

KIC 005460835

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})
005460835-01	OBS	6580.01	21.539267	144.154372	142943.7	5.331	5924.2	4373.6	0.93	6136	52.22	48.98
005460835-02	OBS	No	21.539257	135.598817	23749.3	5.261	1082.1	1086.2	0.93	6136	23.55	48.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005460835-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
005460835-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

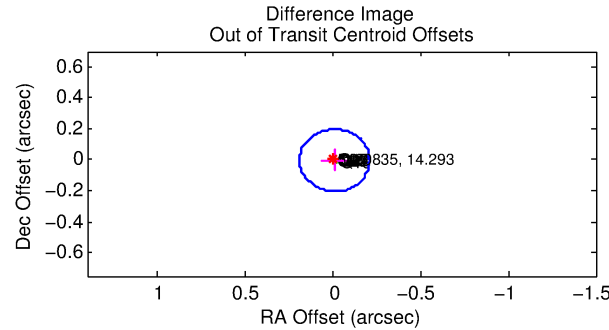
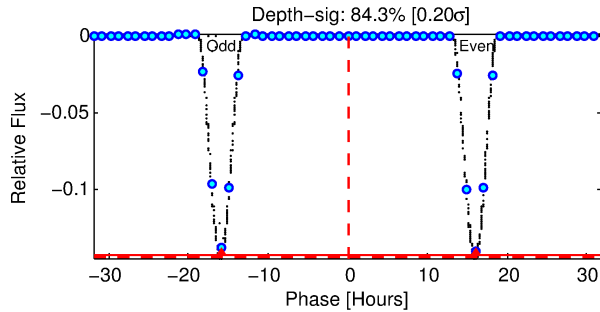
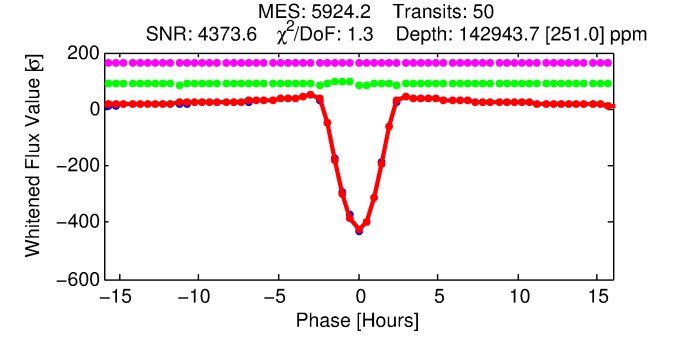
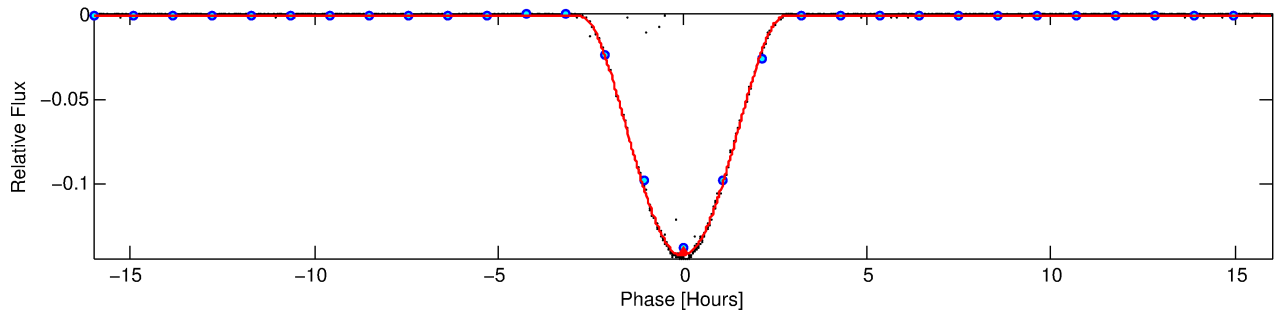
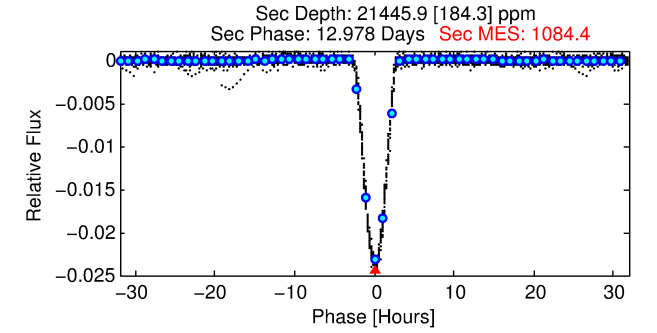
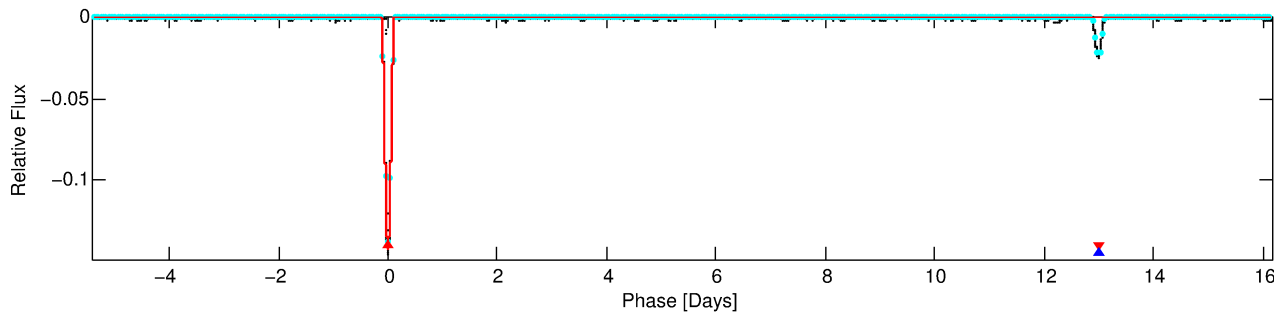
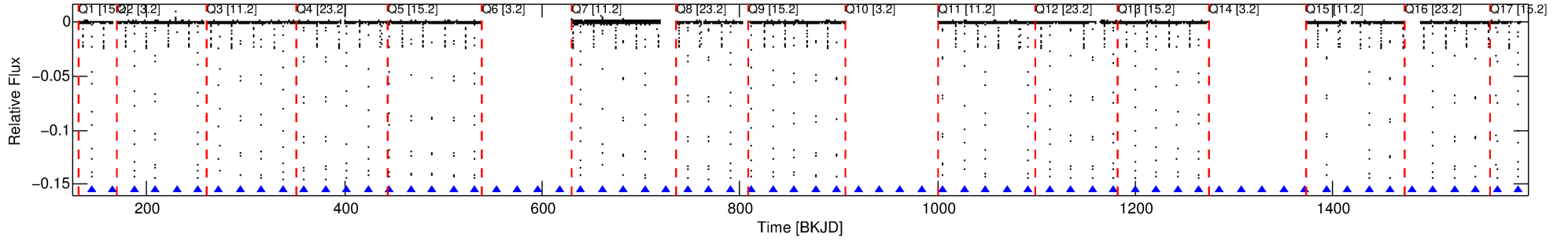
Ephemeris Match Information For 005460835-01

No Significant Match Found

DV One-Page Summary

KIC: 5460835 Candidate: 1 of 2 Period: 21.539 d
KOI: K06580.01 Corr: 0.999

Kp: 14.29 R*: 0.93 Rs Teff: 6136.0 K Logg: 4.49 Fe/H: -0.360



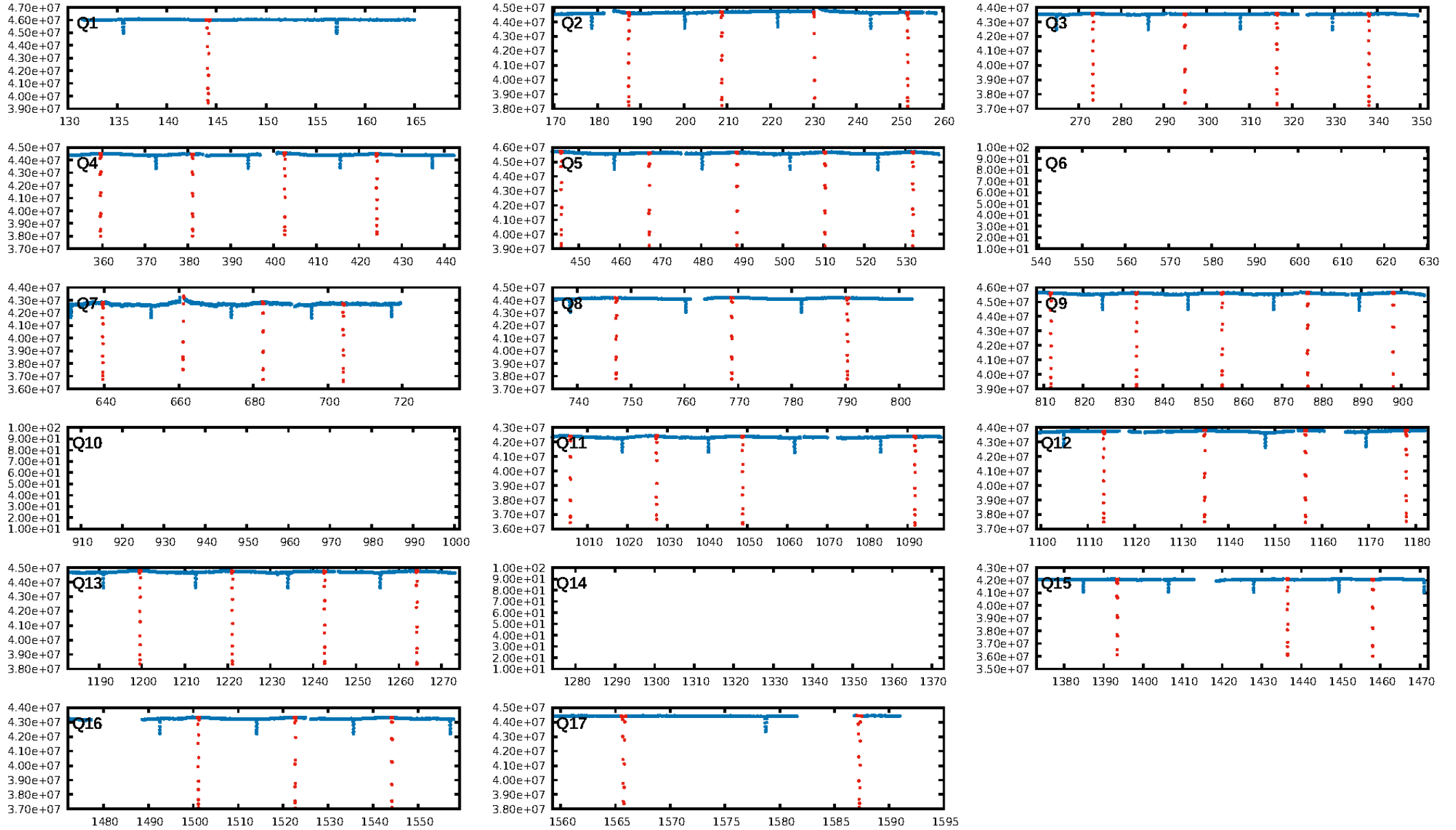
DV Fit Results:

Period = 21.53927 [0.00000] d
Epoch = 144.1544 [0.0000] BKJD
Rp/R* = 0.5129 [0.0794]
a/R* = 37.55 [0.50]
b = 0.90 [0.11]
Seff = 48.98 [19.28]
Teq = 675 [66] K
Rp = 52.22 [17.88] Re
a = 0.1502 [0.0385] AU
Ag = 97.65 [47.19] [2.05σ]
Teffp = 3279 [276] K [9.18σ]

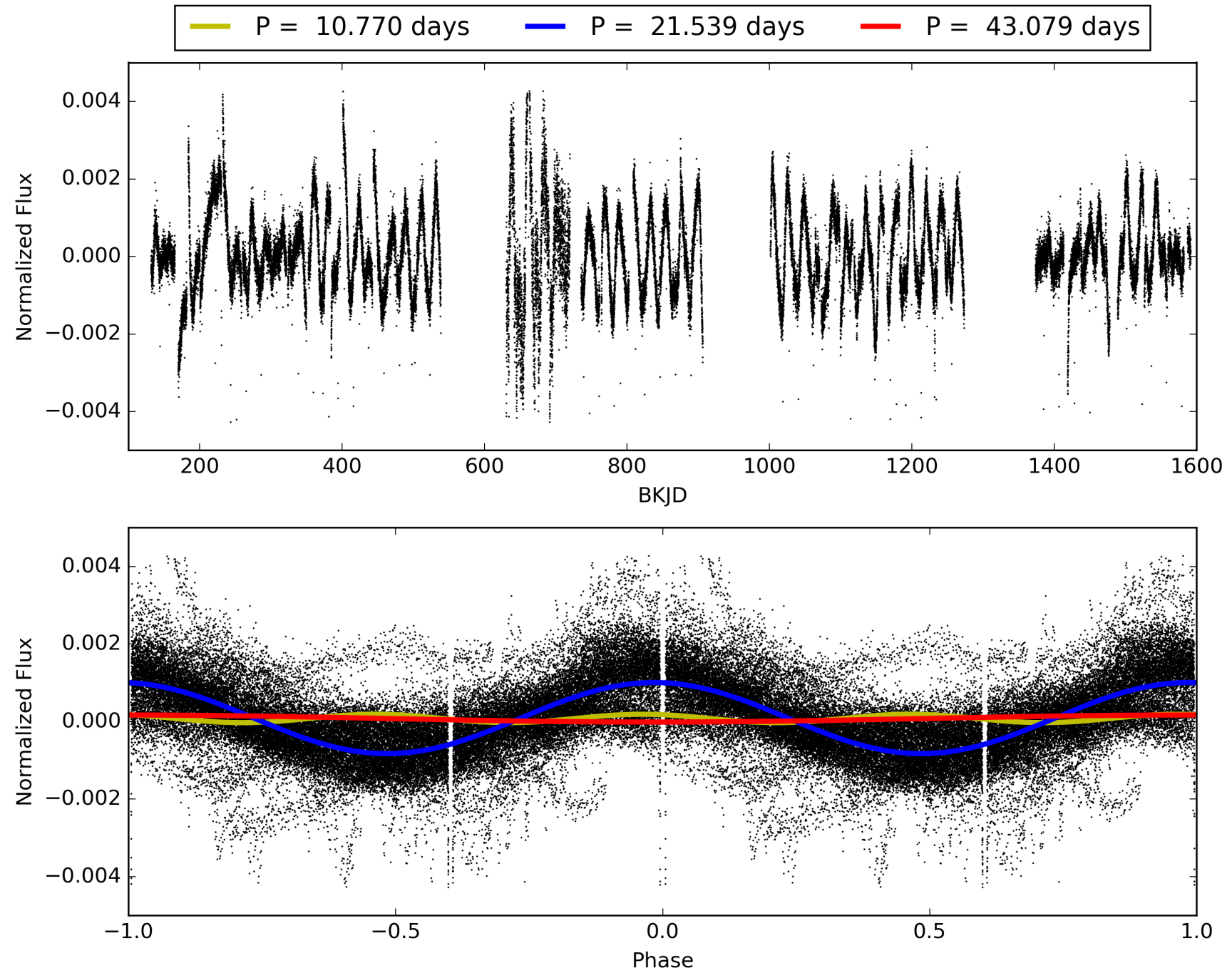
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 64.5%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [47/47]
GhostDiagnostic-chr: 4.535
Centroid-sig: 0.0%
Centroid-so: 0.021 arcsec [12.73σ]
OotOffset-rm: 0.011 arcsec [0.16σ]
KicOffset-rm: 0.038 arcsec [0.56σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005460835-01, PDC Light Curves

