

KIC 012365000

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})
012365000-01	OBS	7527.01	1.262771	132.186097	349.4	0.824	22.7	27.4	3.15	5273	7.49	9974.69
012365000-02	OBS	No	0.631463	132.200550	248.3	7.578	11.1	10.8	3.15	5273	7.01	25130.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012365000-01	OBS	FP	0.00	1	0	0	0	LPP_DV
012365000-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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 012365000-01

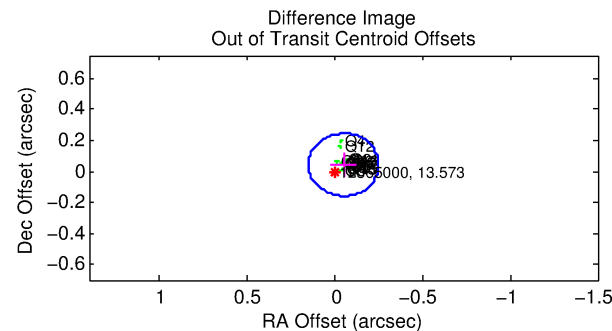
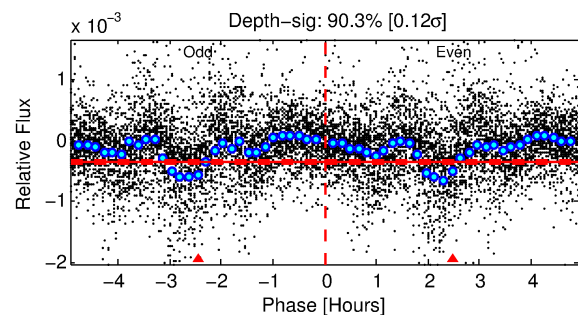
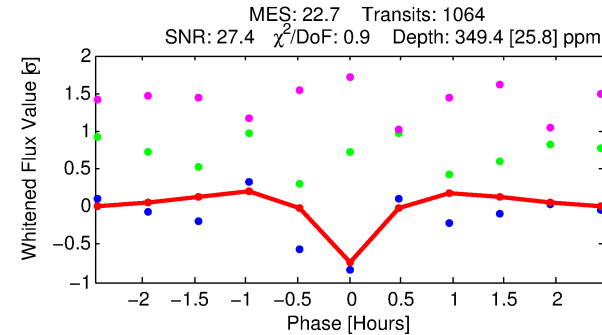
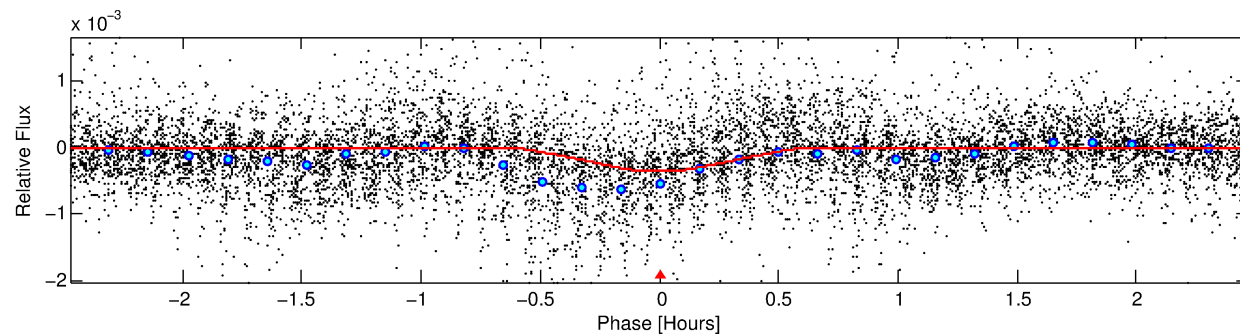
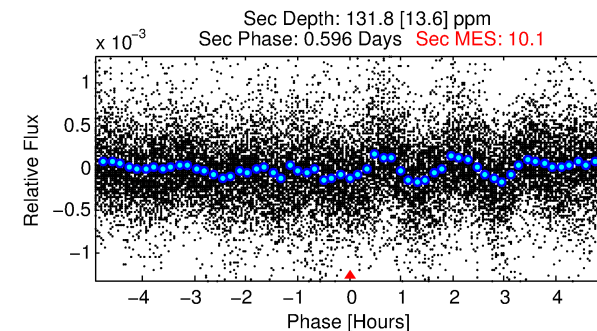
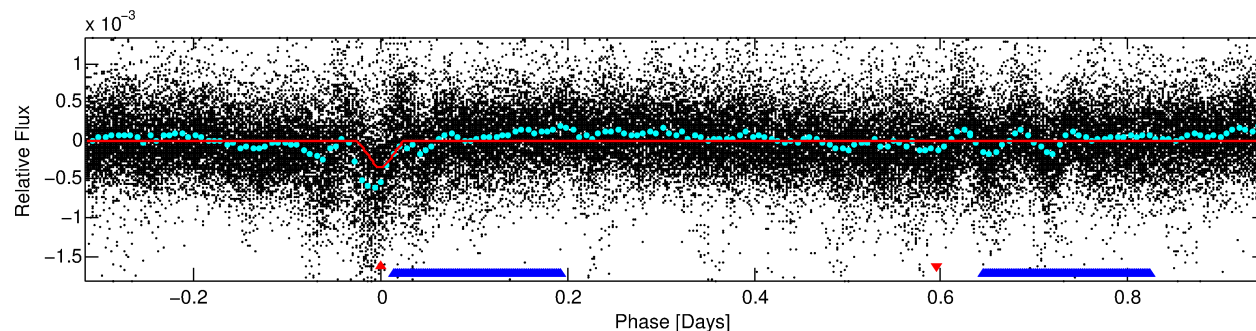
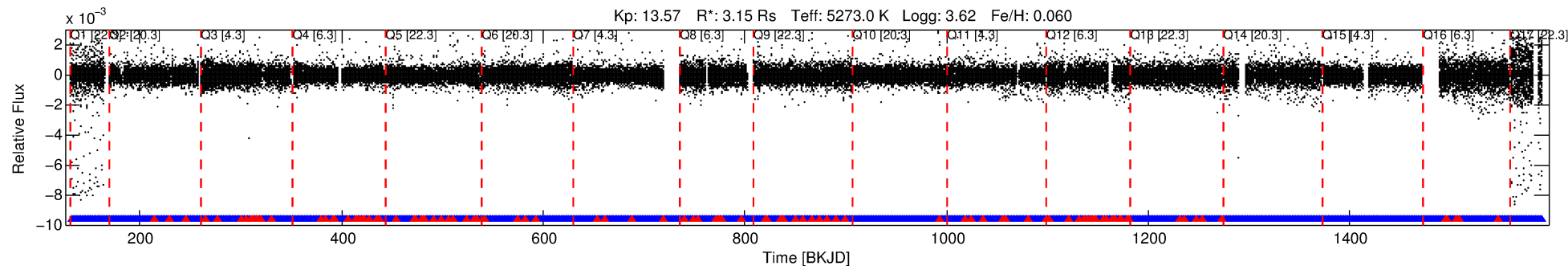
No Significant Match Found

DV One-Page Summary

KIC: 12365000 Candidate: 1 of 2 Period: 1.263 d

KOI: K07527 Corr: No Ephemeris Match

Kp: 13.57 R*: 3.15 Rs Teff: 5273.0 K Logg: 3.62 Fe/H: 0.060



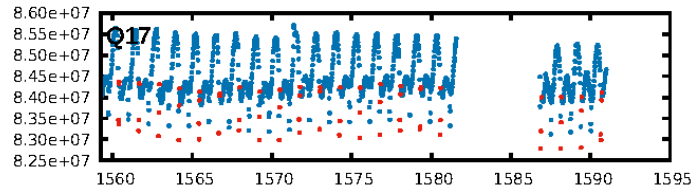
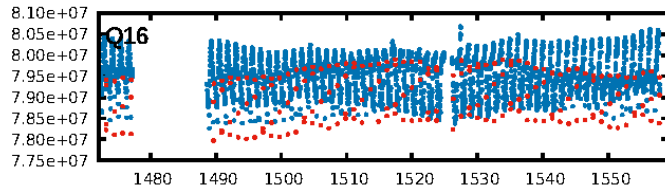
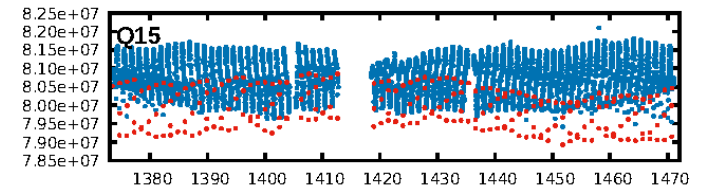
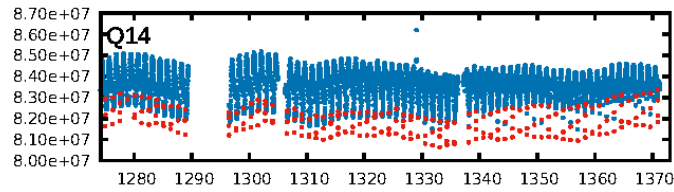
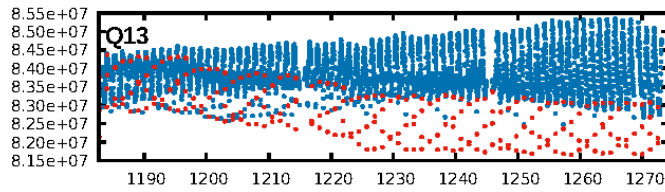
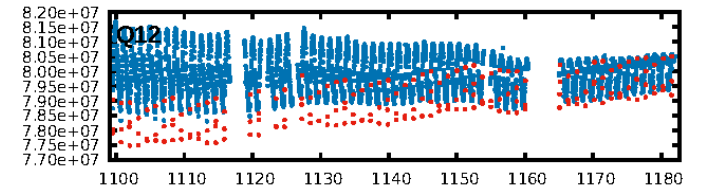
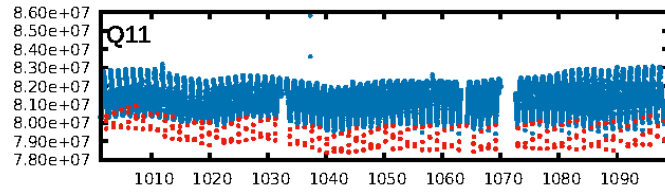
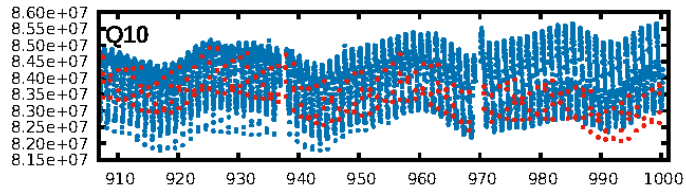
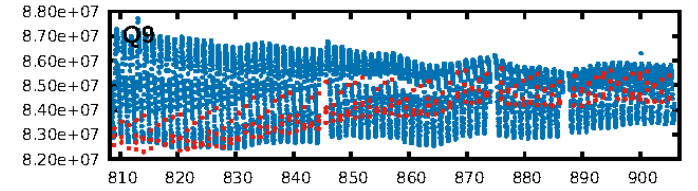
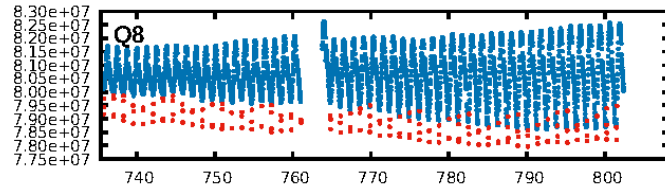
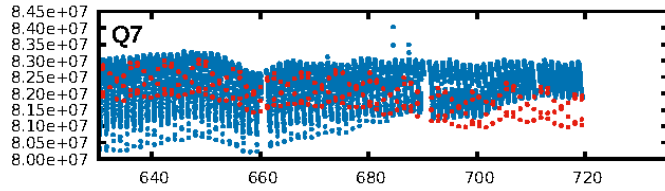
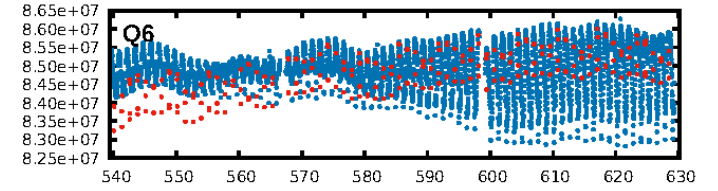
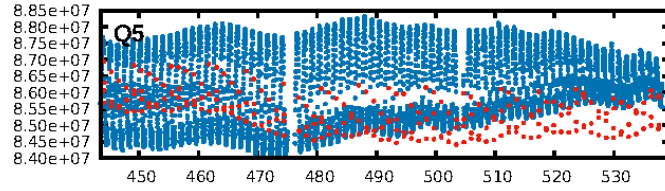
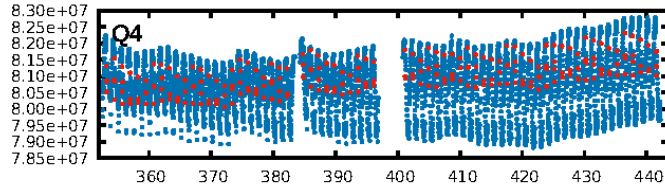
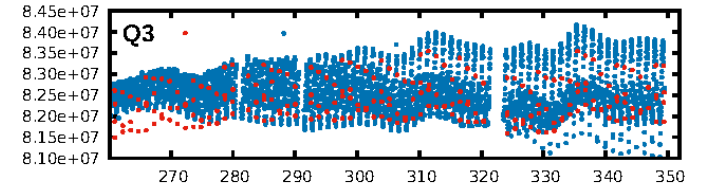
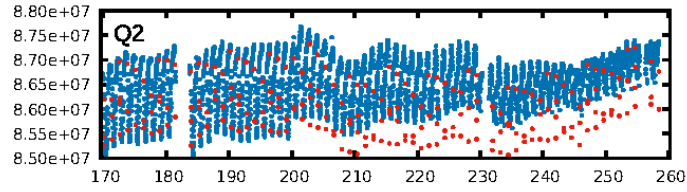
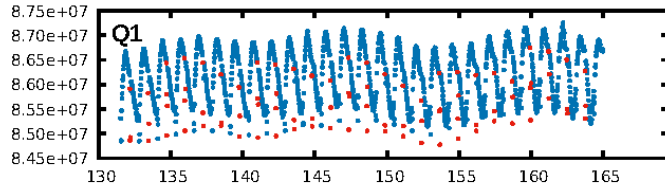
DV Fit Results:

Period = 1.26277 [0.00000] d
Epoch = 132.1861 [0.0005] BKJD
Rp/R* = 0.0218 [0.0058]
a/R* = 5.13 [5.48]
b = 0.93 [0.18]
Seff = 9974.70 [13752.56]
Teff = 2548 [878] K
Rp = 7.49 [5.62] Re
a = 0.0262 [0.0209] AU
Ag = 0.89 [1.31] [-0.08σ]
Teffp = 3827 [535] K [1.24σ]

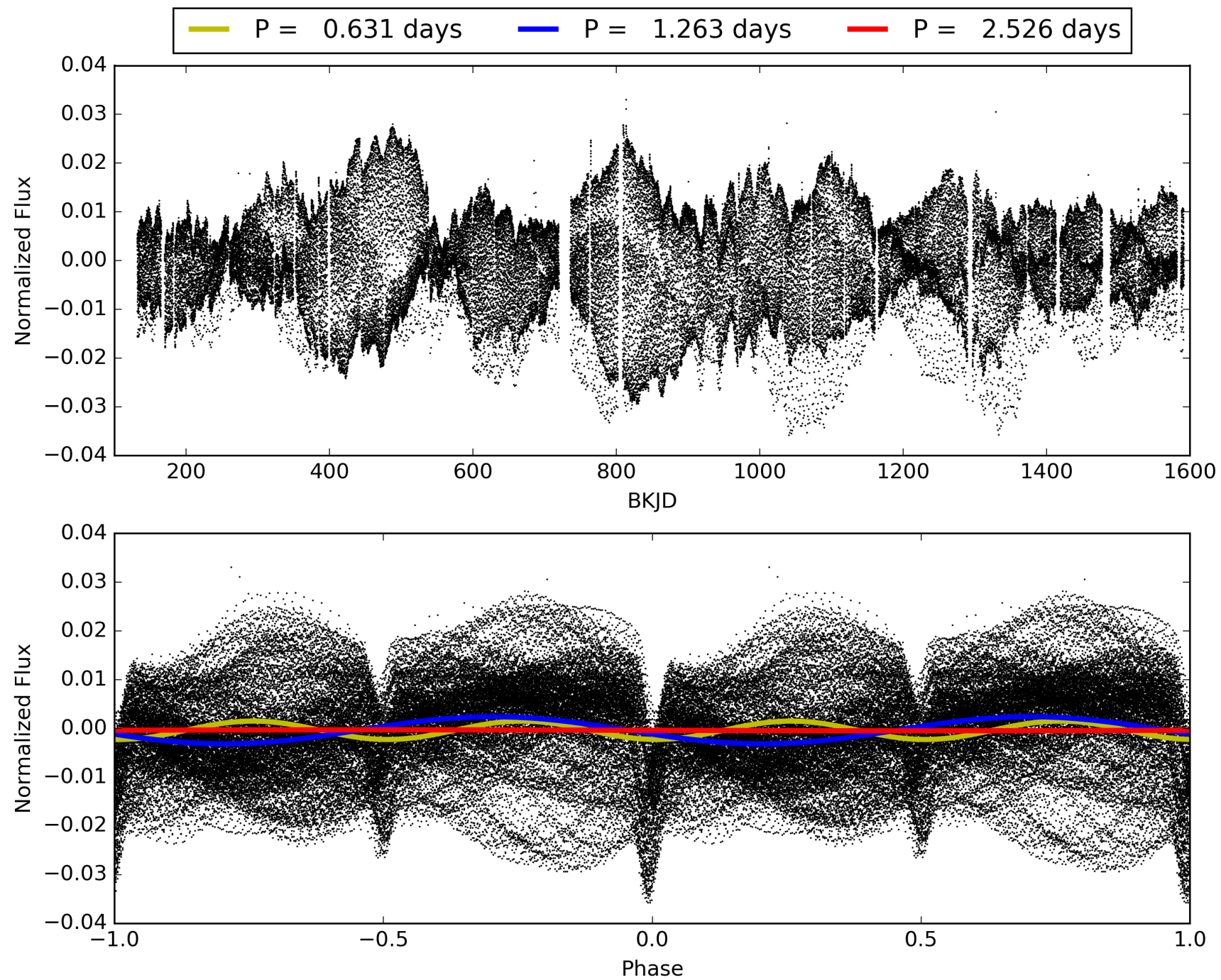
DV Diagnostic Results:

