

KIC 004913000

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})
004913000-01	OBS	1775.01	4.442506	133.610115	507.3	2.389	301.5	149.0	1.33	6496	3.92	889.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004913000-01	OBS	FP	0.00	0	0	1	1	SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 004913000-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004913000-01	4913000	5997.01	4912991	1:1	9.3	2	0	11.30	11.67	50.03	Direct-PRF	0	0.13	0.08

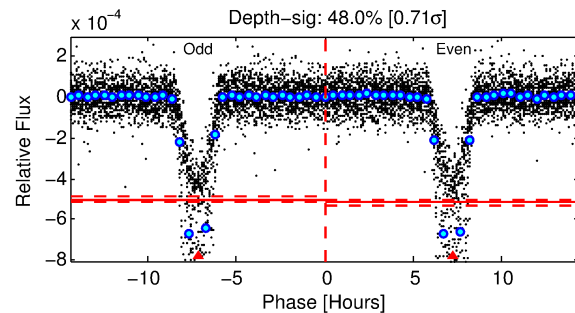
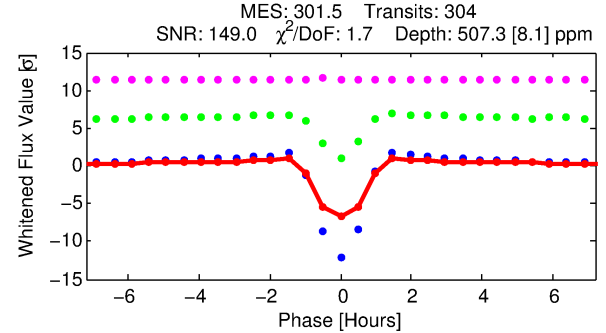
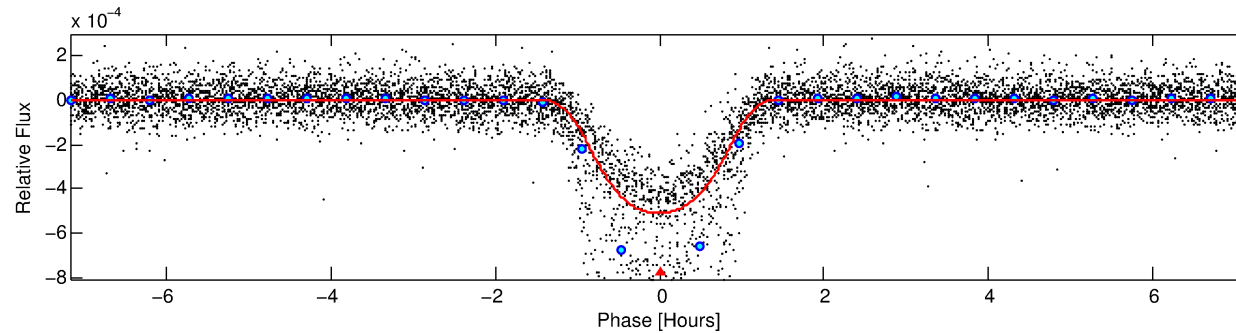
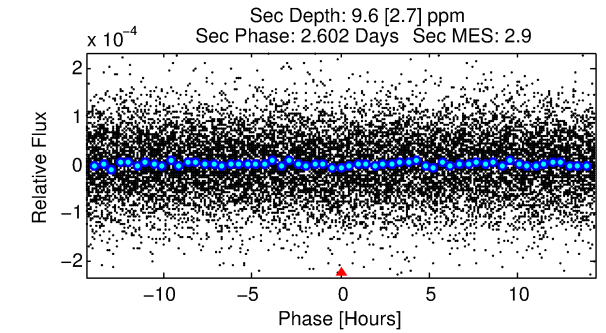
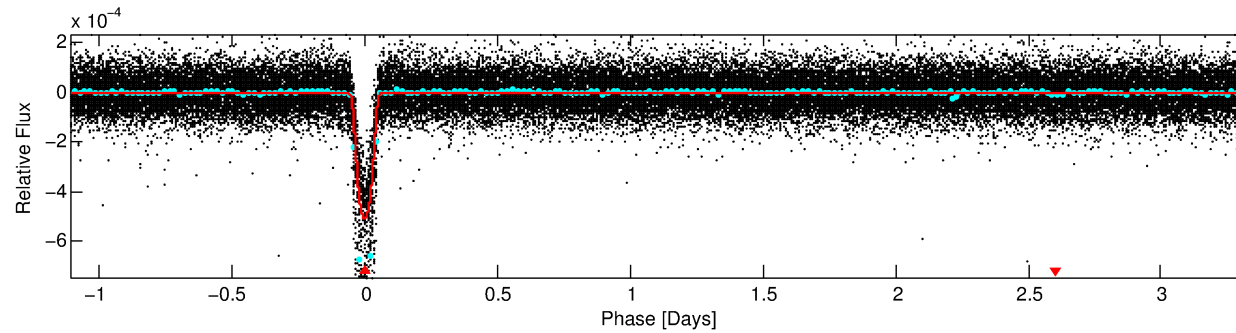
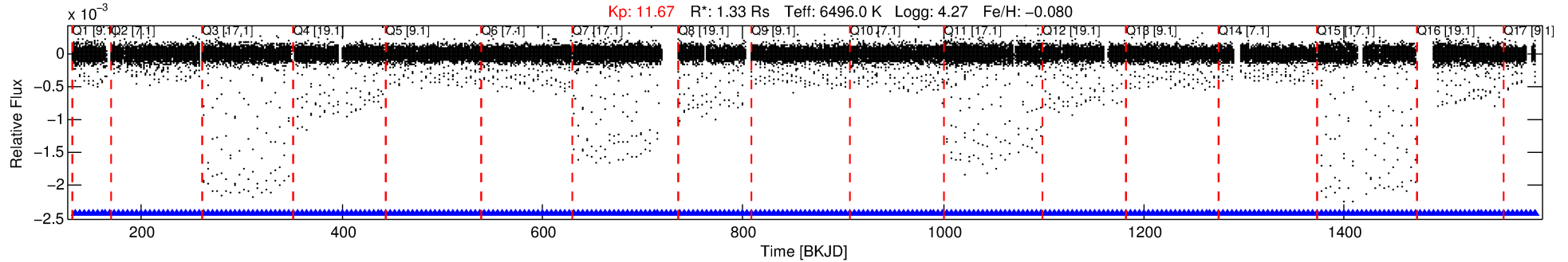
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4913000 Candidate: 1 of 1 Period: 4.443 d

KOI: K01775.01 Corr: 0.974

Kp: 11.67 R*: 1.33 Rs Teff: 6496.0 K Logg: 4.27 Fe/H: -0.080



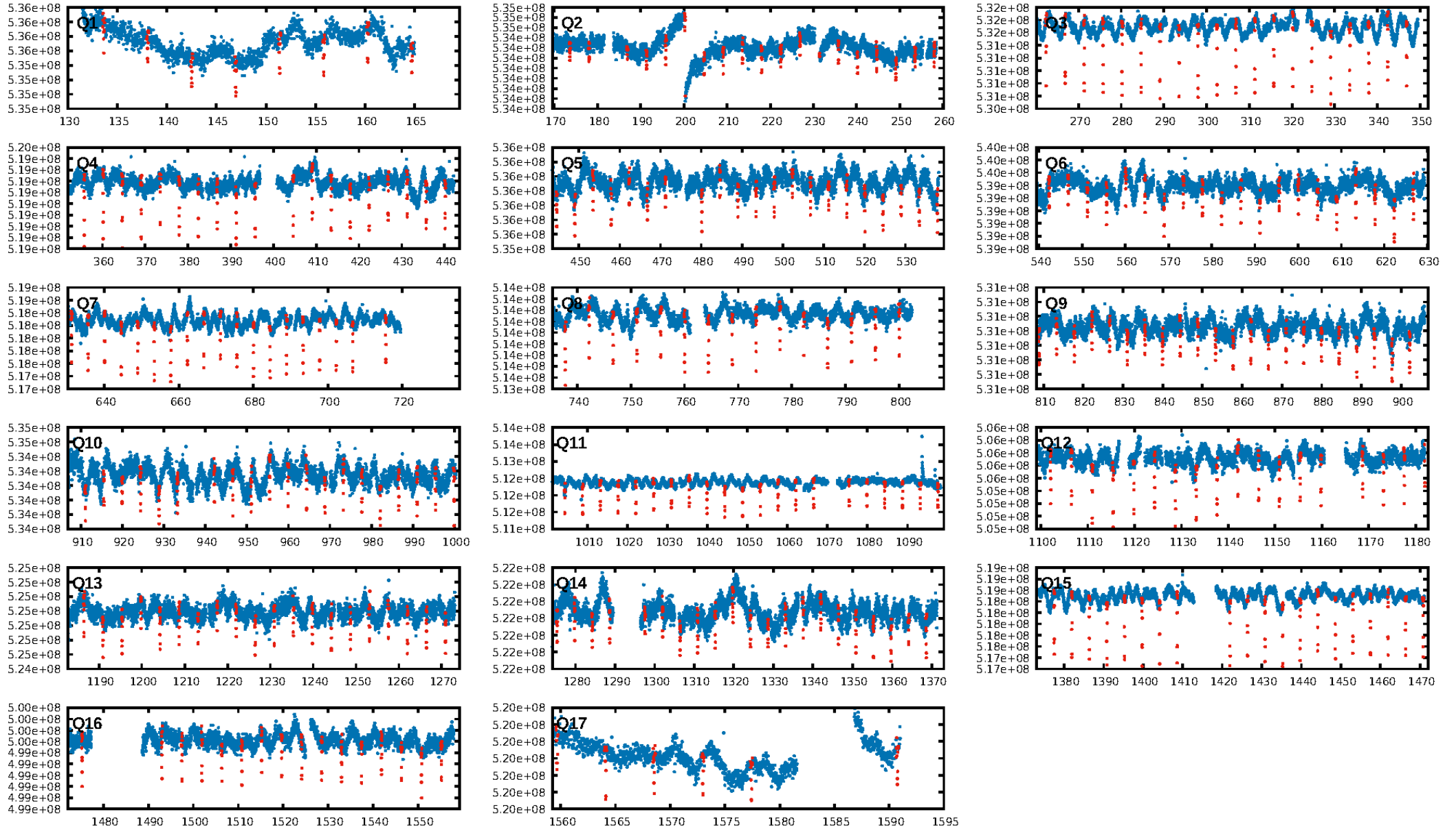
DV Fit Results:

