

KIC 005876805

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})
005876805-01	OBS	3331.01	18.173045	137.154493	69557.2	10.908	2094.1	1862.6	0.86	5799	24.36	42.27
005876805-02	OBS	No	18.173018	144.160681	7318.6	6.353	195.3	197.1	0.86	5799	8.26	42.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005876805-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
005876805-02	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.

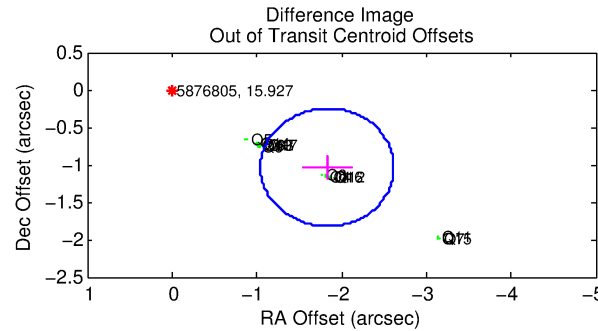
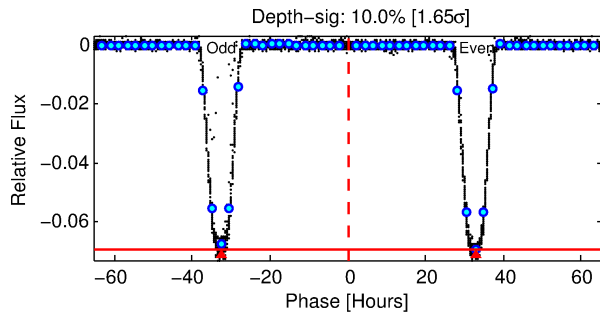
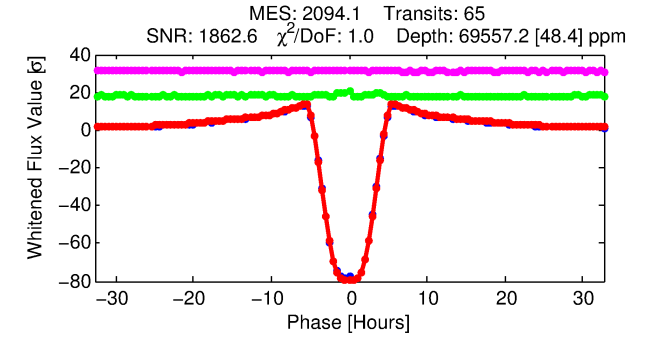
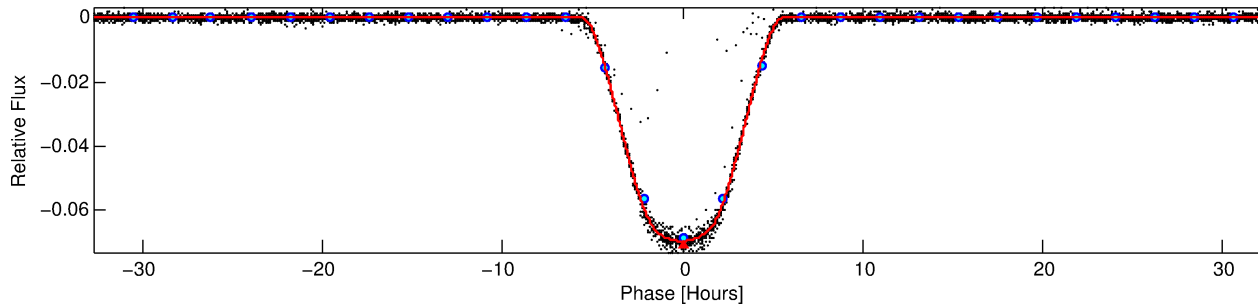
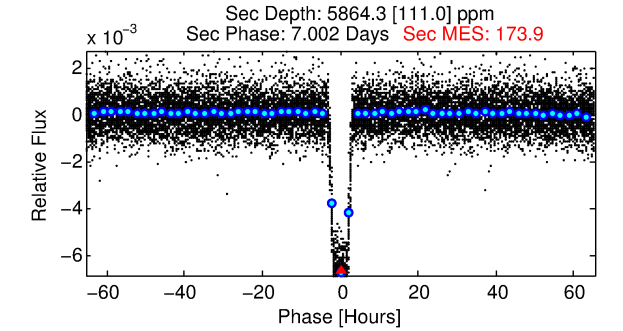
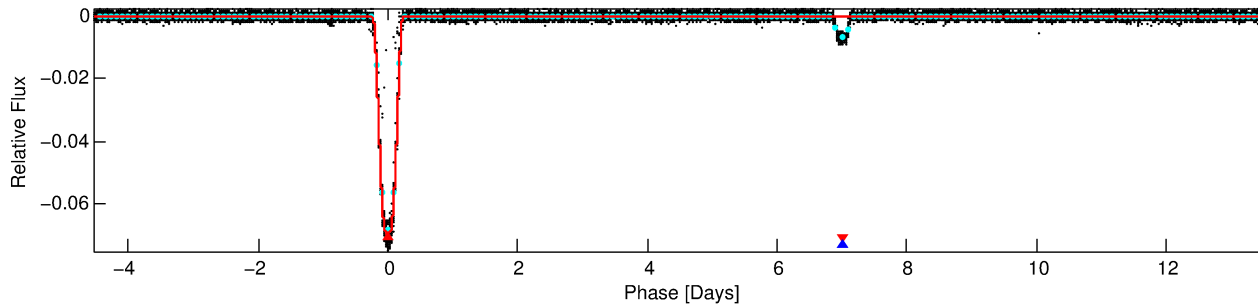
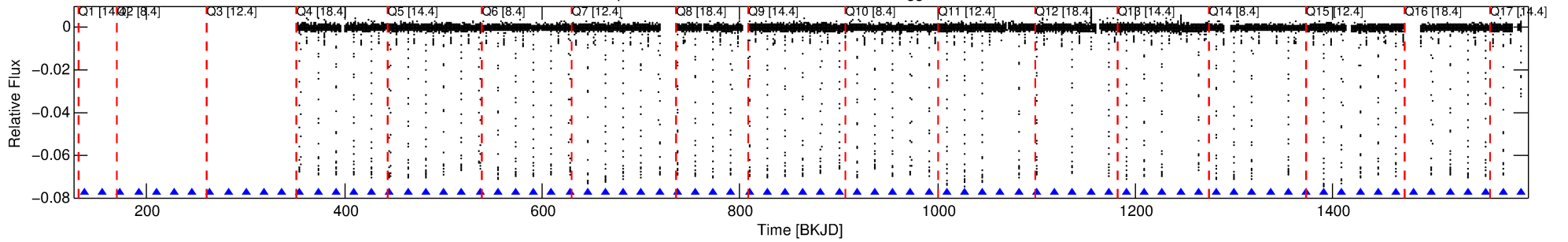
Ephemeris Match Information For 005876805-01

No Significant Match Found

DV One-Page Summary

KIC: 5876805 Candidate: 1 of 2 Period: 18.173 d
KOI: K03331.01 Corr: 1.000

Kp: 15.93 R*: 0.86 Rs Teff: 5799.0 K Logg: 4.55 Fe/H: -0.160



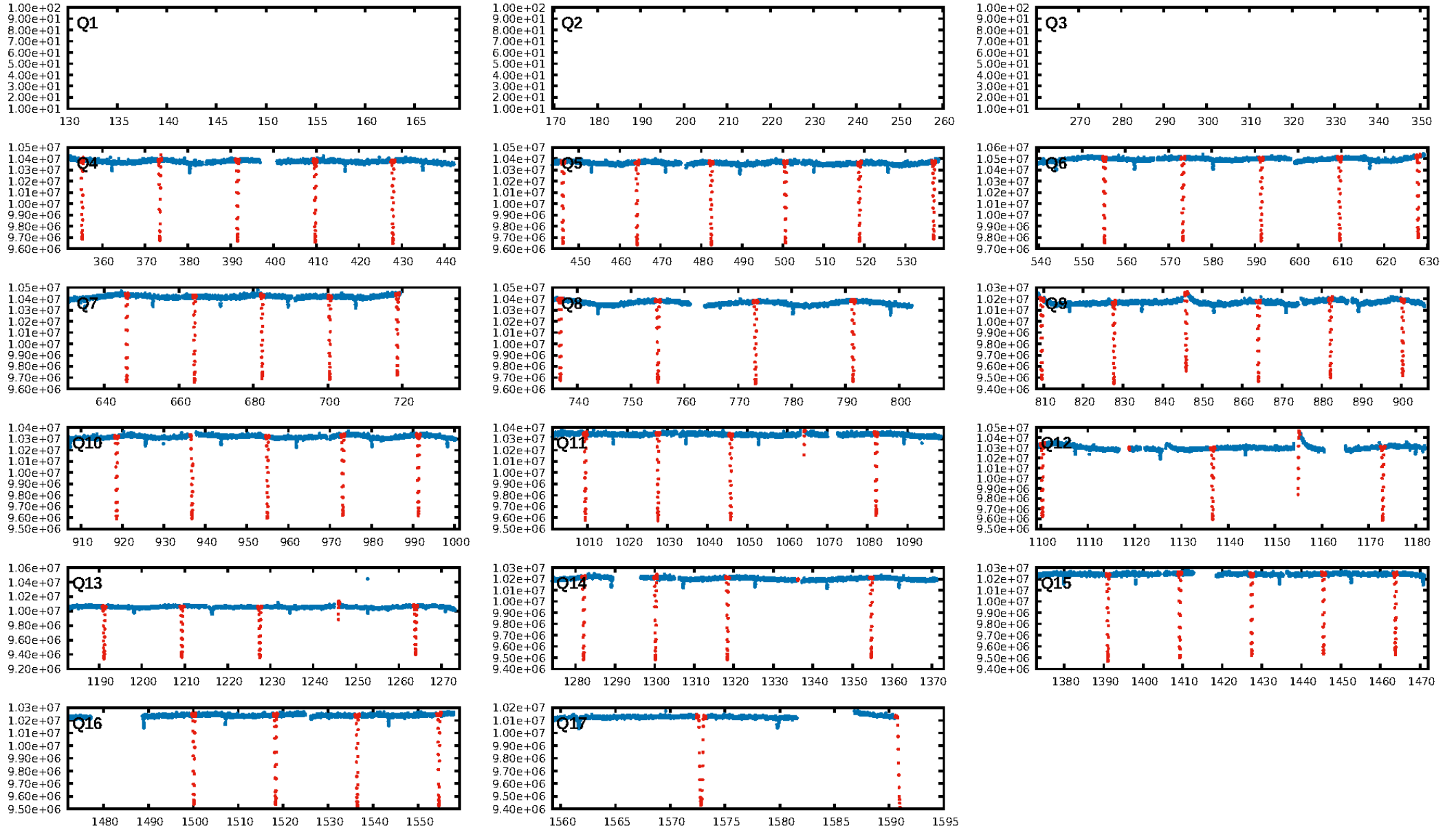
DV Fit Results:

Period = 18.17304 [0.00000] d
Epoch = 137.1545 [0.0002] BKJD
Rp/R* = 0.2596 [0.0002]
a/R* = 13.55 [0.01]
b = 0.68 [0.00]
Seff = 42.27 [16.56]
Teq = 650 [64] K
Rp = 24.36 [7.19] Re
a = 0.1331 [0.0332] AU
Ag = 96.38 [35.20] [2.71σ]
Teffp = 3150 [113] K [19.22σ]

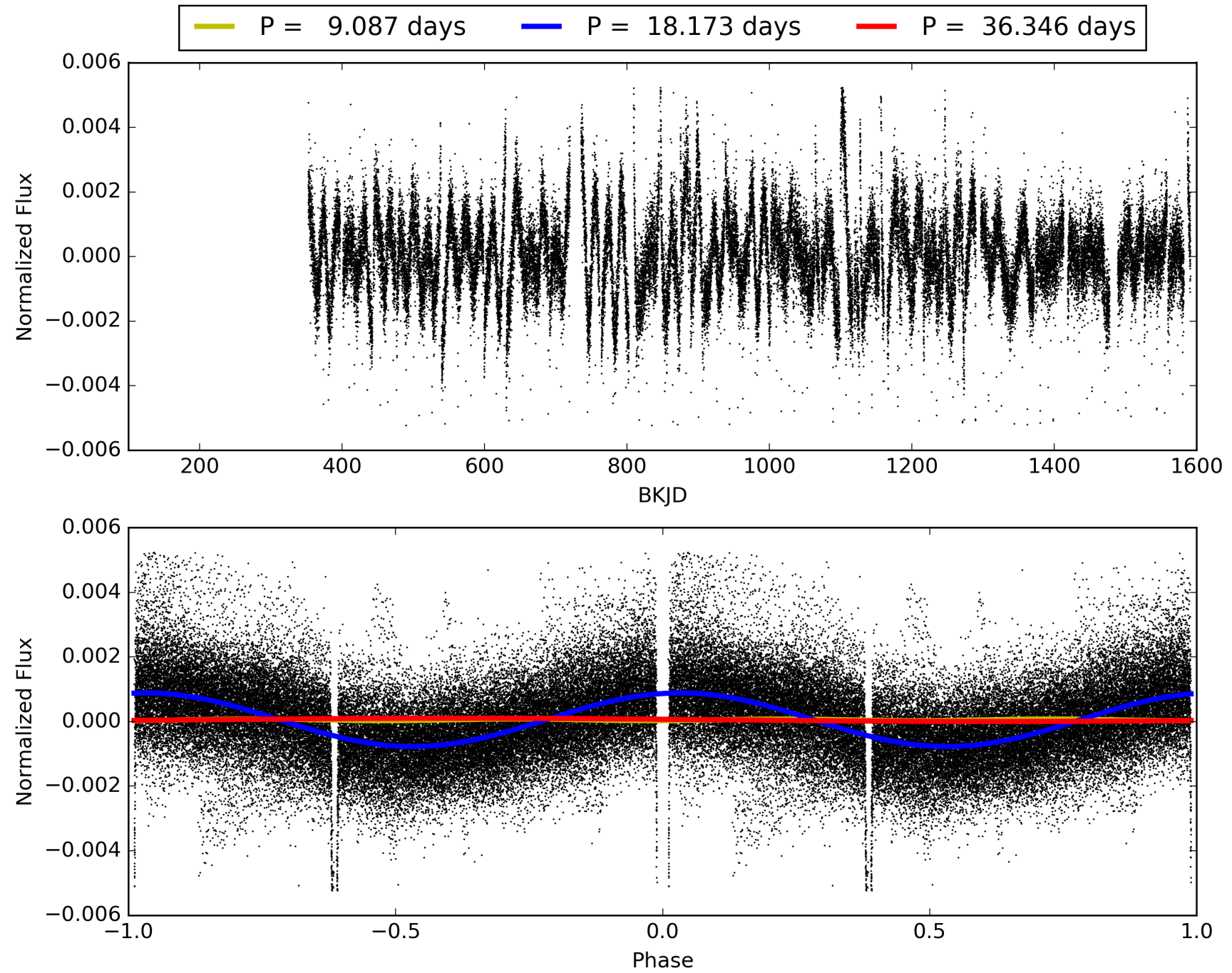
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [63/63]
GhostDiagnostic-chr: 3.019
Centroid-sig: 0.0%
Centroid-so: 0.185 arcsec [46.19σ]
OotOffset-rm: 2.104 arcsec [8.03σ]
KicOffset-rm: 0.101 arcsec [1.51σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005876805-01, PDC Light Curves

