

KIC 006421483

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})
006421483-01	OBS	6703.01	2.158417	131.903542	85419.5	5.316	1346.4	783.8	1.95	5210	60.57	2651.51
006421483-02	OBS	No	2.158385	132.982210	1353.6	3.500	45.8	-1.0	1.95	5210	7.03	2651.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421483-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—HAS_SEC_TCE
006421483-02	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.

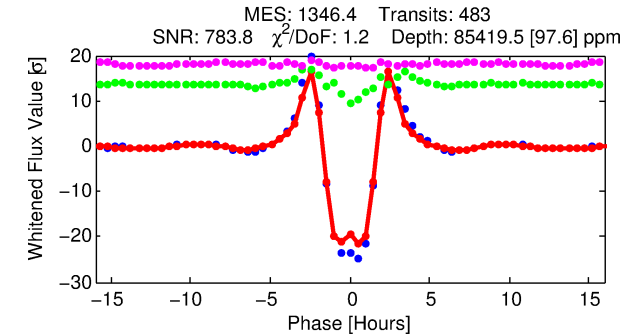
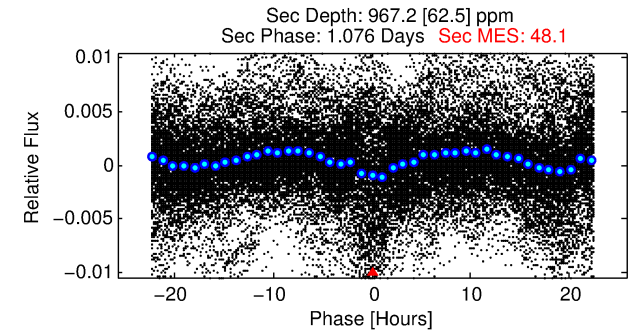
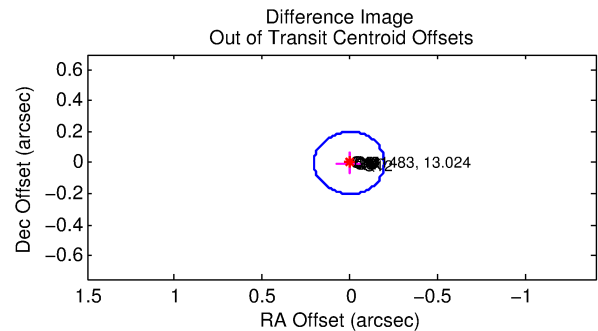
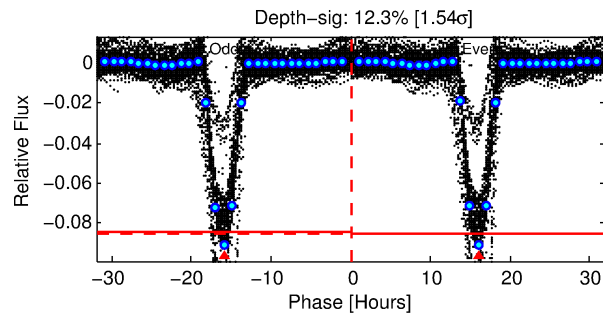
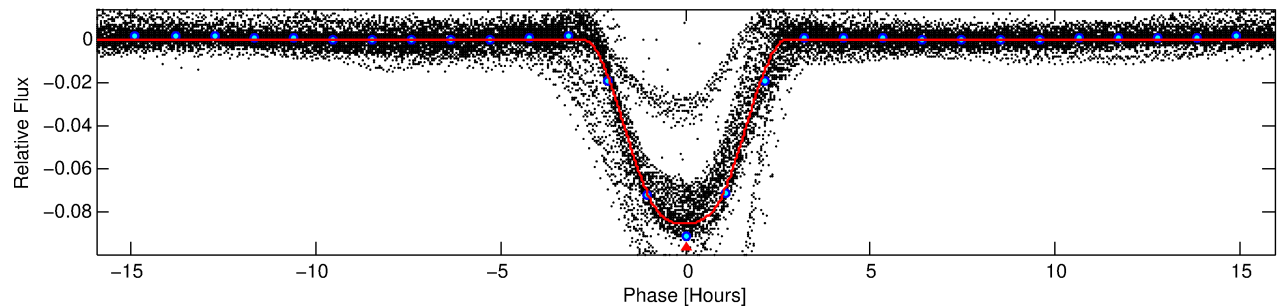
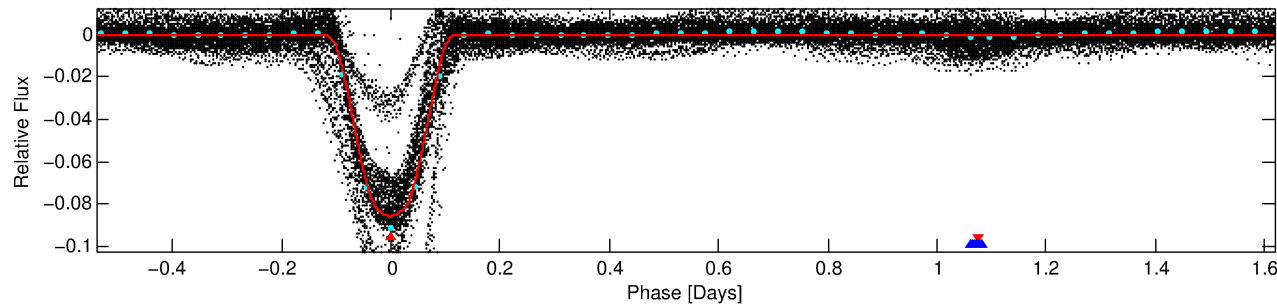
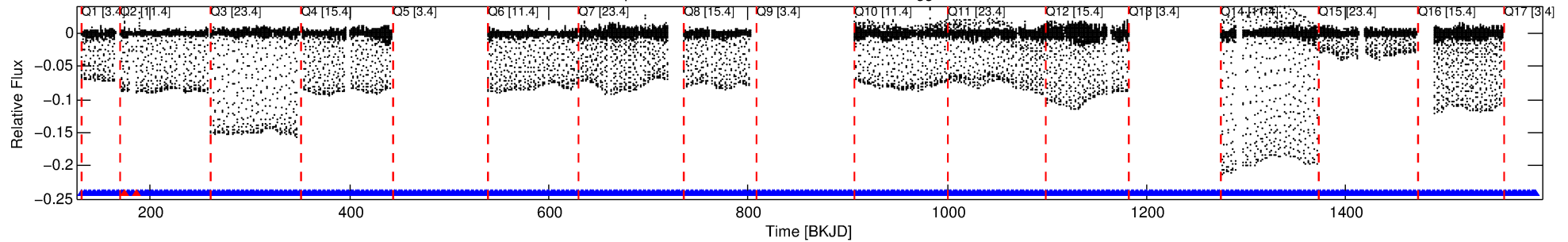
Ephemeris Match Information For 006421483-01

No Significant Match Found

DV One-Page Summary

KIC: 6421483 Candidate: 1 of 2 Period: 2.158 d
KOI: K06703.01 Corr: 0.892

Kp: 13.02 R*: 1.95 Rs Teff: 5210.0 K Logg: 3.78 Fe/H: -0.500



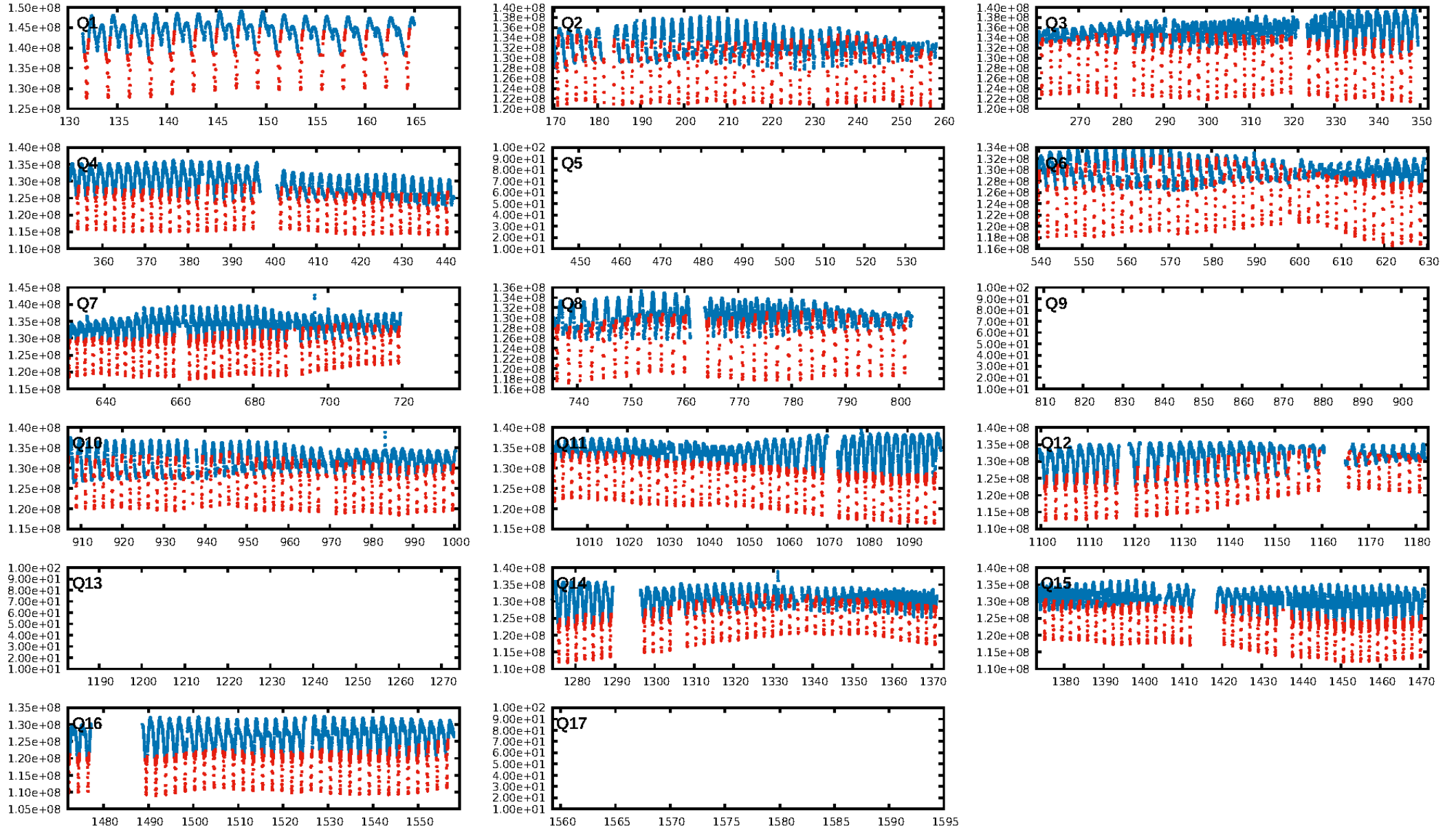
DV Fit Results:

Period = 2.15842 [0.00000] d
Epoch = 131.9035 [0.0000] BKJD
Rp/R* = 0.2852 [0.0002]
a/R* = 3.57 [0.00]
b = 0.64 [0.00]
Seff = 2651.51 [3819.61]
Teff = 1830 [659] K
Rp = 60.57 [39.46] Re
a = 0.0307 [0.0249] AU
Ag = 0.14 [0.20] [-4.39σ]
Teffp = 1720 [54] K [-0.17σ]

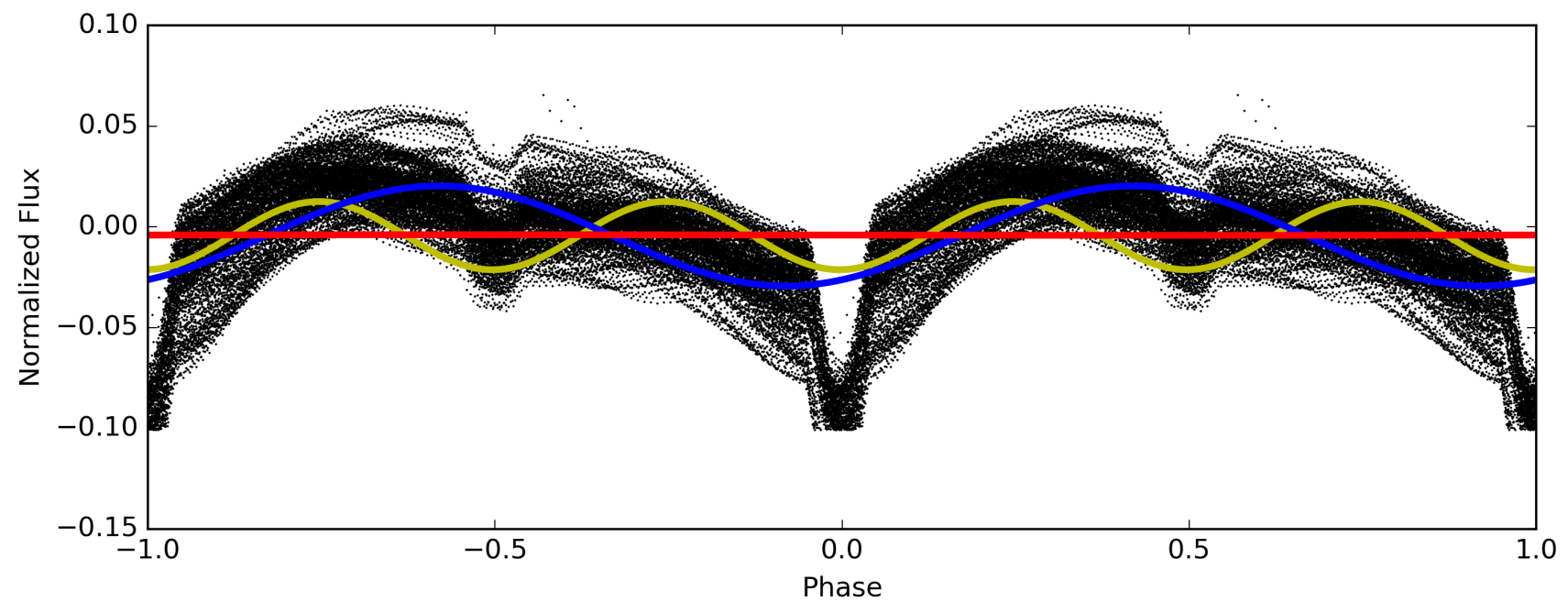
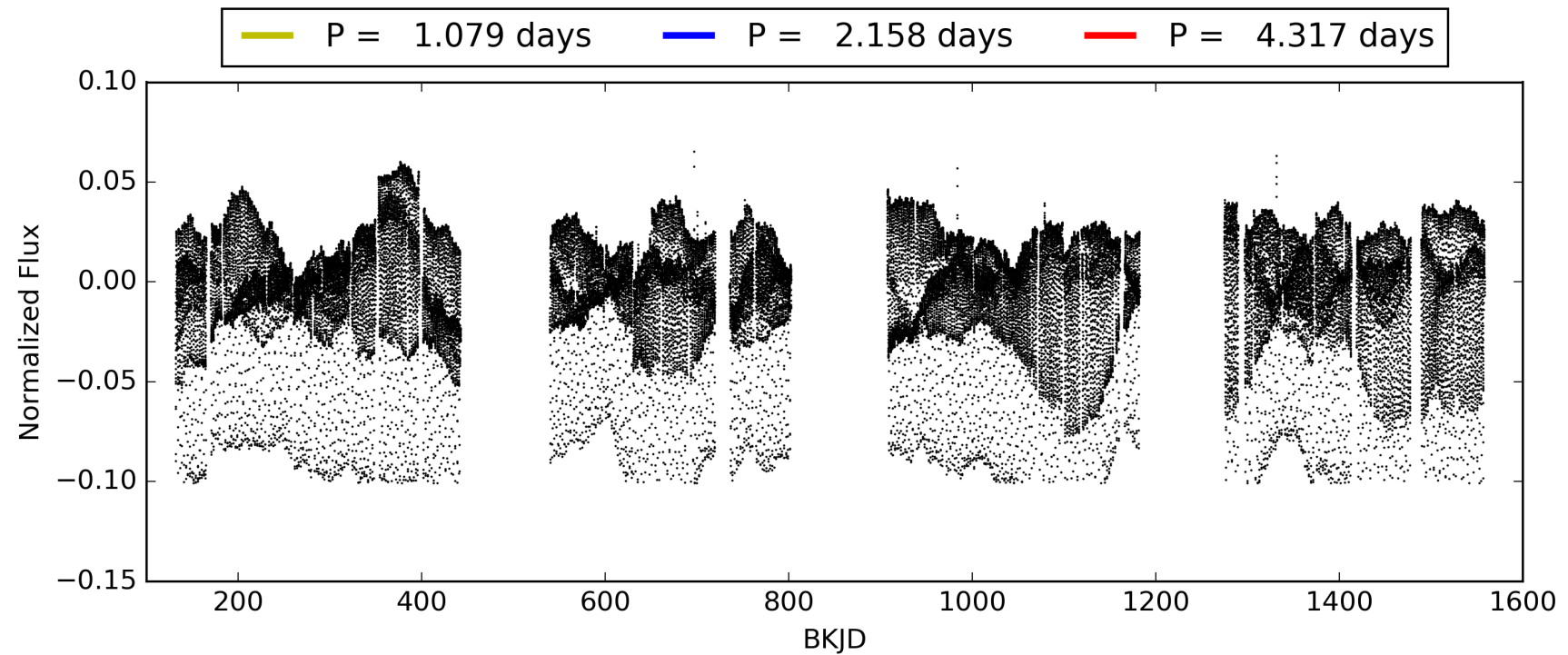
DV Diagnostic Results:

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 [465/467]
GhostDiagnostic-chr: 1.078
Centroid-sig: 0.0%
Centroid-so: 0.251 arcsec [406.24σ]
OotOffset-rm: 0.005 arcsec [0.07σ]
KicOffset-rm: 0.283 arcsec [4.12σ]
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 006421483-01, PDC Light Curves

