

KIC 008168581

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})
008168581-01	OBS	6054.01	2.881313	132.915367	1230.0	3.424	114.7	60.3	0.88	5783	3.83	501.62
008168581-02	OBS	No	2.881304	134.358407	432.6	2.694	23.5	25.6	0.88	5783	2.18	501.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008168581-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
008168581-02	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.

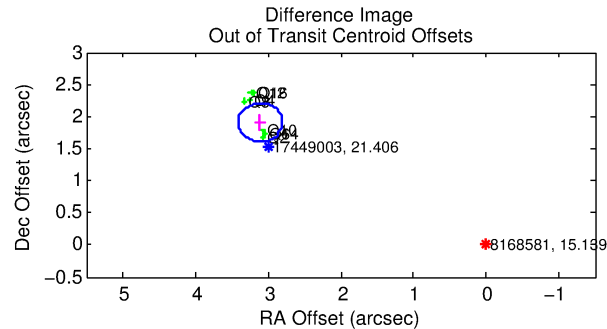
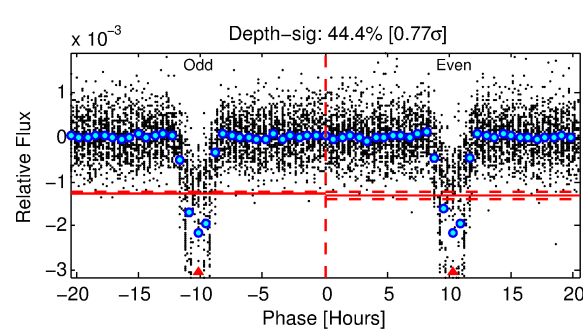
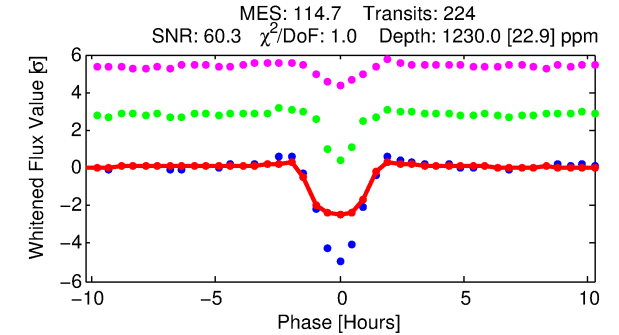
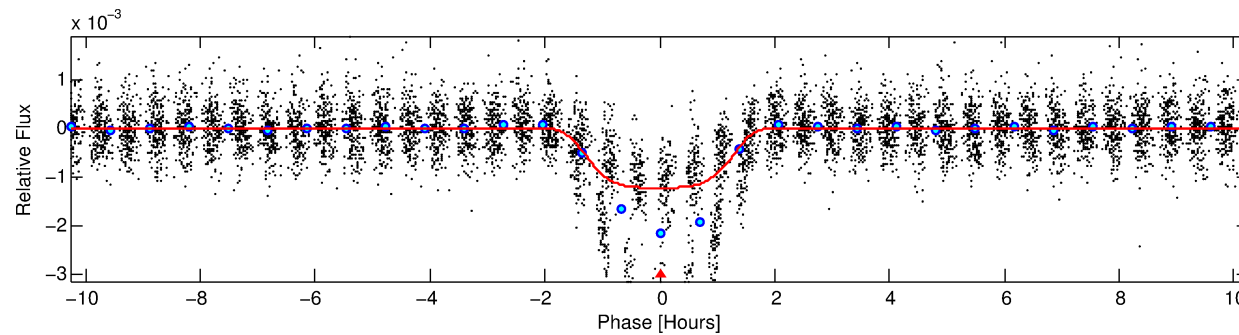
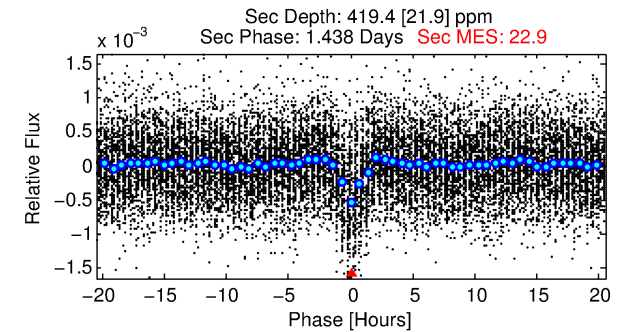
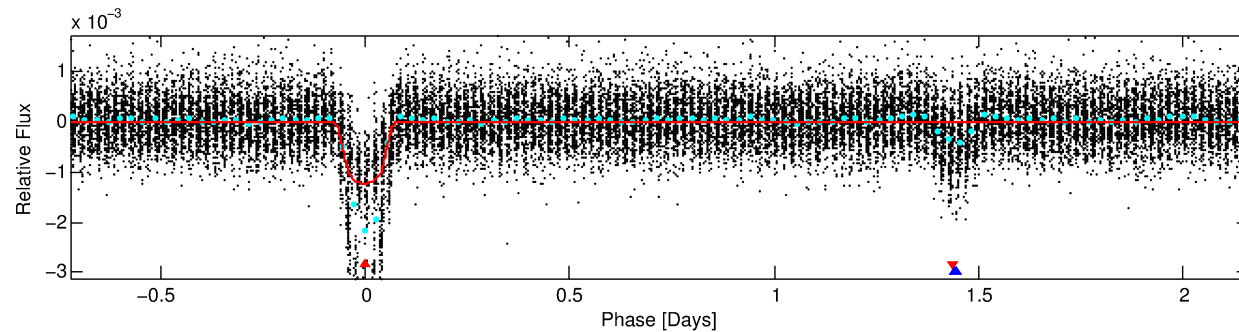
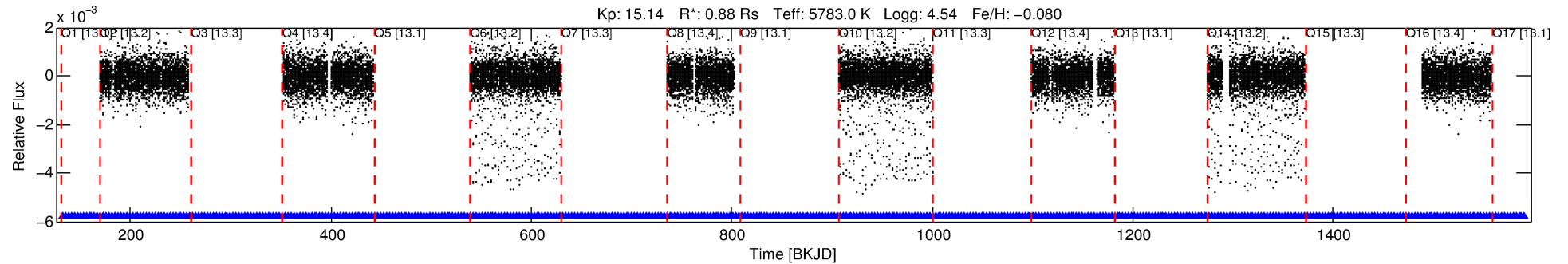
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008168581-01

No Significant Match Found

DV One-Page Summary

KIC: 8168581 Candidate: 1 of 2 Period: 2.881 d
KOI: K06054.01 Corr: 0.972



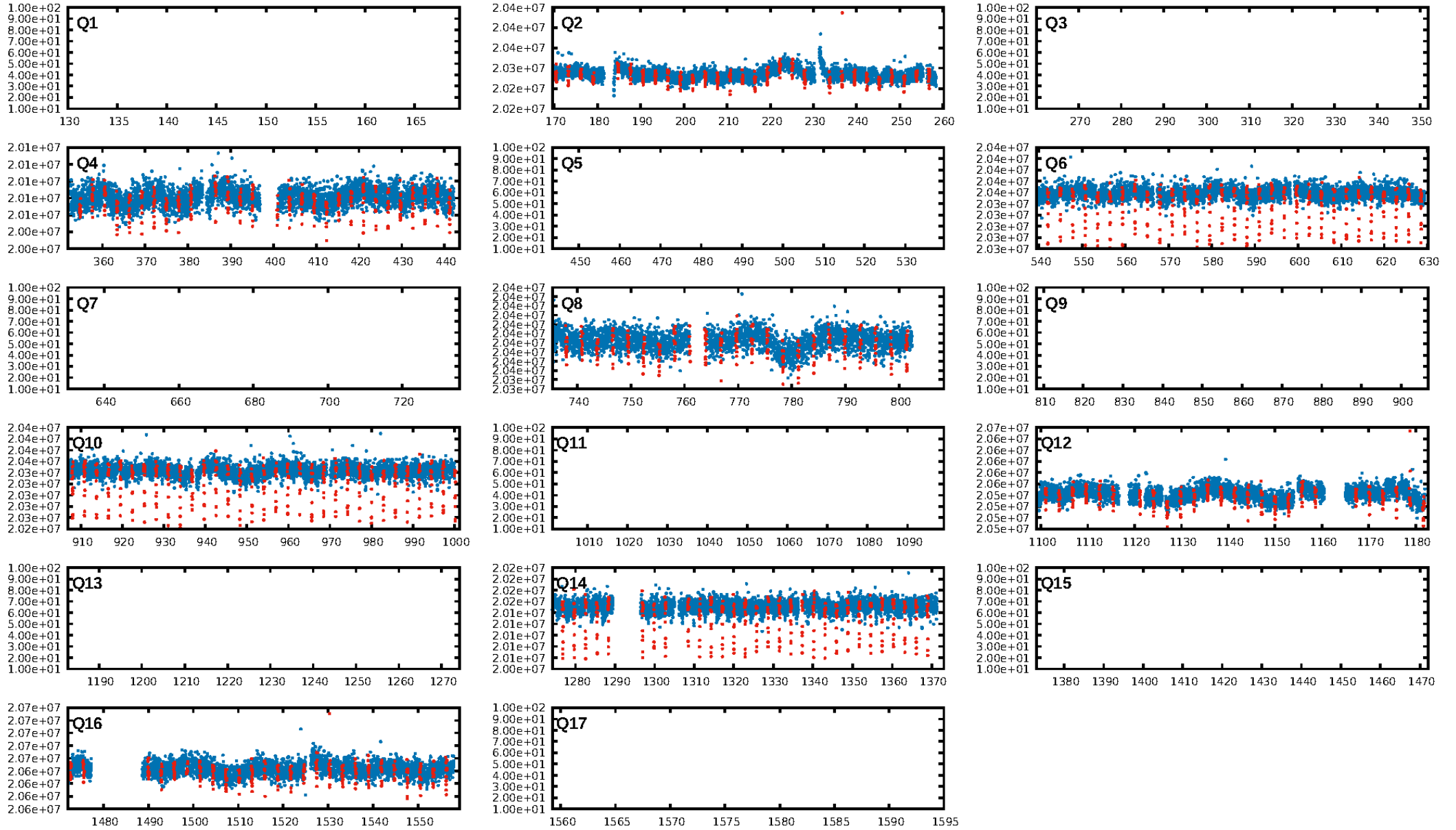
DV Fit Results:

Period = 2.88131 [0.00000] d
Epoch = 132.9154 [0.0008] BKJD
Rp/R* = 0.0399 [0.0006]
a/R* = 3.09 [0.13]
b = 0.93 [0.01]
Seff = 501.62 [194.17]
Teq = 1207 [117] K
Rp = 3.83 [1.14] Re
a = 0.0393 [0.0098] AU
Ag = 24.35 [8.90] [2.62σ]
Teff = 4145 [159] K [14.88σ]

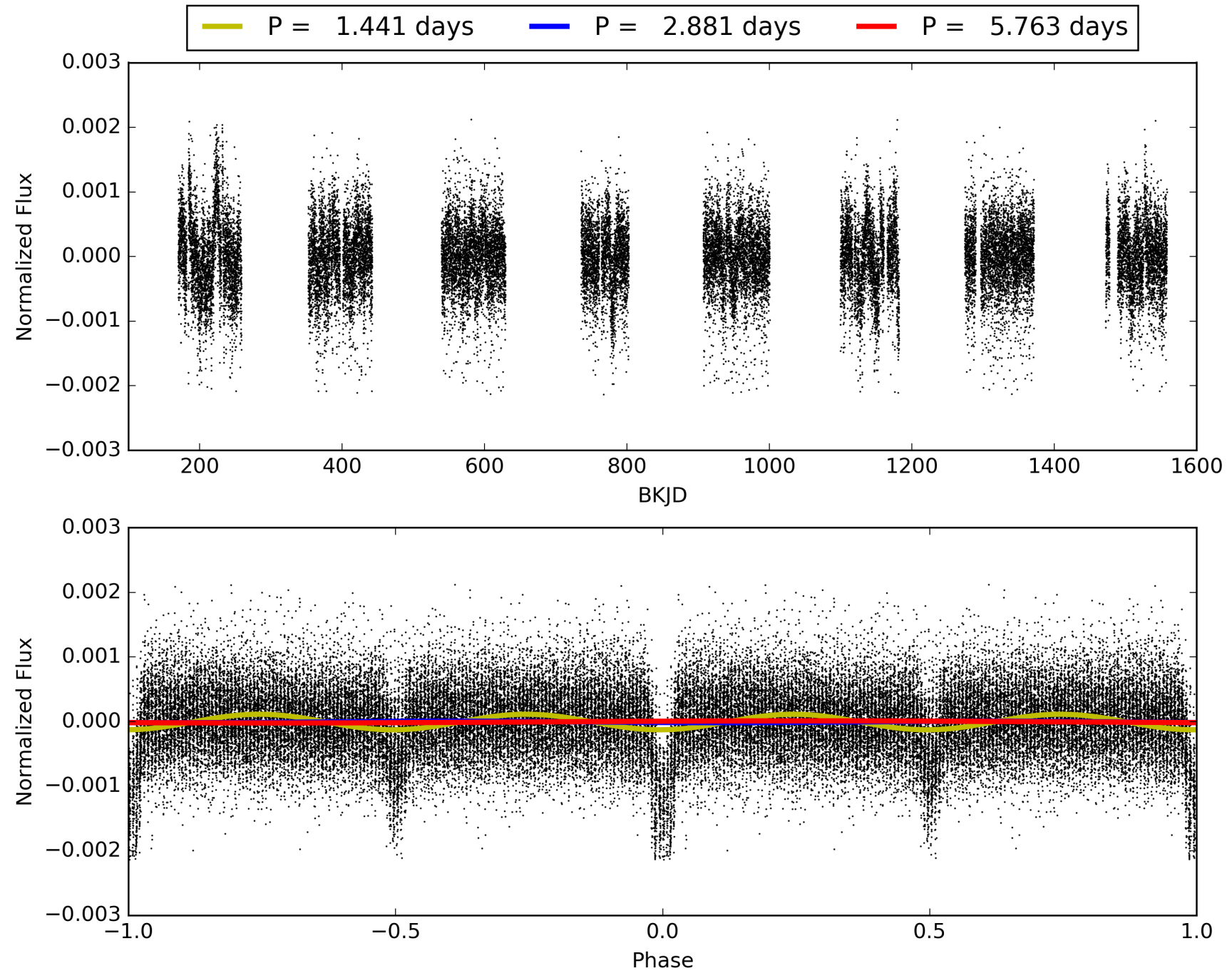
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [224/224]
GhostDiagnostic-chr: 0.3031
Centroid-sig: N/A
Centroid-so: 6.360 arcsec [56.22σ]
OotOffset-rm: 3.647 arcsec [36.11σ]
KicOffset-rm: 3.301 arcsec [44.63σ]
OotOffset-st: 4/0/4/0 [8]
KicOffset-st: 4/0/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 008168581-01, PDC Light Curves