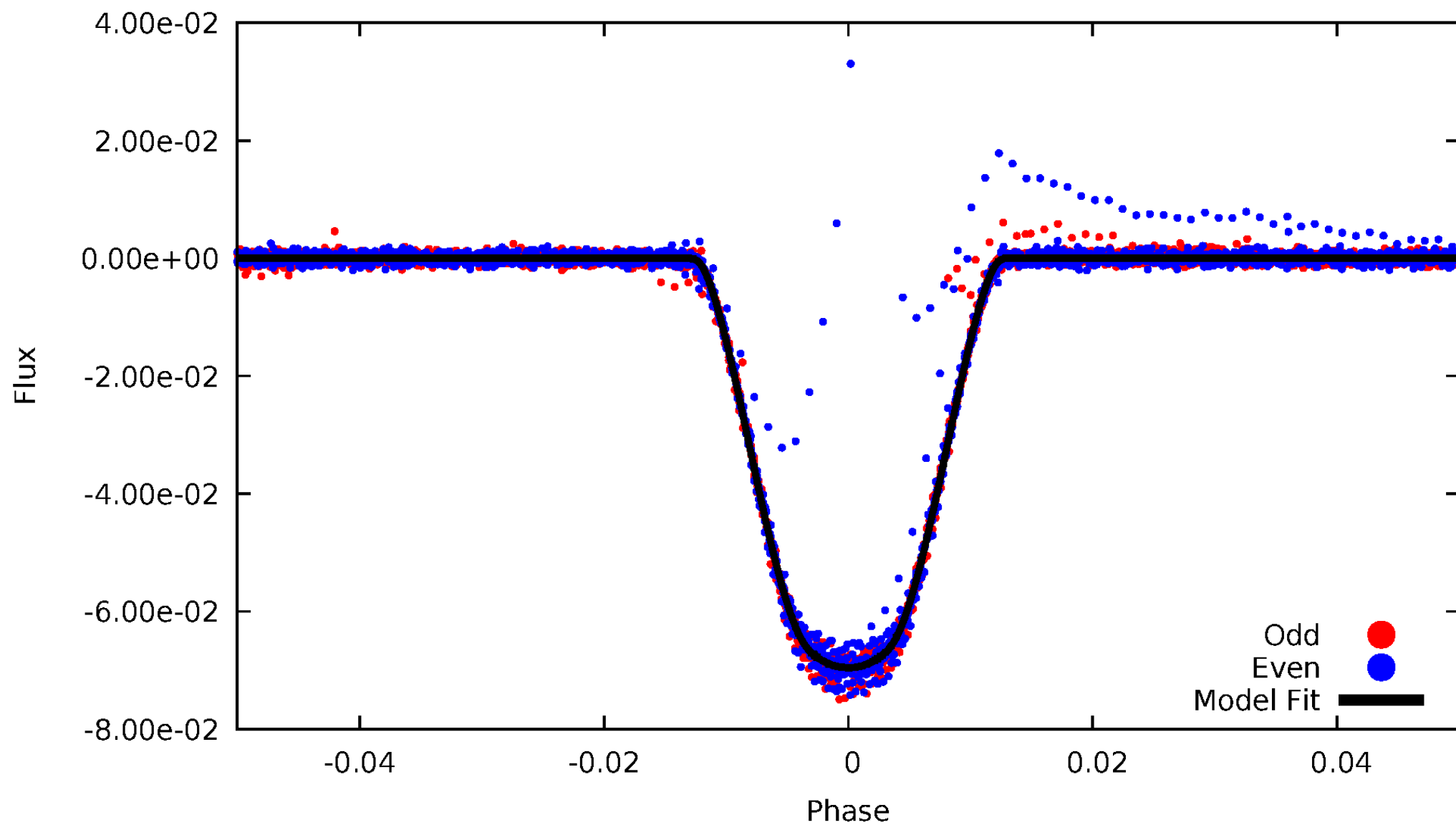


TCE 005876805-01



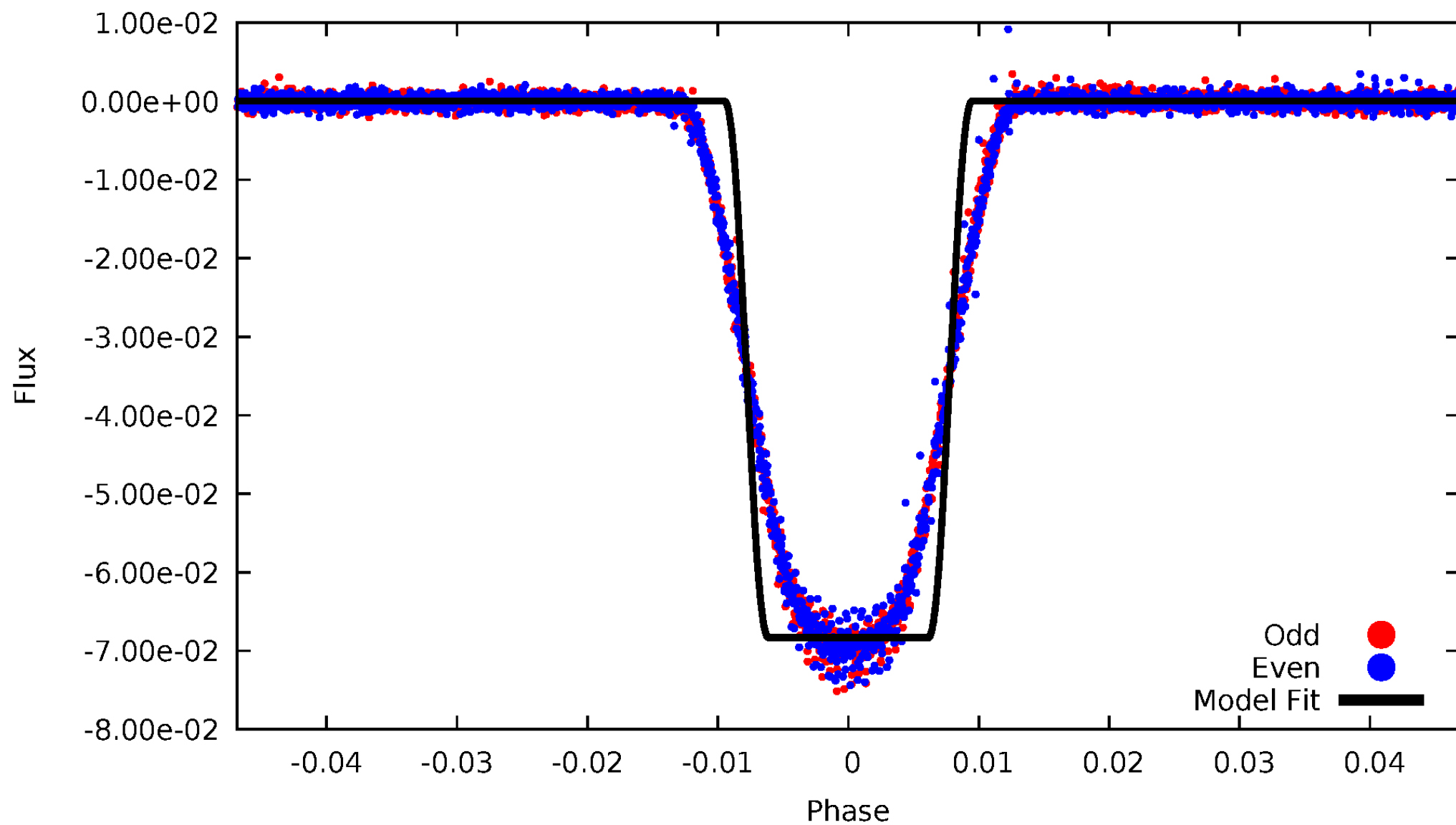
DV Odd/Even

TCE 005876805-01



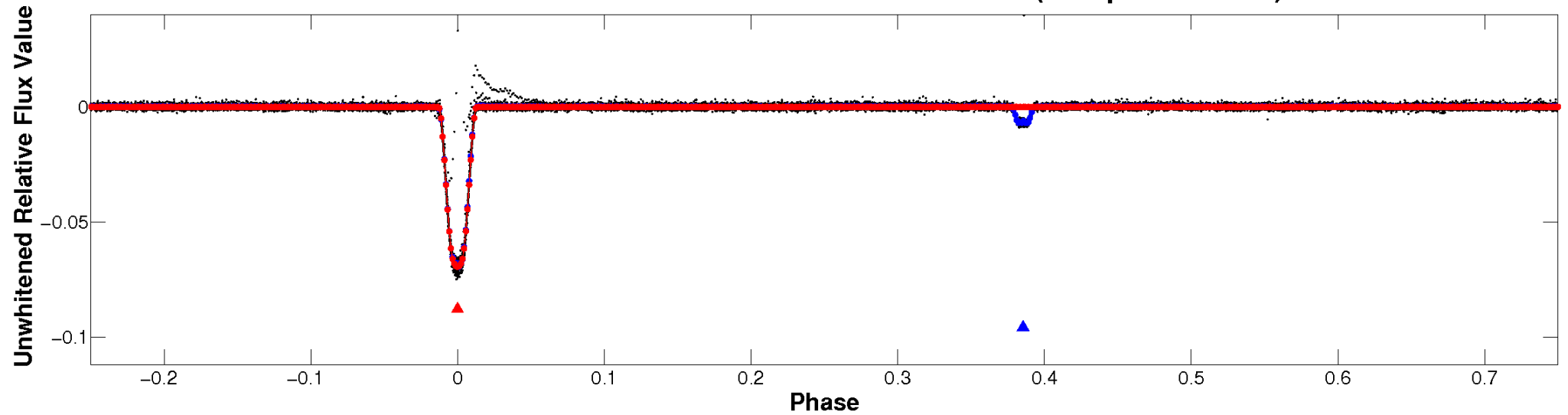
ALT Odd/Even

TCE 005876805-01

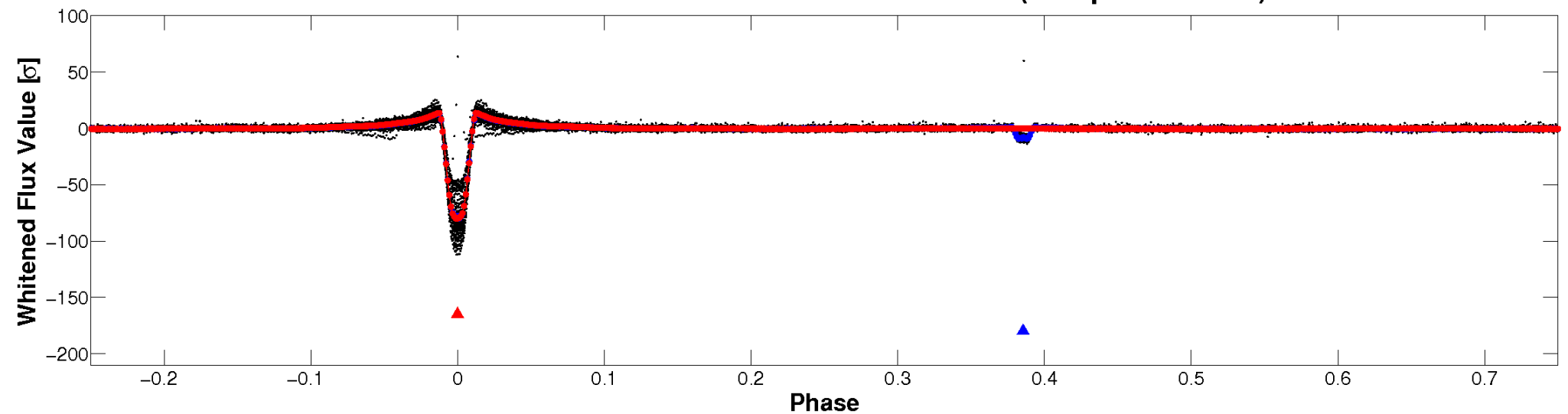


Non-Whitened Vs. Whitened Light Curve

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

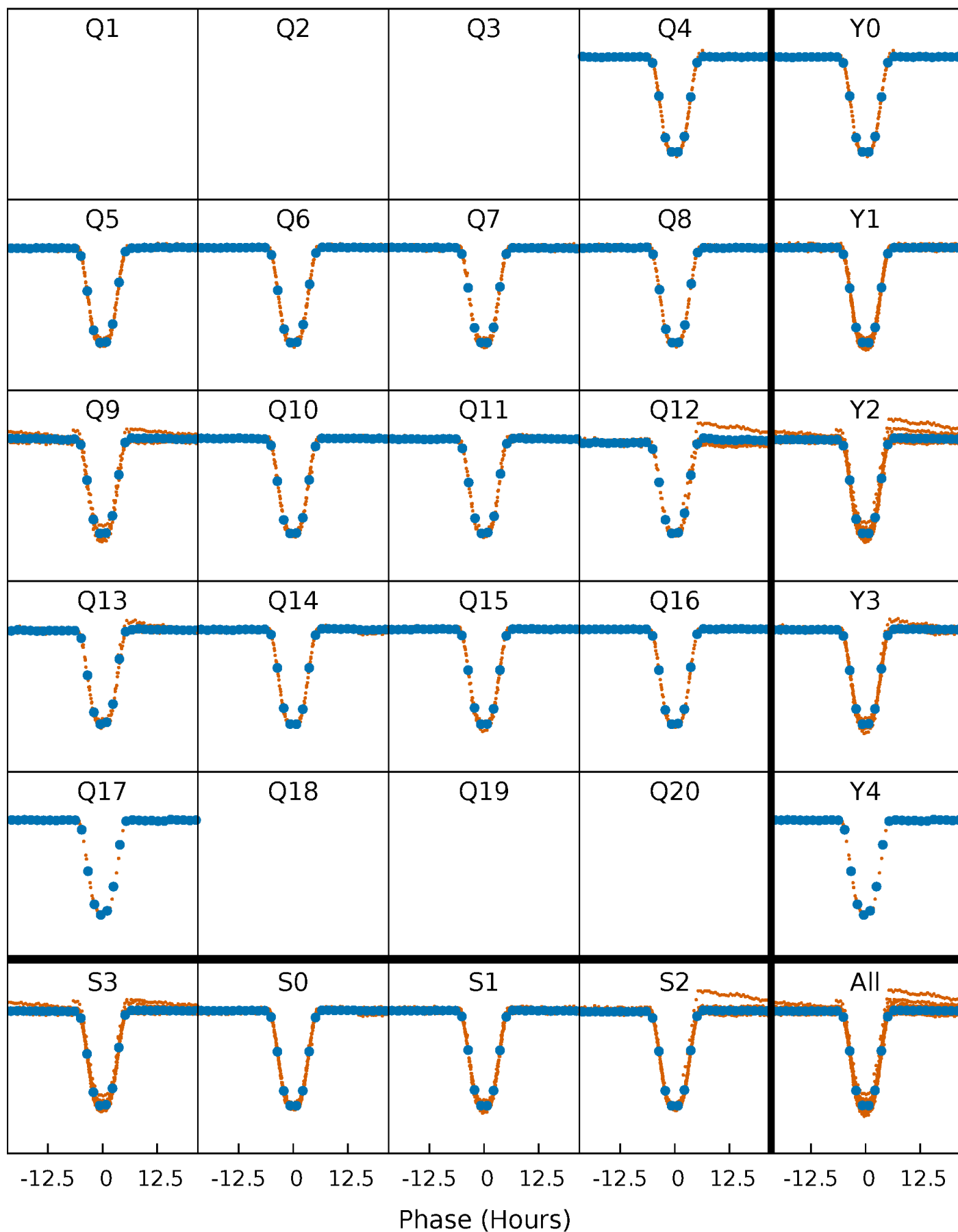


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



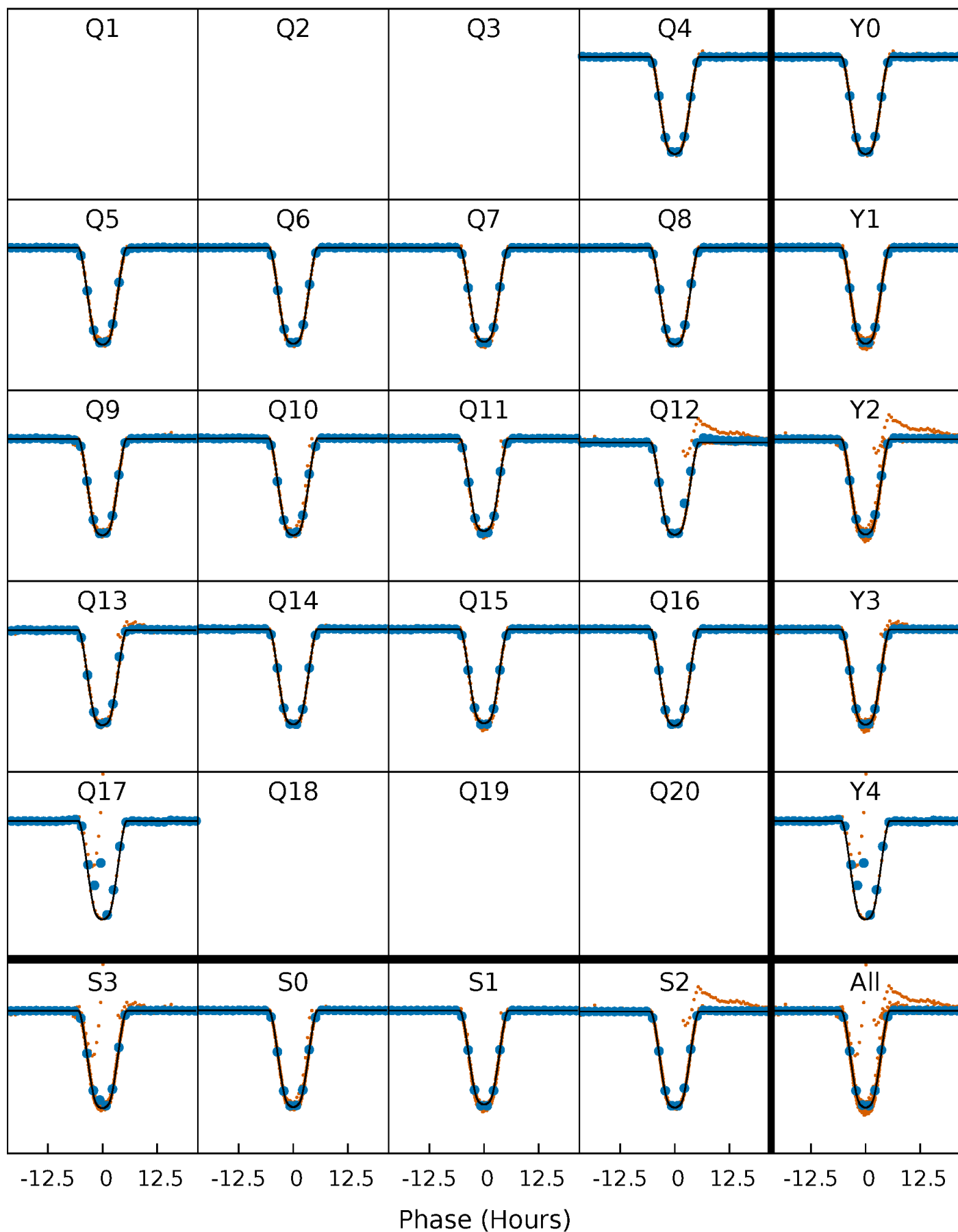
PDC Quarter-Phased Transit Curves

TCE 005876805-01 P= 18.173045 Days $T_0=137.154493$ (BKJD)



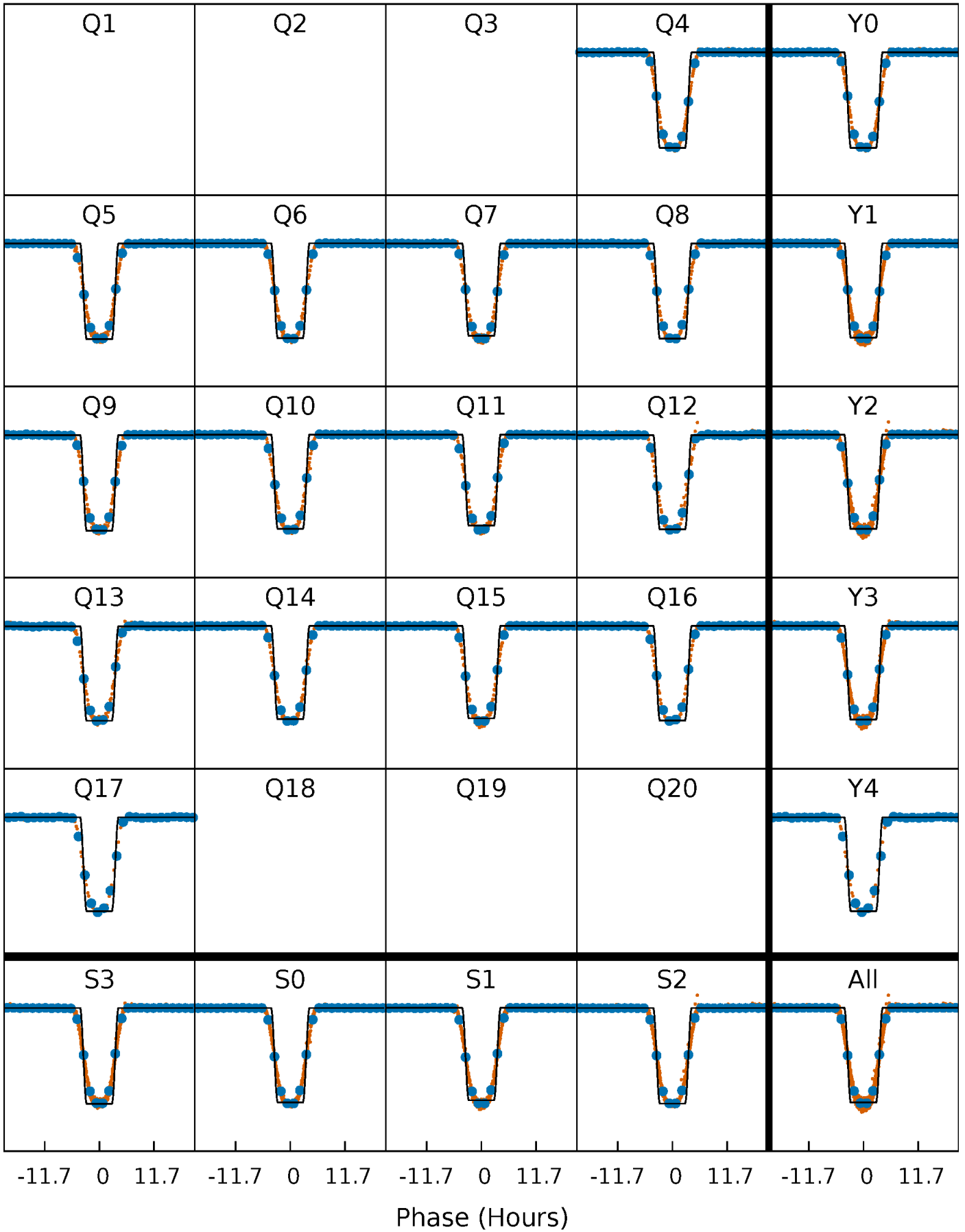
DV Quarter-Phased Transit Curves

TCE 005876805-01 P= 18.173045 Days $T_0=137.154493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

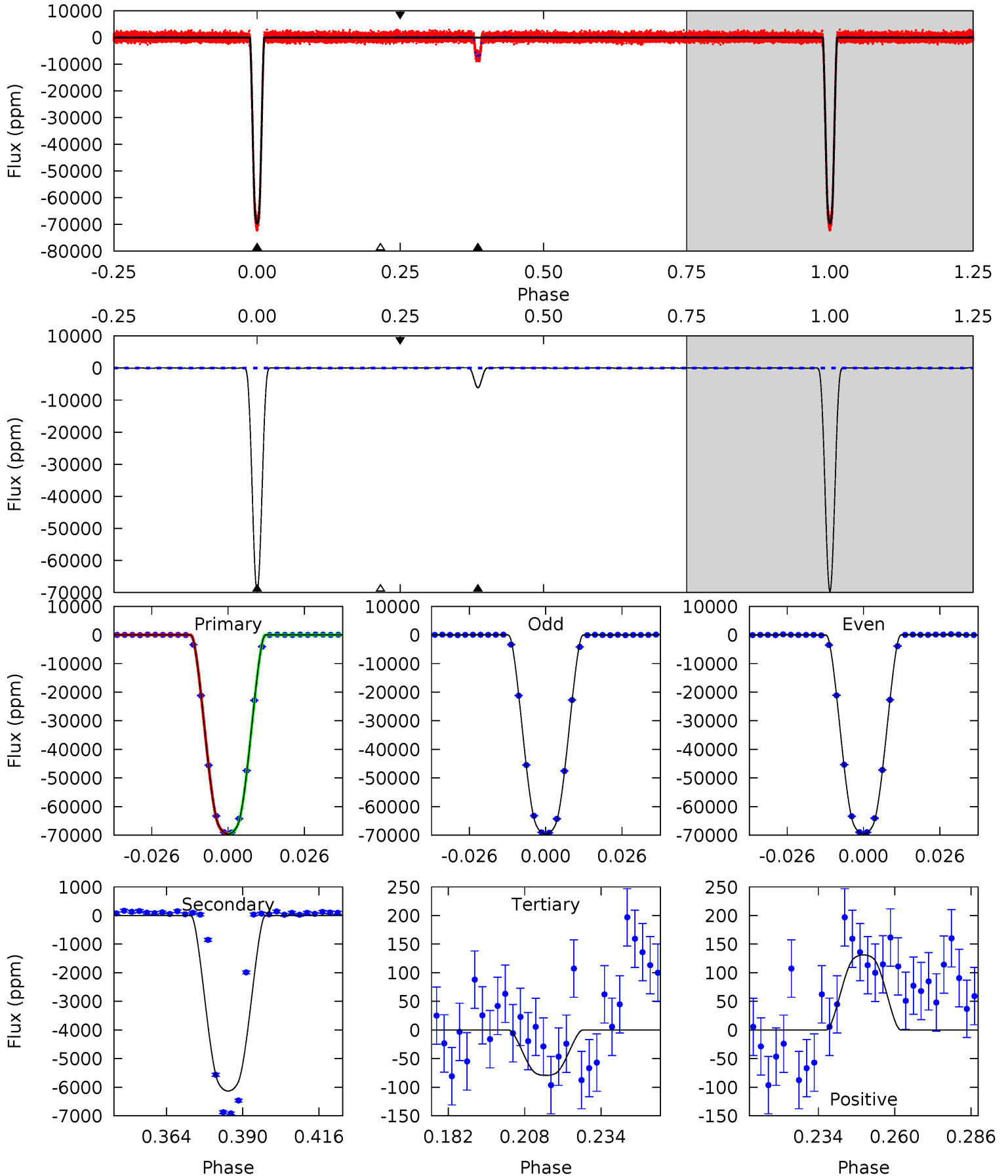
TCE 005876805-01 P= 18.173157 Days $T_0=137.149338$ (BKJD)



