

KIC 007983320

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})
007983320-01	OBS	No	1.210447	132.674338	112.1	5.556	12.1	13.1	1.00	5780	1.25	2023.07
007983320-02	OBS	No	1.210409	132.104314	69.4	5.333	11.2	9.8	1.00	5780	0.82	2023.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007983320-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
007983320-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_KIC_POS

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

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

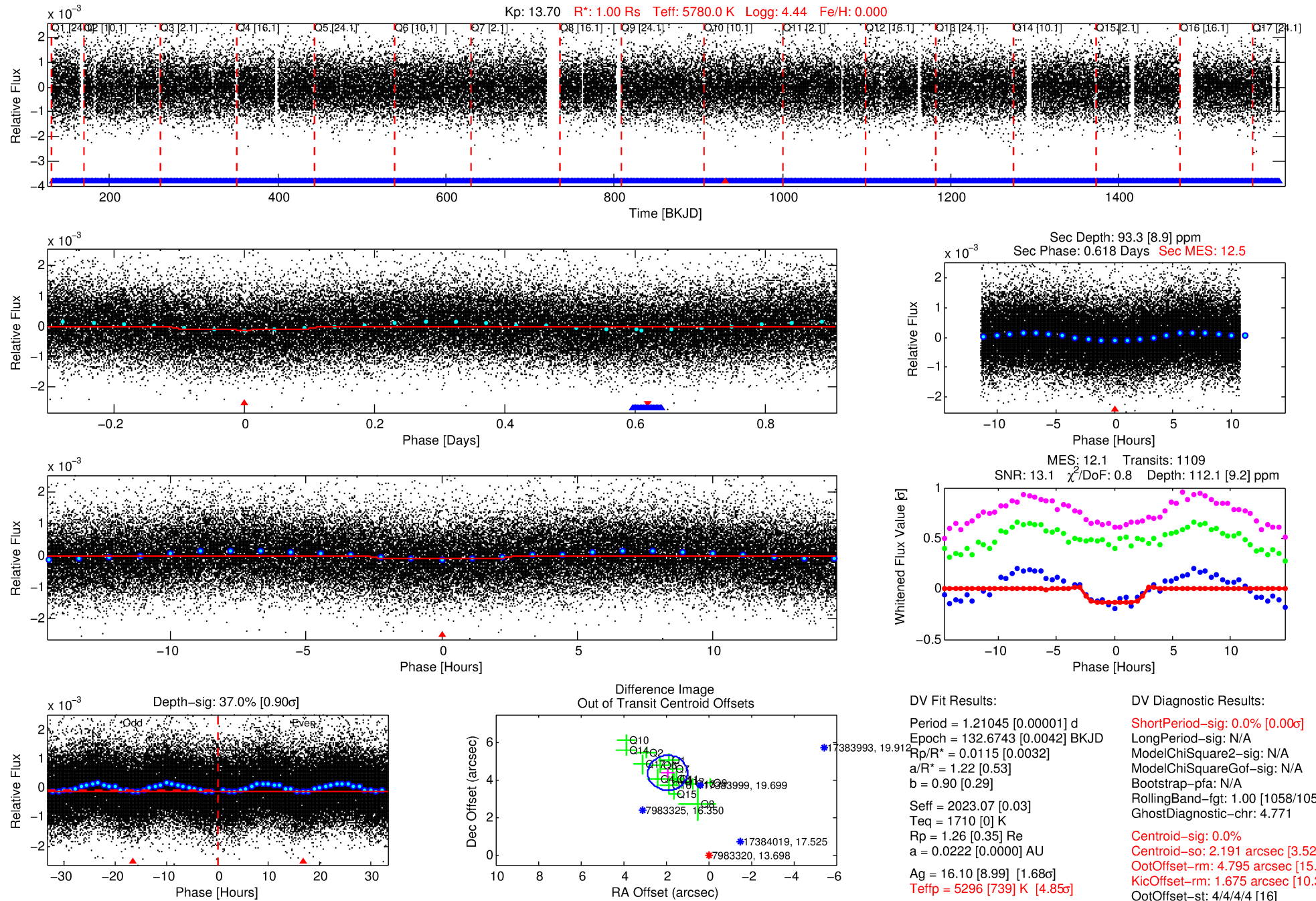
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007983320-01

No Significant Match Found

DV One-Page Summary

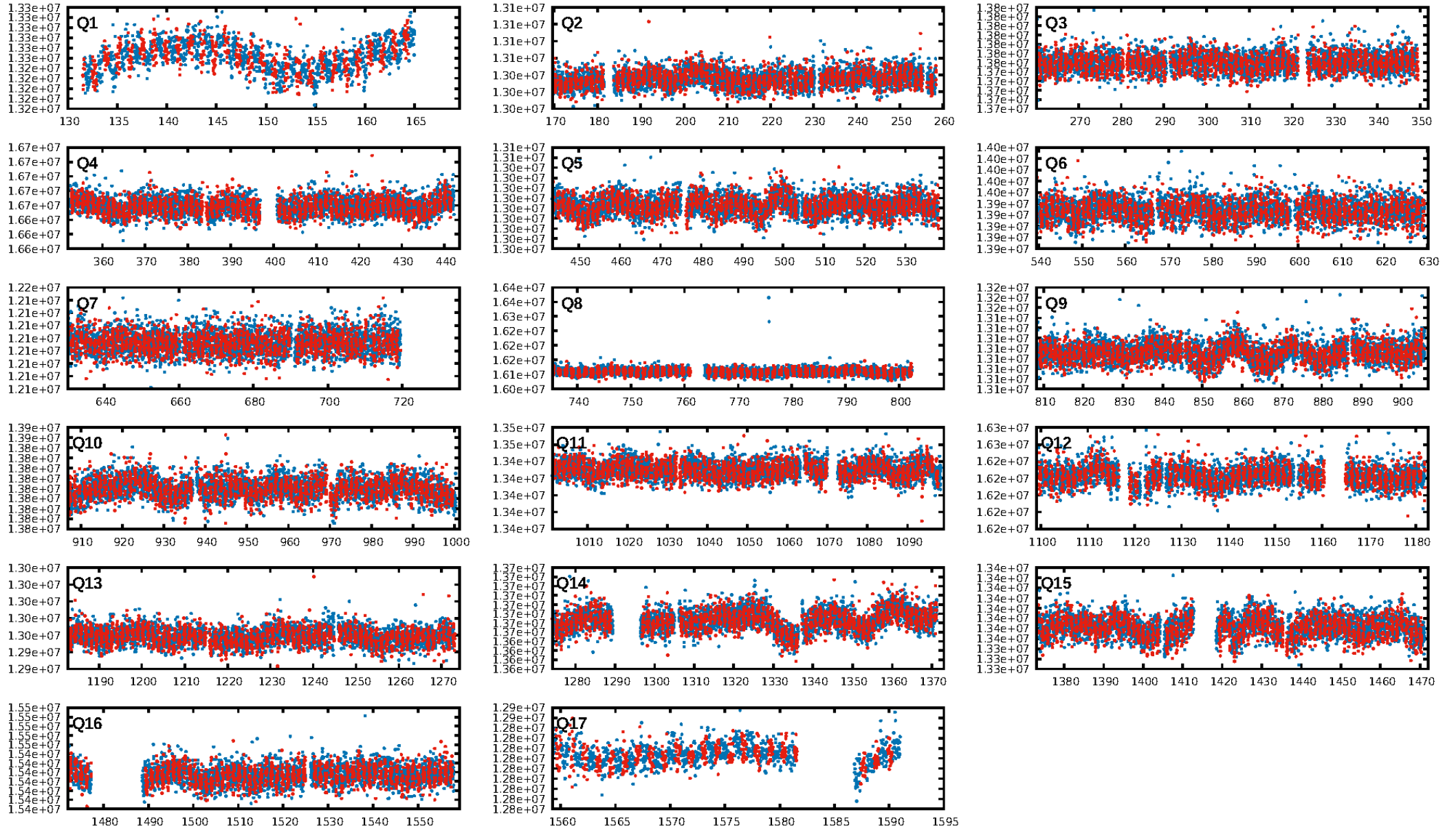
KIC: 7983320 Candidate: 1 of 2 Period: 1.210 d



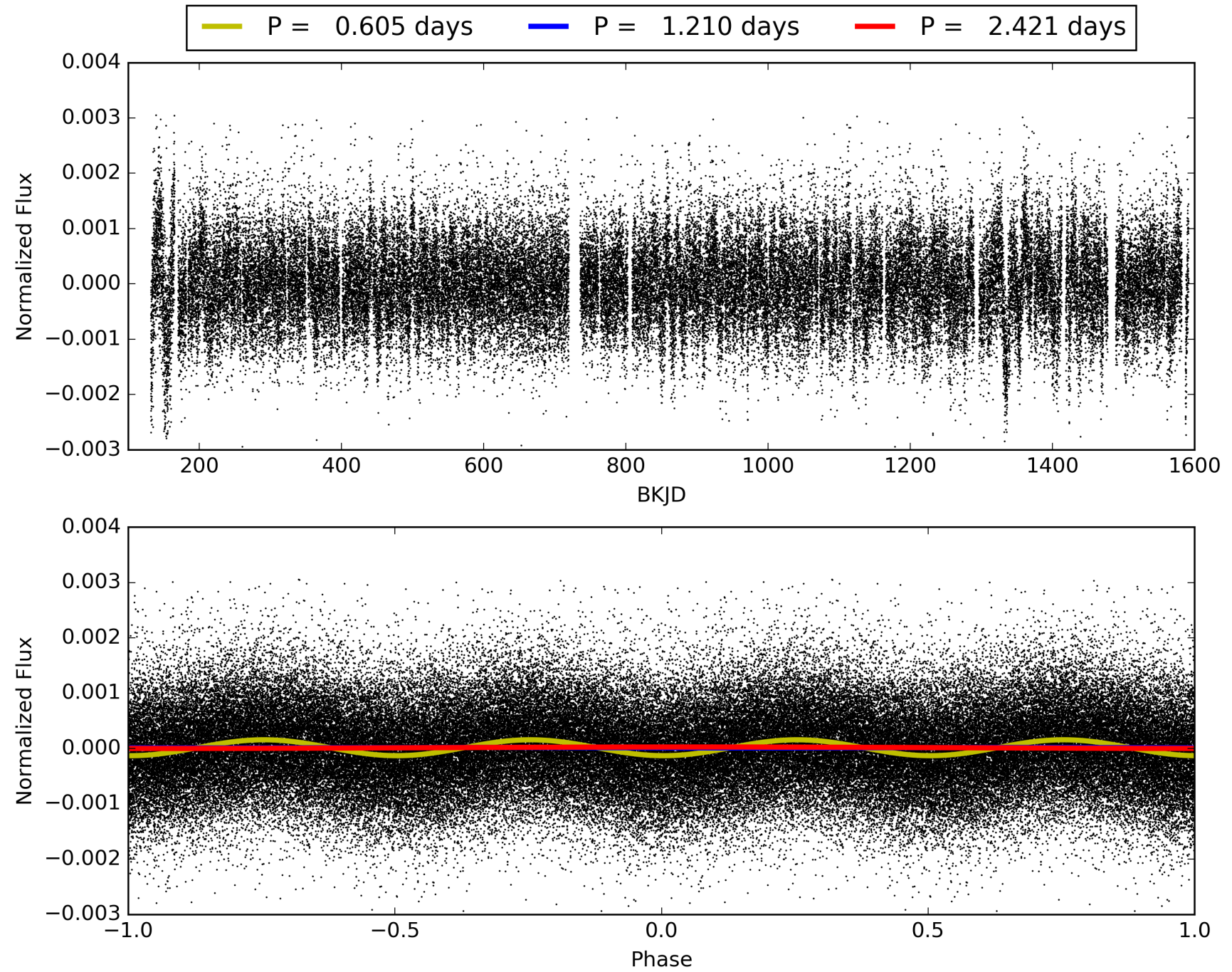
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:23:40 Z

