

KIC 004476139

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})
004476139-01	OBS	No	174.344339	290.969339	417.8	5.601	7.2	7.4	0.84	6167	1.87	2.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004476139-01	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_ALT—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.

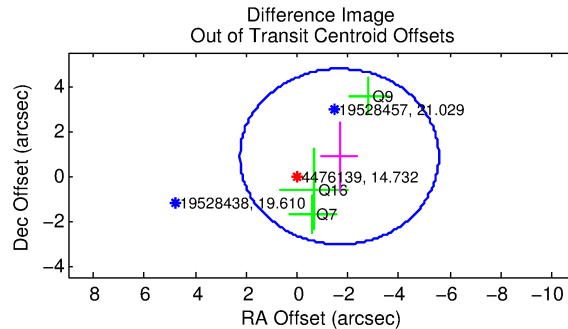
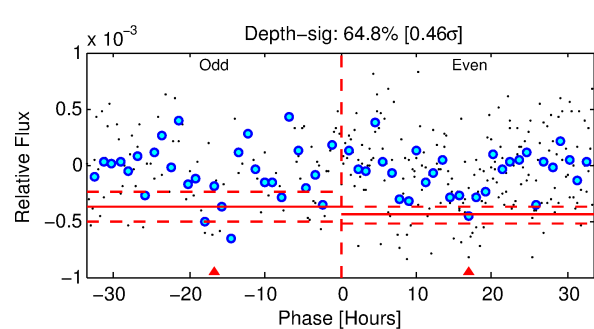
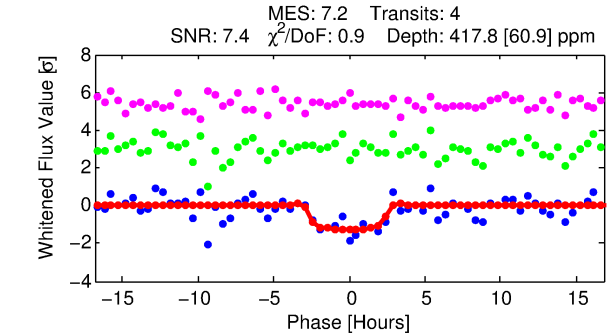
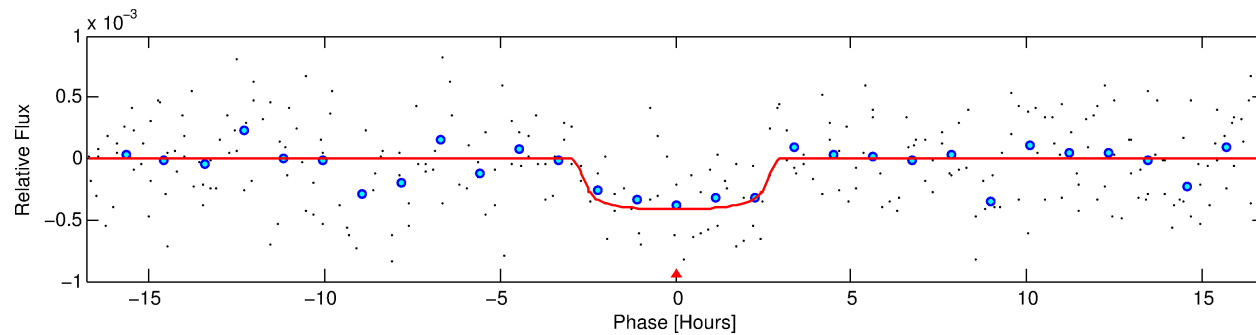
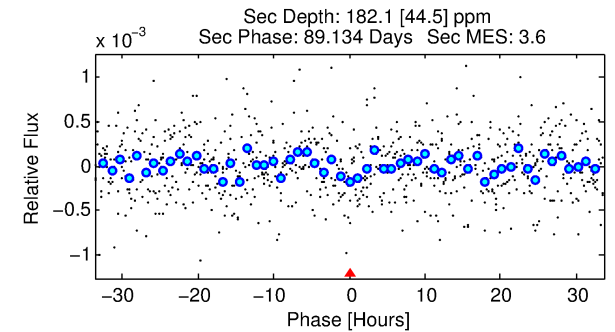
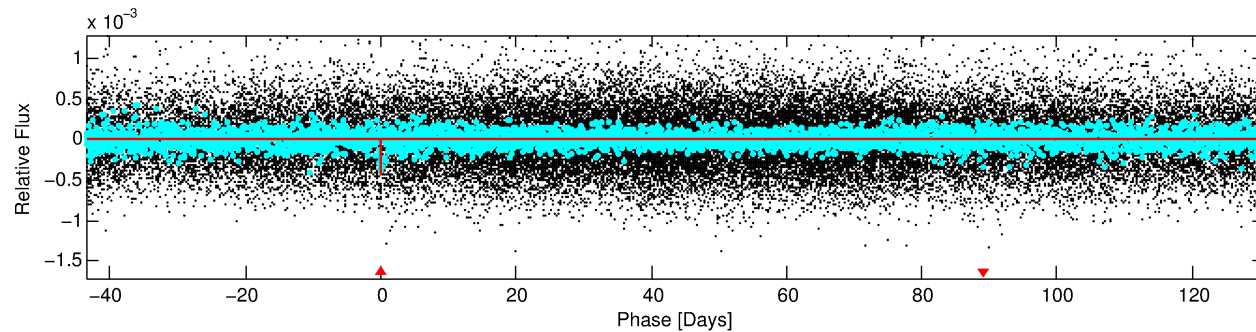
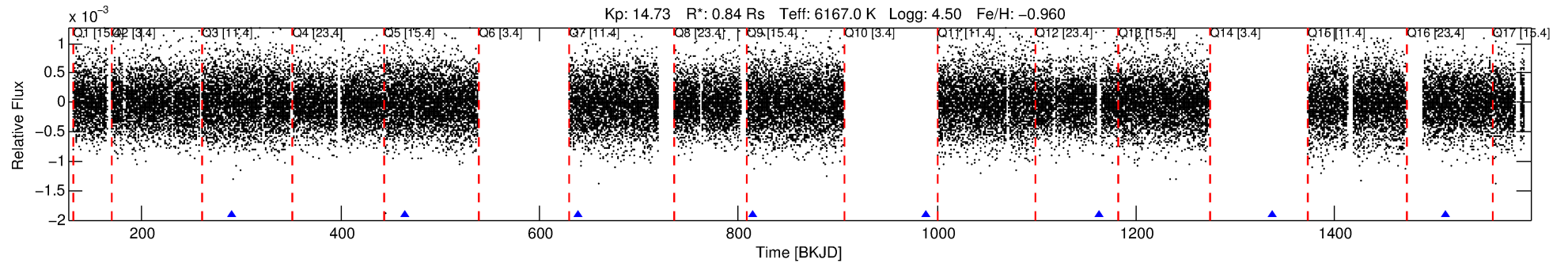
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004476139-01

No Significant Match Found

DV One-Page Summary

KIC: 4476139 Candidate: 1 of 1 Period: 174.344 d



DV Fit Results:

Period = 174.34434 [0.00345] d
Epoch = 290.9693 [0.0141] BKJD
Rp/R* = 0.0205 [0.0147]
a/R* = 157.11 [624.59]
b = 0.78 [2.02]
Seff = 2.79 [0.90]
Teff = 330 [26] K
Rp = 1.87 [1.41] Re
a = 0.5699 [0.1135] AU
Ag = 9288.87 [13750.67] [0.68 σ]
Teffp = 5002 [1822] K [2.56 σ]