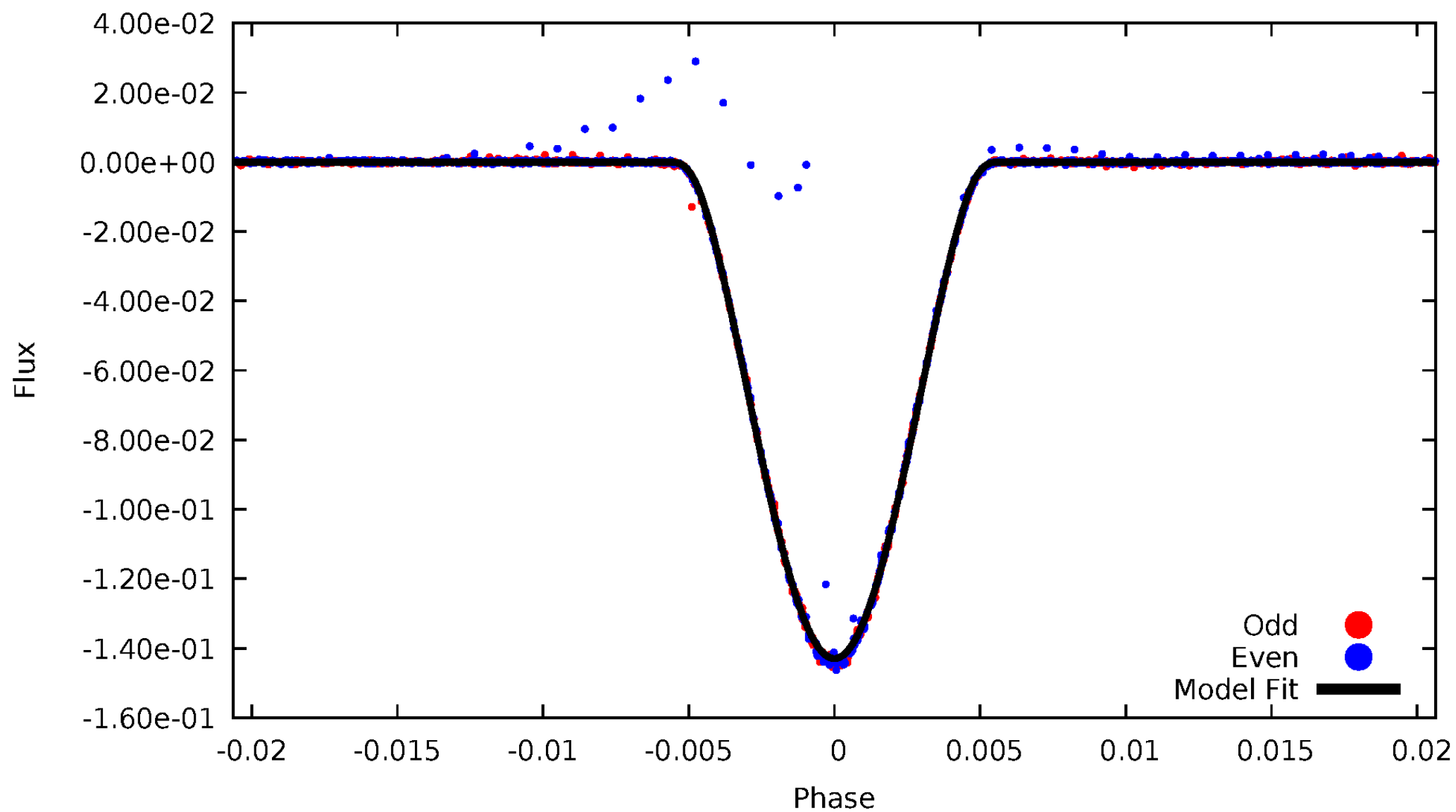


TCE 005460835-01



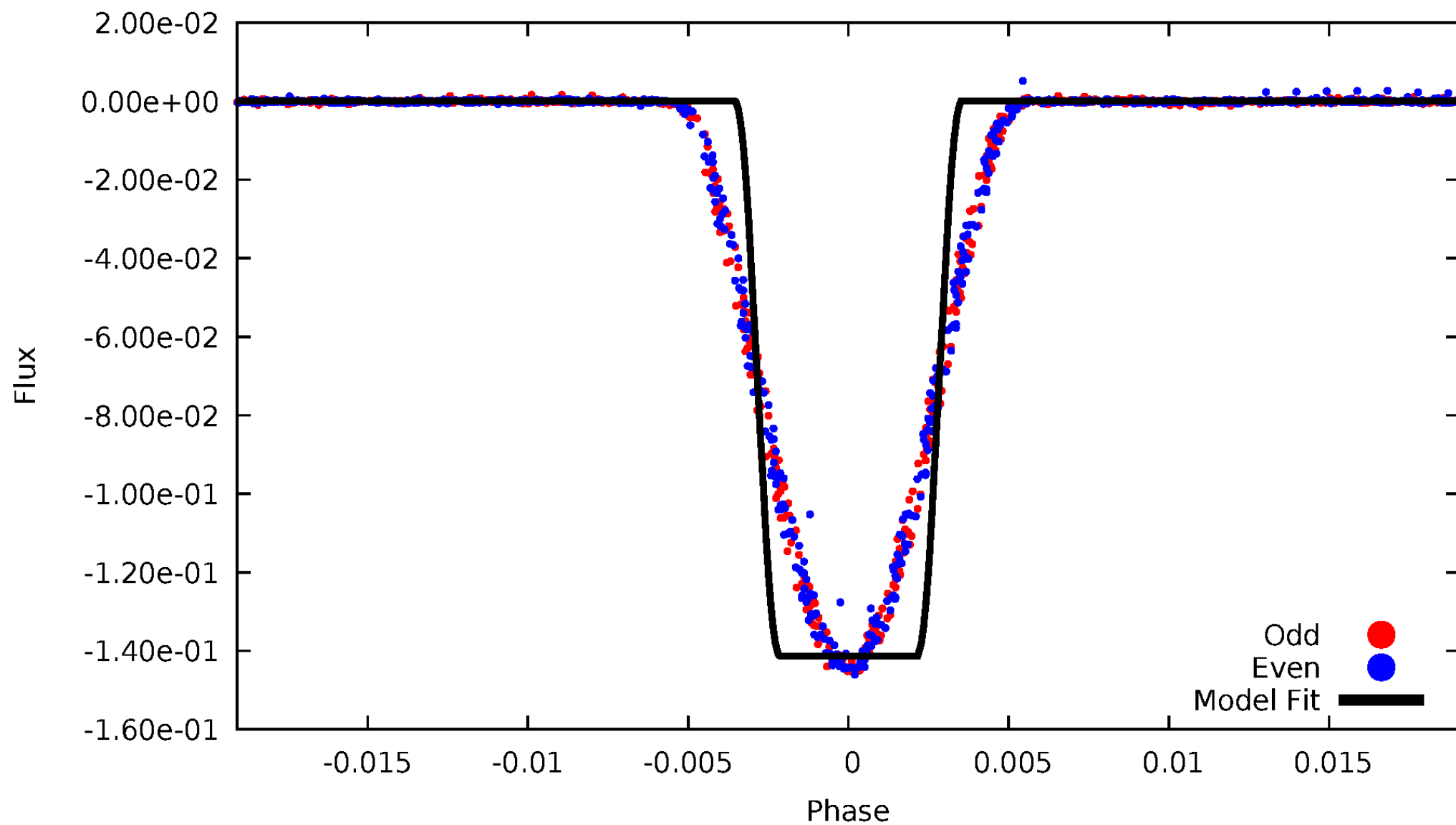
DV Odd/Even

TCE 005460835-01



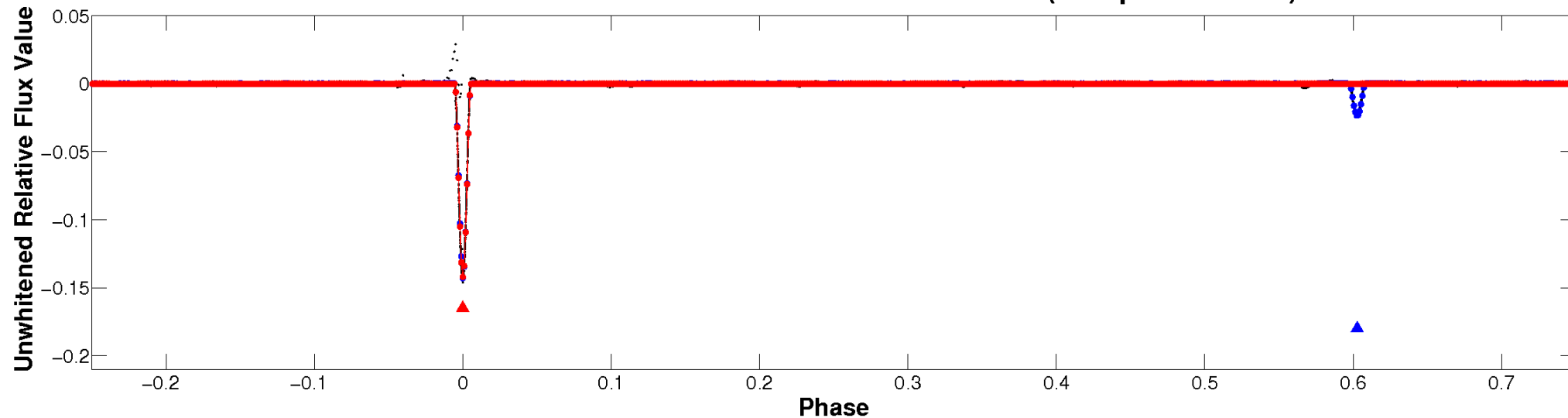
ALT Odd/Even

TCE 005460835-01

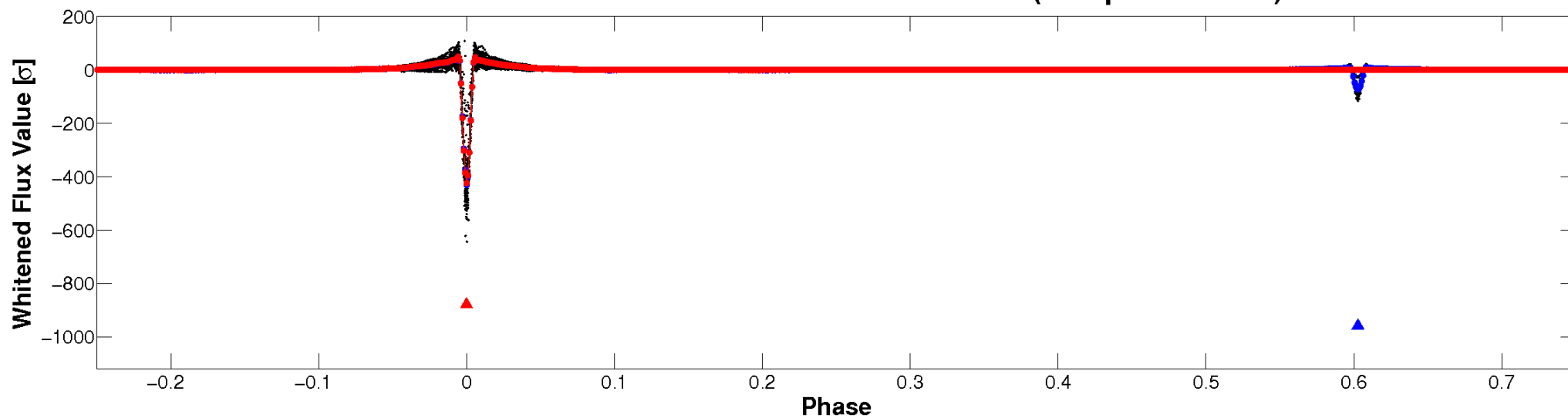


Non-Whitened Vs. Whitened Light Curve

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

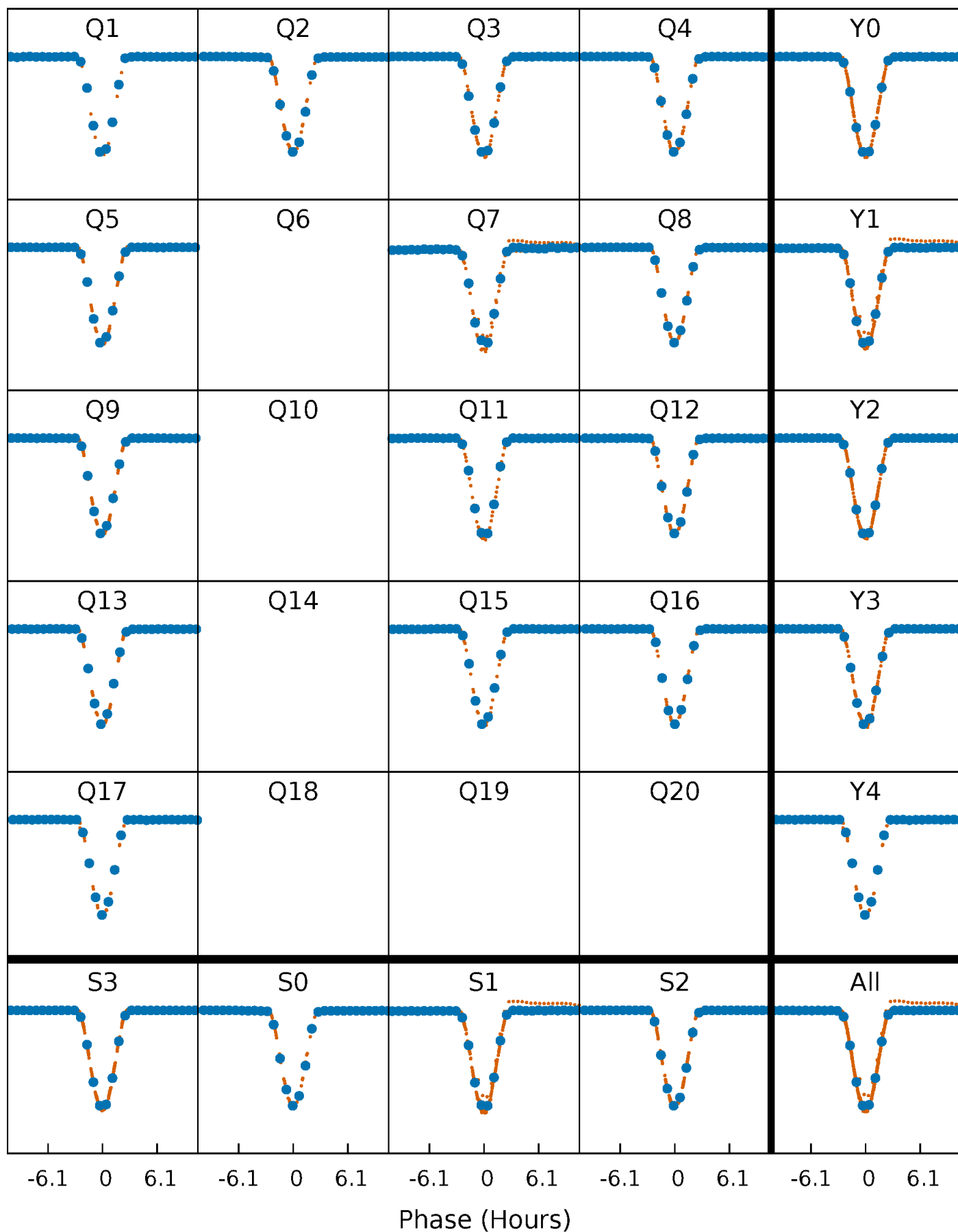


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



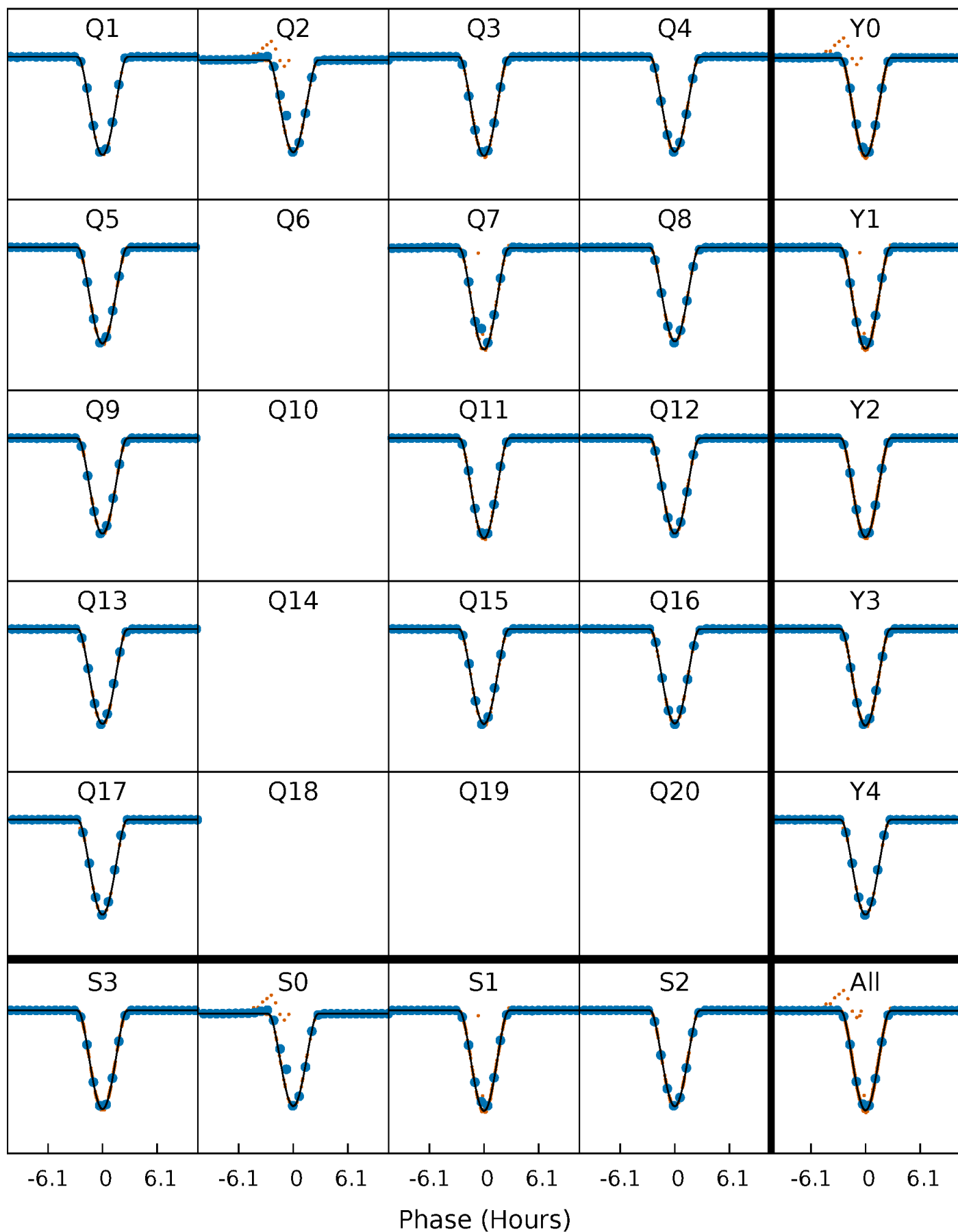
PDC Quarter-Phased Transit Curves

TCE 005460835-01 P= 21.539267 Days $T_0=144.154372$ (BKJD)



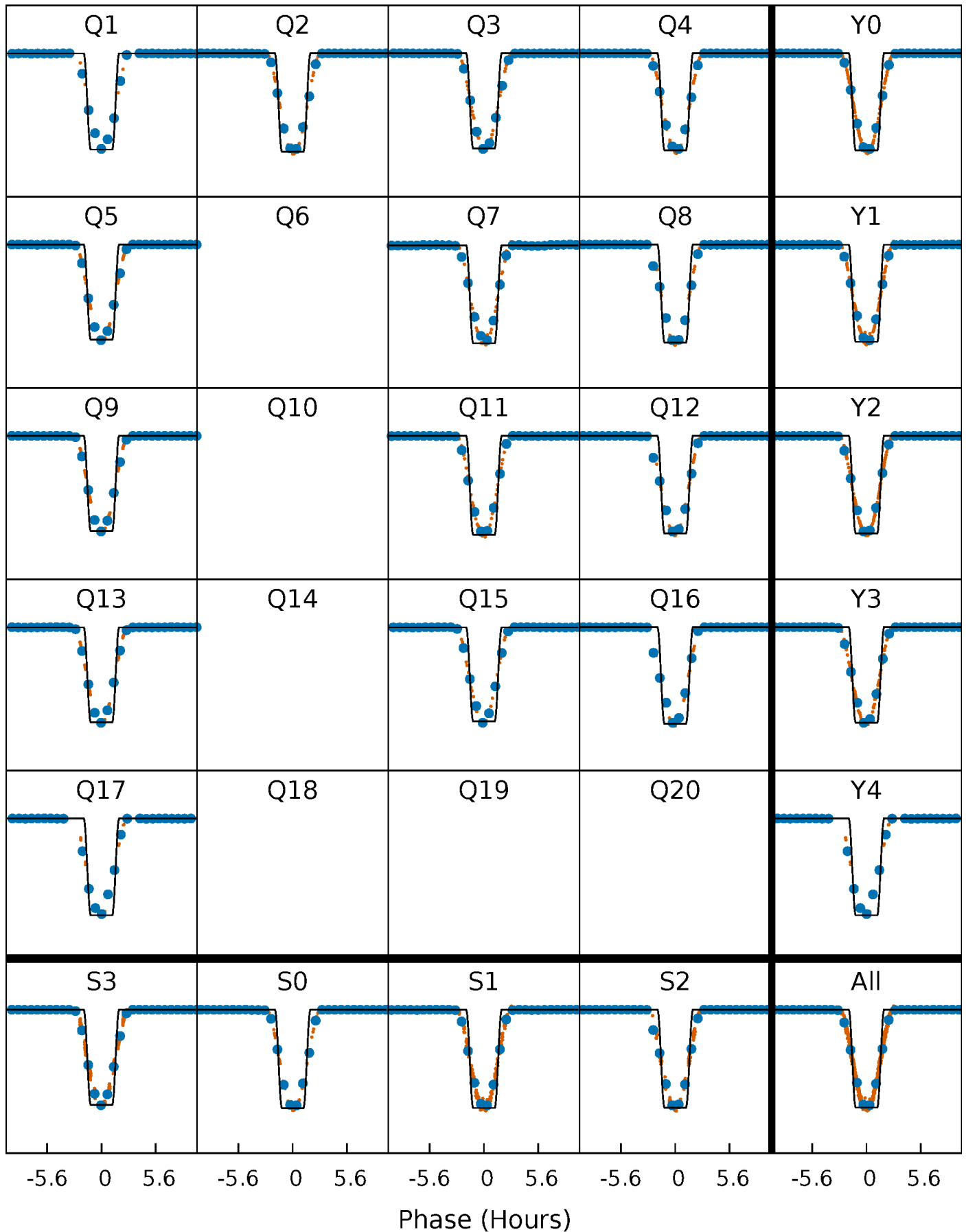
DV Quarter-Phased Transit Curves

TCE 005460835-01 P= 21.539267 Days $T_0=144.154372$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

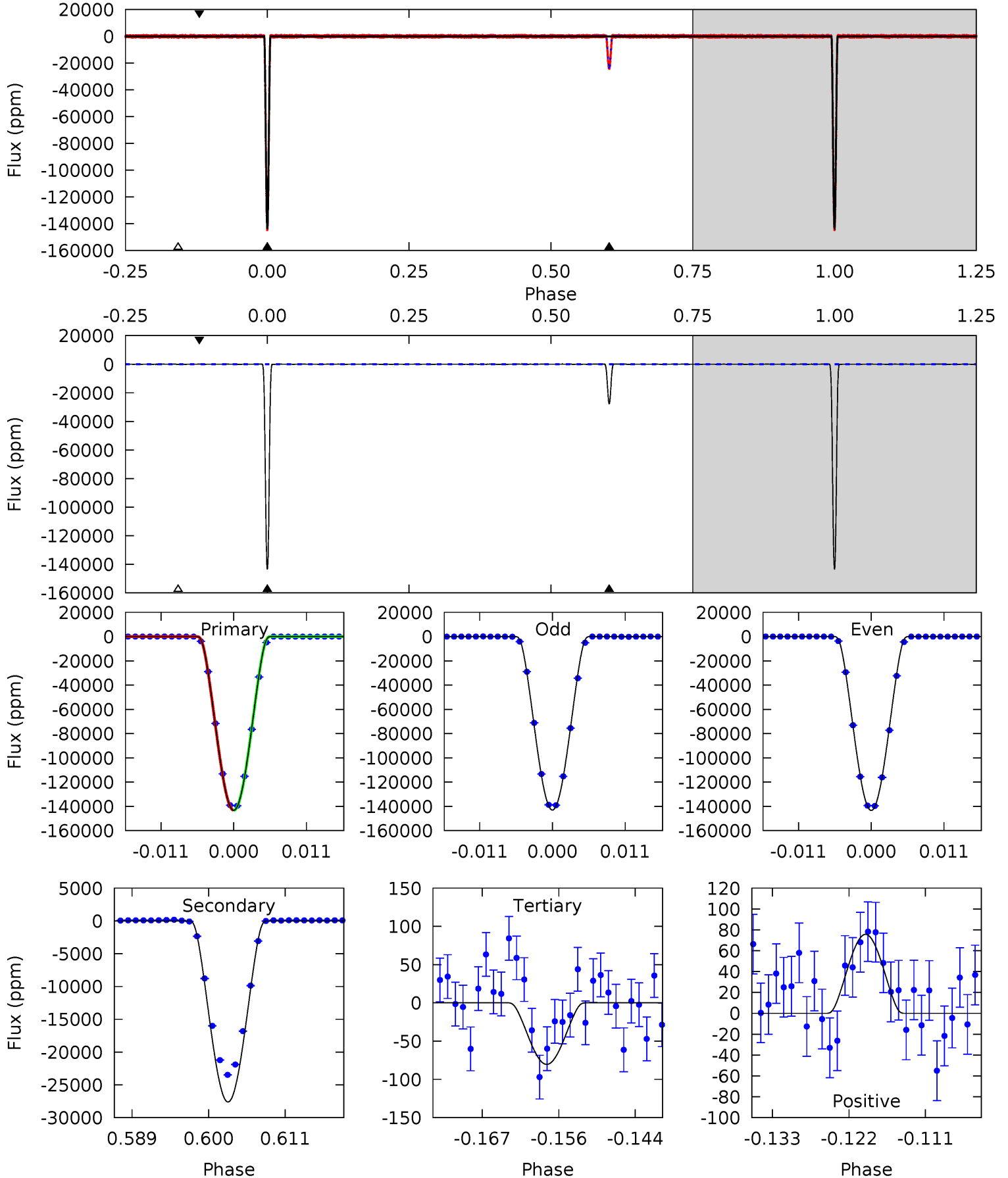
TCE 005460835-01 P= 21.539398 Days $T_0=144.150153$ (BKJD)