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

TCE 007983320-01, PDC Light Curves

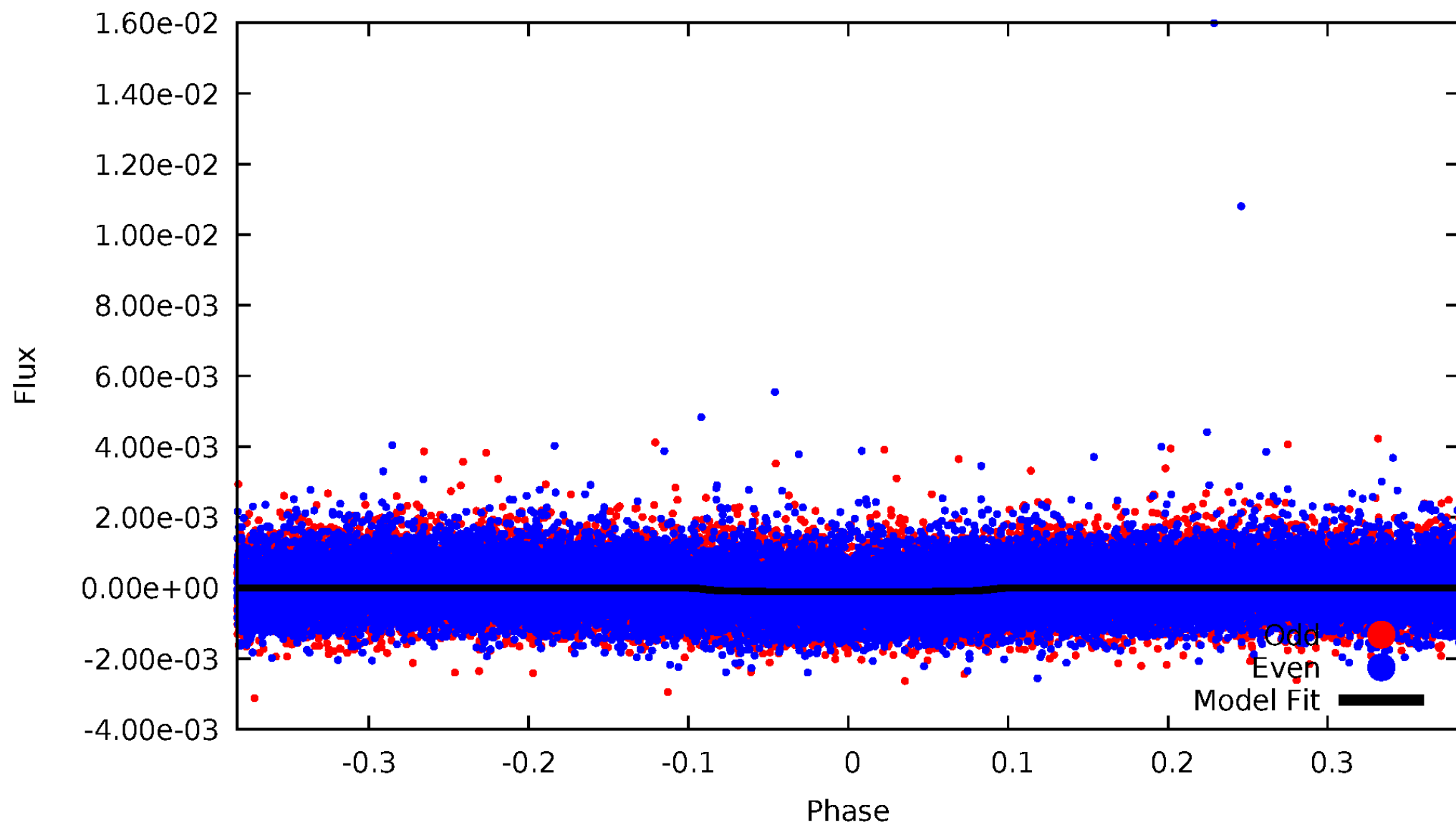


TCE 007983320-01



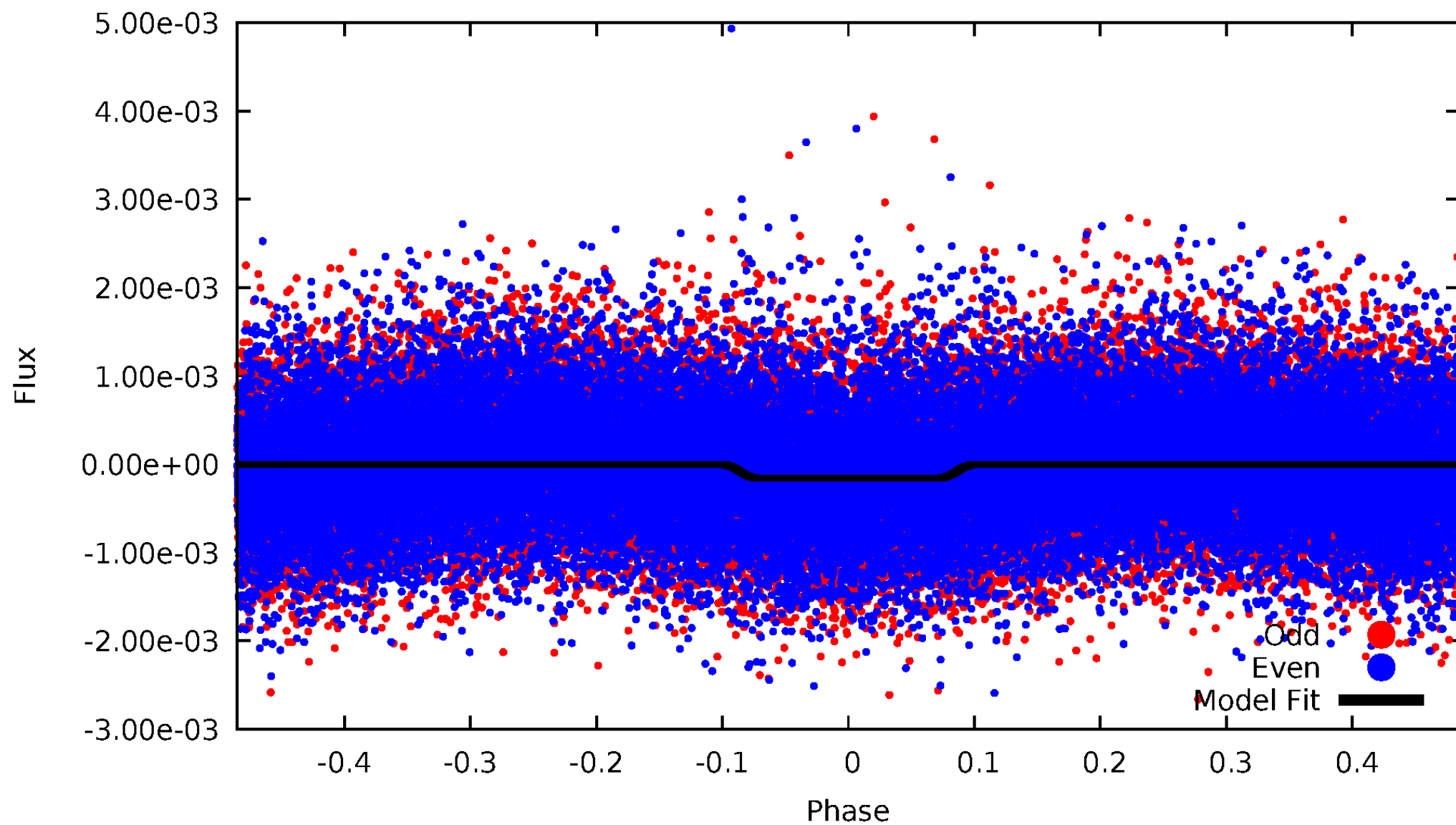
DV Odd/Even

TCE 007983320-01



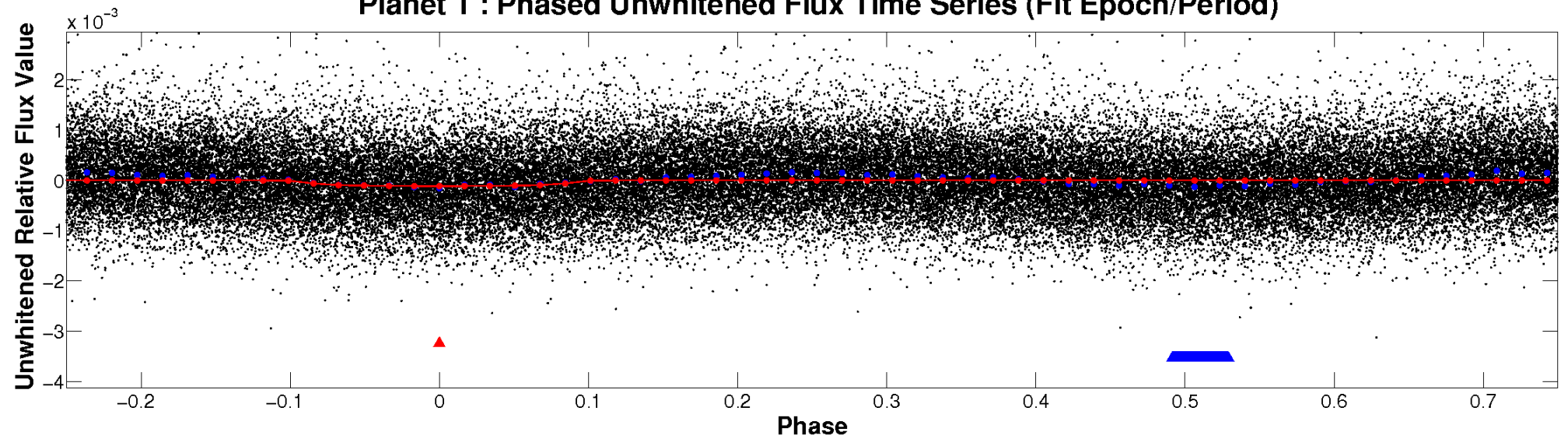
ALT Odd/Even

TCE 007983320-01

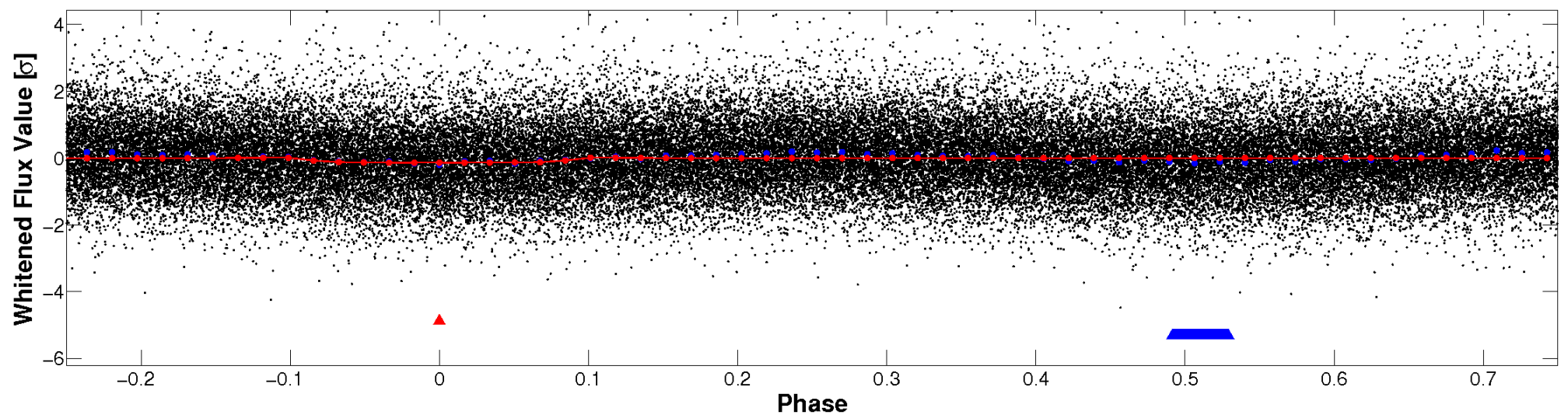


Non-Whitened Vs. Whitened Light Curve

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

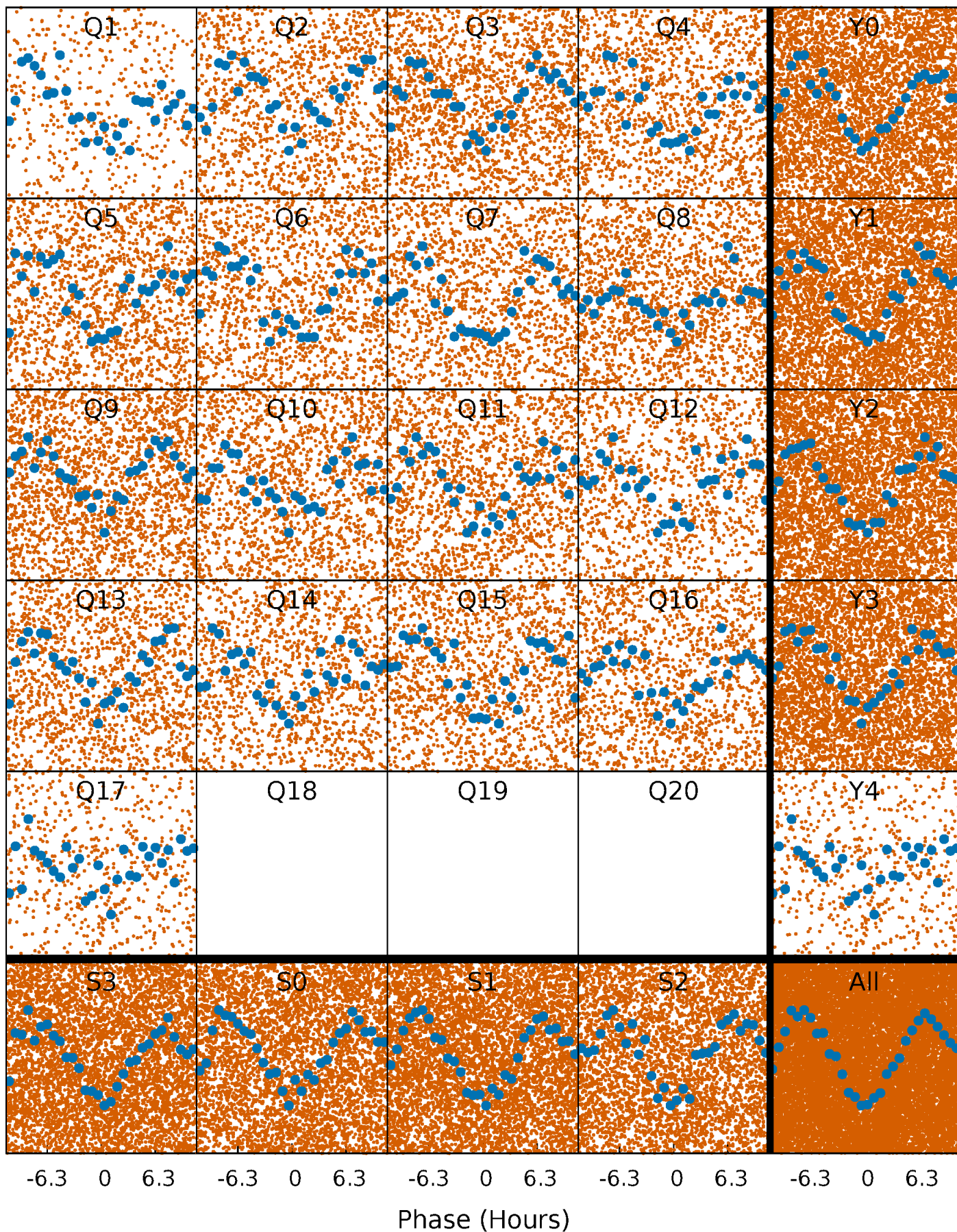


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



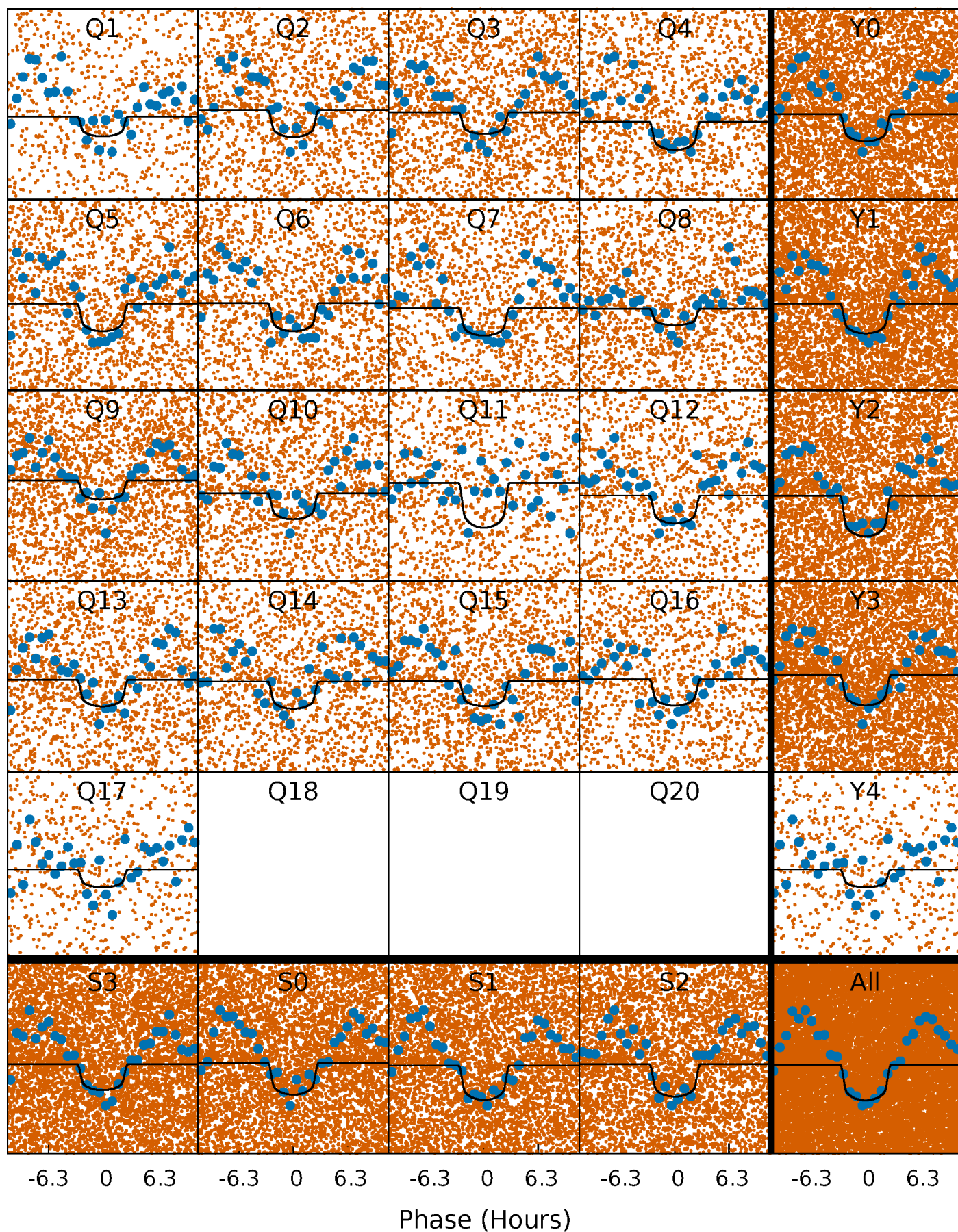
PDC Quarter-Phased Transit Curves

TCE 007983320-01 P= 1.210447 Days $T_0=132.674338$ (BKJD)



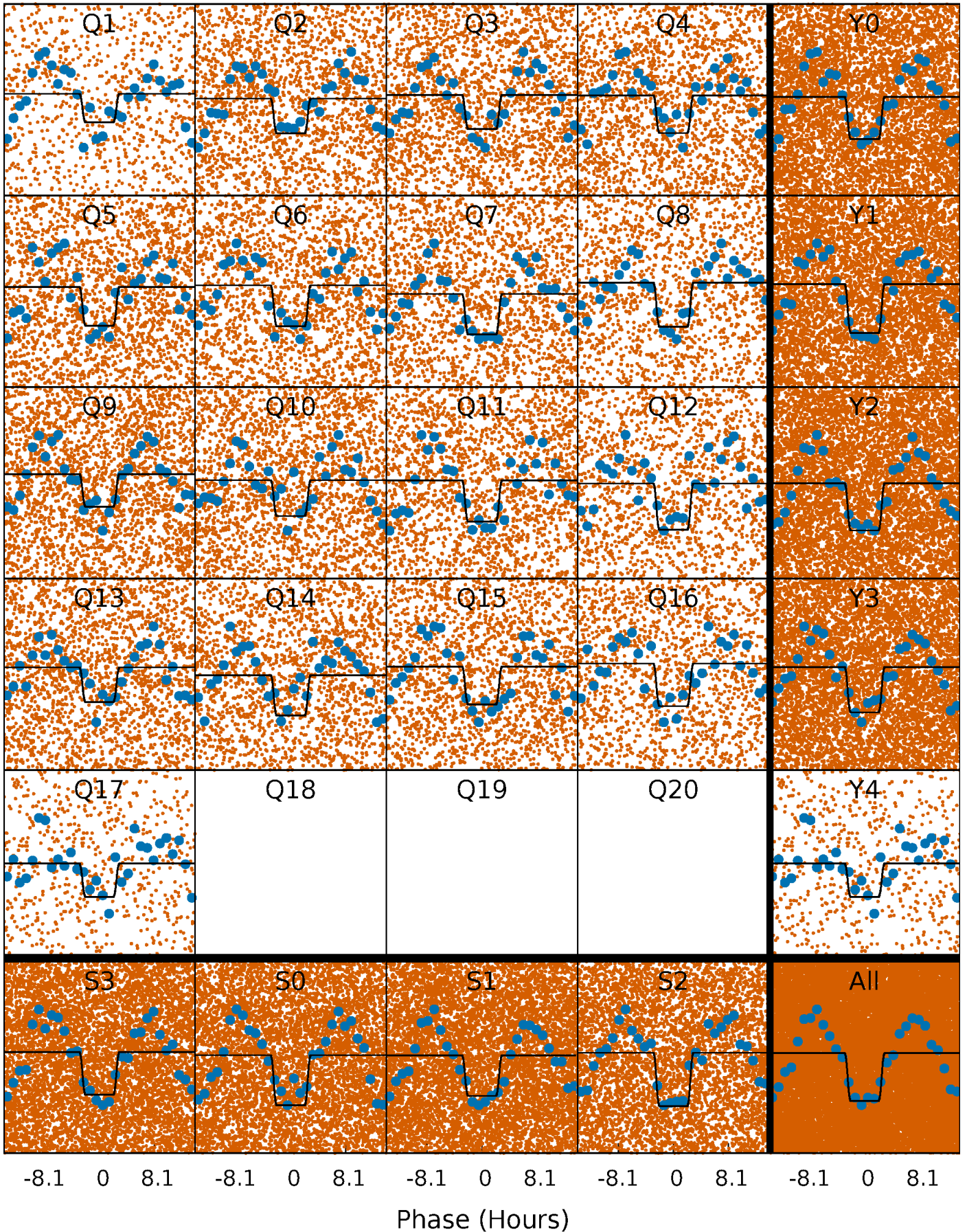
DV Quarter-Phased Transit Curves

TCE 007983320-01 P= 1.210447 Days $T_0=132.674338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

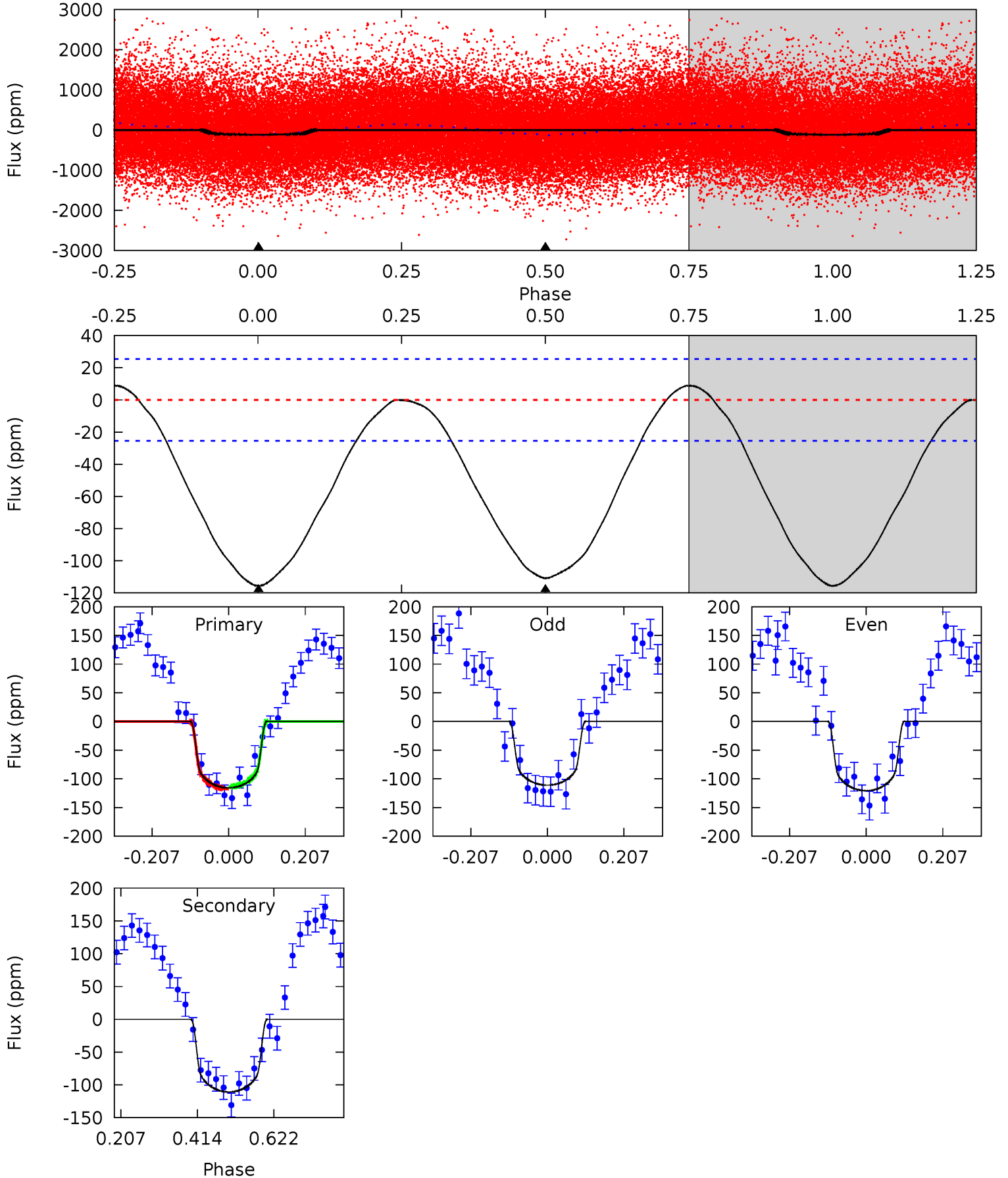
TCE 007983320-01 P= 1.210449 Days $T_0=132.675337$ (BKJD)



