

KIC 008560285

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})
008560285-01	OBS	1249.01	85.340899	215.529835	50982.0	10.611	1112.1	966.2	0.90	6004	23.56	6.62
008560285-02	OBS	No	85.340962	182.610828	2456.0	8.996	59.1	57.2	0.90	6004	5.29	6.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008560285-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
008560285-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

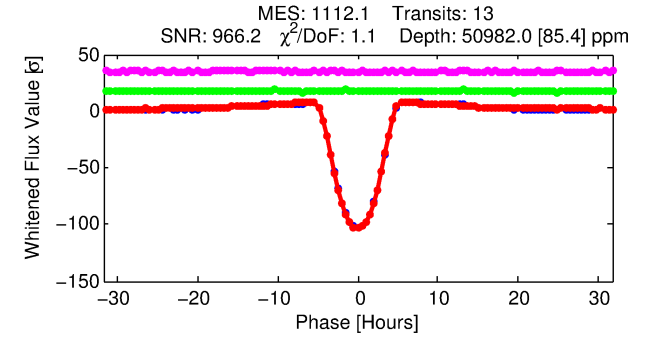
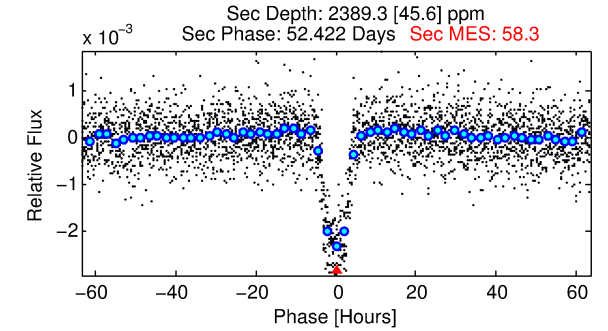
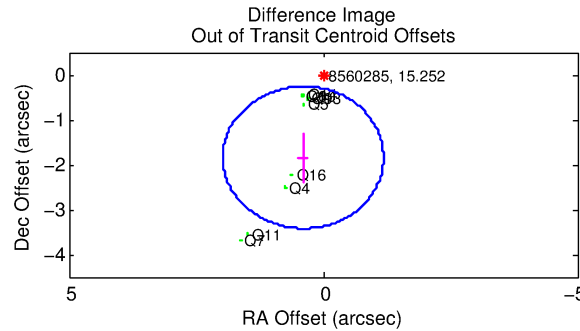
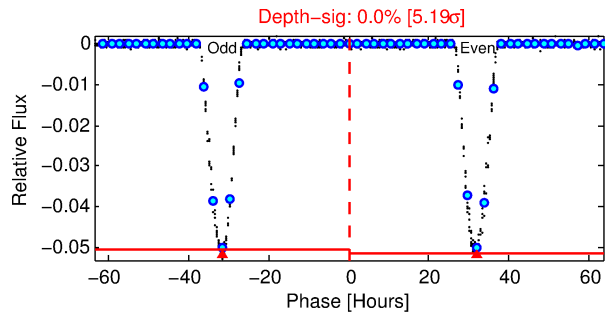
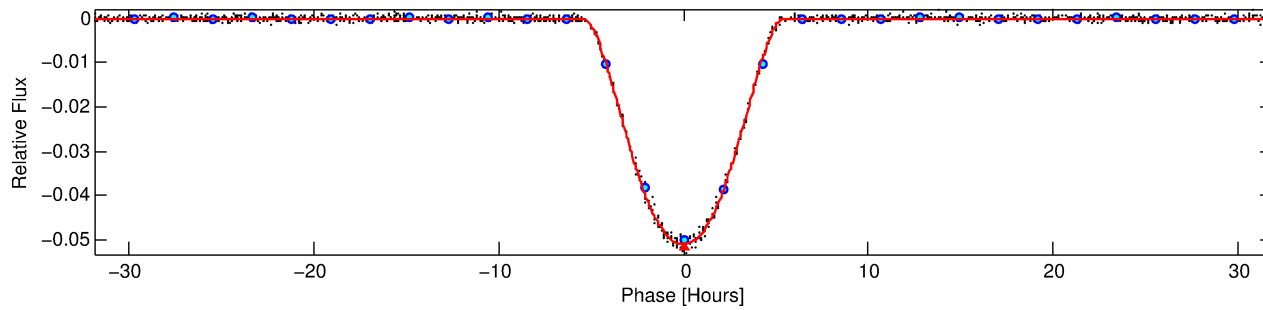
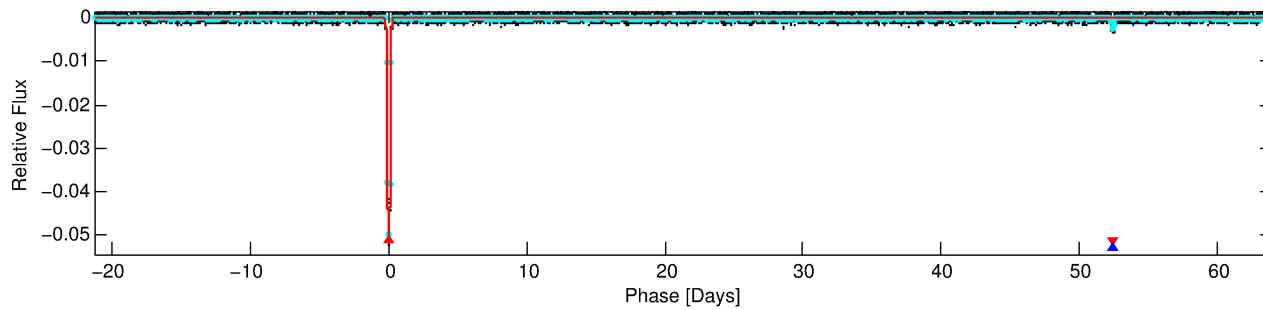
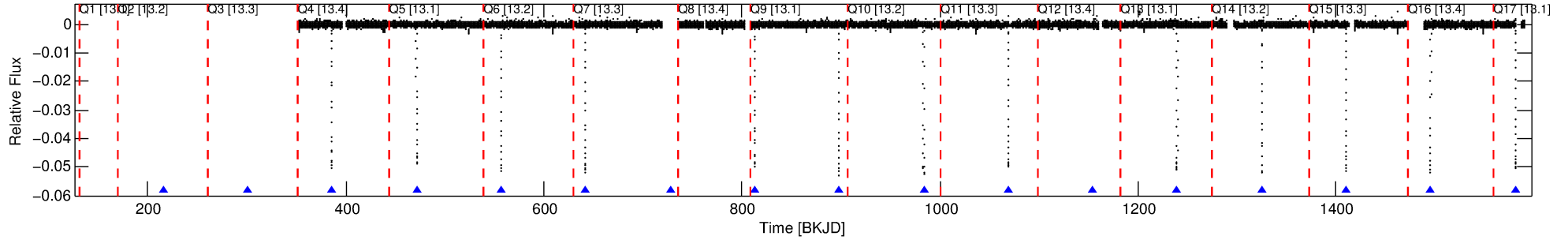
Ephemeris Match Information For 008560285-01

No Significant Match Found

DV One-Page Summary

KIC: 8560285 Candidate: 1 of 2 Period: 85.341 d
KOI: K01249.01 Corr: 1.000

Kp: 15.25 R*: 0.90 Rs Teff: 6004.0 K Logg: 4.52 Fe/H: -0.260



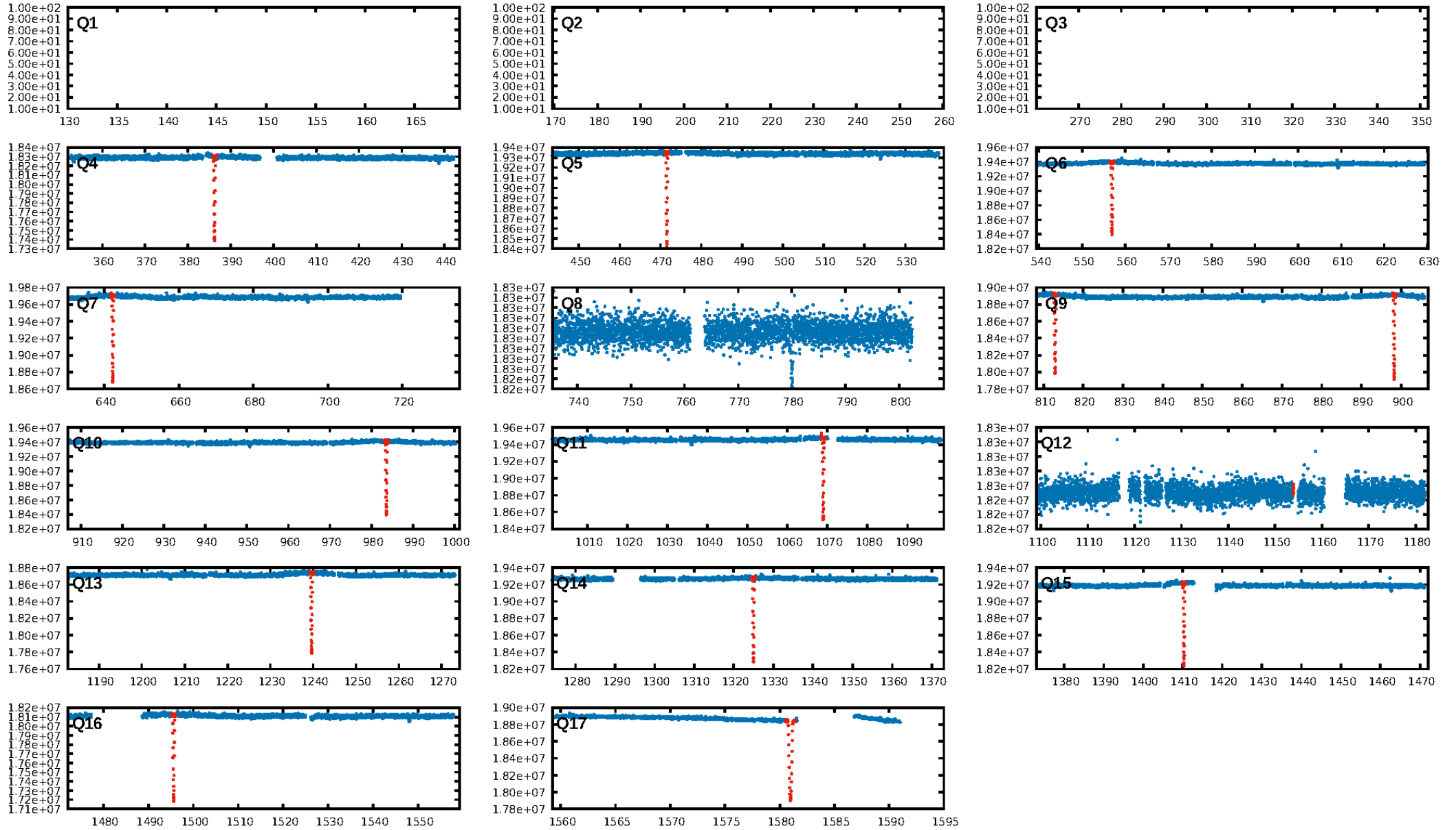
DV Fit Results:

Period = 85.34090 [0.00003] d
Epoch = 215.5298 [0.0003] BKJD
Rp/R* = 0.2404 [0.0015]
a/R* = 57.92 [0.16]
b = 0.81 [0.00]
Seff = 6.62 [2.62]
Teq = 409 [40] K
Rp = 23.56 [6.90] Re
a = 0.3767 [0.0936] AU
Ag = 336.15 [122.55] [2.73σ]
Teffp = 2707 [106] K [20.30σ]

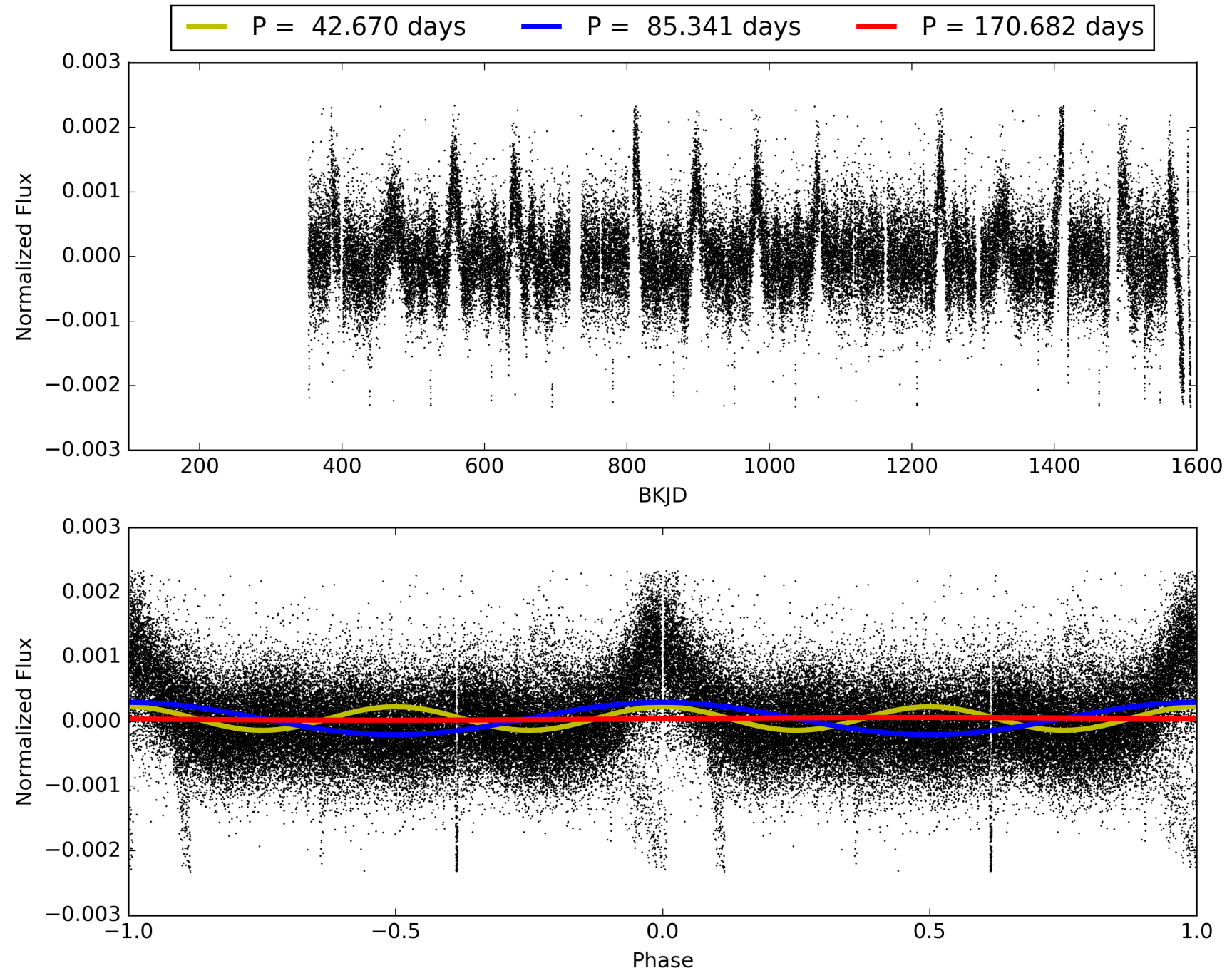
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 86.2%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 5.453
Centroid-sig: 0.0%
Centroid-so: 0.994 arcsec [130.19σ]
OotOffset-rm: 1.883 arcsec [3.57σ]
KicOffset-rm: 0.128 arcsec [1.86σ]
OotOffset-st: 3/2/2/3 [10]
KicOffset-st: 3/2/2/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 008560285-01, PDC Light Curves

