

KIC 005480736

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})
005480736-01	OBS	3904.01	8.567509	136.059755	359.9	5.460	14.5	16.4	1.05	6212	3.82	211.47
005480736-02	OBS	No	8.567558	131.542264	364.9	4.155	14.3	16.2	1.05	6212	3.64	211.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005480736-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005480736-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

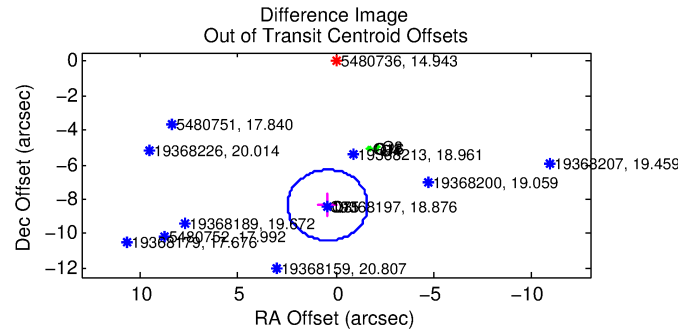
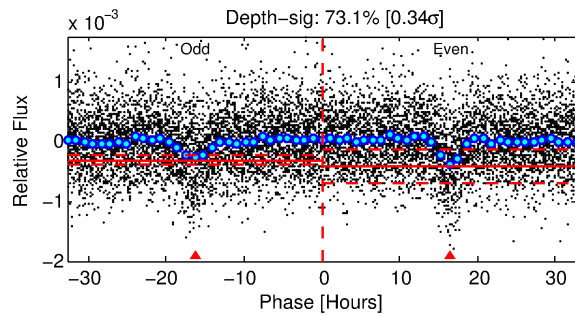
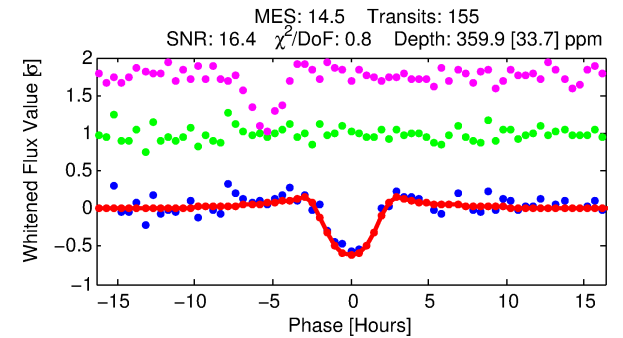
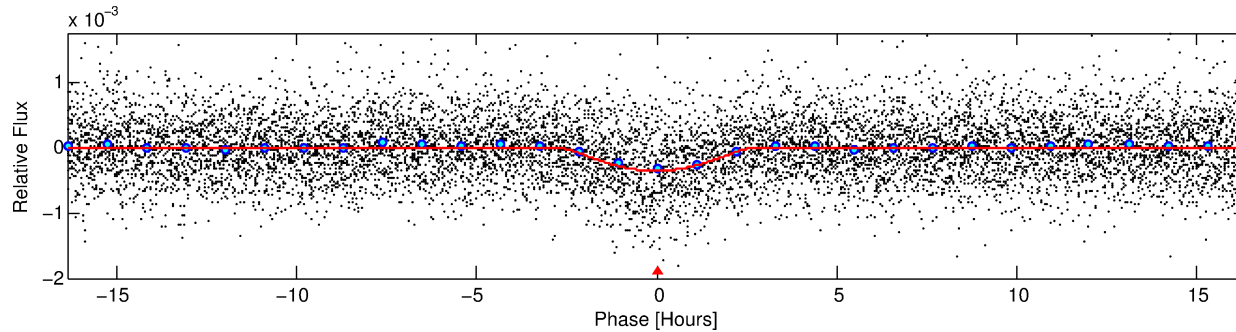
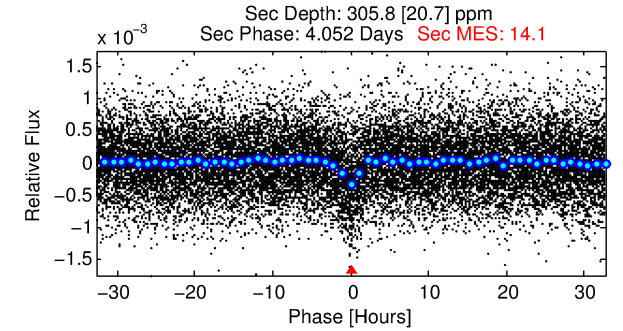
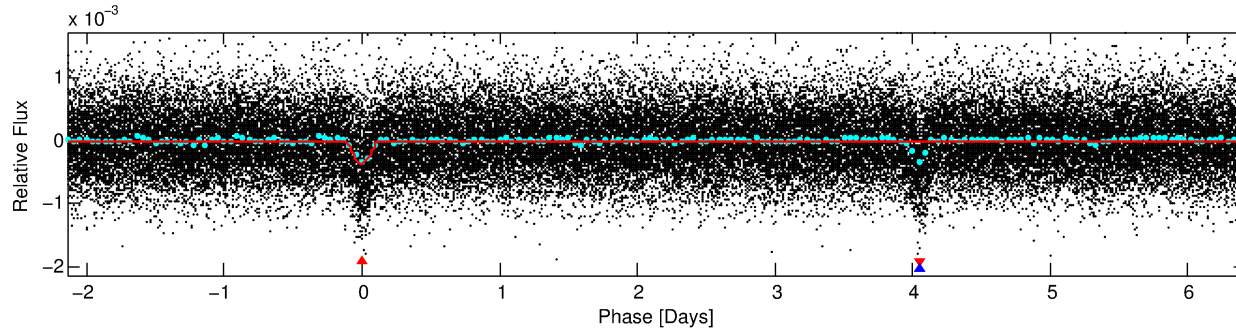
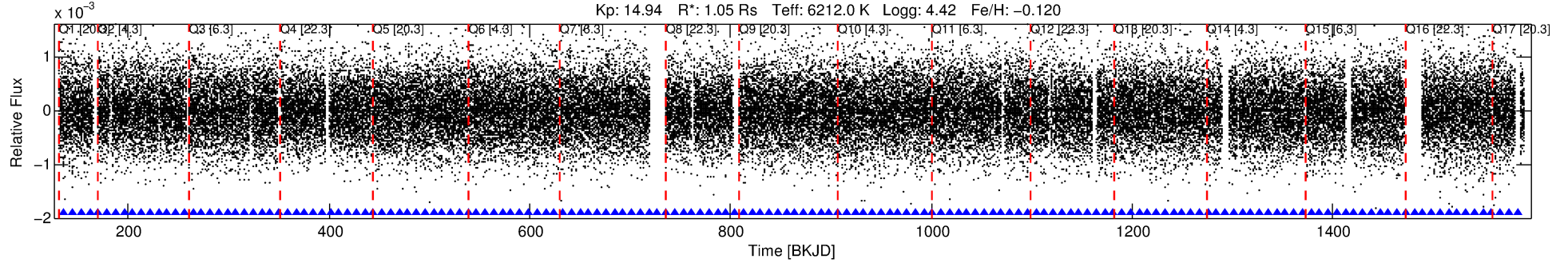
Ephemeris Match Information For 005480736-01

No Significant Match Found

DV One-Page Summary

KIC: 5480736 Candidate: 1 of 2 Period: 8.568 d
KOI: K03904.01 Corr: 0.990

Kp: 14.94 R*: 1.05 Rs Teff: 6212.0 K Logg: 4.42 Fe/H: -0.120



DV Fit Results:

Period = 8.56751 [0.00007] d
Epoch = 136.0598 [0.0064] BKJD
Rp/R* = 0.0333 [0.0544]
a/R* = 3.34 [1.32]
b = 1.00 [0.08]
Seff = 211.47 [89.92]
Teq = 972 [103] K
Rp = 3.82 [6.40] Re
a = 0.0837 [0.0236] AU
Ag = 80.63 [265.95] [0.30σ]
Teff = 4505 [3692] K [0.96σ]

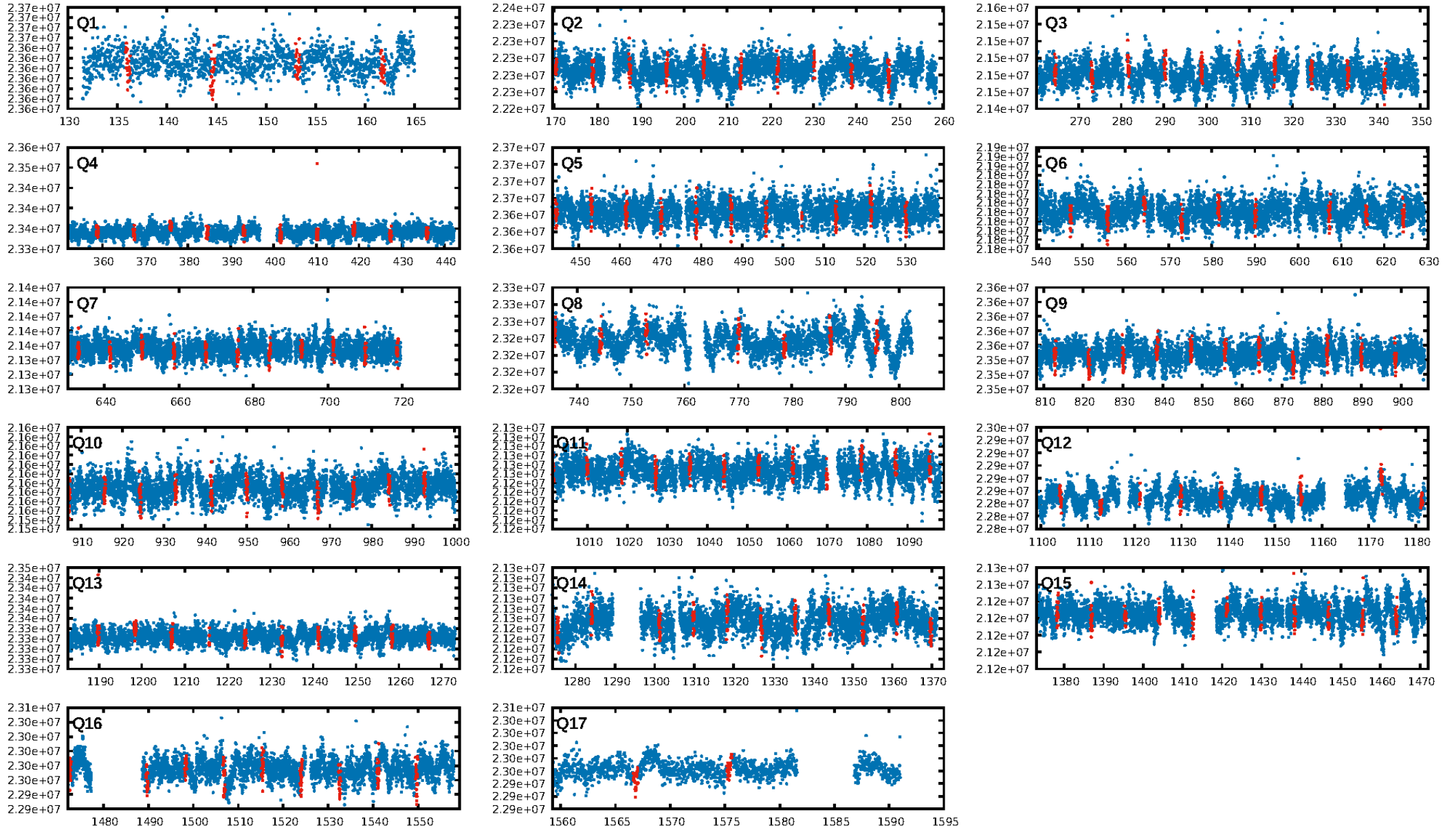
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.79e-46
RollingBand-fgt: 1.00 [149/149]
GhostDiagnostic-chr: -0.3518
Centroid-sig: 0.0%
Centroid-so: 35.729 arcsec [60.46σ]
OotOffset-rm: 8.354 arcsec [12.26σ]
KicOffset-rm: 8.396 arcsec [15.62σ]
OotOffset-st: 0/4/0 [8]
KicOffset-st: 0/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

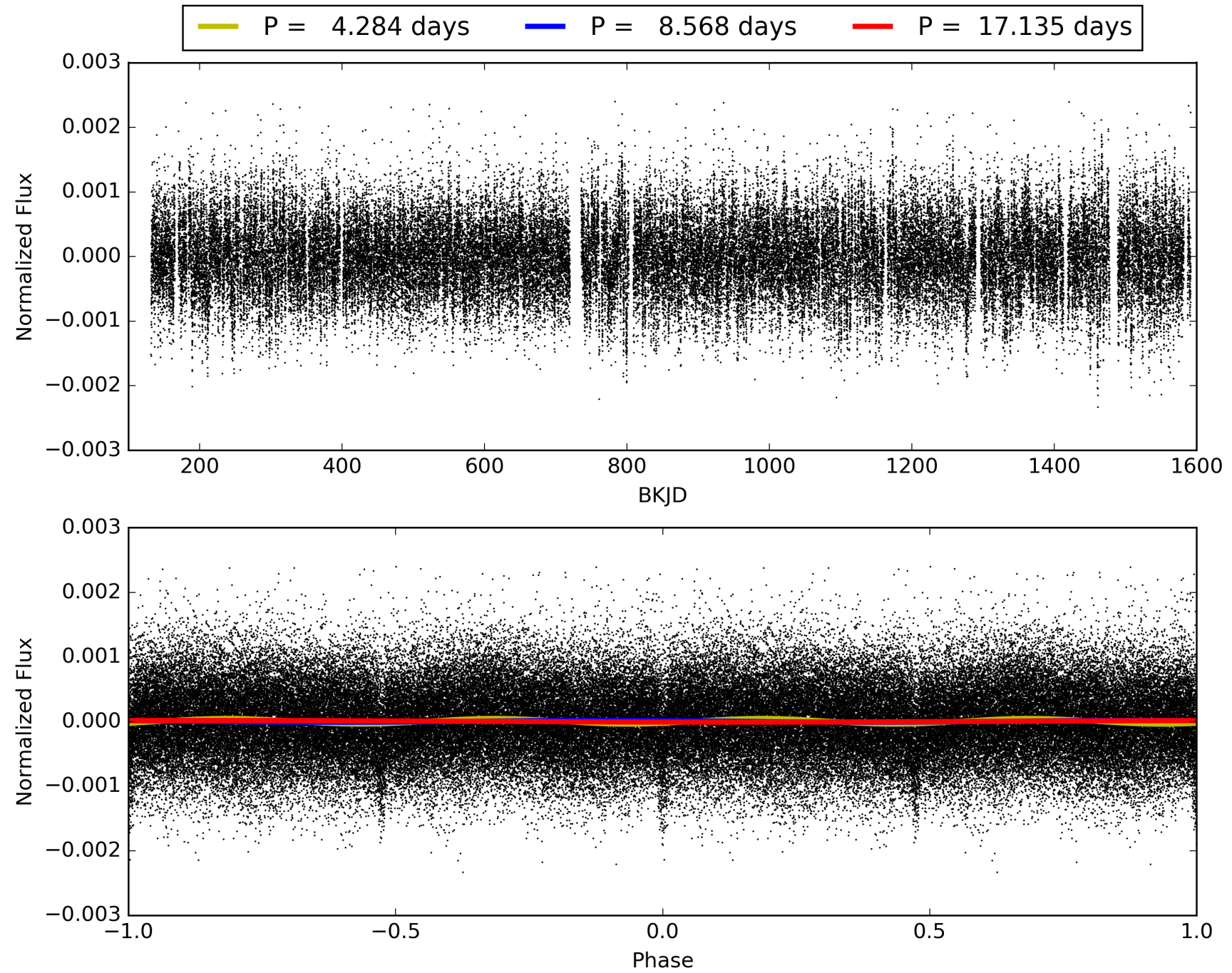
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:21:19 Z