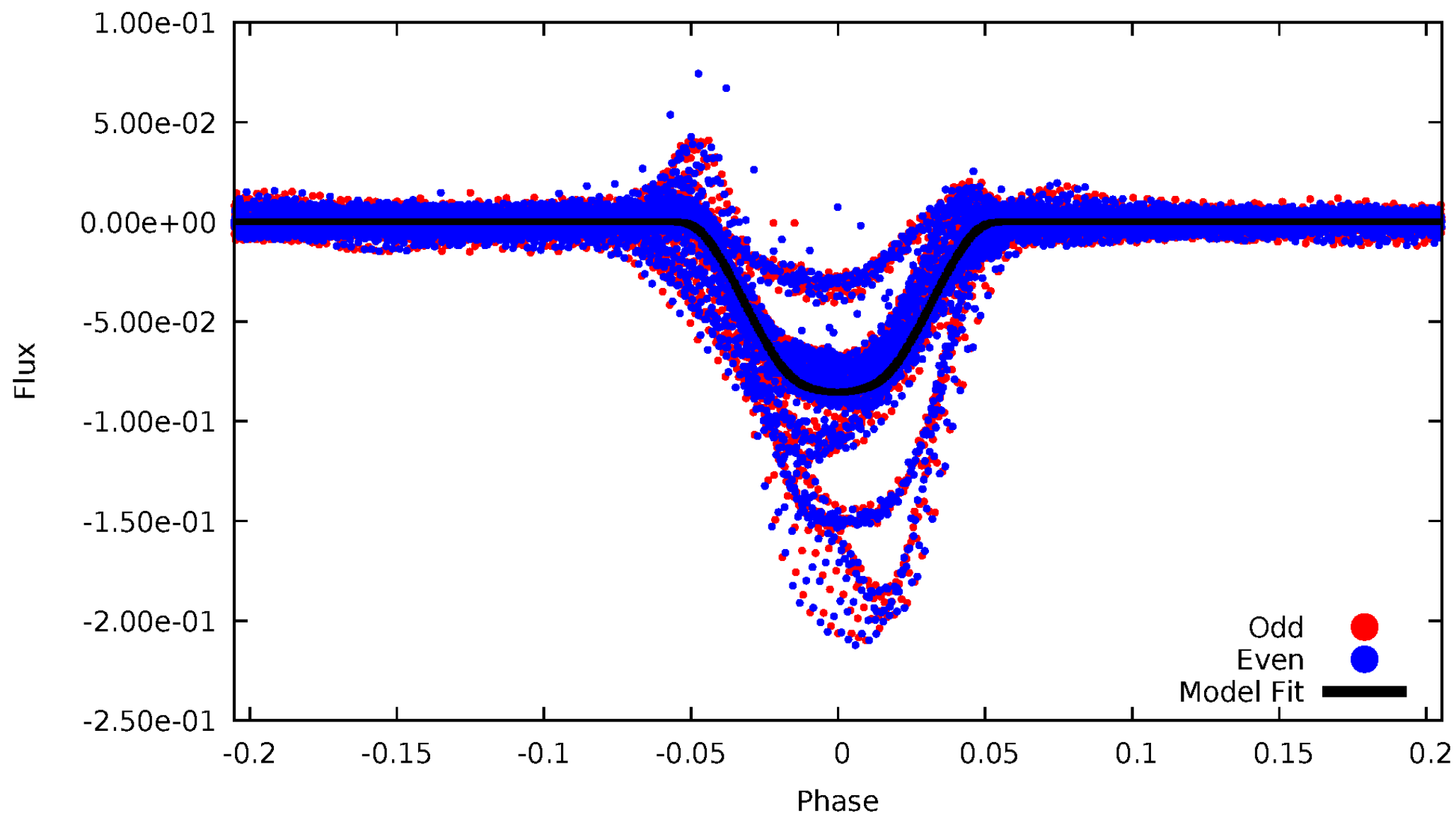


TCE 006421483-01



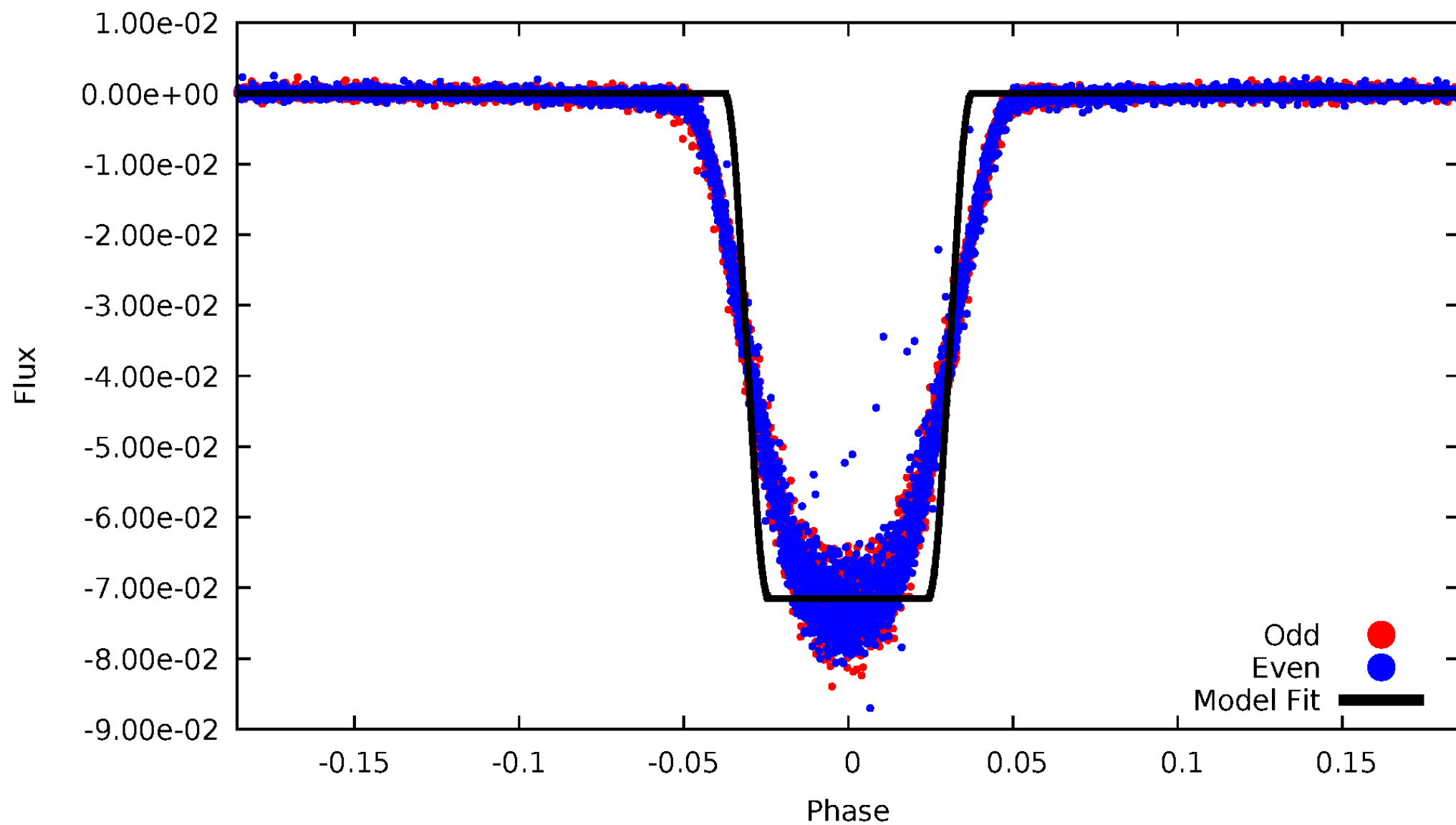
DV Odd/Even

TCE 006421483-01



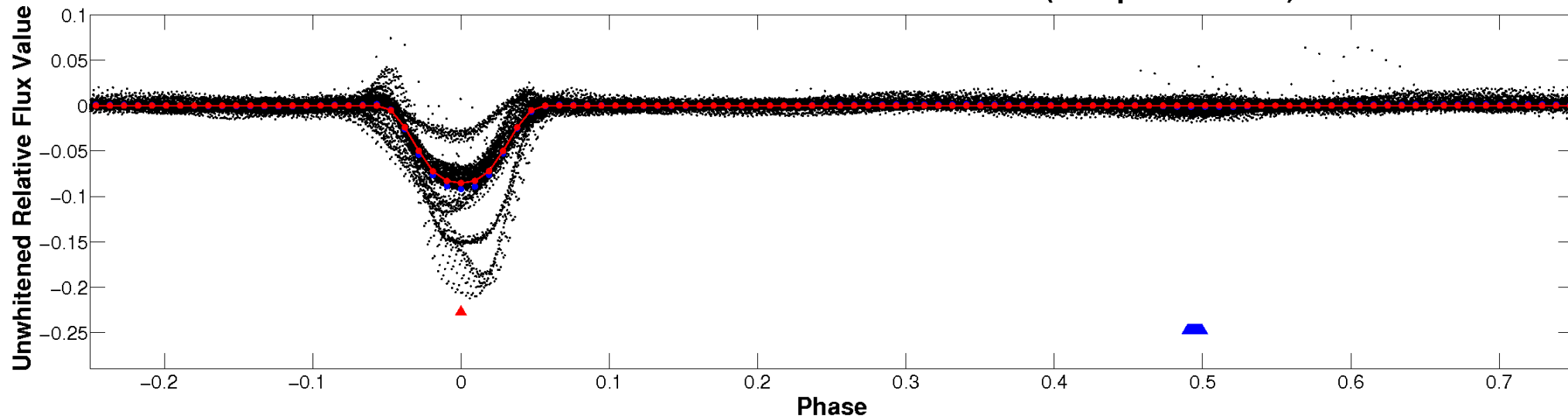
ALT Odd/Even

TCE 006421483-01

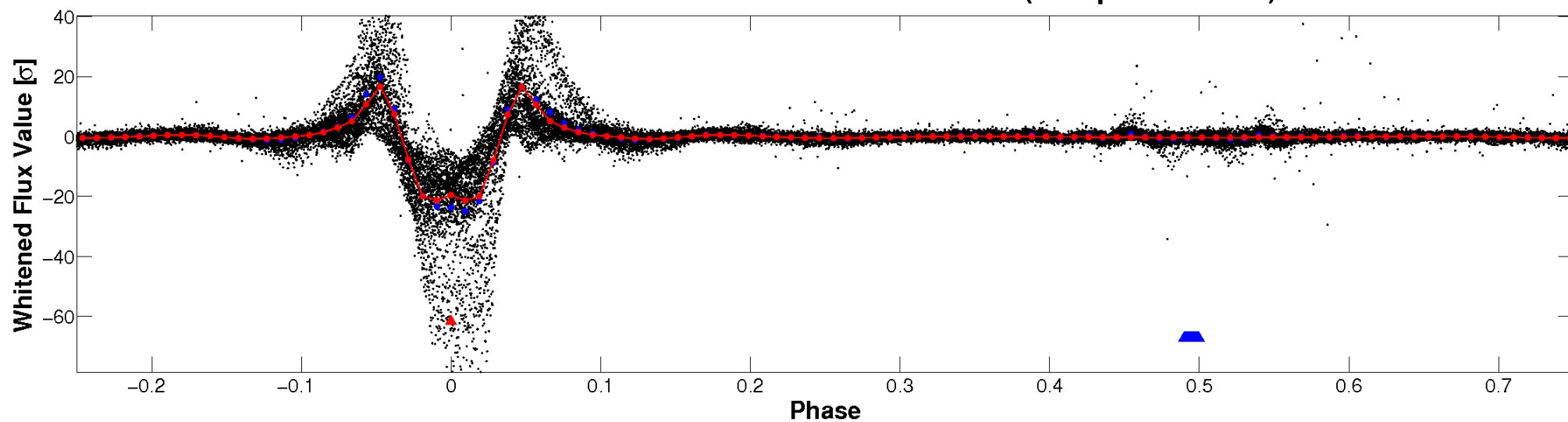


Non-Whitened Vs. Whitened Light Curve

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

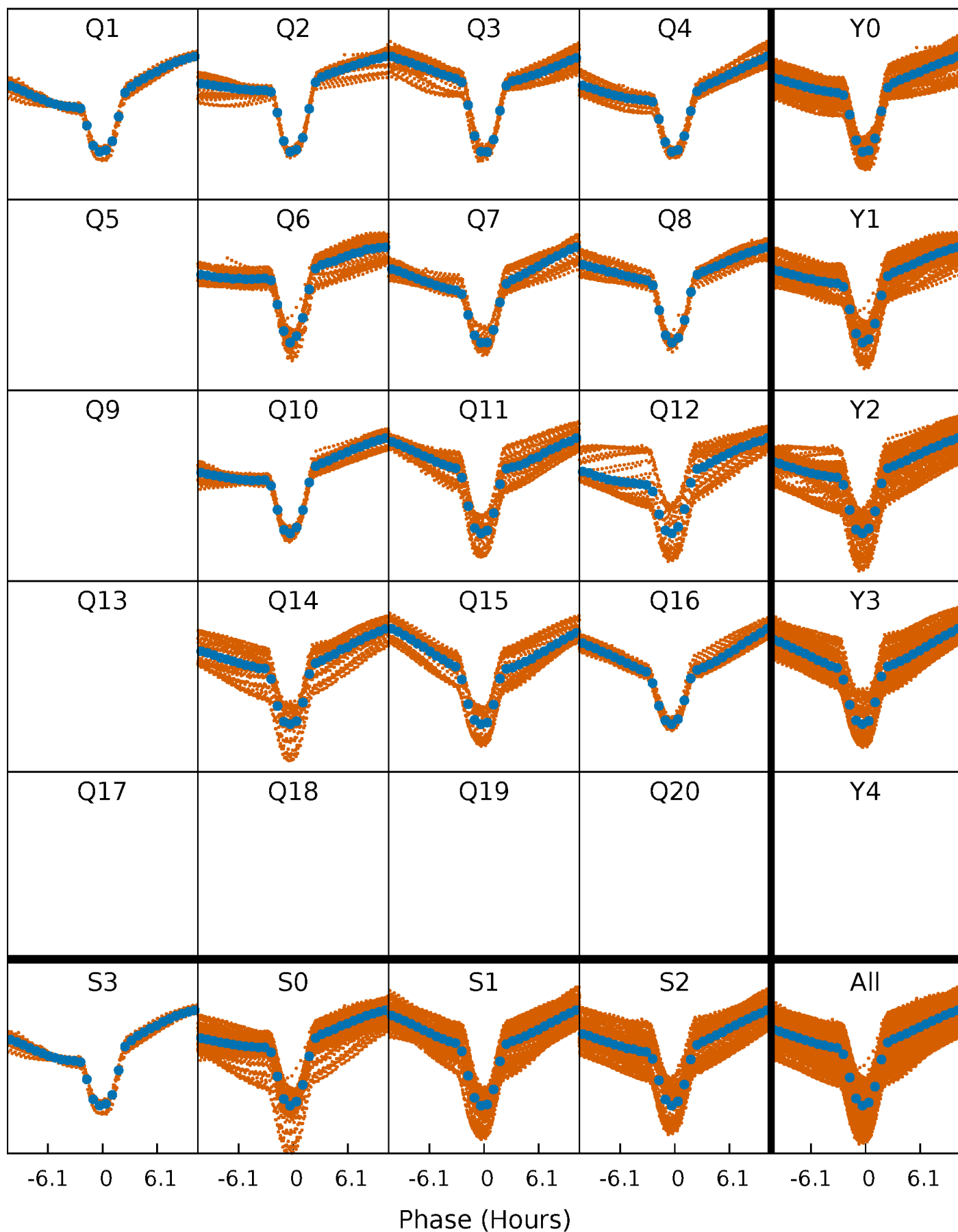


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



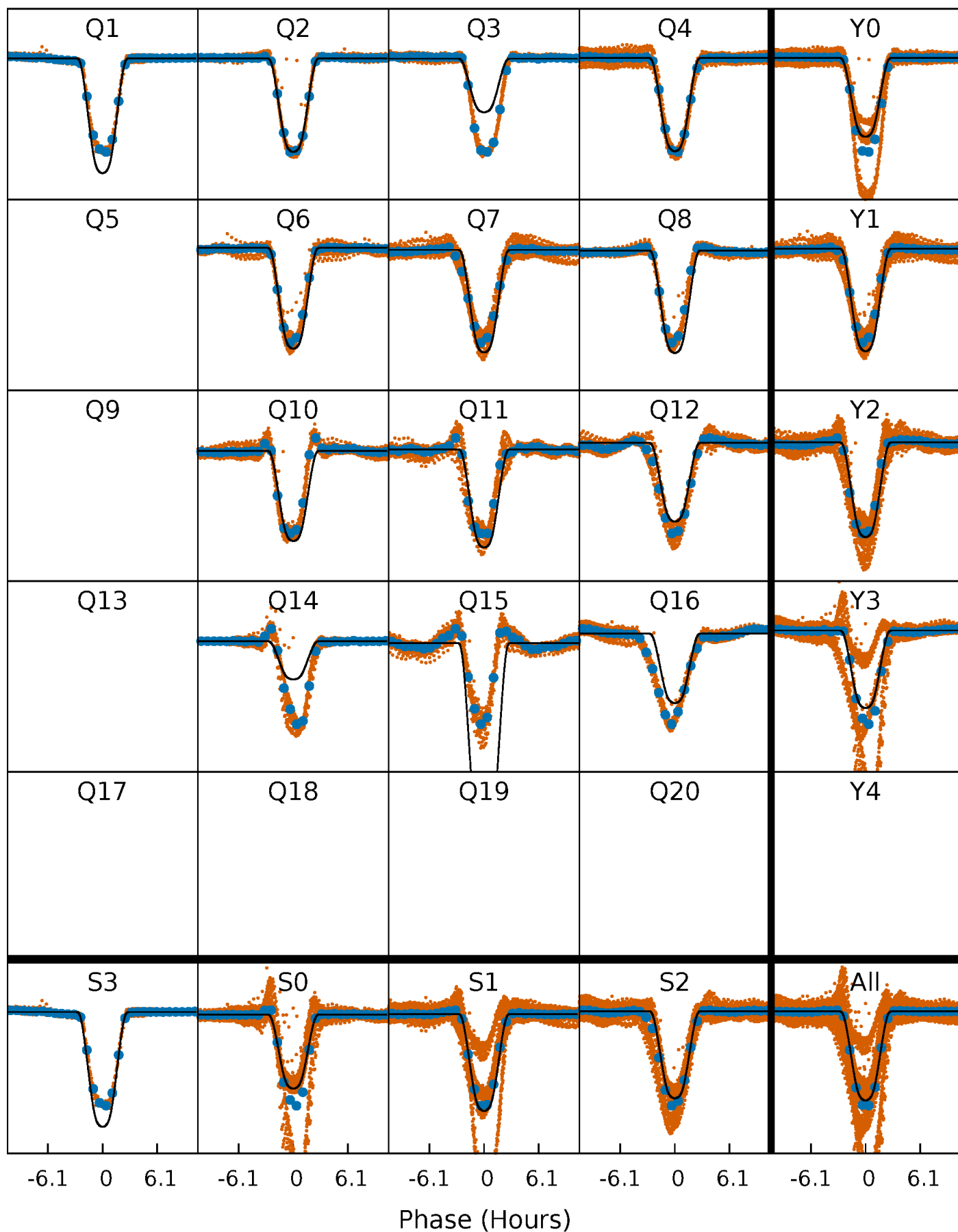
PDC Quarter-Phased Transit Curves

TCE 006421483-01 P= 2.158417 Days $T_0=131.903542$ (BKJD)



