

KIC 008973129

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})
008973129-01	OBS	2286.01	24.173686	135.626733	505.5	3.469	17.8	18.5	0.97	5468	2.69	29.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008973129-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

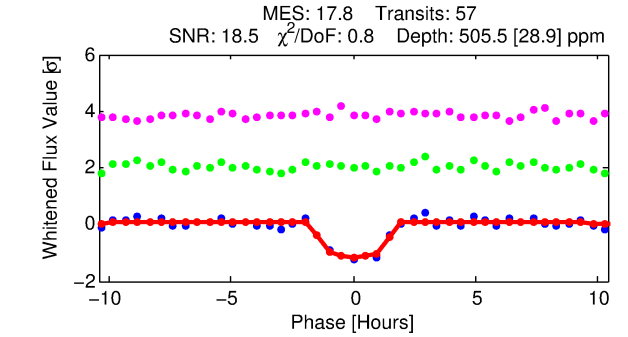
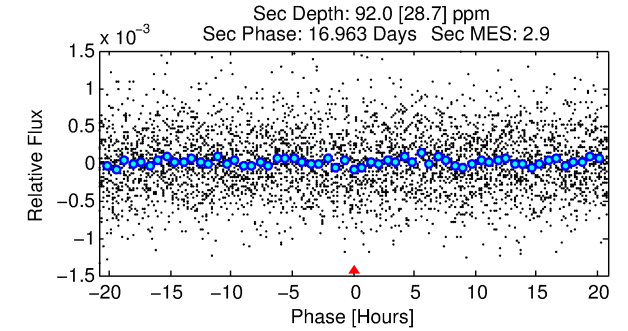
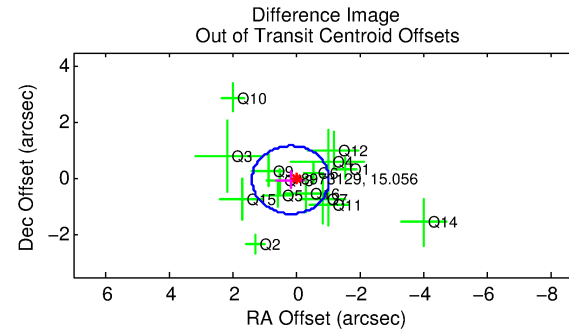
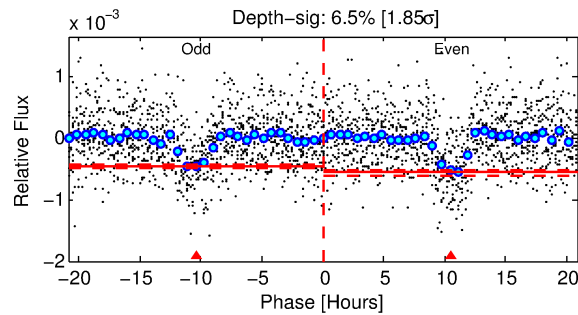
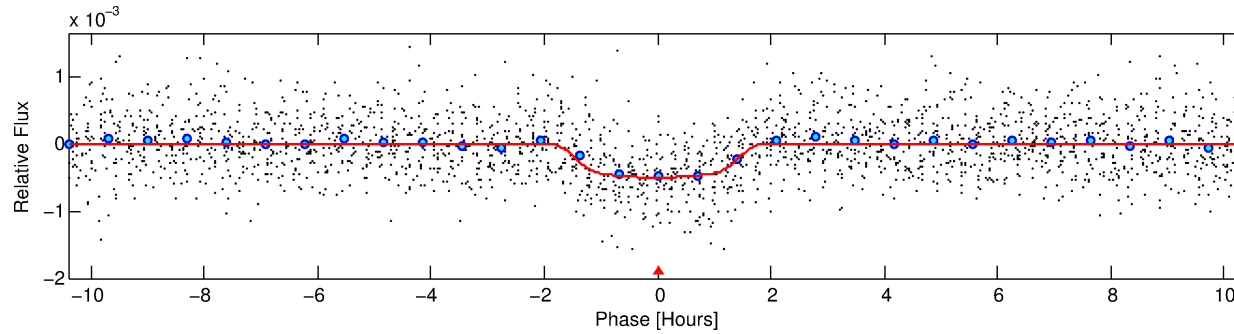
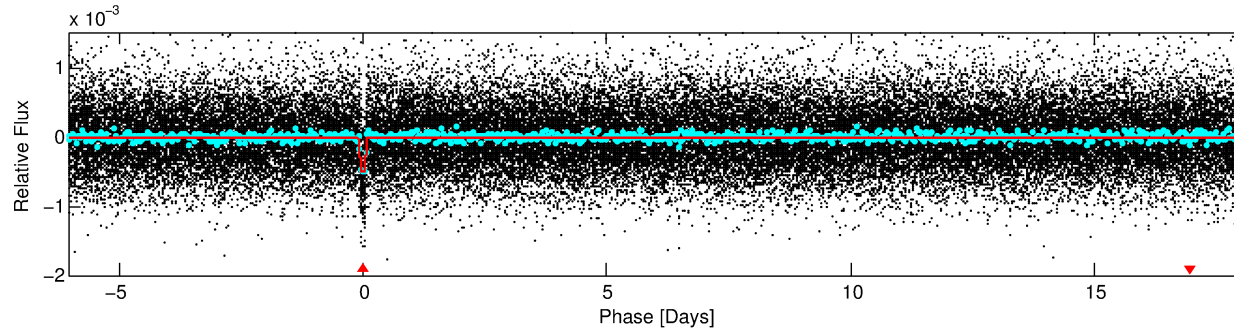
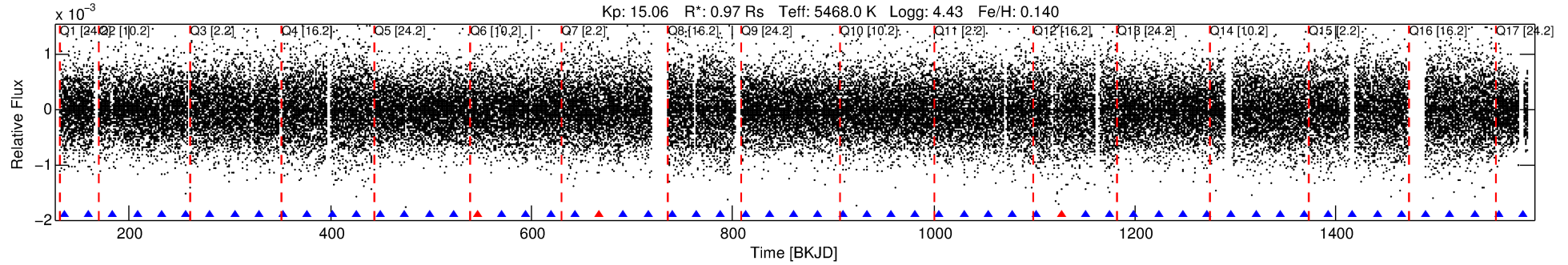
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008973129-01

No Significant Match Found

DV One-Page Summary

KIC: 8973129 Candidate: 1 of 1 Period: 24.174 d
KOI: K02286.01 Corr: 0.938



DV Fit Results:

Period = 24.17369 [0.00013] d
Epoch = 135.6267 [0.0041] BKJD
Rp/R* = 0.0255 [0.0027]
a/R* = 23.78 [10.40]
b = 0.92 [0.07]
Seff = 29.76 [5.06]
Teq = 596 [25] K
Rp = 2.69 [0.43] Re
a = 0.1588 [0.0167] AU
Ag = 176.02 [72.39] [2.42 σ]
Teffp = 3354 [322] K [8.54 σ]

