

KIC 002987027

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})
002987027-01	OBS	0197.01	17.276293	133.839314	10480.0	3.962	785.5	739.1	0.74	4941	7.35	19.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002987027-01	OBS	PC	0.99	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.

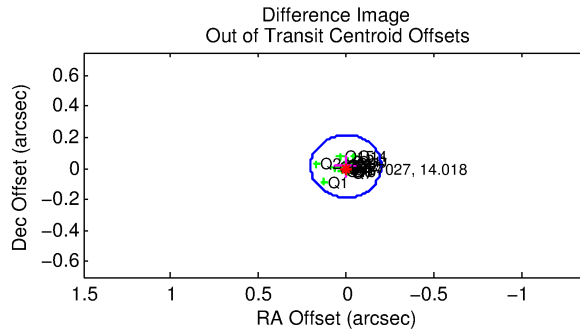
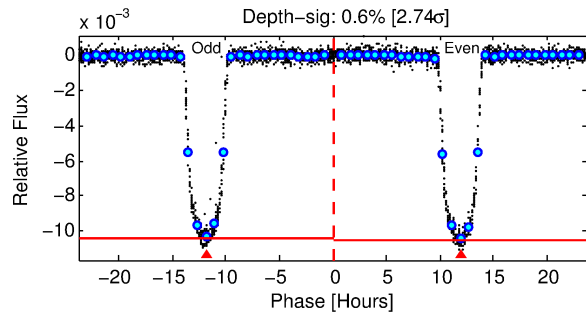
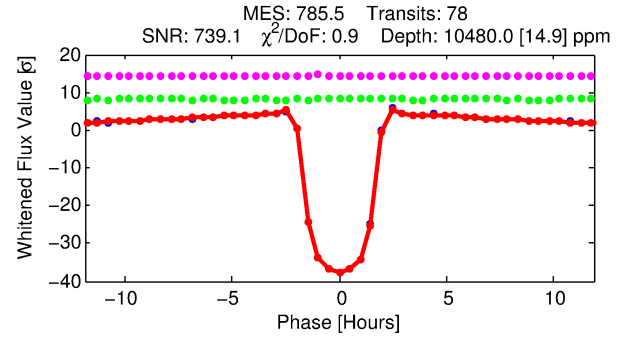
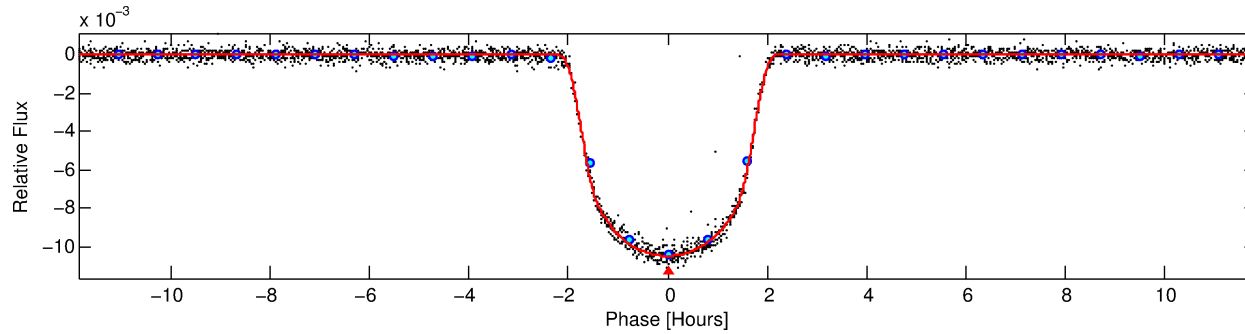
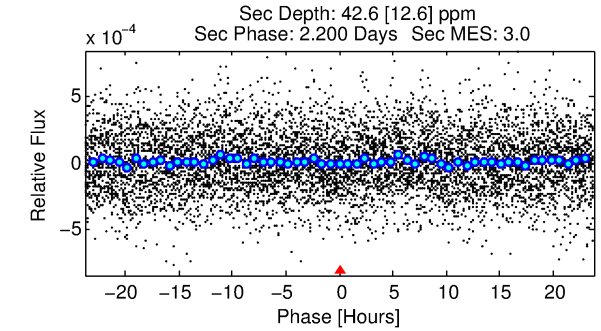
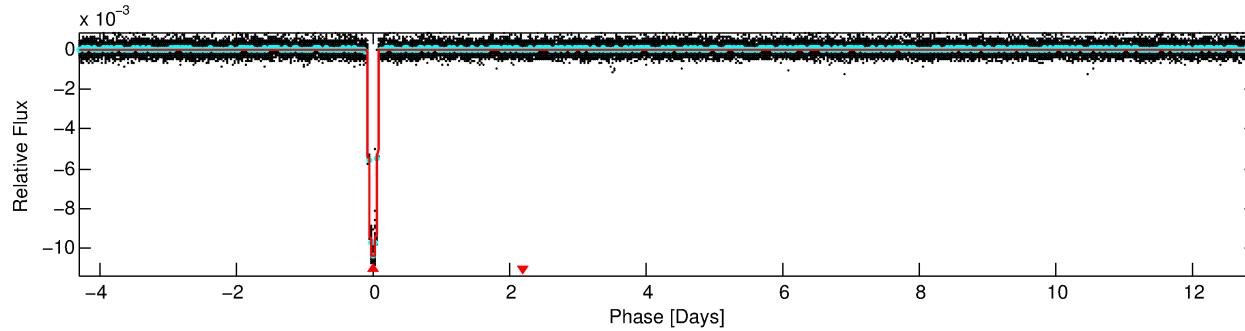
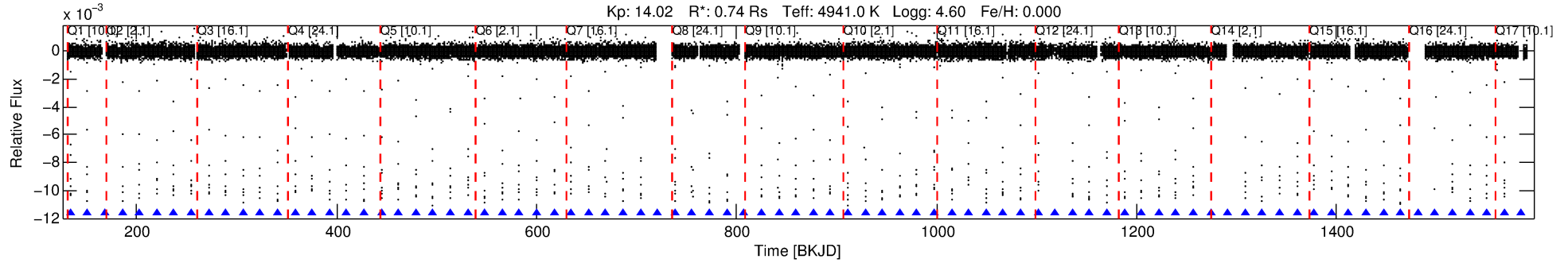
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002987027-01

No Significant Match Found

DV One-Page Summary

KIC: 2987027 Candidate: 1 of 1 Period: 17.276 d
KOI: K00197.01 Corr: 0.998



DV Fit Results:

Period = 17.27629 [0.00000] d
Epoch = 133.8393 [0.0001] BKJD
Rp/R* = 0.0913 [0.0008]
a/R* = 35.62 [0.99]
b = 0.22 [0.12]
Seff = 19.90 [2.34]
Teff = 539 [16] K
Rp = 7.35 [0.48] Re
a = 0.1209 [0.0069] AU
Ag = 6.33 [1.95] [2.73 σ]
Teffp = 1321 [101] K [7.63 σ]

