

KIC 010081040

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})
010081040-01	OBS	No	288.936805	319.629702	1820.6	6.189	12.3	7.0	0.40	3606	1.70	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010081040-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

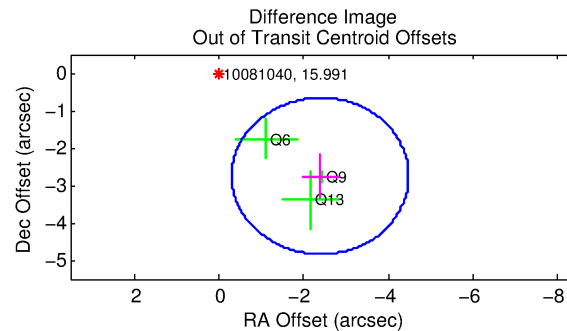
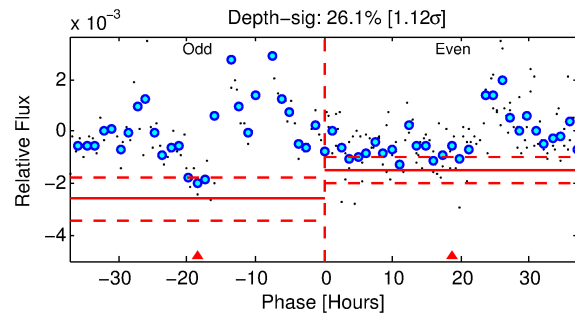
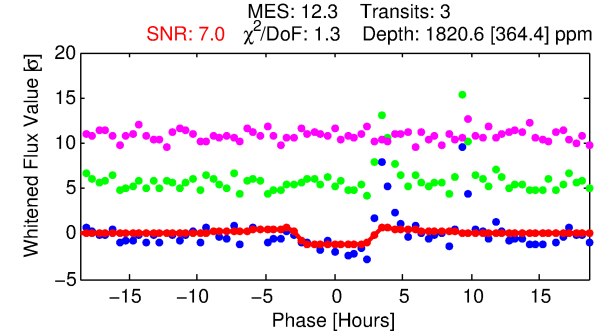
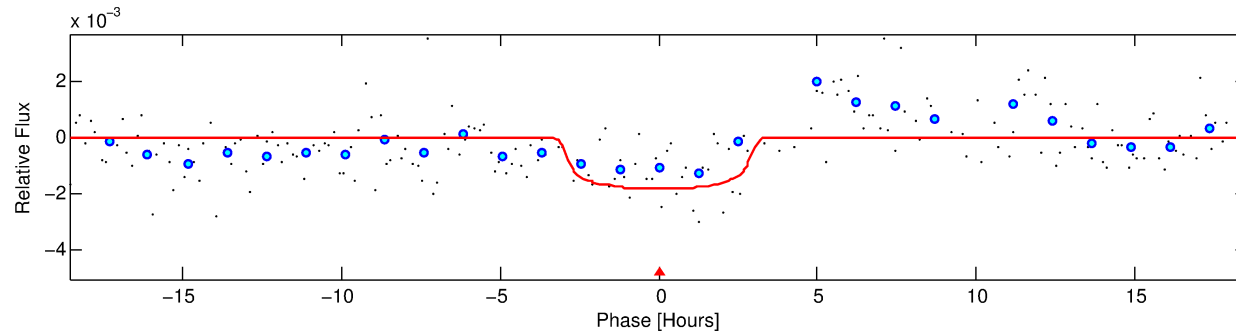
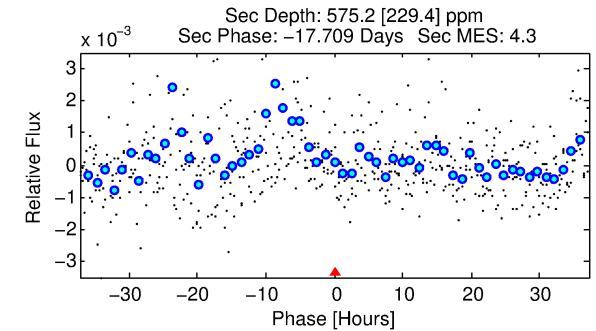
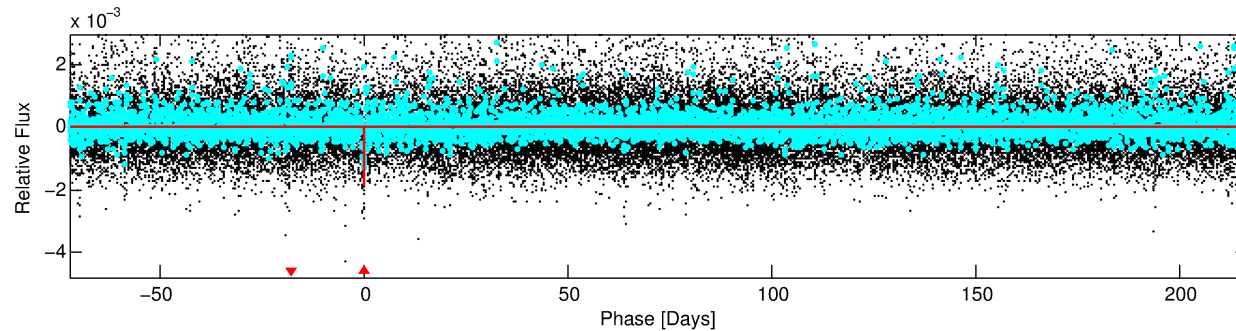
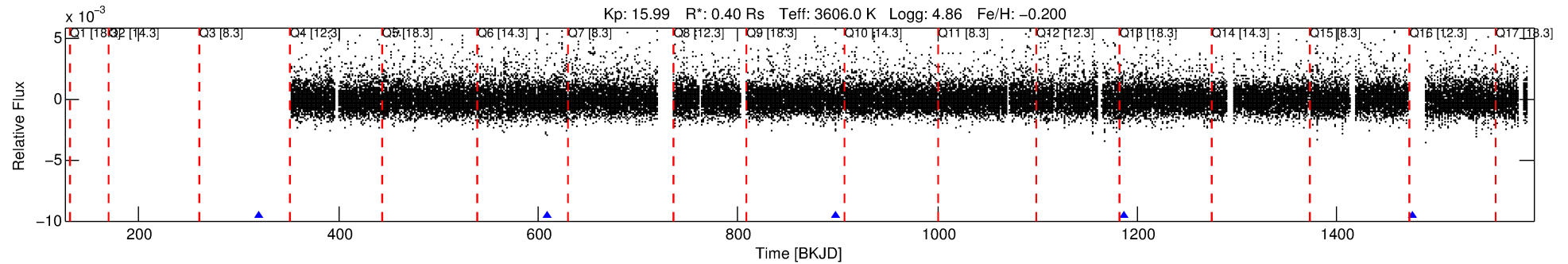
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010081040-01

No Significant Match Found

DV One-Page Summary

KIC: 10081040 Candidate: 1 of 1 Period: 288.937 d



DV Fit Results:

Period = 288.93680 [0.01017] d
Epoch = 319.6297 [0.0234] BKJD
Rp/R* = 0.0394 [0.0453]
a/R* = 345.09 [1807.45]
b = 0.38 [11.84]
Seff = 0.06 [0.01]
Teq = 125 [3] K
Rp = 1.70 [1.96] Re
a = 0.6363 [0.0419] AU
Ag = 44345.62 [103489.49] [0.43σ]
Teffp = 2812 [1640] K [1.64σ]

