

KIC 010075024

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})
010075024-01	OBS	No	349.402801	186.846623	850.6	16.689	7.3	7.2	0.89	5868	2.64	0.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010075024-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

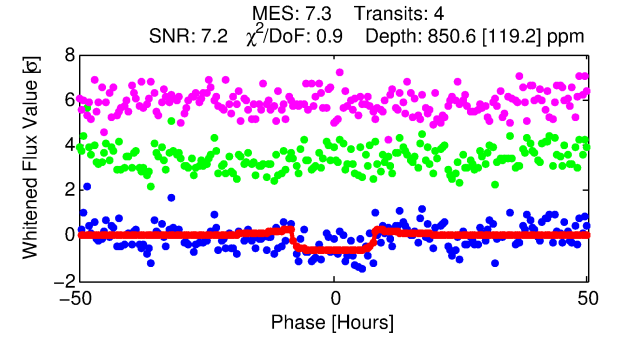
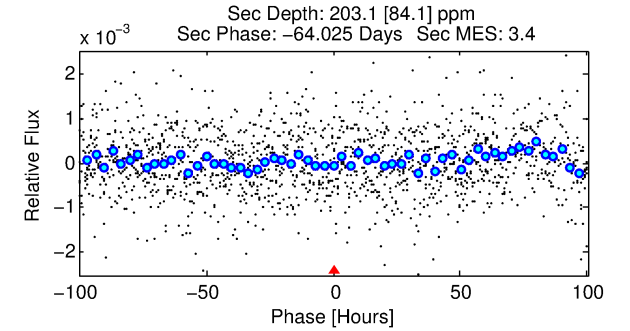
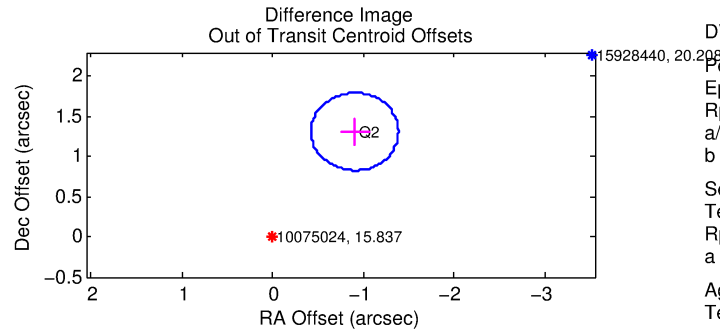
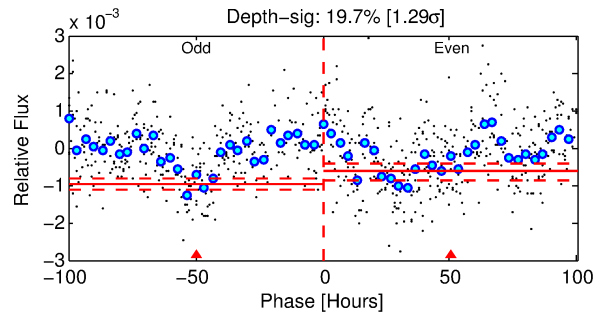
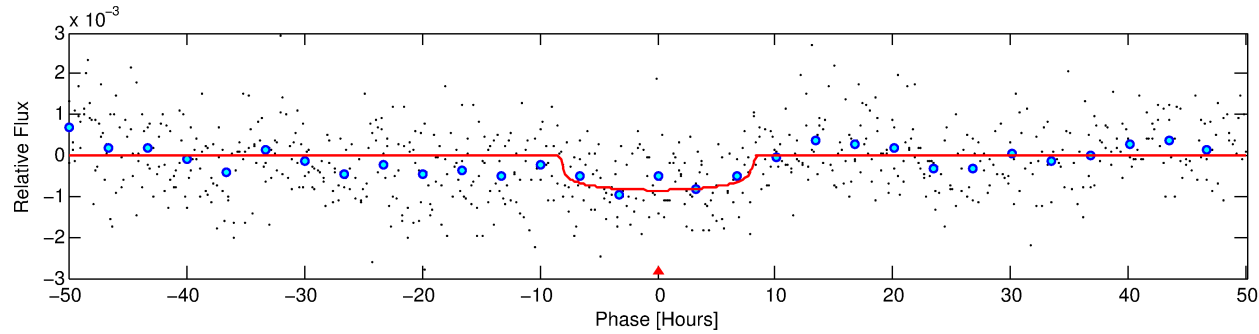
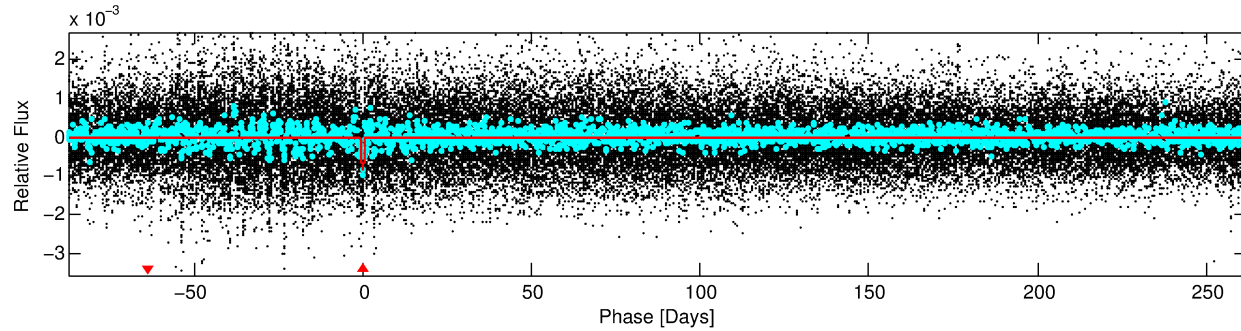
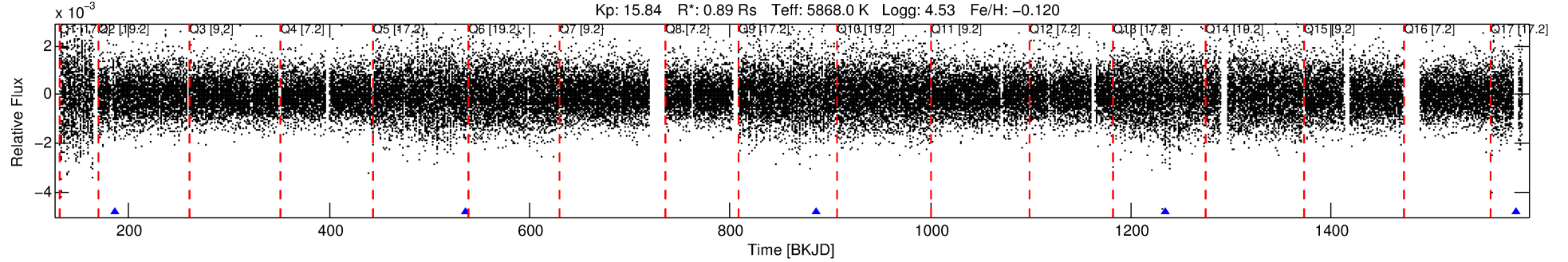
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010075024-01

No Significant Match Found

DV One-Page Summary

KIC: 10075024 Candidate: 1 of 1 Period: 349.403 d



DV Fit Results:

Period = 349.40280 [0.01153] d
Epoch = 186.8466 [0.0200] BKJD
Rp/R* = 0.0271 [0.0136]
a/R* = 150.59 [339.82]
b = 0.41 [4.60]
Seff = 0.91 [0.31]
Teq = 249 [21] K
Rp = 2.64 [1.48] Re
a = 0.9671 [0.2069] AU
Ag = 14991.21 [16985.35] [0.88 σ]
Teffp = 4258 [1164] K [3.44 σ]

