

KIC 002853093

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})
002853093-01	OBS	1099.01	161.528048	198.000268	4630.2	3.648	55.3	54.2	1.21	5778	8.20	4.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002853093-01	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.

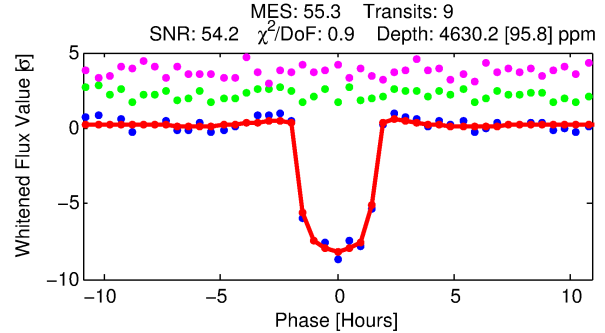
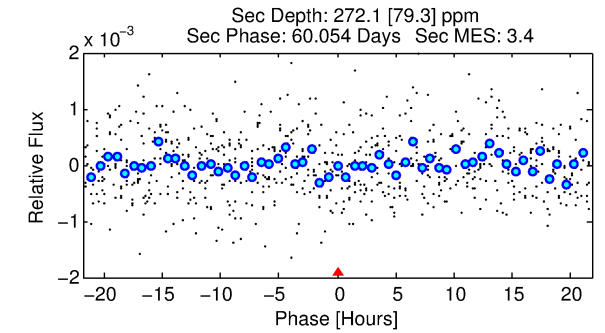
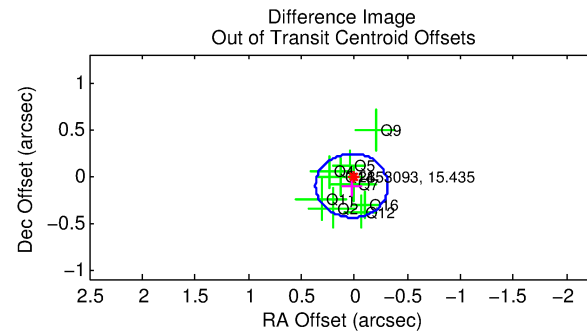
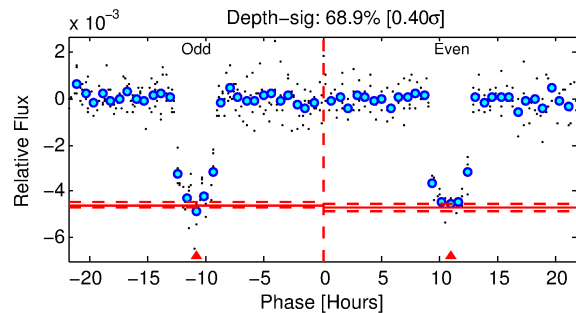
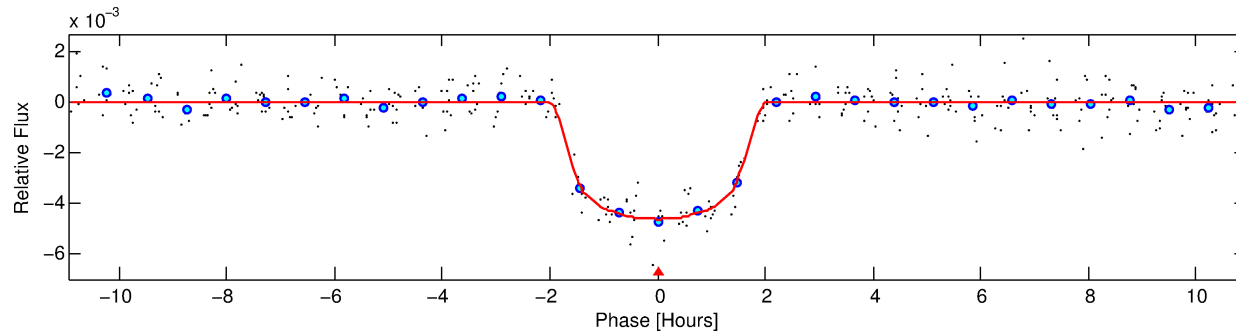
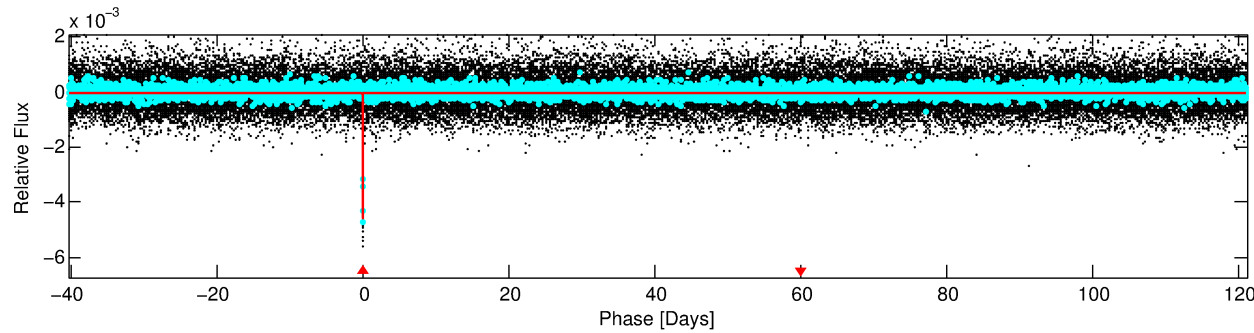
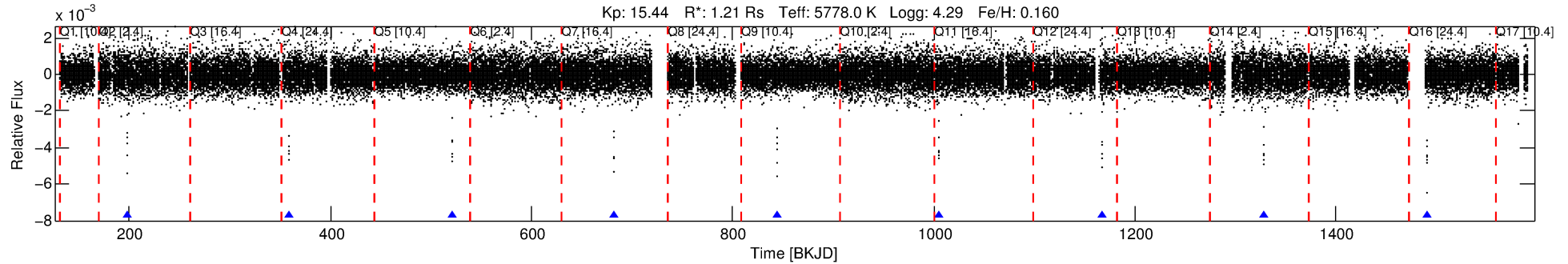
Ephemeris Match Information For 002853093-01

No Significant Match Found

DV One-Page Summary

KIC: 2853093 Candidate: 1 of 1 Period: 161.528 d

KOI: K01099.01 Corr: 0.994



DV Fit Results:

Period = 161.52805 [0.00032] d
Epoch = 198.0003 [0.0016] BKJD
Rp/R* = 0.0619 [0.0087]
a/R* = 352.46 [206.75]
b = 0.20 [2.77]
Seff = 4.26 [1.04]
Teq = 366 [22] K
Rp = 8.20 [1.78] Re
a = 0.5872 [0.0896] AU
Ag = 768.41 [360.11] [2.13 σ]
Teffp = 2982 [304] K [8.59 σ]

