

KIC 007846730

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})
007846730-01	OBS	6923.01	11.028279	136.959943	278003.6	4.500	15276.7	-1.0	1.39	6271	62.71	264.41
007846730-02	OBS	No	5.514114	136.826765	171513.6	7.593	10652.2	6989.4	1.39	6271	59.40	666.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007846730-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT MOD_ODDEVEN_ALT HAS_SEC_TCE CENT_NOFITS
007846730-02	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.

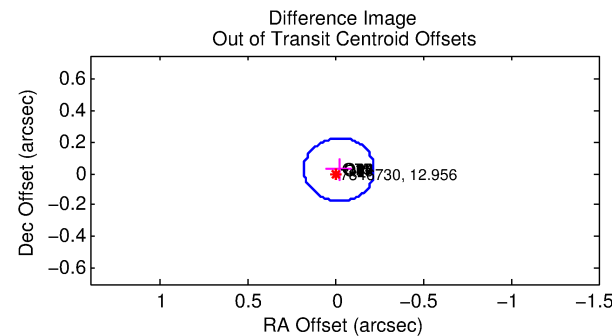
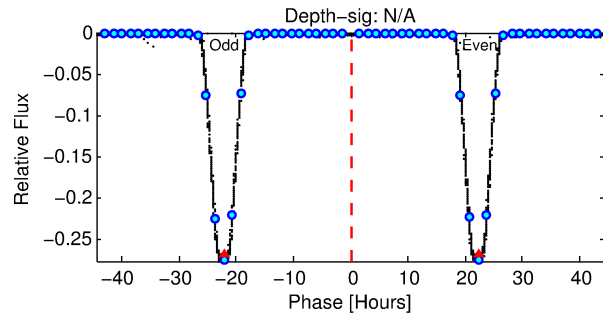
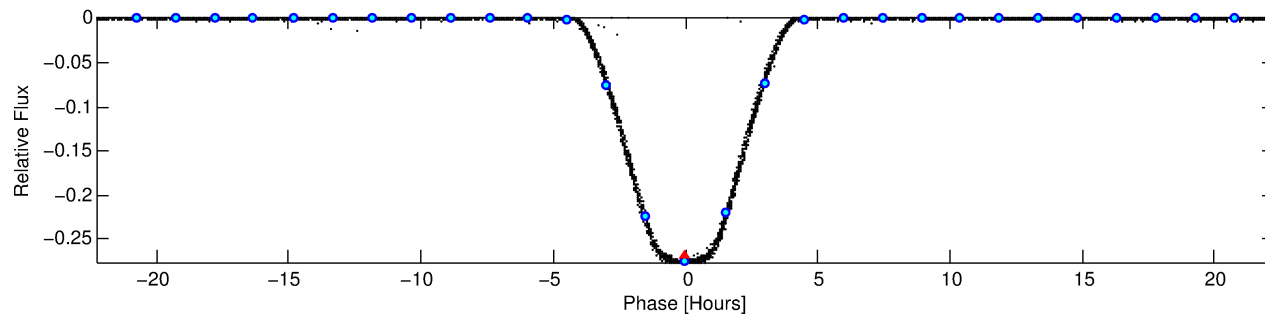
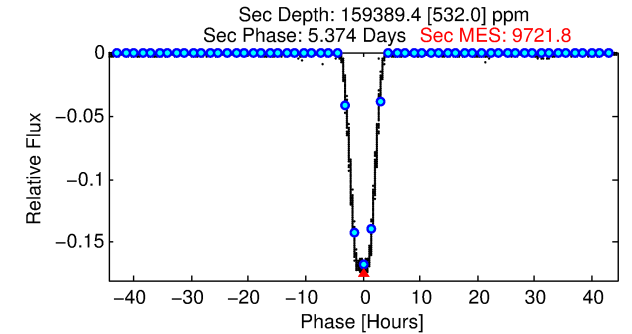
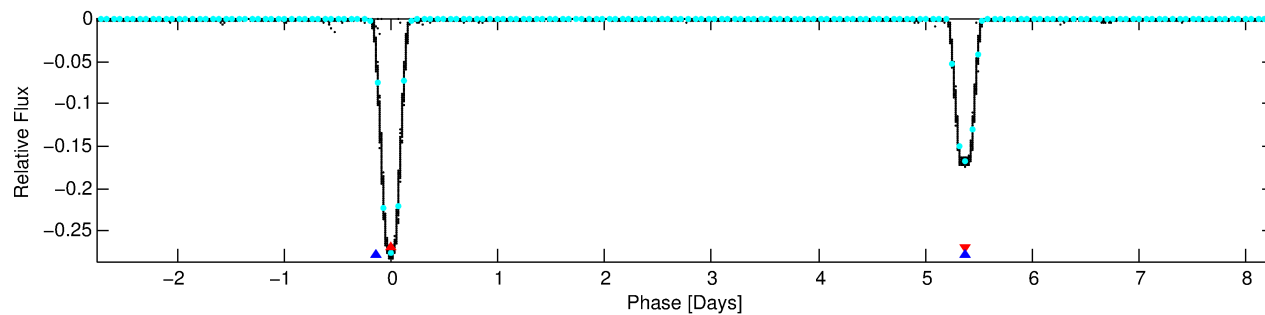
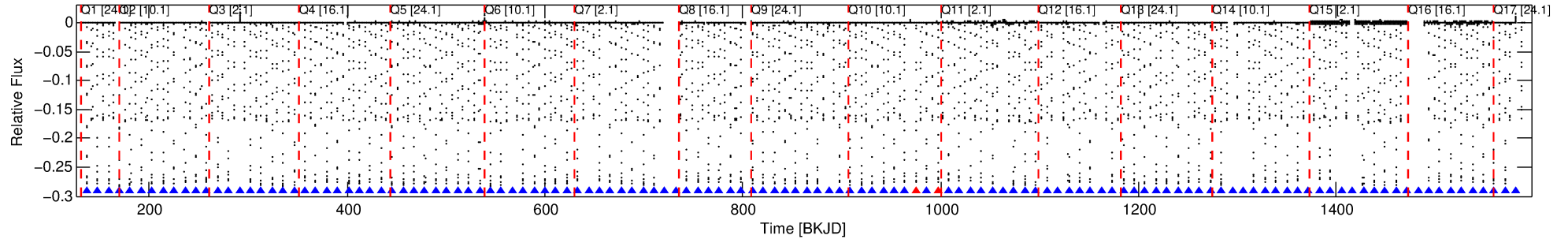
Ephemeris Match Information For 007846730-01

No Significant Match Found

DV One-Page Summary

KIC: 7846730 Candidate: 1 of 2 Period: 11.028 d
KOI: K06923 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.39 Rs Teff: 6271.0 K Logg: 4.20 Fe/H: -0.100



TPS TCE Results:

Period = 11.02828 d
Epoch = 136.9599 BKJD

DV fit results are unavailable

DV Diagnostic Results:

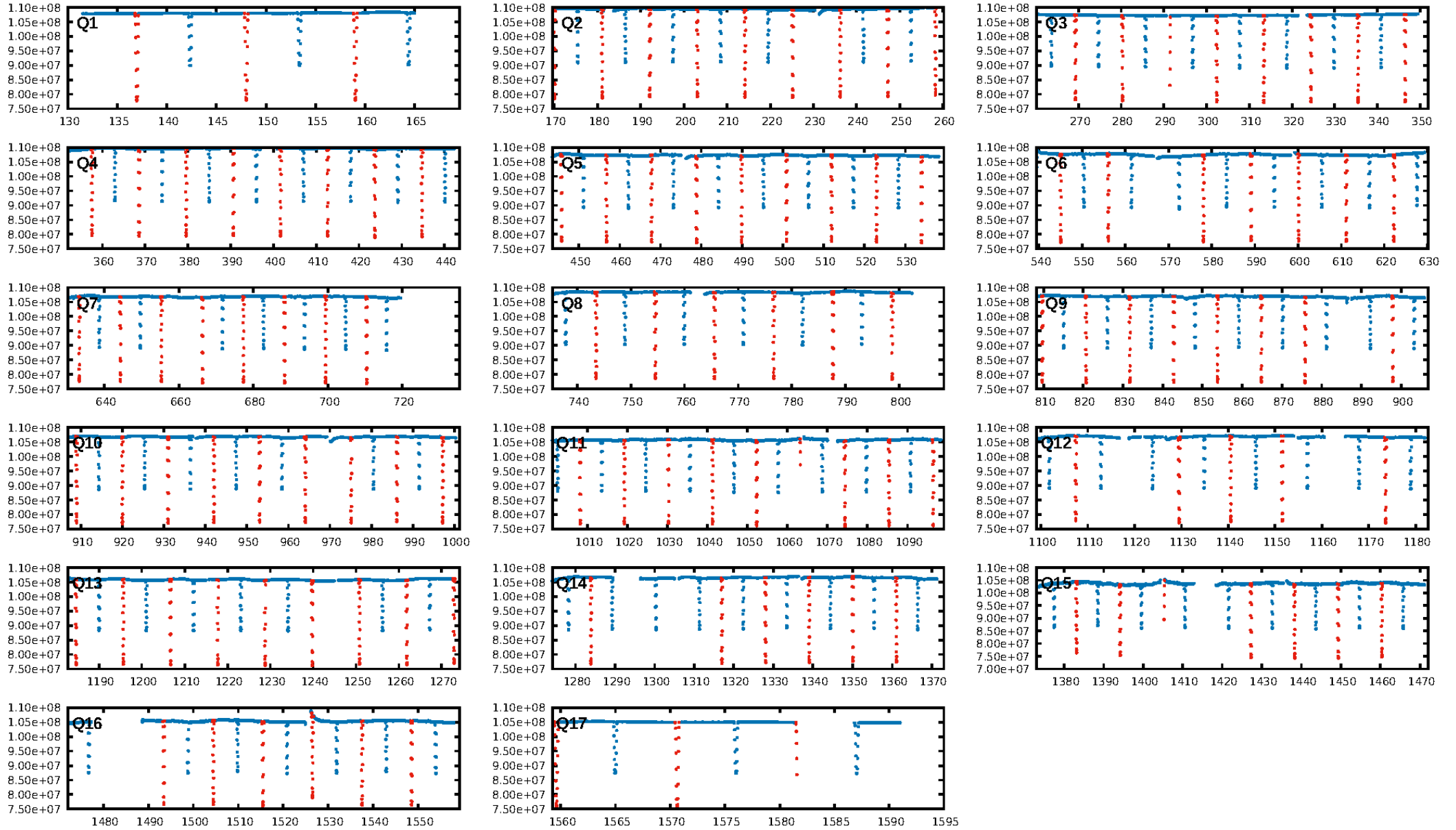
ShortPeriod-sig: 100.0% [14.99σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [112/114]
GhostDiagnostic-chr: 4.201

Centroid-sig: 0.0%
Centroid-so: 0.116 arcsec [300.43σ]
OotOffset-rm: 0.033 arcsec [0.49σ]
KicOffset-rm: 0.086 arcsec [1.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

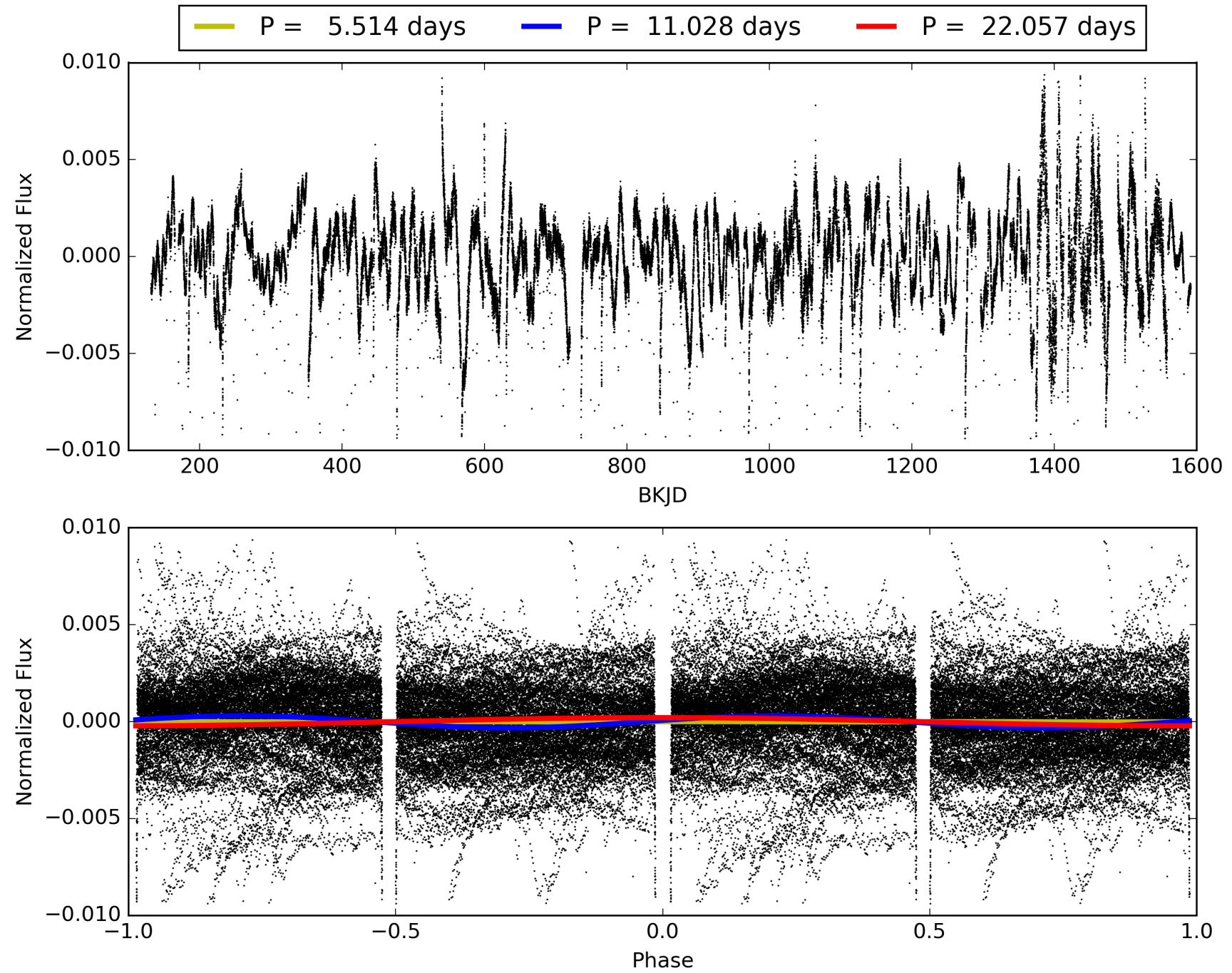
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:20:54 Z