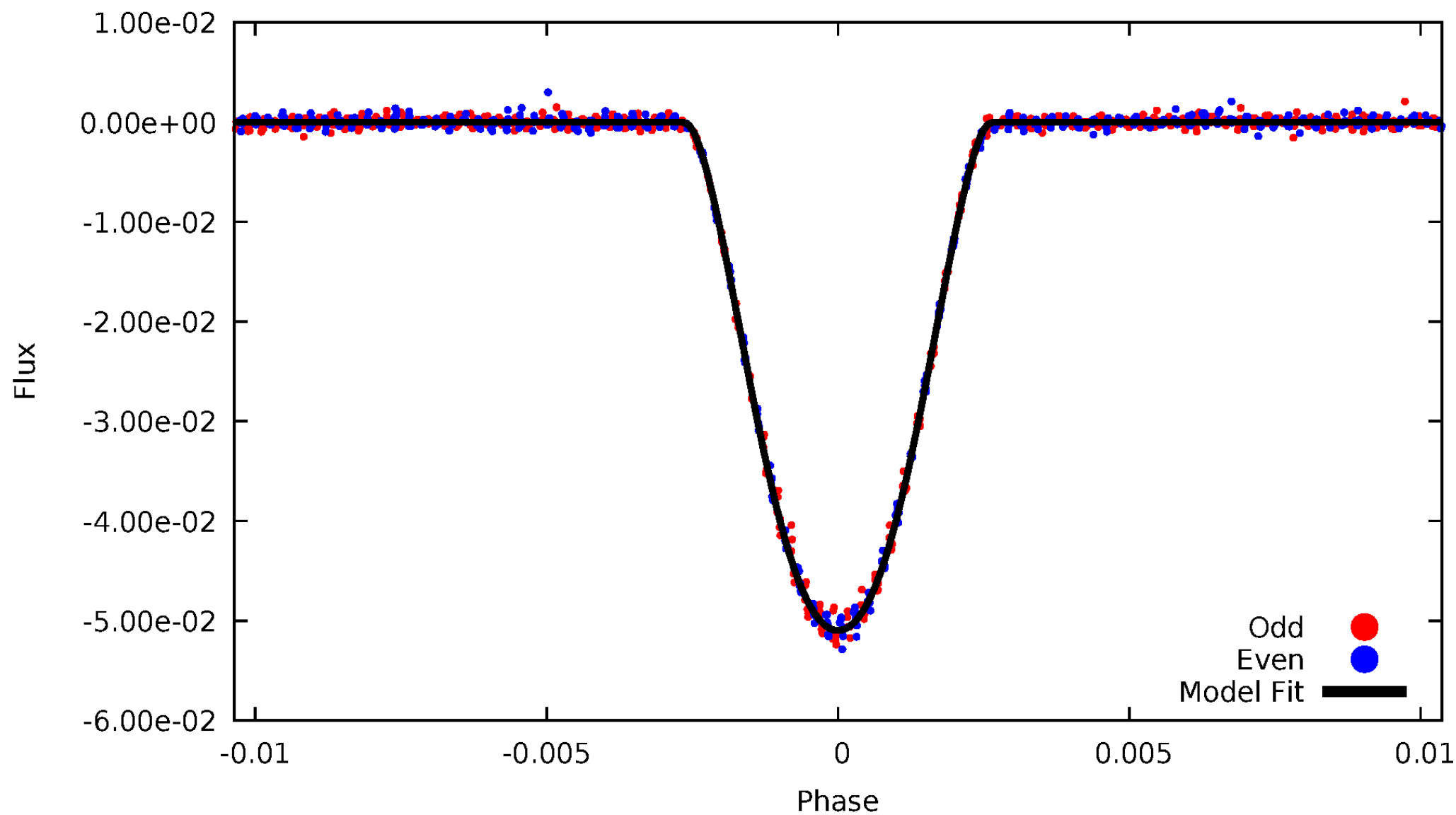


TCE 008560285-01



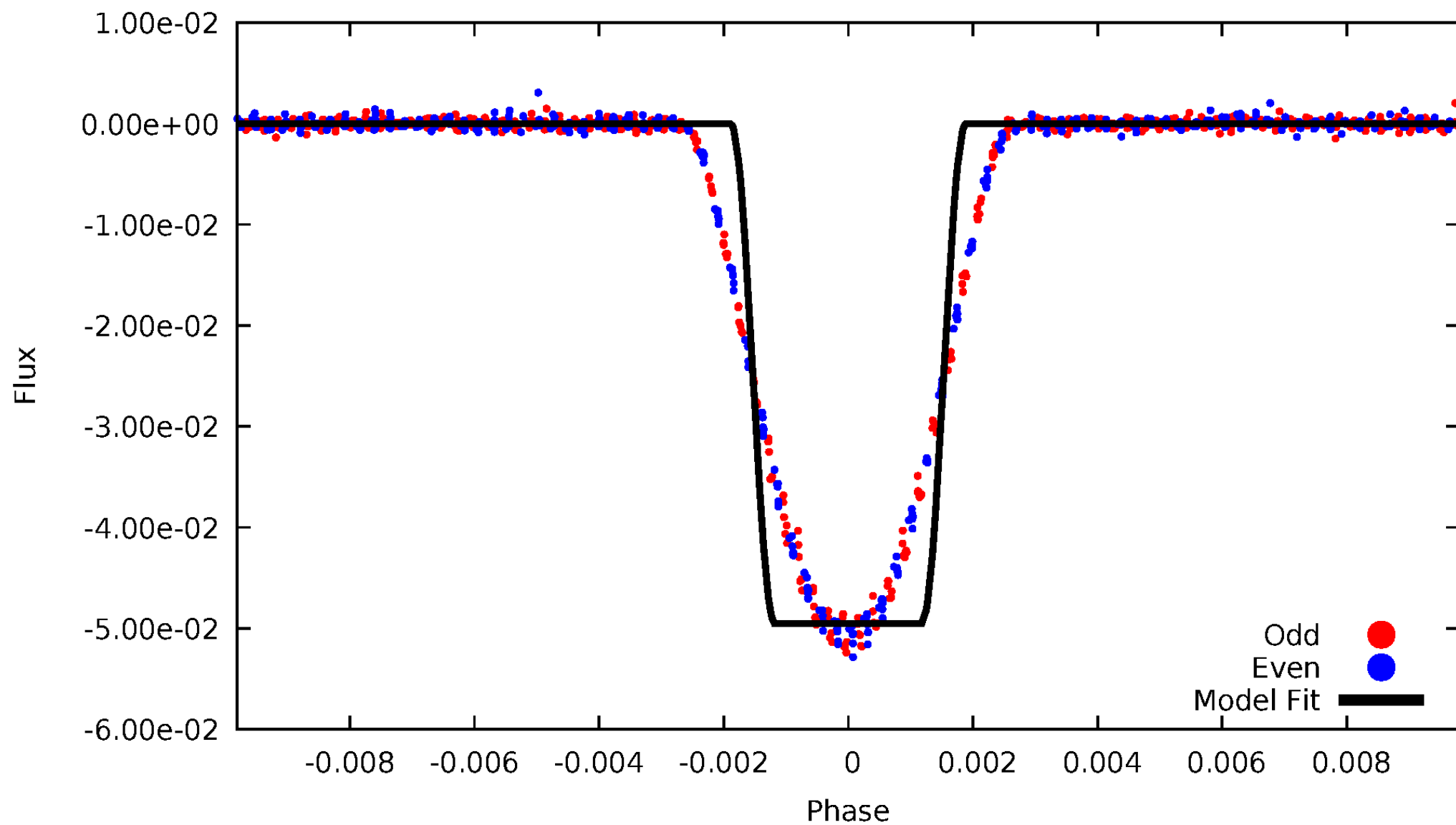
DV Odd/Even

TCE 008560285-01



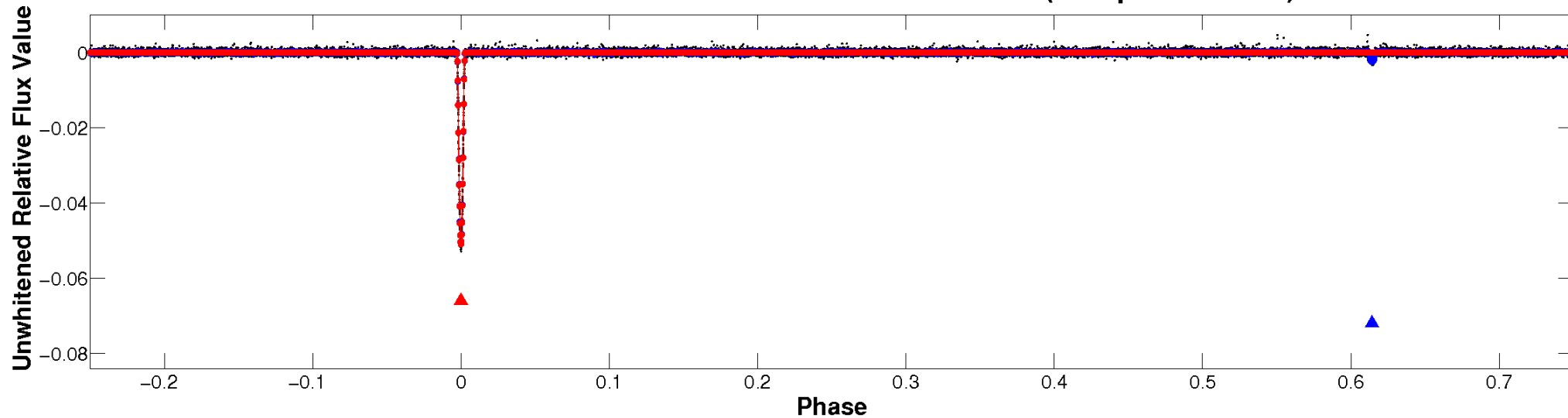
ALT Odd/Even

TCE 008560285-01

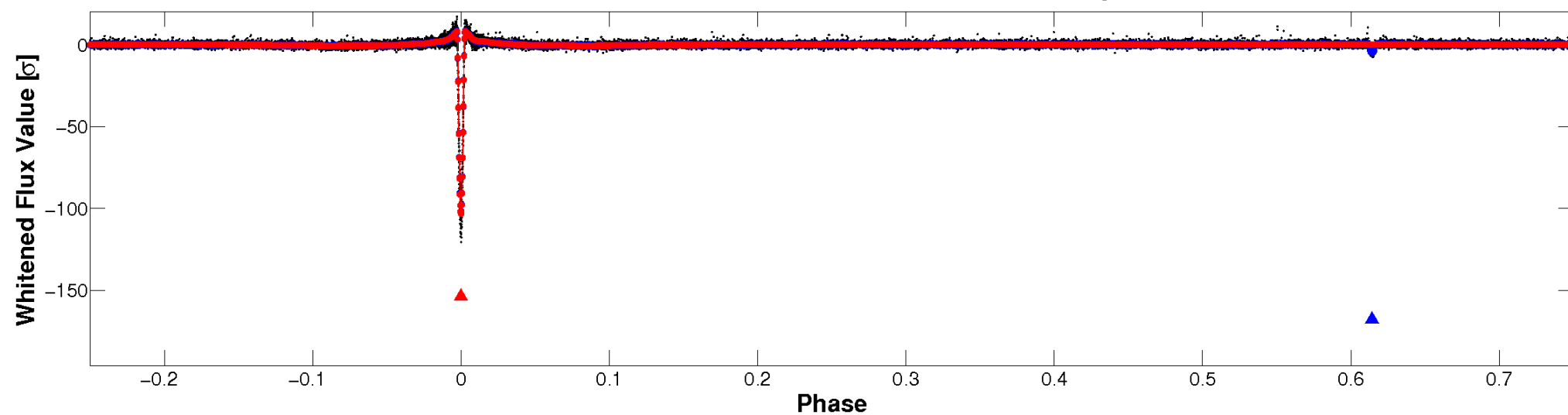


Non-Whitened Vs. Whitened Light Curve

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

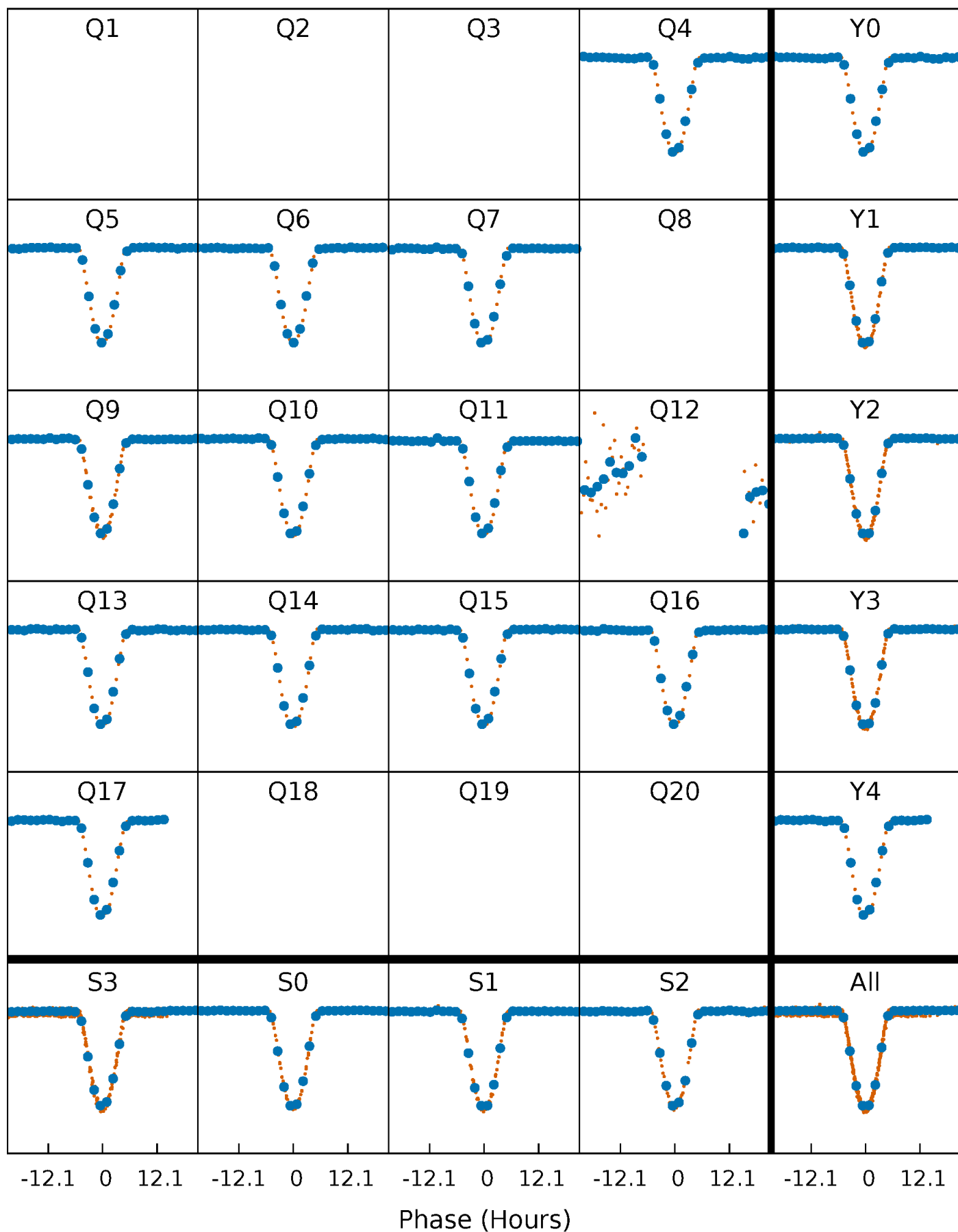


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



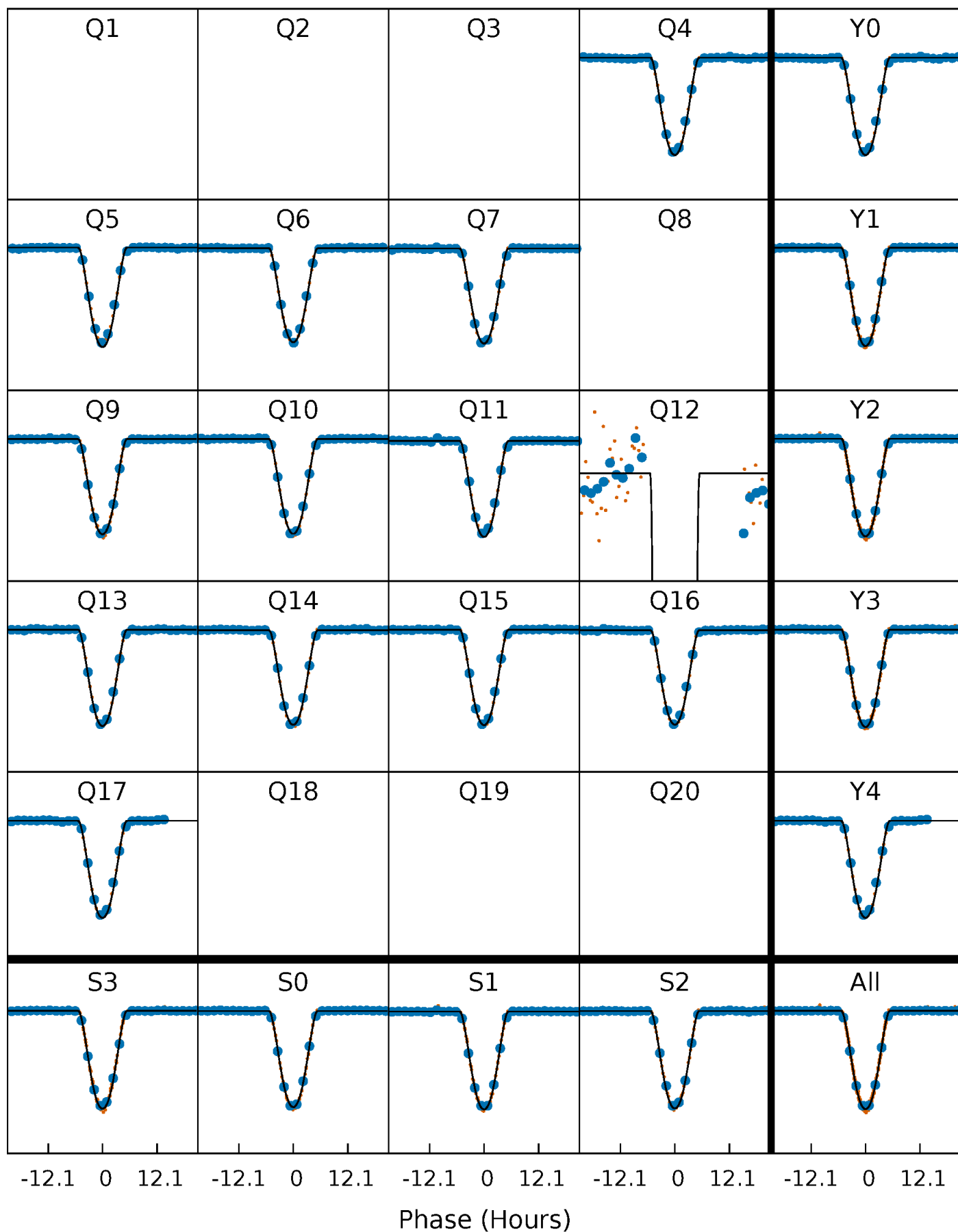
PDC Quarter-Phased Transit Curves

TCE 008560285-01 P= 85.340899 Days $T_0=215.529835$ (BKJD)



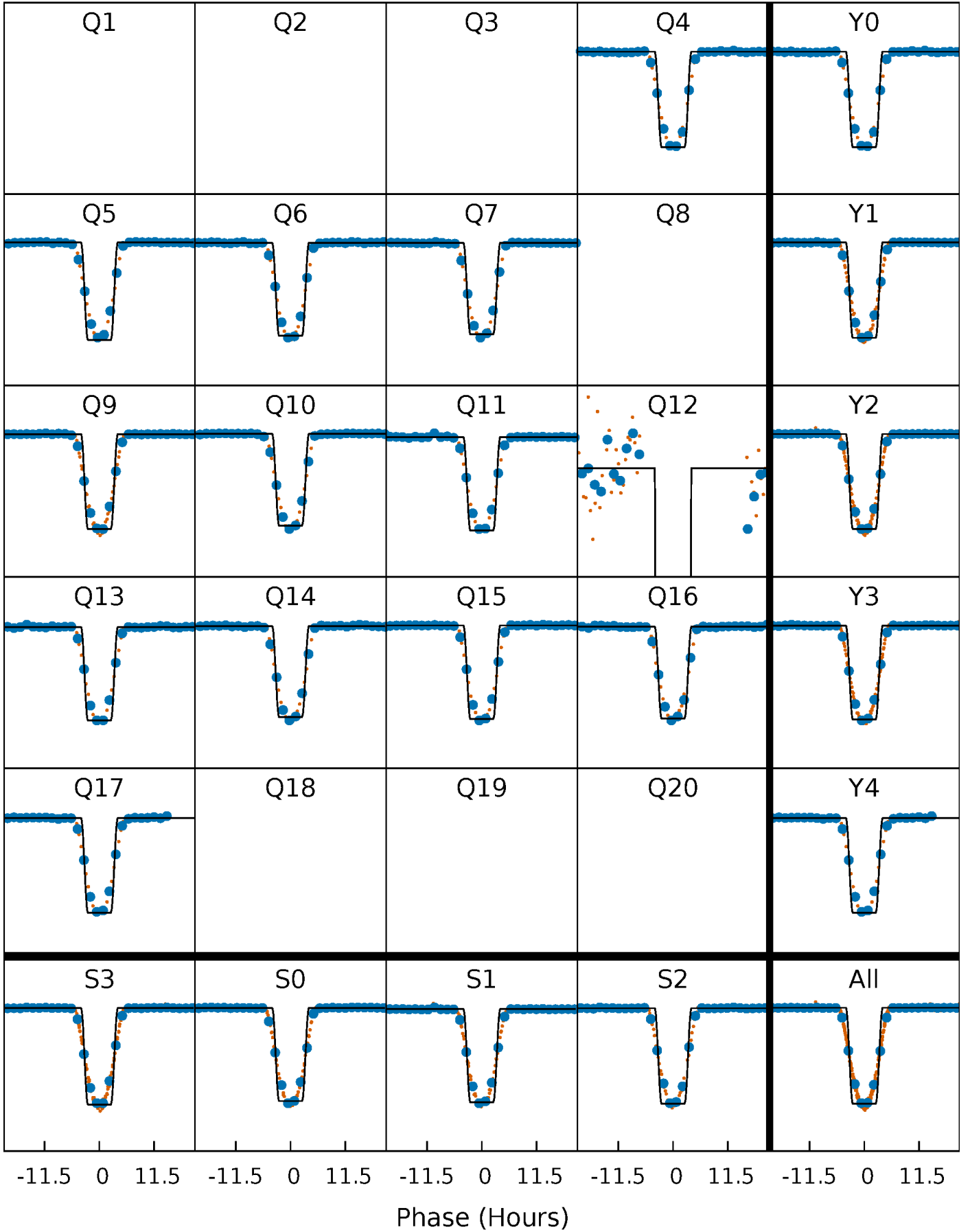
DV Quarter-Phased Transit Curves

TCE 008560285-01 P= 85.340899 Days $T_0=215.529835$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

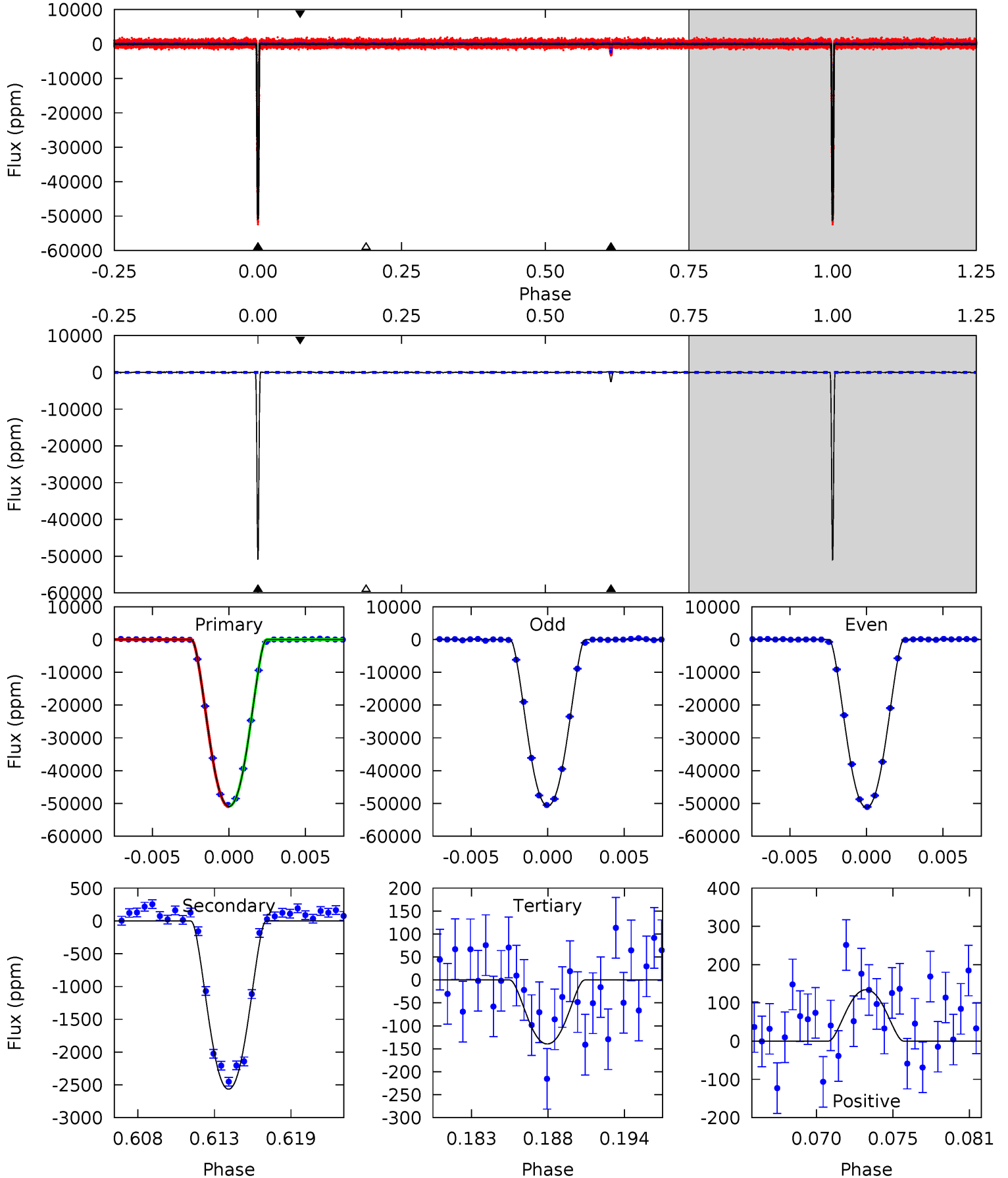
TCE 008560285-01 P= 85.340734 Days $T_0=215.531464$ (BKJD)