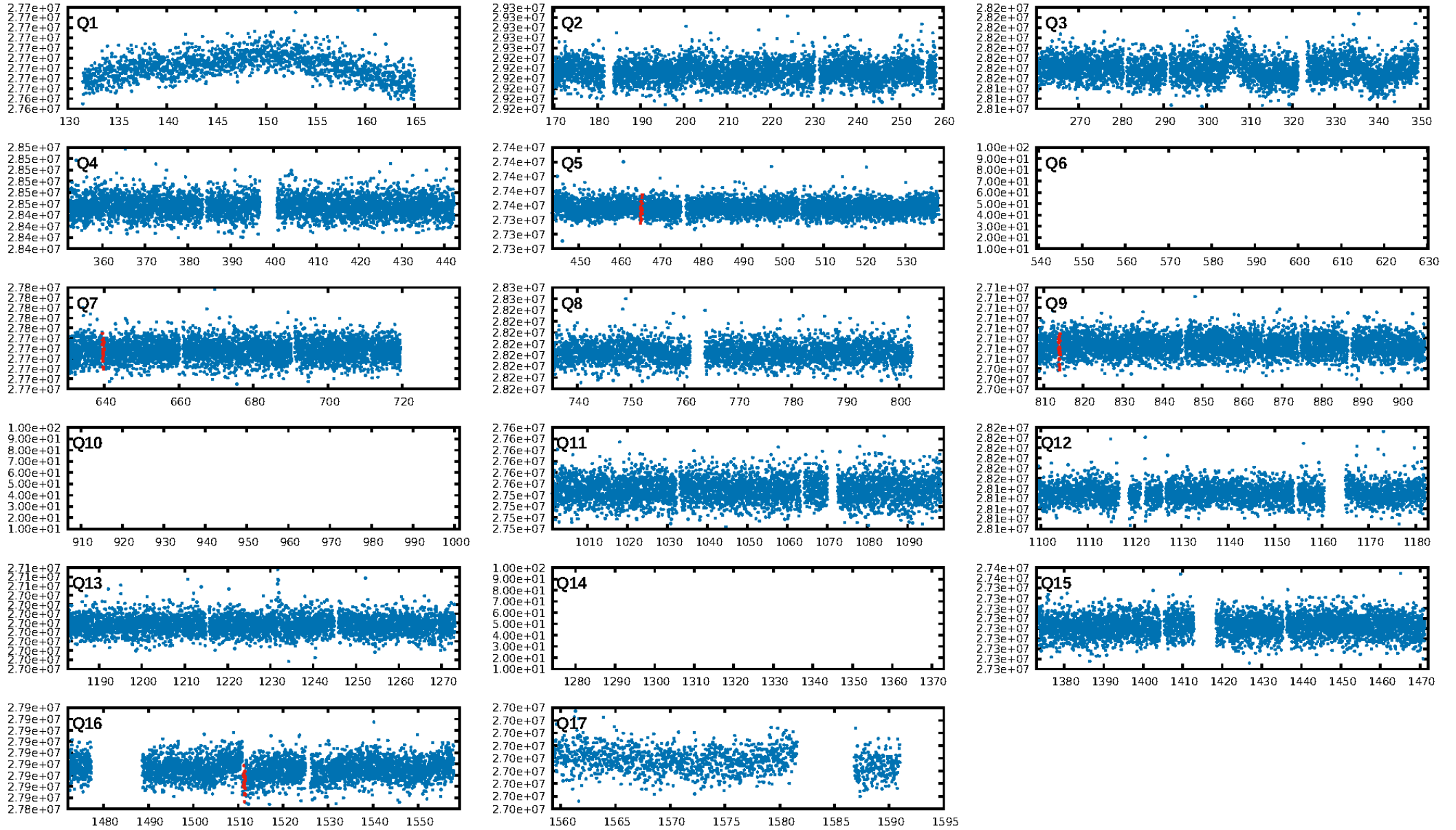
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.4%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 9.53e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.392
Centroid-sig: 2.0%
Centroid-so: 3.841 arcsec [1.64 σ]
OotOffset-rm: 1.871 arcsec [1.44 σ]
KicOffset-rm: 1.814 arcsec [1.60 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [4/4]

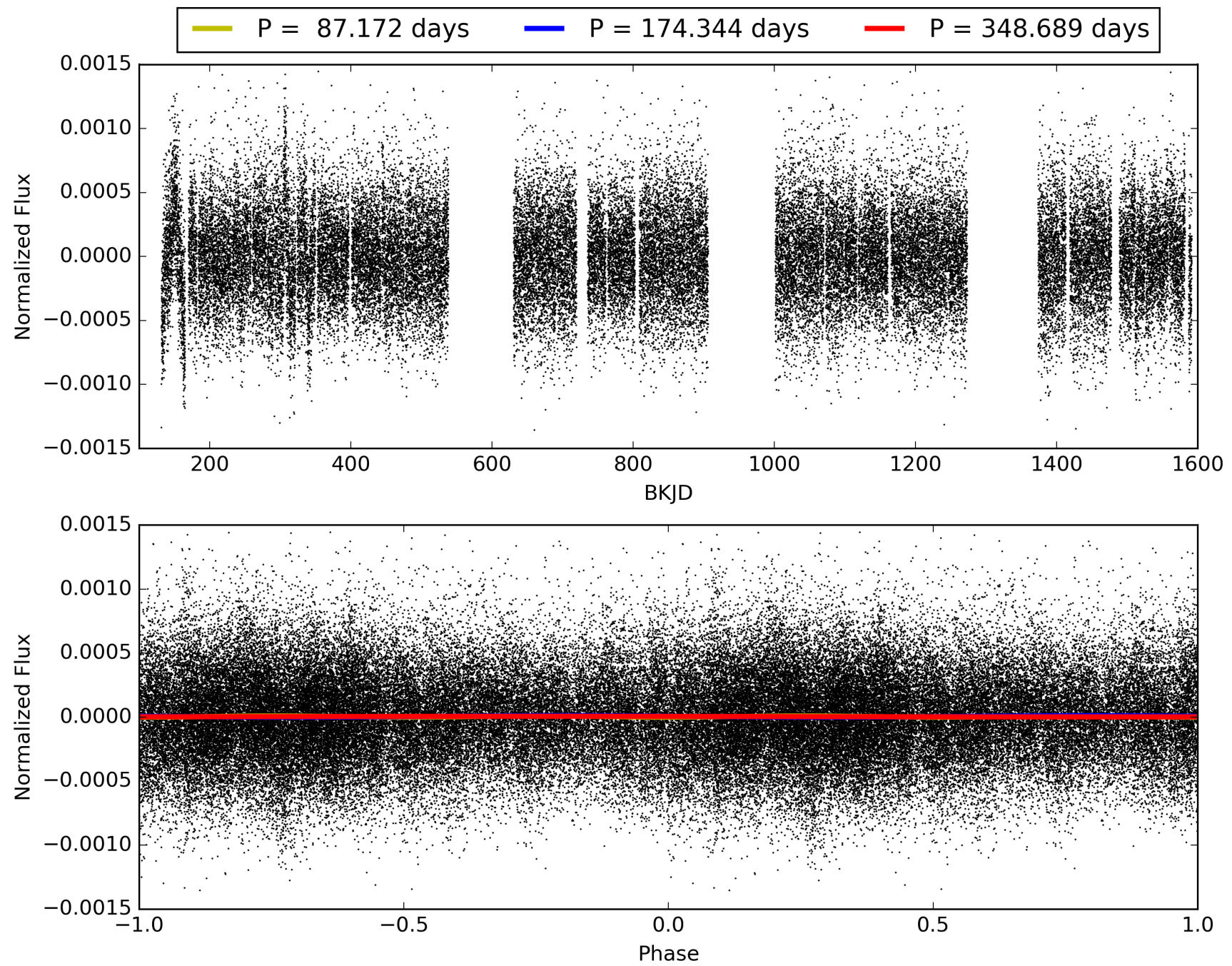
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:30:41 Z

