

KIC 006123324

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})
006123324-01	OBS	No	0.575974	131.612152	361.7	1.518	13.5	11.1	7.78	6691	17.37	0.00
006123324-02	OBS	No	0.576207	131.852247	275.4	5.182	11.6	10.7	7.78	6691	13.19	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006123324-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006123324-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

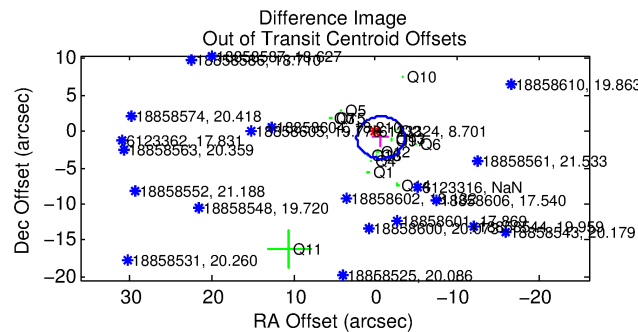
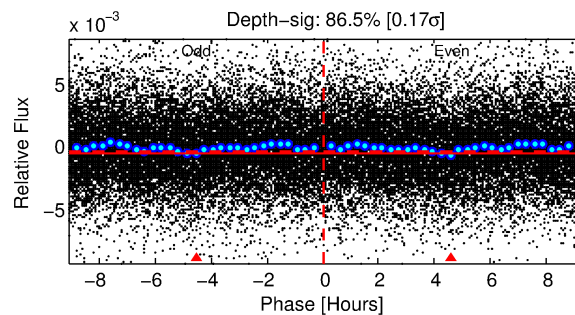
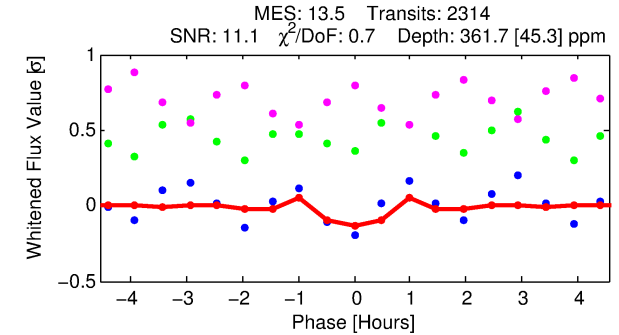
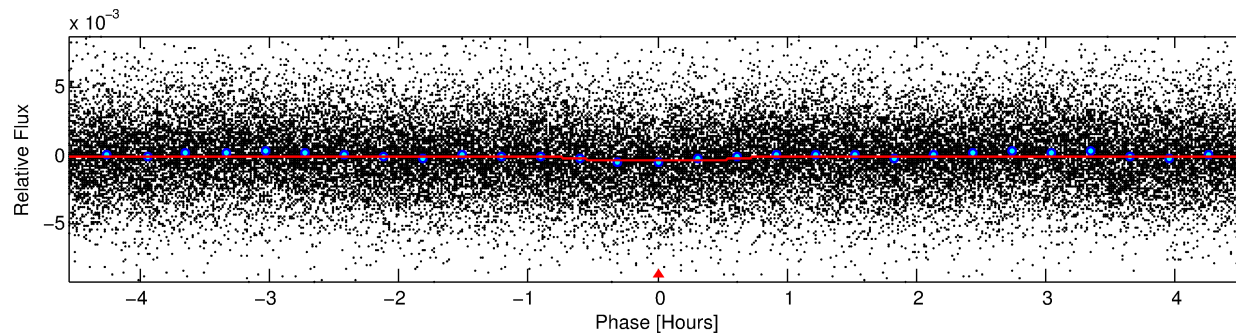
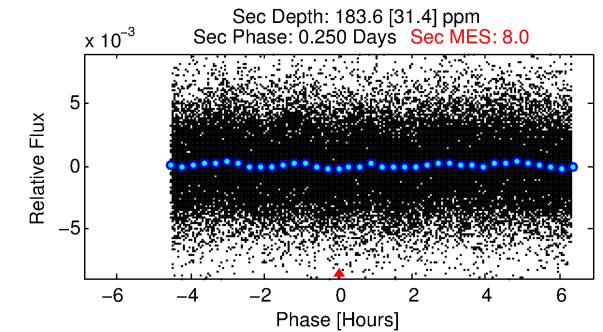
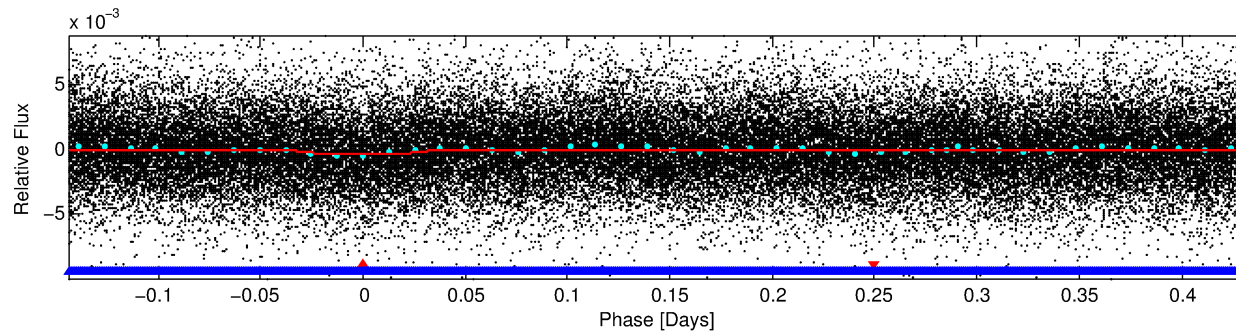
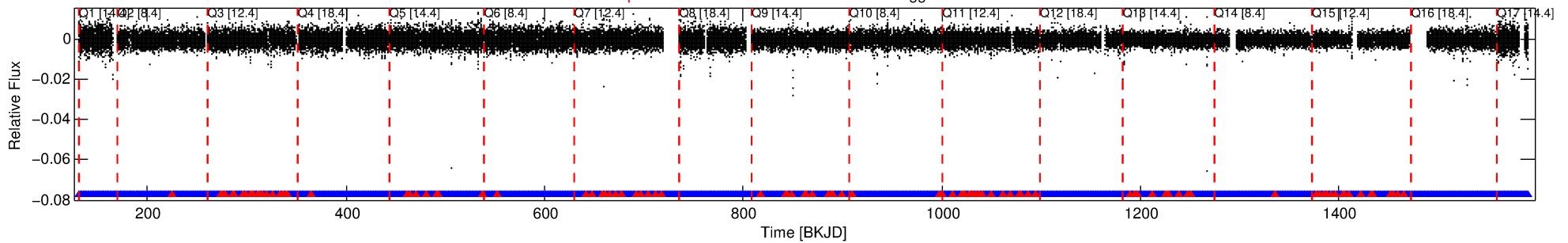
Ephemeris Match Information For 006123324-01

No Significant Match Found

DV One-Page Summary

KIC: 6123324 Candidate: 1 of 2 Period: 0.576 d

Kp: 8.70 R*: 7.78 Rs Teff: 6691.0 K Logg: 3.09 Fe/H: 0.070



DV Fit Results:

Period = 0.57597 [0.00001] d
Epoch = 131.6122 [0.0010] BKJD
Rp/R* = 0.0205 [0.0037]
a/R* = 1.66 [1.01]
b = 0.90 [0.19]
Seff = N/A
Teq = N/A
Rp = 17.37 [8.80] Re
a = N/A
Ag = N/A
Teffp = N/A

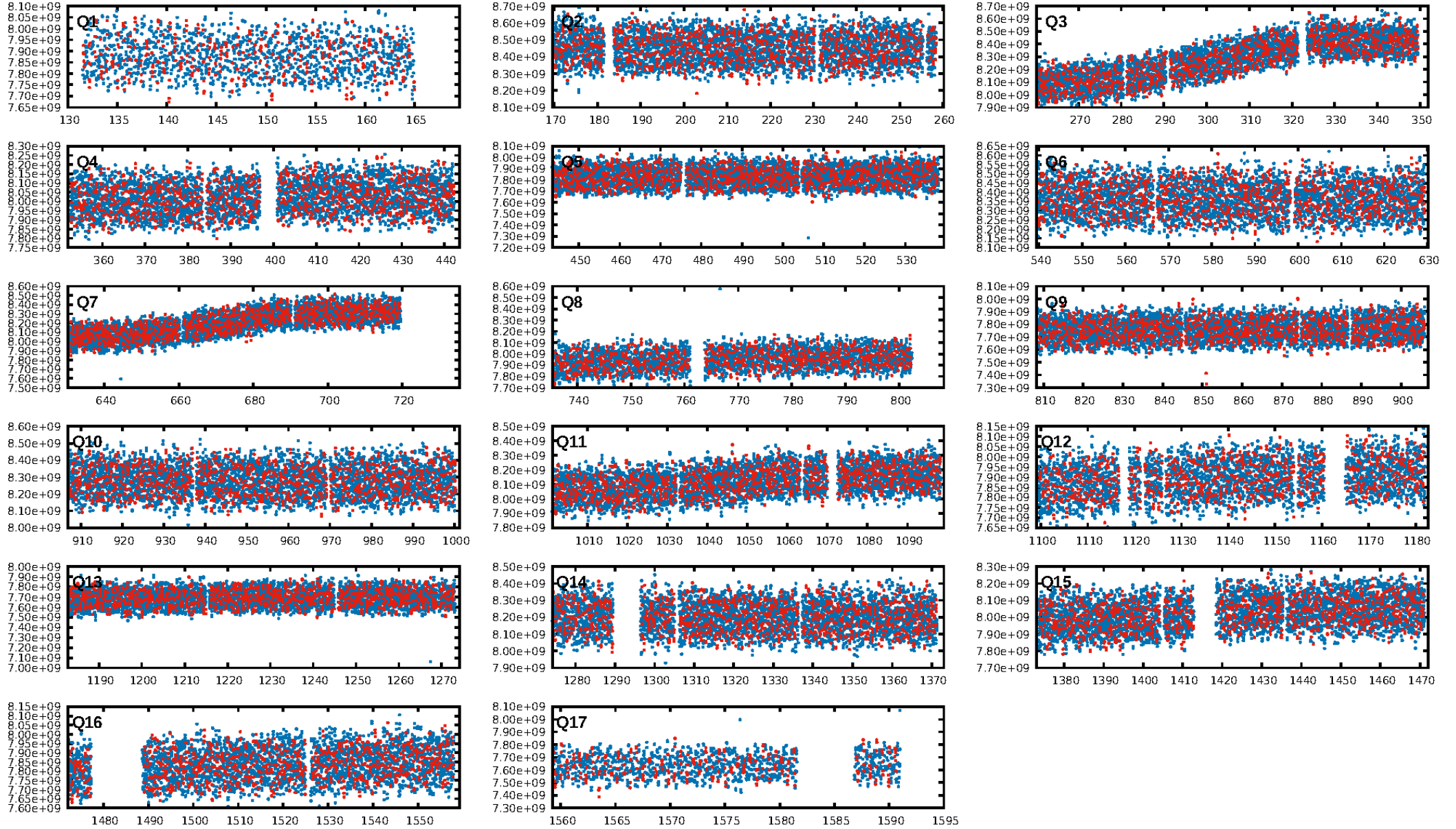
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [2106/2209]
GhostDiagnostic-chr: N/A
Centroid-sig: 2.2%
Centroid-so: 2.149 arcsec [3.85σ]
OotOffset-rm: 1.042 arcsec [1.08σ]
KicOffset-rm: 4.549 arcsec [4.96σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

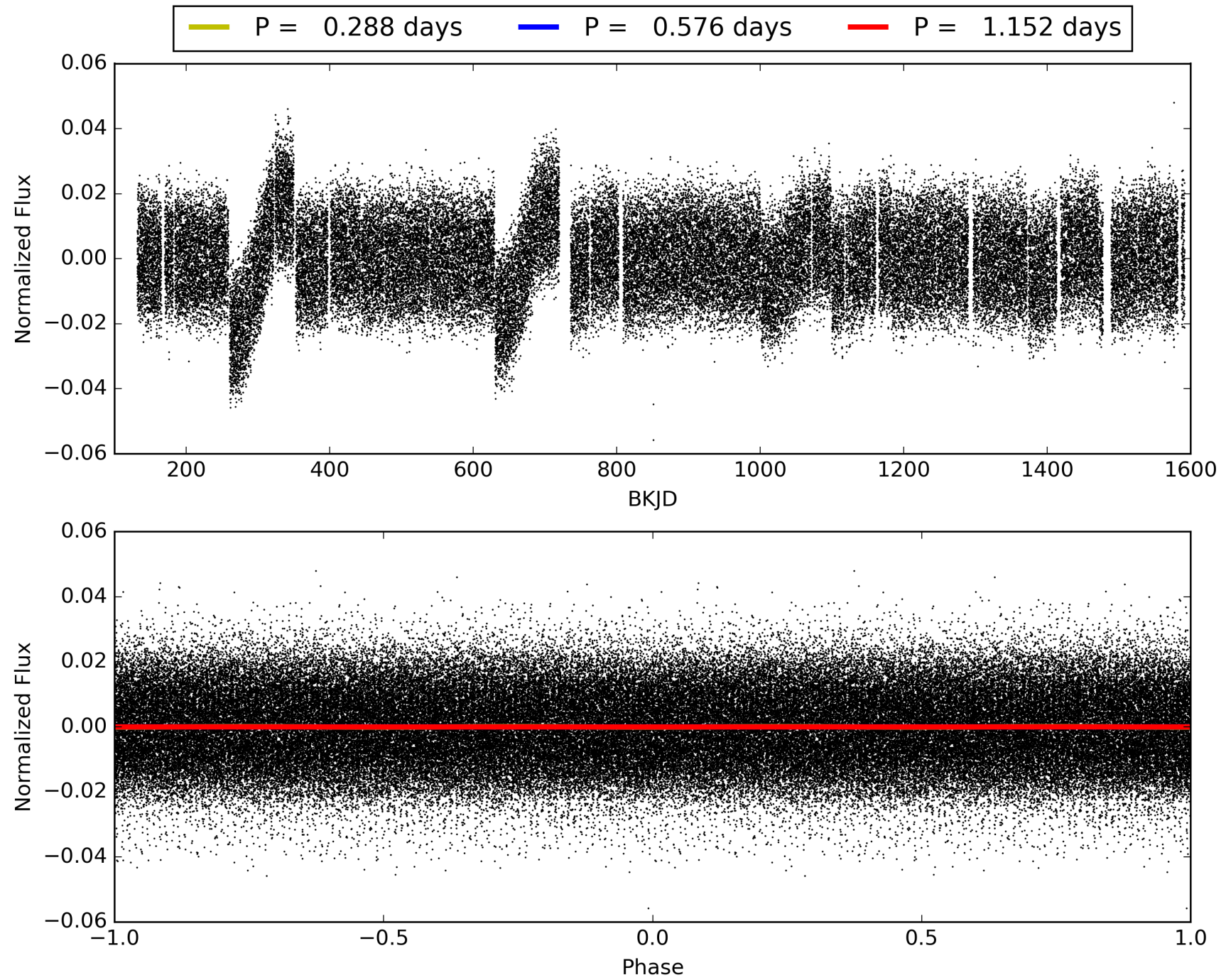
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:07:25 Z