DV Model-Shift Uniqueness Test

007983320-01, P = 1.210447 Days, E = 131.463891 Days

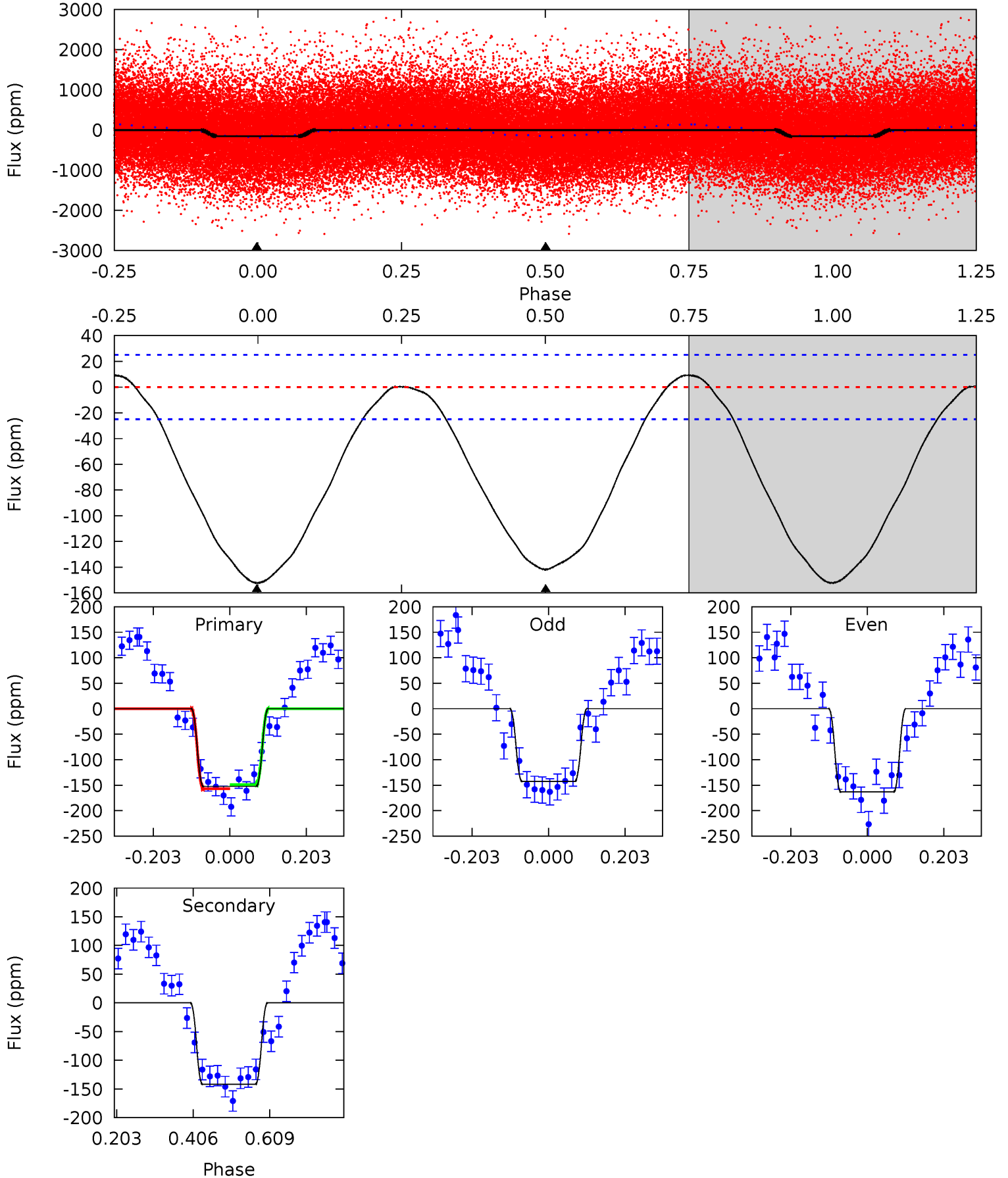
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	19.2	0	0	4.41	1.26	0.82	20.1	20.1	19.2	19.2	0.83	1.02	0.07	0.32



Alt Model-Shift Uniqueness Test

007983320-01, P = 1.210449 Days, E = 131.464888 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	25.0	0	0	4.41	1.27	1.01	26.8	26.8	25.0	25.0	1.81	1.07	0.06	0.74



Stellar Parameters For KIC 007983320

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 007983320-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-111±6	$1.24^{+0.36}_{-0.35}$	2403^{+107}_{-110}	5564^{+1056}_{-617}	19^{+18}_{-8}
Alt.	-142±6	$1.38^{+0.36}_{-0.34}$	2391^{+121}_{-113}	5594^{+864}_{-556}	21^{+15}_{-8}

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 $A_{obs} \gg 1.0$

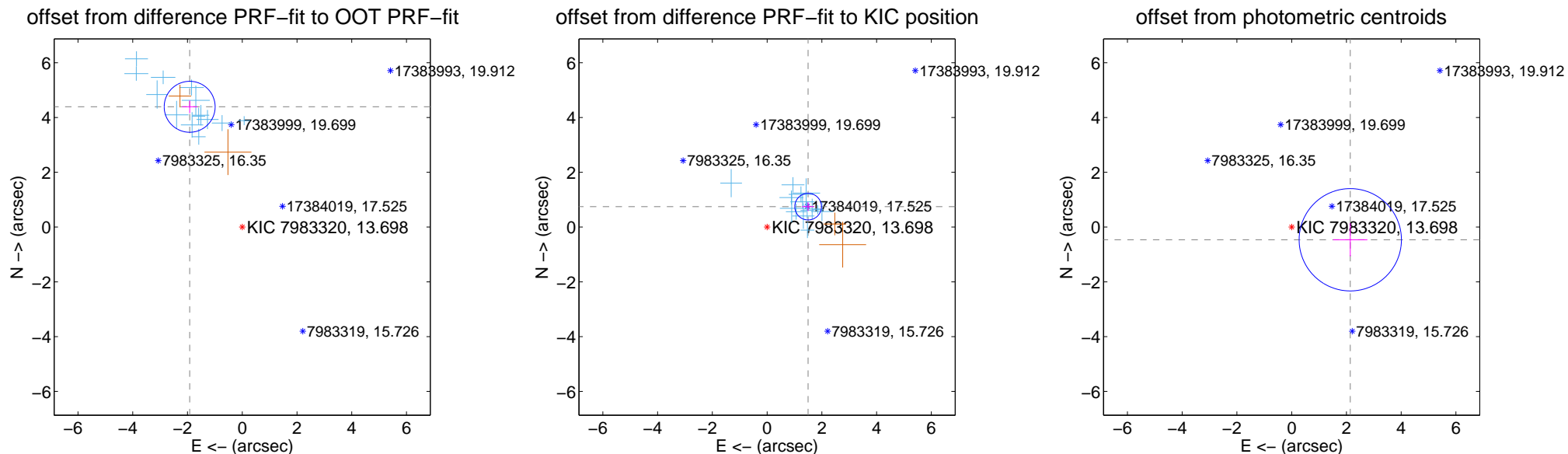
DV Centroid Data

Supplemental centroid analysis for 007983320-01. Kepler magnitude: 13.70. Transit SNR 13.07

There are 14 quarters with good PRF difference image offsets

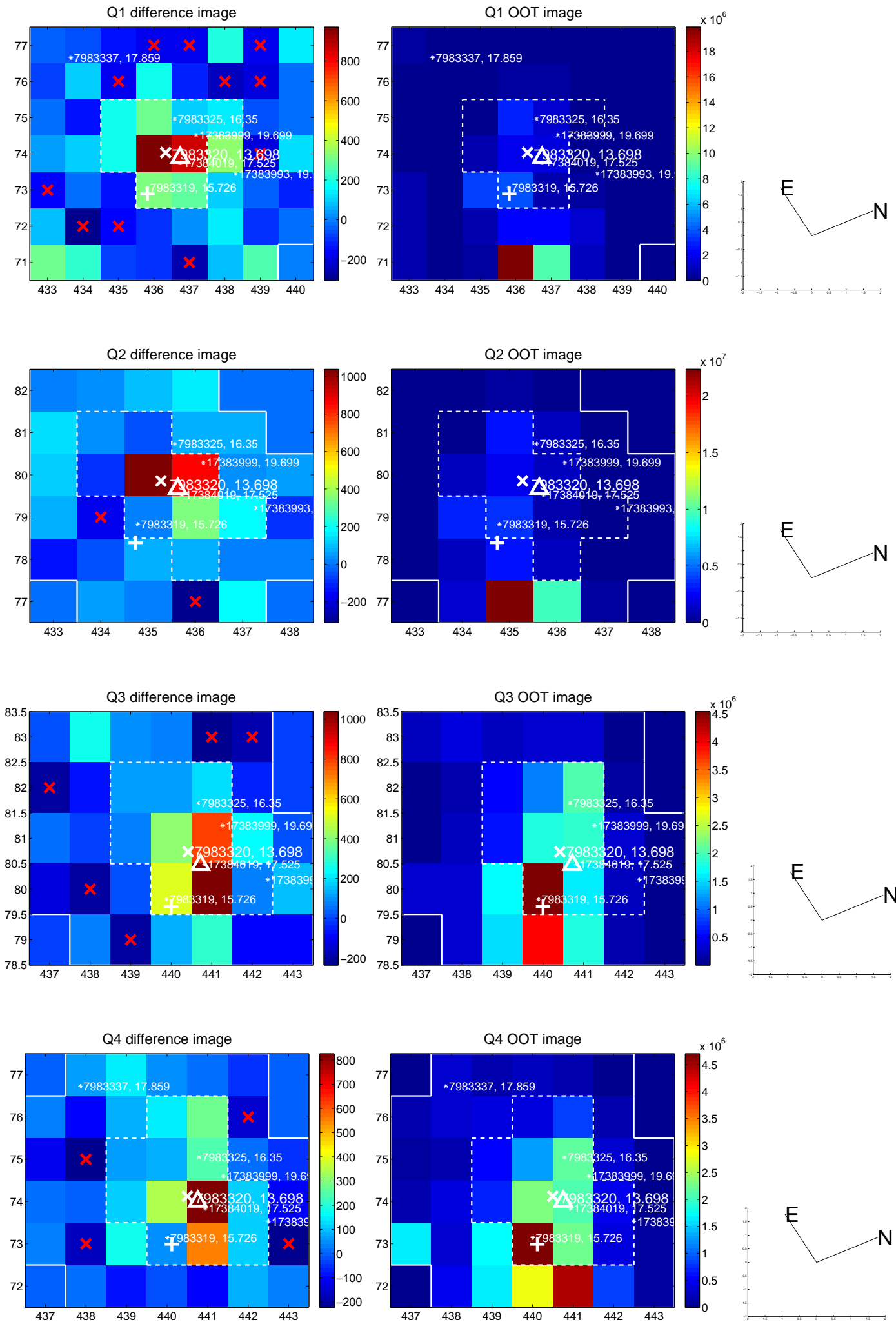
The OOT PRF centroid is offset from the target star catalog position by about 3.70 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.795 ± 0.310	15.45	1.921 ± 0.280	4.393 ± 0.234
PRF-fit source offset from KIC position	1.675 ± 0.162	10.32	-1.499 ± 0.222	0.747 ± 0.158
photometric centroid source offset	2.19 ± 0.62	3.52	-2.14 ± 0.62	-0.46 ± 0.60

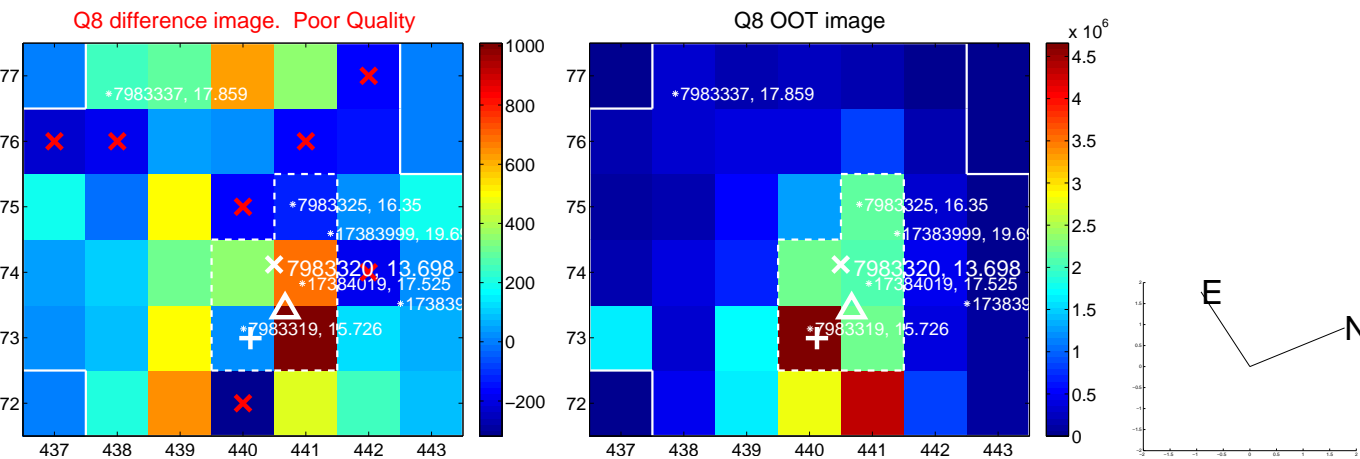
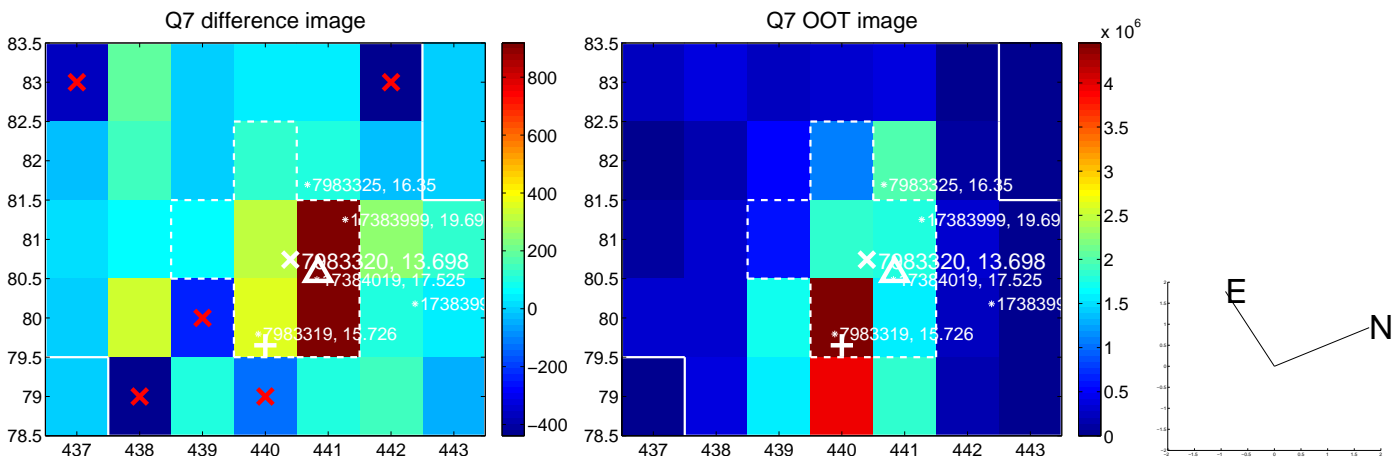
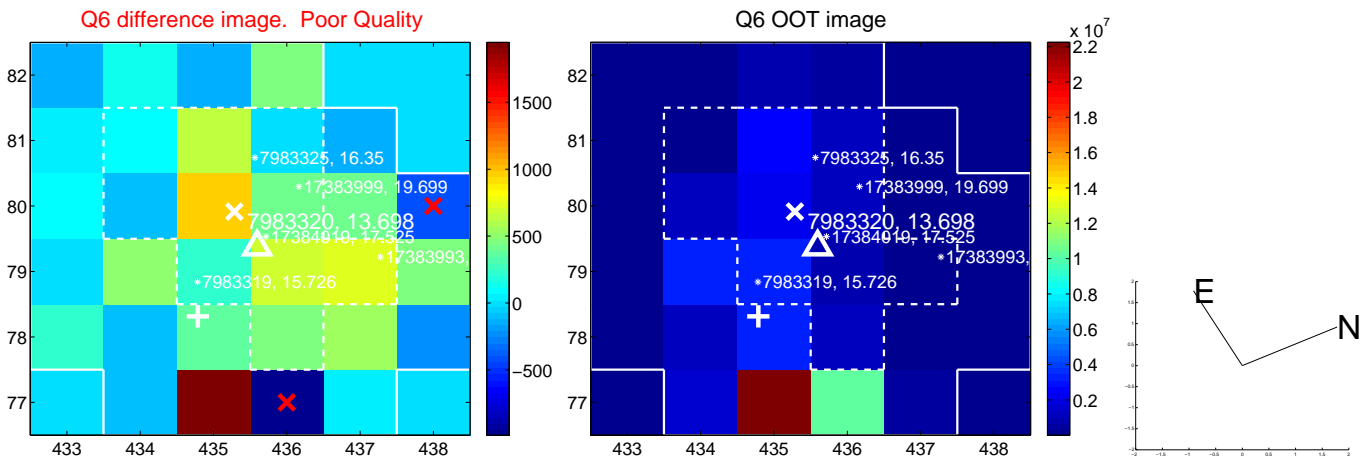
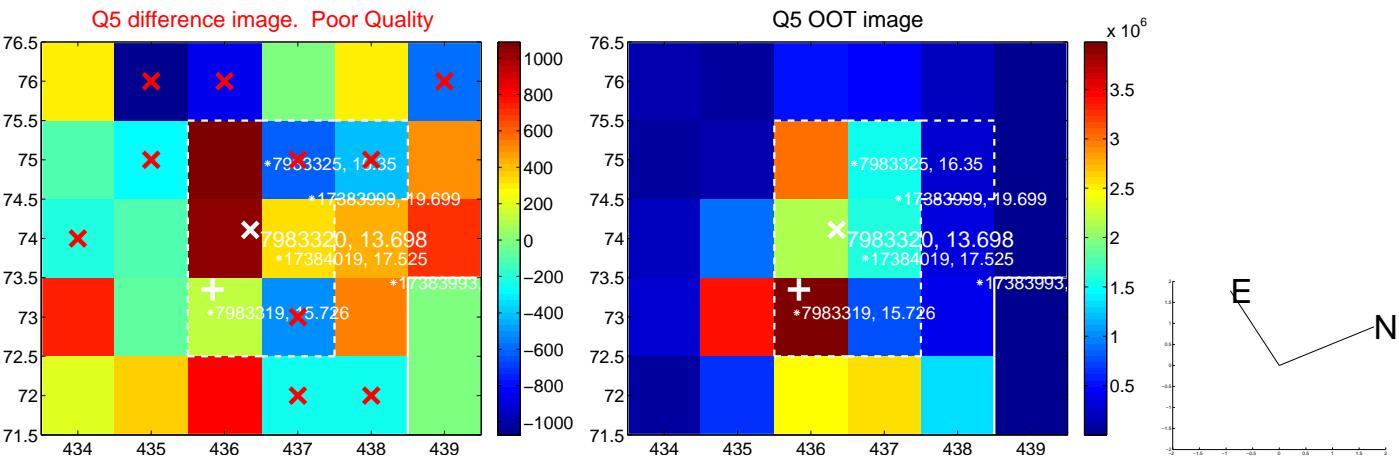


