

KIC 007583437

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})
007583437-01	OBS	No	0.717523	131.951966	45.7	2.423	11.5	16.1	10.32	6932	8.14	0.00
007583437-02	OBS	No	0.717519	131.603184	47.2	2.730	10.1	13.0	10.32	6932	8.27	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007583437-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007583437-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_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.

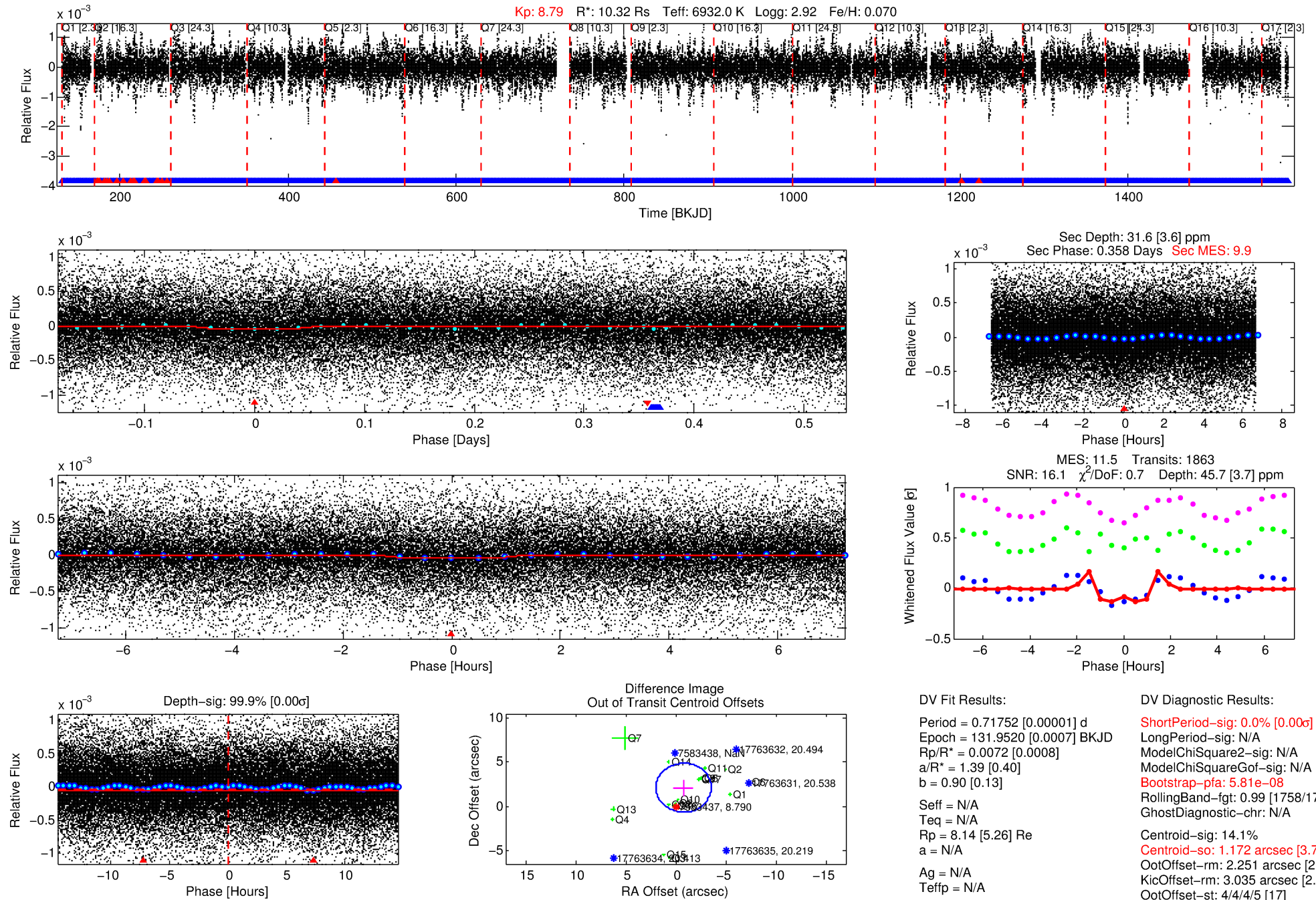
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007583437-01

No Significant Match Found

DV One-Page Summary

KIC: 7583437 Candidate: 1 of 2 Period: 0.718 d



DV Fit Results:

Period = 0.71752 [0.00001] d
Epoch = 131.9520 [0.0007] BKJD
Rp/R* = 0.0072 [0.0008]
a/R* = 1.39 [0.40]
b = 0.90 [0.13]
Seff = N/A
Teq = N/A
Rp = 8.14 [5.26] Re
a = N/A
Ag = N/A
Teffp = N/A

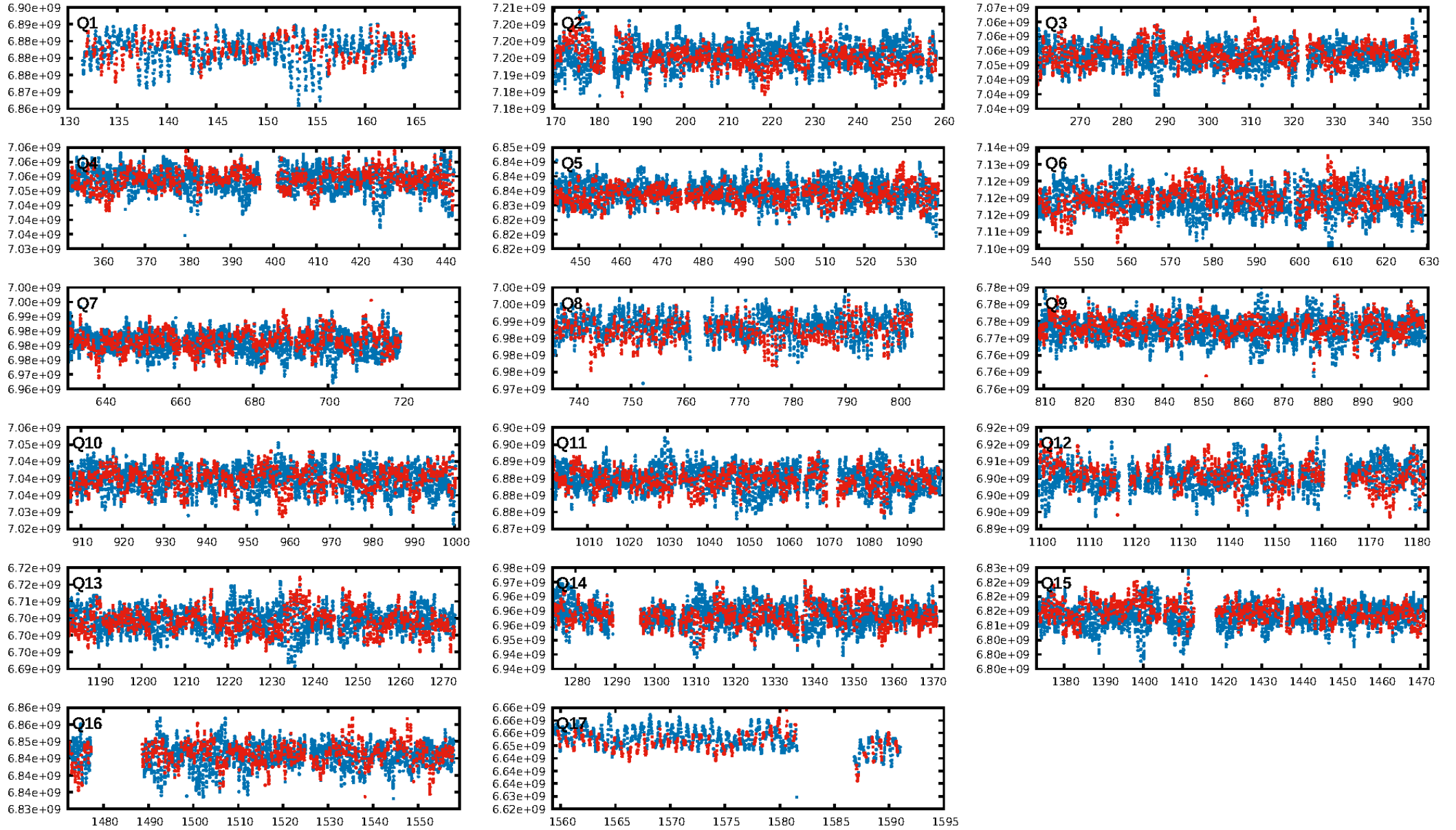
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.81e-08
RollingBand-fgt: 0.99 [1758/1779]
GhostDiagnostic-chr: N/A
Centroid-sig: 14.1%
Centroid-so: 1.172 arcsec [3.72σ]
OotOffset-rm: 2.251 arcsec [2.44σ]
KicOffset-rm: 3.035 arcsec [2.86σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

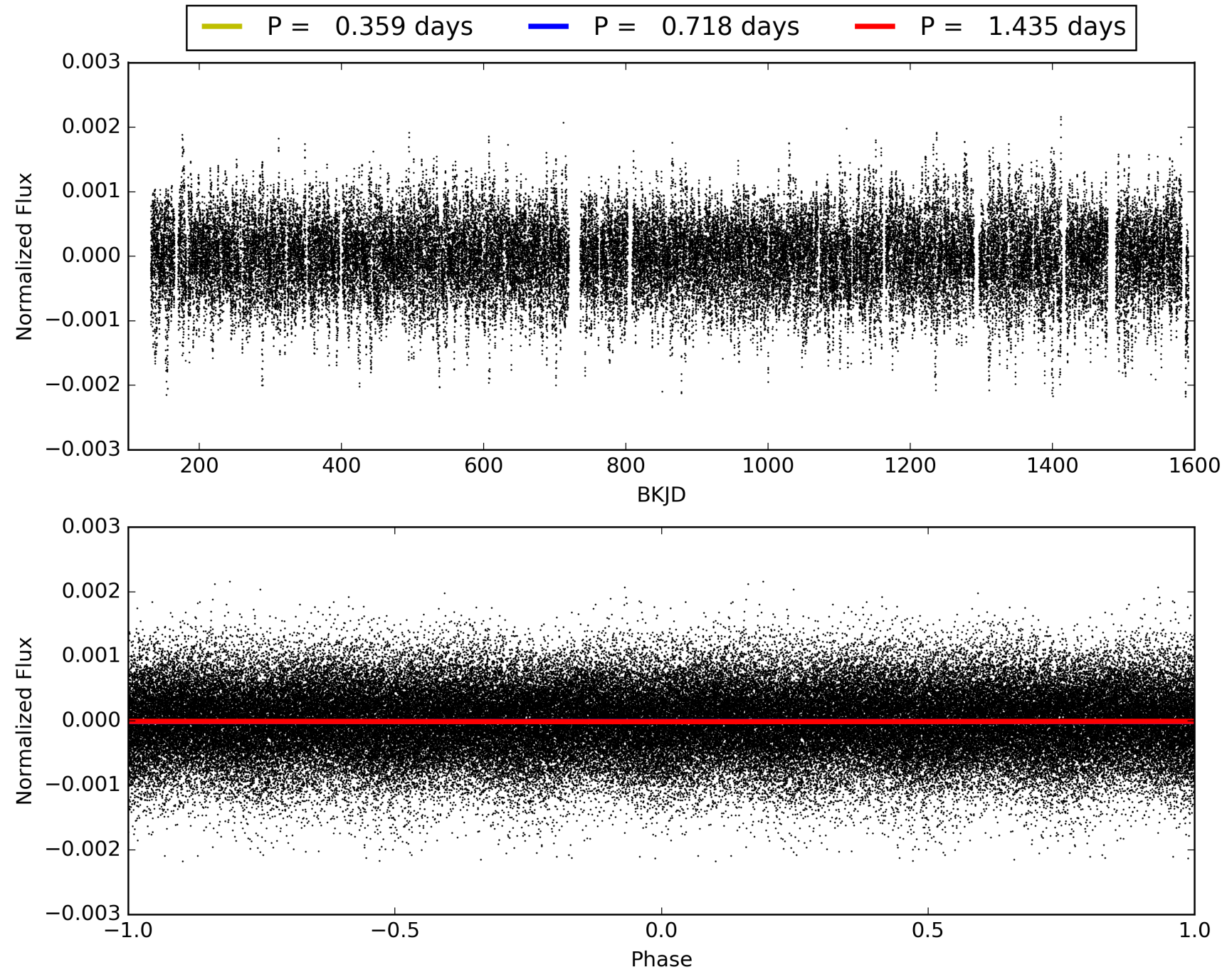
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:19:56 Z

