

KIC 007971459

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})
007971459-01	OBS	No	626.665893	238.519904	688.5	19.168	11.8	11.3	1.06	6321	2.87	0.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007971459-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

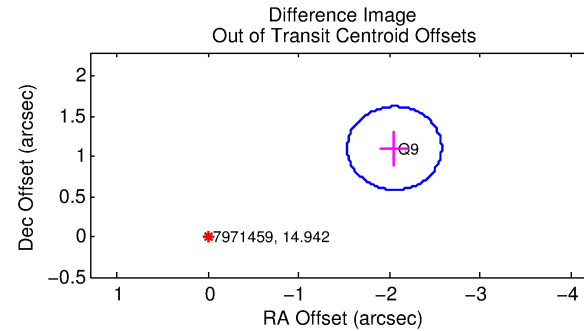
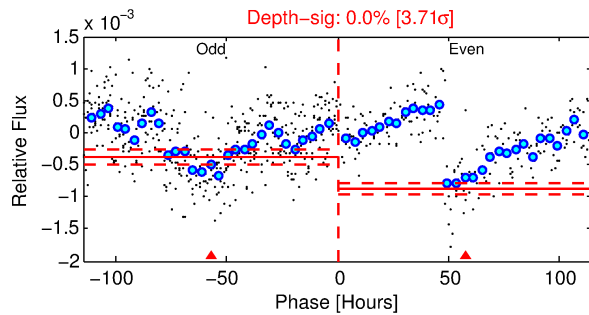
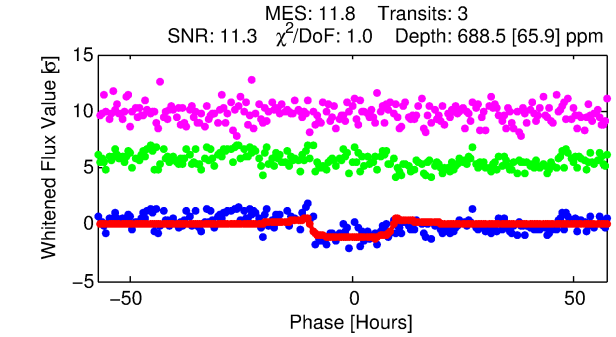
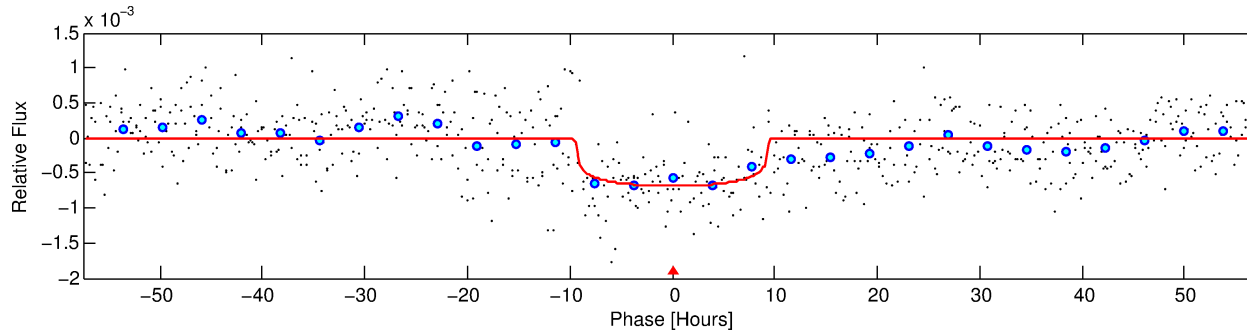
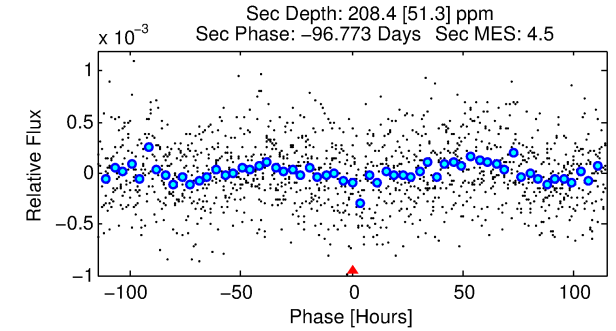
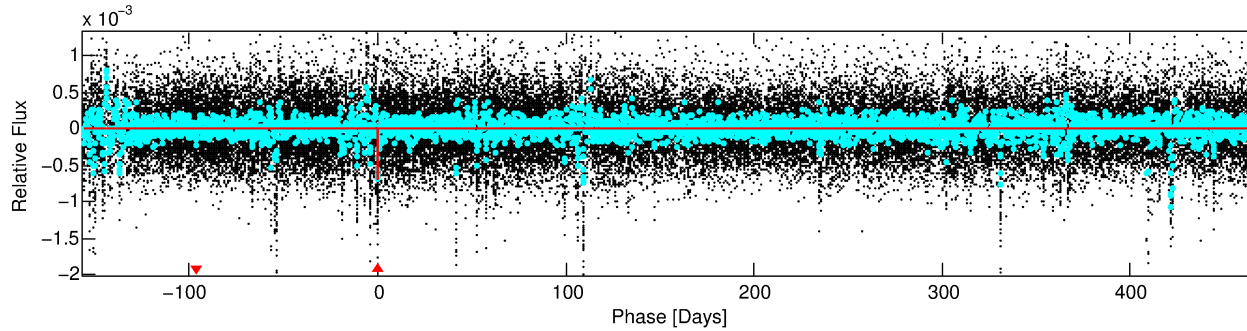
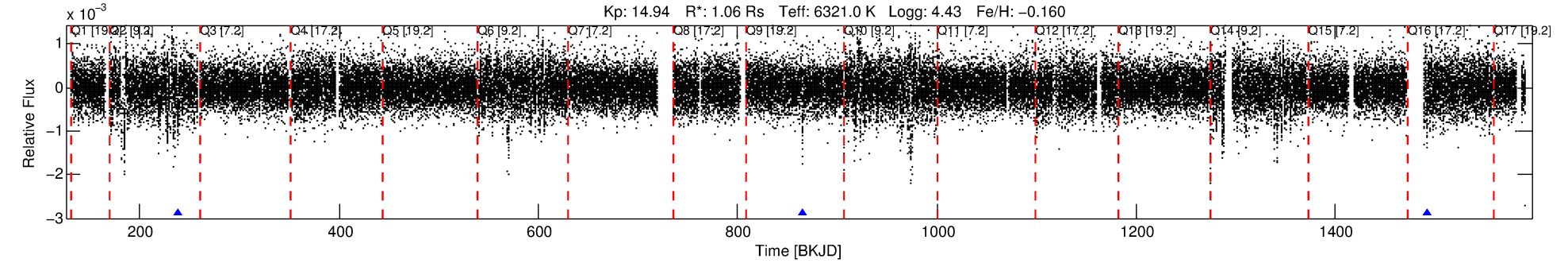
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007971459-01

No Significant Match Found

DV One-Page Summary

KIC: 7971459 Candidate: 1 of 1 Period: 626.666 d



DV Fit Results:

Period = 626.66589 [0.01322] d
Epoch = 238.5199 [0.0161] BKJD
Rp/R* = 0.0248 [0.0061]
a/R* = 221.85 [273.30]
b = 0.51 [1.79]
Seff = 0.73 [0.28]
Teq = 235 [23] K
Rp = 2.86 [1.12] Re
a = 1.4838 [0.3726] AU
Ag = 30756.45 [20201.70] [1.52σ]
Teffp = 4821 [683] K [6.71σ]