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

TCE 004476139-01, PDC Light Curves

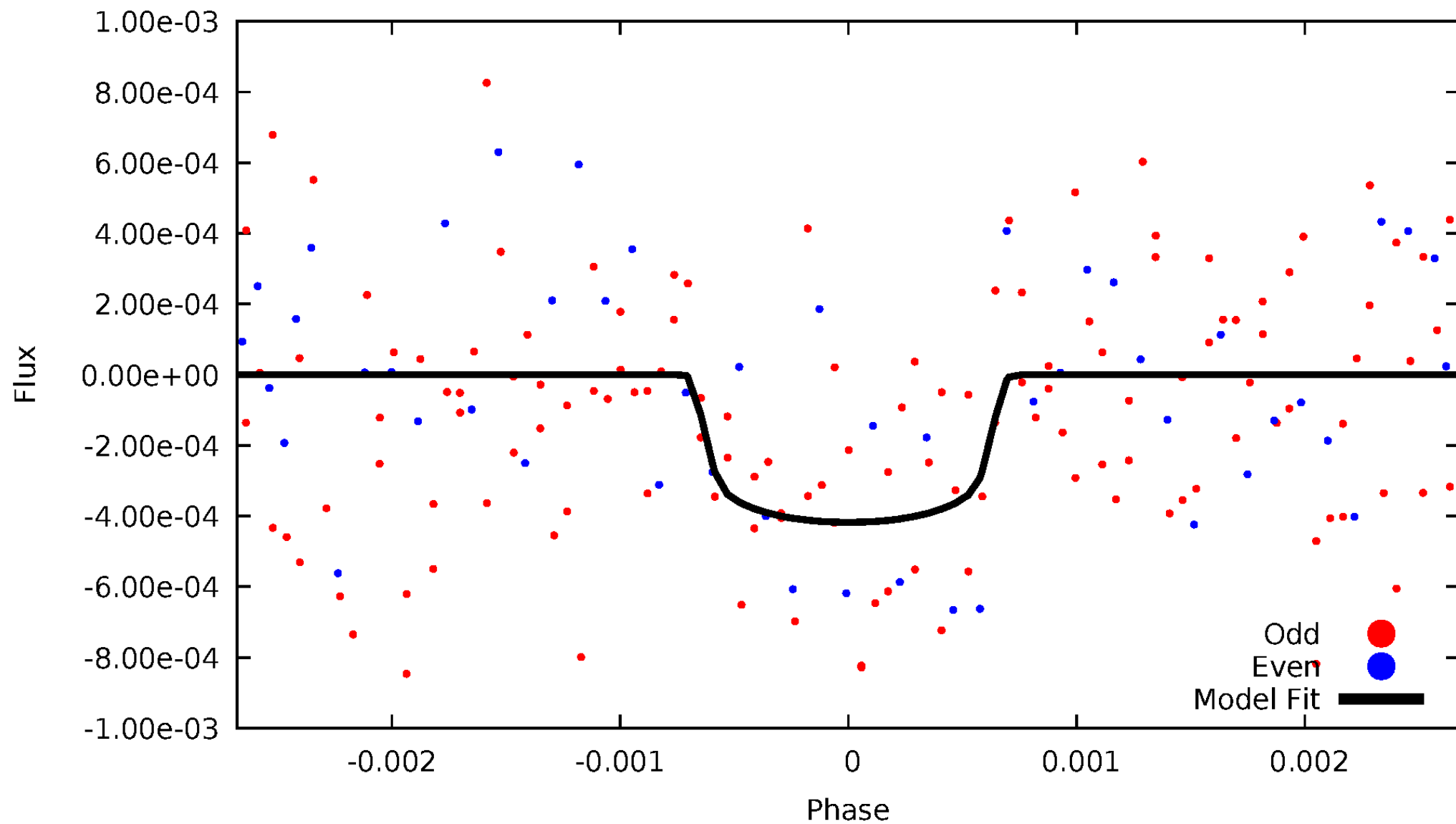


TCE 004476139-01



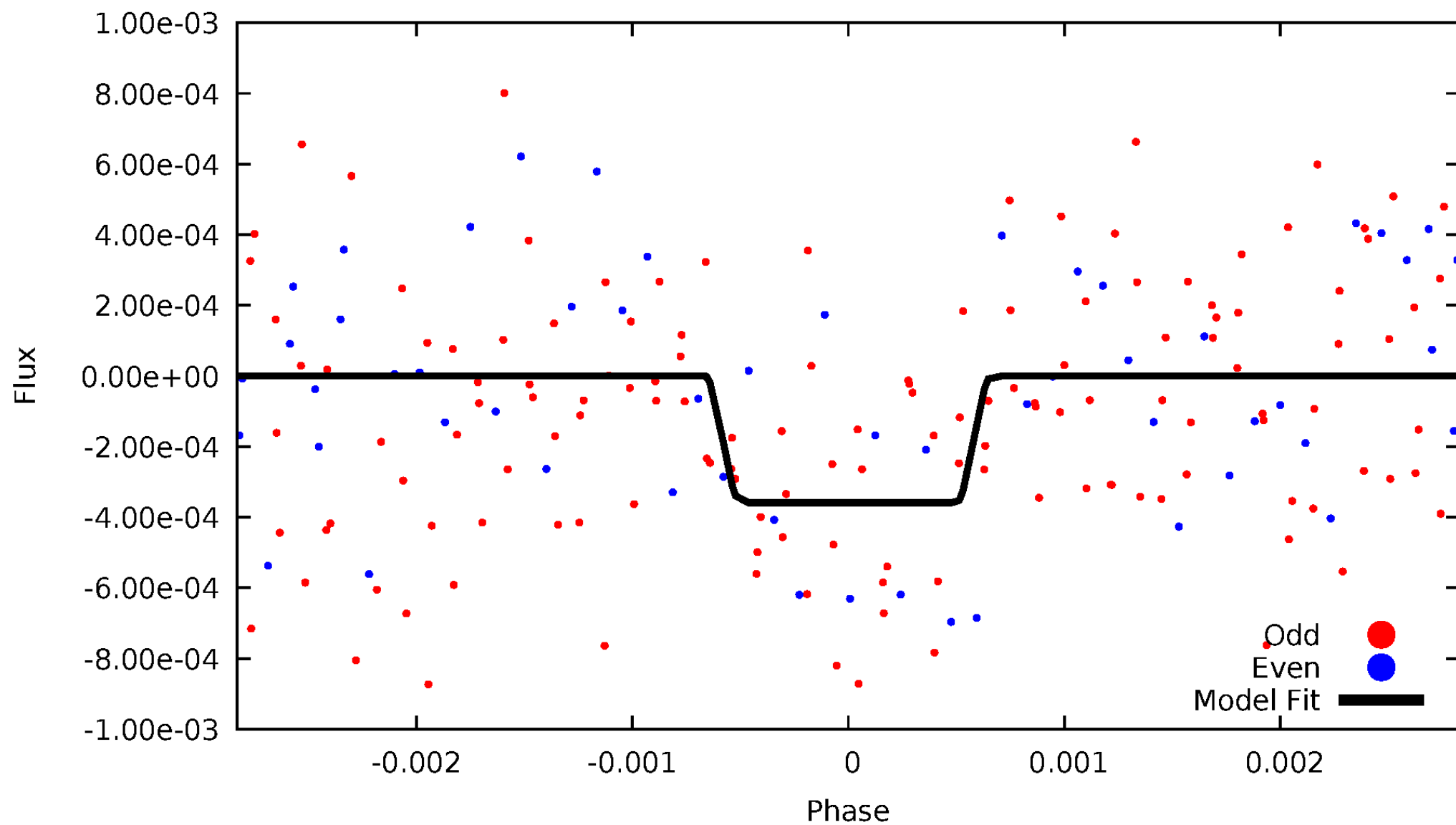
DV Odd/Even

TCE 004476139-01



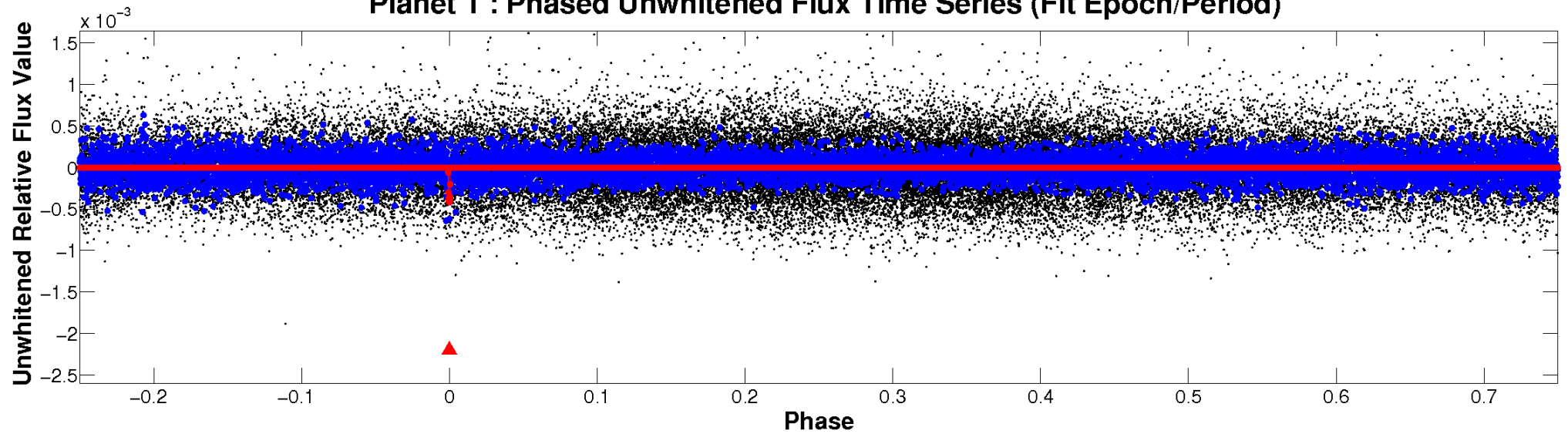
ALT Odd/Even

TCE 004476139-01