ShortPeriod-sig: 95.3% [1.99σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [910/1016]
GhostDiagnostic-chr: 0.5363
Centroid-sig: 0.0%
Centroid-so: 2.022 arcsec [7.92σ]
OotOffset-rm: 0.067 arcsec [1.00σ]
KicOffset-rm: 0.083 arcsec [1.21σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 012365000-01, PDC Light Curves

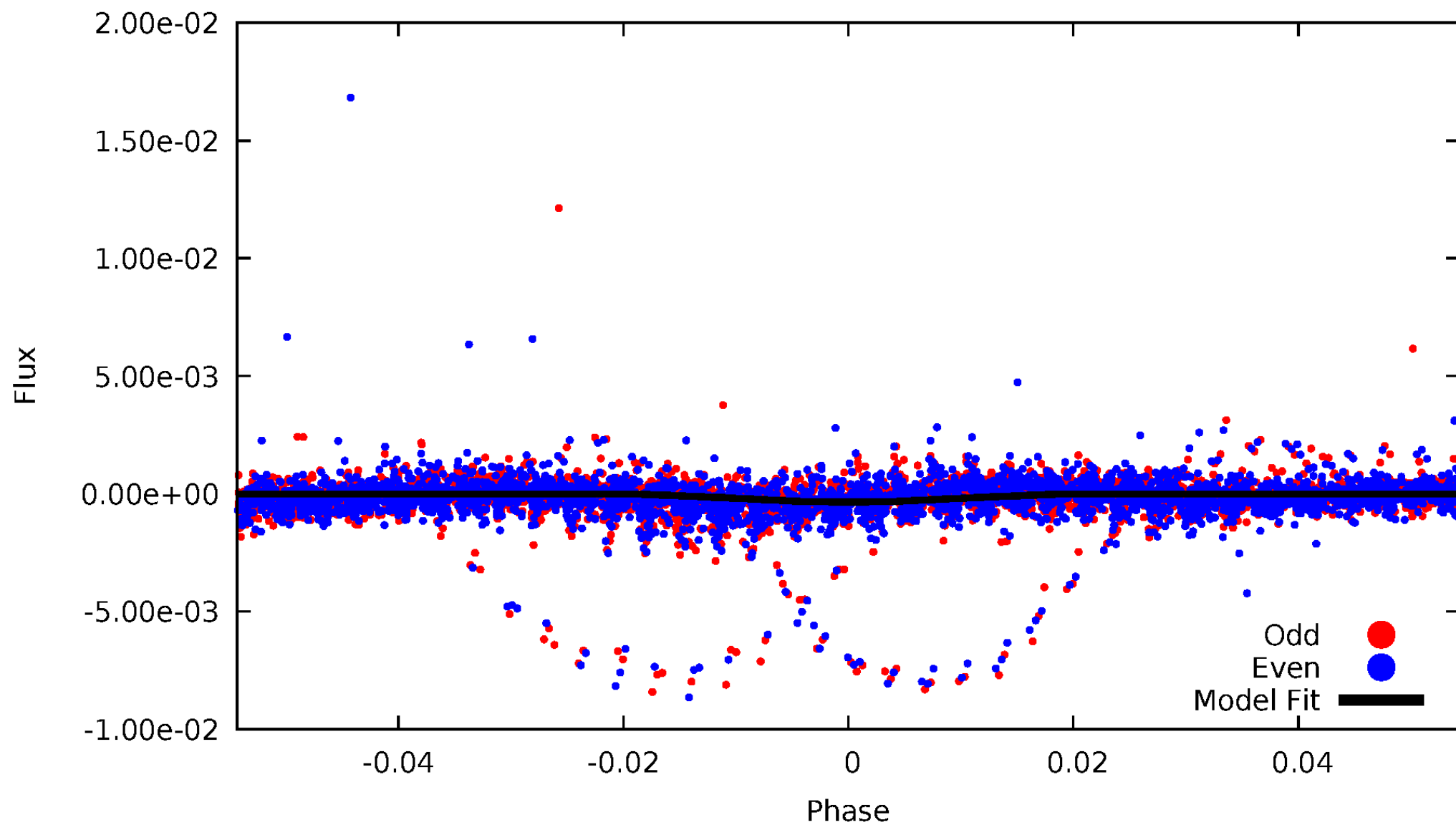


TCE 012365000-01



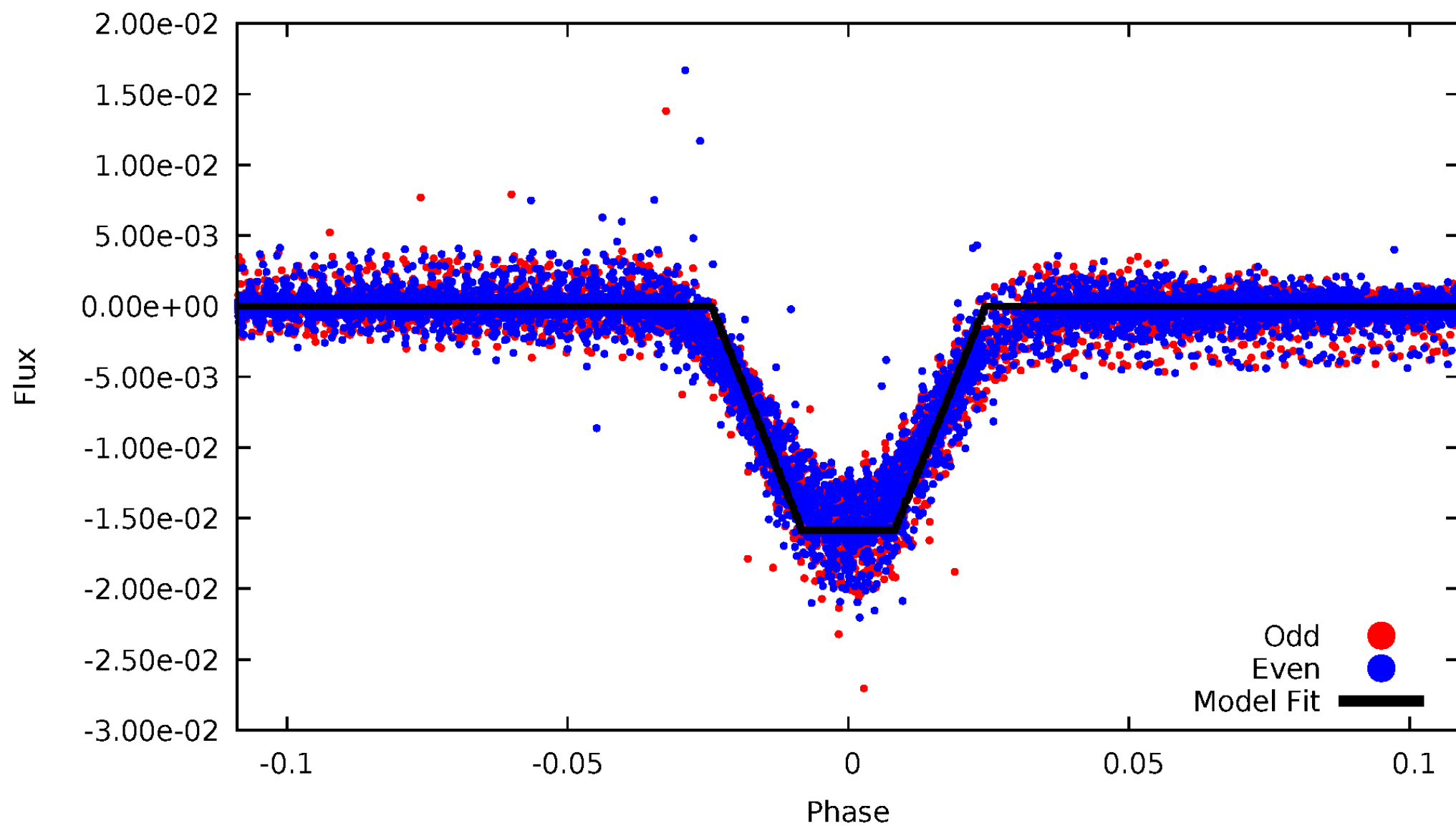
DV Odd/Even

TCE 012365000-01



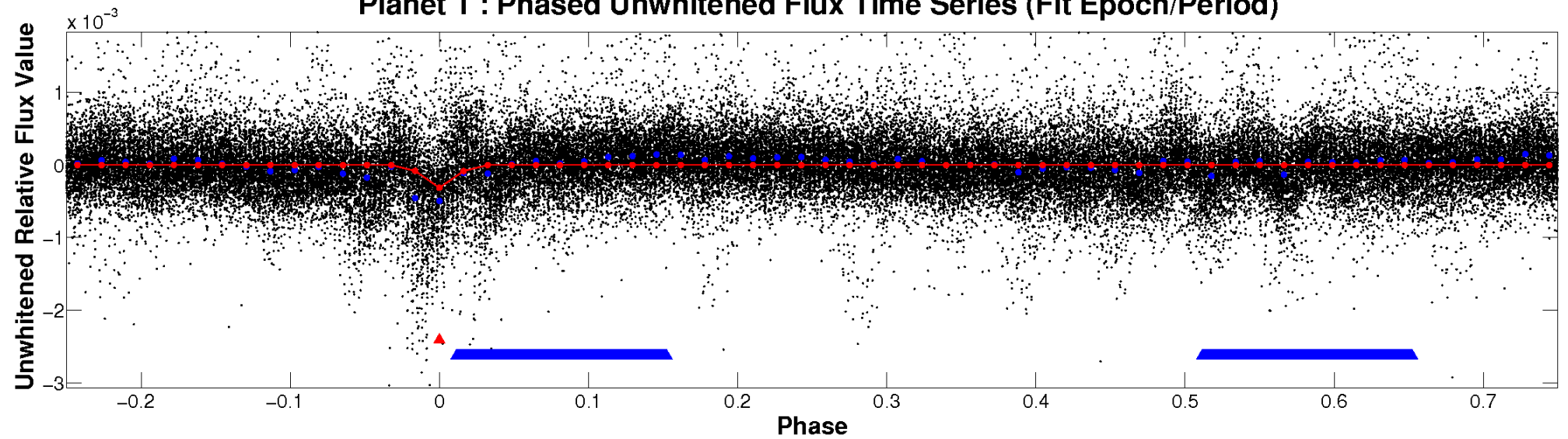
ALT Odd/Even

TCE 012365000-01

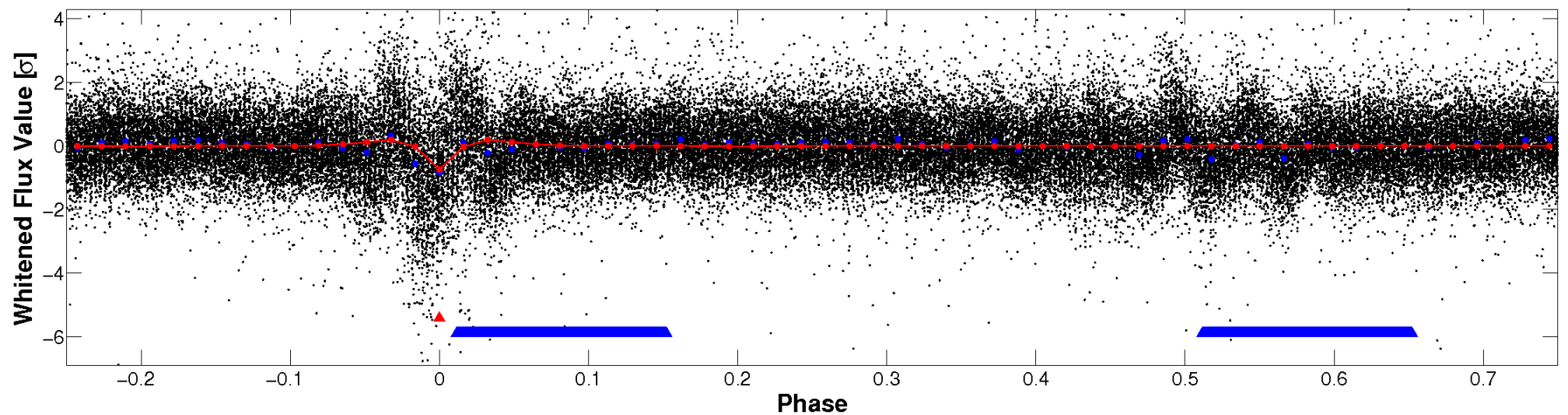


Non-Whitened Vs. Whitened Light Curve

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

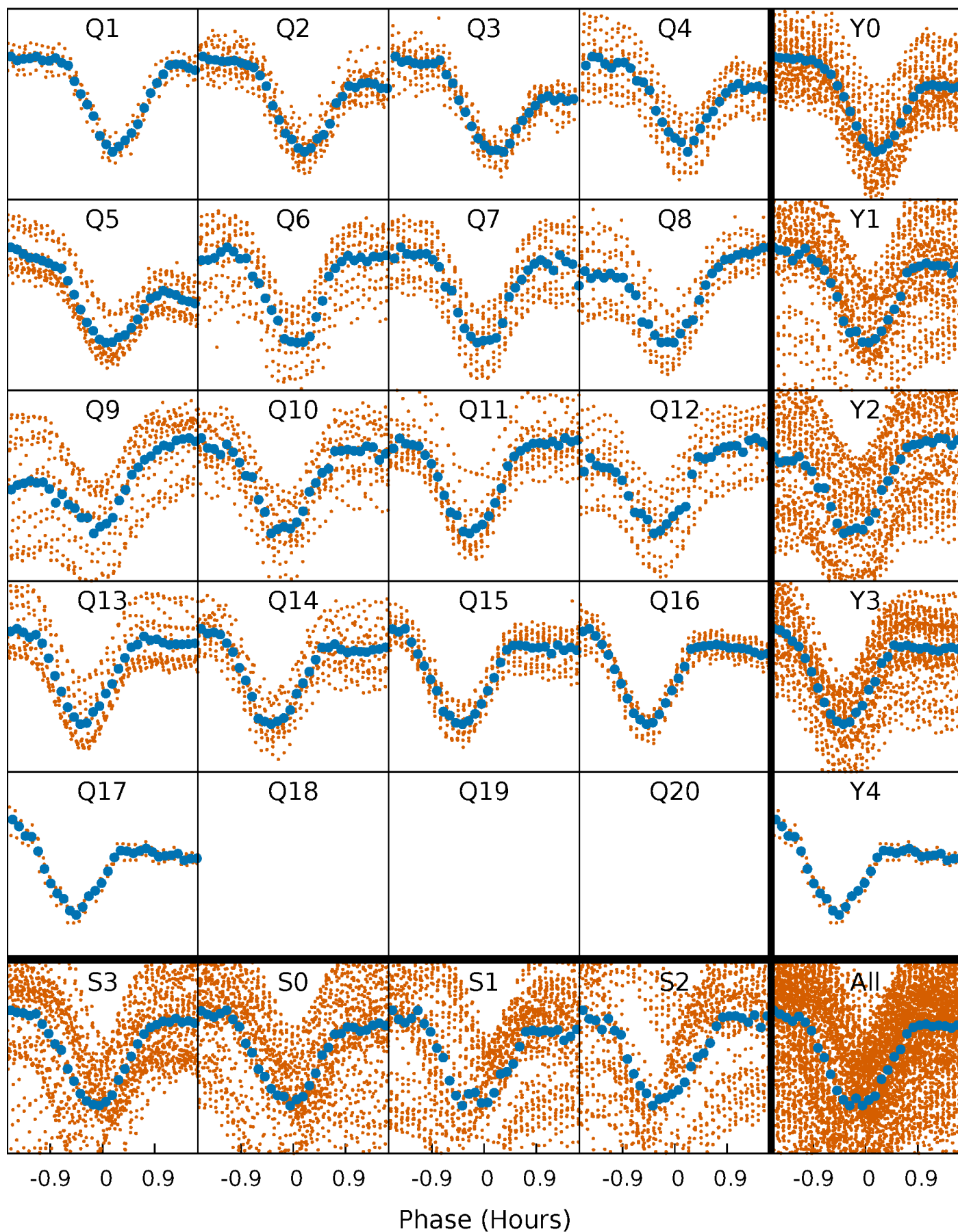


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



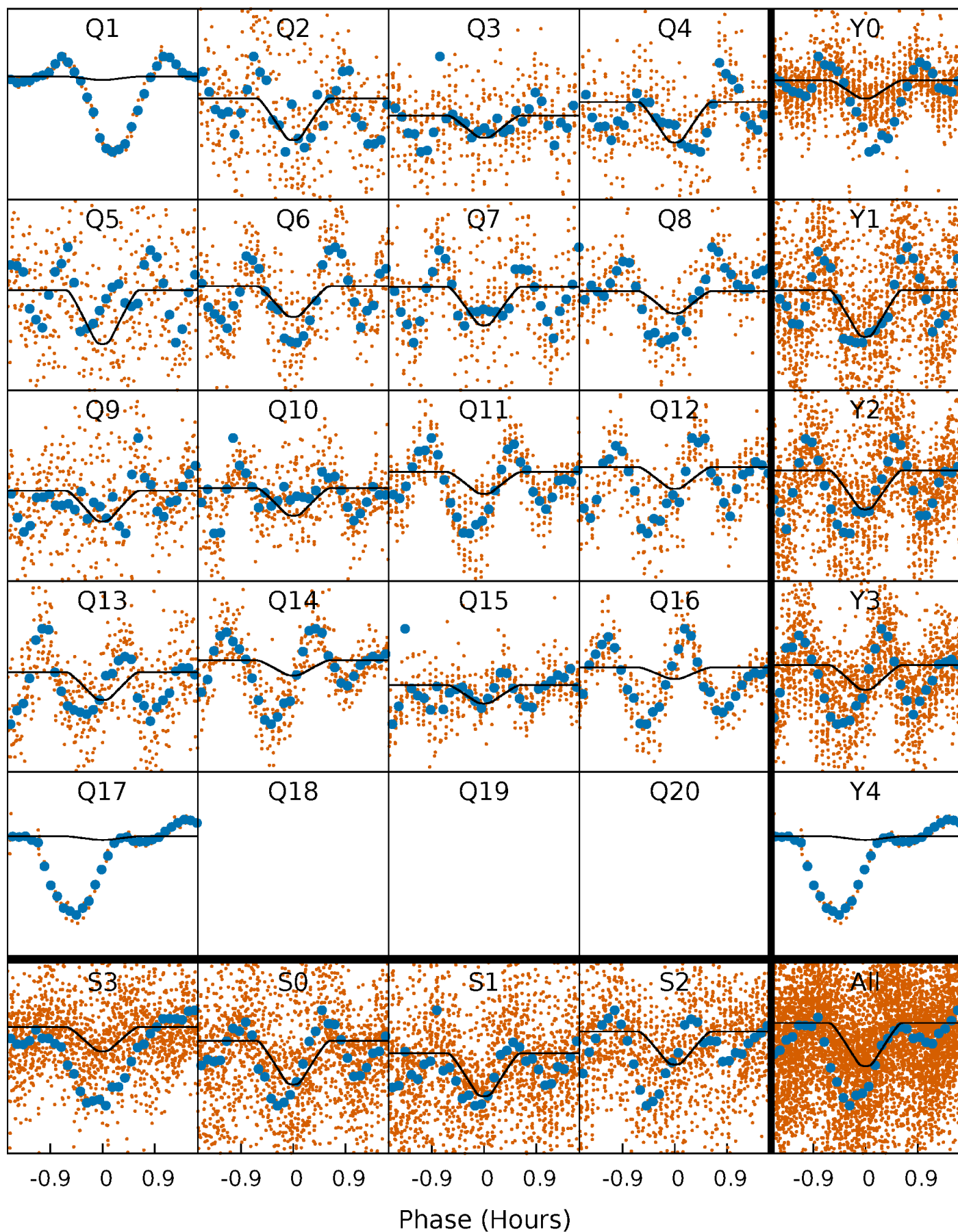
PDC Quarter-Phased Transit Curves

TCE 012365000-01 P= 1.262771 Days $T_0=132.186097$ (BKJD)