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

TCE 007583437-01, PDC Light Curves

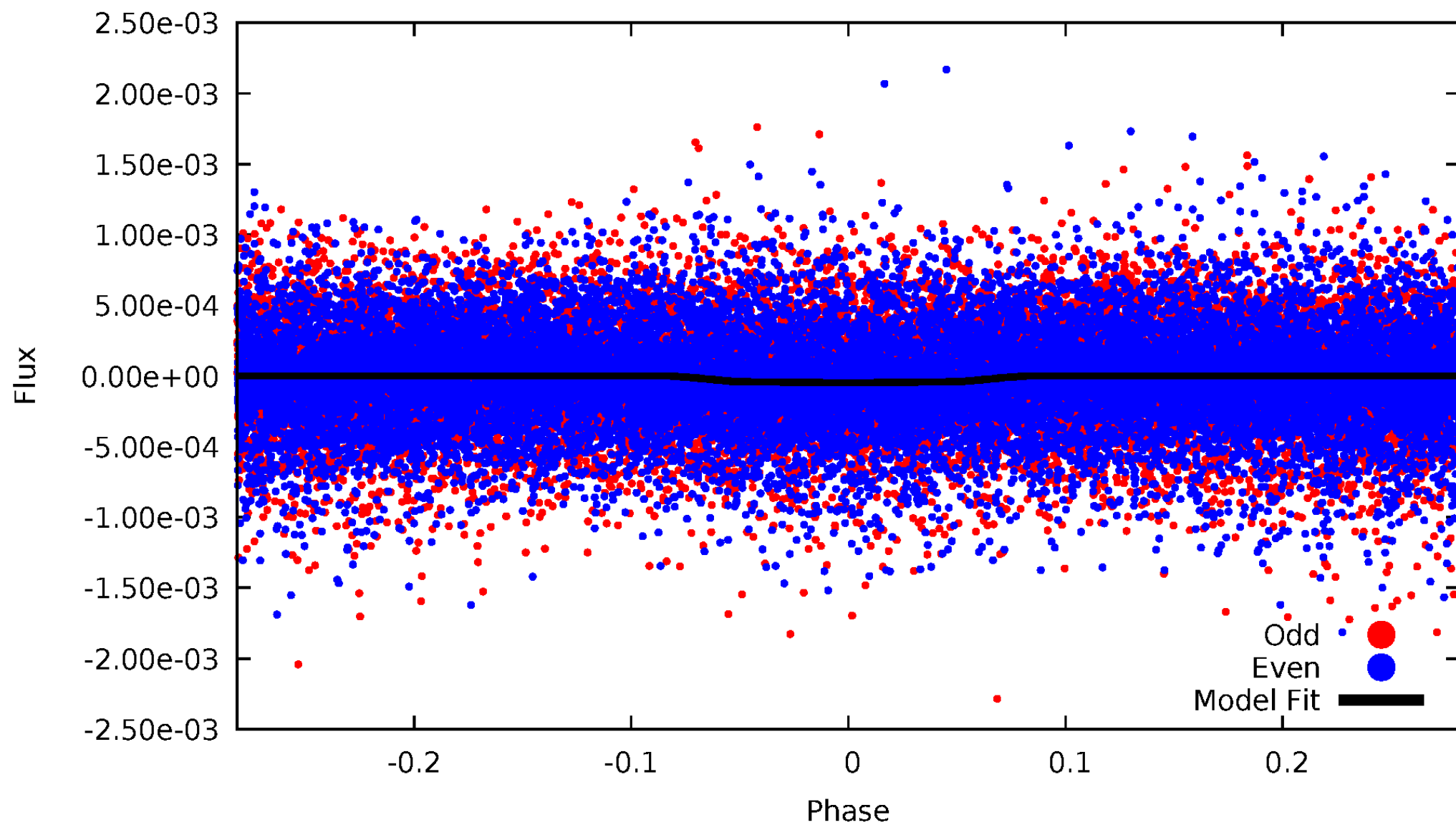


TCE 007583437-01



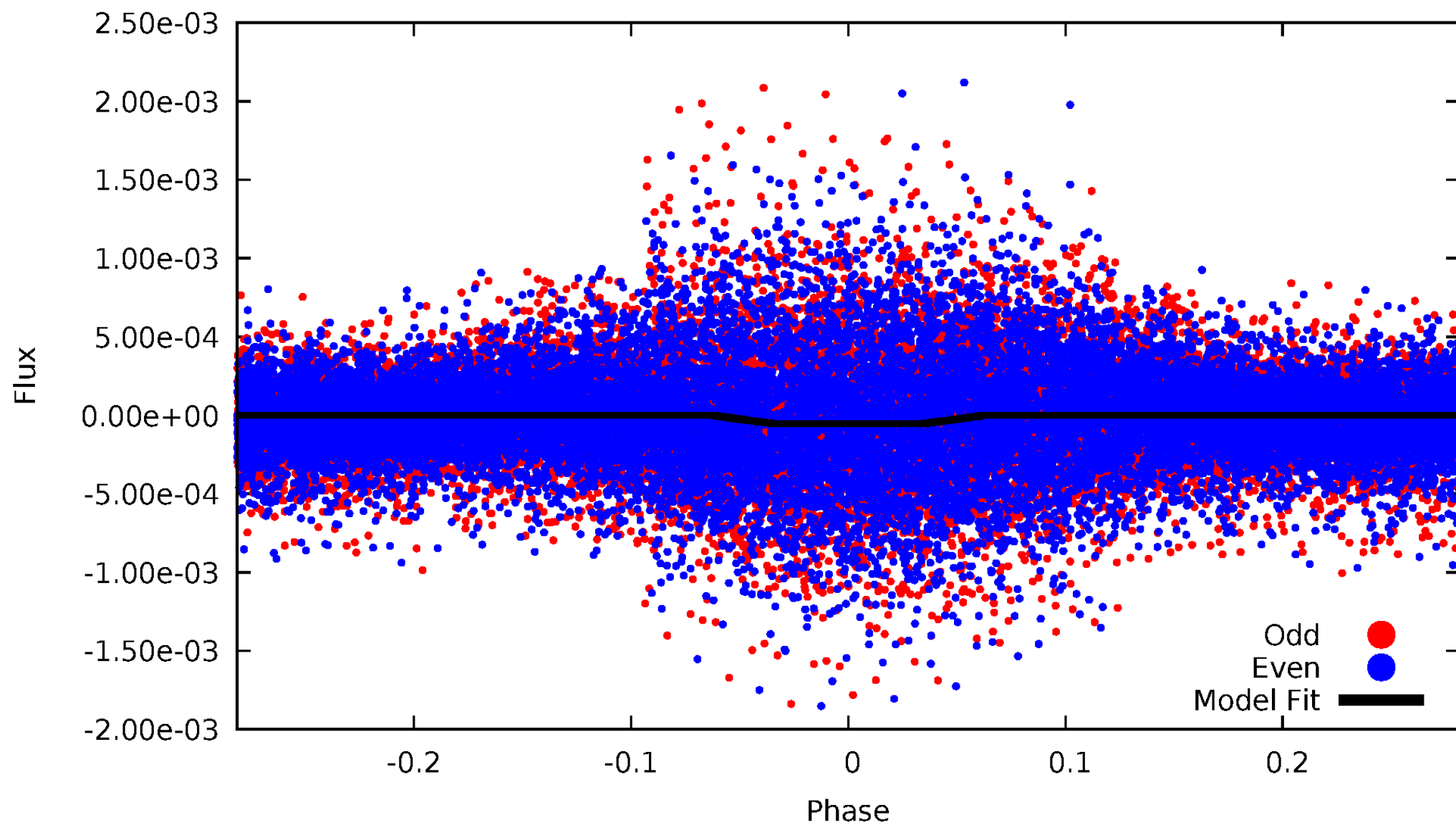
DV Odd/Even

TCE 007583437-01

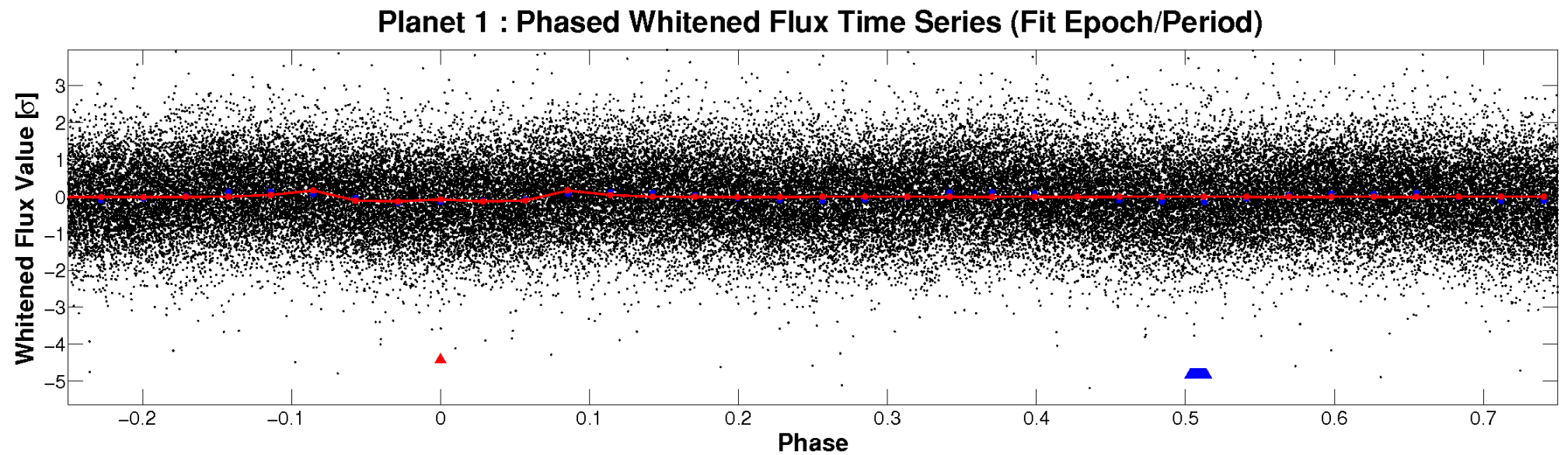
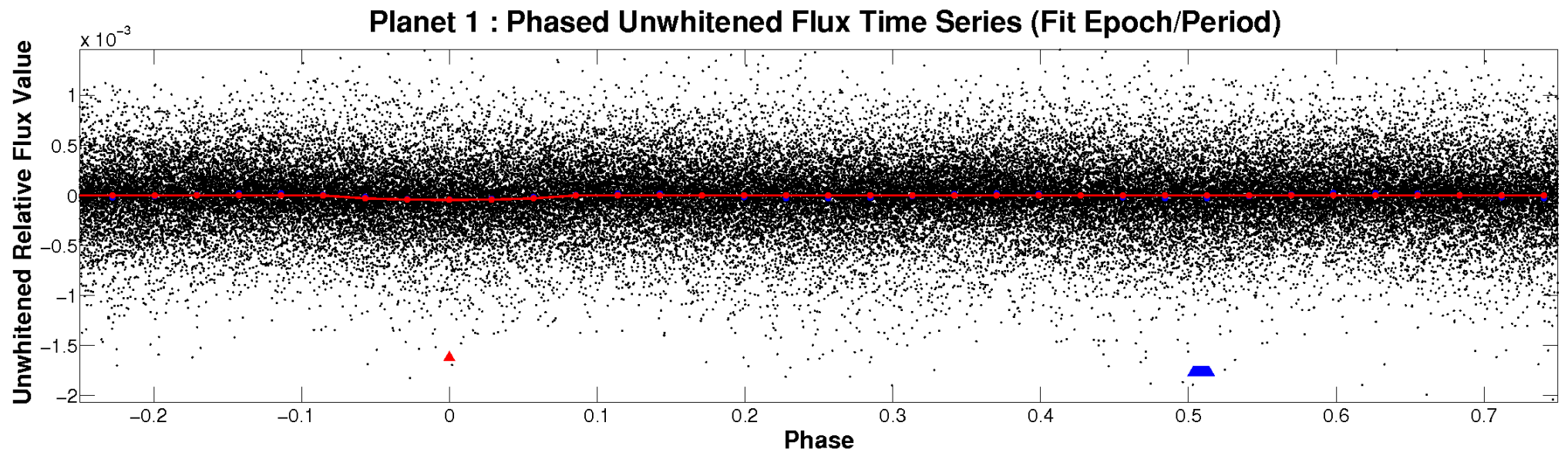


ALT Odd/Even

TCE 007583437-01

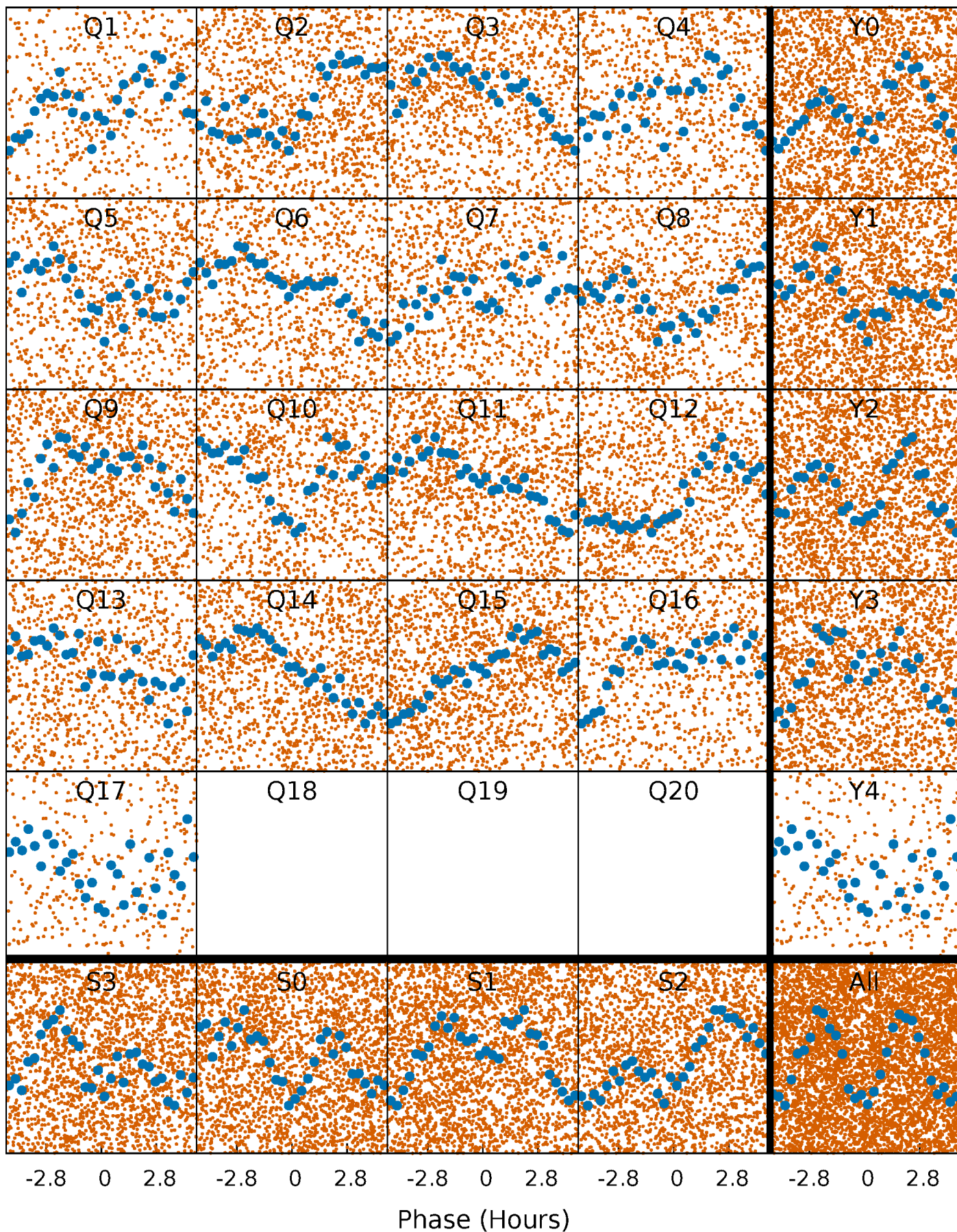


Non-Whitened Vs. Whitened Light Curve



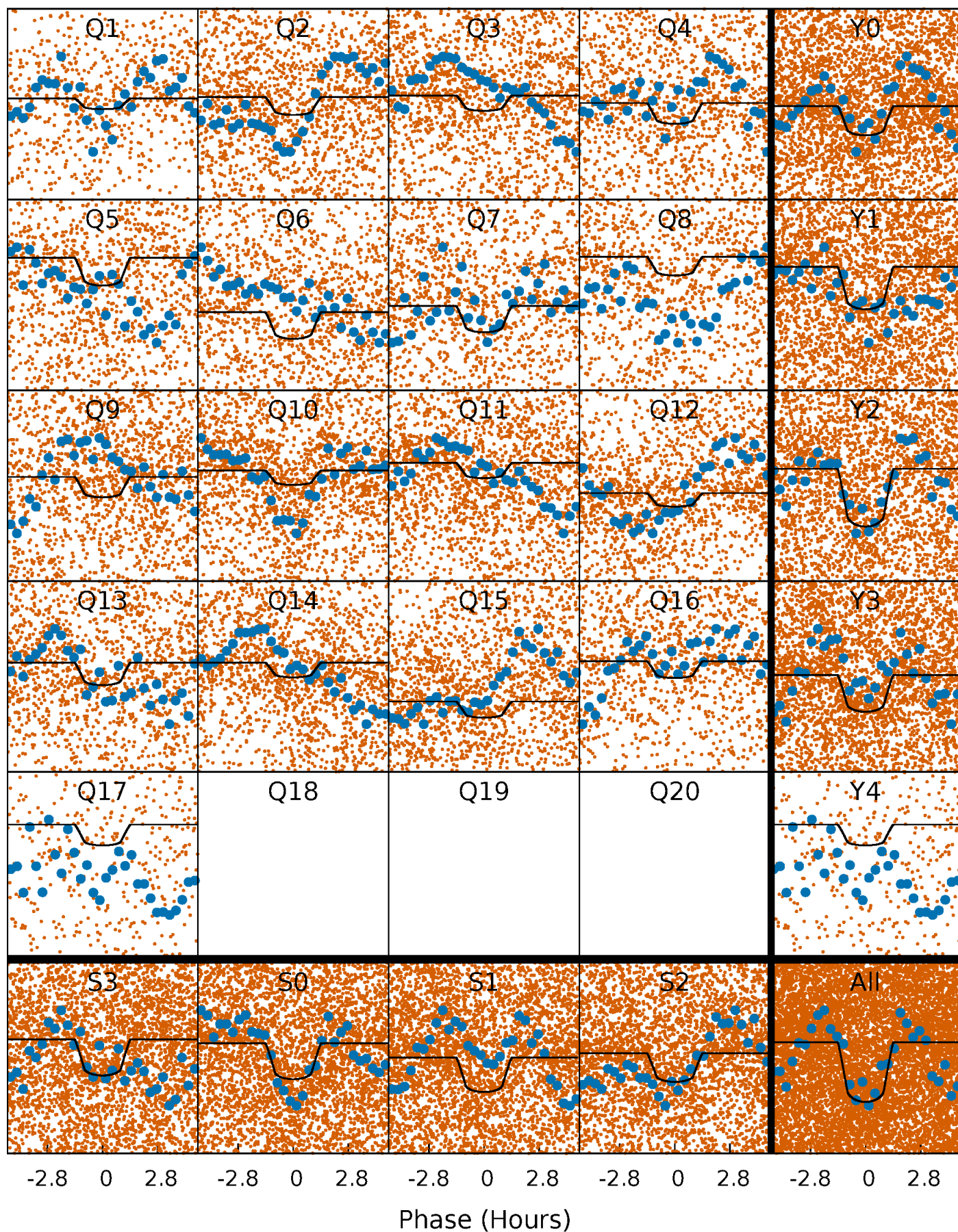
PDC Quarter-Phased Transit Curves

TCE 007583437-01 P= 0.717523 Days $T_0=131.951966$ (BKJD)



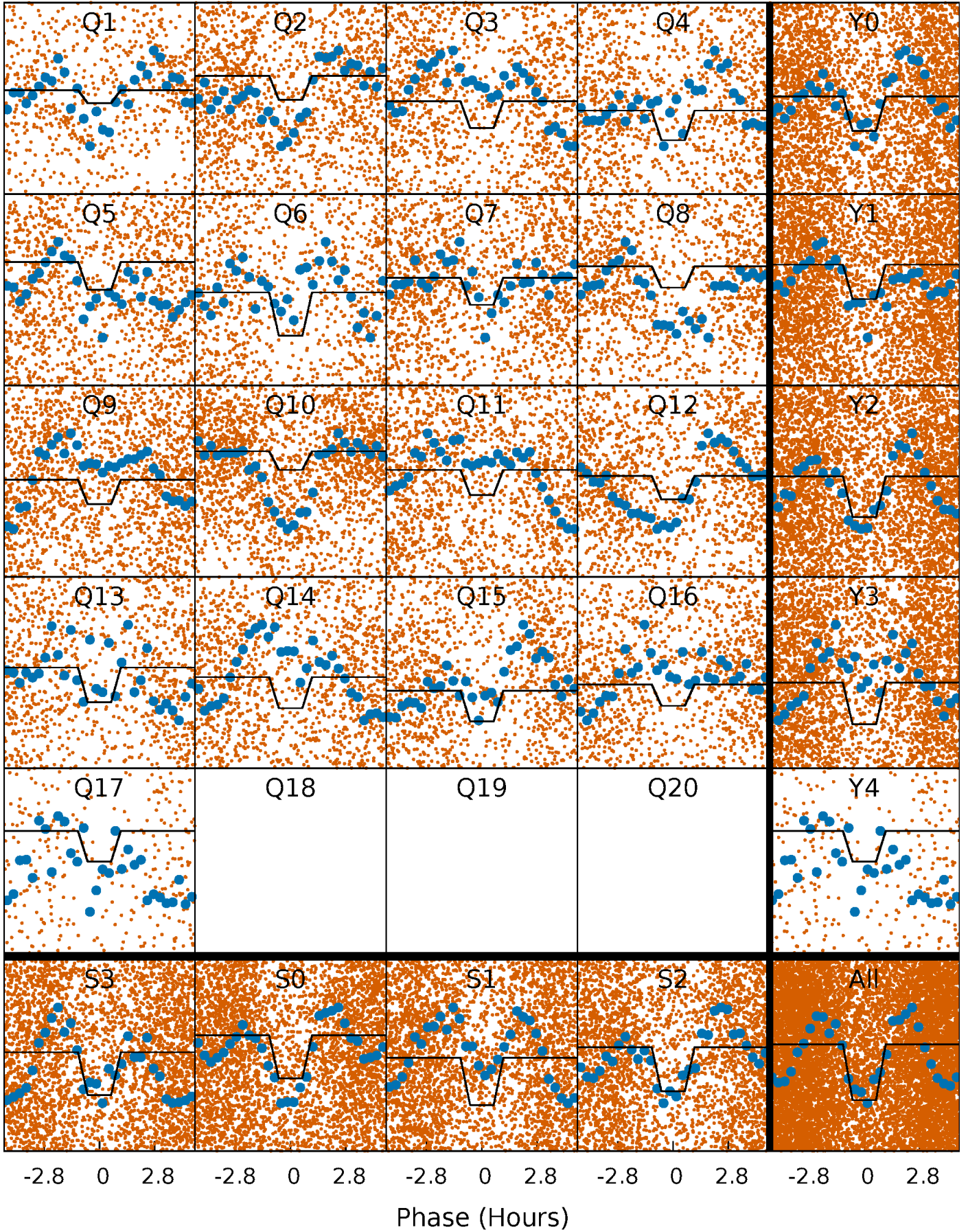
DV Quarter-Phased Transit Curves

TCE 007583437-01 P= 0.717523 Days $T_0=131.951966$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

