

KIC 006425957

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})
006425957-01	OBS	0663.01	2.755636	132.267136	527.5	1.979	86.8	97.6	0.55	4121	1.52	77.58
006425957-02	OBS	0663.02	20.306520	132.046259	699.5	3.129	50.2	52.2	0.55	4121	1.79	5.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006425957-01	OBS	PC	0.07	0	0	0	0	CENT_KIC_POS
006425957-02	OBS	PC	0.01	0	0	0	0	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.

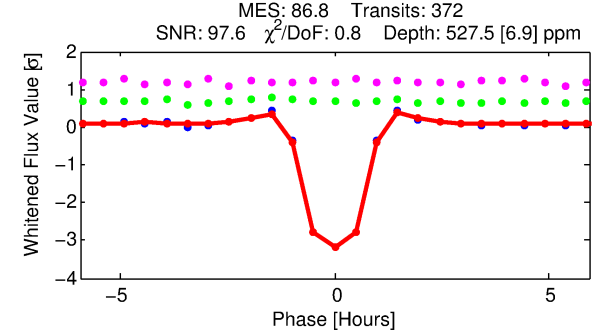
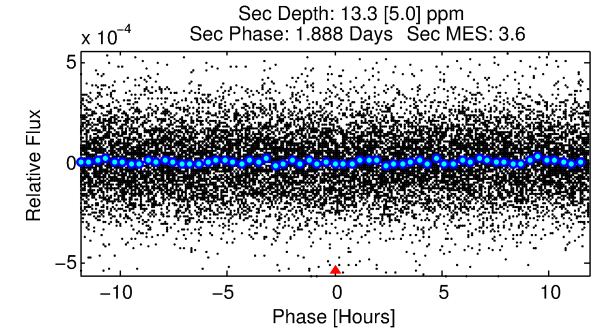
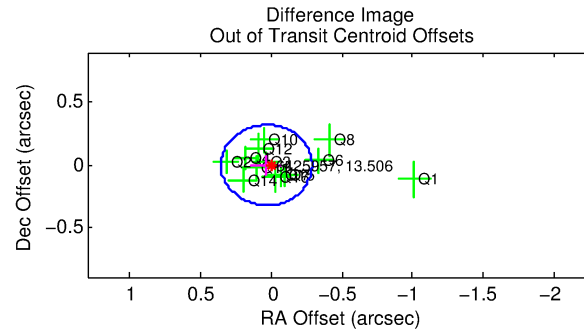
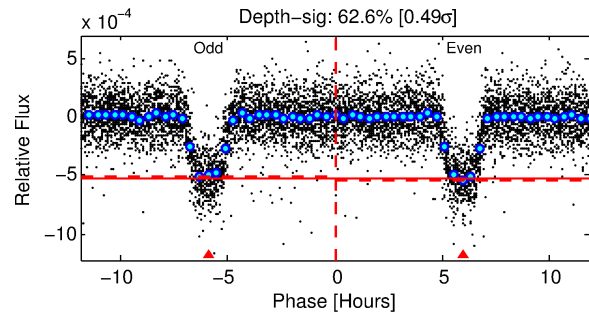
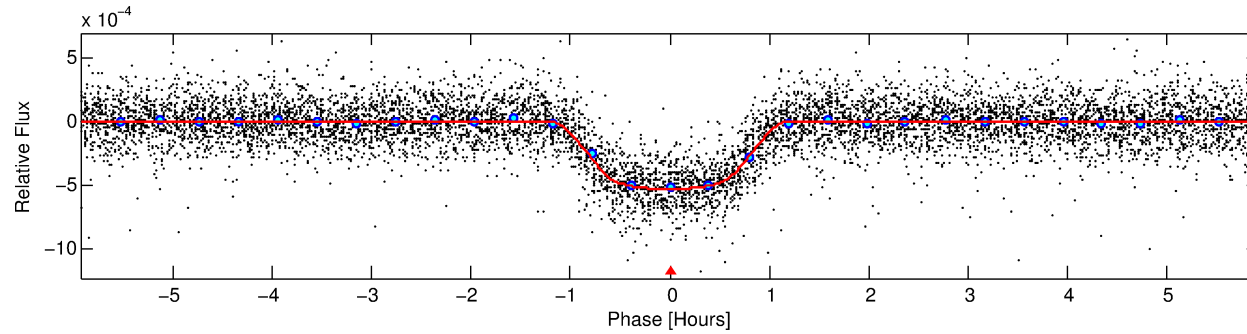
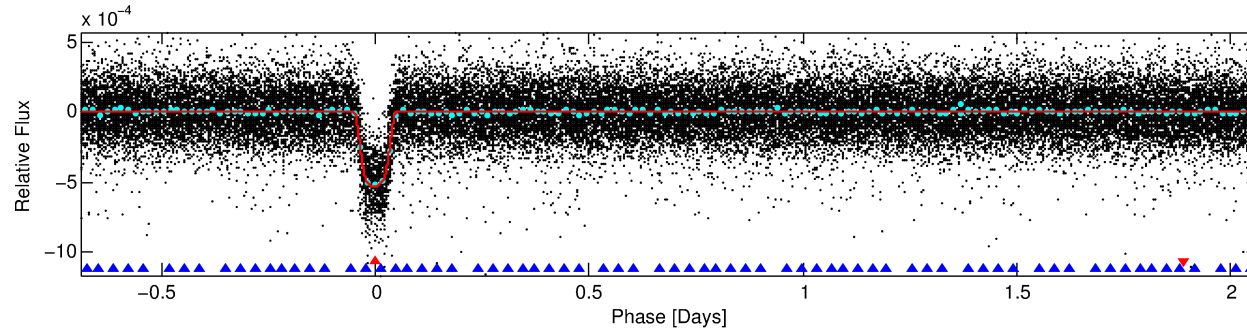
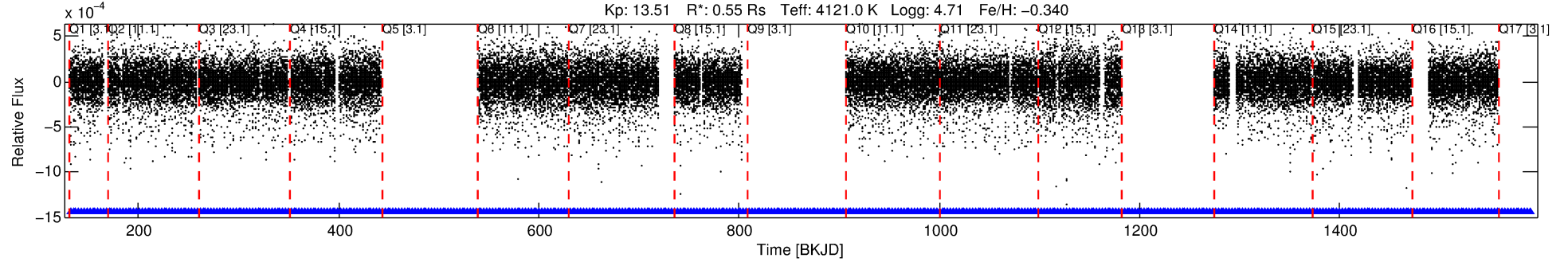
Ephemeris Match Information For 006425957-01

No Significant Match Found

DV One-Page Summary

KIC: 6425957 Candidate: 1 of 2 Period: 2.756 d
KOI: K00663.01 Name: Kepler-205b Corr: 0.967

Kp: 13.51 R*: 0.55 Rs Teff: 4121.0 K Logg: 4.71 Fe/H: -0.340



DV Fit Results:

Period = 2.75564 [0.00000] d
Epoch = 132.2671 [0.0003] BKJD
Rp/R* = 0.0252 [0.0011]
a/R* = 5.31 [1.02]
b = 0.90 [0.04]
Seff = 77.58 [8.22]
Teq = 757 [20] K
Rp = 1.52 [0.11] Re
a = 0.0319 [0.0014] AU
Ag = 3.22 [1.26] [1.75σ]
Teffp = 1567 [156] K [5.15σ]

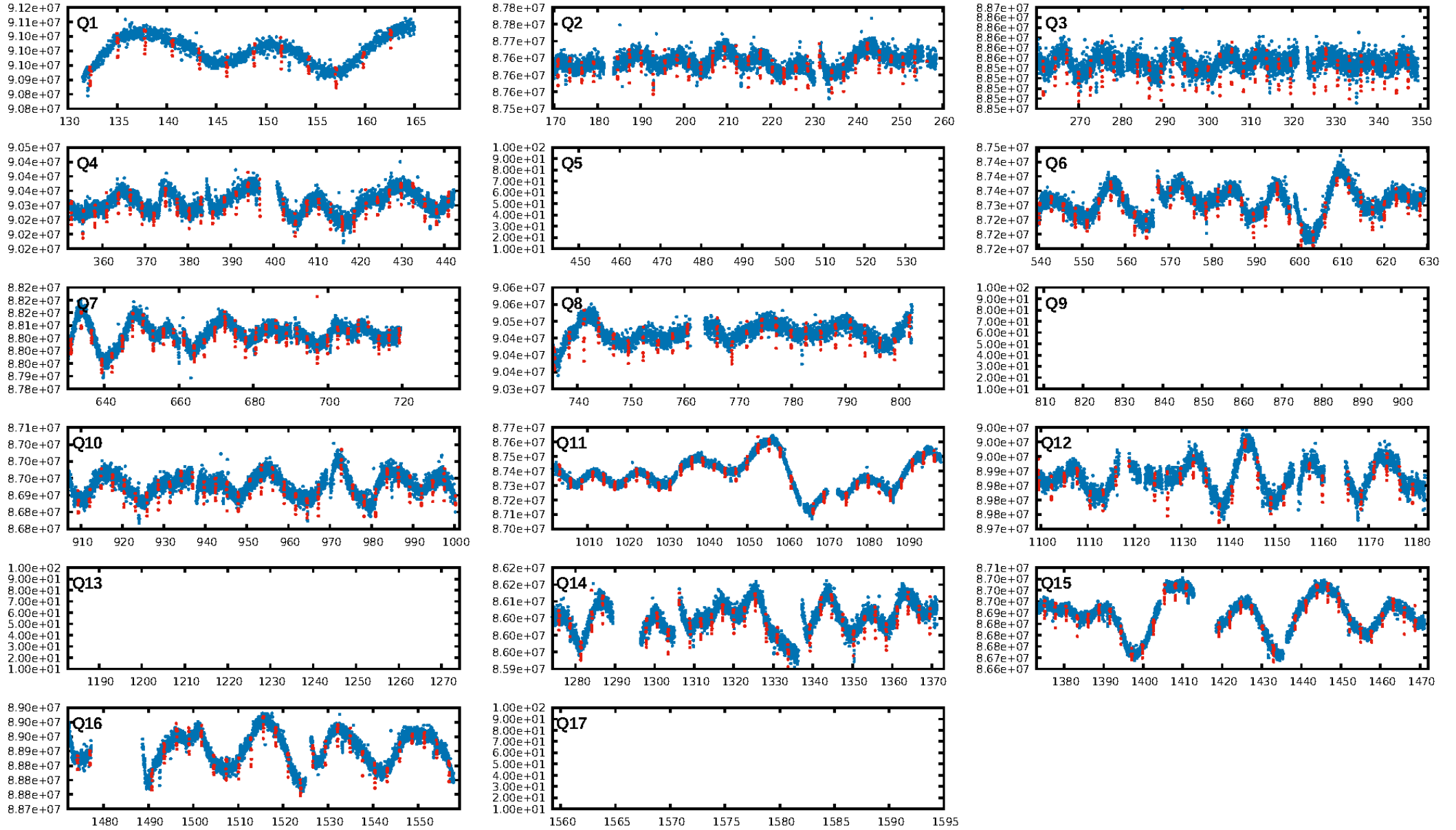
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [113.78σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [360/360]
GhostDiagnostic-chr: 5.261
Centroid-sig: N/A
Centroid-so: 1.202 arcsec [10.69σ]
OotOffset-rm: 0.033 arcsec [0.31σ]
KicOffset-rm: 1.126 arcsec [10.70σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

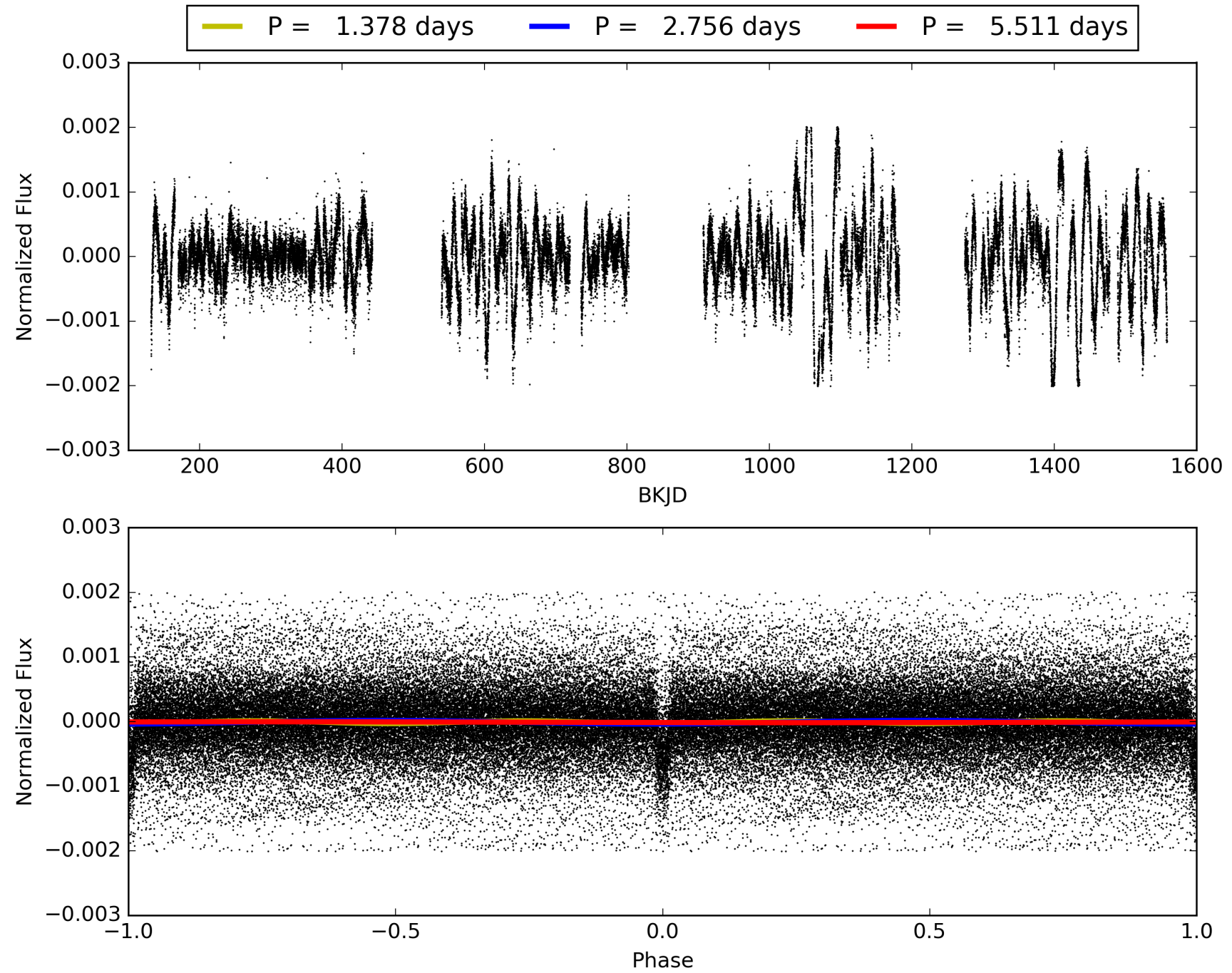
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:16:57 Z

