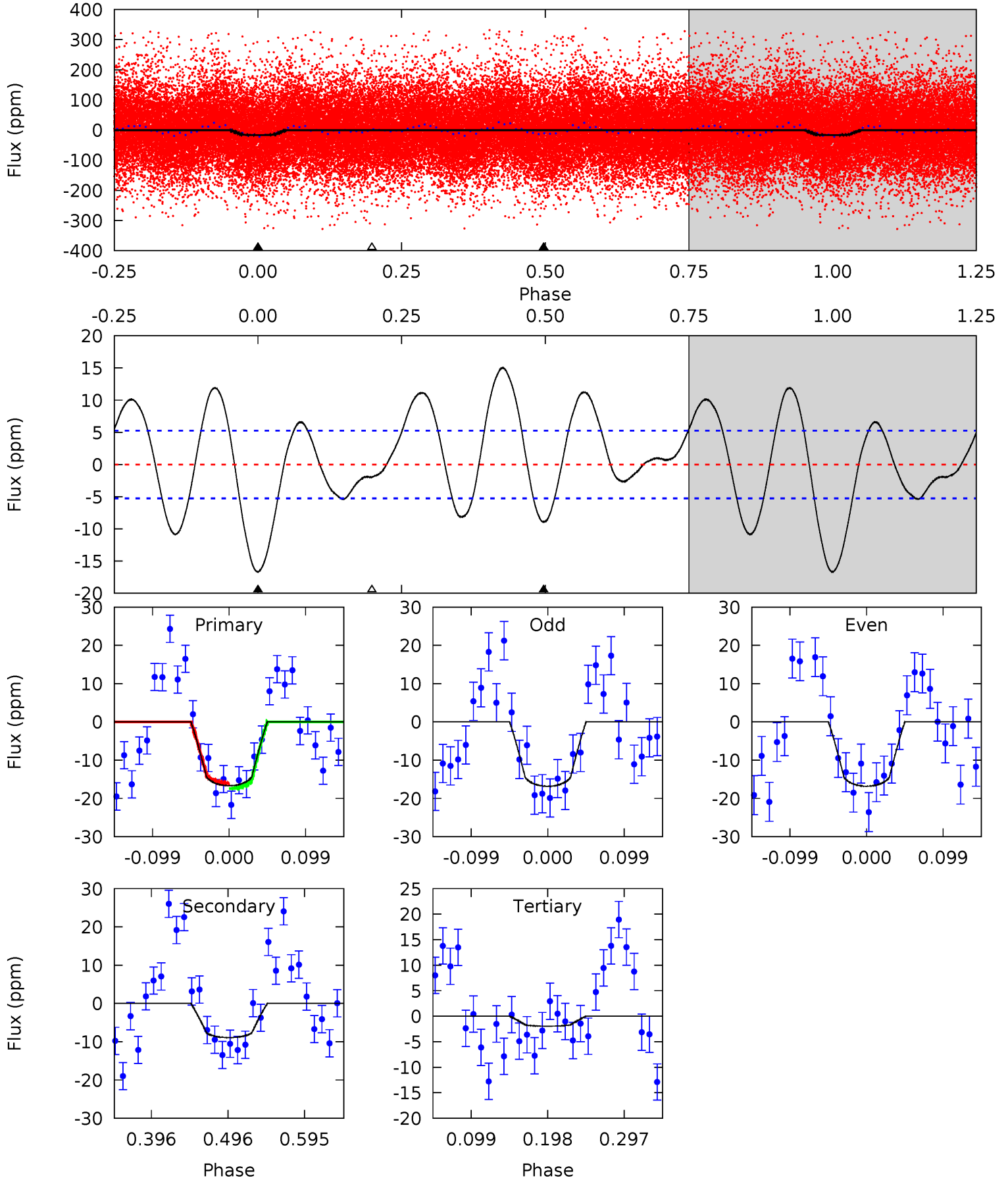
TCE 005632093-01 P= 1.003097 Days $T_0=132.018748$ (BKJD)



DV Model-Shift Uniqueness Test

005632093-01, P = 1.003074 Days, E = 131.016301 Days

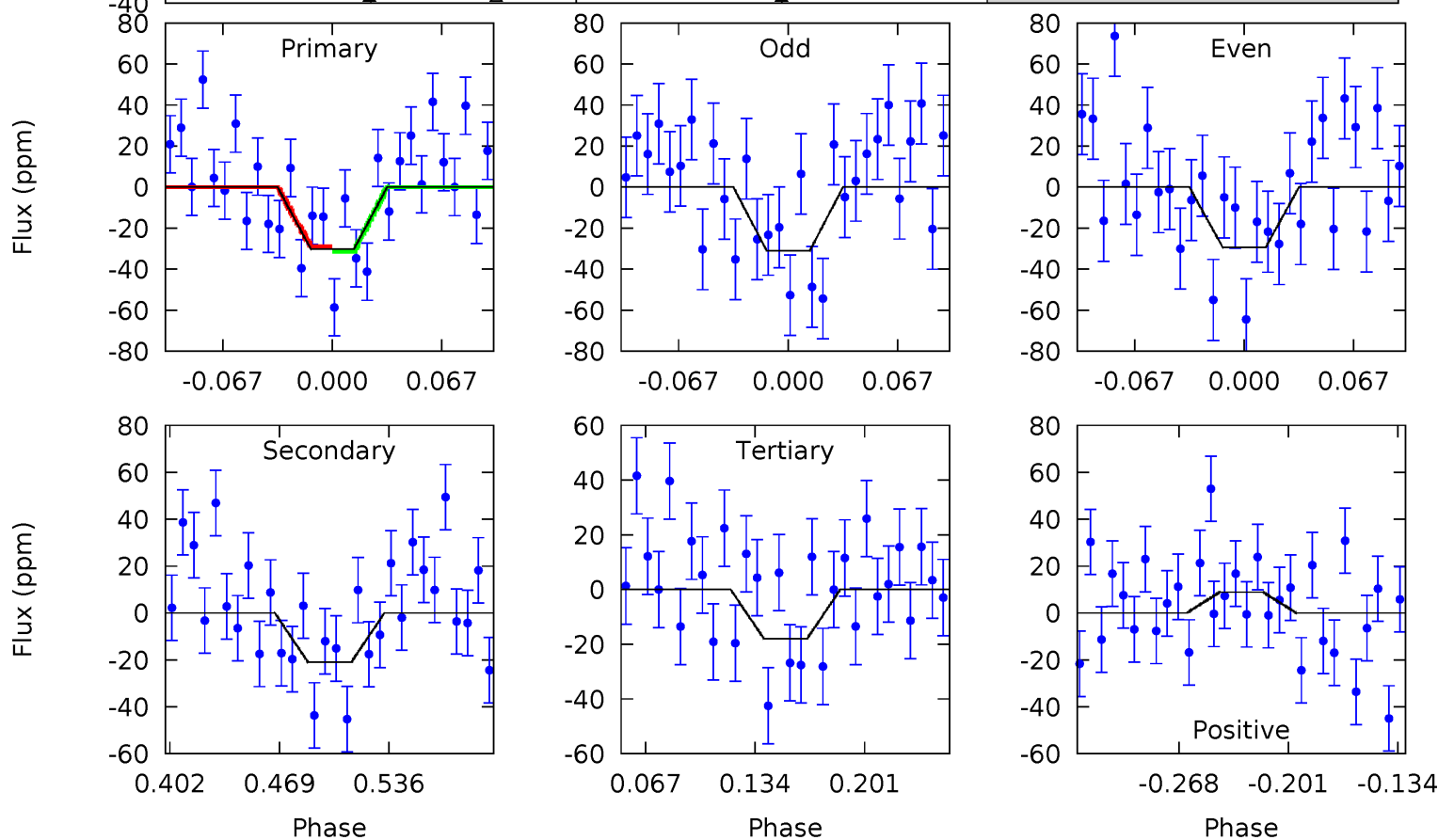
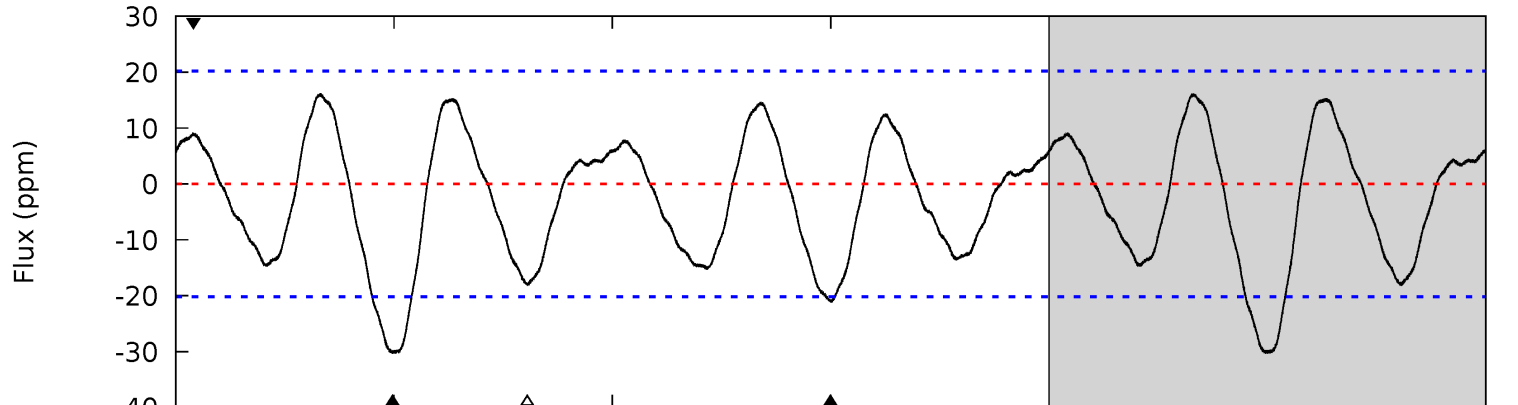
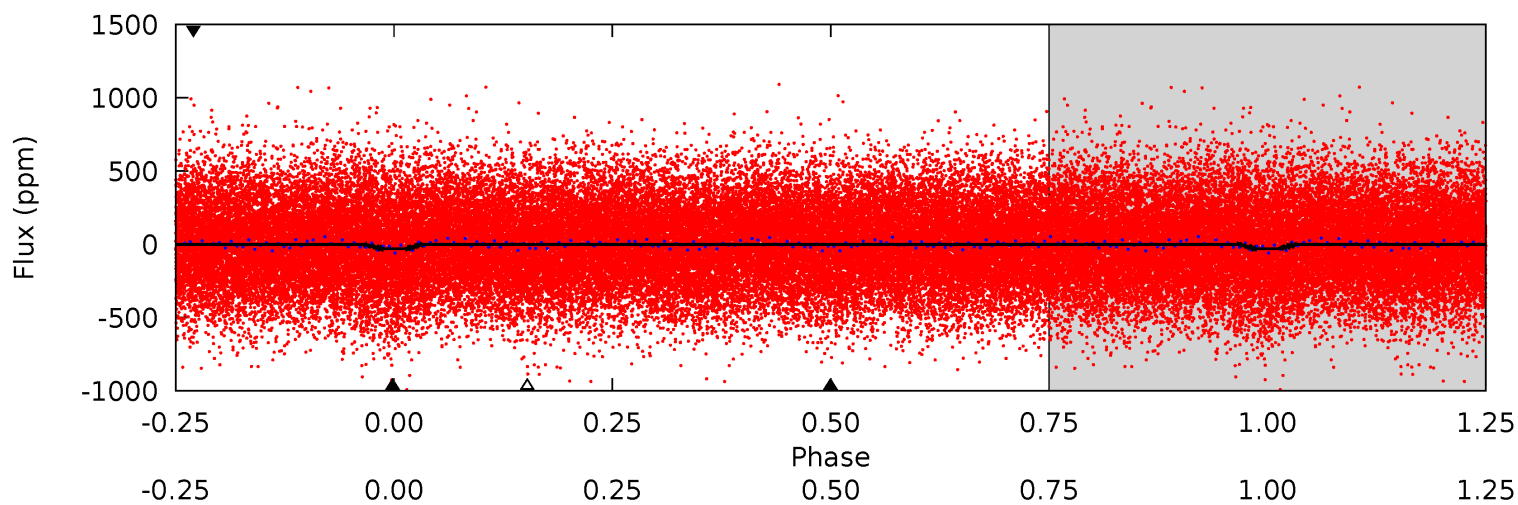
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	7.73	1.69	0	4.57	1.65	4.80	12.8	14.5	6.04	7.73	0.01	0.99	0.47	0.60



Alt Model-Shift Uniqueness Test

005632093-01, P = 1.003097 Days, E = 131.015651 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.95	4.84	4.14	2.05	4.65	1.83	2.08	2.81	4.89	0.70	2.79	0.20	0.81	0.35	0.30



Stellar Parameters For KIC 005632093

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8254^{+226}_{-311}	$4.083^{+0.165}_{-0.135}$	$-0.200^{+0.250}_{-0.300}$	$1.996^{+0.446}_{-0.446}$	$1.757^{+0.157}_{-0.269}$	$0.311^{+0.282}_{-0.129}$
	+3%/-4%	+4%/-3%	+125%/-150%	+22%/-22%	+9%/-15%	+91%/-41%
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 005632093-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 1	$0.95^{+0.19}_{-0.17}$	4643^{+303}_{-288}	6400^{+639}_{-548}	$3.049^{+1.466}_{-0.970}$
Alt.	-21 ± 4	$1.25^{+0.20}_{-0.20}$	4629^{+297}_{-283}	6947^{+694}_{-619}	$4.094^{+1.851}_{-1.329}$

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

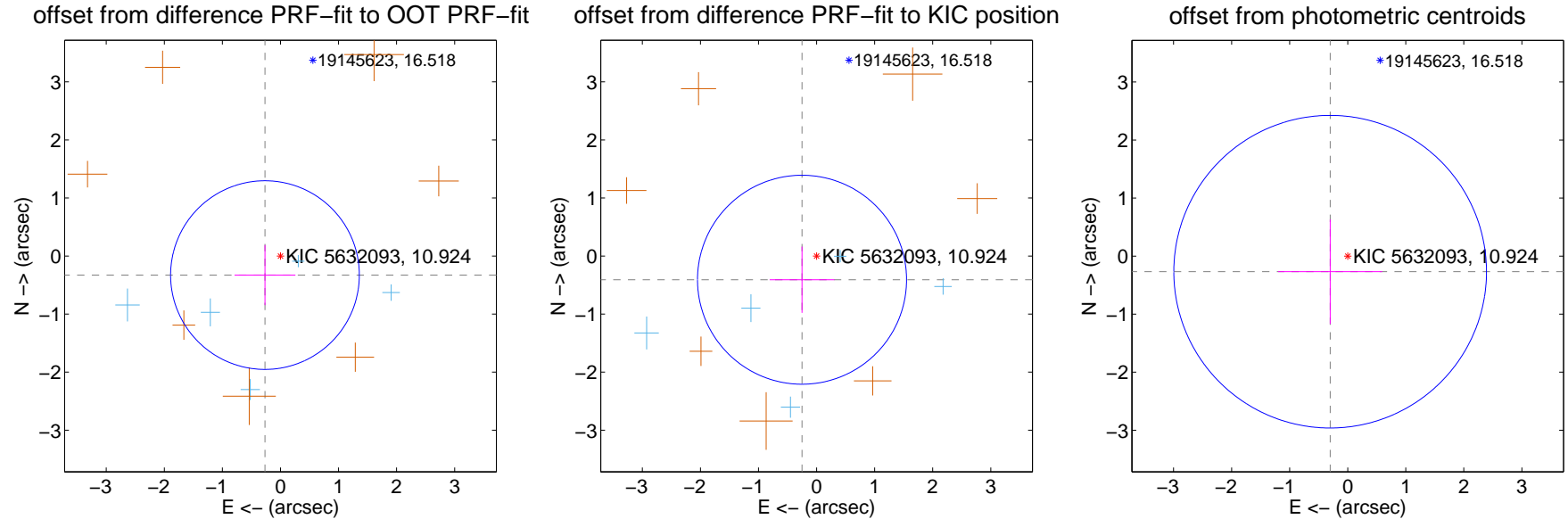
DV Centroid Data

Supplemental centroid analysis for 005632093-01. **Kepler magnitude: 10.92.** Transit SNR 9.25