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

TCE 005480736-01, PDC Light Curves

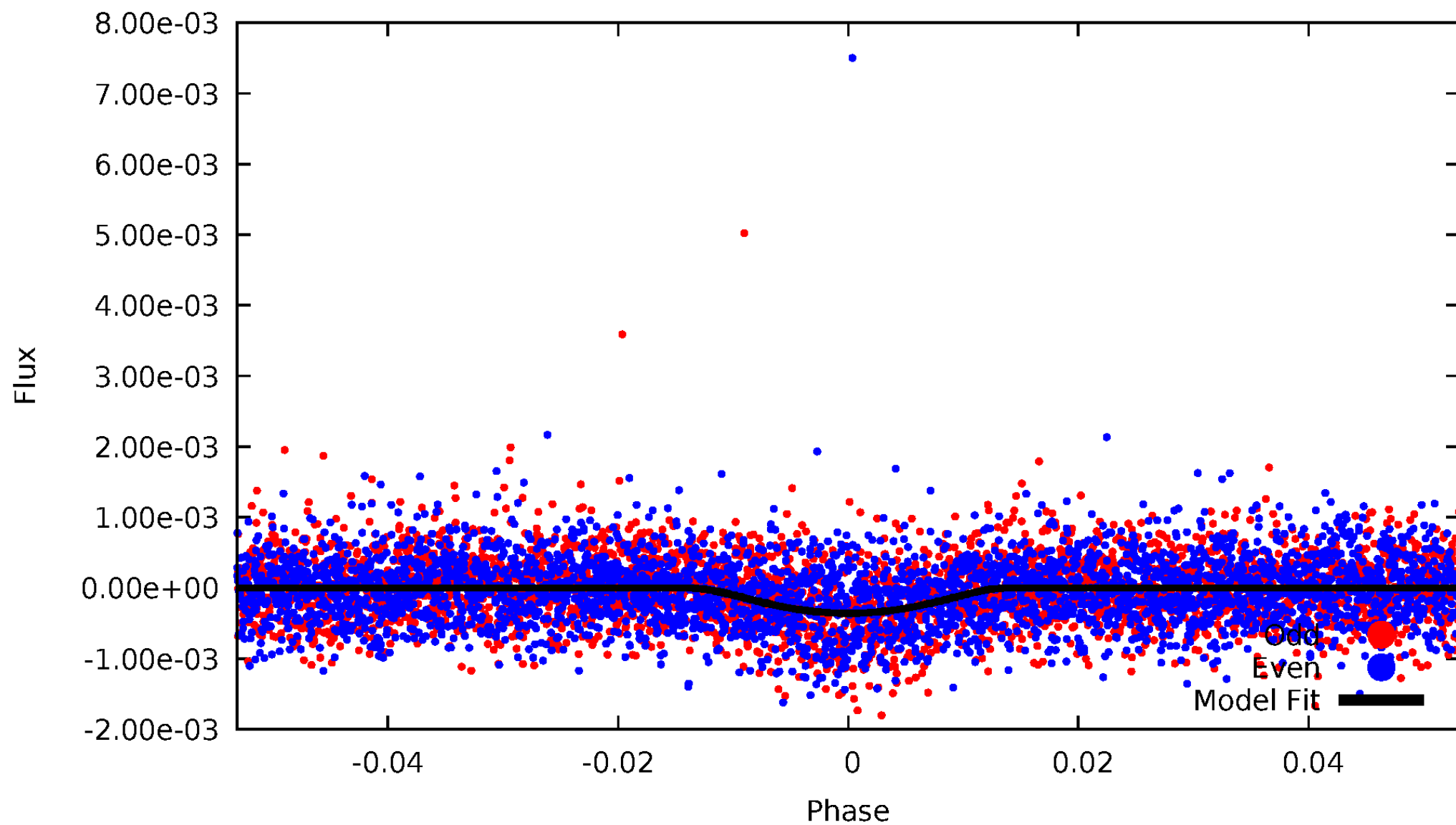


TCE 005480736-01



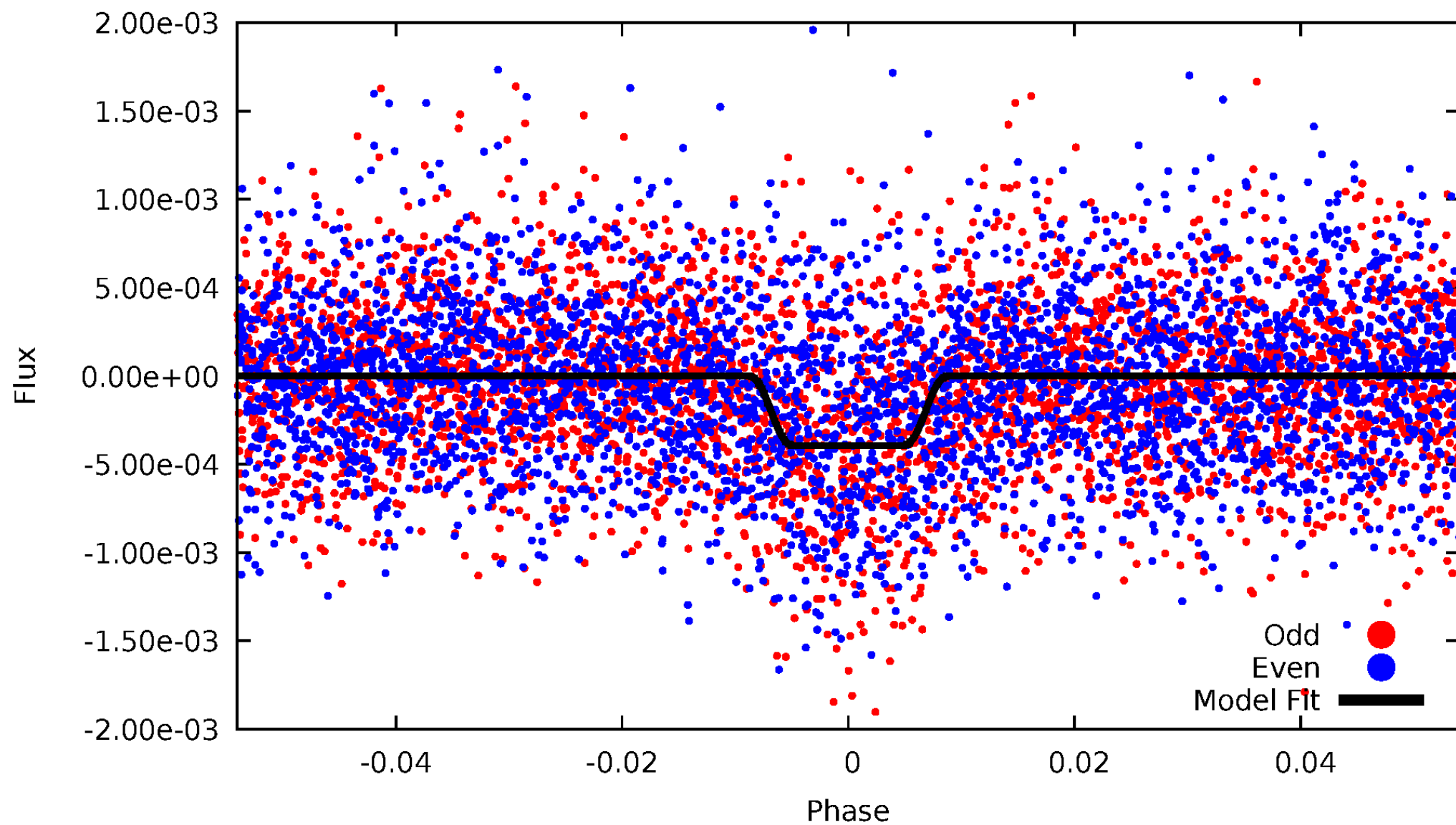
DV Odd/Even

TCE 005480736-01



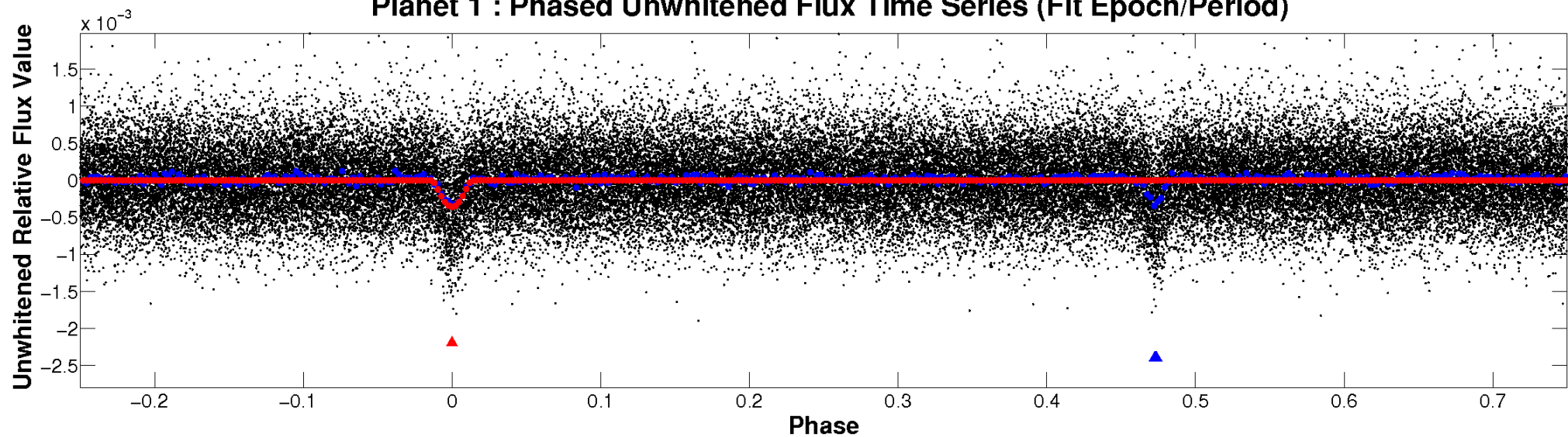
ALT Odd/Even

TCE 005480736-01

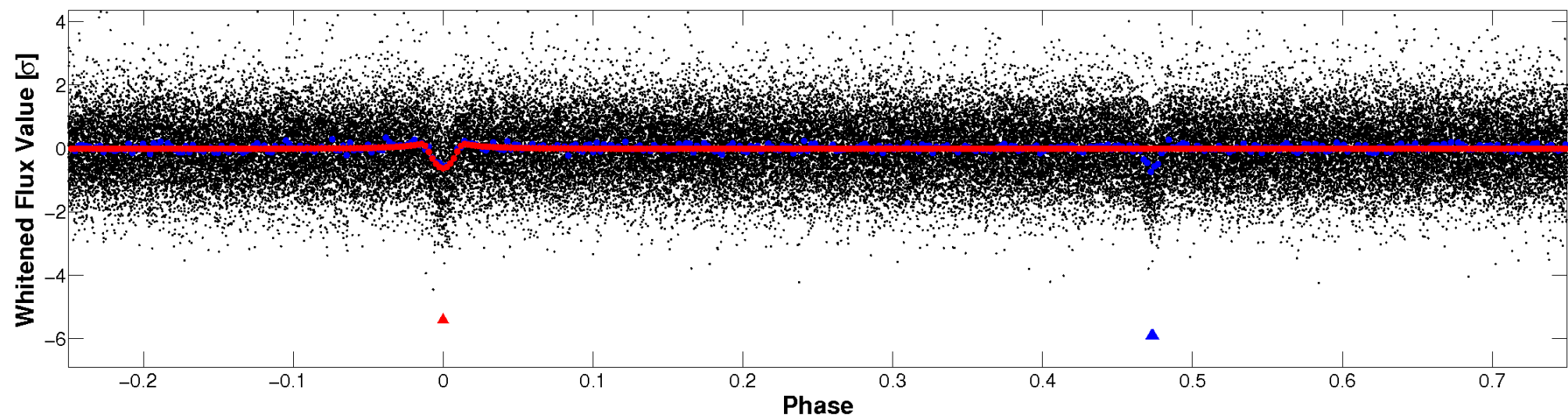


Non-Whitened Vs. Whitened Light Curve

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

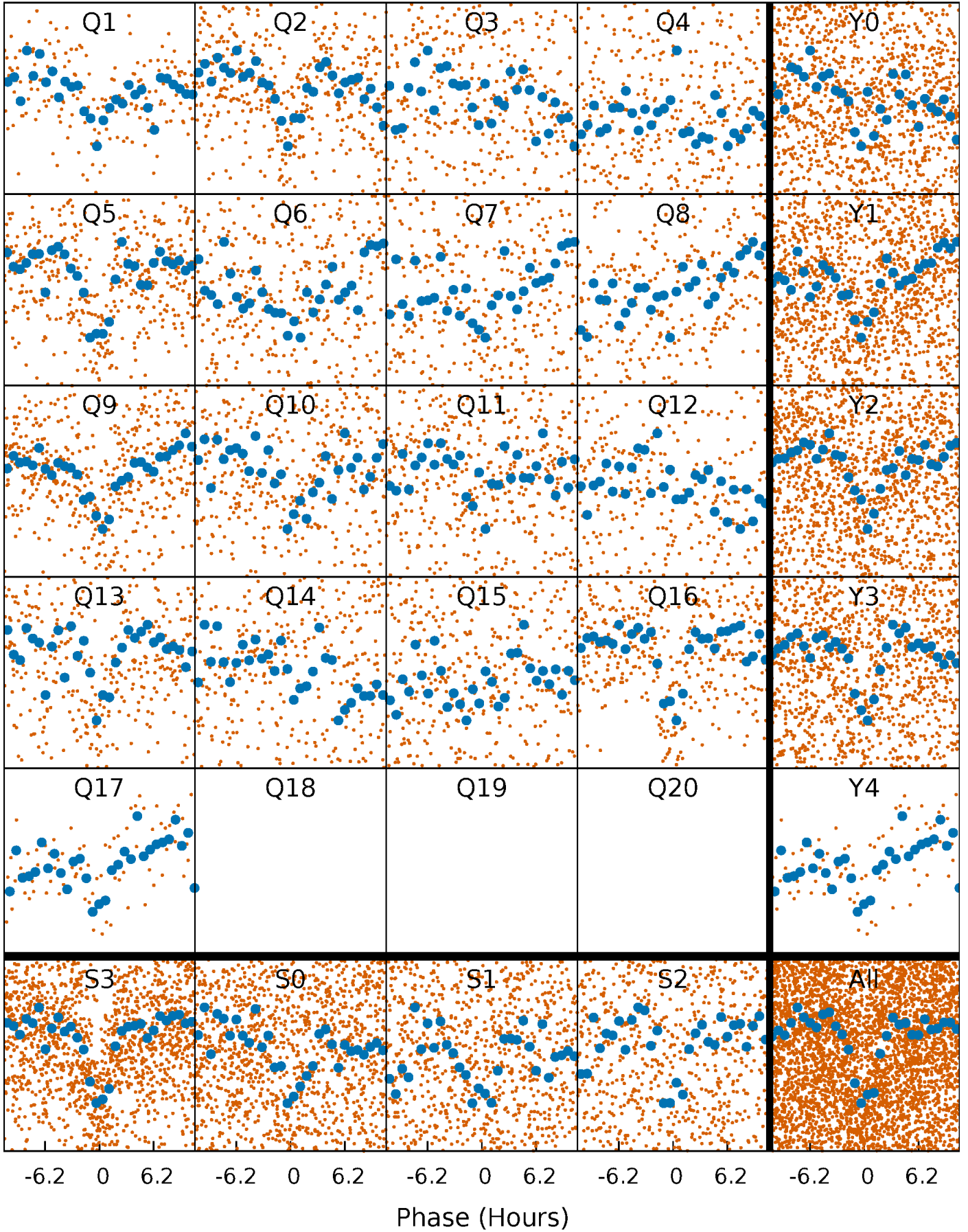


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



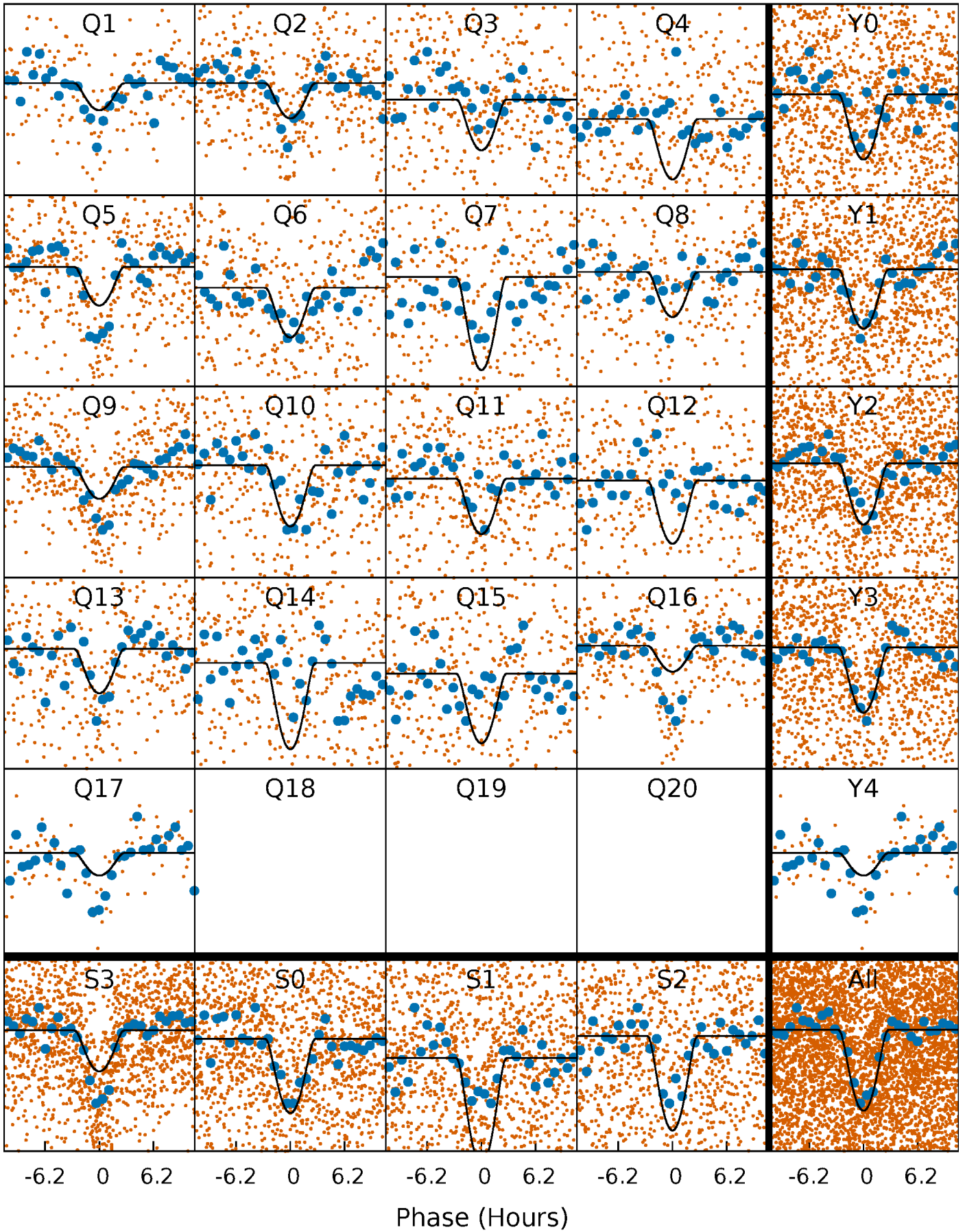
PDC Quarter-Phased Transit Curves

TCE 005480736-01 P= 8.567509 Days $T_0=136.059755$ (BKJD)



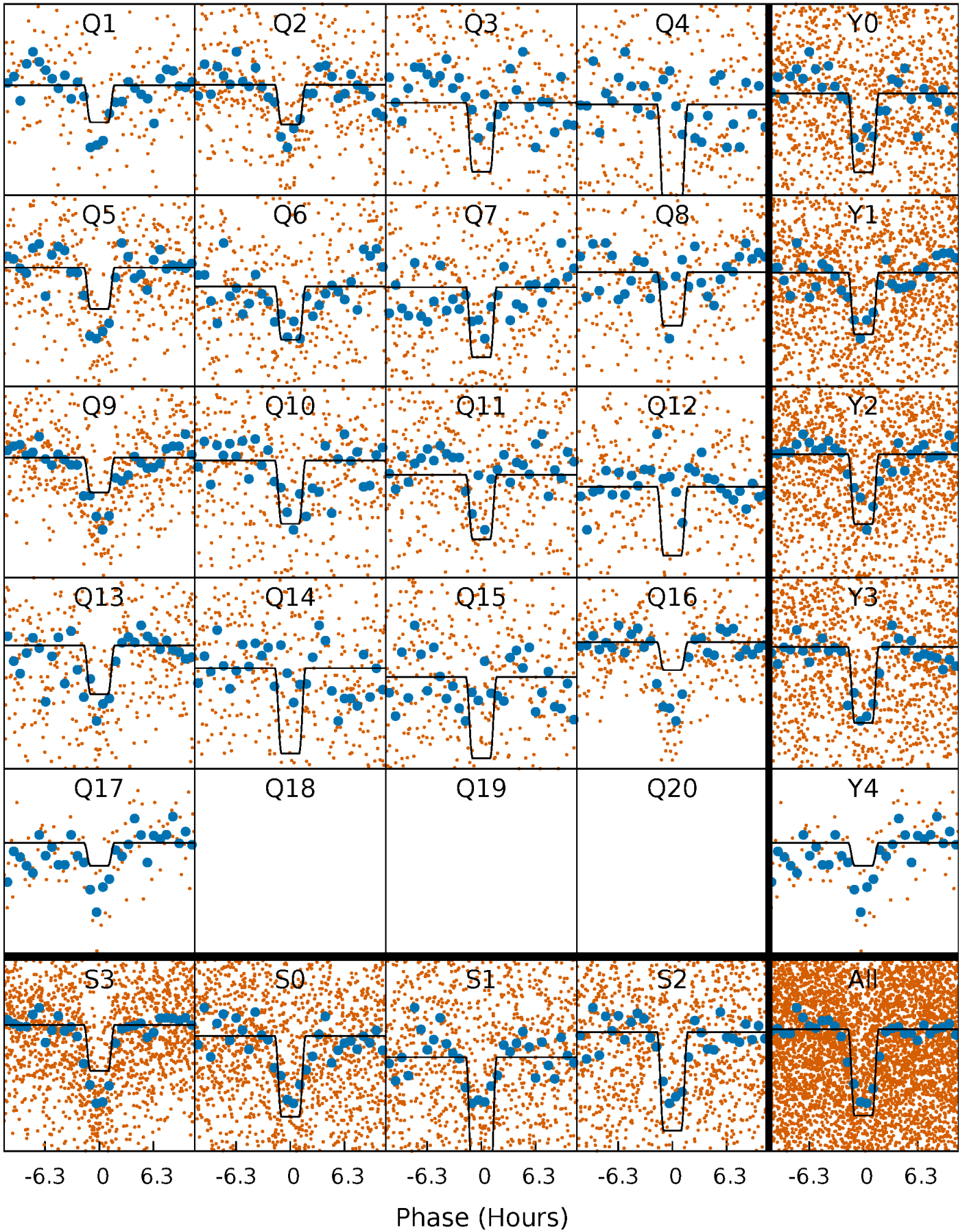
DV Quarter-Phased Transit Curves

TCE 005480736-01 P= 8.567509 Days $T_0=136.059755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

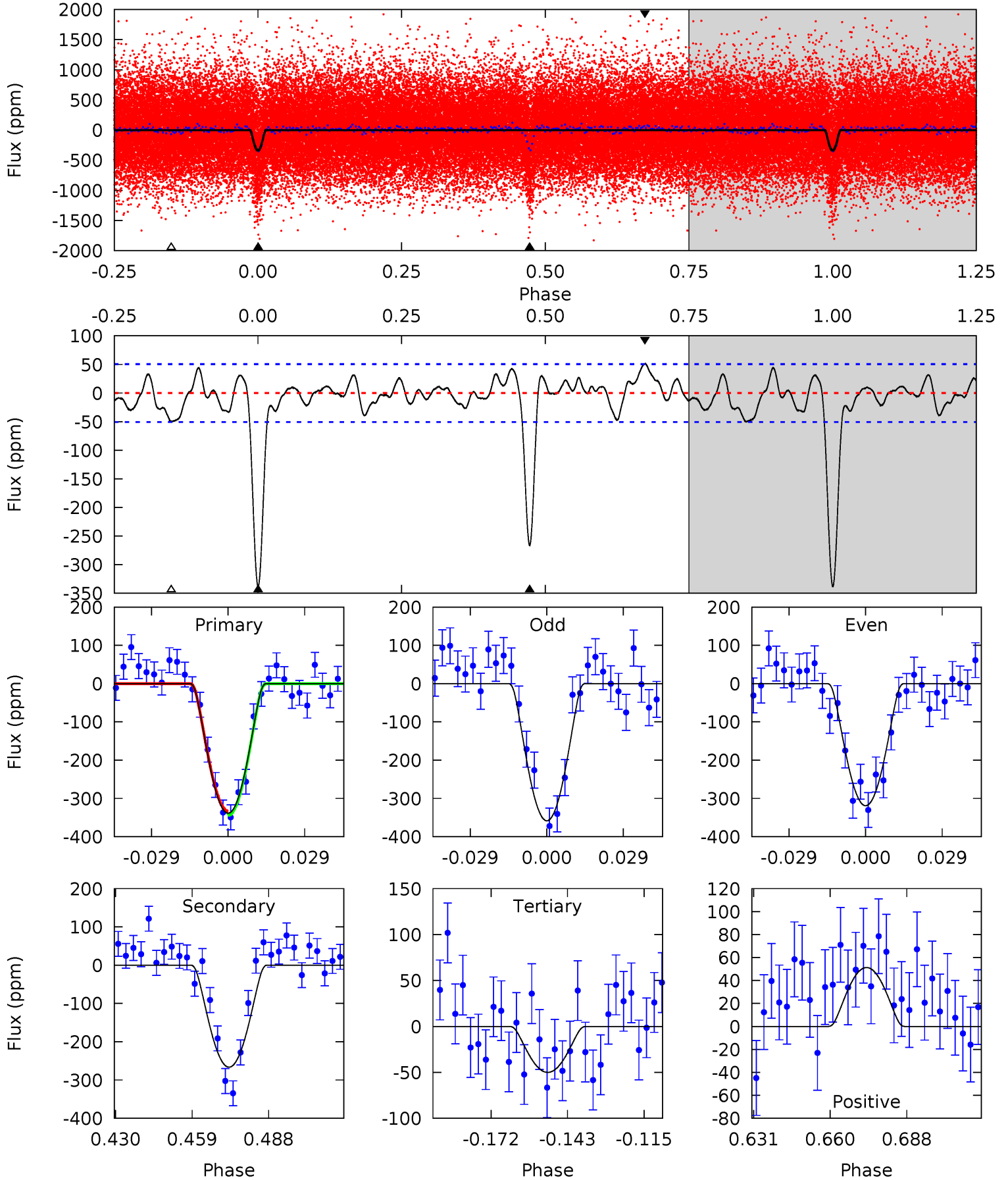
TCE 005480736-01 P= 8.567540 Days $T_0=136.058775$ (BKJD)



DV Model-Shift Uniqueness Test

005480736-01, P = 8.567509 Days, E = 127.492246 Days

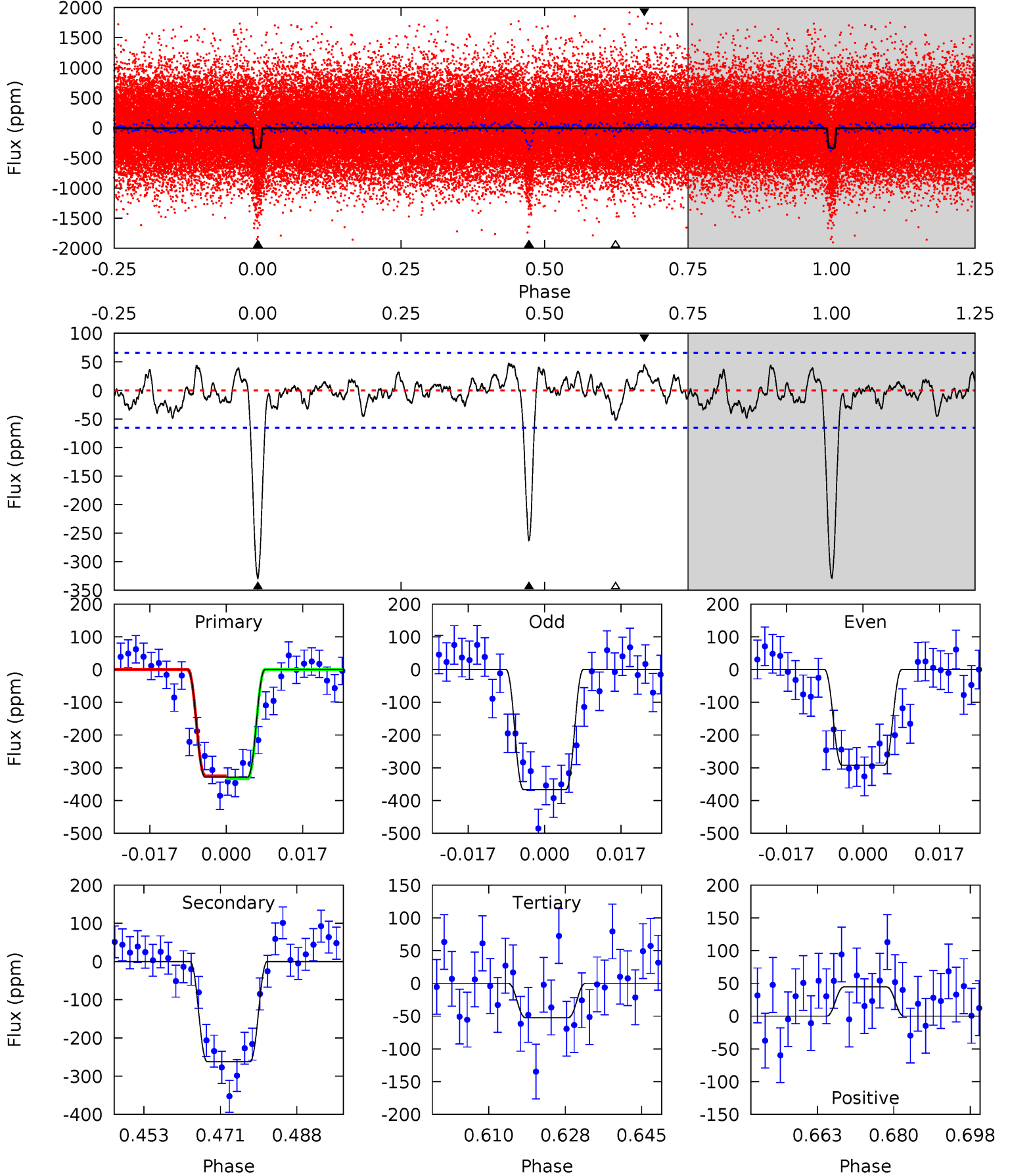
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.2	25.4	4.76	4.89	4.82	2.19	1.92	27.5	27.4	20.6	20.5	1.88	1.05	0.13	0.49