DV Model-Shift Uniqueness Test

008560285-01, P = 85.340899 Days, E = 215.529835 Days

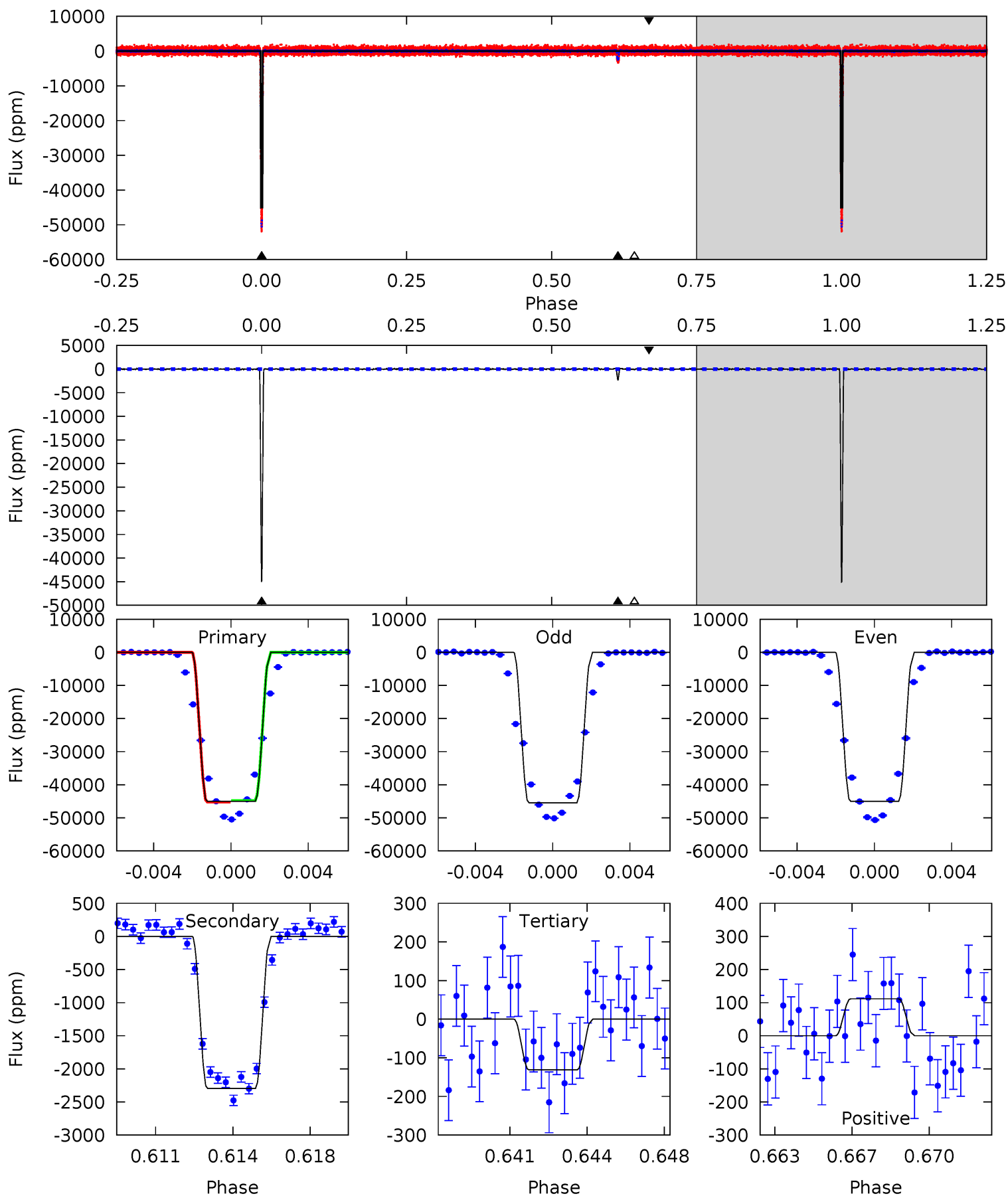
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1938	97.7	5.31	5.11	5.14	2.78	1.77	1933	1933	92.3	92.5	9.46	1.00	0.00	2.15



Alt Model-Shift Uniqueness Test

008560285-01, P = 85.340734 Days, E = 215.531464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1341	68.3	3.91	3.32	5.21	2.90	1.13	1337	1337	64.4	65.0	5.67	1.00	0.00	6.59



Stellar Parameters For KIC 008560285

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6004^{+190}_{-232}	$4.522^{+0.050}_{-0.200}$	$-0.260^{+0.300}_{-0.300}$	$0.898^{+0.263}_{-0.088}$	$0.978^{+0.117}_{-0.130}$	$1.901^{+0.496}_{-1.000}$
	+3%/-4%	+1%/-4%	+115%/-115%	+29%/-10%	+12%/-13%	+26%/-53%
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 008560285-01 / KOI 1249.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2566 ± 26	$24.17^{+3.96}_{-1.78}$	583^{+40}_{-30}	3306^{+65}_{-82}	338^{+47}_{-82}
Alt.	-2296 ± 34	$22.36^{+3.45}_{-1.76}$	582^{+39}_{-28}	3332^{+63}_{-76}	350^{+51}_{-79}

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

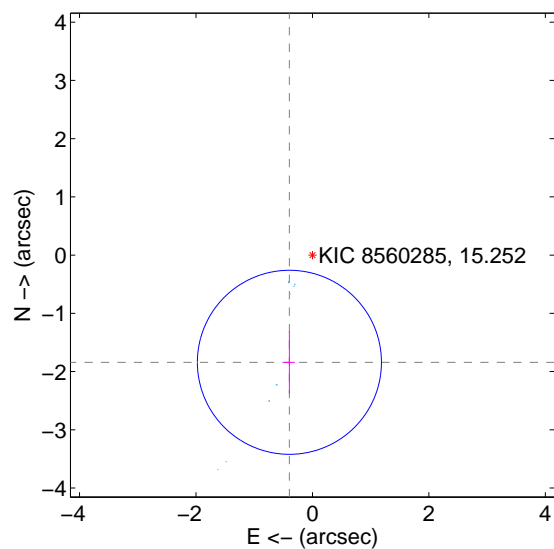
Supplemental centroid analysis for 008560285-01. Kepler magnitude: 15.25. Transit SNR 966.23

There are 10 quarters with good PRF difference image offsets

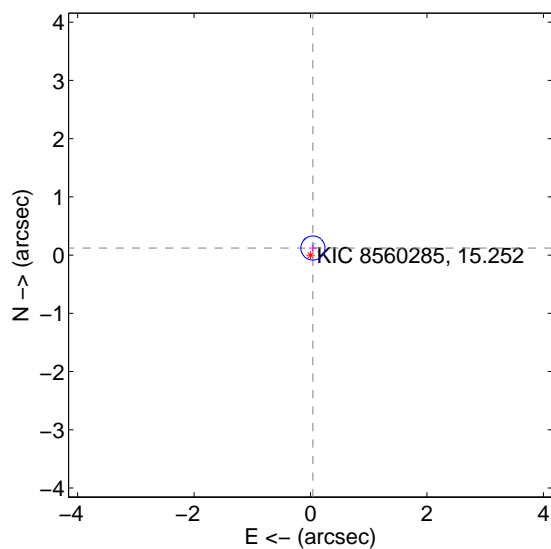
The OOT PRF centroid is offset from the target star catalog position by about 2.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.883 ± 0.527	3.57	0.395 ± 0.092	-1.841 ± 0.538
PRF-fit source offset from KIC position	0.128 ± 0.069	1.86	-0.041 ± 0.067	0.122 ± 0.069
photometric centroid source offset	0.99 ± 0.01	130.19	-0.02 ± 0.01	0.99 ± 0.01

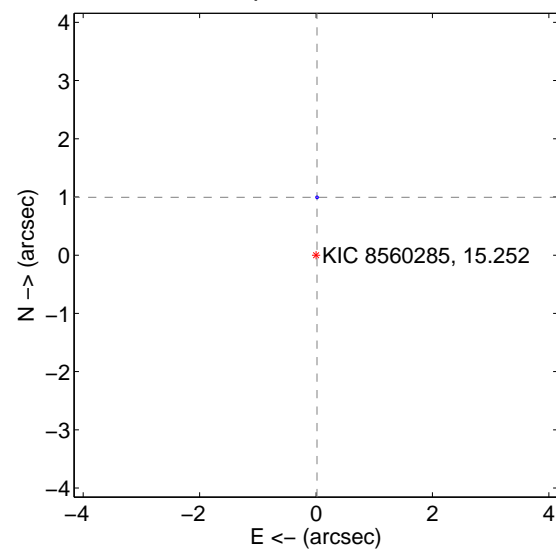
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

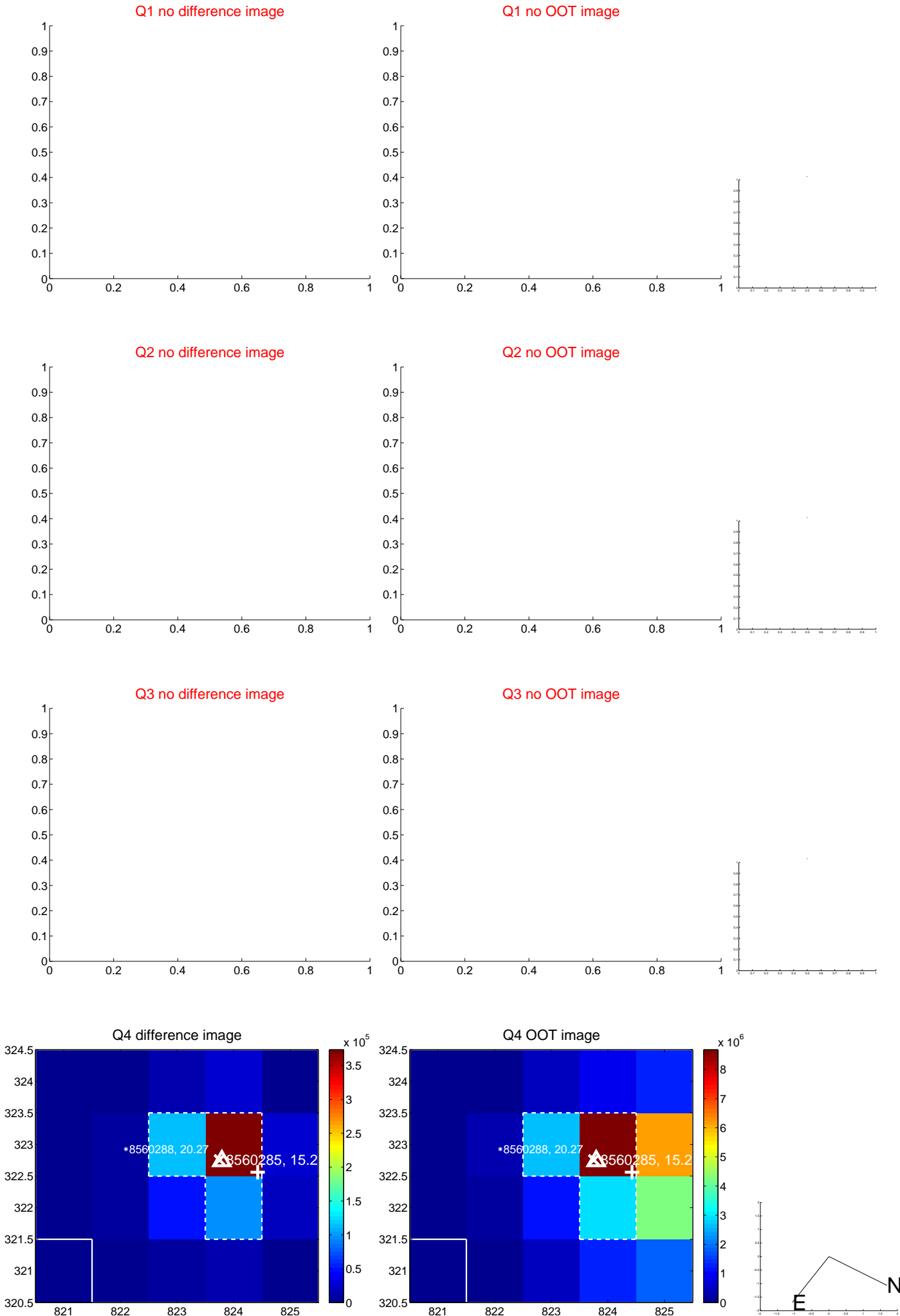


offset from photometric centroids

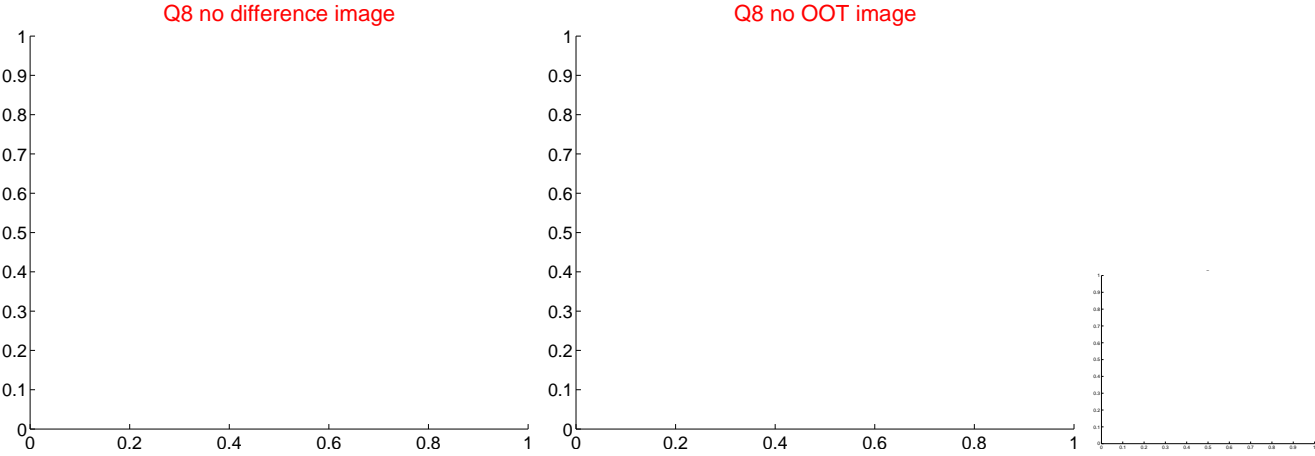
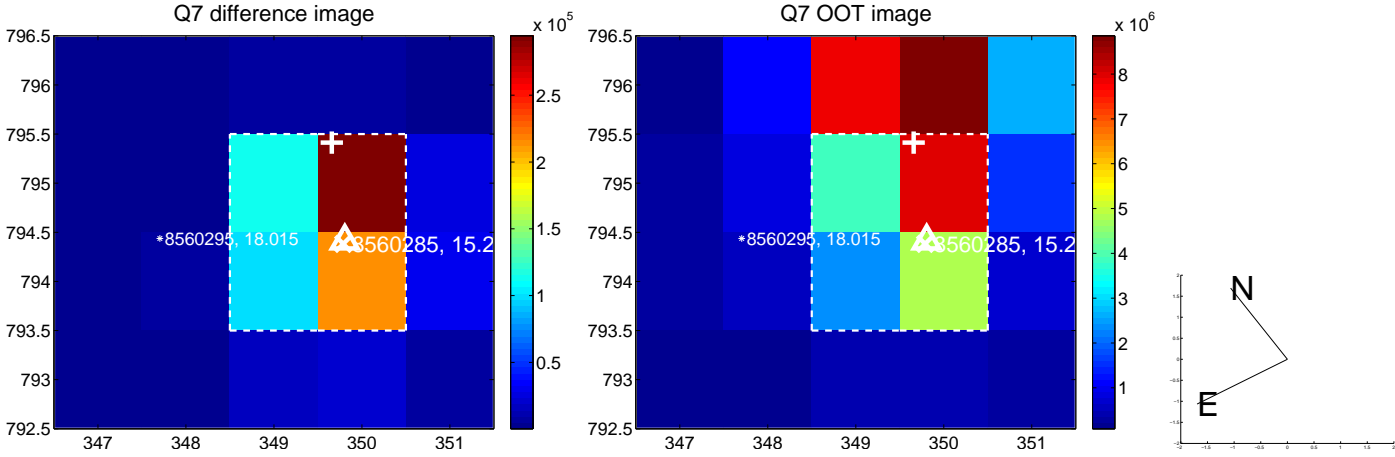
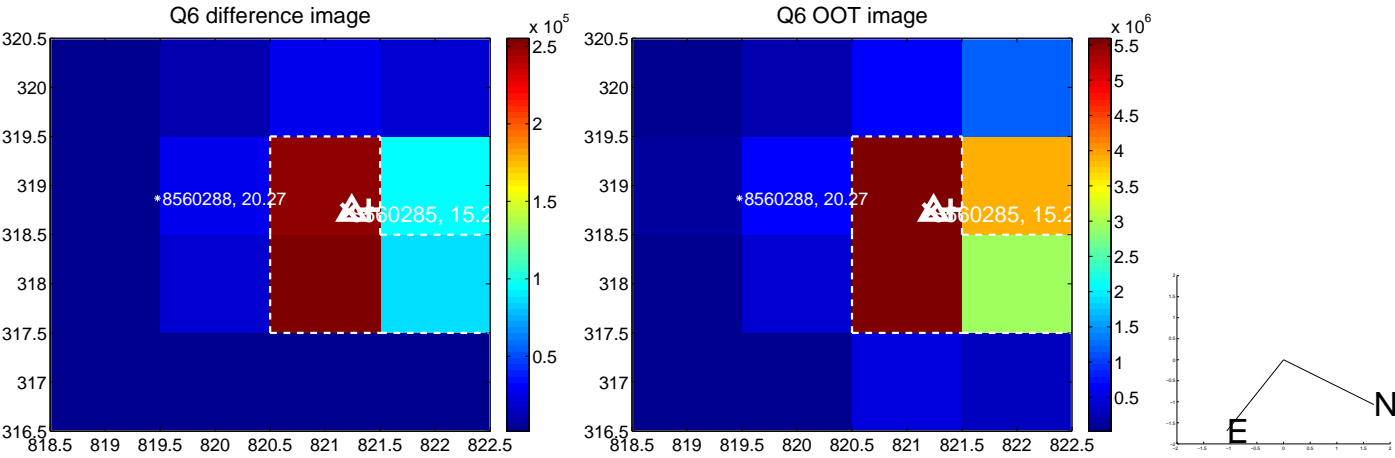
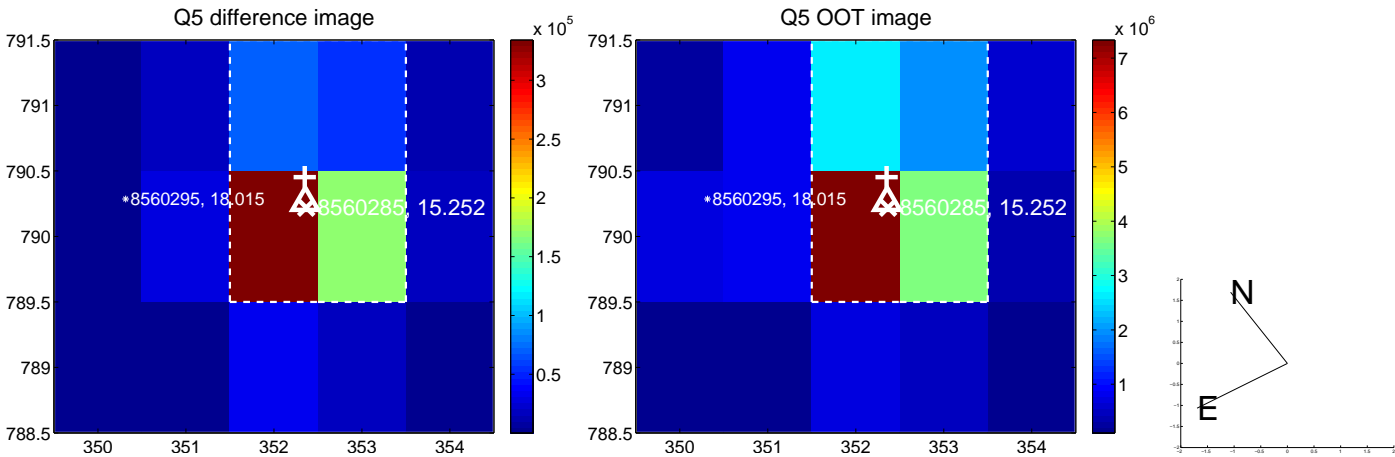