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

TCE 006425957-01, PDC Light Curves

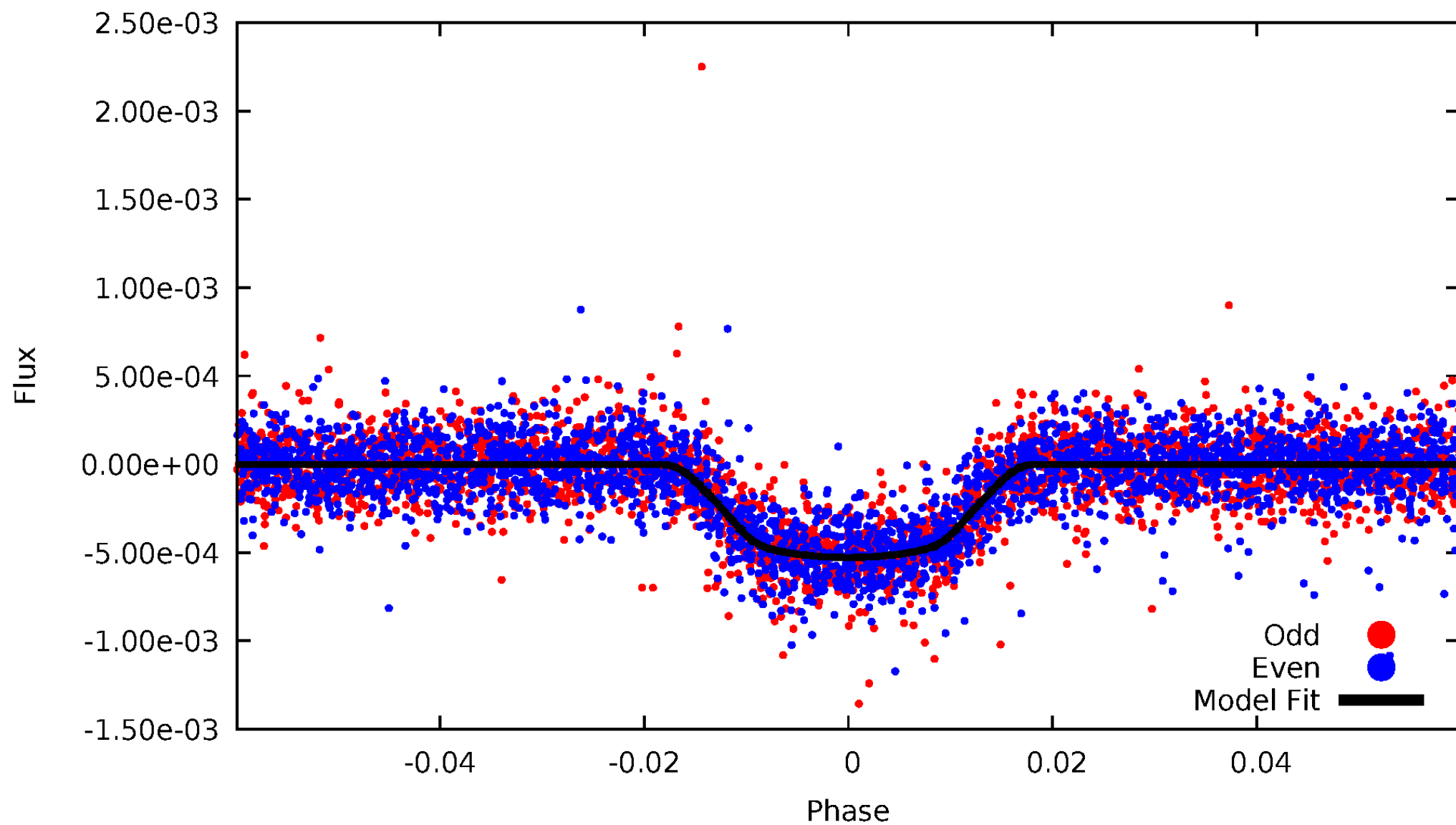


TCE 006425957-01



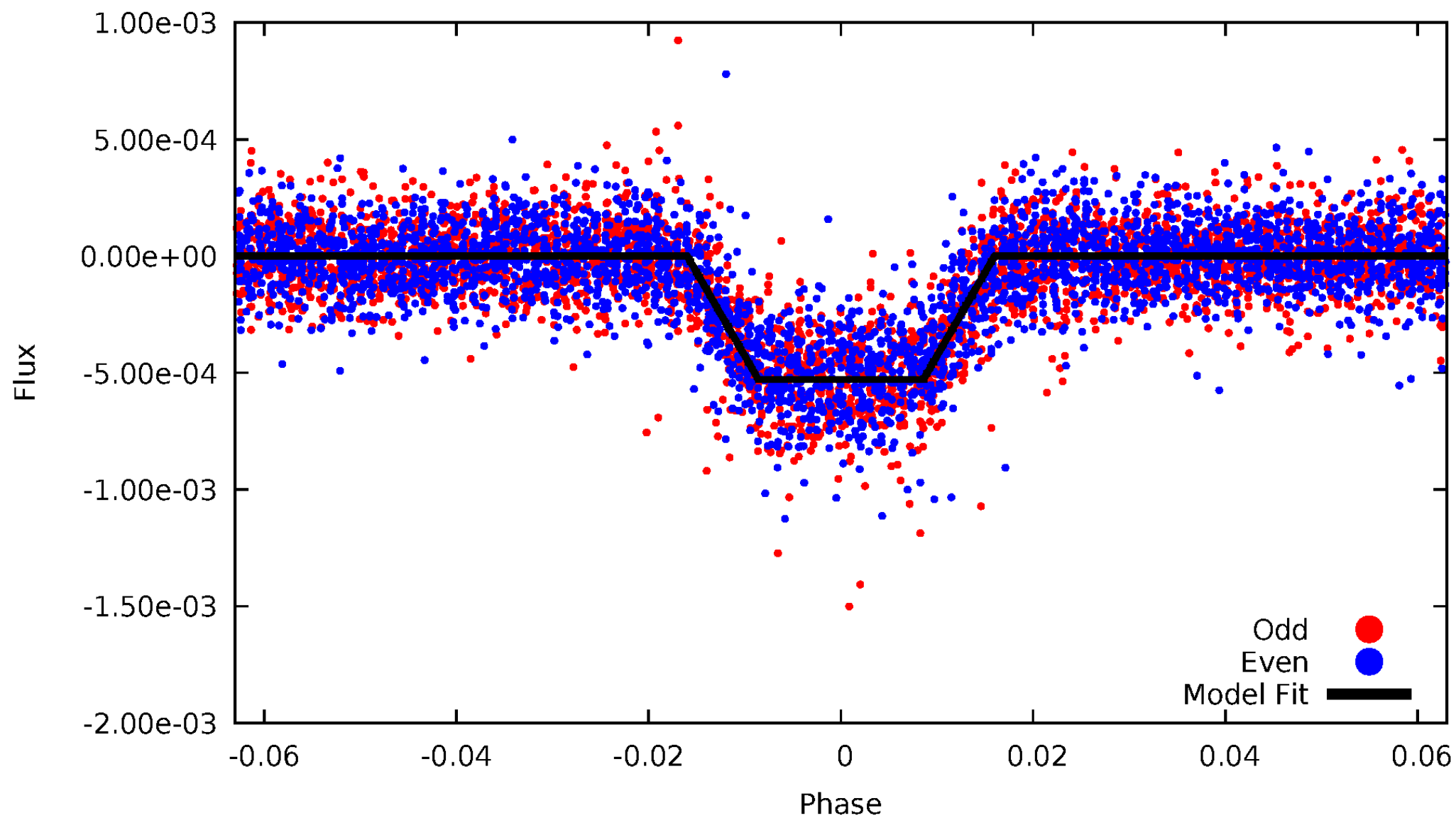
DV Odd/Even

TCE 006425957-01



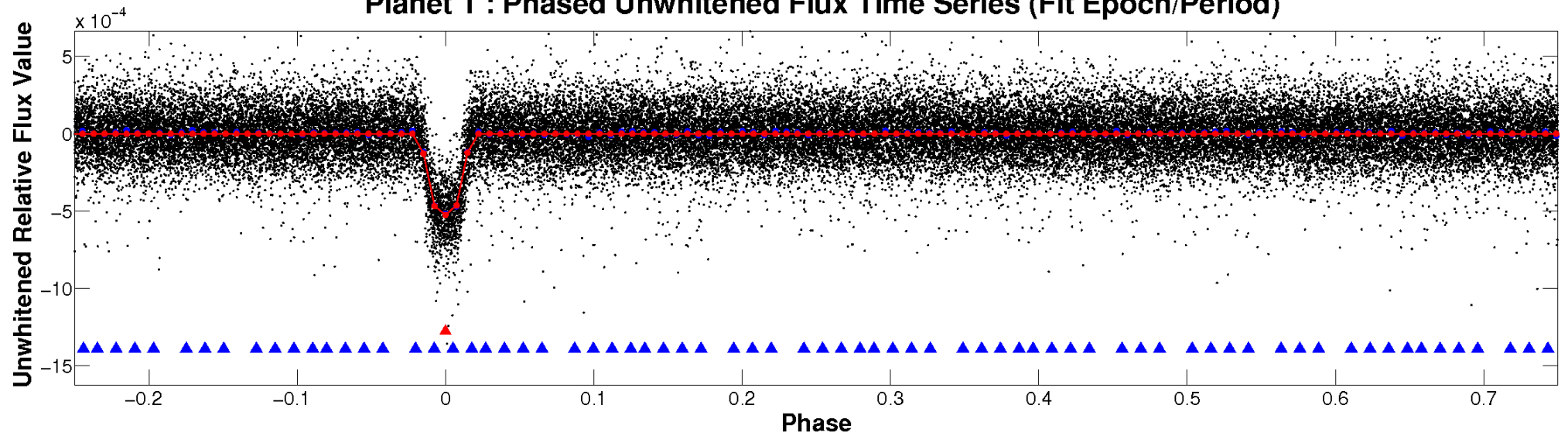
ALT Odd/Even

TCE 006425957-01

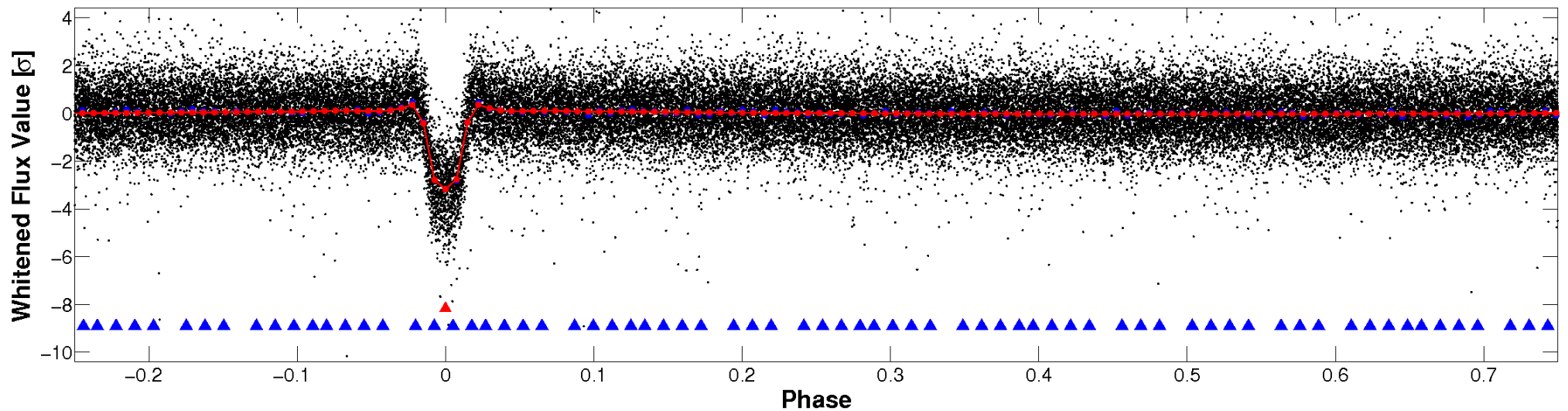


Non-Whitened Vs. Whitened Light Curve

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

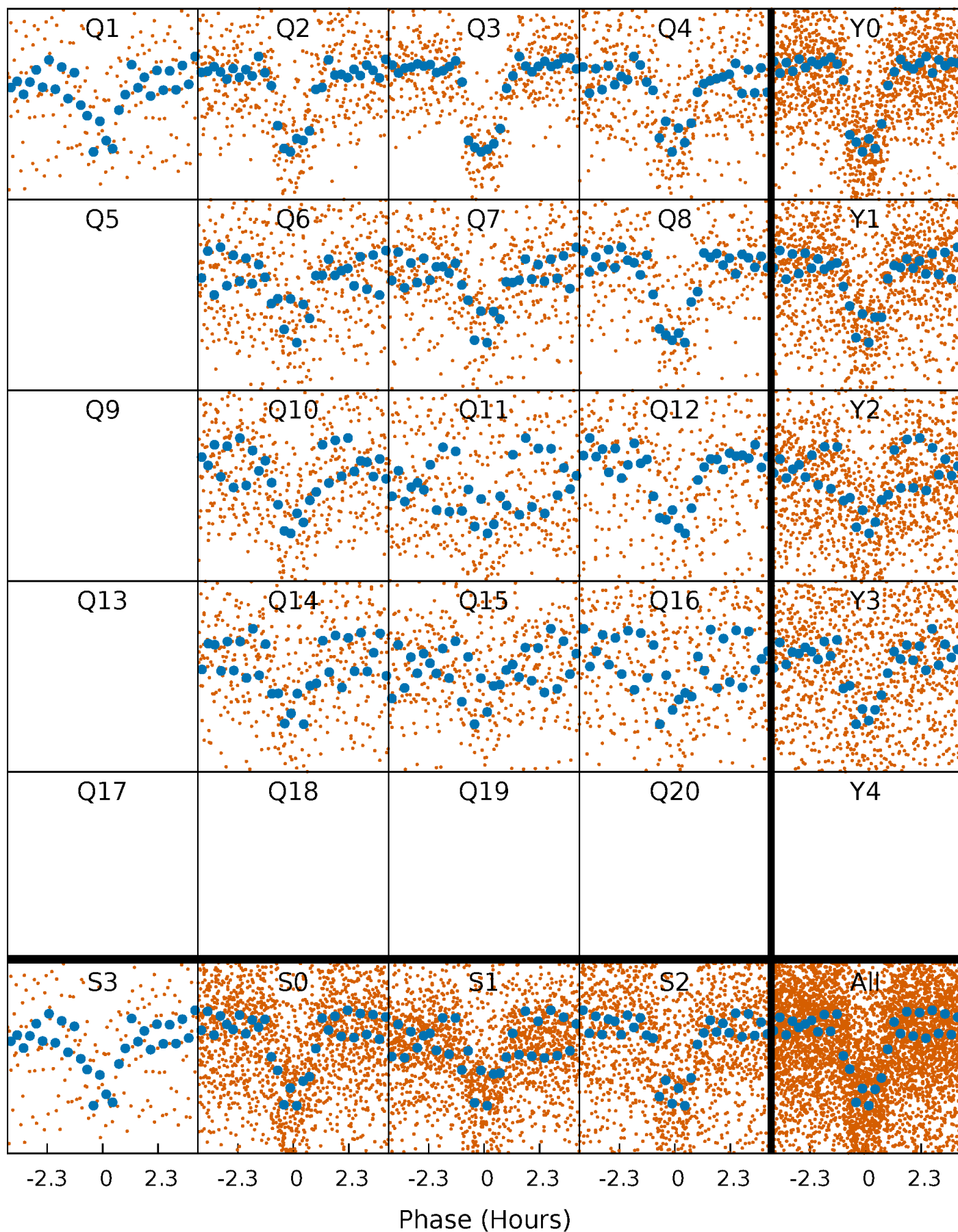


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



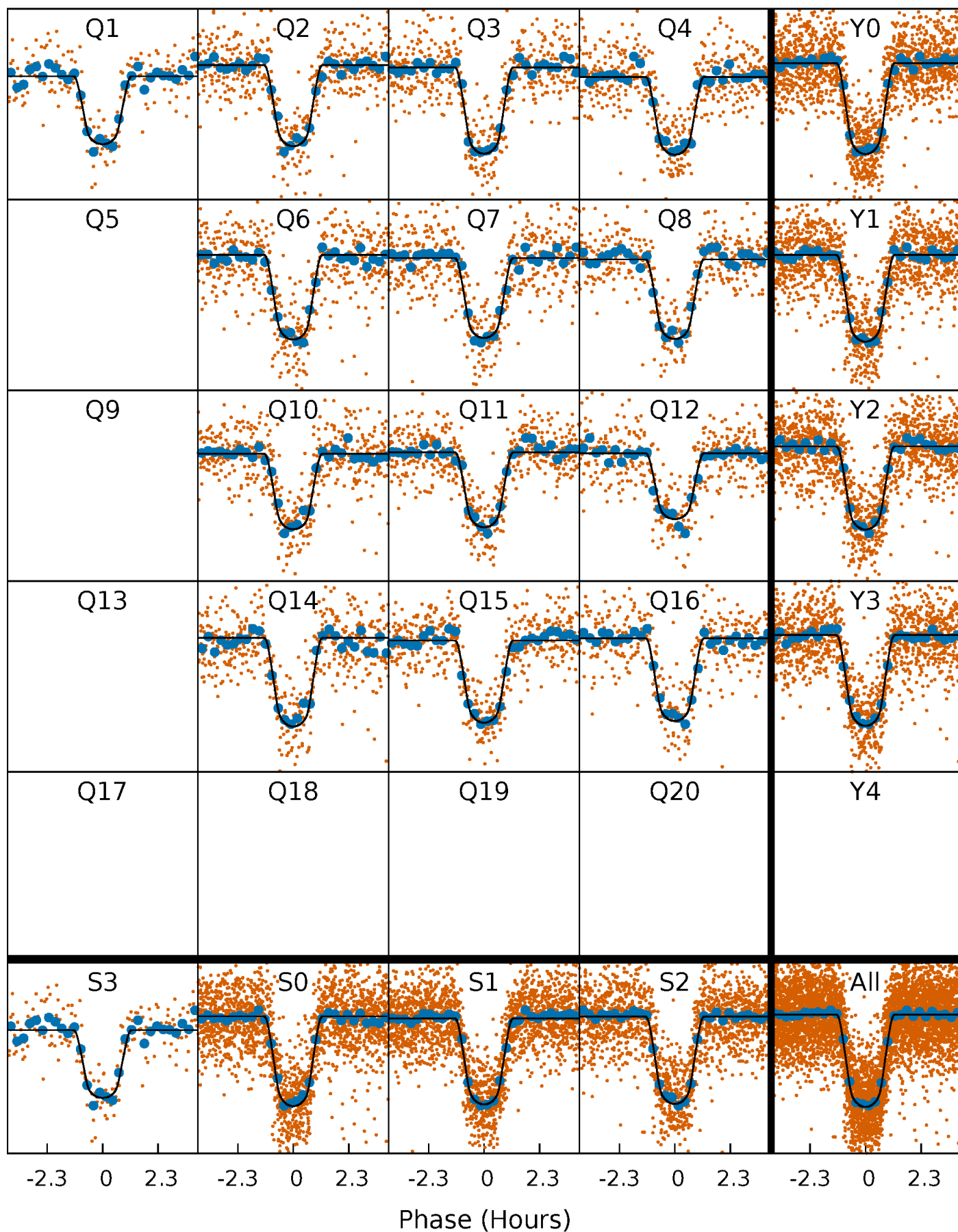
PDC Quarter-Phased Transit Curves

TCE 006425957-01 P= 2.755636 Days $T_0=132.267136$ (BKJD)