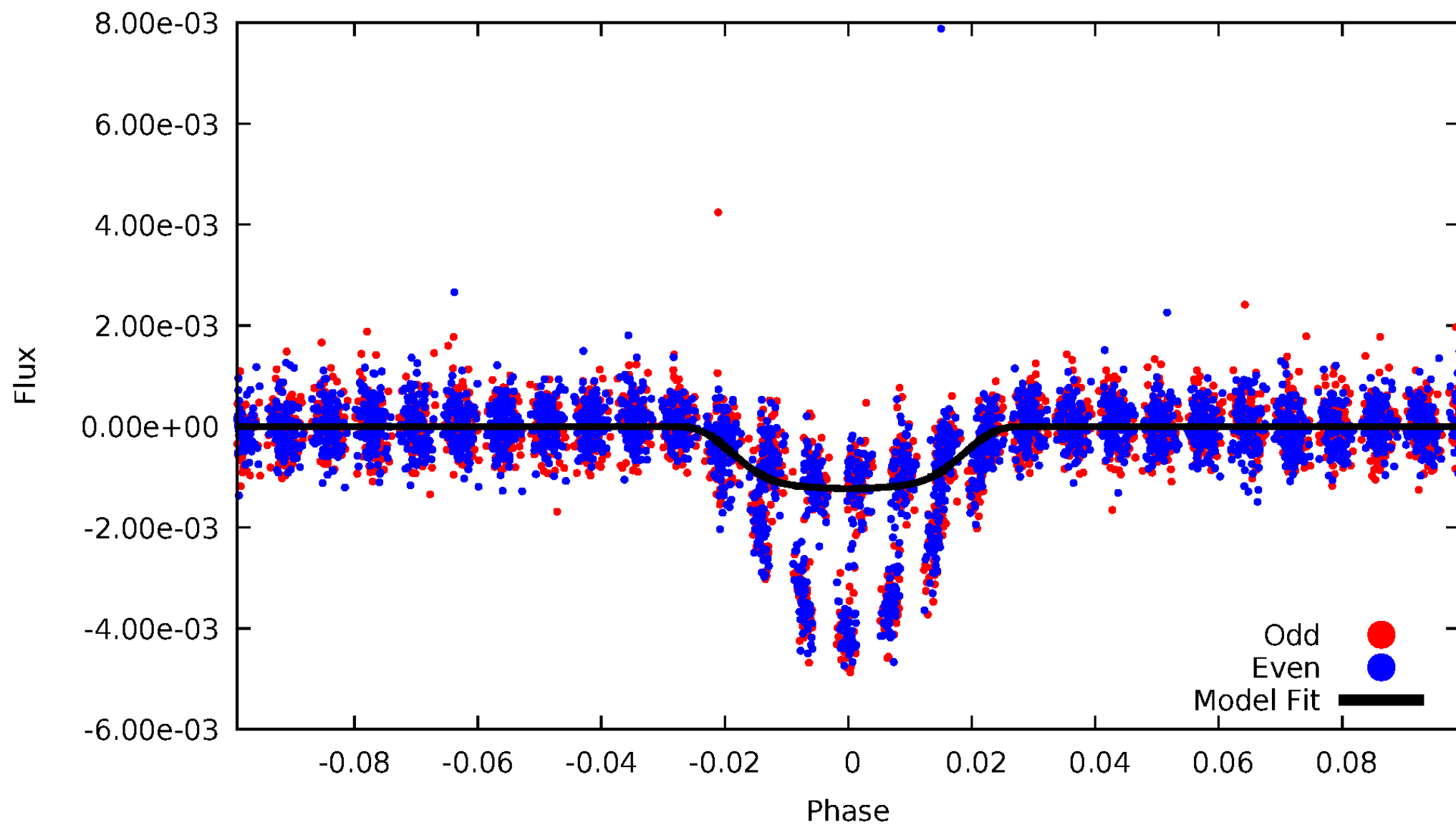


TCE 008168581-01



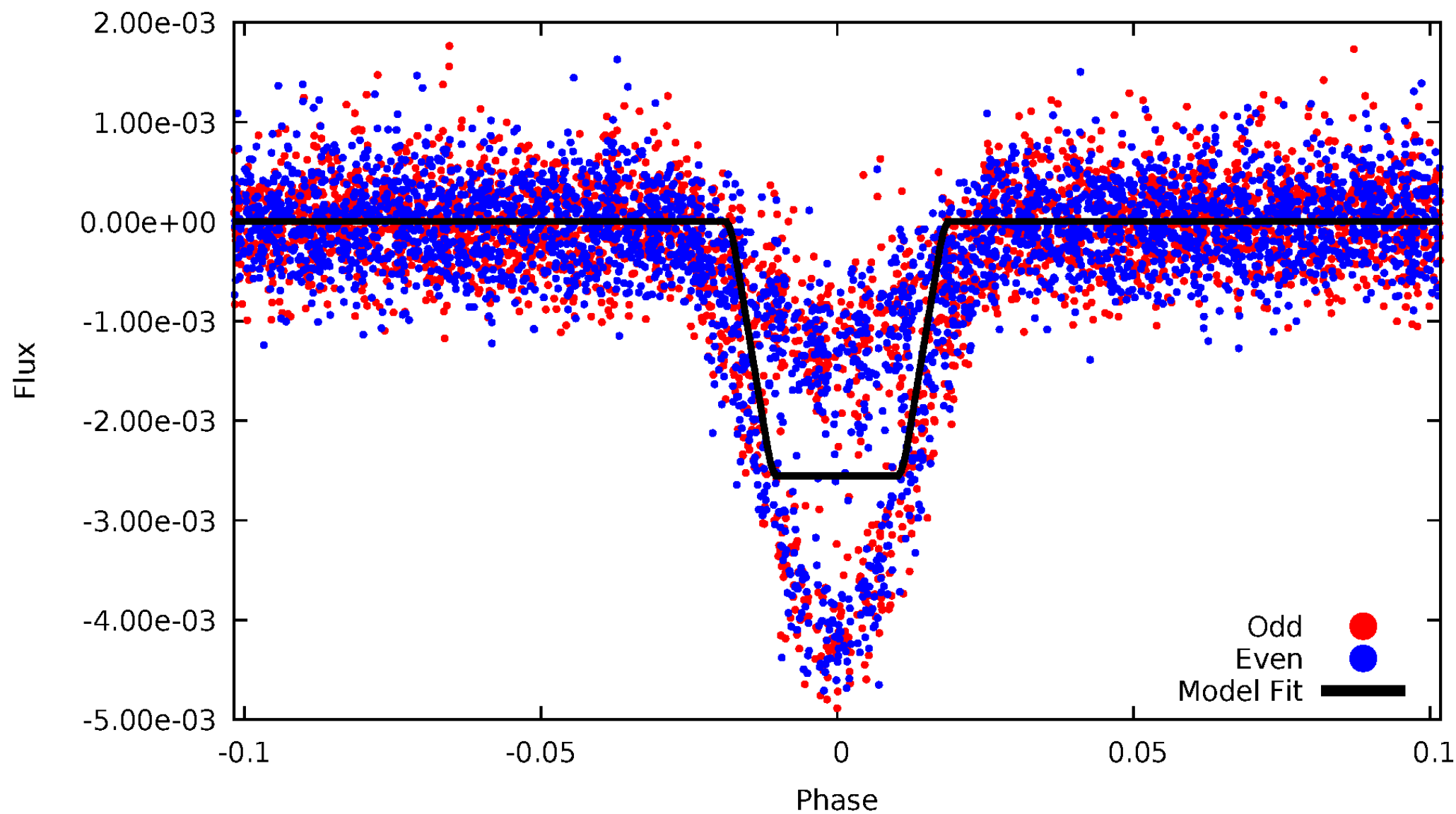
DV Odd/Even

TCE 008168581-01



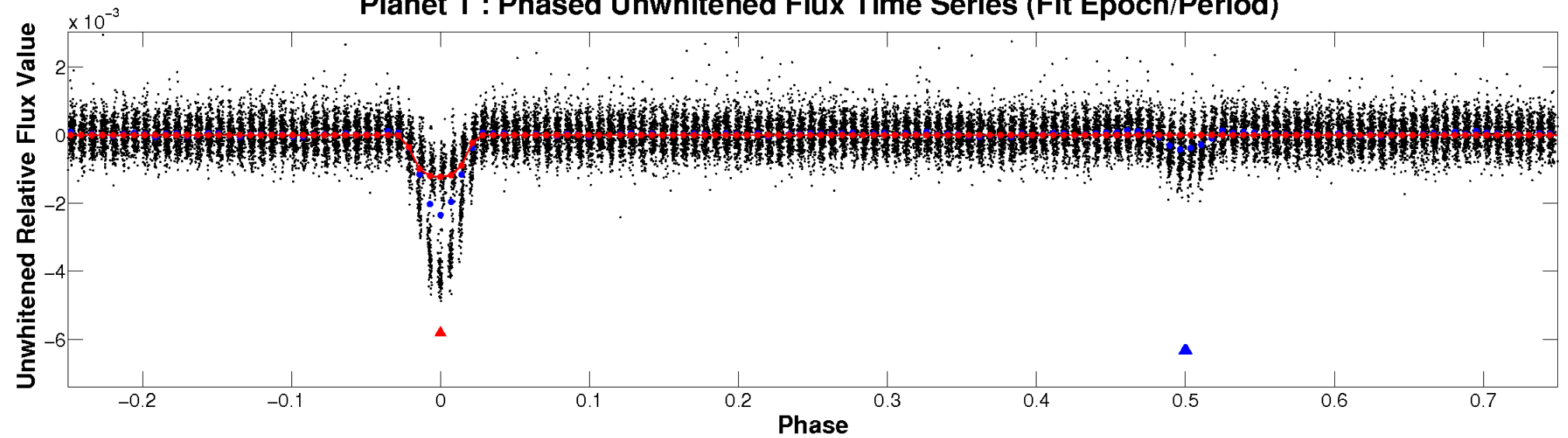
ALT Odd/Even

TCE 008168581-01

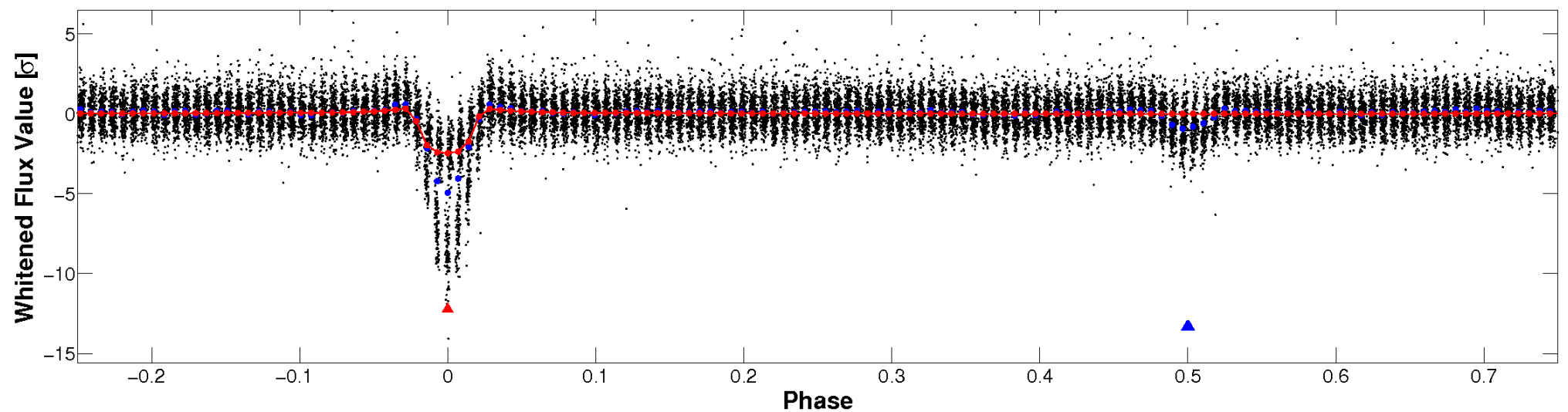


Non-Whitened Vs. Whitened Light Curve

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

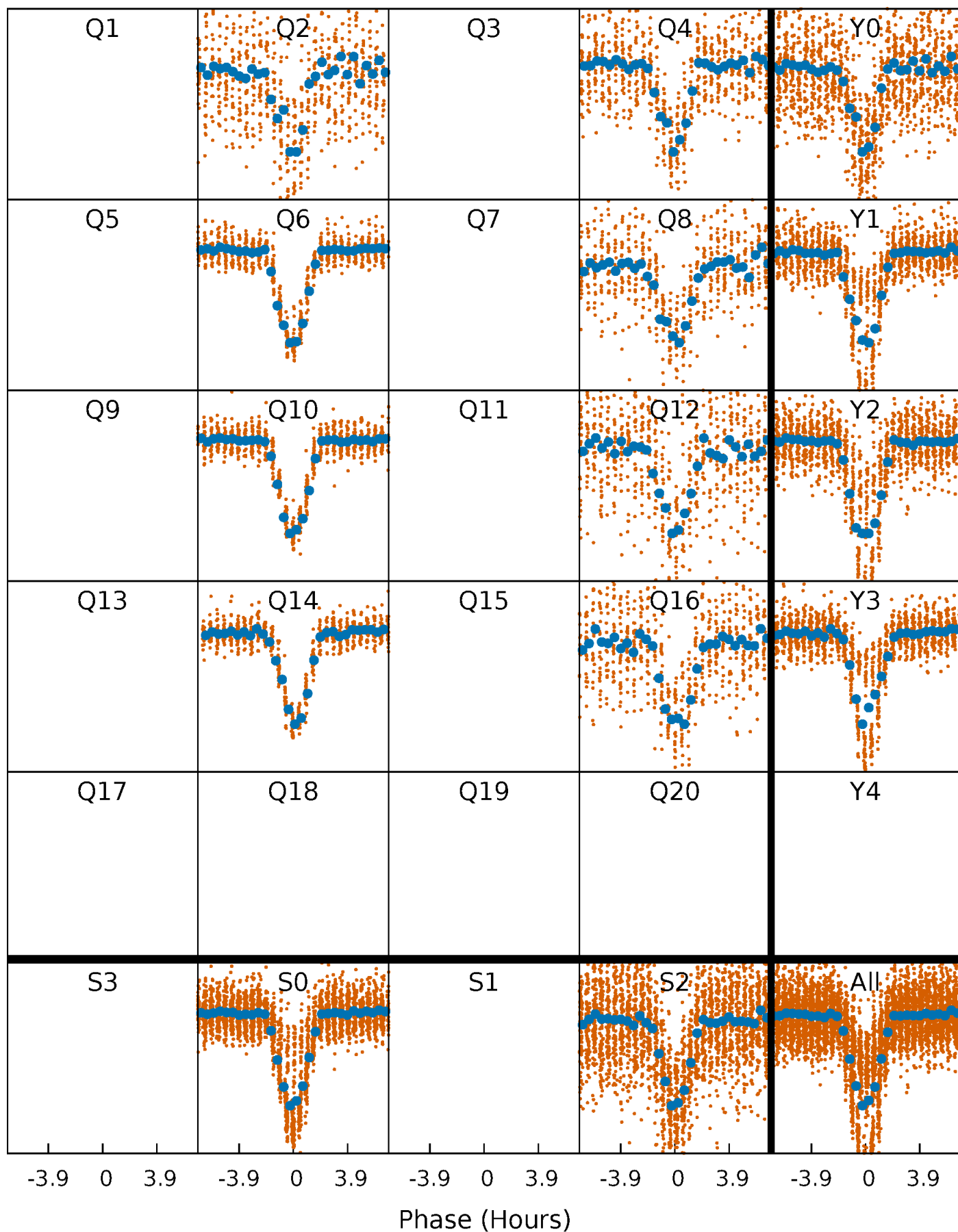


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



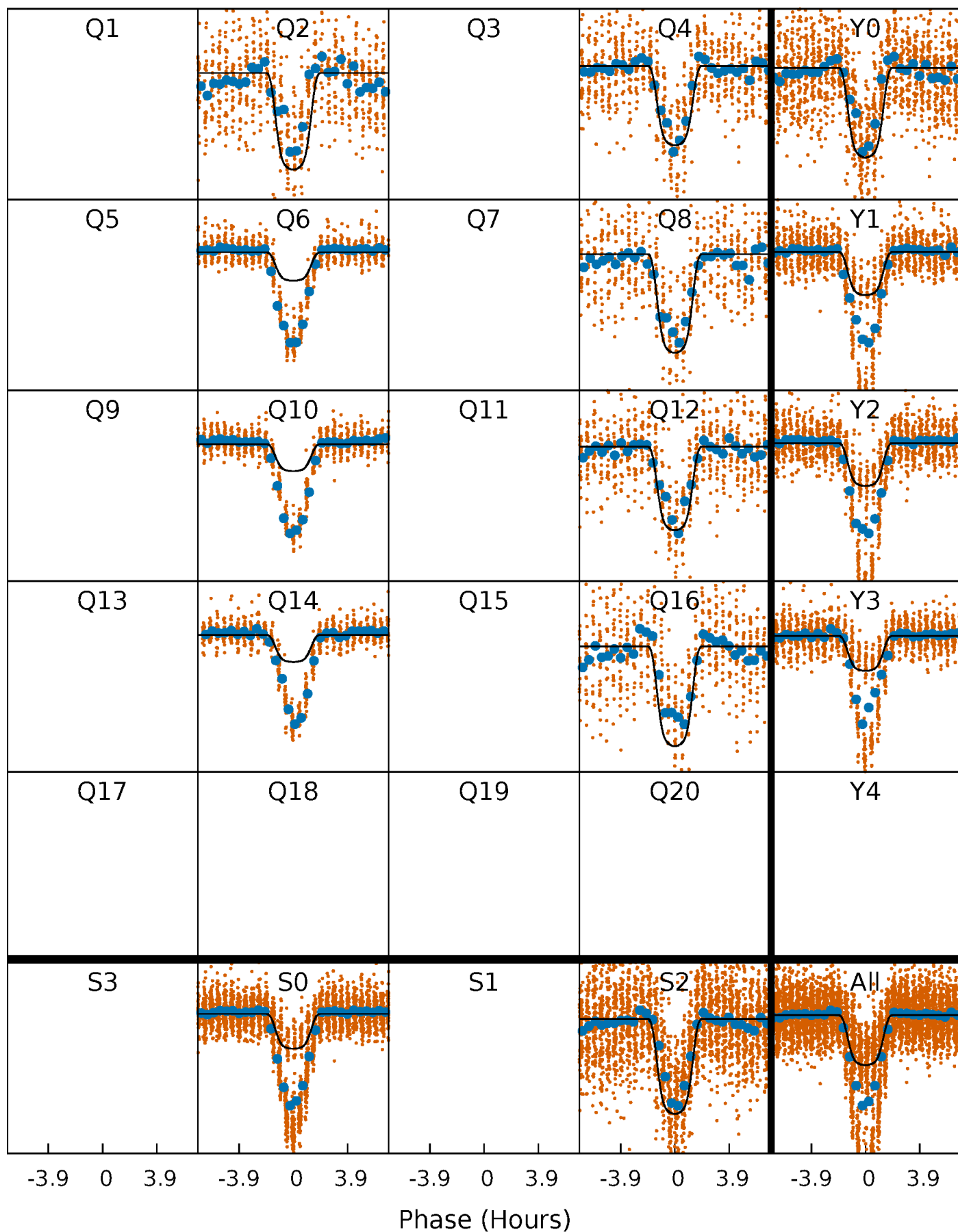
PDC Quarter-Phased Transit Curves

TCE 008168581-01 P= 2.881313 Days $T_0=132.915367$ (BKJD)



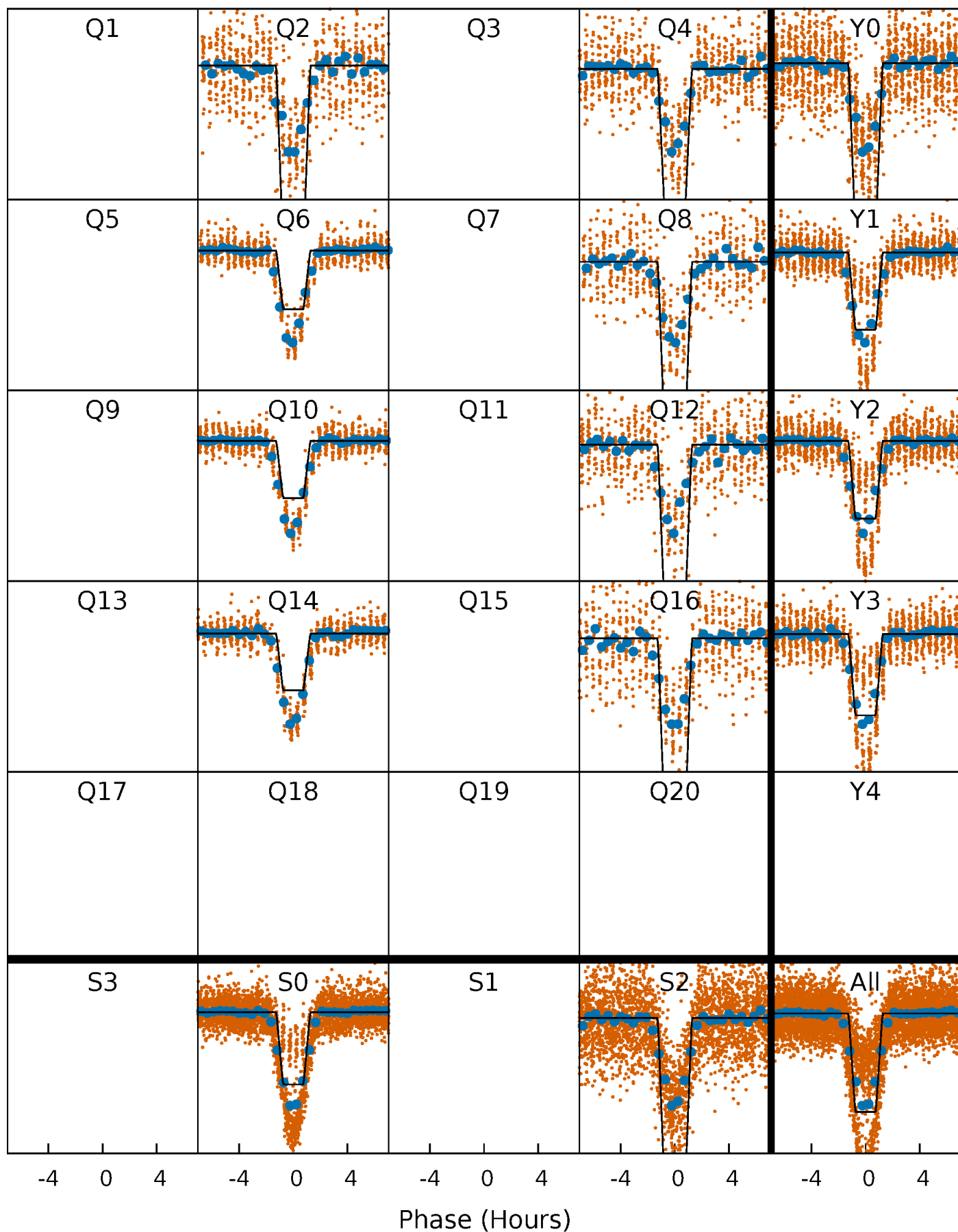
DV Quarter-Phased Transit Curves

TCE 008168581-01 P= 2.881313 Days $T_0=132.915367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

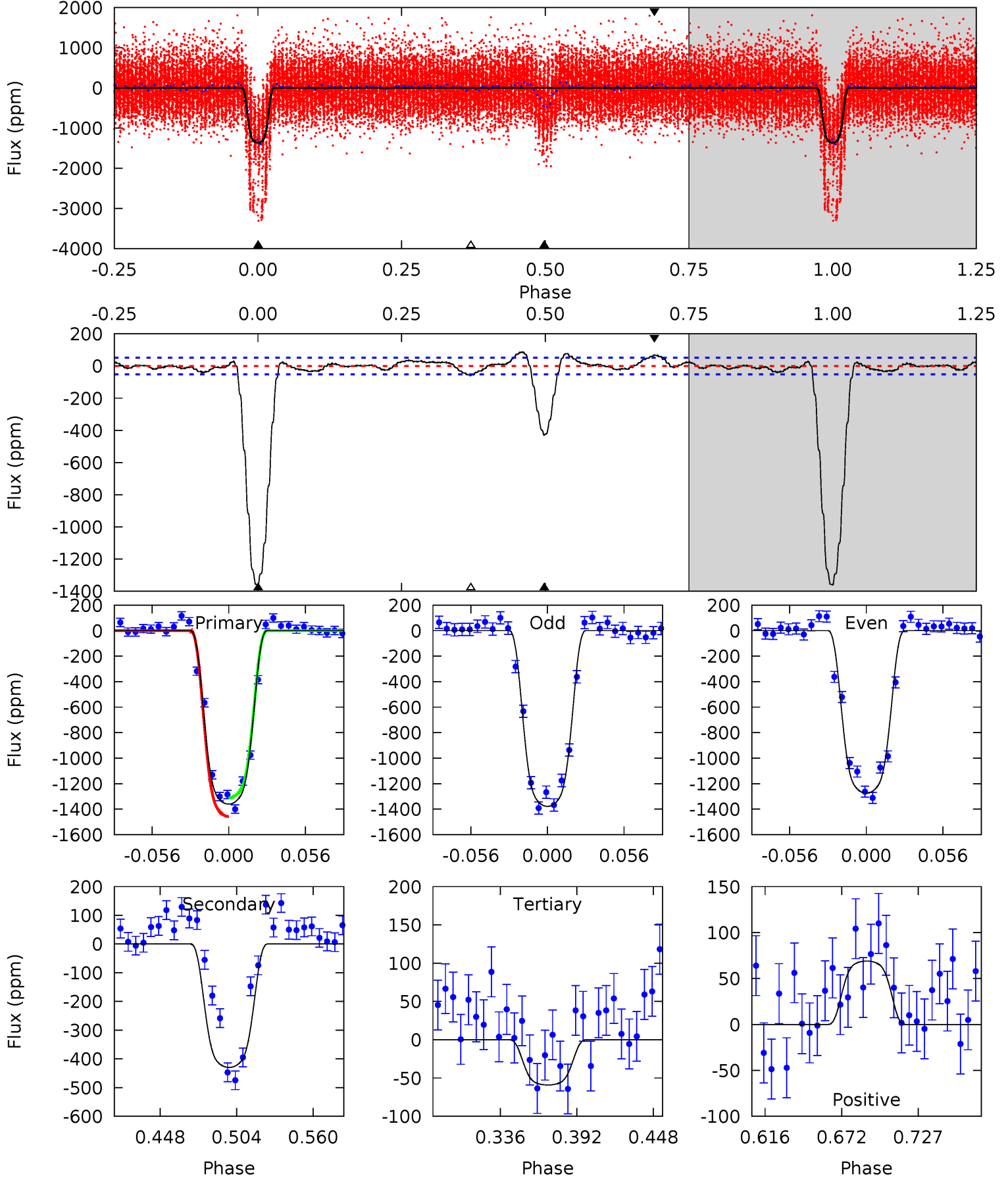
TCE 008168581-01 P= 2.881341 Days $T_0=132.908383$ (BKJD)