There are 5 quarters with good PRF difference image offsets

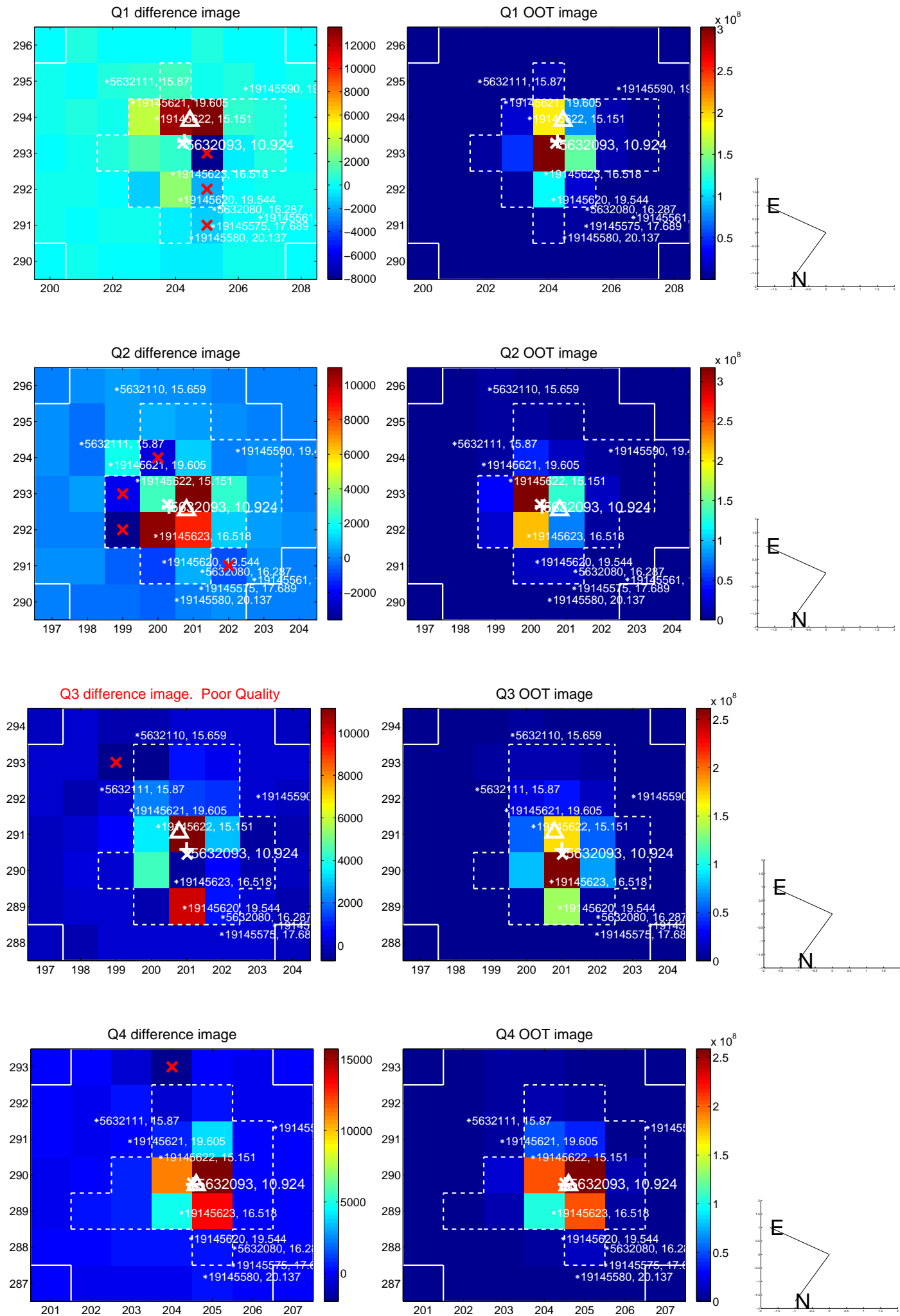
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.423 ± 0.542	0.78	0.267 ± 0.525	-0.328 ± 0.518
PRF-fit source offset from KIC position	0.479 ± 0.600	0.80	0.251 ± 0.558	-0.408 ± 0.571
photometric centroid source offset	0.40 ± 0.90	0.45	0.30 ± 0.90	-0.27 ± 0.90

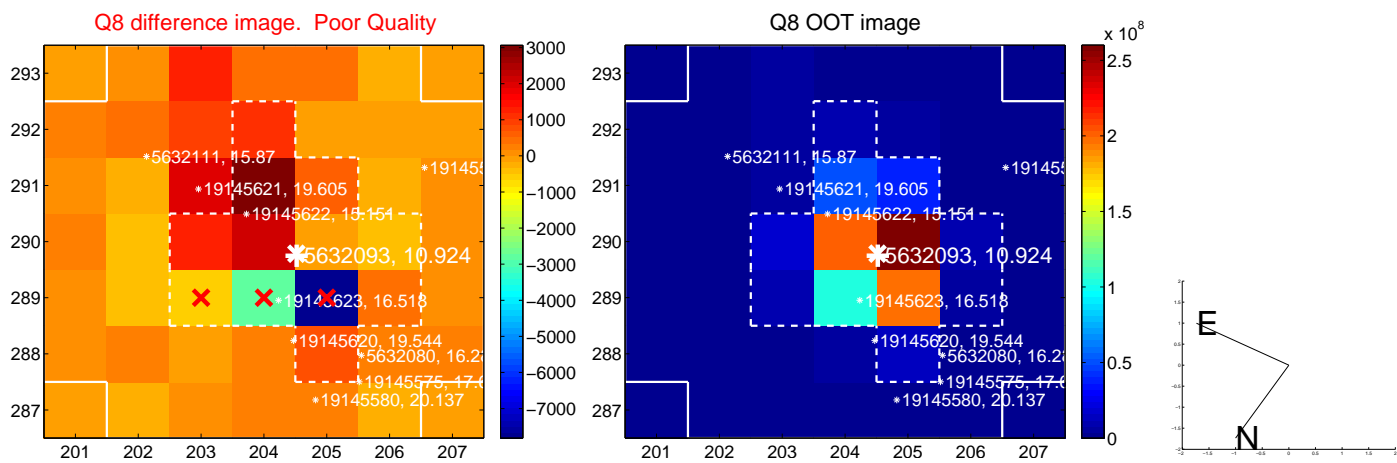
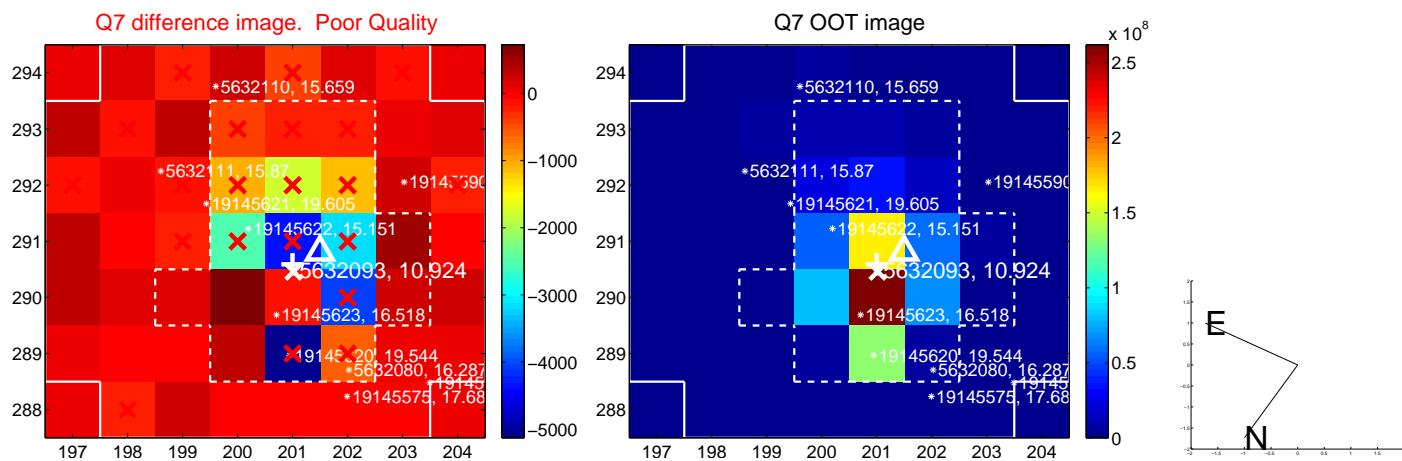
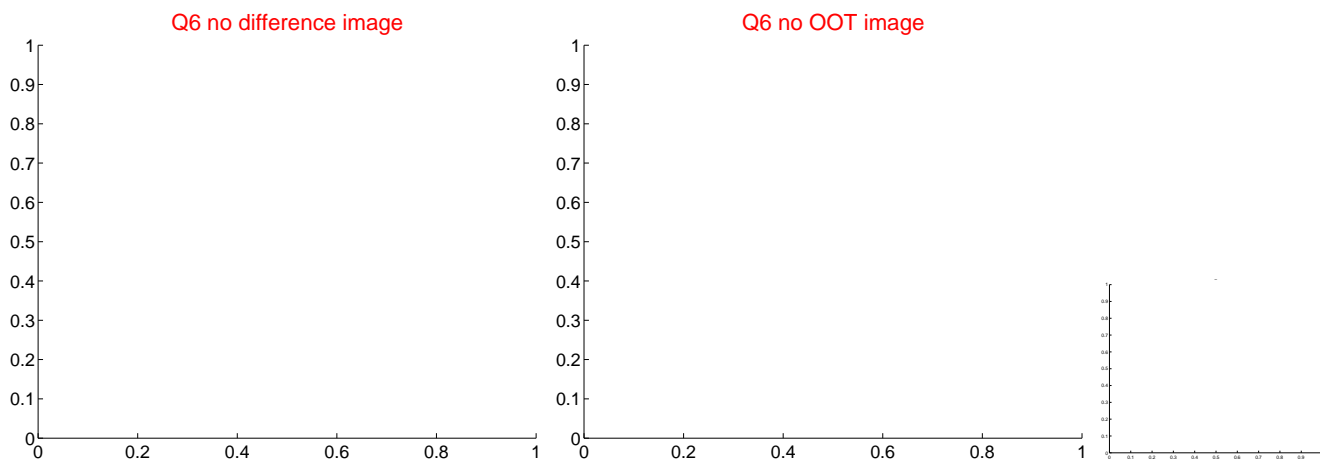
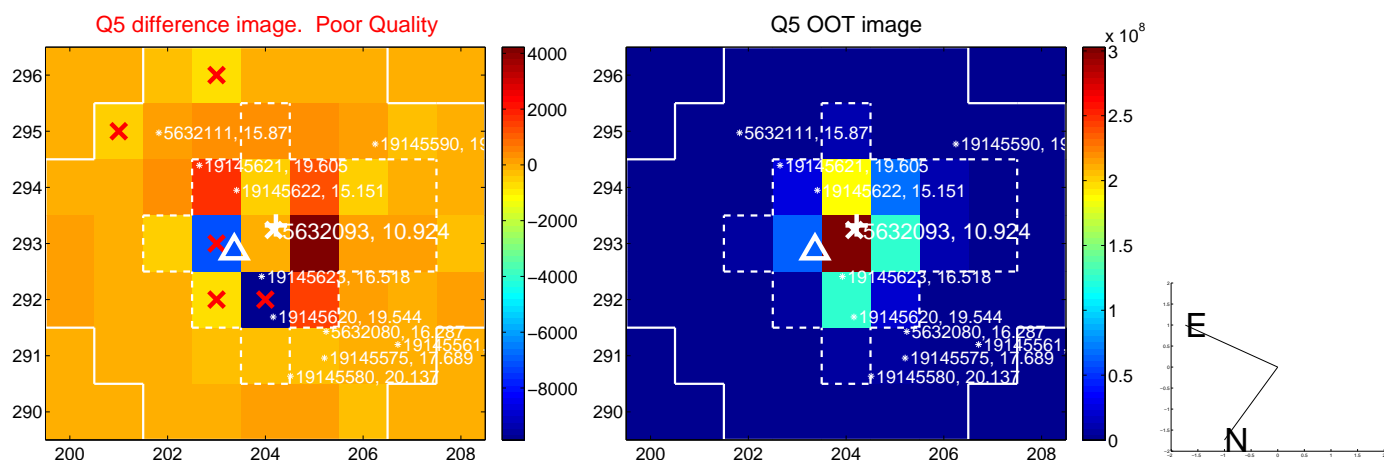


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

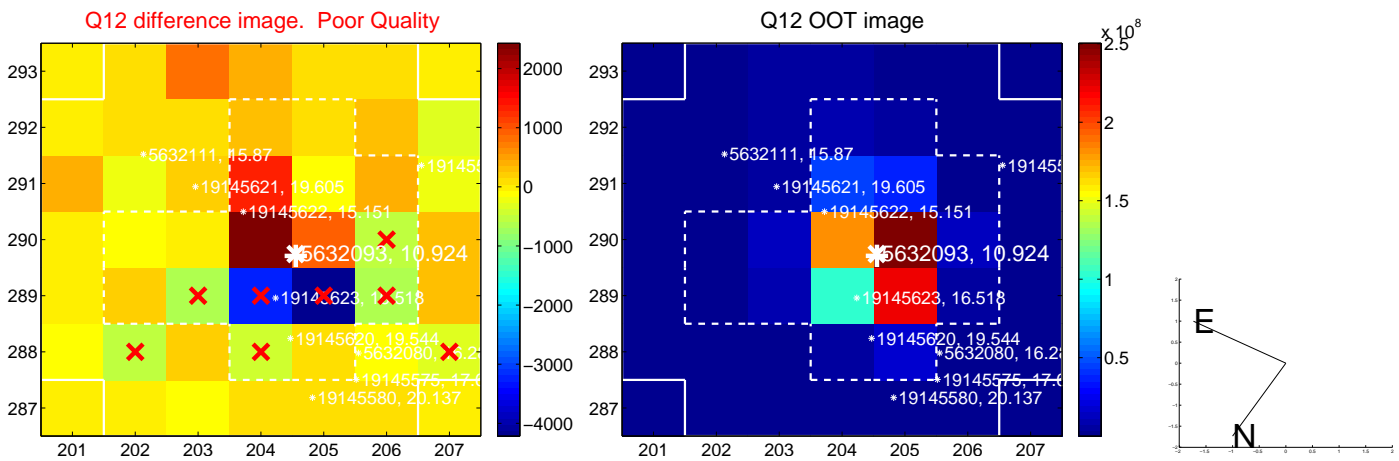
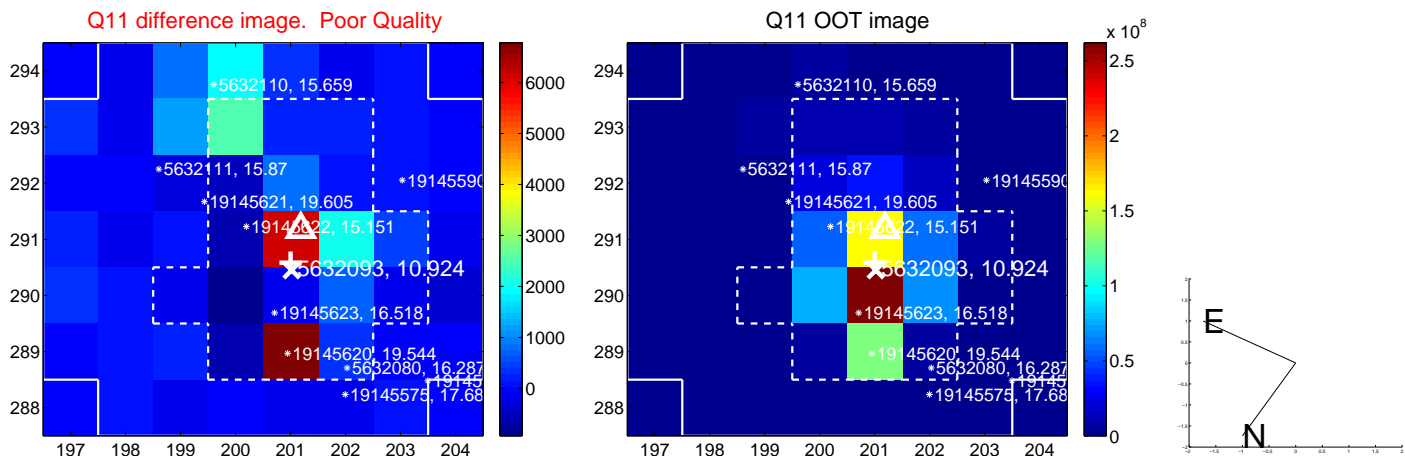
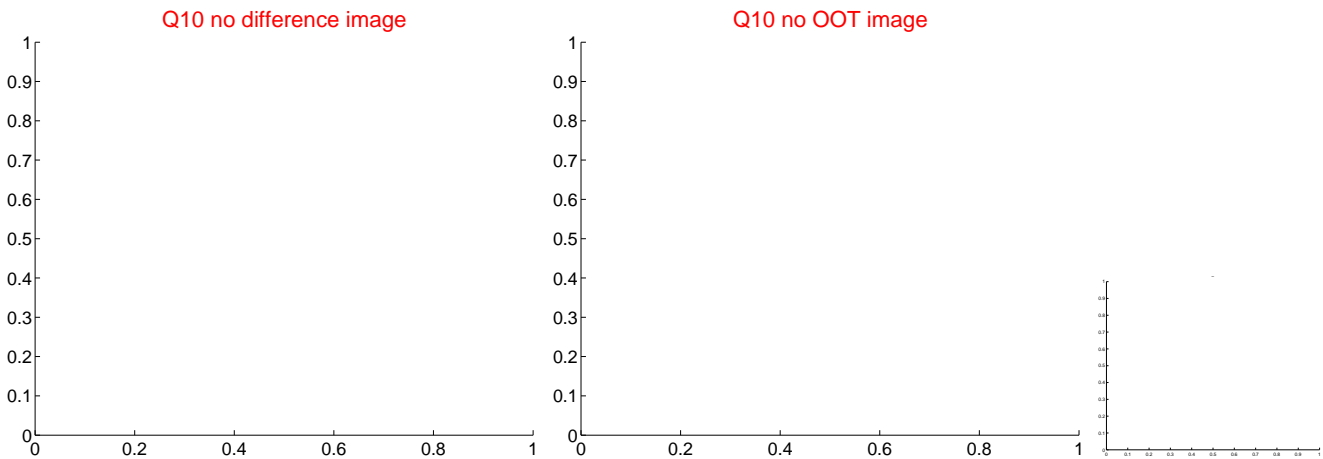
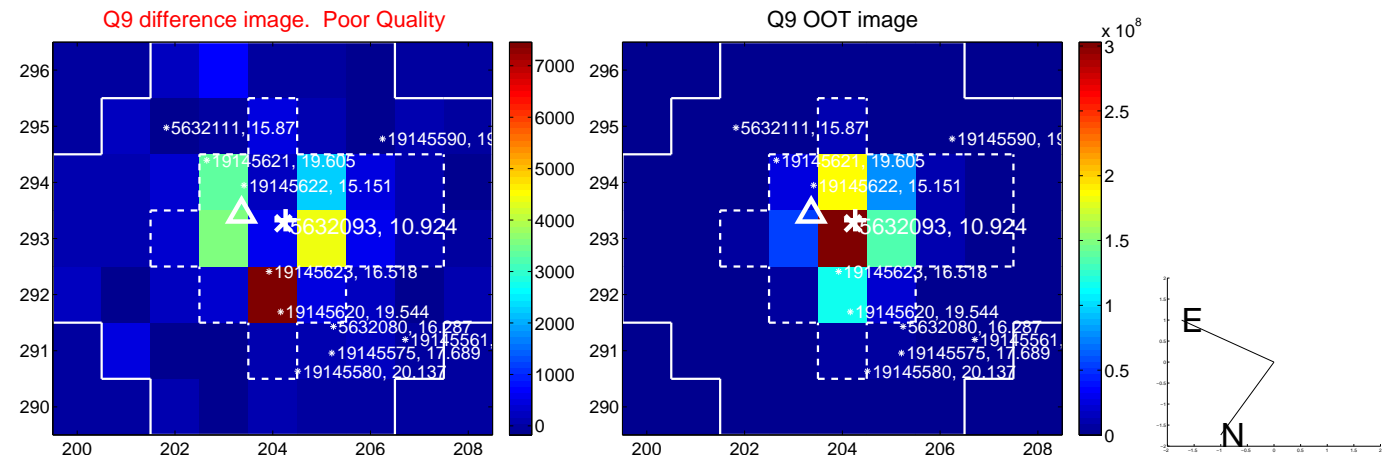
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