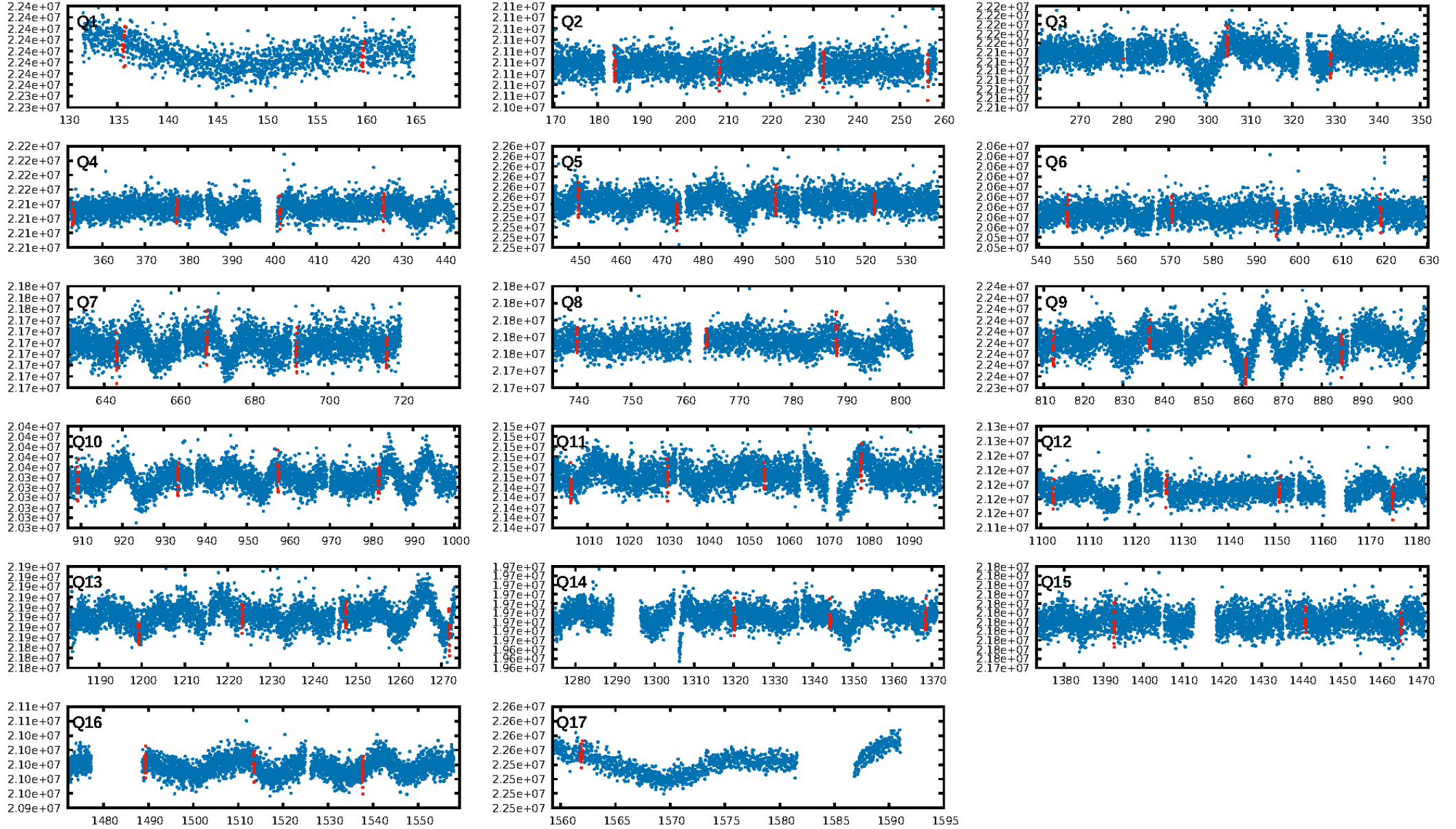
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.18e-69
RollingBand-fgt: 0.94 [51/54]
GhostDiagnostic-chr: -8.3
Centroid-sig: 5.9%
Centroid-so: 1.100 arcsec [1.38 σ]
OotOffset-rm: 0.168 arcsec [0.42 σ]
KicOffset-rm: 0.178 arcsec [0.41 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

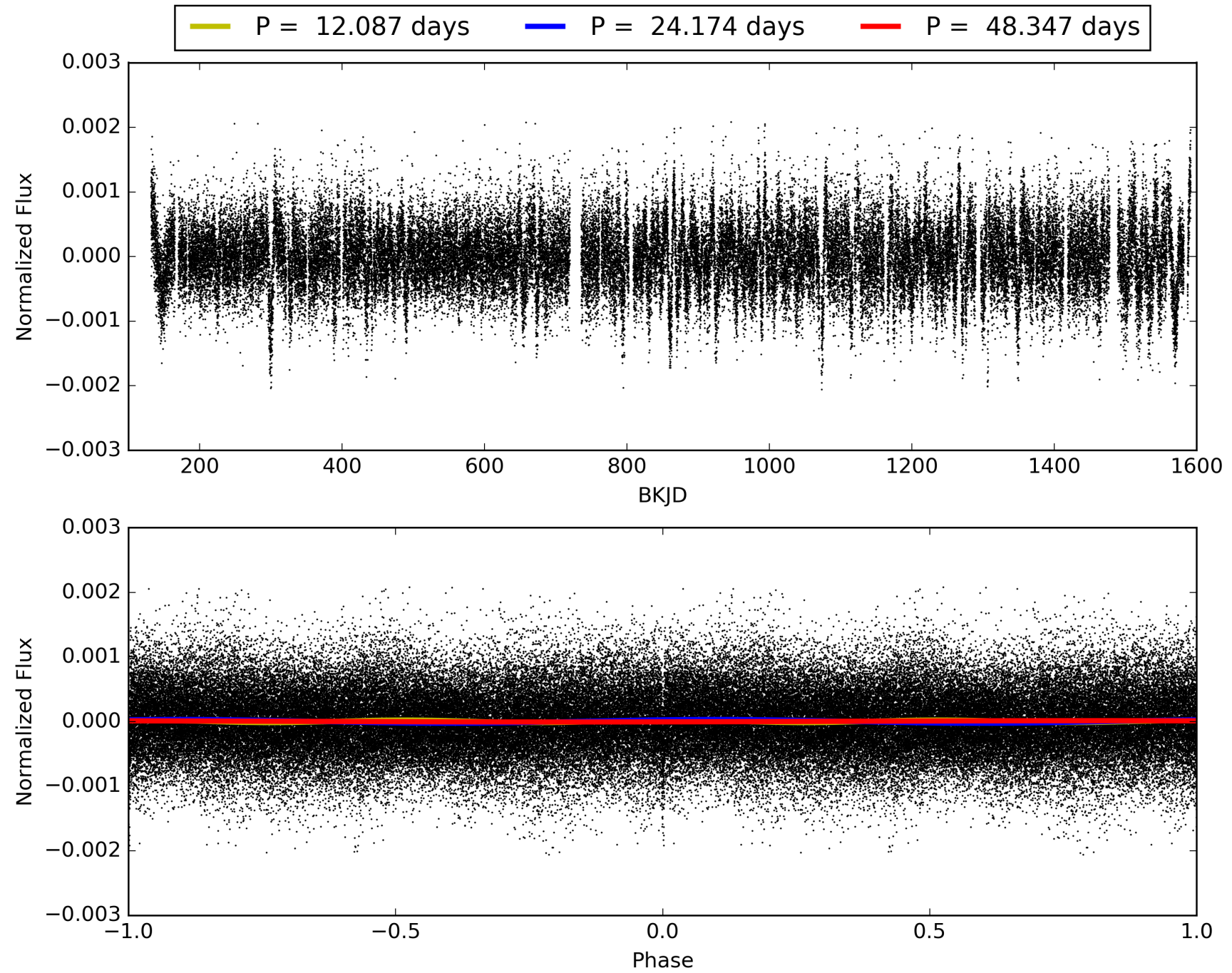
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:35:53 Z

