

KIC 006783879

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})
006783879-01	OBS	No	1.649358	131.545925	37.5	4.950	8.3	7.9	3.12	8321	2.22	34868.02
006783879-02	OBS	No	0.515936	131.920949	47.9	2.130	8.1	9.6	3.12	8321	2.52	164205.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006783879-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006783879-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

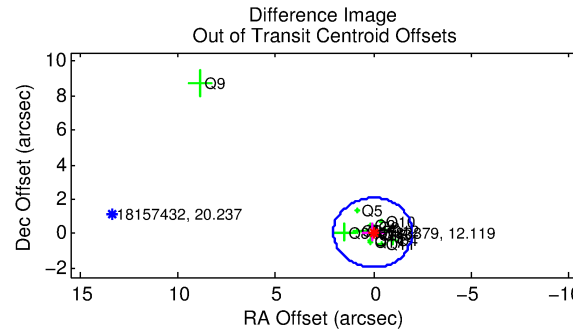
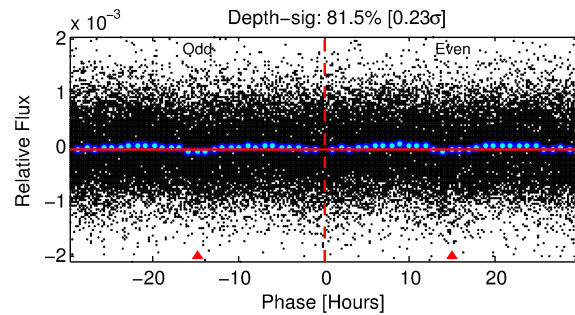
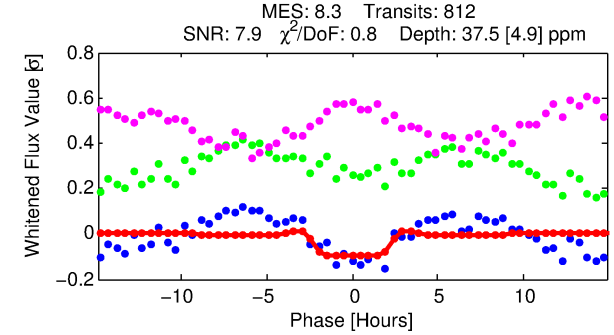
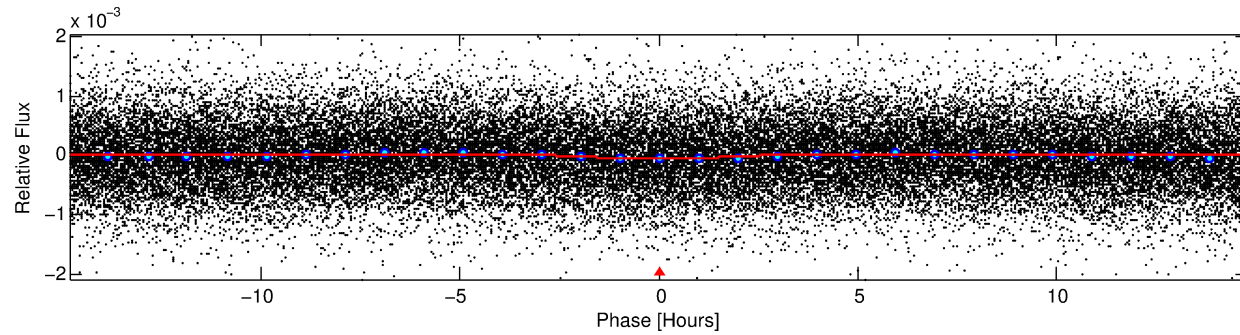
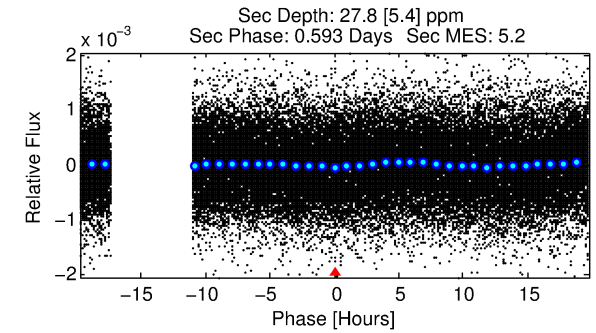
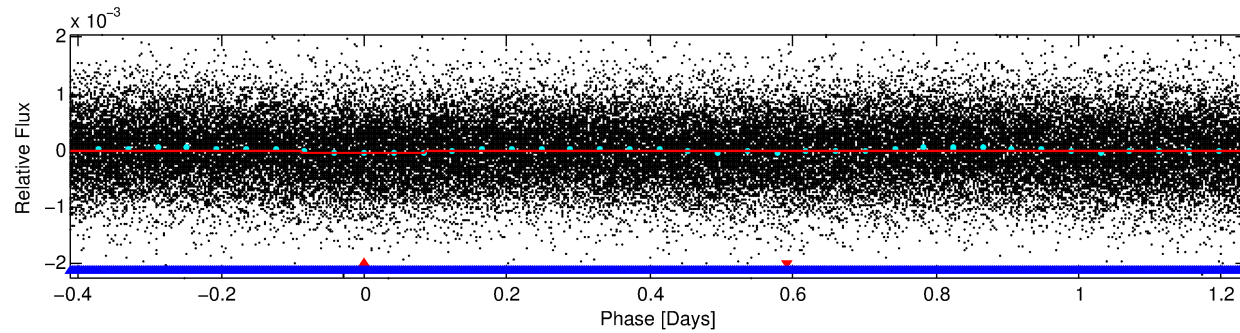
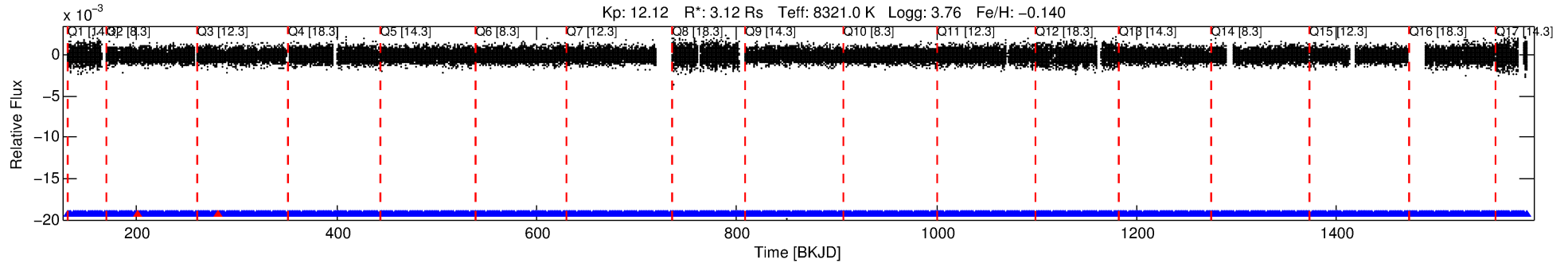
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006783879-01

No Significant Match Found

DV One-Page Summary

KIC: 6783879 Candidate: 1 of 2 Period: 1.649 d



DV Fit Results:

Period = 1.64936 [0.00002] d
Epoch = 131.5459 [0.0077] BKJD
Rp/R* = 0.0065 [0.0036]
a/R* = 1.48 [2.84]
b = 0.90 [0.75]
Seff = 34868.02 [24616.36]
Teq = 3484 [615] K
Rp = 2.22 [1.58] Re
a = 0.0346 [0.0149] AU
Ag = 3.72 [4.86] [0.56σ]
Teffp = 7483 [2109] K [1.82σ]

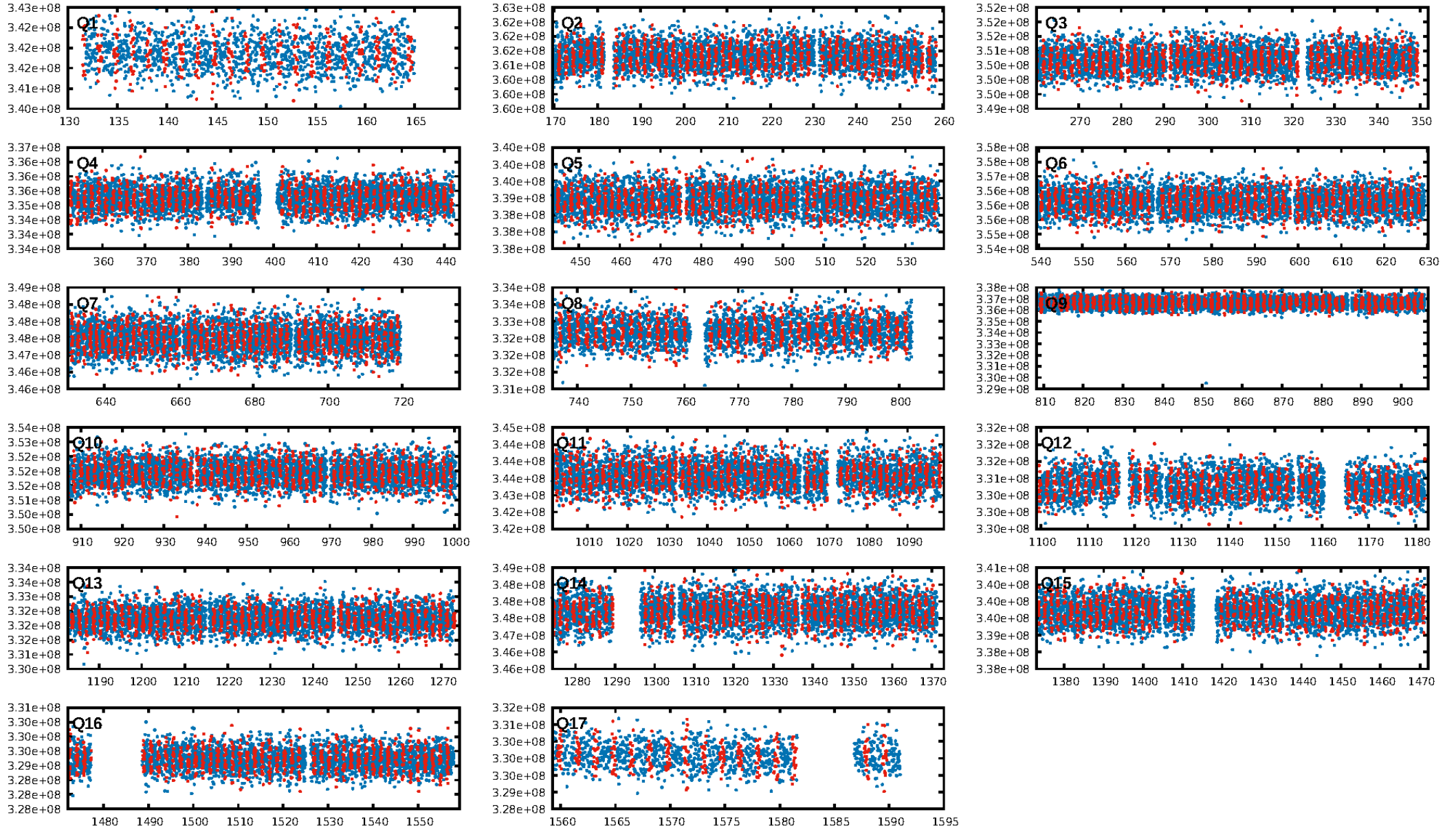
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.05σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 6.66e-22
RollingBand-fgt: 1.00 [773/775]
GhostDiagnostic-chr: -8.608
Centroid-sig: 21.6%
Centroid-so: 0.403 arcsec [1.45σ]
OotOffset-rm: 0.075 arcsec [0.11σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.212 arcsec [0.73σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.00 [0/17]

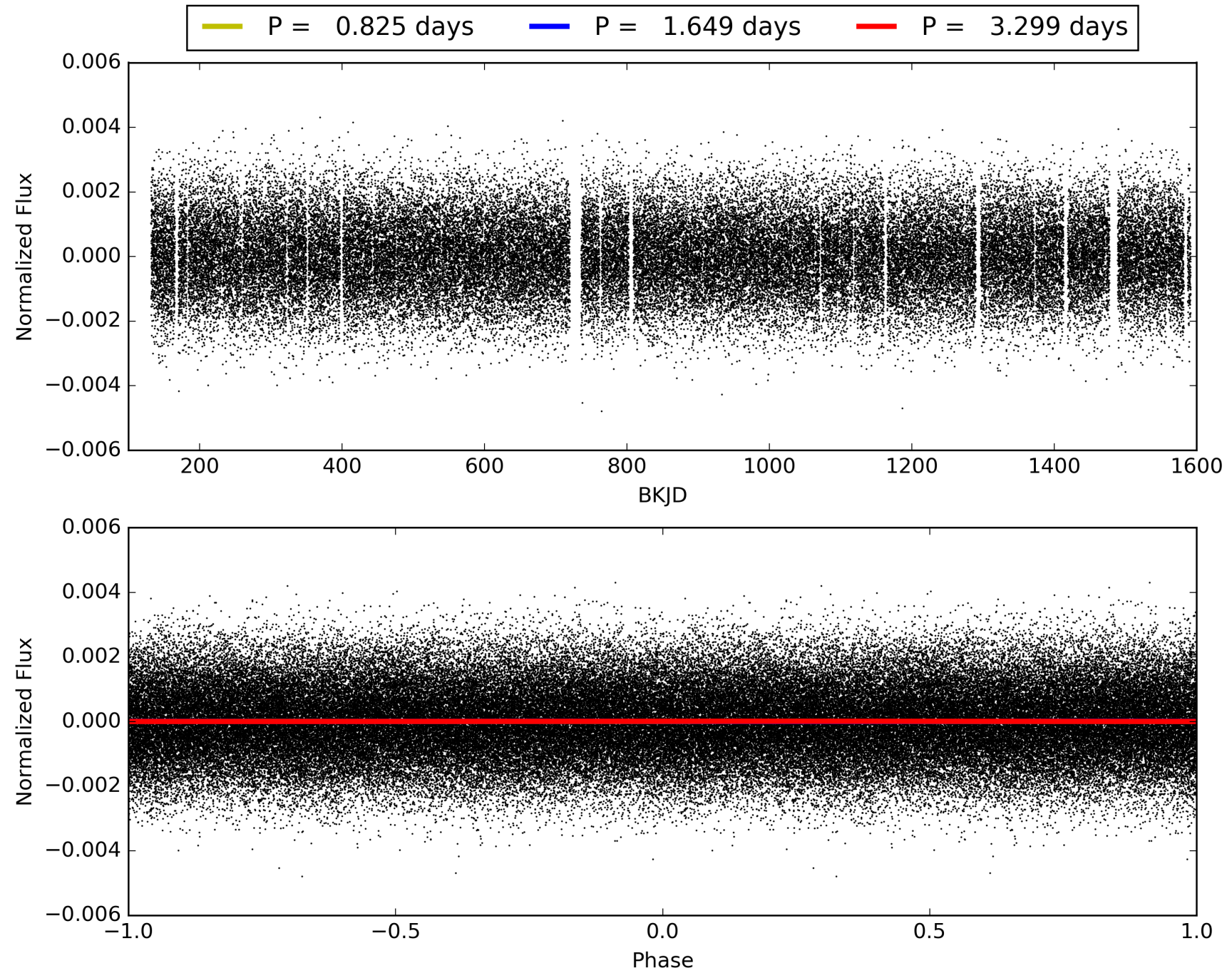
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:20:02 Z