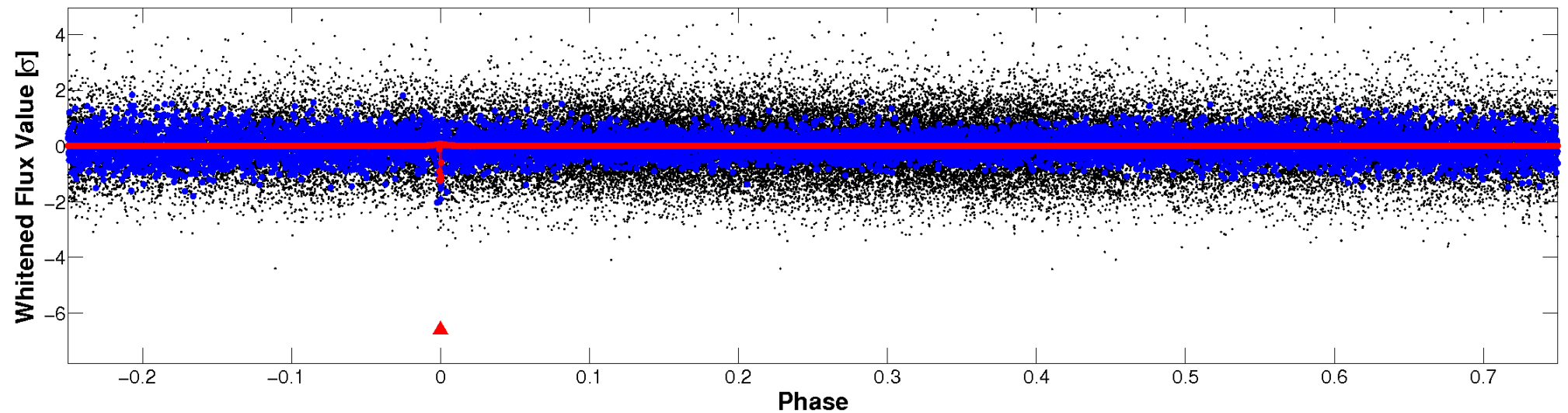


Non-Whitened Vs. Whitened Light Curve

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

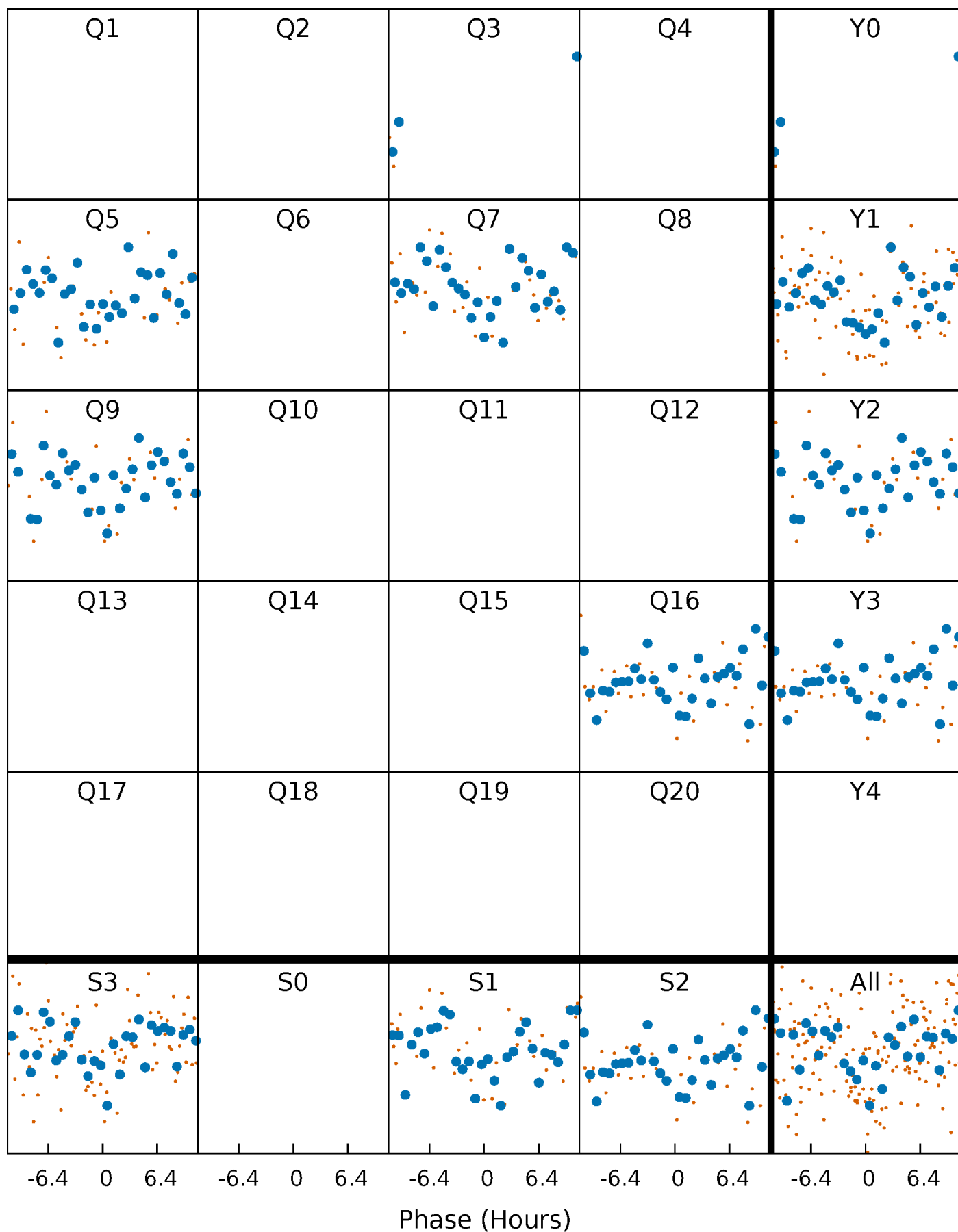


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



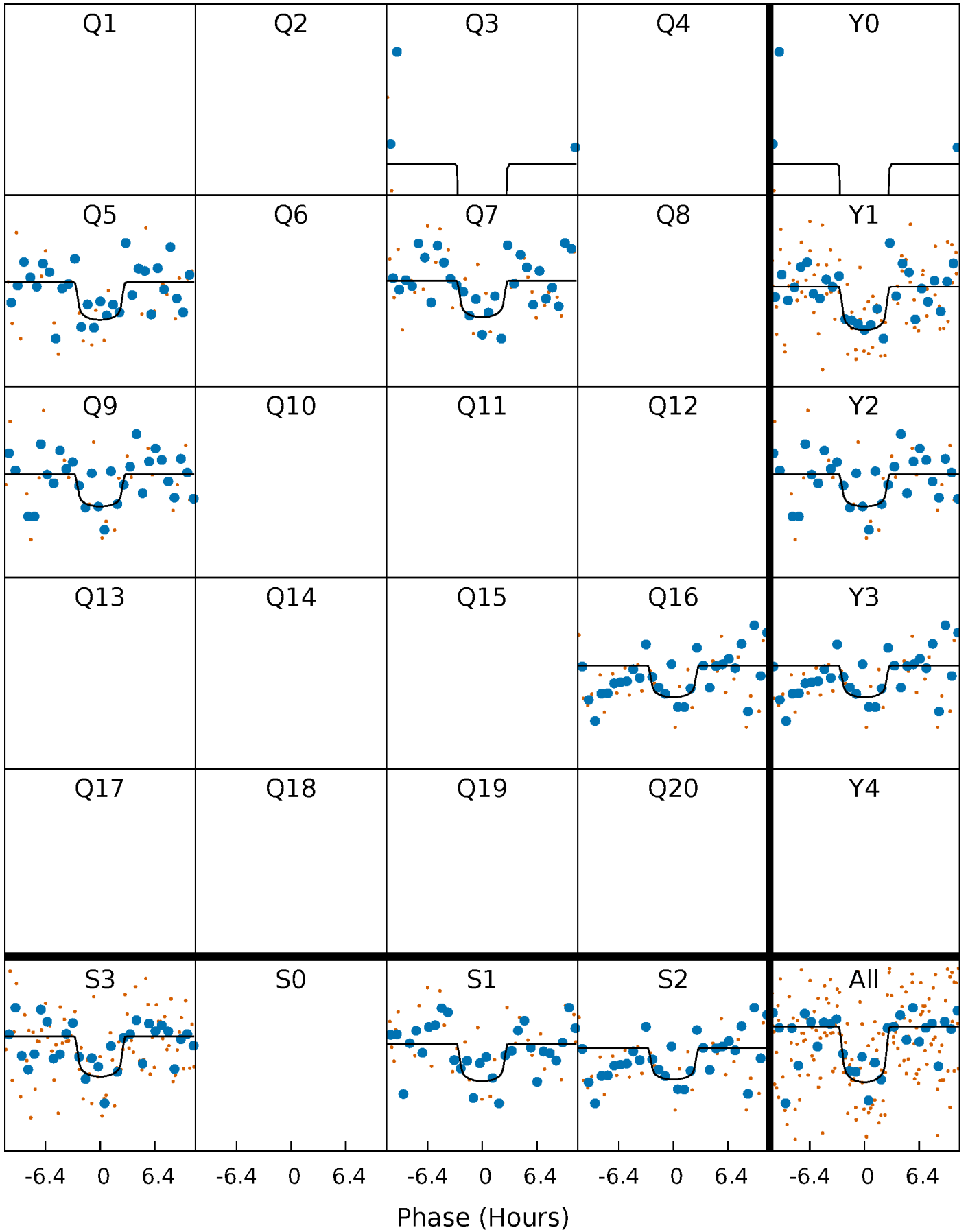
PDC Quarter-Phased Transit Curves