Period = 4.44251 [0.00000] d
Epoch = 133.6101 [0.0003] BKJD
Rp/R* = 0.0270 [0.0003]
a/R* = 4.79 [0.09]
b = 0.97 [0.00]
Seff = 889.63 [199.19]
Teq = 1393 [78] K
Rp = 3.92 [0.69] Re
a = 0.0563 [0.0084] AU
Ag = 1.09 [0.39] [0.23σ]
Teffp = 2199 [158] K [4.58σ]

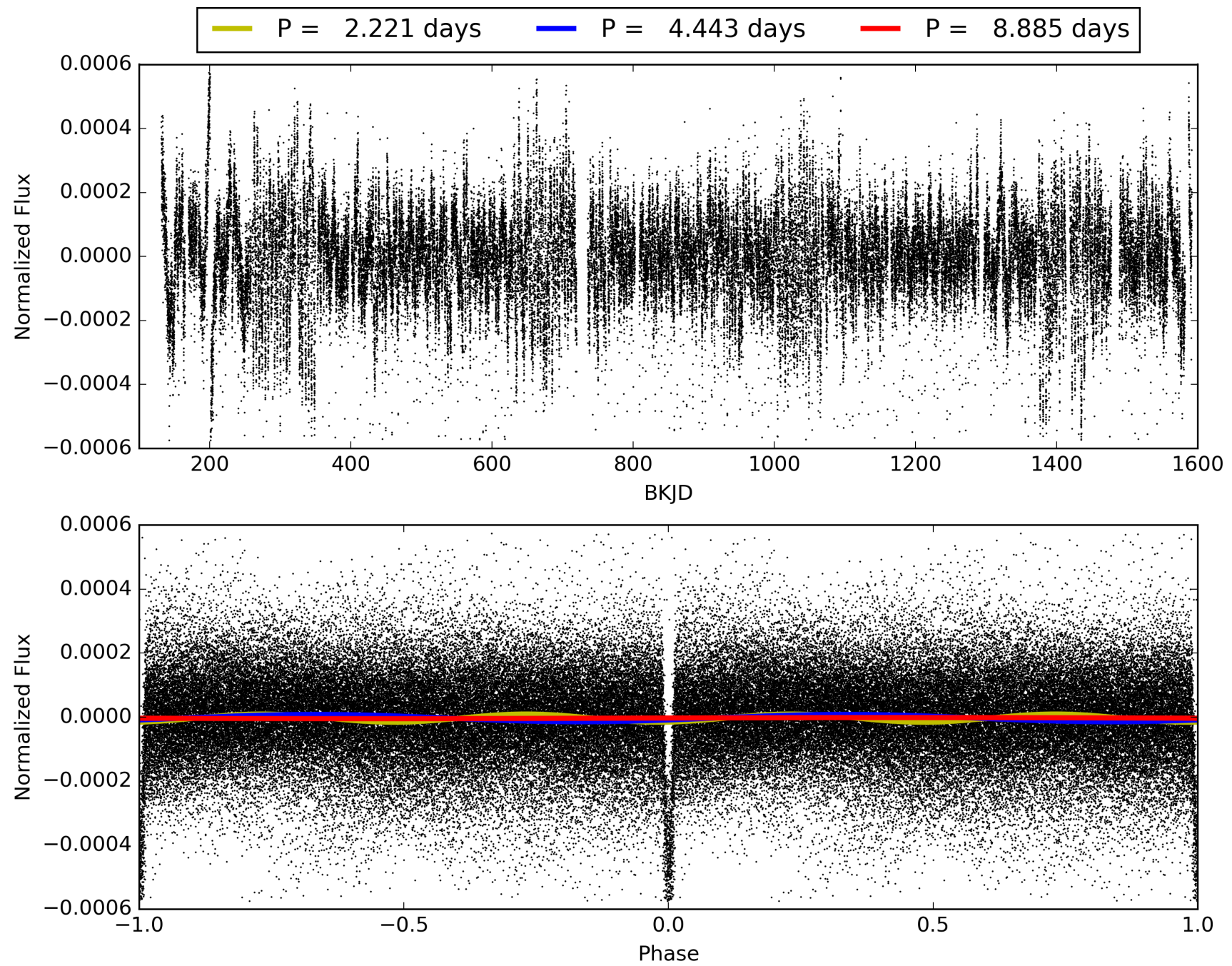
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [290/290]
GhostDiagnostic-chr: -0.4566
Centroid-sig: 0.0%
Centroid-so: 63.133 arcsec [763.12σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004913000-01, PDC Light Curves