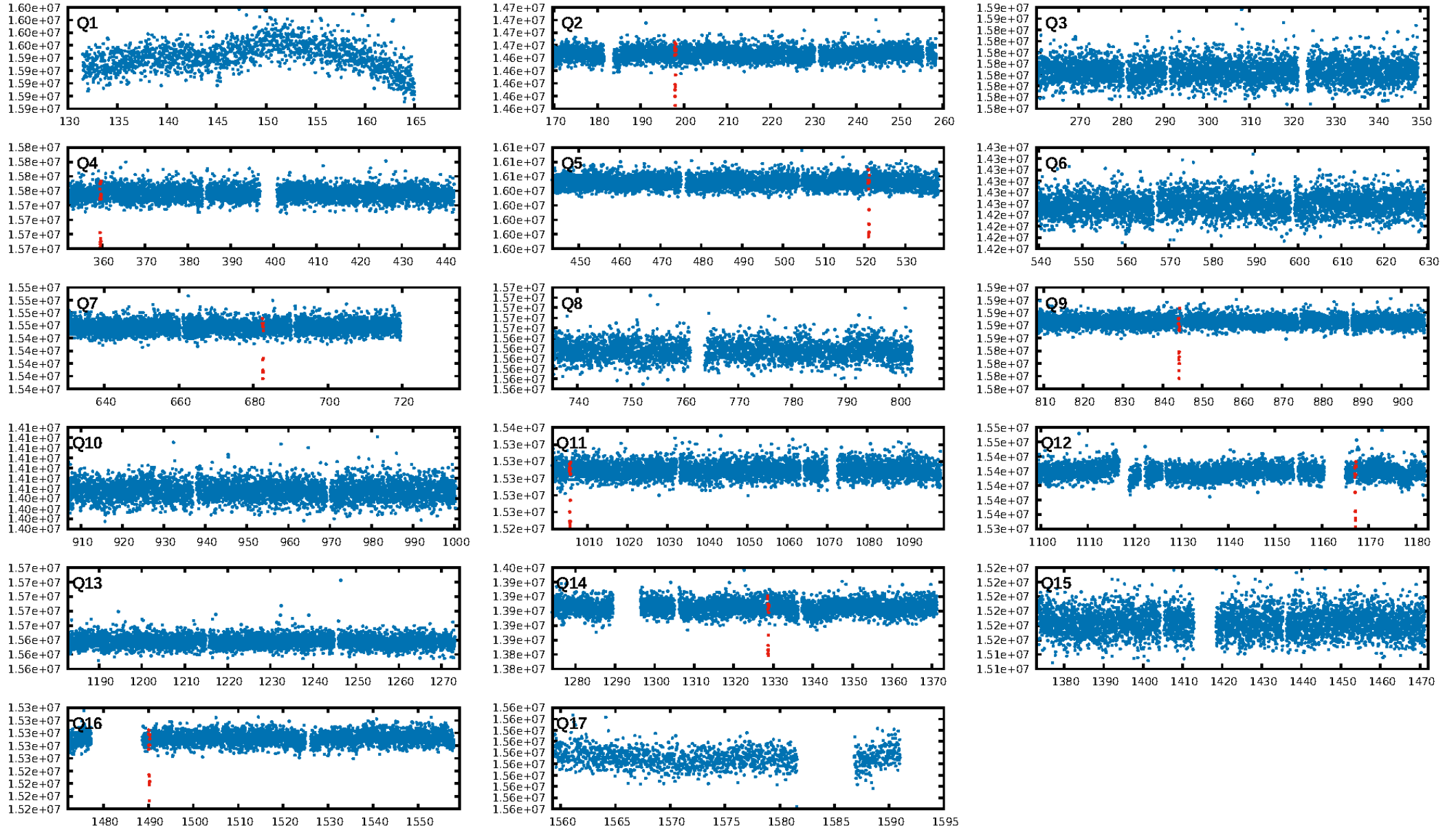
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 5.61
Centroid-sig: 4.7%
Centroid-so: 0.718 arcsec [2.55 σ]
OotOffset-rm: 0.106 arcsec [0.93 σ]
KicOffset-rm: 0.090 arcsec [0.92 σ]
OotOffset-st: 2/2/3/2 [9]
KicOffset-st: 2/2/3/2 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

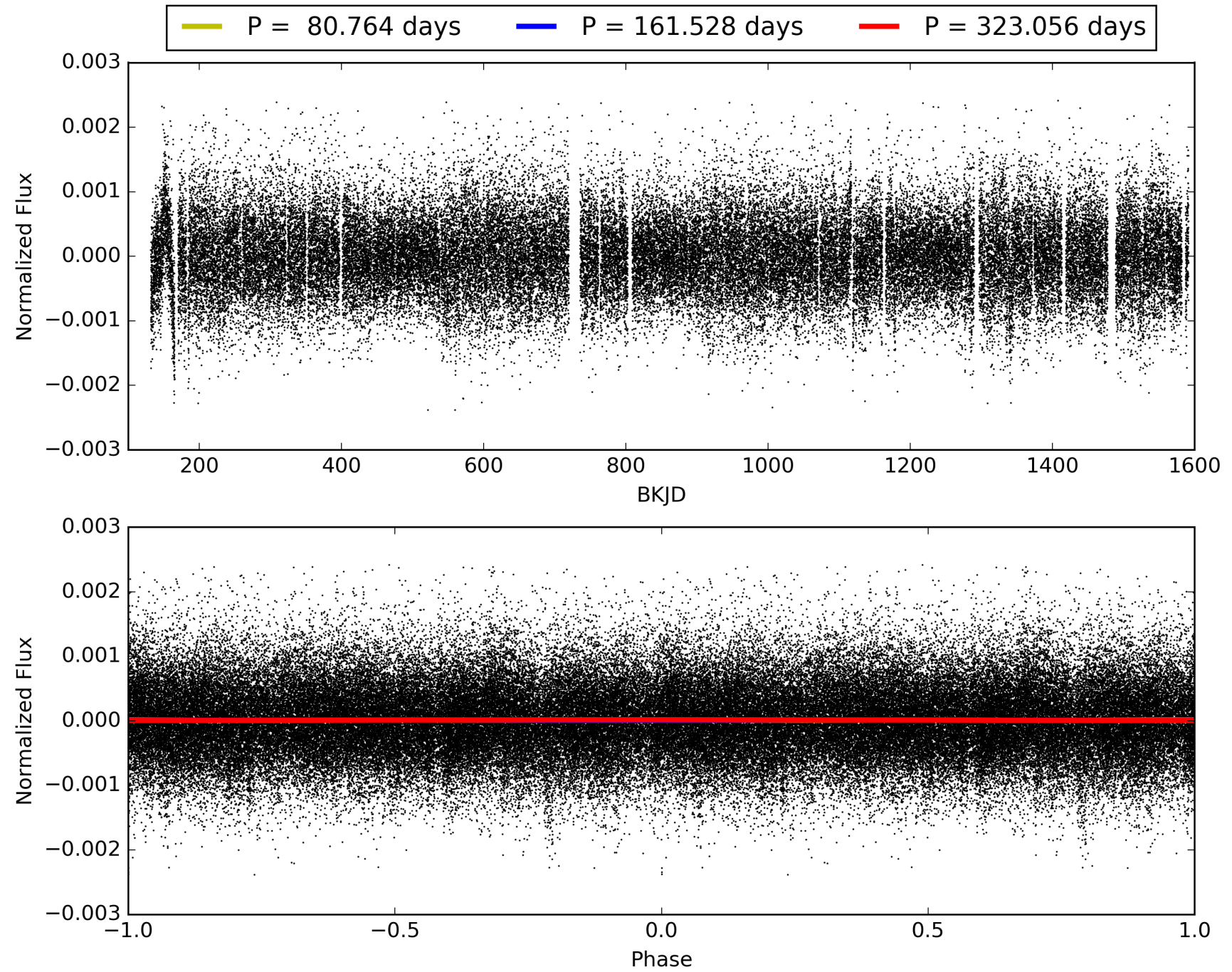
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:01:37 Z