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

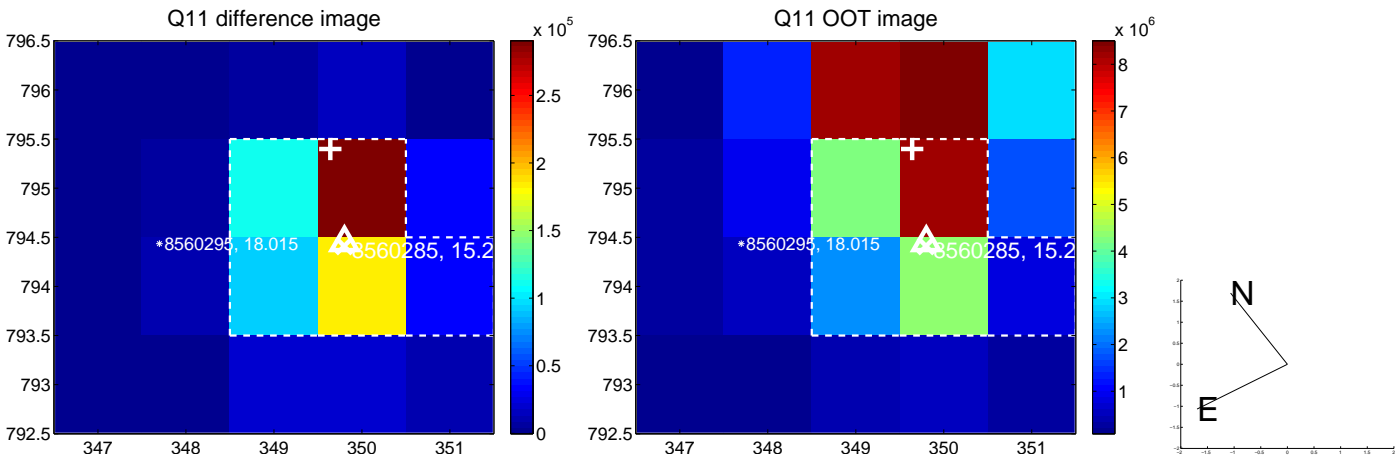
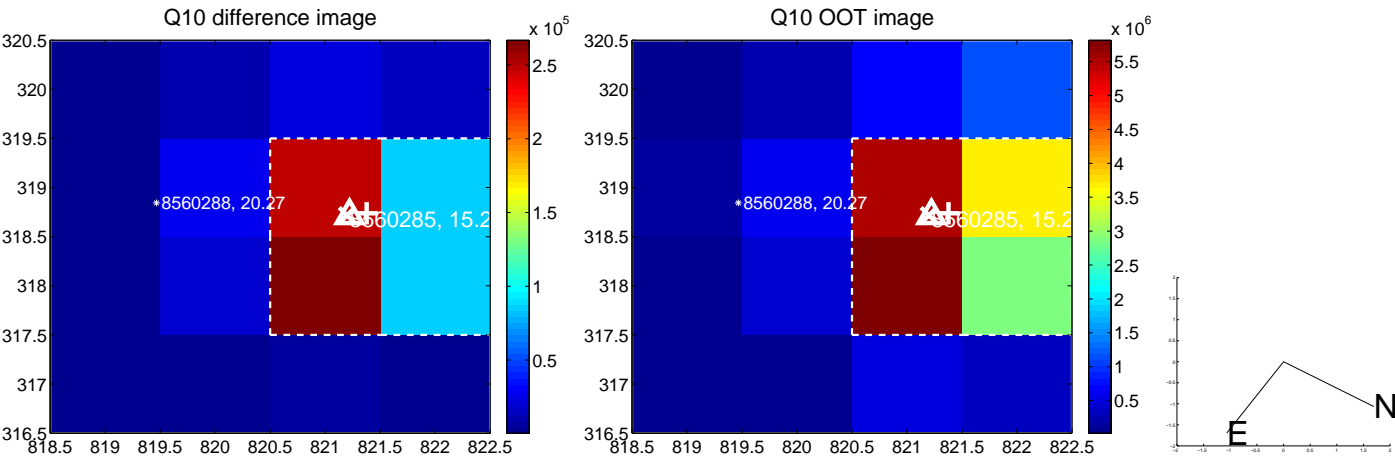
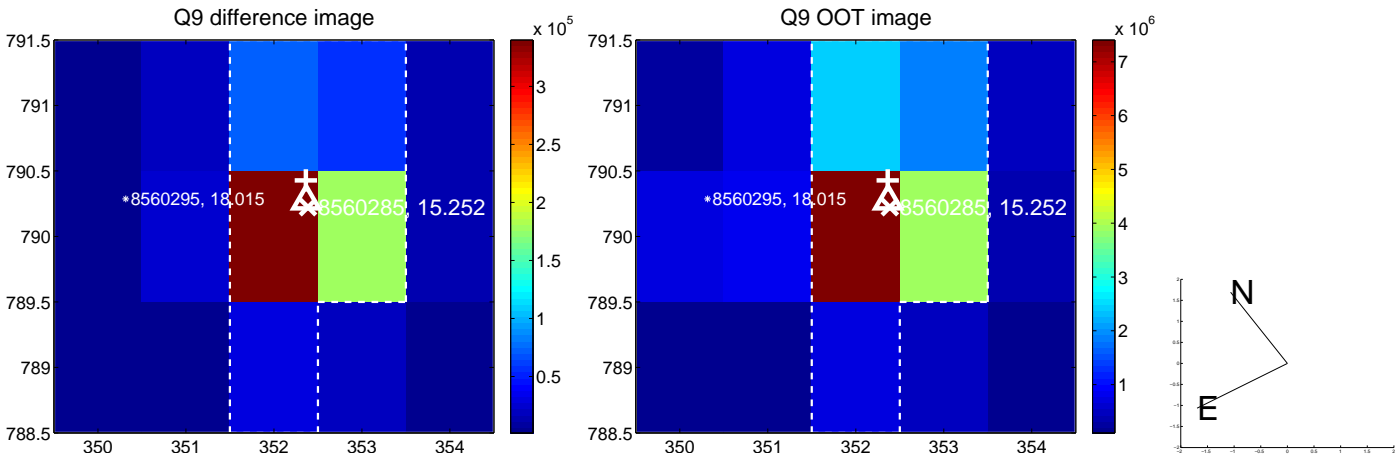
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



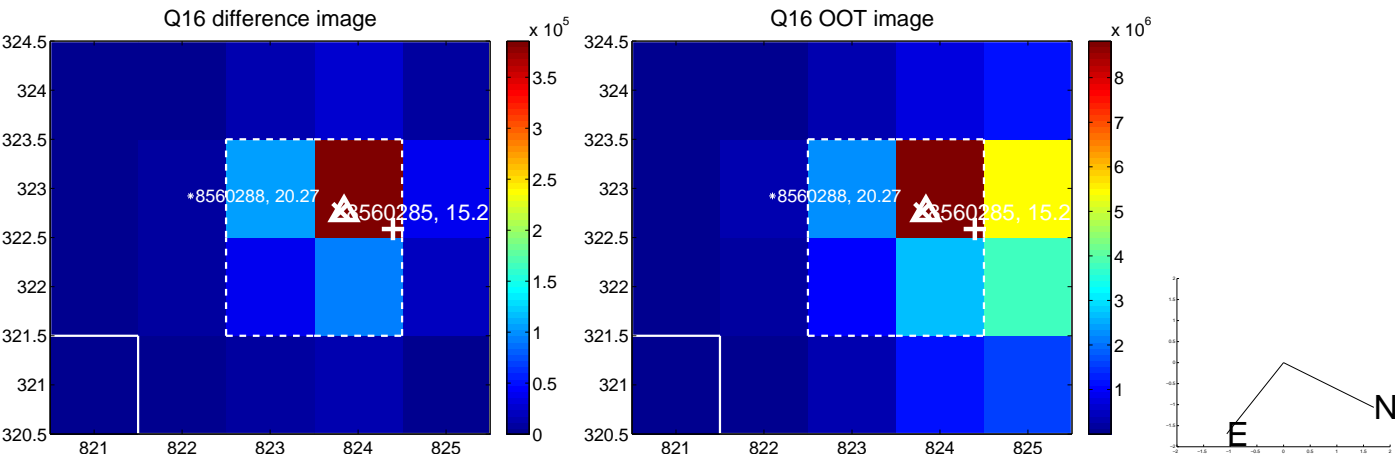
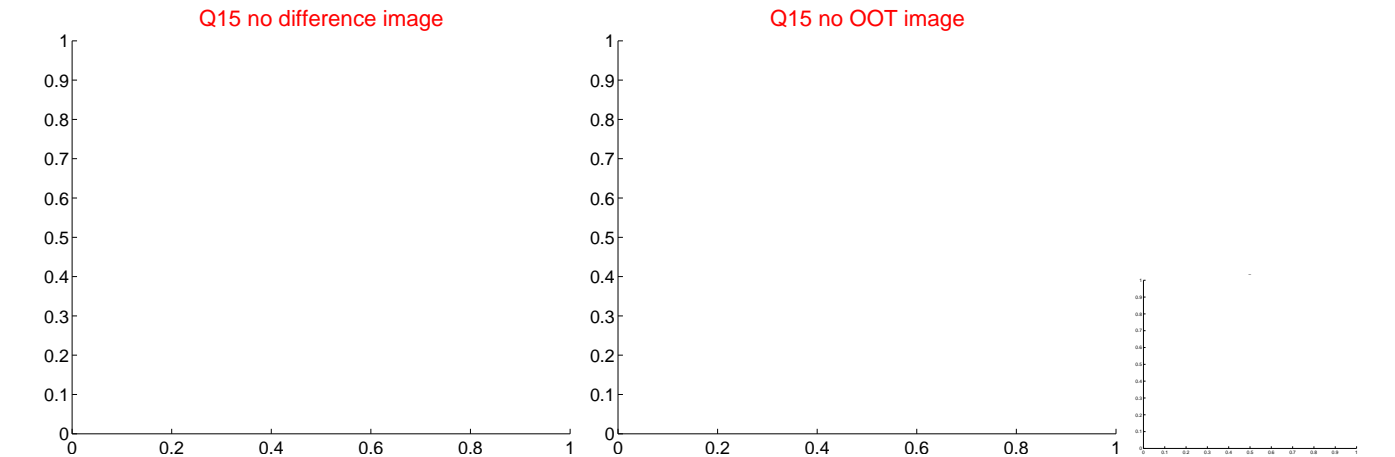
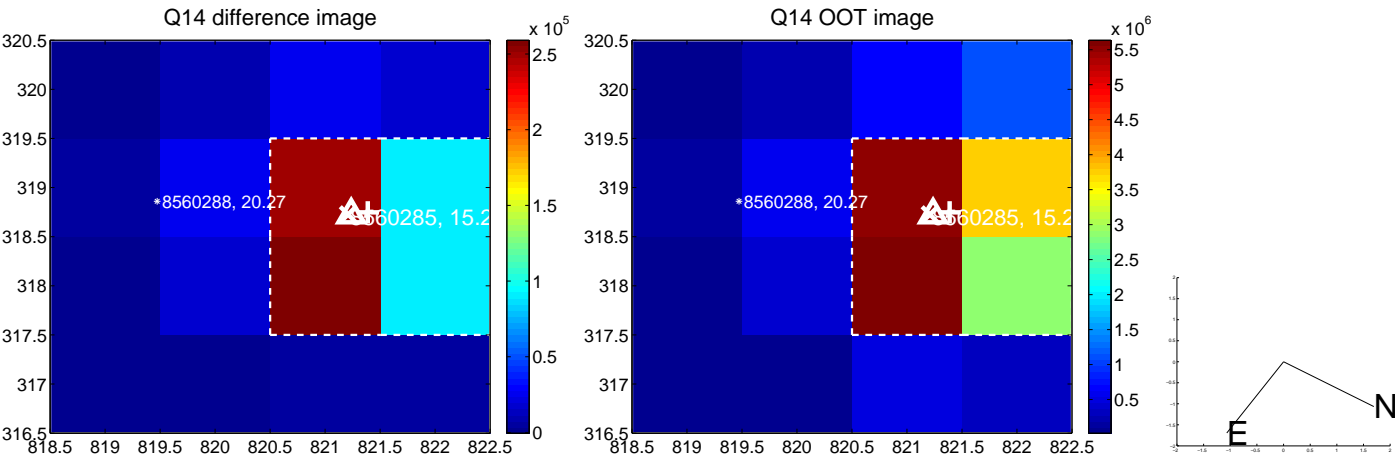
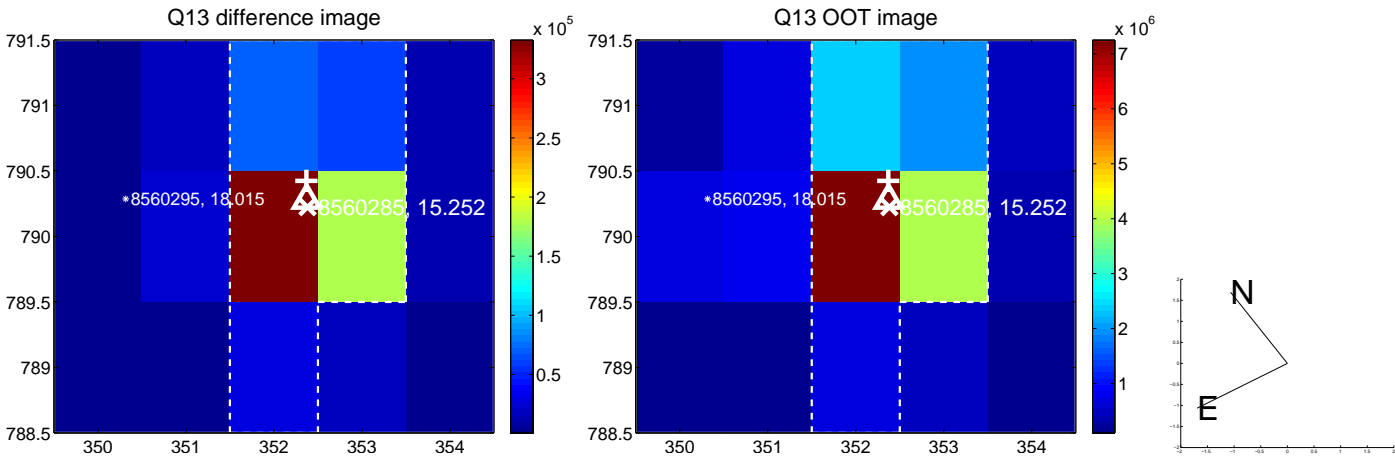
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



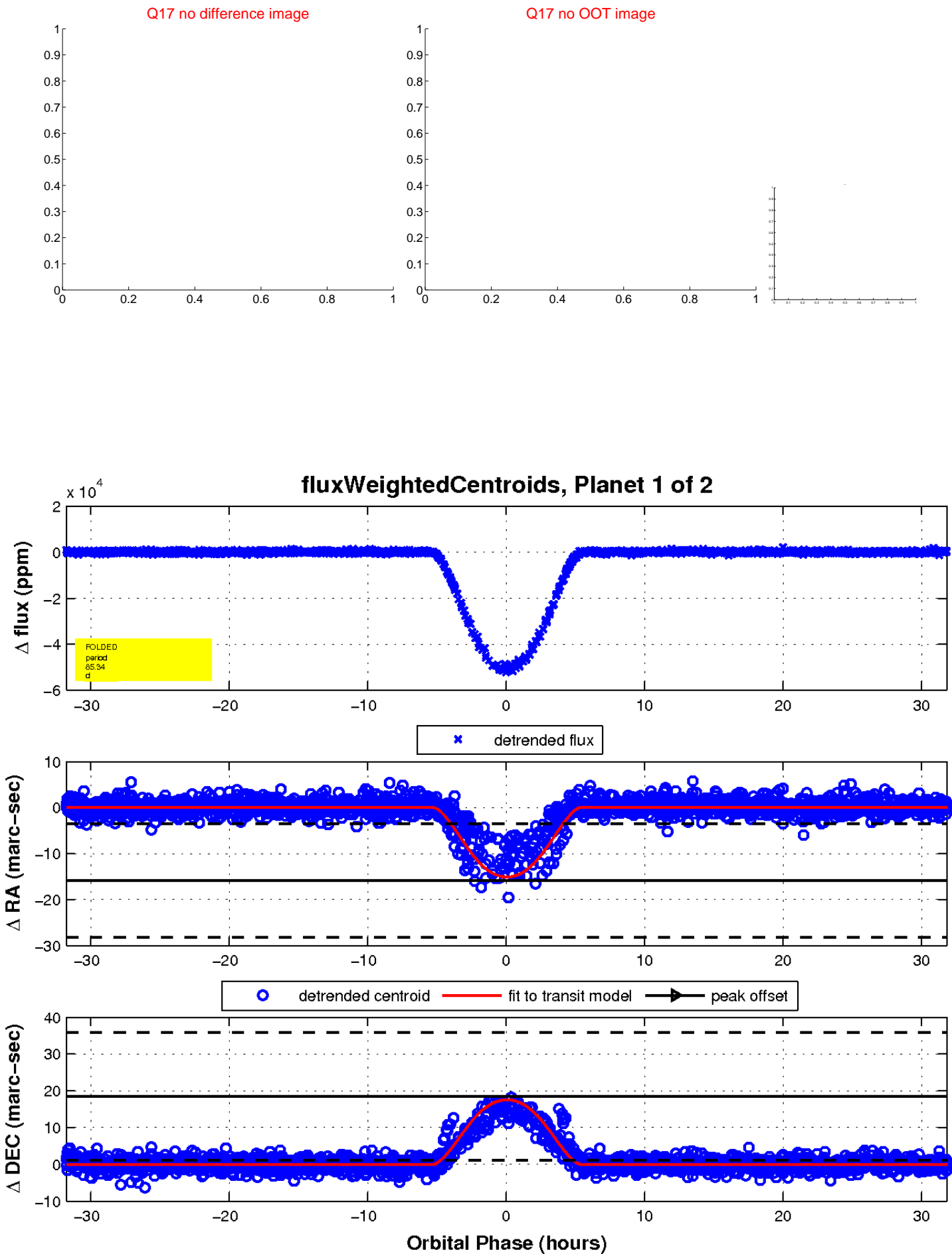
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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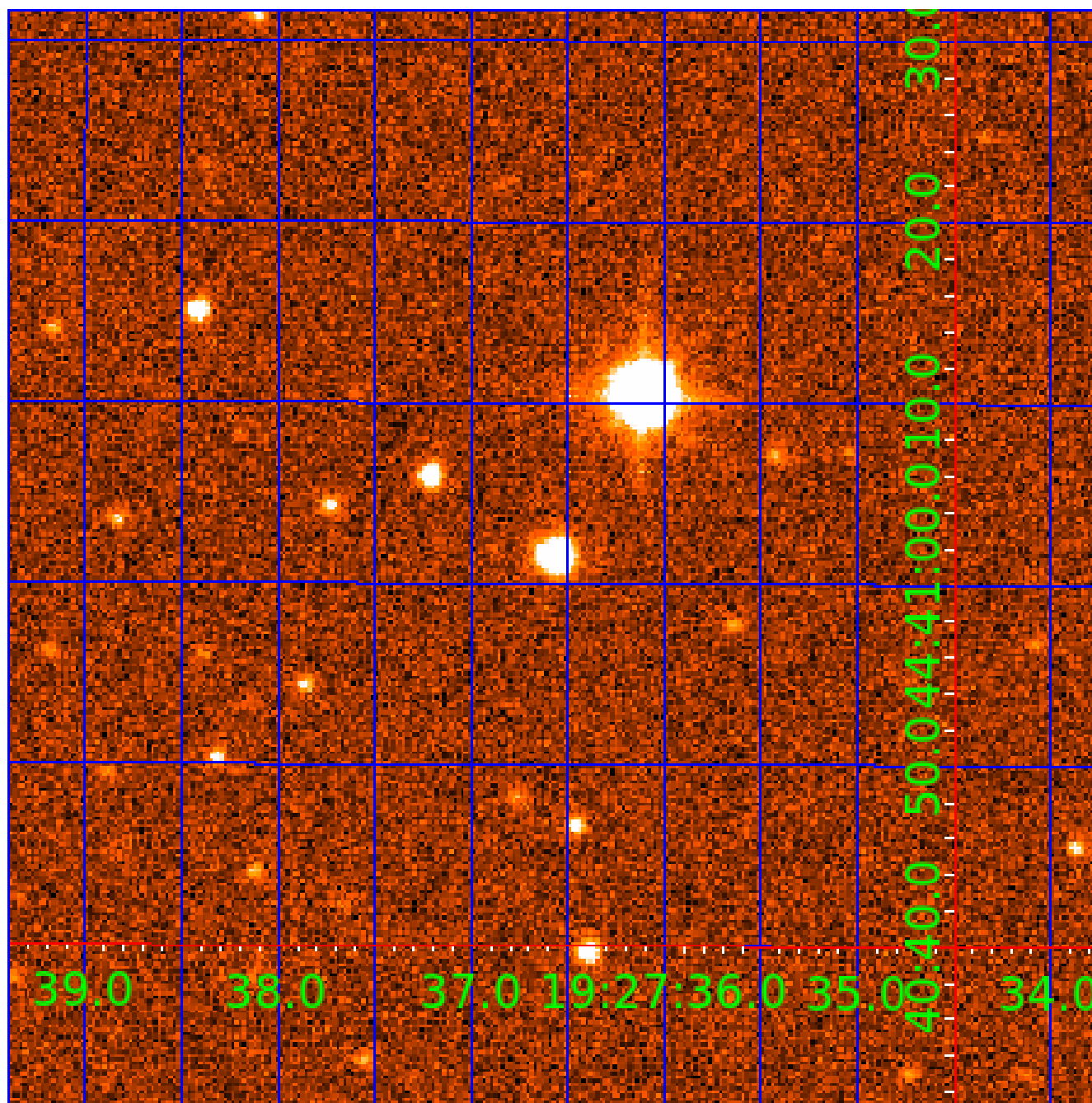