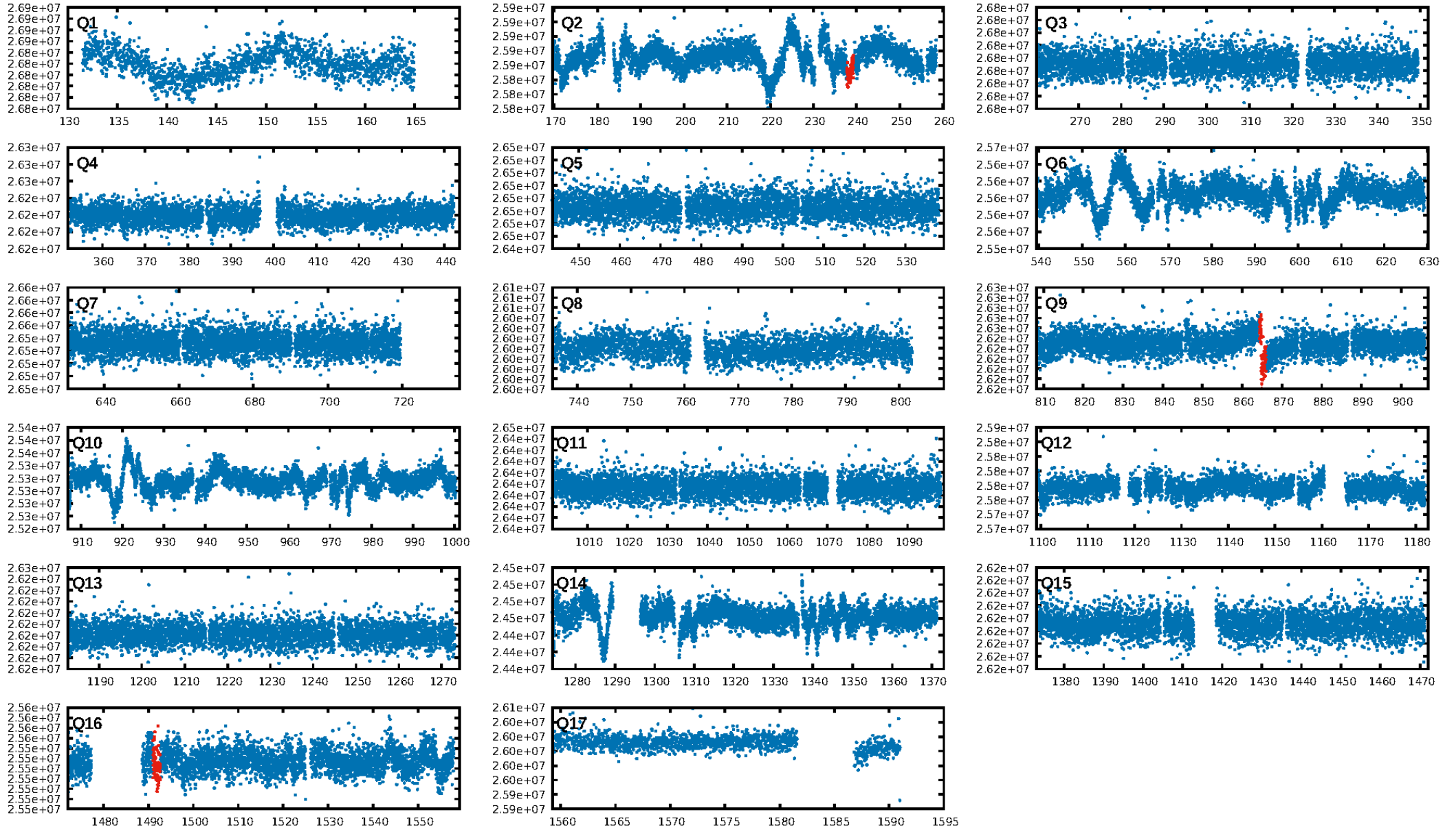
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.16e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.324
Centroid-sig: 0.3%
Centroid-so: 2.729 arcsec [2.25σ]
OotOffset-rm: 2.331 arcsec [13.46σ]
KicOffset-rm: 2.392 arcsec [14.02σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

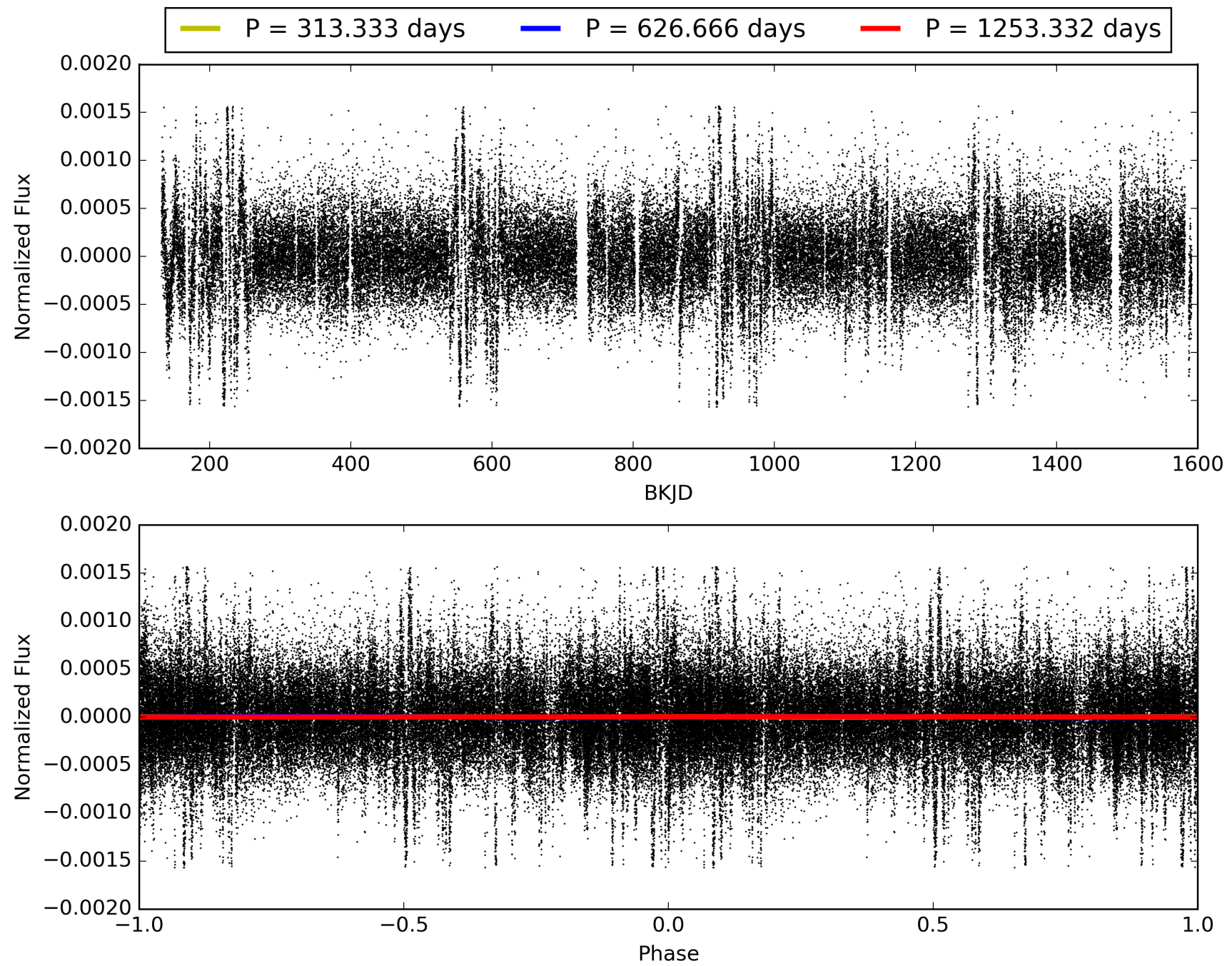
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:25:40 Z