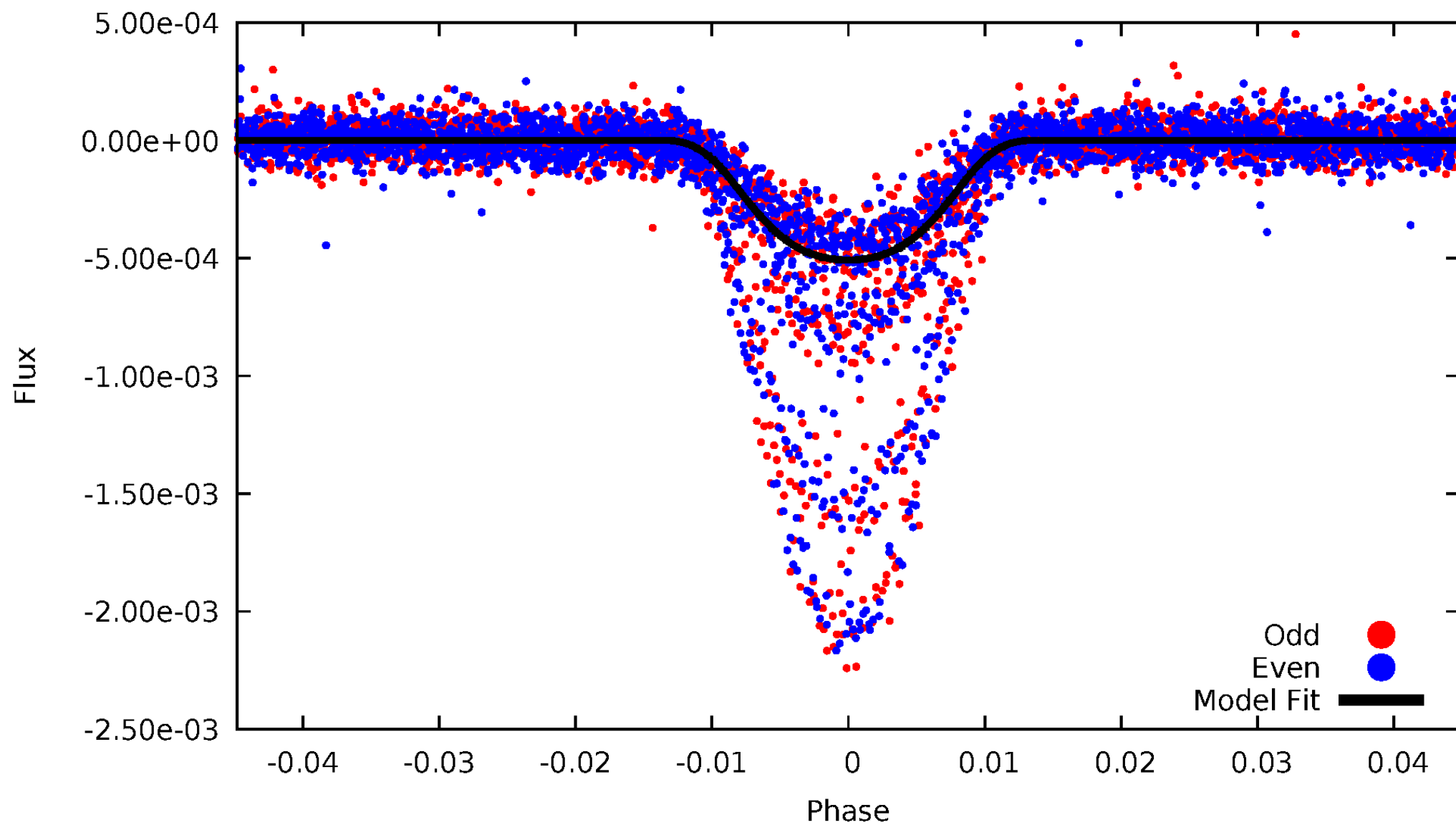


TCE 004913000-01



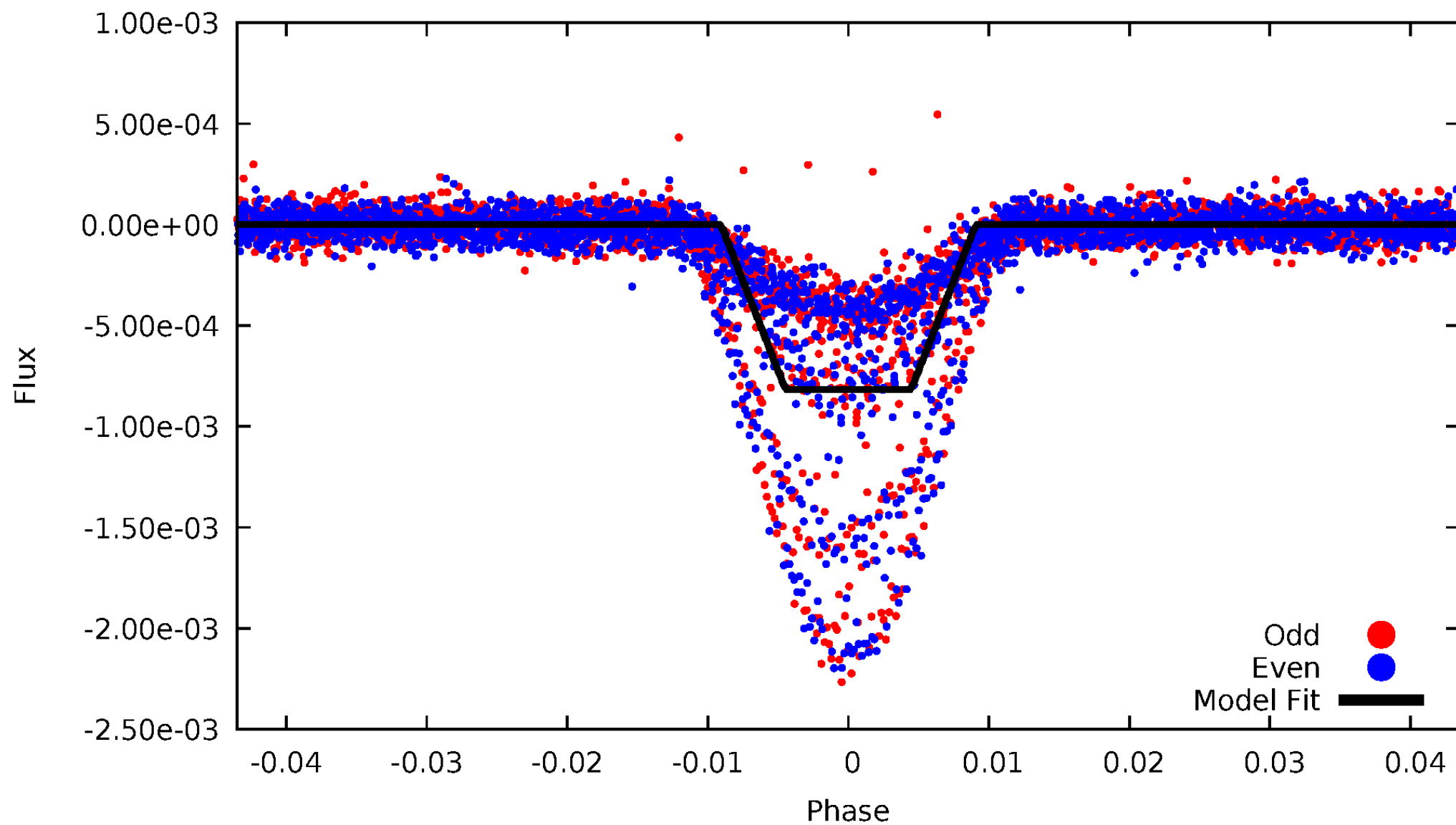
DV Odd/Even

TCE 004913000-01



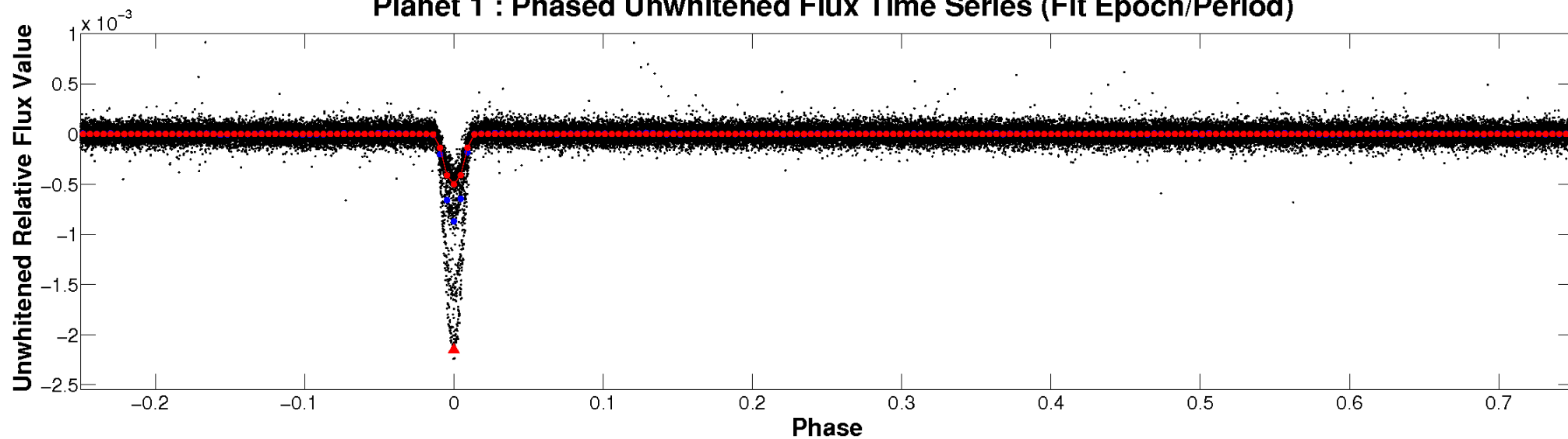
ALT Odd/Even

TCE 004913000-01

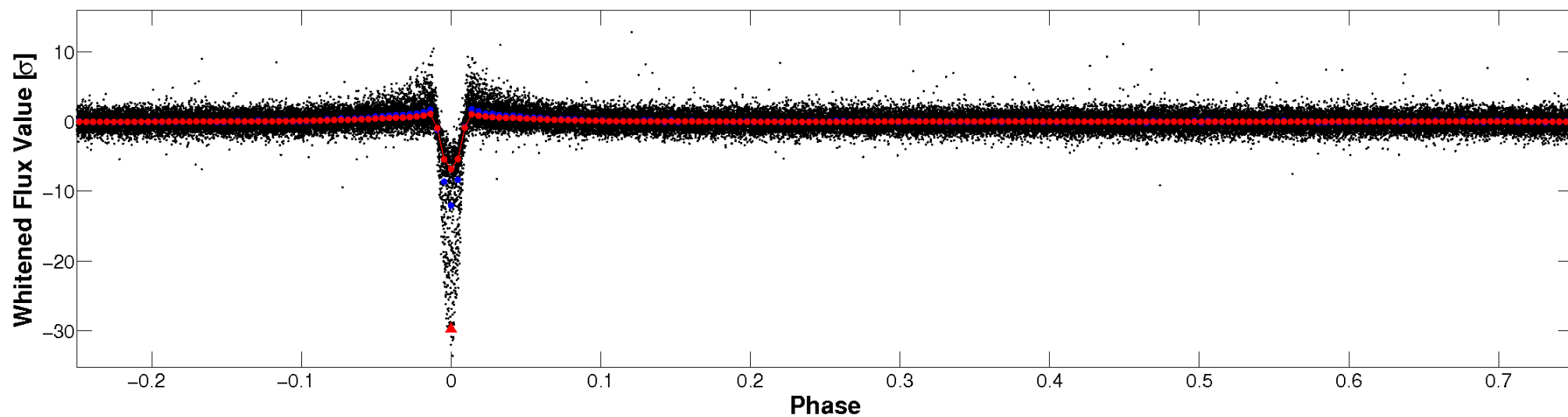


Non-Whitened Vs. Whitened Light Curve

