

KIC 006778050

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})
006778050-01	OBS	No	0.945829	131.619331	289686.8	2.674	7730.7	5426.1	0.75	5235	52.09	1211.26
006778050-02	OBS	No	0.945824	132.092244	114895.3	1.500	9957.0	-1.0	0.75	5235	25.27	1211.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006778050-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006778050-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

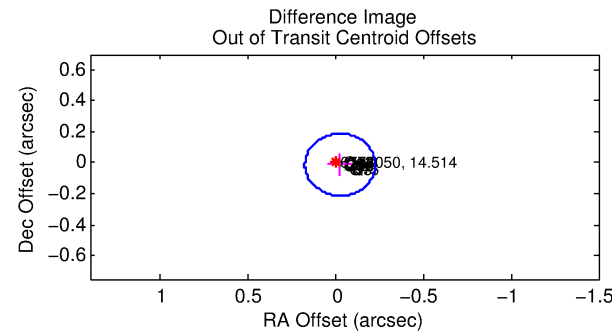
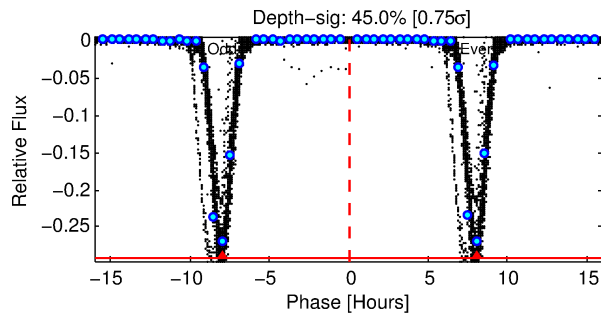
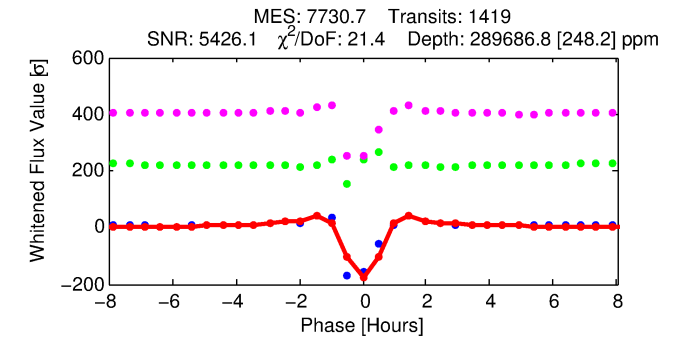
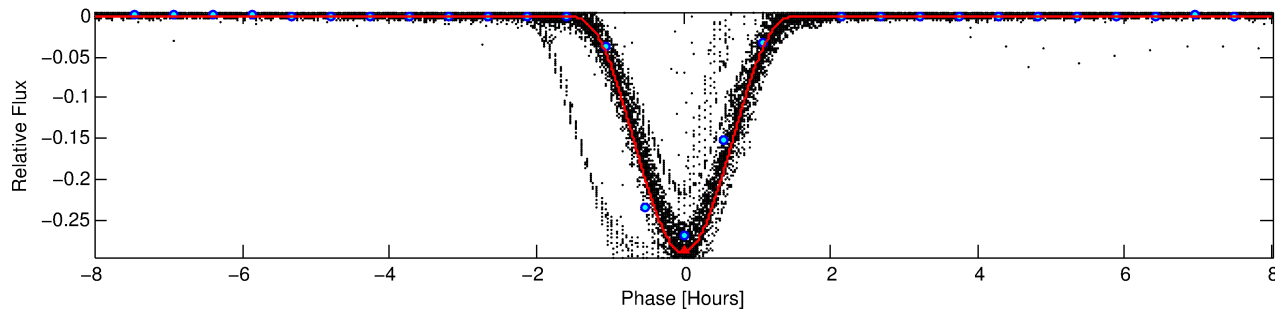
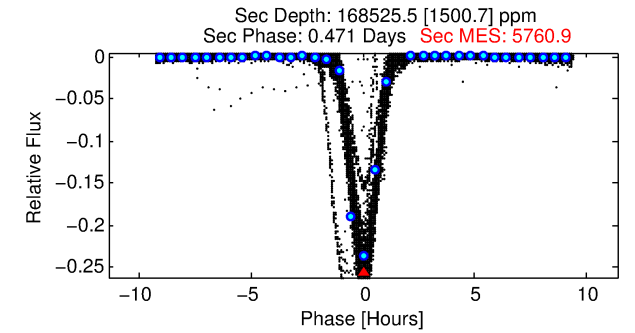
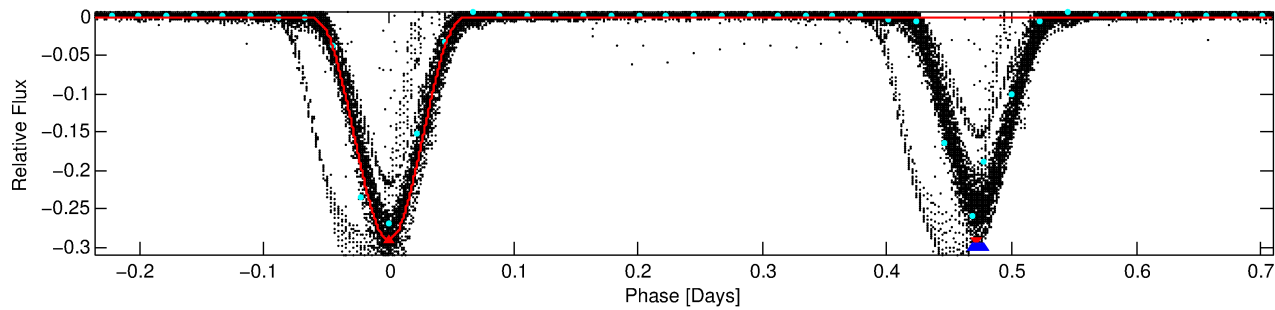
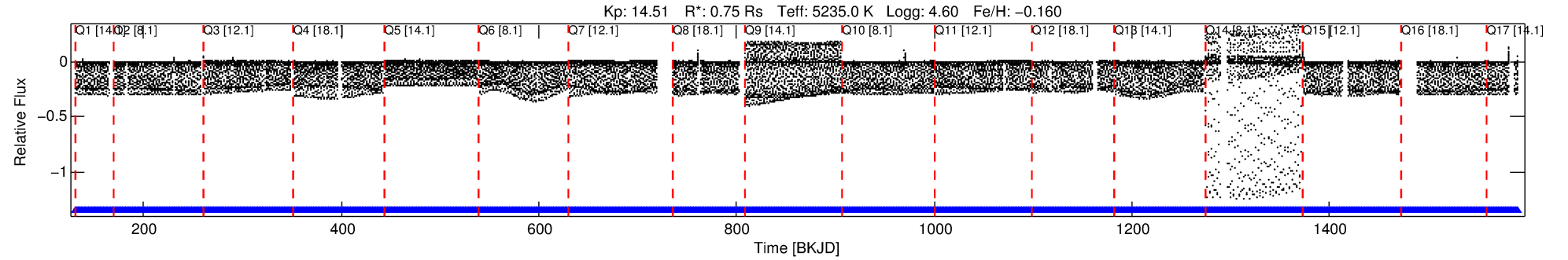
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006778050-01

No Significant Match Found

DV One-Page Summary

KIC: 6778050 Candidate: 1 of 2 Period: 0.946 d



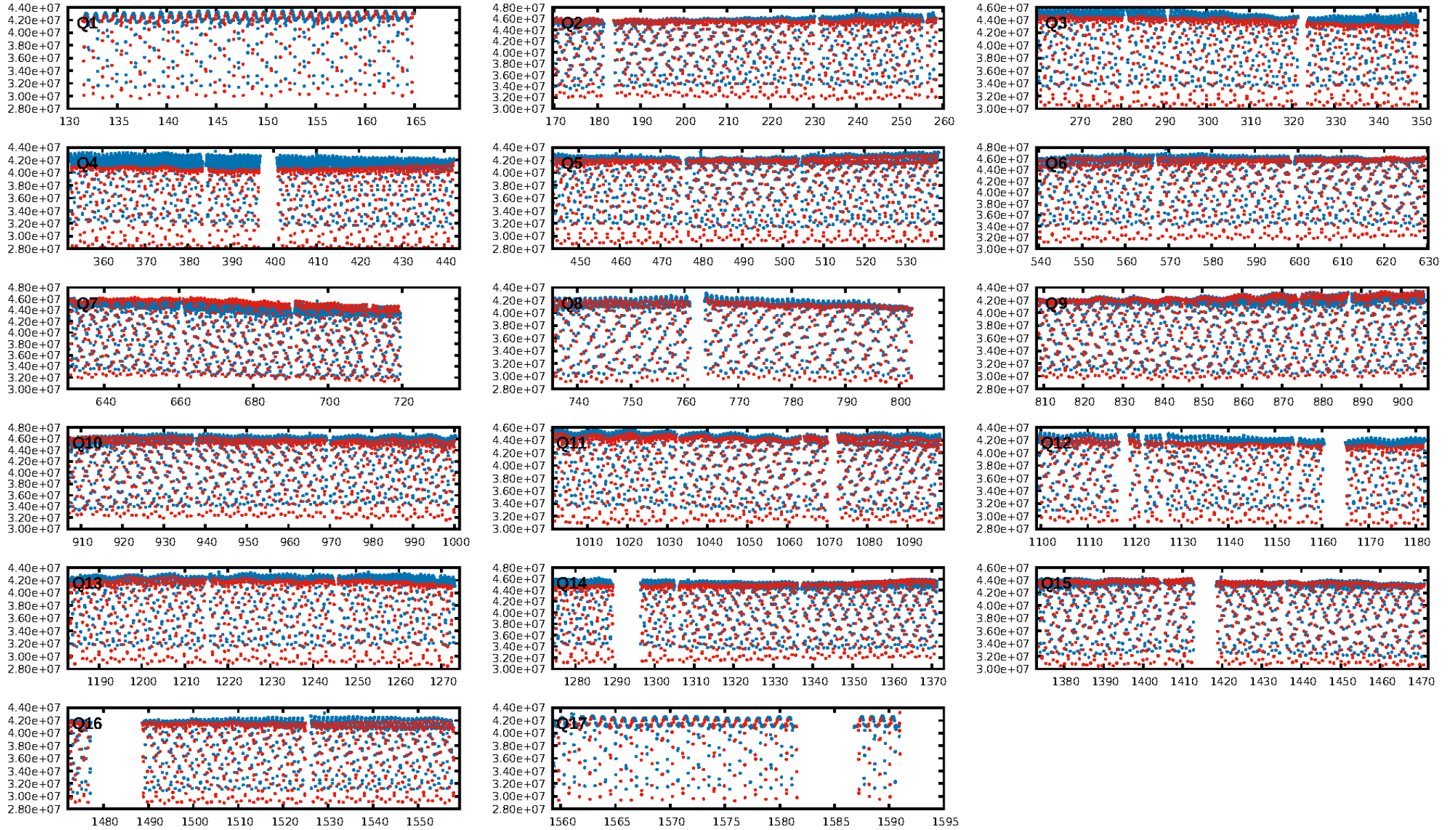
DV Fit Results:

Period = 0.94583 [0.00000] d
Epoch = 131.6193 [0.0000] BKJD
Rp/R* = 0.6356 [0.0130]
a/R* = 4.14 [0.02]
b = 0.71 [0.02]
Seff = 1211.26 [252.76]
Teq = 1504 [78] K
Rp = 52.09 [7.84] Re
a = 0.0177 [0.0021] AU
Ag = 10.71 [1.88] [5.17σ]
Teffp = 4207 [134] K [17.37σ]

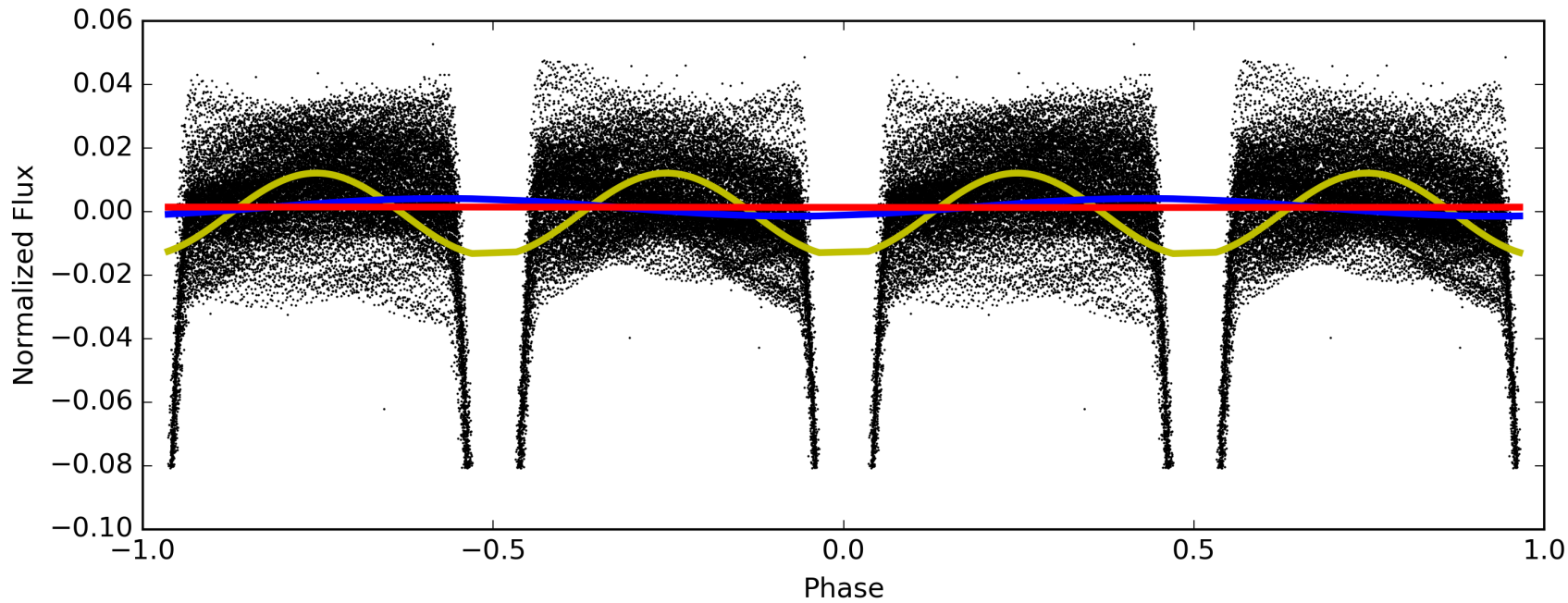
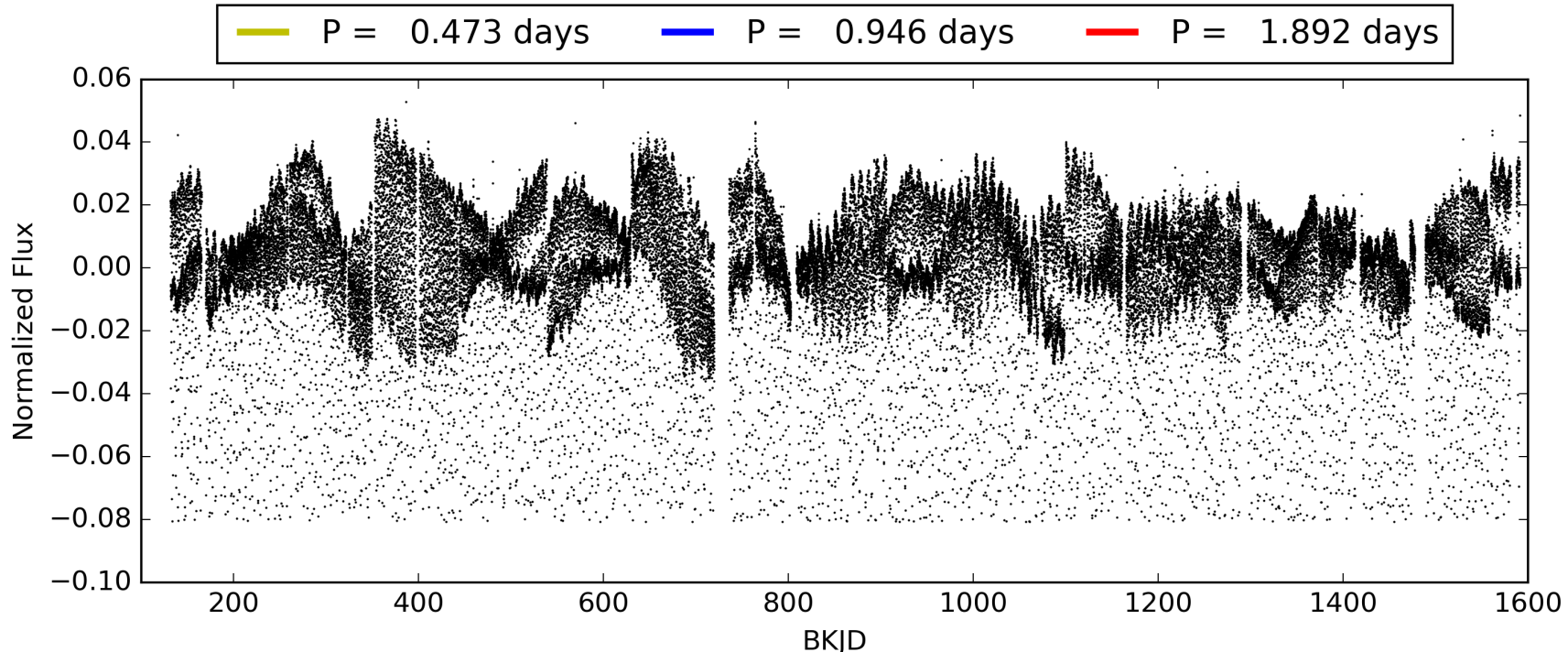
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1354/1354]
GhostDiagnostic-chr: 1.504
Centroid-sig: N/A
Centroid-so: 0.259 arcsec [627.37σ]
OotOffset-rm: 0.029 arcsec [0.43σ]
KicOffset-rm: 0.218 arcsec [3.25σ]
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 006778050-01, PDC Light Curves