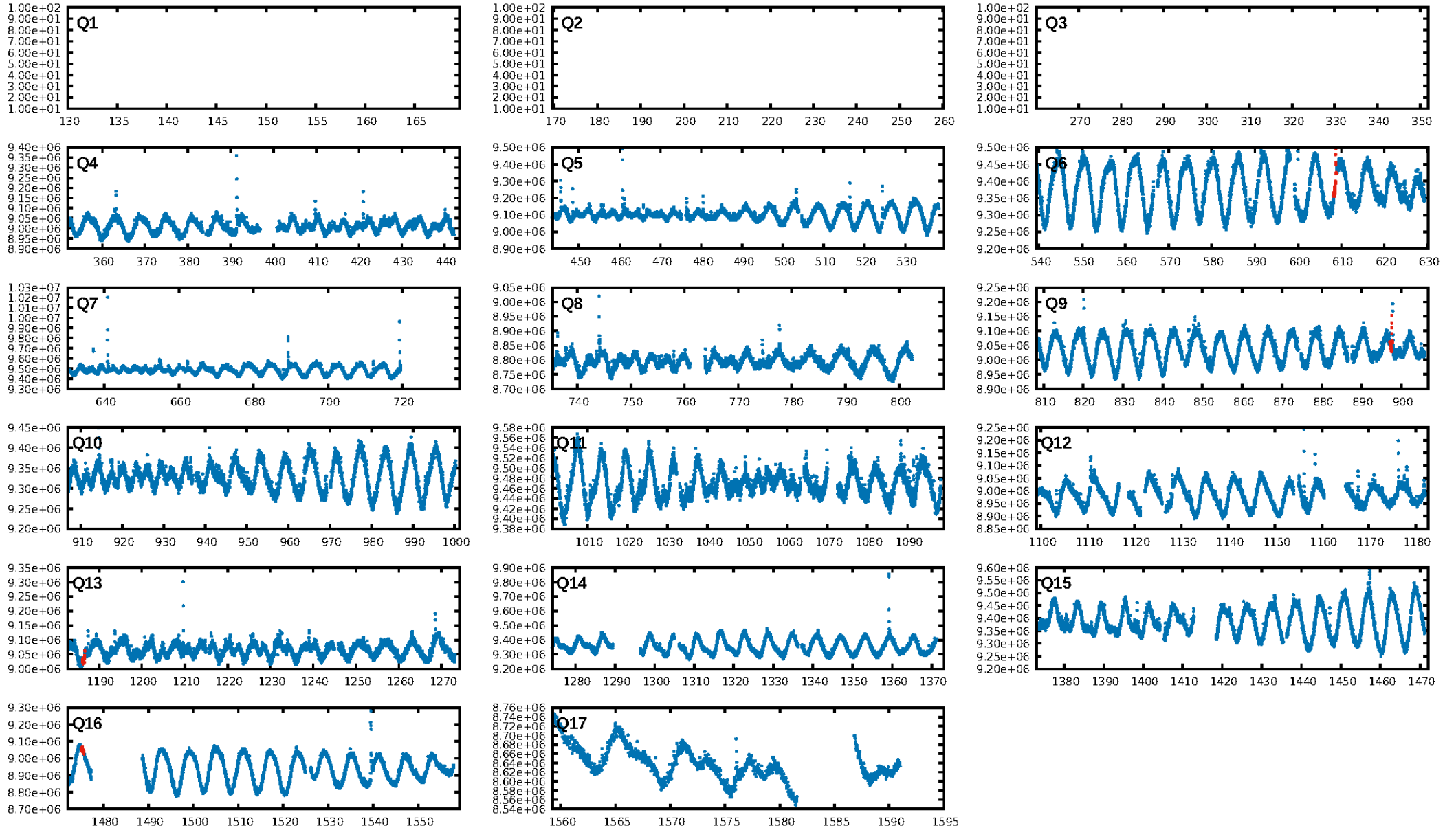
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 91.9%
Bootstrap-pfa: 8.03e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.3265
Centroid-sig: 1.3%
Centroid-so: 0.157 arcsec [0.13σ]
OotOffset-rm: 3.648 arcsec [5.24σ]
KicOffset-rm: 0.498 arcsec [1.53σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

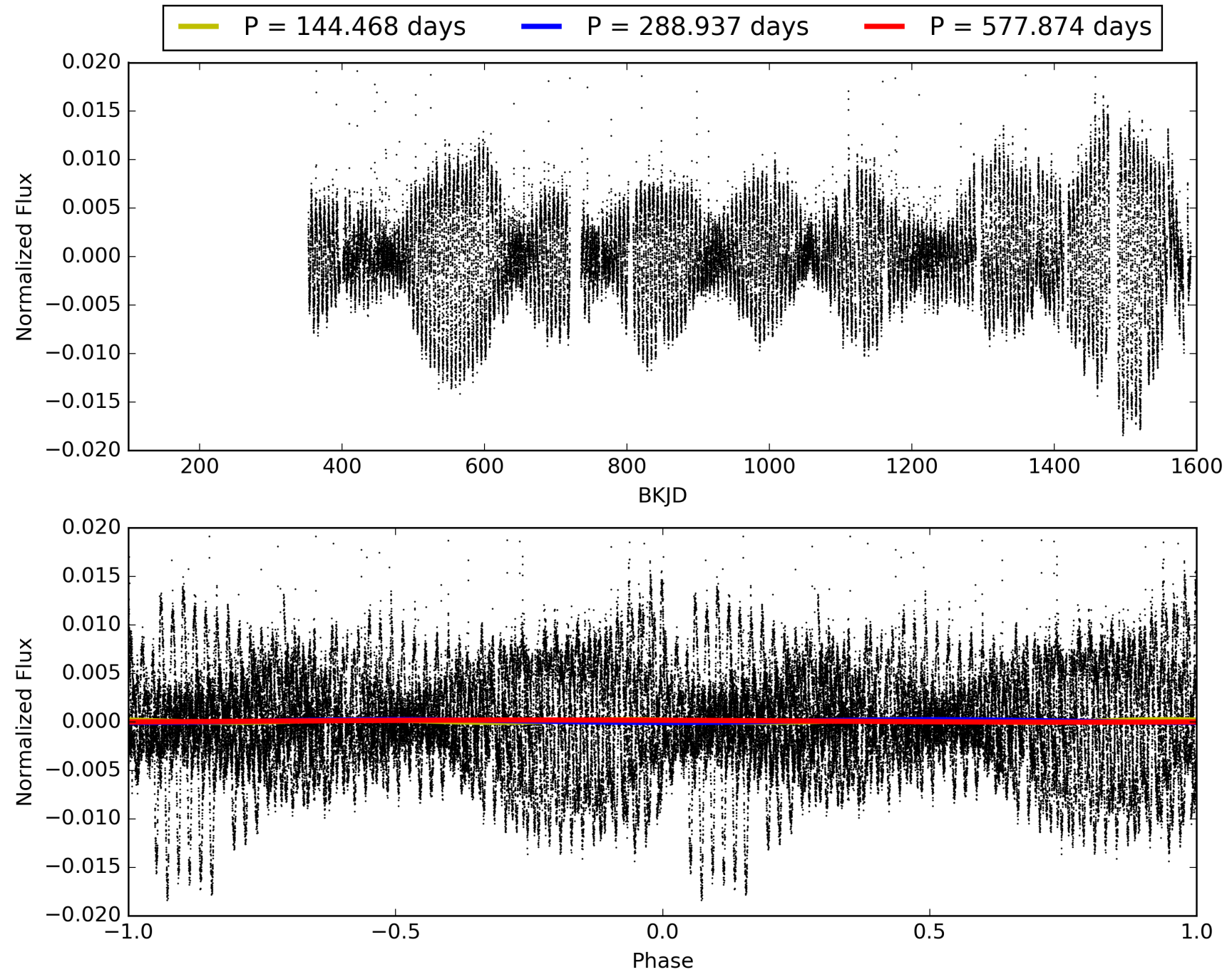
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:17:33 Z