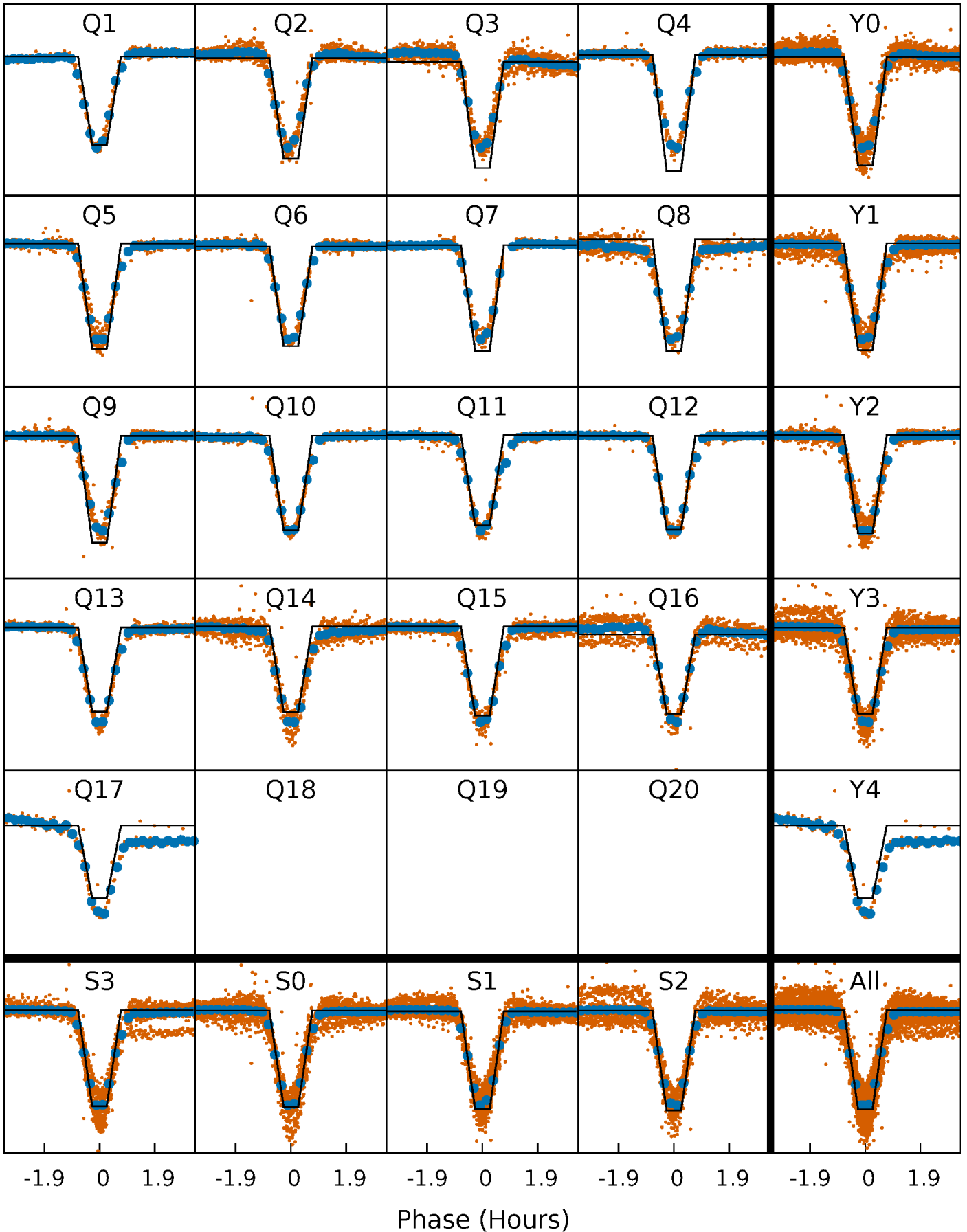
DV Quarter-Phased Transit Curves

TCE 012365000-01 P= 1.262771 Days $T_0=132.186097$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

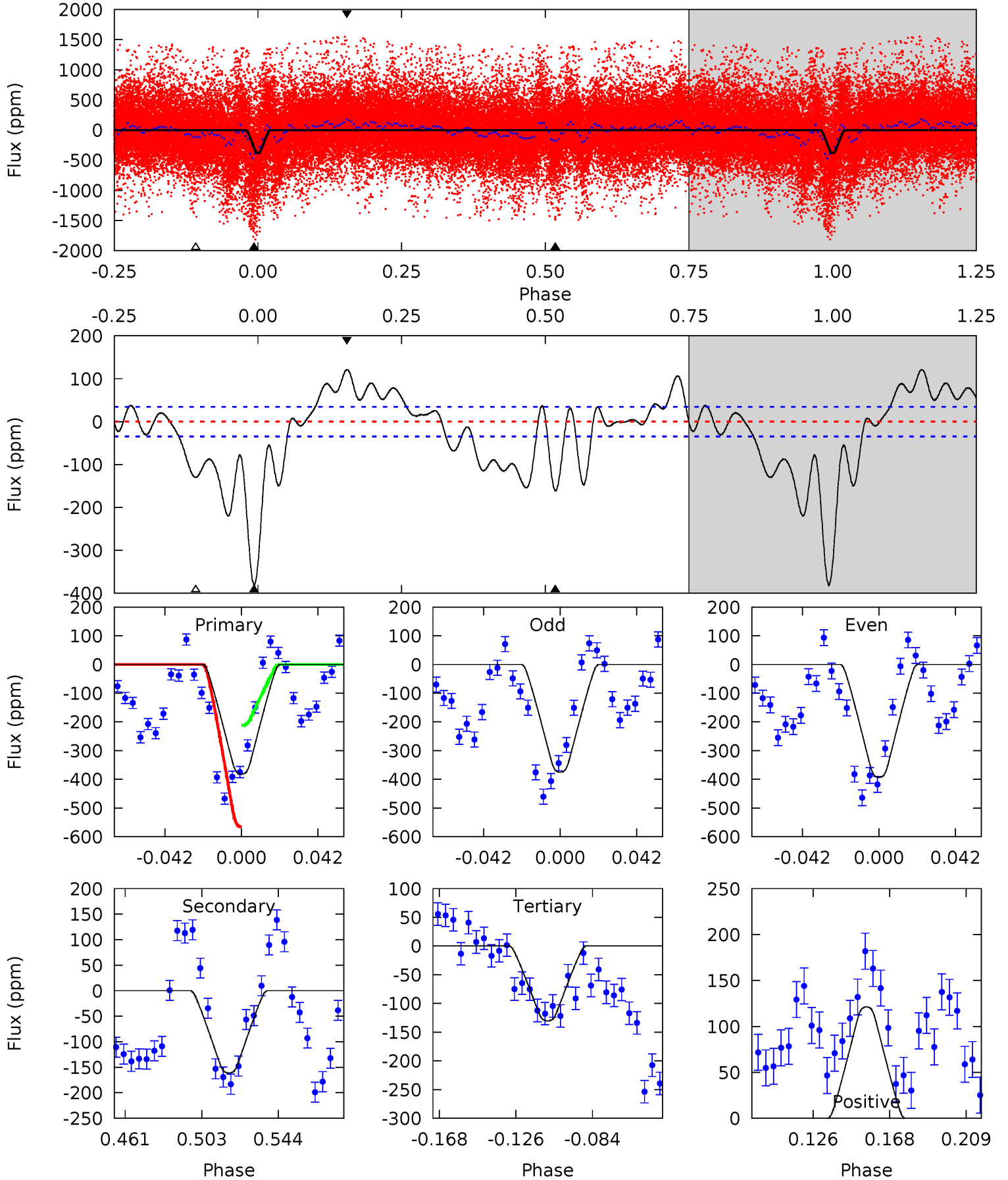
TCE 012365000-01 P= 1.262742 Days $T_0=132.197863$ (BKJD)



DV Model-Shift Uniqueness Test

012365000-01, P = 1.262771 Days, E = 130.923326 Days

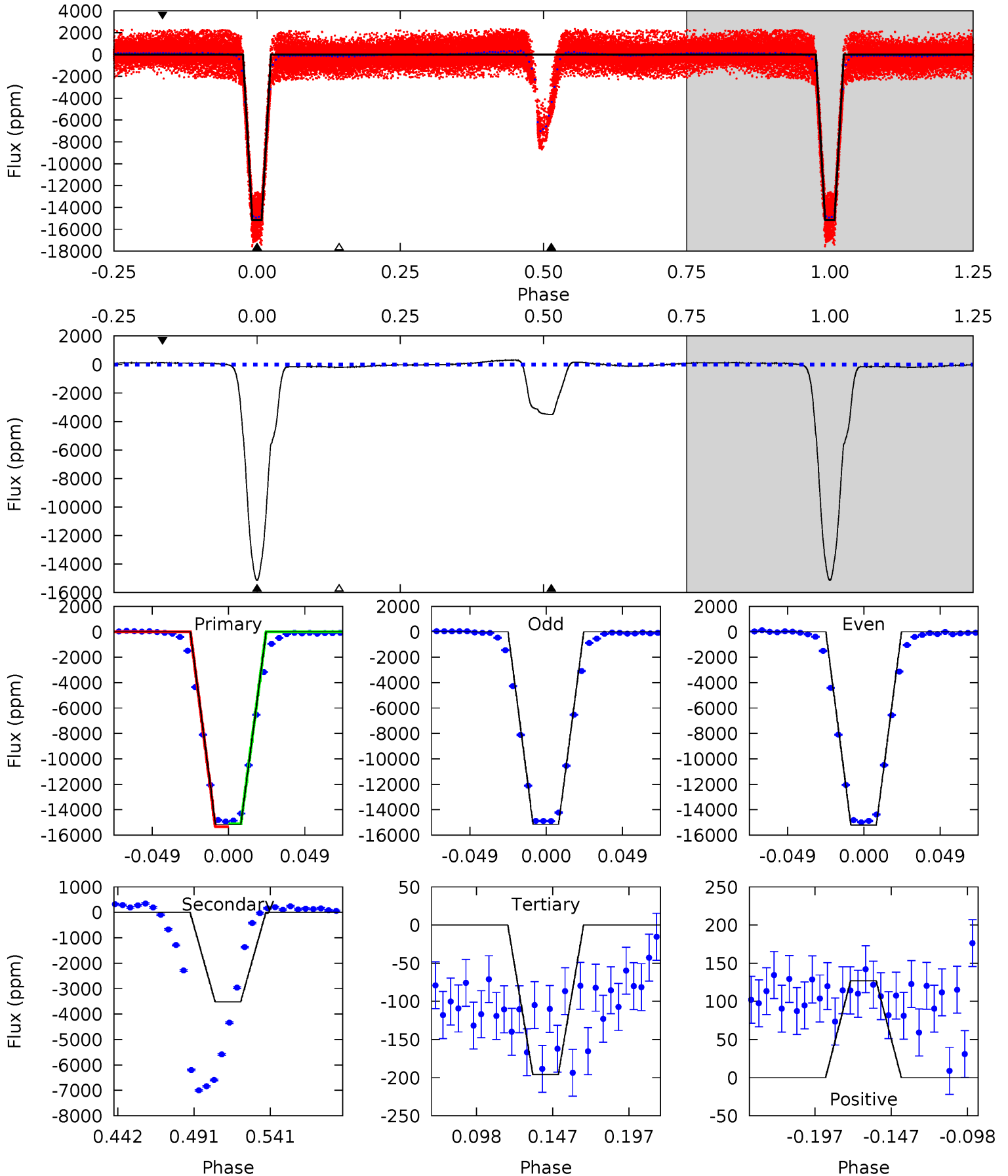
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.5	22.2	17.9	16.7	4.74	2.03	10.0	34.6	35.9	4.26	5.50	1.26	1.50	0.24	24.5



Alt Model-Shift Uniqueness Test

012365000-01, P = 1.262742 Days, E = 130.935121 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1156	268.6	14.9	9.69	4.71	1.97	9.44	1141	1146	253.6	258.9	1.98	1.01	0.02	8.78



Stellar Parameters For KIC 012365000

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5273^{+185}_{-167}	$3.621^{+0.840}_{-0.210}$	$0.060^{+0.300}_{-0.300}$	$3.150^{+0.947}_{-2.209}$	$1.511^{+0.214}_{-0.642}$	$0.068^{+1.538}_{-0.039}$
	+4%/-3%	+23%/-6%	+500%/-500%	+30%/-70%	+14%/-42%	+2258%/-57%
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 012365000-01 / KOI 7527.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-161 ± 7	$6.61^{+2.93}_{-2.87}$	3475^{+373}_{-675}	4042^{+595}_{-511}	$1.408^{+2.522}_{-0.756}$
Alt.	-3519 ± 13	$41.10^{+9.52}_{-15.73}$	3478^{+377}_{-642}	3635^{+201}_{-239}	$0.785^{+0.964}_{-0.257}$

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 $A_{obs} \gg 1.0$

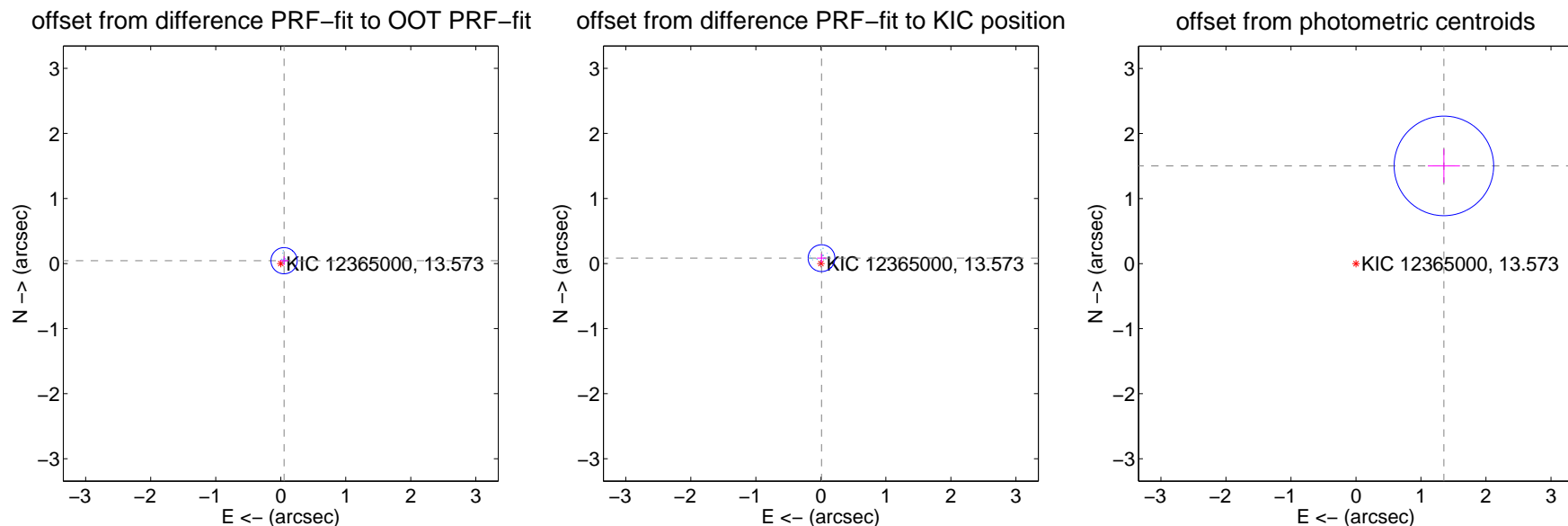
DV Centroid Data

Supplemental centroid analysis for 012365000-01. Kepler magnitude: 13.57. Transit SNR 27.40