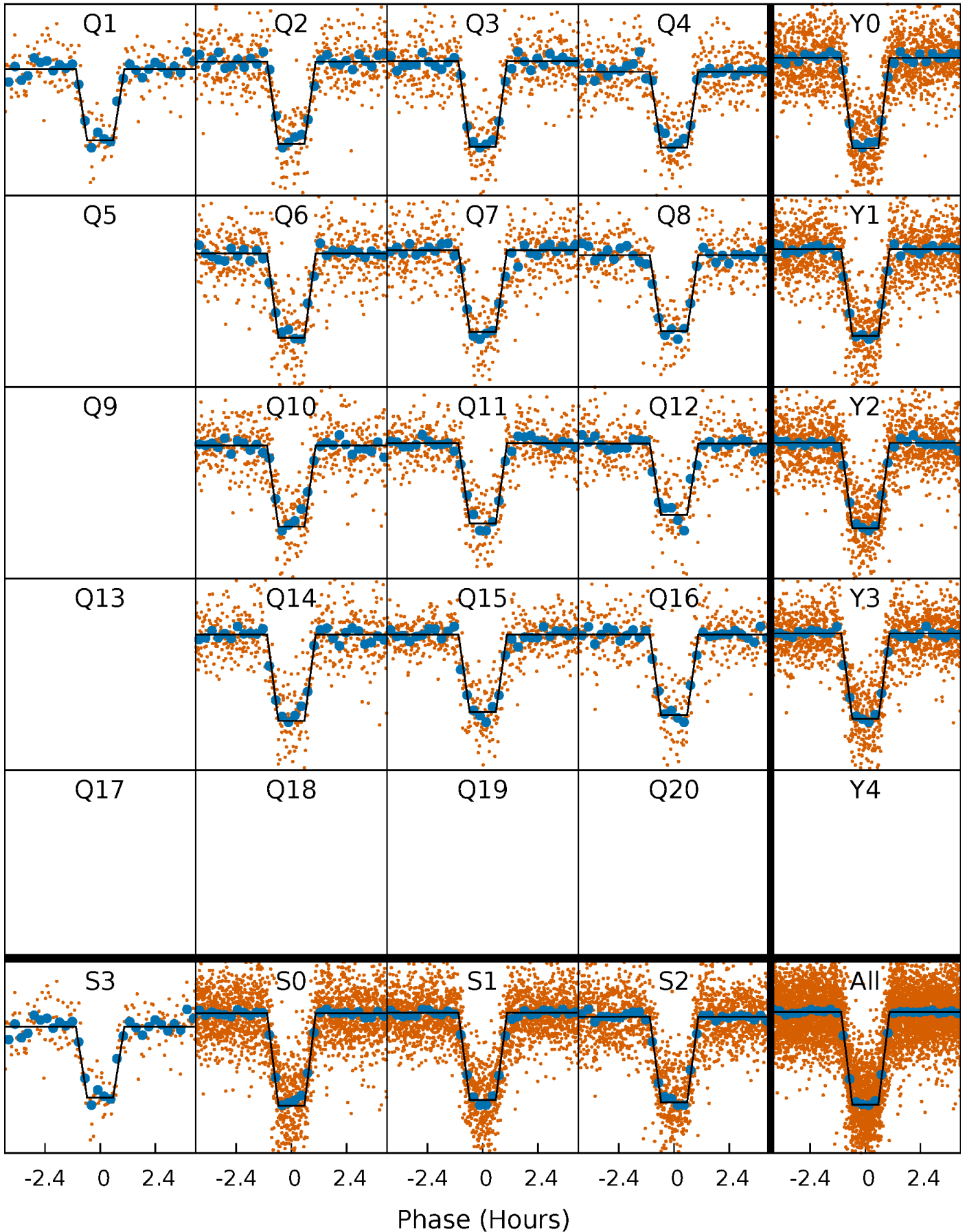
DV Quarter-Phased Transit Curves

TCE 006425957-01 P= 2.755636 Days $T_0=132.267136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

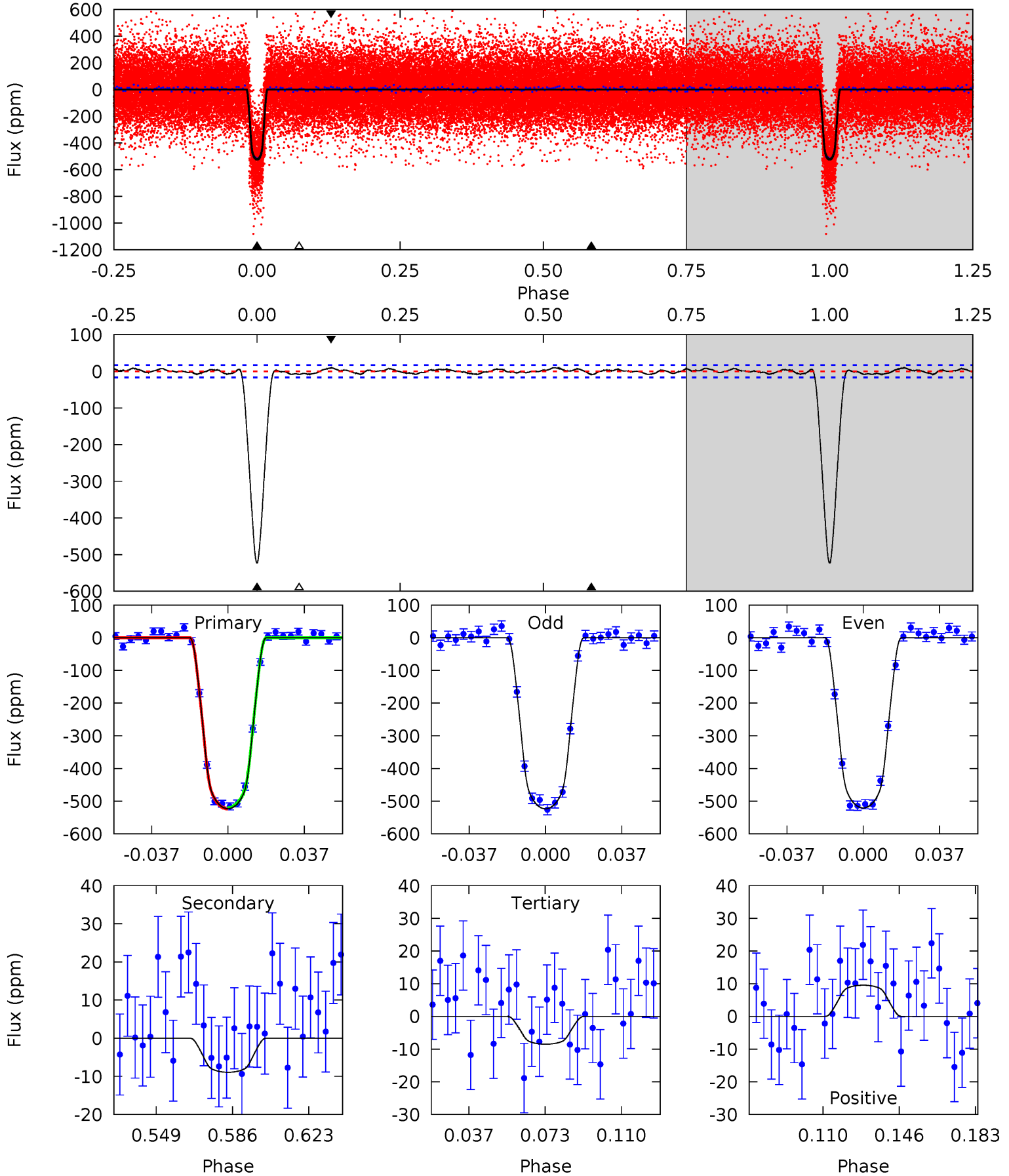
TCE 006425957-01 P= 2.755639 Days $T_0=132.266515$ (BKJD)



DV Model-Shift Uniqueness Test

006425957-01, P = 2.755636 Days, E = 129.511500 Days

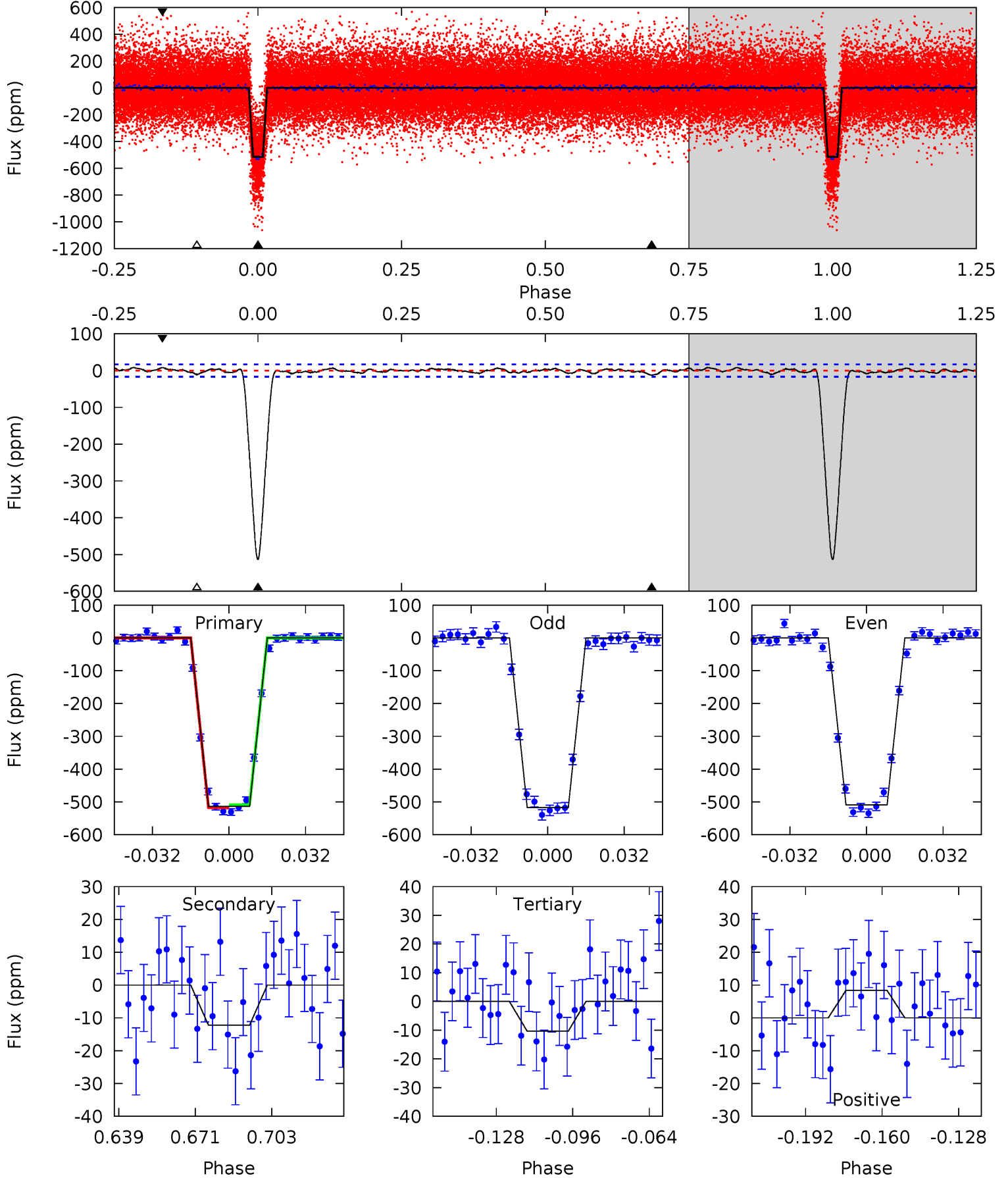
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
147.5	2.52	2.40	2.69	4.77	2.09	1.25	145.1	144.8	0.12	-0.17	0.37	0.99	0.02	0.58



Alt Model-Shift Uniqueness Test

006425957-01, P = 2.755639 Days, E = 129.510876 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.7	3.47	2.94	2.38	4.80	2.15	1.09	142.8	143.4	0.53	1.09	1.16	1.01	0.02	1.29



Stellar Parameters For KIC 006425957

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4121^{+74}_{-91}	$4.709^{+0.024}_{-0.030}$	$-0.340^{+0.150}_{-0.150}$	$0.553^{+0.030}_{-0.030}$	$0.570^{+0.028}_{-0.037}$	$4.759^{+0.579}_{-0.564}$
	+2%/-2%	+1%/-1%	+44%/-44%	+5%/-5%	+5%/-6%	+12%/-12%
Source	SPE60	SPE60	SPE60	DSEP		

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

Secondary Eclipse Parameters for KIC 006425957-01 / KOI 0663.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 4	$1.52^{+0.09}_{-0.08}$	1060^{+24}_{-27}	2218^{+105}_{-154}	$2.179^{+0.832}_{-0.934}$
Alt.	-12 ± 4	$1.39^{+0.09}_{-0.08}$	1059^{+21}_{-27}	2355^{+91}_{-104}	$3.507^{+1.094}_{-1.085}$

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

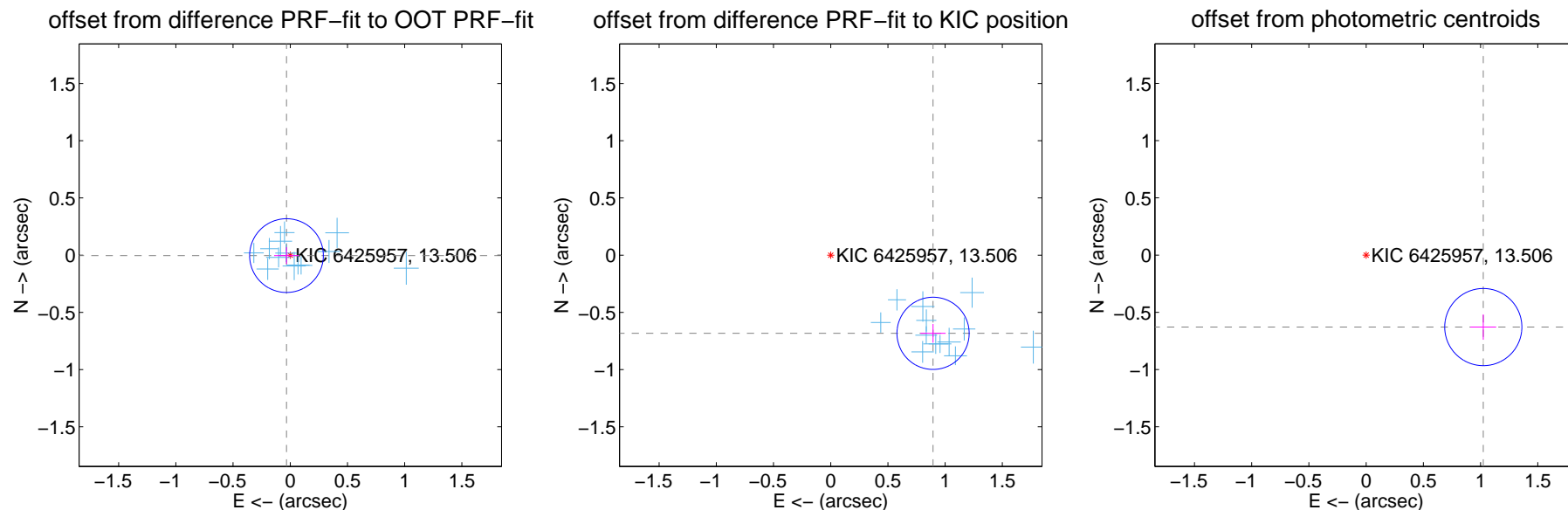
DV Centroid Data

Supplemental centroid analysis for 006425957-01. Kepler magnitude: 13.51. Transit SNR 97.56

There are 13 quarters with good PRF difference image offsets

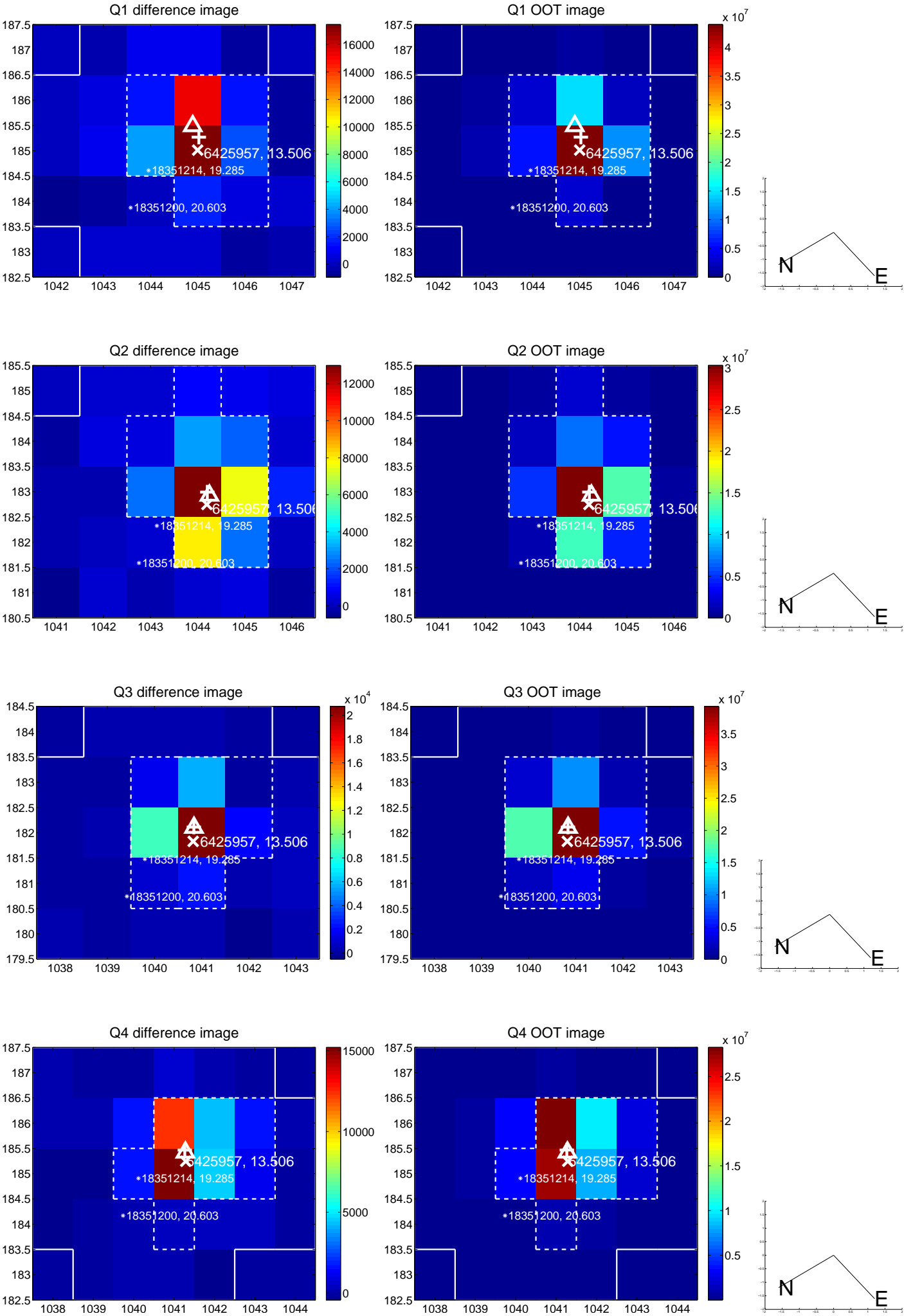
The direct PRF centroid is offset from the target star catalog position by about 1.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.033 ± 0.107	0.31	0.033 ± 0.109	-0.004 ± 0.073
PRF-fit source offset from KIC position	1.126 ± 0.105	10.70	-0.895 ± 0.110	-0.683 ± 0.082
photometric centroid source offset	1.20 ± 0.11	10.69	-1.02 ± 0.11	-0.63 ± 0.11

