

KIC 007681230

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})
007681230-01	OBS	4294.01	0.962580	132.426200	397.1	0.634	14.7	30.1	1.06	6274	2.56	3992.45
007681230-02	OBS	No	0.962597	131.844327	383.9	2.500	7.3	-1.0	1.06	6274	2.09	3992.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007681230-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE
007681230-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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 007681230-01

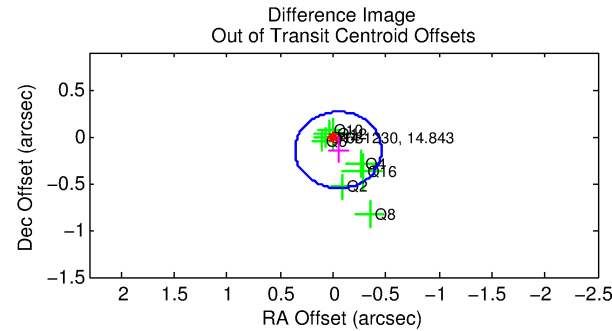
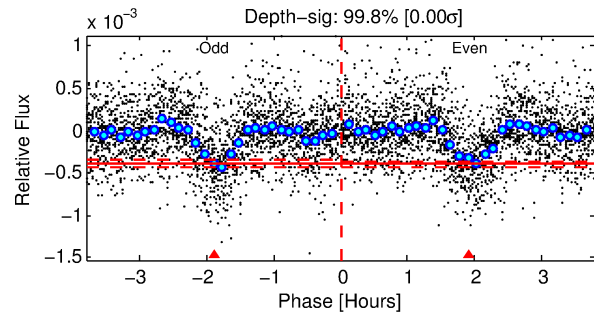
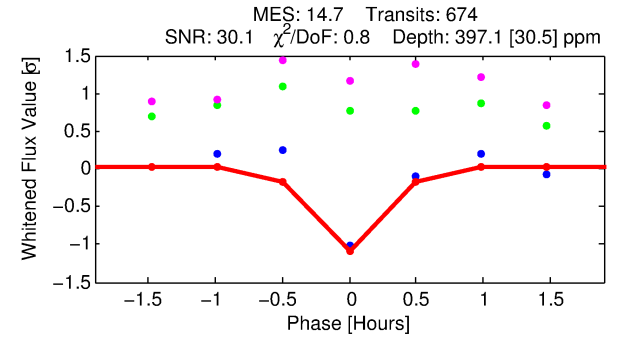
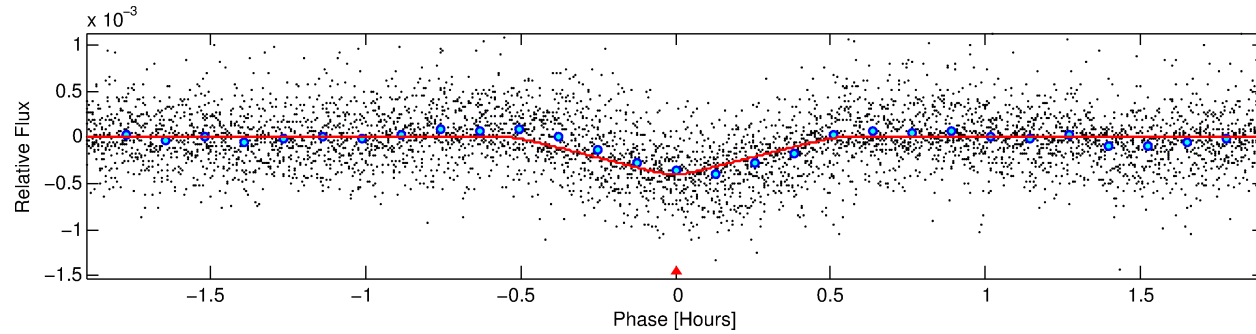
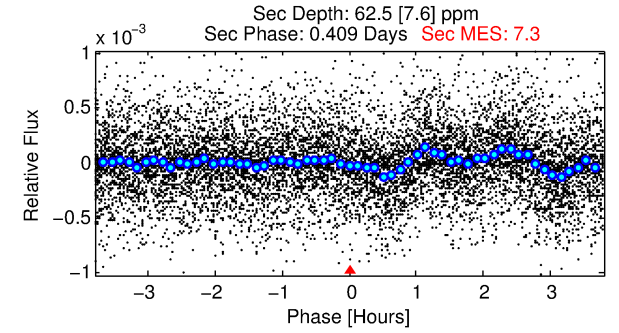
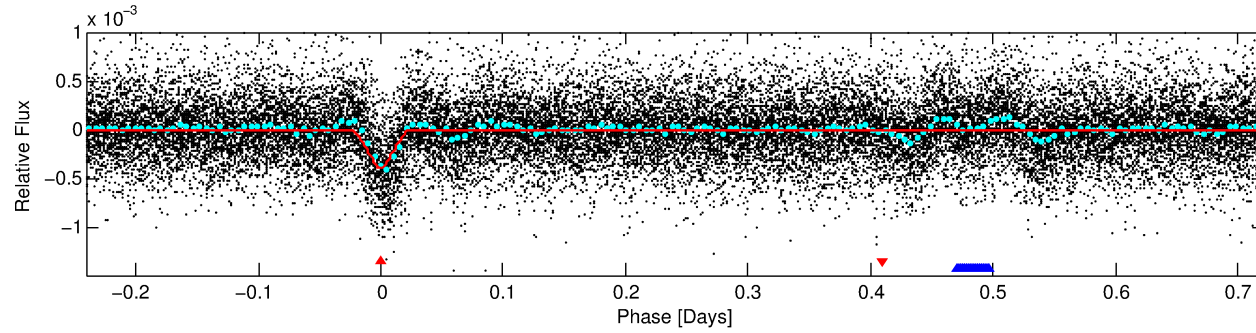
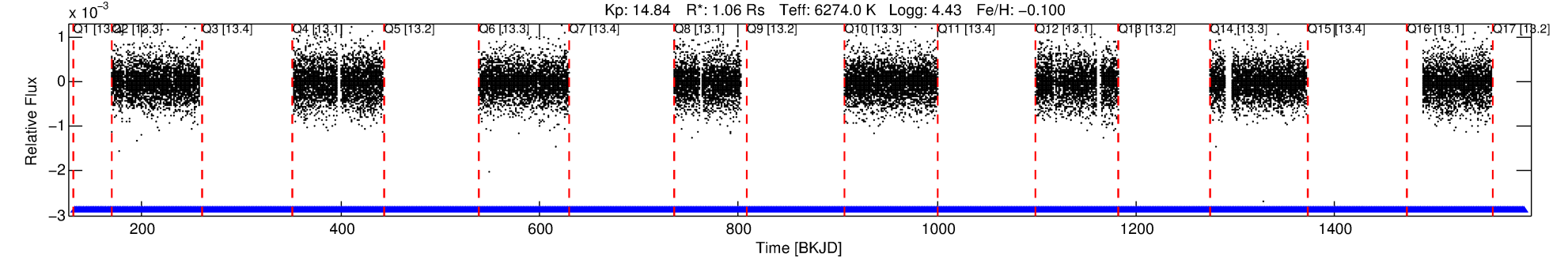
No Significant Match Found

DV One-Page Summary

KIC: 7681230 Candidate: 1 of 2 Period: 0.963 d

KOI: K04294 Corr: No Ephemeris Match

Kp: 14.84 R*: 1.06 Rs Teff: 6274.0 K Logg: 4.43 Fe/H: -0.100



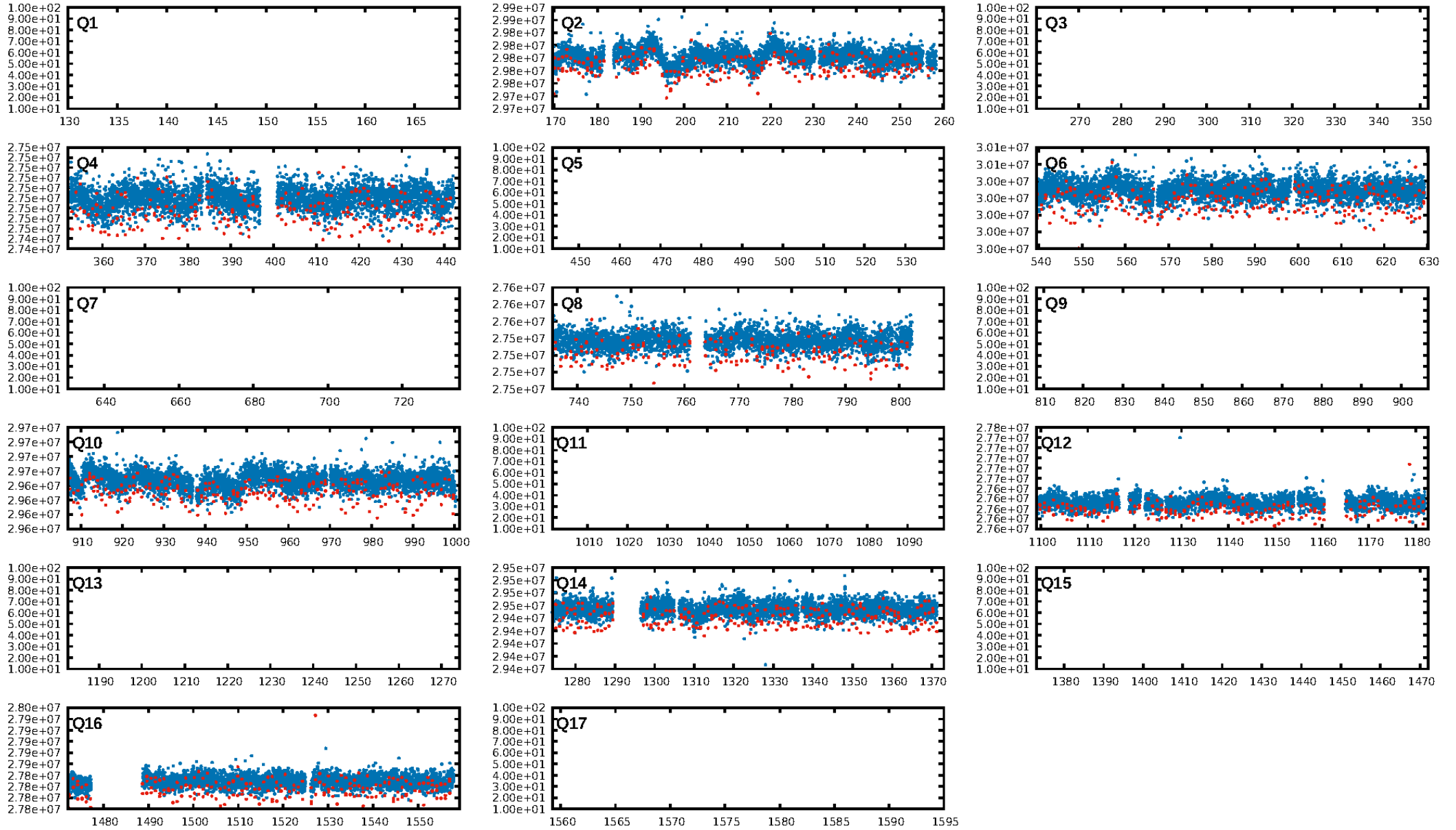
DV Fit Results:

Period = 0.96258 [0.00000] d
Epoch = 132.4262 [0.0004] BKJD
Rp/R* = 0.0220 [0.0054]
a/R* = 5.69 [7.01]
b = 0.90 [0.27]
Seff = 3992.45 [1712.53]
Teq = 2027 [217] K
Rp = 2.56 [1.04] Re
a = 0.0198 [0.0054] AU
Ag = 2.06 [1.33] [0.80σ]
Teffp = 3756 [500] K [3.17σ]

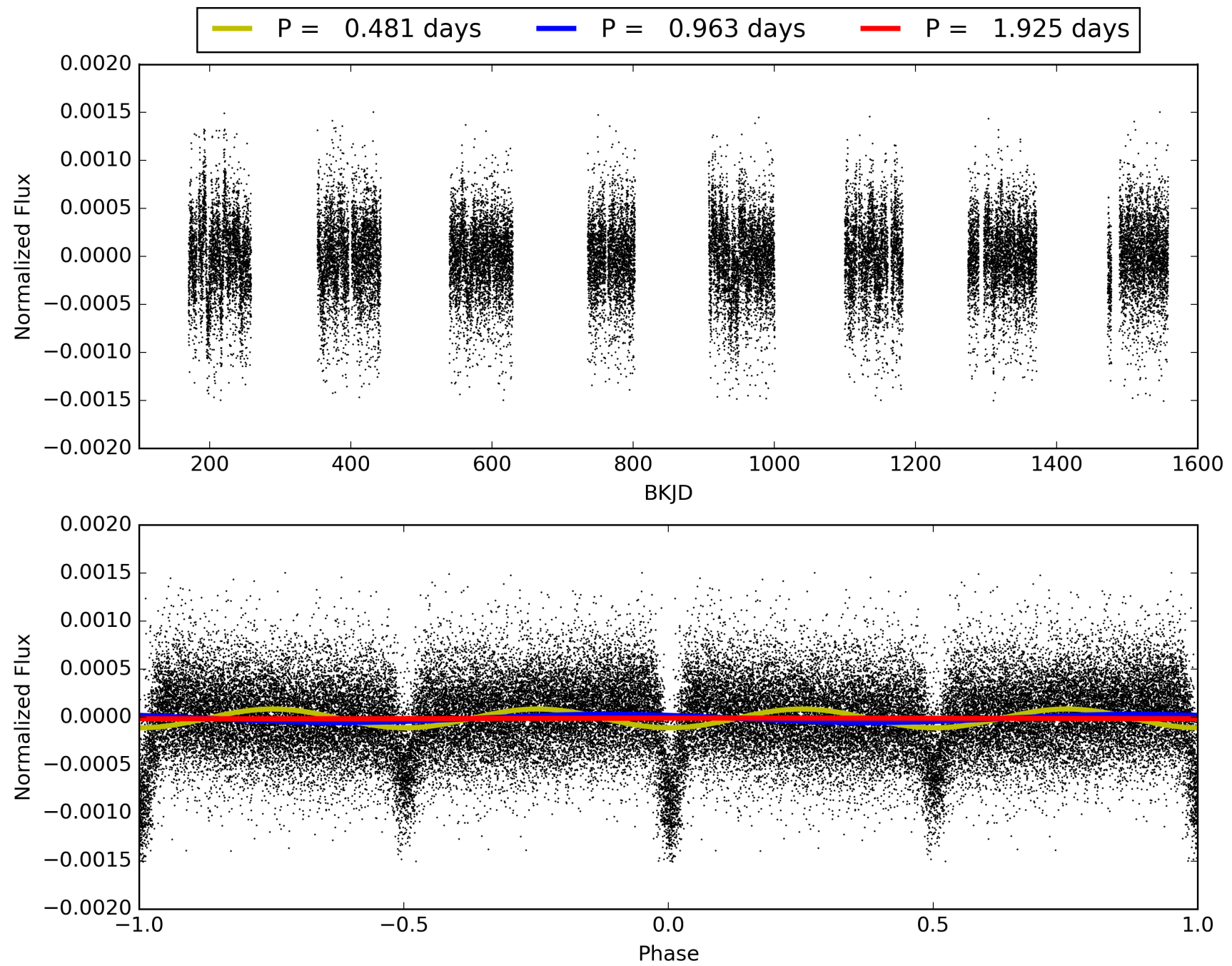
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.64e-46
RollingBand-fgt: 1.00 [674/674]
GhostDiagnostic-chr: 1.423
Centroid-sig: 0.0%
Centroid-so: 0.578 arcsec [1.30σ]
OotOffset-rm: 0.151 arcsec [1.11σ]
KicOffset-rm: 0.138 arcsec [1.04σ]
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 007681230-01, PDC Light Curves