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

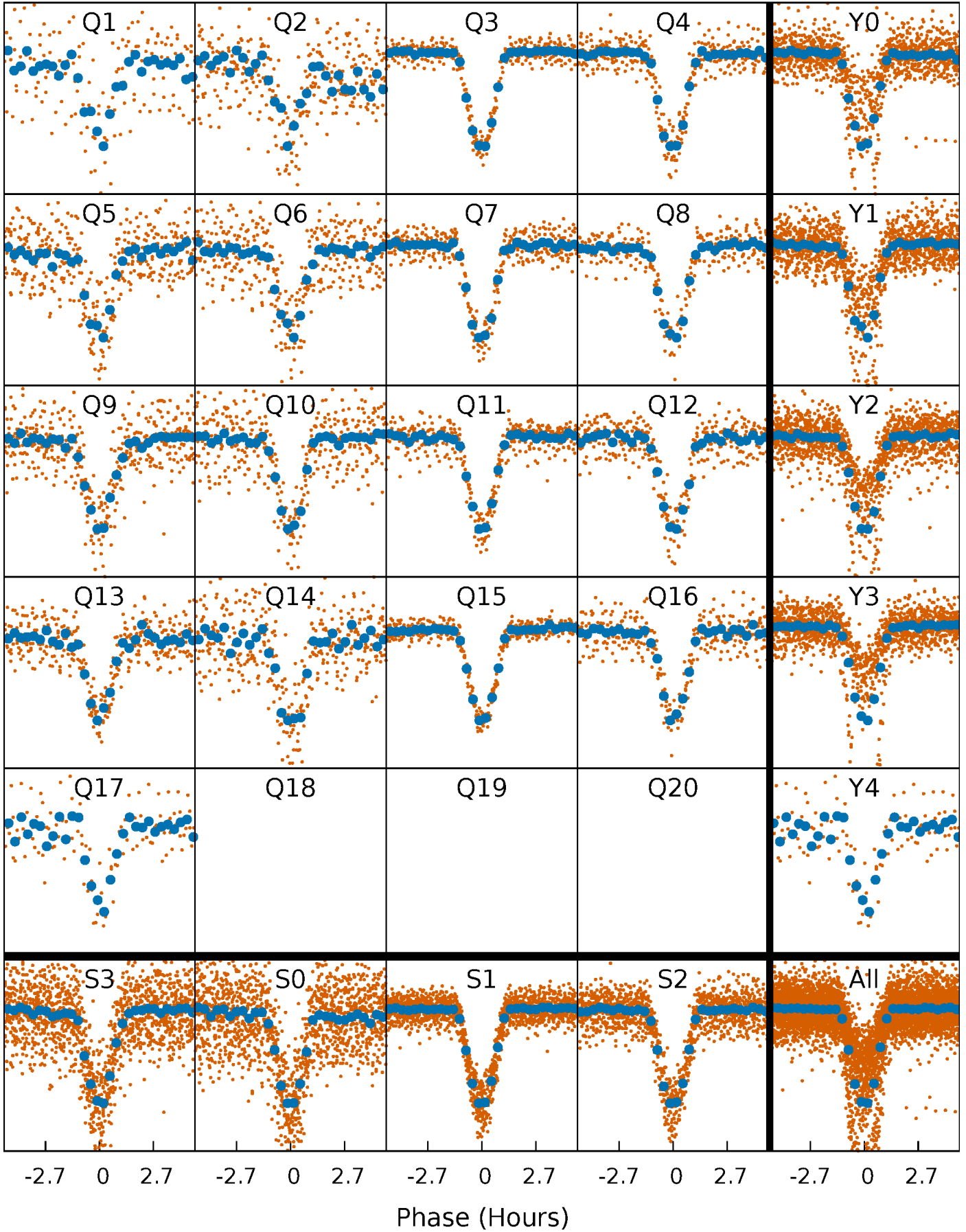


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



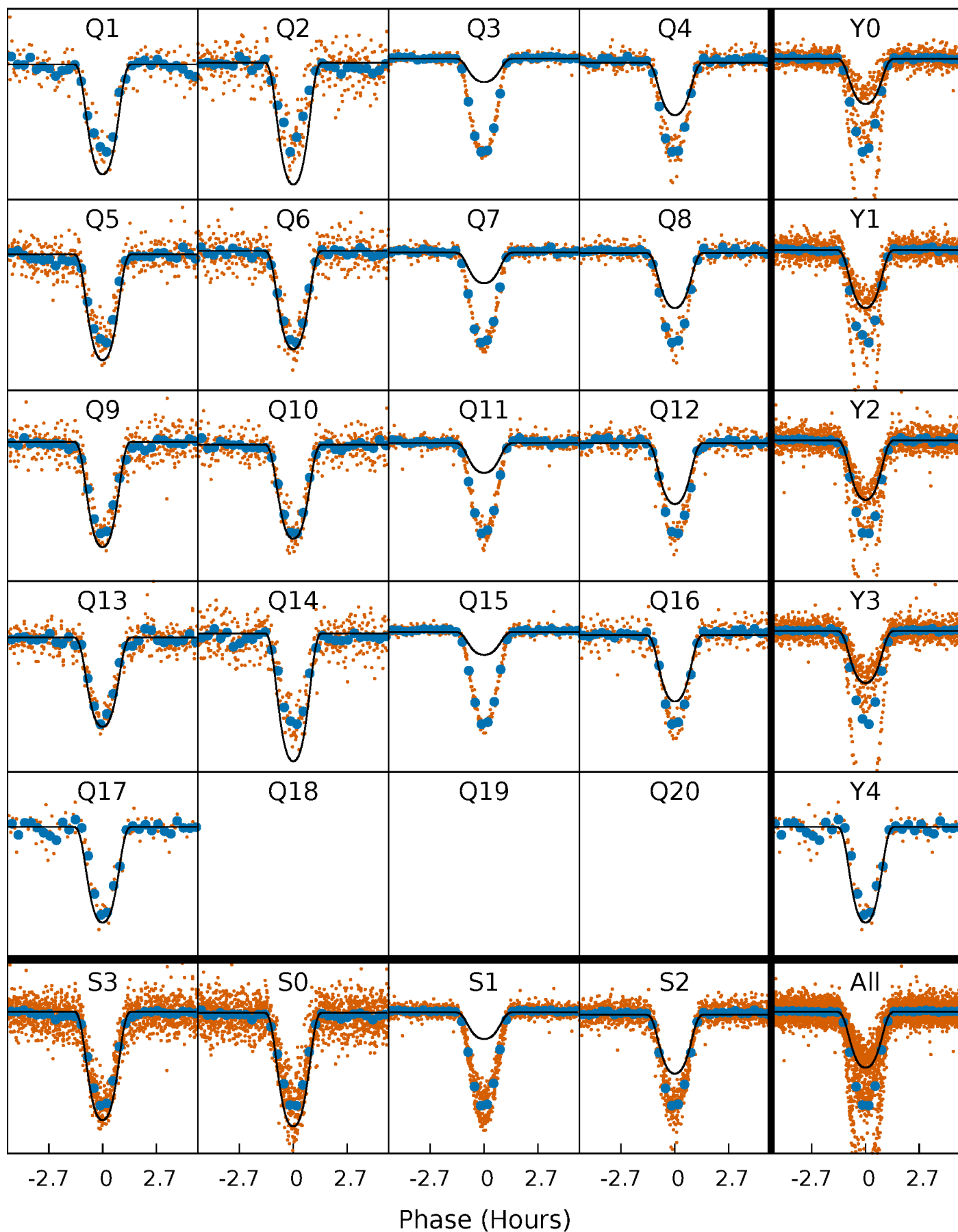
PDC Quarter-Phased Transit Curves

TCE 004913000-01 P= 4.442506 Days $T_0=133.610115$ (BKJD)