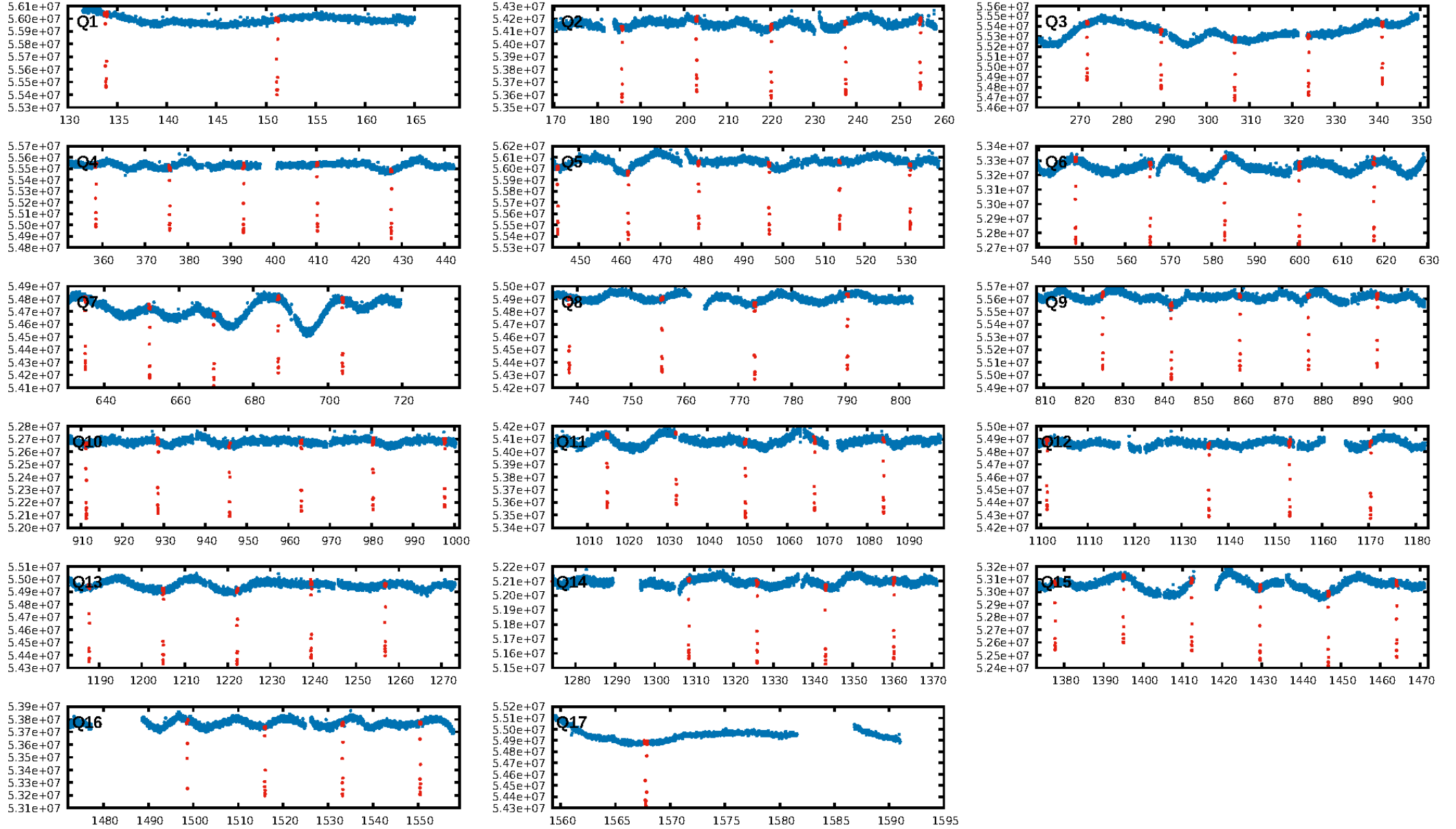
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [75/75]
GhostDiagnostic-chr: 4.136
Centroid-sig: 7.8%
Centroid-so: 0.514 arcsec [31.68 σ]
OotOffset-rm: 0.015 arcsec [0.22 σ]
KicOffset-rm: 0.516 arcsec [7.47 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

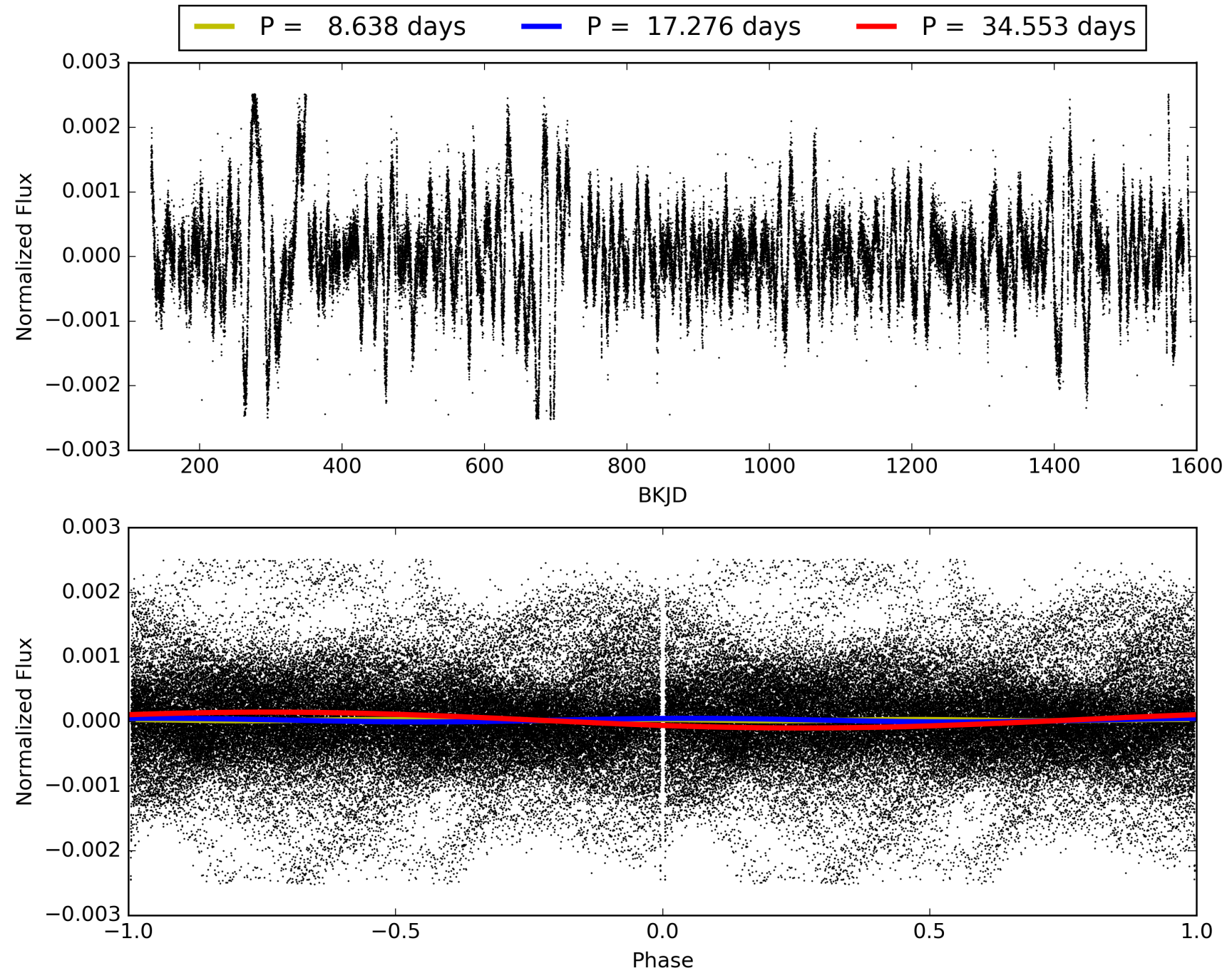
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:48:18 Z

