

KIC 005737166

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})
005737166-01	OBS	No	2.714236	133.168787	34.9	13.332	9.6	8.4	1.12	5903	0.68	952.28
005737166-02	OBS	No	2.714501	133.807741	111.2	32.574	11.9	18.4	1.12	5903	1.19	952.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005737166-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005737166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

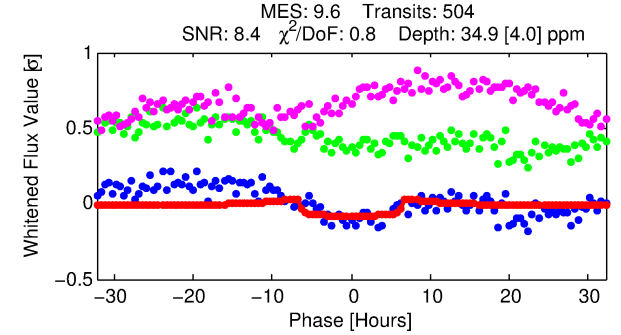
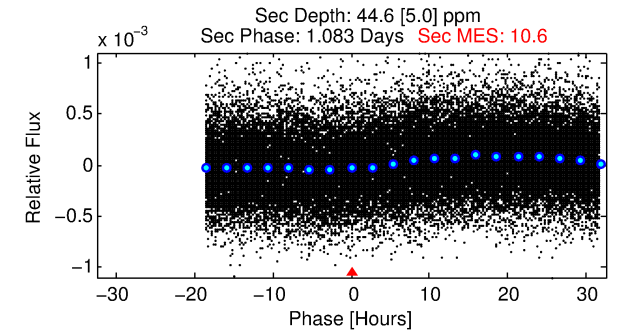
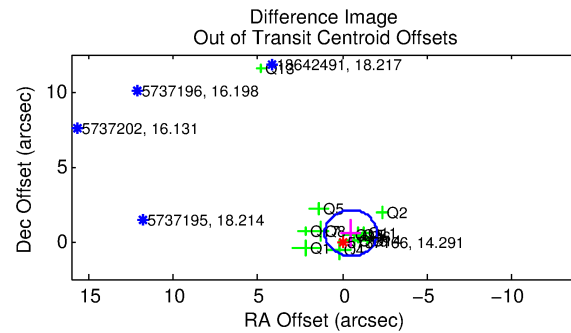
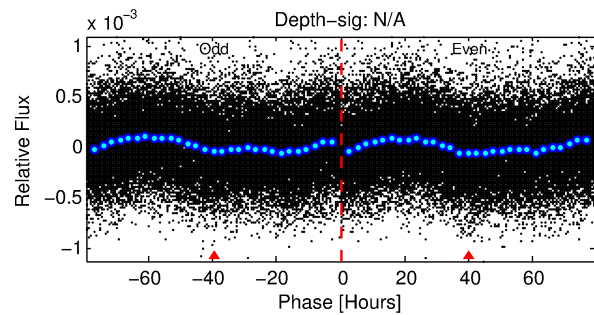
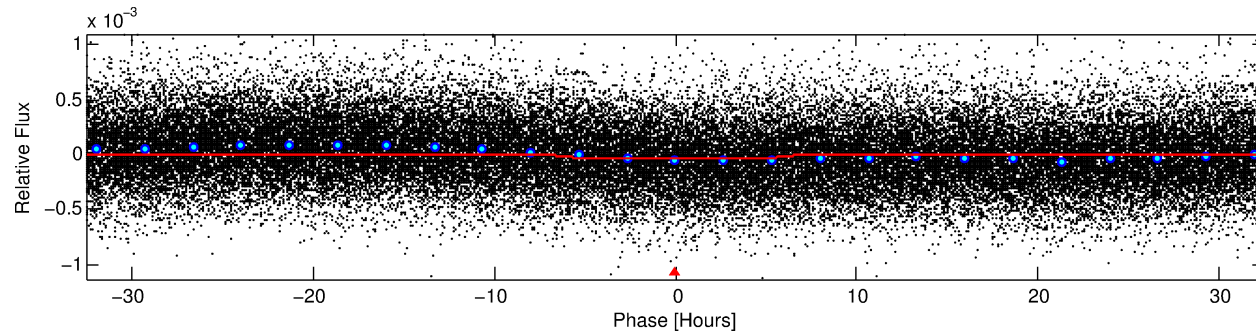
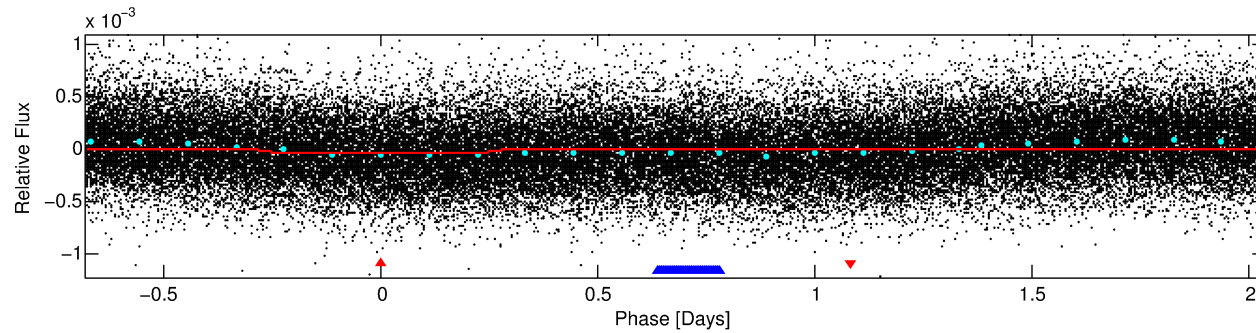
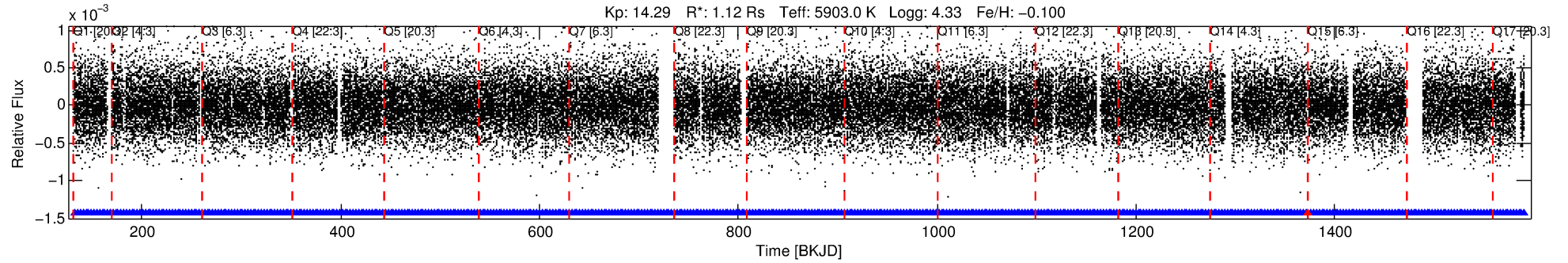
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005737166-01

No Significant Match Found

DV One-Page Summary

KIC: 5737166 Candidate: 1 of 2 Period: 2.714 d



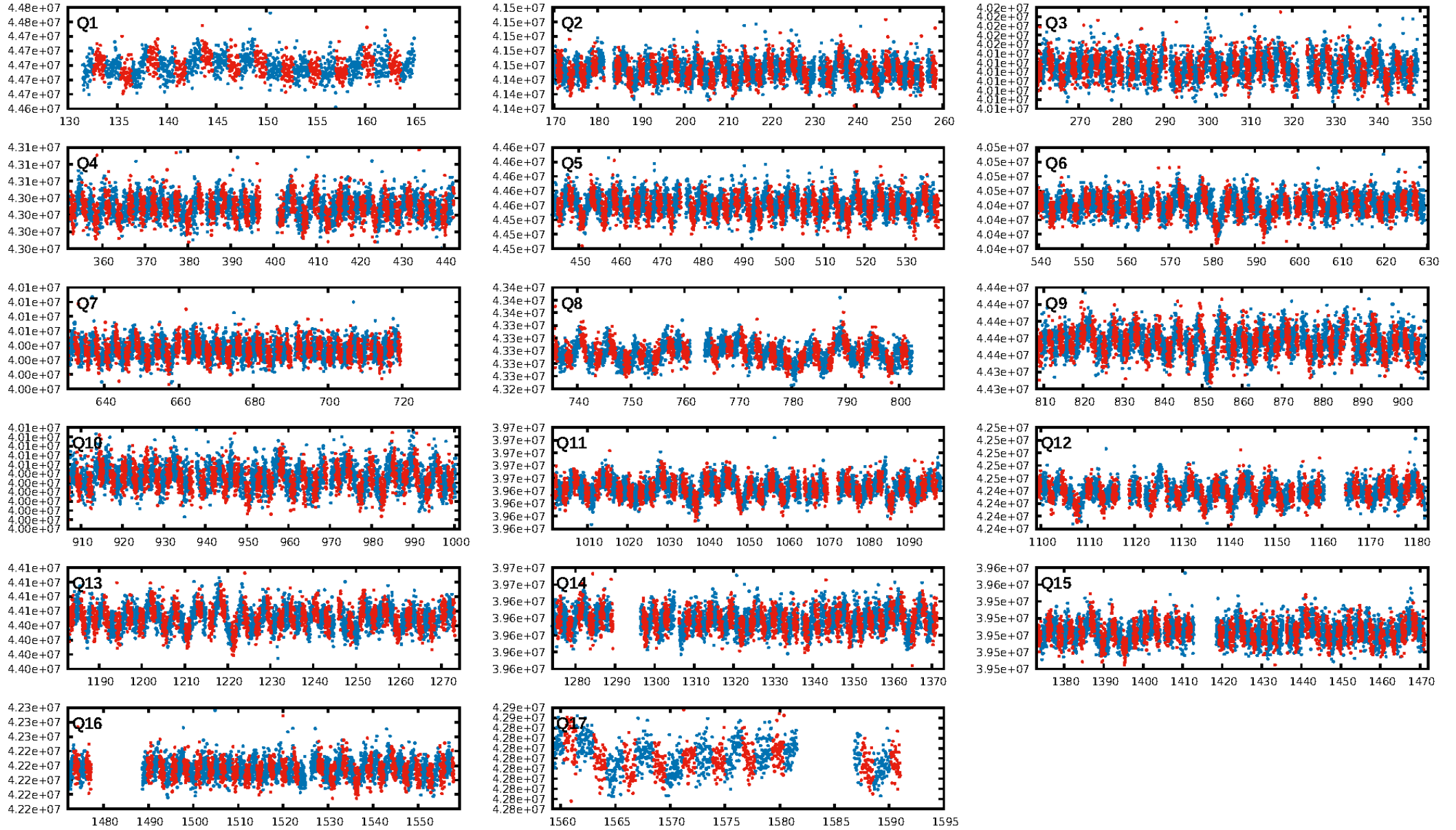
DV Fit Results:

Period = 2.71424 [0.00005] d
Epoch = 133.1688 [0.0111] BKJD
Rp/R* = 0.0055 [0.0042]
a/R* = 1.54 [3.14]
b = 0.50 [5.32]
Seff = 952.28 [348.04]
Teff = 1417 [129] K
Rp = 0.68 [0.55] Re
a = 0.0377 [0.0088] AU
Ag = 76.62 [119.66] [0.63σ]
Teffp = 6479 [2478] K [2.04σ]

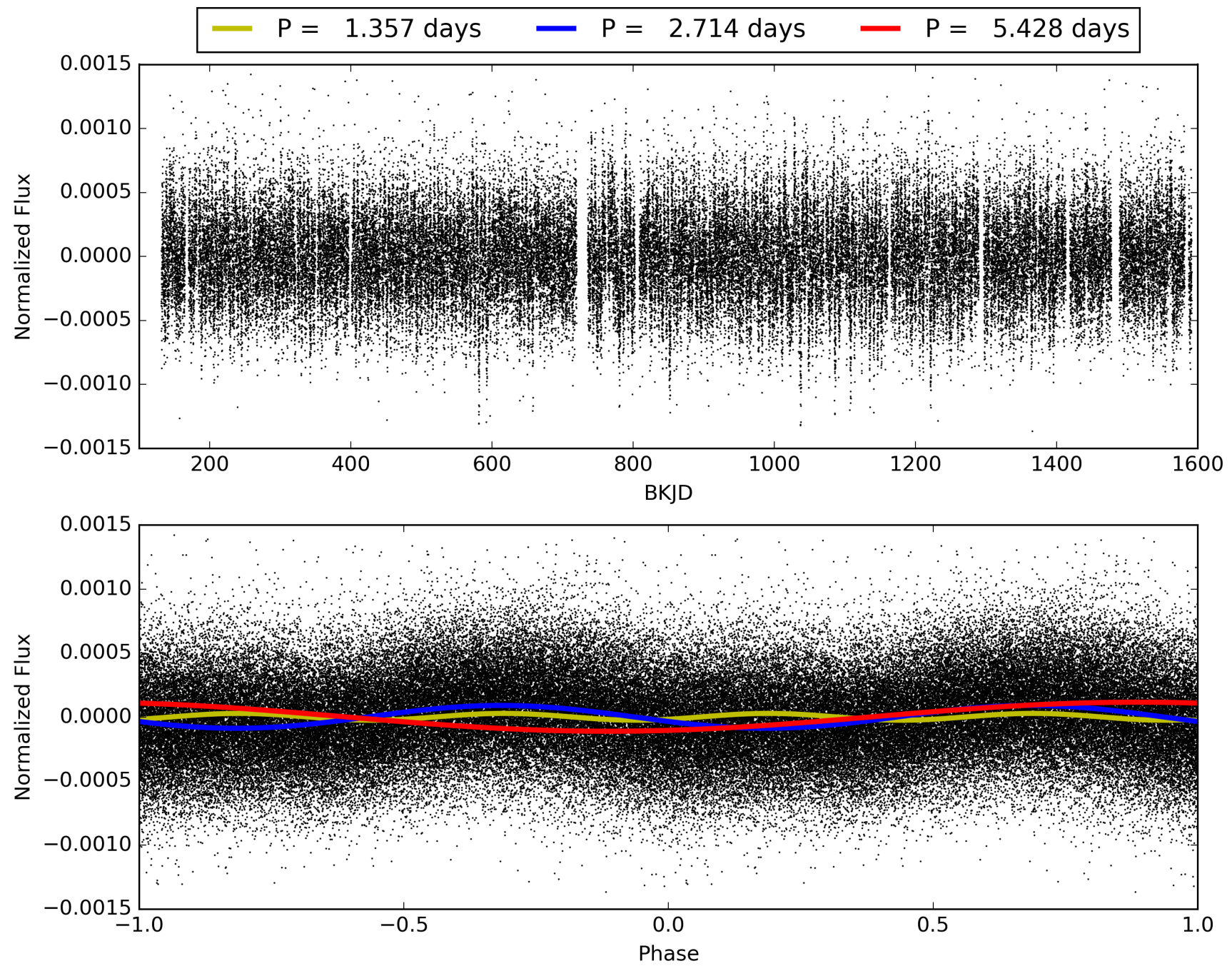
DV Diagnostic Results:

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 [481/482]
GhostDiagnostic-chr: 2.782
Centroid-sig: 1.4%
Centroid-so: 2.171 arcsec [1.62σ]
OotOffset-rm: 0.746 arcsec [1.46σ]
KicOffset-rm: 0.898 arcsec [2.05σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 005737166-01, PDC Light Curves