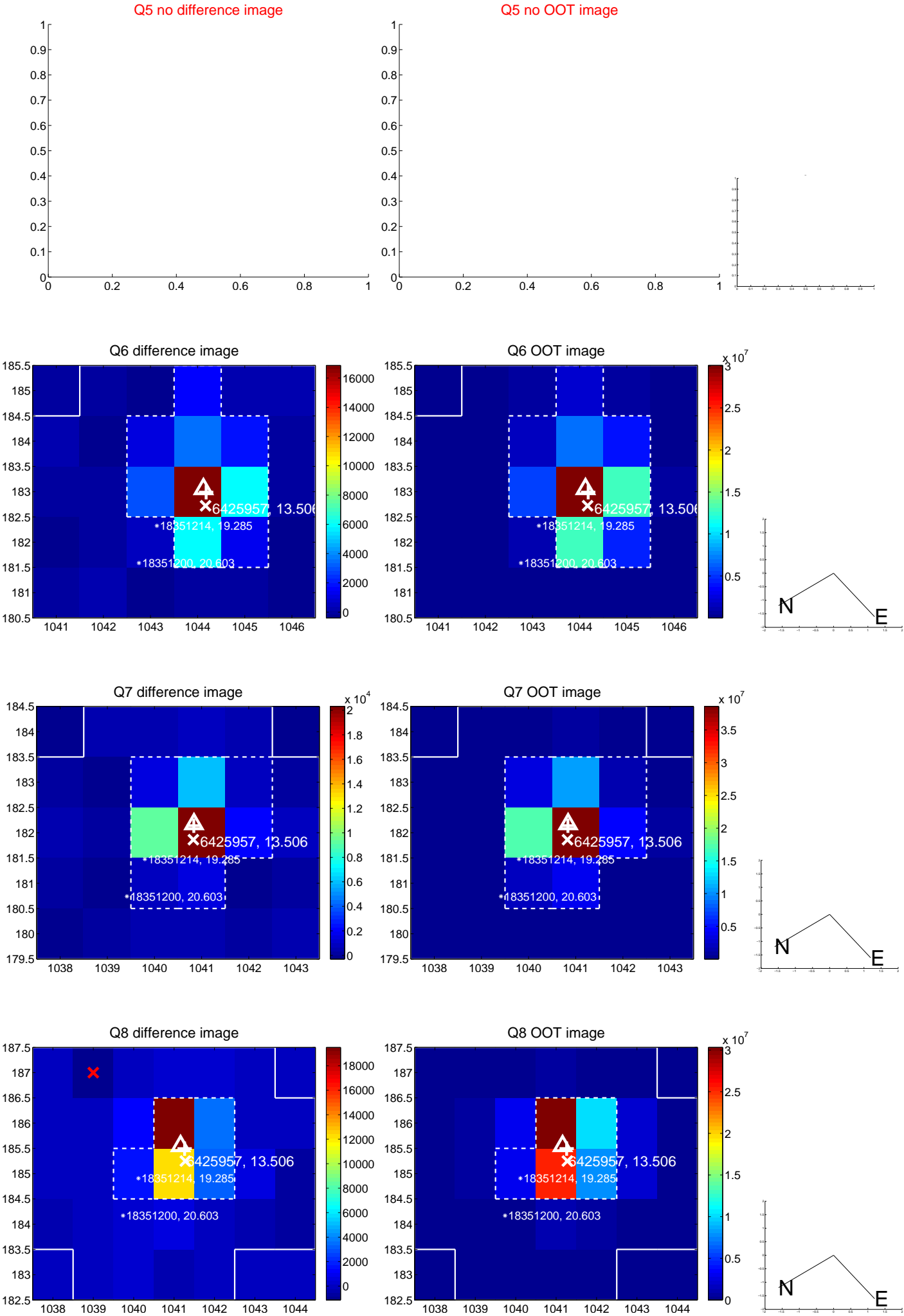


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

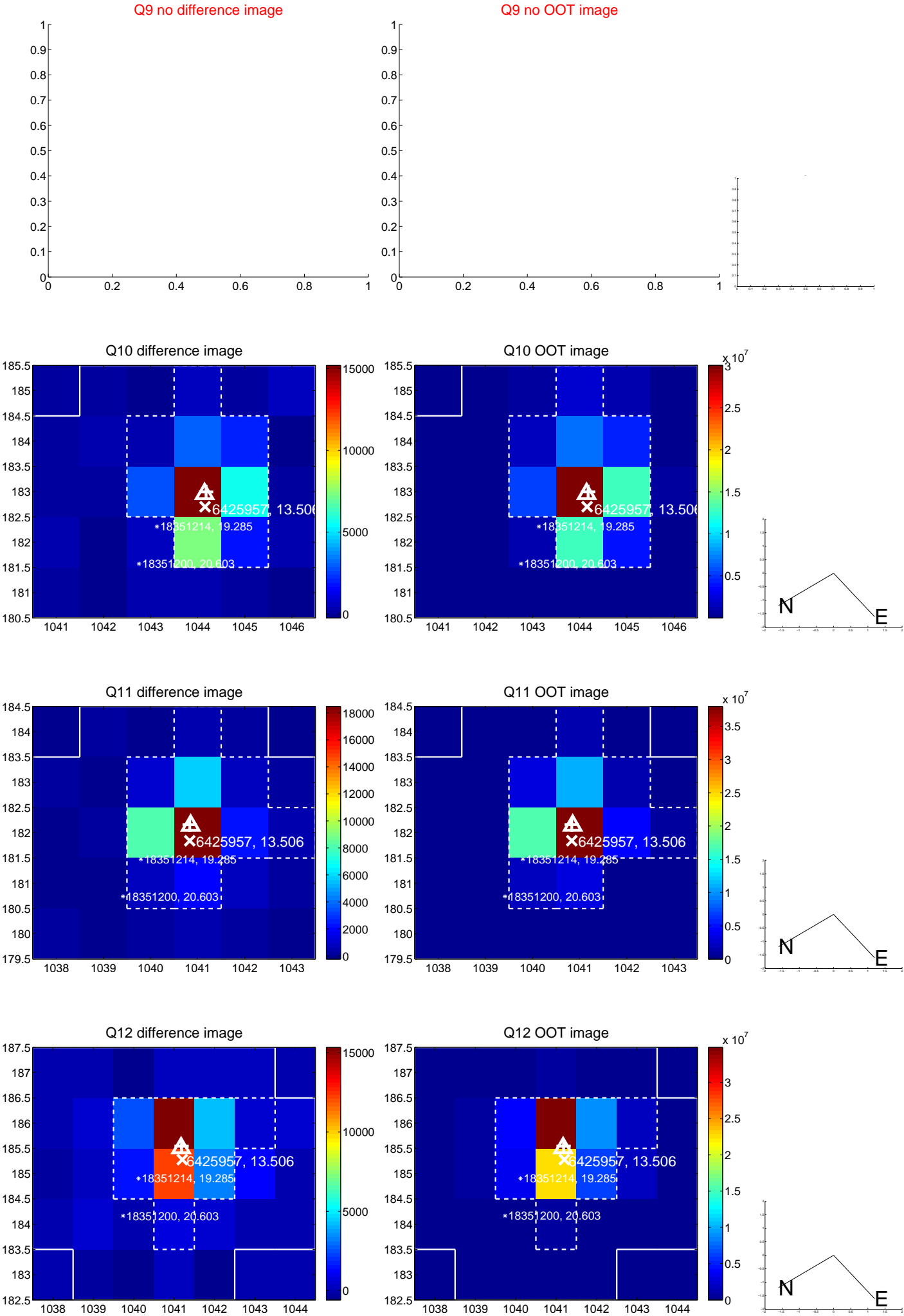
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



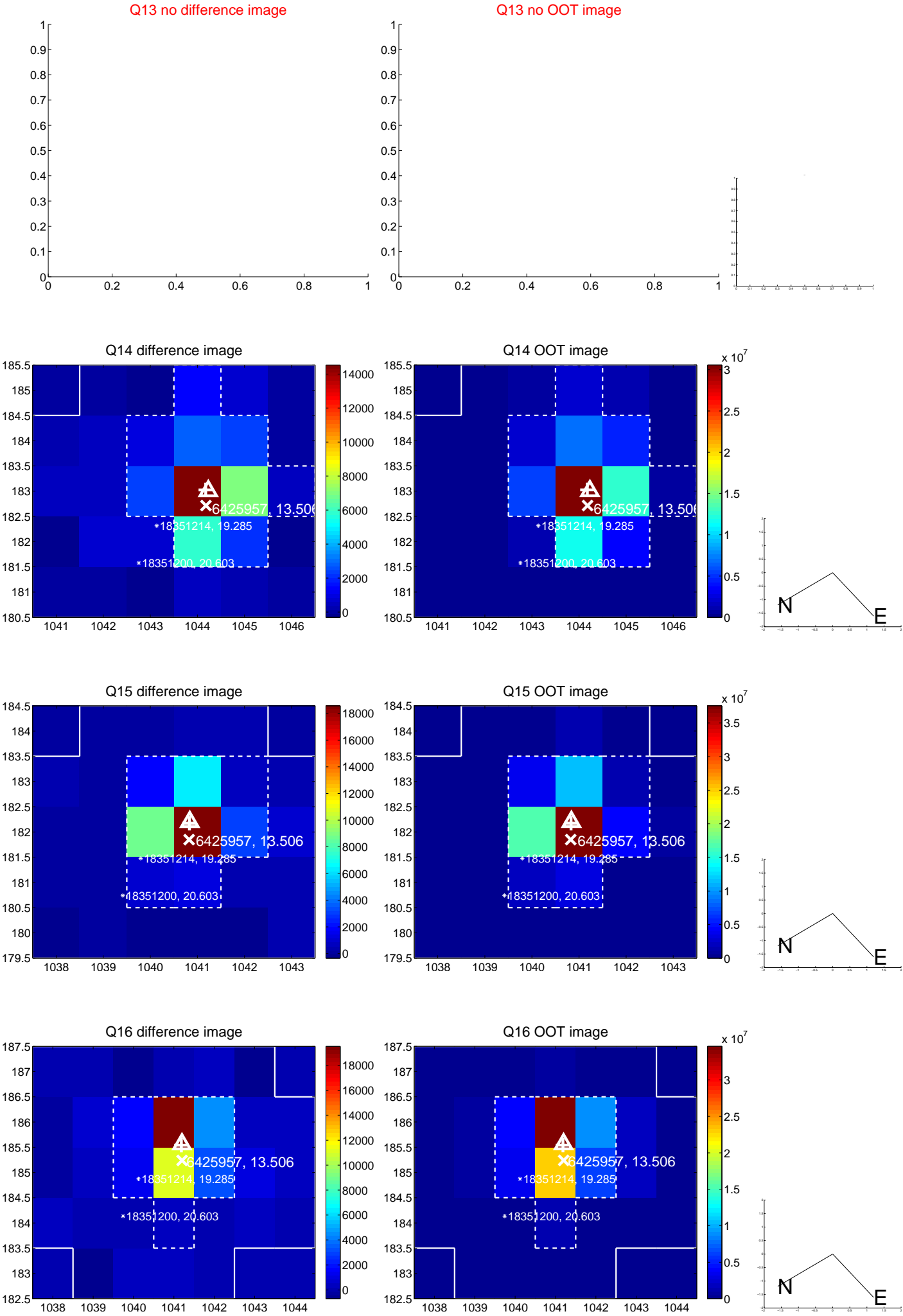
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



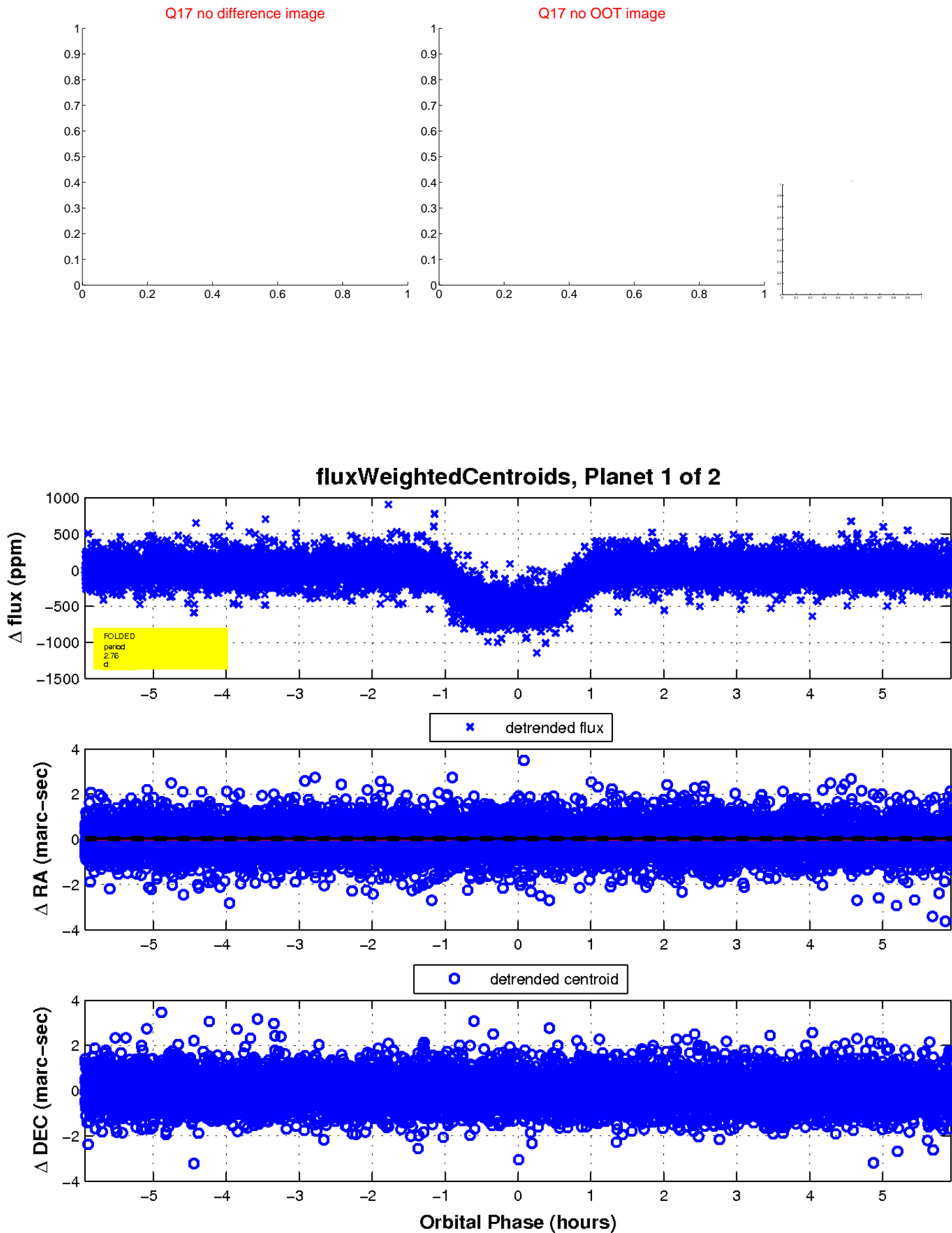
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

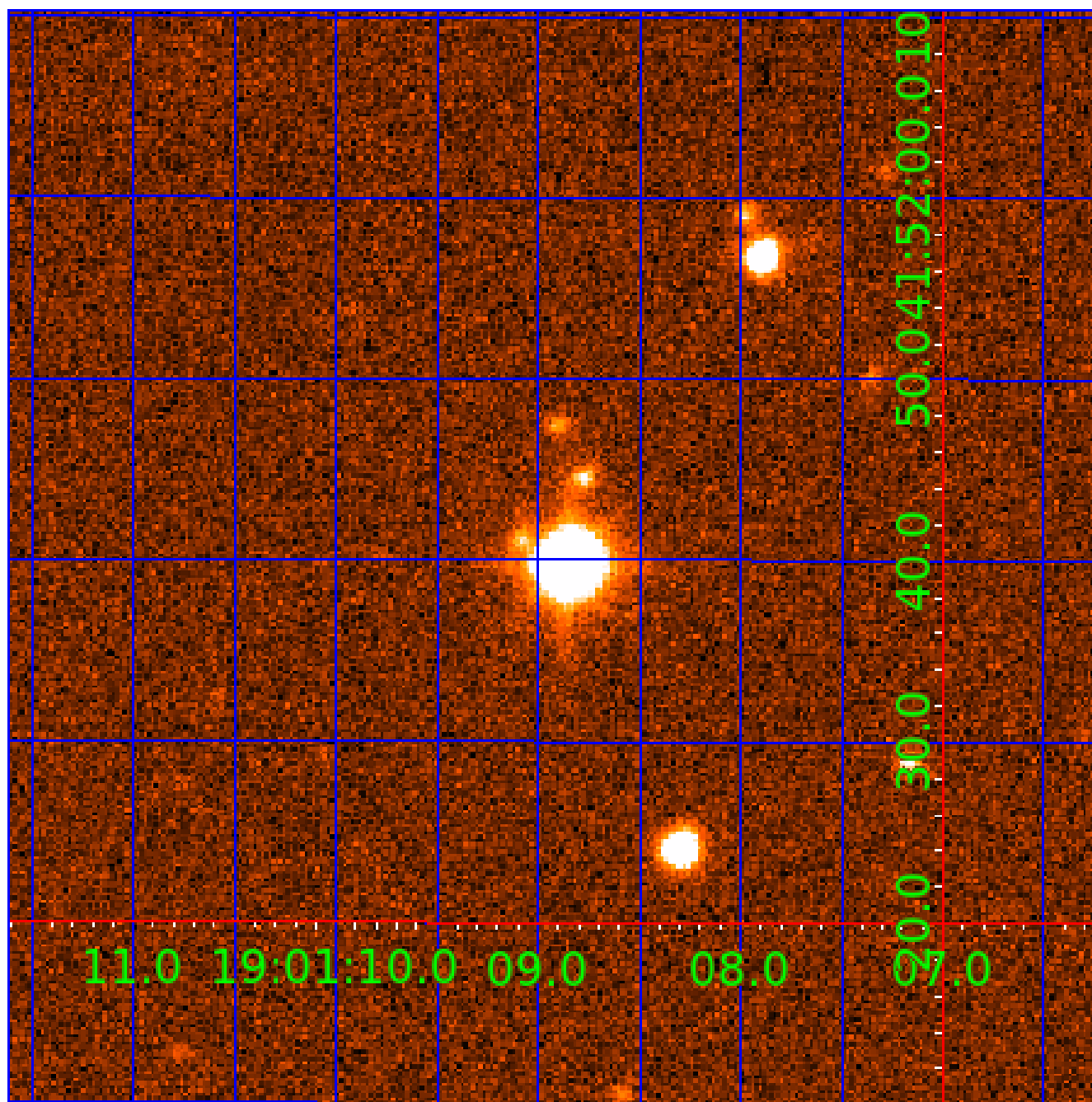


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006425957

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})
006425957-01	OBS	0663.01	2.755636	132.267136	527.5	1.979	86.8	97.6	0.55	4121	1.52	77.58
006425957-02	OBS	0663.02	20.306520	132.046259	699.5	3.129	50.2	52.2	0.55	4121	1.79	5.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006425957-01	OBS	PC	0.07	0	0	0	0	CENT_KIC_POS
006425957-02	OBS	PC	0.01	0	0	0	0	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.