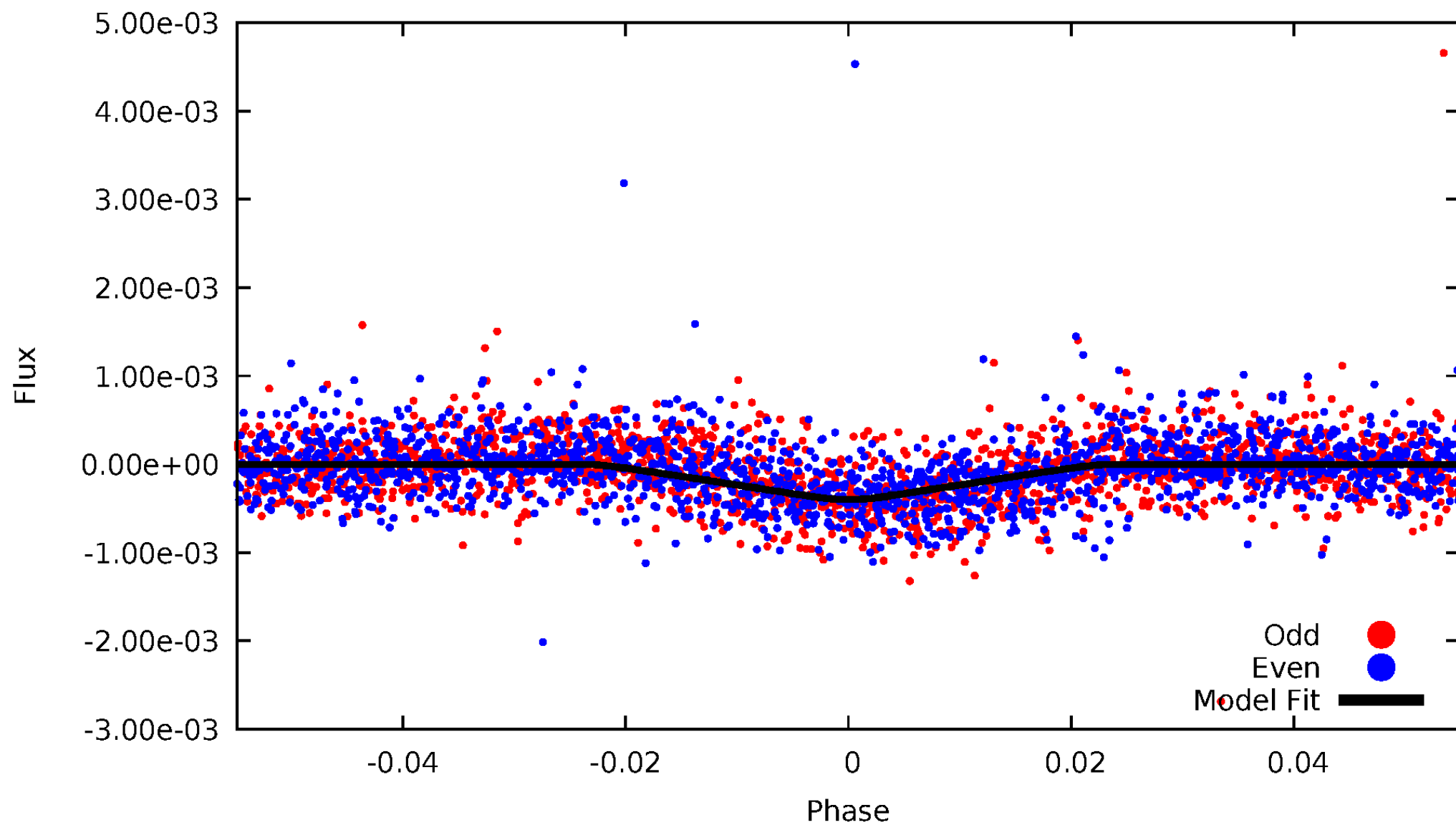


TCE 007681230-01



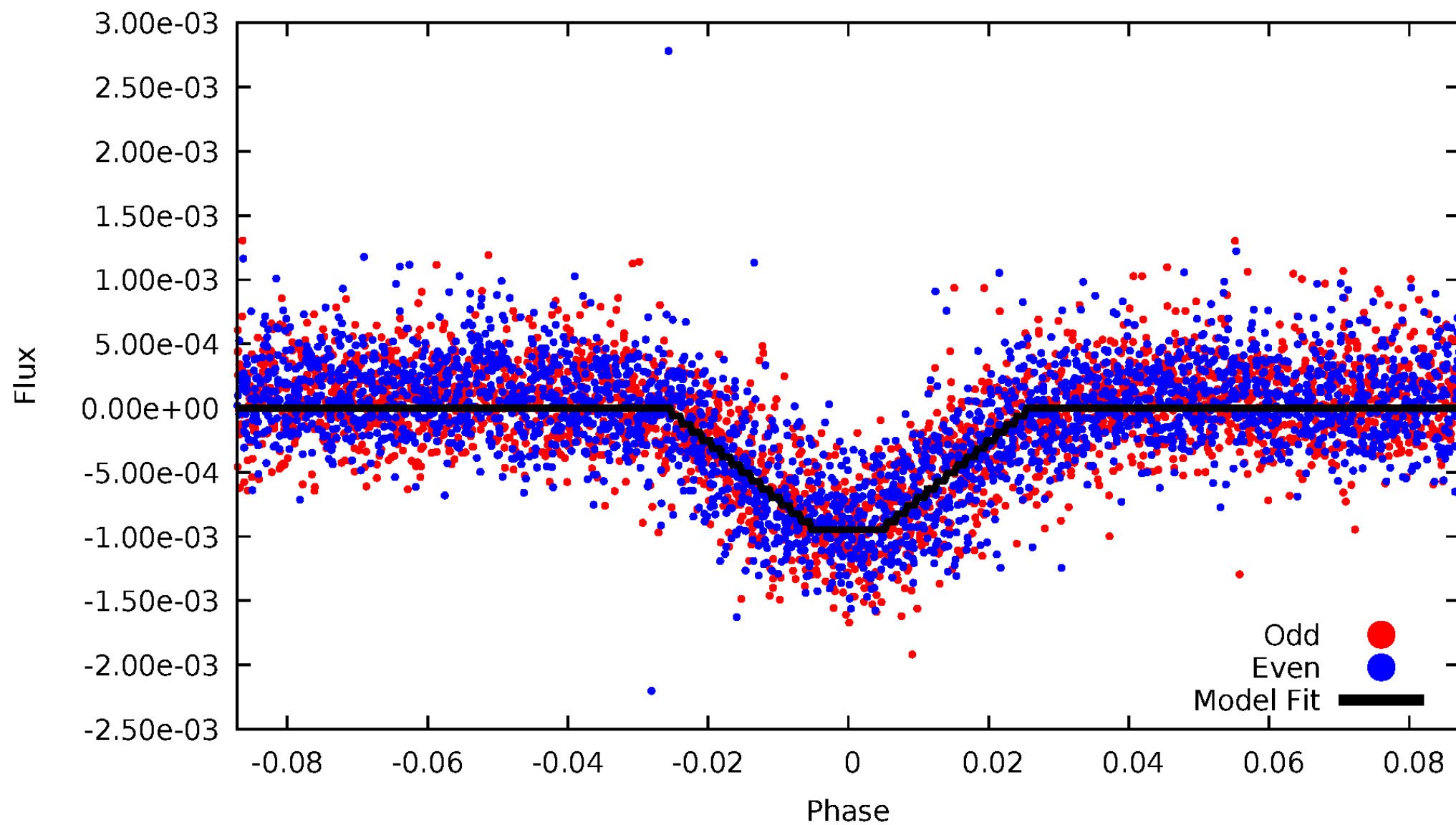
DV Odd/Even

TCE 007681230-01

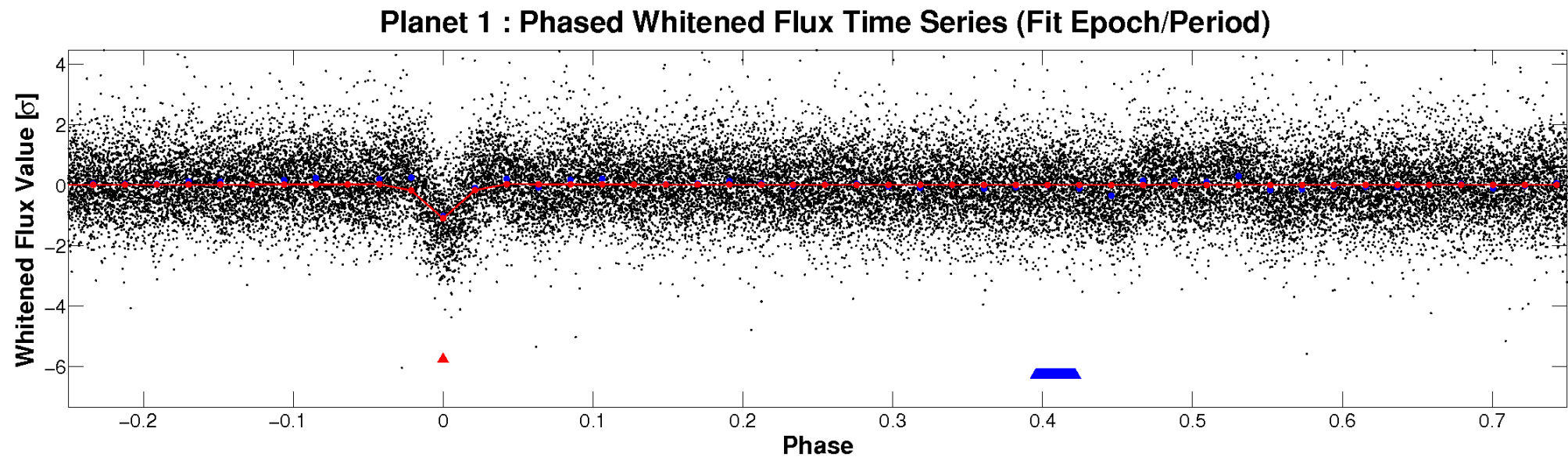
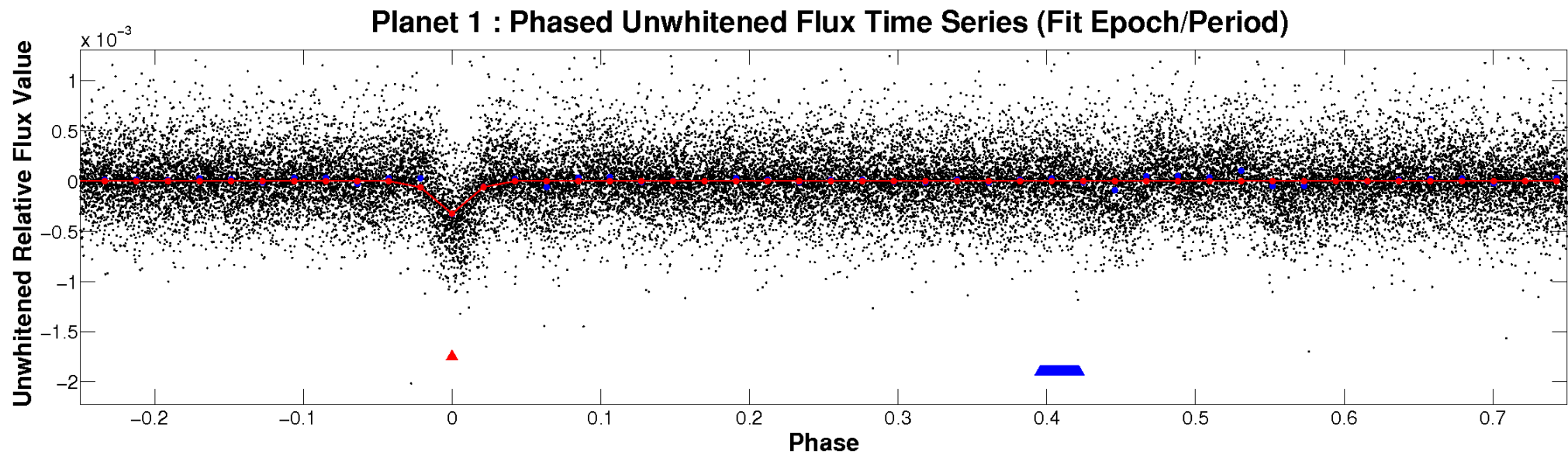


ALT Odd/Even

TCE 007681230-01

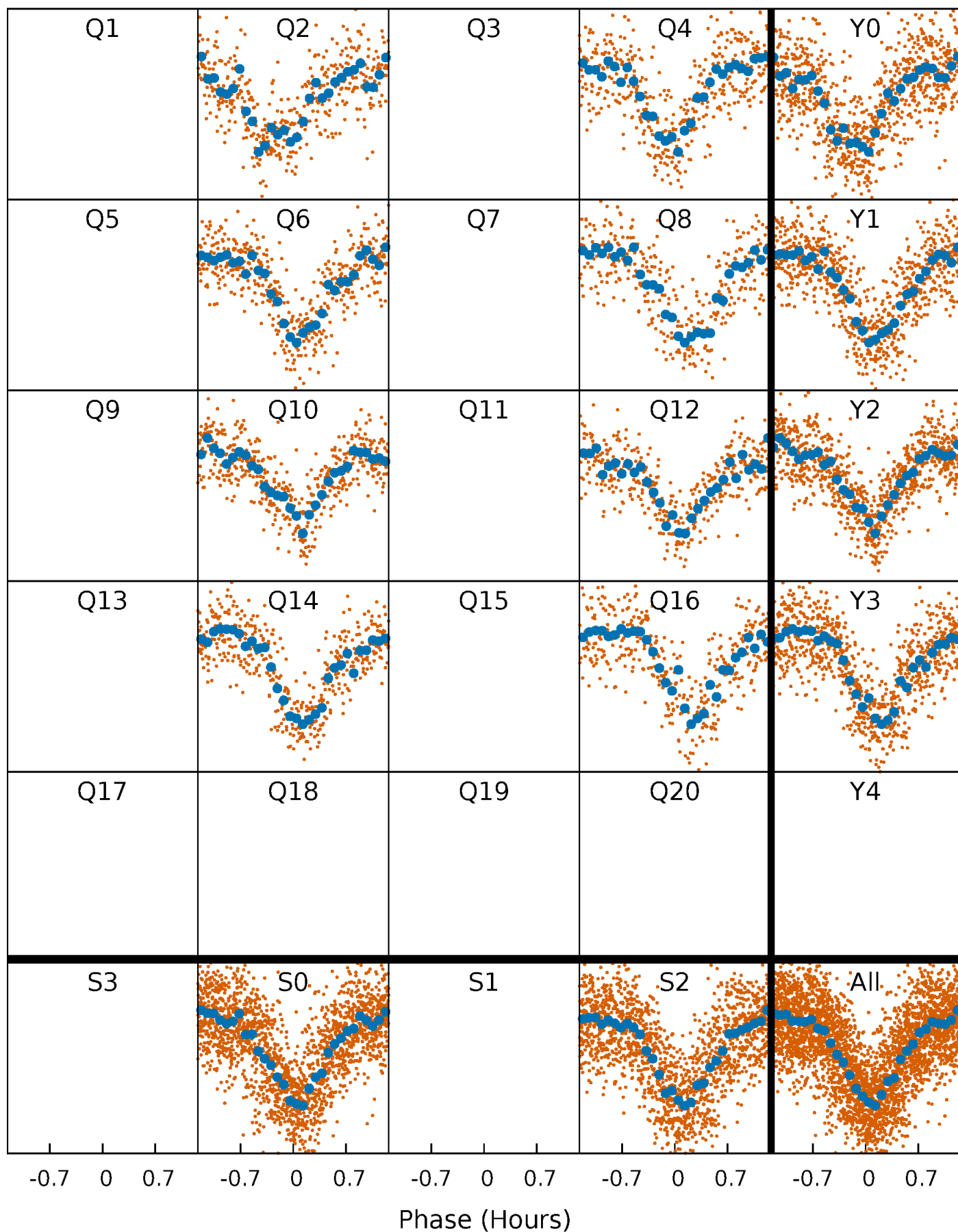


Non-Whitened Vs. Whitened Light Curve



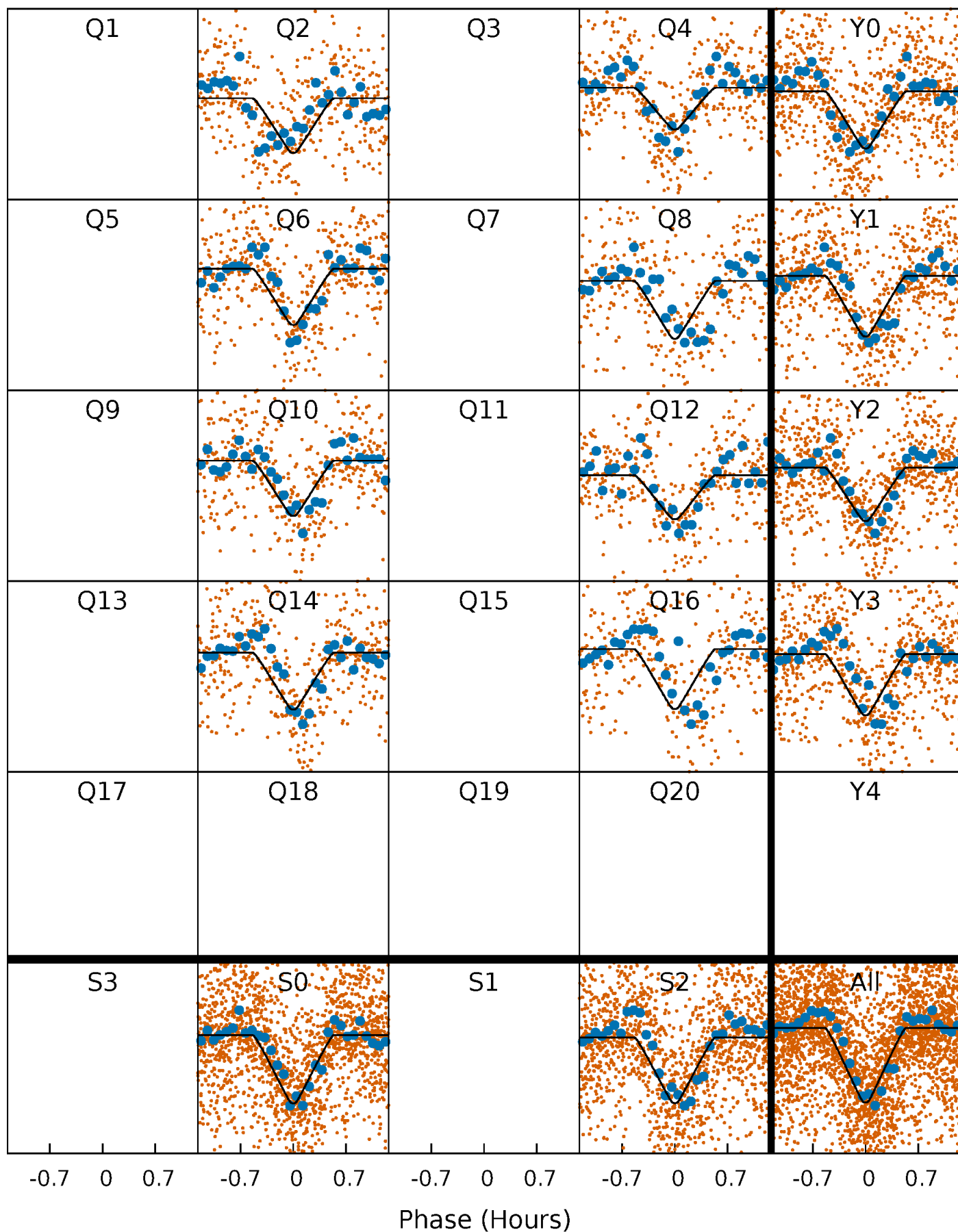
PDC Quarter-Phased Transit Curves

TCE 007681230-01 P= 0.962580 Days $T_0=132.426200$ (BKJD)