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

TCE 010081040-01, PDC Light Curves

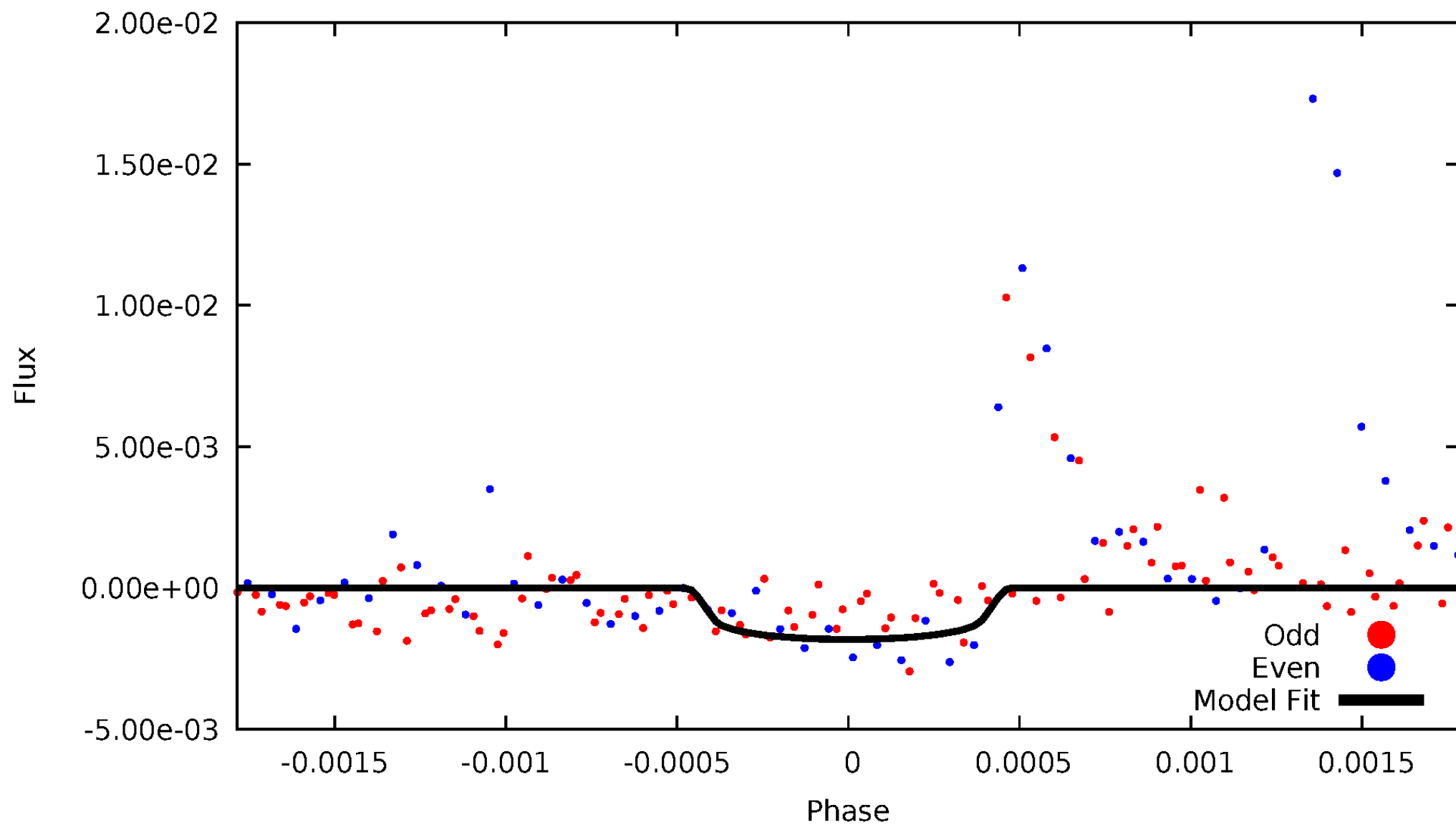


TCE 010081040-01



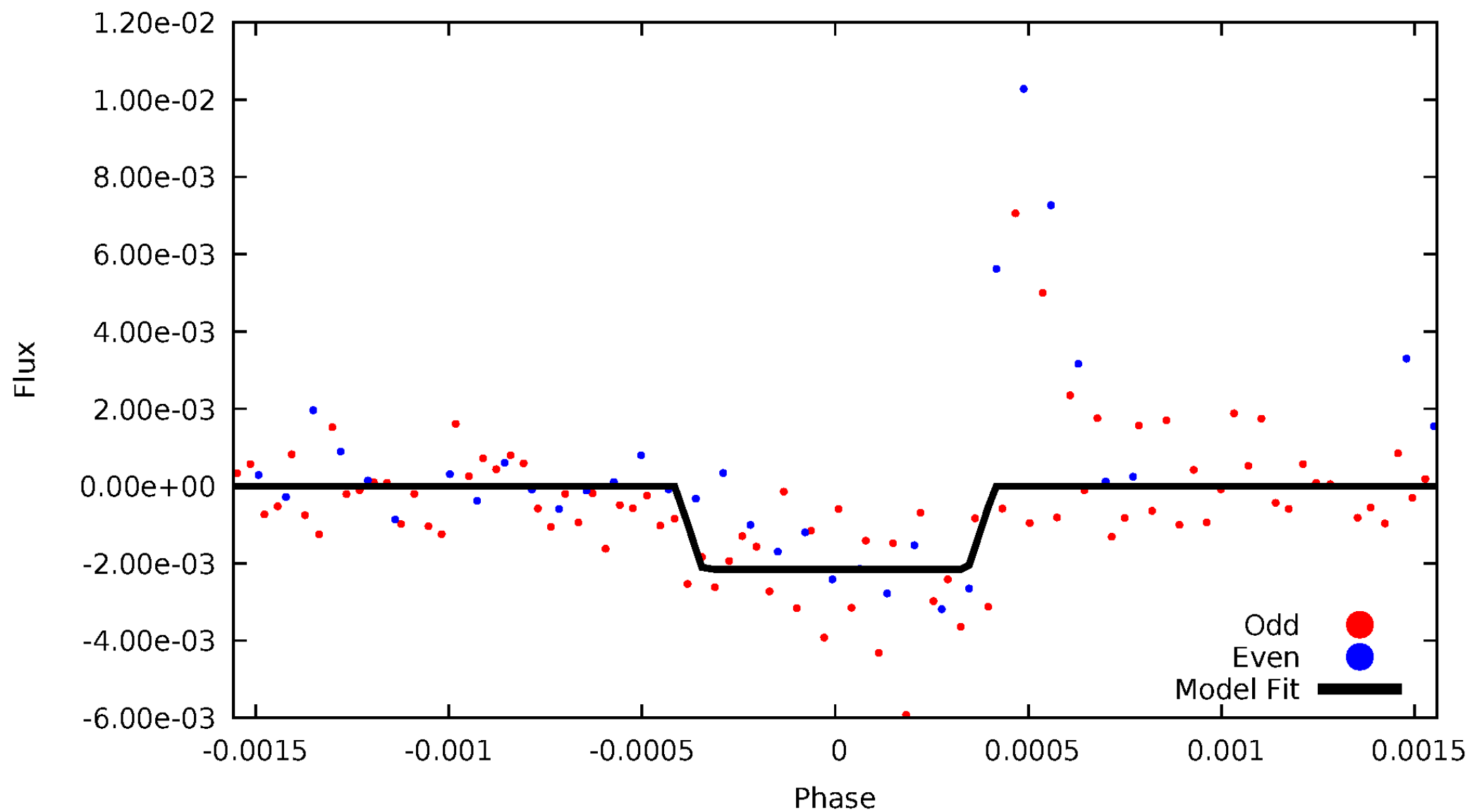
DV Odd/Even

TCE 010081040-01



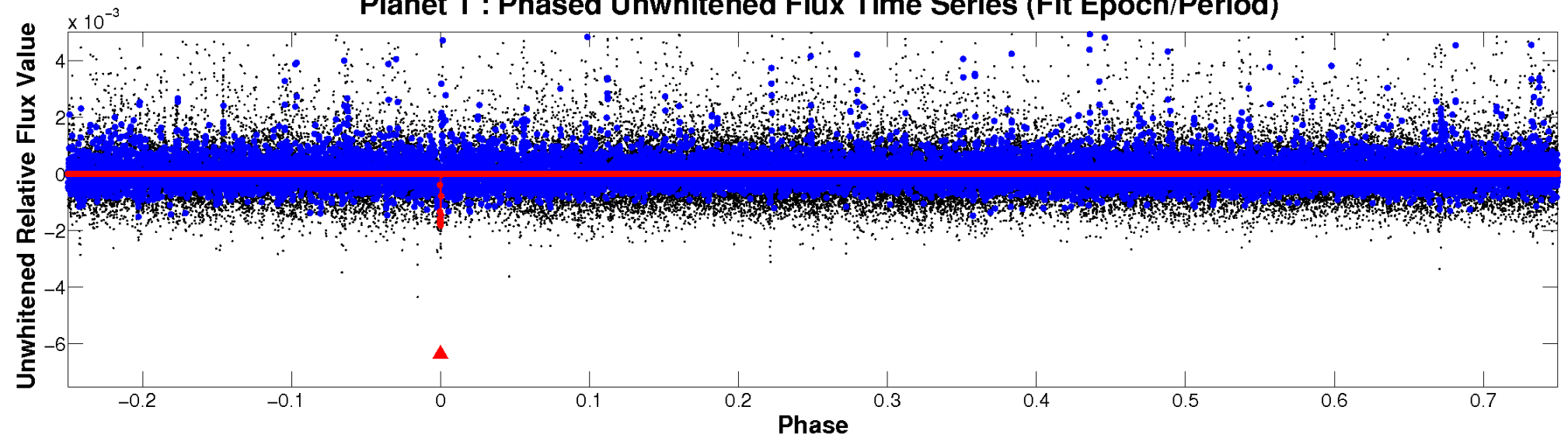
ALT Odd/Even