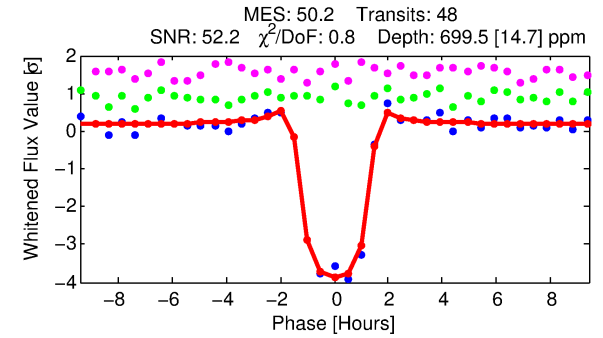
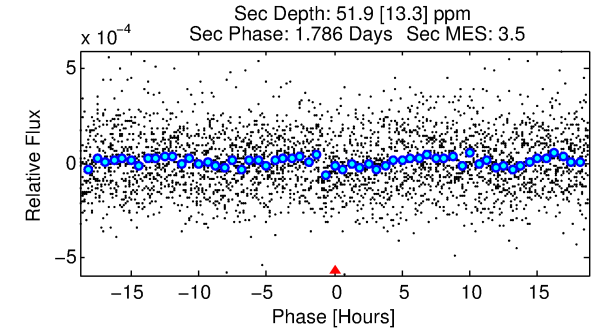
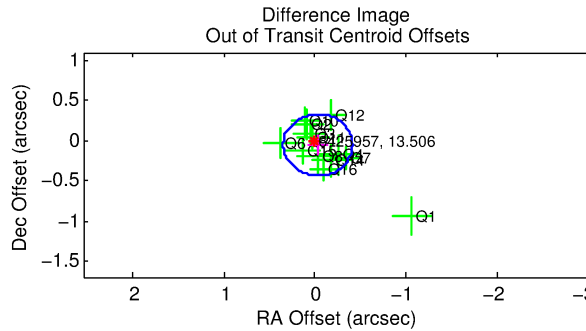
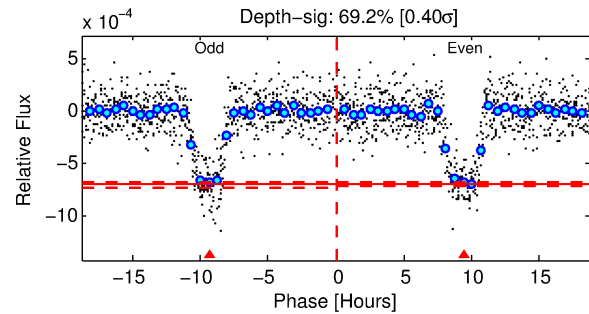
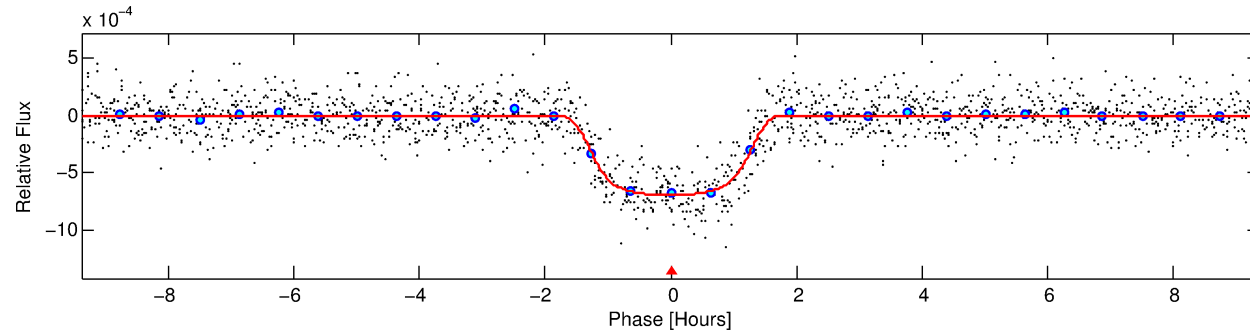
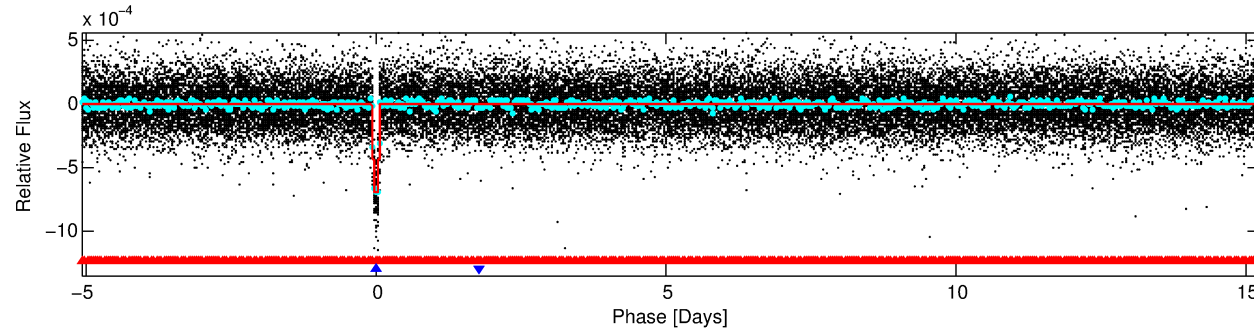
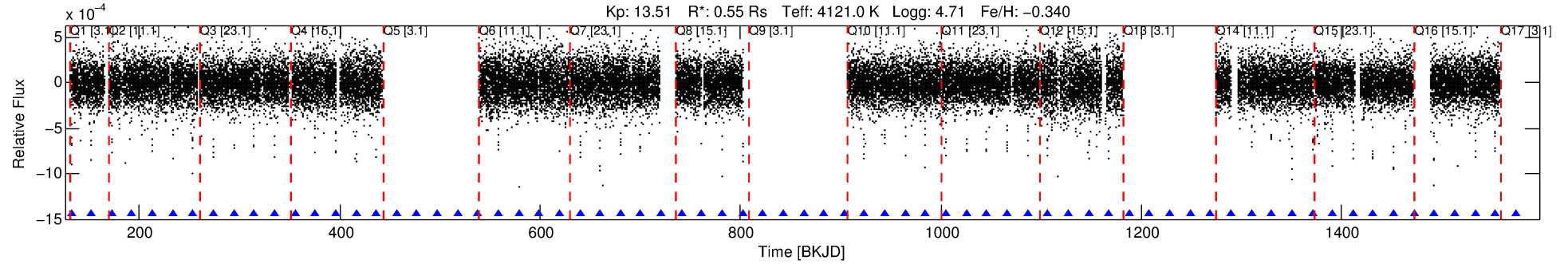
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006425957-02

No Significant Match Found

DV One-Page Summary

KIC: 6425957 Candidate: 2 of 2 Period: 20.307 d
KOI: K00663.02 Name: Kepler-205c Corr: 0.933



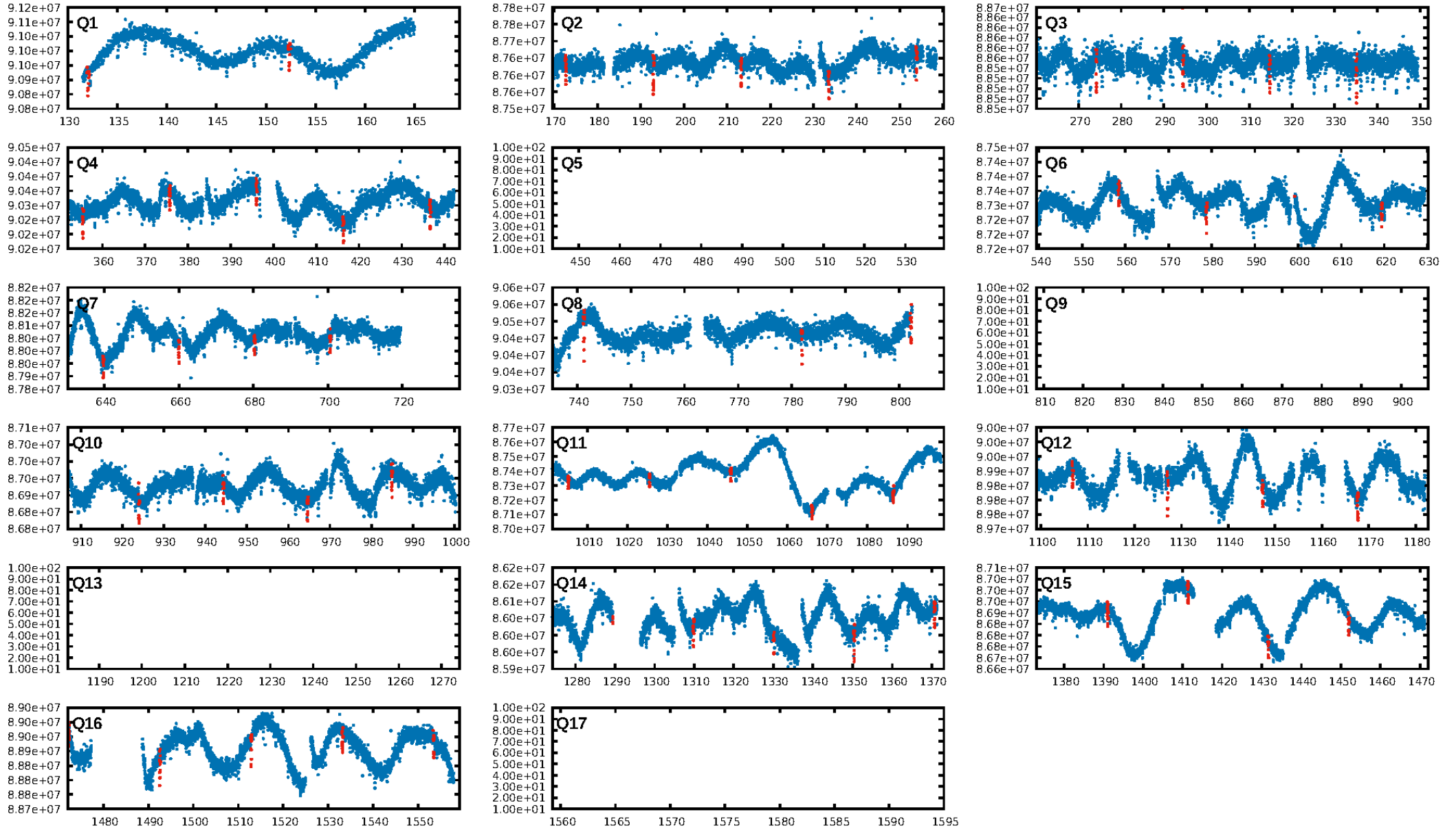
DV Fit Results:

Period = 20.30652 [0.00003] d
Epoch = 132.0463 [0.0012] BKJD
Rp/R* = 0.0297 [0.0010]
a/R* = 23.00 [3.05]
b = 0.92 [0.02]
Seff = 5.41 [0.57]
Teq = 389 [10] K
Rp = 1.79 [0.11] Re
a = 0.1209 [0.0052] AU
Ag = 130.03 [35.25] [3.66 σ]
Teffp = 2030 [142] K [11.56 σ]

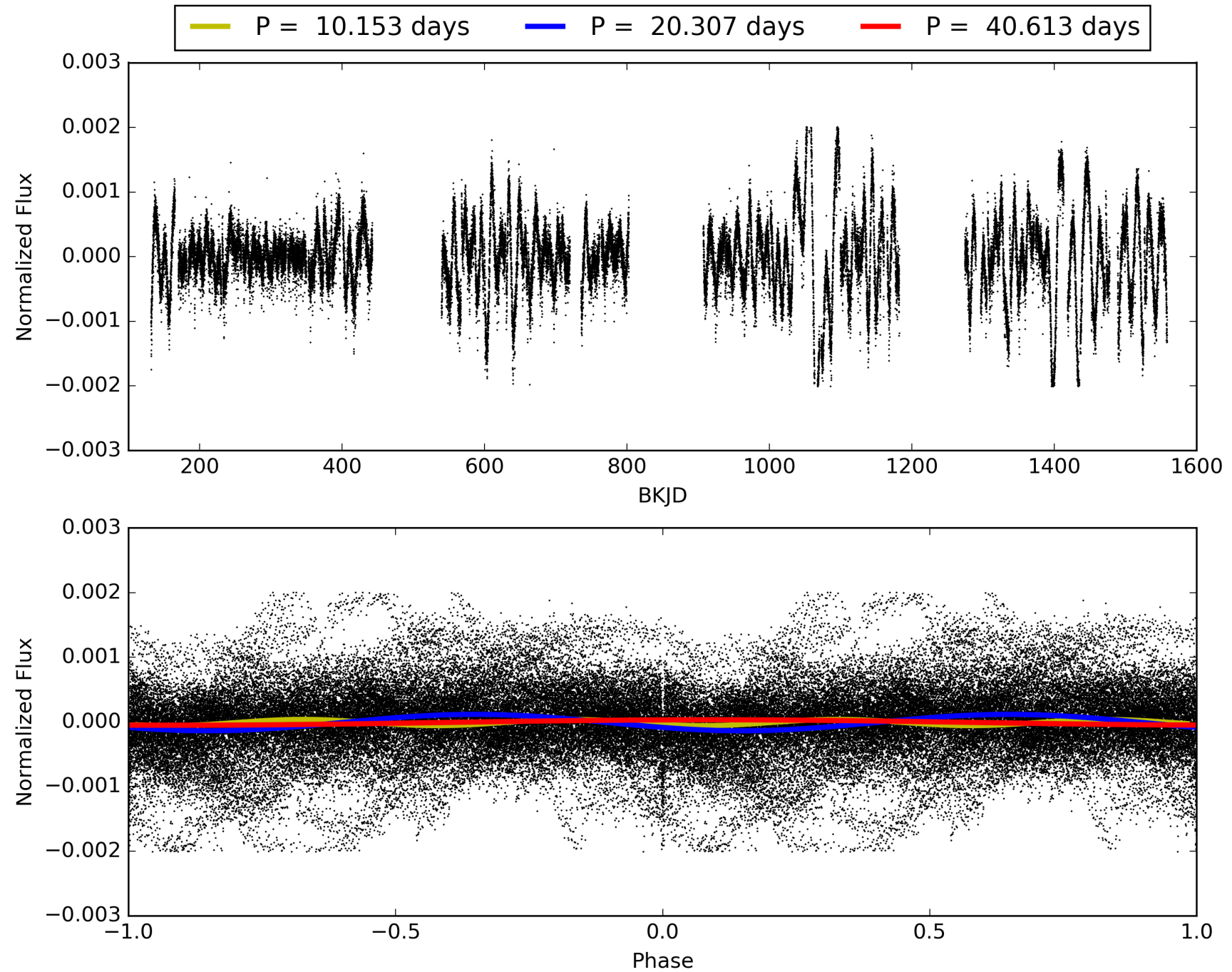
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [113.78 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: 14.3
Centroid-sig: N/A
Centroid-so: 0.737 arcsec [3.92 σ]
OotOffset-rm: 0.064 arcsec [0.50 σ]
KicOffset-rm: 1.222 arcsec [7.95 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006425957-02, PDC Light Curves