There are 17 quarters with good PRF difference image offsets

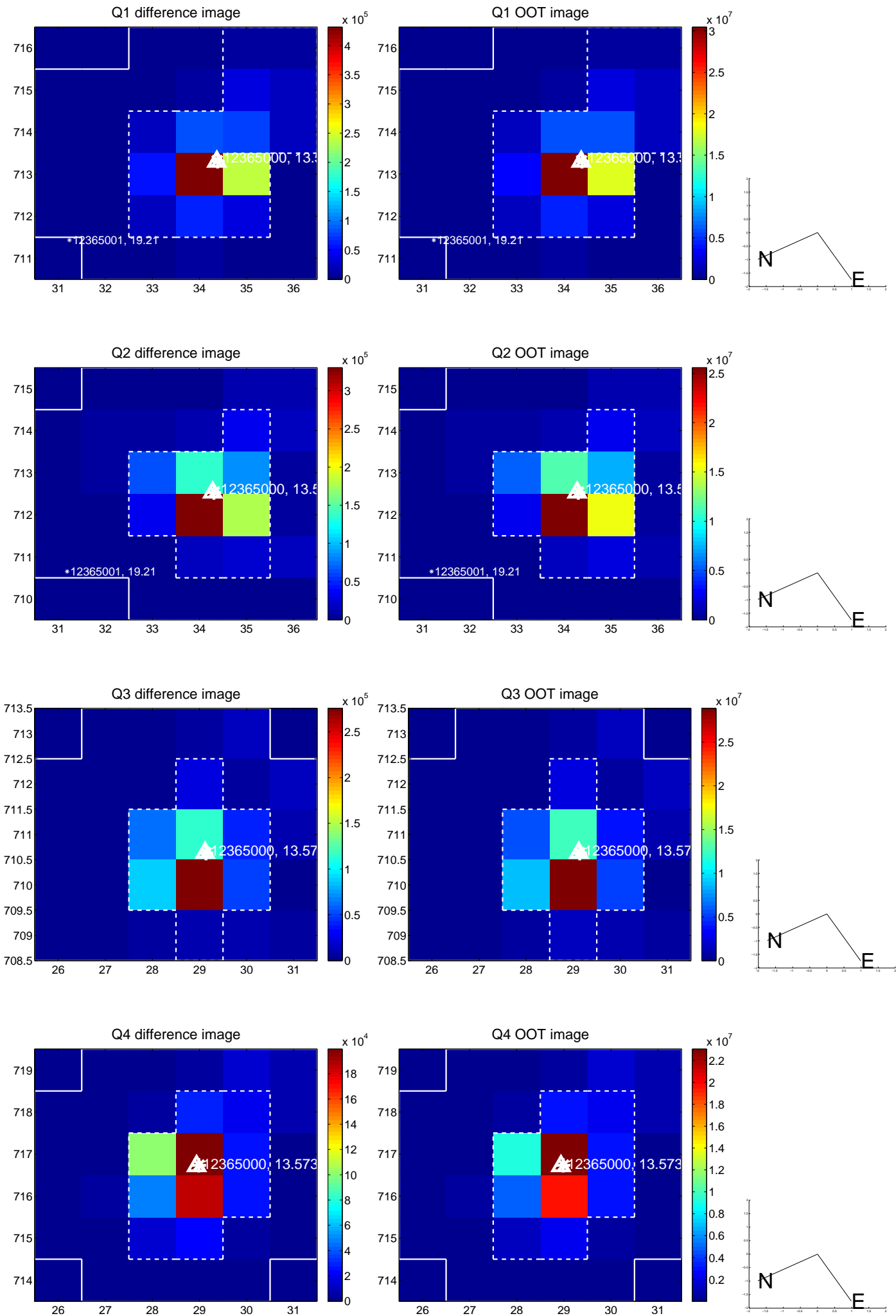
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.067 ± 0.067	1.00	-0.051 ± 0.067	0.044 ± 0.068
PRF-fit source offset from KIC position	0.083 ± 0.069	1.21	-0.010 ± 0.070	0.083 ± 0.069
photometric centroid source offset	2.02 ± 0.26	7.92	-1.35 ± 0.25	1.50 ± 0.26

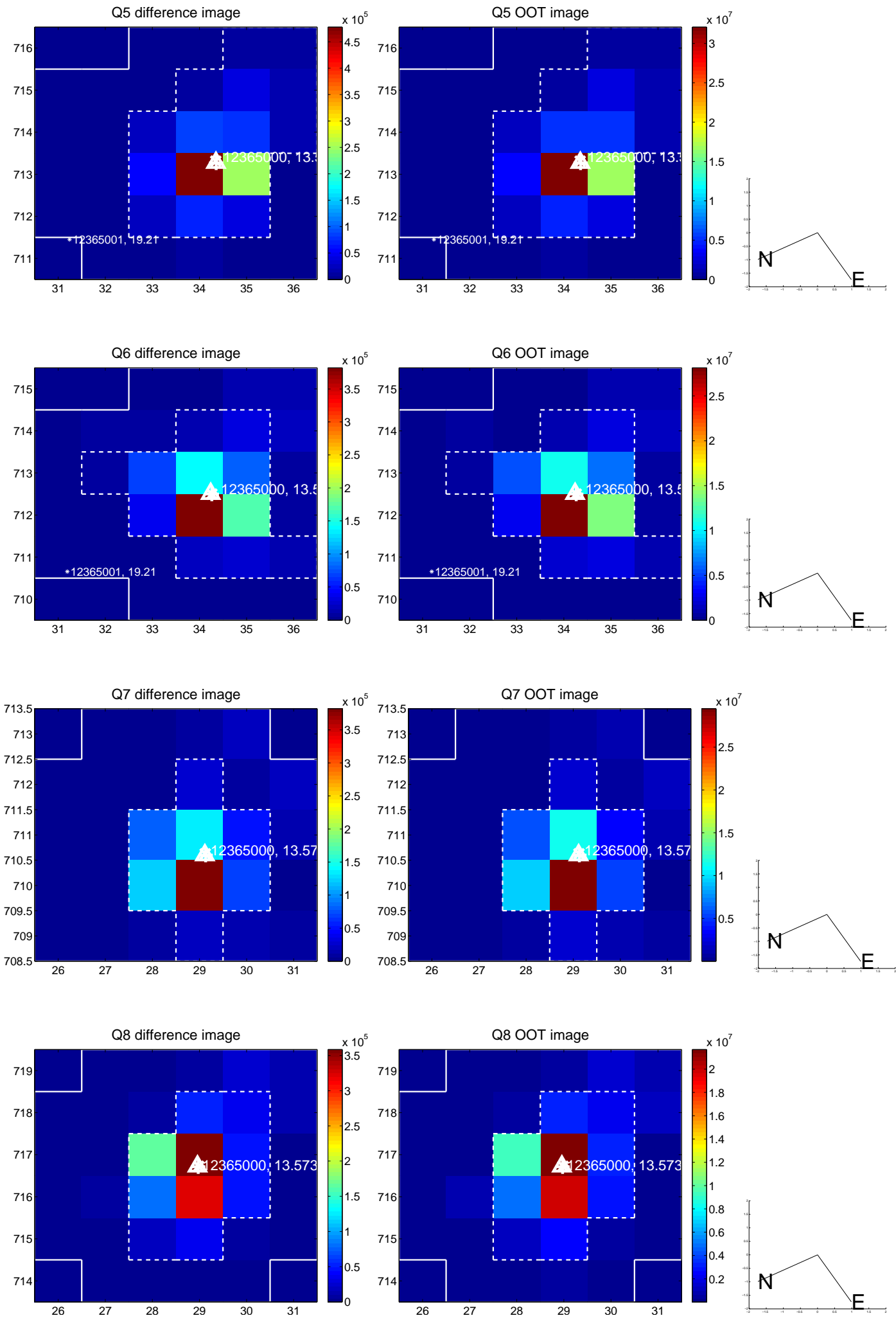


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

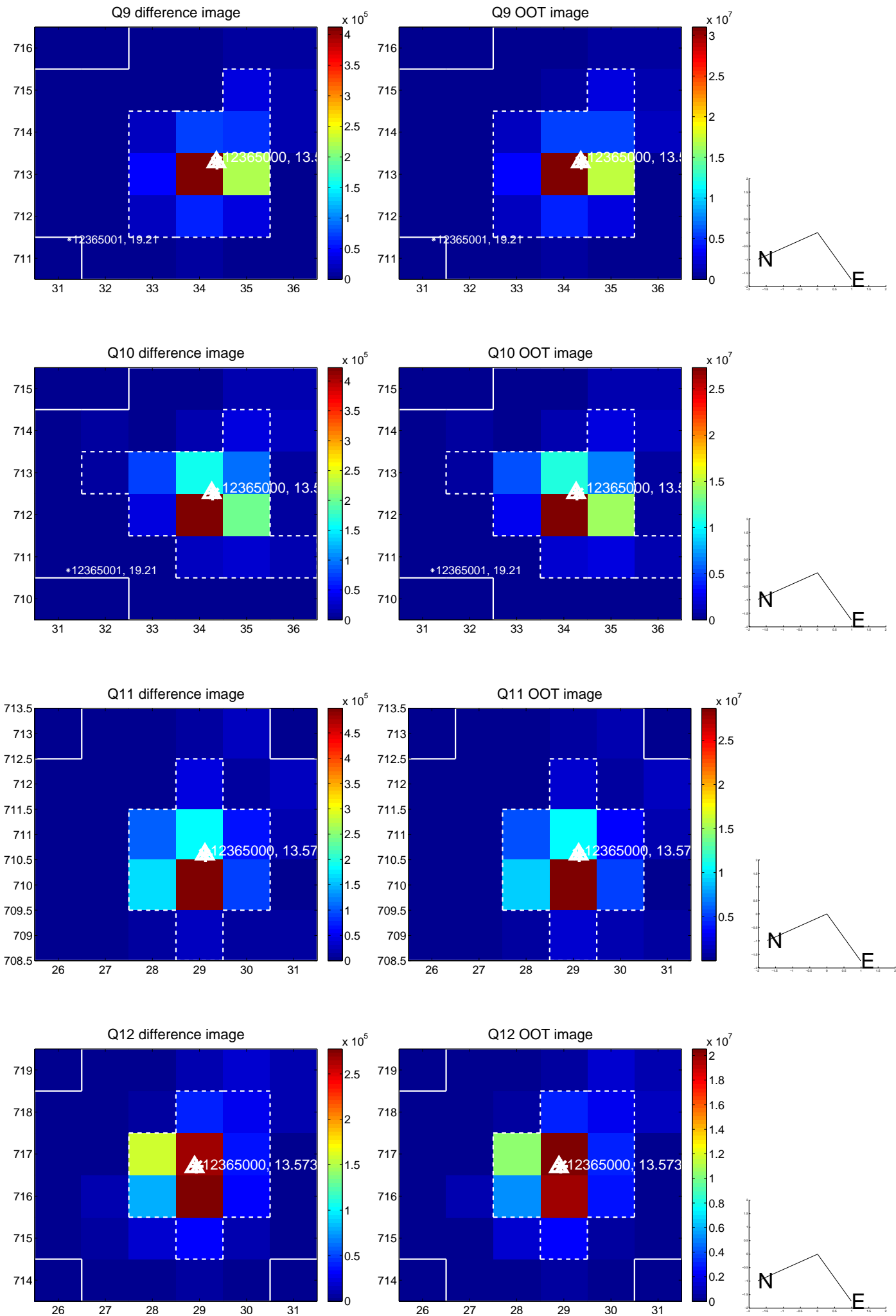
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



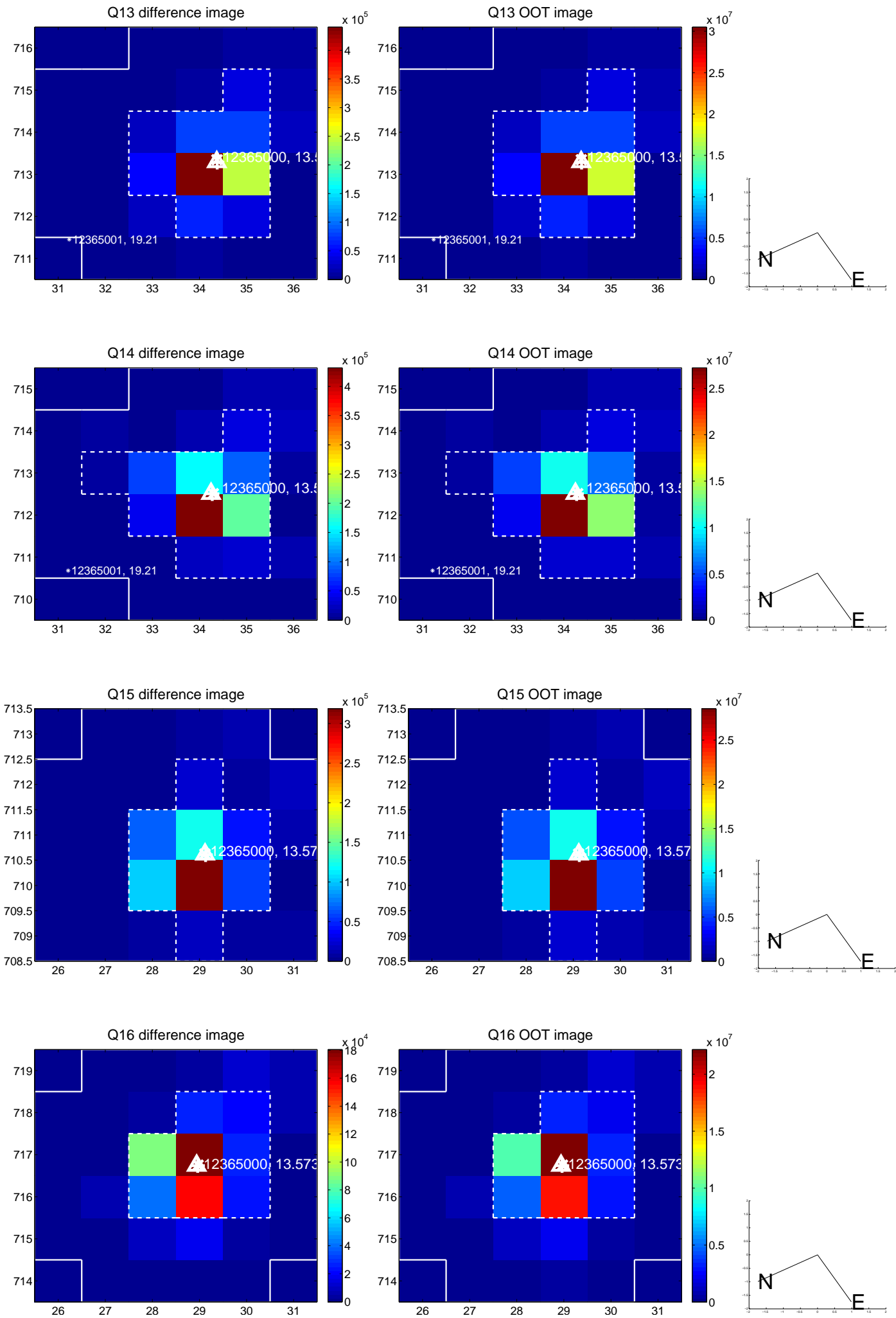
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



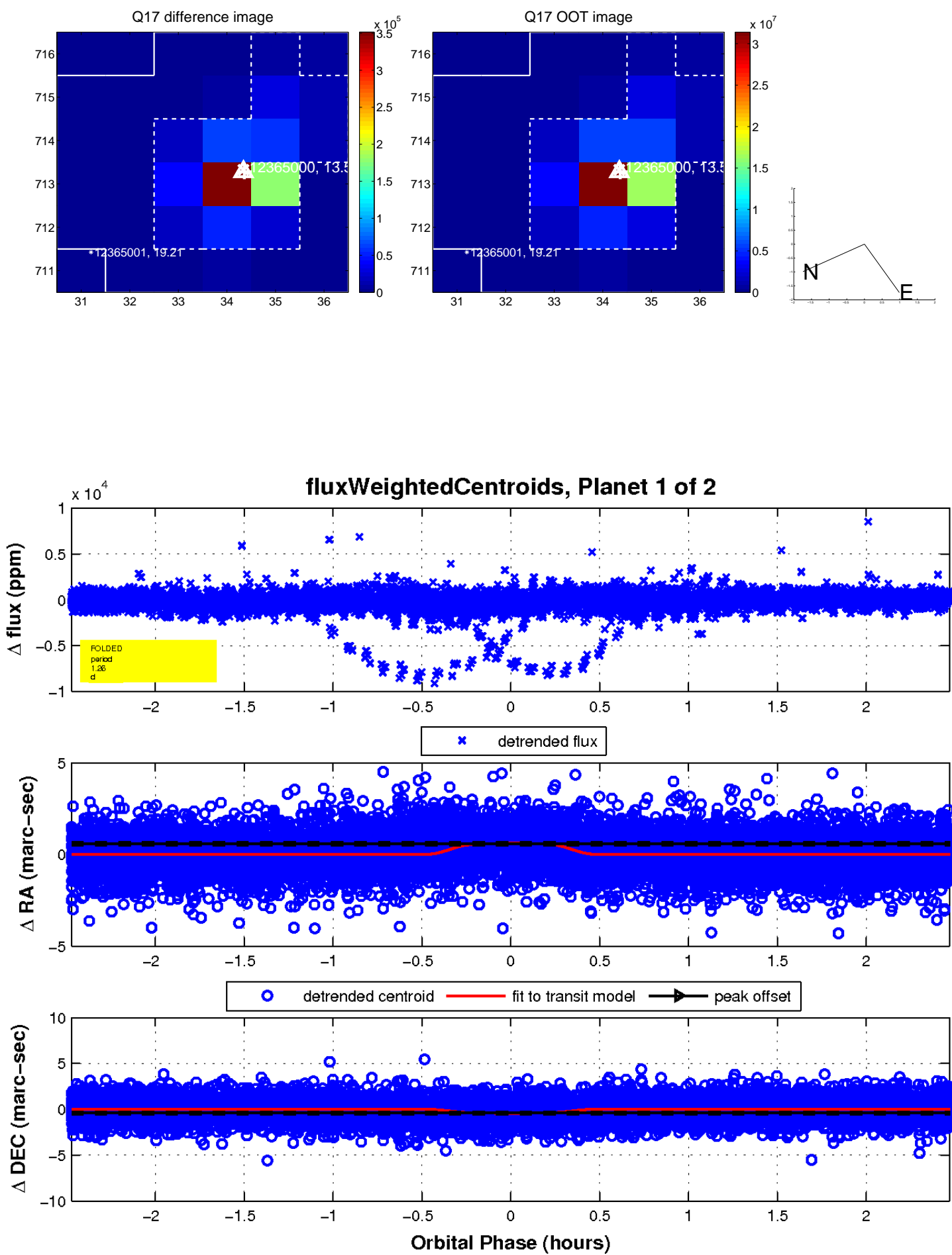
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