DV Model-Shift Uniqueness Test

008168581-01, P = 2.881313 Days, E = 132.915367 Days

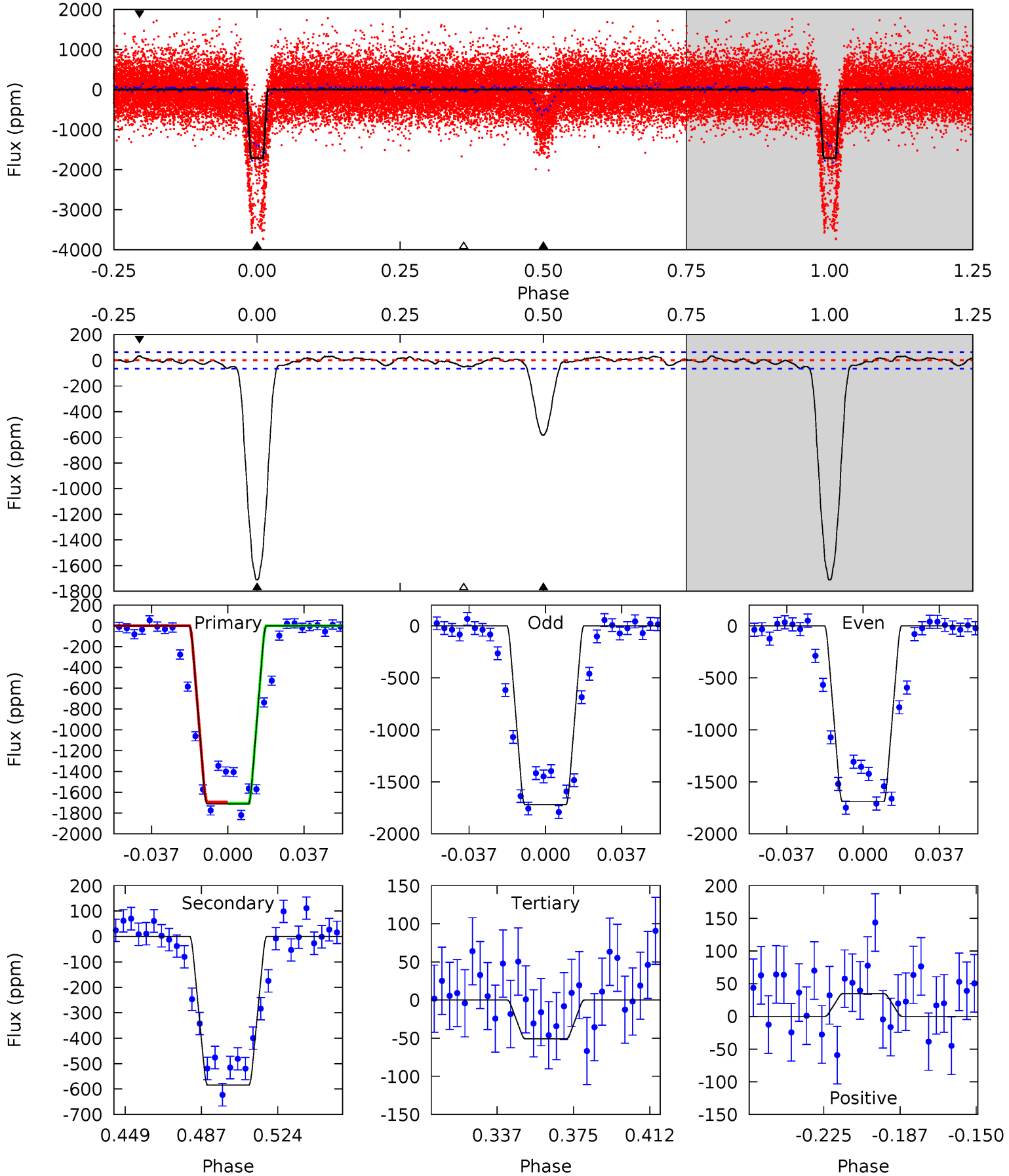
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
123.7	39.1	5.38	6.28	4.69	1.91	2.08	118.3	117.4	33.7	32.8	4.69	1.62	0.06	0



Alt Model-Shift Uniqueness Test

008168581-01, P = 2.881341 Days, E = 132.908383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
126.6	43.3	3.75	2.57	4.77	2.08	1.51	122.9	124.0	39.5	40.7	1.03	1.54	0.02	0



Stellar Parameters For KIC 008168581

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5783^{+163}_{-204}	$4.539^{+0.035}_{-0.196}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.262}_{-0.082}$	$0.977^{+0.116}_{-0.116}$	$2.021^{+0.380}_{-0.999}$
	+3%/-4%	+1%/-4%	+375%/-375%	+30%/-9%	+12%/-12%	+19%/-49%
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 008168581-01 / KOI 6054.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-430 ± 11	$4.00^{+0.58}_{-0.34}$	1733^{+119}_{-78}	4372^{+102}_{-116}	23^{+3}_{-5}
Alt.	-585 ± 14	$5.03^{+0.79}_{-0.39}$	1727^{+116}_{-80}	4228^{+93}_{-114}	19^{+3}_{-5}

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 $A_{obs} \gg 1.0$

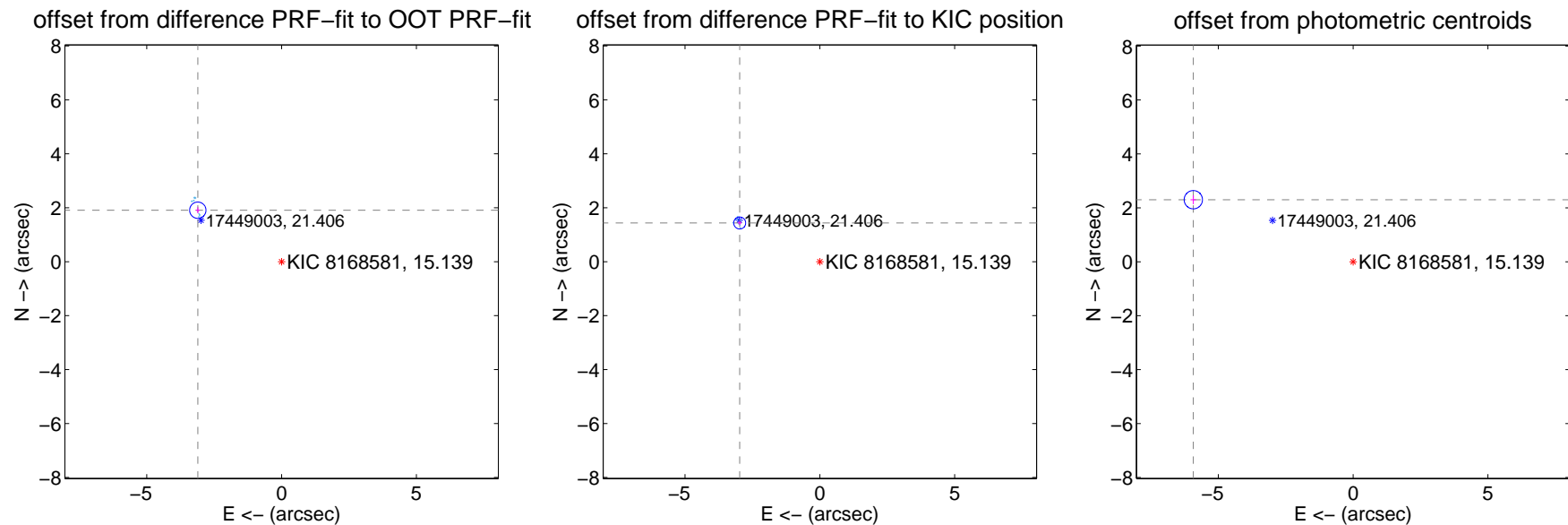
DV Centroid Data

Supplemental centroid analysis for 008168581-01. Kepler magnitude: 15.14. Transit SNR 60.32

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

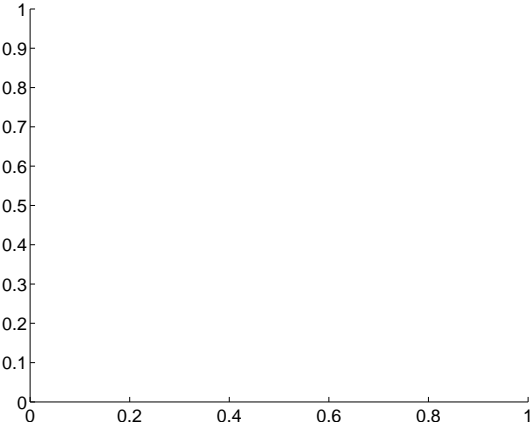
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.647 ± 0.101	36.11	3.107 ± 0.076	1.909 ± 0.112
PRF-fit source offset from KIC position	3.301 ± 0.074	44.63	2.973 ± 0.072	1.435 ± 0.076
photometric centroid source offset	6.36 ± 0.11	56.22	5.93 ± 0.10	2.30 ± 0.16



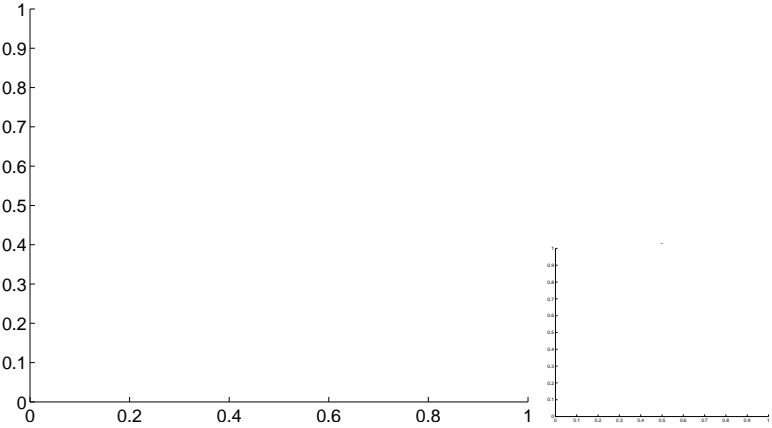
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

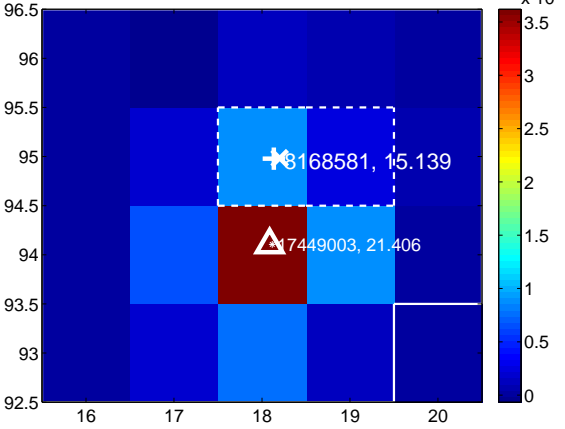
Q1 no difference image



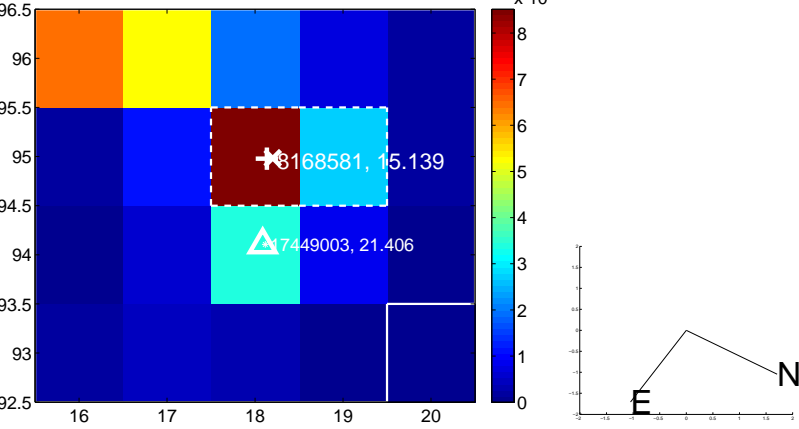
Q1 no OOT image



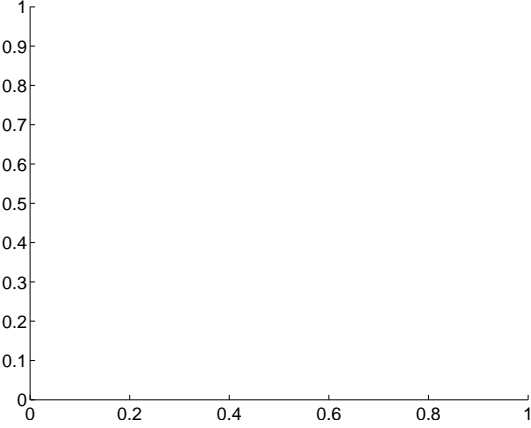
Q2 difference image



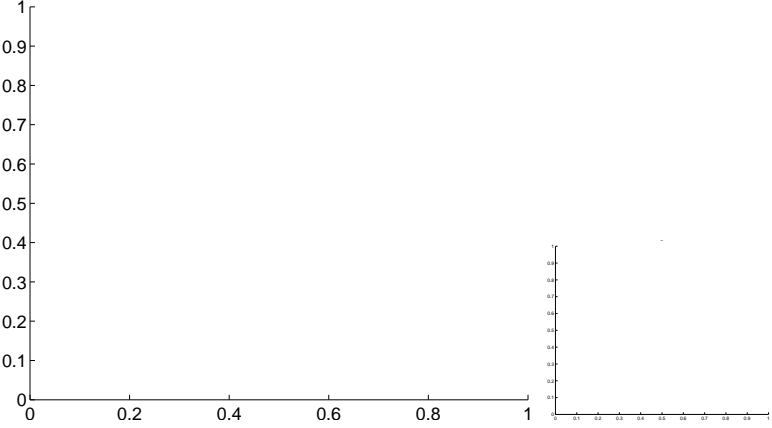
Q2 OOT image



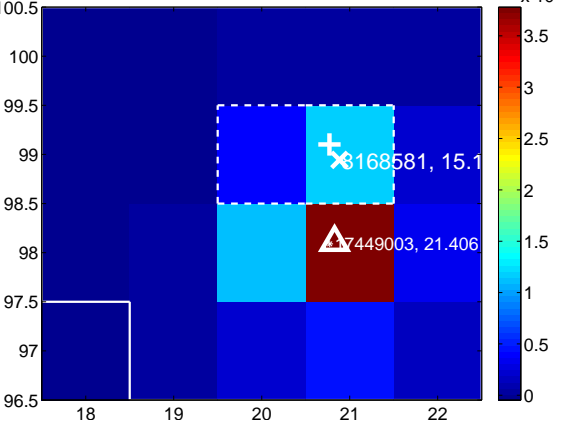
Q3 no difference image



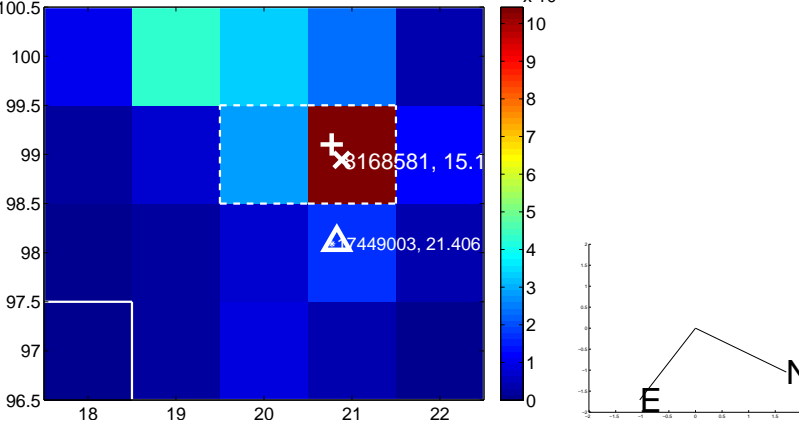
Q3 no OOT image



Q4 difference image

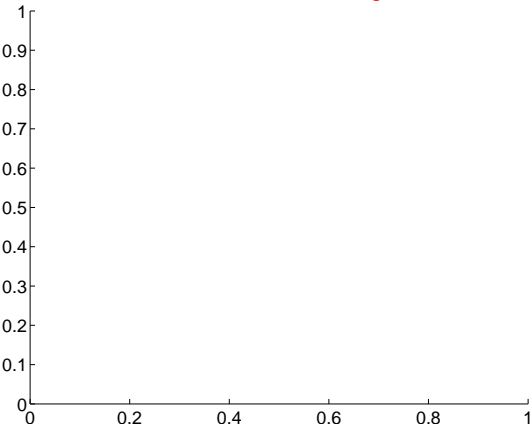


Q4 OOT image

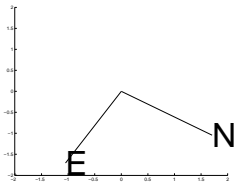
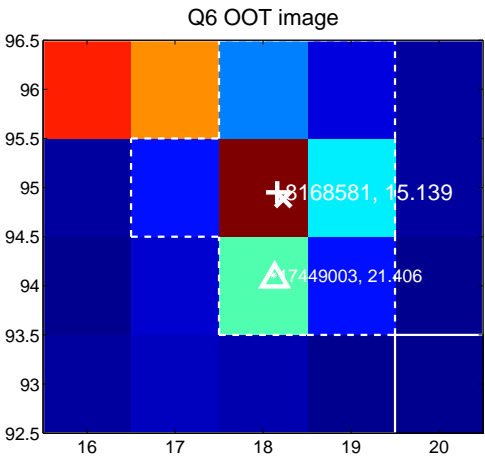
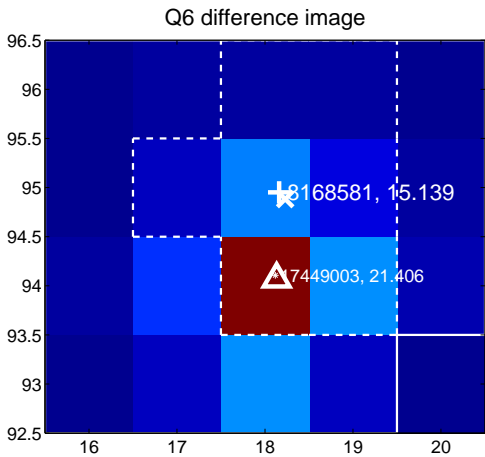
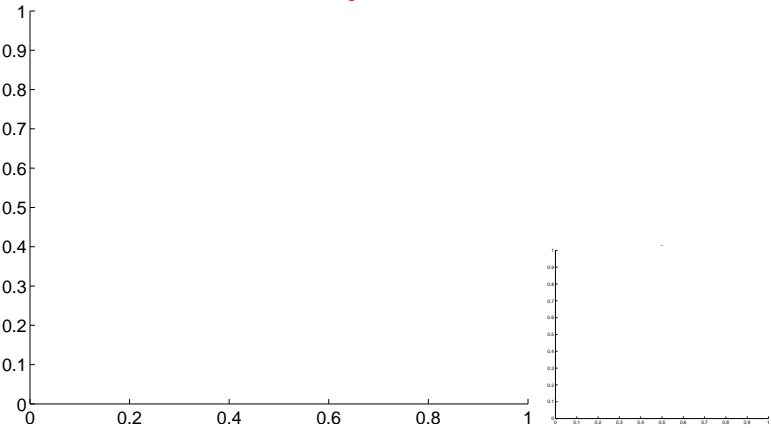


