

KIC 011572666

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})
011572666-01	OBS	No	0.523666	131.972680	100.0	2.292	15.9	18.1	2.00	7390	2.33	48522.30
011572666-02	OBS	No	0.523673	131.826841	124.9	3.826	11.5	16.4	2.00	7390	2.25	48521.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011572666-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011572666-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—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.

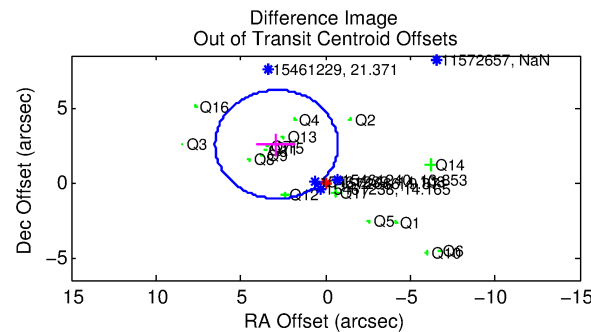
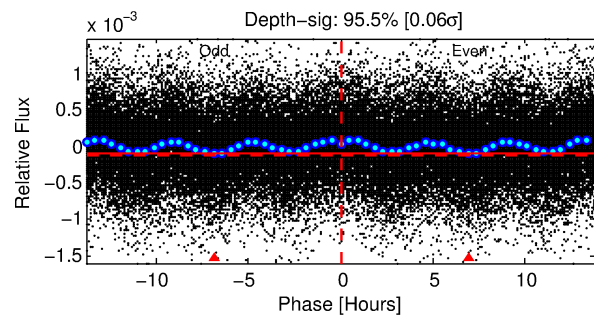
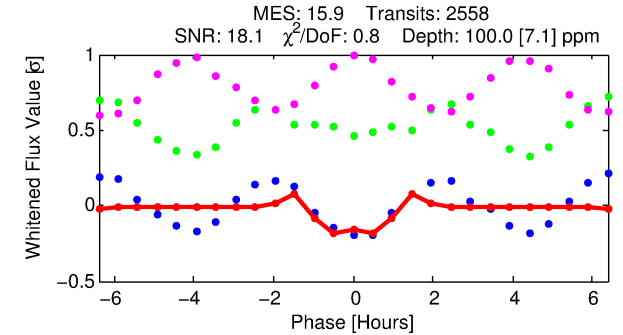
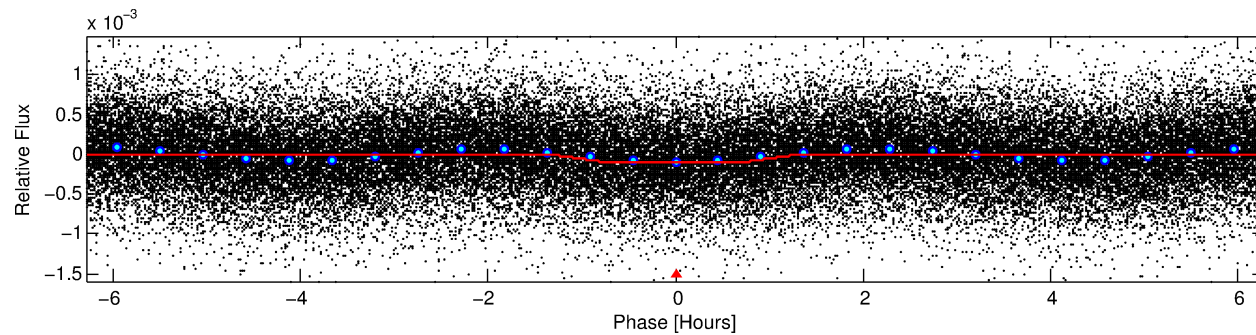
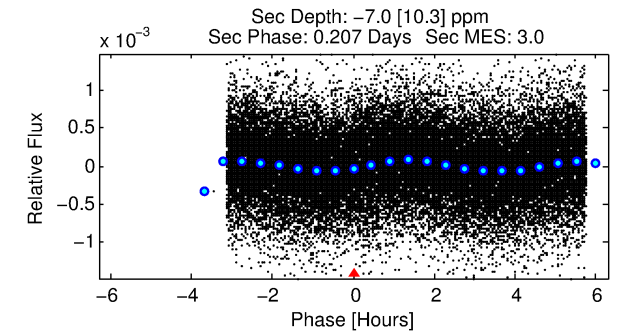
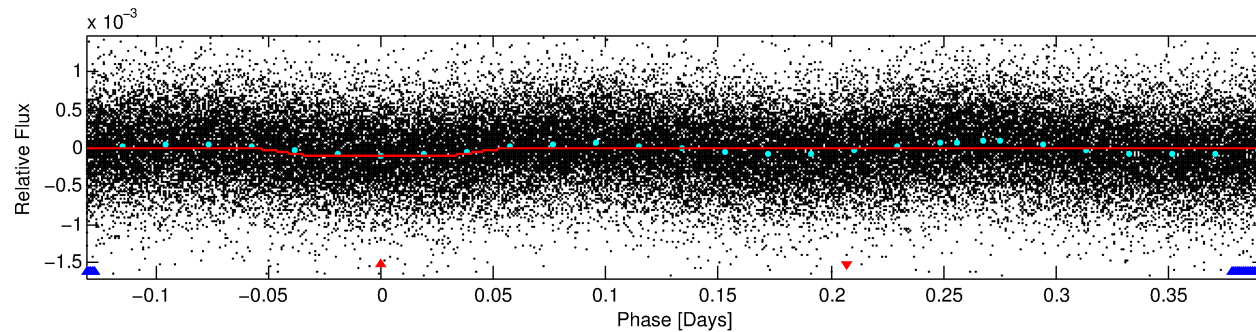
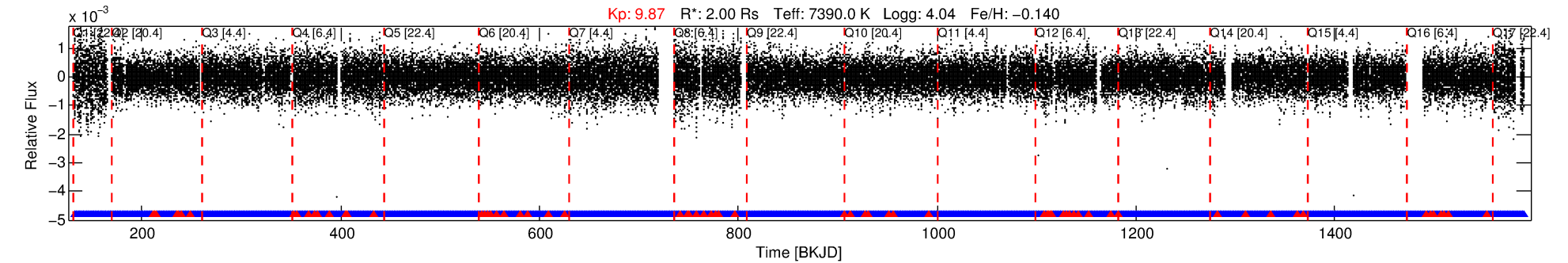
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011572666-01

No Significant Match Found

DV One-Page Summary

KIC: 11572666 Candidate: 1 of 2 Period: 0.524 d



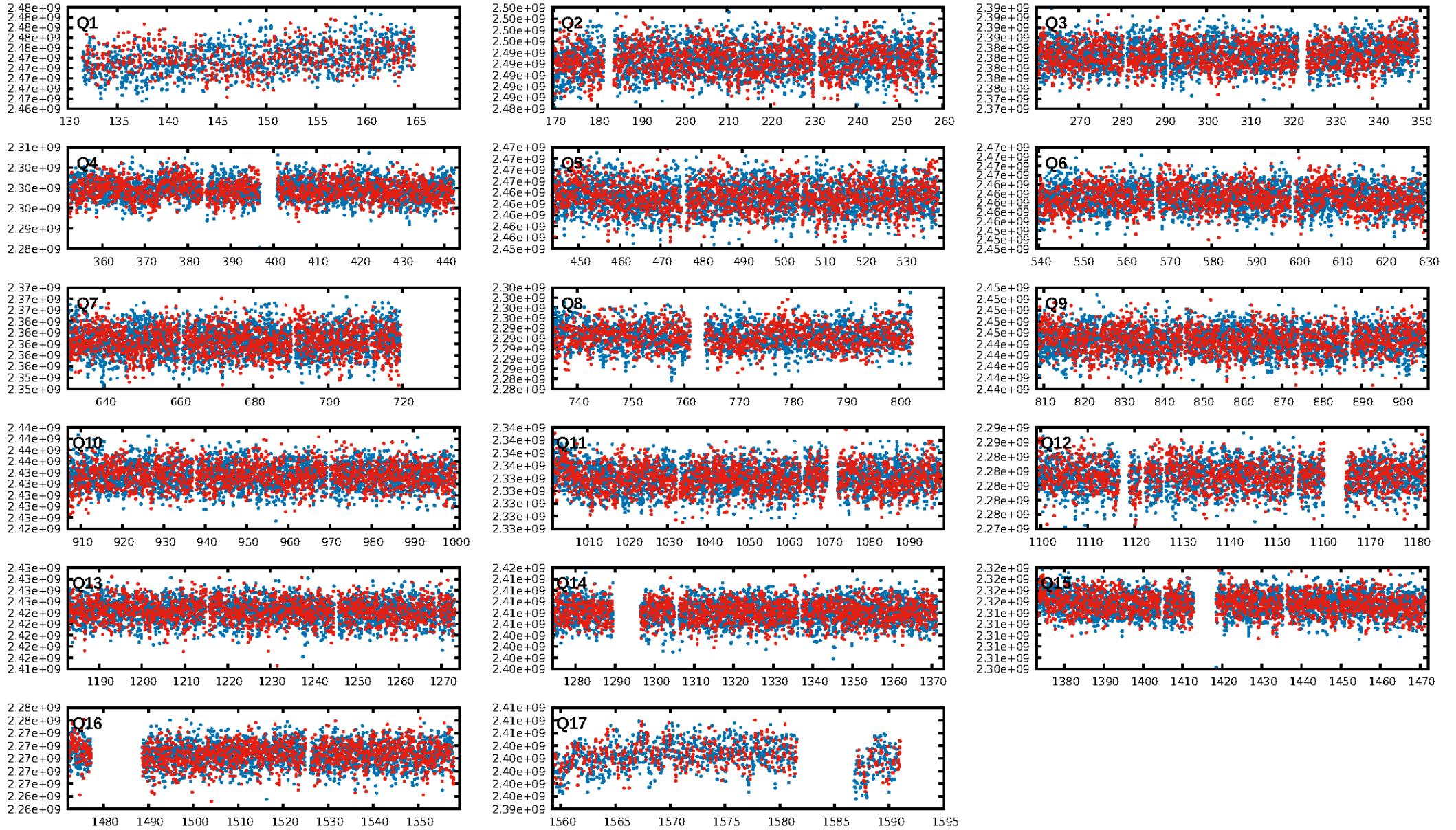
DV Fit Results:

Period = 0.52367 [0.00001] d
Epoch = 131.9727 [0.0009] BKJD
Rp/R* = 0.0107 [0.0018]
a/R* = 1.24 [0.43]
b = 0.90 [0.22]
Seff = 48522.30 [11584.23]
Teq = 3785 [226] K
Rp = 2.33 [0.57] Re
a = 0.0148 [0.0023] AU
Ag = N/A
Teffp = N/A

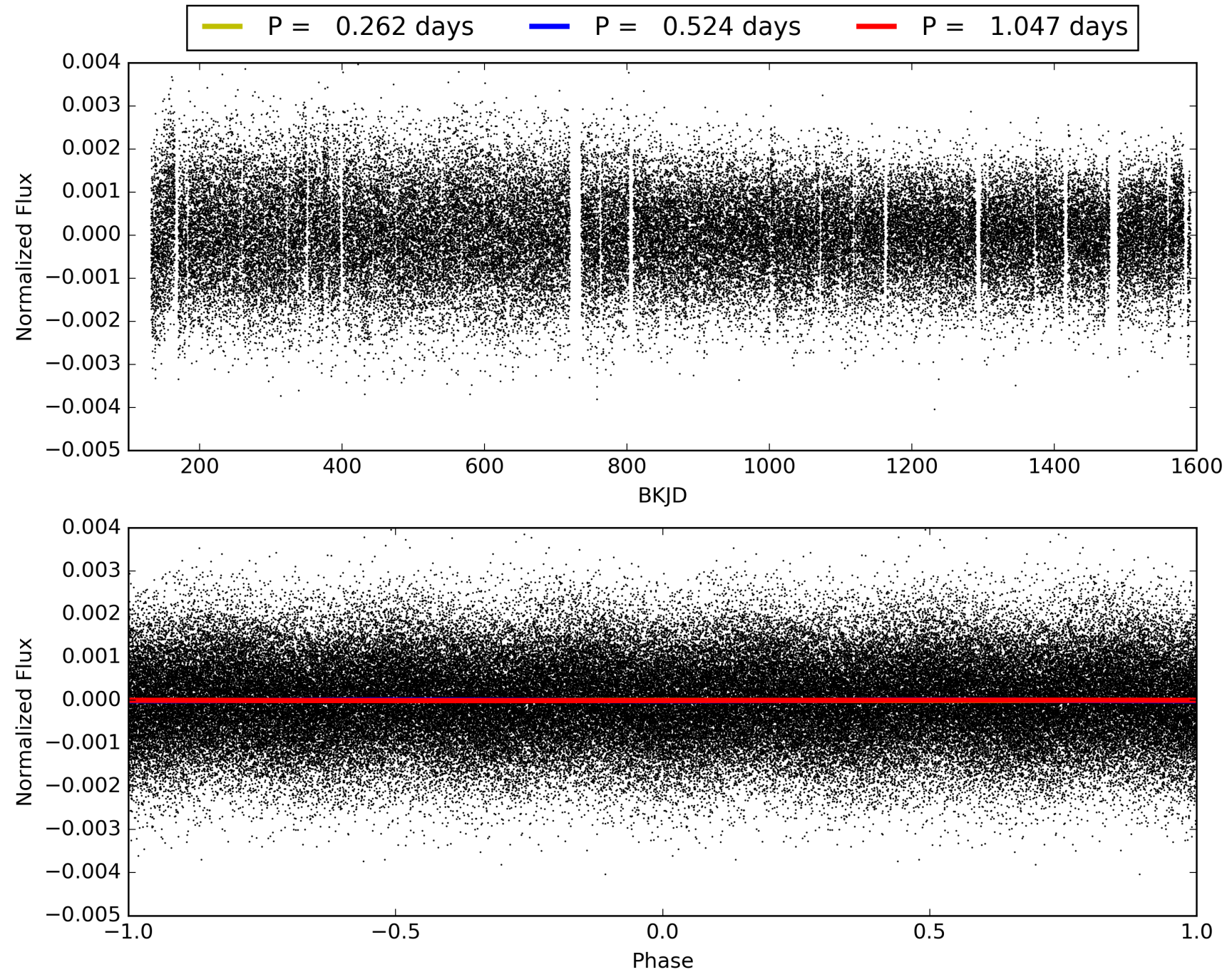
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [2373/2443]
GhostDiagnostic-chr: N/A
Centroid-sig: 77.5%
Centroid-so: 0.176 arcsec [1.71σ]
OotOffset-rm: 3.853 arcsec [3.19σ]
KicOffset-rm: 2.830 arcsec [2.80σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 011572666-01, PDC Light Curves