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

TCE 006783879-01, PDC Light Curves

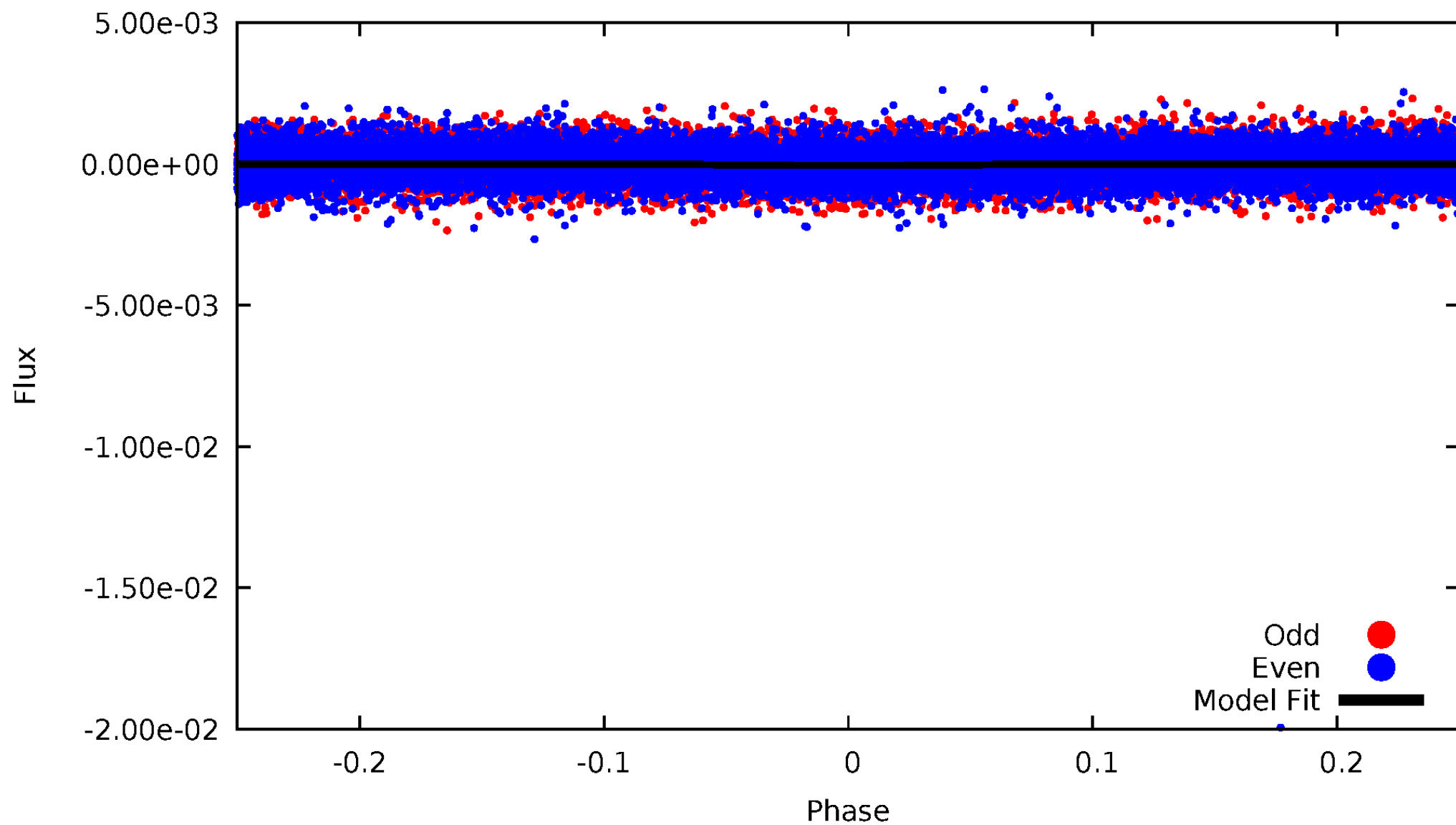


TCE 006783879-01



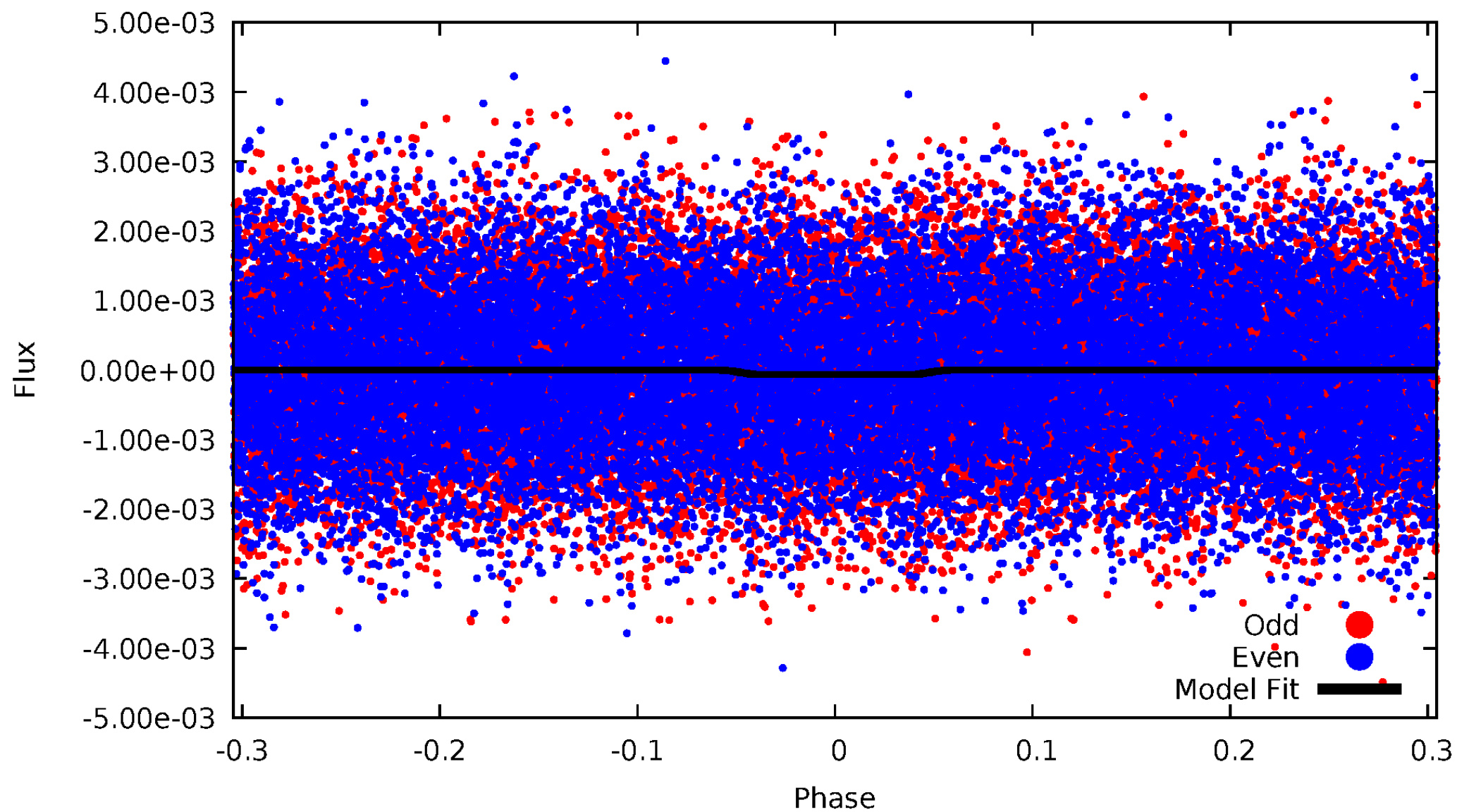
DV Odd/Even

TCE 006783879-01



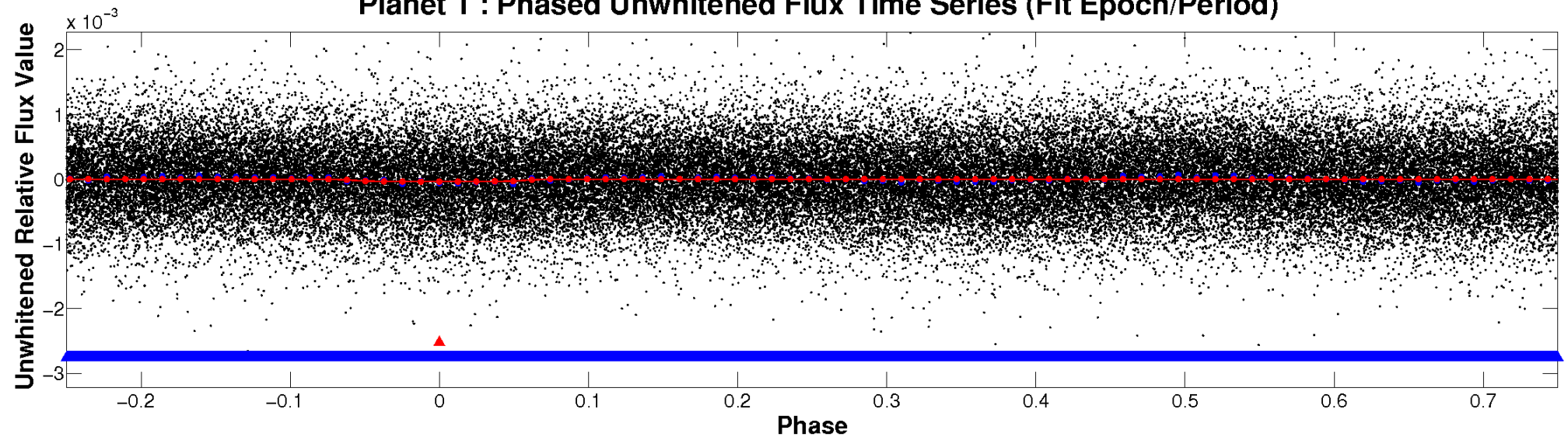
ALT Odd/Even

TCE 006783879-01

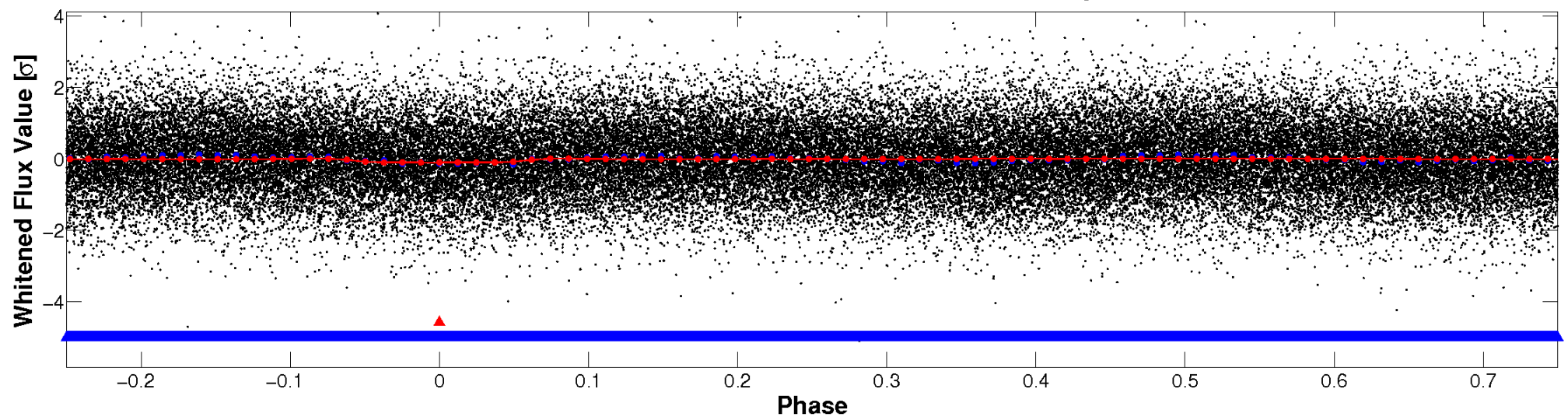


Non-Whitened Vs. Whitened Light Curve

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

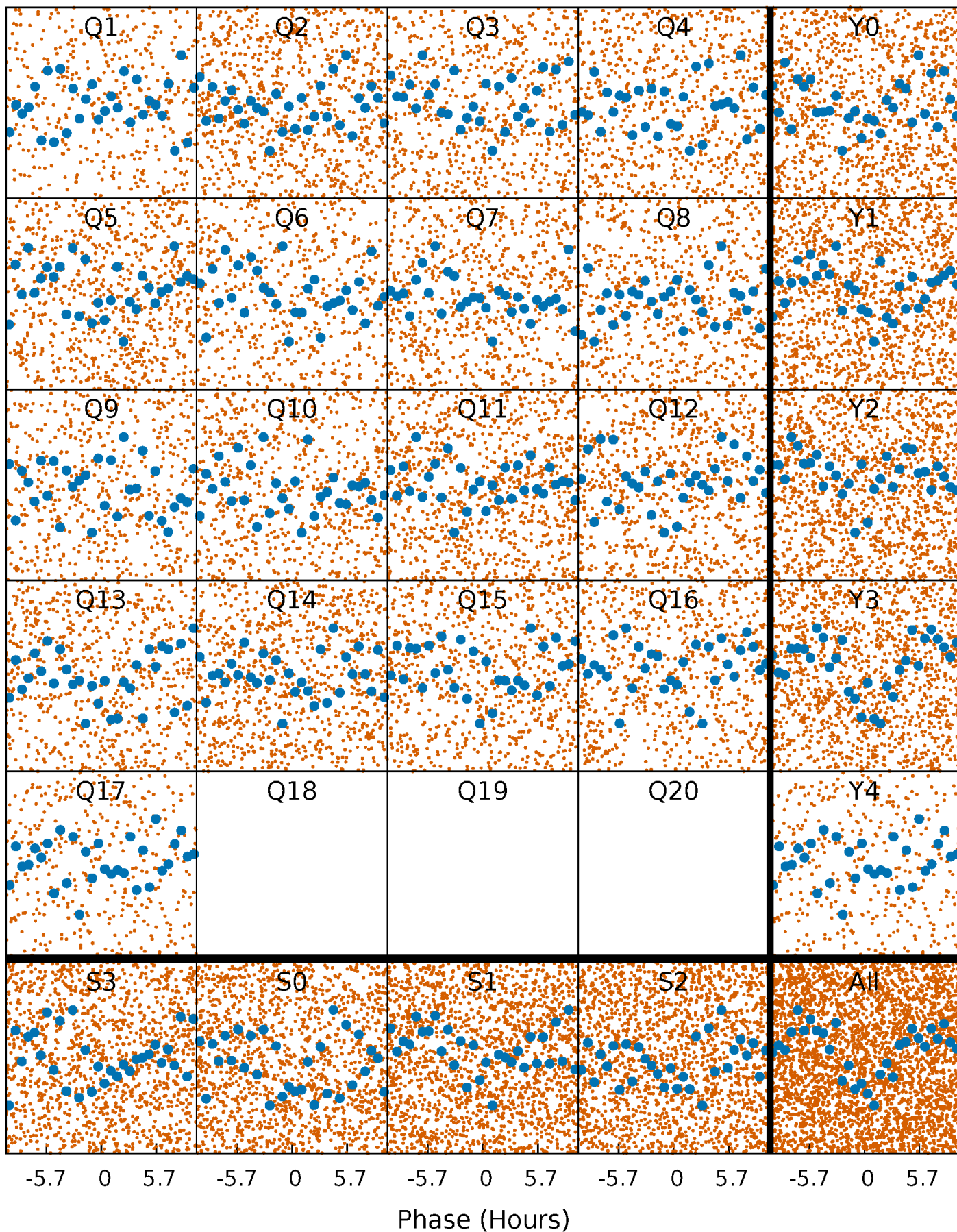


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



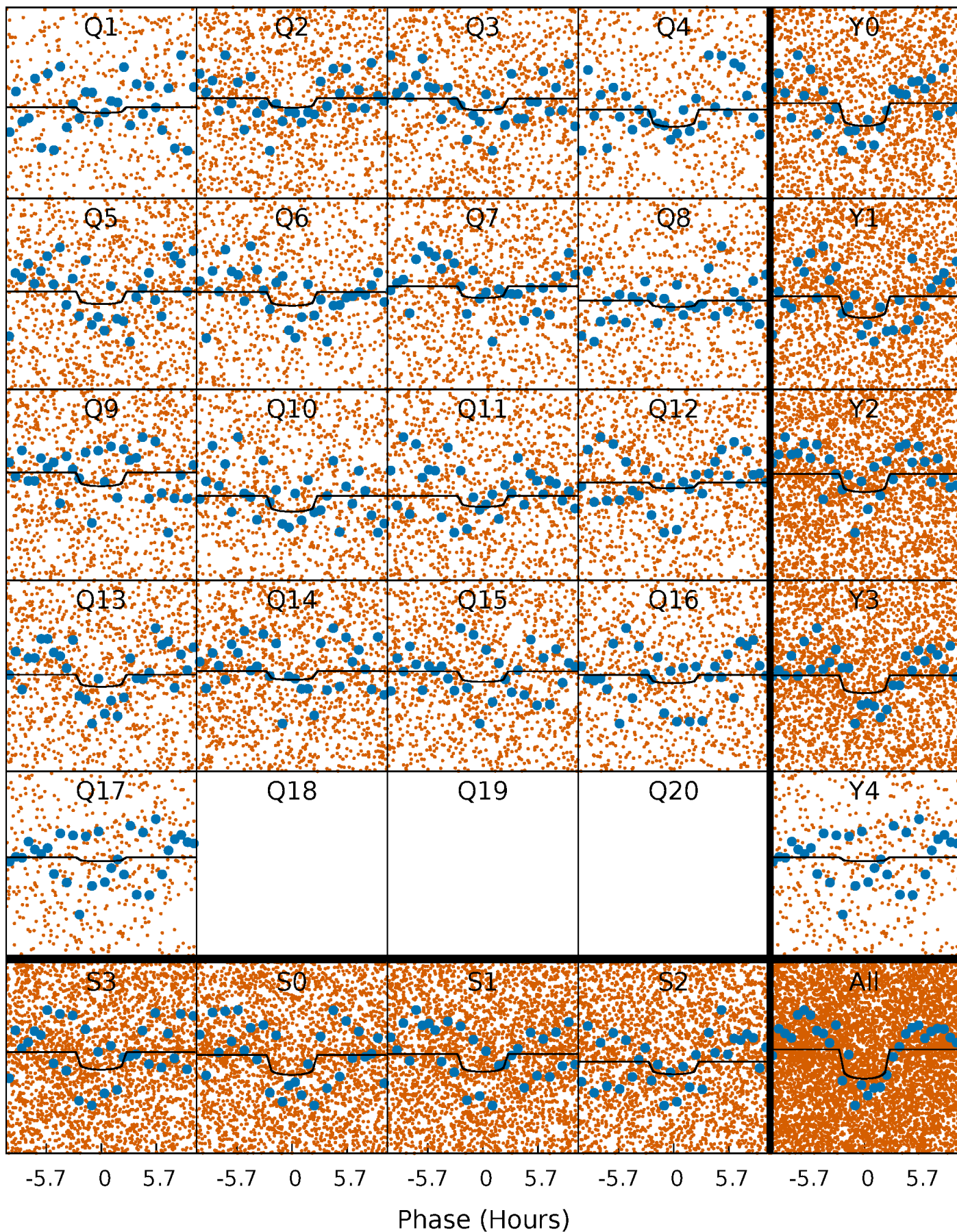
PDC Quarter-Phased Transit Curves

TCE 006783879-01 P= 1.649358 Days $T_0=131.545925$ (BKJD)



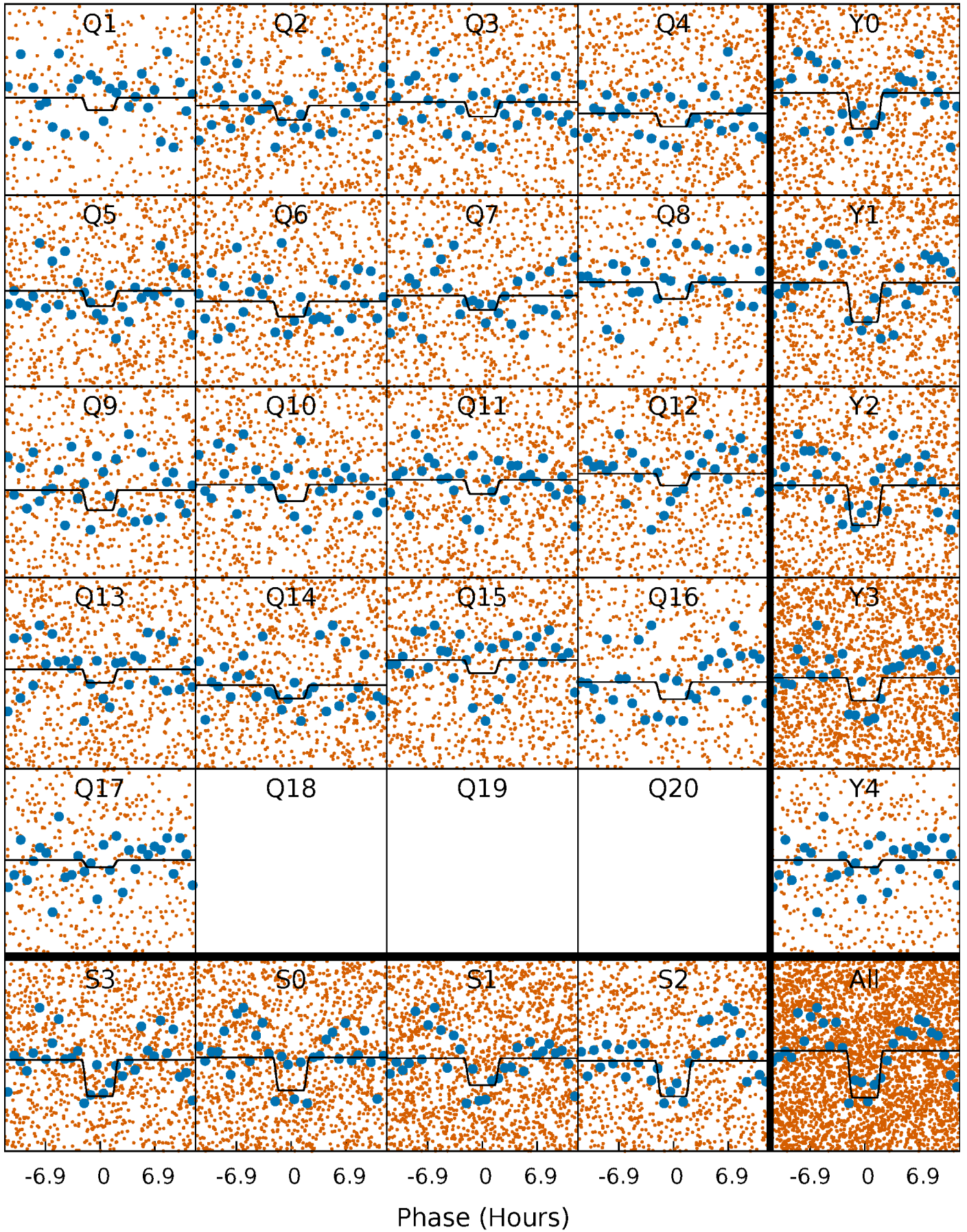
DV Quarter-Phased Transit Curves

TCE 006783879-01 P= 1.649358 Days $T_0=131.545925$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

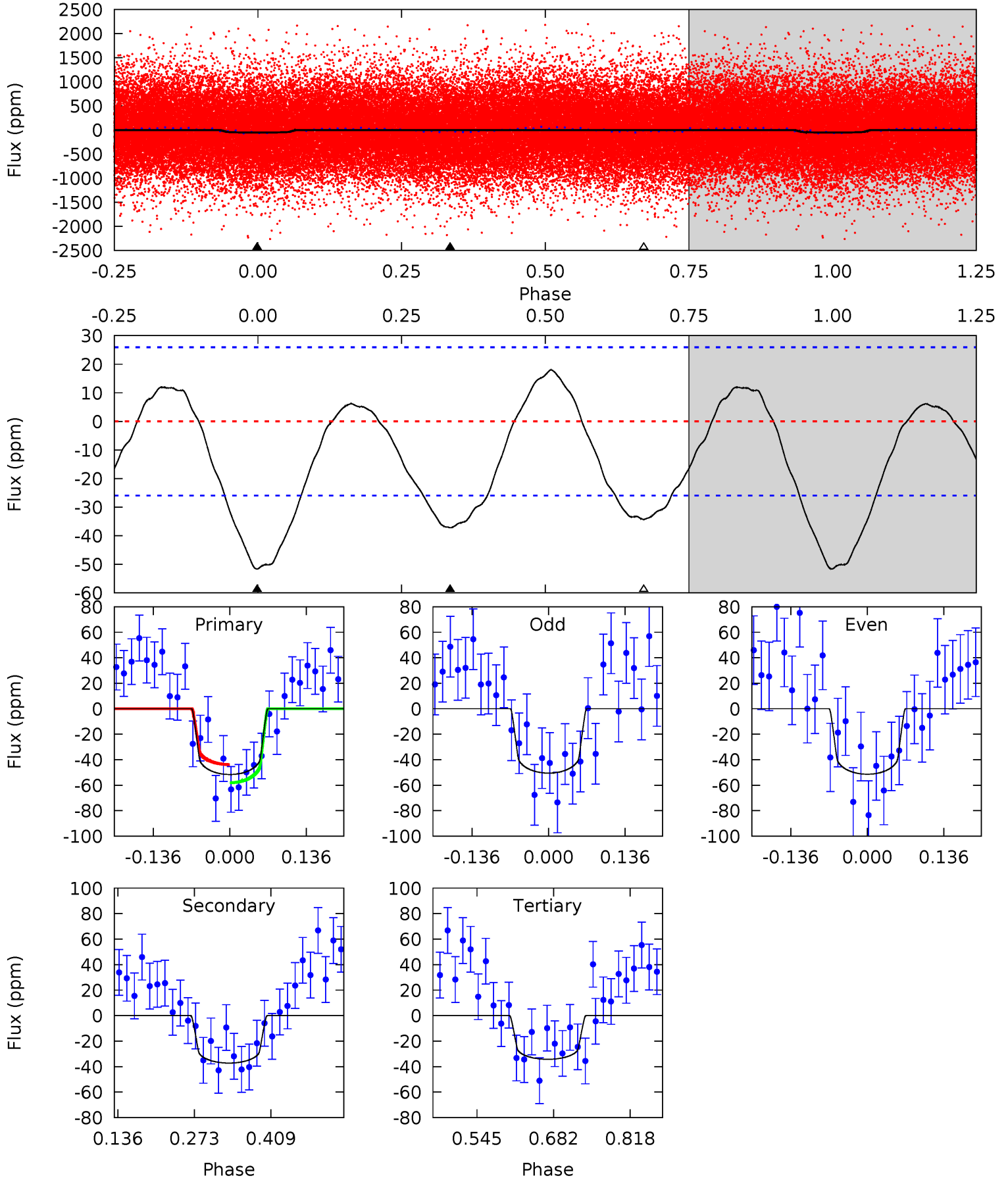
TCE 006783879-01 P= 1.649412 Days $T_0=131.533167$ (BKJD)



DV Model-Shift Uniqueness Test

006783879-01, P = 1.649358 Days, E = 129.896567 Days

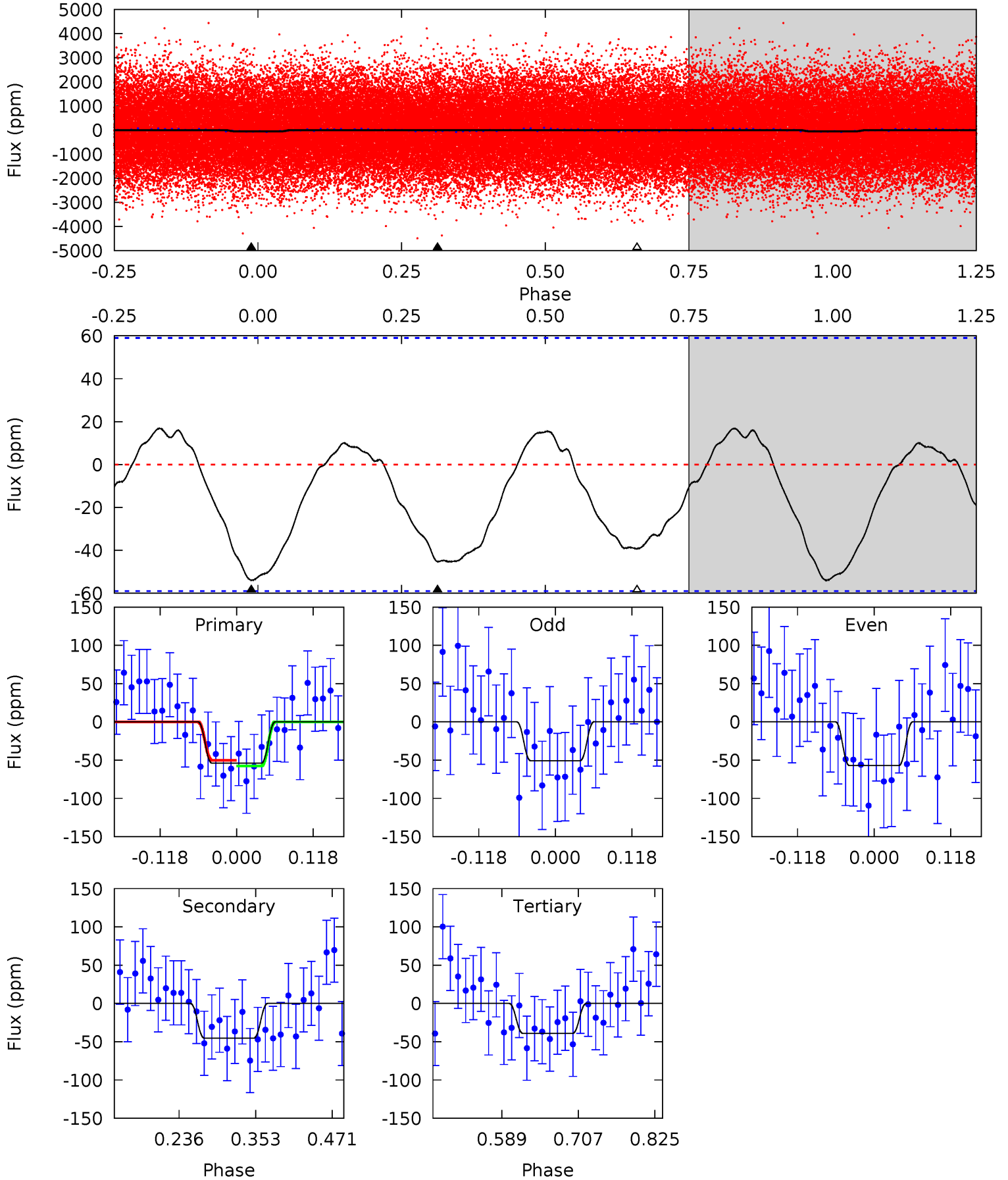
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.96	6.45	5.94	0	4.50	1.49	3.04	3.01	8.96	0.51	6.45	0.08	0.98	0.26	1.24