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

TCE 008973129-01, PDC Light Curves

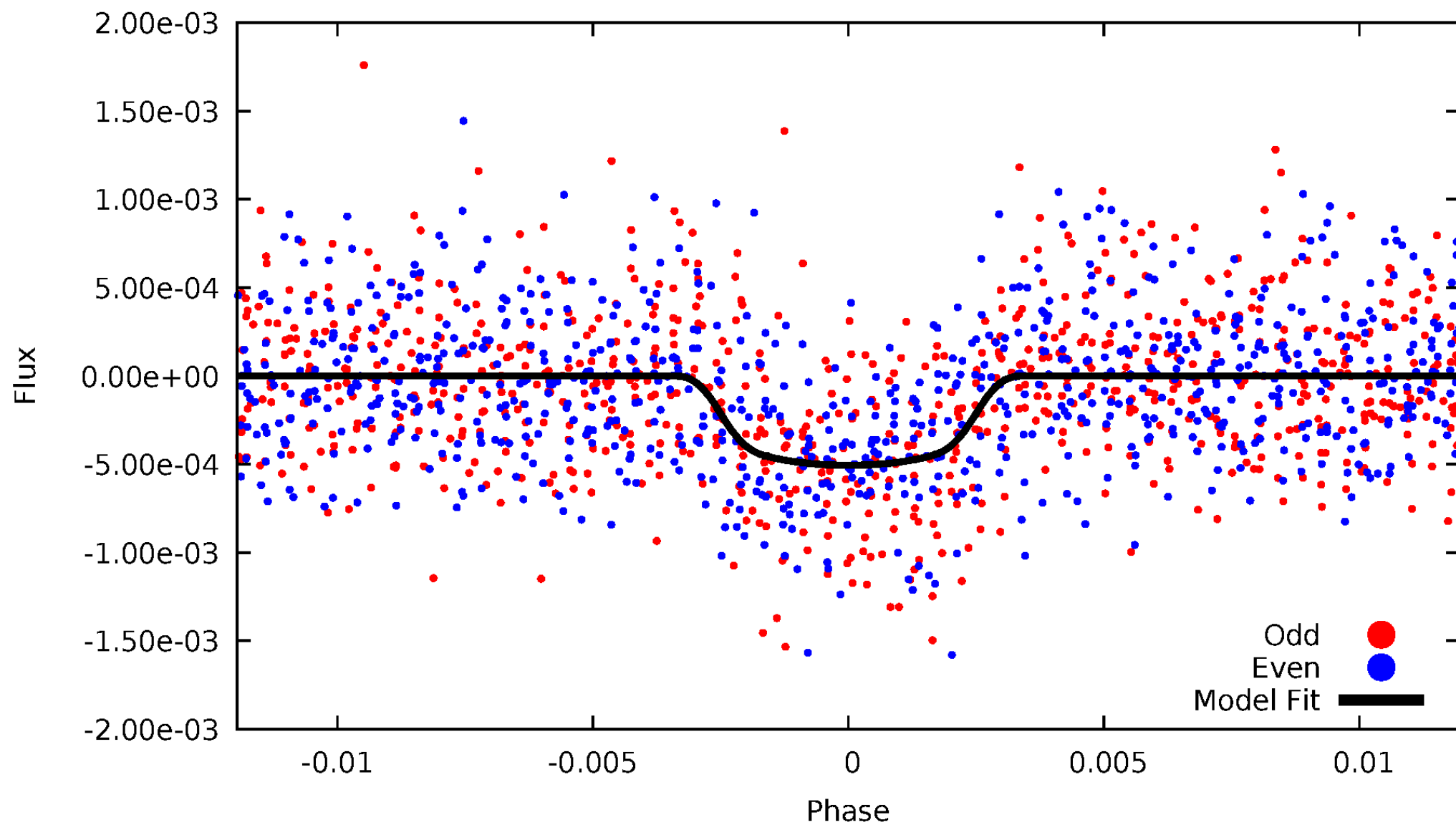


TCE 008973129-01



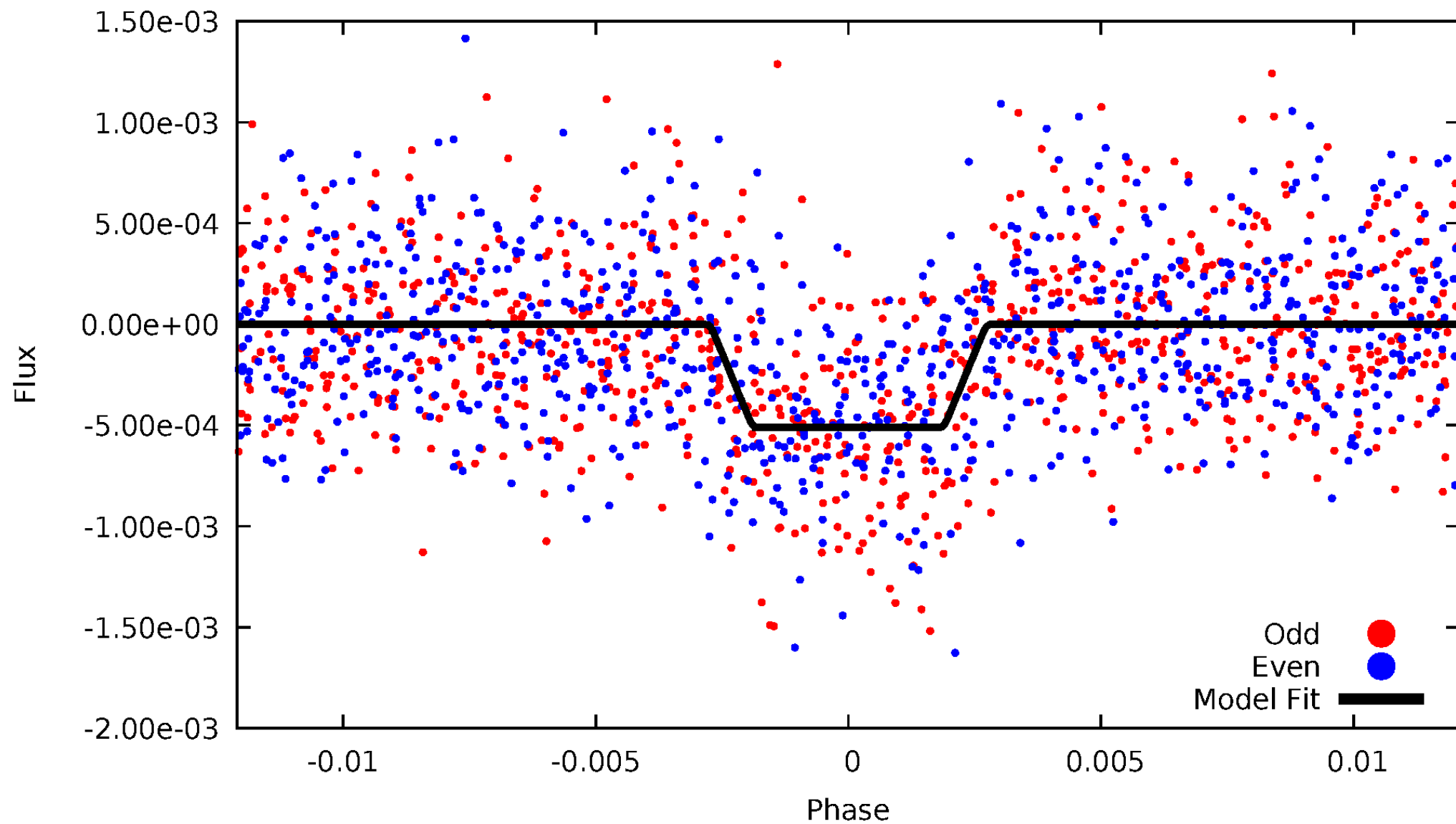
DV Odd/Even

TCE 008973129-01

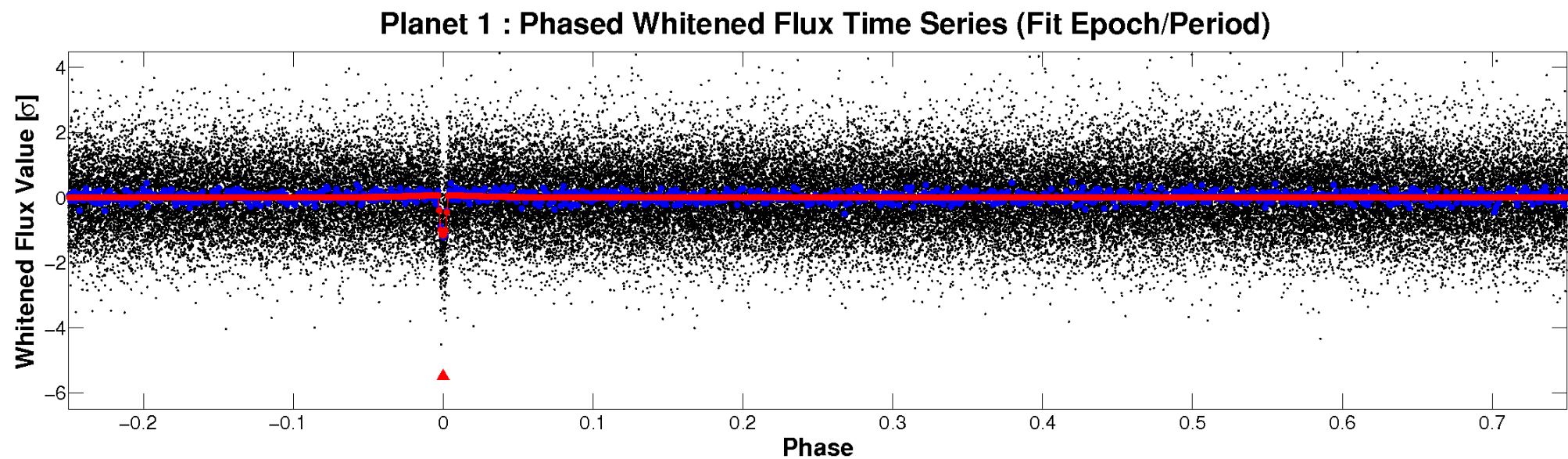
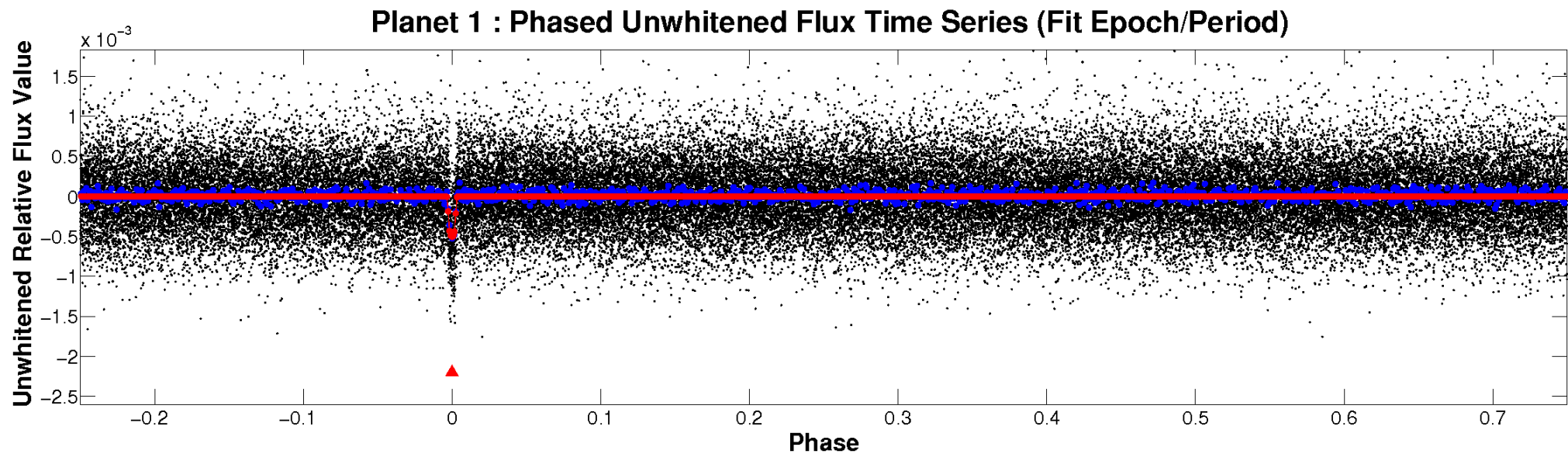