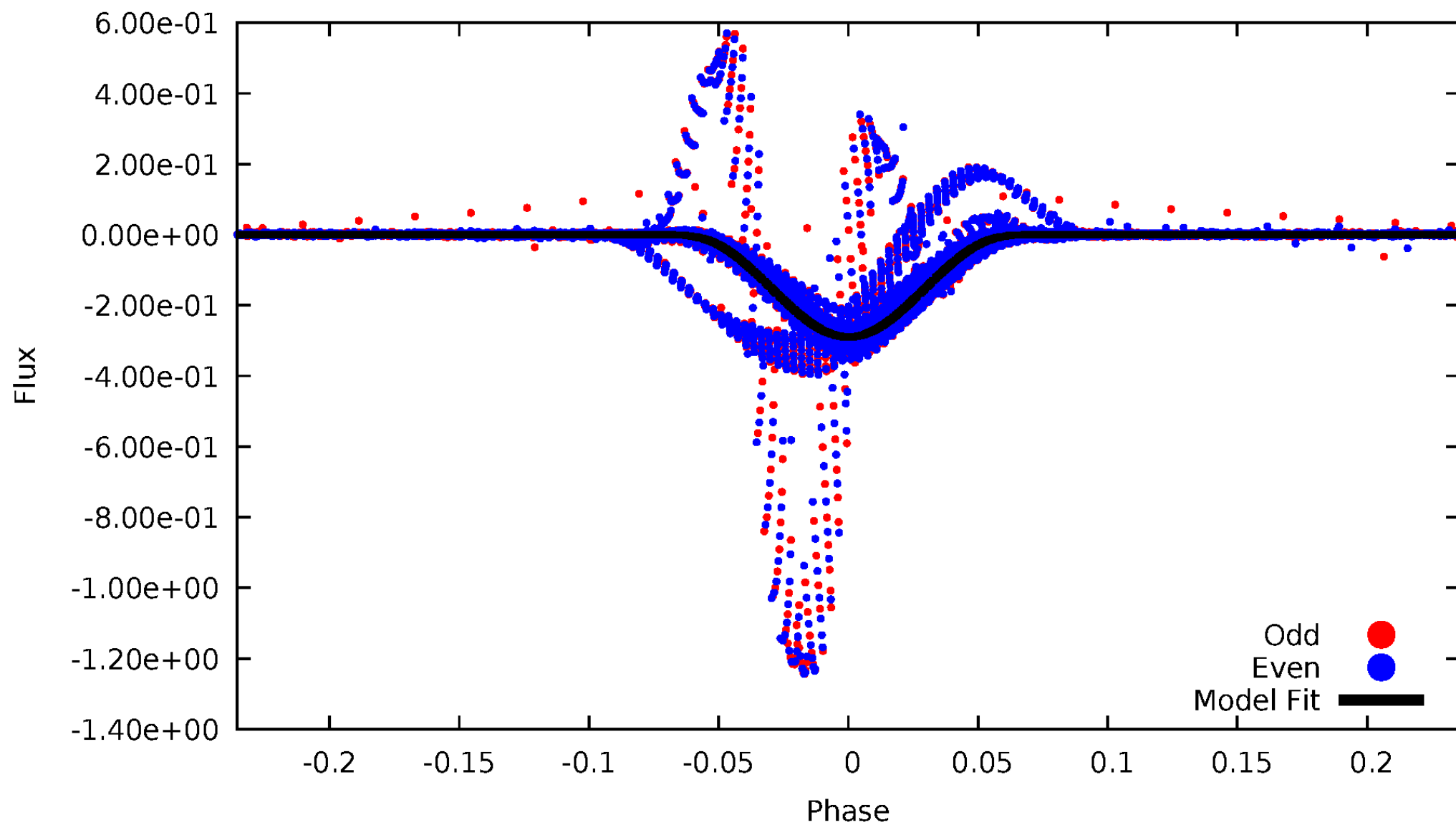


TCE 006778050-01



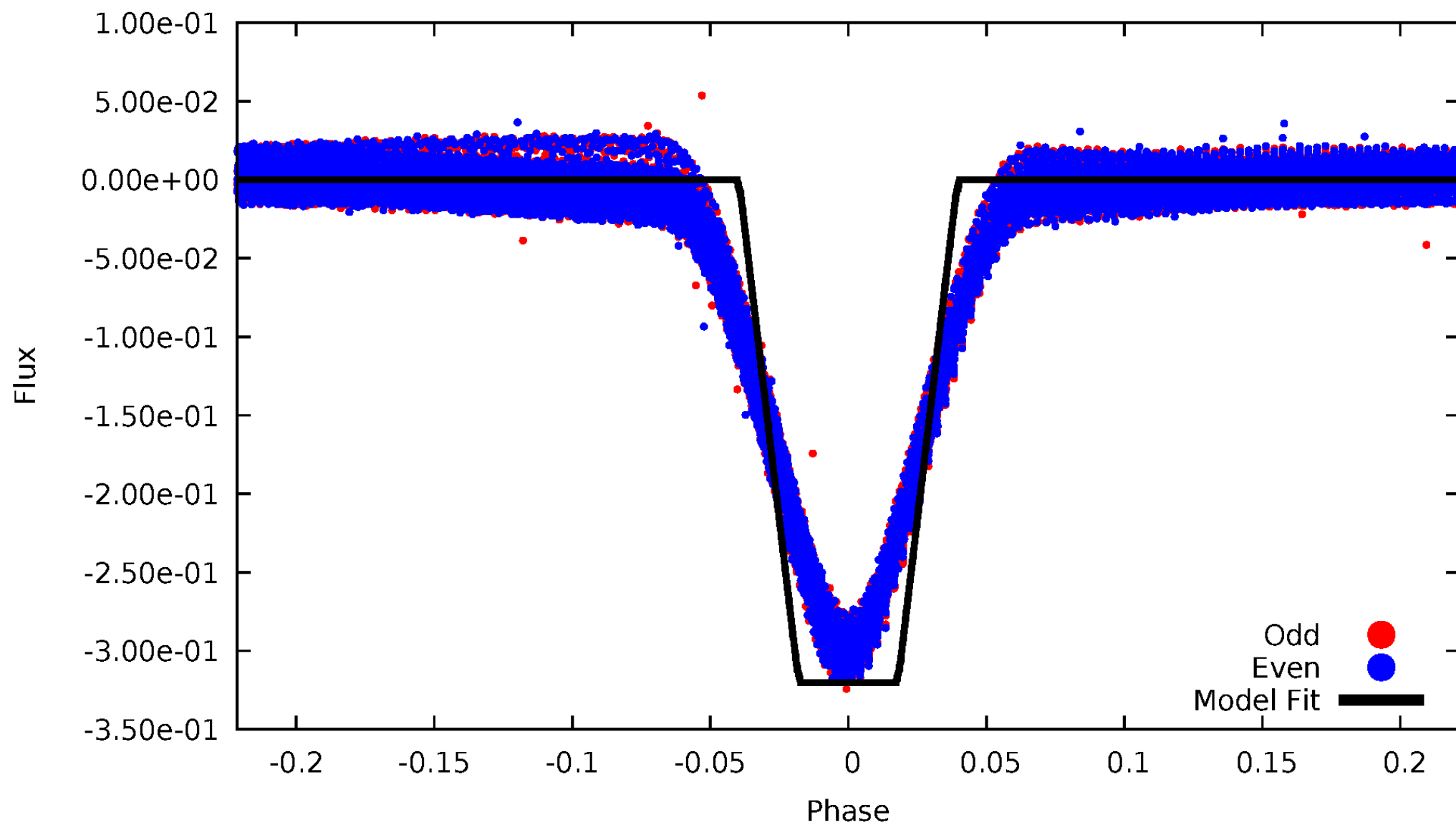
DV Odd/Even

TCE 006778050-01



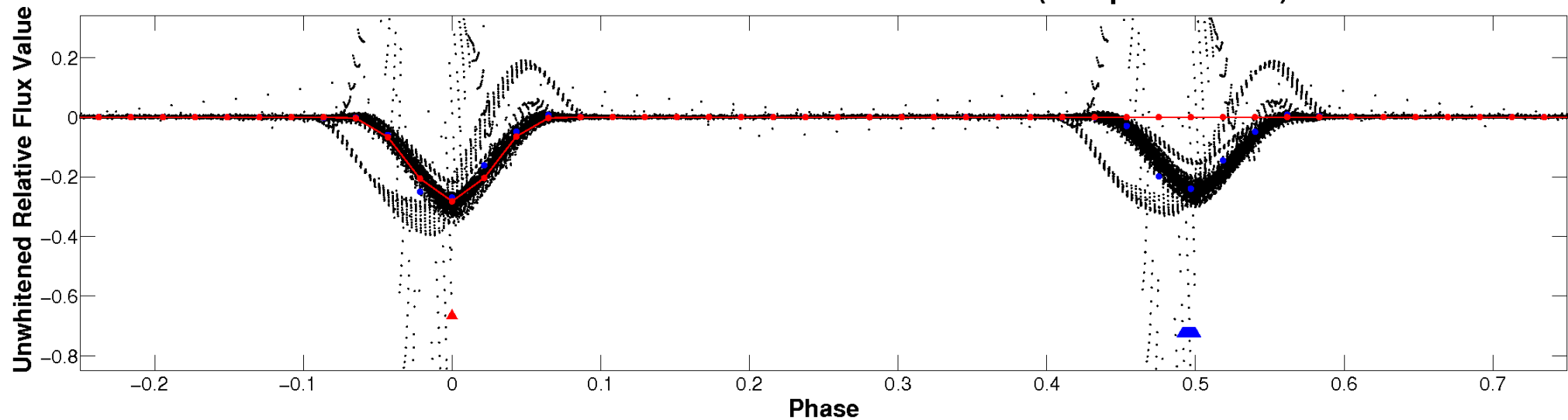
ALT Odd/Even

TCE 006778050-01

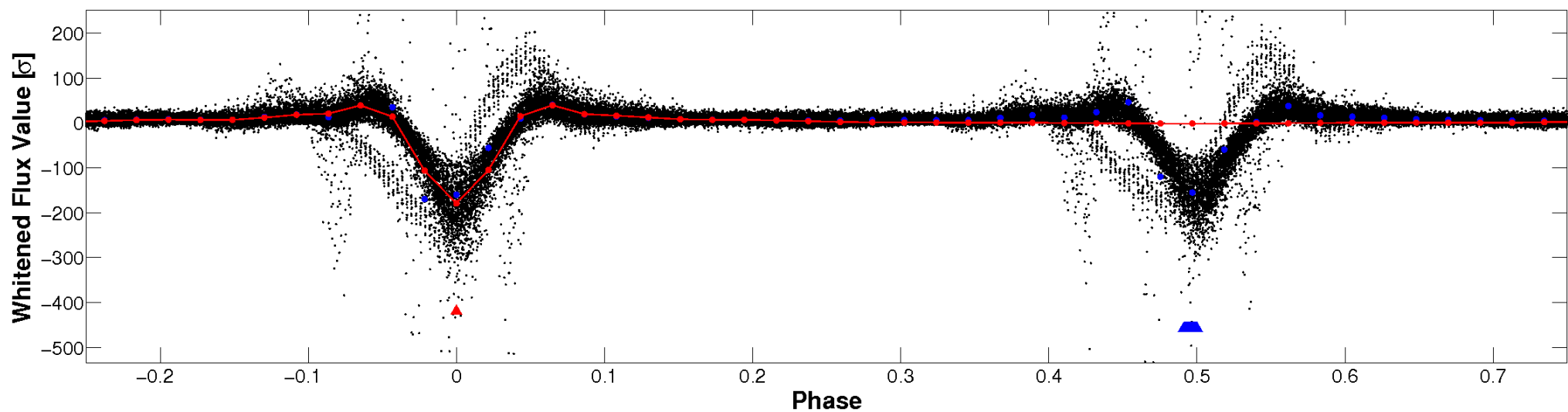


Non-Whitened Vs. Whitened Light Curve

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

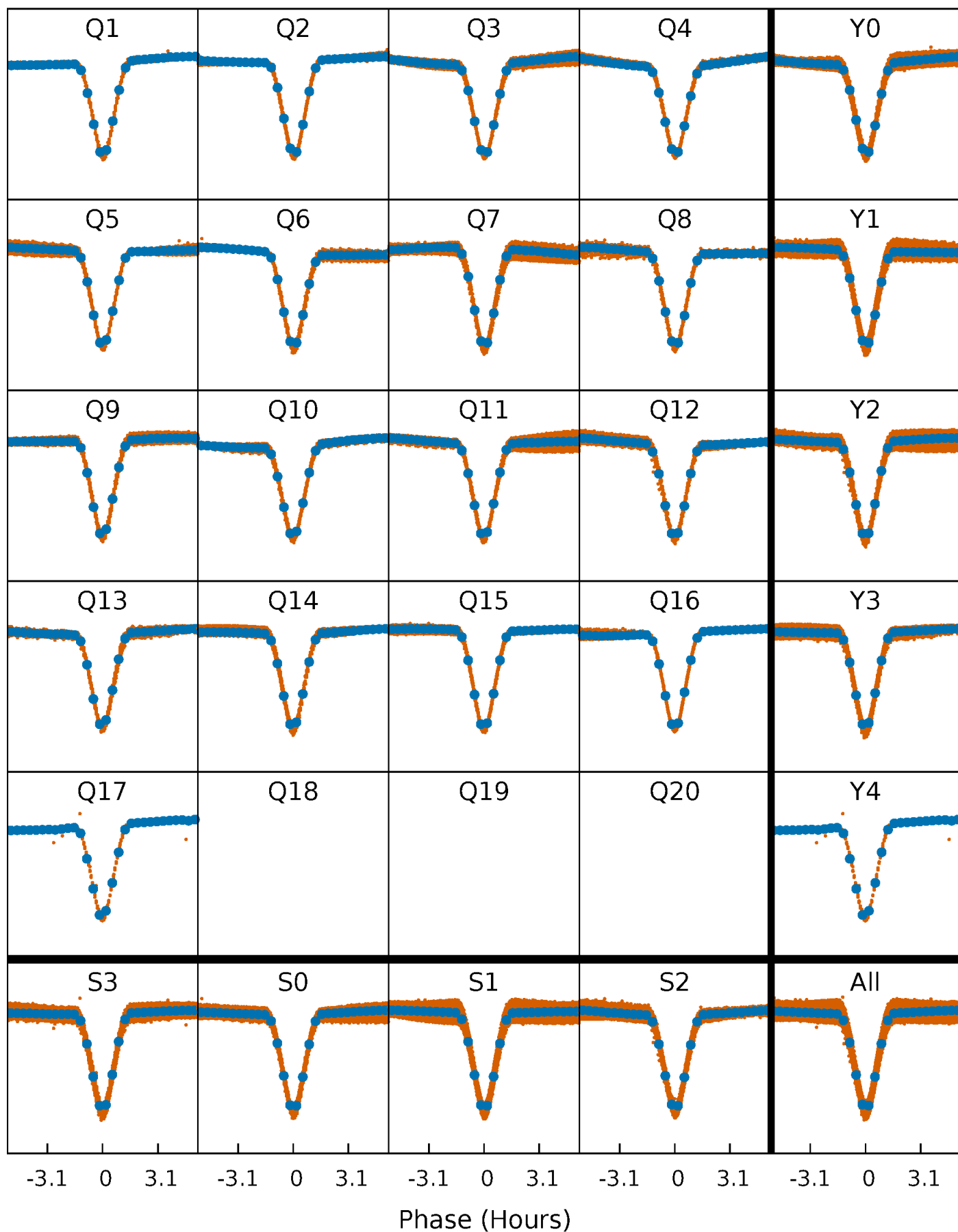


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



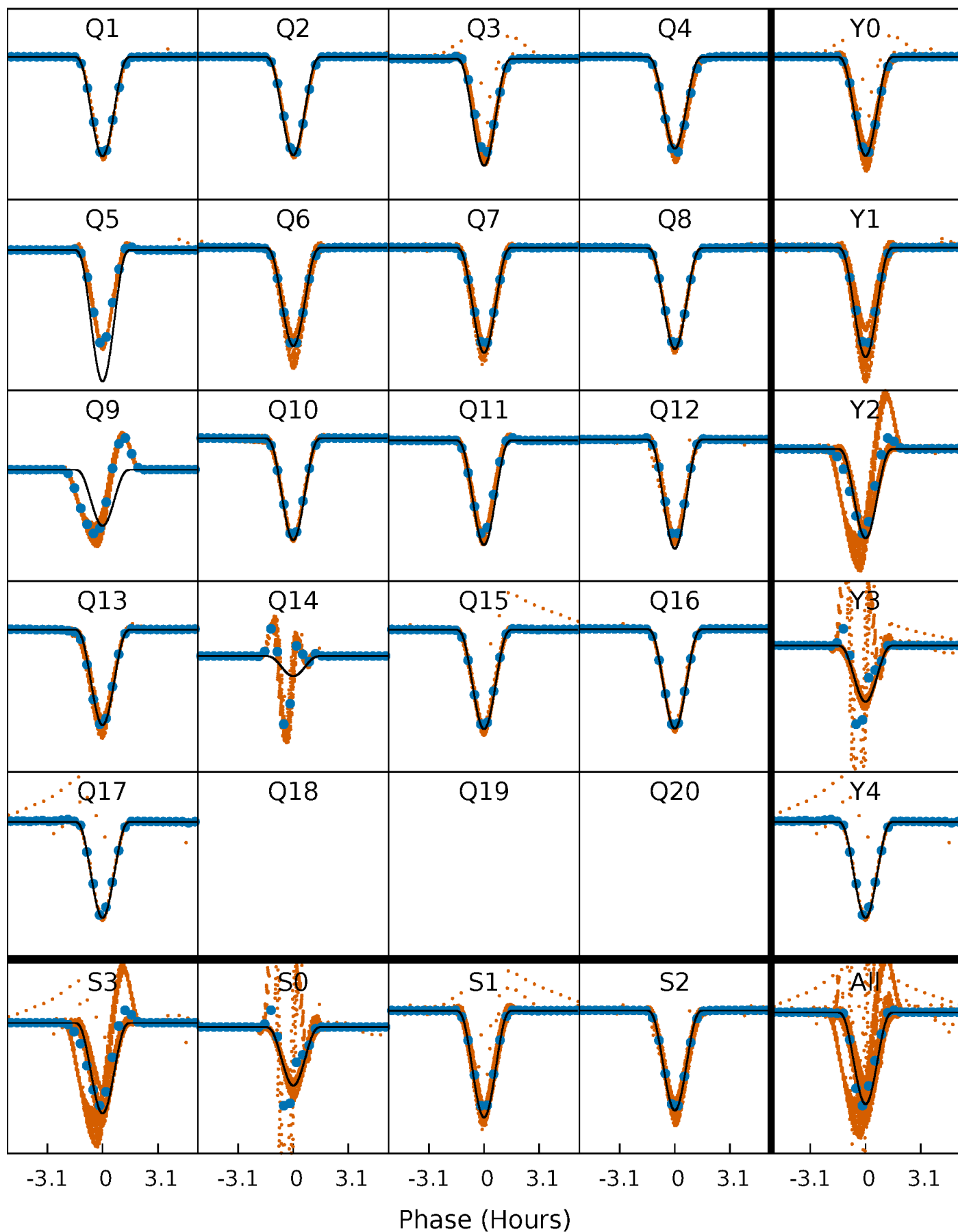
PDC Quarter-Phased Transit Curves

TCE 006778050-01 P= 0.945829 Days $T_0=131.619331$ (BKJD)



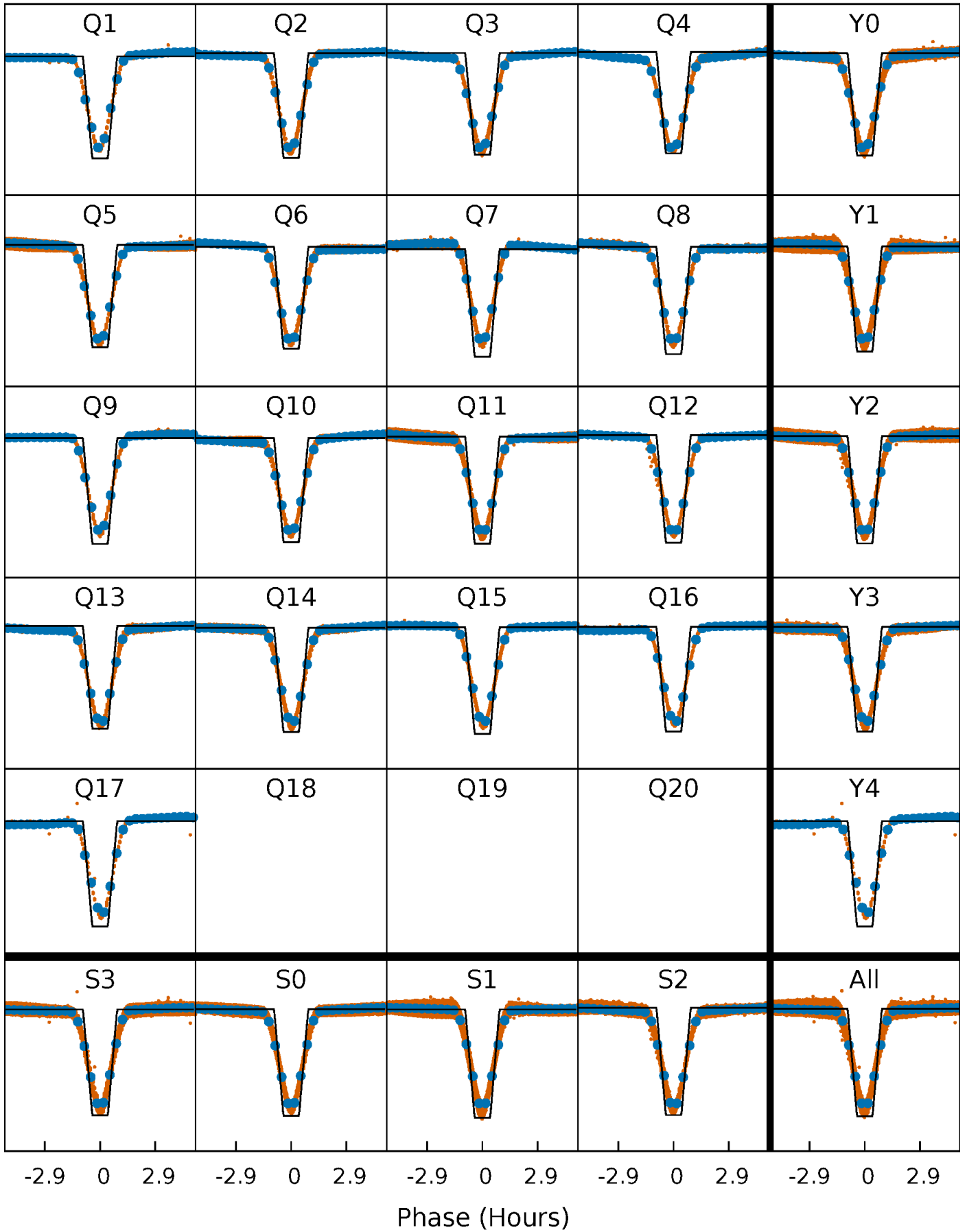
DV Quarter-Phased Transit Curves

TCE 006778050-01 P= 0.945829 Days $T_0=131.619331$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

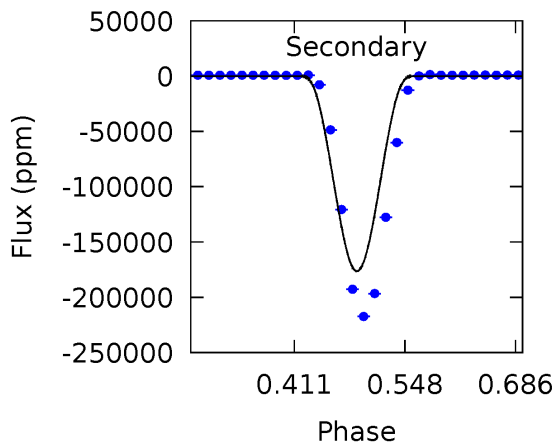
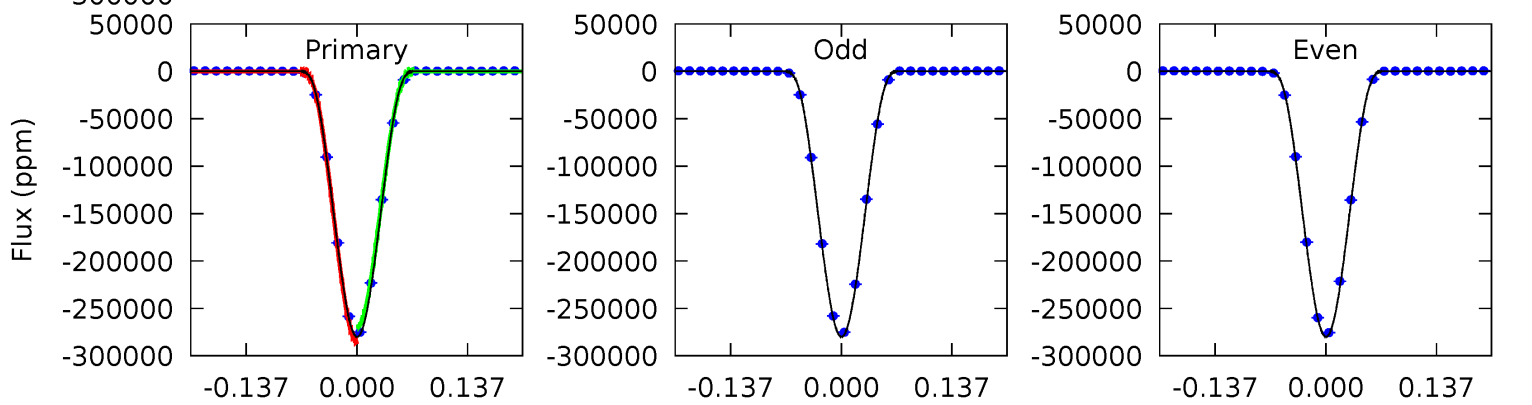
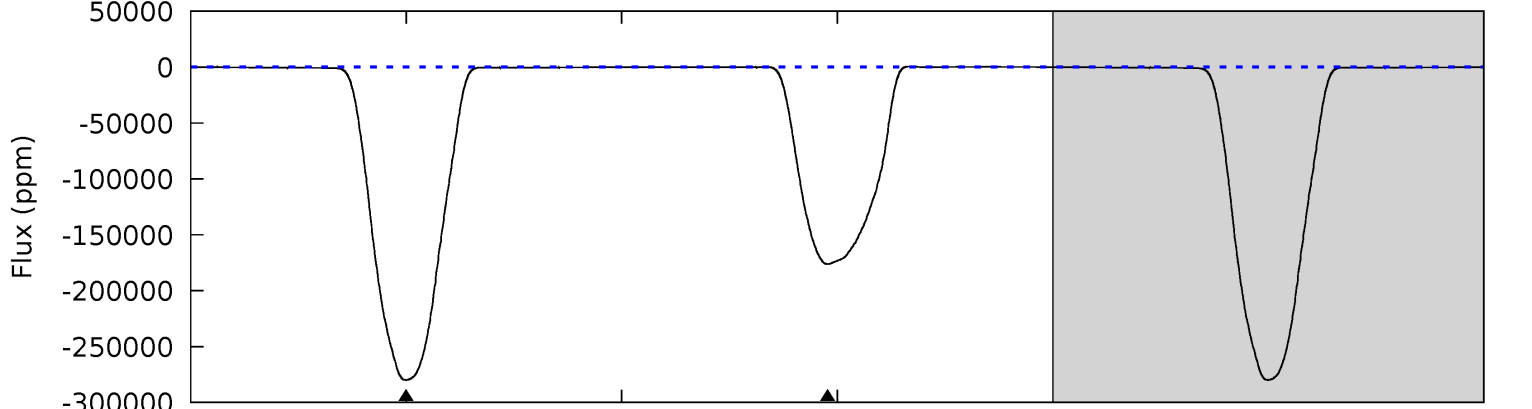
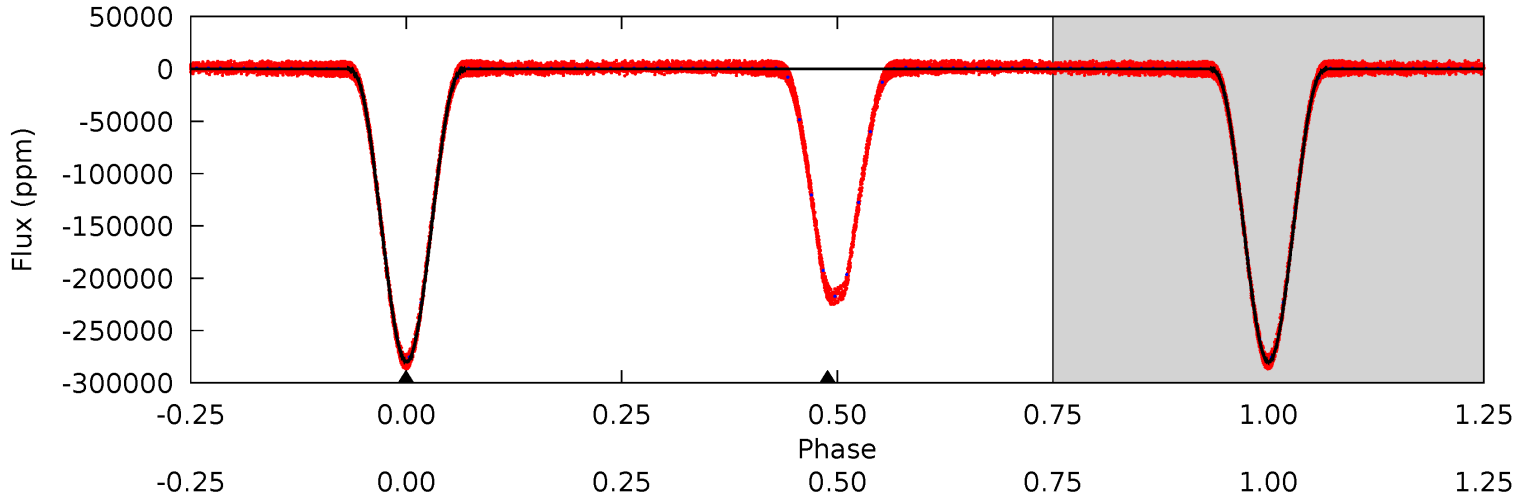
TCE 006778050-01 P= 0.945825 Days $T_0=131.622825$ (BKJD)