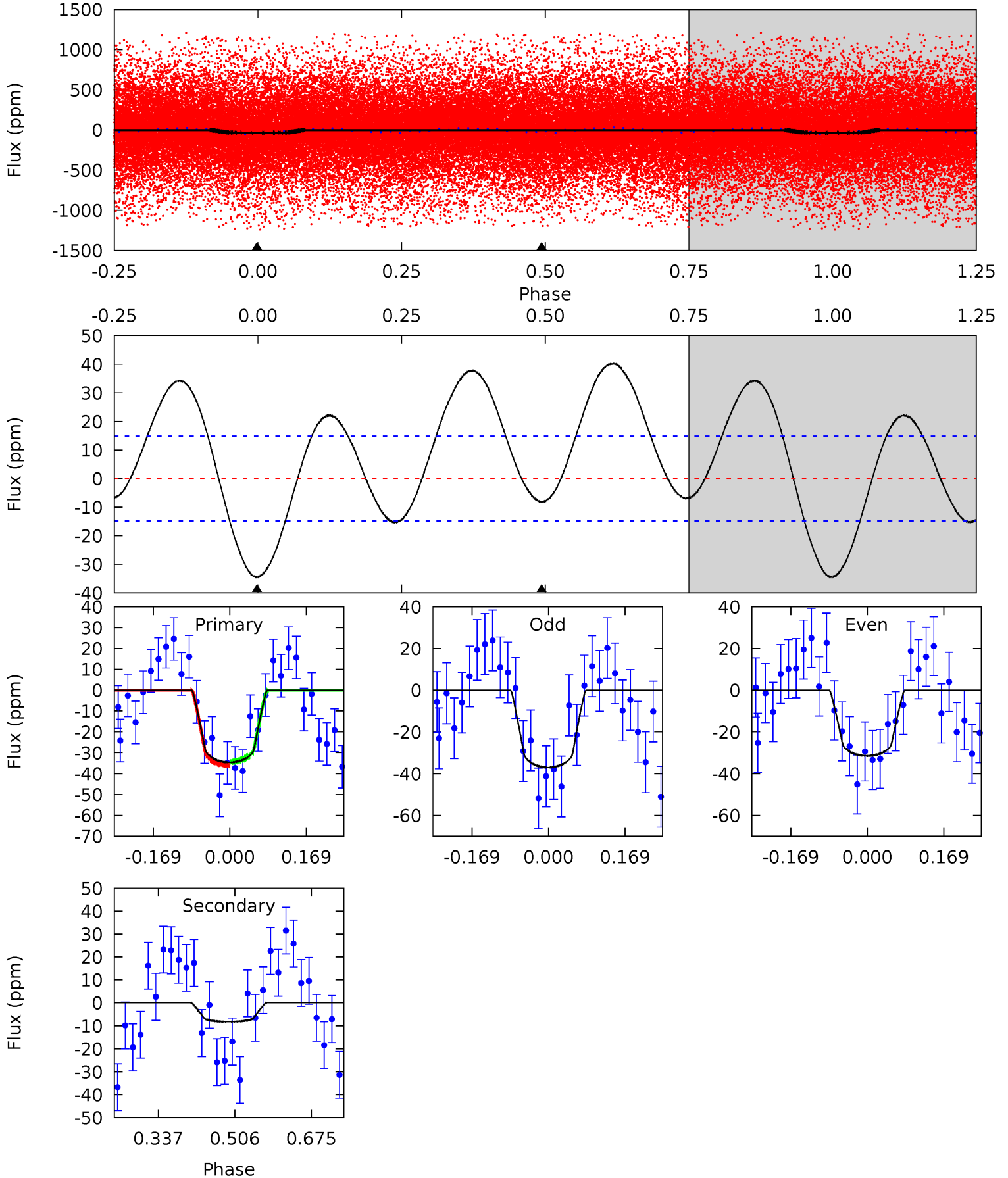
TCE 007583437-01 P= 0.717520 Days $T_0=131.951717$ (BKJD)



DV Model-Shift Uniqueness Test

007583437-01, P = 0.717523 Days, E = 131.234443 Days

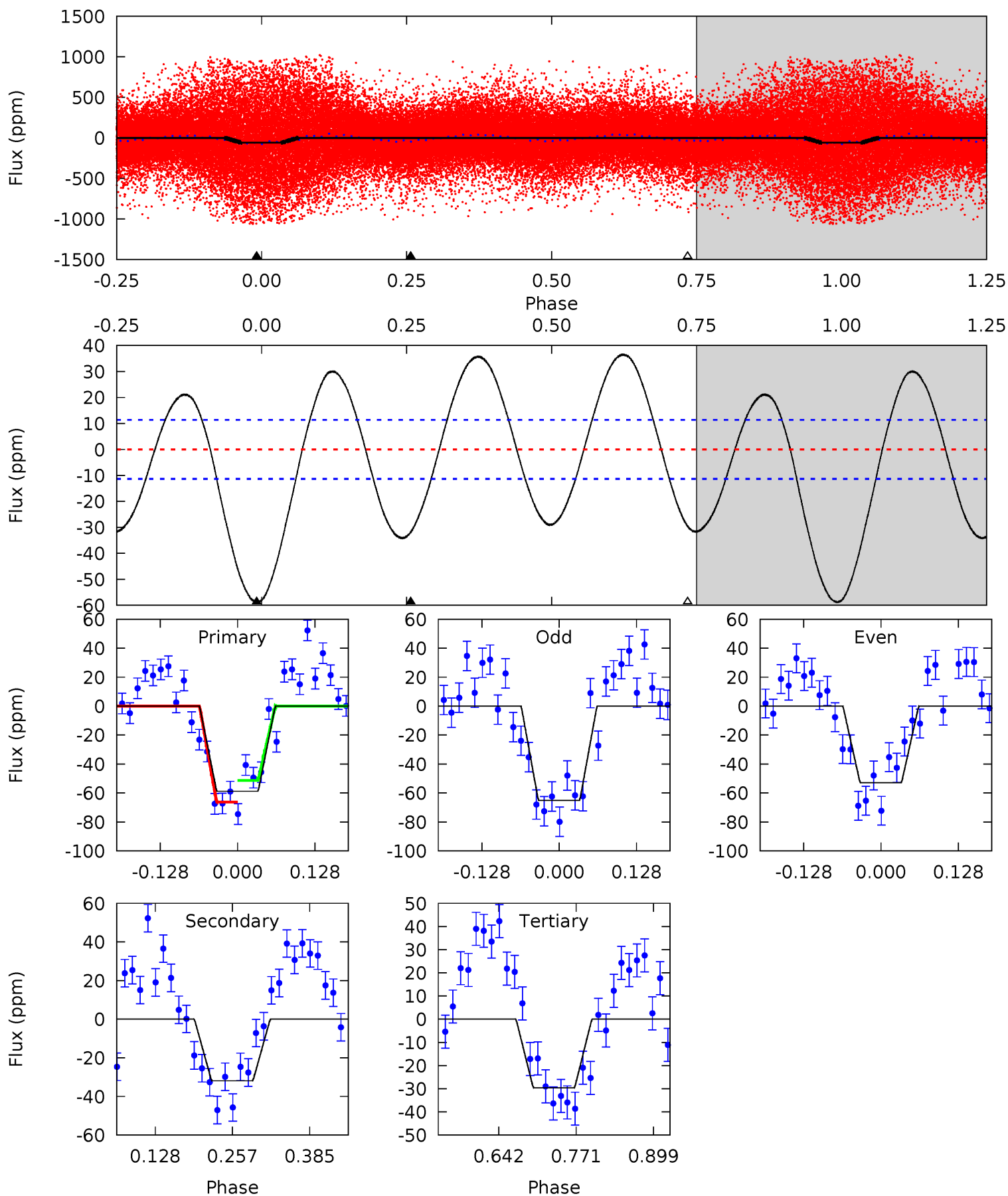
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	2.50	0	0	4.45	1.38	3.48	10.4	10.4	2.50	2.50	0.85	1.05	0.54	0.23



Alt Model-Shift Uniqueness Test

007583437-01, P = 0.717520 Days, E = 131.234197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	12.7	11.8	0	4.51	1.52	8.91	11.6	23.4	0.90	12.7	2.40	0.82	0.38	3.00



Stellar Parameters For KIC 007583437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6932^{+158}_{-193}	$2.923^{+0.630}_{-0.070}$	$0.070^{+0.200}_{-0.550}$	$10.322^{+1.162}_{-6.582}$	$3.255^{+0.073}_{-1.311}$	$0.004^{+0.044}_{-0.001}$
	+2%/-3%	+22%/-2%	+286%/-786%	+11%/-64%	+2%/-40%	+1066%/-24%
Source	PHO1	FLK73	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 007583437-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 3	$7.15^{+1.68}_{-2.32}$	8645^{+635}_{-1379}	-6770^{+1298}_{-662}	$0.047^{+0.049}_{-0.024}$
Alt.	-32 ± 3	$7.34^{+1.58}_{-2.42}$	8653^{+613}_{-1396}	-5779^{+9829}_{-836}	$0.168^{+0.180}_{-0.051}$

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

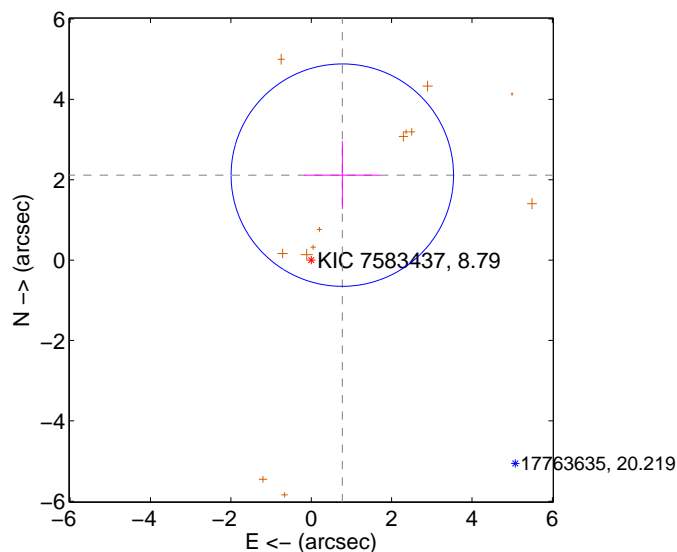
Supplemental centroid analysis for 007583437-01. **Kepler magnitude: 8.79.** Transit SNR 16.07

There are 0 quarters with good PRF difference image offsets

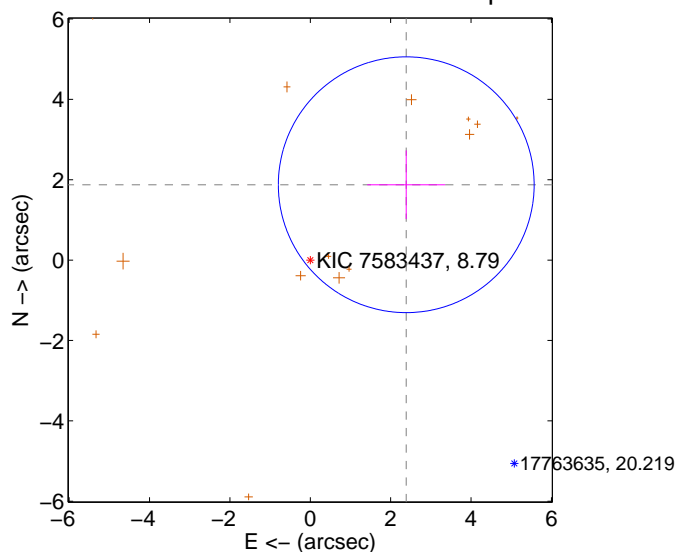
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.251 ± 0.922	2.44	-0.773 ± 0.942	2.114 ± 0.845
PRF-fit source offset from KIC position	3.035 ± 1.061	2.86	-2.387 ± 0.969	1.875 ± 0.852
photometric centroid source offset	1.17 ± 0.31	3.72	-0.81 ± 0.33	-0.84 ± 0.30

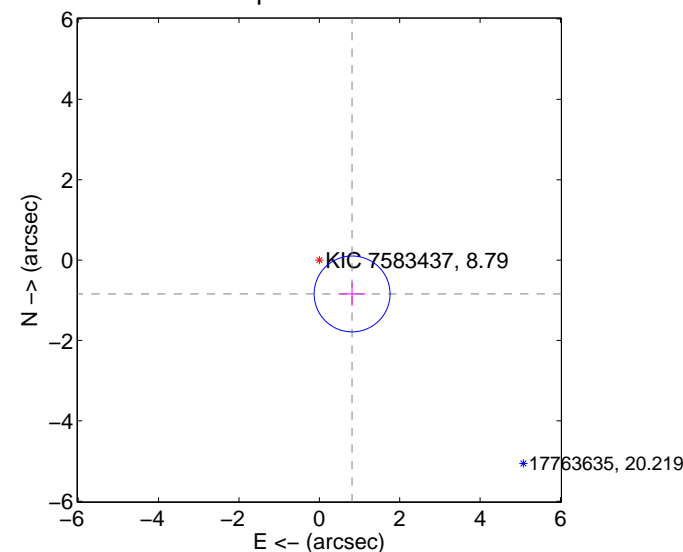
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