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

TCE 006123324-01, PDC Light Curves

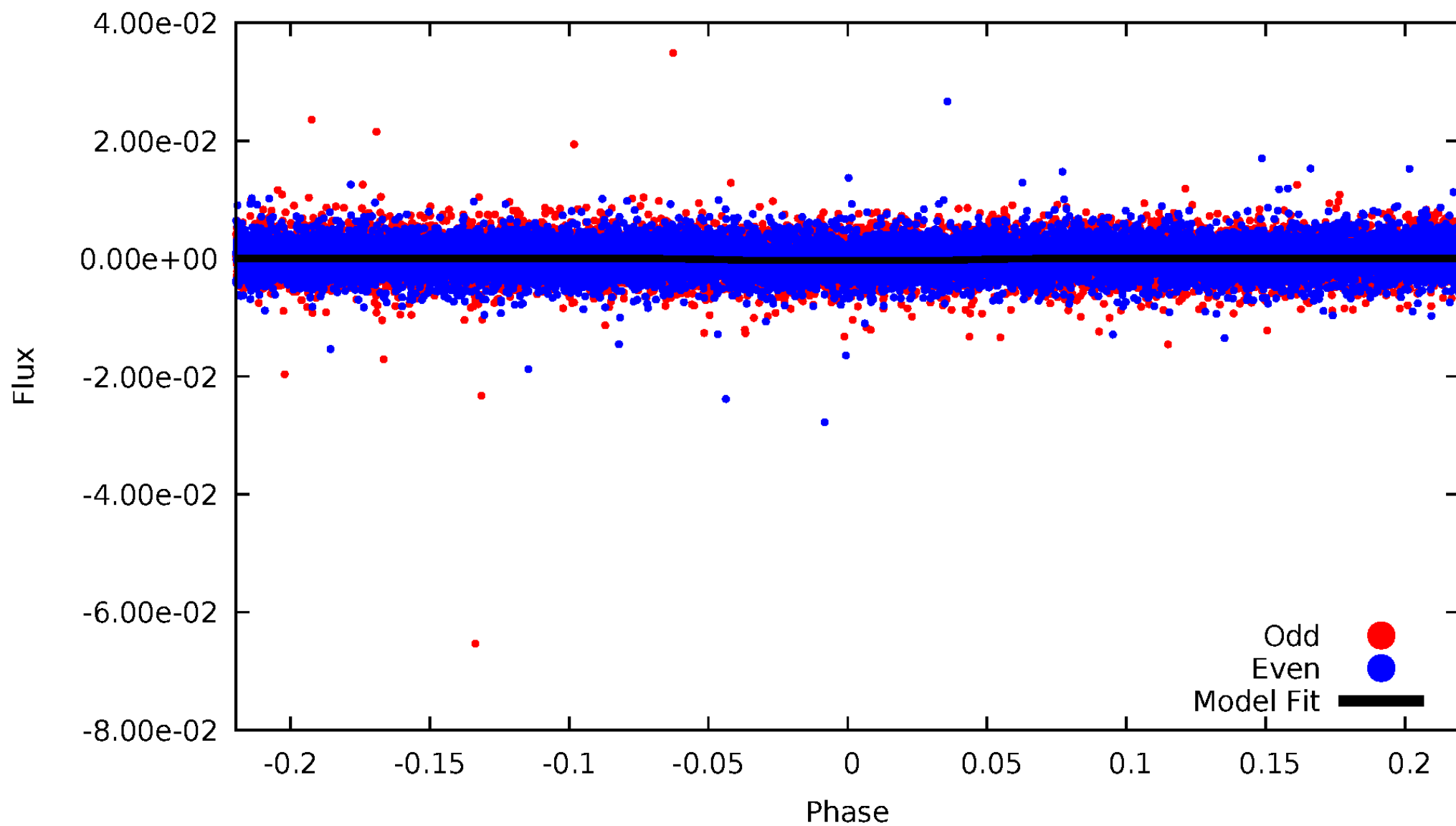


TCE 006123324-01



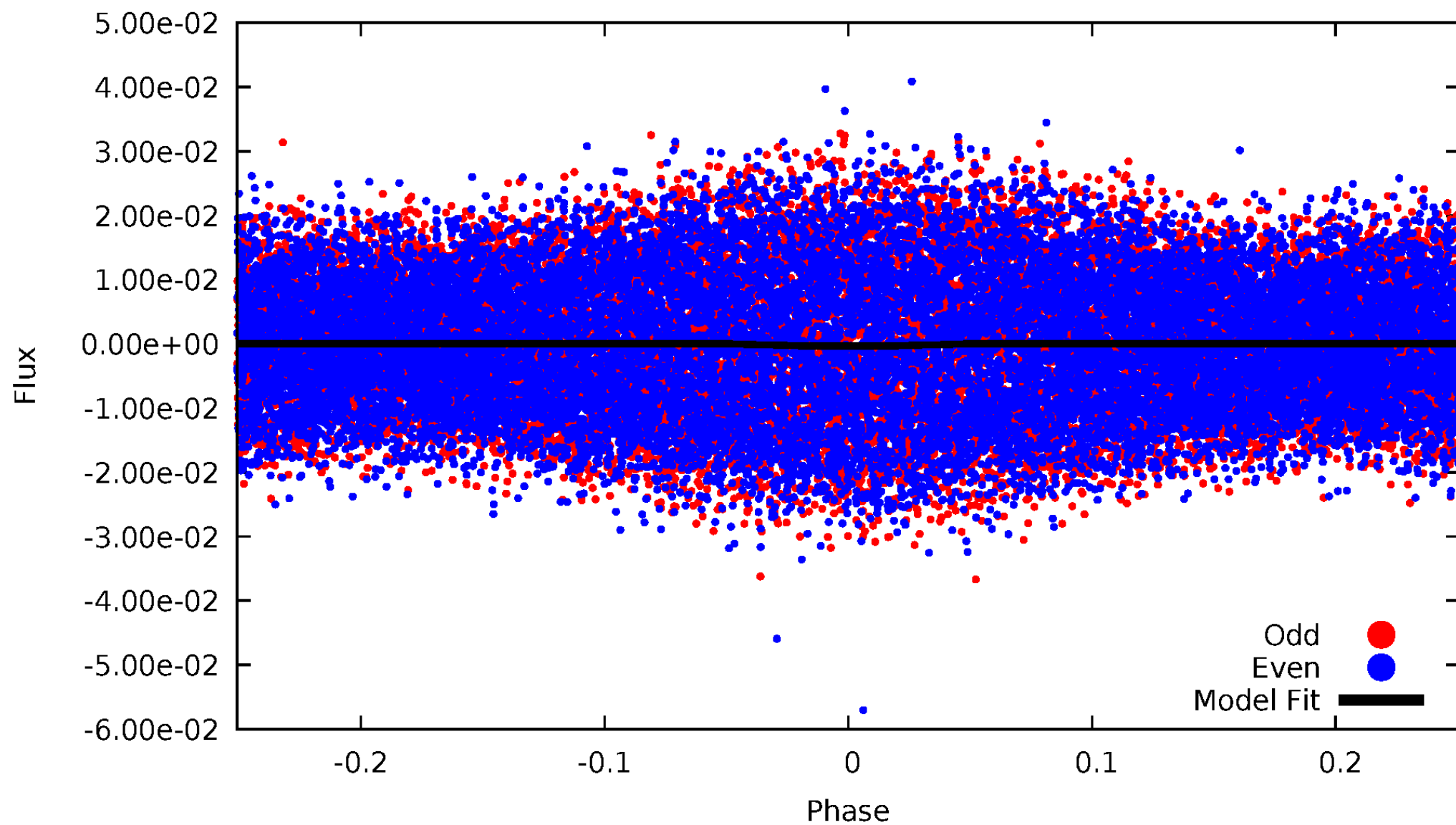
DV Odd/Even

TCE 006123324-01



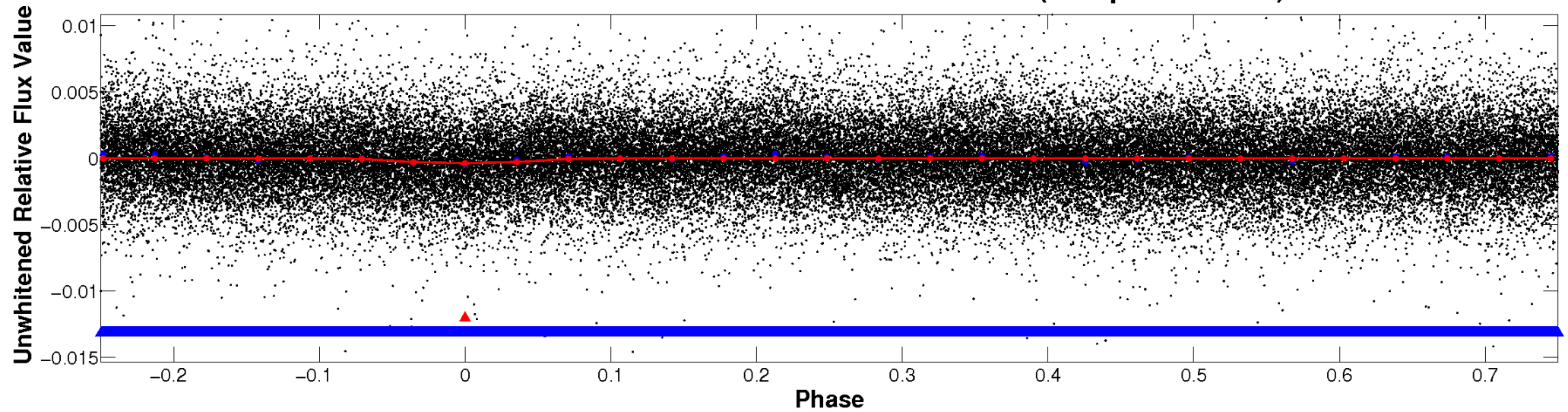
ALT Odd/Even

TCE 006123324-01

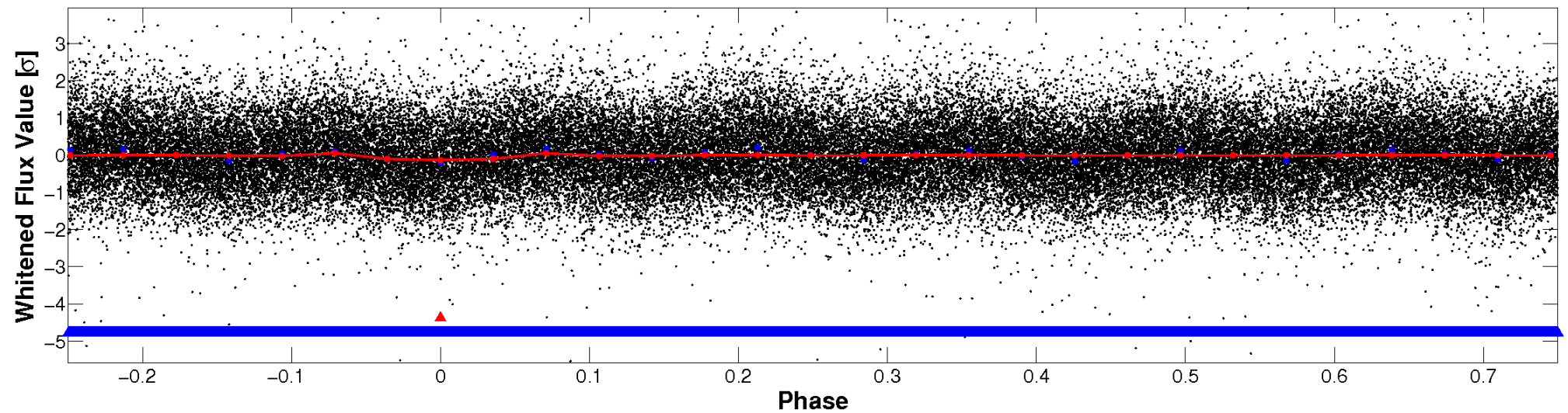


Non-Whitened Vs. Whitened Light Curve

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

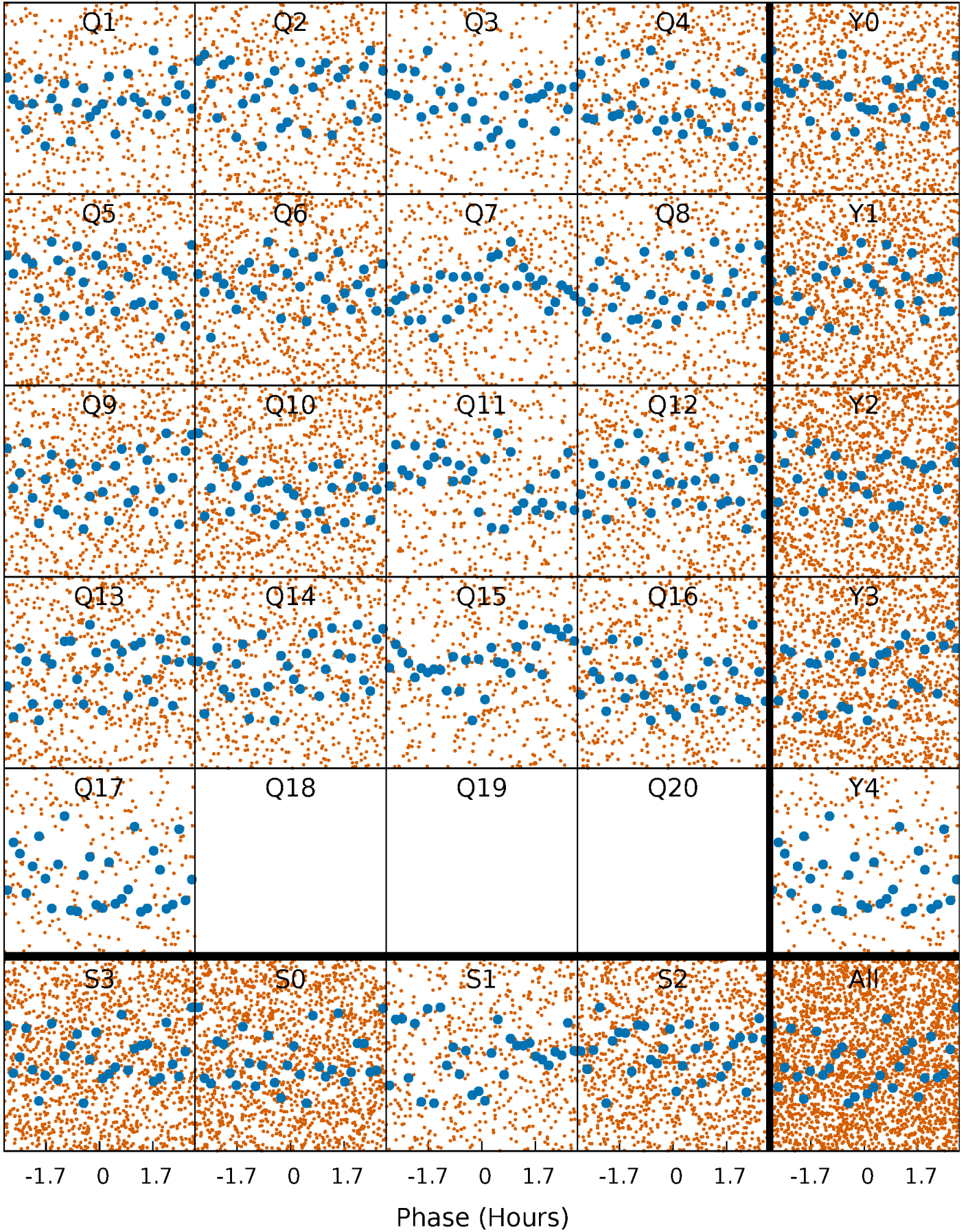


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



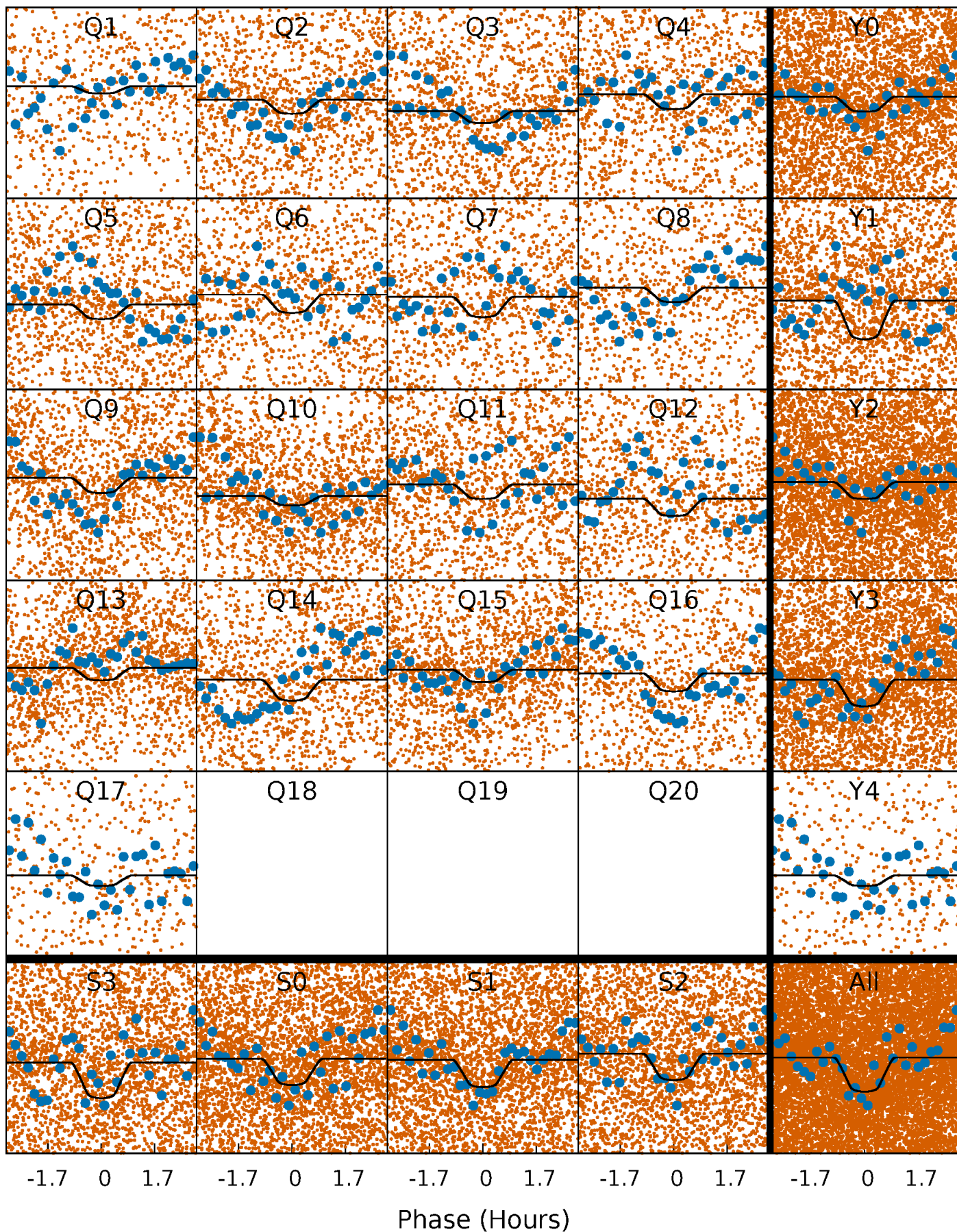
PDC Quarter-Phased Transit Curves

TCE 006123324-01 P= 0.575974 Days $T_0=131.612152$ (BKJD)