TCE 010081040-01

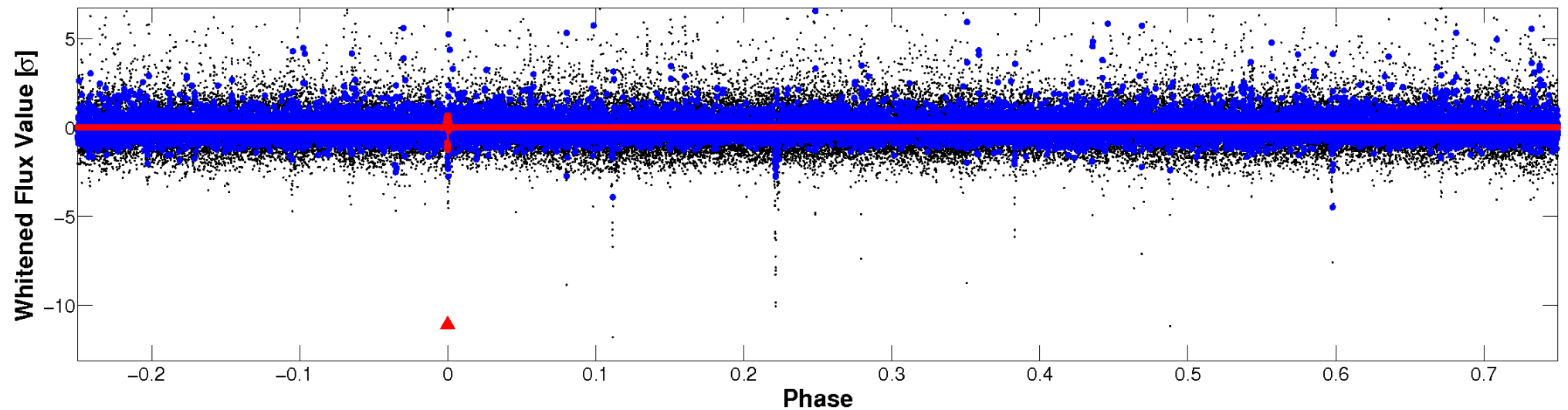


Non-Whitened Vs. Whitened Light Curve

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

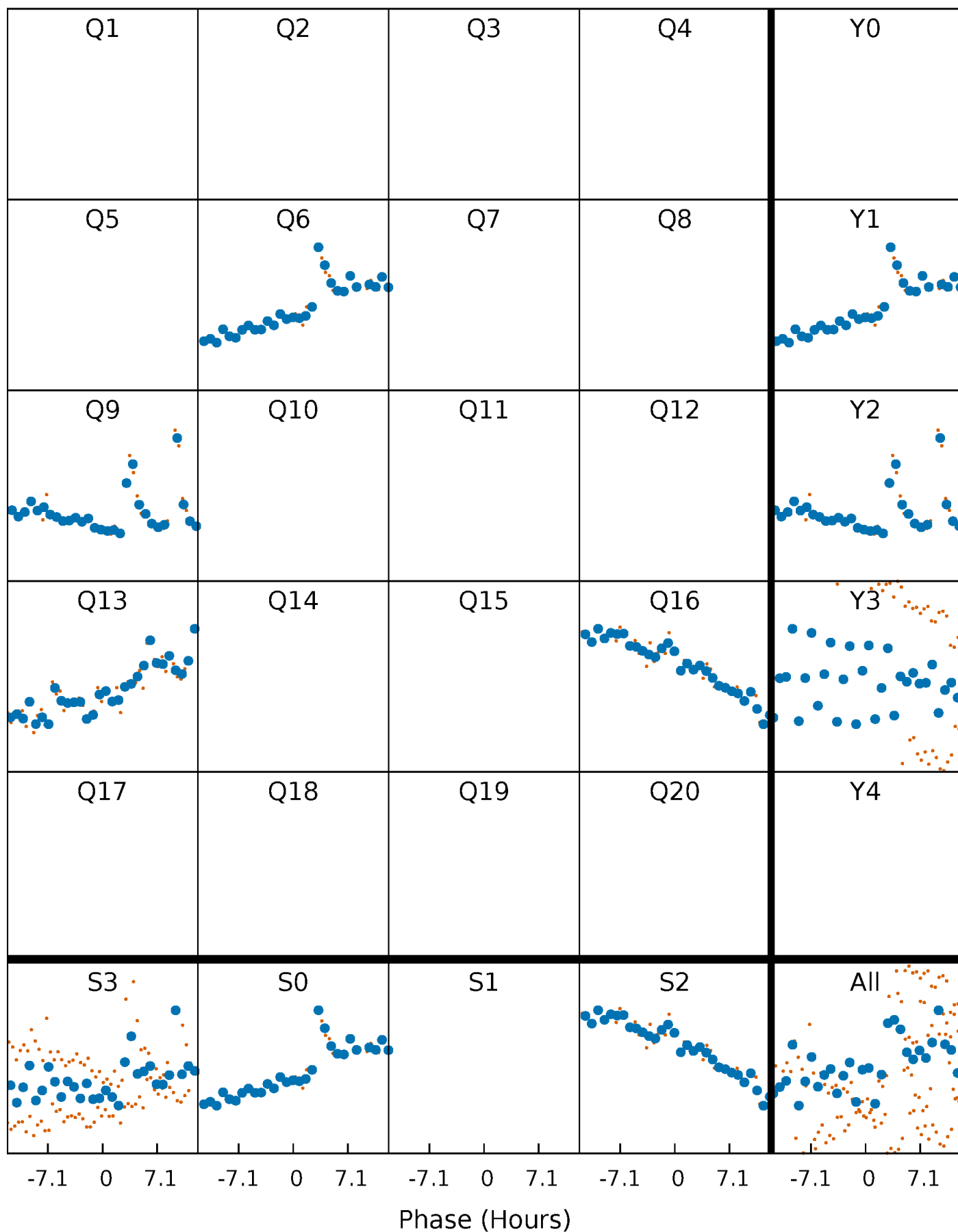


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



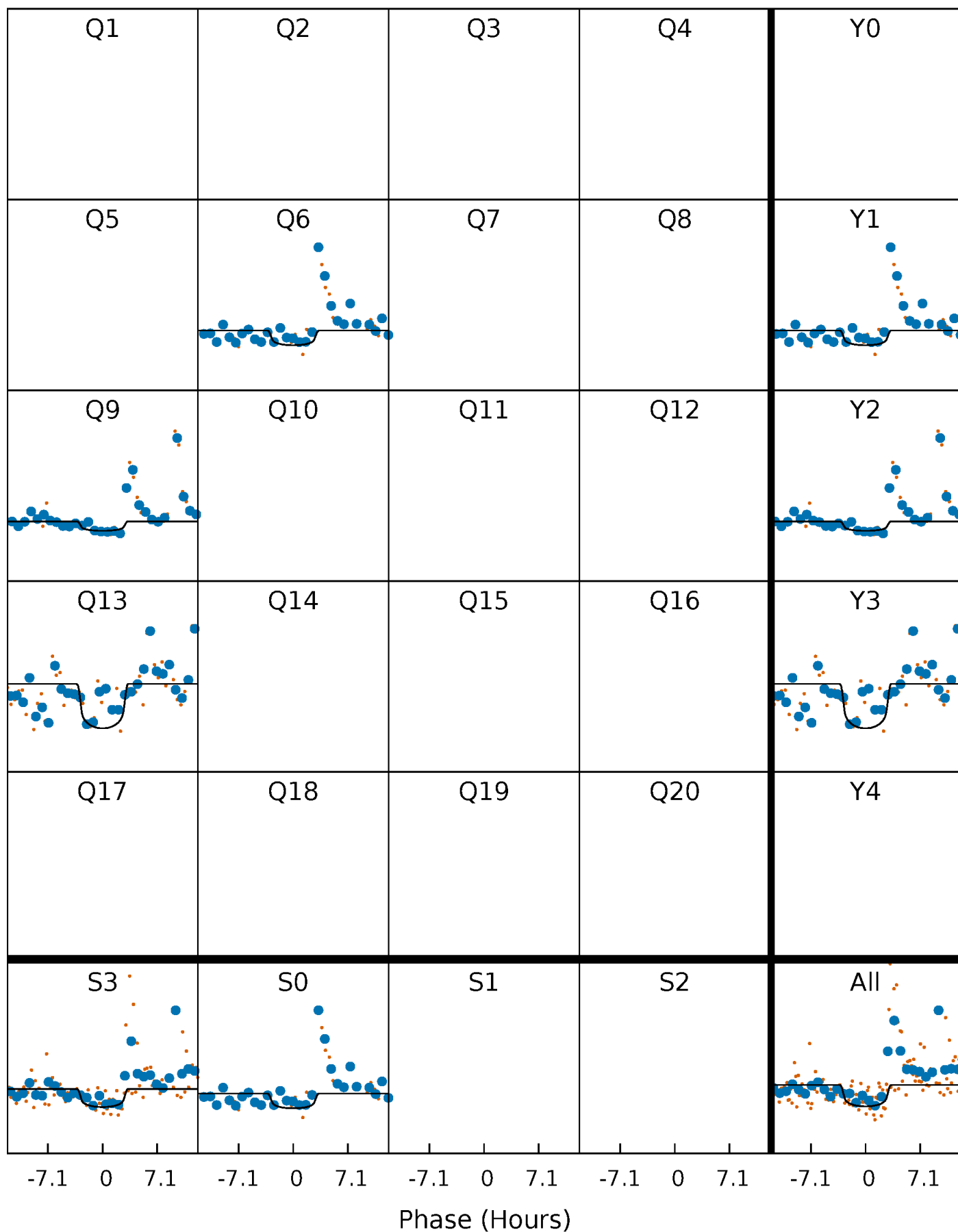