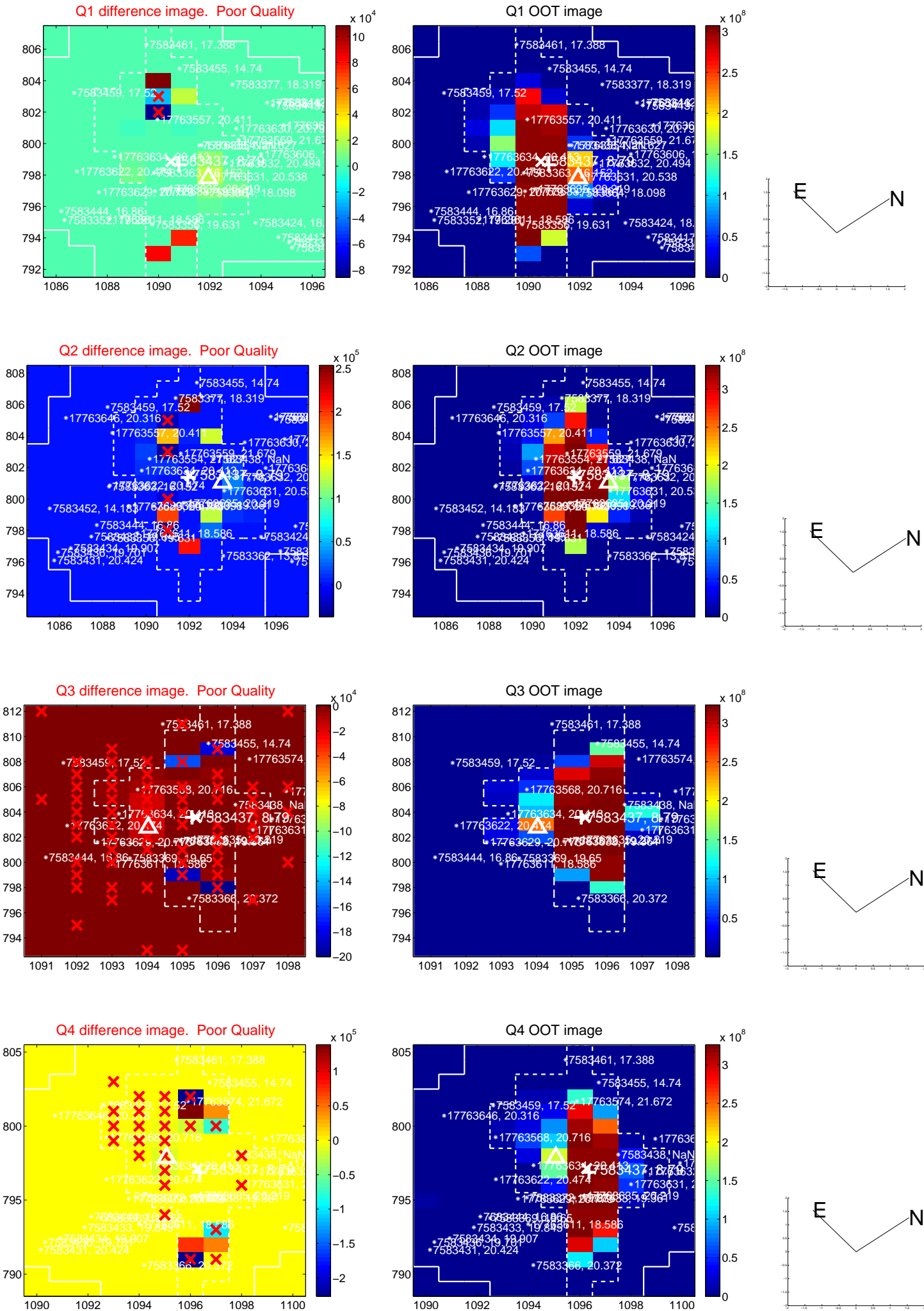


offset from photometric centroids

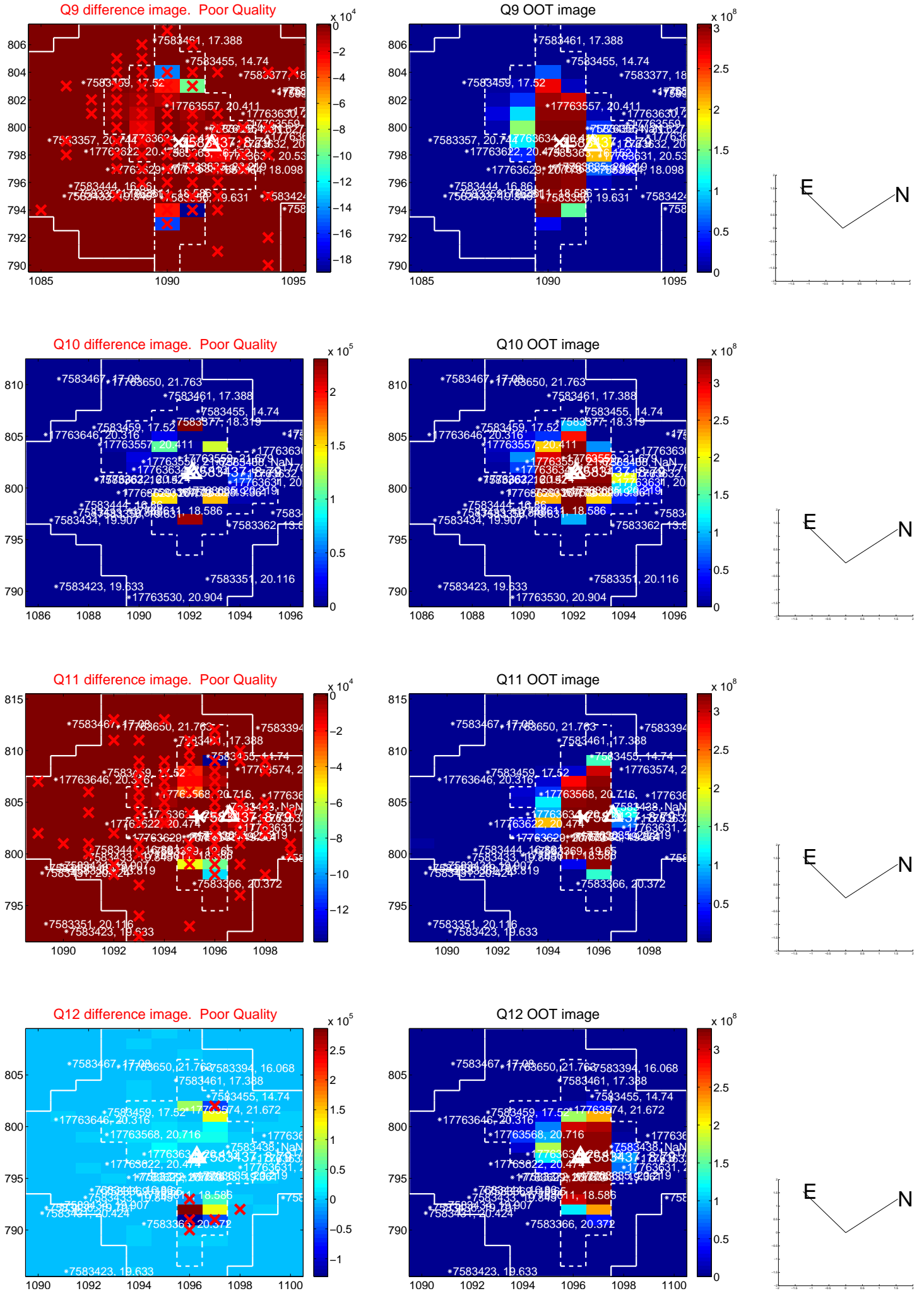


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

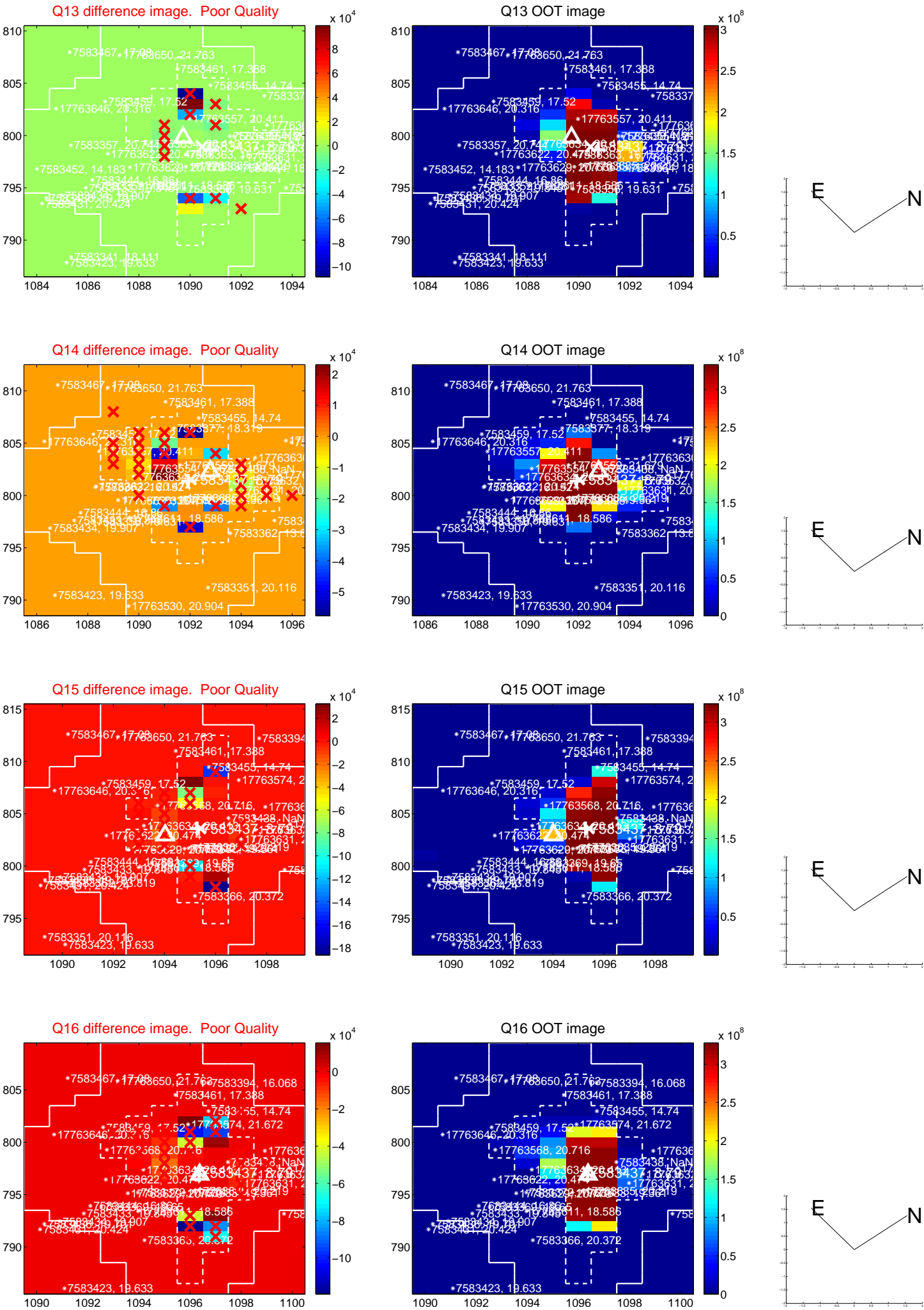
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



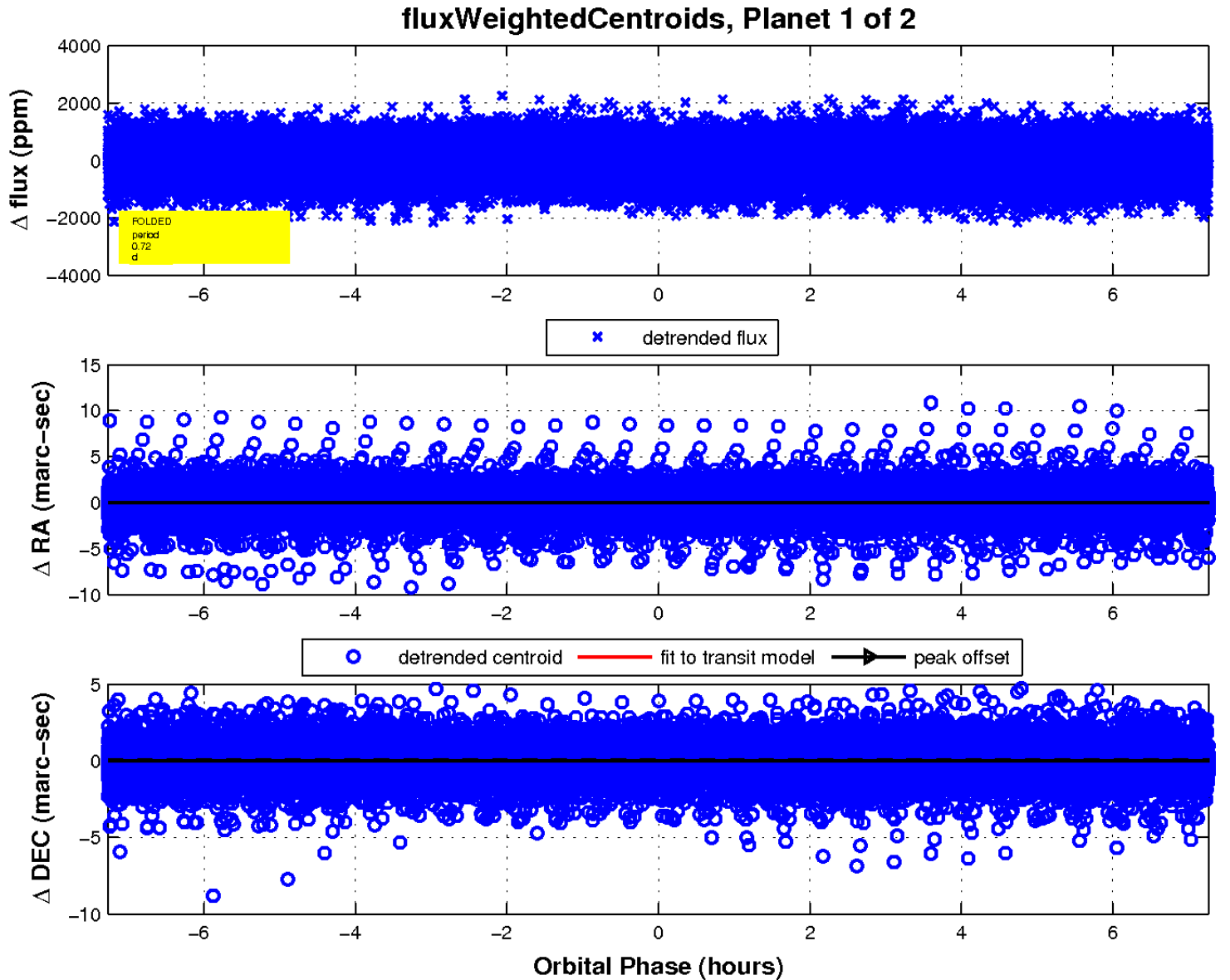
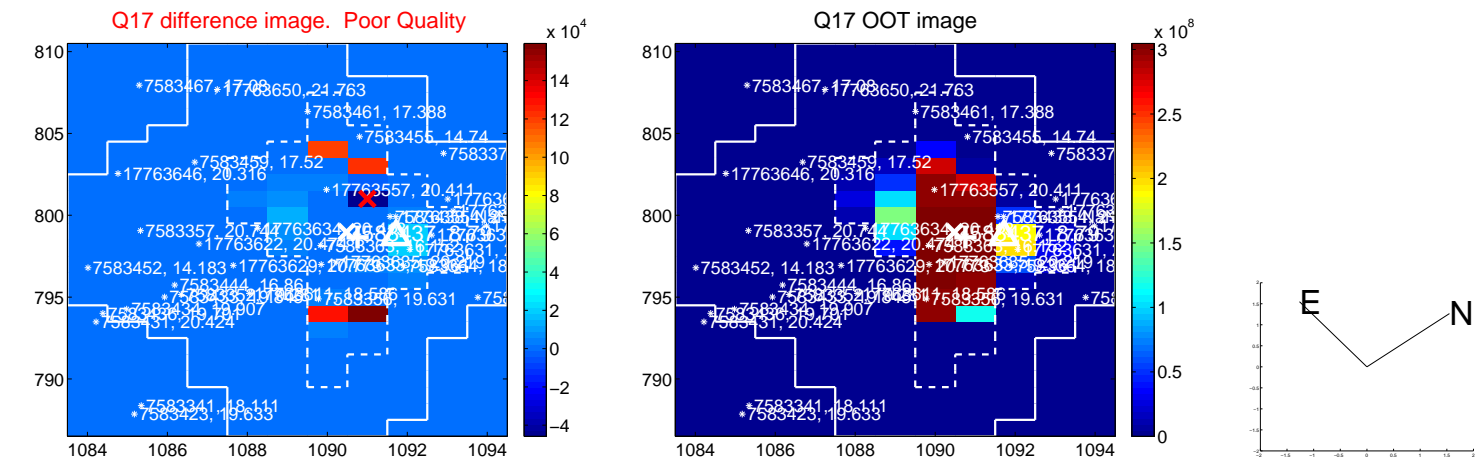
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



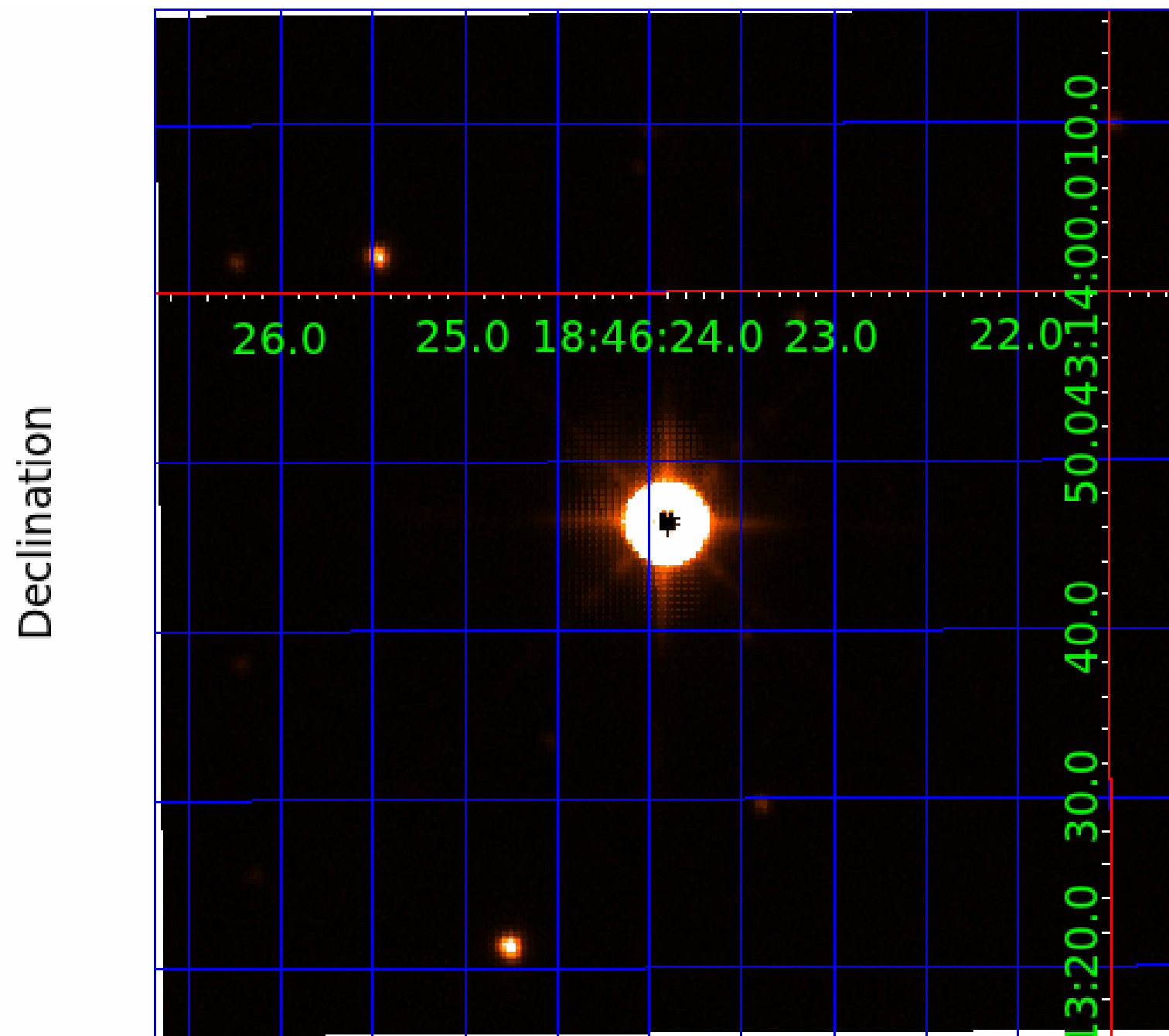
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 007583437

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})
007583437-01	OBS	No	0.717523	131.951966	45.7	2.423	11.5	16.1	10.32	6932	8.14	0.00
007583437-02	OBS	No	0.717519	131.603184	47.2	2.730	10.1	13.0	10.32	6932	8.27	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007583437-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007583437-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_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.