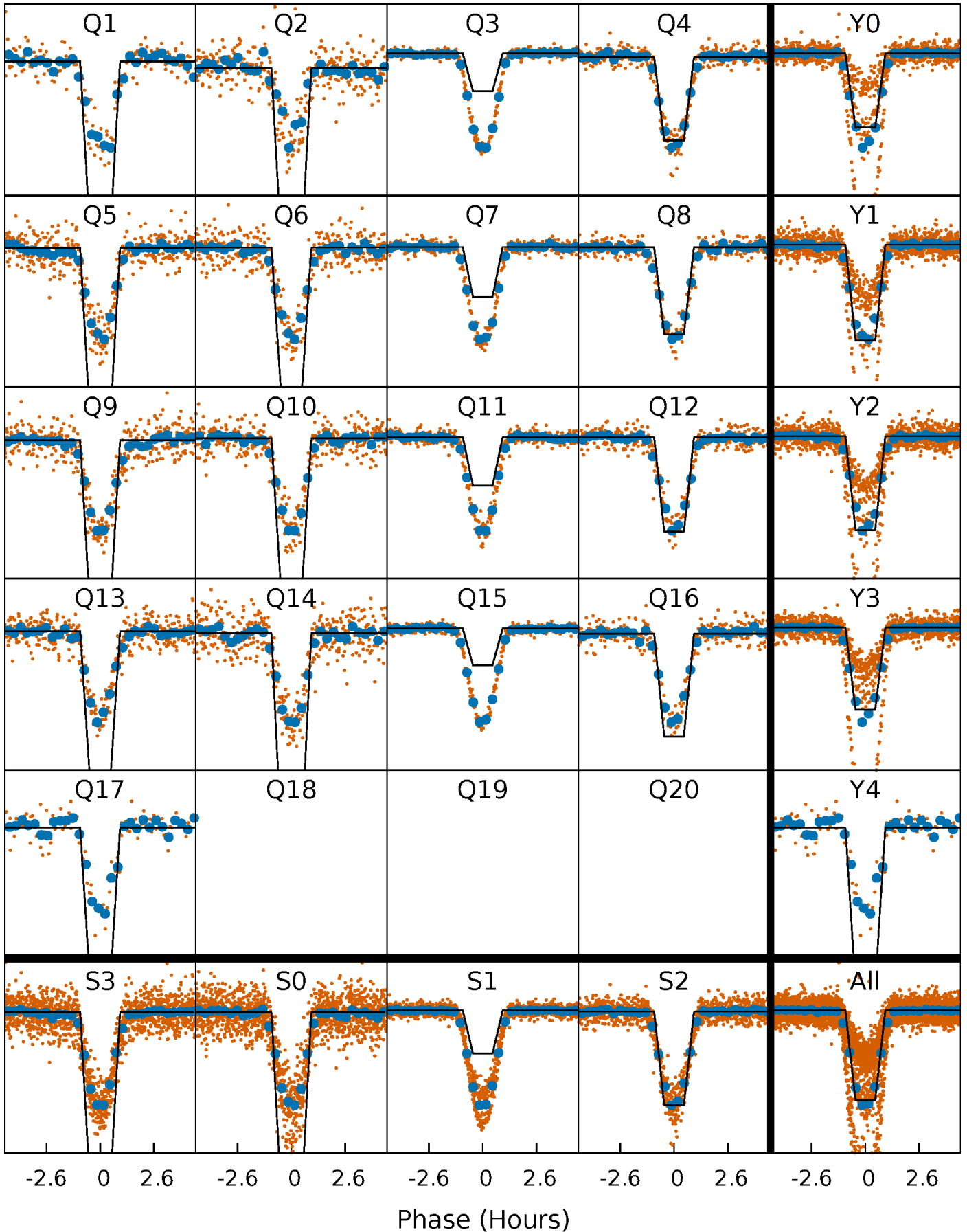
DV Quarter-Phased Transit Curves

TCE 004913000-01 P= 4.442506 Days $T_0=133.610115$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

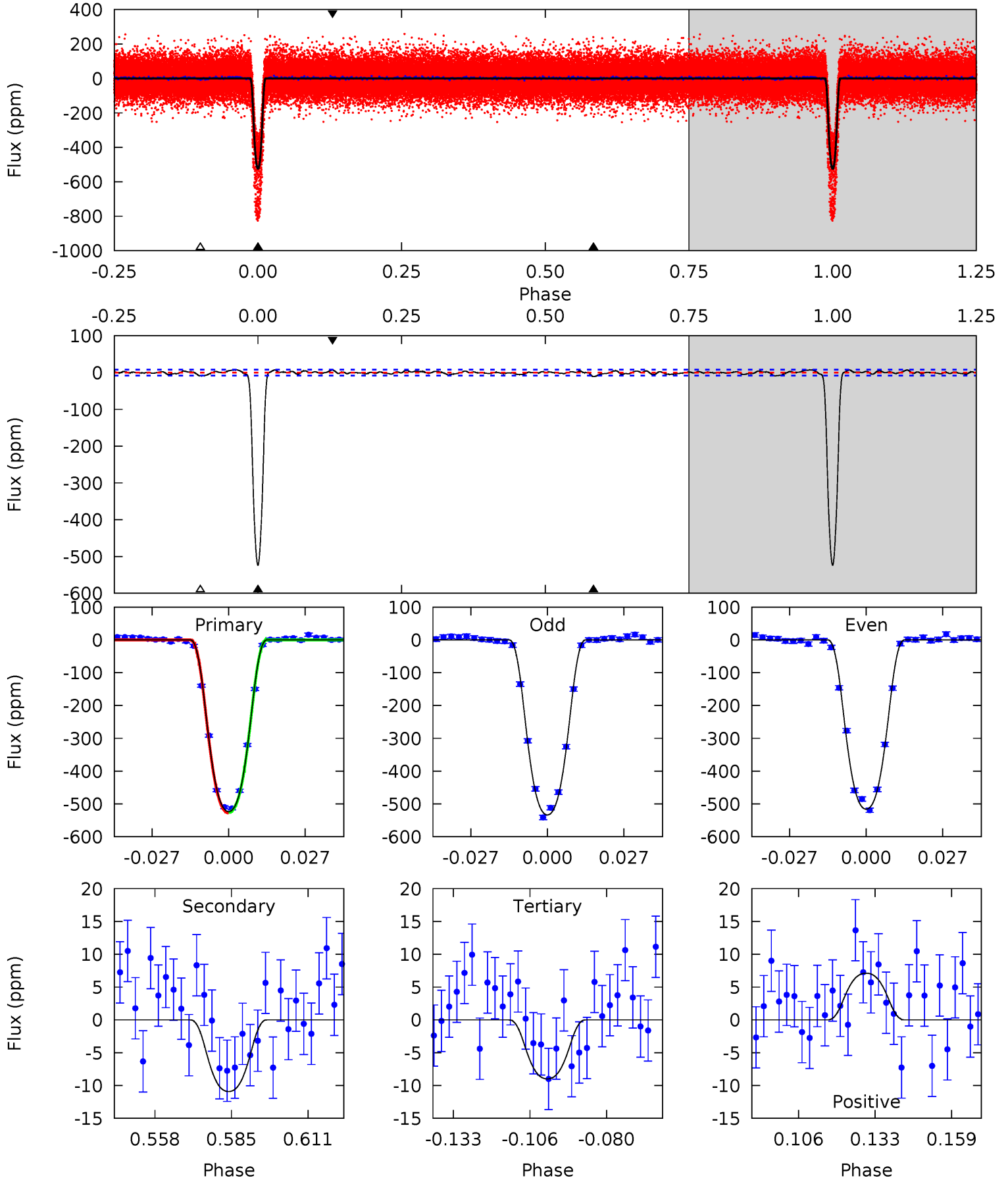
TCE 004913000-01 P= 4.442520 Days $T_0=133.607694$ (BKJD)



DV Model-Shift Uniqueness Test

004913000-01, P = 4.442506 Days, E = 129.167609 Days

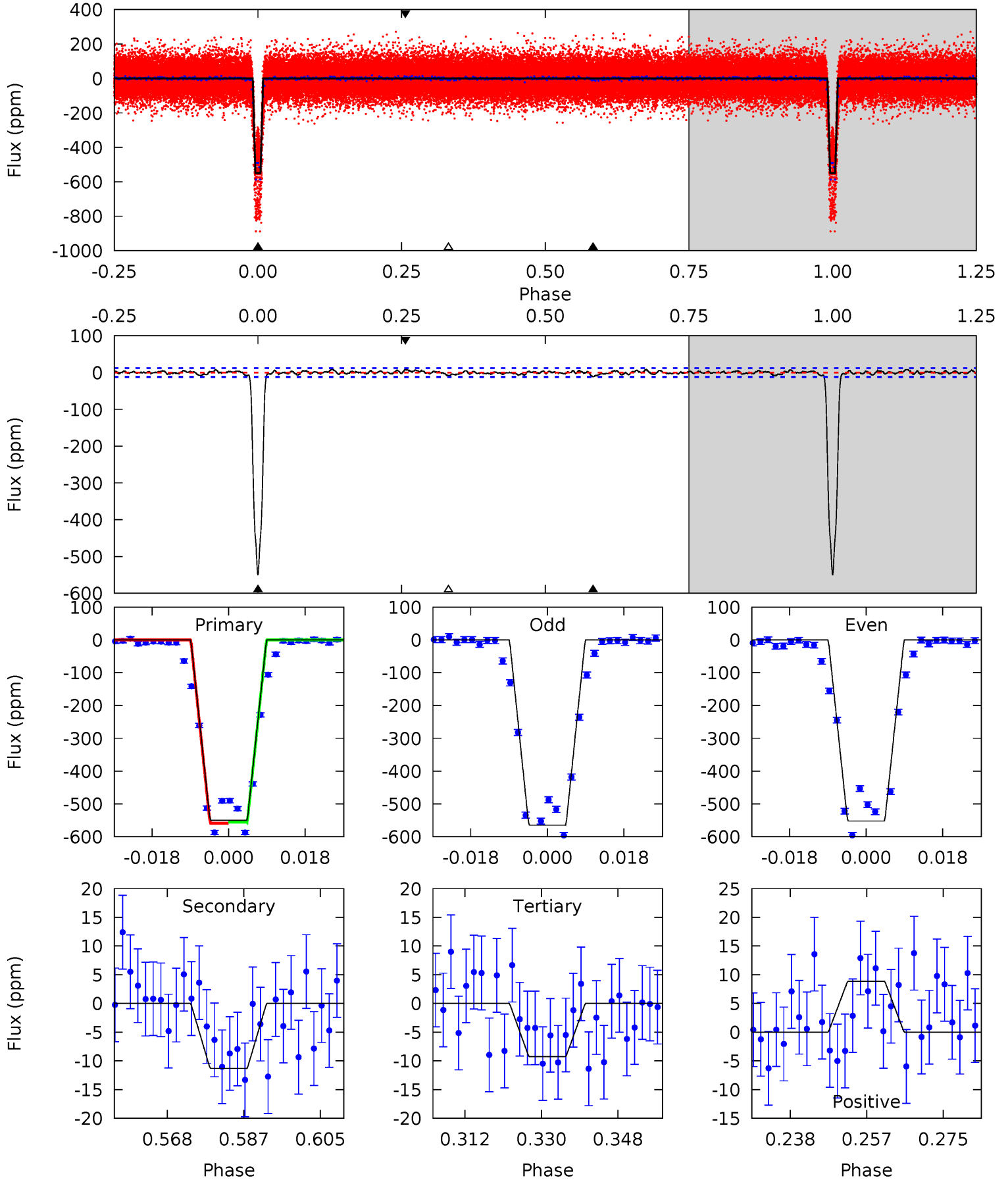
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
311.4	6.50	5.35	4.23	4.84	2.22	1.72	306.0	307.2	1.15	2.27	5.18	1.58	0.01	0.50