ALT Odd/Even

TCE 008973129-01

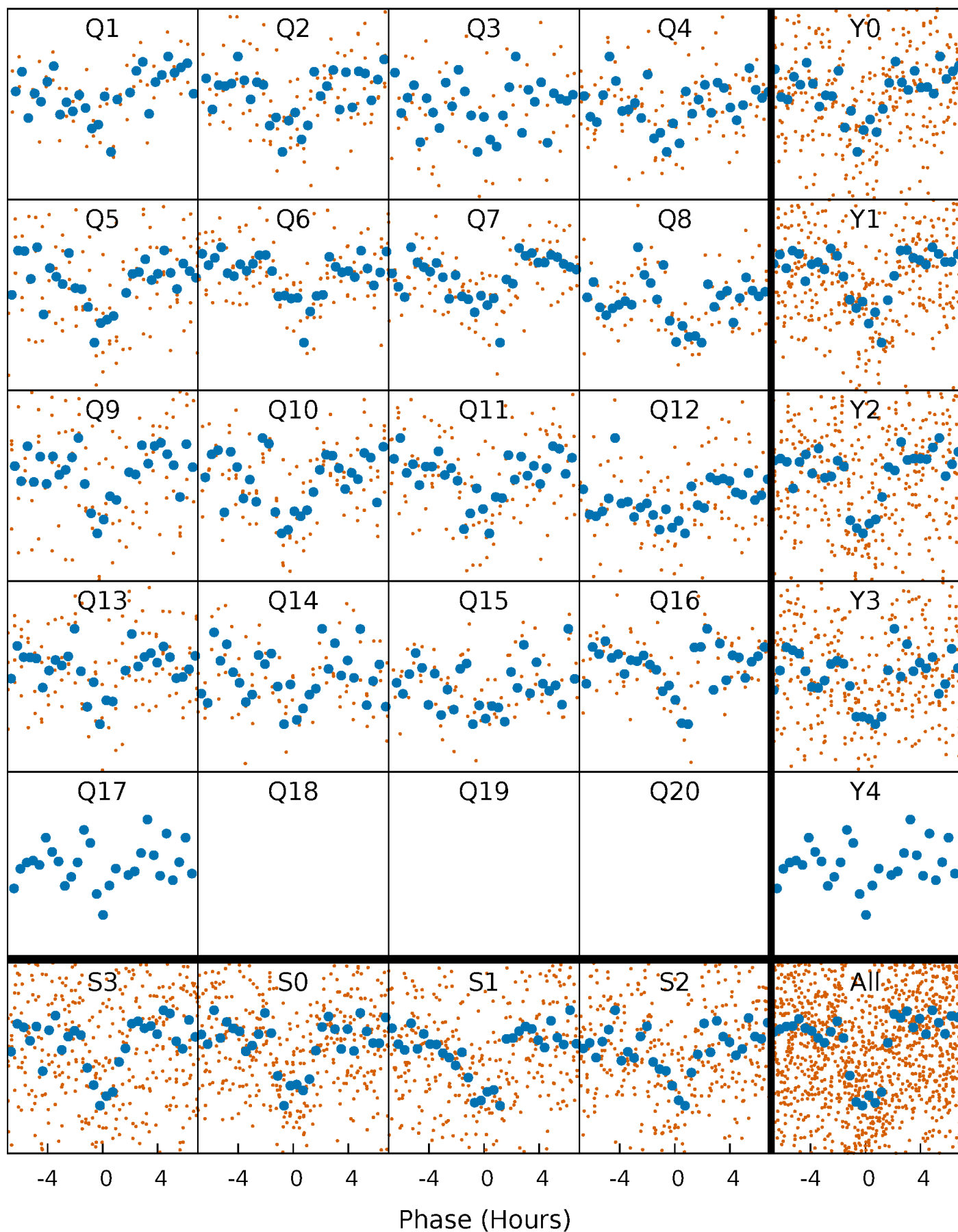


Non-Whitened Vs. Whitened Light Curve



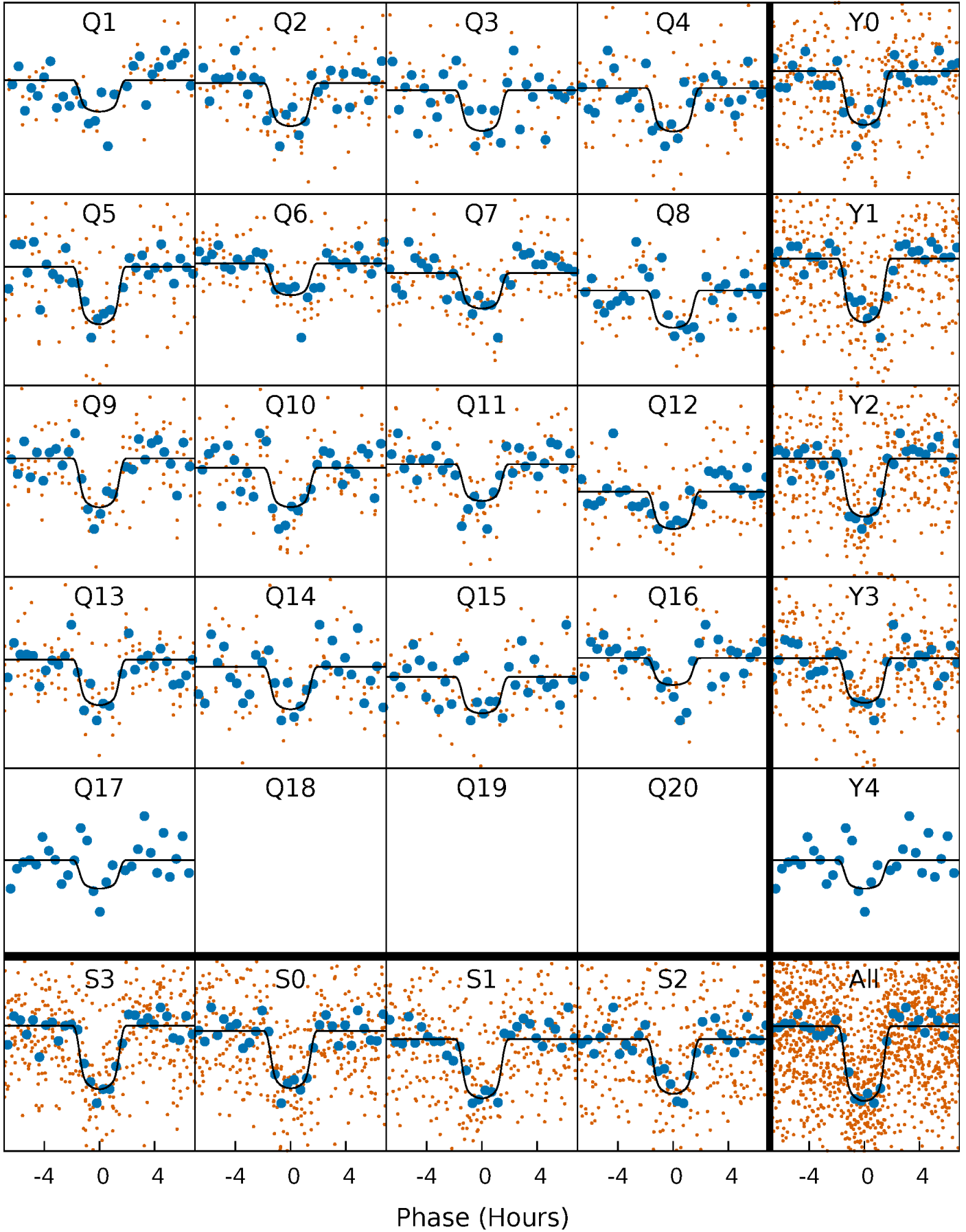
PDC Quarter-Phased Transit Curves

TCE 008973129-01 P= 24.173686 Days $T_0=135.626733$ (BKJD)