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

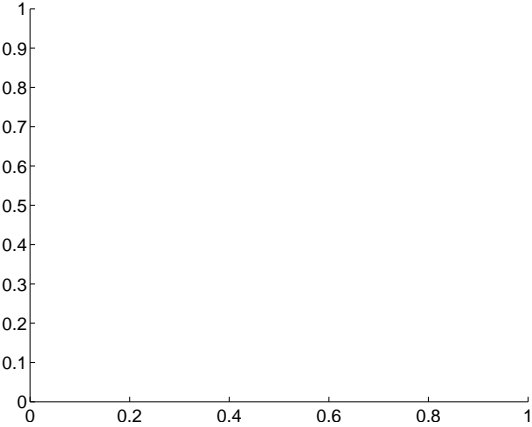
Q5 no difference image



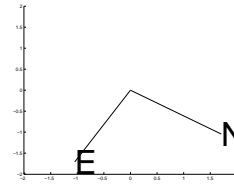
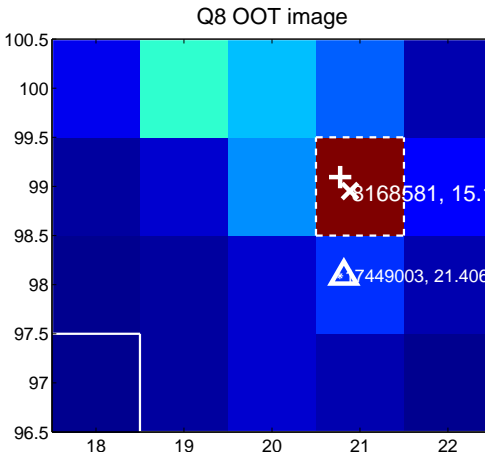
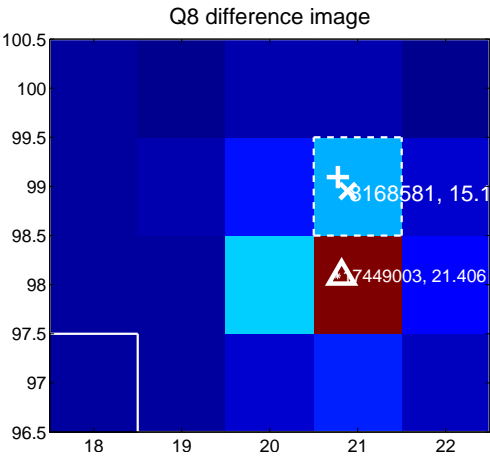
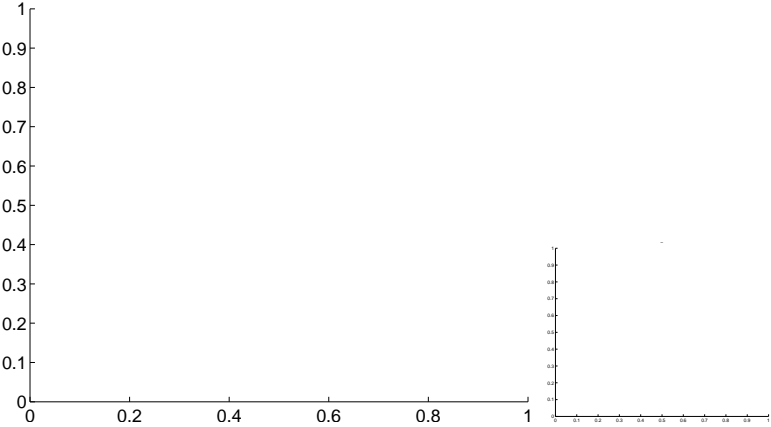
Q5 no OOT image



Q7 no difference image

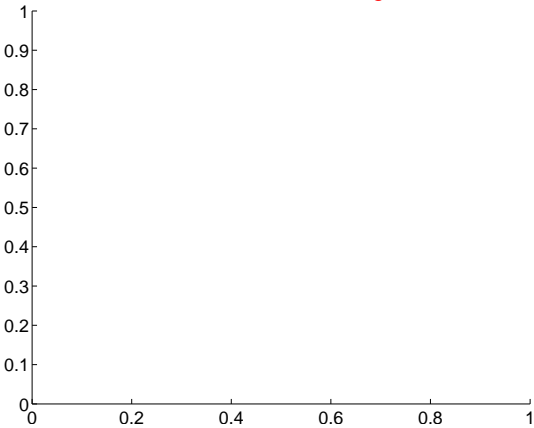


Q7 no OOT image

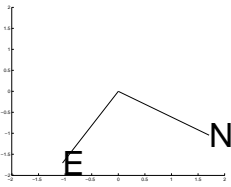
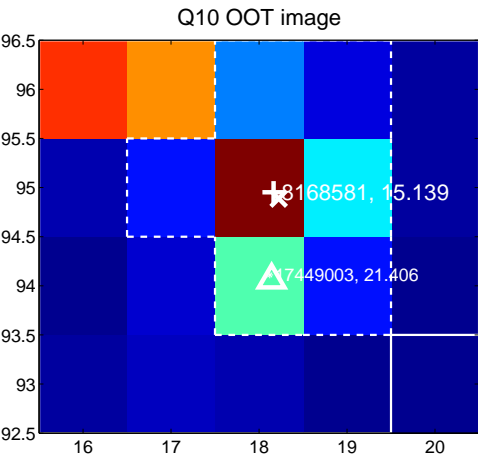
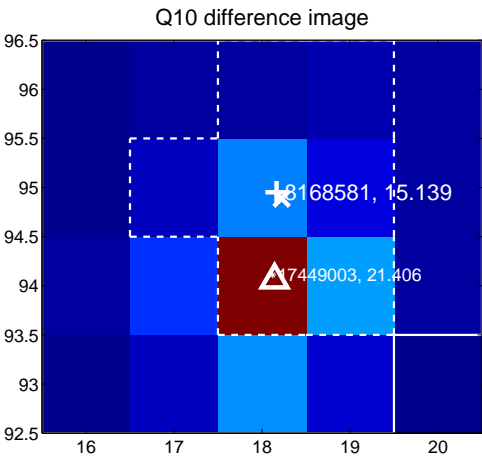
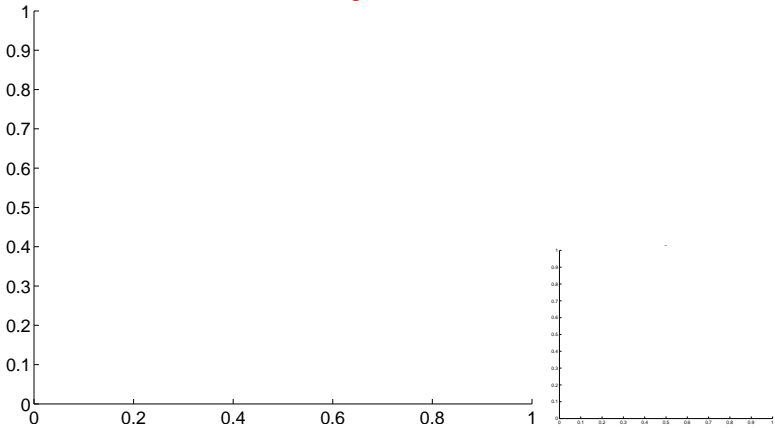


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

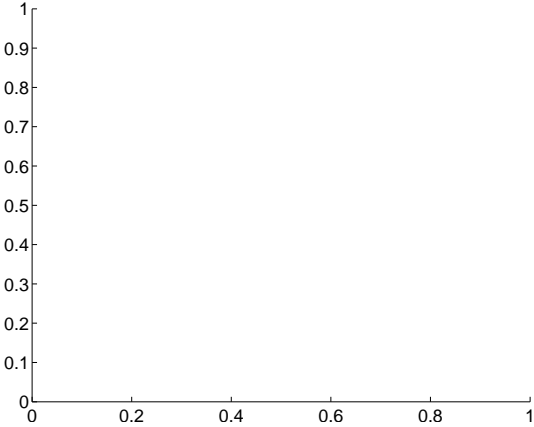
Q9 no difference image



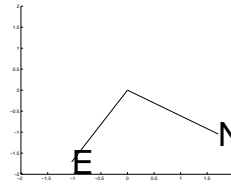
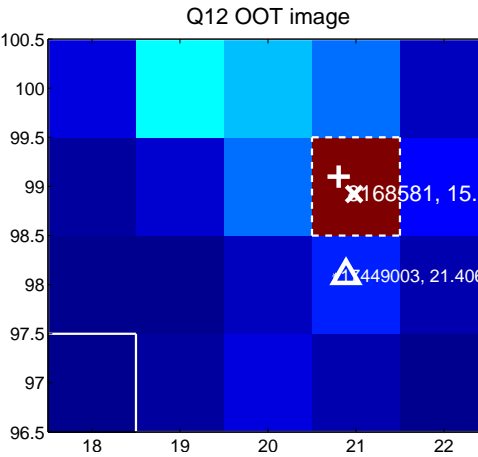
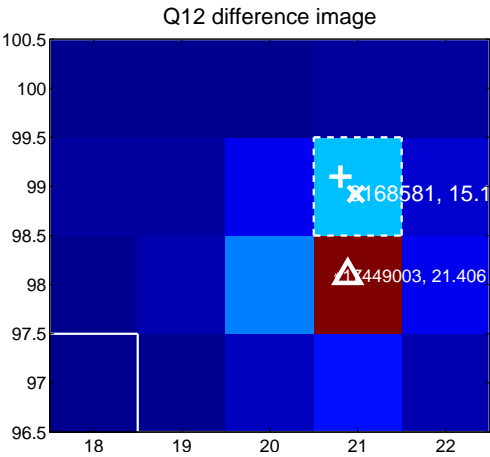
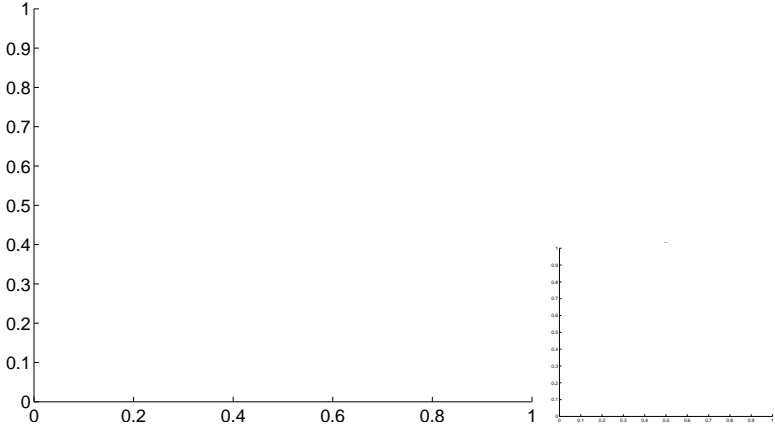
Q9 no OOT image