Alt Model-Shift Uniqueness Test

005480736-01, P = 8.567540 Days, E = 127.491235 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.6	19.7	3.92	3.33	4.92	2.38	1.43	20.7	21.3	15.7	16.3	2.79	1.04	0.13	0.35



Stellar Parameters For KIC 005480736

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6212^{+194}_{-237}	$4.420^{+0.070}_{-0.210}$	$-0.120^{+0.250}_{-0.300}$	$1.054^{+0.366}_{-0.122}$	$1.060^{+0.168}_{-0.137}$	$1.276^{+0.400}_{-0.683}$
	+3%/-4%	+2%/-5%	+208%/-250%	+35%/-12%	+16%/-13%	+31%/-54%
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 005480736-01 / KOI 3904.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-267 ± 10	$6.09^{+5.55}_{-4.03}$	1379^{+104}_{-80}	3871^{+2351}_{-722}	28^{+209}_{-20}
Alt.	-262 ± 13	$5.45^{+5.26}_{-3.80}$	1379^{+105}_{-77}	3968^{+2848}_{-744}	34^{+335}_{-25}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

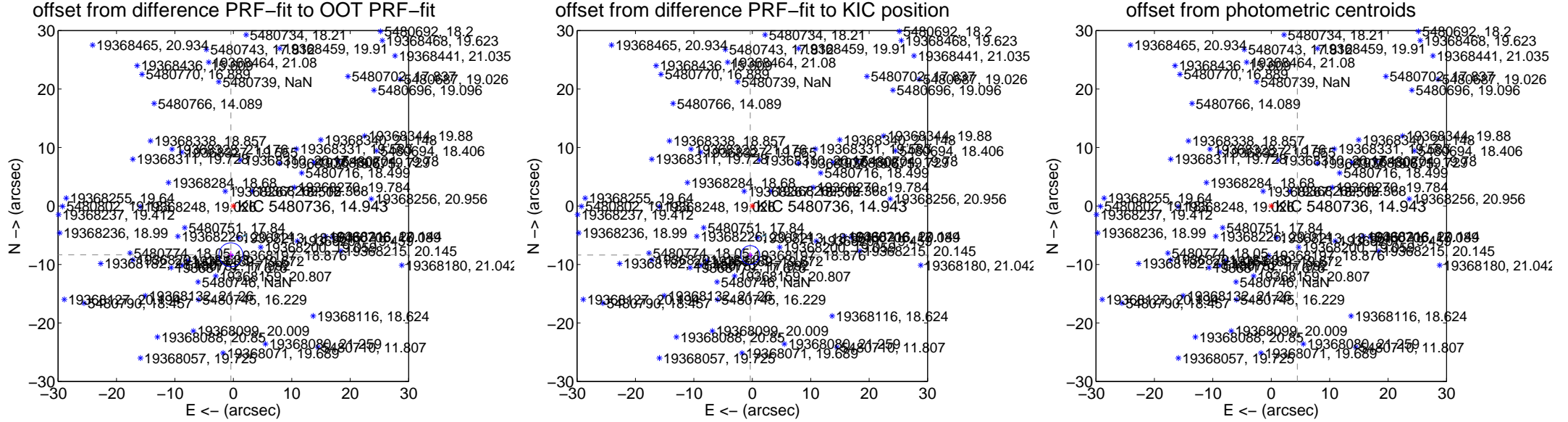
A_{obs} = Observed Albedo (Assuming $T=0$)

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

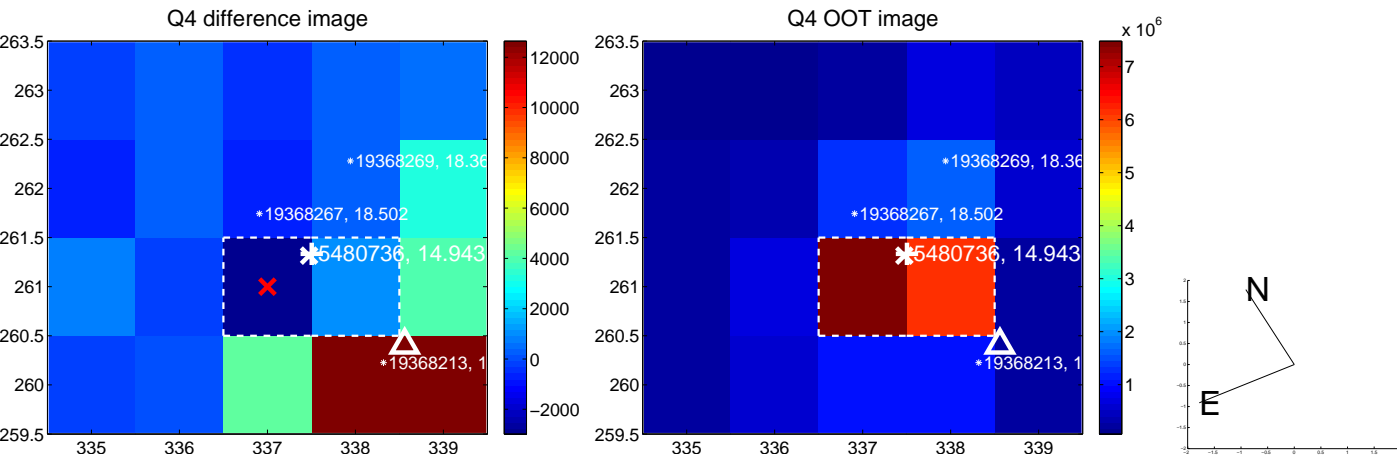
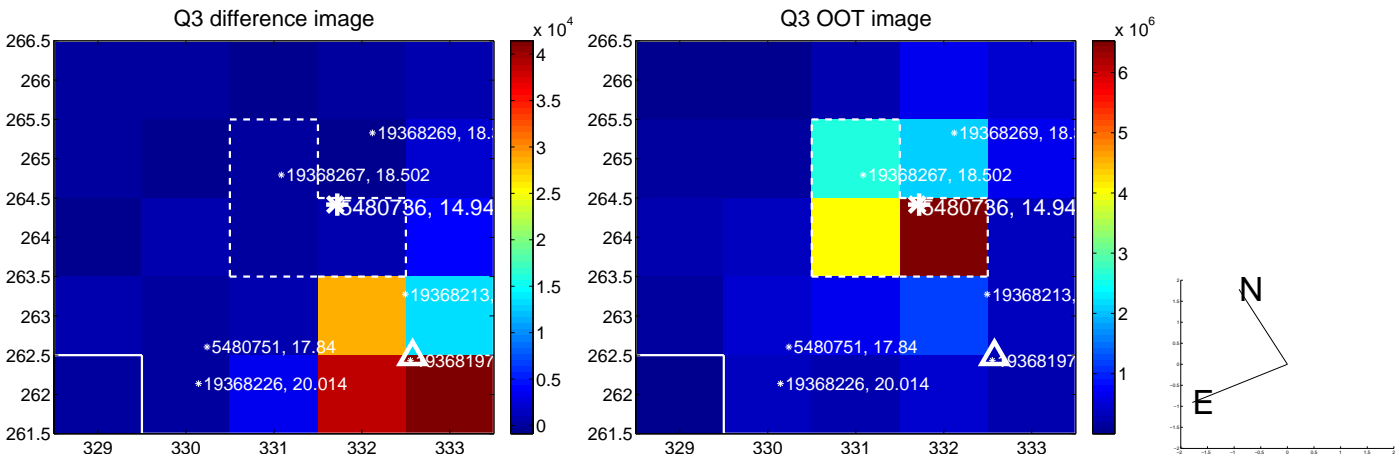
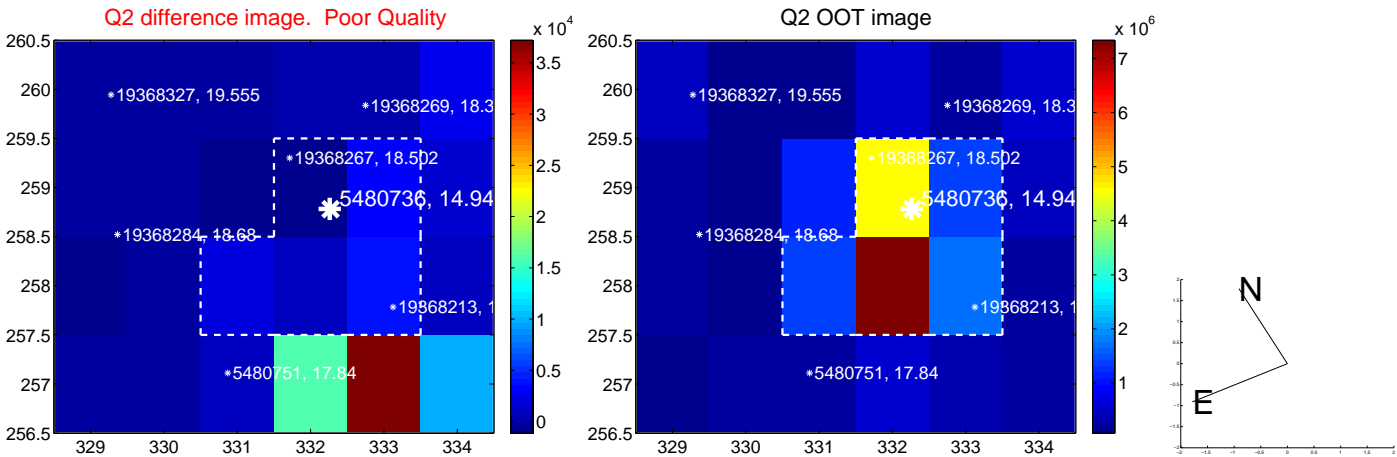
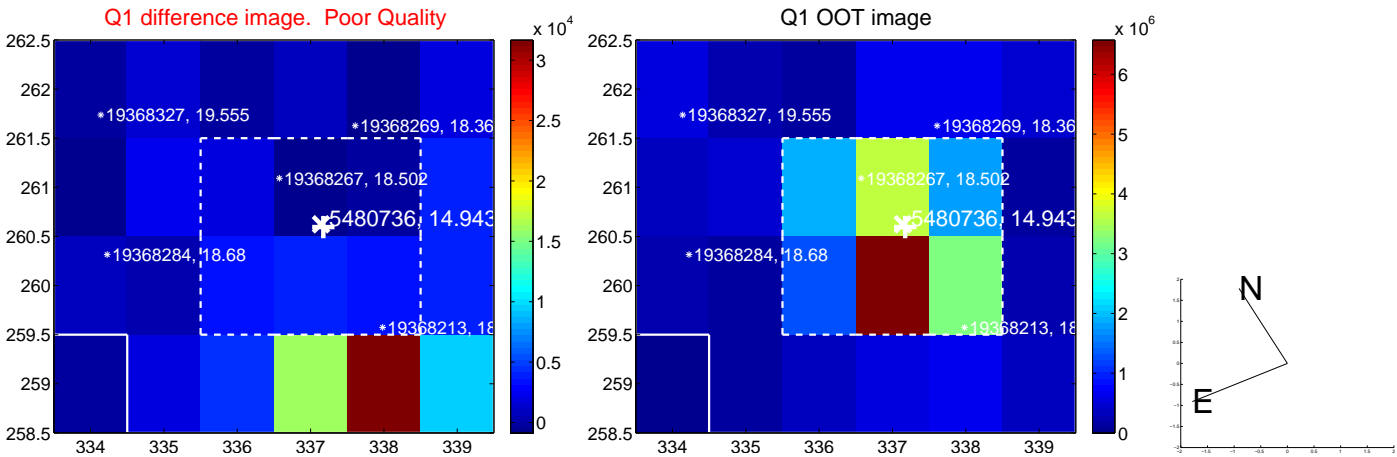
Supplemental centroid analysis for 005480736-01. Kepler magnitude: 14.94. Transit SNR 16.38
 There are 8 quarters with good PRF difference image offsets
 The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.354 \pm 0.681	12.26	0.422 \pm 0.480	-8.343 \pm 0.658
PRF-fit source offset from KIC position	8.396 \pm 0.537	15.62	0.342 \pm 0.392	-8.389 \pm 0.522
photometric centroid source offset	35.73 \pm 0.59	60.46	-4.47 \pm 0.63	-35.45 \pm 0.59

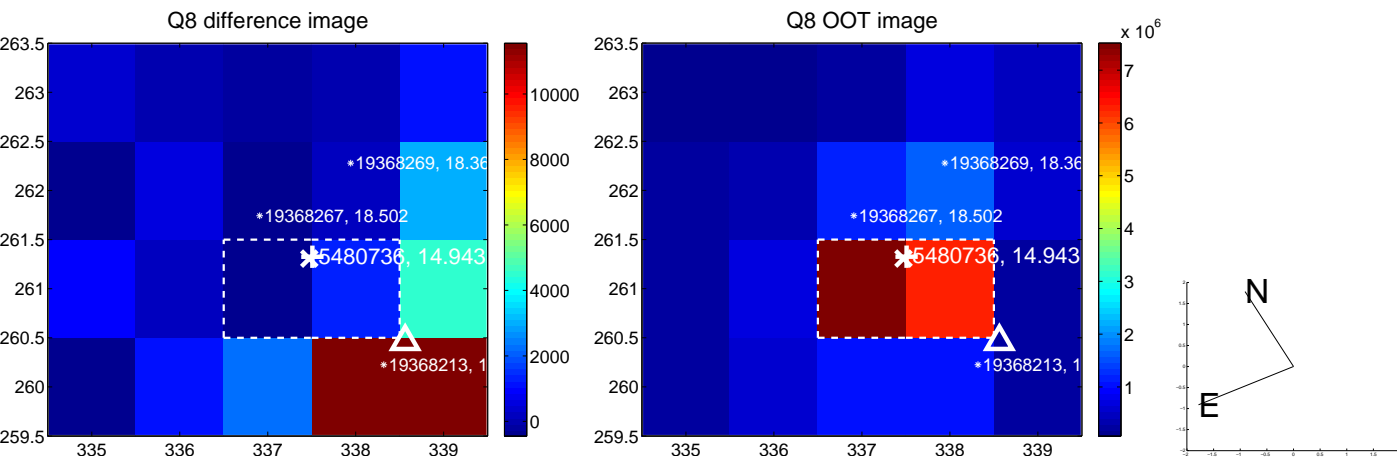
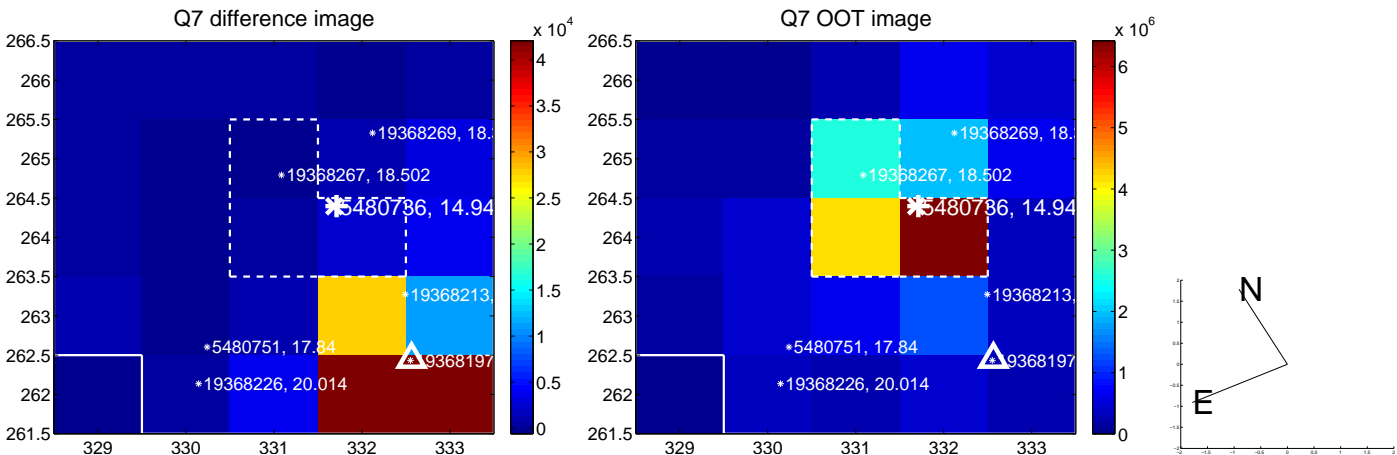
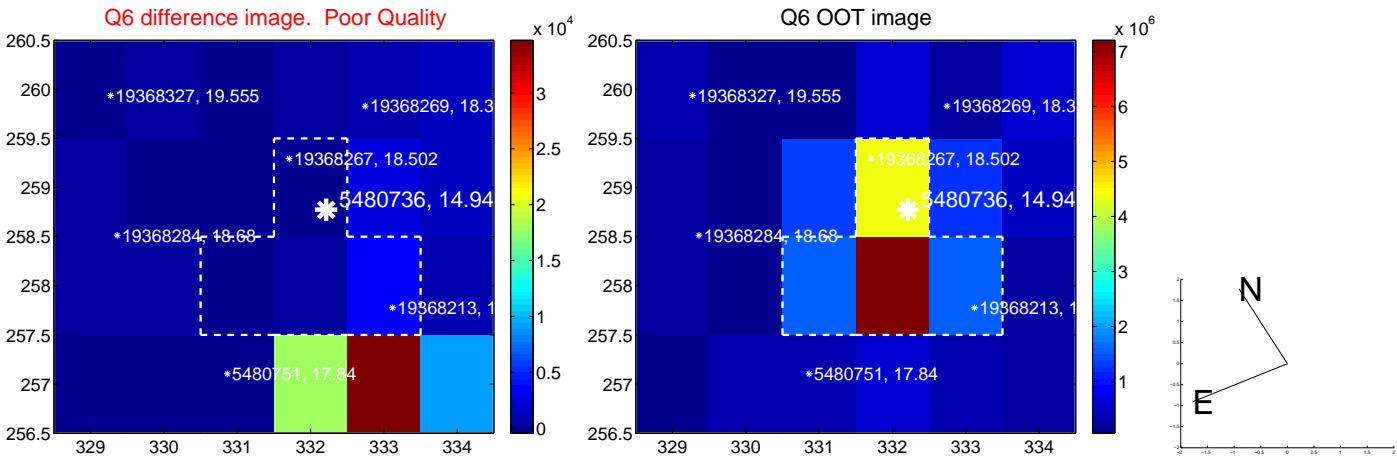
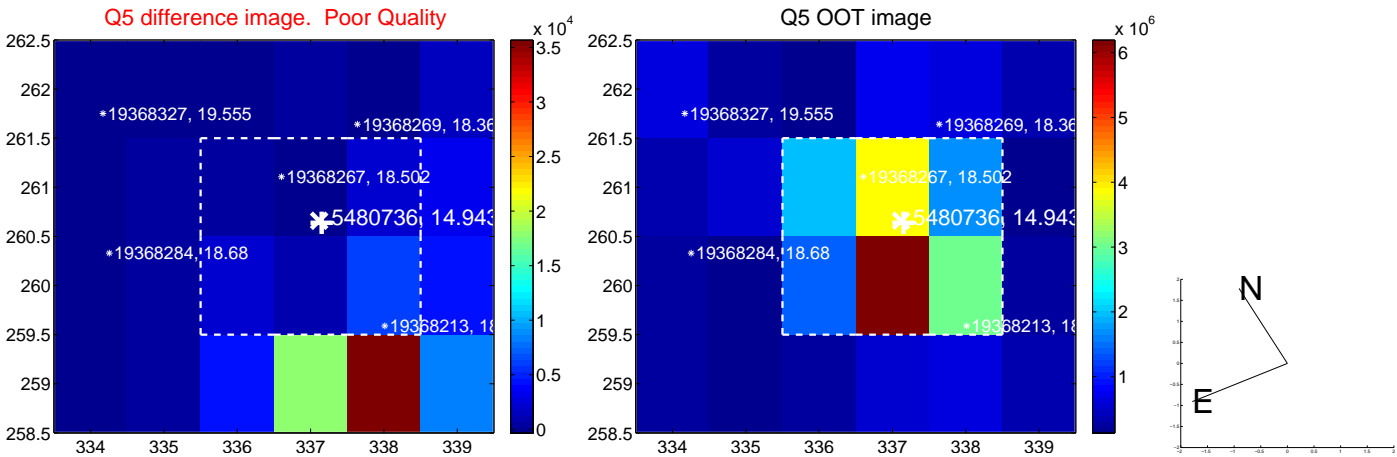