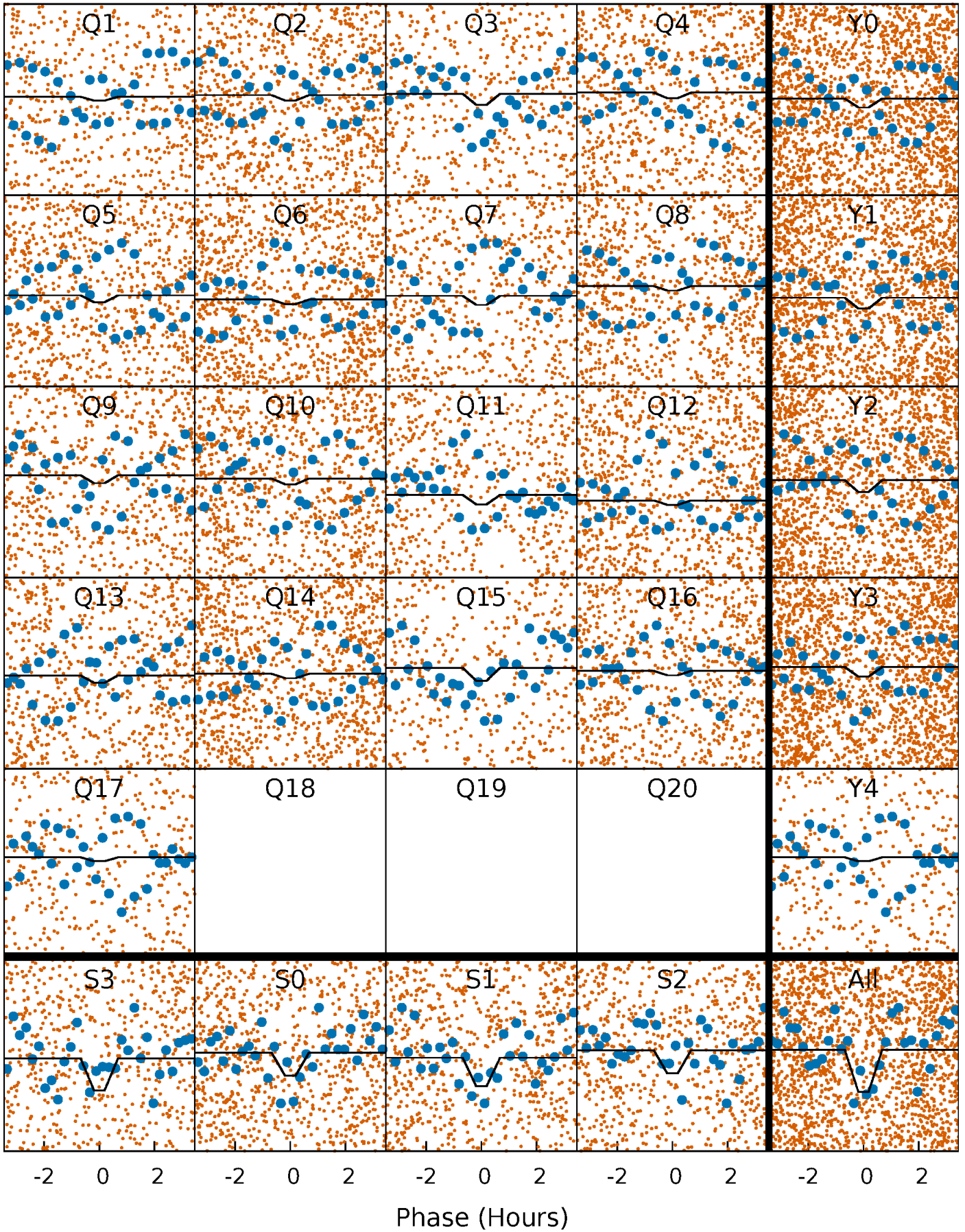
DV Quarter-Phased Transit Curves

TCE 006123324-01 P= 0.575974 Days $T_0=131.612152$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

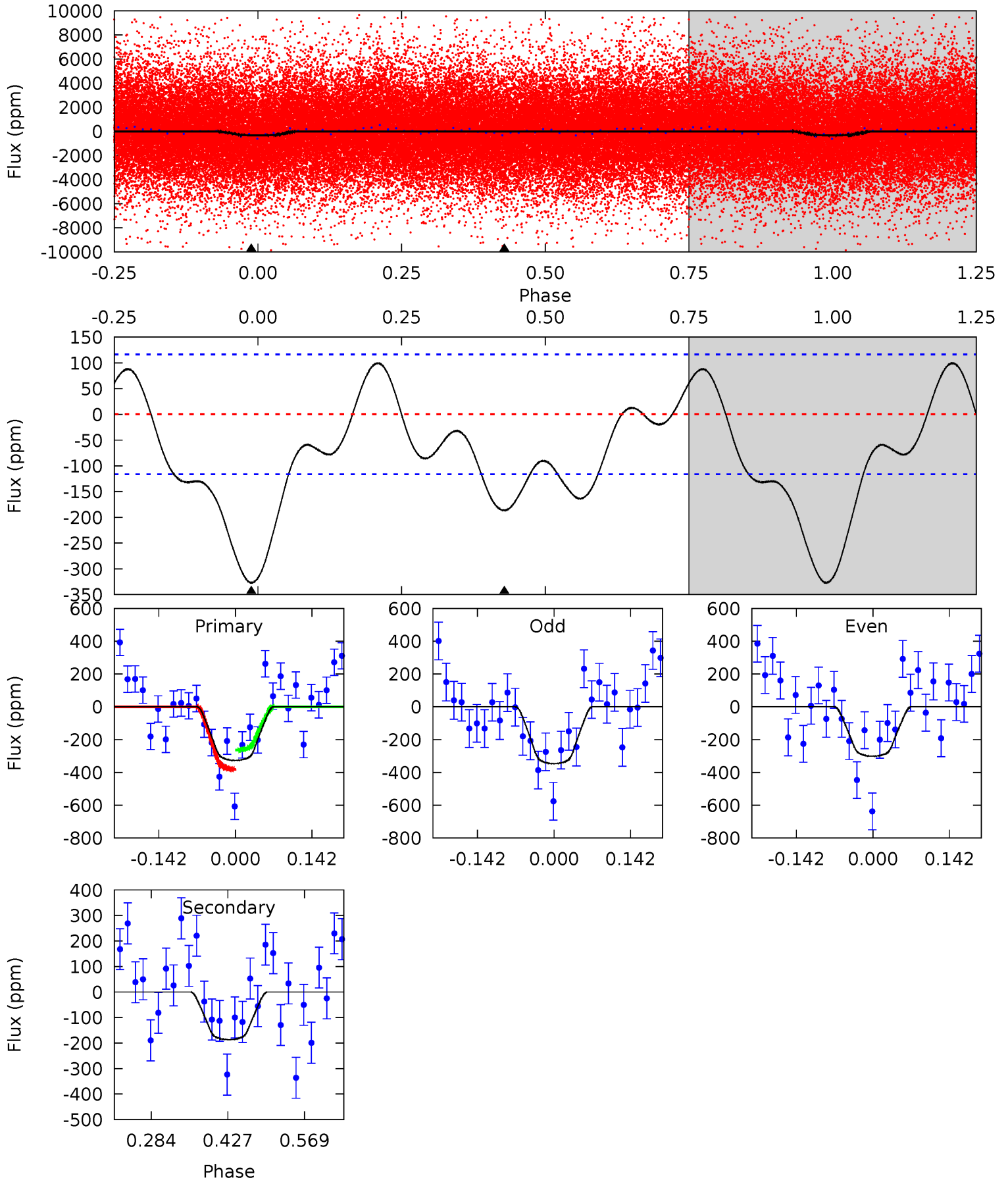
TCE 006123324-01 P= 0.575967 Days $T_0=131.612503$ (BKJD)



DV Model-Shift Uniqueness Test

006123324-01, P = 0.575974 Days, E = 131.036178 Days

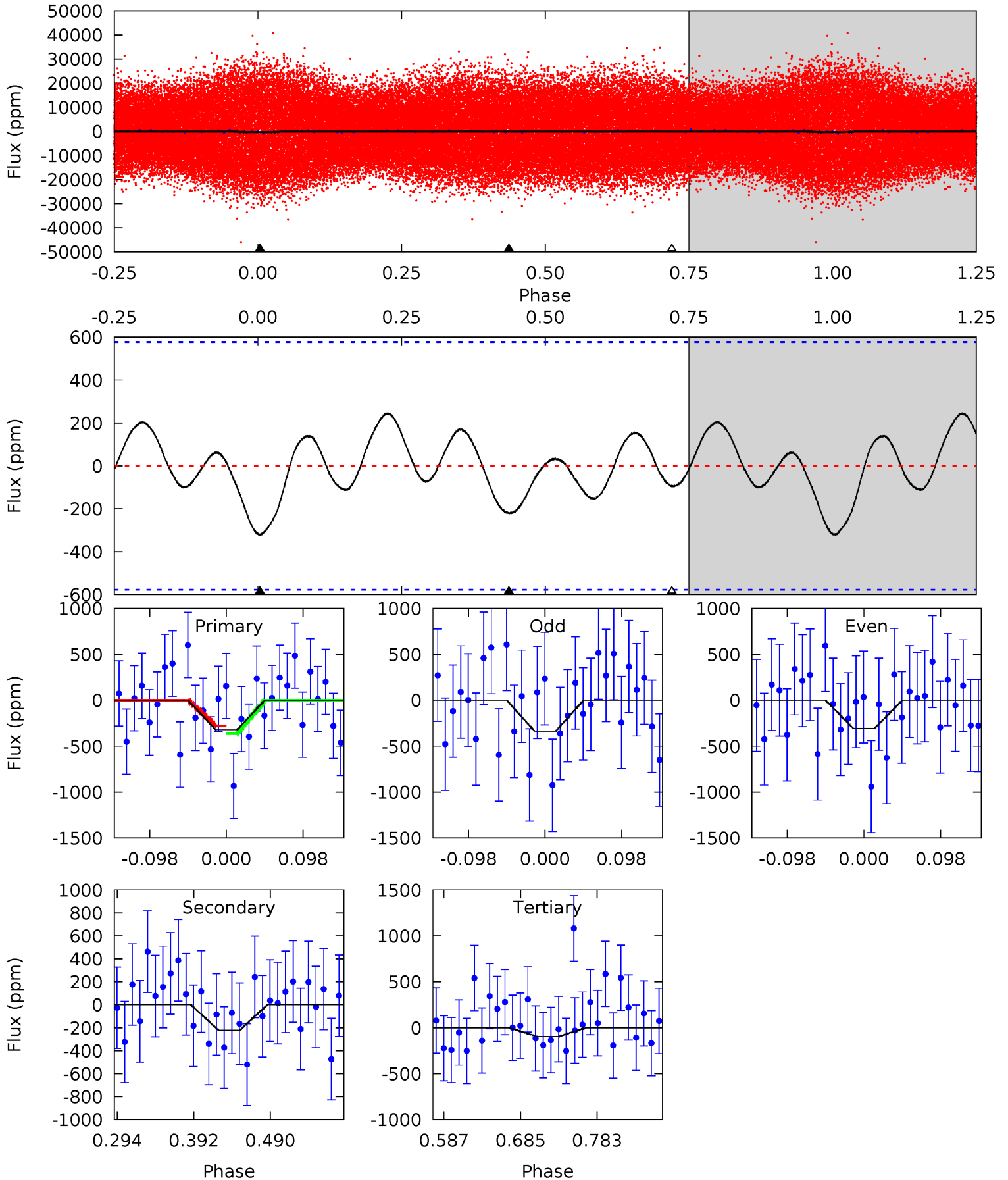
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	7.20	0	0	4.49	1.47	2.42	12.6	12.6	7.20	7.20	0.89	0.98	0.23	2.26



Alt Model-Shift Uniqueness Test

006123324-01, P = 0.575967 Days, E = 131.036536 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.54	1.75	0.76	0	4.57	1.66	0.86	1.79	2.54	0.99	1.75	0.12	0.32	0.43	0.34



Stellar Parameters For KIC 006123324

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6691^{+121}_{-148}	$3.088^{+0.464}_{-0.116}$	$0.070^{+0.200}_{-0.100}$	$7.781^{+1.317}_{-3.687}$	$2.703^{+0.227}_{-0.728}$	$0.008^{+0.038}_{-0.003}$
	+2%/-2%	+15%/-4%	+286%/-143%	+17%/-47%	+8%/-27%	+475%/-35%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006123324-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-187 ± 26	$15.93^{+4.54}_{-4.50}$	8243^{+522}_{-976}	-5728^{+1832}_{-739}	$0.139^{+0.126}_{-0.052}$
Alt.	-221 ± 126	$15.02^{+4.19}_{-4.43}$	8262^{+534}_{-1095}	-5312^{+10188}_{-1190}	$0.178^{+0.233}_{-0.110}$

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

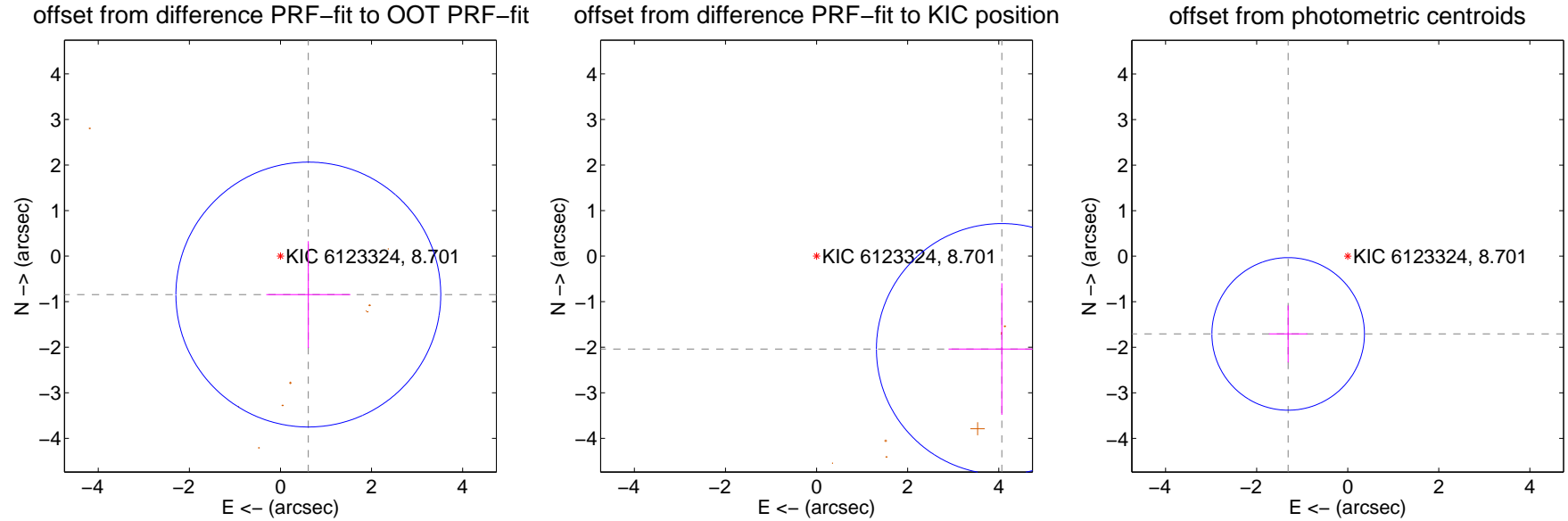
DV Centroid Data

Supplemental centroid analysis for 006123324-01. **Kepler magnitude: 8.70.** Transit SNR 11.09

There are 0 quarters with good PRF difference image offsets

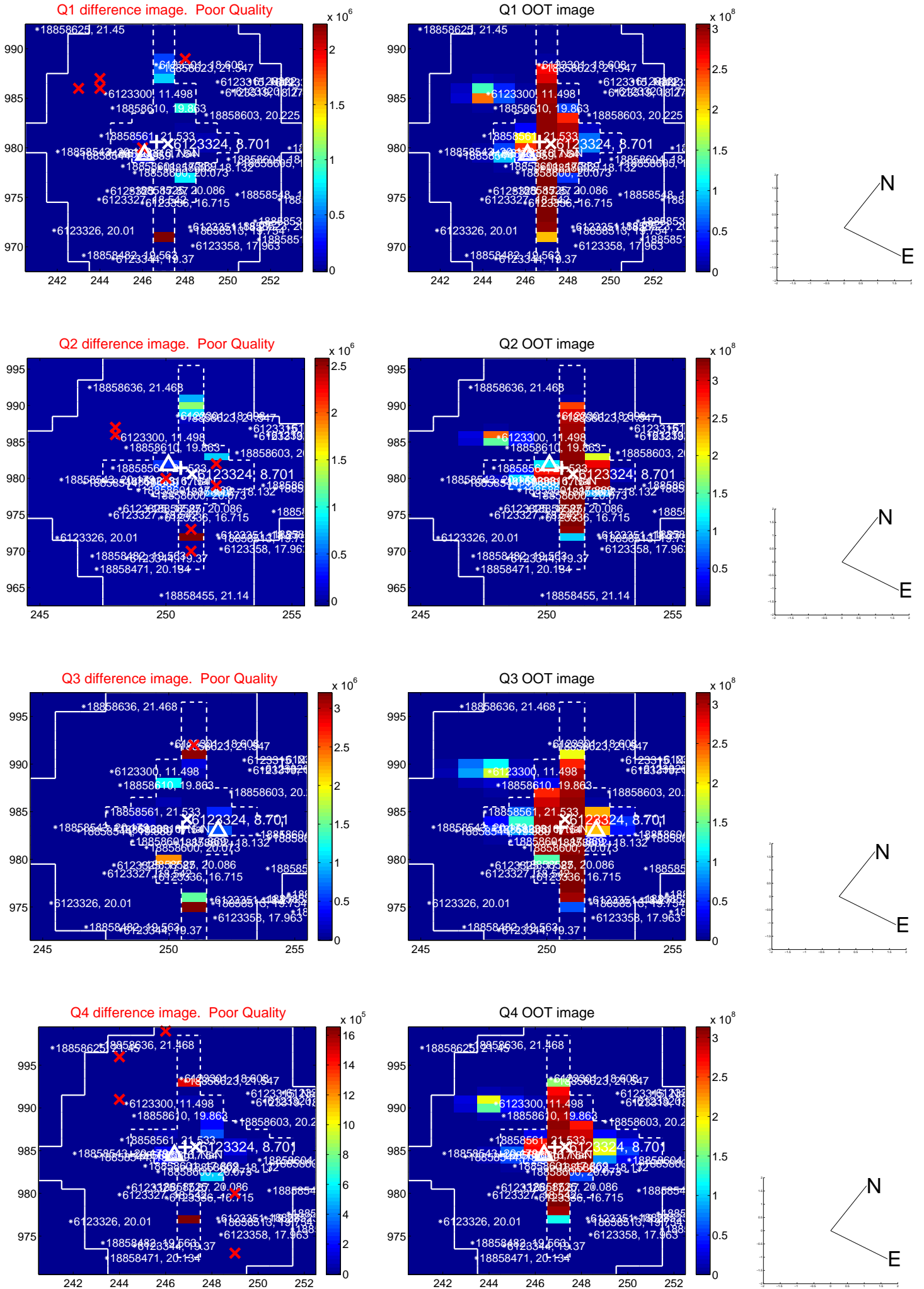
The OOT PRF centroid is offset from the target star catalog position by about 2.20 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.042 ± 0.969	1.08	-0.612 ± 0.922	-0.843 ± 1.171
PRF-fit source offset from KIC position	4.549 ± 0.918	4.96	-4.067 ± 1.170	-2.038 ± 1.446
photometric centroid source offset	2.15 ± 0.56	3.85	1.31 ± 0.42	-1.71 ± 0.62