TCE 004476139-01 P=174.344339 Days $T_0=290.969339$ (BKJD)



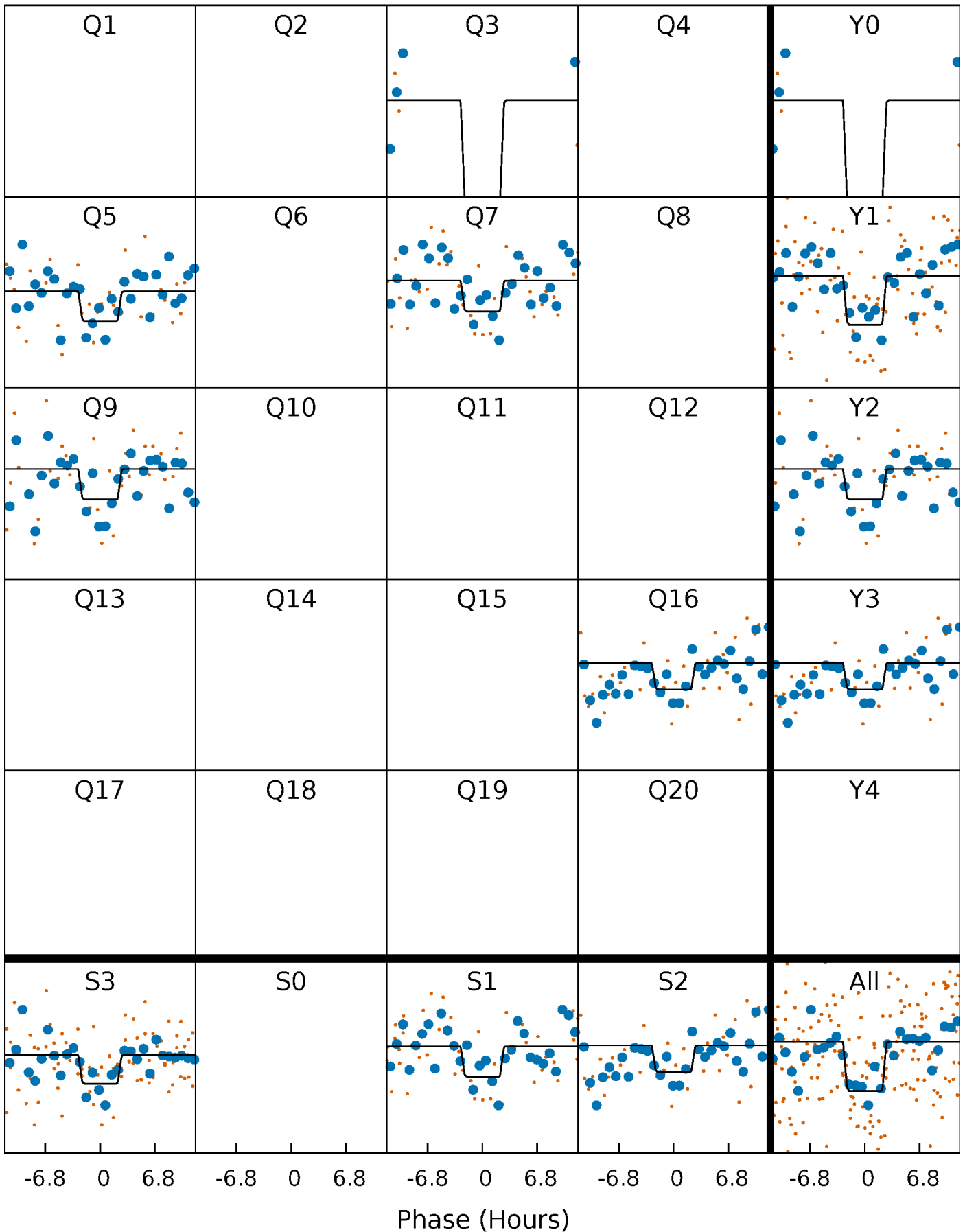
DV Quarter-Phased Transit Curves

TCE 004476139-01 P=174.344339 Days $T_0=290.969339$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

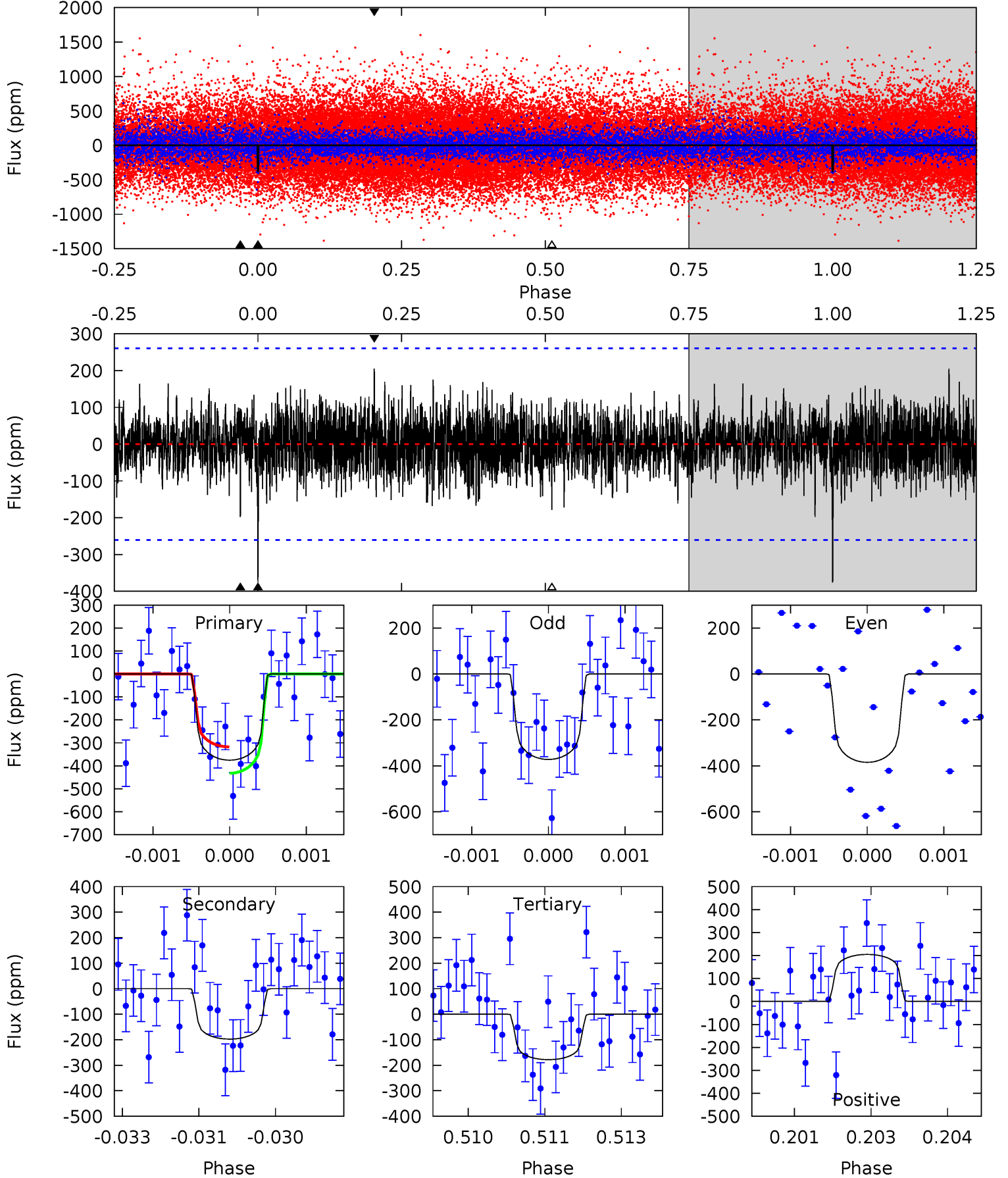
TCE 004476139-01 P=174.348825 Days $T_0=290.957440$ (BKJD)