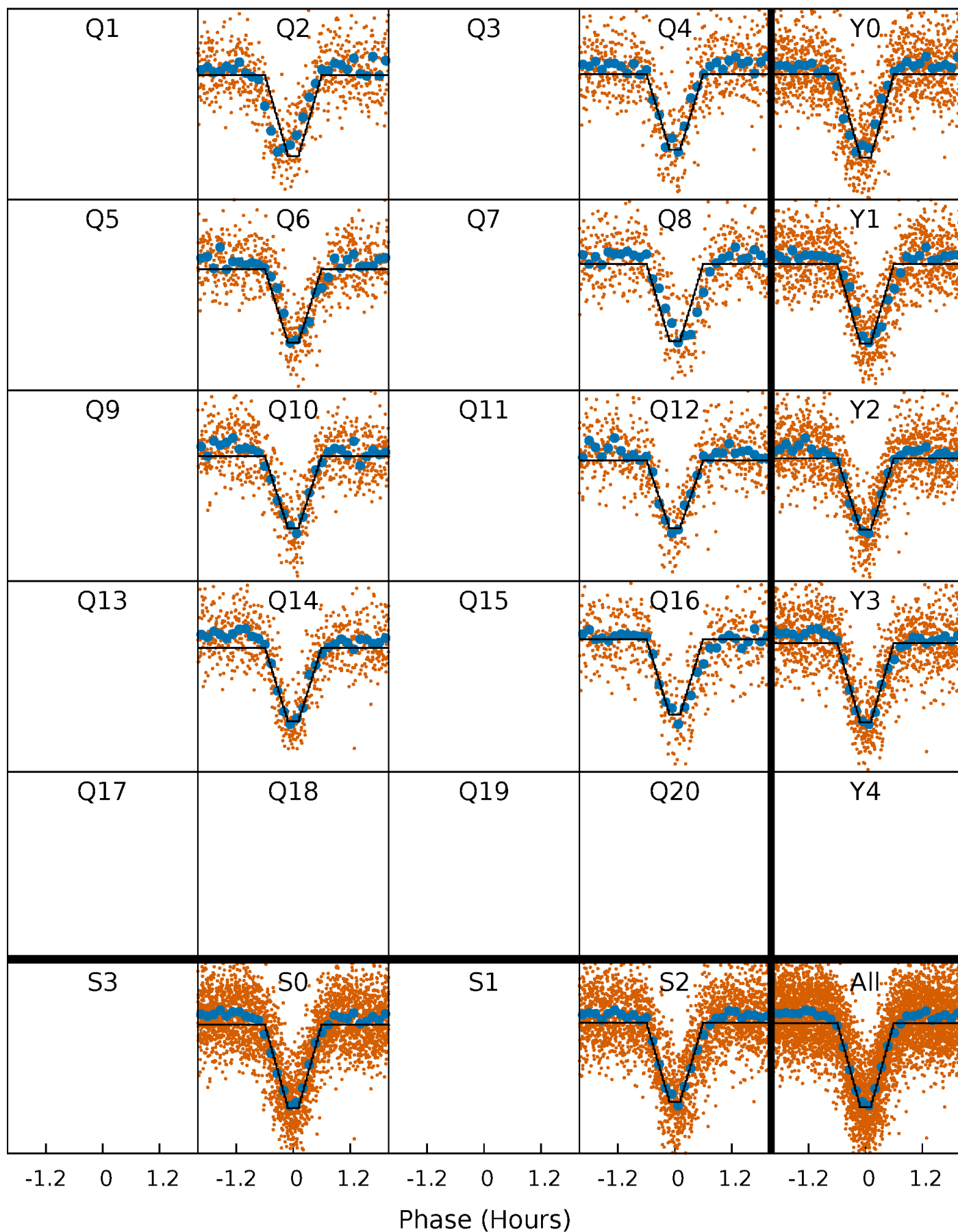
DV Quarter-Phased Transit Curves

TCE 007681230-01 P= 0.962580 Days $T_0=132.426200$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

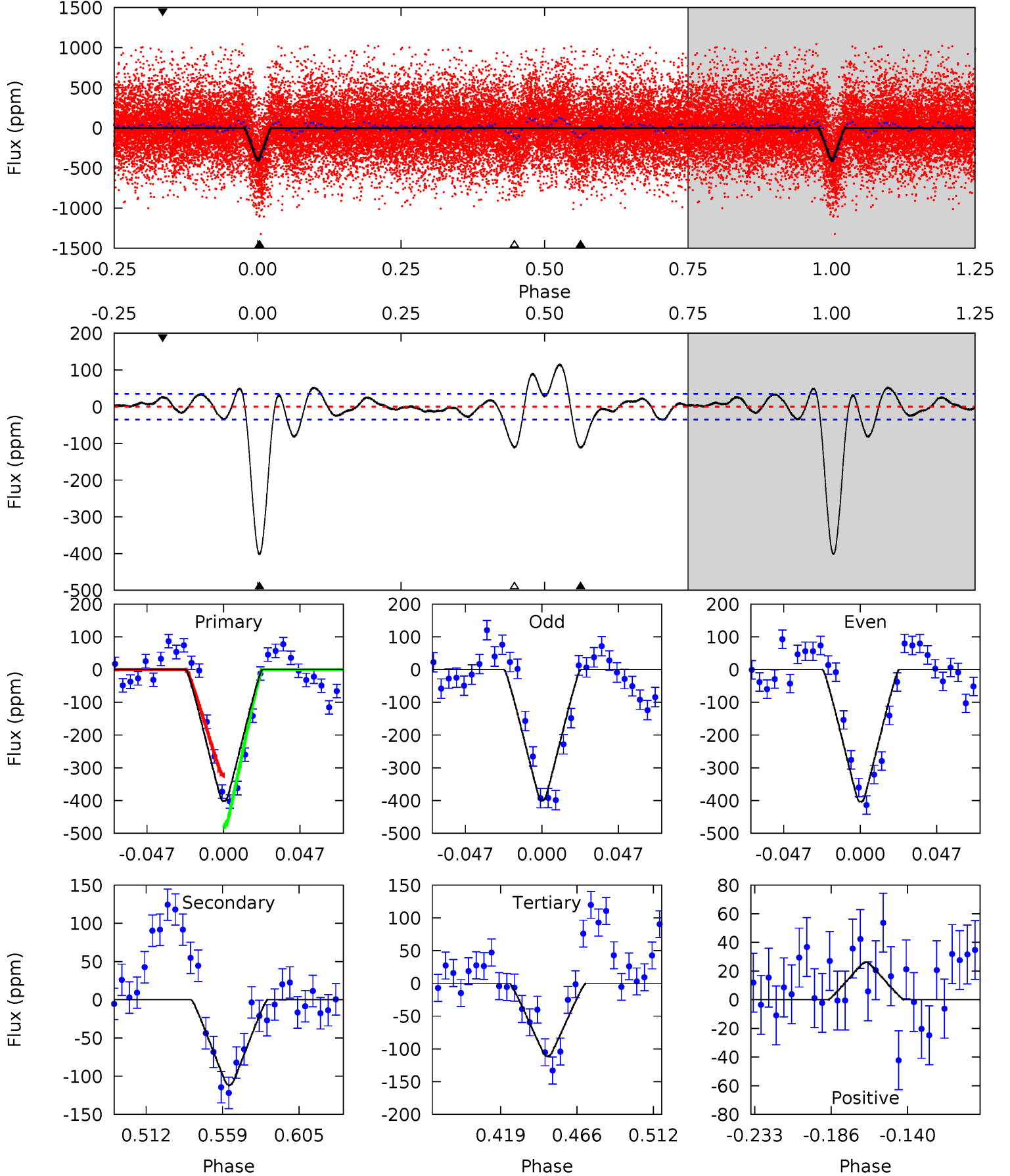
TCE 007681230-01 P= 0.962588 Days $T_0=132.423737$ (BKJD)



DV Model-Shift Uniqueness Test

007681230-01, P = 0.962580 Days, E = 132.426200 Days

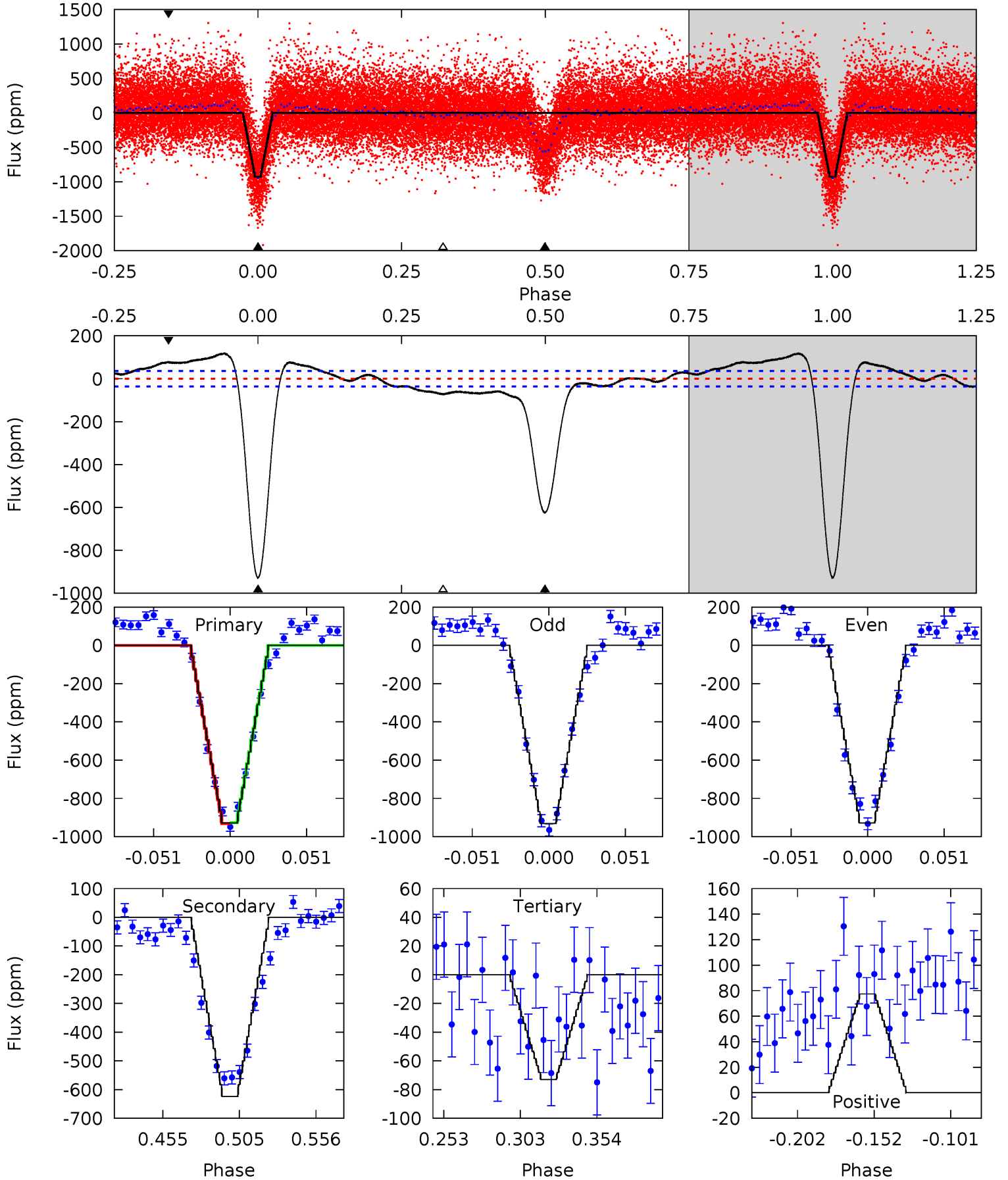
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.8	14.9	14.9	3.47	4.72	1.99	4.05	38.9	50.3	0.08	11.5	0.26	0.98	0.22	10.4



Alt Model-Shift Uniqueness Test

007681230-01, P = 0.962588 Days, E = 132.423737 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.9	81.3	9.50	10.1	4.71	1.96	6.91	111.4	110.8	71.8	71.2	0.19	1.00	0.11	0.30



Stellar Parameters For KIC 007681230

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6274^{+196}_{-261}	$4.434^{+0.067}_{-0.216}$	$-0.100^{+0.250}_{-0.300}$	$1.062^{+0.343}_{-0.137}$	$1.115^{+0.156}_{-0.156}$	$1.313^{+0.388}_{-0.708}$
	+3%/-4%	+2%/-5%	+250%/-300%	+32%/-13%	+14%/-14%	+30%/-54%
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 007681230-01 / KOI 4294.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-112 ± 7	$2.65^{+0.79}_{-0.71}$	2882^{+210}_{-165}	4444^{+593}_{-422}	$3.381^{+2.863}_{-1.407}$
Alt.	-624 ± 8	$3.71^{+0.93}_{-0.75}$	2890^{+223}_{-155}	5615^{+652}_{-461}	$9.715^{+5.284}_{-3.267}$

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

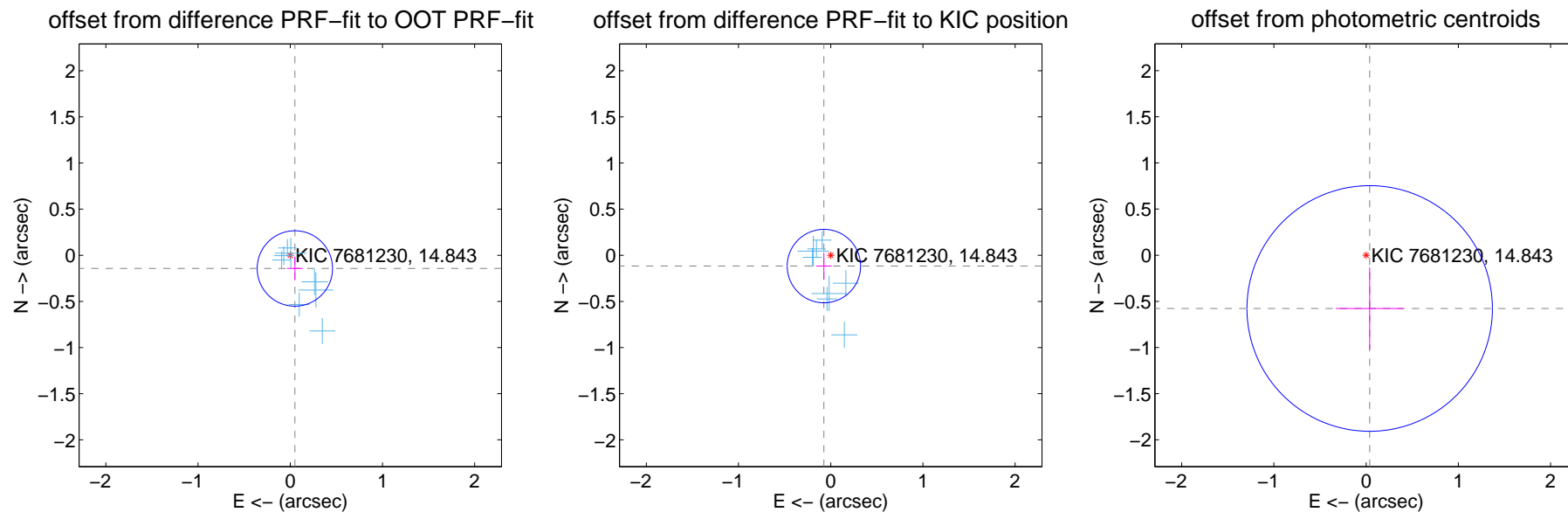
DV Centroid Data

Supplemental centroid analysis for 007681230-01. Kepler magnitude: 14.84. Transit SNR 30.09

There are 8 quarters with good PRF difference image offsets

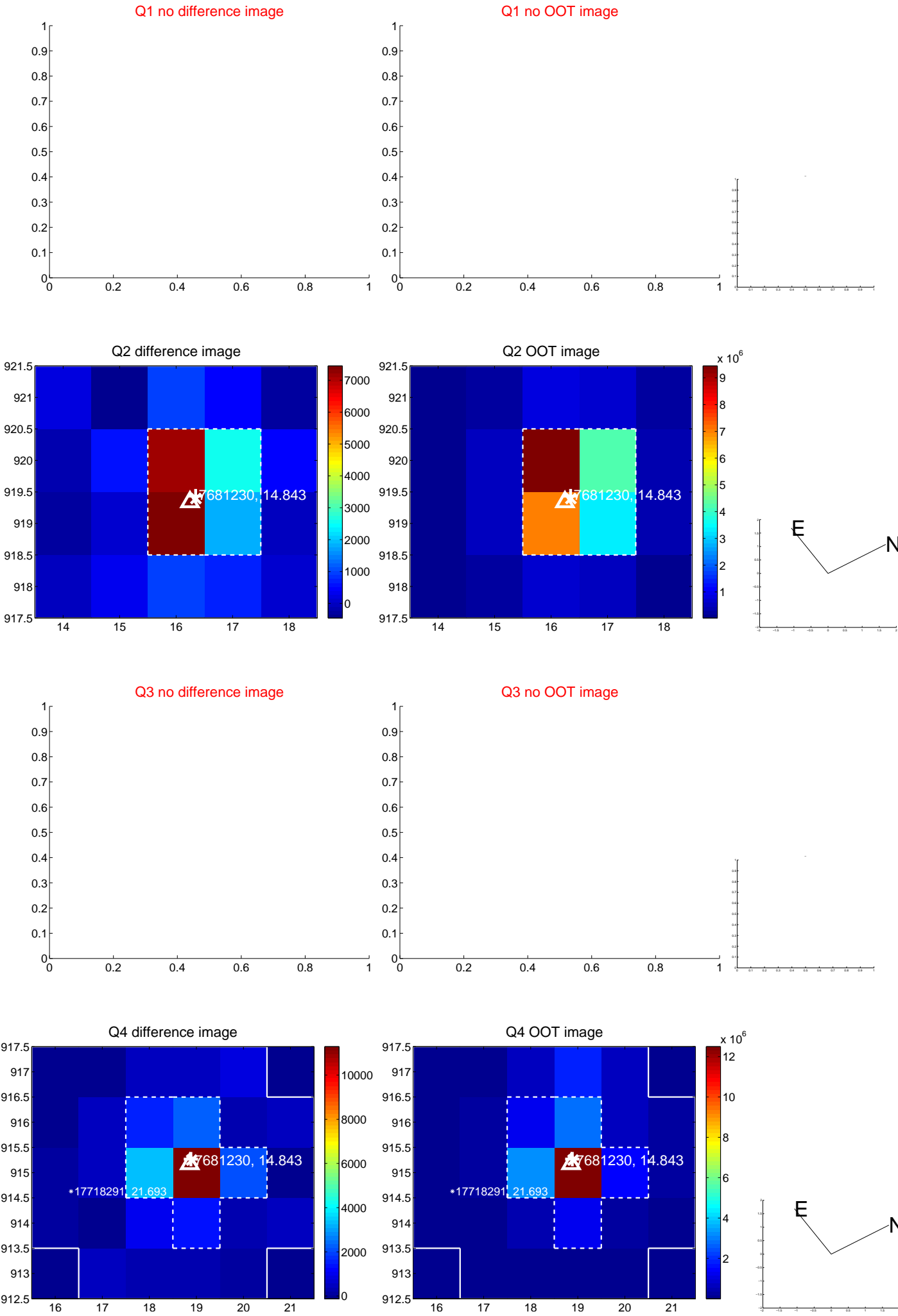
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.151 ± 0.136	1.11	-0.050 ± 0.086	-0.143 ± 0.128
PRF-fit source offset from KIC position	0.138 ± 0.133	1.04	0.074 ± 0.085	-0.117 ± 0.148
photometric centroid source offset	0.58 ± 0.44	1.30	-0.04 ± 0.37	-0.58 ± 0.44