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

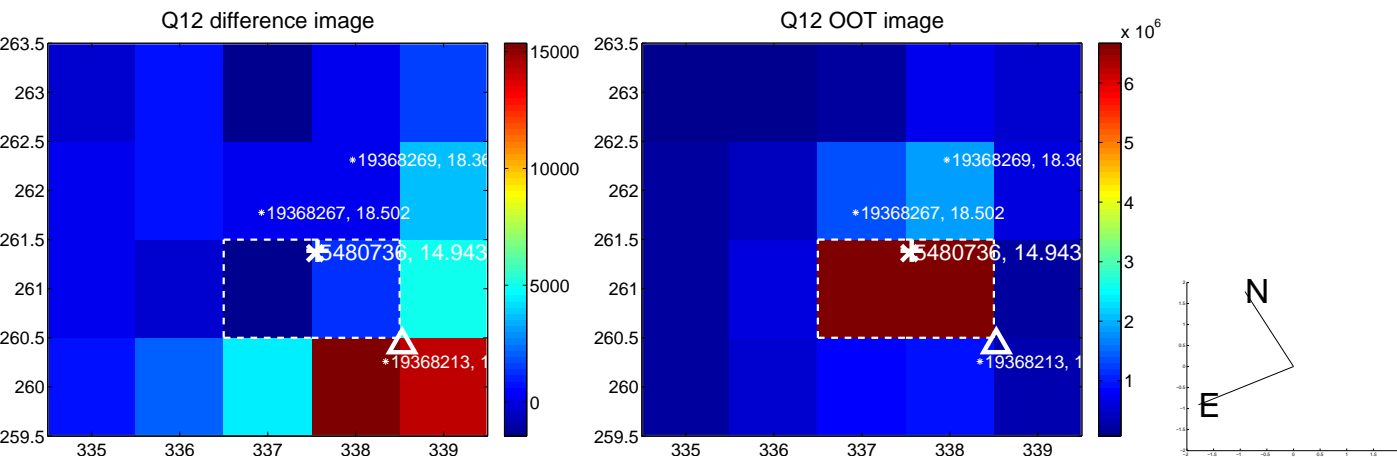
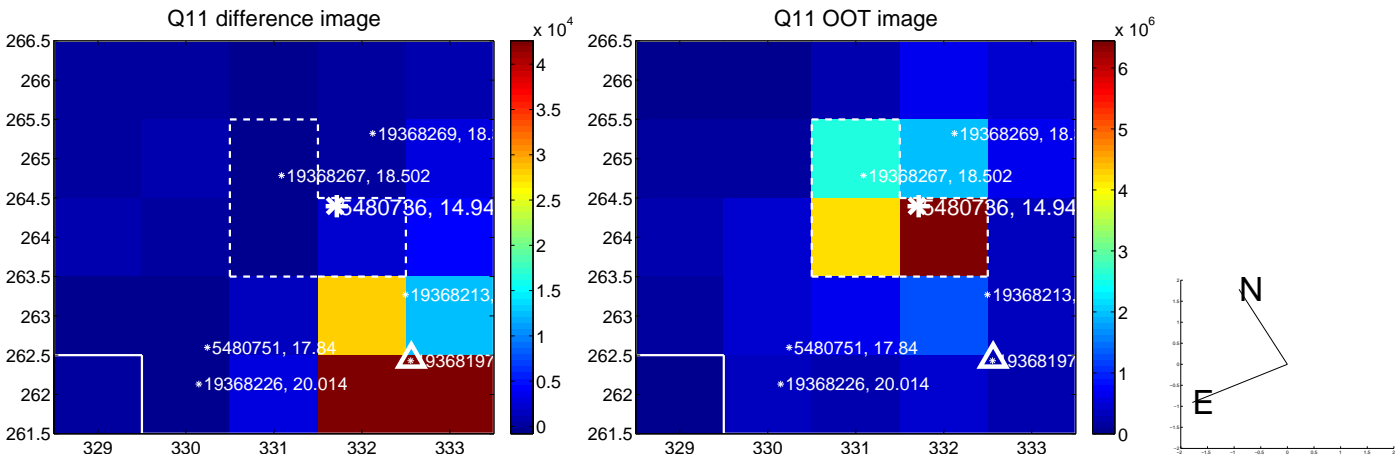
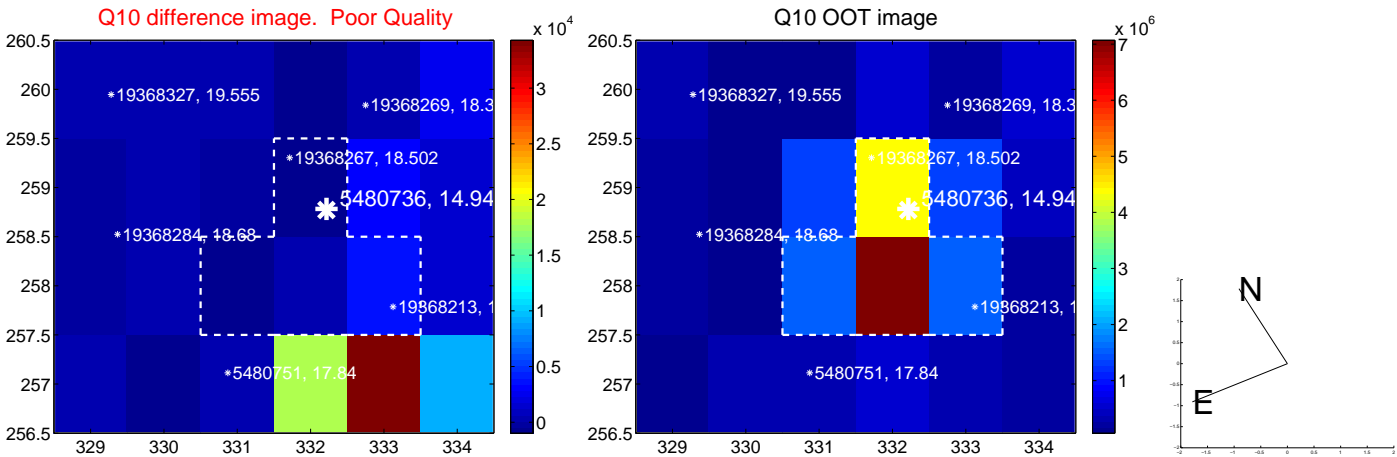
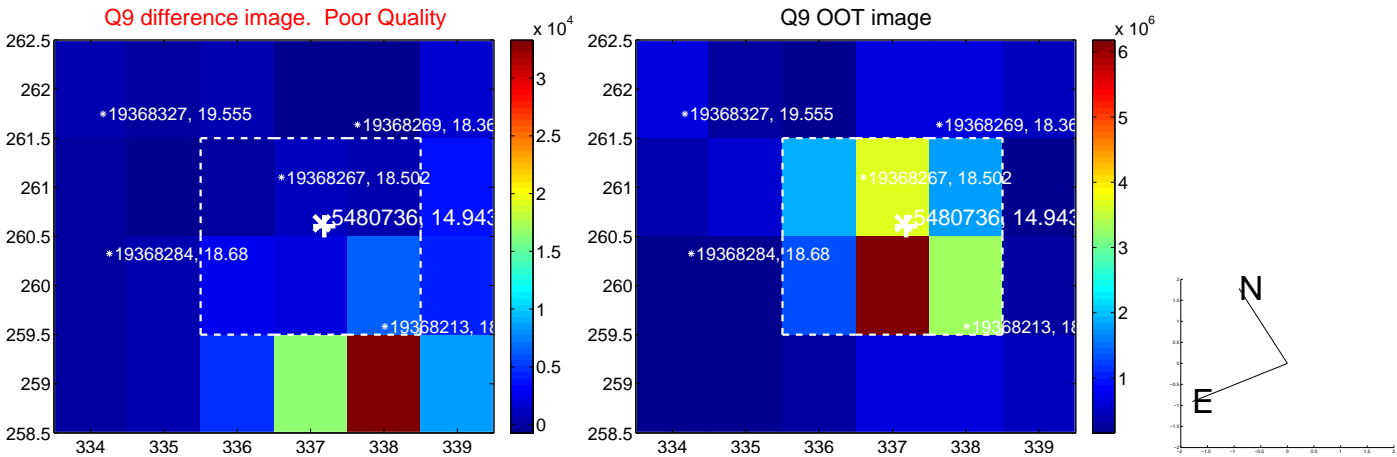
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



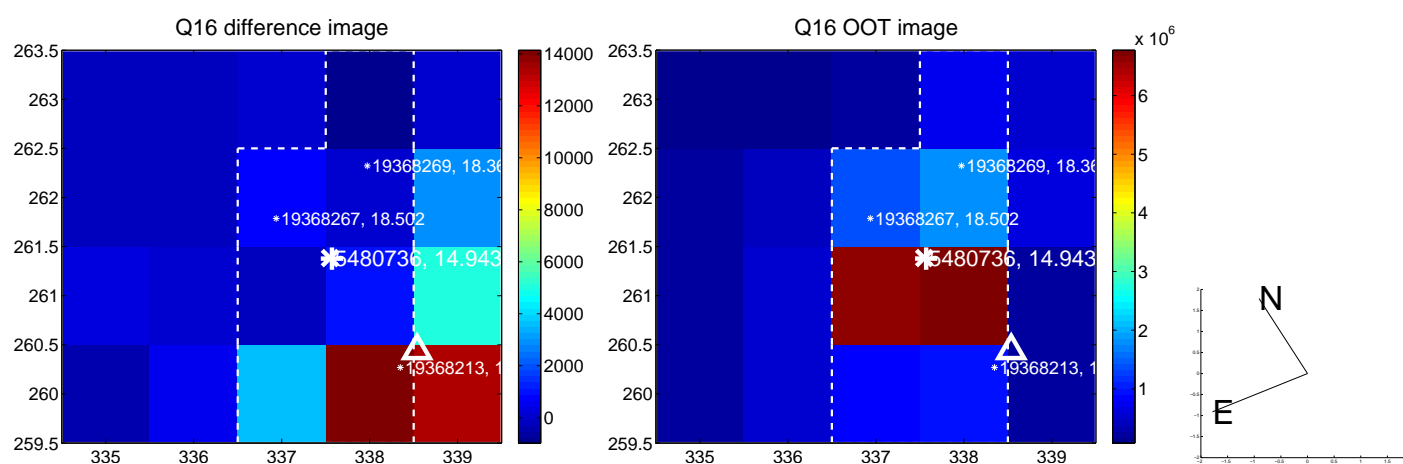
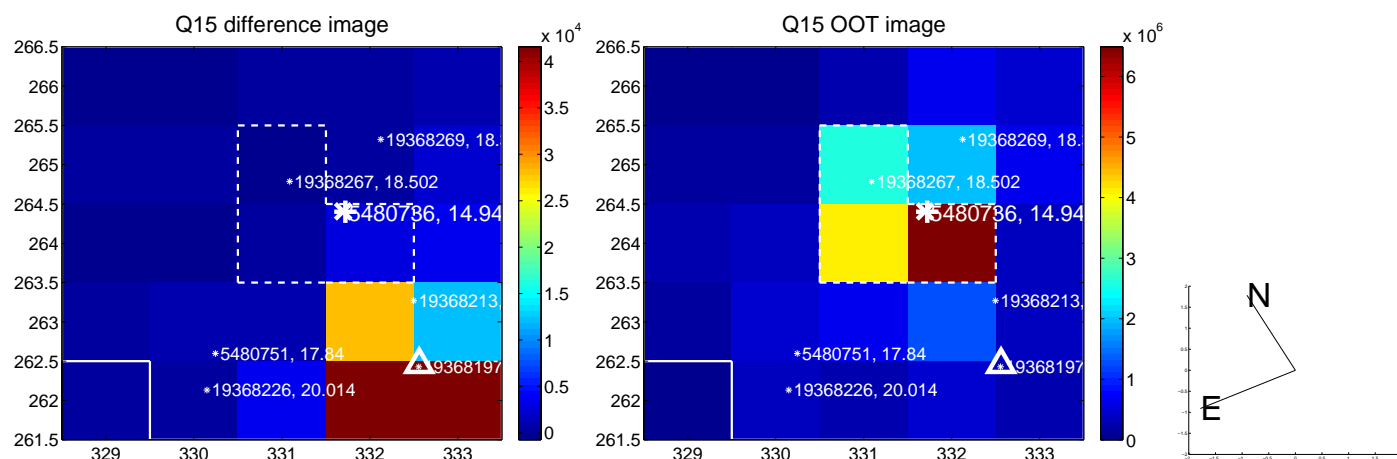
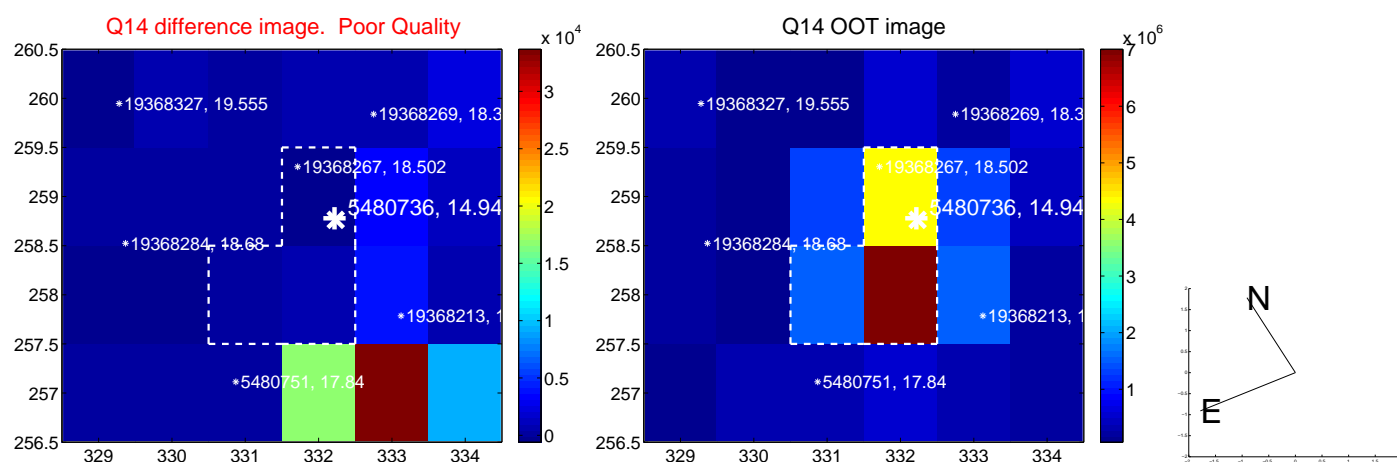
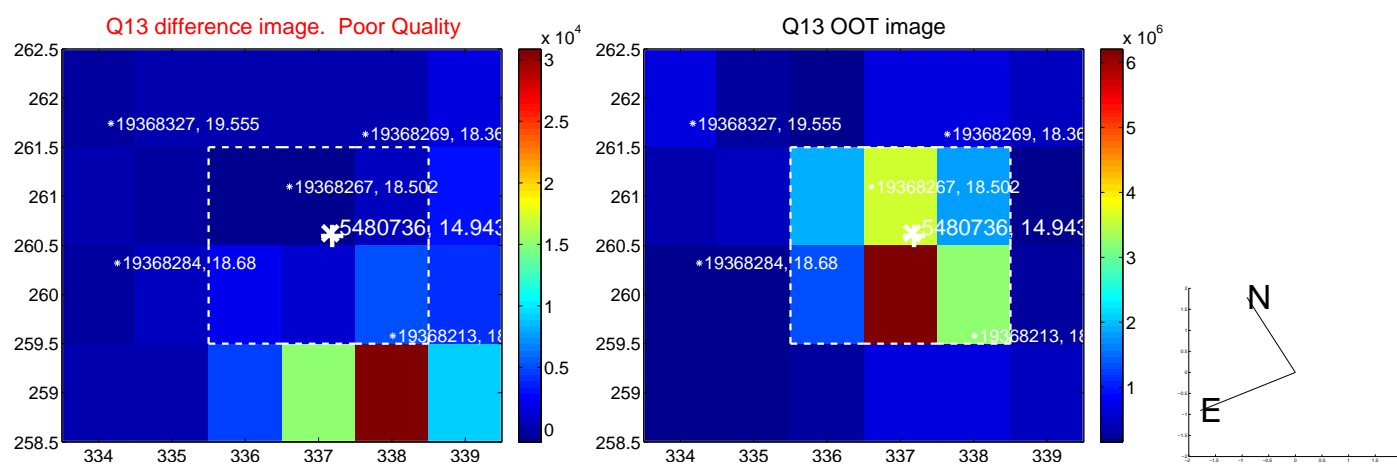
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



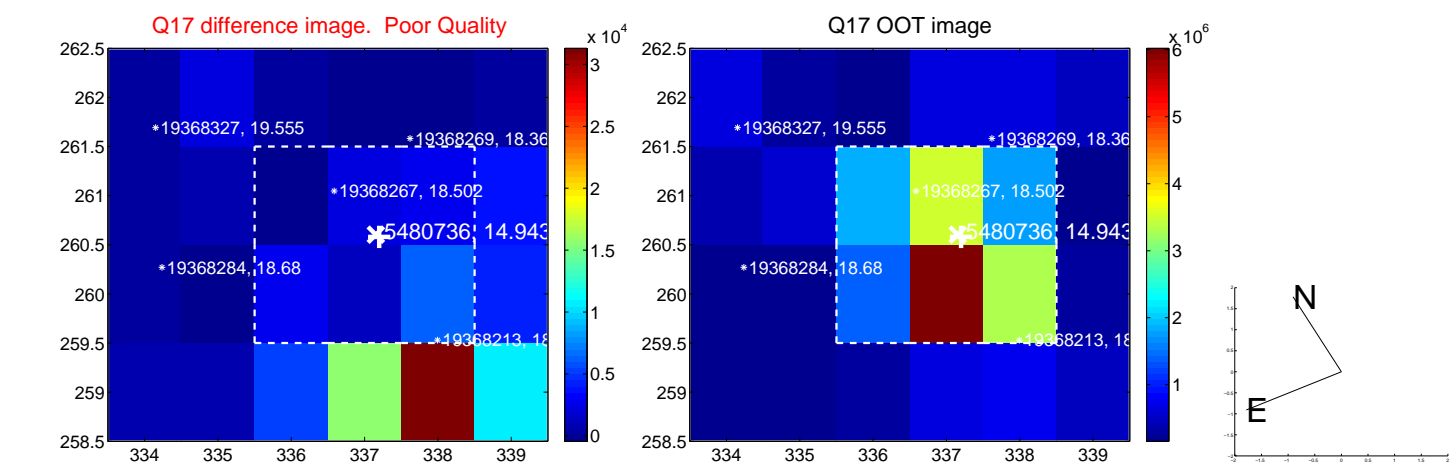
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



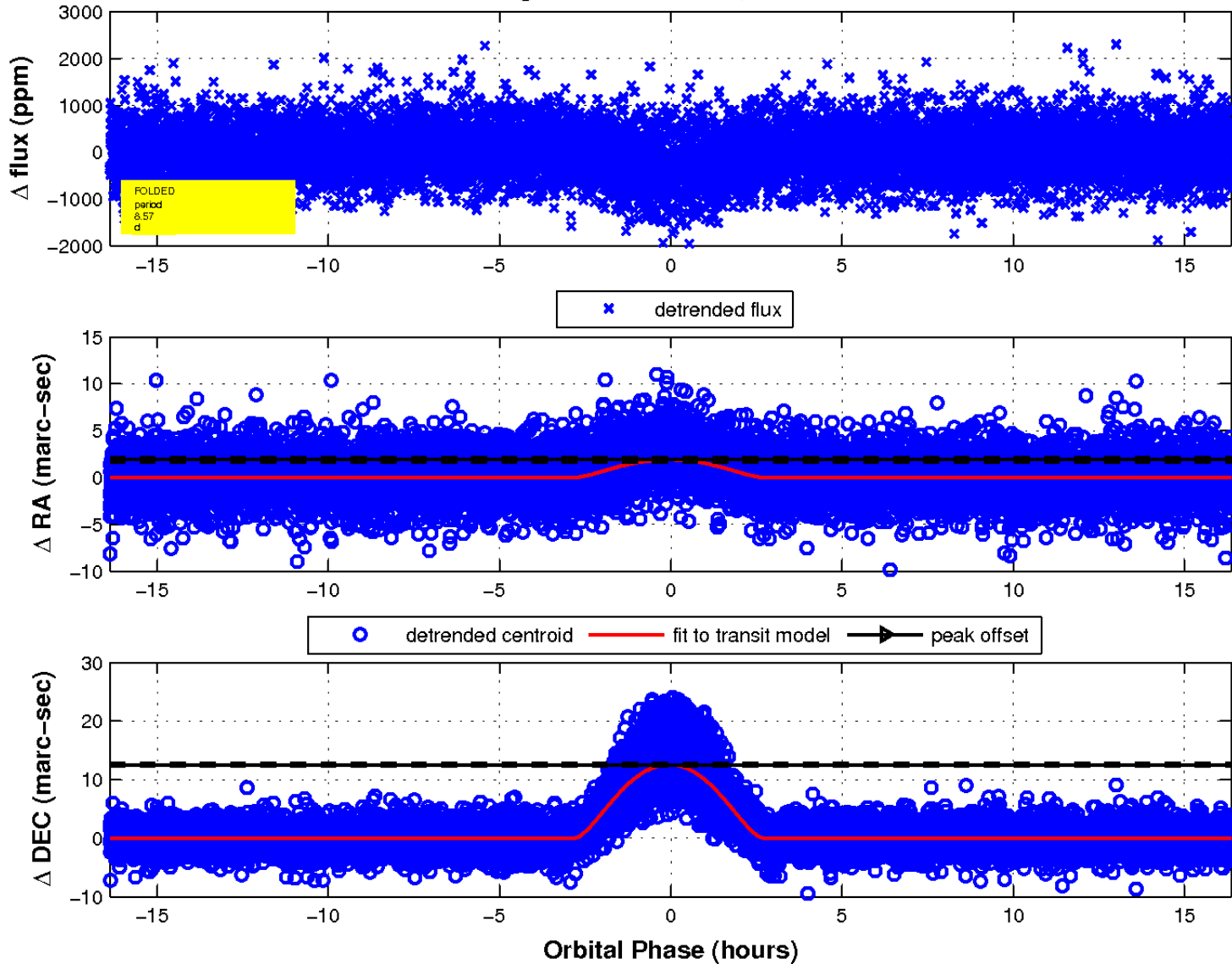
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