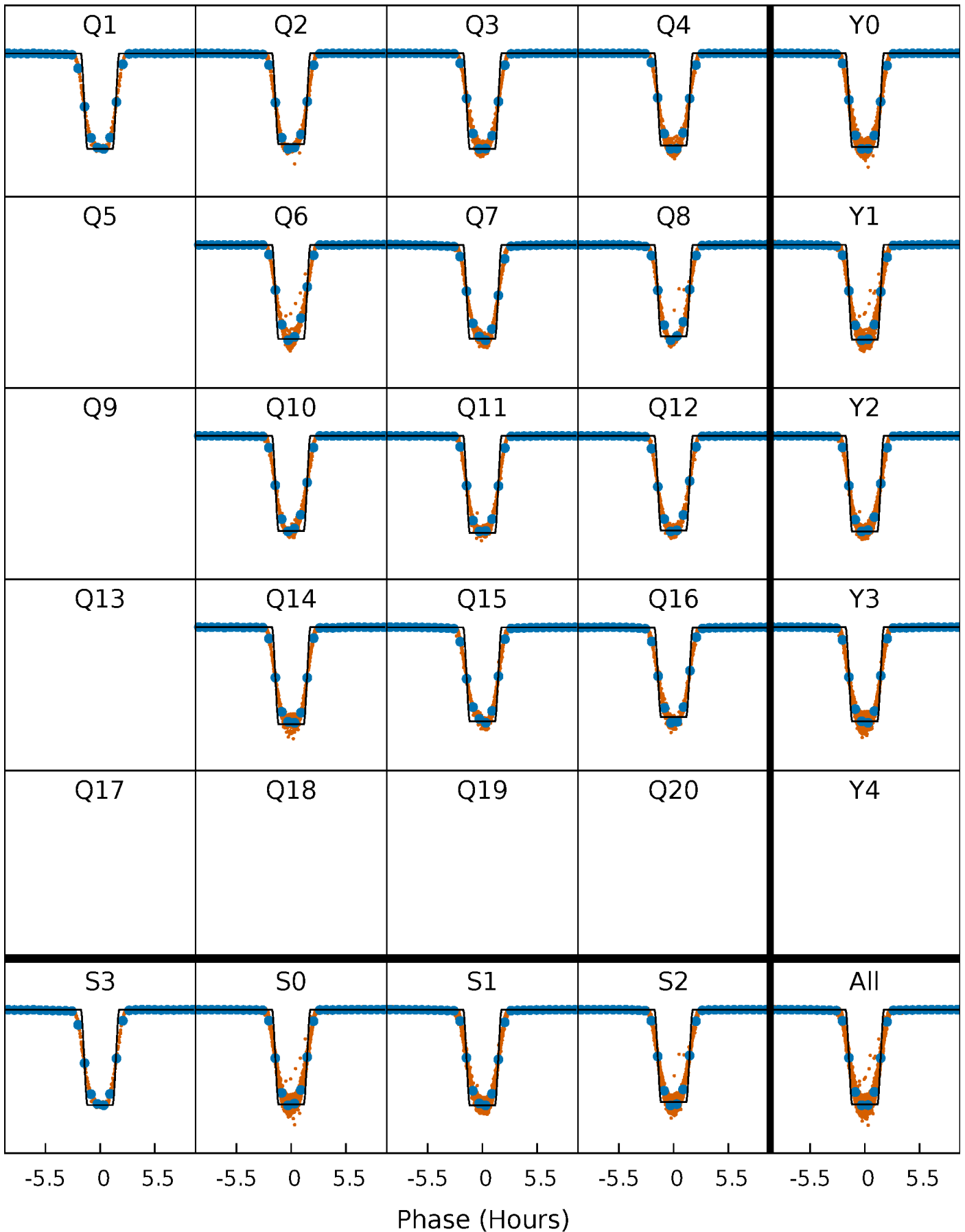
DV Quarter-Phased Transit Curves

TCE 006421483-01 P= 2.158417 Days $T_0=131.903542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

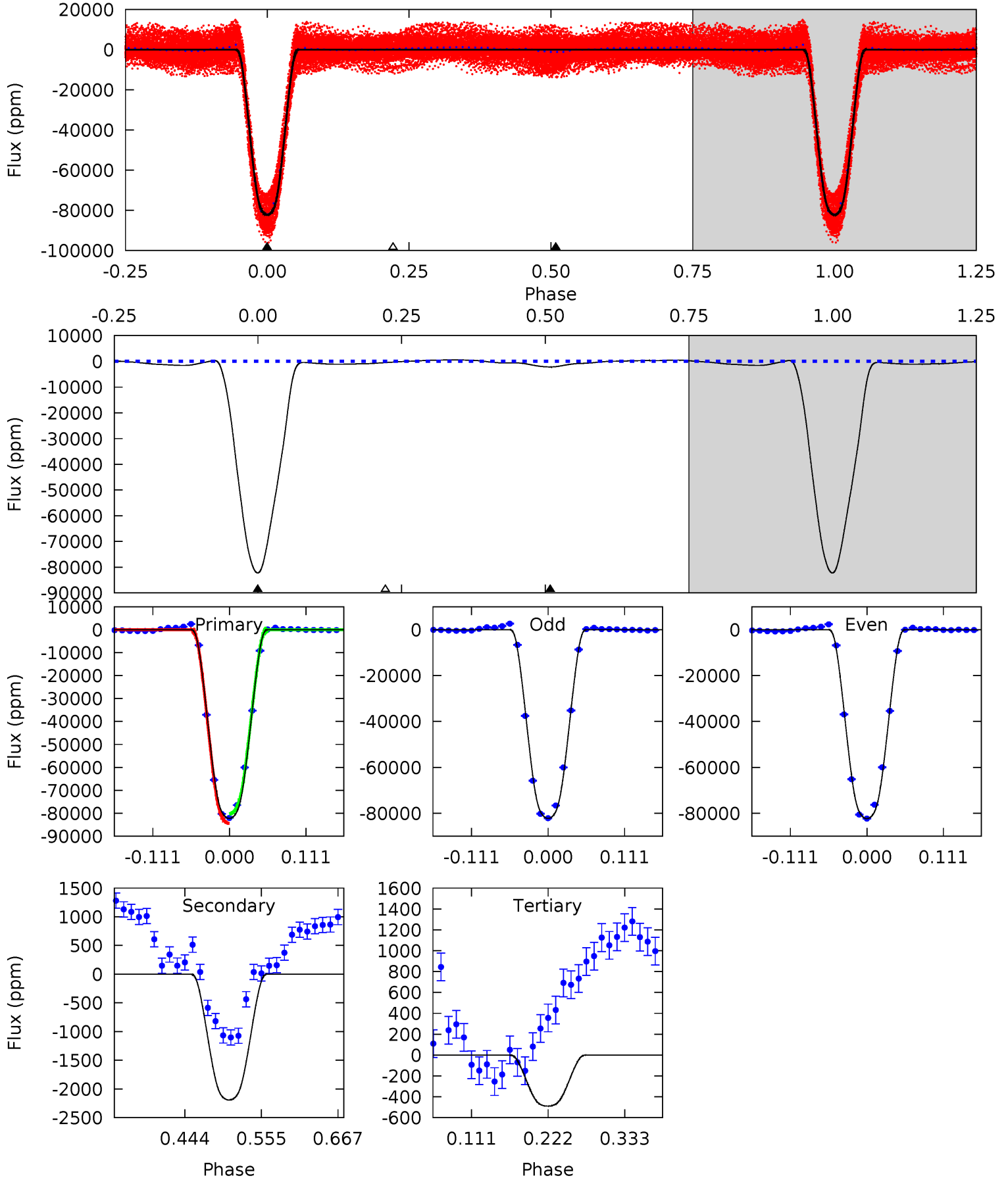
TCE 006421483-01 P= 2.158385 Days $T_0=131.906509$ (BKJD)



DV Model-Shift Uniqueness Test

006421483-01, P = 2.158417 Days, E = 129.745125 Days

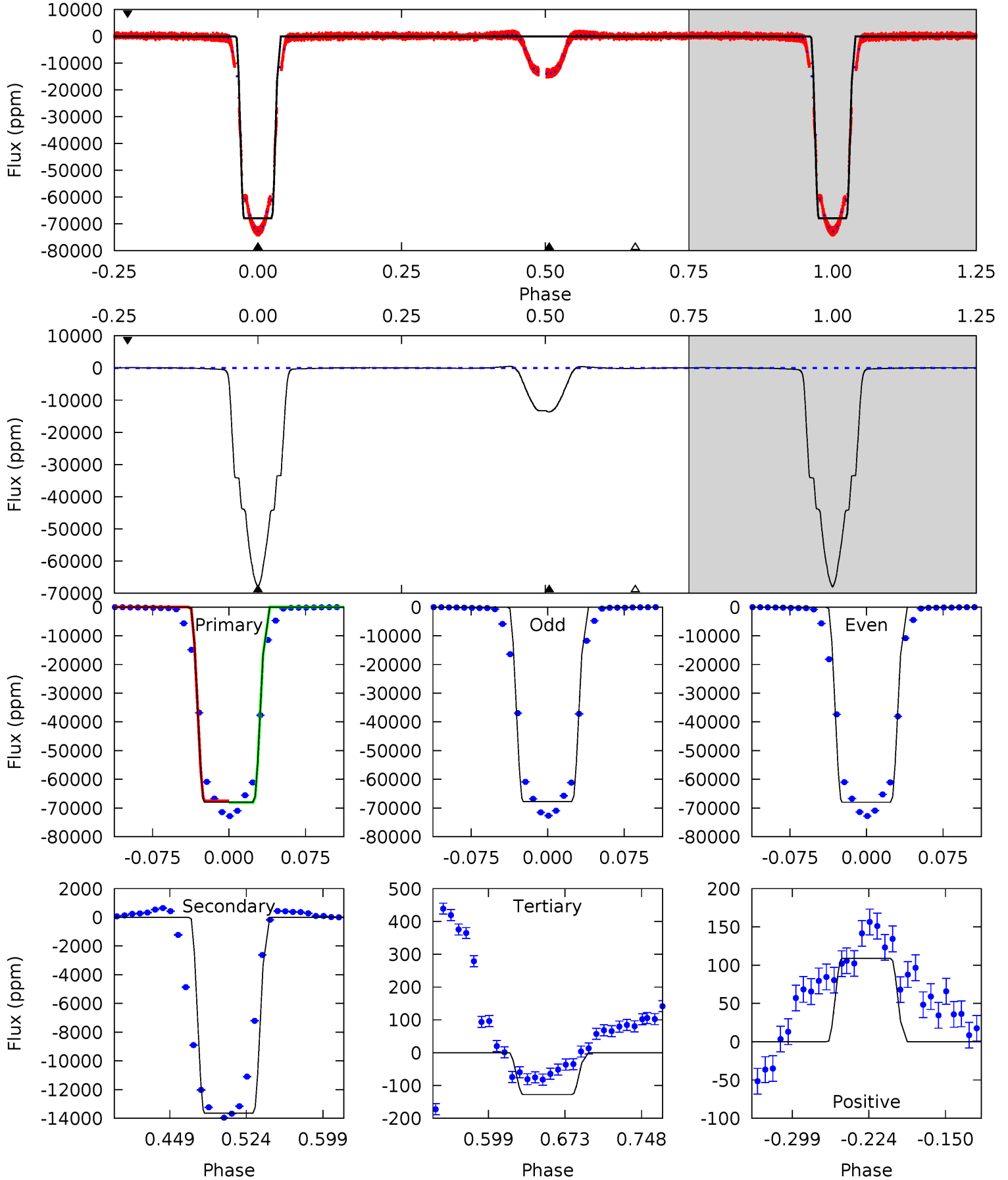
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1406	37.5	8.37	0	4.54	1.59	11.6	1398	1406	29.1	37.5	0.59	1.08	0.01	36.1



Alt Model-Shift Uniqueness Test

006421483-01, P = 2.158385 Days, E = 129.748124 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6038	1212	11.4	9.67	4.63	1.78	8.84	6026	6028	1200	1202	11.7	1.00	0.01	0



Stellar Parameters For KIC 006421483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5210^{+140}_{-140}	$3.778^{+0.892}_{-0.297}$	$-0.500^{+0.300}_{-0.250}$	$1.946^{+1.268}_{-1.268}$	$0.829^{+0.214}_{-0.143}$	$0.159^{+3.225}_{-0.121}$
	+3%/-3%	+24%/-8%	+60%/-50%	+65%/-65%	+26%/-17%	+2035%/-76%
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 006421483-01 / KOI 6703.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2193 ± 58	$57.56^{+21.23}_{-19.83}$	2477^{+389}_{-476}	2234^{+420}_{-4831}	$0.350^{+0.449}_{-0.152}$
Alt.	-13635 ± 11	$53.58^{+17.78}_{-18.11}$	2476^{+379}_{-464}	3711^{+98}_{-98}	$2.532^{+3.250}_{-1.115}$

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 $A_{obs} \gg 1.0$

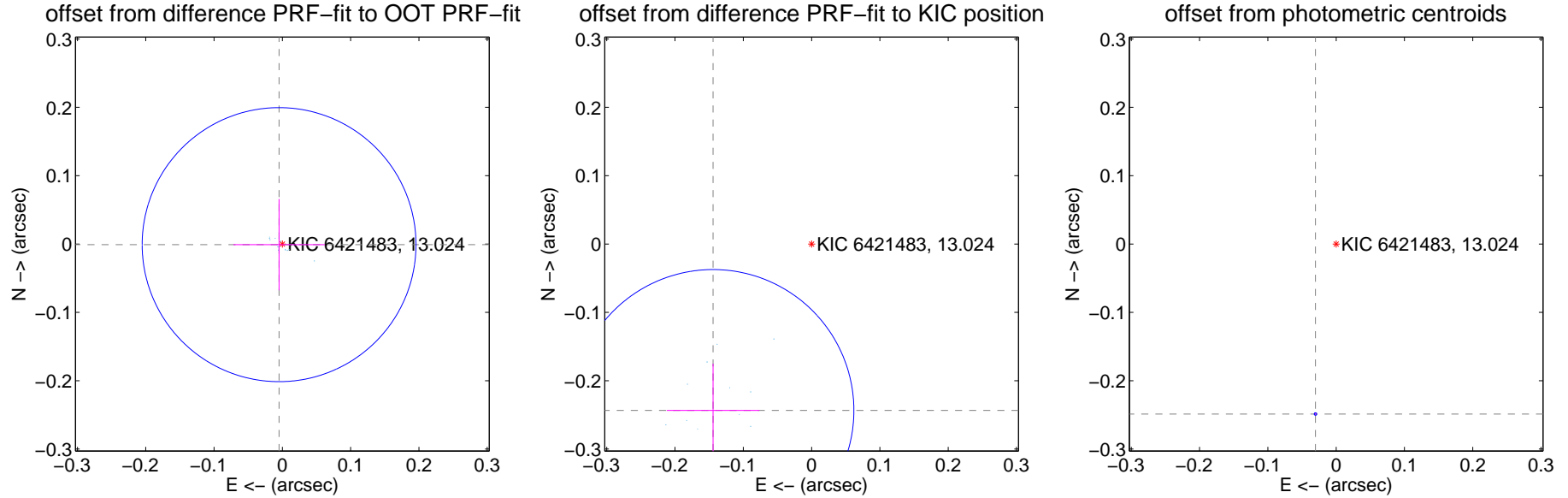
DV Centroid Data

Supplemental centroid analysis for 006421483-01. Kepler magnitude: 13.02. Transit SNR 783.82

There are 13 quarters with good PRF difference image offsets

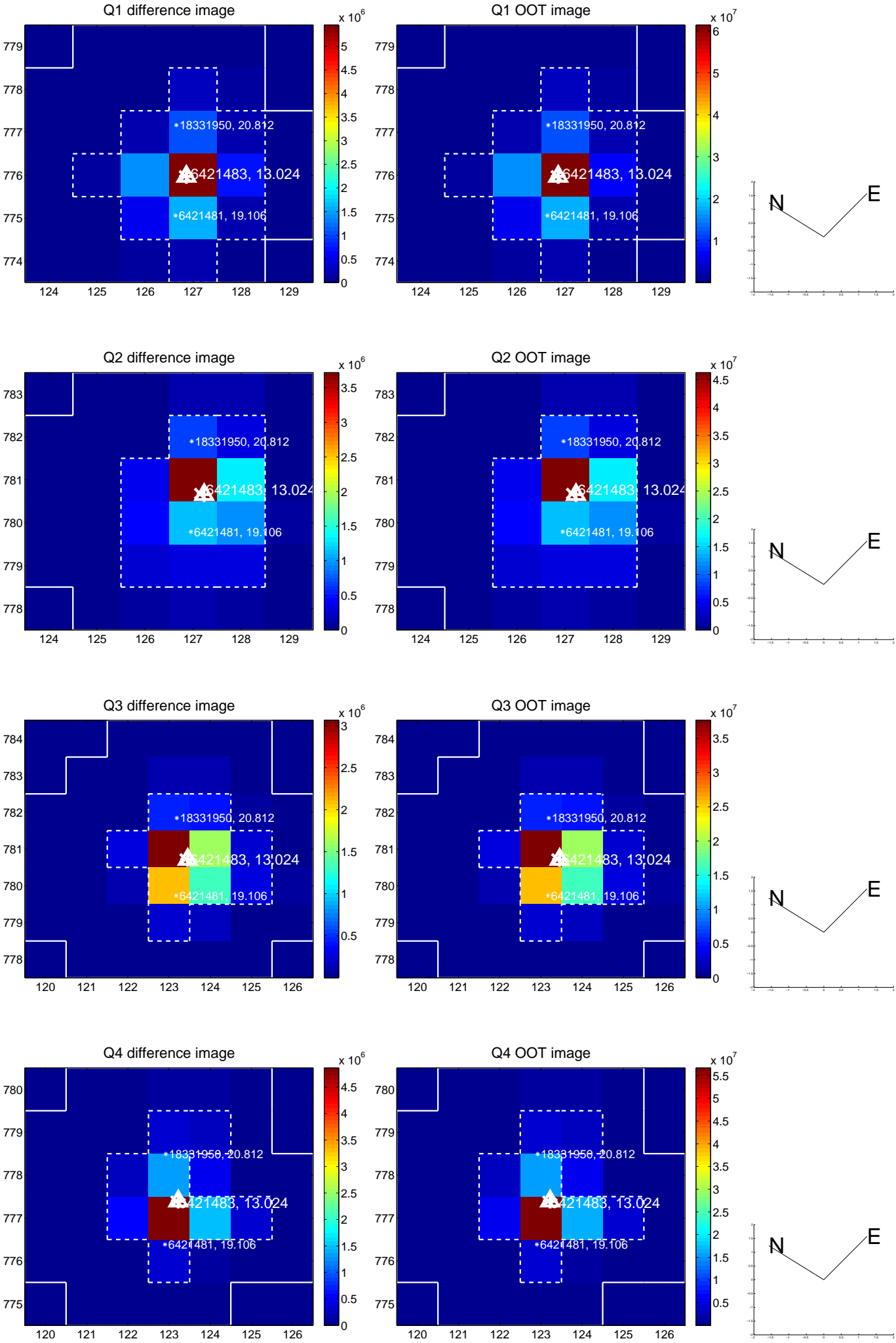
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.07	0.005 ± 0.067	-0.001 ± 0.067
PRF-fit source offset from KIC position	0.283 ± 0.069	4.12	0.144 ± 0.068	-0.243 ± 0.068
photometric centroid source offset	0.25 ± 0.00	406.24	0.03 ± 0.00	-0.25 ± 0.00