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

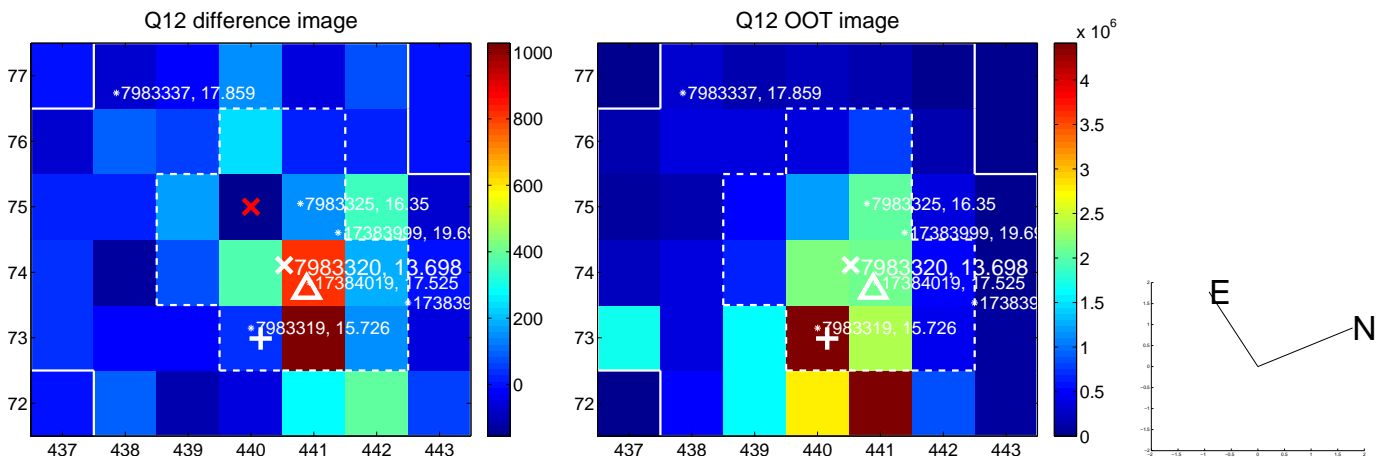
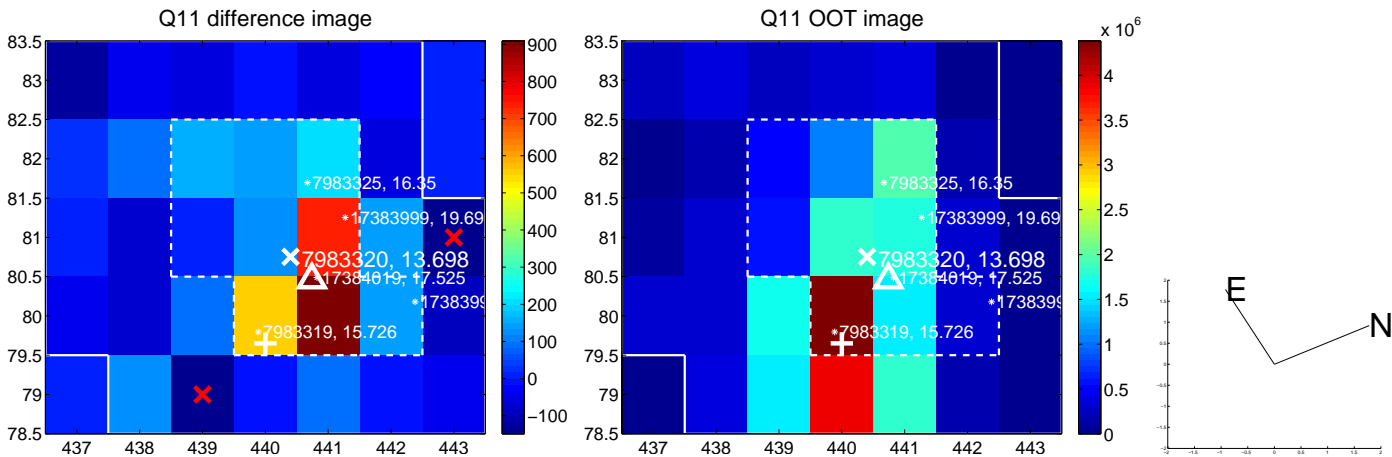
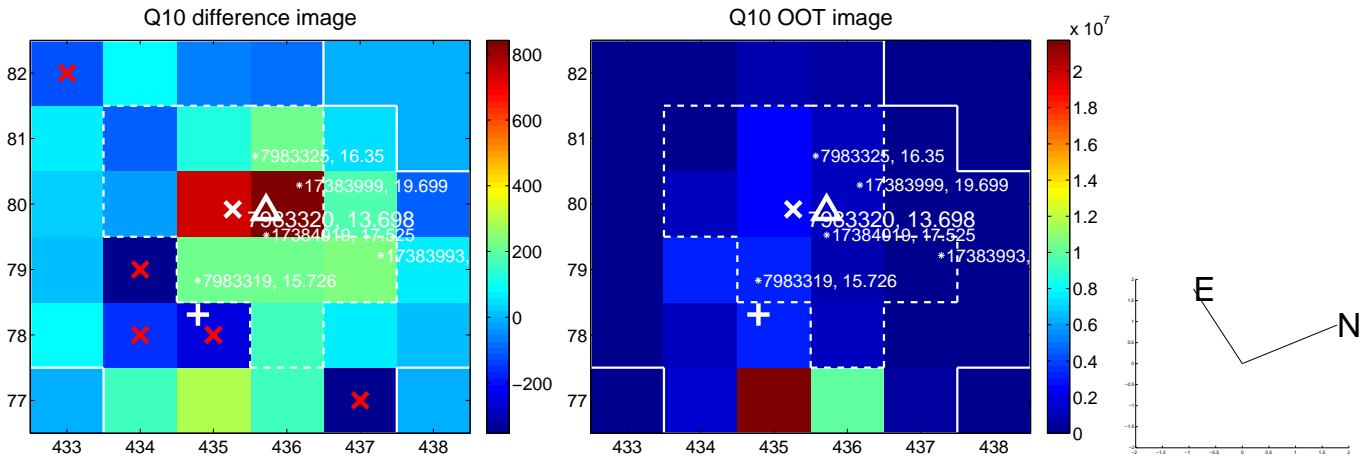
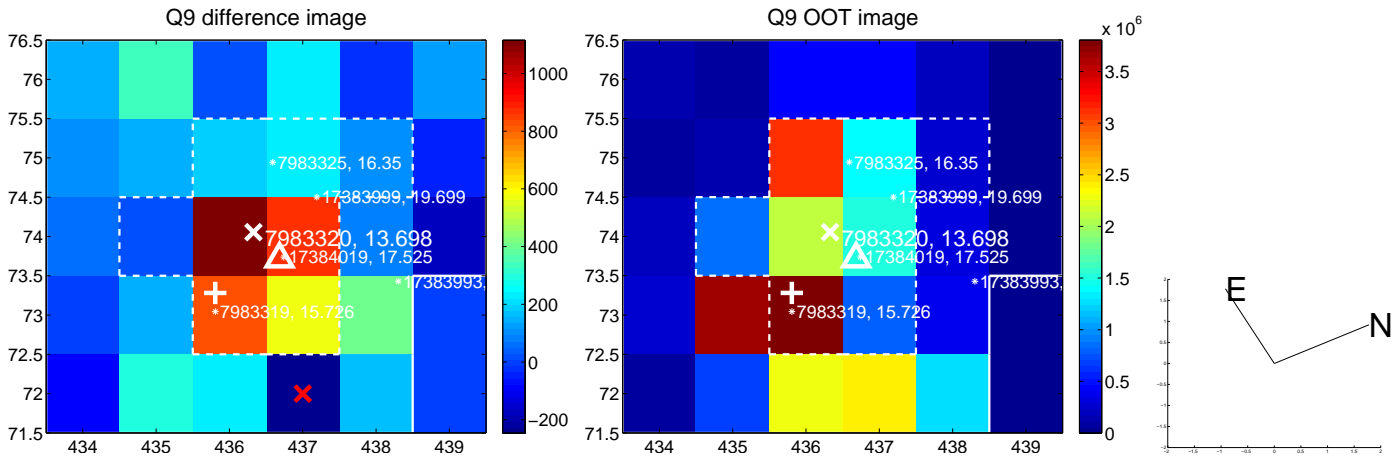
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



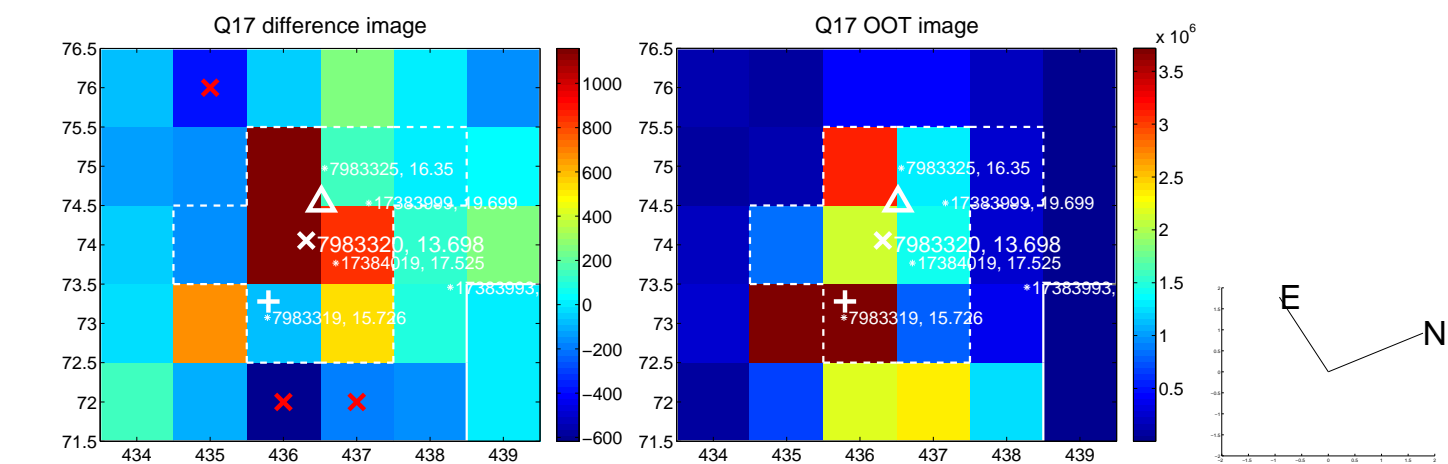
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



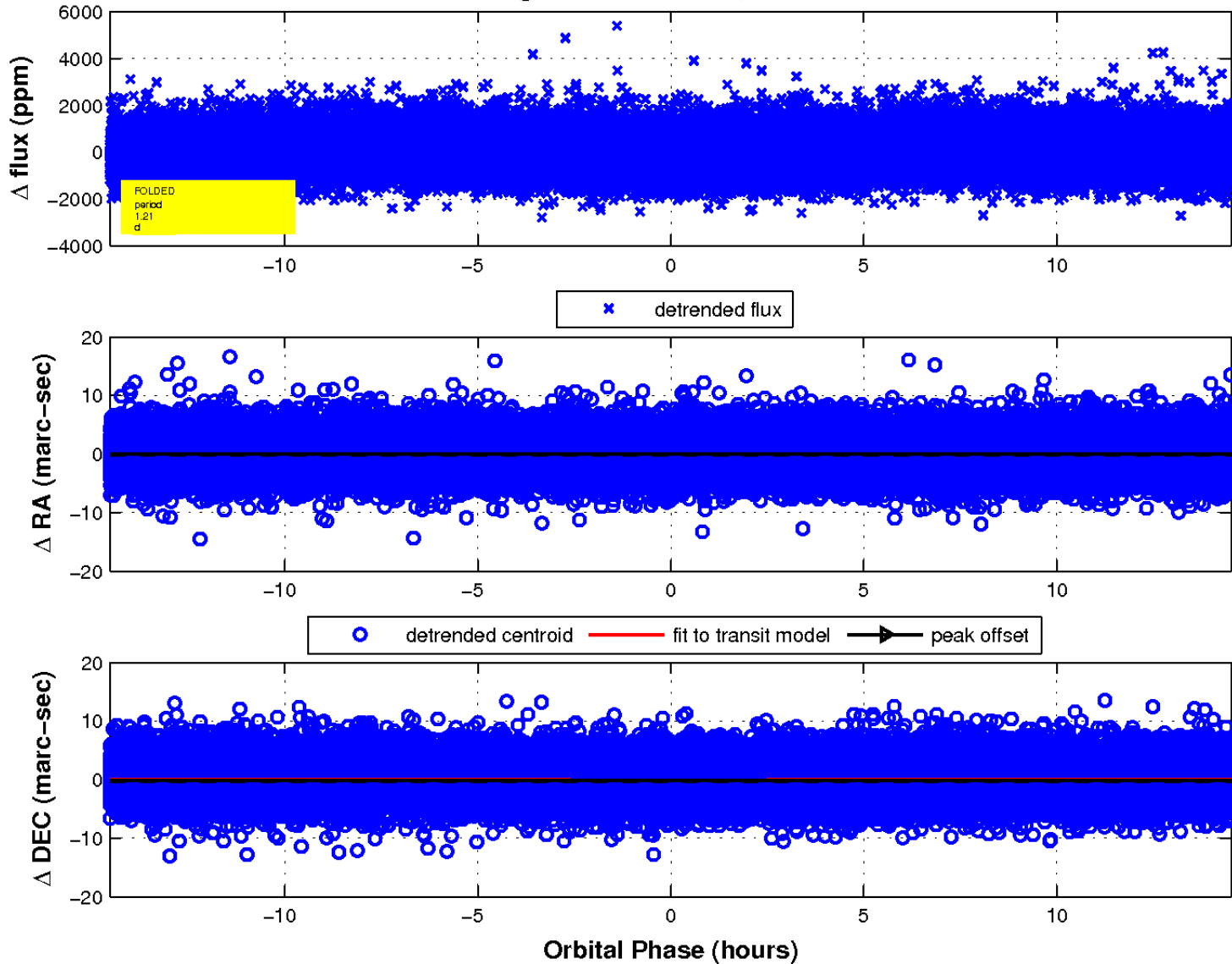
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

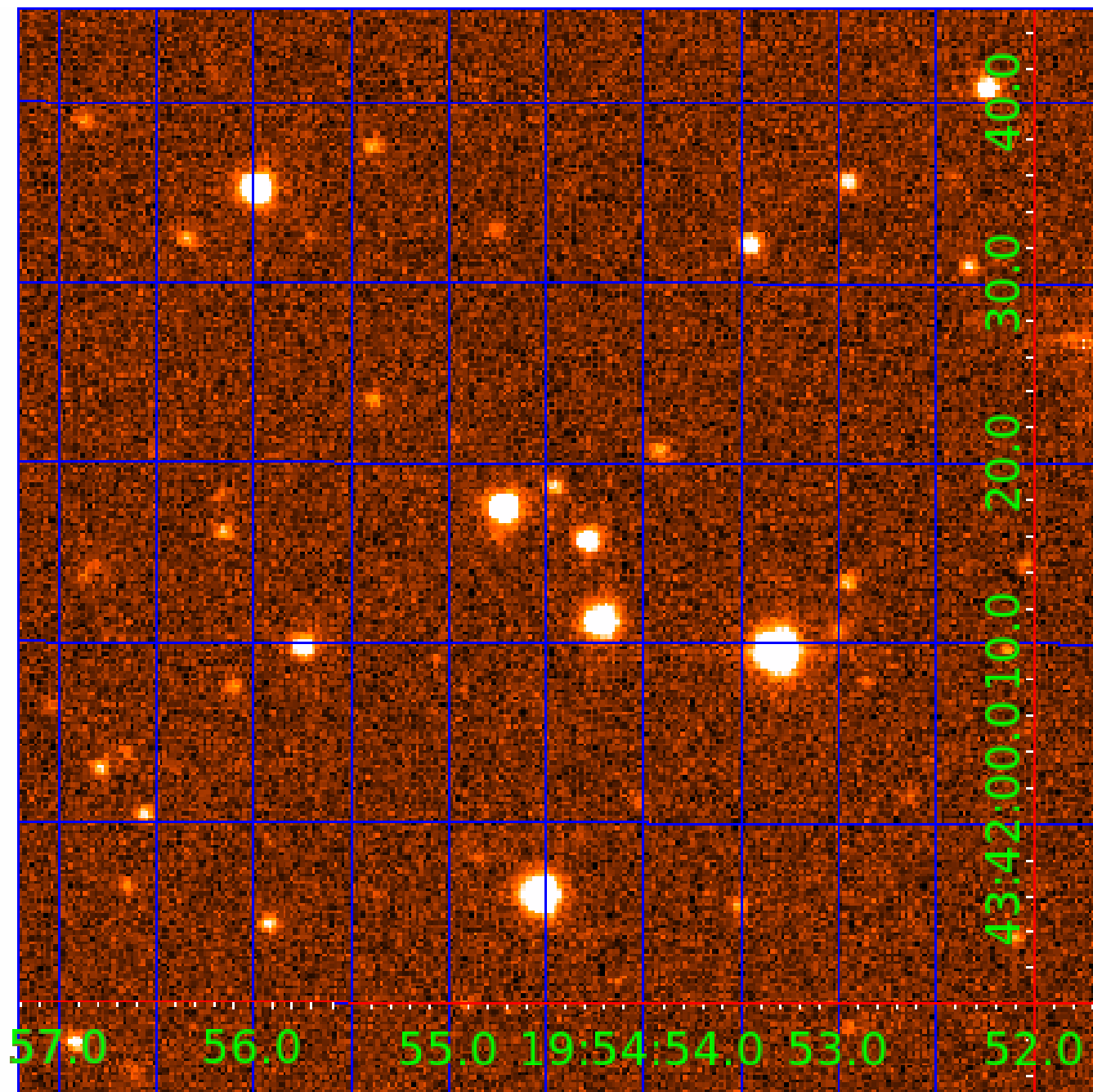


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007983320

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})
007983320-01	OBS	No	1.210447	132.674338	112.1	5.556	12.1	13.1	1.00	5780	1.25	2023.07
007983320-02	OBS	No	1.210409	132.104314	69.4	5.333	11.2	9.8	1.00	5780	0.82	2023.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007983320-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
007983320-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_KIC_POS

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

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

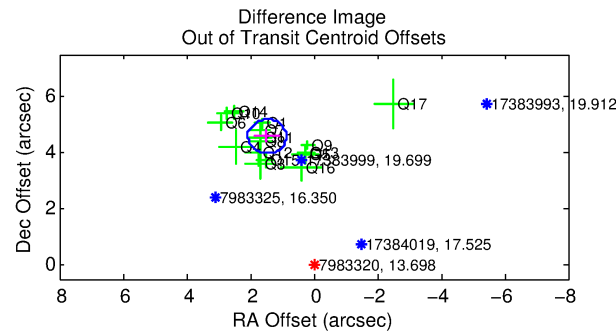
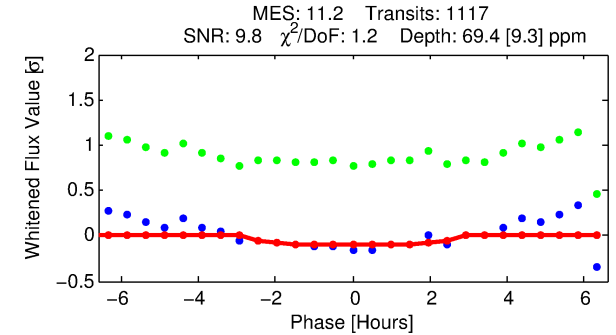
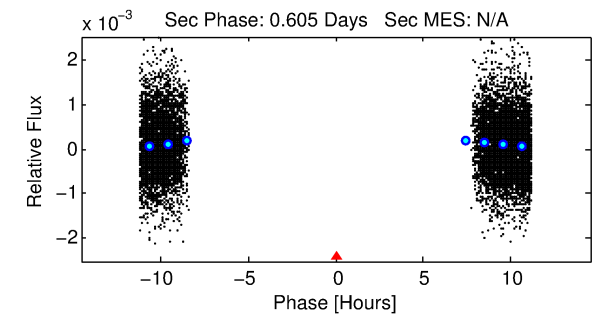
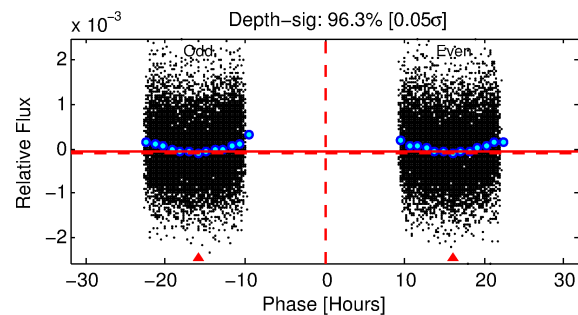
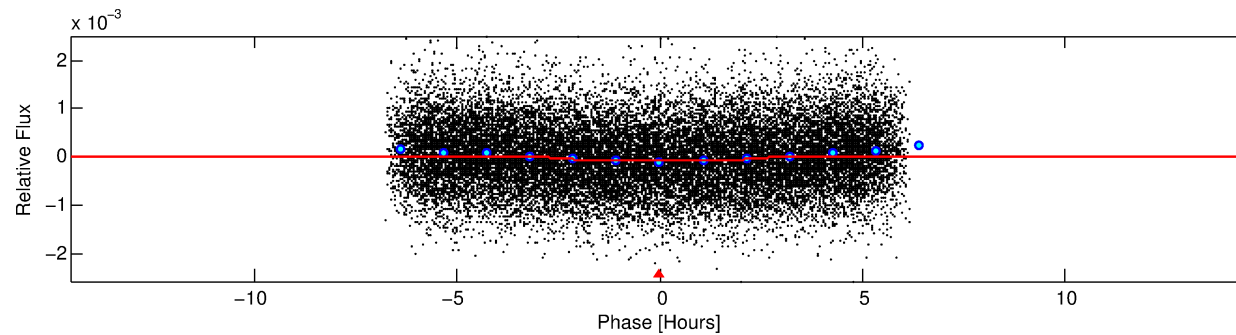
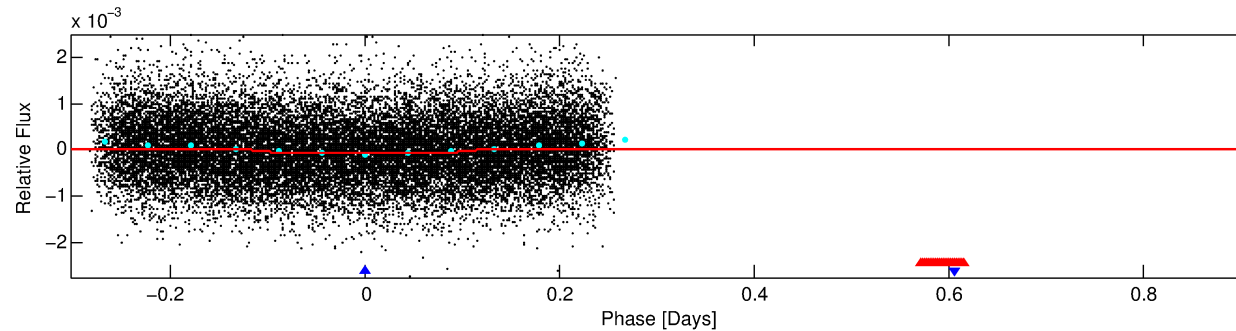
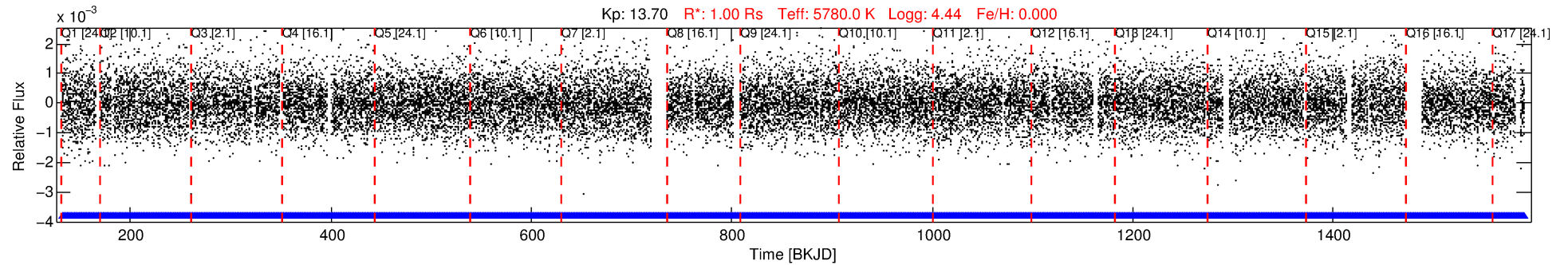
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007983320-02