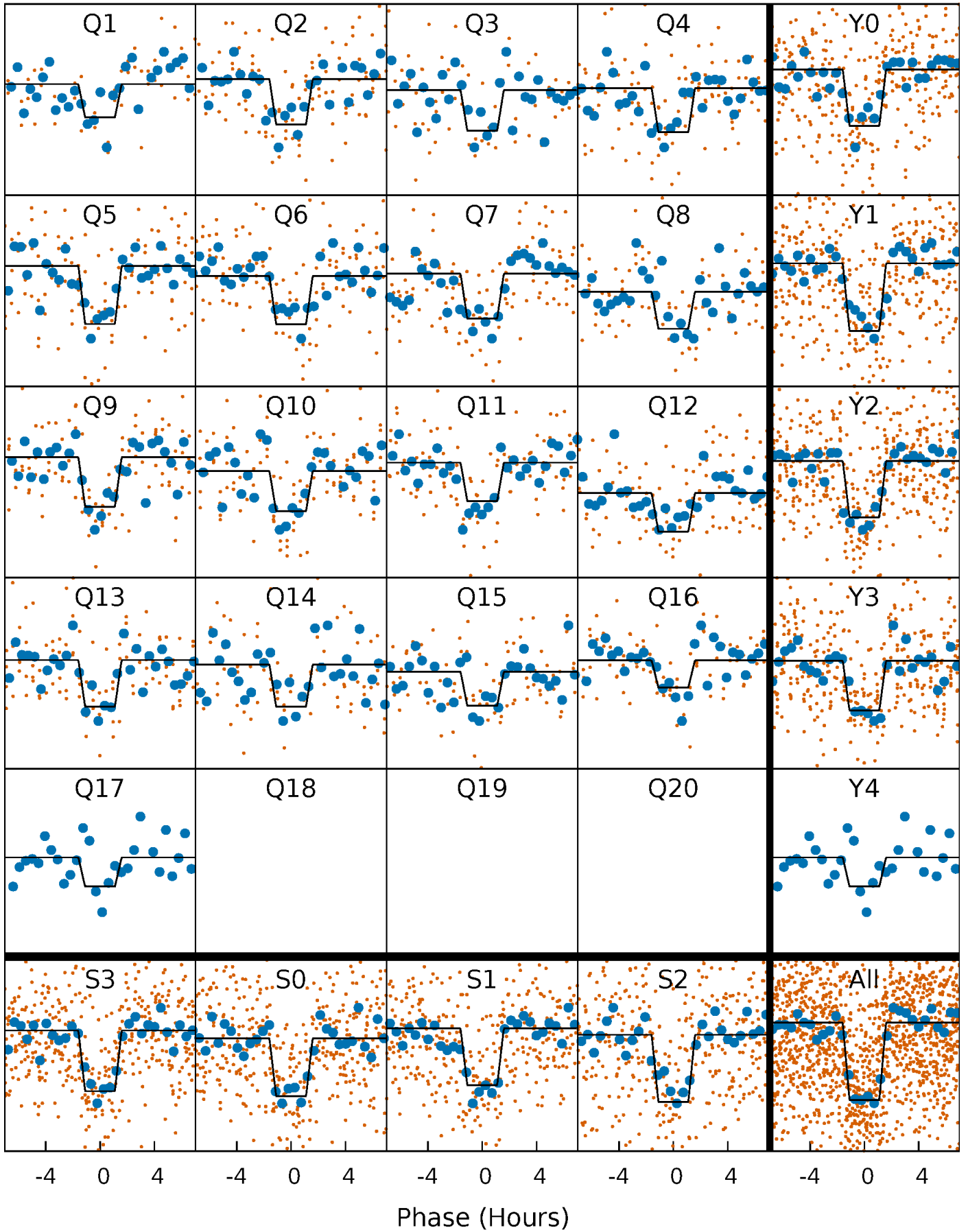
DV Quarter-Phased Transit Curves

TCE 008973129-01 P= 24.173686 Days $T_0=135.626733$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

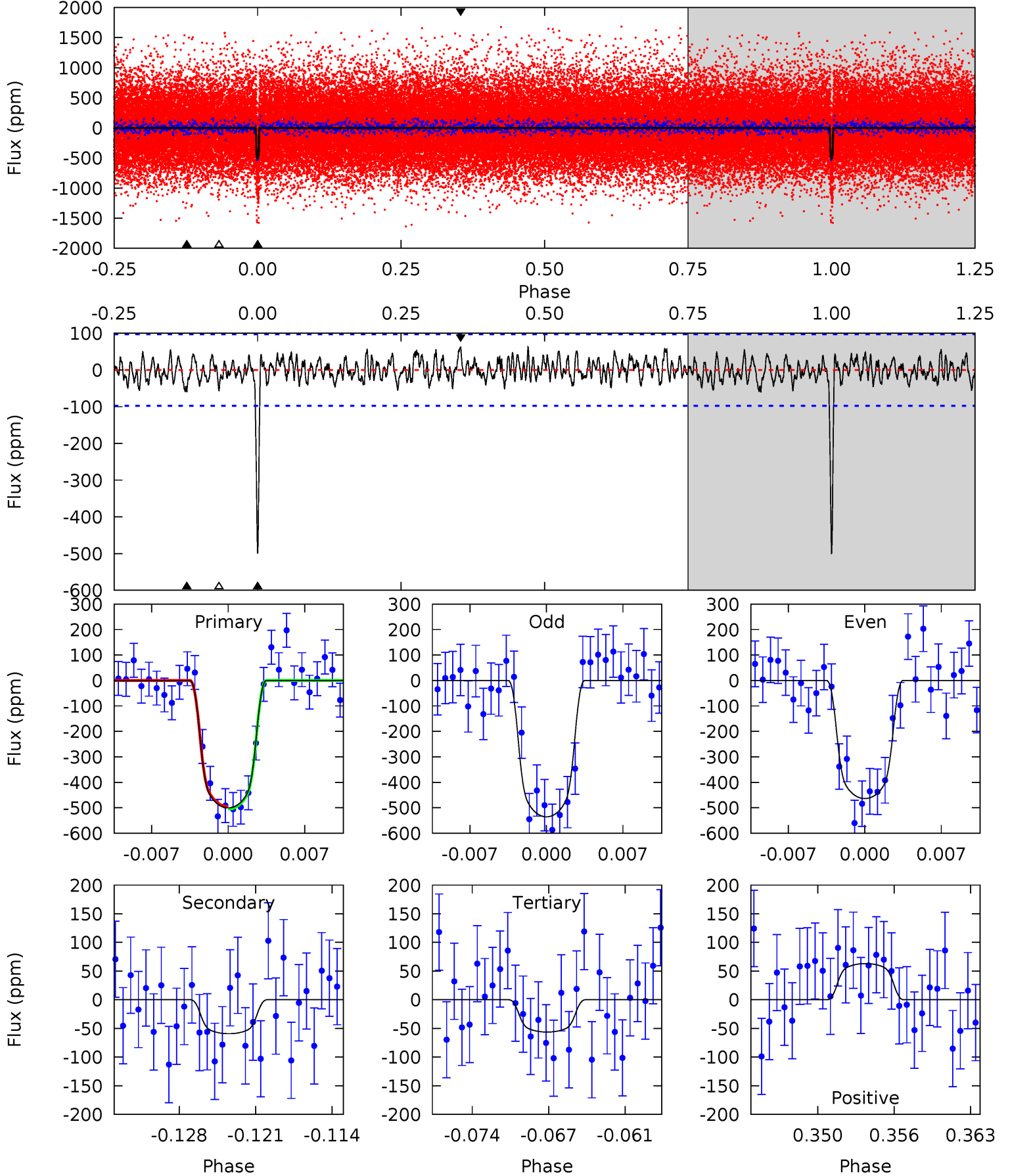
TCE 008973129-01 P= 24.173501 Days $T_0=135.635381$ (BKJD)