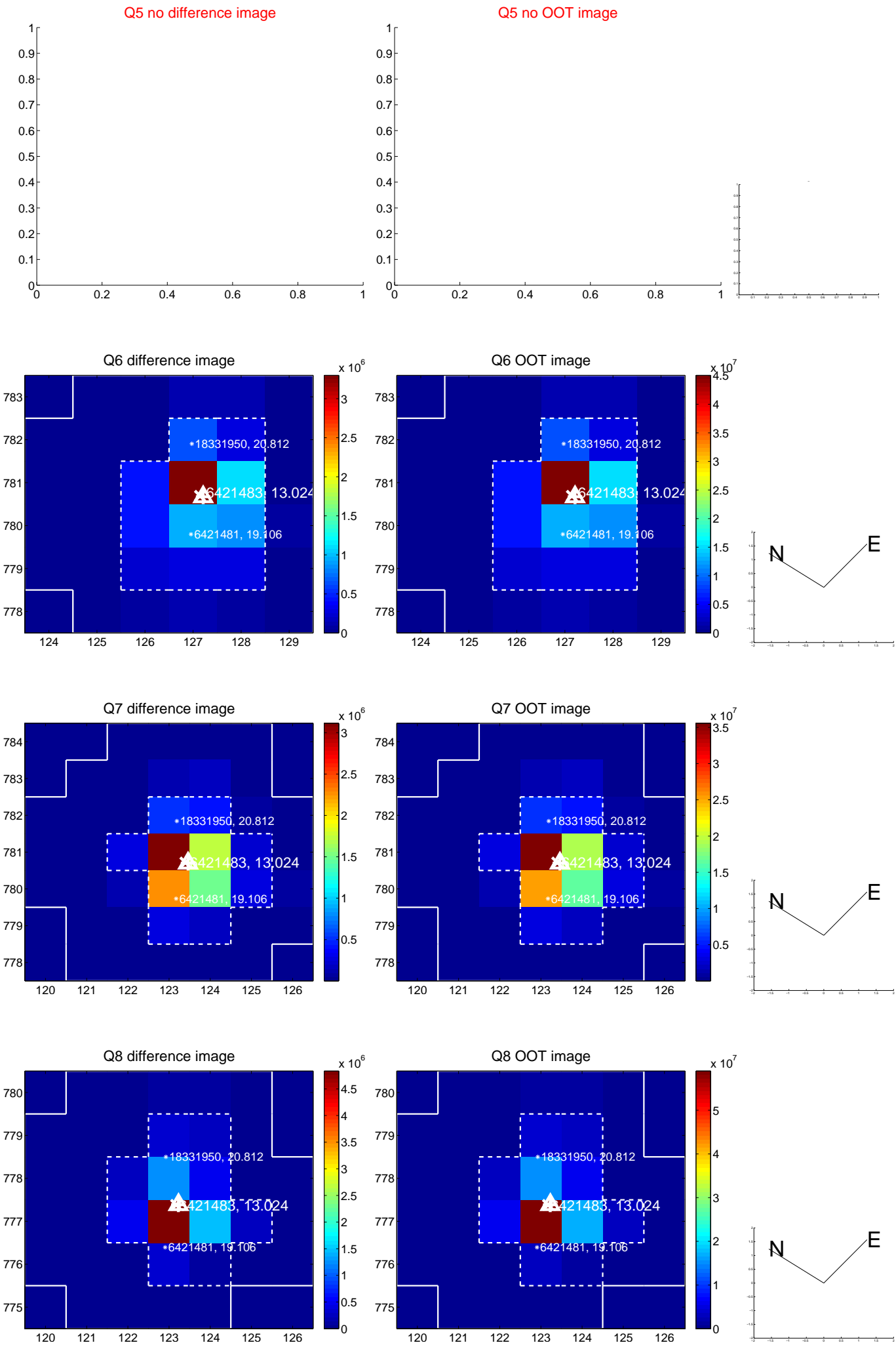


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

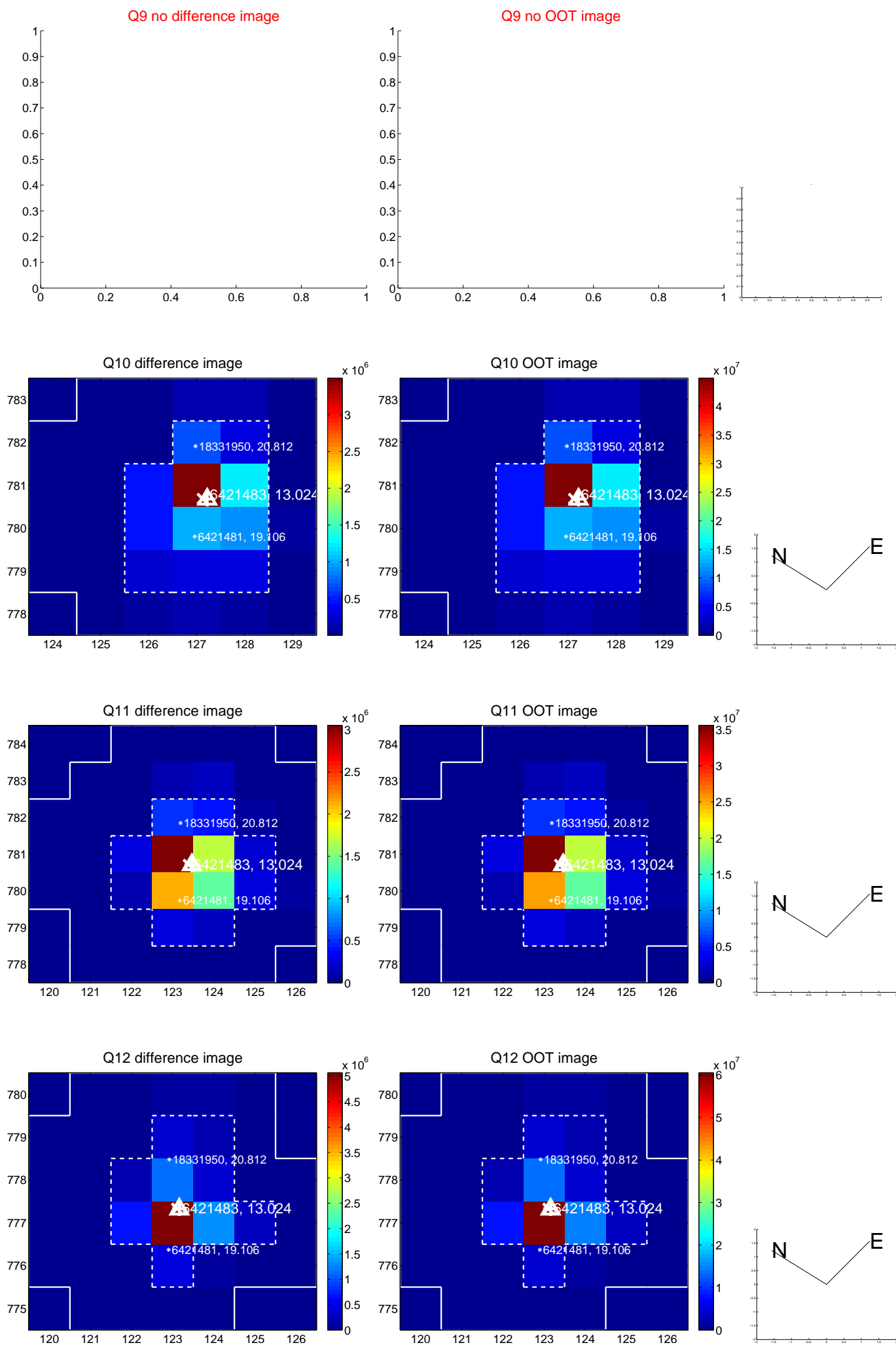
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



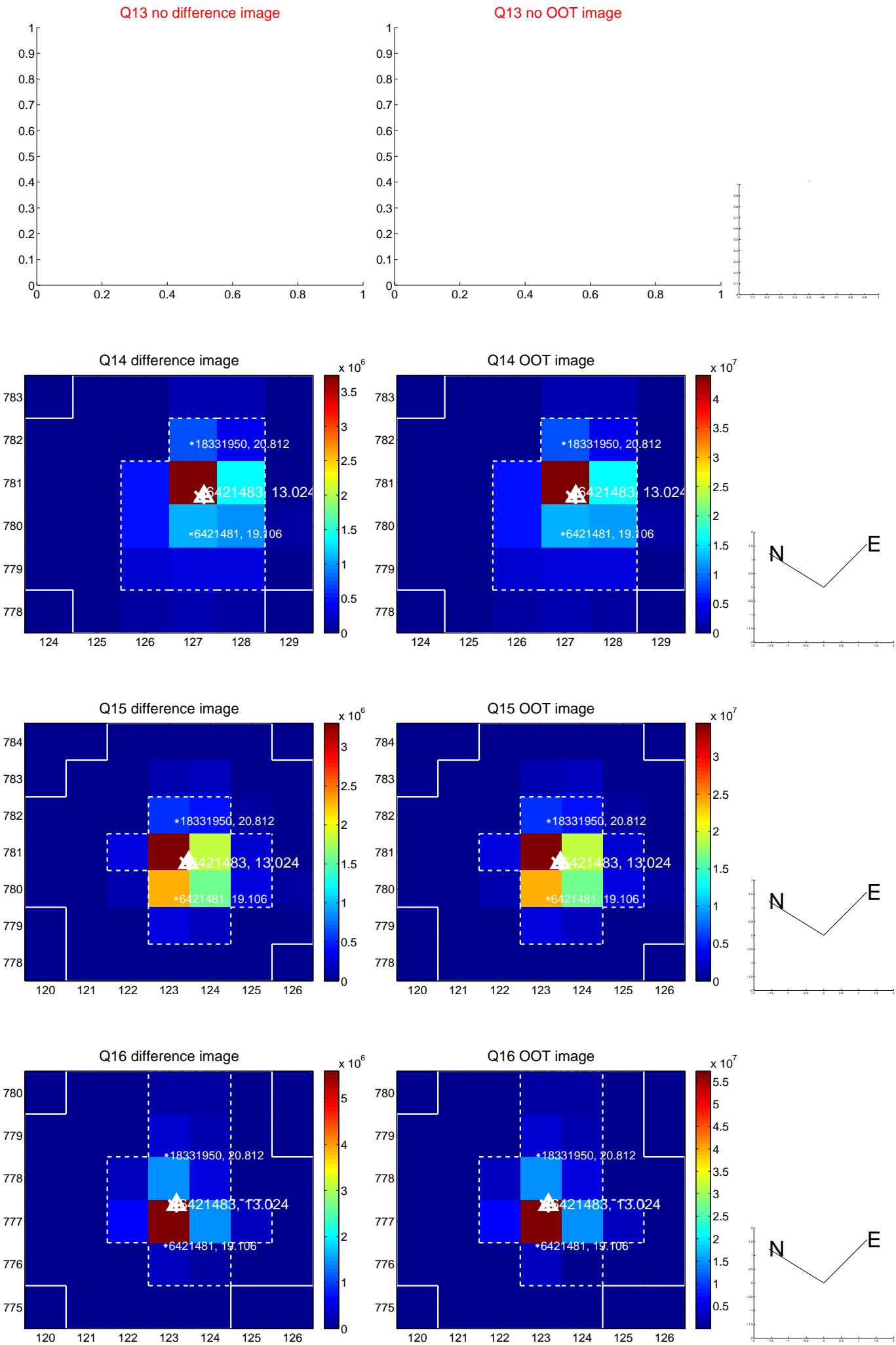
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



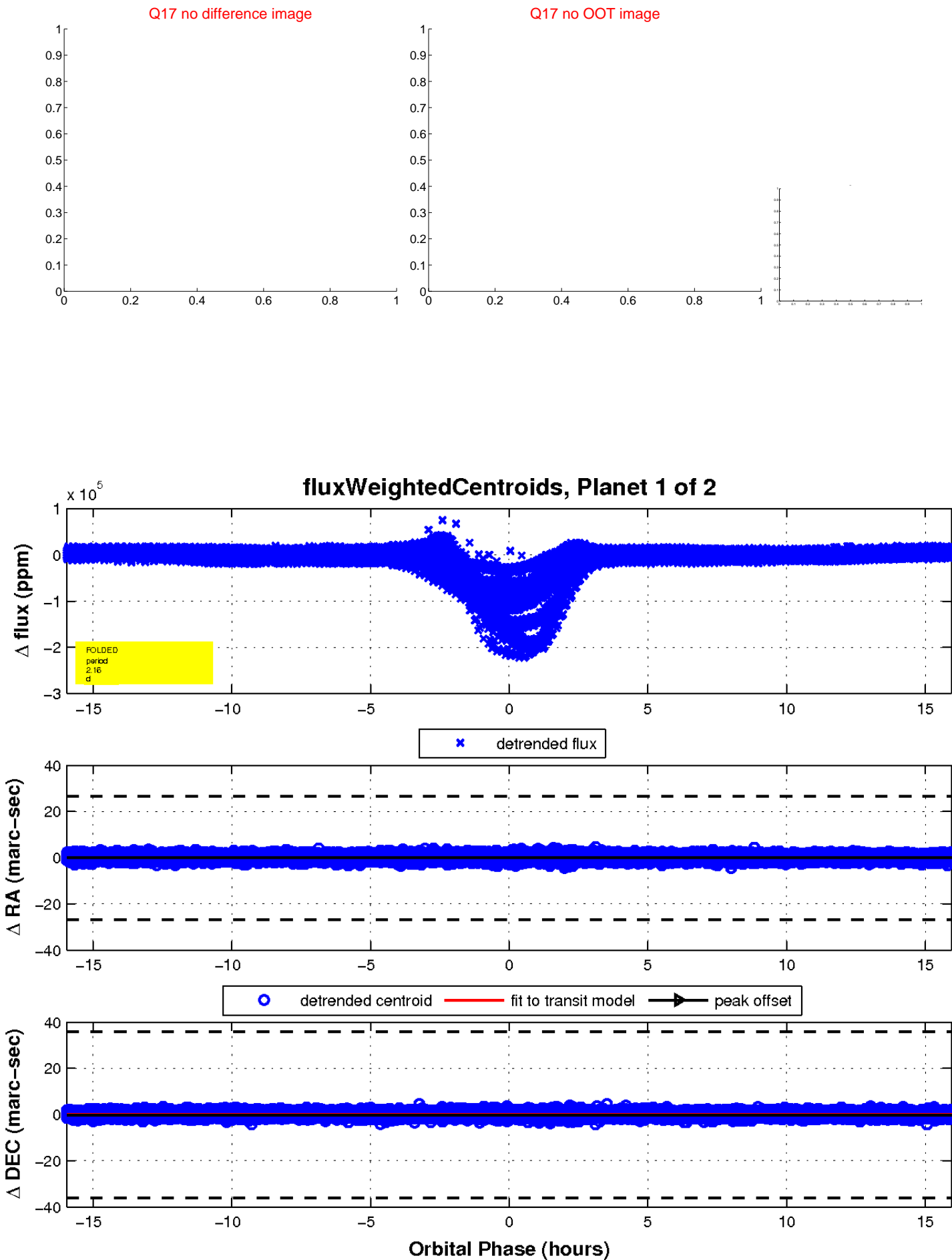
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

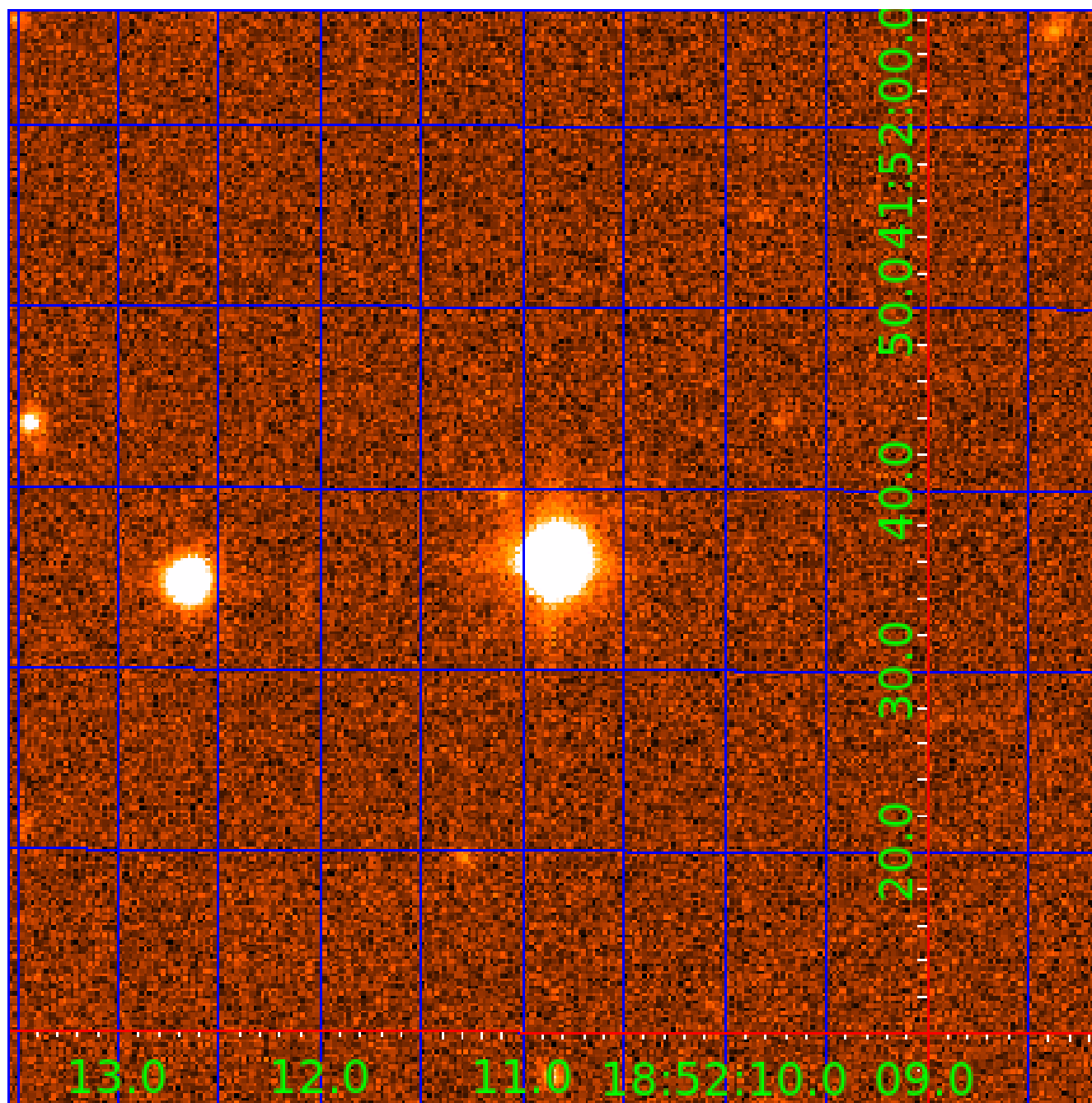


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006421483

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})
006421483-01	OBS	6703.01	2.158417	131.903542	85419.5	5.316	1346.4	783.8	1.95	5210	60.57	2651.51
006421483-02	OBS	No	2.158385	132.982210	1353.6	3.500	45.8	-1.0	1.95	5210	7.03	2651.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421483-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—HAS_SEC_TCE
006421483-02	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.