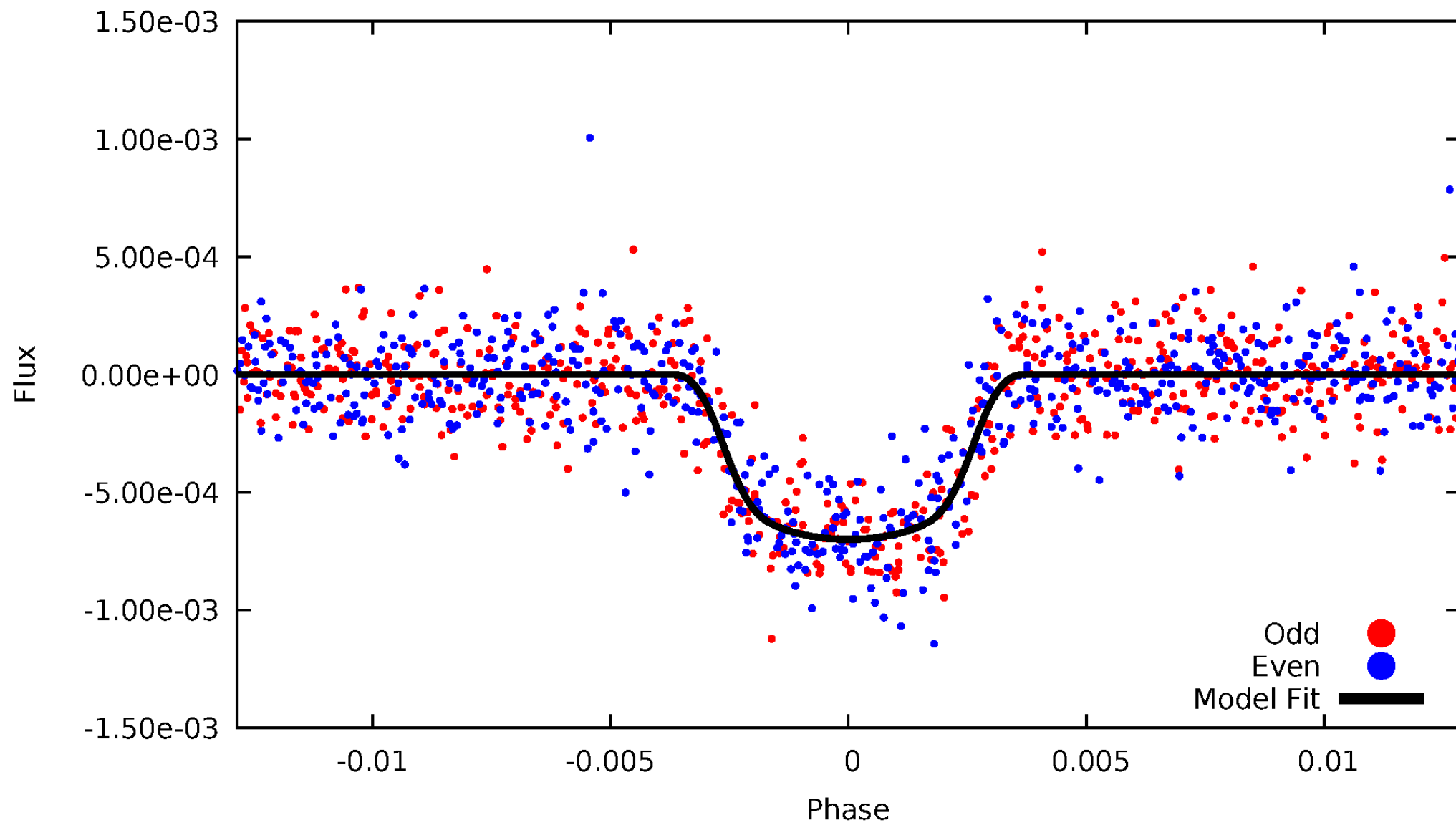


TCE 006425957-02



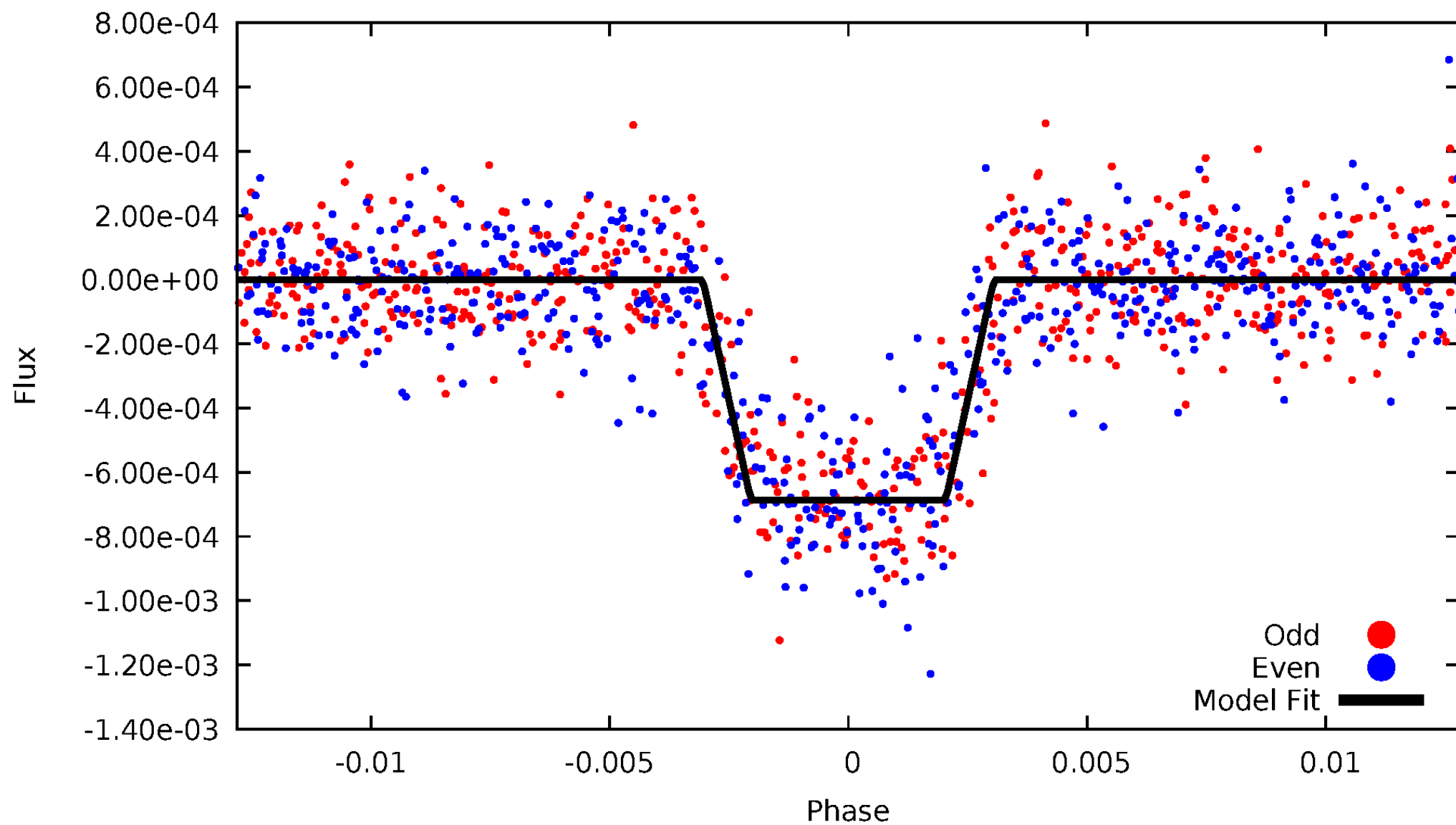
DV Odd/Even

TCE 006425957-02



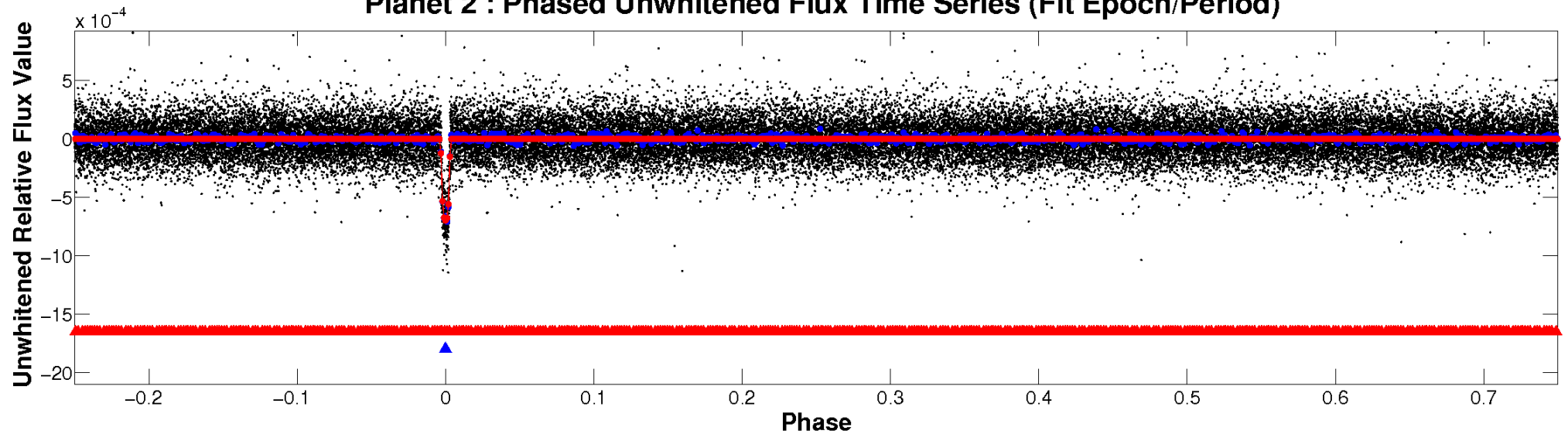
ALT Odd/Even

TCE 006425957-02

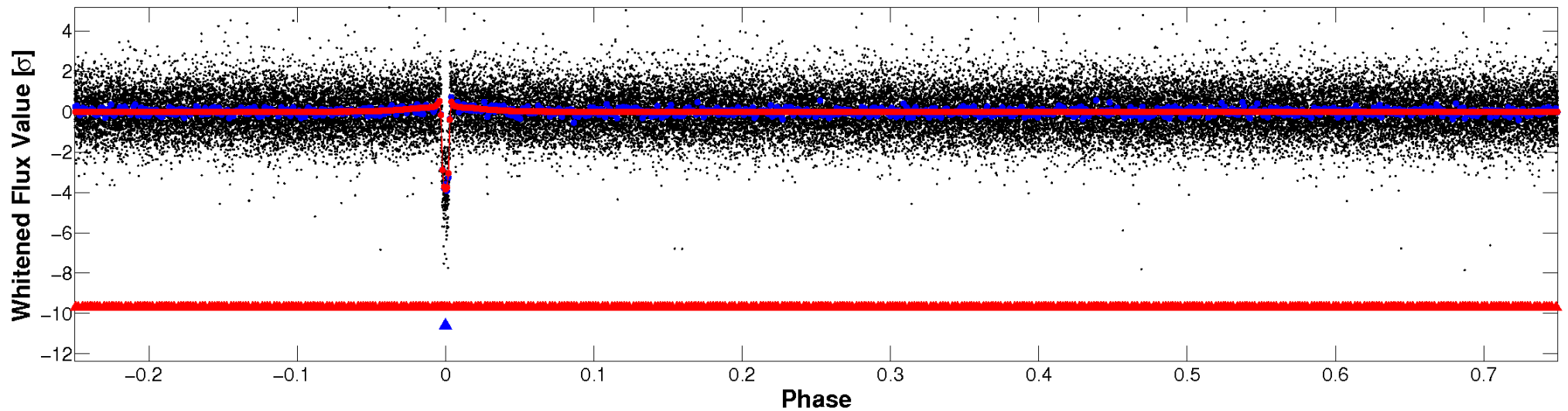


Non-Whitened Vs. Whitened Light Curve

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

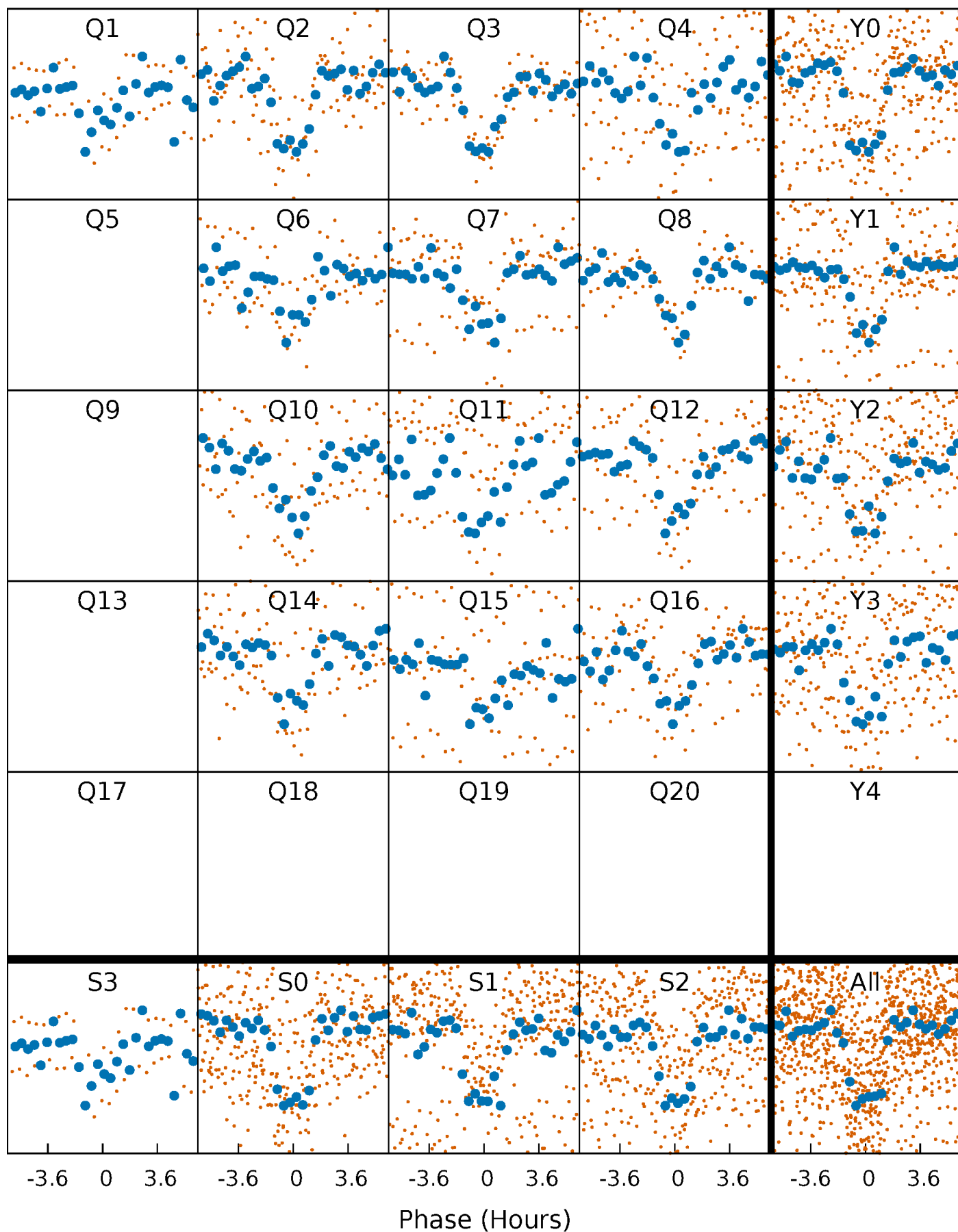


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



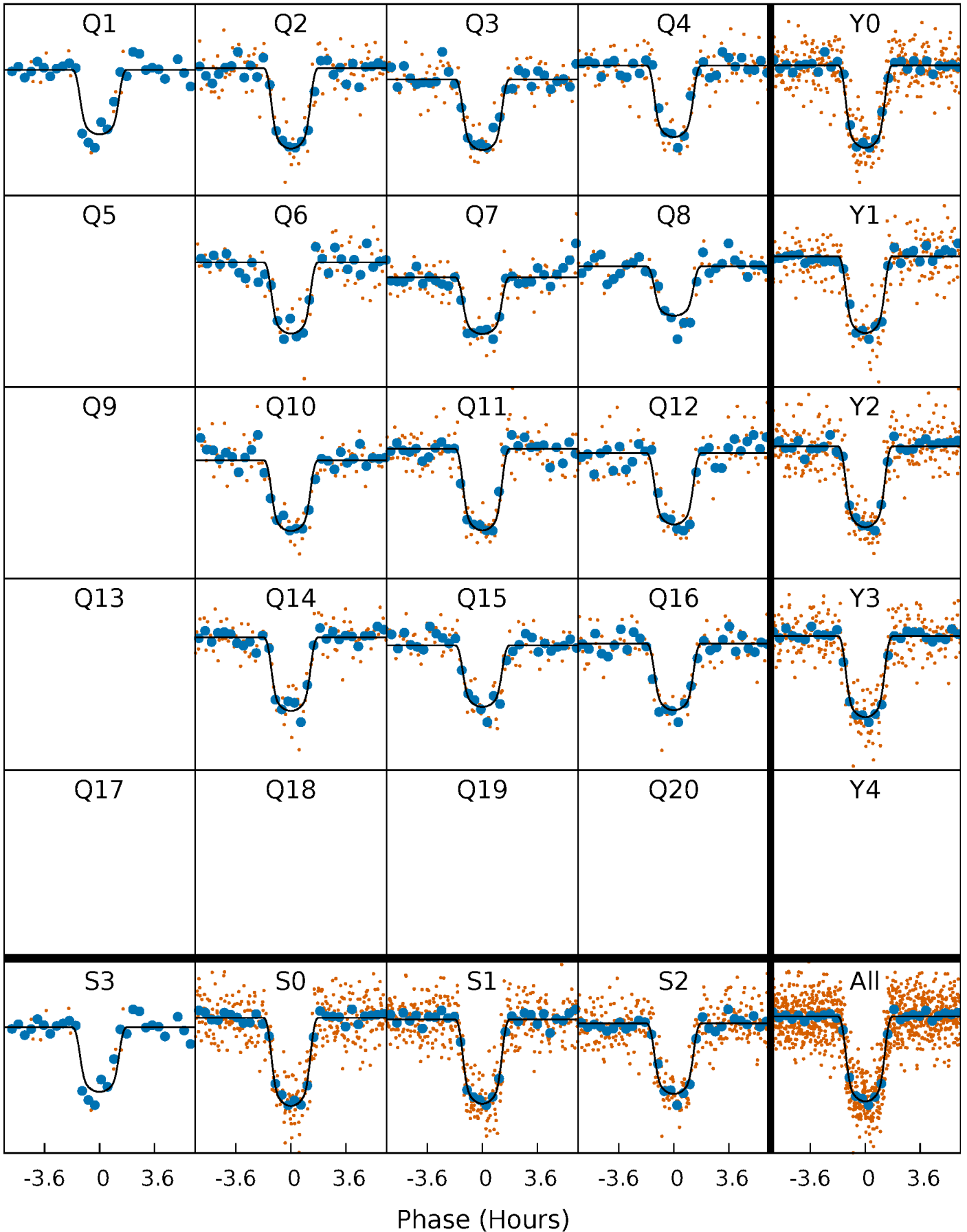
PDC Quarter-Phased Transit Curves

TCE 006425957-02 P= 20.306520 Days $T_0=132.046259$ (BKJD)