DV Model-Shift Uniqueness Test

008973129-01, $P = 24.173686$ Days, $E = 111.453047$ Days

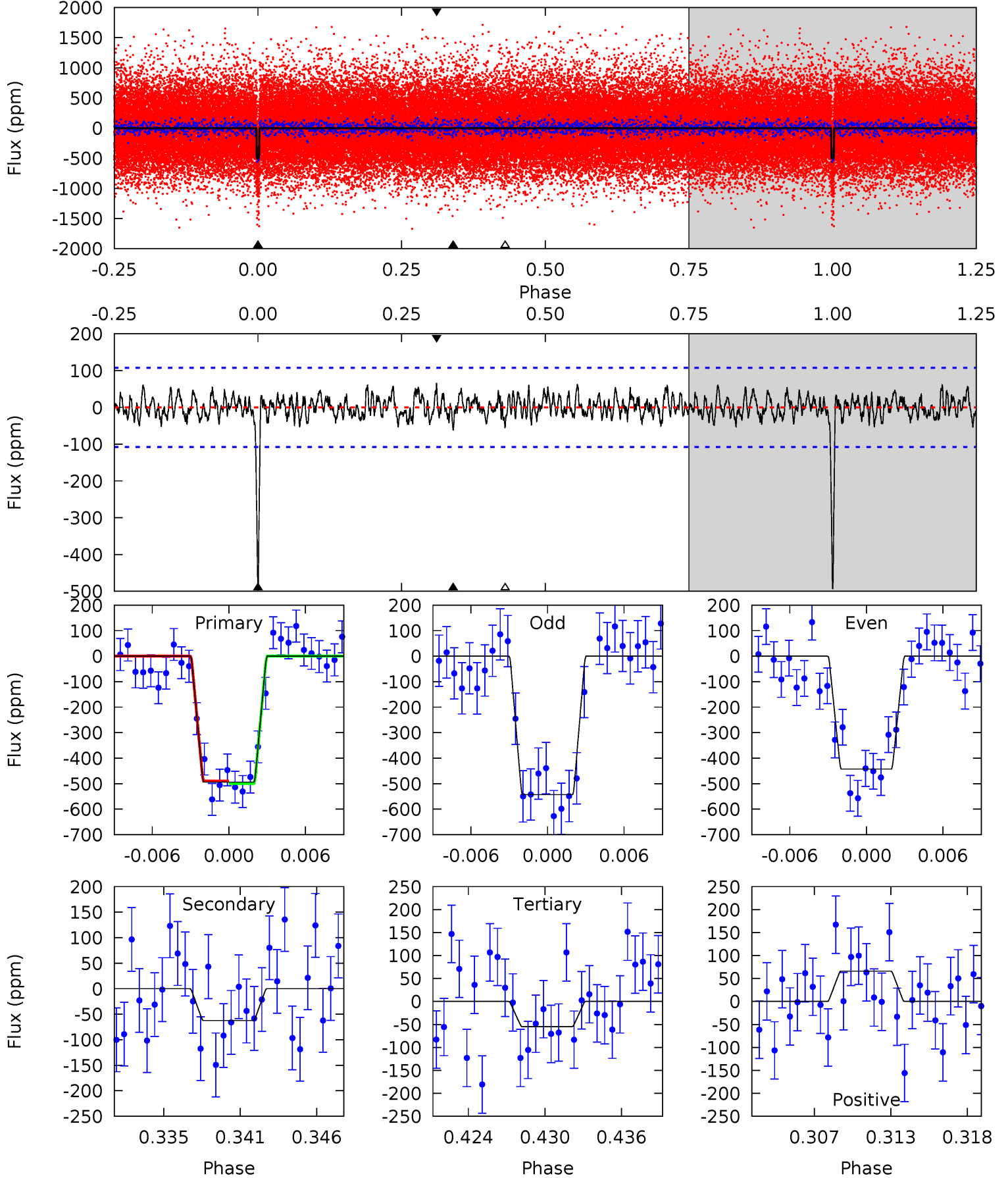
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	3.10	2.95	3.31	5.10	2.71	1.22	23.2	22.9	0.15	-0.20	1.88	0.97	0.11	0.26



Alt Model-Shift Uniqueness Test

008973129-01, P = 24.173501 Days, E = 111.461880 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	2.98	2.62	3.16	5.14	2.77	1.12	21.0	20.4	0.36	-0.18	2.39	1.00	0.12	0.23



Stellar Parameters For KIC 008973129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5468^{+73}_{-82}	$4.427^{+0.090}_{-0.090}$	$0.140^{+0.150}_{-0.150}$	$0.968^{+0.115}_{-0.084}$	$0.913^{+0.058}_{-0.044}$	$1.419^{+0.459}_{-0.412}$
	+1%/-1%	+2%/-2%	+107%/-107%	+12%/-9%	+6%/-5%	+32%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008973129-01 / KOI 2286.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 19	$2.70^{+0.34}_{-0.31}$	831^{+30}_{-28}	3480^{+177}_{-232}	114^{+48}_{-42}
Alt.	-62 ± 21	$2.39^{+0.35}_{-0.32}$	831^{+28}_{-28}	3636^{+240}_{-248}	151^{+67}_{-58}

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 $A_{obs} \gg 1.0$

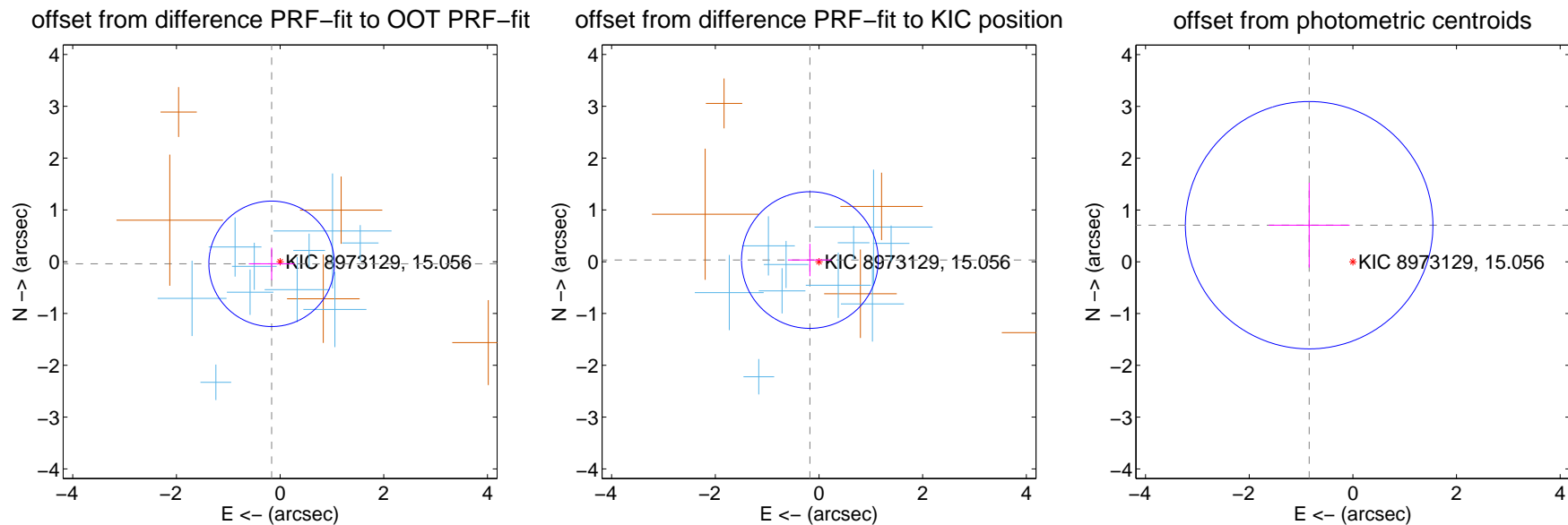
DV Centroid Data

Supplemental centroid analysis for 008973129-01. Kepler magnitude: 15.06. Transit SNR 18.52