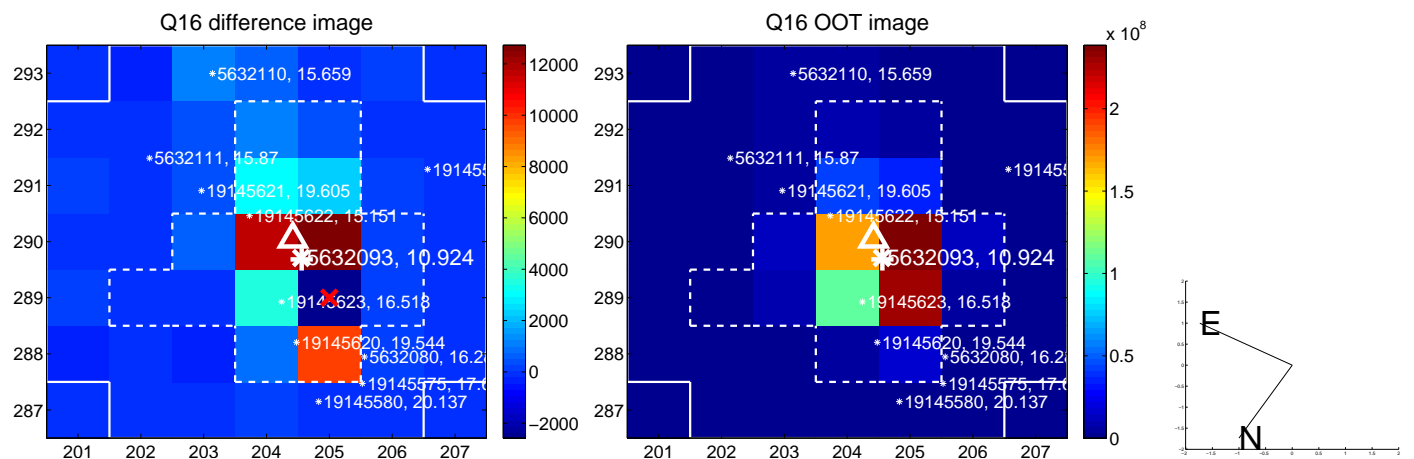
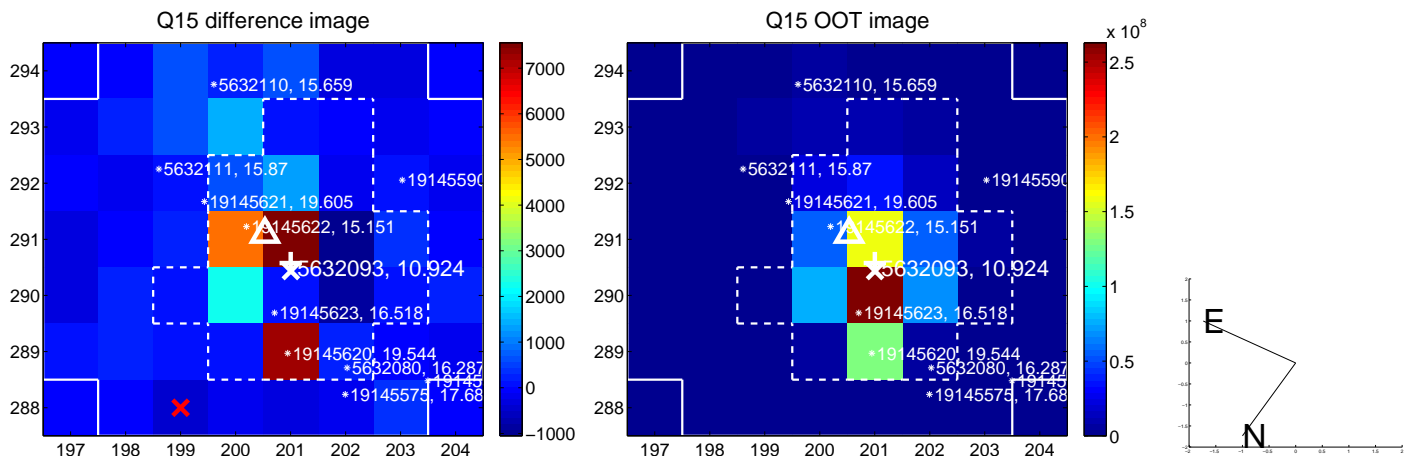
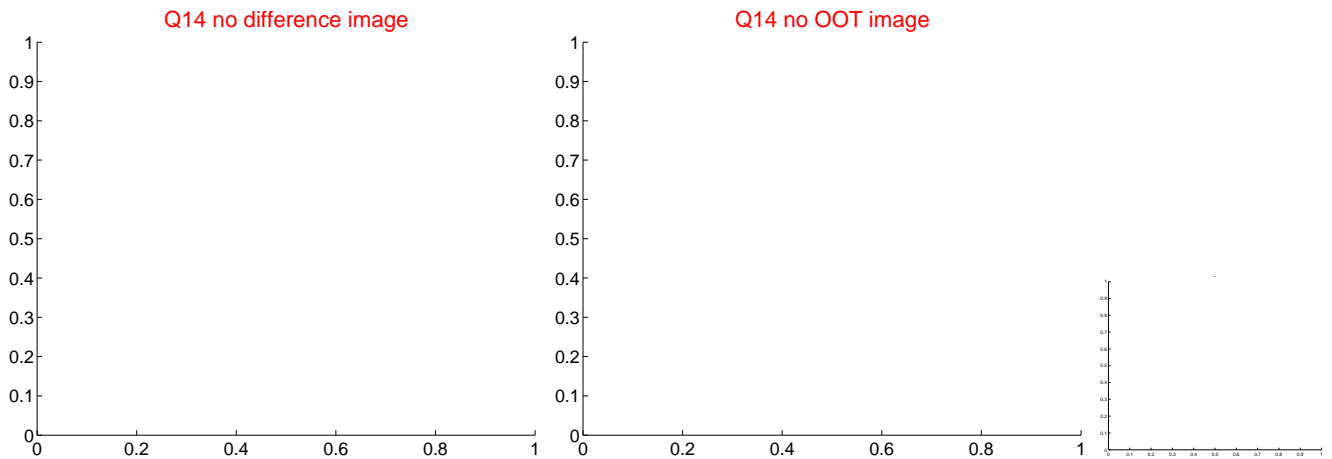
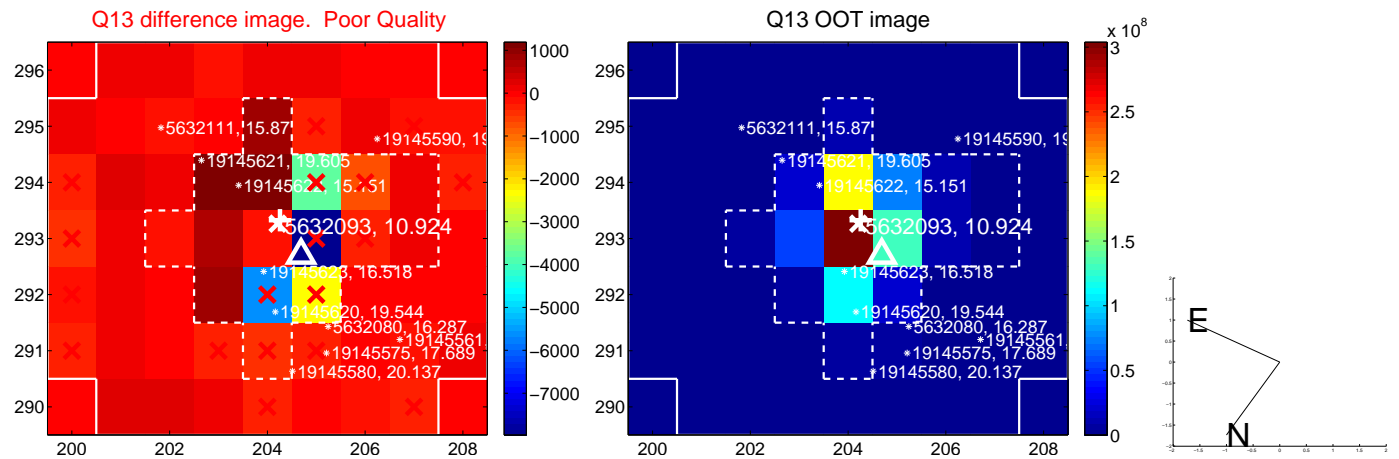
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



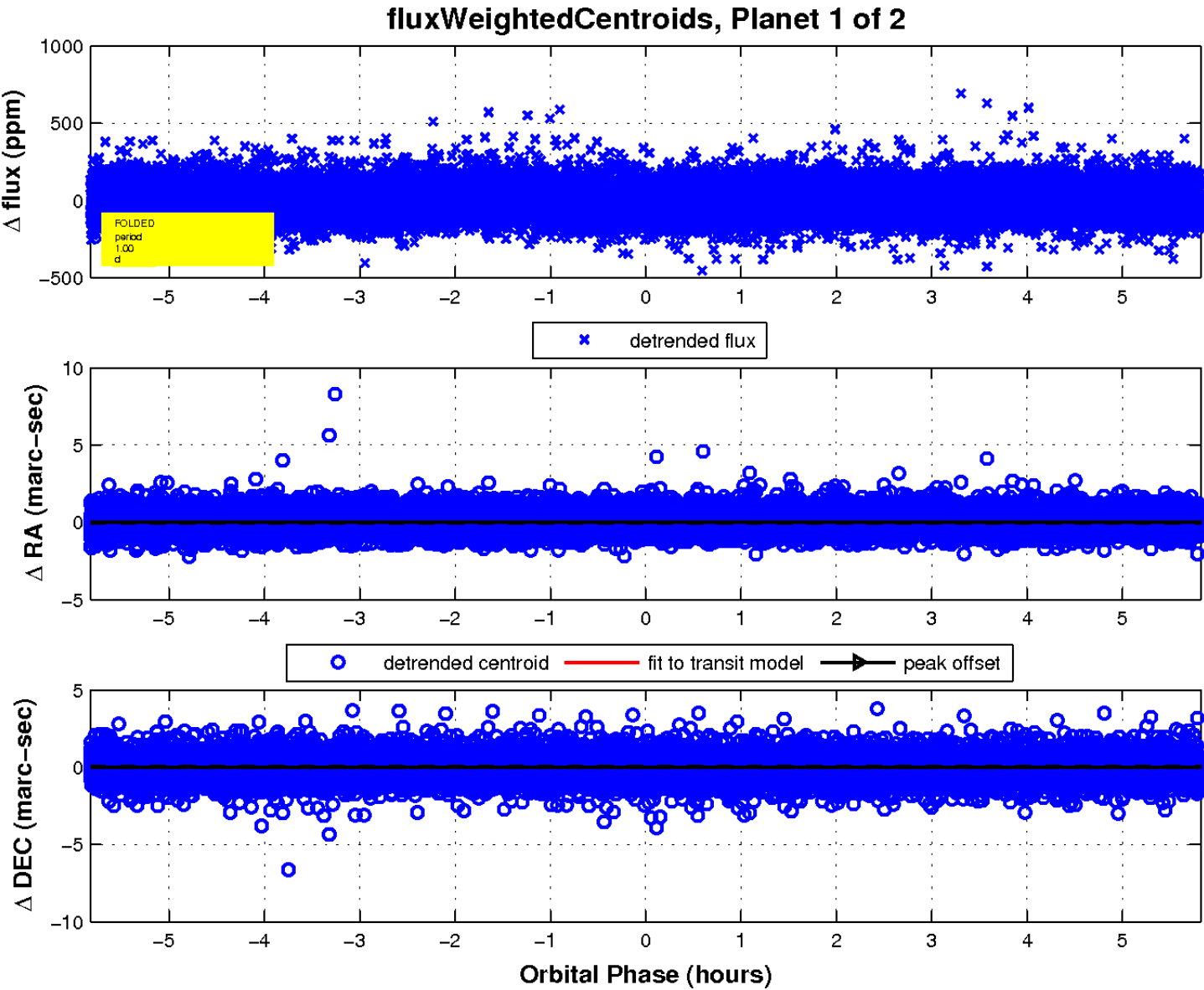
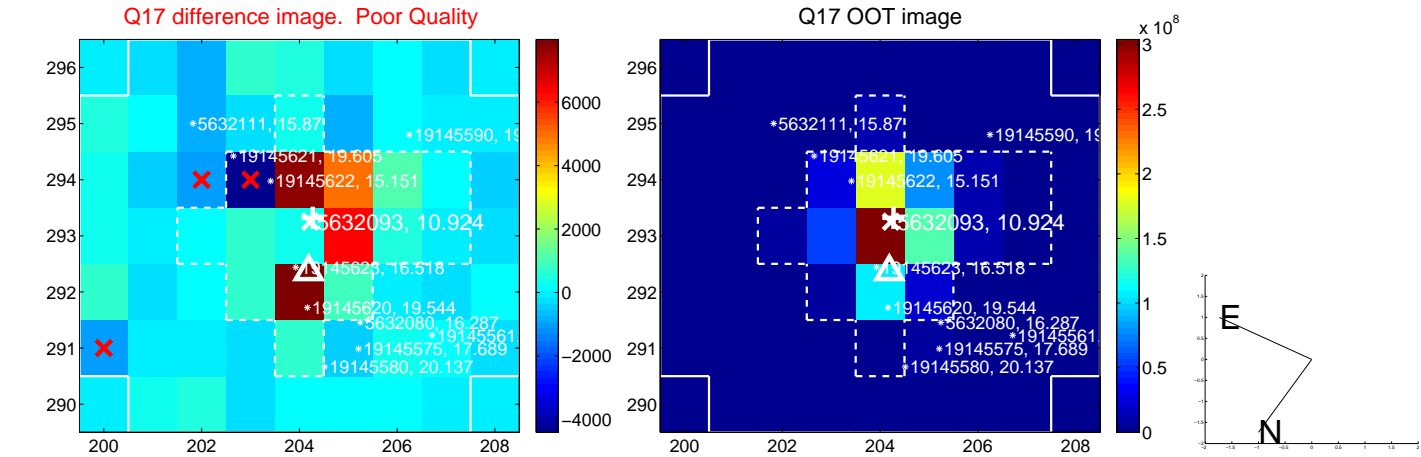
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