Alt Model-Shift Uniqueness Test

006783879-01, P = 1.649412 Days, E = 129.883755 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.14	3.48	3.01	0	4.53	1.56	1.42	1.13	4.14	0.47	3.48	0.25	0.96	0.24	0.28



Stellar Parameters For KIC 006783879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8321^{+201}_{-374}	$3.758^{+0.398}_{-0.106}$	$-0.140^{+0.300}_{-0.400}$	$3.118^{+0.767}_{-1.425}$	$2.032^{+0.344}_{-0.473}$	$0.094^{+0.378}_{-0.037}$
	+2%/-4%	+11%/-3%	+214%/-286%	+25%/-46%	+17%/-23%	+400%/-39%
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 006783879-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-37 ± 6	$2.10^{+1.23}_{-1.08}$	4691^{+345}_{-488}	7383^{+5054}_{-1515}	$5.264^{+17.975}_{-3.060}$
Alt.	-45 ± 13	$2.46^{+1.29}_{-1.20}$	4674^{+369}_{-517}	7250^{+4179}_{-1583}	$4.843^{+12.641}_{-2.887}$

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 $A_{obs} \gg 1.0$

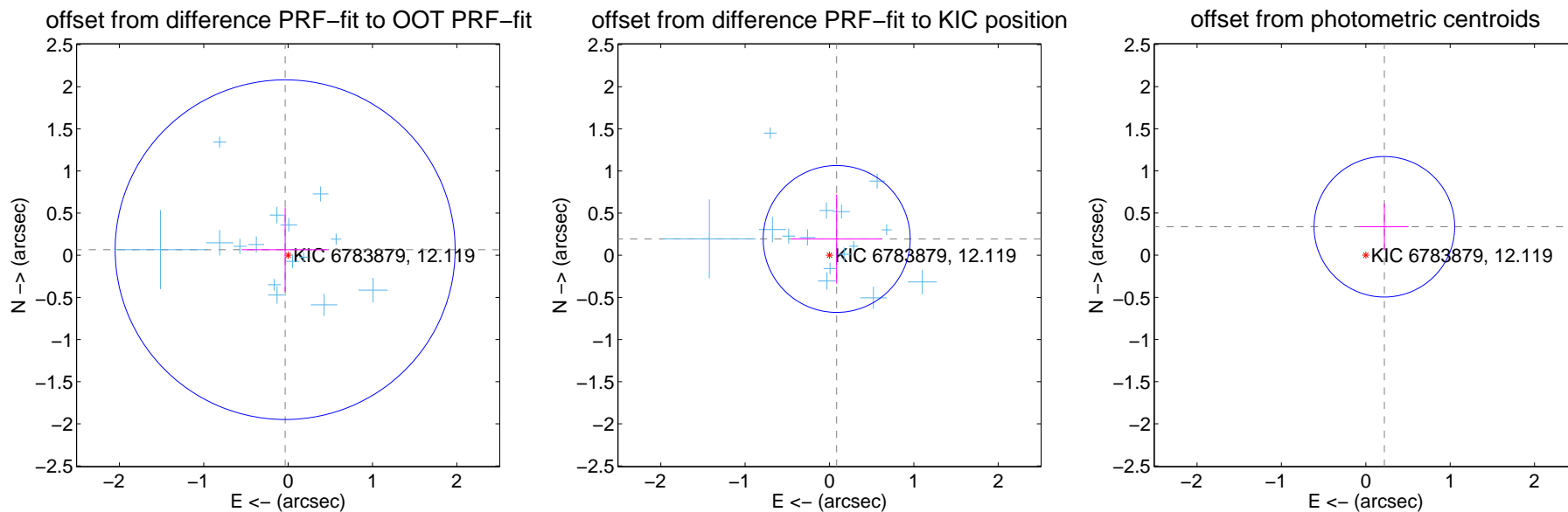
DV Centroid Data

Supplemental centroid analysis for 006783879-01. Kepler magnitude: 12.12. Transit SNR 7.92

There are 15 quarters with good PRF difference image offsets

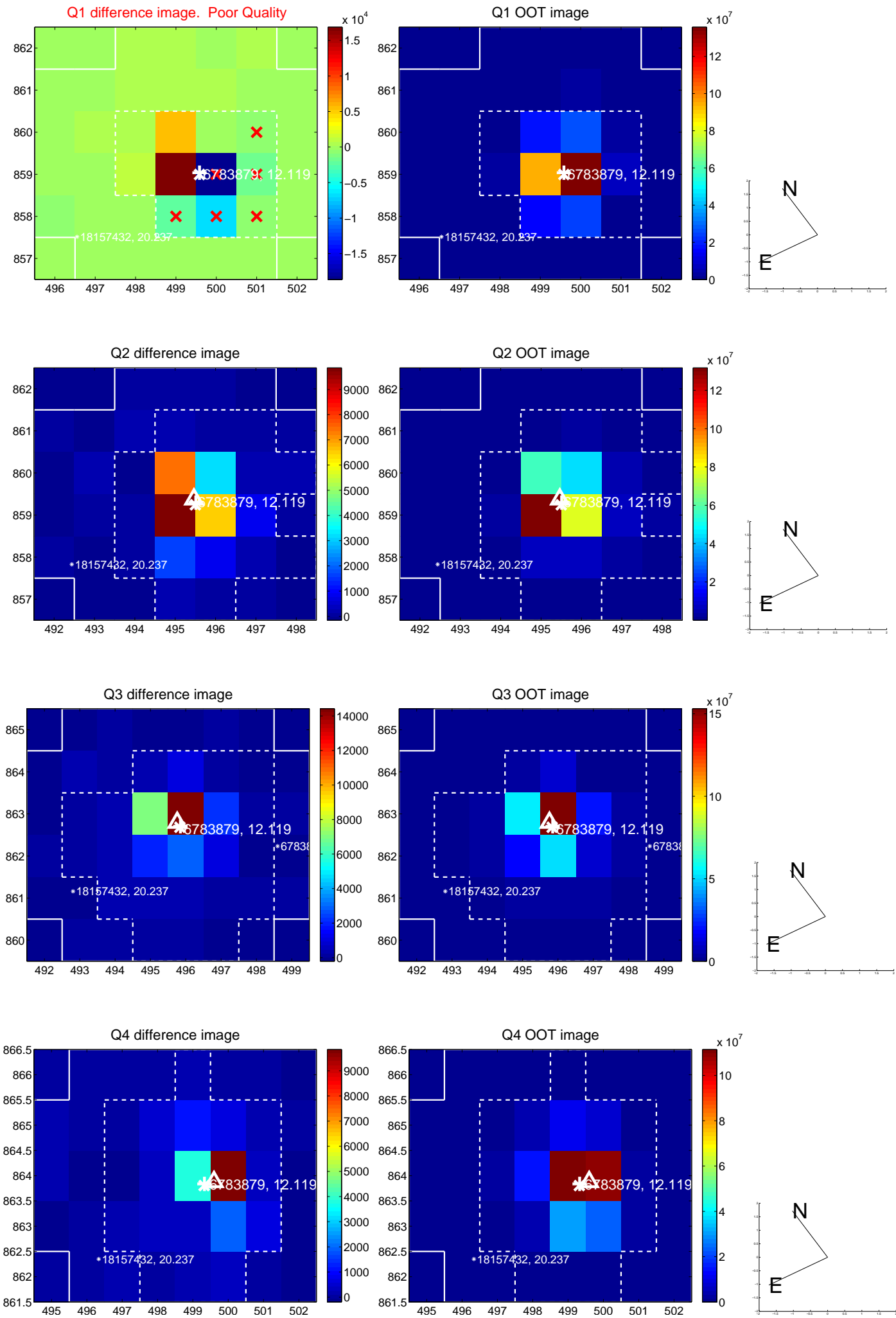
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.075 ± 0.672	0.11	0.035 ± 0.517	0.066 ± 0.498
PRF-fit source offset from KIC position	0.212 ± 0.290	0.73	-0.085 ± 0.534	0.194 ± 0.529
photometric centroid source offset	0.40 ± 0.28	1.45	-0.22 ± 0.29	0.34 ± 0.27

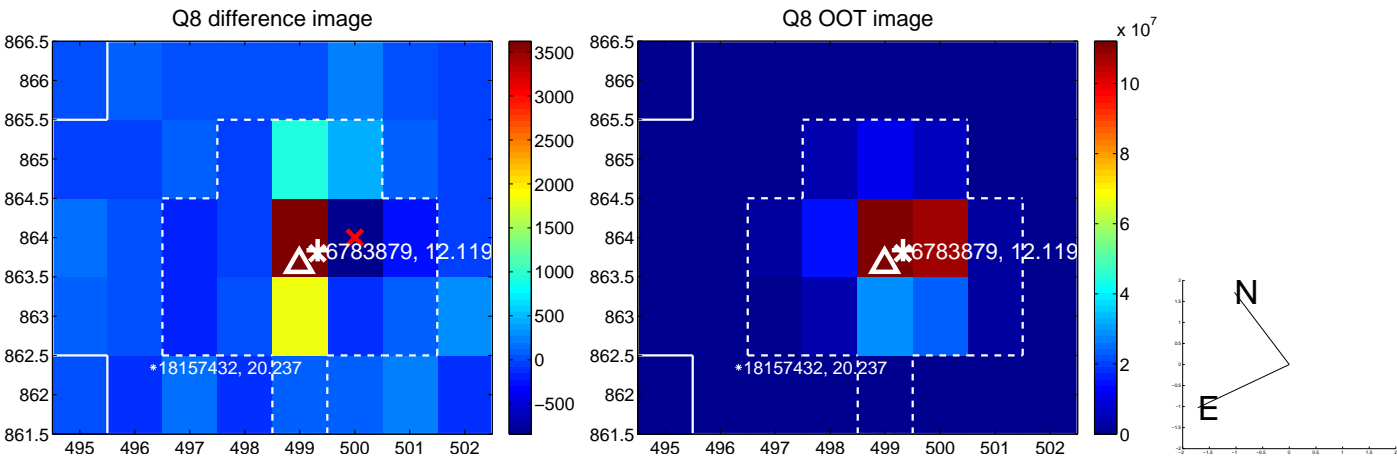
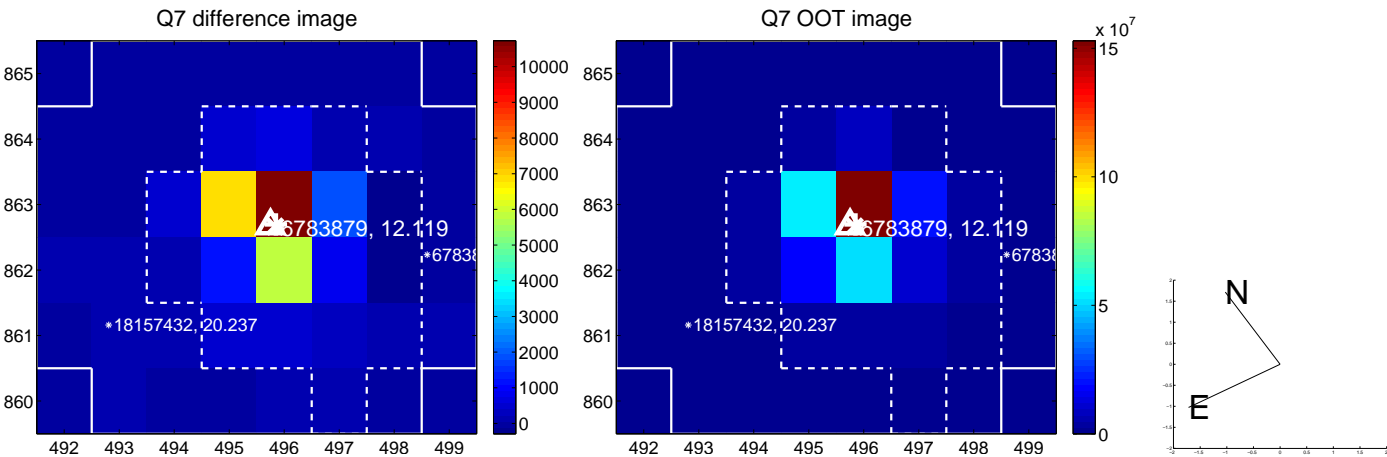
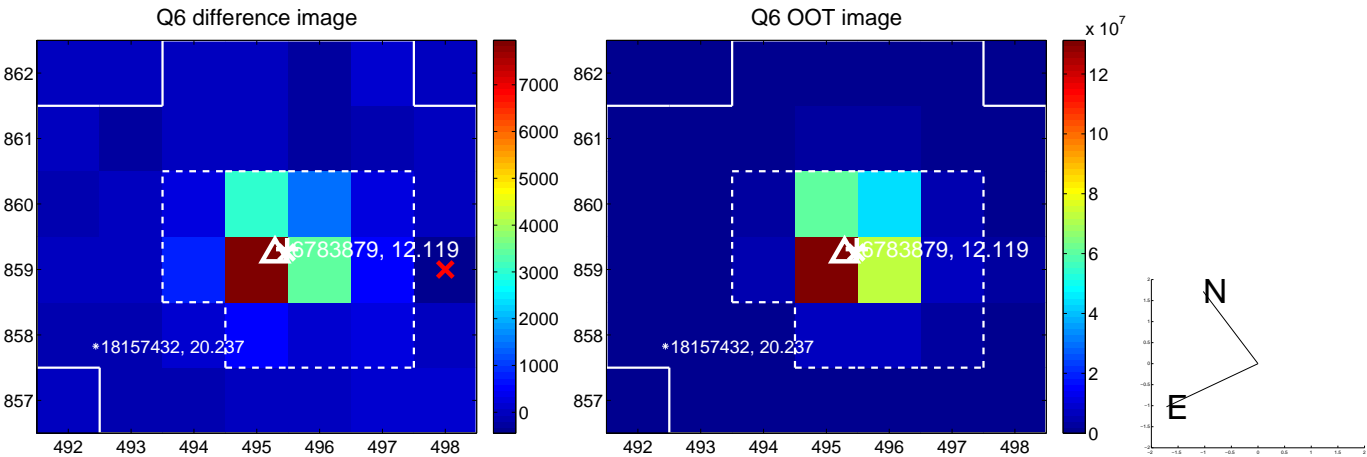
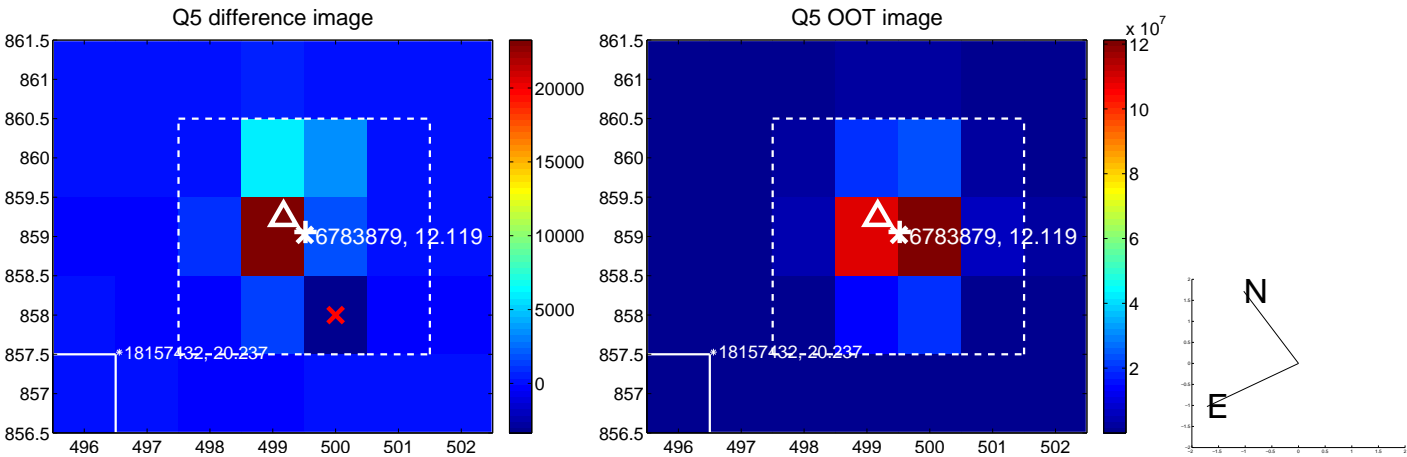


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

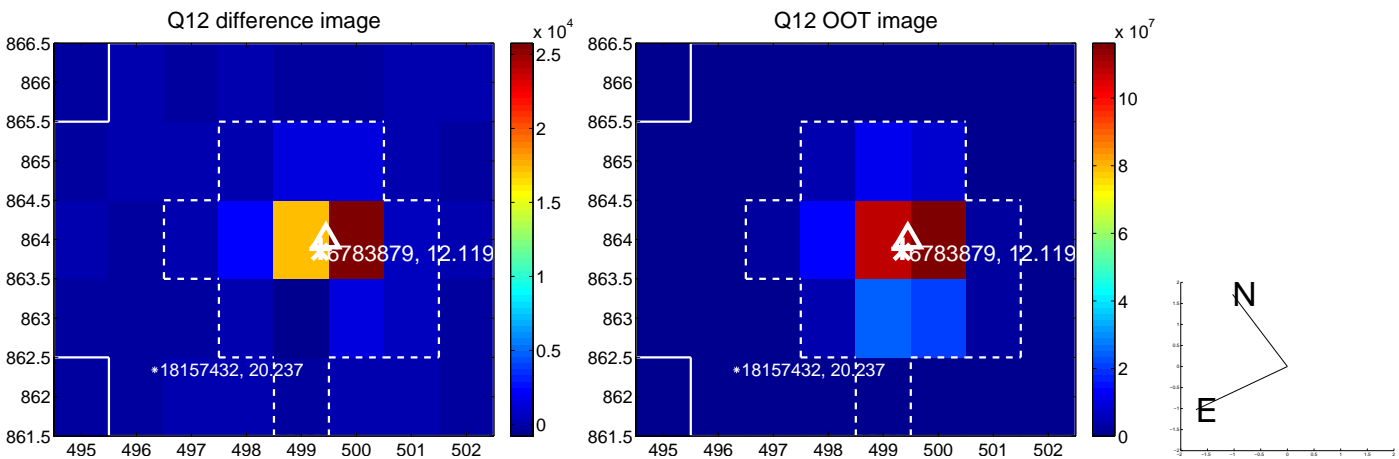
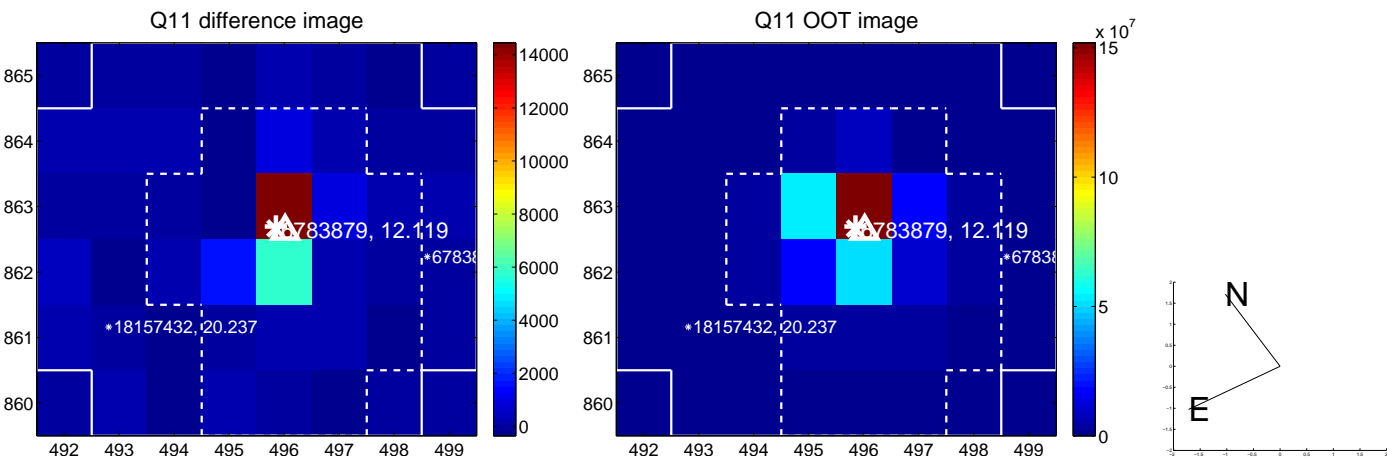
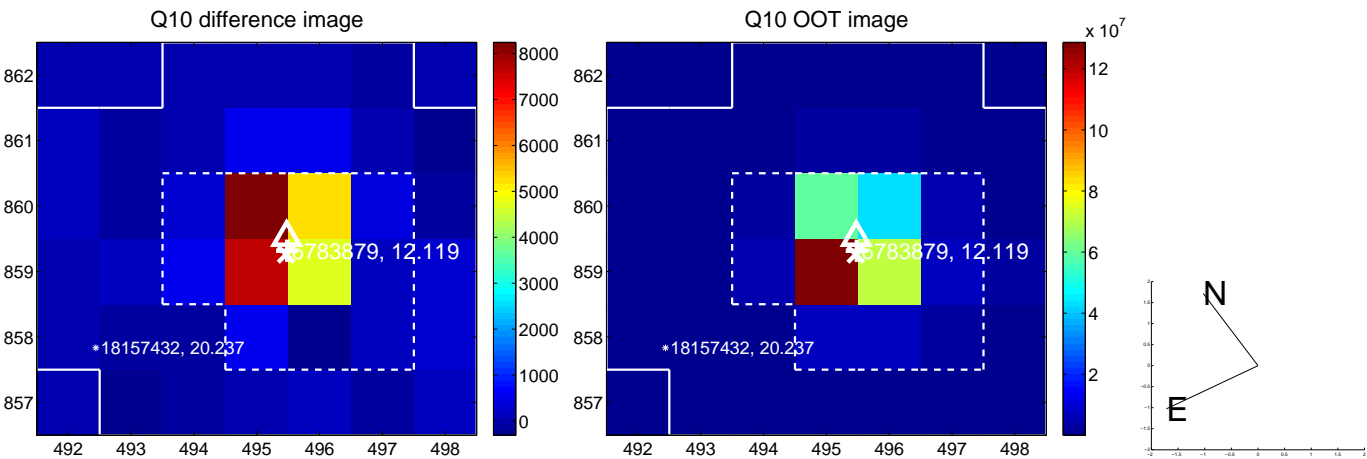
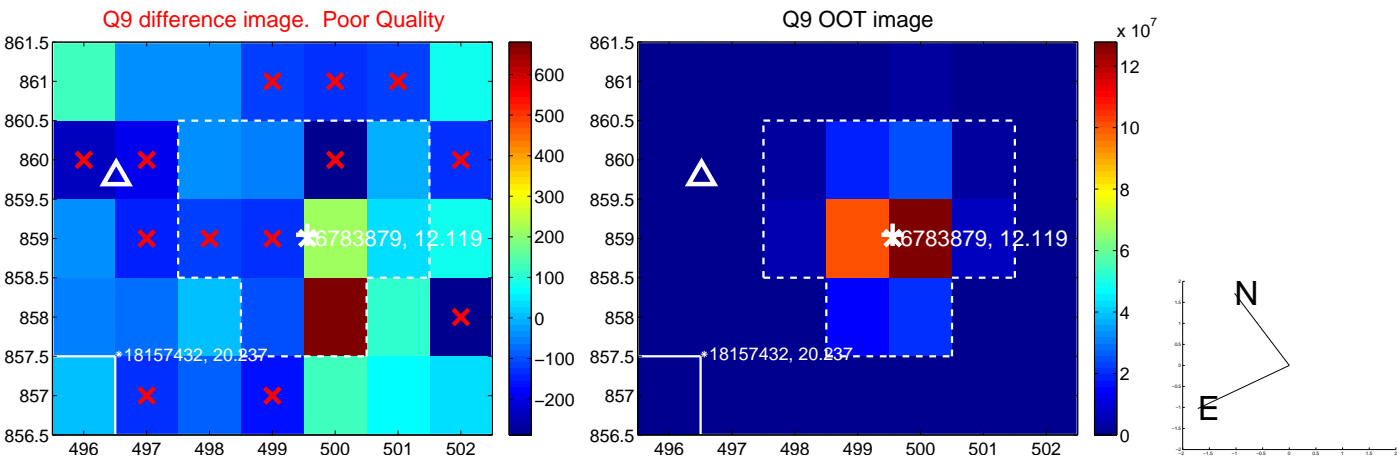
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