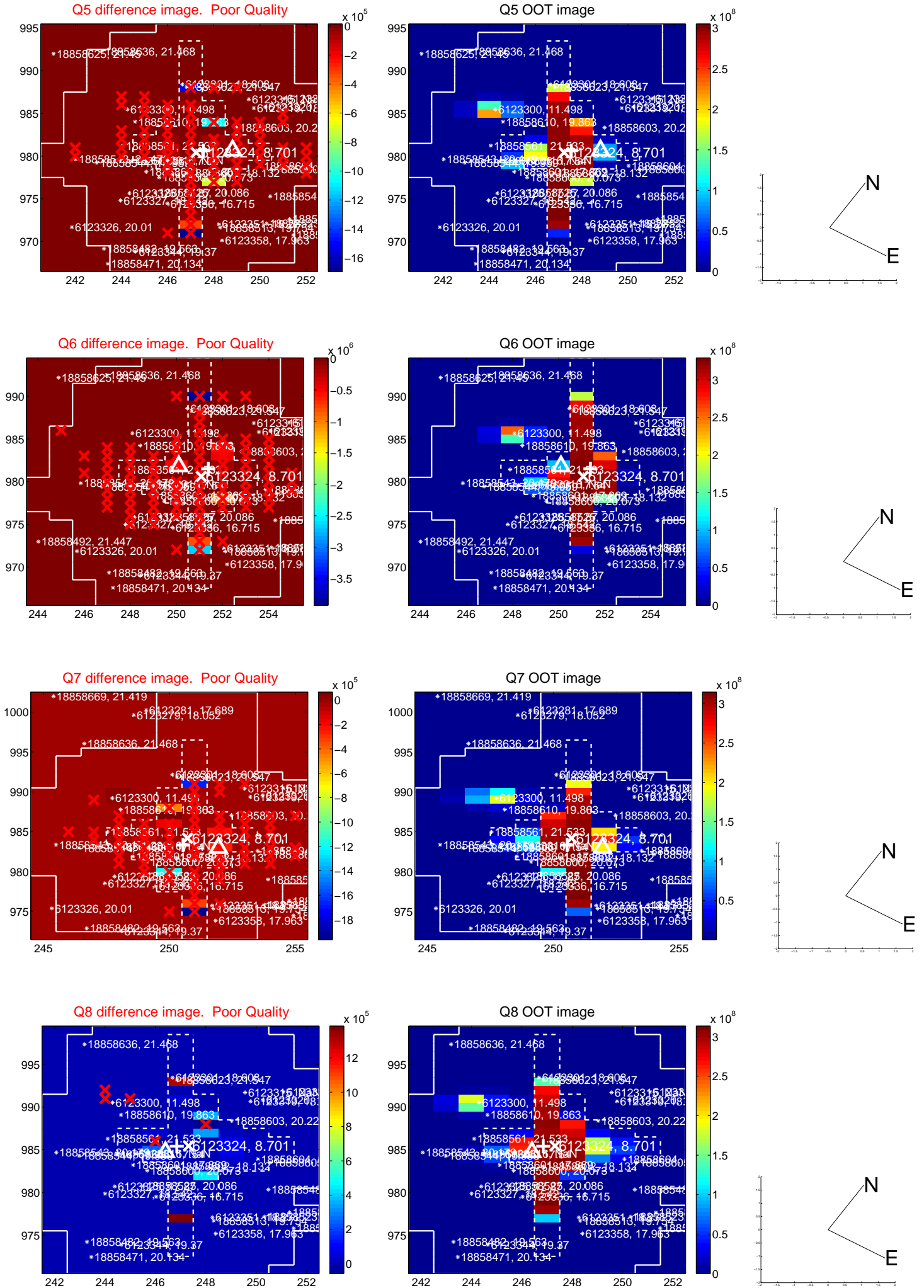


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

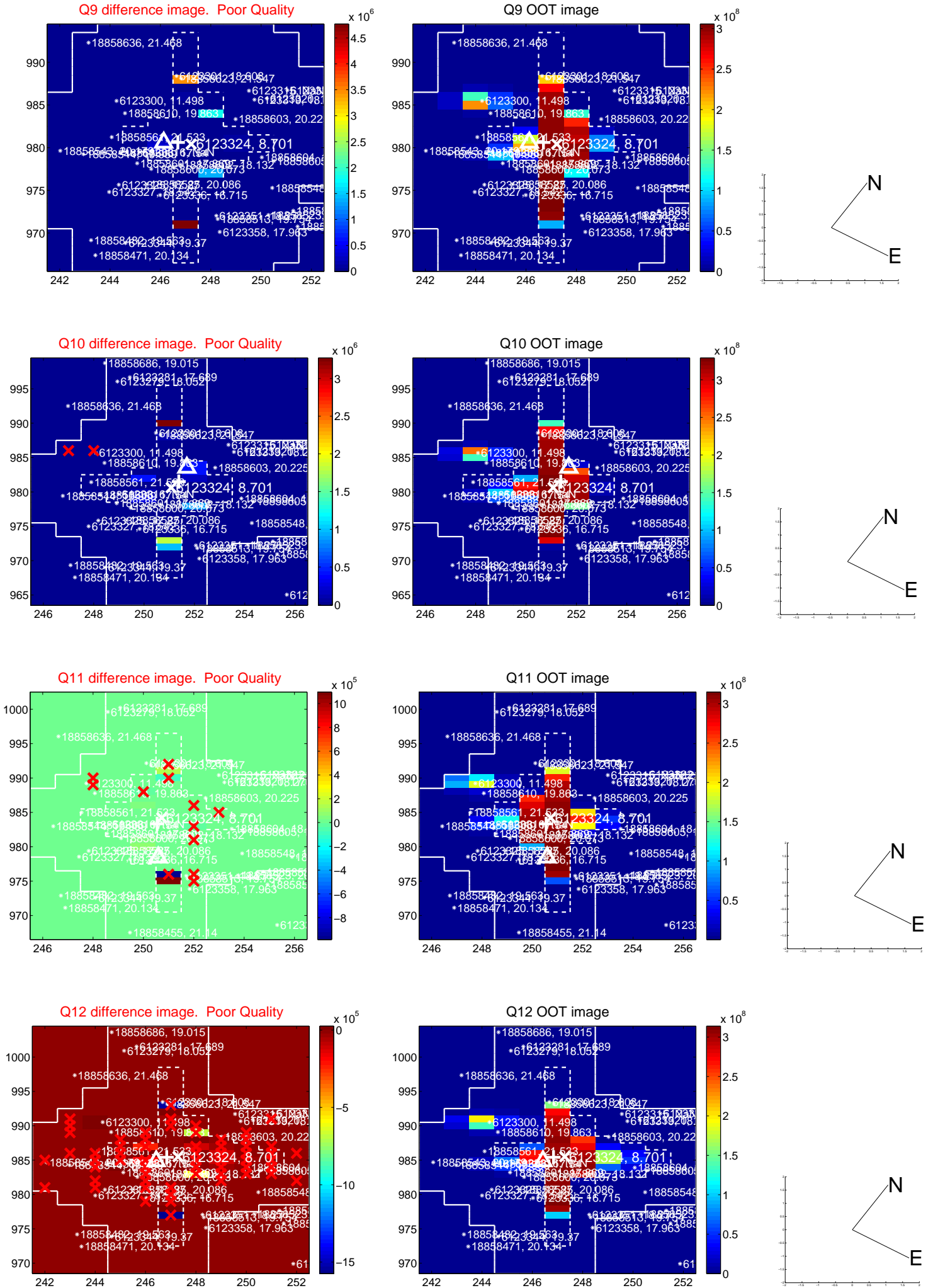
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



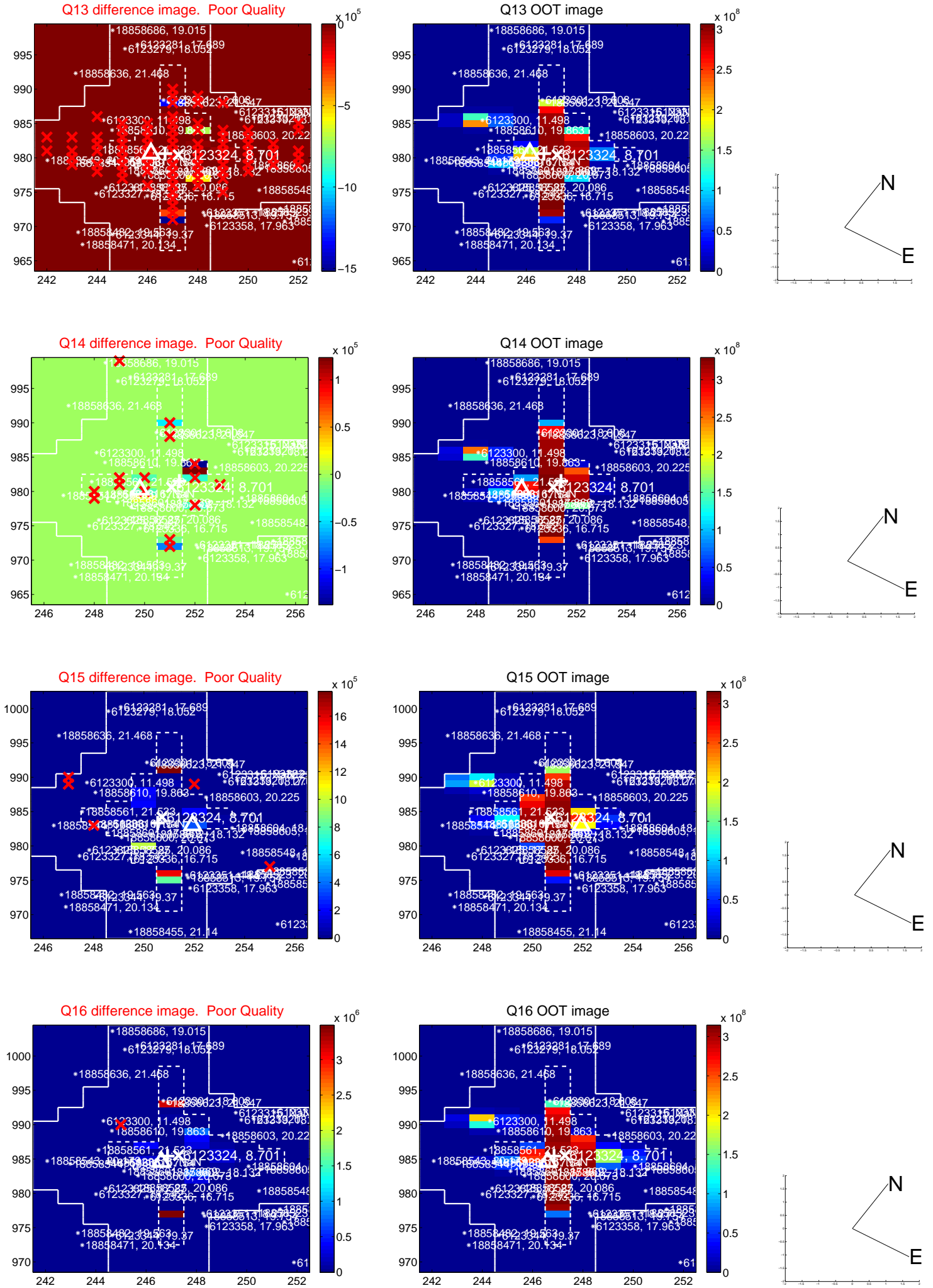
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



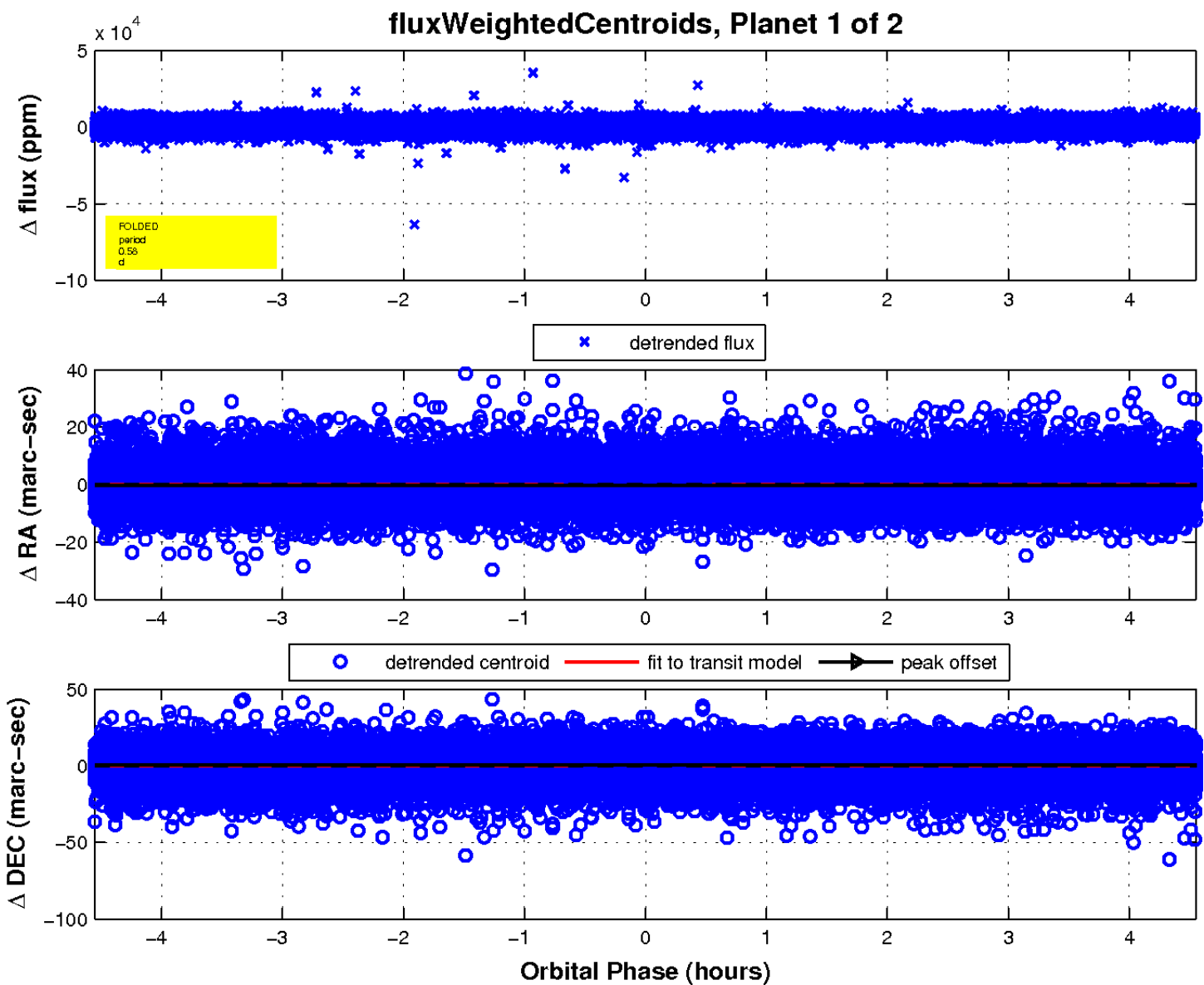
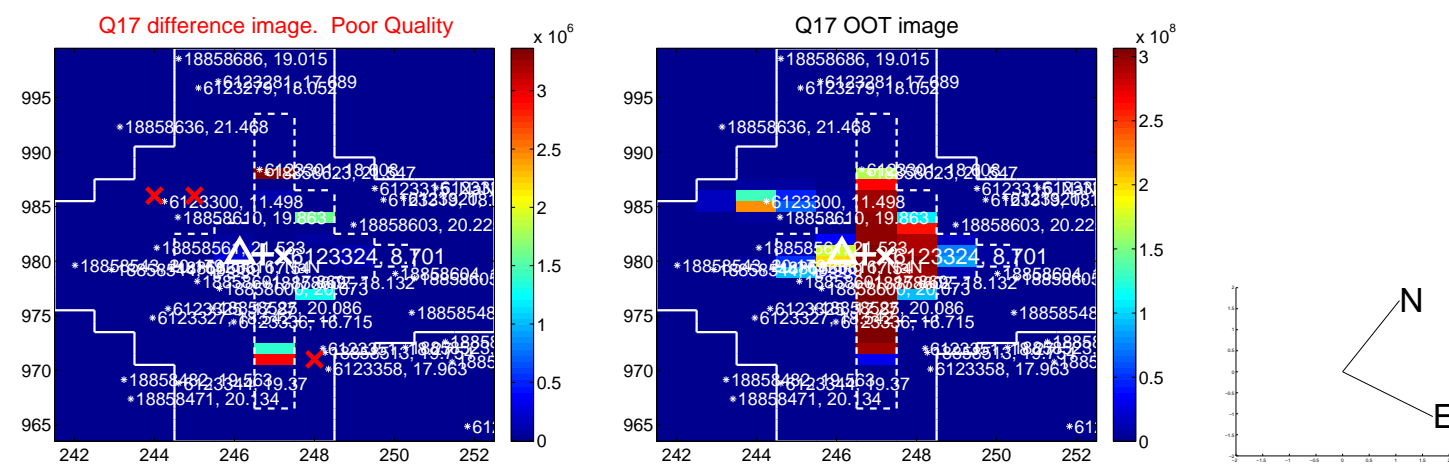
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