There are 10 quarters with good PRF difference image offsets

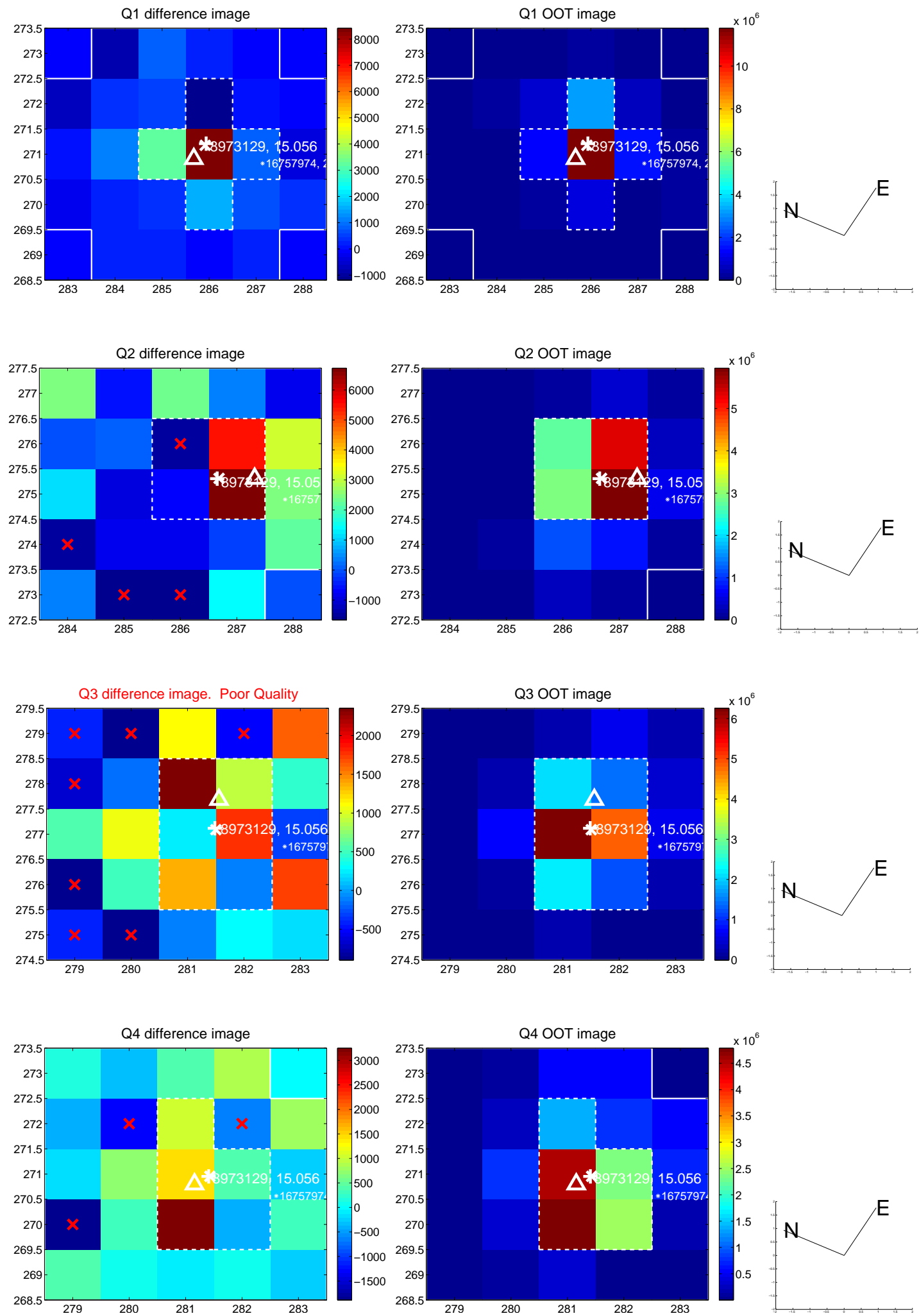
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.168 ± 0.404	0.42	0.163 ± 0.440	-0.041 ± 0.312
PRF-fit source offset from KIC position	0.178 ± 0.440	0.41	0.175 ± 0.425	0.032 ± 0.313
photometric centroid source offset	1.10 ± 0.80	1.38	0.84 ± 0.78	0.71 ± 0.82