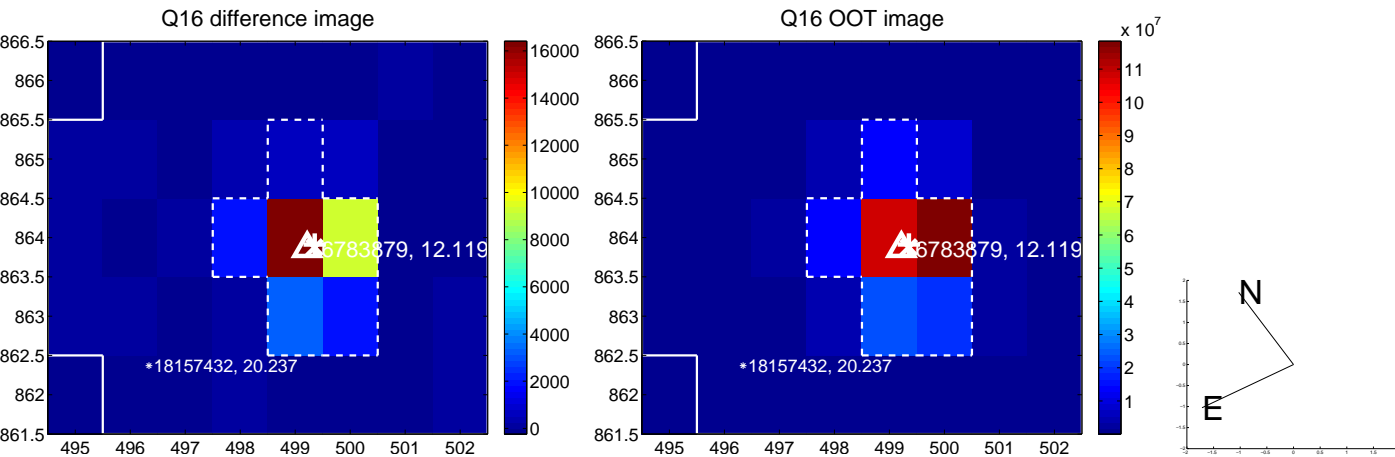
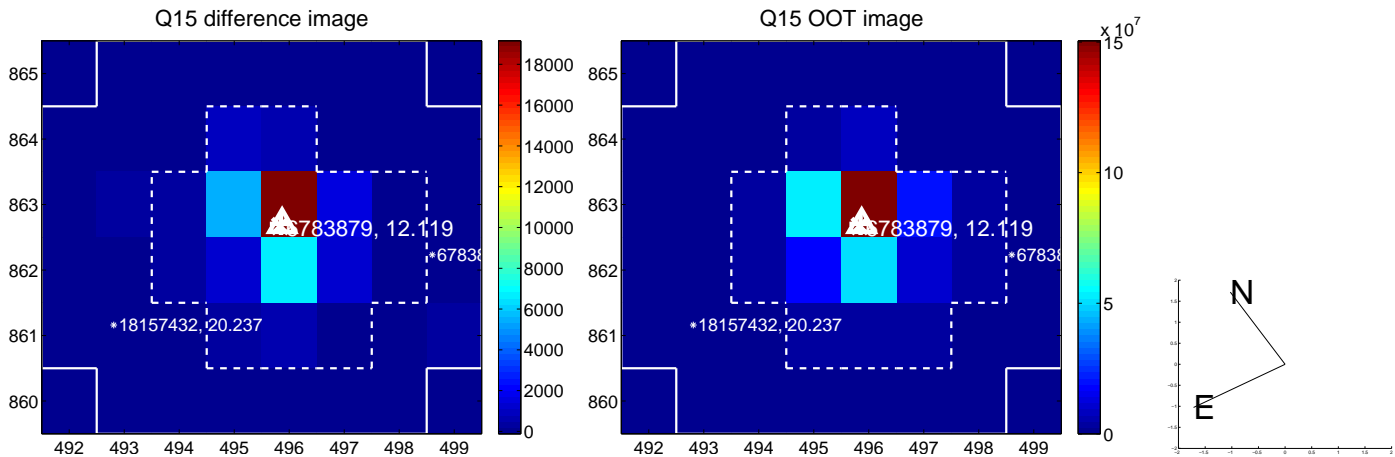
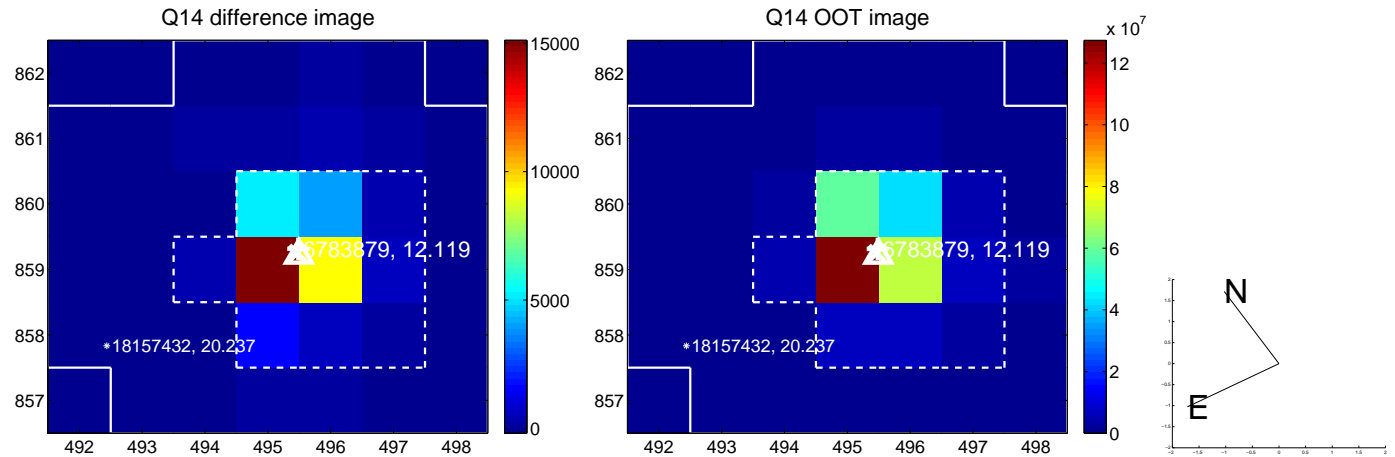
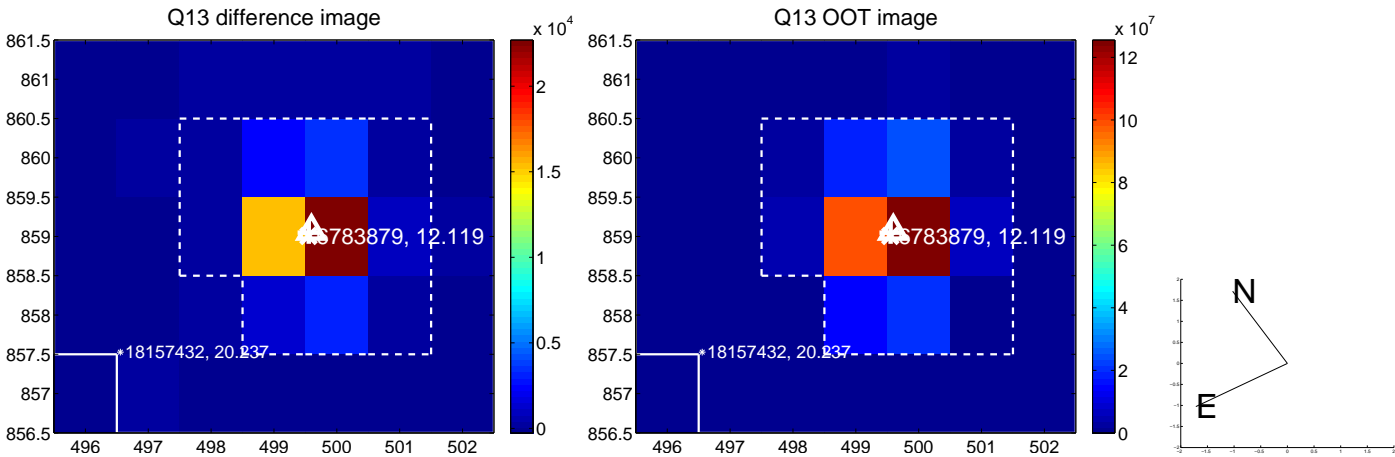
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



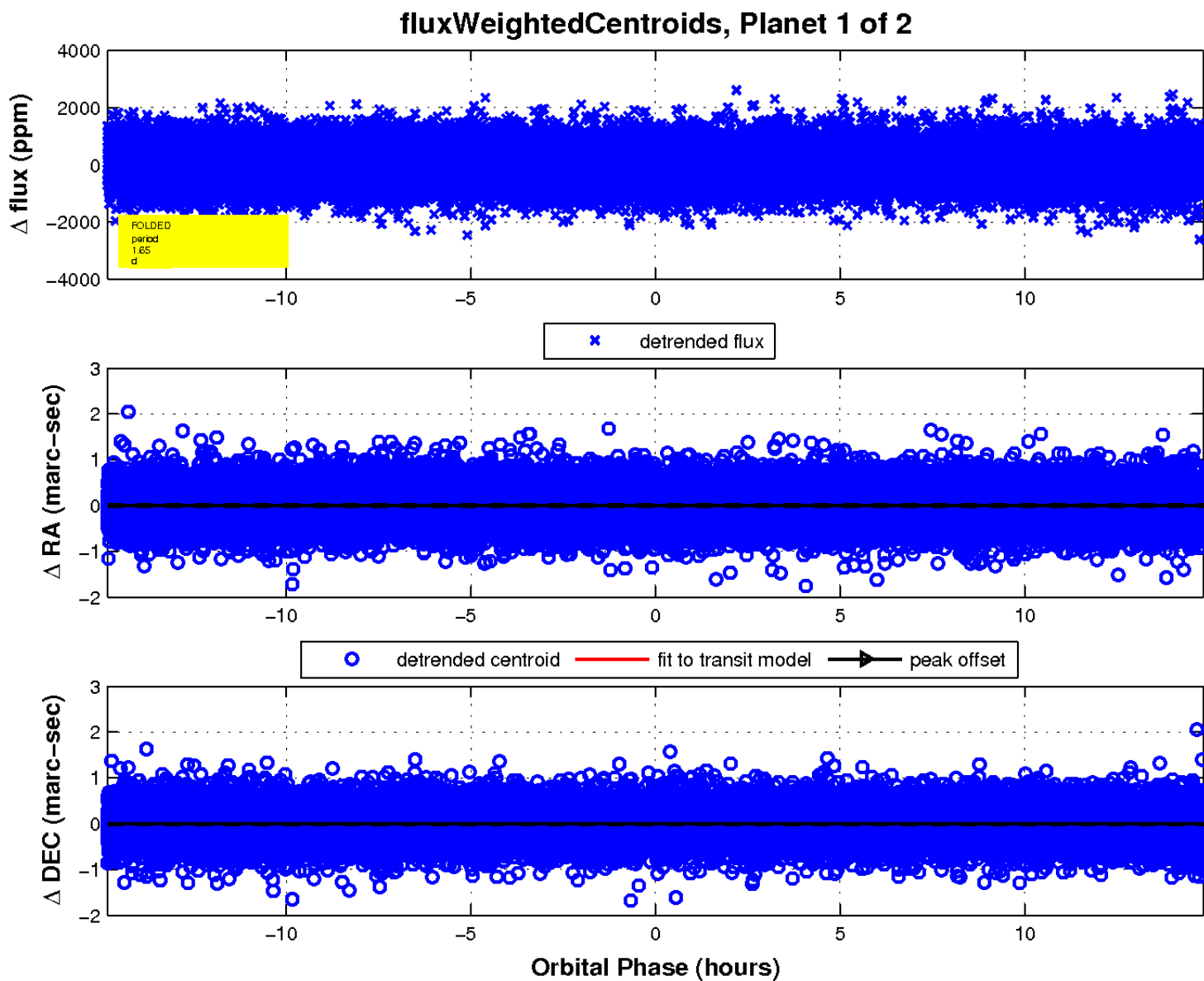
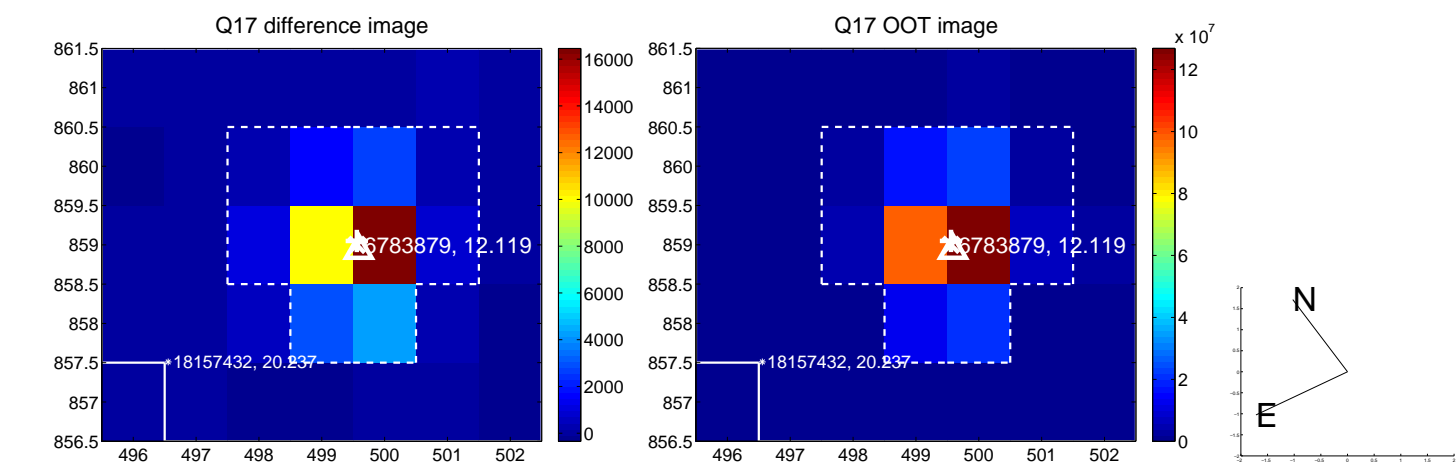
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

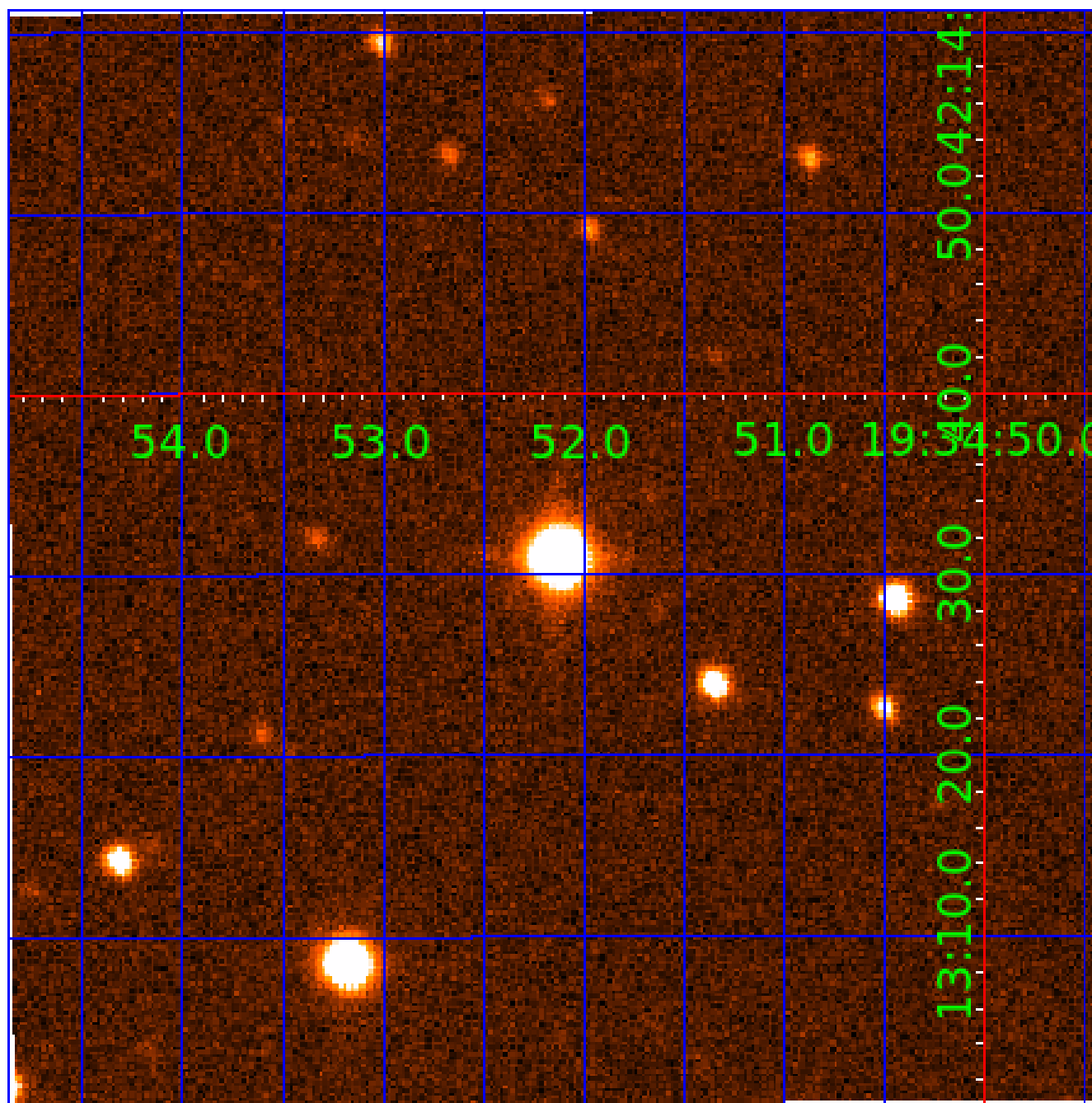


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006783879

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})
006783879-01	OBS	No	1.649358	131.545925	37.5	4.950	8.3	7.9	3.12	8321	2.22	34868.02
006783879-02	OBS	No	0.515936	131.920949	47.9	2.130	8.1	9.6	3.12	8321	2.52	164205.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006783879-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006783879-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

