

KIC 008085273

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})
008085273-01	OBS	No	0.586629	131.655205	40.7	0.663	10.1	6.6	2.07	7336	1.36	41732.44
008085273-02	OBS	No	0.586617	131.955718	29.6	3.877	9.8	10.7	2.07	7336	1.15	41733.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008085273-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008085273-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

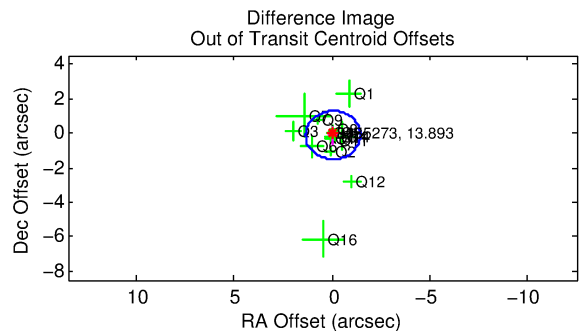
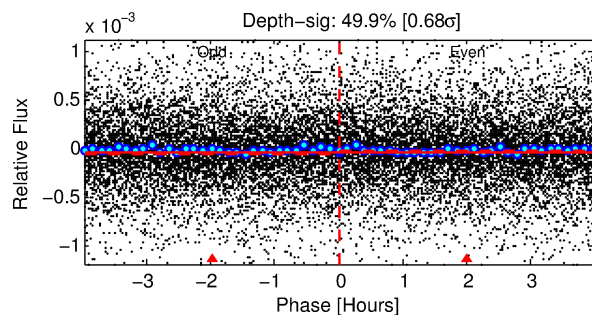
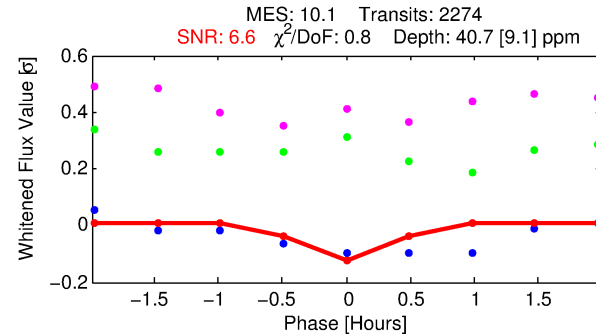
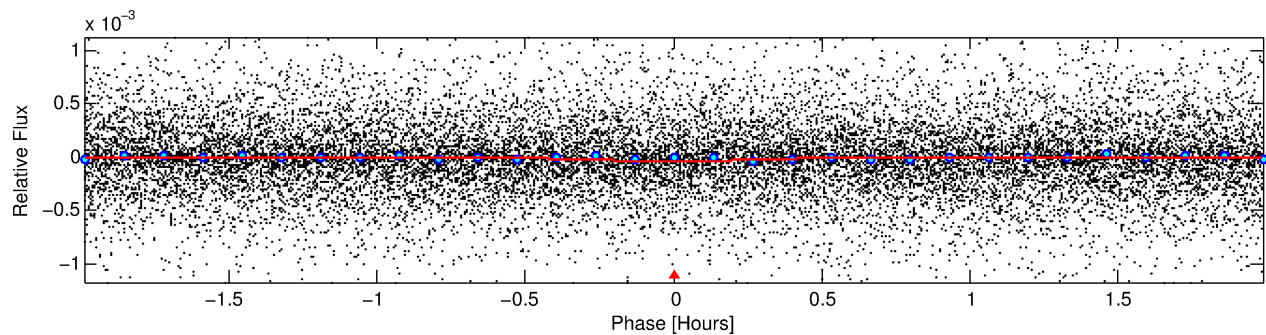
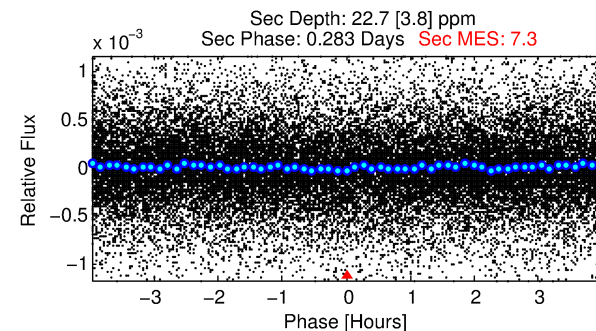
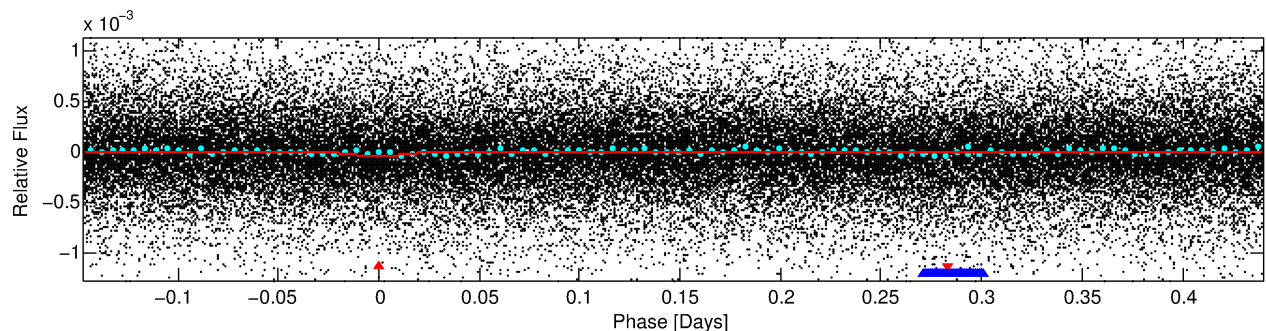
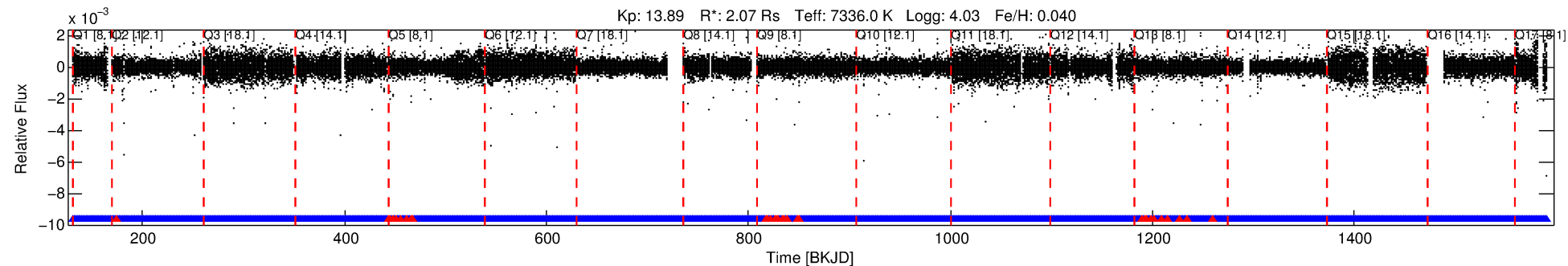
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008085273-01

No Significant Match Found

DV One-Page Summary

KIC: 8085273 Candidate: 1 of 2 Period: 0.587 d



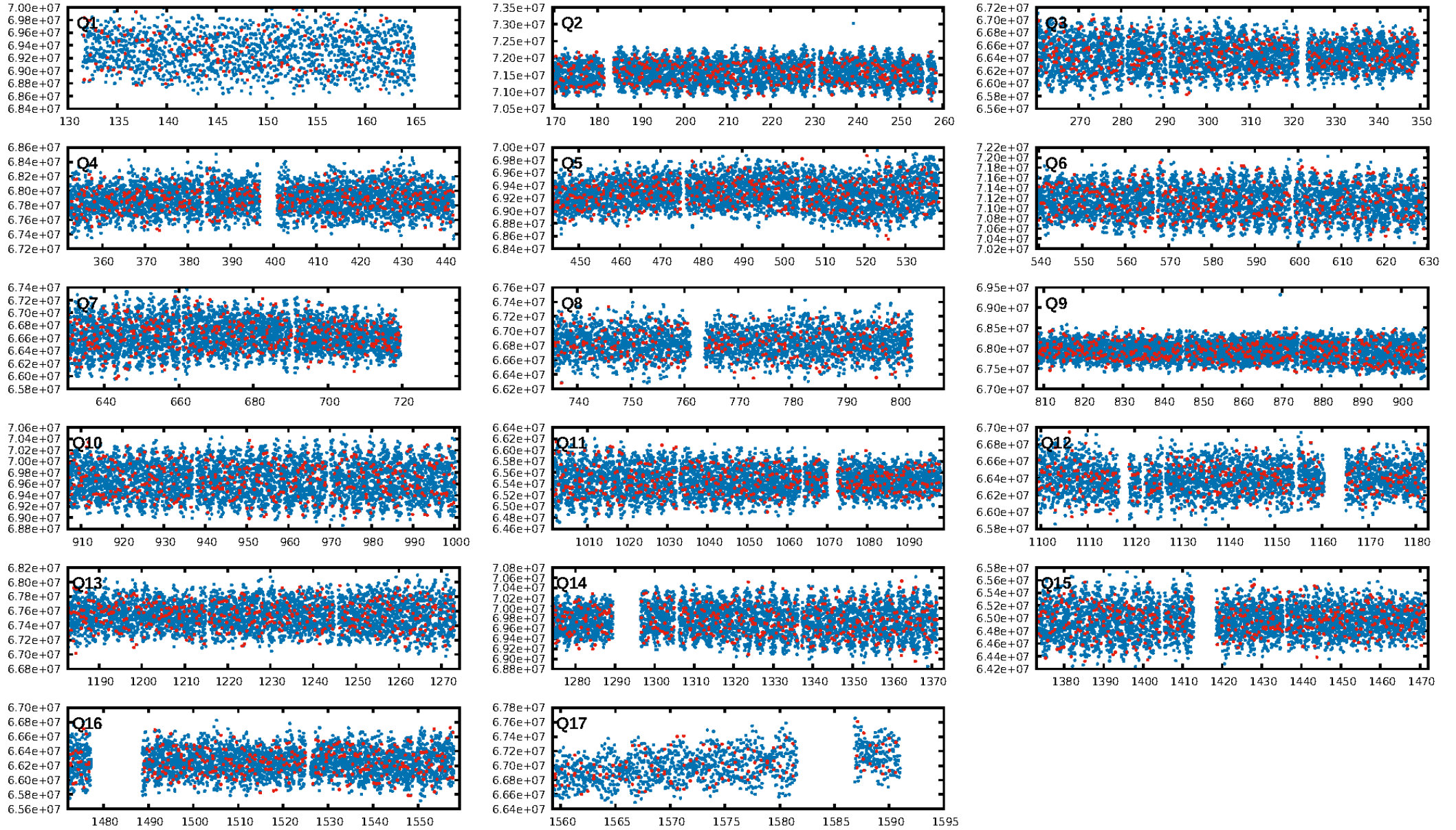
DV Fit Results:

Period = 0.58663 [0.00002] d
Epoch = 131.6552 [0.0023] BKJD
Rp/R* = 0.0060 [0.0114]
a/R* = 6.82 [75.74]
b = 0.04 [278.62]
Seff = 41732.44 [15171.64]
Teff = 3645 [331] K
Rp = 1.36 [2.60] Re
a = 0.0163 [0.0036] AU
Ag = 1.79 [6.79] [0.12σ]
Teffp = 6516 [6174] K [0.46σ]

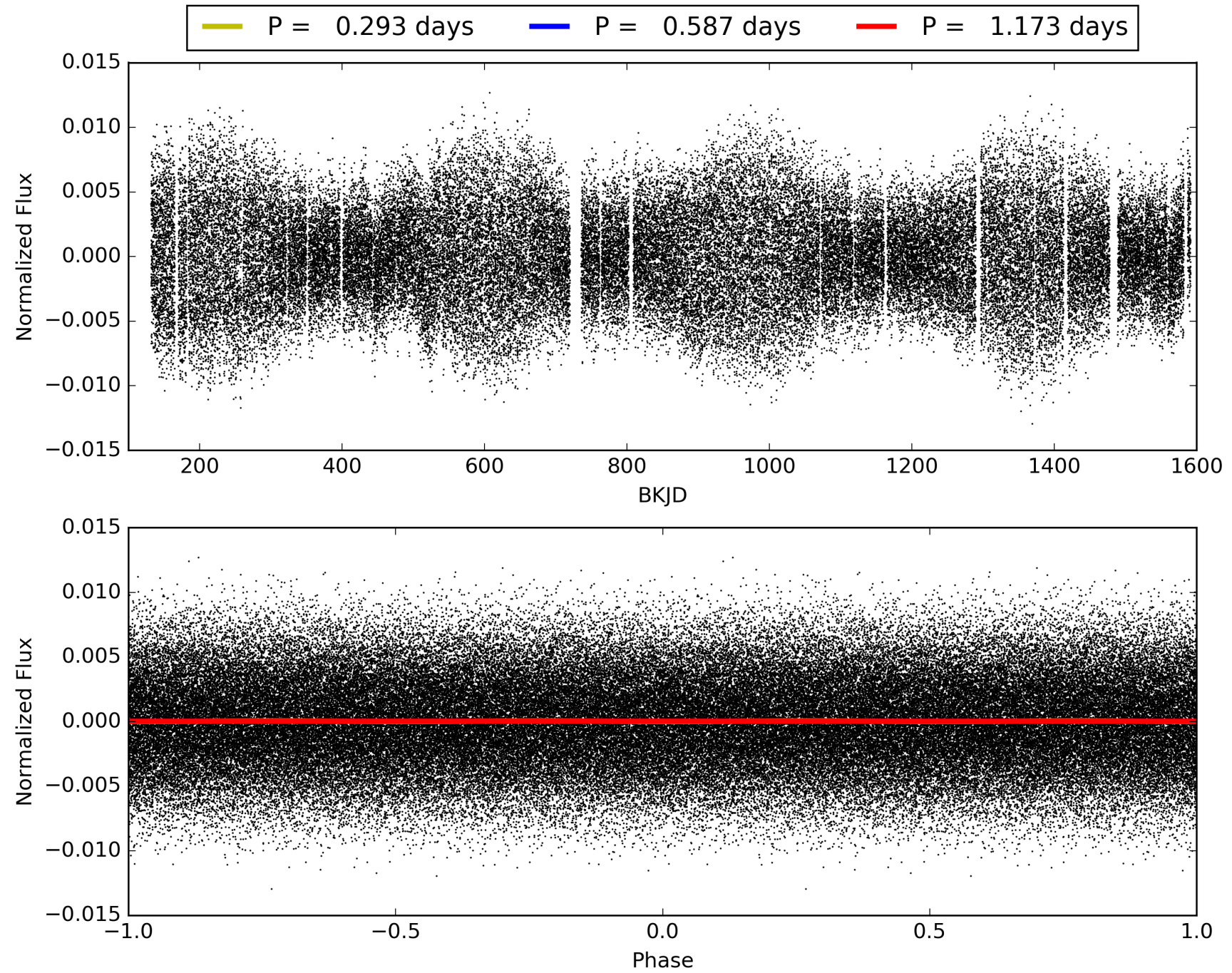
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [2138/2172]
GhostDiagnostic-chr: 5.293
Centroid-sig: 48.6%
Centroid-so: 0.799 arcsec [0.68σ]
OotOffset-rm: 0.123 arcsec [0.26σ]
KicOffset-rm: 0.203 arcsec [0.52σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008085273-01, PDC Light Curves