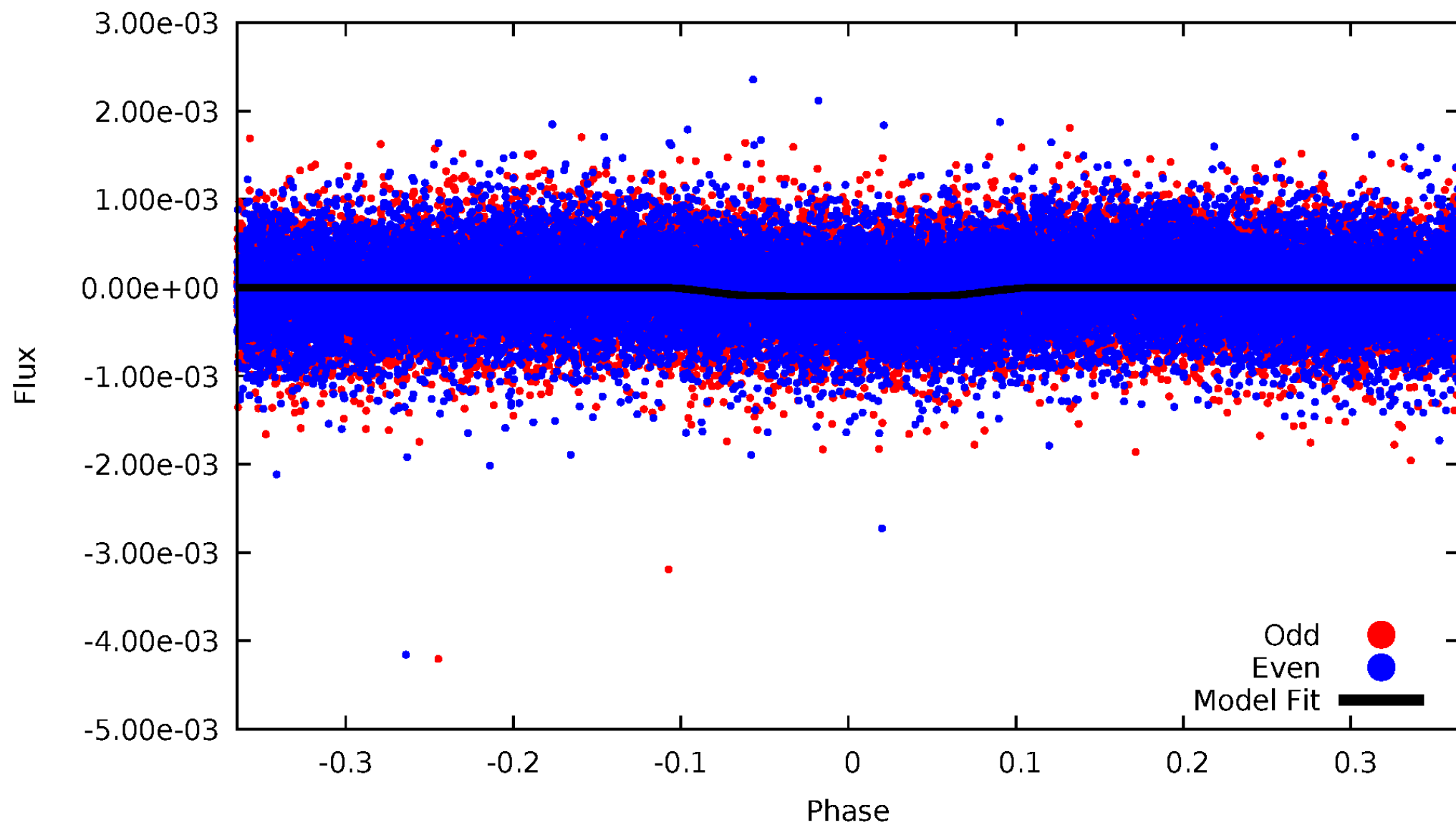


TCE 011572666-01



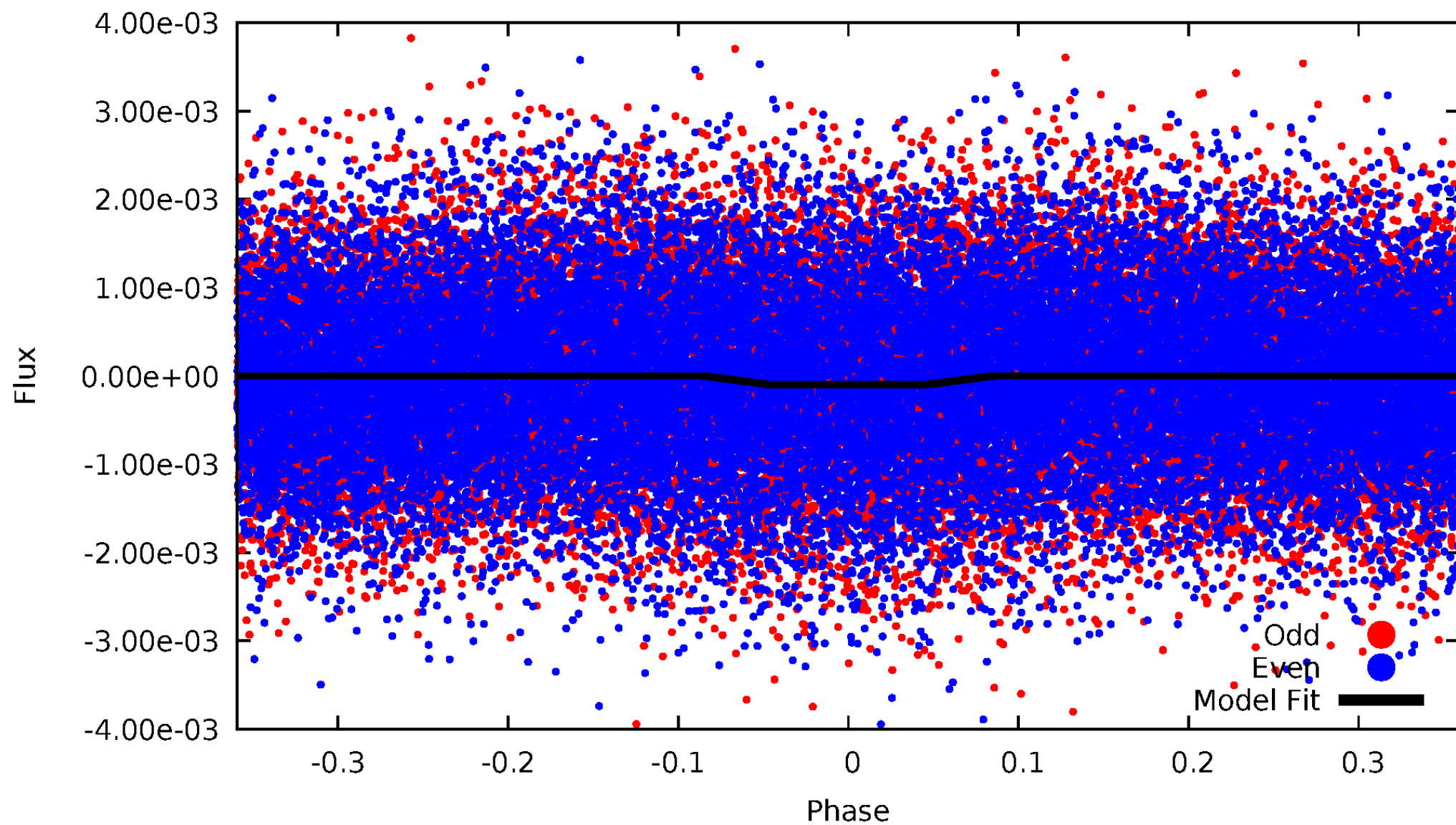
DV Odd/Even

TCE 011572666-01

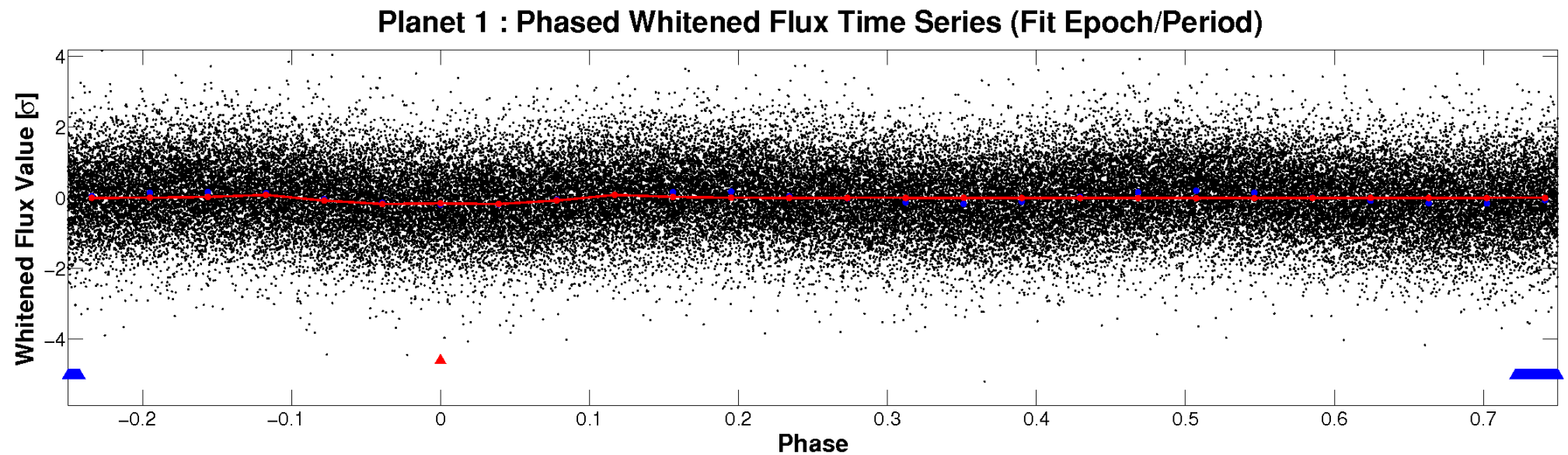
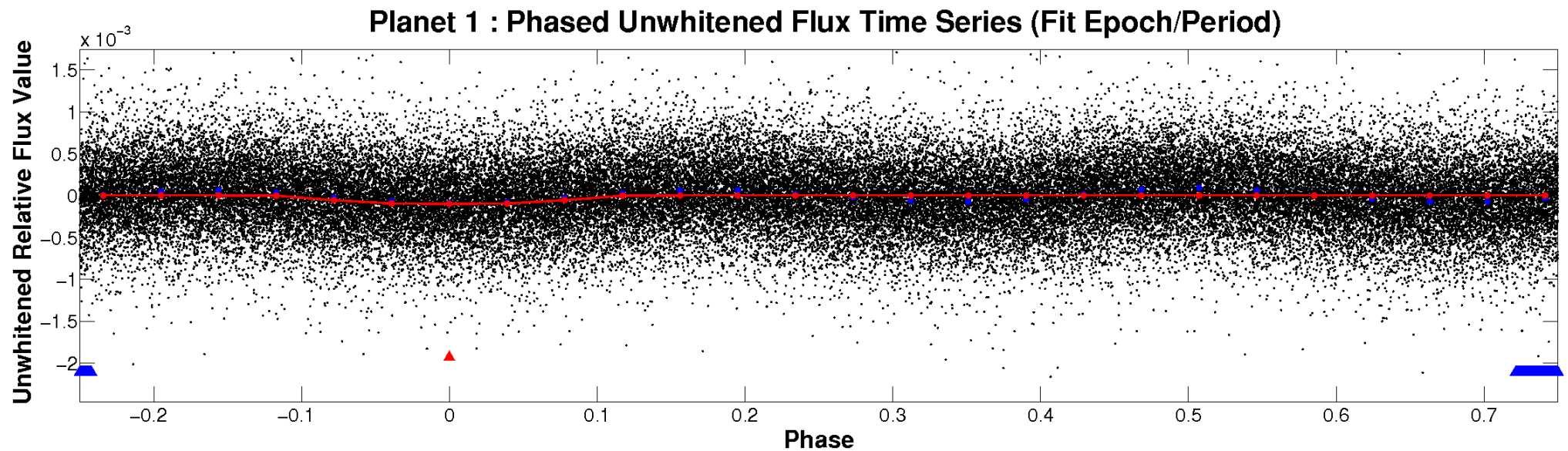


ALT Odd/Even

TCE 011572666-01

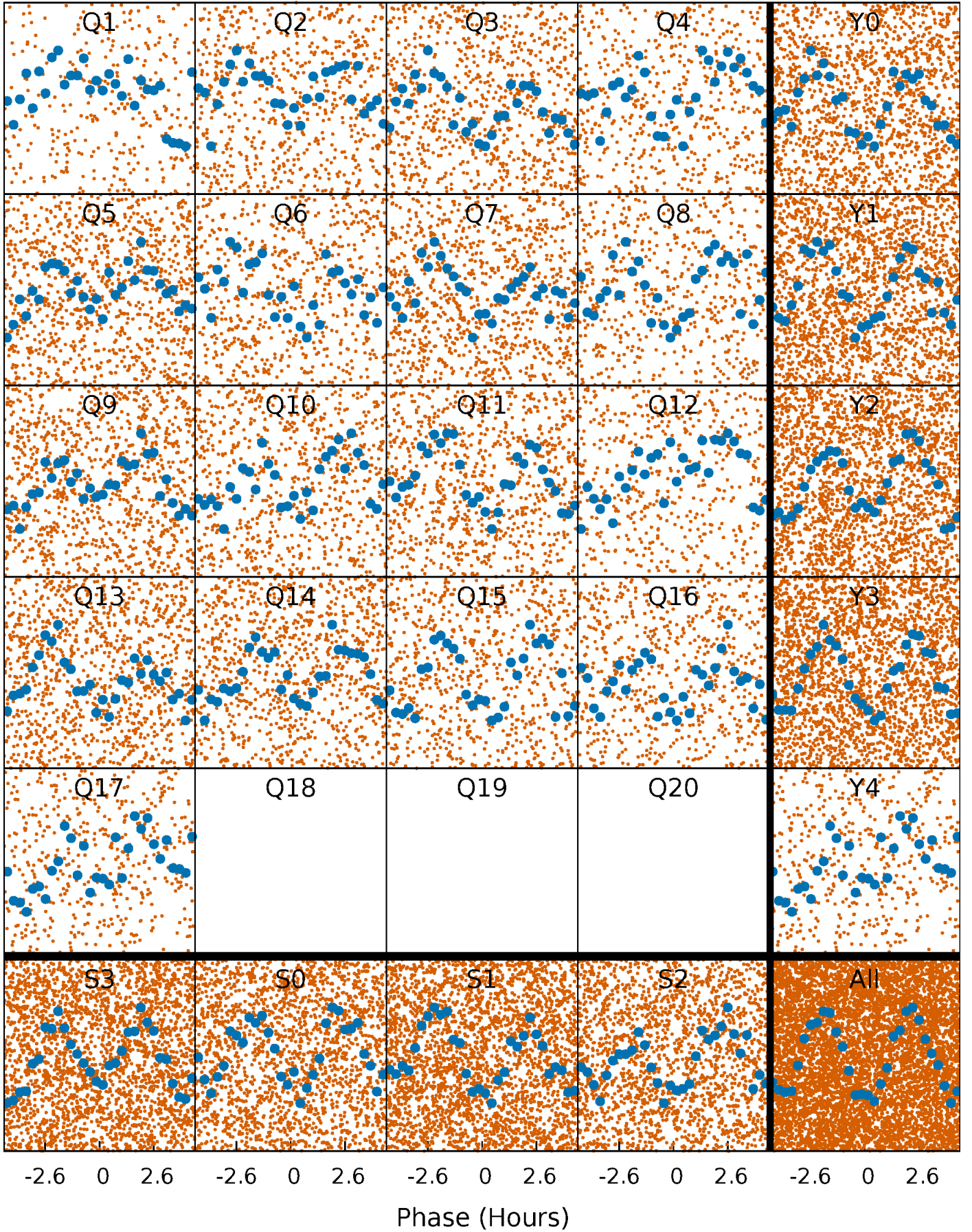


Non-Whitened Vs. Whitened Light Curve



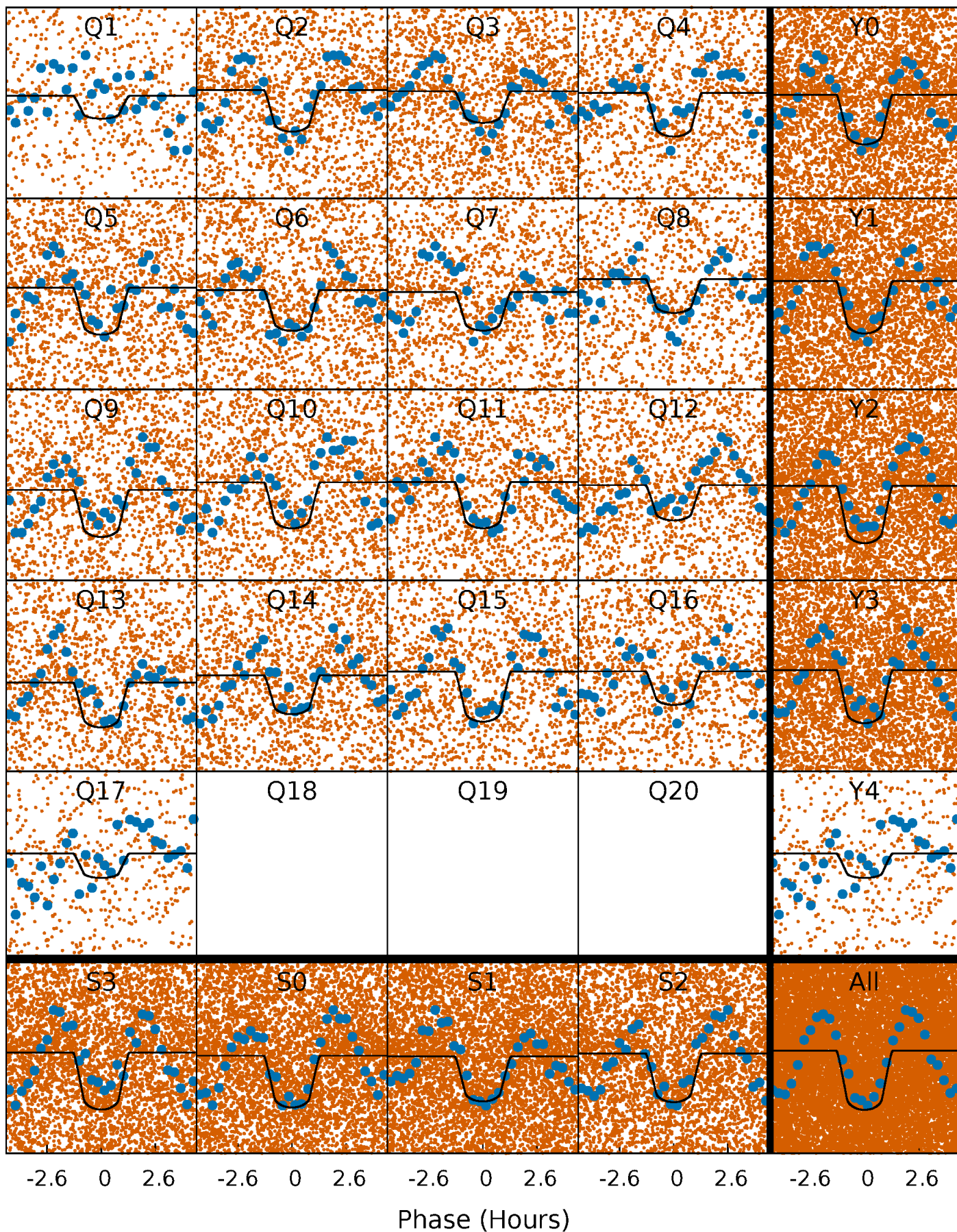
PDC Quarter-Phased Transit Curves

TCE 011572666-01 P= 0.523666 Days $T_0=131.972680$ (BKJD)