PDC Quarter-Phased Transit Curves

TCE 010081040-01 P=288.936805 Days $T_0=319.629702$ (BKJD)



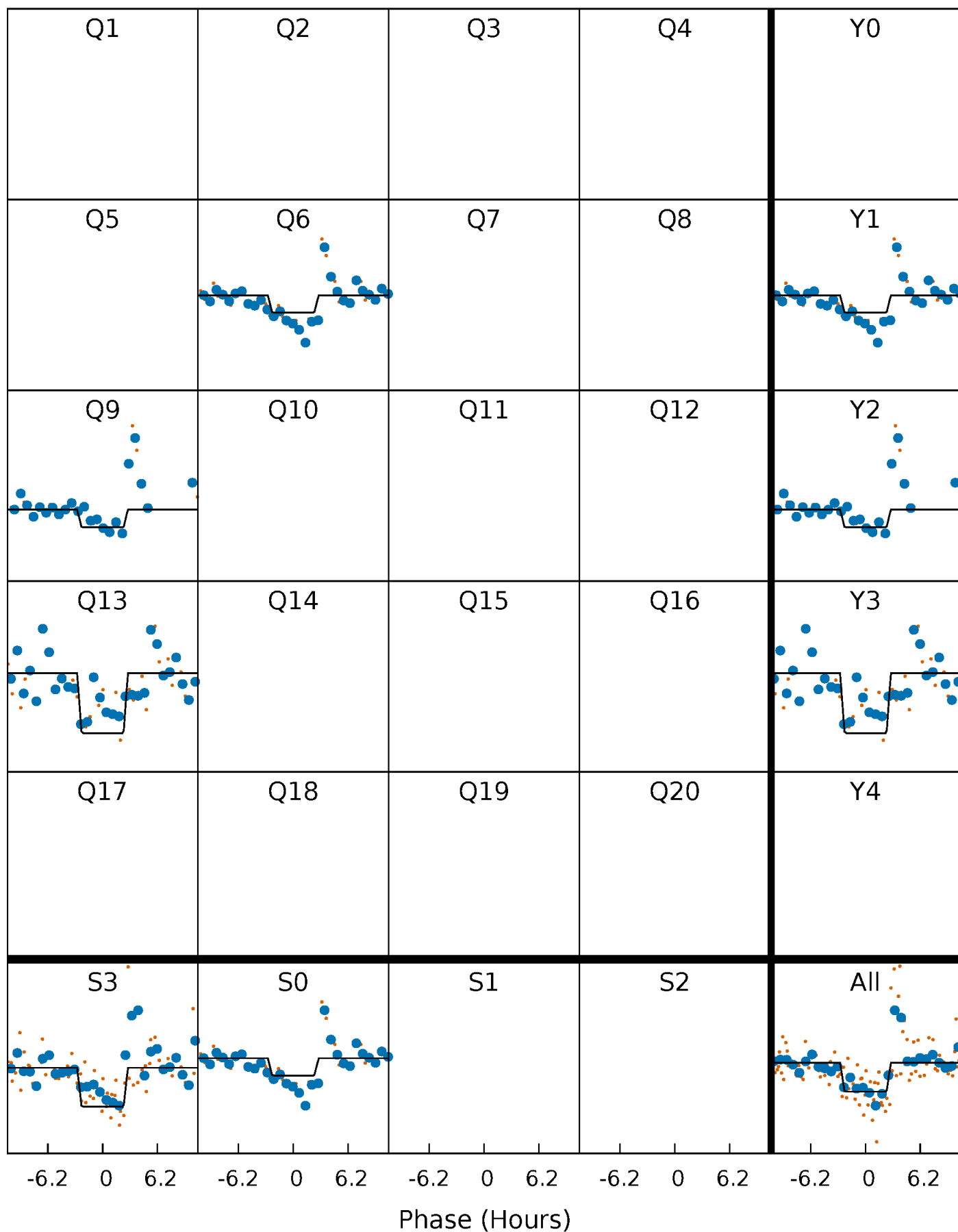
DV Quarter-Phased Transit Curves

TCE 010081040-01 P=288.936805 Days $T_0=319.629702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