DV Model-Shift Uniqueness Test

006778050-01, P = 0.945829 Days, E = 130.673502 Days

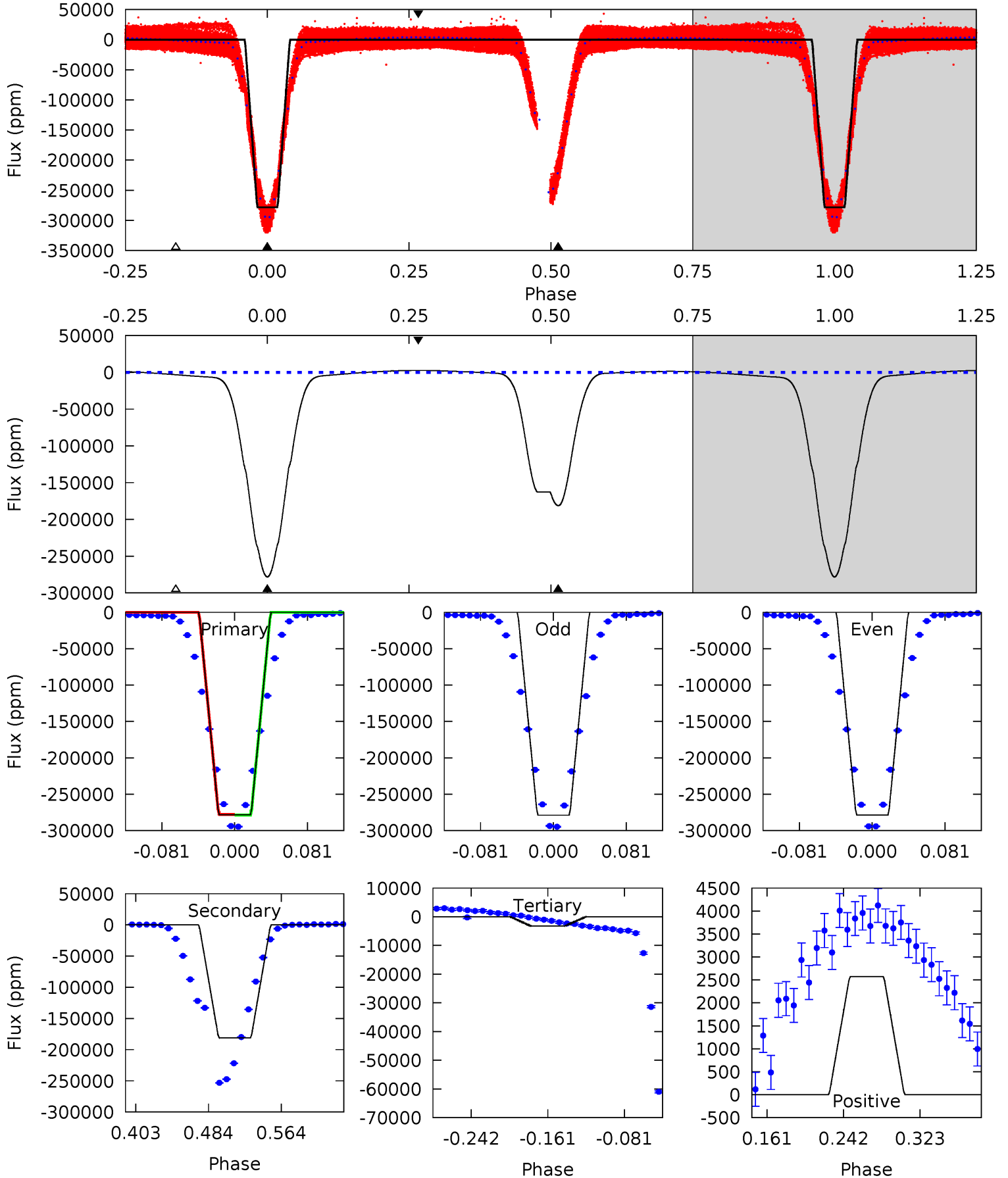
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10743	6764	0	0	4.50	1.49	9.56	10743	10743	6764	6764	0.12	1.00	0.00	0



Alt Model-Shift Uniqueness Test

006778050-01, P = 0.945825 Days, E = 130.677000 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2131	1387	24.5	19.7	4.61	1.75	22.5	2106	2111	1363	1368	0.23	1.00	0.01	2.98



Stellar Parameters For KIC 006778050

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5235^{+158}_{-142}	$4.604^{+0.036}_{-0.090}$	$-0.160^{+0.300}_{-0.300}$	$0.751^{+0.112}_{-0.060}$	$0.838^{+0.069}_{-0.103}$	$2.784^{+0.456}_{-0.829}$
	+3%/-3%	+1%/-2%	+188%/-188%	+15%/-8%	+8%/-12%	+16%/-30%
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 006778050-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-176267 ± 26	$53.04^{+4.25}_{-3.20}$	2135^{+81}_{-84}	4576^{+121}_{-127}	13^{+1}_{-2}
Alt.	-181185 ± 131	$46.95^{+4.28}_{-2.69}$	2125^{+81}_{-76}	4814^{+146}_{-130}	17^{+2}_{-2}

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

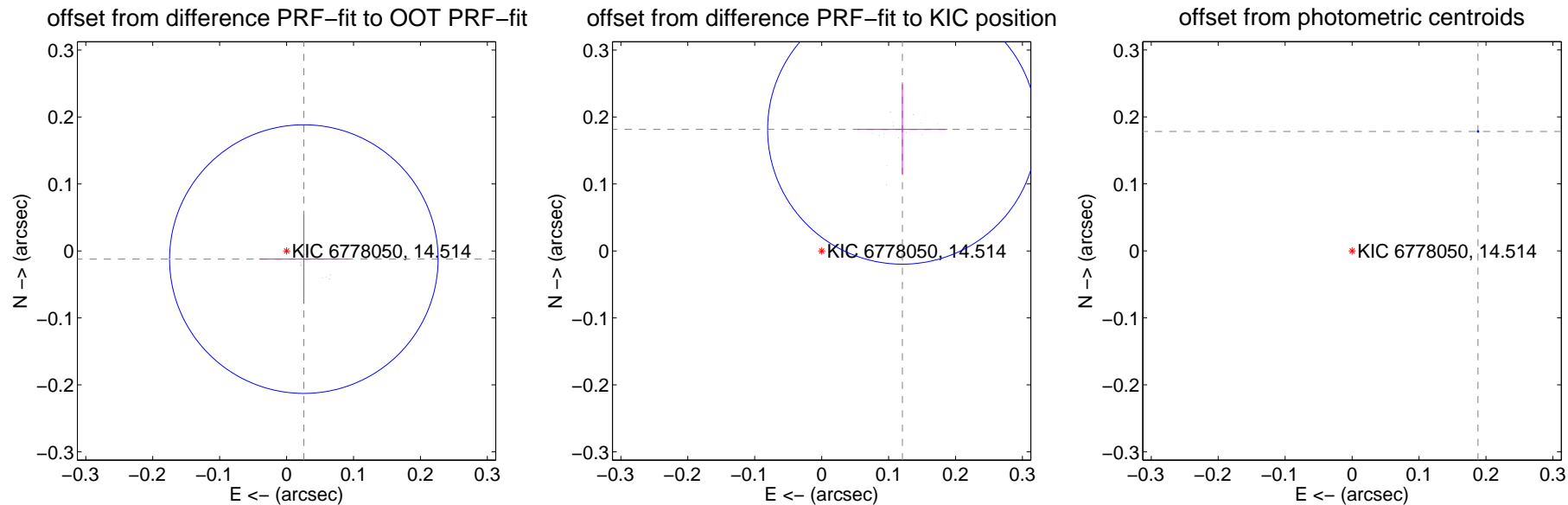
DV Centroid Data

Supplemental centroid analysis for 006778050-01. Kepler magnitude: 14.51. Transit SNR 5426.12

There are 17 quarters with good PRF difference image offsets

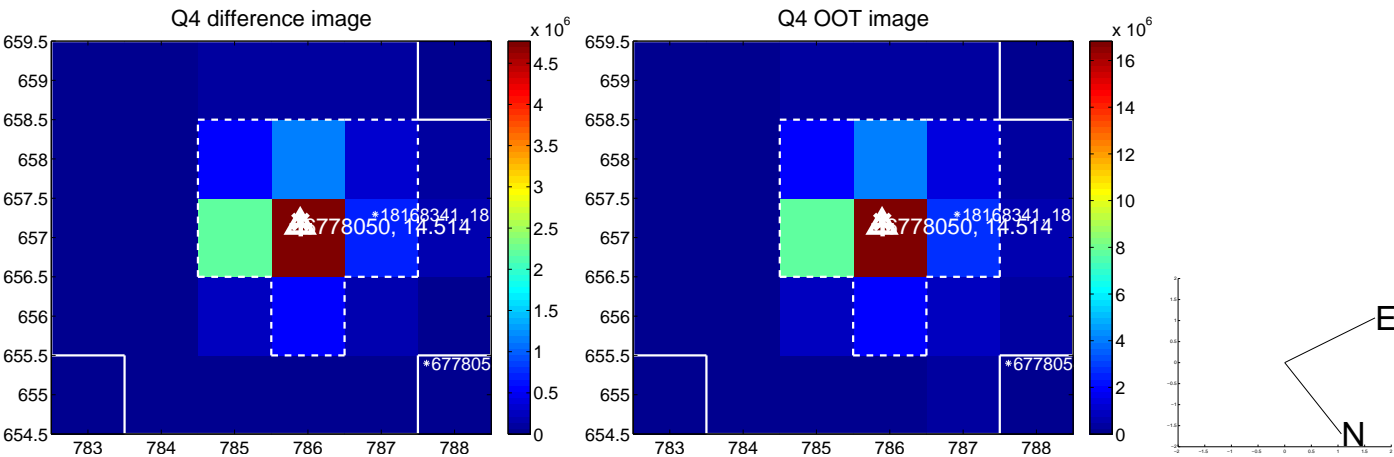
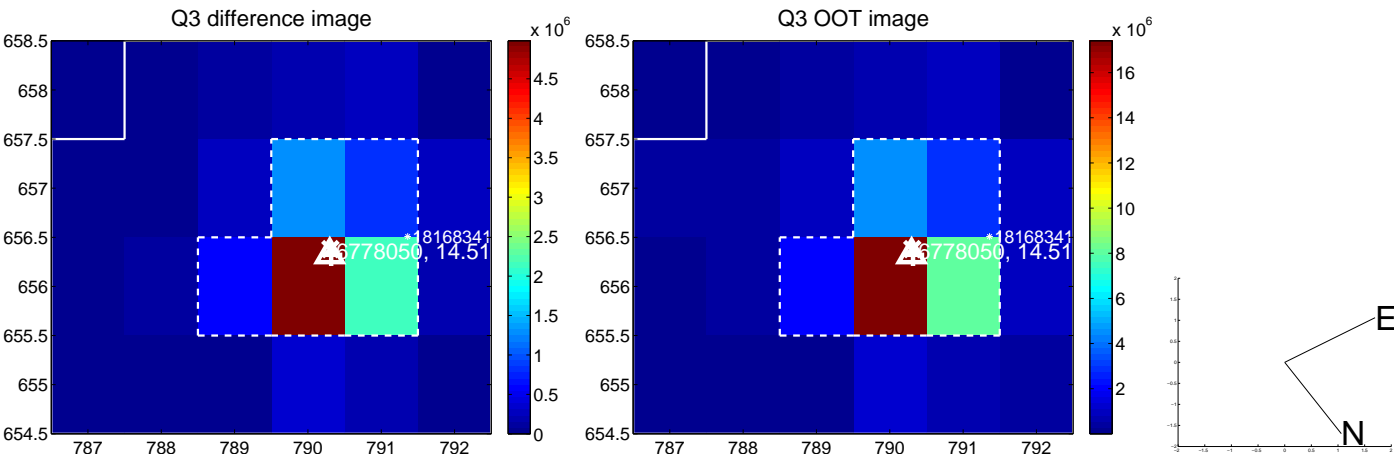
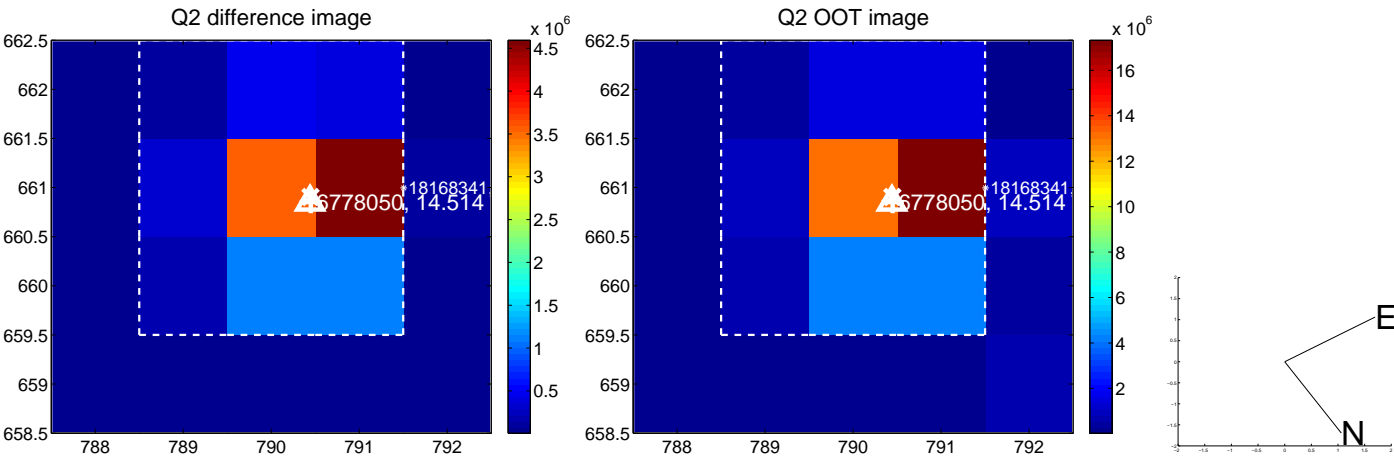
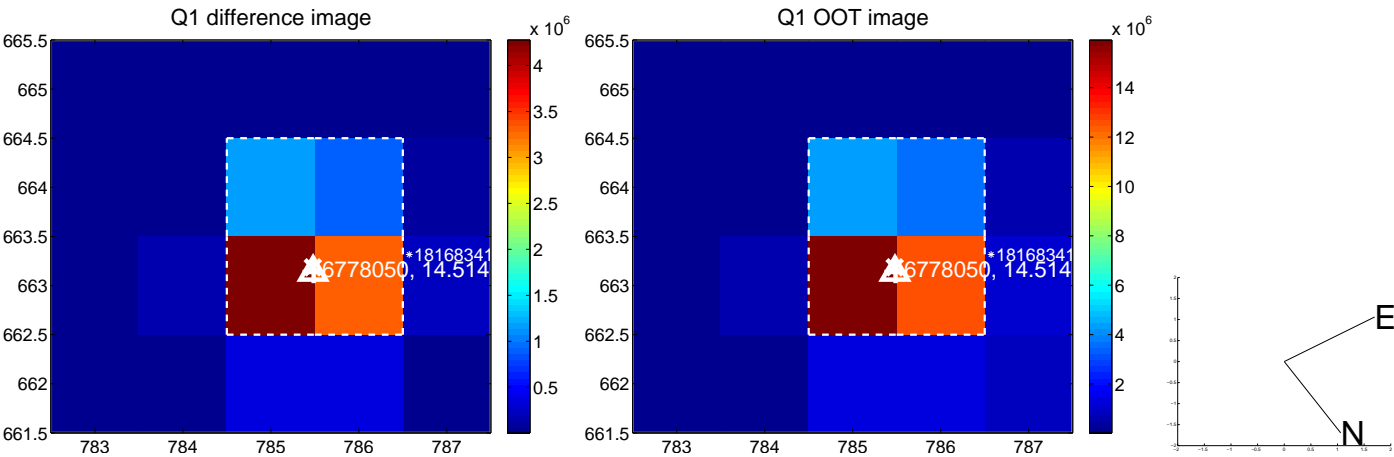
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.029 ± 0.067	0.43	-0.026 ± 0.067	-0.012 ± 0.067
PRF-fit source offset from KIC position	0.218 ± 0.067	3.25	-0.121 ± 0.067	0.181 ± 0.067
photometric centroid source offset	0.26 ± 0.00	627.37	-0.19 ± 0.00	0.18 ± 0.00

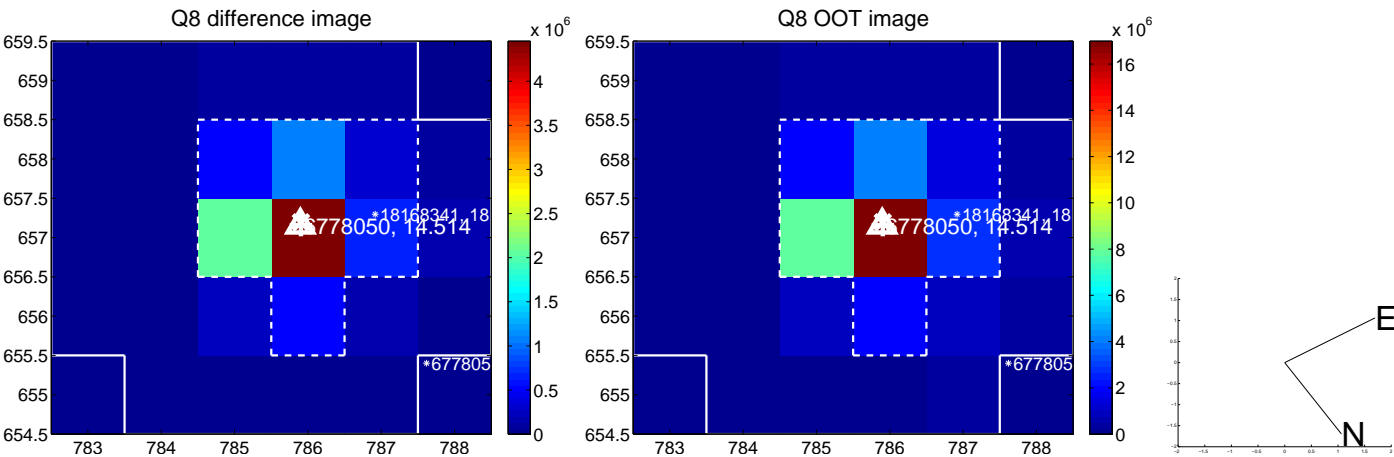
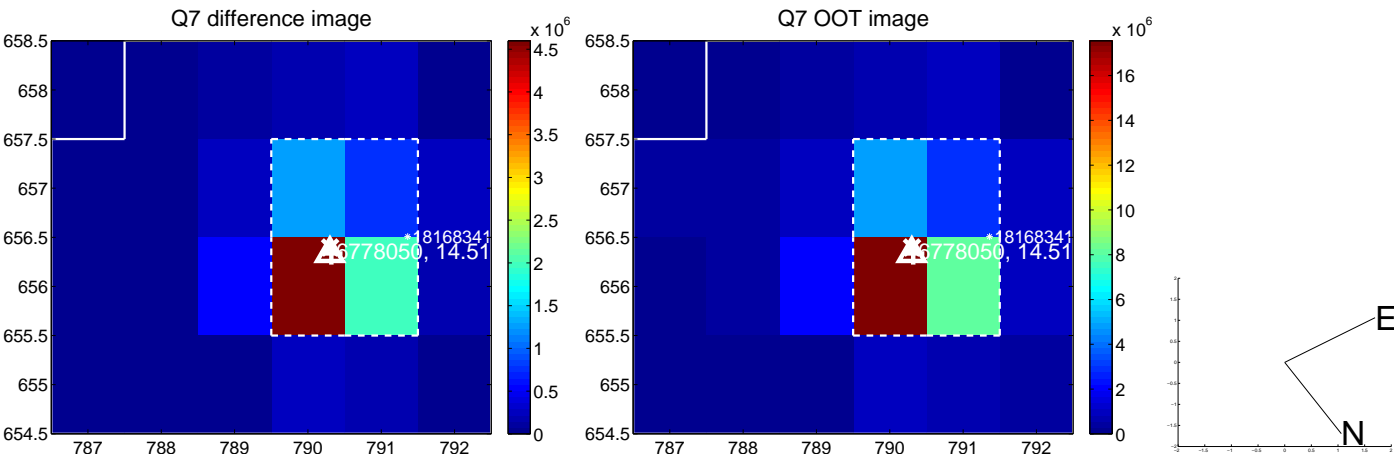
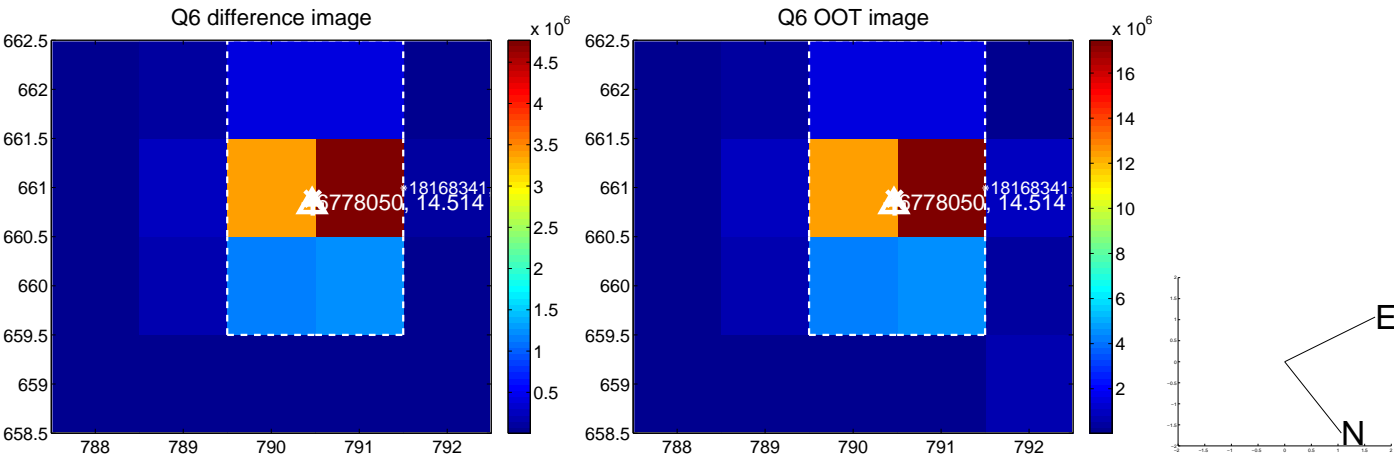
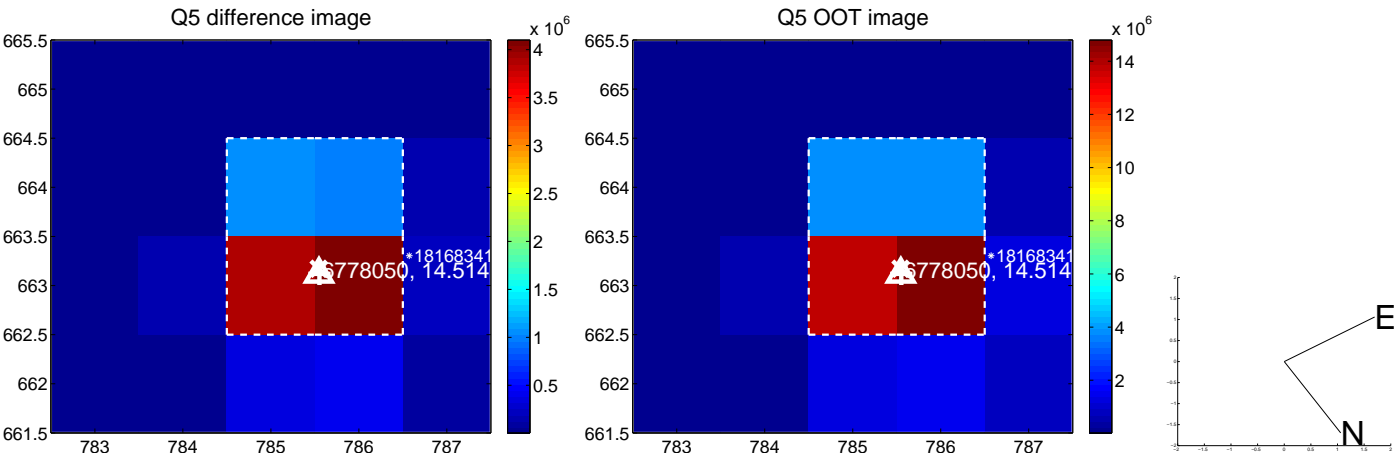