No Significant Match Found

DV One-Page Summary

KIC: 7983320 Candidate: 2 of 2 Period: 1.210 d



DV Fit Results:

Period = 1.21041 [0.00002] d
Epoch = 132.1043 [0.0067] BKJD
Rp/R* = 0.0076 [0.0146]
a/R* = 1.85 [11.09]
b = 0.00 [1853.30]
Seff = 2023.16 [0.04]
Teq = 1710 [0] K
Rp = 0.82 [1.59] Re
a = 0.0222 [0.0000] AU

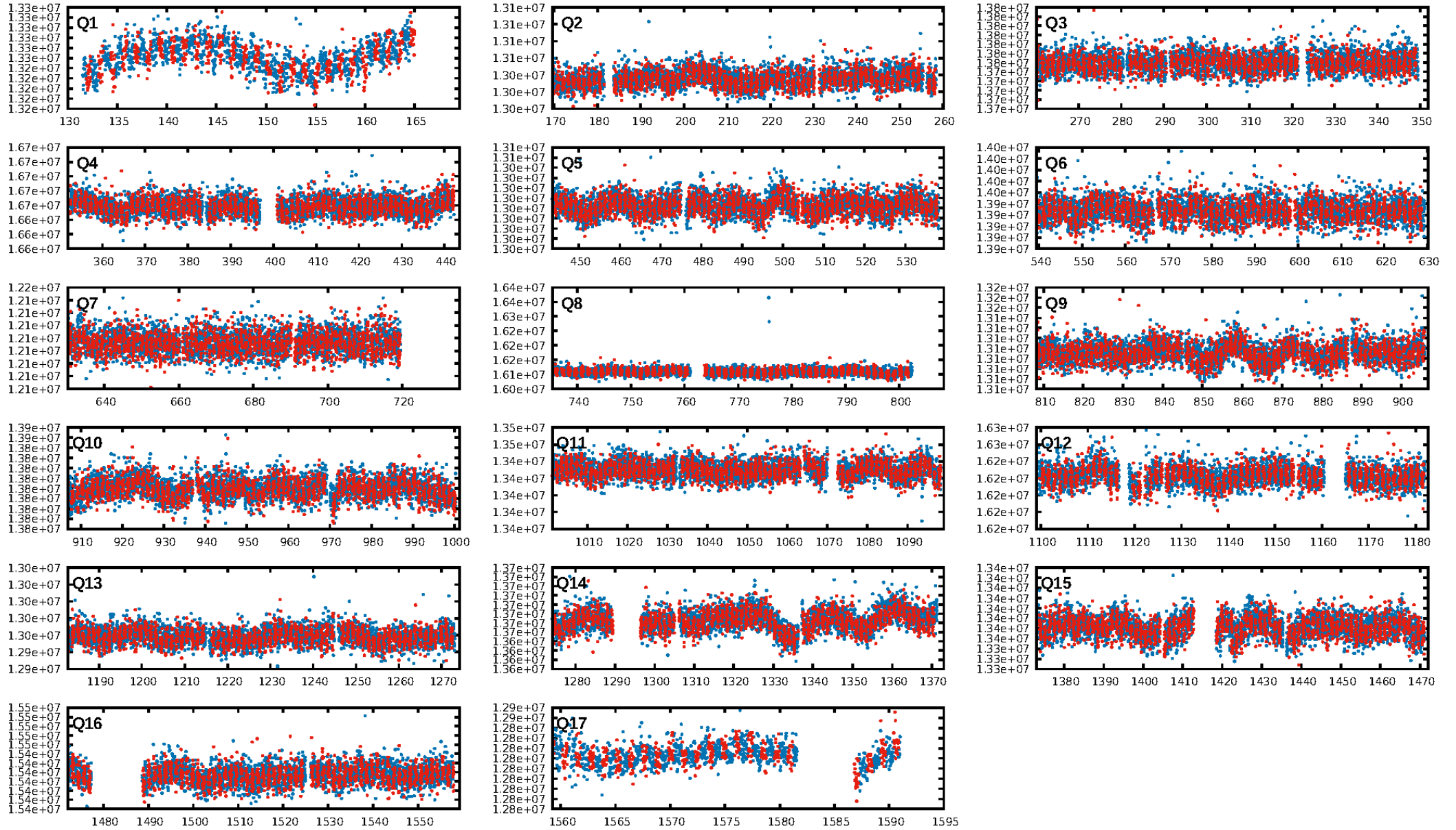
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1066/1066]
GhostDiagnostic-chr: 33.83
Centroid-sig: 0.0%
Centroid-so: 3.555 arcsec [3.61σ]
OotOffset-rm: 4.814 arcsec [23.87σ]
KicOffset-rm: 1.771 arcsec [8.40σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 0.94 [16/17]

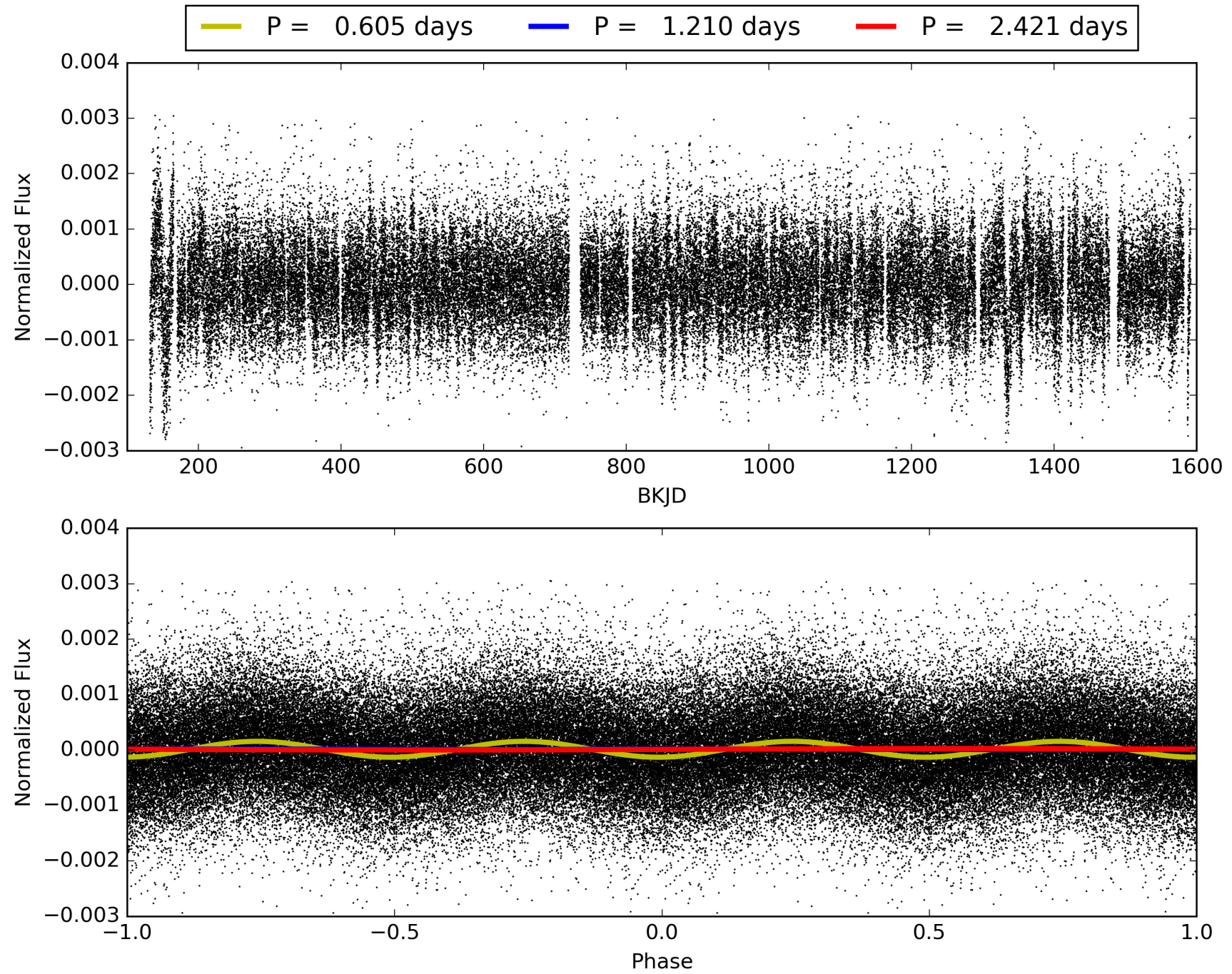
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:23:53 Z