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

TCE 002987027-01, PDC Light Curves

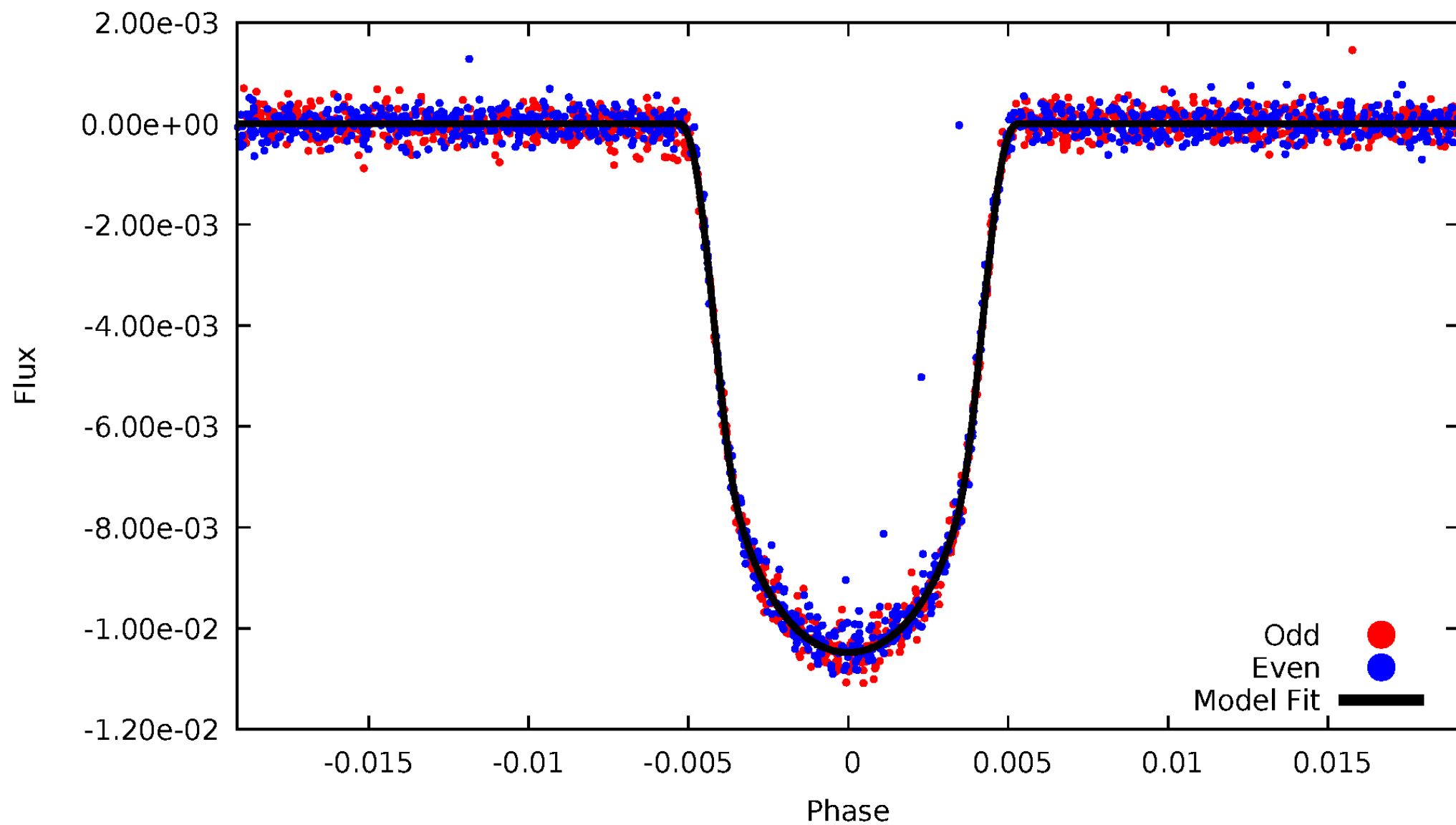


TCE 002987027-01



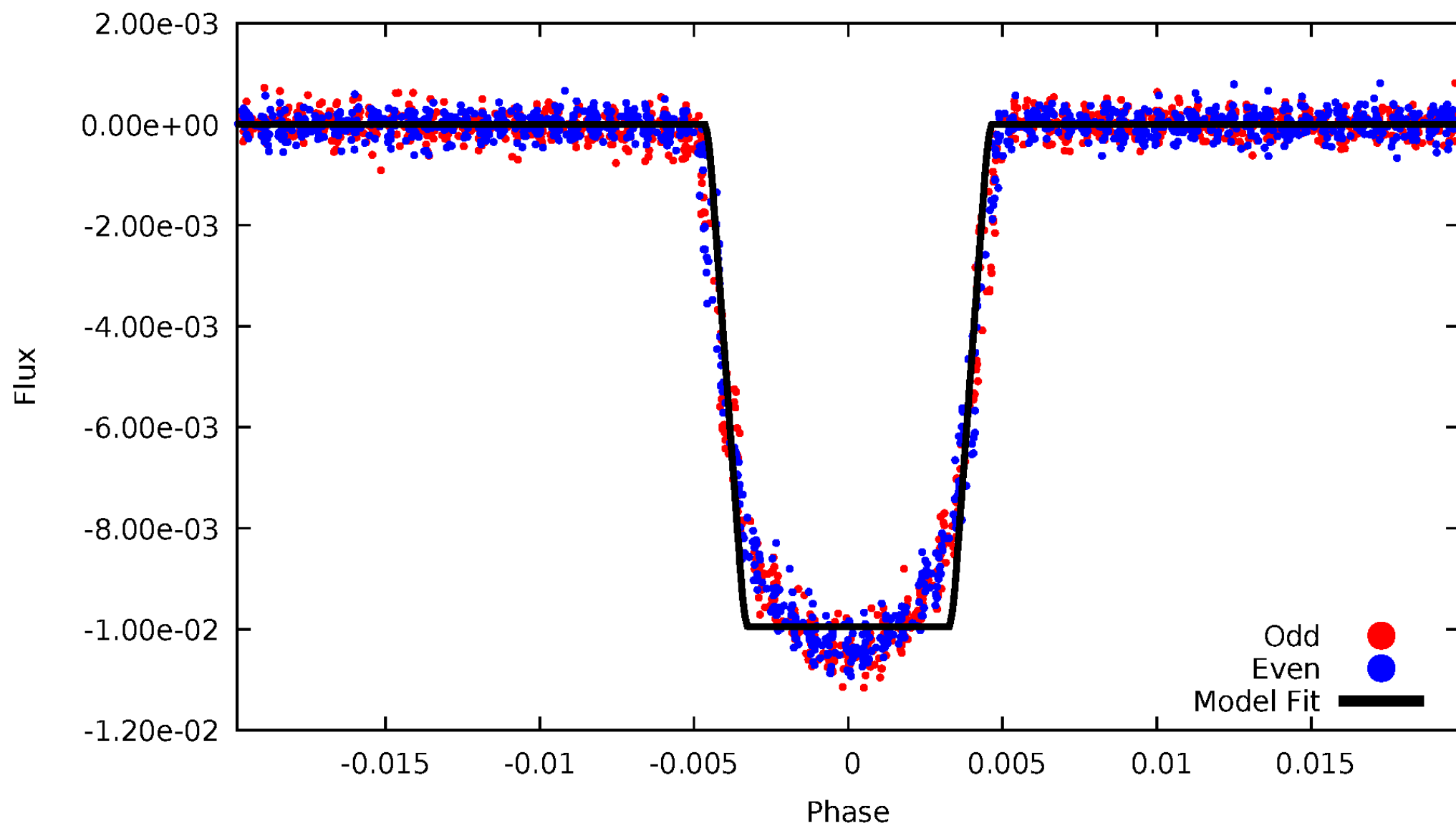
DV Odd/Even

TCE 002987027-01



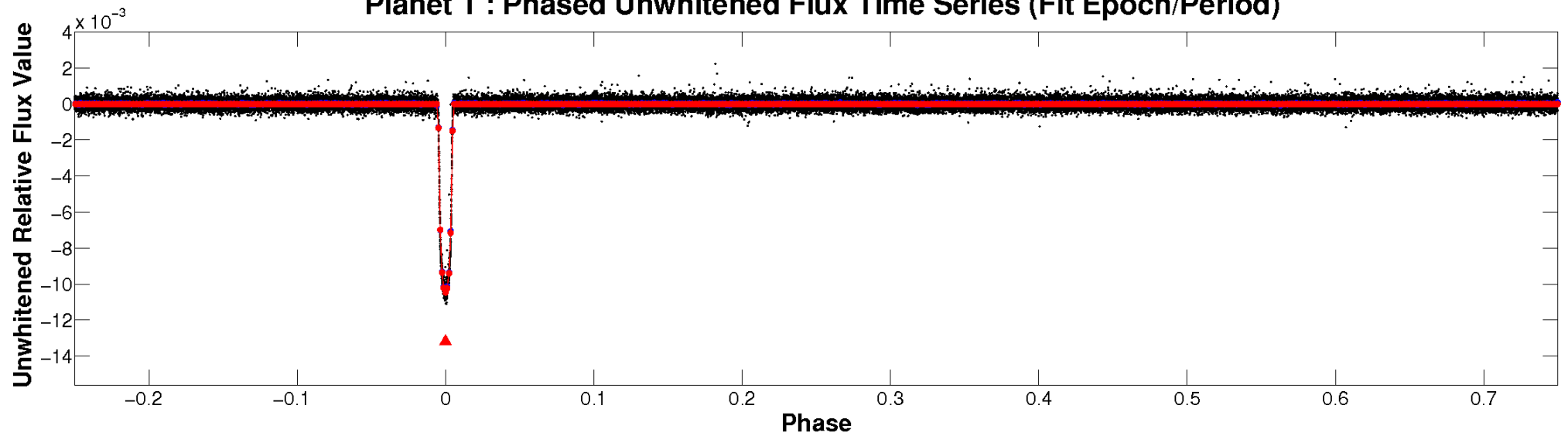
ALT Odd/Even

TCE 002987027-01

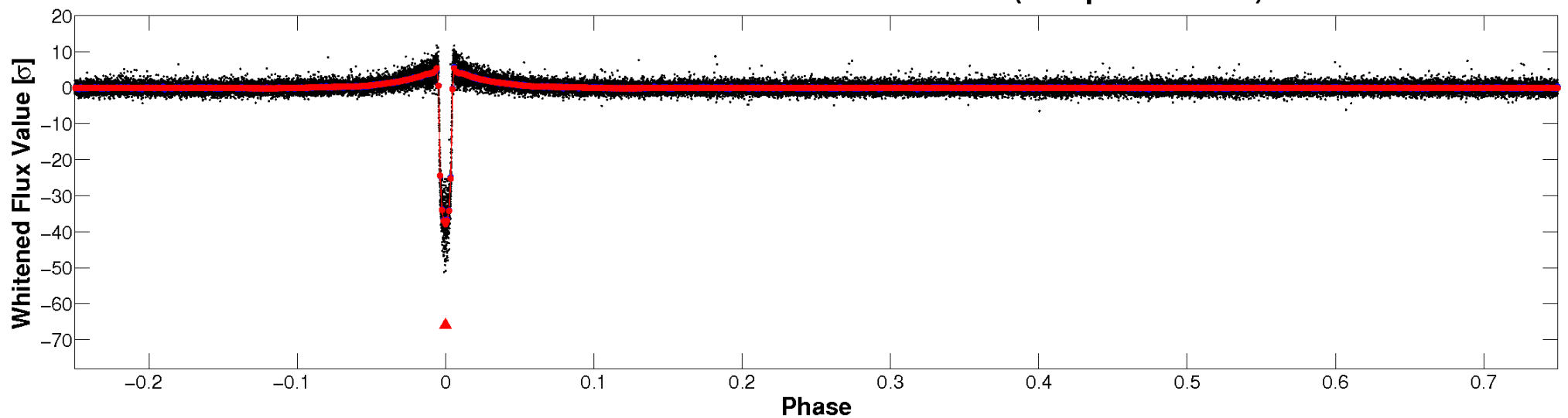