DV Model-Shift Uniqueness Test

005460835-01, P = 21.539267 Days, E = 122.615105 Days

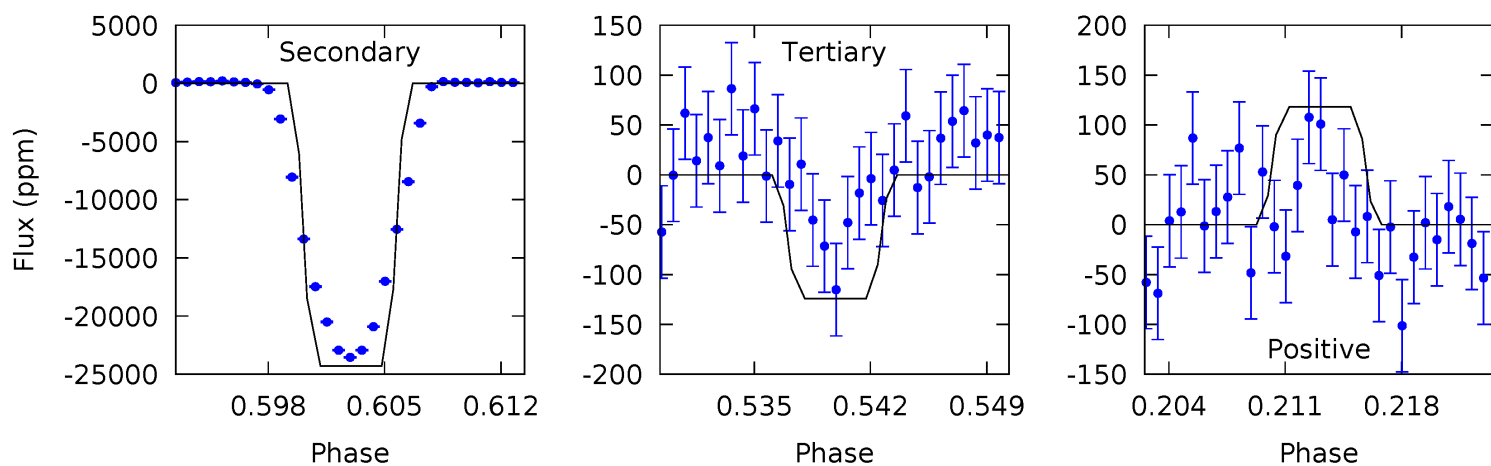
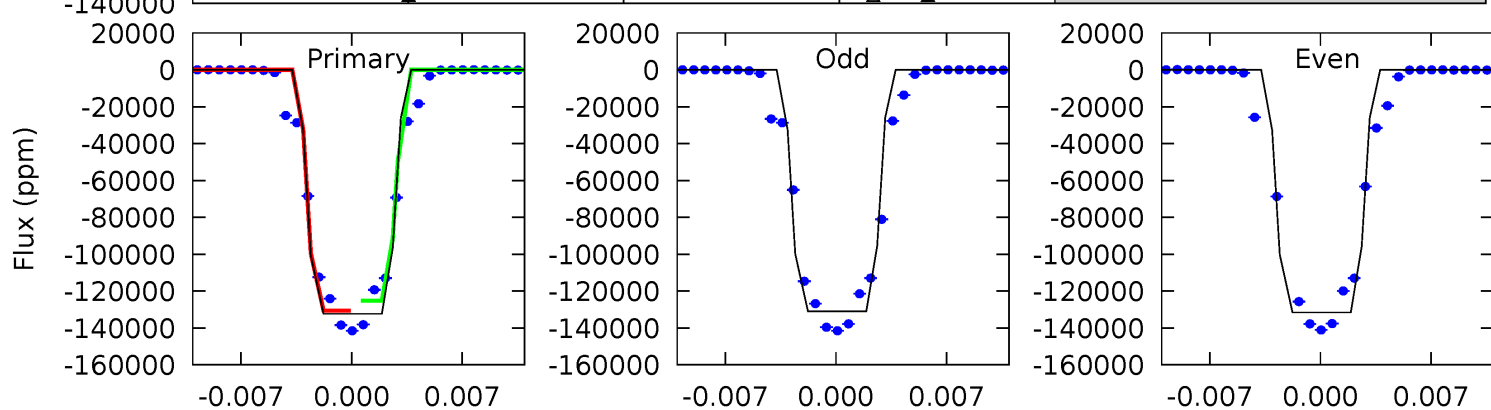
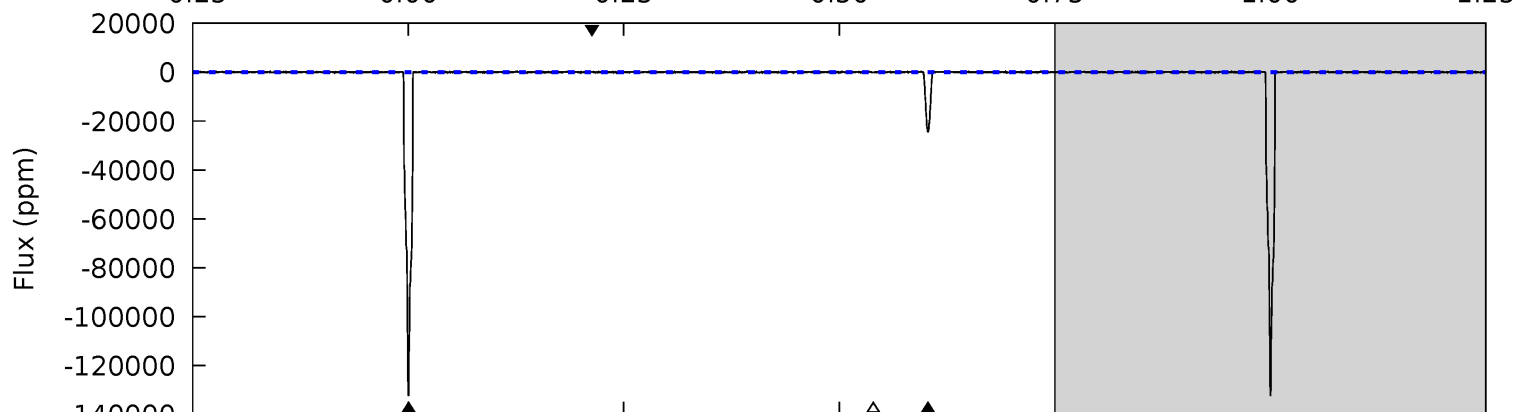
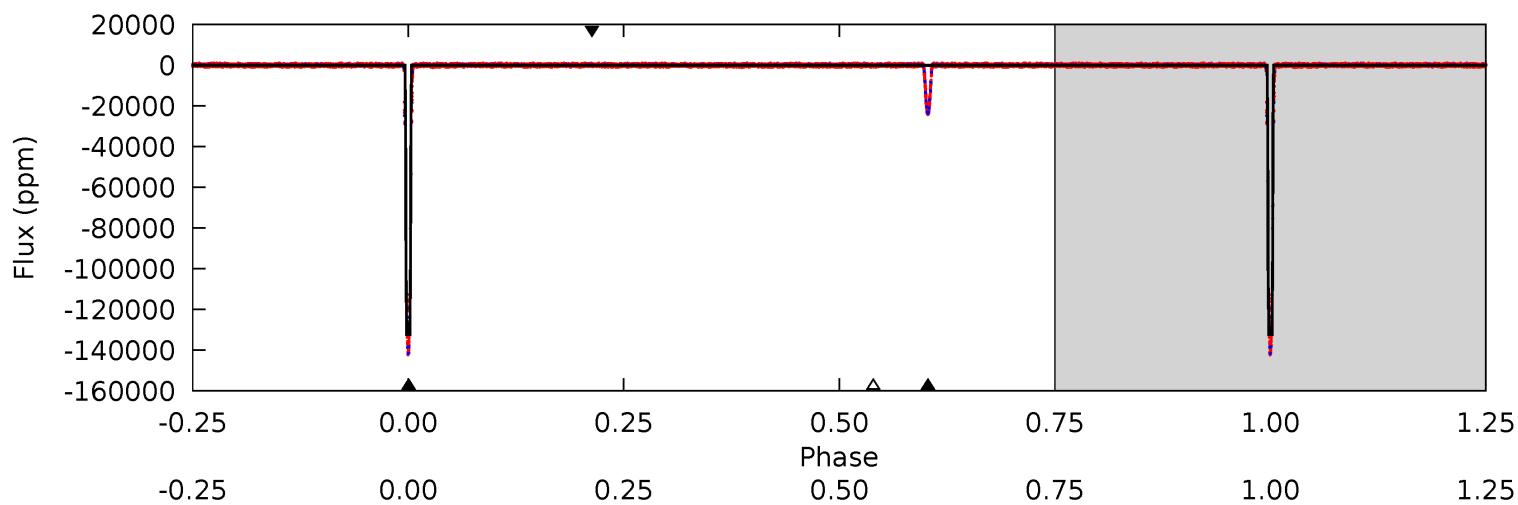
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11586	2233	6.50	6.12	5.01	2.54	2.80	11580	11580	2226	2227	12.4	0.97	0.00	0.52



Alt Model-Shift Uniqueness Test

005460835-01, P = 21.539398 Days, E = 122.610755 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4041	741.5	3.79	3.61	5.09	2.70	1.14	4038	4038	737.7	737.9	8.42	1.00	0.00	0



Stellar Parameters For KIC 005460835

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6136^{+165}_{-202}	$4.487^{+0.054}_{-0.202}$	$-0.360^{+0.300}_{-0.300}$	$0.933^{+0.285}_{-0.095}$	$0.973^{+0.127}_{-0.114}$	$1.687^{+0.483}_{-0.902}$
	+3%/-3%	+1%/-5%	+83%/-83%	+31%/-10%	+13%/-12%	+29%/-53%
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 005460835-01 / KOI 6580.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-27613 ± 12	$53.85^{+11.61}_{-9.33}$	959^{+70}_{-42}	3876^{+262}_{-199}	120^{+54}_{-36}
Alt.	-24281 ± 33	$39.87^{+10.43}_{-8.84}$	957^{+70}_{-44}	4229^{+405}_{-311}	190^{+125}_{-67}

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

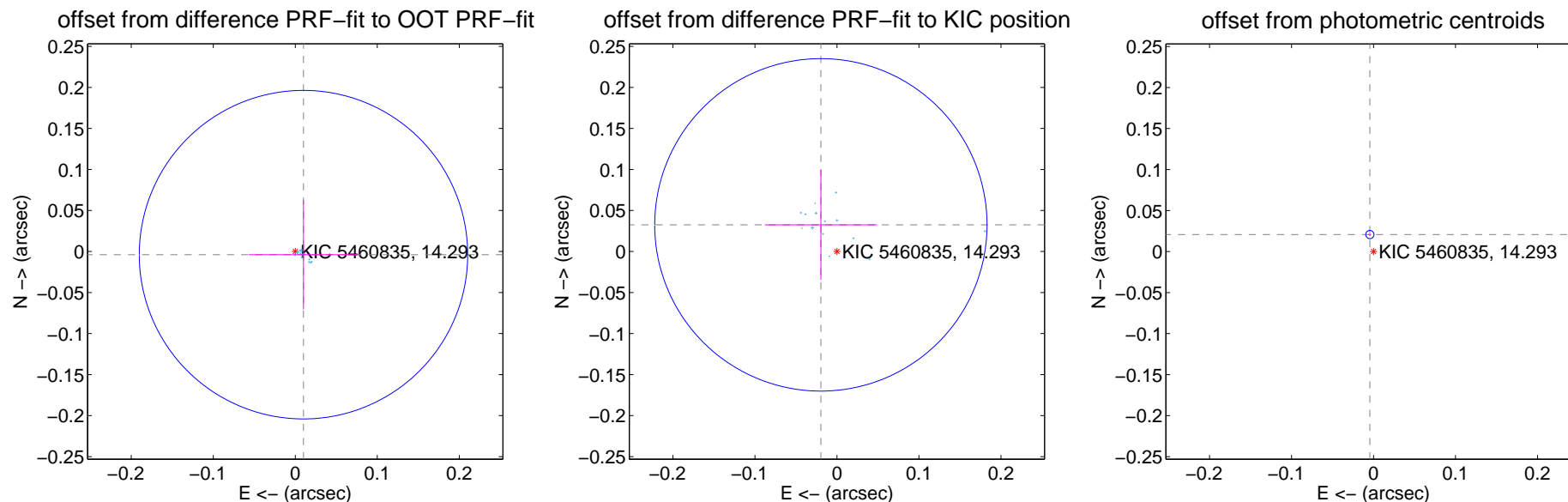
DV Centroid Data

Supplemental centroid analysis for 005460835-01. Kepler magnitude: 14.29. Transit SNR 4373.63

There are 14 quarters with good PRF difference image offsets

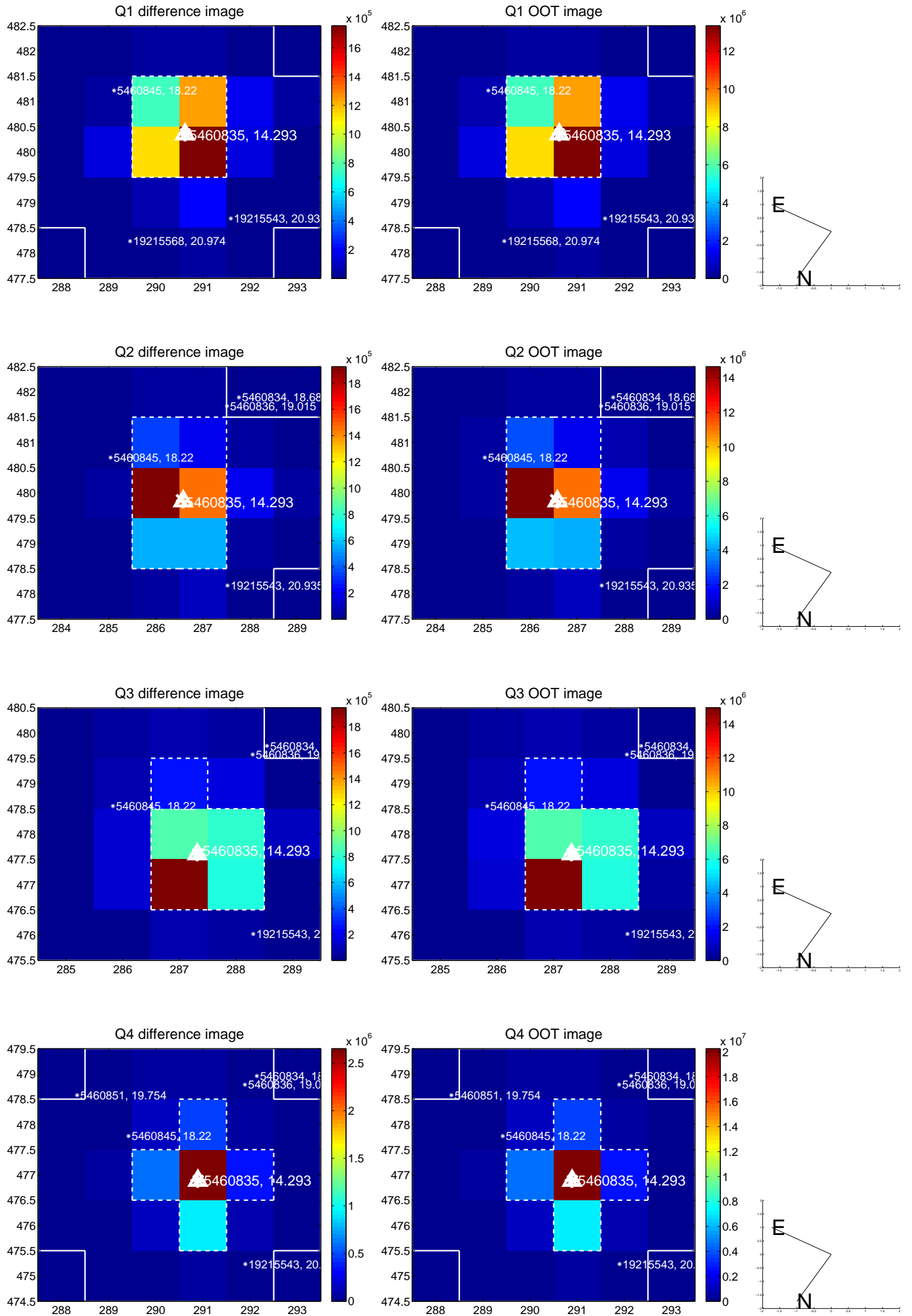
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.011 ± 0.067	0.16	-0.010 ± 0.067	-0.004 ± 0.067
PRF-fit source offset from KIC position	0.038 ± 0.068	0.56	0.020 ± 0.068	0.032 ± 0.067
photometric centroid source offset	0.02 ± 0.00	12.73	0.00 ± 0.00	0.02 ± 0.00

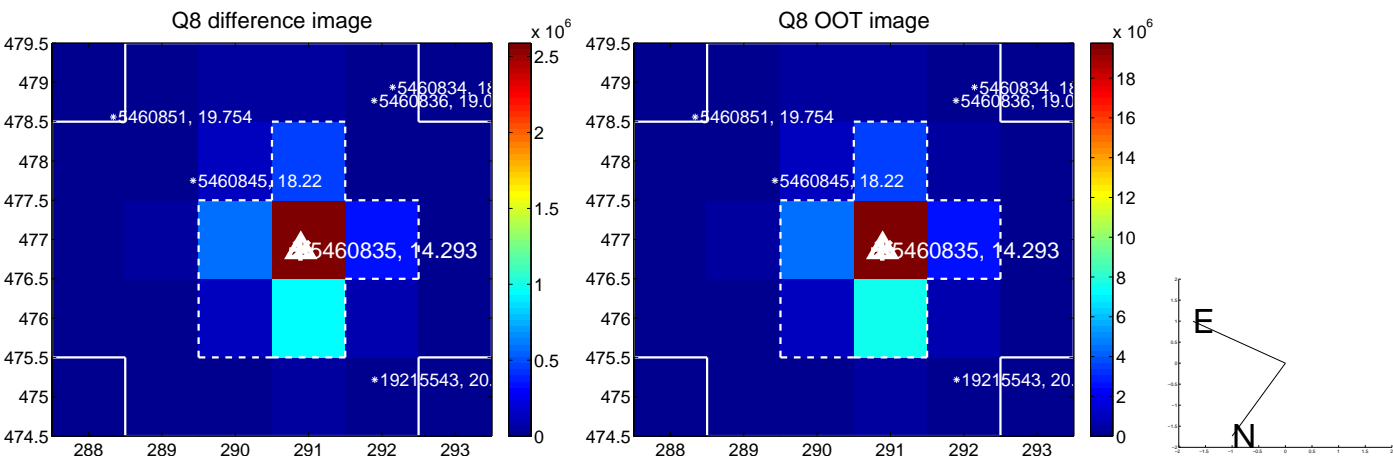
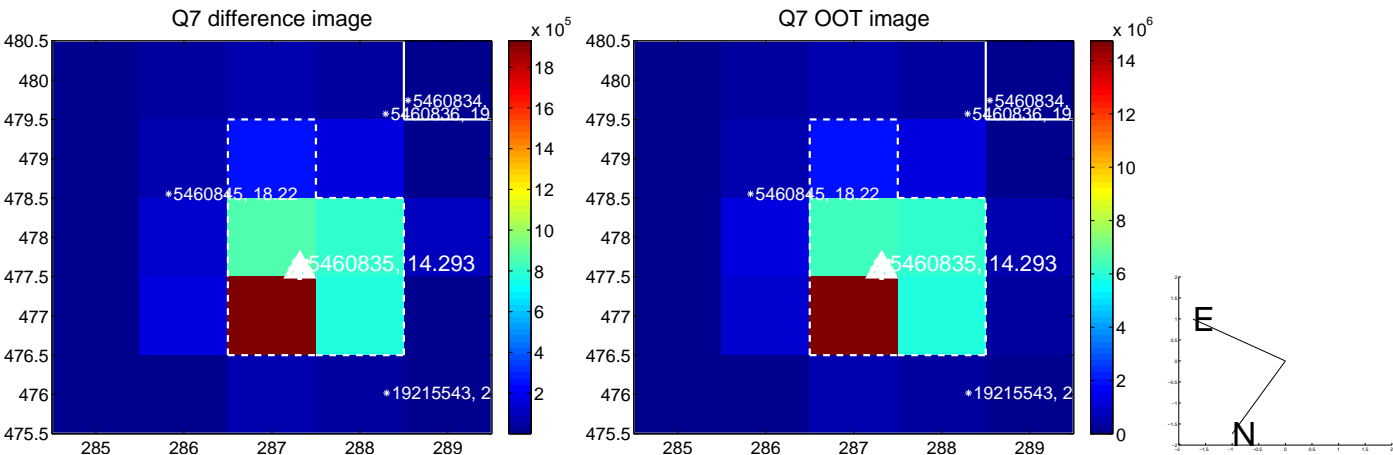
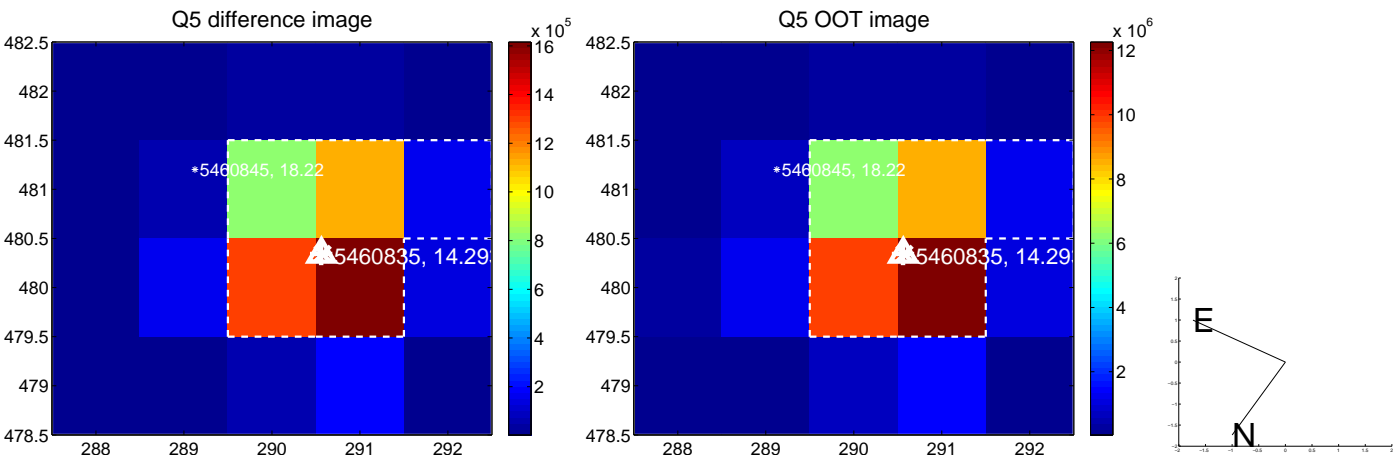