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

TCE 002853093-01, PDC Light Curves

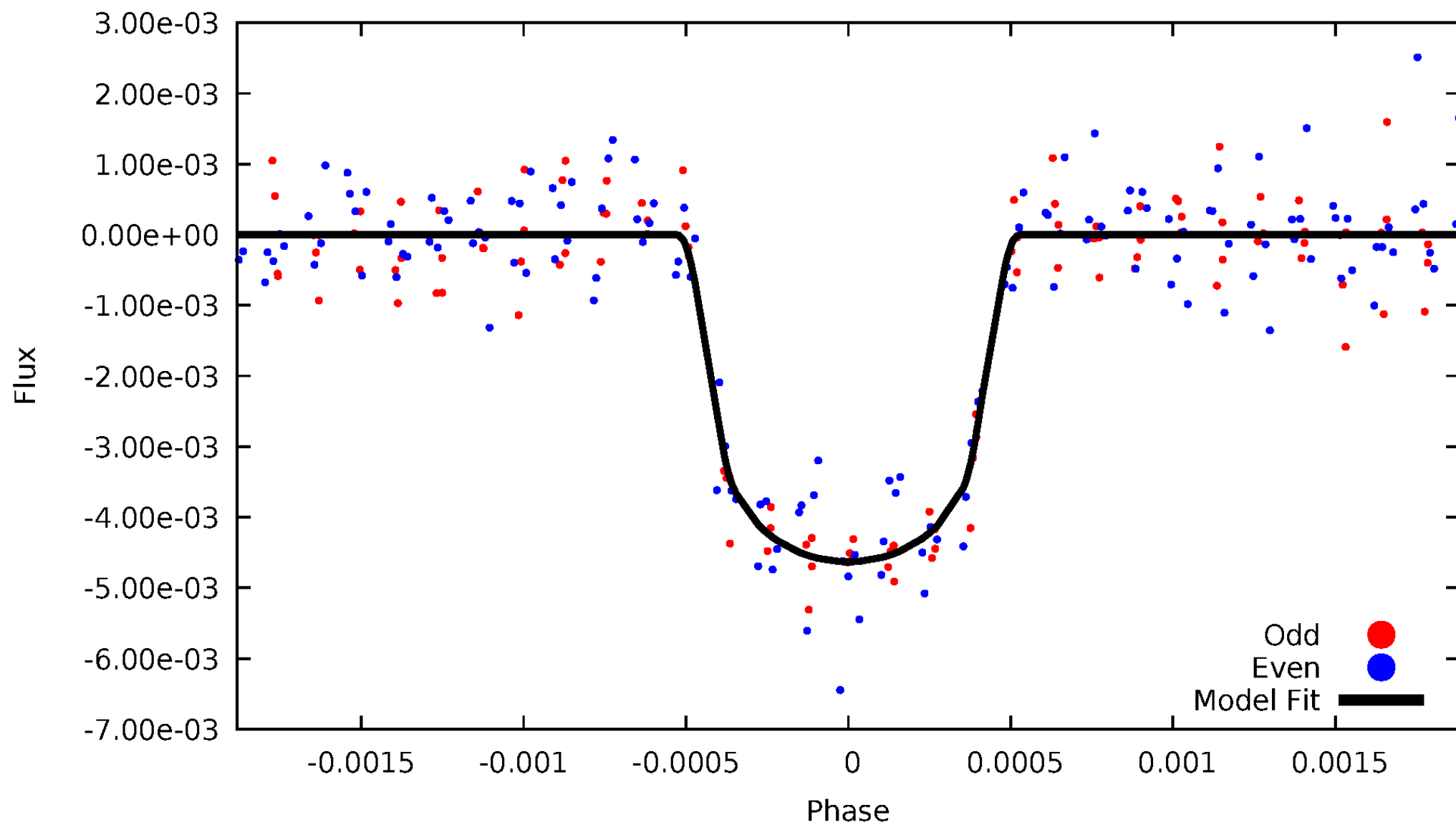


TCE 002853093-01



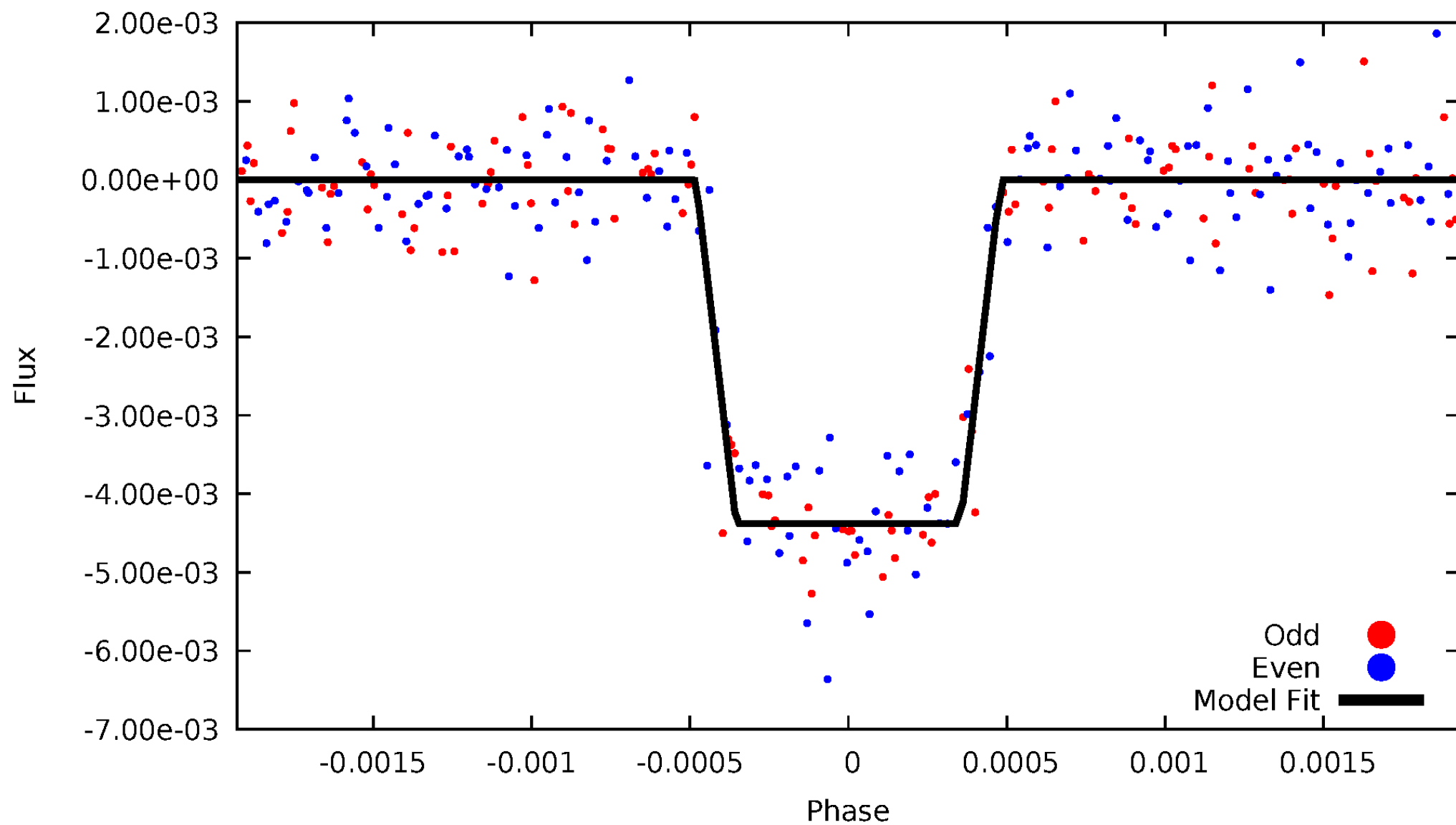
DV Odd/Even

TCE 002853093-01



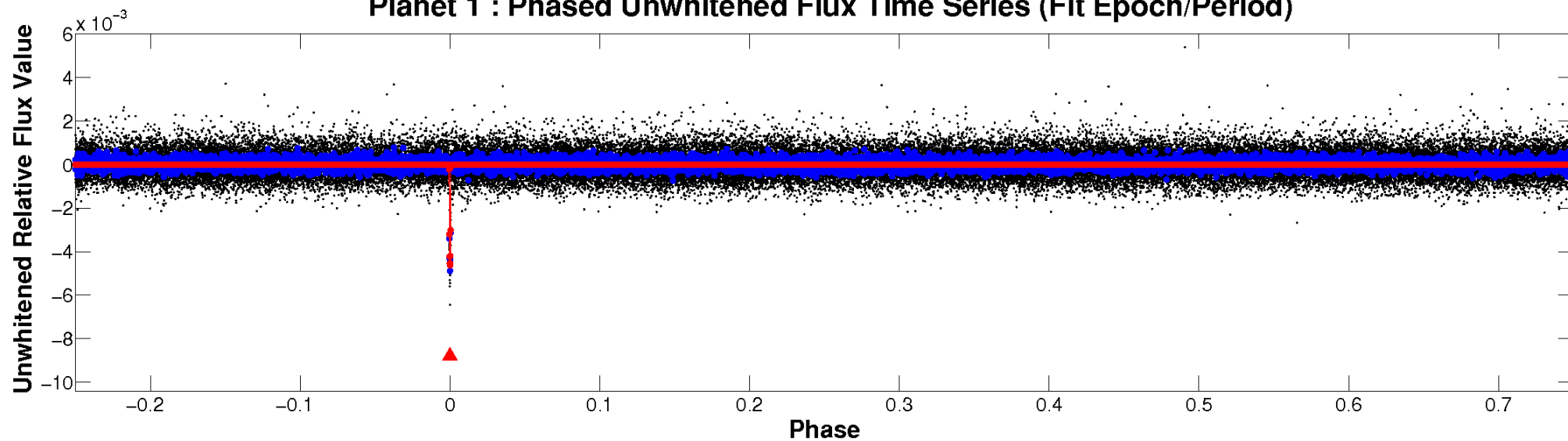
ALT Odd/Even

TCE 002853093-01

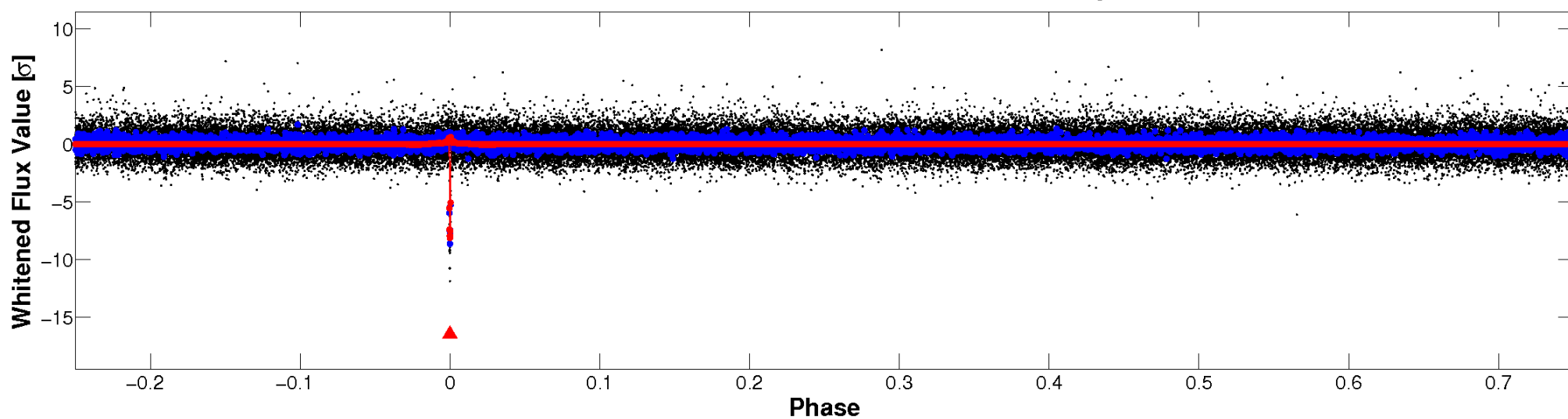