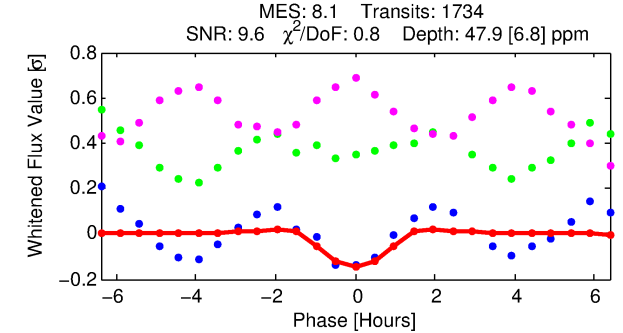
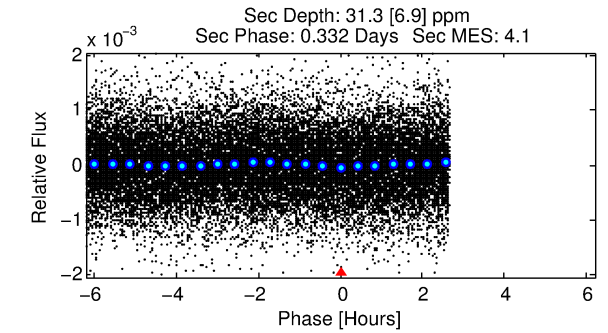
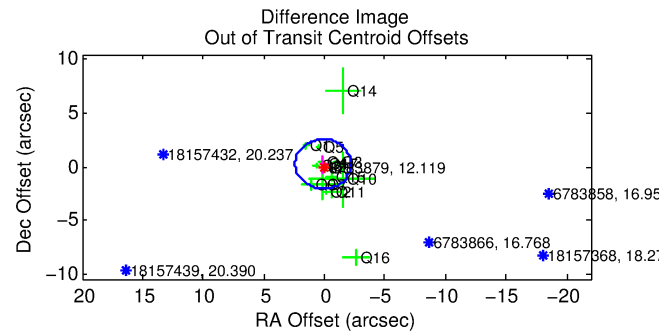
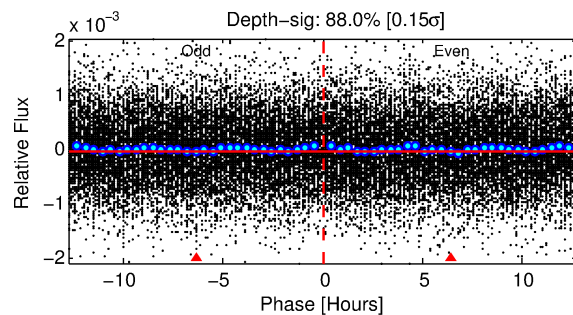
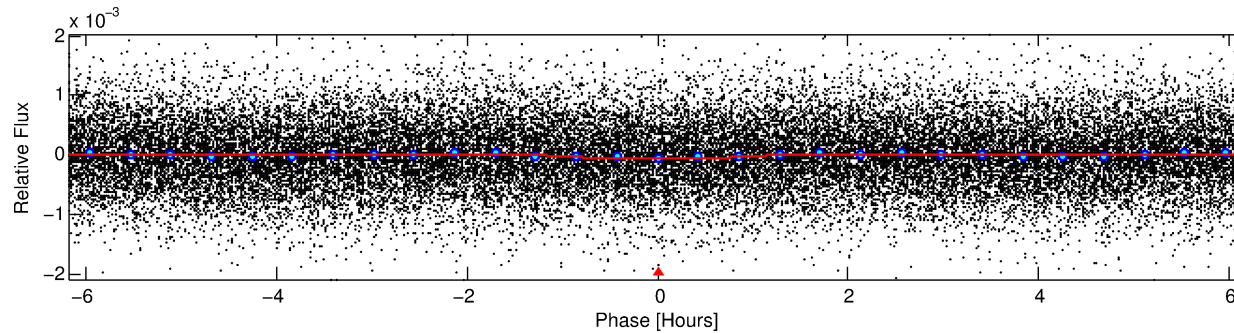
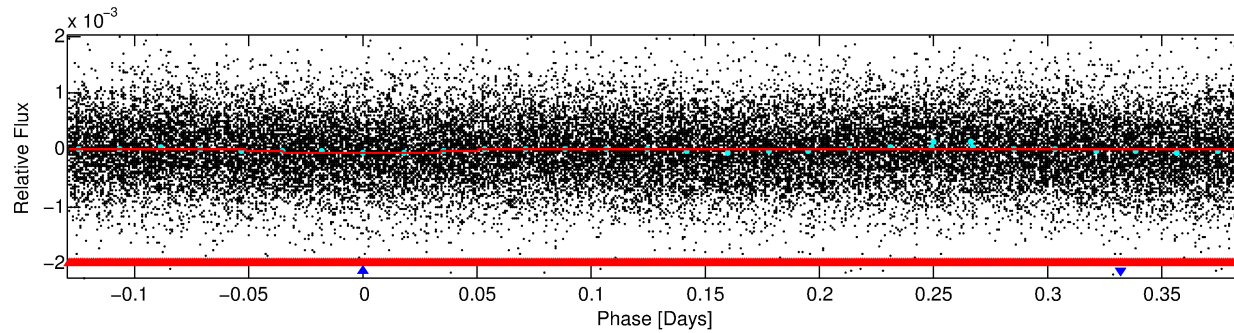
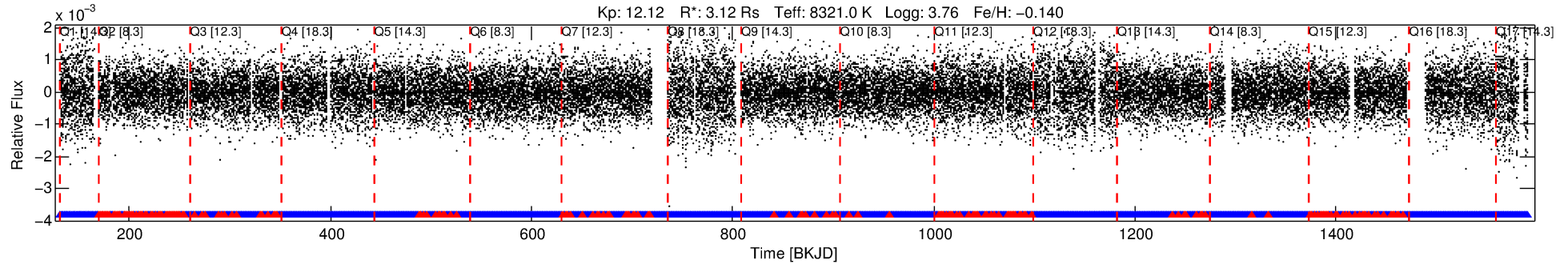
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006783879-02

No Significant Match Found

DV One-Page Summary

KIC: 6783879 Candidate: 2 of 2 Period: 0.516 d



DV Fit Results:

Period = 0.51594 [0.00001] d
Epoch = 131.9209 [0.0031] BKJD
Rp/R* = 0.0074 [0.0048]
a/R* = 1.25 [1.84]
b = 0.91 [0.84]
Seff = 164205.04 [115926.61]
Teq = 5133 [906] K
Rp = 2.52 [1.99] Re
a = 0.0159 [0.0069] AU
Ag = 0.69 [1.02] [-0.31 σ]
Teffp = 7230 [2390] K [0.82 σ]

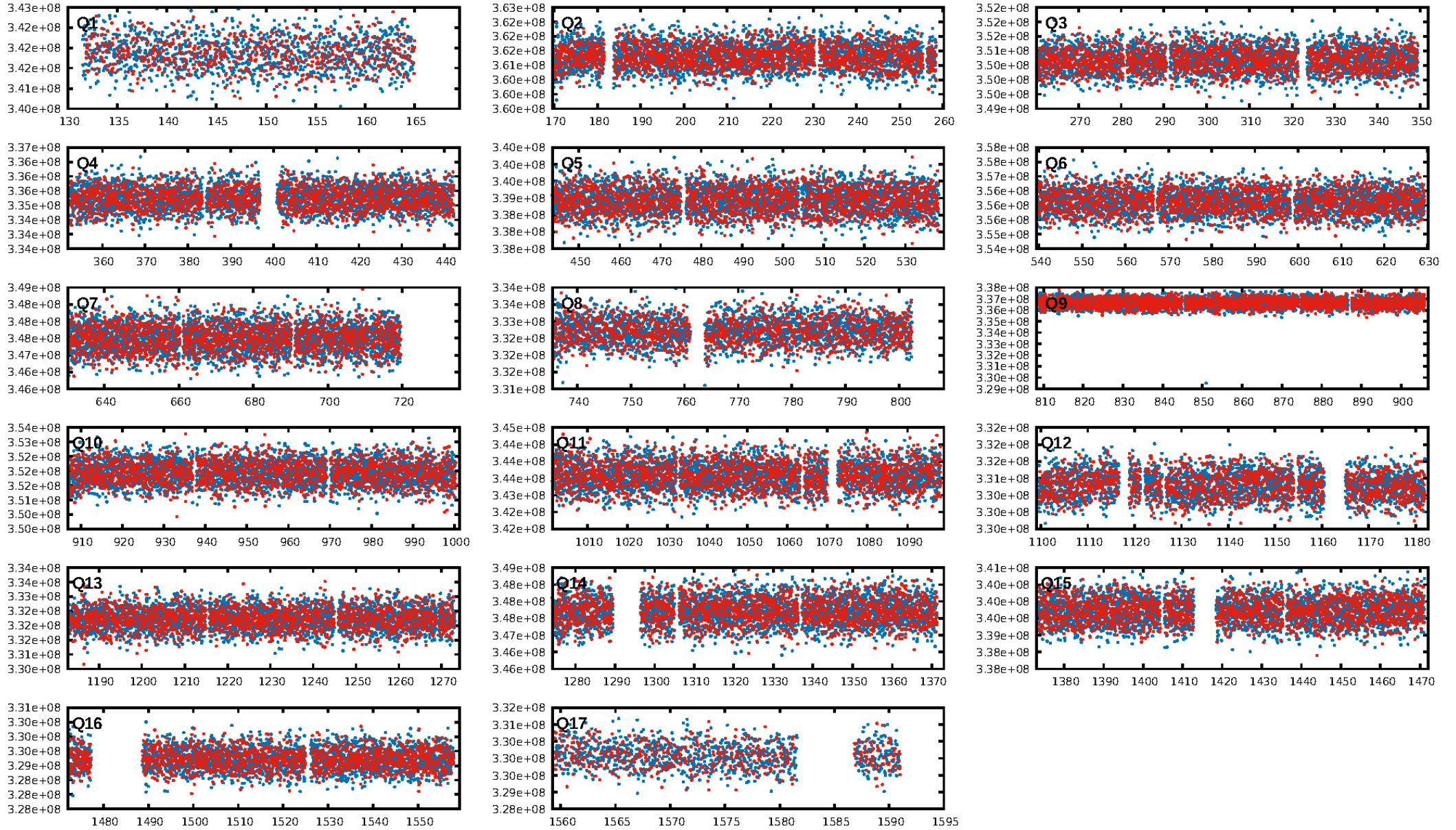
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.05 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.75e-23
RollingBand-fgt: 0.88 [1453/1657]
GhostDiagnostic-chr: 2.816
Centroid-sig: 0.0%
Centroid-so: 0.501 arcsec [2.79 σ]
OotOffset-rm: 0.268 arcsec [0.35 σ]
KicOffset-rm: 0.411 arcsec [0.52 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

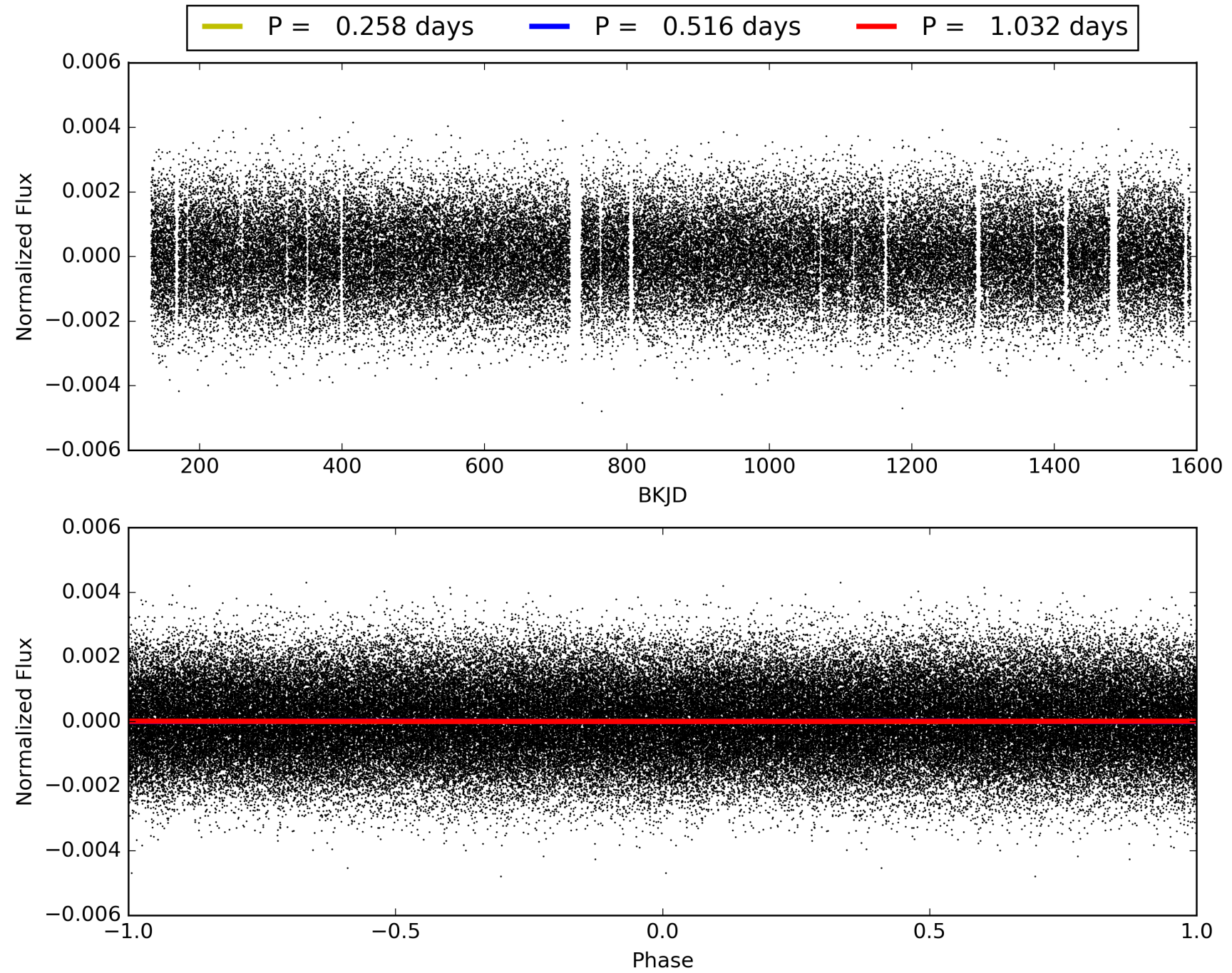
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:20:14 Z