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

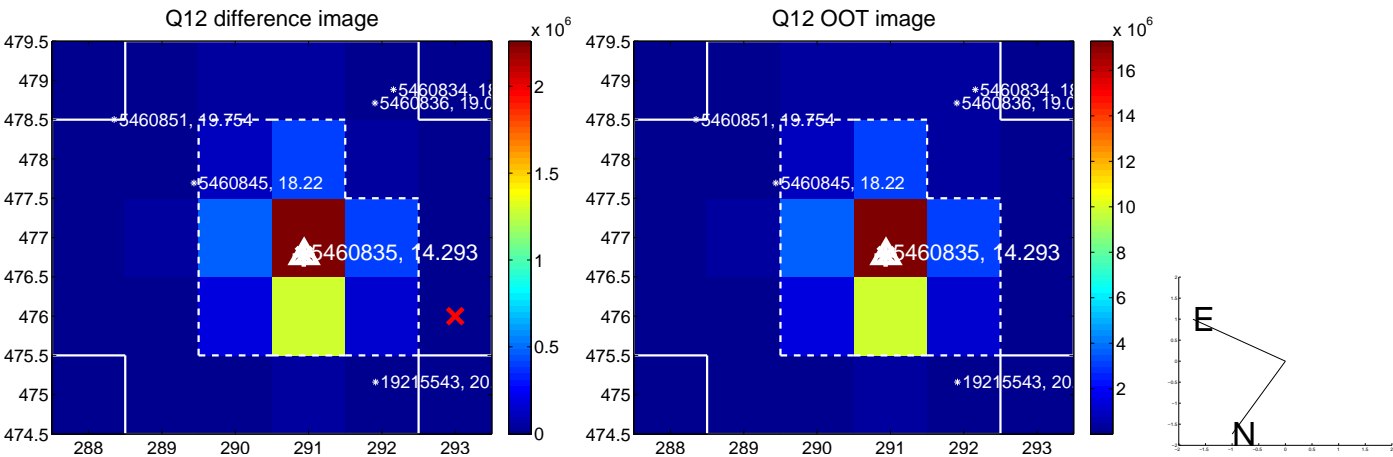
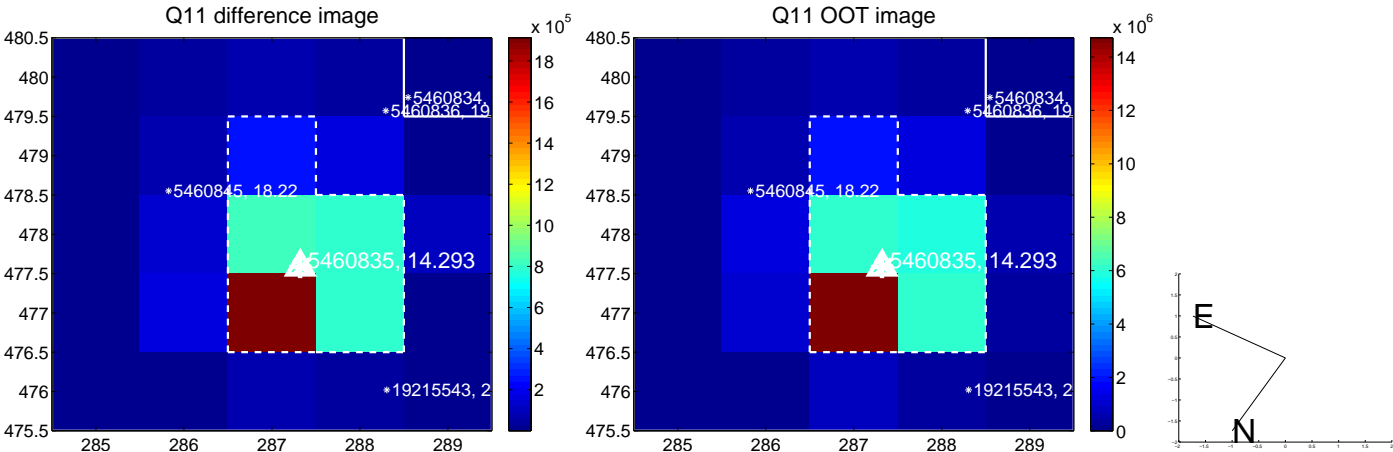
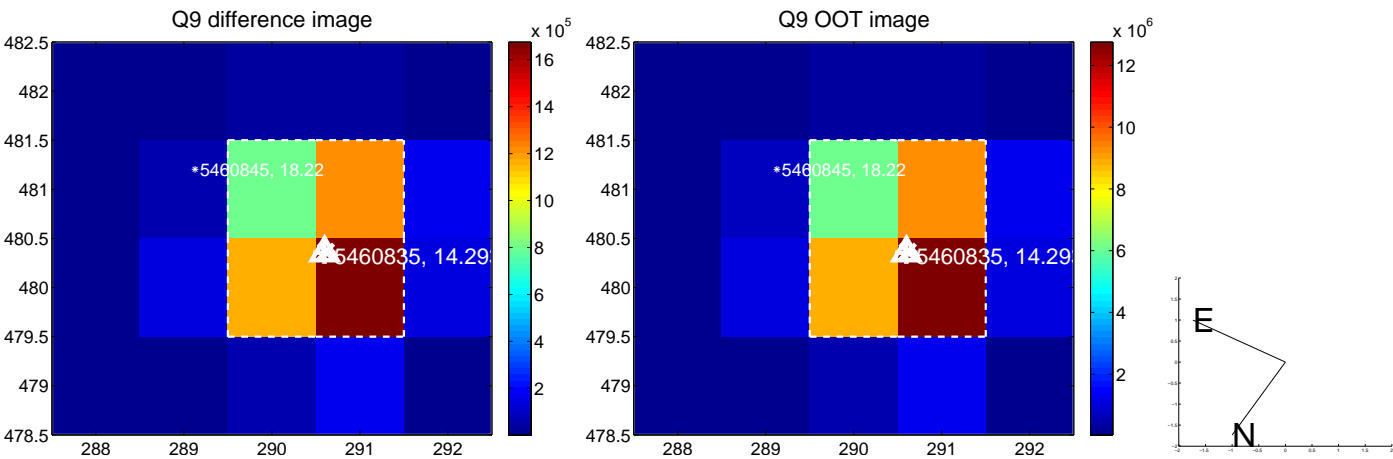
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



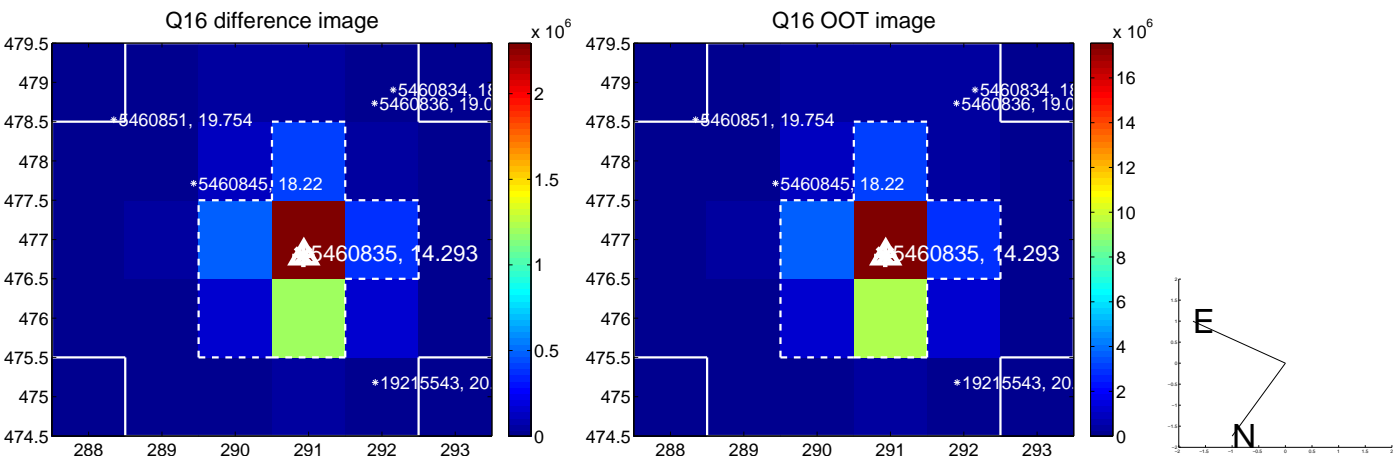
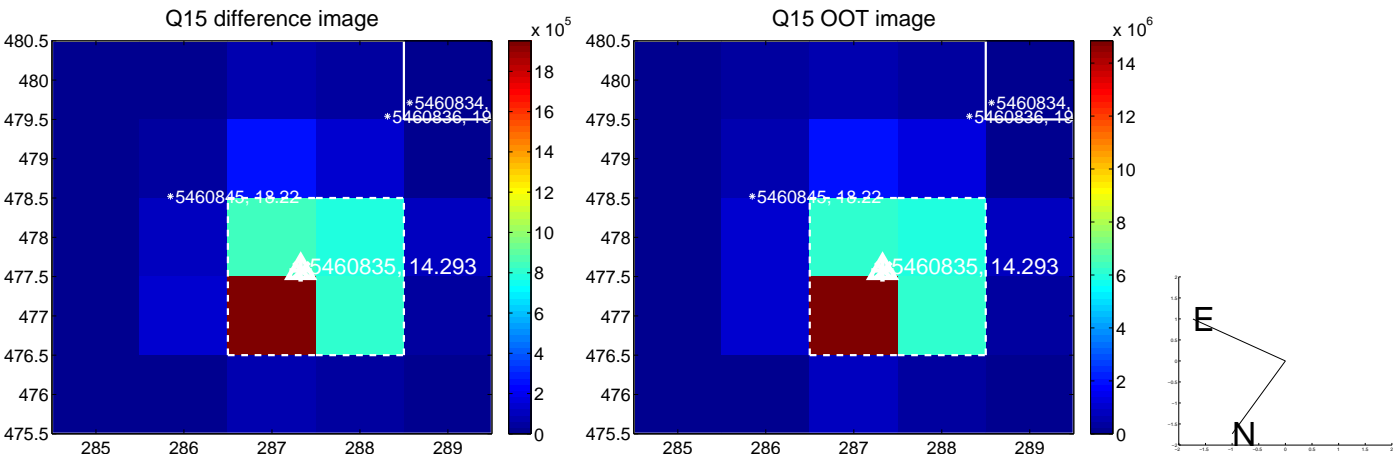
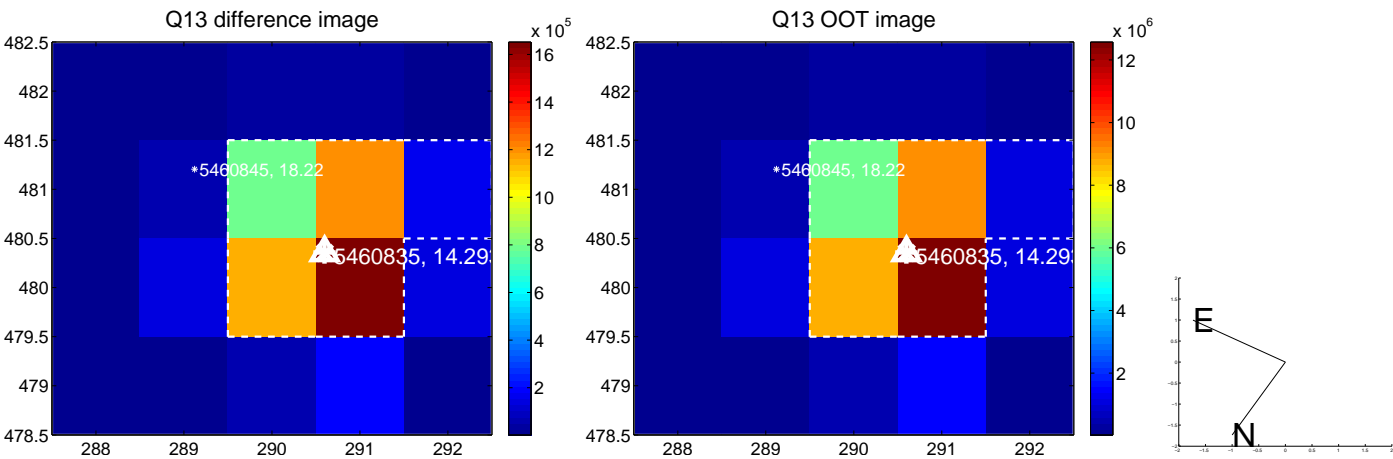
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



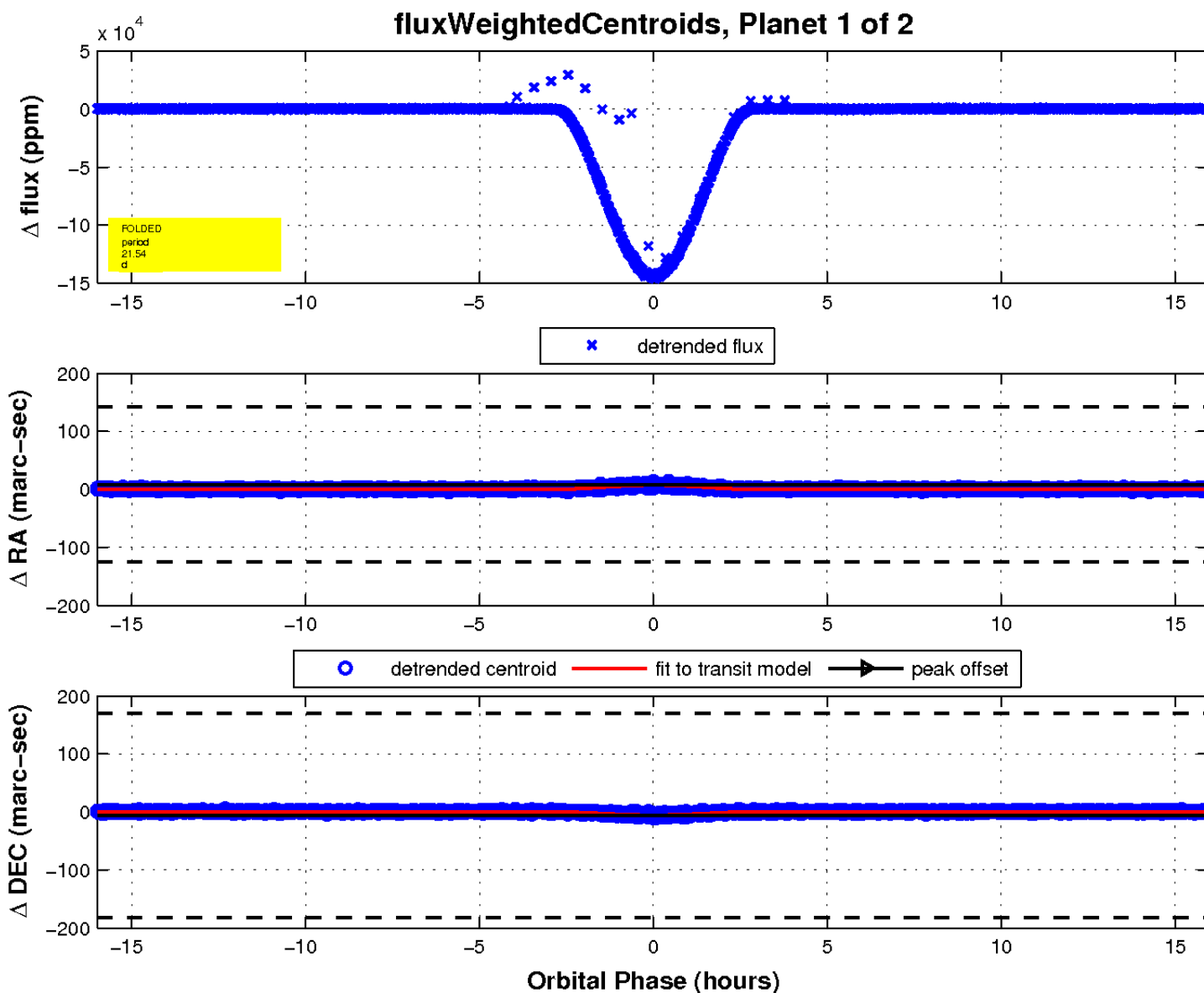
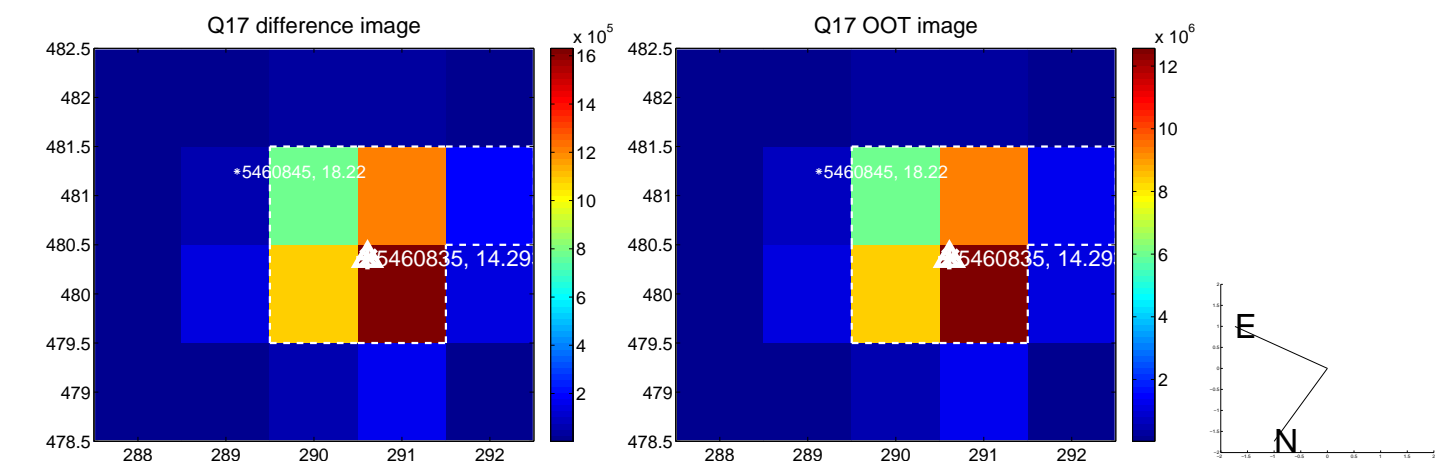
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