Alt Model-Shift Uniqueness Test

004913000-01, P = 4.442520 Days, E = 129.165174 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
224.7	4.62	3.78	3.62	4.91	2.36	1.31	221.0	221.1	0.85	1.00	2.52	1.52	0.02	0.67



Stellar Parameters For KIC 004913000

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6496^{+71}_{-84}	$4.272^{+0.080}_{-0.120}$	$-0.080^{+0.150}_{-0.150}$	$1.330^{+0.232}_{-0.143}$	$1.209^{+0.095}_{-0.095}$	$0.724^{+0.237}_{-0.250}$
	+1%/-1%	+2%/-3%	+188%/-188%	+17%/-11%	+8%/-8%	+33%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004913000-01 / KOI 1775.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 2	$3.93^{+0.38}_{-0.26}$	1950^{+88}_{-65}	2840^{+81}_{-90}	$1.193^{+0.291}_{-0.239}$
Alt.	-11 ± 2	$4.18^{+0.39}_{-0.27}$	1955^{+81}_{-66}	2802^{+102}_{-131}	$1.110^{+0.299}_{-0.285}$

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

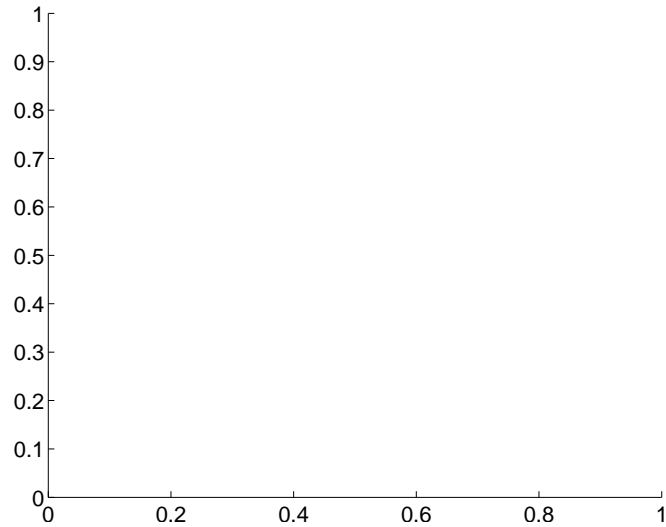
Supplemental centroid analysis for 004913000-01. **Kepler magnitude: 11.67.** Transit SNR 149.00

There are 0 quarters with good PRF difference image offsets

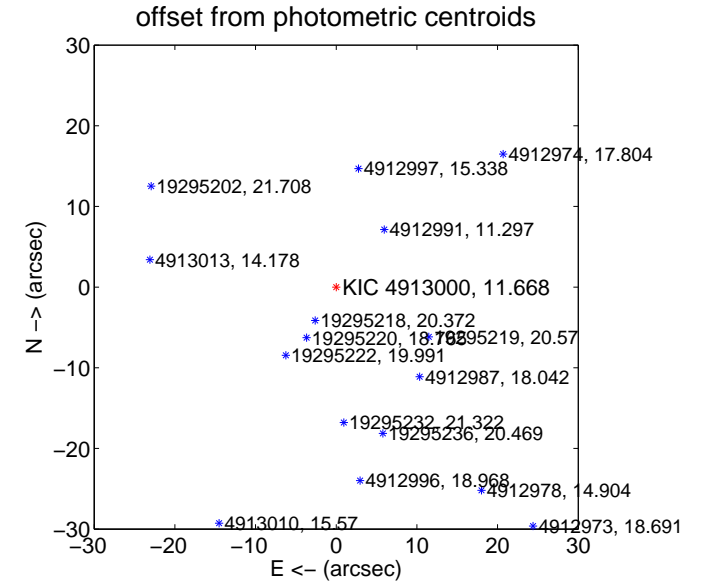
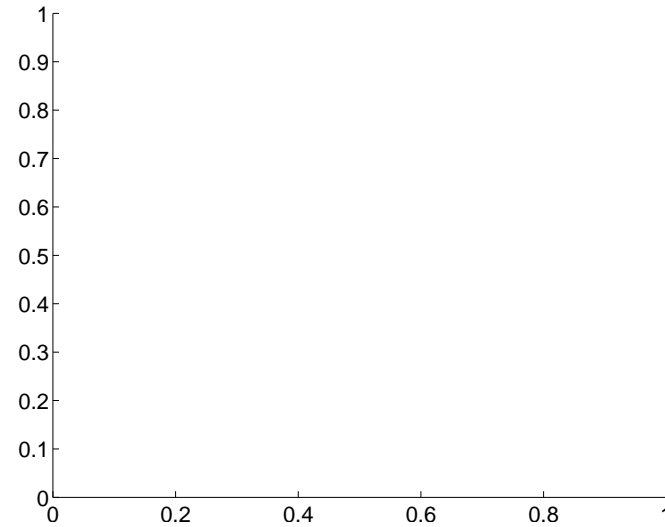
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	63.13 \pm 0.08	763.12	-40.75 \pm 0.08	48.21 \pm 0.08