DV Model-Shift Uniqueness Test

004476139-01, P = 174.344339 Days, E = 116.625000 Days

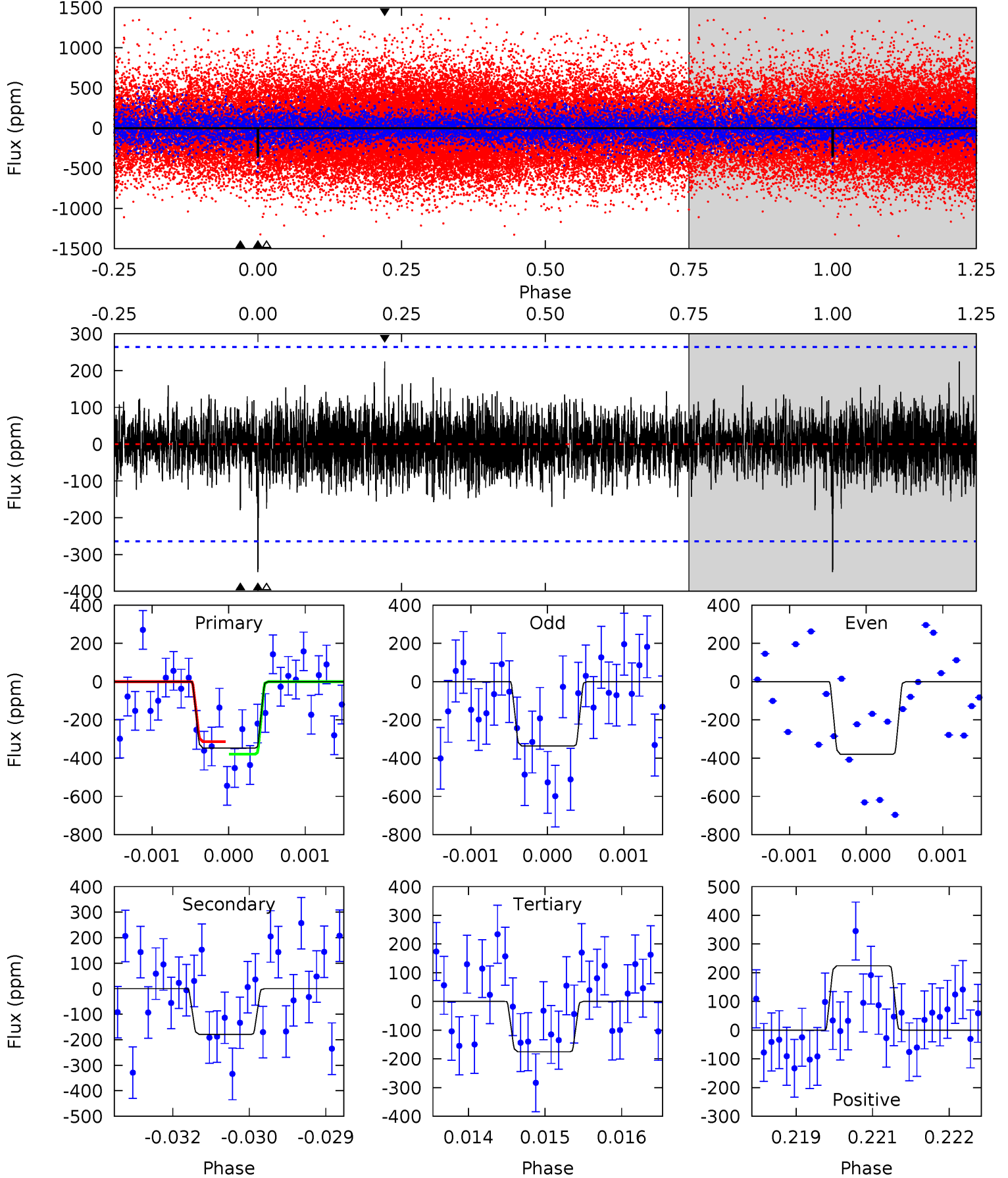
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	4.09	3.69	4.24	5.39	3.19	1.11	4.08	3.53	0.40	-0.15	0.11	1.00	0.35	1.19



Alt Model-Shift Uniqueness Test

004476139-01, P = 174.348825 Days, E = 116.608615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	3.66	3.58	4.58	5.39	3.20	1.02	3.51	2.51	0.08	-0.93	0.37	1.00	0.39	0.67



Stellar Parameters For KIC 004476139

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6167^{+183}_{-201}	$4.503^{+0.088}_{-0.162}$	$-0.960^{+0.300}_{-0.300}$	$0.836^{+0.195}_{-0.083}$	$0.812^{+0.078}_{-0.057}$	$1.960^{+0.706}_{-0.855}$
	+3%/-3%	+2%/-4%	+31%/-31%	+23%/-10%	+10%/-7%	+36%/-44%
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 004476139-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-198 ± 48	$2.10^{+1.27}_{-1.21}$	461^{+29}_{-21}	5004^{+2518}_{-925}	8483^{+34986}_{-5476}
Alt.	-179 ± 49	$1.92^{+1.37}_{-1.09}$	465^{+24}_{-22}	5023^{+2812}_{-988}	8559^{+40420}_{-5791}

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

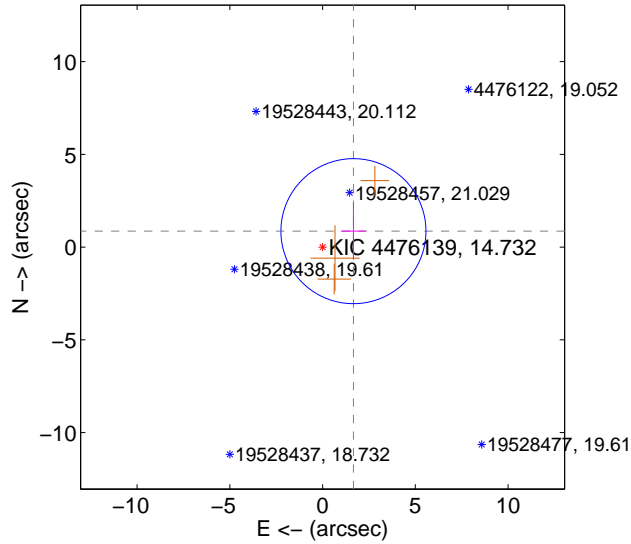
Supplemental centroid analysis for 004476139-01. Kepler magnitude: 14.73. Transit SNR 7.41