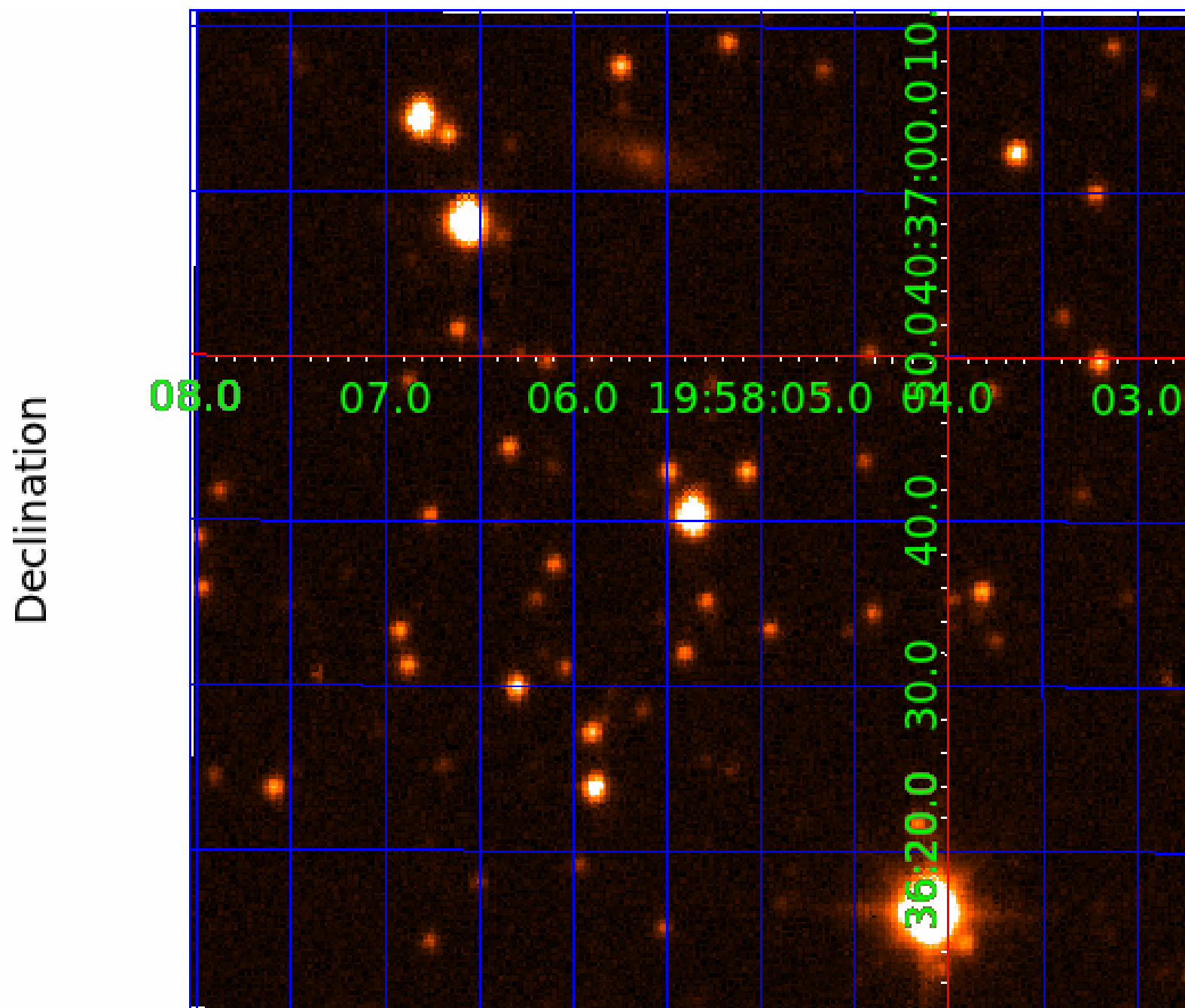
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 005480736

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})
005480736-01	OBS	3904.01	8.567509	136.059755	359.9	5.460	14.5	16.4	1.05	6212	3.82	211.47
005480736-02	OBS	No	8.567558	131.542264	364.9	4.155	14.3	16.2	1.05	6212	3.64	211.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005480736-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005480736-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

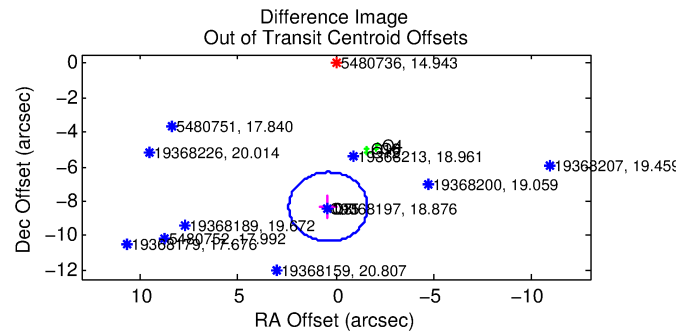
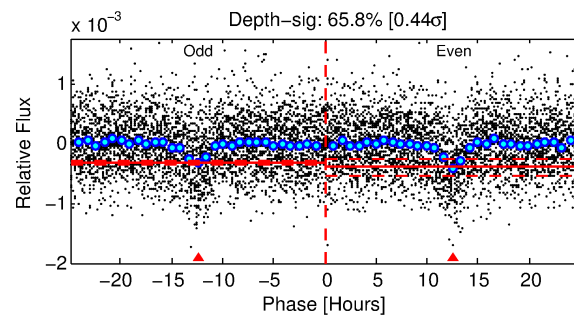
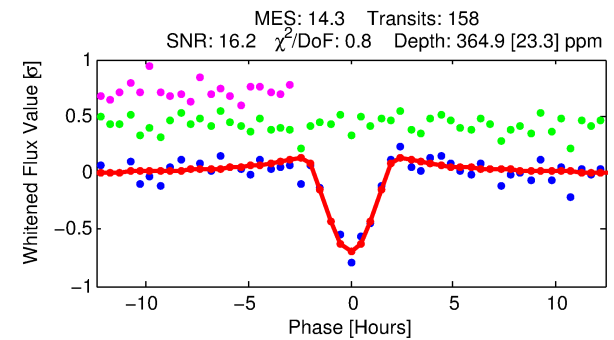
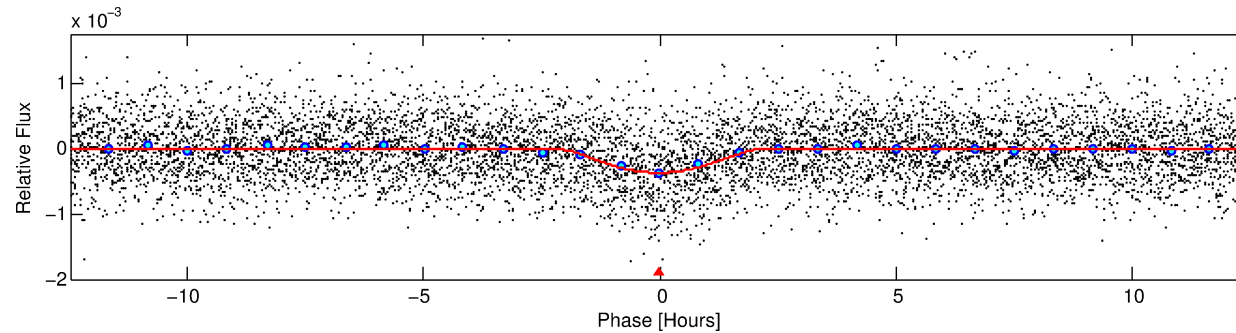
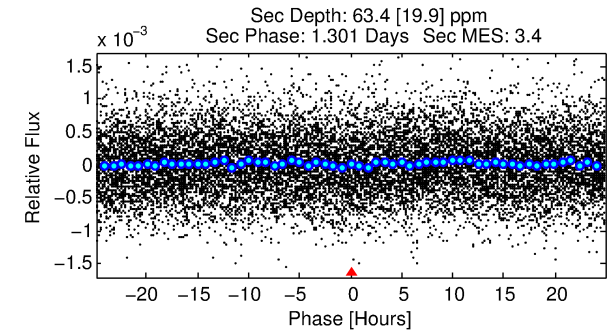
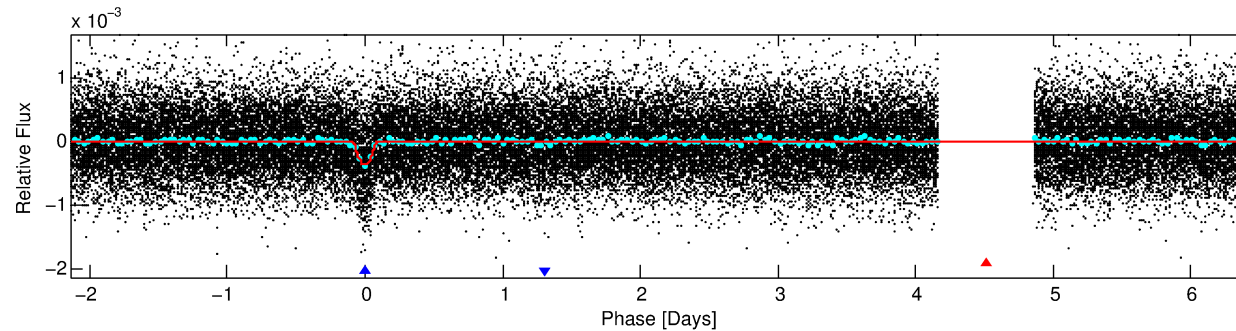
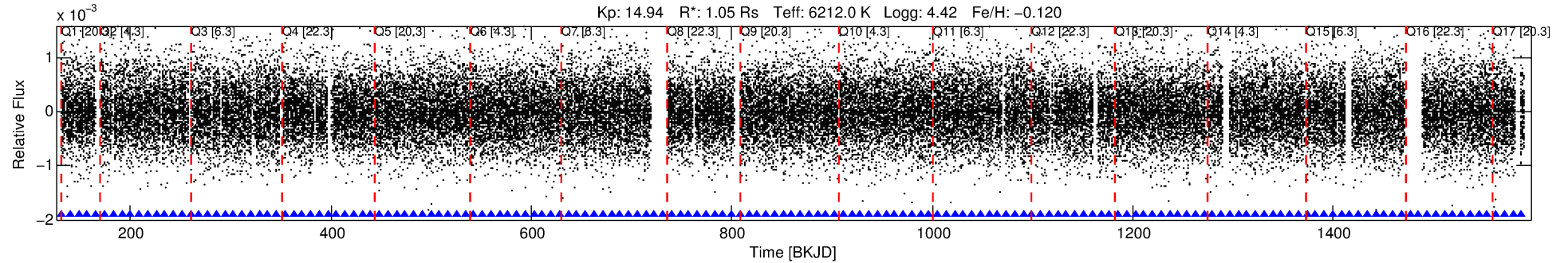
Ephemeris Match Information For 005480736-02

No Significant Match Found

DV One-Page Summary

KIC: 5480736 Candidate: 2 of 2 Period: 8.568 d
KOI: K03904 Corr: No Ephemeris Match

Kp: 14.94 R*: 1.05 Rs Teff: 6212.0 K Logg: 4.42 Fe/H: -0.120



DV Fit Results:

Period = 8.56756 [0.00006] d
Epoch = 131.5423 [0.0053] BKJD
Rp/R* = 0.0316 [0.0482]
a/R* = 4.38 [1.87]
b = 1.00 [0.08]
Seff = 211.46 [89.92]
Teq = 972 [103] K
Rp = 3.64 [5.69] Re
a = 0.0837 [0.0236] AU
Ag = 18.49 [57.18] [0.31σ]
Teff = 3117 [2394] K [0.90σ]

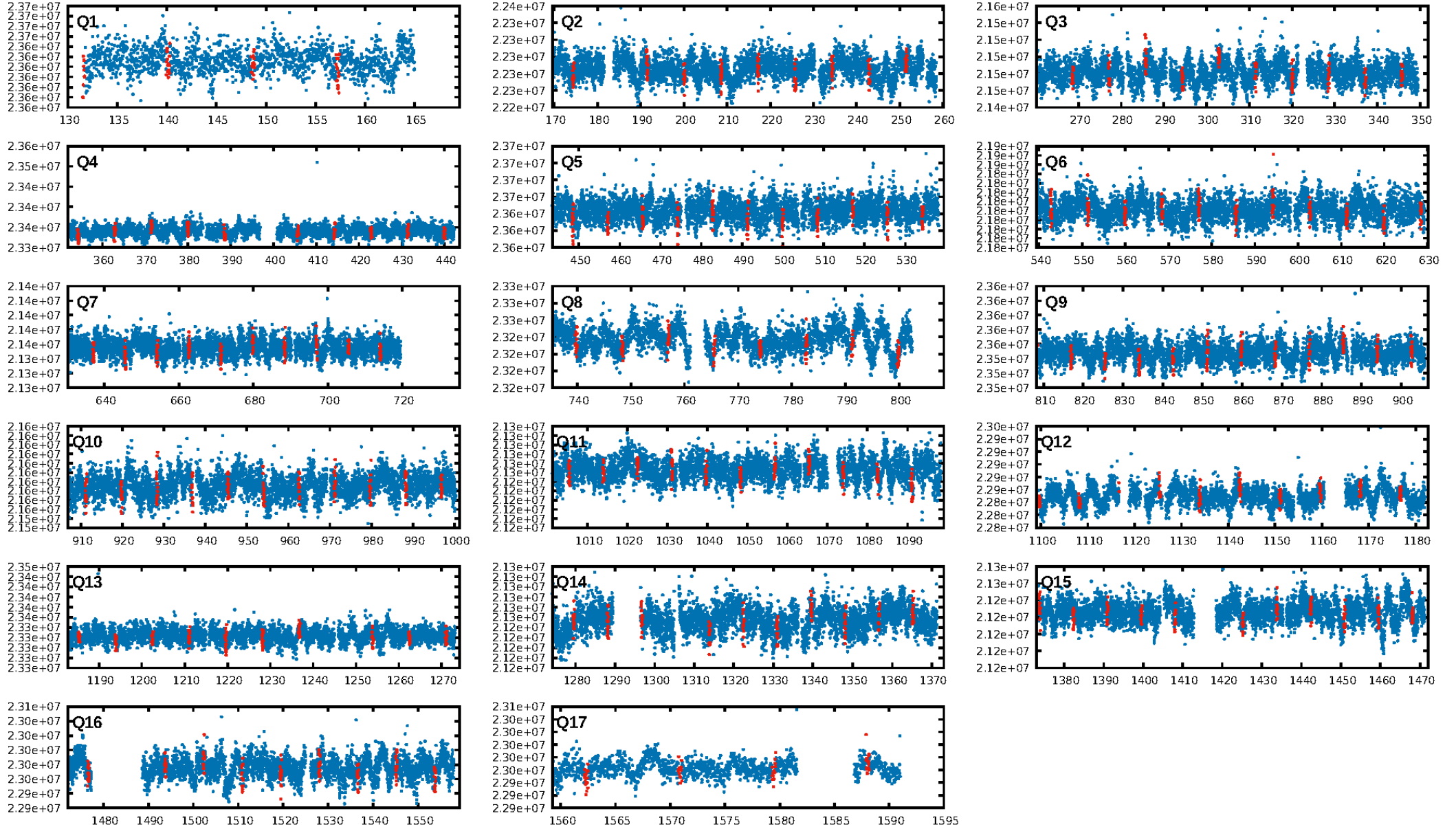
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.15e-44
RollingBand-fgt: 1.00 [150/150]
GhostDiagnostic-chr: -0.3112
Centroid-sig: 0.0%
Centroid-so: 30.411 arcsec [47.74σ]
OotOffset-rm: 8.337 arcsec [12.47σ]
KicOffset-rm: 8.382 arcsec [14.20σ]
OotOffset-st: 0/4/4/0 [8]
KicOffset-st: 0/4/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

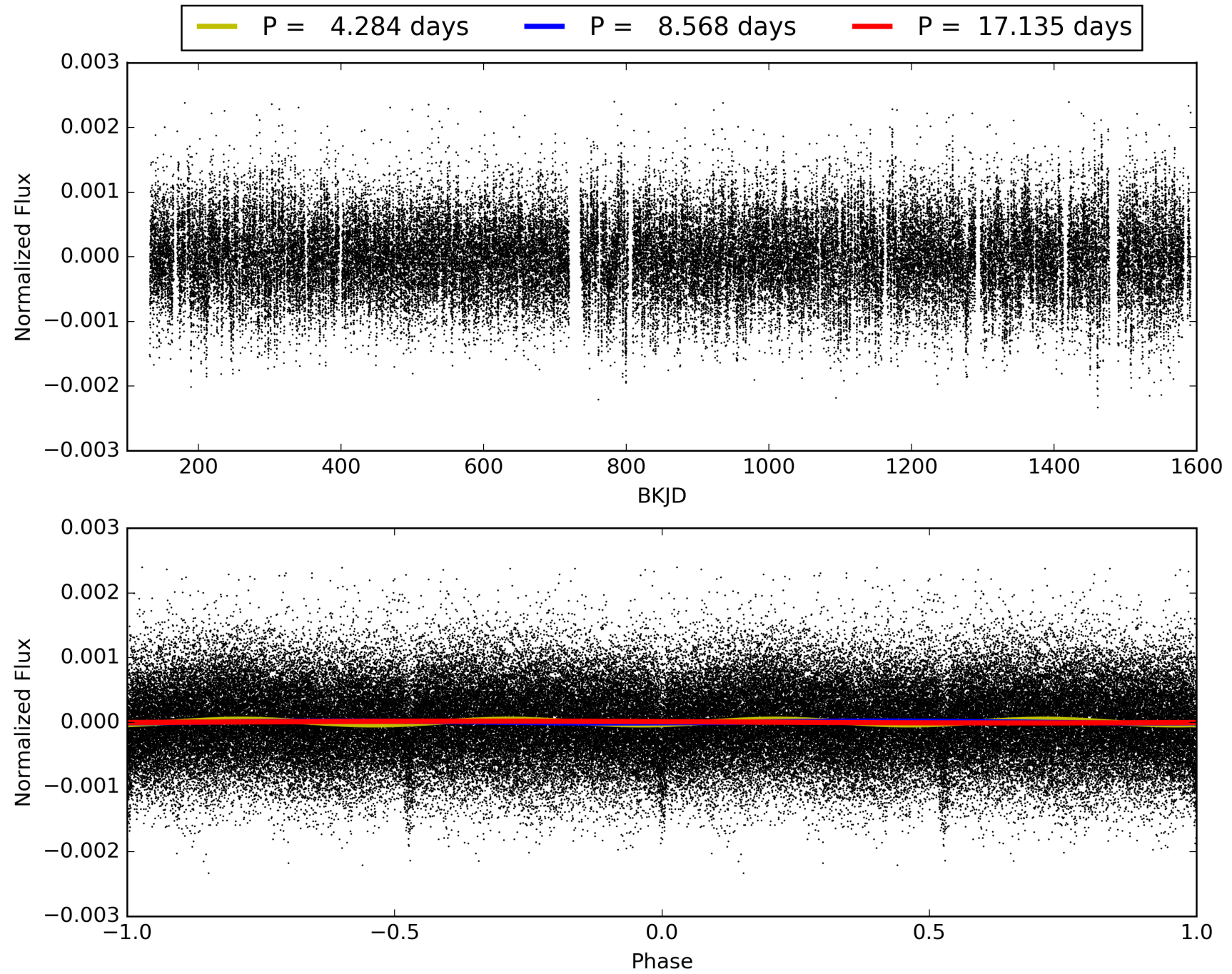
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:21:26 Z