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

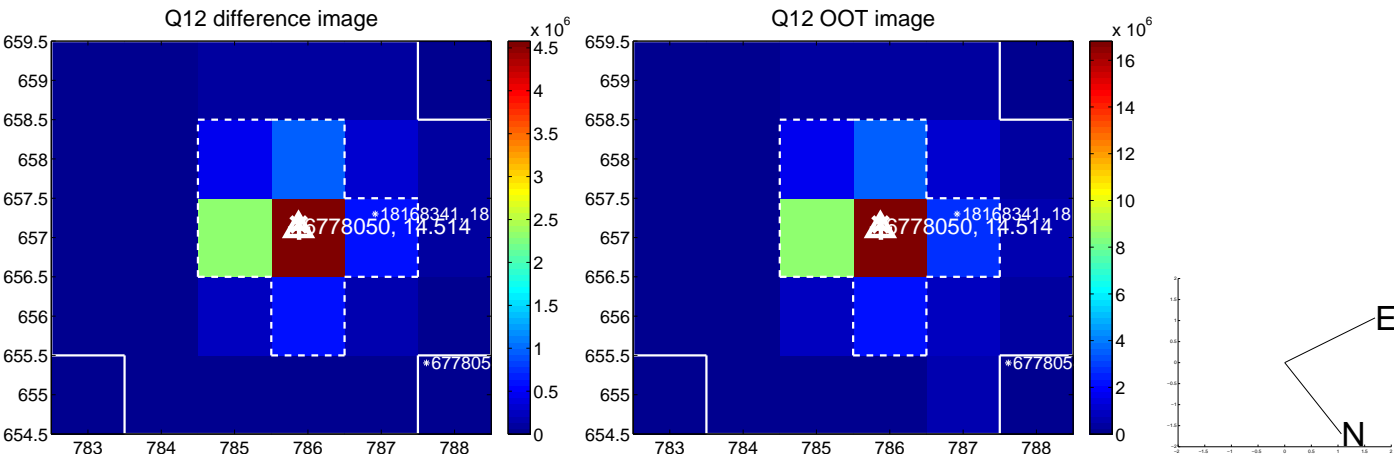
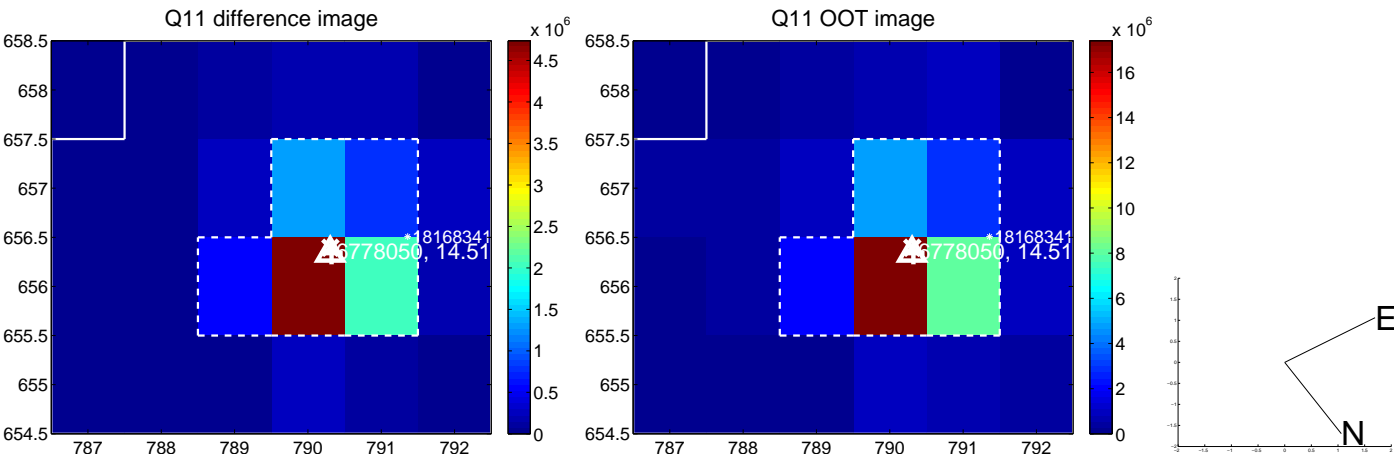
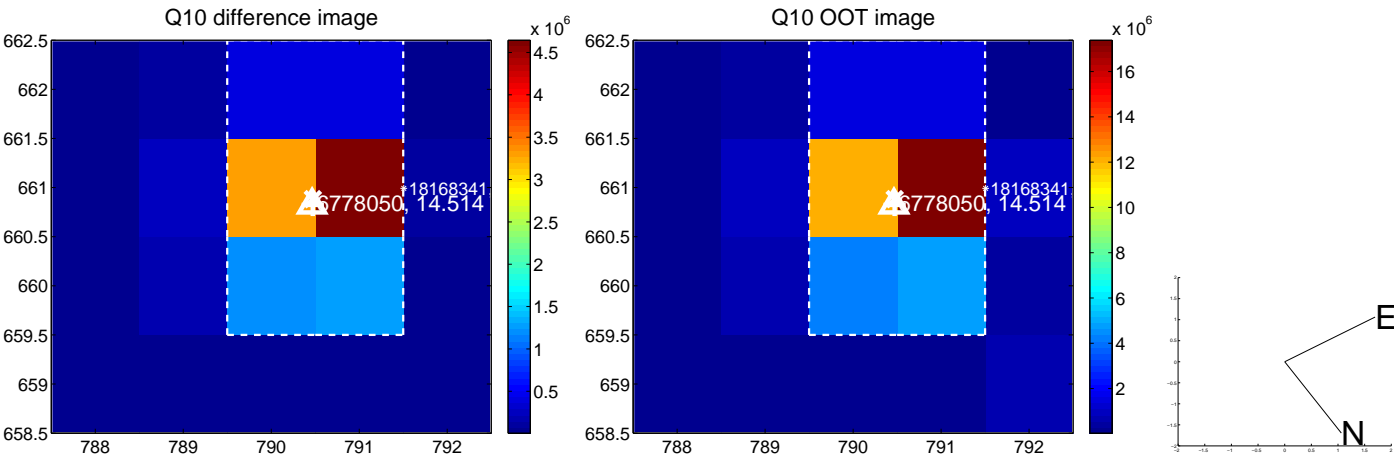
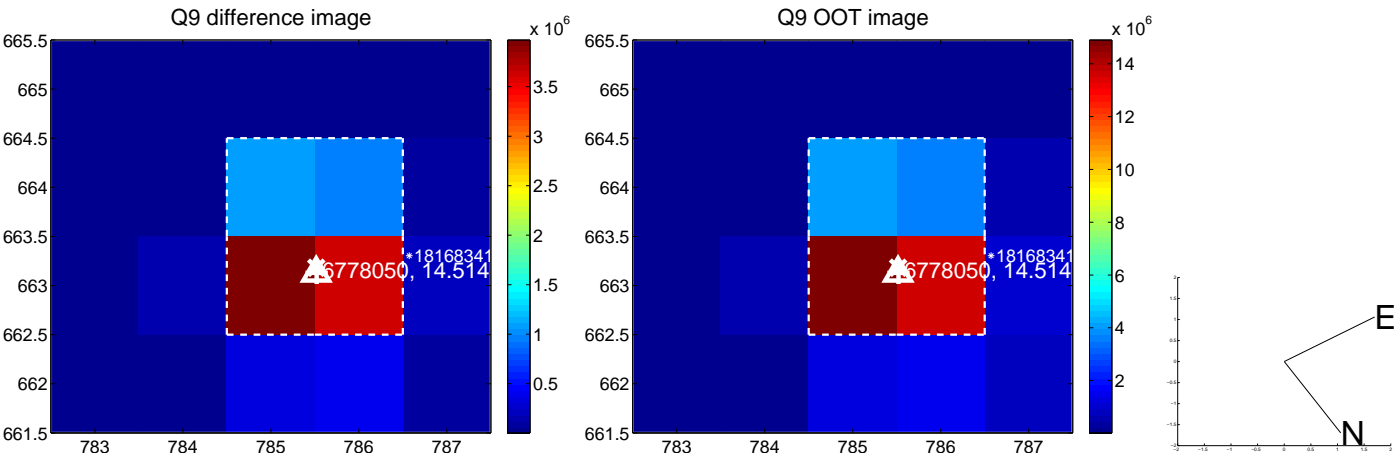
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



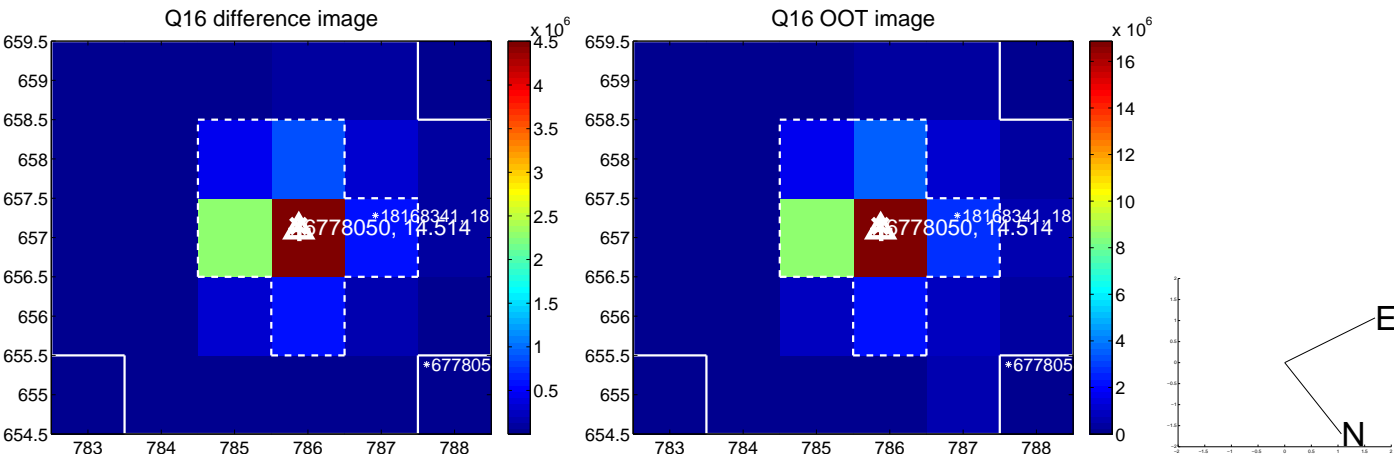
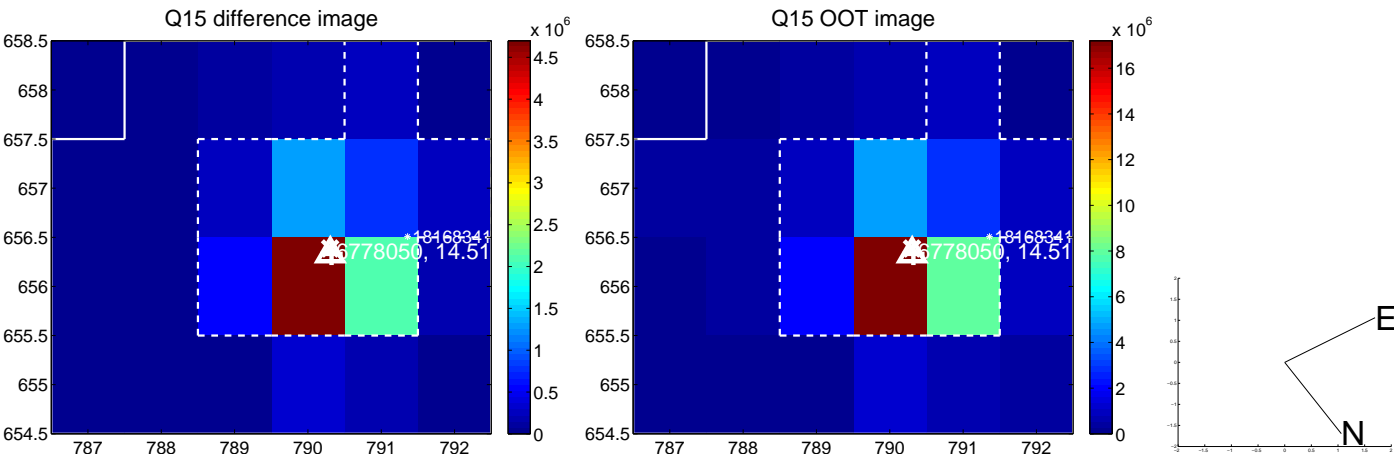
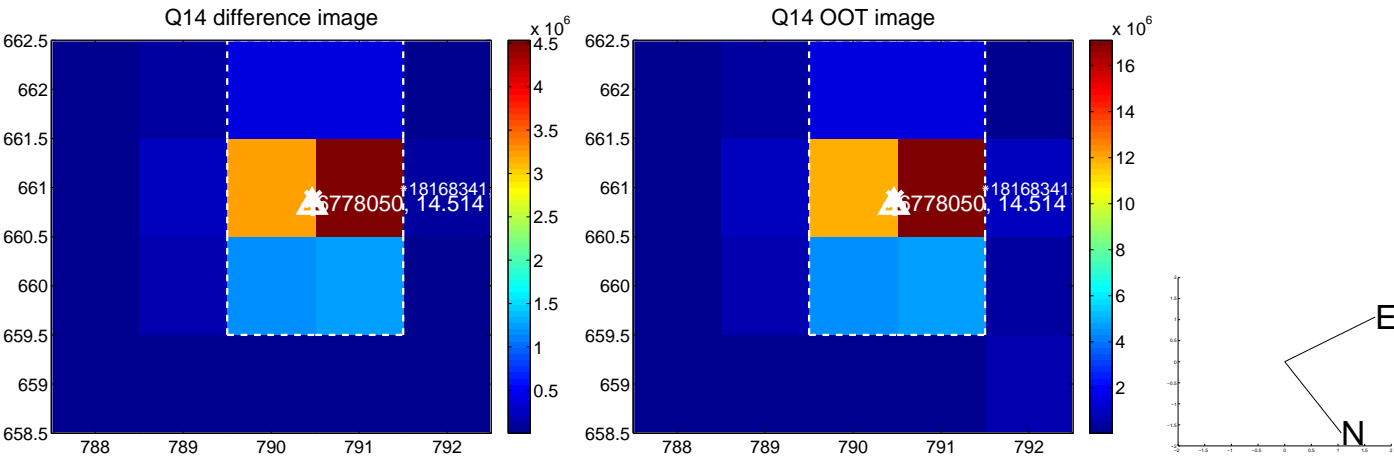
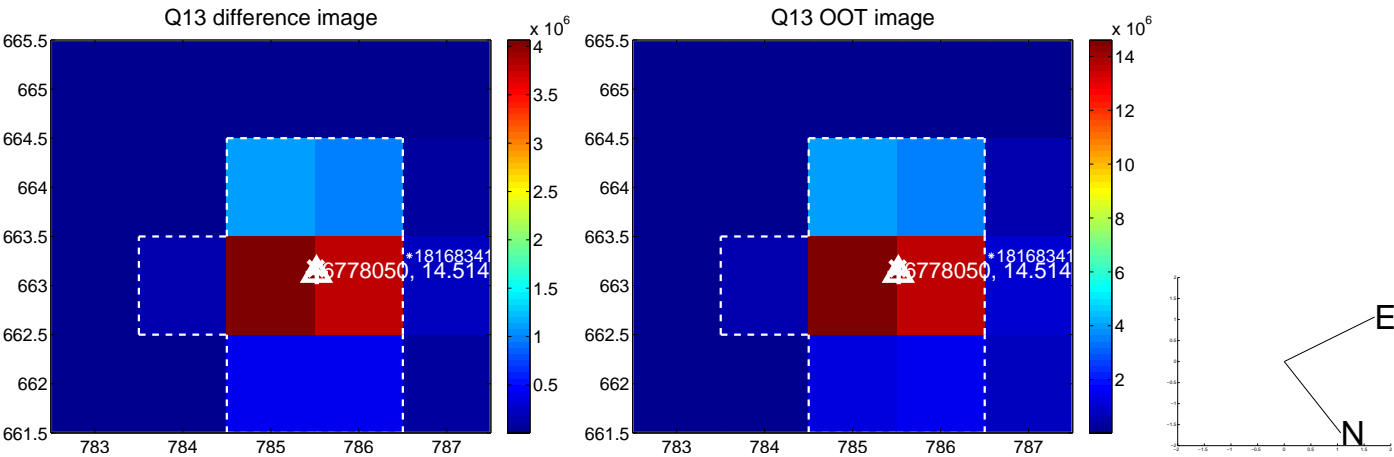
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



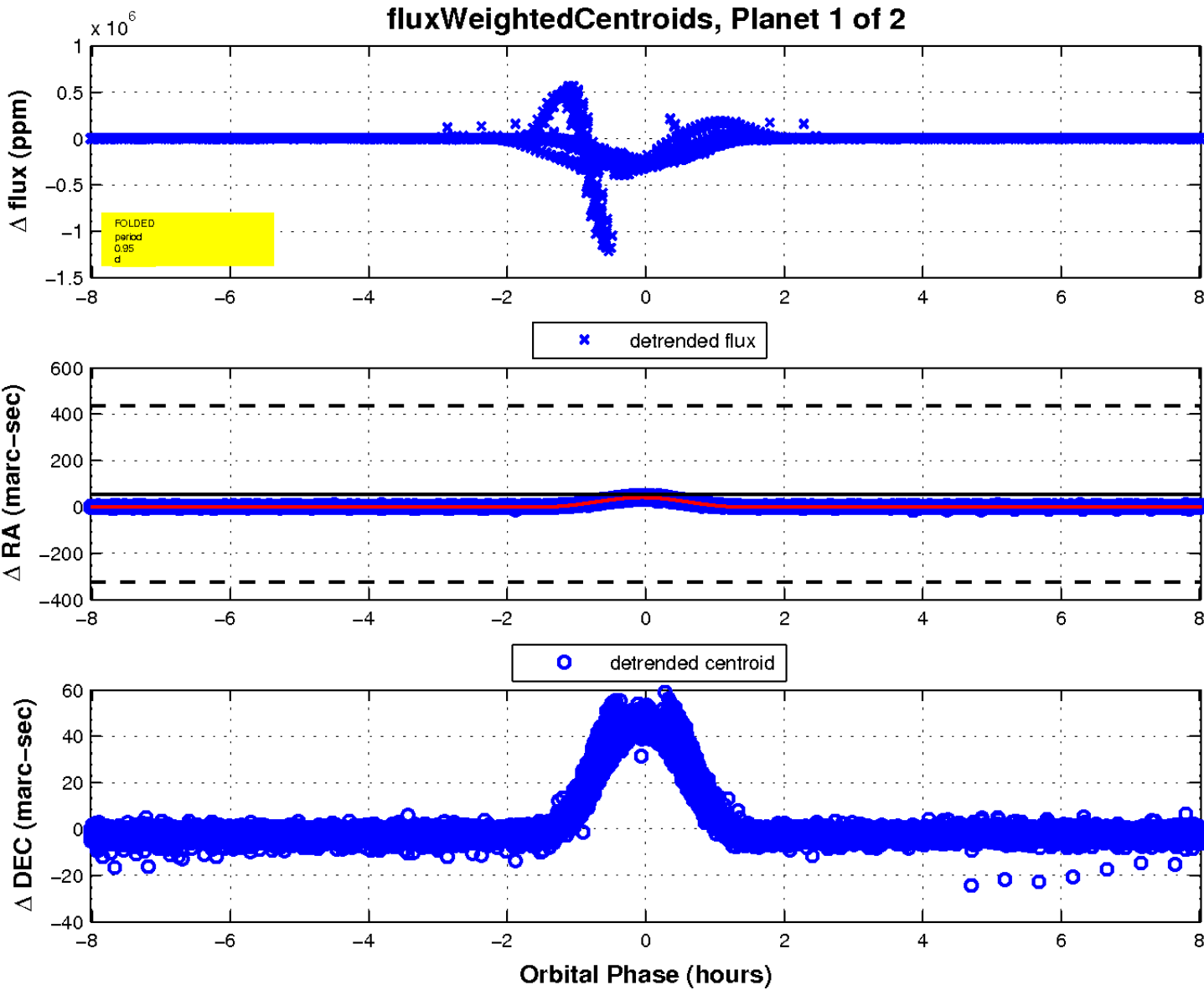
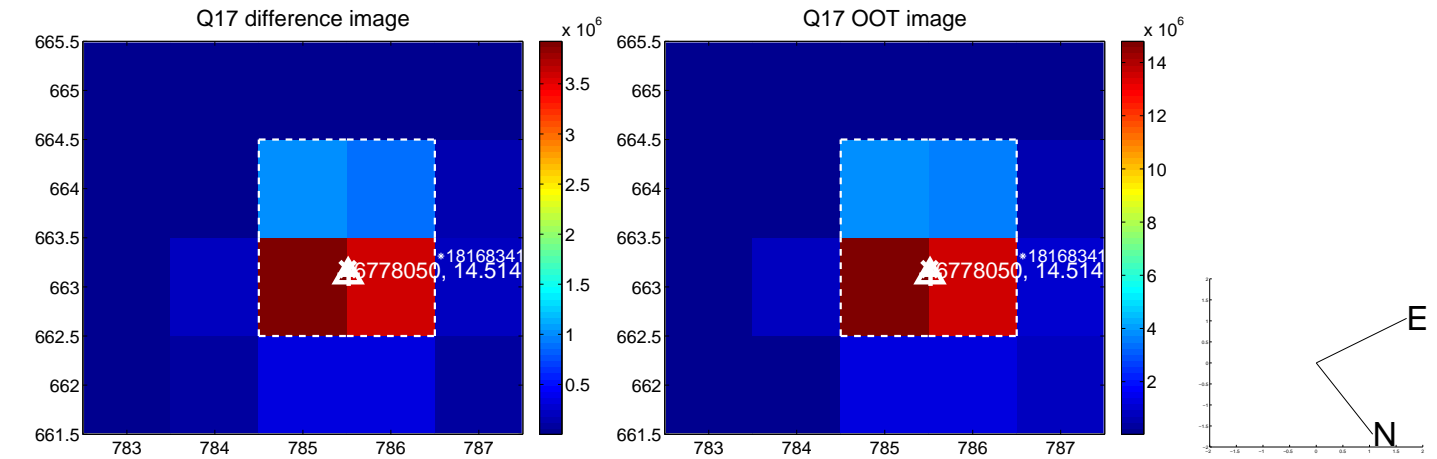
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