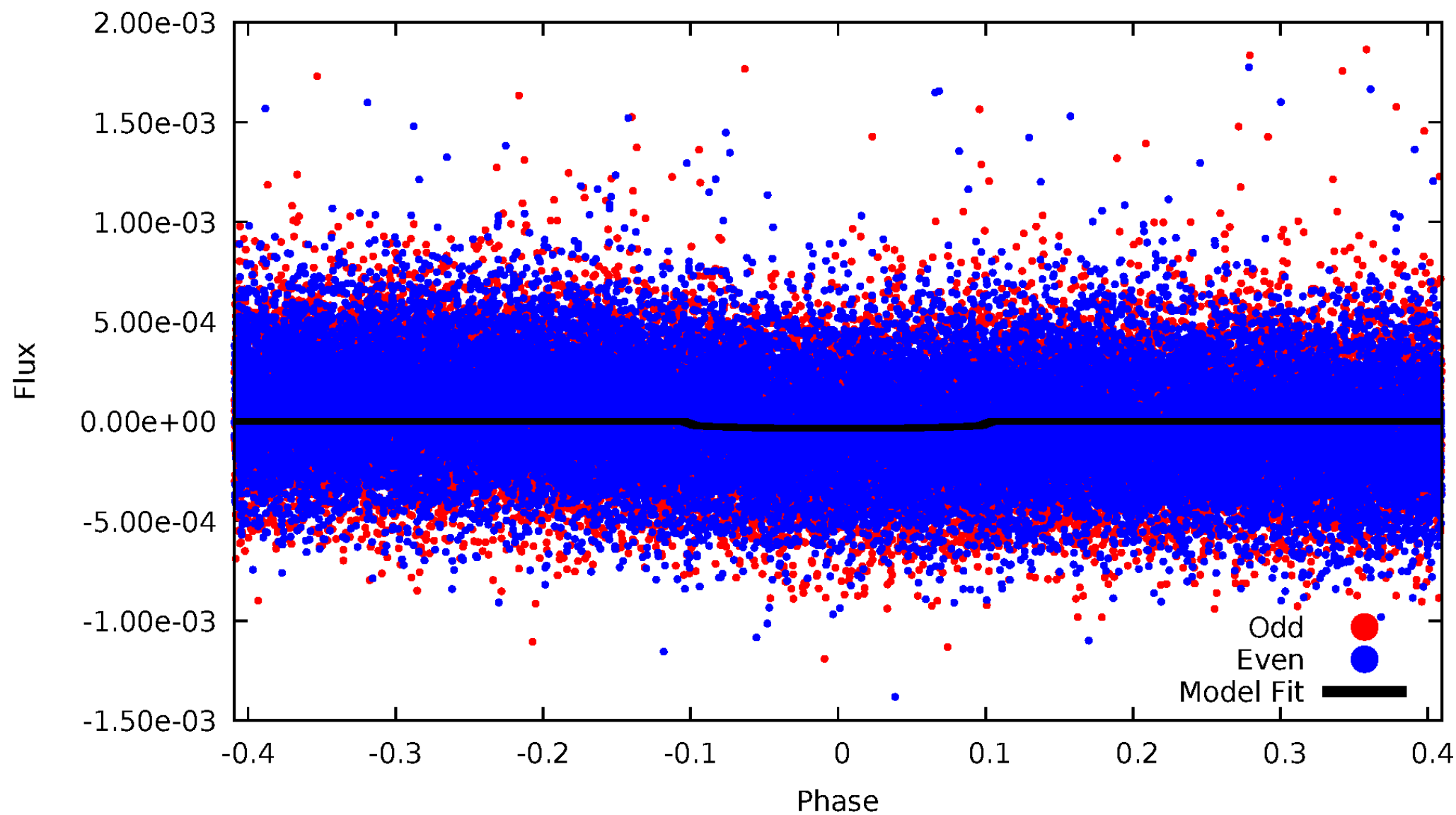


TCE 005737166-01



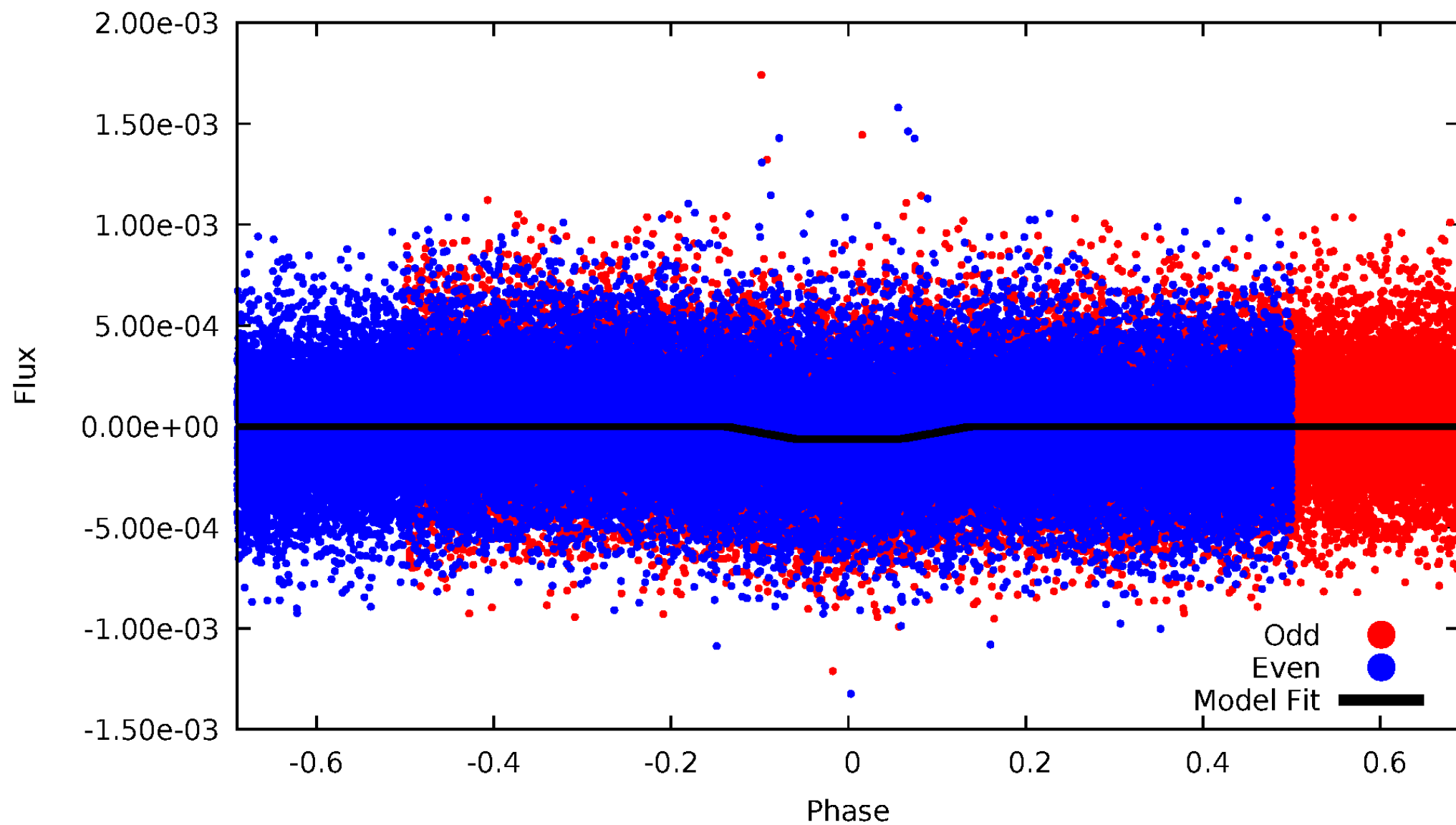
DV Odd/Even

TCE 005737166-01



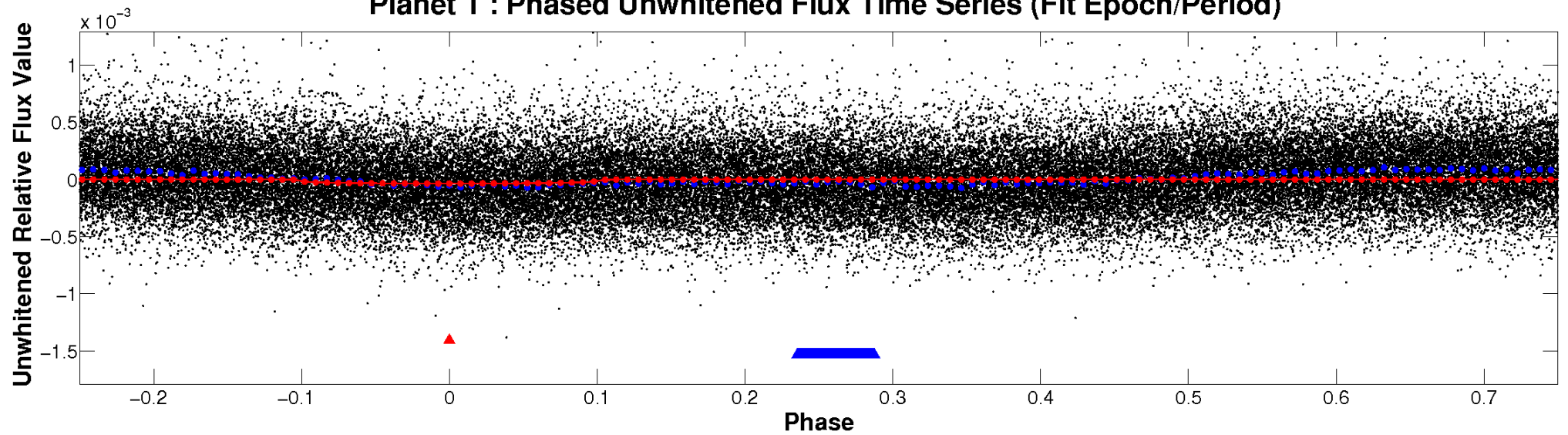
ALT Odd/Even

TCE 005737166-01

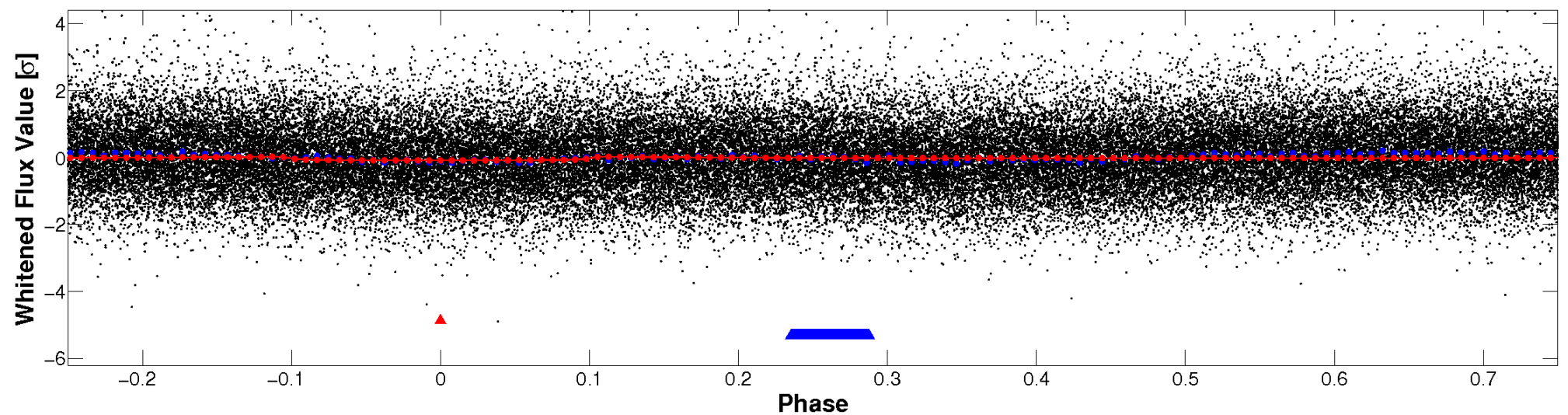


Non-Whitened Vs. Whitened Light Curve

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

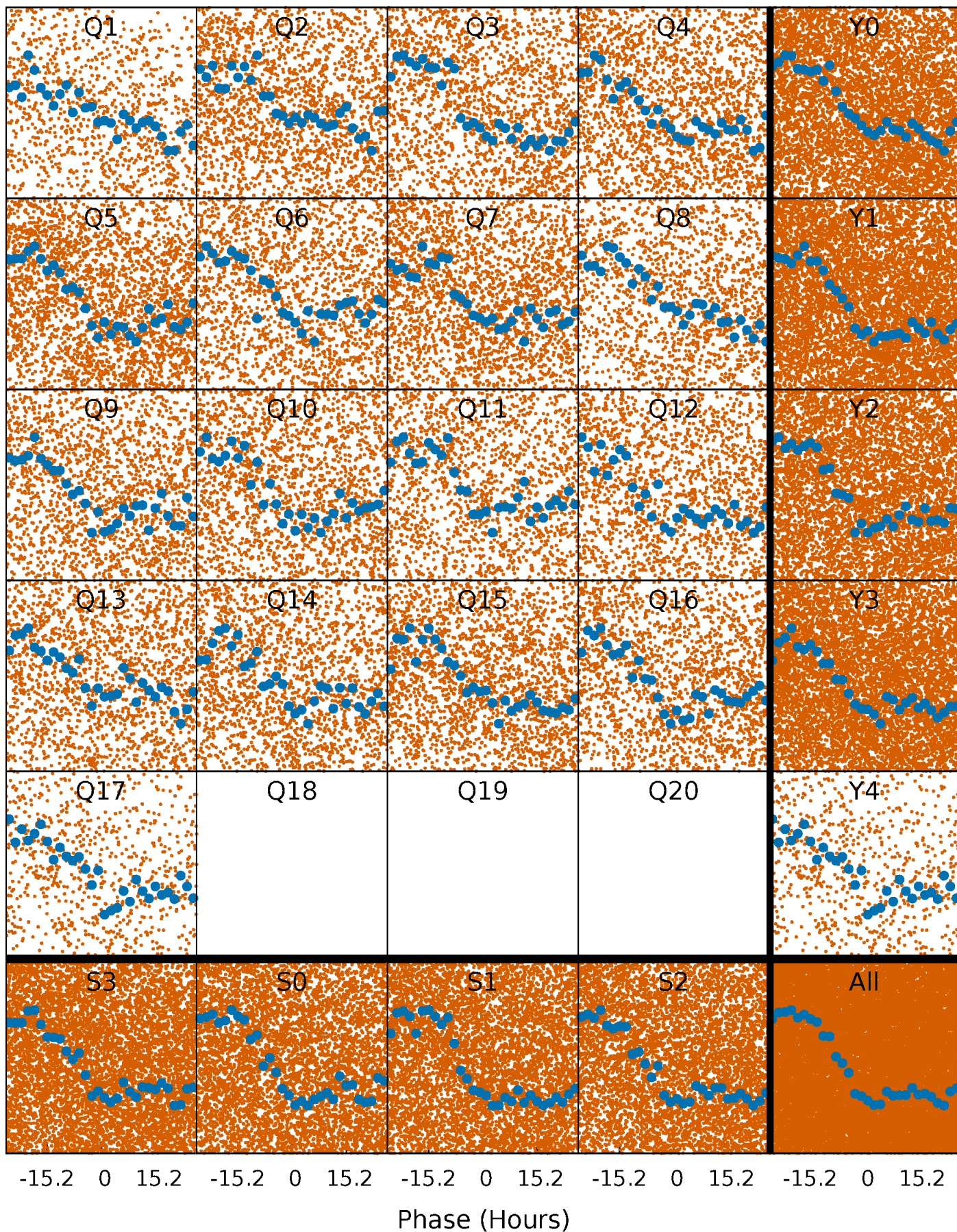


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



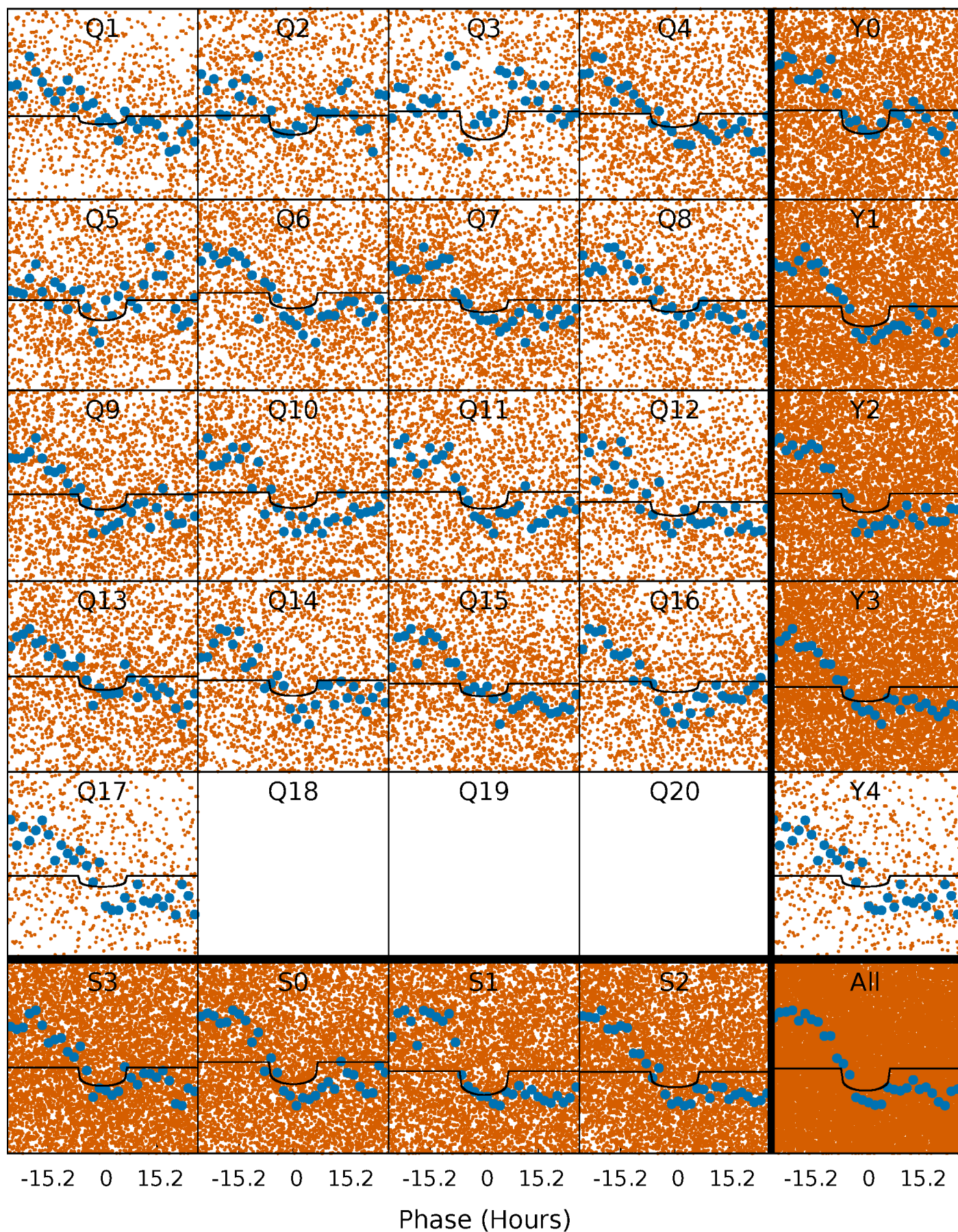
PDC Quarter-Phased Transit Curves

TCE 005737166-01 P= 2.714236 Days $T_0=133.168787$ (BKJD)



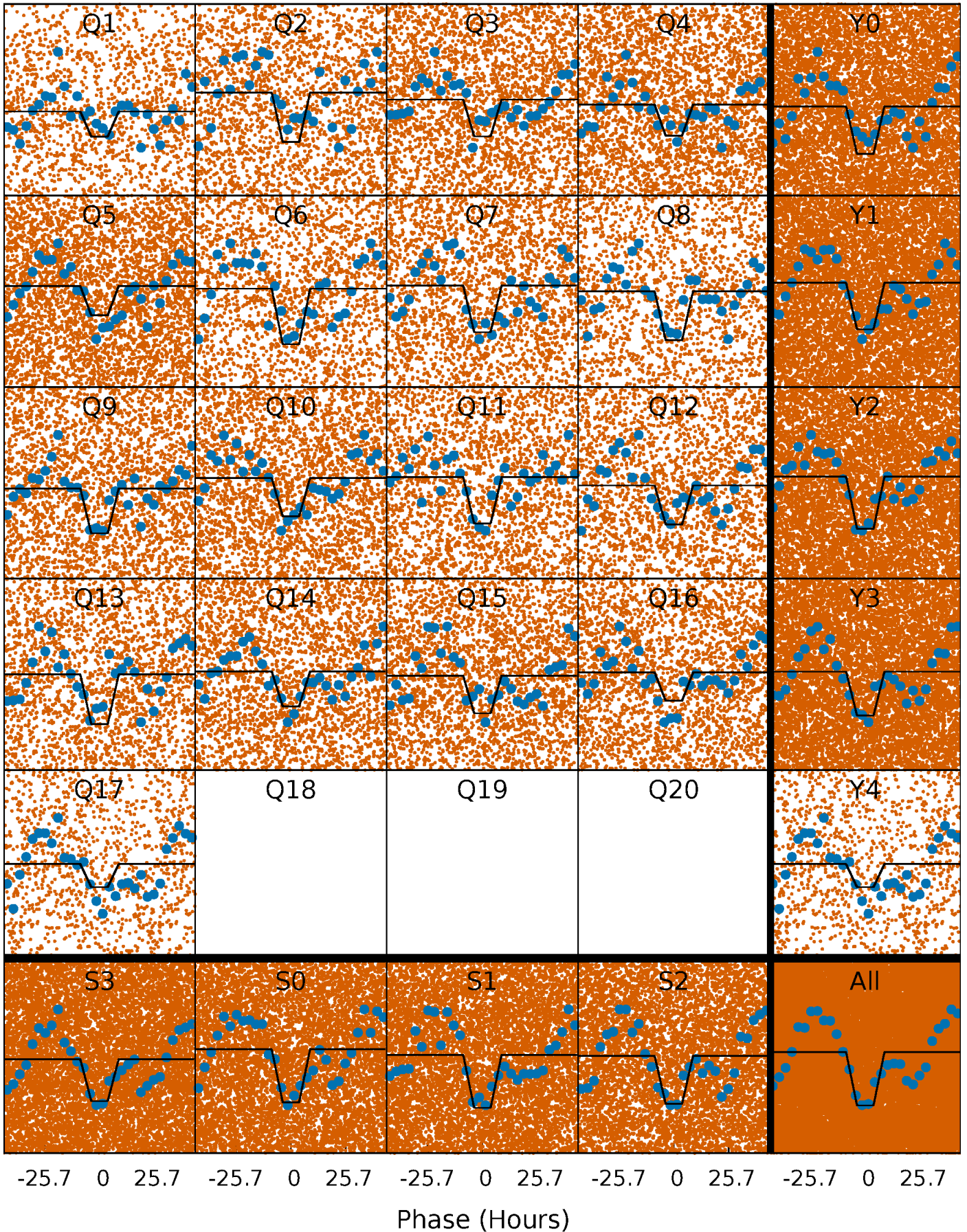
DV Quarter-Phased Transit Curves

TCE 005737166-01 P= 2.714236 Days $T_0=133.168787$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