Non-Whitened Vs. Whitened Light Curve

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

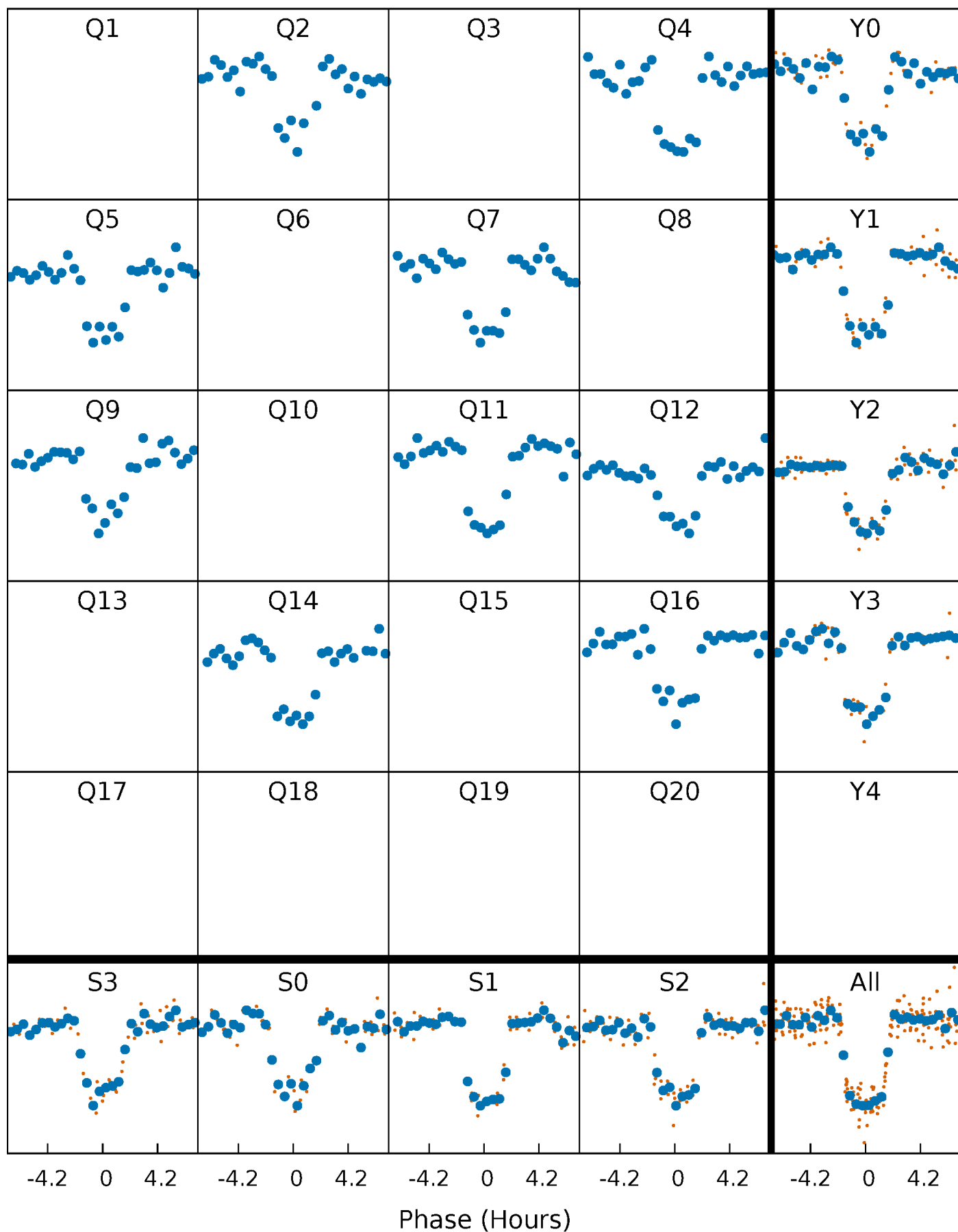


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



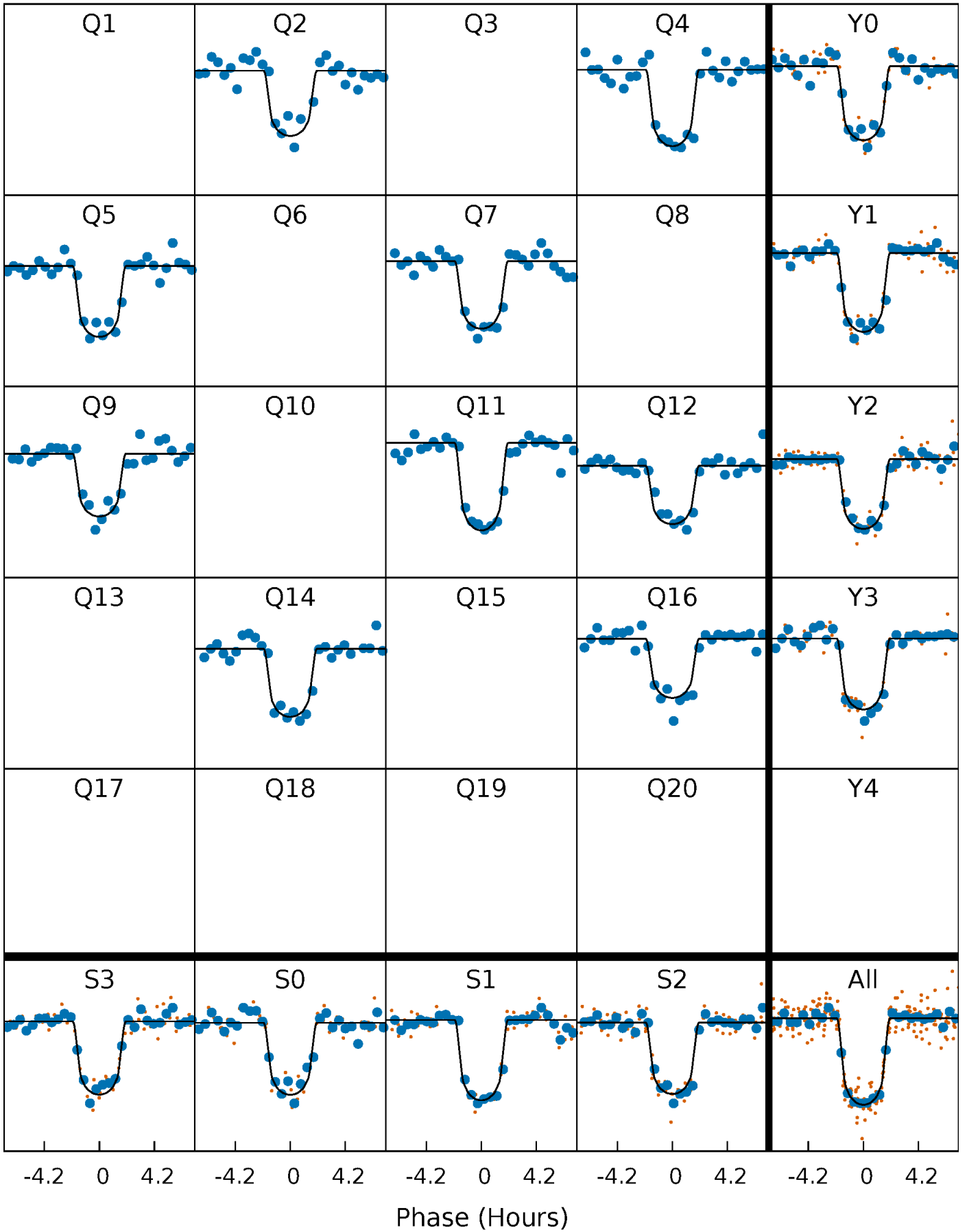
PDC Quarter-Phased Transit Curves

TCE 002853093-01 P=161.528048 Days $T_0=198.000268$ (BKJD)