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008560285

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})
008560285-01	OBS	1249.01	85.340899	215.529835	50982.0	10.611	1112.1	966.2	0.90	6004	23.56	6.62
008560285-02	OBS	No	85.340962	182.610828	2456.0	8.996	59.1	57.2	0.90	6004	5.29	6.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008560285-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
008560285-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

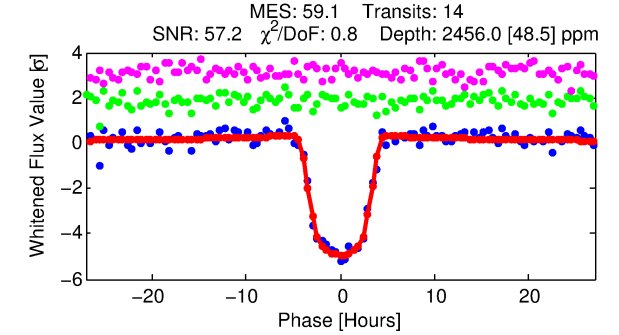
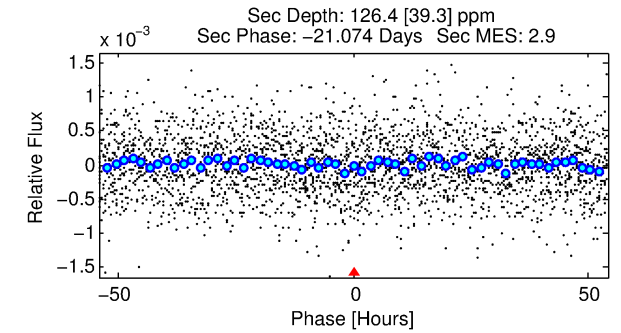
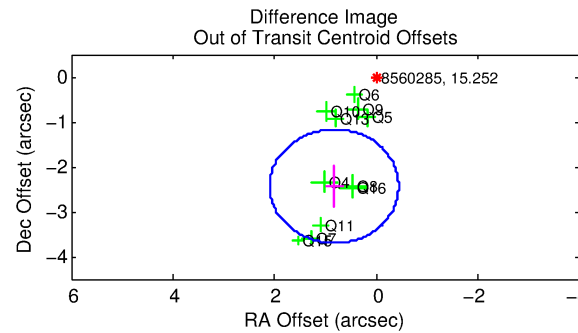
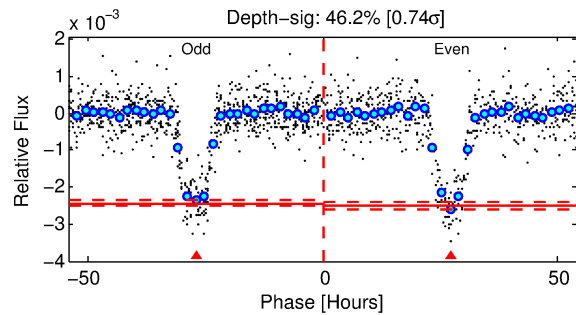
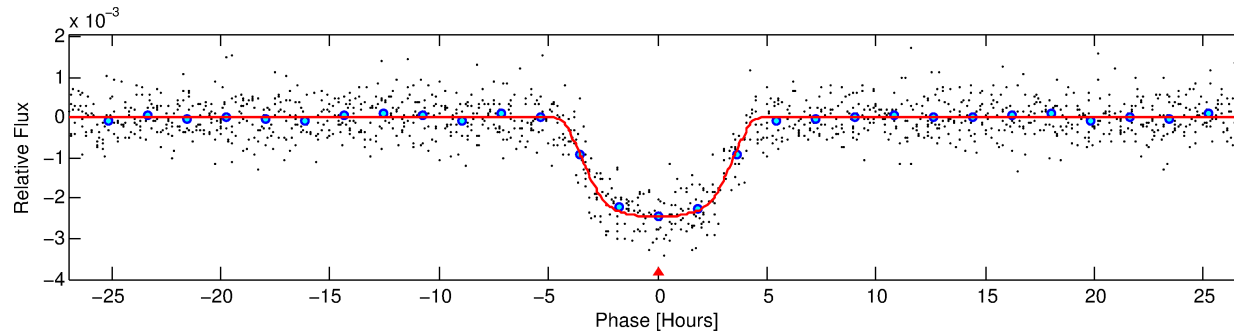
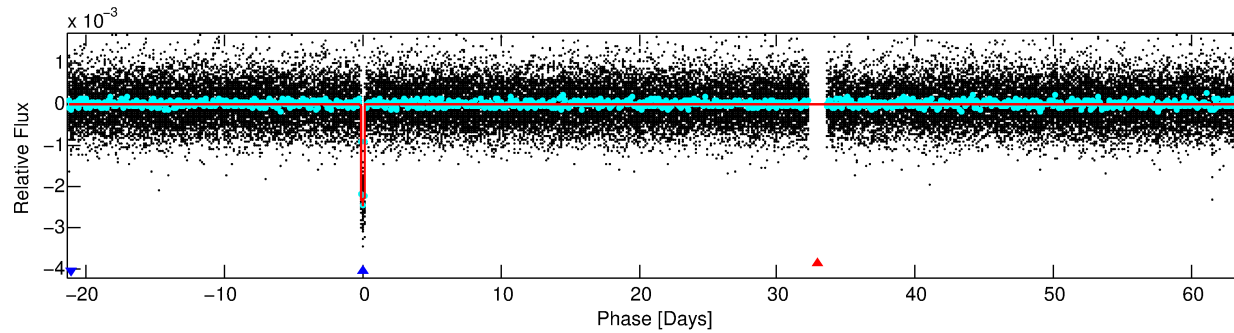
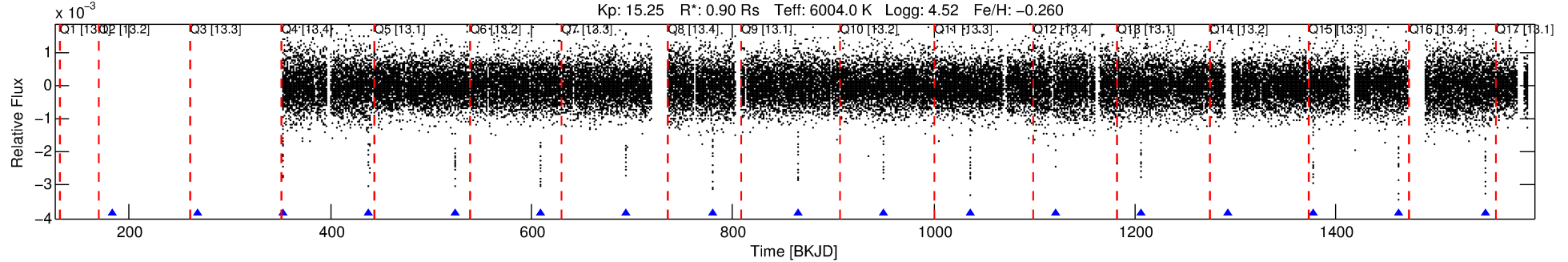
Ephemeris Match Information For 008560285-02

No Significant Match Found

DV One-Page Summary

KIC: 8560285 Candidate: 2 of 2 Period: 85.341 d
KOI: K01249 Corr: No Ephemeris Match

Kp: 15.25 R*: 0.90 Rs Teff: 6004.0 K Logg: 4.52 Fe/H: -0.260



DV Fit Results:

Period = 85.34096 [0.00040] d
Epoch = 182.6108 [0.0039] BKJD
Rp/R* = 0.0540 [0.0009]
a/R* = 38.86 [1.88]
b = 0.91 [0.01]
Seff = 6.62 [2.62]
Teq = 409 [40] K
Rp = 5.29 [1.55] Re
a = 0.3767 [0.0936] AU
Ag = 352.29 [168.90] [2.08σ]
Teffp = 2739 [239] K [9.63σ]

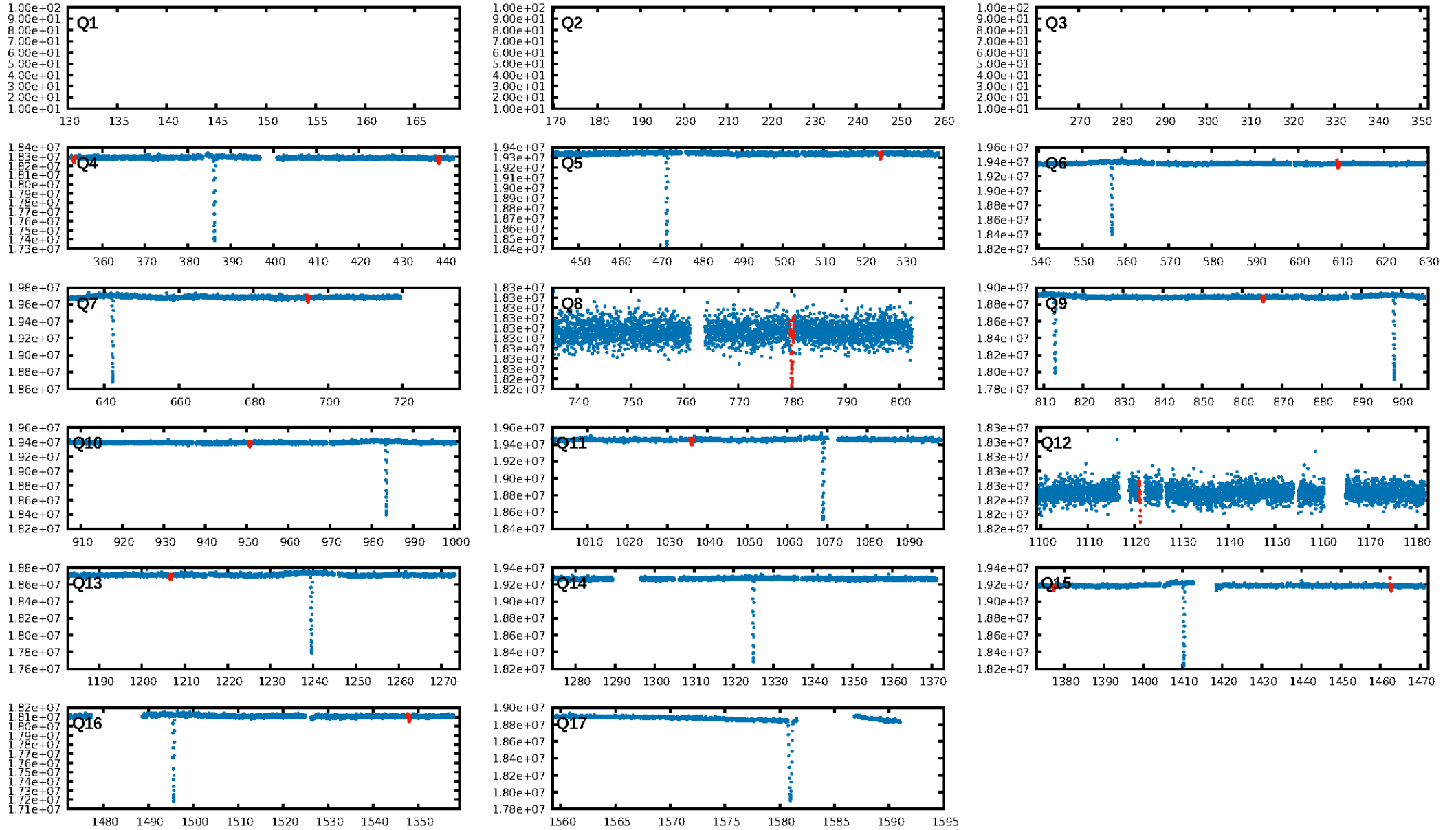
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 54.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 3.675
Centroid-sig: 0.0%
Centroid-so: 0.621 arcsec [4.33σ]
OotOffset-rm: 2.574 arcsec [6.10σ]
KicOffset-rm: 0.061 arcsec [0.59σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
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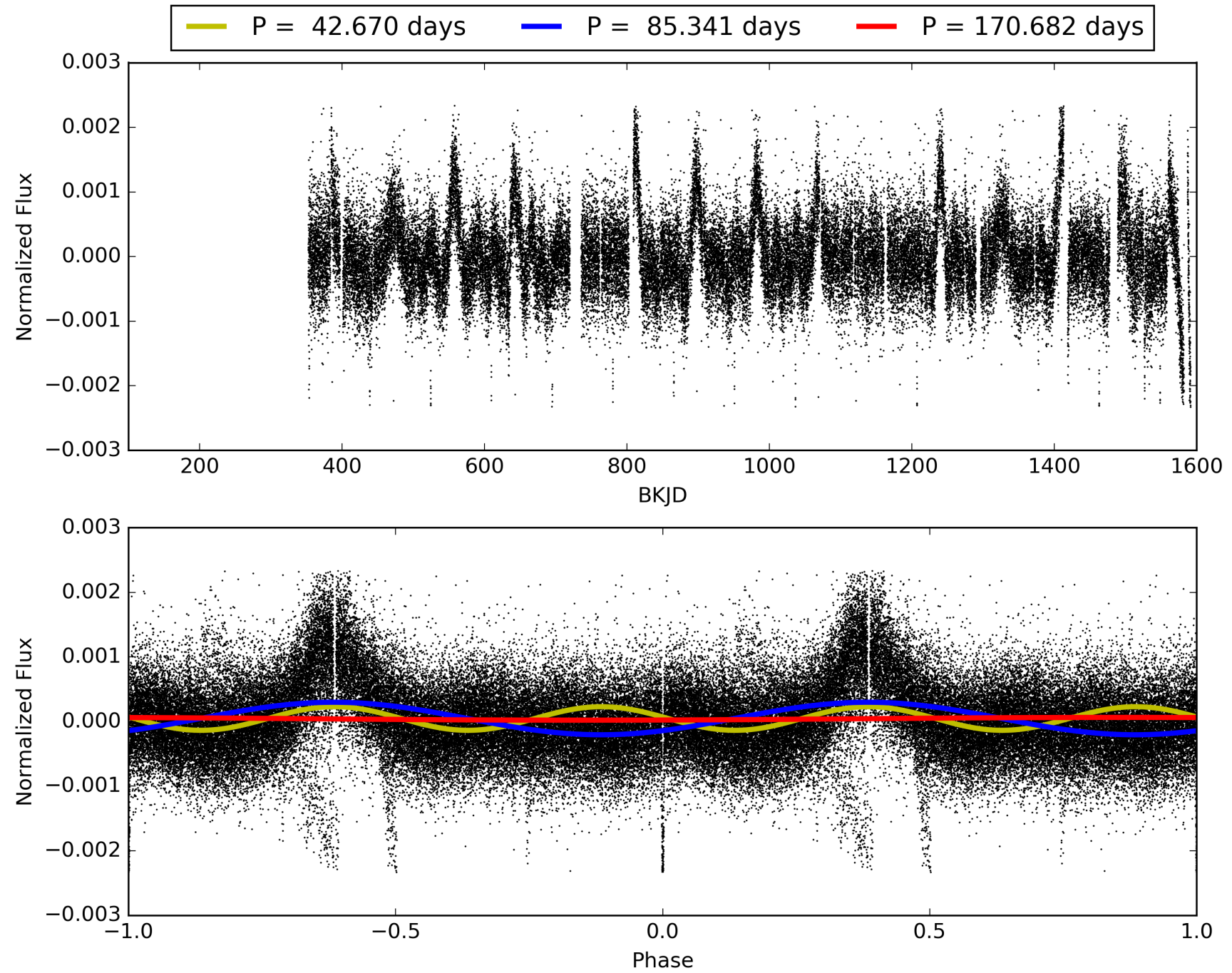
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008560285-02, PDC Light Curves