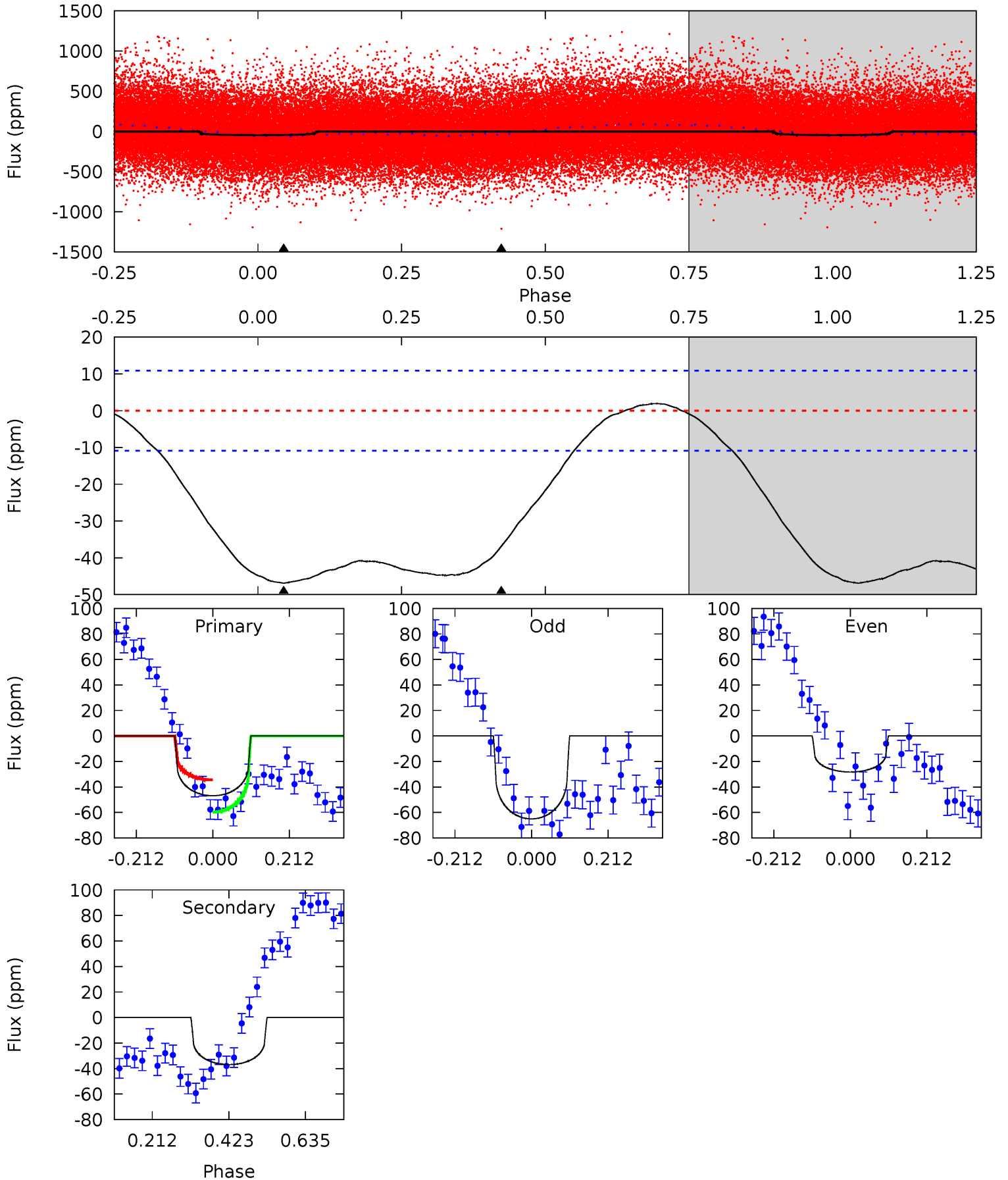
TCE 005737166-01 P= 2.714448 Days $T_0=133.155075$ (BKJD)



DV Model-Shift Uniqueness Test

005737166-01, P = 2.714236 Days, E = 130.454551 Days

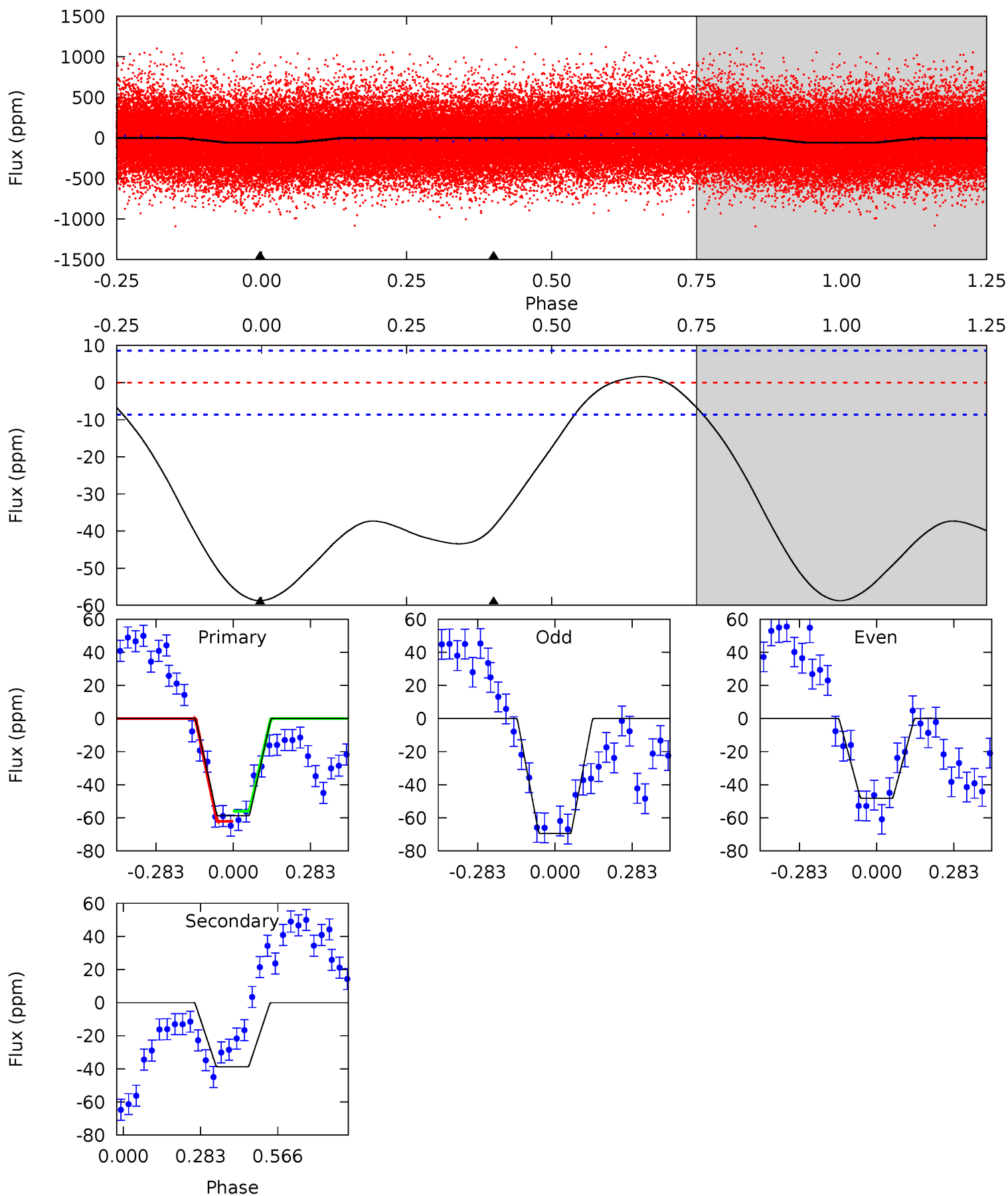
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	14.9	0	0	4.41	1.25	1.68	19.0	19.0	14.9	14.9	7.53	0.91	0.04	5.18



Alt Model-Shift Uniqueness Test

005737166-01, P = 2.714448 Days, E = 130.440627 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	19.5	0	0	4.34	1.07	1.26	29.6	29.6	19.5	19.5	5.30	0.90	0.03	1.56



Stellar Parameters For KIC 005737166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+158}_{-193}	$4.330^{+0.153}_{-0.187}$	$-0.100^{+0.300}_{-0.300}$	$1.116^{+0.309}_{-0.206}$	$0.972^{+0.140}_{-0.115}$	$0.984^{+0.709}_{-0.474}$
	+3%/-3%	+4%/-4%	+300%/-300%	+28%/-18%	+14%/-12%	+72%/-48%
Source	PHO1	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 005737166-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-37 ± 2	$0.71^{+0.56}_{-0.41}$	1985^{+134}_{-133}	5993^{+4112}_{-1325}	57^{+264}_{-39}
Alt.	-39 ± 2	$1.00^{+0.57}_{-0.50}$	1987^{+143}_{-132}	5185^{+2134}_{-826}	31^{+88}_{-18}

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 $A_{obs} \gg 1.0$

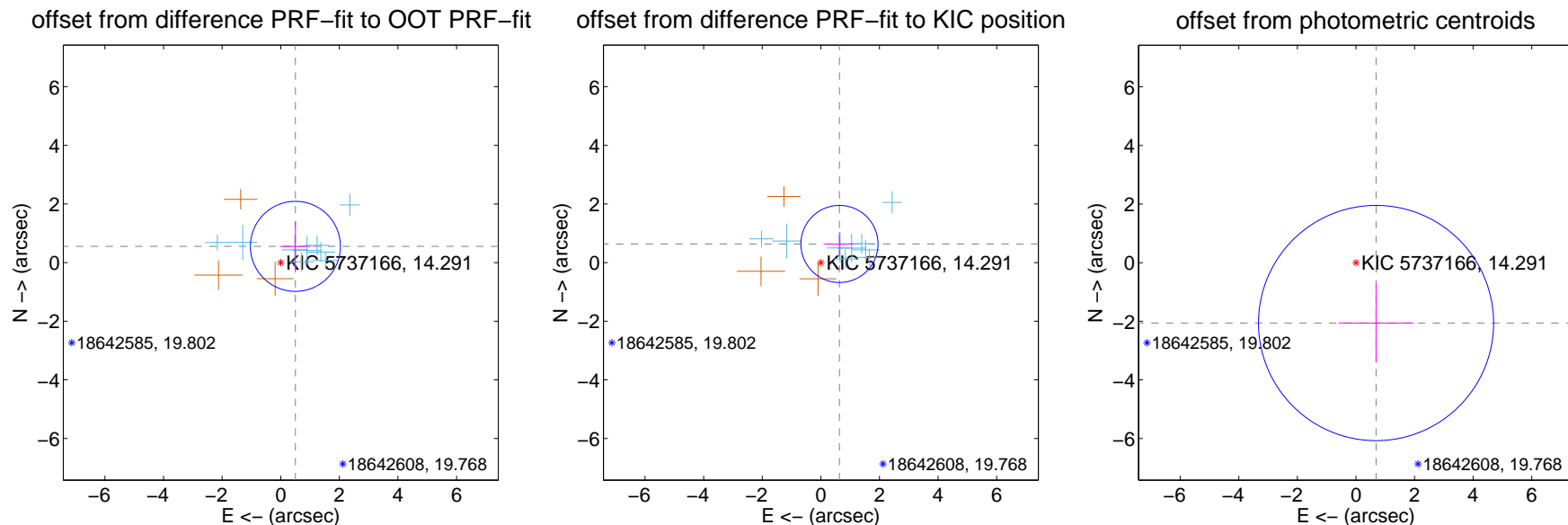
DV Centroid Data

Supplemental centroid analysis for 005737166-01. Kepler magnitude: 14.29. Transit SNR 8.43

There are 10 quarters with good PRF difference image offsets

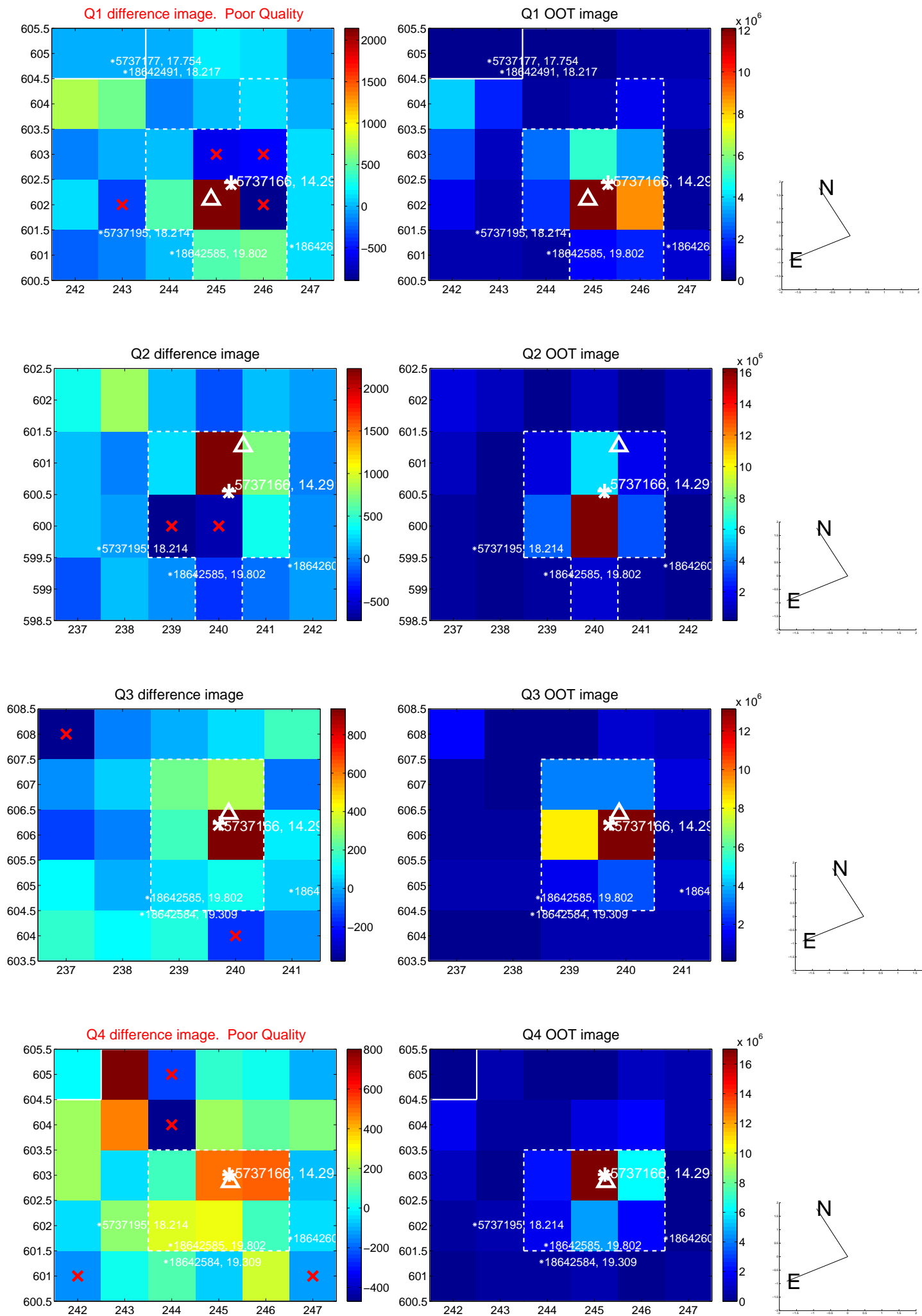
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.746 ± 0.512	1.46	-0.500 ± 0.525	0.553 ± 0.840
PRF-fit source offset from KIC position	0.898 ± 0.439	2.05	-0.634 ± 0.473	0.635 ± 0.401
photometric centroid source offset	2.17 ± 1.34	1.62	-0.69 ± 1.28	-2.06 ± 1.34