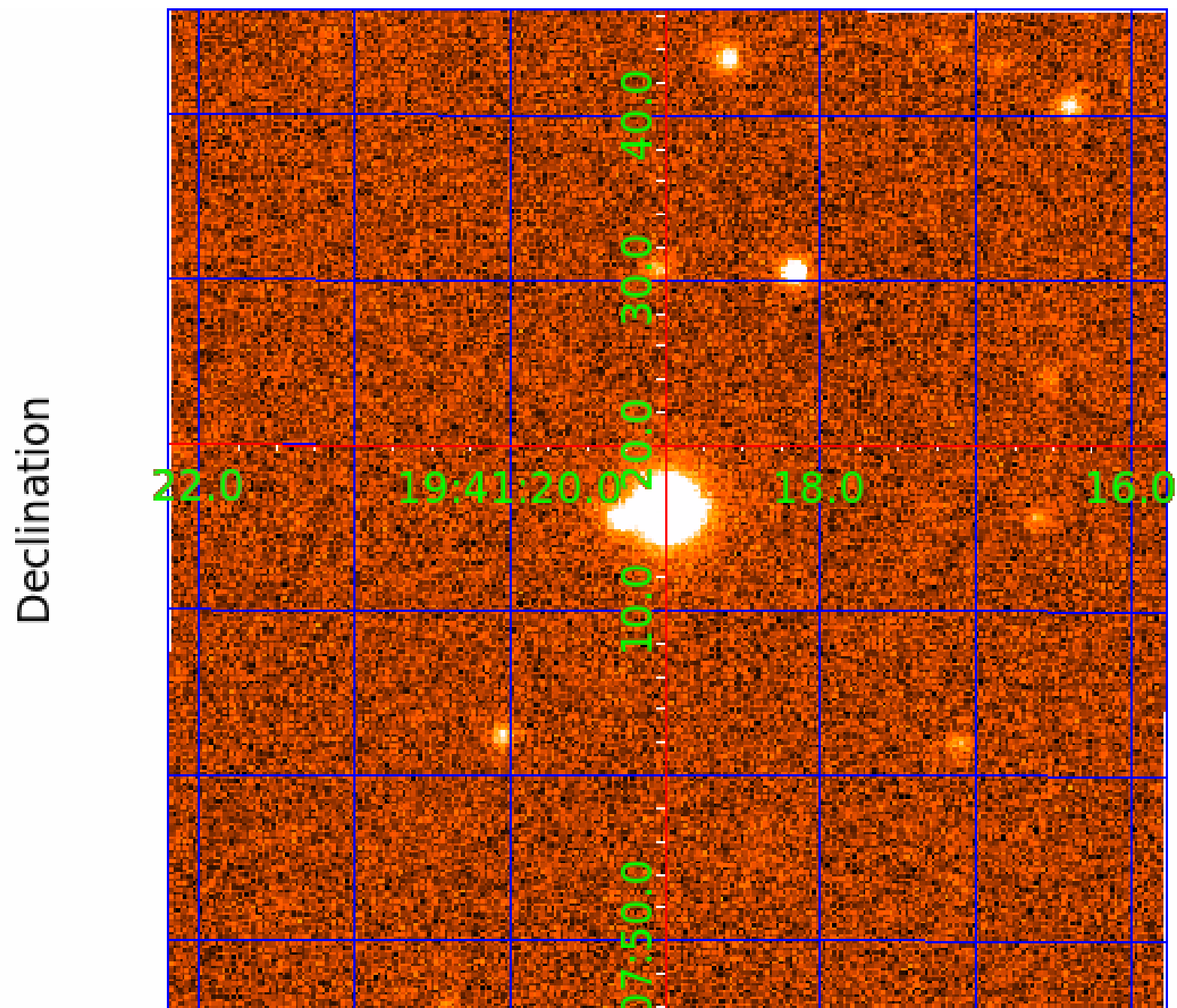
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 012365000

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})
012365000-01	OBS	7527.01	1.262771	132.186097	349.4	0.824	22.7	27.4	3.15	5273	7.49	9974.69
012365000-02	OBS	No	0.631463	132.200550	248.3	7.578	11.1	10.8	3.15	5273	7.01	25130.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012365000-01	OBS	FP	0.00	1	0	0	0	LPP_DV
012365000-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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 012365000-02

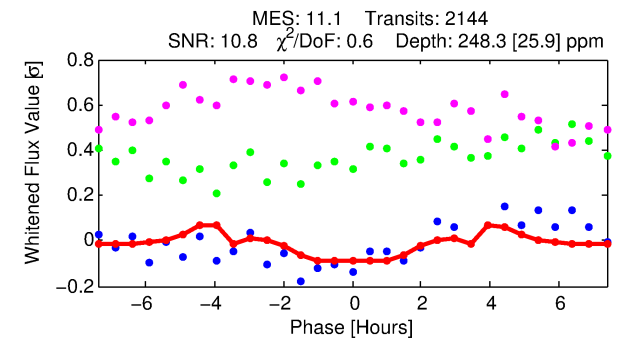
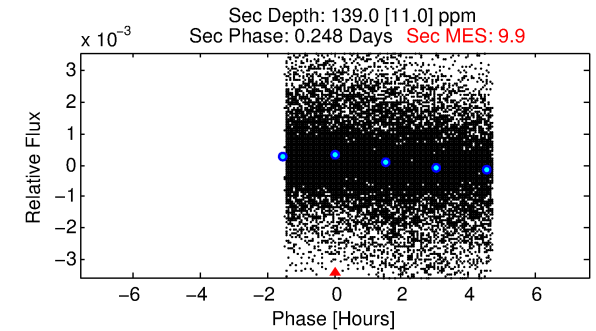
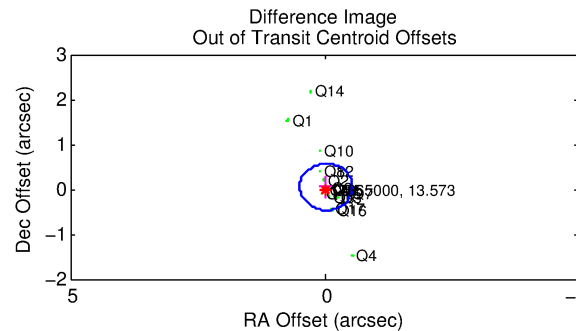
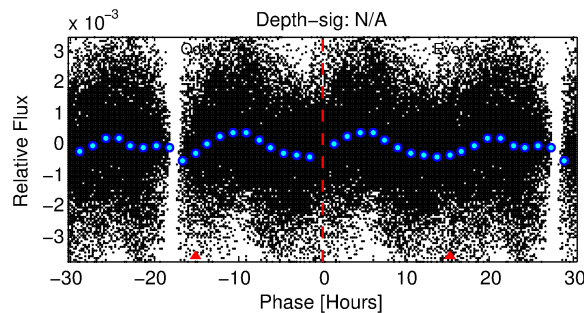
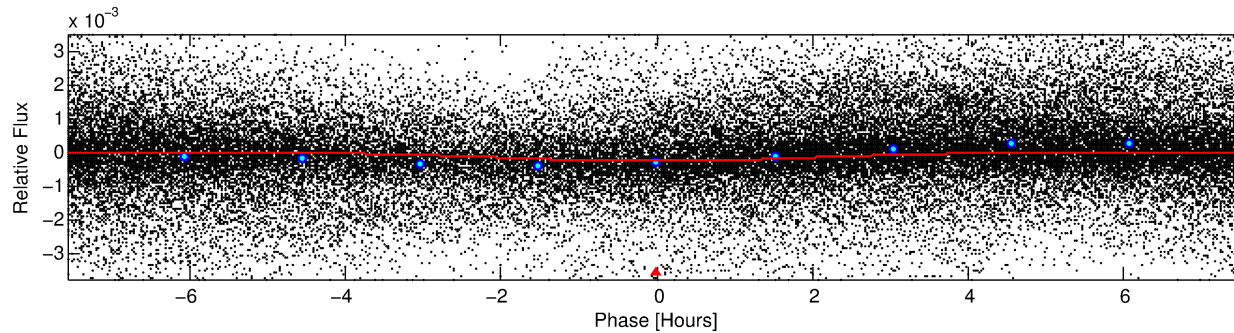
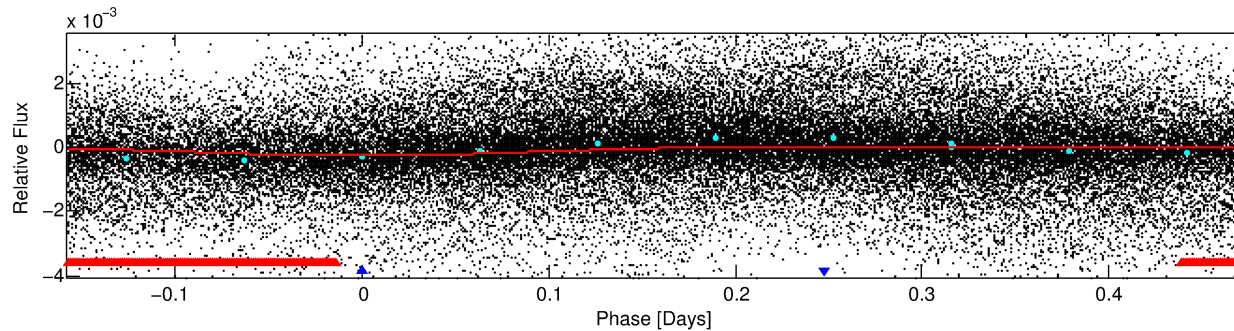
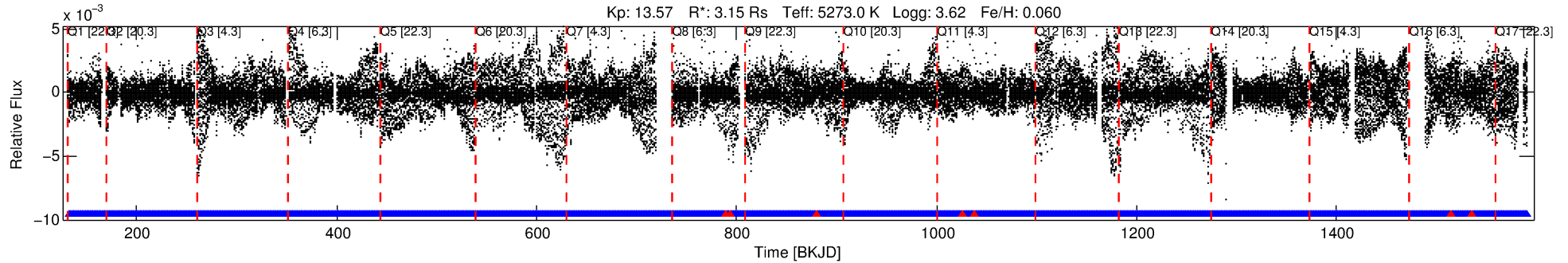
No Significant Match Found

DV One-Page Summary

KIC: 12365000 Candidate: 2 of 2 Period: 0.631 d

KOI: K07527 Corr: No Ephemeris Match

Kp: 13.57 R*: 3.15 Rs Teff: 5273.0 K Logg: 3.62 Fe/H: 0.060



DV Fit Results:

Period = 0.63146 [0.00001] d
Epoch = 132.2005 [0.0020] BKJD
Rp/R* = 0.0204 [0.0011]
a/R* = 1.01 [0.00]
b = 0.98 [0.00]
Seff = 25130.57 [34648.65]
Teff = 3211 [1107] K
Rp = 7.01 [4.93] Re
a = 0.0165 [0.0132] AU
Ag = 0.43 [0.59] [-0.98σ]
Teffp = 4010 [192] K [0.71σ]

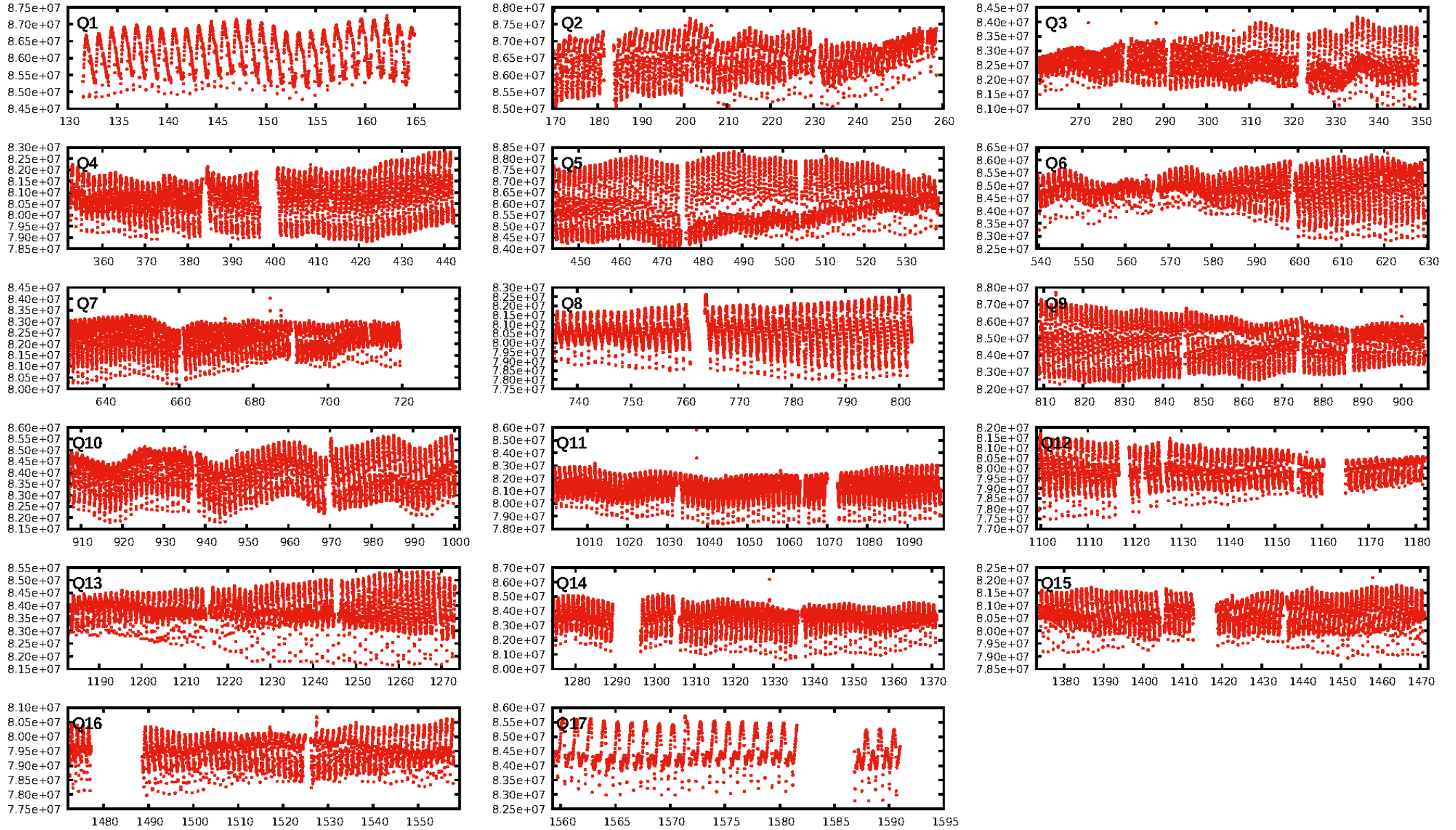
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 95.3% [1.99σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2040/2047]
GhostDiagnostic-chr: -0.6762
Centroid-sig: 7.9%
Centroid-so: 0.519 arcsec [5.30σ]
OotOffset-rm: 0.054 arcsec [0.32σ]
KicOffset-rm: 0.068 arcsec [0.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 1.00 [17/17]

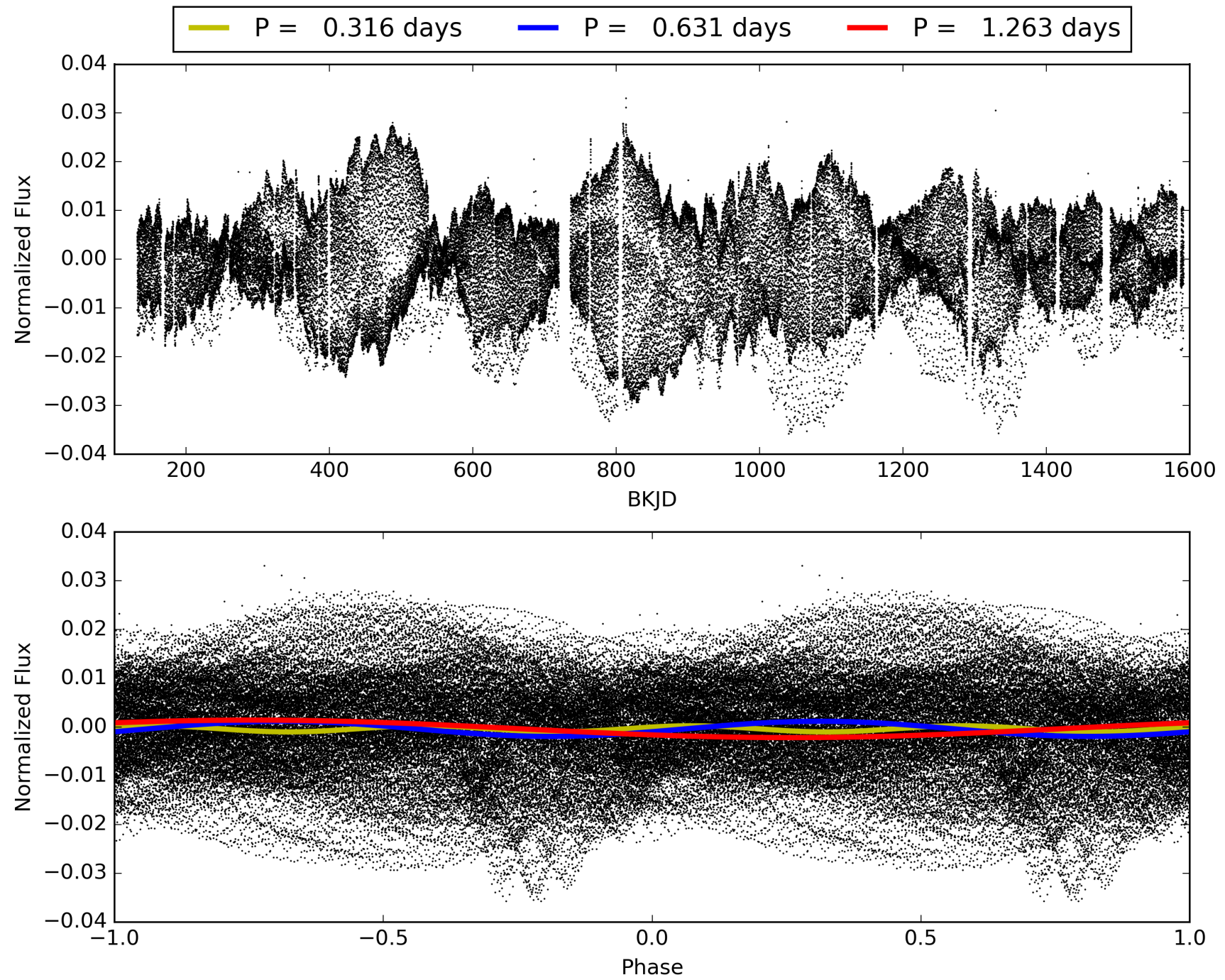
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:58:47 Z