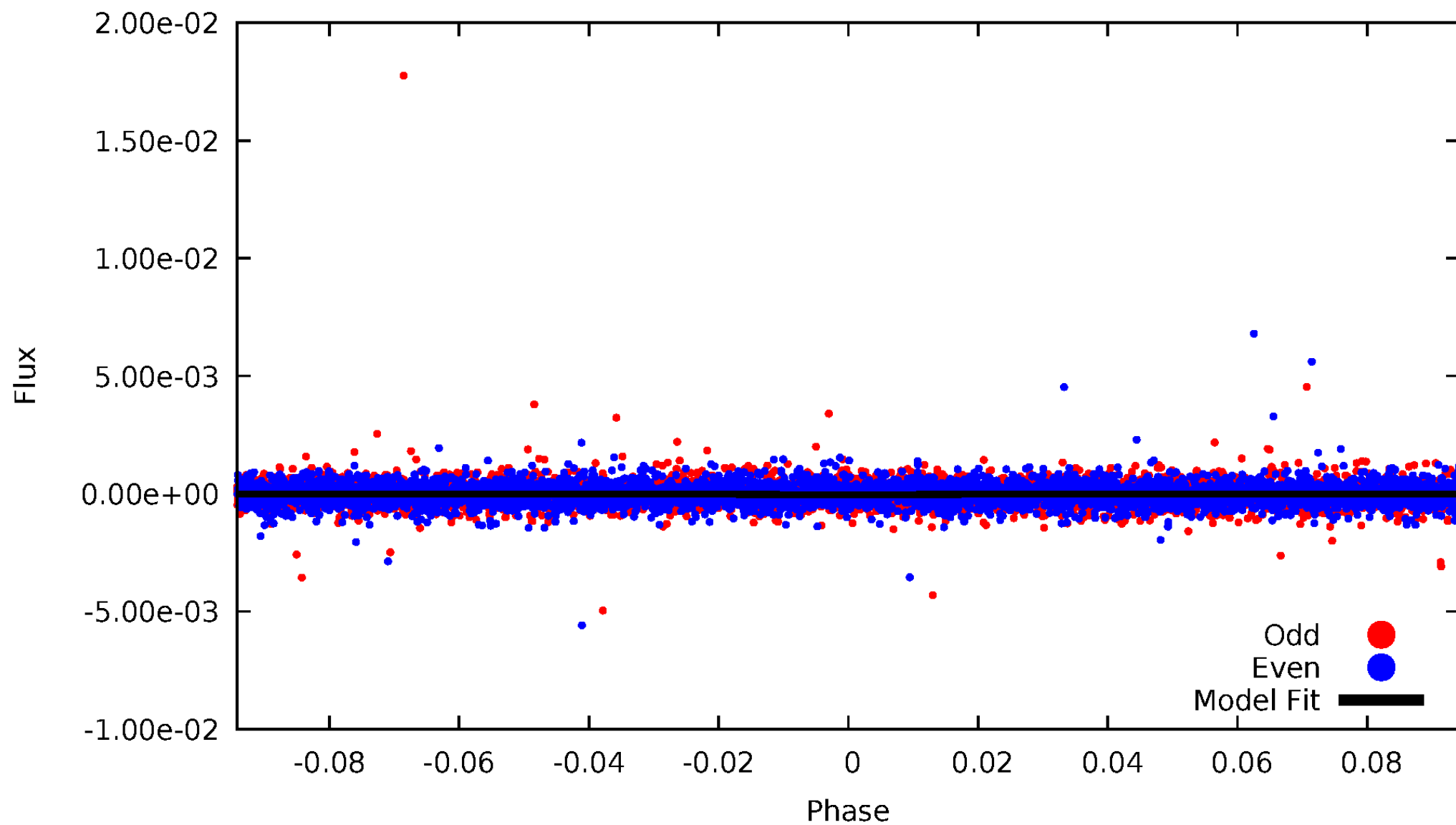


TCE 008085273-01



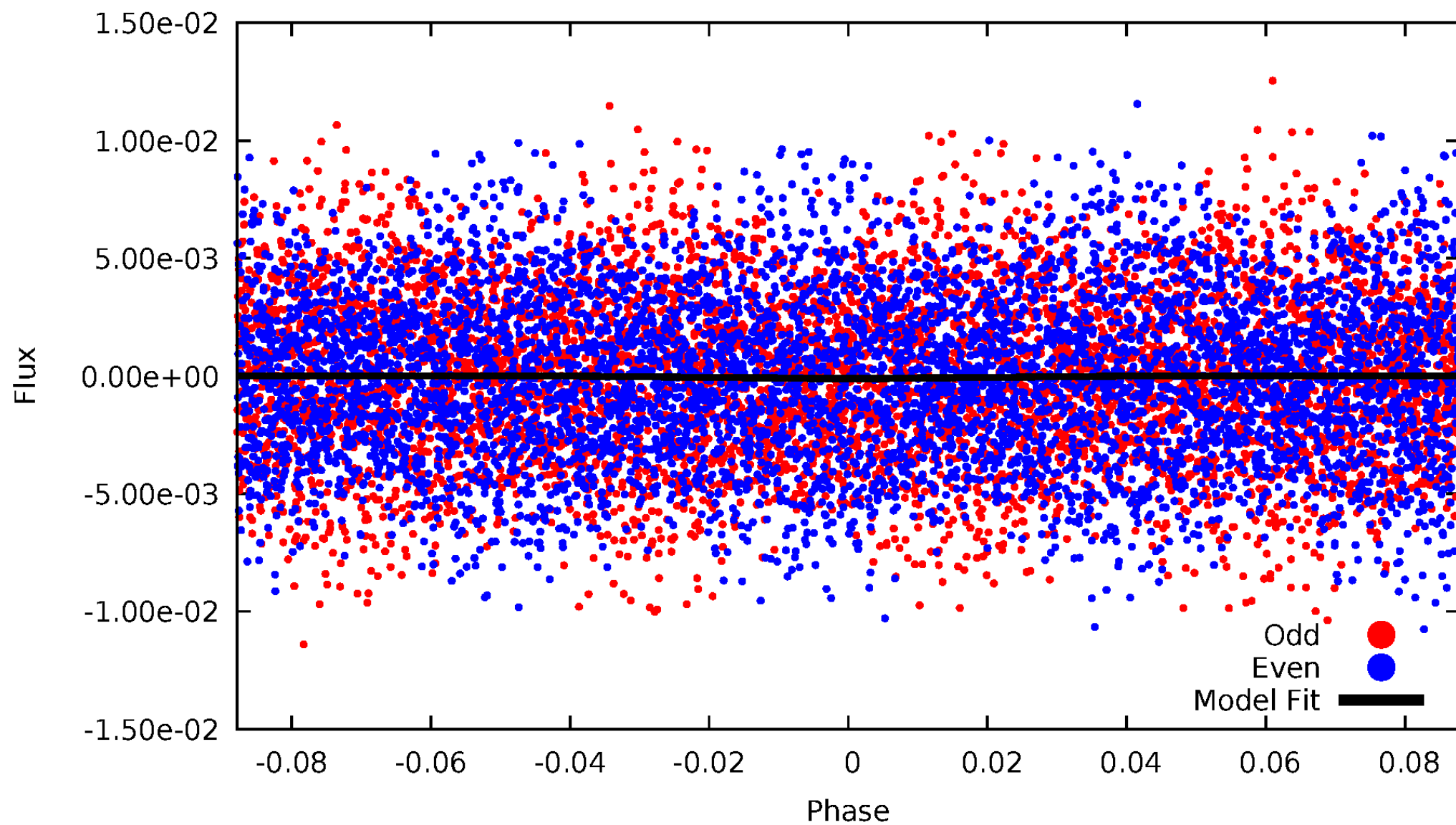
DV Odd/Even

TCE 008085273-01



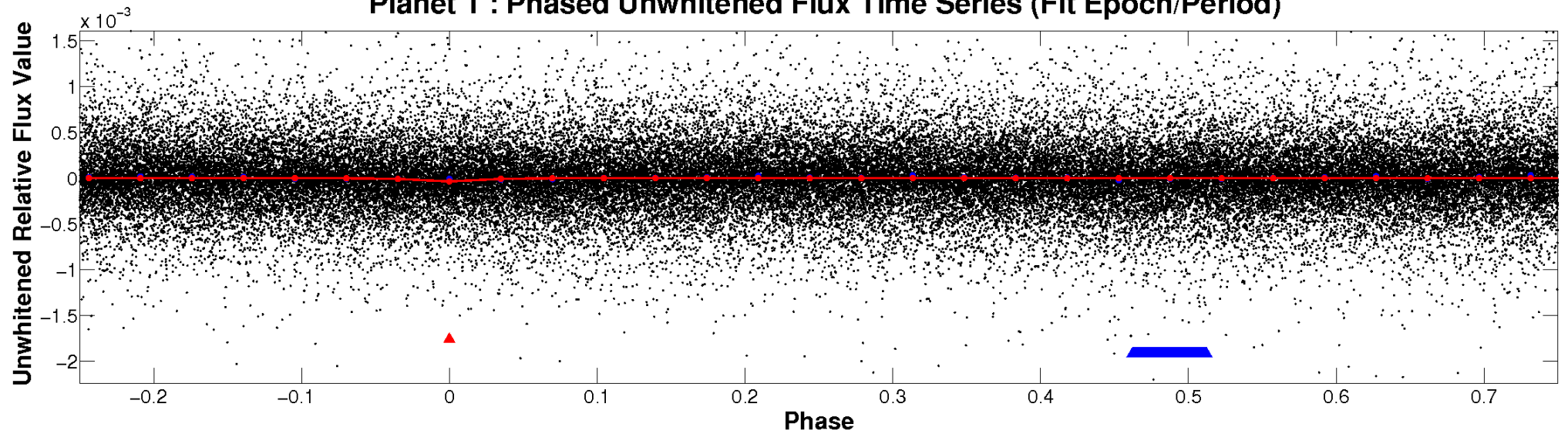
ALT Odd/Even

TCE 008085273-01

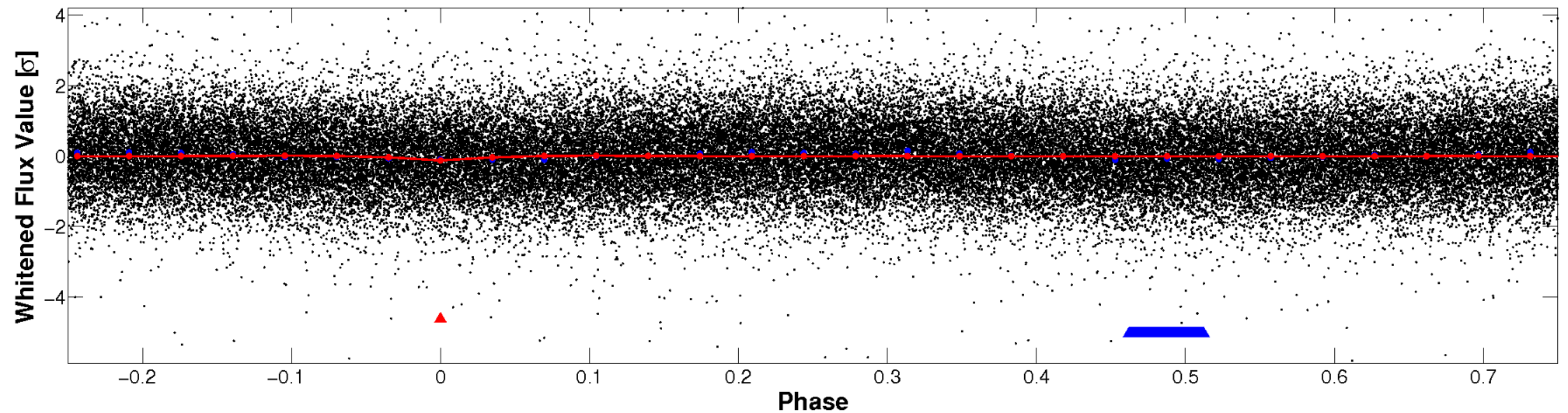


Non-Whitened Vs. Whitened Light Curve

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

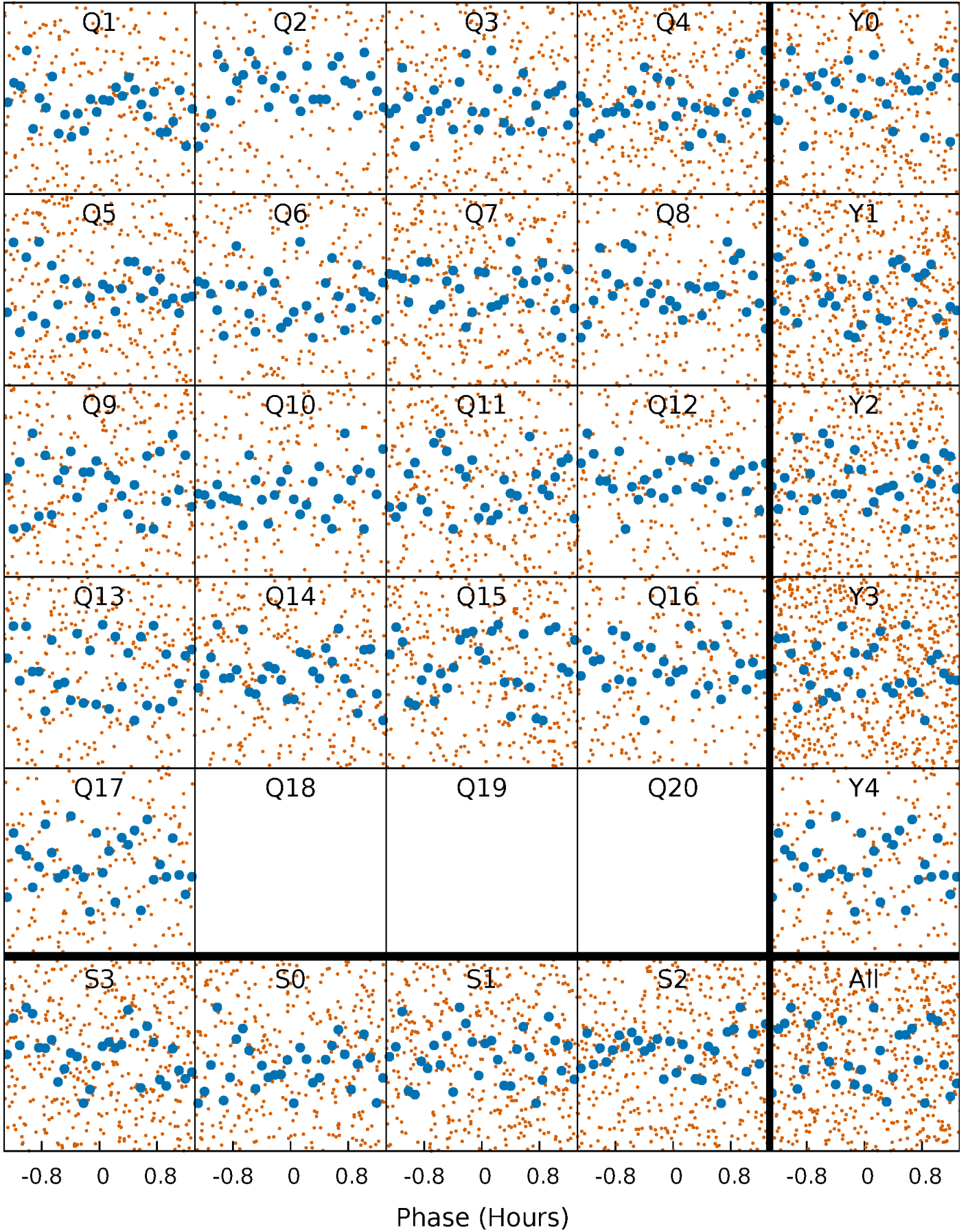


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



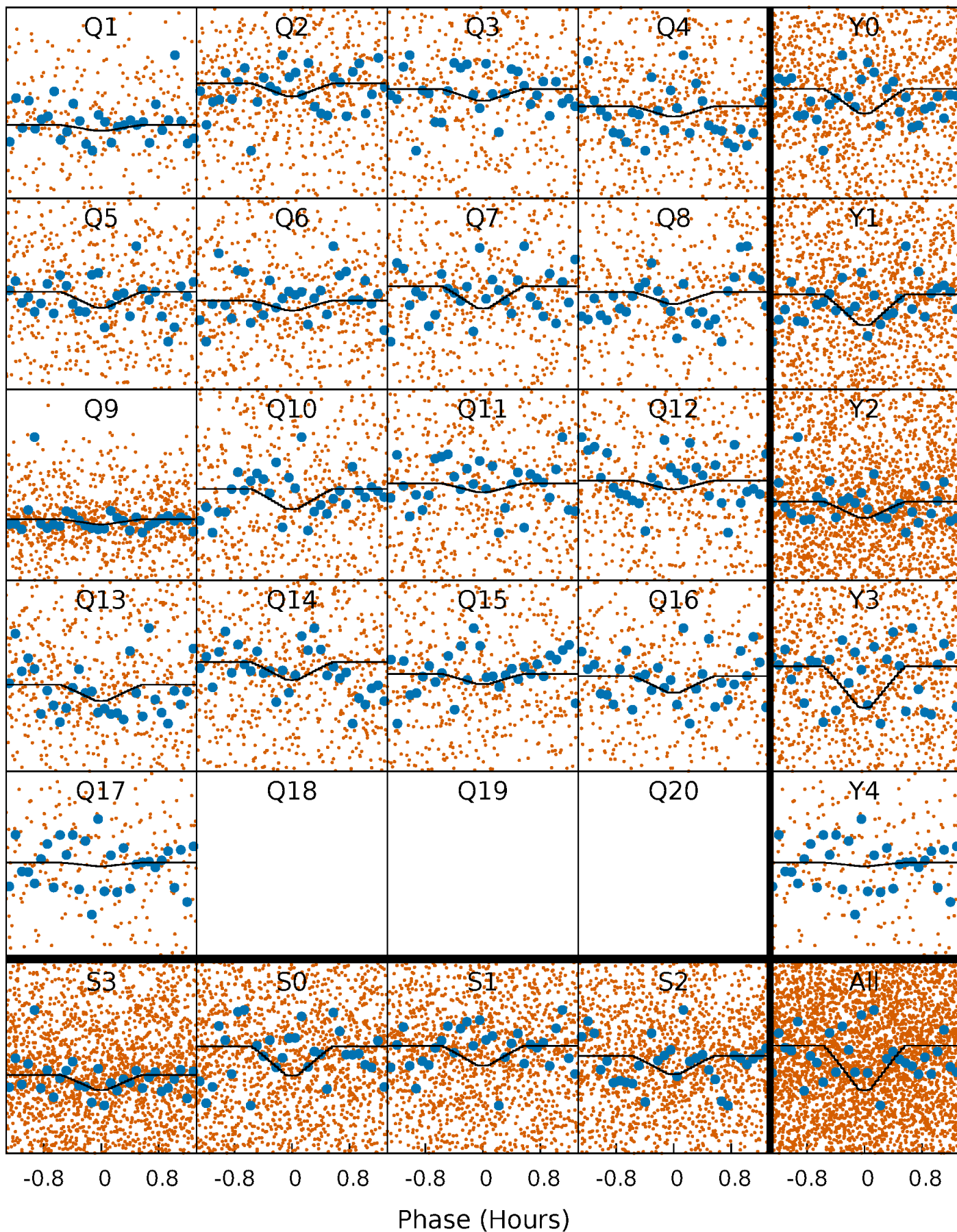
PDC Quarter-Phased Transit Curves

TCE 008085273-01 P= 0.586629 Days $T_0=131.655205$ (BKJD)



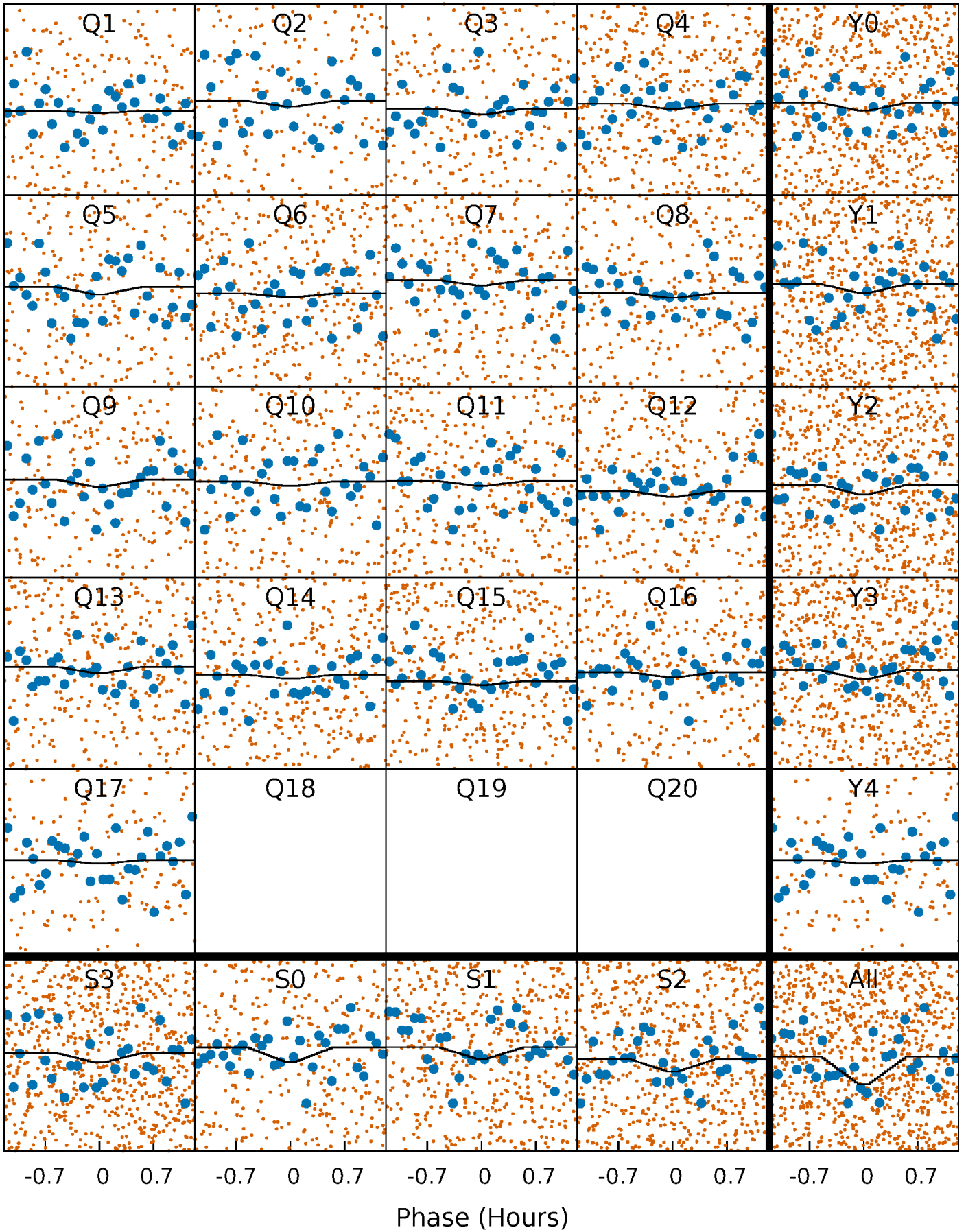
DV Quarter-Phased Transit Curves

TCE 008085273-01 P= 0.586629 Days $T_0=131.655205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

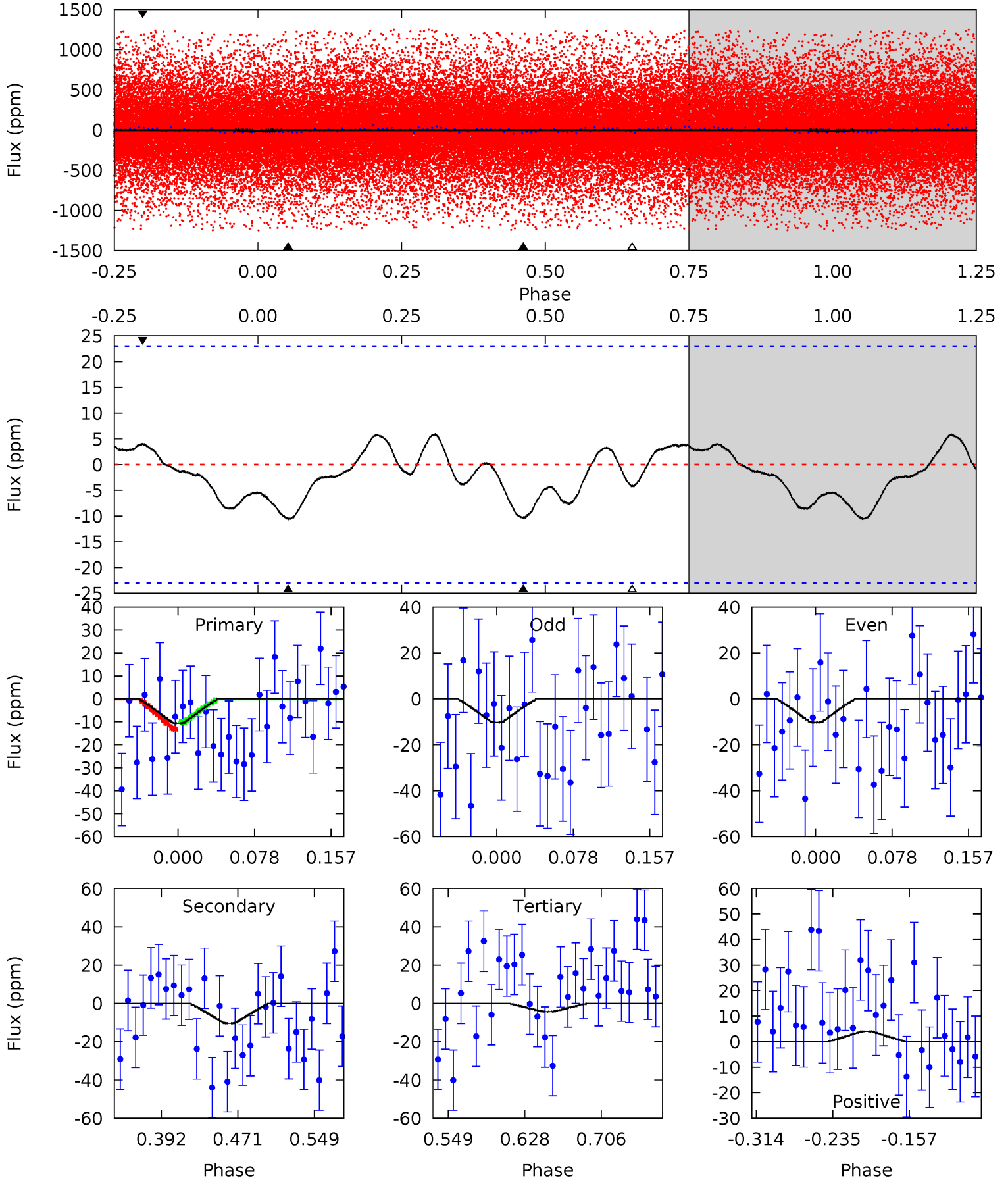
TCE 008085273-01 P= 0.586645 Days $T_0=131.652414$ (BKJD)



DV Model-Shift Uniqueness Test

008085273-01, P = 0.586629 Days, E = 131.068576 Days

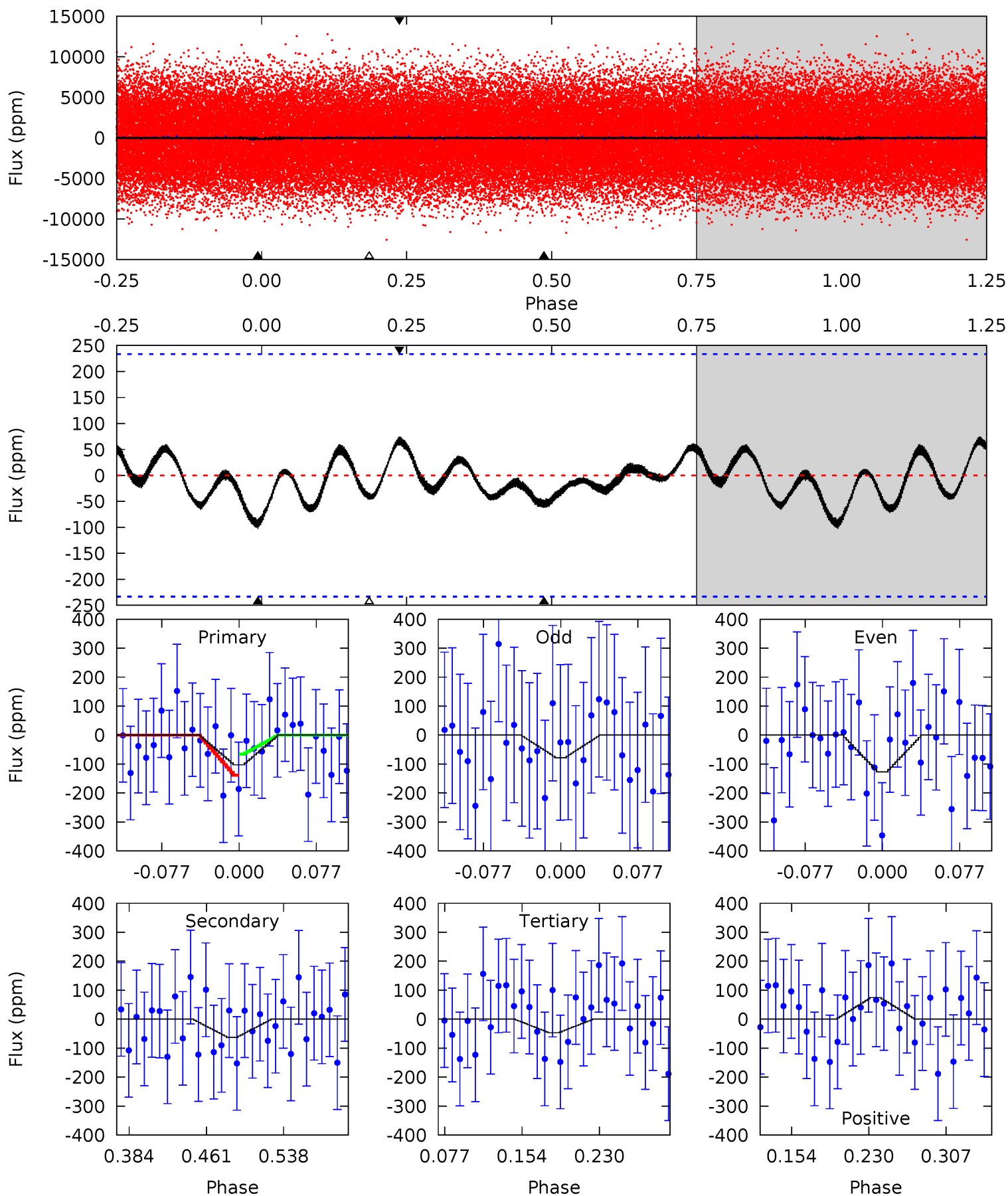
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.13	2.09	0.86	0.81	4.62	1.76	0.74	1.27	1.32	1.23	1.28	0.01	0.63	0.36	0.29