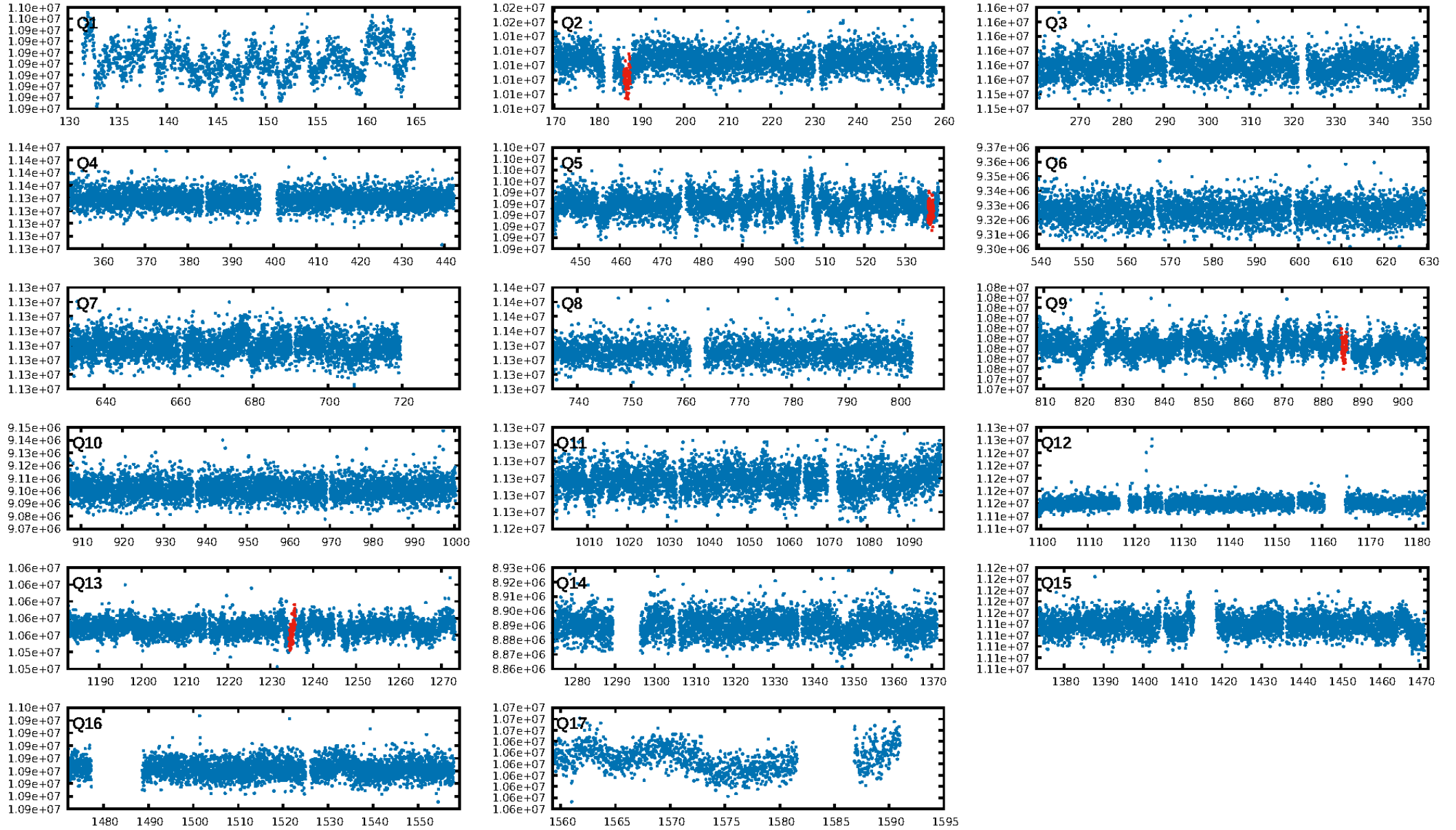
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 55.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.21e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.888
Centroid-sig: 7.8%
Centroid-so: 3.855 arcsec [1.67 σ]
OotOffset-rm: 1.593 arcsec [9.90 σ]
KicOffset-rm: 1.479 arcsec [9.28 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

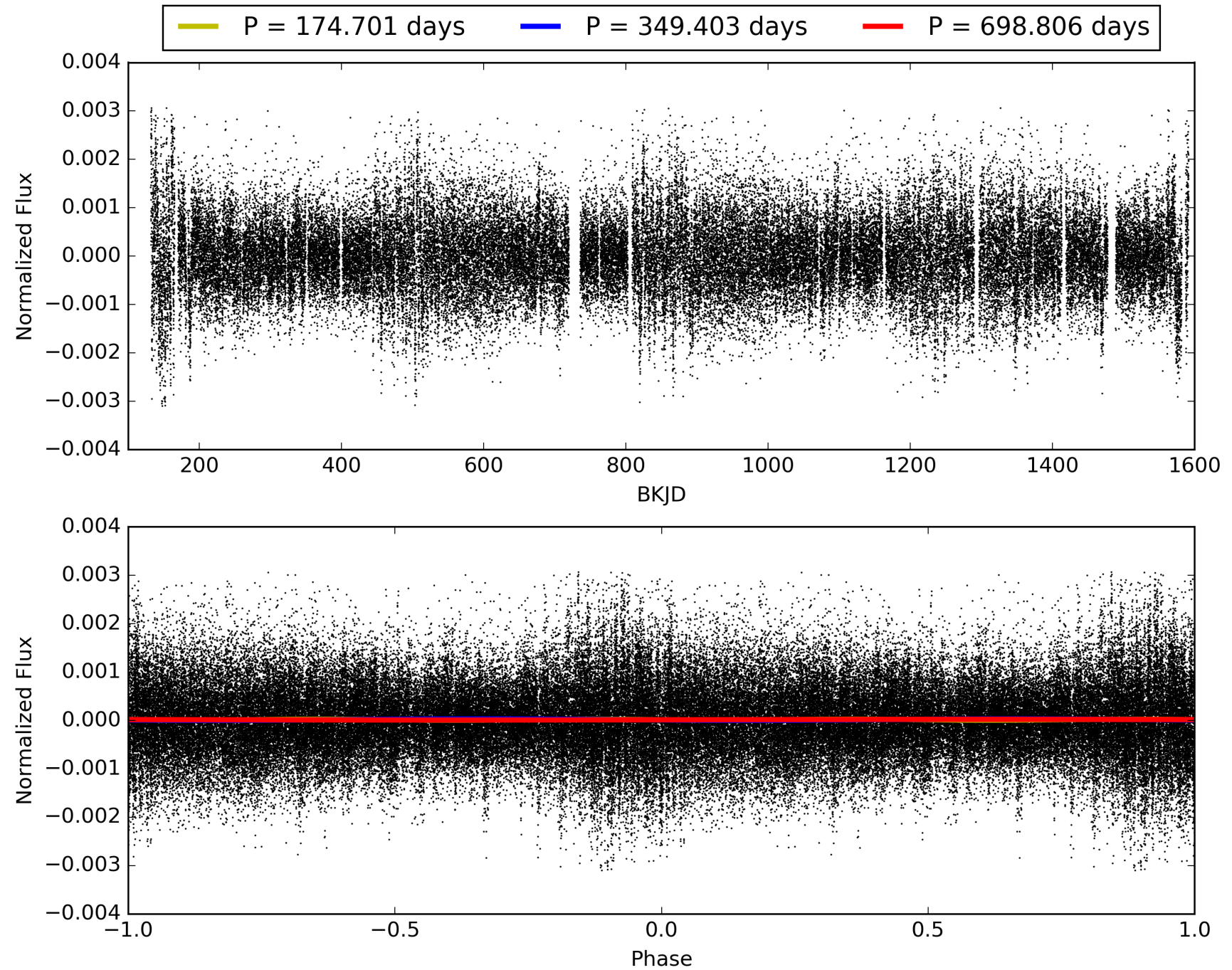
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:18:35 Z