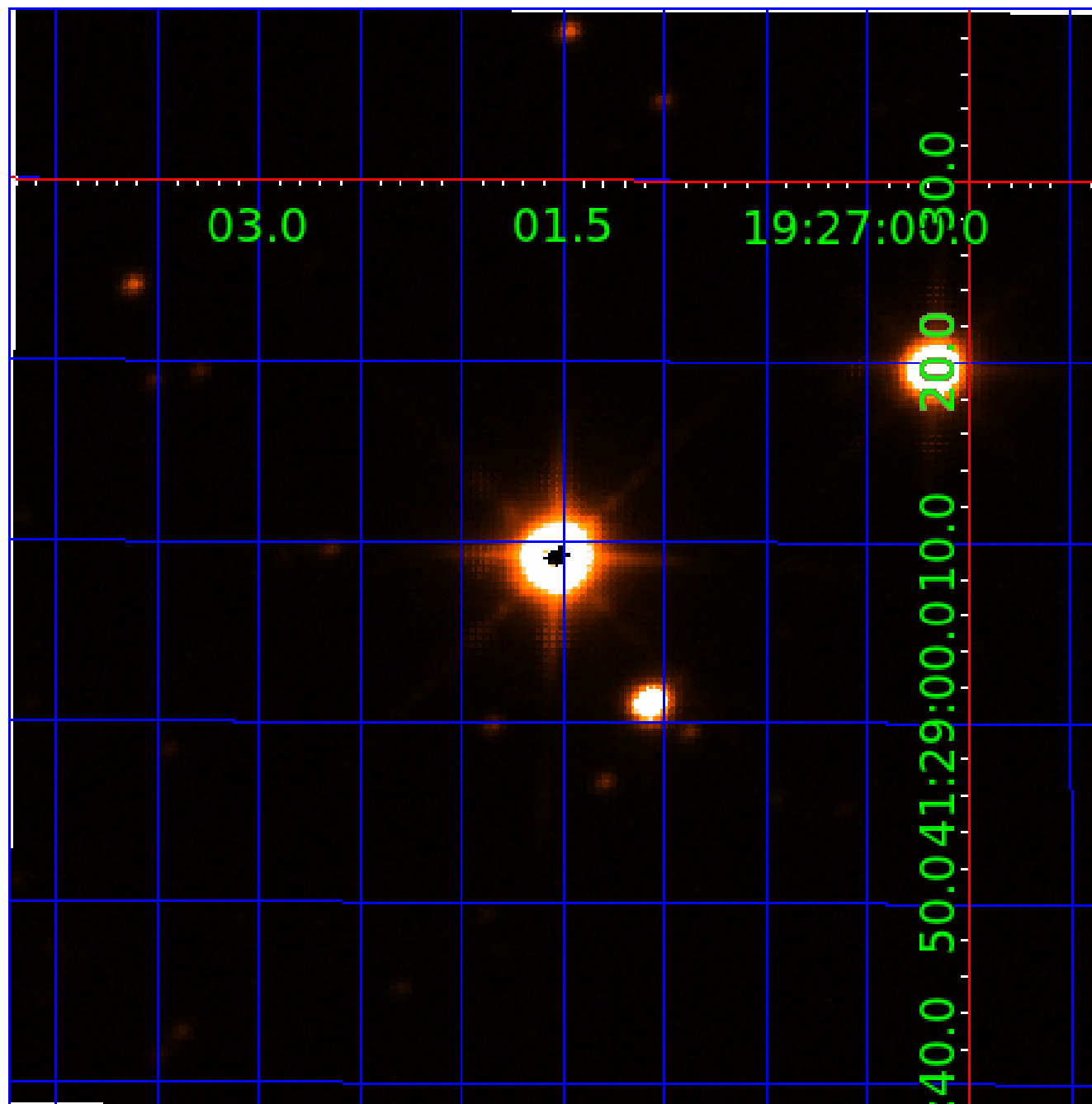


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006123324

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})
006123324-01	OBS	No	0.575974	131.612152	361.7	1.518	13.5	11.1	7.78	6691	17.37	0.00
006123324-02	OBS	No	0.576207	131.852247	275.4	5.182	11.6	10.7	7.78	6691	13.19	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006123324-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006123324-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

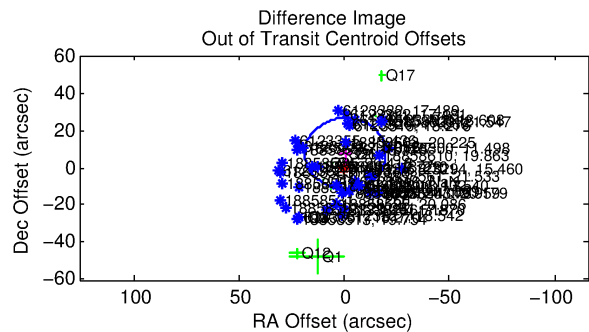
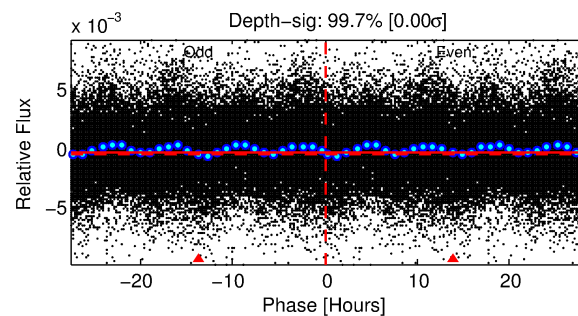
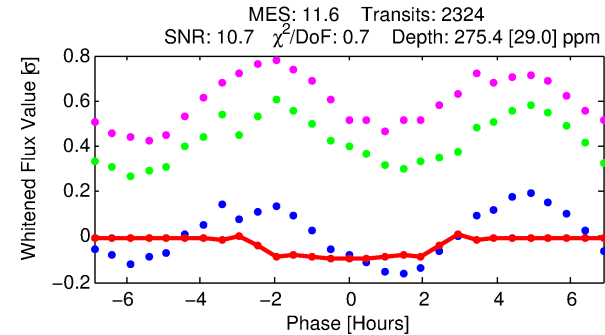
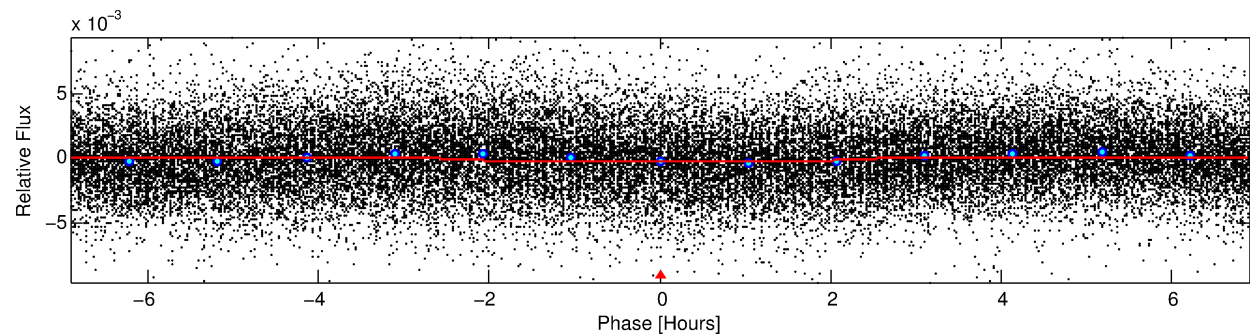
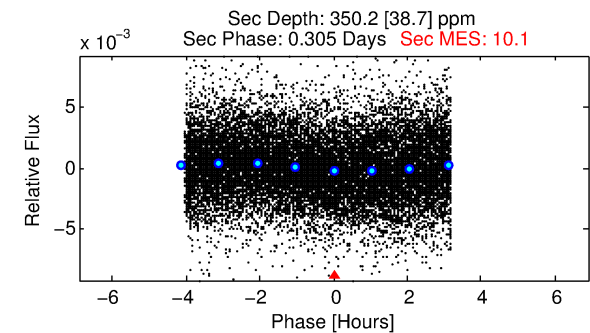
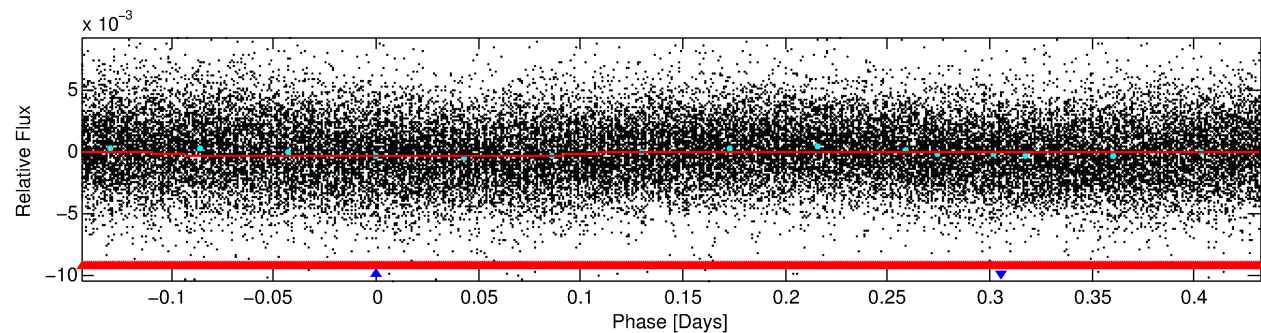
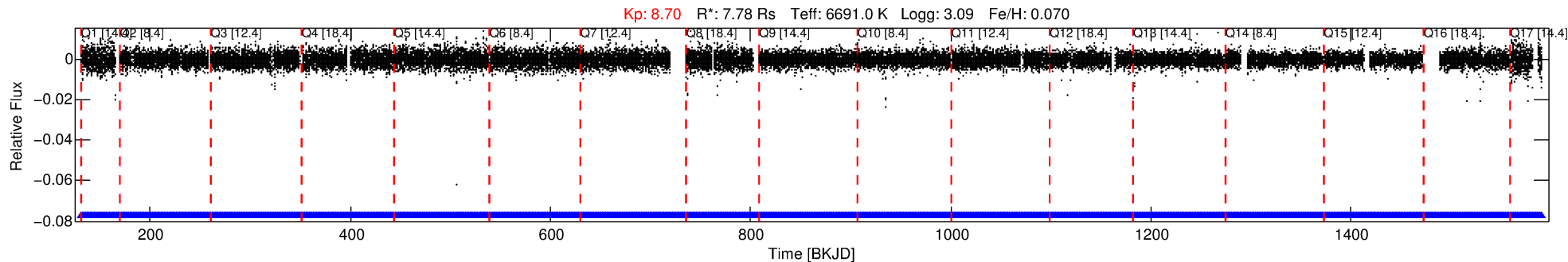
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006123324-02

No Significant Match Found

DV One-Page Summary

KIC: 6123324 Candidate: 2 of 2 Period: 0.576 d



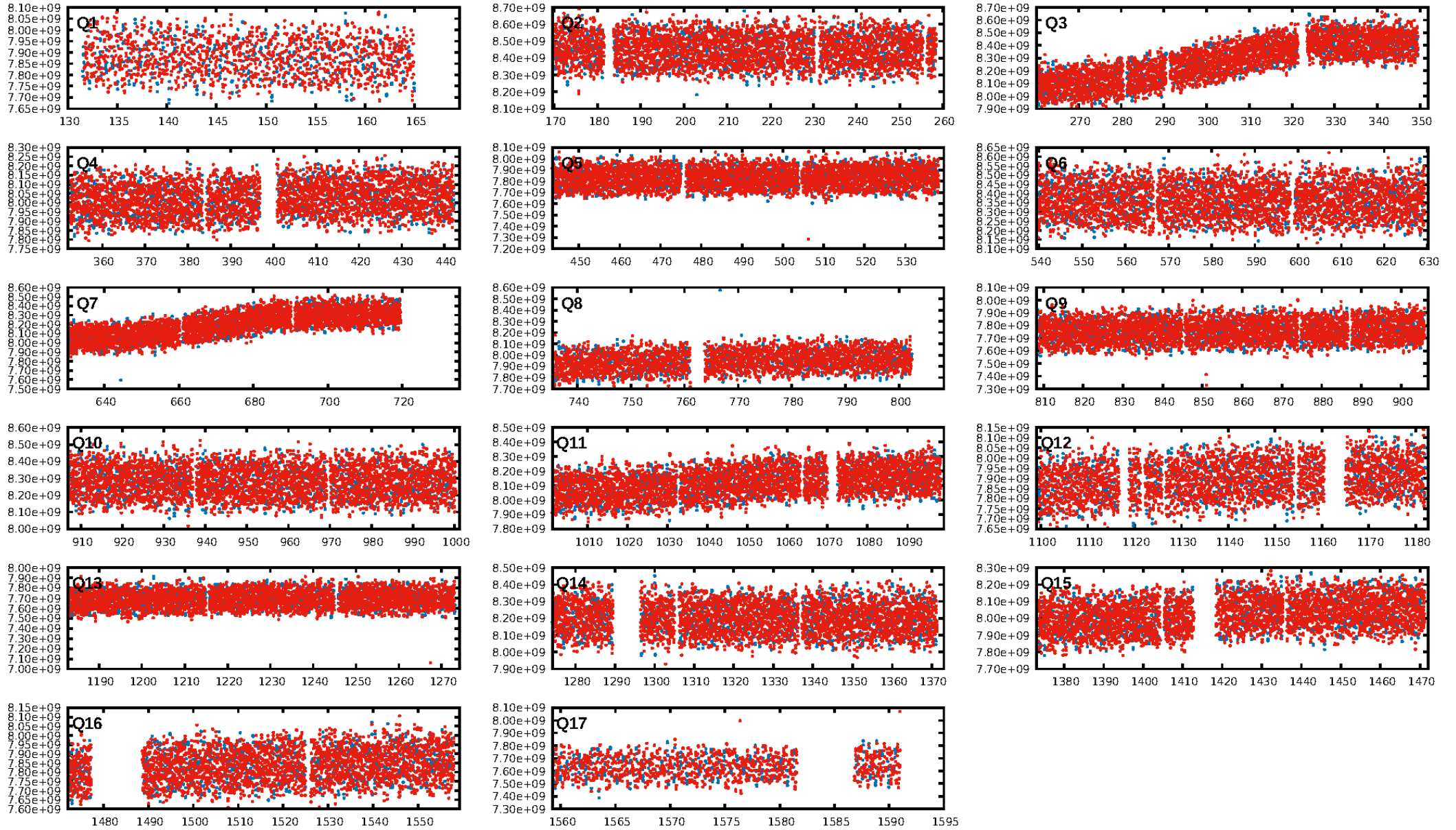
DV Fit Results:

Period = 0.57621 [0.00001] d
Epoch = 131.8522 [0.0028] BKJD
Rp/R* = 0.0155 [0.0077]
a/R* = 1.09 [0.46]
b = 0.37 [6.33]
Seff = N/A
Teq = N/A
Rp = 13.19 [9.04] Re
a = N/A
Ag = N/A
Teffp = N/A

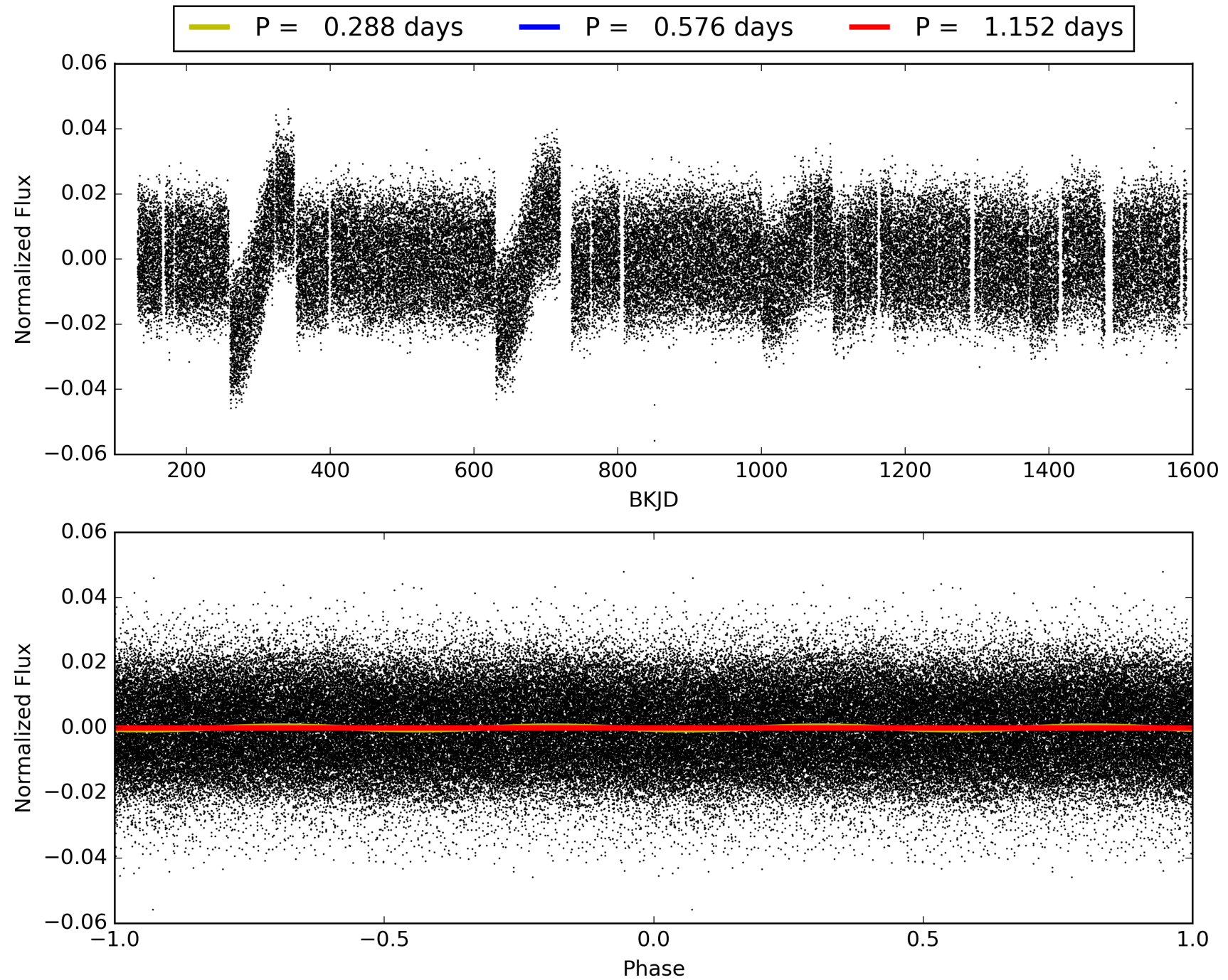
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2219/2219]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.6%
Centroid-so: 2.175 arcsec [4.40 σ]
OotOffset-rm: 7.596 arcsec [1.18 σ]
KicOffset-rm: 10.662 arcsec [1.60 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006123324-02, PDC Light Curves