DV Model-Shift Uniqueness Test

005876805-01, P = 18.173045 Days, E = 137.154493 Days

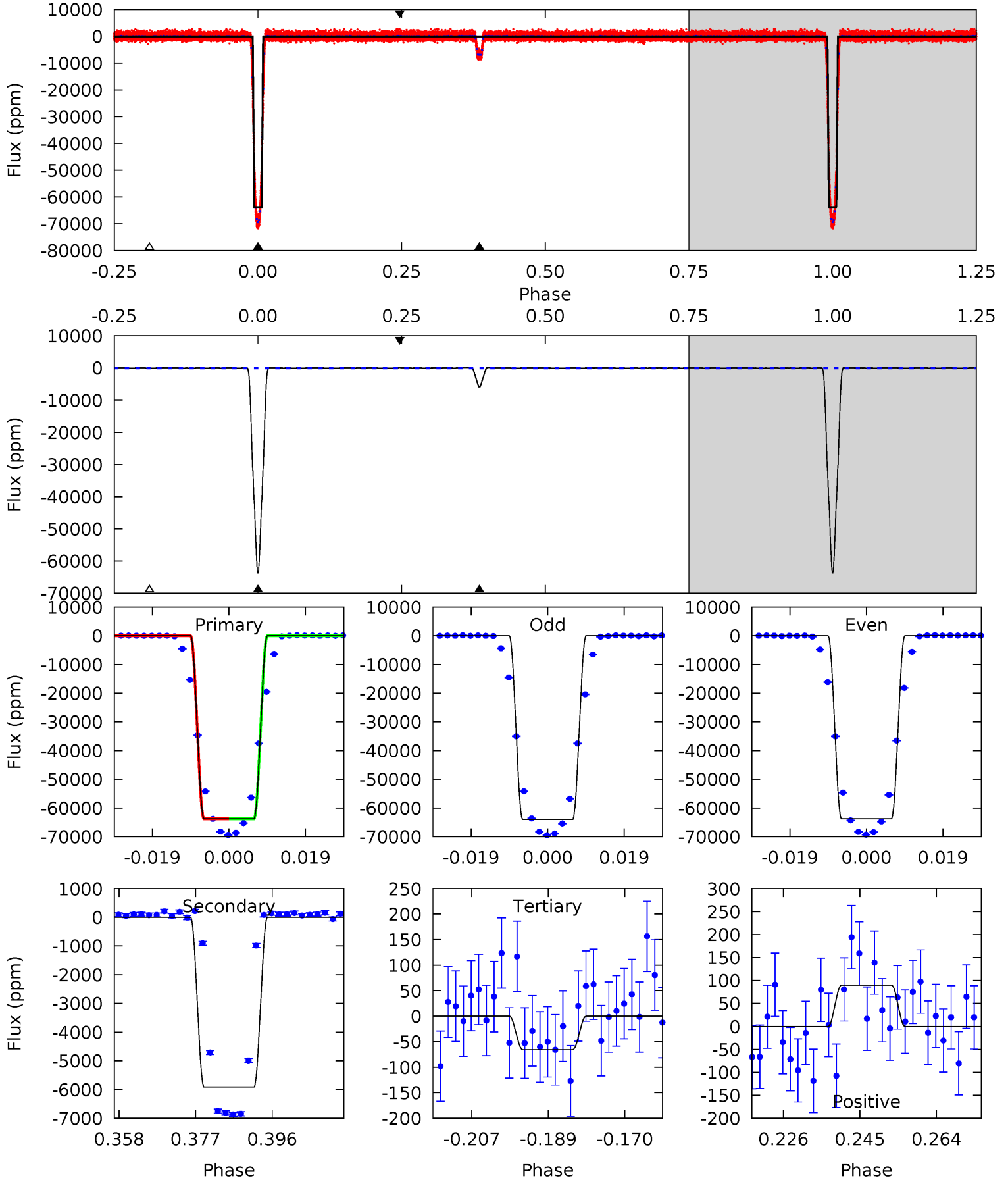
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3711	327.2	4.24	7.00	4.84	2.23	2.70	3707	3704	323.0	320.2	0.42	0.95	0.00	0.24



Alt Model-Shift Uniqueness Test

005876805-01, P = 18.173157 Days, E = 137.149338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2738	253.9	2.81	3.86	4.90	2.35	1.26	2736	2734	251.0	250.0	5.18	1.00	0.00	0.16



Stellar Parameters For KIC 005876805

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5799^{+172}_{-207}	$4.548^{+0.037}_{-0.200}$	$-0.160^{+0.300}_{-0.300}$	$0.860^{+0.254}_{-0.085}$	$0.955^{+0.109}_{-0.121}$	$2.112^{+0.420}_{-1.082}$
	+3%/-4%	+1%/-4%	+188%/-188%	+30%/-10%	+11%/-13%	+20%/-51%
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 005876805-01 / KOI 3331.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6134 ± 19	$25.31^{+4.09}_{-2.04}$	935^{+65}_{-46}	3628^{+78}_{-84}	92^{+13}_{-23}
Alt.	-5909 ± 23	$25.26^{+4.10}_{-1.90}$	934^{+65}_{-46}	3601^{+70}_{-81}	89^{+12}_{-20}

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

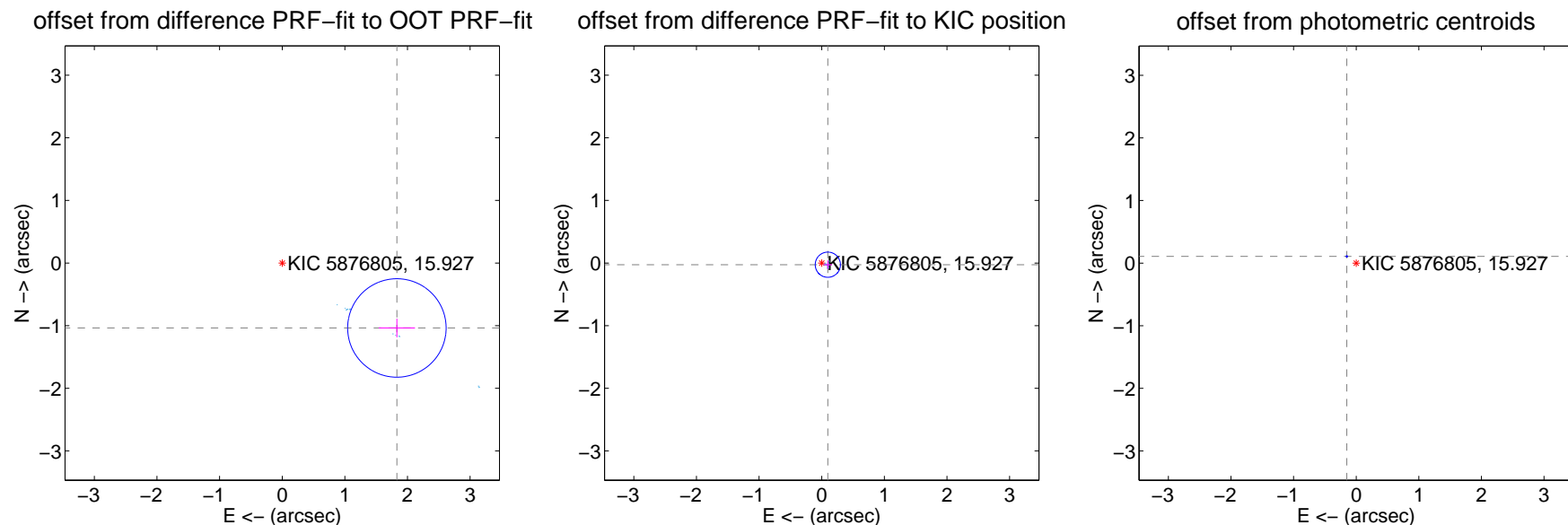
DV Centroid Data

Supplemental centroid analysis for 005876805-01. Kepler magnitude: 15.93. Transit SNR 1862.60

There are 14 quarters with good PRF difference image offsets

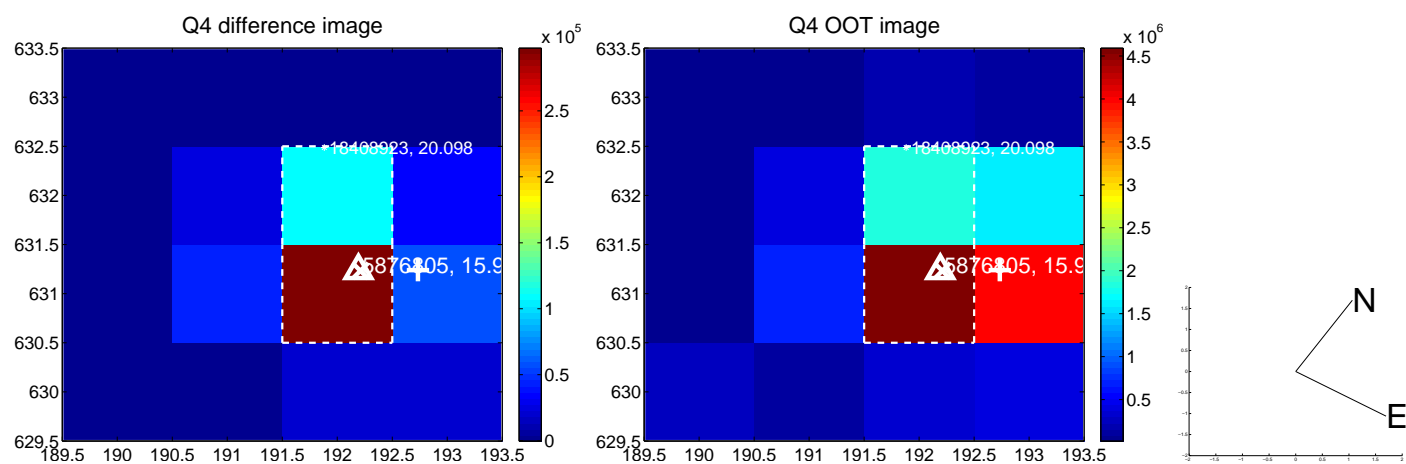
The direct PRF centroid is offset from the target star catalog position by about 1.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.104 ± 0.262	8.03	-1.831 ± 0.289	-1.037 ± 0.149
PRF-fit source offset from KIC position	0.101 ± 0.067	1.51	-0.098 ± 0.067	-0.026 ± 0.068
photometric centroid source offset	0.18 ± 0.00	46.19	0.15 ± 0.00	0.11 ± 0.00

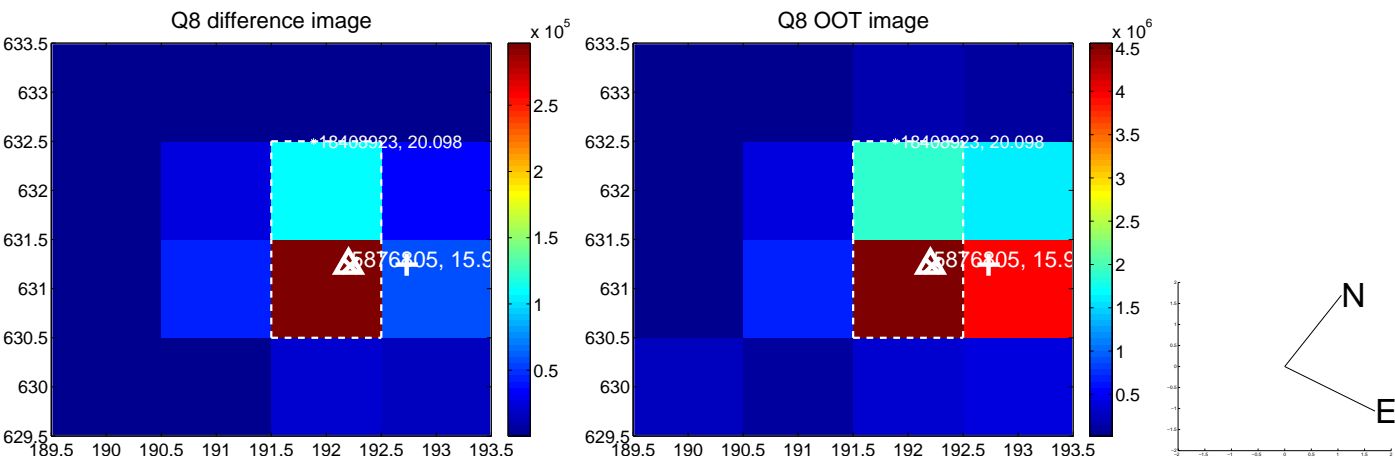
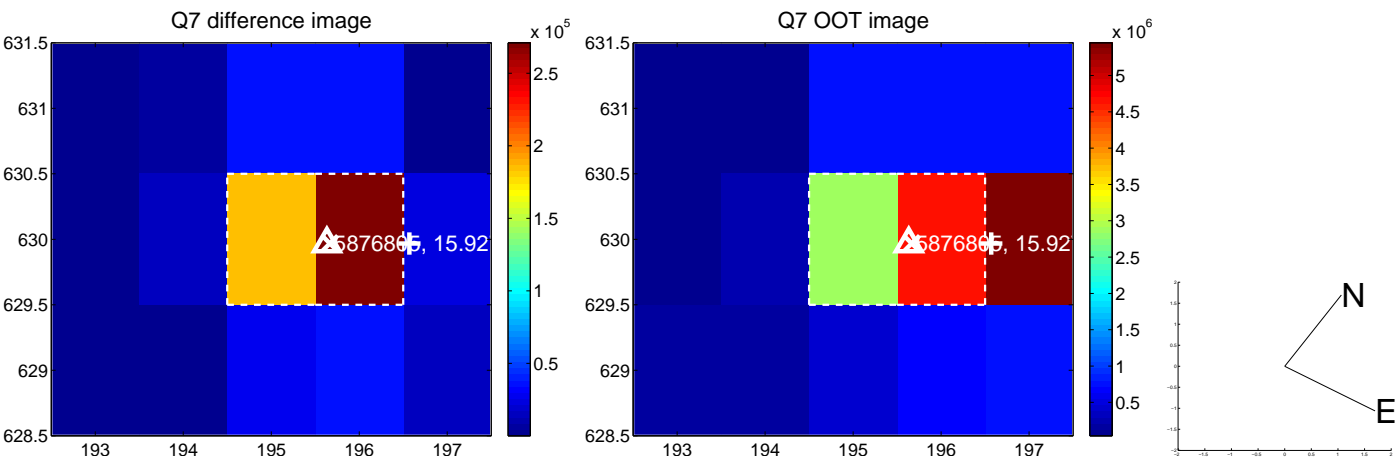
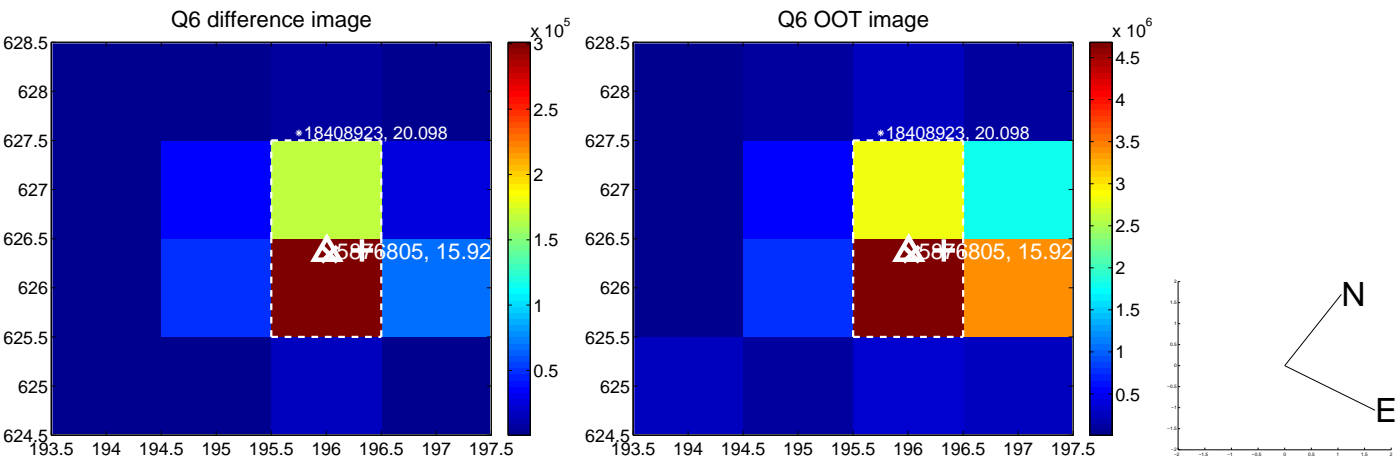
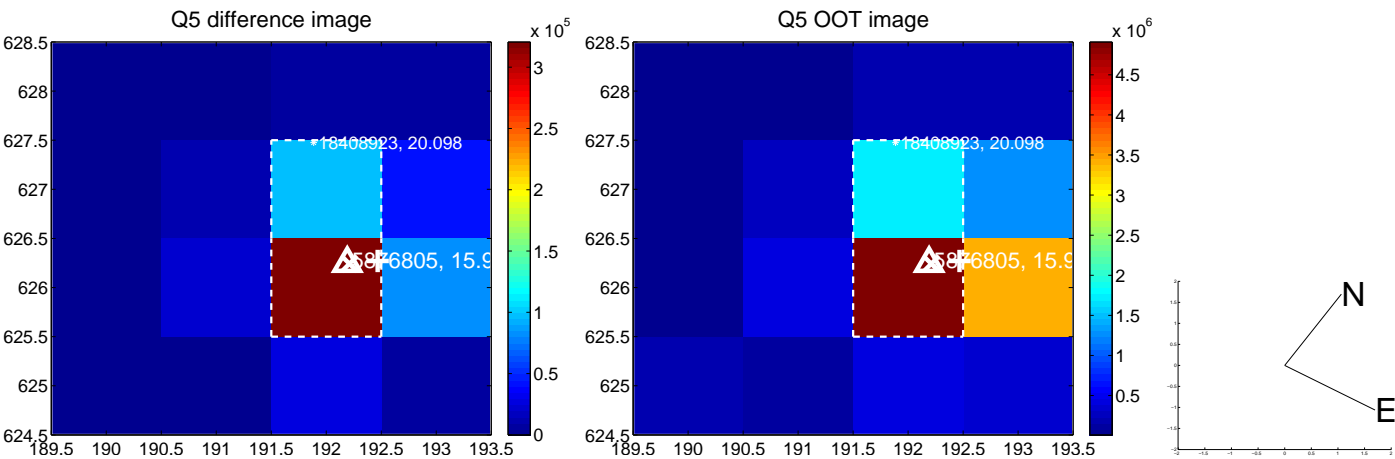