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

TCE 012365000-02, PDC Light Curves

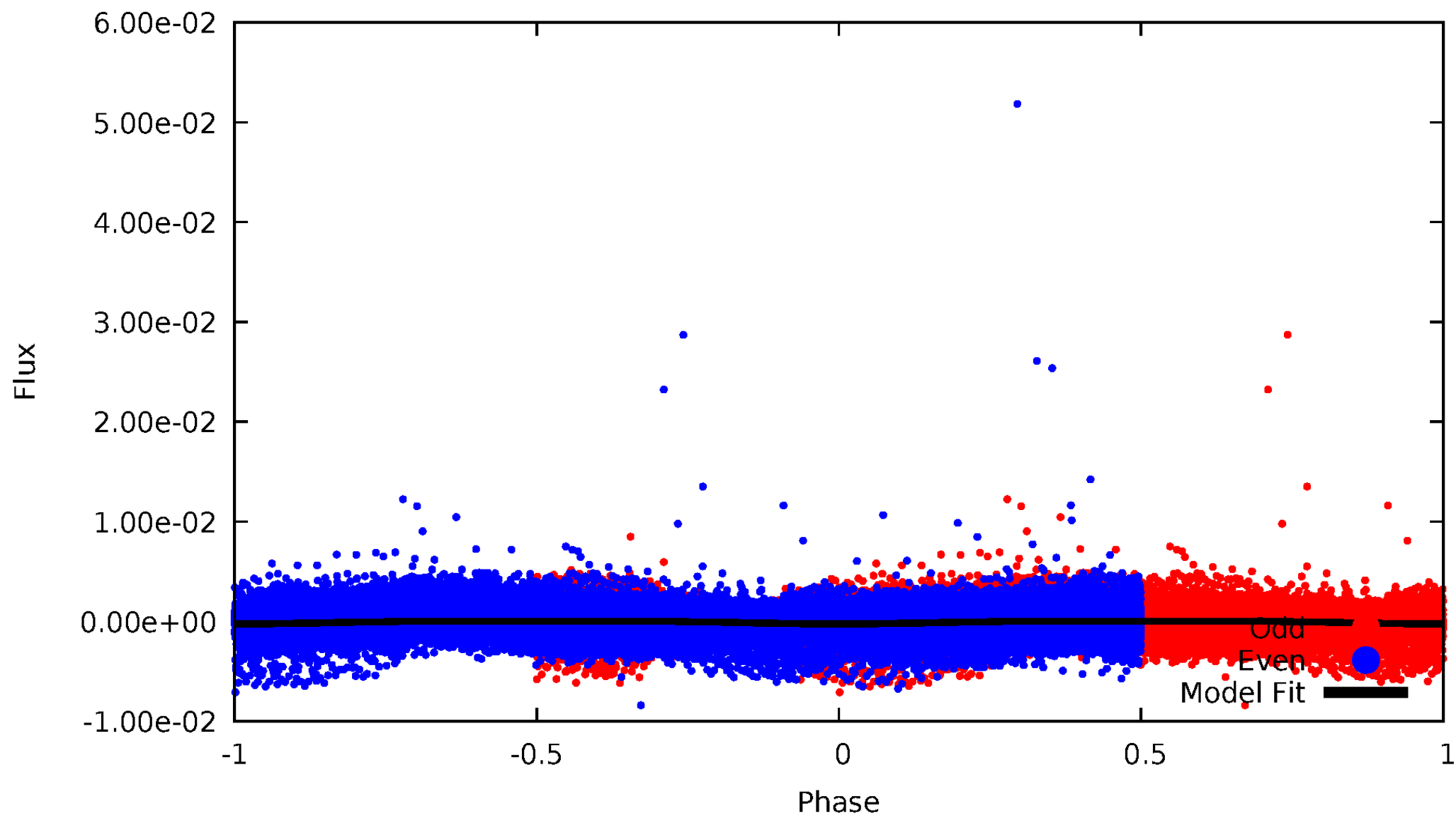


TCE 012365000-02



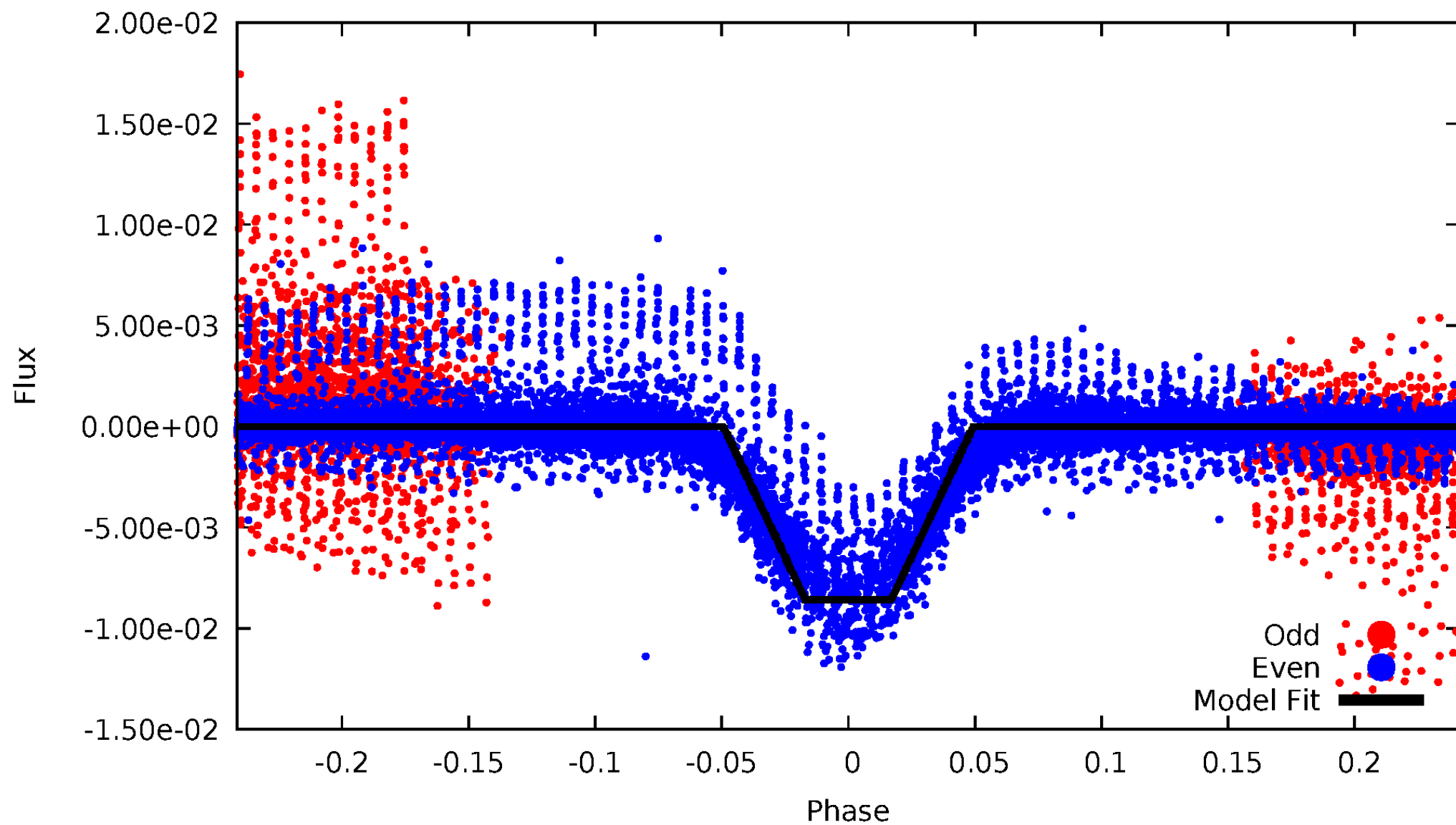
DV Odd/Even

TCE 012365000-02



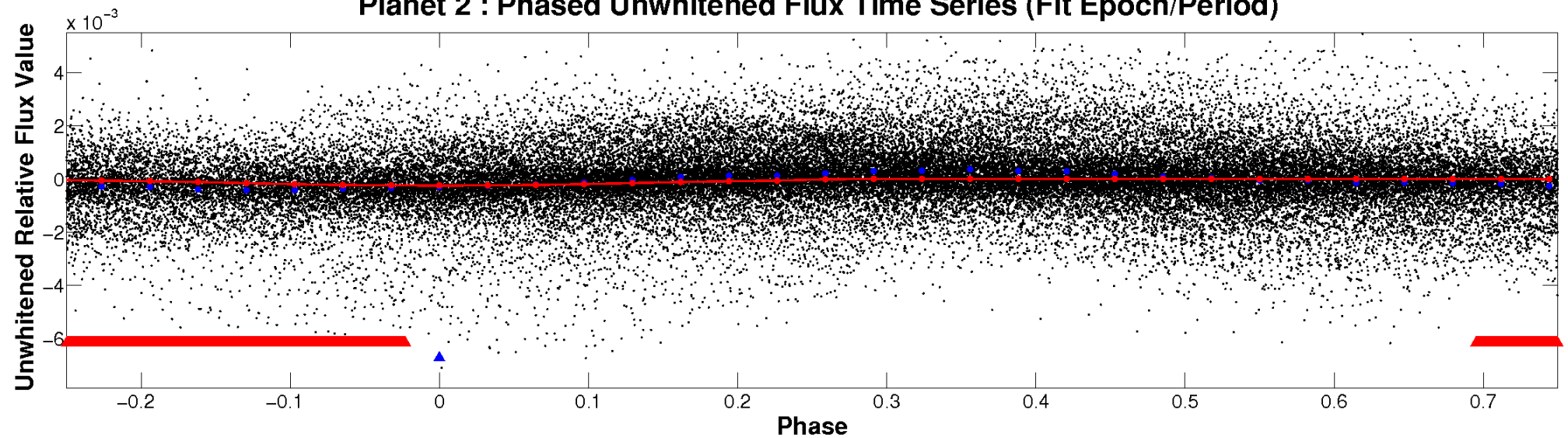
ALT Odd/Even

TCE 012365000-02

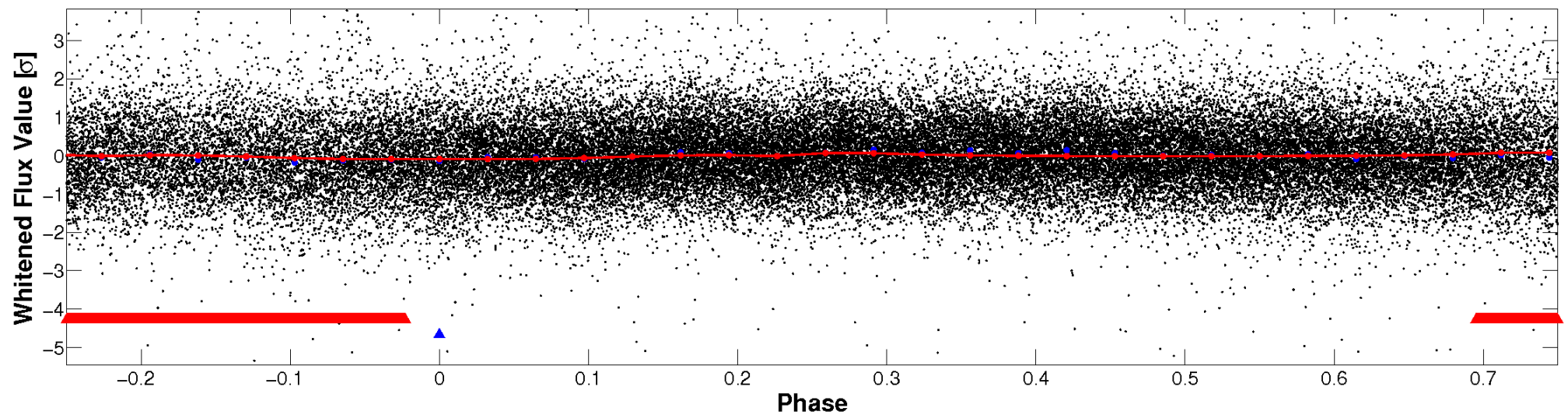


Non-Whitened Vs. Whitened Light Curve

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

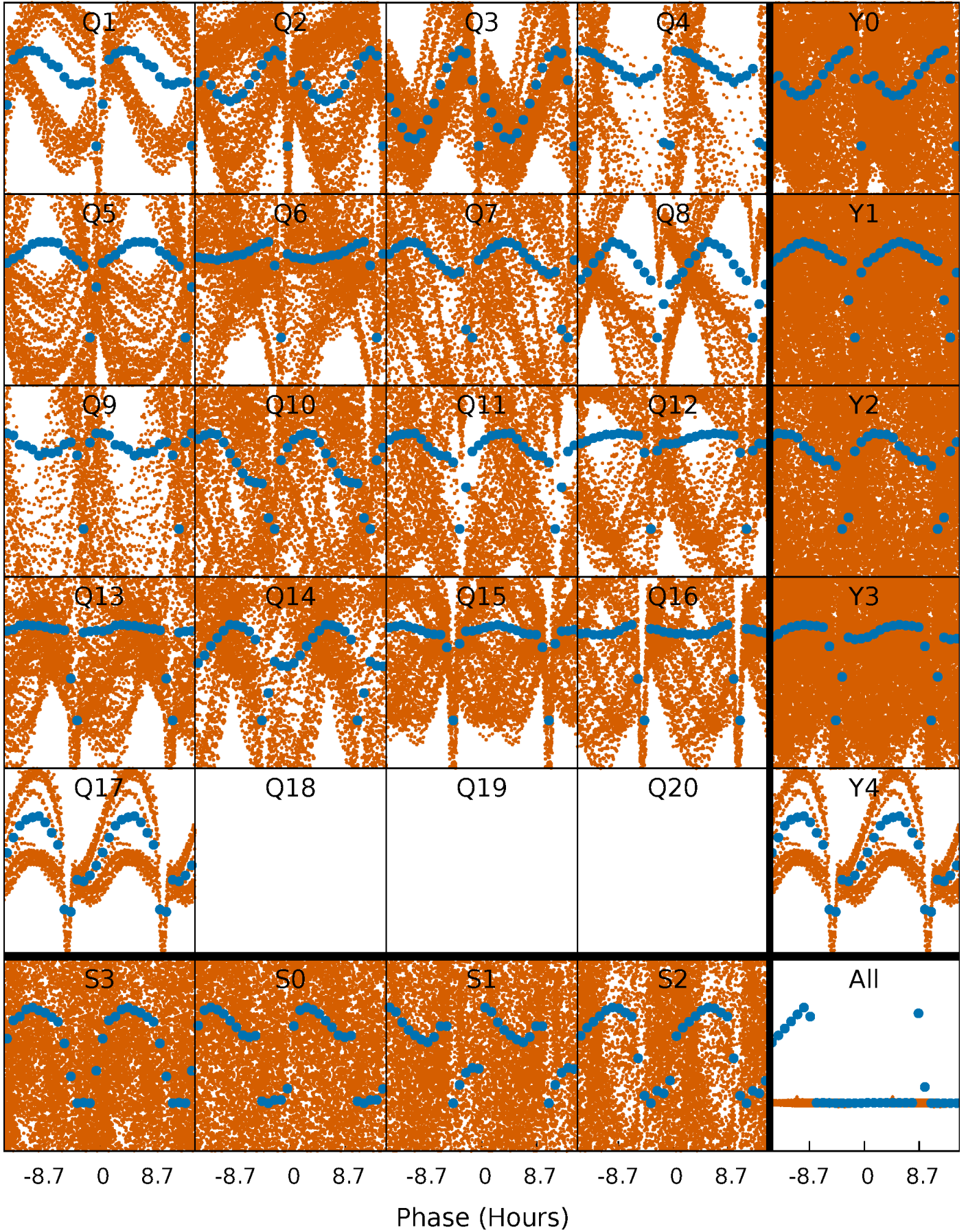


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



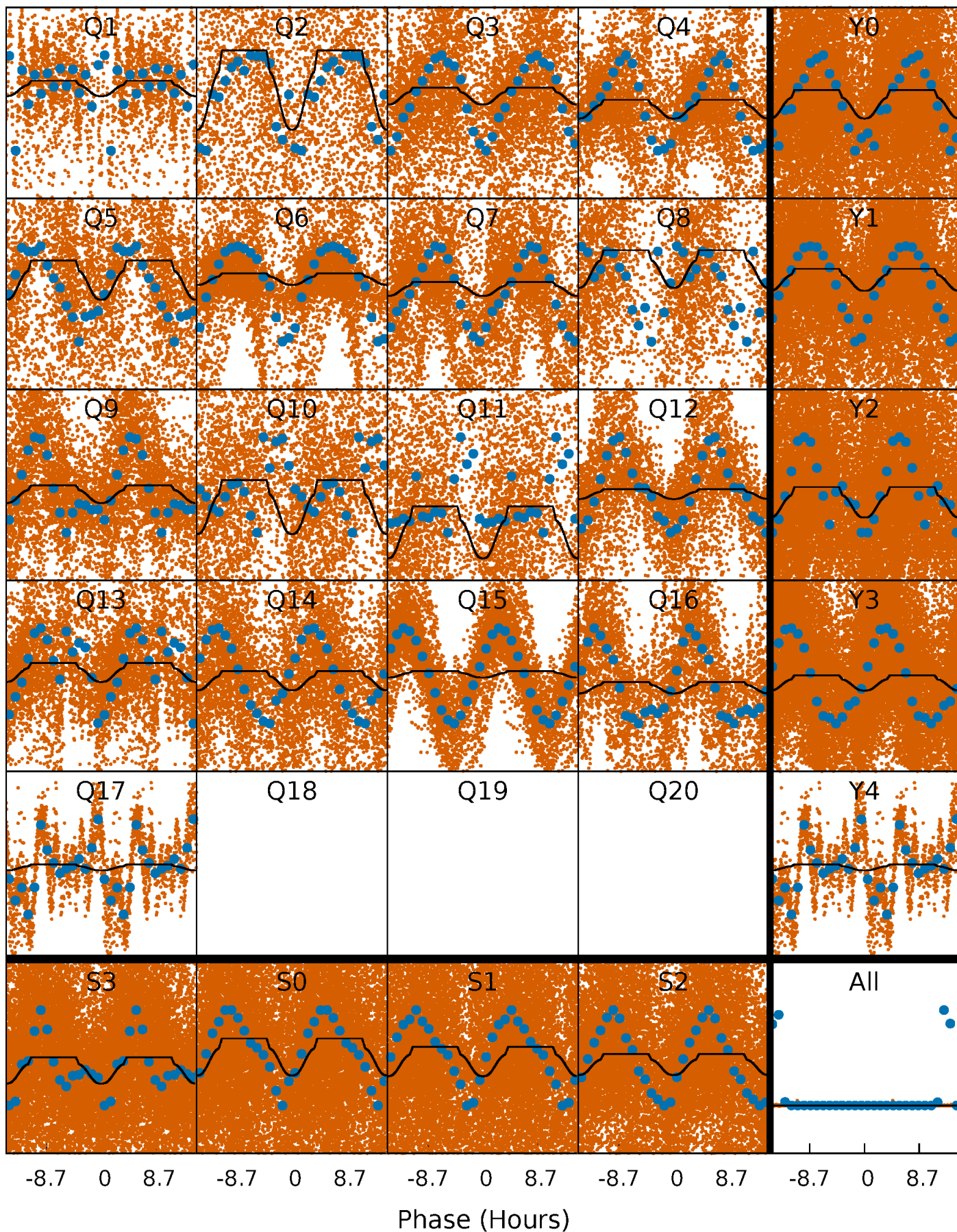
PDC Quarter-Phased Transit Curves

TCE 012365000-02 P= 0.631463 Days $T_0=132.200550$ (BKJD)