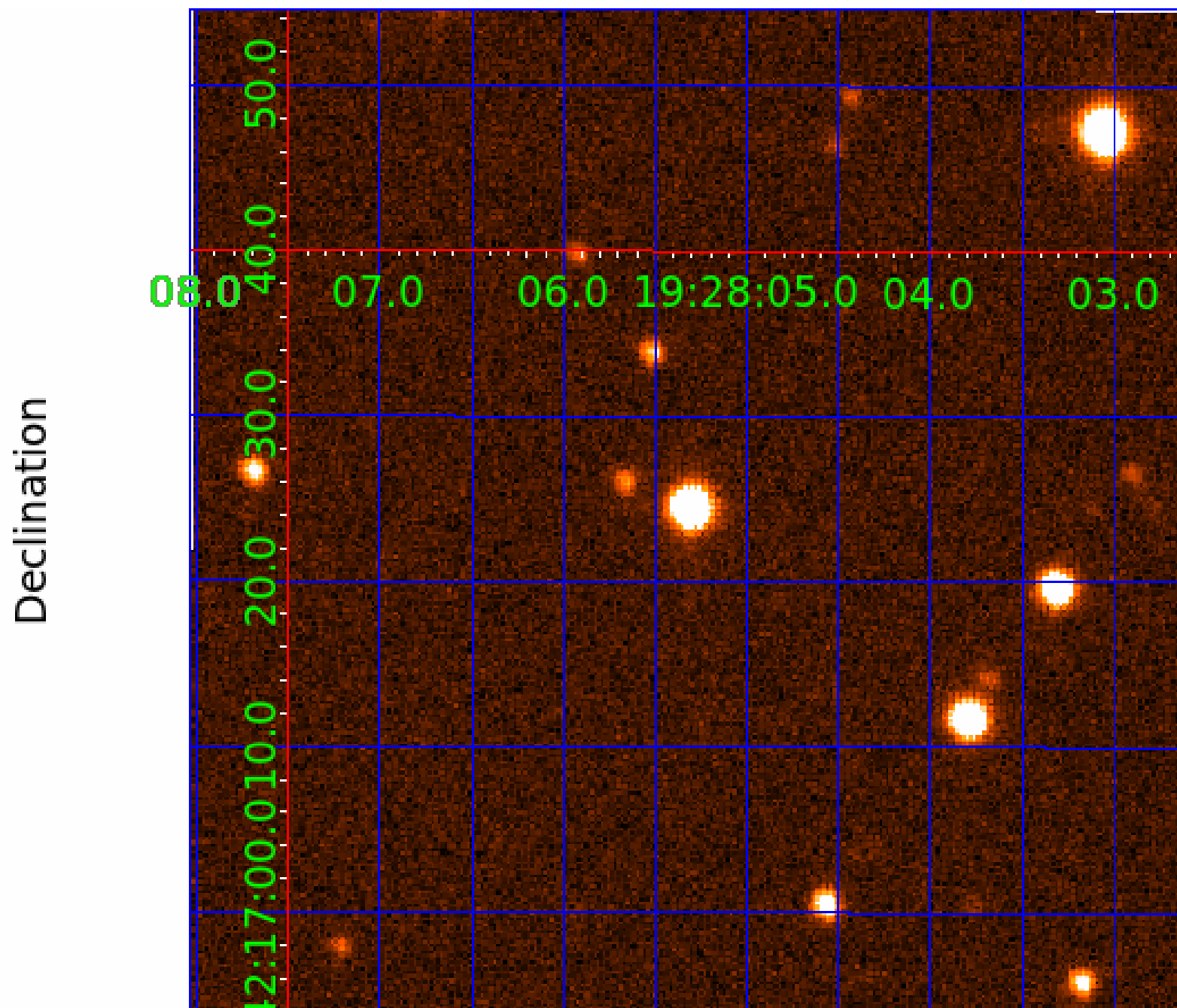
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006778050

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})
006778050-01	OBS	No	0.945829	131.619331	289686.8	2.674	7730.7	5426.1	0.75	5235	52.09	1211.26
006778050-02	OBS	No	0.945824	132.092244	114895.3	1.500	9957.0	-1.0	0.75	5235	25.27	1211.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006778050-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006778050-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

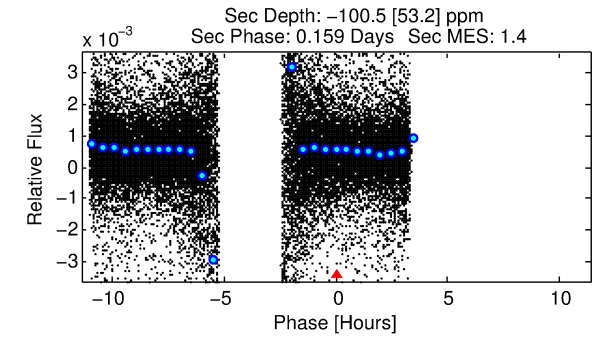
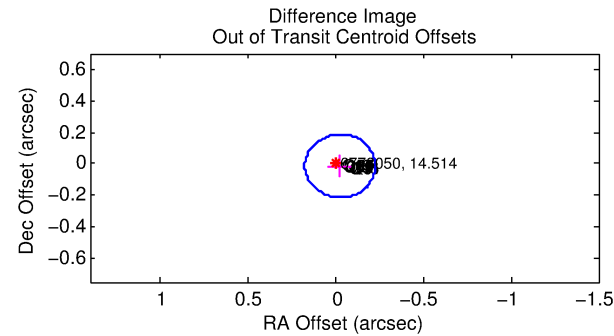
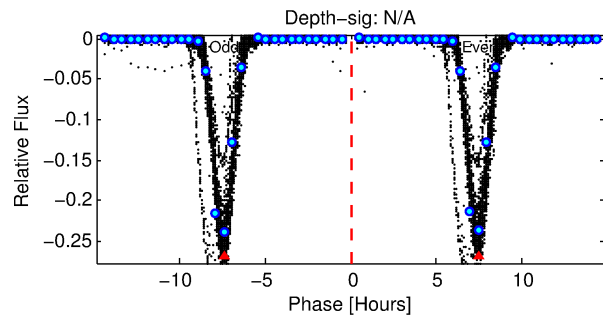
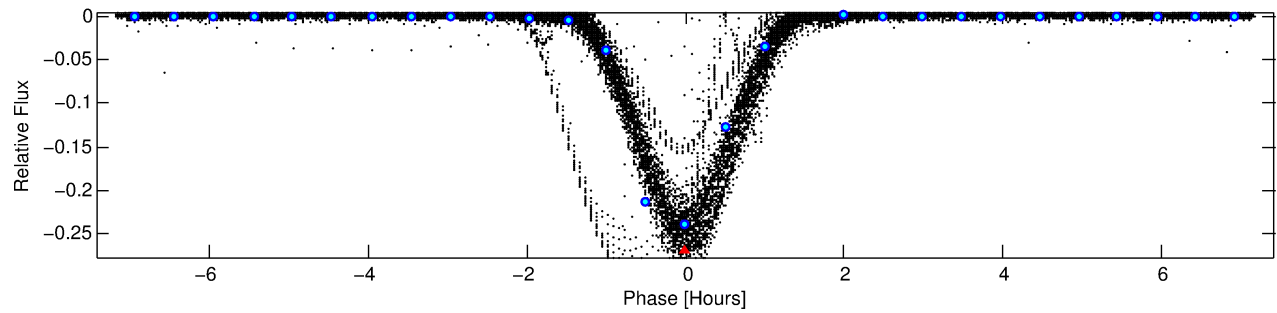
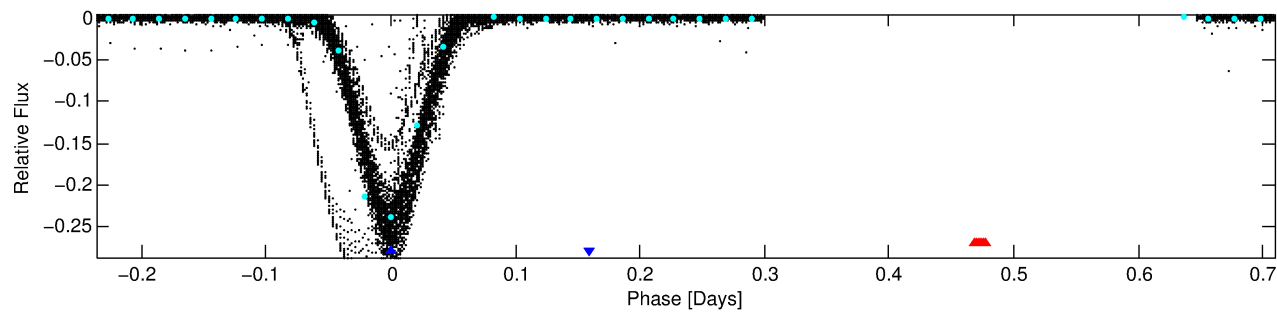
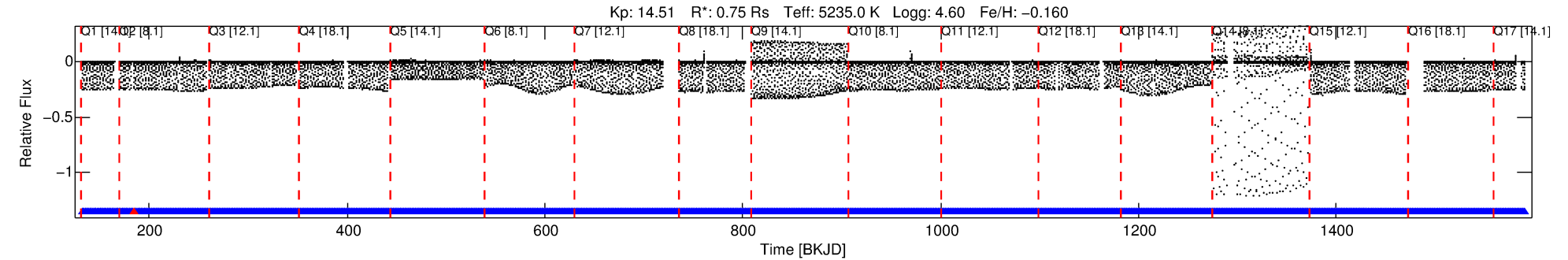
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006778050-02

No Significant Match Found

DV One-Page Summary

KIC: 6778050 Candidate: 2 of 2 Period: 0.946 d



TPS TCE Results:

Period = 0.94582 d
Epoch = 132.0922 BKJD

DV fit results are unavailable

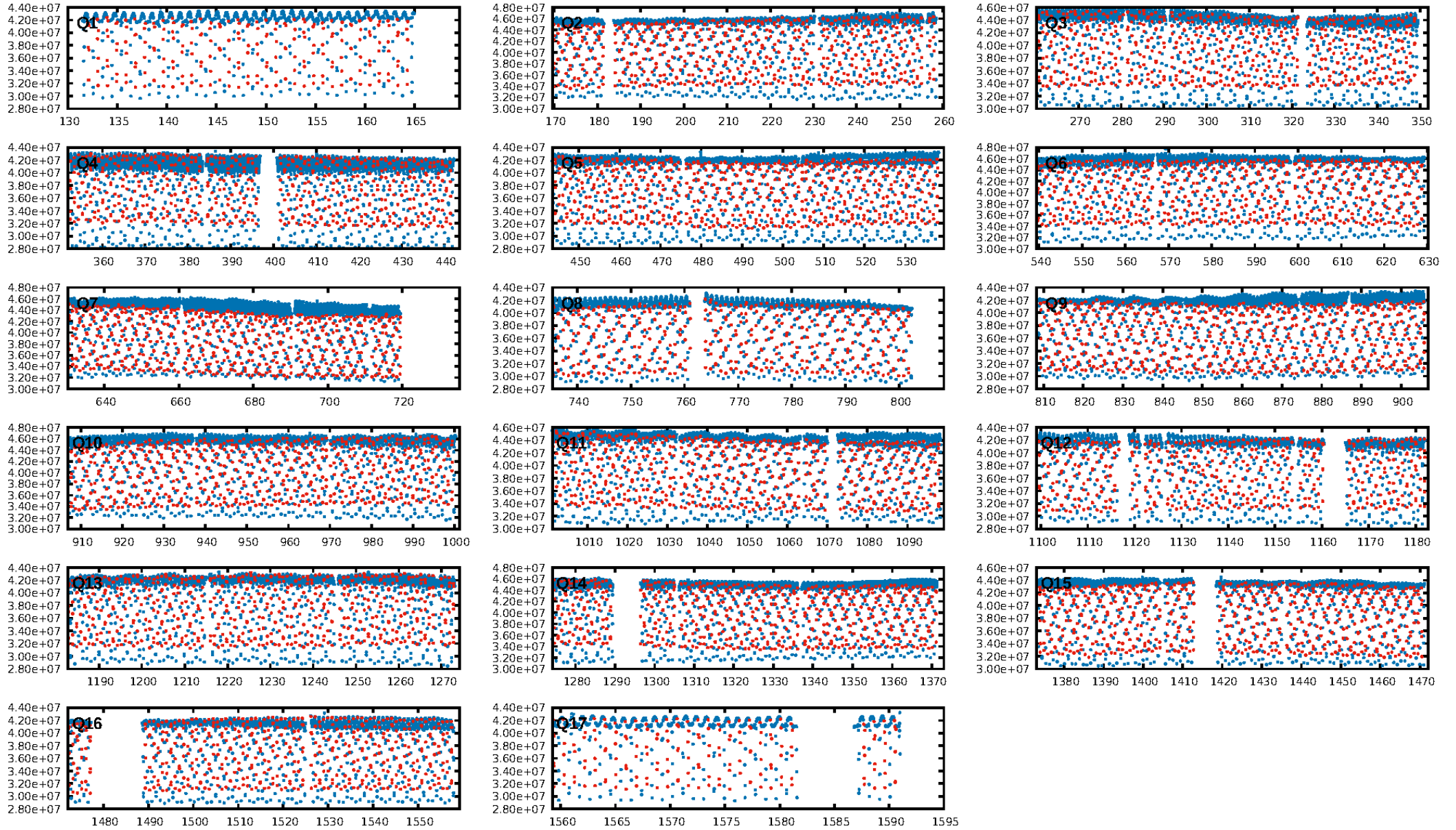
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1351/1352]
GhostDiagnostic-chr: 1.242
Centroid-sig: N/A
Centroid-so: 0.263 arcsec [640.21σ]
OotOffset-rm: 0.029 arcsec [0.43σ]
KicOffset-rm: 0.218 arcsec [3.25σ]
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]

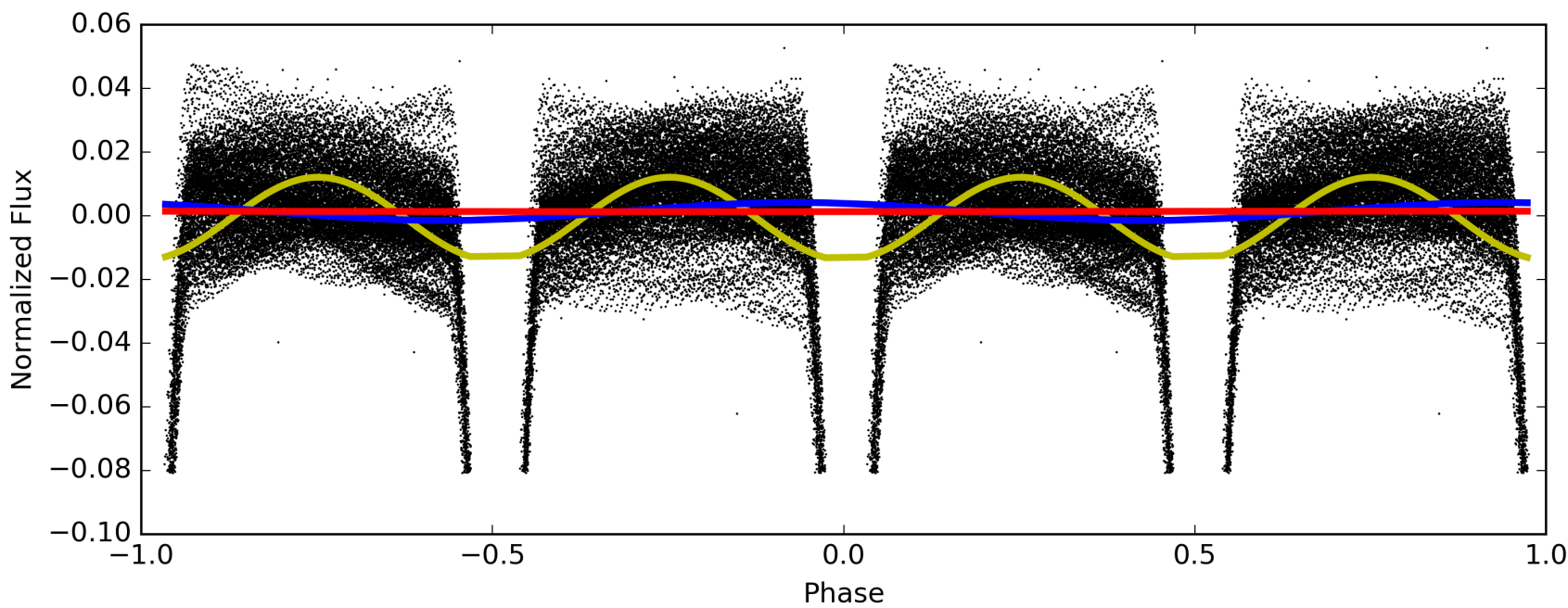
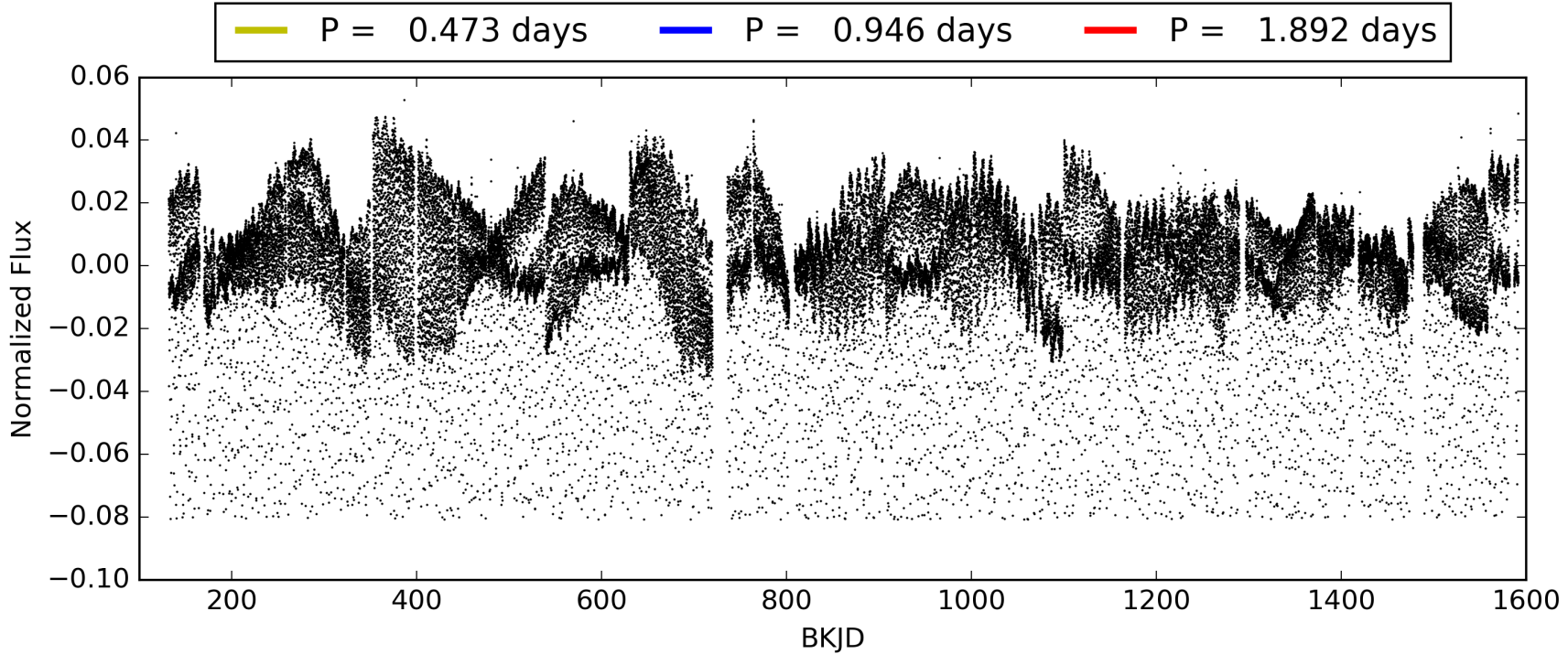
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006778050-02, PDC Light Curves