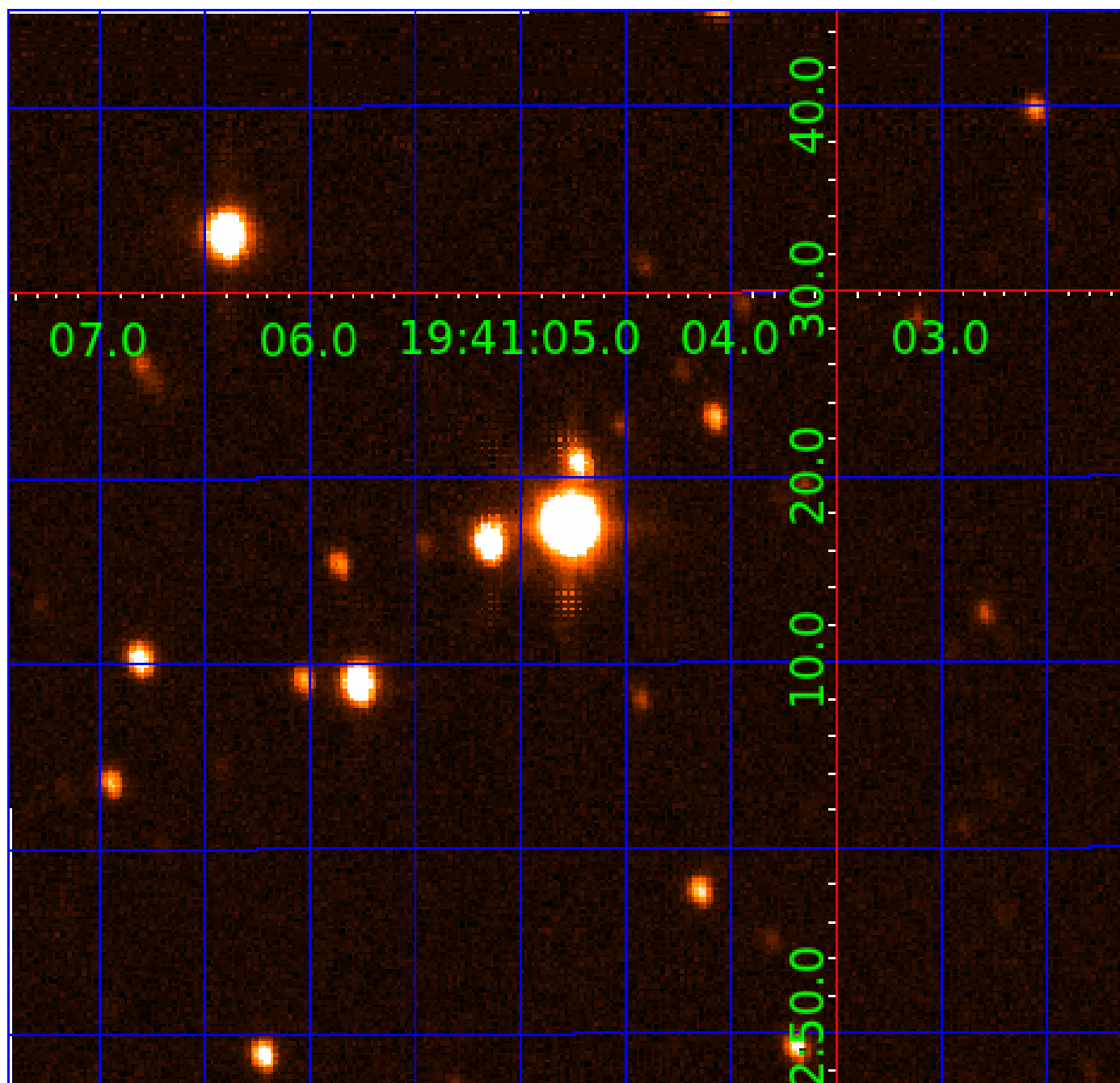


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005632093

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})
005632093-01	OBS	No	1.003074	132.019375	17.4	1.942	10.4	9.2	2.00	8254	0.96	29549.39
005632093-02	OBS	No	0.501554	131.665316	21.0	0.650	8.8	11.8	2.00	8254	1.00	74456.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005632093-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005632093-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

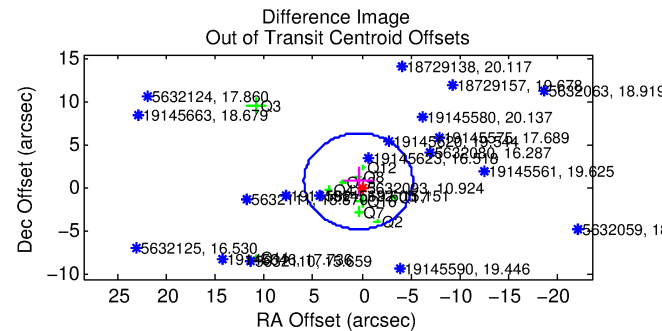
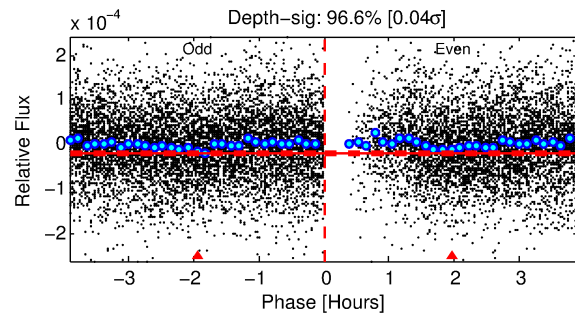
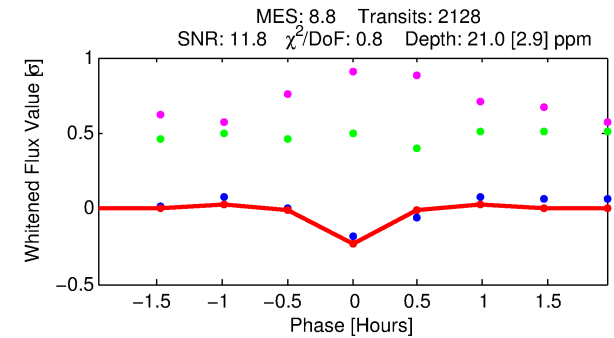
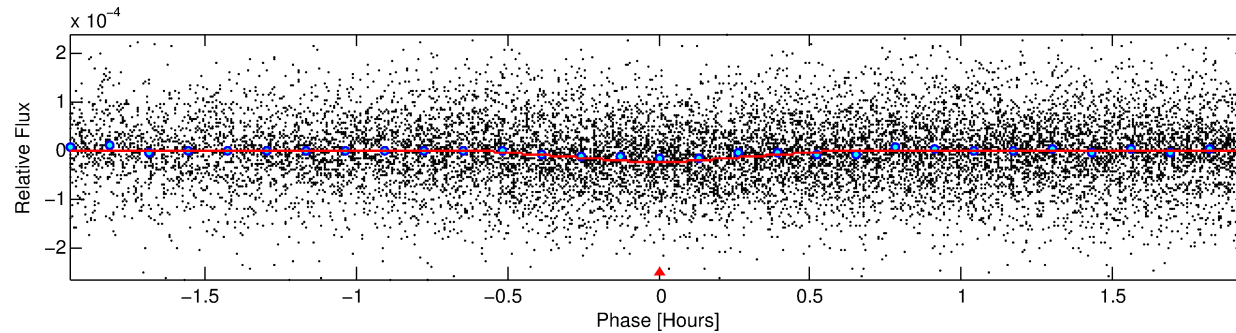
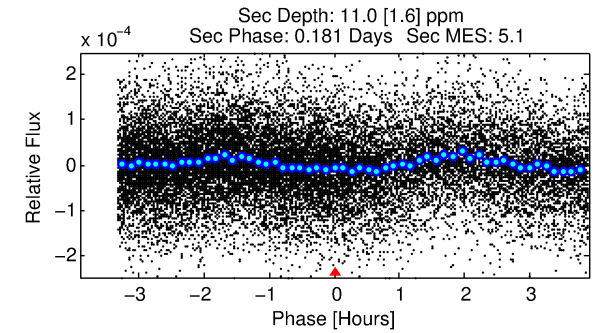
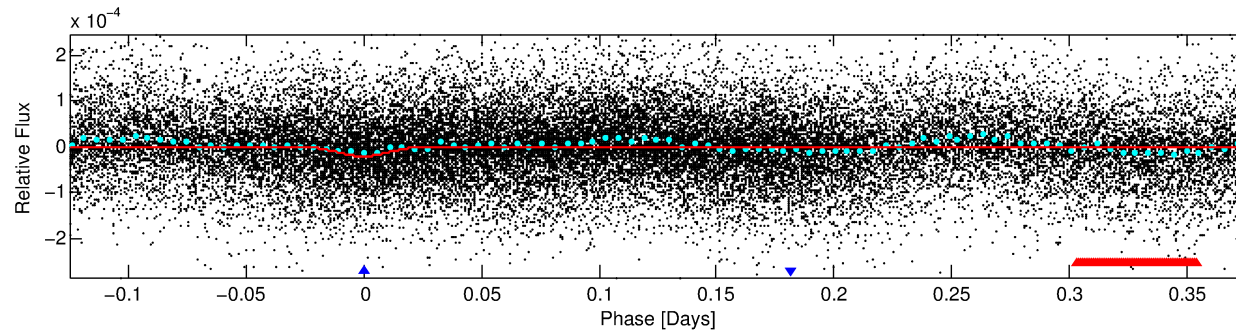
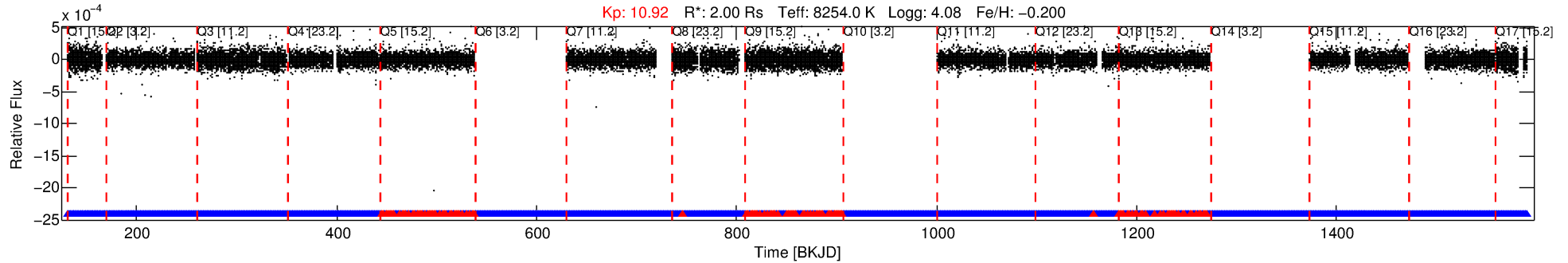
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005632093-02

No Significant Match Found

DV One-Page Summary

KIC: 5632093 Candidate: 2 of 2 Period: 0.502 d



DV Fit Results:

Period = 0.50155 [0.00001] d
Epoch = 131.6653 [0.0010] BKJD
Rp/R* = 0.0046 [0.0006]
a/R* = 4.32 [2.71]
b = 0.70 [0.48]
Seff = 74456.37 [24588.46]
Teq = 4212 [348] K
Rp = 1.00 [0.26] Re
a = 0.0149 [0.0029] AU
Ag = 1.35 [0.57] [0.61σ]
Teffp = 7018 [592] K [4.09σ]

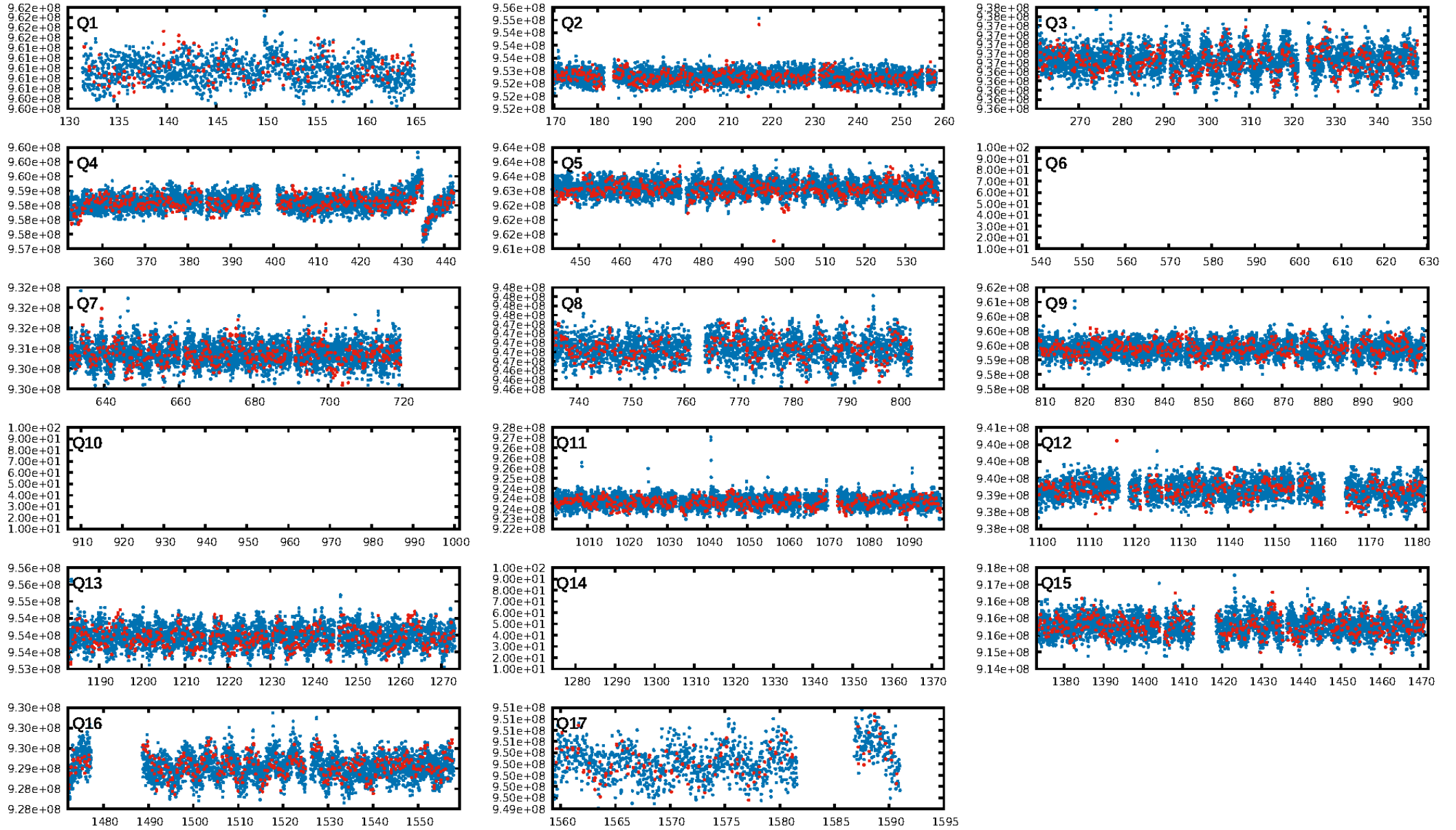
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.23e-13
RollingBand-fgt: 0.93 [1859/2009]
GhostDiagnostic-chr: -591.6
Centroid-sig: 0.7%
Centroid-so: 1.475 arcsec [1.87σ]
OotOffset-rm: 0.888 arcsec [0.48σ]
KicOffset-rm: 0.546 arcsec [0.39σ]
OotOffset-st: 1/3/4/2 [10]
KicOffset-st: 1/3/4/2 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 1.00 [14/14]

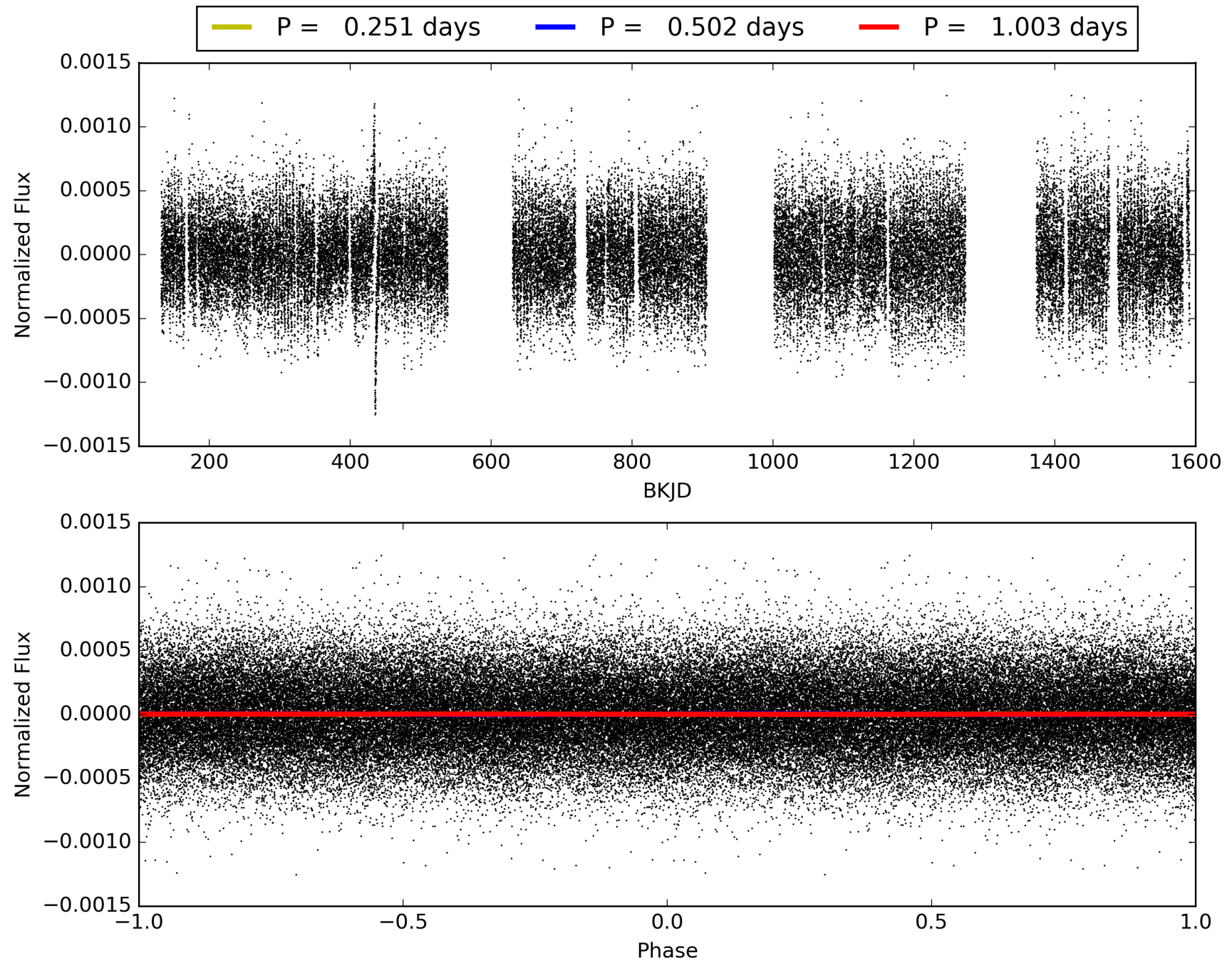
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:53:03 Z