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

TCE 006783879-02, PDC Light Curves

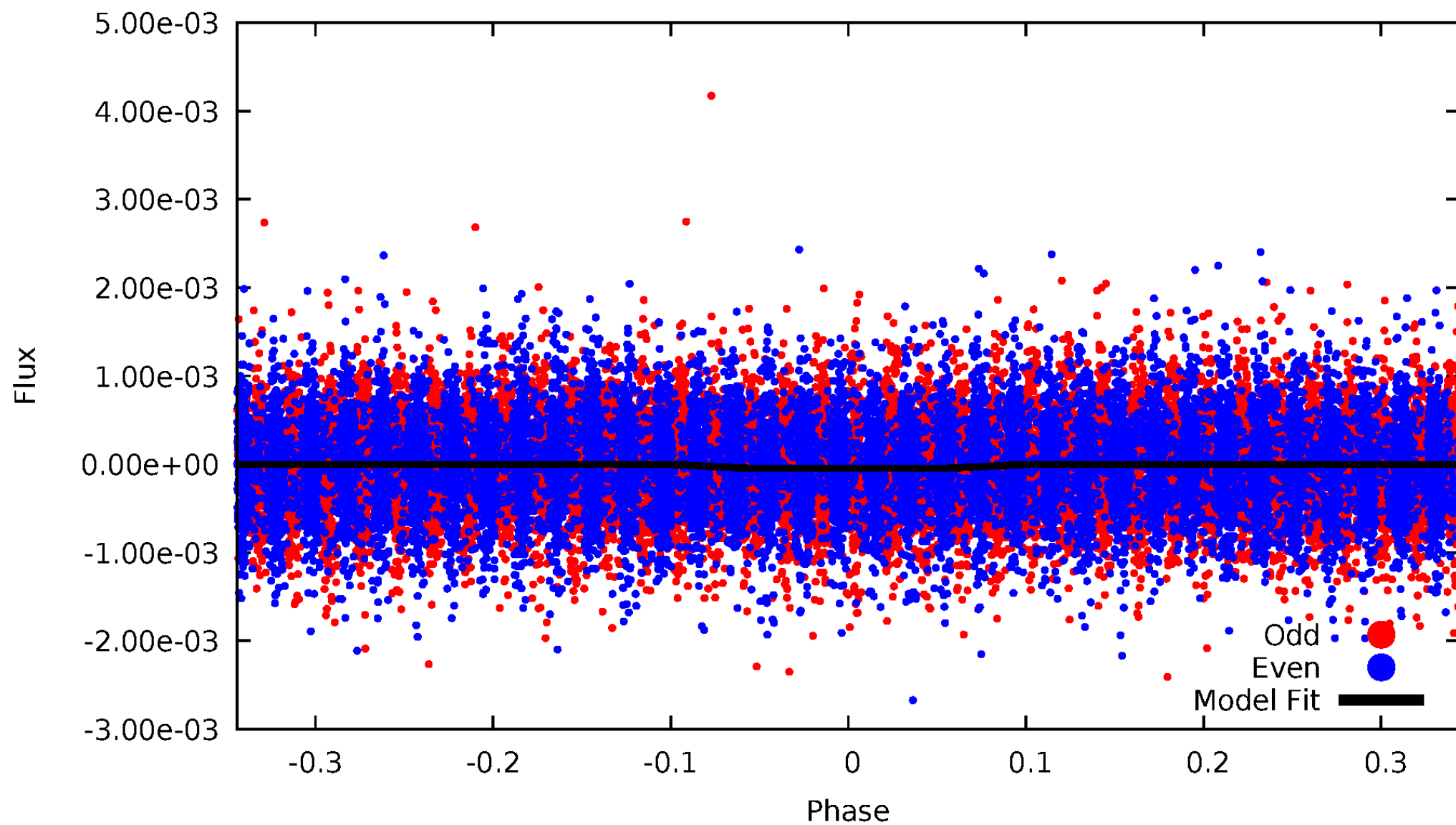


TCE 006783879-02



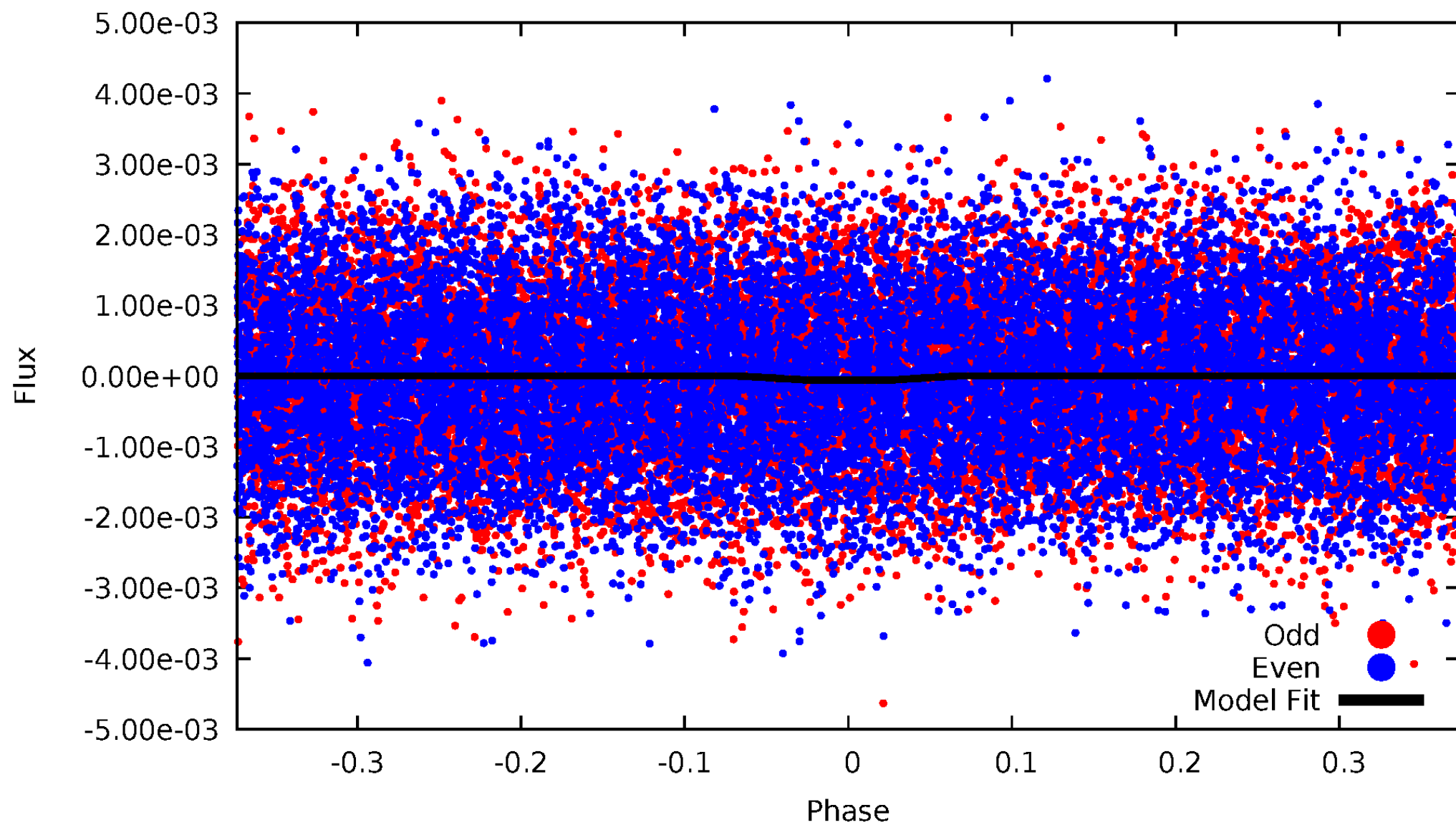
DV Odd/Even

TCE 006783879-02



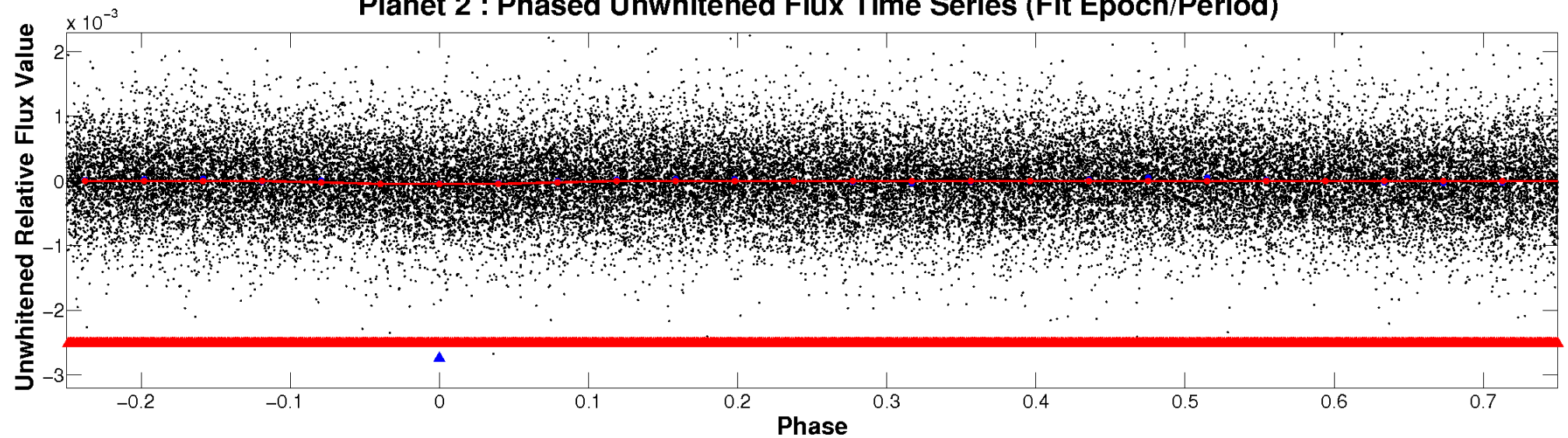
ALT Odd/Even

TCE 006783879-02

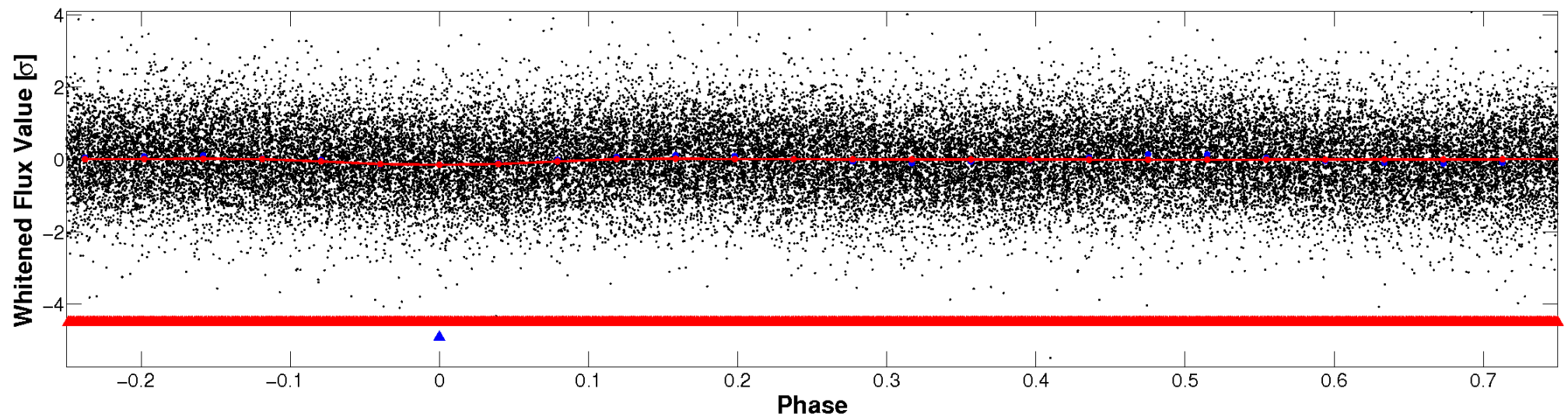


Non-Whitened Vs. Whitened Light Curve

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

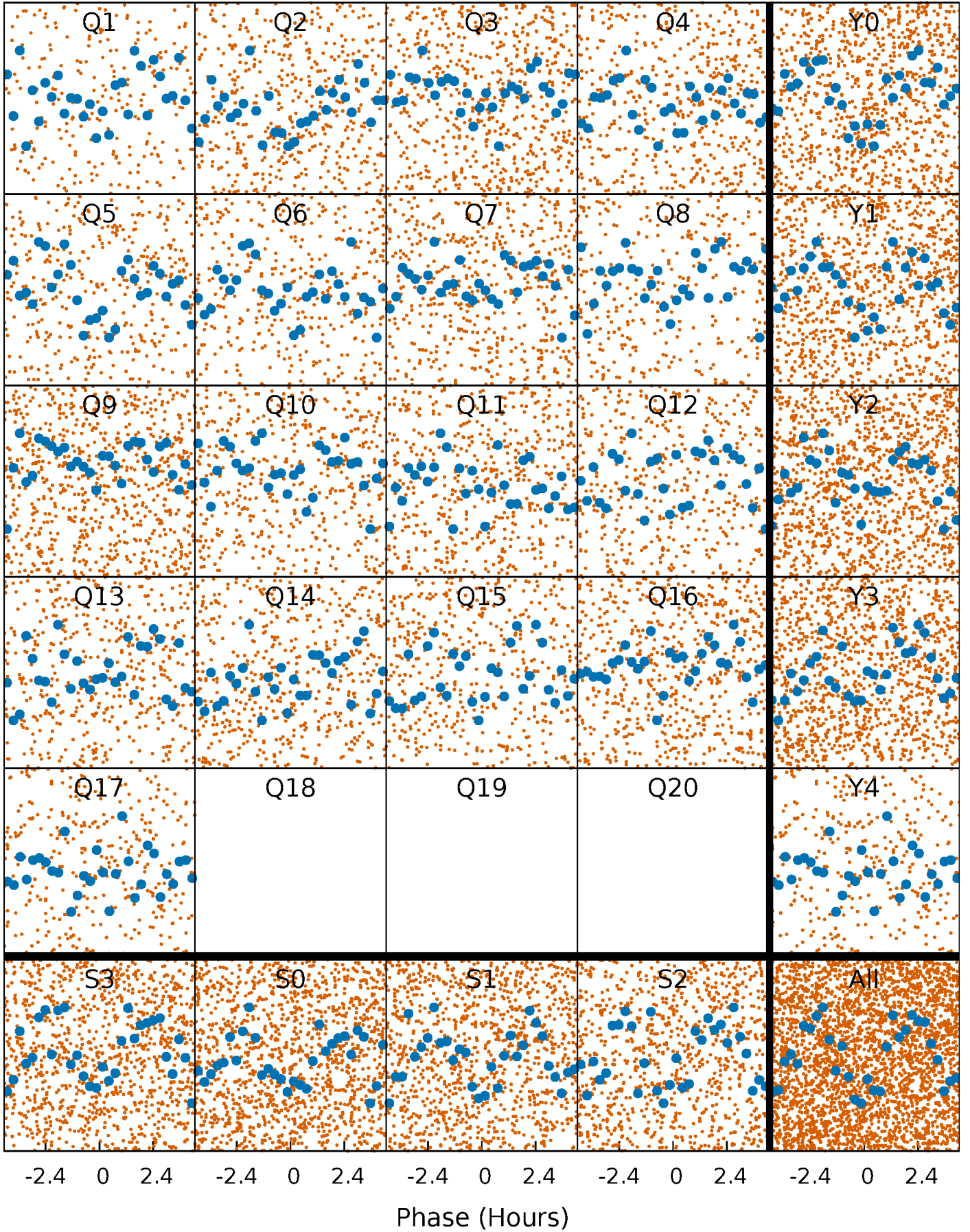


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



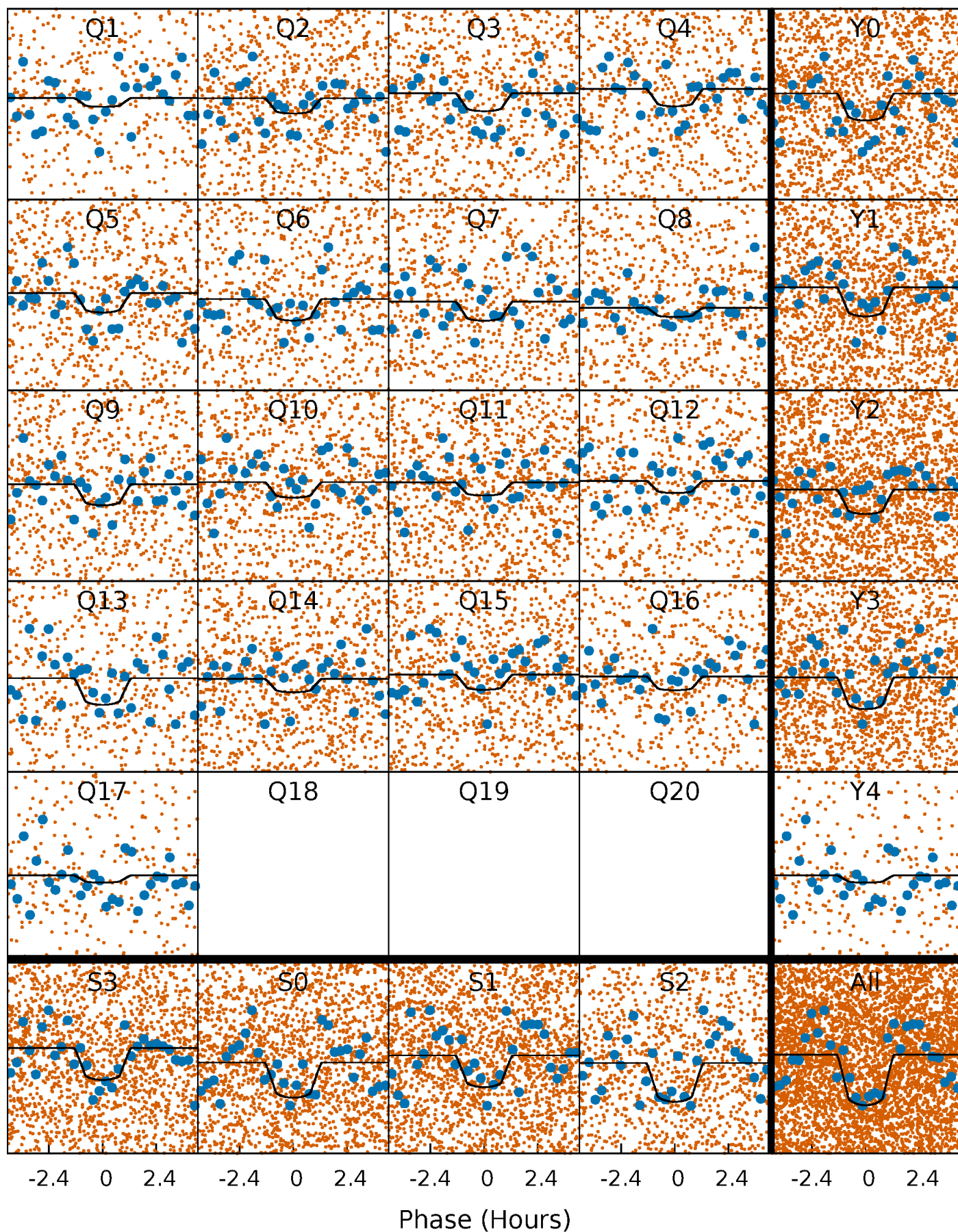
PDC Quarter-Phased Transit Curves

TCE 006783879-02 P= 0.515936 Days $T_0=131.920949$ (BKJD)



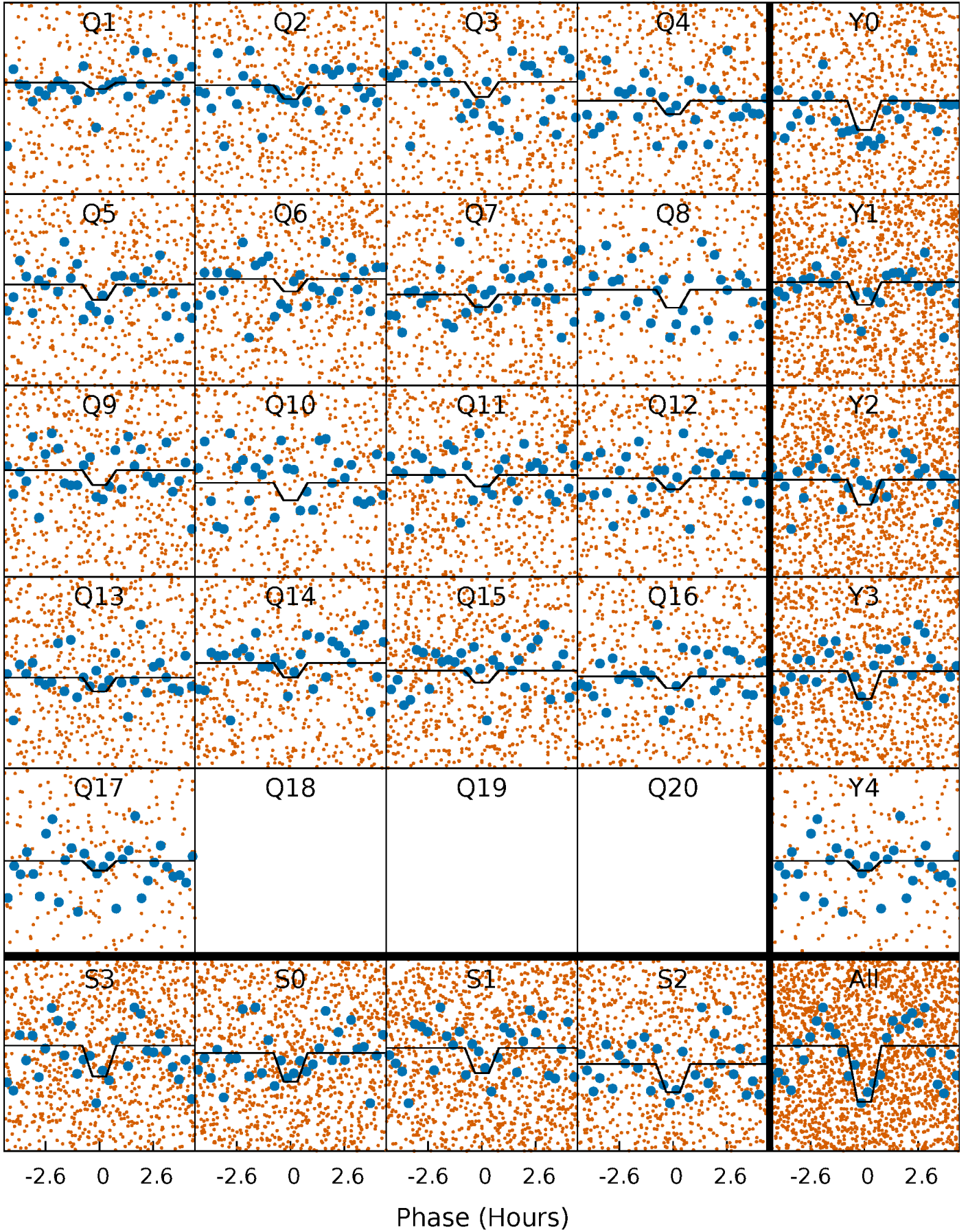
DV Quarter-Phased Transit Curves

TCE 006783879-02 P= 0.515936 Days $T_0=131.920949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

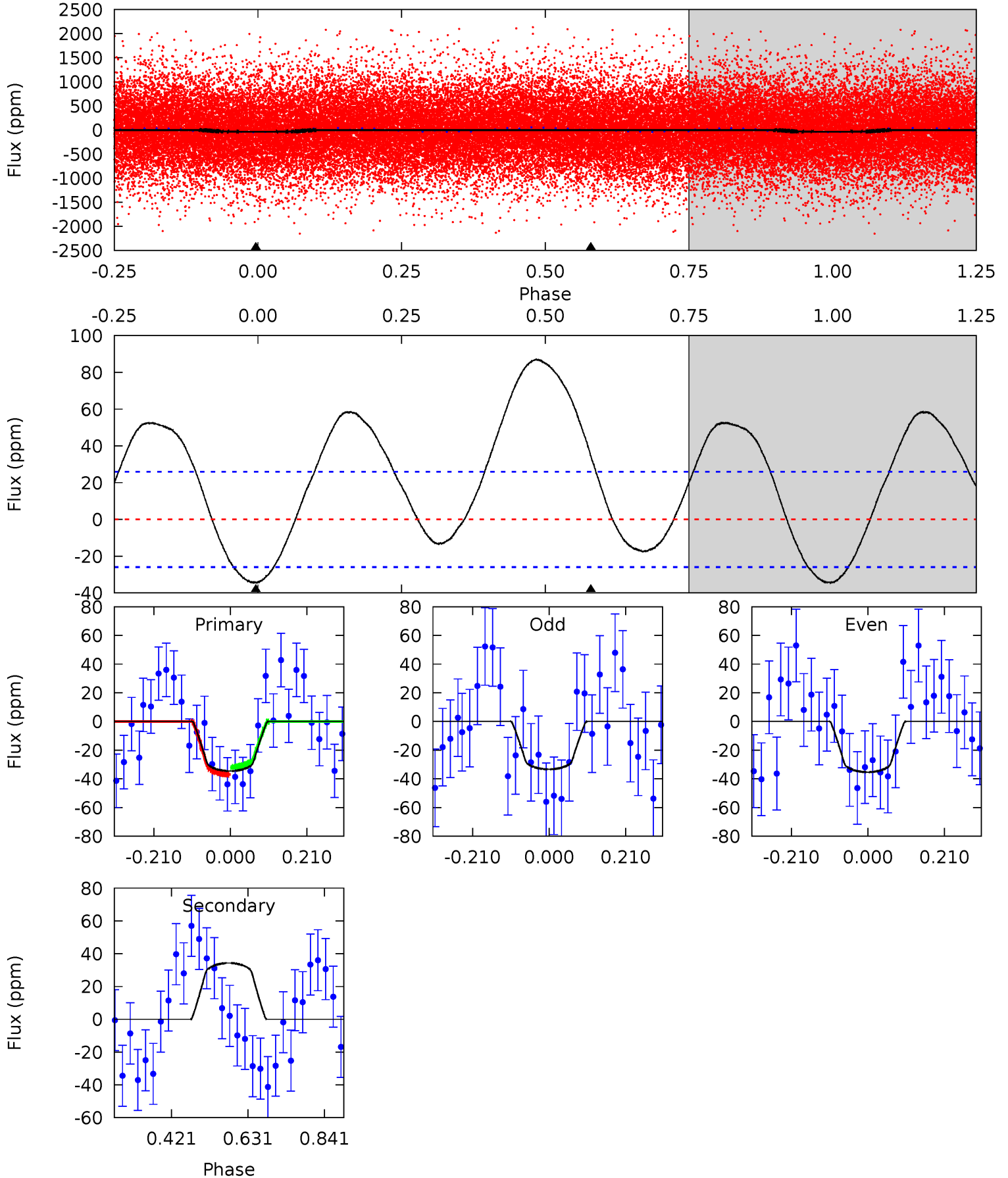
TCE 006783879-02 P= 0.515932 Days $T_0=131.921114$ (BKJD)



DV Model-Shift Uniqueness Test

006783879-02, P = 0.515936 Days, E = 131.405013 Days

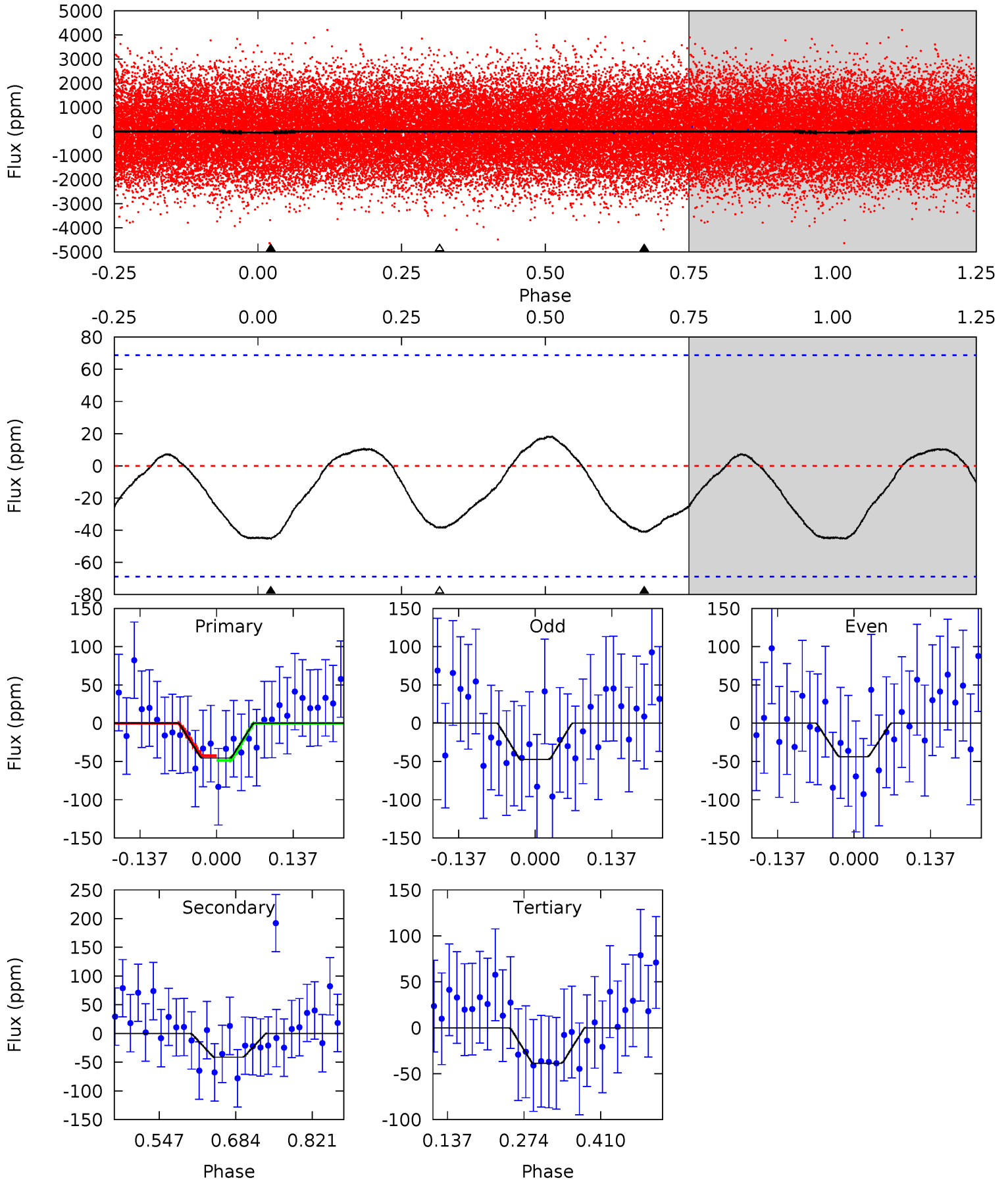
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.87	-5.83	0	0	4.41	1.25	2.98	5.87	5.87	-5.83	-5.83	0.17	1.03	0.72	0.44