There is no PRF-fit offset from OOT-fit

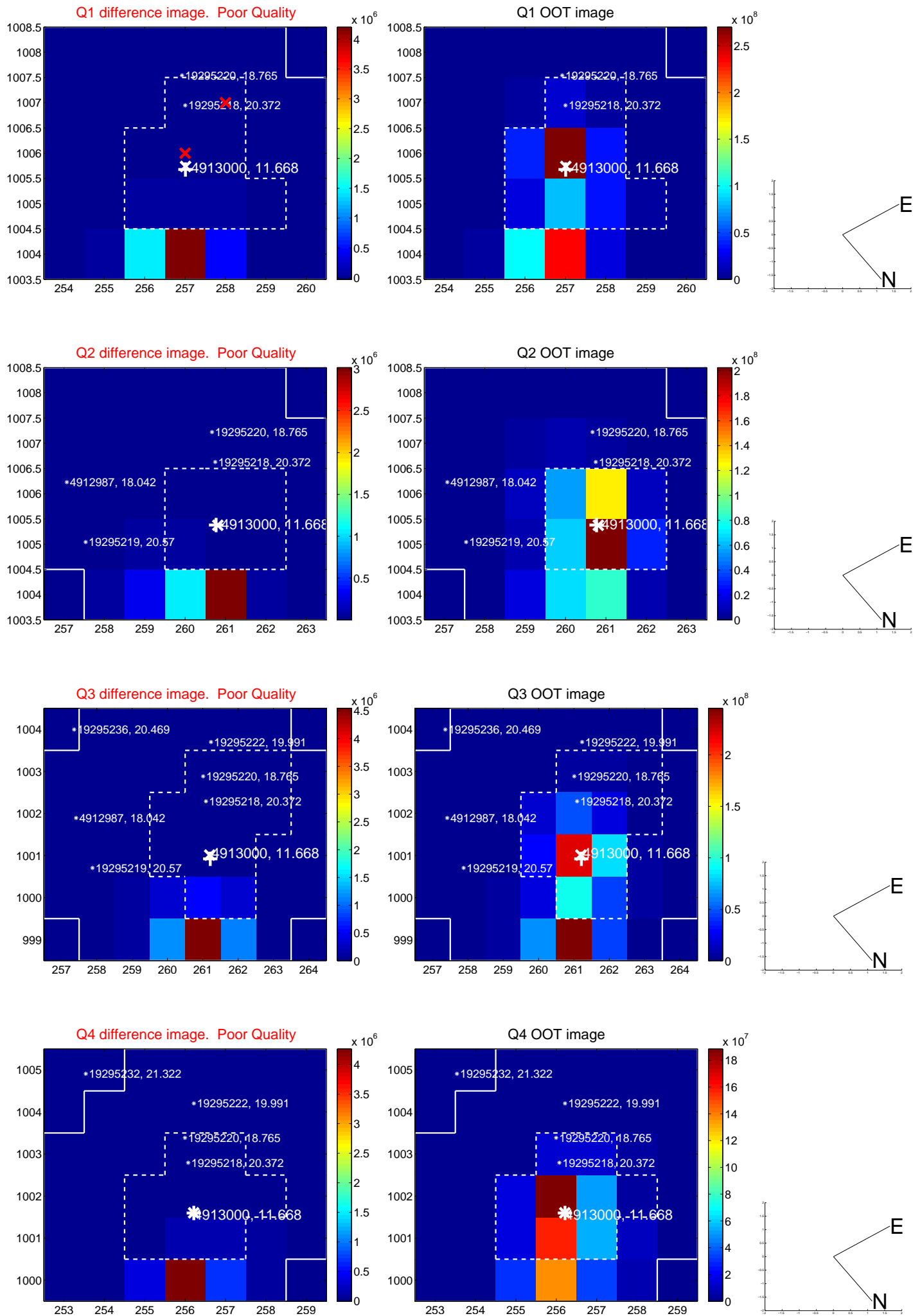


There is no PRF-fit offset from KIC

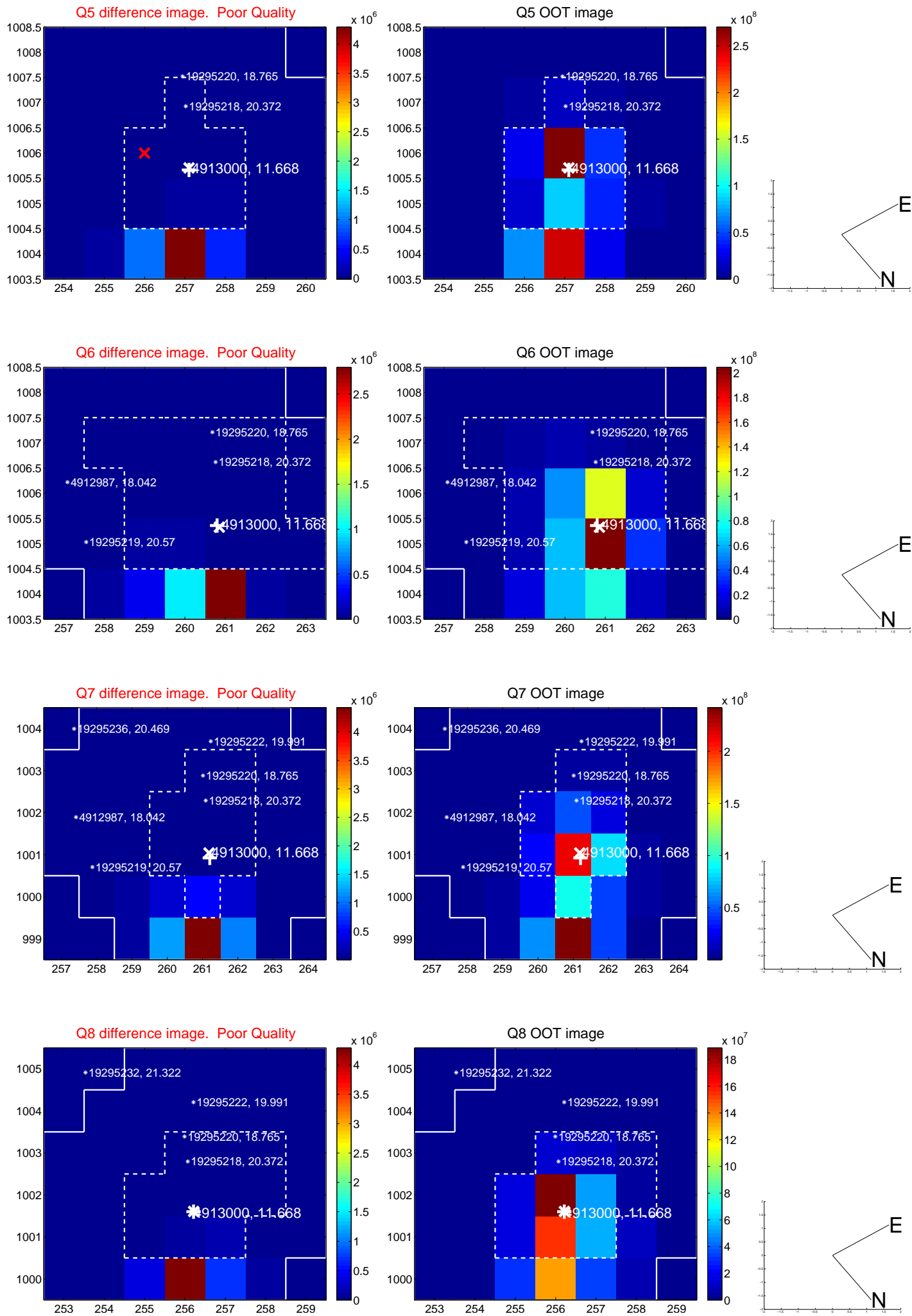


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

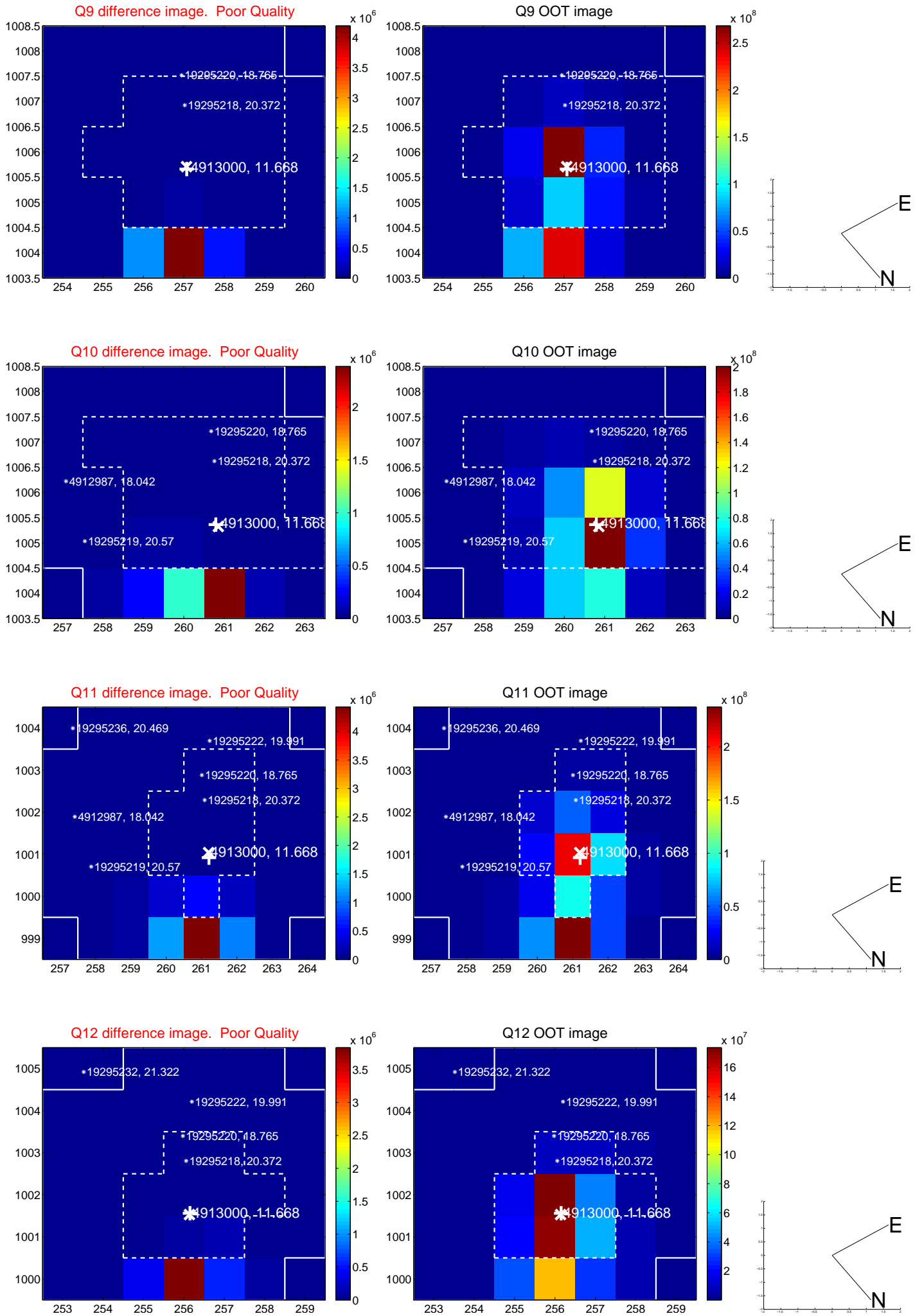
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