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

TCE 005632093-02, PDC Light Curves

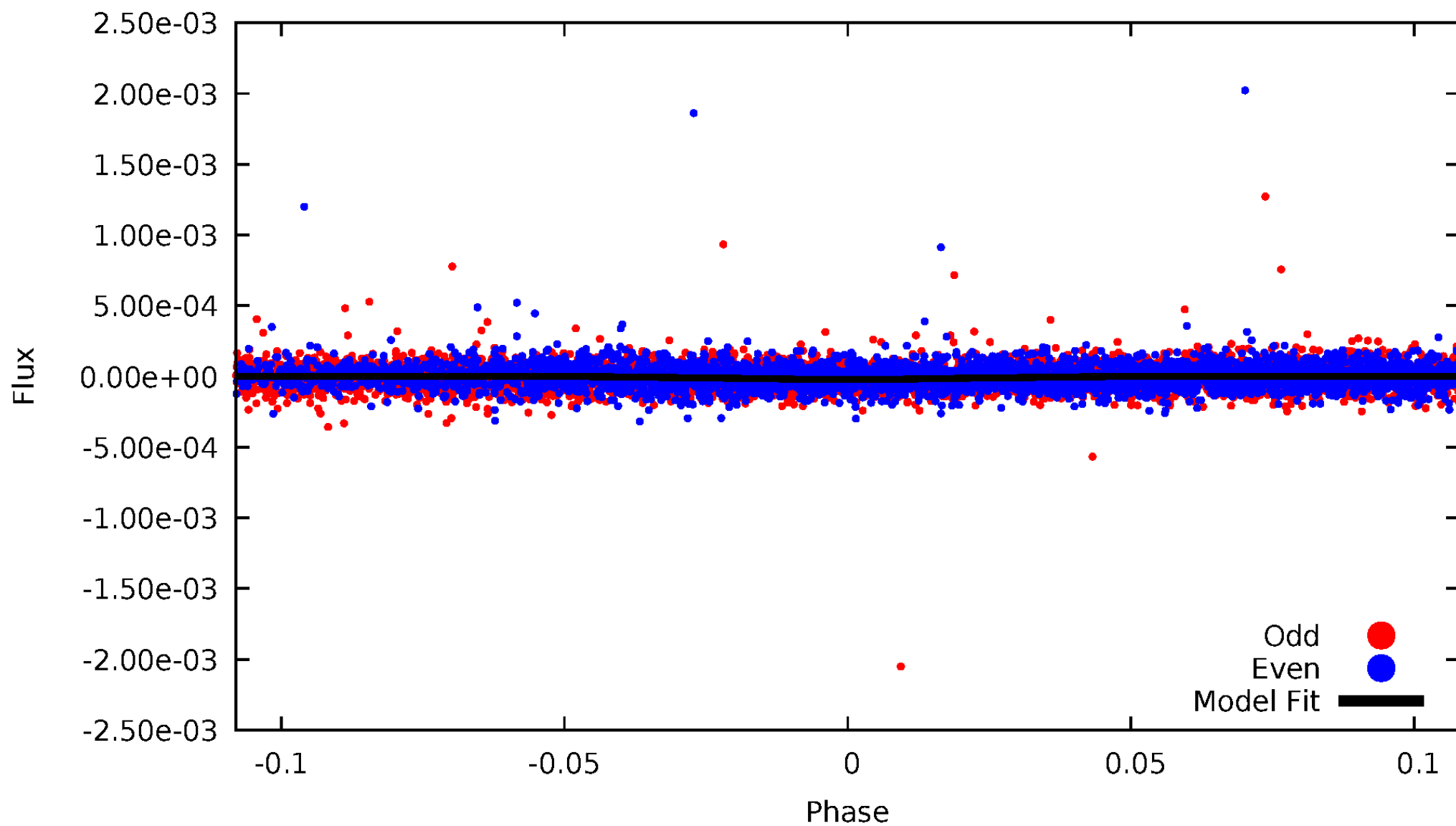


TCE 005632093-02



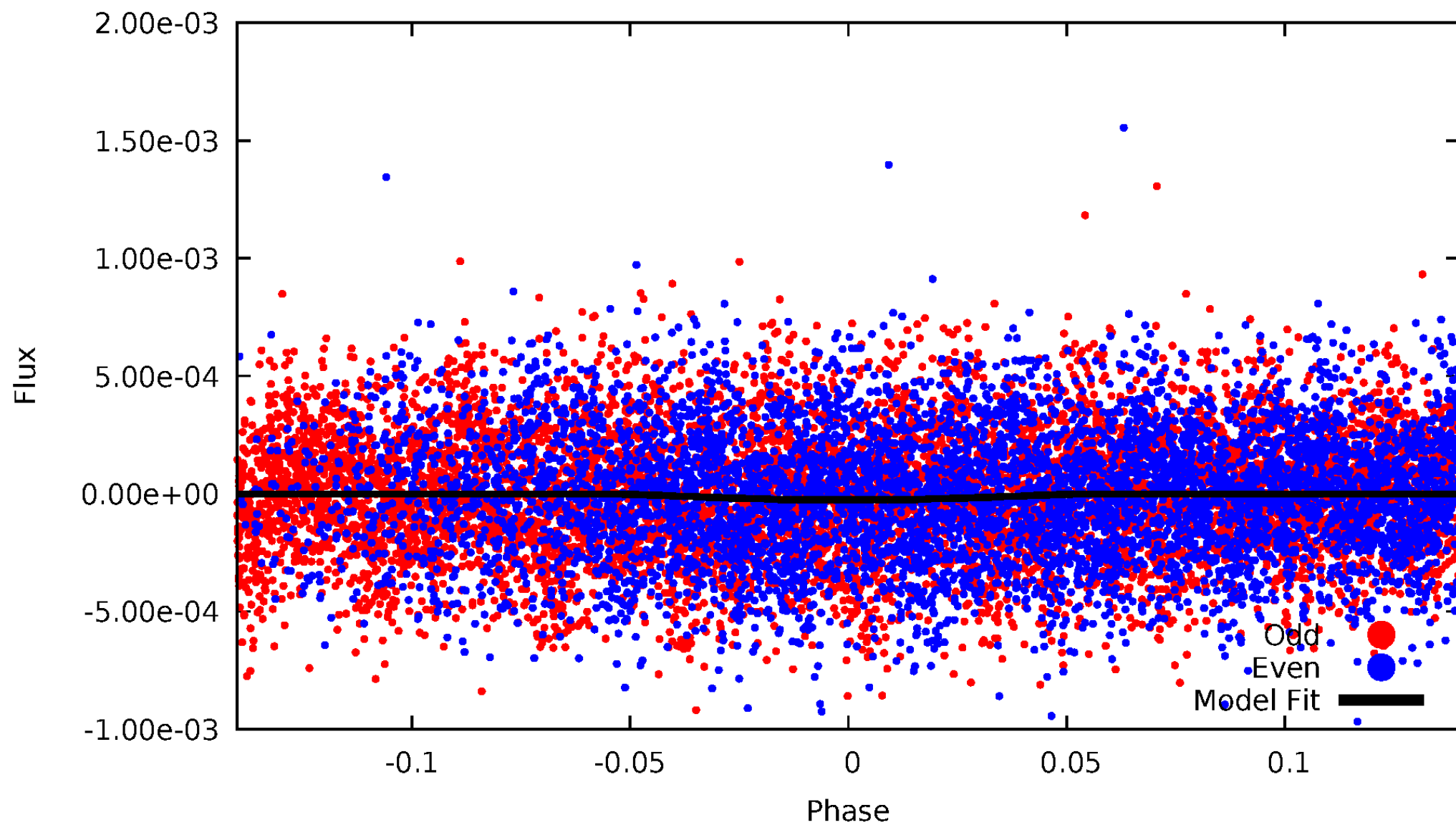
DV Odd/Even

TCE 005632093-02



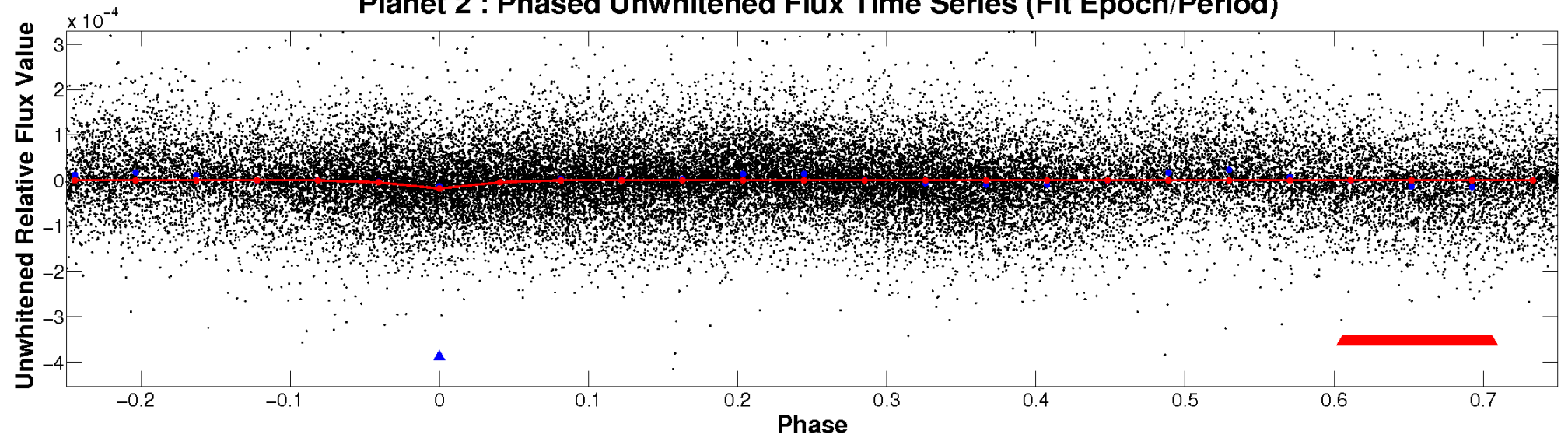
ALT Odd/Even

TCE 005632093-02

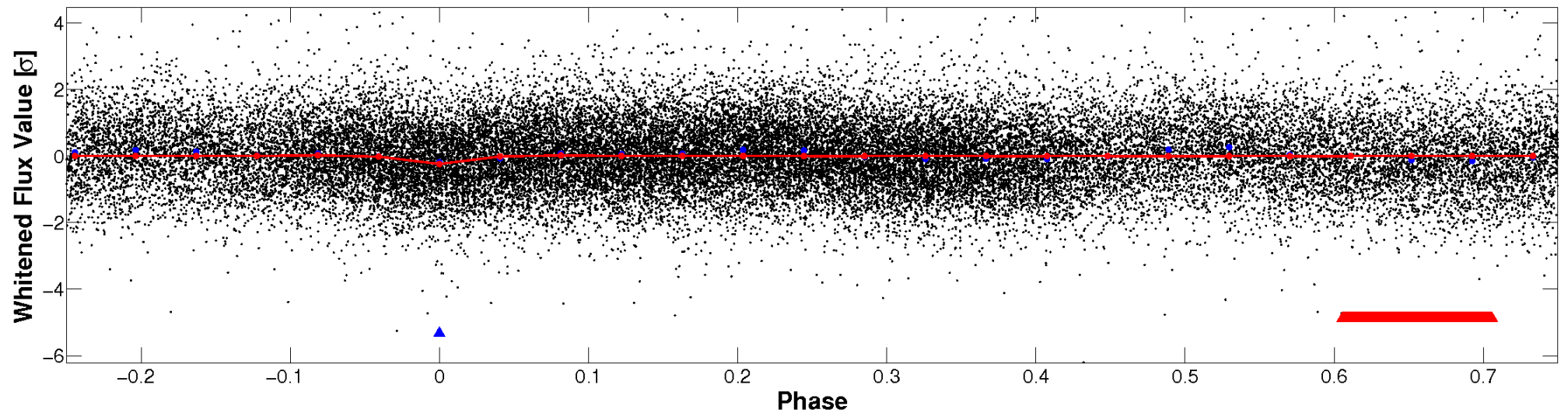


Non-Whitened Vs. Whitened Light Curve

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

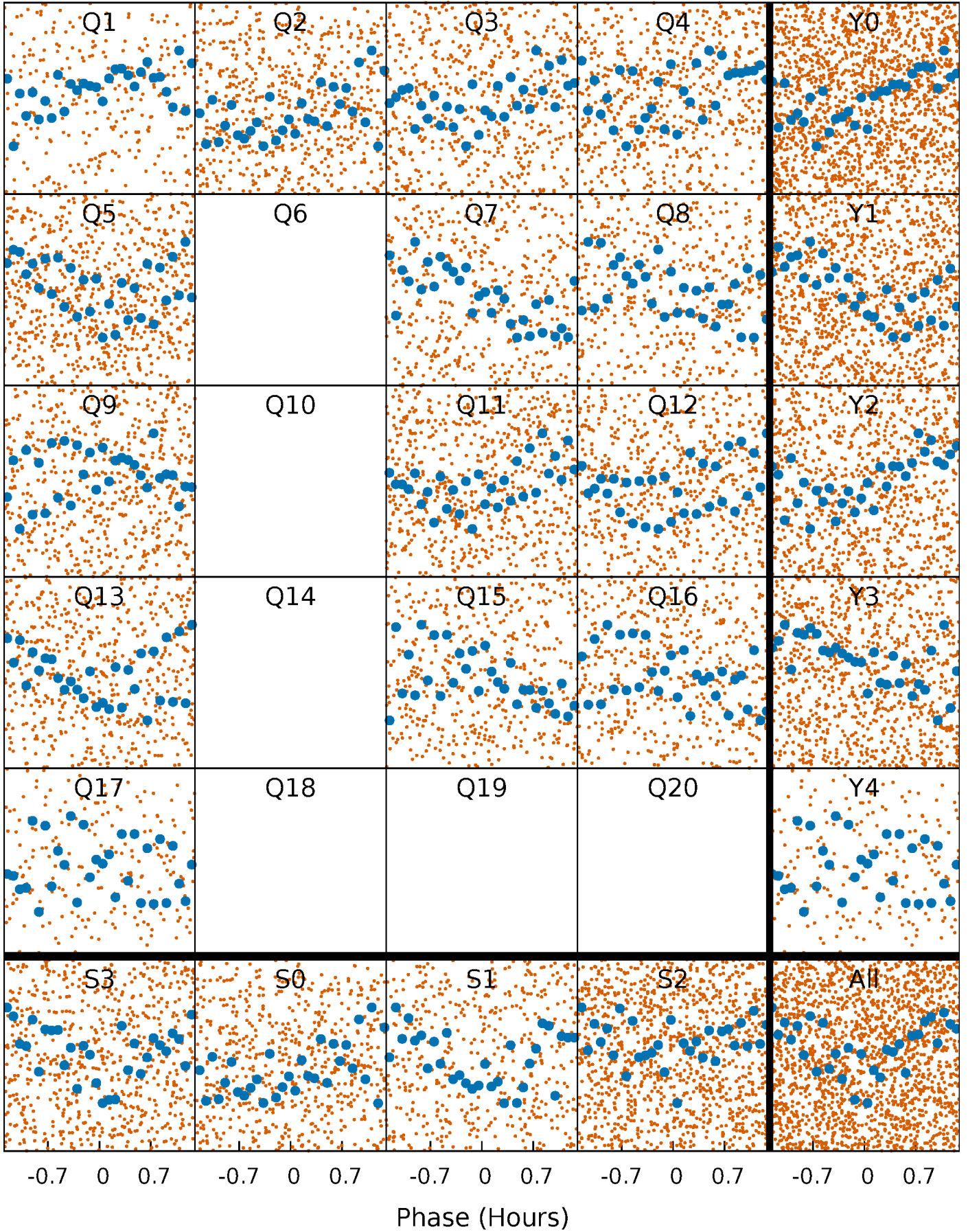


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



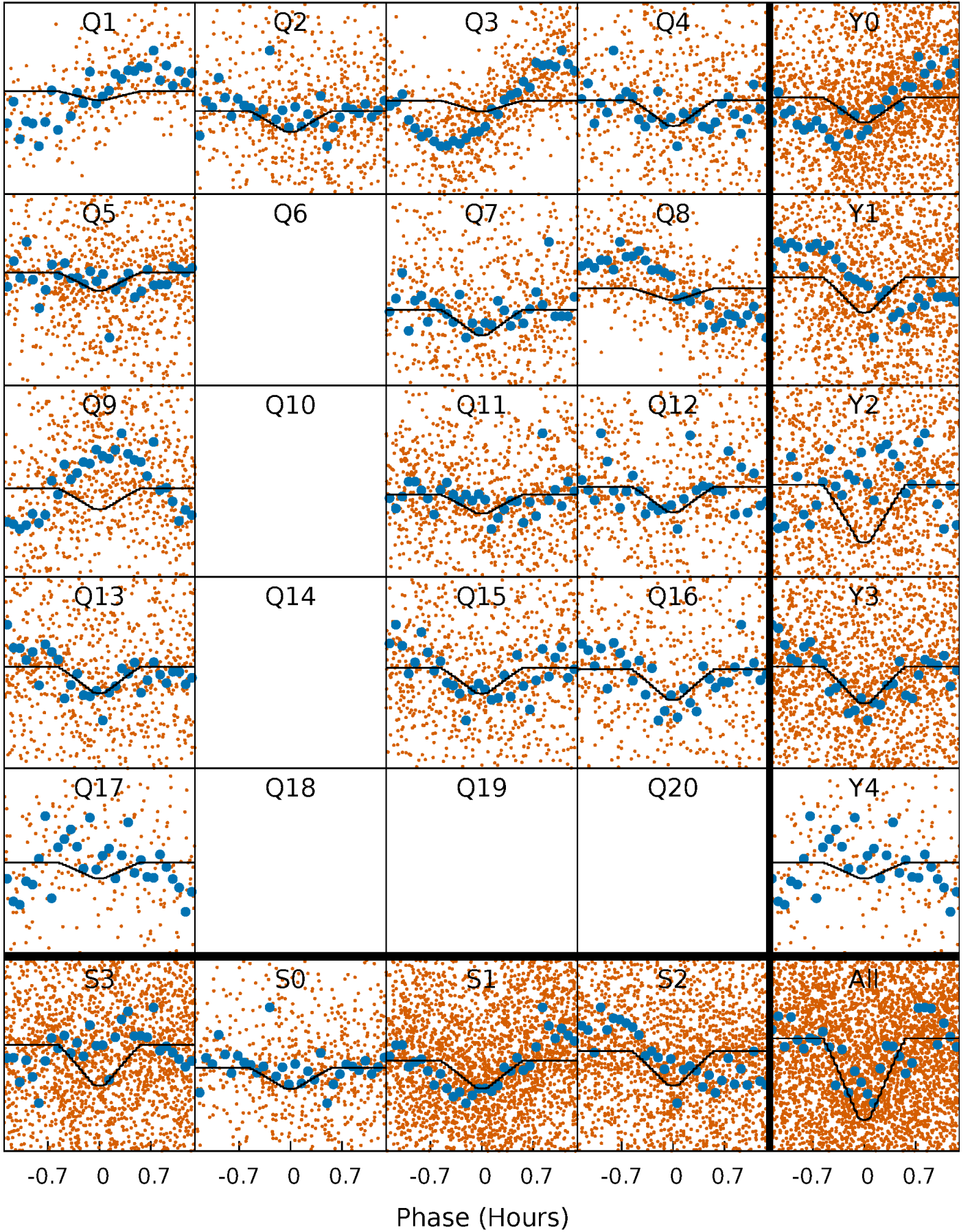
PDC Quarter-Phased Transit Curves

TCE 005632093-02 P= 0.501554 Days $T_0=131.665316$ (BKJD)