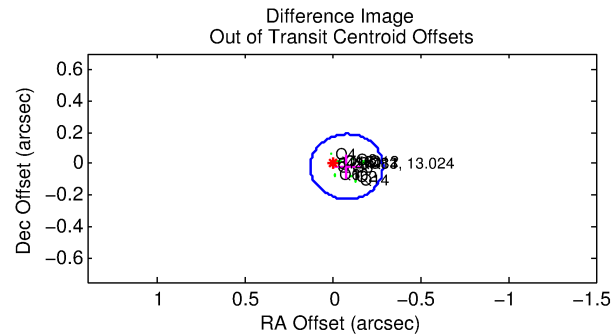
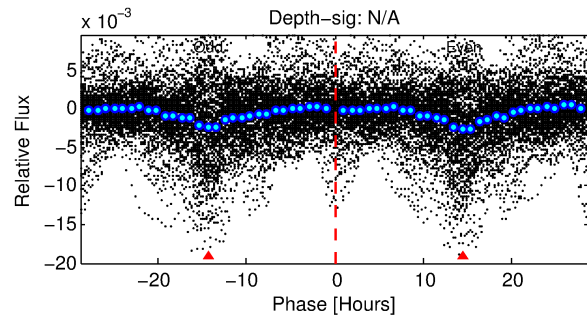
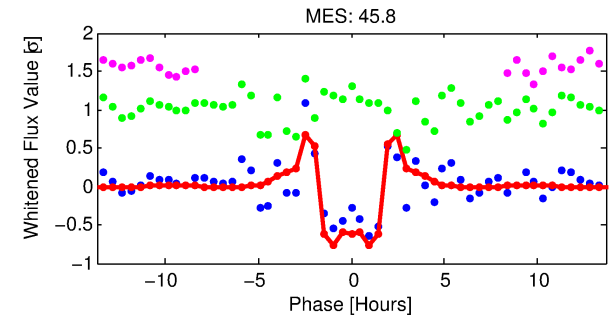
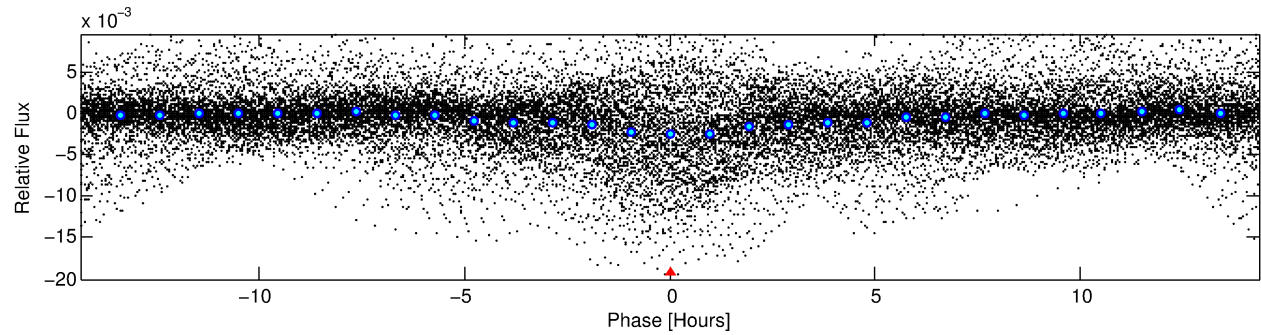
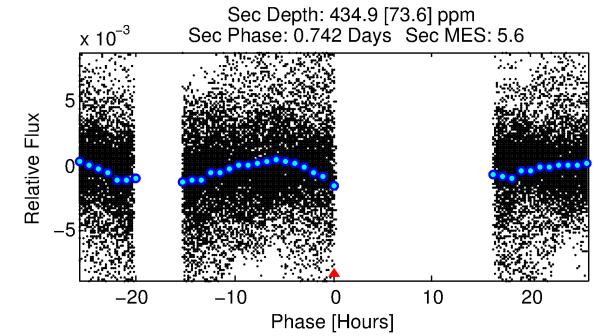
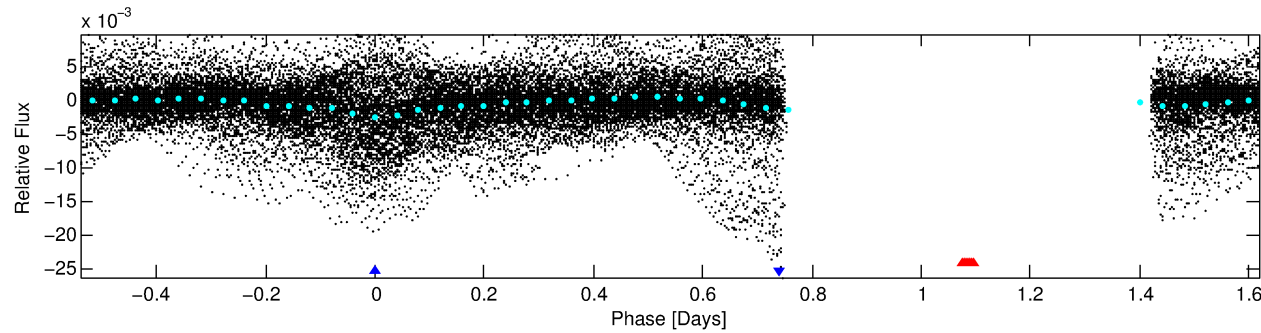
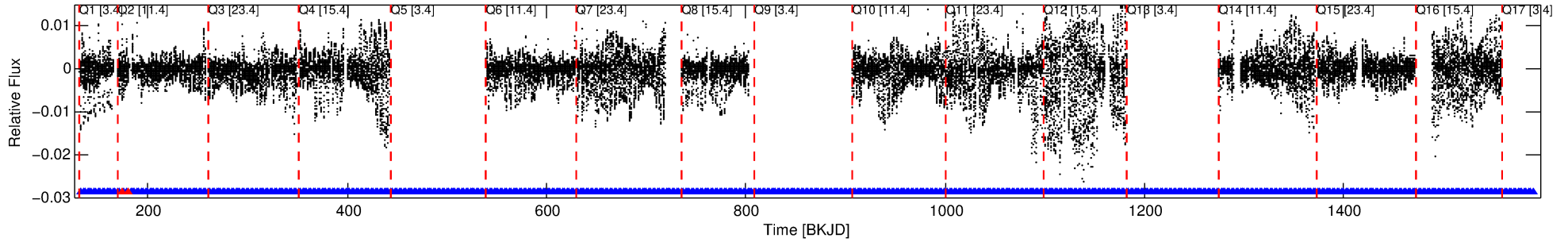
Ephemeris Match Information For 006421483-02

No Significant Match Found

DV One-Page Summary

KIC: 6421483 Candidate: 2 of 2 Period: 2.158 d
KOI: K06703 Corr: No Ephemeris Match

Kp: 13.02 R*: 1.95 Rs Teff: 5210.0 K Logg: 3.78 Fe/H: -0.500



TPS TCE Results:

Period = 2.15838 d
Epoch = 132.9822 BKJD

DV fit results are unavailable

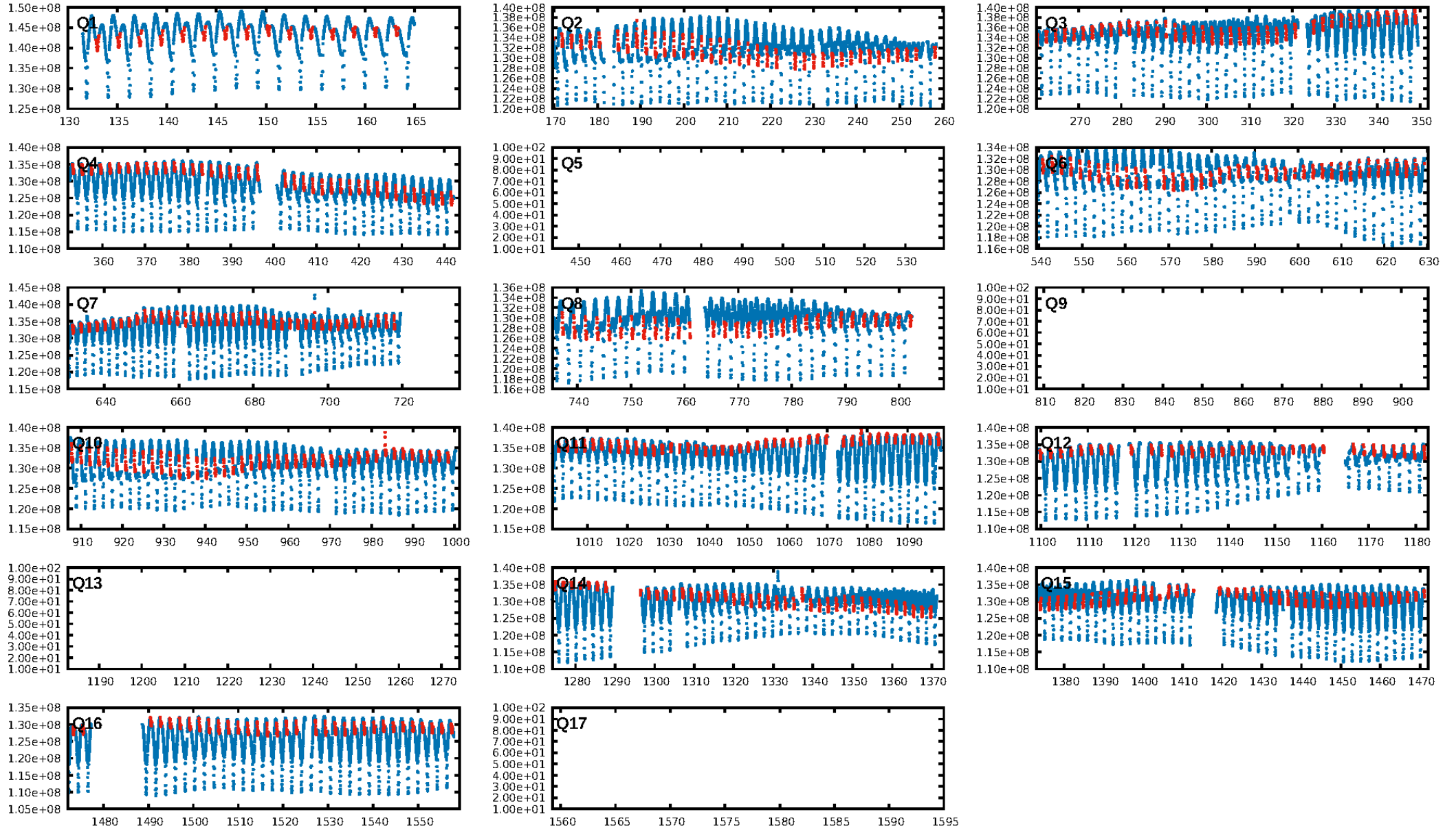
DV Diagnostic Results:

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 [467/469]
GhostDiagnostic-chr: 0.9999
Centroid-sig: 0.0%
Centroid-so: 0.265 arcsec [96.91σ]
OotOffset-rm: 0.080 arcsec [1.16σ]
KicOffset-rm: 0.271 arcsec [3.75σ]
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]

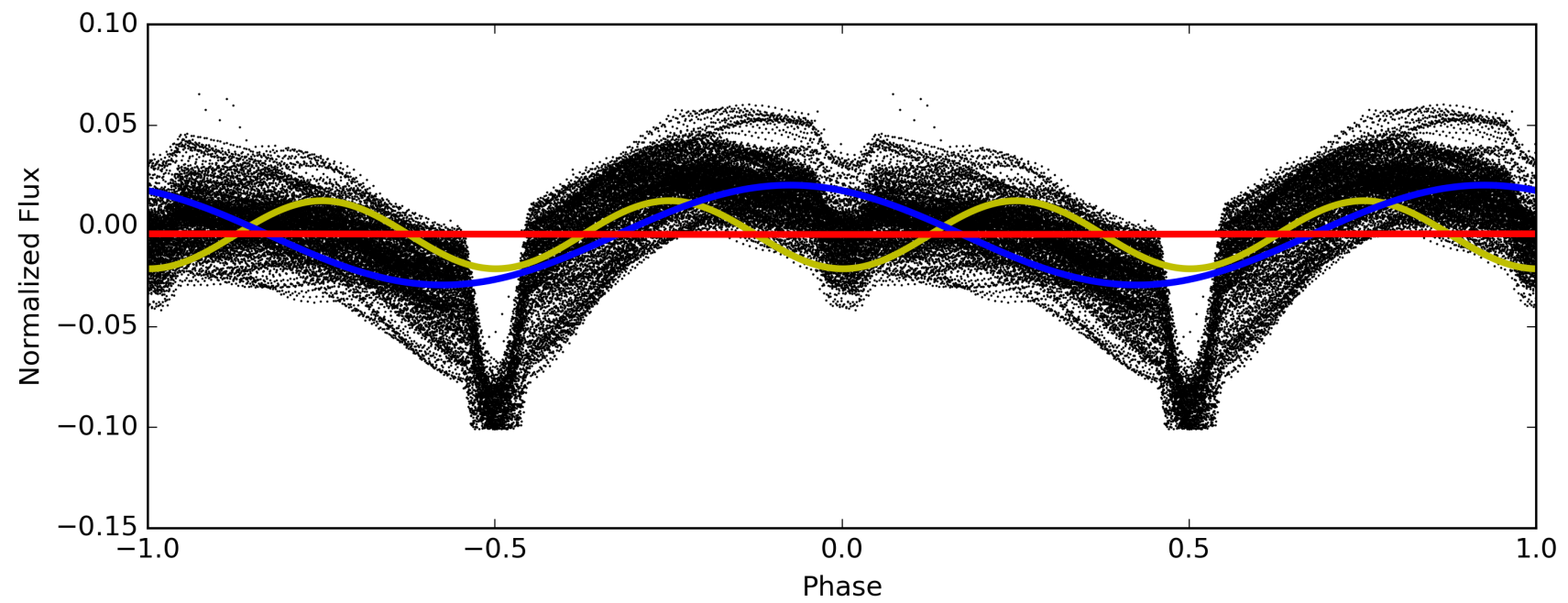
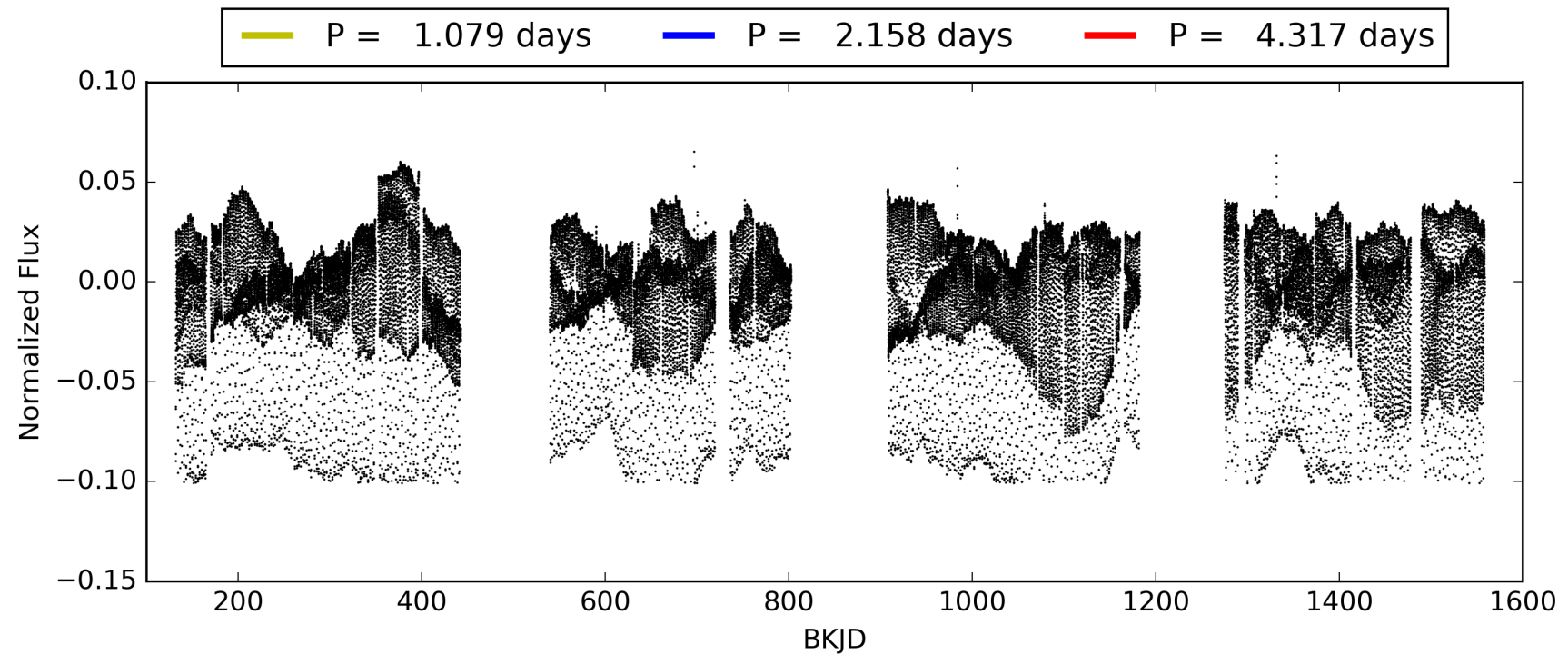
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:52:24 Z