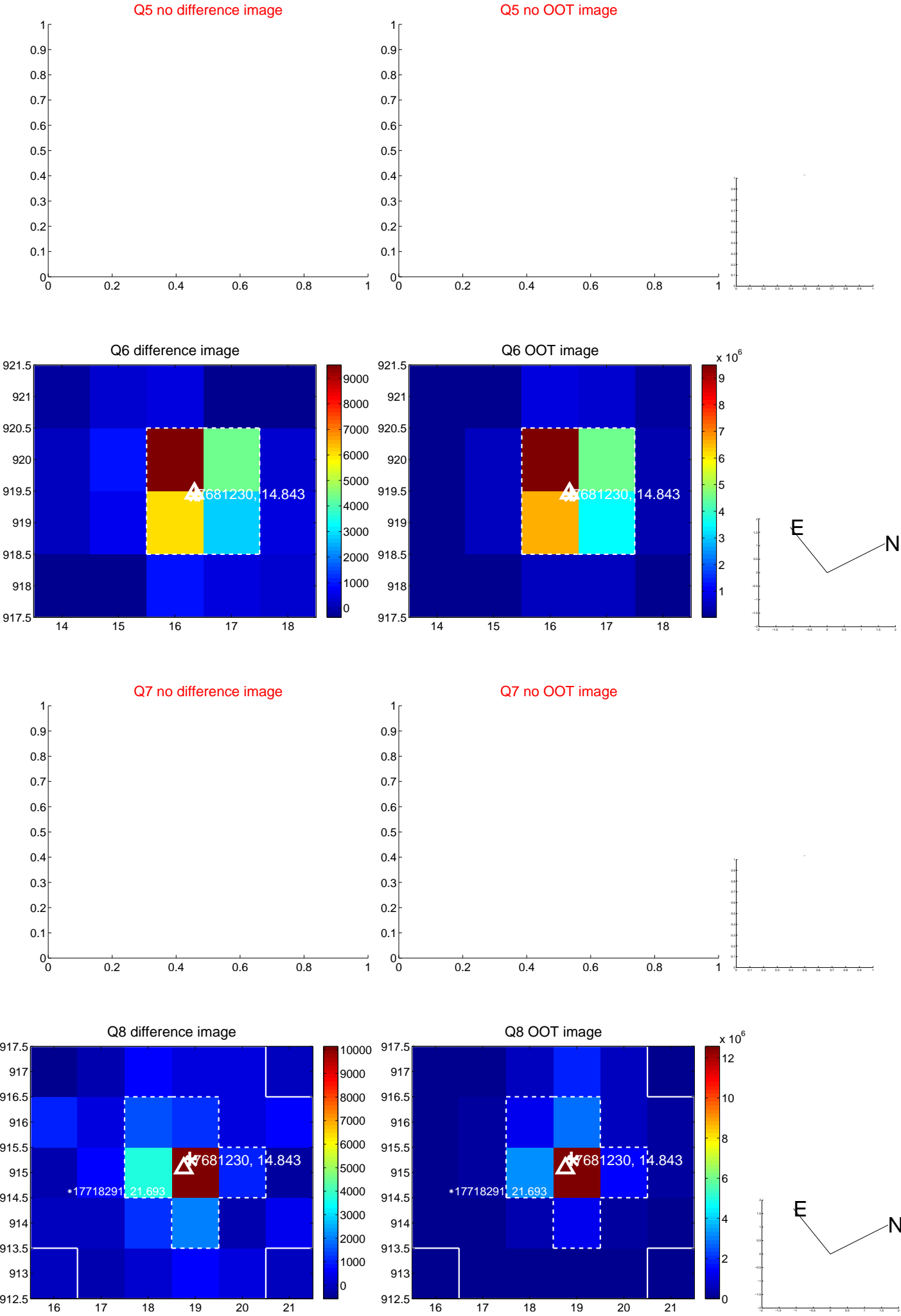


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

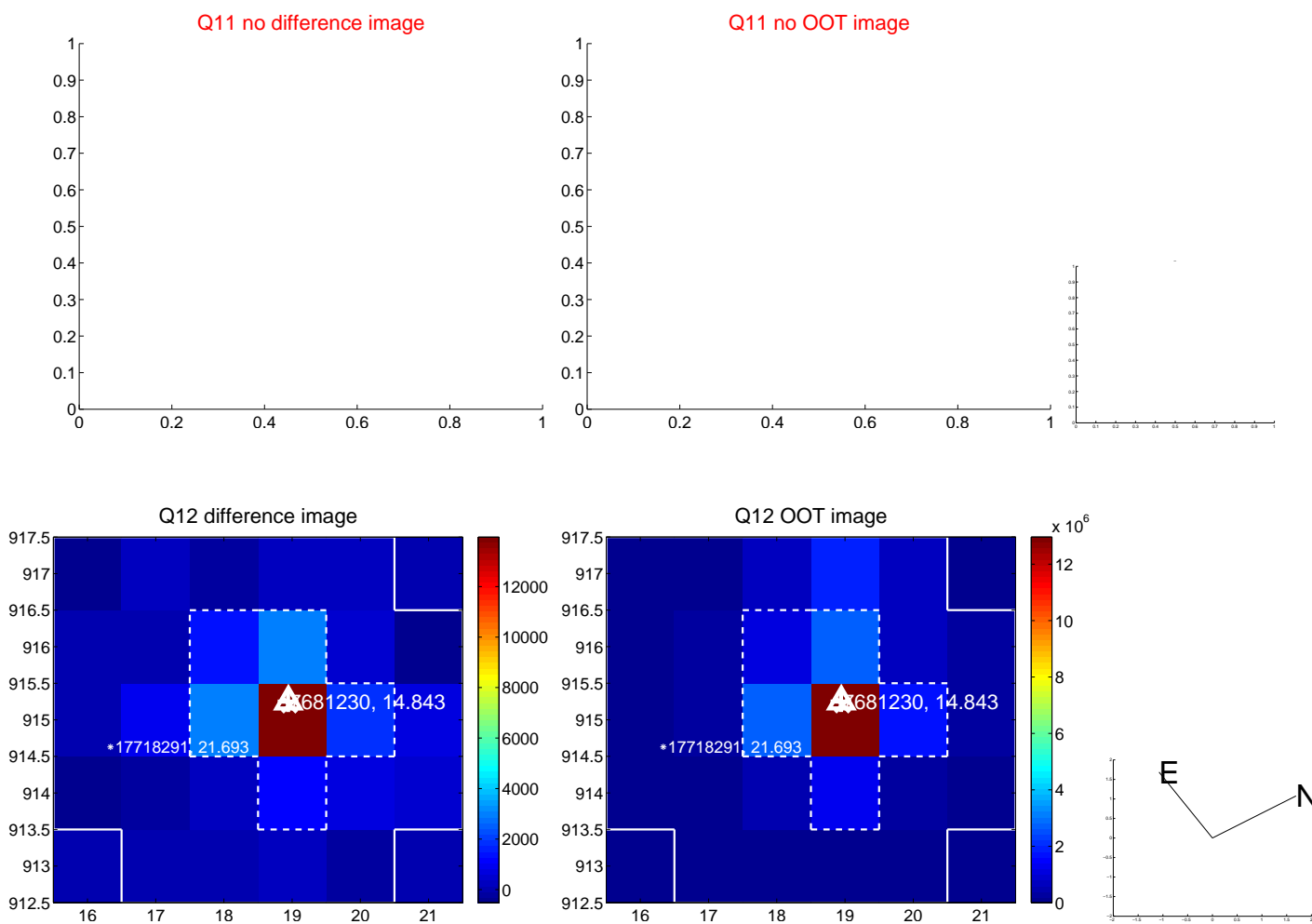
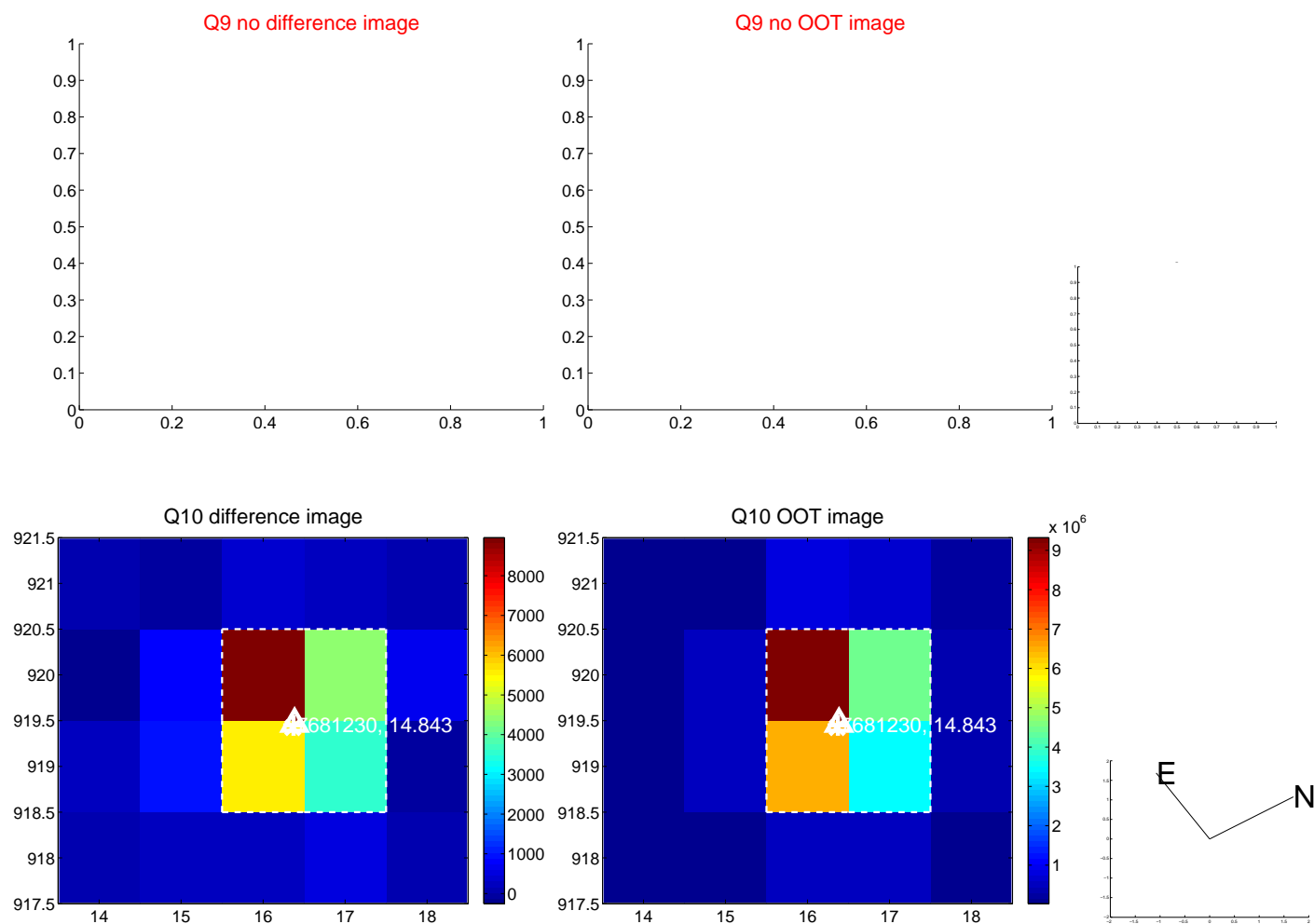
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



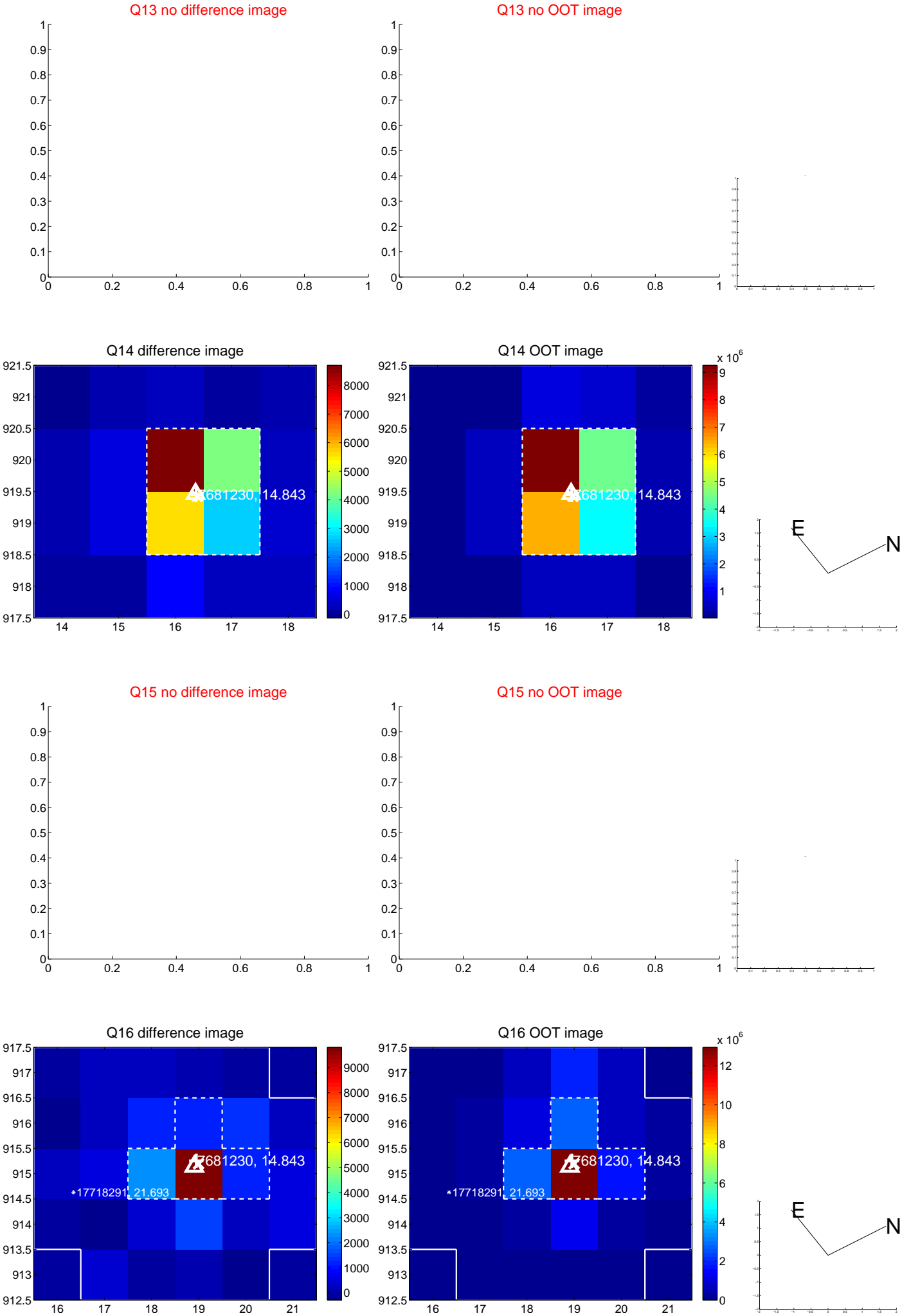
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



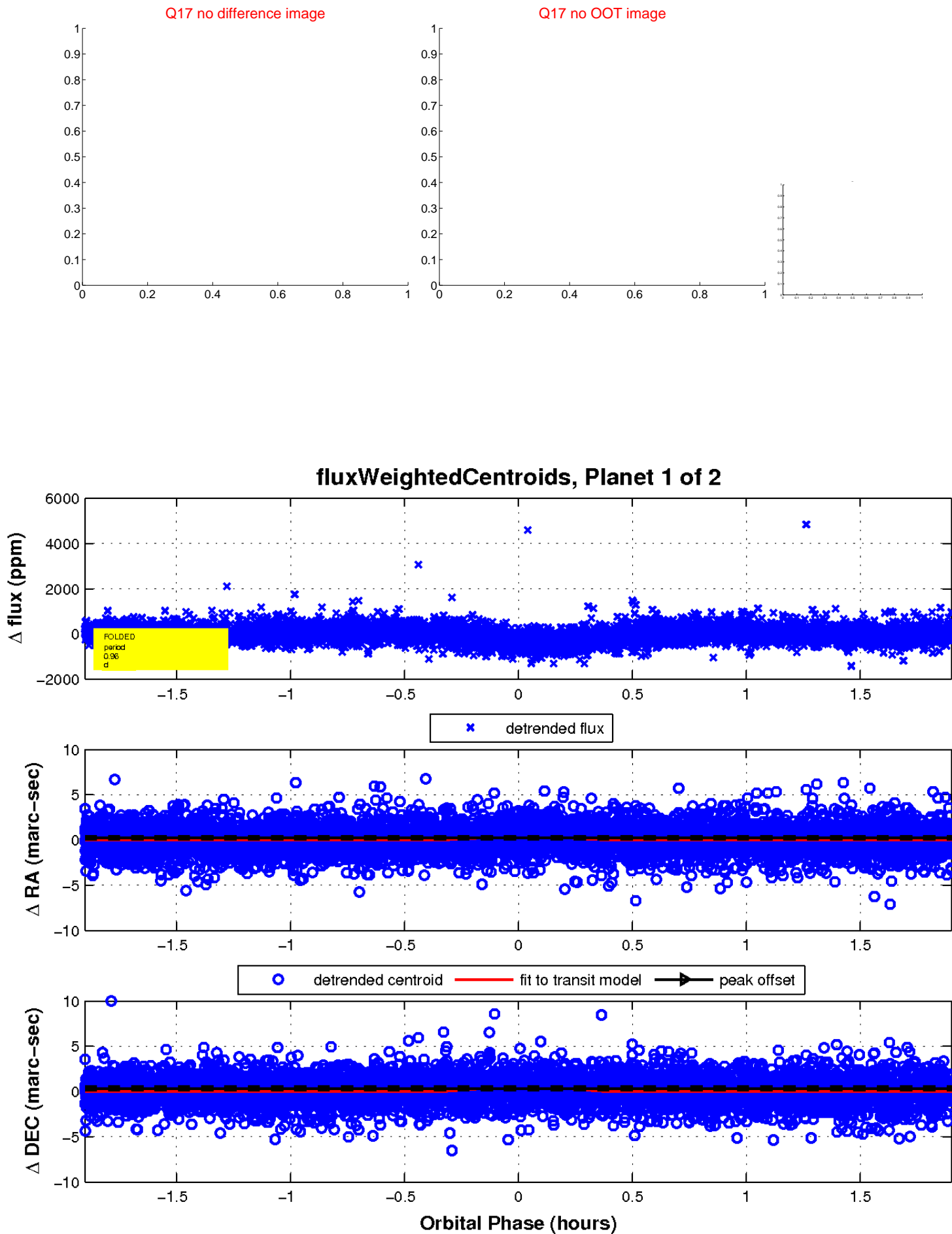
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