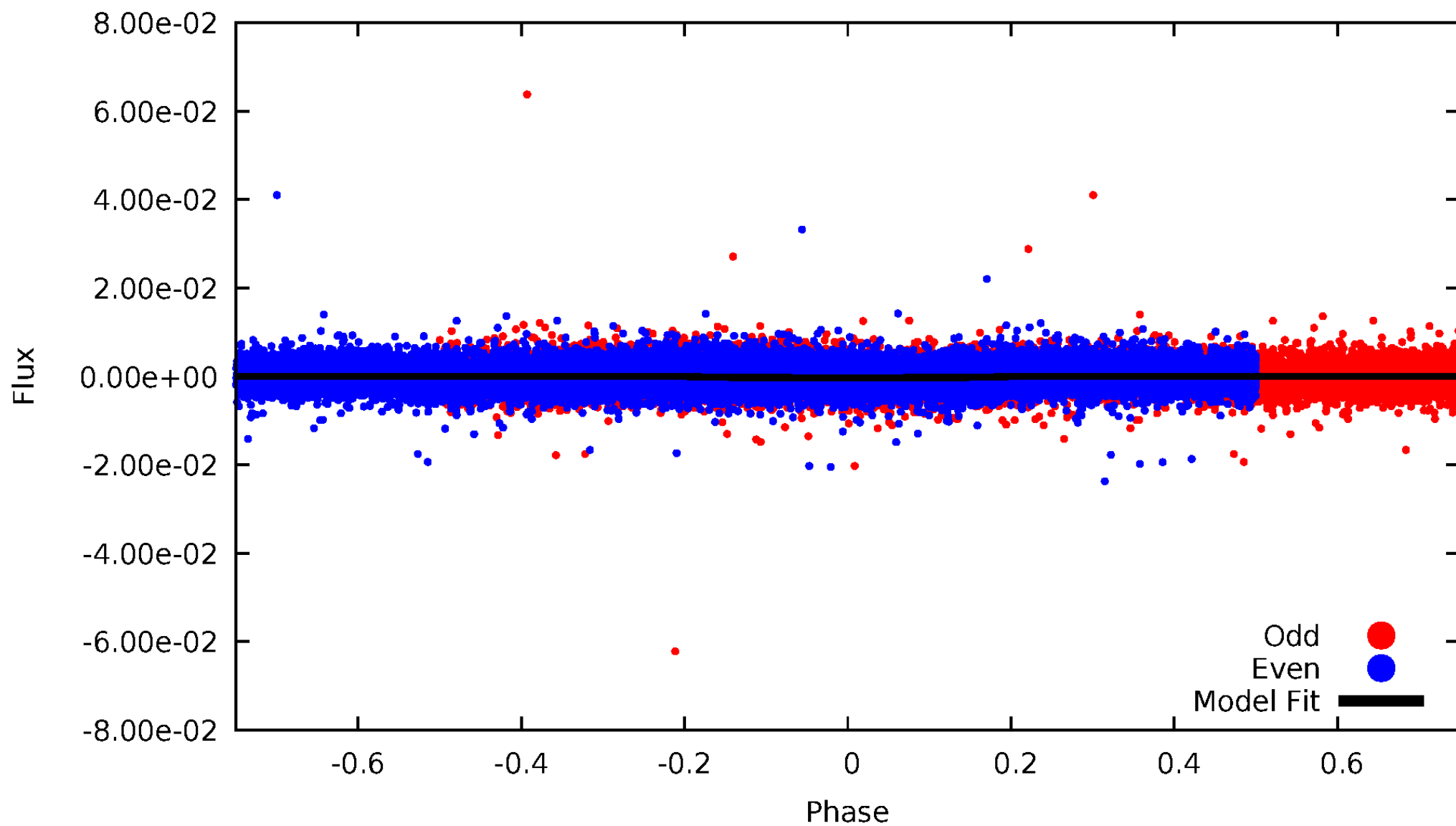


TCE 006123324-02



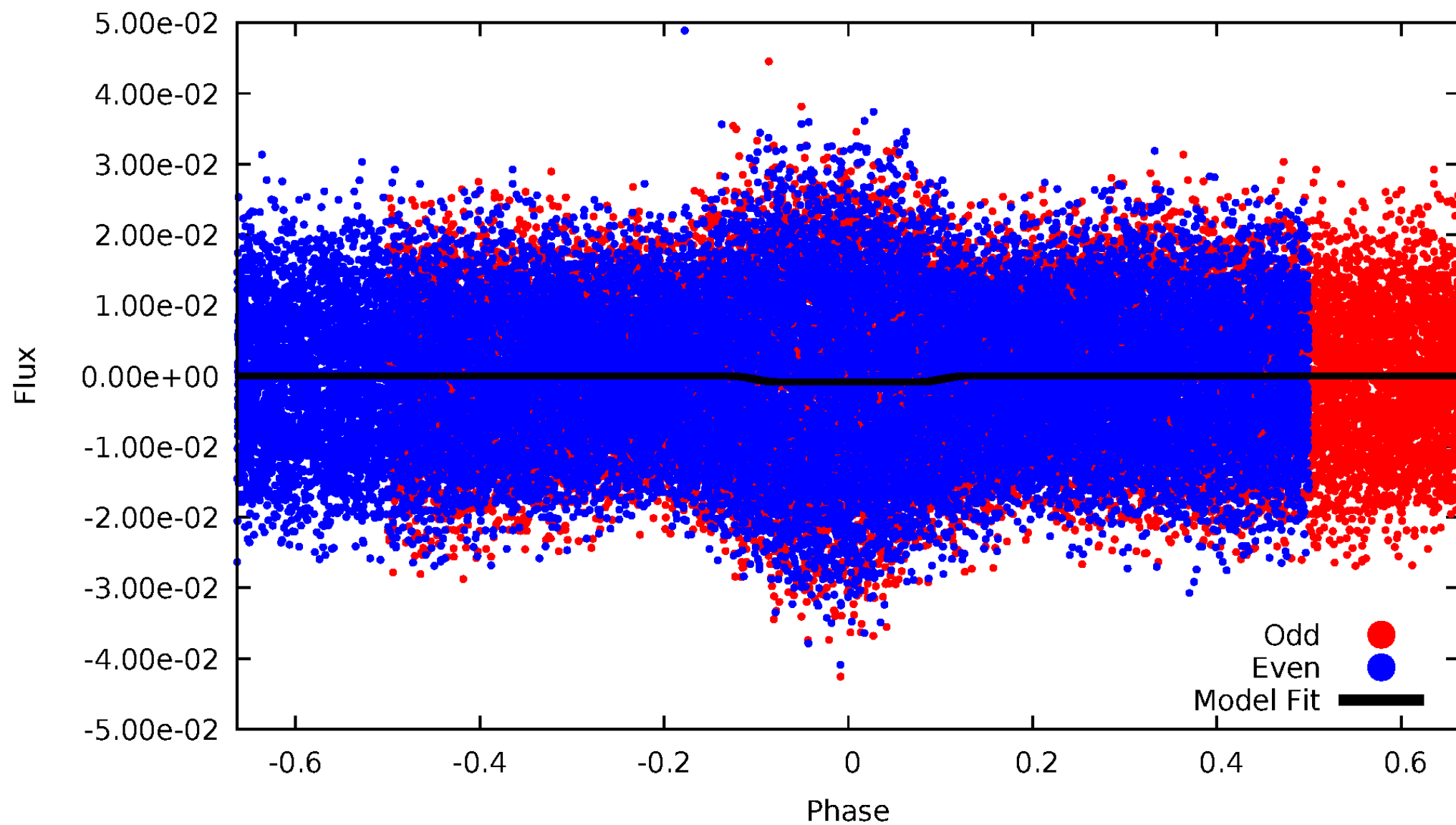
DV Odd/Even

TCE 006123324-02



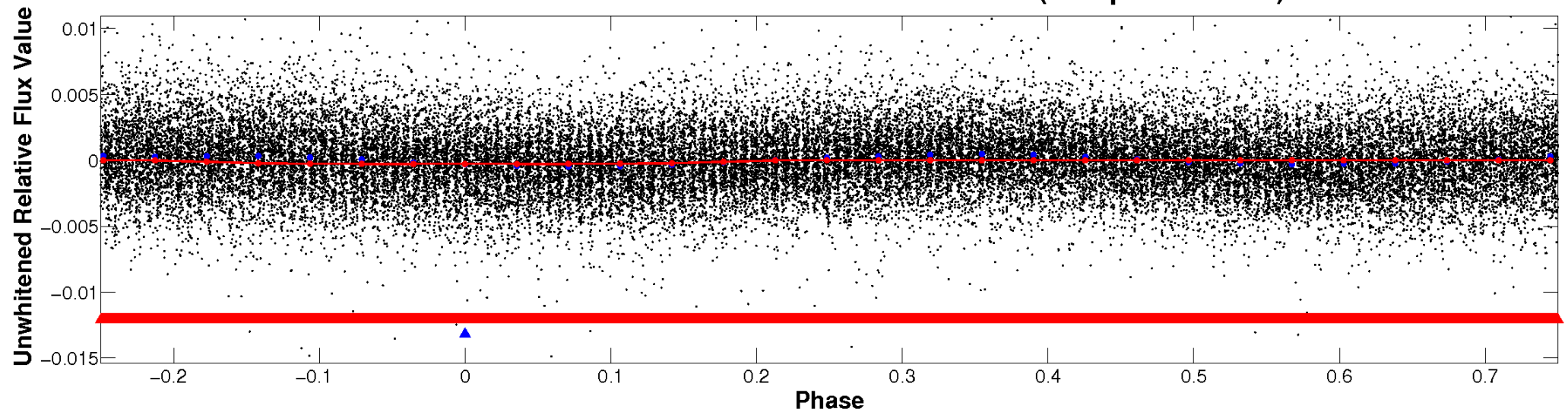
ALT Odd/Even

TCE 006123324-02

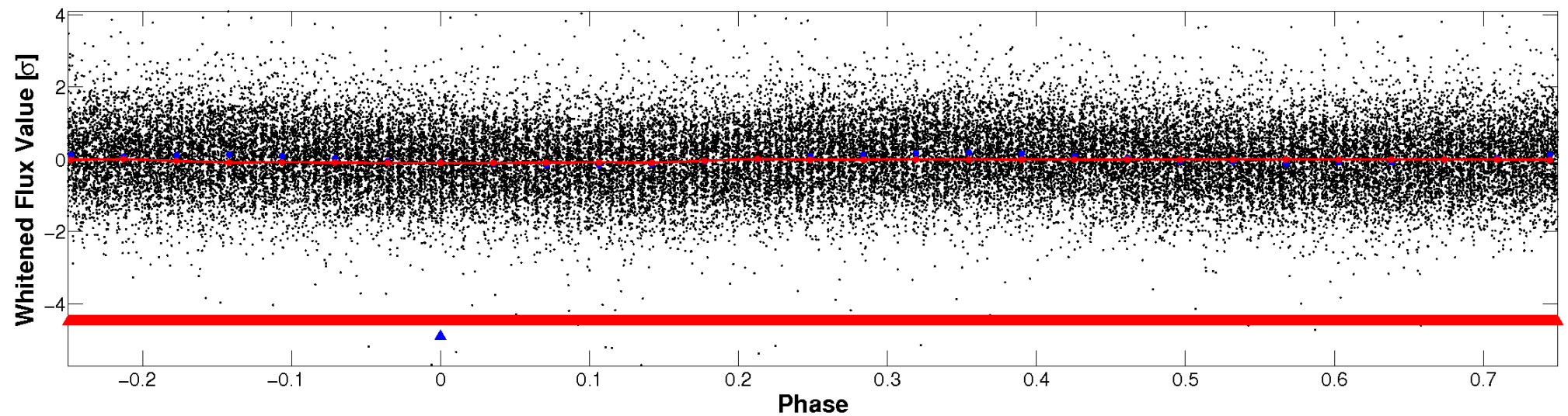


Non-Whitened Vs. Whitened Light Curve

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

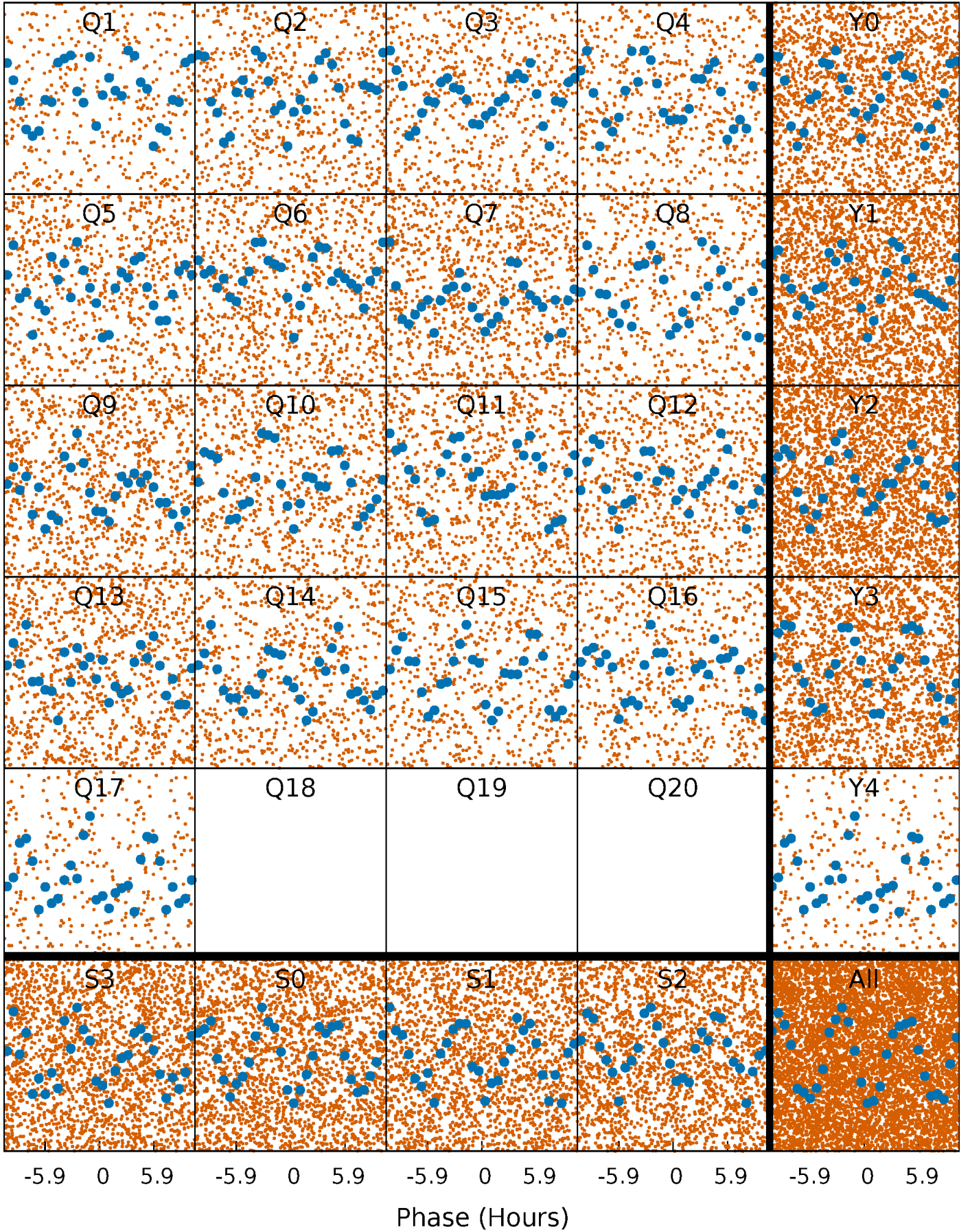


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



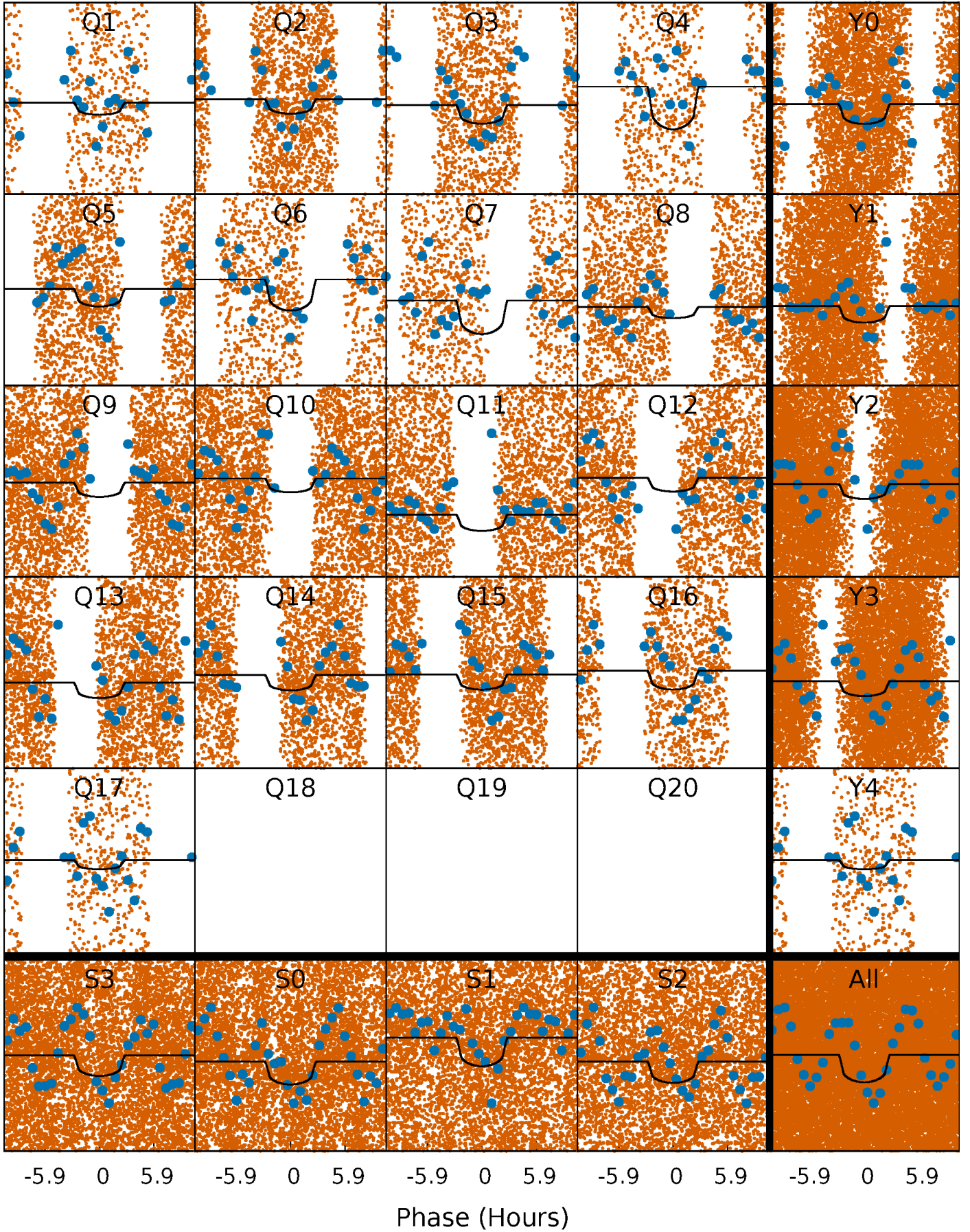
PDC Quarter-Phased Transit Curves

TCE 006123324-02 P= 0.576207 Days $T_0=131.852247$ (BKJD)



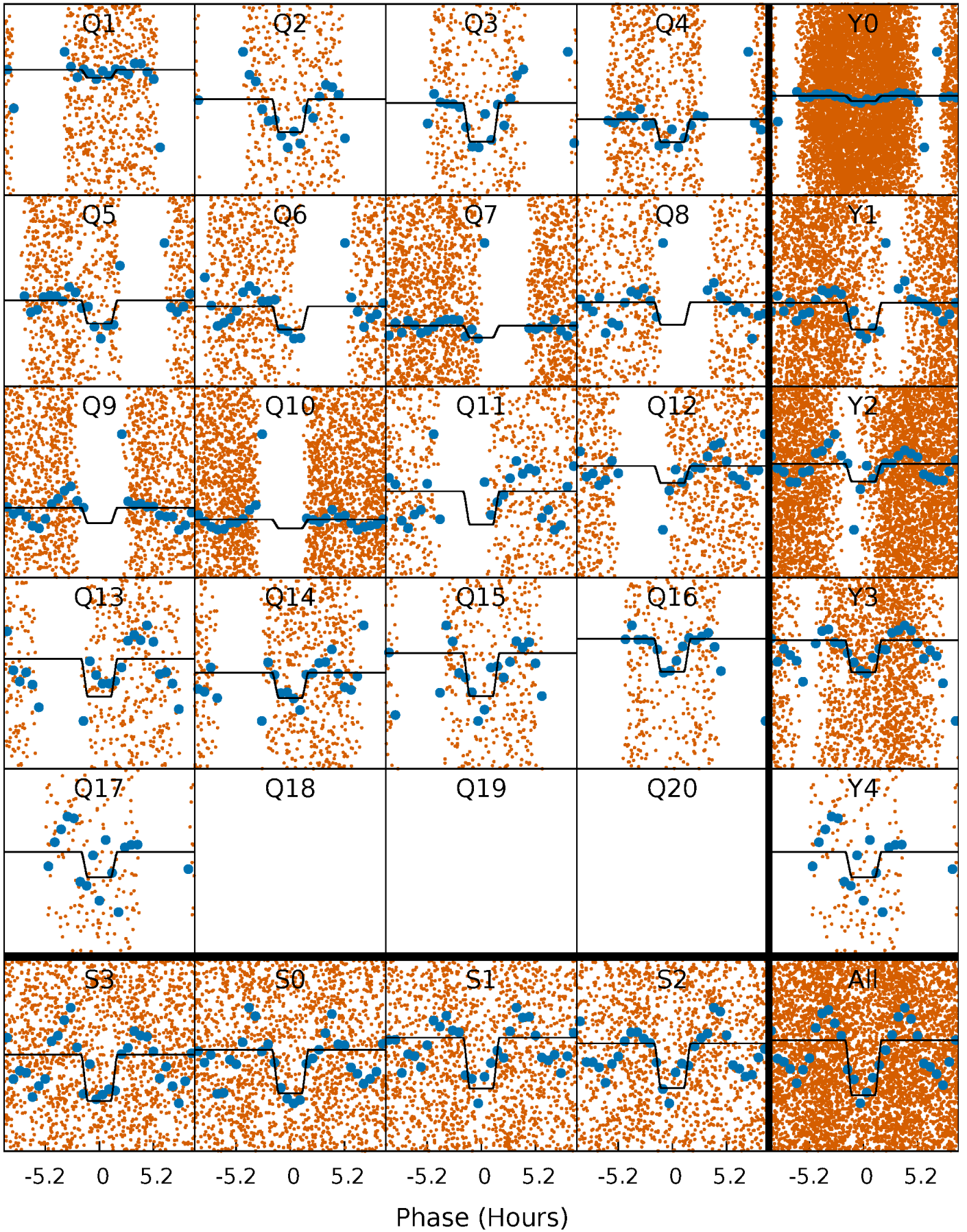
DV Quarter-Phased Transit Curves

TCE 006123324-02 P= 0.576207 Days $T_0=131.852247$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

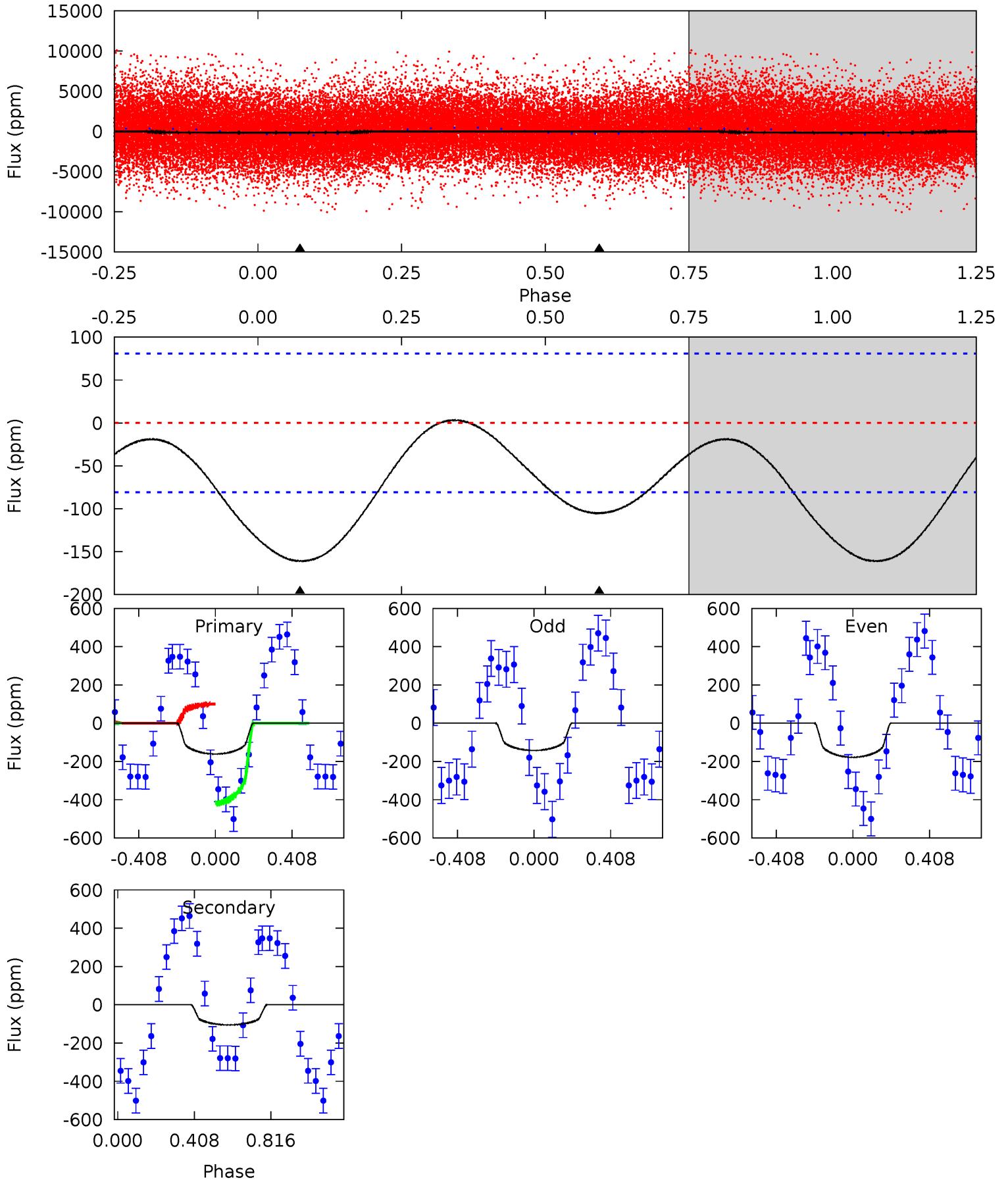
TCE 006123324-02 P= 0.576236 Days $T_0=131.848320$ (BKJD)



DV Model-Shift Uniqueness Test

006123324-02, P = 0.576207 Days, E = 131.276040 Days

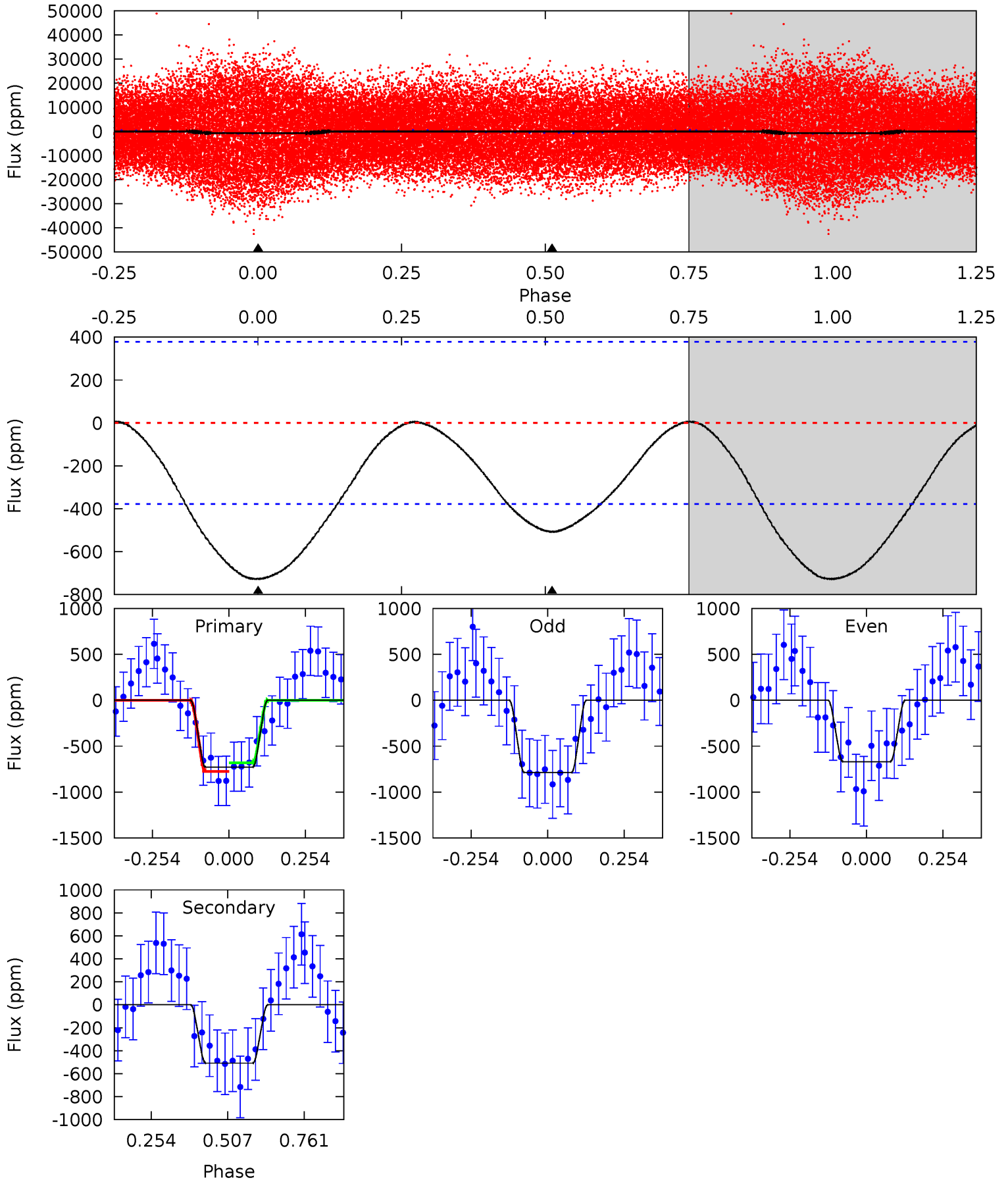
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.49	5.55	0	0	4.26	0.83	0.54	8.49	8.49	5.55	5.55	0.94	-0.34	0.02	8.36