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

TCE 006421483-02, PDC Light Curves

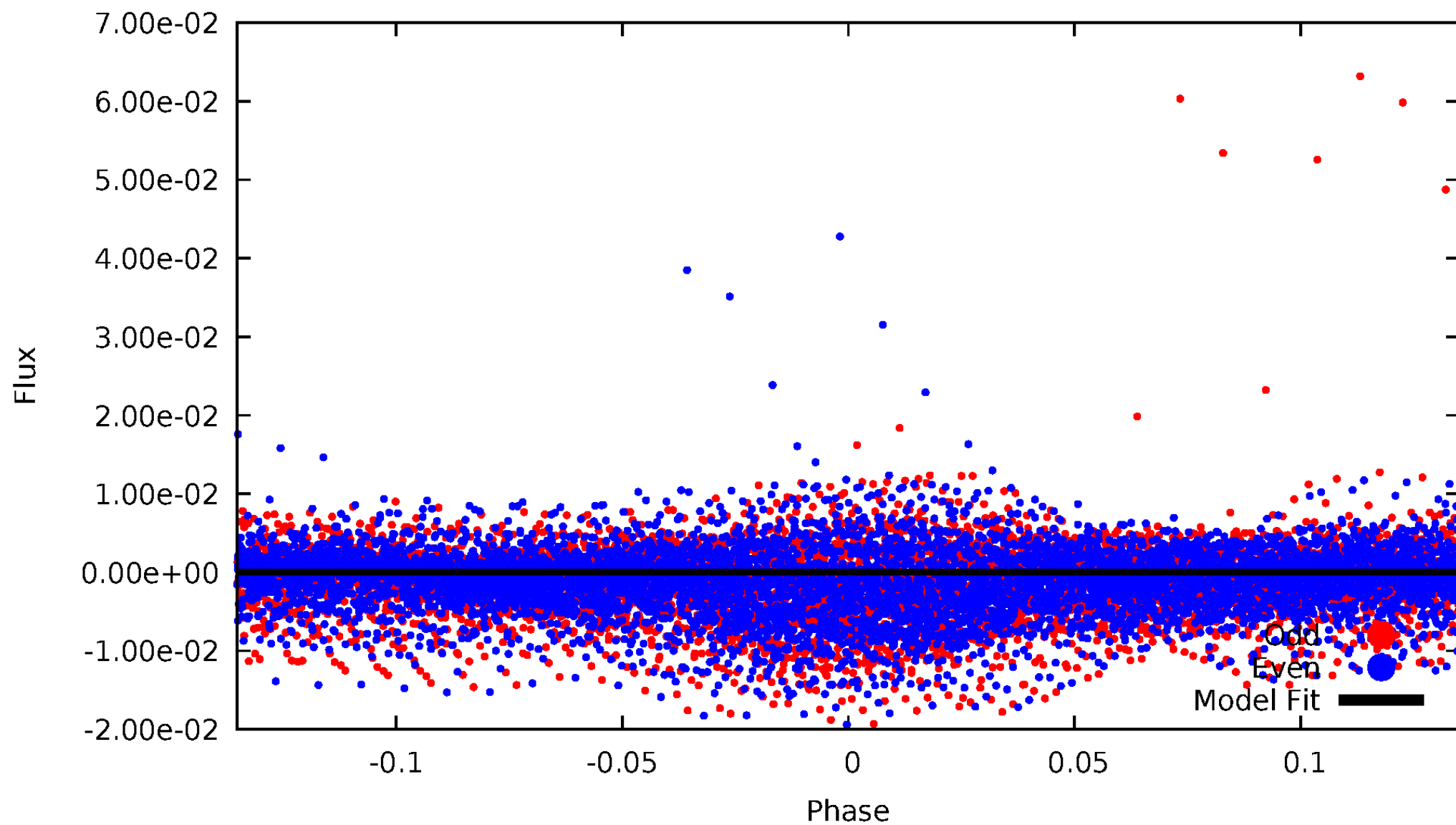


TCE 006421483-02



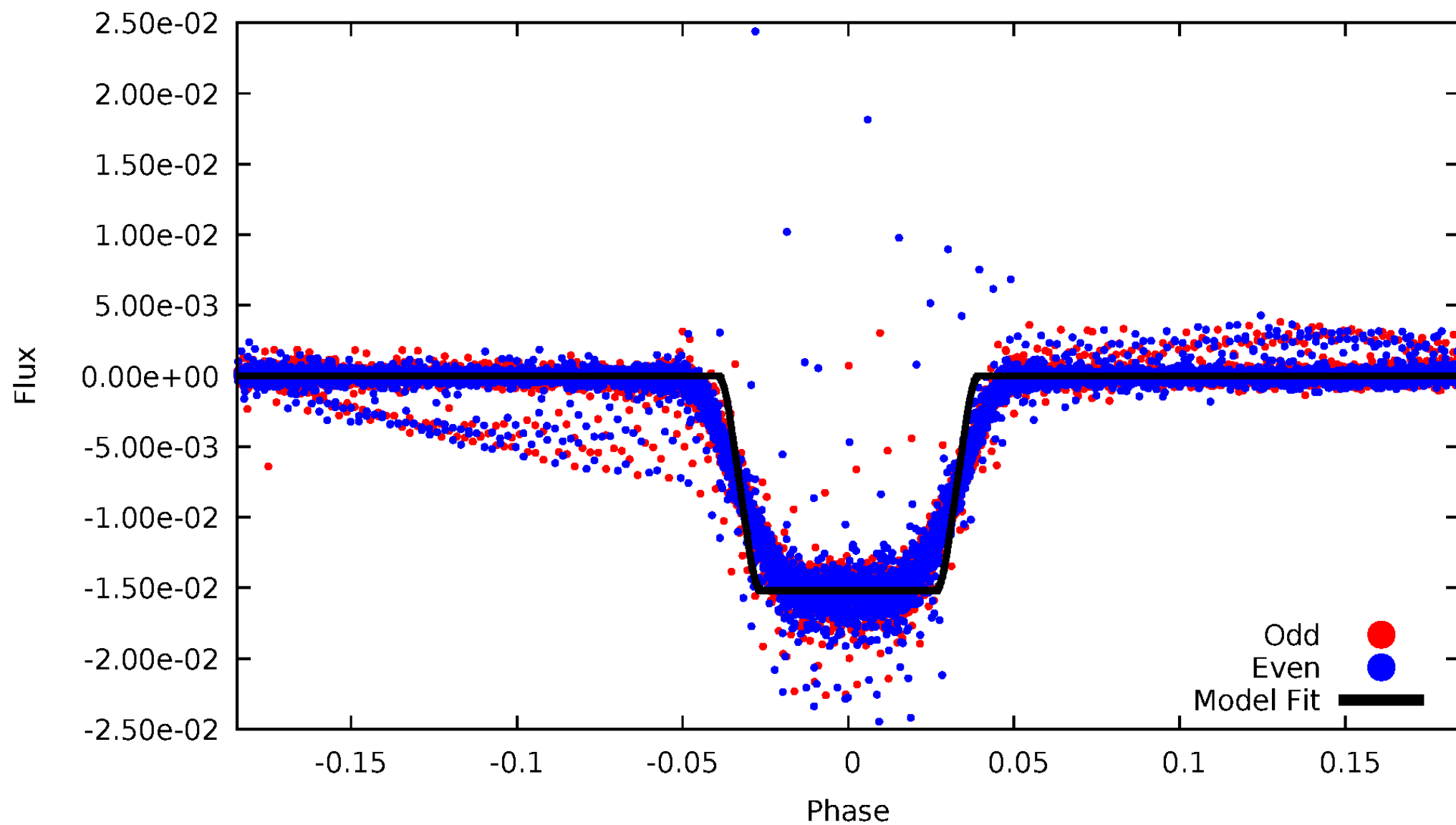
DV Odd/Even

TCE 006421483-02



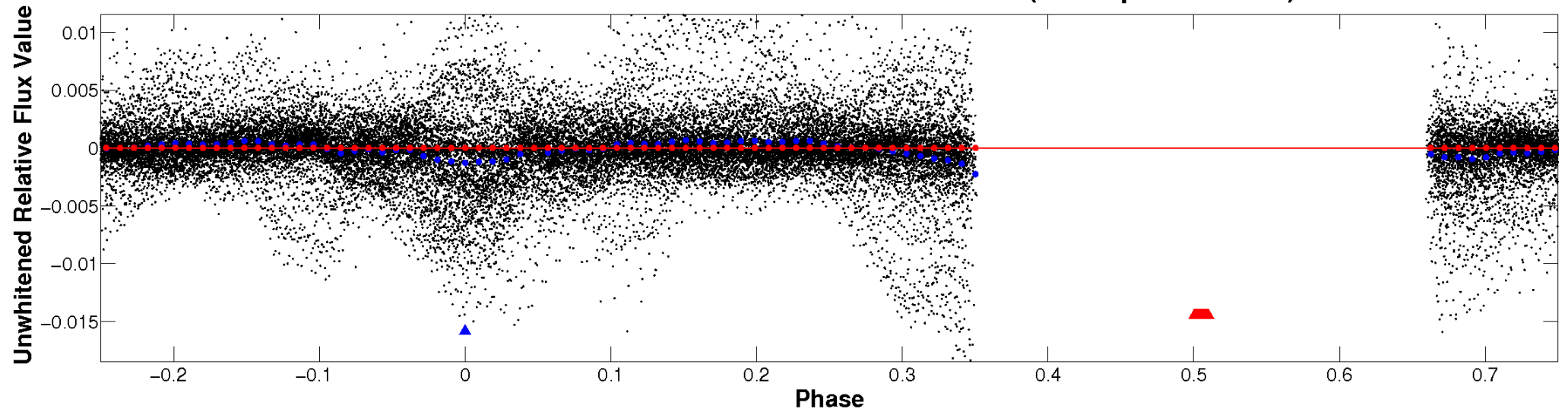
ALT Odd/Even

TCE 006421483-02



Non-Whitened Vs. Whitened Light Curve

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

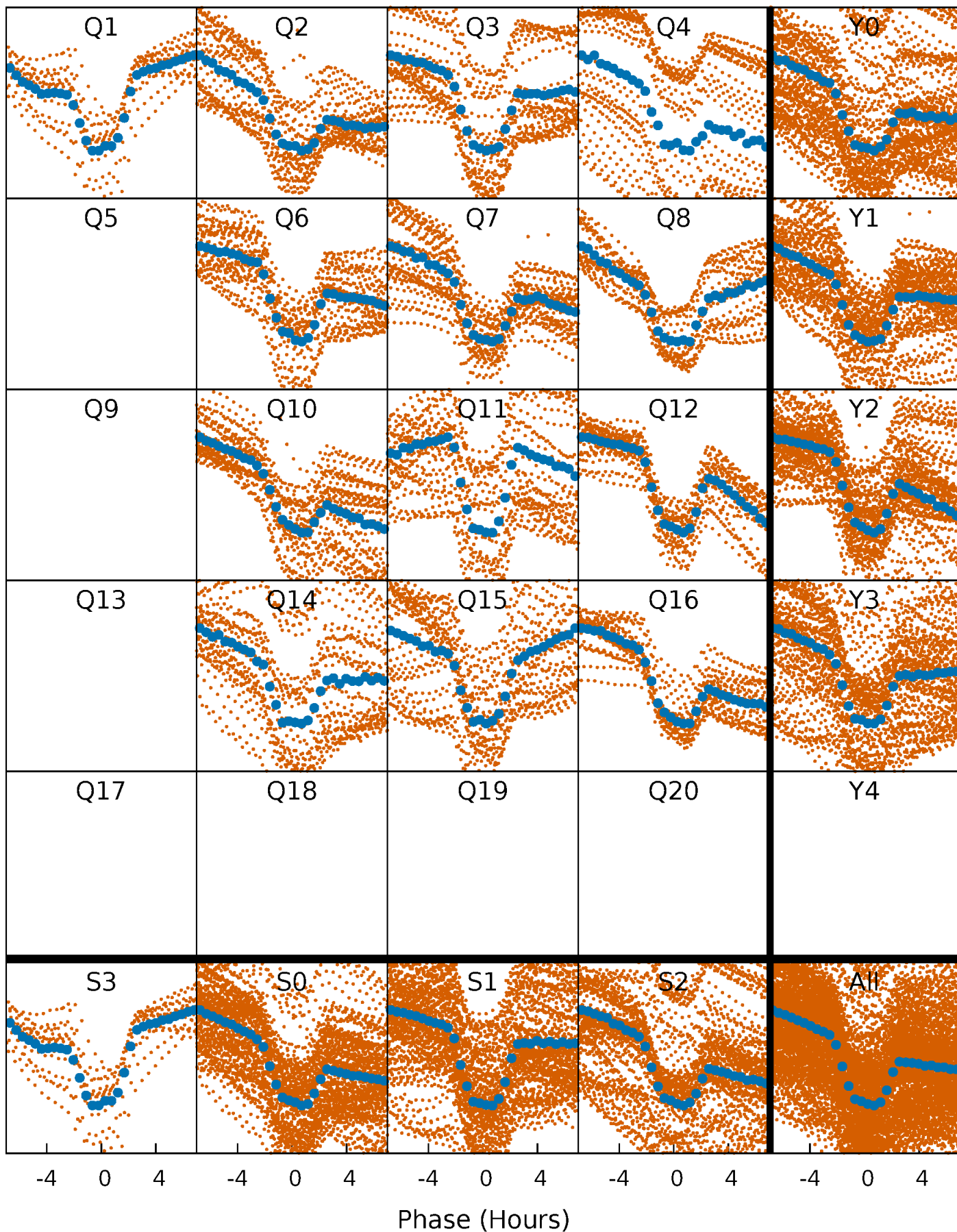


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



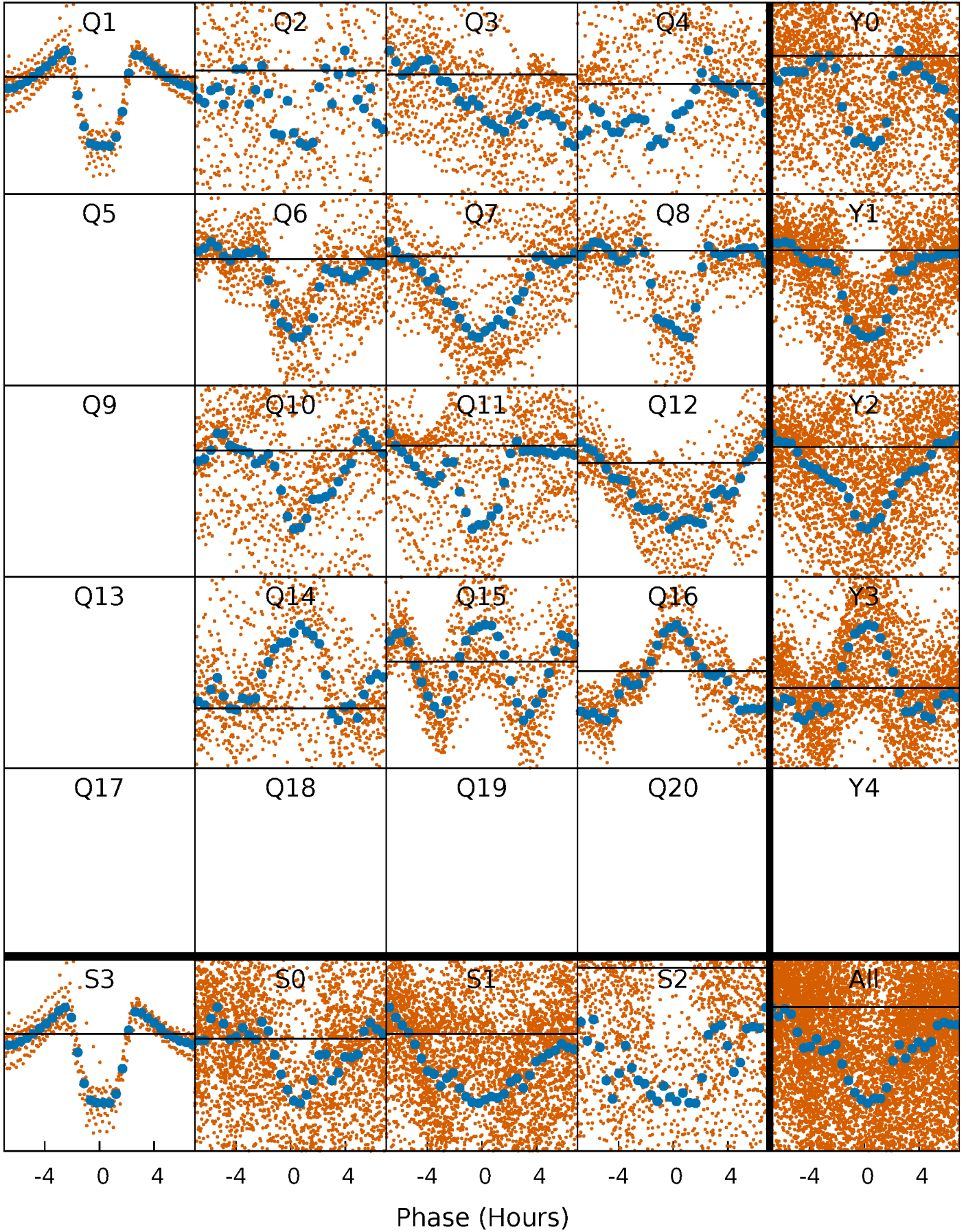
PDC Quarter-Phased Transit Curves

TCE 006421483-02 P= 2.158385 Days $T_0=132.982210$ (BKJD)