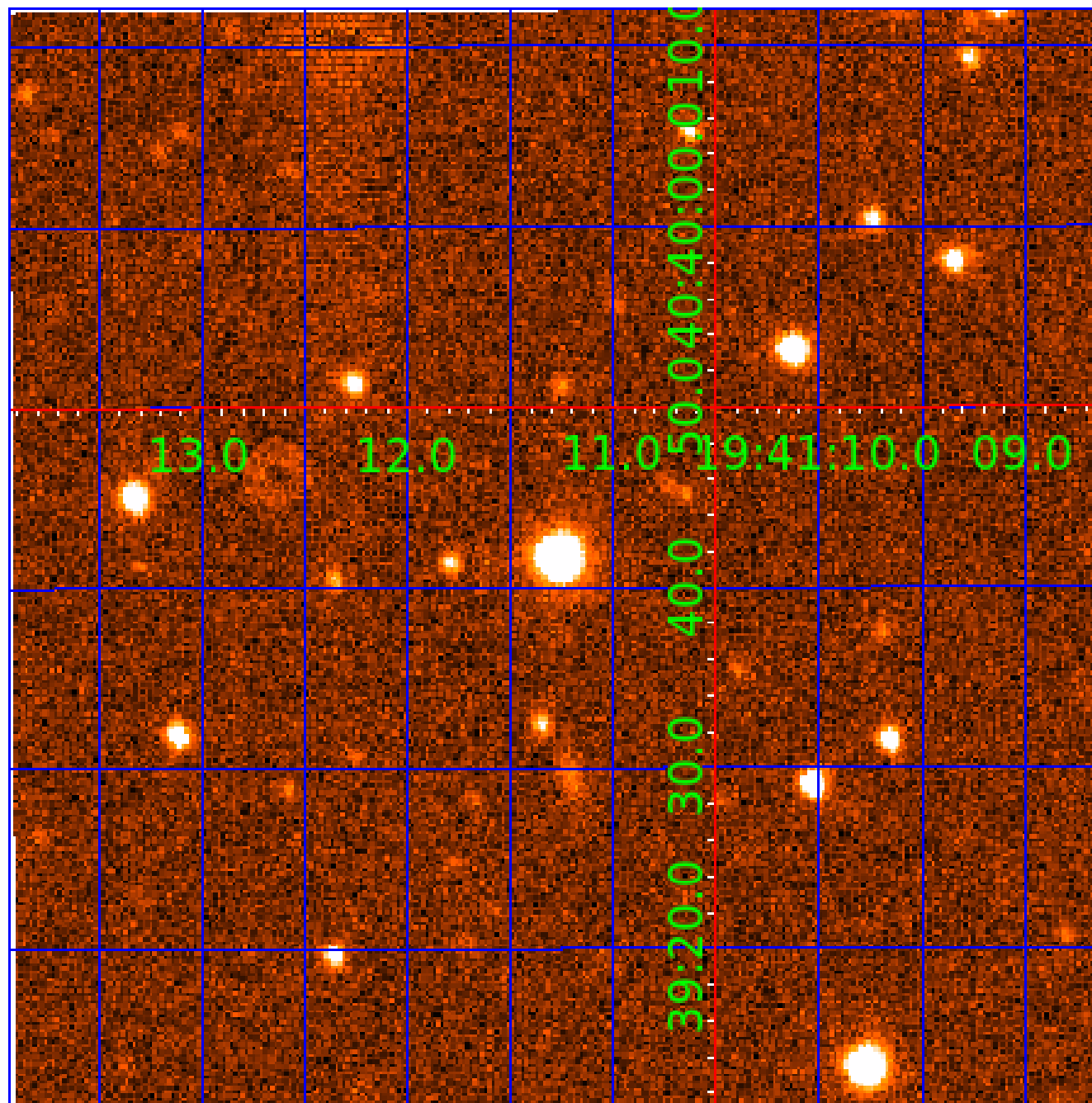


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005460835

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})
005460835-01	OBS	6580.01	21.539267	144.154372	142943.7	5.331	5924.2	4373.6	0.93	6136	52.22	48.98
005460835-02	OBS	No	21.539257	135.598817	23749.3	5.261	1082.1	1086.2	0.93	6136	23.55	48.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005460835-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
005460835-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

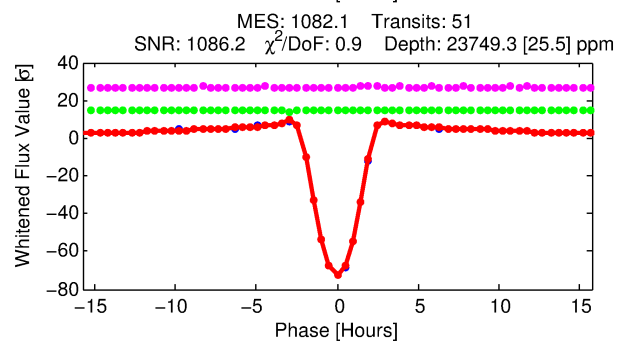
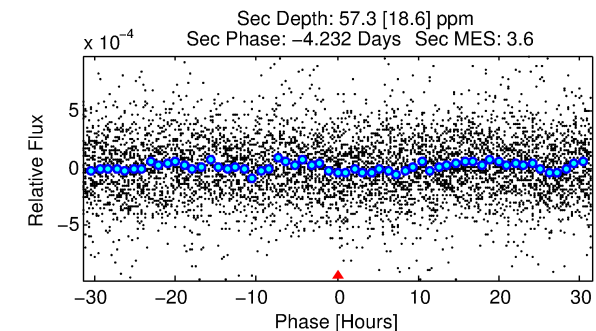
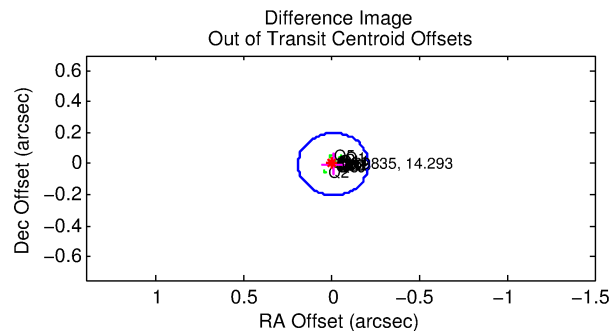
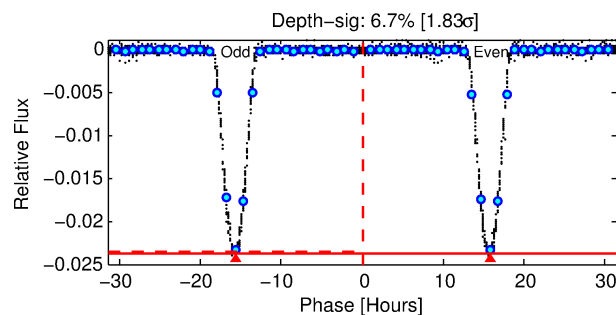
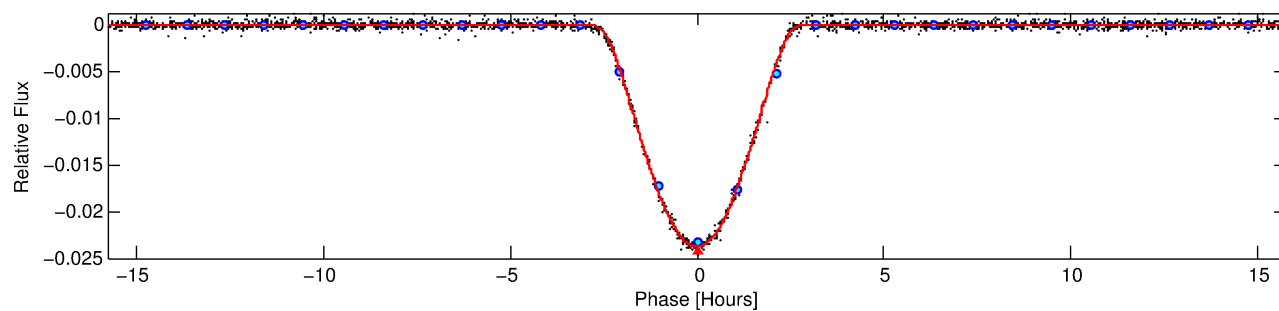
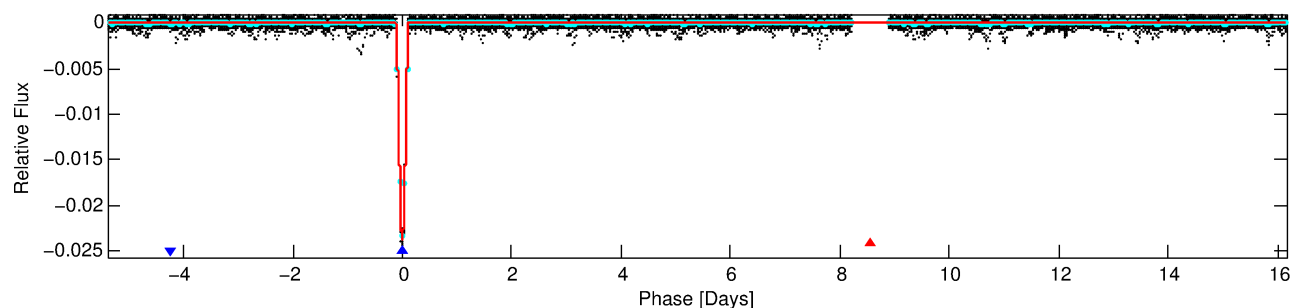
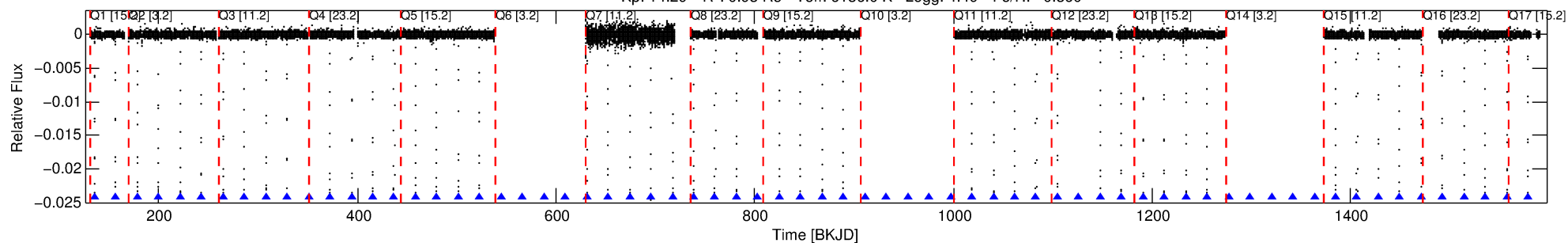
Ephemeris Match Information For 005460835-02

No Significant Match Found

DV One-Page Summary

KIC: 5460835 Candidate: 2 of 2 Period: 21.539 d
KOI: K06580 Corr: No Ephemeris Match

Kp: 14.29 R*: 0.93 Rs Teff: 6136.0 K Logg: 4.49 Fe/H: -0.360



DV Fit Results:

Period = 21.53926 [0.00000] d
Epoch = 135.5988 [0.0001] BKJD
Rp/R* = 0.2313 [0.0092]
a/R* = 23.35 [0.10]
b = 0.98 [0.01]
Seff = 48.98 [19.28]
Teq = 675 [66] K
Rp = 23.55 [7.25] Re
a = 0.1502 [0.0385] AU
Ag = 1.28 [0.64] [0.44σ]
Teffp = 1110 [100] K [3.64σ]

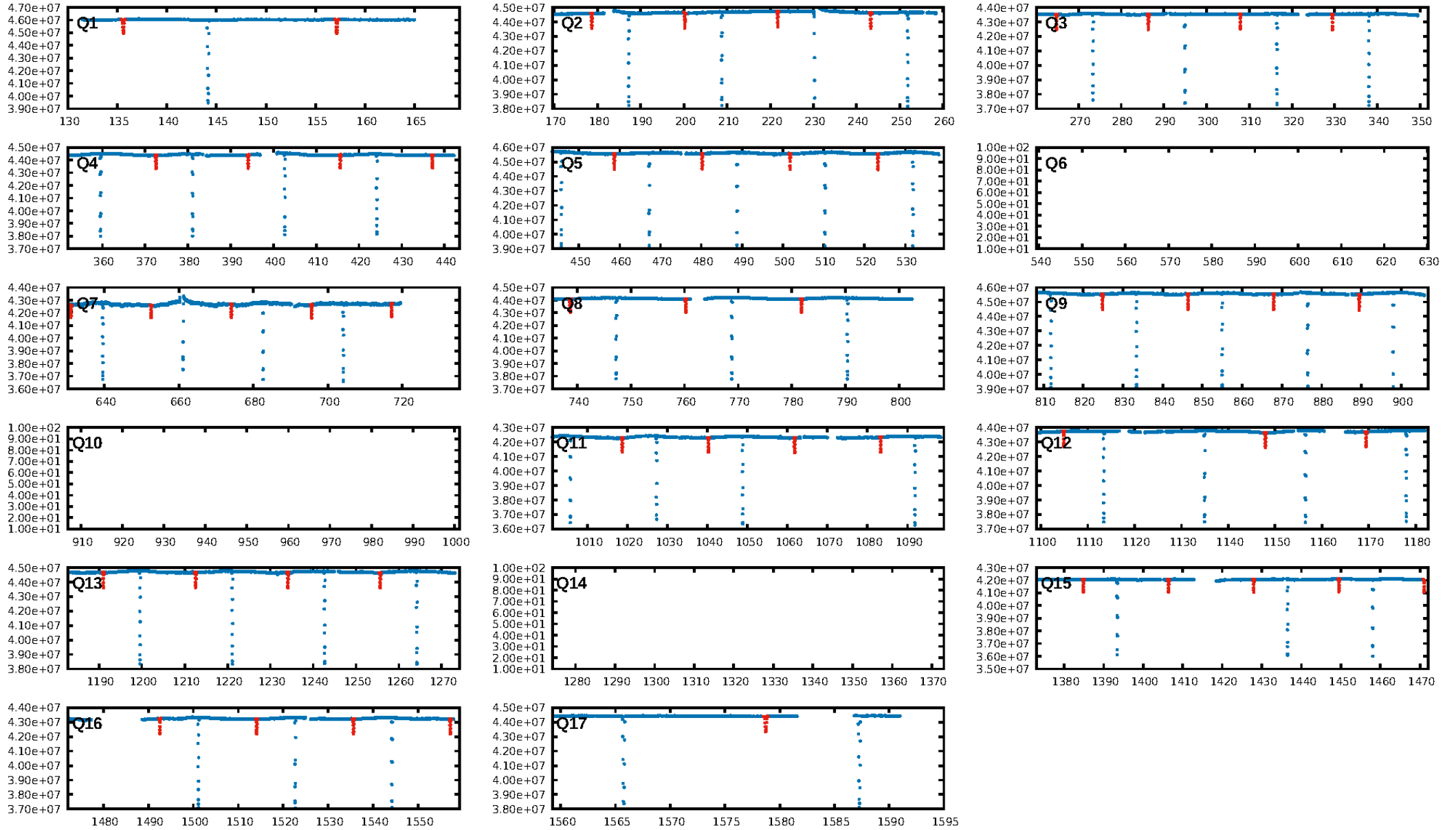
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [48/48]
GhostDiagnostic-chr: 4.197
Centroid-sig: 0.0%
Centroid-so: 0.010 arcsec [1.12σ]
OotOffset-rm: 0.011 arcsec [0.16σ]
KicOffset-rm: 0.047 arcsec [0.69σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

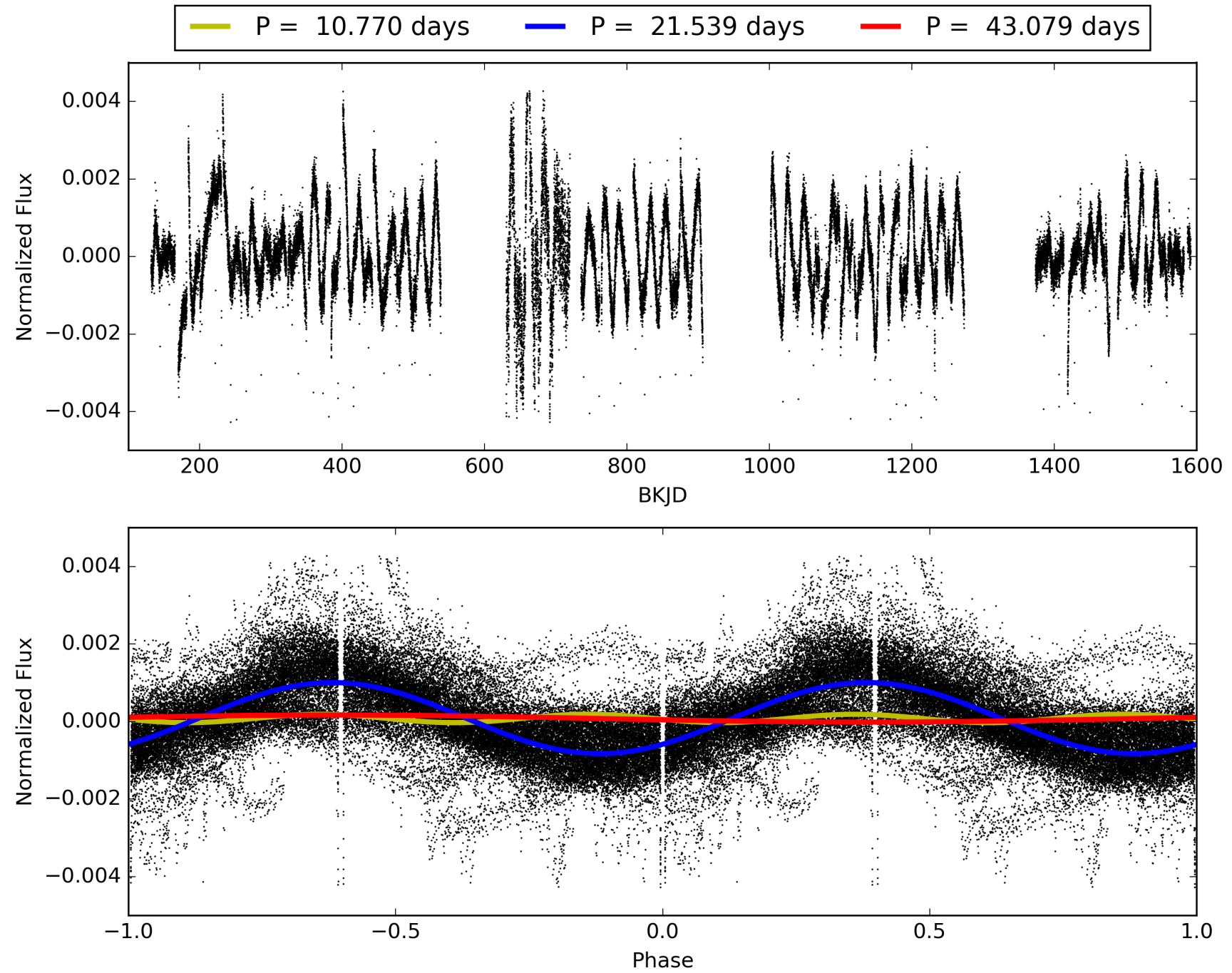
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:28:17 Z