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

TCE 007846730-01, PDC Light Curves

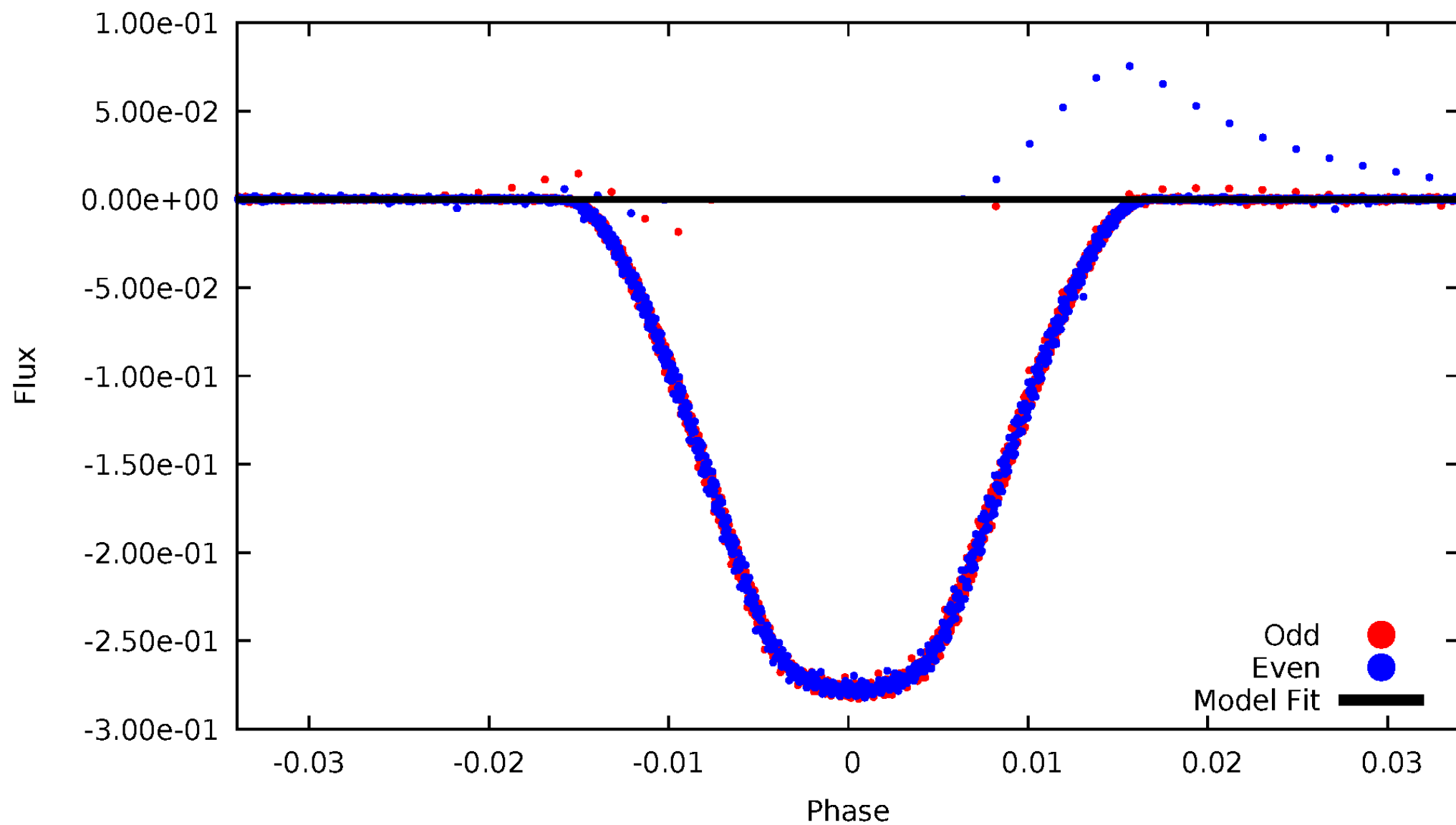


TCE 007846730-01



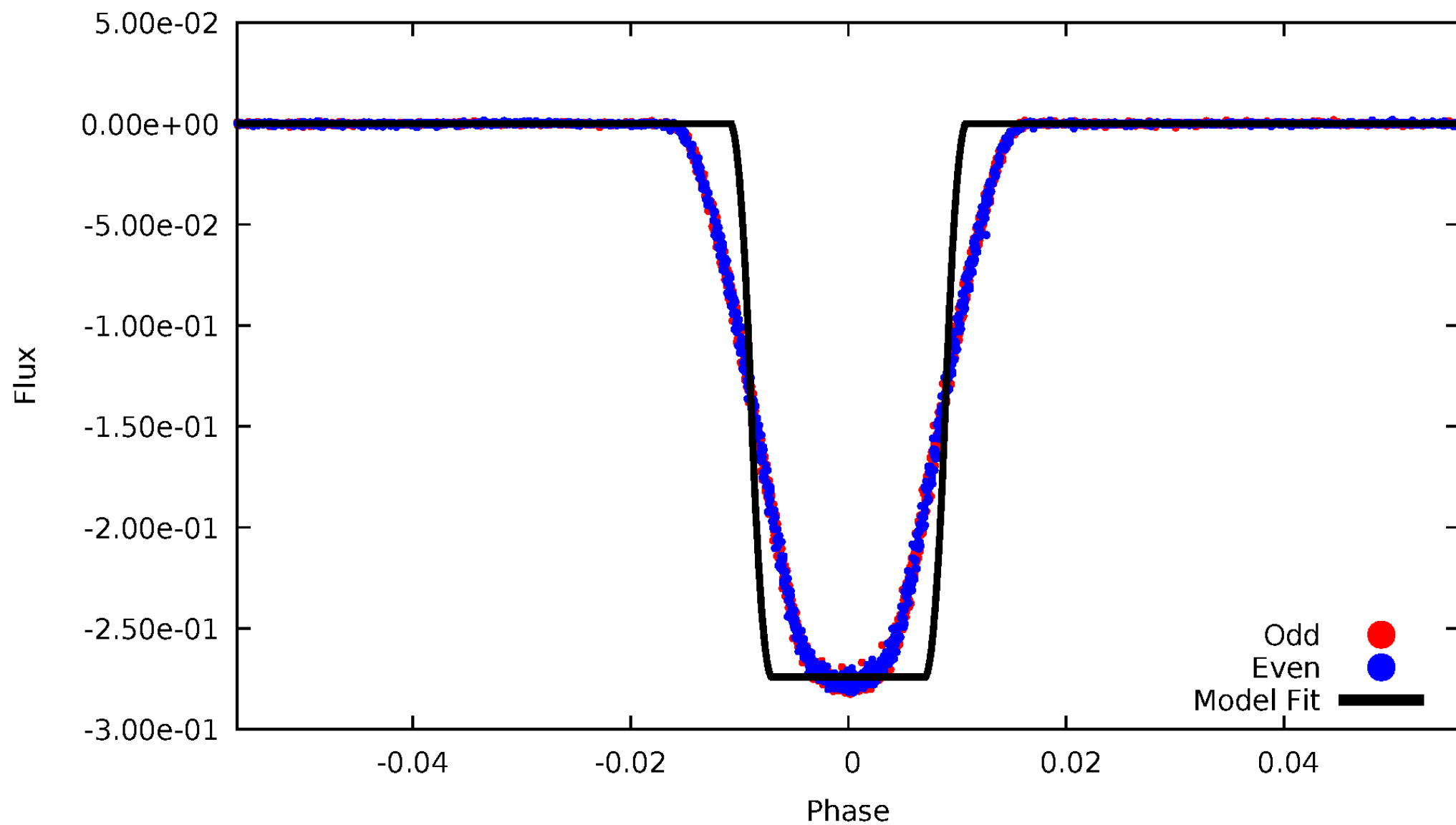
DV Odd/Even

TCE 007846730-01



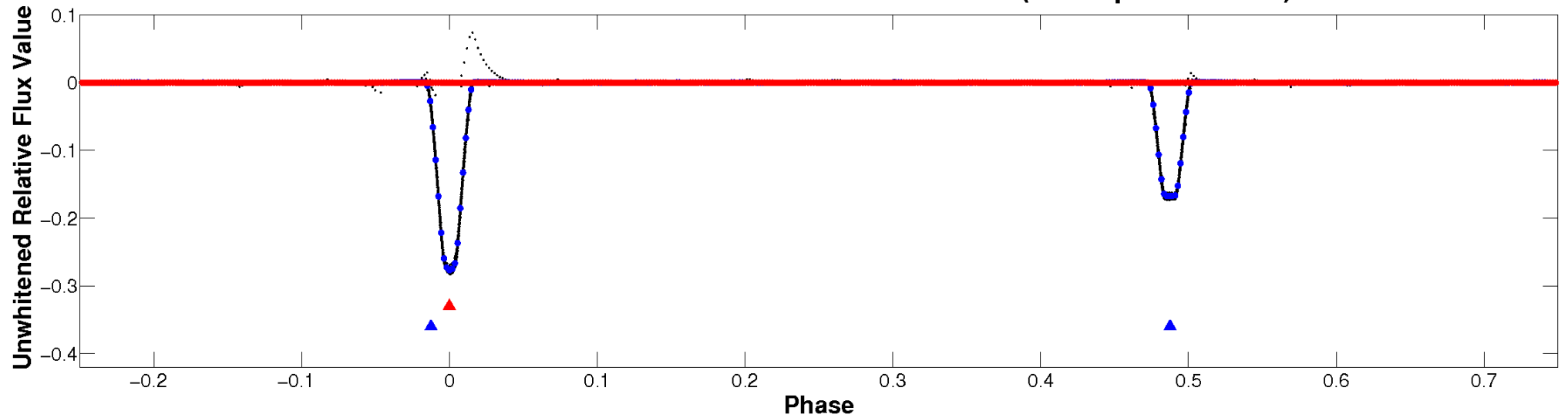
ALT Odd/Even

TCE 007846730-01



Non-Whitened Vs. Whitened Light Curve

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

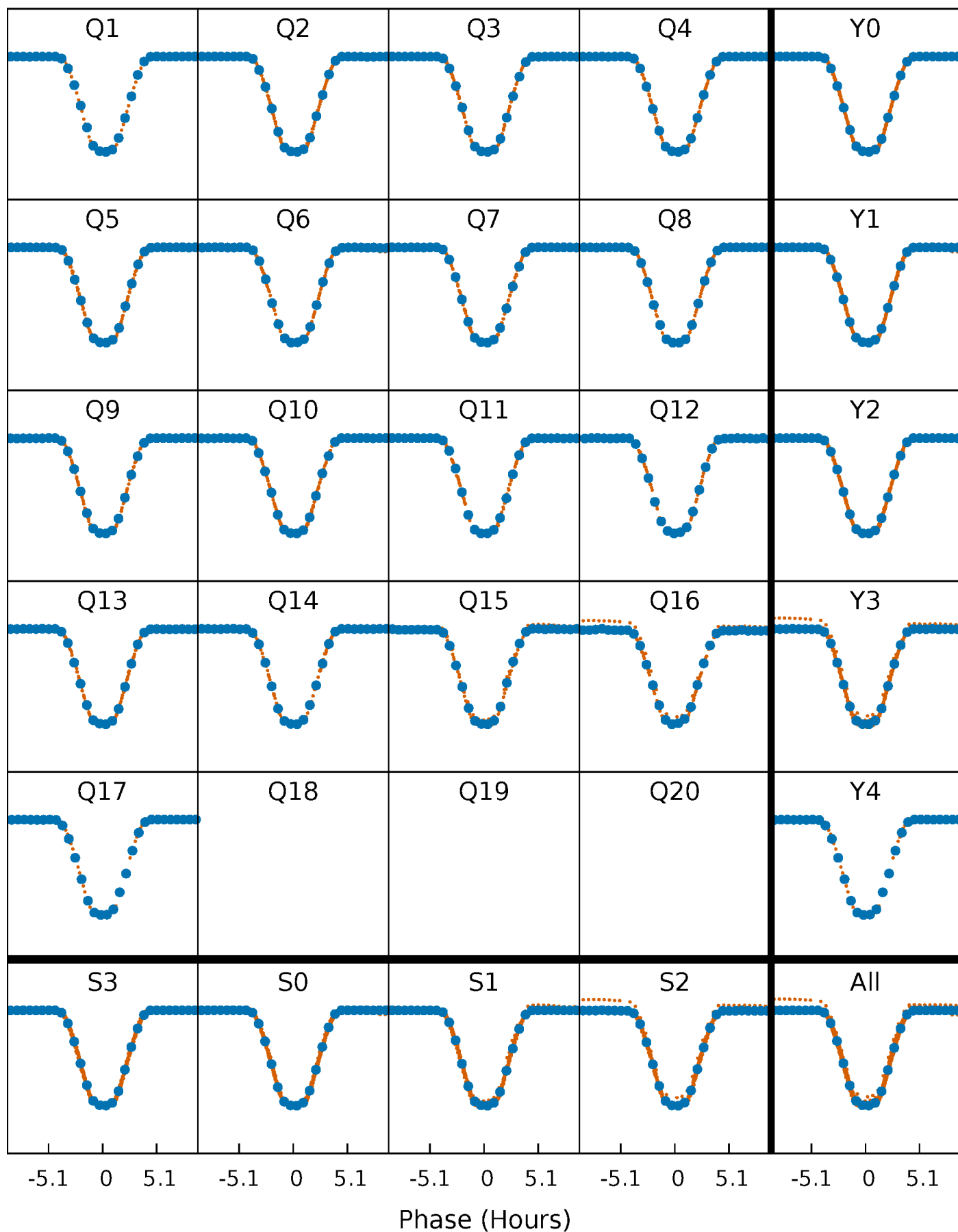


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



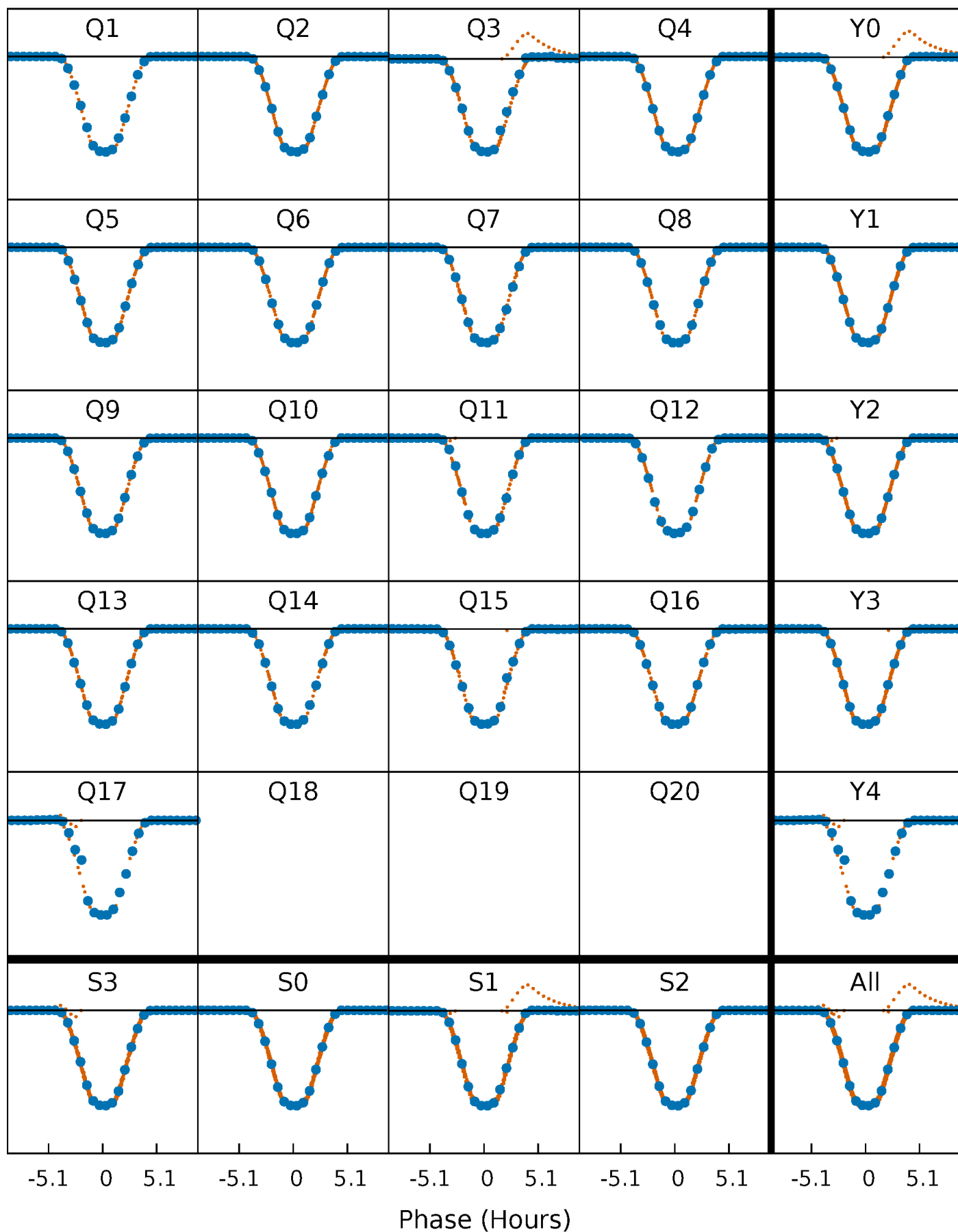
PDC Quarter-Phased Transit Curves

TCE 007846730-01 P= 11.028279 Days $T_0=136.959943$ (BKJD)



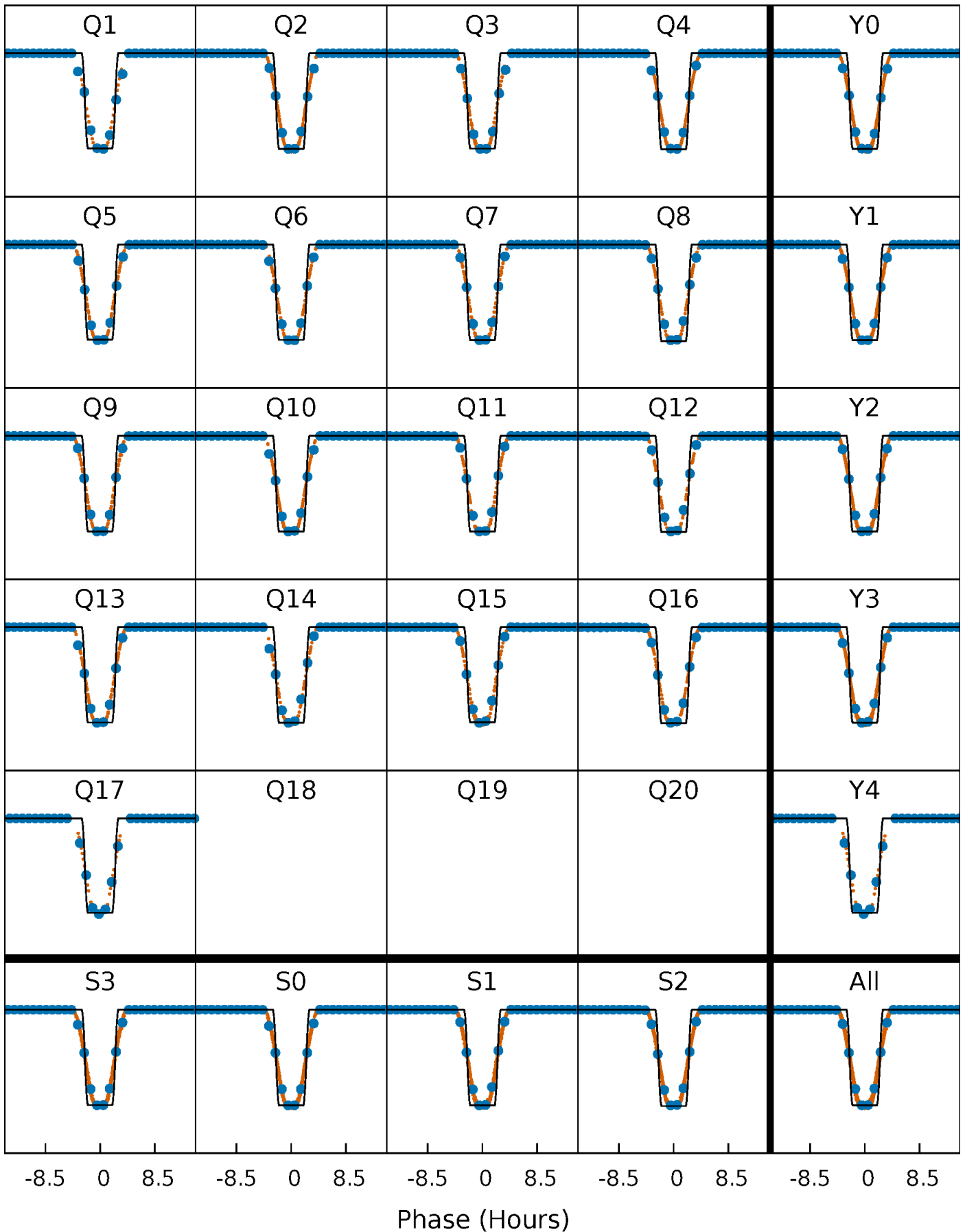
DV Quarter-Phased Transit Curves

TCE 007846730-01 P= 11.028279 Days $T_0=136.959943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

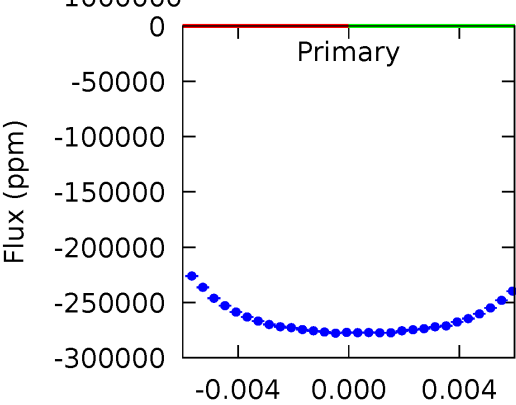
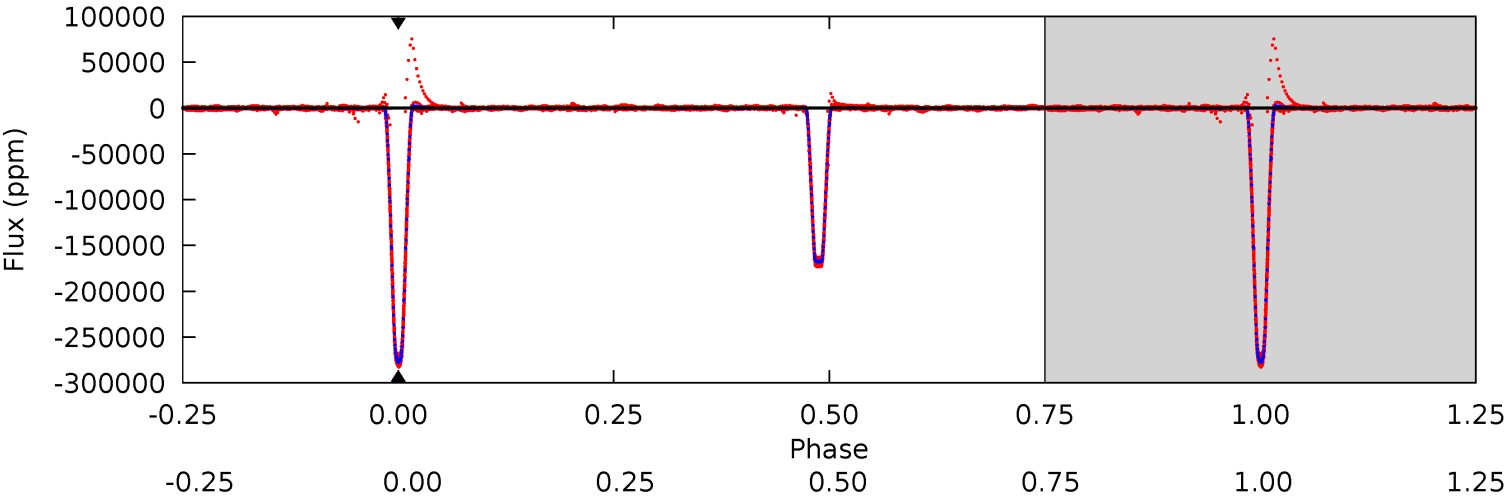
TCE 007846730-01 P= 11.028279 Days $T_0=136.964450$ (BKJD)