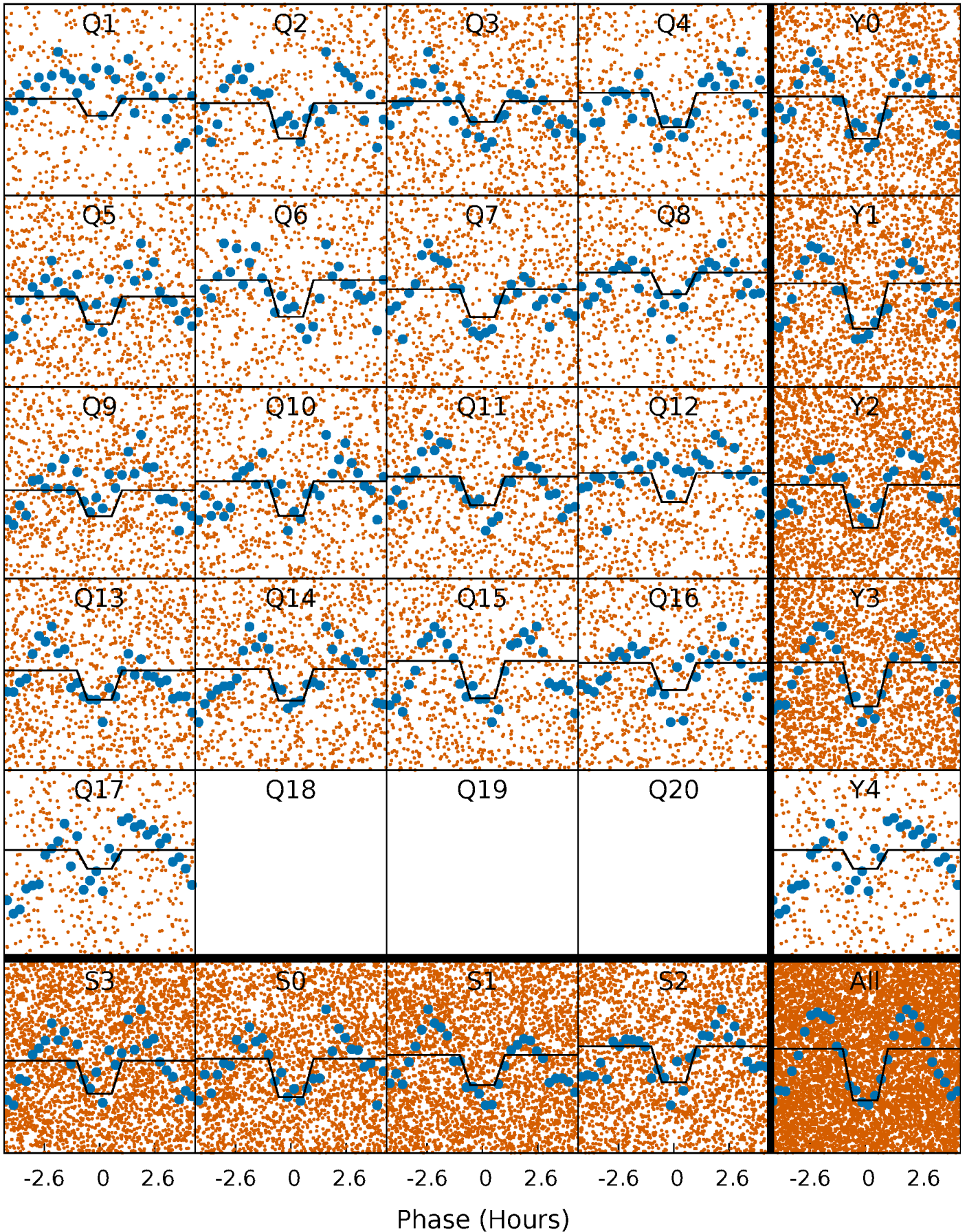
DV Quarter-Phased Transit Curves

TCE 011572666-01 P= 0.523666 Days $T_0=131.972680$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

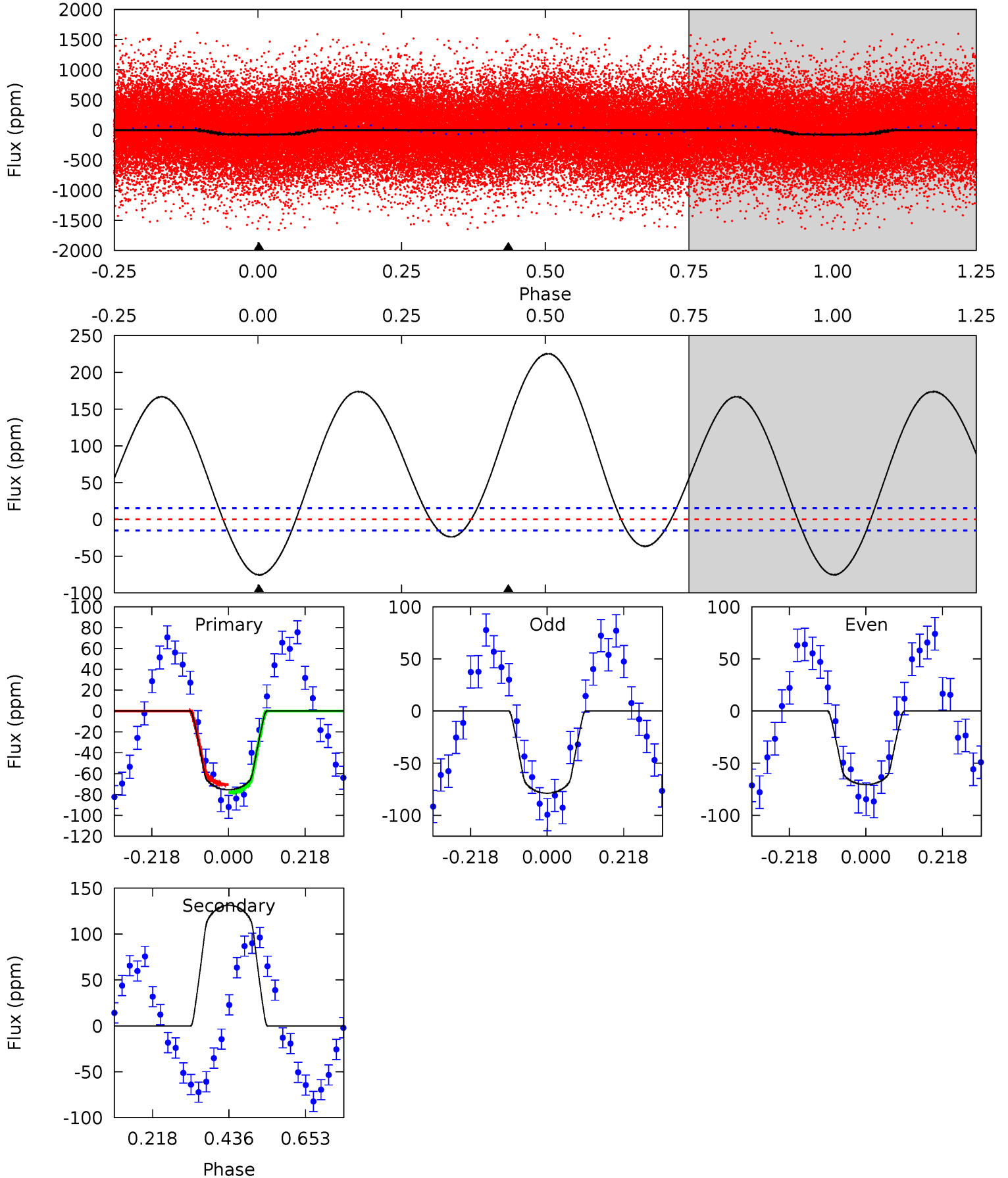
TCE 011572666-01 P= 0.523672 Days $T_0=131.970122$ (BKJD)



DV Model-Shift Uniqueness Test

011572666-01, P = 0.523666 Days, E = 131.449014 Days

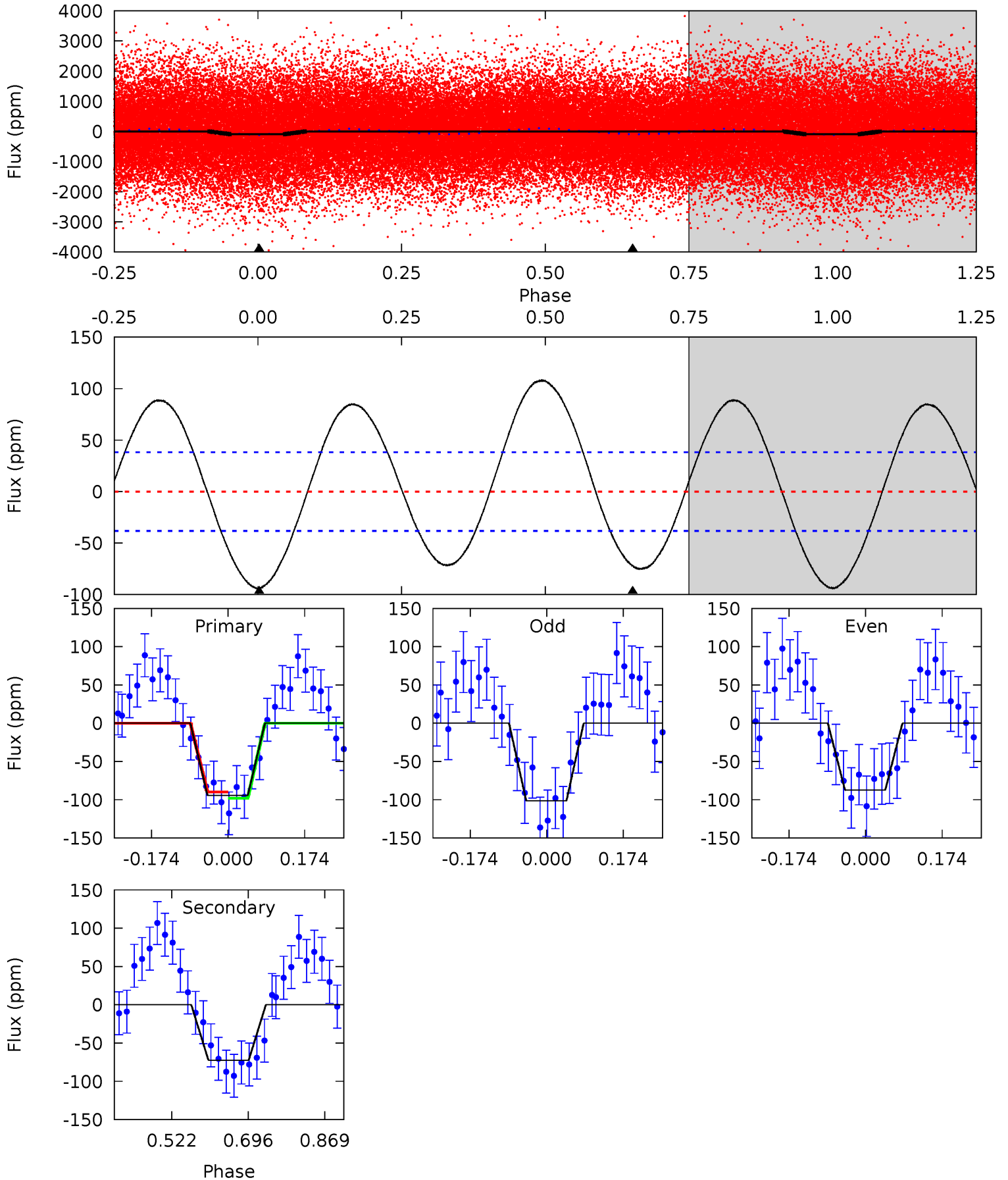
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	-38.1	0	0	4.40	1.23	14.6	21.9	21.9	-38.1	-38.1	1.19	1.00	0.75	1.10



Alt Model-Shift Uniqueness Test

011572666-01, P = 0.523672 Days, E = 131.446450 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	8.42	0	0	4.45	1.36	6.59	11.0	11.0	8.42	8.42	0.82	1.76	0.53	0.45



Stellar Parameters For KIC 011572666

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7390^{+81}_{-81}	$4.037^{+0.132}_{-0.108}$	$-0.140^{+0.150}_{-0.150}$	$1.999^{+0.355}_{-0.355}$	$1.585^{+0.146}_{-0.120}$	$0.279^{+0.181}_{-0.103}$
	+1%/-1%	+3%/-3%	+107%/-107%	+18%/-18%	+9%/-8%	+65%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011572666-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	131 ± 3	$2.34^{+0.48}_{-0.45}$	5290^{+232}_{-252}	-7927^{+642}_{-935}	$-2.898^{+0.879}_{-1.610}$
Alt.	-72 ± 9	$2.13^{+0.53}_{-0.41}$	5290^{+228}_{-220}	6491^{+919}_{-742}	$1.901^{+1.130}_{-0.657}$

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

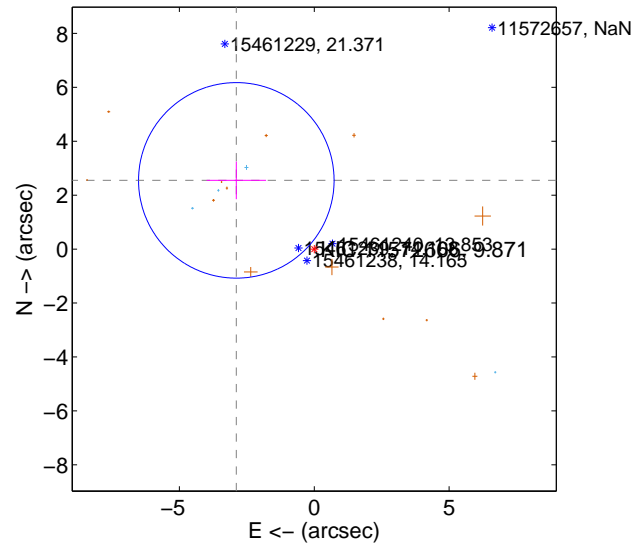
Supplemental centroid analysis for 011572666-01. **Kepler magnitude: 9.87.** Transit SNR 18.14

There are 4 quarters with good PRF difference image offsets

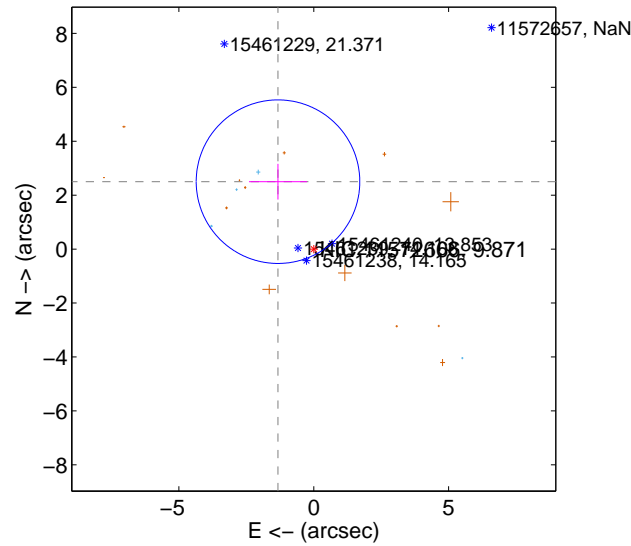
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.853 ± 1.208	3.19	2.890 ± 1.102	2.548 ± 0.698
PRF-fit source offset from KIC position	2.830 ± 1.011	2.80	1.326 ± 1.076	2.500 ± 0.661
photometric centroid source offset	0.18 ± 0.10	1.71	0.08 ± 0.14	0.15 ± 0.09