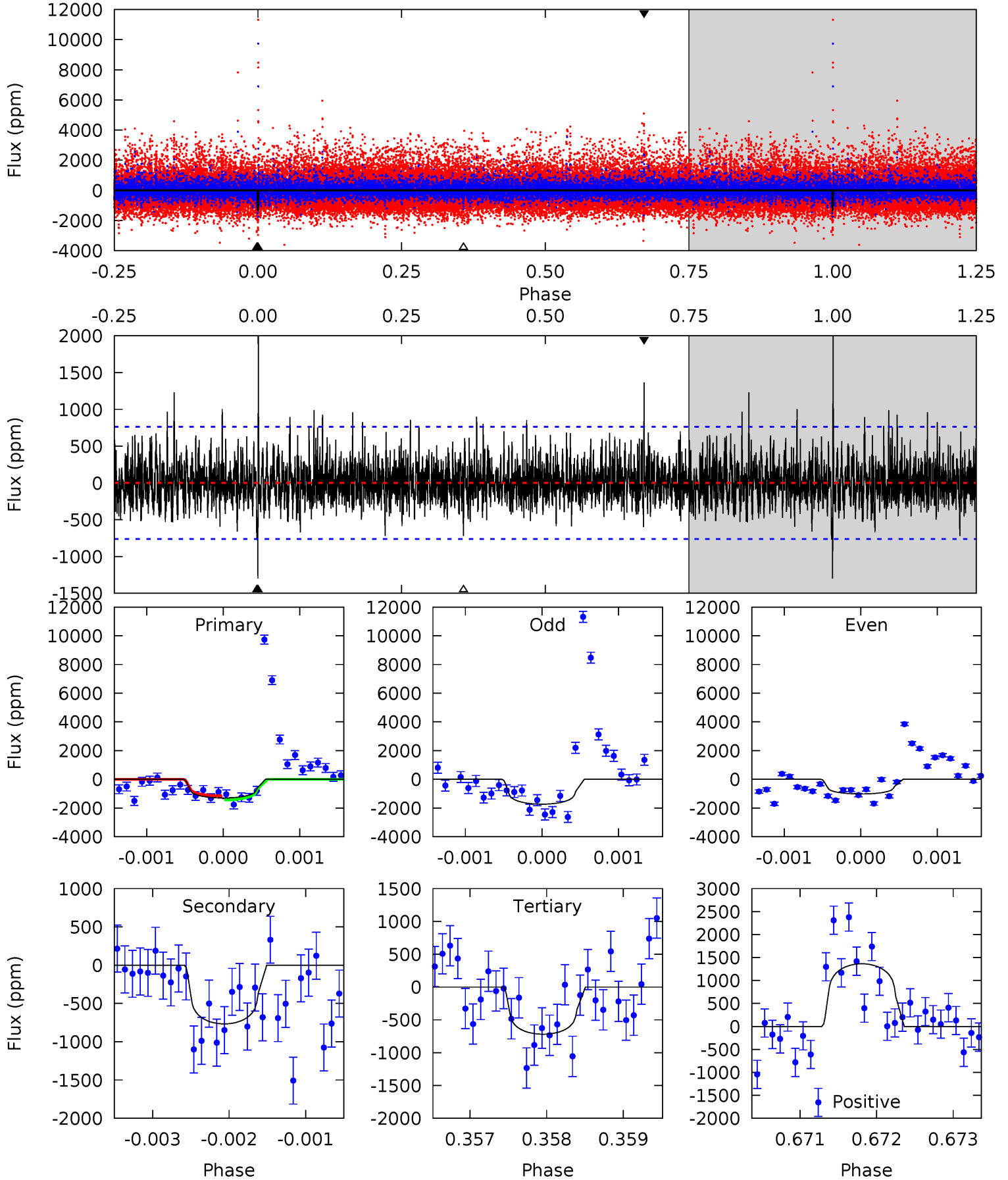
TCE 010081040-01 P=288.944161 Days $T_0=319.620851$ (BKJD)



DV Model-Shift Uniqueness Test

010081040-01, P = 288.936805 Days, E = 319.629702 Days

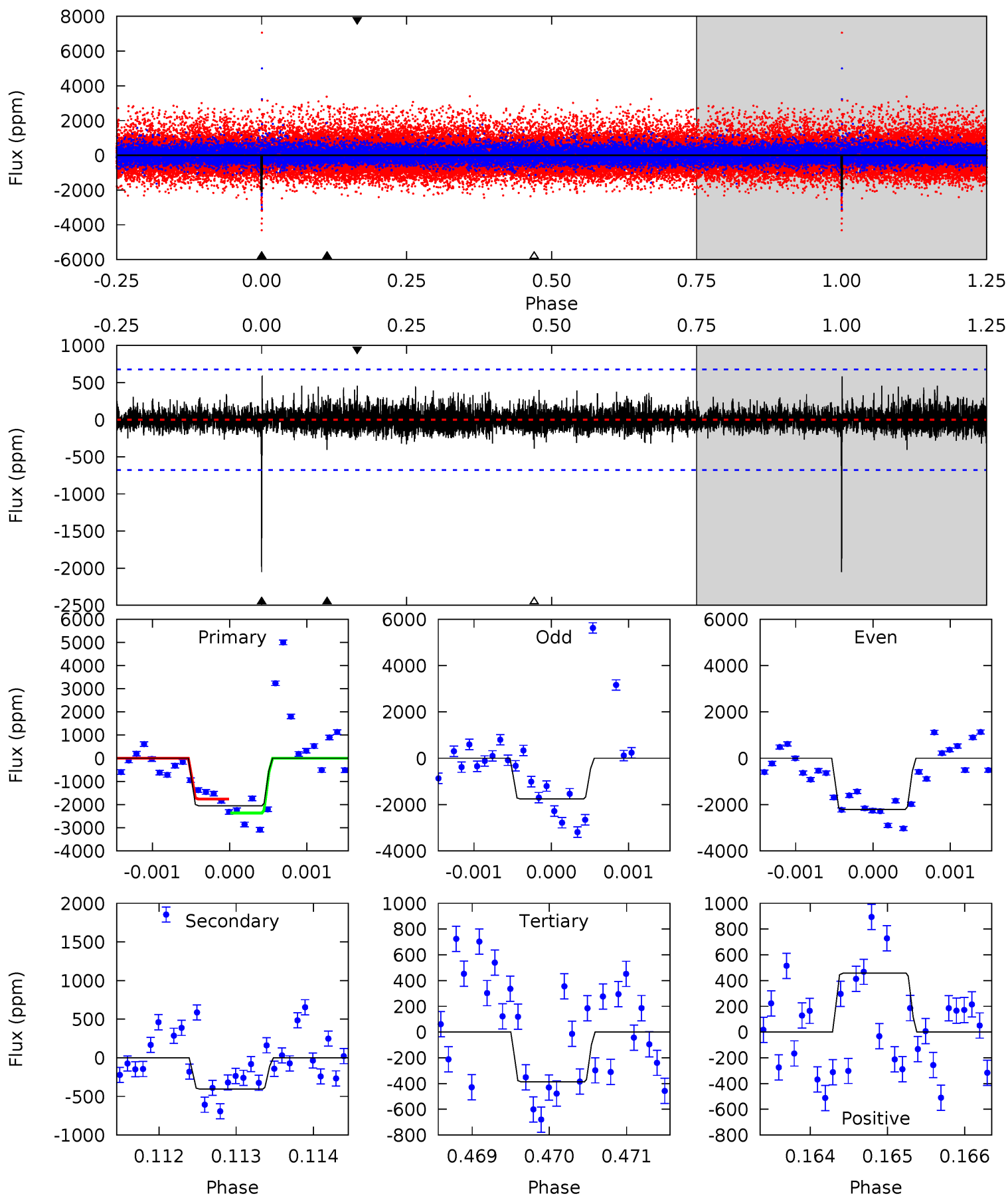
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.32	5.50	5.15	9.78	5.47	3.31	1.64	4.17	-0.46	0.35	-4.28	2.29	1.22	0.60	1.04



Alt Model-Shift Uniqueness Test

010081040-01, P = 288.944161 Days, E = 319.620851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.28	3.14	3.70	5.50	3.36	0.81	13.5	12.9	0.14	-0.43	1.74	1.24	0.22	2.44



Stellar Parameters For KIC 010081040

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3606^{+48}_{-54}	$4.859^{+0.038}_{-0.031}$	$-0.200^{+0.100}_{-0.100}$	$0.395^{+0.029}_{-0.035}$	$0.413^{+0.034}_{-0.037}$	$9.421^{+1.839}_{-1.280}$
	+1%/-1%	+1%/-1%	+50%/-50%	+7%/-9%	+8%/-9%	+20%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010081040-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-767 ± 139	$2.17^{+1.69}_{-1.41}$	175^{+4}_{-4}	3005^{+1242}_{-430}	$35742^{+274275}_{-24560}$
Alt.	-404 ± 123	$2.49^{+1.82}_{-1.52}$	175^{+4}_{-4}	2672^{+772}_{-382}	14794^{+72000}_{-10485}