There are 0 quarters with good PRF difference image offsets

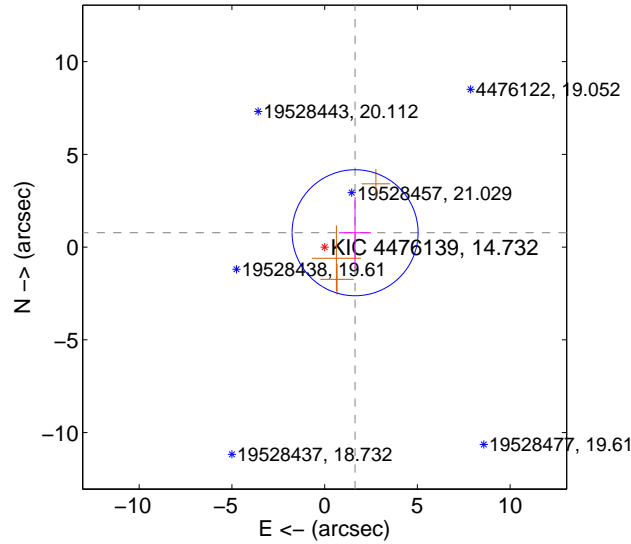
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.871 ± 1.303	1.44	-1.663 ± 0.675	0.859 ± 1.542
PRF-fit source offset from KIC position	1.814 ± 1.132	1.60	-1.641 ± 0.864	0.773 ± 1.920
photometric centroid source offset	3.84 ± 2.34	1.64	-3.50 ± 2.40	1.58 ± 2.03

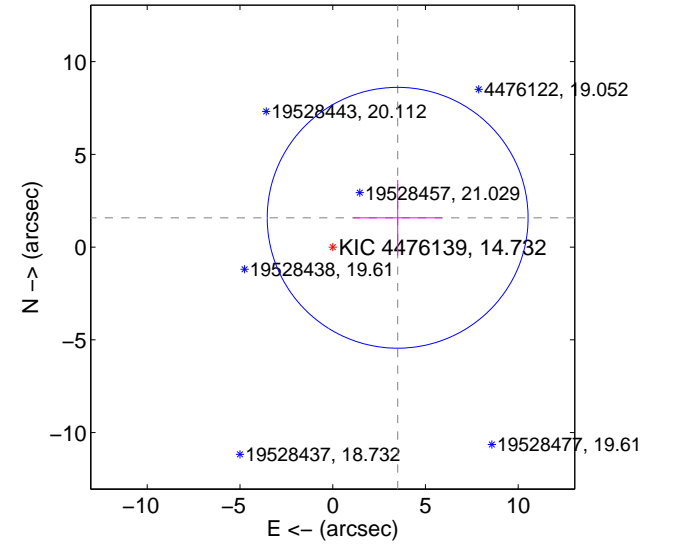
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

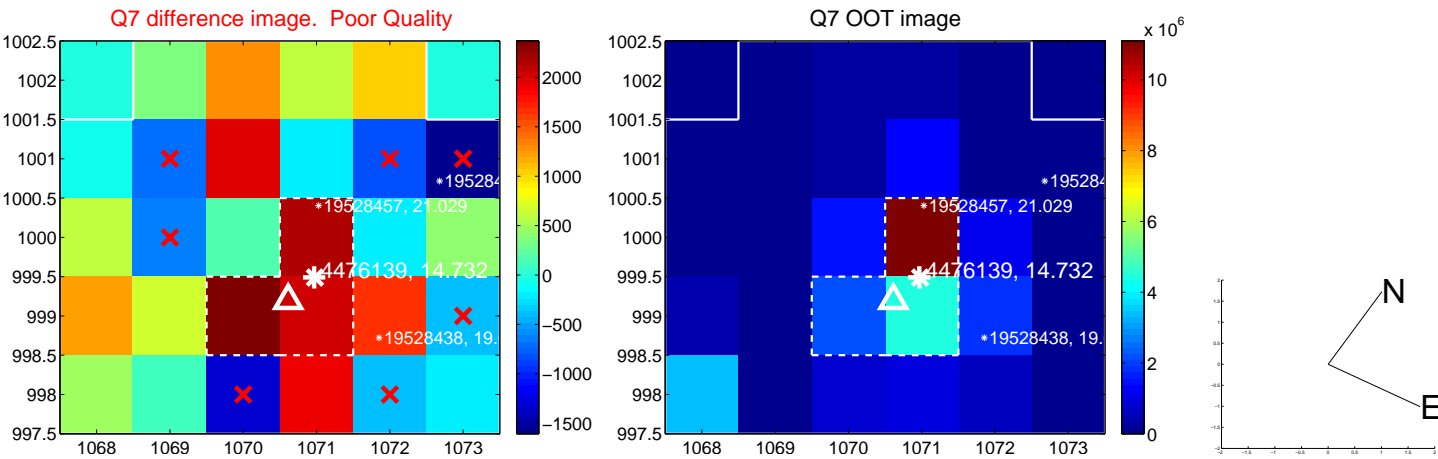
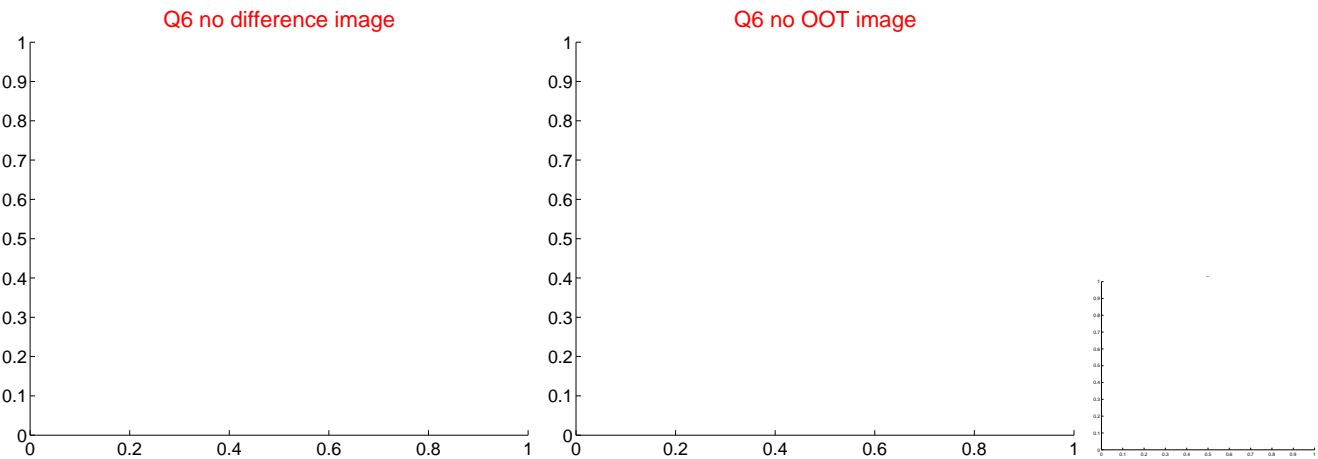
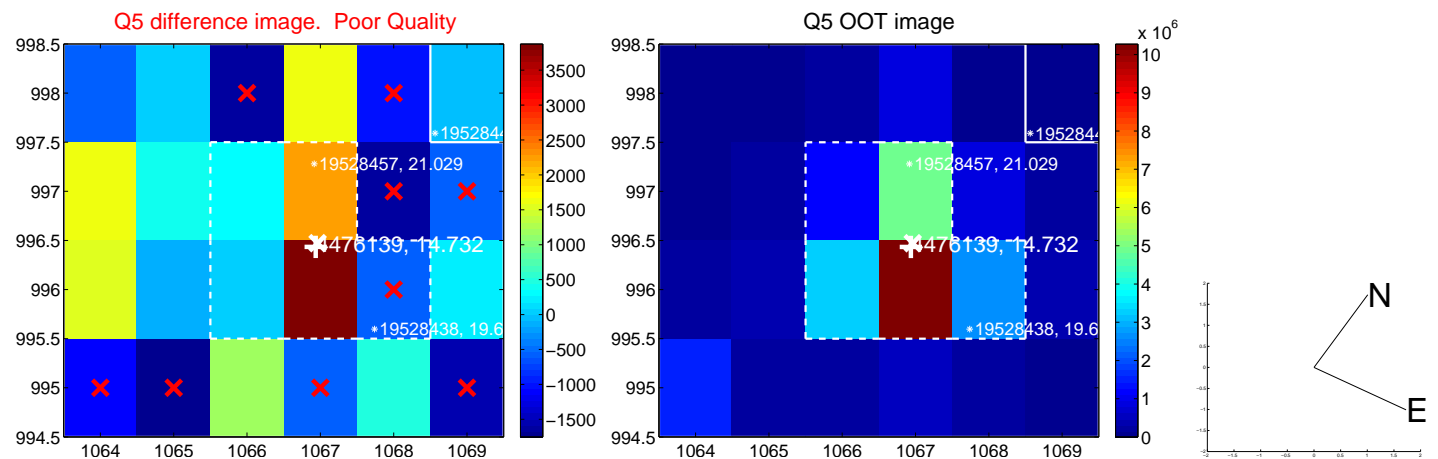