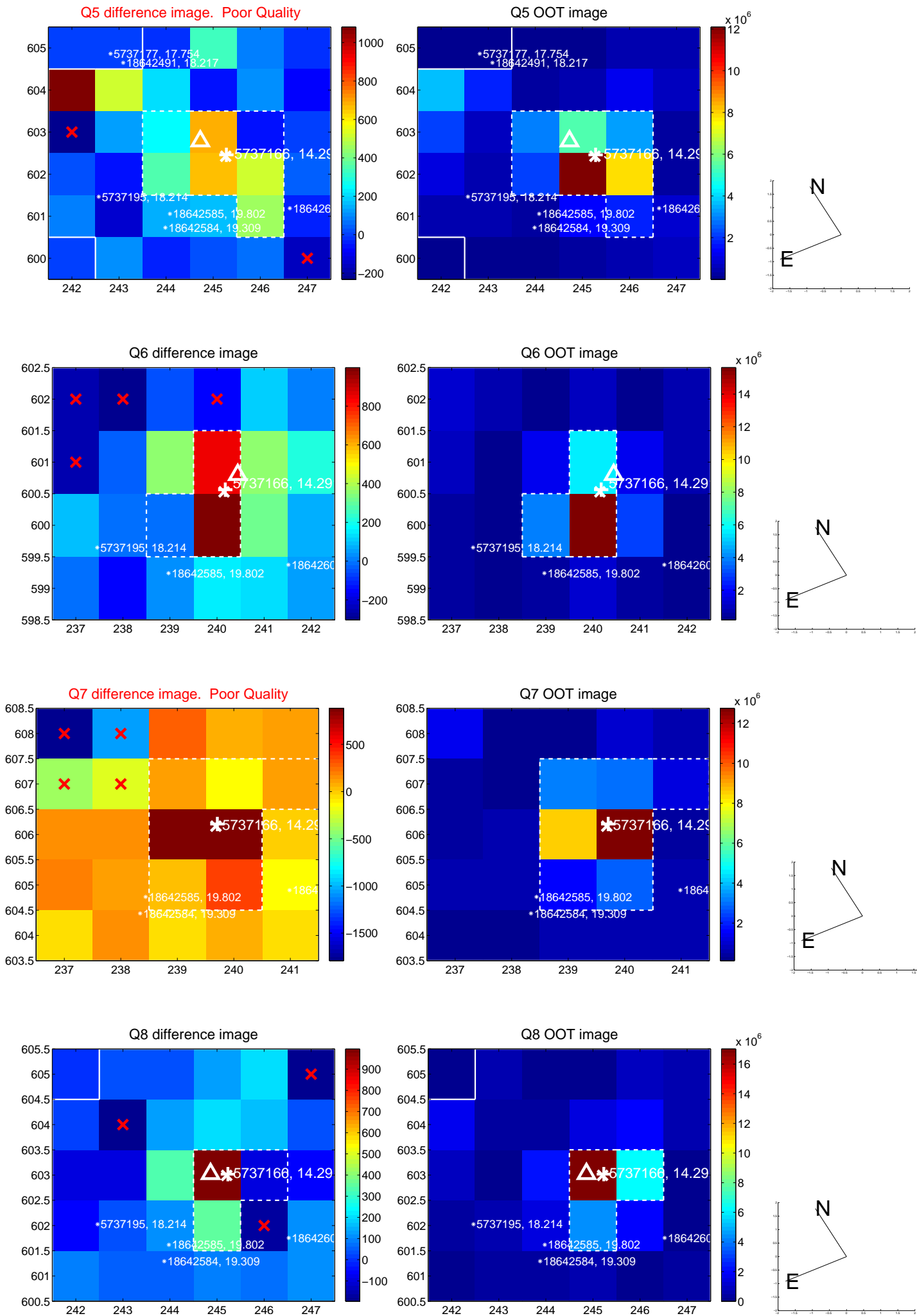


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

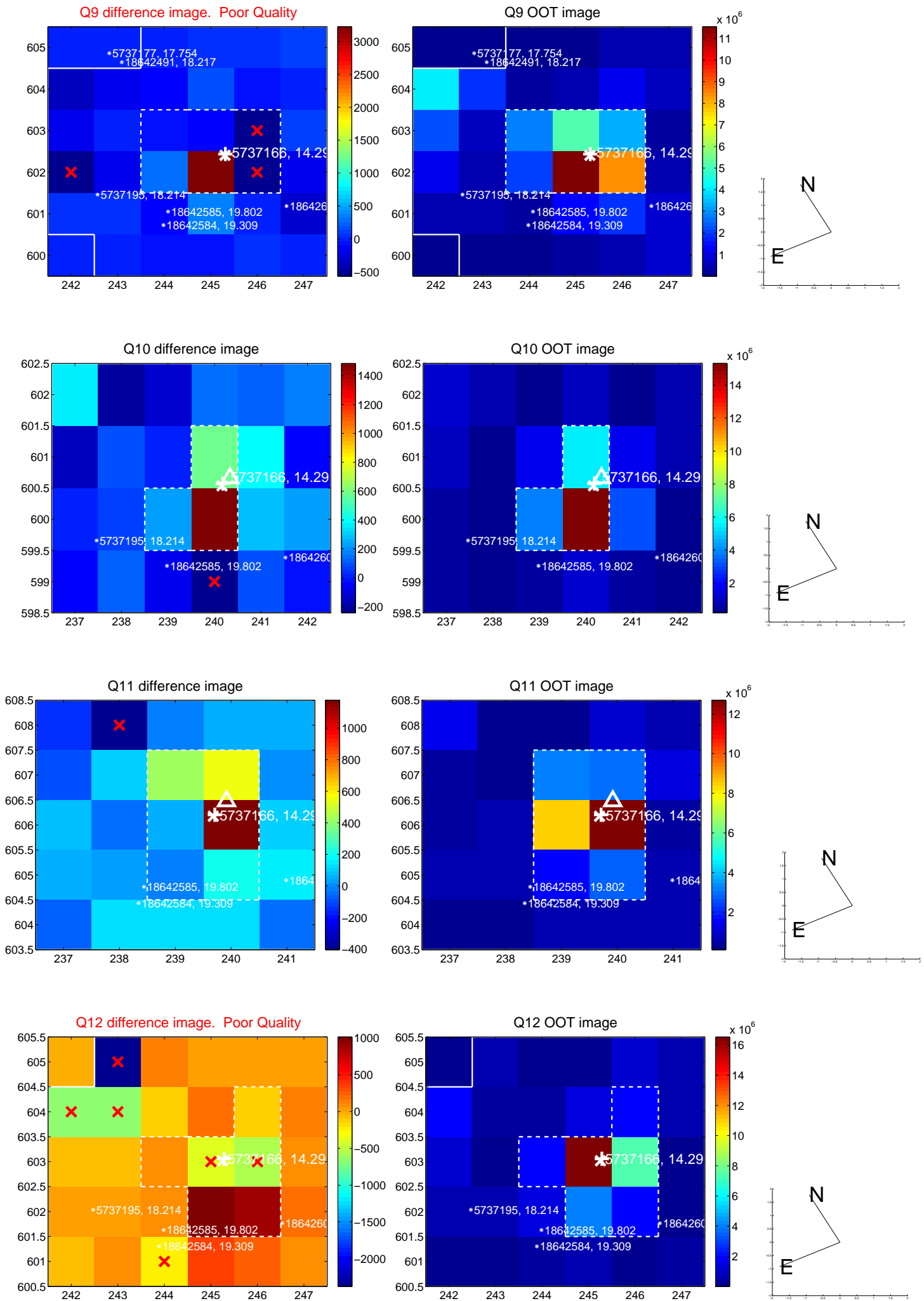
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



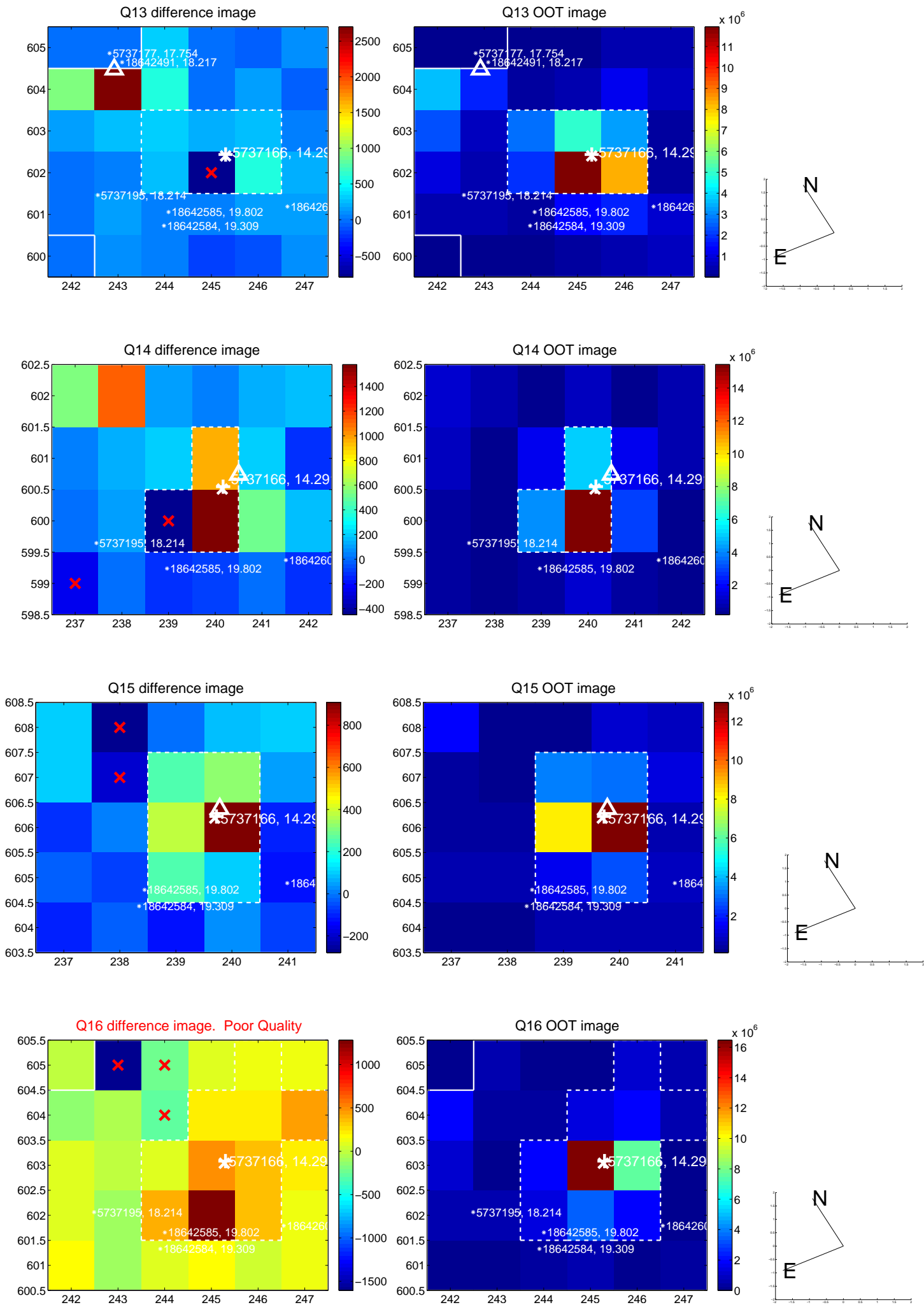
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



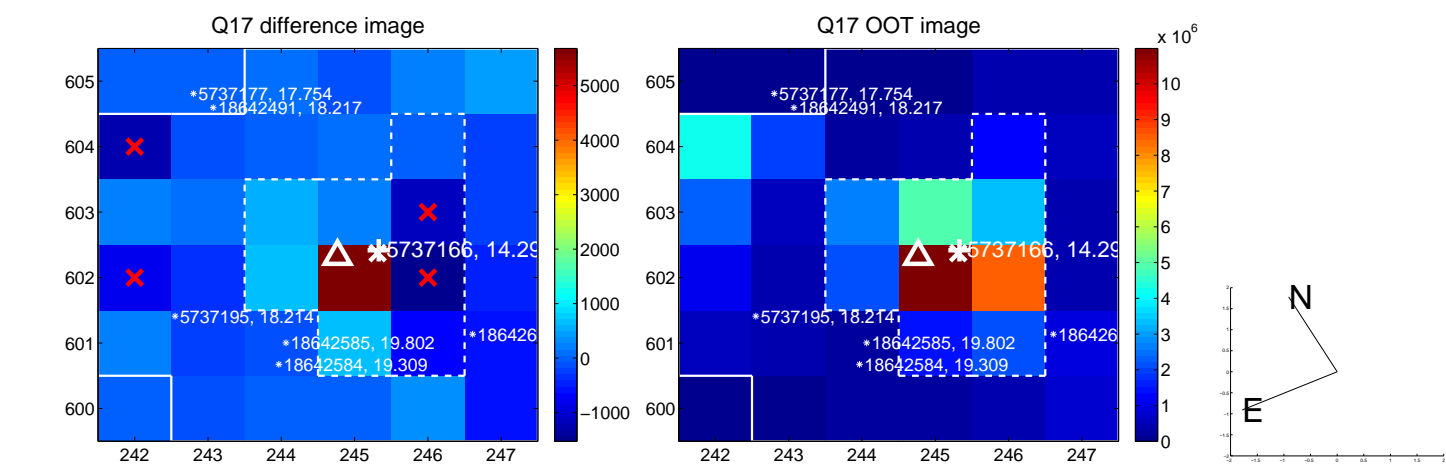
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



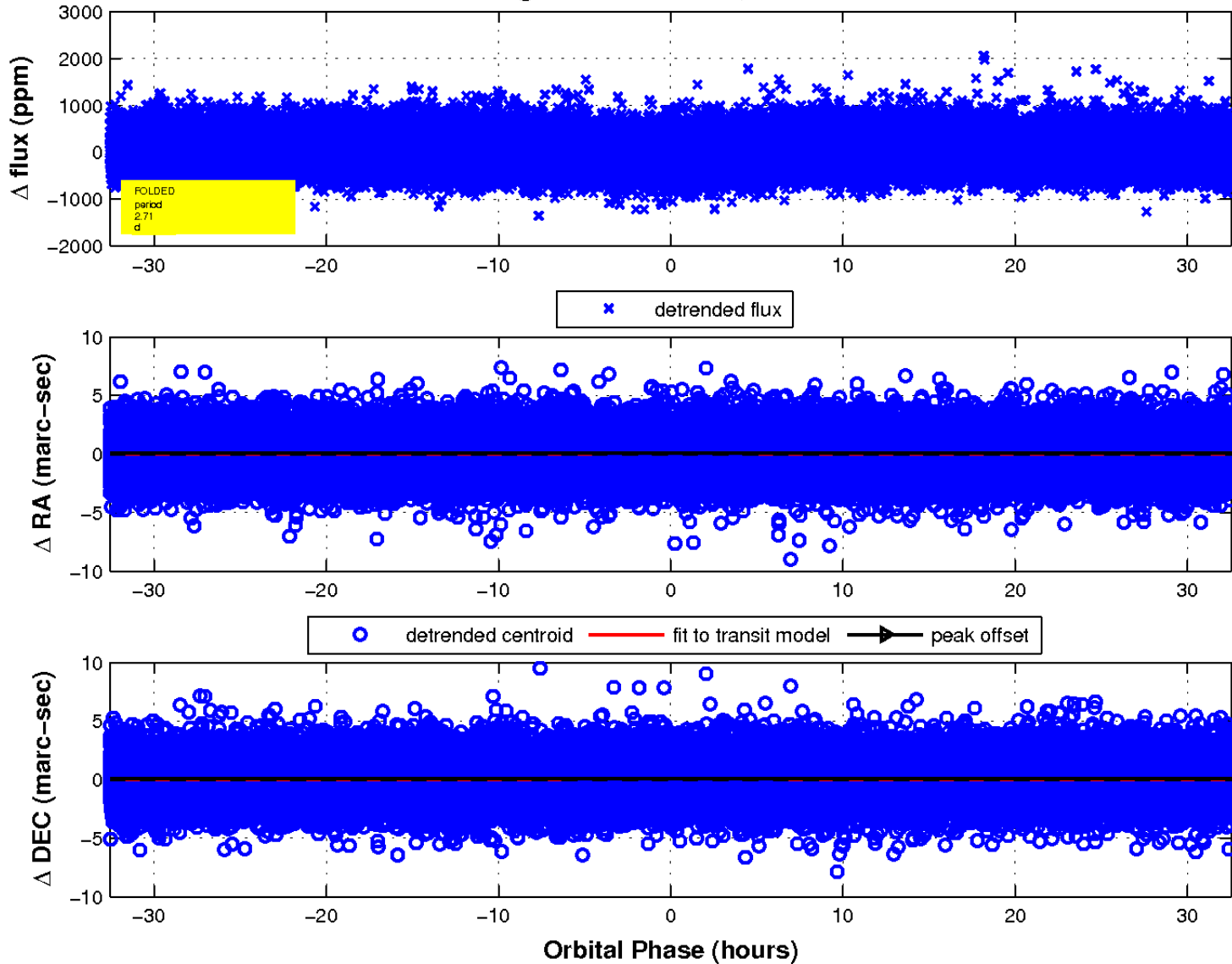
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

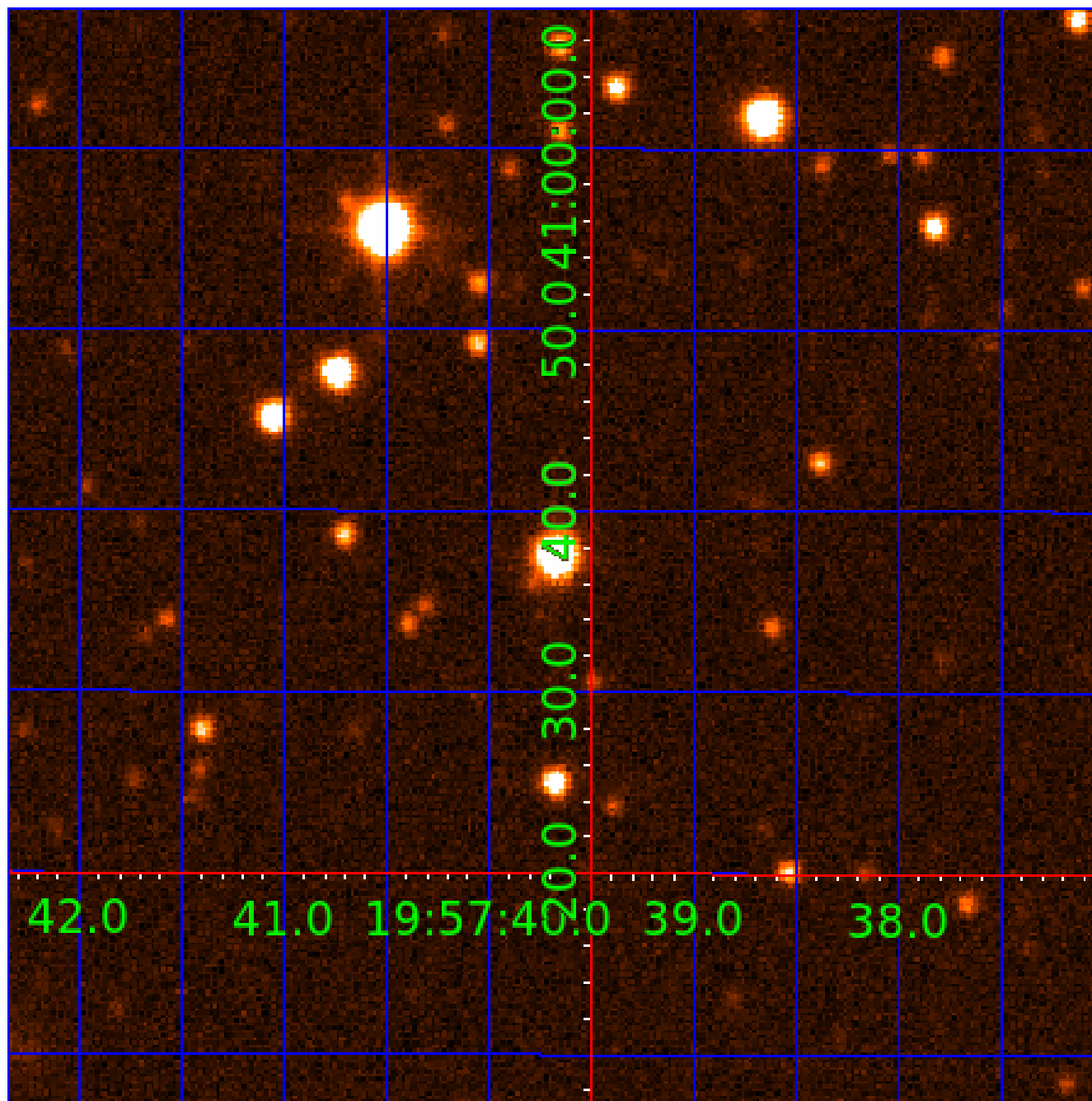


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005737166

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})
005737166-01	OBS	No	2.714236	133.168787	34.9	13.332	9.6	8.4	1.12	5903	0.68	952.28
005737166-02	OBS	No	2.714501	133.807741	111.2	32.574	11.9	18.4	1.12	5903	1.19	952.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005737166-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005737166-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