DV Model-Shift Uniqueness Test

007846730-01, P = 11.028279 Days, E = 125.931664 Days

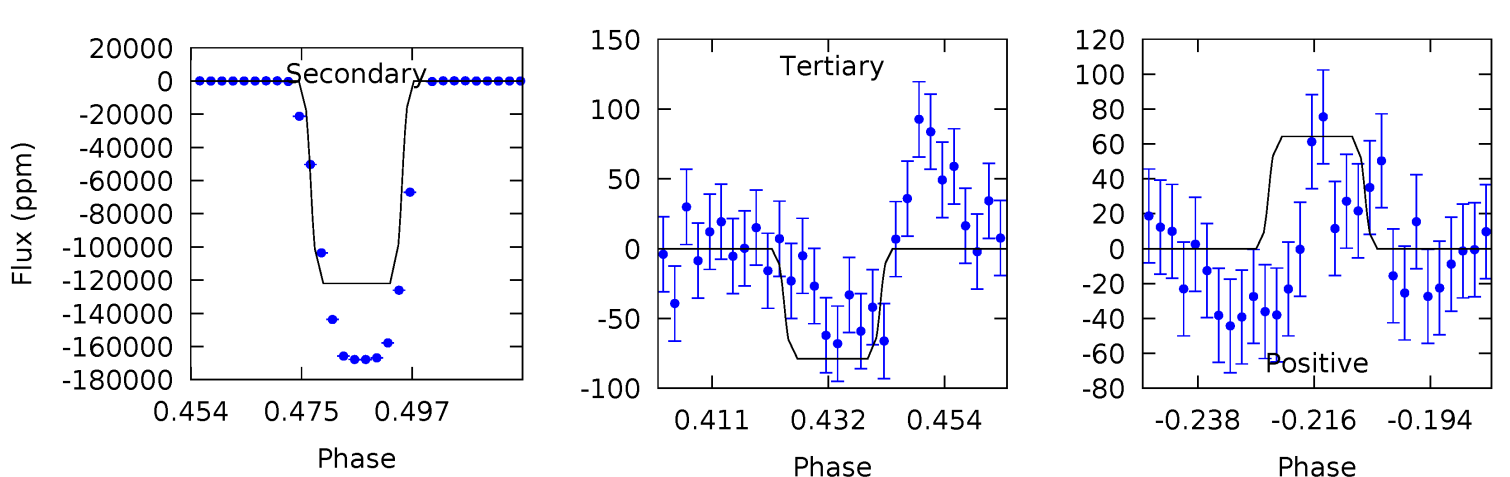
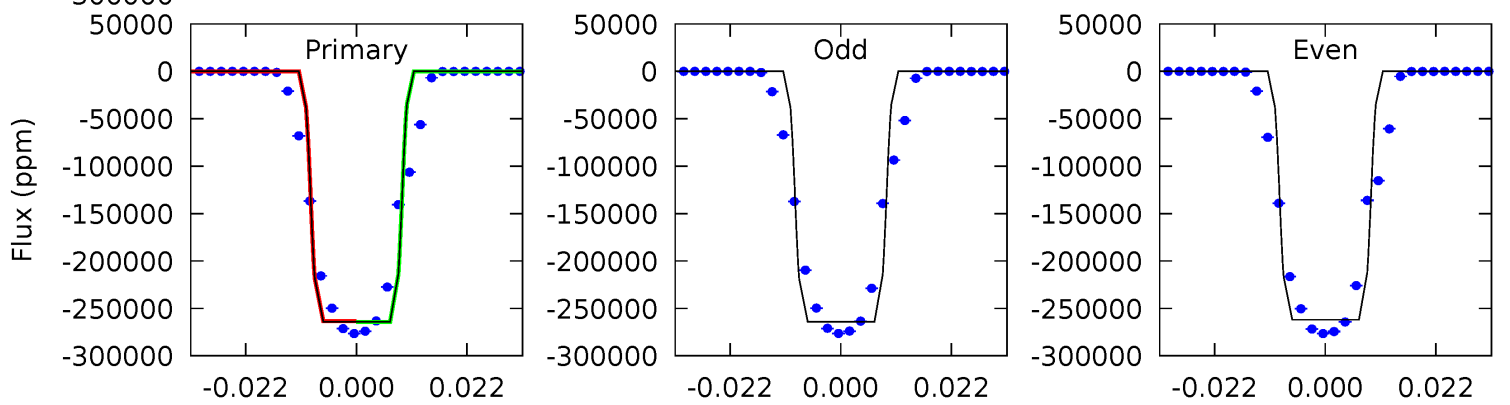
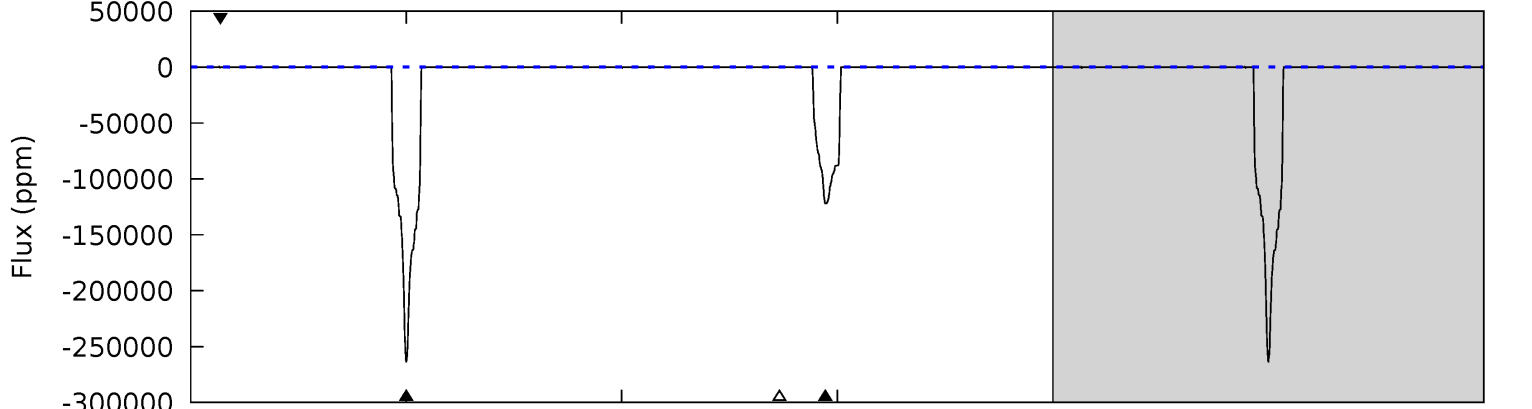
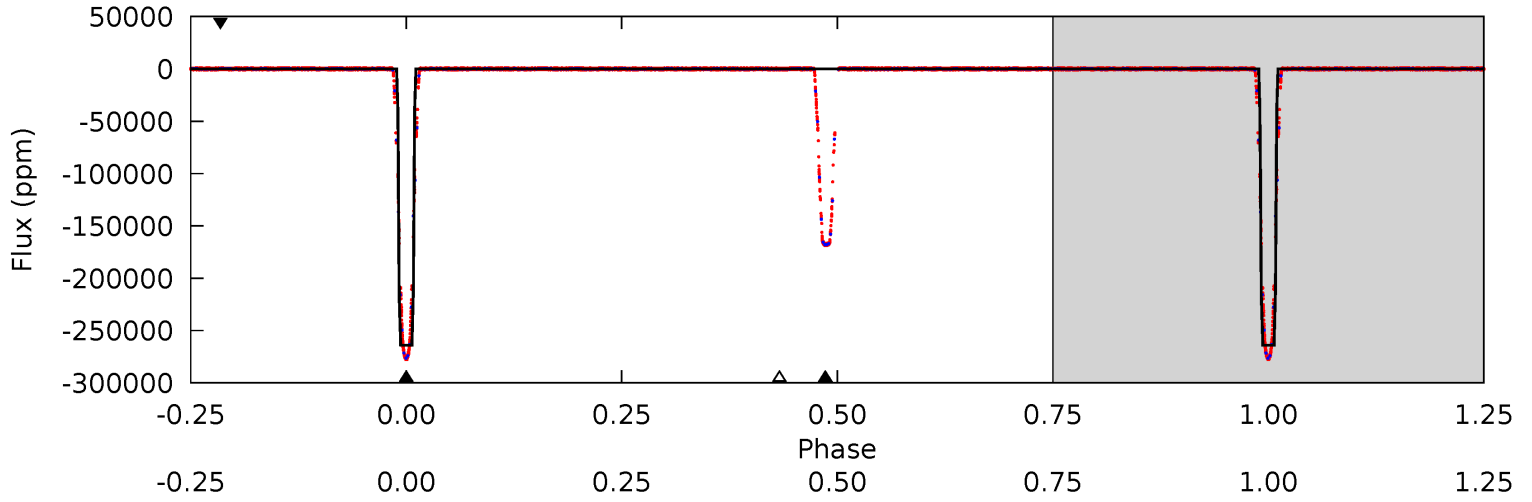
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007846730-01, P = 11.028279 Days, E = 125.936171 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14258	6590	4.26	3.47	4.88	2.30	1.39	14254	14255	6586	6587	65.2	0.99	0.00	0



Stellar Parameters For KIC 007846730

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6271^{+199}_{-243}	$4.199^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.387^{+0.407}_{-0.333}$	$1.109^{+0.194}_{-0.141}$	$0.586^{+0.595}_{-0.298}$
	+3%/-4%	+5%/-5%	+250%/-300%	+29%/-24%	+17%/-13%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007846730-01 / KOI 6923.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$63.08^{+19.06}_{-17.74}$	1440^{+110}_{-106}	2964^{+2752}_{-8359}	$3.917^{+156.995}_{-133.641}$
Alt.	-121989 ± 19	$80.58^{+20.62}_{-18.21}$	1442^{+118}_{-115}	5327^{+563}_{-413}	119^{+81}_{-41}

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

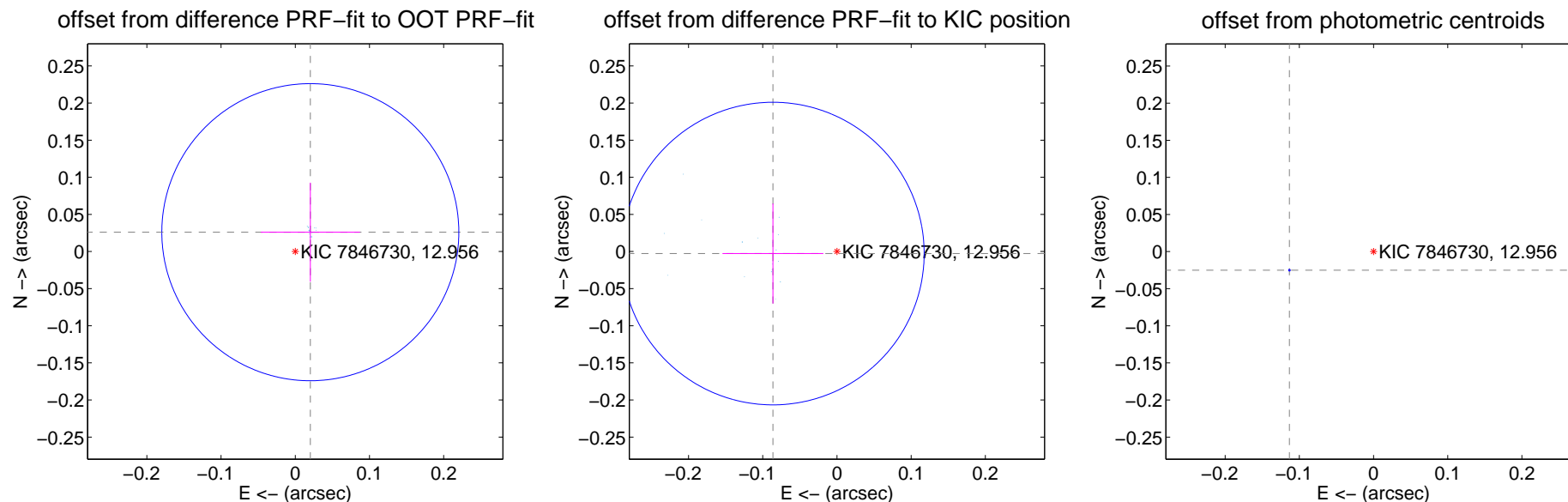
DV Centroid Data

Supplemental centroid analysis for 007846730-01. Kepler magnitude: 12.96. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

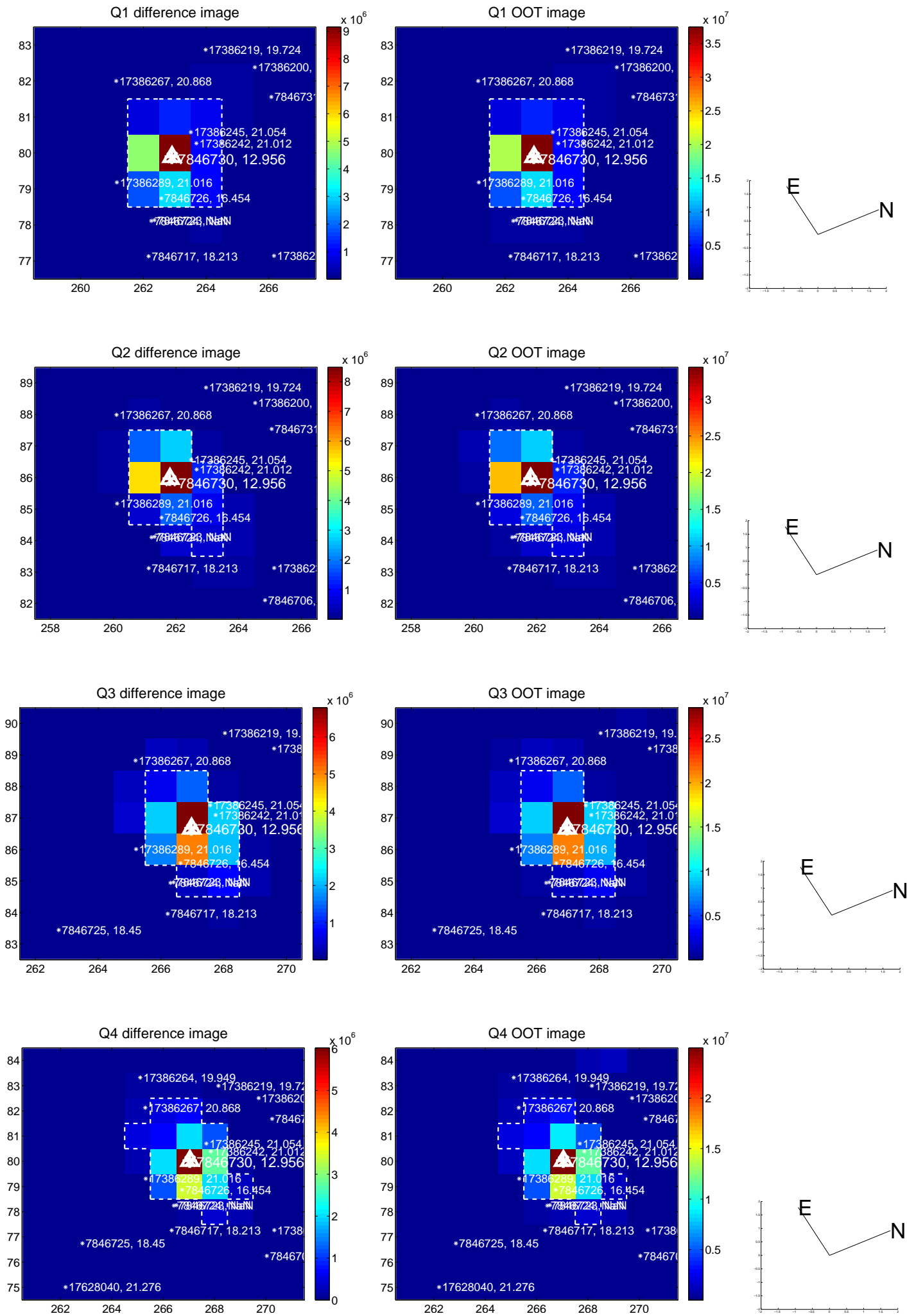
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.033 ± 0.067	0.49	-0.020 ± 0.067	0.026 ± 0.067
PRF-fit source offset from KIC position	0.086 ± 0.068	1.27	0.086 ± 0.068	-0.003 ± 0.067
photometric centroid source offset	0.12 ± 0.00	300.43	0.11 ± 0.00	-0.03 ± 0.00