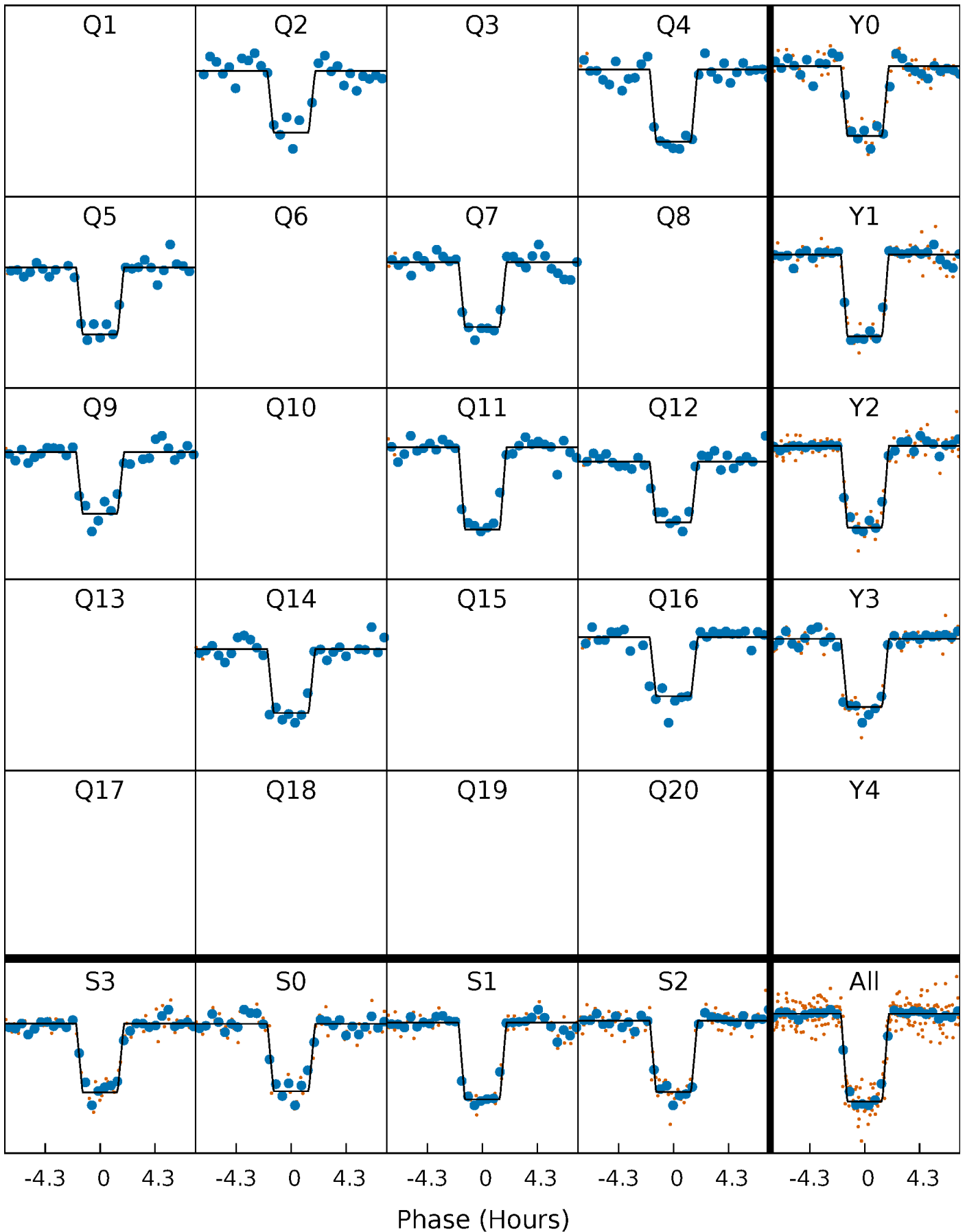
DV Quarter-Phased Transit Curves

TCE 002853093-01 P=161.528048 Days $T_0=198.000268$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

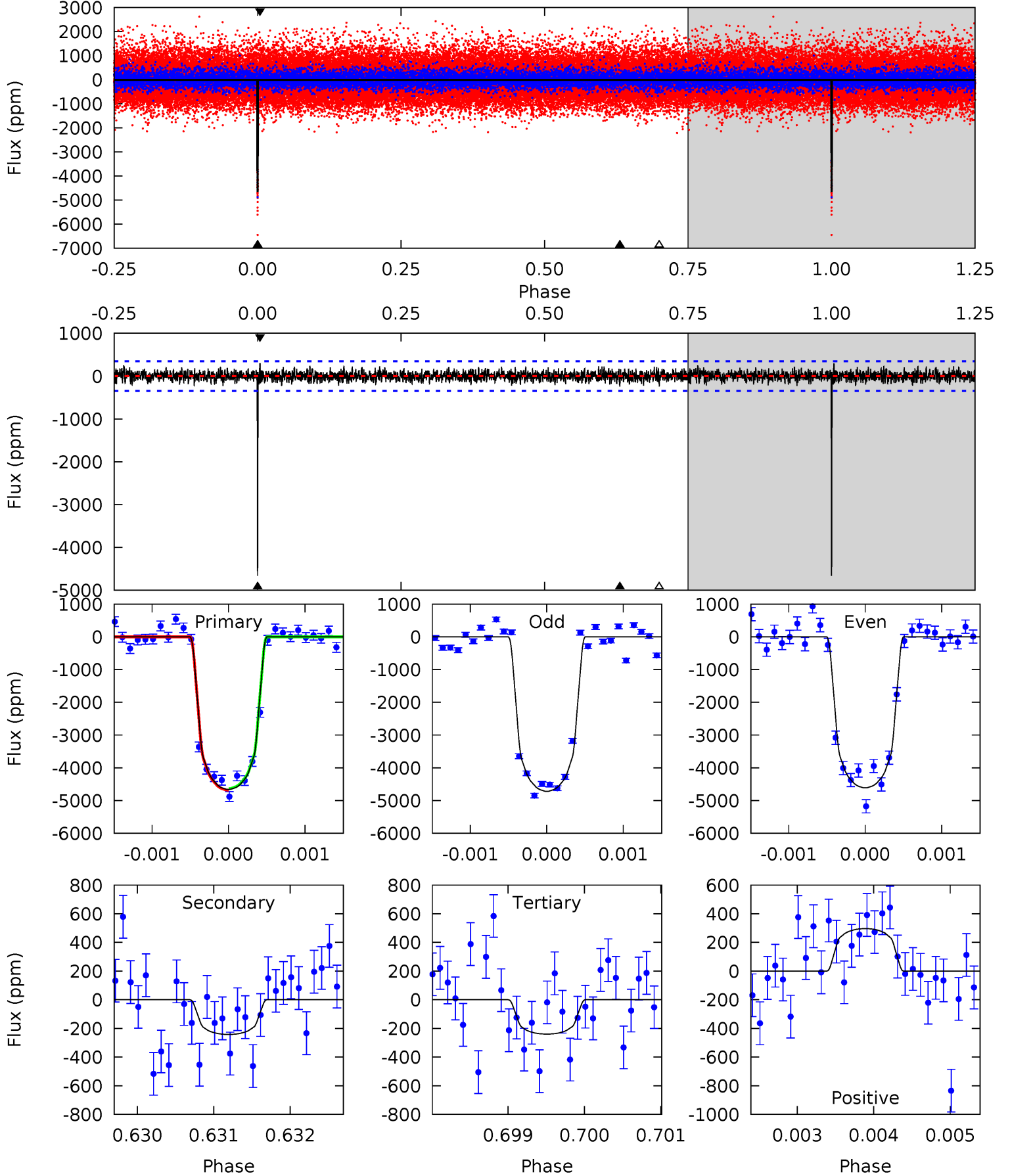
TCE 002853093-01 P=161.529552 Days $T_0=197.994841$ (BKJD)



DV Model-Shift Uniqueness Test

002853093-01, $P = 161.528048$ Days, $E = 36.472220$ Days

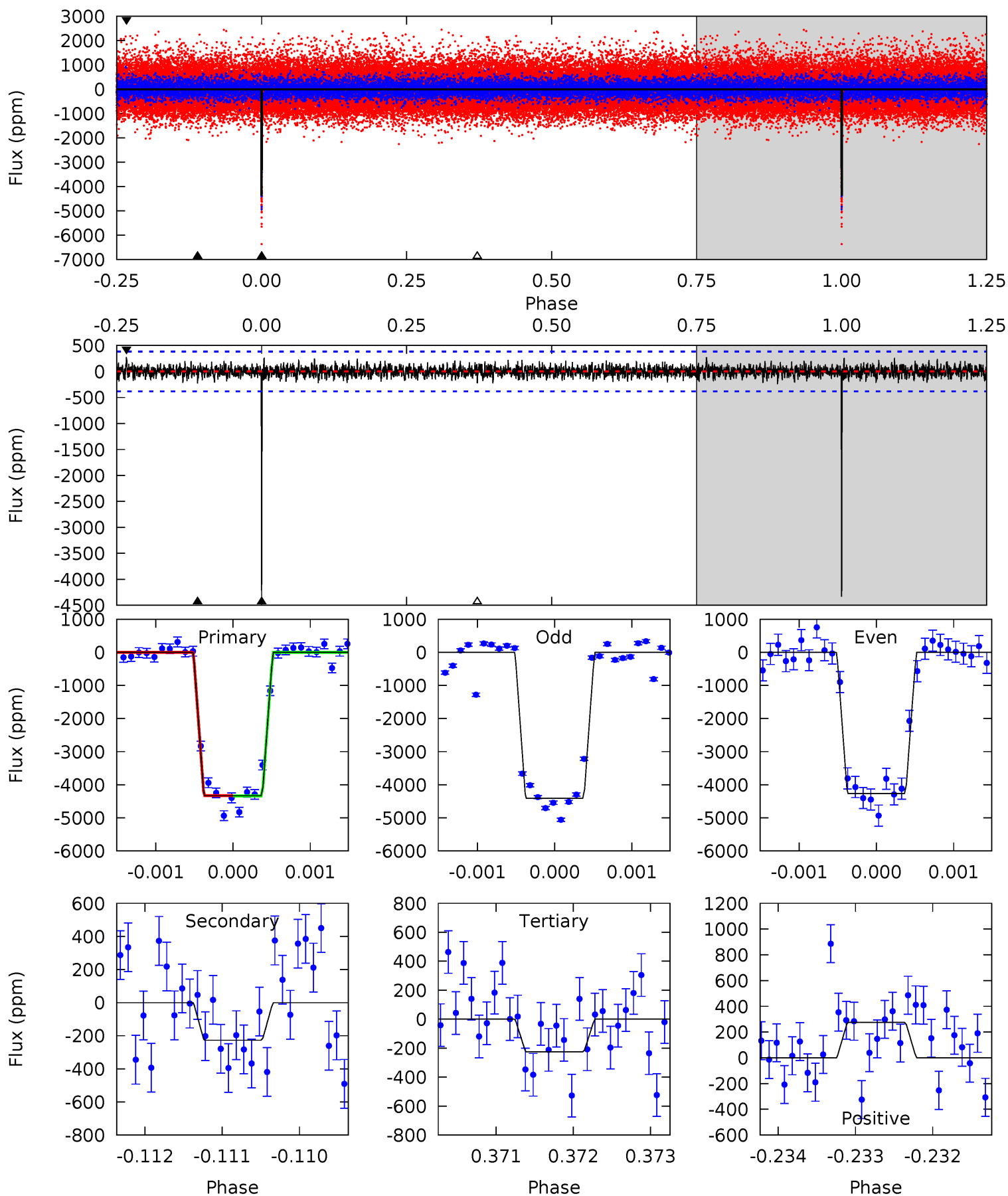
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.1	3.80	3.76	4.66	5.44	3.28	1.17	69.4	68.5	0.04	-0.85	0.83	1.03	0.06	0.37