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

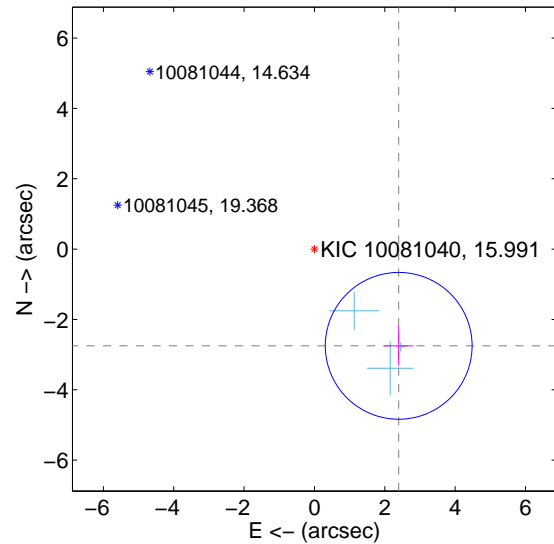
Supplemental centroid analysis for 010081040-01. Kepler magnitude: 15.99. Transit SNR 7.04

There are 3 quarters with good PRF difference image offsets

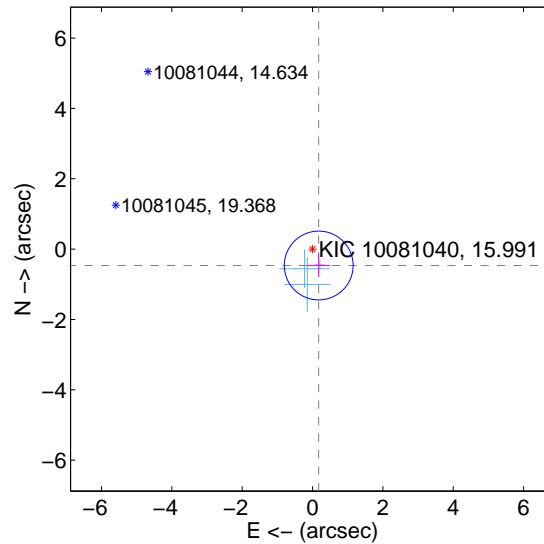
The OOT PRF centroid is offset from the target star catalog position by about 3.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.648 ± 0.696	5.24	-2.396 ± 0.424	-2.751 ± 0.565
PRF-fit source offset from KIC position	0.498 ± 0.326	1.53	-0.176 ± 0.332	-0.466 ± 0.325
photometric centroid source offset	0.16 ± 1.18	0.13	-0.07 ± 1.01	0.14 ± 1.22

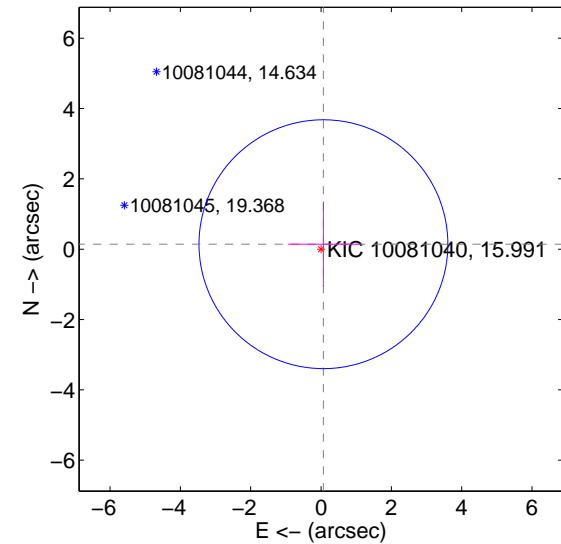
offset from difference PRF-fit to OOT PRF-fit



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.