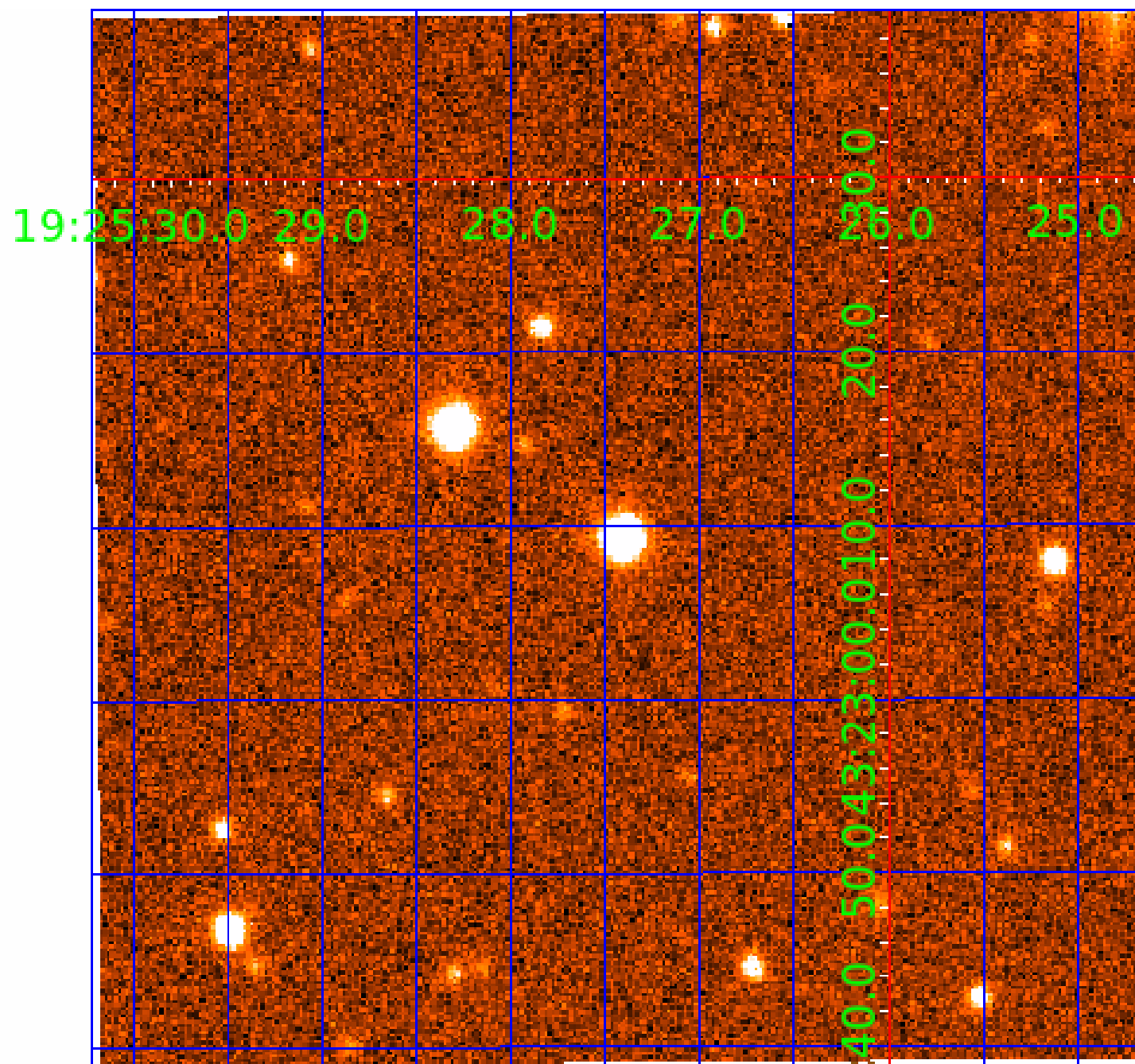


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007681230

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})
007681230-01	OBS	4294.01	0.962580	132.426200	397.1	0.634	14.7	30.1	1.06	6274	2.56	3992.45
007681230-02	OBS	No	0.962597	131.844327	383.9	2.500	7.3	-1.0	1.06	6274	2.09	3992.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007681230-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE
007681230-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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 007681230-02

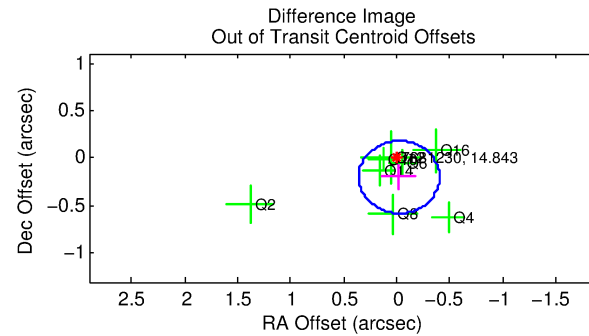
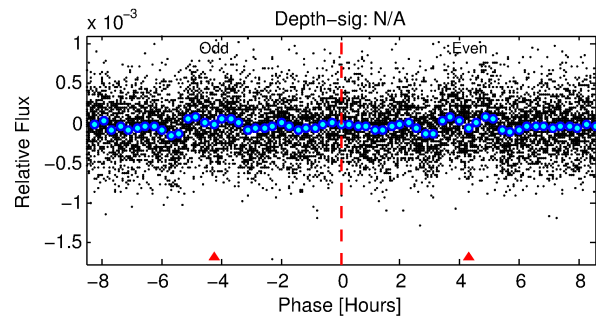
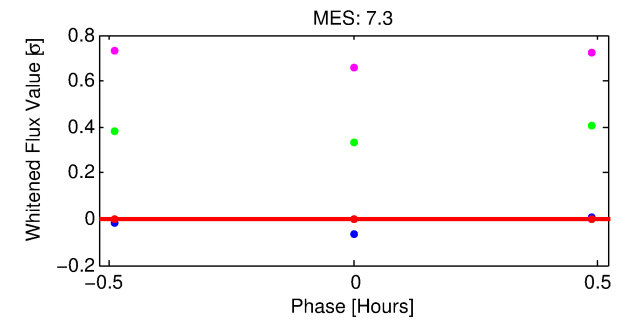
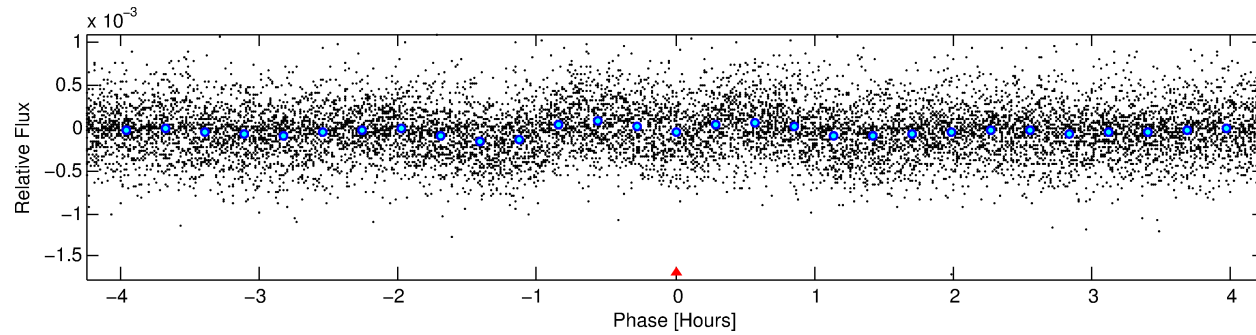
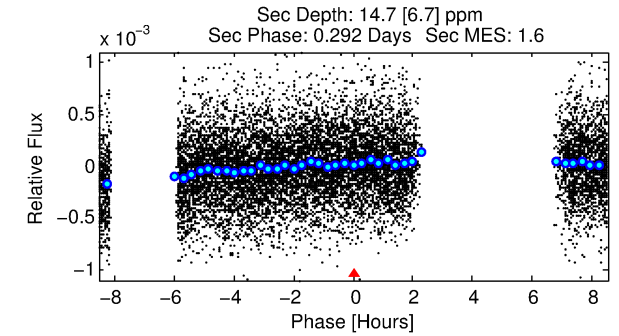
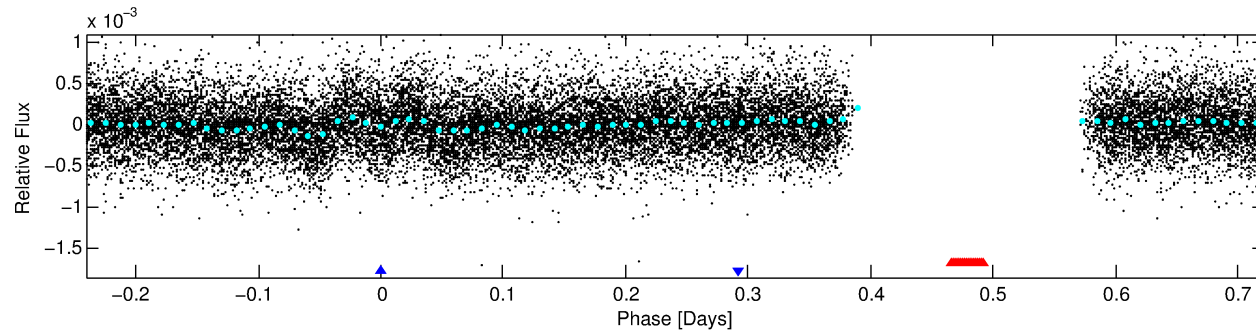
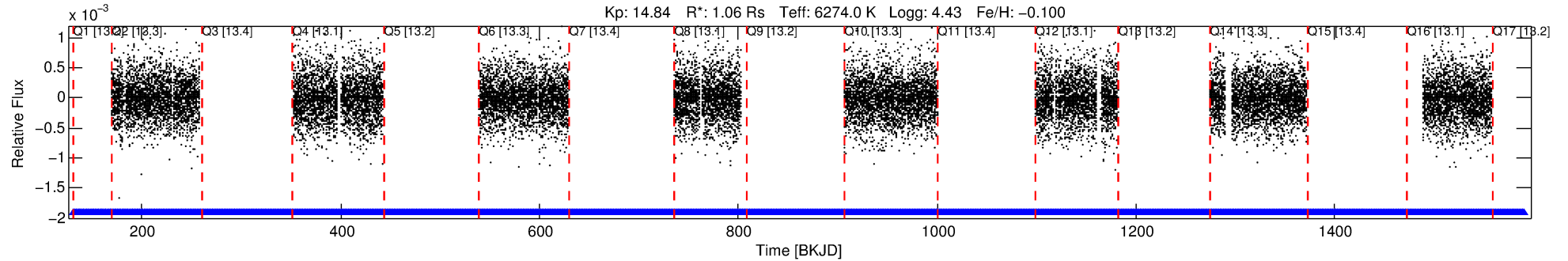
No Significant Match Found

DV One-Page Summary

KIC: 7681230 Candidate: 2 of 2 Period: 0.963 d

KOI: K04294 Corr: No Ephemeris Match

Kp: 14.84 R*: 1.06 Rs Teff: 6274.0 K Logg: 4.43 Fe/H: -0.100



TPS TCE Results:

Period = 0.96260 d
Epoch = 131.8443 BKJD

DV fit results are unavailable

DV Diagnostic Results:

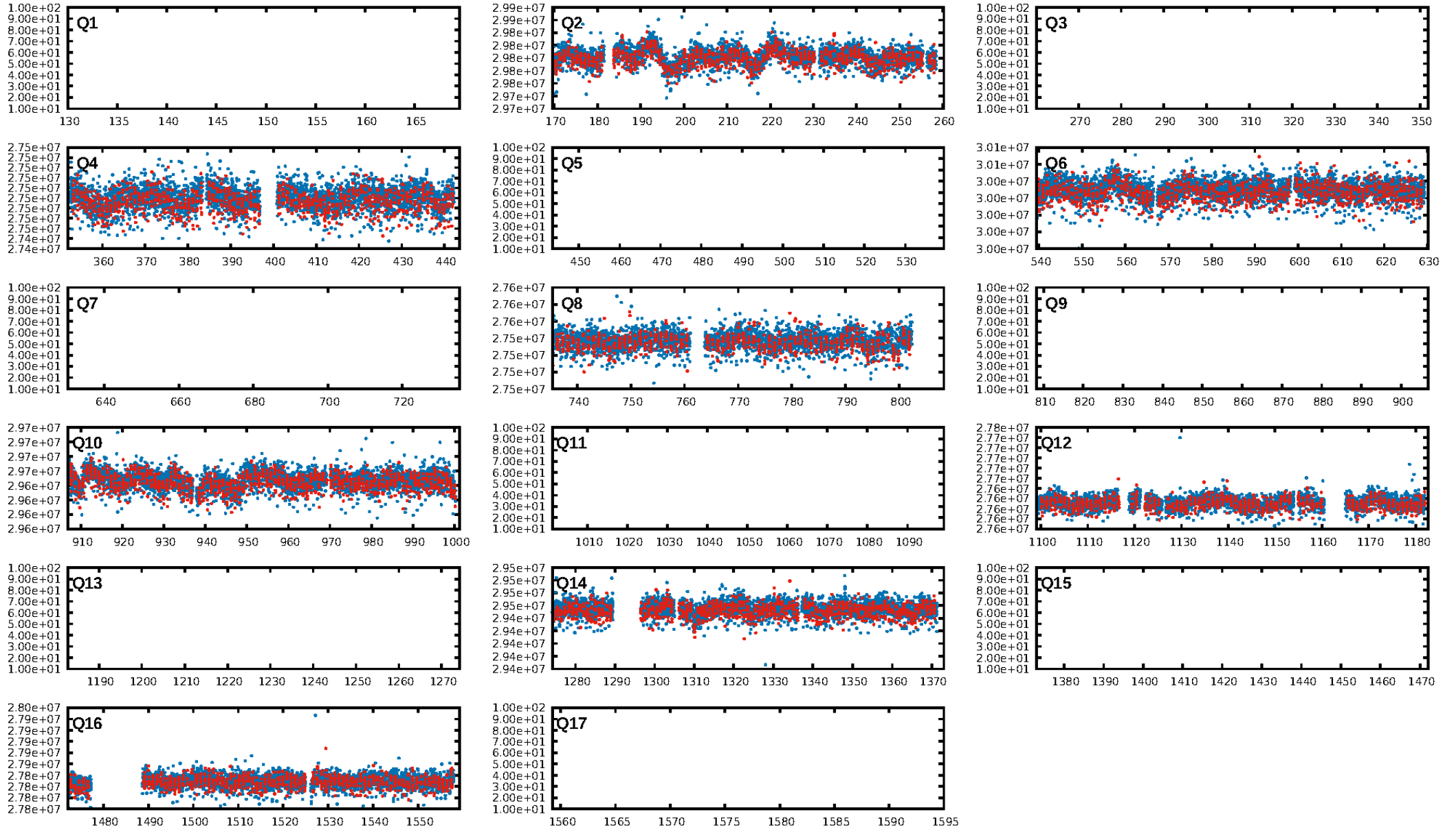
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.04e-14
RollingBand-fgt: 1.00 [669/669]
GhostDiagnostic-chr: -0.62

Centroid-sig: 9.6%
Centroid-so: 0.336 arcsec [1.65σ]
OotOffset-rm: 0.200 arcsec [1.58σ]
KicOffset-rm: 0.190 arcsec [1.24σ]
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]

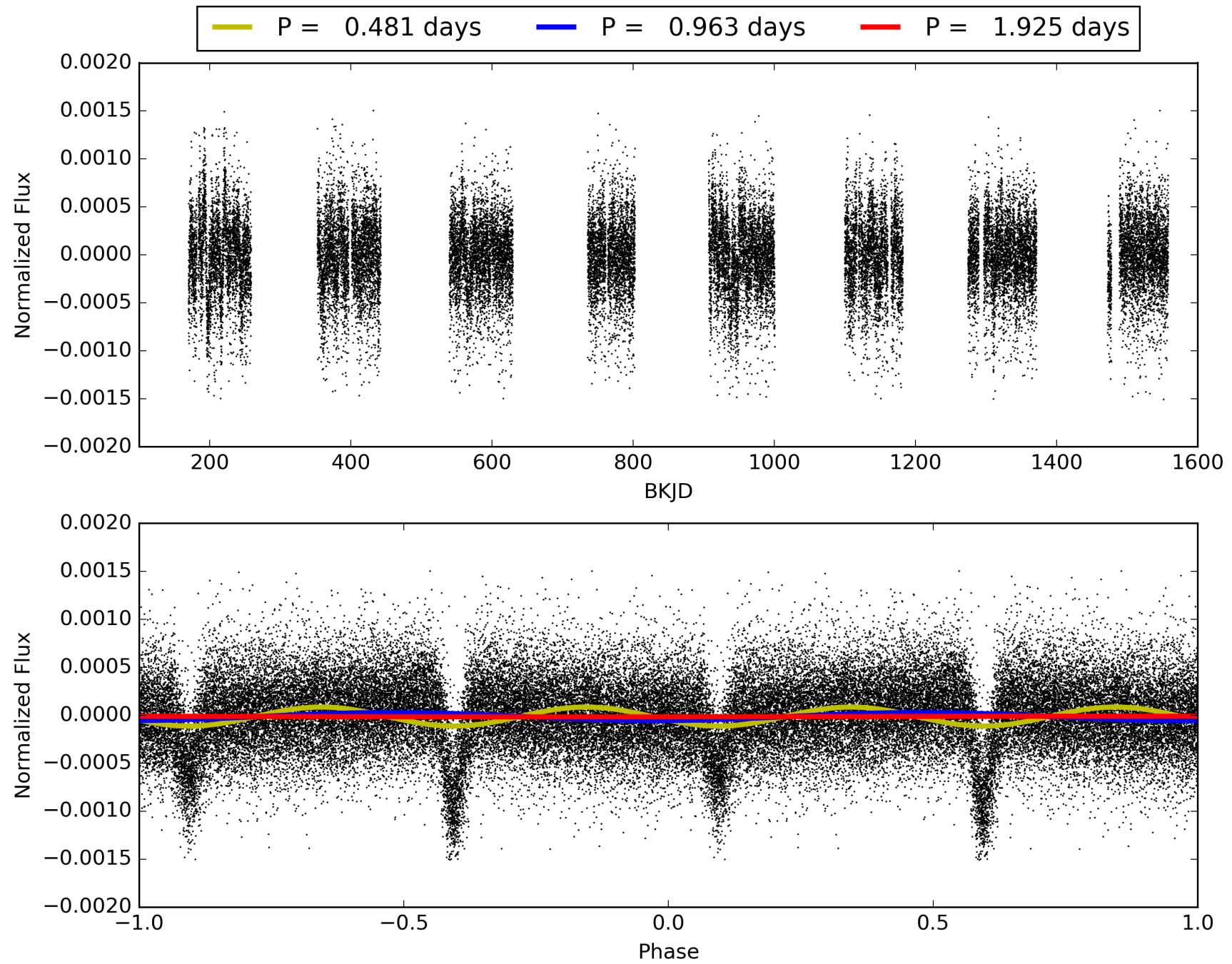
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:49:40 Z