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

TCE 010075024-01, PDC Light Curves

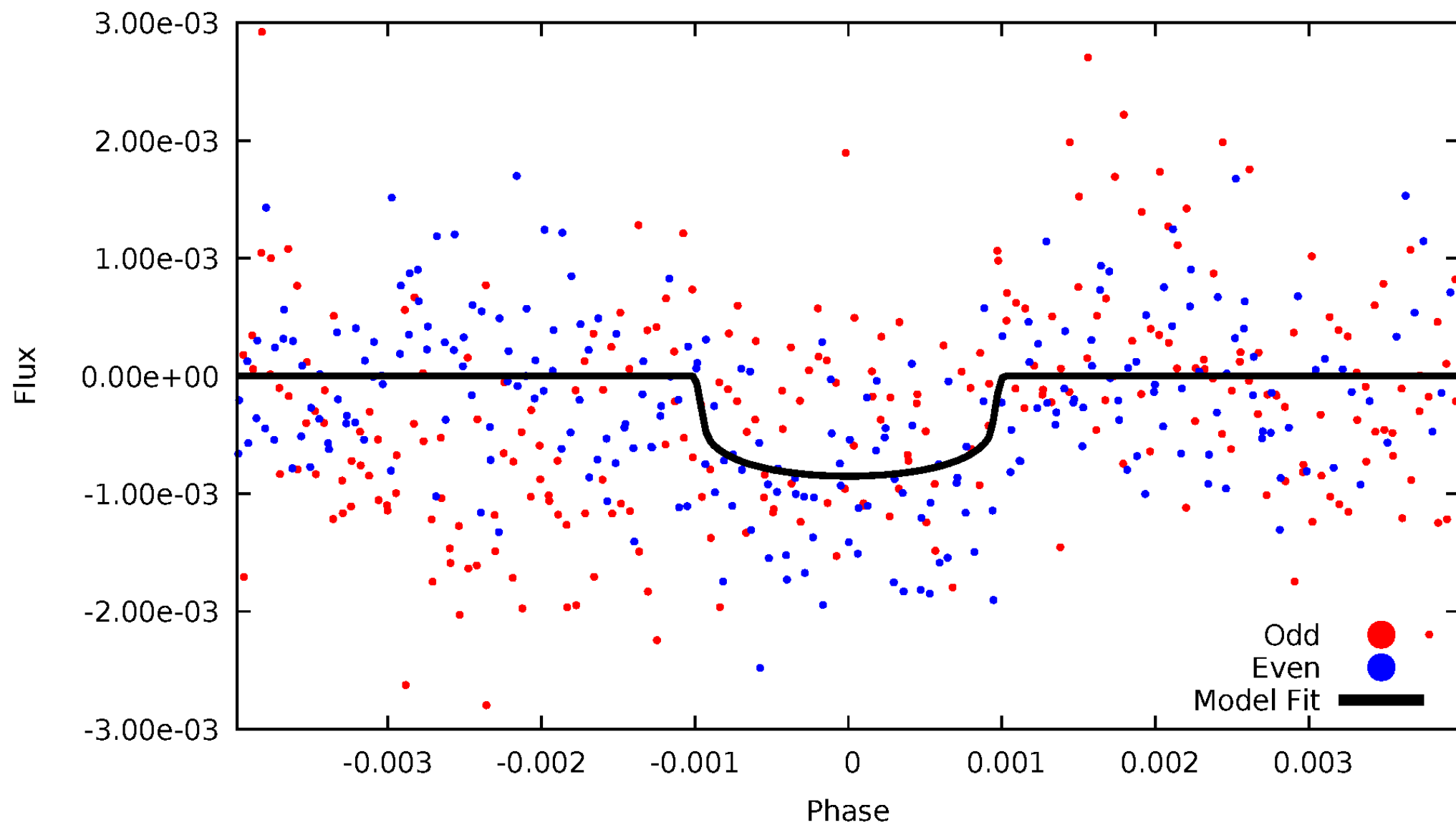


TCE 010075024-01