Alt Model-Shift Uniqueness Test

008085273-01, P = 0.586645 Days, E = 131.065769 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.03	1.23	0.93	1.47	4.62	1.77	0.64	1.11	0.56	0.31	-0.24	0.49	1.45	0.42	0.72



Stellar Parameters For KIC 008085273

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7336^{+235}_{-324}	$4.032^{+0.170}_{-0.170}$	$0.040^{+0.200}_{-0.300}$	$2.067^{+0.562}_{-0.511}$	$1.677^{+0.207}_{-0.276}$	$0.267^{+0.246}_{-0.129}$
	+3%/-4%	+4%/-4%	+500%/-750%	+27%/-25%	+12%/-16%	+92%/-48%
Source	KIC0	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 008085273-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 5	$2.52^{+2.26}_{-1.64}$	5098^{+390}_{-379}	-3508^{+9773}_{-764}	$0.209^{+1.769}_{-0.161}$
Alt.	-62 ± 51	$2.81^{+2.32}_{-1.79}$	5081^{+401}_{-391}	4973^{+5086}_{-9029}	$0.929^{+7.350}_{-0.830}$

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 $A_{obs} \gg 1.0$

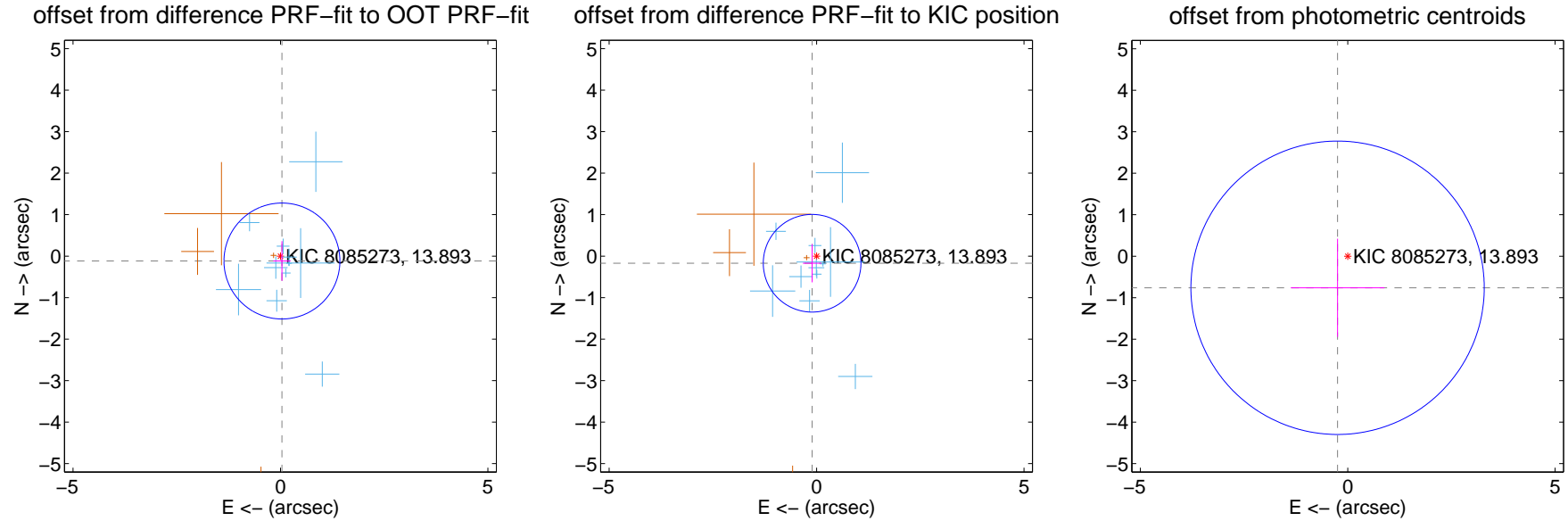
DV Centroid Data

Supplemental centroid analysis for 008085273-01. Kepler magnitude: 13.89. Transit SNR 6.63

There are 11 quarters with good PRF difference image offsets

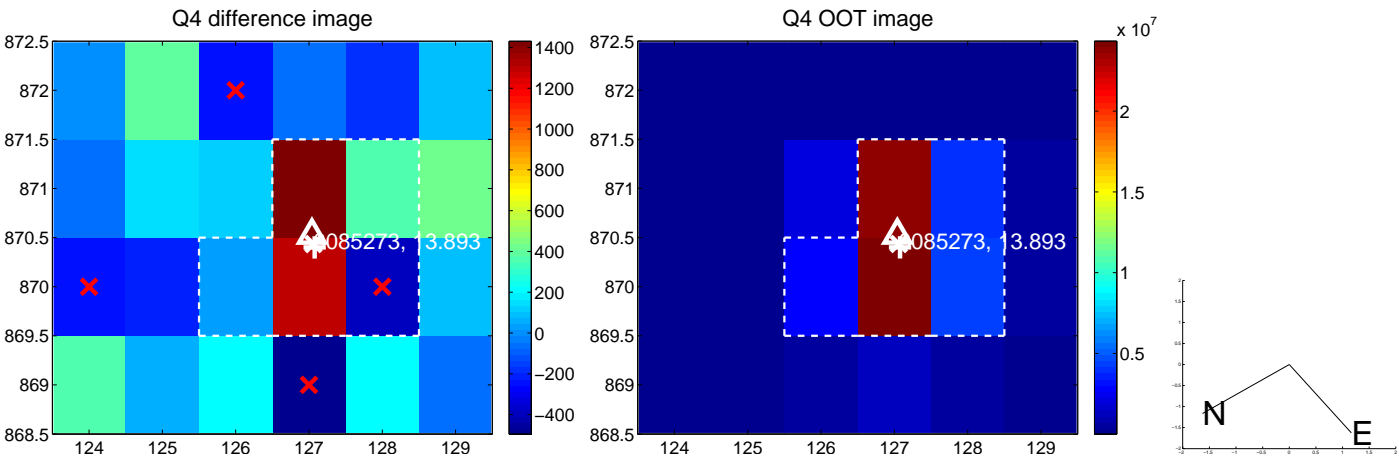
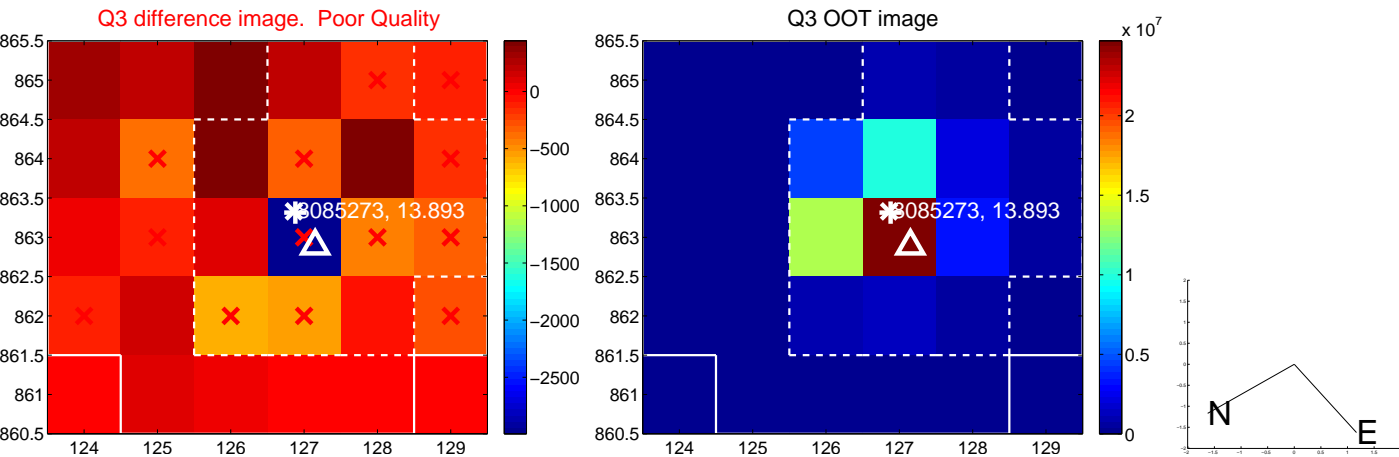
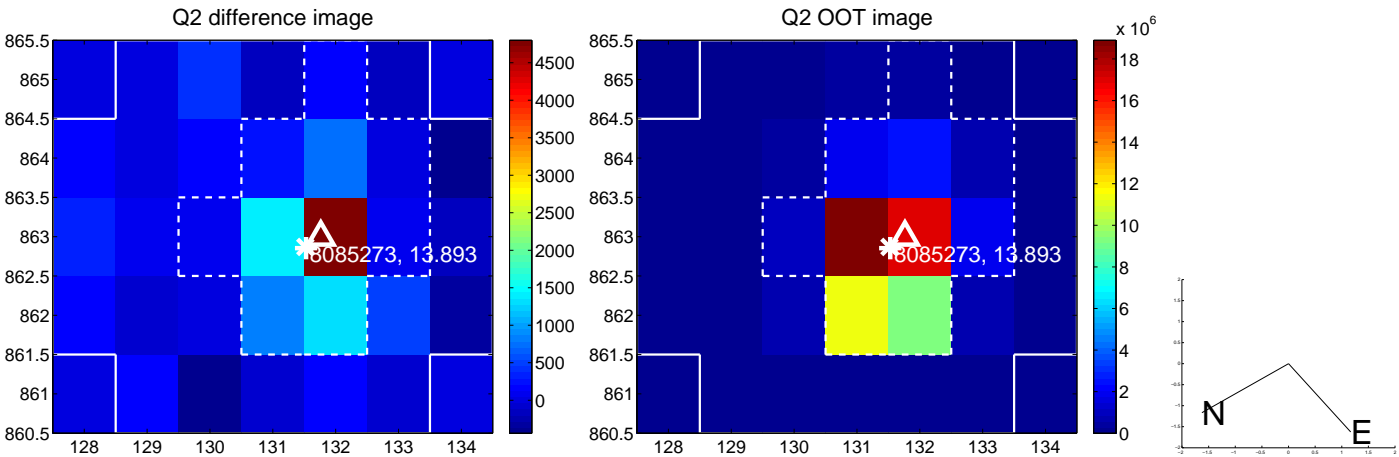
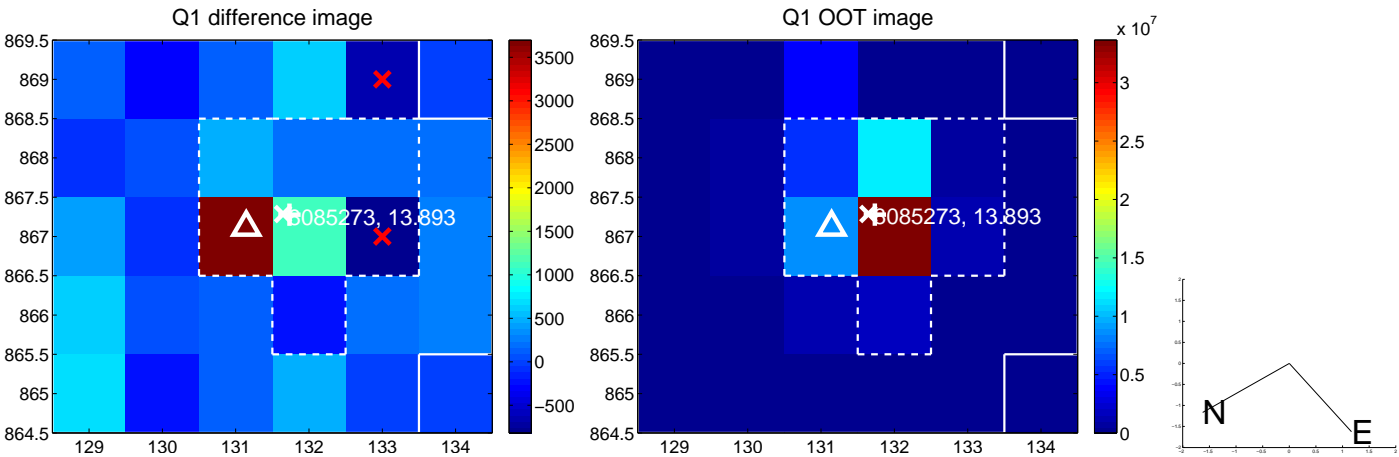
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.123 ± 0.466	0.26	-0.035 ± 0.208	-0.118 ± 0.478
PRF-fit source offset from KIC position	0.203 ± 0.392	0.52	0.108 ± 0.221	-0.171 ± 0.460
photometric centroid source offset	0.80 ± 1.18	0.68	0.24 ± 1.13	-0.76 ± 1.18

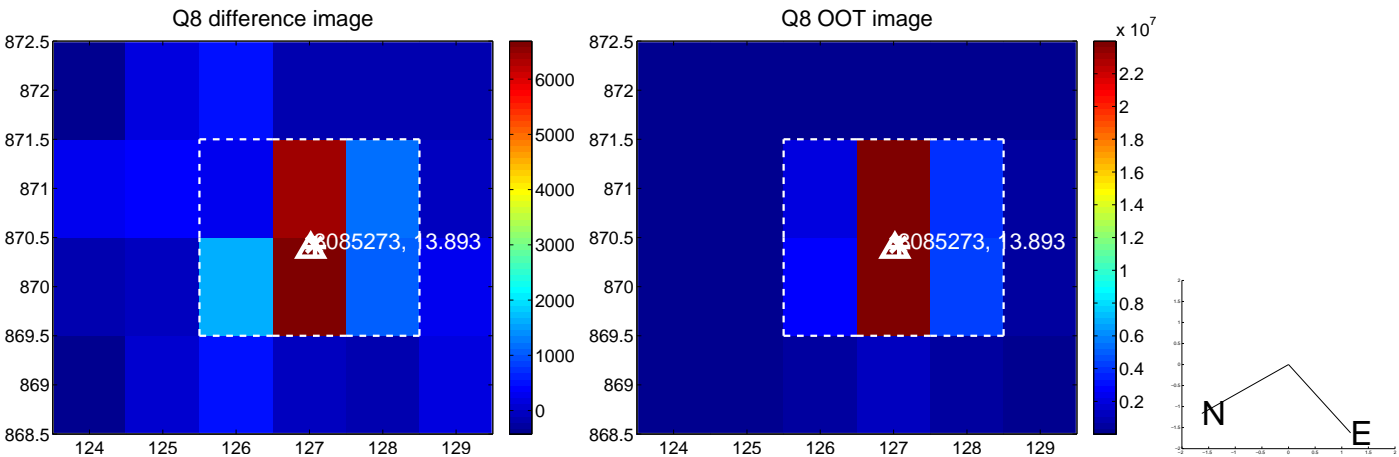
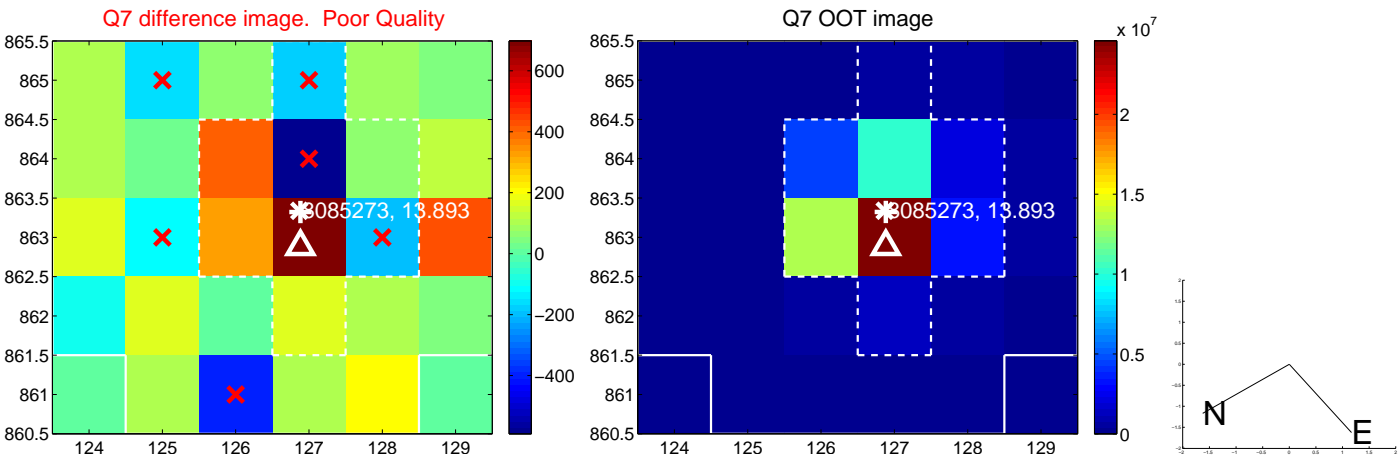
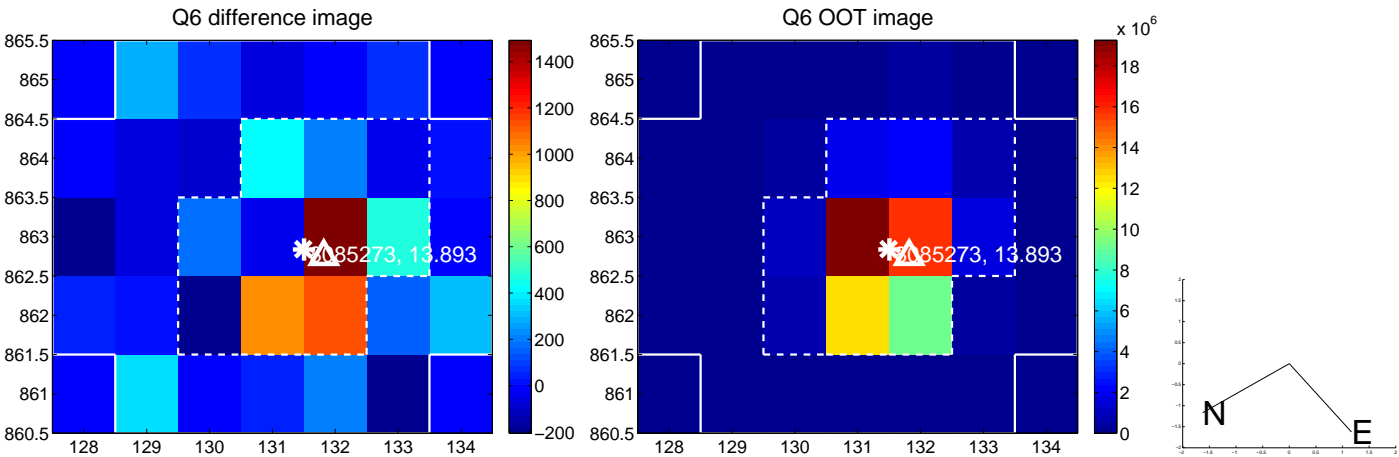
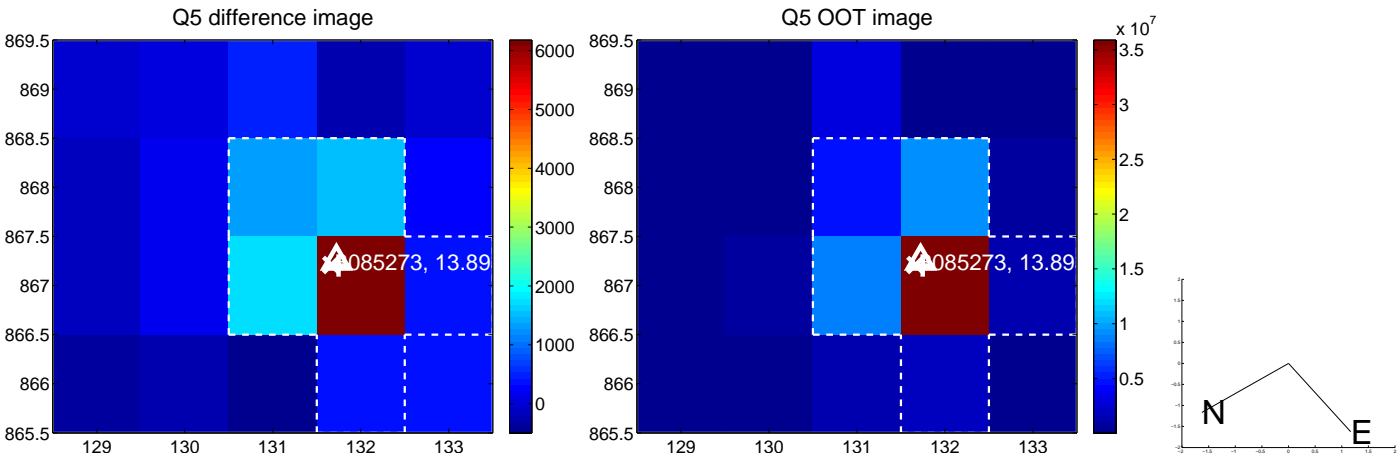