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

TCE 007681230-02, PDC Light Curves

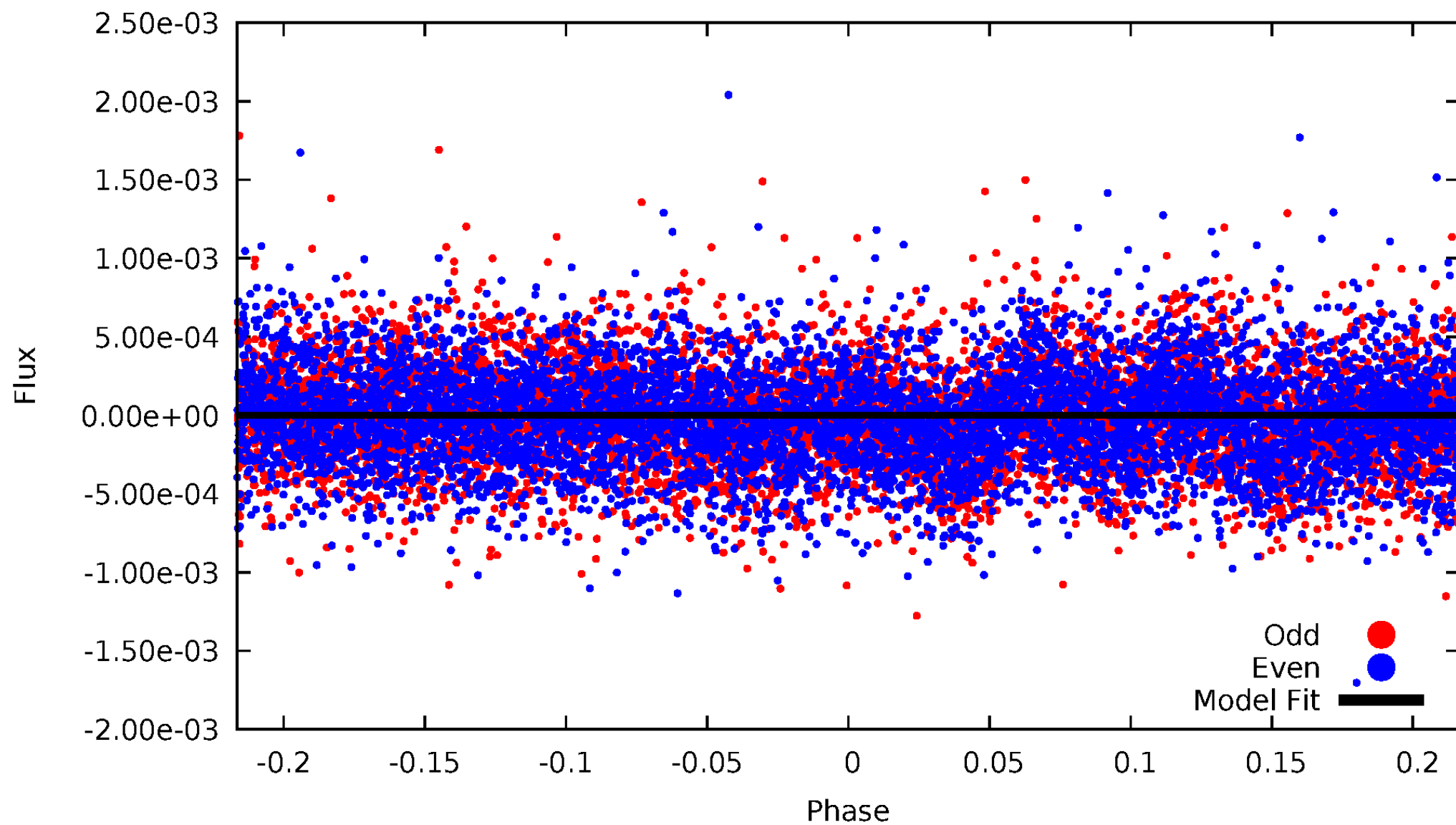


TCE 007681230-02



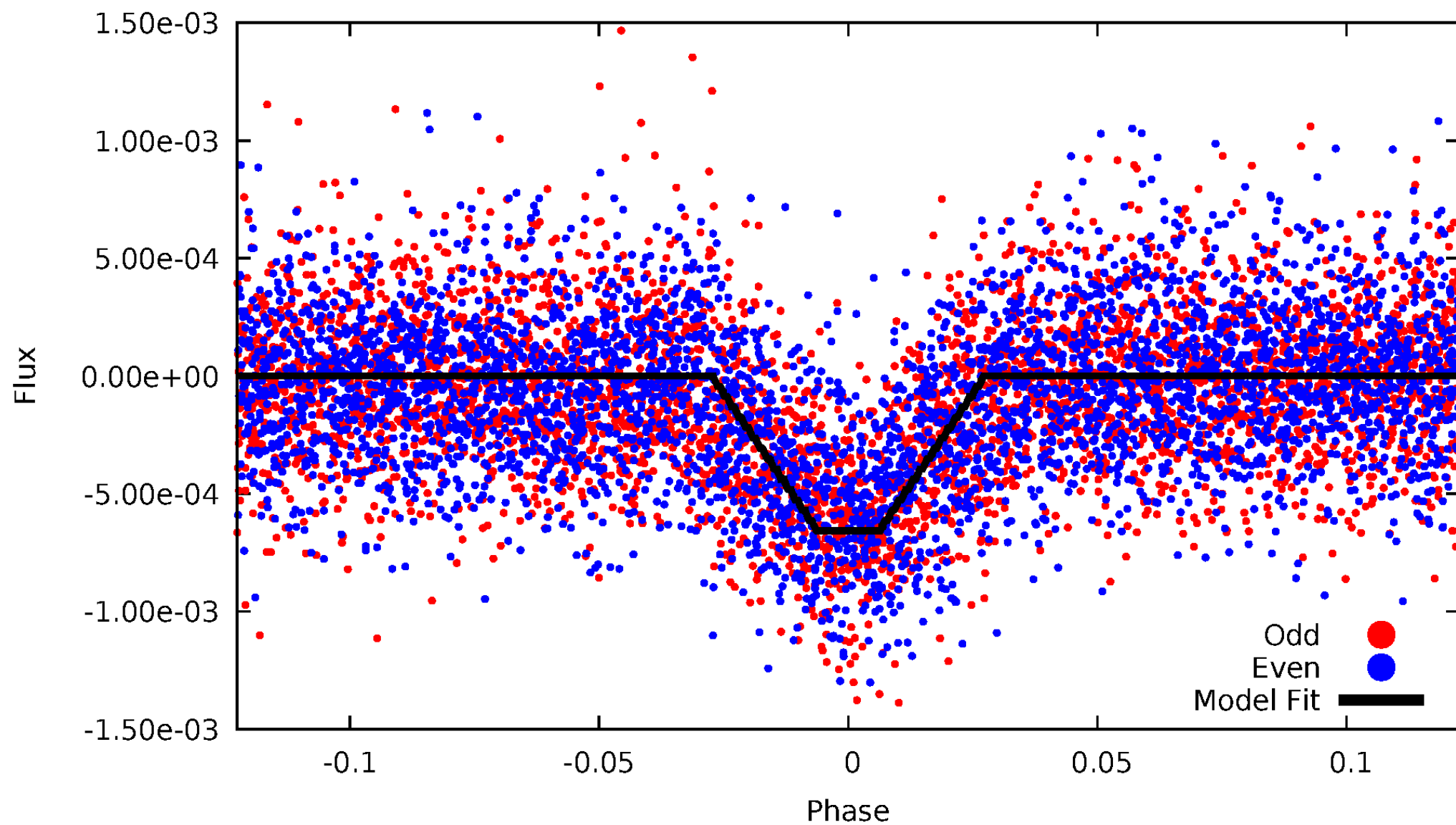
DV Odd/Even

TCE 007681230-02



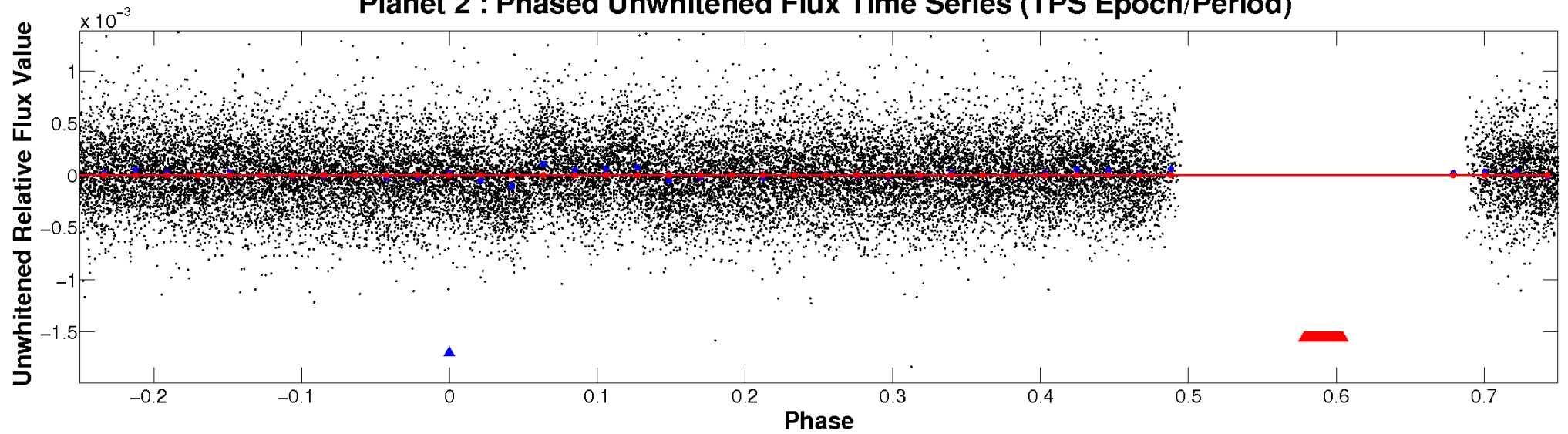
ALT Odd/Even

TCE 007681230-02

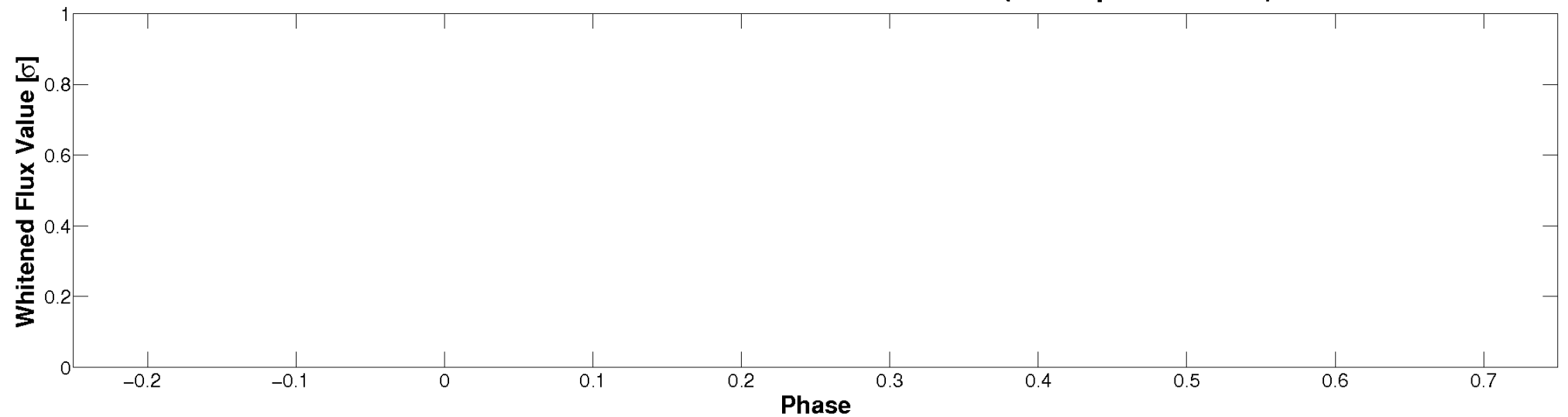


Non-Whitened Vs. Whitened Light Curve

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

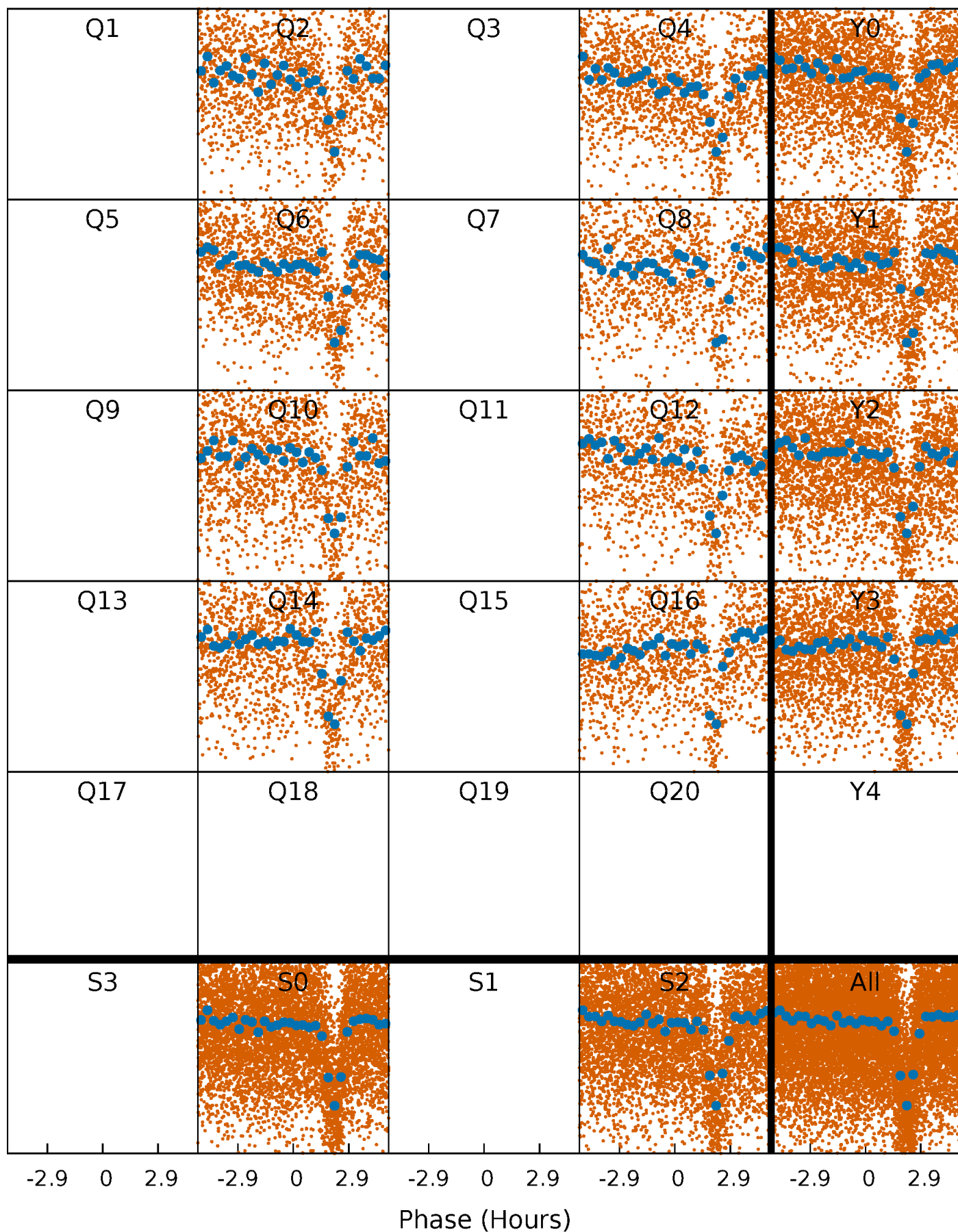


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



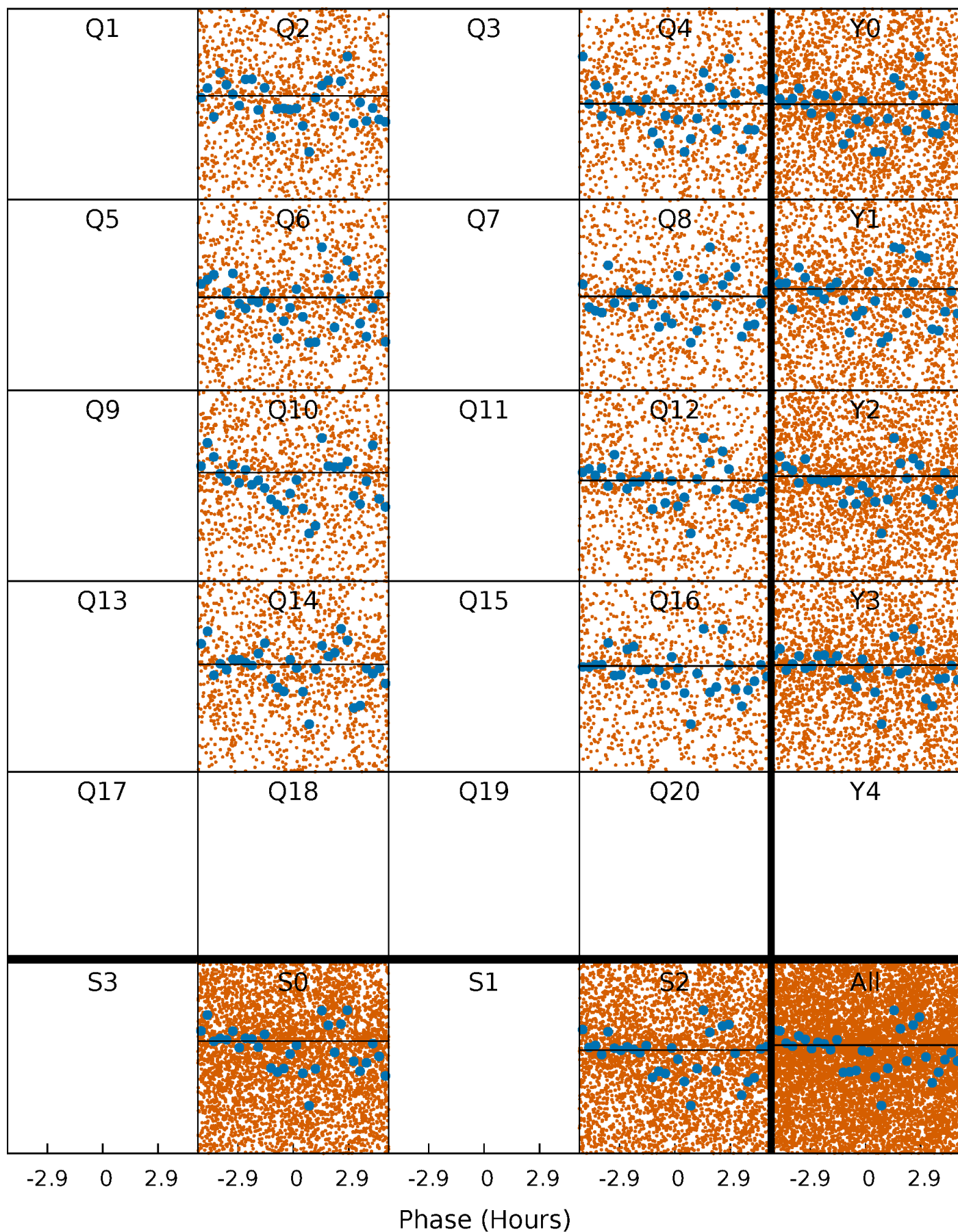
PDC Quarter-Phased Transit Curves

TCE 007681230-02 P= 0.962597 Days $T_0=131.844327$ (BKJD)