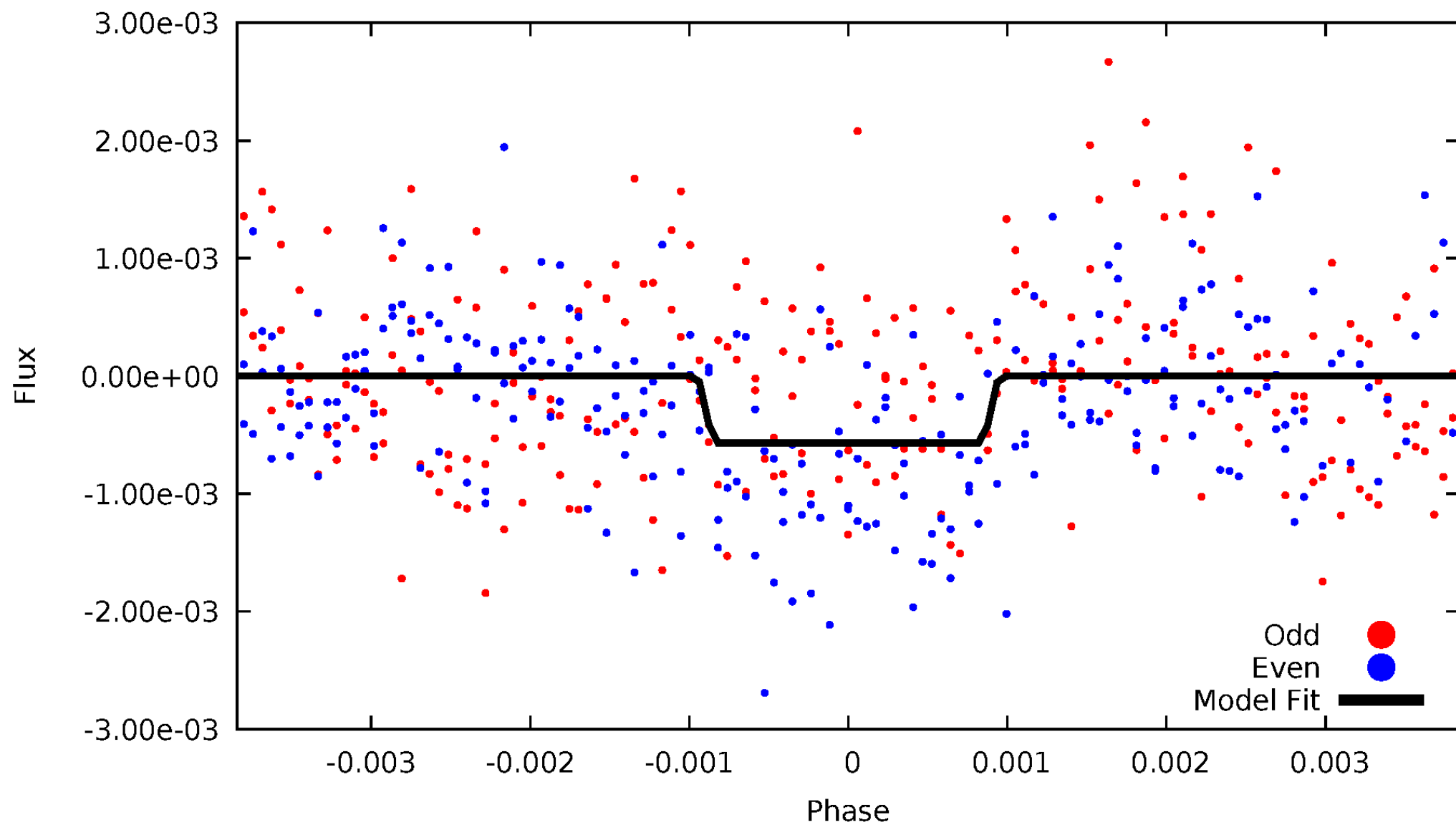
DV Odd/Even

TCE 010075024-01

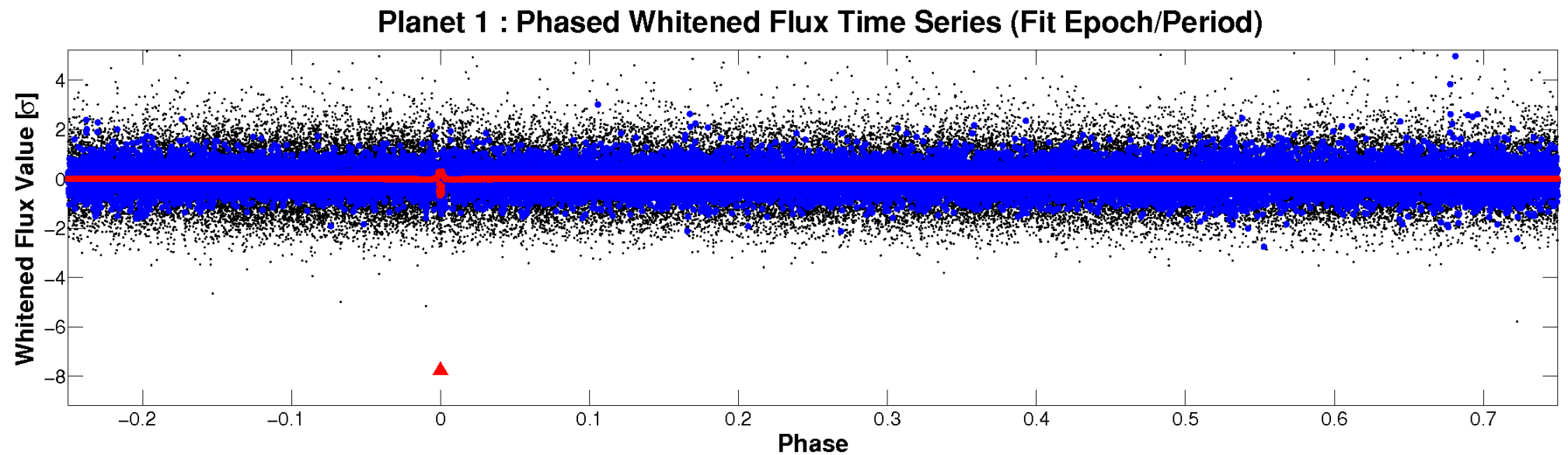
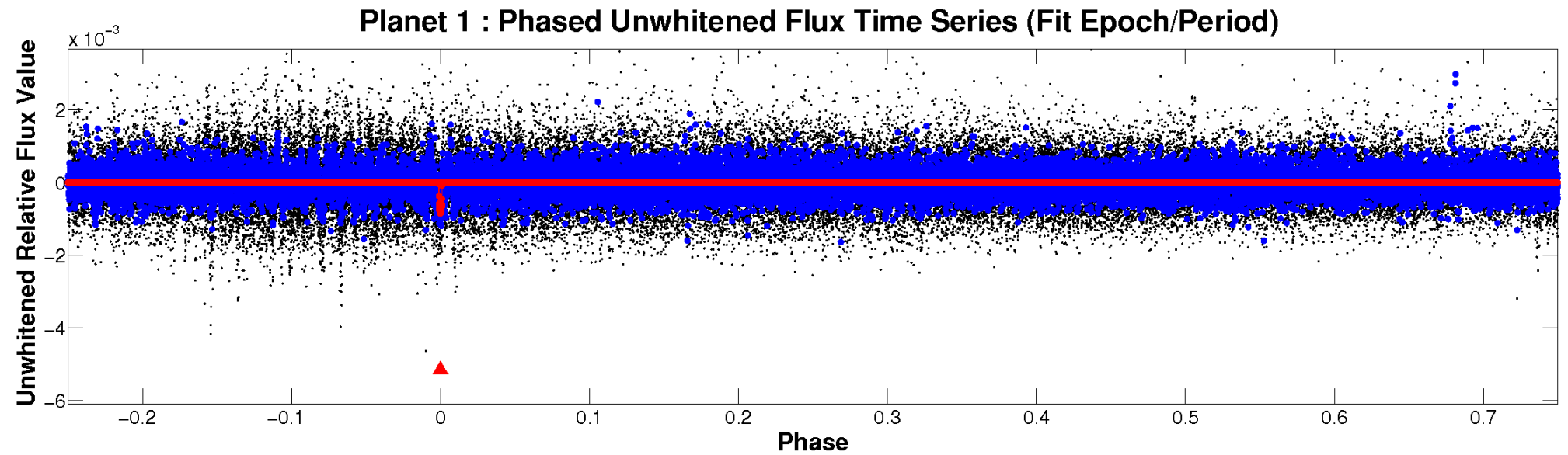