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

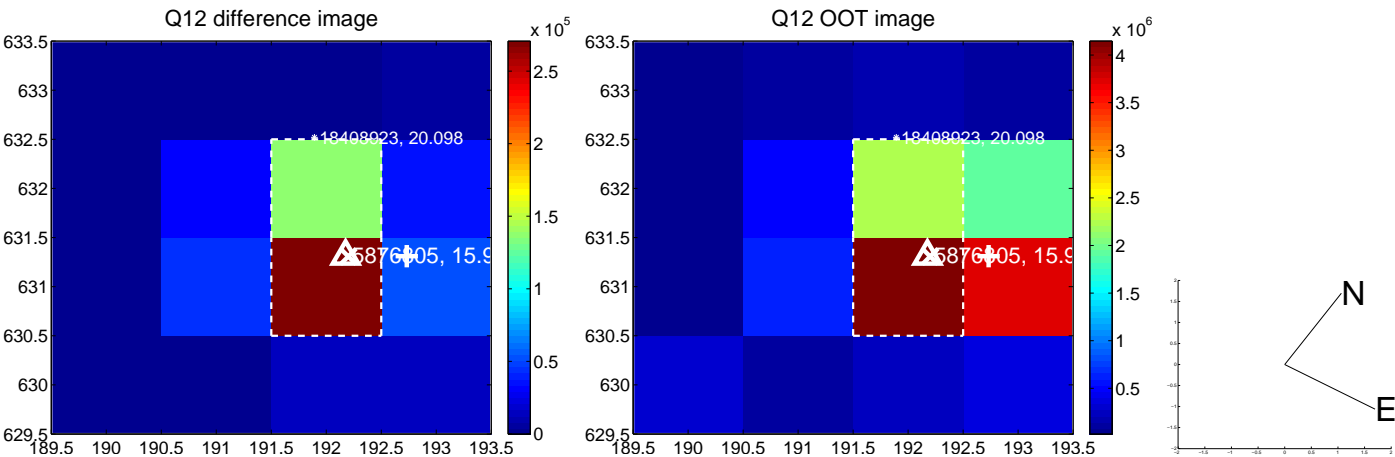
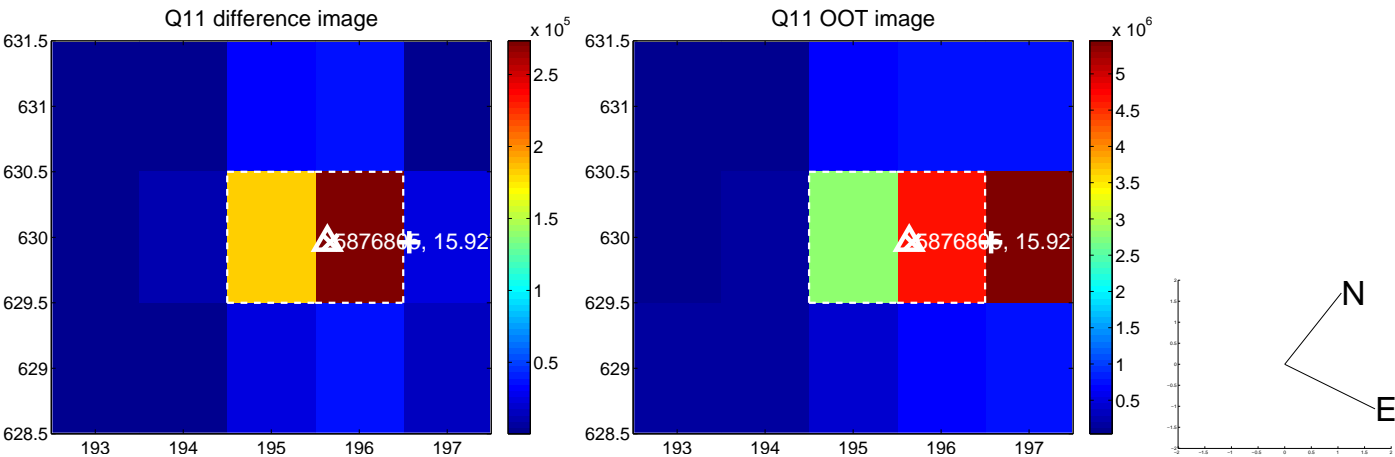
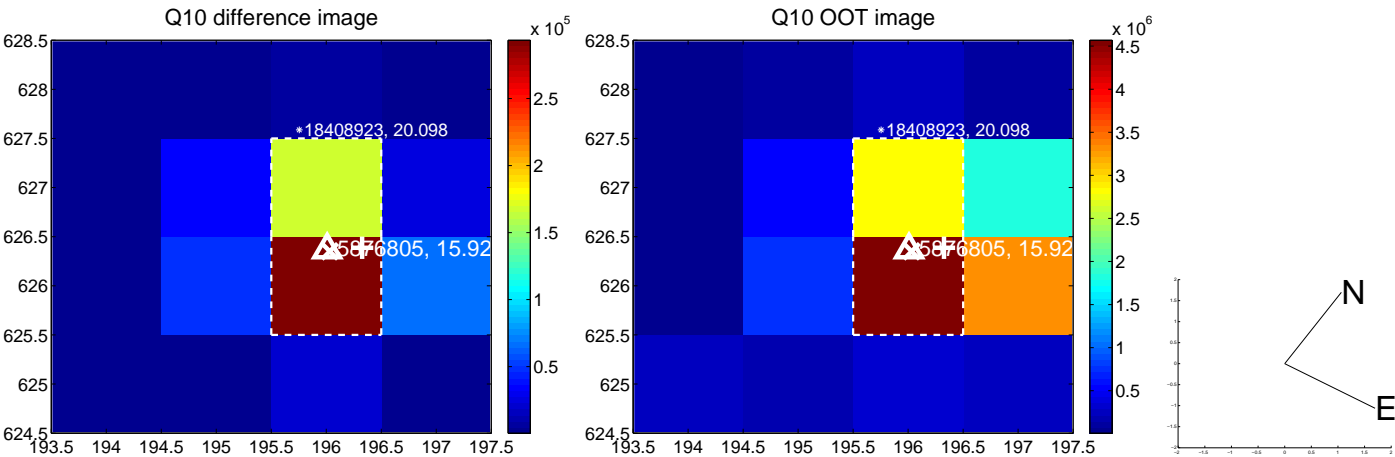
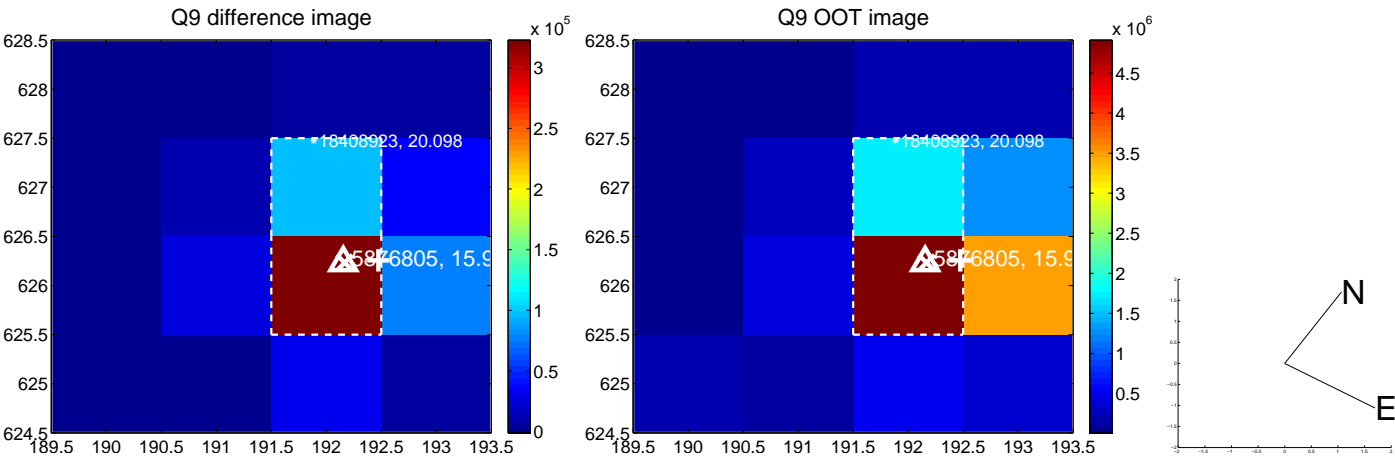
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



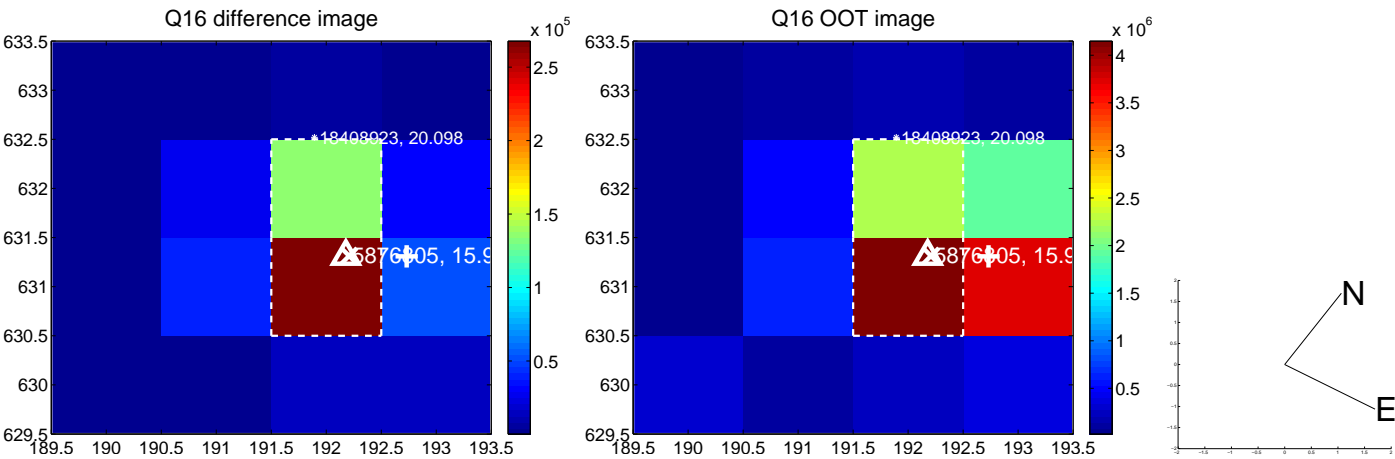
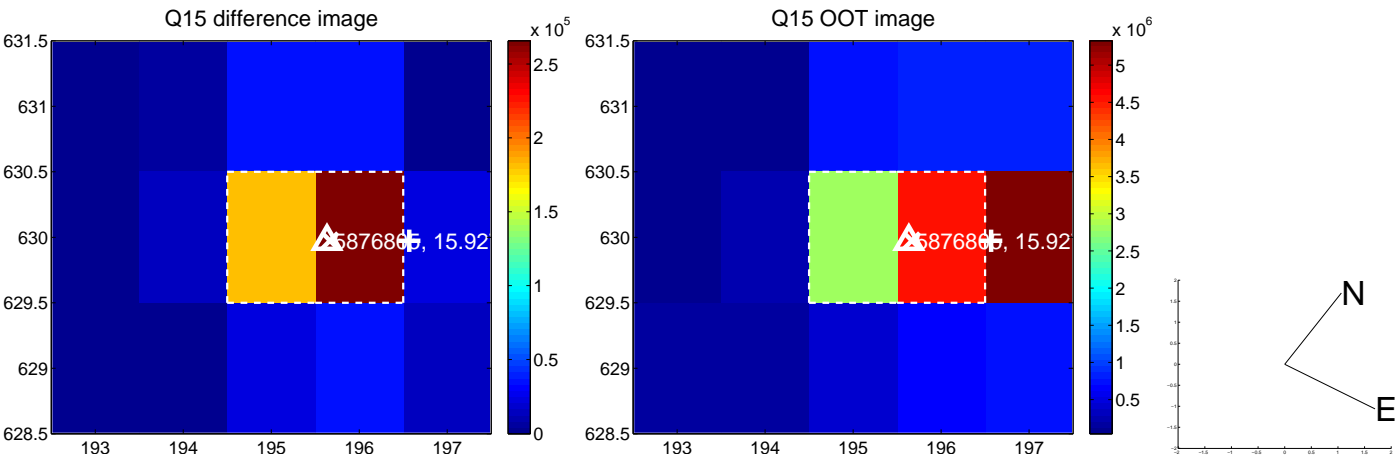
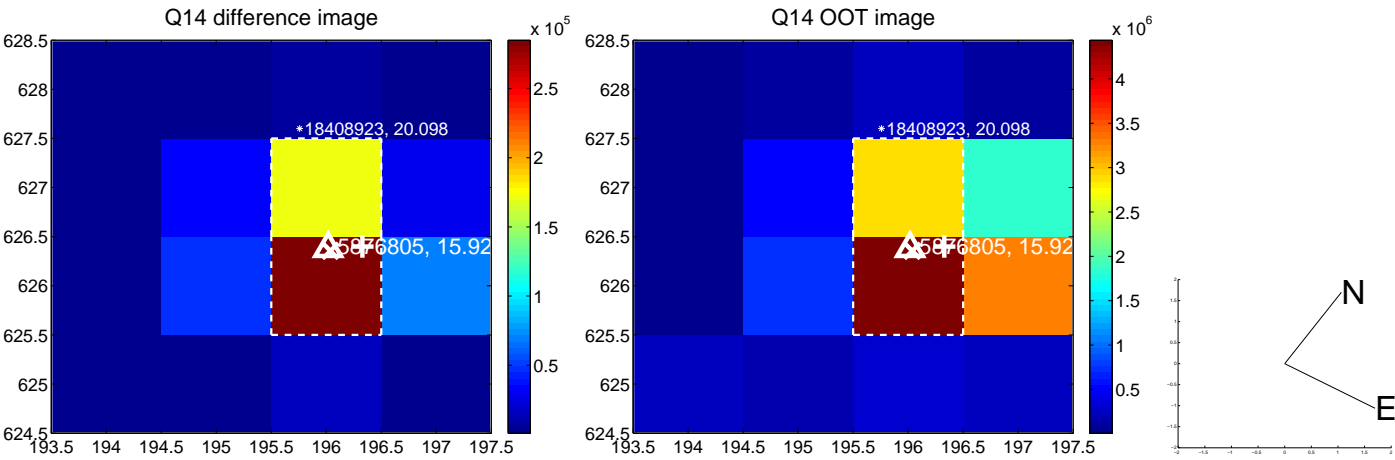
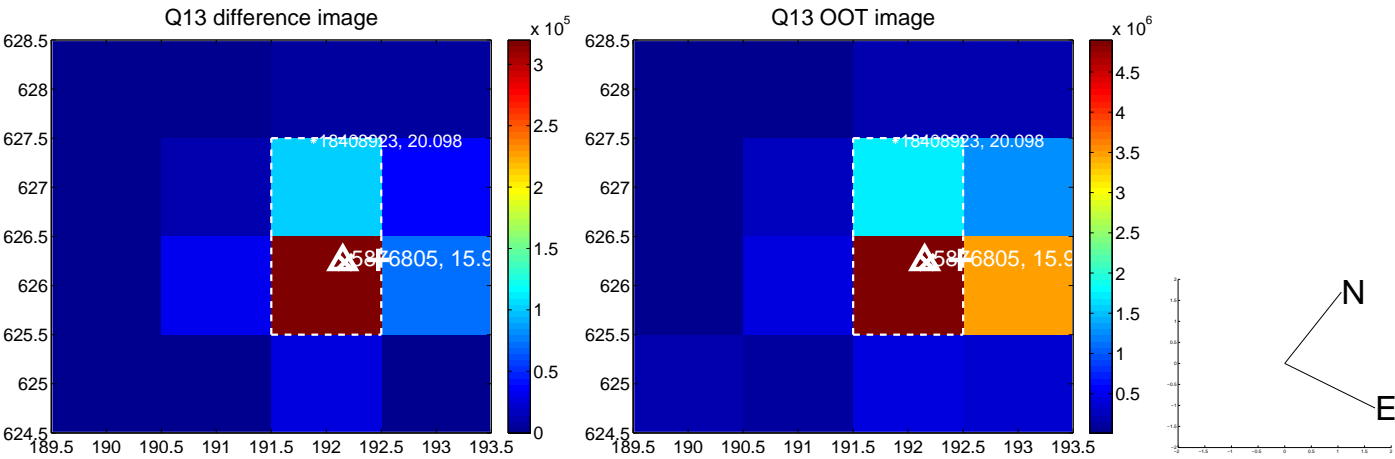
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

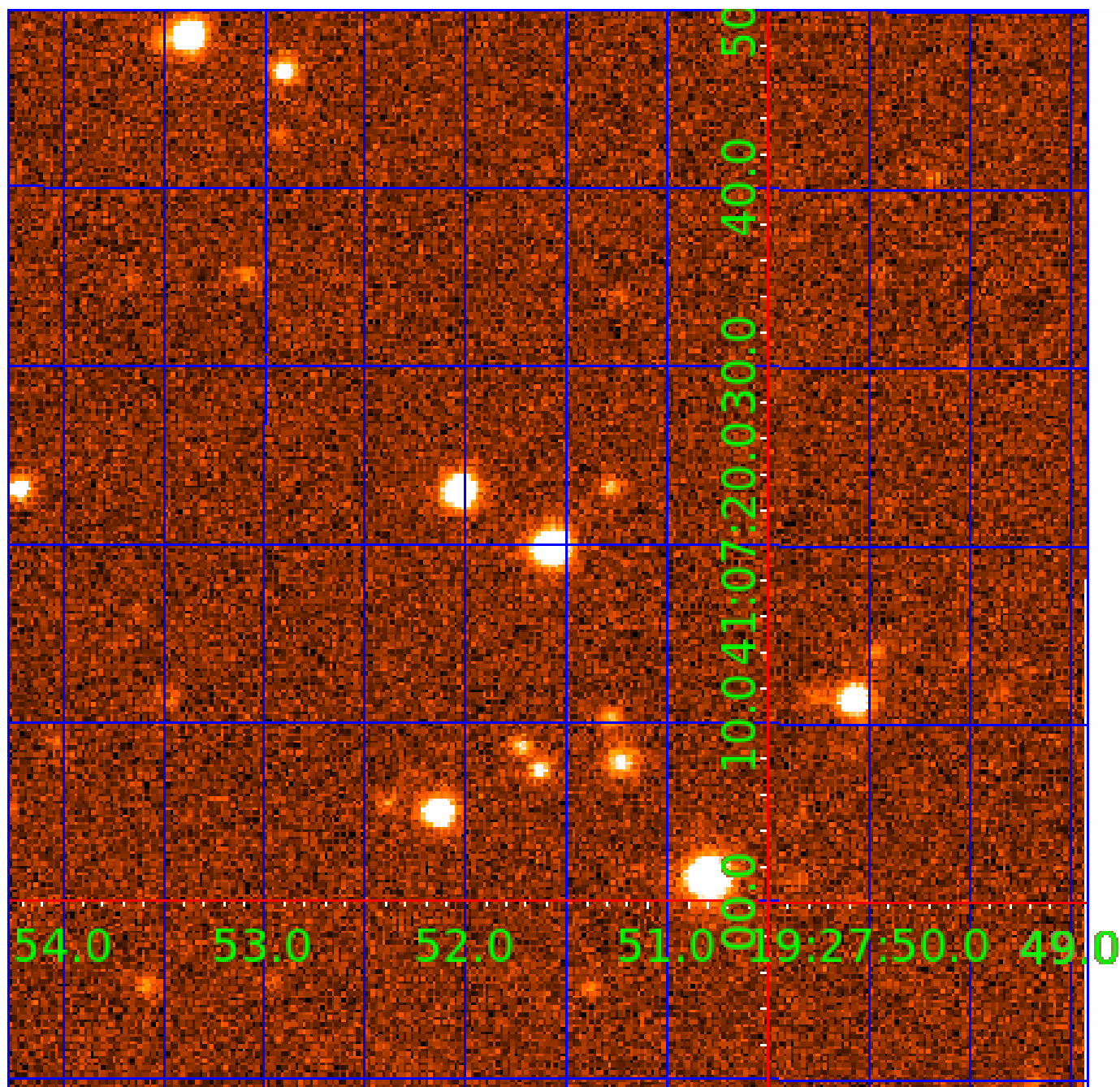


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005876805

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})
005876805-01	OBS	3331.01	18.173045	137.154493	69557.2	10.908	2094.1	1862.6	0.86	5799	24.36	42.27
005876805-02	OBS	No	18.173018	144.160681	7318.6	6.353	195.3	197.1	0.86	5799	8.26	42.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005876805-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
005876805-02	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 005876805-02