Q11 no difference image

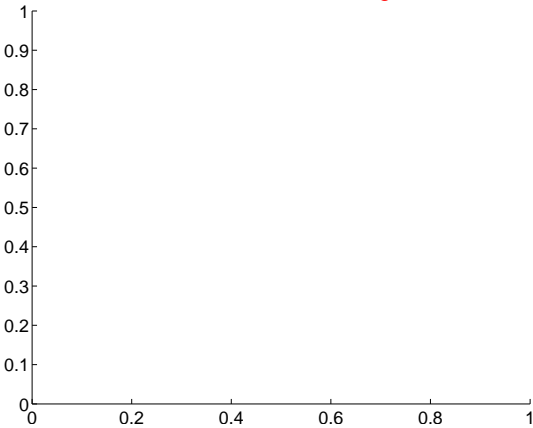


Q11 no OOT image

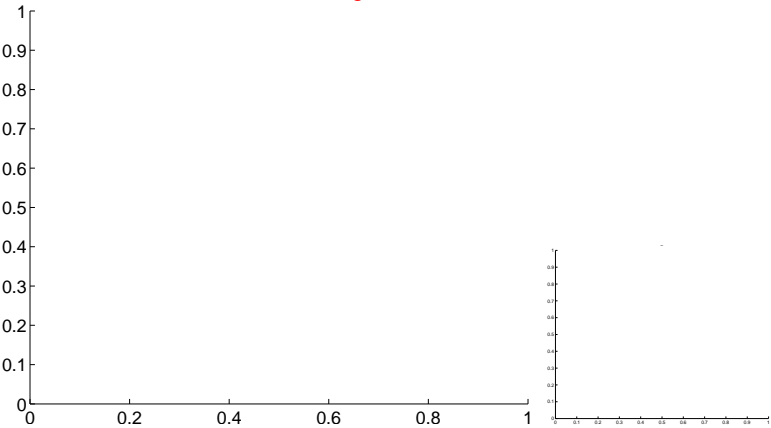


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

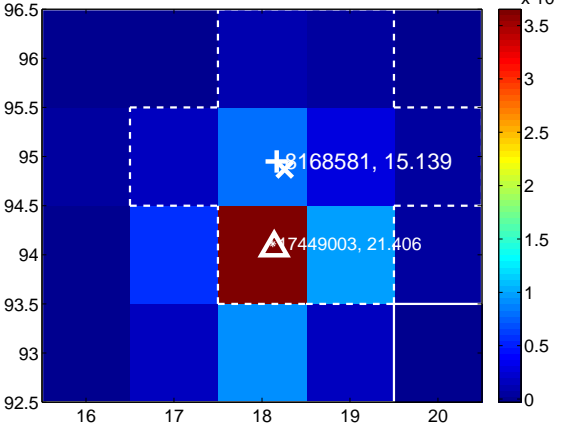
Q13 no difference image



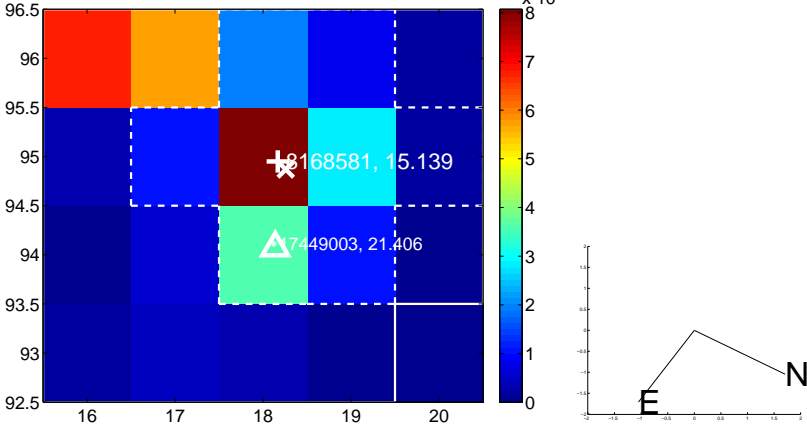
Q13 no OOT image



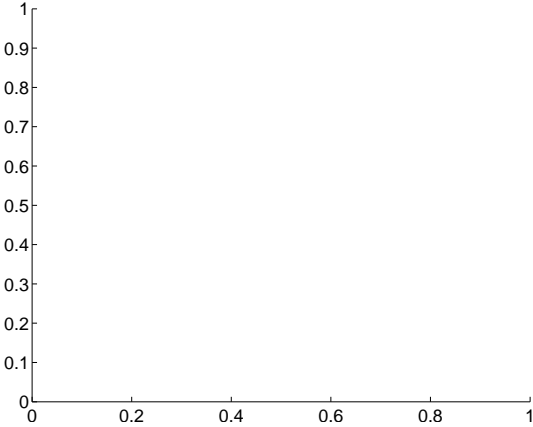
Q14 difference image



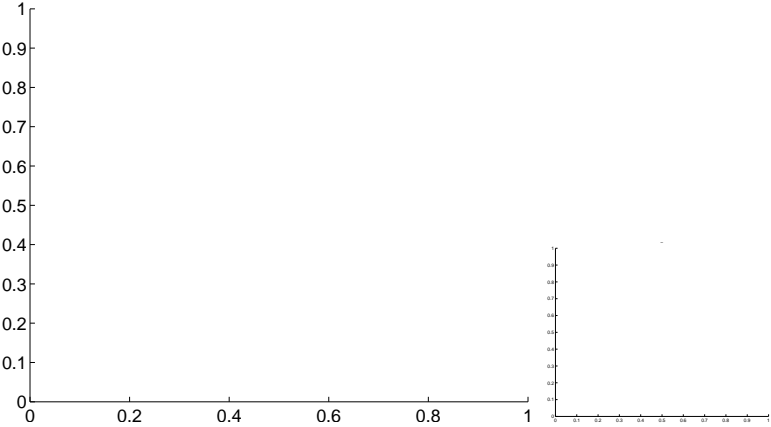
Q14 OOT image



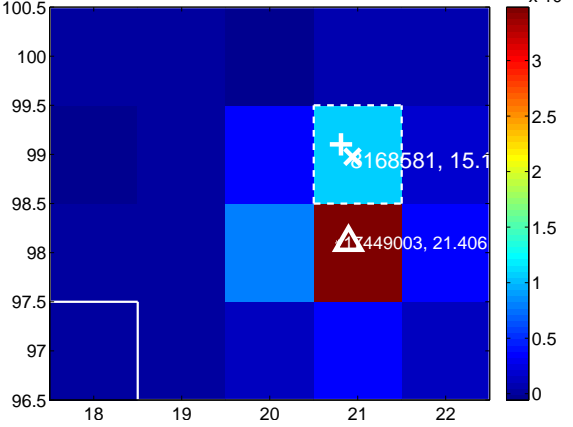
Q15 no difference image



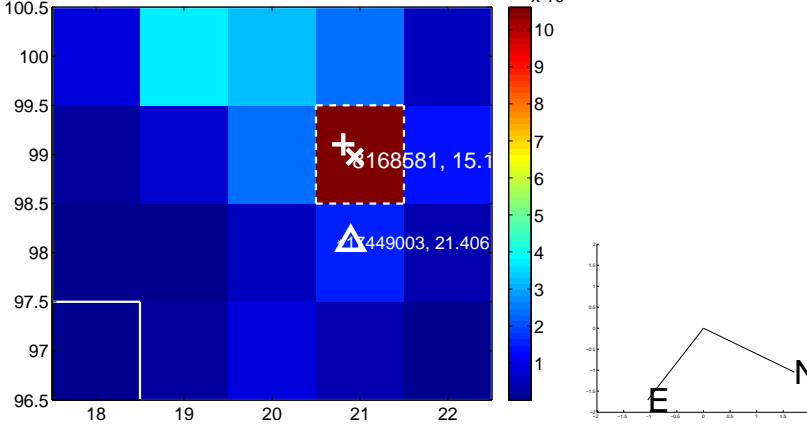
Q15 no OOT image



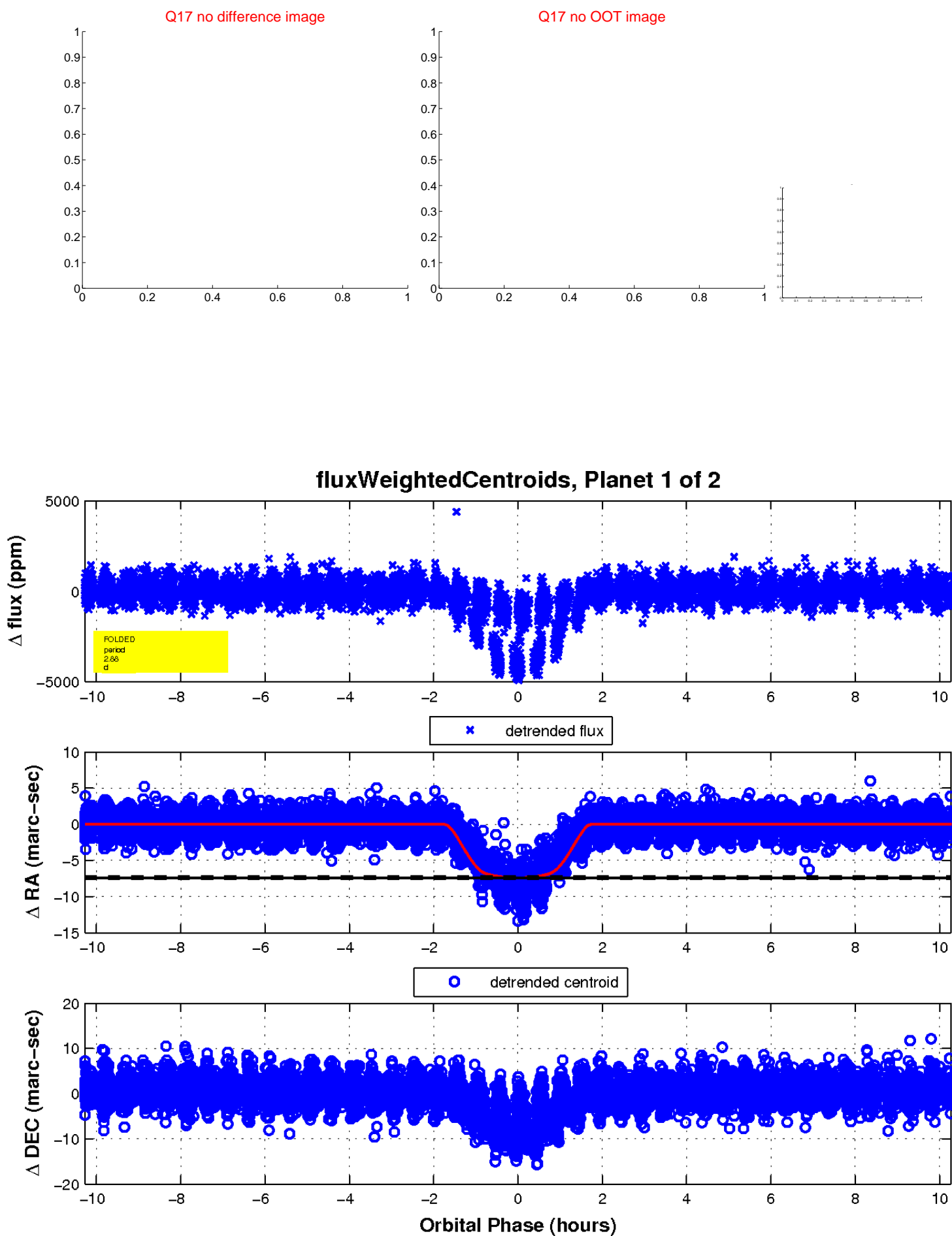
Q16 difference image



Q16 OOT image

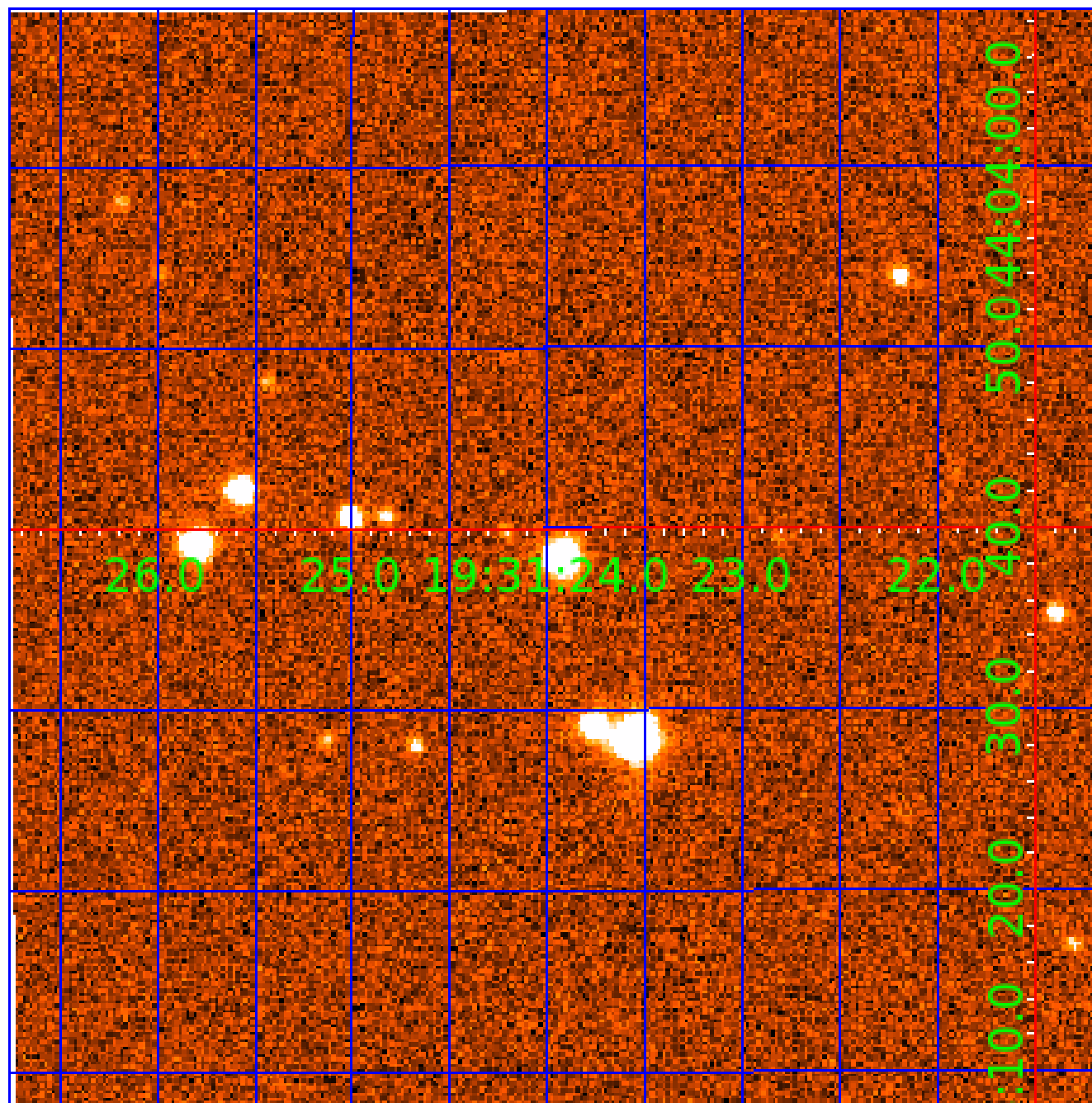


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008168581

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})
008168581-01	OBS	6054.01	2.881313	132.915367	1230.0	3.424	114.7	60.3	0.88	5783	3.83	501.62
008168581-02	OBS	No	2.881304	134.358407	432.6	2.694	23.5	25.6	0.88	5783	2.18	501.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008168581-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
008168581-02	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.

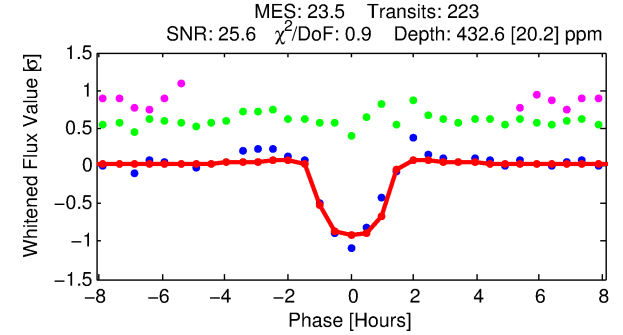
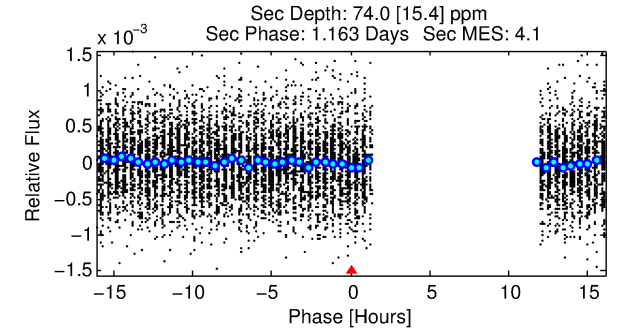
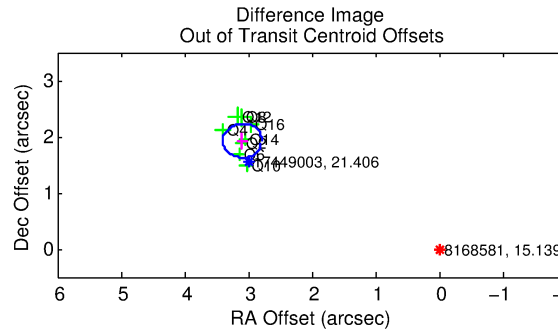
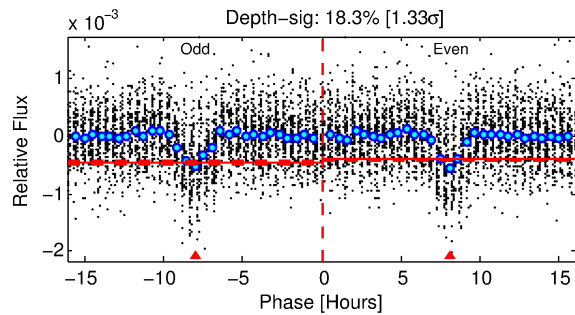
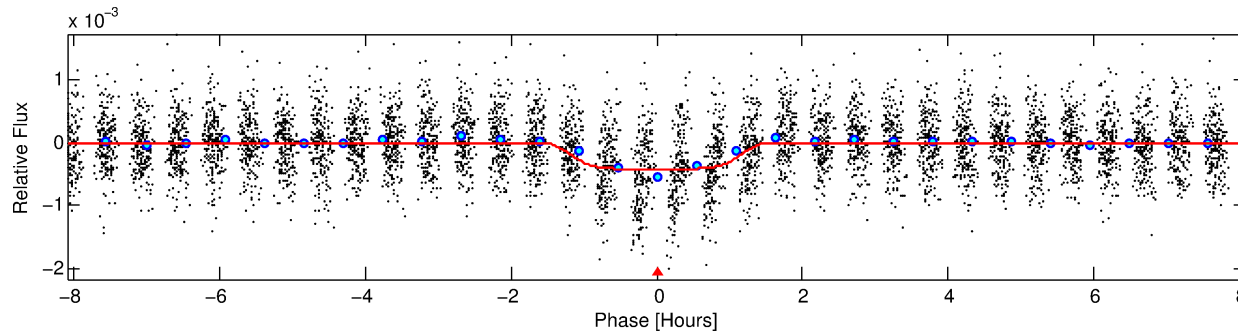
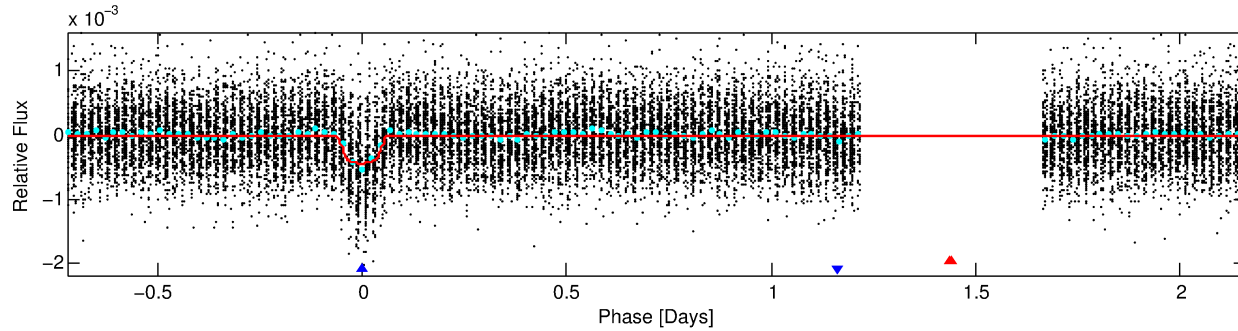
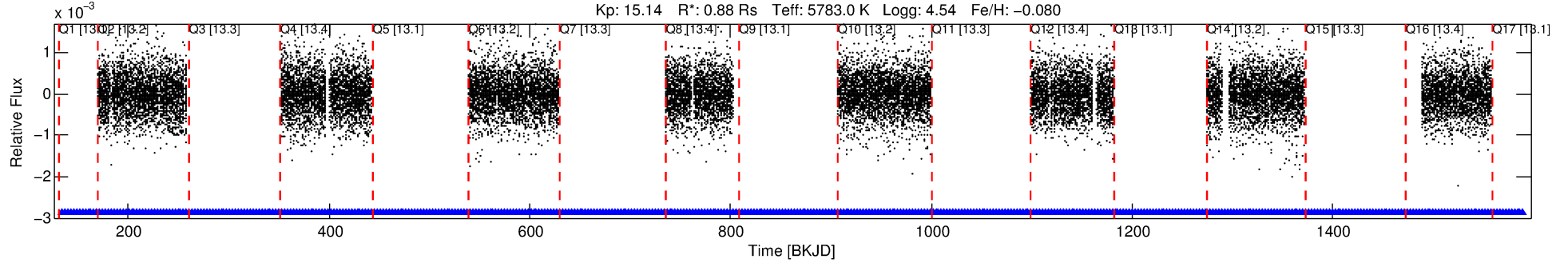
Ephemeris Match Information For 008168581-02

No Significant Match Found

DV One-Page Summary

KIC: 8168581 Candidate: 2 of 2 Period: 2.881 d
KOI: K06054 Corr: No Ephemeris Match

Kp: 15.14 R*: 0.88 Rs Teff: 5783.0 K Logg: 4.54 Fe/H: -0.080



DV Fit Results:

Period = 2.88130 [0.00001] d
Epoch = 134.3584 [0.0016] BKJD
Rp/R* = 0.0227 [0.0055]
a/R* = 4.03 [4.38]
b = 0.90 [0.24]
Seff = 501.62 [194.17]
Teq = 1207 [117] K
Rp = 2.18 [0.84] Re
a = 0.0393 [0.0098] AU
Ag = 13.22 [8.47] [1.44σ]
Teff = 3557 [488] K [4.69σ]

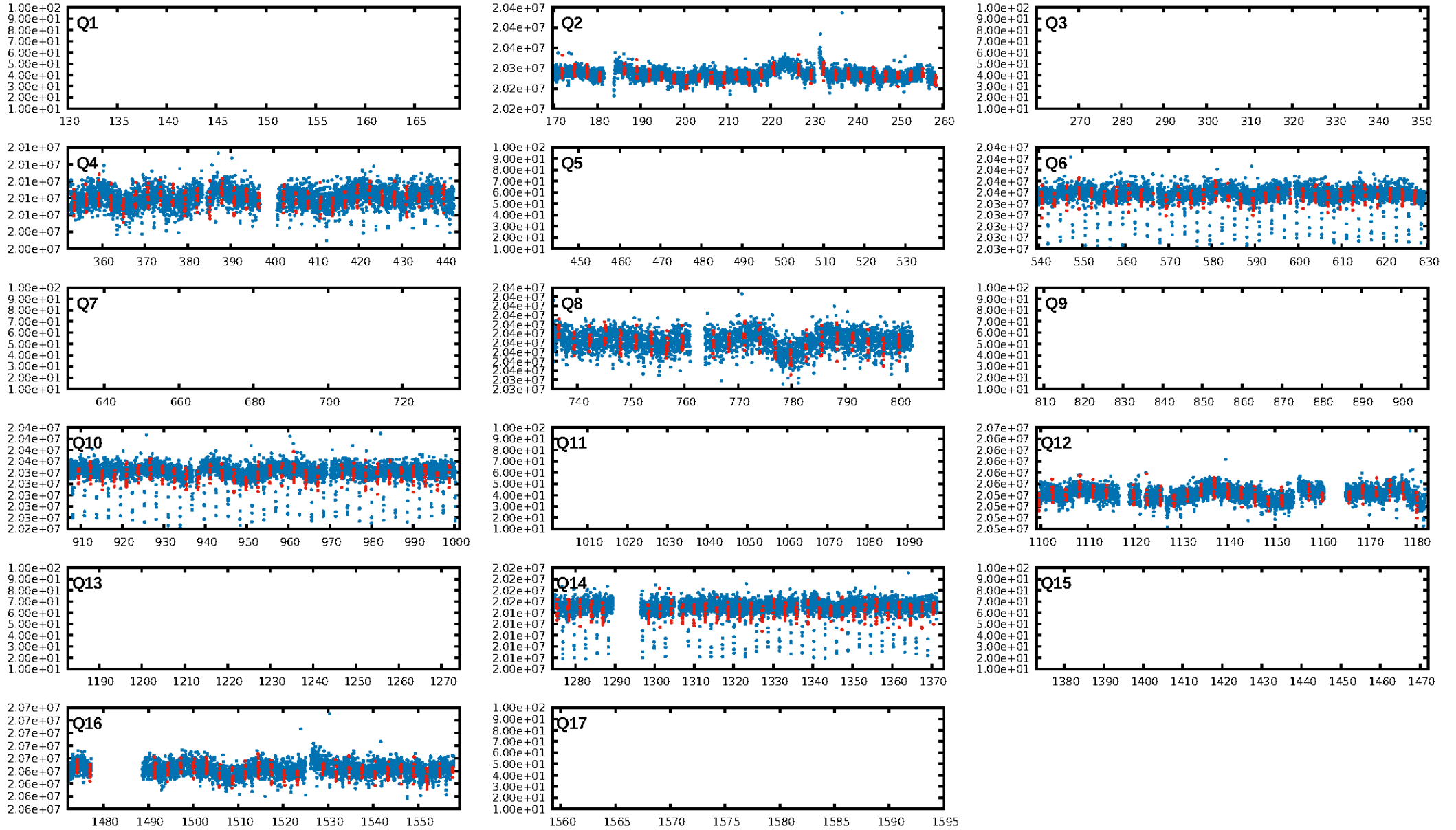
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.45e-115
RollingBand-fgt: 1.00 [223/223]
GhostDiagnostic-chr: 0.5962
Centroid-sig: N/A
Centroid-so: 4.744 arcsec [14.33σ]
OotOffset-rm: 3.644 arcsec [35.92σ]
KicOffset-rm: 3.314 arcsec [37.05σ]
OotOffset-st: 4/0/4/0 [8]
KicOffset-st: 4/0/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

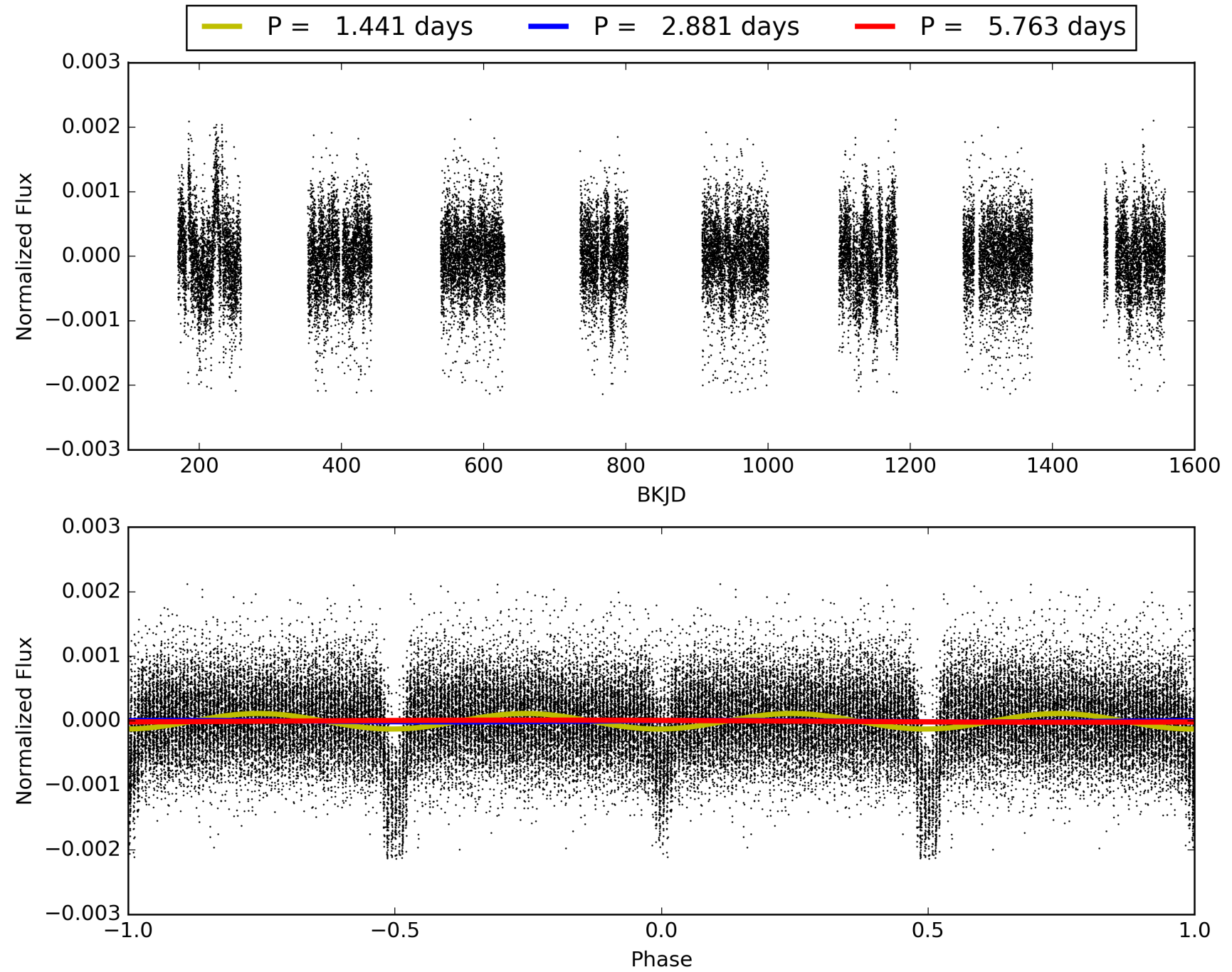
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:17:15 Z