ALT Odd/Even

TCE 010075024-01

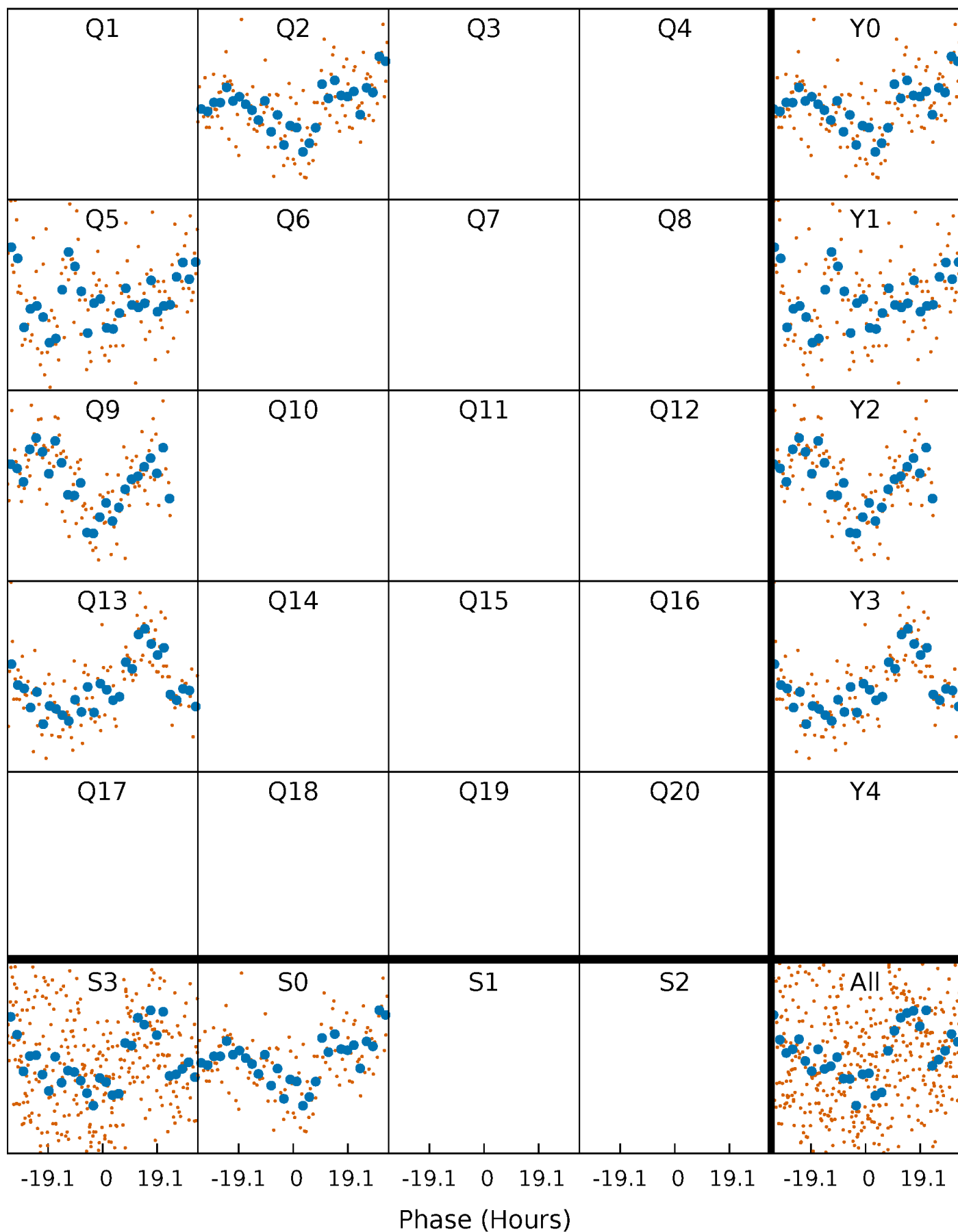


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 010075024-01 P=349.402801 Days $T_0=186.846623$ (BKJD)



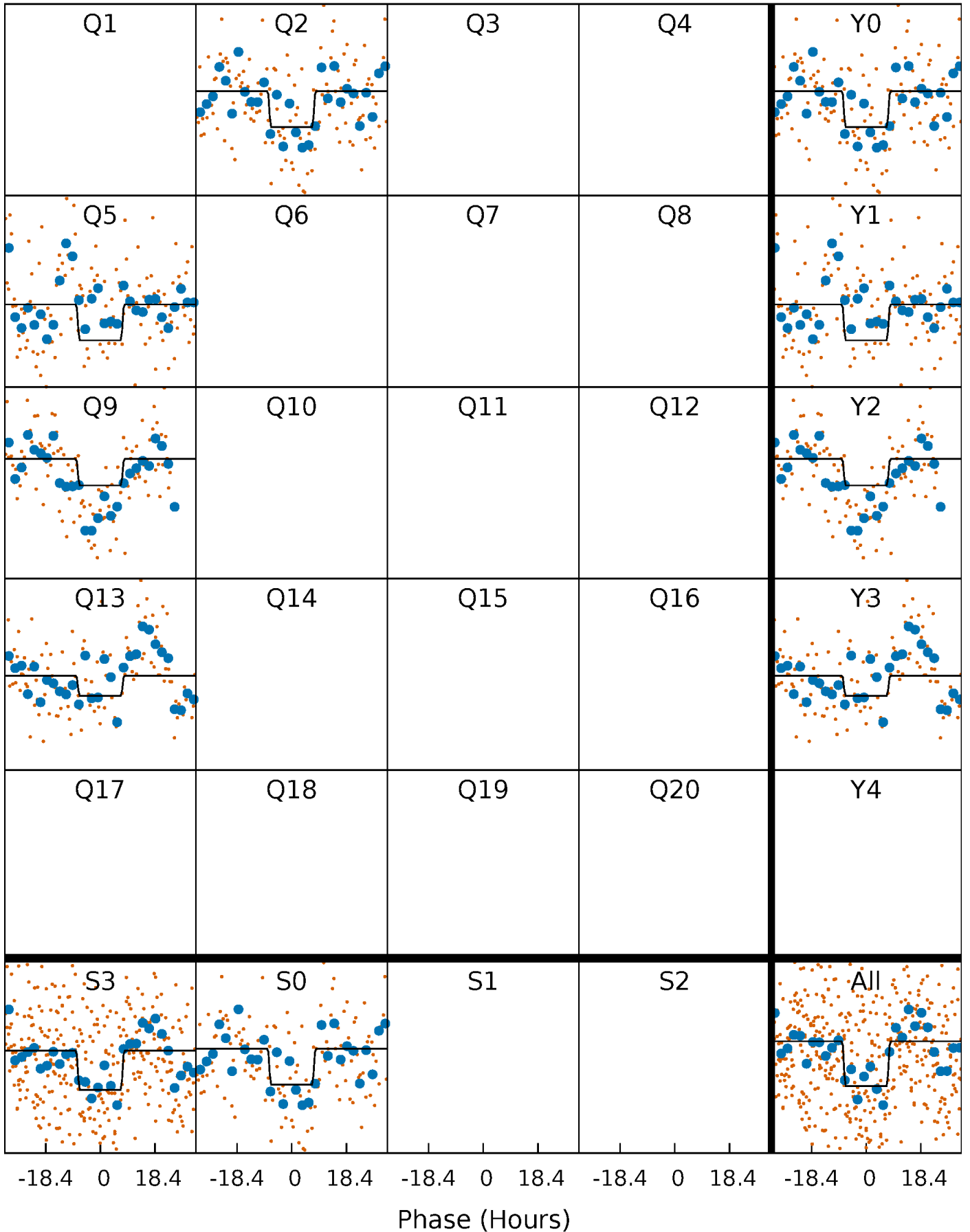
DV Quarter-Phased Transit Curves

TCE 010075024-01 P=349.402801 Days $T_0=186.846623$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