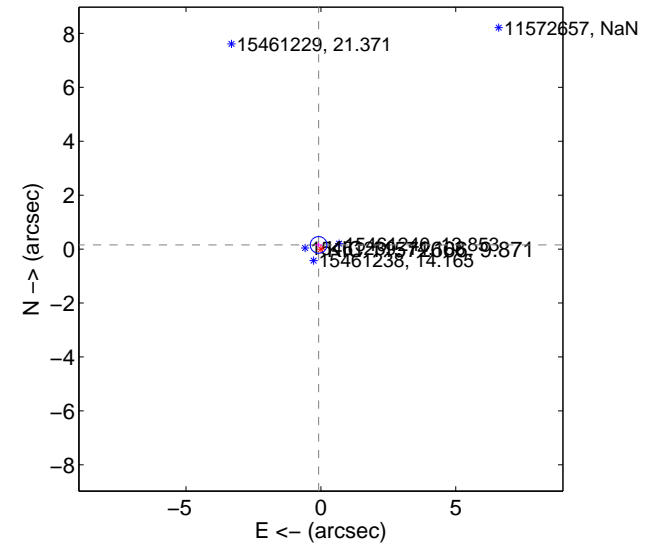
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

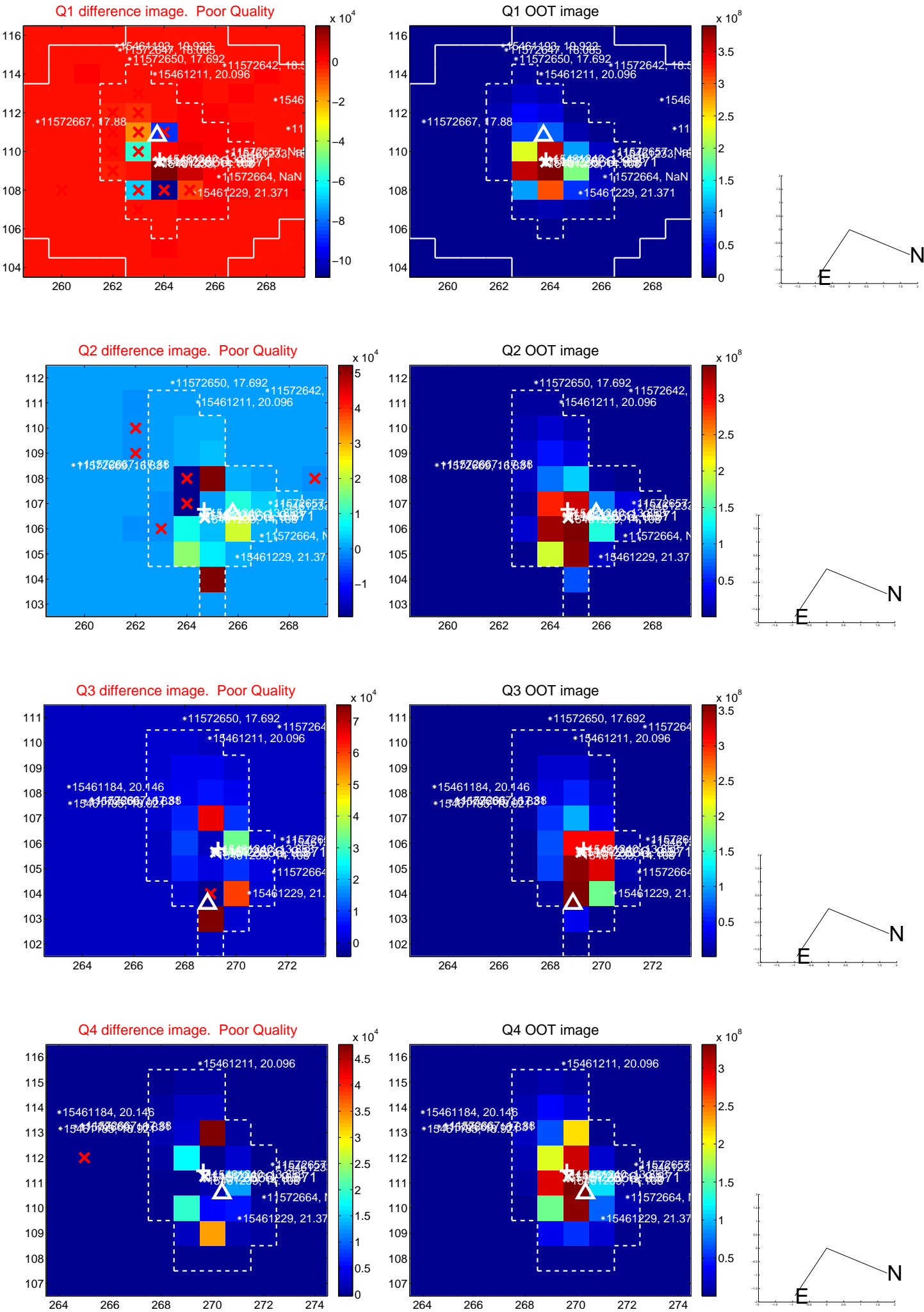


offset from photometric centroids

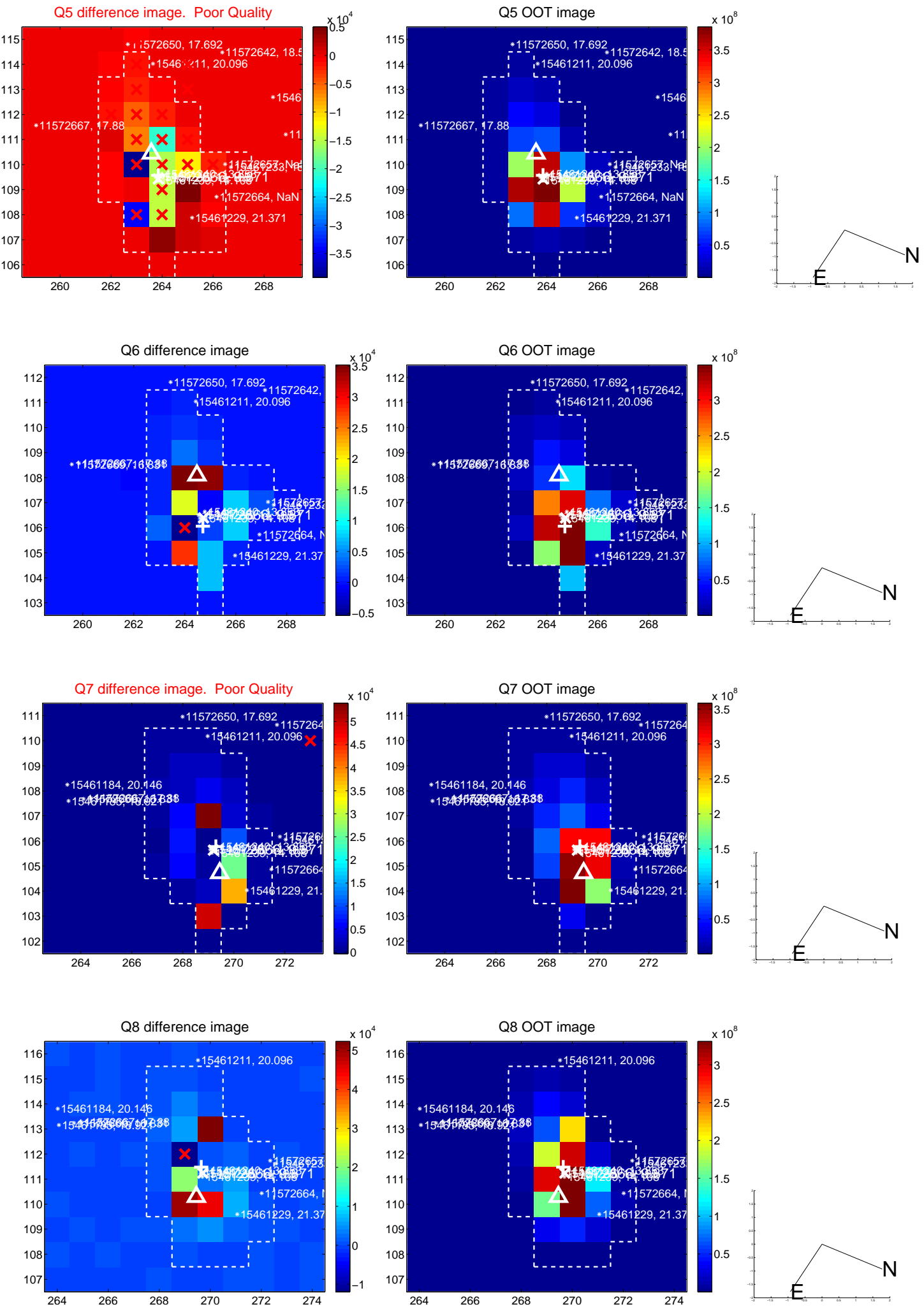


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

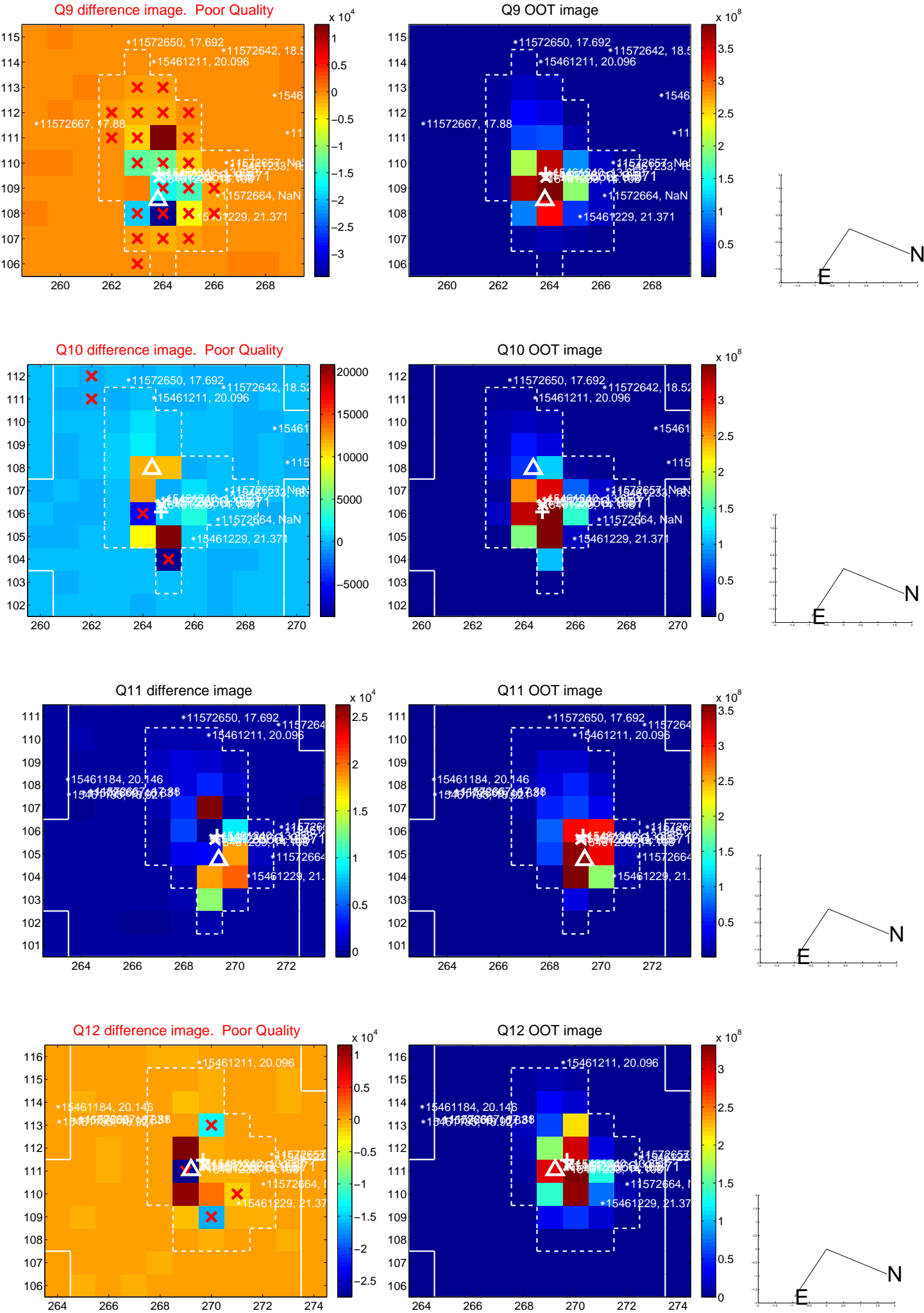
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



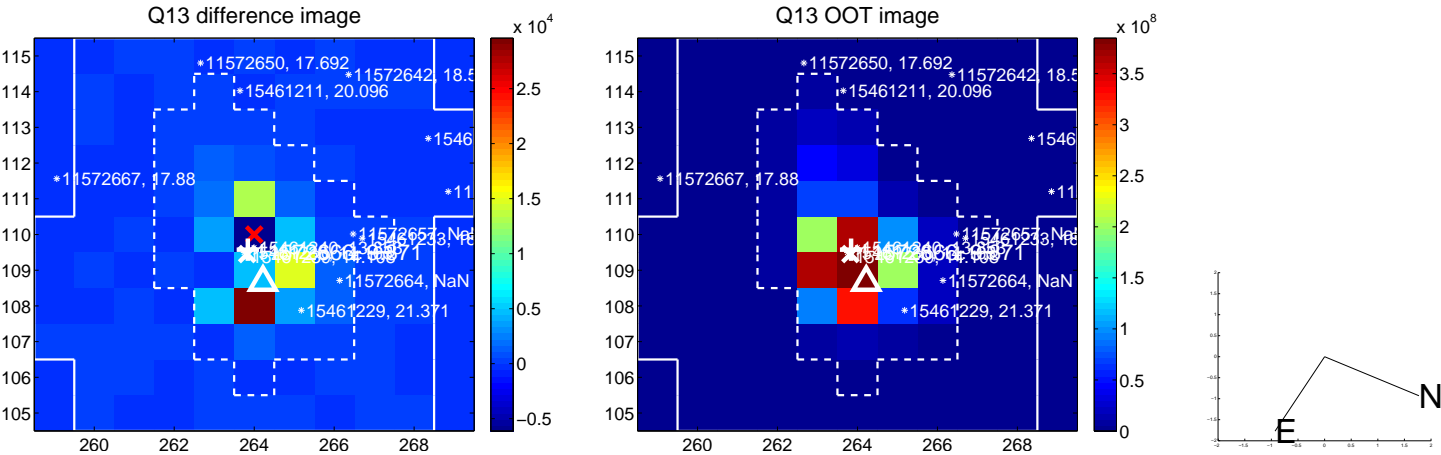
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



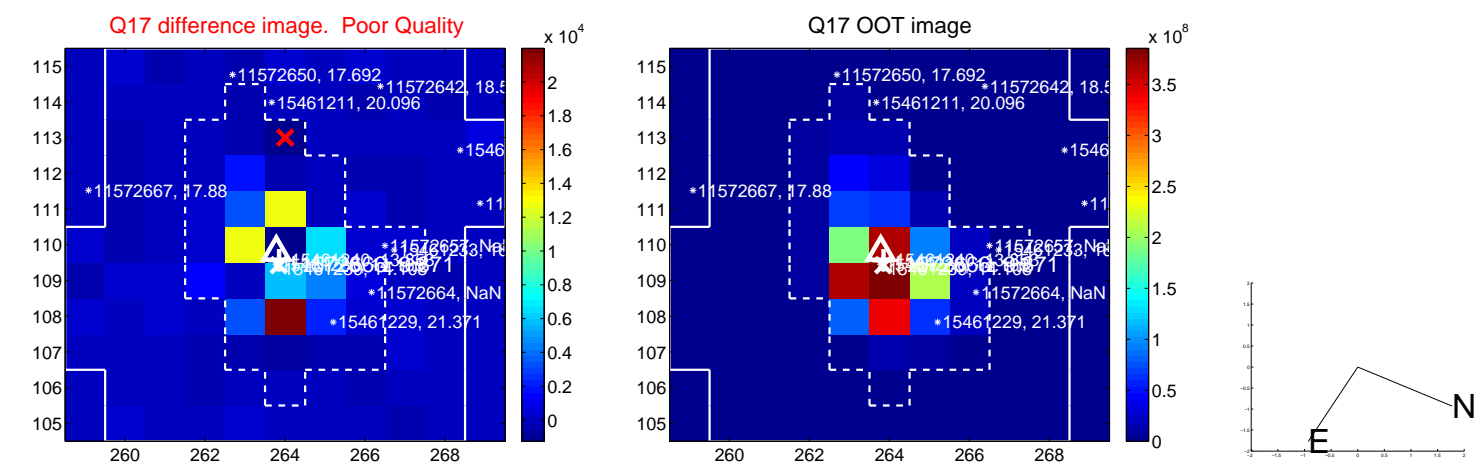
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