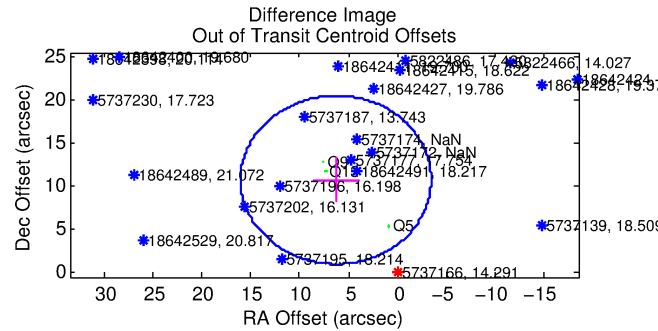
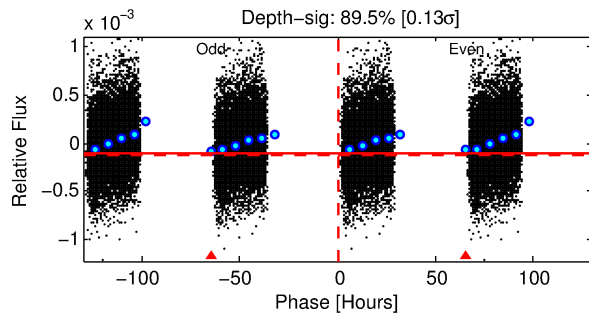
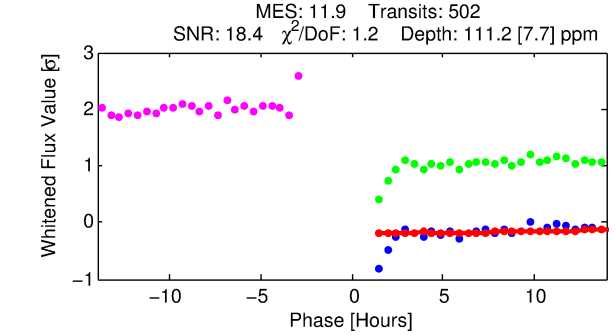
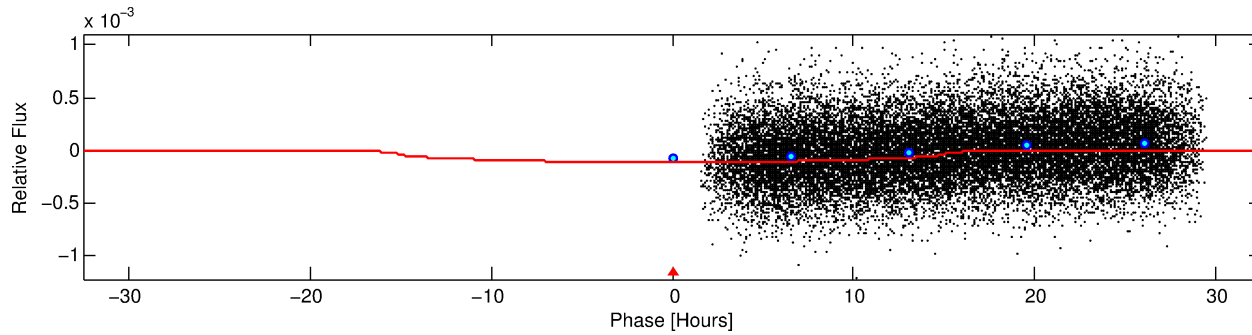
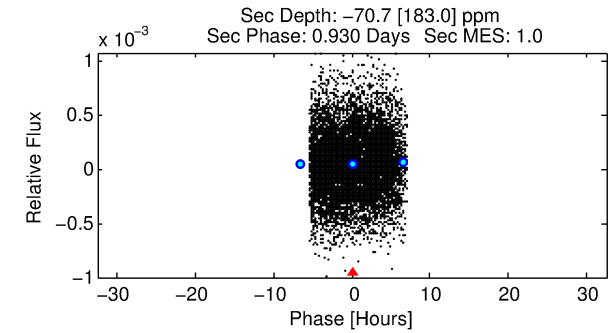
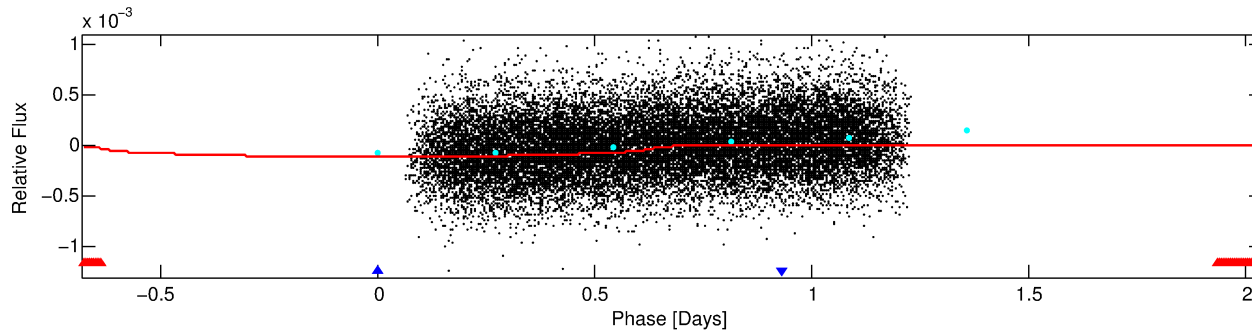
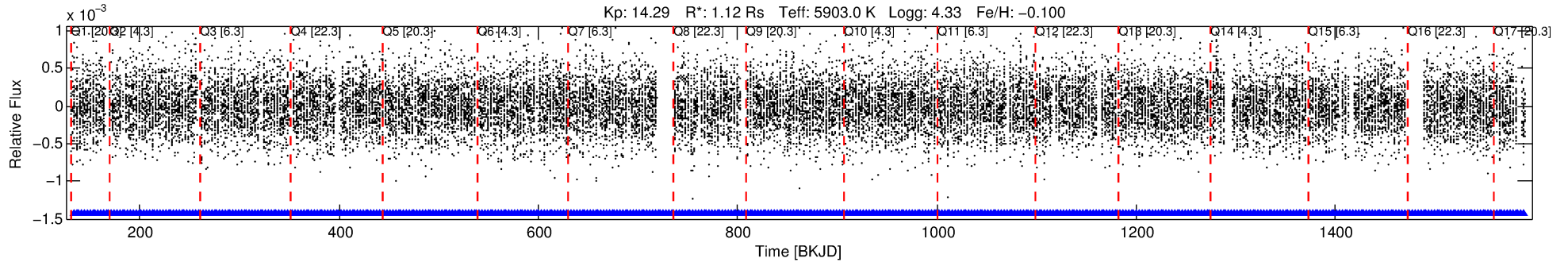
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005737166-02

No Significant Match Found

DV One-Page Summary

KIC: 5737166 Candidate: 2 of 2 Period: 2.715 d



DV Fit Results:

Period = 2.71450 [0.00006] d
Epoch = 133.8077 [0.0234] BKJD
Rp/R* = 0.0098 [0.0009]
a/R* = 1.00 [0.00]
b = 0.37 [0.96]
Seff = 952.16 [348.00]
Teq = 1416 [129] K
Rp = 1.19 [0.35] Re
a = 0.0377 [0.0088] AU
Ag = N/A
Teffp = N/A

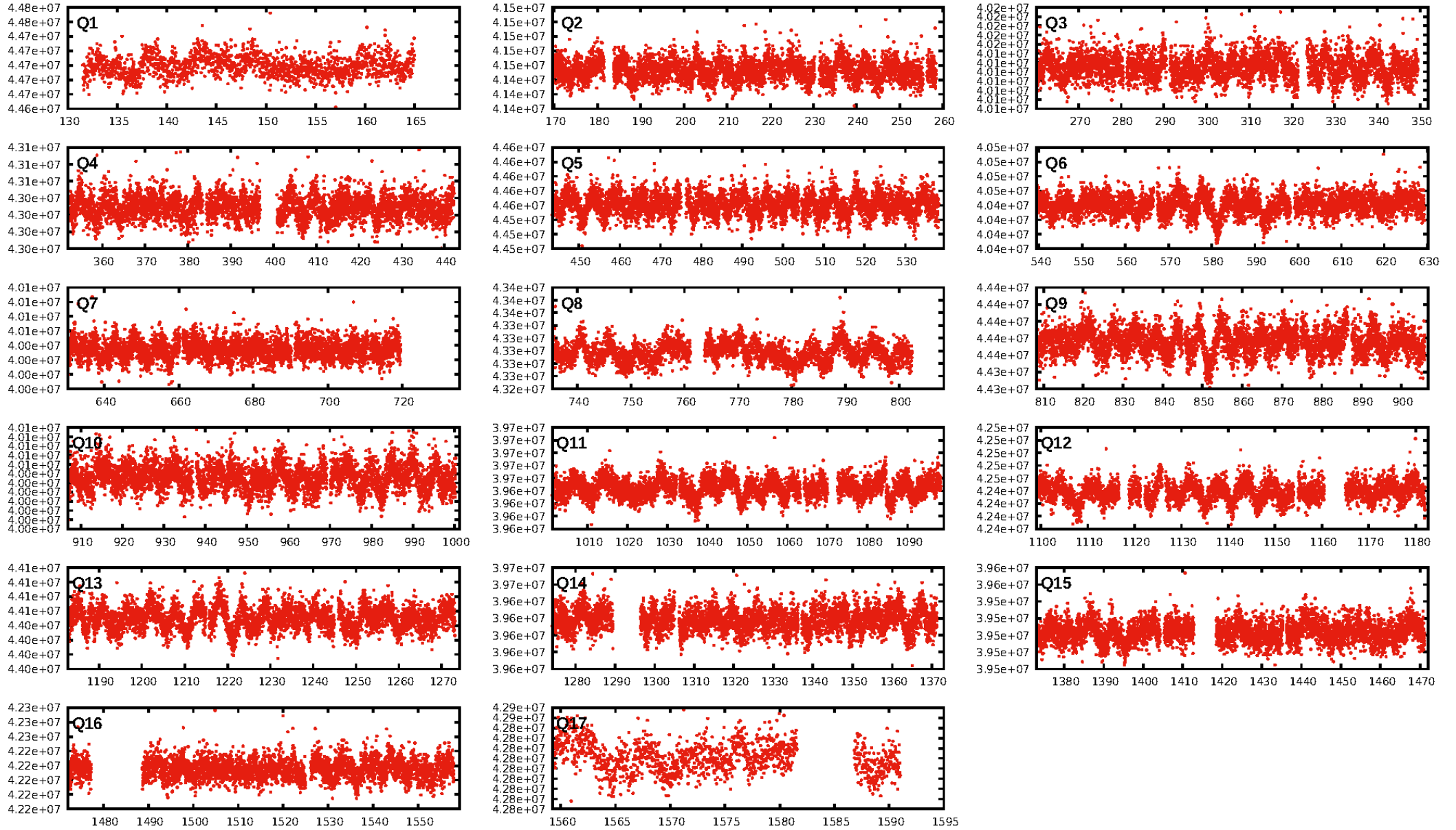
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [479/479]
GhostDiagnostic-chr: 2.404
Centroid-sig: 0.0%
Centroid-so: 0.271 arcsec [0.93σ]
OotOffset-rm: 12.449 arcsec [3.83σ]
KicOffset-rm: 12.514 arcsec [4.85σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/17]

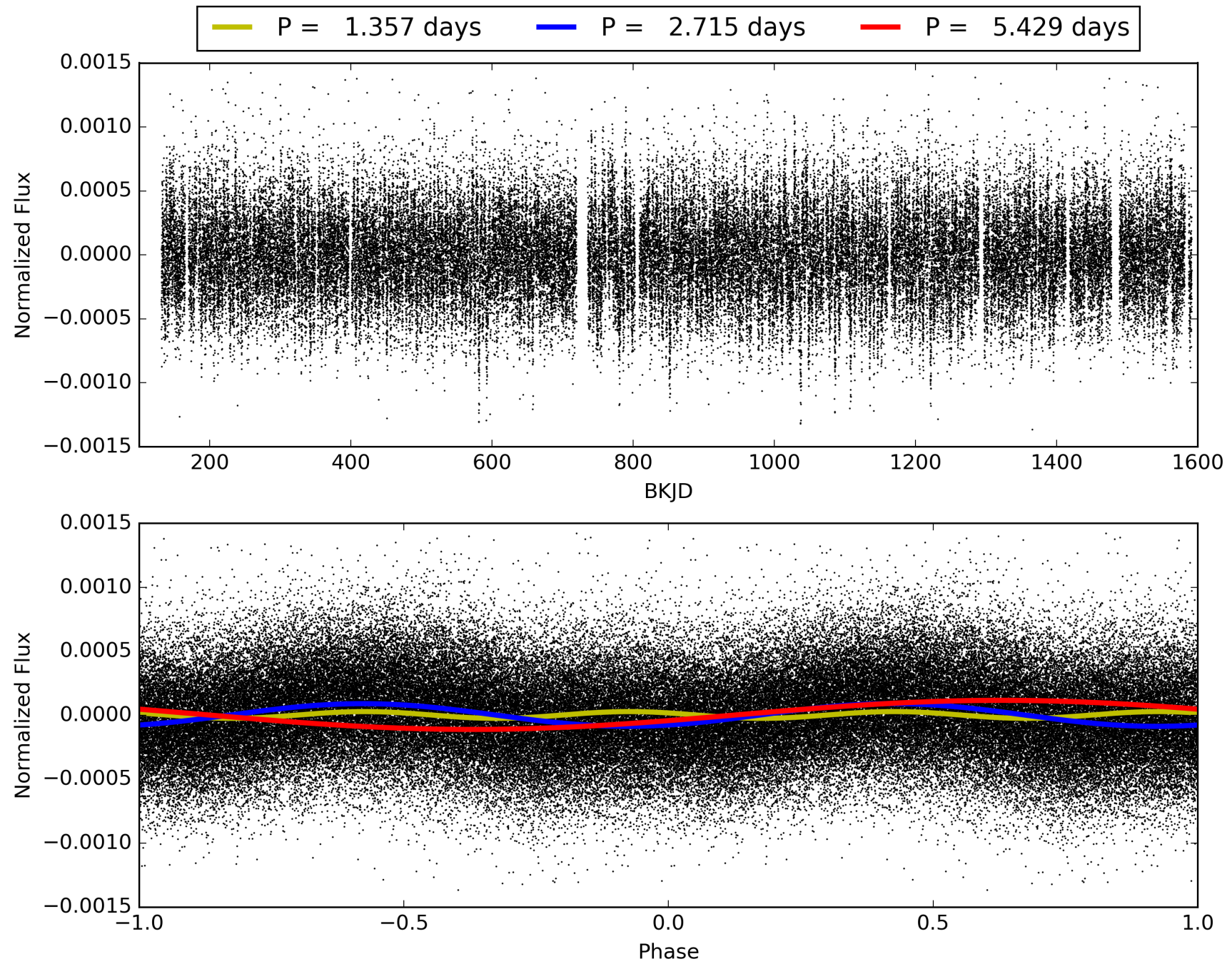
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:13:17 Z