Non-Whitened Vs. Whitened Light Curve

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

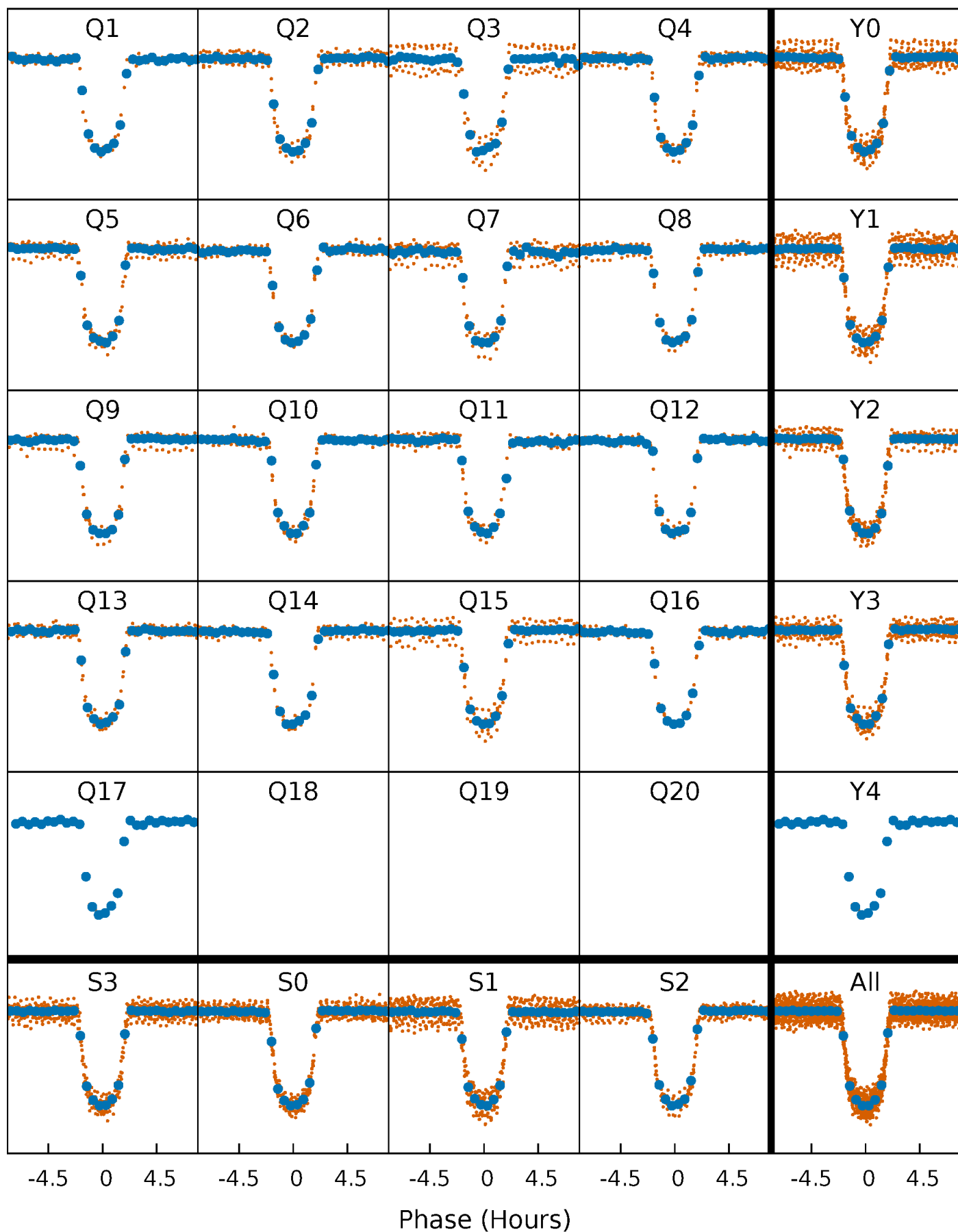


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



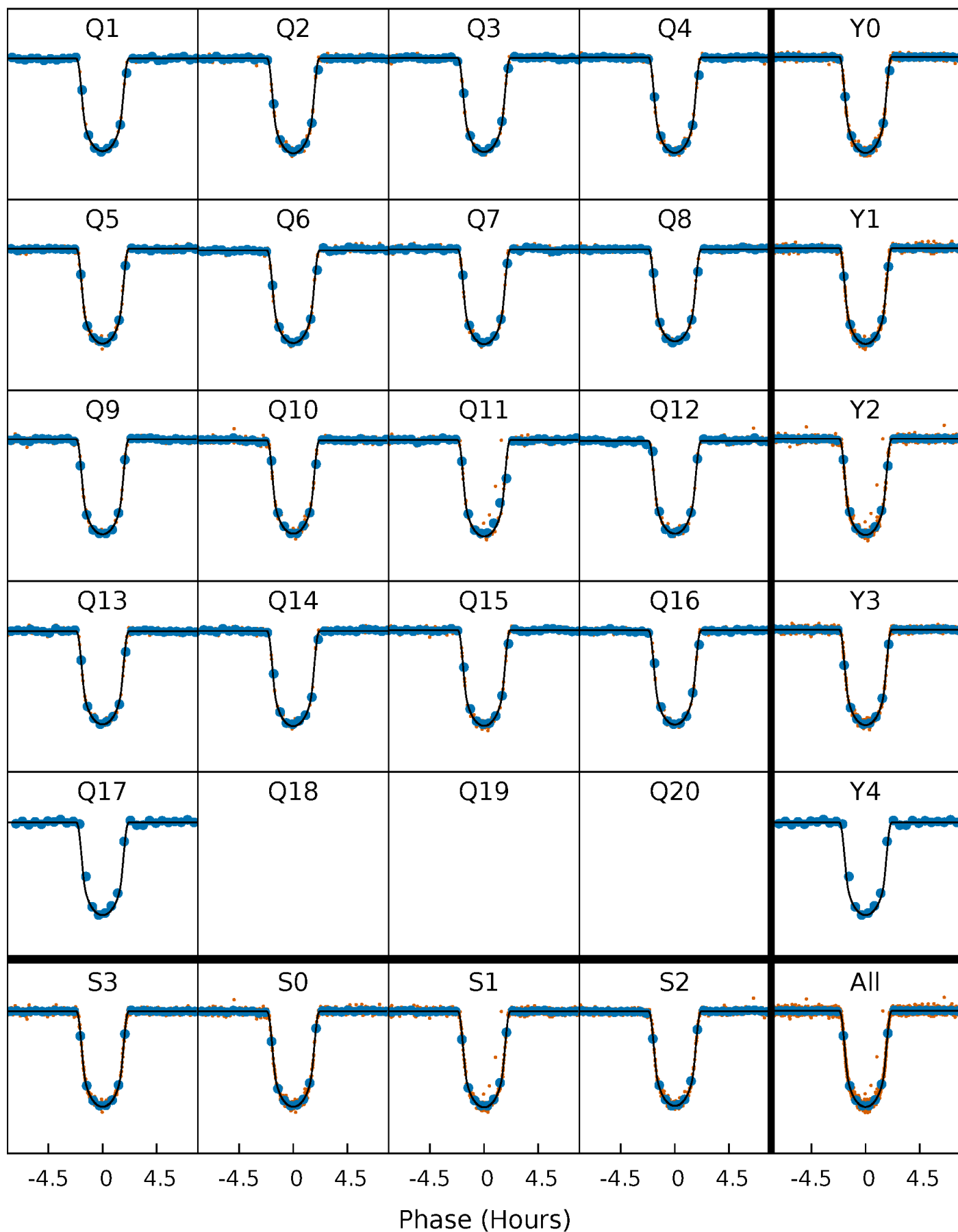
PDC Quarter-Phased Transit Curves

TCE 002987027-01 P= 17.276293 Days $T_0=133.839314$ (BKJD)