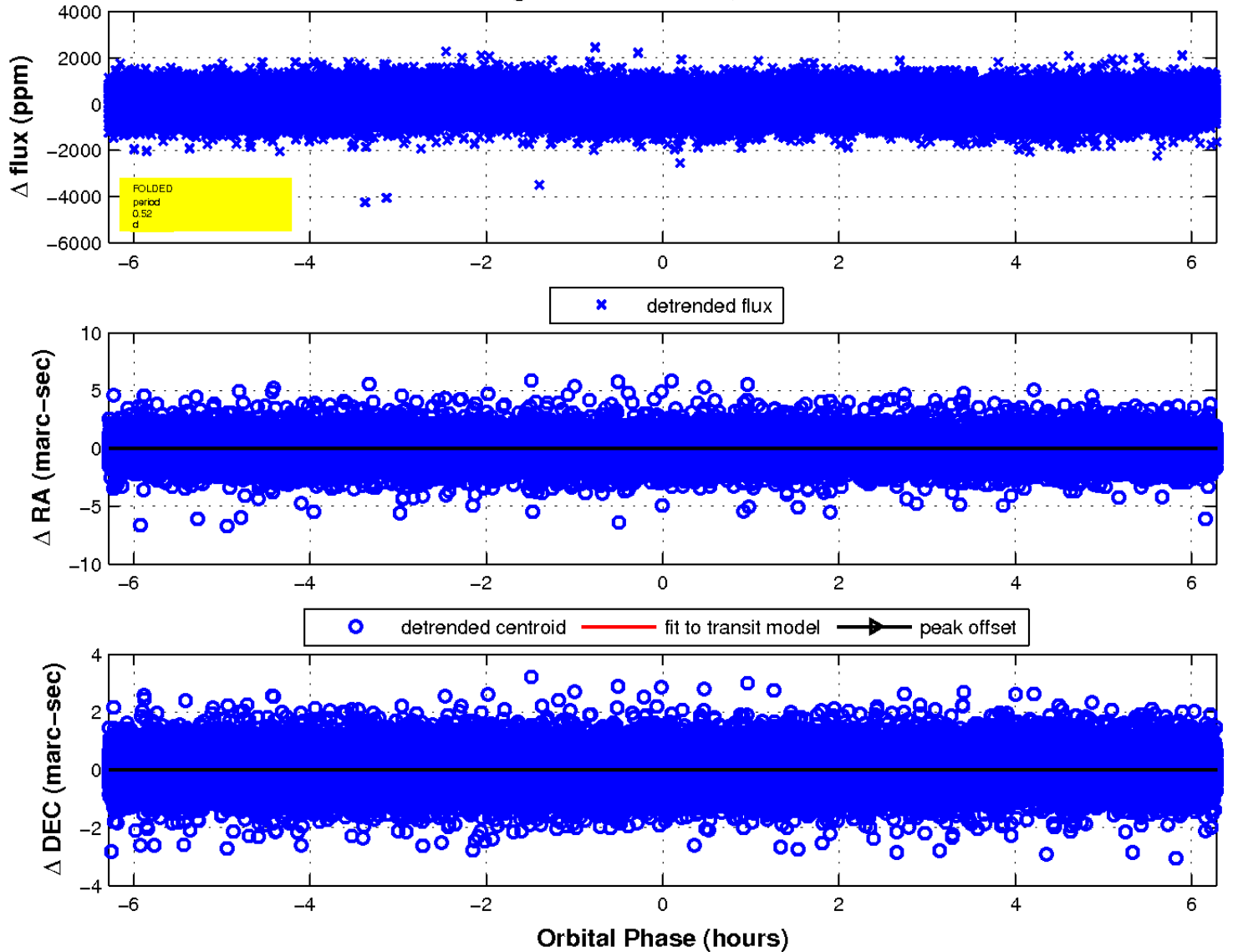
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



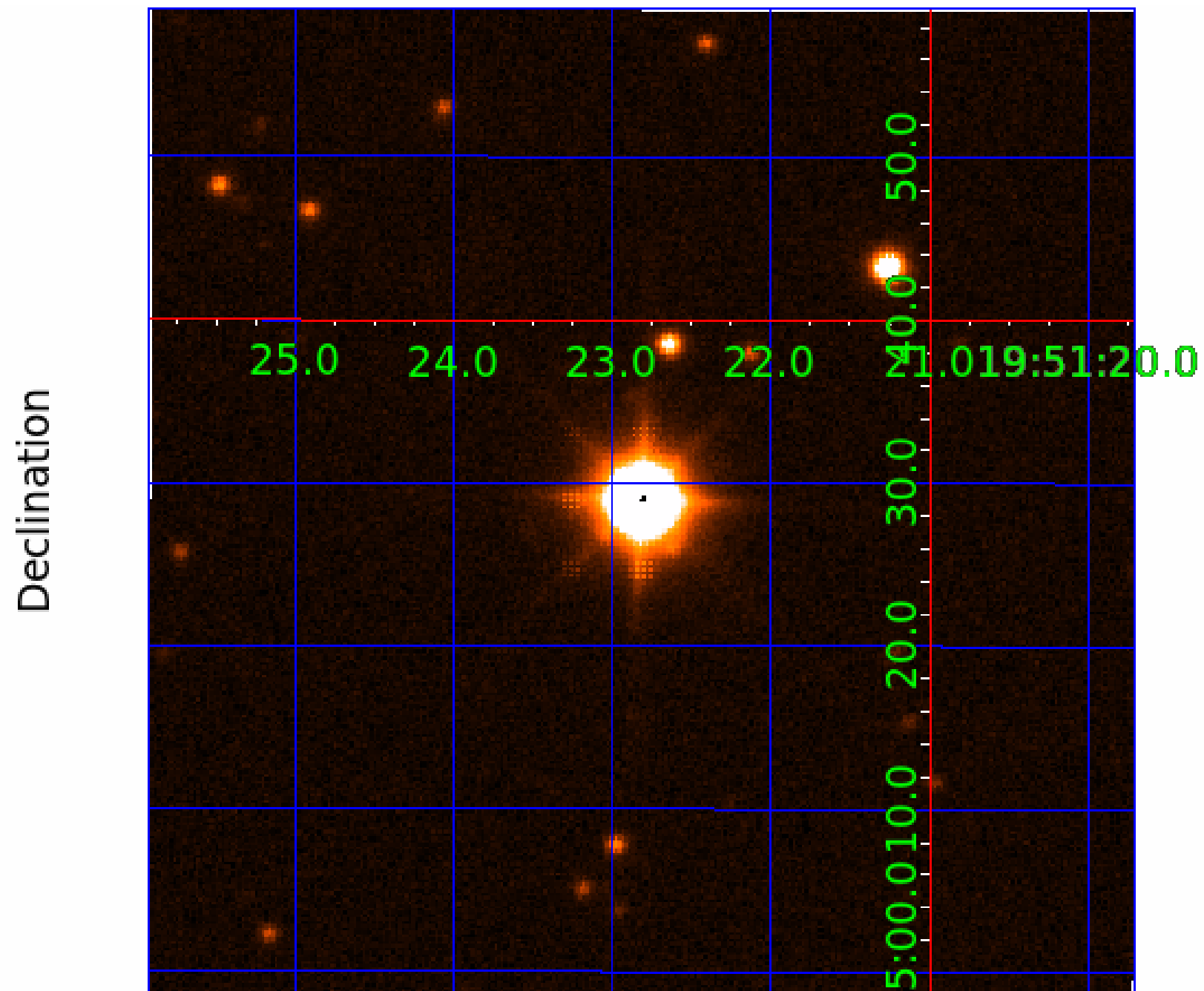
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 011572666

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})
011572666-01	OBS	No	0.523666	131.972680	100.0	2.292	15.9	18.1	2.00	7390	2.33	48522.30
011572666-02	OBS	No	0.523673	131.826841	124.9	3.826	11.5	16.4	2.00	7390	2.25	48521.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011572666-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011572666-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—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.

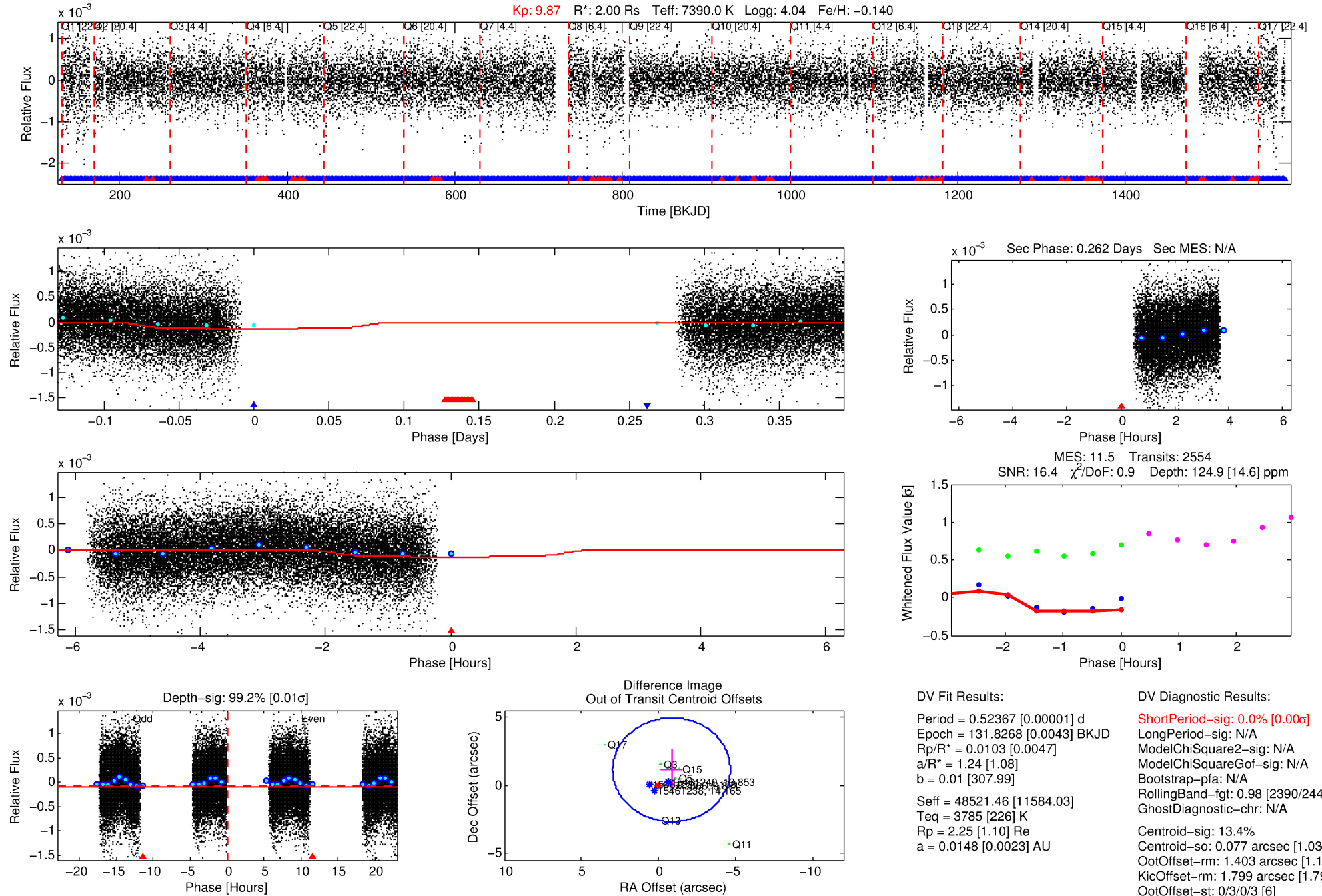
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011572666-02

No Significant Match Found

DV One-Page Summary

KIC: 11572666 Candidate: 2 of 2 Period: 0.524 d



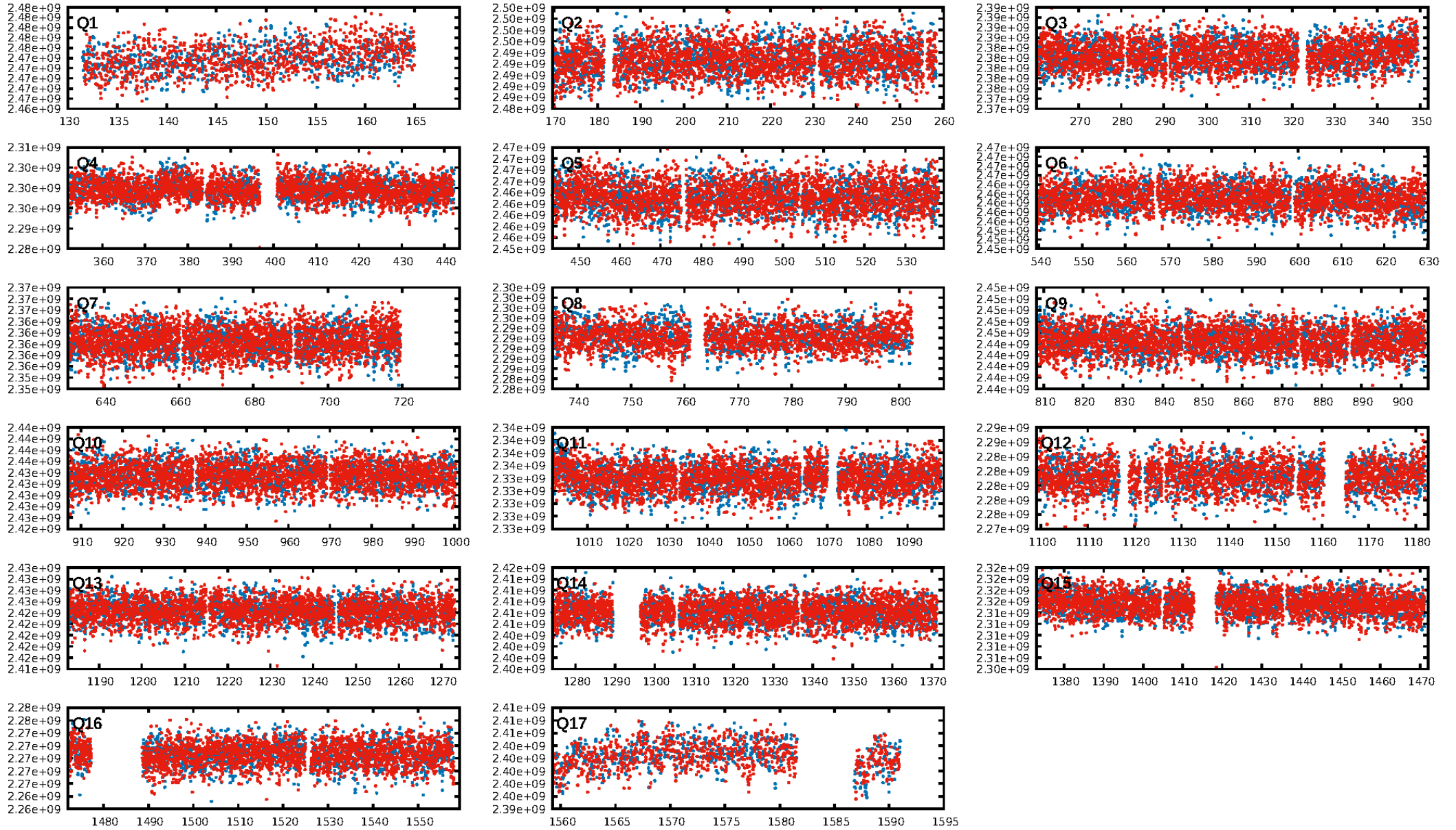
DV Fit Results:

Period = 0.52367 [0.00001] d
Epoch = 131.8268 [0.0043] BKJD
Rp/R* = 0.0103 [0.0047]
a/R* = 1.24 [1.08]
b = 0.01 [307.99]
Seff = 48521.46 [11584.03]
Teq = 3785 [226] K
Rp = 2.25 [1.10] Re
a = 0.0148 [0.0023] AU