Alt Model-Shift Uniqueness Test

006123324-02, P = 0.576236 Days, E = 131.272084 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.41	5.87	0	0	4.37	1.14	0.19	8.41	8.41	5.87	5.87	0.68	4.58	0.01	0.43



Stellar Parameters For KIC 006123324

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6691^{+121}_{-148}	$3.088^{+0.464}_{-0.116}$	$0.070^{+0.200}_{-0.100}$	$7.781^{+1.317}_{-3.687}$	$2.703^{+0.227}_{-0.728}$	$0.008^{+0.038}_{-0.003}$
	+2%/-2%	+15%/-4%	+286%/-143%	+17%/-47%	+8%/-27%	+475%/-35%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006123324-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105 ± 19	$12.00^{+7.11}_{-5.93}$	8188^{+560}_{-968}	-5524^{+11337}_{-1069}	$0.138^{+0.420}_{-0.085}$
Alt.	-508 ± 87	$22.39^{+7.23}_{-7.99}$	8256^{+473}_{-1035}	-5100^{+10303}_{-1135}	$0.198^{+0.266}_{-0.091}$

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 $A_{obs} \gg 1.0$

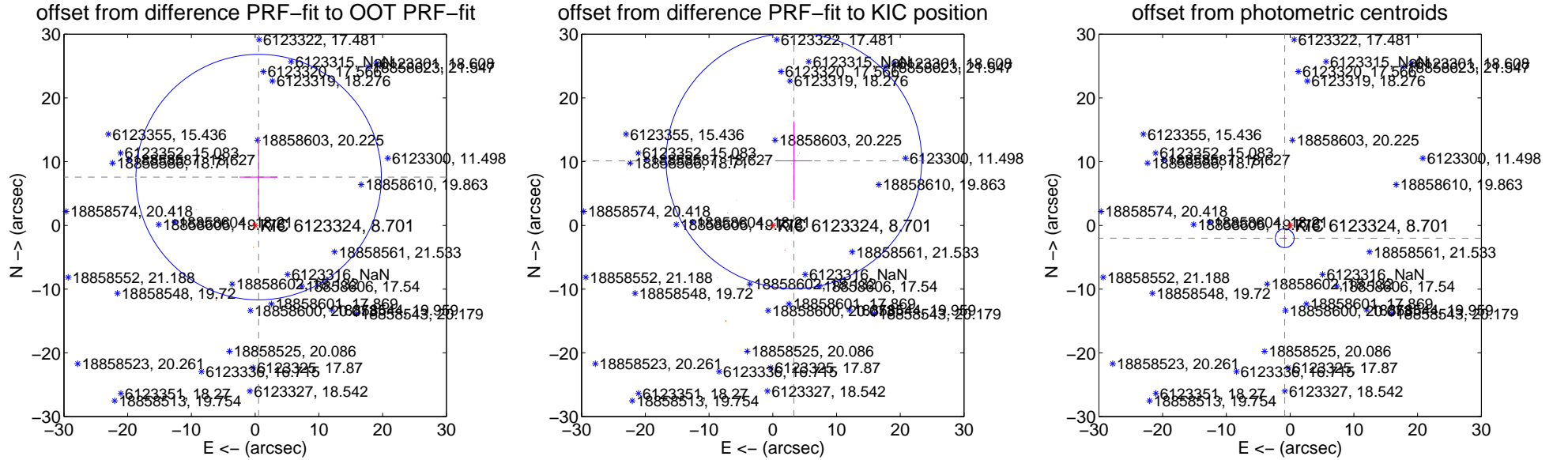
DV Centroid Data

Supplemental centroid analysis for 006123324-02. **Kepler magnitude: 8.70.** Transit SNR 10.71