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

TCE 005460835-02, PDC Light Curves

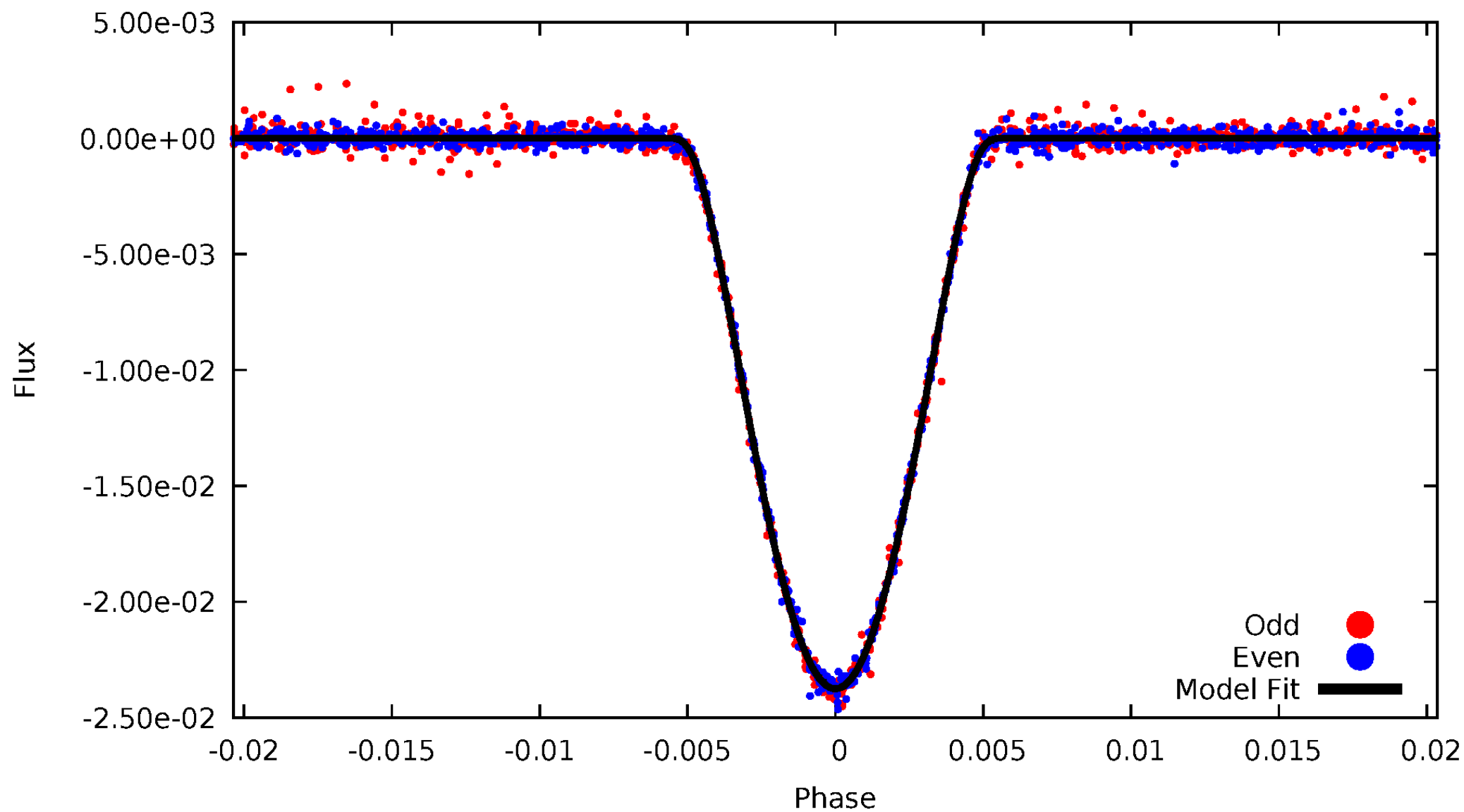


TCE 005460835-02



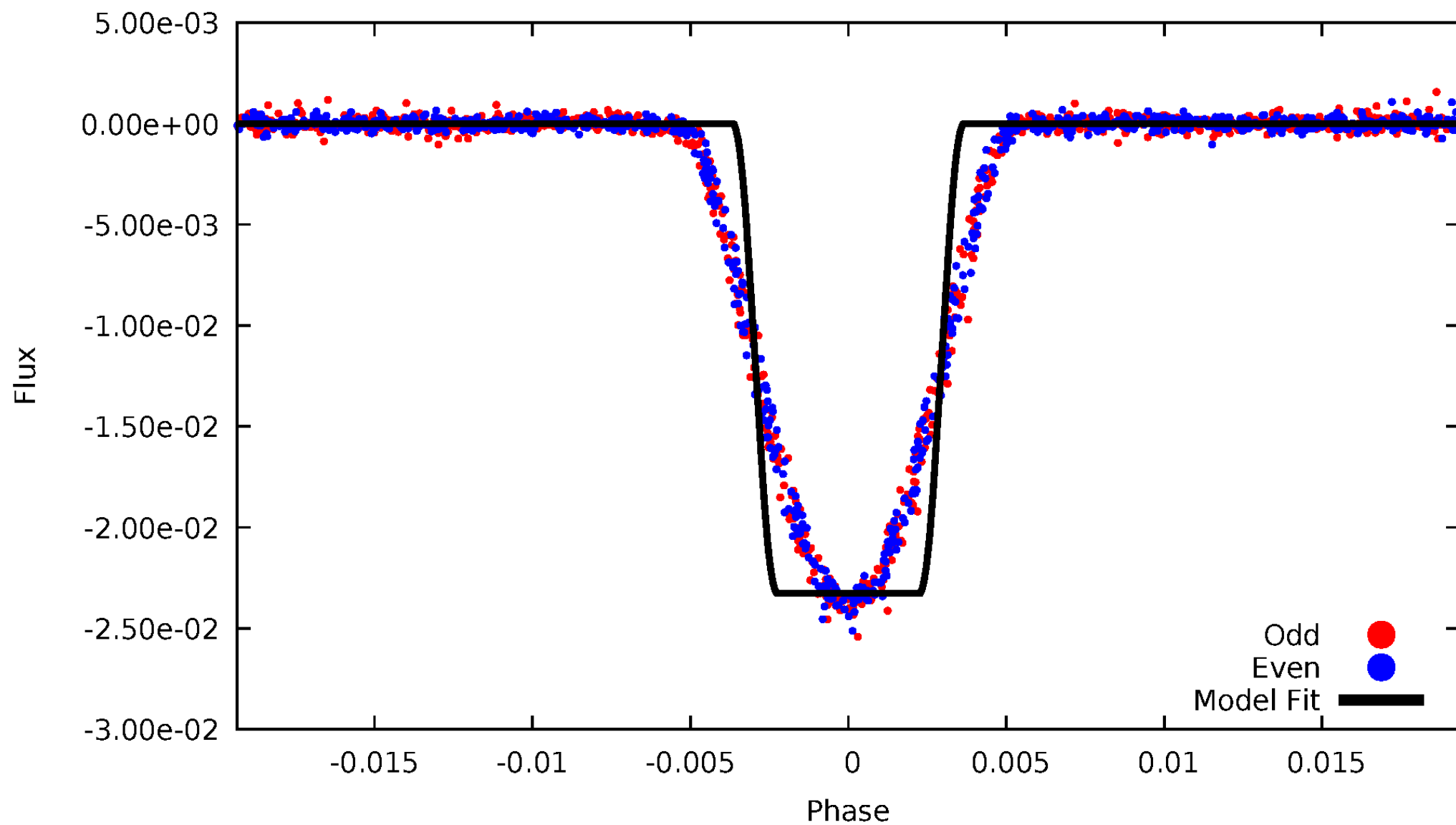
DV Odd/Even

TCE 005460835-02



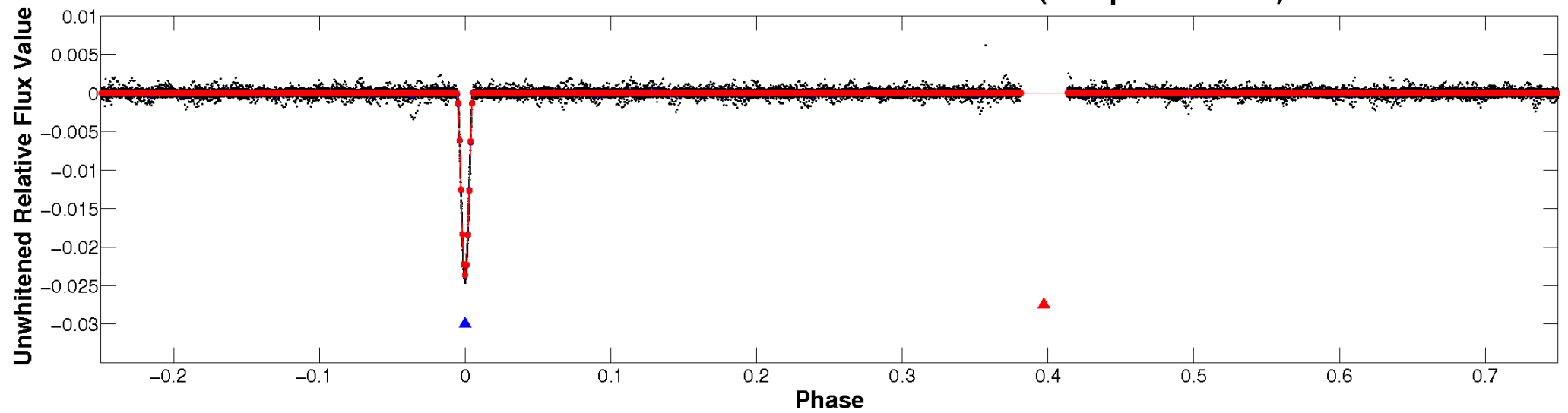
ALT Odd/Even

TCE 005460835-02

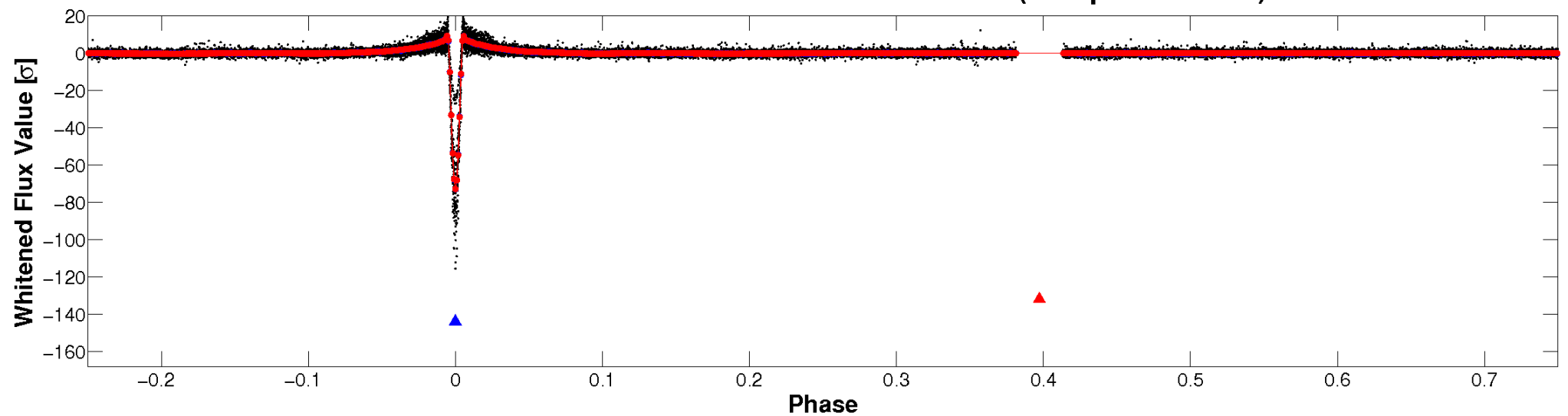


Non-Whitened Vs. Whitened Light Curve

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

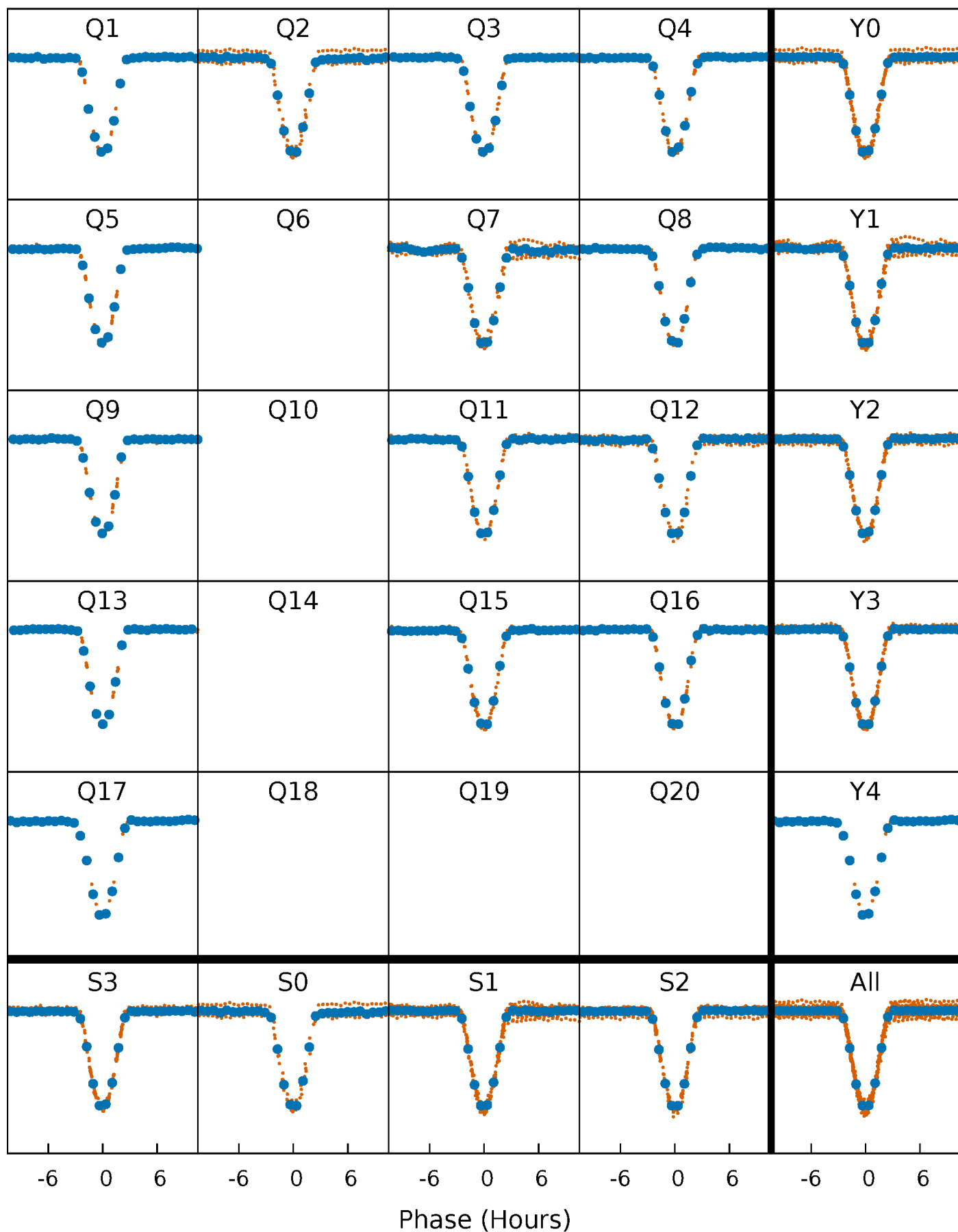


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



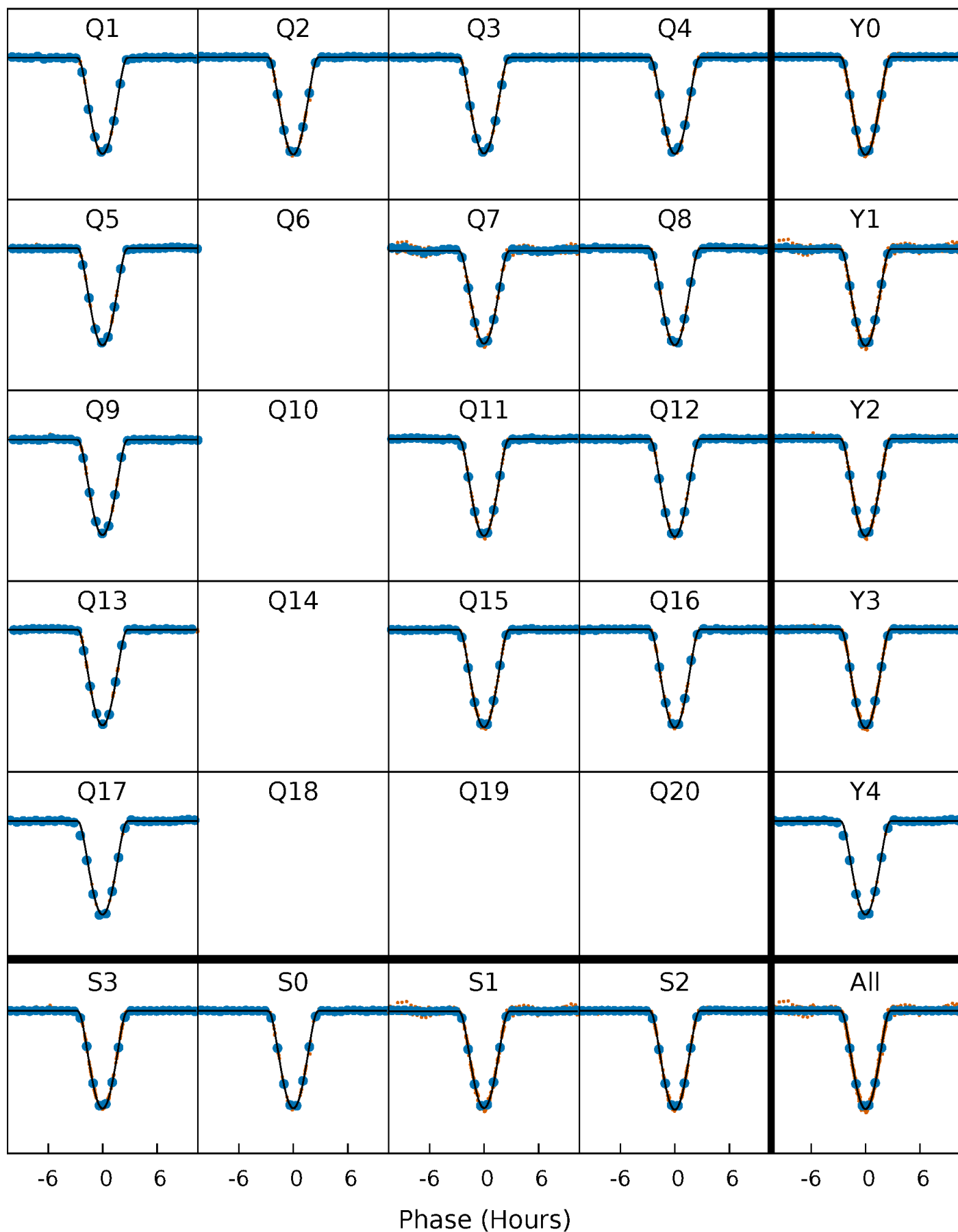
PDC Quarter-Phased Transit Curves

TCE 005460835-02 P= 21.539257 Days $T_0=135.598817$ (BKJD)



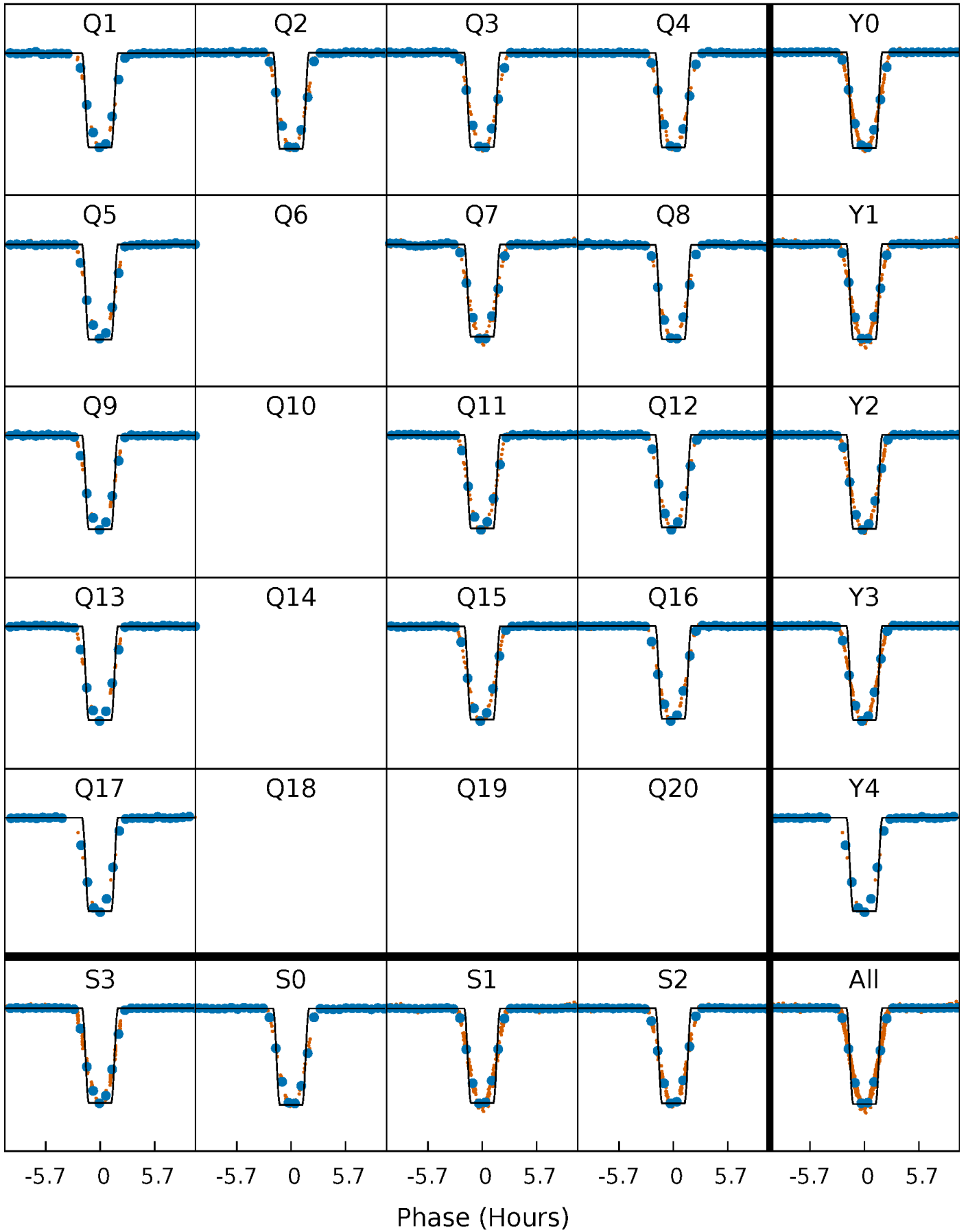
DV Quarter-Phased Transit Curves

TCE 005460835-02 P= 21.539257 Days $T_0=135.598817$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