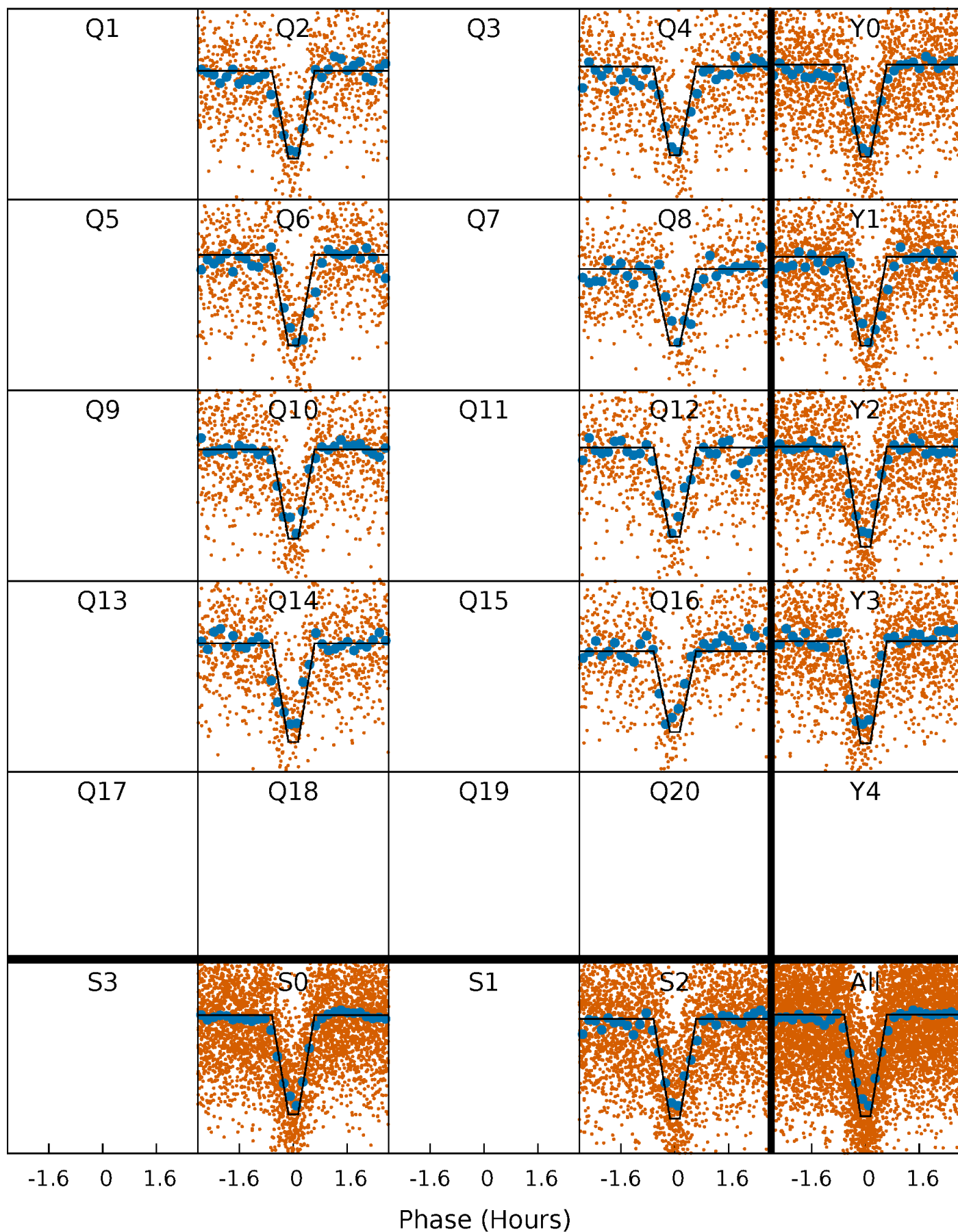
DV Quarter-Phased Transit Curves

TCE 007681230-02 P= 0.962597 Days $T_0=131.844327$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

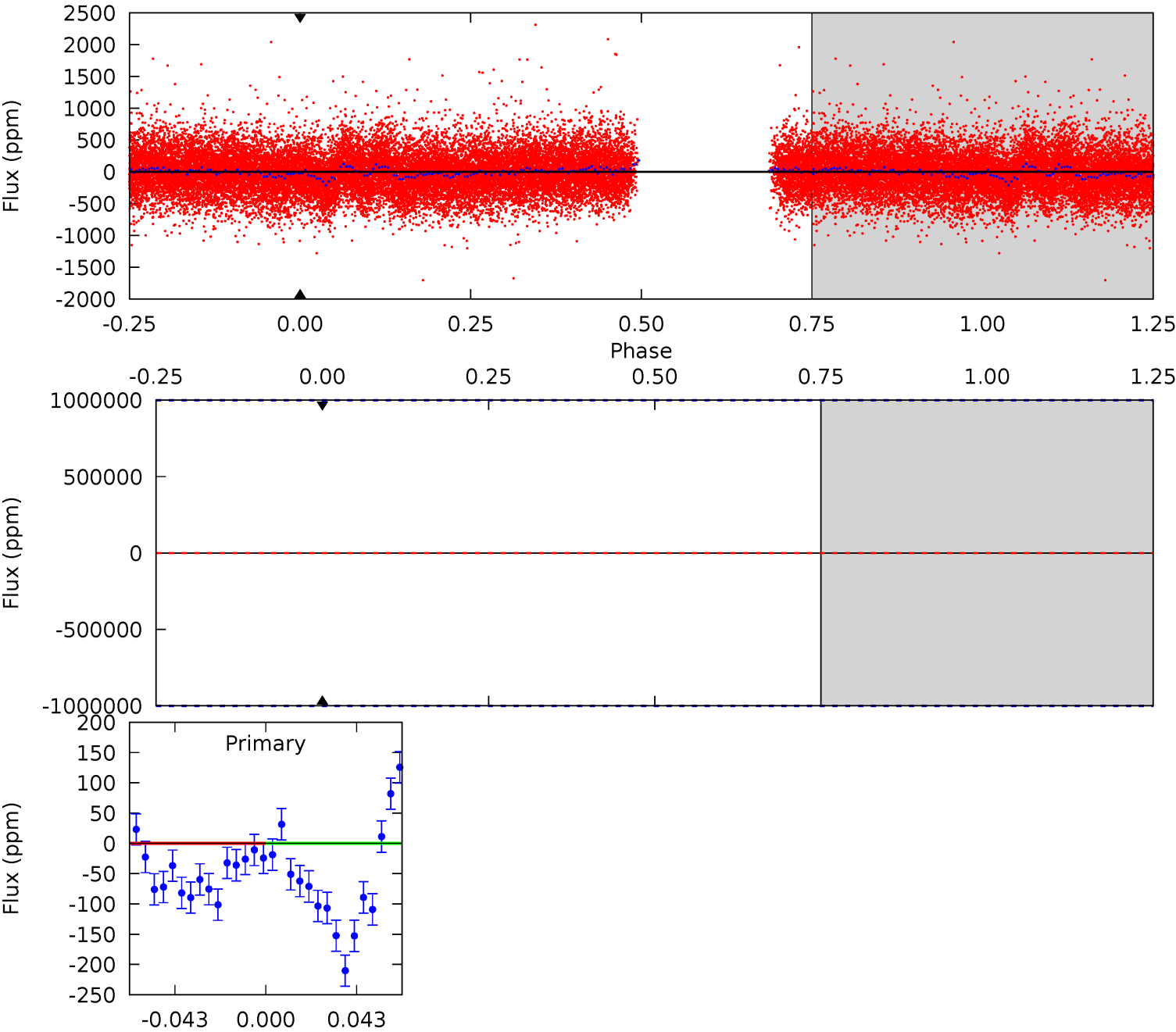
TCE 007681230-02 P= 0.962597 Days $T_0=131.934814$ (BKJD)



DV Model-Shift Uniqueness Test

007681230-02, P = 0.962597 Days, E = 131.844327 Days

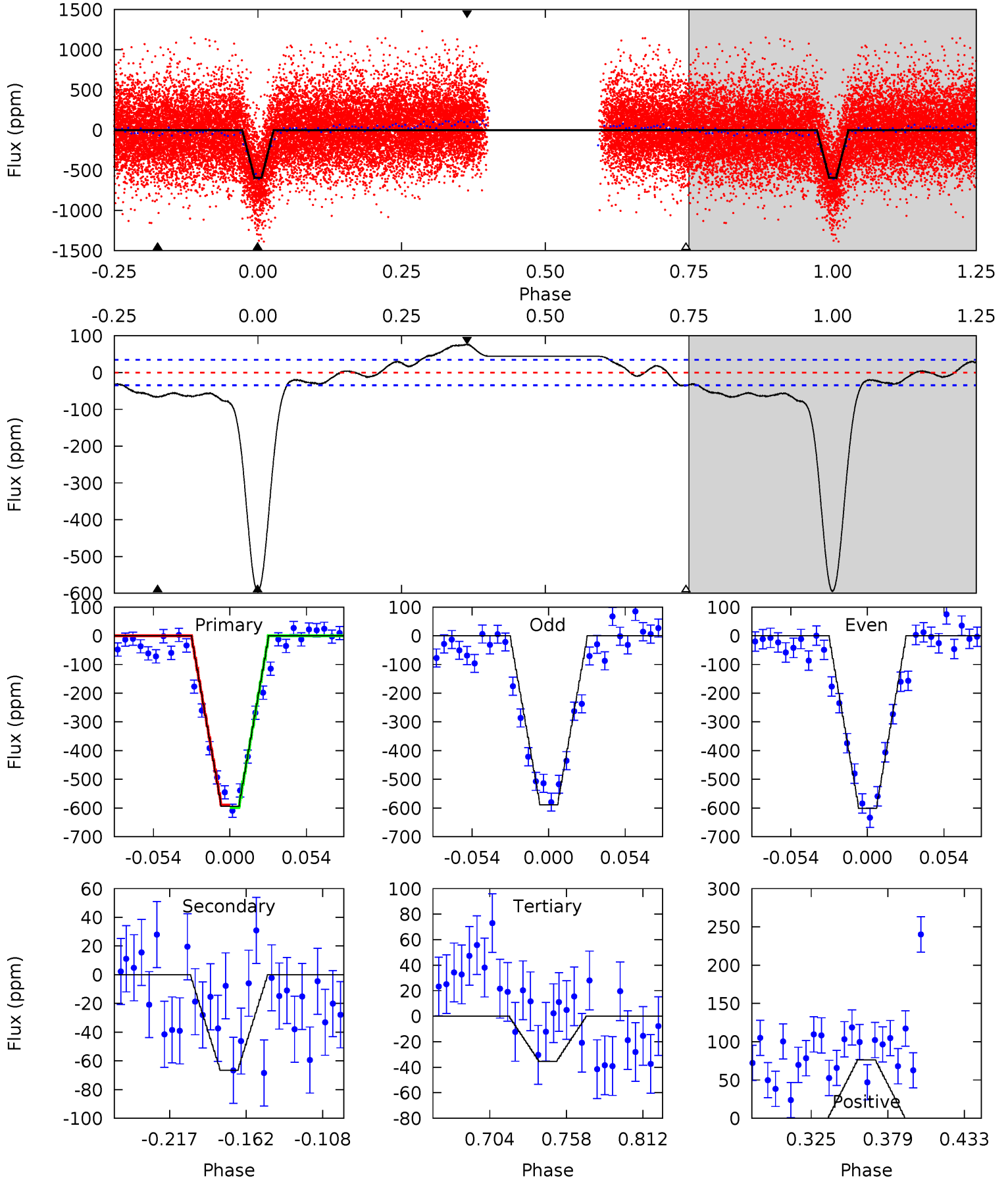
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007681230-02, P = 0.962597 Days, E = 131.934814 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.6	9.03	4.80	10.4	4.69	1.93	5.26	75.8	70.3	4.22	-1.34	0.84	1.01	0.11	0.60



Stellar Parameters For KIC 007681230

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6274^{+196}_{-261}	$4.434^{+0.067}_{-0.216}$	$-0.100^{+0.250}_{-0.300}$	$1.062^{+0.343}_{-0.137}$	$1.115^{+0.156}_{-0.156}$	$1.313^{+0.388}_{-0.708}$
	+3%/-4%	+2%/-5%	+250%/-300%	+32%/-13%	+14%/-14%	+30%/-54%
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 007681230-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$8.84^{+9.85}_{-6.16}$	2882^{+236}_{-164}	-3959^{+34694}_{-19674}	$-1.566^{+617.050}_{-373.592}$
Alt.	-67 ± 7	$9.38^{+9.70}_{-6.43}$	2877^{+215}_{-166}	-2698^{+6464}_{-276}	$0.160^{+1.436}_{-0.121}$

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

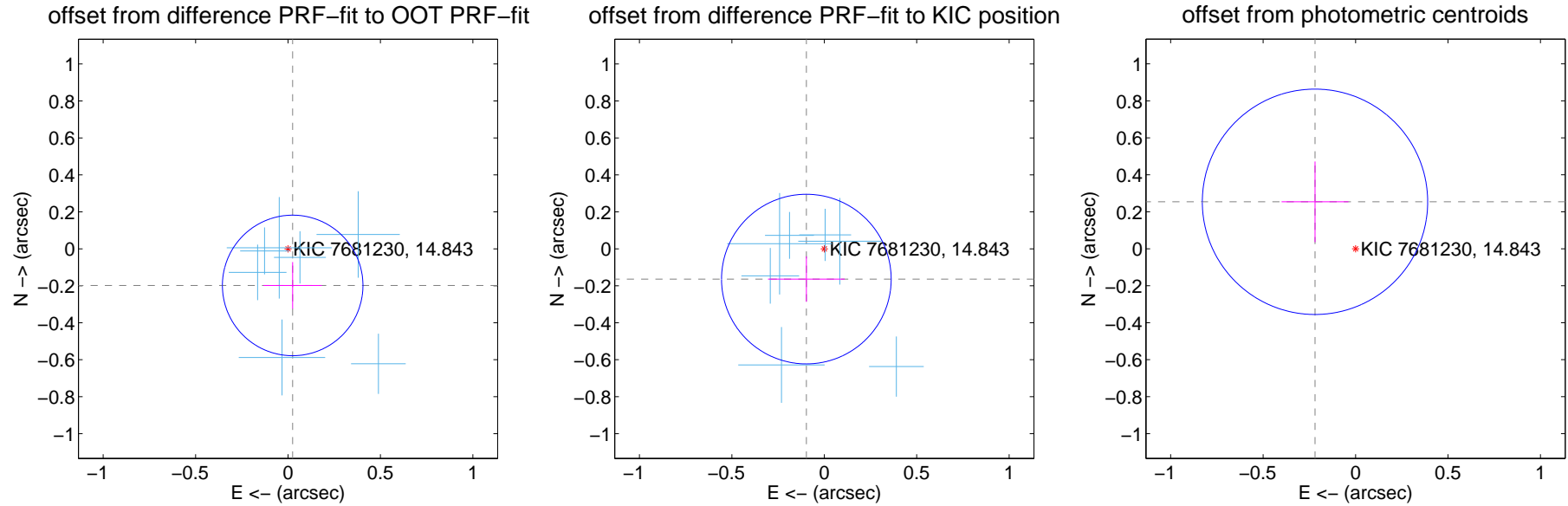
DV Centroid Data

Supplemental centroid analysis for 007681230-02. Kepler magnitude: 14.84. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