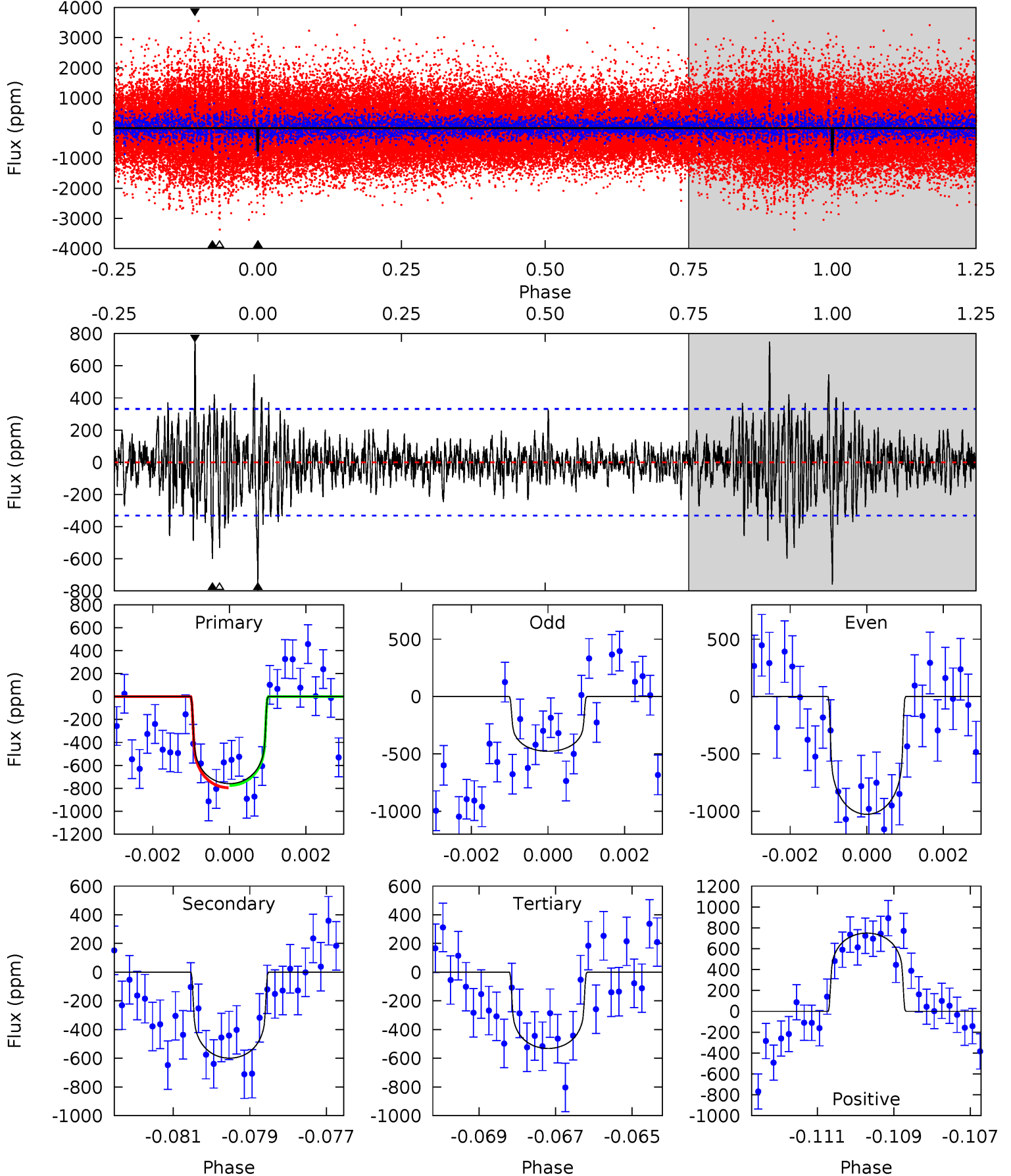
TCE 010075024-01 P=349.393442 Days $T_0=186.848193$ (BKJD)



DV Model-Shift Uniqueness Test

010075024-01, P = 349.402801 Days, E = 186.846623 Days

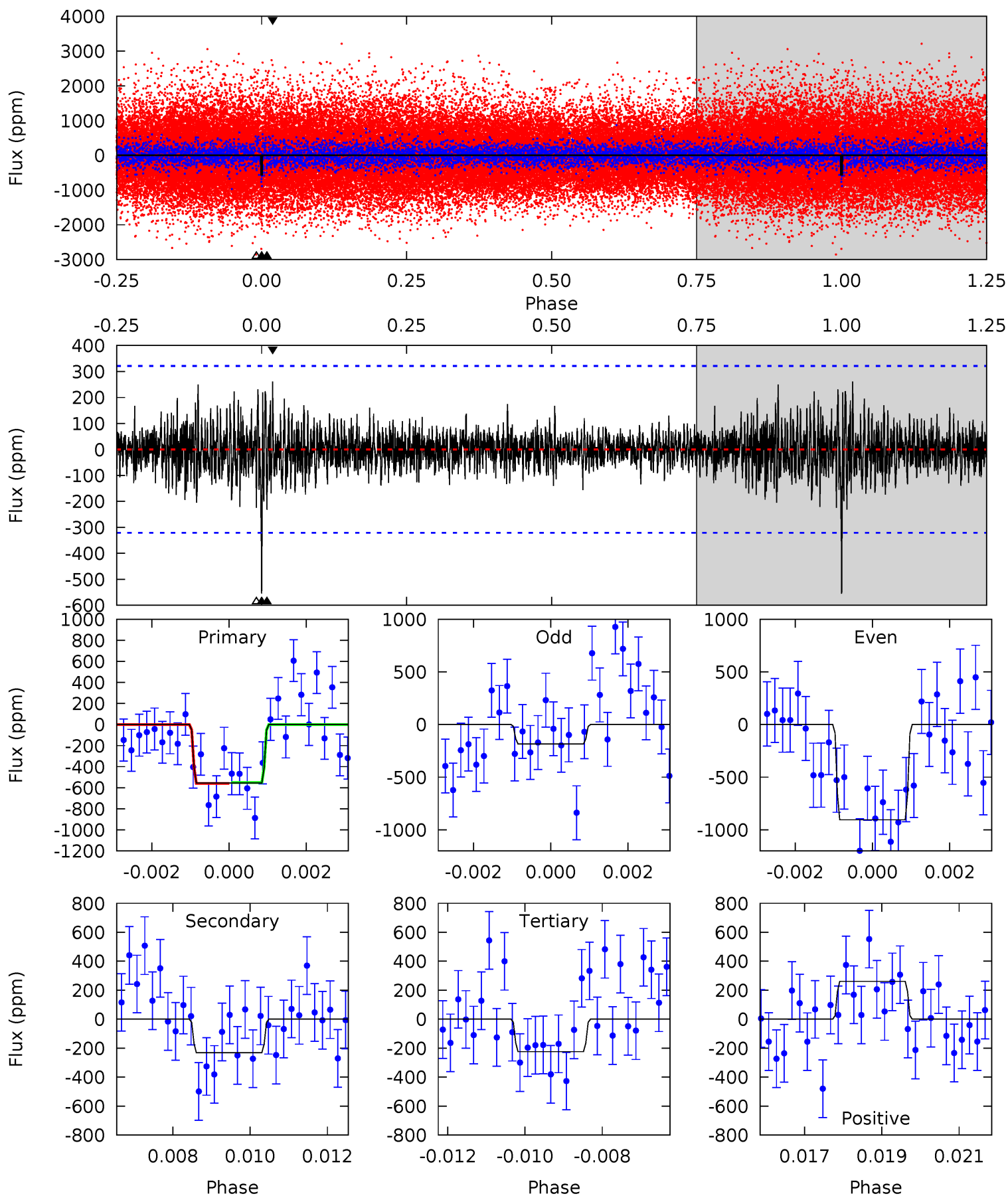
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	9.62	8.54	12.0	5.33	3.09	1.99	3.65	0.15	1.08	-2.42	4.41	1.02	0.50	0



Alt Model-Shift Uniqueness Test

010075024-01, P = 349.393442 Days, E = 186.848193 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.22	3.85	3.72	4.33	5.33	3.10	0.95	5.50	4.89	0.13	-0.48	5.97	1.24	0.32	0.08



Stellar Parameters For KIC 010075024

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5868^{+158}_{-176}	$4.530^{+0.042}_{-0.179}$	$-0.120^{+0.300}_{-0.300}$	$0.894^{+0.220}_{-0.088}$	$0.987^{+0.108}_{-0.120}$	$1.946^{+0.430}_{-0.875}$
	+3%/-3%	+1%/-4%	+250%/-250%	+25%/-10%	+11%/-12%	+22%/-45%
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 010075024-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-599 ± 62	$2.84^{+1.47}_{-1.35}$	354^{+22}_{-15}	5488^{+2143}_{-859}	37706^{+98393}_{-21210}
Alt.	-232 ± 60	$2.55^{+1.49}_{-1.26}$	356^{+21}_{-15}	4676^{+1778}_{-750}	17773^{+58229}_{-11144}