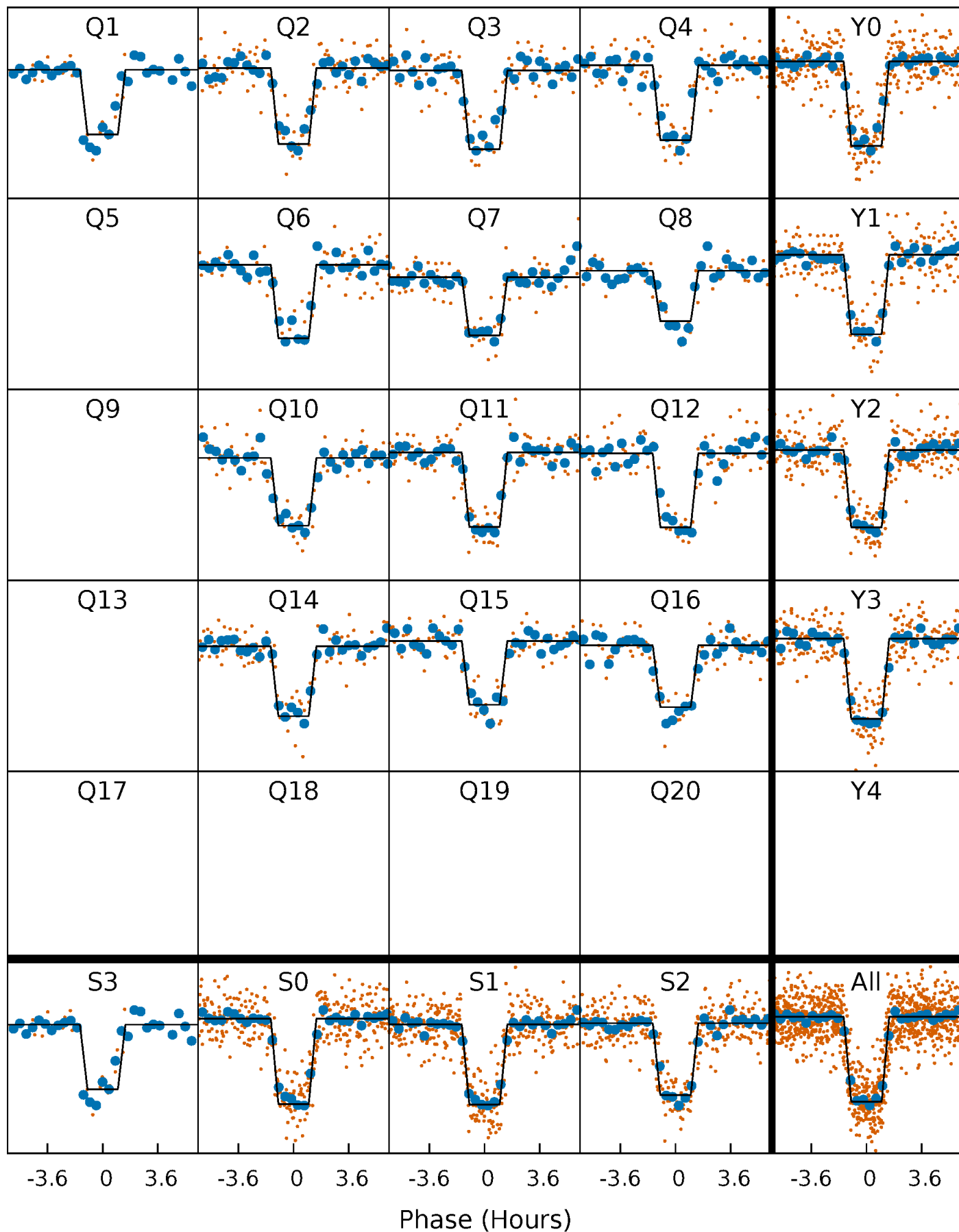
DV Quarter-Phased Transit Curves

TCE 006425957-02 P= 20.306520 Days $T_0=132.046259$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

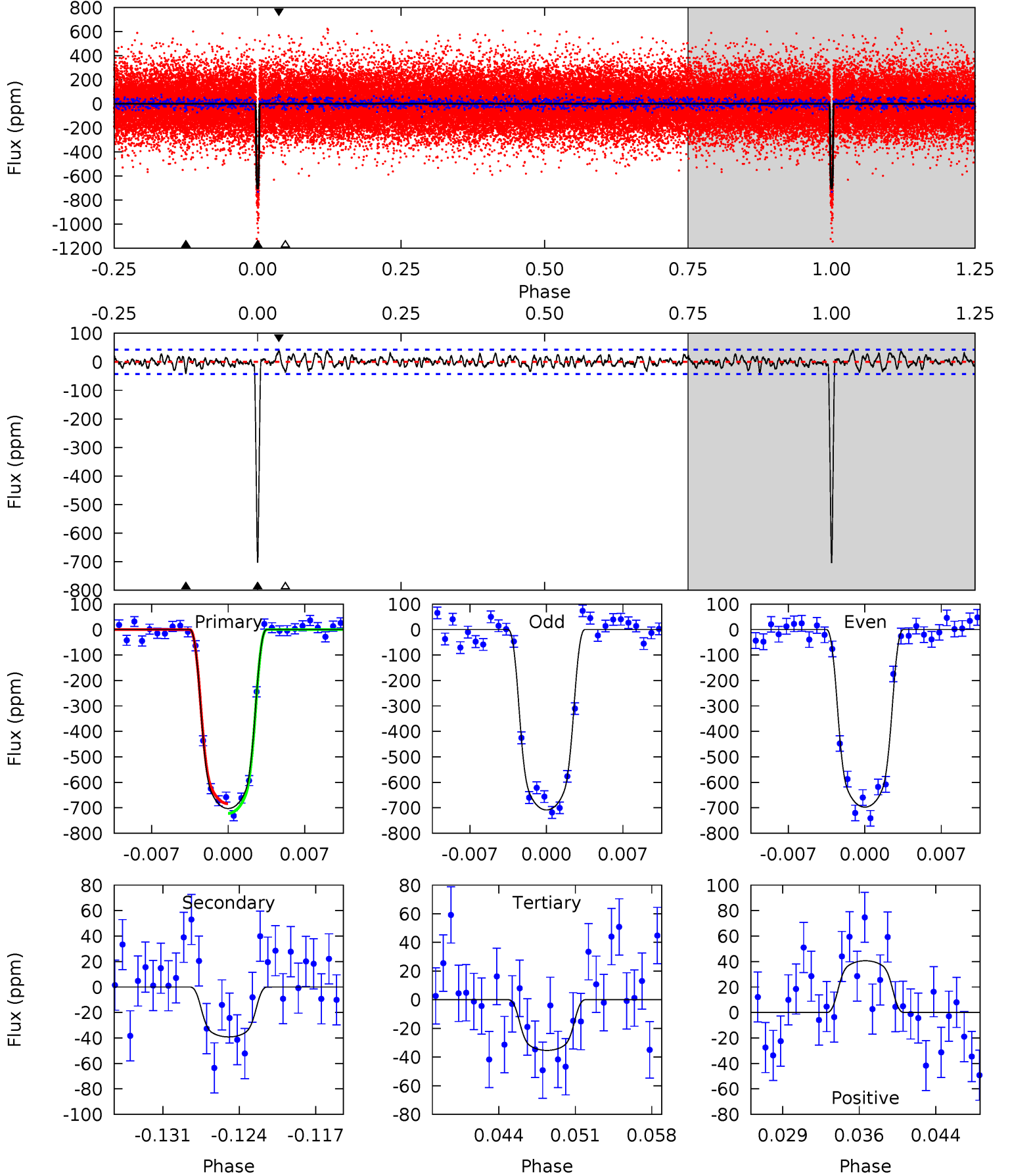
TCE 006425957-02 P= 20.306405 Days $T_0=132.050439$ (BKJD)



DV Model-Shift Uniqueness Test

006425957-02, P = 20.306520 Days, E = 111.739739 Days

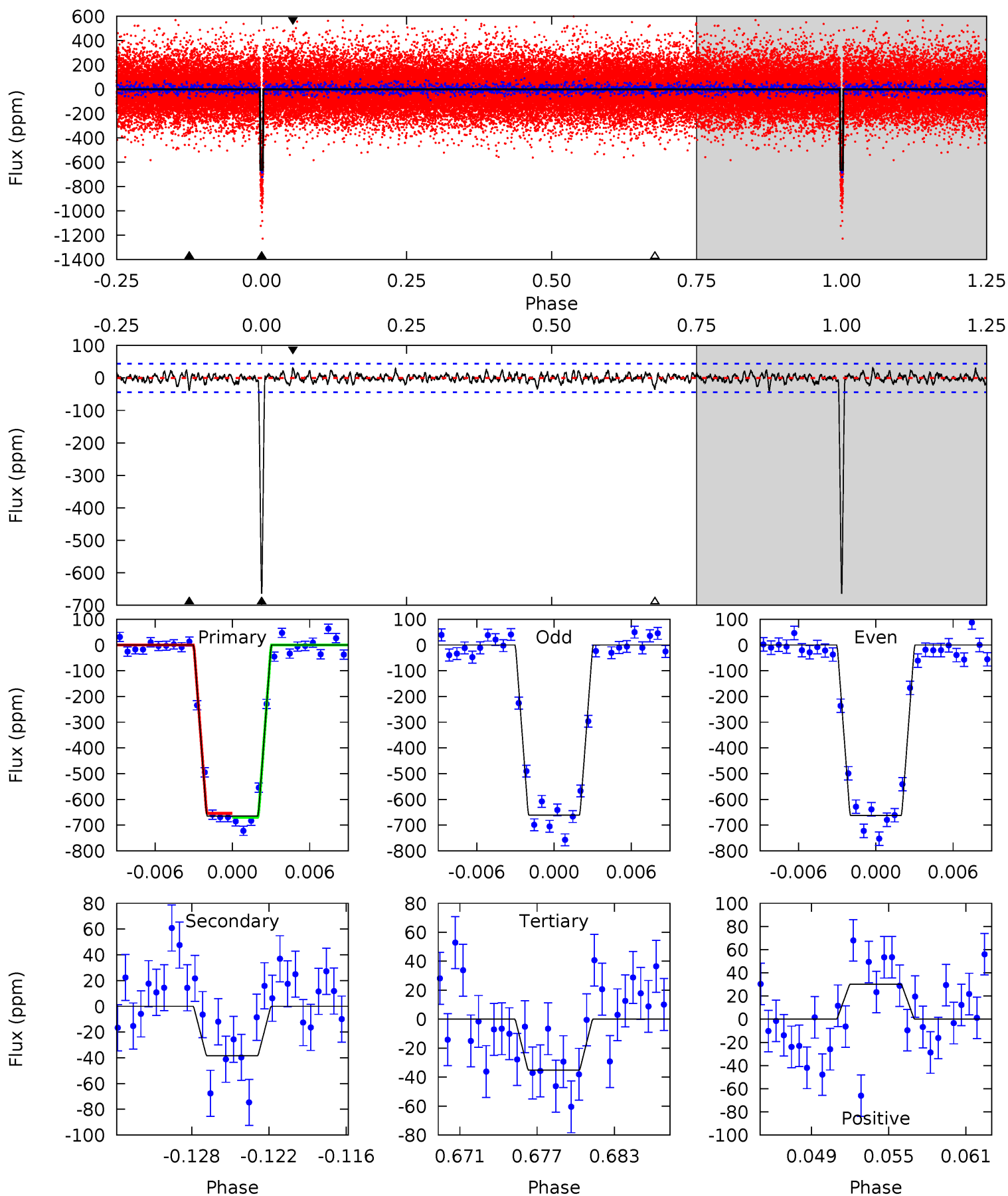
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.4	4.71	4.24	4.87	5.09	2.68	1.47	80.1	79.5	0.46	-0.17	0.67	1.03	0.05	2.29



Alt Model-Shift Uniqueness Test

006425957-02, P = 20.306405 Days, E = 111.744034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.6	4.48	4.11	3.53	5.12	2.74	1.11	73.5	74.0	0.37	0.95	0.11	1.06	0.04	0.88



Stellar Parameters For KIC 006425957

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot cm^{-3})$
	4121^{+74}_{-91}	$4.709^{+0.024}_{-0.030}$	$-0.340^{+0.150}_{-0.150}$	$0.553^{+0.030}_{-0.030}$	$0.570^{+0.028}_{-0.037}$	$4.759^{+0.579}_{-0.564}$
	+2%/-2%	+1%/-1%	+44%/-44%	+5%/-5%	+5%/-6%	+12%/-12%
Source	SPE60	SPE60	SPE60	DSEP		

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

Secondary Eclipse Parameters for KIC 006425957-02 / KOI 0663.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-39 ± 8	$1.80^{+0.08}_{-0.09}$	544^{+11}_{-13}	2576^{+79}_{-79}	96^{+24}_{-20}
Alt.	-38 ± 9	$1.59^{+0.08}_{-0.08}$	544^{+12}_{-13}	2661^{+78}_{-91}	123^{+29}_{-29}

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 $A_{obs} \gg 1.0$

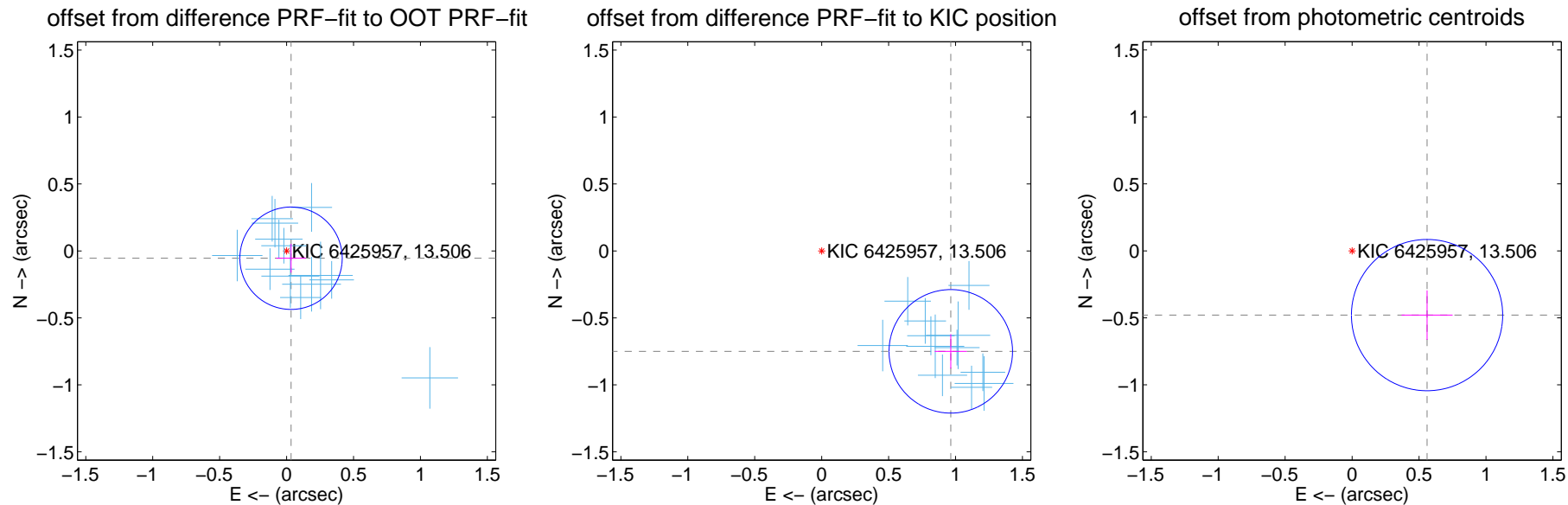
DV Centroid Data

Supplemental centroid analysis for 006425957-02. Kepler magnitude: 13.51. Transit SNR 52.19