Alt Model-Shift Uniqueness Test

002853093-01, P = 161.529552 Days, E = 36.465289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.9	3.25	3.22	3.93	5.46	3.31	1.01	58.7	58.0	0.02	-0.68	1.01	1.01	0.06	0.09



Stellar Parameters For KIC 002853093

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5778^{+78}_{-78}	$4.285^{+0.137}_{-0.112}$	$0.160^{+0.150}_{-0.150}$	$1.213^{+0.201}_{-0.183}$	$1.033^{+0.074}_{-0.067}$	$0.816^{+0.494}_{-0.260}$
	+1%/-1%	+3%/-3%	+94%/-94%	+17%/-15%	+7%/-6%	+61%/-32%
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 002853093-01 / KOI 1099.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-242 ± 64	$8.22^{+1.32}_{-1.30}$	511^{+24}_{-22}	3407^{+221}_{-209}	693^{+352}_{-250}
Alt.	-227 ± 70	$8.70^{+1.52}_{-1.33}$	510^{+23}_{-21}	3295^{+216}_{-201}	542^{+324}_{-197}

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

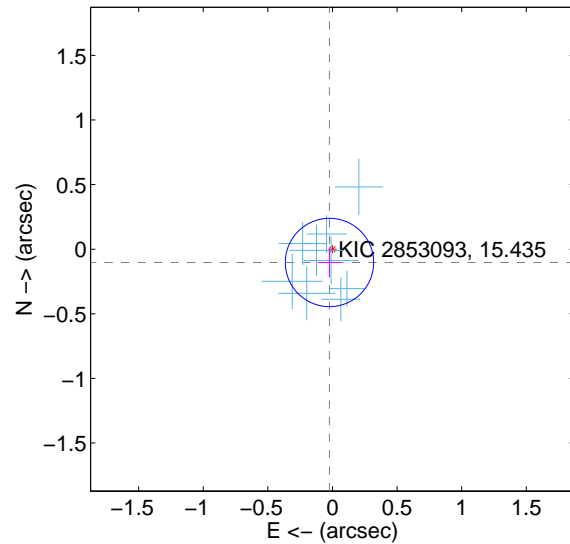
Supplemental centroid analysis for 002853093-01. Kepler magnitude: 15.44. Transit SNR 54.22

There are 9 quarters with good PRF difference image offsets

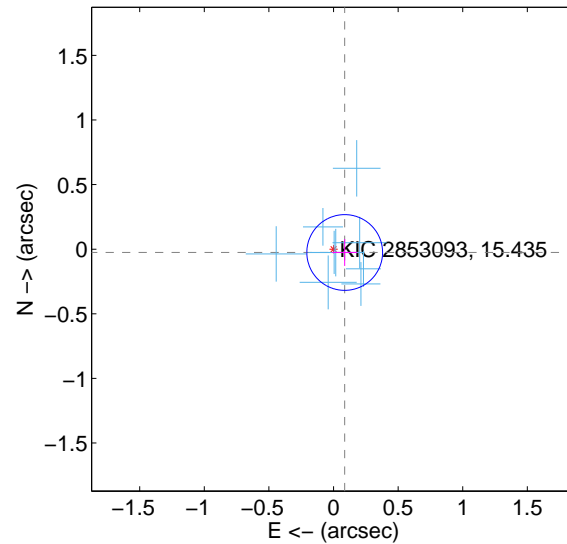
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.106 ± 0.114	0.93	0.023 ± 0.089	-0.103 ± 0.115
PRF-fit source offset from KIC position	0.090 ± 0.098	0.92	-0.087 ± 0.097	-0.026 ± 0.104
photometric centroid source offset	0.72 ± 0.28	2.55	-0.41 ± 0.30	-0.59 ± 0.27

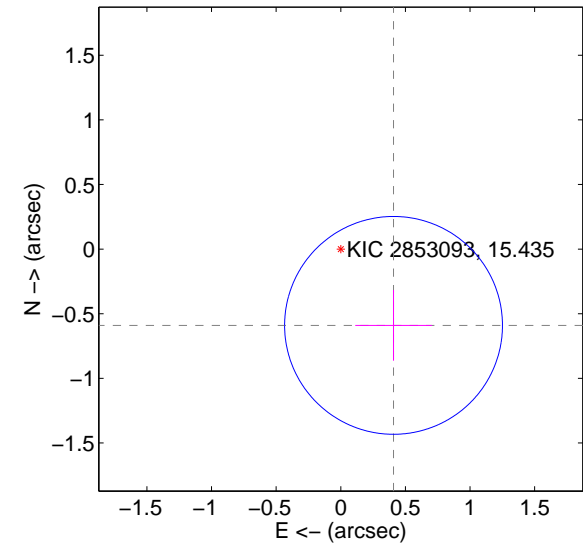
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