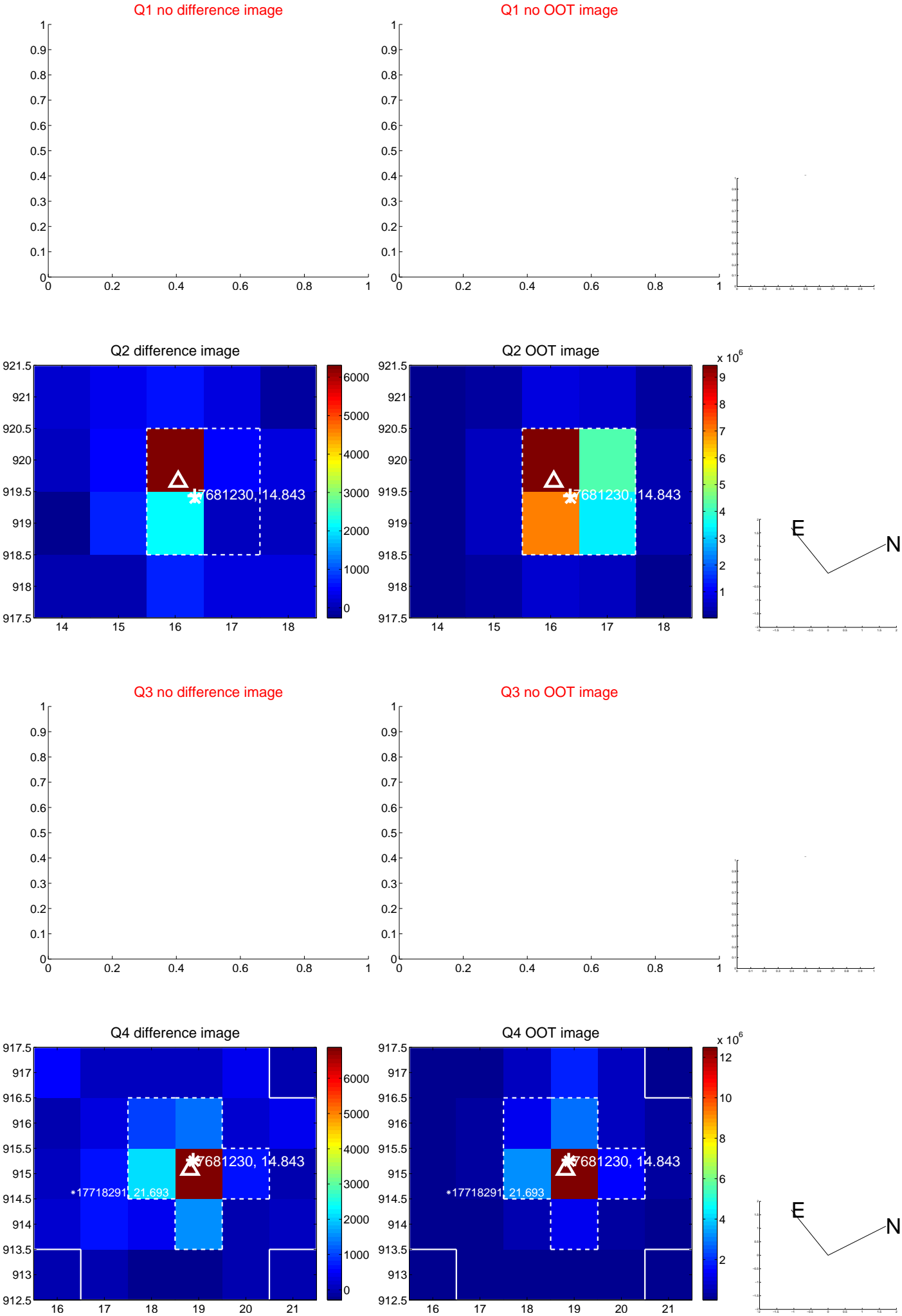
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.200 ± 0.127	1.58	-0.025 ± 0.158	-0.198 ± 0.126
PRF-fit source offset from KIC position	0.190 ± 0.153	1.24	0.097 ± 0.207	-0.164 ± 0.123
photometric centroid source offset	0.34 ± 0.20	1.65	0.22 ± 0.18	0.25 ± 0.22

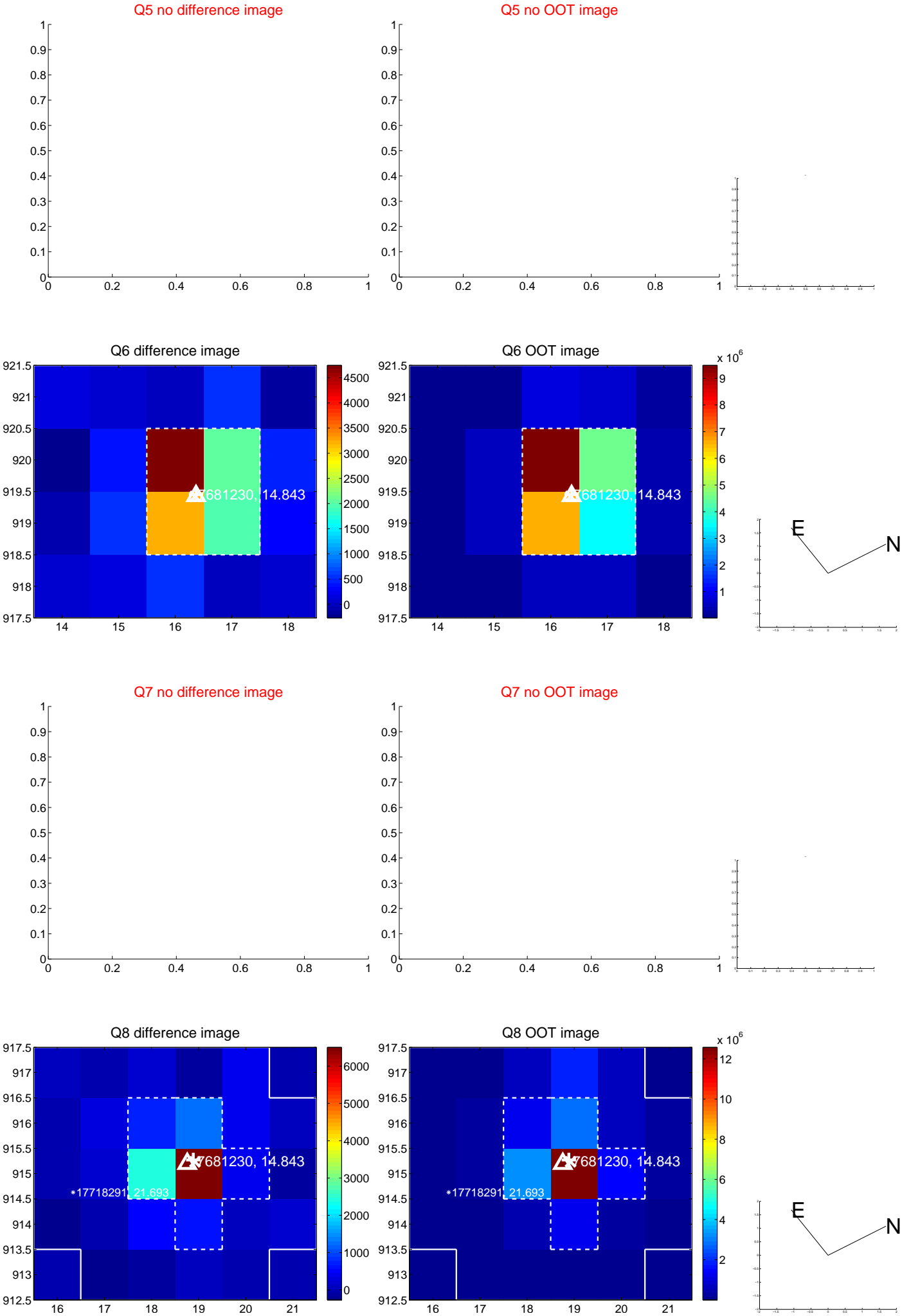


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

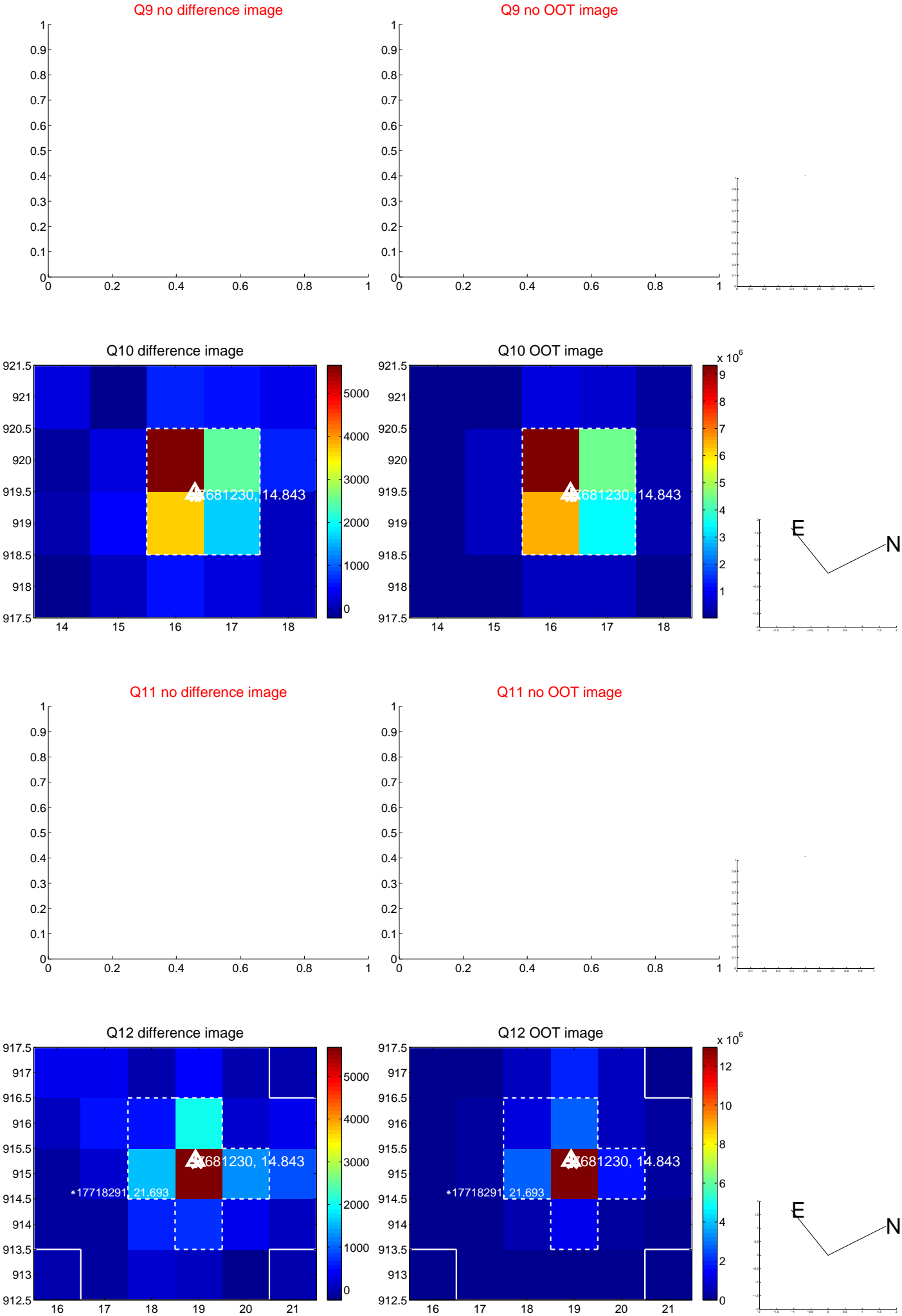
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



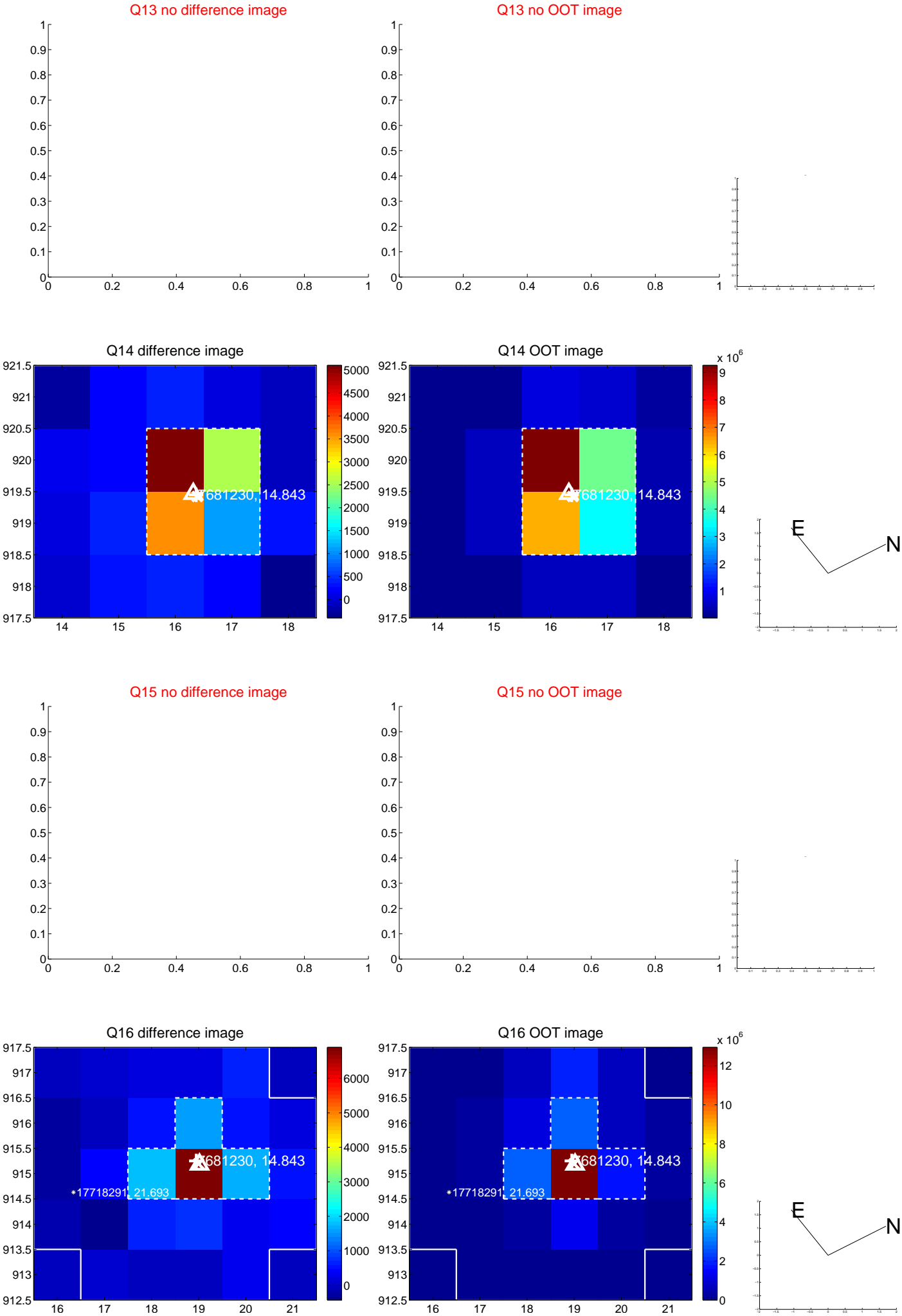
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



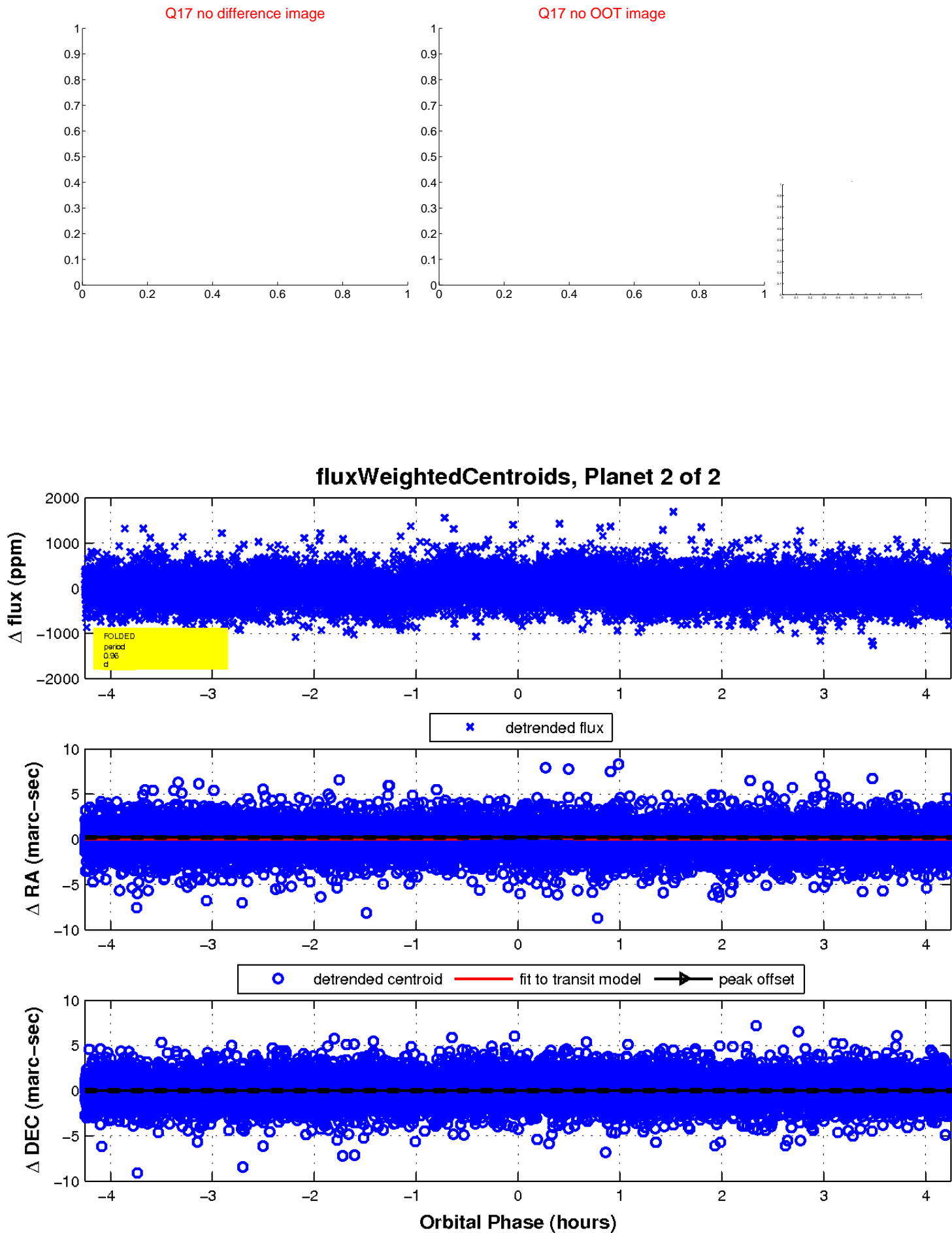
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