Alt Model-Shift Uniqueness Test

006783879-02, P = 0.515932 Days, E = 131.405182 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.98	2.70	2.53	0	4.50	1.49	1.18	0.45	2.98	0.18	2.70	0.12	0.72	0.29	0.20



Stellar Parameters For KIC 006783879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8321^{+201}_{-374}	$3.758^{+0.398}_{-0.106}$	$-0.140^{+0.300}_{-0.400}$	$3.118^{+0.767}_{-1.425}$	$2.032^{+0.344}_{-0.473}$	$0.094^{+0.378}_{-0.037}$
	+2%/-4%	+11%/-3%	+214%/-286%	+25%/-46%	+17%/-23%	+400%/-39%
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 006783879-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	34 ± 6	$2.25^{+1.71}_{-1.21}$	6951^{+520}_{-910}	-7848^{+1422}_{-5723}	$-0.925^{+0.625}_{-3.681}$
Alt.	-41 ± 15	$2.43^{+1.56}_{-1.33}$	6898^{+547}_{-724}	6418^{+5227}_{-3089}	$0.904^{+3.471}_{-0.587}$

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

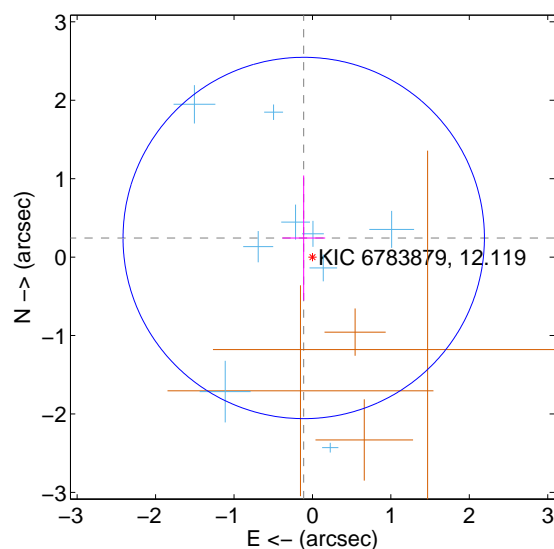
Supplemental centroid analysis for 006783879-02. Kepler magnitude: 12.12. Transit SNR 9.63

There are 9 quarters with good PRF difference image offsets

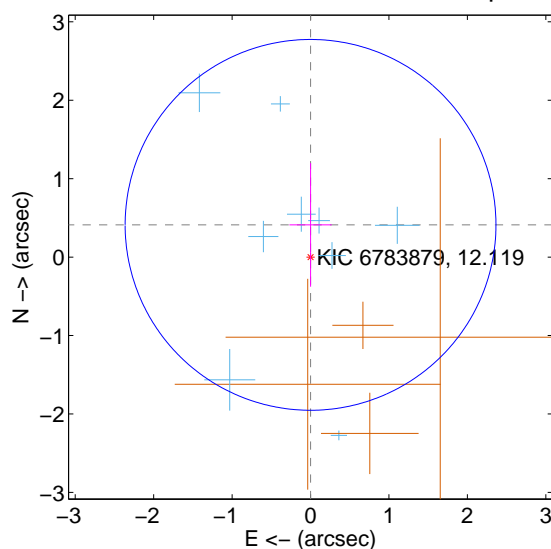
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.268 ± 0.768	0.35	0.111 ± 0.274	0.244 ± 0.797
PRF-fit source offset from KIC position	0.411 ± 0.788	0.52	-0.000 ± 0.269	0.411 ± 0.788
photometric centroid source offset	0.50 ± 0.18	2.79	-0.41 ± 0.18	-0.29 ± 0.18

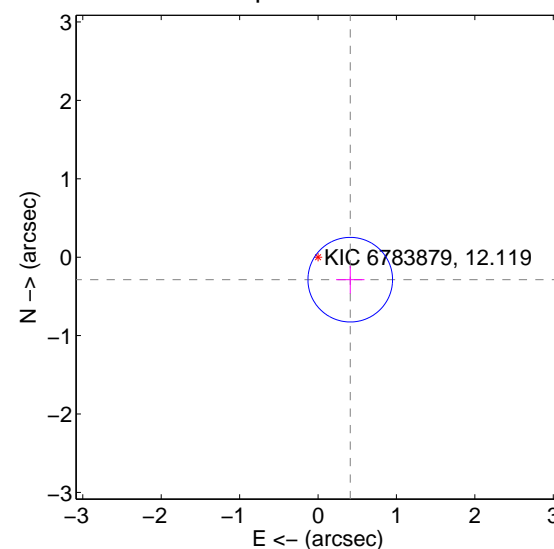
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

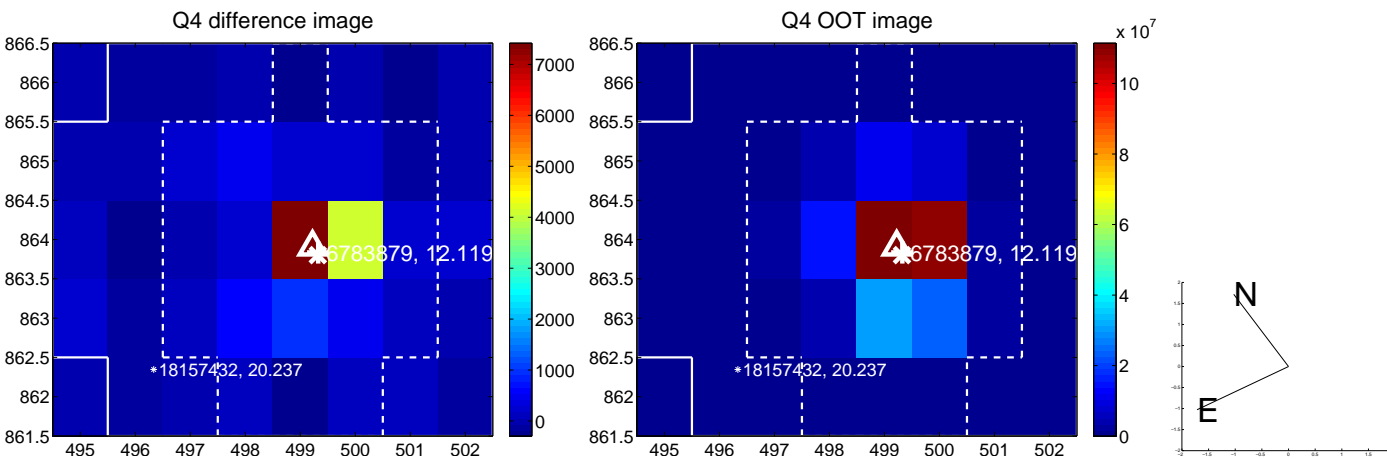
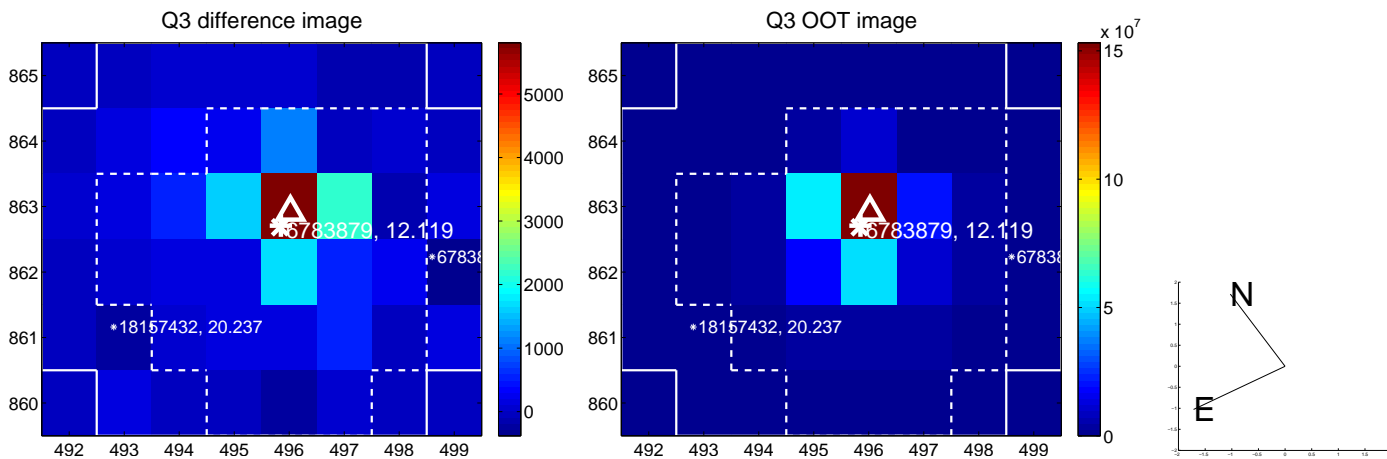
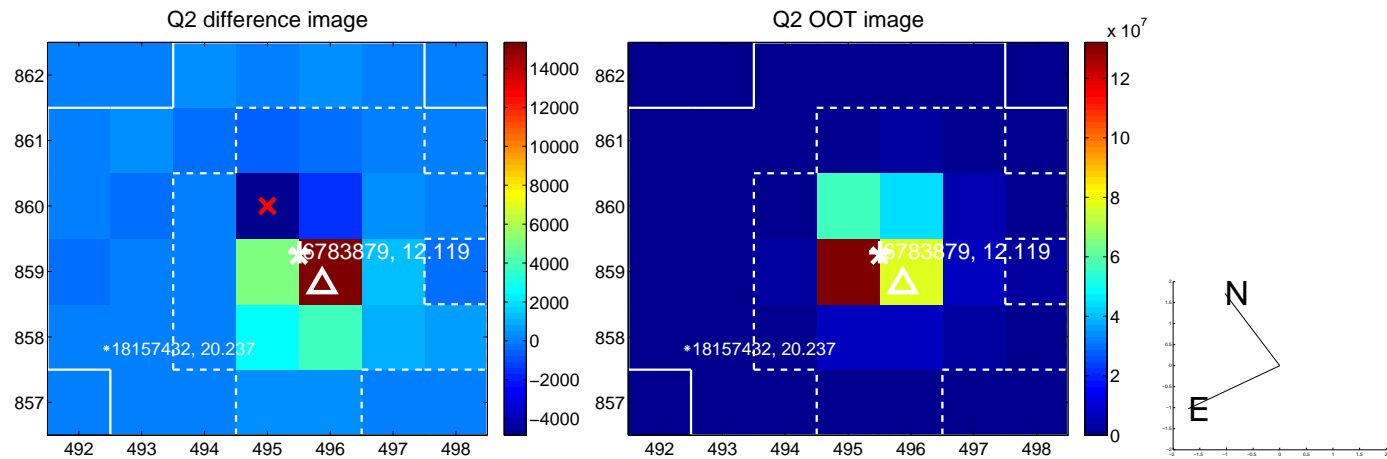
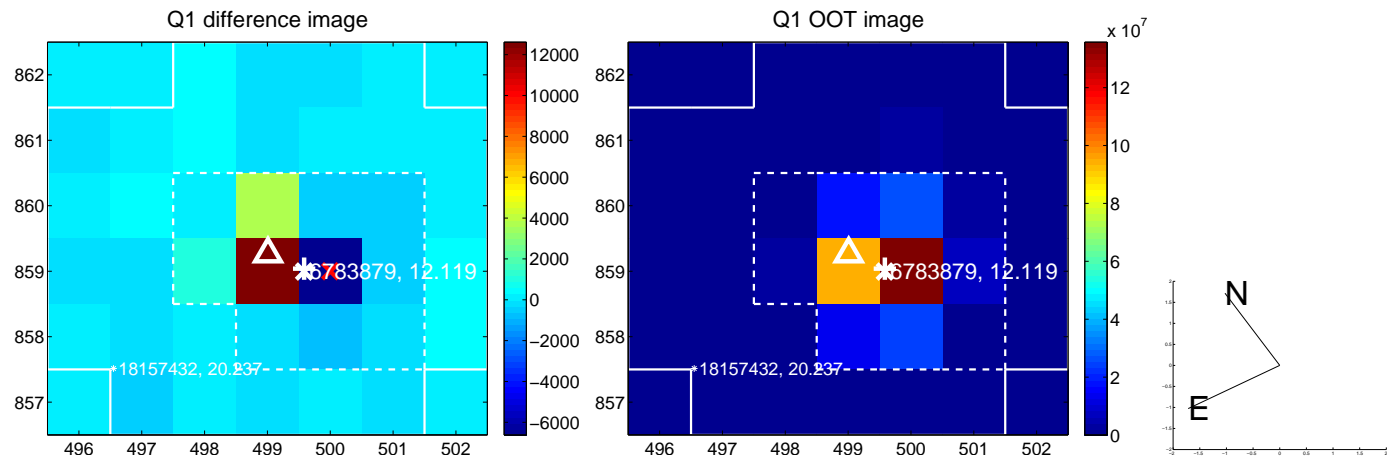


offset from photometric centroids

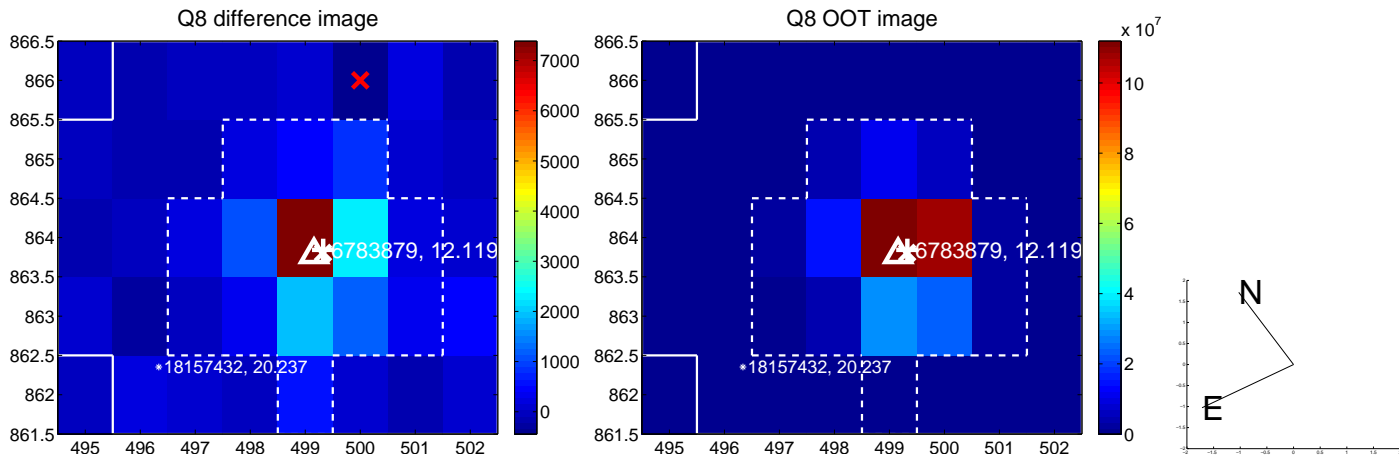
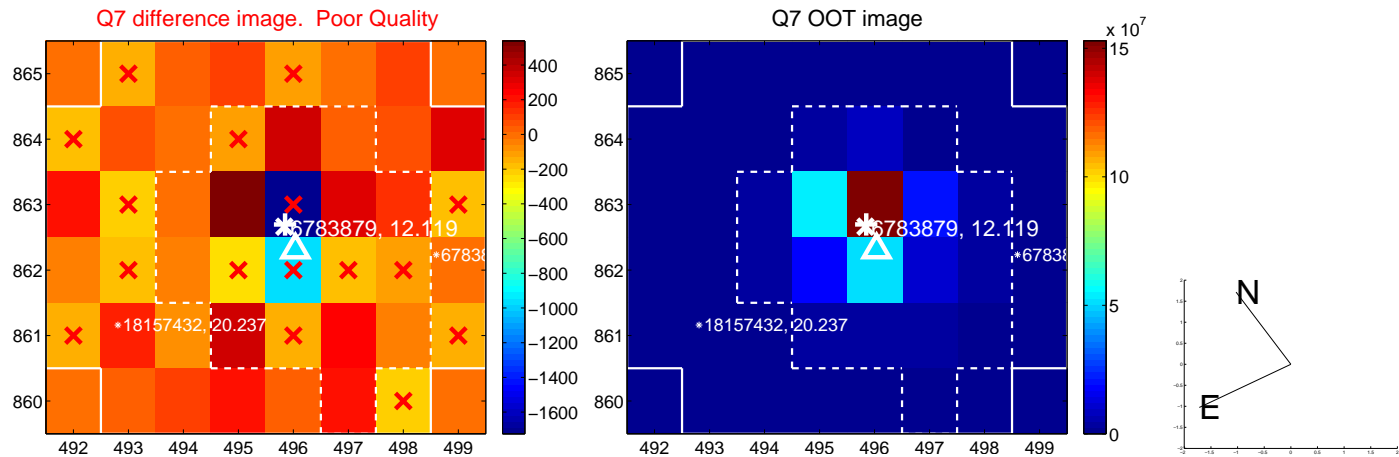
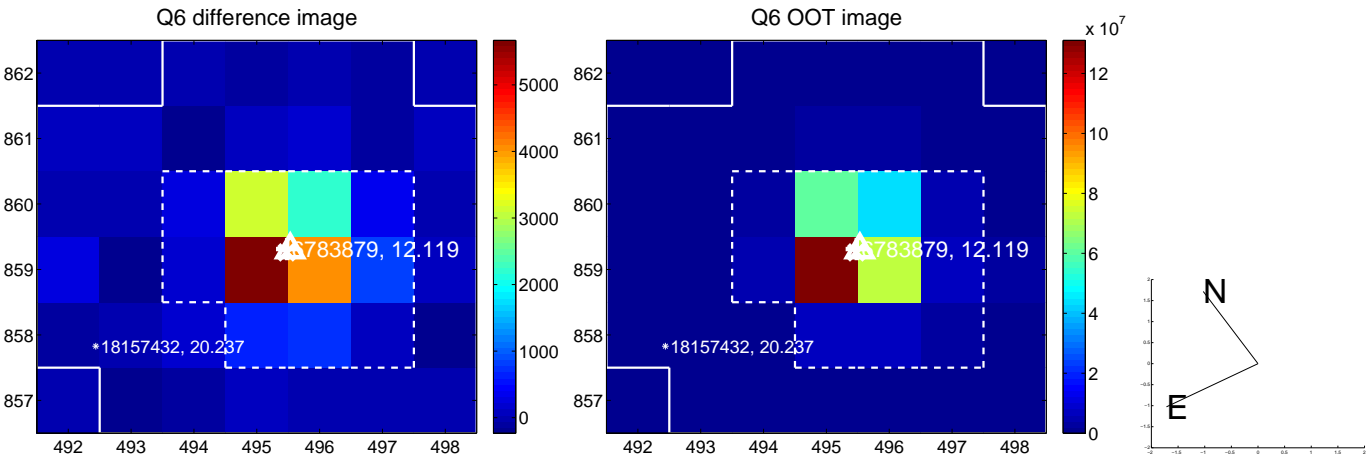
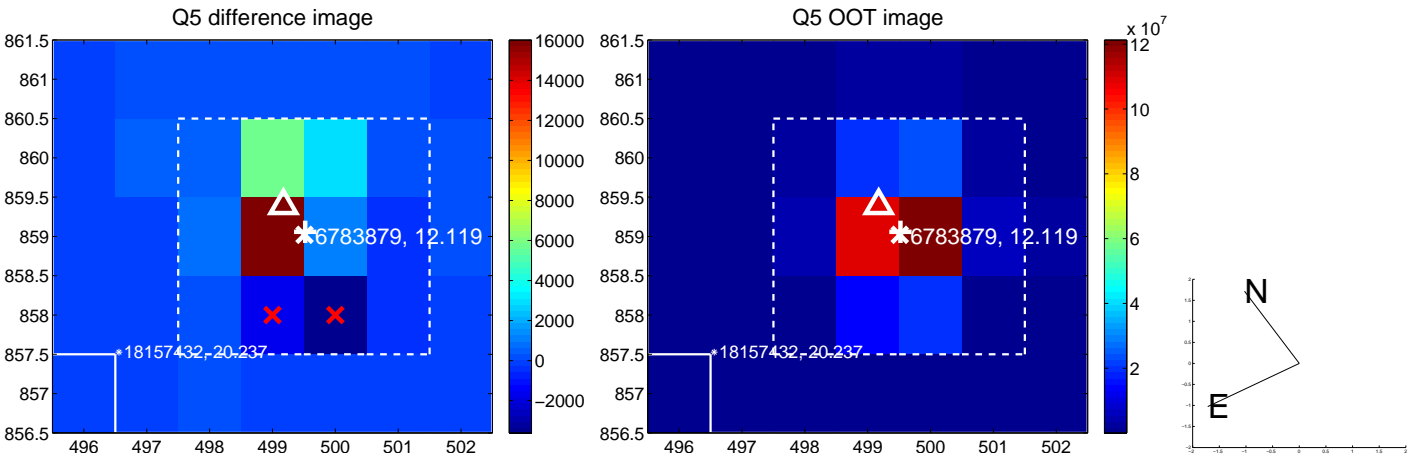