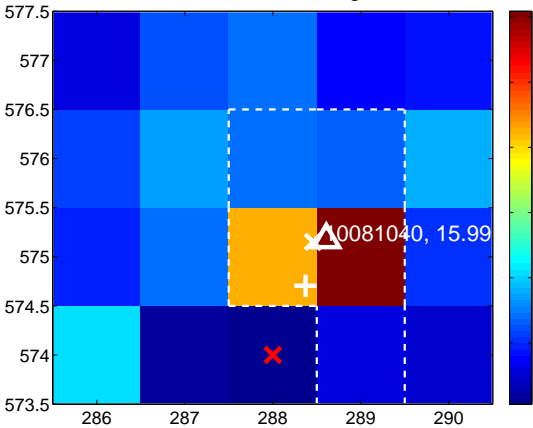
Q5 no difference image



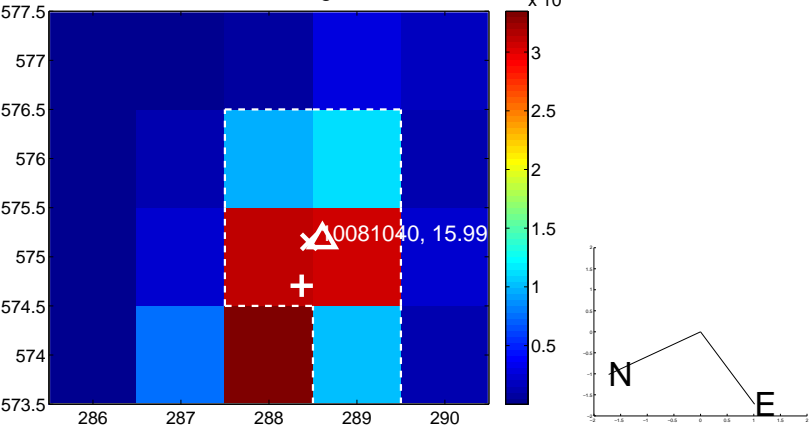
Q5 no OOT image



Q6 difference image



Q6 OOT image



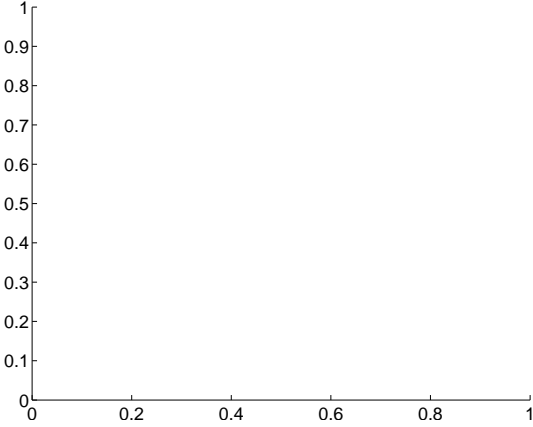
Q7 no difference image



Q7 no OOT image



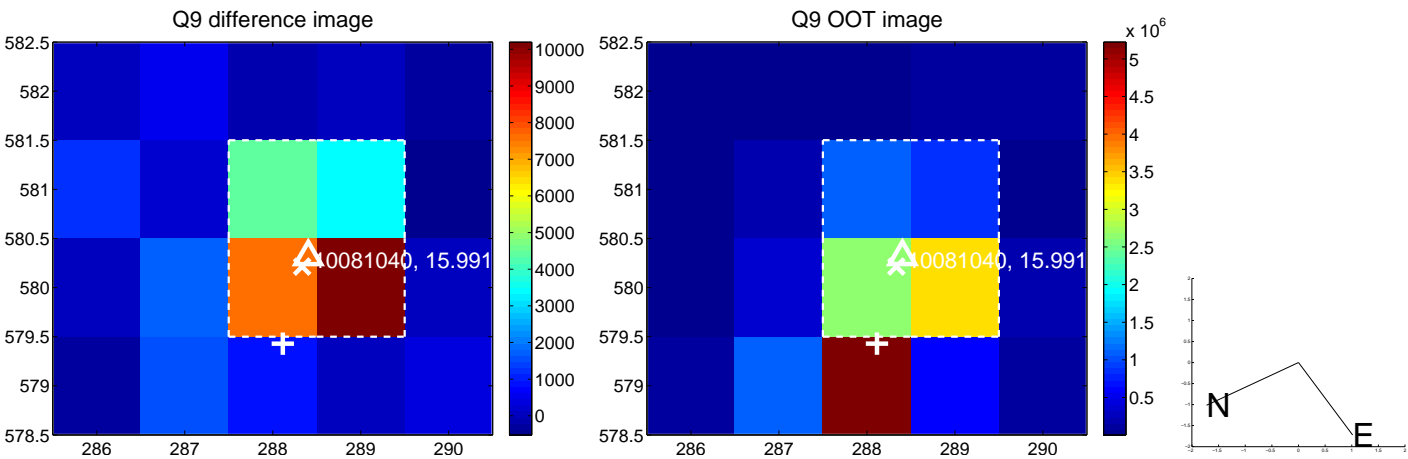
Q8 no difference image



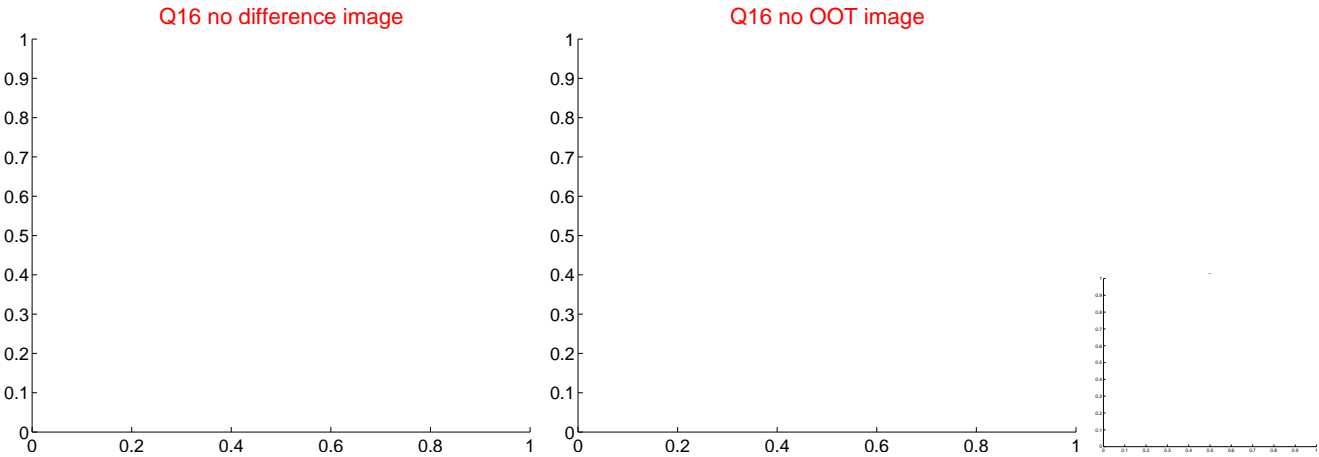
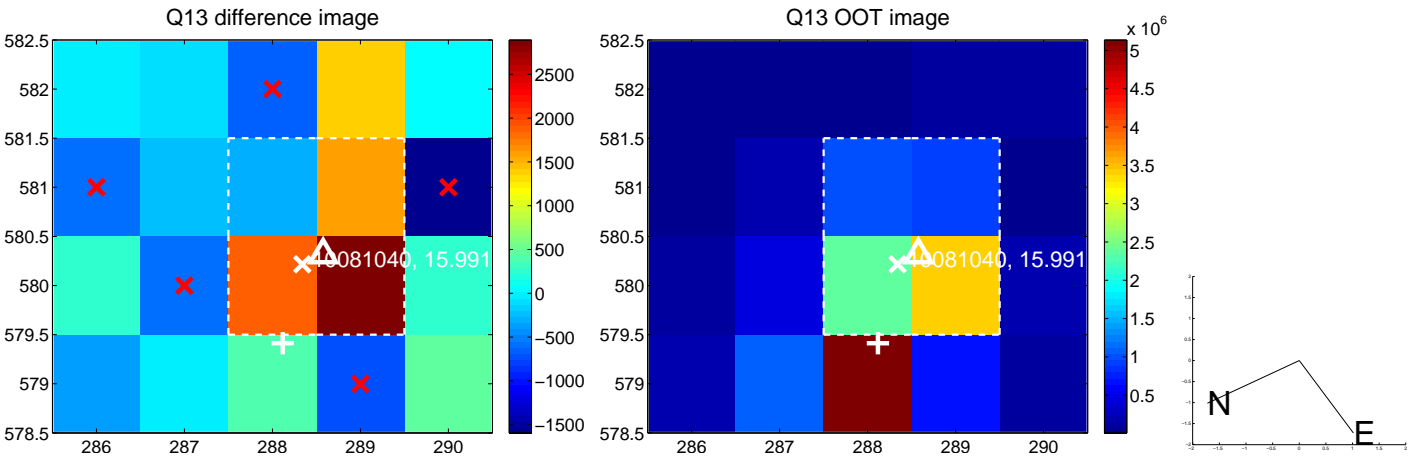
Q8 no OOT image



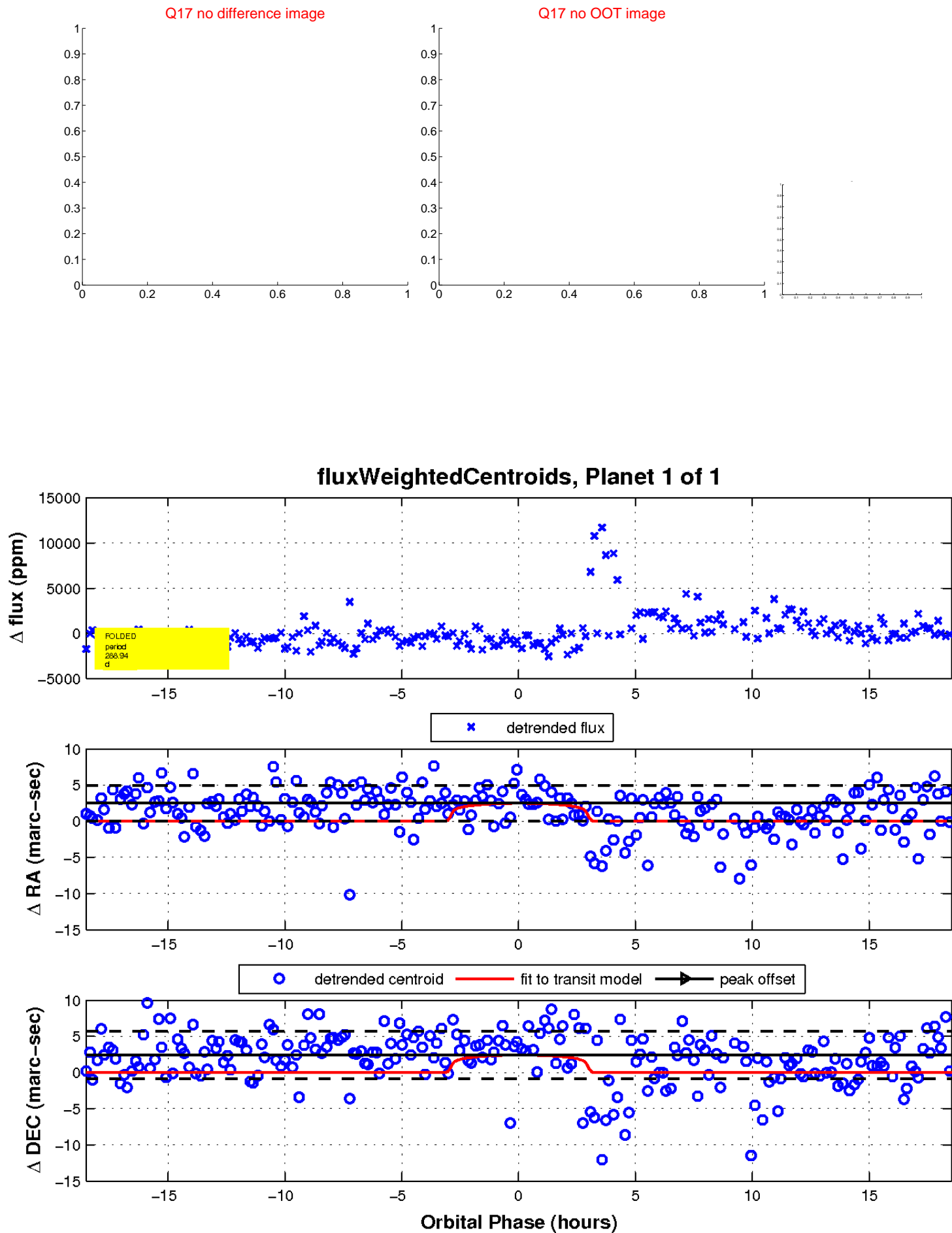
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