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

TCE 007971459-01, PDC Light Curves

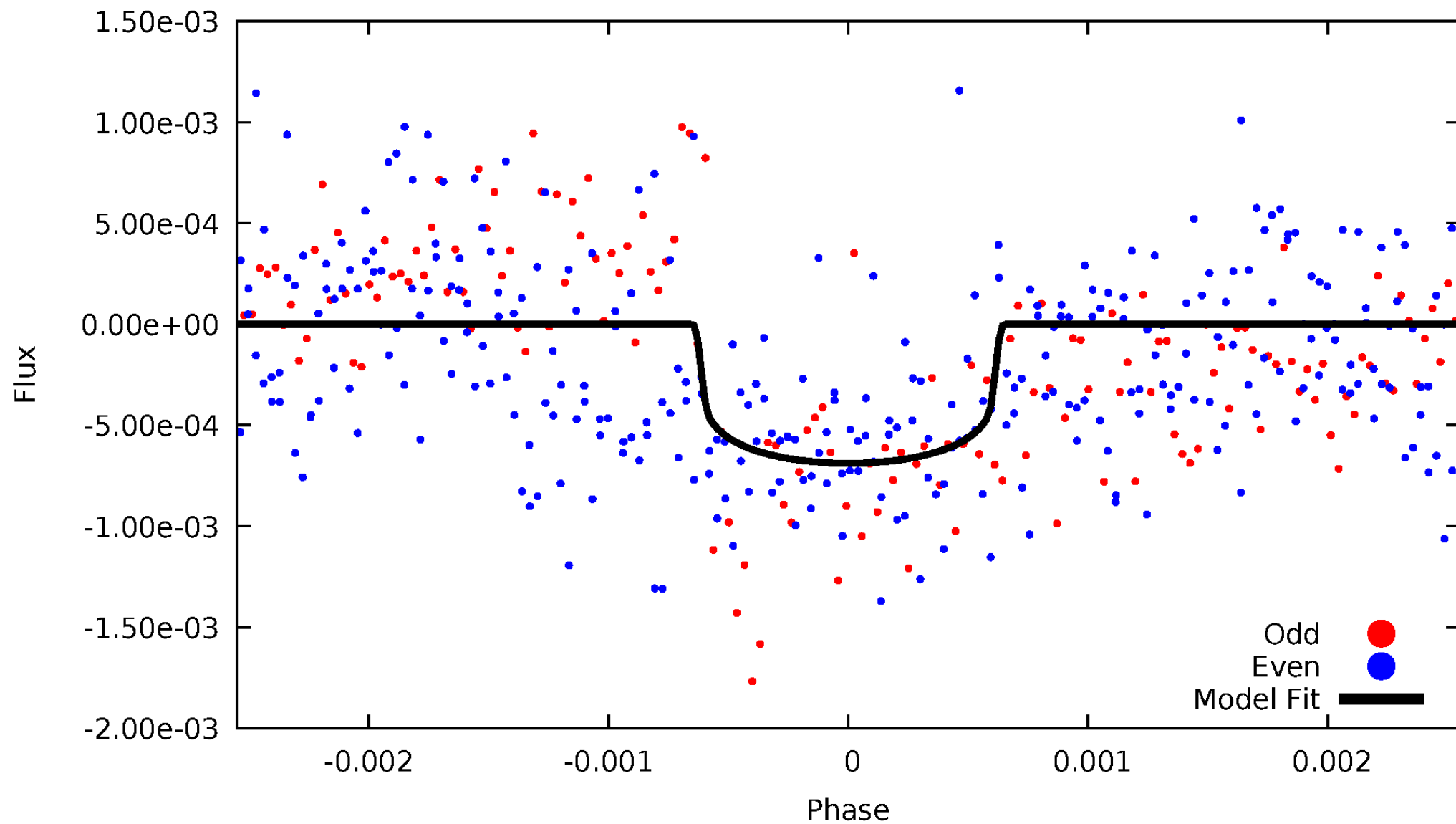


TCE 007971459-01



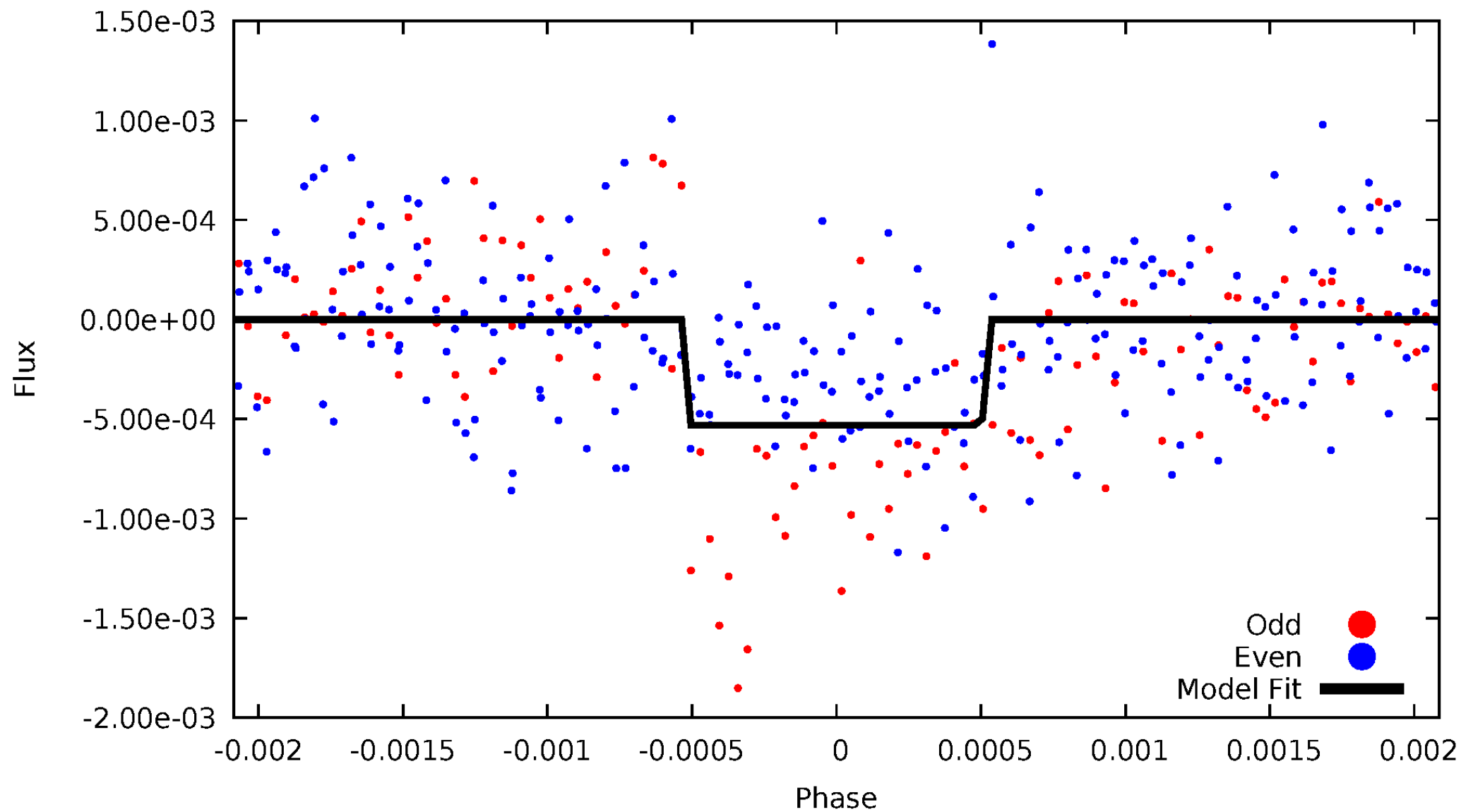
DV Odd/Even

TCE 007971459-01



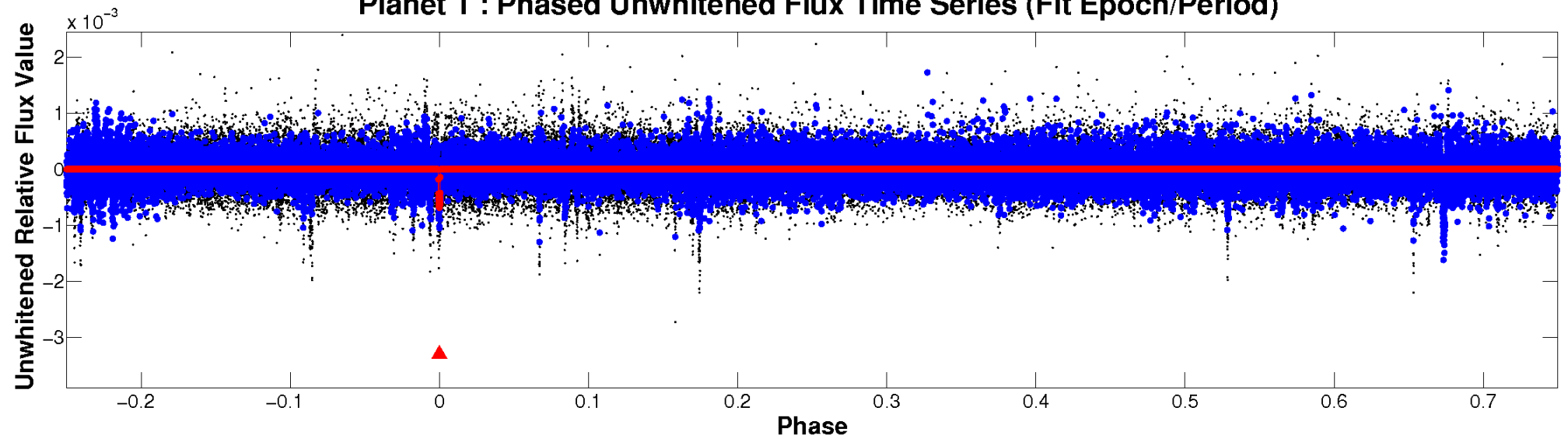
ALT Odd/Even

TCE 007971459-01