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

TCE 005737166-02, PDC Light Curves

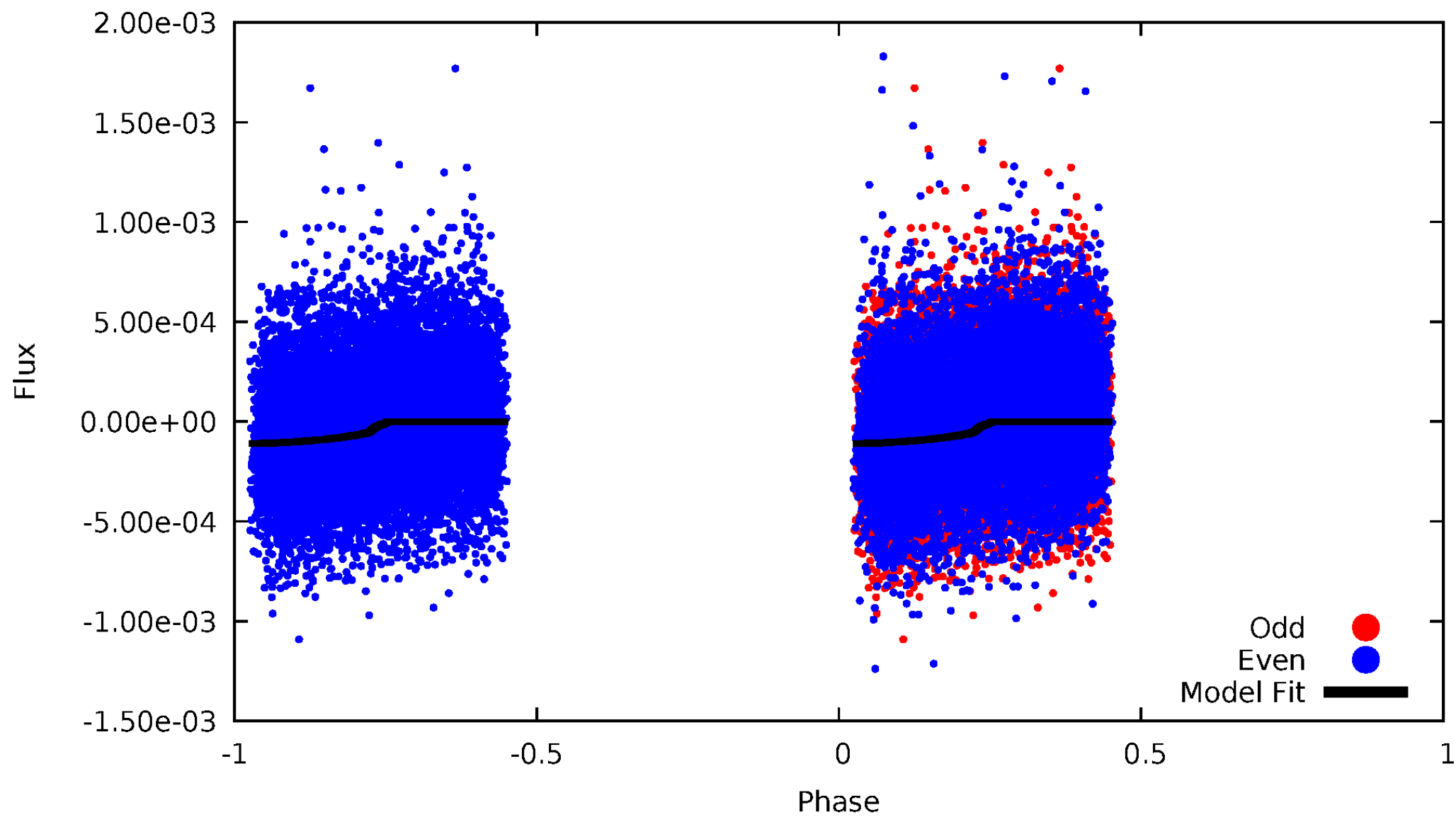


TCE 005737166-02



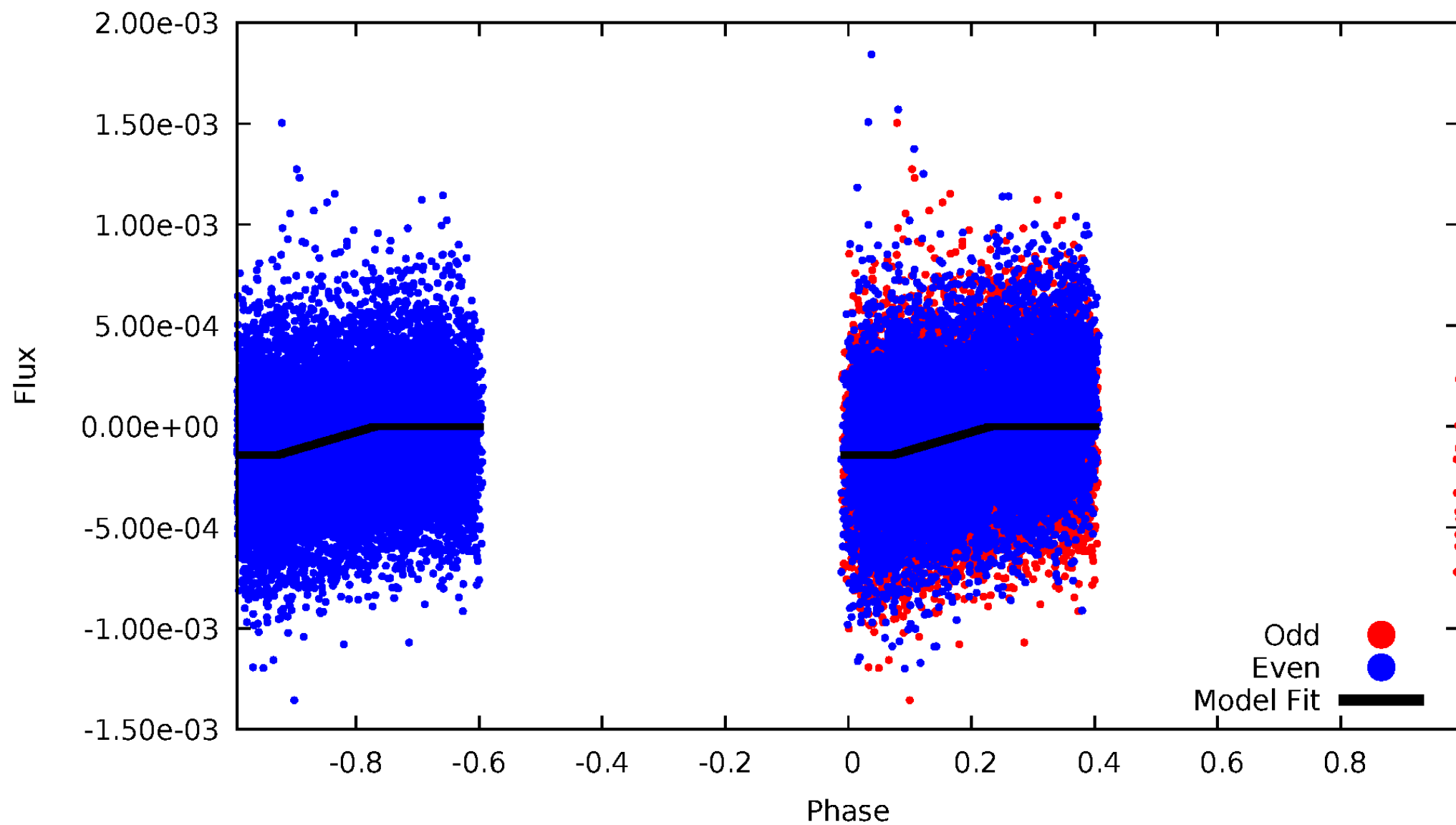
DV Odd/Even

TCE 005737166-02



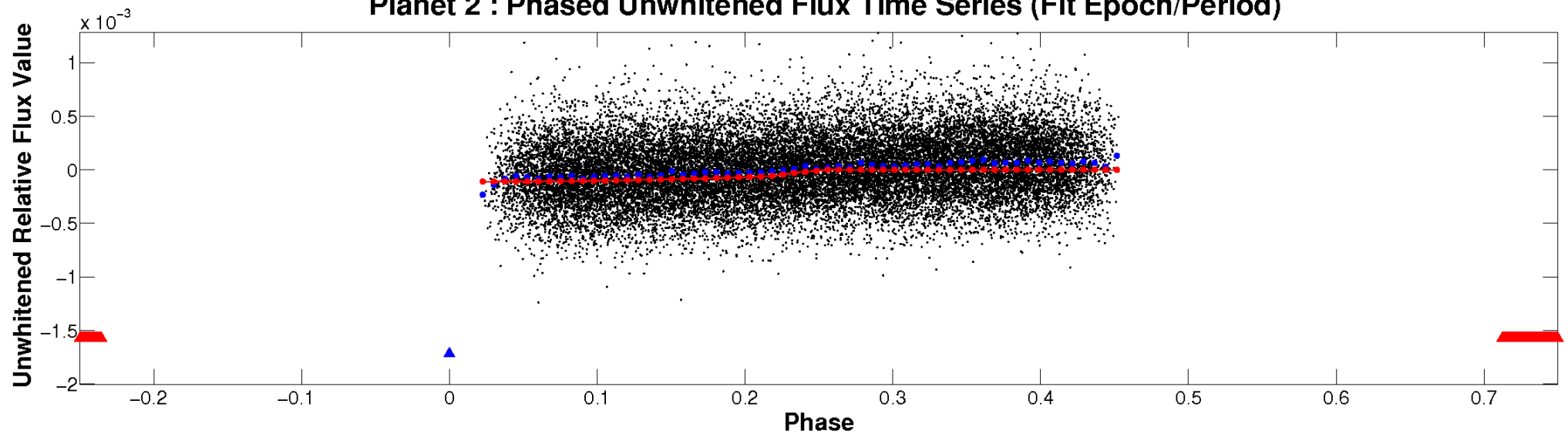
ALT Odd/Even

TCE 005737166-02

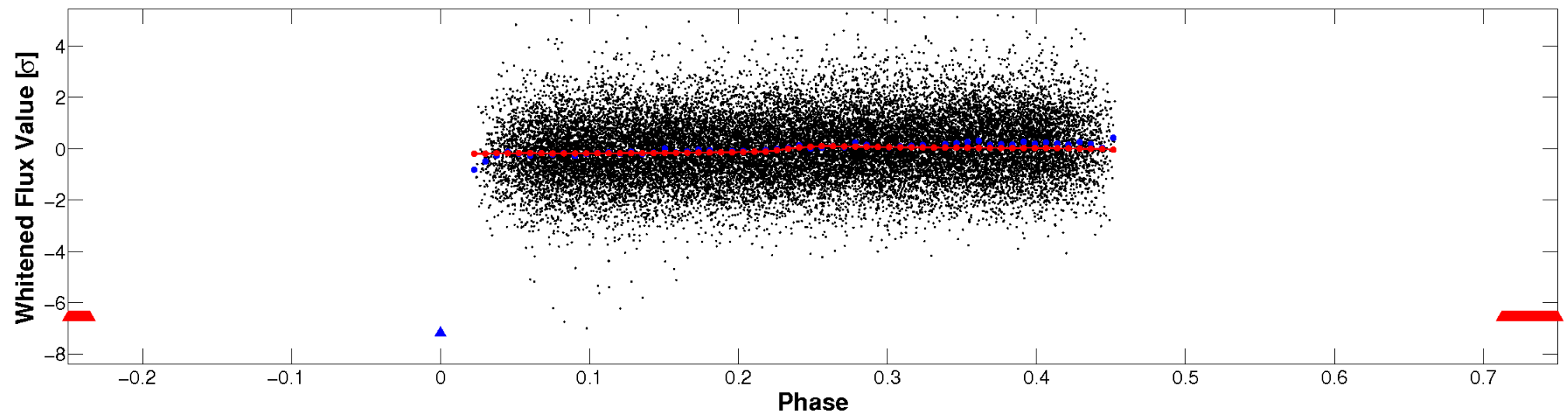


Non-Whitened Vs. Whitened Light Curve

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

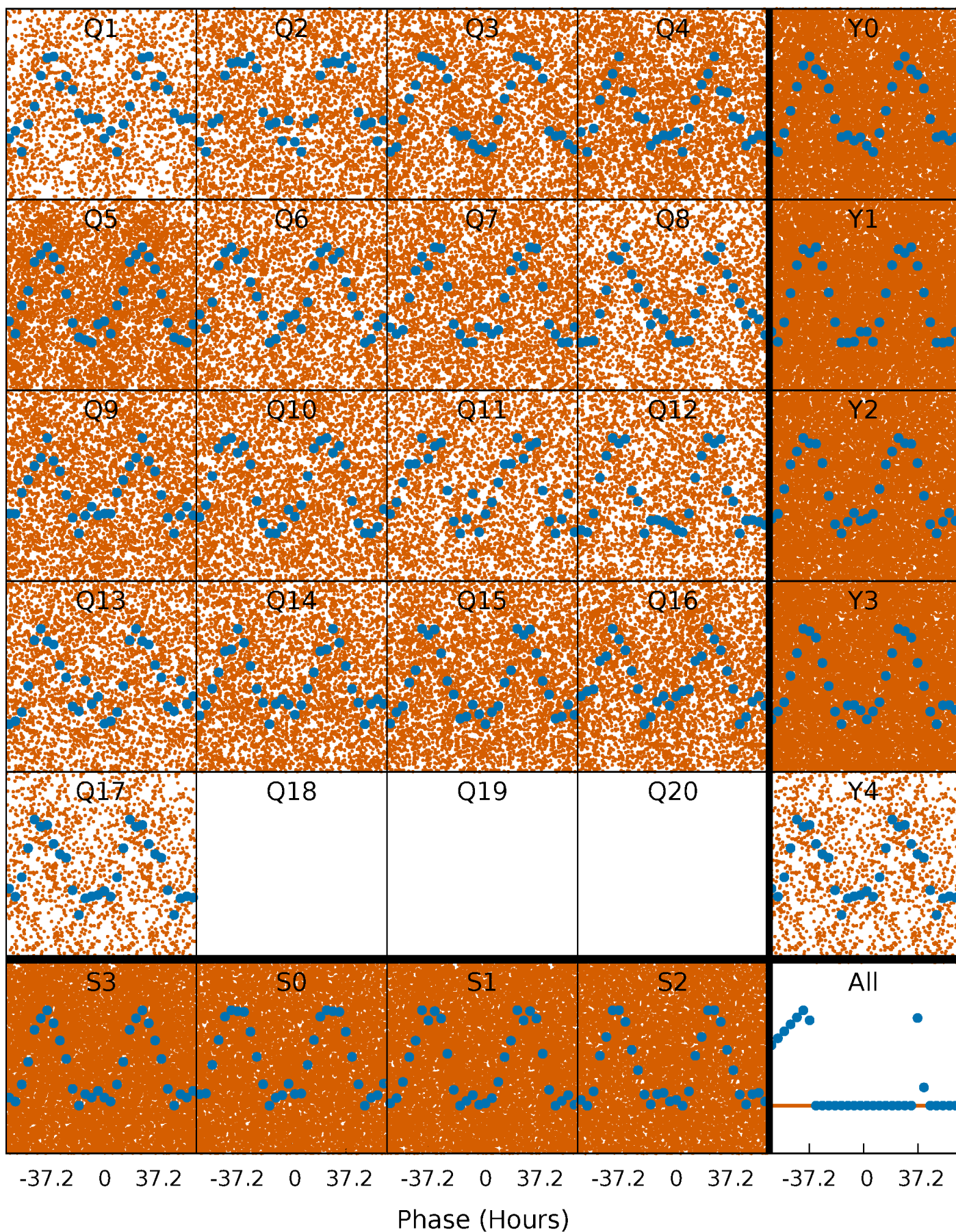


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



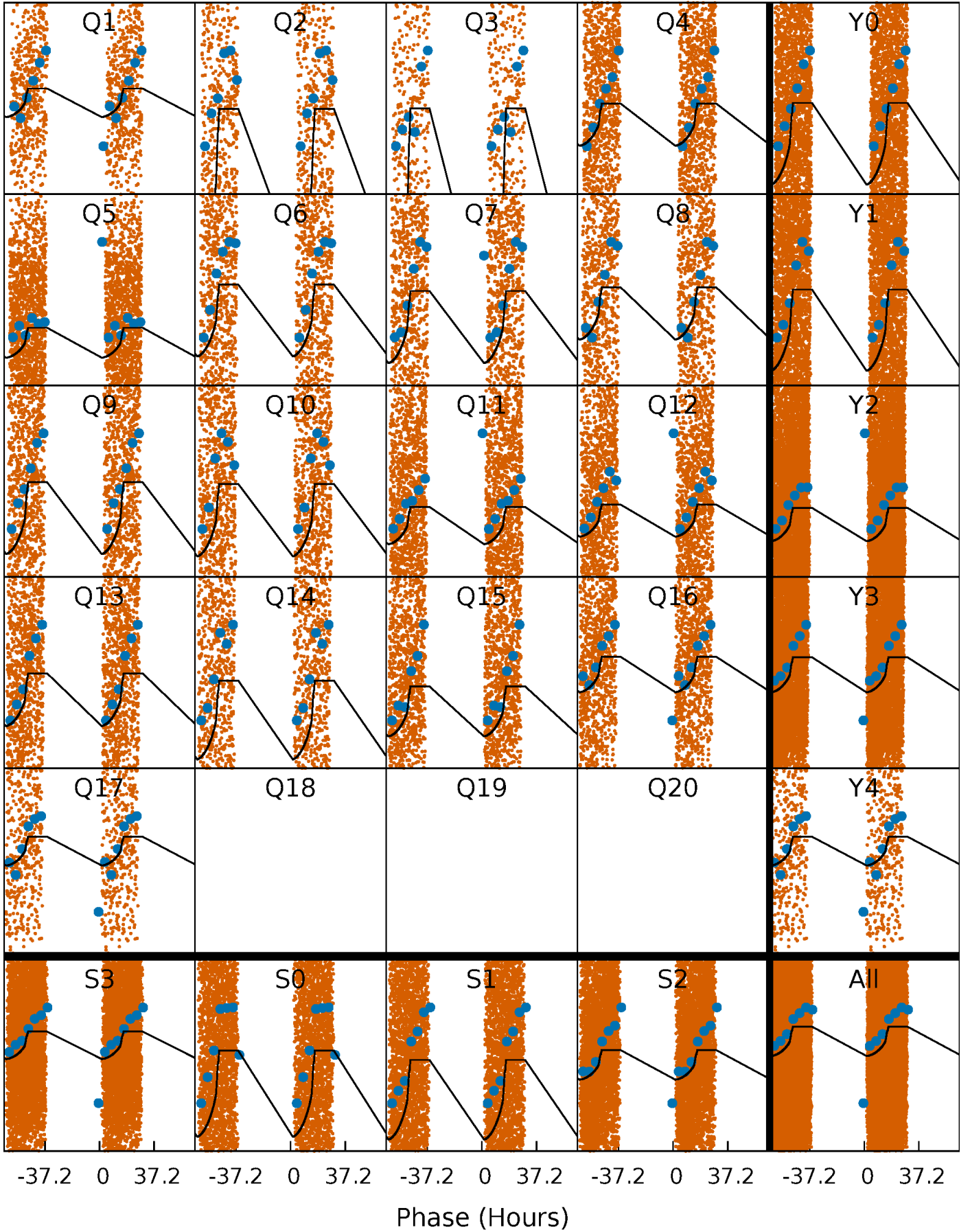
PDC Quarter-Phased Transit Curves

TCE 005737166-02 P= 2.714501 Days $T_0=133.807741$ (BKJD)



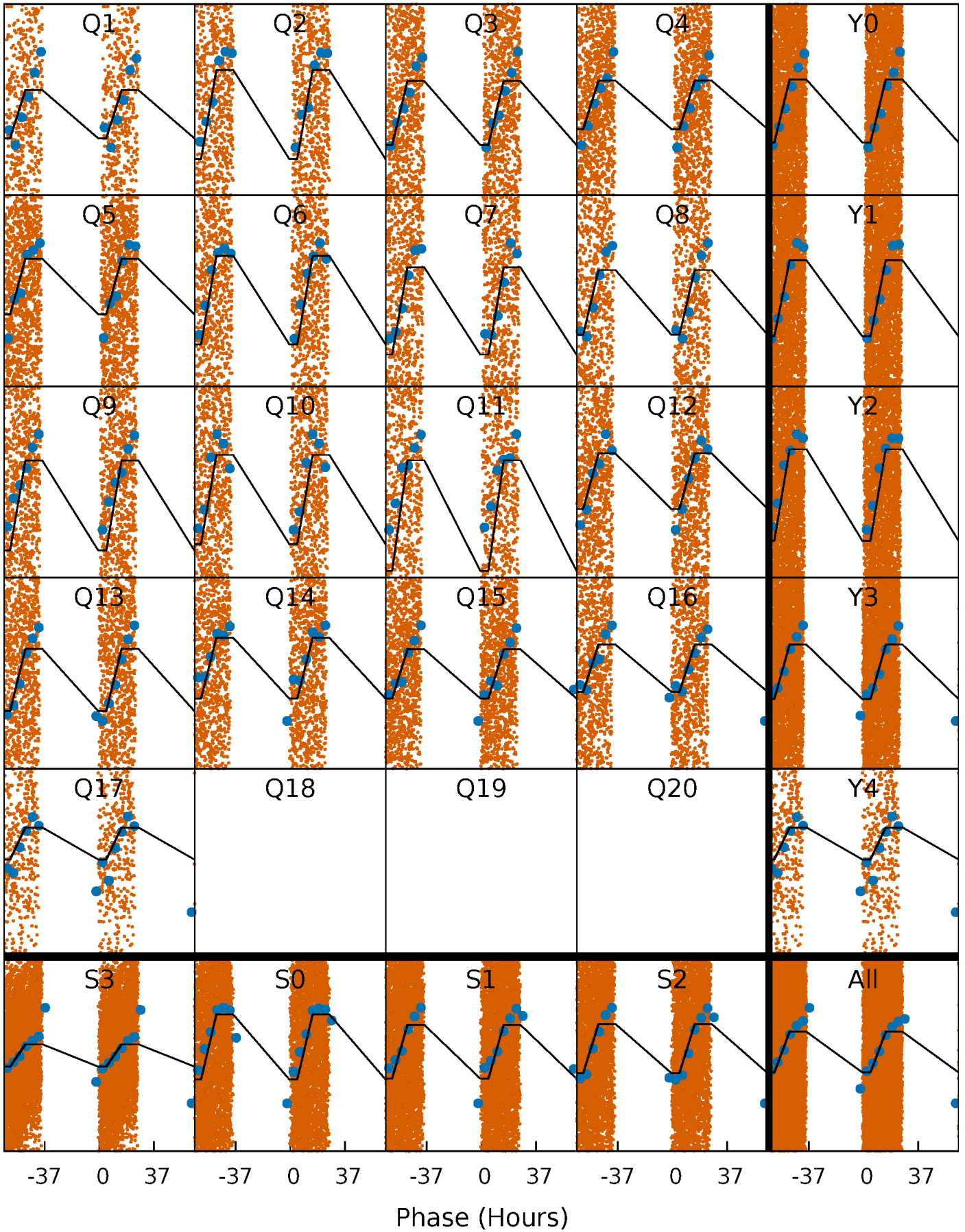
DV Quarter-Phased Transit Curves

TCE 005737166-02 P= 2.714501 Days $T_0=133.807741$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