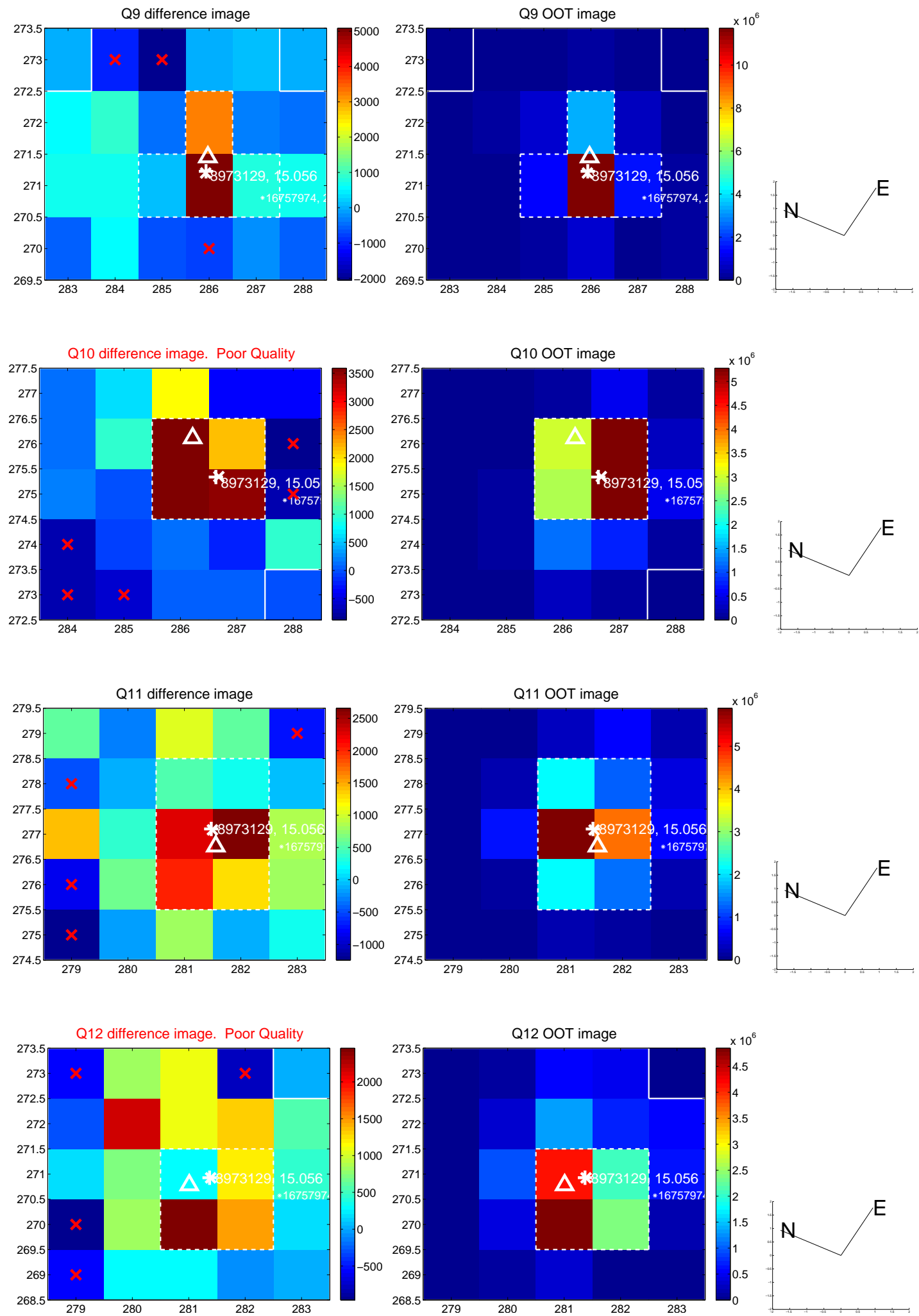


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

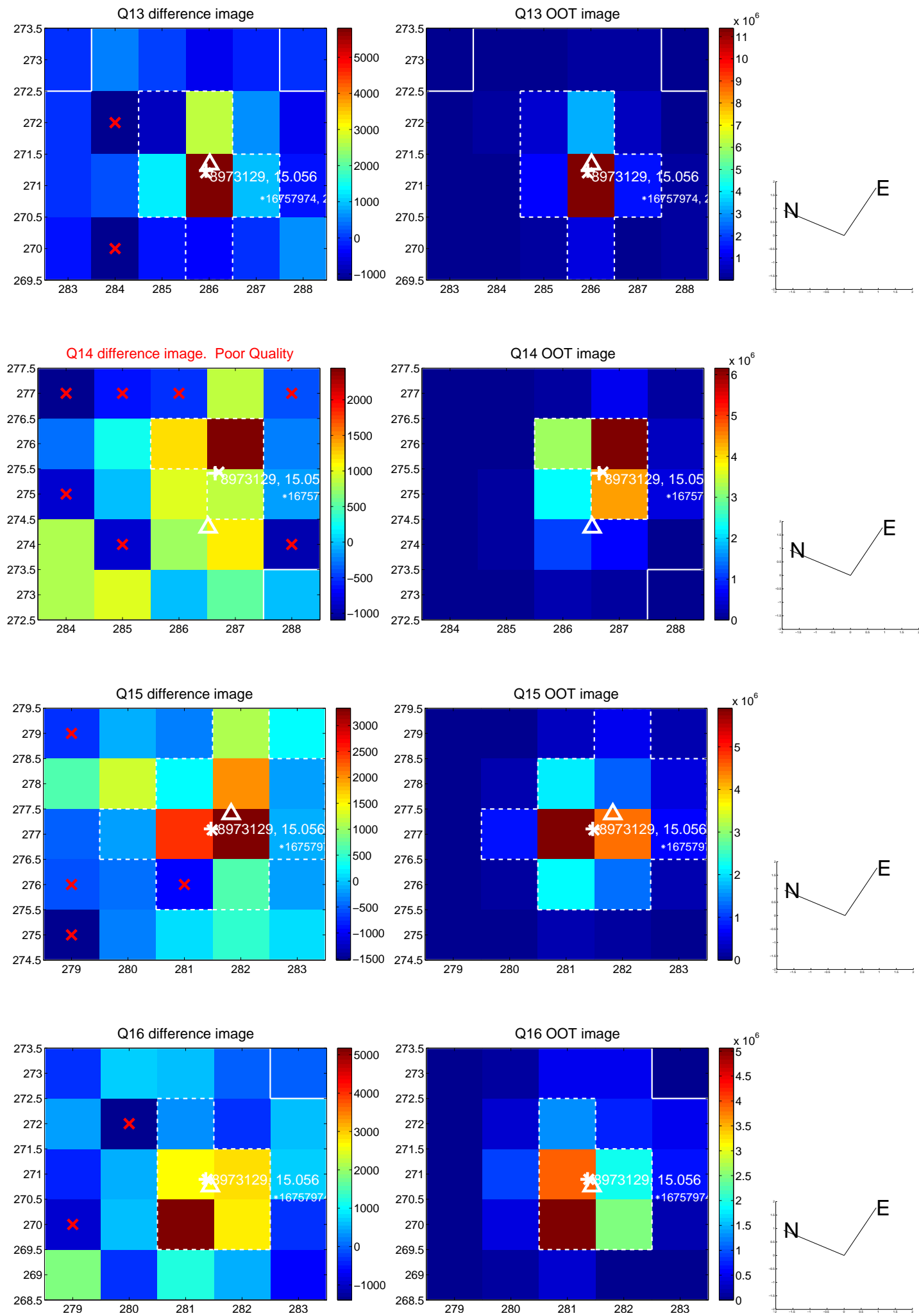
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



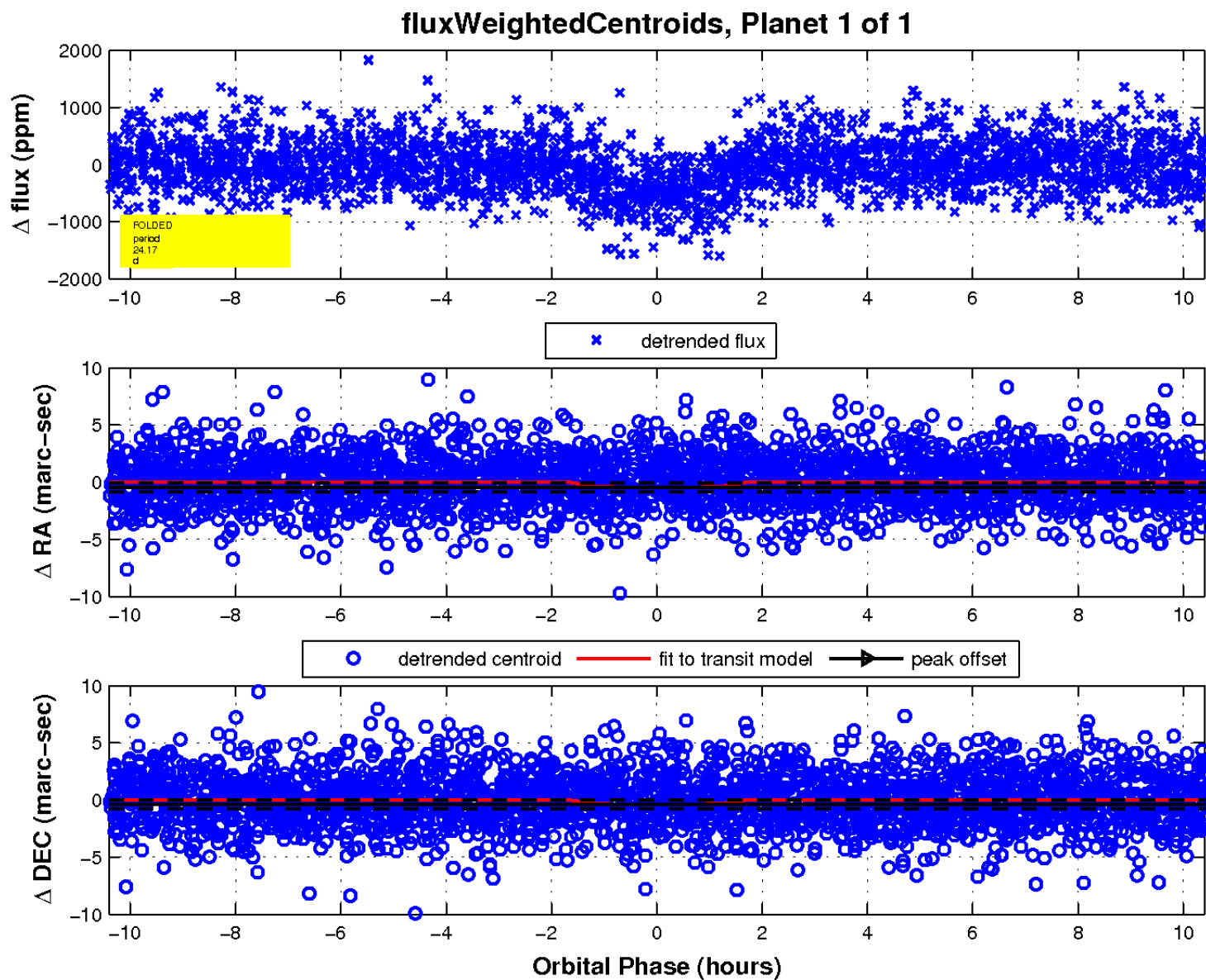
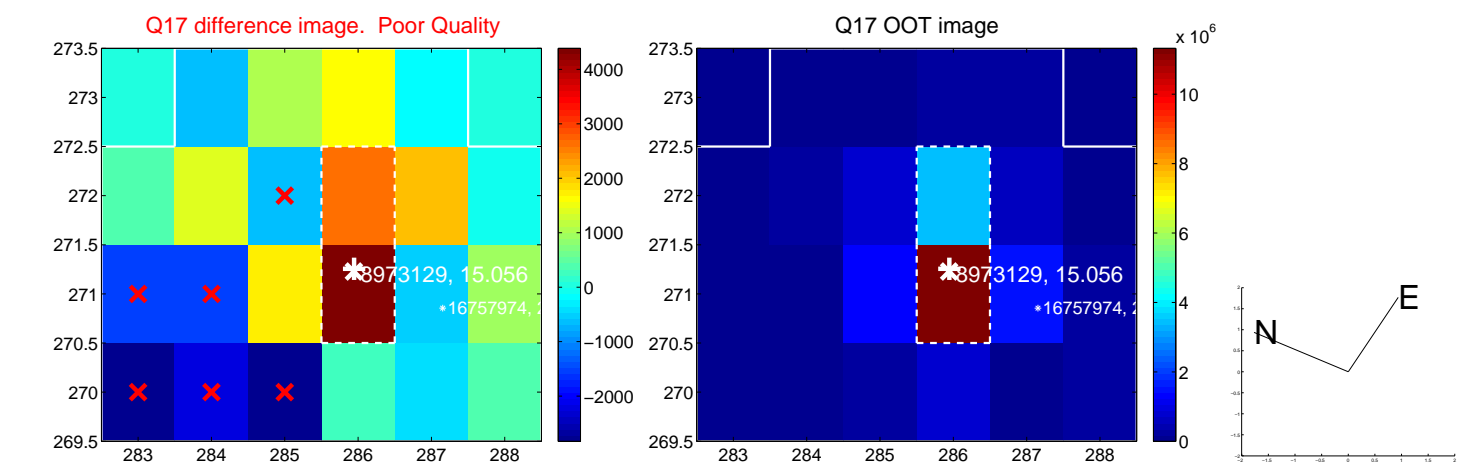
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