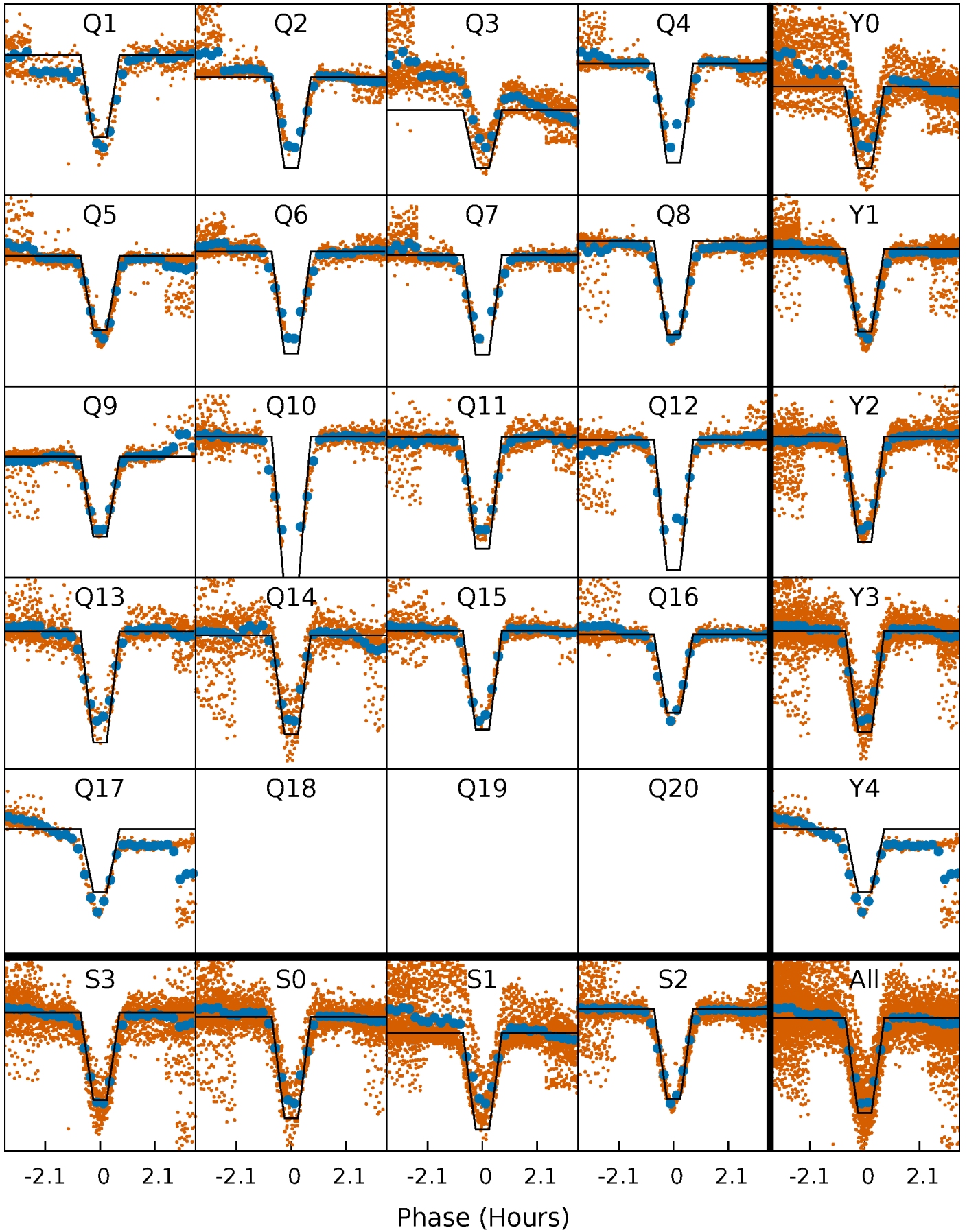
DV Quarter-Phased Transit Curves

TCE 012365000-02 $P = 0.631463$ Days $T_0 = 132.200550$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

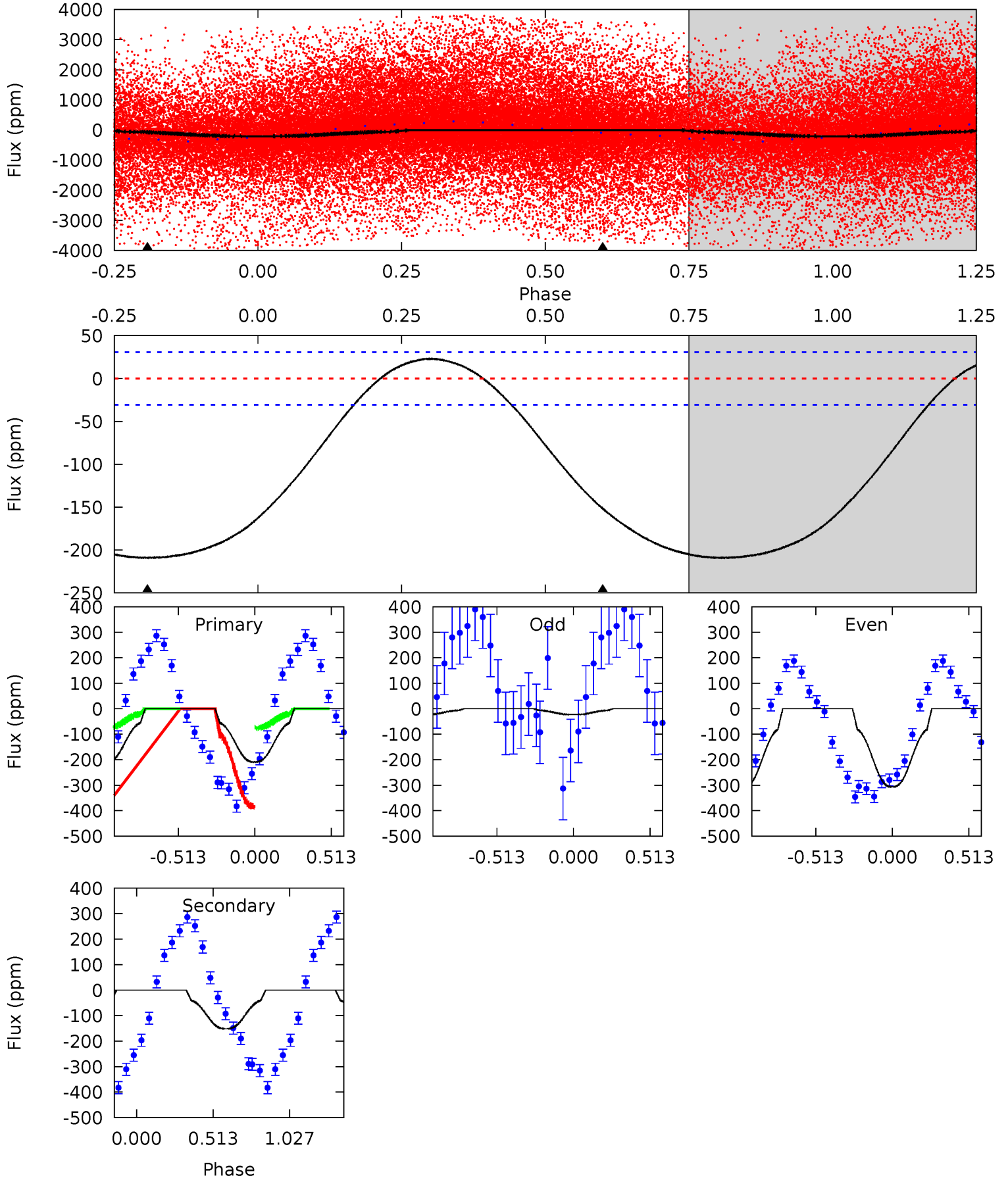
TCE 012365000-02 $P = 0.631374$ Days $T_0 = 132.193618$ (BKJD)



DV Model-Shift Uniqueness Test

012365000-02, P = 0.631463 Days, E = 130.937624 Days

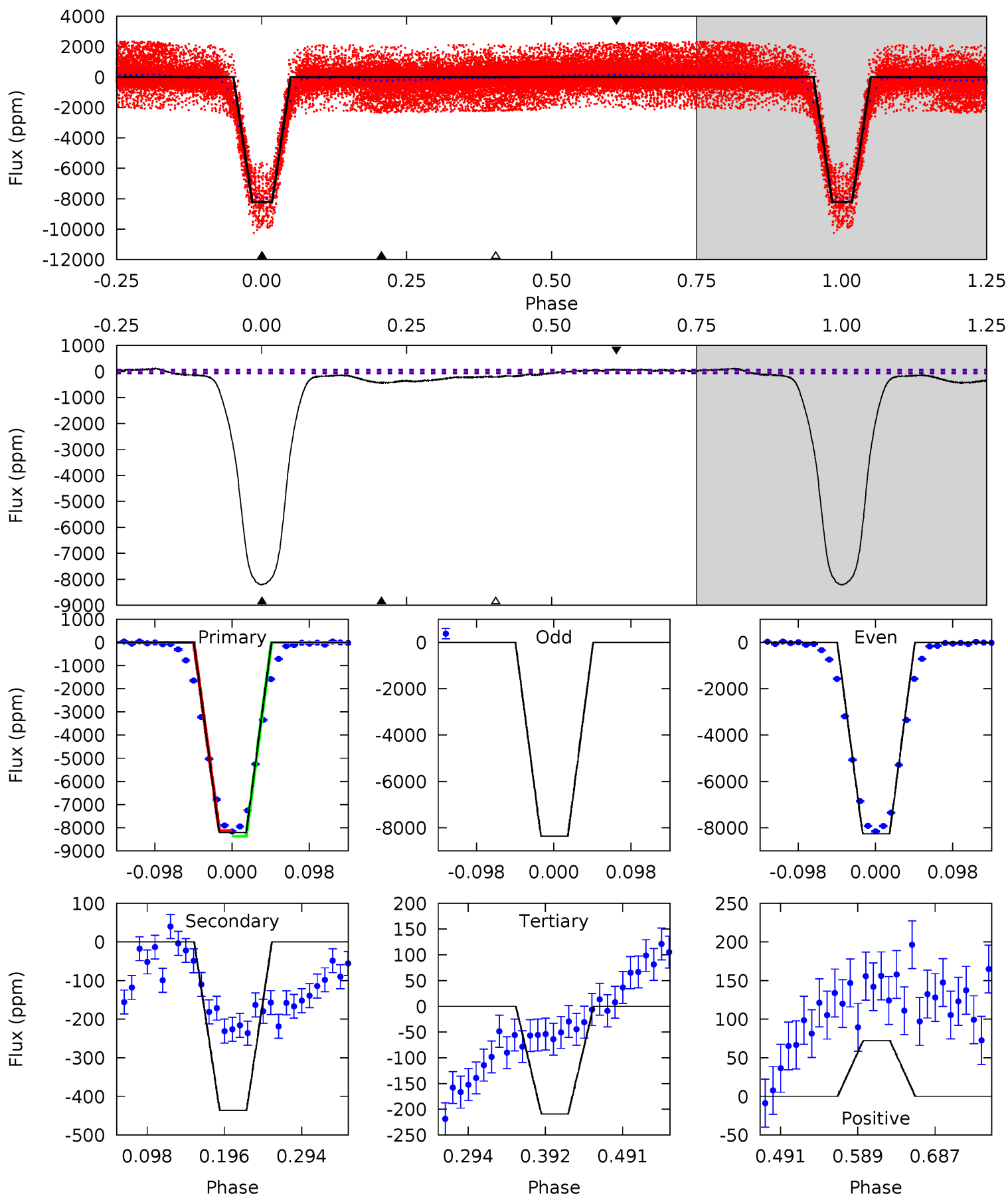
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	20.8	0	0	4.21	0.65	1.78	28.7	28.7	20.8	20.8	17.6	0.99	0.10	21.0



Alt Model-Shift Uniqueness Test

012365000-02, P = 0.631374 Days, E = 130.930870 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
539.6	28.7	13.7	4.74	4.57	1.65	7.52	525.9	534.9	14.9	23.9	4.28	1.09	0.01	7.53



Stellar Parameters For KIC 012365000

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5273^{+185}_{-167}	$3.621^{+0.840}_{-0.210}$	$0.060^{+0.300}_{-0.300}$	$3.150^{+0.947}_{-2.209}$	$1.511^{+0.214}_{-0.642}$	$0.068^{+1.538}_{-0.039}$
	+4%/-3%	+23%/-6%	+500%/-500%	+30%/-70%	+14%/-42%	+2258%/-57%
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 012365000-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-152 ± 7	$6.72^{+1.46}_{-2.53}$	4399^{+490}_{-815}	3667^{+435}_{-613}	$0.504^{+0.635}_{-0.160}$
Alt.	-436 ± 15	$30.23^{+6.88}_{-11.65}$	4365^{+479}_{-857}	-3713^{+723}_{-351}	$0.071^{+0.101}_{-0.022}$

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 $A_{obs} \gg 1.0$

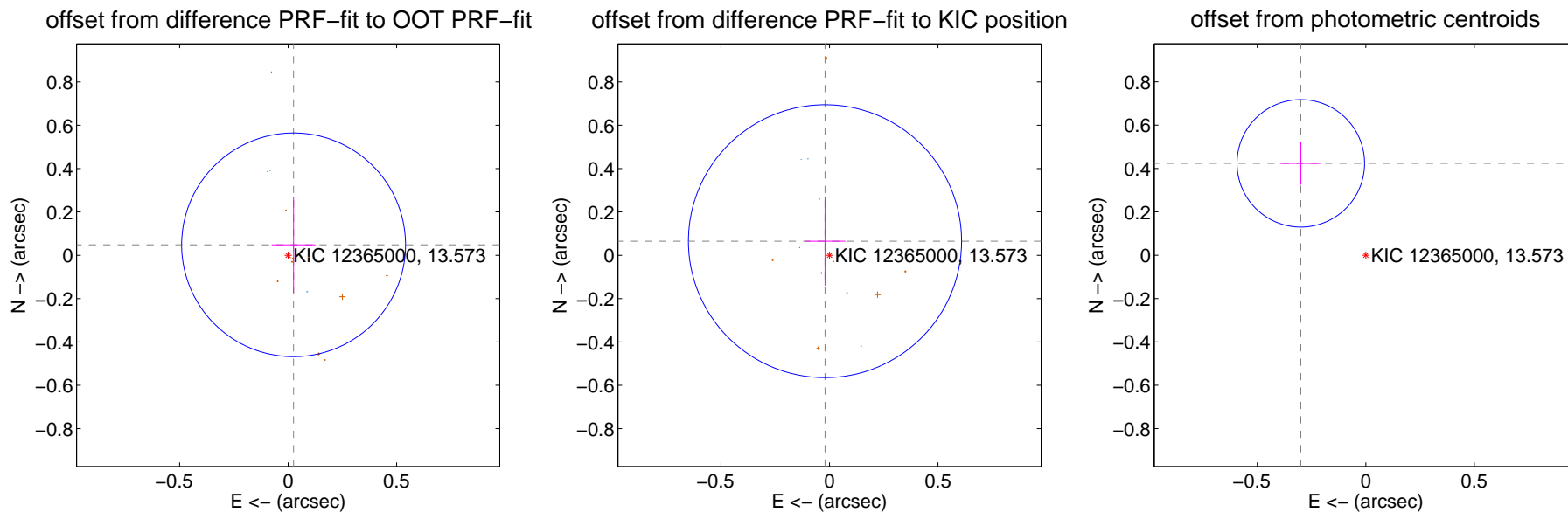
DV Centroid Data

Supplemental centroid analysis for 012365000-02. Kepler magnitude: 13.57. Transit SNR 10.79

There are 4 quarters with good PRF difference image offsets

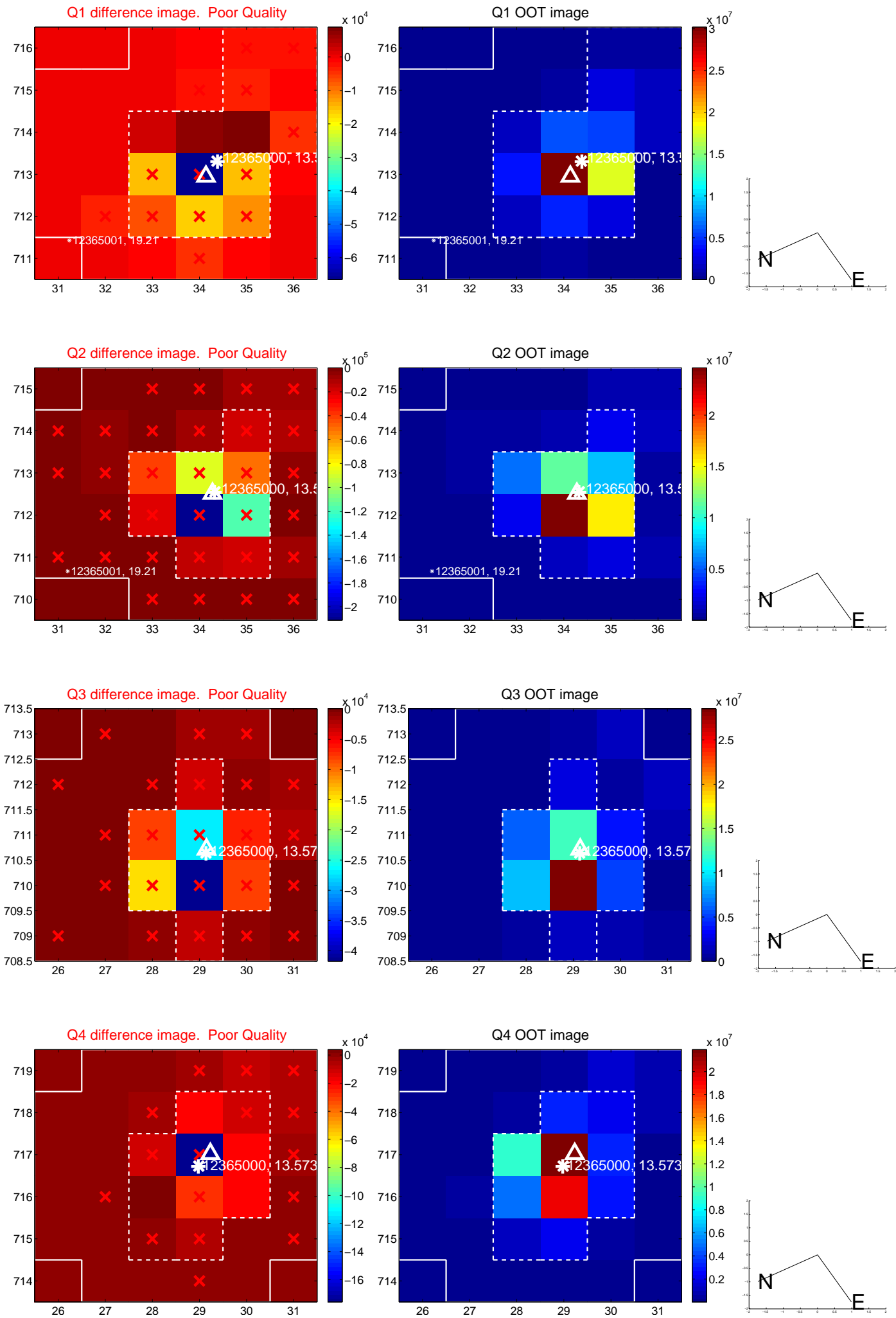
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.054 ± 0.172	0.32	-0.025 ± 0.101	0.048 ± 0.222
PRF-fit source offset from KIC position	0.068 ± 0.210	0.32	0.021 ± 0.094	0.065 ± 0.205
photometric centroid source offset	0.52 ± 0.10	5.30	0.30 ± 0.10	0.42 ± 0.10