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

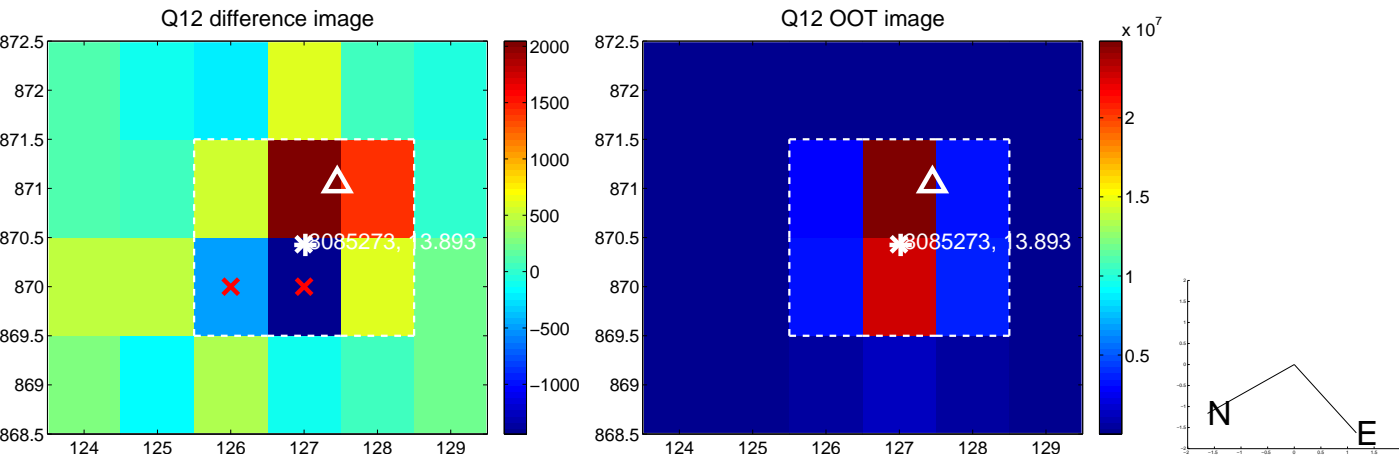
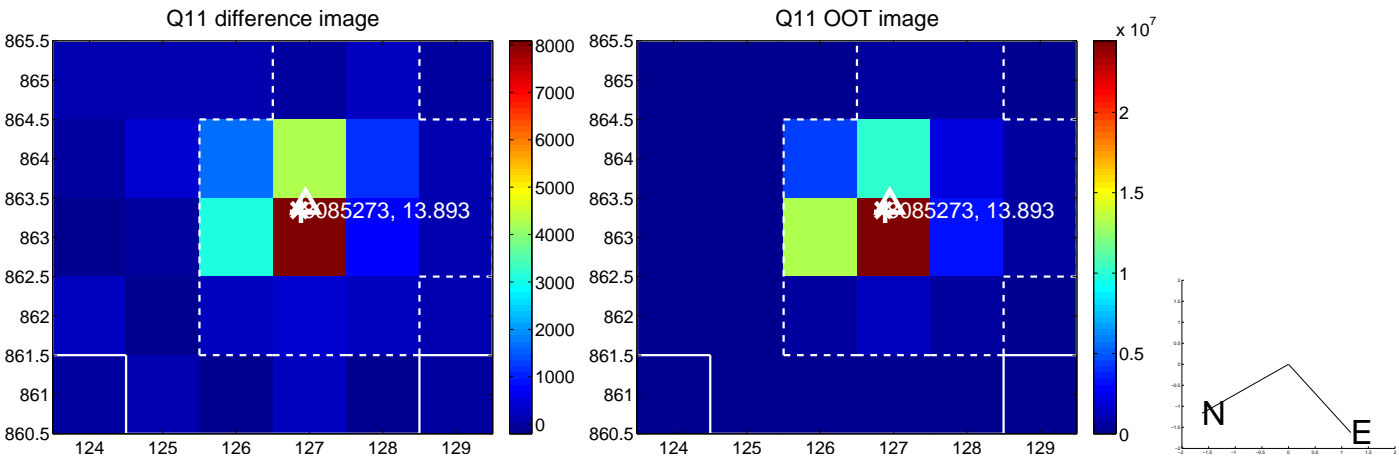
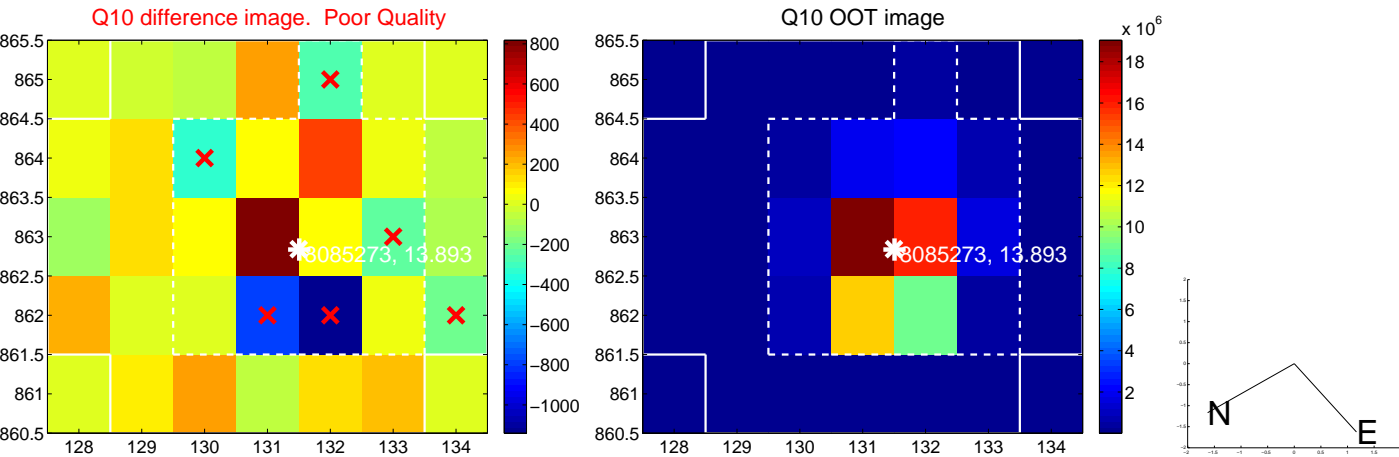
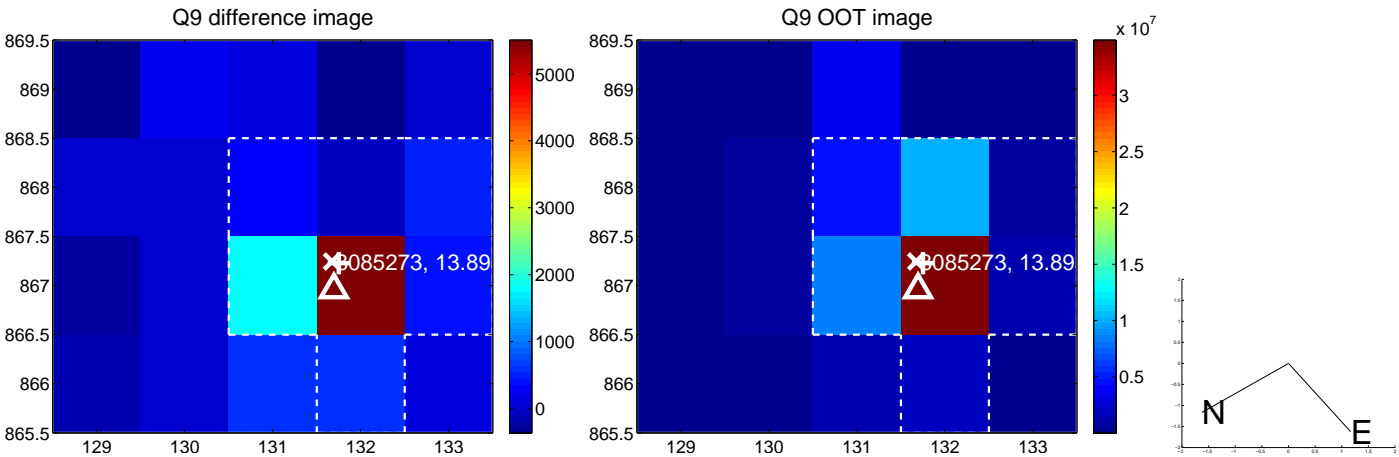
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



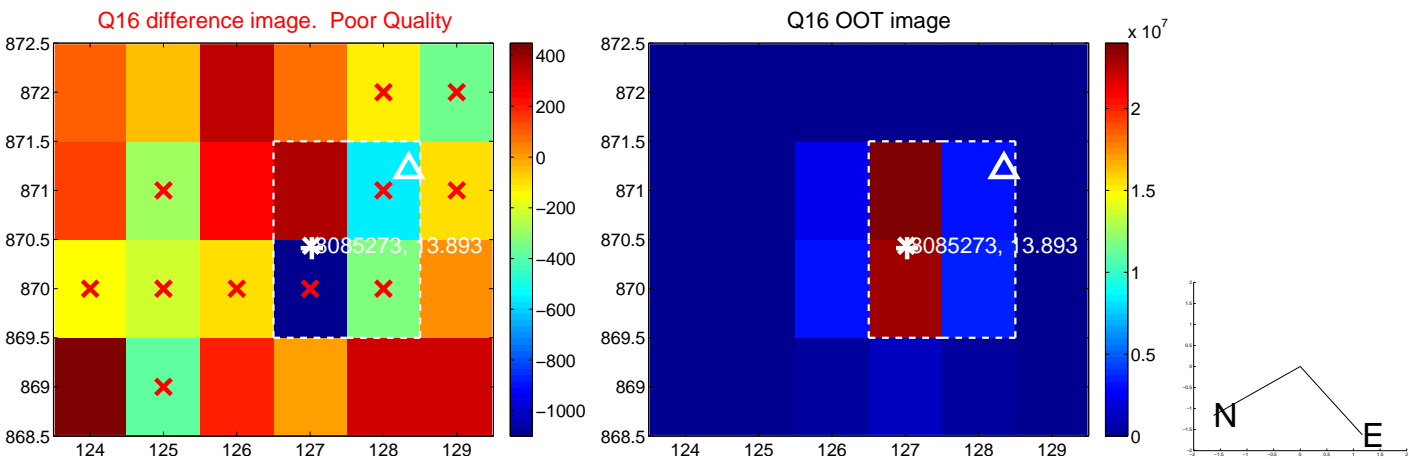
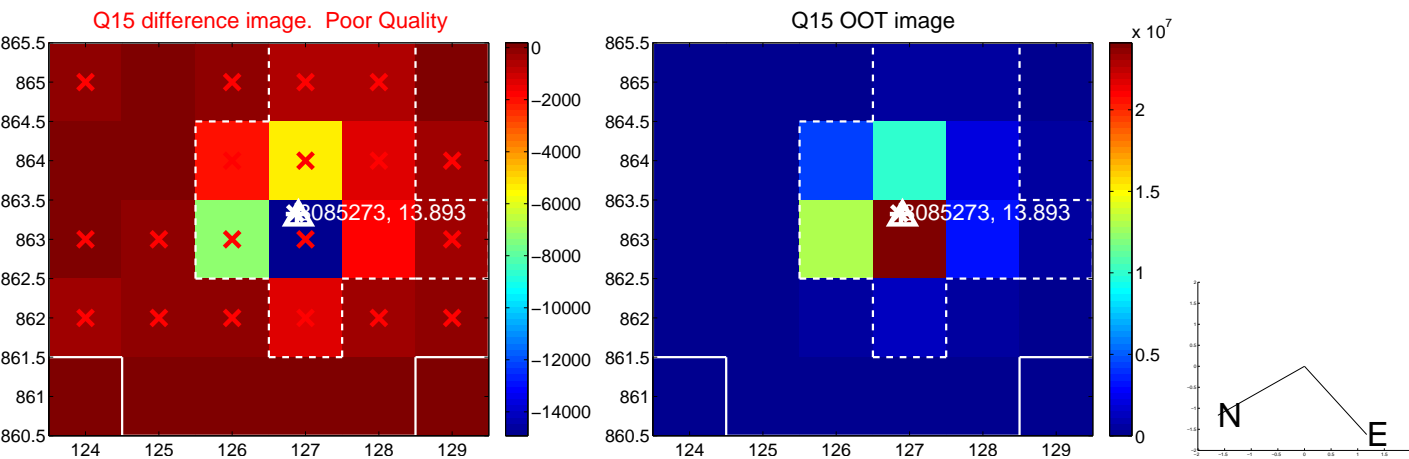
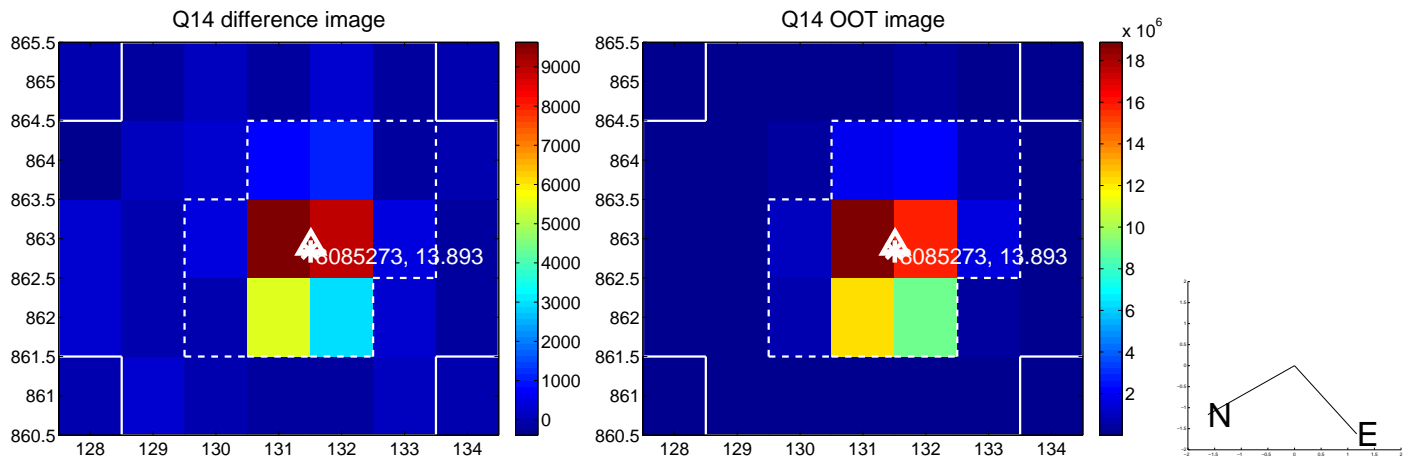
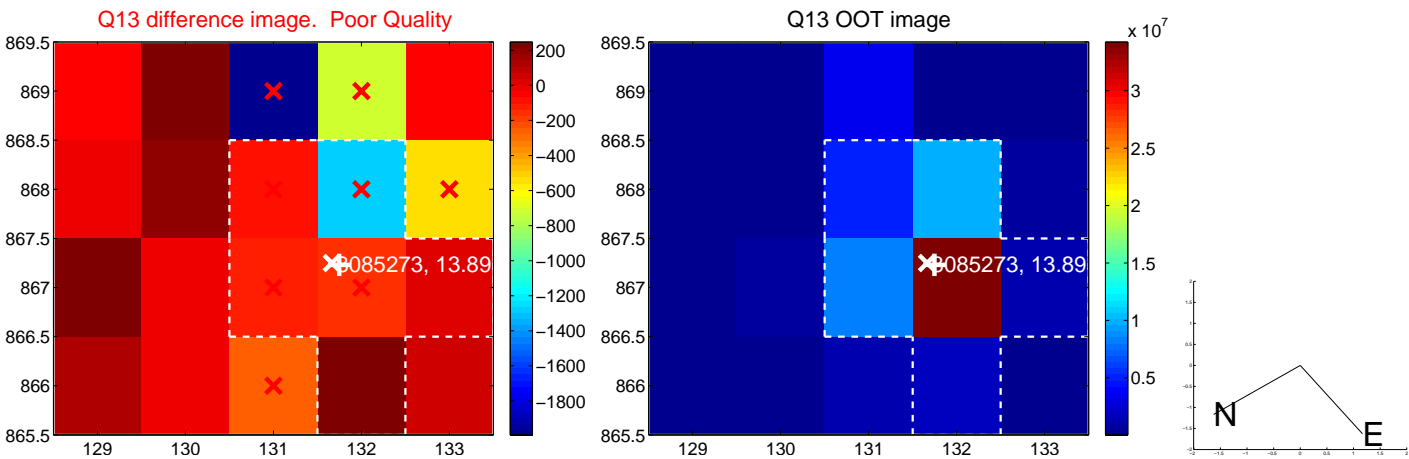
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



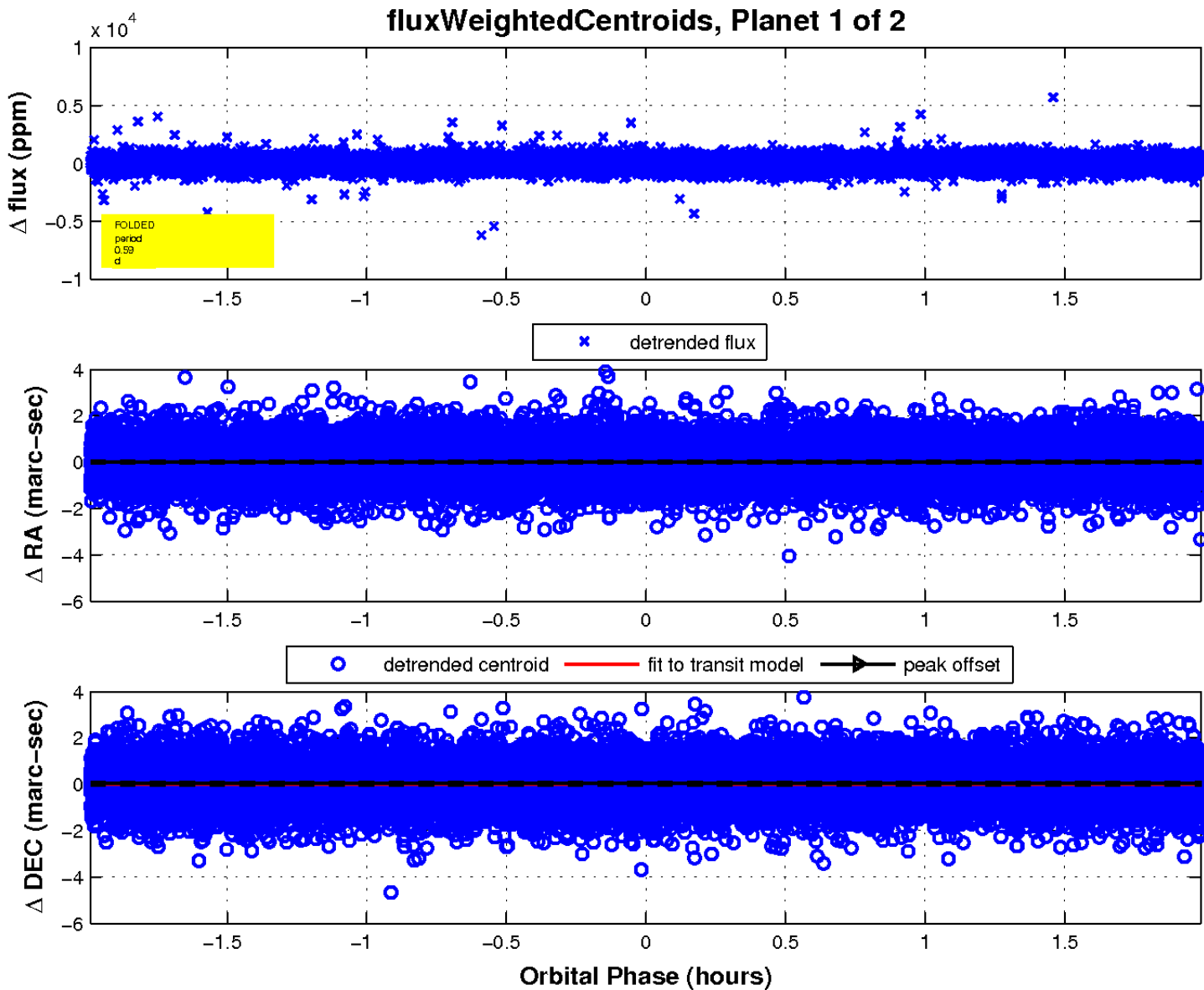
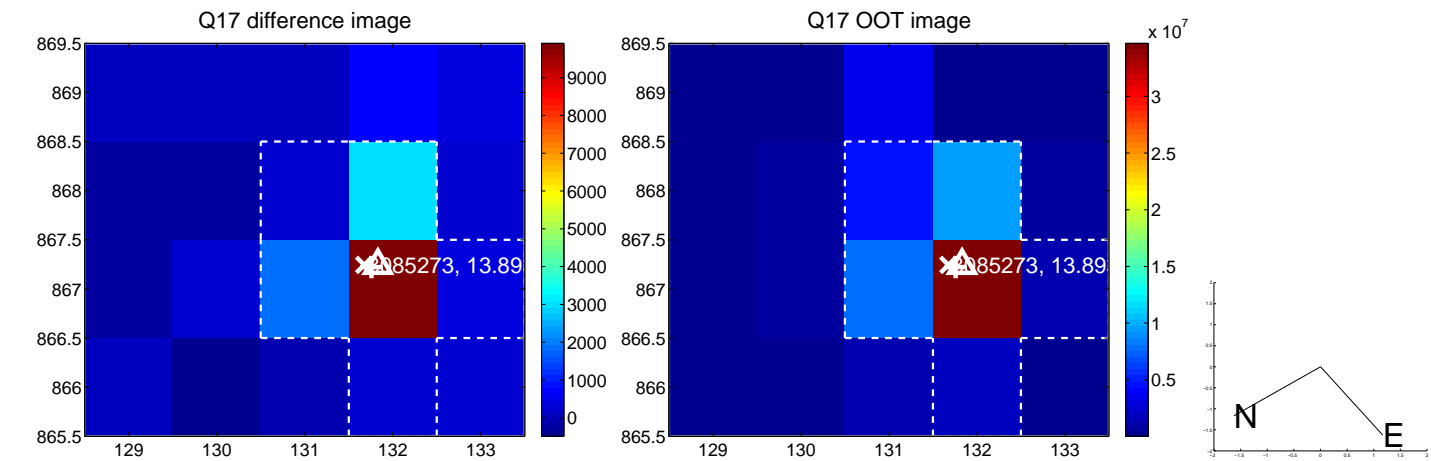
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



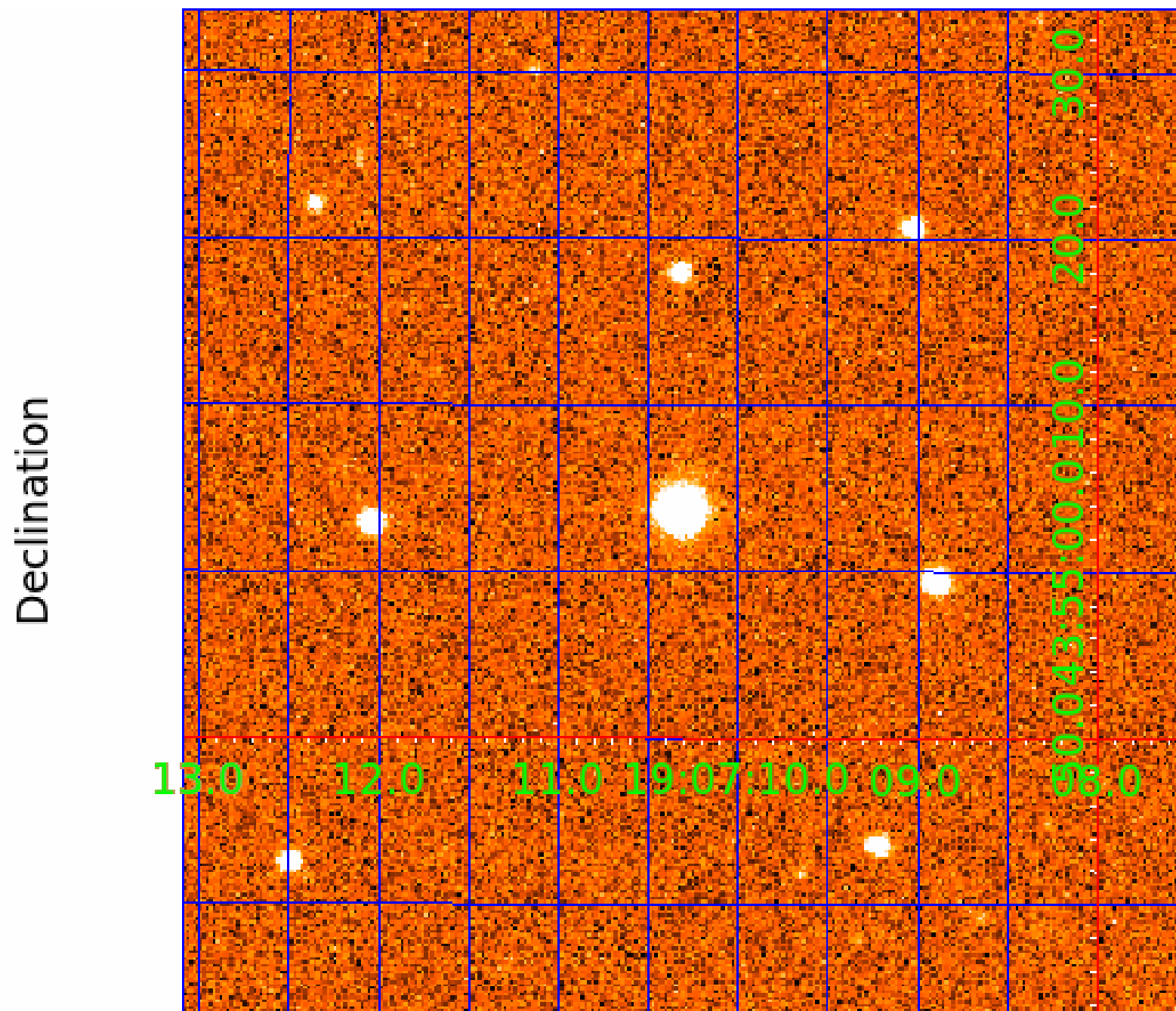
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008085273