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

TCE 008168581-02, PDC Light Curves

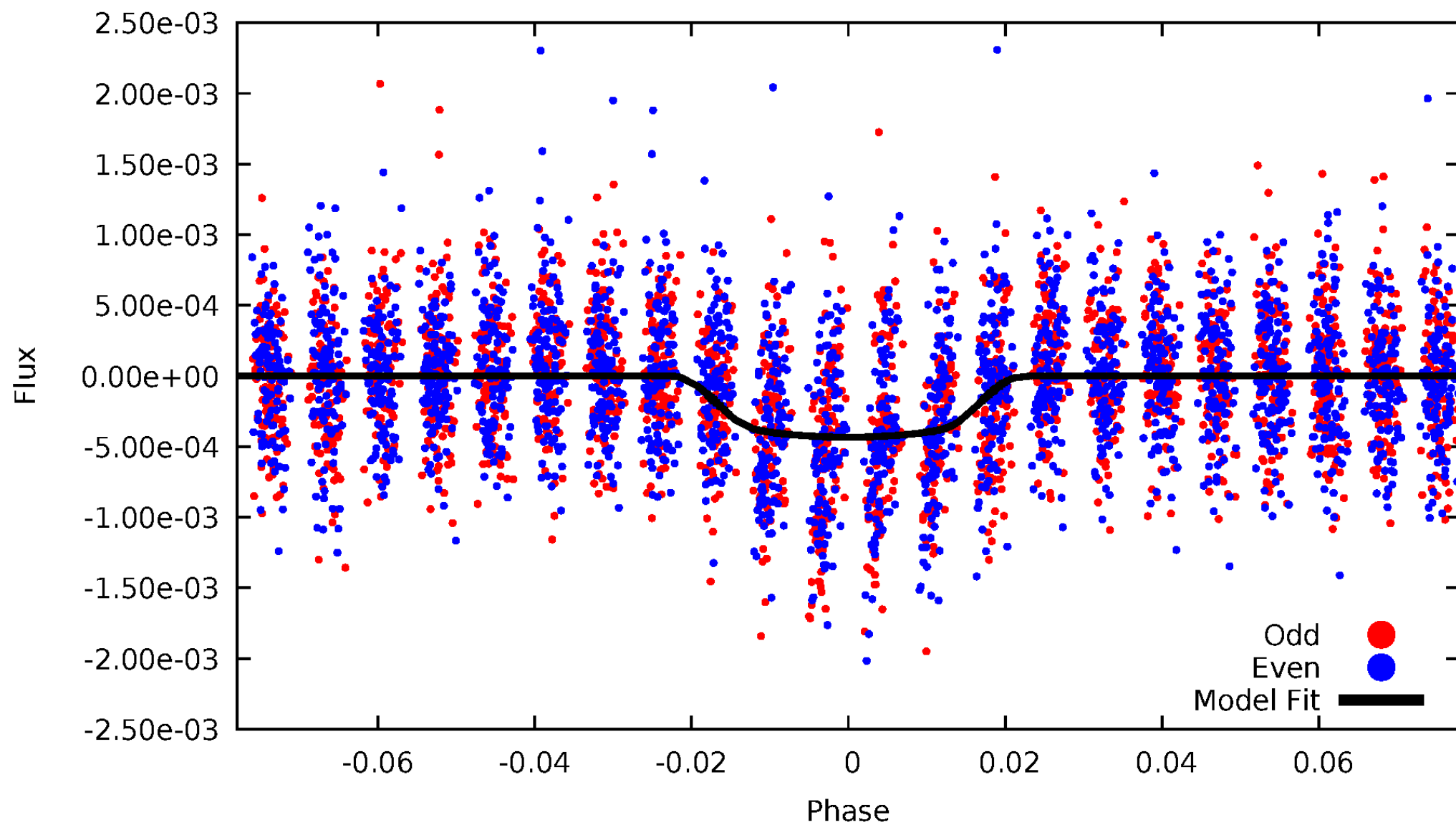


TCE 008168581-02



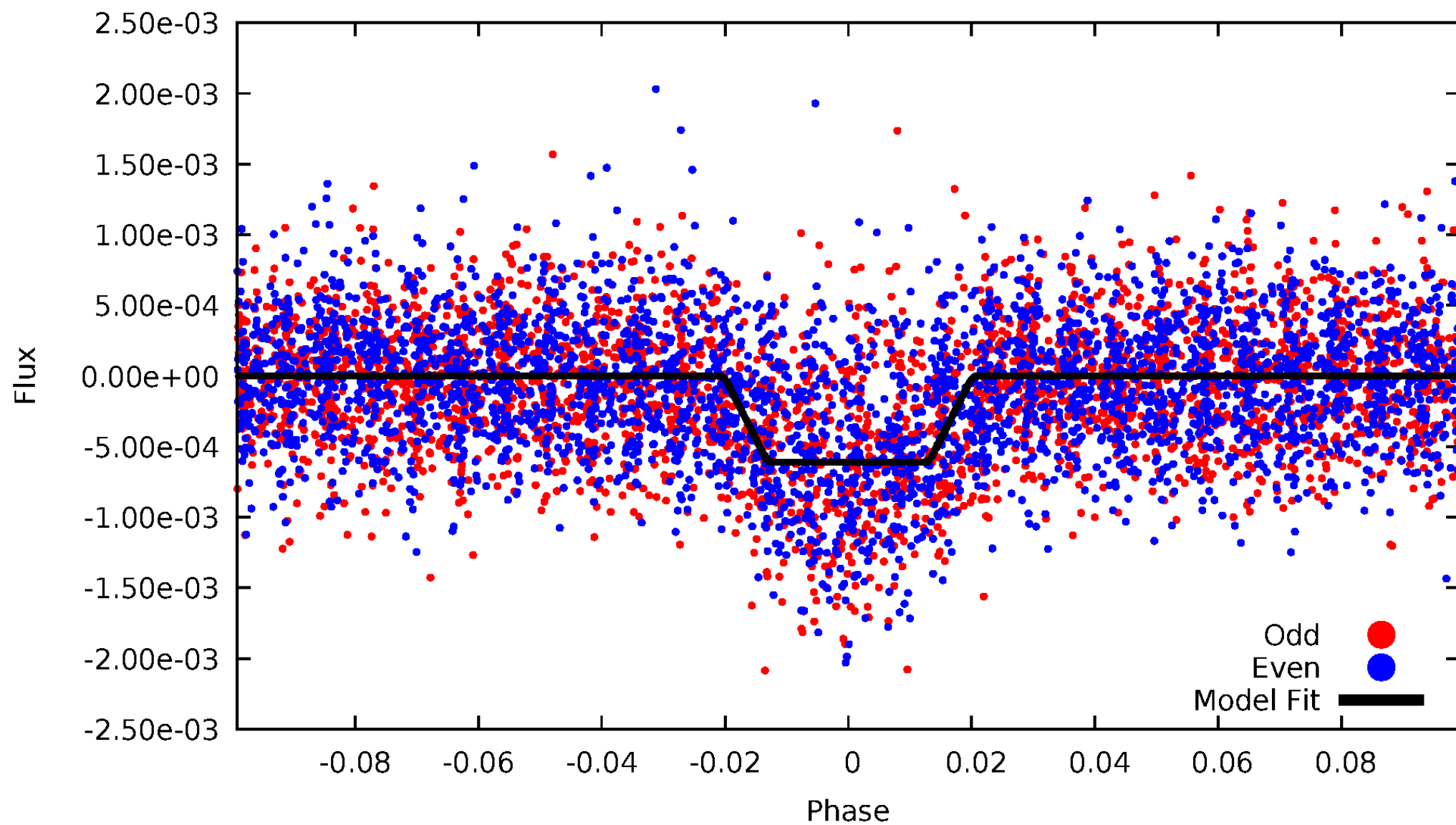
DV Odd/Even

TCE 008168581-02



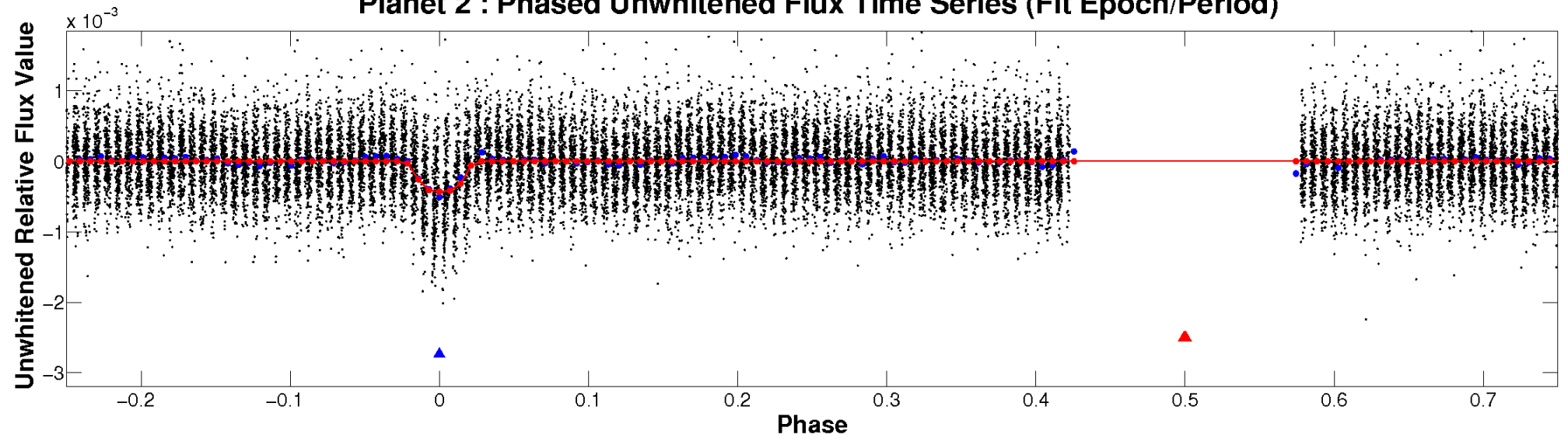
ALT Odd/Even

TCE 008168581-02

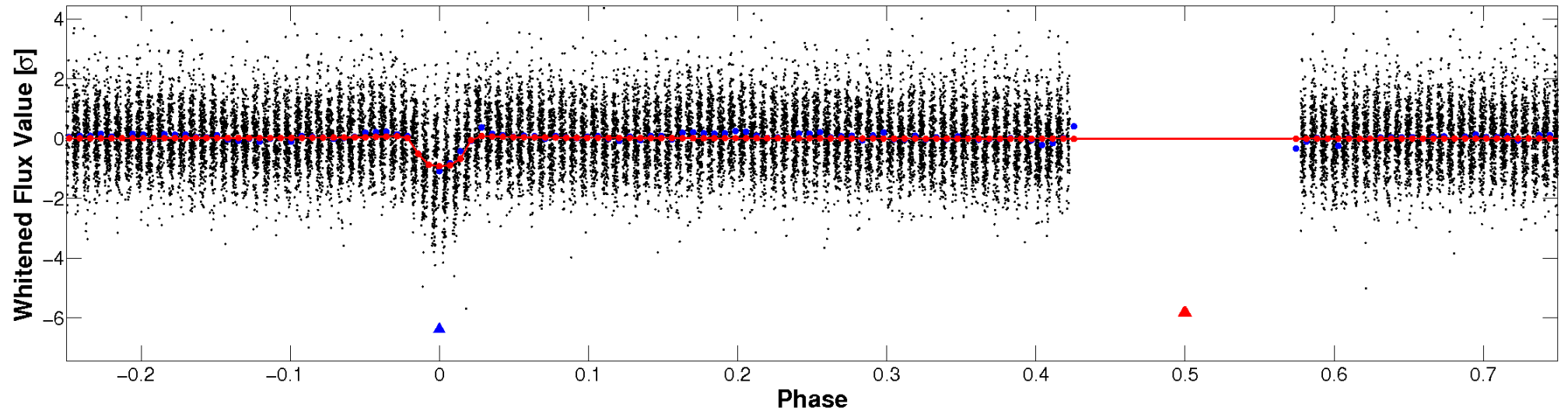


Non-Whitened Vs. Whitened Light Curve

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

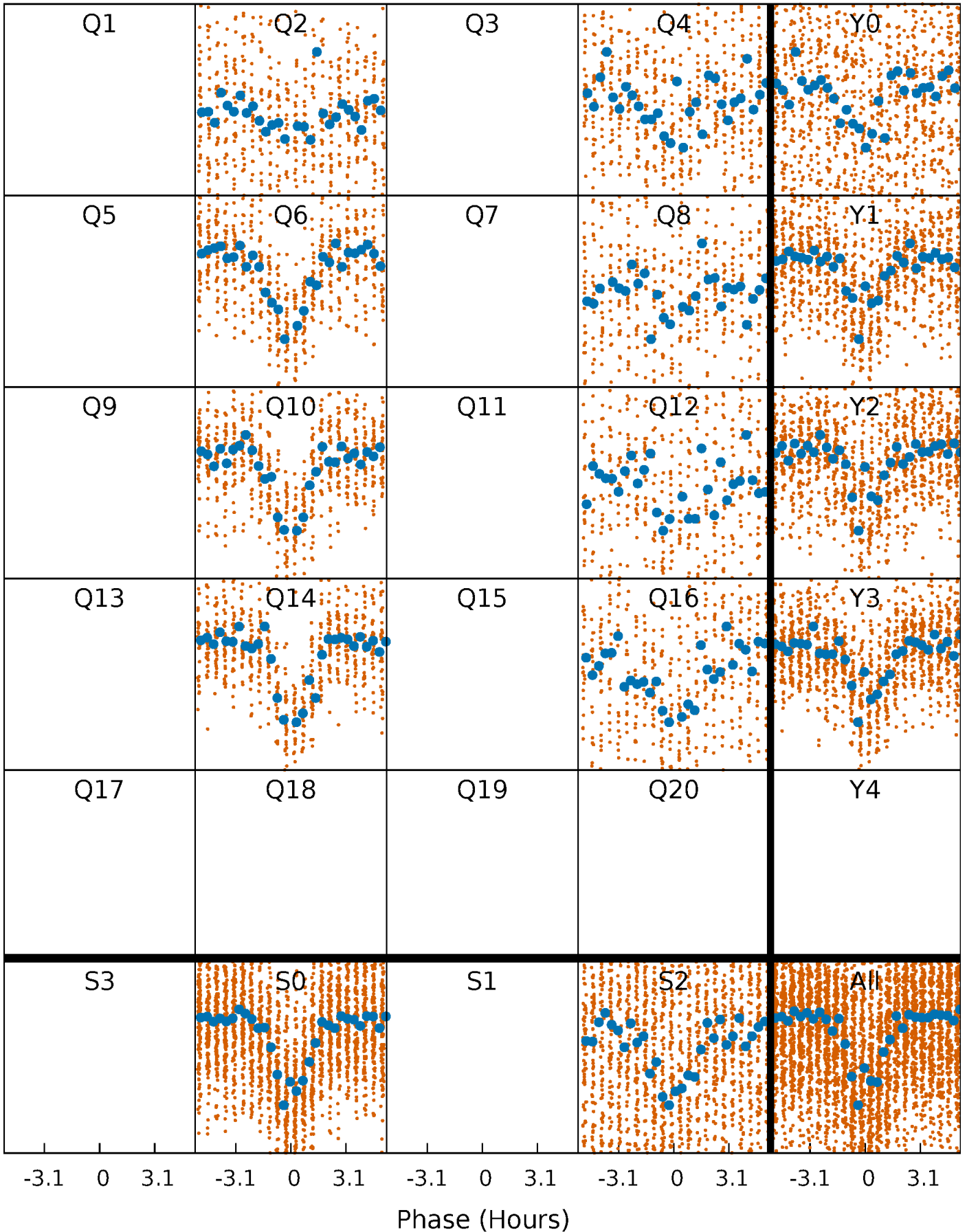


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



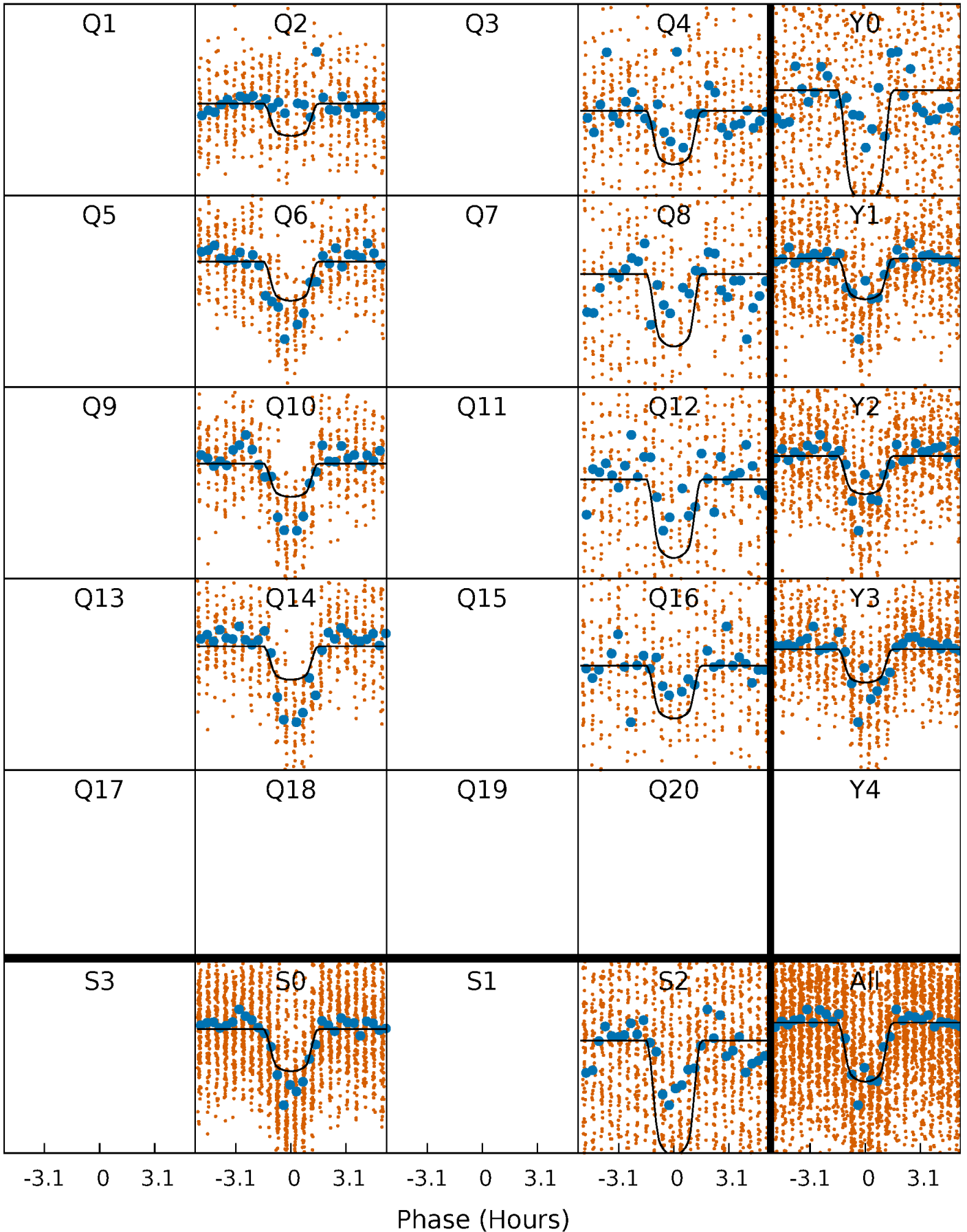
PDC Quarter-Phased Transit Curves

TCE 008168581-02 P= 2.881304 Days $T_0=134.358407$ (BKJD)



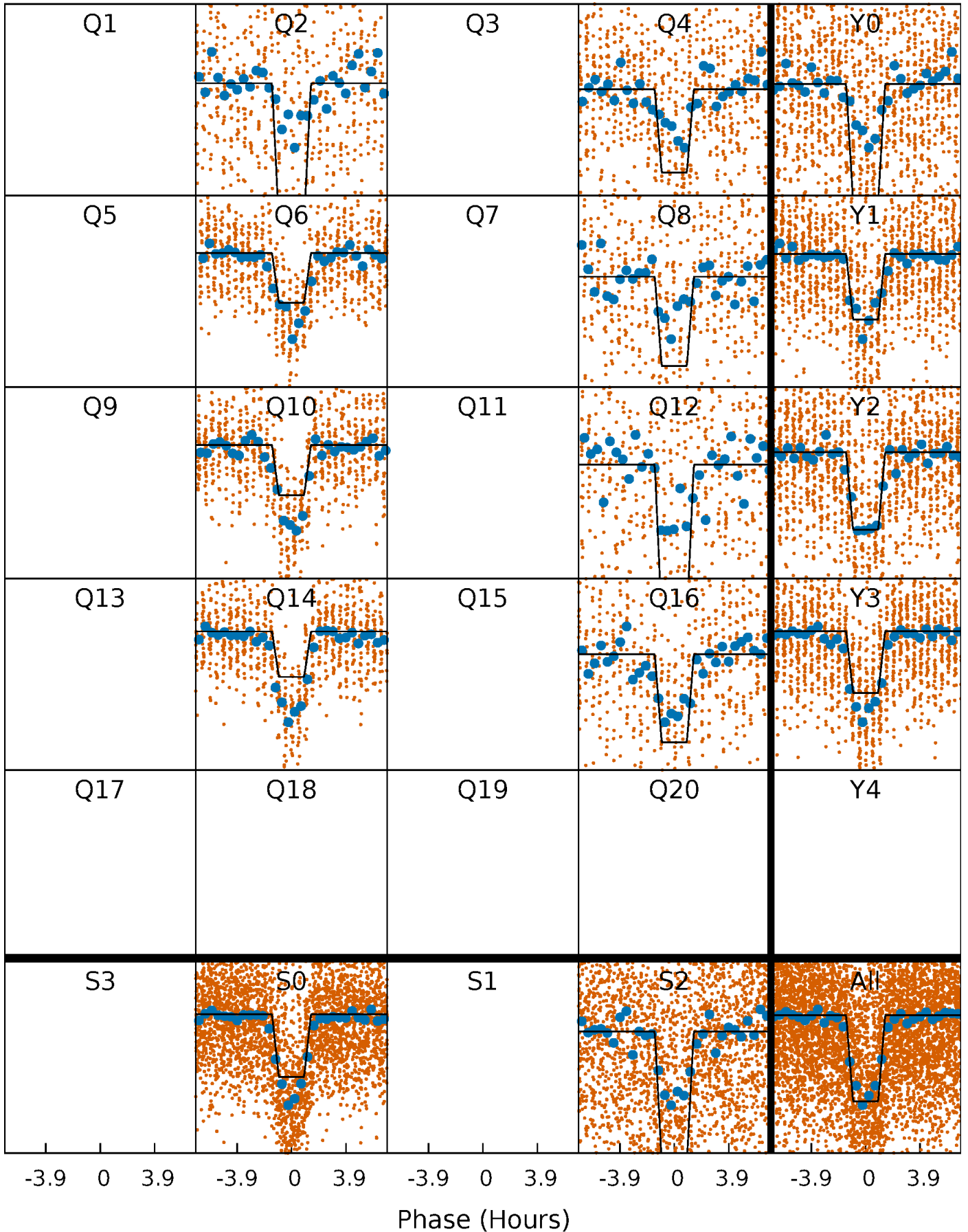
DV Quarter-Phased Transit Curves

TCE 008168581-02 P= 2.881304 Days $T_0=134.358407$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