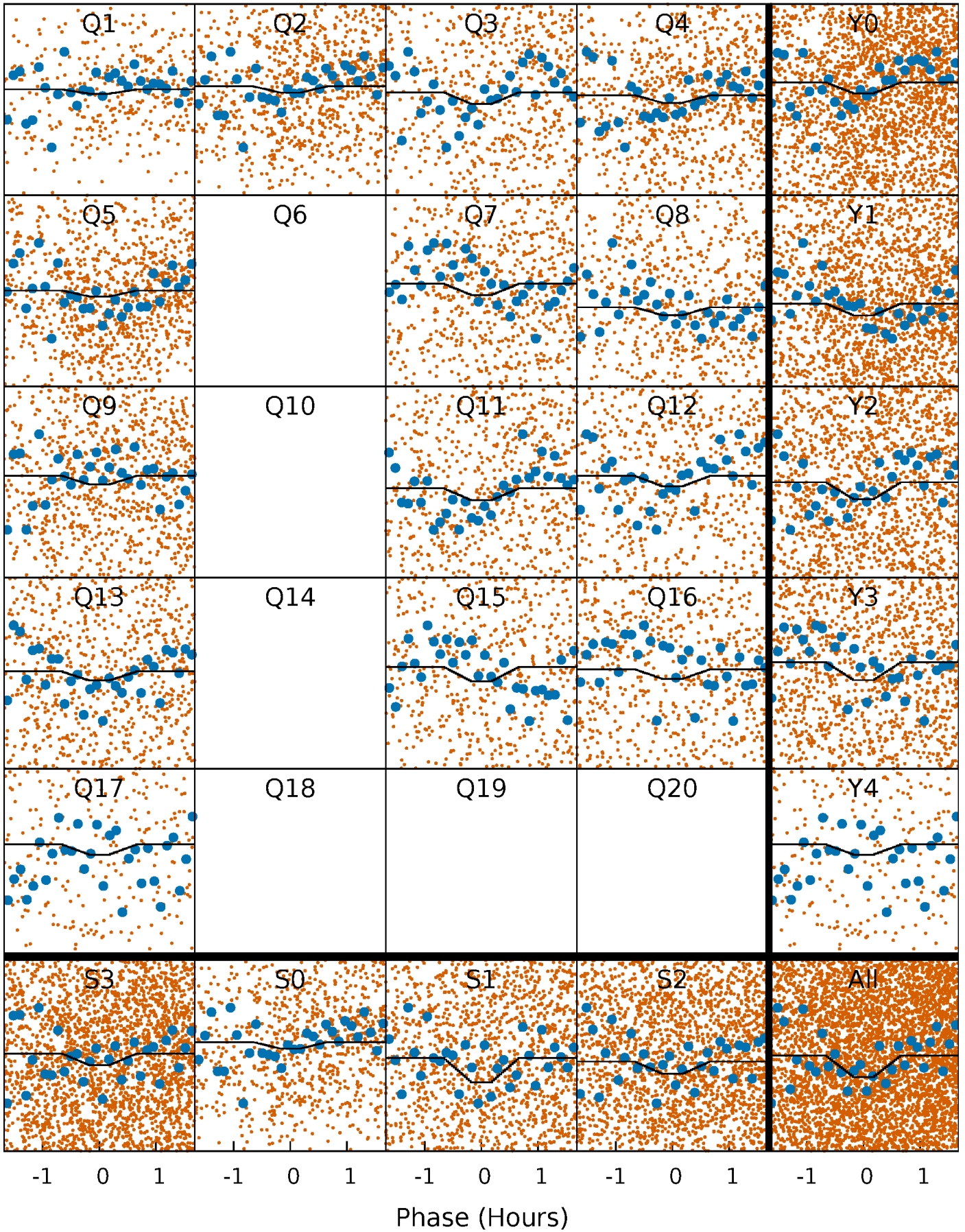
DV Quarter-Phased Transit Curves

TCE 005632093-02 P= 0.501554 Days $T_0=131.665316$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

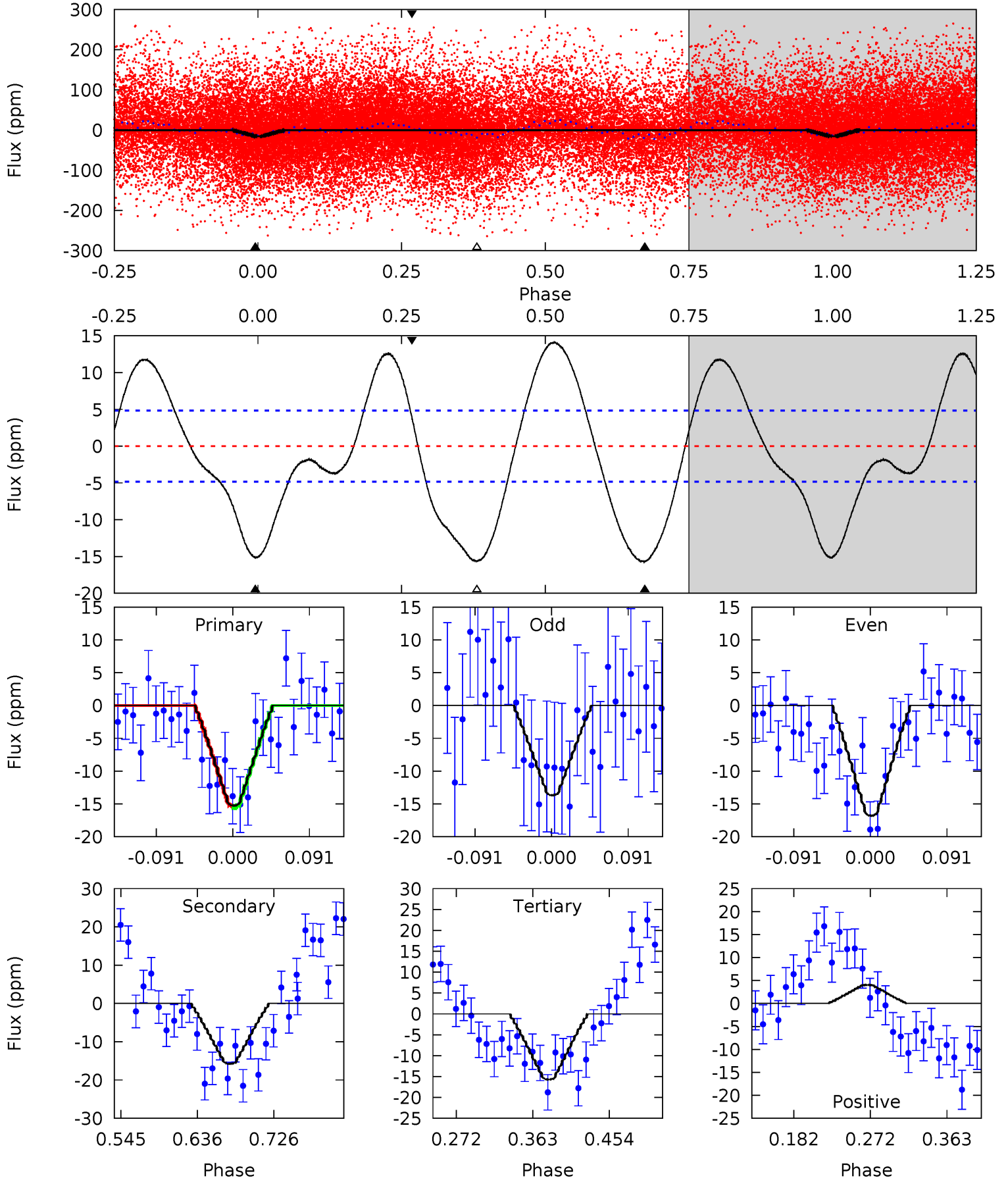
TCE 005632093-02 P= 0.501557 Days $T_0=131.664554$ (BKJD)



DV Model-Shift Uniqueness Test

005632093-02, P = 0.501554 Days, E = 131.163762 Days

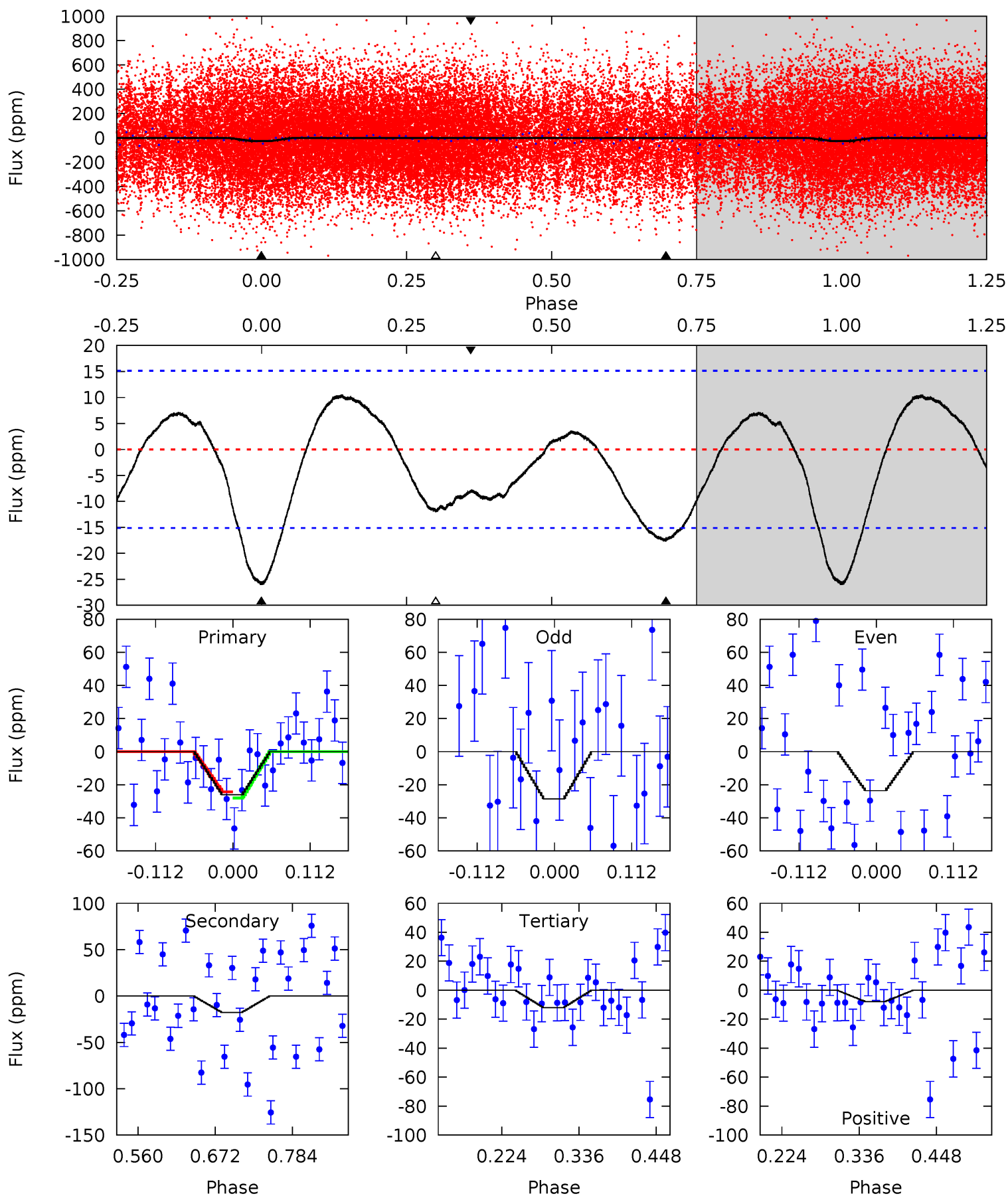
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	15.0	14.9	3.82	4.59	1.69	8.49	-0.42	10.7	0.06	11.1	1.50	0.93	0.47	0.06



Alt Model-Shift Uniqueness Test

005632093-02, P = 0.501557 Days, E = 131.162997 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.83	5.32	3.63	-2.36	4.54	1.59	2.25	4.20	10.2	1.70	7.69	0.75	0.74	0.29	0.56



Stellar Parameters For KIC 005632093

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8254^{+226}_{-311}	$4.083^{+0.165}_{-0.135}$	$-0.200^{+0.250}_{-0.300}$	$1.996^{+0.446}_{-0.446}$	$1.757^{+0.157}_{-0.269}$	$0.311^{+0.282}_{-0.129}$
	+3%/-4%	+4%/-3%	+125%/-150%	+22%/-22%	+9%/-15%	+91%/-41%
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 005632093-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 1	$0.99^{+0.19}_{-0.16}$	5862^{+345}_{-379}	7134^{+803}_{-624}	$1.942^{+0.798}_{-0.552}$
Alt.	-18 ± 3	$1.08^{+0.20}_{-0.17}$	5840^{+392}_{-342}	6978^{+783}_{-728}	$1.817^{+0.844}_{-0.593}$

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

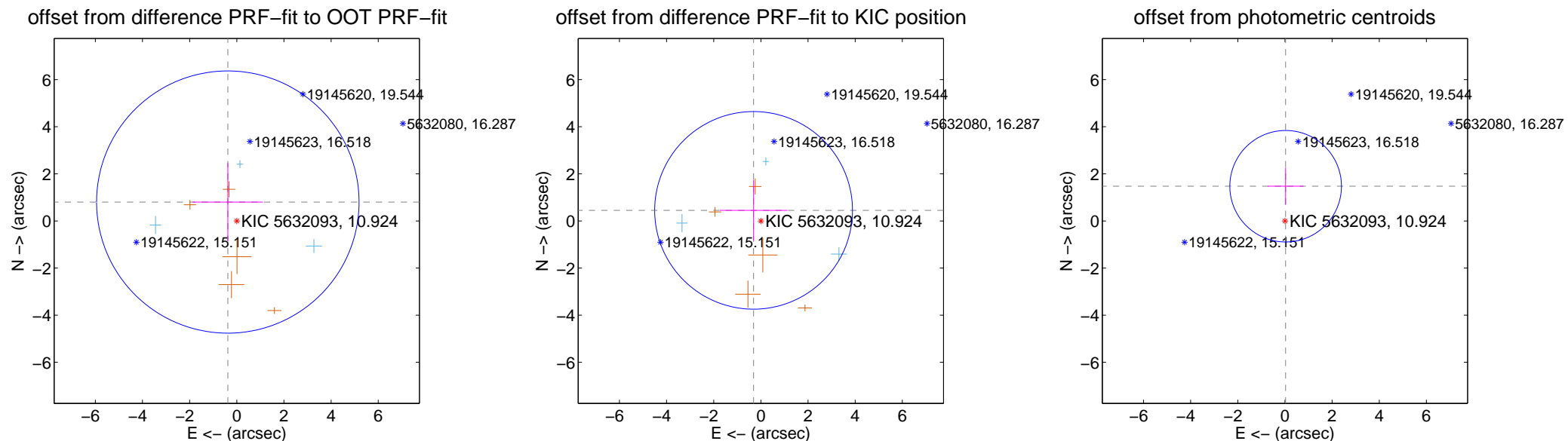
DV Centroid Data

Supplemental centroid analysis for 005632093-02. **Kepler magnitude: 10.92.** Transit SNR 11.75