There are 2 quarters with good PRF difference image offsets

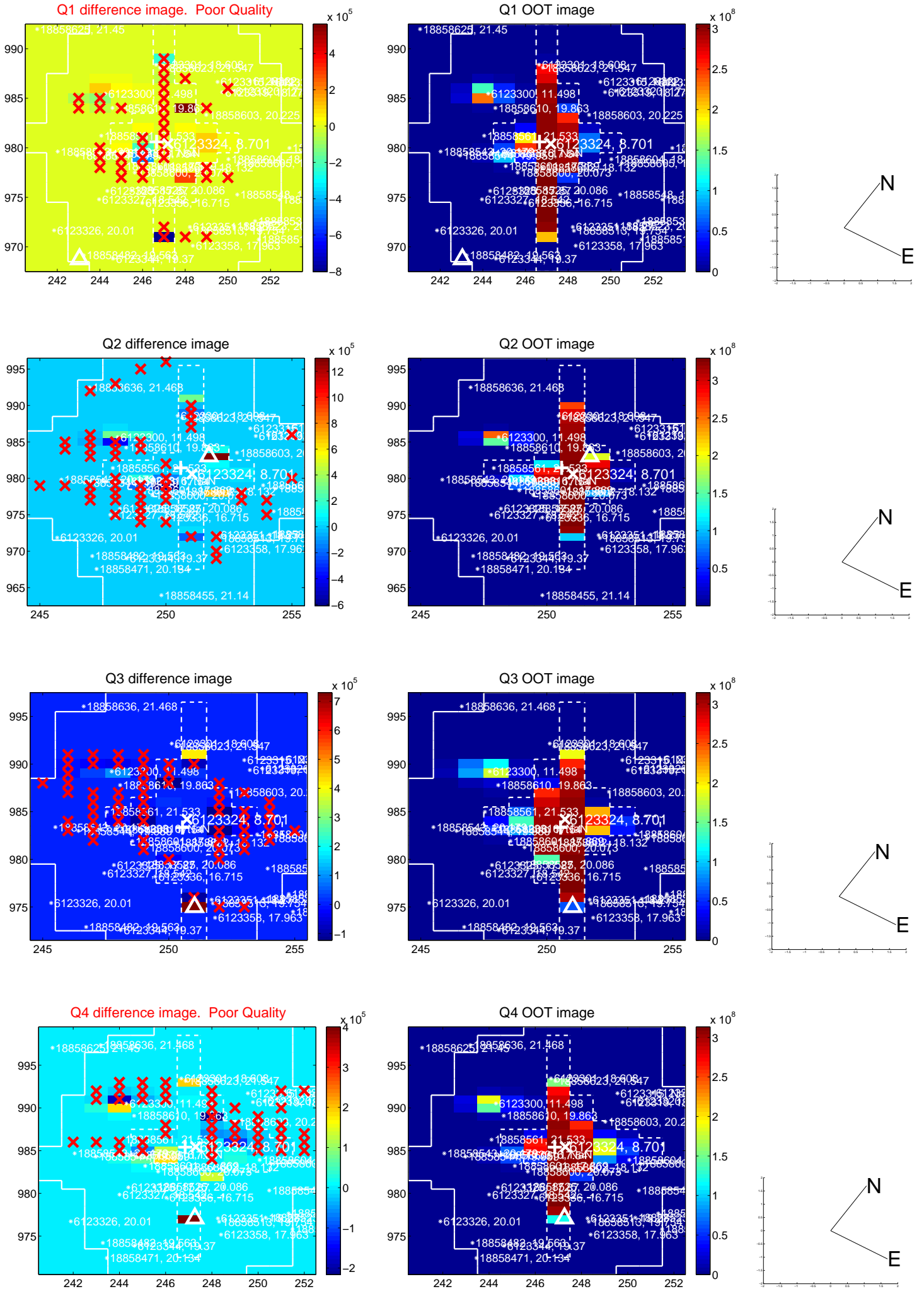
The OOT PRF centroid is offset from the target star catalog position by about 2.20 arcsec so the offset from difference PRF-fit to OOT-PRF-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.596 ± 6.418	1.18	-0.549 ± 3.009	7.576 ± 6.232
PRF-fit source offset from KIC position	10.662 ± 6.684	1.60	-3.307 ± 2.882	10.136 ± 6.165
photometric centroid source offset	2.17 ± 0.49	4.40	0.85 ± 0.35	-2.00 ± 0.52

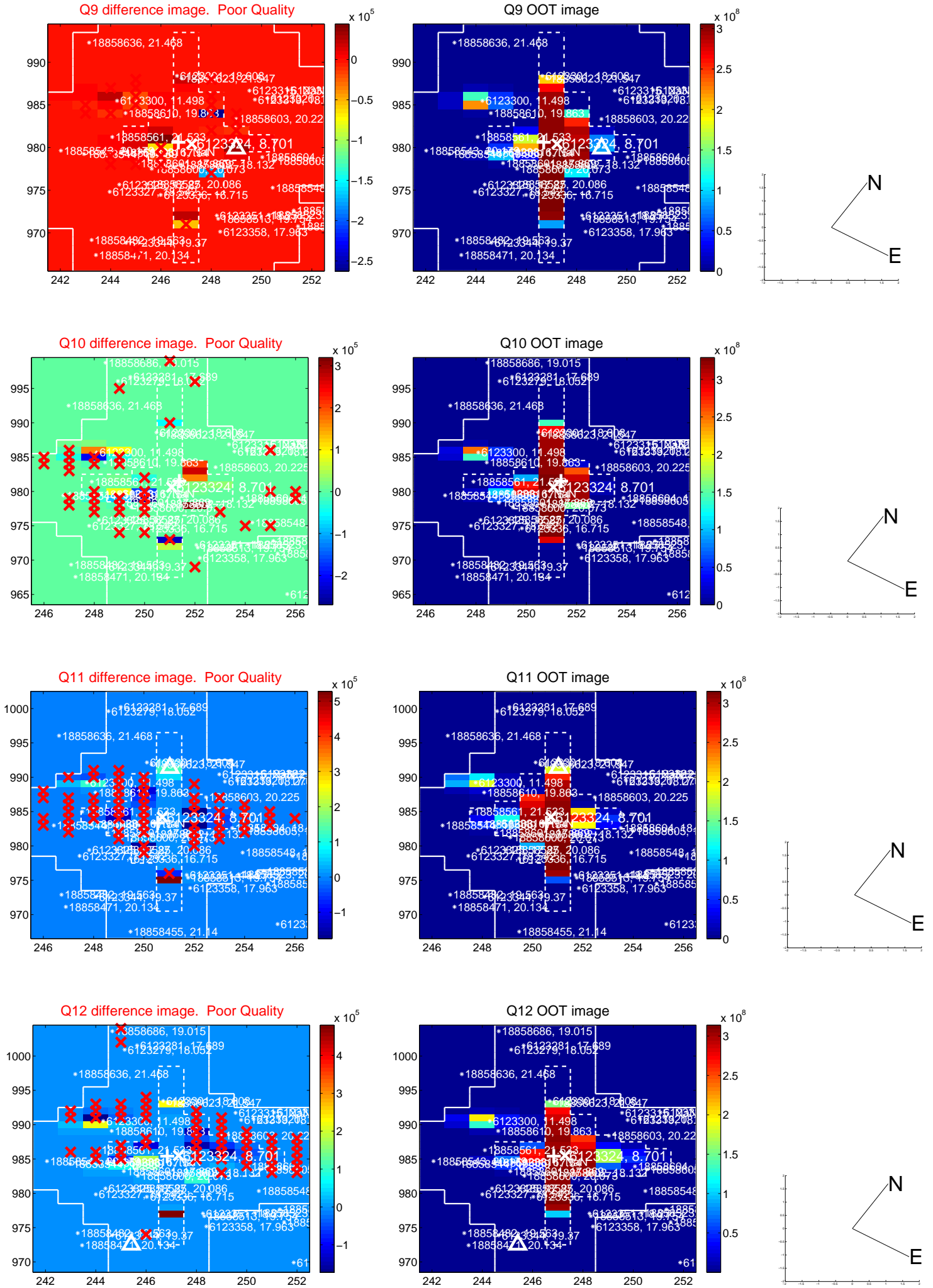


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

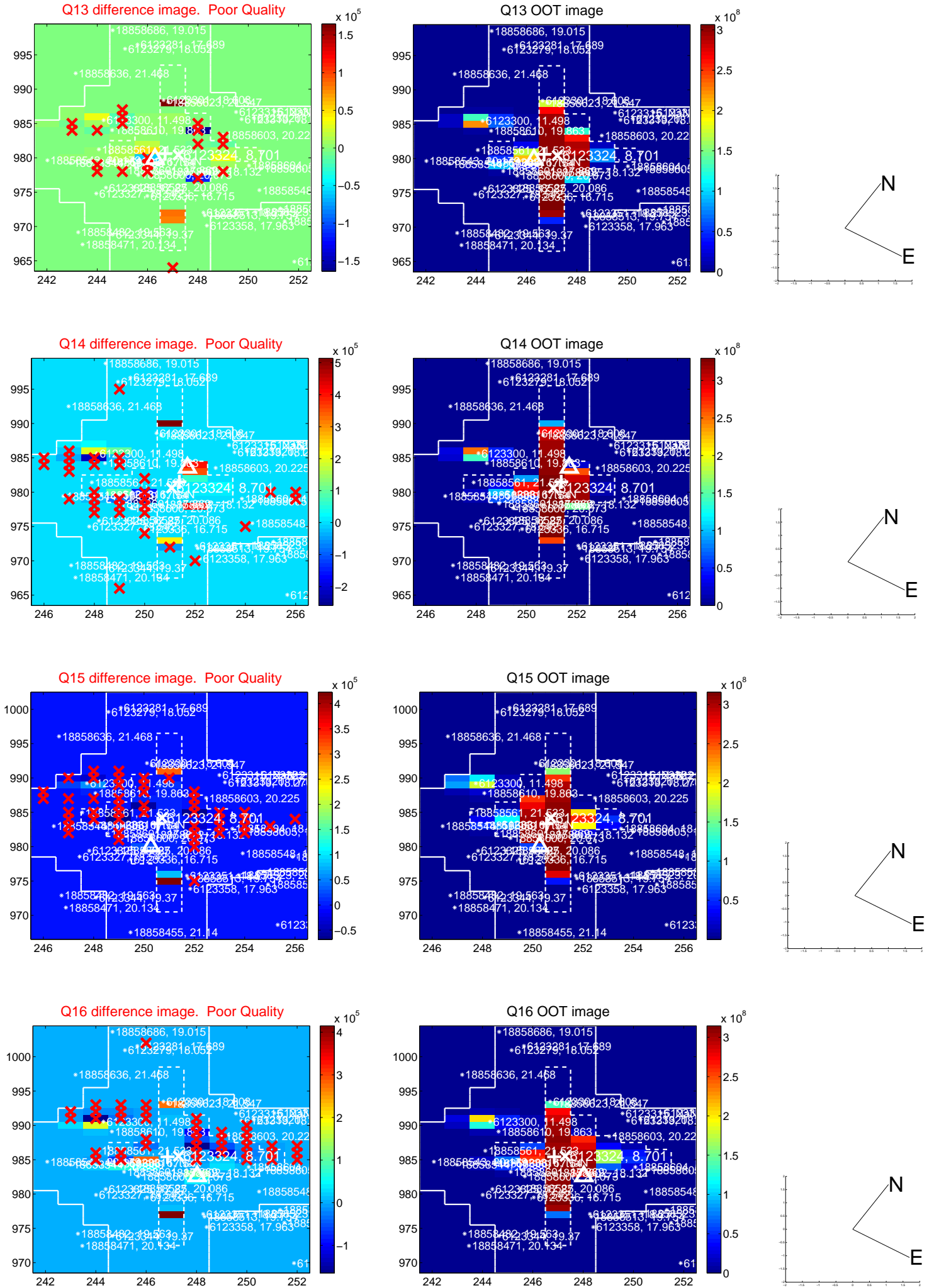
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



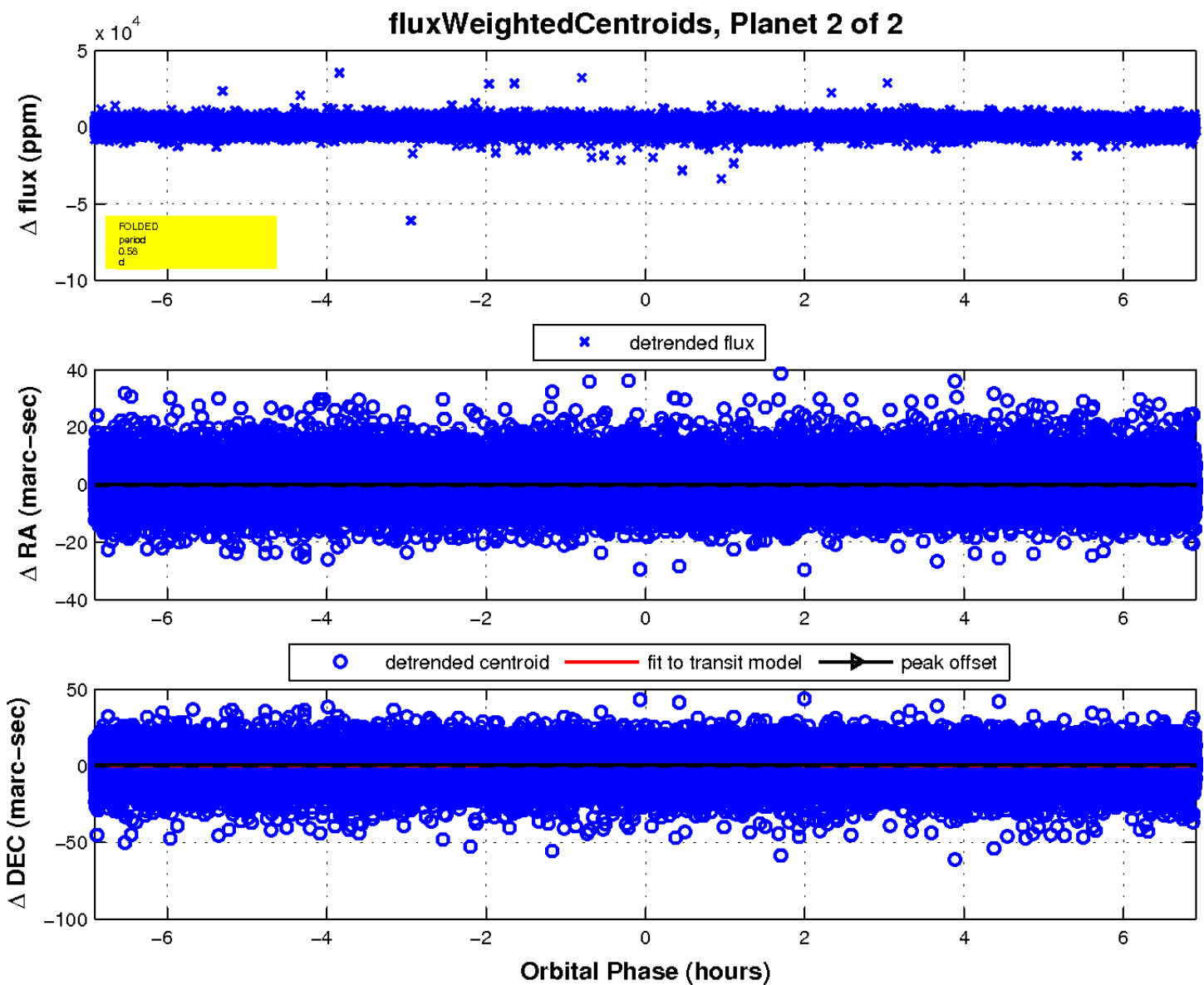
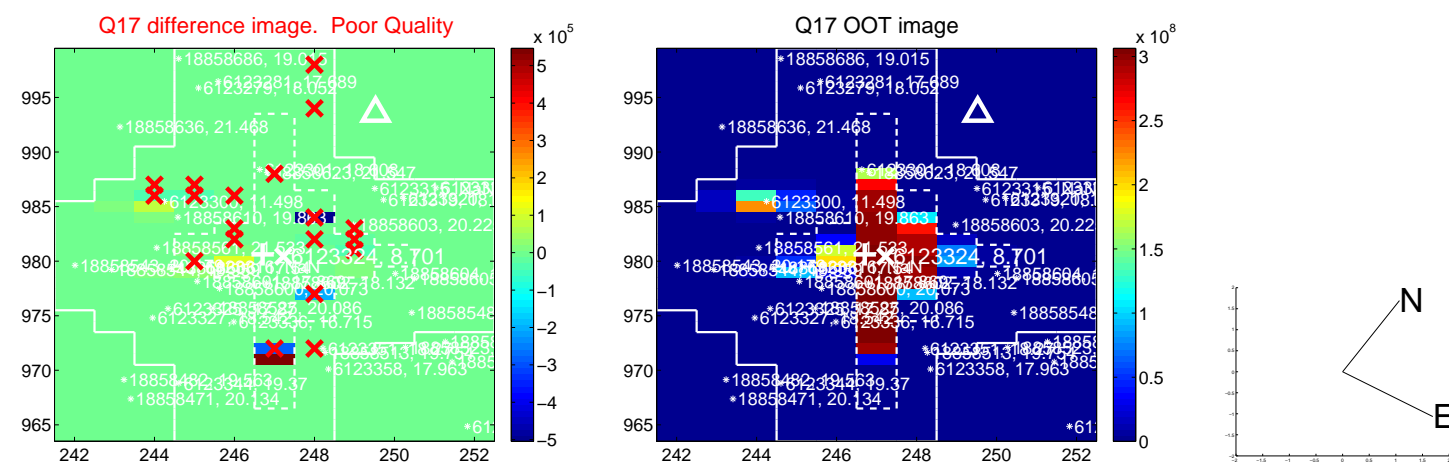
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