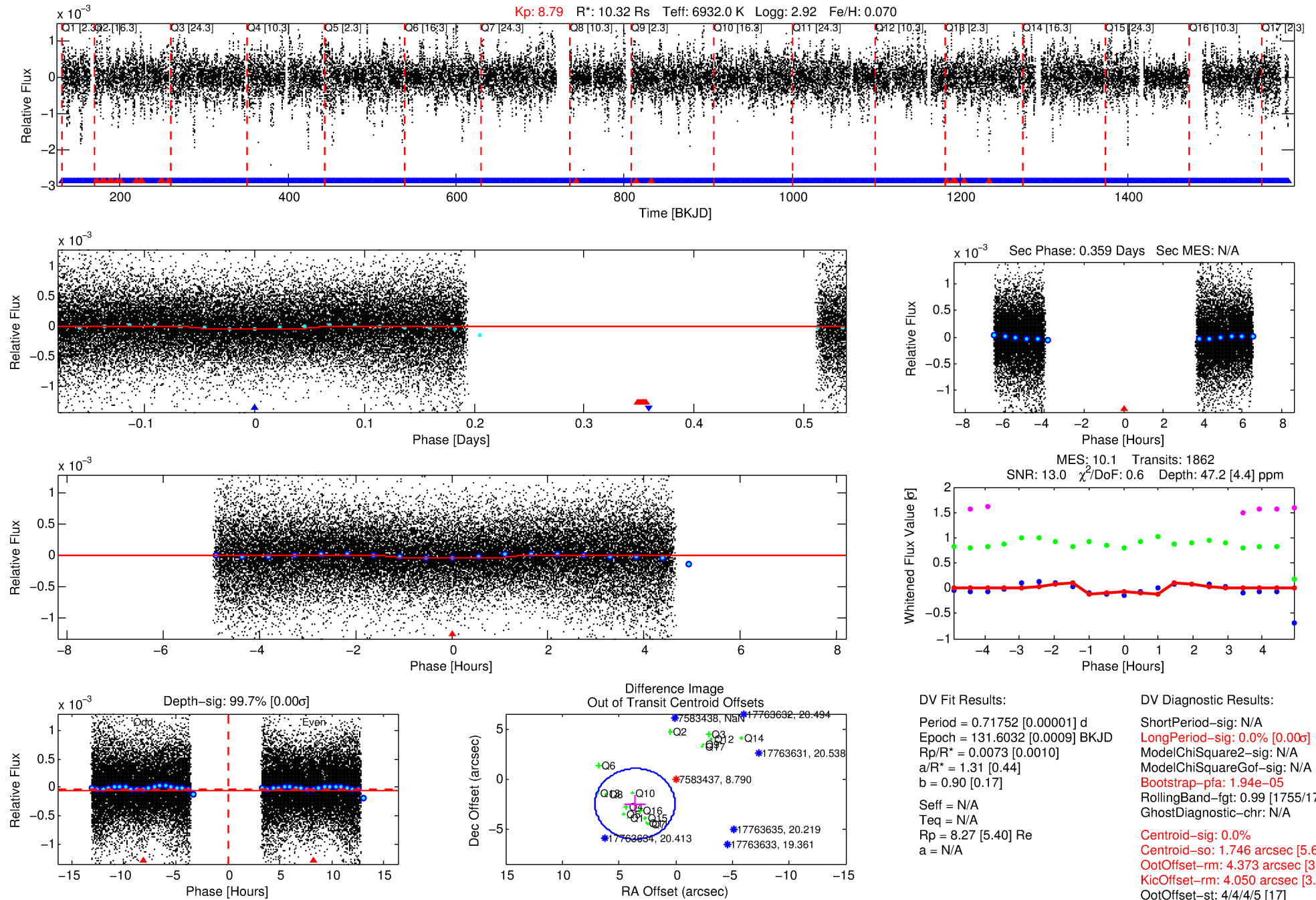
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007583437-02

No Significant Match Found

DV One-Page Summary

KIC: 7583437 Candidate: 2 of 2 Period: 0.718 d



DV Fit Results:

Period = 0.71752 [0.00001] d
Epoch = 131.6032 [0.0009] BKJD
Rp/R* = 0.0073 [0.0010]
a/R* = 1.31 [0.44]
b = 0.90 [0.17]
Seff = N/A
Teq = N/A
Rp = 8.27 [5.40] Re
a = N/A

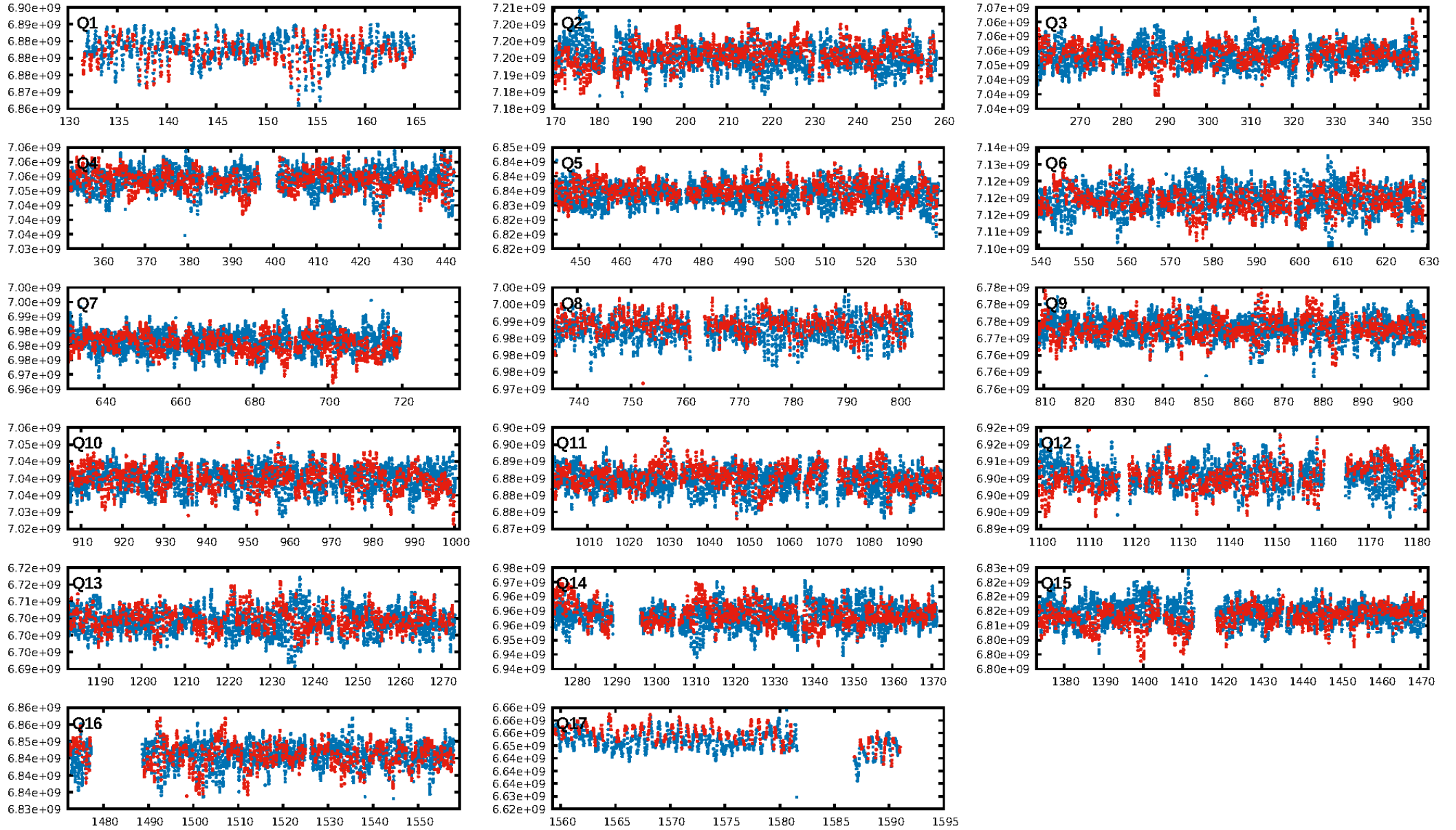
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.94e-05
RollingBand-fgt: 0.99 [1755/1778]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.746 arcsec [5.65σ]
OotOffset-rm: 4.373 arcsec [3.72σ]
KicOffset-rm: 4.050 arcsec [3.55σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

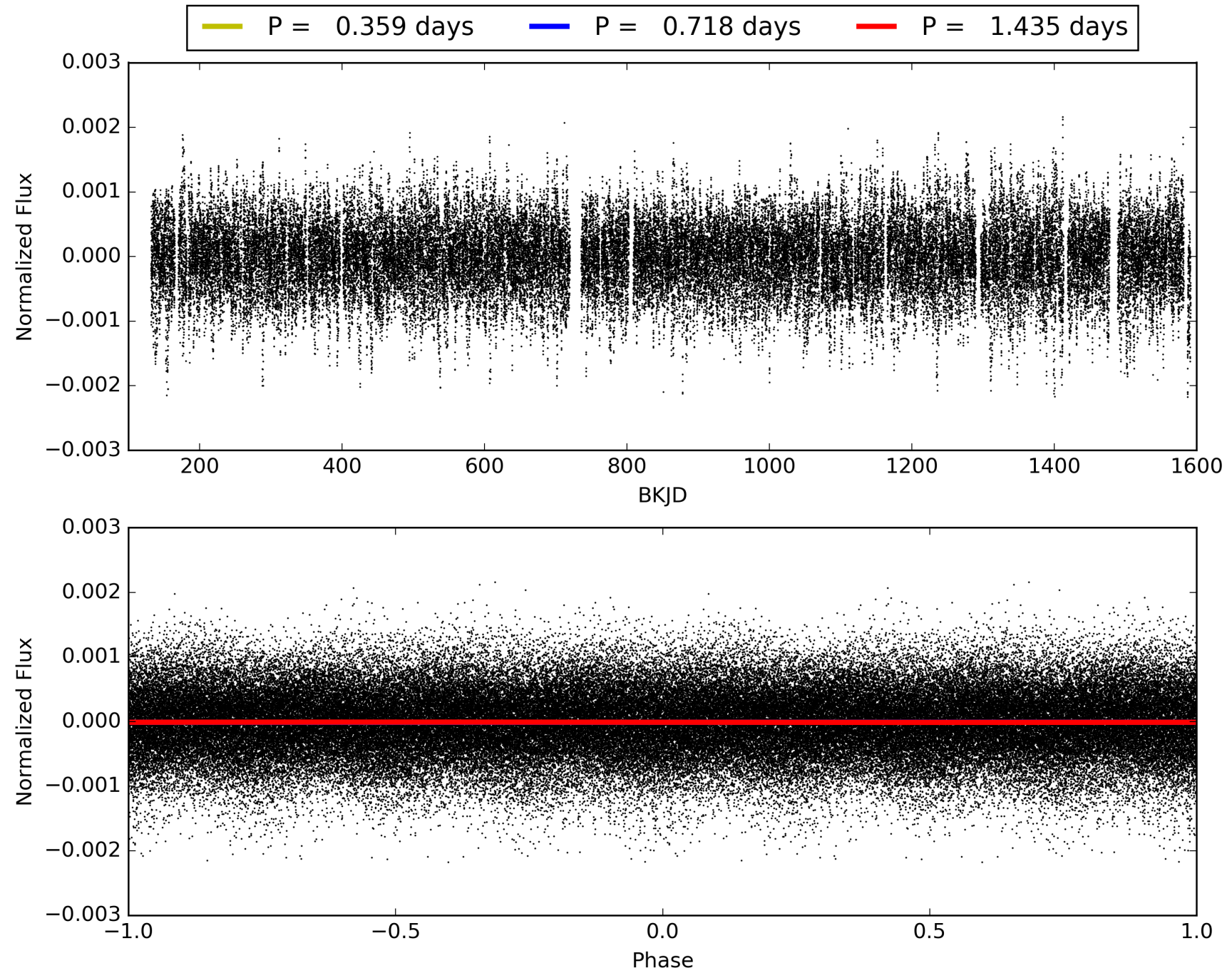
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:20:08 Z