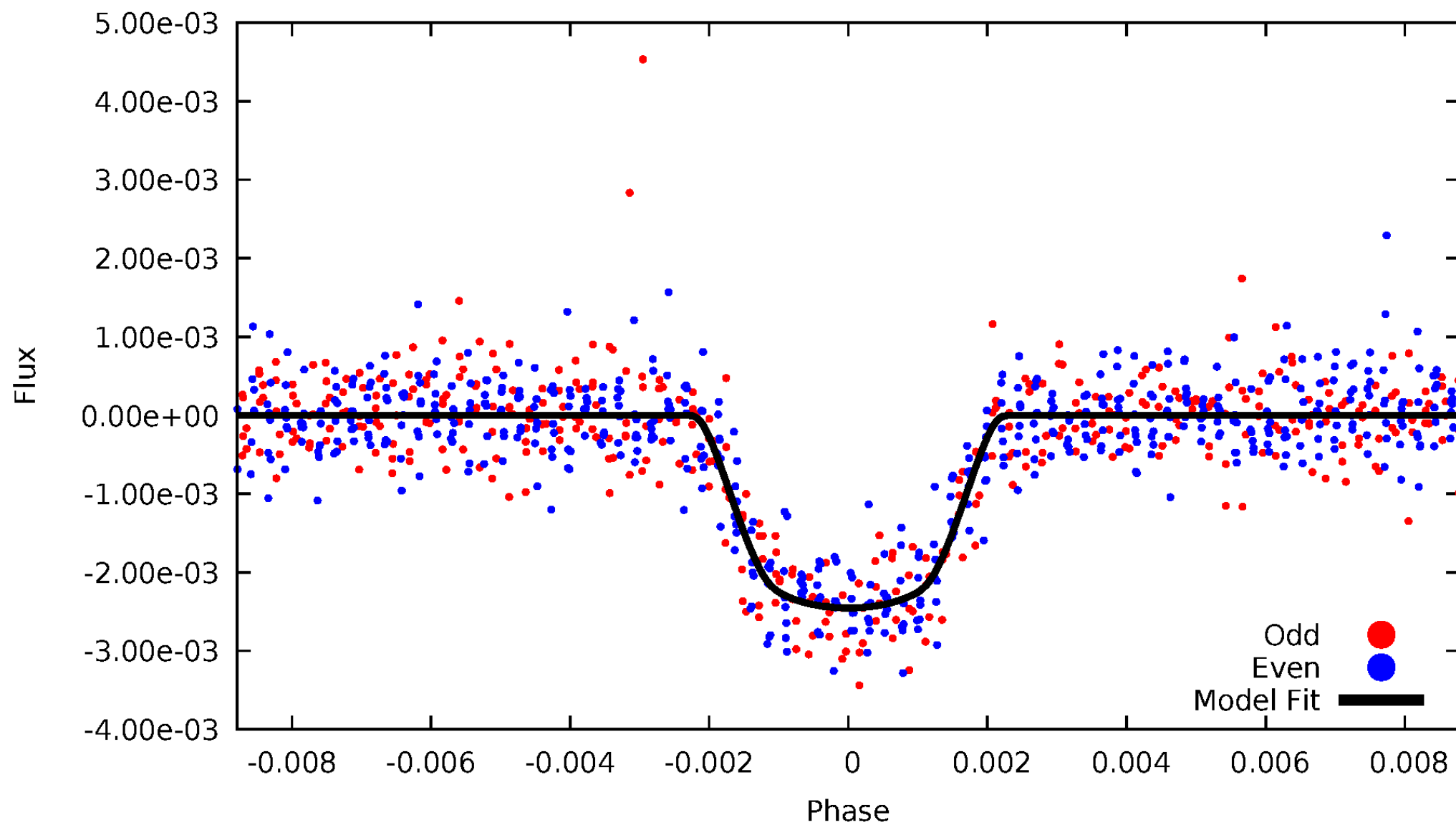


TCE 008560285-02



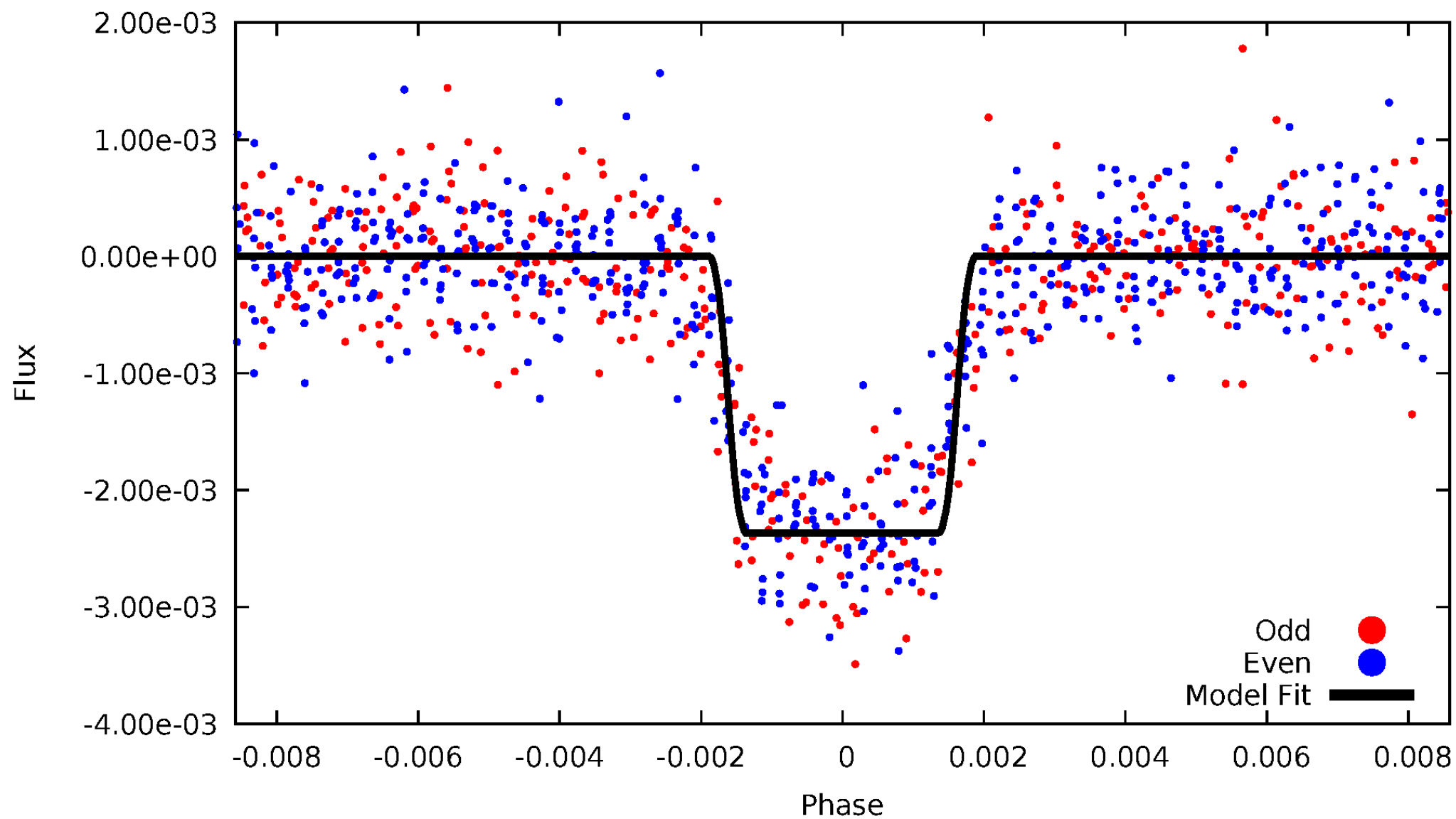
DV Odd/Even

TCE 008560285-02



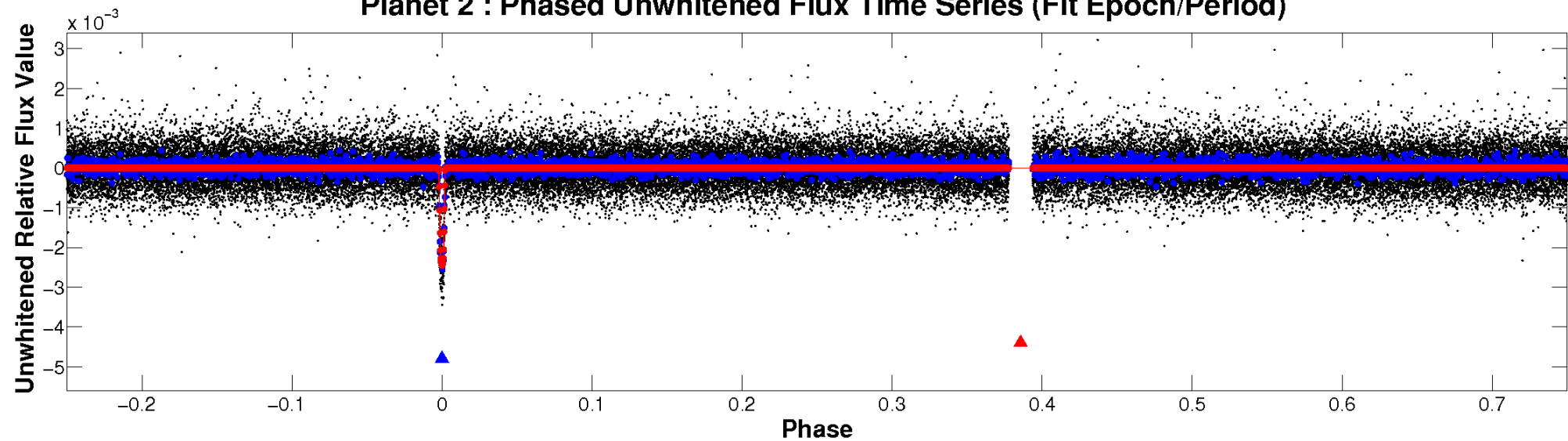
ALT Odd/Even

TCE 008560285-02

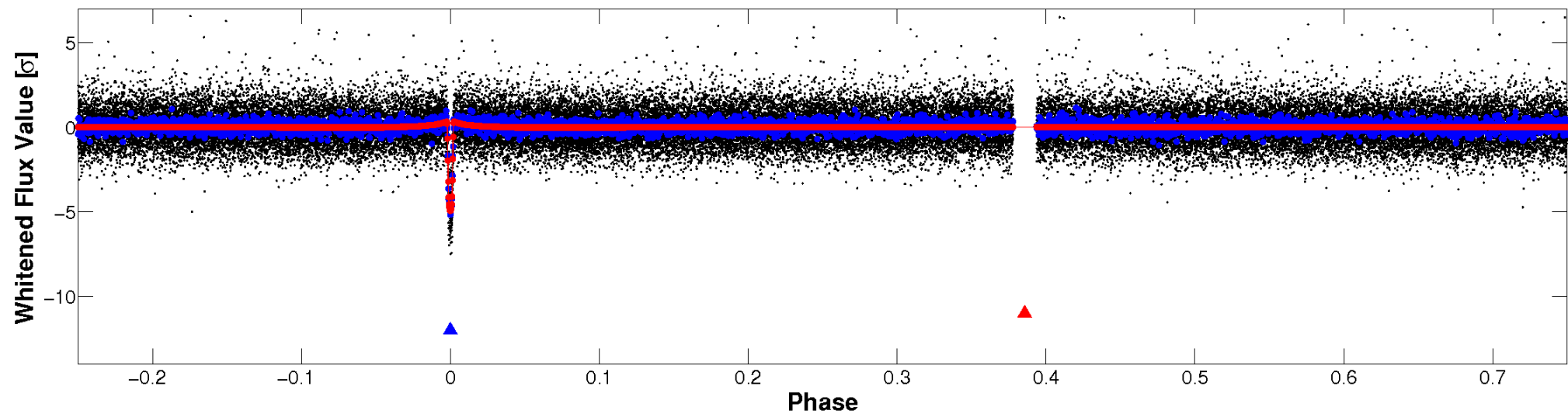


Non-Whitened Vs. Whitened Light Curve

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

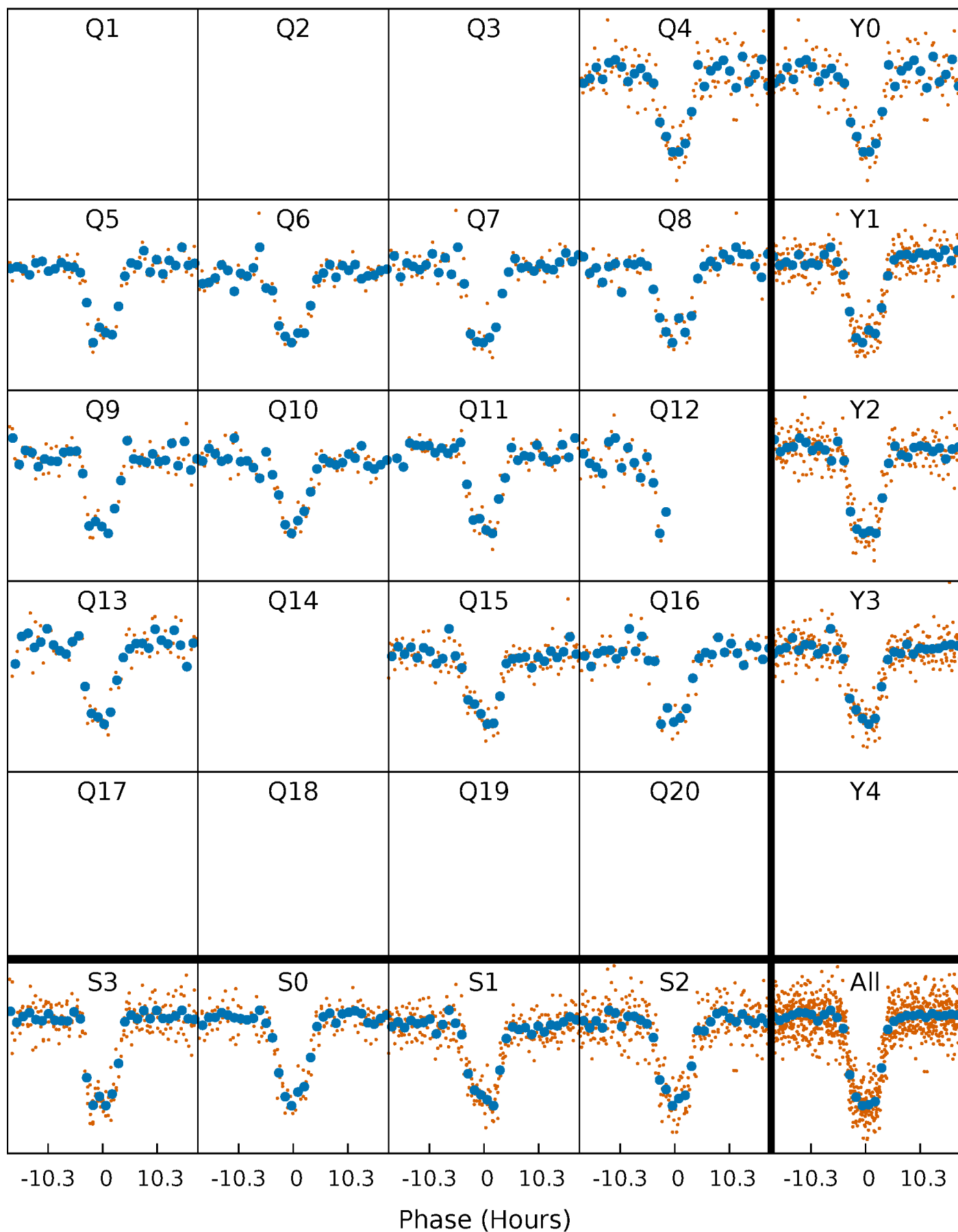


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



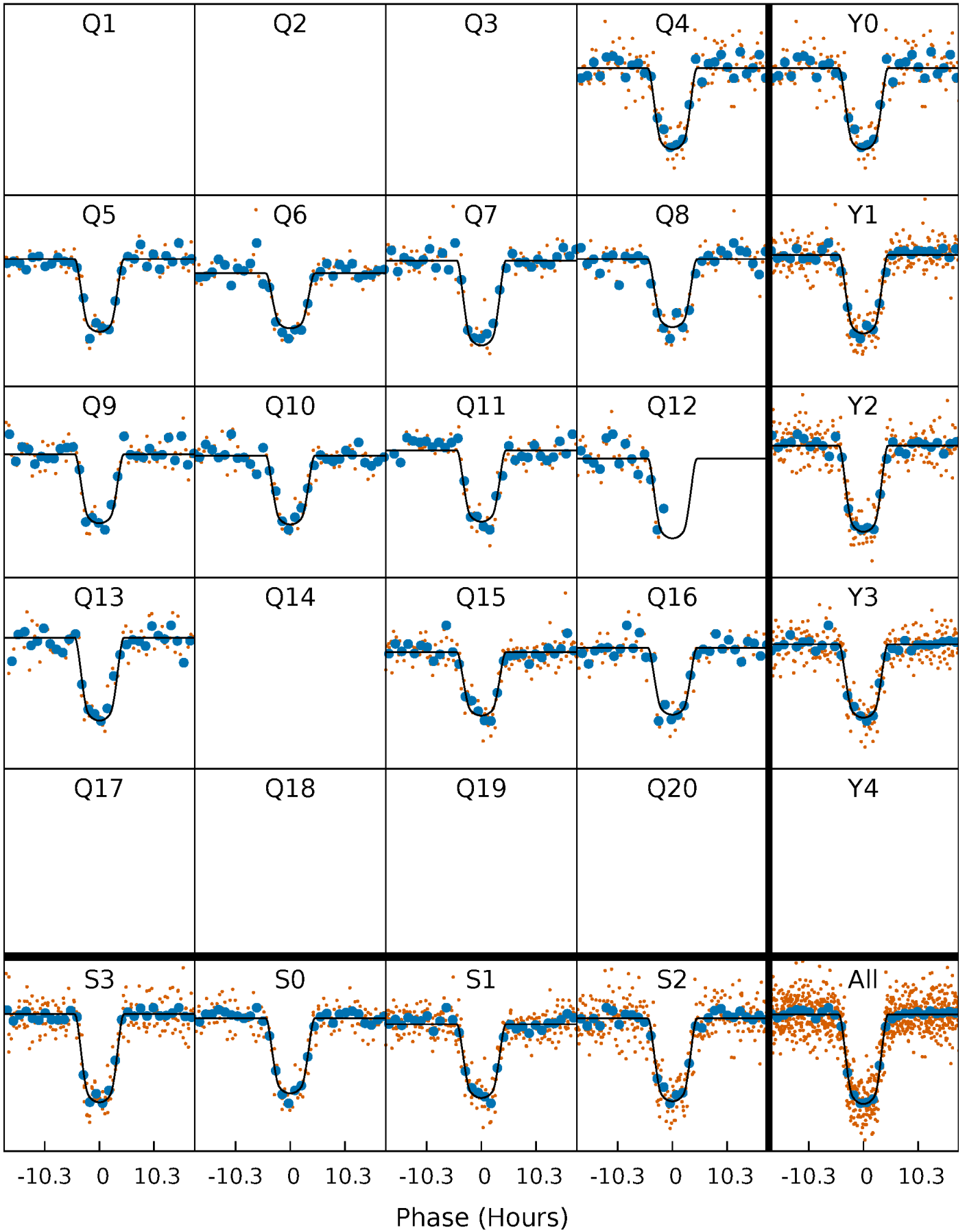
PDC Quarter-Phased Transit Curves

TCE 008560285-02 P= 85.340962 Days $T_0=182.610828$ (BKJD)



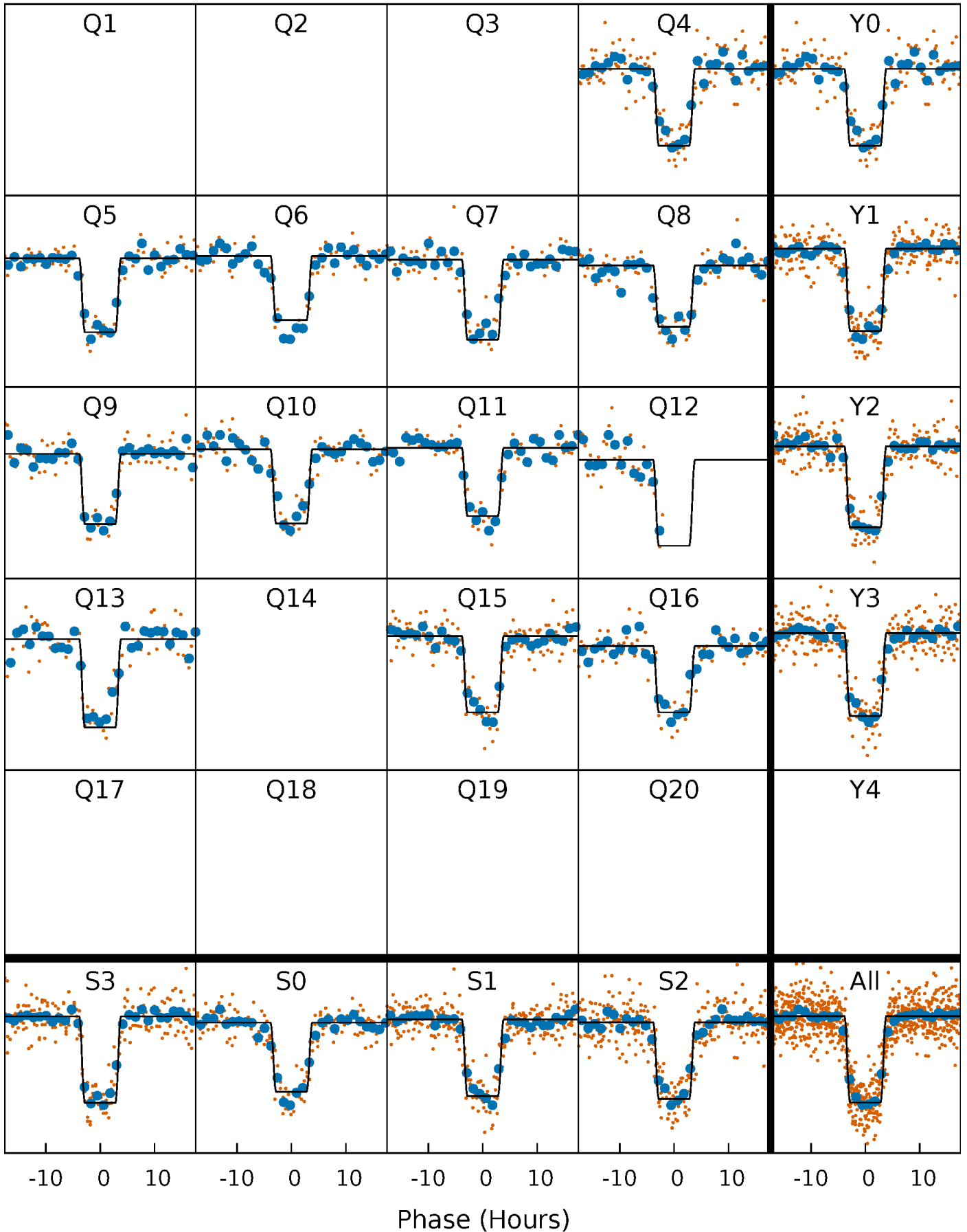
DV Quarter-Phased Transit Curves

TCE 008560285-02 P= 85.340962 Days $T_0=182.610828$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

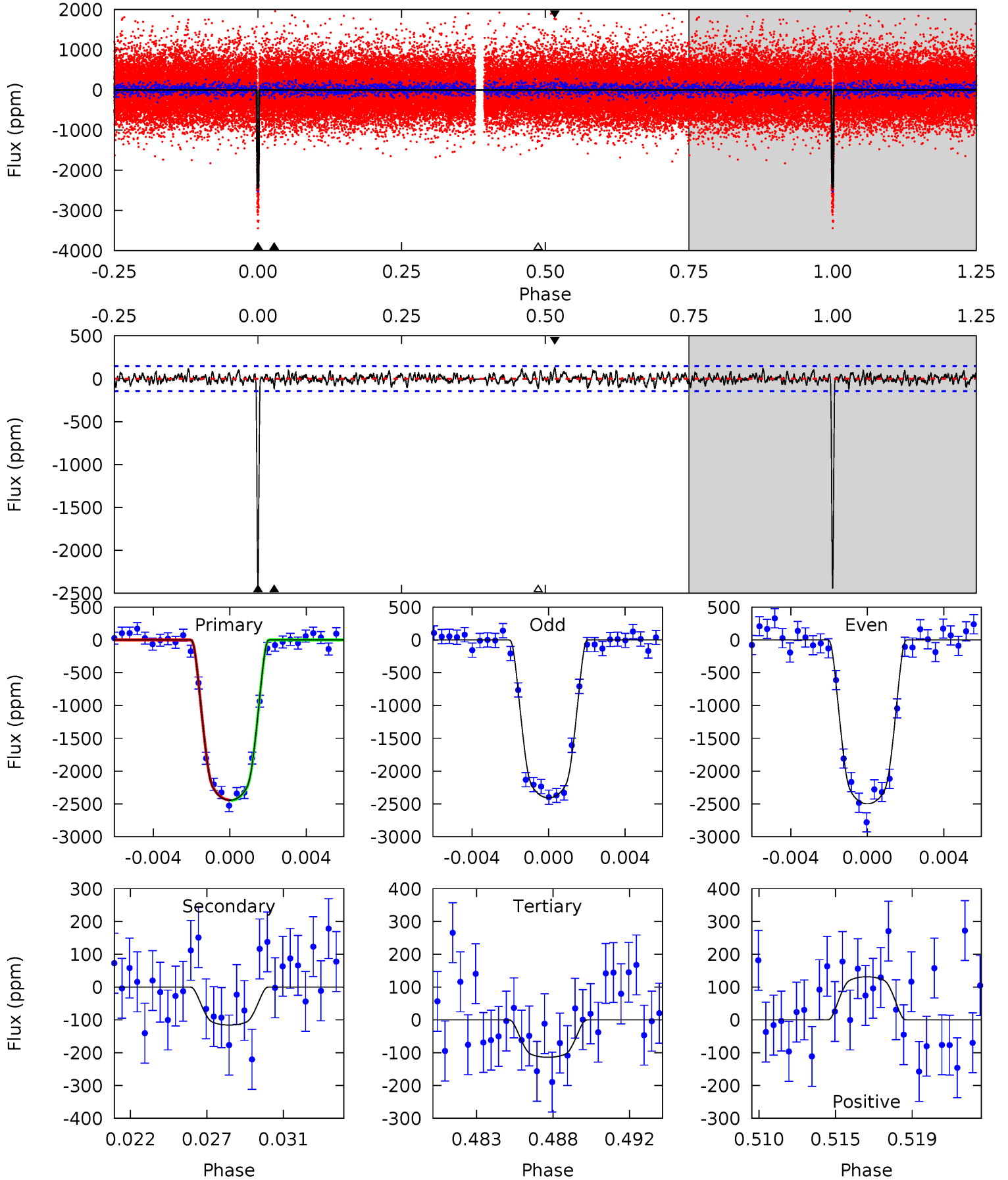
TCE 008560285-02 P= 85.340734 Days $T_0=182.612295$ (BKJD)