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

TCE 005480736-02, PDC Light Curves

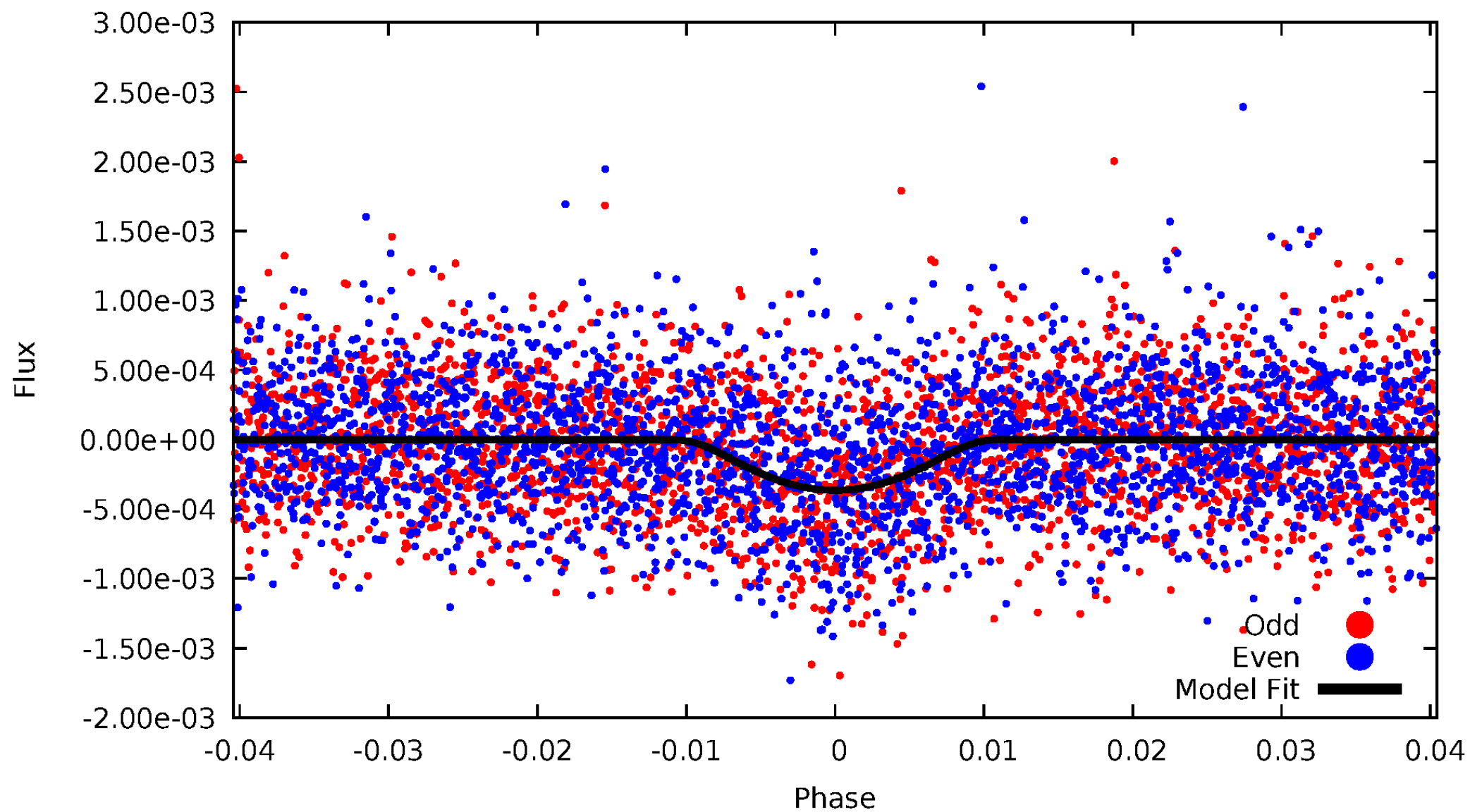


TCE 005480736-02



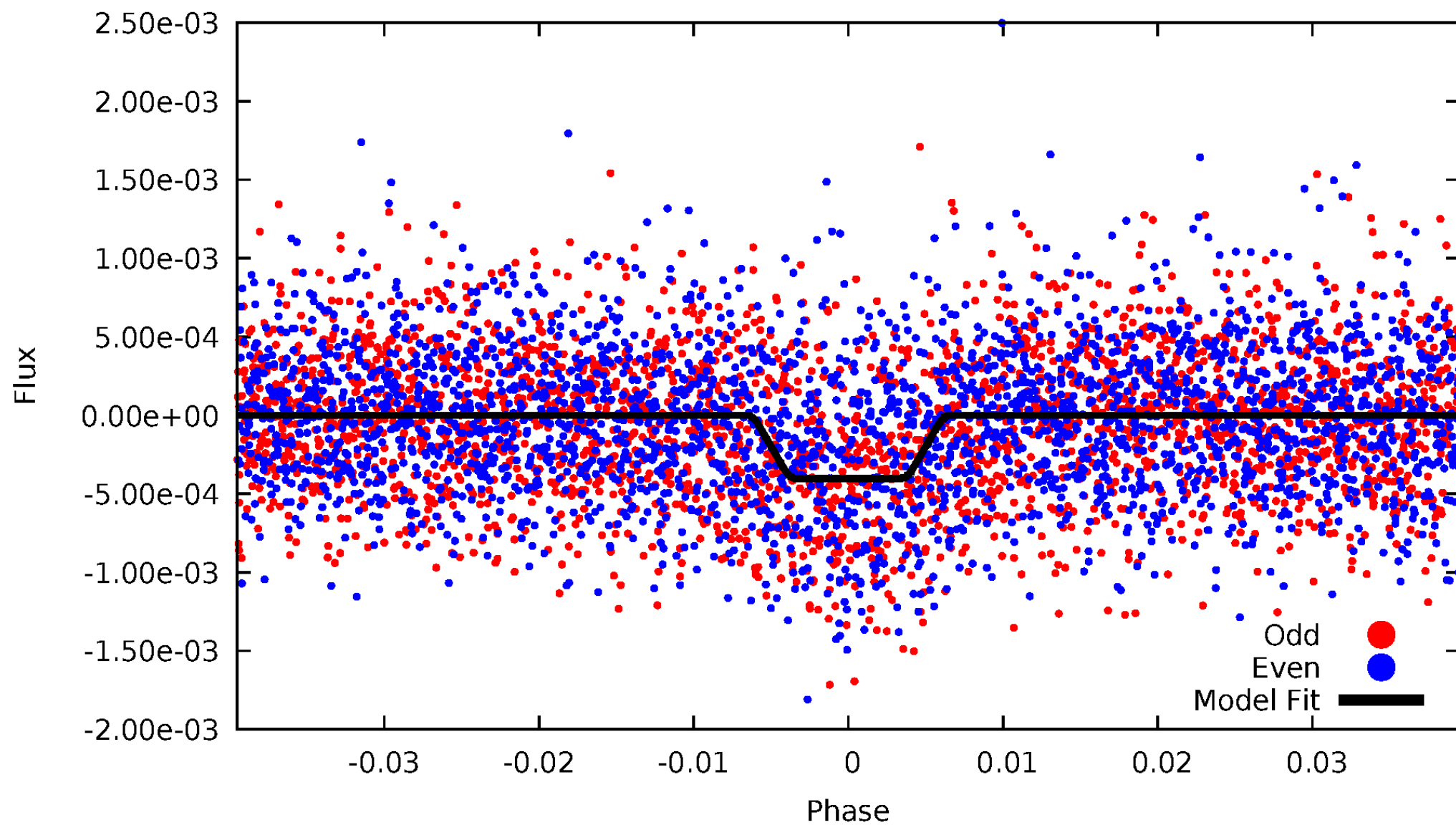
DV Odd/Even

TCE 005480736-02



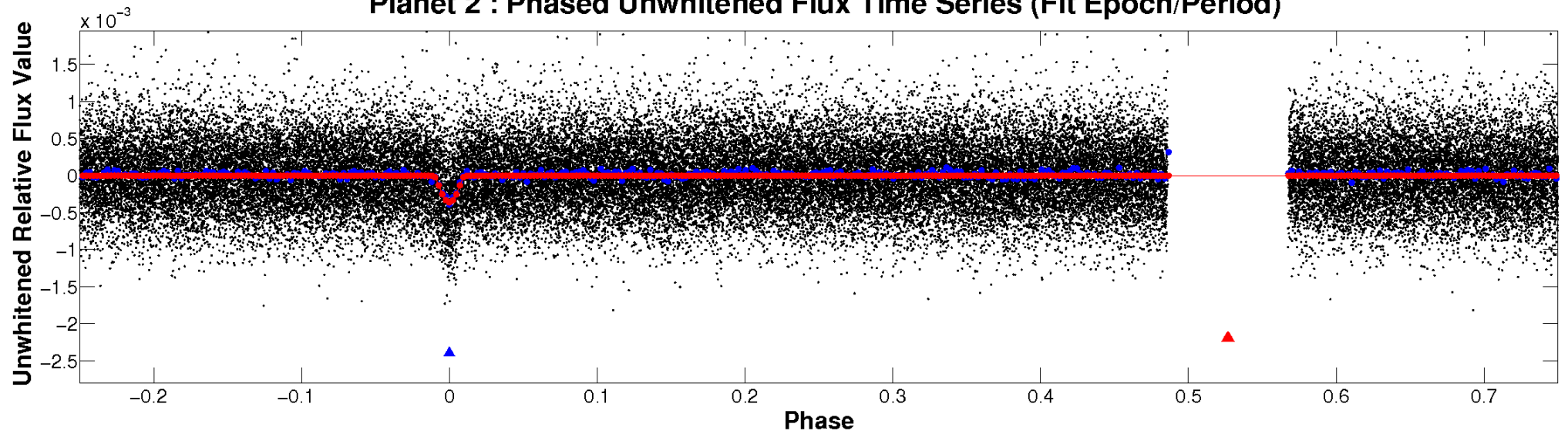
ALT Odd/Even

TCE 005480736-02

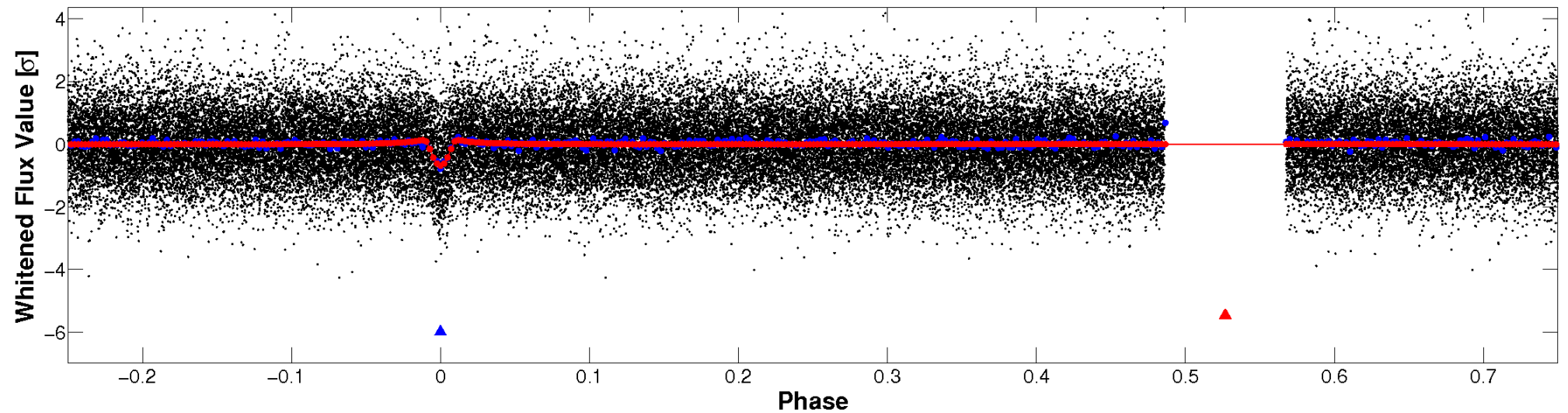


Non-Whitened Vs. Whitened Light Curve

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

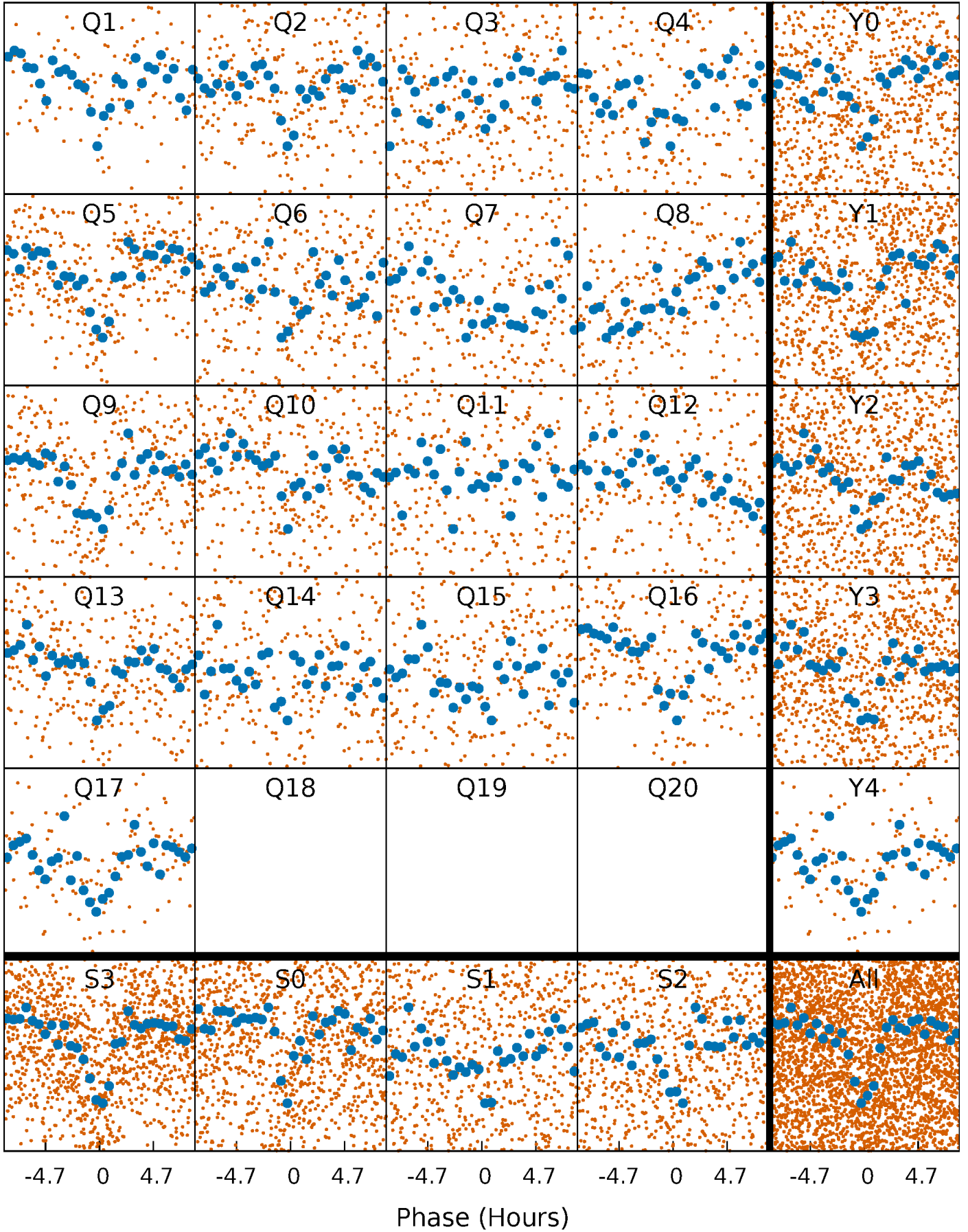


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



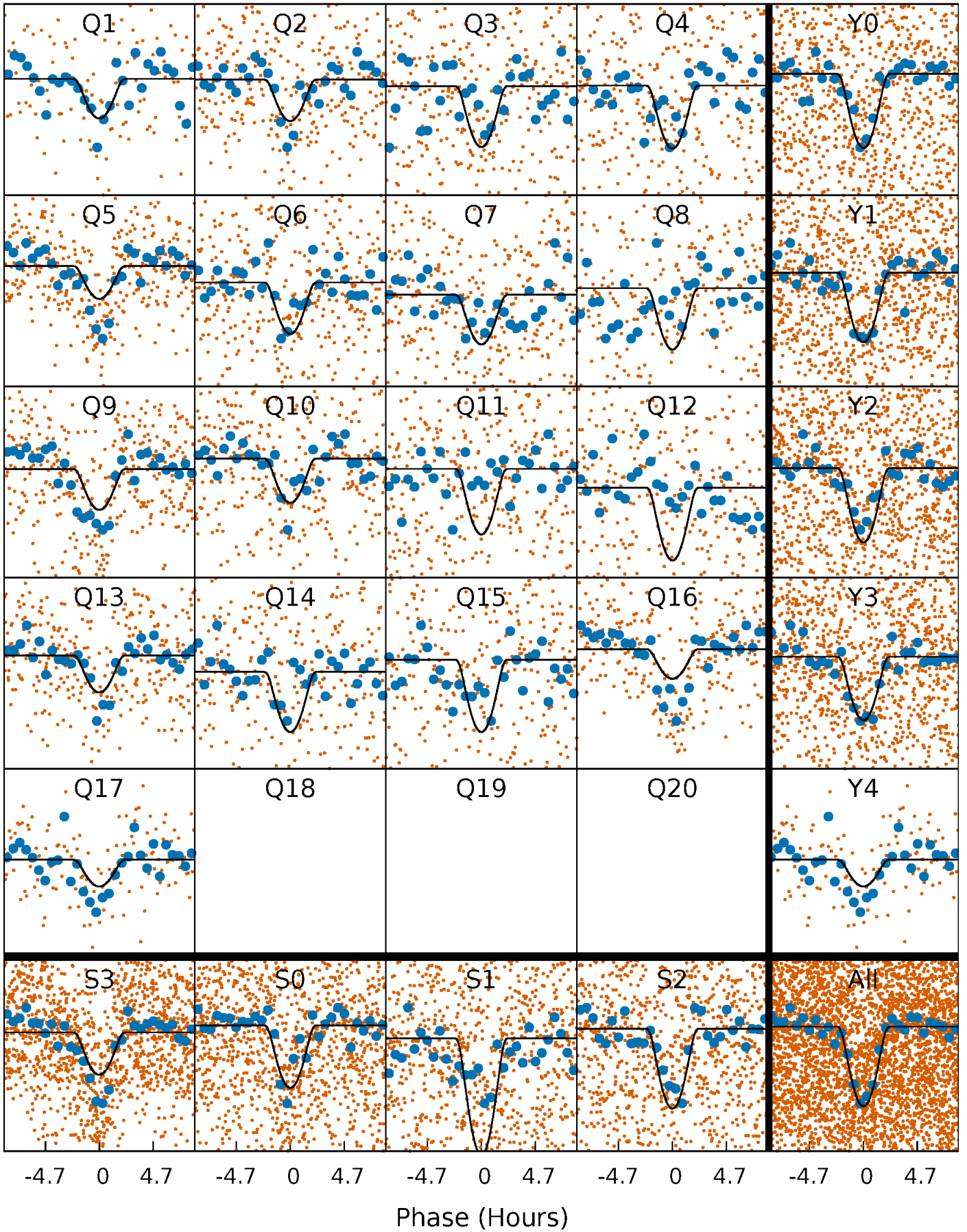
PDC Quarter-Phased Transit Curves

TCE 005480736-02 P= 8.567558 Days $T_0=131.542264$ (BKJD)



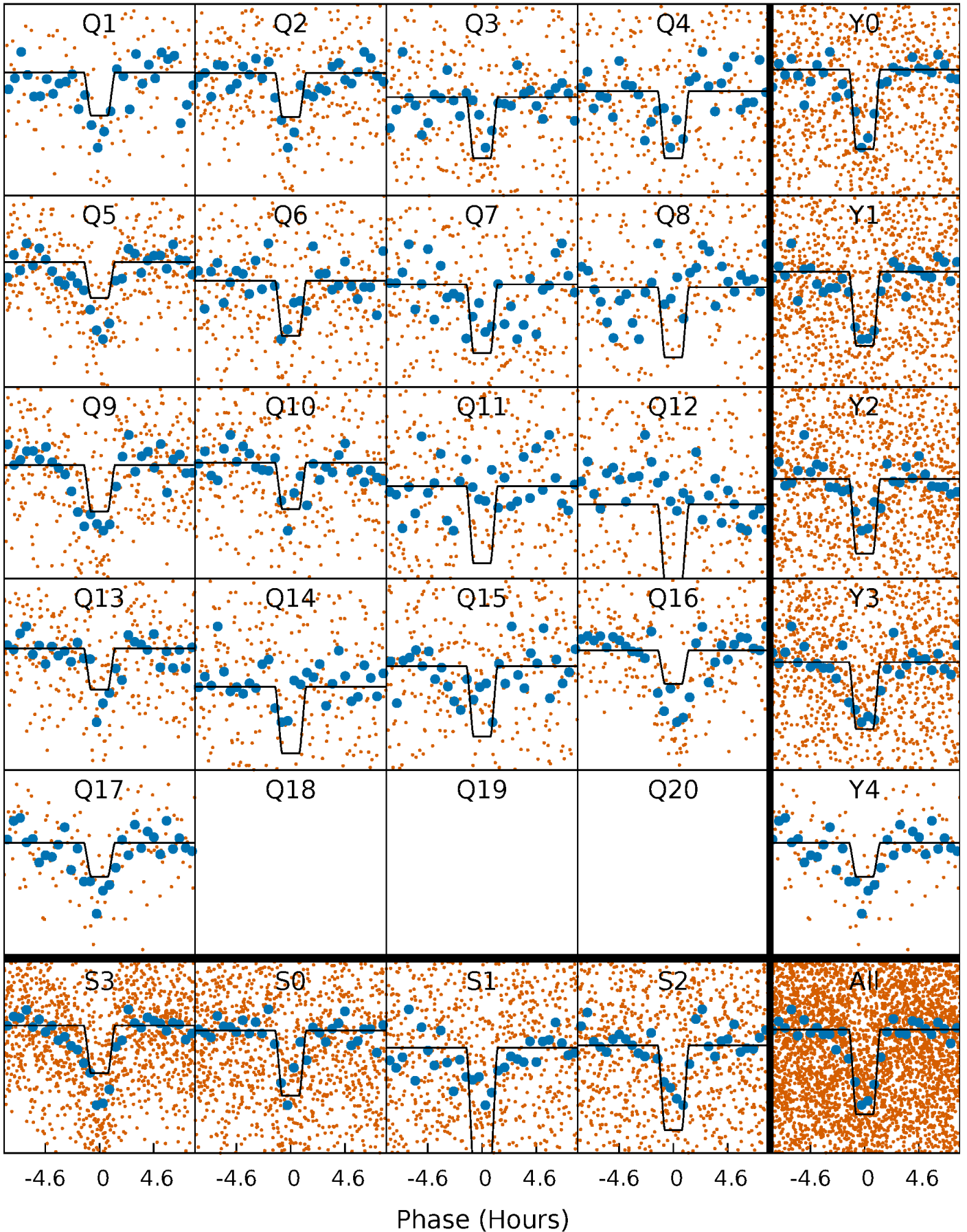
DV Quarter-Phased Transit Curves

TCE 005480736-02 P= 8.567558 Days $T_0=131.542264$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

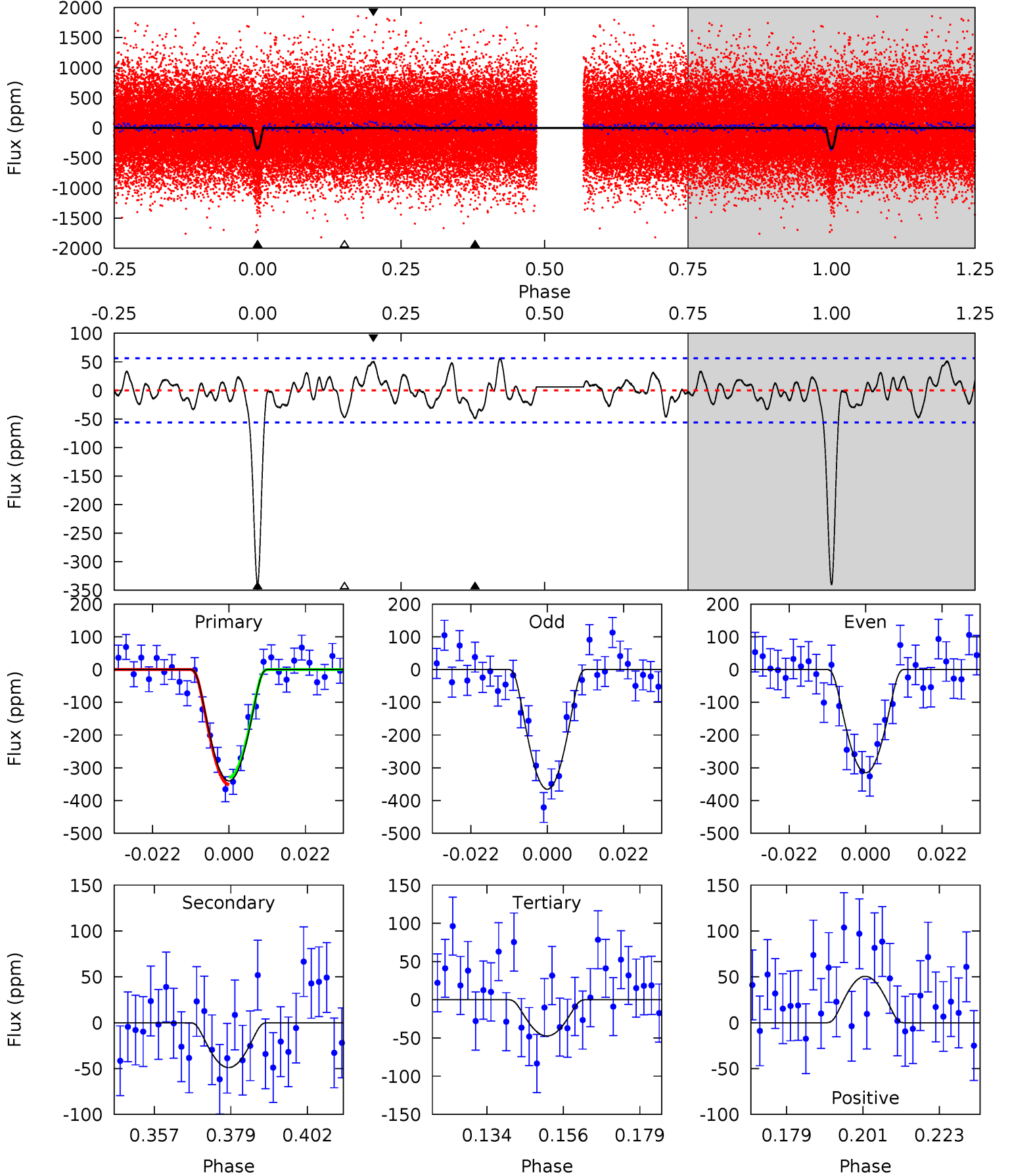
TCE 005480736-02 $P = 8.567538$ Days $T_0 = 131.542499$ (BKJD)