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})
008085273-01	OBS	No	0.586629	131.655205	40.7	0.663	10.1	6.6	2.07	7336	1.36	41732.44
008085273-02	OBS	No	0.586617	131.955718	29.6	3.877	9.8	10.7	2.07	7336	1.15	41733.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008085273-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008085273-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

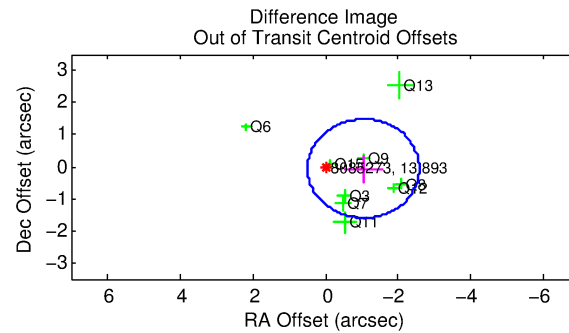
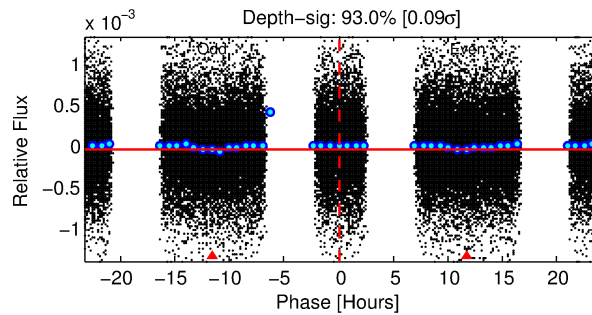
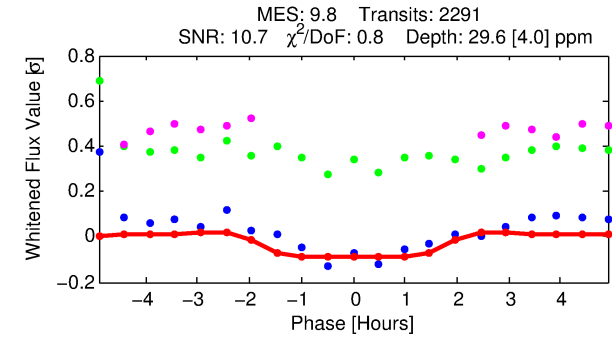
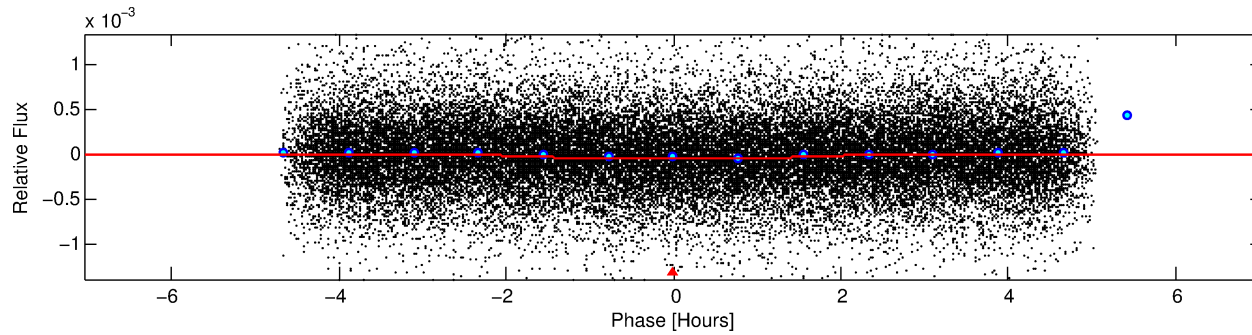
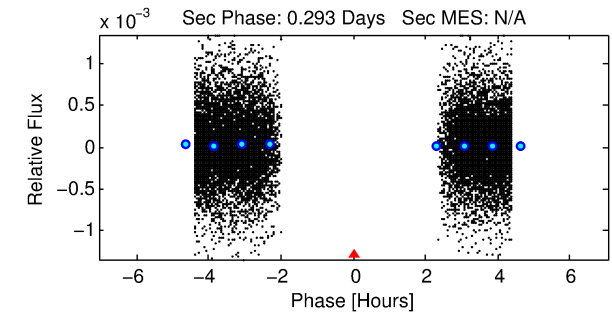
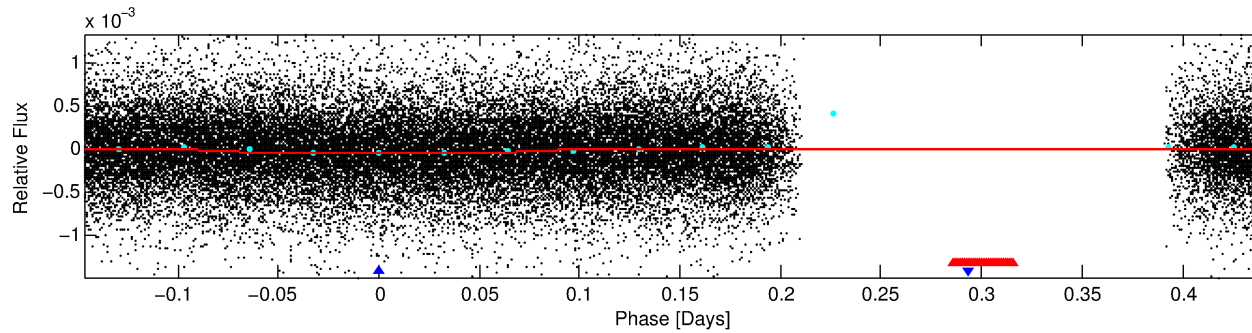
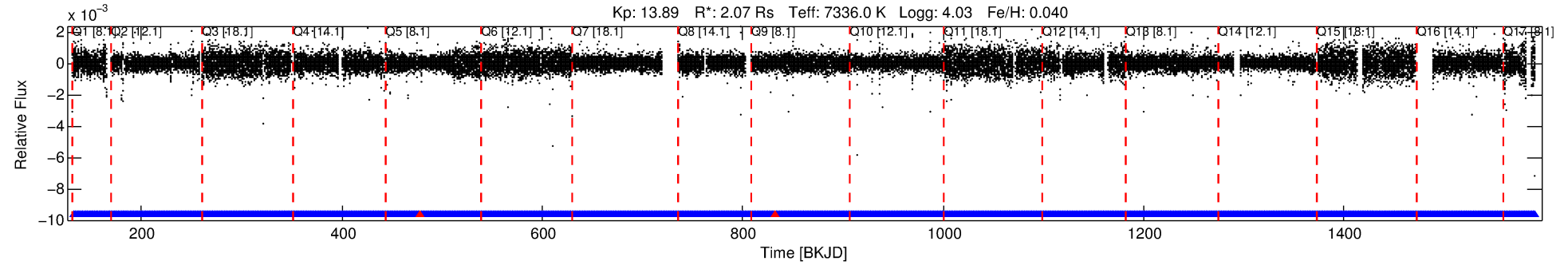
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008085273-02

No Significant Match Found

DV One-Page Summary

KIC: 8085273 Candidate: 2 of 2 Period: 0.587 d



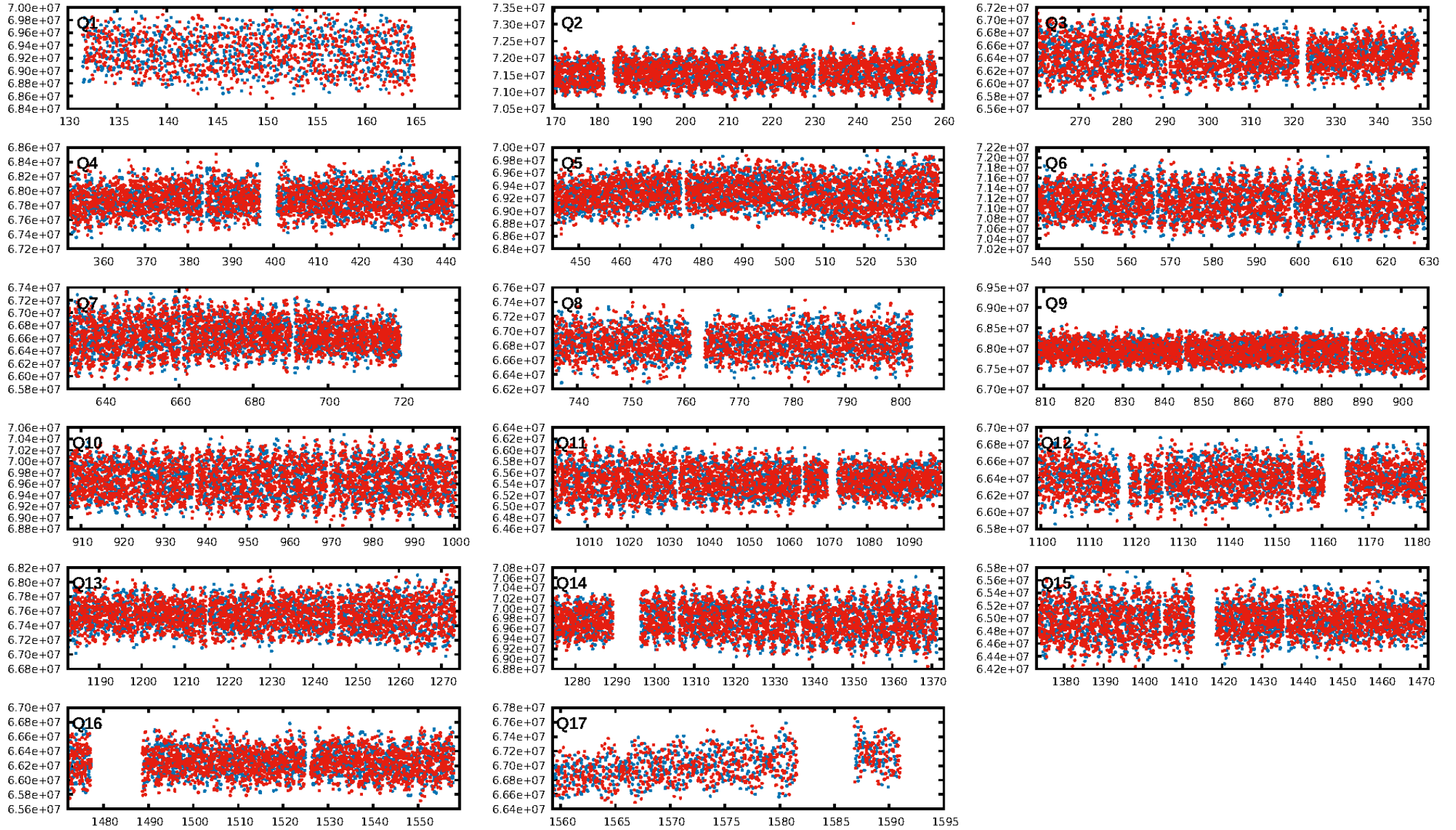
DV Fit Results:

Period = 0.58662 [0.00001] d
Epoch = 131.9557 [0.0039] BKJD
Rp/R* = 0.0051 [0.0043]
a/R* = 1.30 [2.71]
b = 0.25 [18.82]
Seff = 41733.56 [15172.05]
Teff = 3645 [331] K
Rp = 1.15 [1.02] Re
a = 0.0163 [0.0036] AU

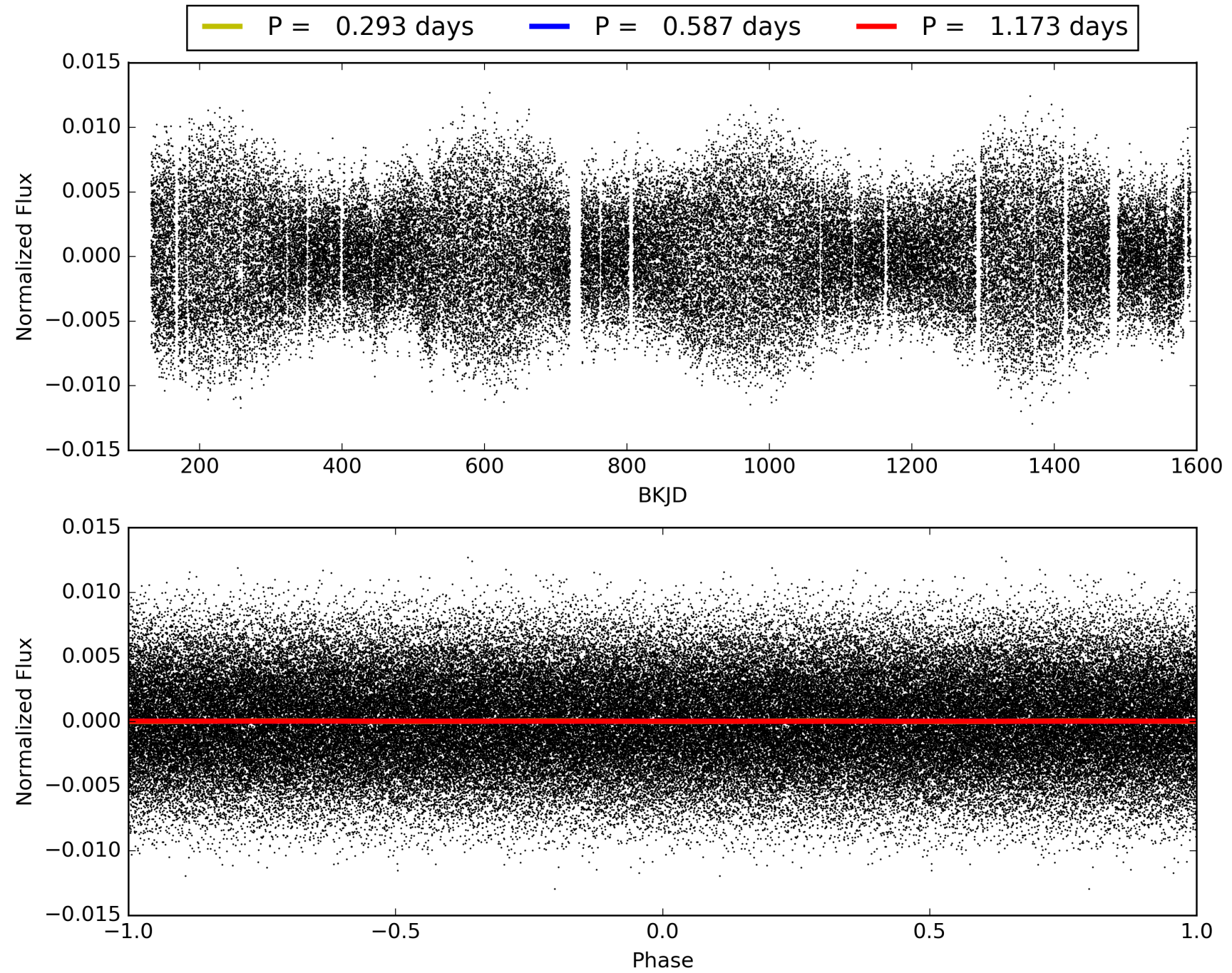
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2185/2187]
GhostDiagnostic-chr: 0.946
Centroid-sig: 6.7%
Centroid-so: 0.874 arcsec [1.43 σ]
OotOffset-rm: 1.049 arcsec [2.05 σ]
KicOffset-rm: 0.911 arcsec [2.19 σ]
OotOffset-st: 1/4/2/2 [9]
KicOffset-st: 1/4/2/2 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008085273-02, PDC Light Curves