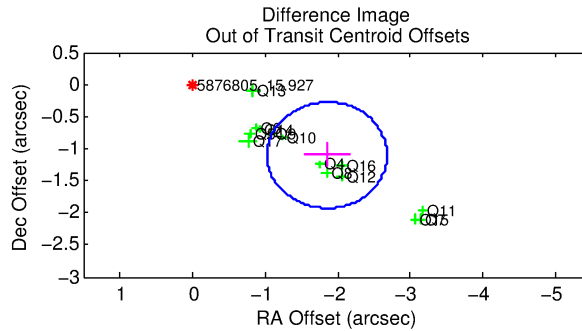
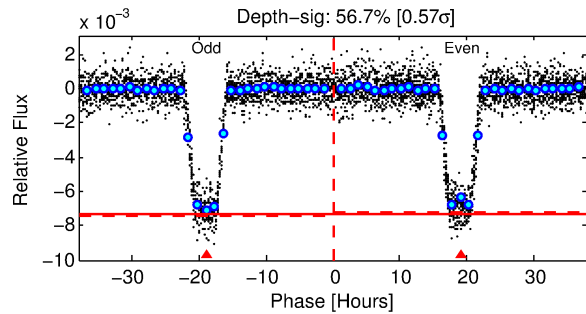
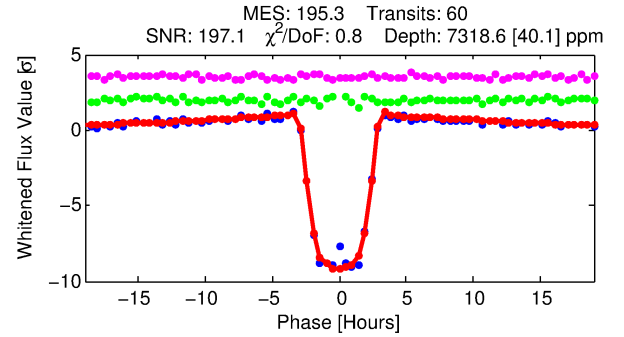
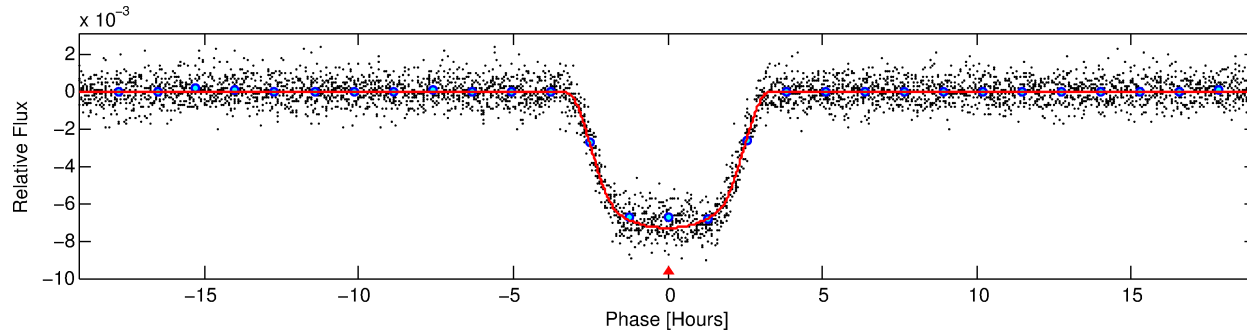
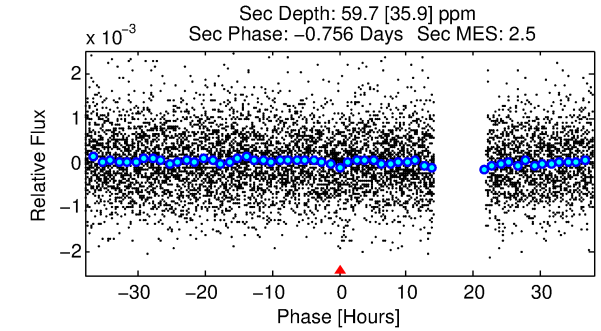
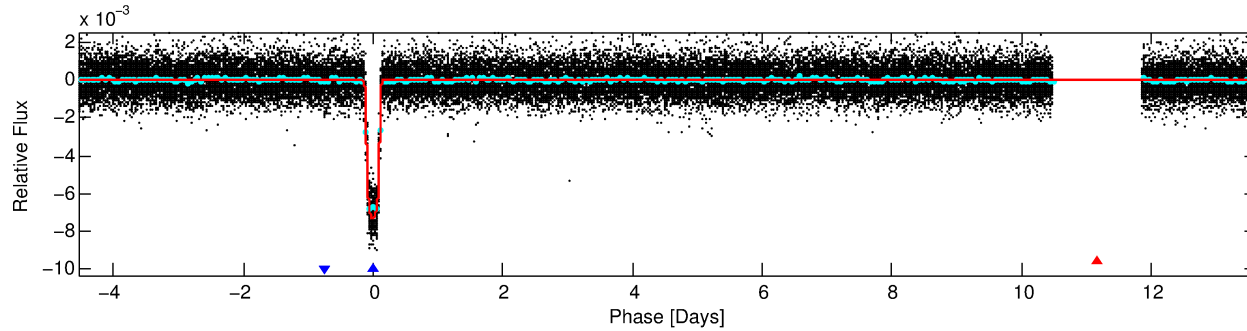
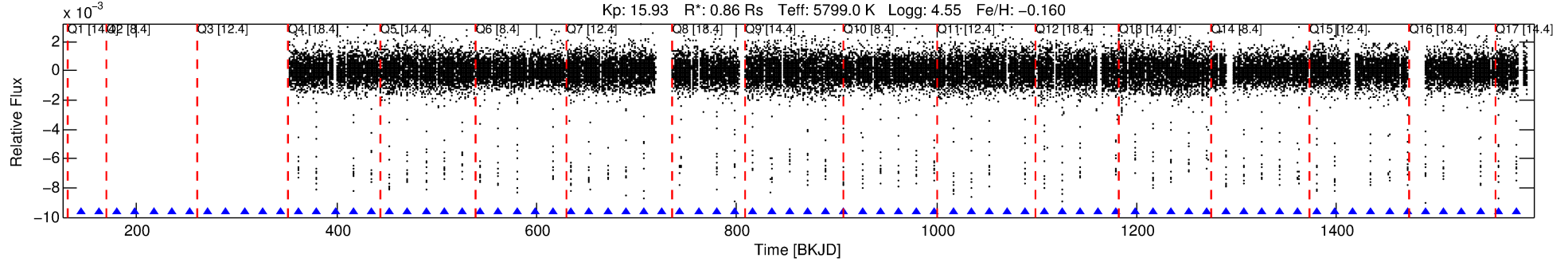
No Significant Match Found

DV One-Page Summary

KIC: 5876805 Candidate: 2 of 2 Period: 18.173 d

KOI: K03331 Corr: No Ephemeris Match

Kp: 15.93 R*: 0.86 Rs Teff: 5799.0 K Logg: 4.55 Fe/H: -0.160



DV Fit Results:

Period = 18.17302 [0.00002] d
Epoch = 144.1607 [0.0008] BKJD
Rp/R* = 0.0880 [0.0005]
a/R* = 15.71 [0.25]
b = 0.82 [0.01]
Seff = 42.27 [16.56]
Teq = 650 [64] K
Rp = 8.26 [2.44] Re
a = 0.1331 [0.0332] AU
Ag = 8.54 [6.01] [1.25σ]
Teffp = 1718 [266] K [3.91σ]

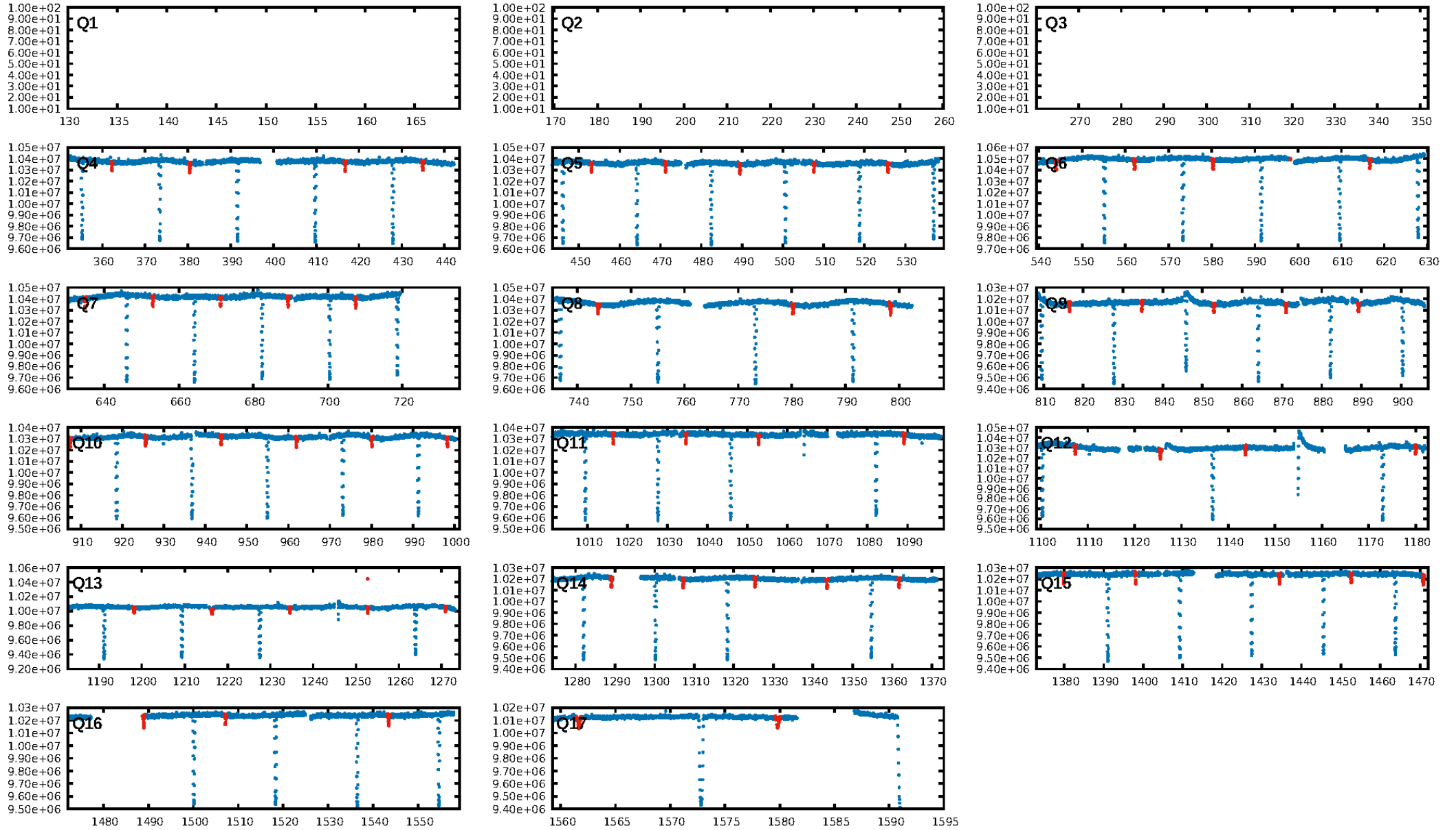
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [58/58]
GhostDiagnostic-chr: 2.863
Centroid-sig: 0.0%
Centroid-so: 0.137 arcsec [3.12σ]
OotOffset-rm: 2.157 arcsec [7.84σ]
KicOffset-rm: 0.139 arcsec [1.48σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

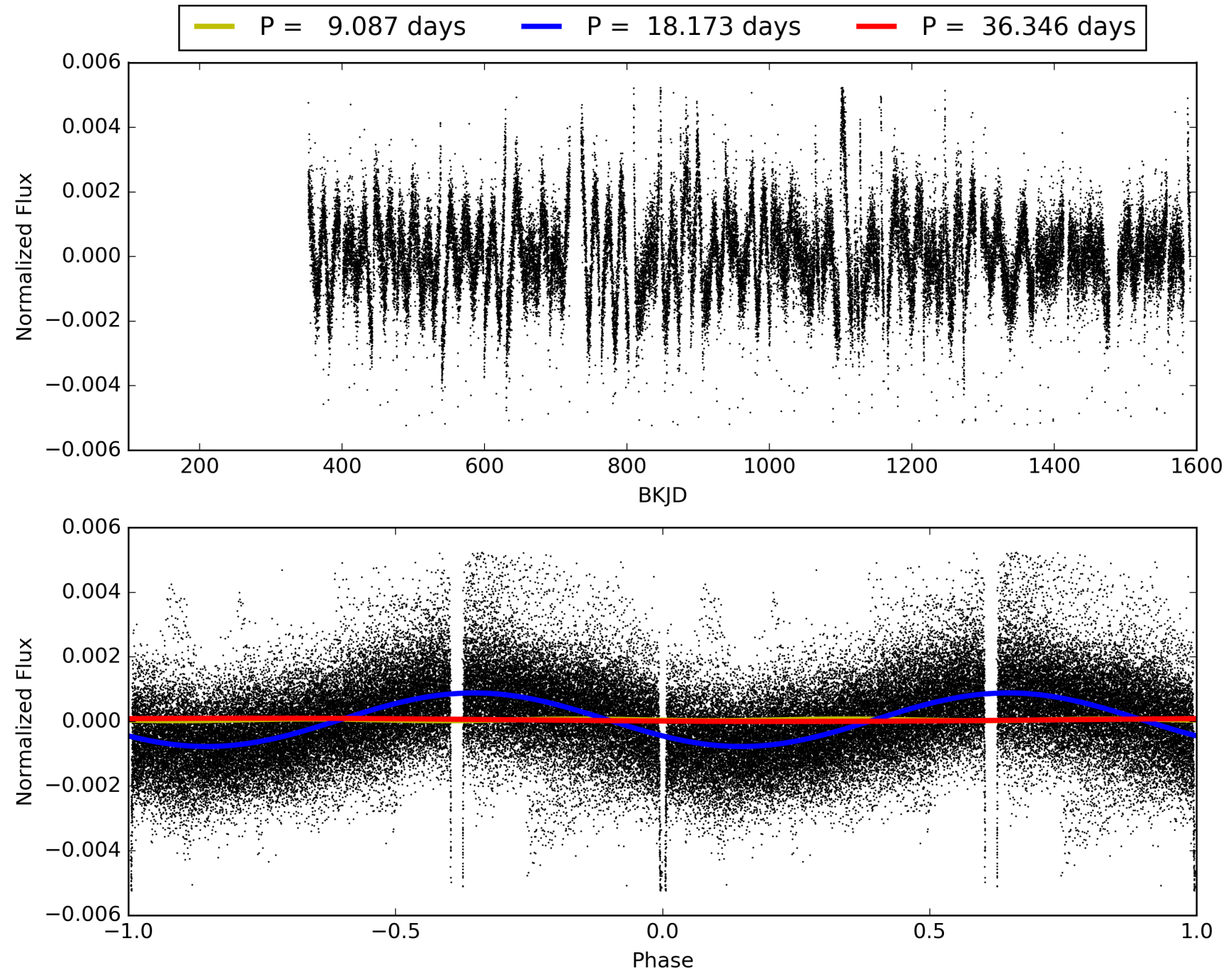
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:17:50 Z