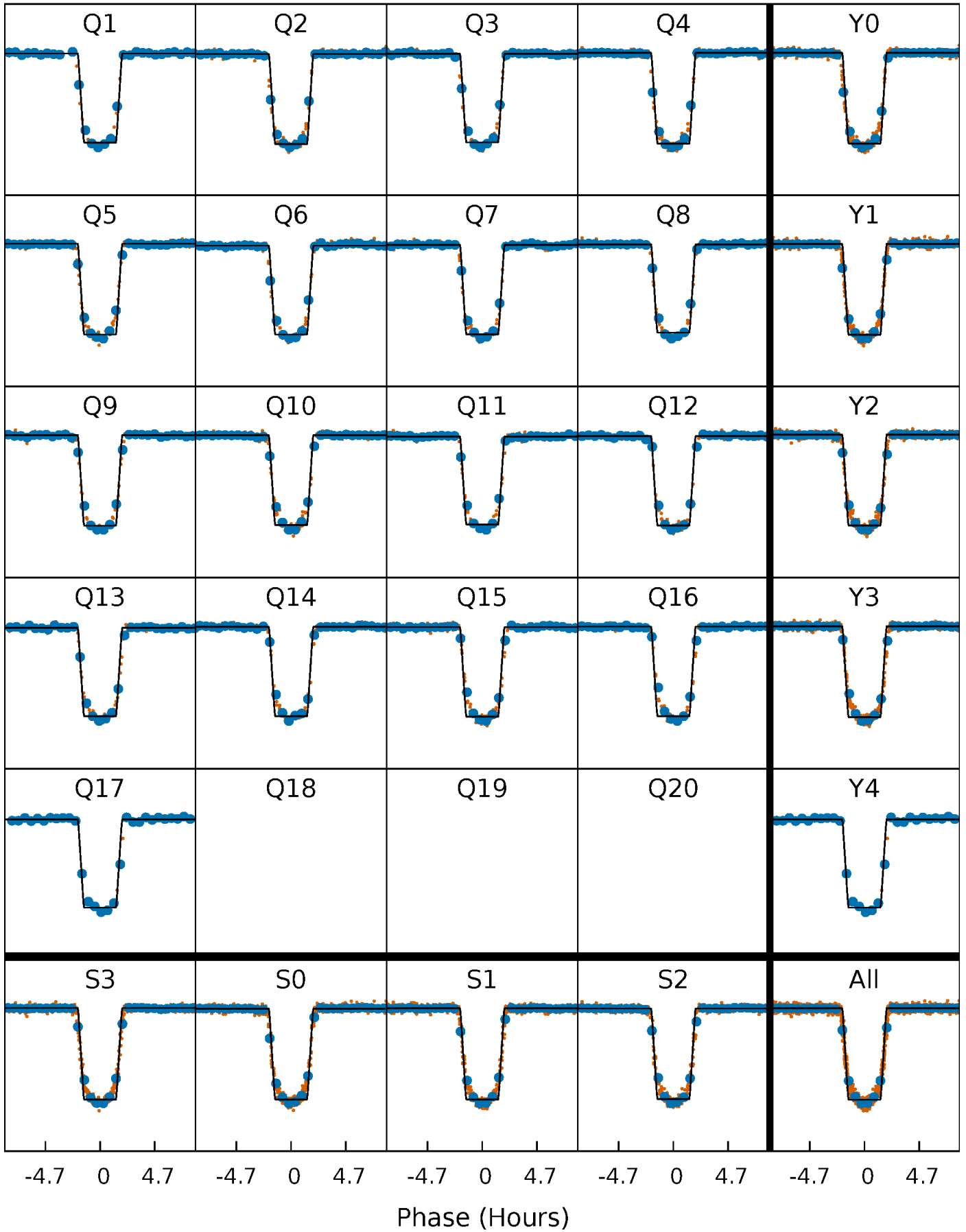
DV Quarter-Phased Transit Curves

TCE 002987027-01 P= 17.276293 Days $T_0=133.839314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

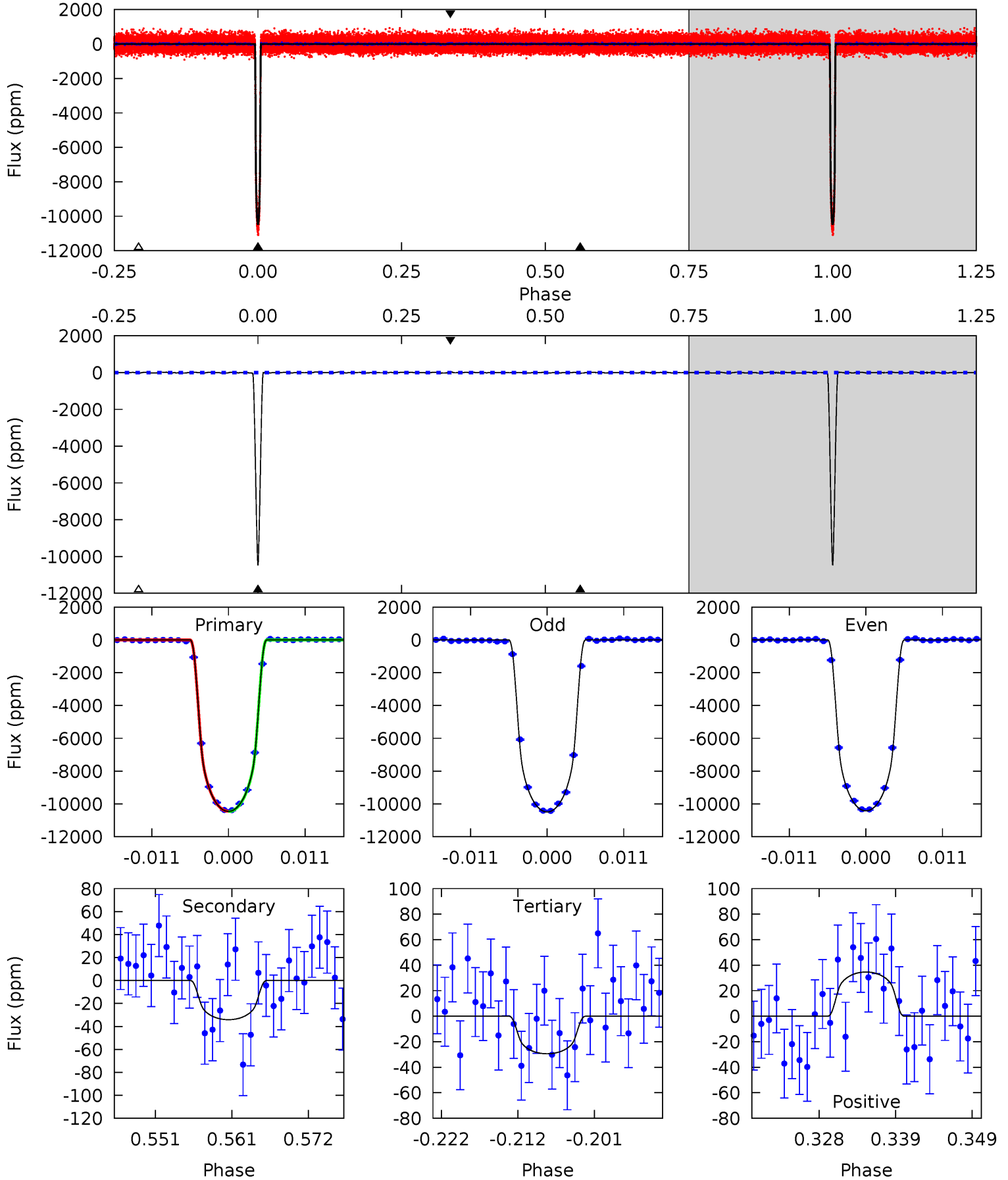
TCE 002987027-01 P= 17.276185 Days $T_0=133.843661$ (BKJD)