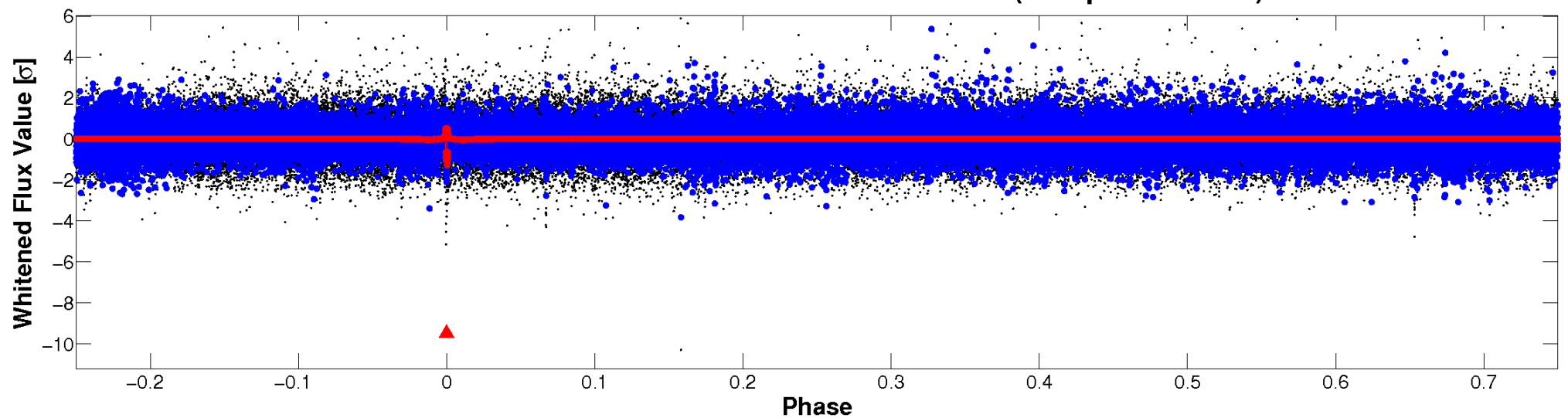


Non-Whitened Vs. Whitened Light Curve

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

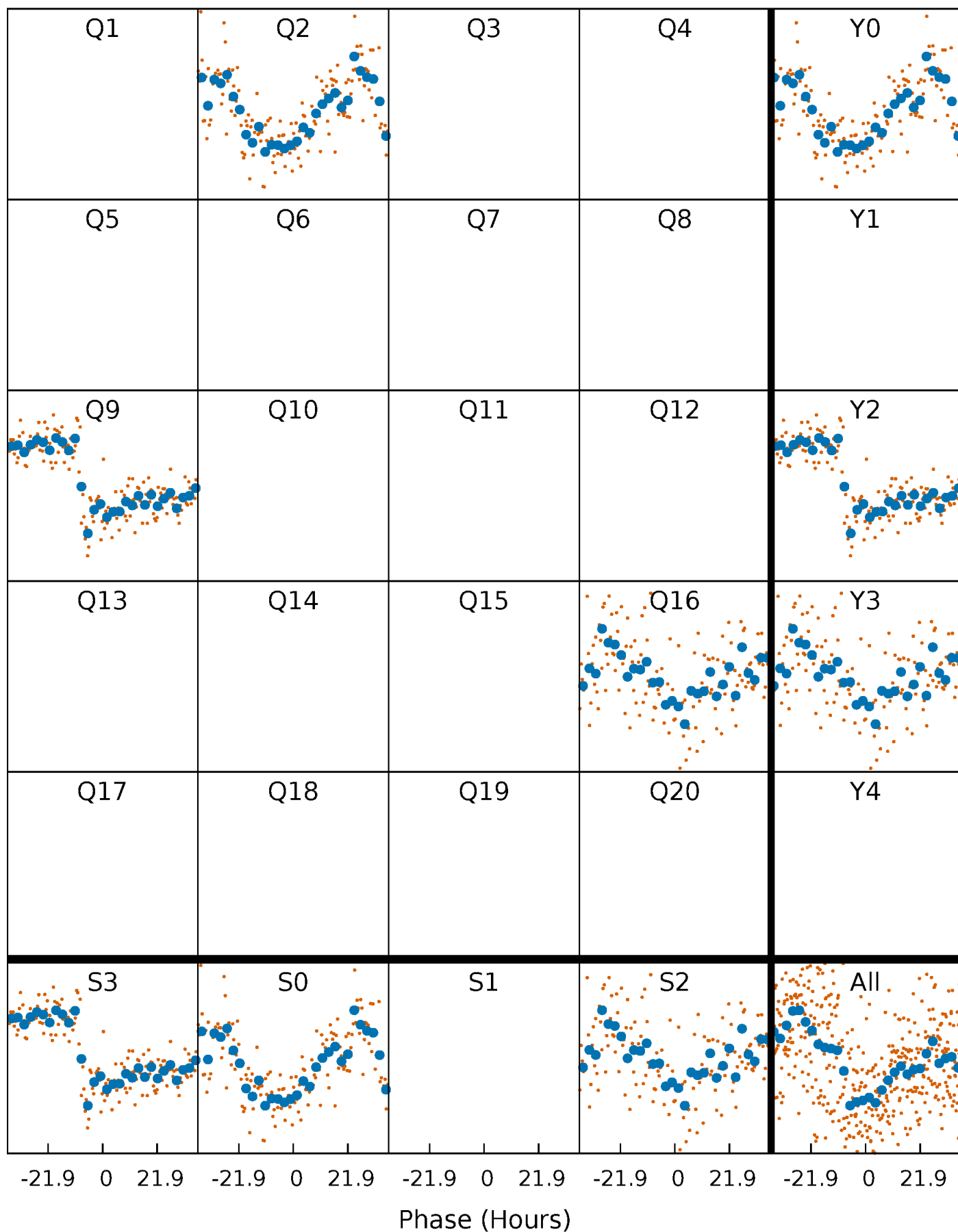


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



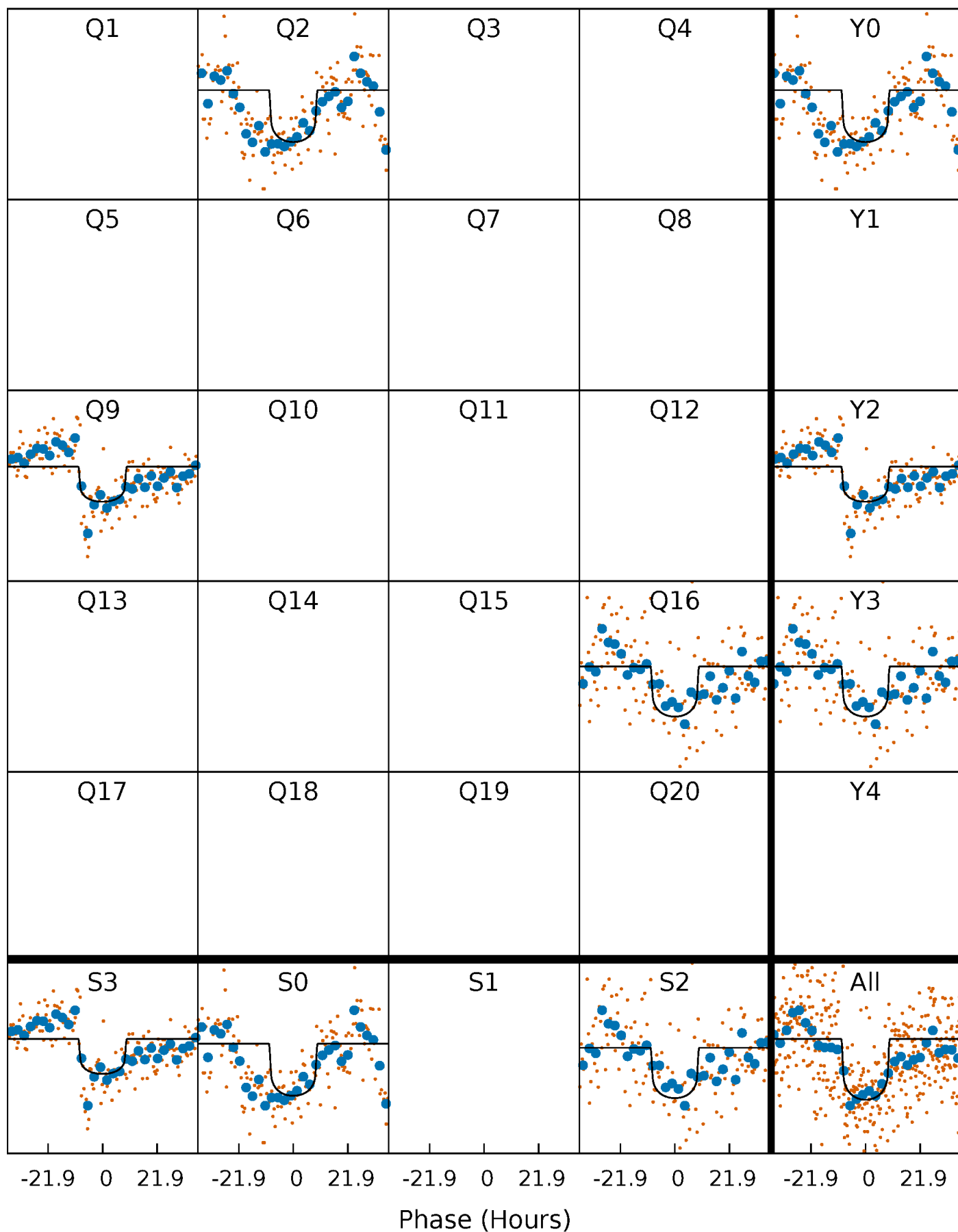
PDC Quarter-Phased Transit Curves