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

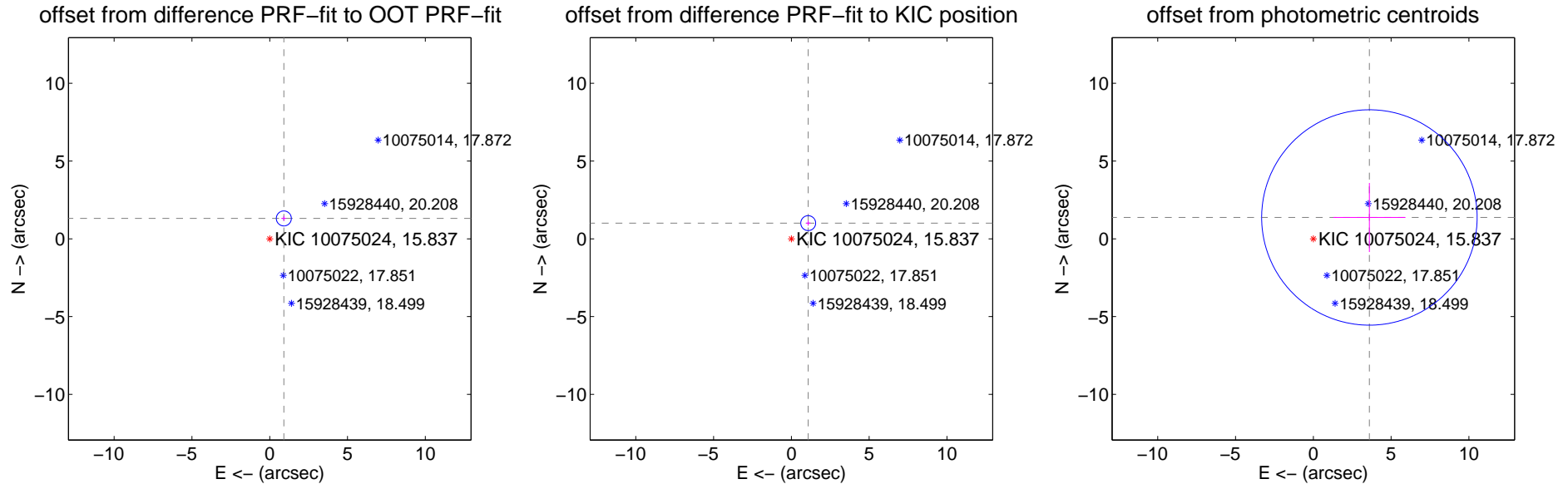
DV Centroid Data

Supplemental centroid analysis for 010075024-01. Kepler magnitude: 15.84. Transit SNR 7.22

There are 1 quarters with good PRF difference image offsets

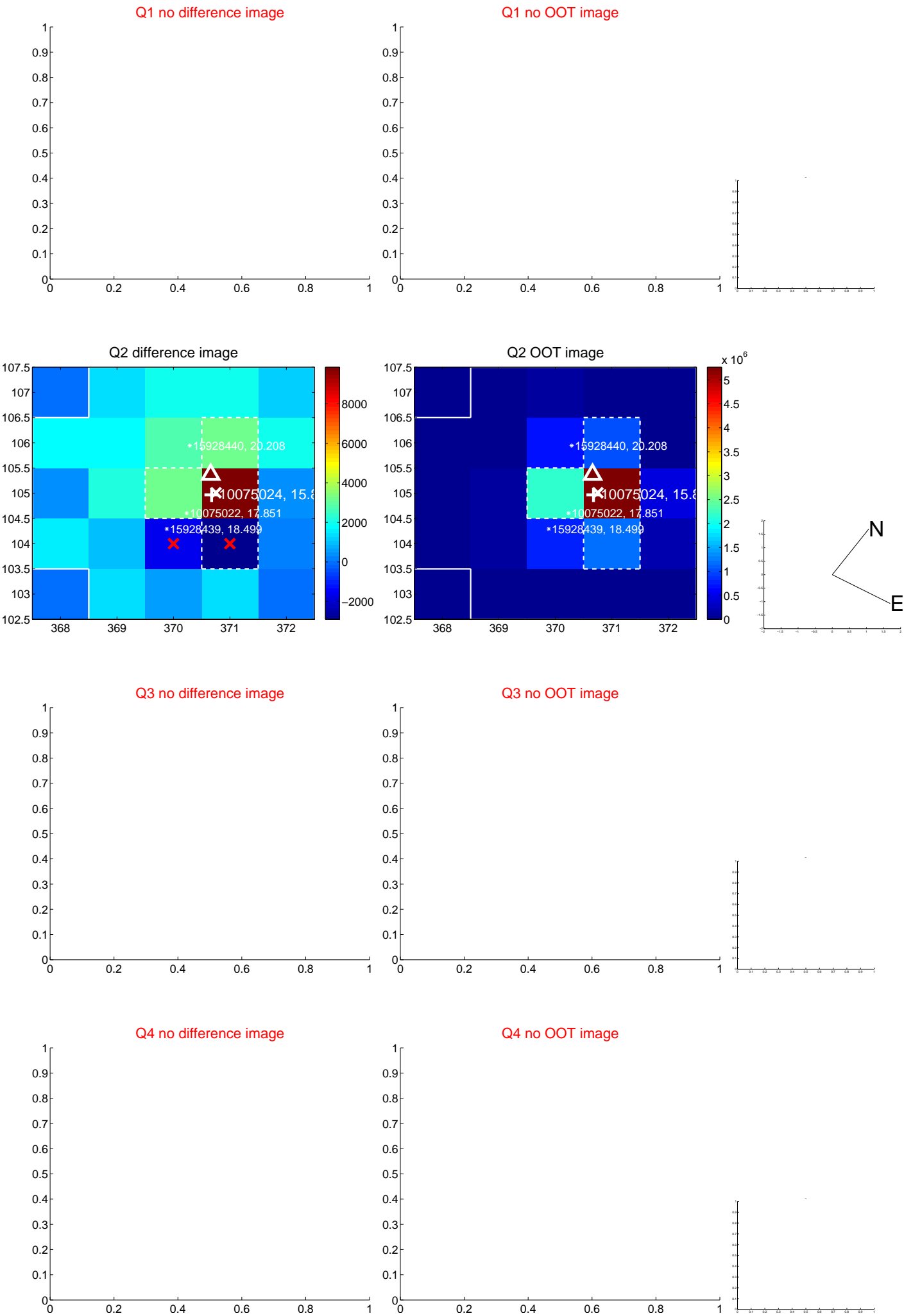
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.593 ± 0.161	9.90	-0.906 ± 0.156	1.310 ± 0.163
PRF-fit source offset from KIC position	1.479 ± 0.159	9.28	-1.081 ± 0.156	1.009 ± 0.163
photometric centroid source offset	3.86 ± 2.31	1.67	-3.60 ± 2.32	1.37 ± 2.22