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

TCE 005876805-02, PDC Light Curves

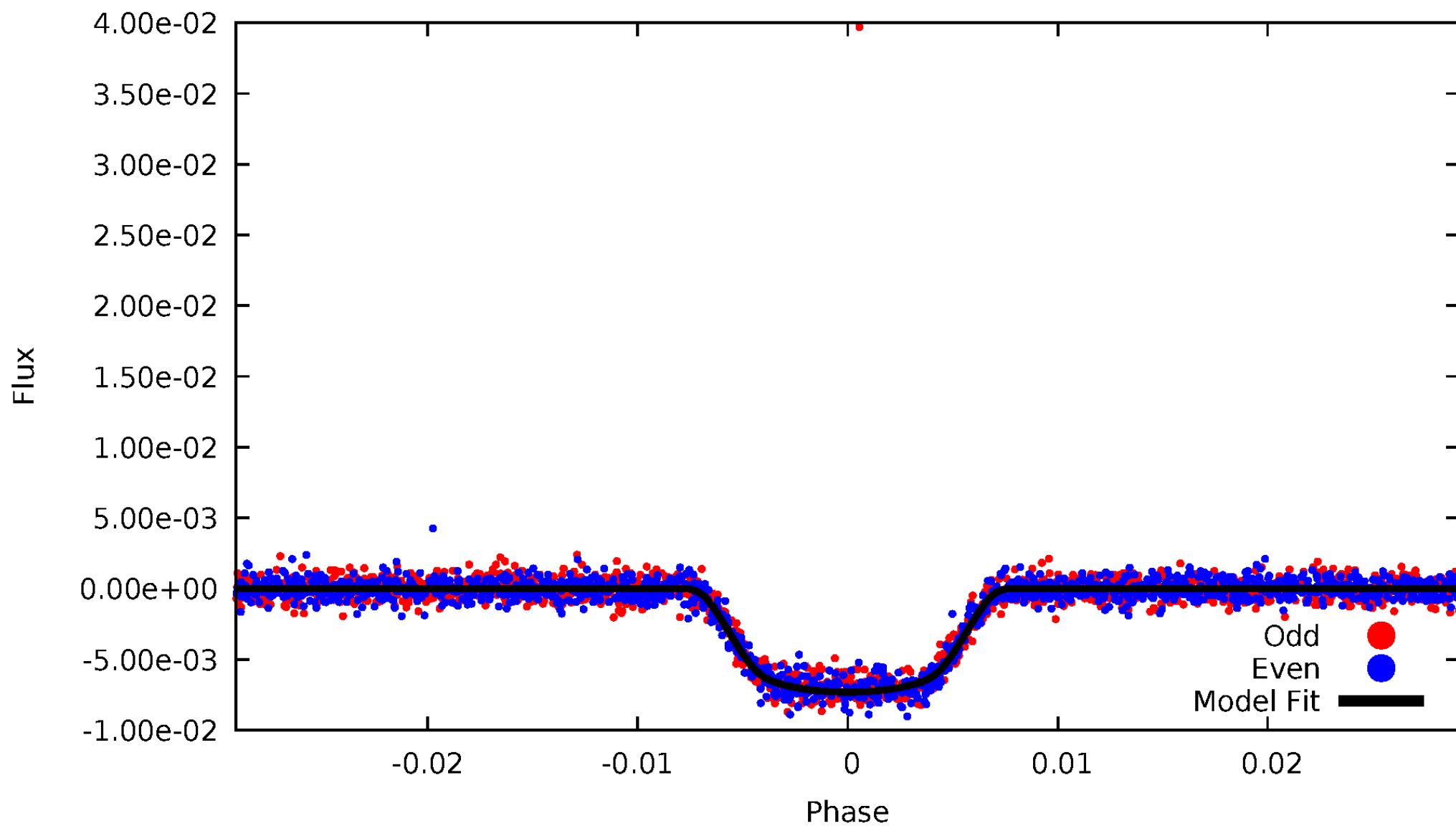


TCE 005876805-02



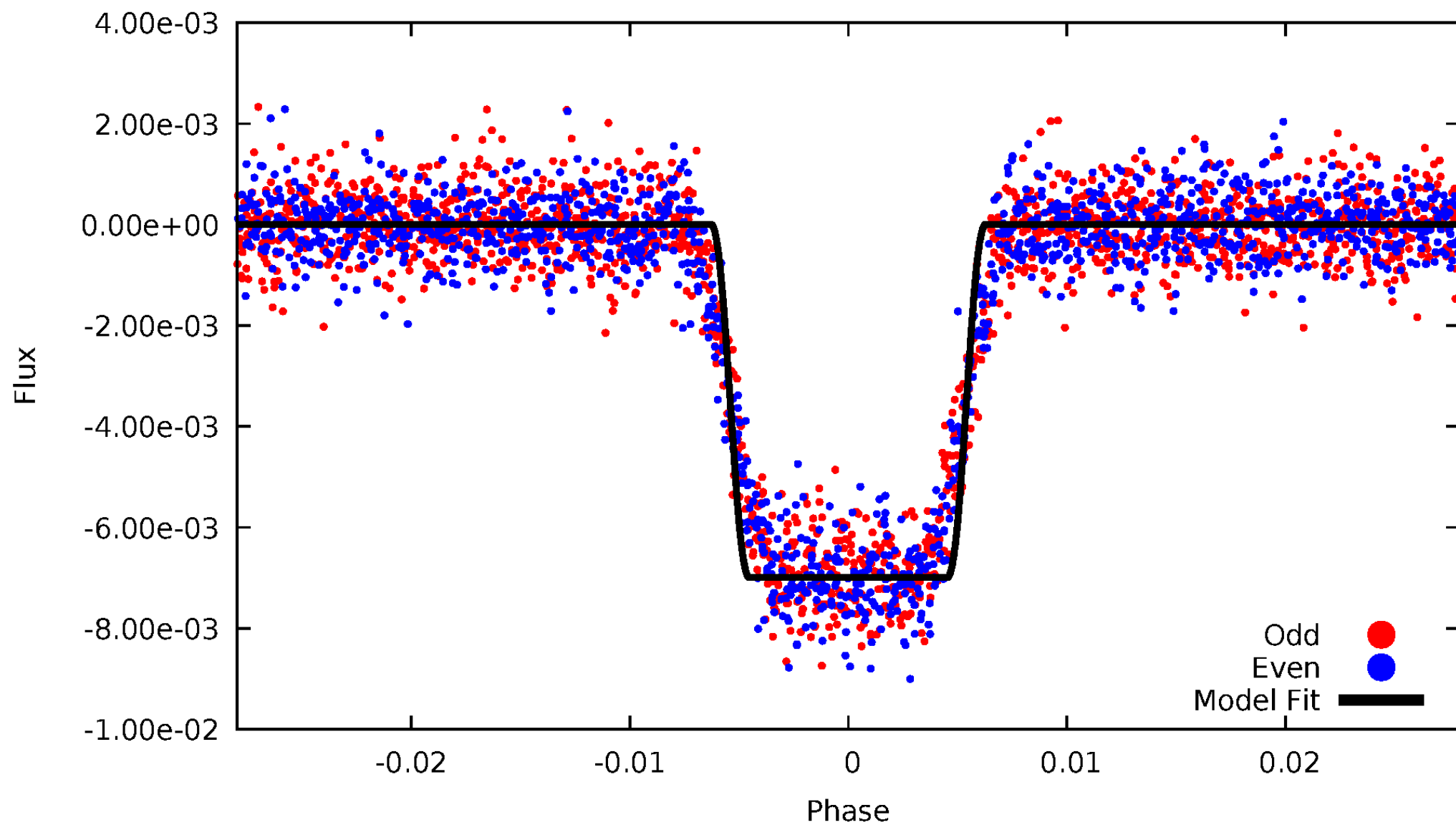
DV Odd/Even

TCE 005876805-02



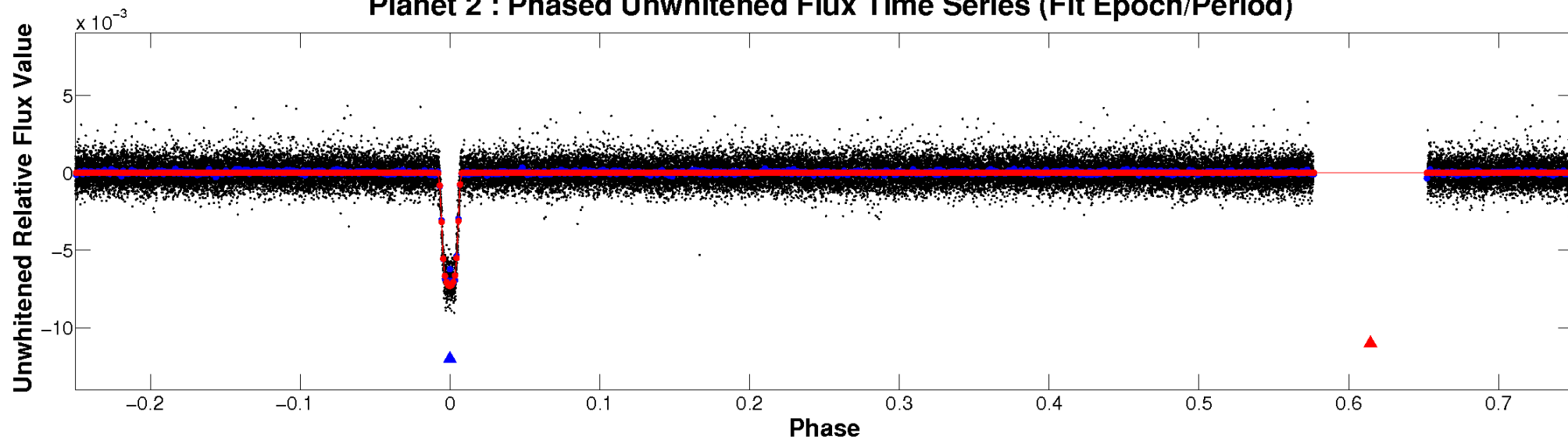
ALT Odd/Even

TCE 005876805-02

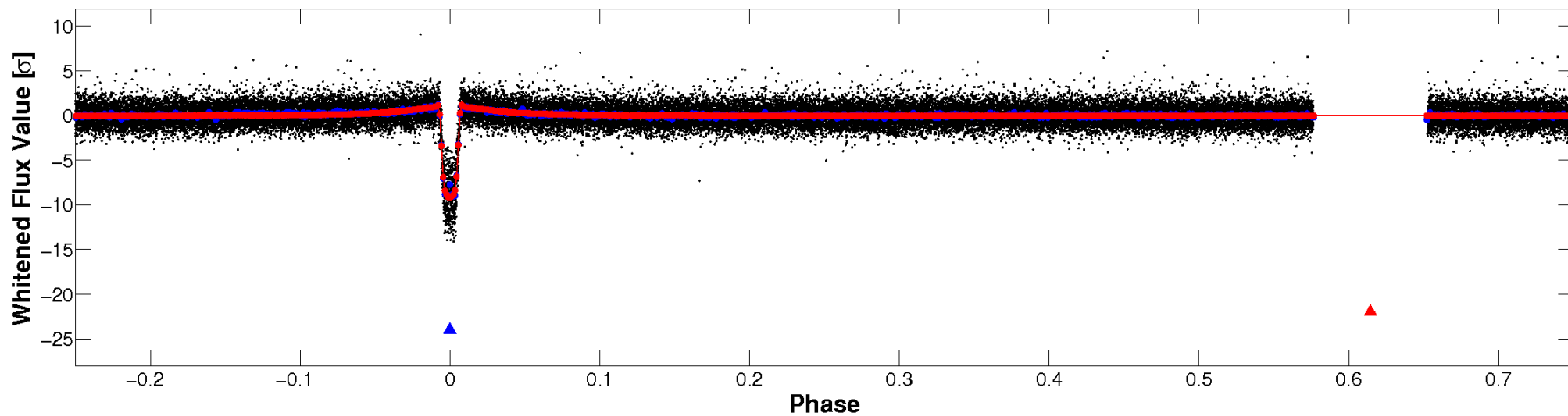


Non-Whitened Vs. Whitened Light Curve

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

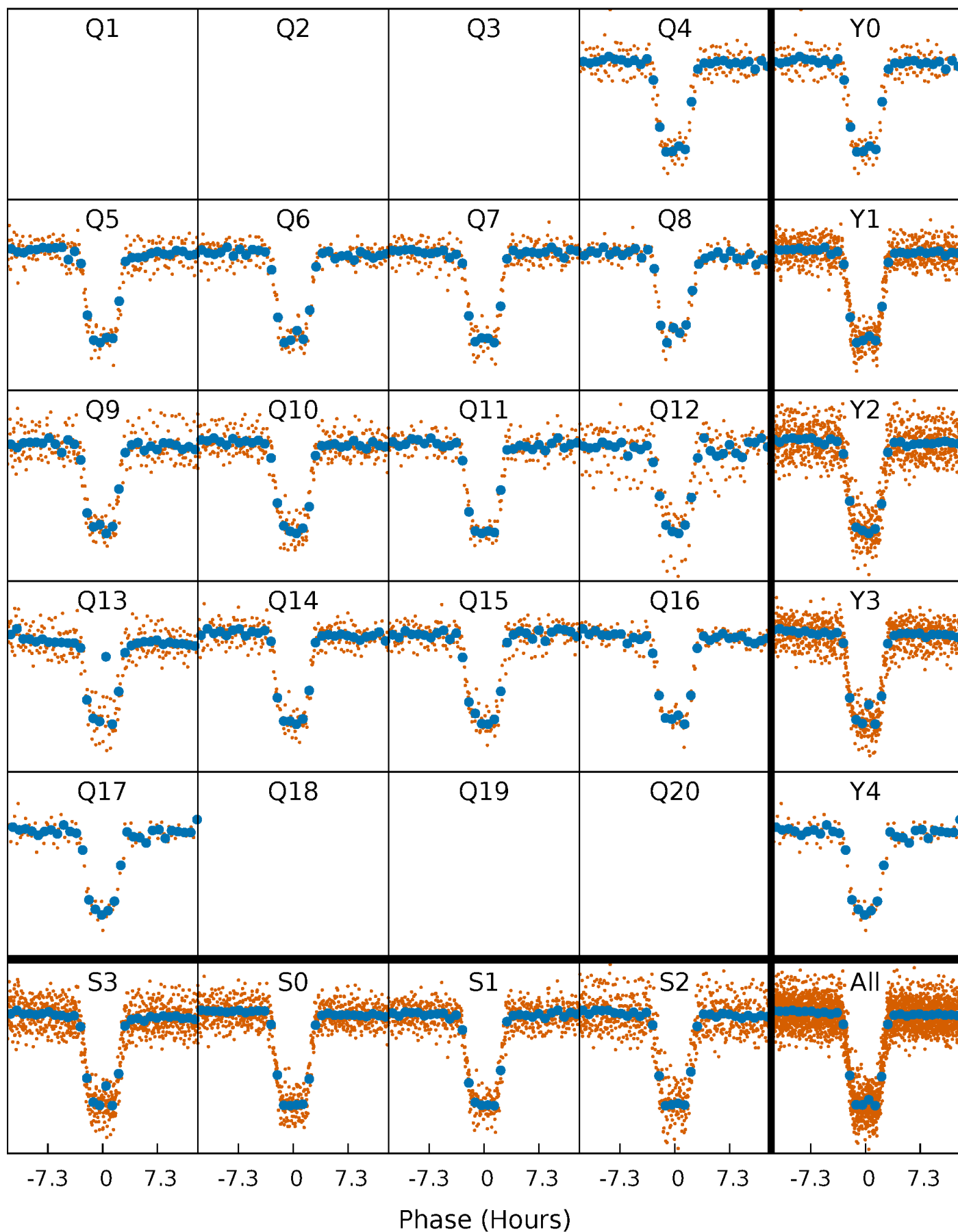


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



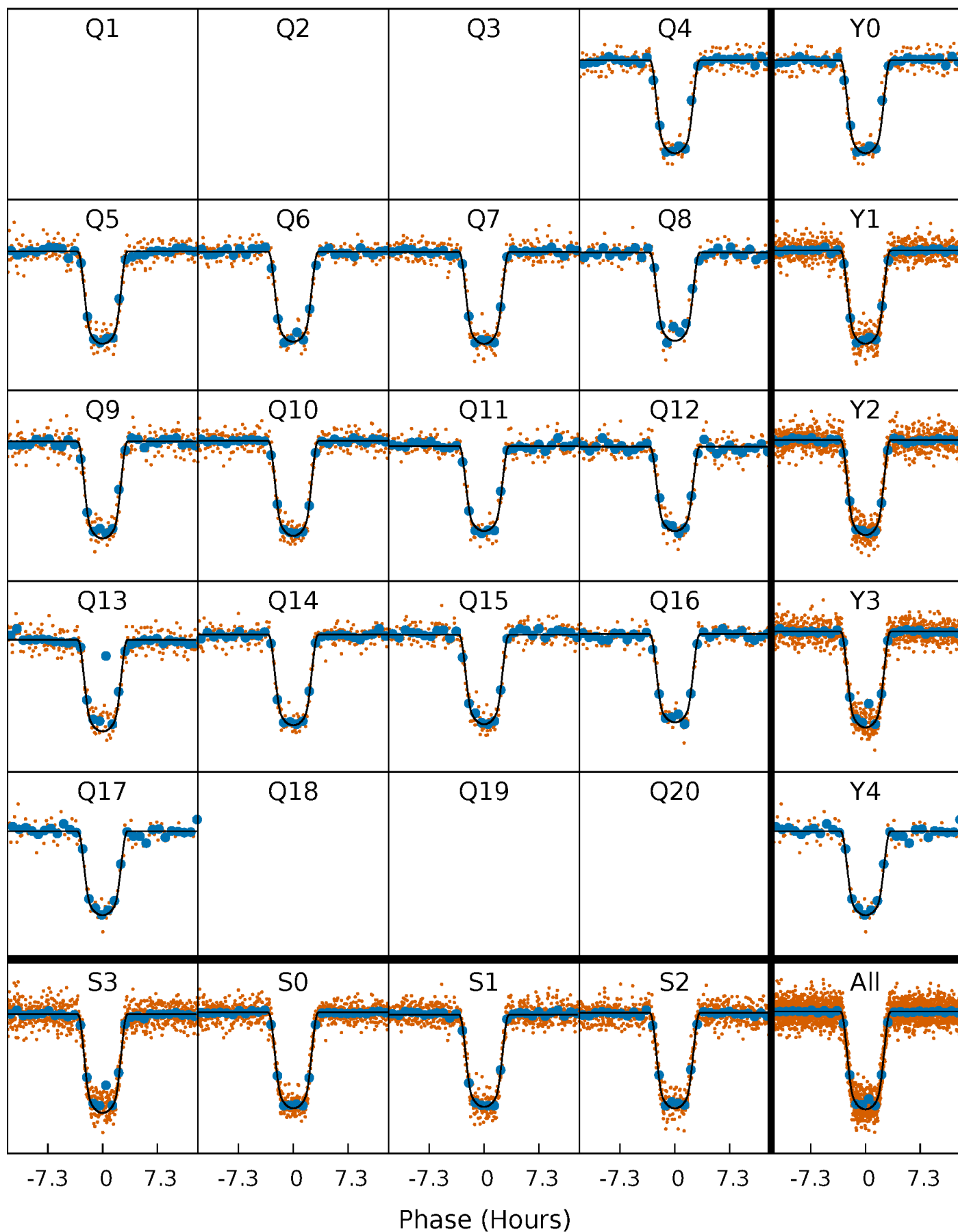
PDC Quarter-Phased Transit Curves

TCE 005876805-02 P= 18.173018 Days $T_0=144.160681$ (BKJD)



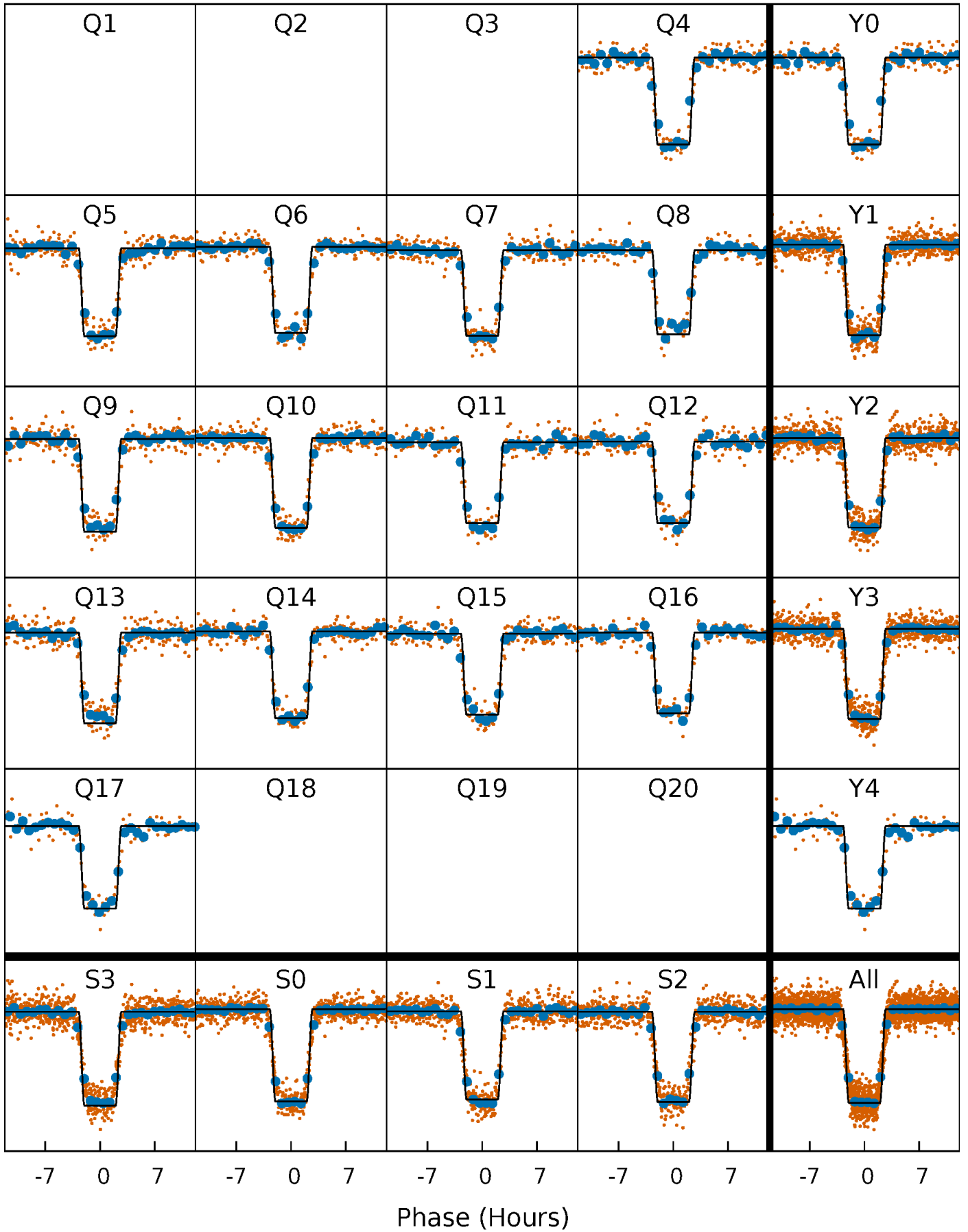
DV Quarter-Phased Transit Curves

TCE 005876805-02 P= 18.173018 Days $T_0=144.160681$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

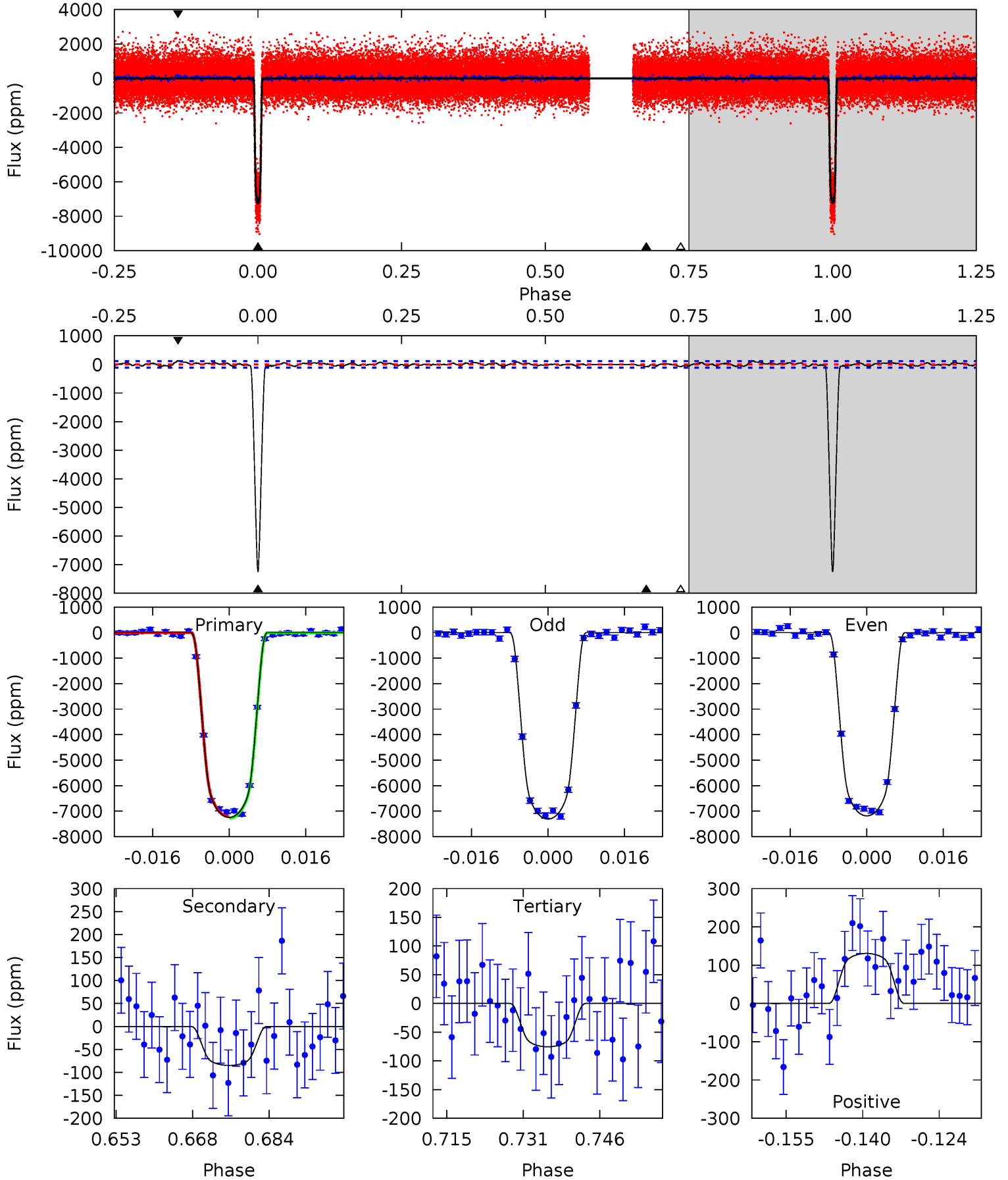
TCE 005876805-02 P= 18.173026 Days $T_0=144.160049$ (BKJD)