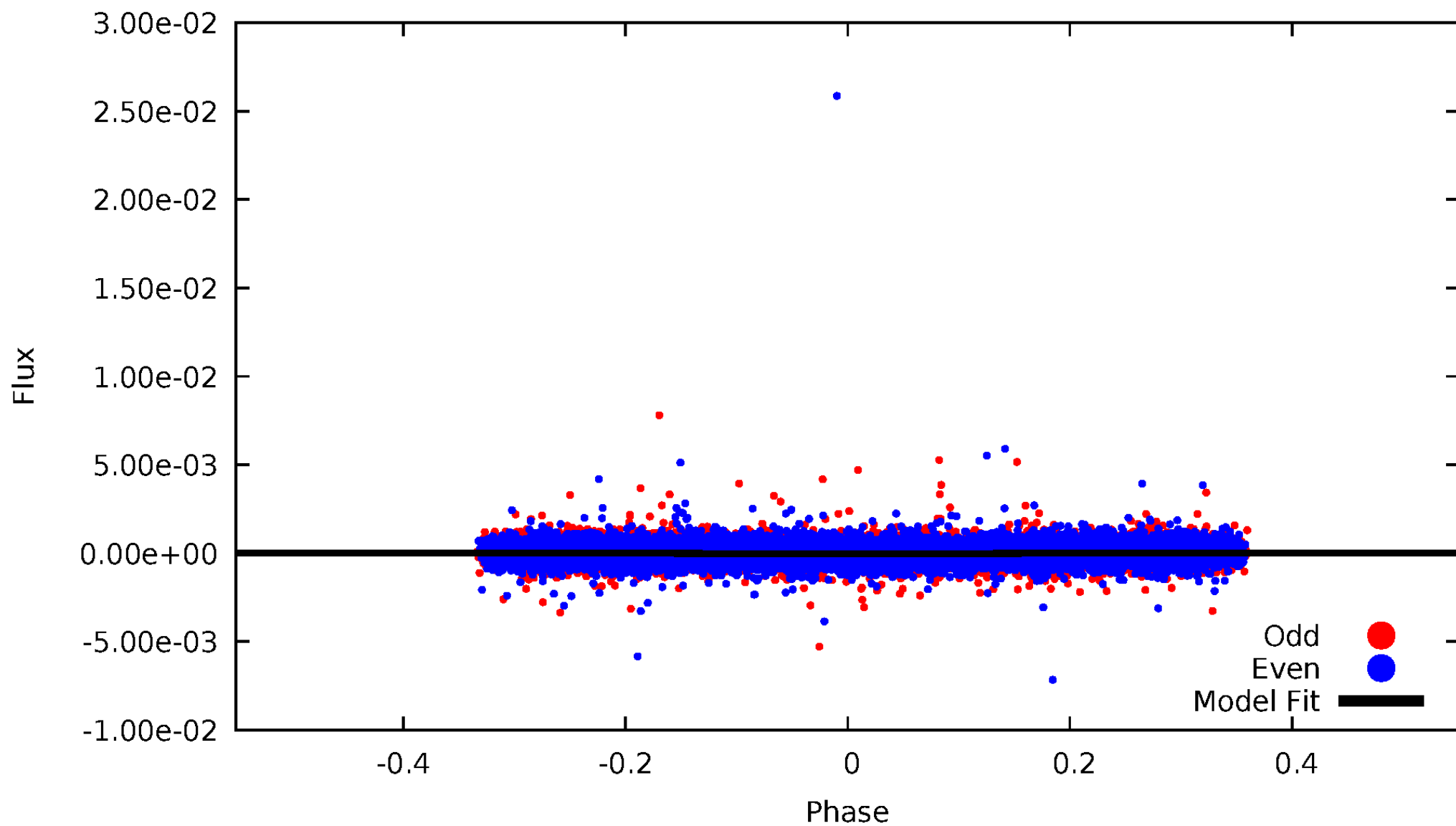


TCE 008085273-02



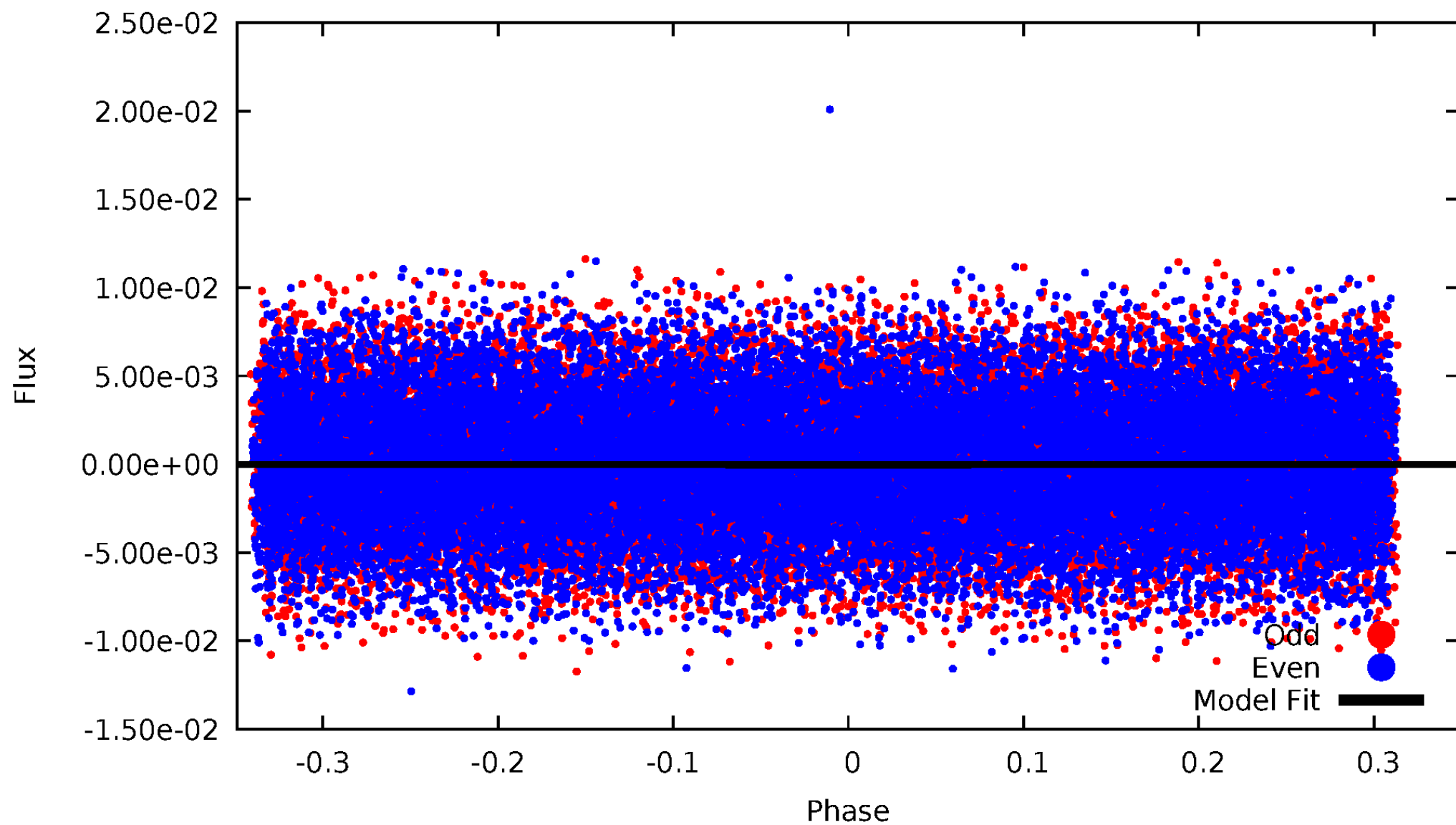
DV Odd/Even

TCE 008085273-02



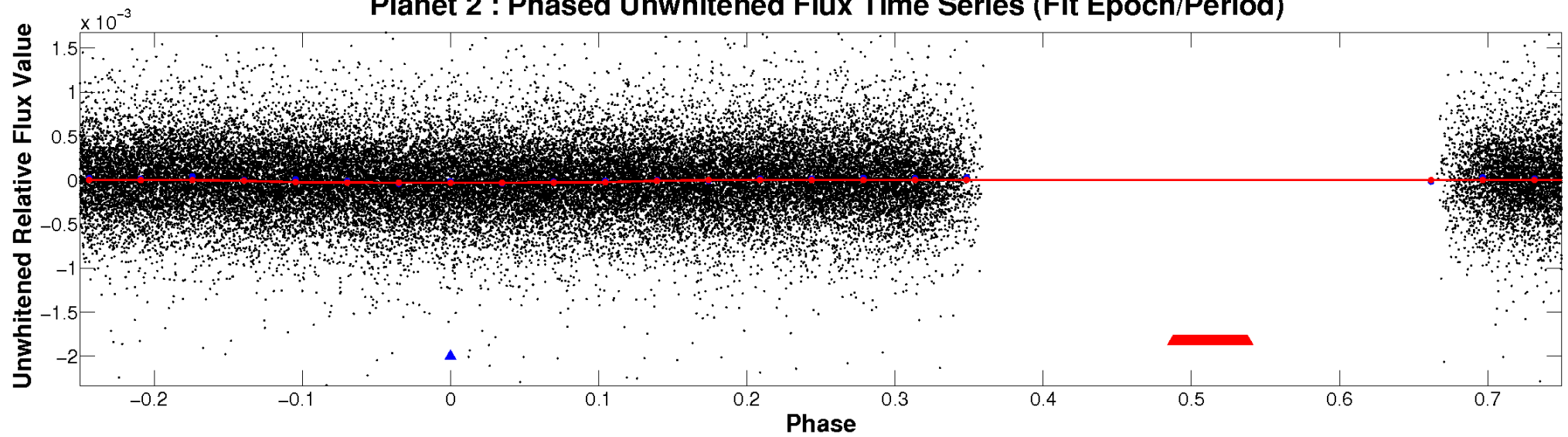
ALT Odd/Even

TCE 008085273-02

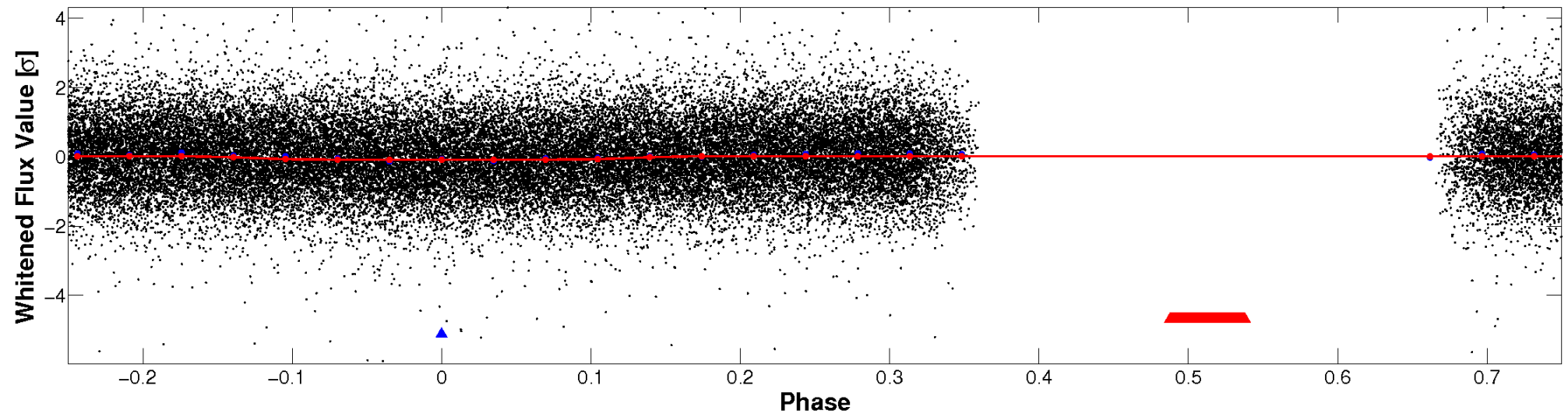


Non-Whitened Vs. Whitened Light Curve

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

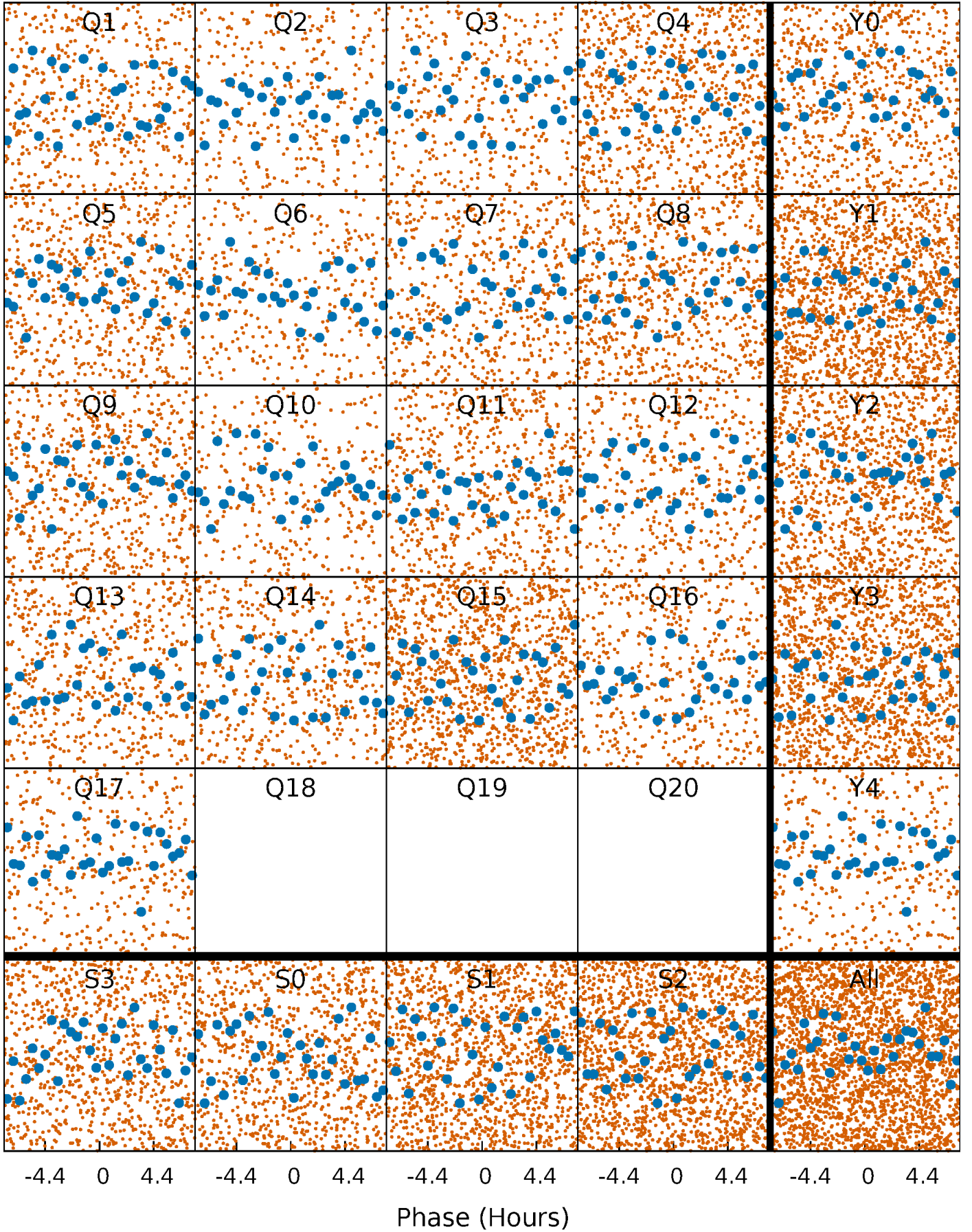


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



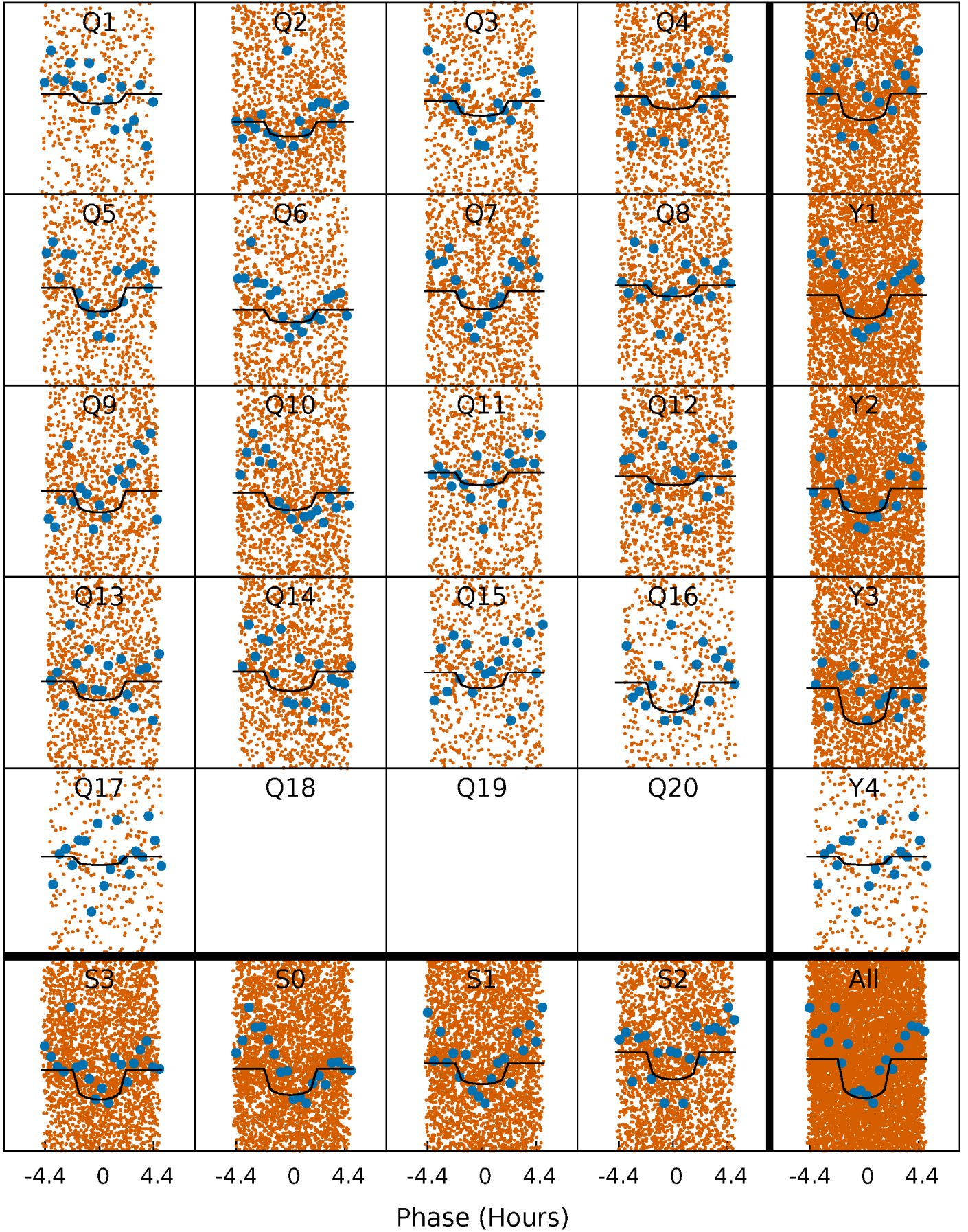
PDC Quarter-Phased Transit Curves

TCE 008085273-02 P= 0.586617 Days $T_0=131.955718$ (BKJD)



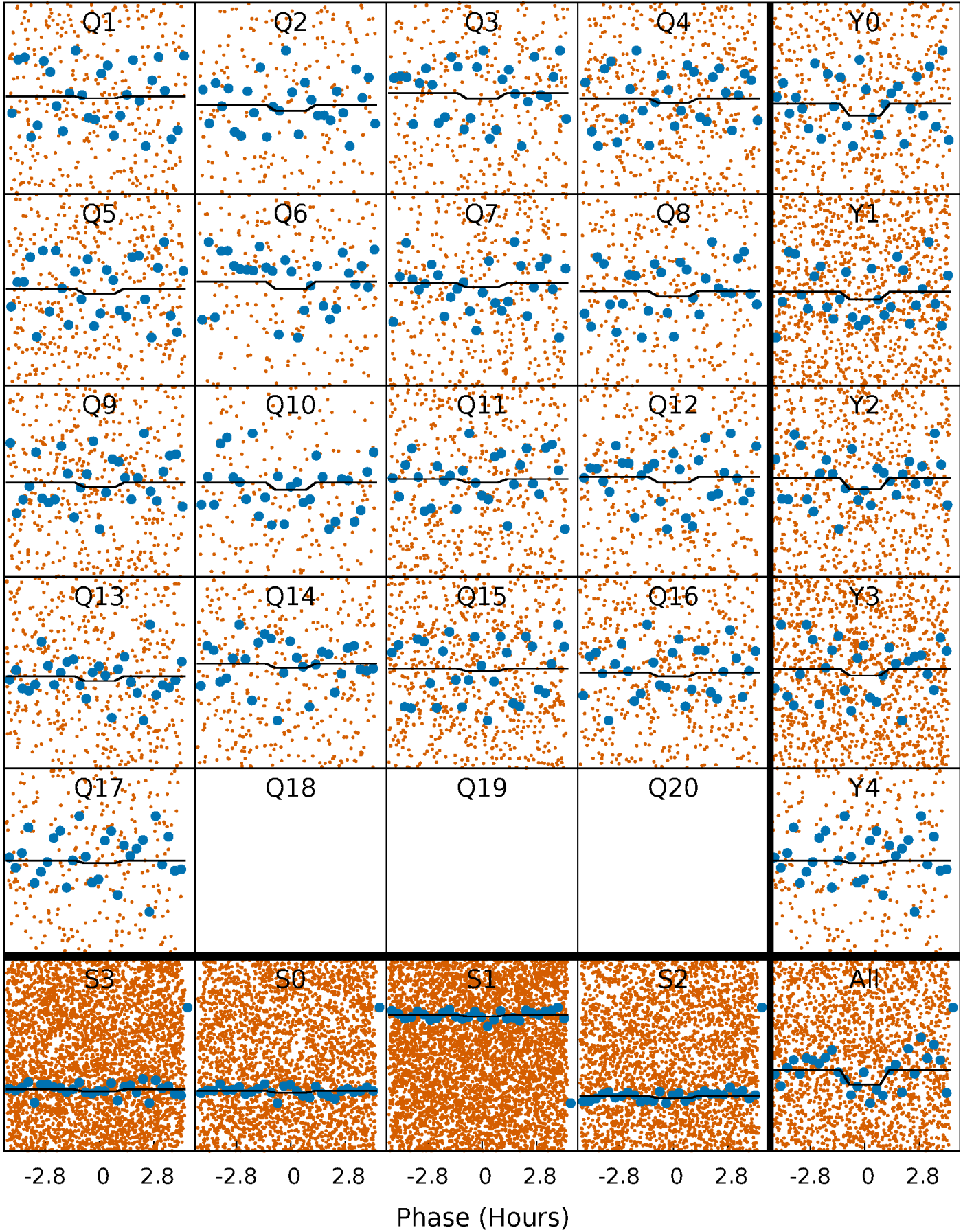
DV Quarter-Phased Transit Curves

TCE 008085273-02 P= 0.586617 Days $T_0=131.955718$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

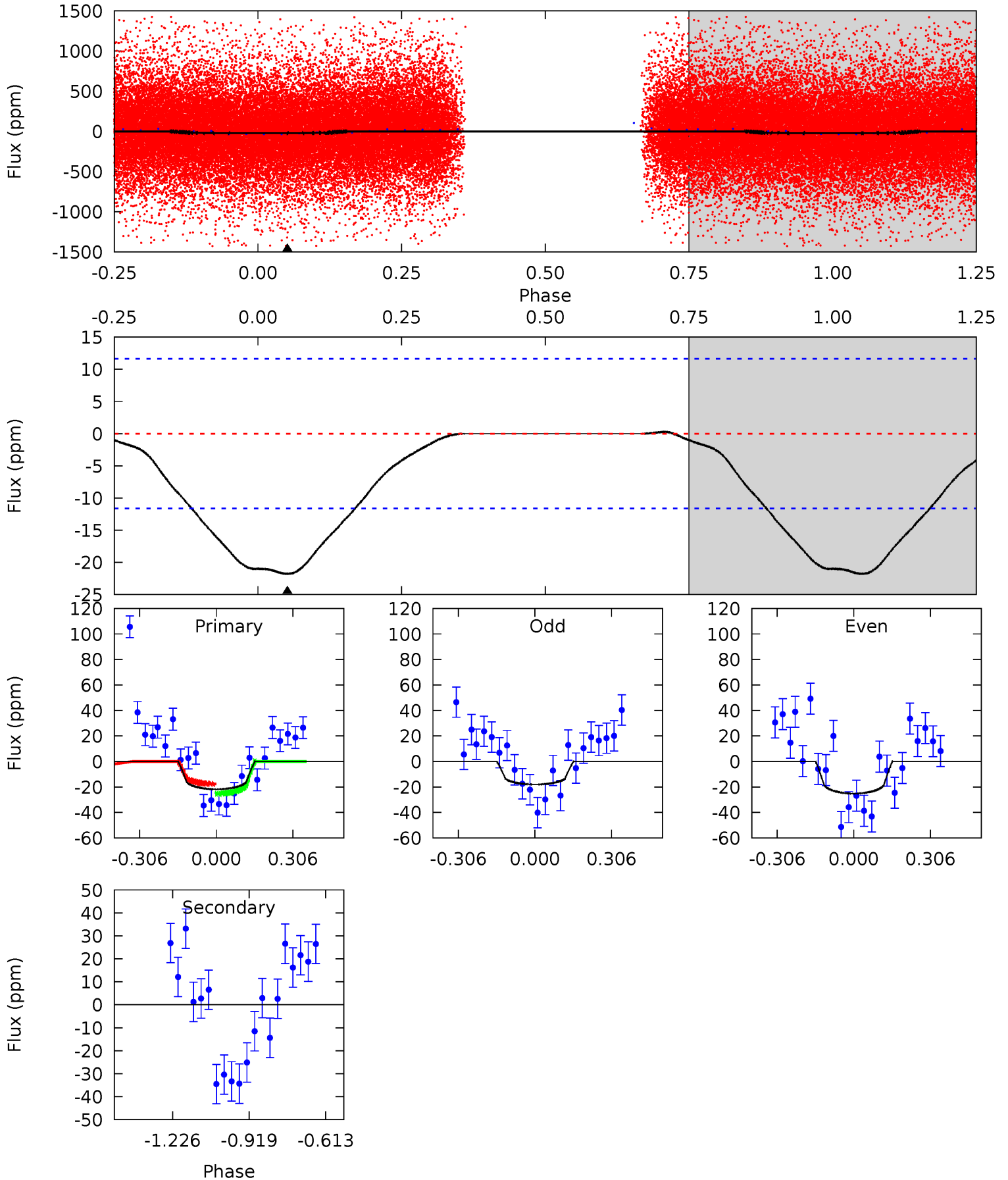
TCE 008085273-02 P= 0.586631 Days $T_0=131.953677$ (BKJD)