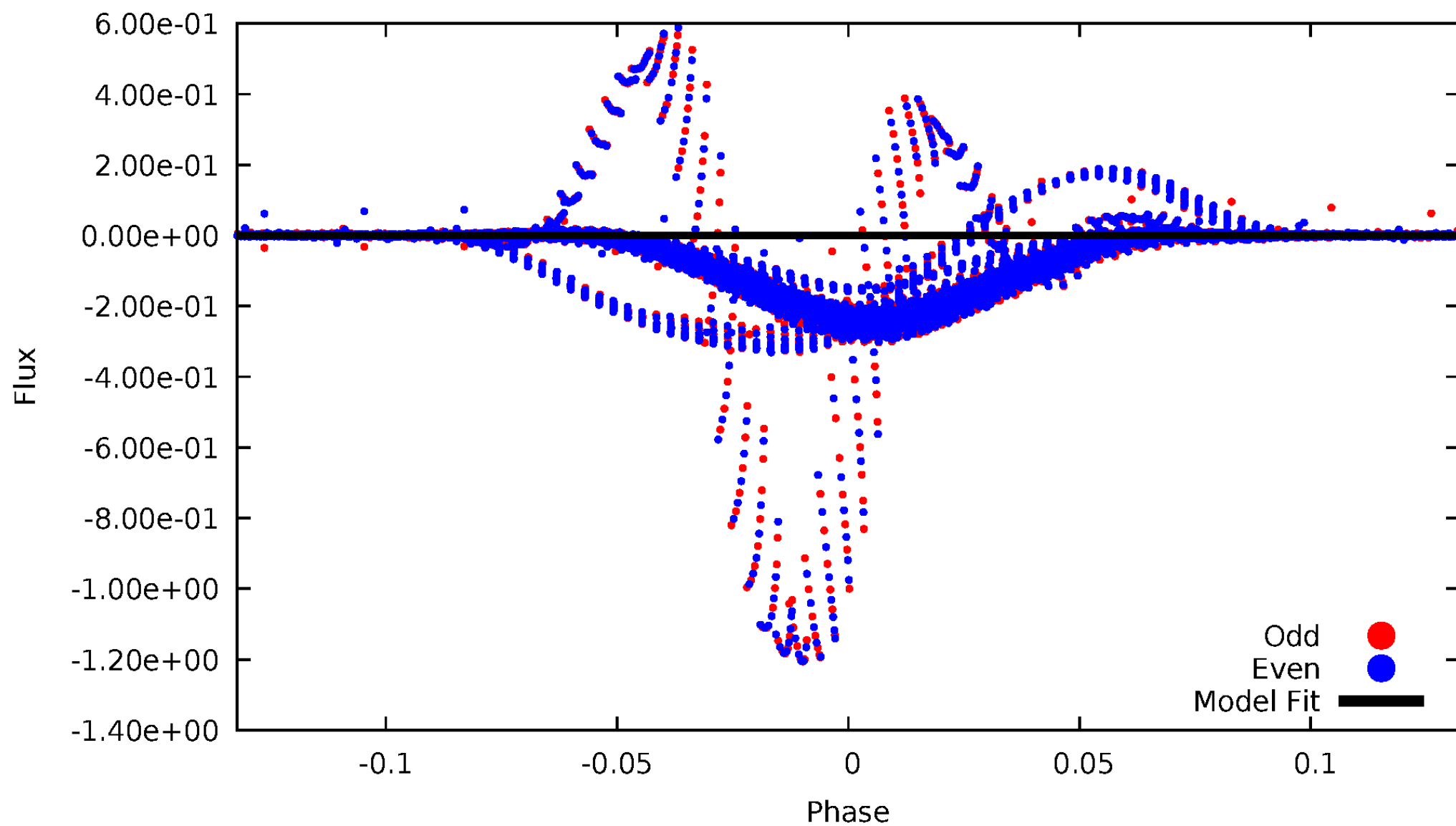


TCE 006778050-02



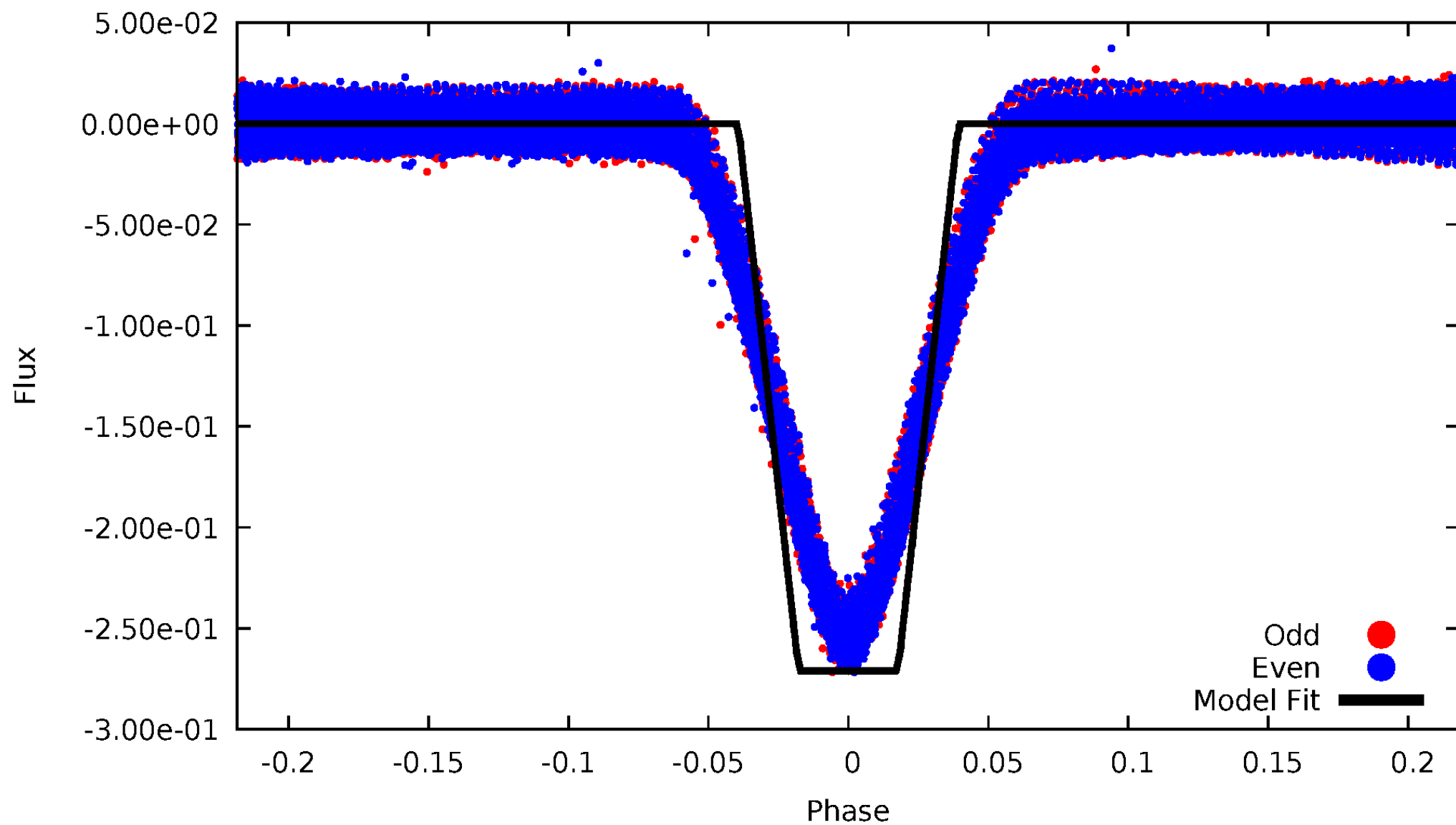
DV Odd/Even

TCE 006778050-02



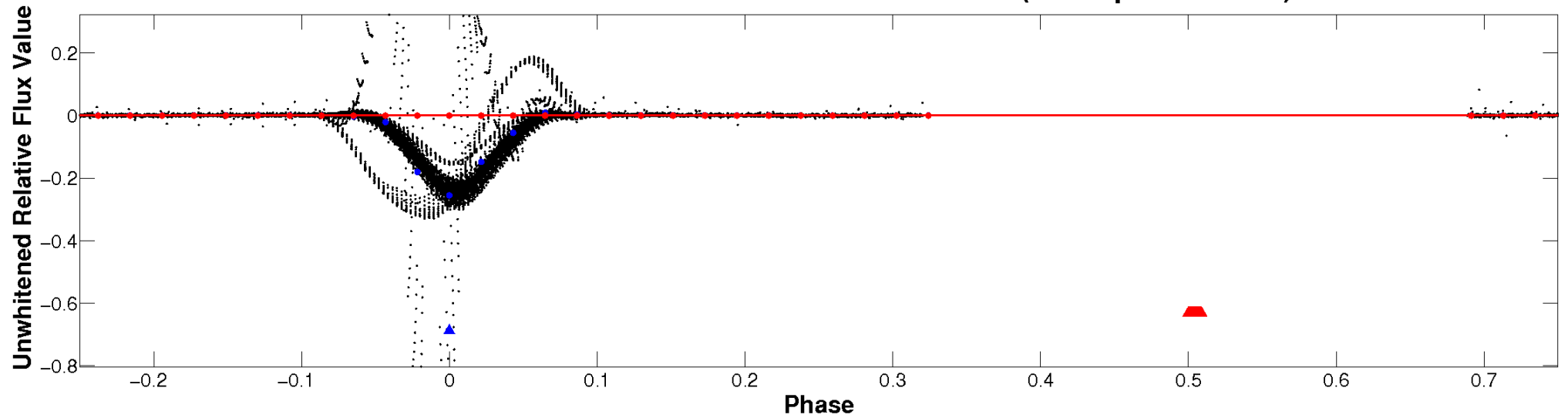
ALT Odd/Even

TCE 006778050-02

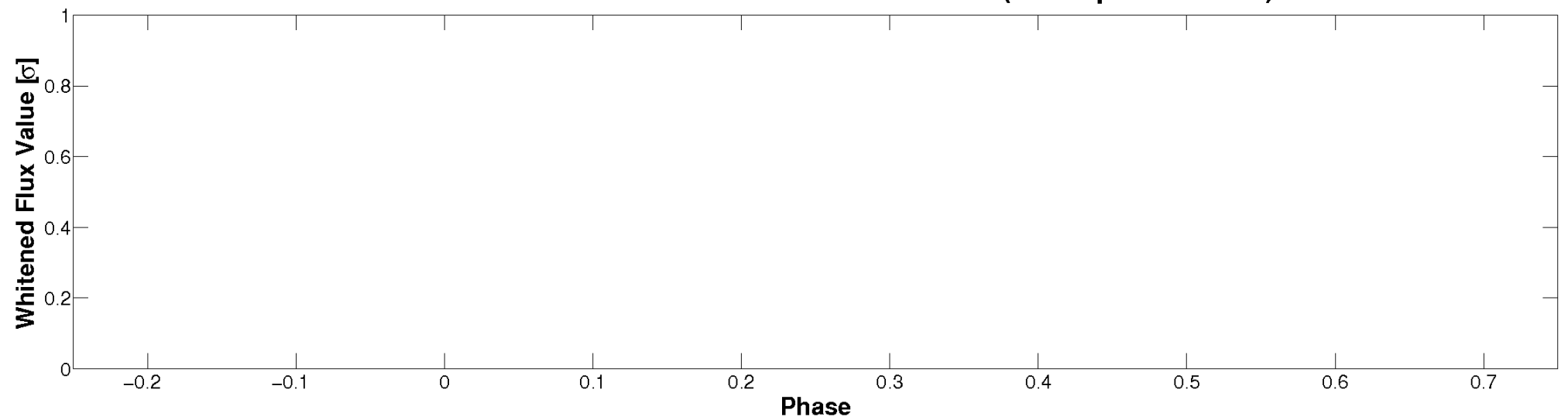


Non-Whitened Vs. Whitened Light Curve

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

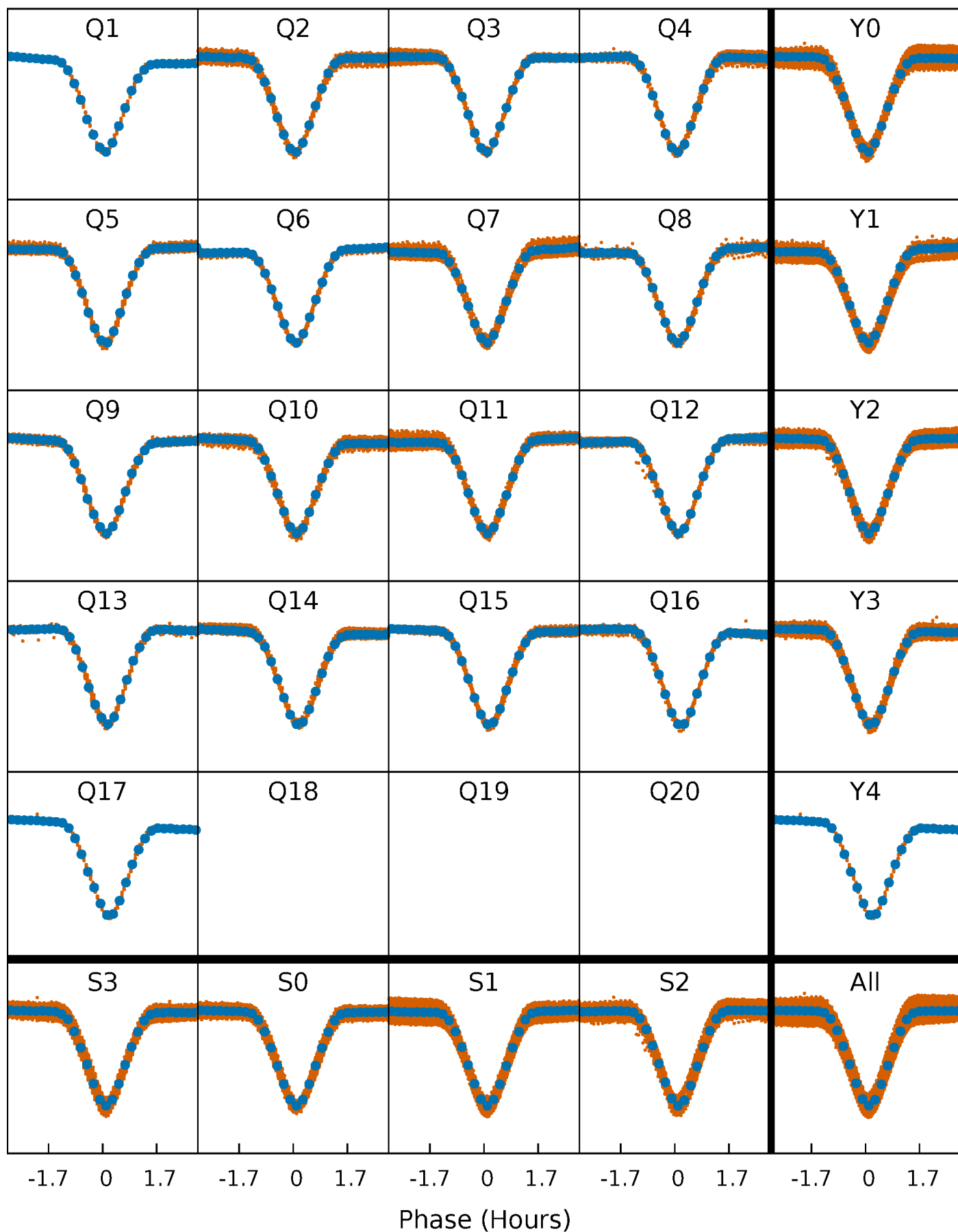


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



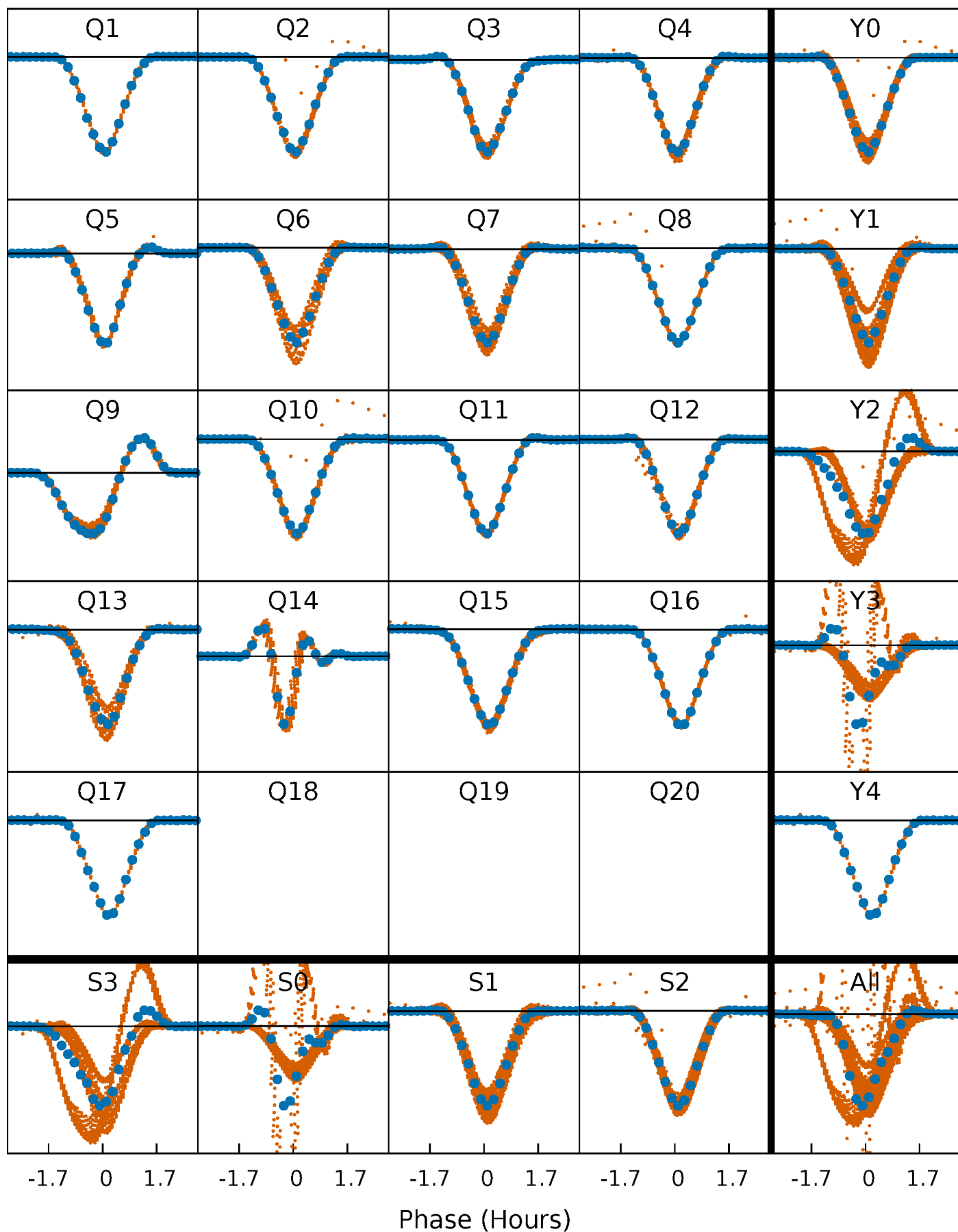
PDC Quarter-Phased Transit Curves

TCE 006778050-02 P= 0.945824 Days $T_0=132.092244$ (BKJD)



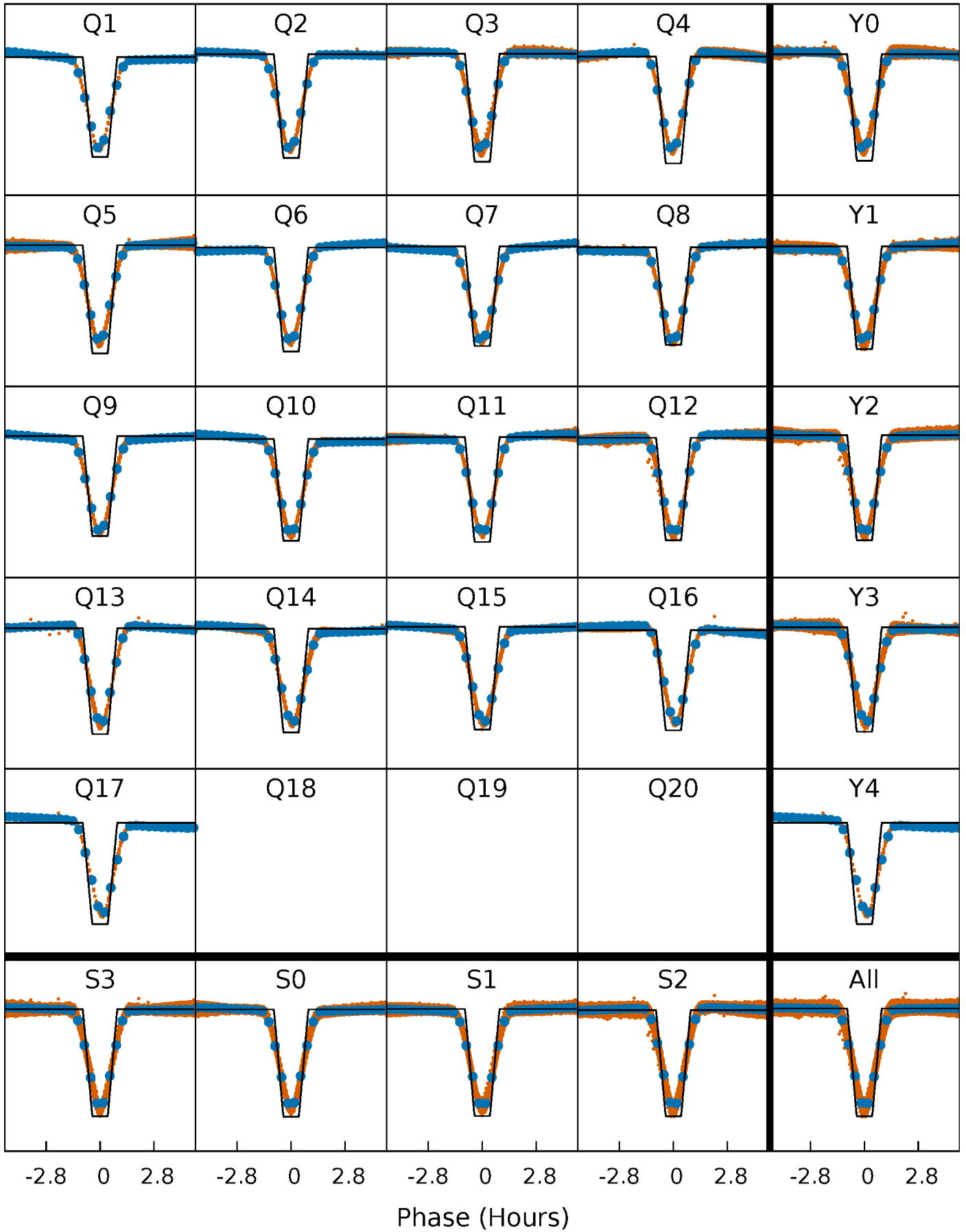
DV Quarter-Phased Transit Curves

TCE 006778050-02 P= 0.945824 Days $T_0=132.092244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

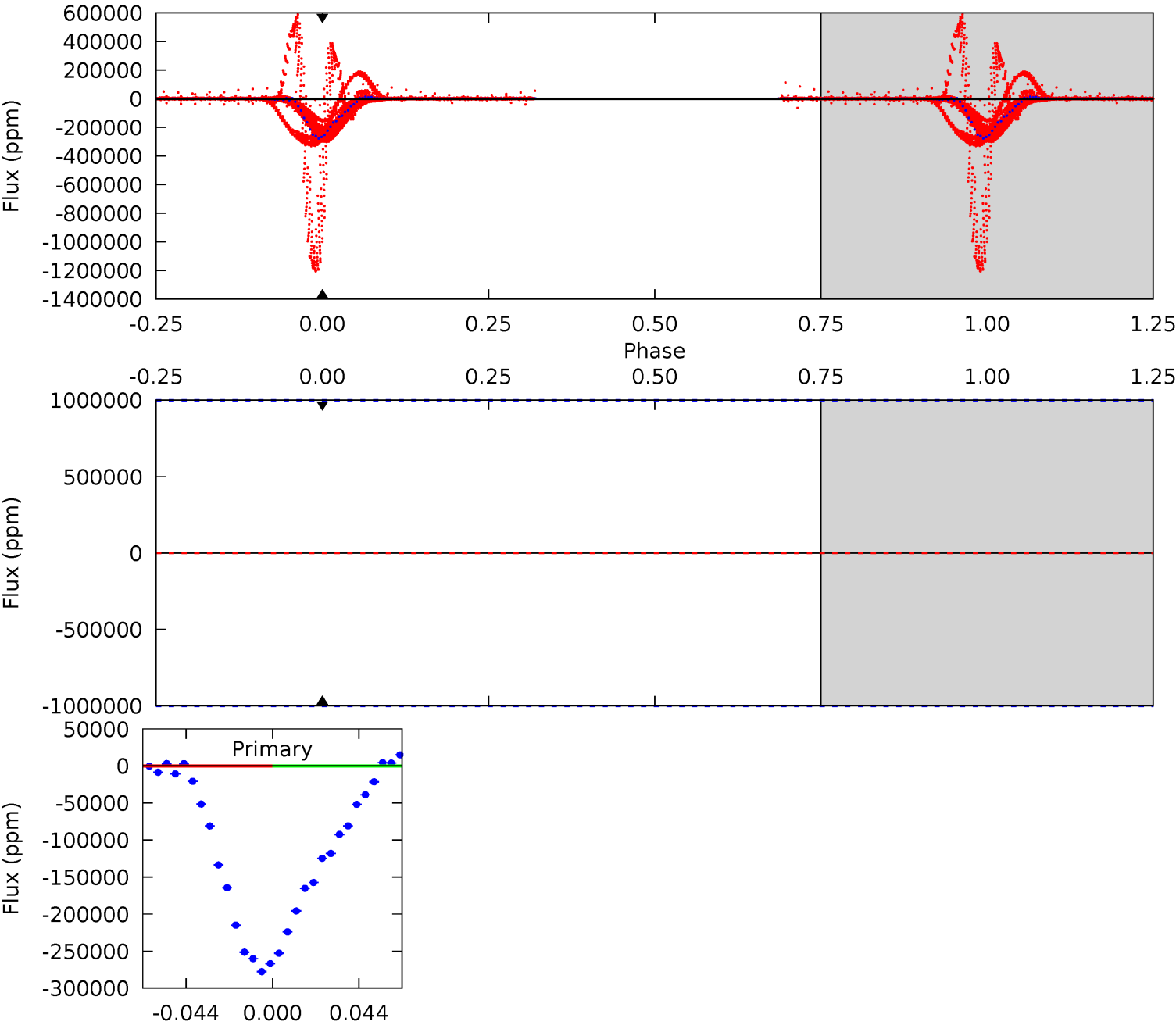
TCE 006778050-02 P= 0.945824 Days $T_0=132.096534$ (BKJD)