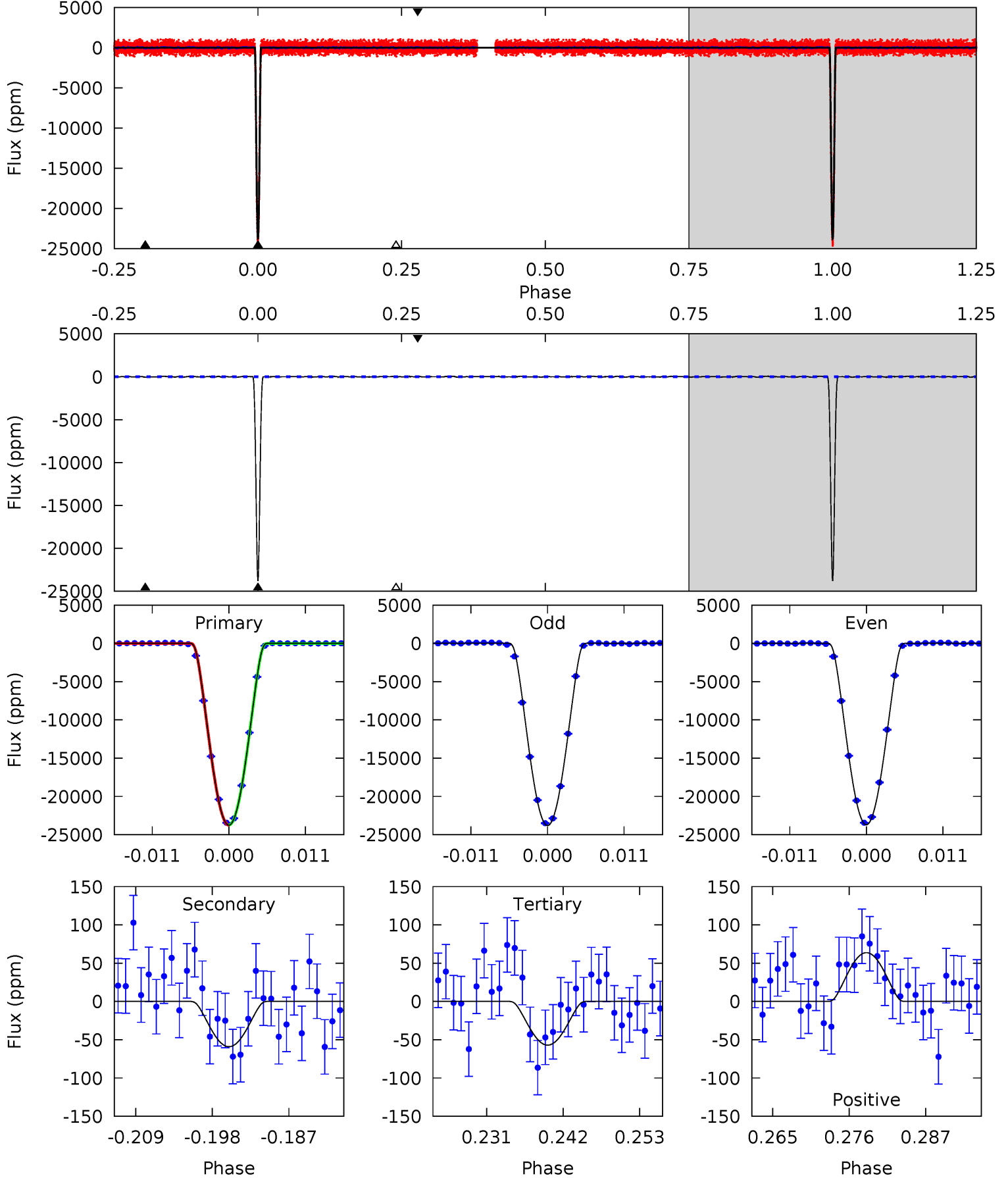
TCE 005460835-02 P= 21.539398 Days $T_0=135.594203$ (BKJD)



DV Model-Shift Uniqueness Test

005460835-02, P = 21.539257 Days, E = 114.059560 Days

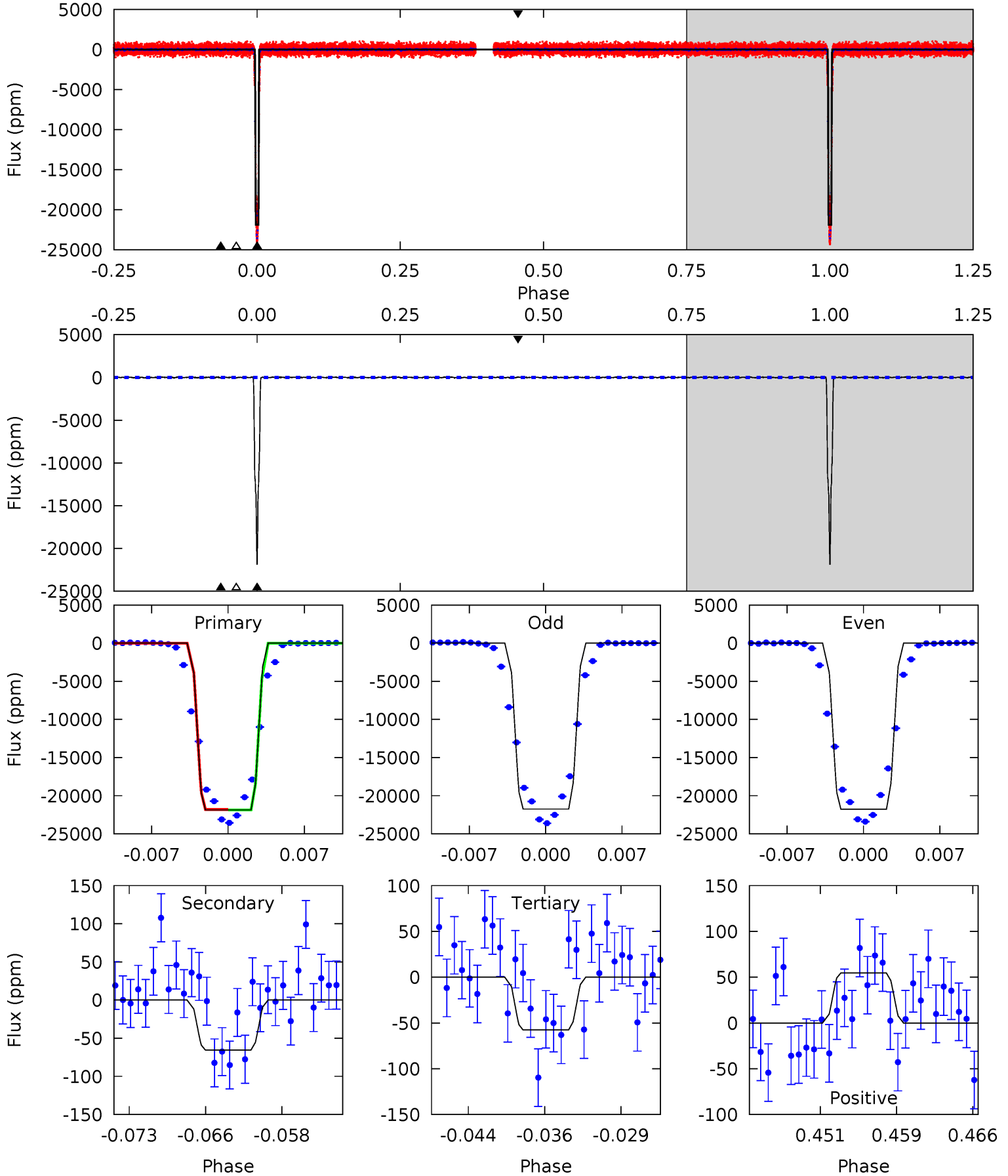
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2132	5.30	5.12	5.72	5.01	2.54	2.01	2127	2127	0.18	-0.42	4.50	1.00	0.00	0.93



Alt Model-Shift Uniqueness Test

005460835-02, P = 21.539398 Days, E = 114.054805 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1310	3.92	3.45	3.27	5.09	2.68	1.15	1306	1306	0.47	0.66	0.96	1.00	0.00	2.23



Stellar Parameters For KIC 005460835

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6136^{+165}_{-202}	$4.487^{+0.054}_{-0.202}$	$-0.360^{+0.300}_{-0.300}$	$0.933^{+0.285}_{-0.095}$	$0.973^{+0.127}_{-0.114}$	$1.687^{+0.483}_{-0.902}$
	+3%/-3%	+1%/-5%	+83%/-83%	+31%/-10%	+13%/-12%	+29%/-53%
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 005460835-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 11	$24.18^{+3.89}_{-2.11}$	960^{+71}_{-45}	2033^{+62}_{-76}	$1.196^{+0.370}_{-0.345}$
Alt.	-66 ± 17	$16.10^{+2.63}_{-1.73}$	958^{+72}_{-44}	2295^{+81}_{-96}	$3.012^{+1.159}_{-0.956}$

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

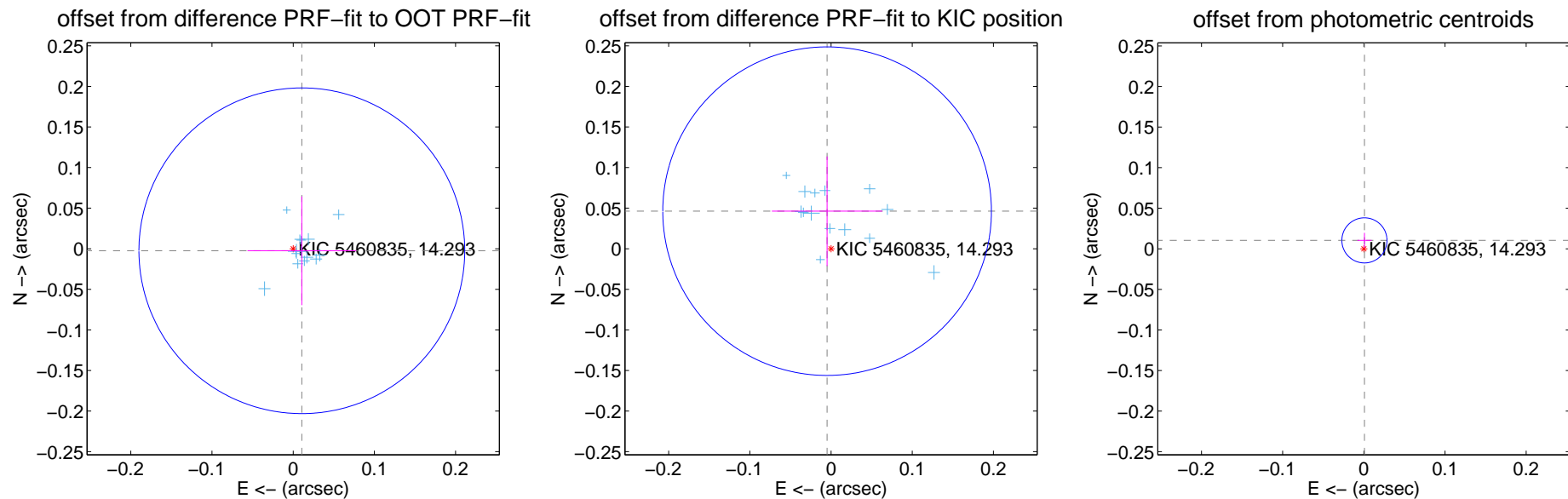
DV Centroid Data

Supplemental centroid analysis for 005460835-02. Kepler magnitude: 14.29. Transit SNR 1086.24

There are 14 quarters with good PRF difference image offsets

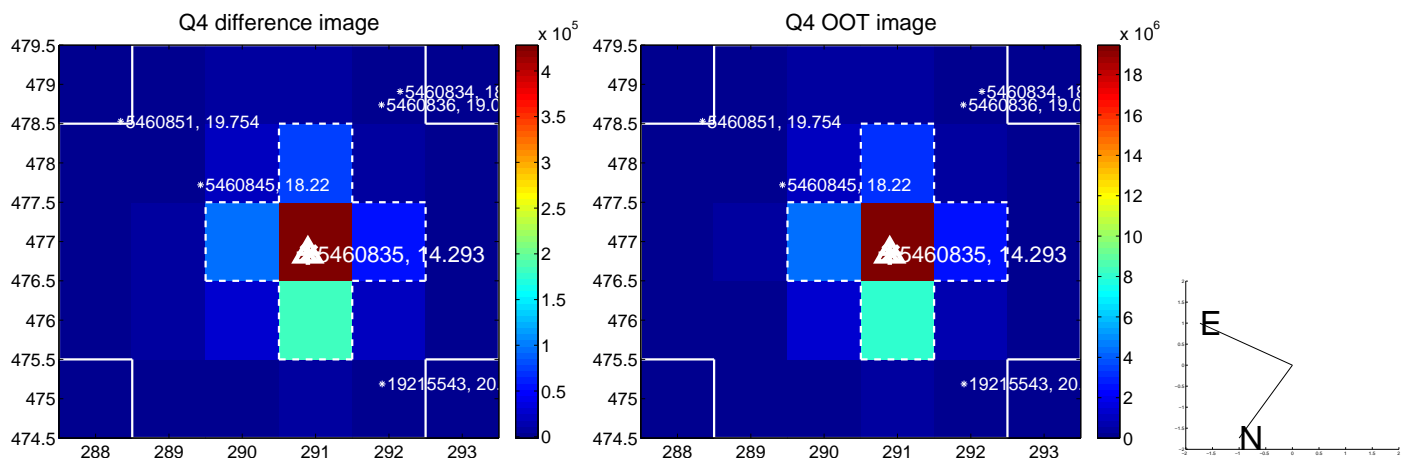
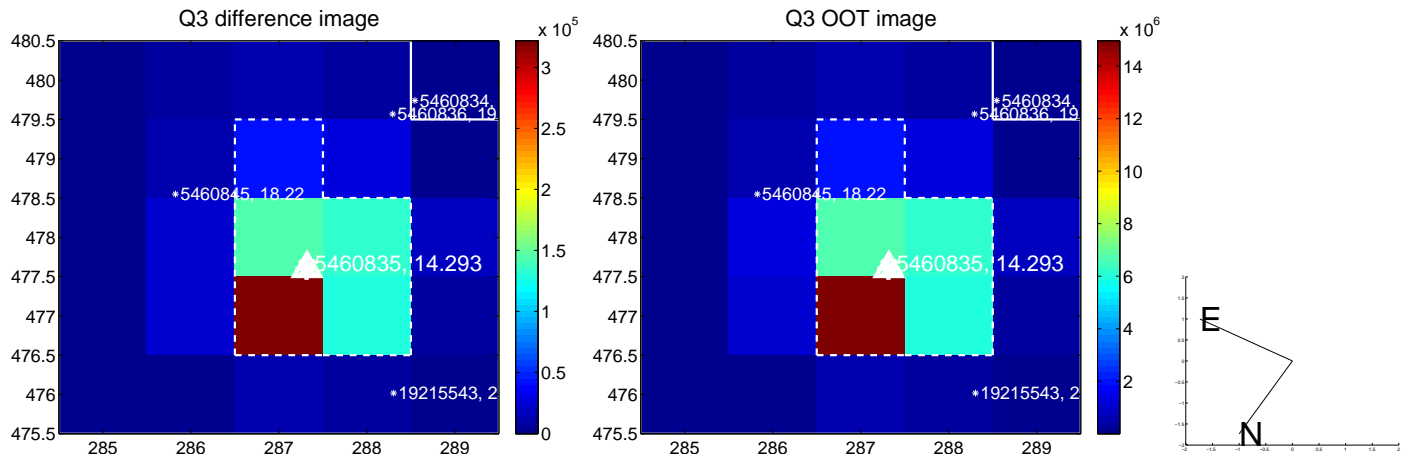
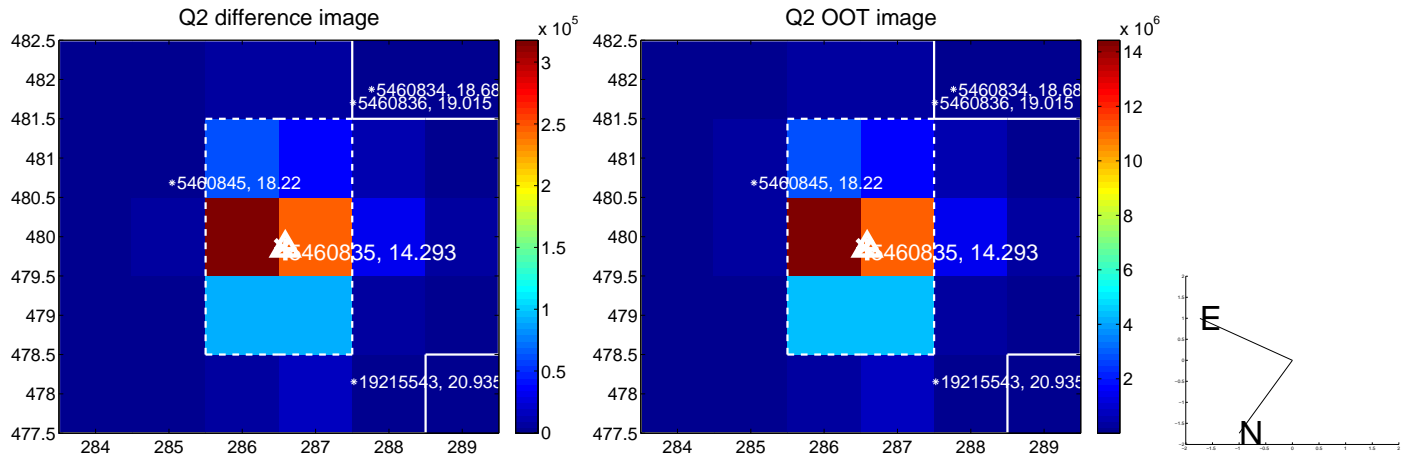
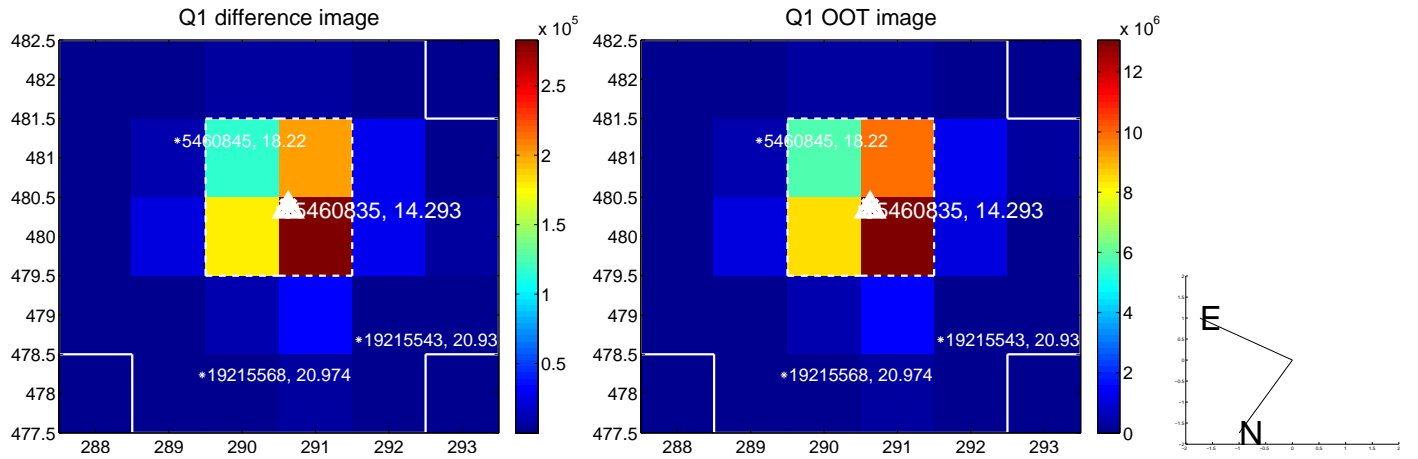
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.011 ± 0.067	0.16	-0.011 ± 0.067	-0.002 ± 0.067
PRF-fit source offset from KIC position	0.047 ± 0.067	0.69	0.005 ± 0.068	0.046 ± 0.067
photometric centroid source offset	0.01 ± 0.01	1.12	-0.00 ± 0.01	0.01 ± 0.01