DV Model-Shift Uniqueness Test

005876805-02, P = 18.173018 Days, E = 144.160681 Days

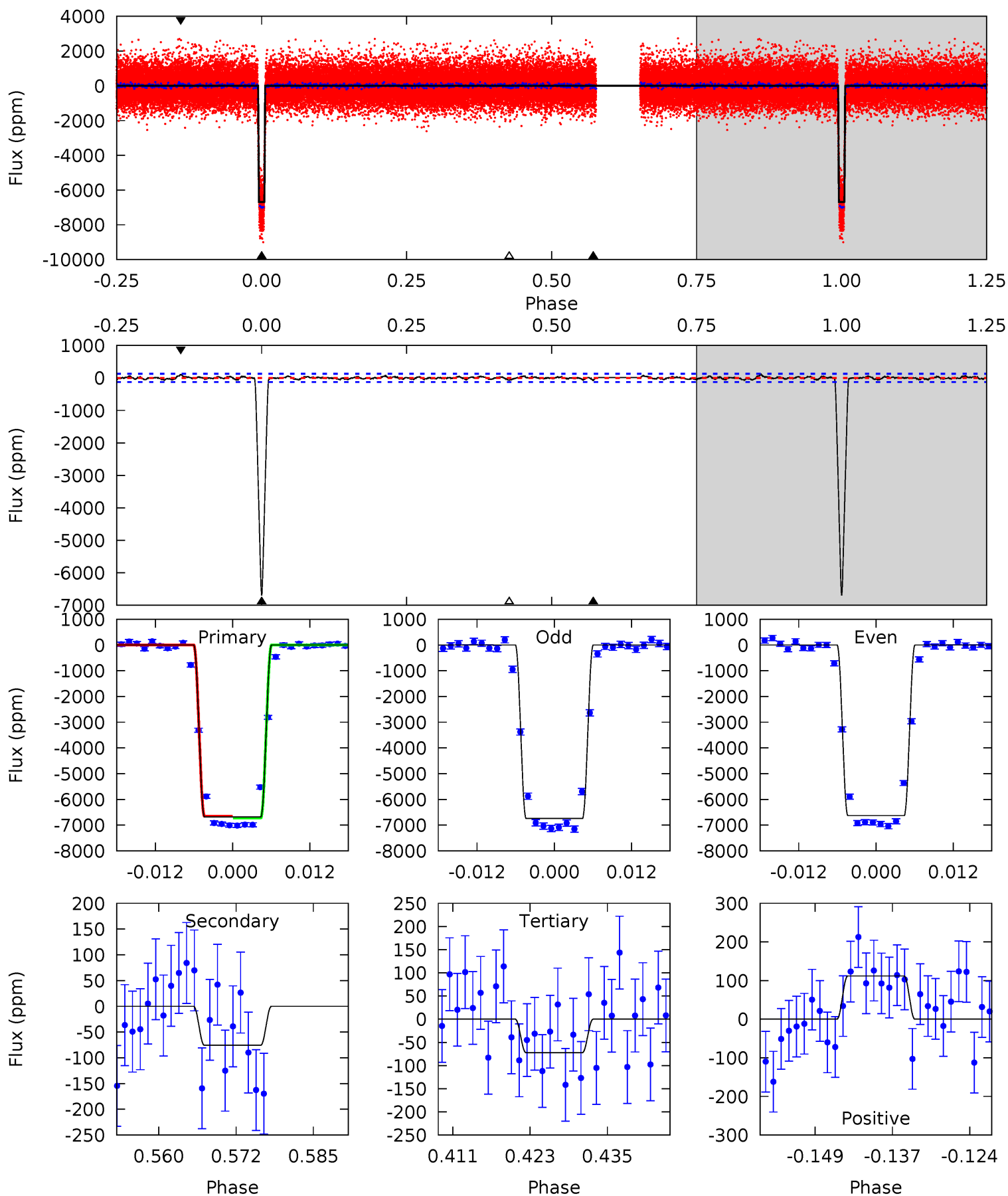
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
314.8	3.69	3.28	5.68	4.94	2.42	1.61	311.5	309.1	0.41	-1.99	2.69	0.98	0.02	1.24



Alt Model-Shift Uniqueness Test

005876805-02, P = 18.173026 Days, E = 144.160049 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
265.6	3.01	2.87	4.44	4.98	2.50	1.07	262.7	261.1	0.14	-1.43	2.18	0.99	0.02	1.35



Stellar Parameters For KIC 005876805

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5799^{+172}_{-207}	$4.548^{+0.037}_{-0.200}$	$-0.160^{+0.300}_{-0.300}$	$0.860^{+0.254}_{-0.085}$	$0.955^{+0.109}_{-0.121}$	$2.112^{+0.420}_{-1.082}$
	+3%/-4%	+1%/-4%	+188%/-188%	+30%/-10%	+11%/-13%	+20%/-51%
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 005876805-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-85 ± 23	$8.55^{+1.24}_{-0.66}$	929^{+63}_{-46}	2652^{+101}_{-116}	10^{+4}_{-3}
Alt.	-76 ± 25	$8.15^{+1.26}_{-0.65}$	933^{+62}_{-46}	2644^{+115}_{-136}	10^{+4}_{-4}

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

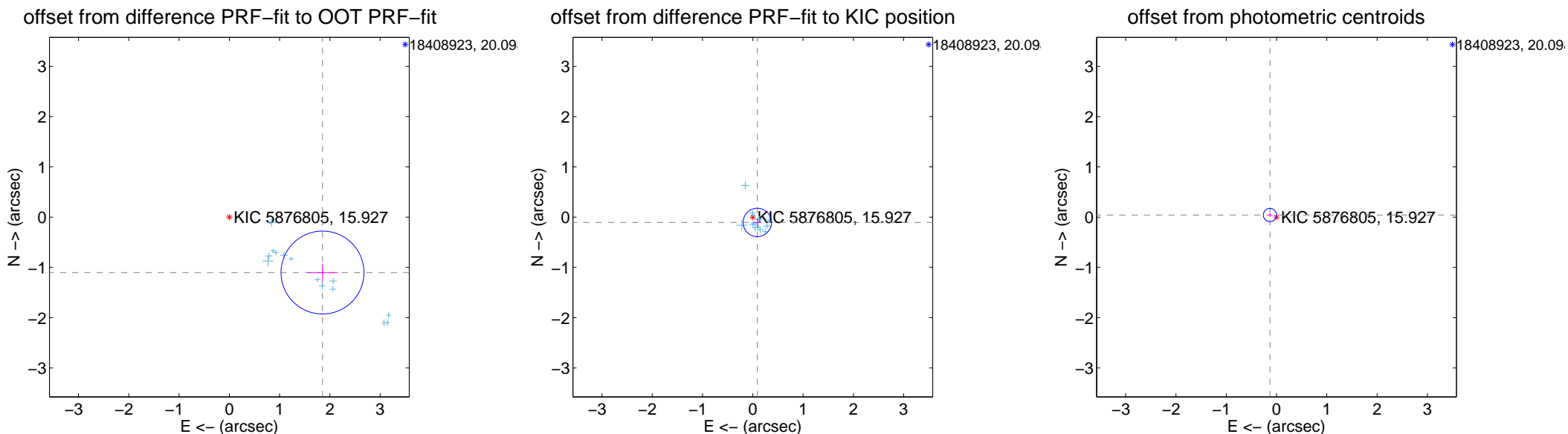
DV Centroid Data

Supplemental centroid analysis for 005876805-02. Kepler magnitude: 15.93. Transit SNR 197.06

There are 14 quarters with good PRF difference image offsets

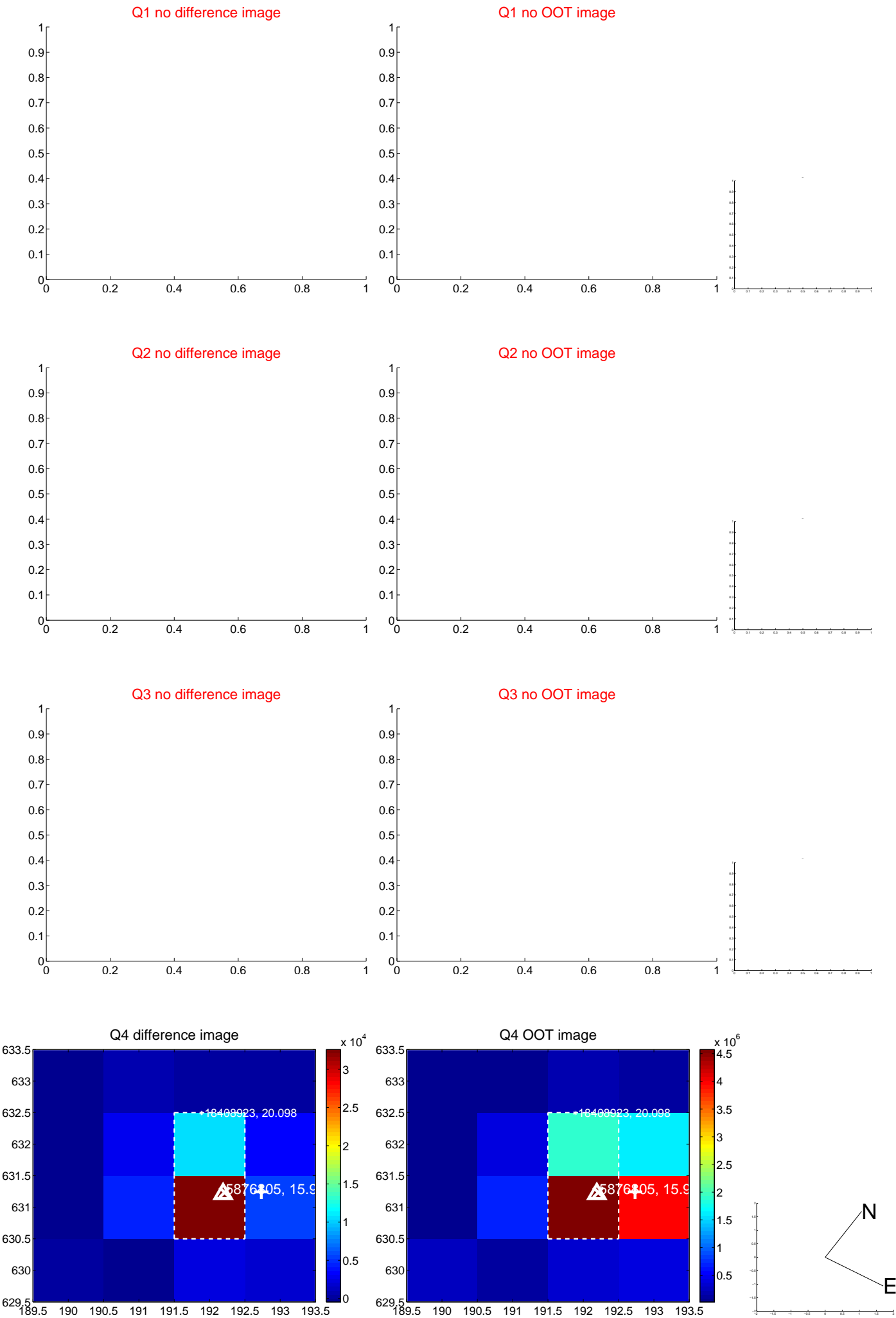
The direct PRF centroid is offset from the target star catalog position by about 1.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.157 ± 0.275	7.84	-1.853 ± 0.302	-1.103 ± 0.175
PRF-fit source offset from KIC position	0.139 ± 0.094	1.48	-0.090 ± 0.079	-0.106 ± 0.093
photometric centroid source offset	0.14 ± 0.04	3.12	0.13 ± 0.04	0.04 ± 0.04

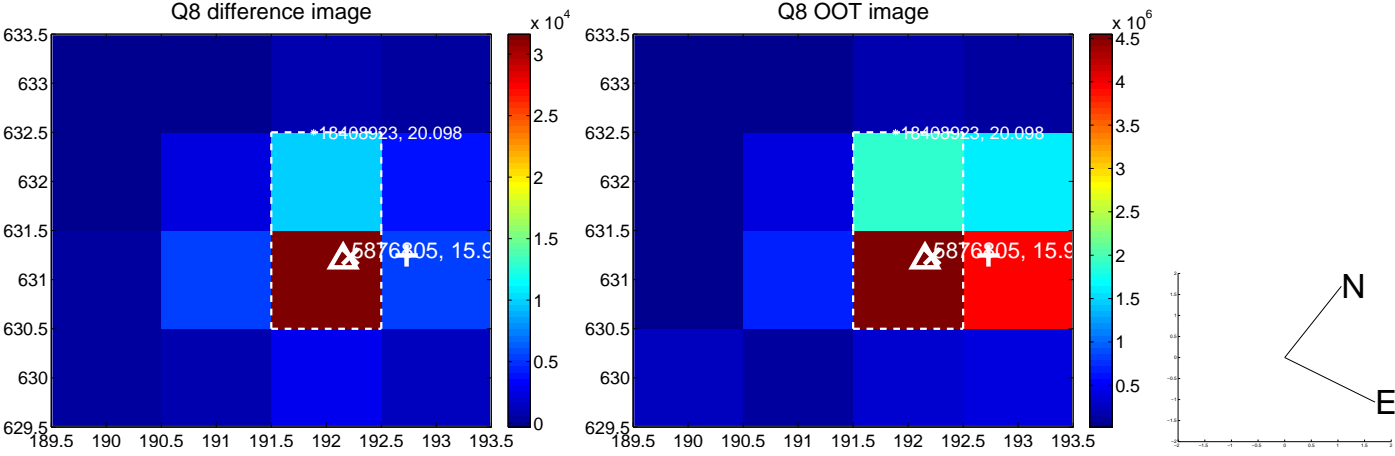
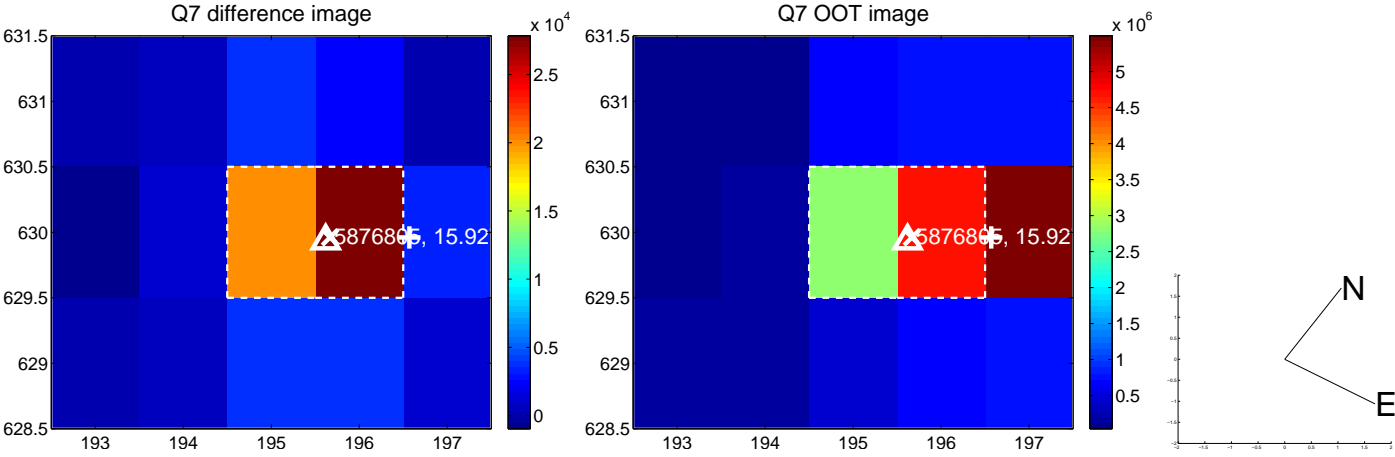
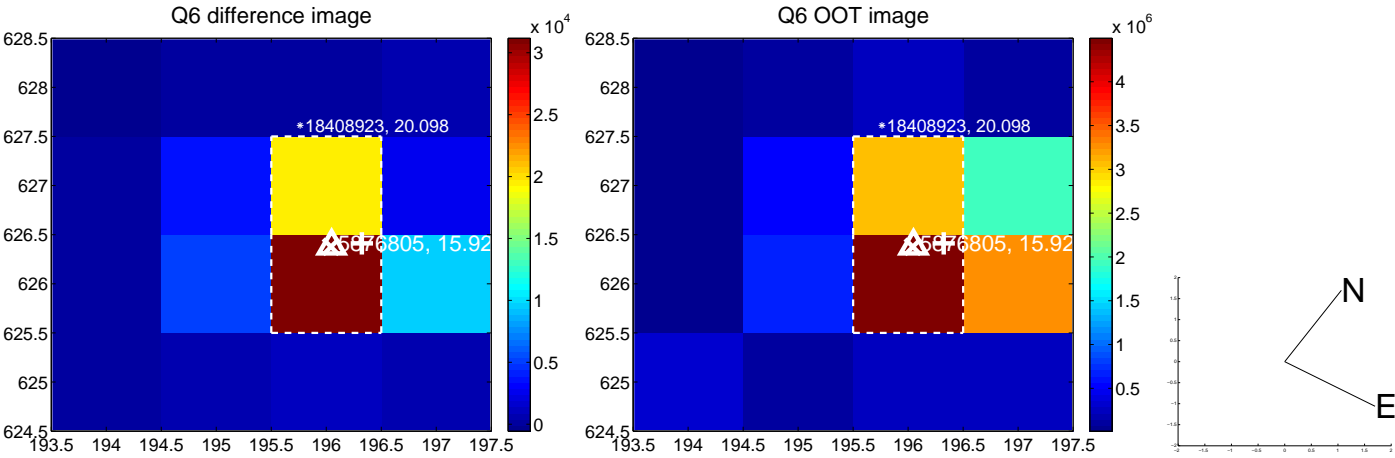
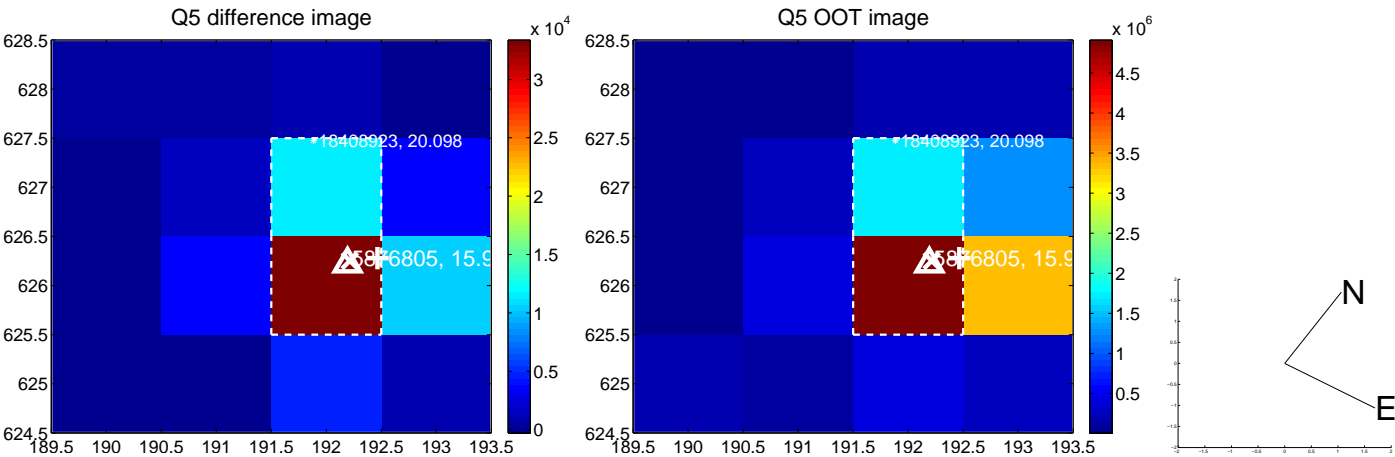