TCE 007971459-01 P=626.665893 Days $T_0=238.519904$ (BKJD)



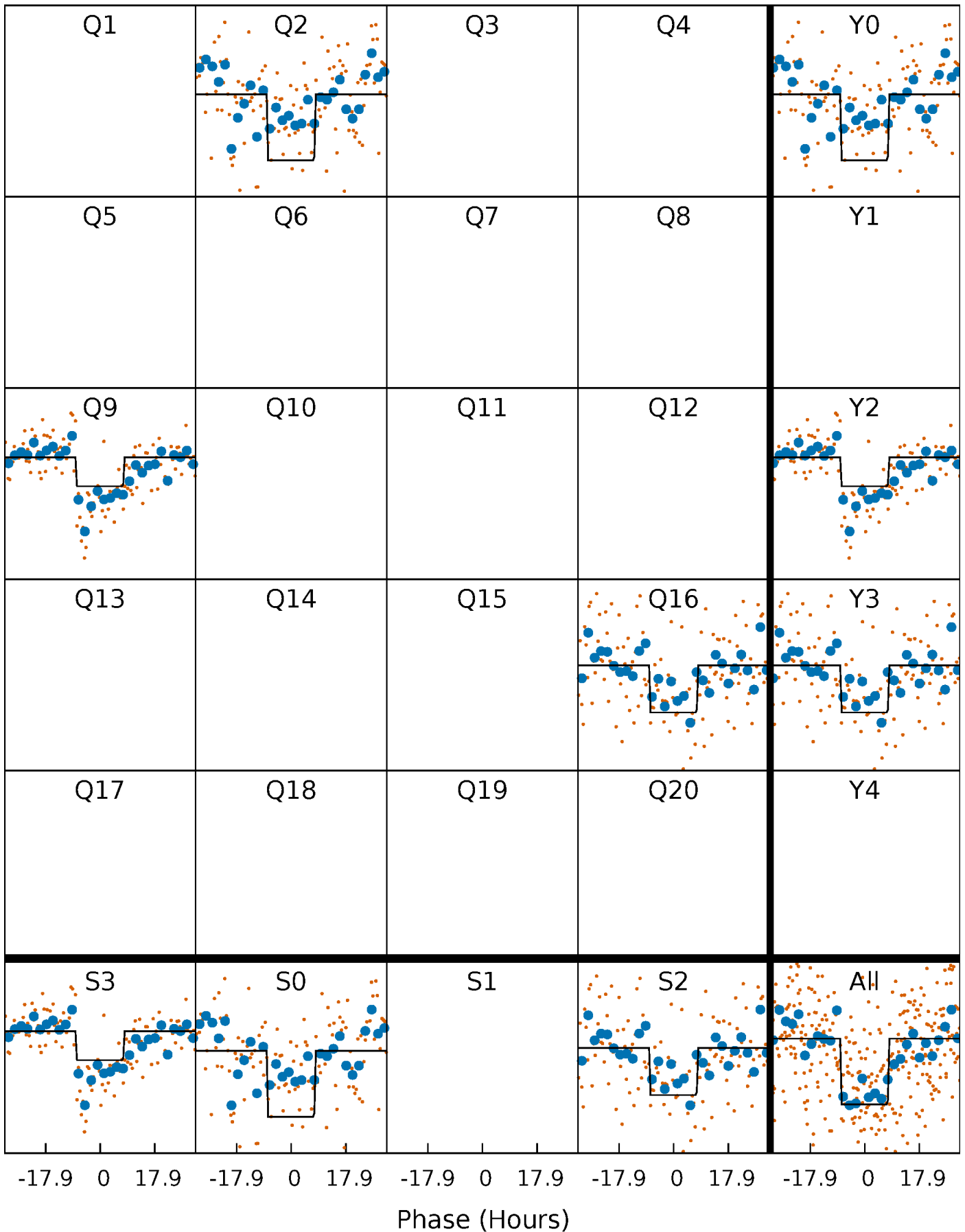
DV Quarter-Phased Transit Curves

TCE 007971459-01 P=626.665893 Days $T_0=238.519904$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

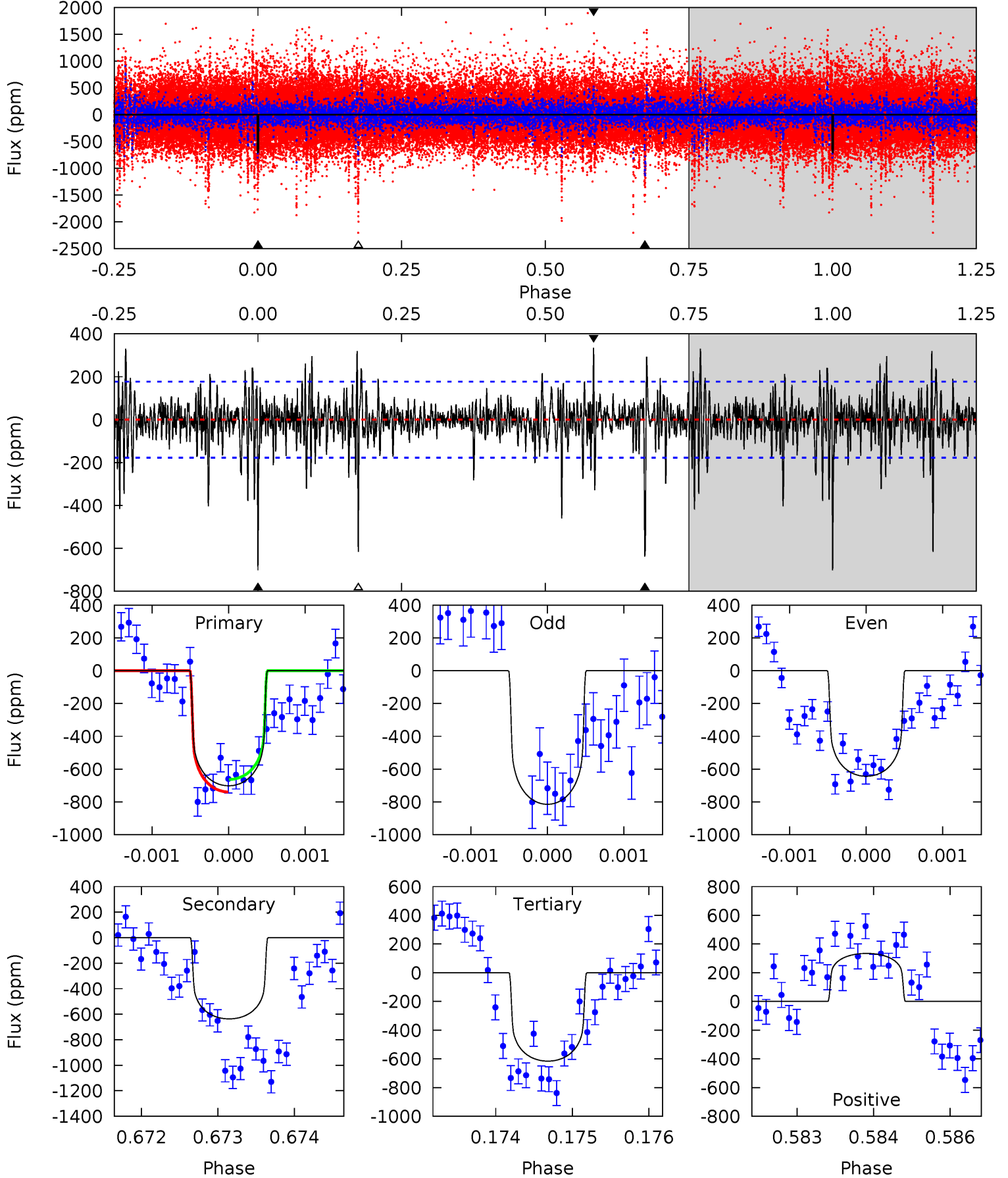
TCE 007971459-01 P=626.656418 Days $T_0=238.491767$ (BKJD)