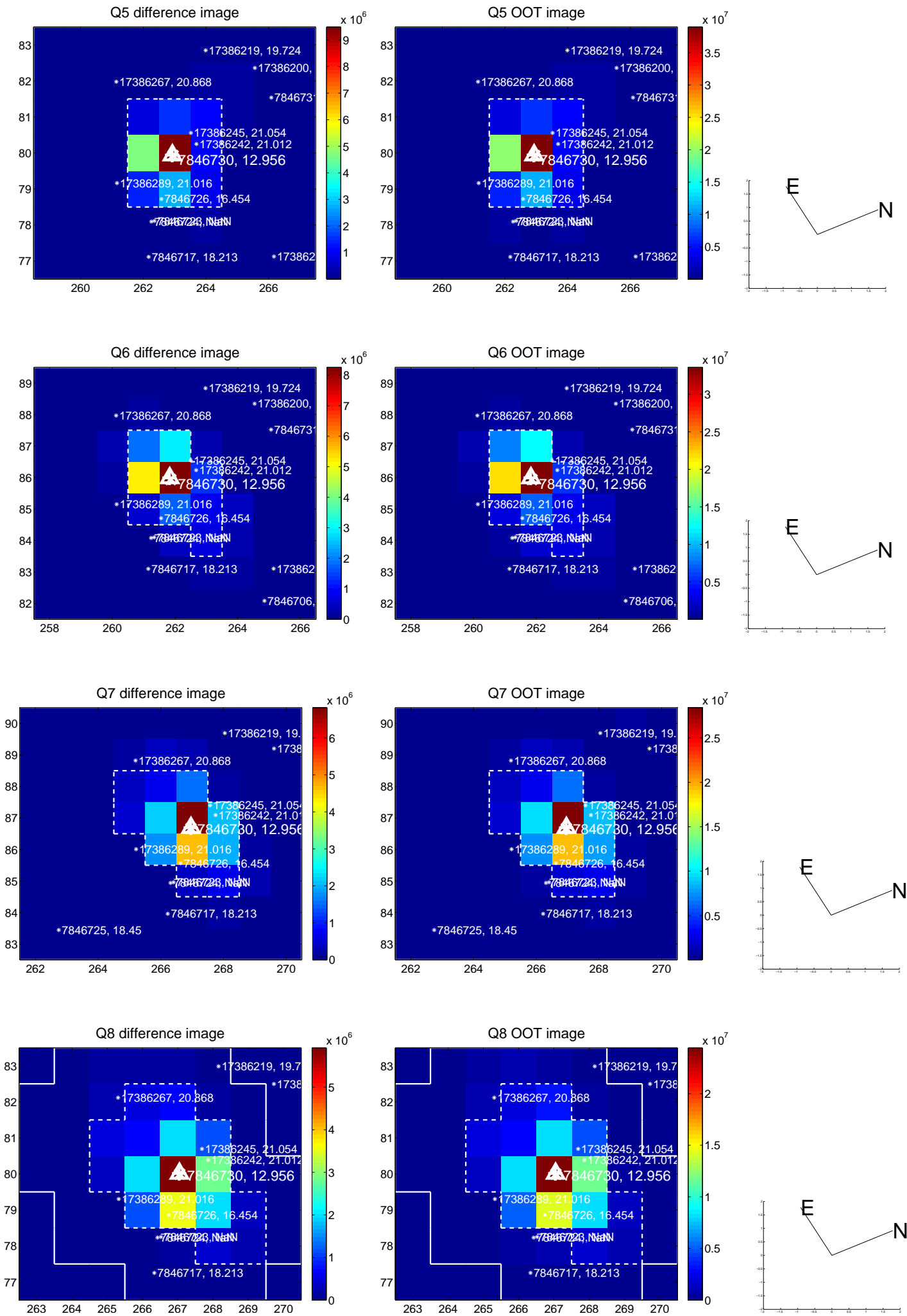


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

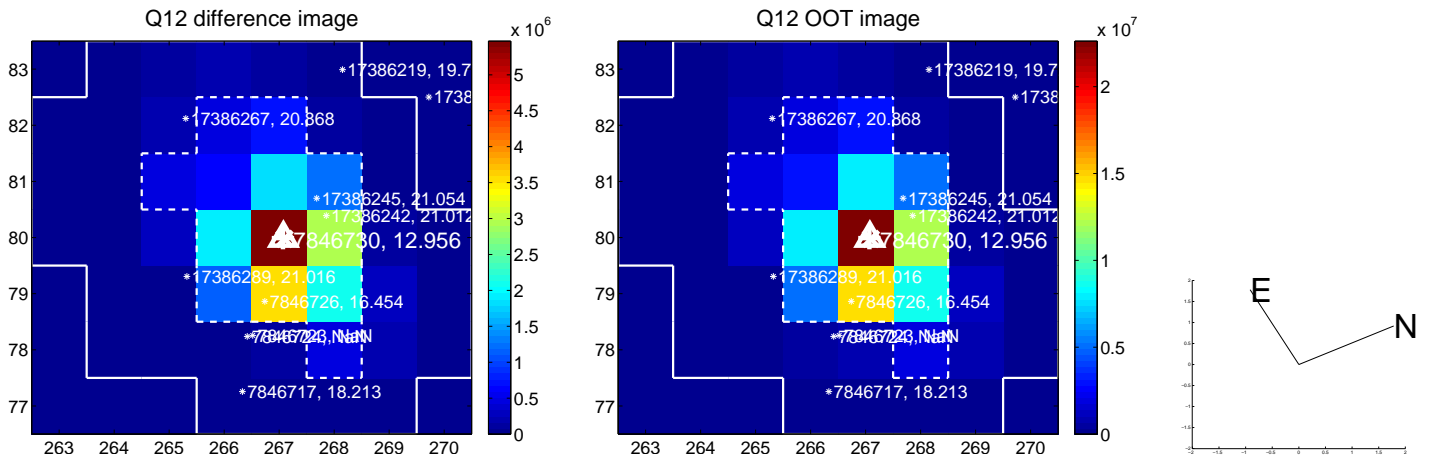
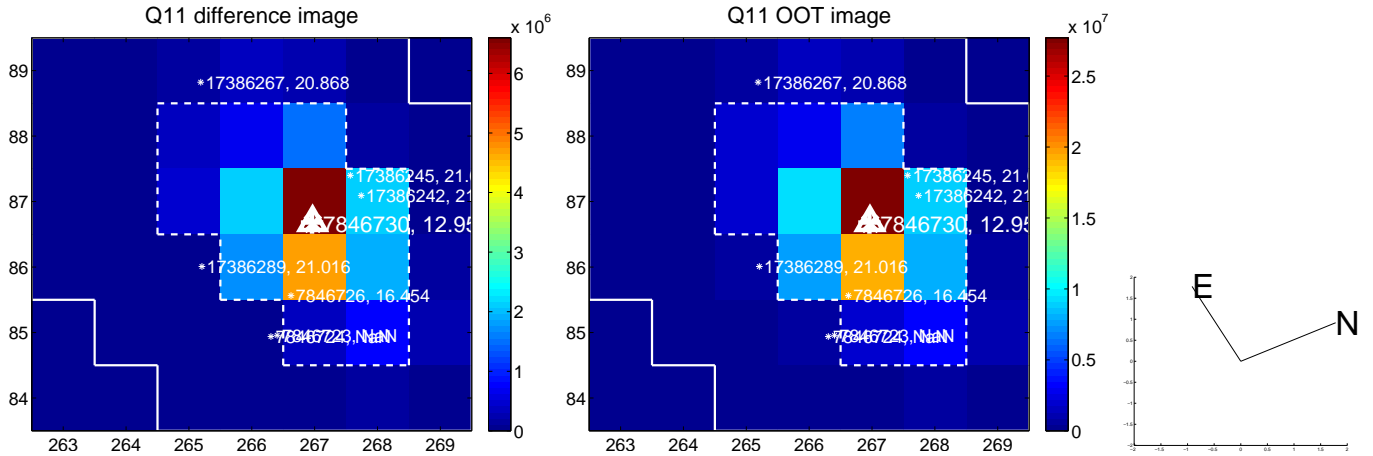
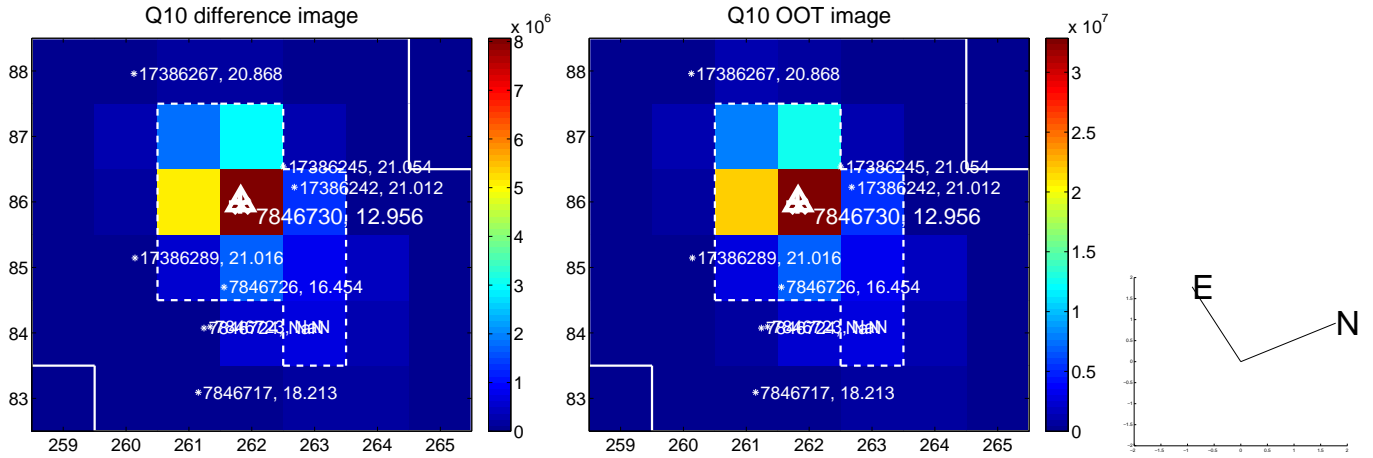
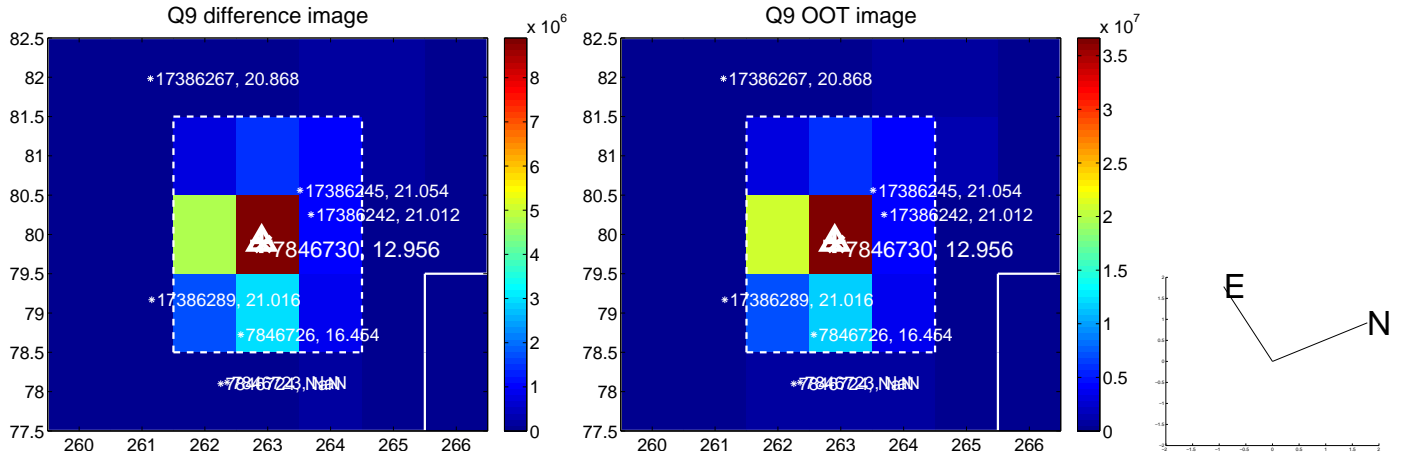
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



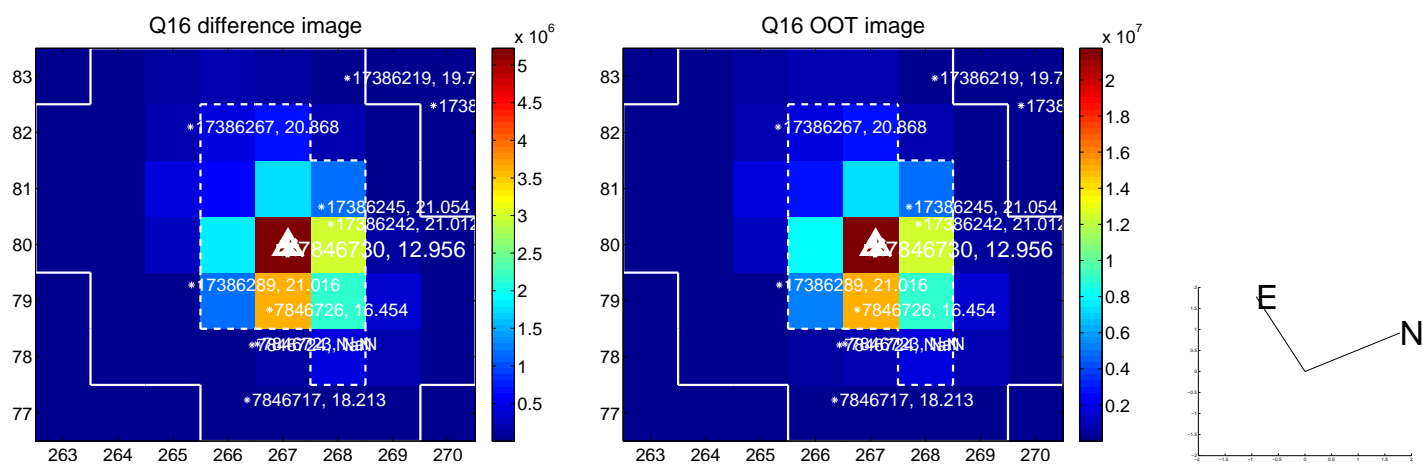
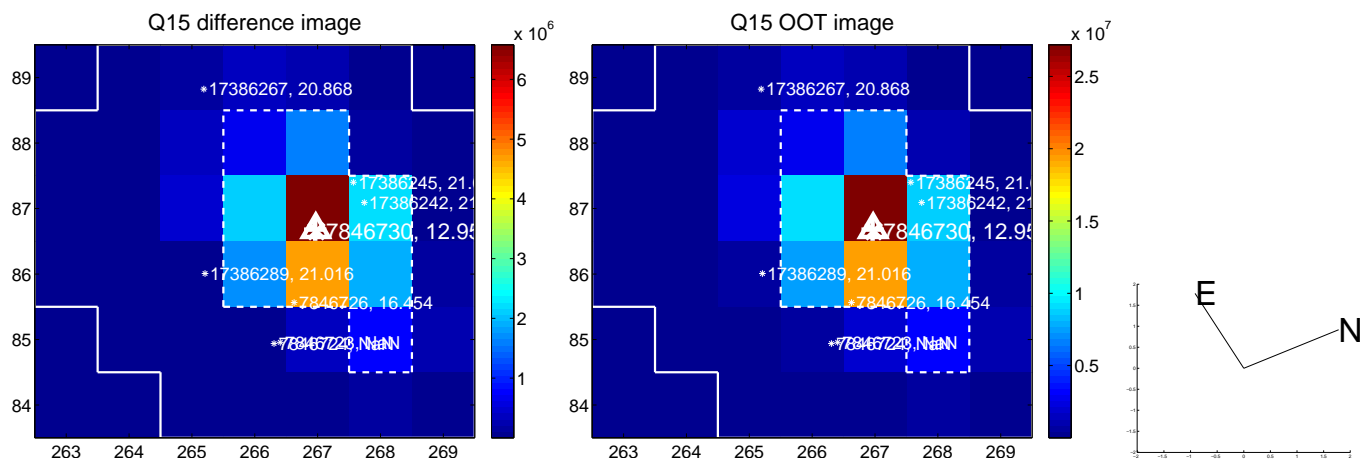
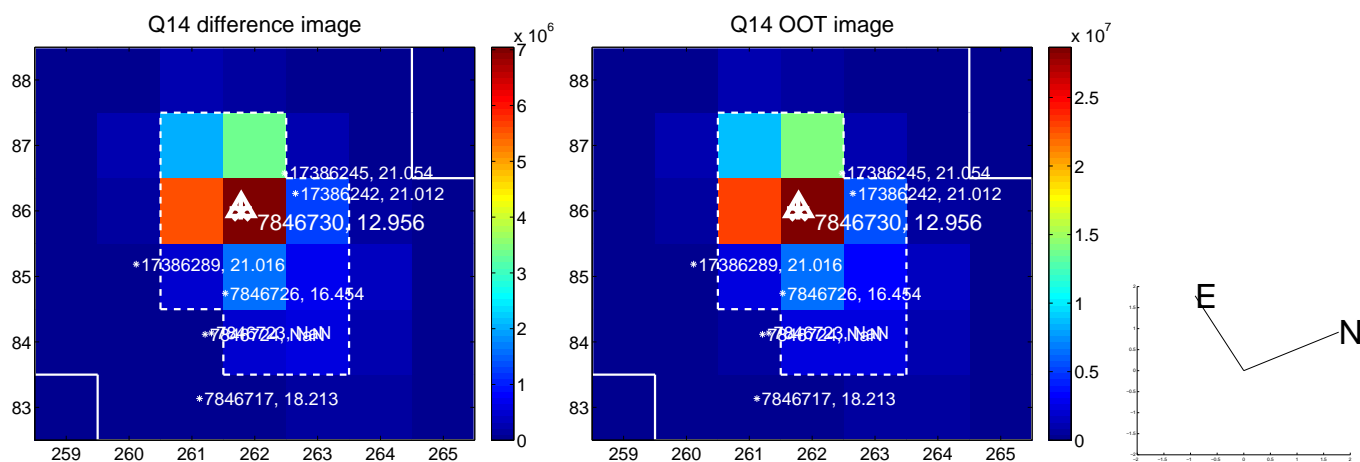
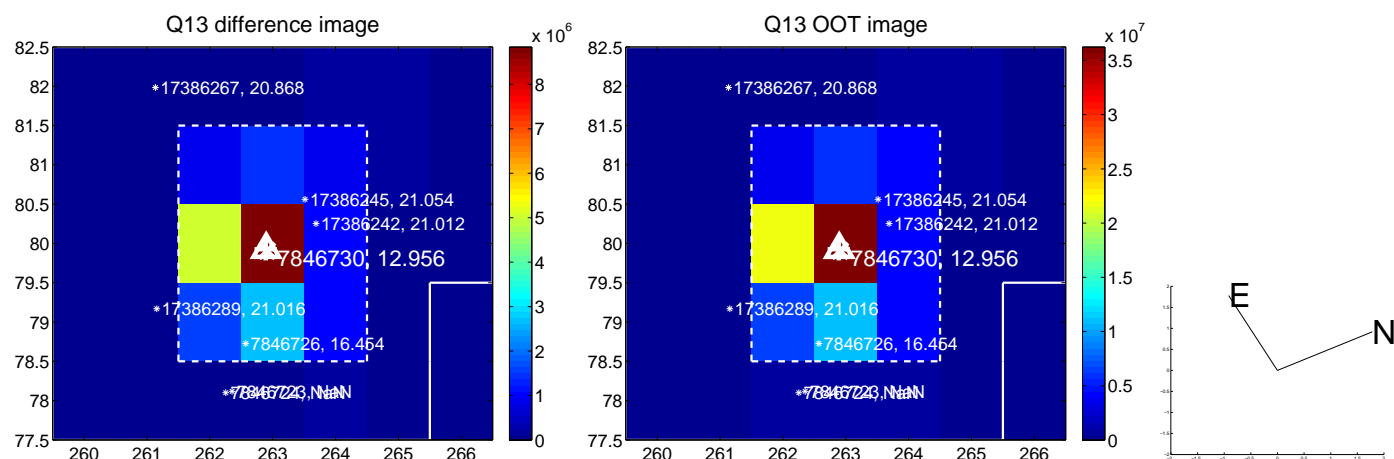
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



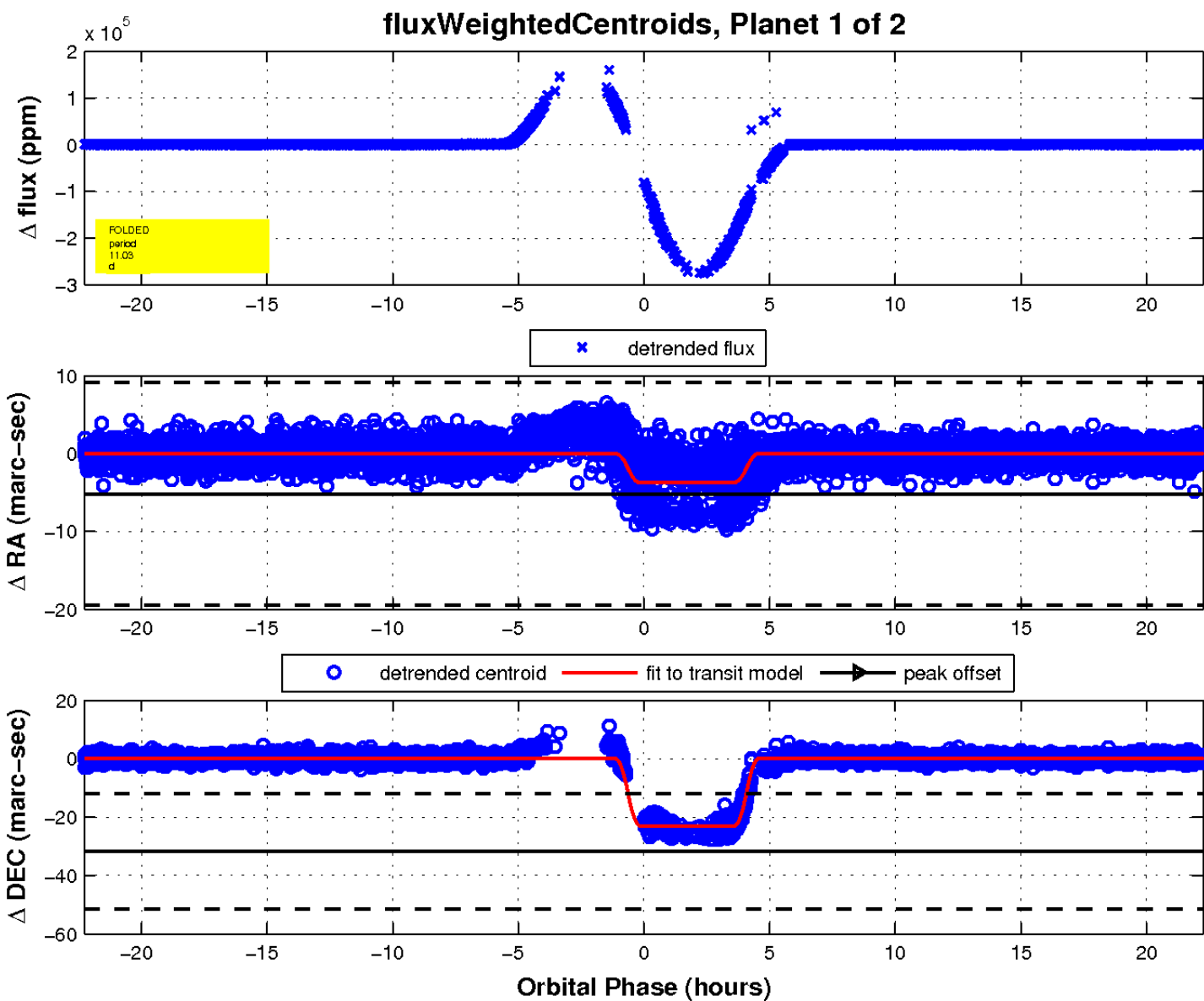
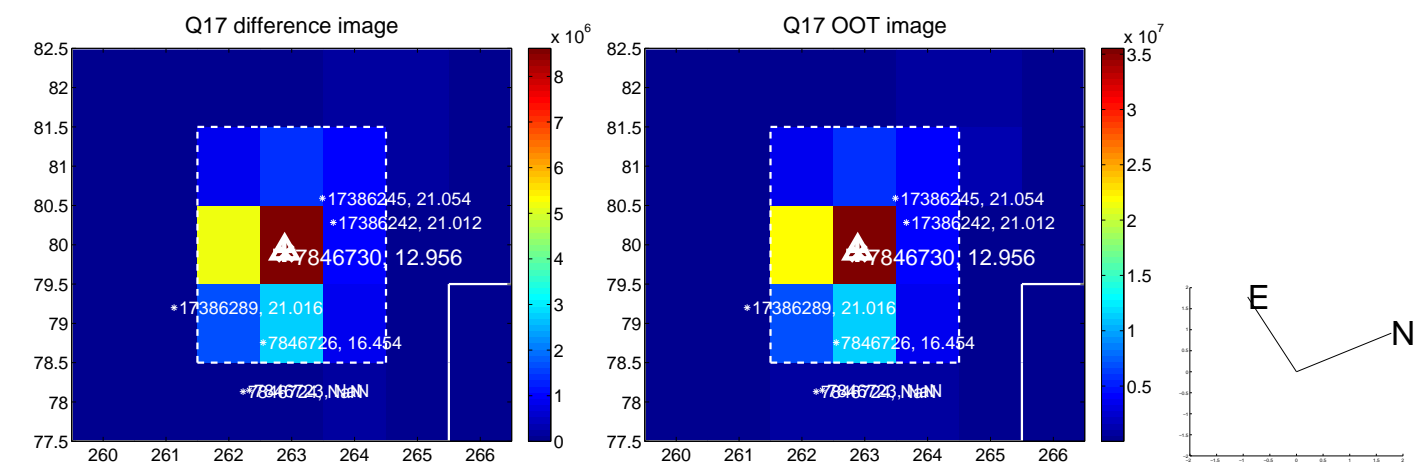
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

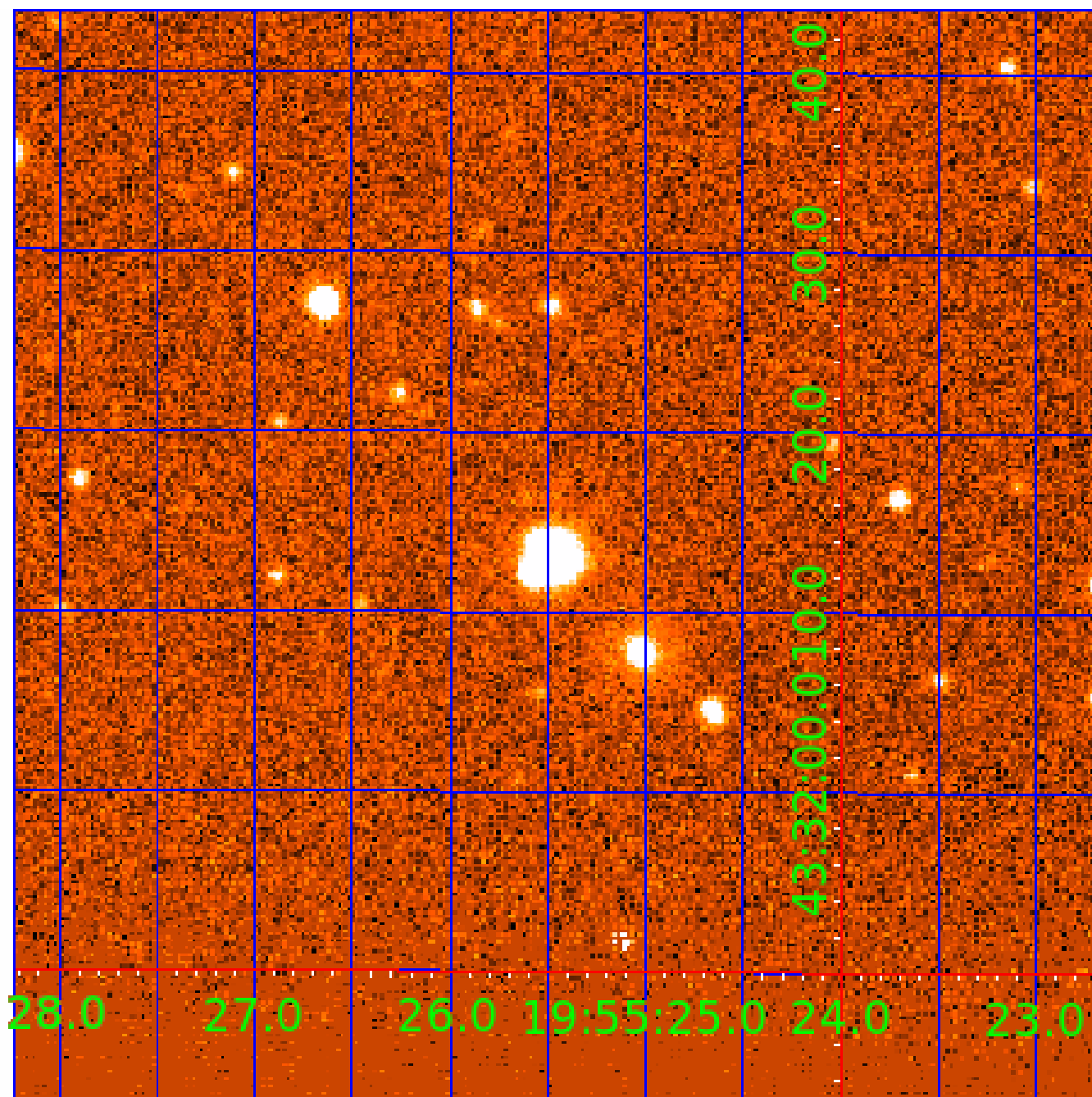


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007846730

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})
007846730-01	OBS	6923.01	11.028279	136.959943	278003.6	4.500	15276.7	-1.0	1.39	6271	62.71	264.41
007846730-02	OBS	No	5.514114	136.826765	171513.6	7.593	10652.2	6989.4	1.39	6271	59.40	666.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007846730-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
007846730-02	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.