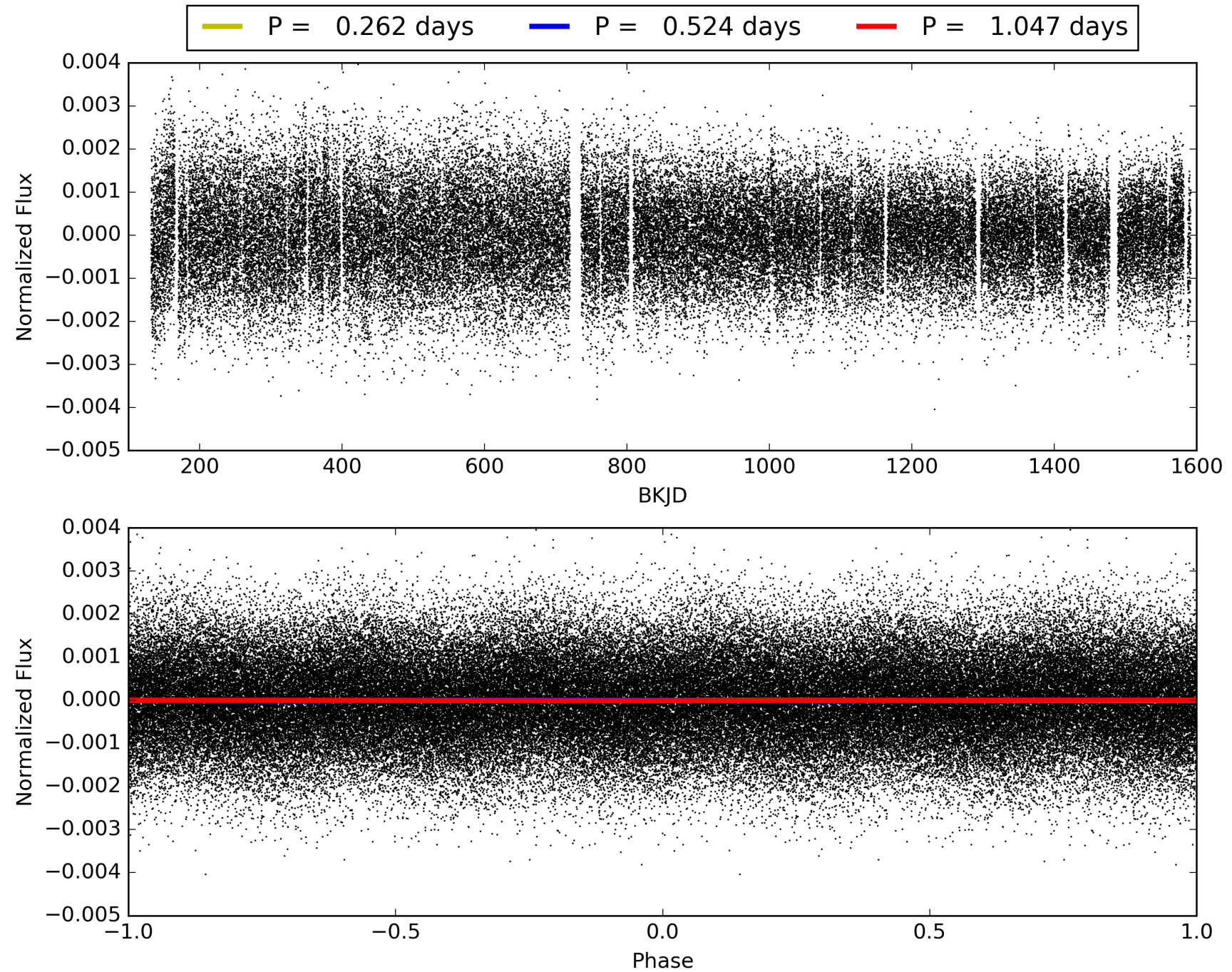
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00e]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [2390/2440]
GhostDiagnostic-chr: N/A
Centroid-sig: 13.4%
Centroid-so: 0.077 arcsec [1.03σ]
OotOffset-rm: 1.403 arcsec [1.10σ]
KicOffset-rm: 1.799 arcsec [1.79σ]
OotOffset-st: 0/3/0/3 [6]
KicOffset-st: 0/3/0/3 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 011572666-02, PDC Light Curves

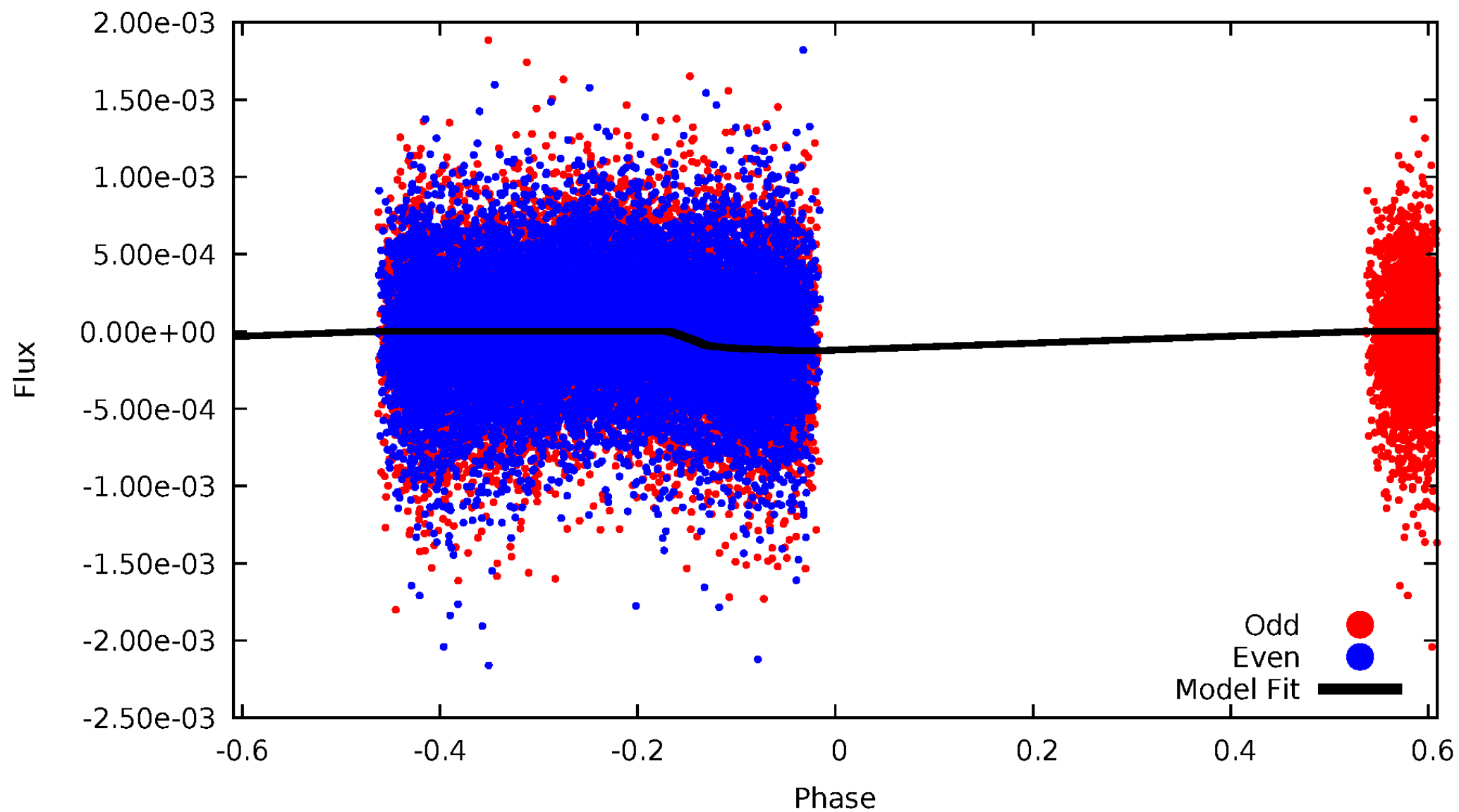


TCE 011572666-02



DV Odd/Even

TCE 011572666-02

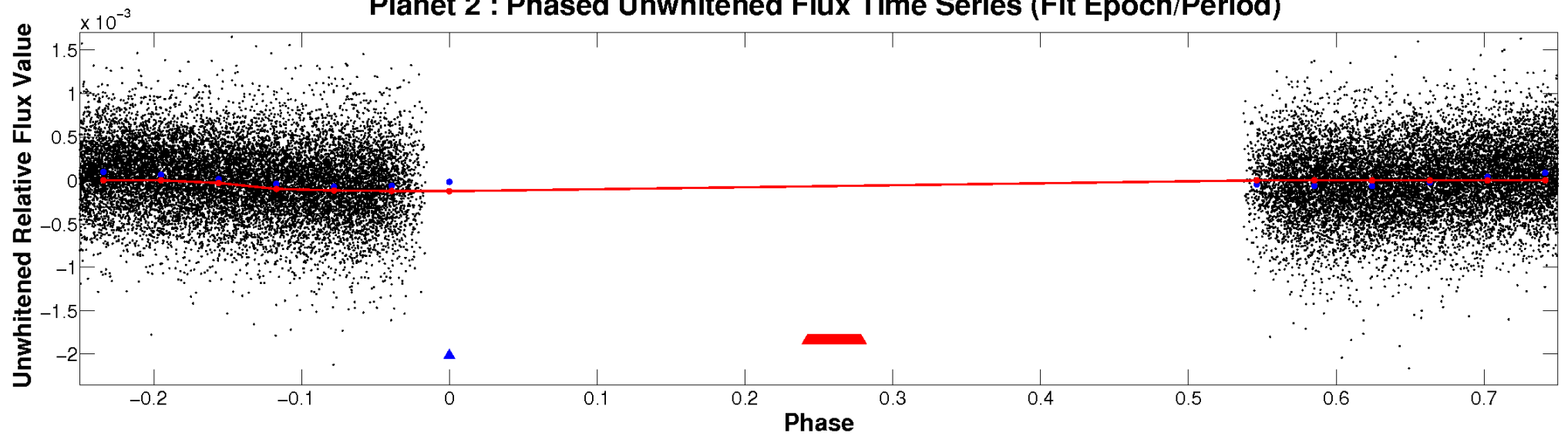


ALT Odd/Even

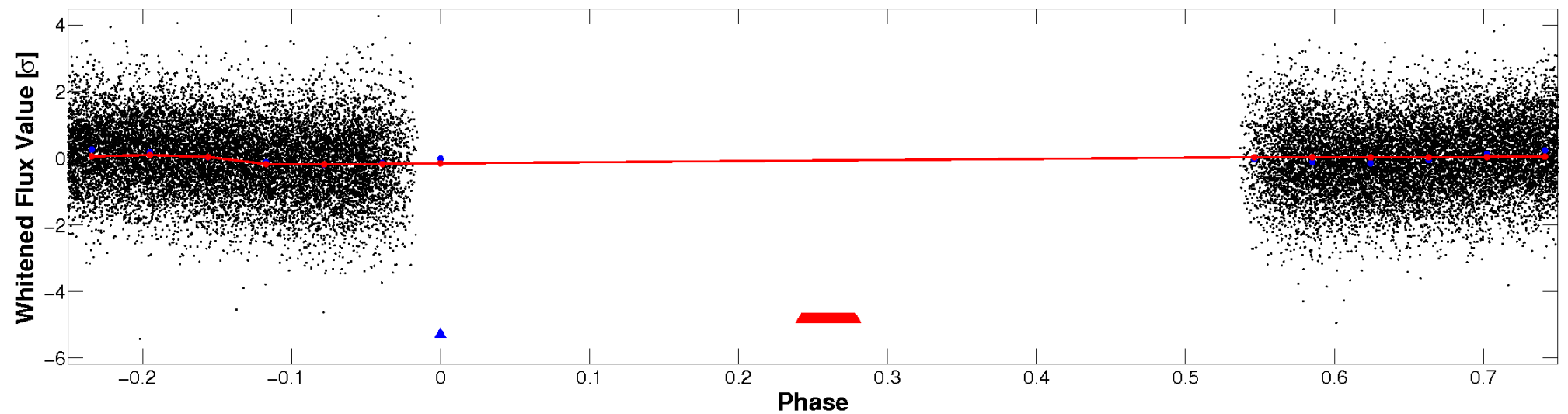
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

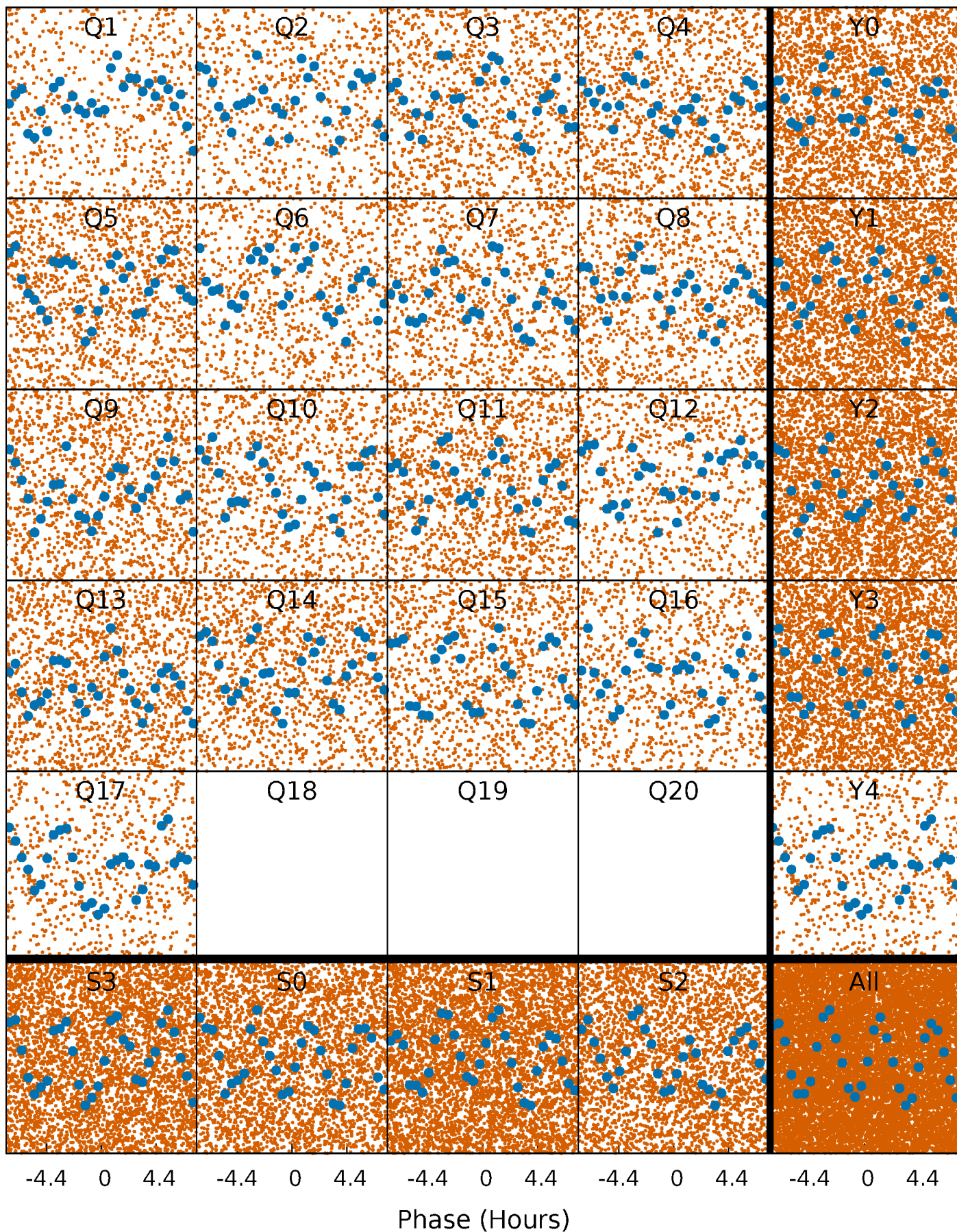


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



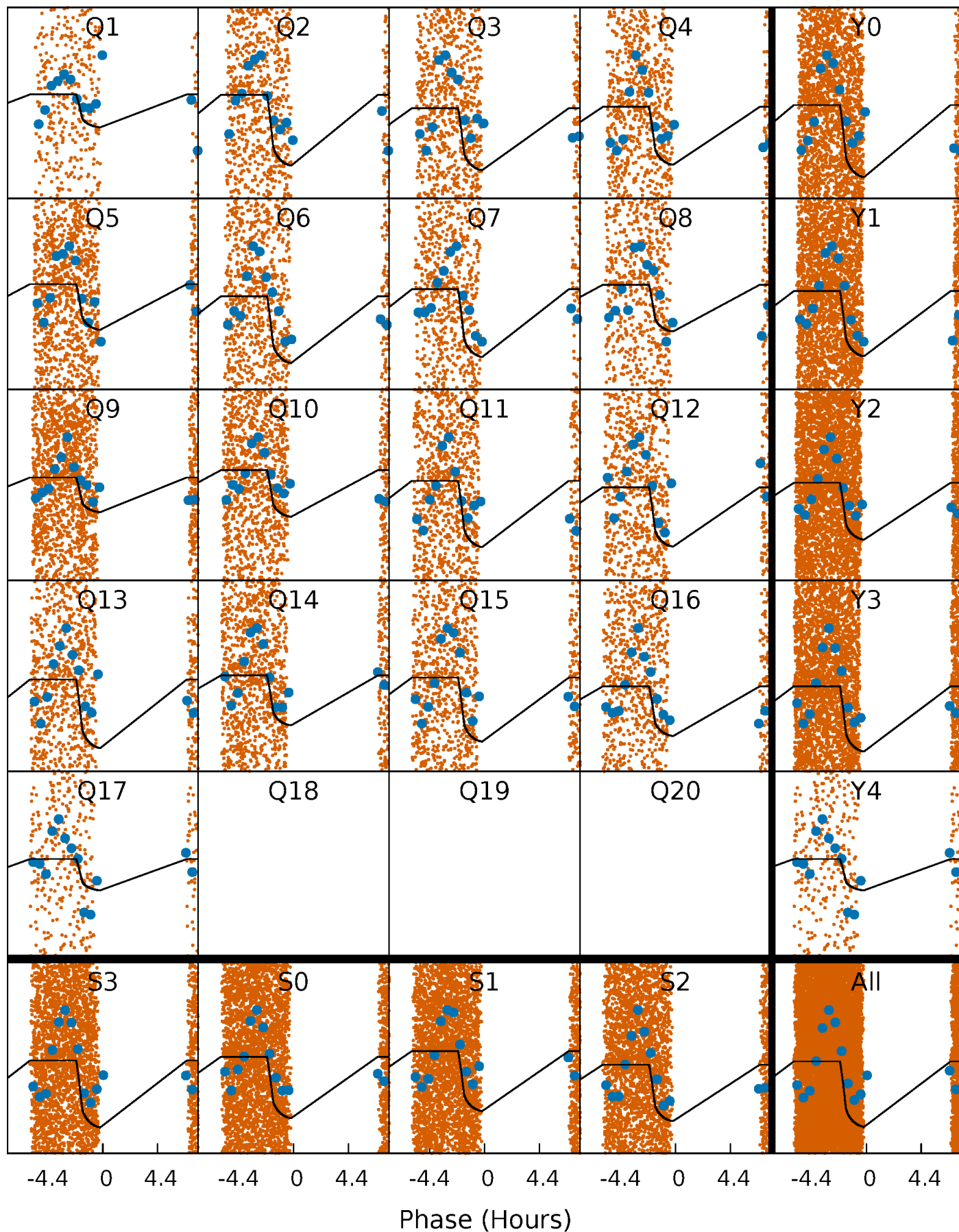
PDC Quarter-Phased Transit Curves

TCE 011572666-02 P= 0.523673 Days $T_0=131.826841$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011572666-02 P= 0.523673 Days $T_0=131.826841$ (BKJD)