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

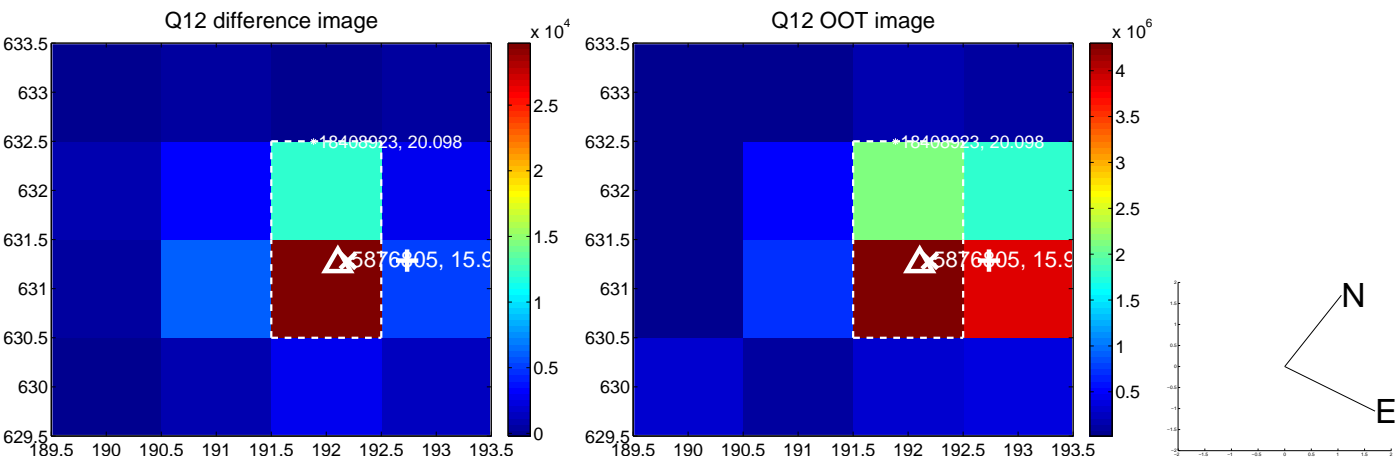
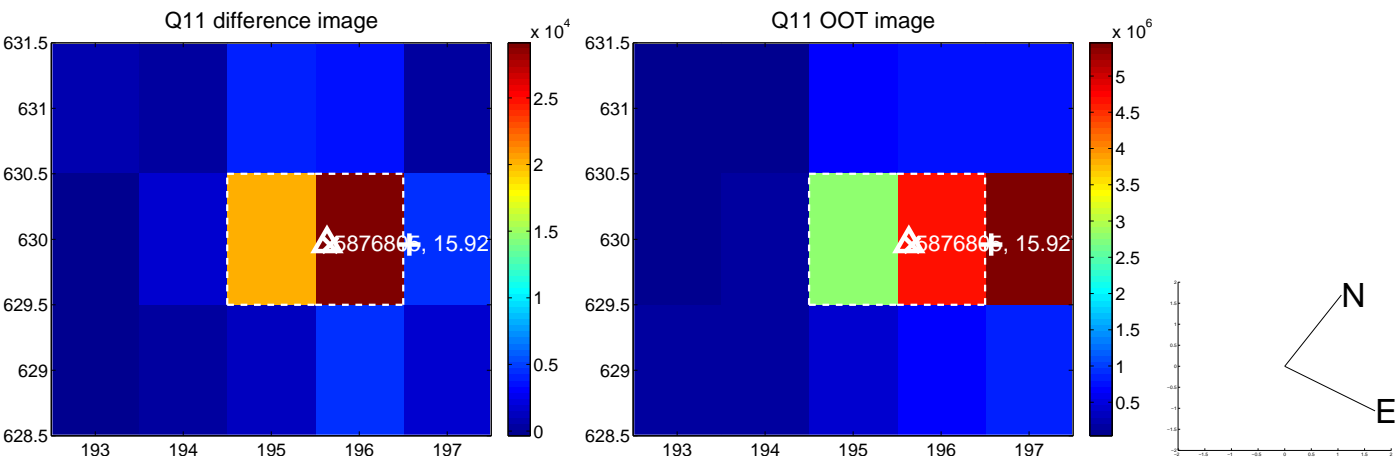
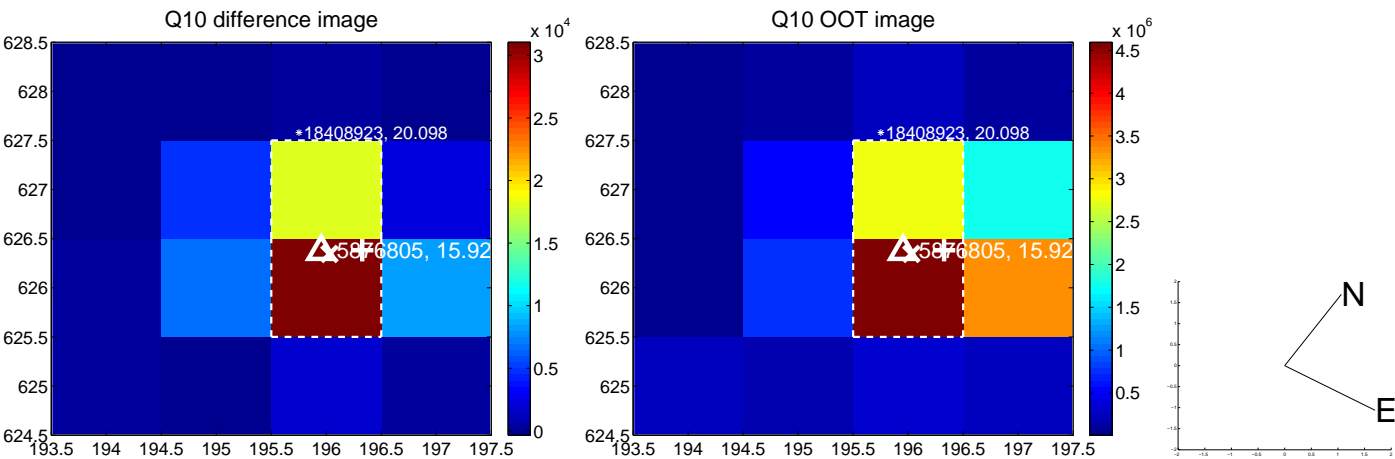
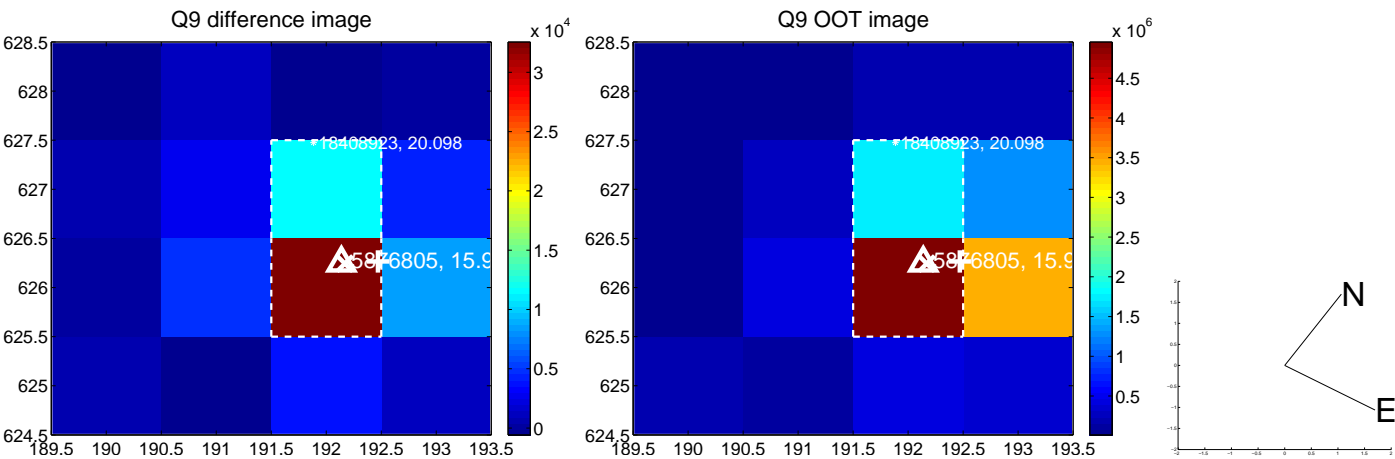
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



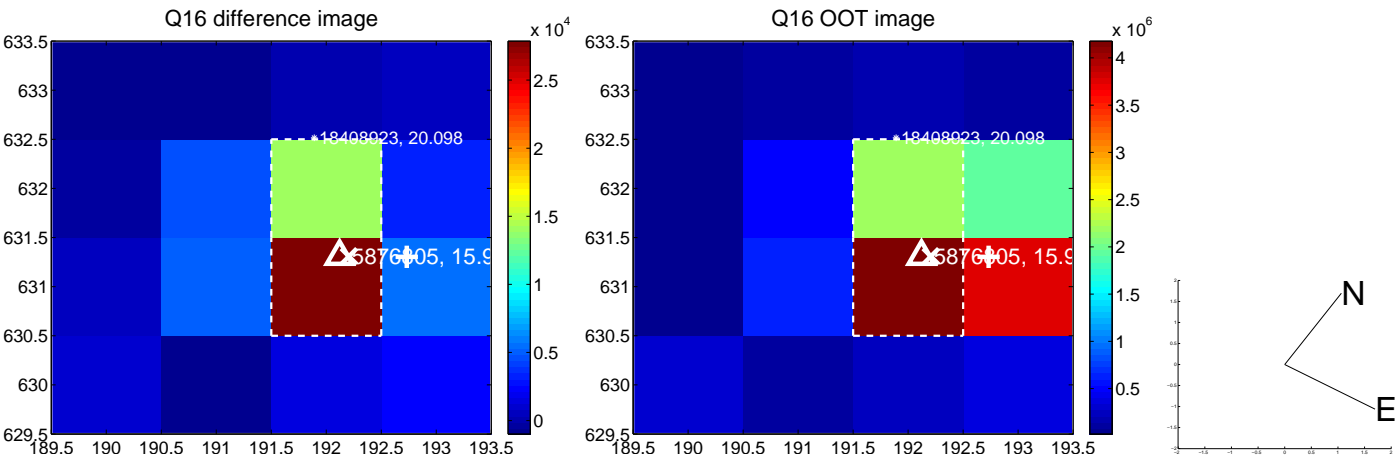
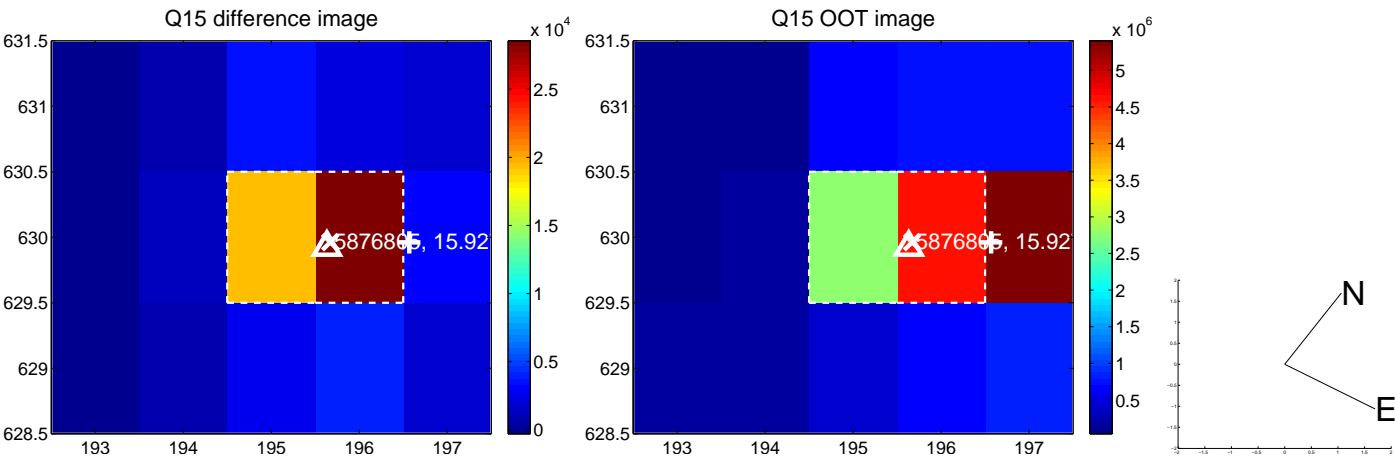
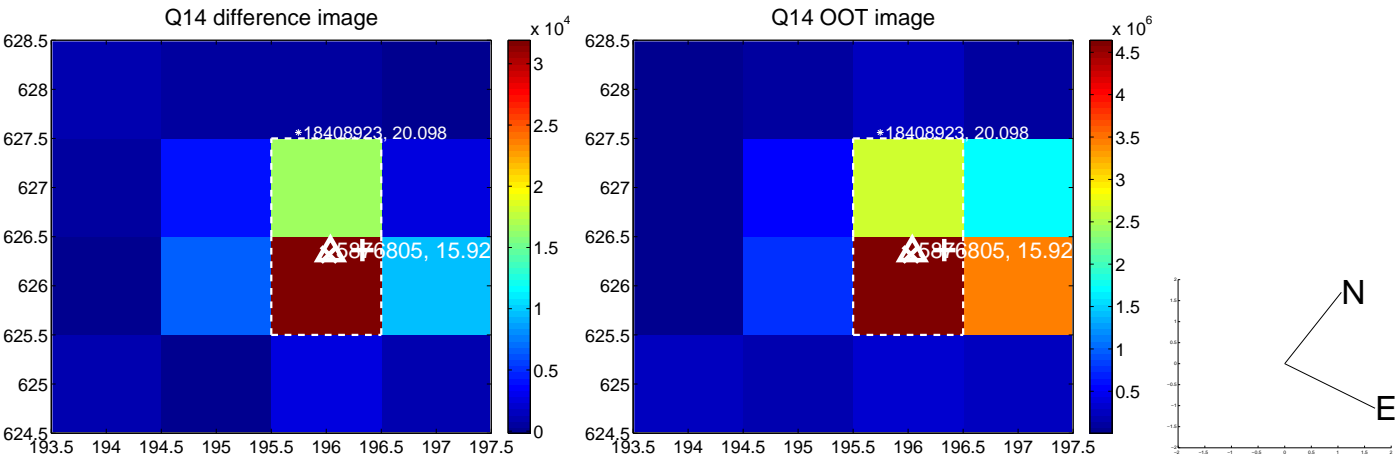
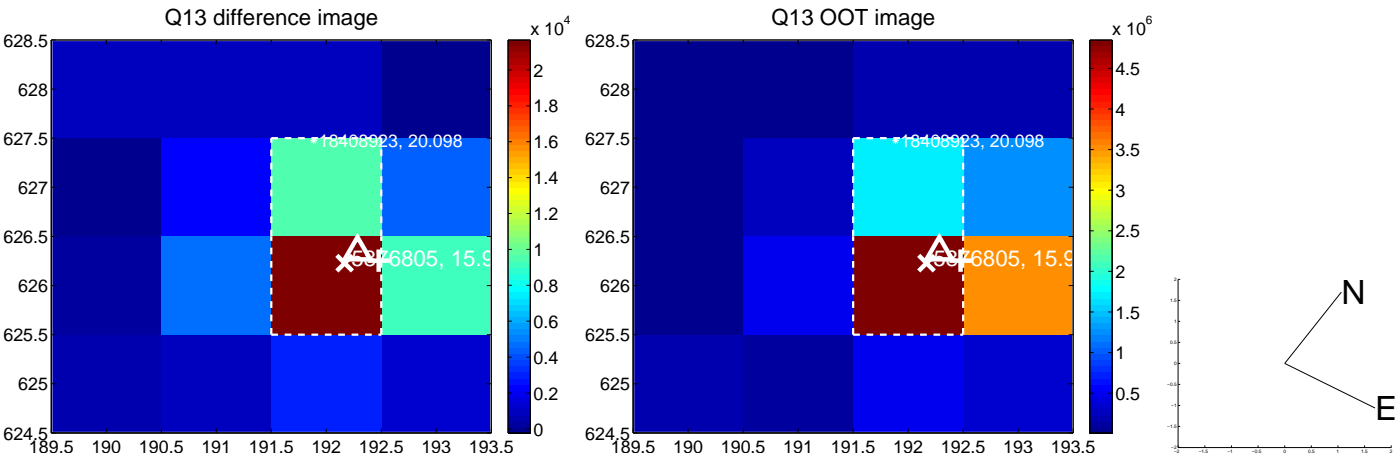
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



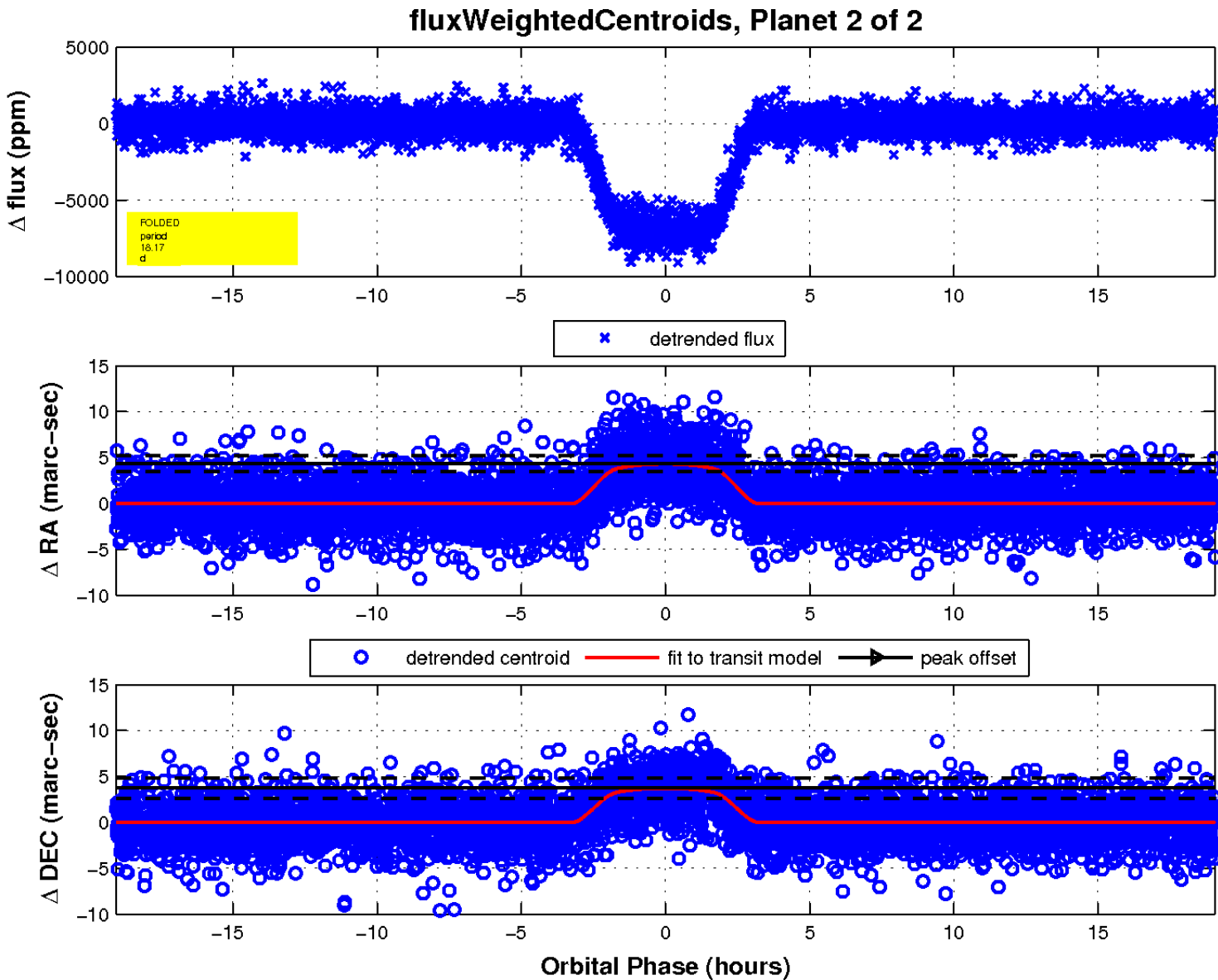
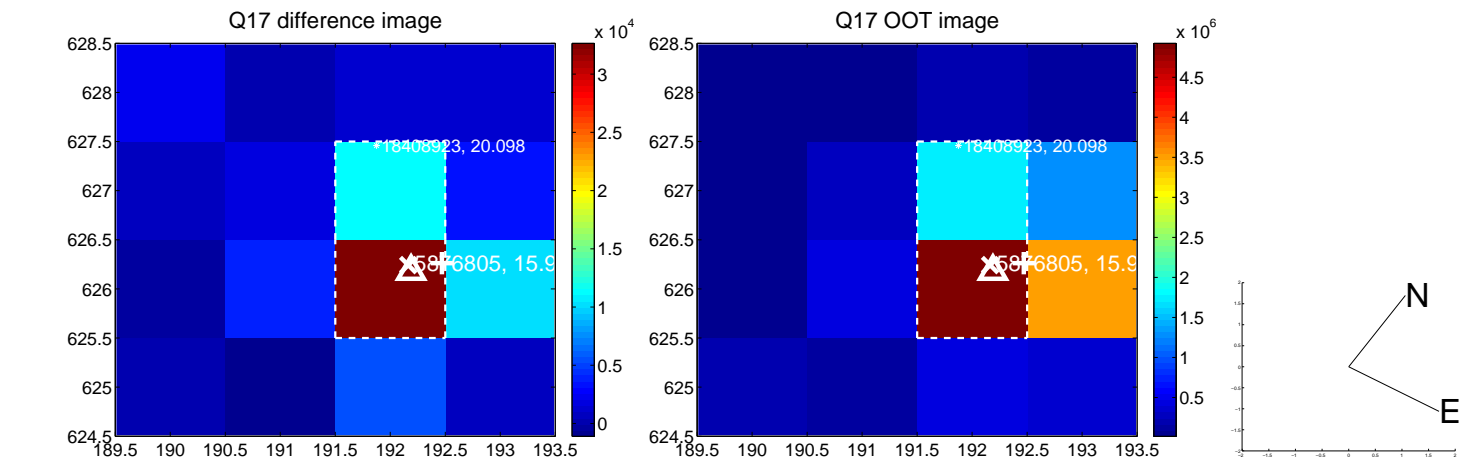
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