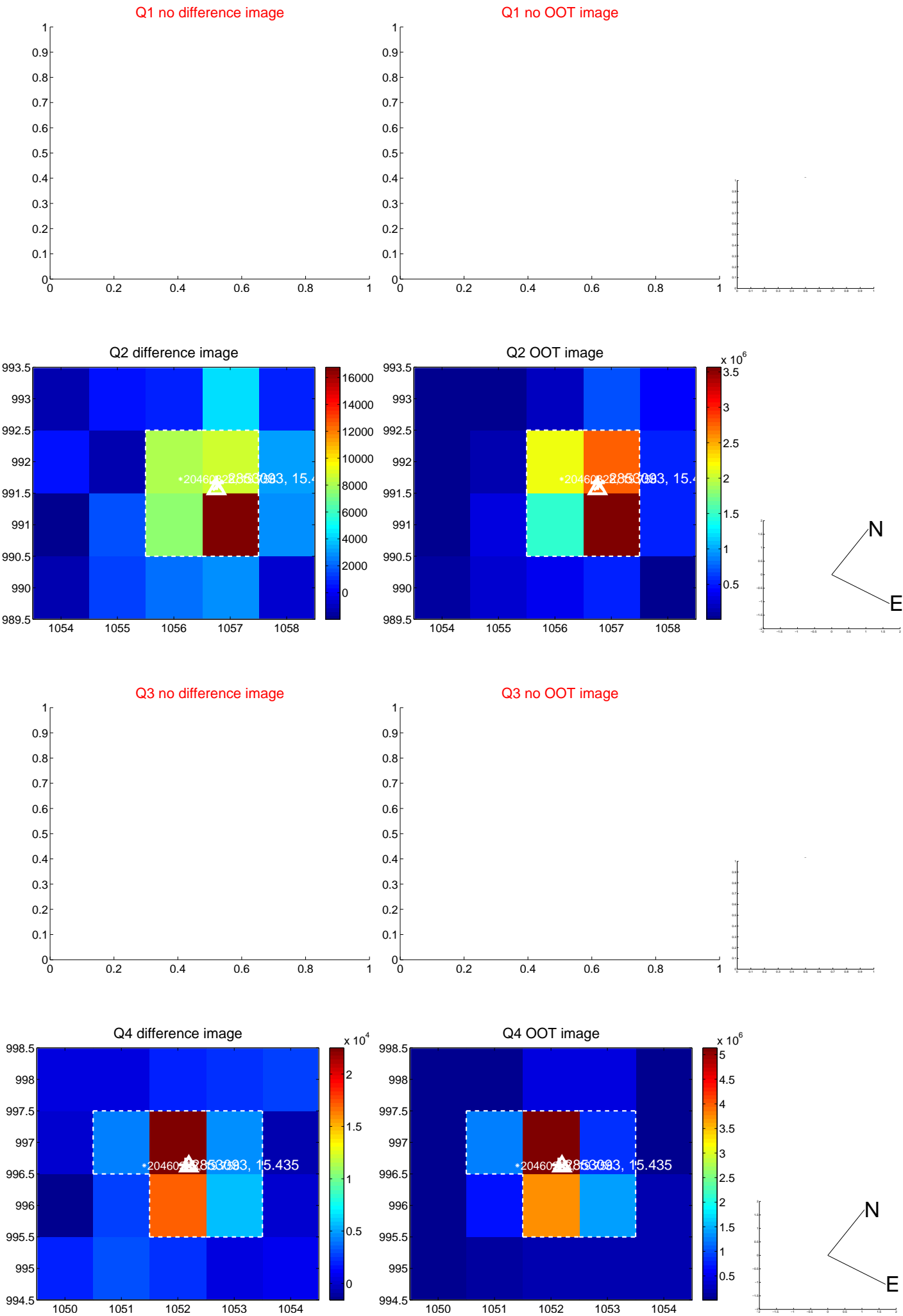


offset from photometric centroids

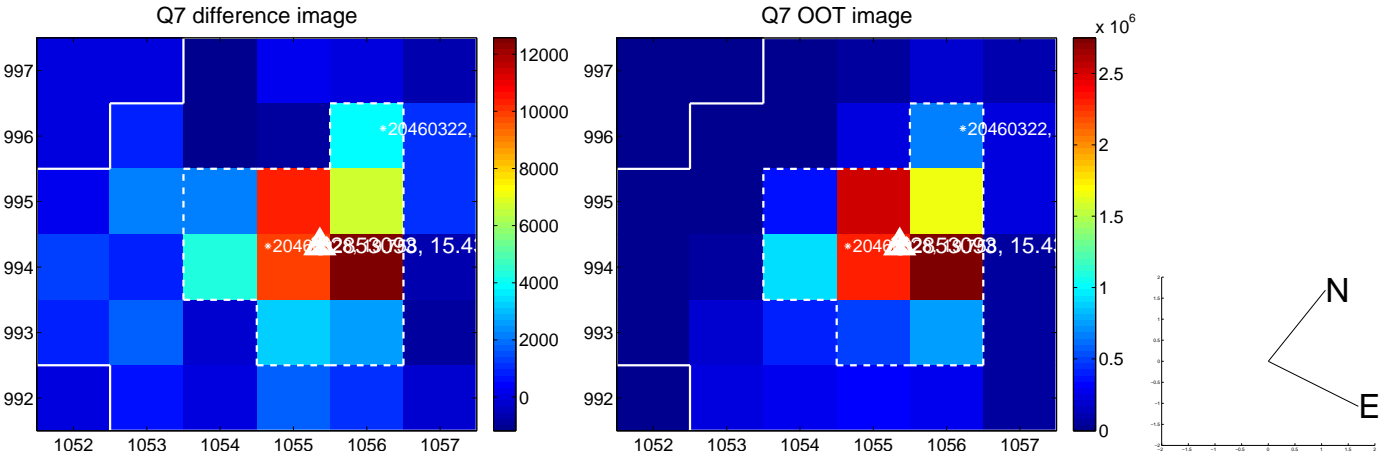
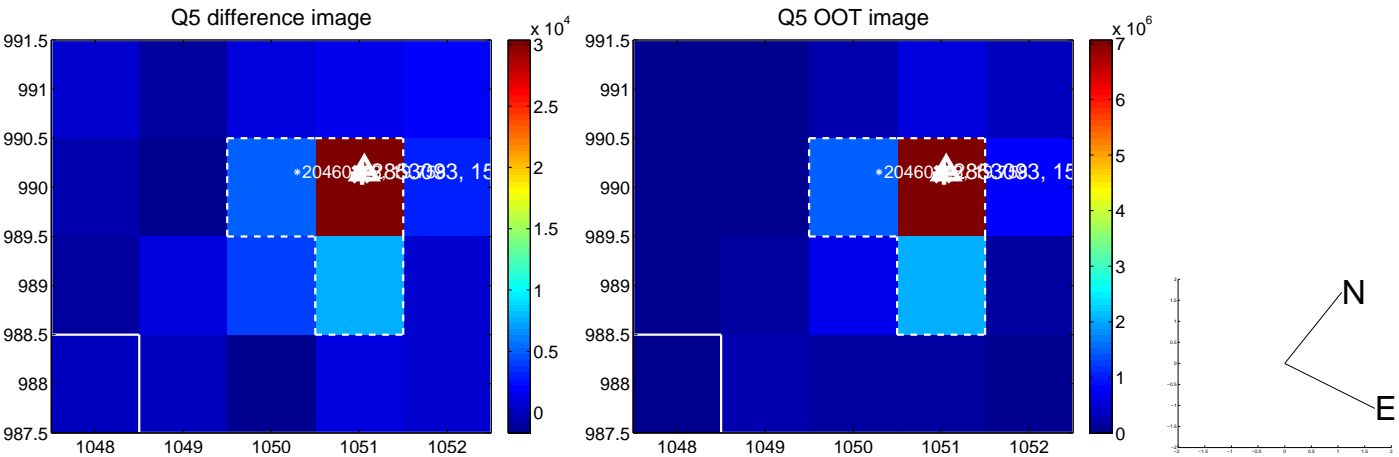


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

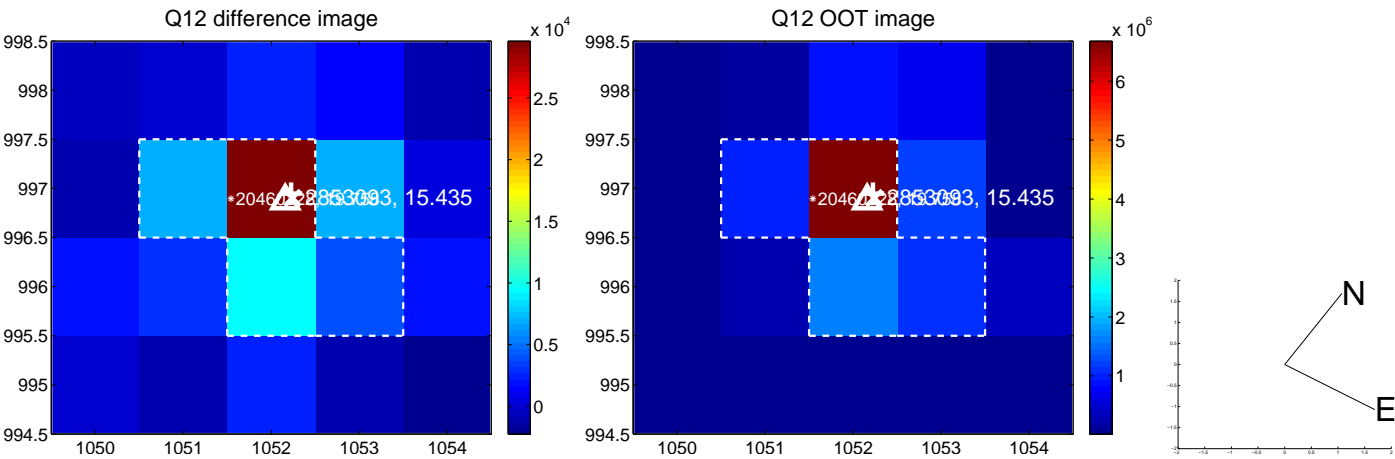
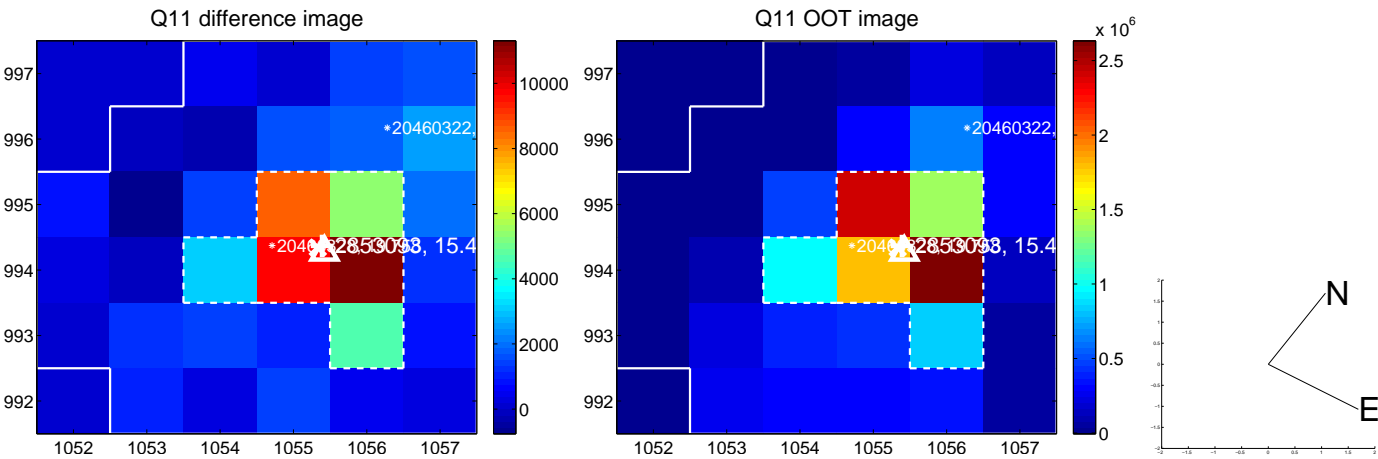
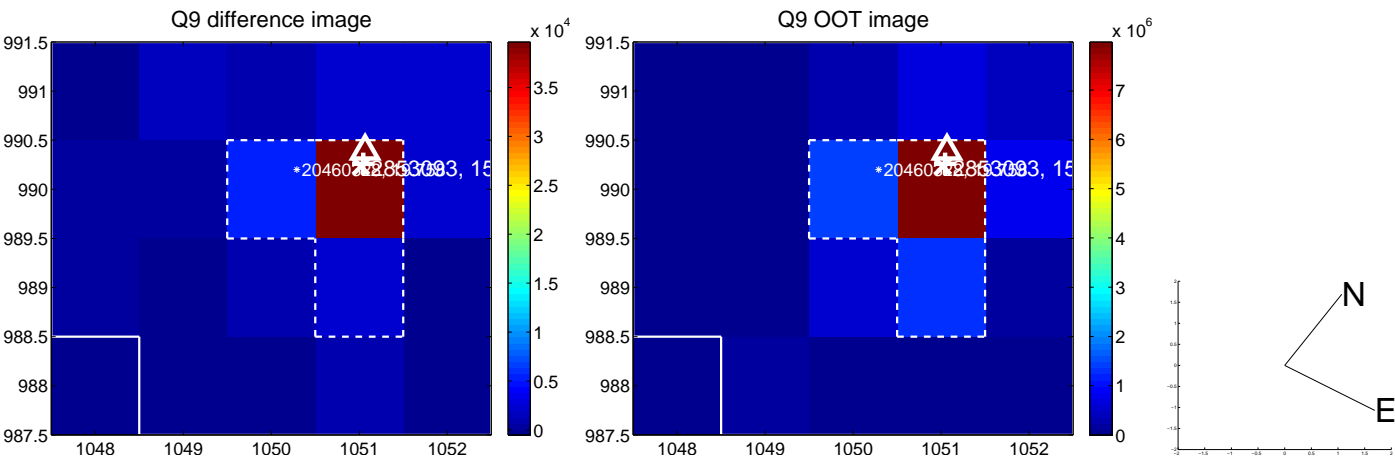
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