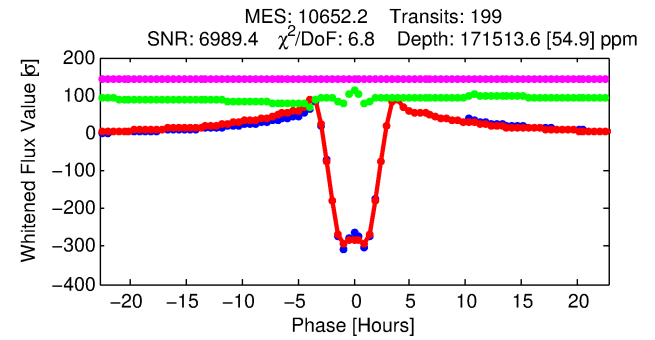
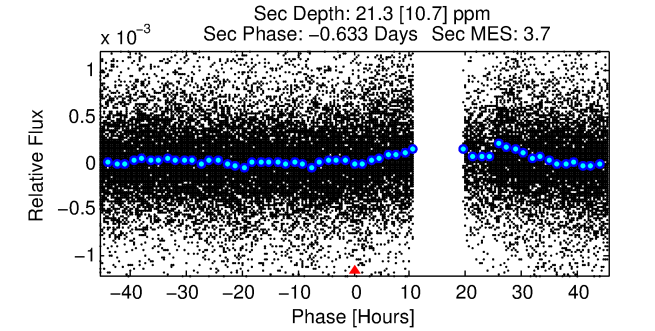
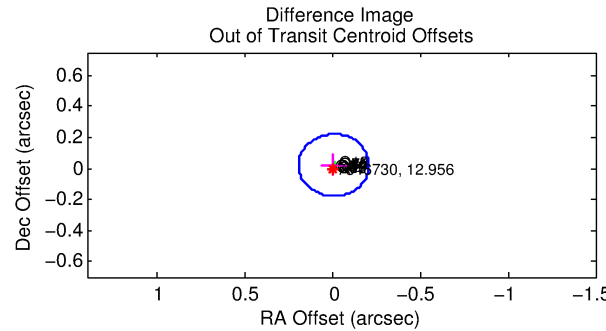
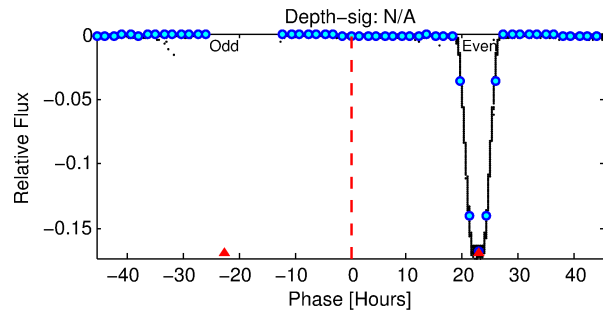
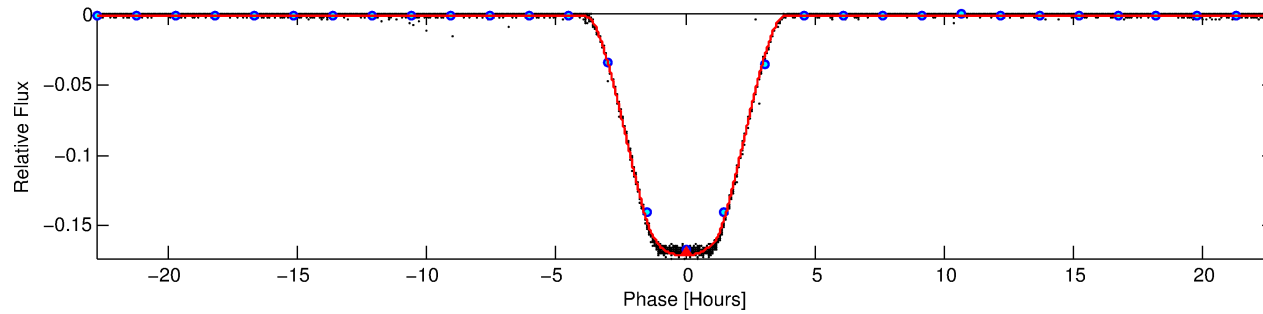
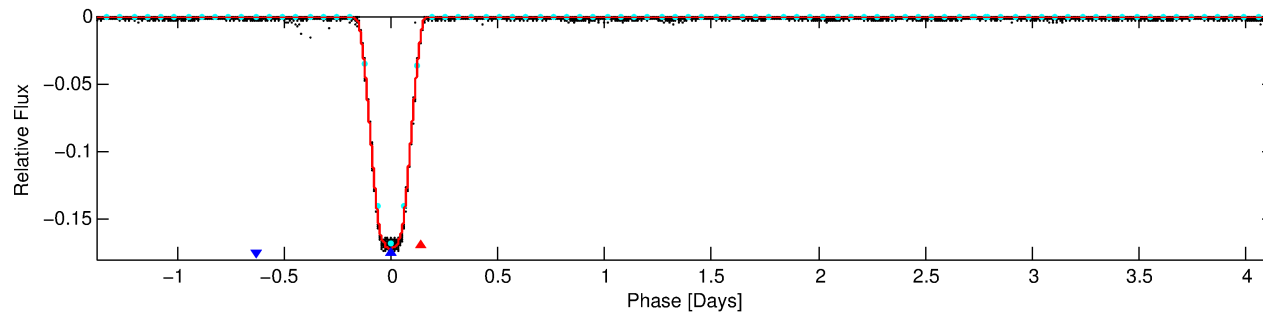
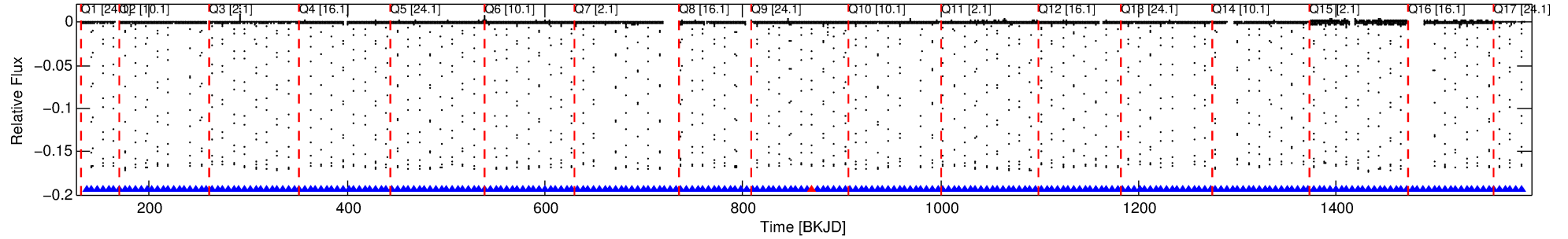
Ephemeris Match Information For 007846730-02

No Significant Match Found

DV One-Page Summary

KIC: 7846730 Candidate: 2 of 2 Period: 5.514 d
KOI: K06923 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.39 Rs Teff: 6271.0 K Logg: 4.20 Fe/H: -0.100



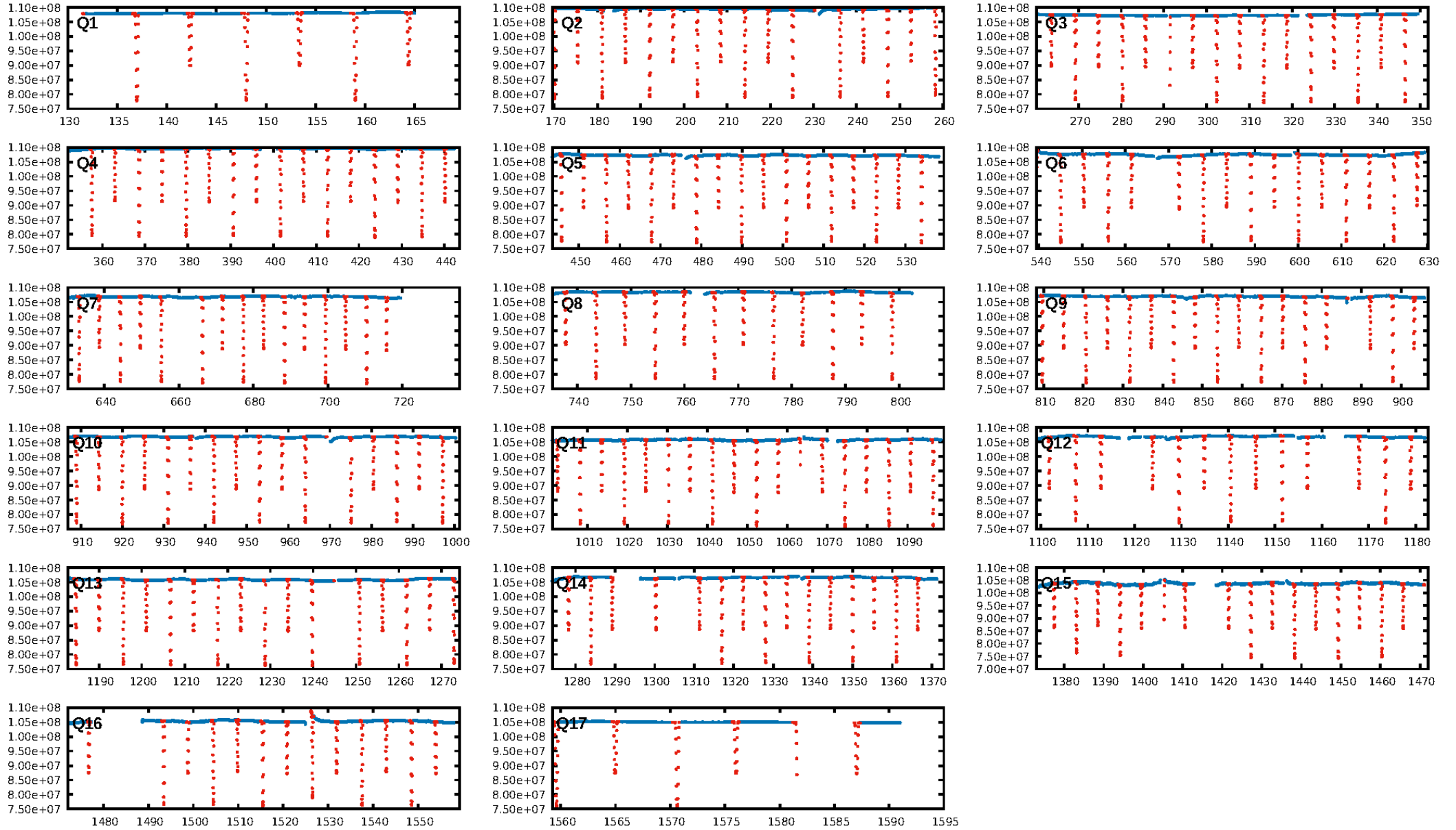
DV Fit Results:

Period = 5.51411 [0.00000] d
Epoch = 136.8268 [0.0000] BKJD
Rp/R* = 0.3925 [0.0001]
a/R* = 7.40 [0.00]
b = 0.43 [0.00]
Seff = 666.28 [255.77]
Teff = 1296 [124] K
Rp = 59.40 [17.43] Re
a = 0.0633 [0.0154] AU
Ag = 0.01 [0.01] [-121.37σ]
Teffp = 680 [89] K [-4.02σ]

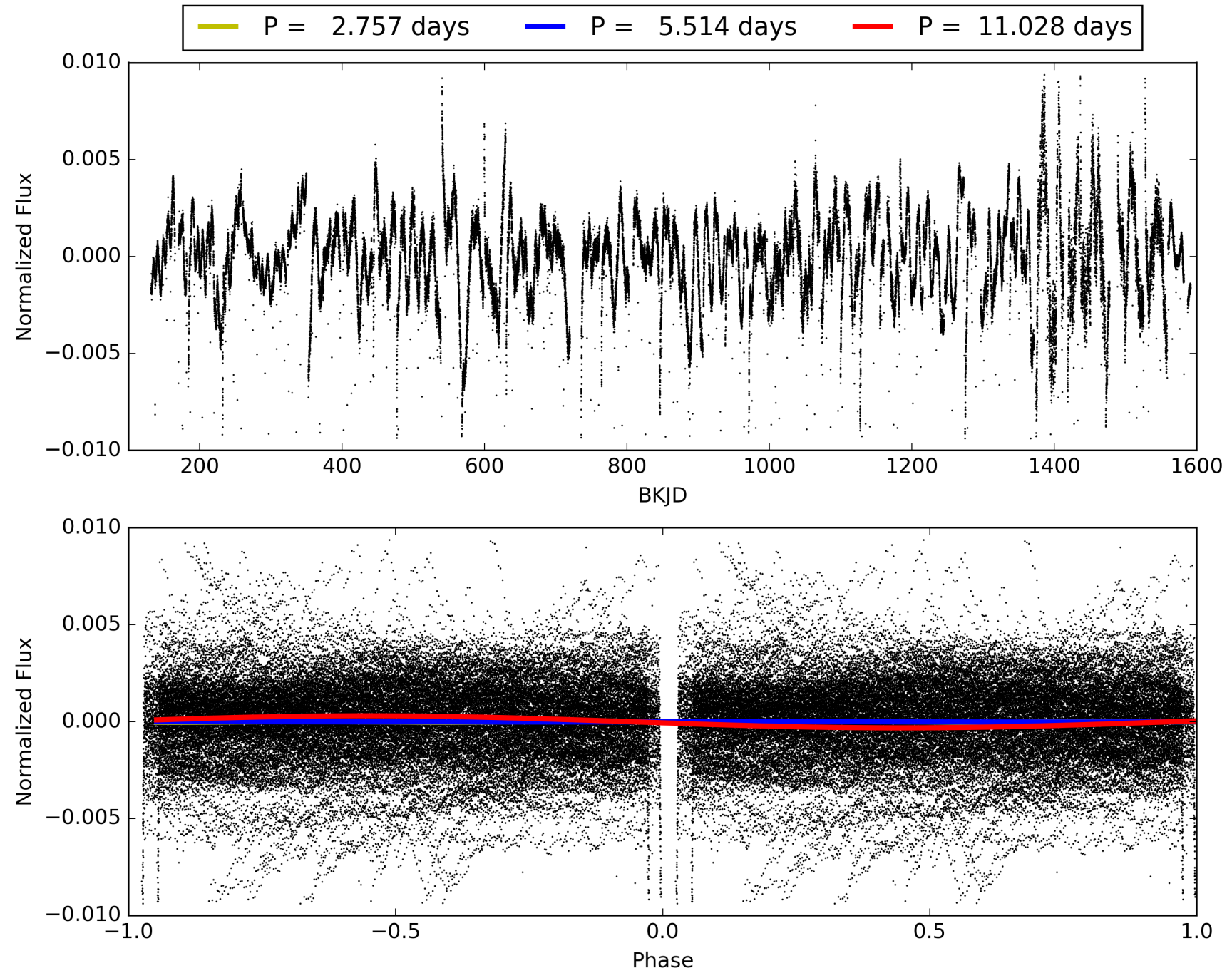
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [14.99σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [188/189]
GhostDiagnostic-chr: 0.9851
Centroid-sig: 0.0%
Centroid-so: 0.131 arcsec [295.33σ]
OotOffset-rm: 0.022 arcsec [0.34σ]
KicOffset-rm: 0.096 arcsec [1.39σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007846730-02, PDC Light Curves