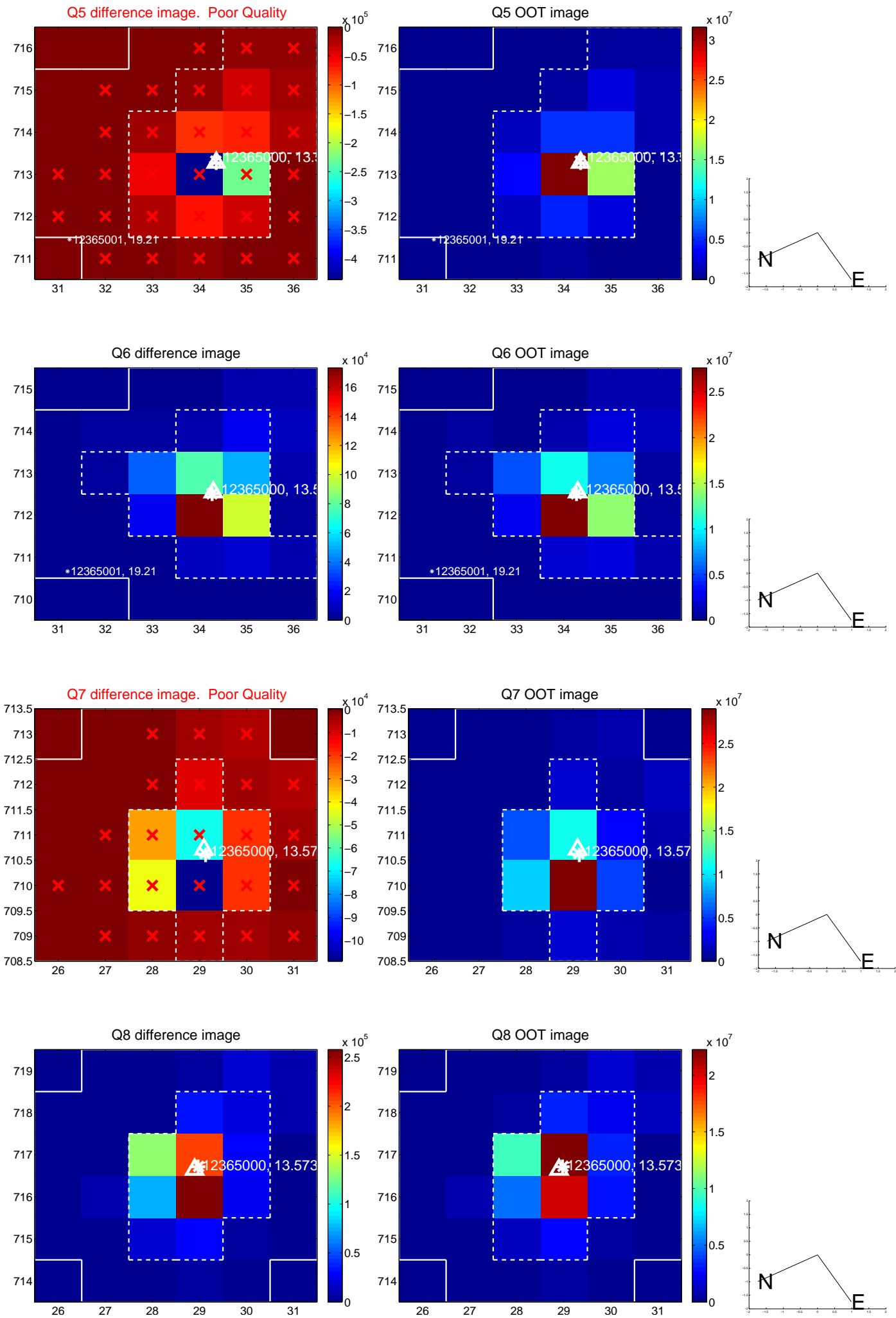


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

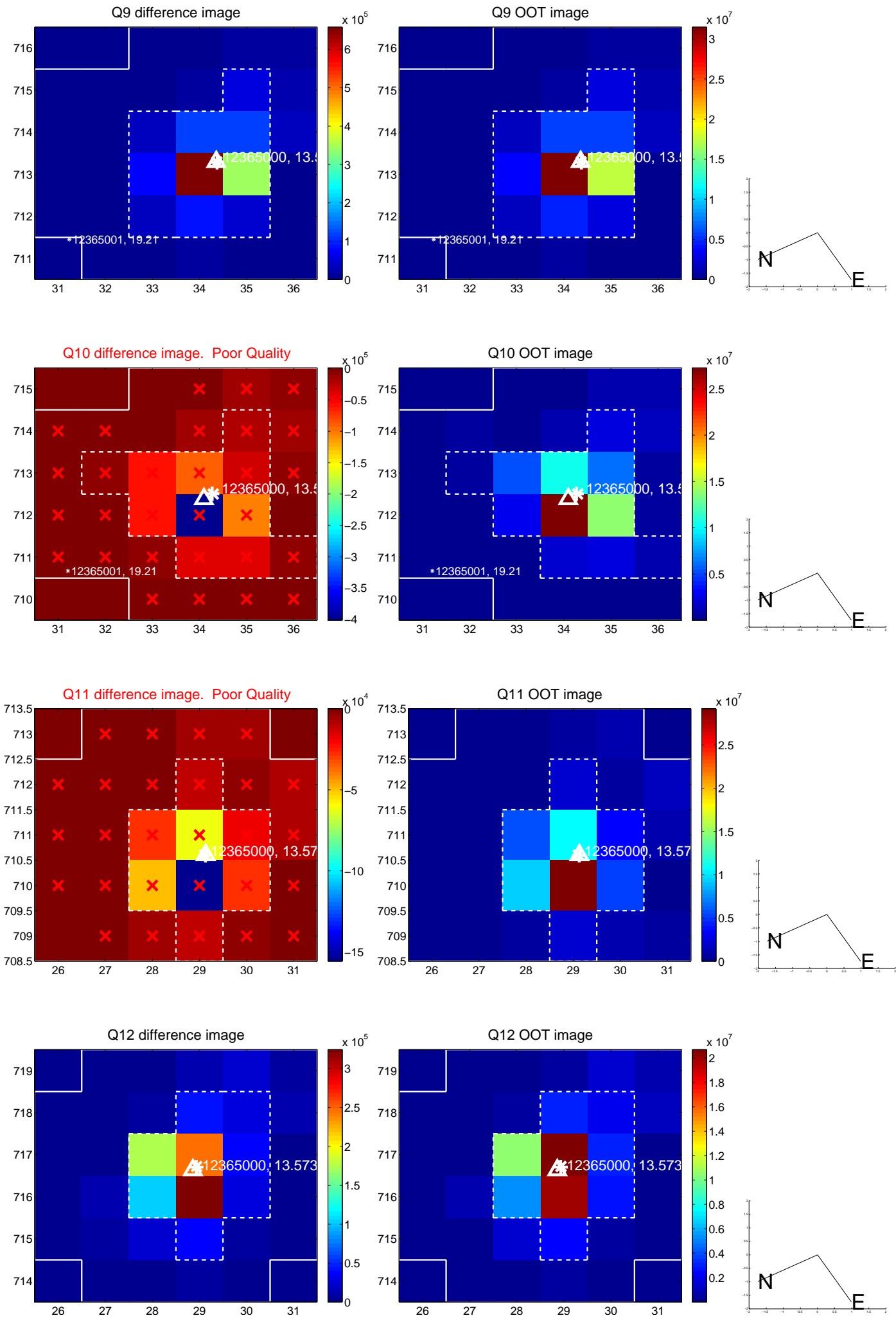
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



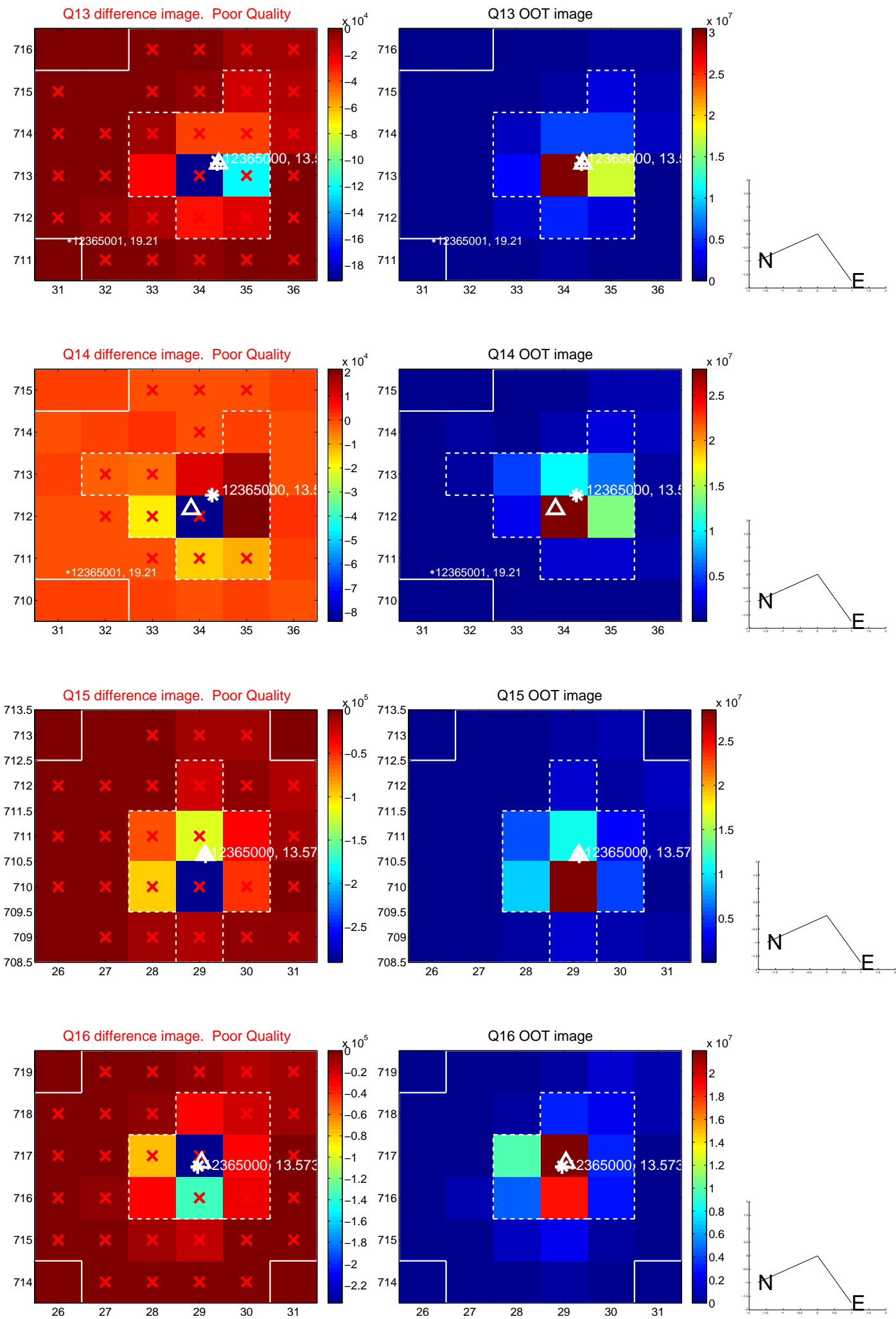
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



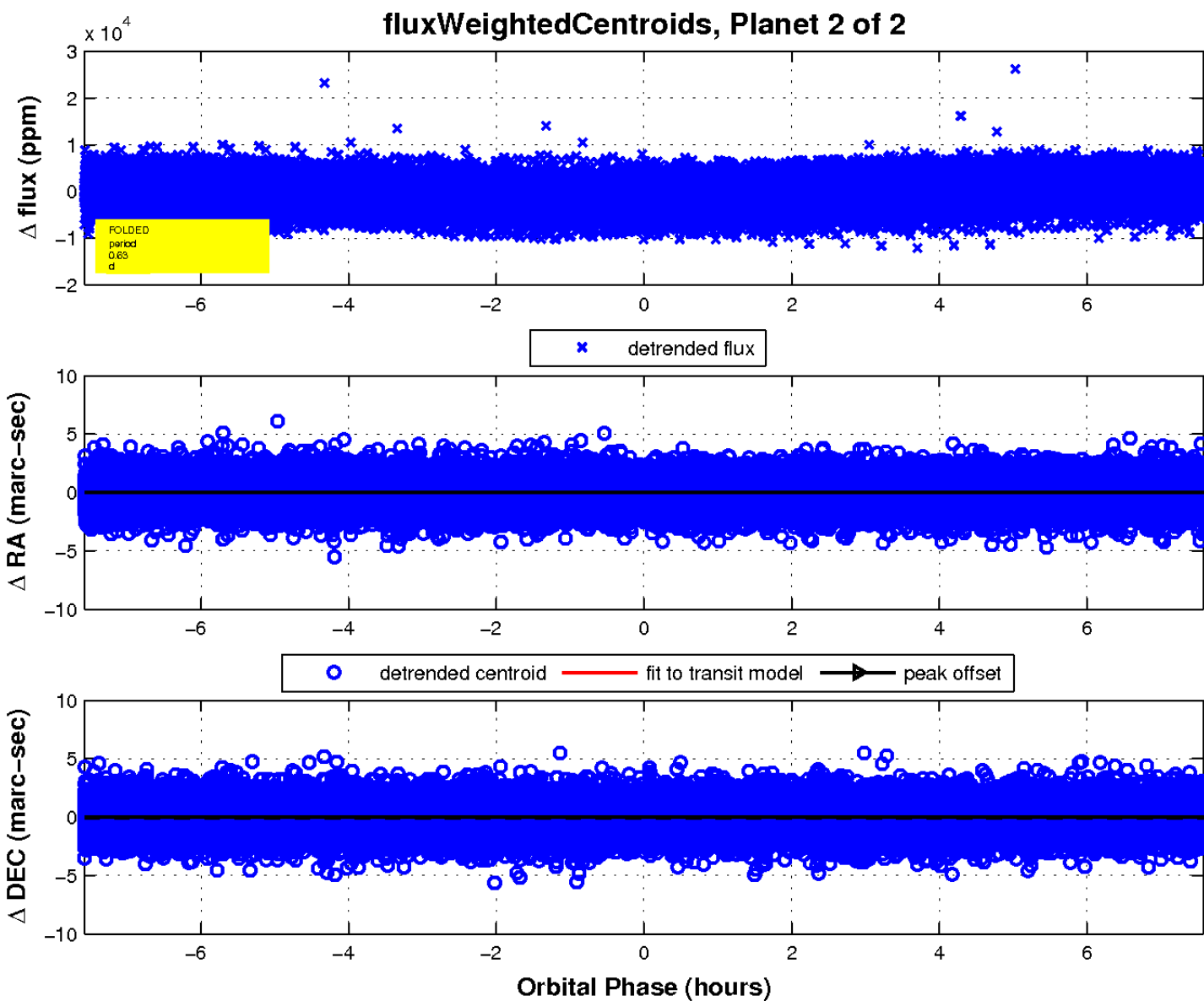
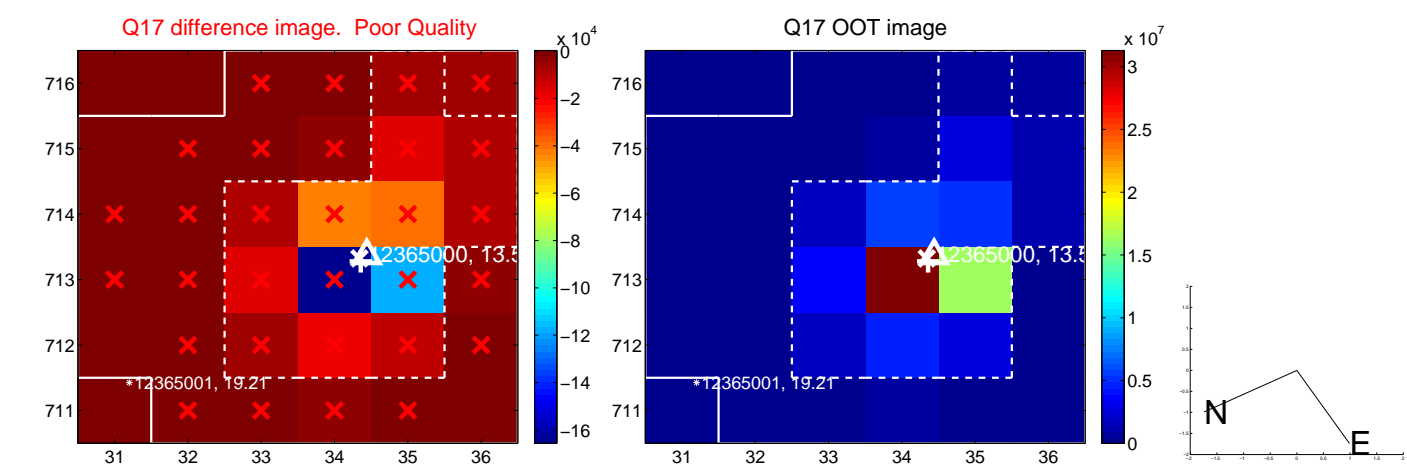
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