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

TCE 007583437-02, PDC Light Curves

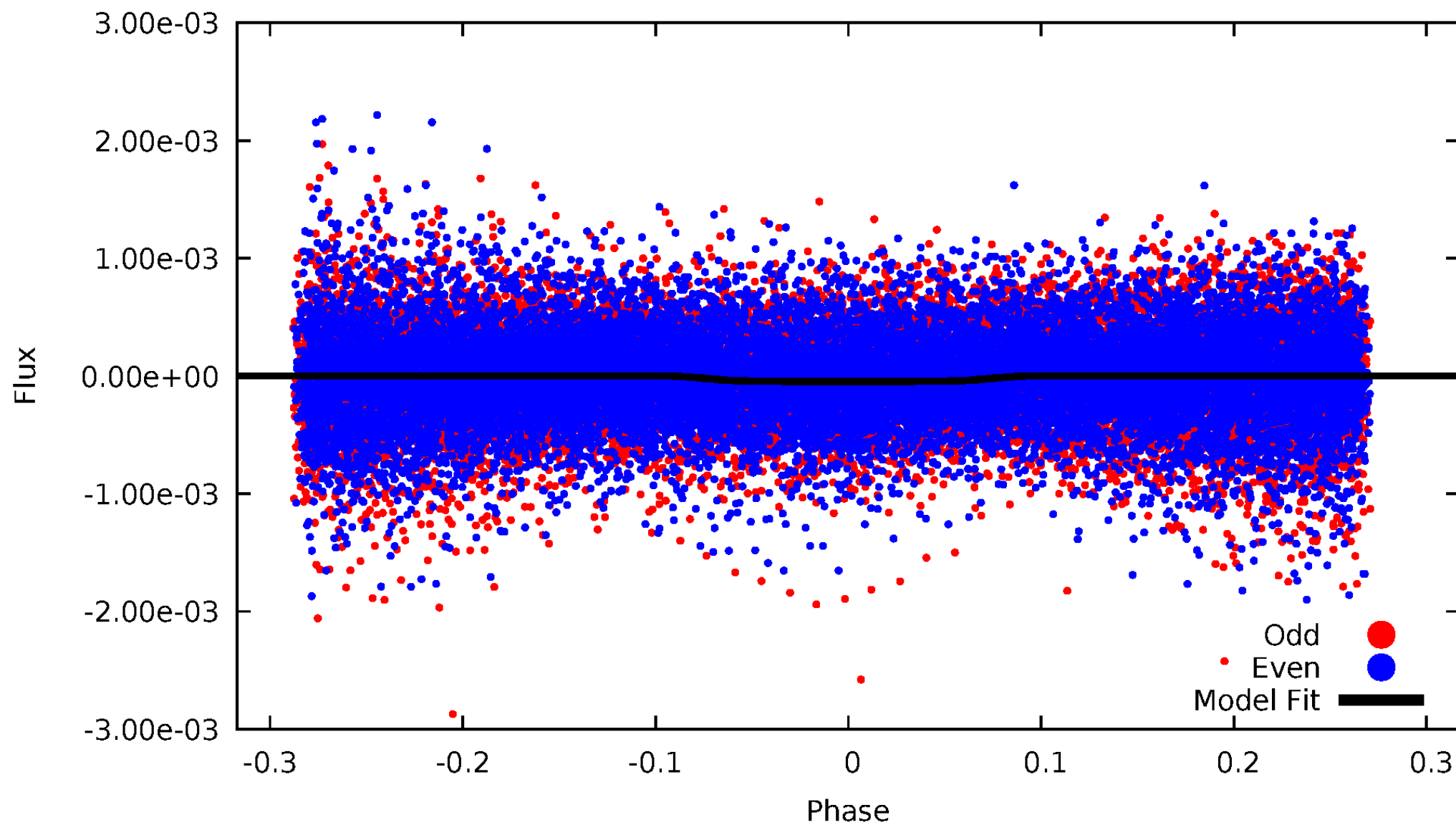


TCE 007583437-02



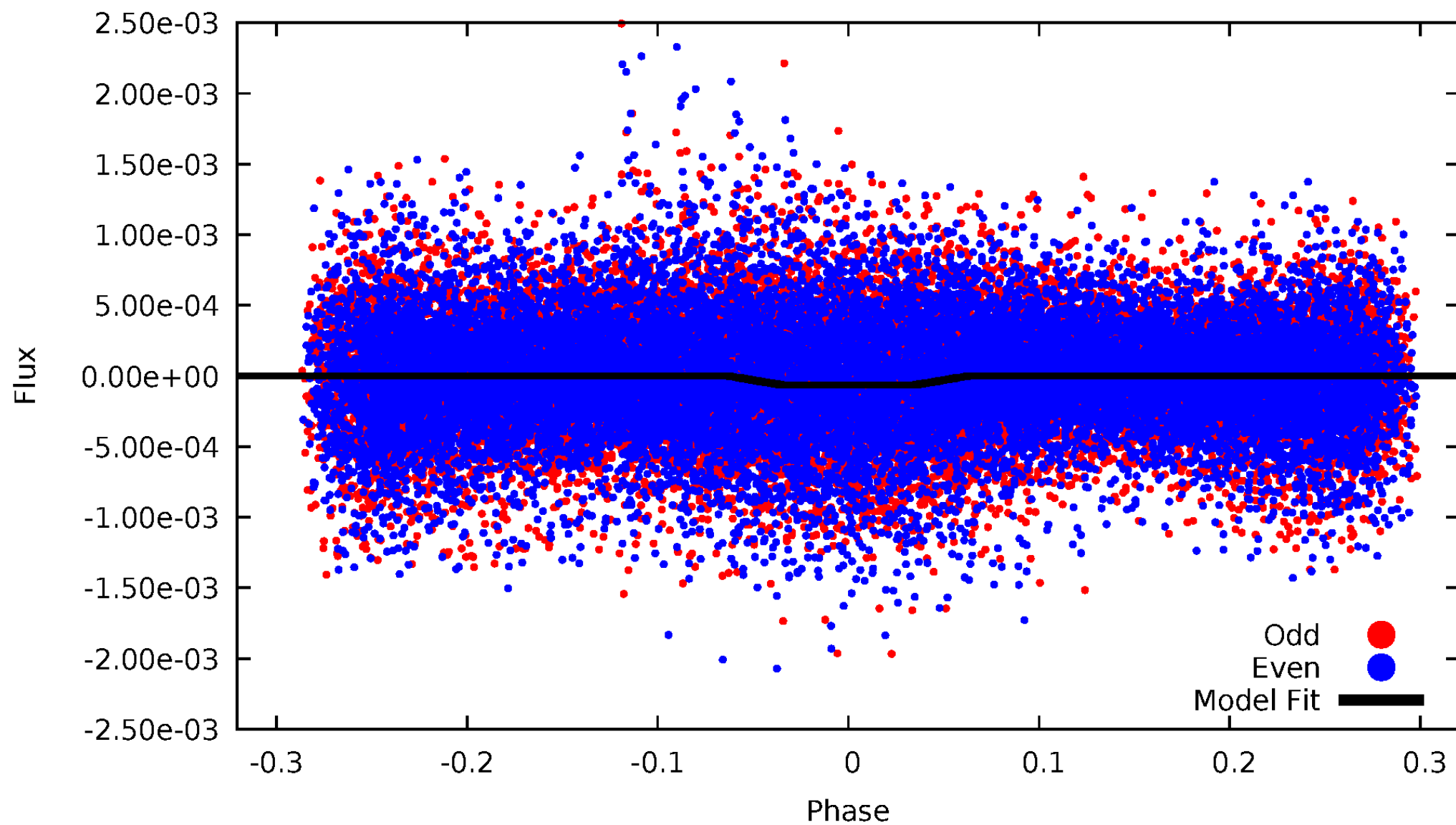
DV Odd/Even

TCE 007583437-02



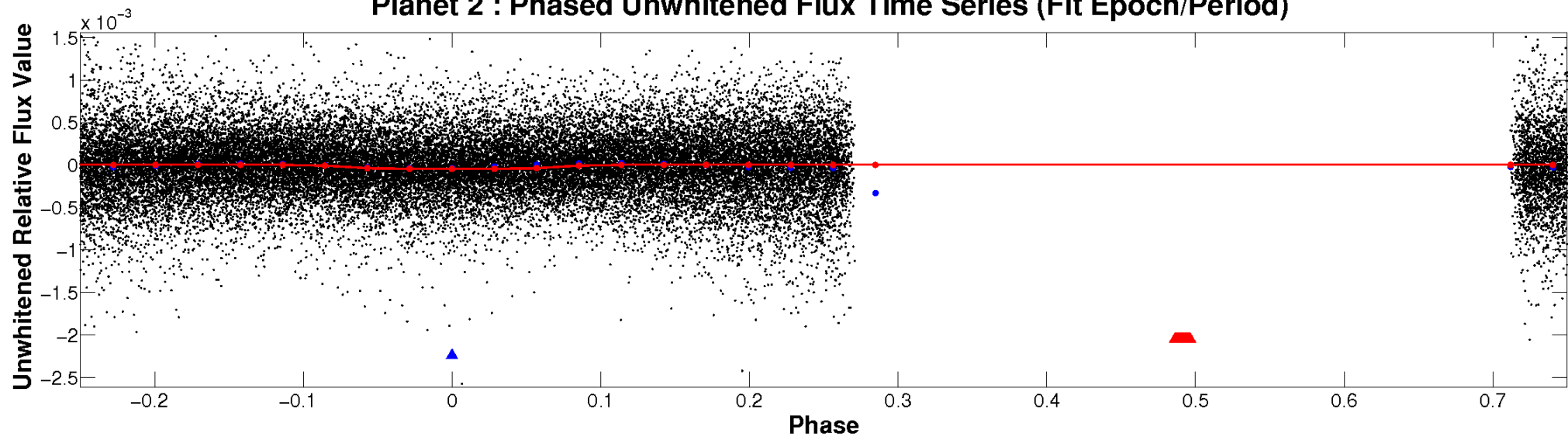
ALT Odd/Even

TCE 007583437-02

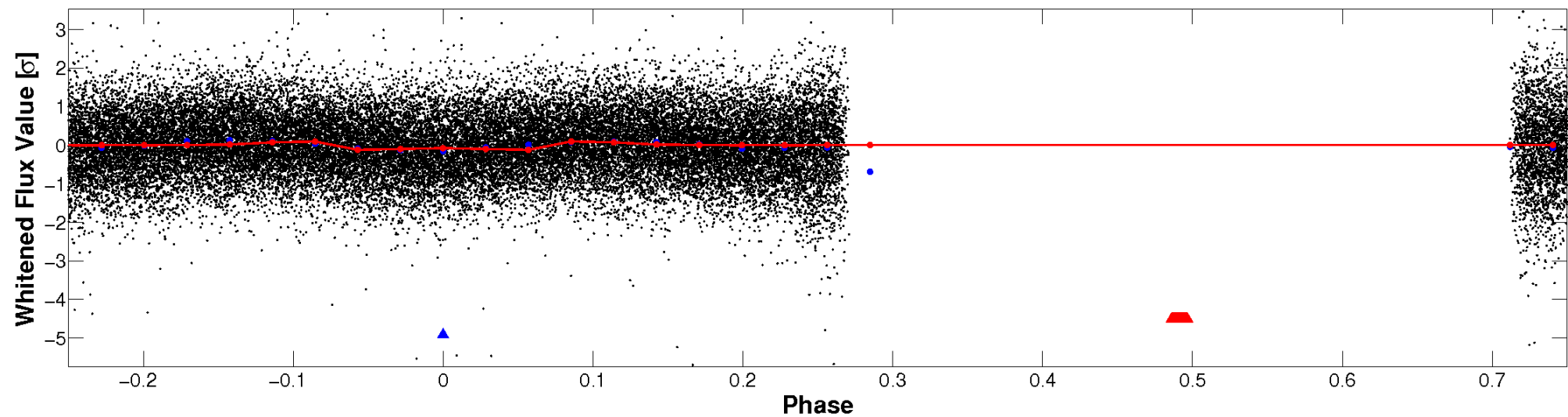


Non-Whitened Vs. Whitened Light Curve

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

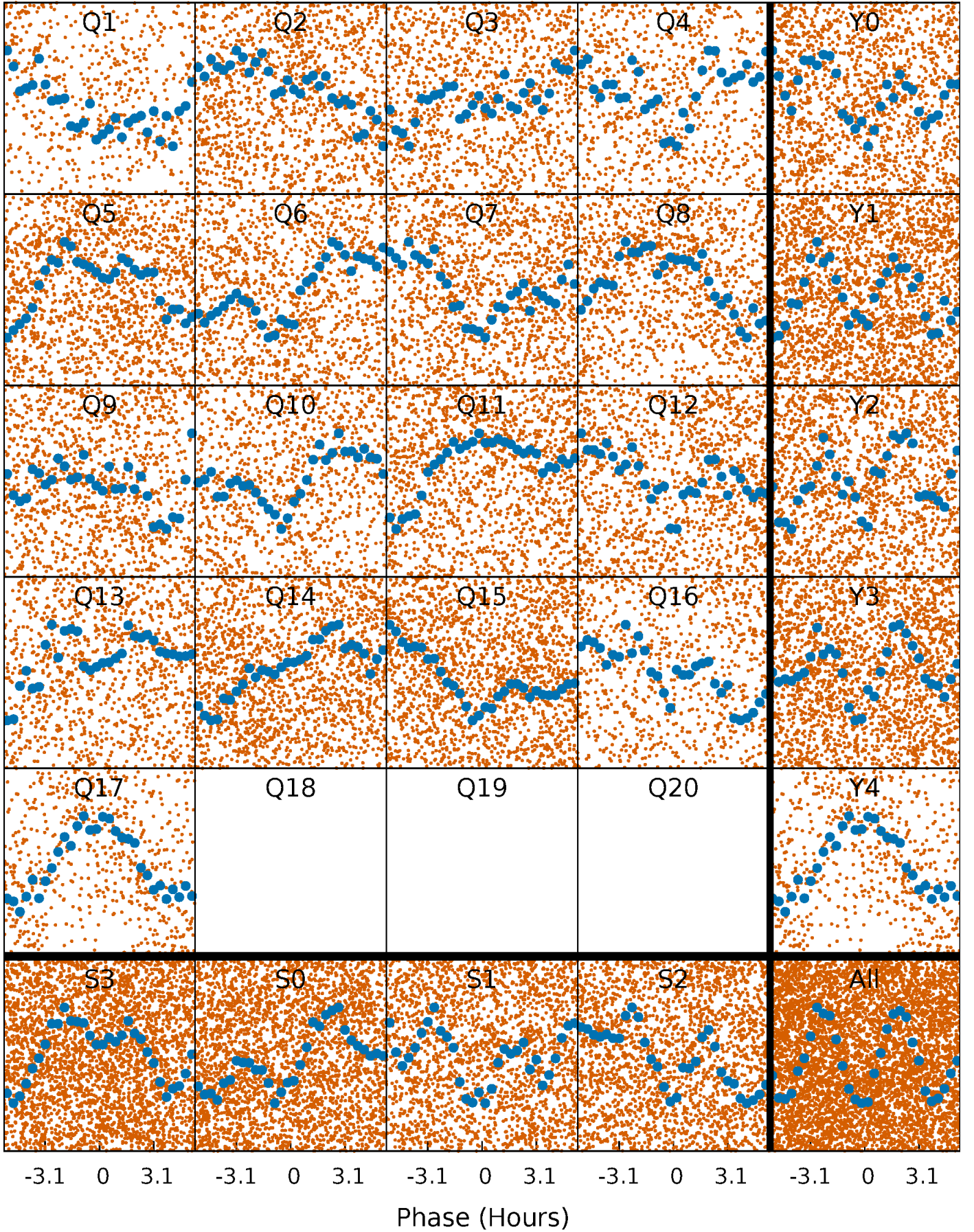


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



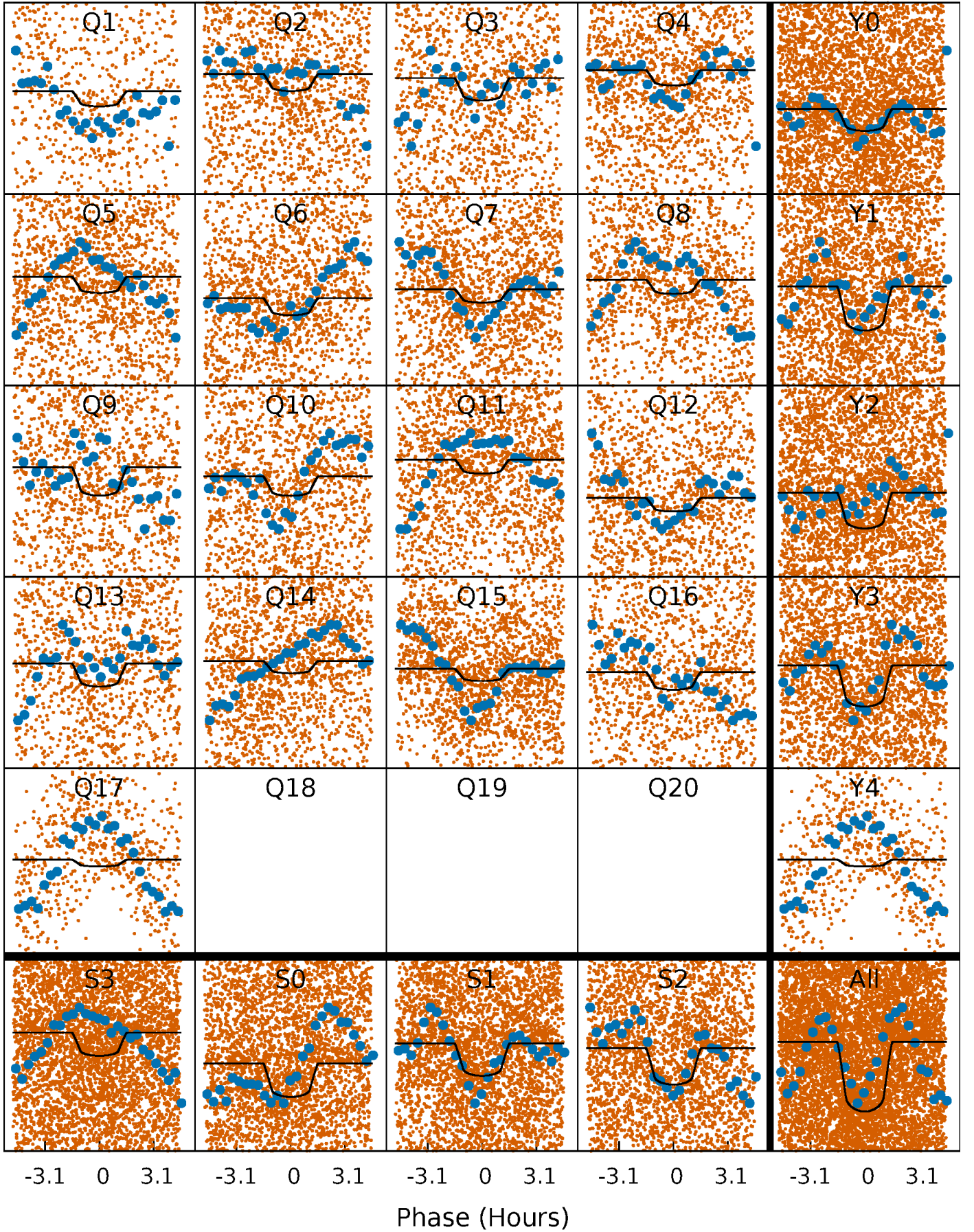
PDC Quarter-Phased Transit Curves

TCE 007583437-02 P= 0.717519 Days $T_0=131.603184$ (BKJD)



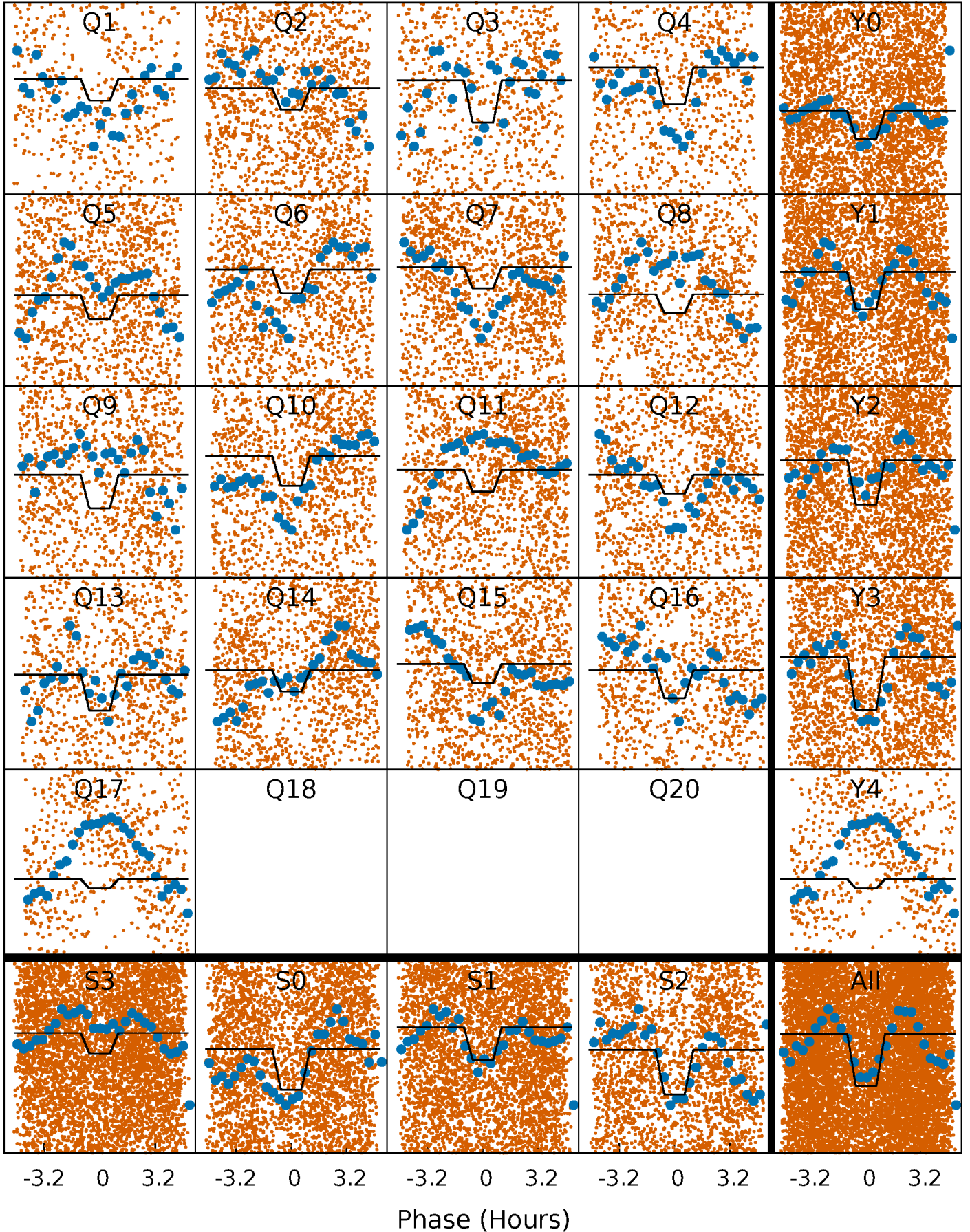
DV Quarter-Phased Transit Curves

TCE 007583437-02 $P = 0.717519$ Days $T_0 = 131.603184$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