DV Model-Shift Uniqueness Test

005480736-02, P = 8.567558 Days, E = 122.974706 Days

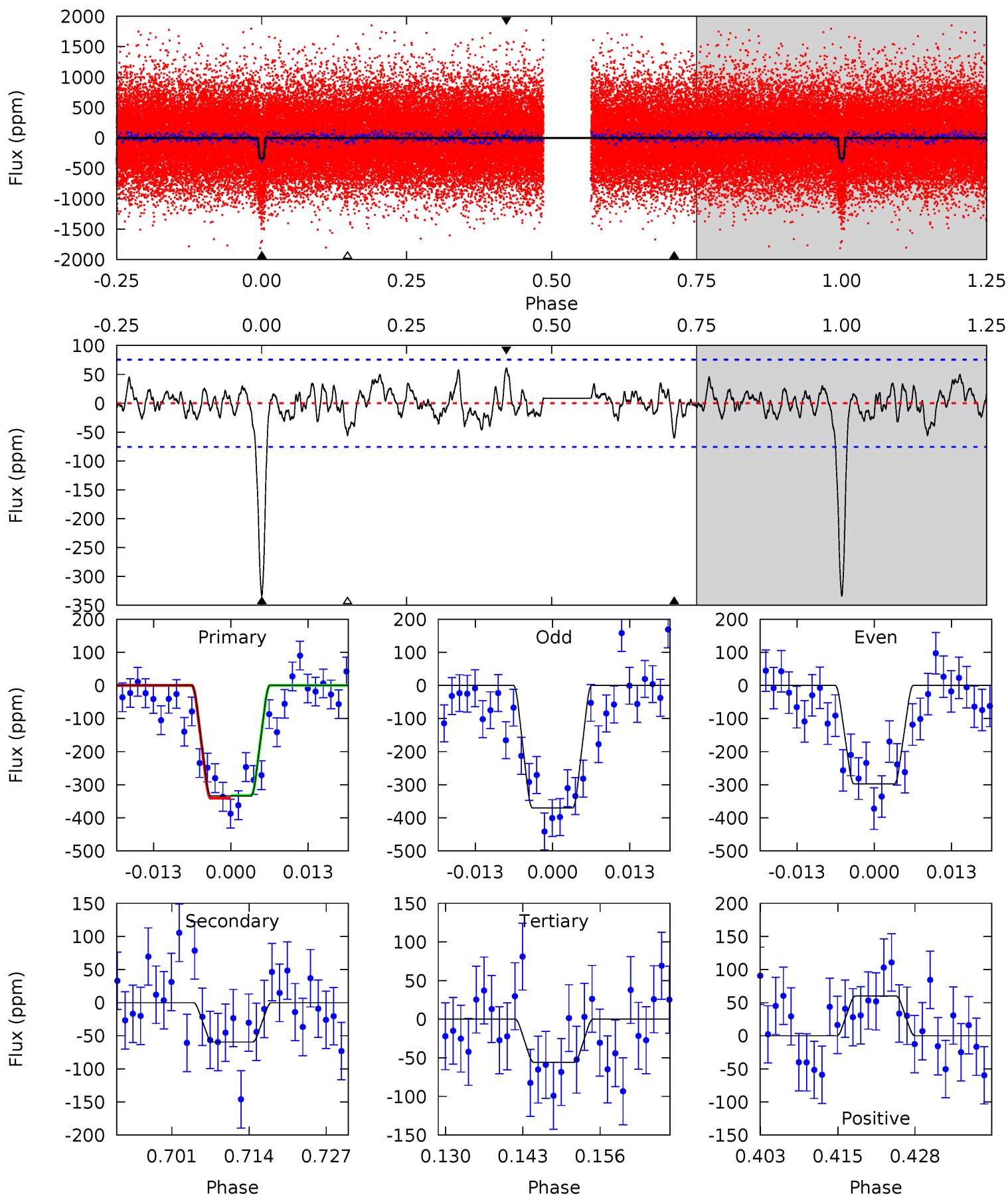
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.5	4.25	4.12	4.39	4.87	2.28	1.65	25.4	25.2	0.13	-0.14	2.19	1.17	0.14	0.96



Alt Model-Shift Uniqueness Test

005480736-02, P = 8.567538 Days, E = 122.974961 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	3.91	3.67	3.96	4.98	2.48	1.28	18.3	18.0	0.24	-0.04	2.37	1.10	0.15	0.27



Stellar Parameters For KIC 005480736

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6212^{+194}_{-237}	$4.420^{+0.070}_{-0.210}$	$-0.120^{+0.250}_{-0.300}$	$1.054^{+0.366}_{-0.122}$	$1.060^{+0.168}_{-0.137}$	$1.276^{+0.400}_{-0.683}$
	+3%/-4%	+2%/-5%	+208%/-250%	+35%/-12%	+16%/-13%	+31%/-54%
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 005480736-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 12	$5.61^{+5.37}_{-3.85}$	1384^{+118}_{-75}	3030^{+1492}_{-537}	$5.833^{+56.574}_{-4.350}$
Alt.	-60 ± 15	$5.01^{+4.57}_{-3.56}$	1385^{+93}_{-80}	3196^{+1772}_{-581}	$8.385^{+95.784}_{-6.186}$

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 $A_{obs} \gg 1.0$

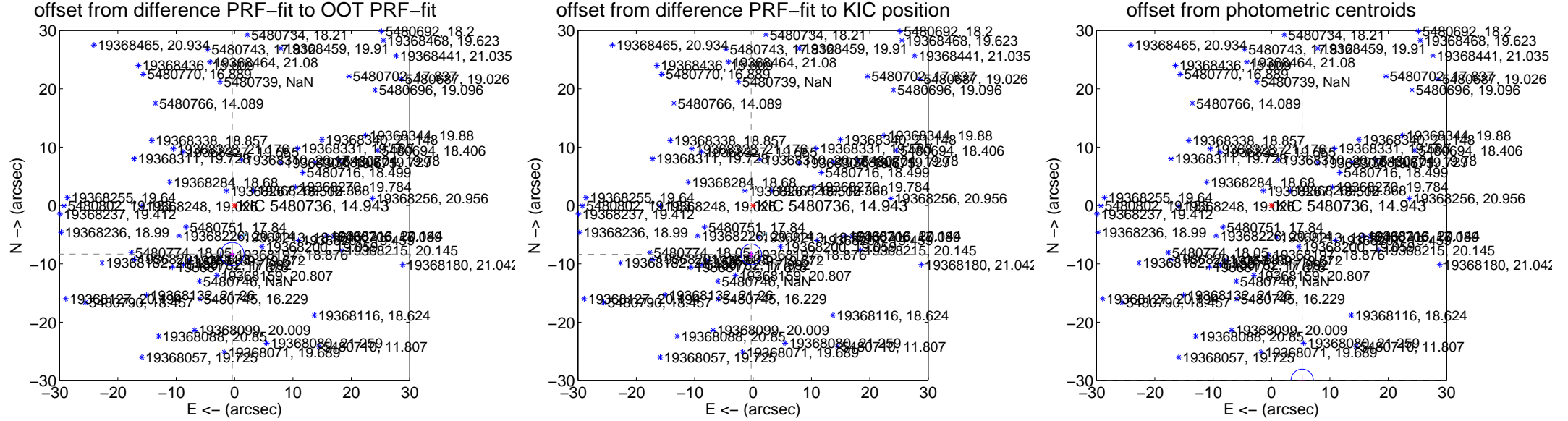
DV Centroid Data

Supplemental centroid analysis for 005480736-02. Kepler magnitude: 14.94. Transit SNR 16.18

There are 8 quarters with good PRF difference image offsets

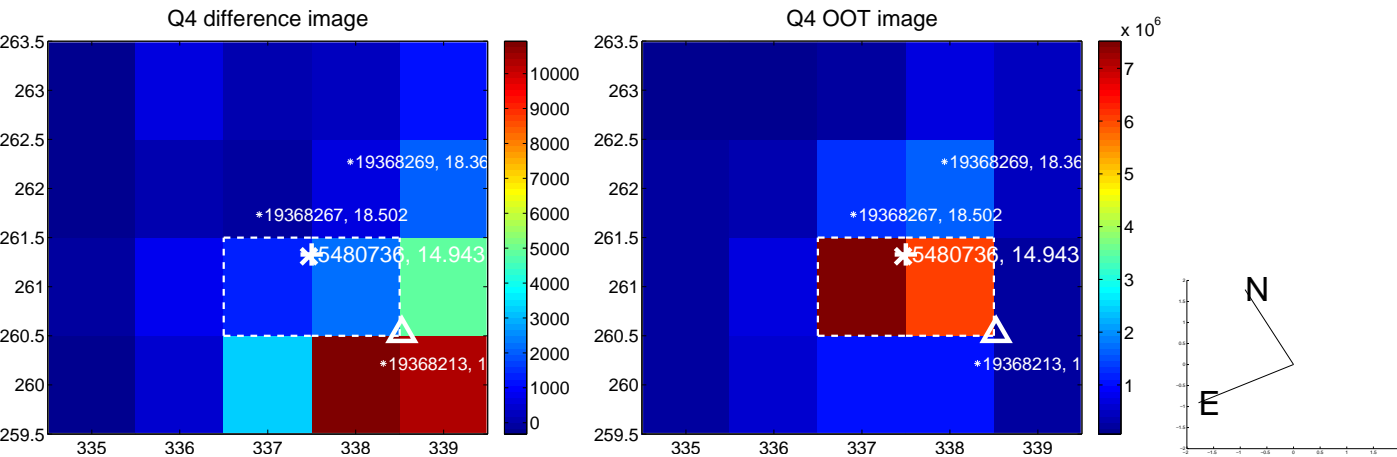
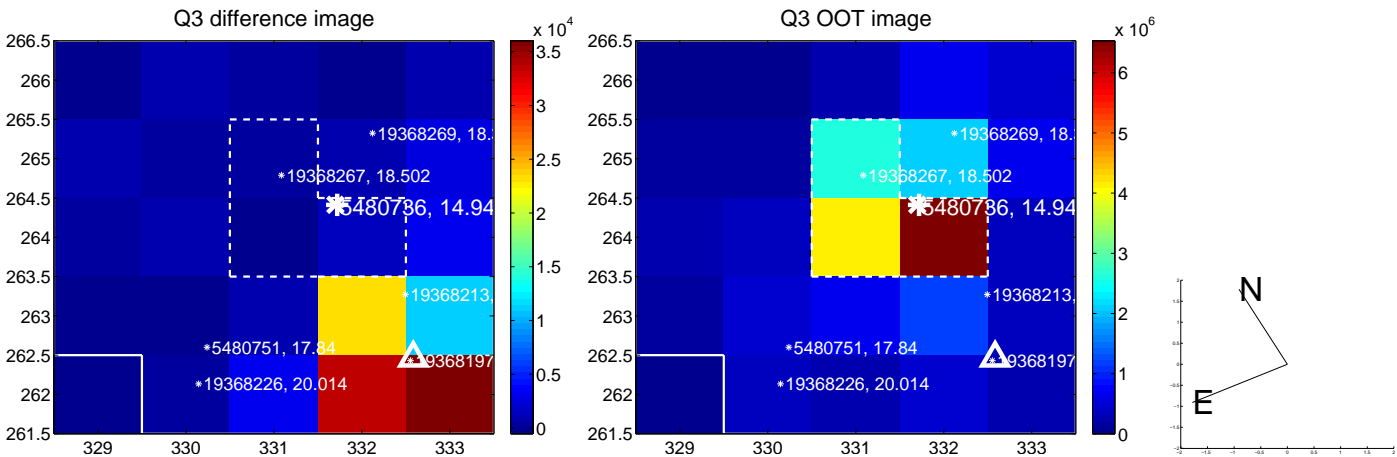
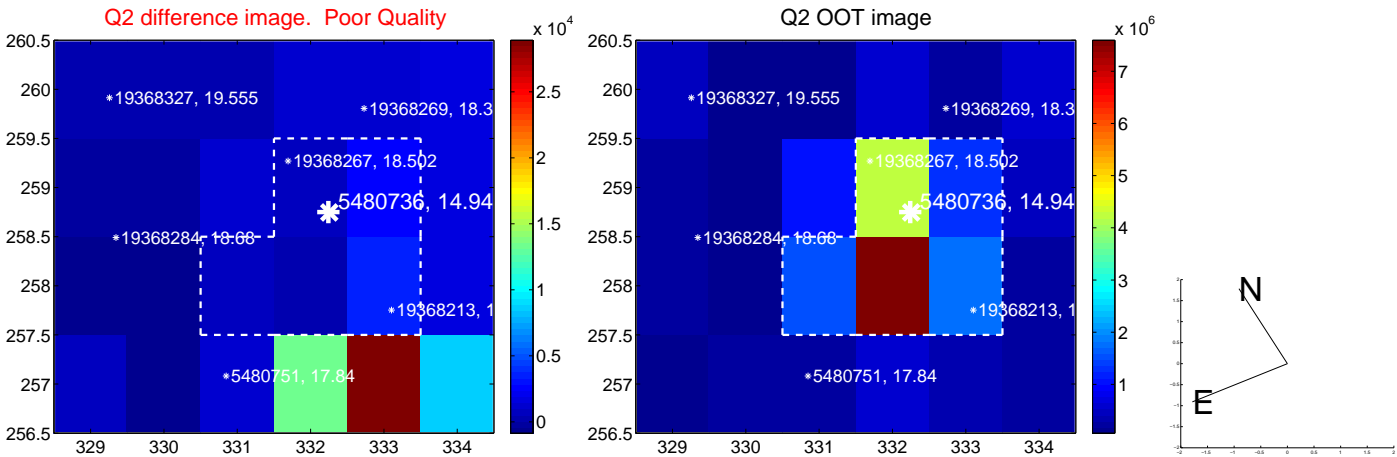
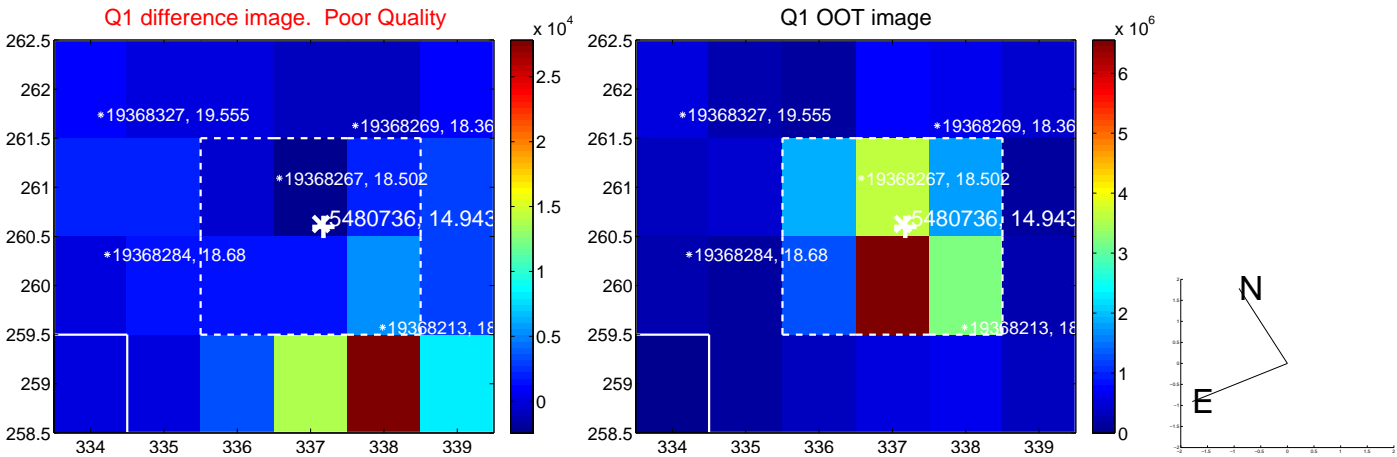
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.337 \pm 0.668	12.47	0.396 \pm 0.441	-8.328 \pm 0.649
PRF-fit source offset from KIC position	8.382 \pm 0.590	14.20	0.316 \pm 0.400	-8.376 \pm 0.576
photometric centroid source offset	30.41 \pm 0.64	47.74	-5.25 \pm 0.69	-29.95 \pm 0.64

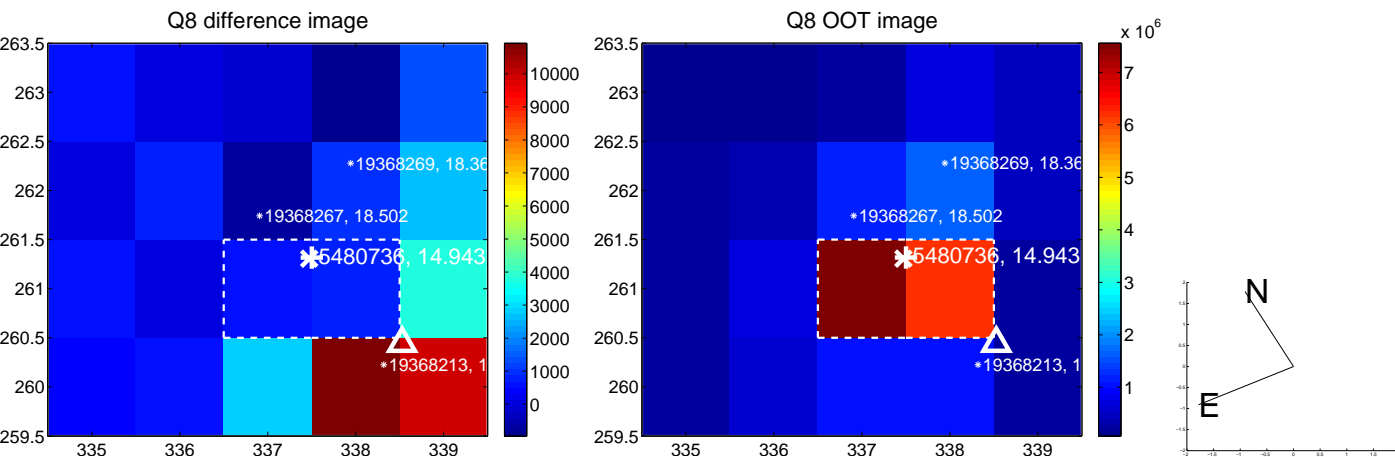
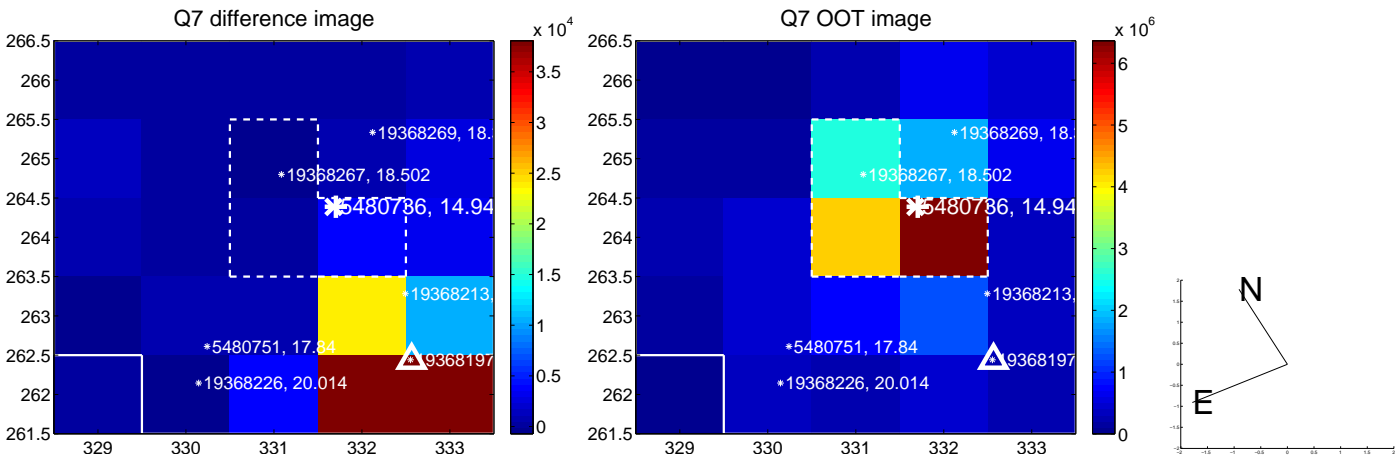
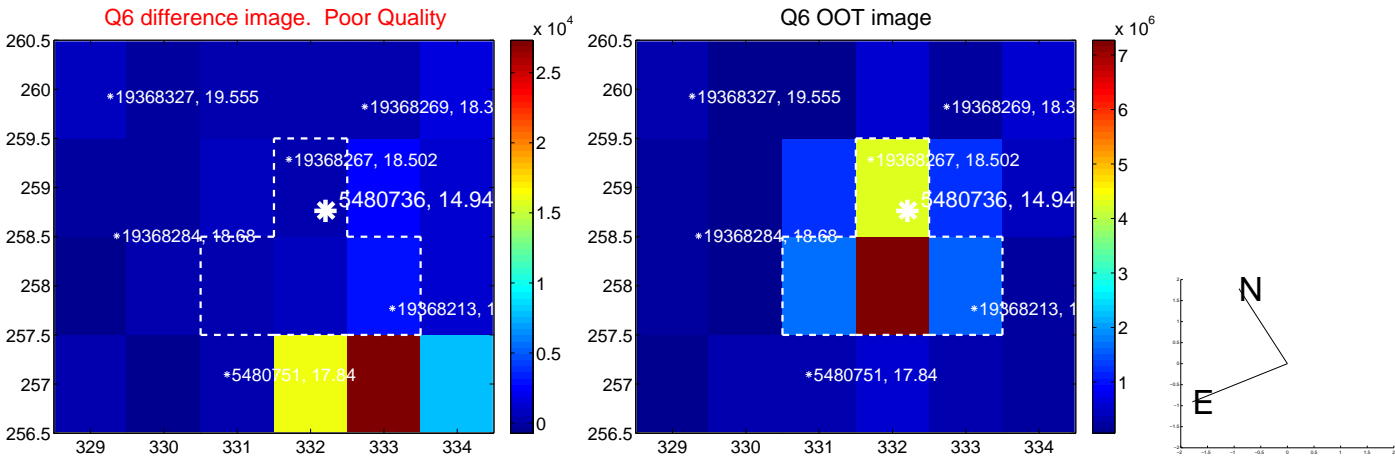
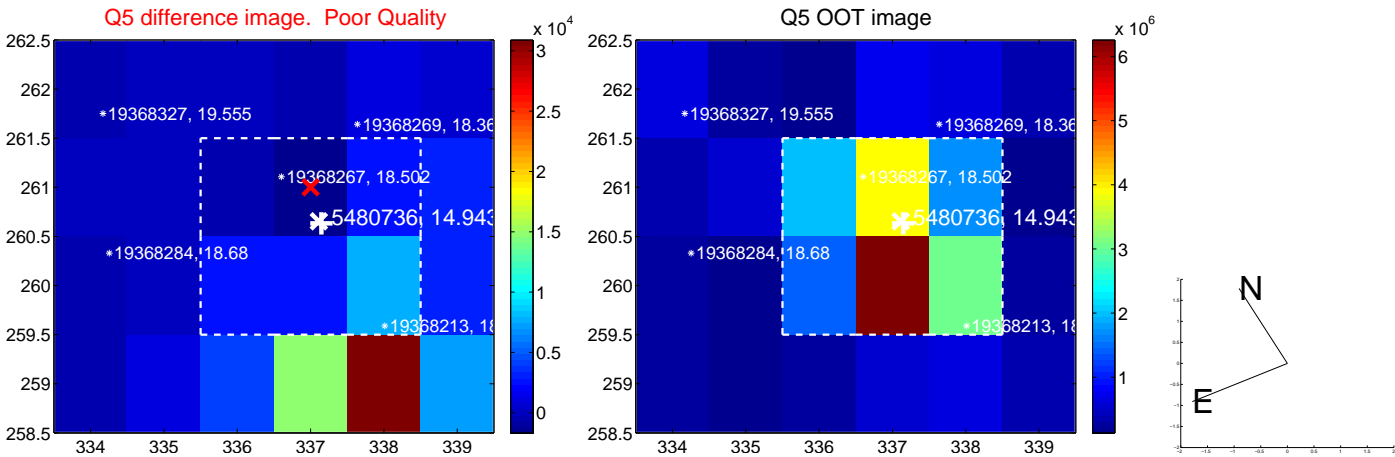