DV Model-Shift Uniqueness Test

007971459-01, P = 626.665893 Days, E = 238.519904 Days

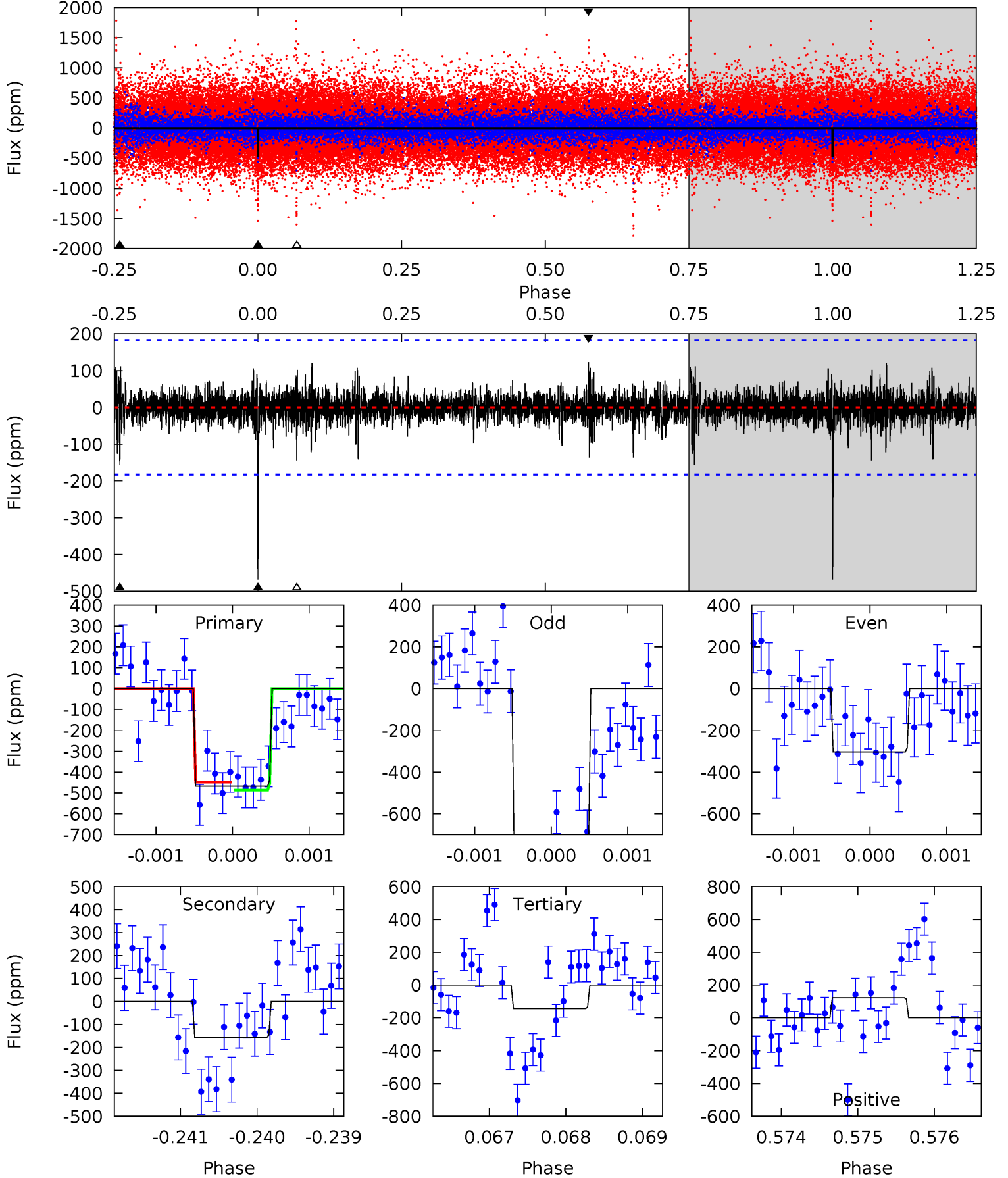
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	19.4	18.8	10.2	5.41	3.22	2.57	2.62	11.2	0.63	9.21	2.48	1.00	0.32	1.16



Alt Model-Shift Uniqueness Test

007971459-01, P = 626.656418 Days, E = 238.491767 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	4.67	4.27	3.65	5.44	3.28	0.80	9.63	10.3	0.39	1.02	8.14	1.26	0.21	0.57



Stellar Parameters For KIC 007971459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6321^{+169}_{-225}	$4.434^{+0.052}_{-0.195}$	$-0.160^{+0.250}_{-0.300}$	$1.058^{+0.320}_{-0.128}$	$1.108^{+0.158}_{-0.144}$	$1.317^{+0.362}_{-0.683}$
	+3%/-4%	+1%/-4%	+156%/-188%	+30%/-12%	+14%/-13%	+28%/-52%
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 007971459-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-637 ± 33	$2.94^{+0.82}_{-0.76}$	334^{+23}_{-16}	6354^{+1191}_{-658}	86833^{+73176}_{-33852}
Alt.	-157 ± 34	$2.75^{+0.83}_{-0.70}$	336^{+22}_{-17}	4775^{+689}_{-486}	24547^{+20202}_{-10963}

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

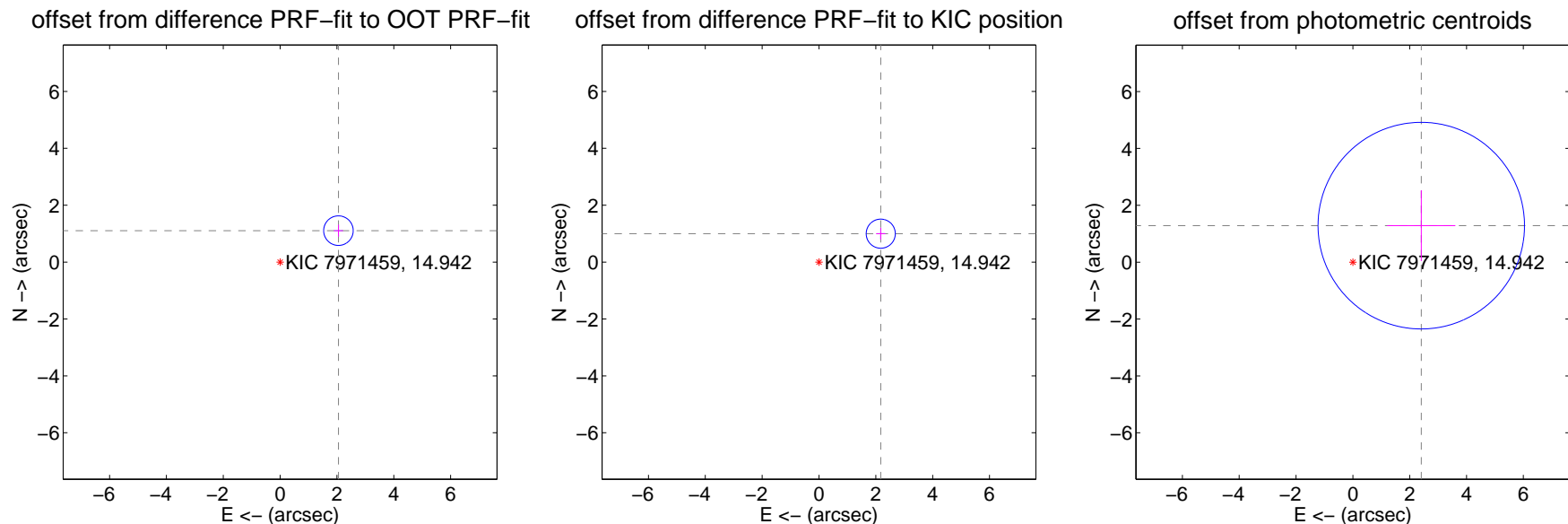
DV Centroid Data

Supplemental centroid analysis for 007971459-01. Kepler magnitude: 14.94. Transit SNR 11.30