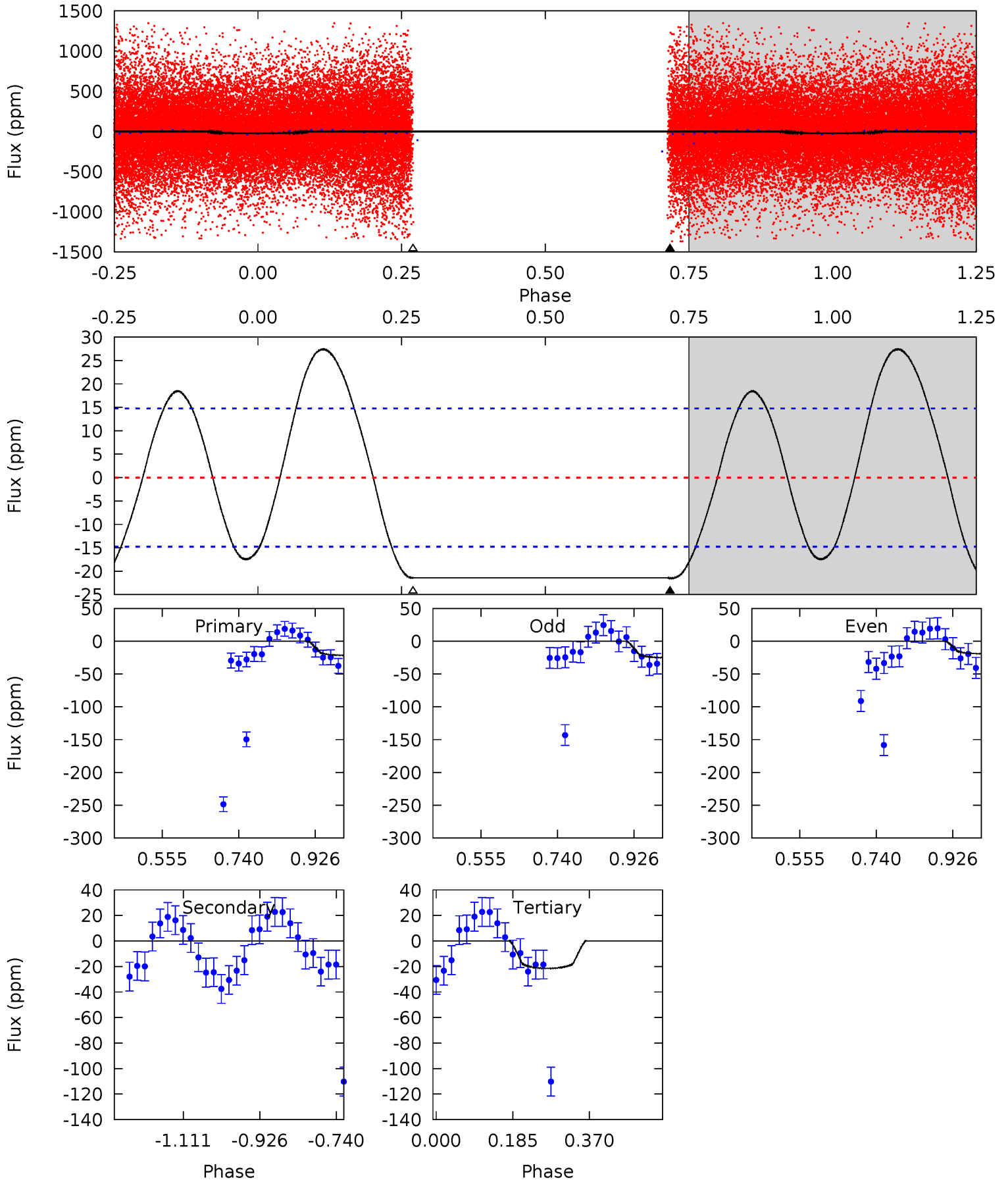
TCE 007583437-02 $P = 0.717510$ Days $T_0 = 131.602099$ (BKJD)



DV Model-Shift Uniqueness Test

007583437-02, P = 0.717519 Days, E = 130.885665 Days

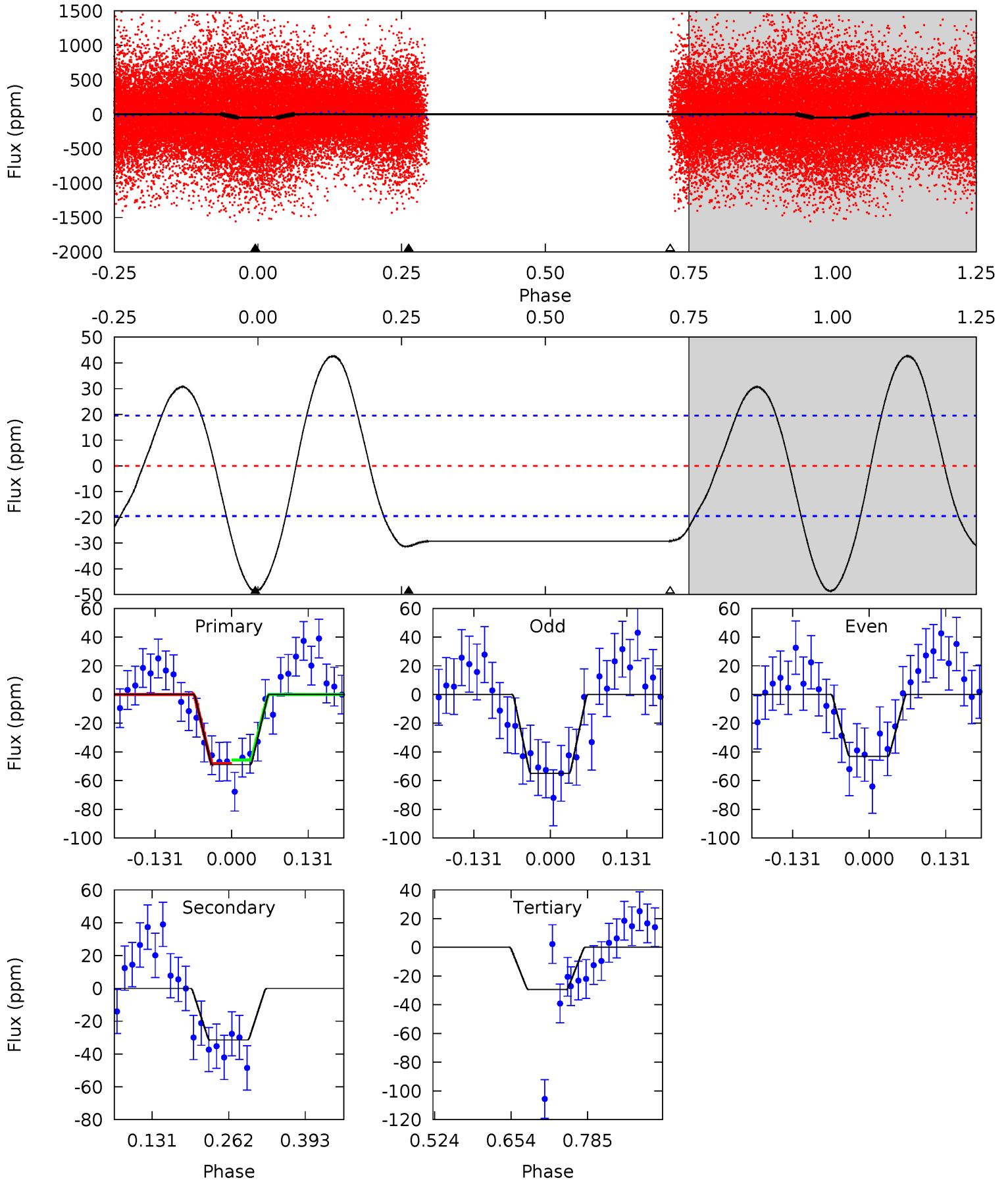
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.47	0	6.45	0	4.43	1.33	4.79	0.02	6.47	-6.45	0	0.83	0.75	0.56	2.87



Alt Model-Shift Uniqueness Test

007583437-02, P = 0.717510 Days, E = 130.884589 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	7.25	6.78	0	4.51	1.51	4.82	4.50	11.3	0.47	7.25	1.37	1.08	0.47	0.29



Stellar Parameters For KIC 007583437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6932^{+158}_{-193}	$2.923^{+0.630}_{-0.070}$	$0.070^{+0.200}_{-0.550}$	$10.322^{+1.162}_{-6.582}$	$3.255^{+0.073}_{-1.311}$	$0.004^{+0.044}_{-0.001}$
	+2%/-3%	+22%/-2%	+286%/-786%	+11%/-64%	+2%/-40%	+1066%/-24%
Source	PHO1	FLK73	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 007583437-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 3	$7.28^{+1.87}_{-2.33}$	8692^{+560}_{-1410}	-7115^{+1218}_{-566}	$0.001^{+0.021}_{-0.020}$
Alt.	-31 ± 4	$8.05^{+1.85}_{-2.75}$	8677^{+555}_{-1583}	-6027^{+8943}_{-748}	$0.143^{+0.163}_{-0.050}$

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

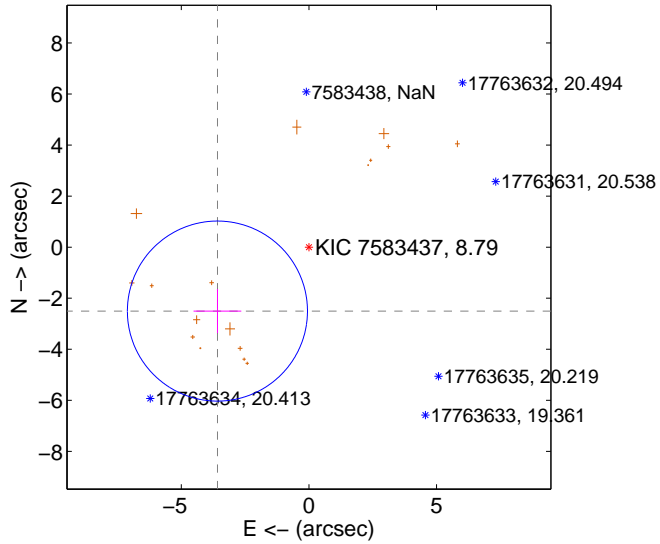
Supplemental centroid analysis for 007583437-02. **Kepler magnitude: 8.79.** Transit SNR 12.97

There are 0 quarters with good PRF difference image offsets

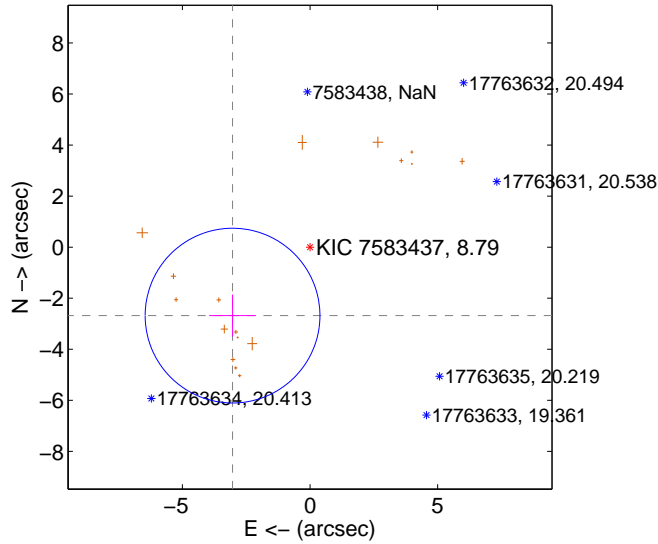
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.373 ± 1.176	3.72	3.585 ± 0.934	-2.504 ± 0.862
PRF-fit source offset from KIC position	4.050 ± 1.141	3.55	3.035 ± 0.914	-2.682 ± 0.825
photometric centroid source offset	1.75 ± 0.31	5.65	-1.44 ± 0.32	-0.99 ± 0.29

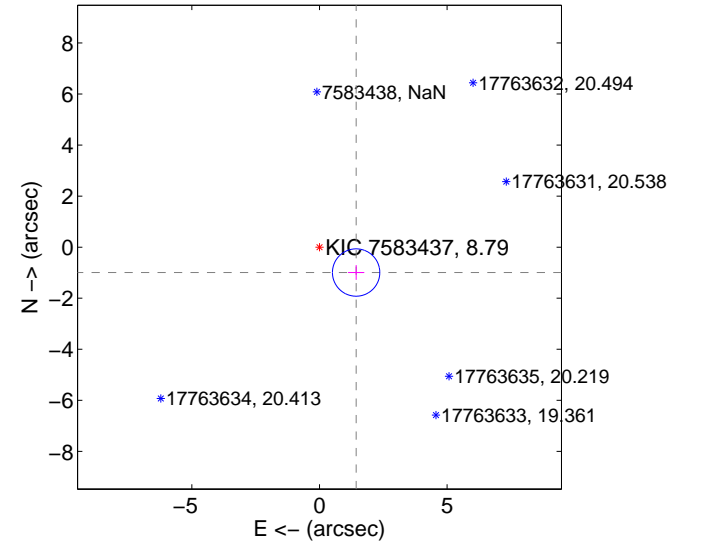
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