DV Model-Shift Uniqueness Test

008560285-02, P = 85.340962 Days, E = 182.610828 Days

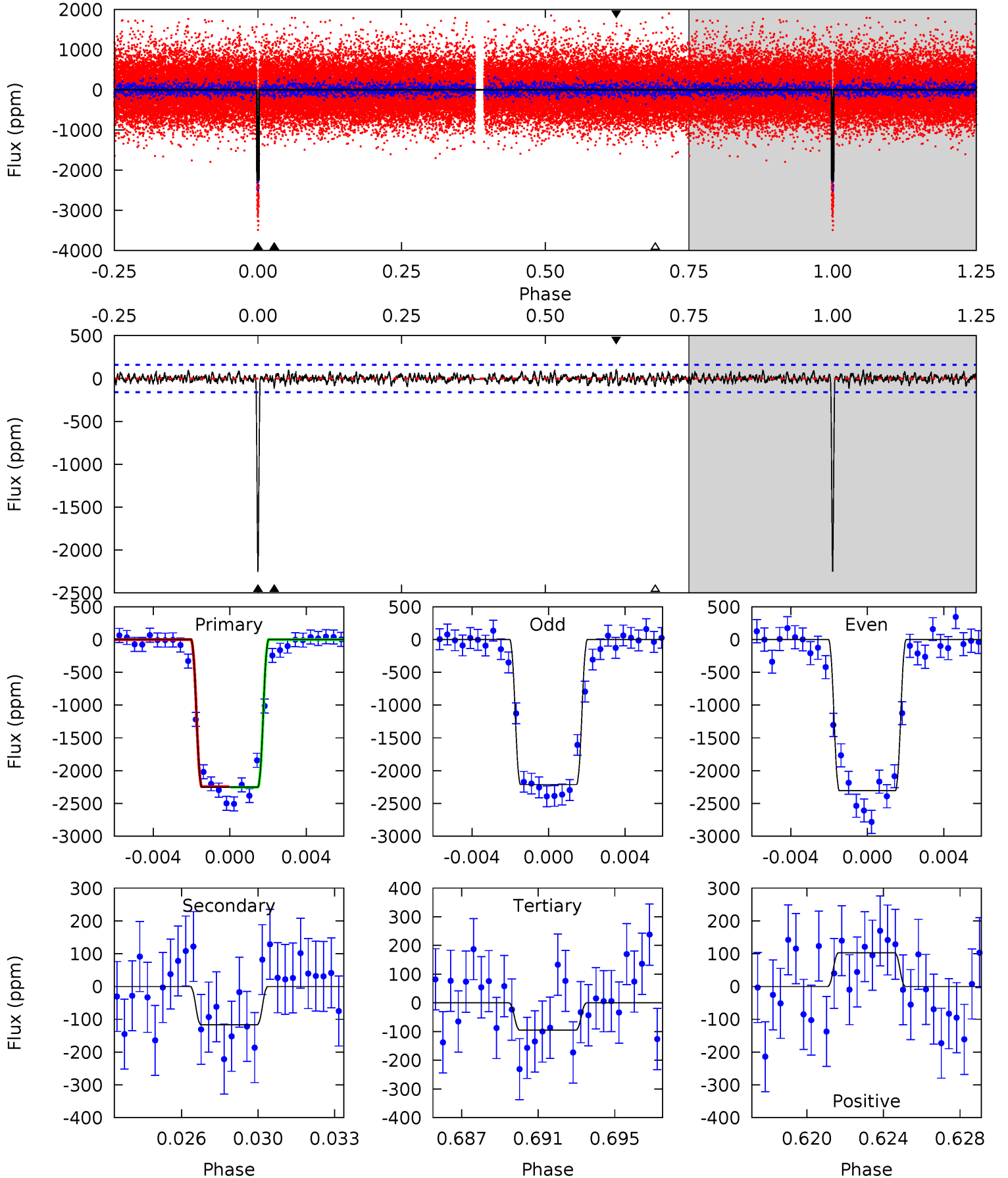
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.1	4.13	4.06	4.68	5.18	2.84	1.37	83.0	82.4	0.07	-0.54	1.58	0.99	0.05	0.16



Alt Model-Shift Uniqueness Test

008560285-02, P = 85.340734 Days, E = 182.612295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.7	3.82	3.12	3.37	5.21	2.90	1.04	70.5	70.3	0.71	0.45	1.52	0.99	0.04	0.14



Stellar Parameters For KIC 008560285

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6004^{+190}_{-232}	$4.522^{+0.050}_{-0.200}$	$-0.260^{+0.300}_{-0.300}$	$0.898^{+0.263}_{-0.088}$	$0.978^{+0.117}_{-0.130}$	$1.901^{+0.496}_{-1.000}$
	+3%/-4%	+1%/-4%	+115%/-115%	+29%/-10%	+12%/-13%	+26%/-53%
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 008560285-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-116 ± 28	$5.40^{+0.88}_{-0.39}$	581^{+43}_{-31}	3236^{+138}_{-148}	288^{+94}_{-90}
Alt.	-117 ± 31	$4.86^{+0.78}_{-0.37}$	581^{+39}_{-30}	3349^{+150}_{-181}	354^{+132}_{-117}

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 $A_{obs} \gg 1.0$

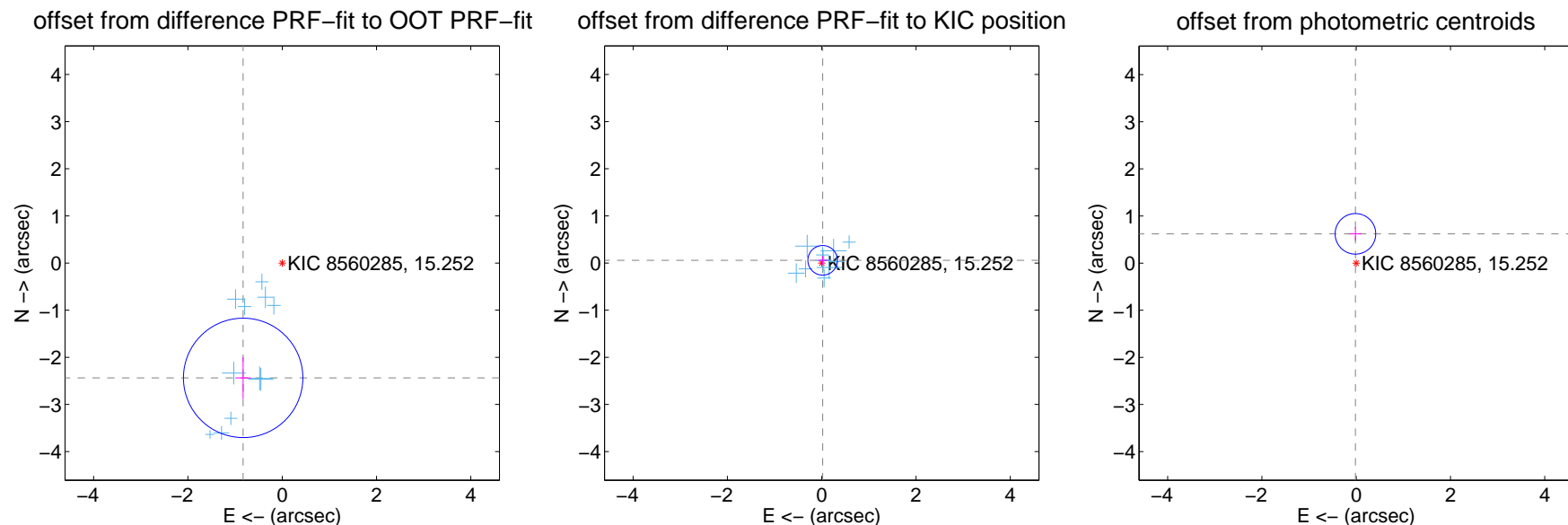
DV Centroid Data

Supplemental centroid analysis for 008560285-02. Kepler magnitude: 15.25. Transit SNR 57.22

There are 11 quarters with good PRF difference image offsets

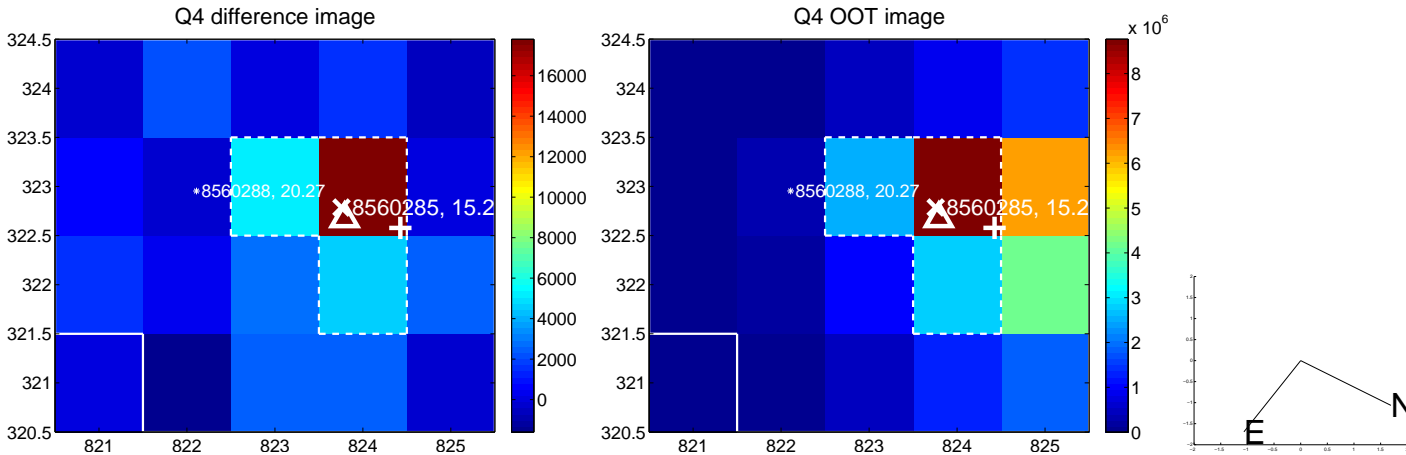
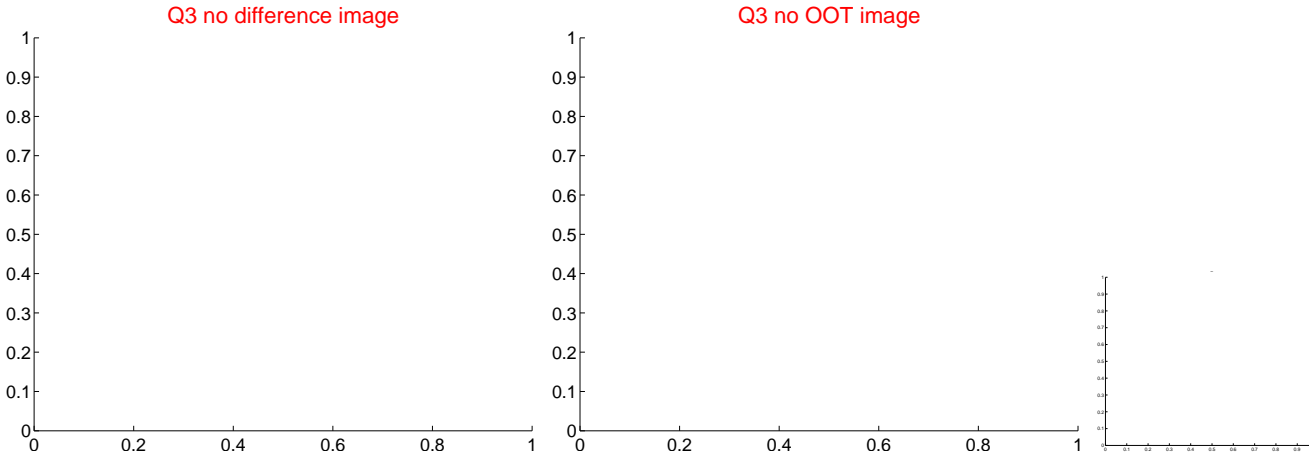
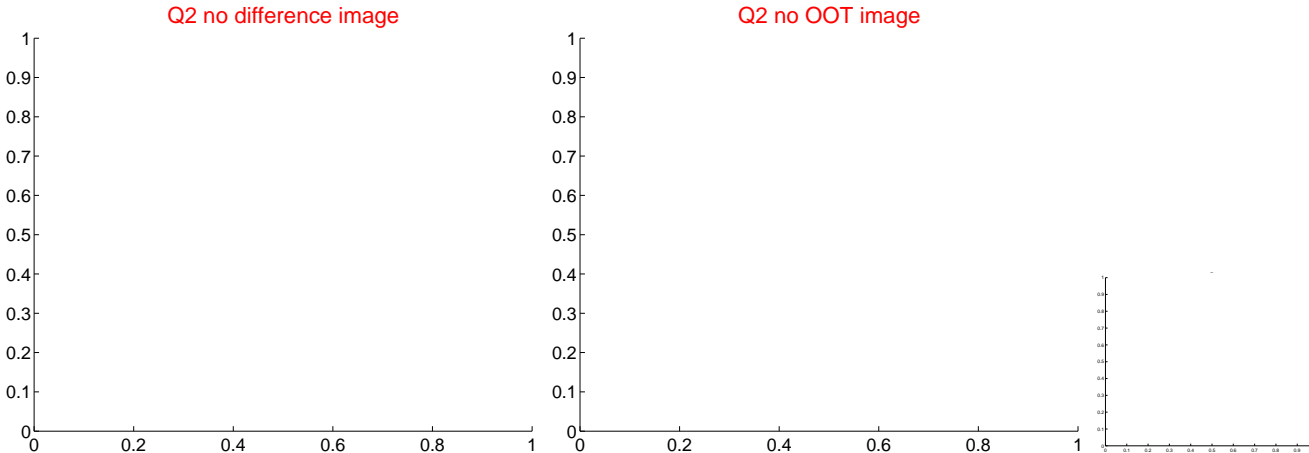
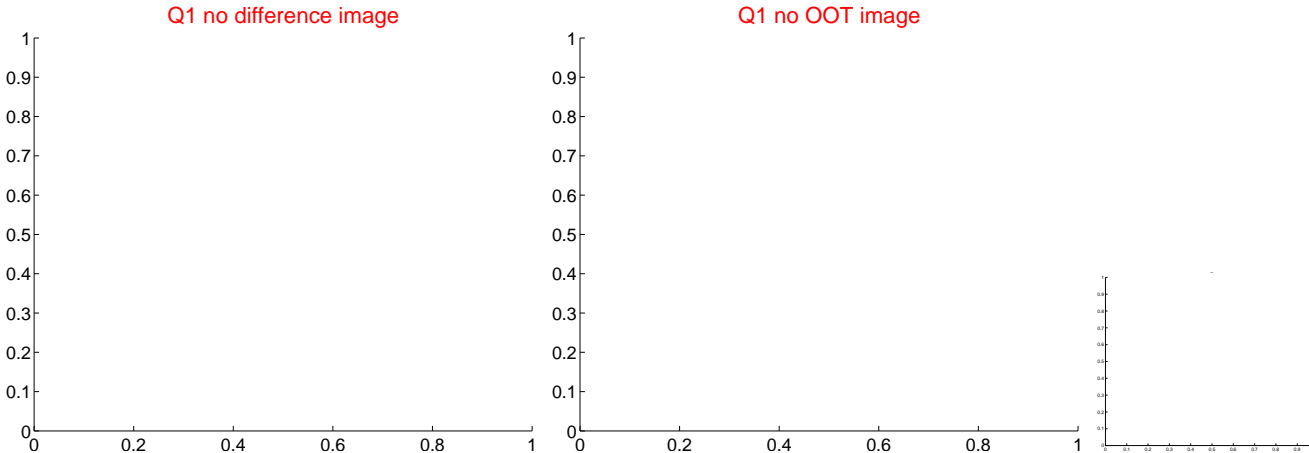
The OOT PRF centroid is offset from the target star catalog position by about 2.45 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.574 ± 0.422	6.10	0.829 ± 0.166	-2.436 ± 0.442
PRF-fit source offset from KIC position	0.061 ± 0.105	0.59	-0.020 ± 0.111	0.058 ± 0.095
photometric centroid source offset	0.62 ± 0.14	4.33	0.02 ± 0.13	0.62 ± 0.14