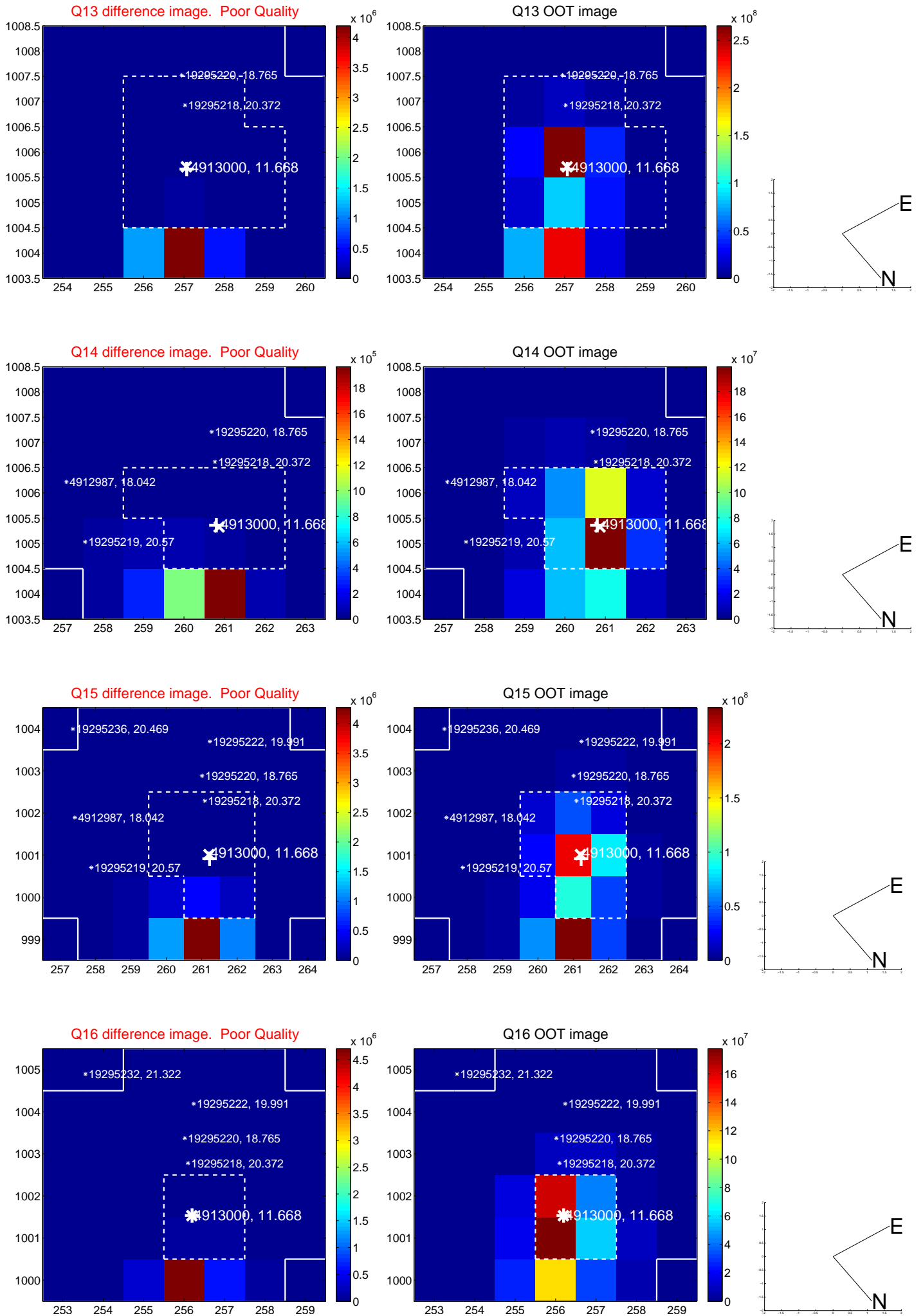
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



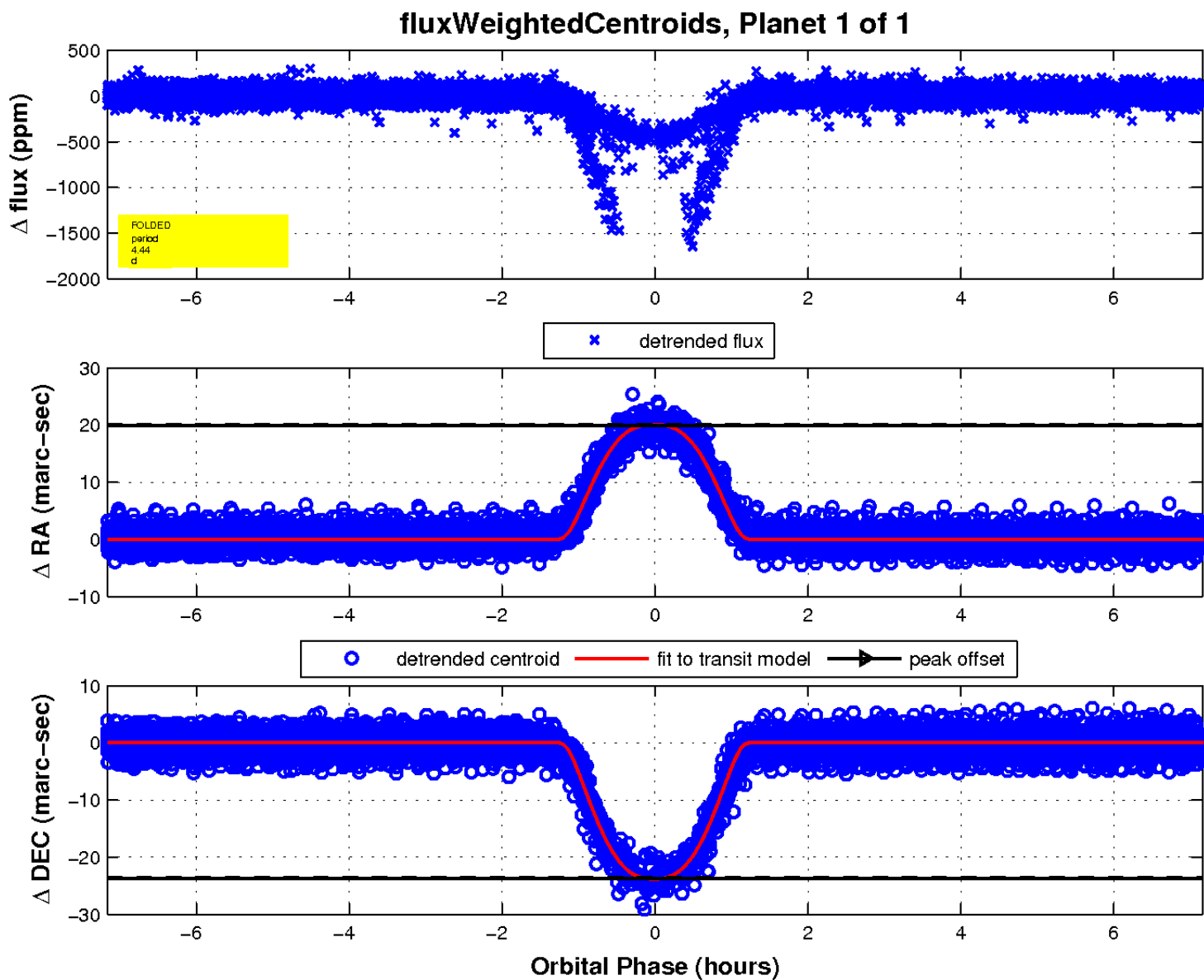
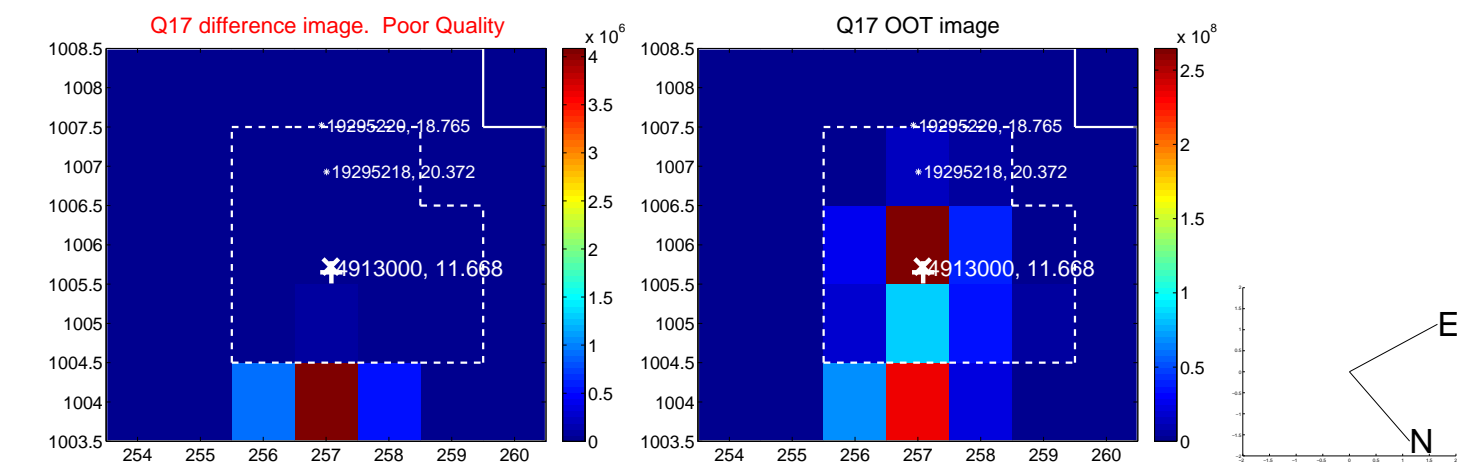
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