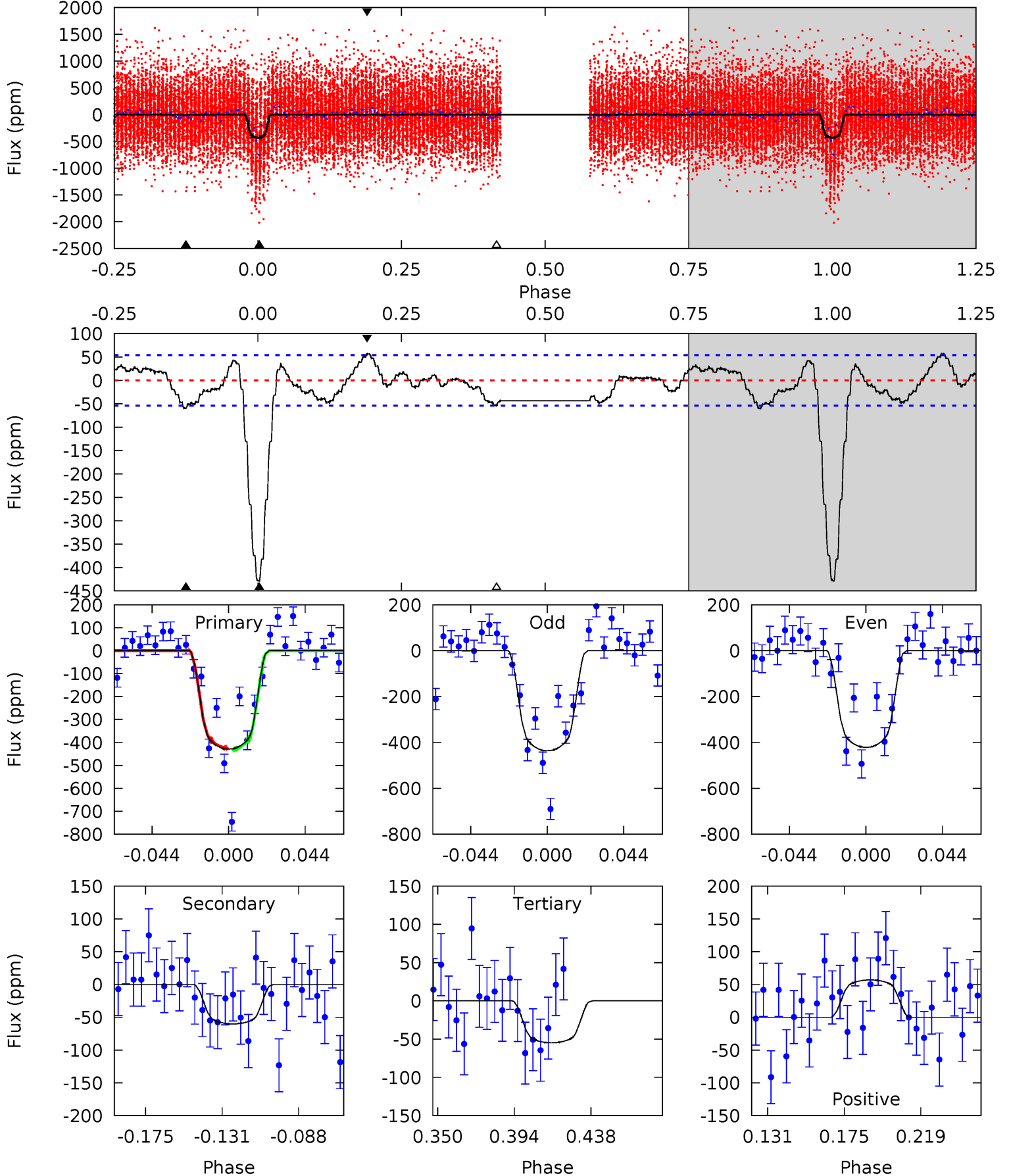
TCE 008168581-02 P= 2.881353 Days $T_0=134.345220$ (BKJD)



DV Model-Shift Uniqueness Test

008168581-02, P = 2.881304 Days, E = 134.358407 Days

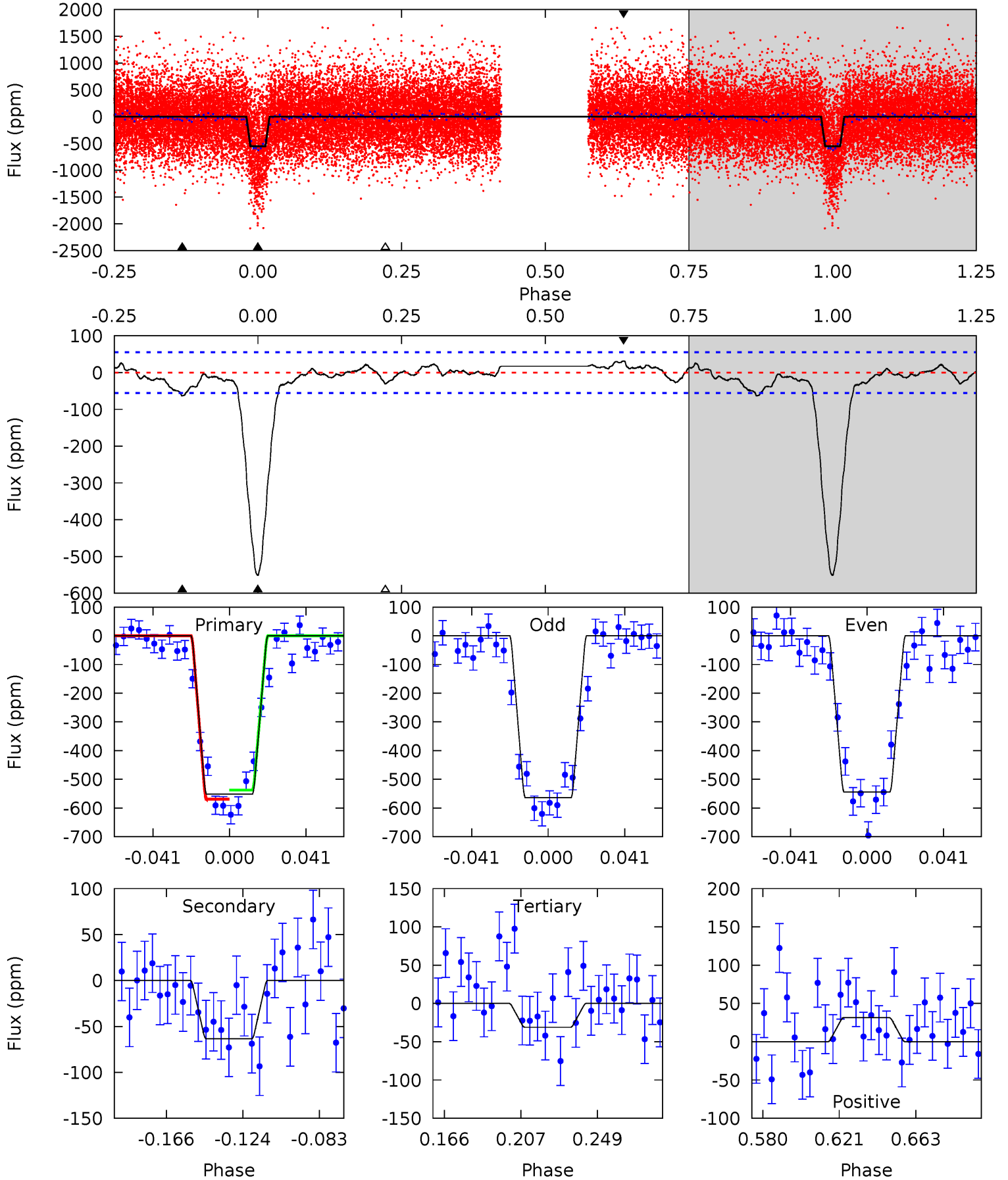
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.6	5.27	4.80	4.99	4.74	2.02	2.11	32.8	32.6	0.47	0.28	0.64	1.07	0.12	0.35



Alt Model-Shift Uniqueness Test

008168581-02, P = 2.881353 Days, E = 134.345220 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.2	5.42	2.66	2.68	4.75	2.04	1.24	44.5	44.5	2.76	2.73	0.86	1.08	0.05	1.35



Stellar Parameters For KIC 008168581

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5783^{+163}_{-204}	$4.539^{+0.035}_{-0.196}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.262}_{-0.082}$	$0.977^{+0.116}_{-0.116}$	$2.021^{+0.380}_{-0.999}$
	+3%/-4%	+1%/-4%	+375%/-375%	+30%/-9%	+12%/-12%	+19%/-49%
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 008168581-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-60 ± 11	$2.28^{+0.66}_{-0.57}$	1725^{+111}_{-83}	3726^{+405}_{-299}	$9.348^{+7.048}_{-3.785}$
Alt.	-63 ± 12	$2.50^{+0.70}_{-0.62}$	1731^{+108}_{-81}	3671^{+364}_{-266}	$8.459^{+6.141}_{-3.295}$

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

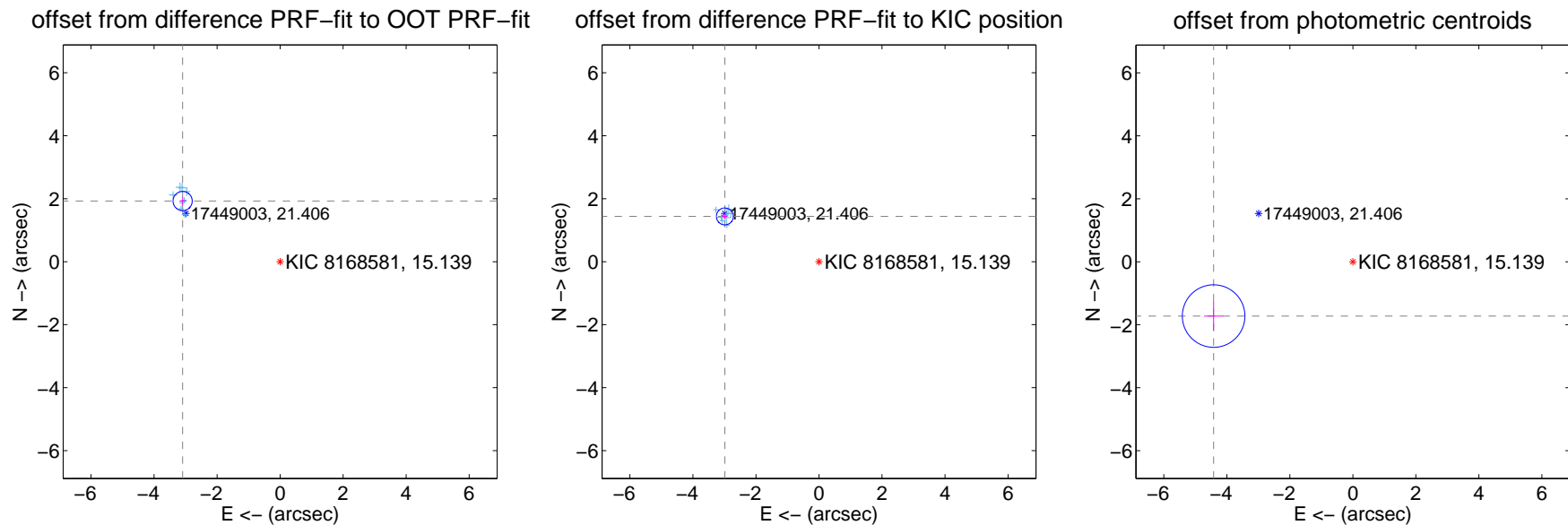
DV Centroid Data

Supplemental centroid analysis for 008168581-02. Kepler magnitude: 15.14. Transit SNR 25.56

There are 8 quarters with good PRF difference image offsets

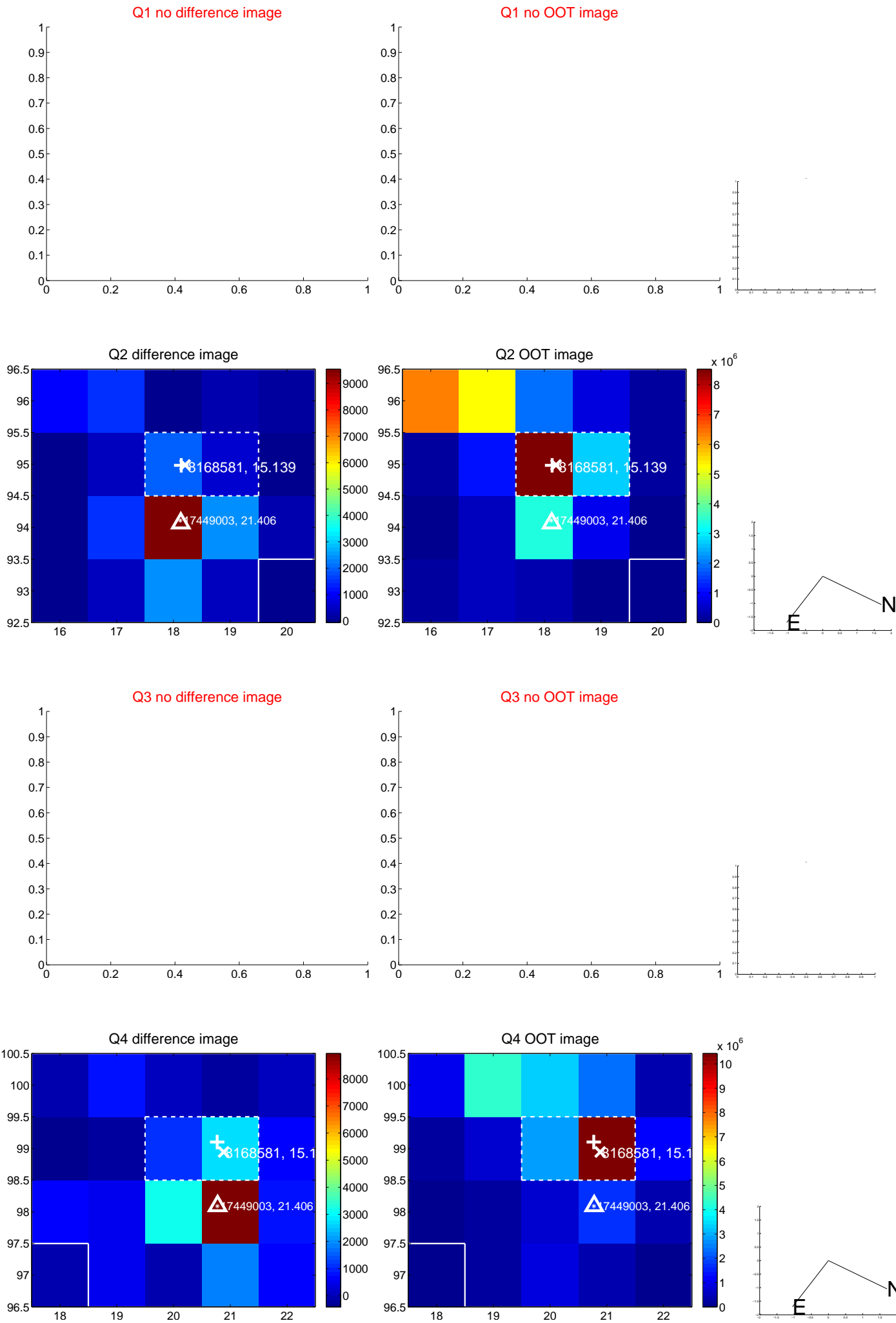
The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.644 ± 0.101	35.92	3.093 ± 0.081	1.927 ± 0.130
PRF-fit source offset from KIC position	3.314 ± 0.089	37.05	2.986 ± 0.086	1.438 ± 0.087
photometric centroid source offset	4.74 ± 0.33	14.33	4.42 ± 0.30	-1.72 ± 0.47



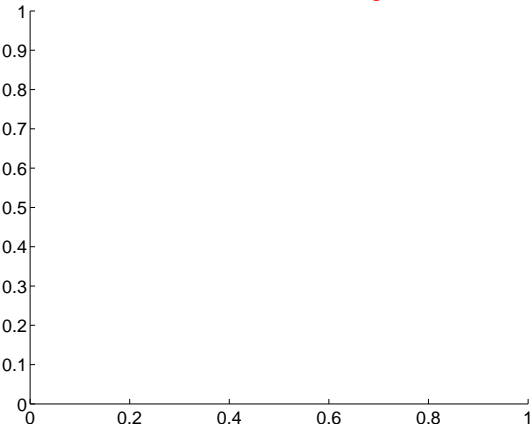
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

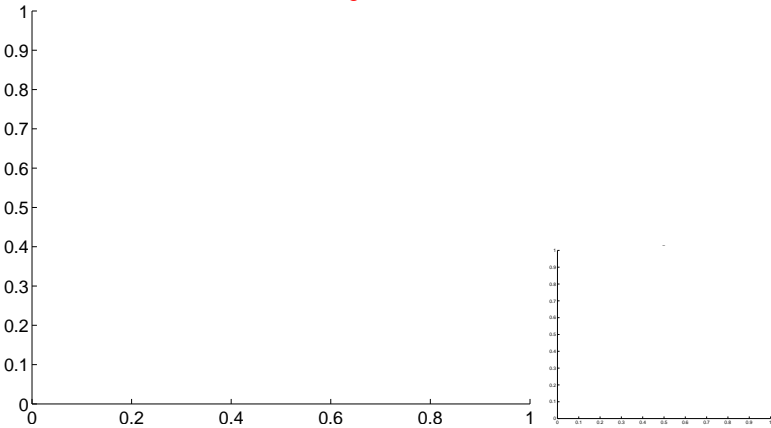


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

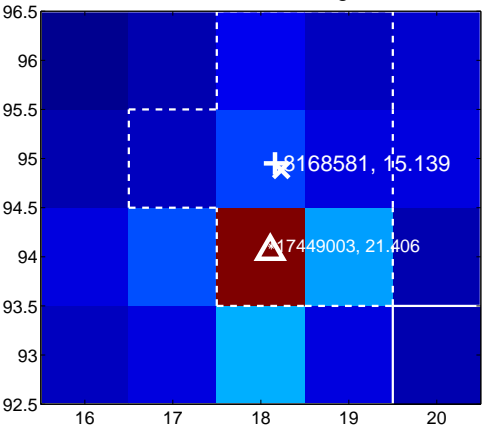
Q5 no difference image



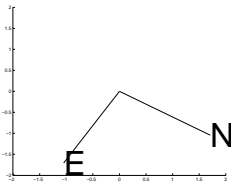
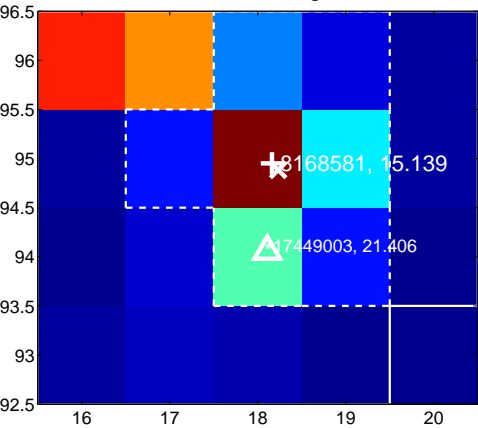
Q5 no OOT image