DV Model-Shift Uniqueness Test

006778050-02, P = 0.945824 Days, E = 131.146420 Days

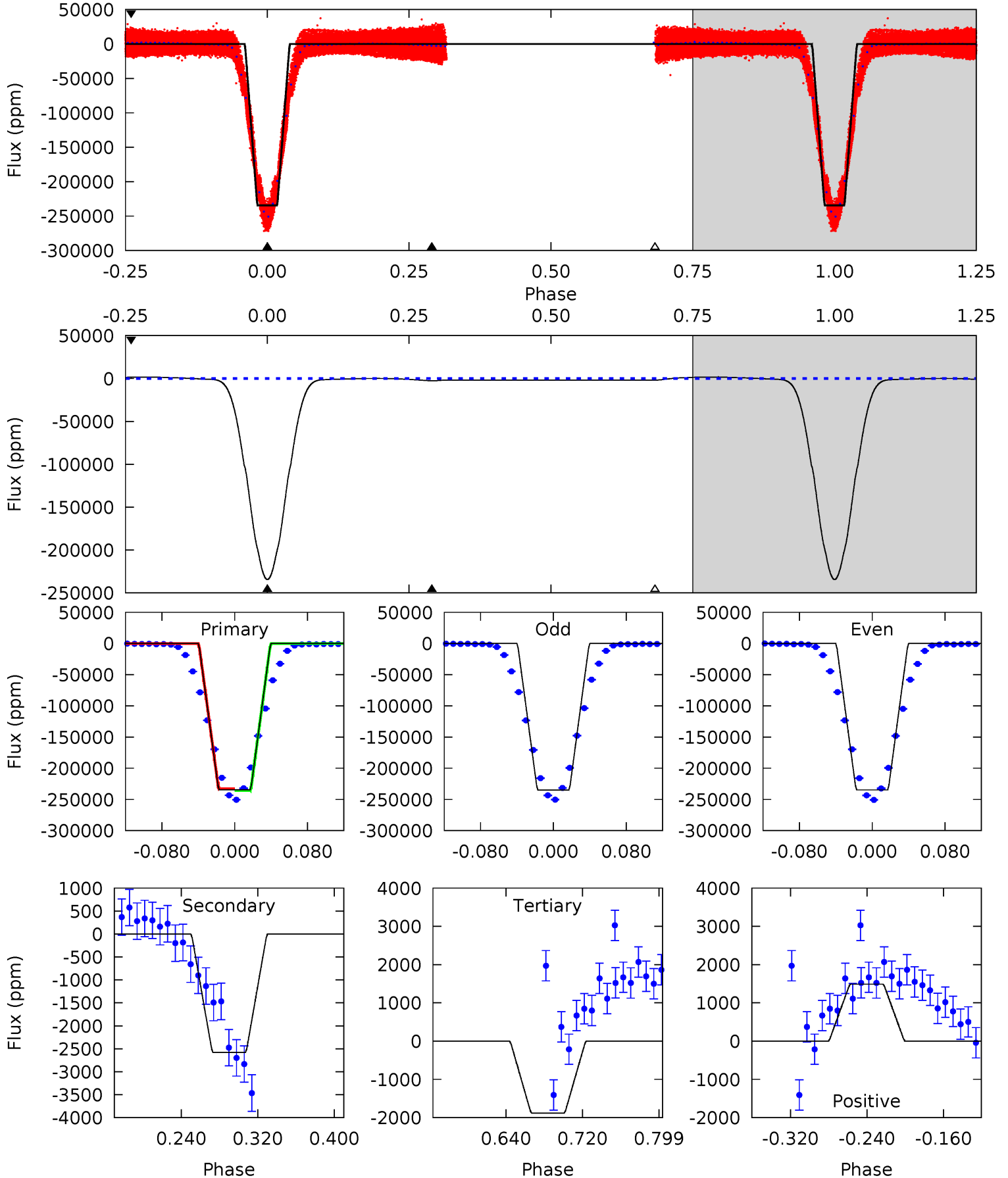
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006778050-02, P = 0.945824 Days, E = 131.150710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1874	20.6	15.0	11.9	4.61	1.75	9.82	1859	1862	5.59	8.71	0.17	1.00	0.01	10.9



Stellar Parameters For KIC 006778050

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5235^{+158}_{-142}	$4.604^{+0.036}_{-0.090}$	$-0.160^{+0.300}_{-0.300}$	$0.751^{+0.112}_{-0.060}$	$0.838^{+0.069}_{-0.103}$	$2.784^{+0.456}_{-0.829}$
	+3%/-3%	+1%/-2%	+188%/-188%	+15%/-8%	+8%/-12%	+16%/-30%
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 006778050-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$26.07^{+8.61}_{-8.26}$	2127^{+87}_{-77}	-2089^{+7544}_{-3215}	$0.256^{+28.568}_{-26.197}$
Alt.	-2579 ± 125	$43.61^{+8.62}_{-8.66}$	2125^{+88}_{-69}	-2157^{+4294}_{-186}	$0.232^{+0.127}_{-0.070}$

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

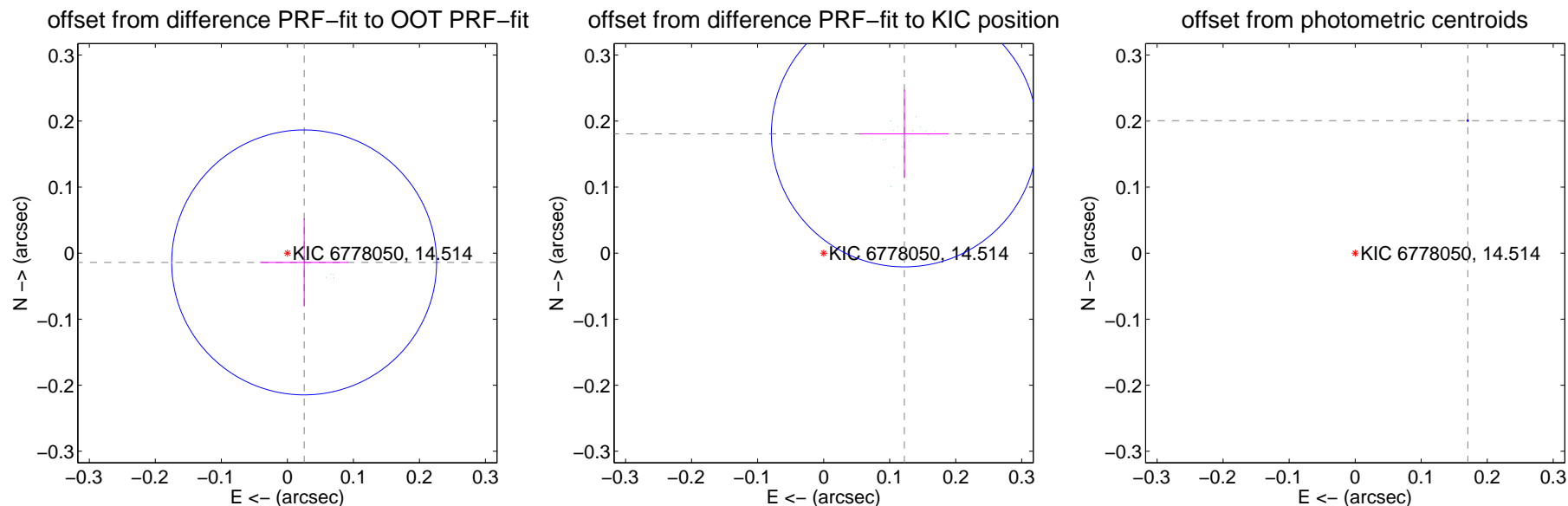
DV Centroid Data

Supplemental centroid analysis for 006778050-02. Kepler magnitude: 14.51. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

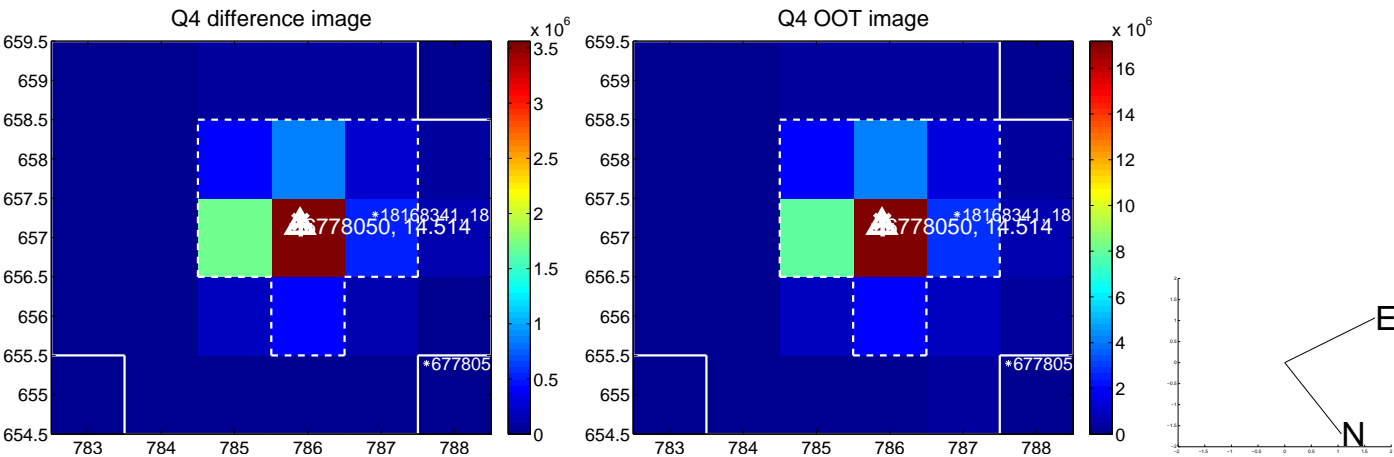
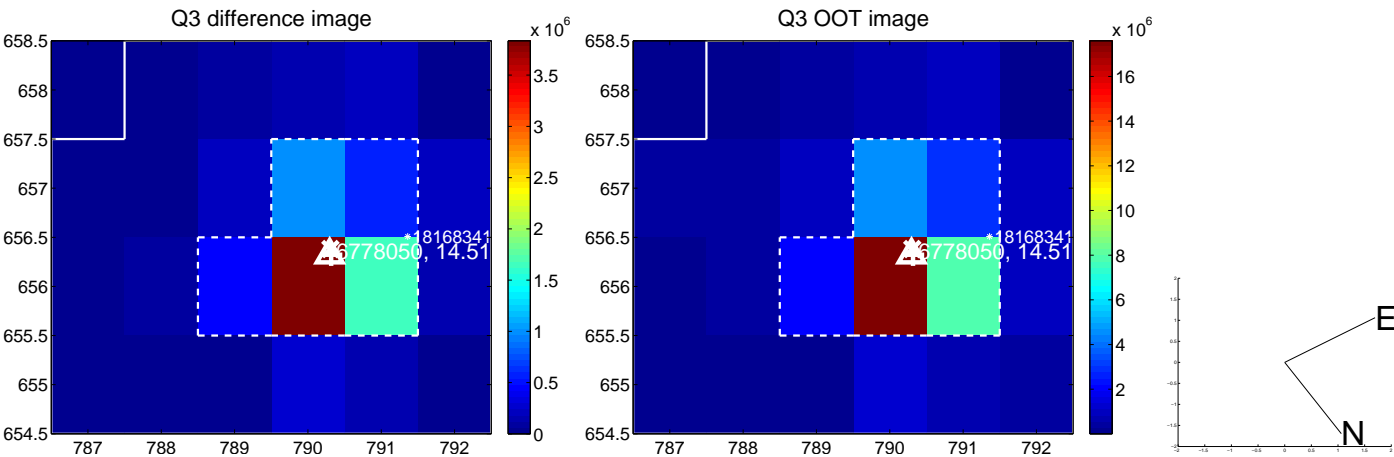
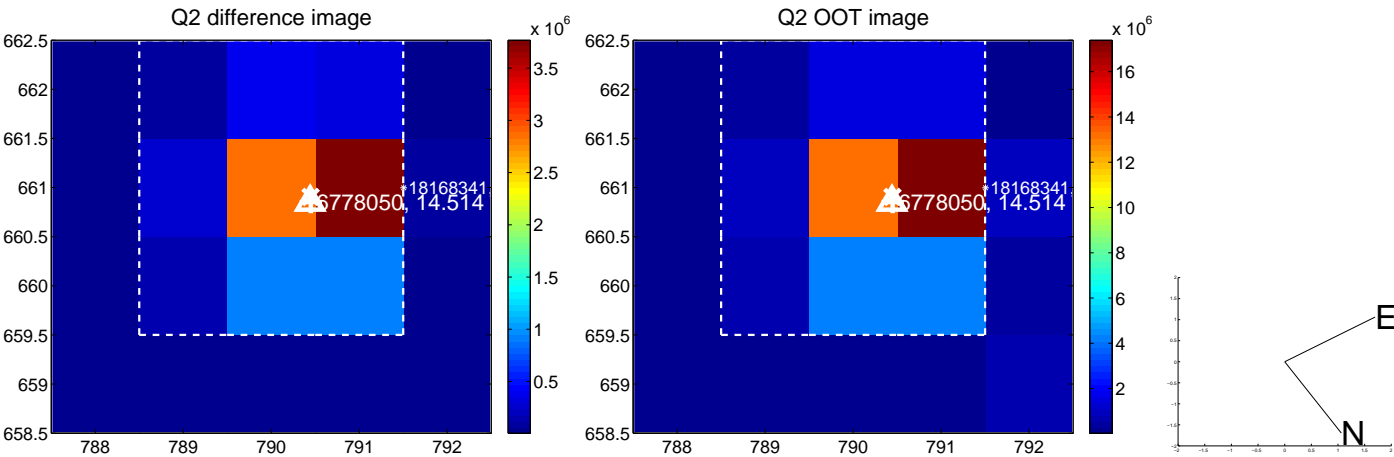
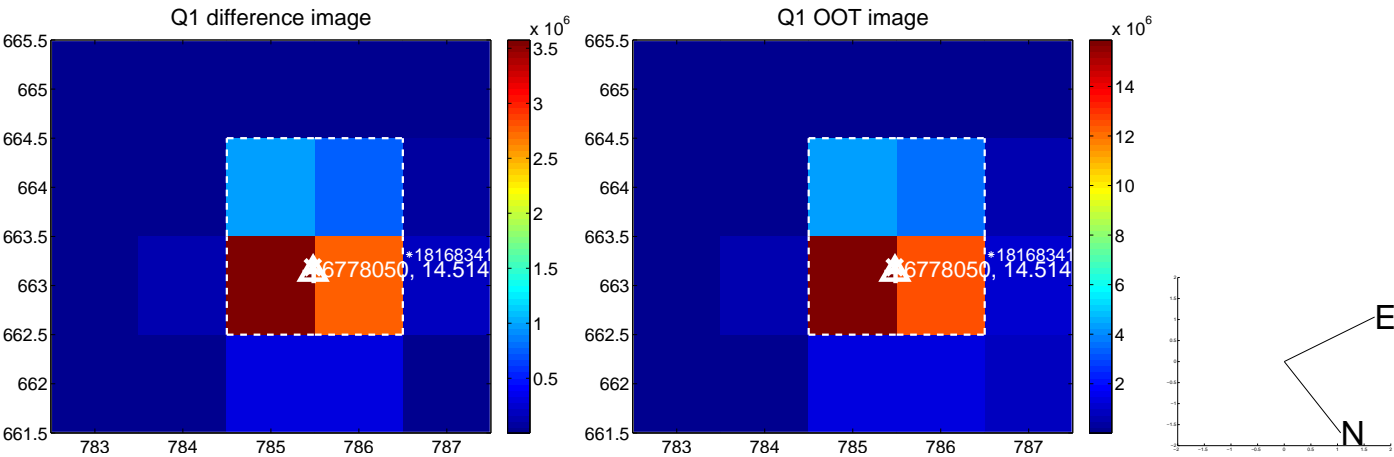
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.029 ± 0.067	0.43	-0.025 ± 0.067	-0.014 ± 0.067
PRF-fit source offset from KIC position	0.218 ± 0.067	3.25	-0.122 ± 0.067	0.181 ± 0.067
photometric centroid source offset	0.26 ± 0.00	640.21	-0.17 ± 0.00	0.20 ± 0.00

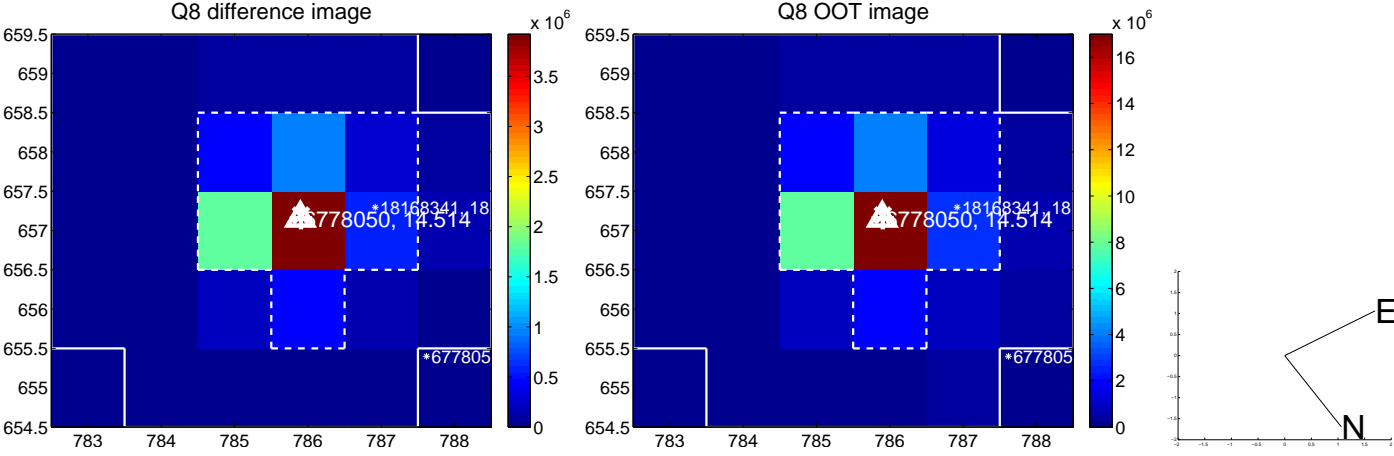
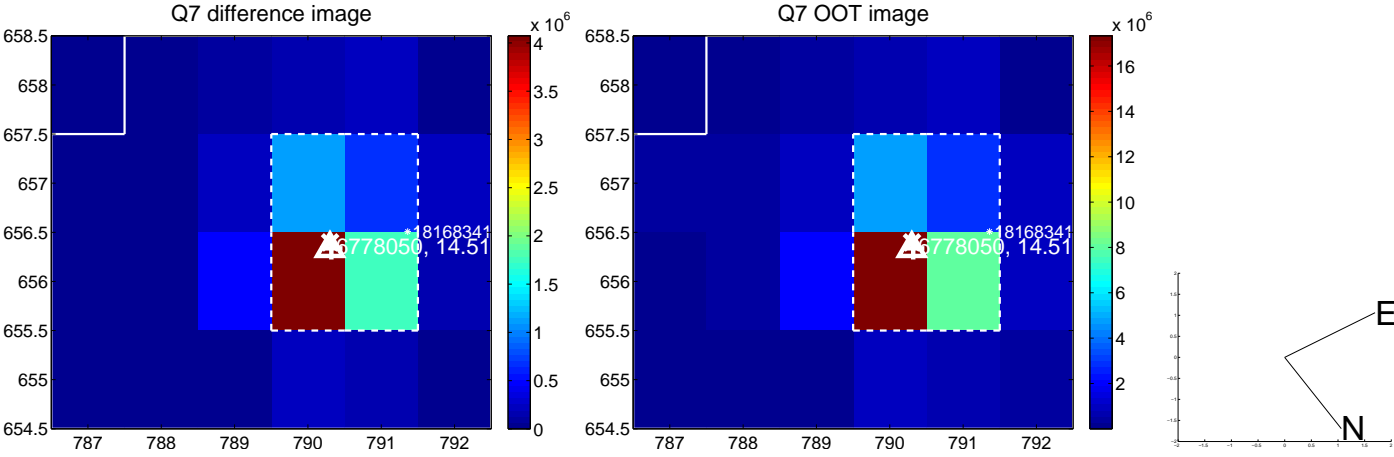
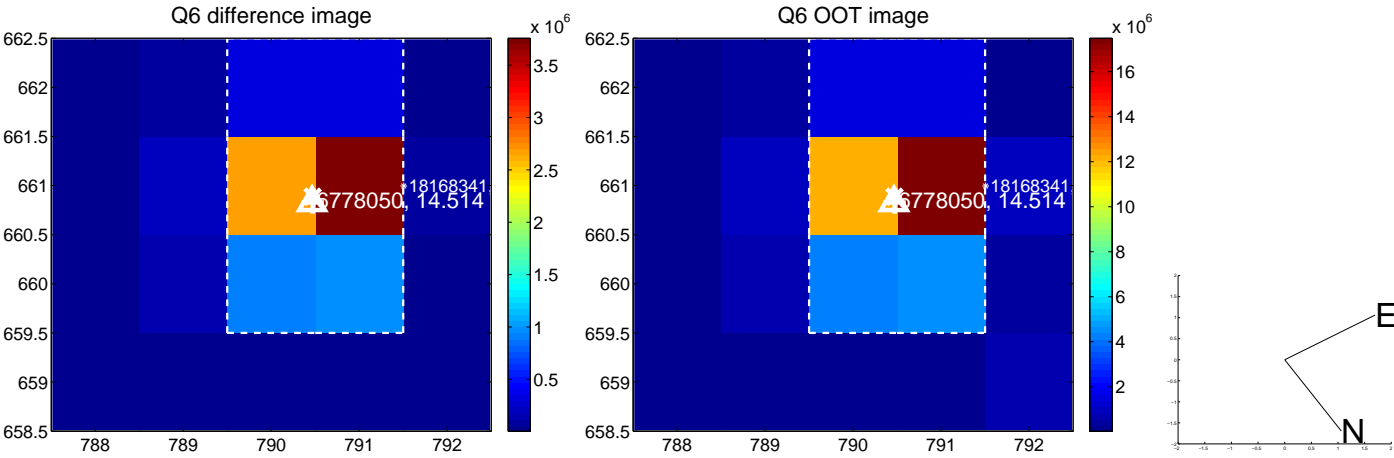
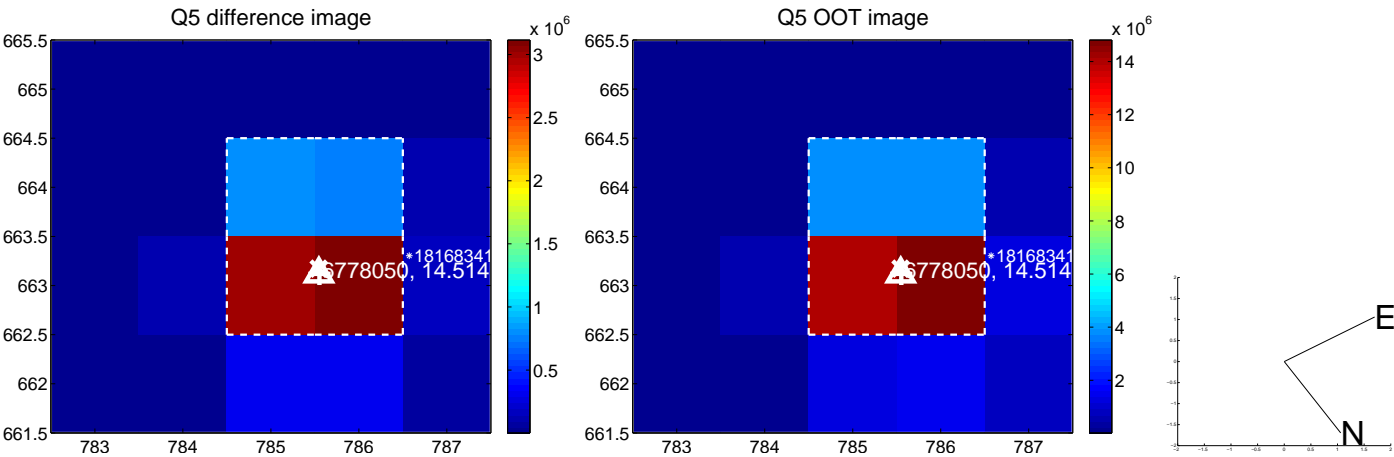