DV Model-Shift Uniqueness Test

002987027-01, P = 17.276293 Days, E = 116.563021 Days

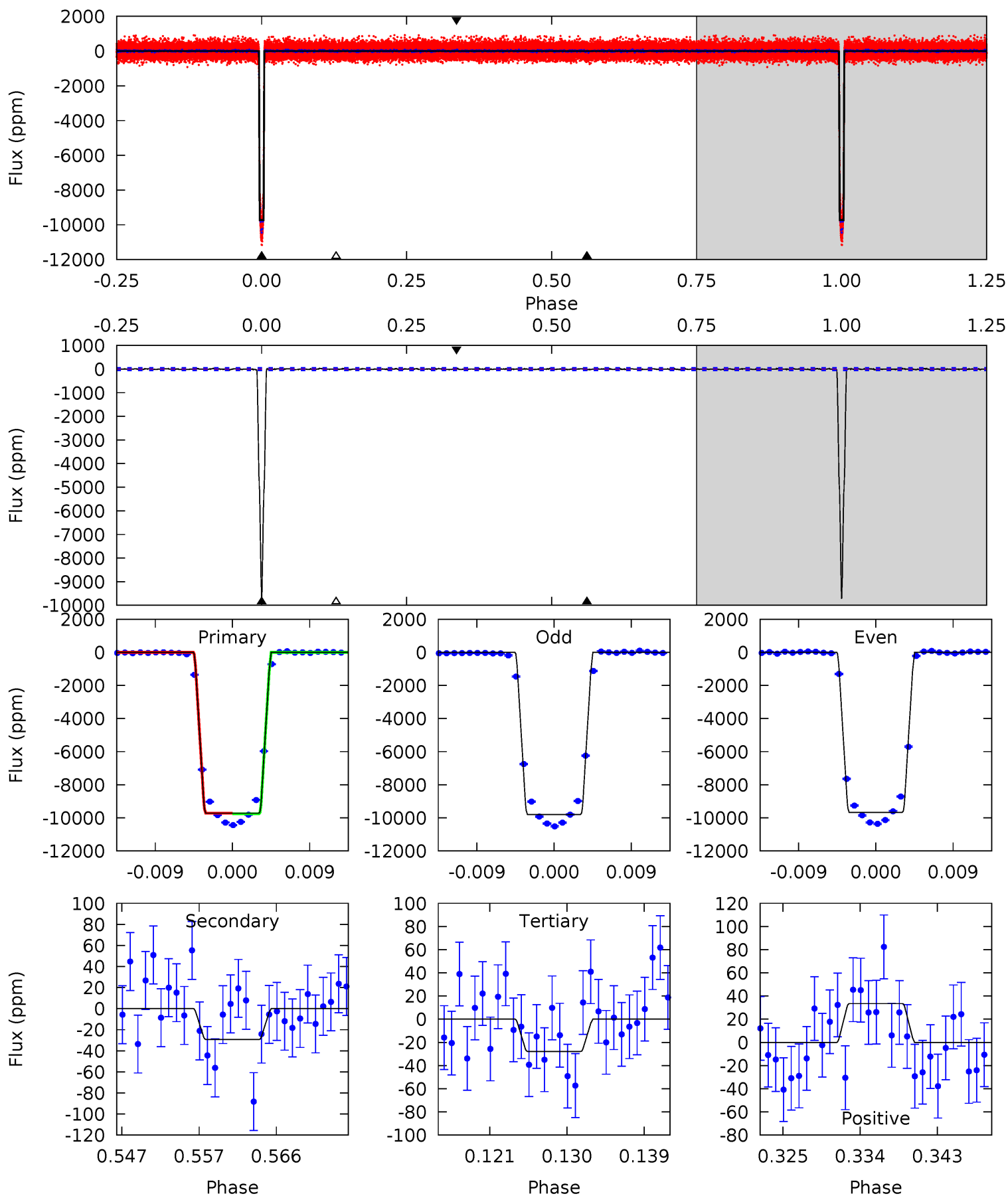
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1226	4.00	3.45	4.06	5.02	2.56	1.37	1222	1222	0.55	-0.06	3.80	0.99	0.00	1.10



Alt Model-Shift Uniqueness Test

002987027-01, P = 17.276185 Days, E = 116.567476 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1002	3.02	2.87	3.44	5.04	2.60	1.01	998.9	998.3	0.15	-0.43	6.58	1.00	0.00	1.89



Stellar Parameters For KIC 002987027

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4941^{+98}_{-98}	$4.599^{+0.018}_{-0.049}$	$0.000^{+0.150}_{-0.150}$	$0.738^{+0.048}_{-0.030}$	$0.790^{+0.037}_{-0.046}$	$2.765^{+0.257}_{-0.420}$
	+2%/-2%	+0%/-1%	+inf%/-inf%	+7%/-4%	+5%/-6%	+9%/-15%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 002987027-01 / KOI 0197.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 9	$7.41^{+0.27}_{-0.21}$	758^{+18}_{-18}	2170^{+60}_{-75}	$4.972^{+1.241}_{-1.314}$
Alt.	-29 ± 10	$8.10^{+0.31}_{-0.24}$	756^{+18}_{-16}	2089^{+71}_{-96}	$3.542^{+1.284}_{-1.102}$

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

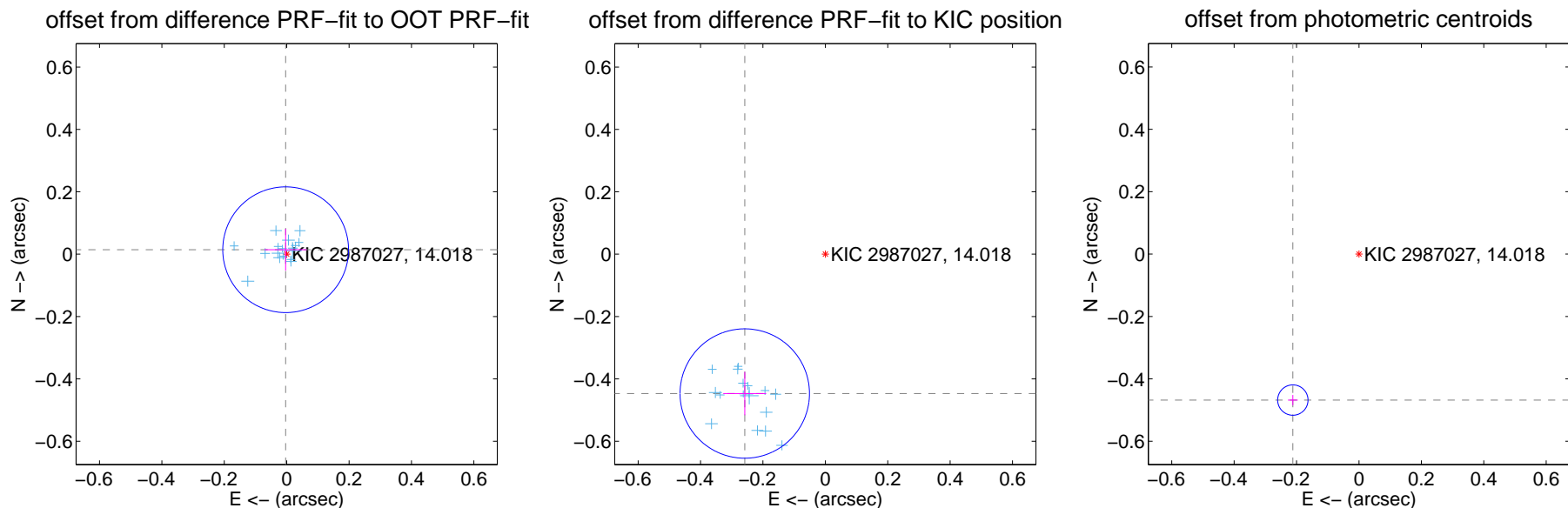
DV Centroid Data

Supplemental centroid analysis for 002987027-01. Kepler magnitude: 14.02. Transit SNR 739.09