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

TCE 007983320-02, PDC Light Curves

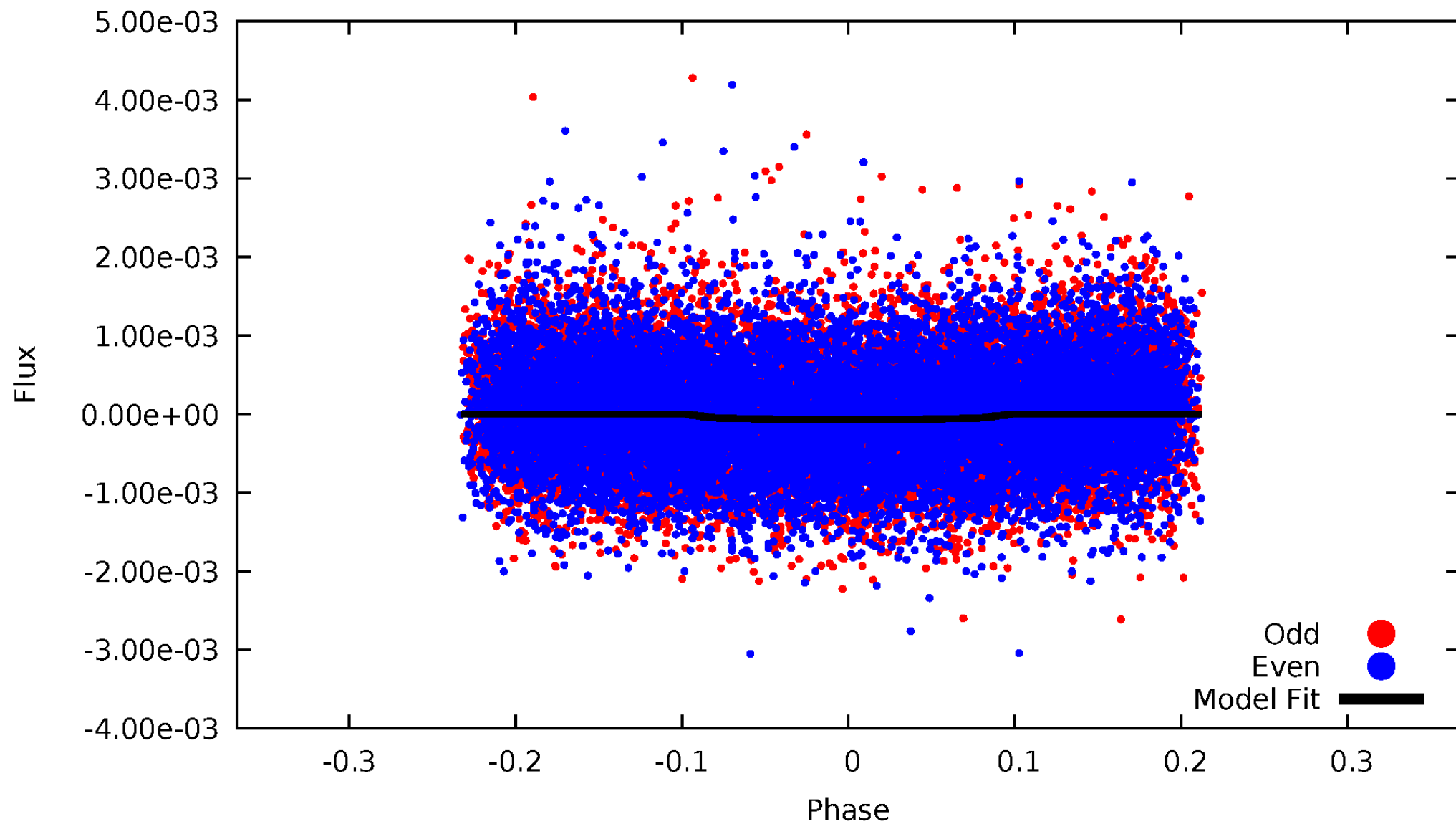


TCE 007983320-02



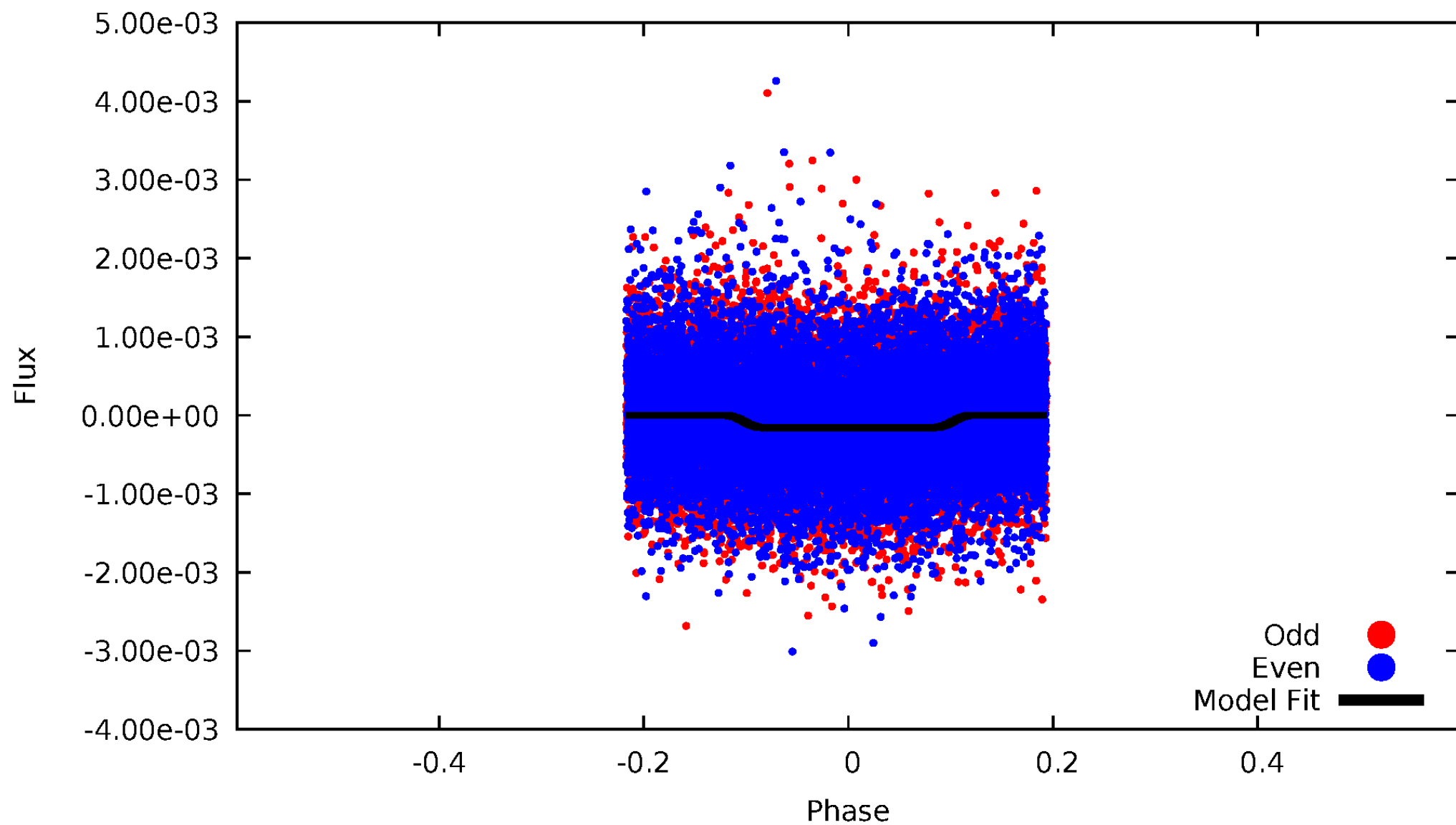
DV Odd/Even

TCE 007983320-02



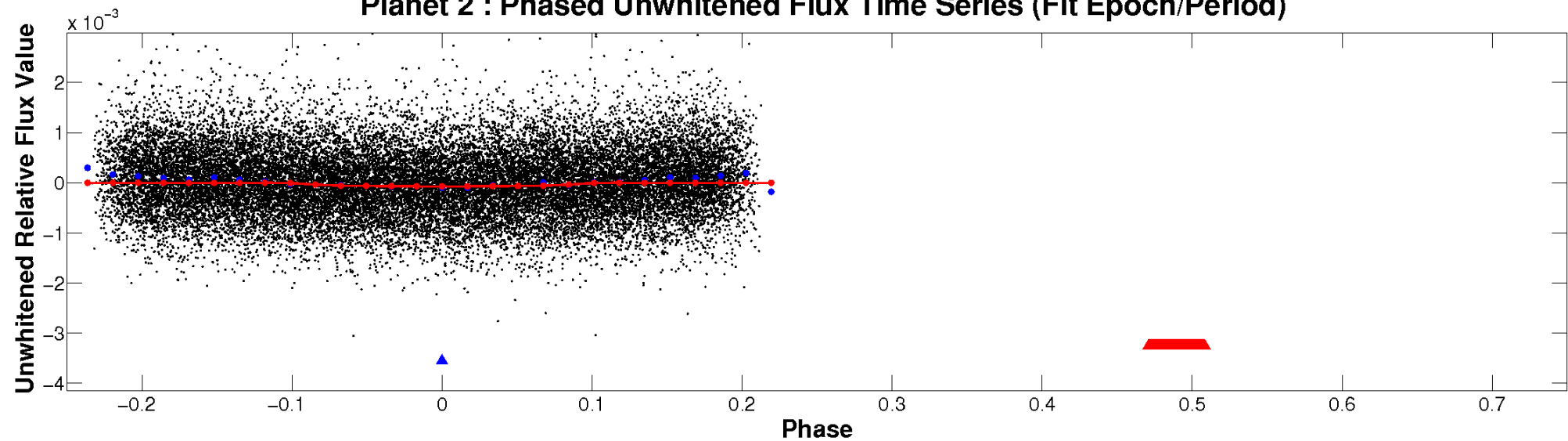
ALT Odd/Even

TCE 007983320-02

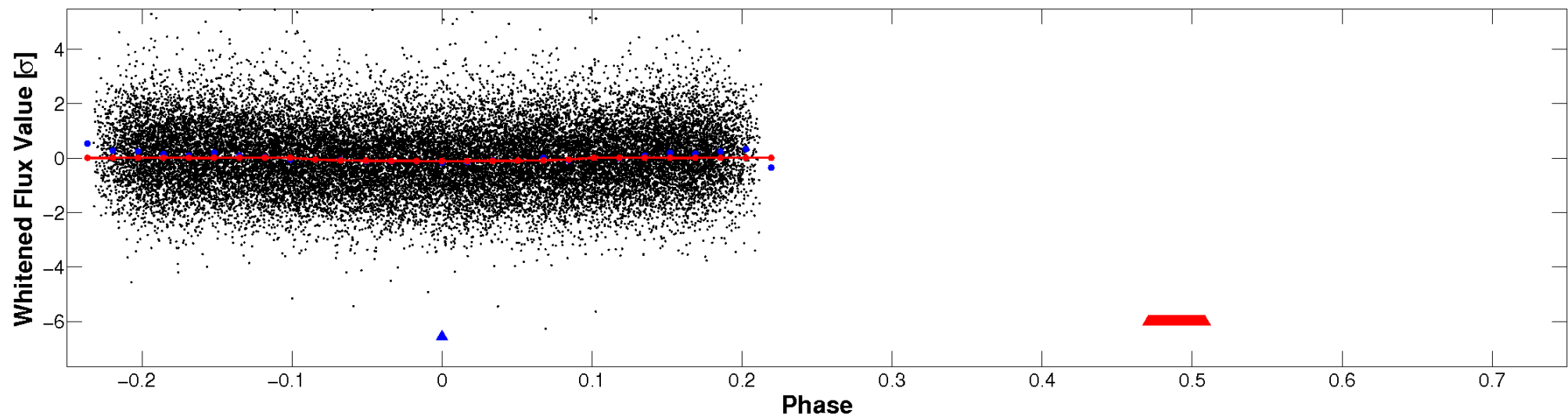


Non-Whitened Vs. Whitened Light Curve

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

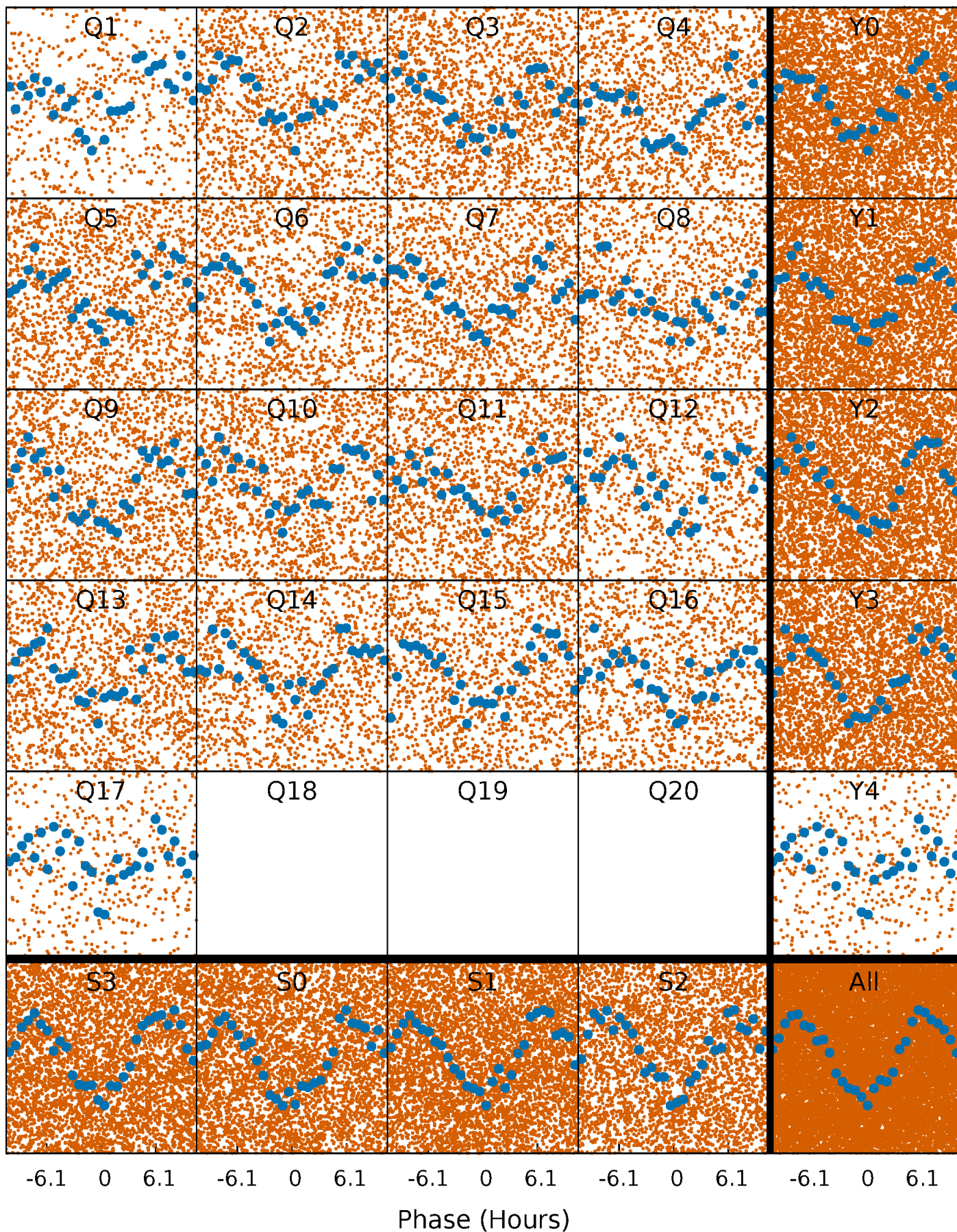


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



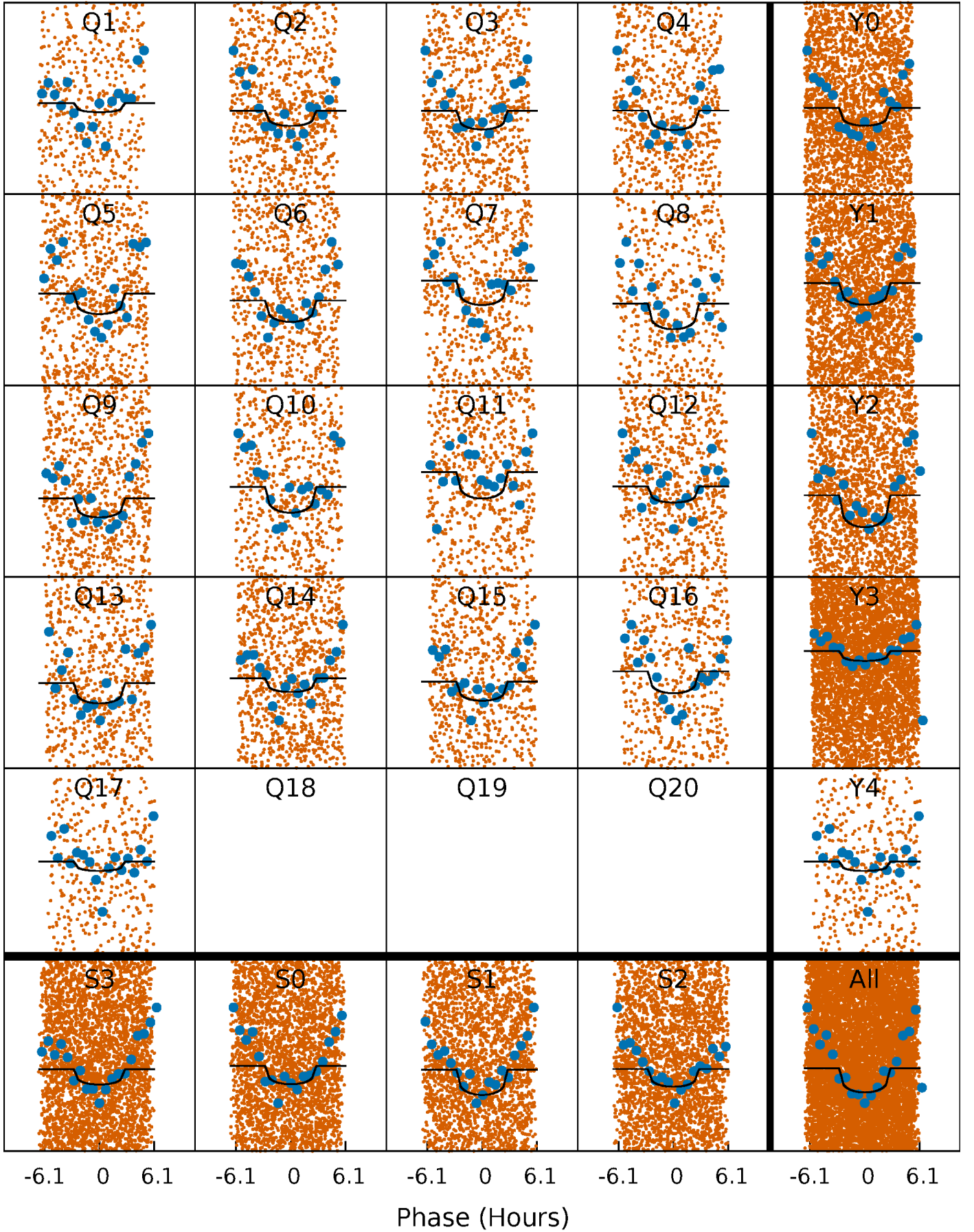
PDC Quarter-Phased Transit Curves

TCE 007983320-02 P= 1.210409 Days $T_0=132.104314$ (BKJD)



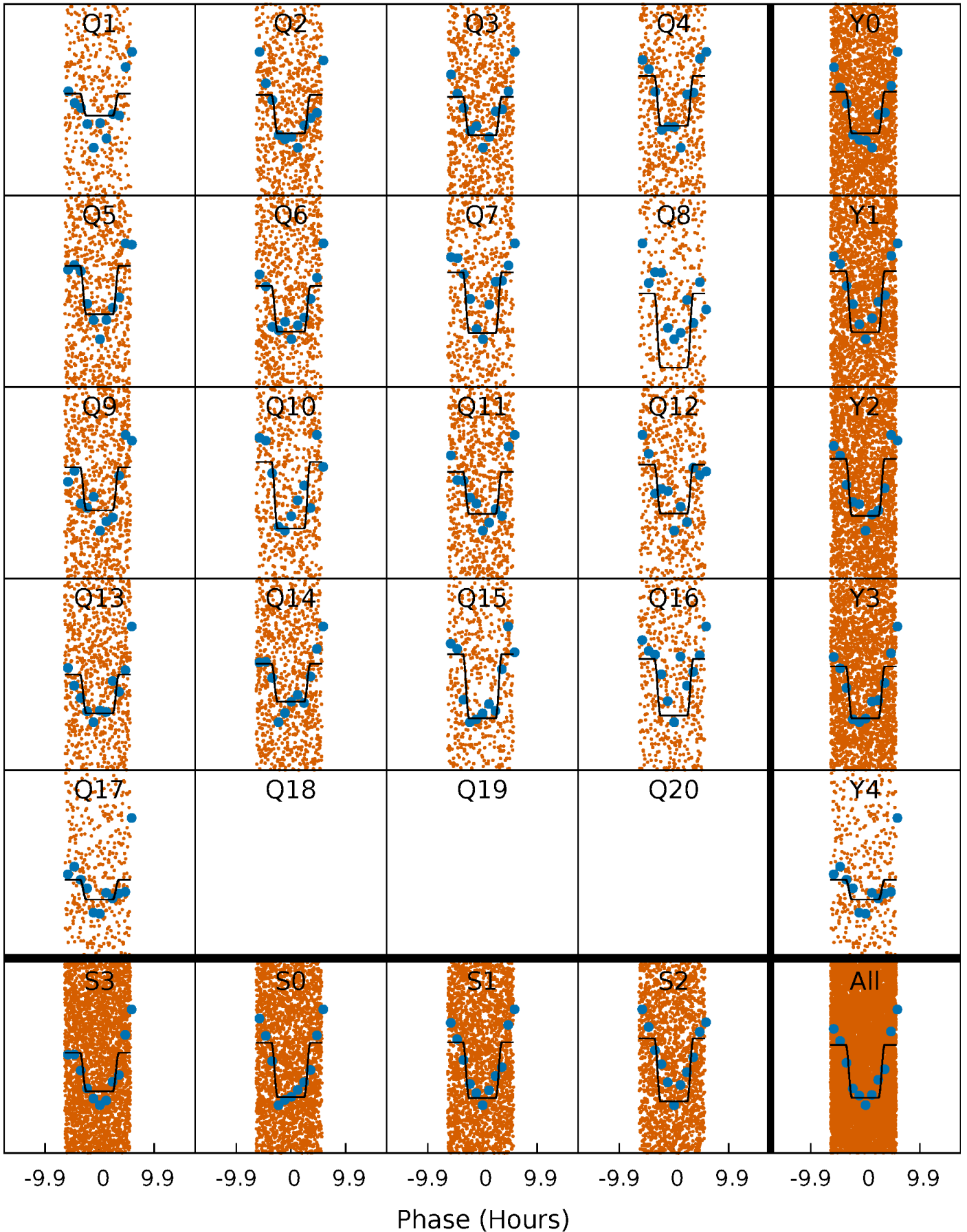
DV Quarter-Phased Transit Curves

TCE 007983320-02 $P = 1.210409$ Days $T_0 = 132.104314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

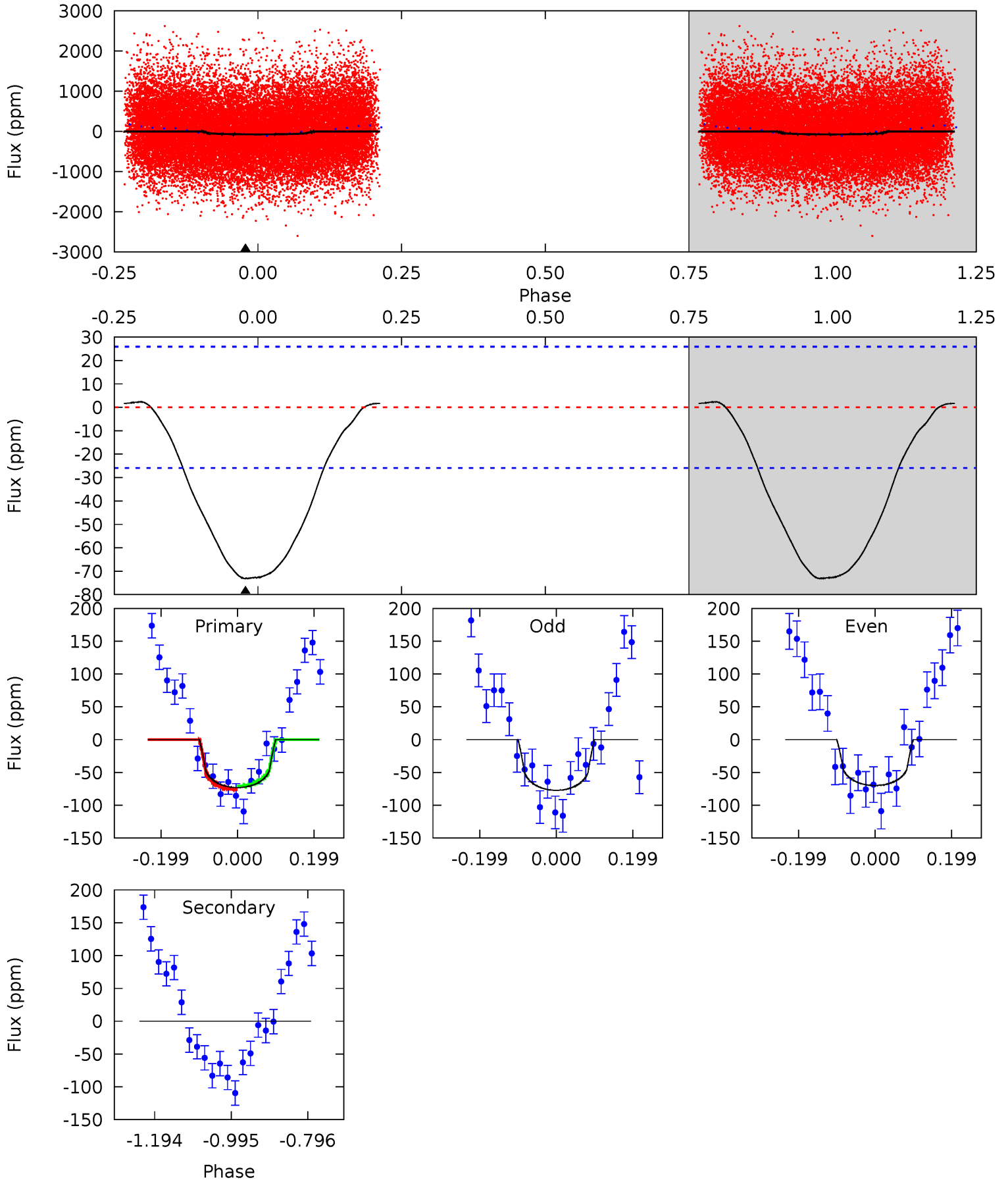
TCE 007983320-02 P= 1.210449 Days $T_0=132.082064$ (BKJD)



DV Model-Shift Uniqueness Test

007983320-02, P = 1.210409 Days, E = 130.893905 Days

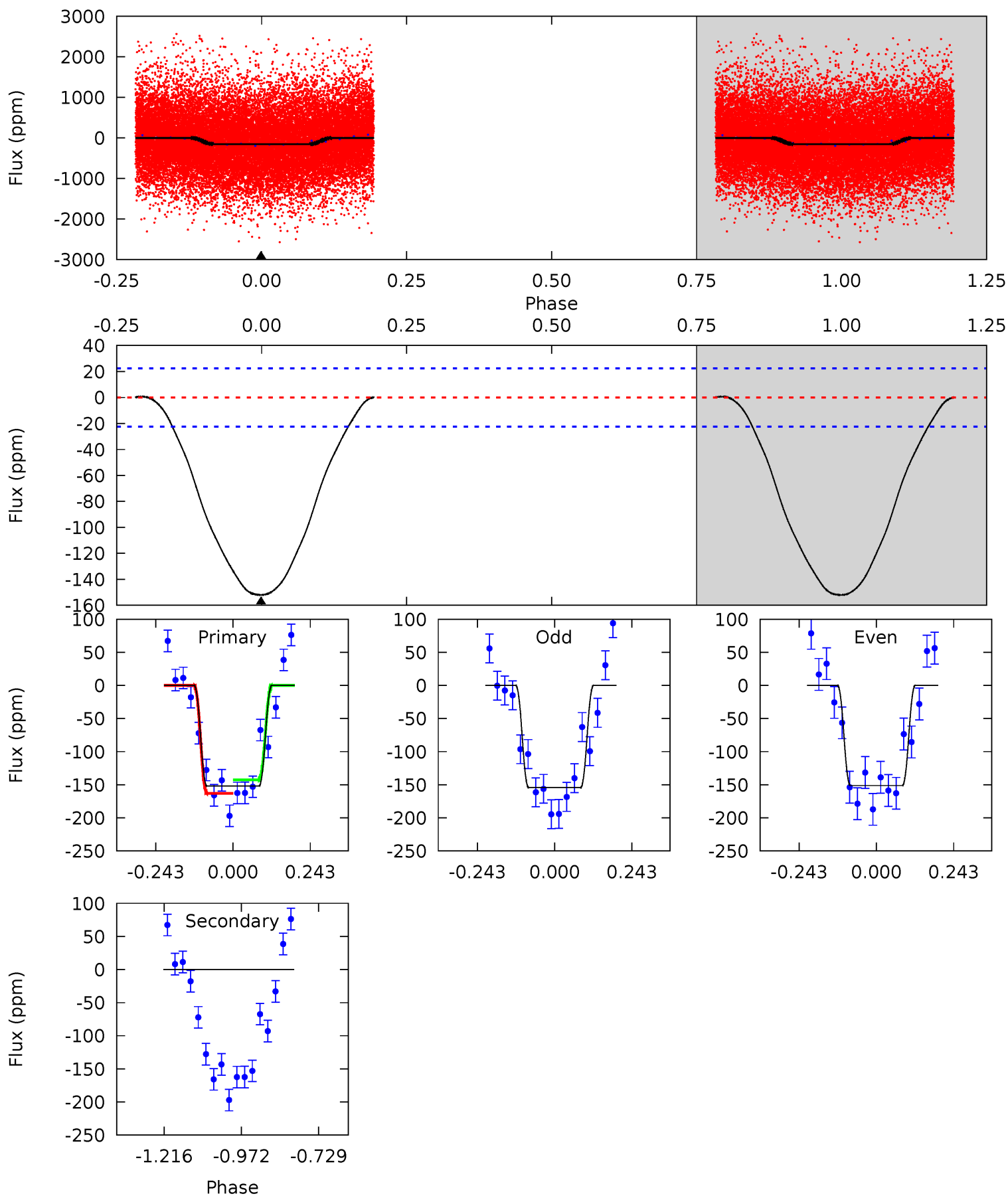
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	0	0	0	4.42	1.28	0.46	12.5	12.5	0	0	0.63	1.05	0.03	0.45