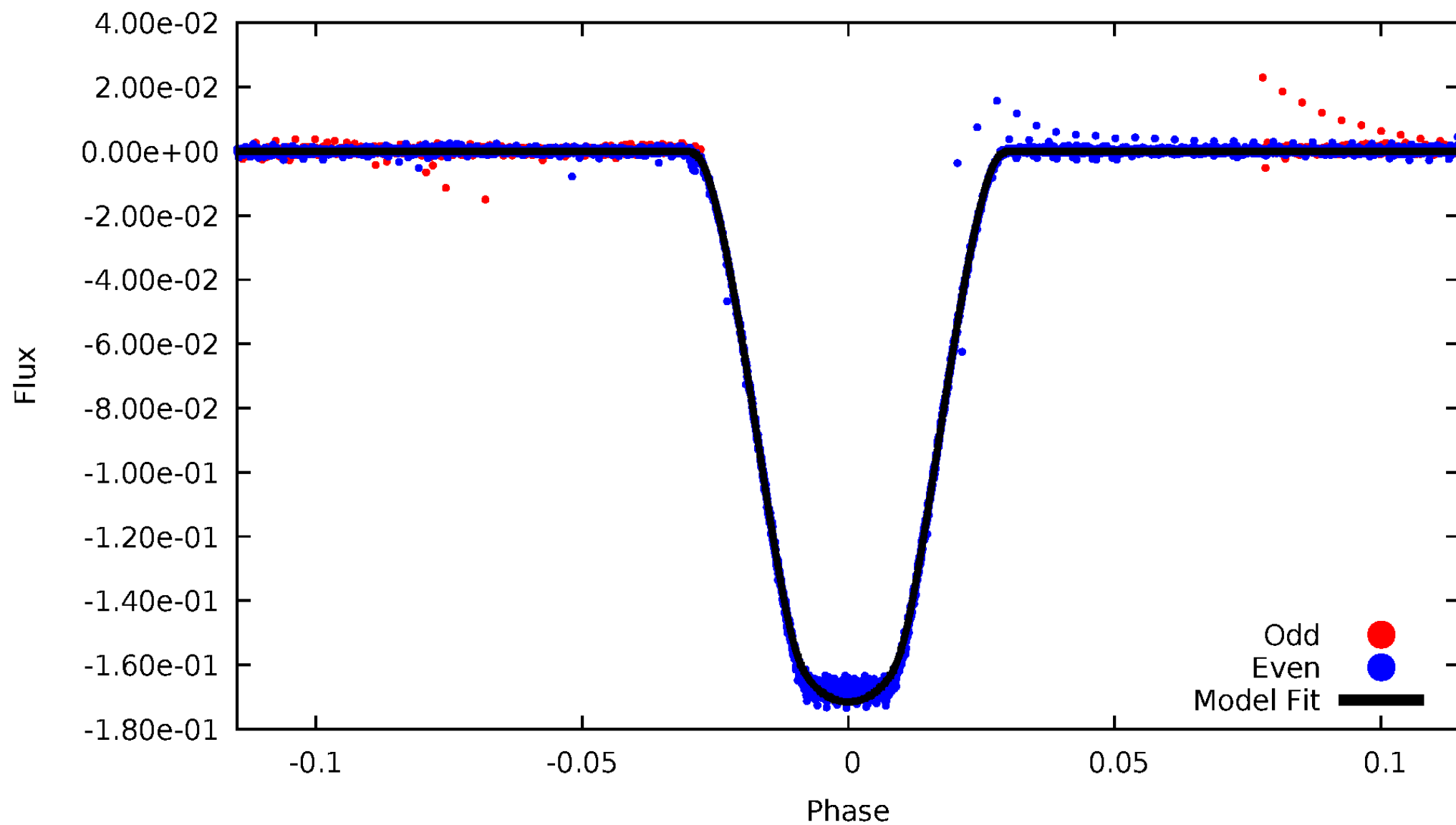


TCE 007846730-02



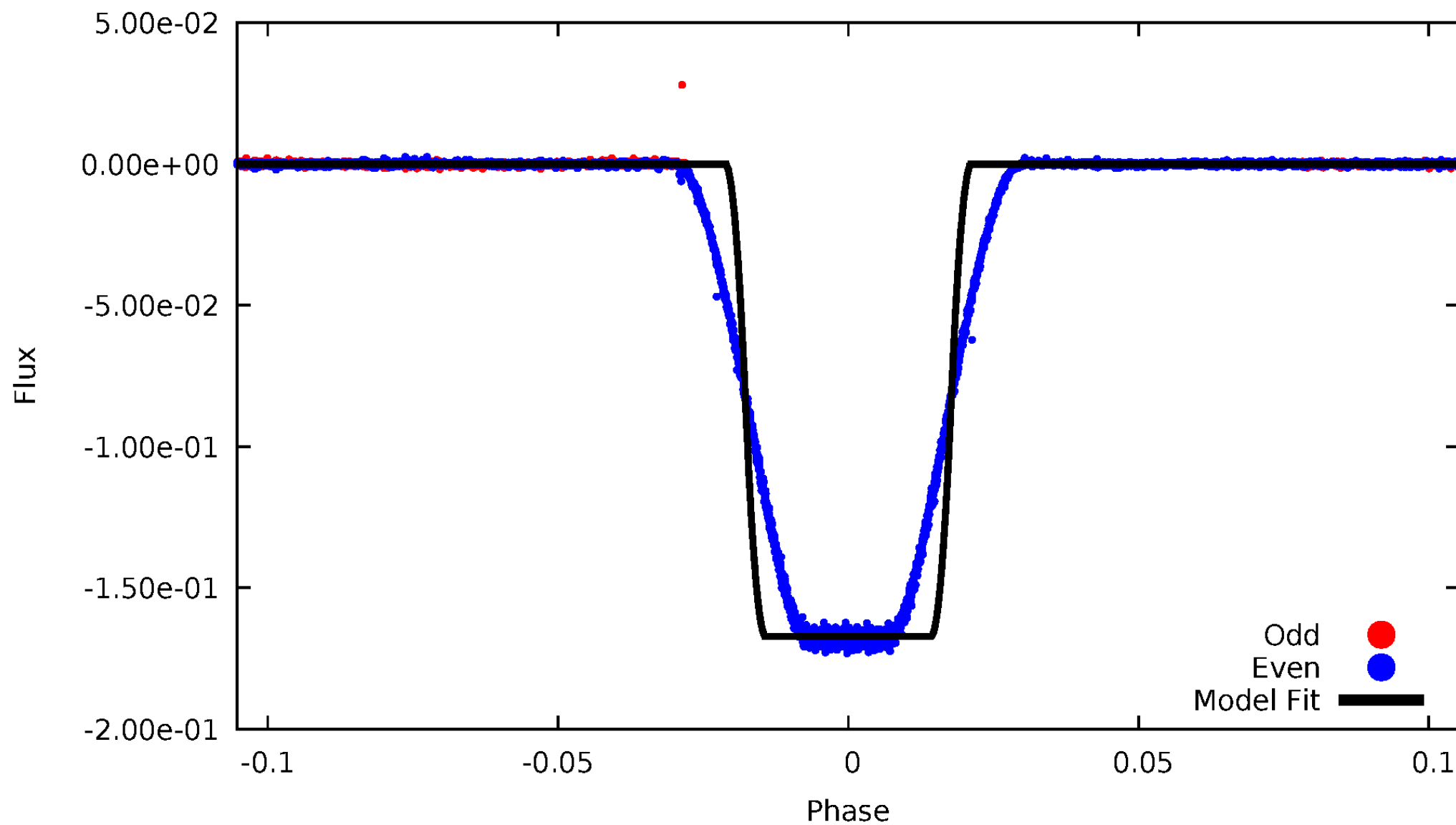
DV Odd/Even

TCE 007846730-02



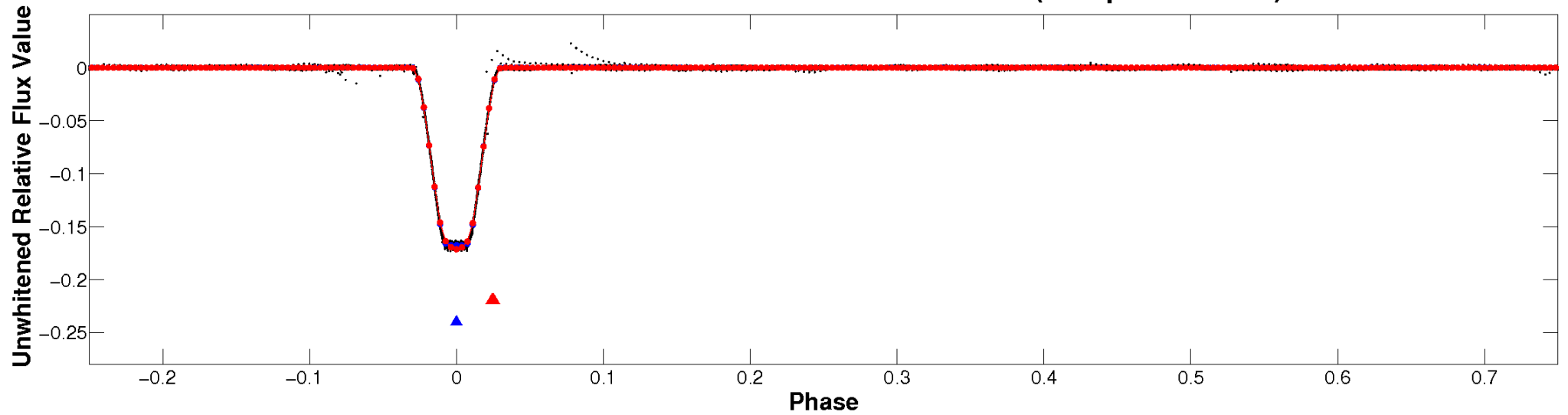
ALT Odd/Even

TCE 007846730-02

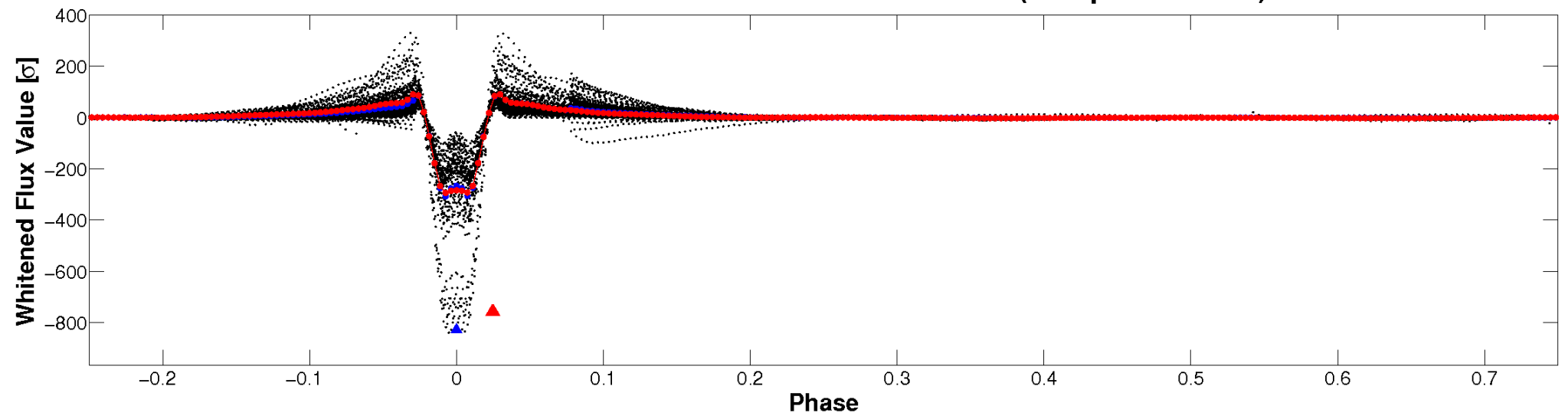


Non-Whitened Vs. Whitened Light Curve

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

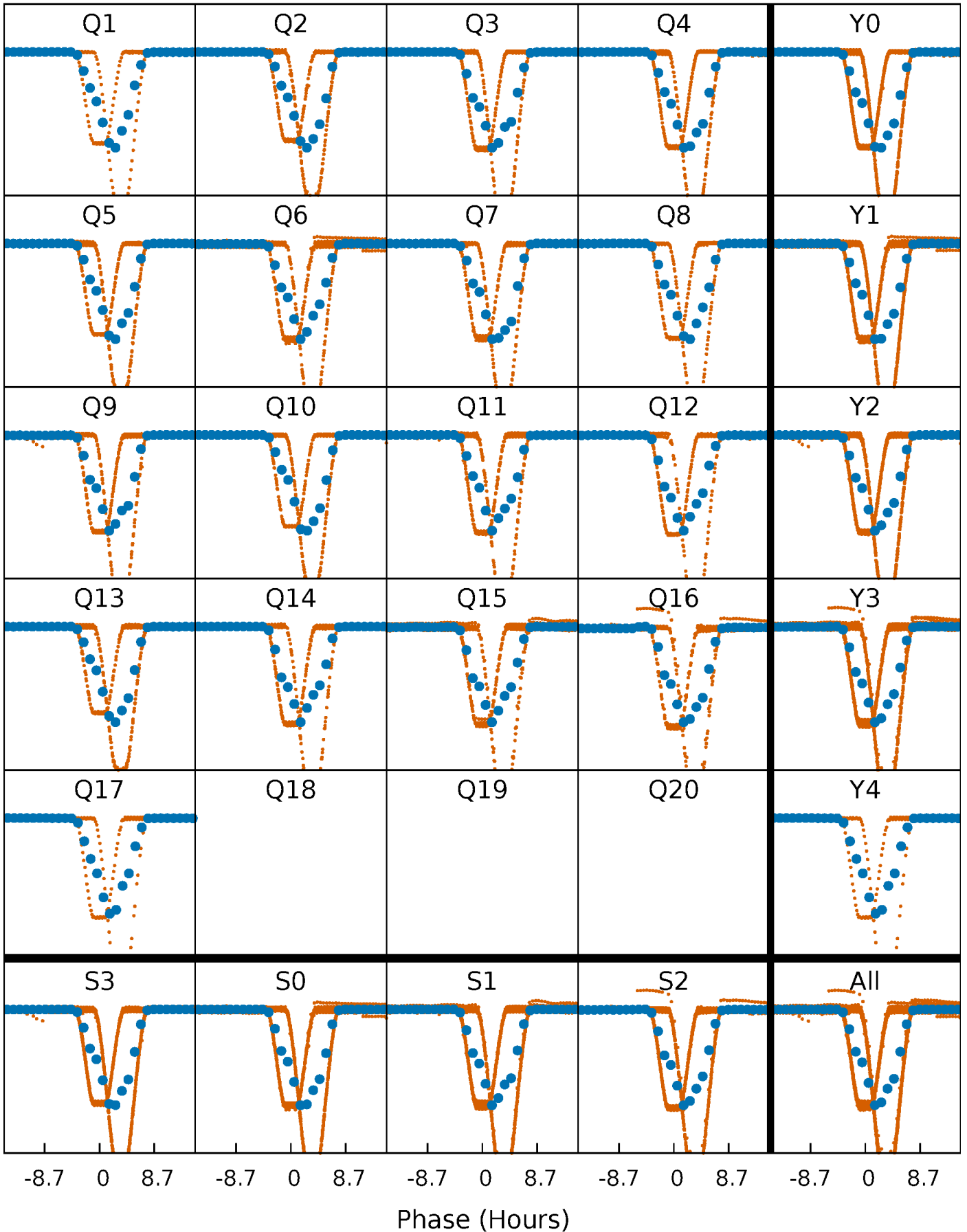


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



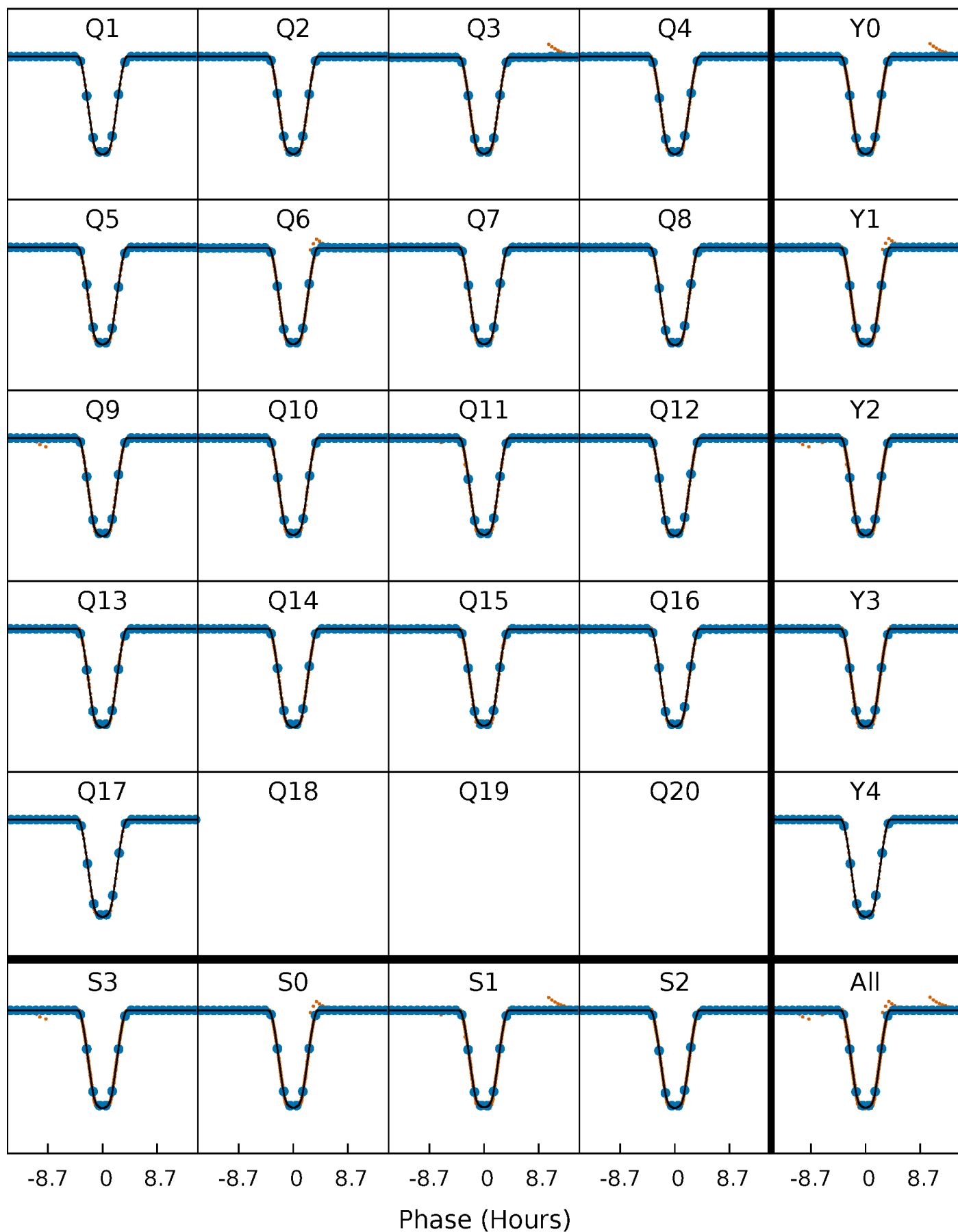
PDC Quarter-Phased Transit Curves

TCE 007846730-02 P= 5.514114 Days $T_0=136.826765$ (BKJD)



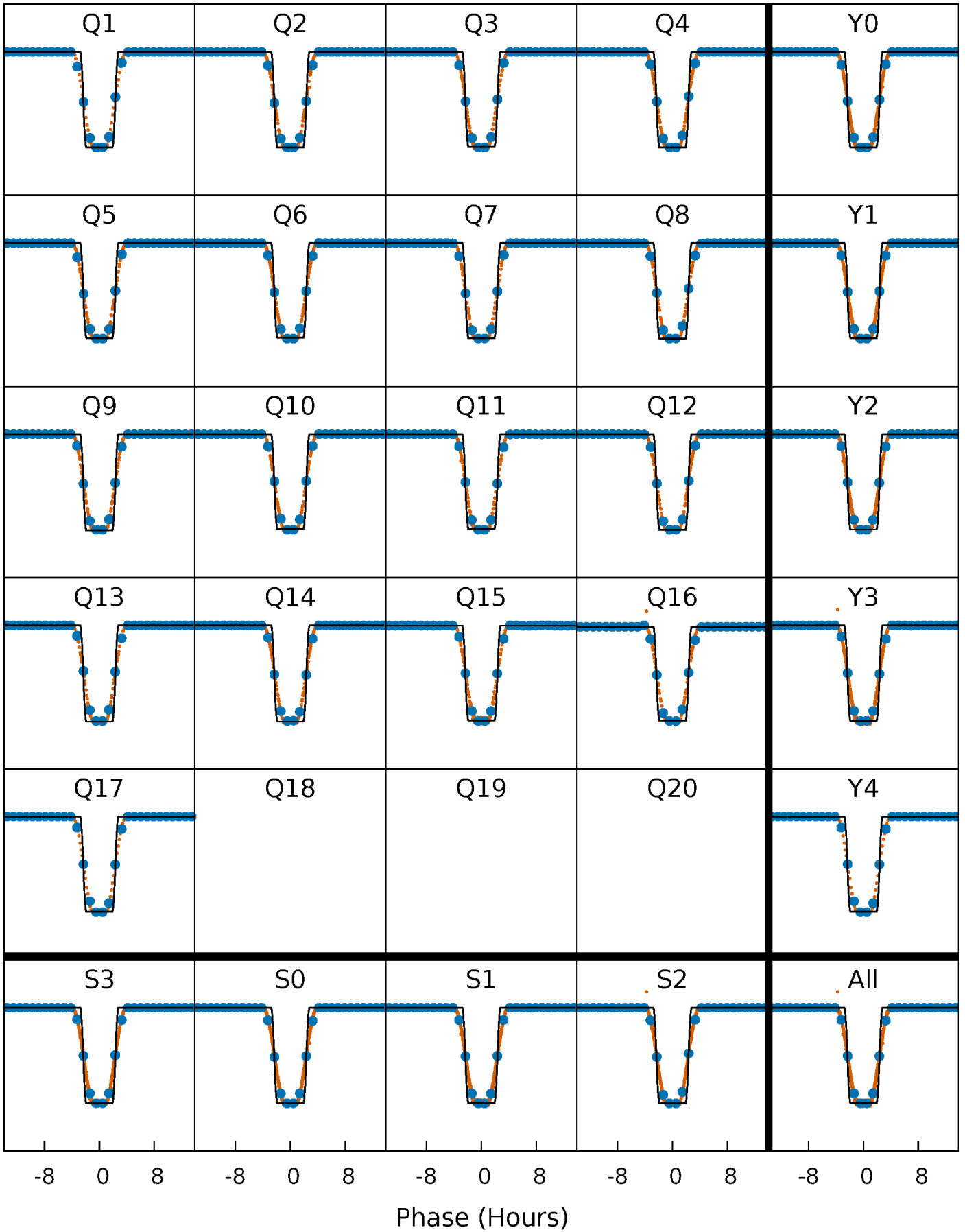
DV Quarter-Phased Transit Curves

TCE 007846730-02 P= 5.514114 Days $T_0=136.826765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