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

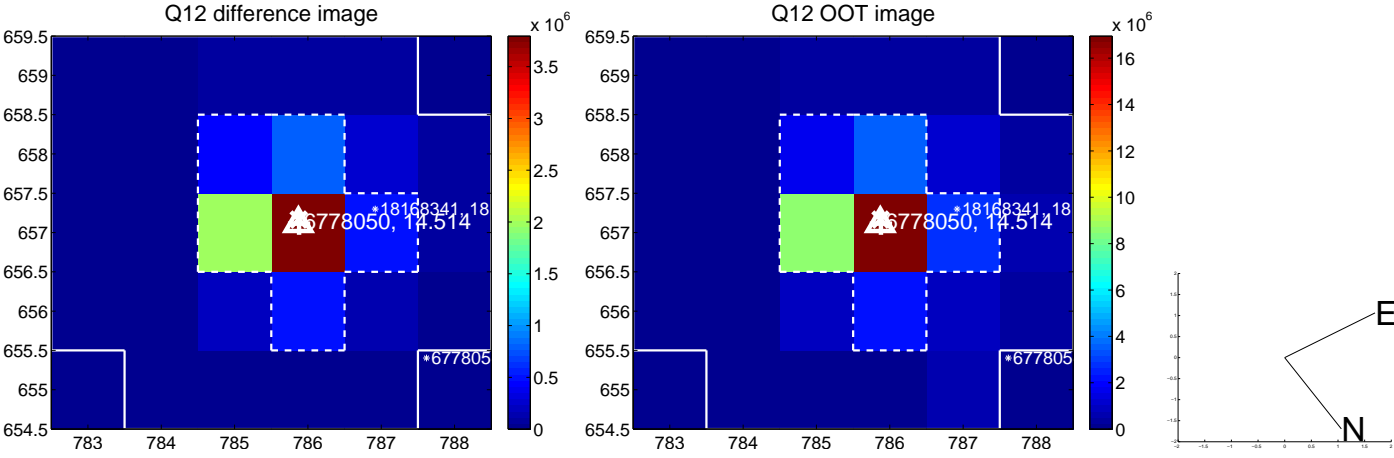
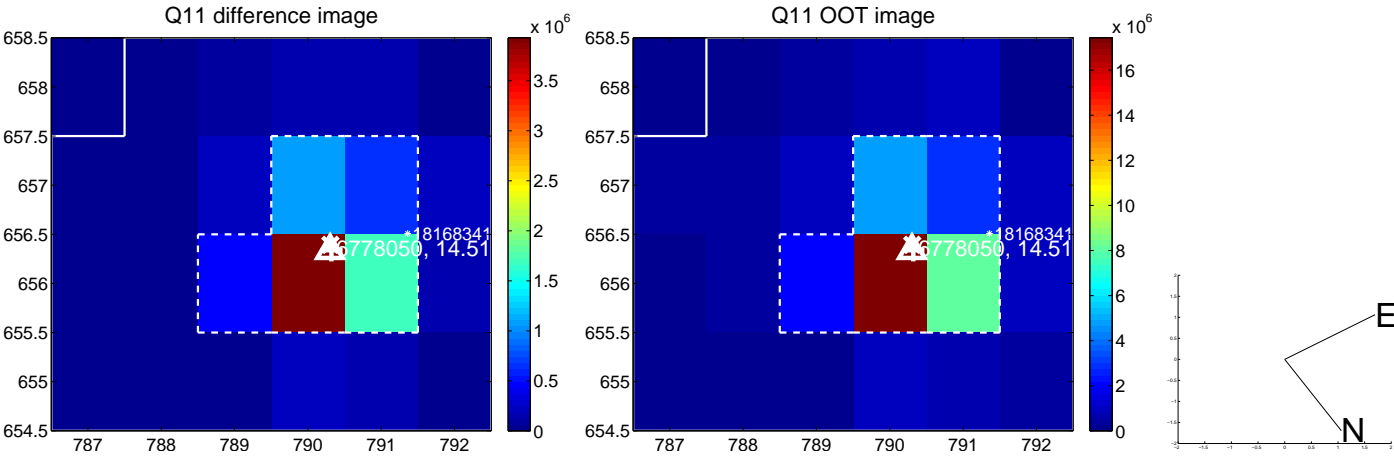
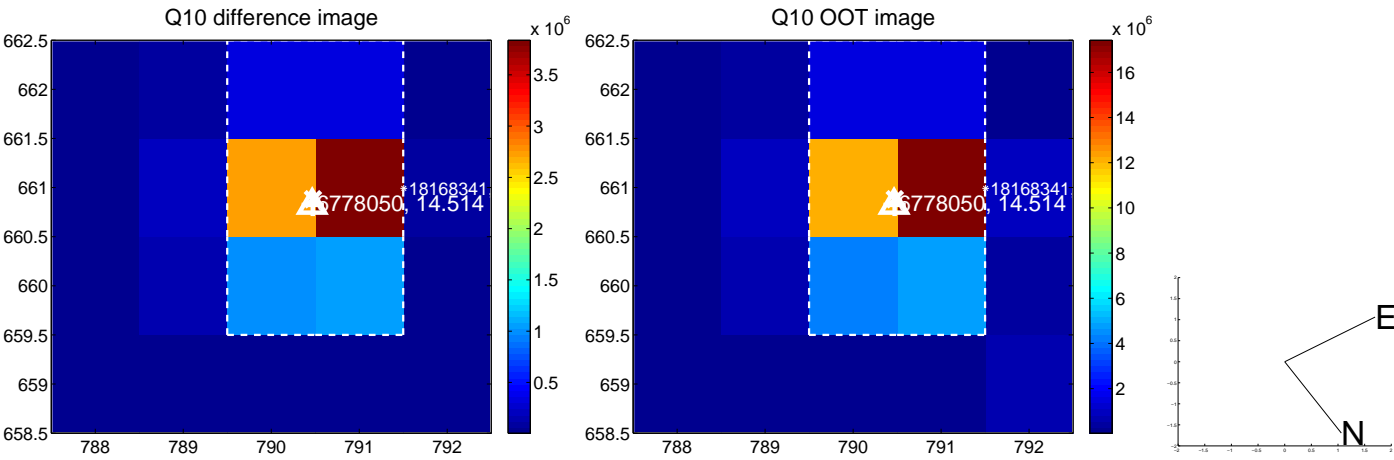
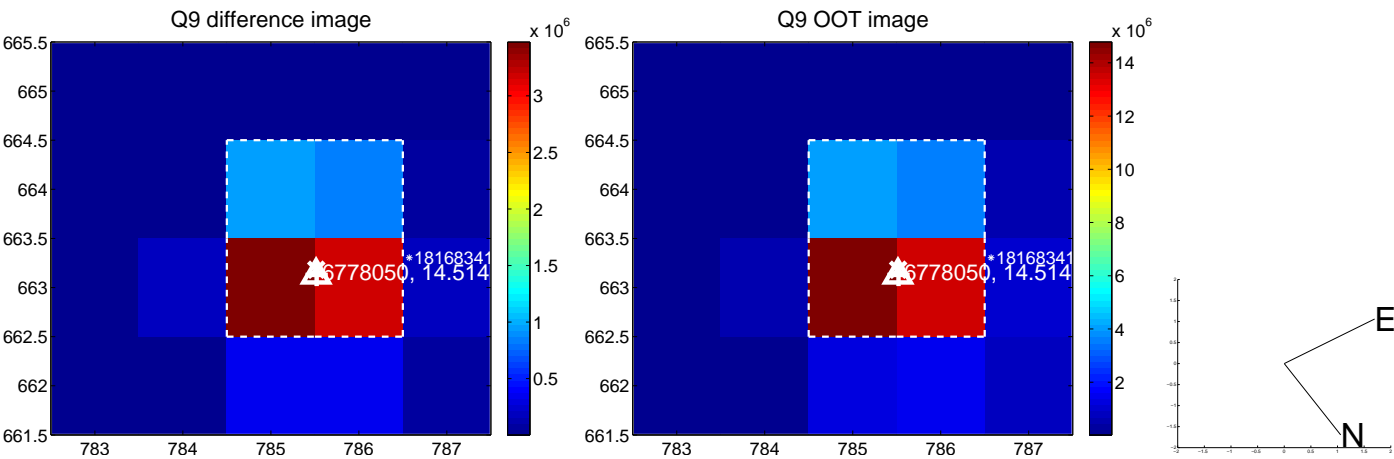
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



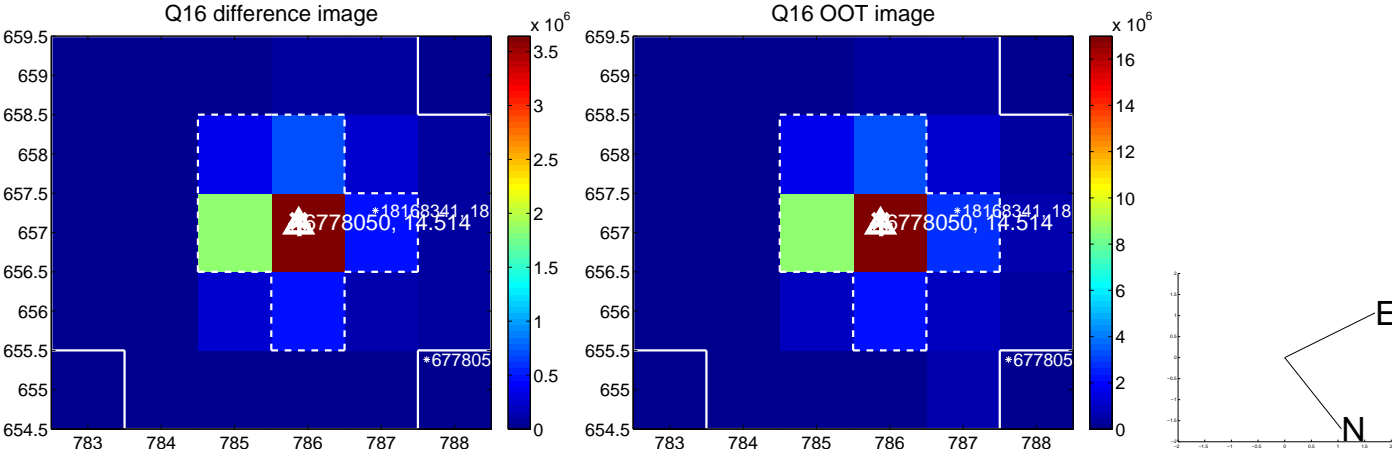
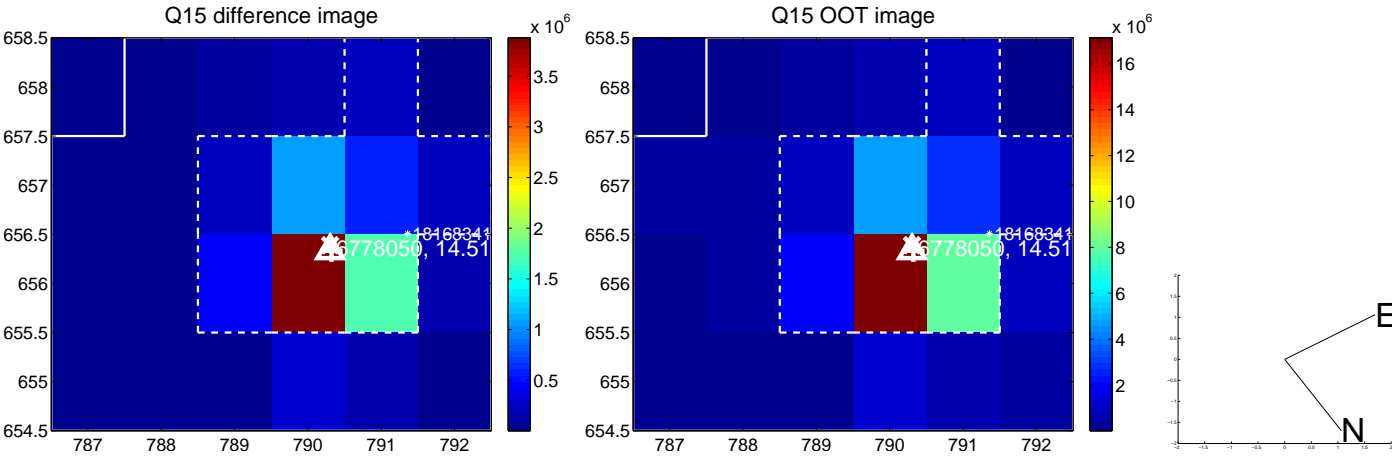
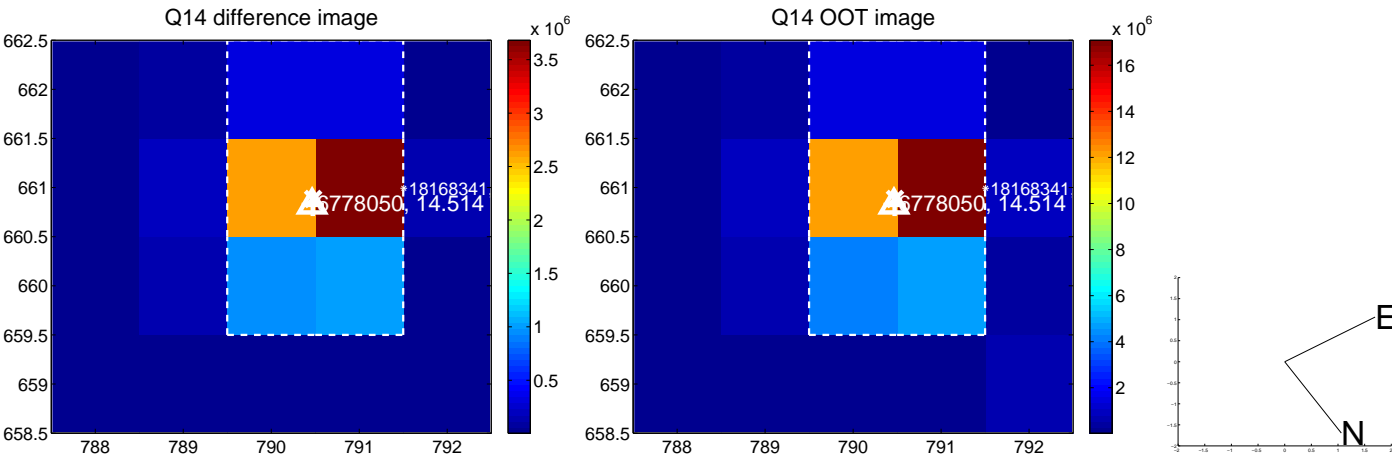
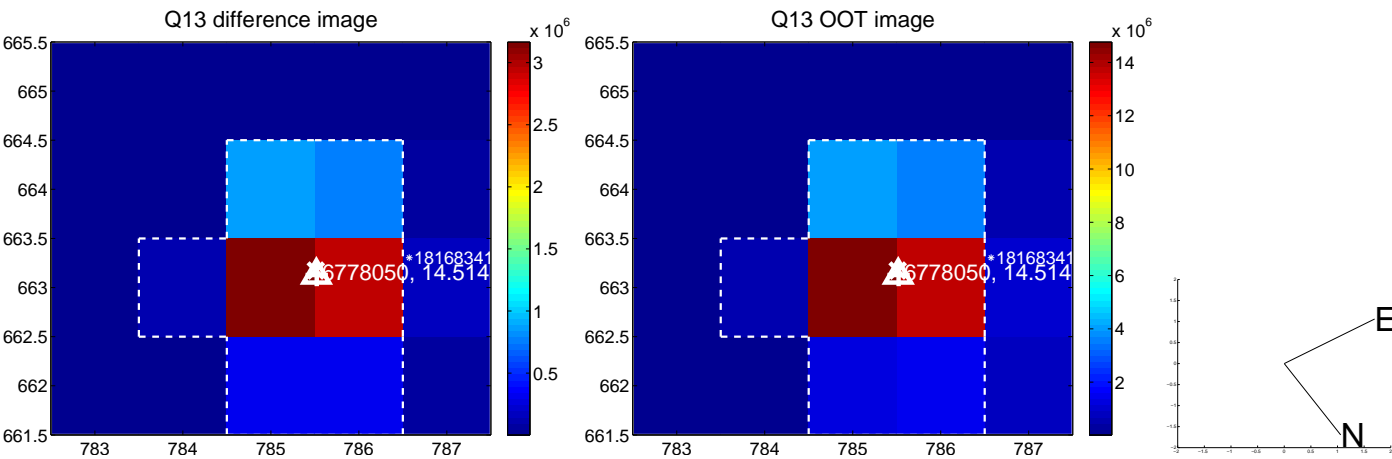
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



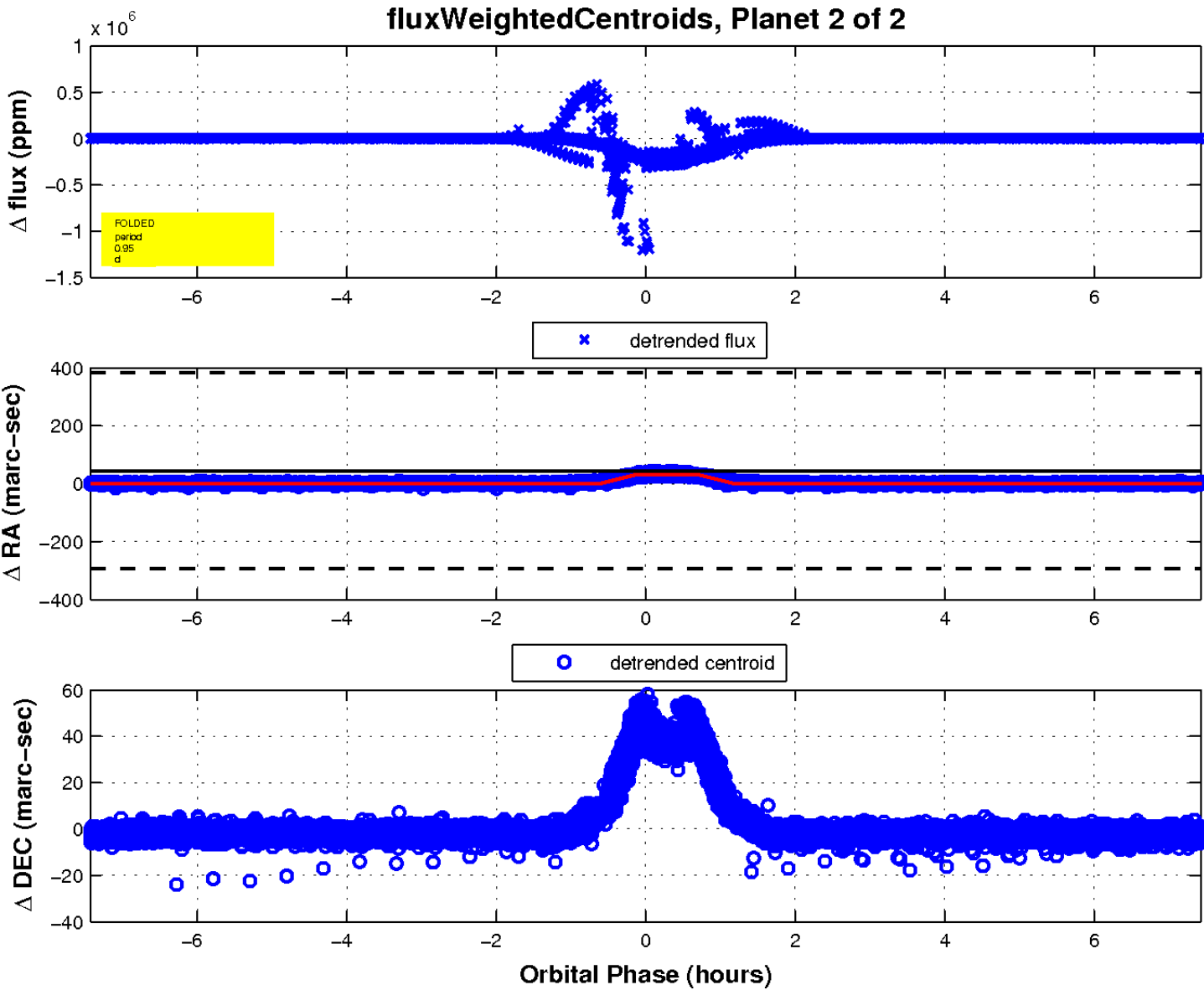
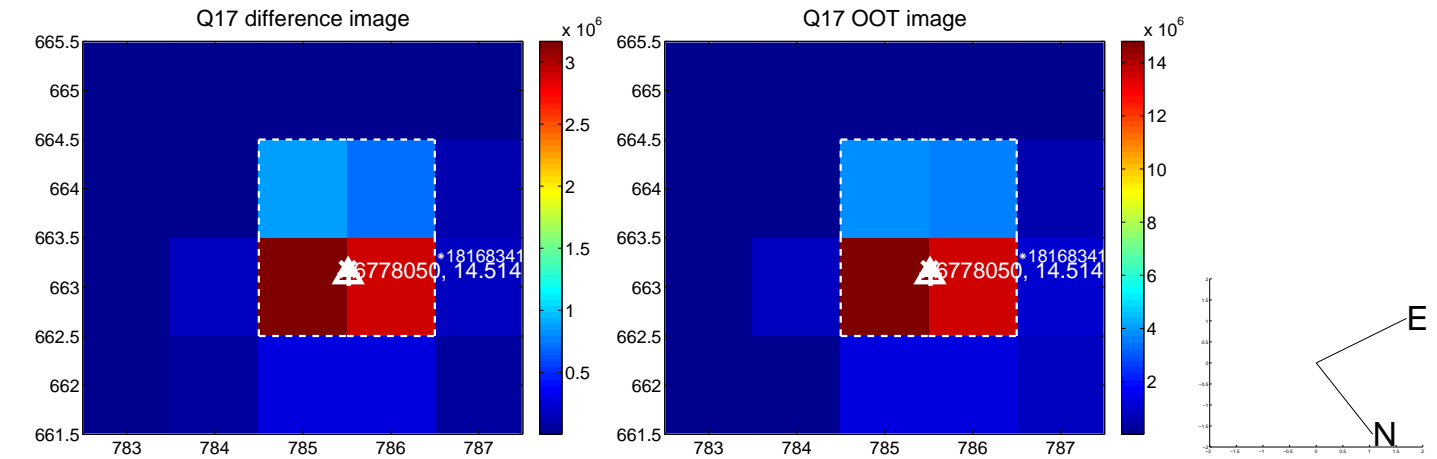
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