There are 1 quarters with good PRF difference image offsets

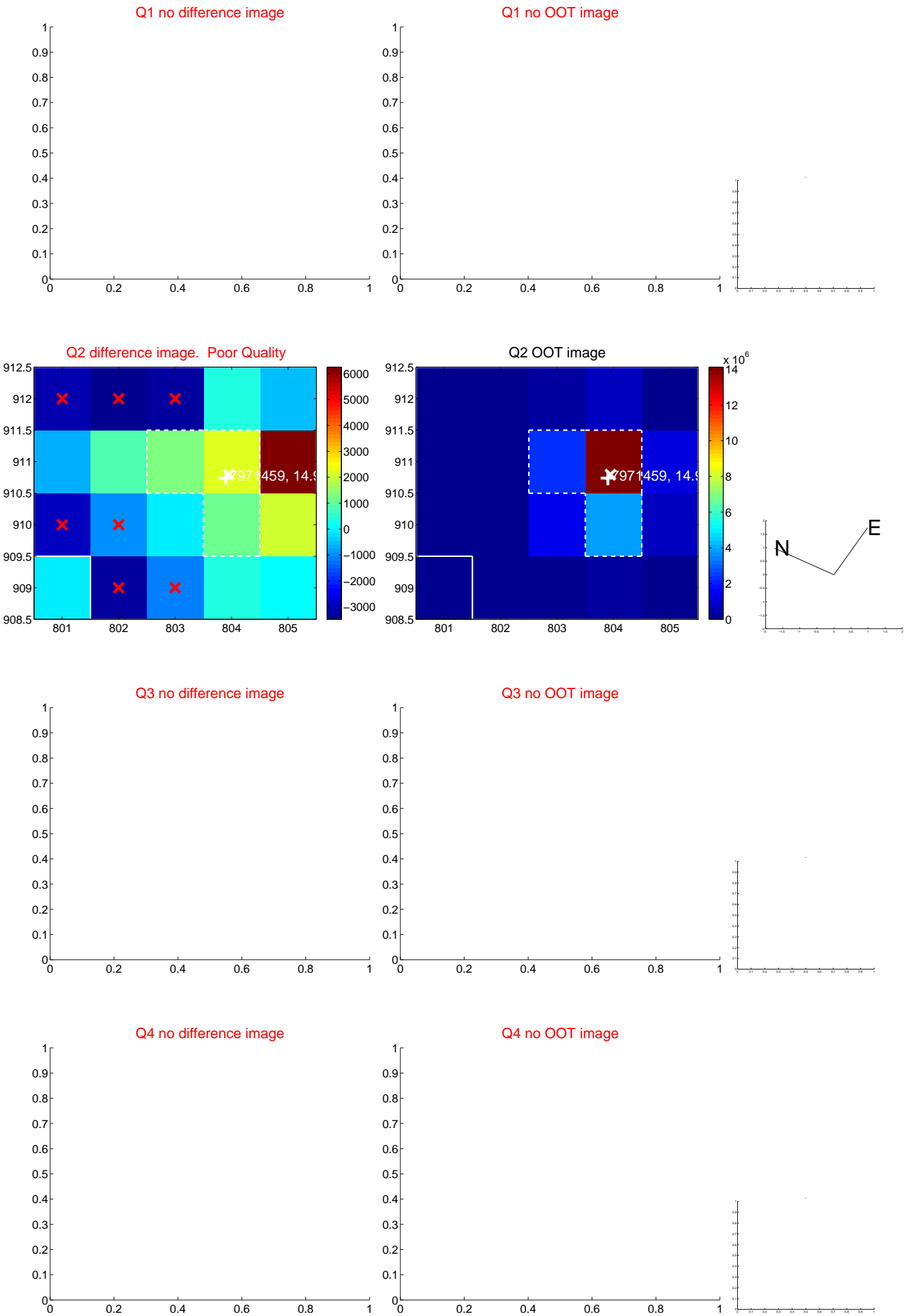
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.331 ± 0.173	13.46	-2.052 ± 0.161	1.106 ± 0.210
PRF-fit source offset from KIC position	2.392 ± 0.171	14.02	-2.173 ± 0.161	0.999 ± 0.210
photometric centroid source offset	2.73 ± 1.21	2.25	-2.41 ± 1.20	1.28 ± 1.25



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.

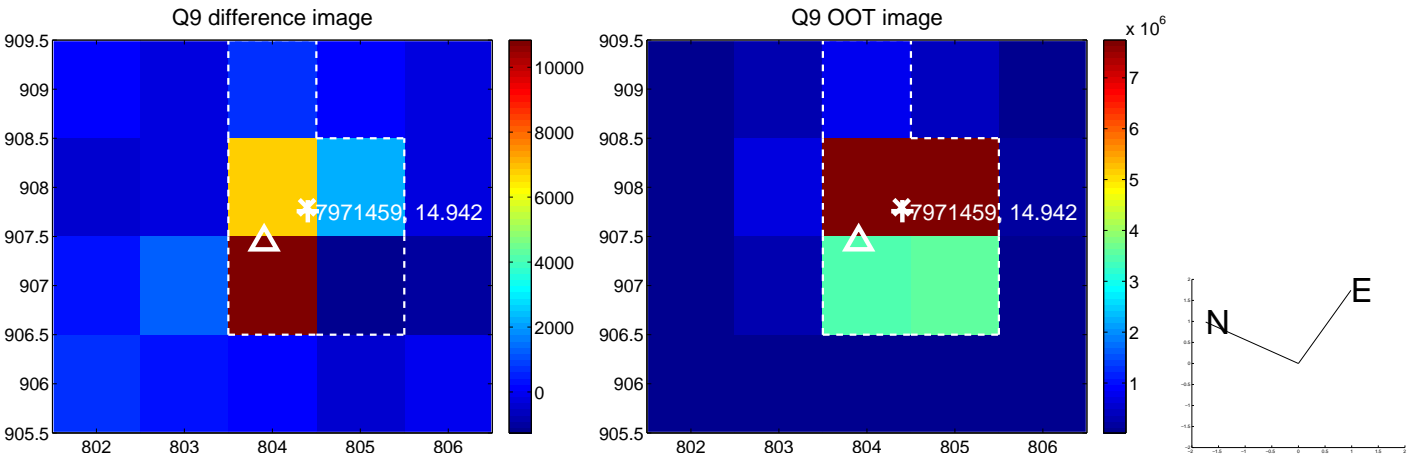
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