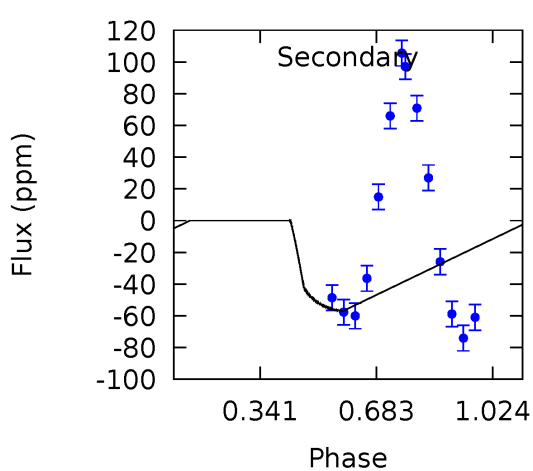
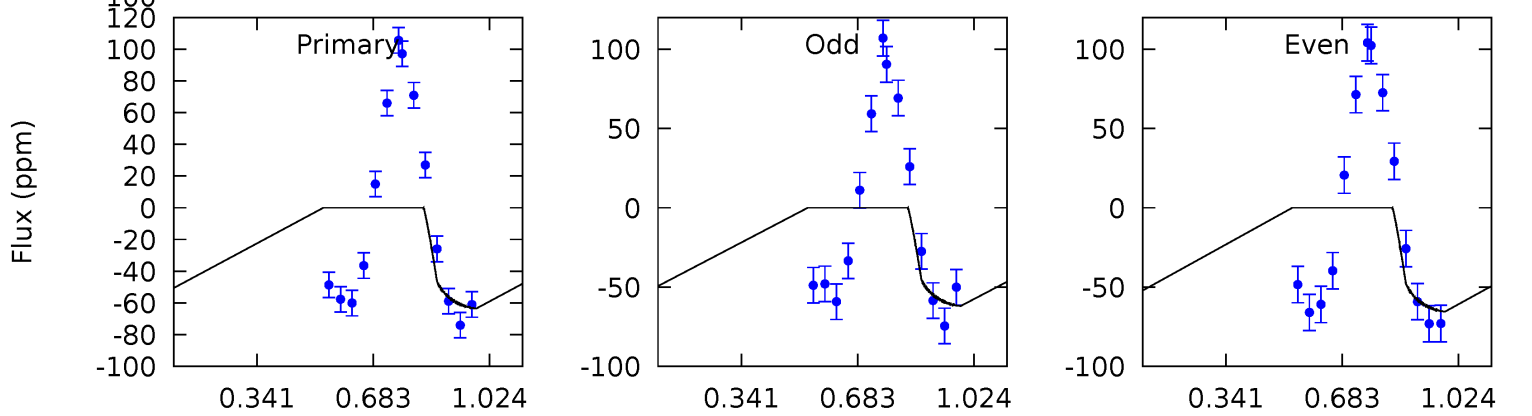
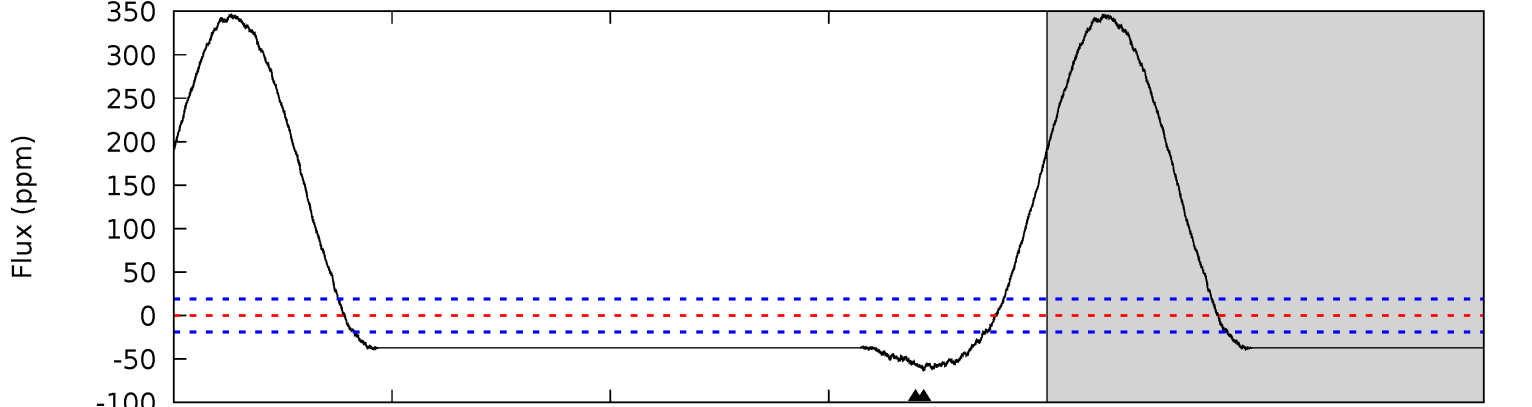
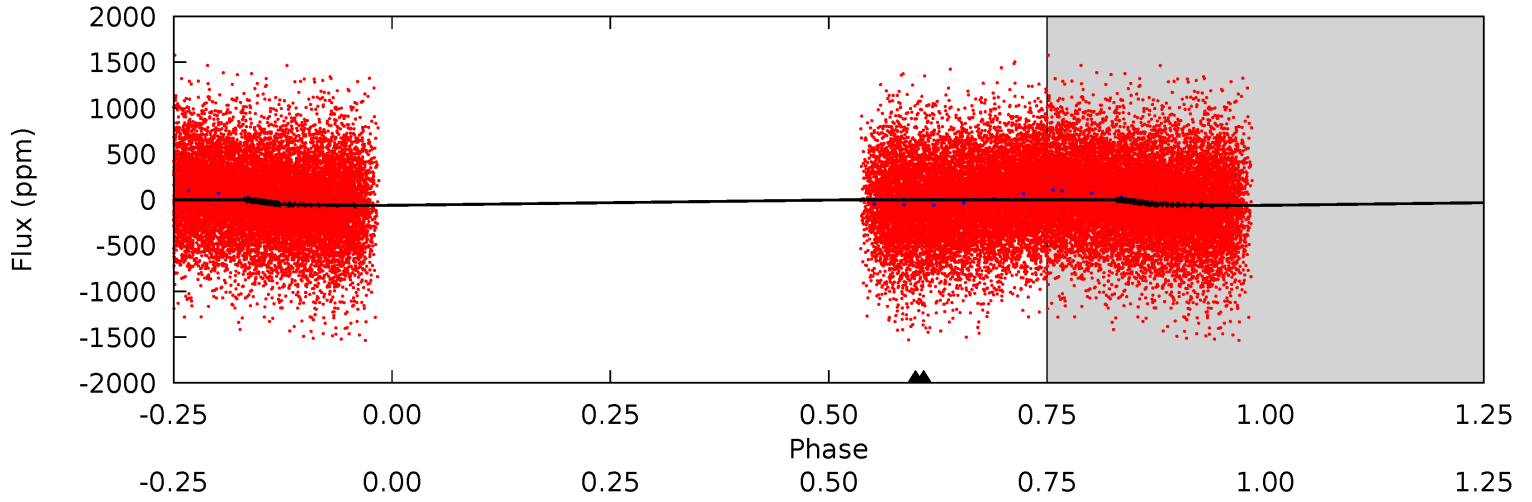


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

011572666-02, P = 0.523673 Days, E = 131.303168 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	12.8	0	0	4.30	0.95	6.81	14.3	14.3	12.8	12.8	0.40	0	0.84	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 011572666

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7390^{+81}_{-81}	$4.037^{+0.132}_{-0.108}$	$-0.140^{+0.150}_{-0.150}$	$1.999^{+0.355}_{-0.355}$	$1.585^{+0.146}_{-0.120}$	$0.279^{+0.181}_{-0.103}$
	+1%/-1%	+3%/-3%	+107%/-107%	+18%/-18%	+9%/-8%	+65%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011572666-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-57 ± 4	$2.26^{+1.04}_{-0.96}$	5285^{+234}_{-245}	5863^{+2410}_{-1293}	$1.358^{+2.745}_{-0.724}$
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

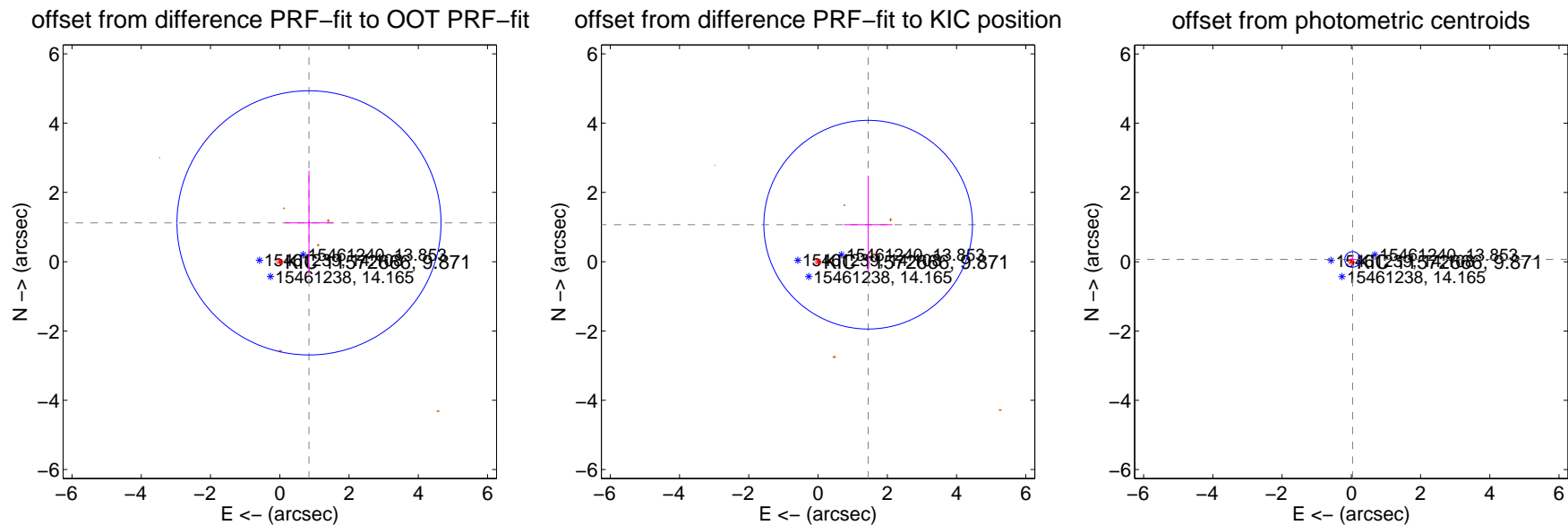
DV Centroid Data

Supplemental centroid analysis for 011572666-02. **Kepler magnitude: 9.87.** Transit SNR 16.41

There are 1 quarters with good PRF difference image offsets

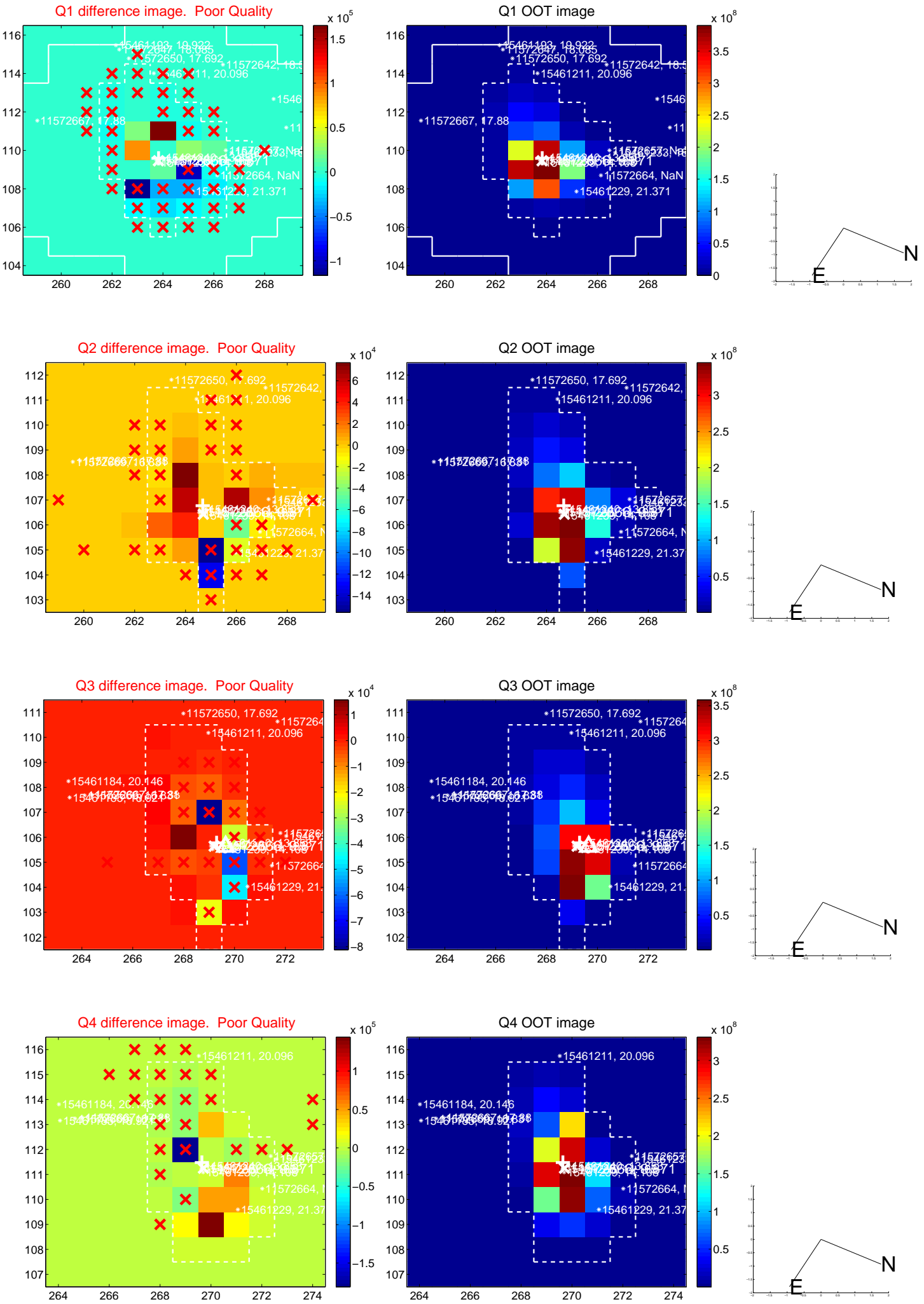
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.403 ± 1.271	1.10	-0.844 ± 0.689	1.121 ± 1.504
PRF-fit source offset from KIC position	1.799 ± 1.004	1.79	-1.447 ± 0.703	1.069 ± 1.397
photometric centroid source offset	0.08 ± 0.08	1.03	-0.04 ± 0.10	0.07 ± 0.07