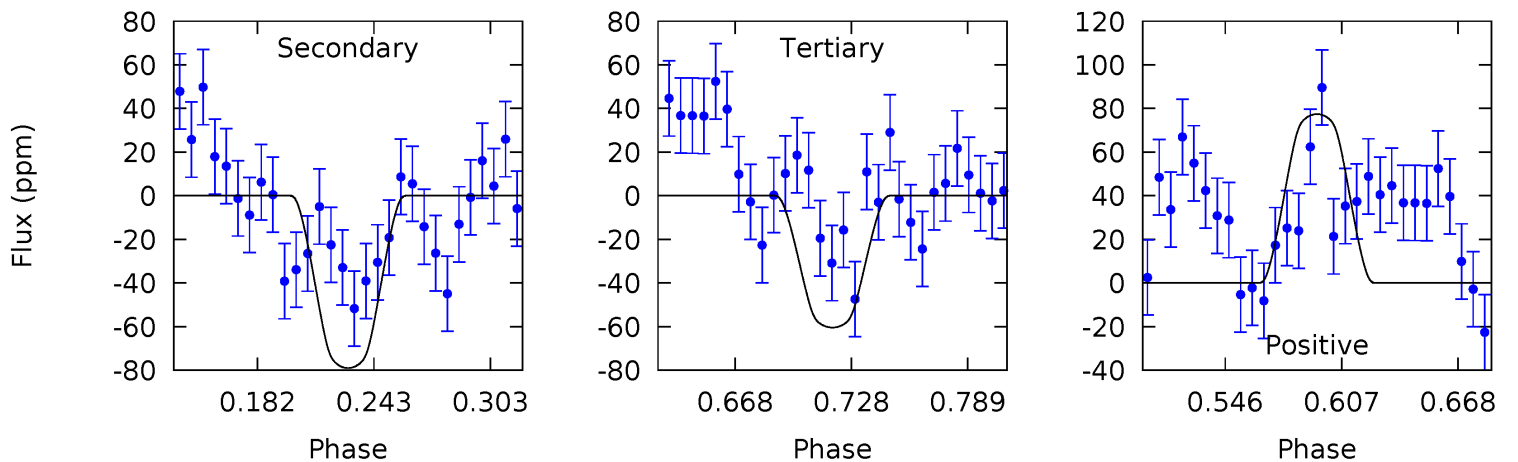
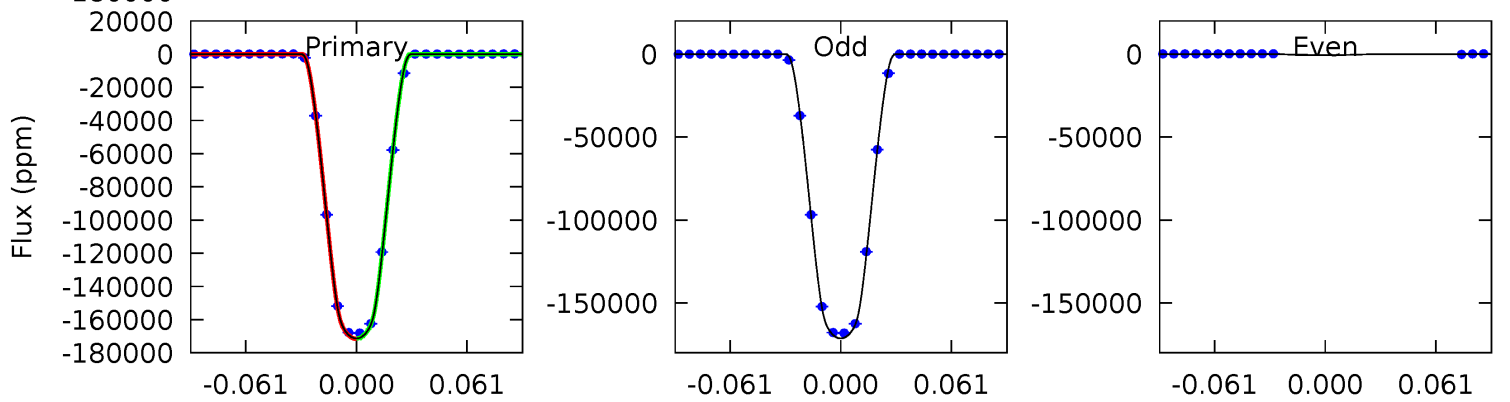
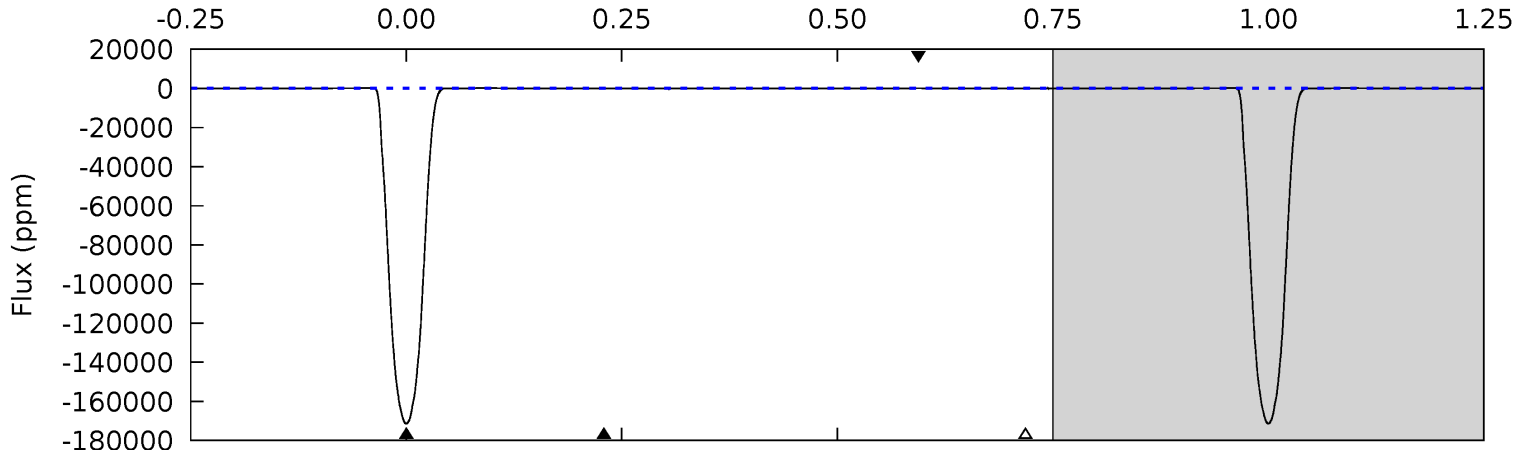
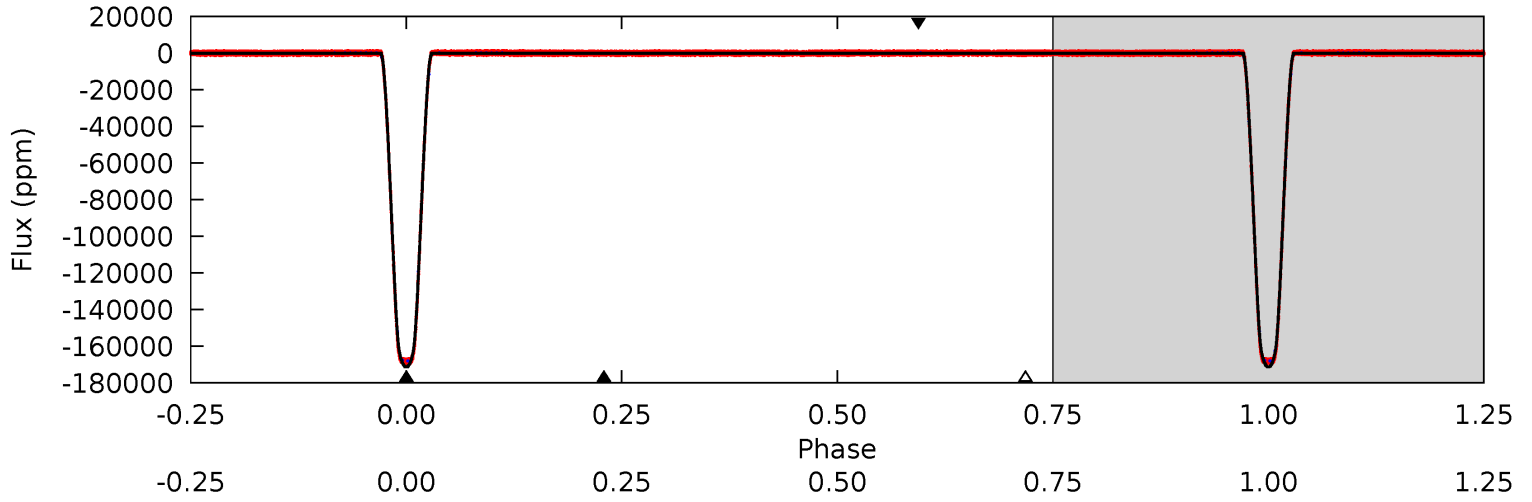
TCE 007846730-02 P= 5.514109 Days $T_0=136.827336$ (BKJD)



DV Model-Shift Uniqueness Test

007846730-02, P = 5.514114 Days, E = 131.312651 Days

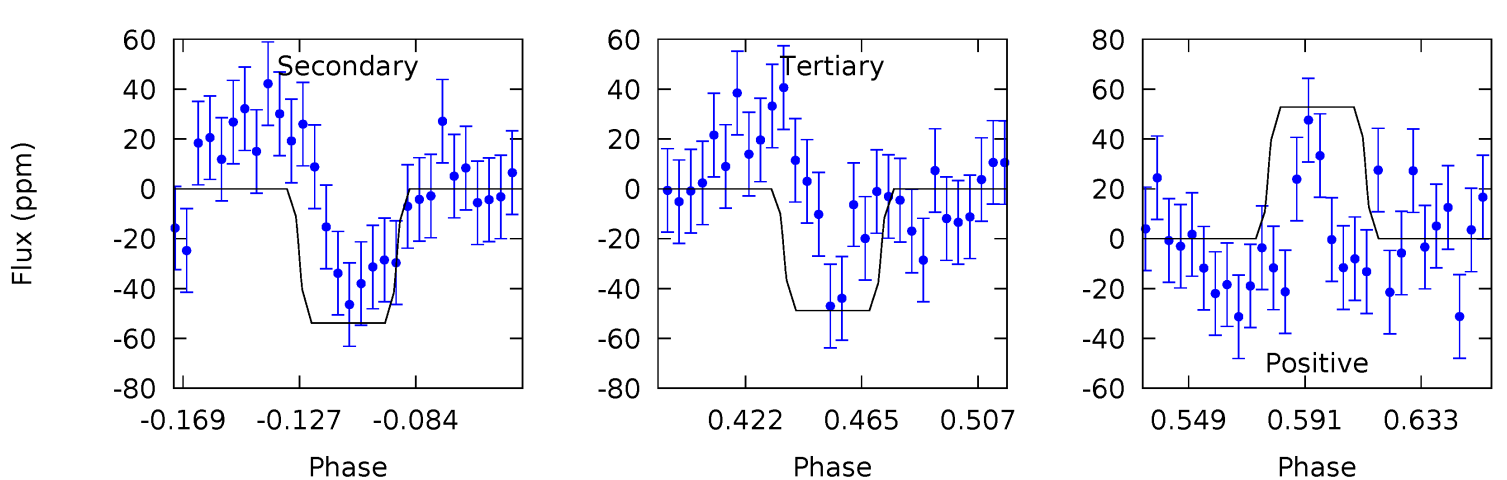
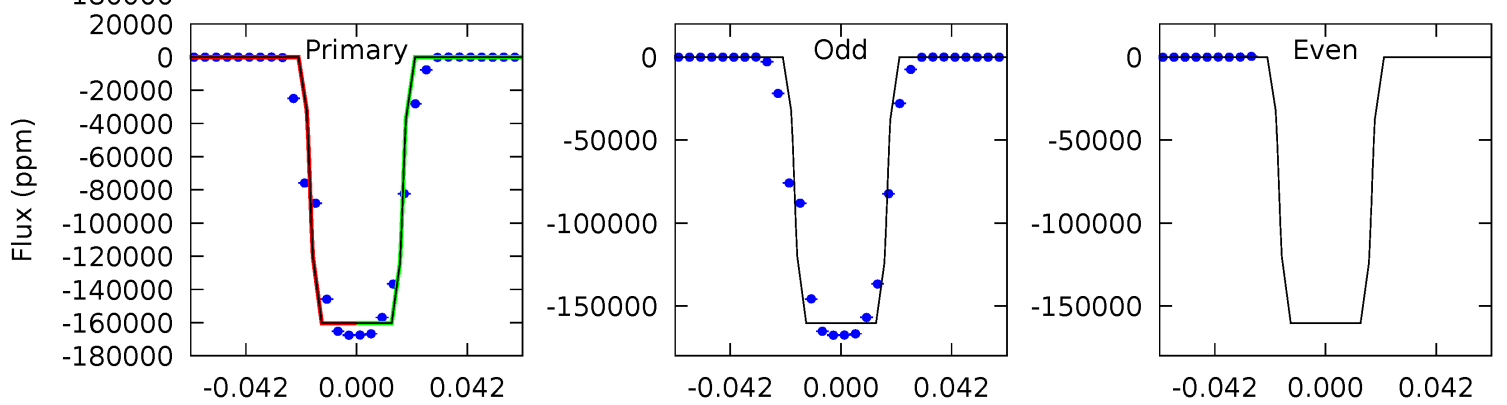
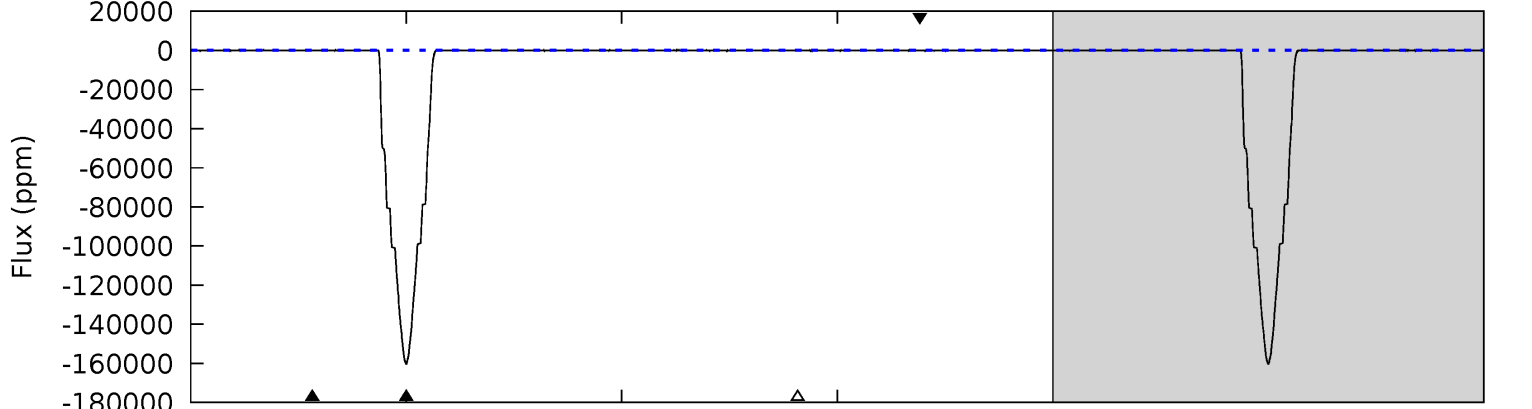
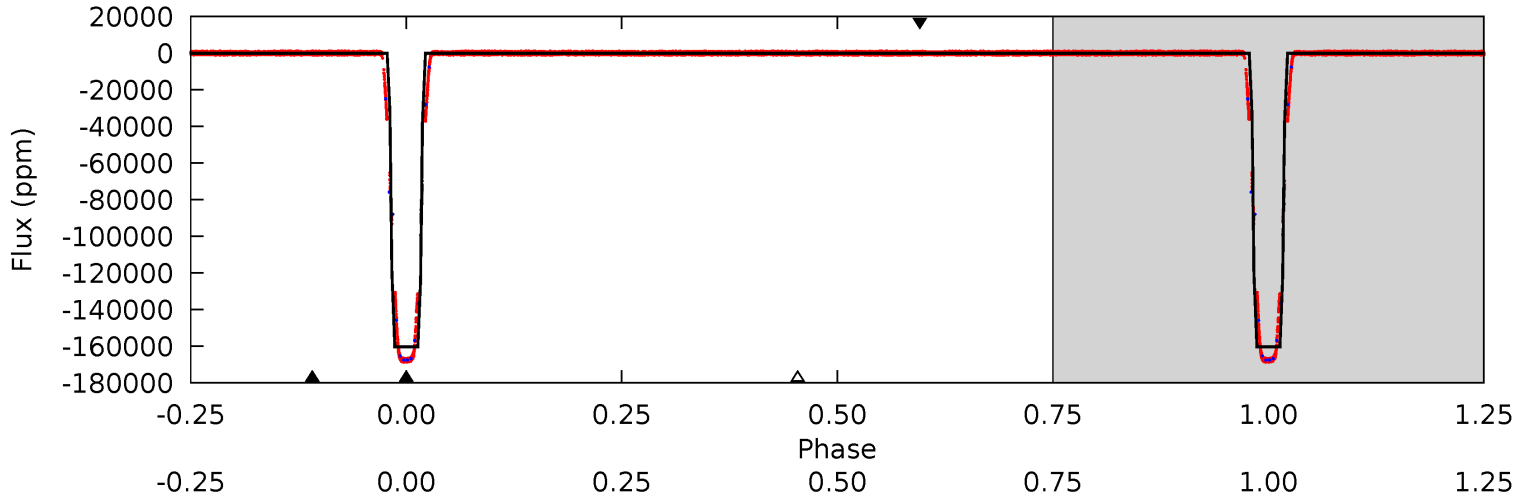
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17515	8.08	6.18	7.92	4.67	1.88	4.24	17509	17507	1.90	0.16	3940	0.99	0.00	0



Alt Model-Shift Uniqueness Test

007846730-02, P = 5.514109 Days, E = 131.313227 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11329	3.81	3.45	3.73	4.74	2.03	1.37	11325	11325	0.35	0.08	0	1.00	0.00	0.86



Stellar Parameters For KIC 007846730

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6271^{+199}_{-243}	$4.199^{+0.190}_{-0.190}$	$-0.100^{+0.250}_{-0.300}$	$1.387^{+0.407}_{-0.333}$	$1.109^{+0.194}_{-0.141}$	$0.586^{+0.595}_{-0.298}$
	+3%/-4%	+5%/-5%	+250%/-300%	+29%/-24%	+17%/-13%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007846730-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-79 ± 10	$60.44^{+10.27}_{-8.62}$	1814^{+148}_{-131}	-2333^{+92}_{-97}	$0.048^{+0.017}_{-0.012}$
Alt.	-54 ± 14	$62.35^{+9.68}_{-8.02}$	1807^{+143}_{-126}	-2349^{+87}_{-92}	$0.030^{+0.013}_{-0.009}$

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

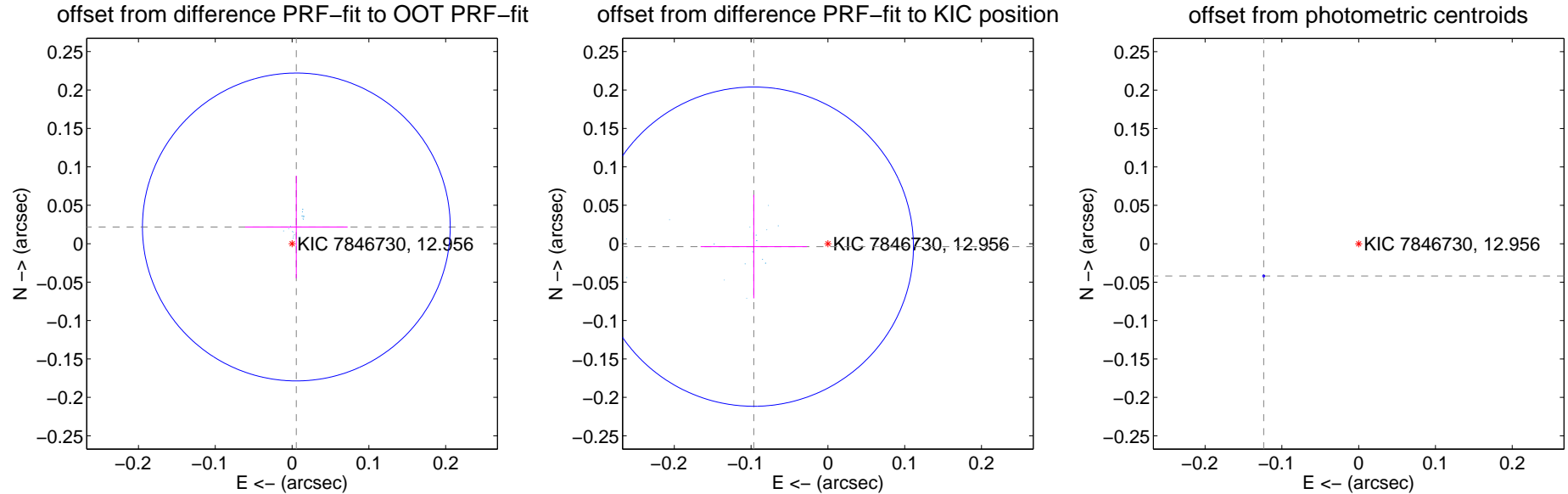
DV Centroid Data

Supplemental centroid analysis for 007846730-02. Kepler magnitude: 12.96. Transit SNR 6989.45