Alt Model-Shift Uniqueness Test

007983320-02, P = 1.210449 Days, E = 130.871615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	0	0	0	4.37	1.17	0.17	29.7	29.7	0	0	0.29	0.99	0.00	1.95



Stellar Parameters For KIC 007983320

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 007983320-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 6	$1.45^{+1.34}_{-0.99}$	2396^{+116}_{-109}	-2753^{+5775}_{-783}	$-0.012^{+0.991}_{-1.500}$
Alt.	0 ± 5	$1.81^{+1.36}_{-1.18}$	2390^{+112}_{-119}	-2721^{+5643}_{-463}	$0.004^{+0.800}_{-0.663}$

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

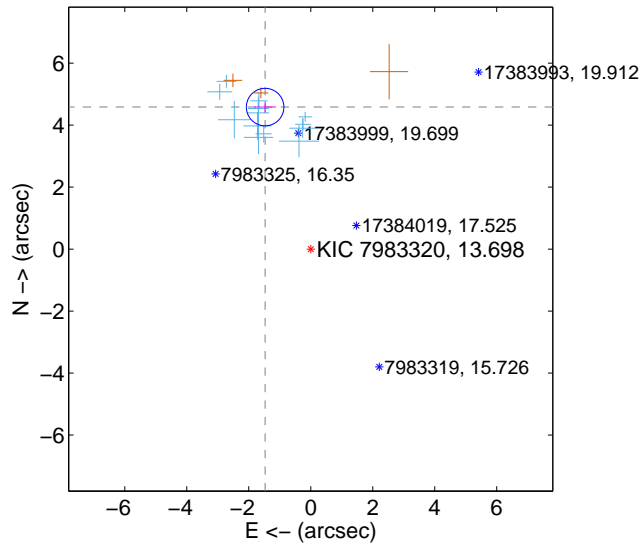
Supplemental centroid analysis for 007983320-02. Kepler magnitude: 13.70. Transit SNR 9.76

There are 13 quarters with good PRF difference image offsets

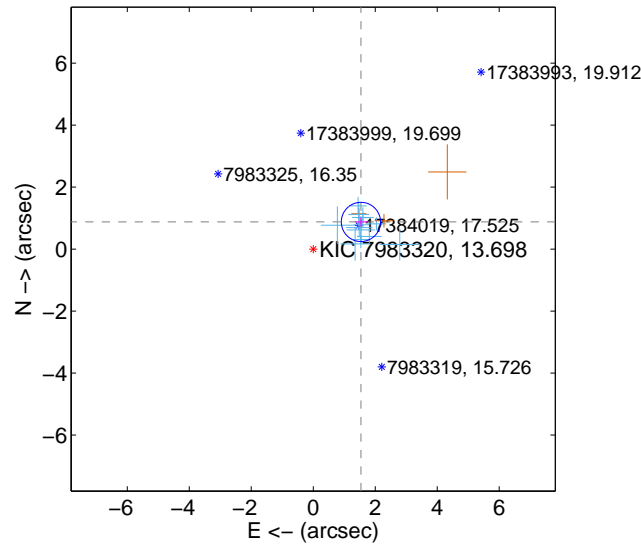
The OOT PRF centroid is offset from the target star catalog position by about 3.70 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.814 ± 0.202	23.87	1.472 ± 0.355	4.583 ± 0.186
PRF-fit source offset from KIC position	1.771 ± 0.211	8.40	-1.538 ± 0.196	0.877 ± 0.148
photometric centroid source offset	3.56 ± 0.98	3.61	-1.32 ± 1.01	3.30 ± 0.98

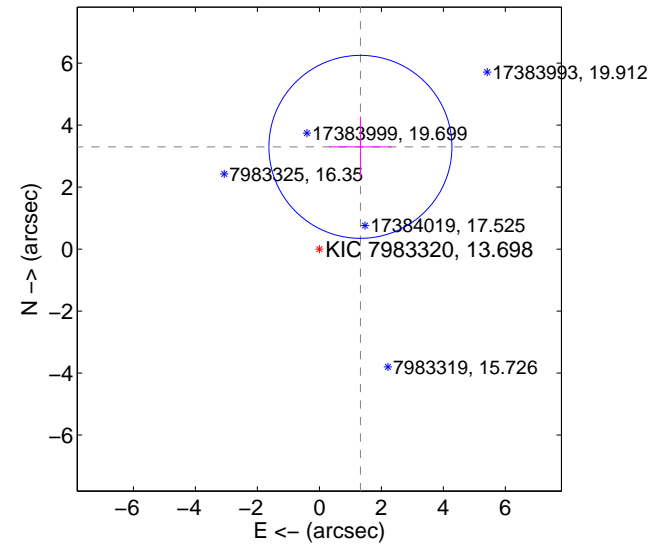
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

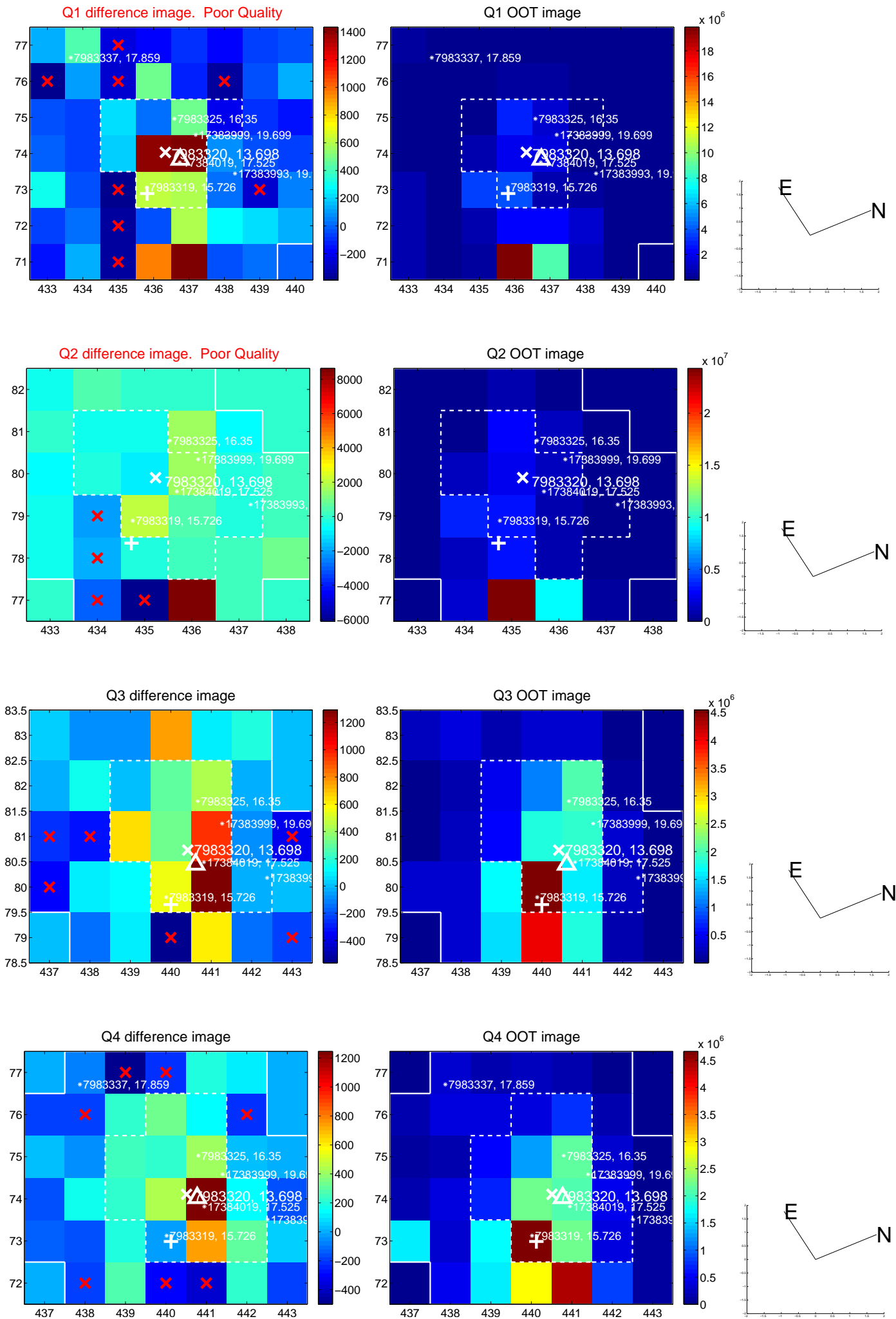


offset from photometric centroids

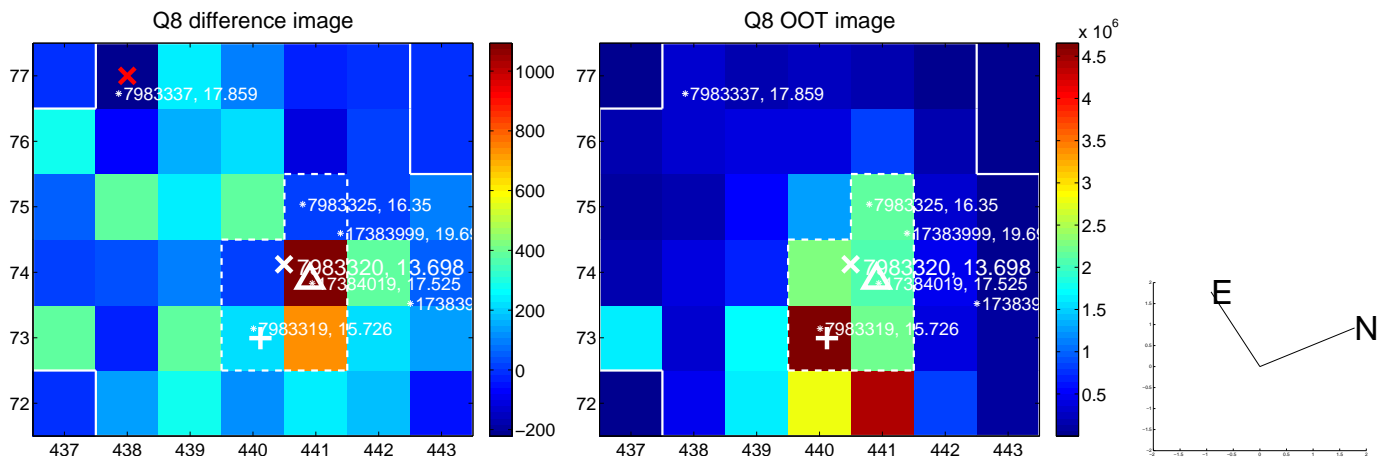
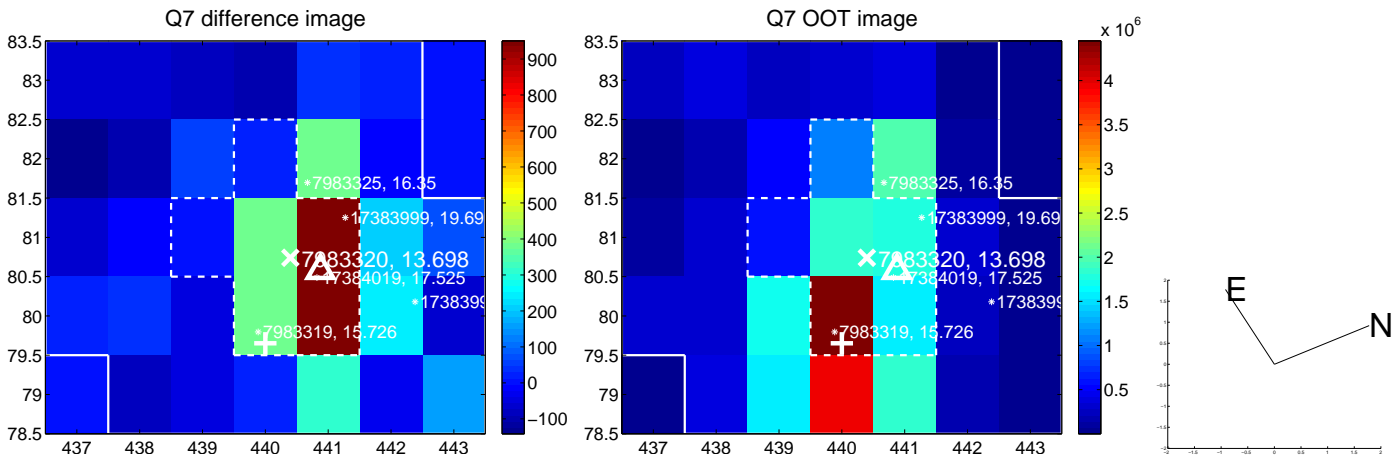
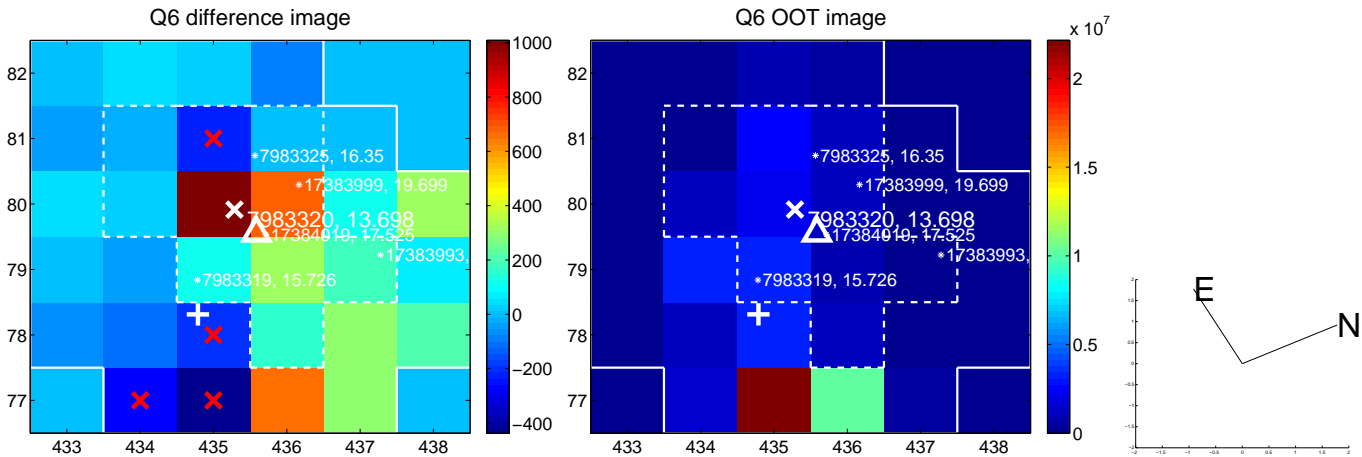
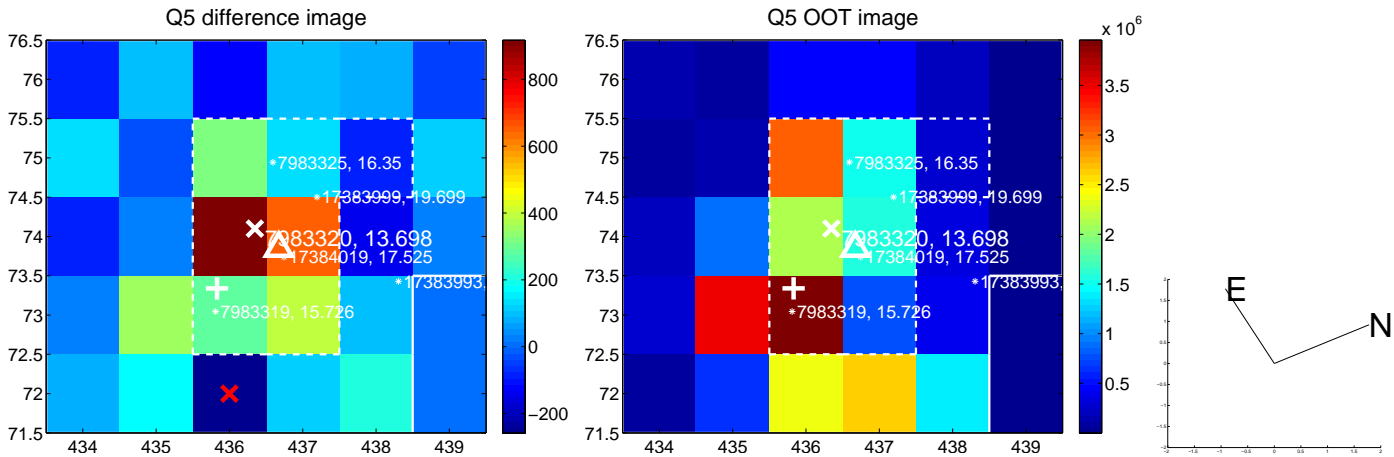