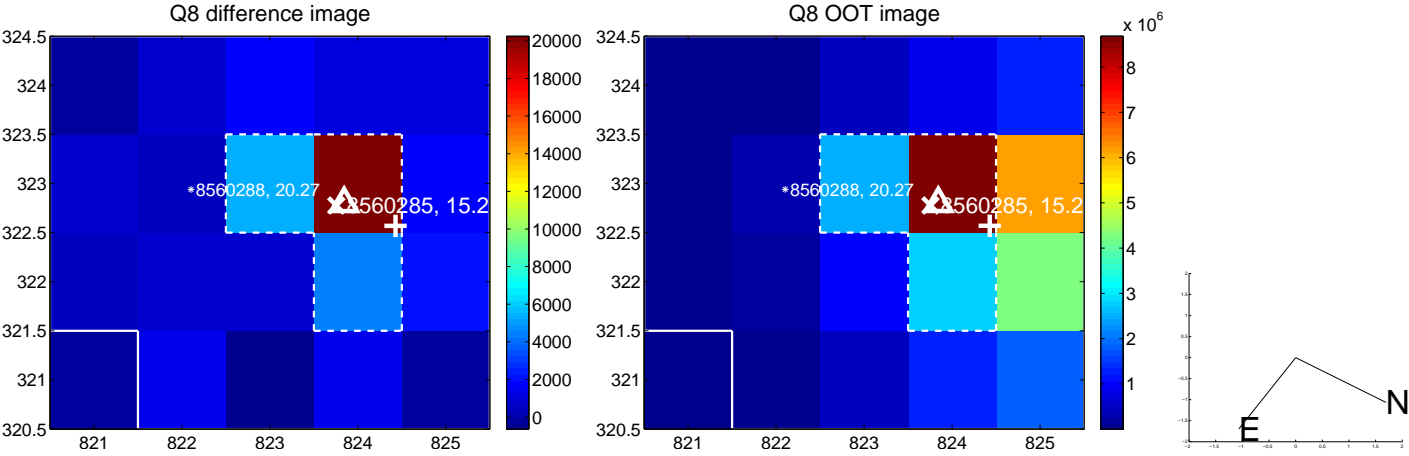
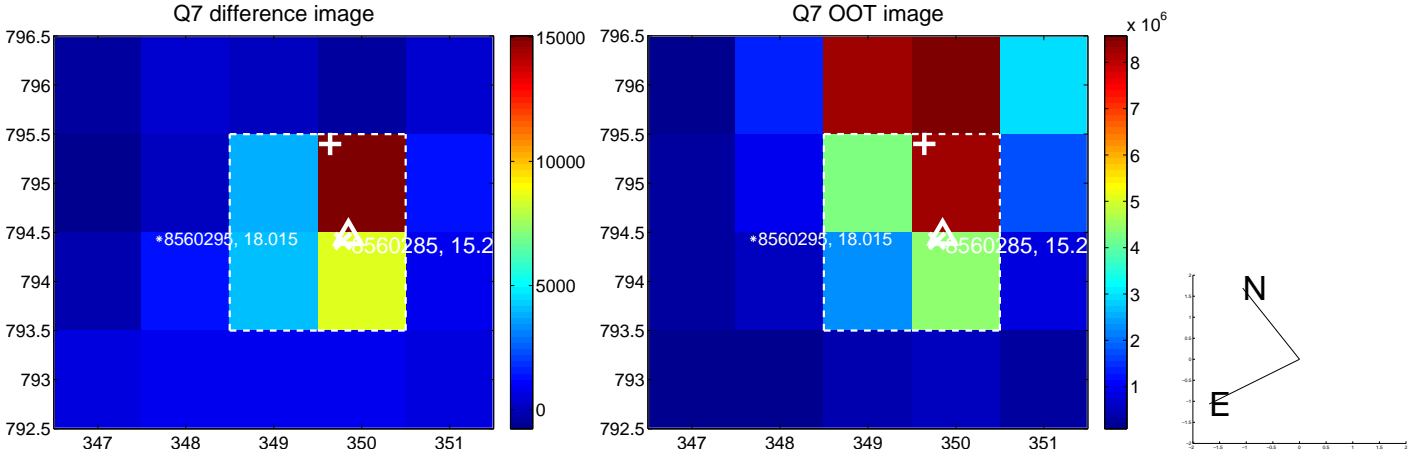
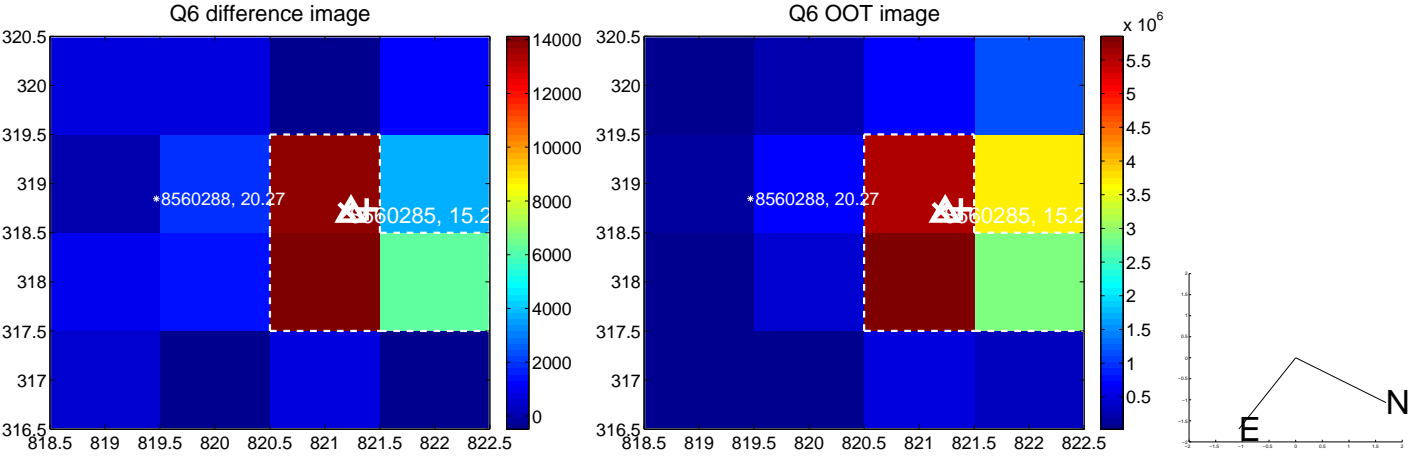
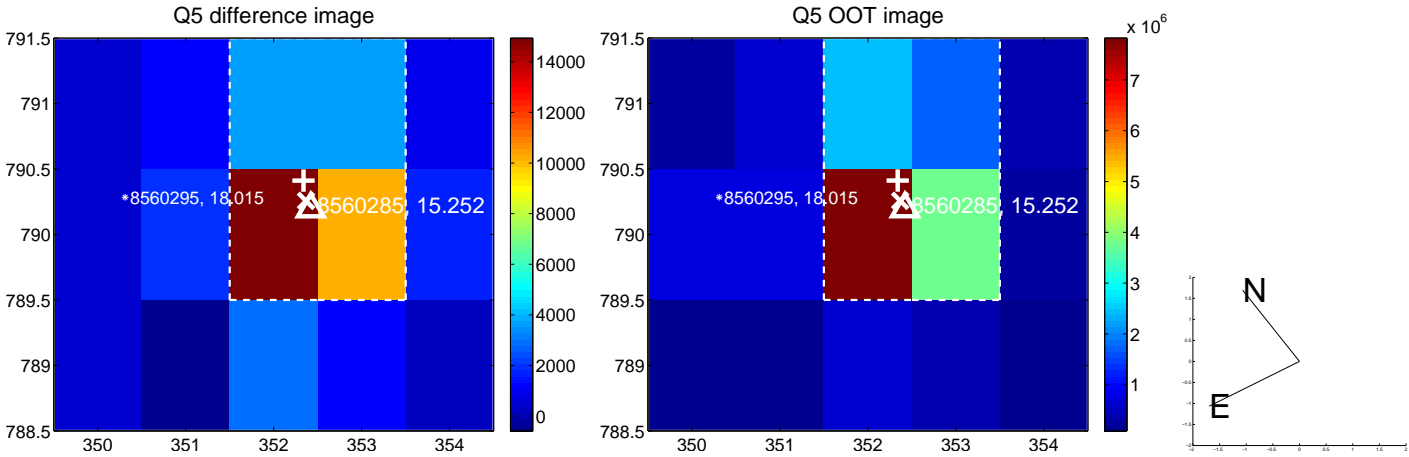


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

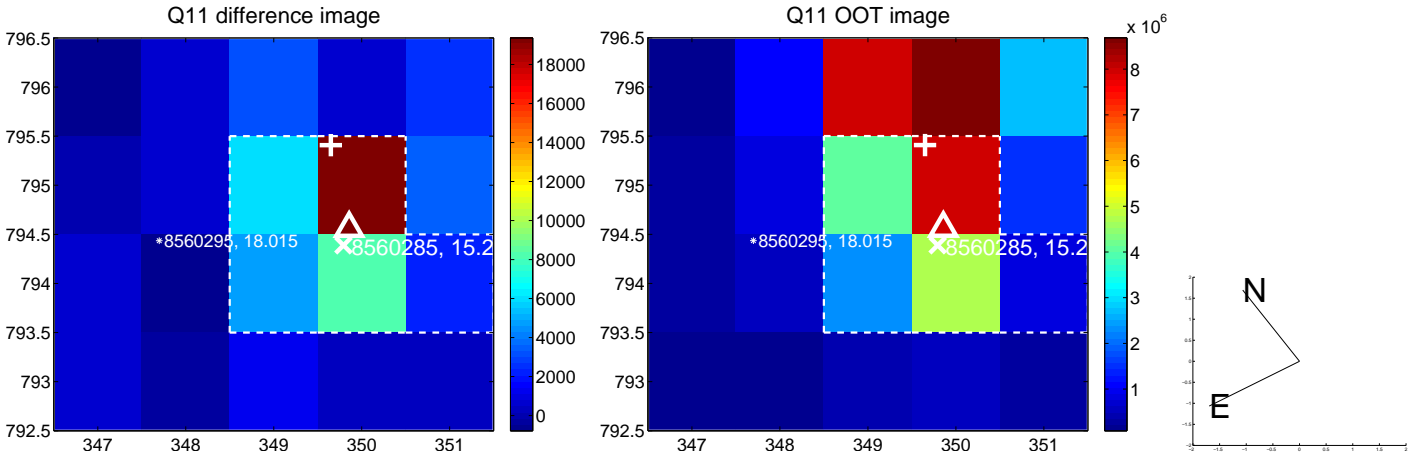
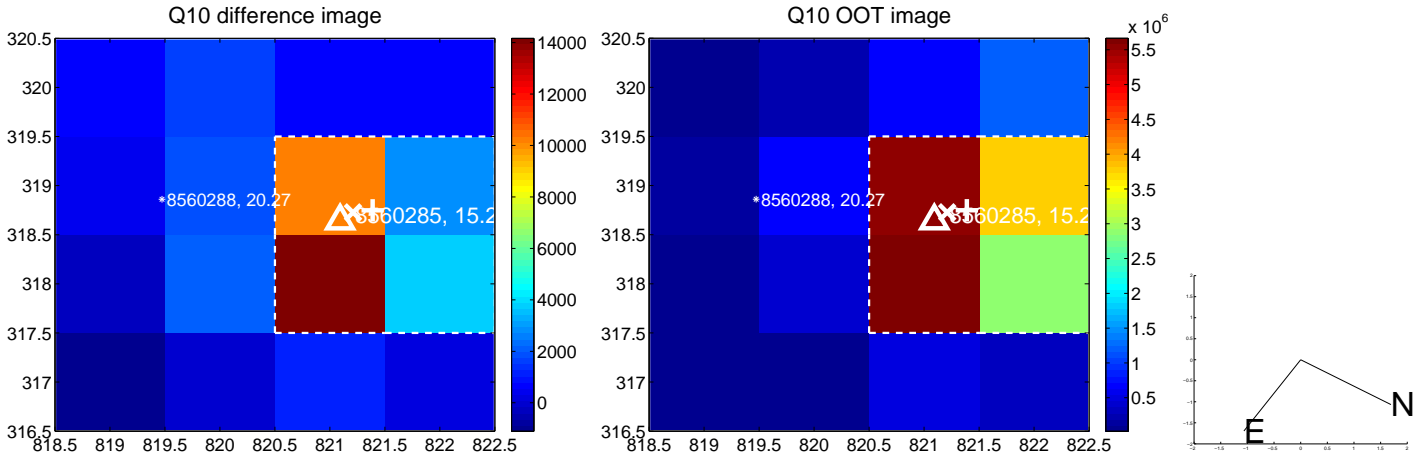
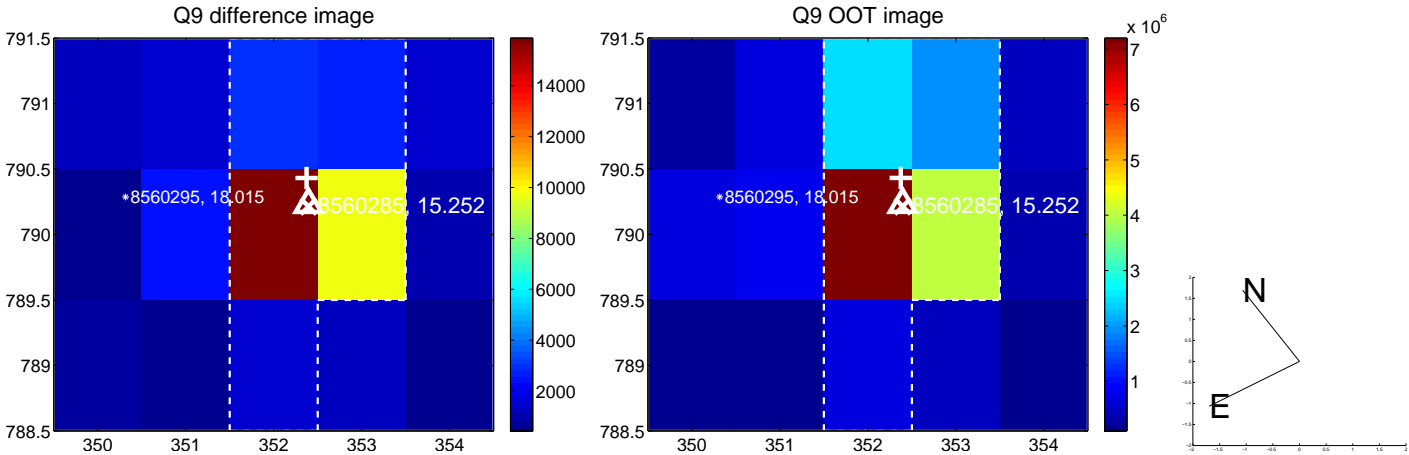
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



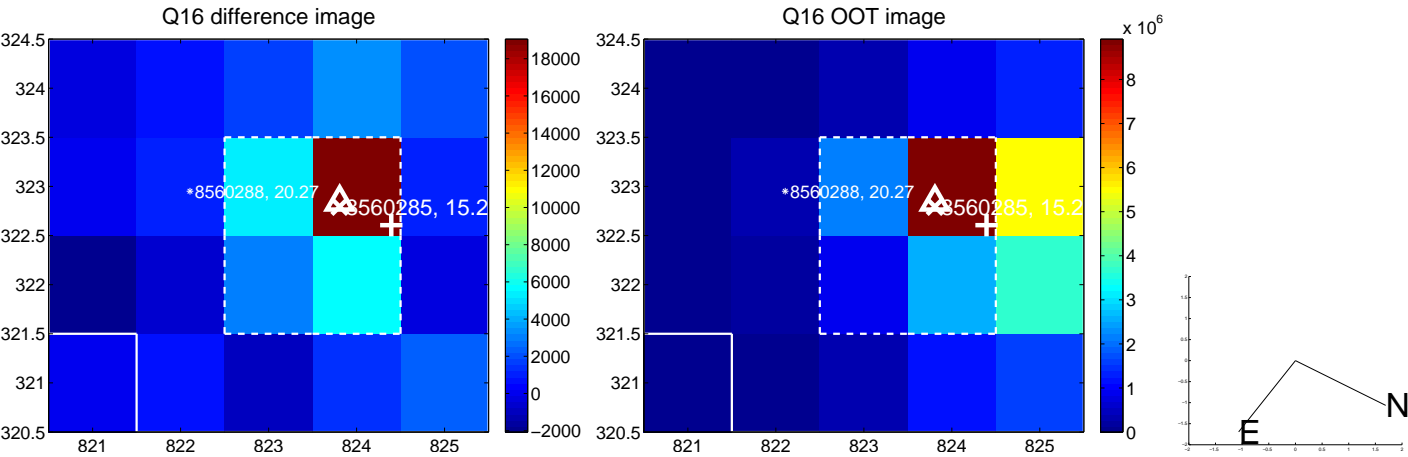
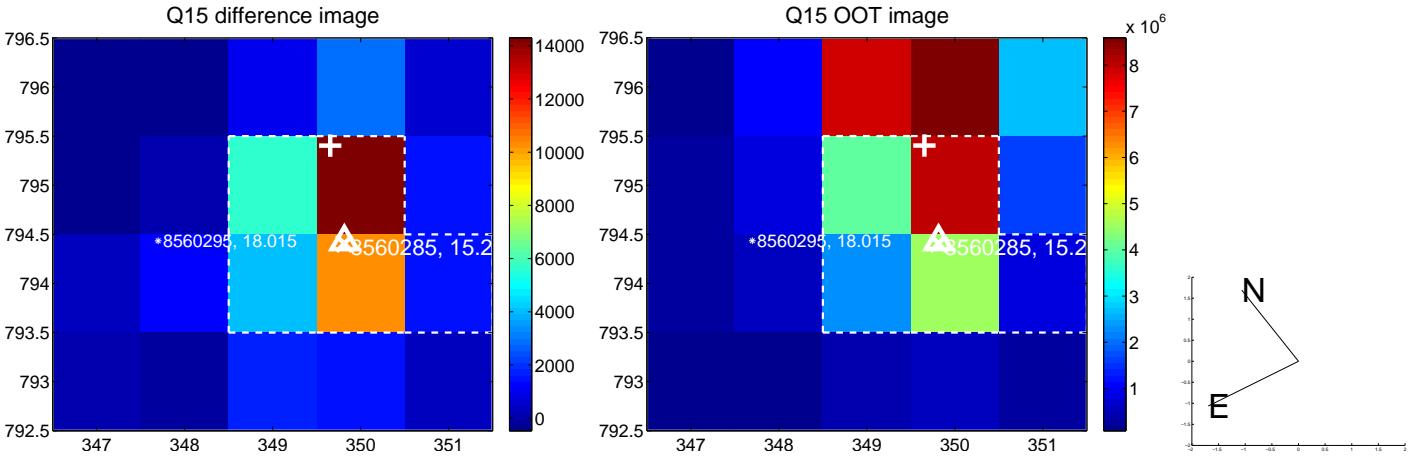
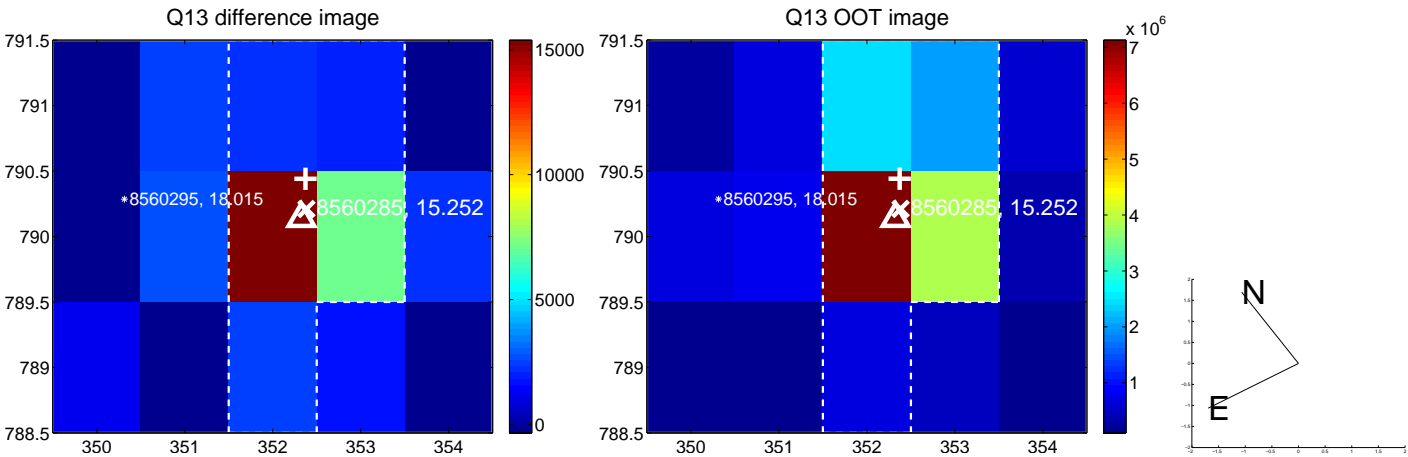
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



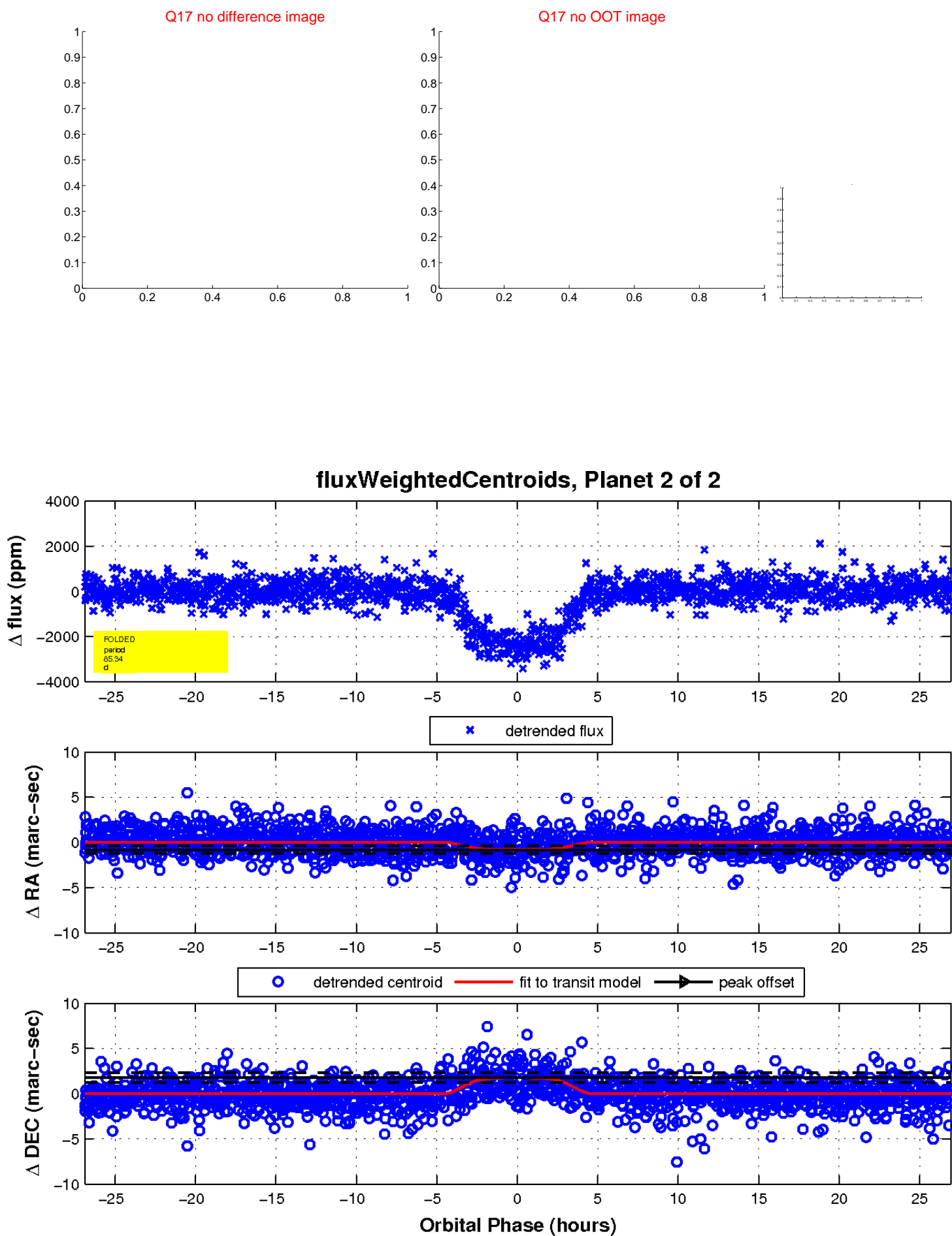
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