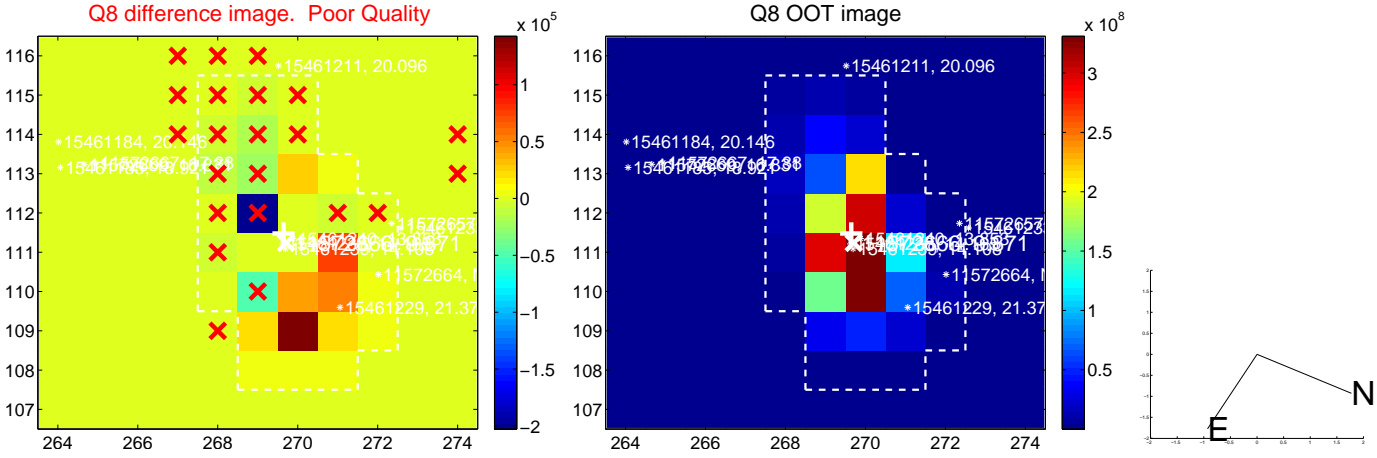
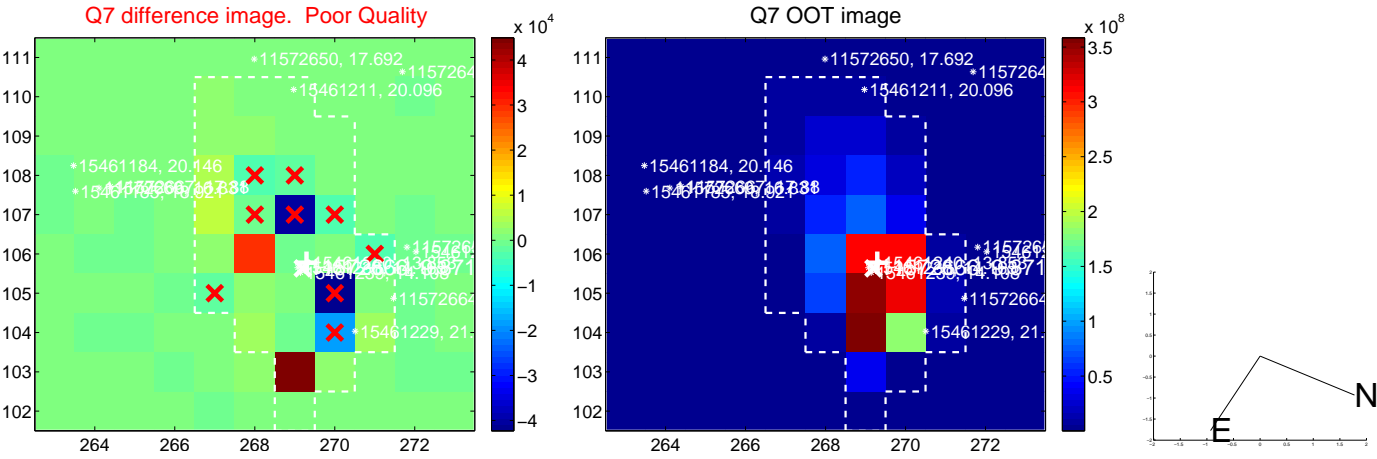
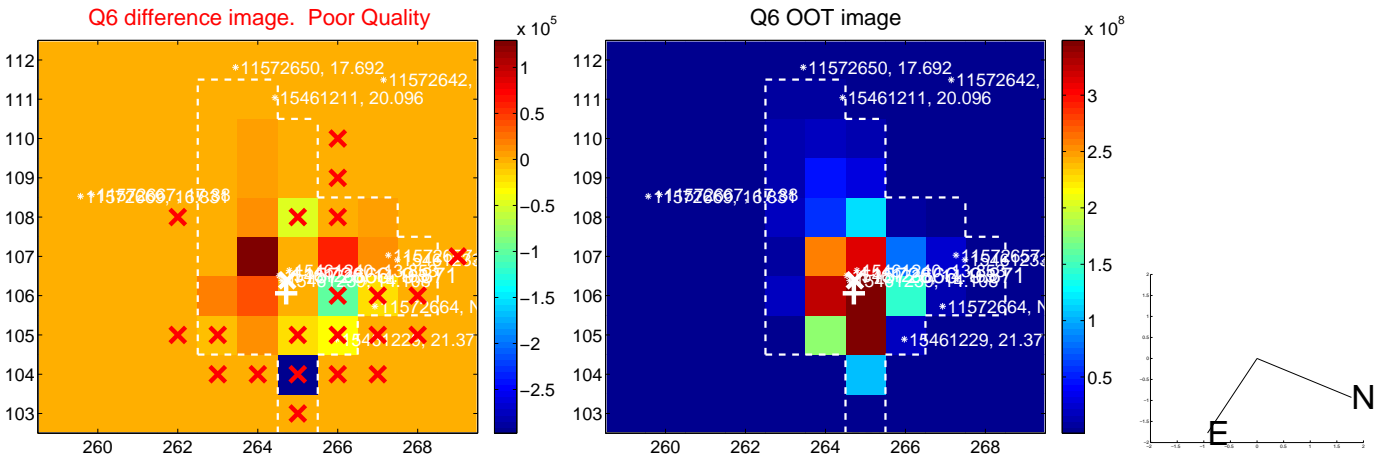
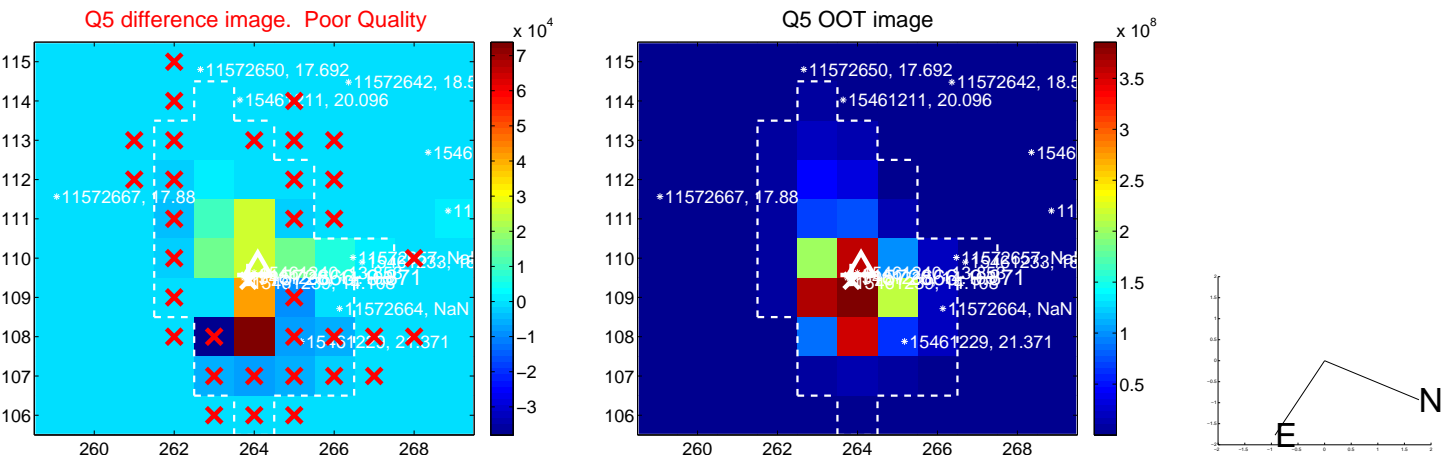


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

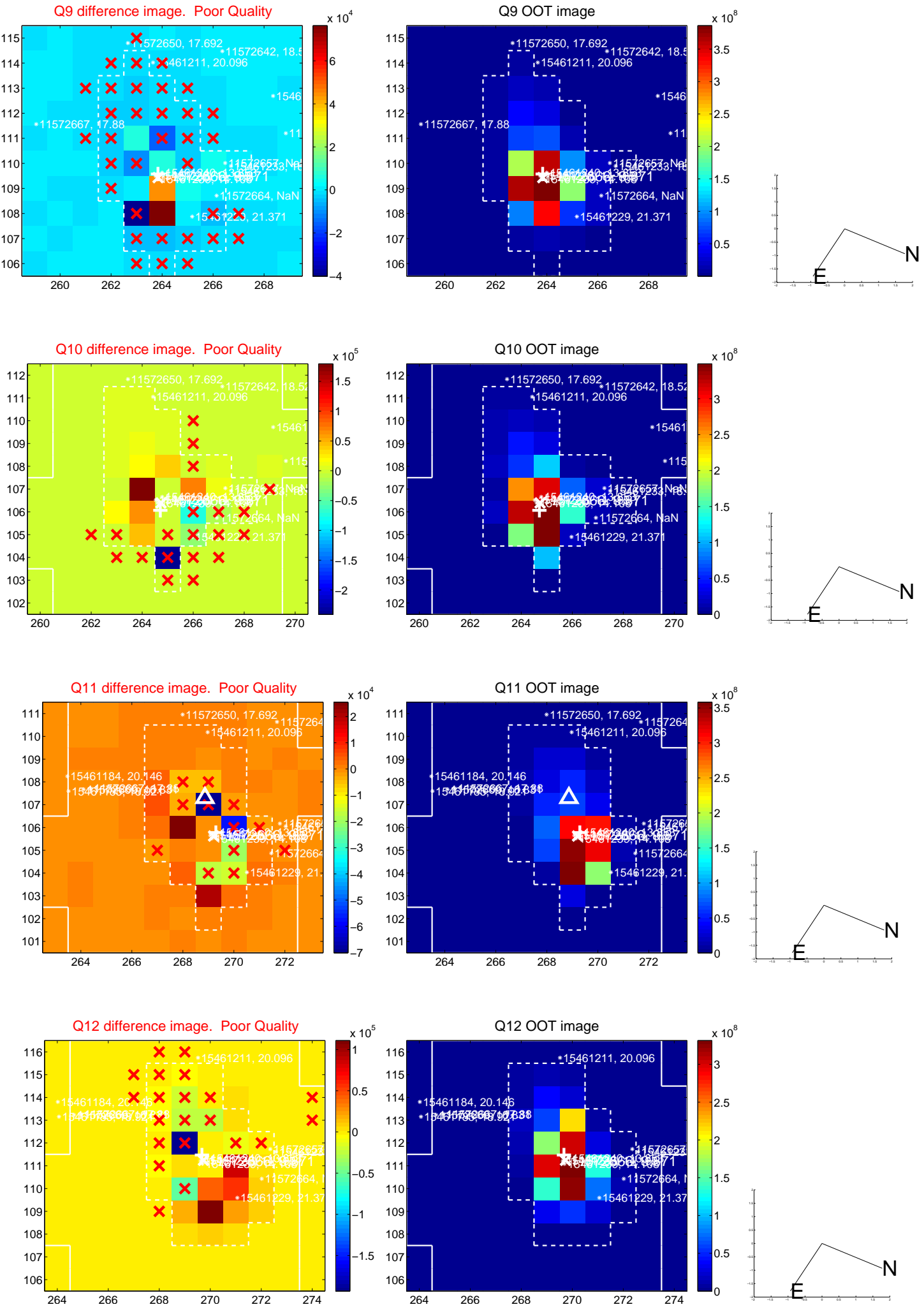
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



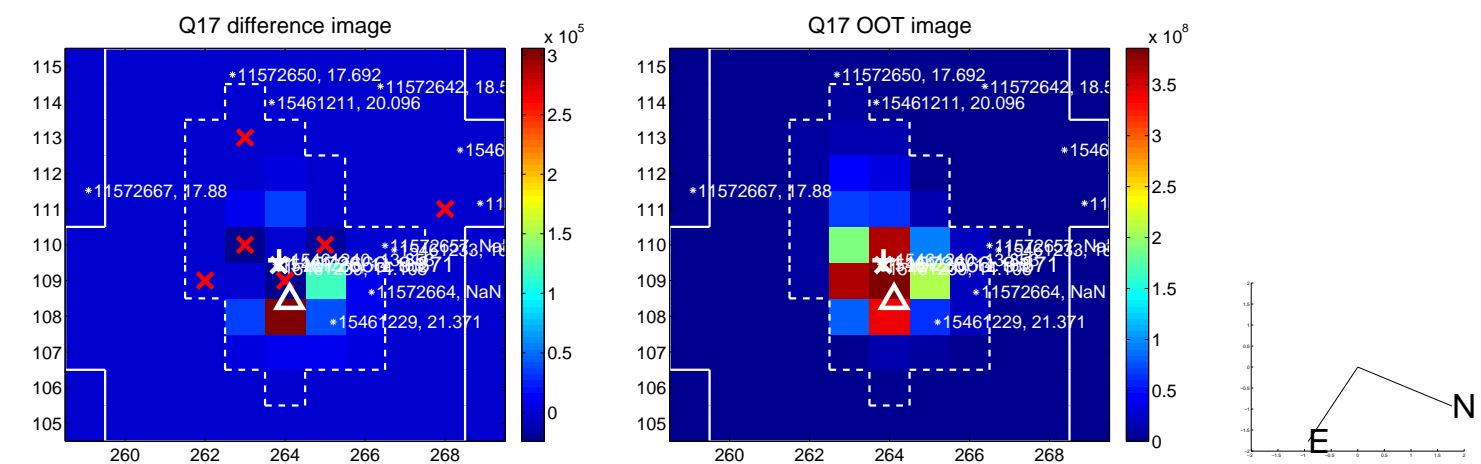
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



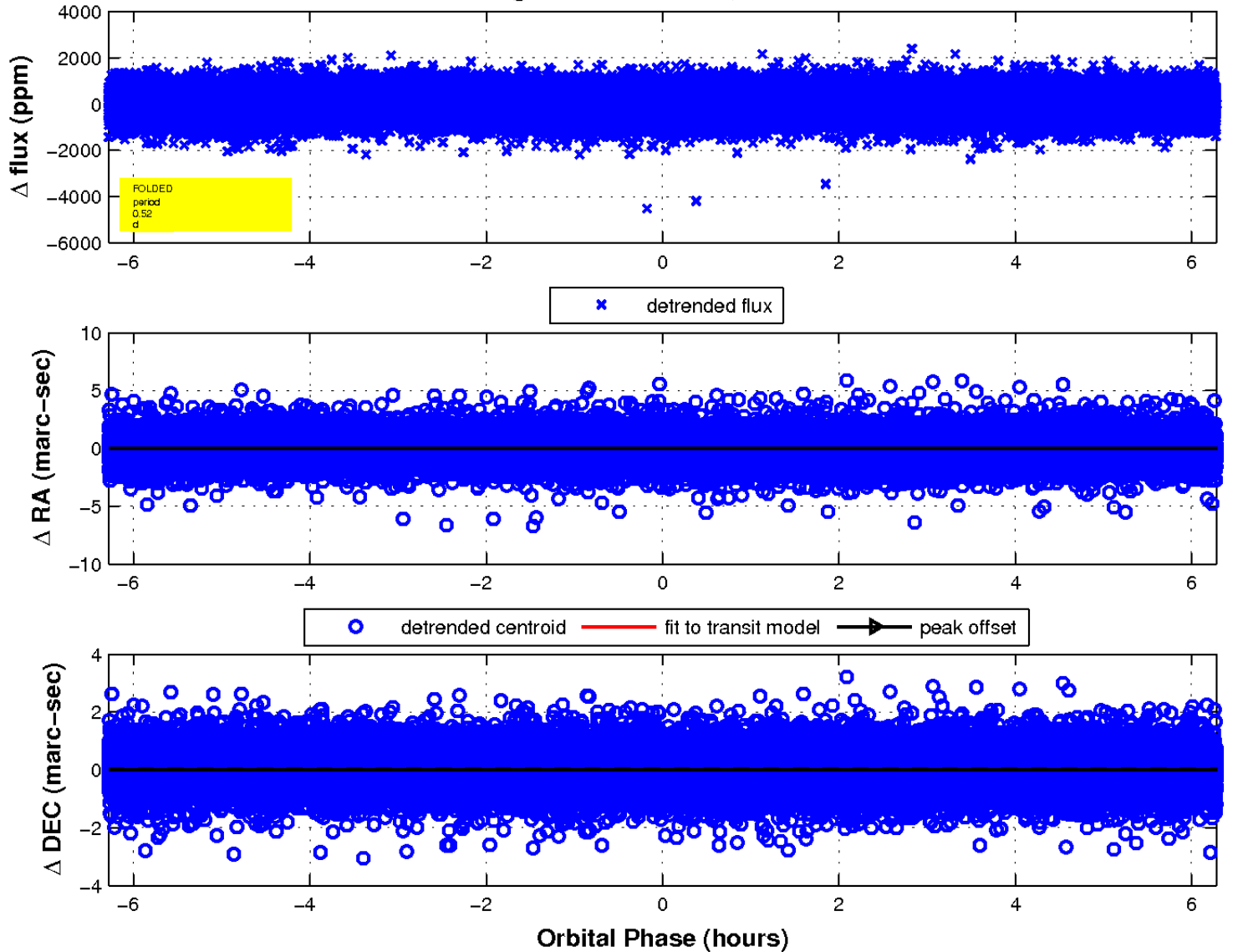
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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Declination