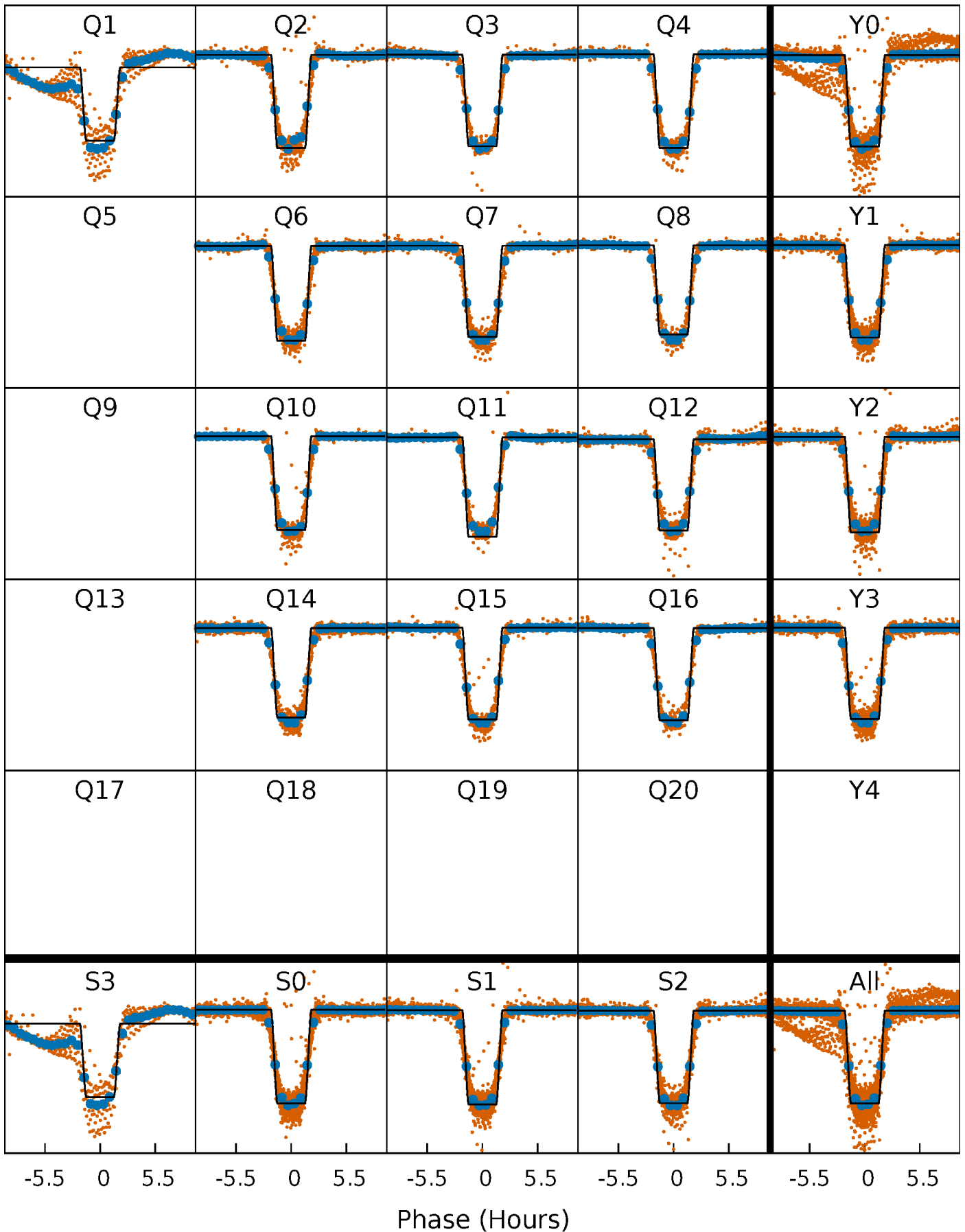
DV Quarter-Phased Transit Curves

TCE 006421483-02 P= 2.158385 Days $T_0=132.982210$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

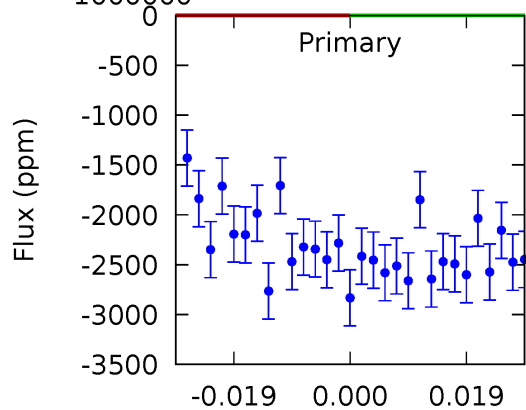
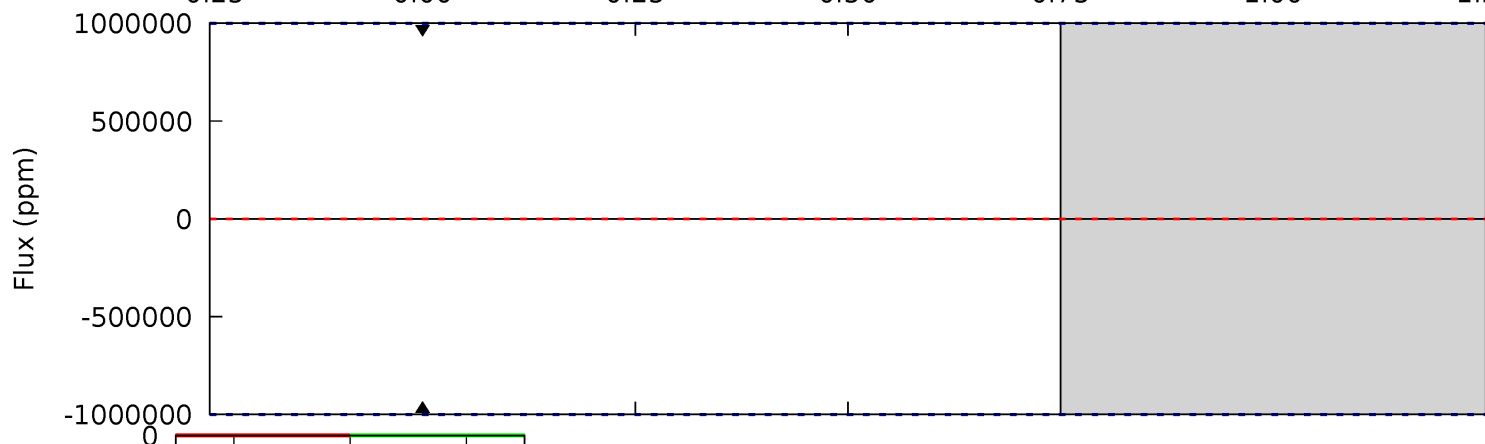
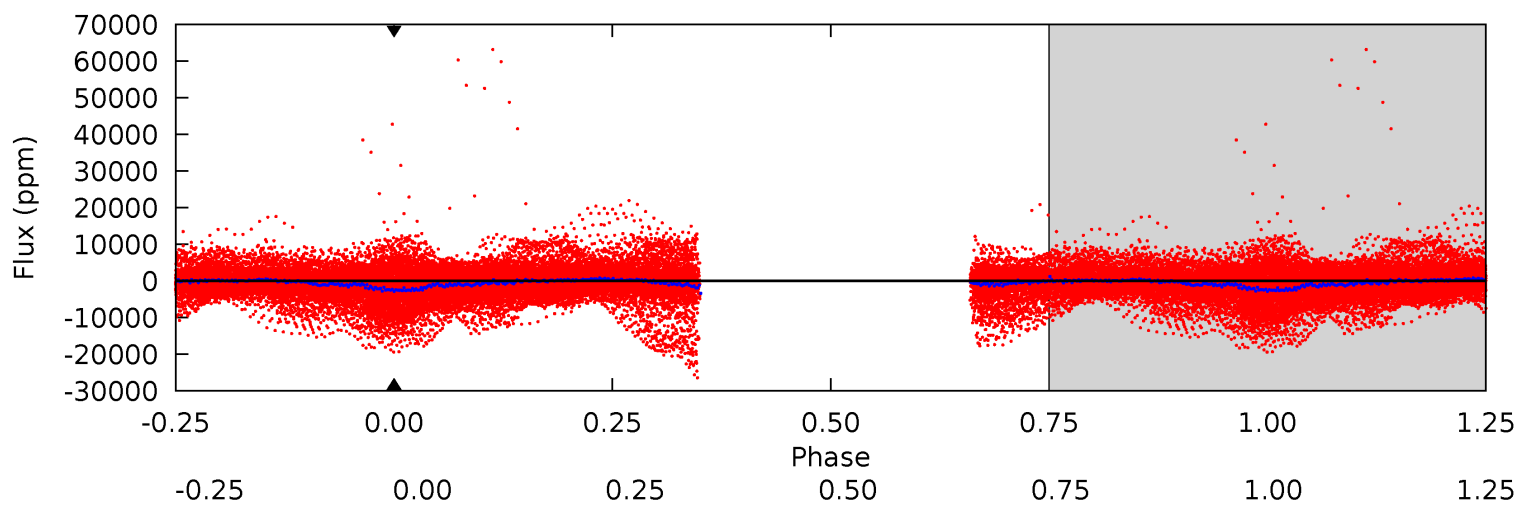
TCE 006421483-02 P= 2.158385 Days $T_0=132.986104$ (BKJD)



DV Model-Shift Uniqueness Test

006421483-02, P = 2.158385 Days, E = 130.823825 Days

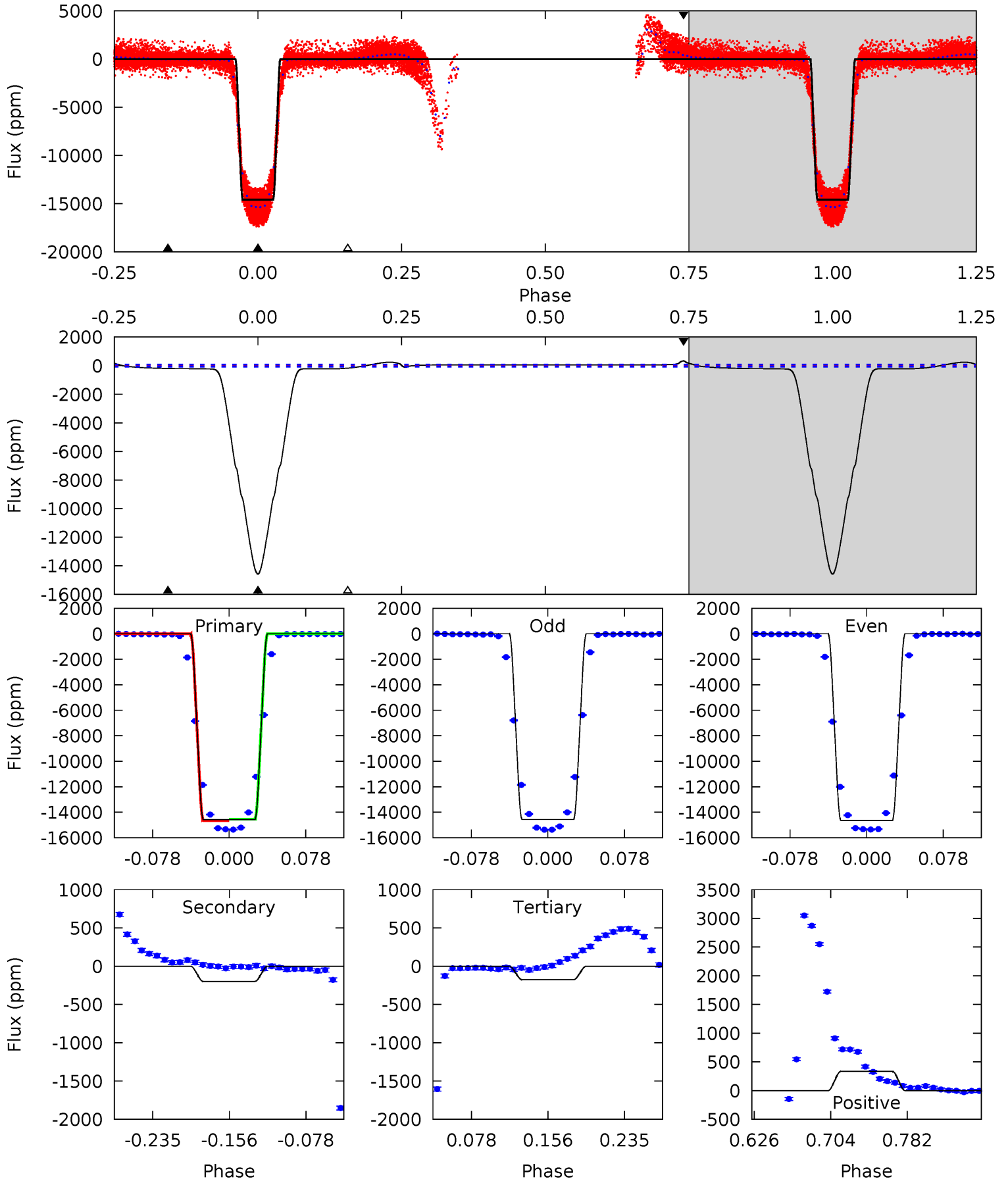
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006421483-02, P = 2.158385 Days, E = 130.827719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
927.7	12.6	11.2	21.3	4.62	1.76	10.8	916.6	906.5	1.45	-8.64	2.50	1.00	0.02	6.74



Stellar Parameters For KIC 006421483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5210^{+140}_{-140}	$3.778^{+0.892}_{-0.297}$	$-0.500^{+0.300}_{-0.250}$	$1.946^{+1.268}_{-1.268}$	$0.829^{+0.214}_{-0.143}$	$0.159^{+3.225}_{-0.121}$
	+3%/-3%	+24%/-8%	+60%/-50%	+65%/-65%	+26%/-17%	+2035%/-76%
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 006421483-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$15.15^{+18.06}_{-10.47}$	2473^{+398}_{-480}	-3675^{+18289}_{-10882}	$-1.465^{+405.274}_{-404.653}$
Alt.	-198 ± 16	$25.55^{+22.48}_{-16.61}$	2487^{+368}_{-517}	-2394^{+5426}_{-457}	$0.172^{+1.144}_{-0.126}$

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

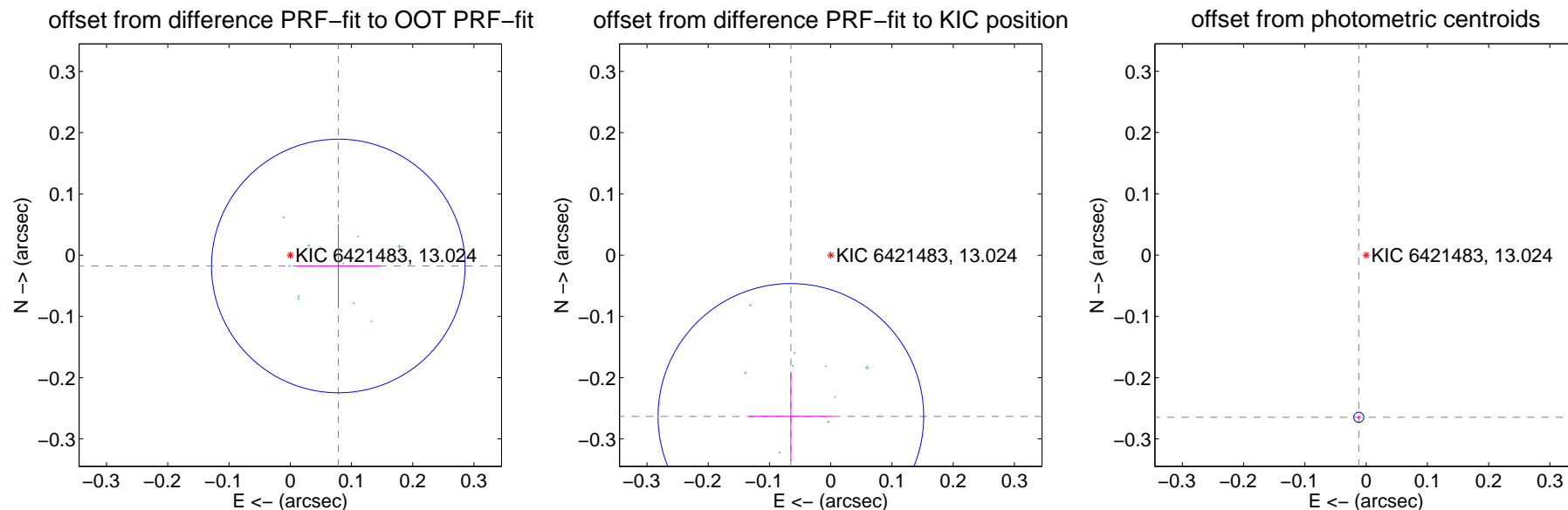
DV Centroid Data

Supplemental centroid analysis for 006421483-02. Kepler magnitude: 13.02. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