There are 17 quarters with good PRF difference image offsets

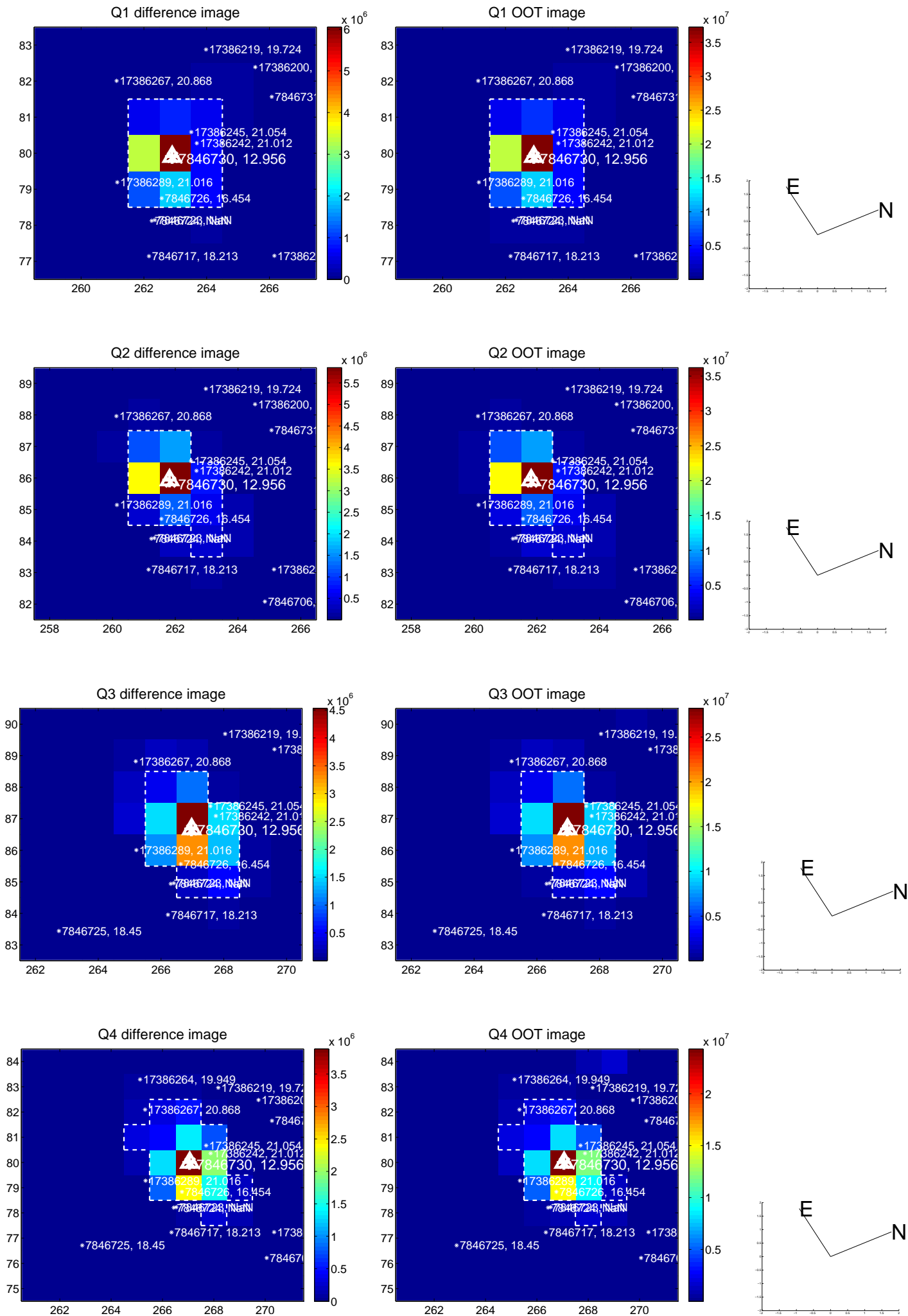
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.067	0.34	-0.006 ± 0.067	0.022 ± 0.067
PRF-fit source offset from KIC position	0.096 ± 0.069	1.39	0.096 ± 0.069	-0.004 ± 0.067
photometric centroid source offset	0.13 ± 0.00	295.33	0.12 ± 0.00	-0.04 ± 0.00

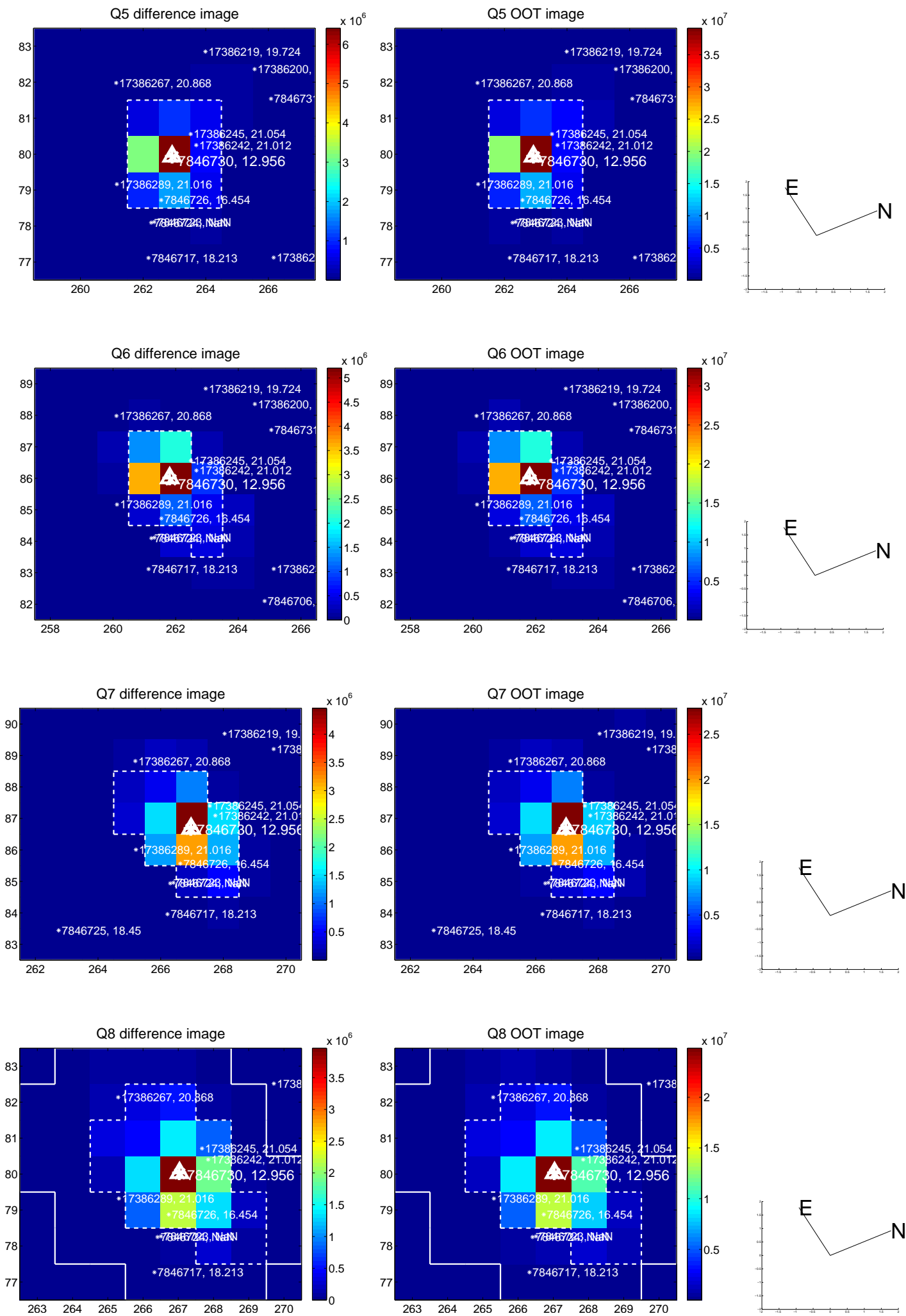


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

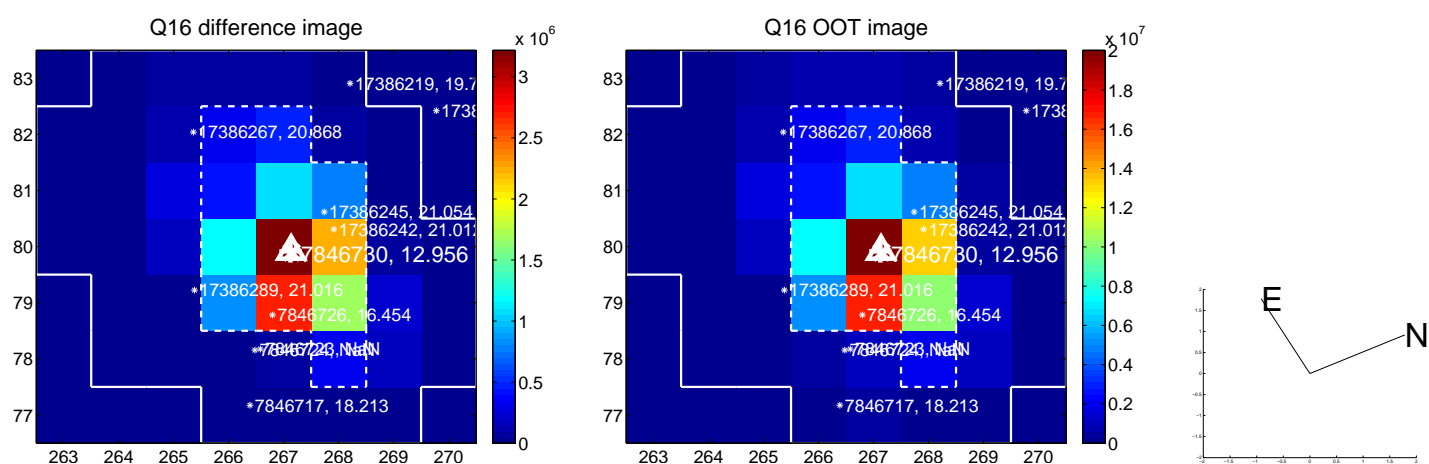
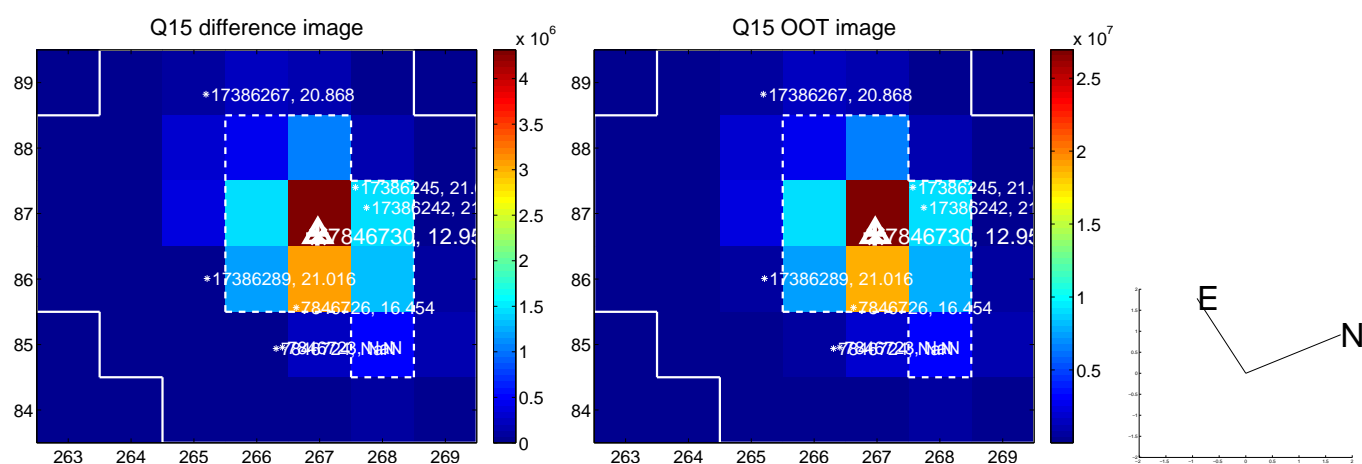
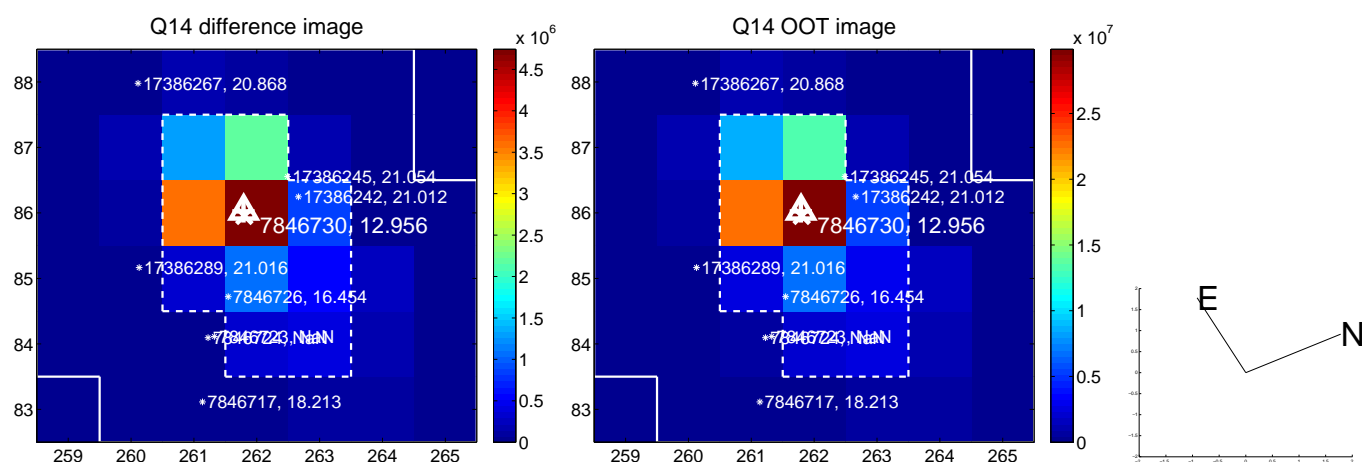
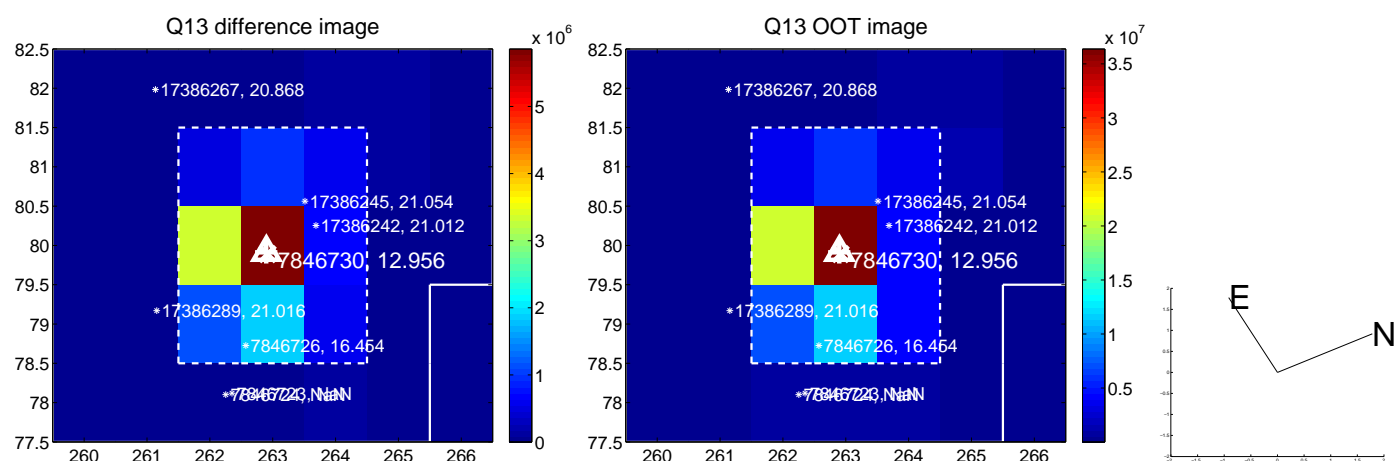
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



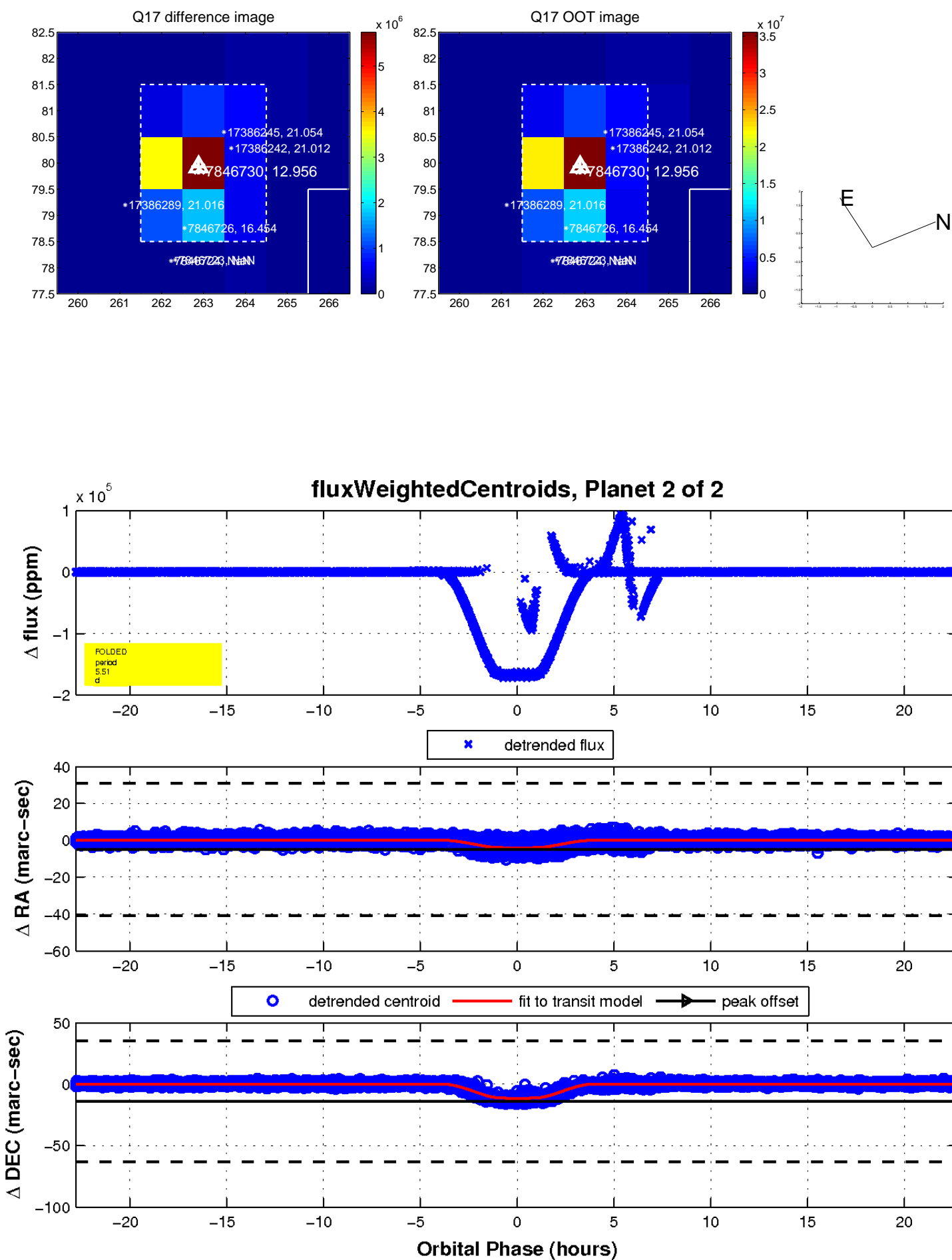
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