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

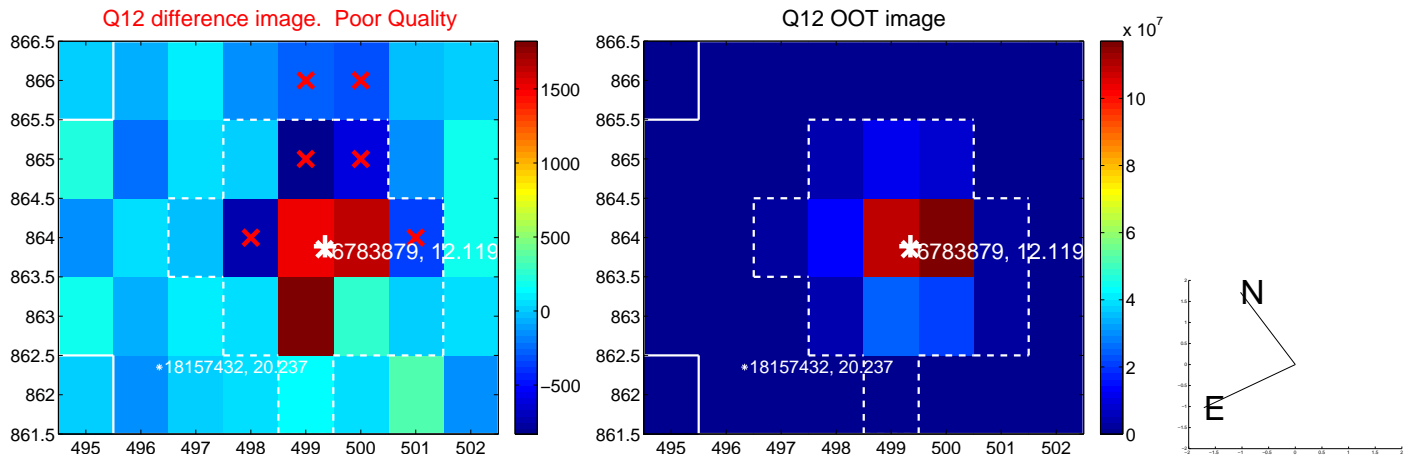
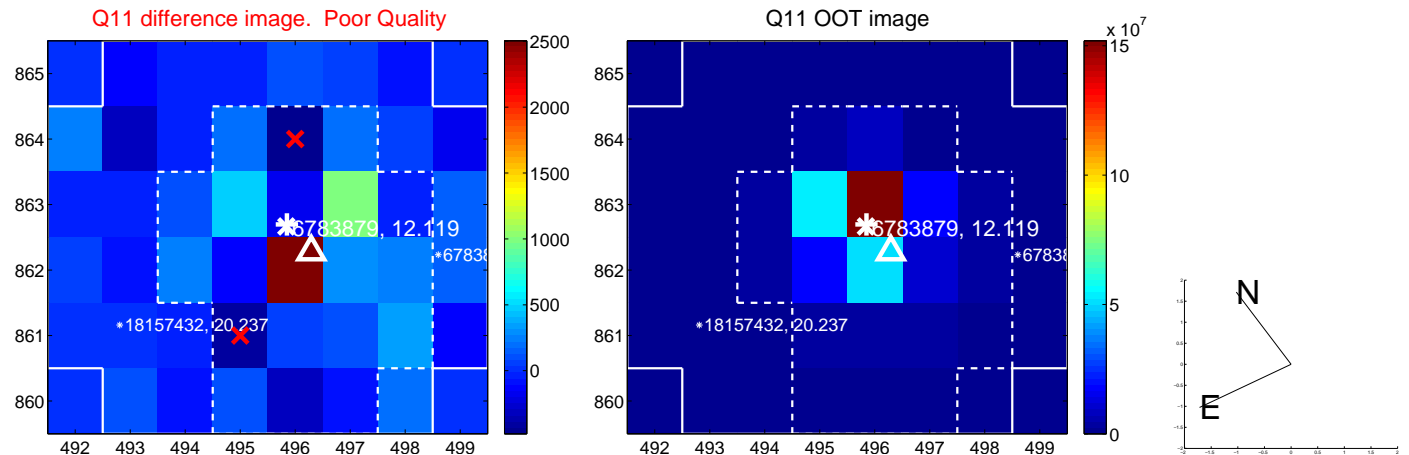
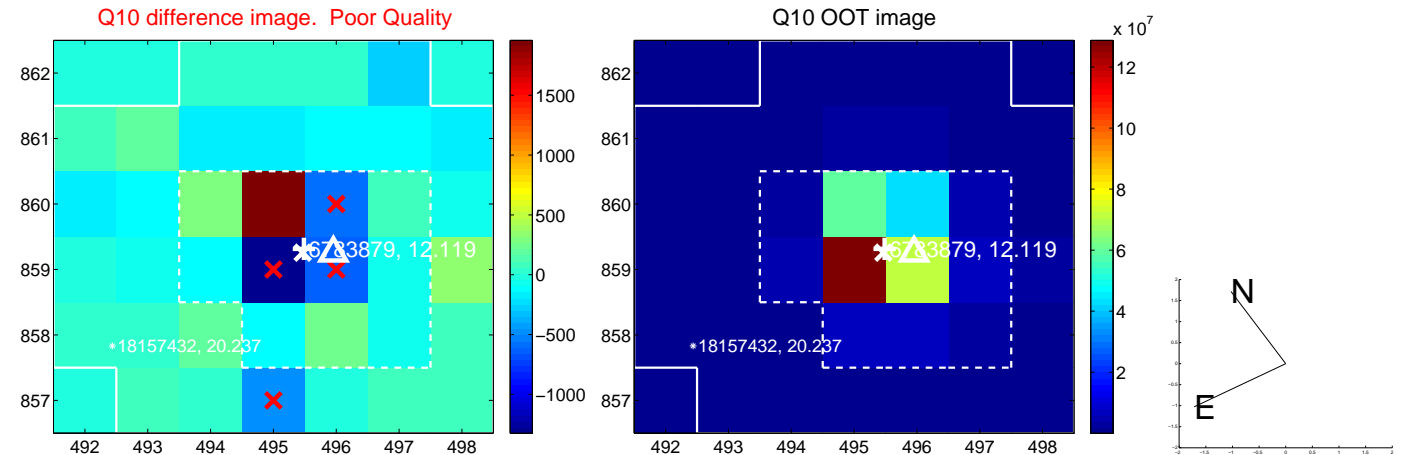
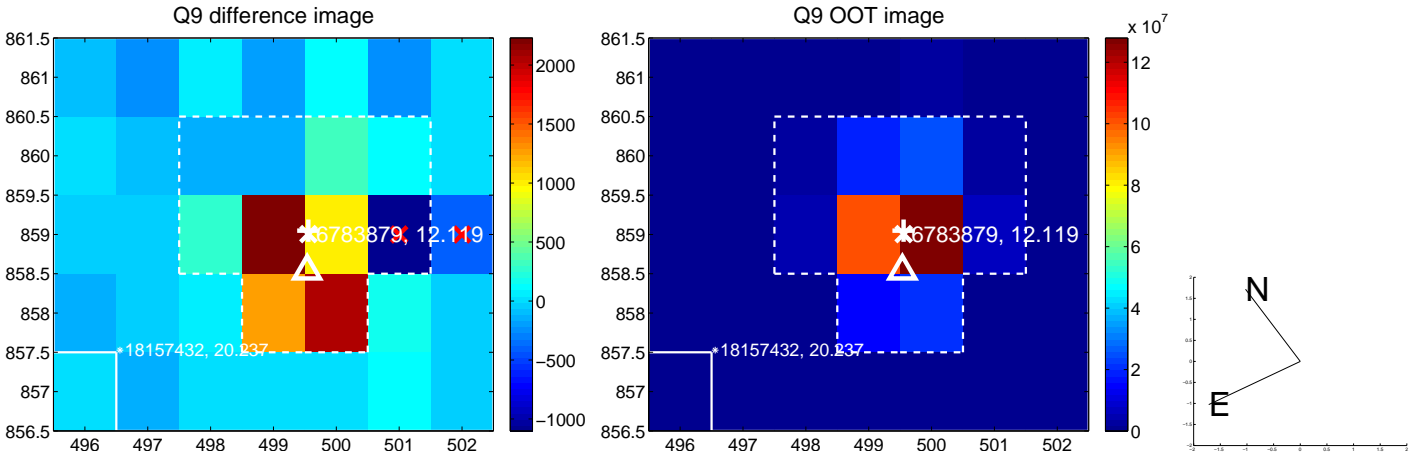
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



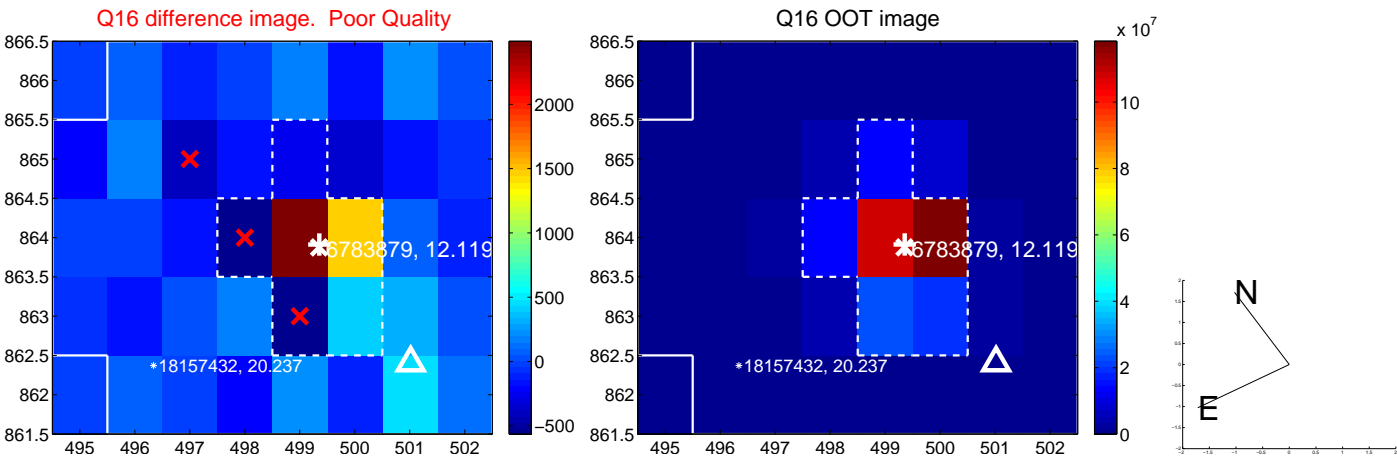
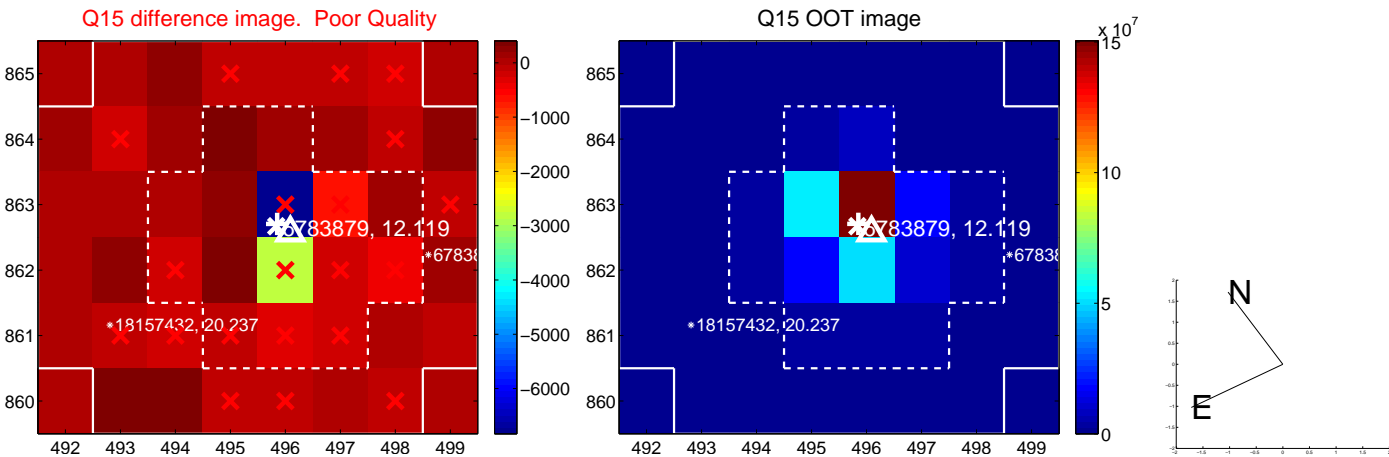
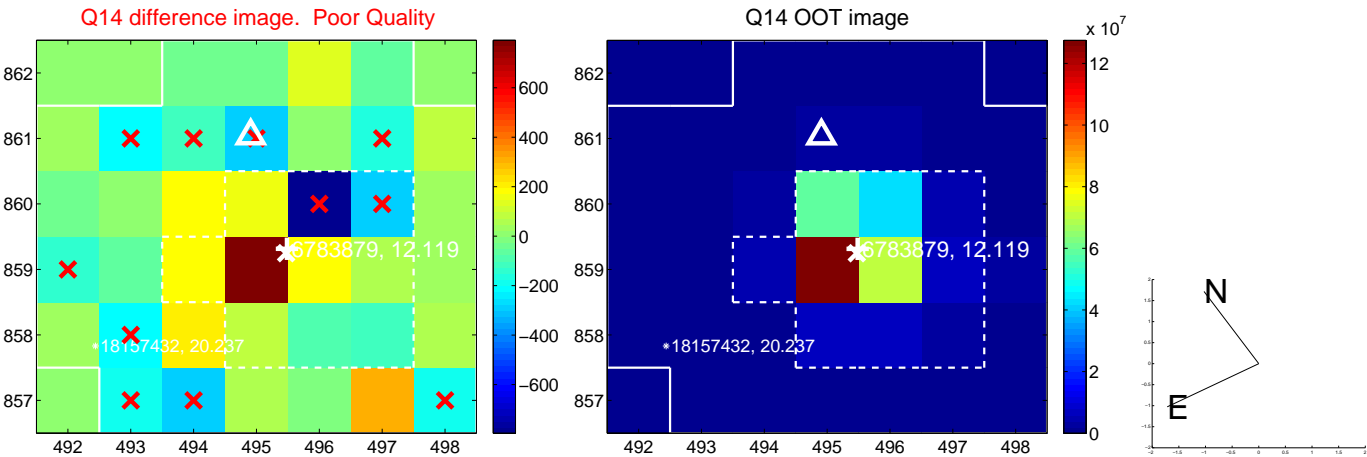
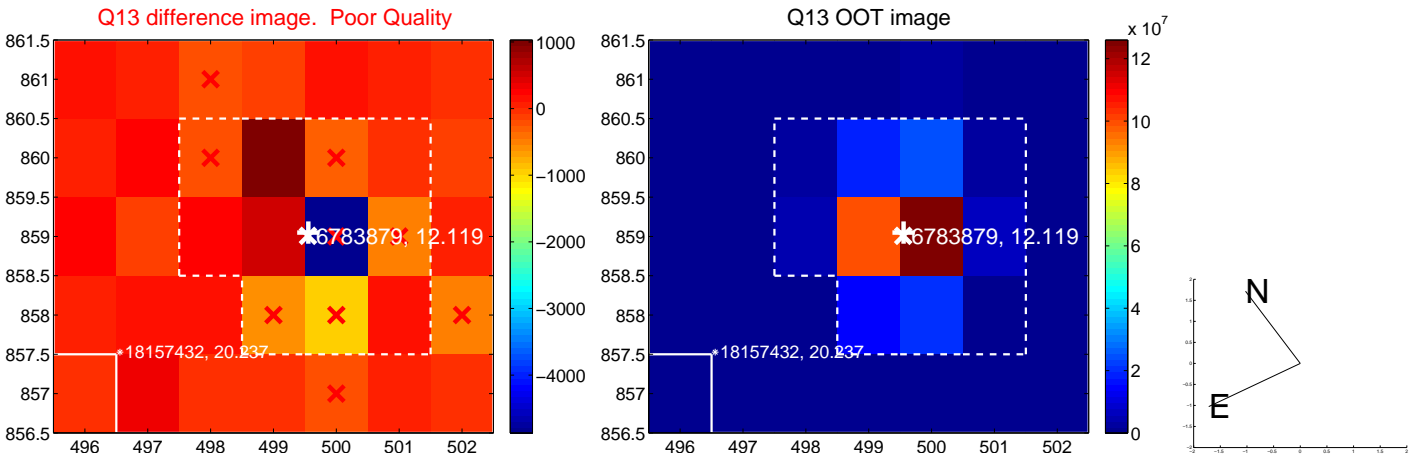
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



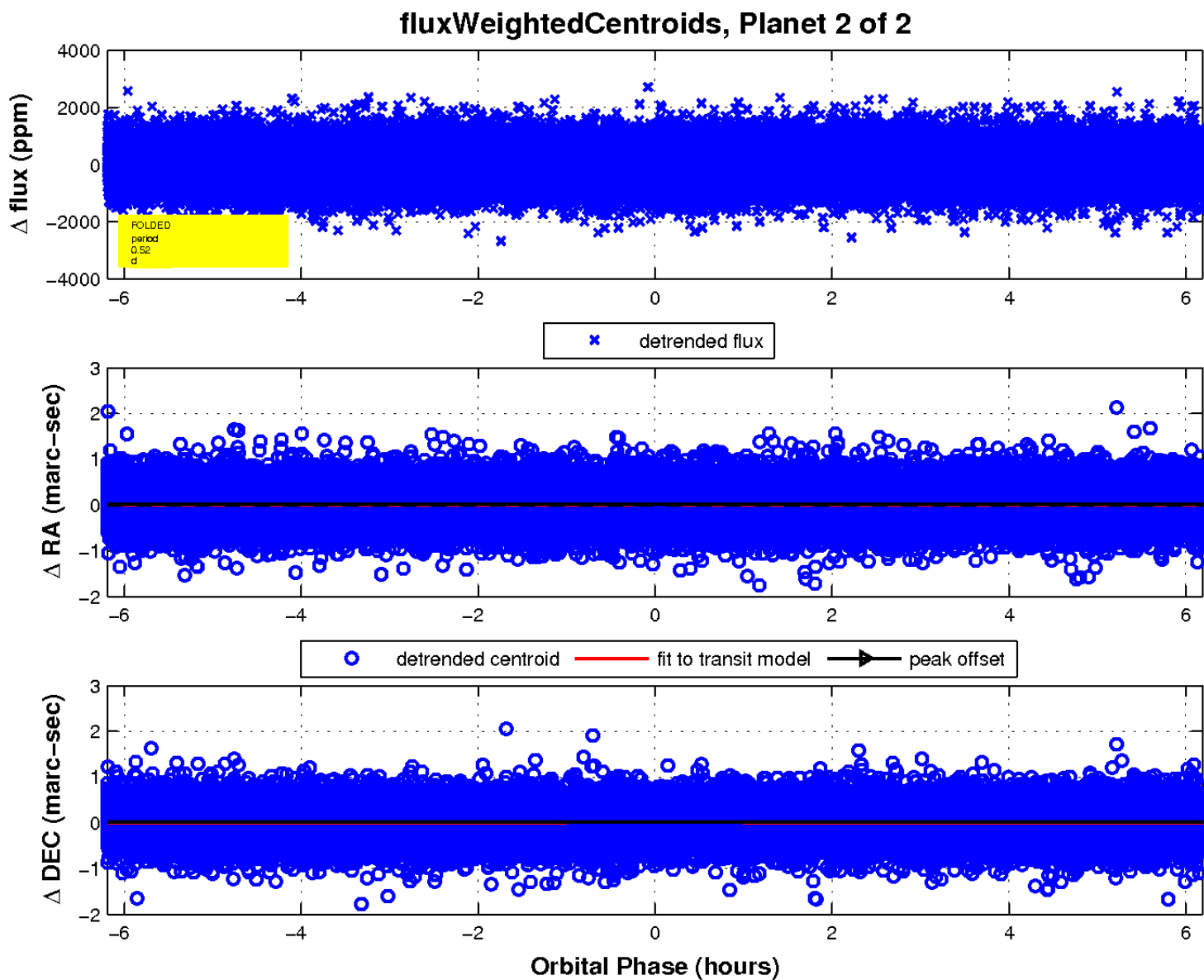
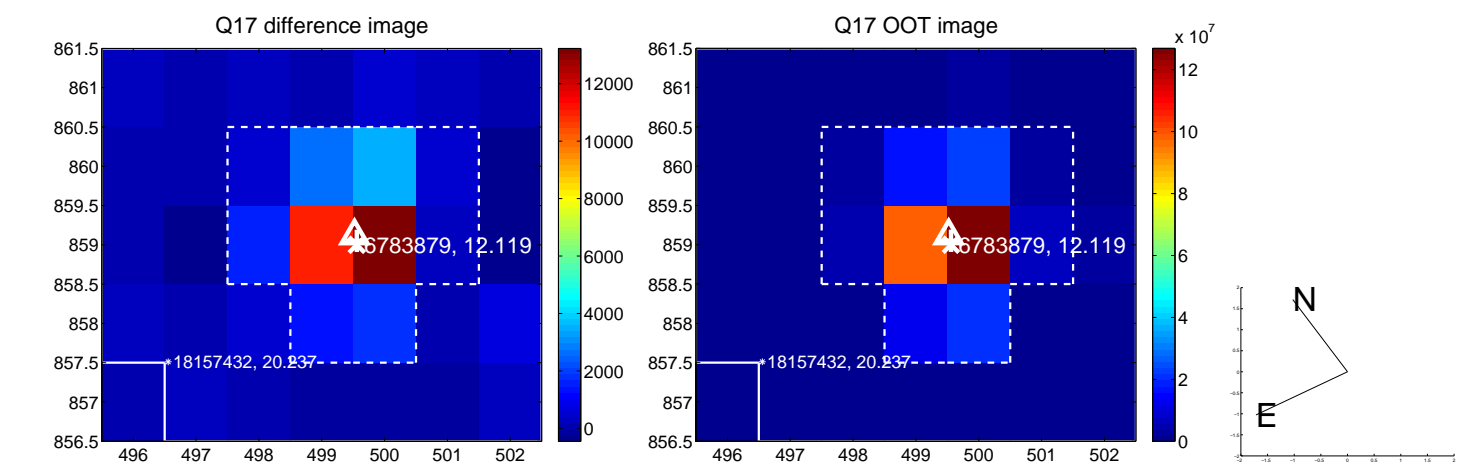
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