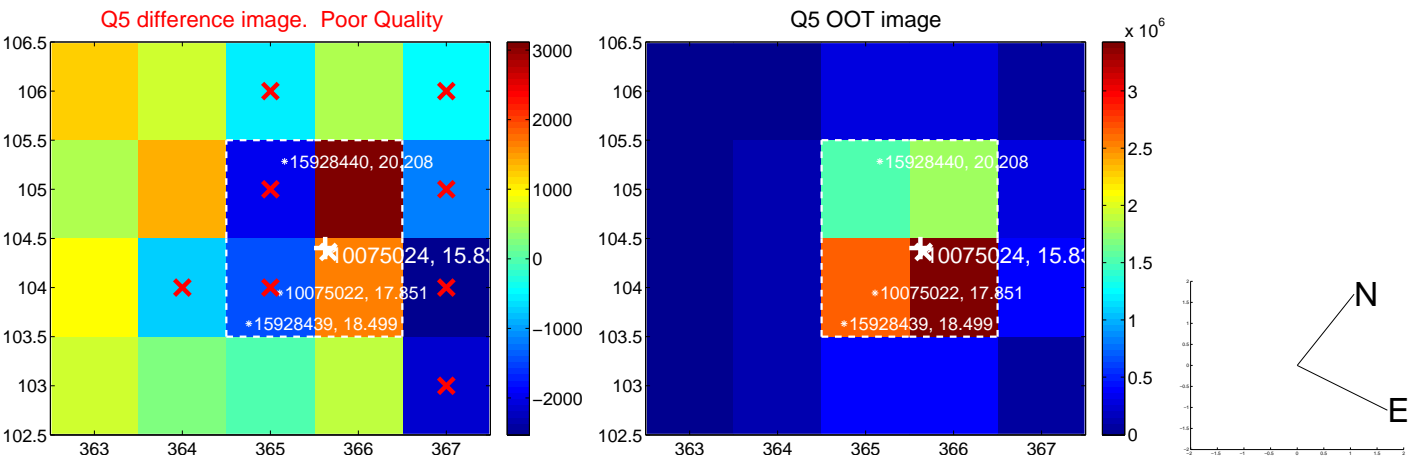


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



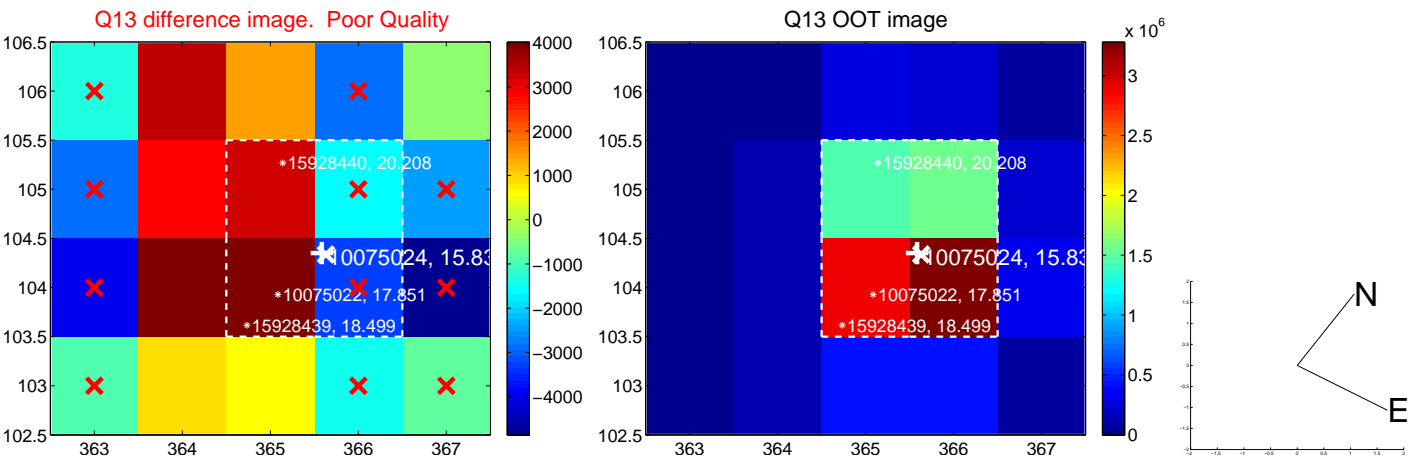
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



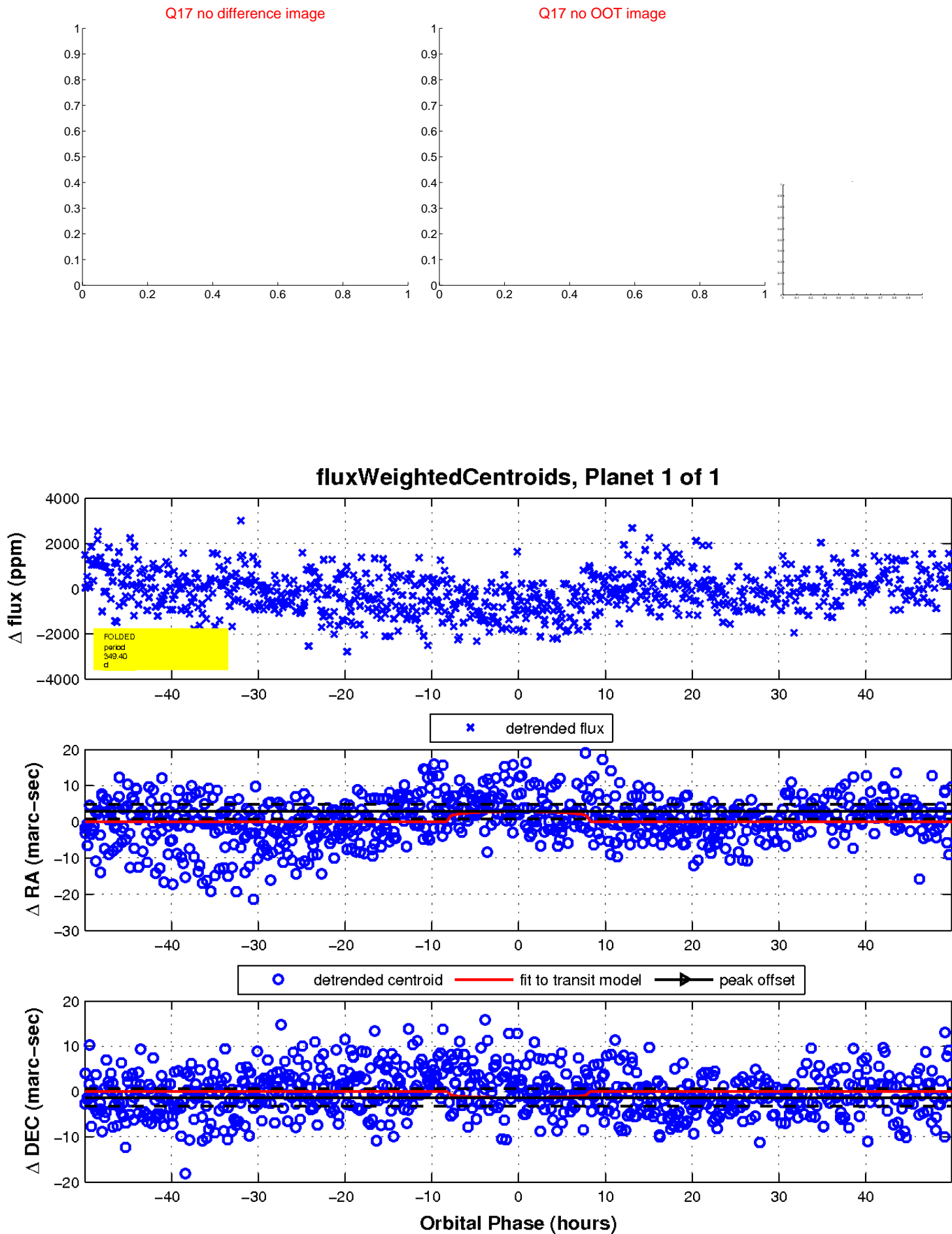
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