There are 17 quarters with good PRF difference image offsets

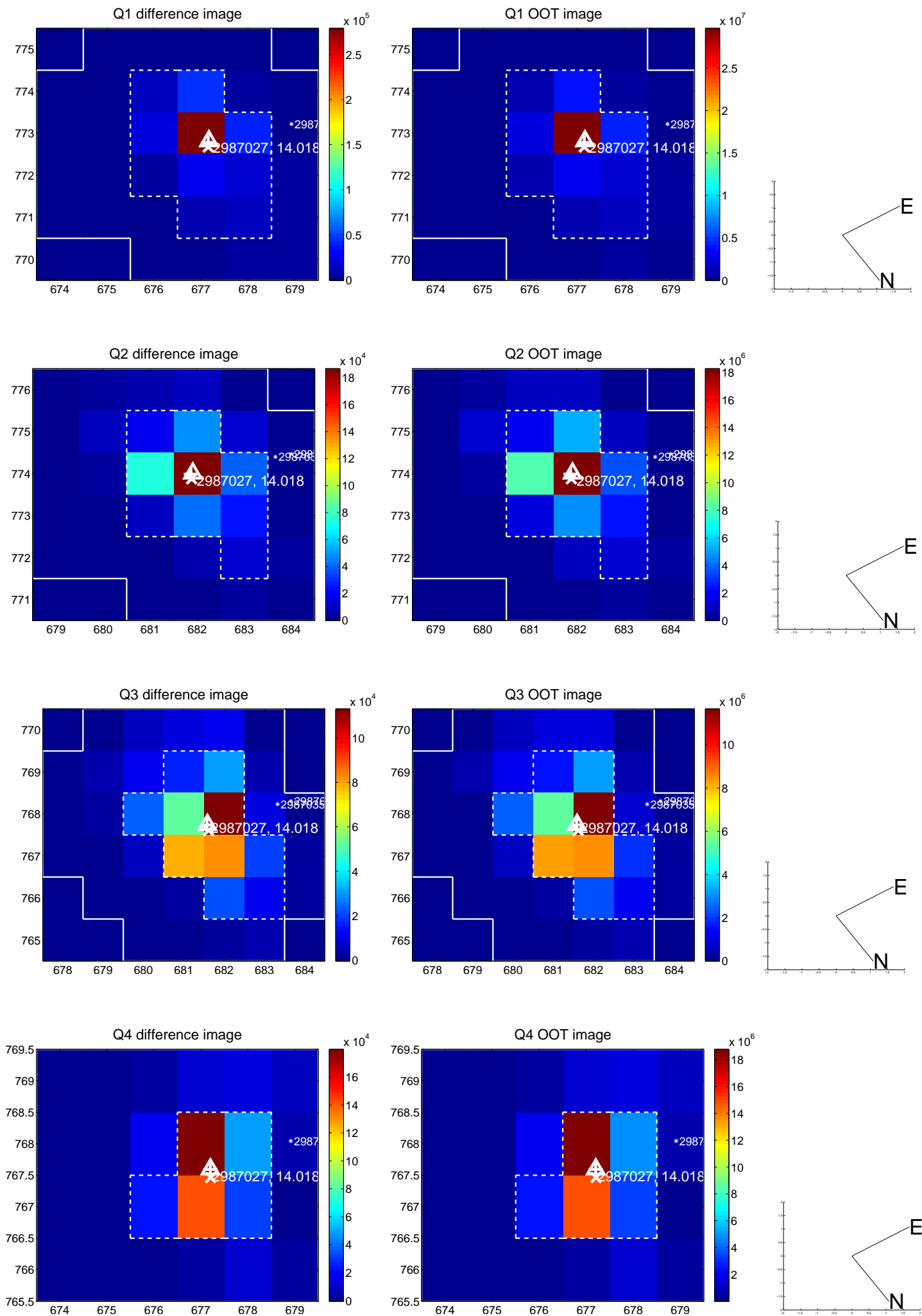
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.067	0.22	0.003 ± 0.067	0.014 ± 0.067
PRF-fit source offset from KIC position	0.516 ± 0.069	7.47	0.258 ± 0.069	-0.447 ± 0.069
photometric centroid source offset	0.51 ± 0.02	31.68	0.21 ± 0.02	-0.47 ± 0.02

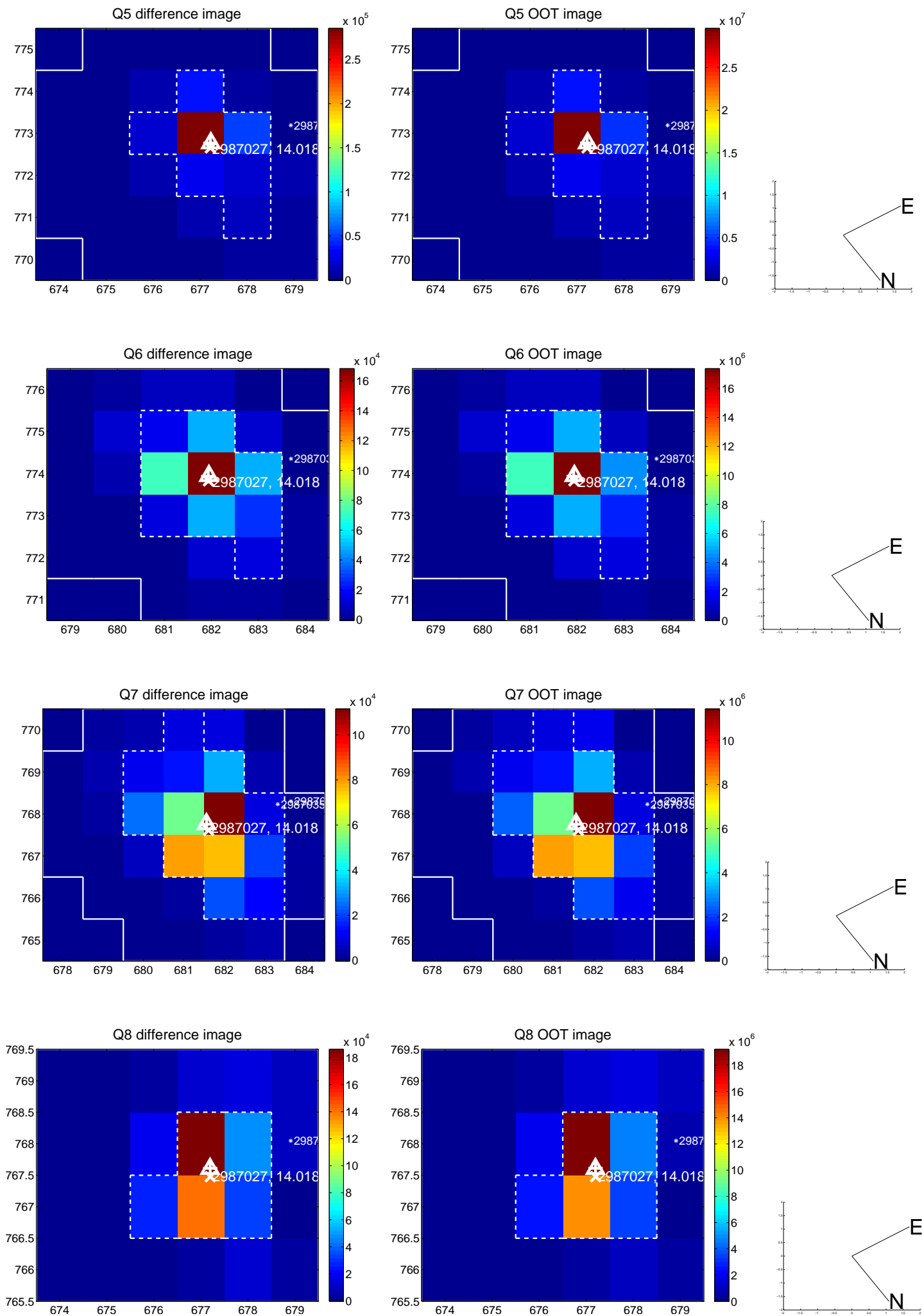


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

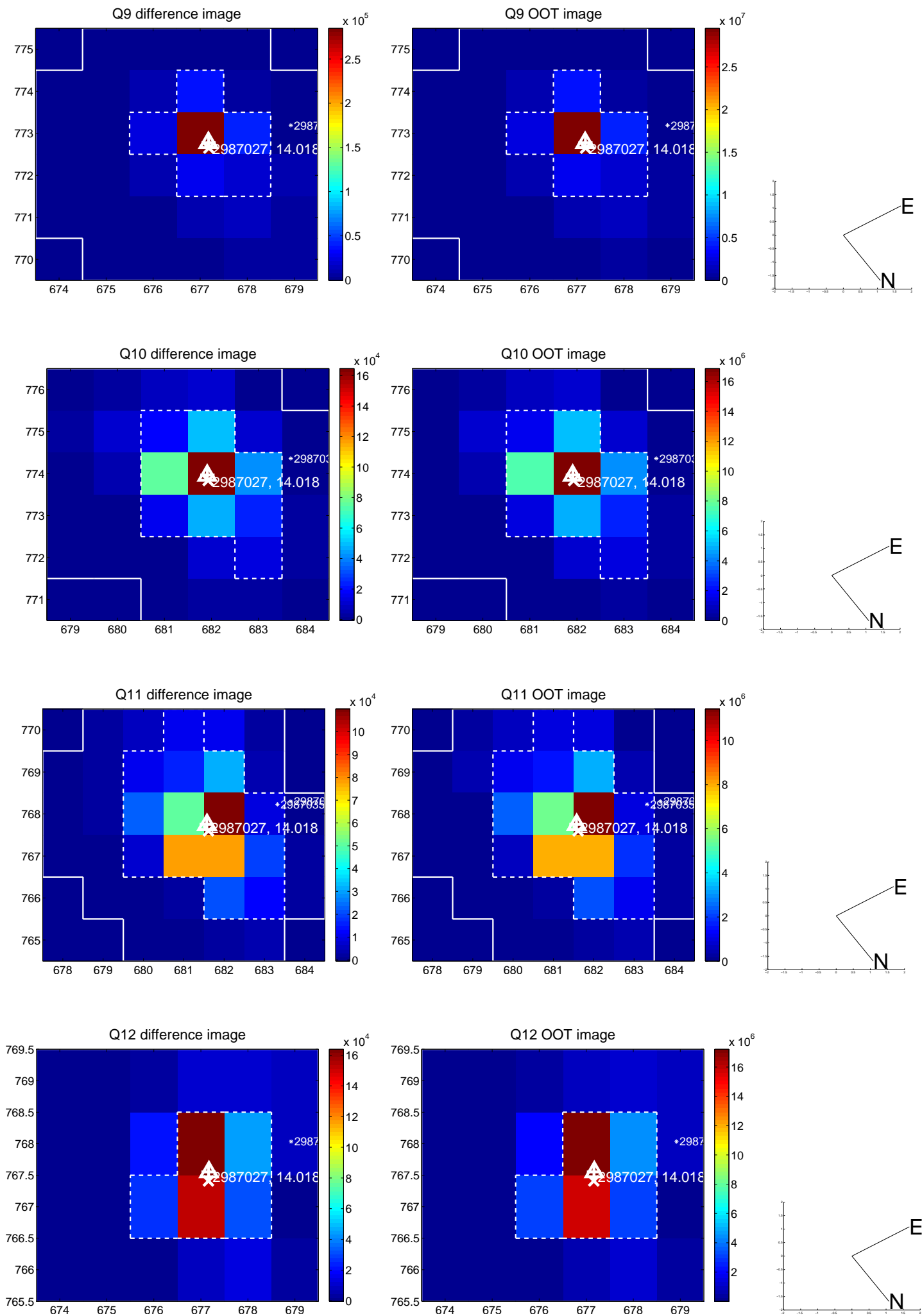
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