There are 3 quarters with good PRF difference image offsets

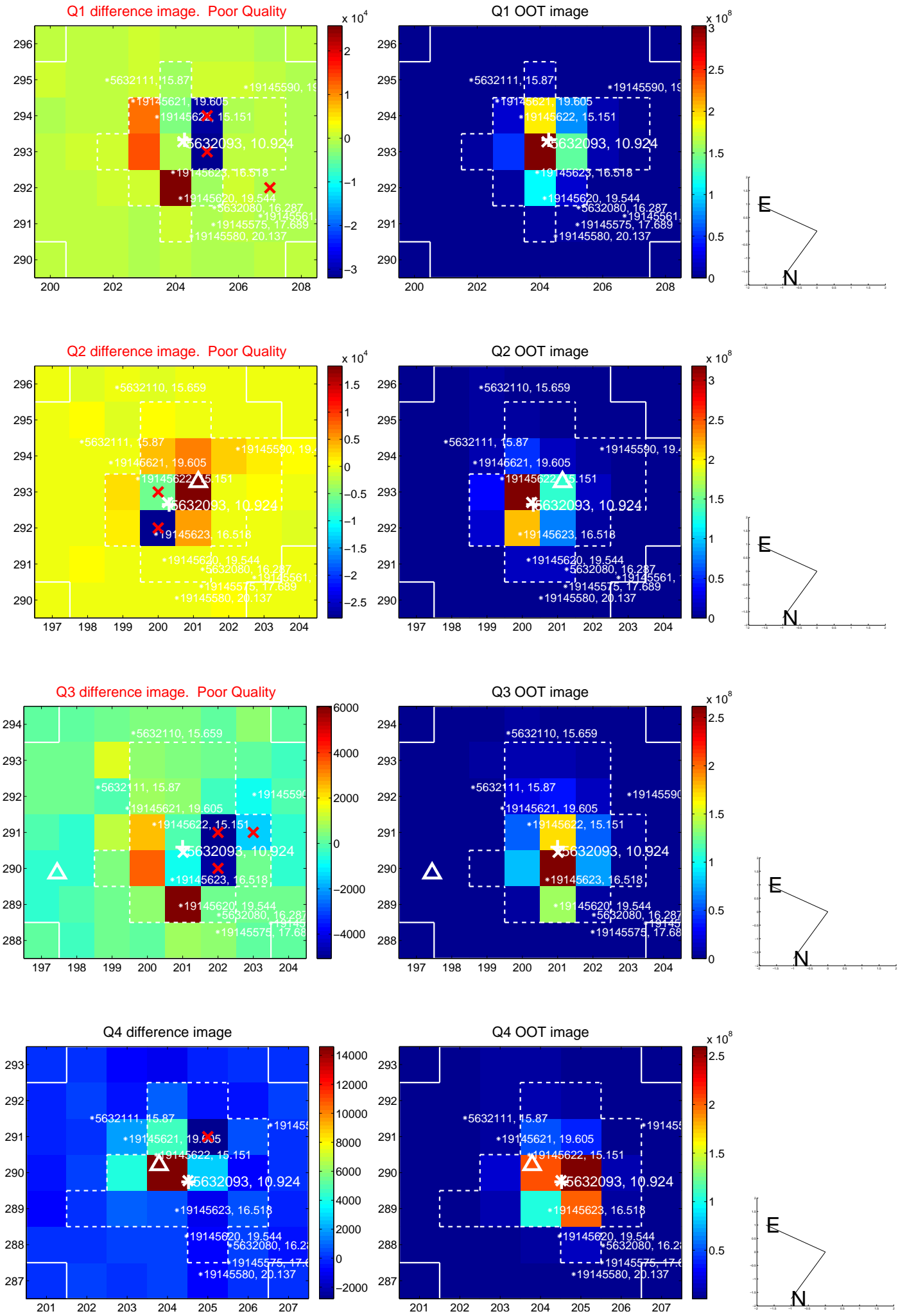
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.888 ± 1.856	0.48	0.381 ± 1.491	0.803 ± 1.654
PRF-fit source offset from KIC position	0.546 ± 1.398	0.39	0.309 ± 1.435	0.450 ± 1.283
photometric centroid source offset	1.47 ± 0.79	1.87	-0.03 ± 0.76	1.47 ± 0.79

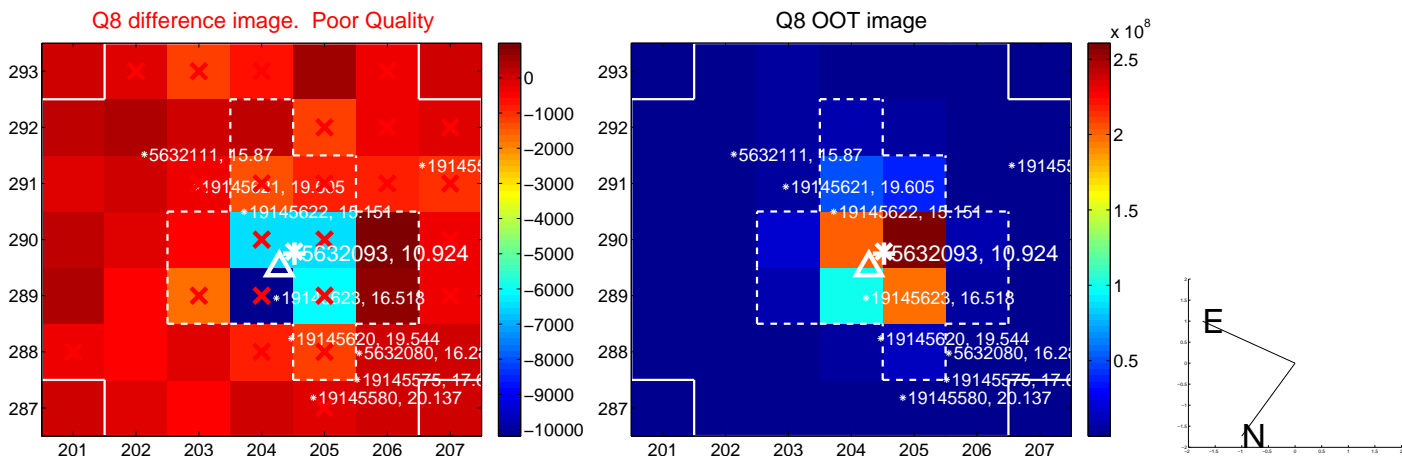
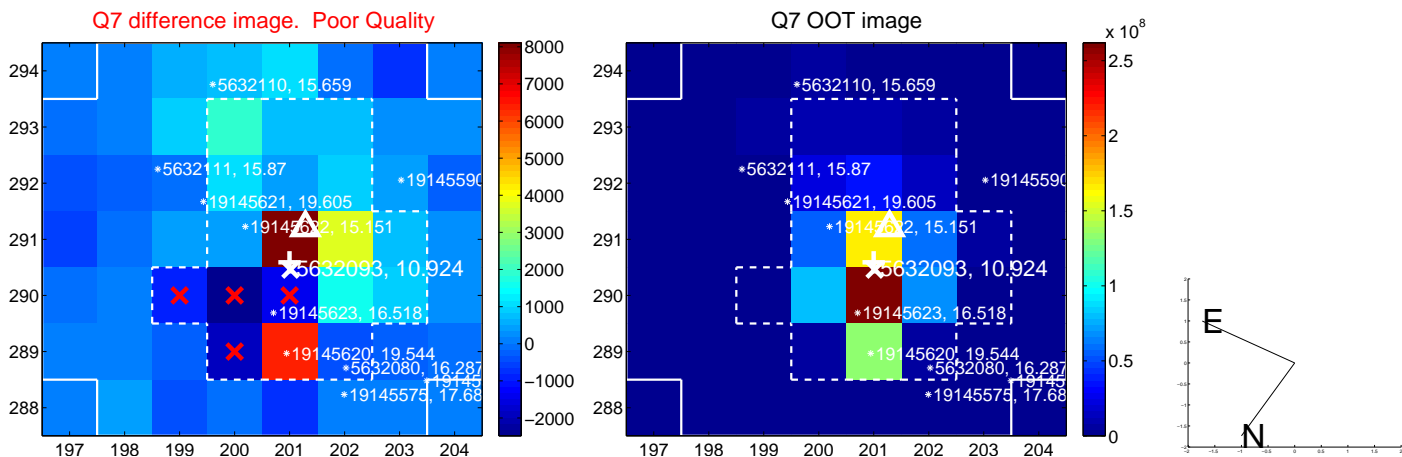
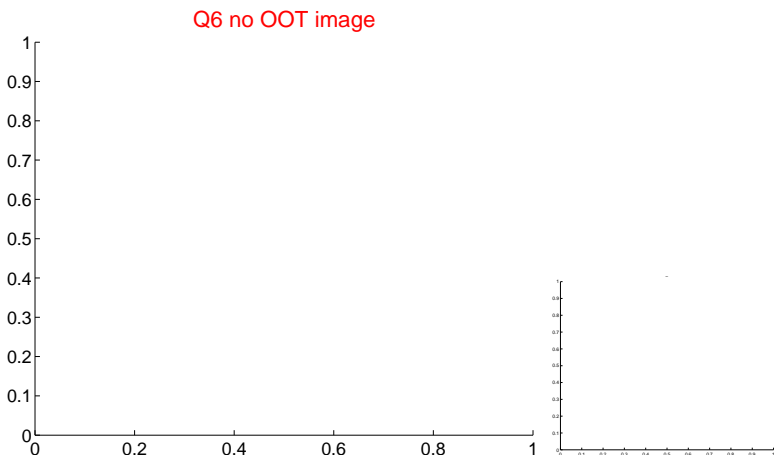
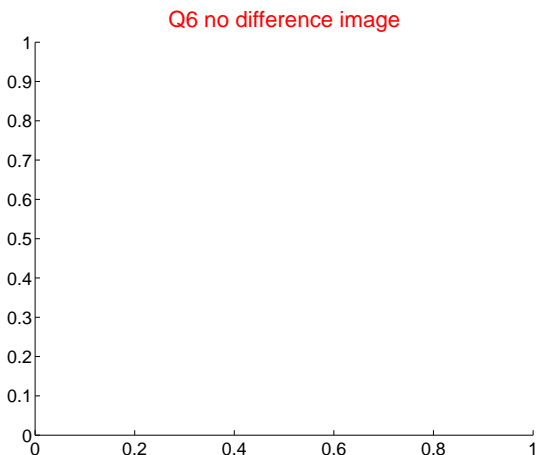
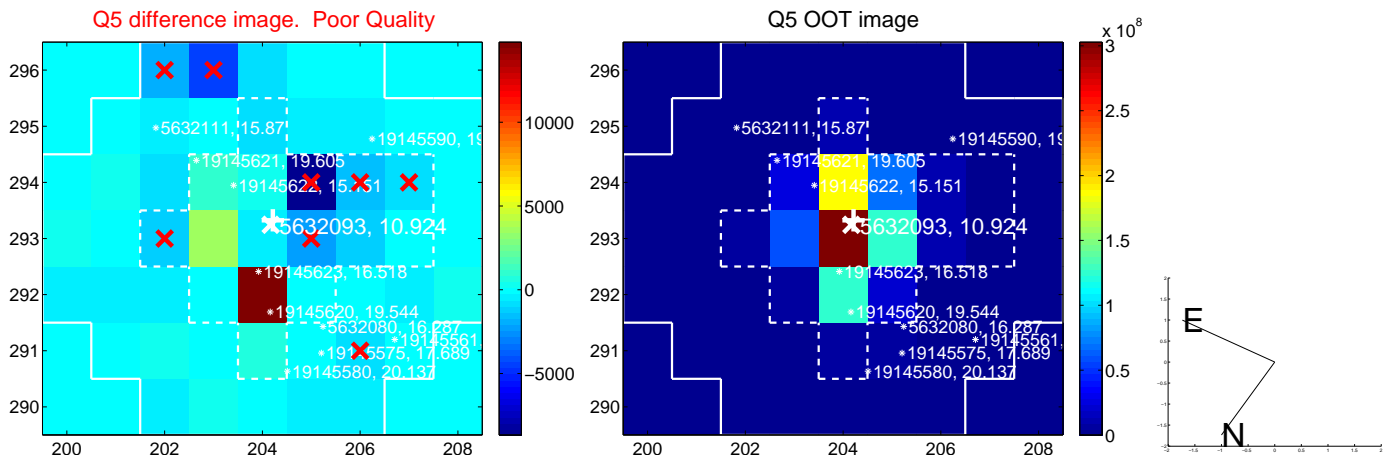


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

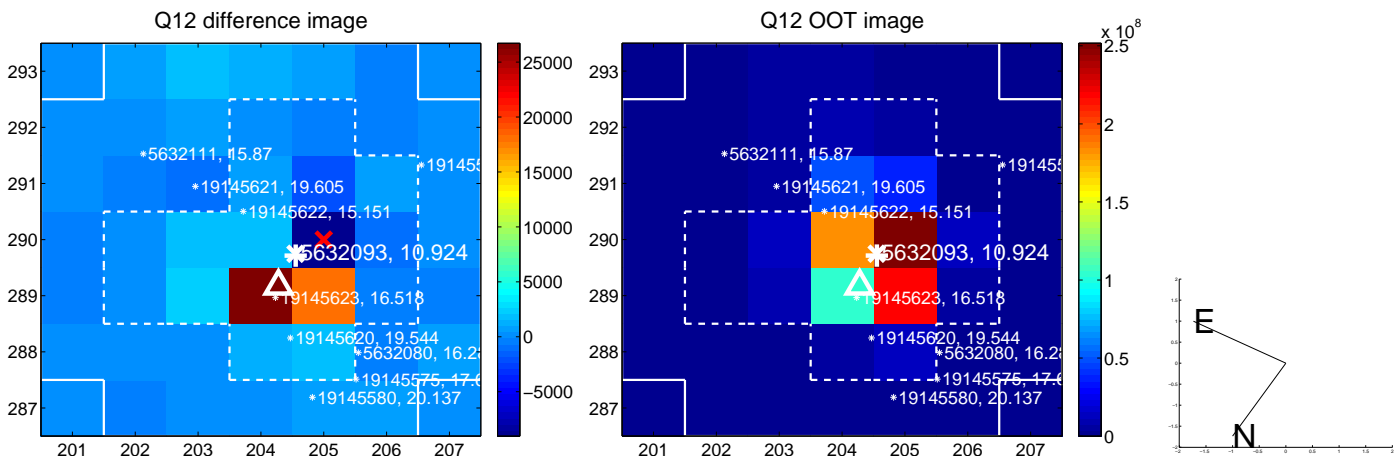
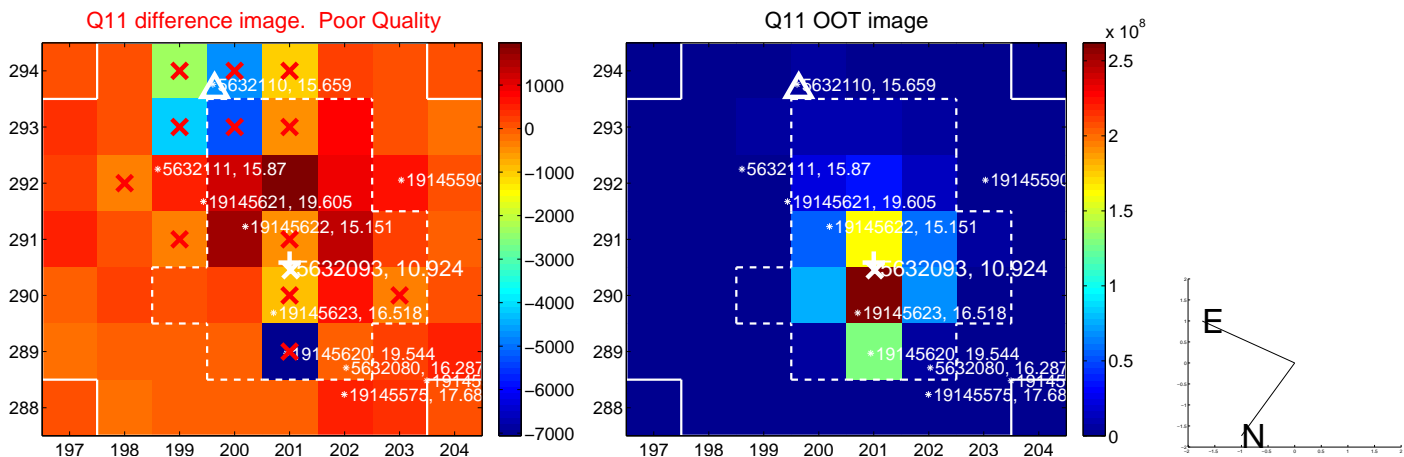
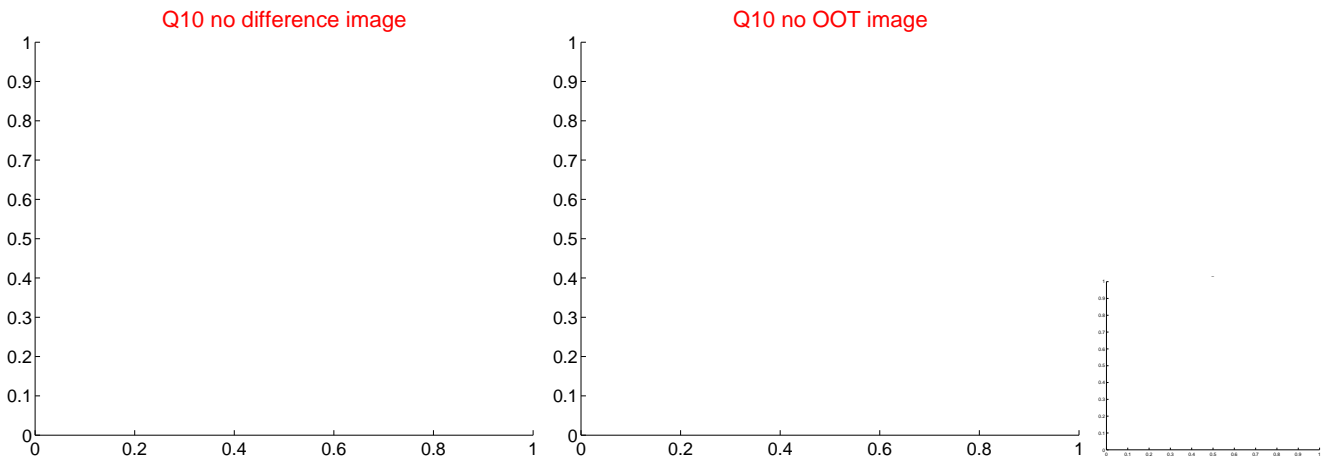
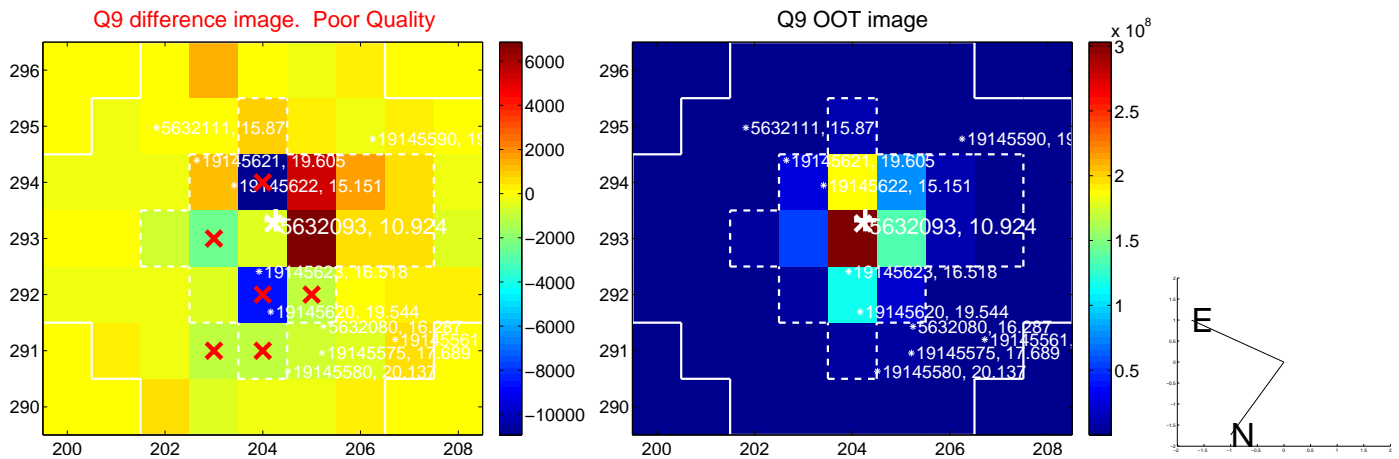
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