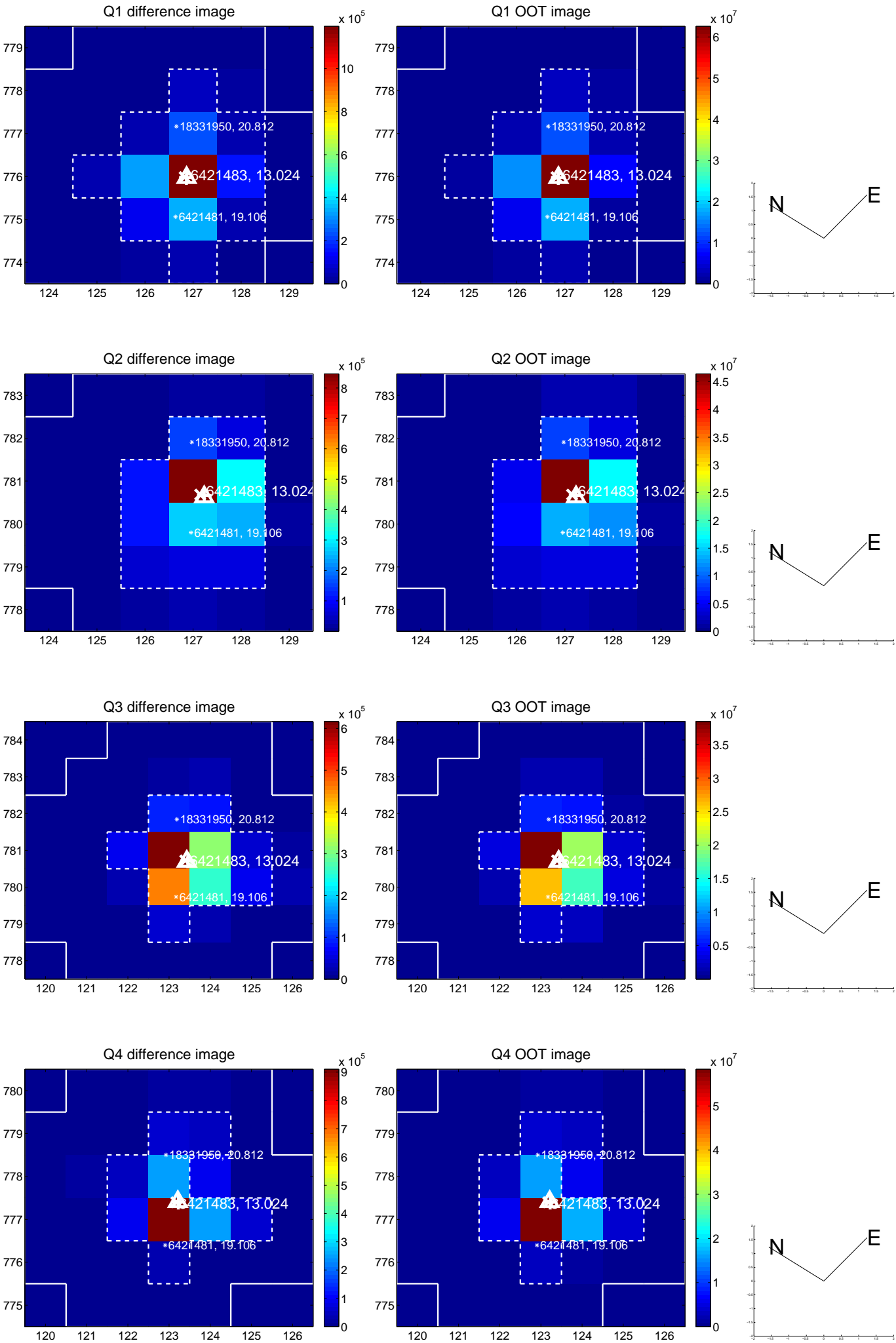
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.069	1.16	-0.078 ± 0.069	-0.018 ± 0.068
PRF-fit source offset from KIC position	0.271 ± 0.072	3.75	0.065 ± 0.069	-0.263 ± 0.072
photometric centroid source offset	0.27 ± 0.00	96.91	0.01 ± 0.00	-0.26 ± 0.00

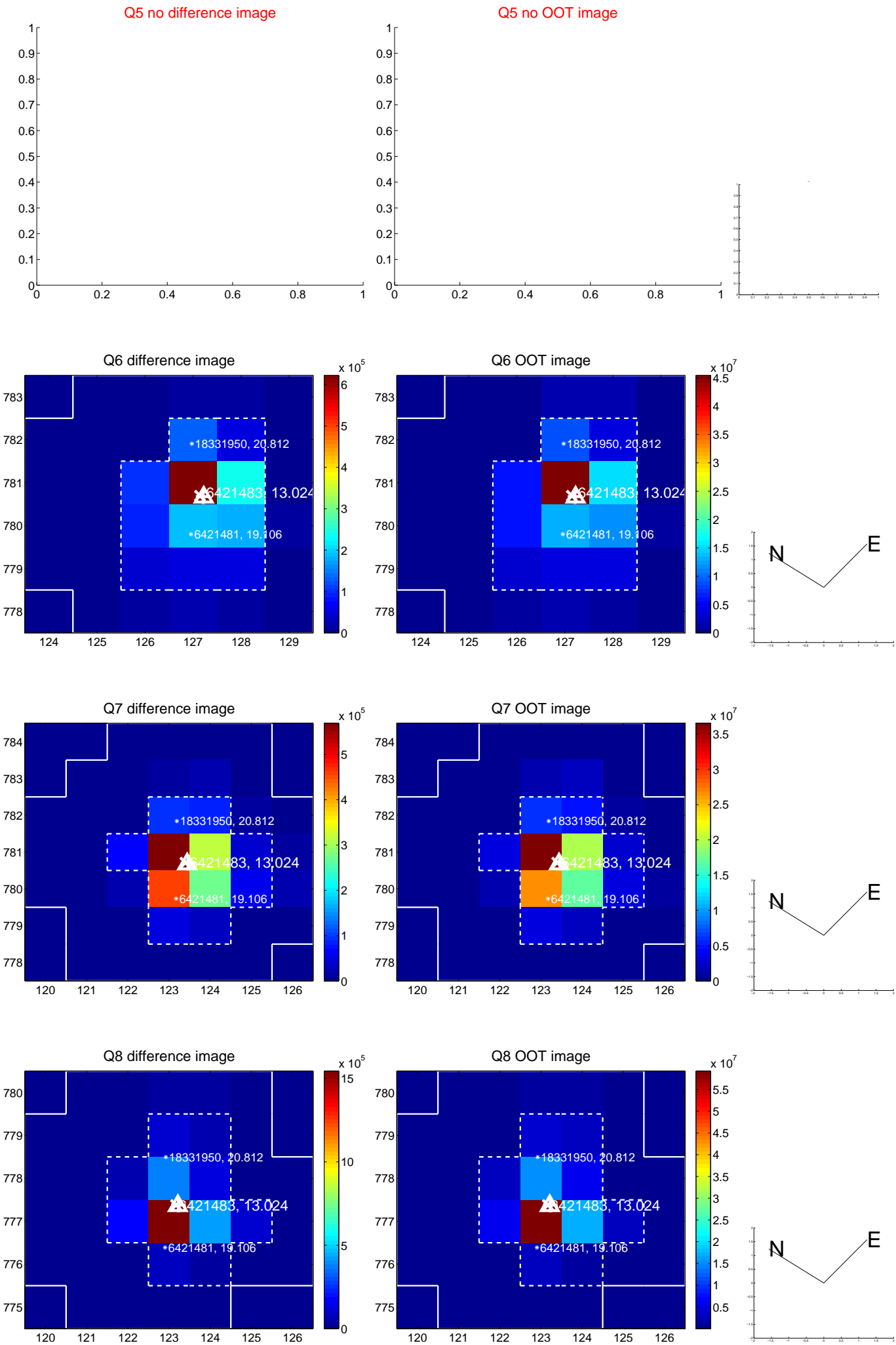


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

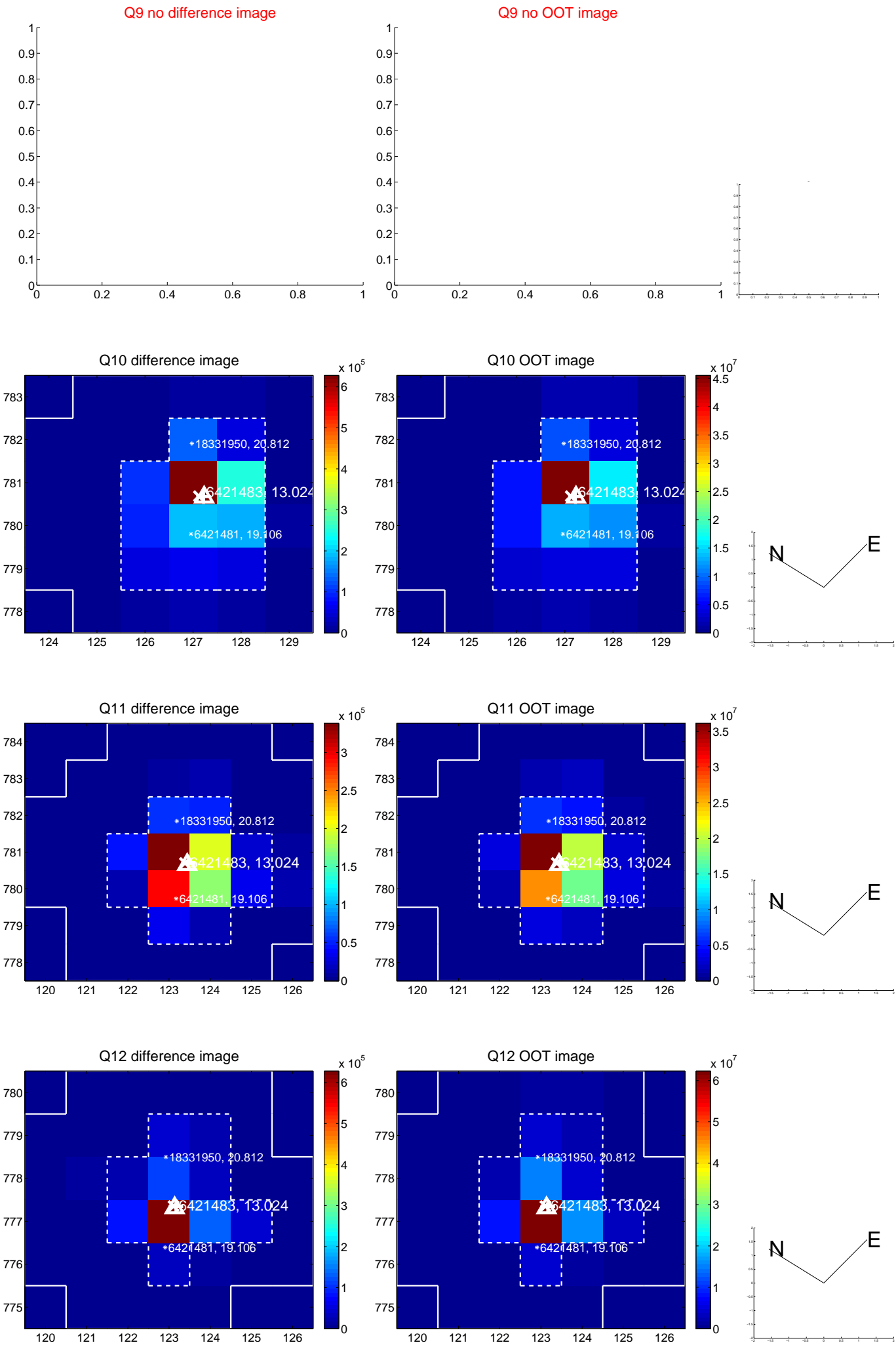
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



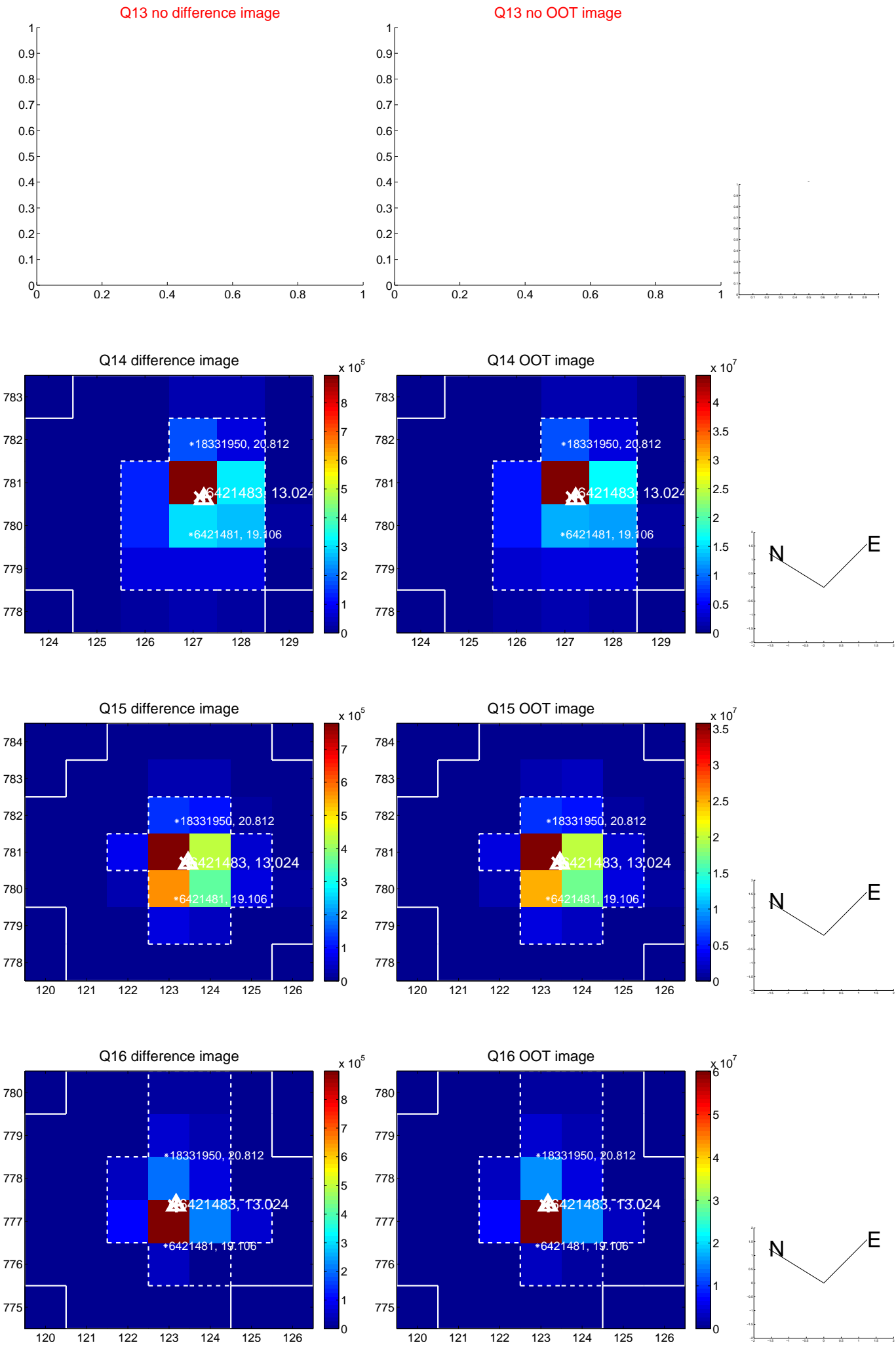
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



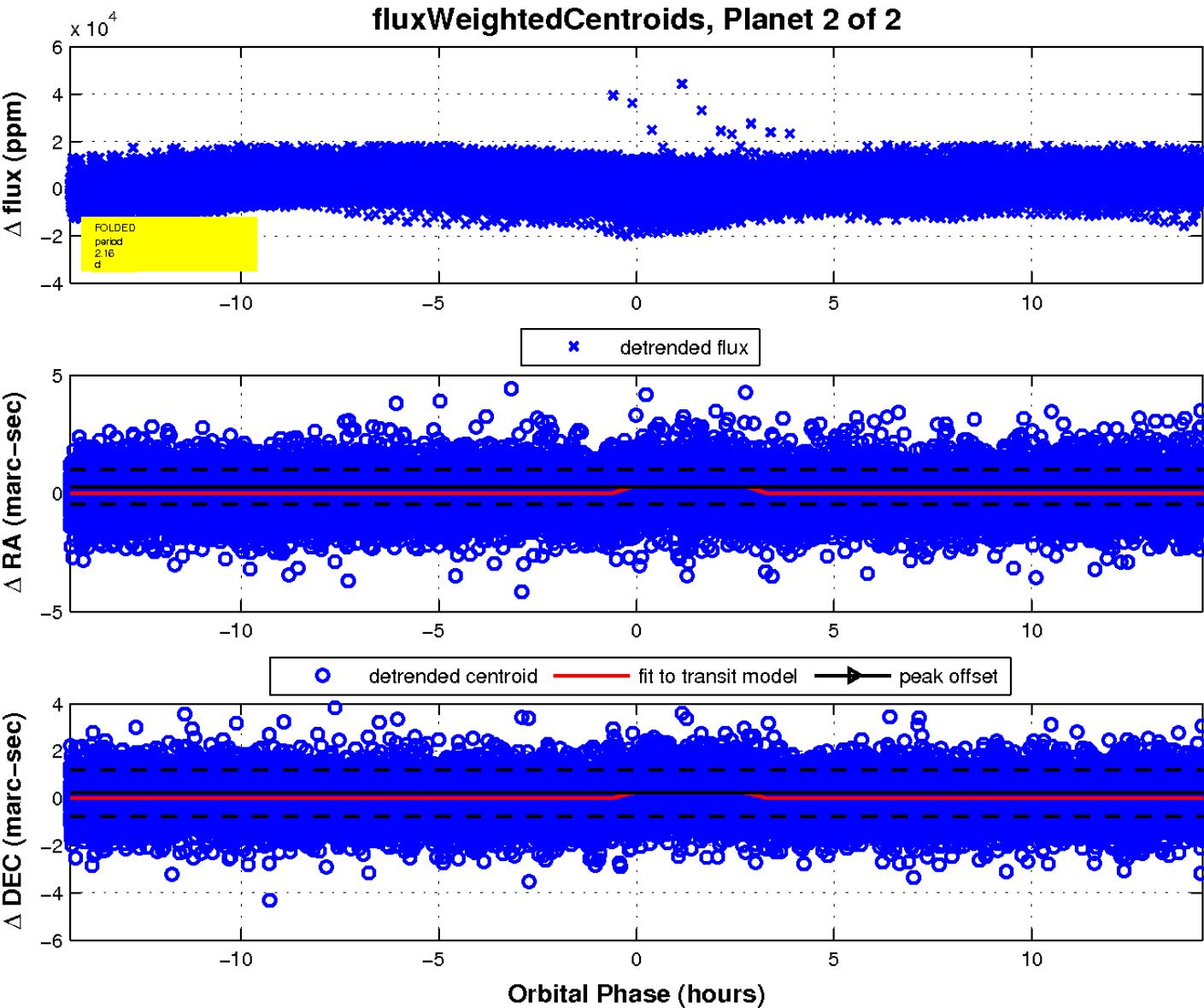
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