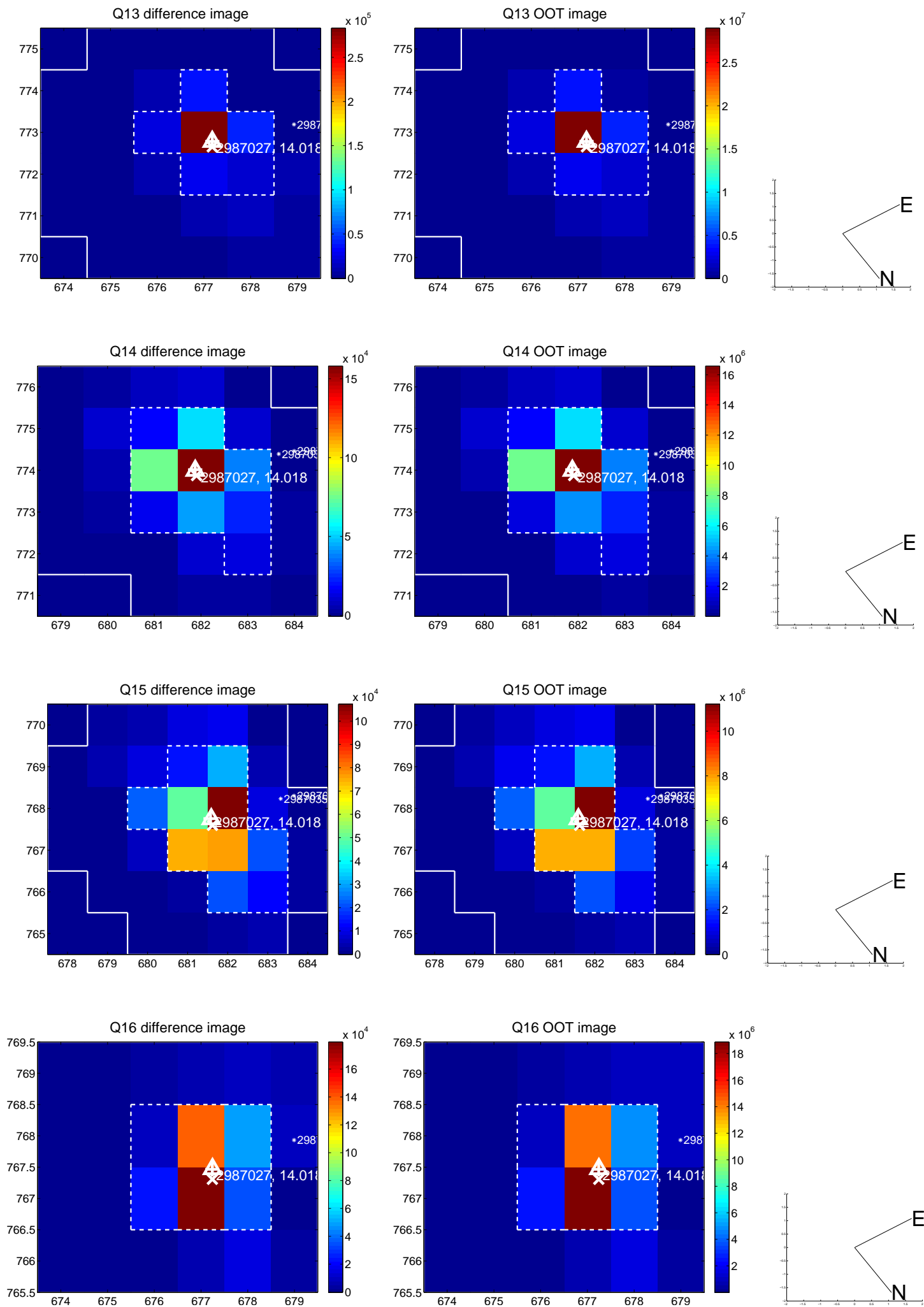
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



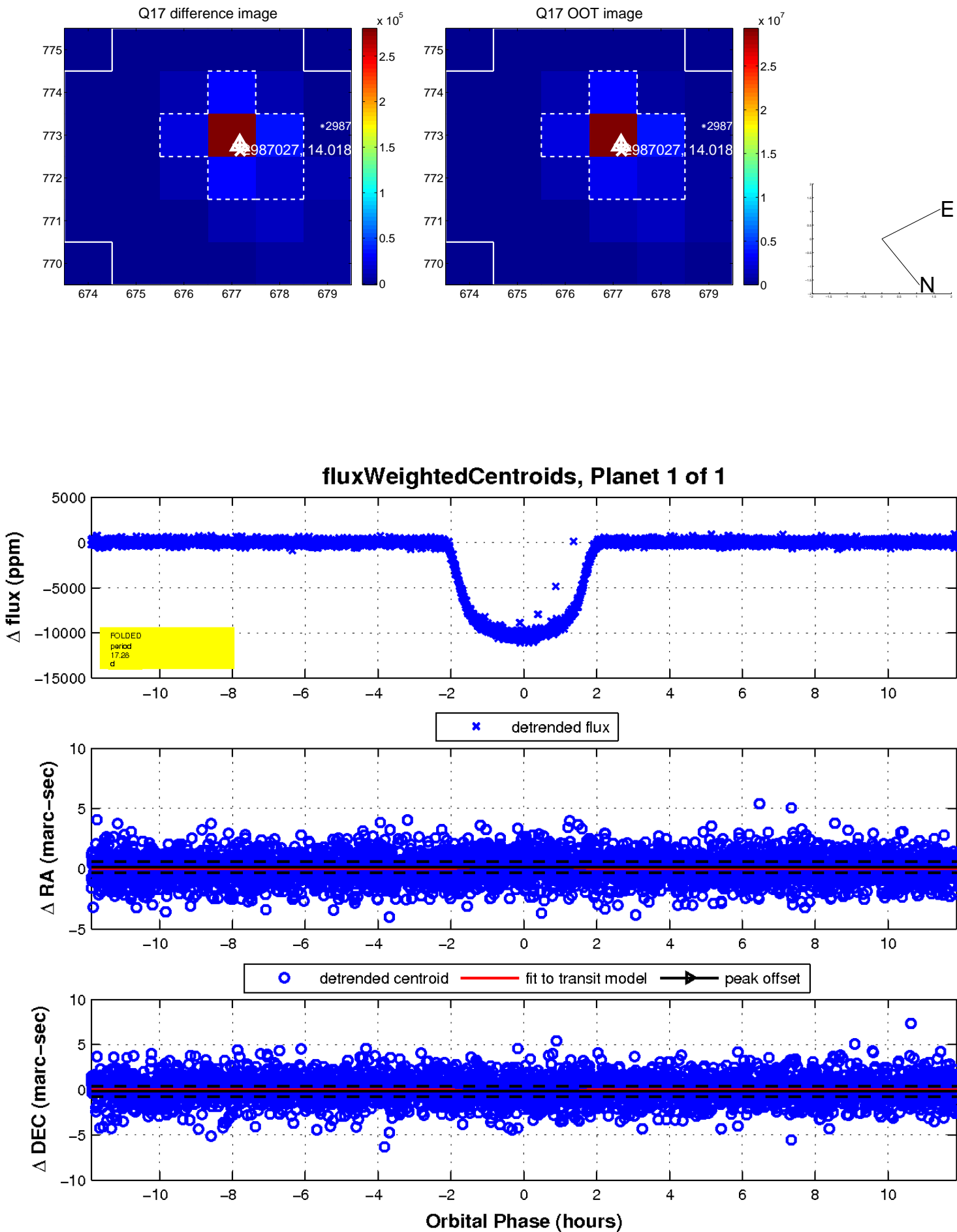
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