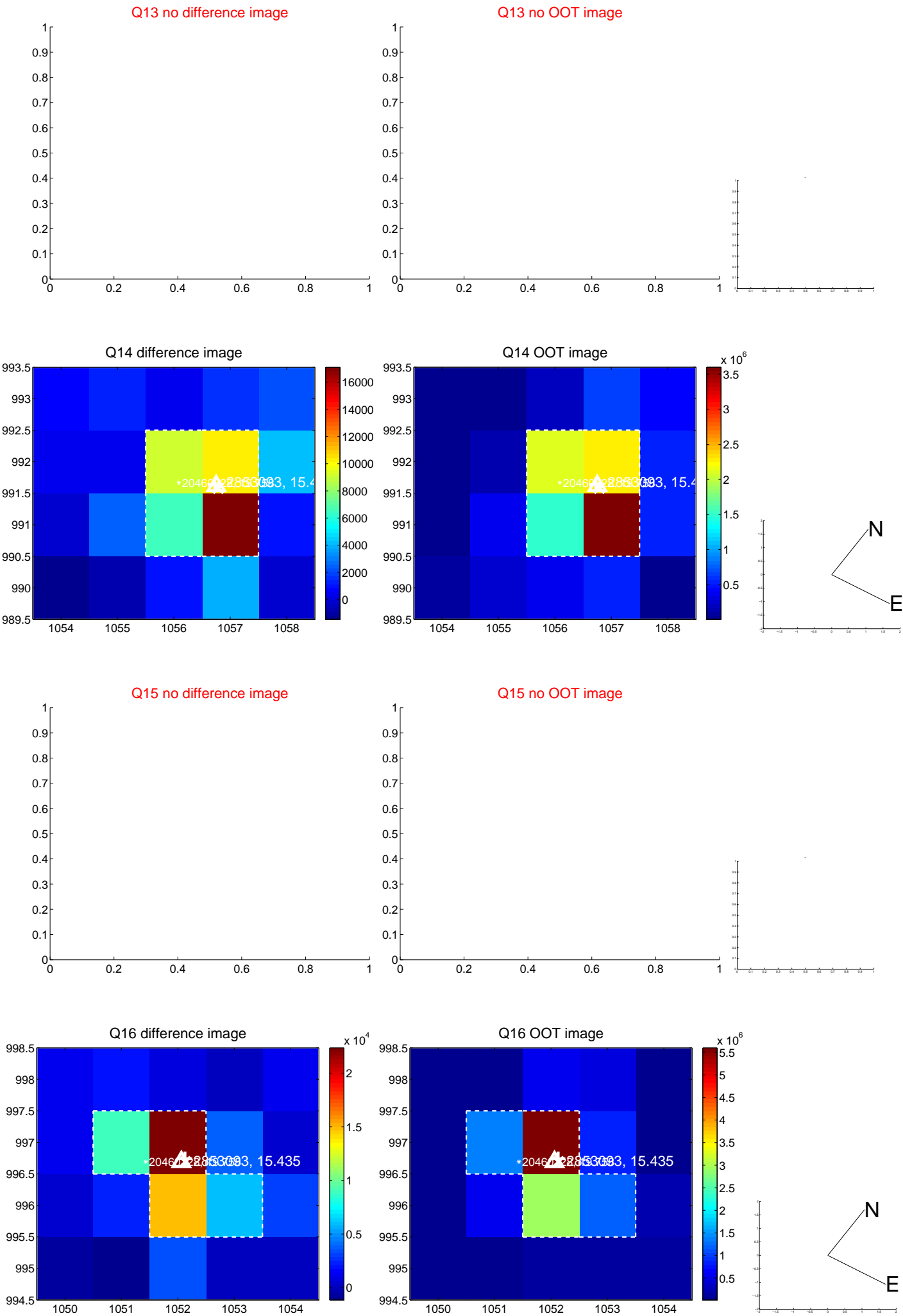
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



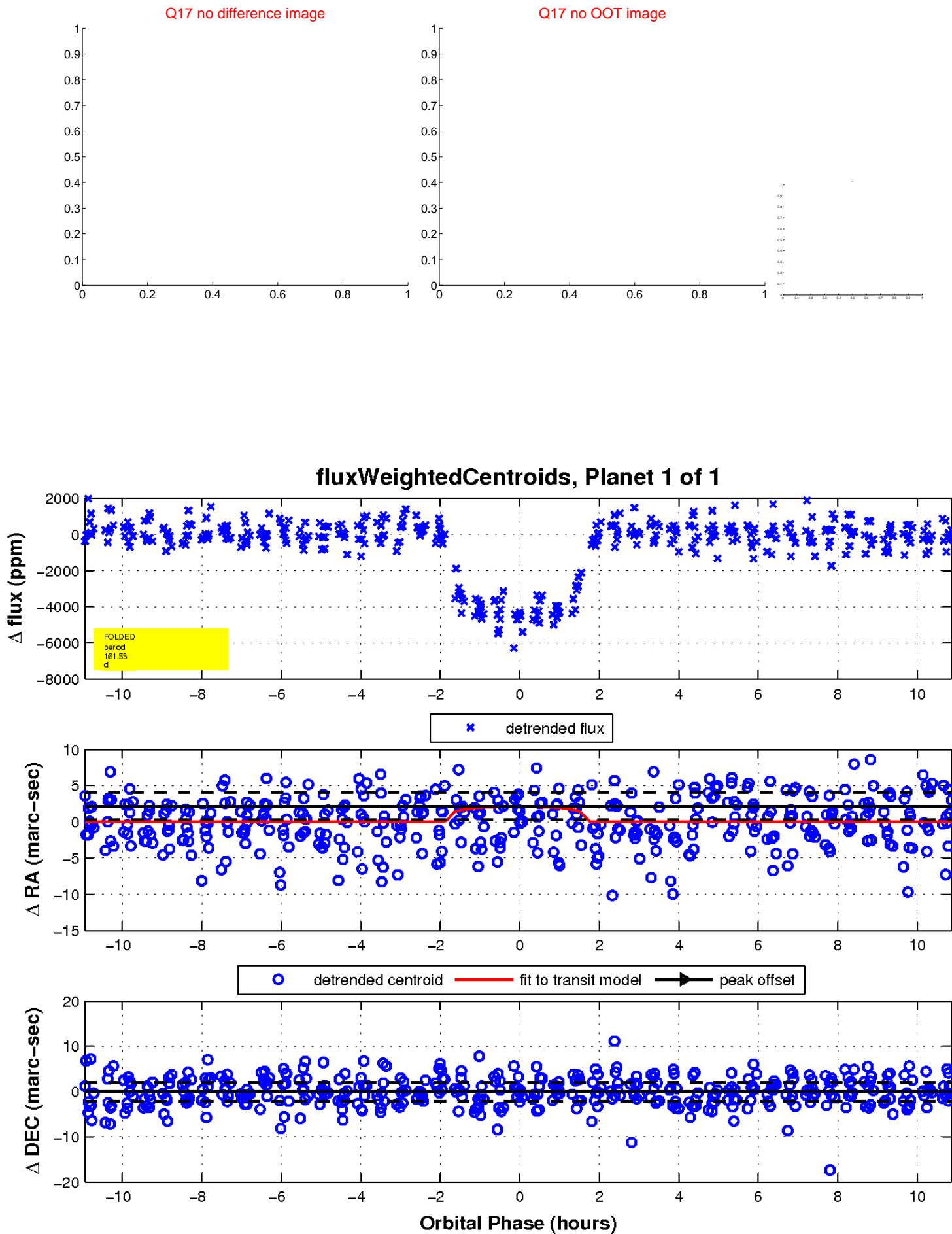
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