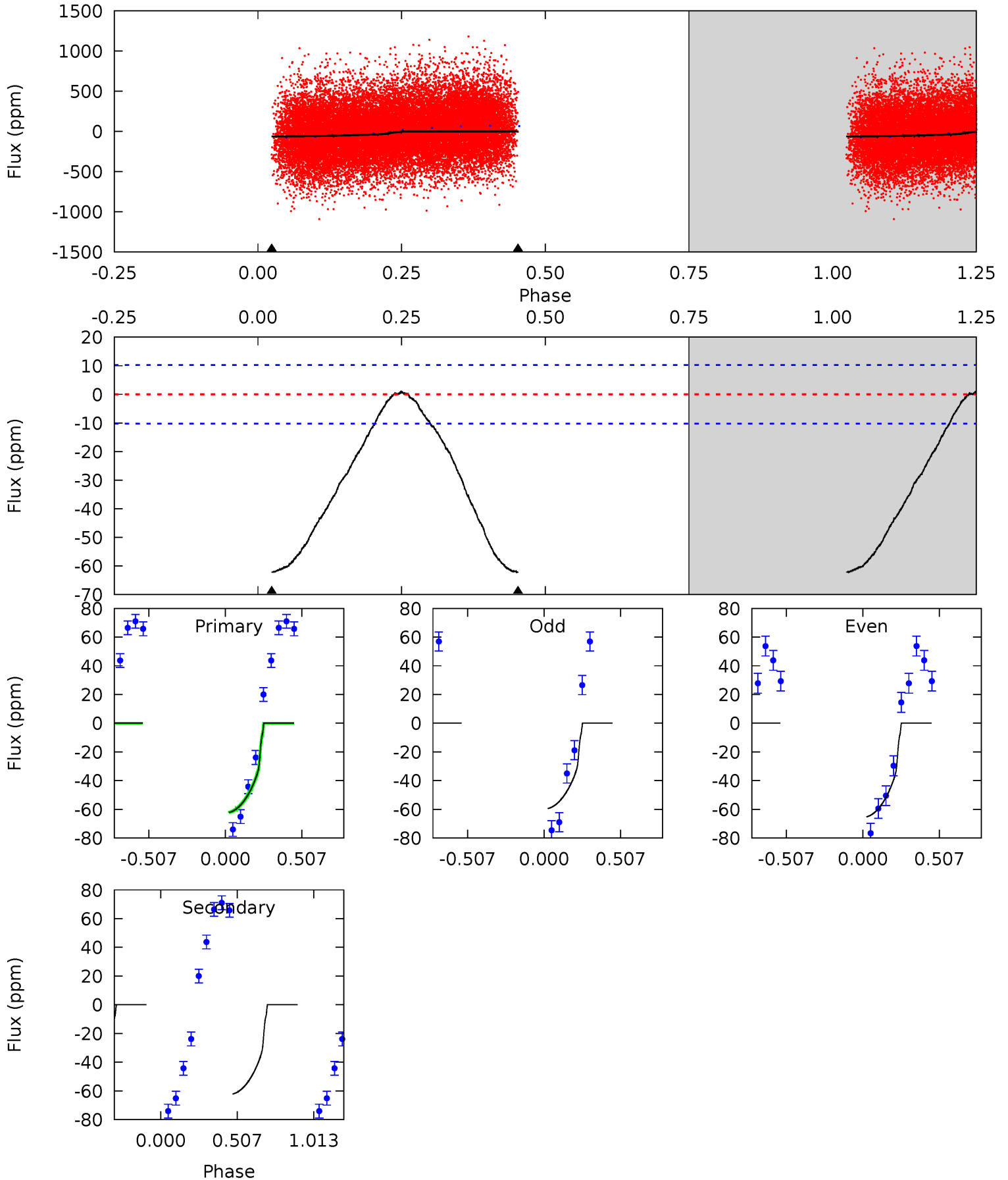
TCE 005737166-02 P= 2.714448 Days $T_0=133.932138$ (BKJD)



DV Model-Shift Uniqueness Test

005737166-02, P = 2.714501 Days, E = 131.093240 Days

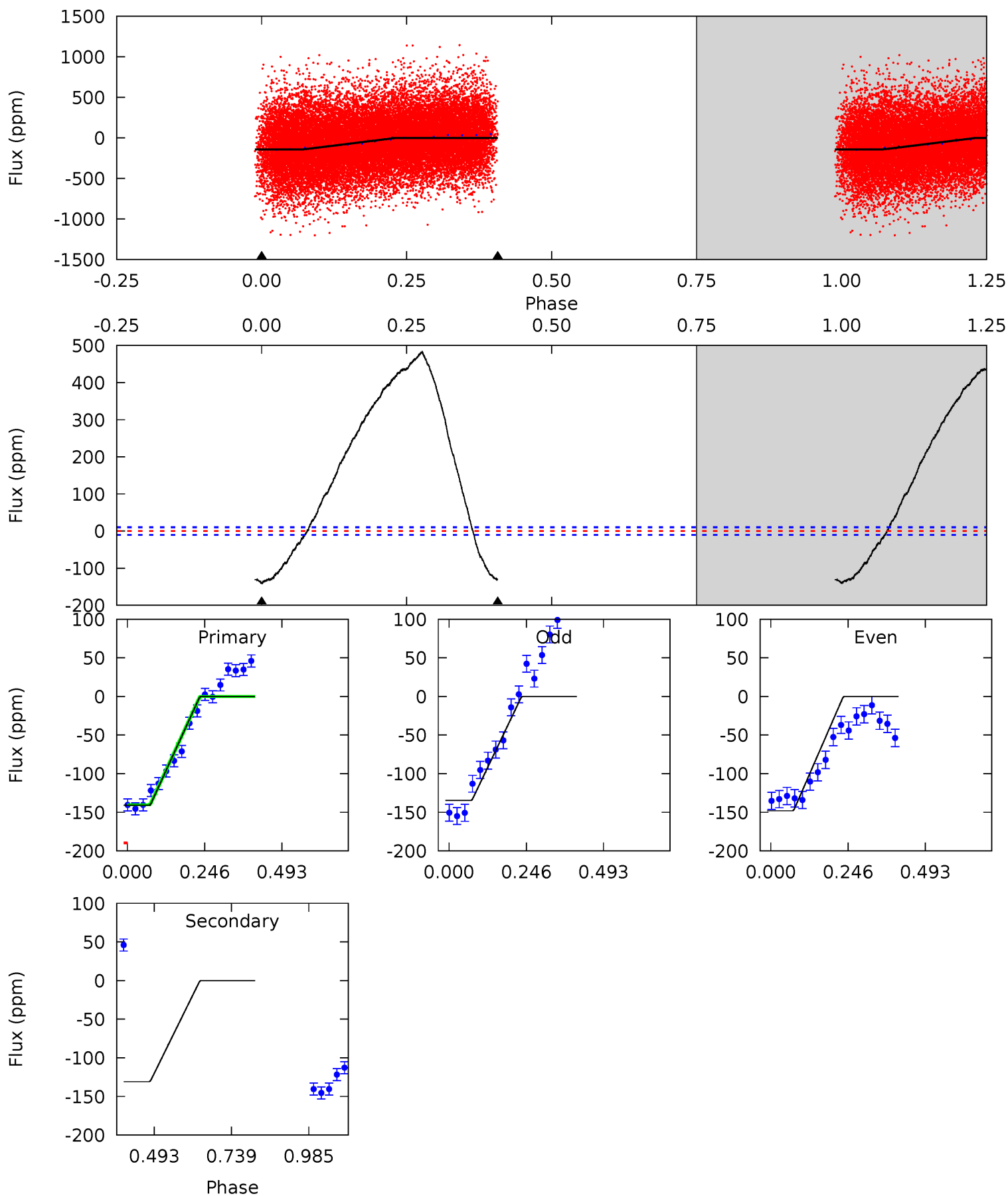
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	25.5	0	0	4.21	0.66	0.60	25.5	25.5	25.5	25.5	1.18	0.43	0.02	0



Alt Model-Shift Uniqueness Test

005737166-02, P = 2.714448 Days, E = 131.217690 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.4	55.2	0	0	4.37	1.16	27.0	59.4	59.4	55.2	55.2	2.81	0.95	0.77	1.48



Stellar Parameters For KIC 005737166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5903^{+158}_{-193}	$4.330^{+0.153}_{-0.187}$	$-0.100^{+0.300}_{-0.300}$	$1.116^{+0.309}_{-0.206}$	$0.972^{+0.140}_{-0.115}$	$0.984^{+0.709}_{-0.474}$
	+3%/-3%	+4%/-4%	+300%/-300%	+28%/-18%	+14%/-12%	+72%/-48%
Source	PHO1	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 005737166-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-62 ± 2	$1.19^{+0.21}_{-0.17}$	1982^{+155}_{-120}	5337^{+289}_{-243}	34^{+12}_{-9}
Alt.	-131 ± 2	$1.45^{+0.26}_{-0.19}$	1984^{+138}_{-126}	5765^{+290}_{-251}	48^{+14}_{-13}

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

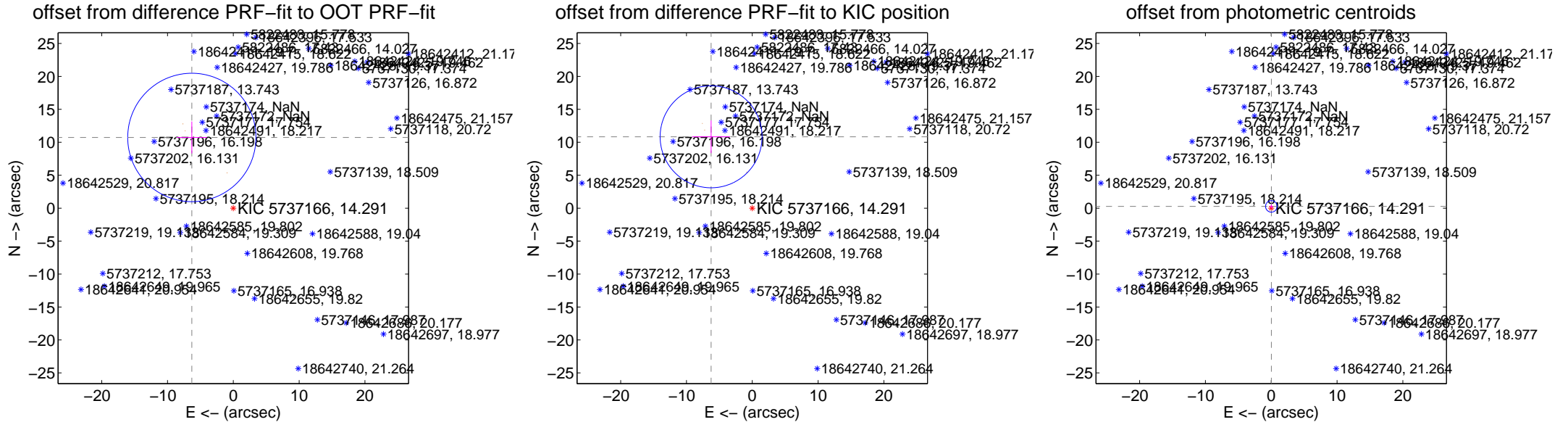
DV Centroid Data

Supplemental centroid analysis for 005737166-02. Kepler magnitude: 14.29. Transit SNR 18.37

There are 0 quarters with good PRF difference image offsets

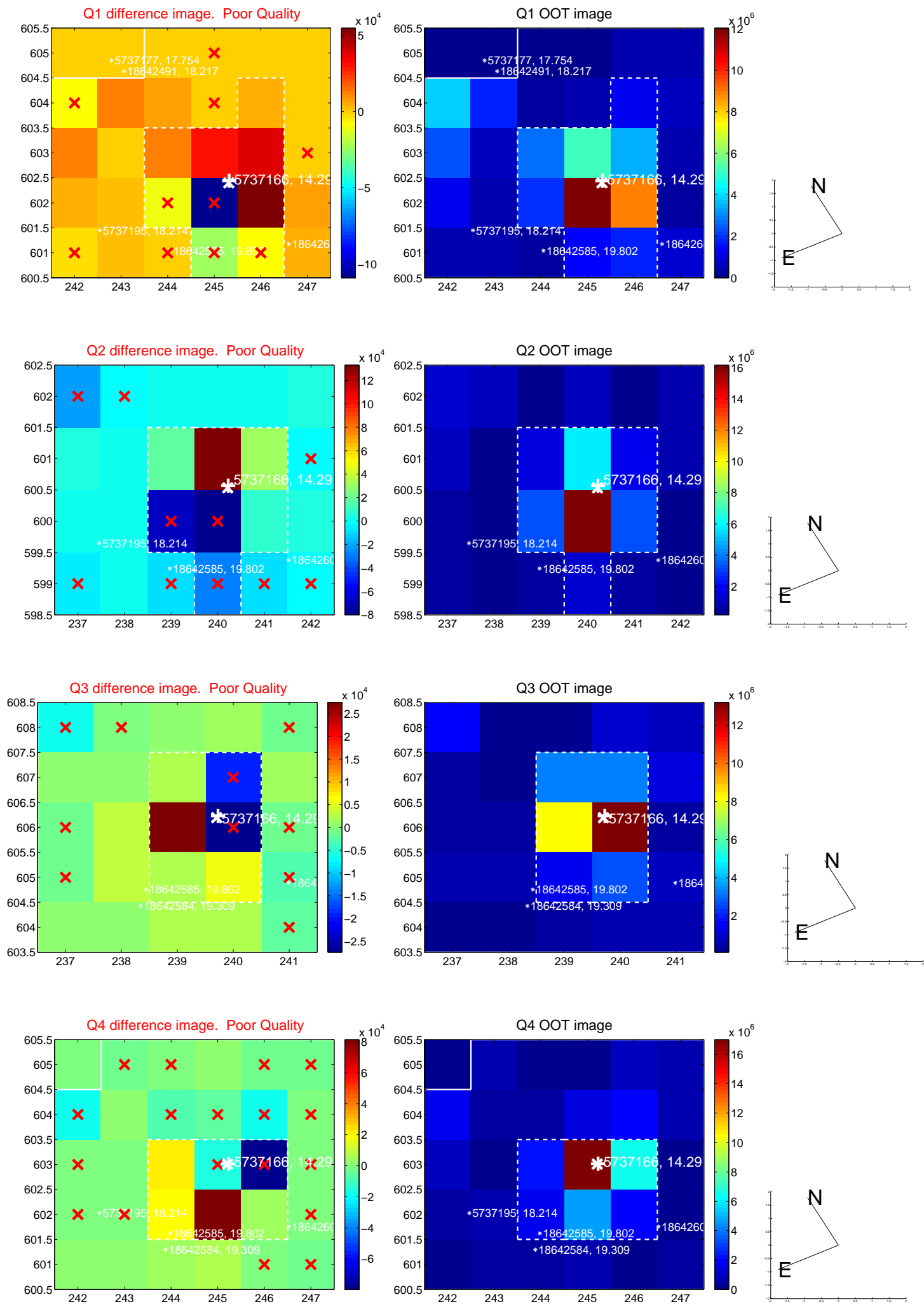
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.449 \pm 3.248	3.83	6.307 \pm 2.294	10.733 \pm 2.423
PRF-fit source offset from KIC position	12.514 \pm 2.580	4.85	6.261 \pm 2.877	10.835 \pm 2.473
photometric centroid source offset	0.27 \pm 0.29	0.93	-0.01 \pm 0.28	0.27 \pm 0.29