DV Model-Shift Uniqueness Test

008085273-02, P = 0.586617 Days, E = 131.369101 Days

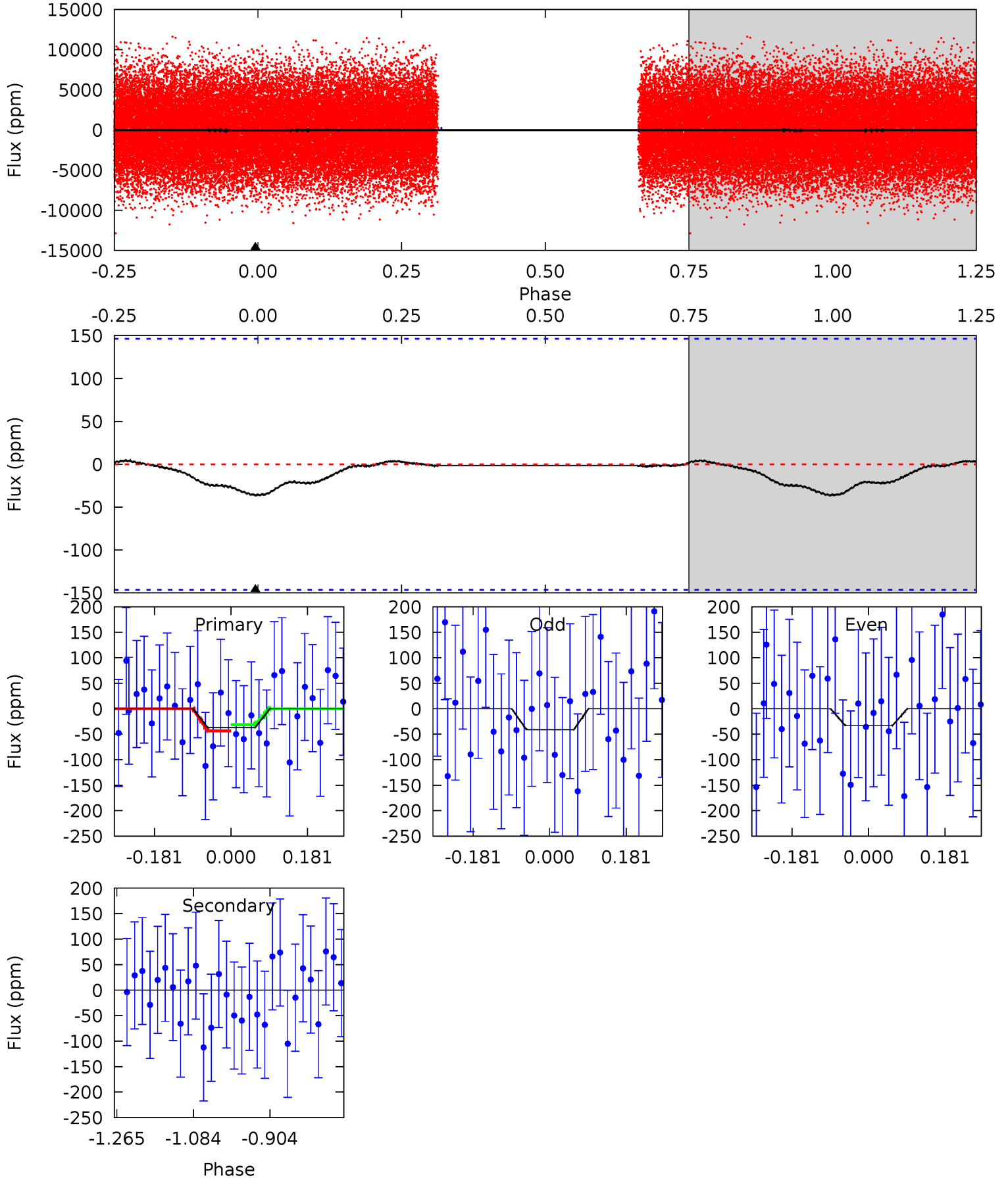
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	0	0	0	4.32	1.02	0.16	8.10	8.10	0	0	1.34	0.90	0.01	1.43



Alt Model-Shift Uniqueness Test

008085273-02, P = 0.586631 Days, E = 131.367046 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.13	0	0	0	4.44	1.34	0.06	1.13	1.13	0	0	0.12	0.46	0.13	0.18



Stellar Parameters For KIC 008085273

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7336^{+235}_{-324}	$4.032^{+0.170}_{-0.170}$	$0.040^{+0.200}_{-0.300}$	$2.067^{+0.562}_{-0.511}$	$1.677^{+0.207}_{-0.276}$	$0.267^{+0.246}_{-0.129}$
	+3%/-4%	+4%/-4%	+500%/-750%	+27%/-25%	+12%/-16%	+92%/-48%
Source	KIC0	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 008085273-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 3	$1.28^{+0.97}_{-0.74}$	5094^{+389}_{-373}	-4365^{+7116}_{-721}	$-0.003^{+0.318}_{-0.345}$
Alt.	0 ± 33	$1.42^{+0.98}_{-0.88}$	5090^{+365}_{-345}	-4331^{+11883}_{-3776}	$0.039^{+3.552}_{-4.014}$

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

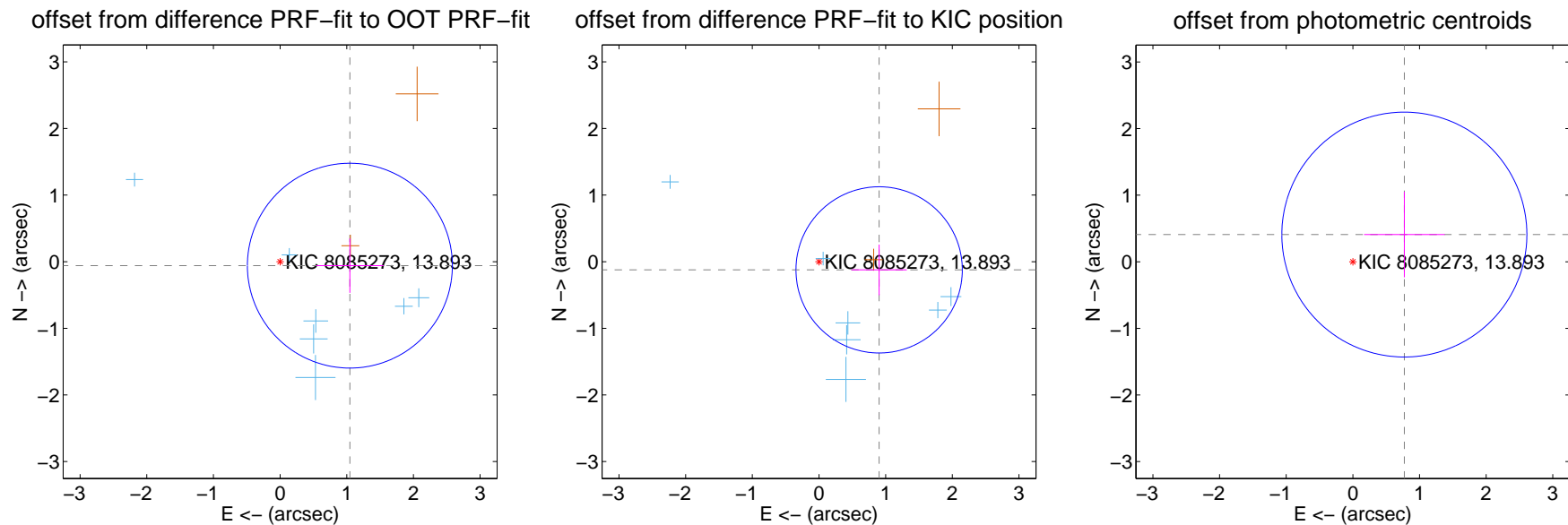
DV Centroid Data

Supplemental centroid analysis for 008085273-02. Kepler magnitude: 13.89. Transit SNR 10.73

There are 7 quarters with good PRF difference image offsets

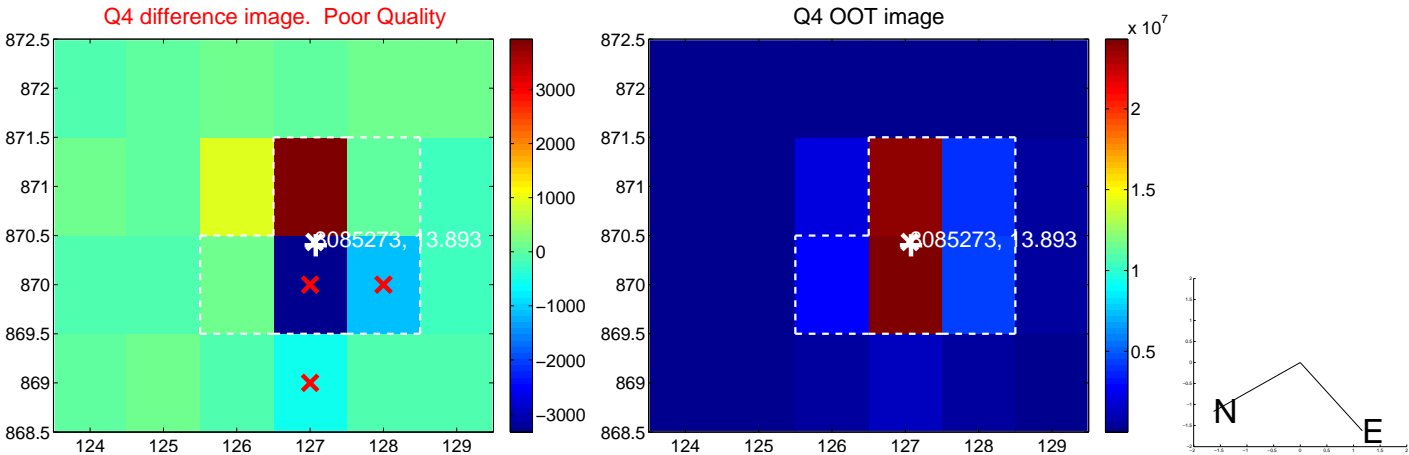
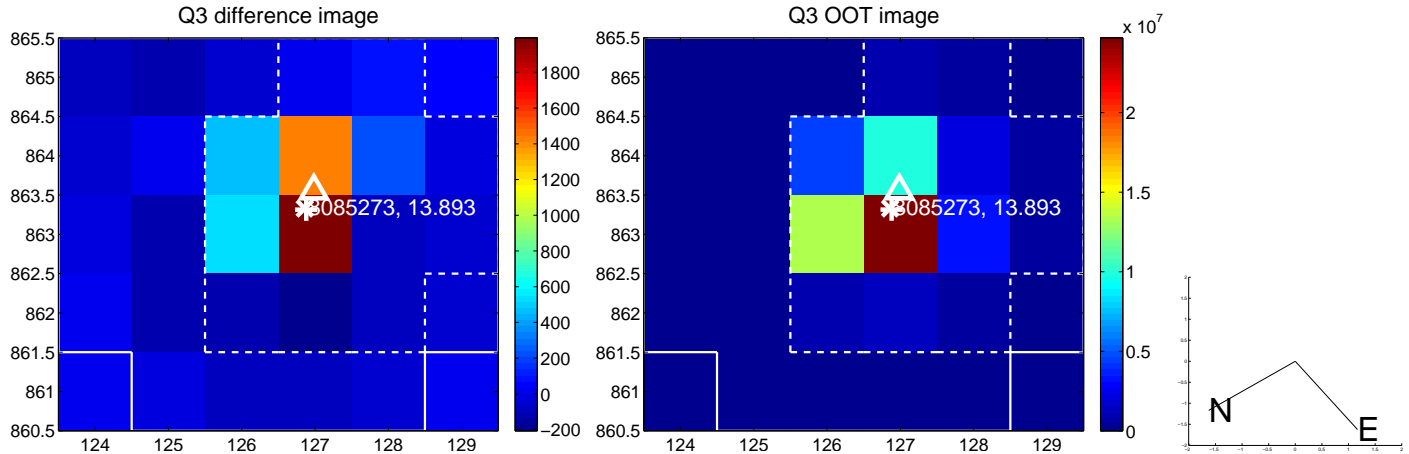
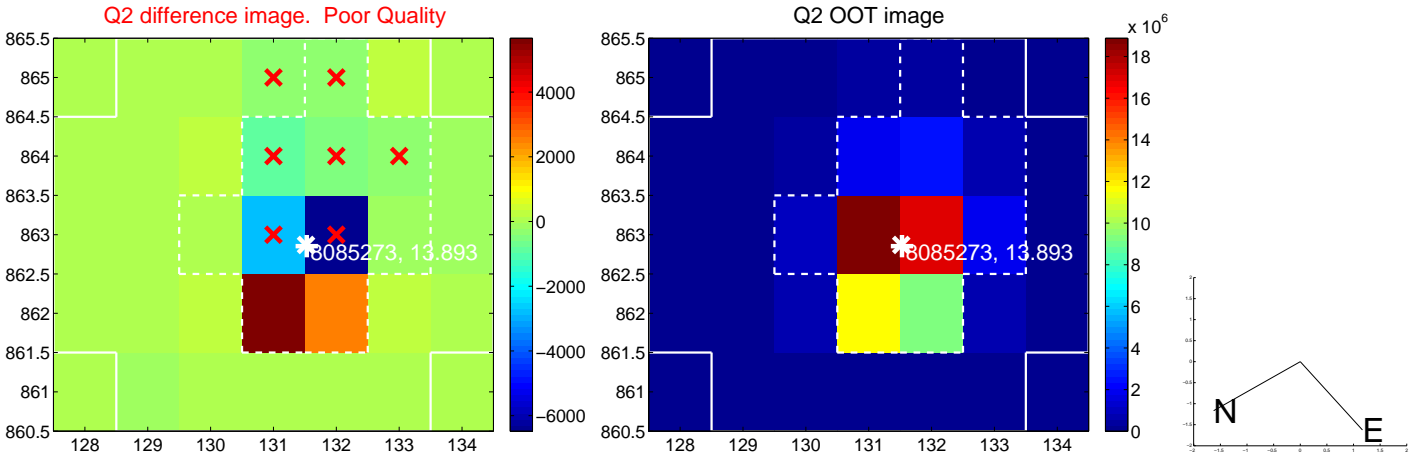
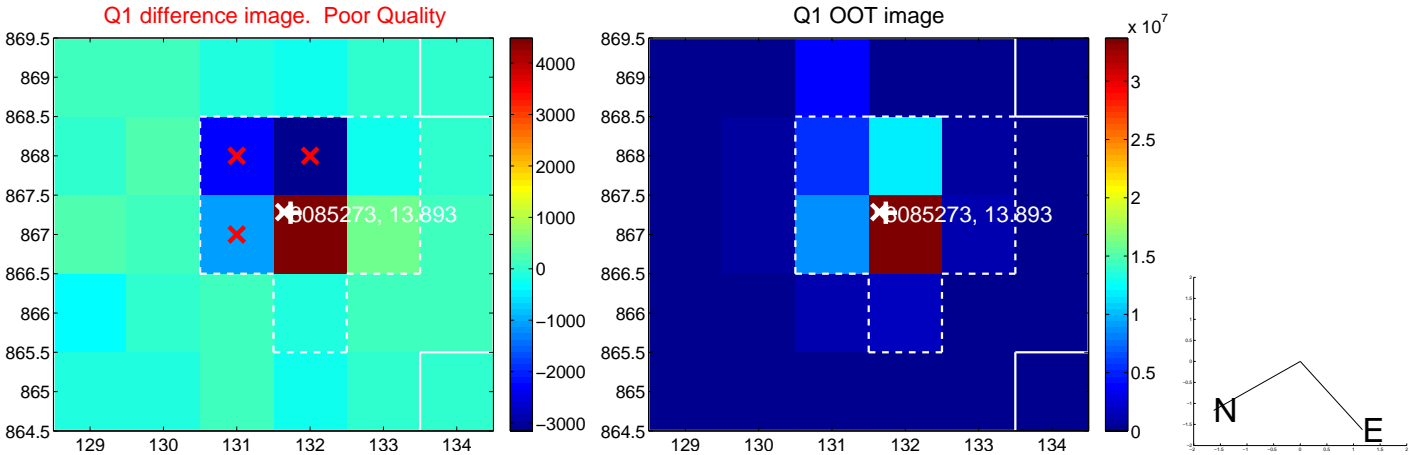
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.049 ± 0.513	2.05	-1.047 ± 0.507	-0.060 ± 0.408
PRF-fit source offset from KIC position	0.911 ± 0.416	2.19	-0.903 ± 0.415	-0.123 ± 0.380
photometric centroid source offset	0.87 ± 0.61	1.43	-0.77 ± 0.60	0.41 ± 0.64

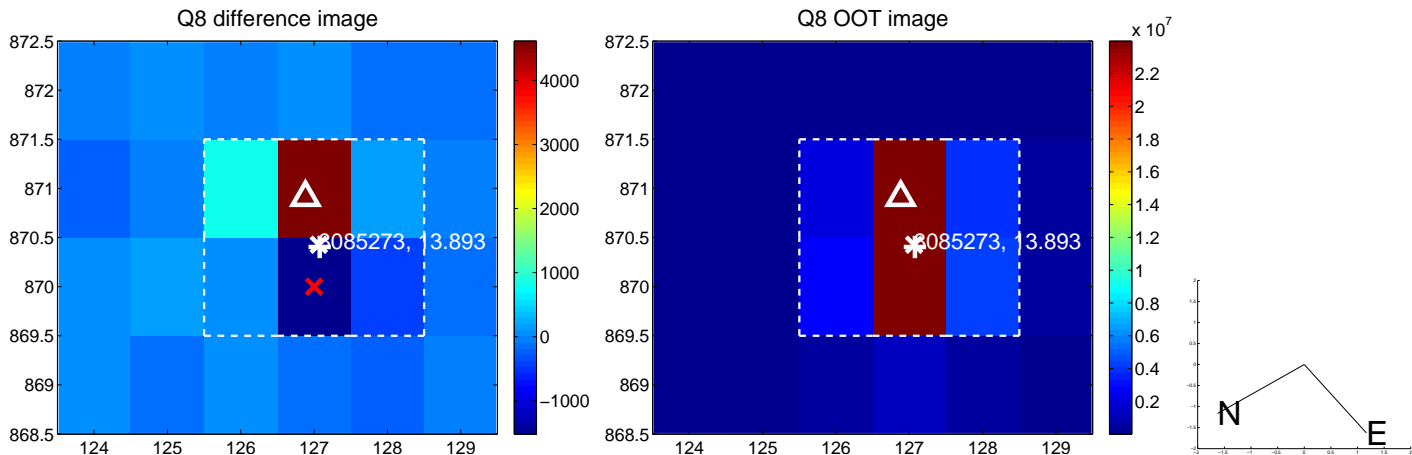
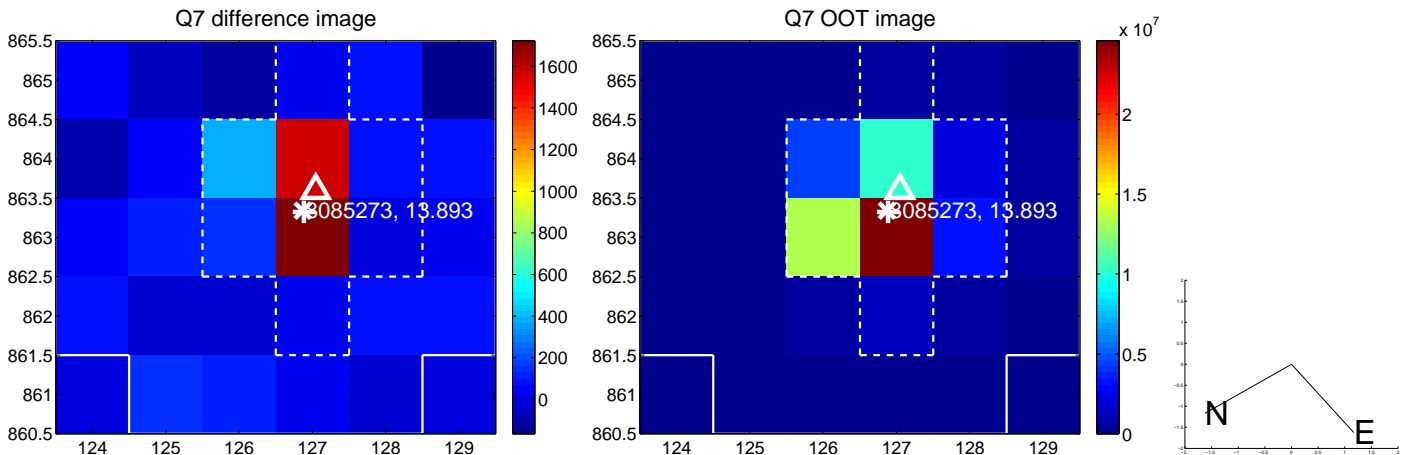
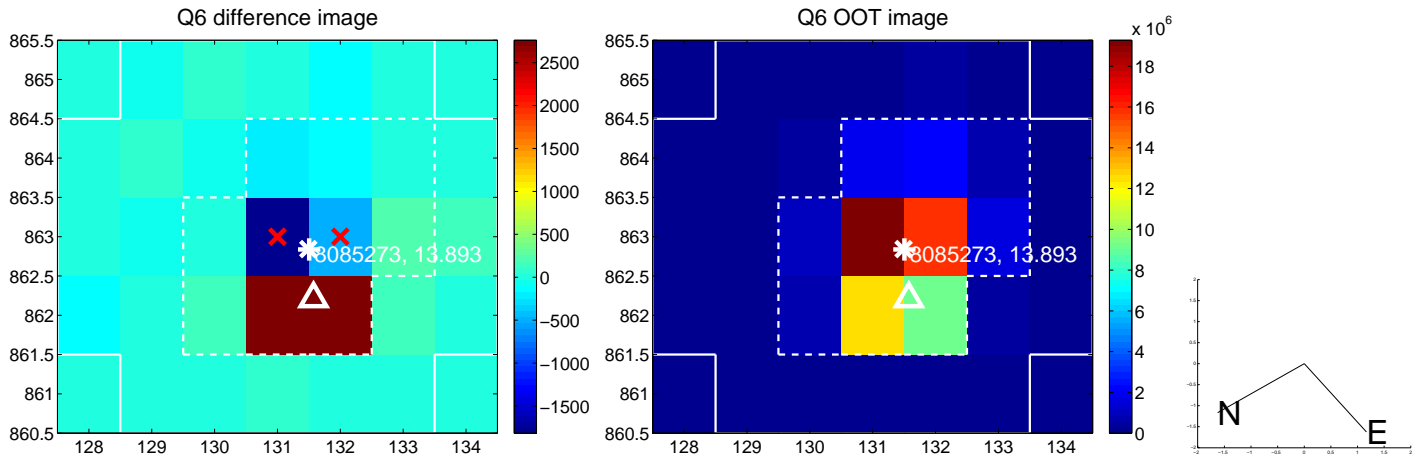
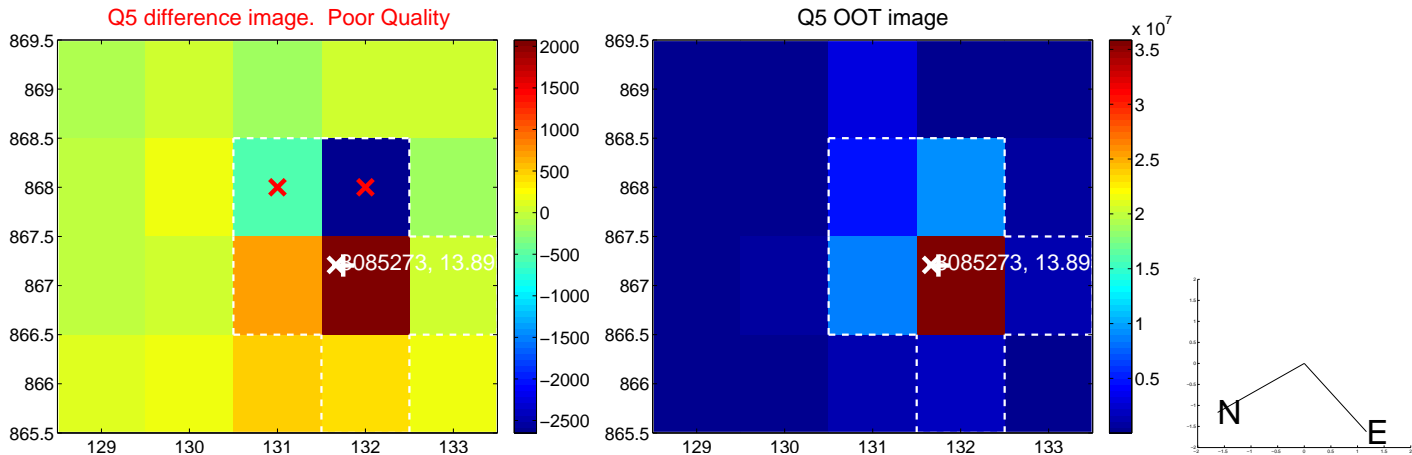