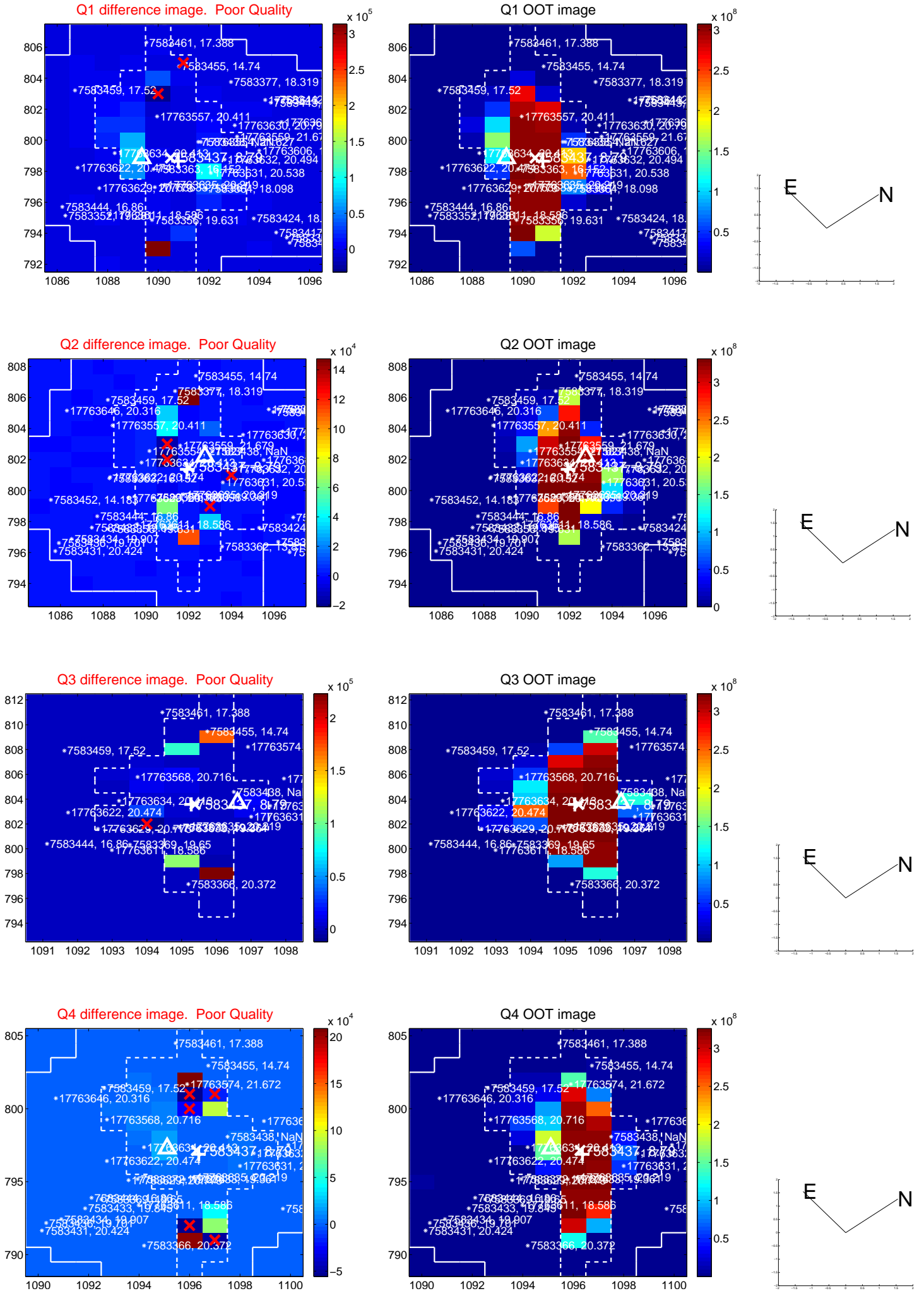


offset from photometric centroids

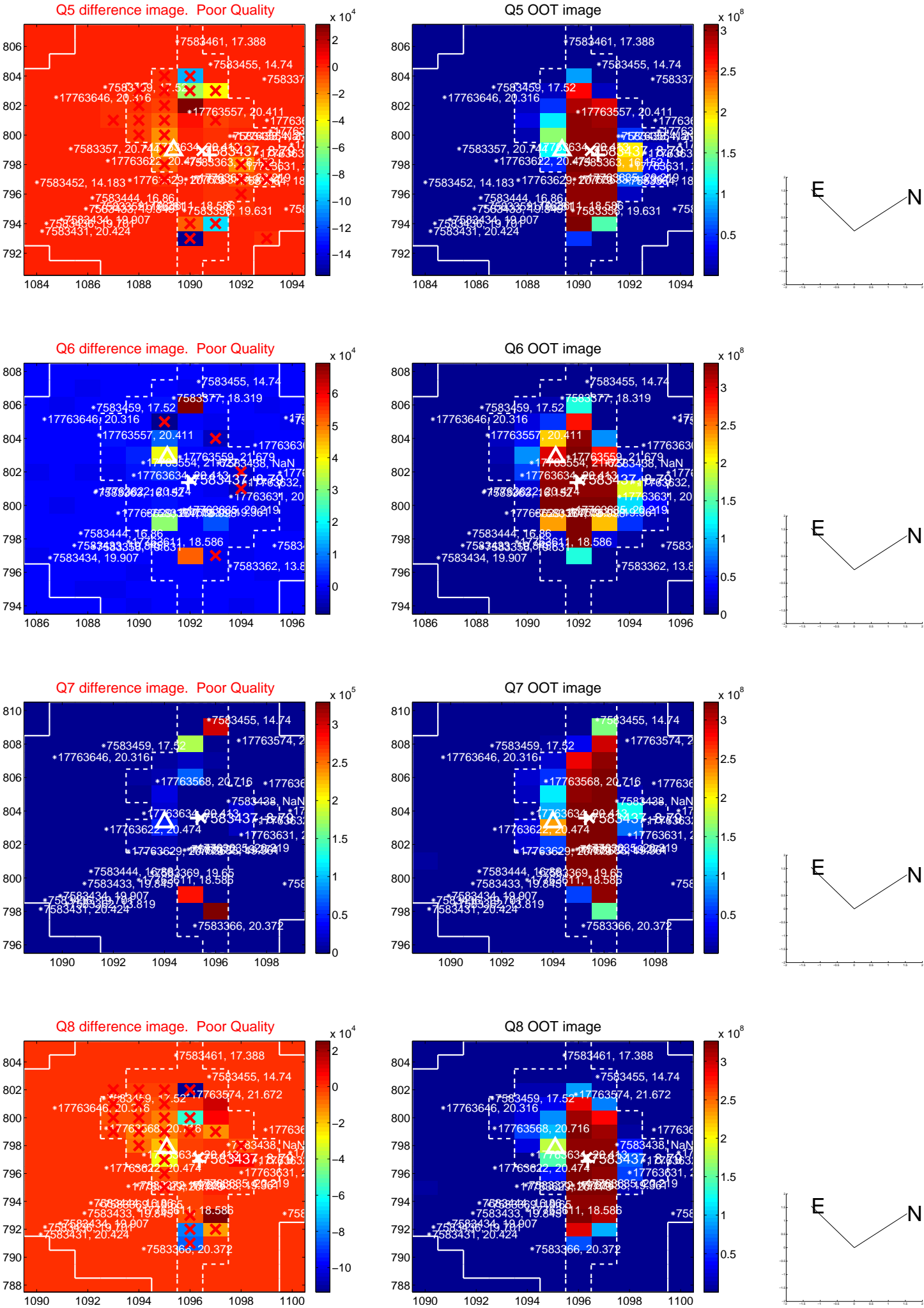


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

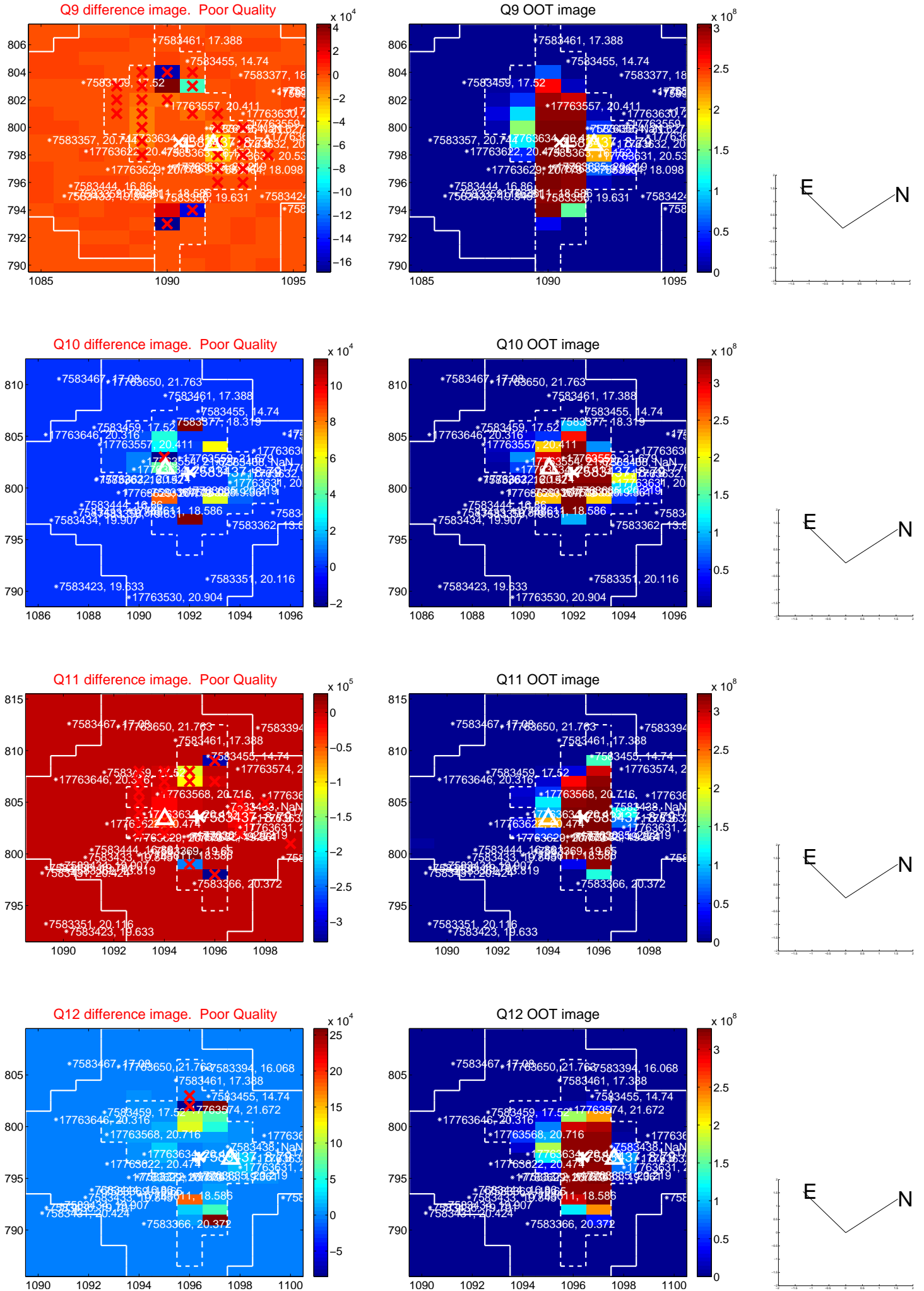
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



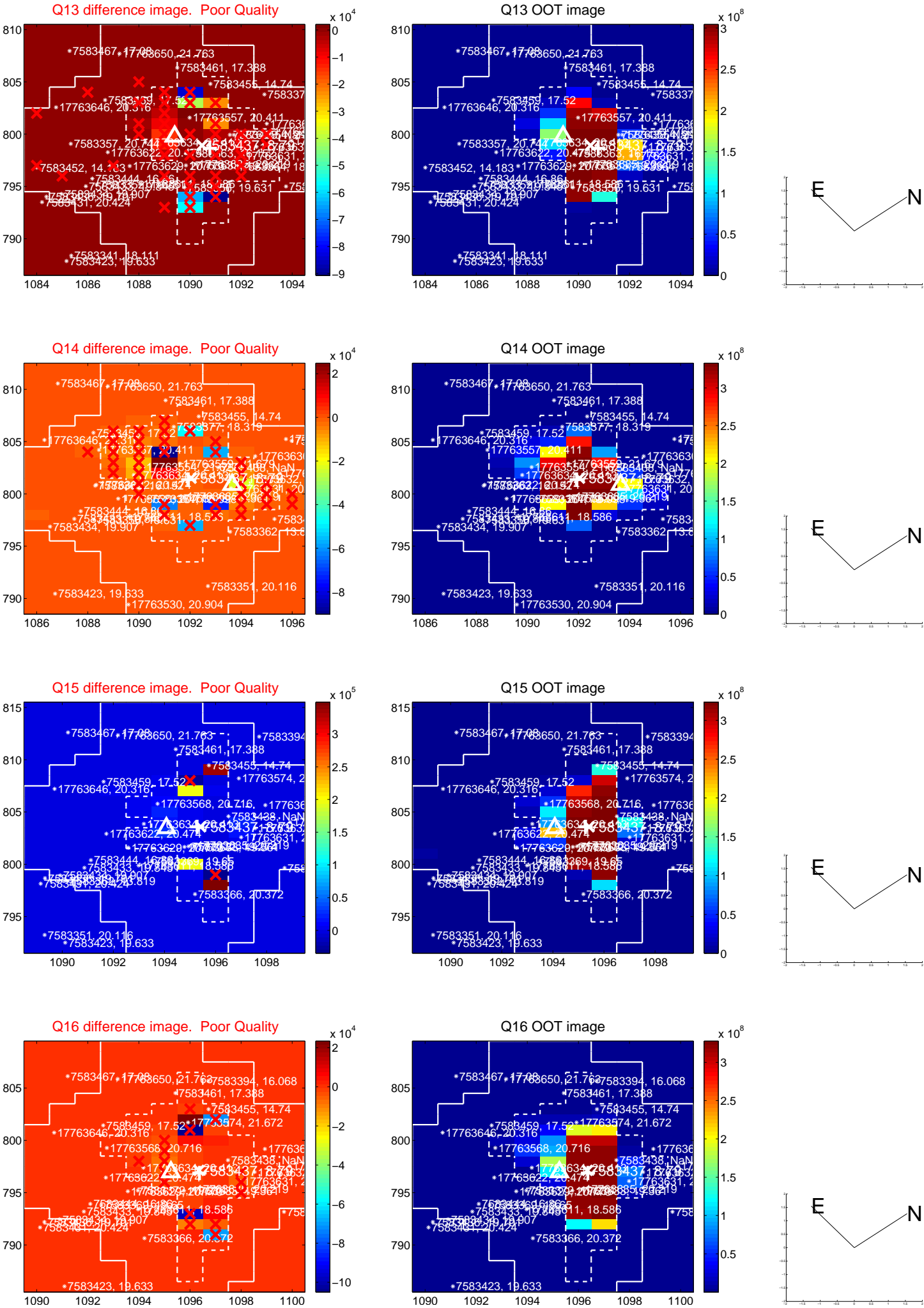
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



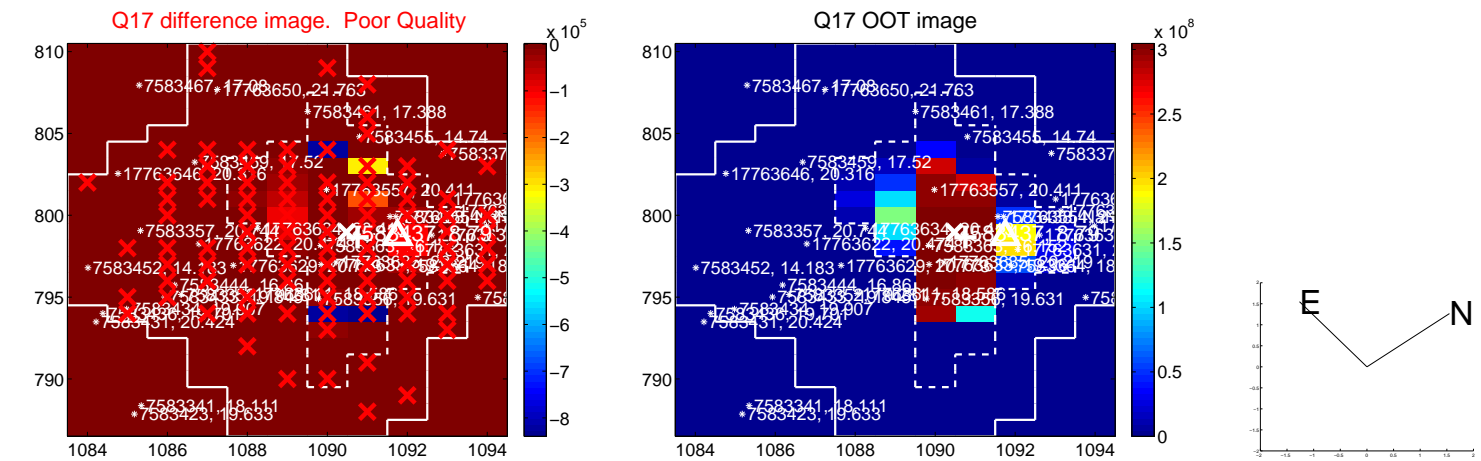
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



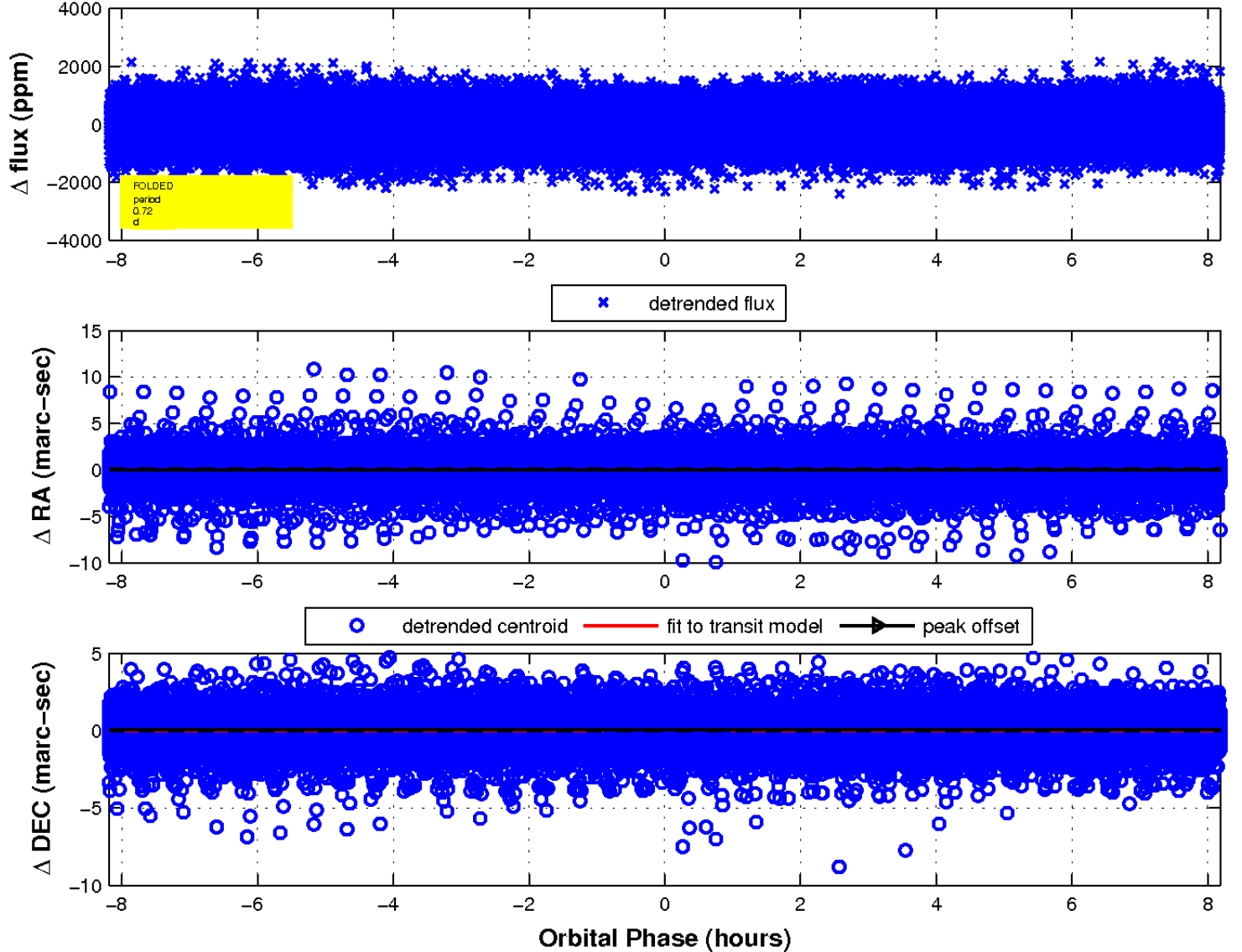
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