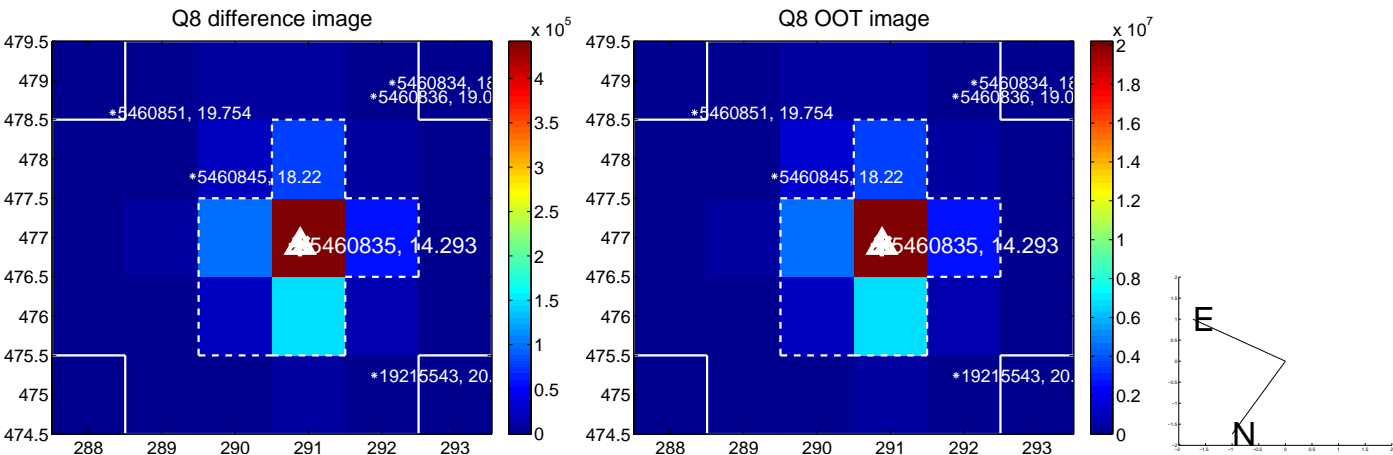
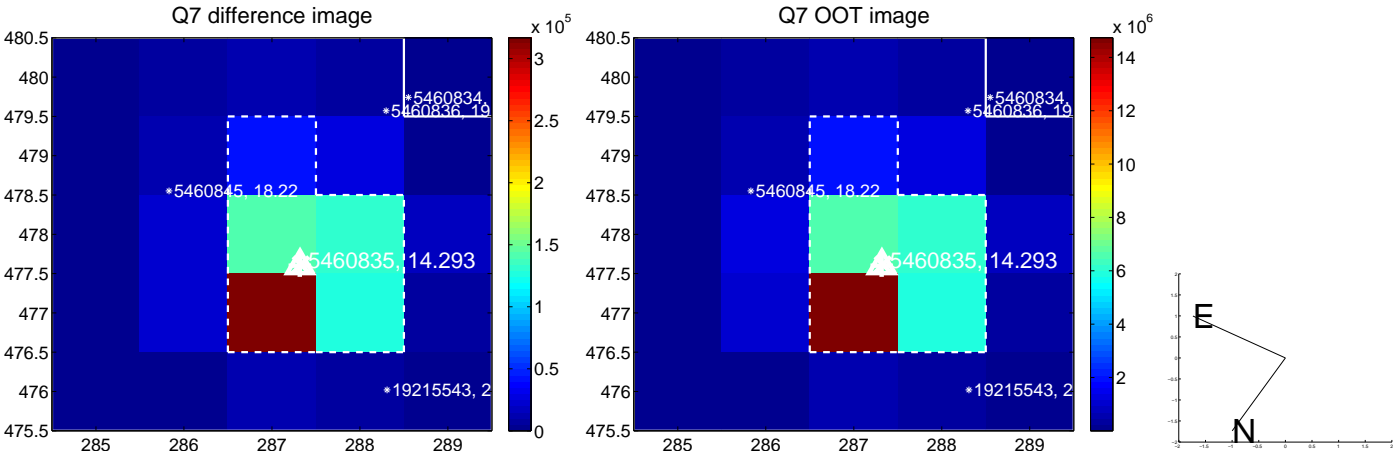
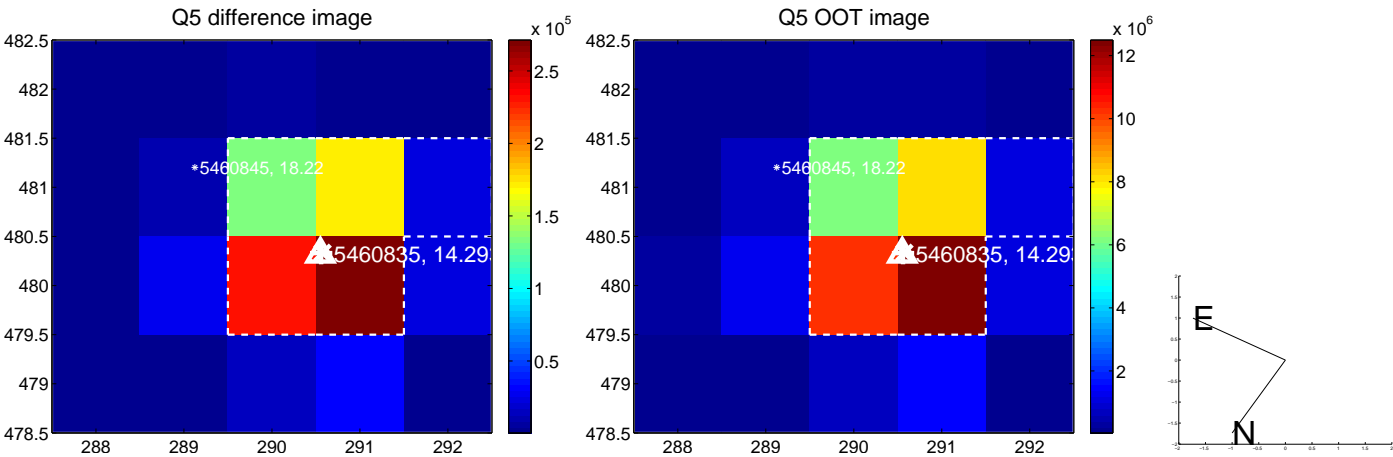


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

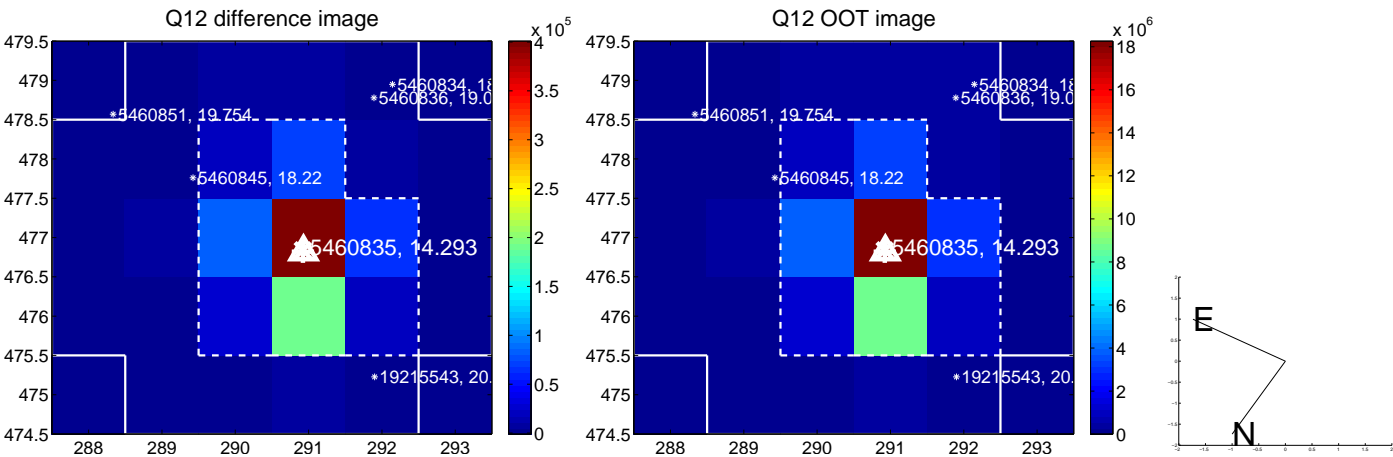
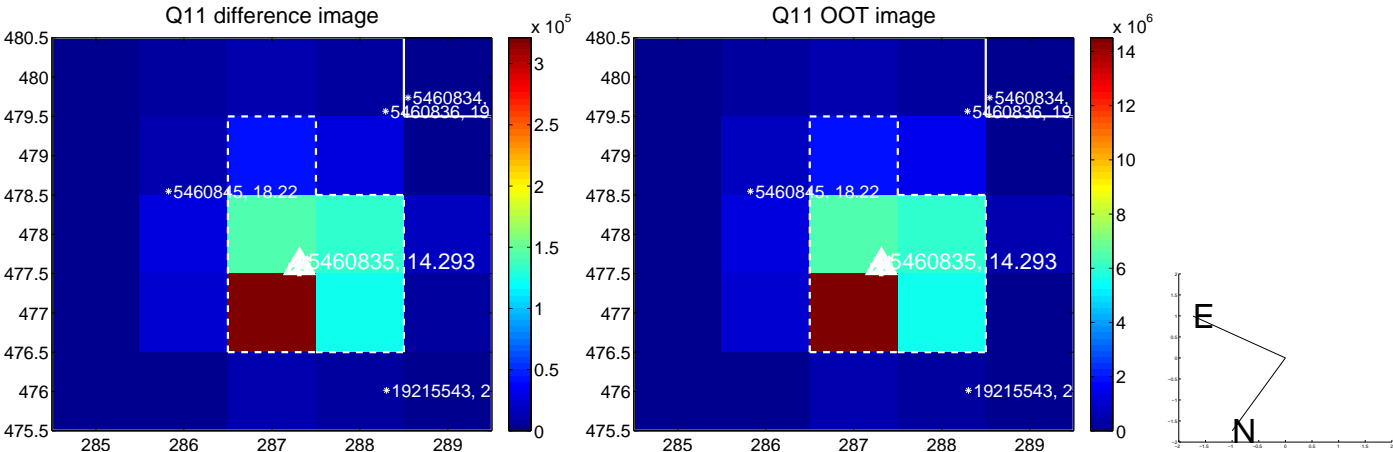
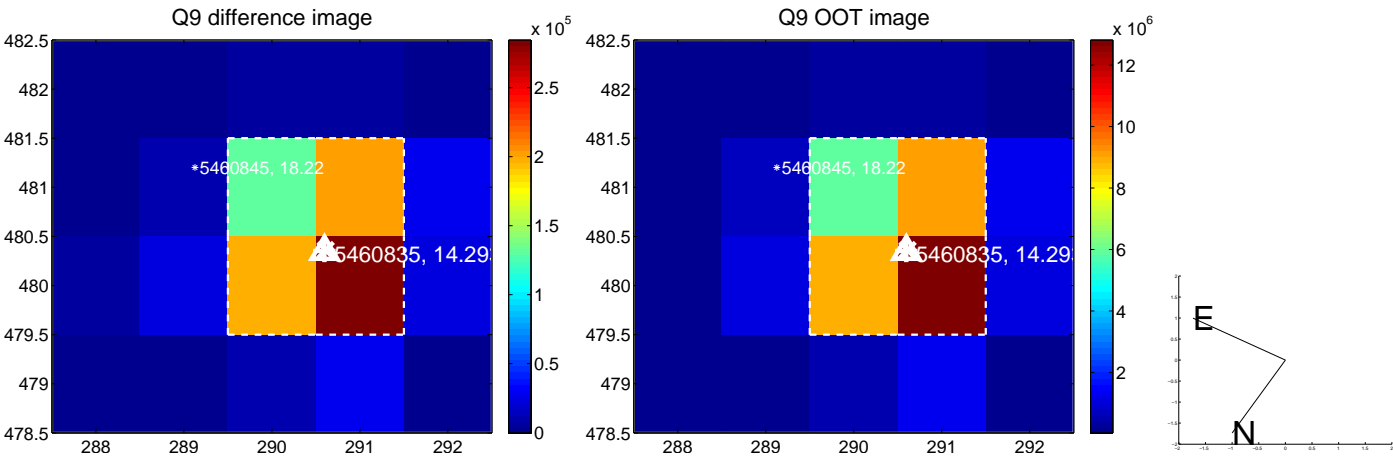
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



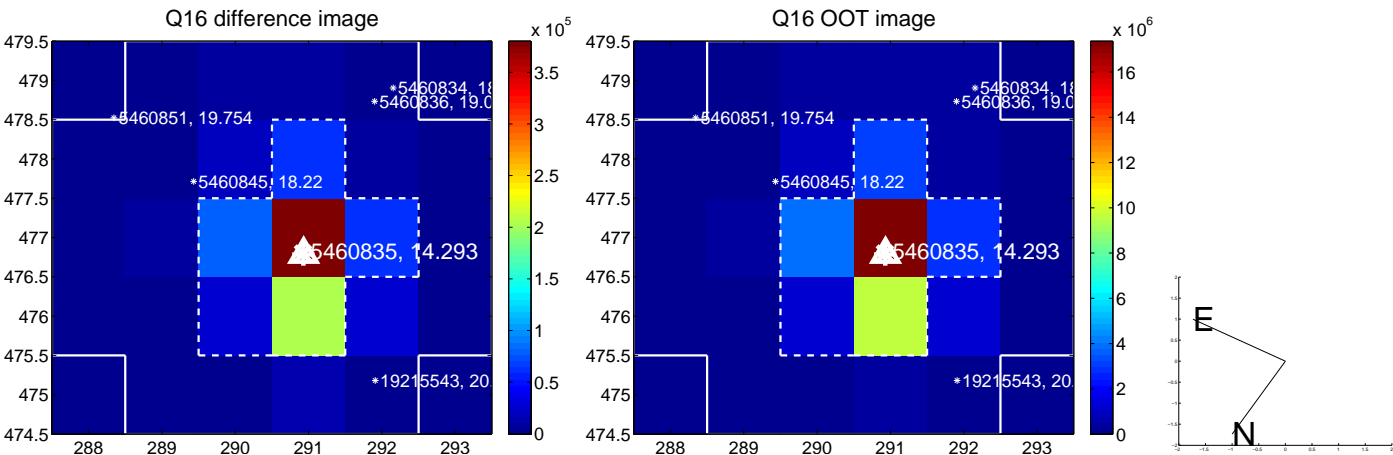
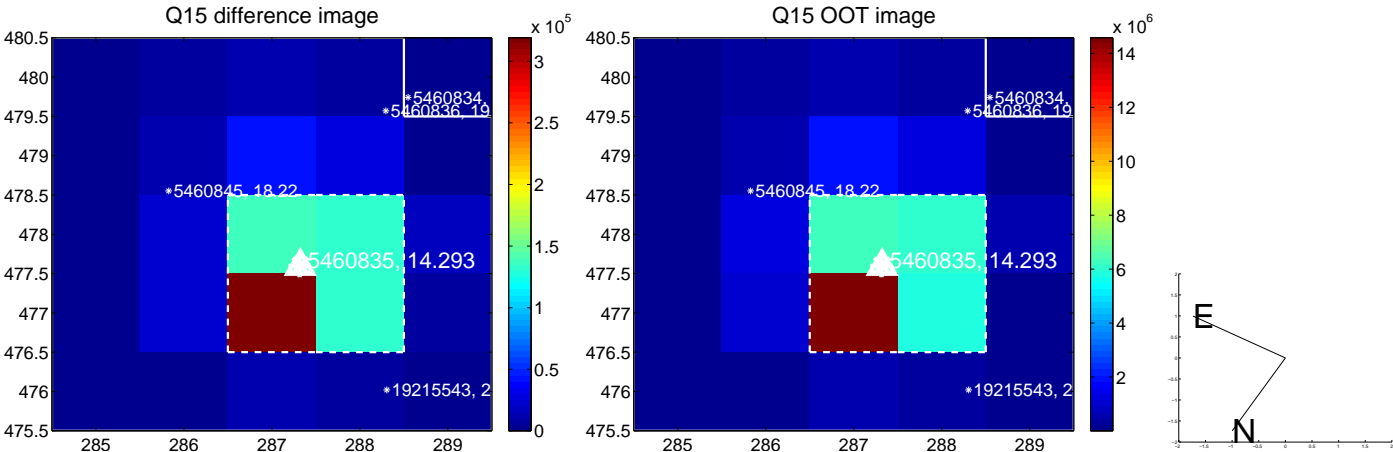
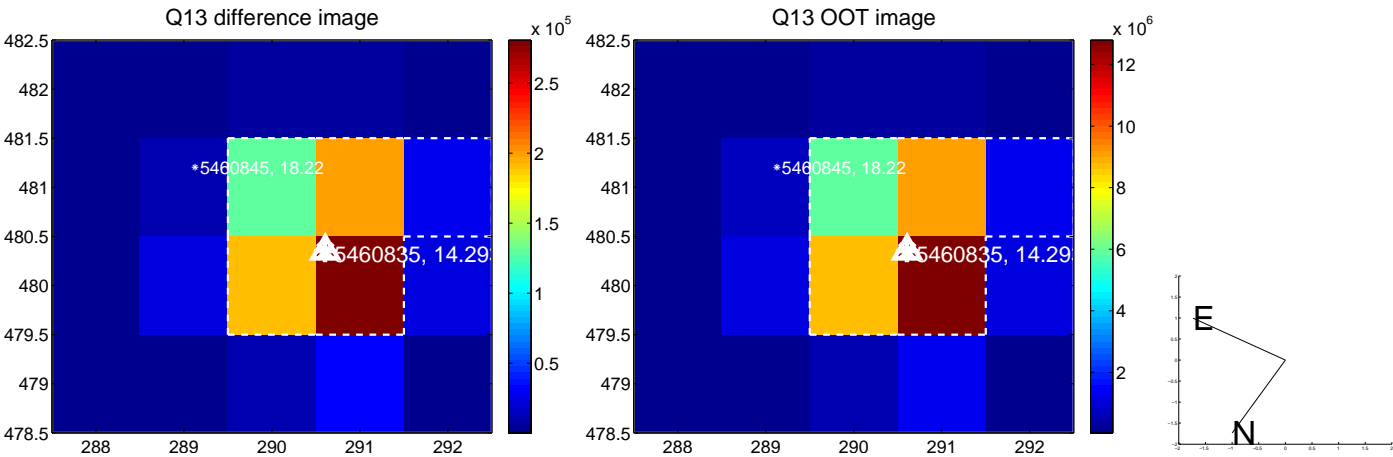
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



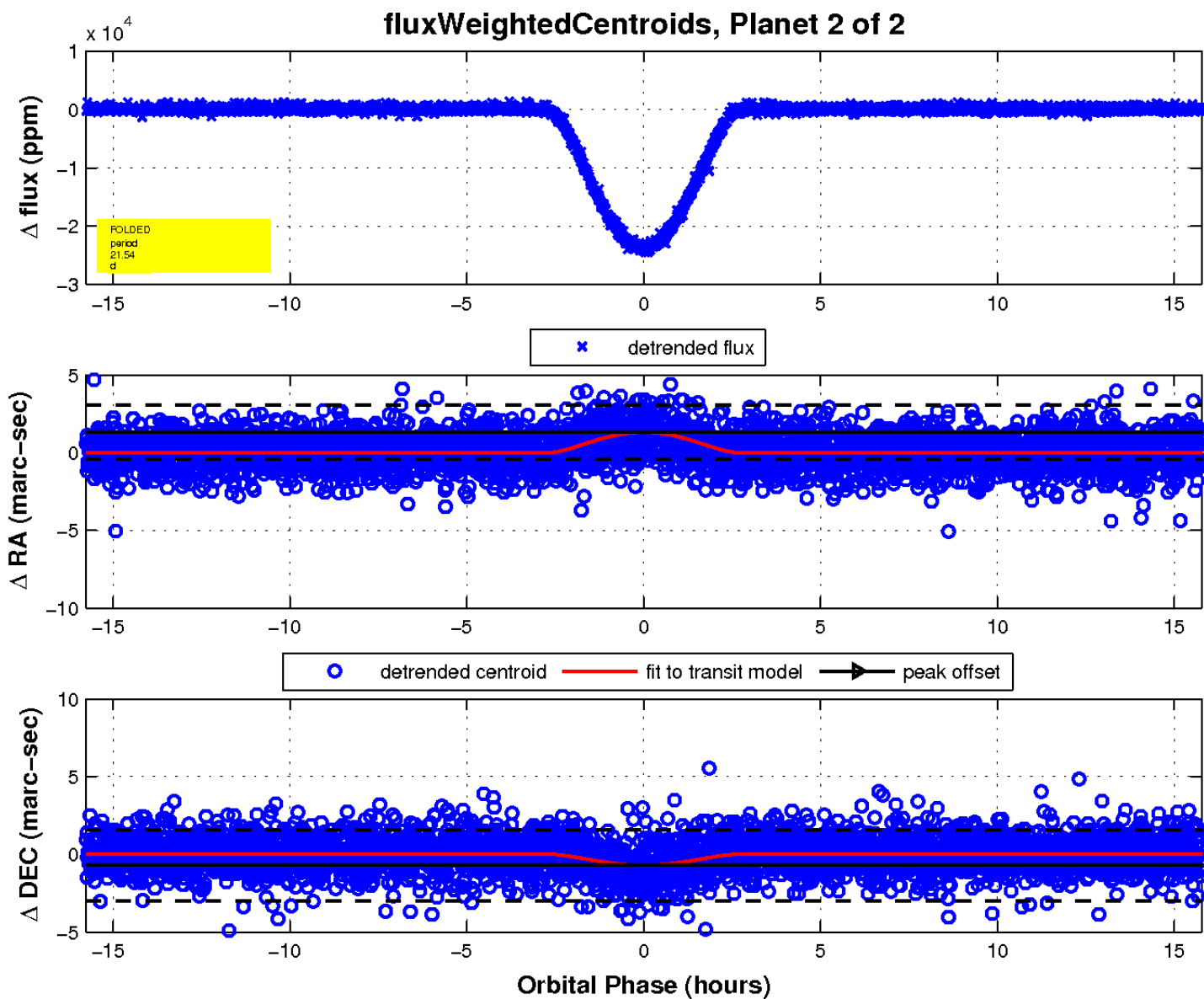
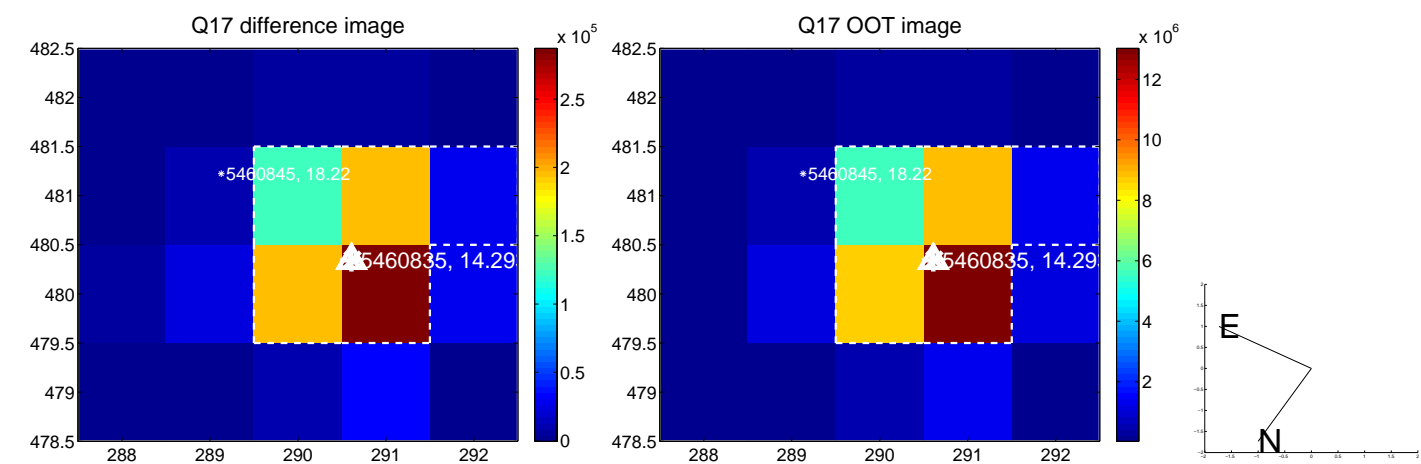
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