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

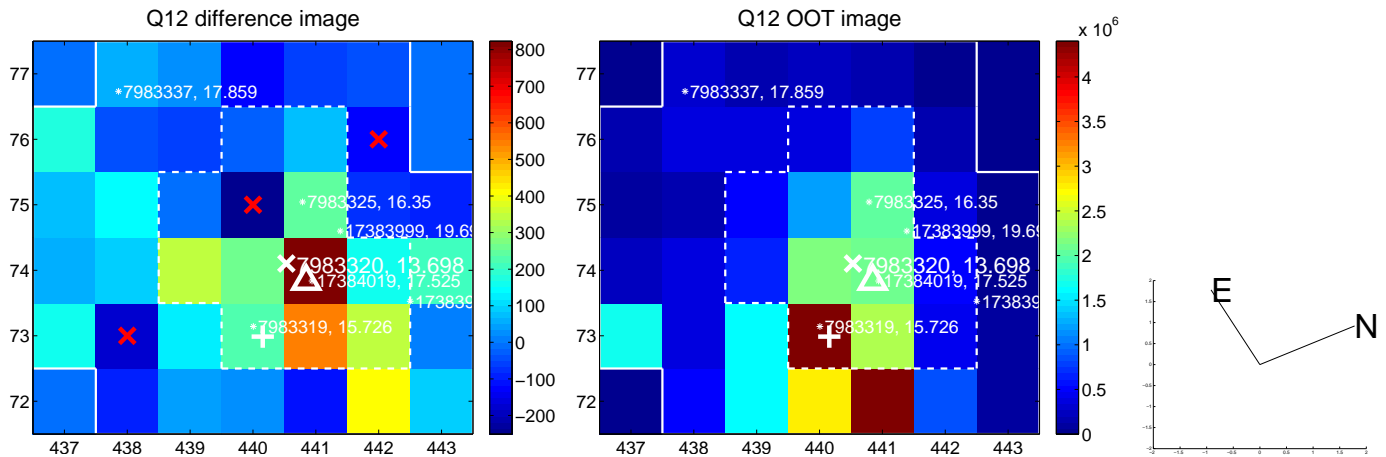
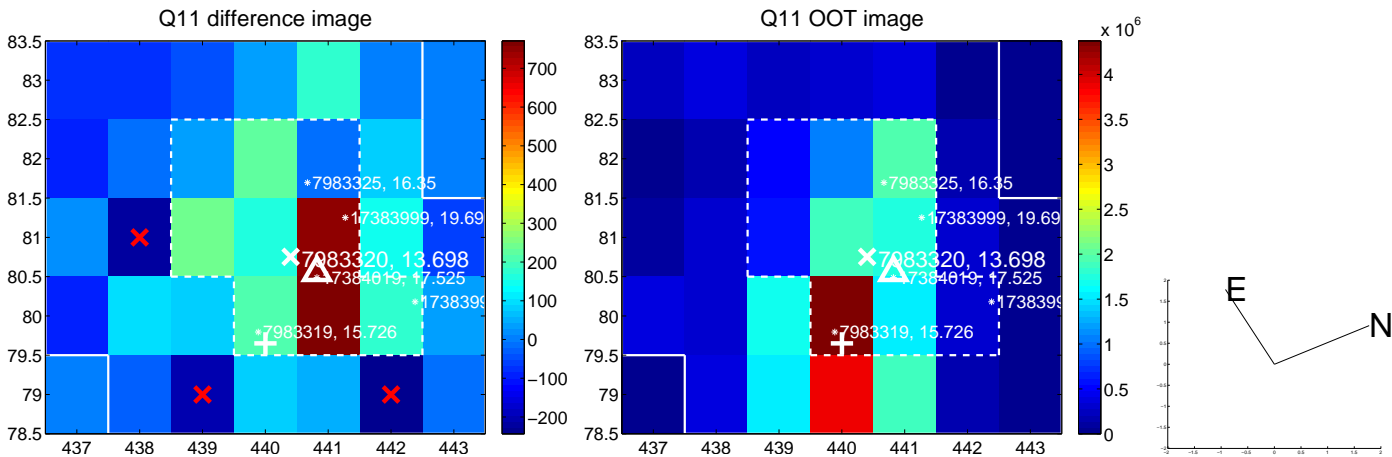
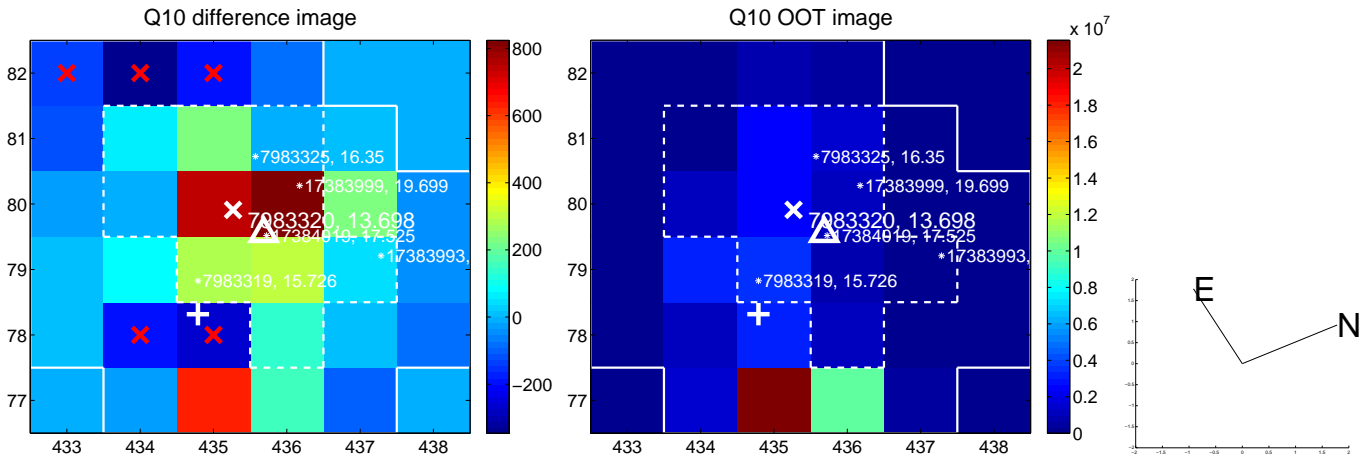
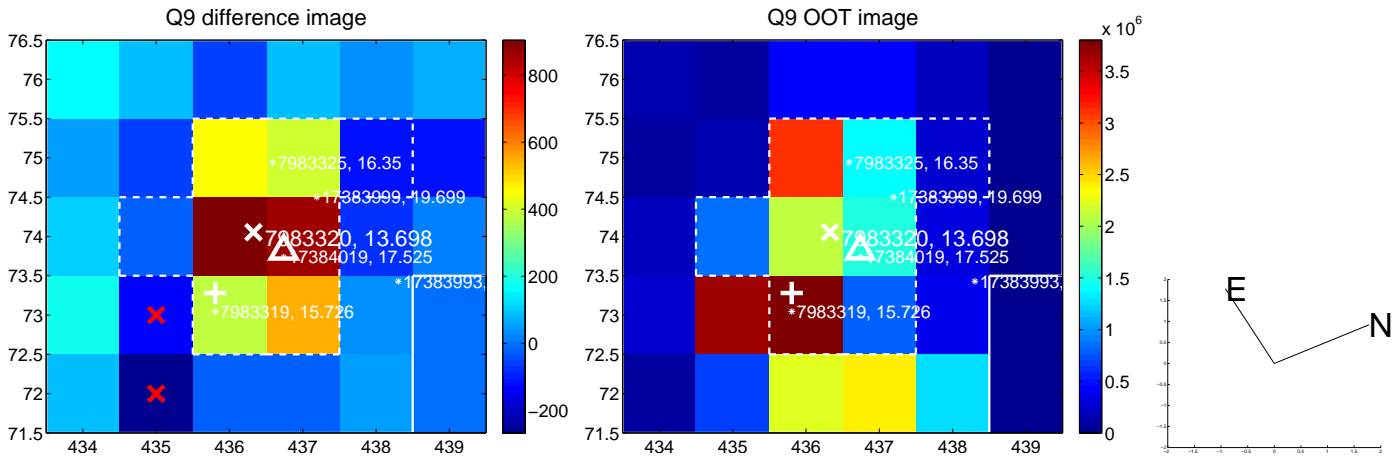
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



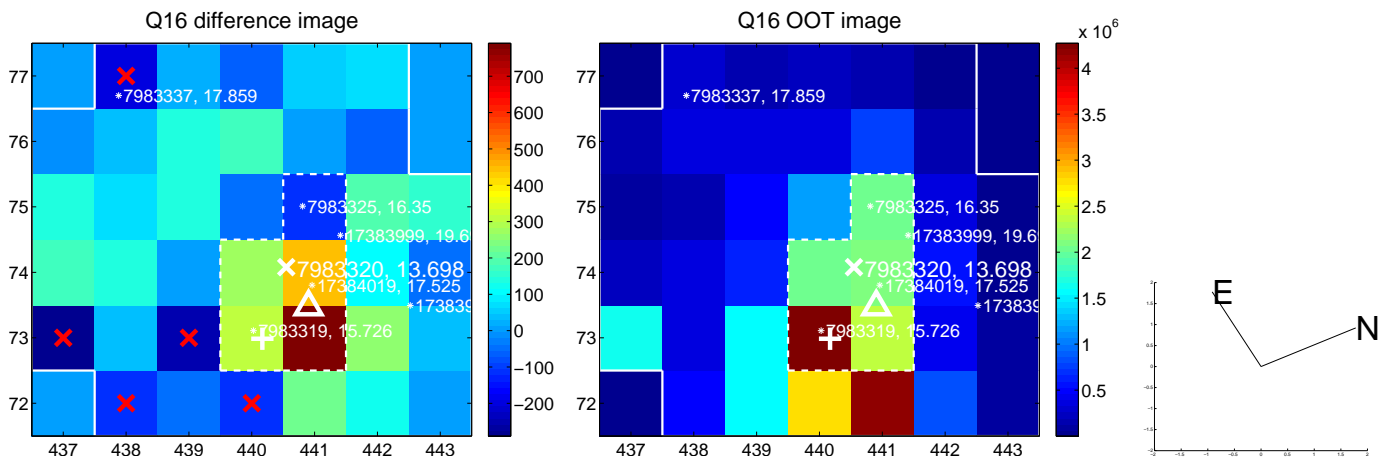
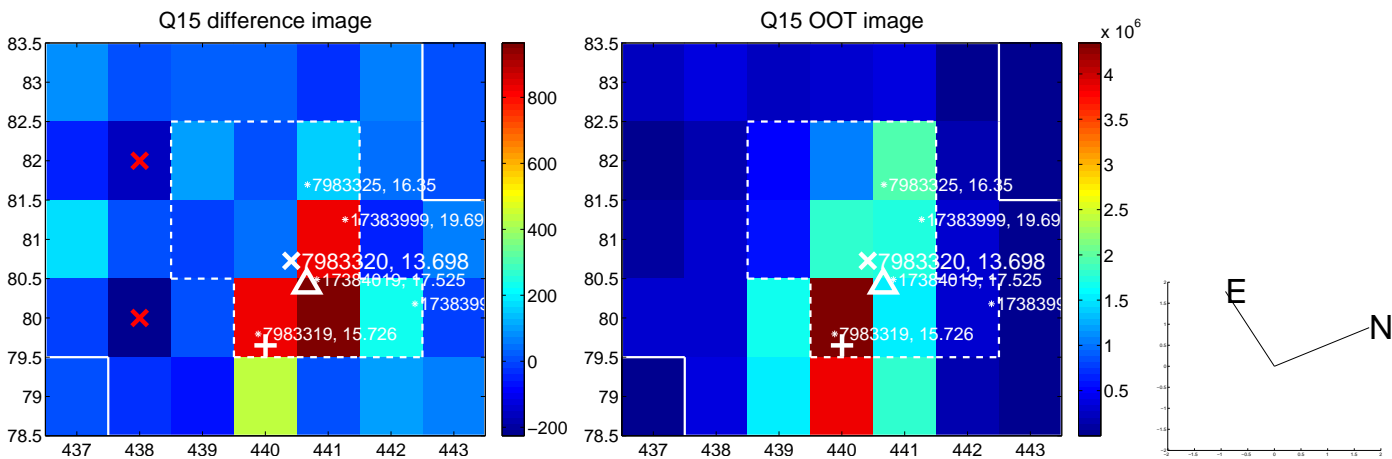
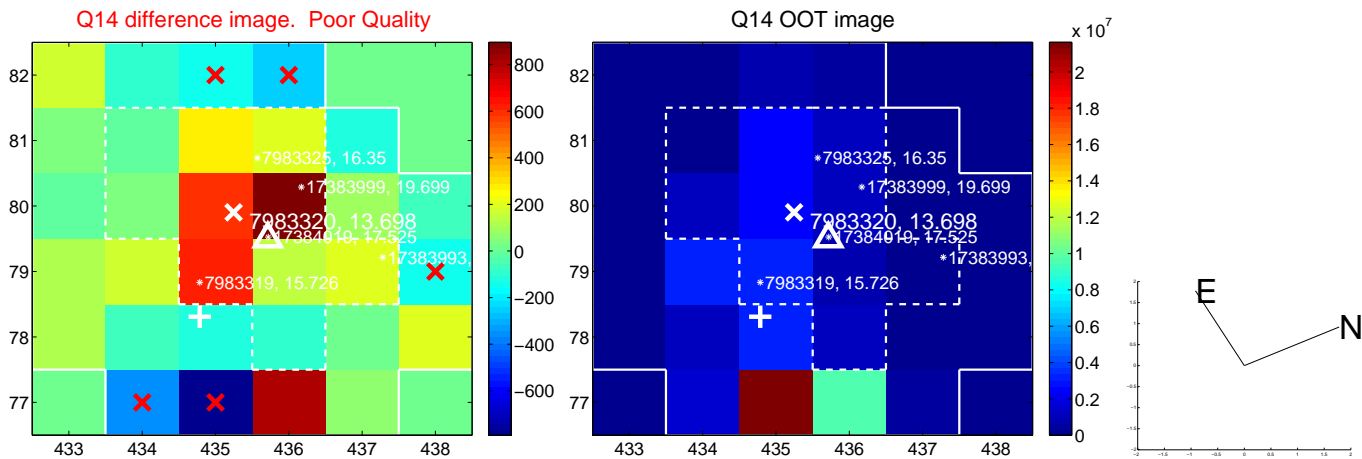
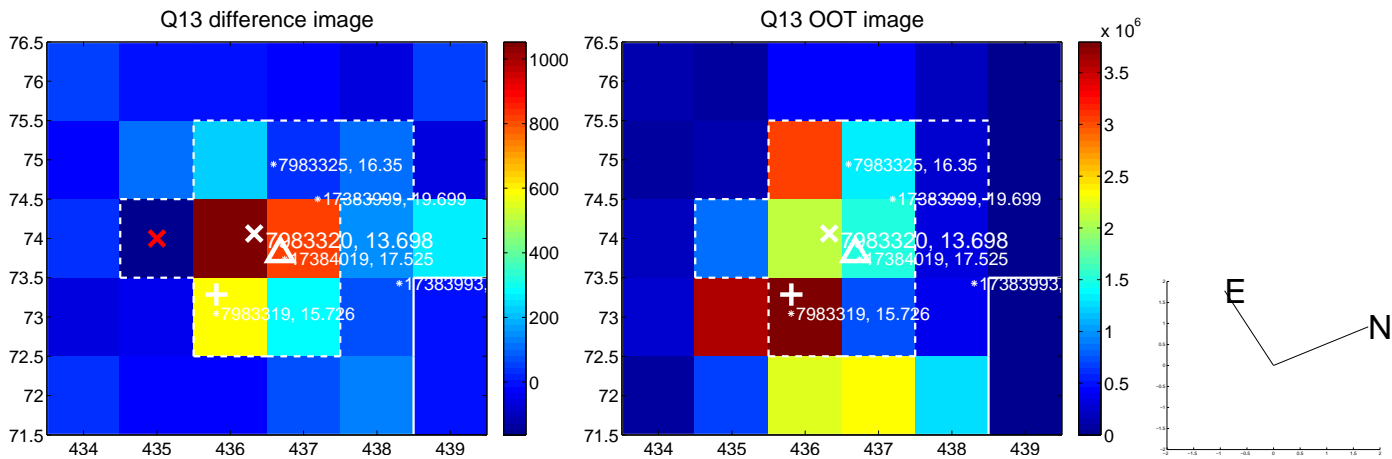
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



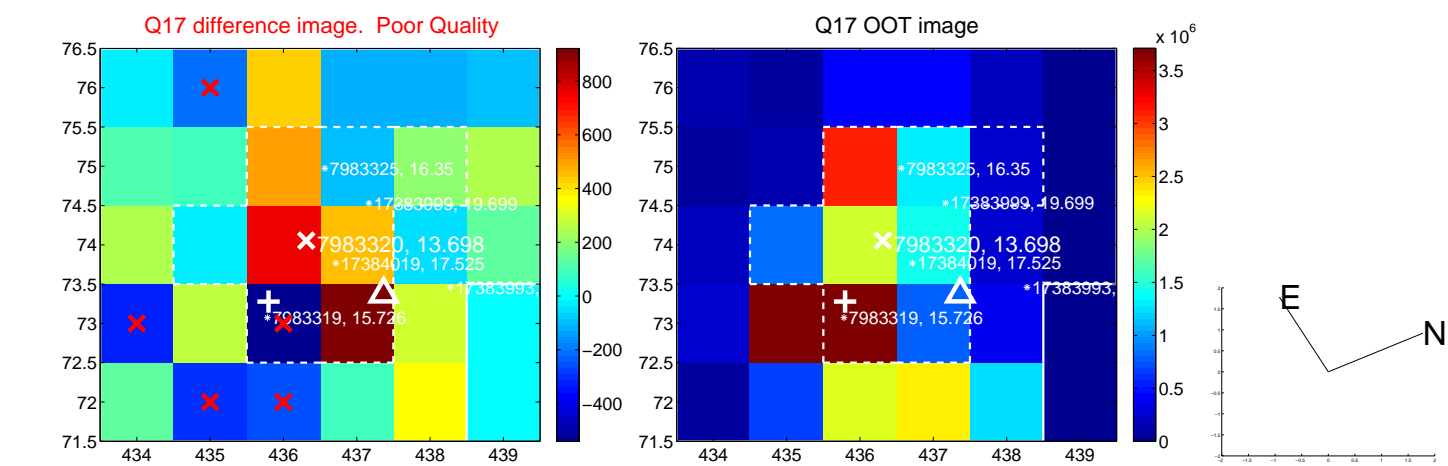
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



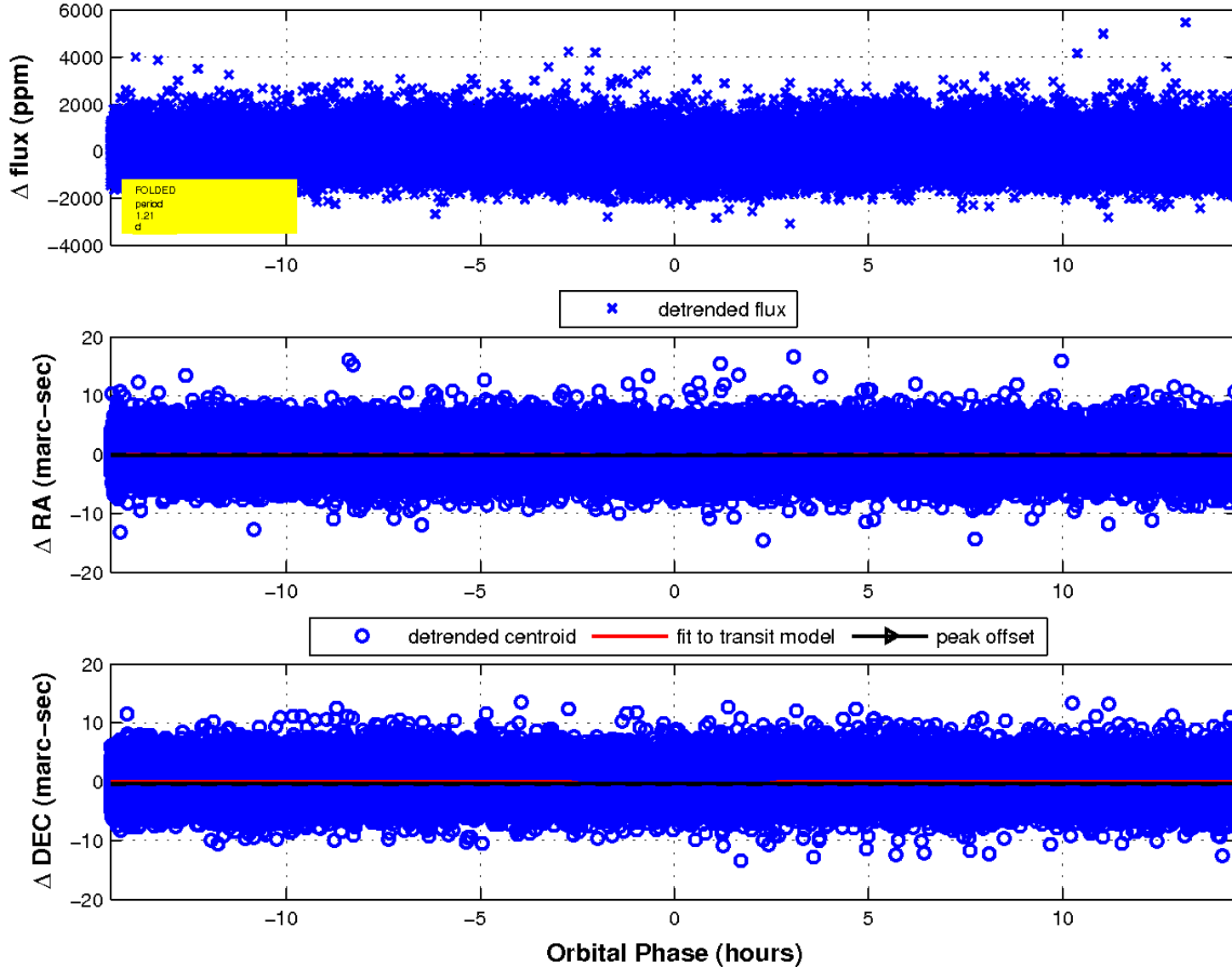
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