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

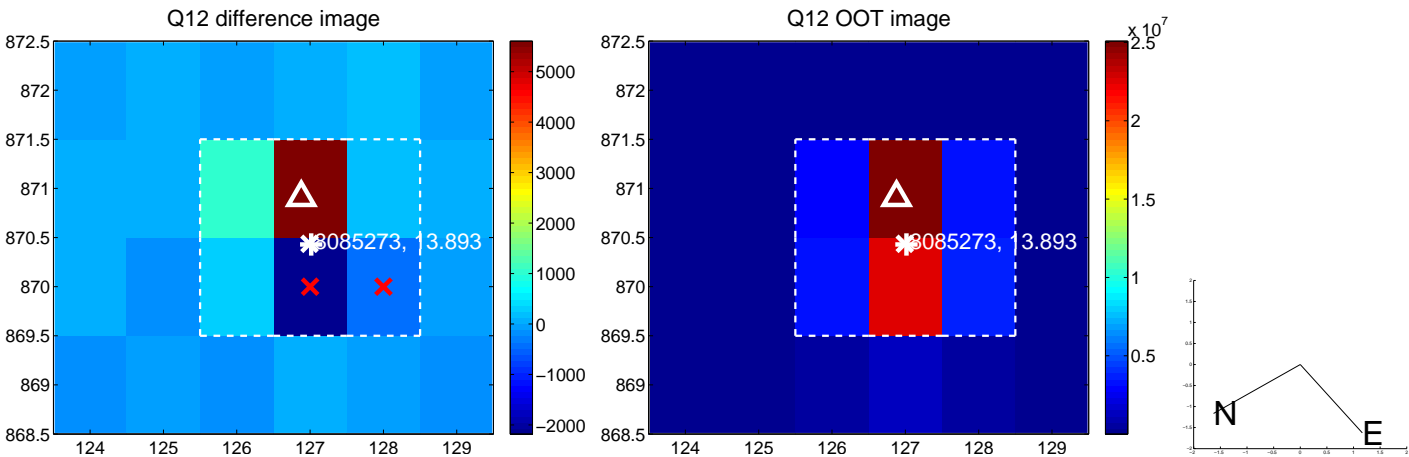
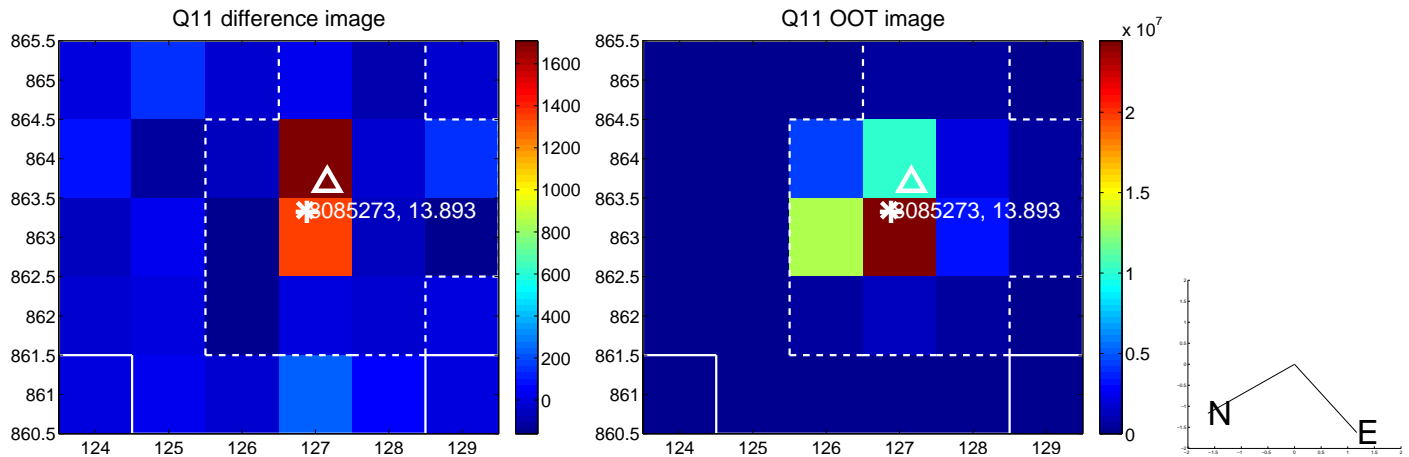
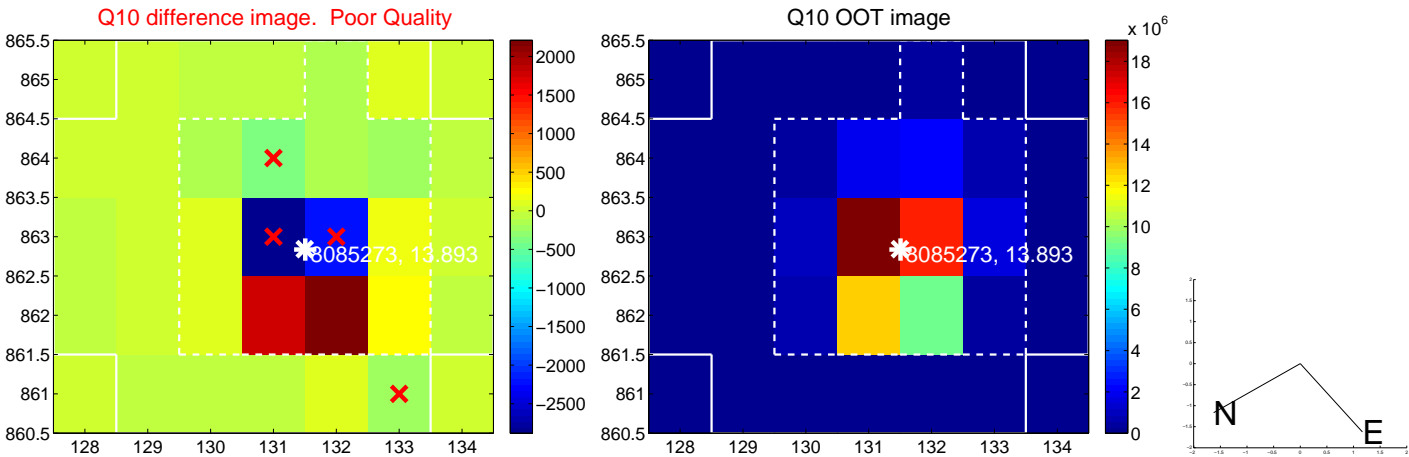
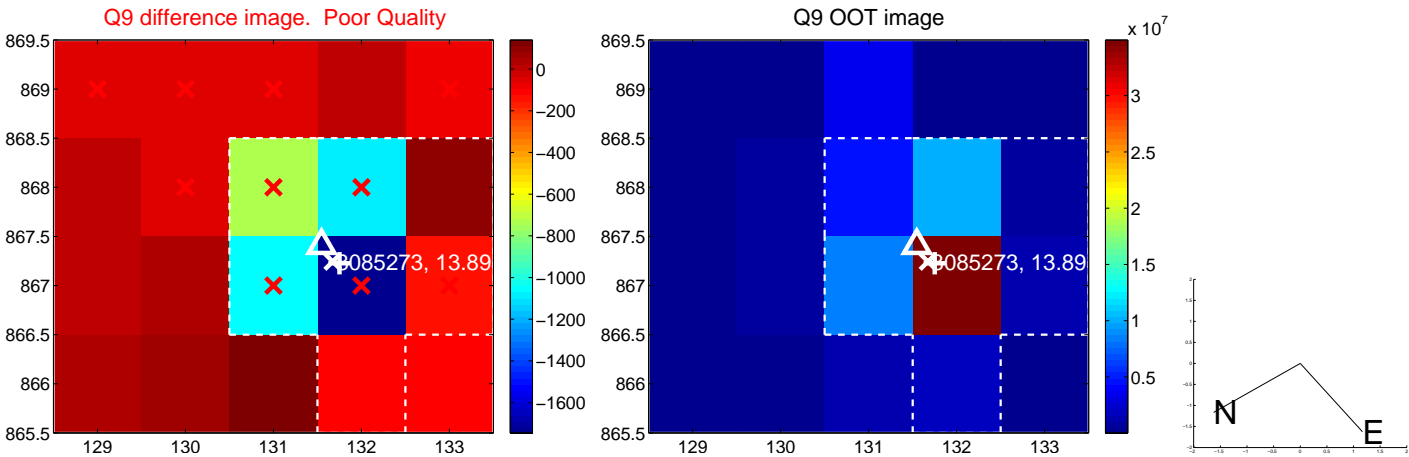
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



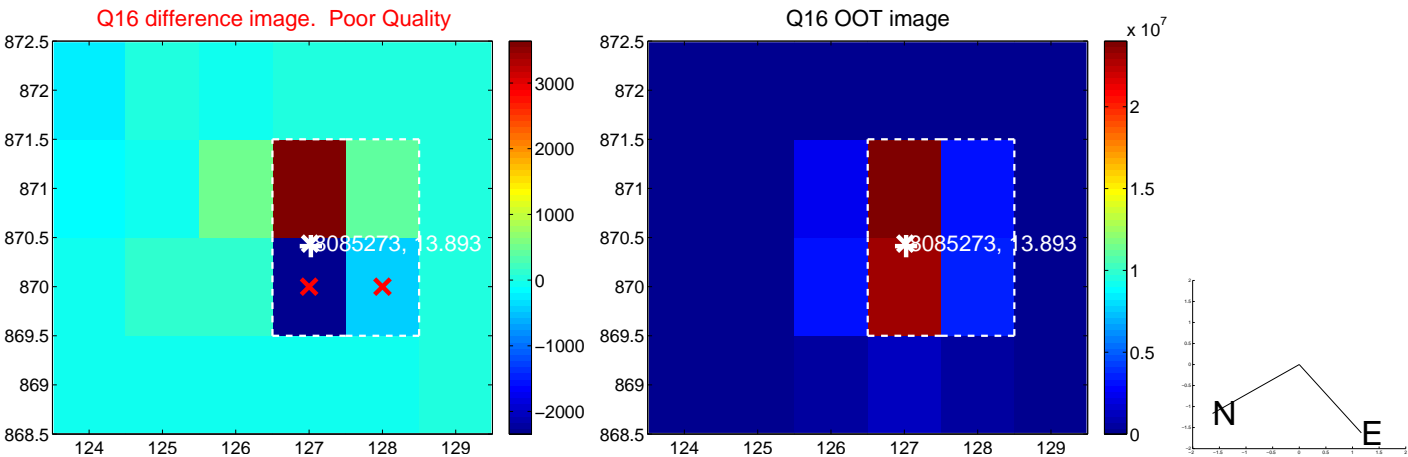
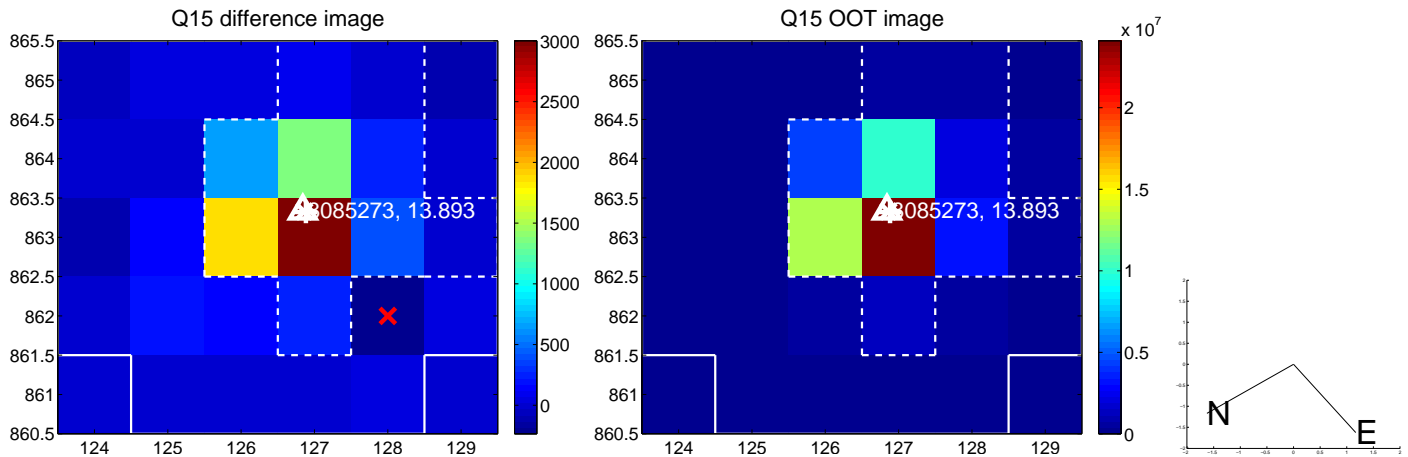
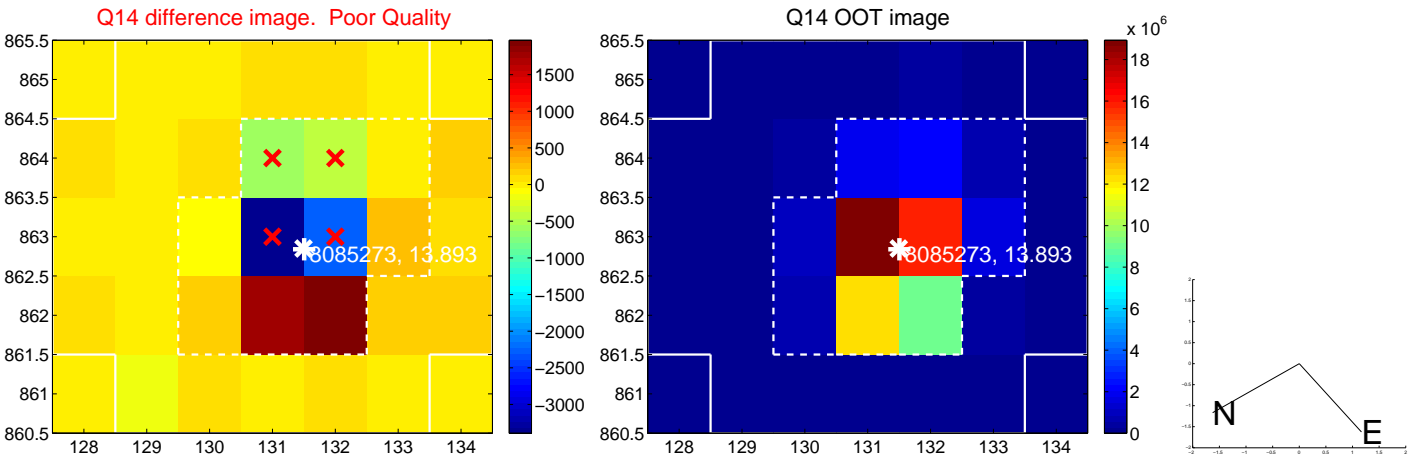
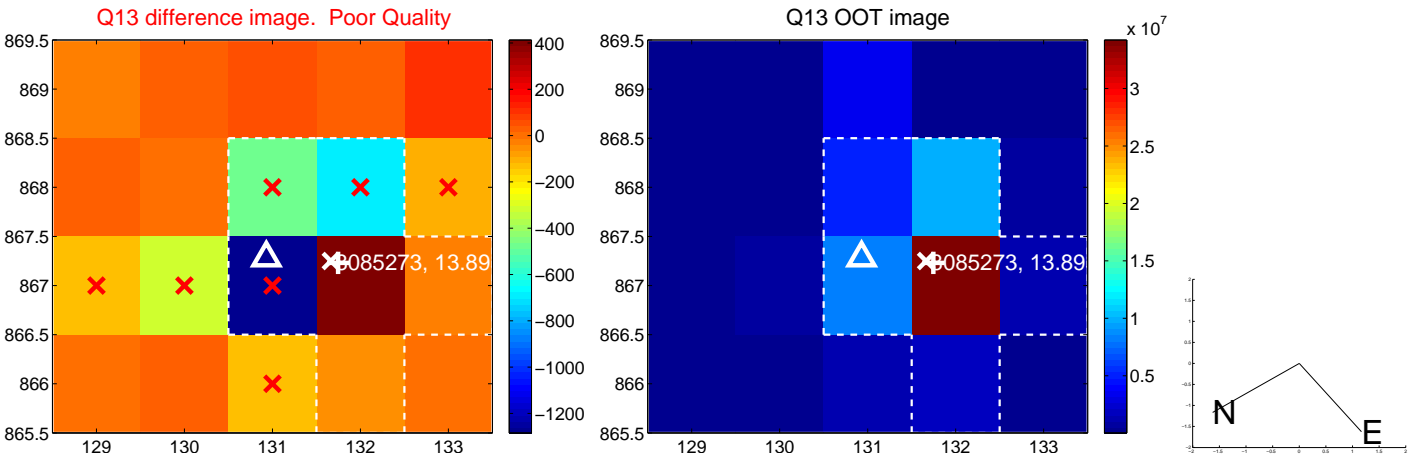
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



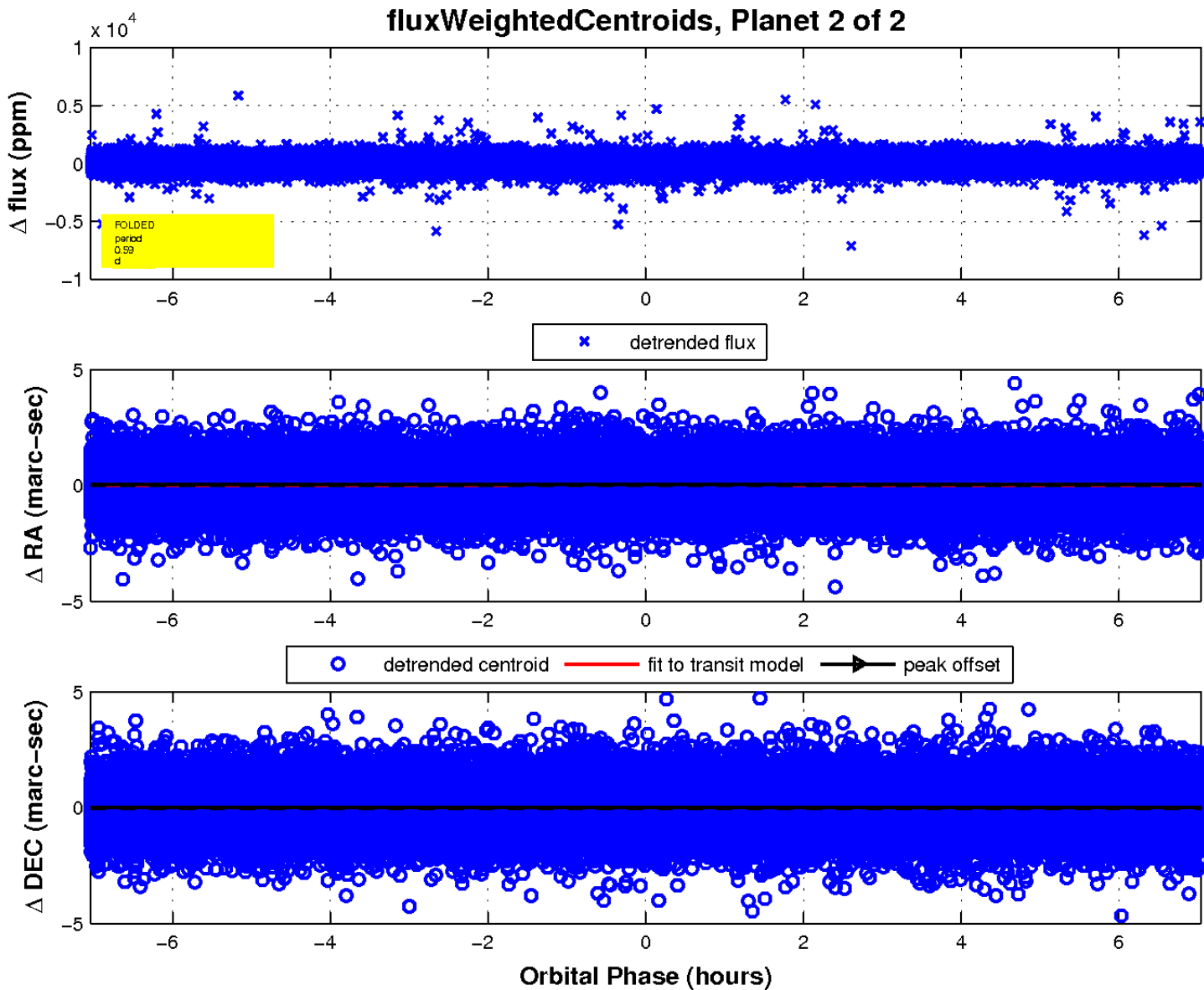
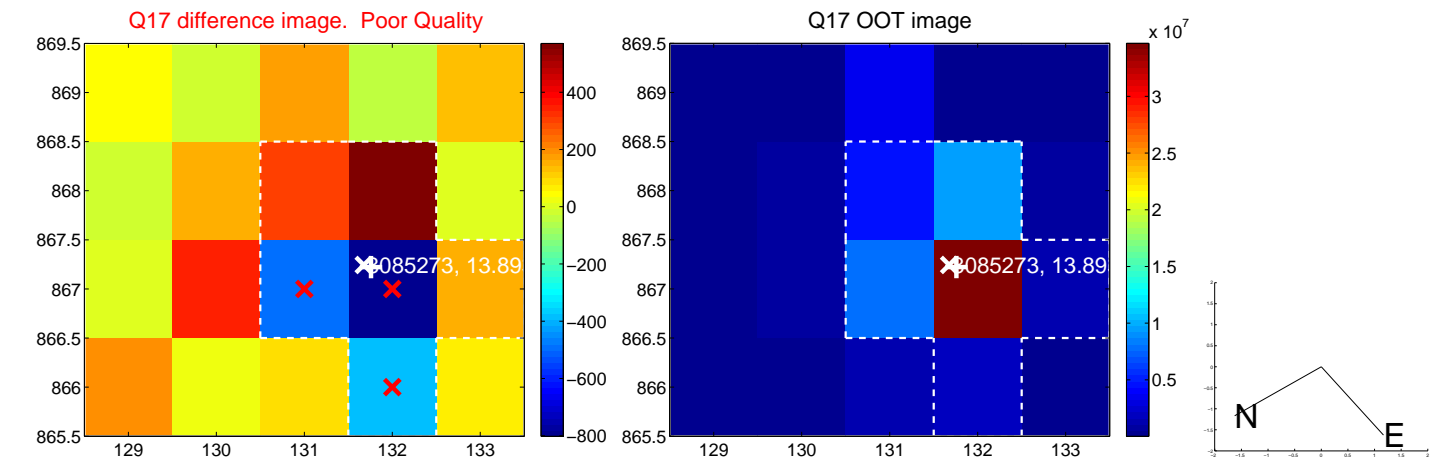
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