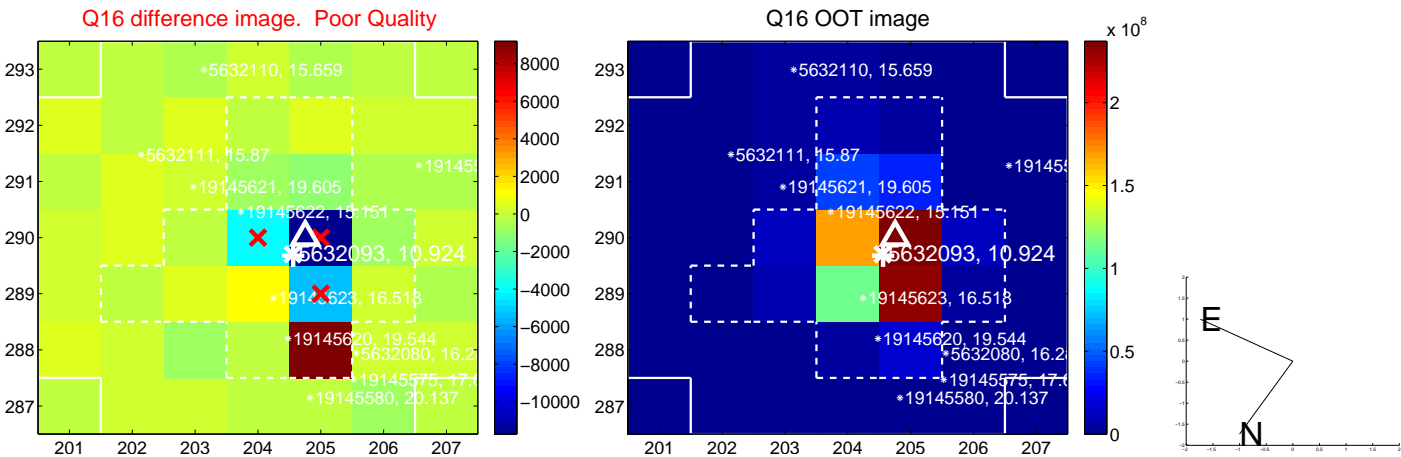
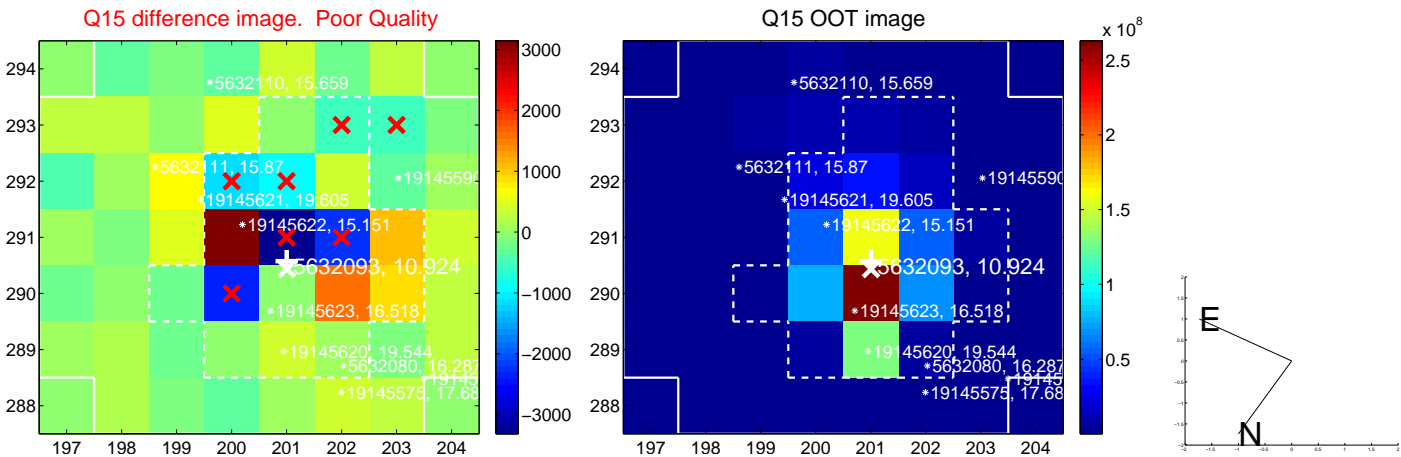
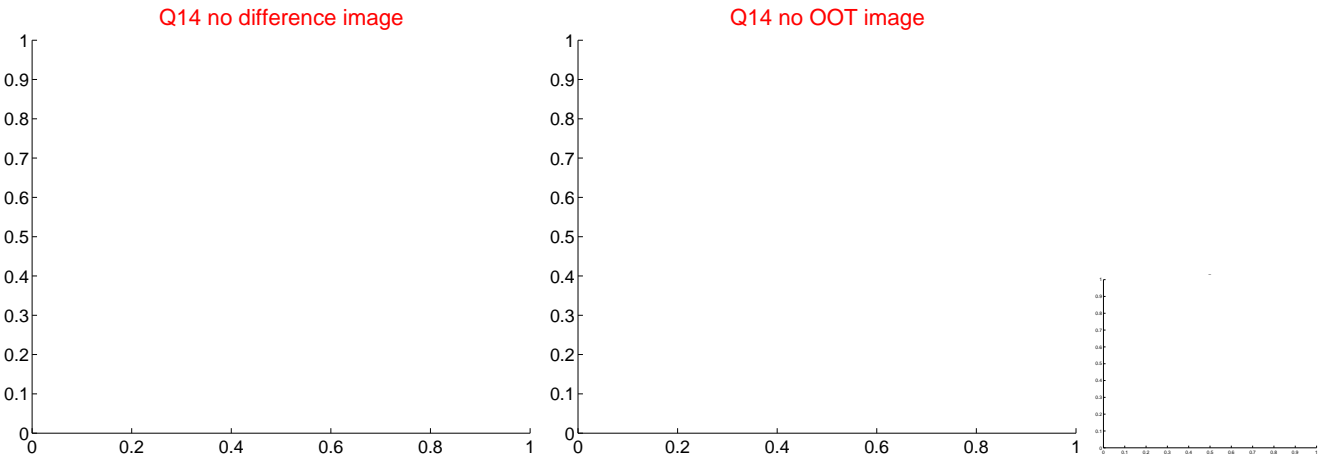
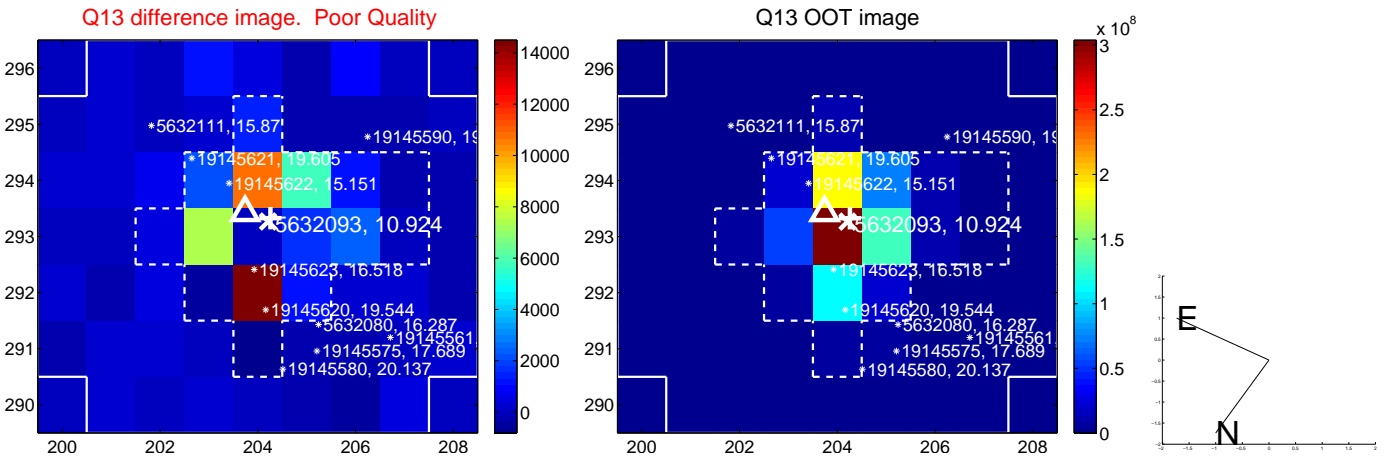
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



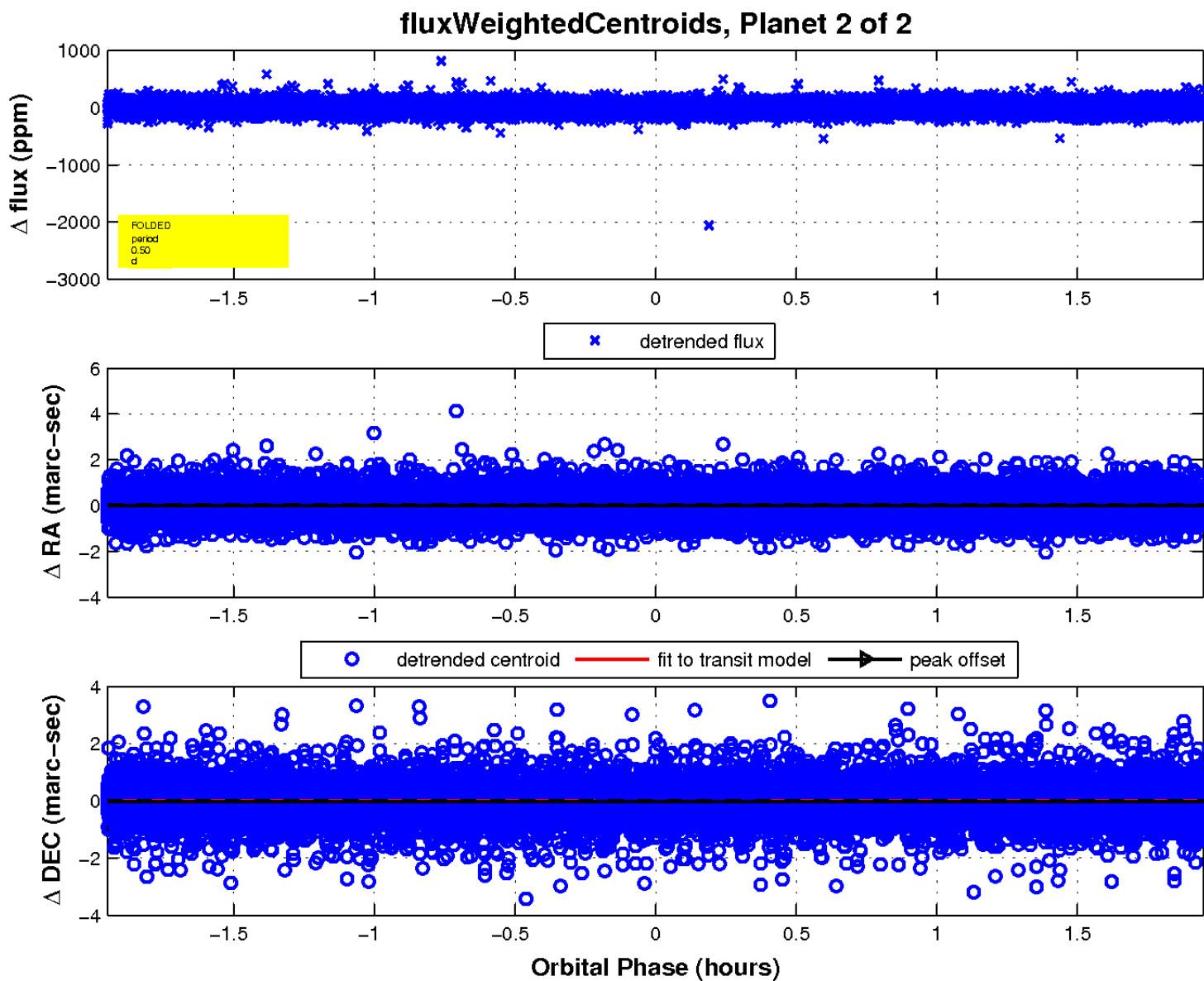
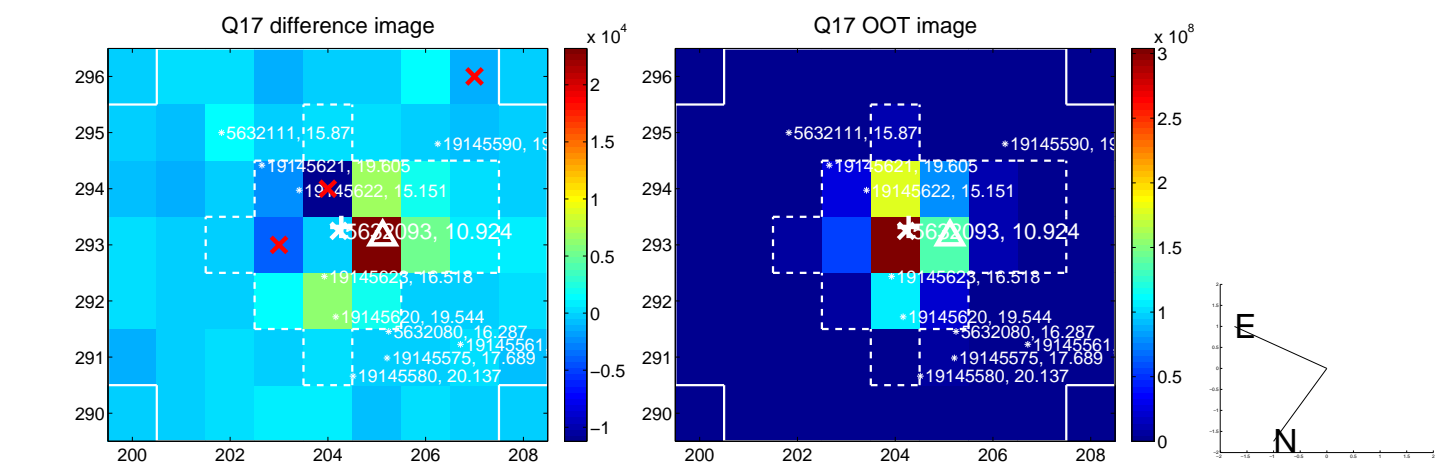
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