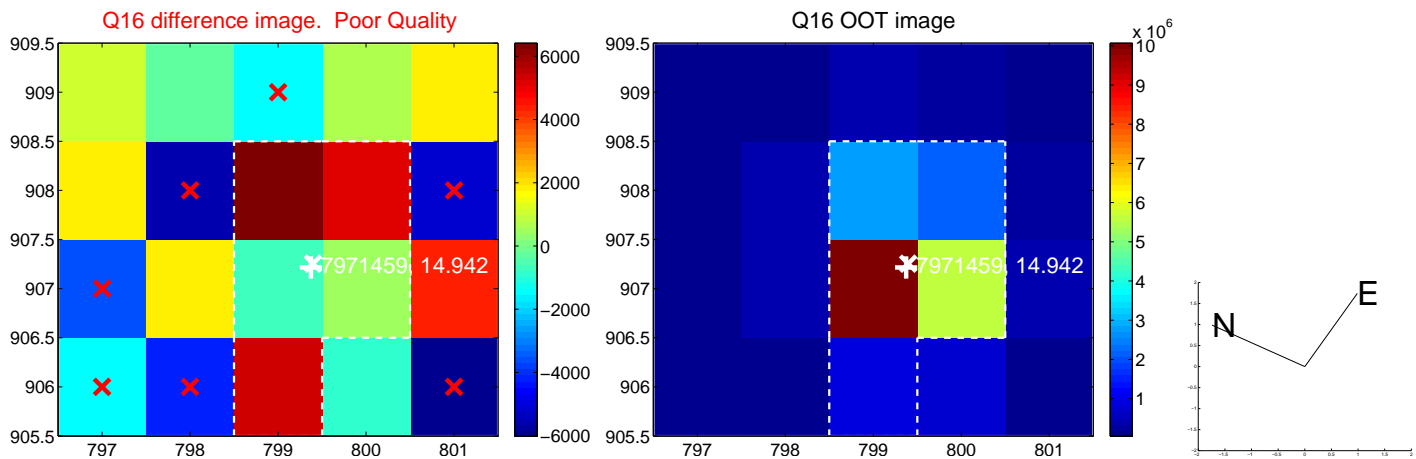
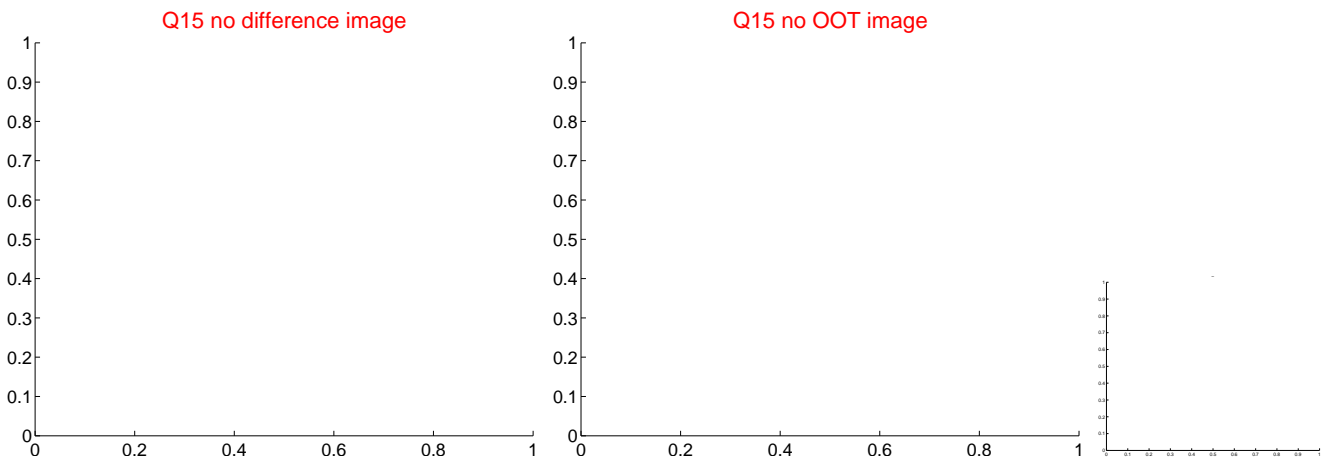
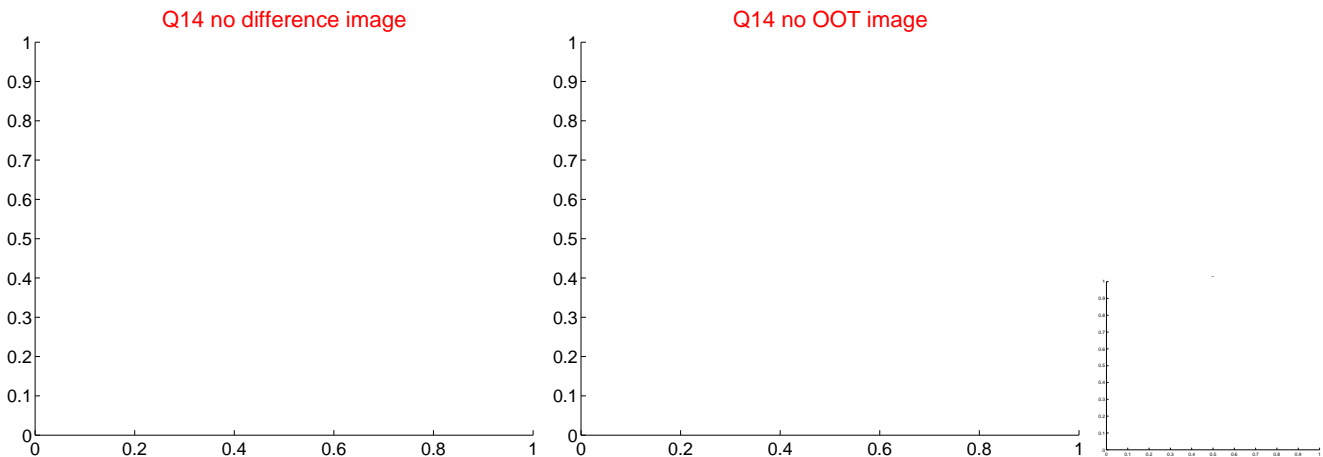
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



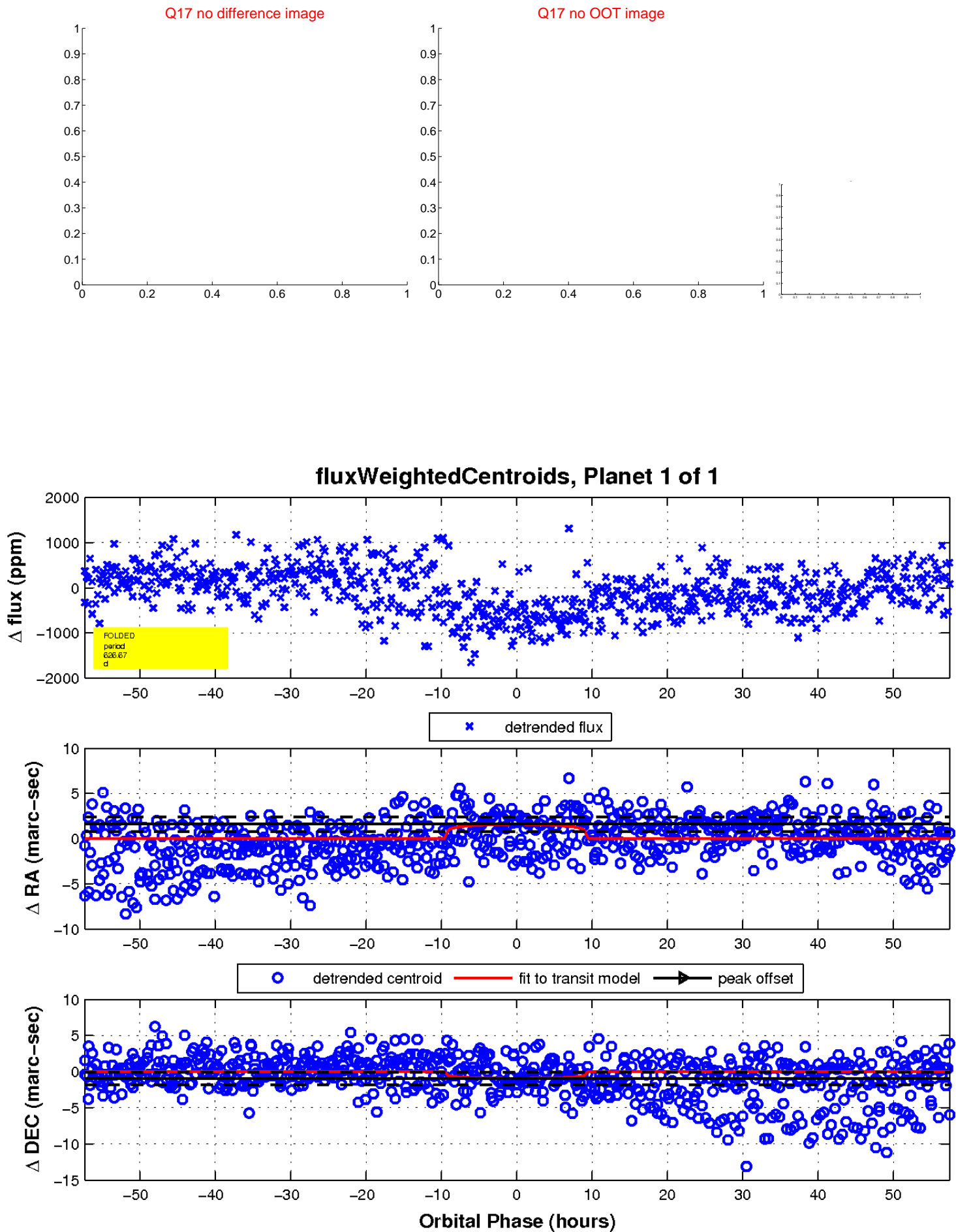
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

Declination