There are 13 quarters with good PRF difference image offsets

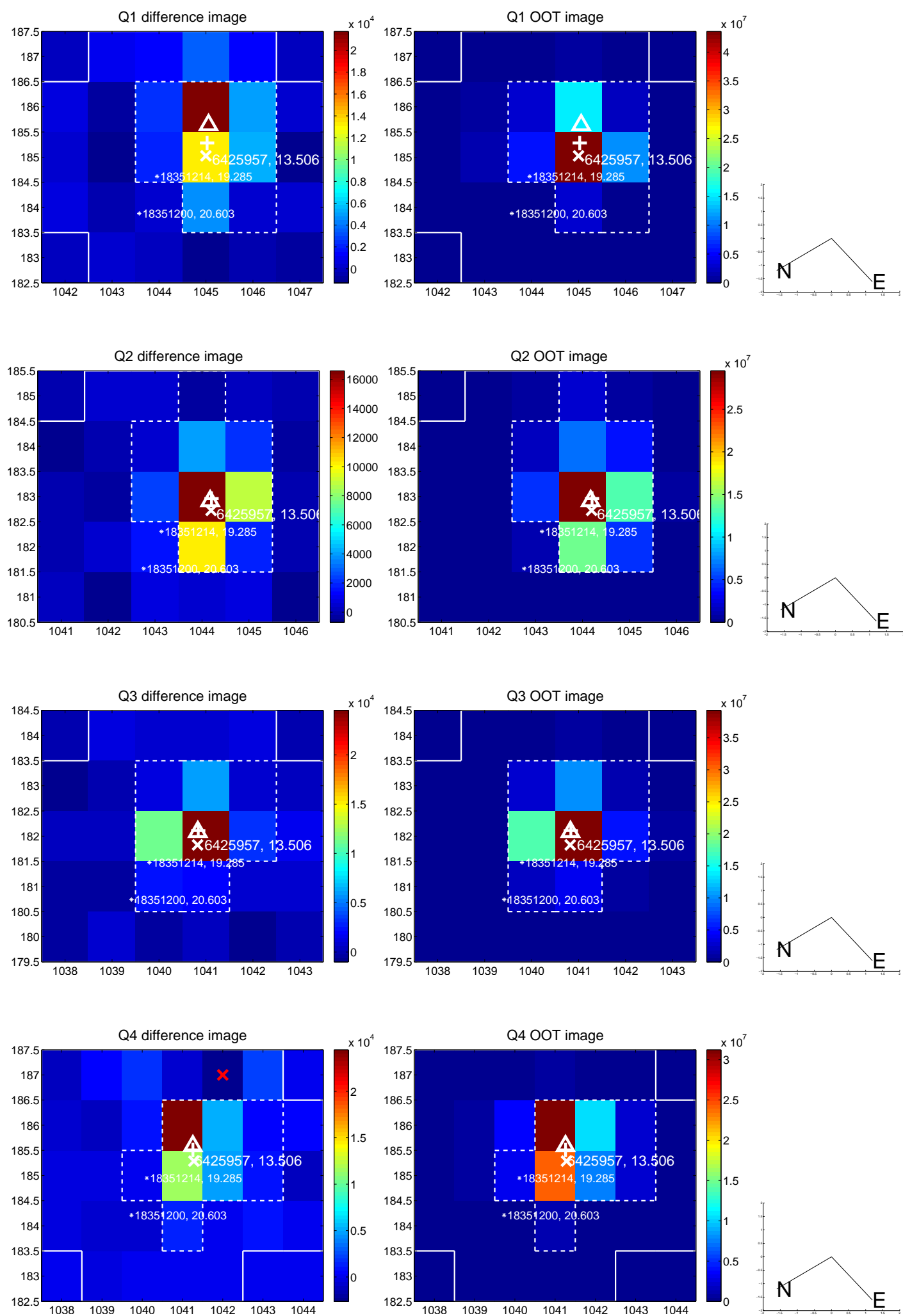
The direct PRF centroid is offset from the target star catalog position by about 1.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.064 ± 0.127	0.50	-0.033 ± 0.111	-0.055 ± 0.107
PRF-fit source offset from KIC position	1.222 ± 0.154	7.95	-0.964 ± 0.120	-0.750 ± 0.129
photometric centroid source offset	0.74 ± 0.19	3.92	-0.56 ± 0.19	-0.48 ± 0.18

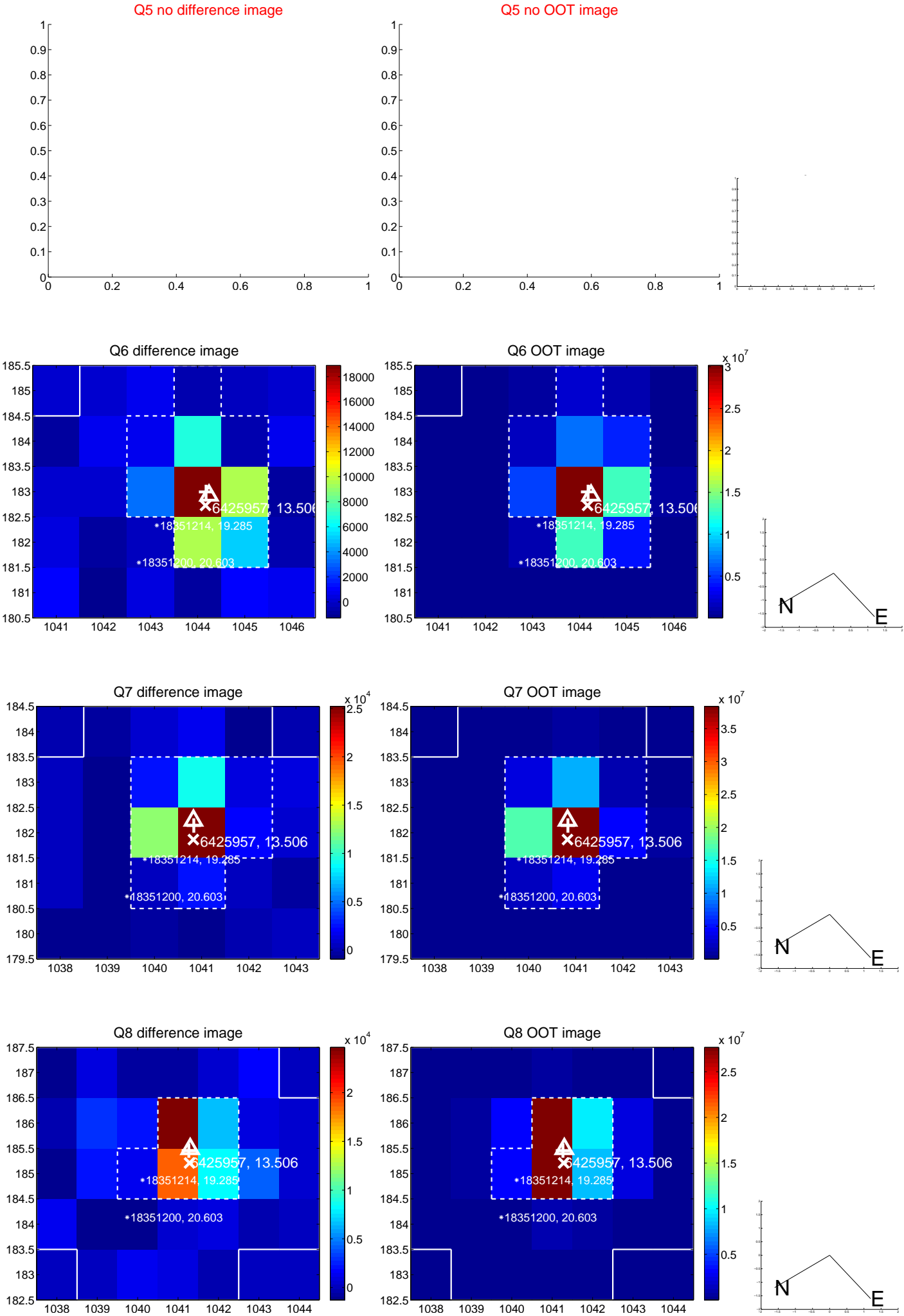


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

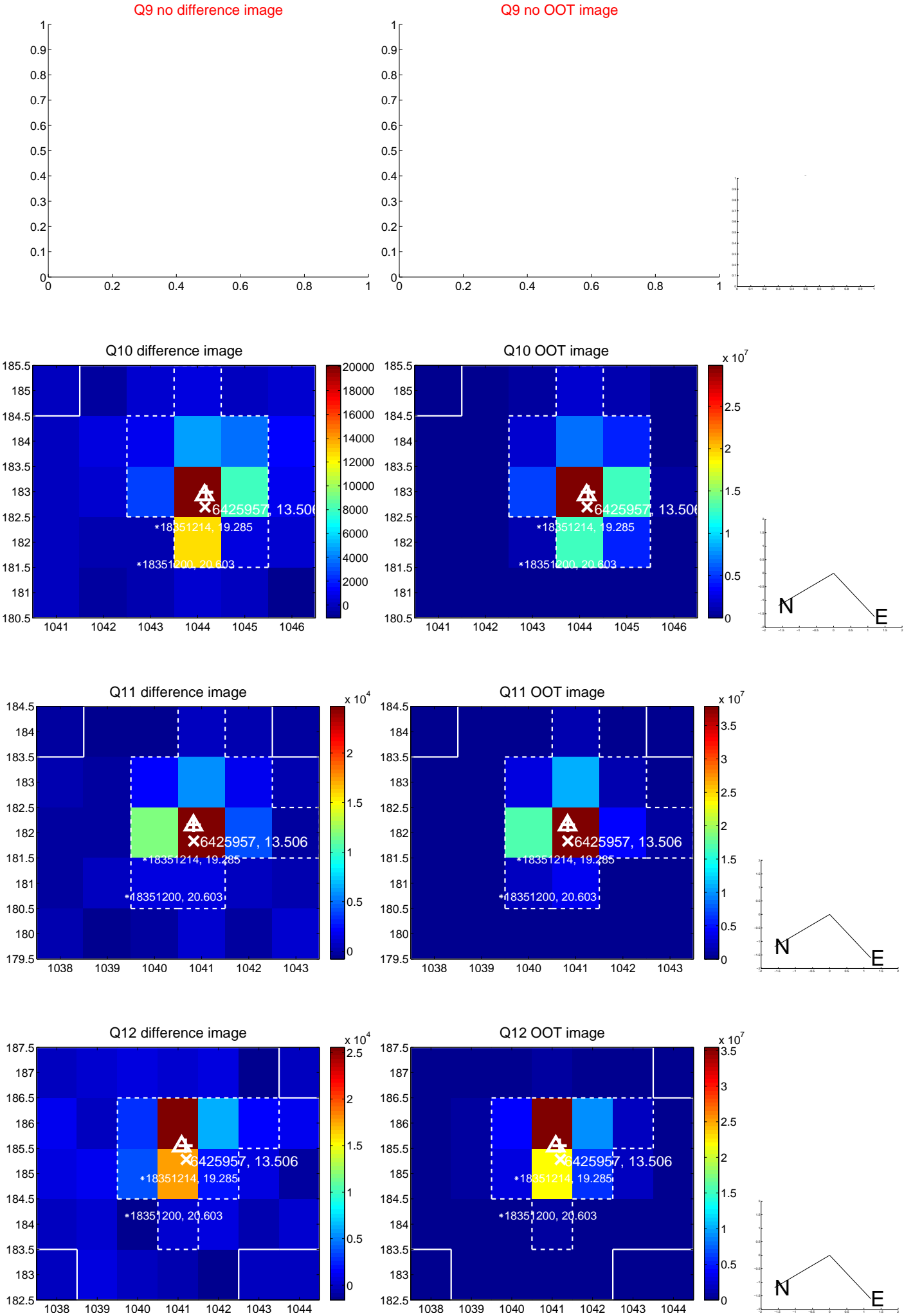
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



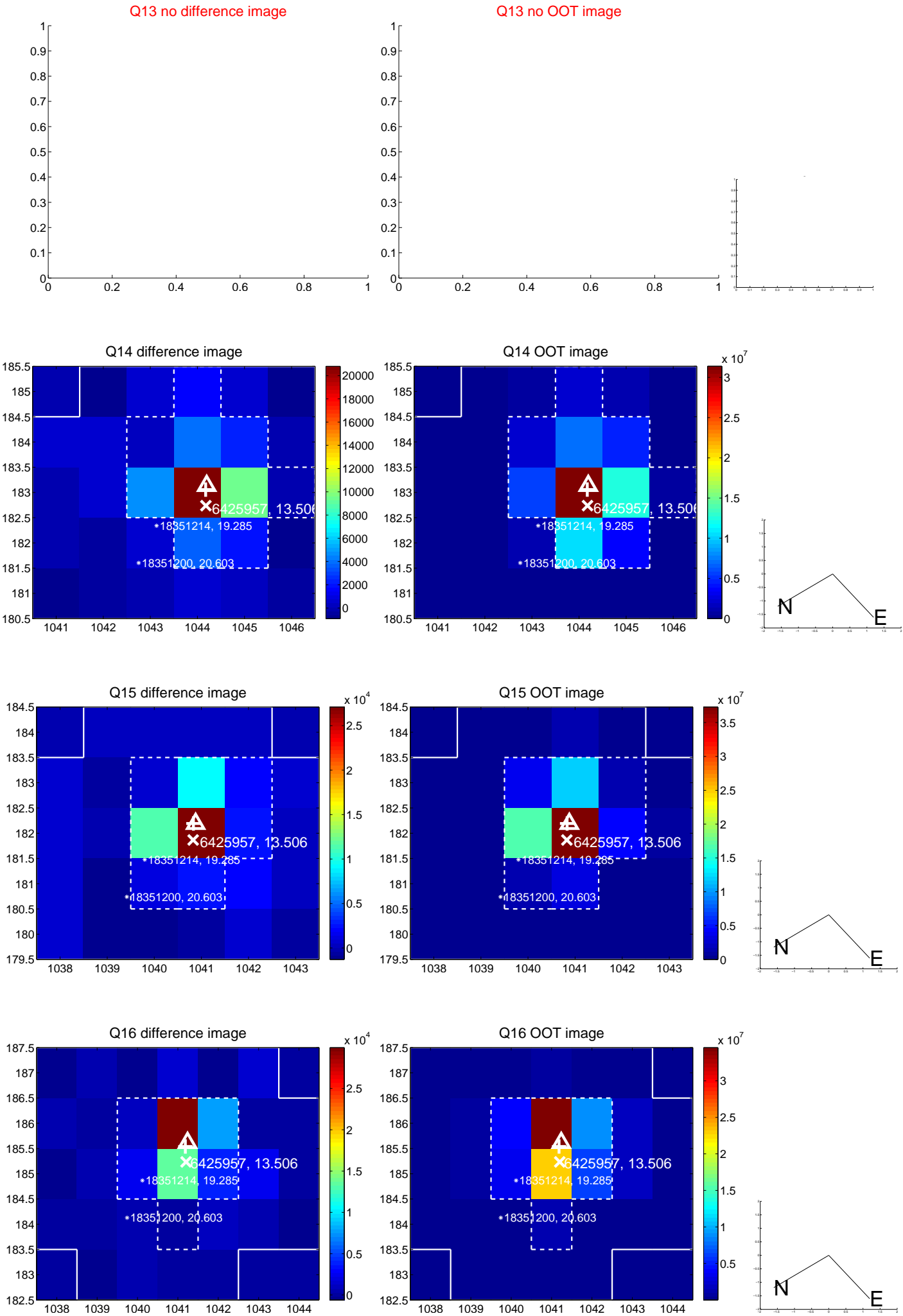
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



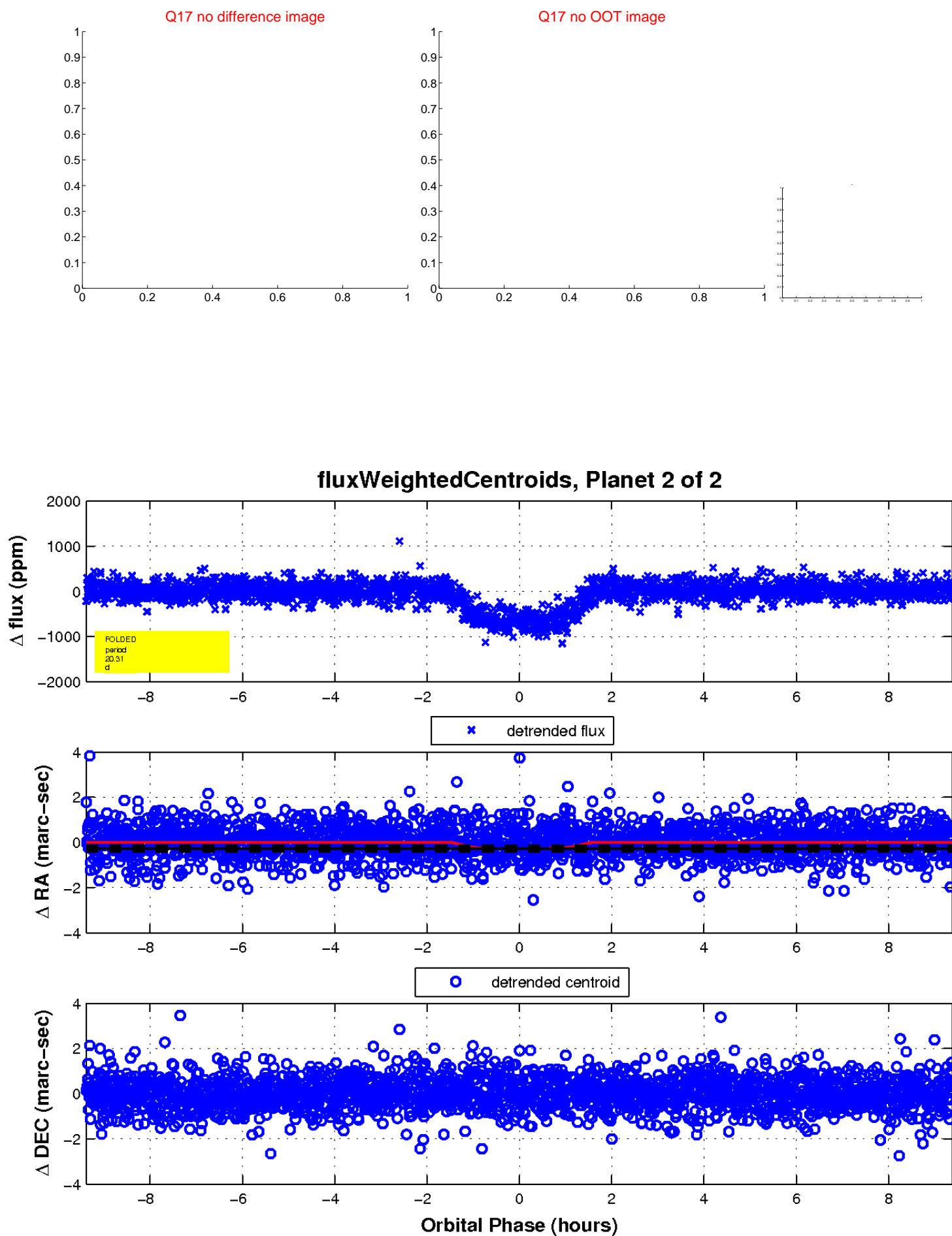
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