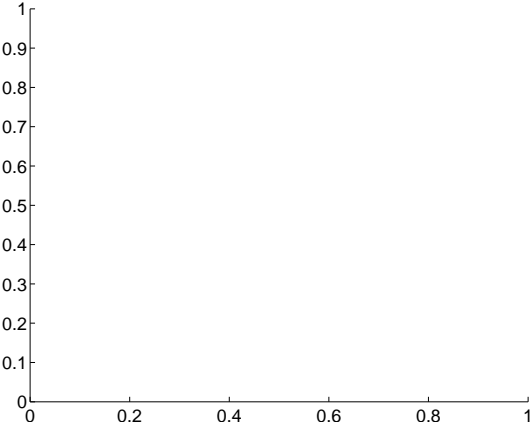
Q6 difference image



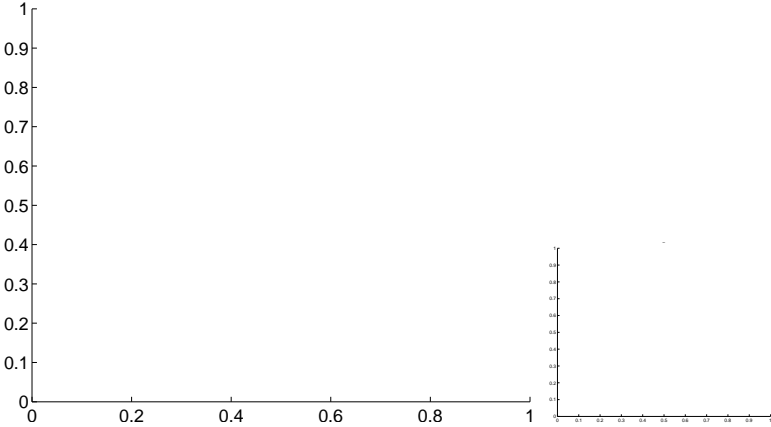
Q6 OOT image



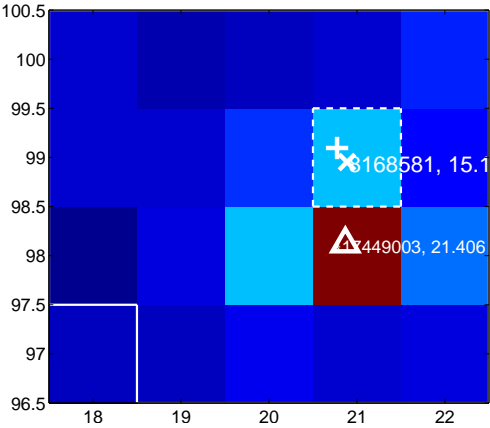
Q7 no difference image



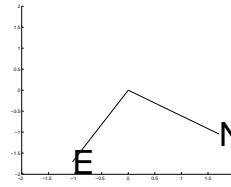
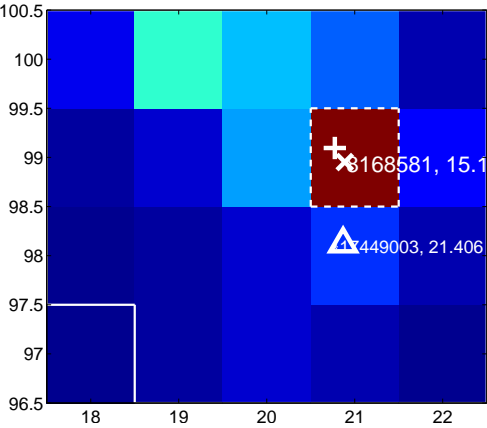
Q7 no OOT image



Q8 difference image

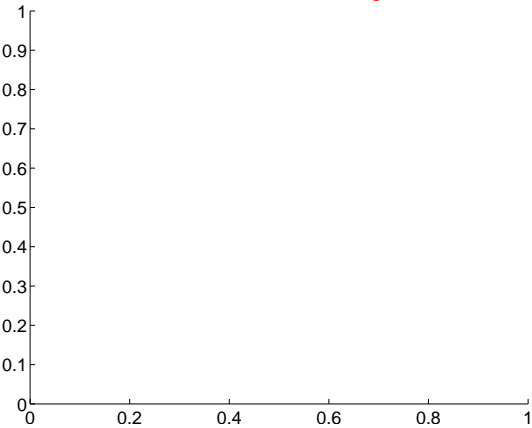


Q8 OOT image

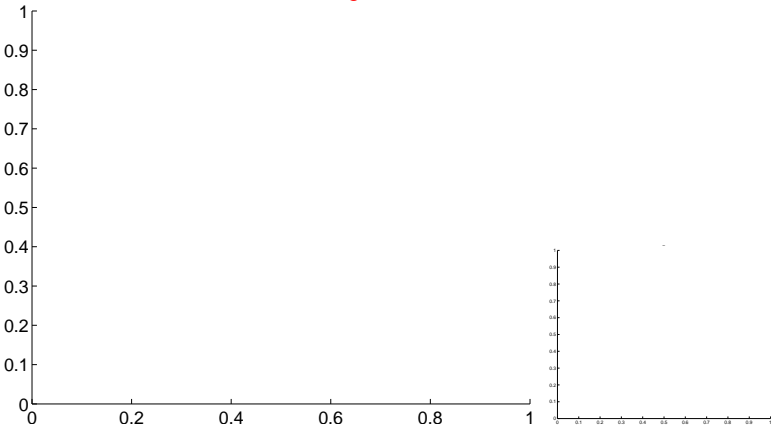


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

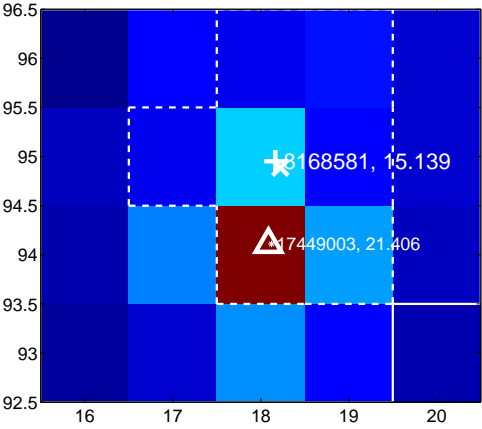
Q9 no difference image



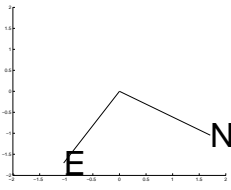
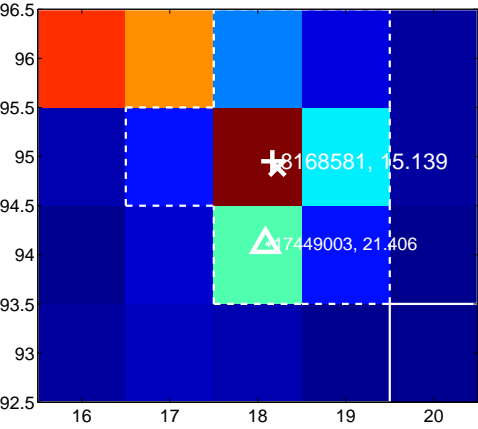
Q9 no OOT image



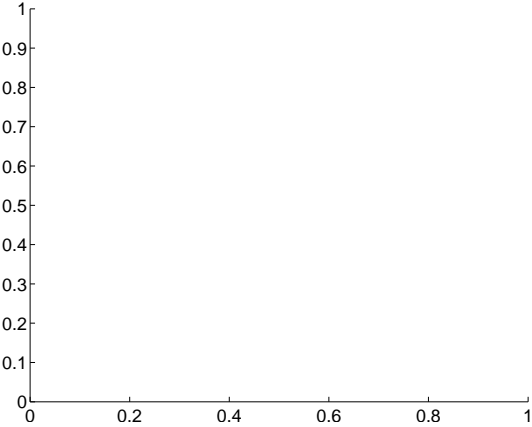
Q10 difference image



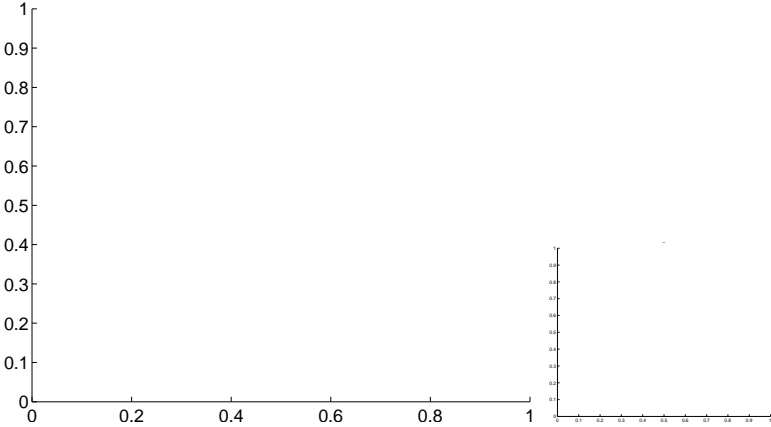
Q10 OOT image



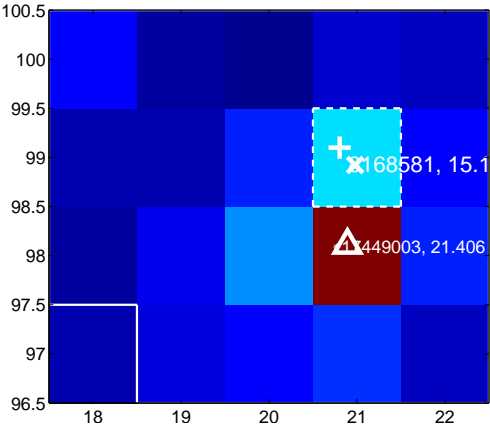
Q11 no difference image



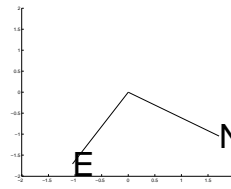
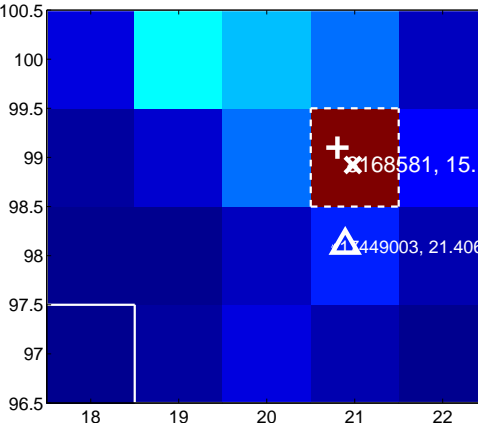
Q11 no OOT image



Q12 difference image

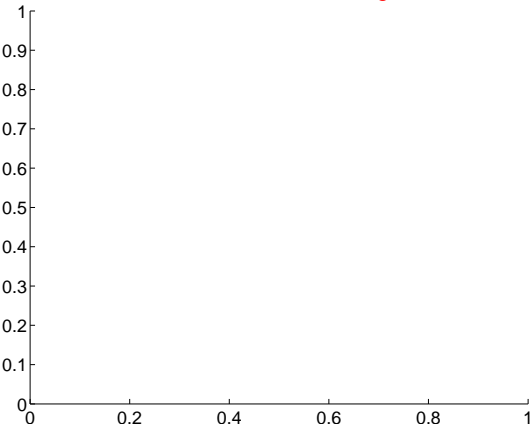


Q12 OOT image

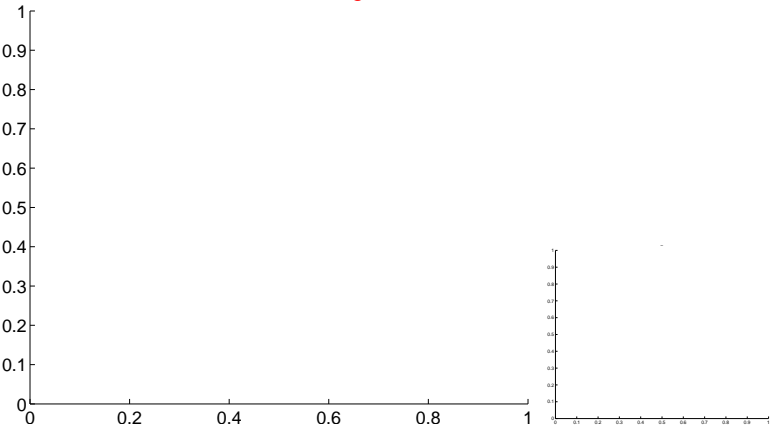


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

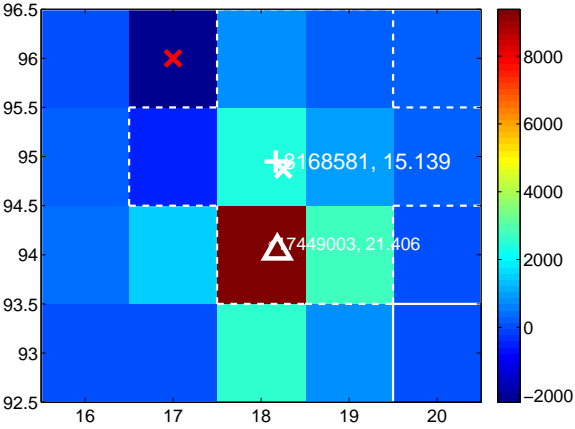
Q13 no difference image



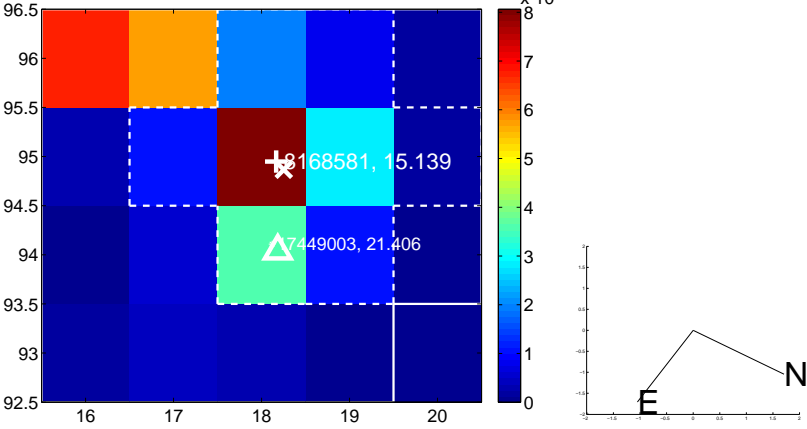
Q13 no OOT image



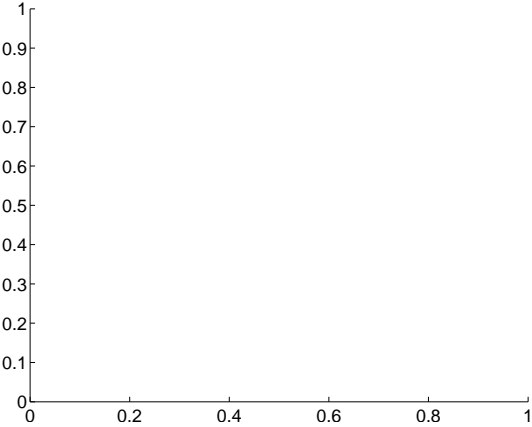
Q14 difference image



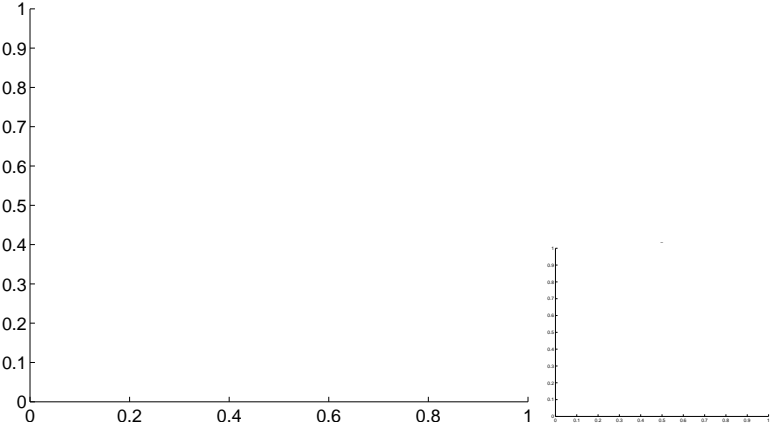
Q14 OOT image



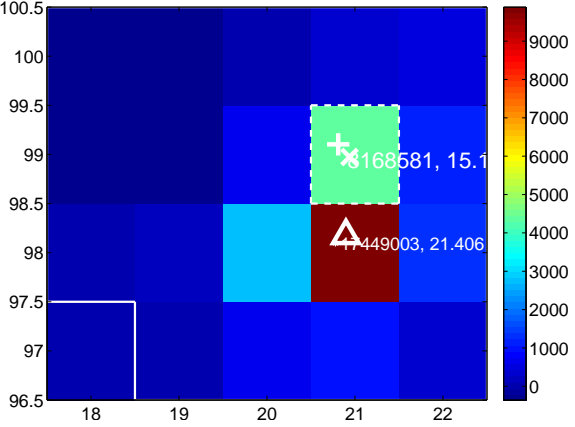
Q15 no difference image



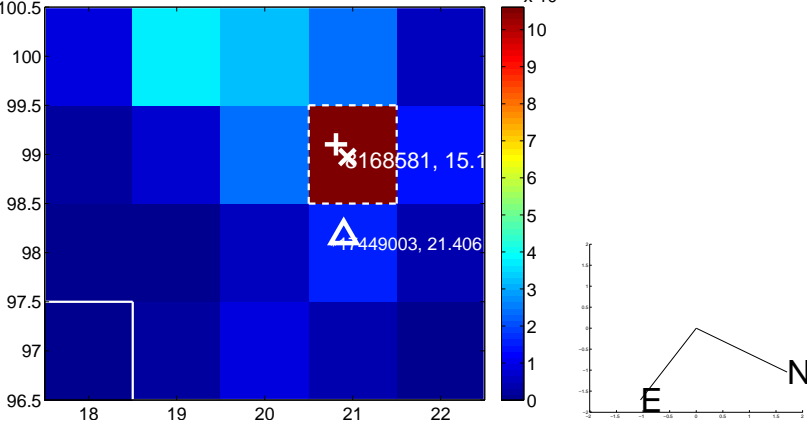
Q15 no OOT image



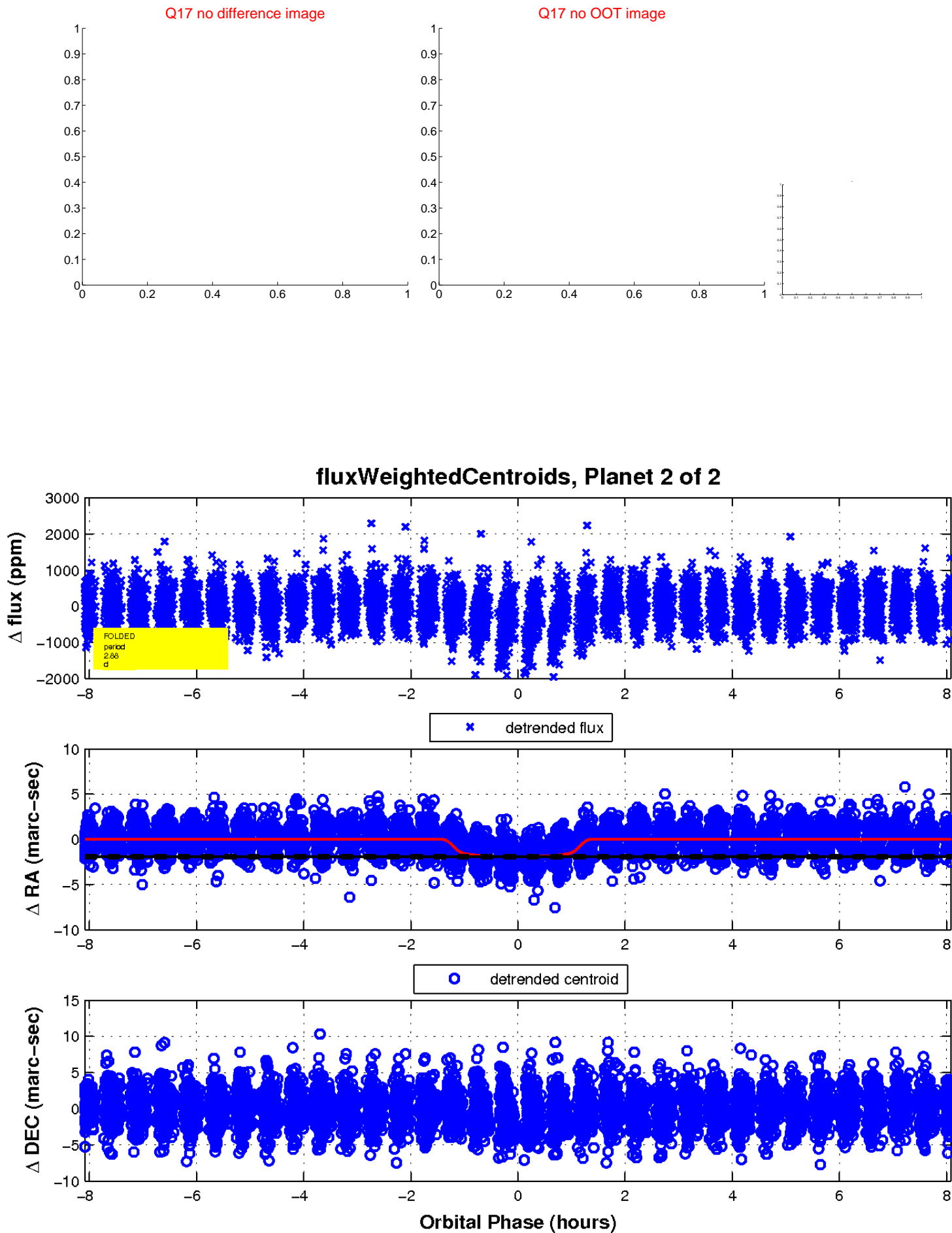
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