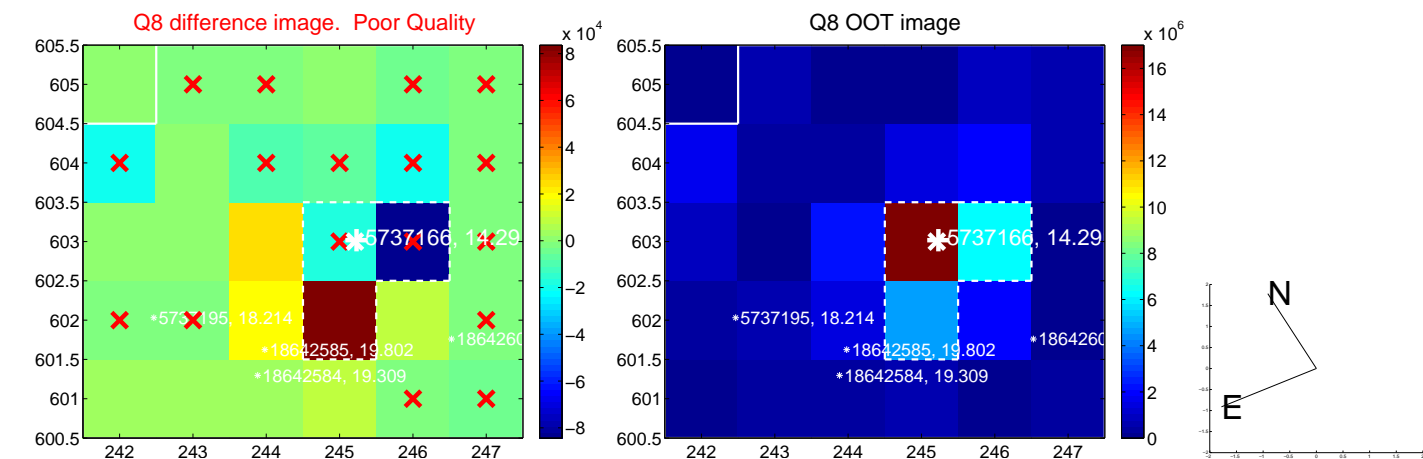
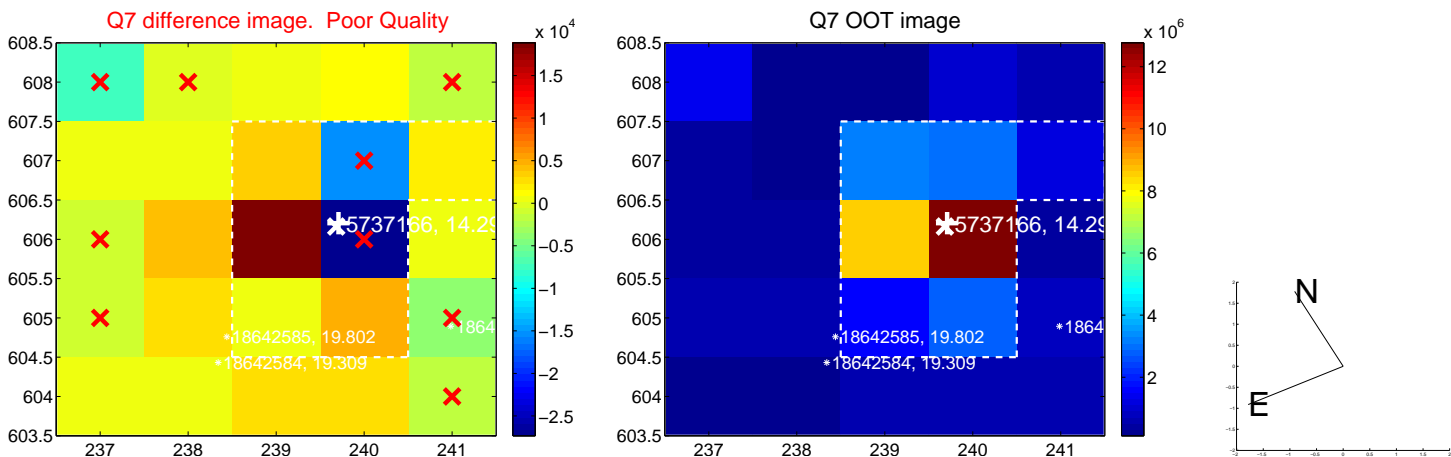
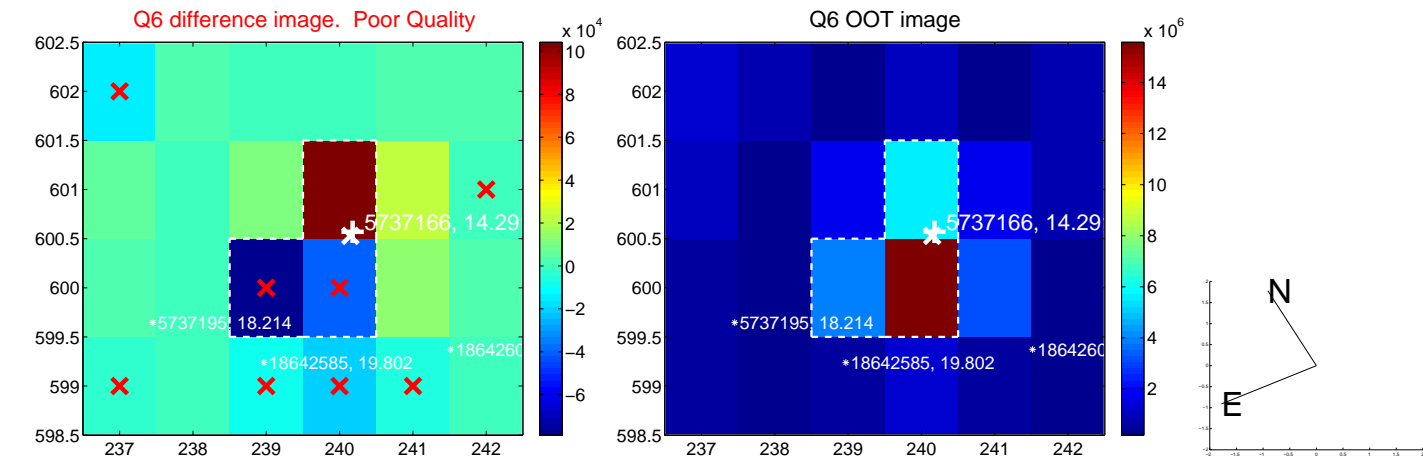
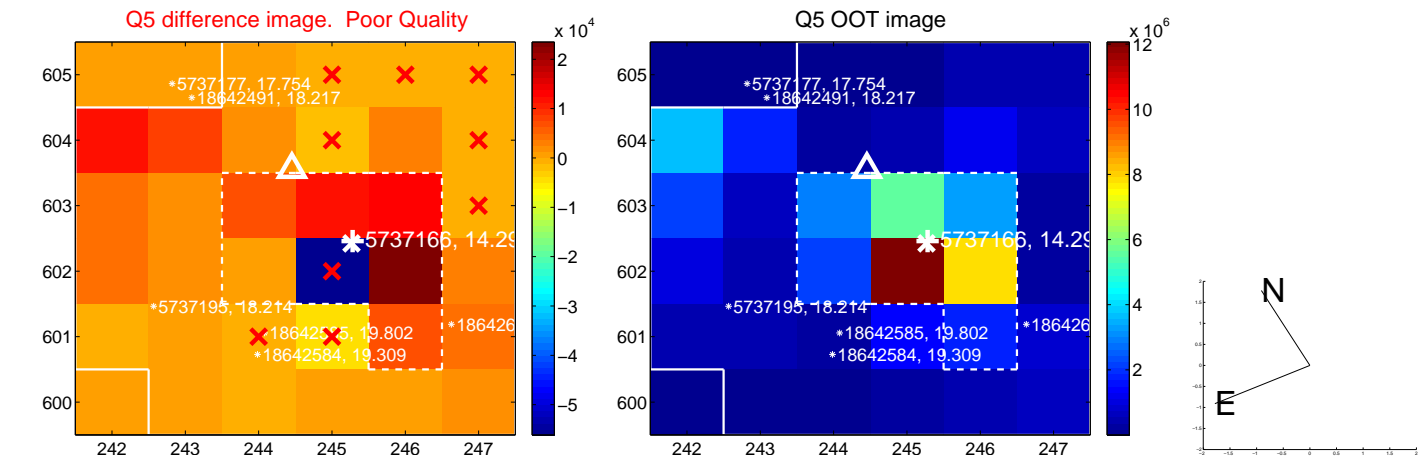


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

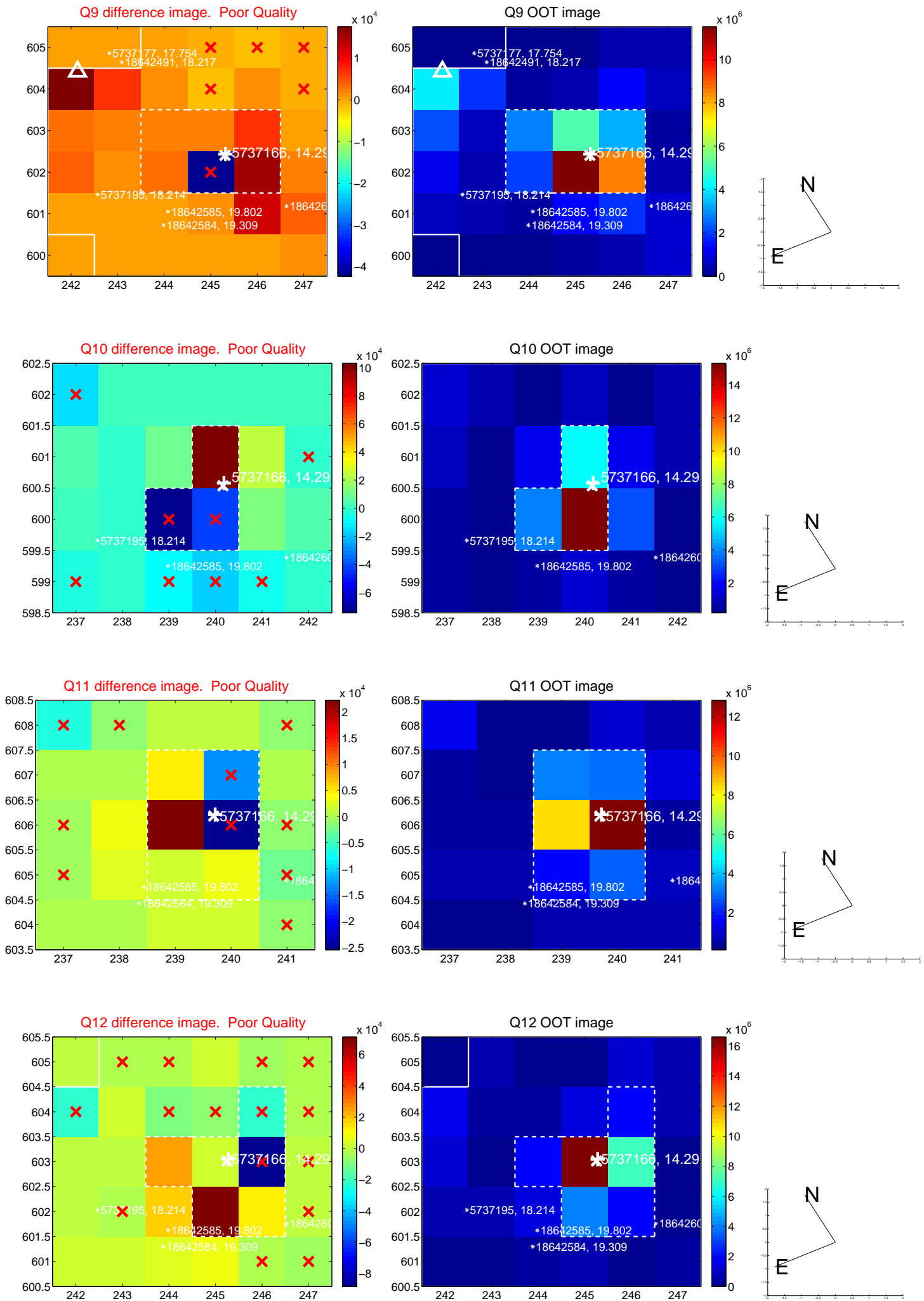
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



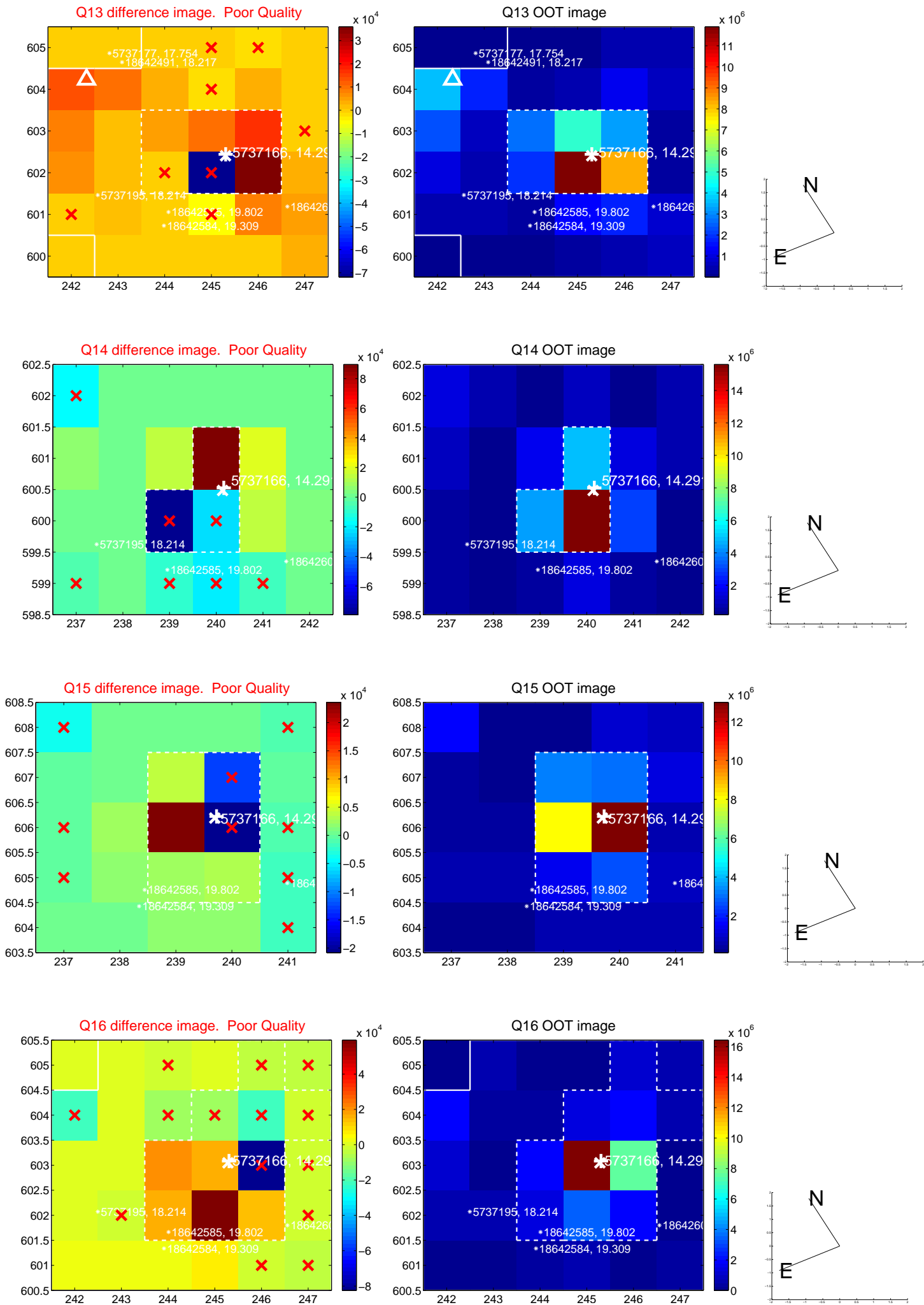
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



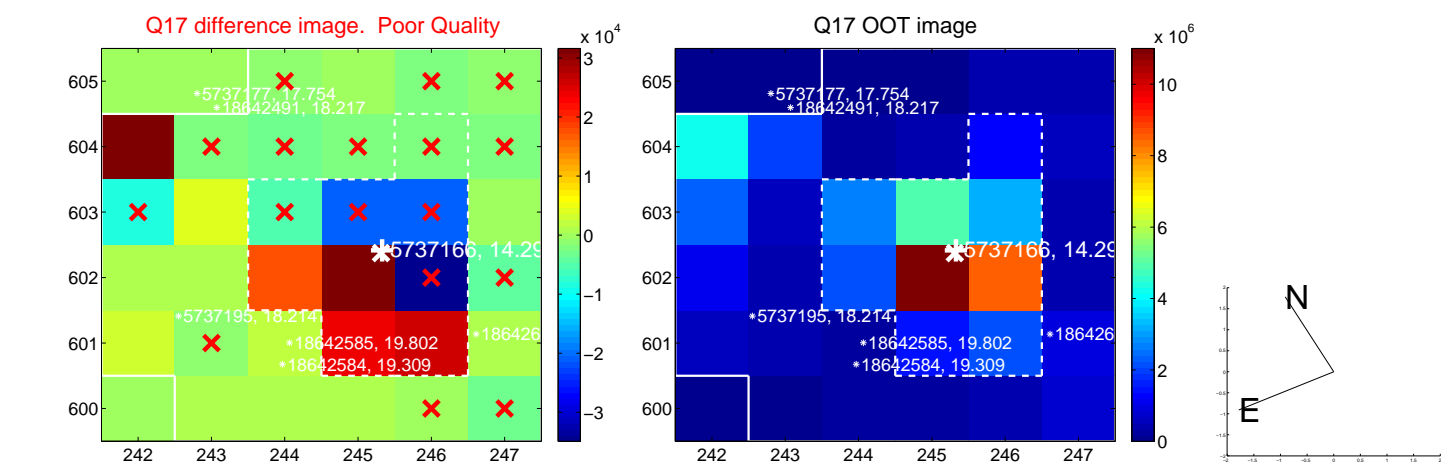
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



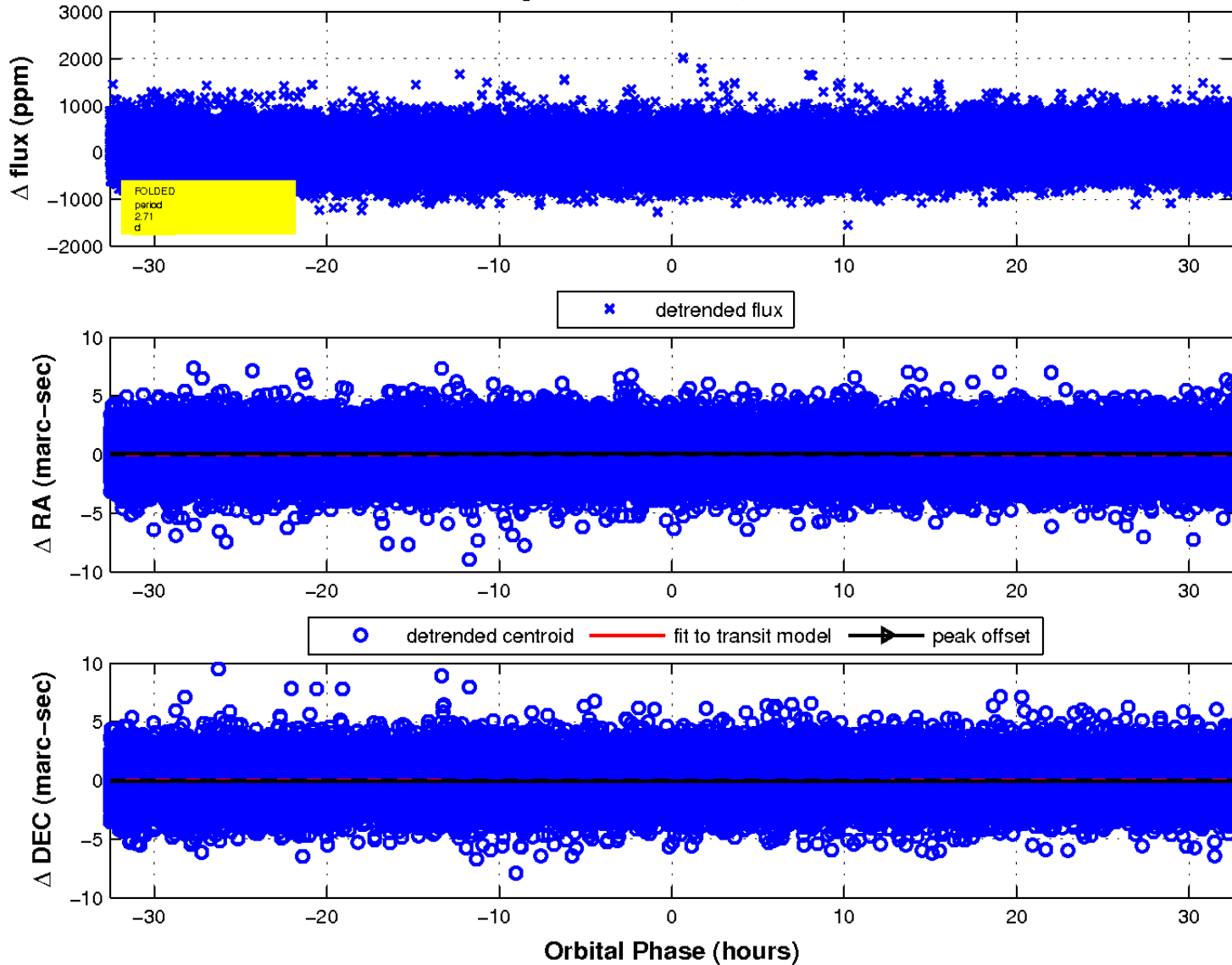
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