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

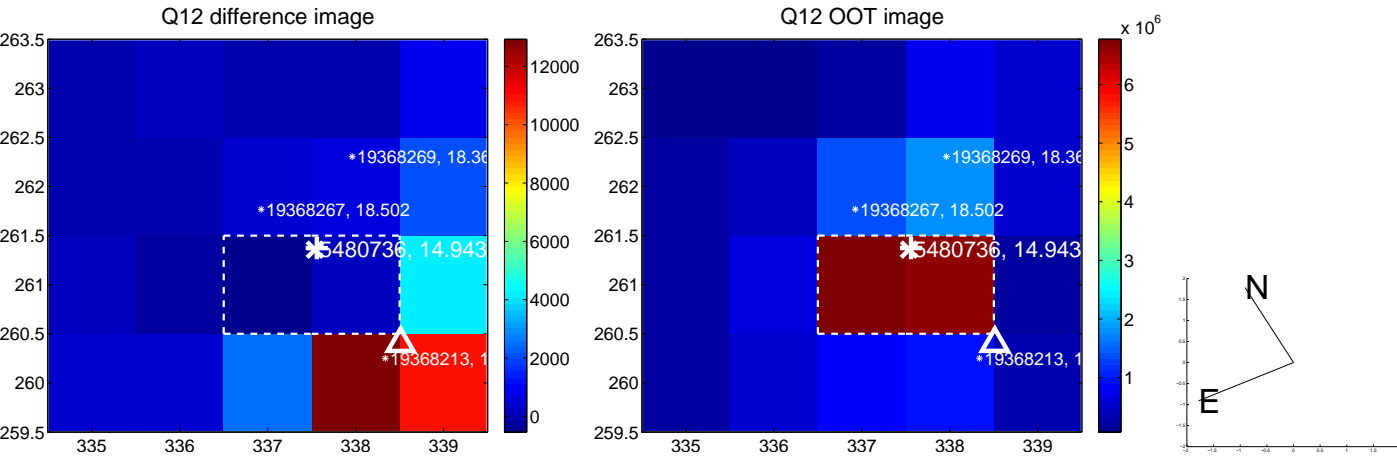
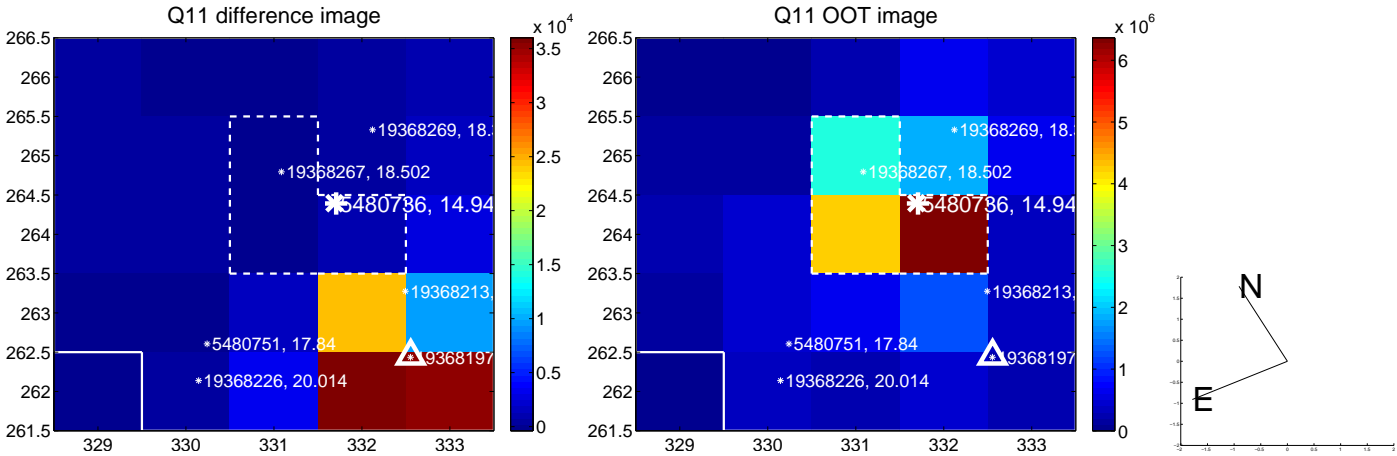
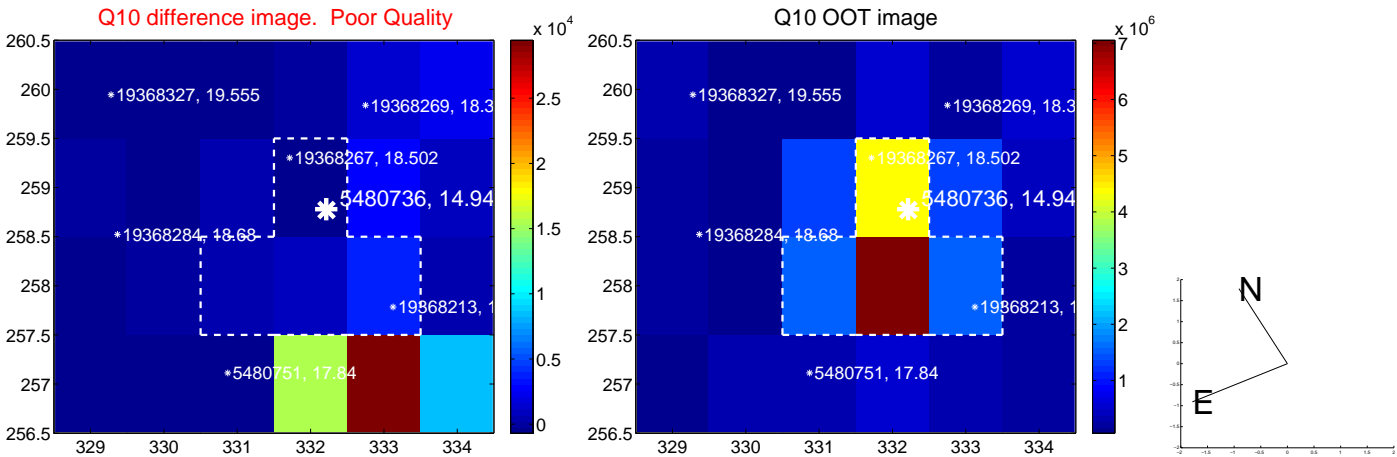
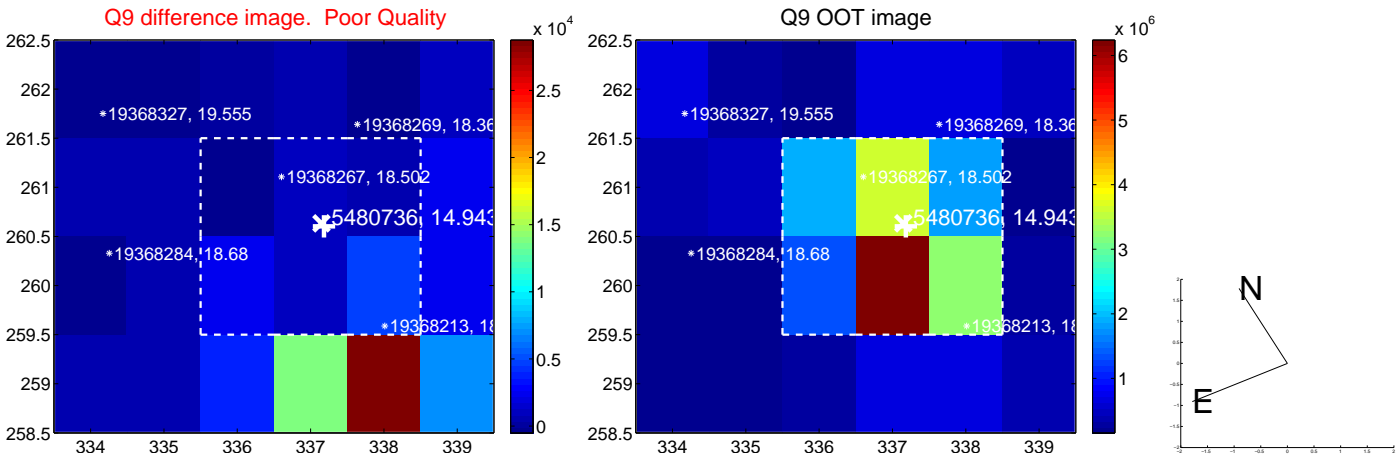
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



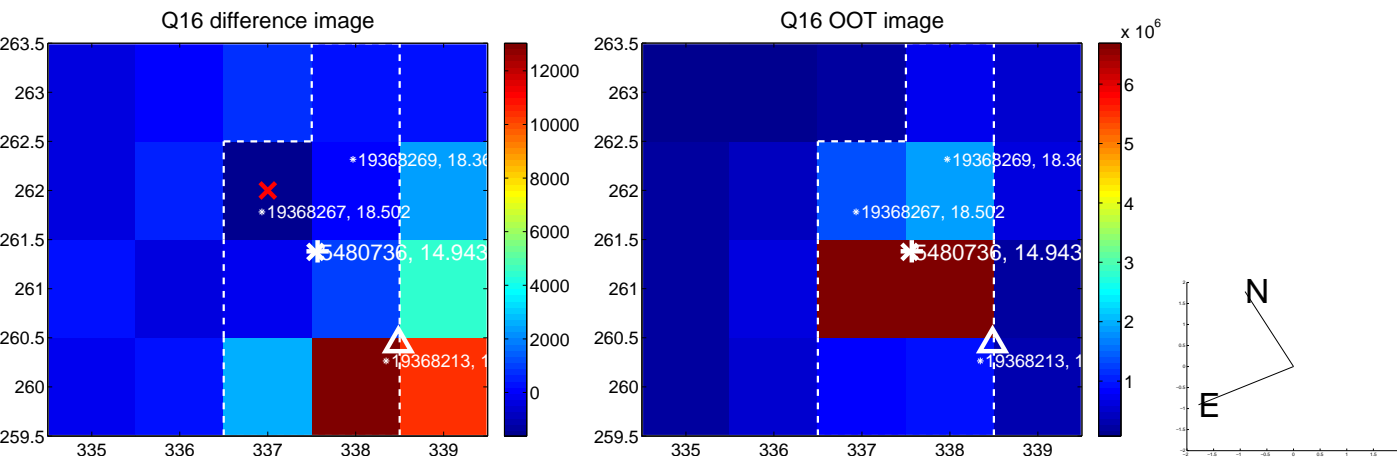
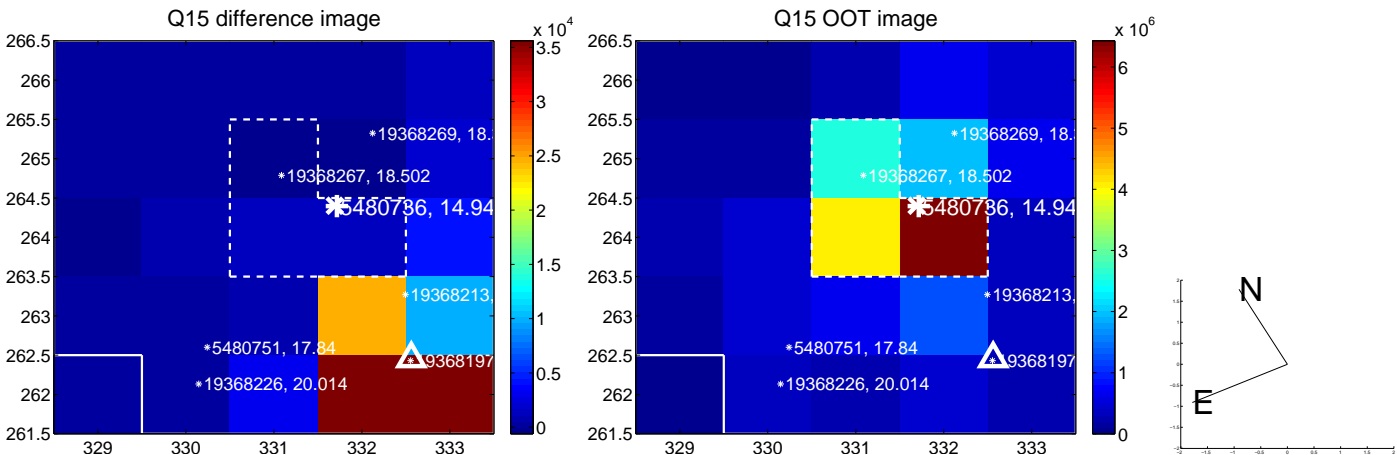
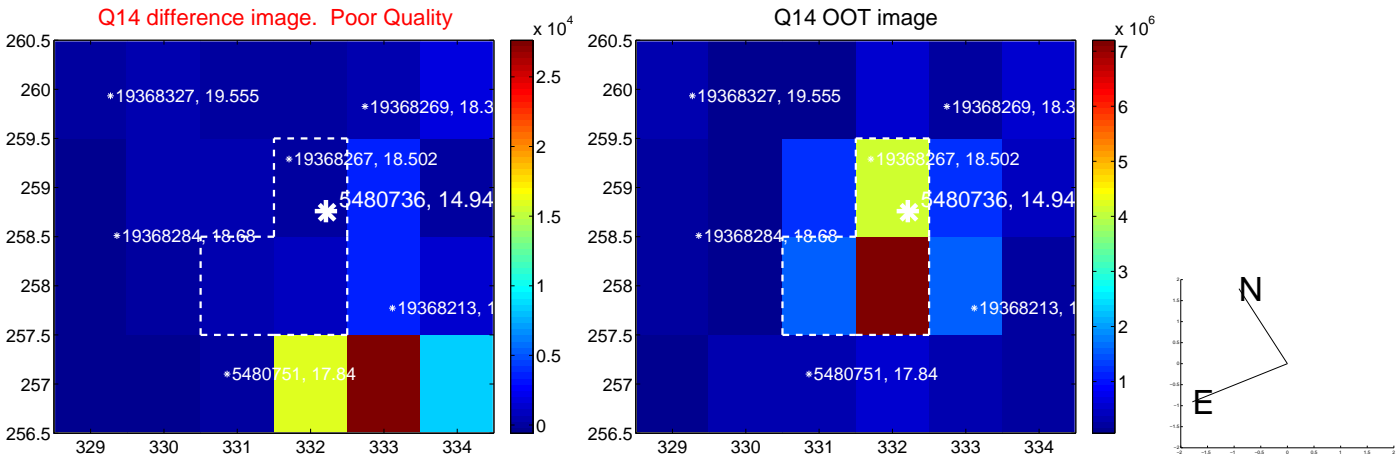
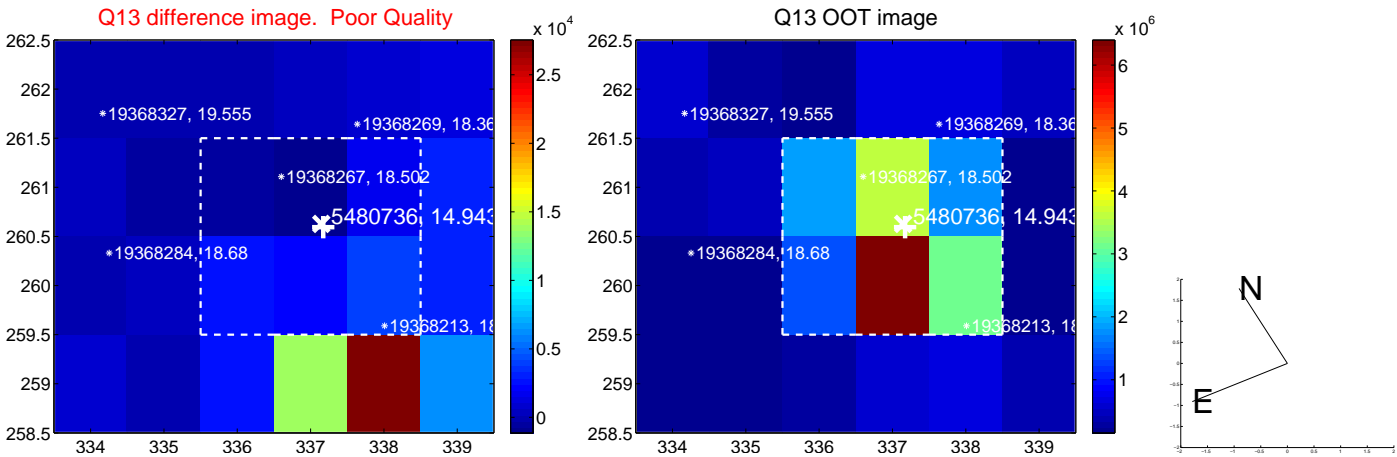
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



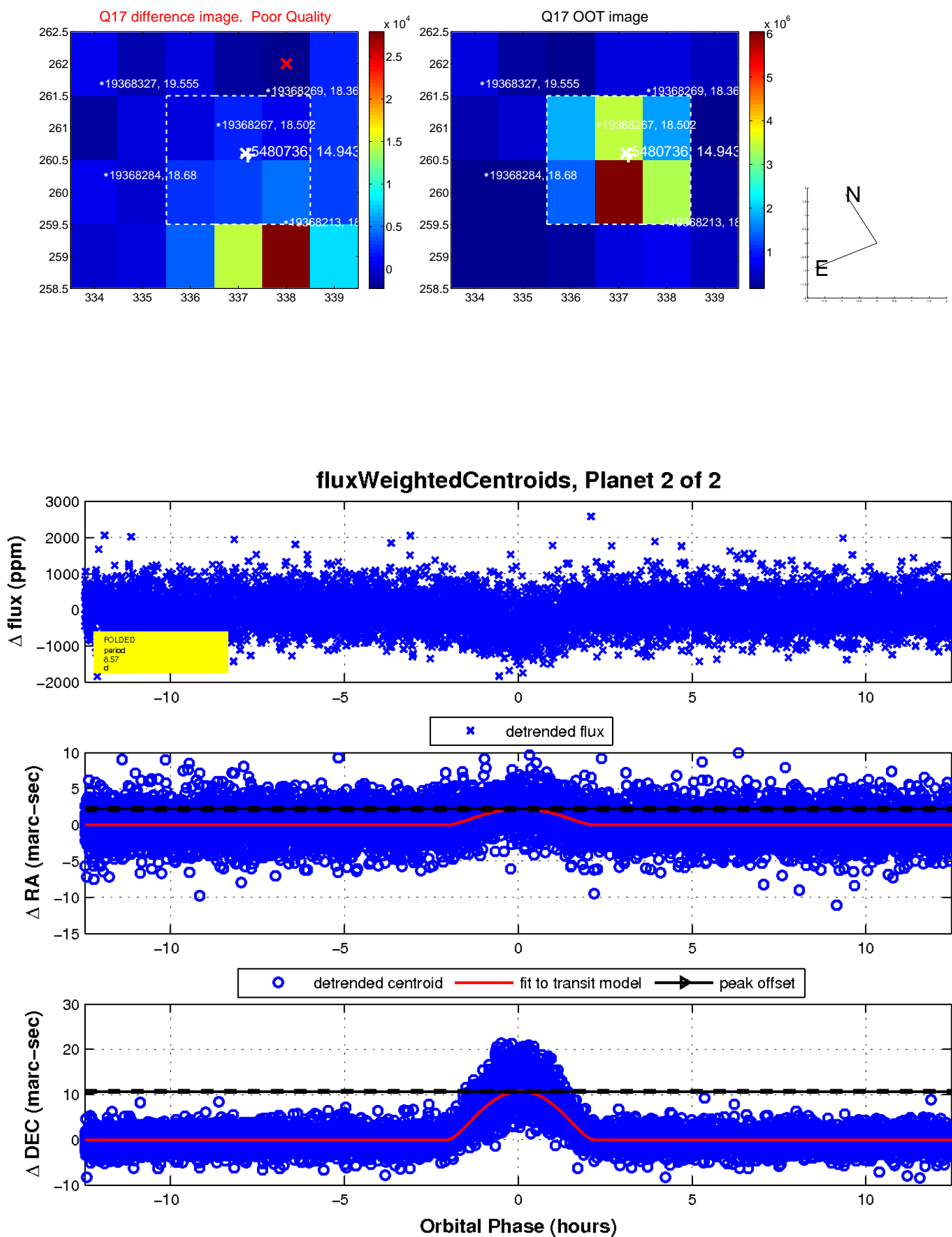
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