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

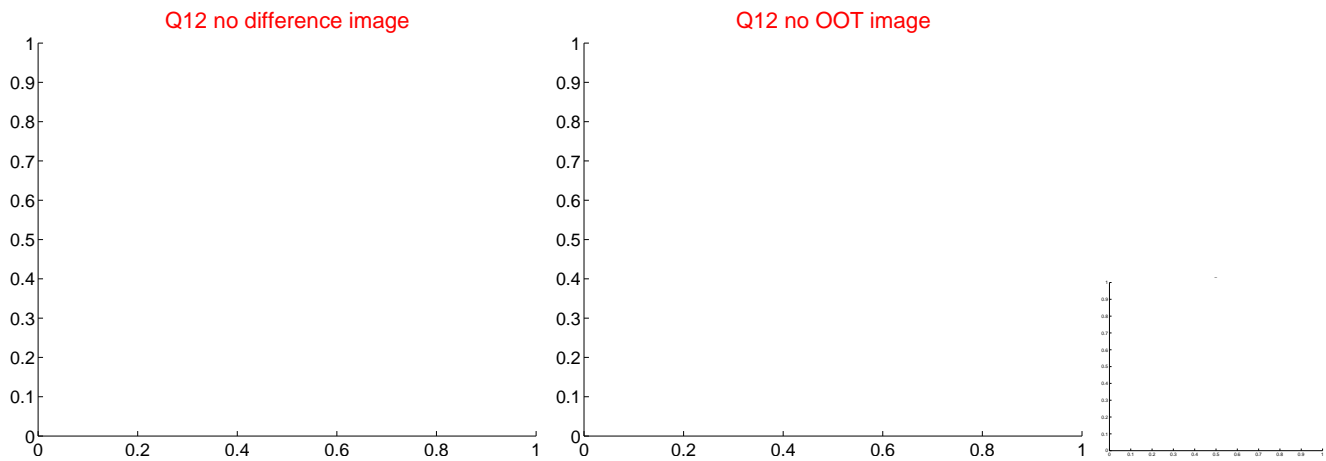
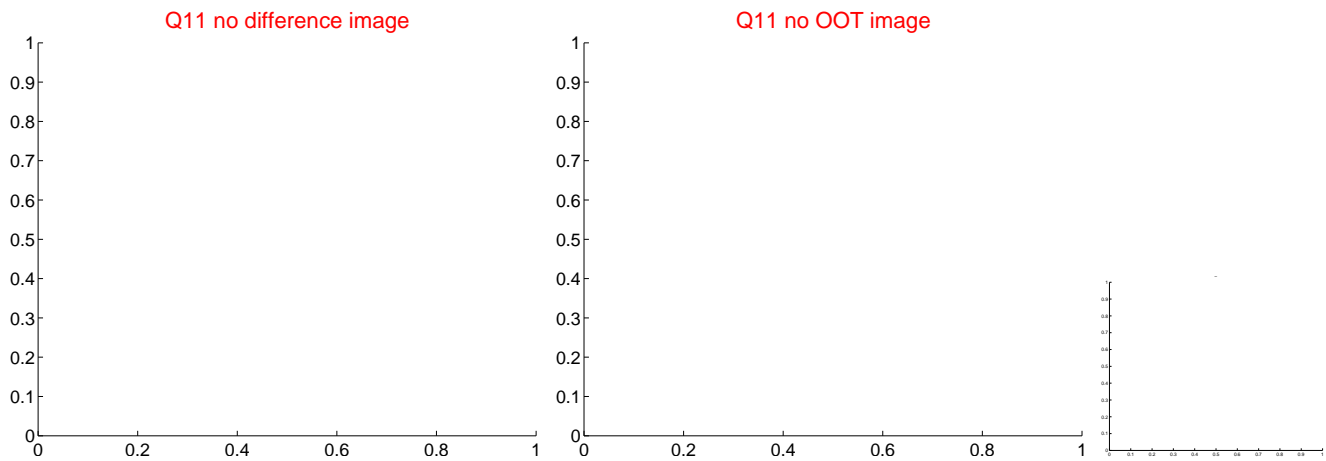
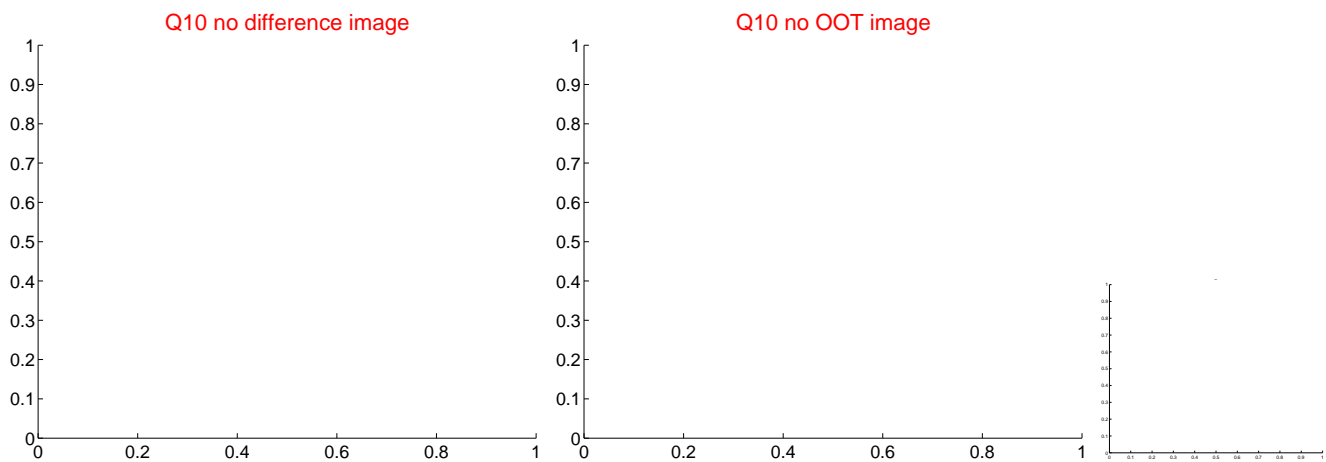
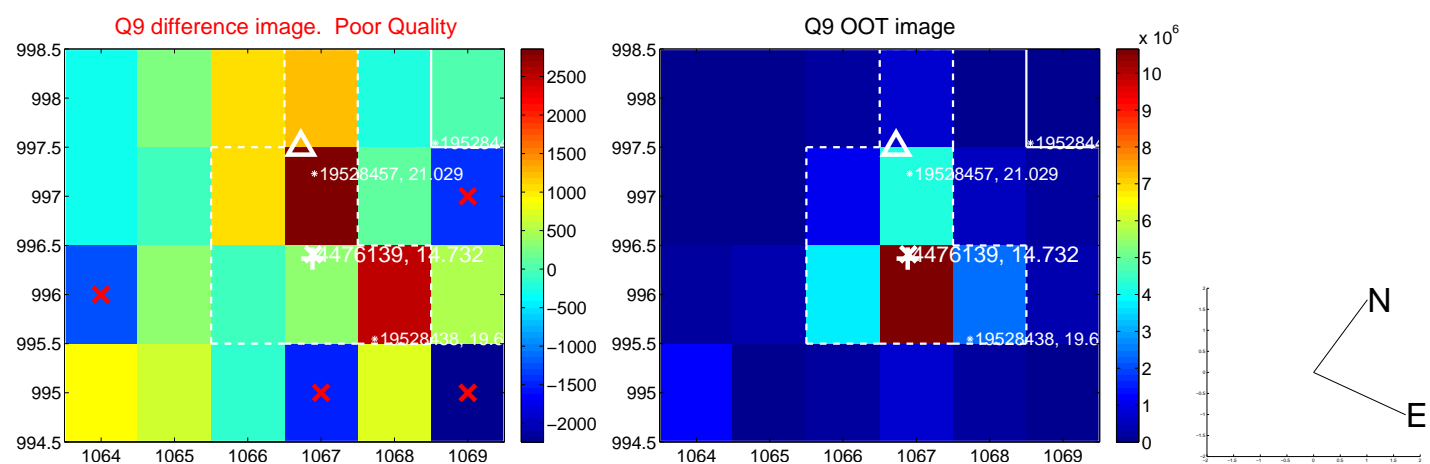
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



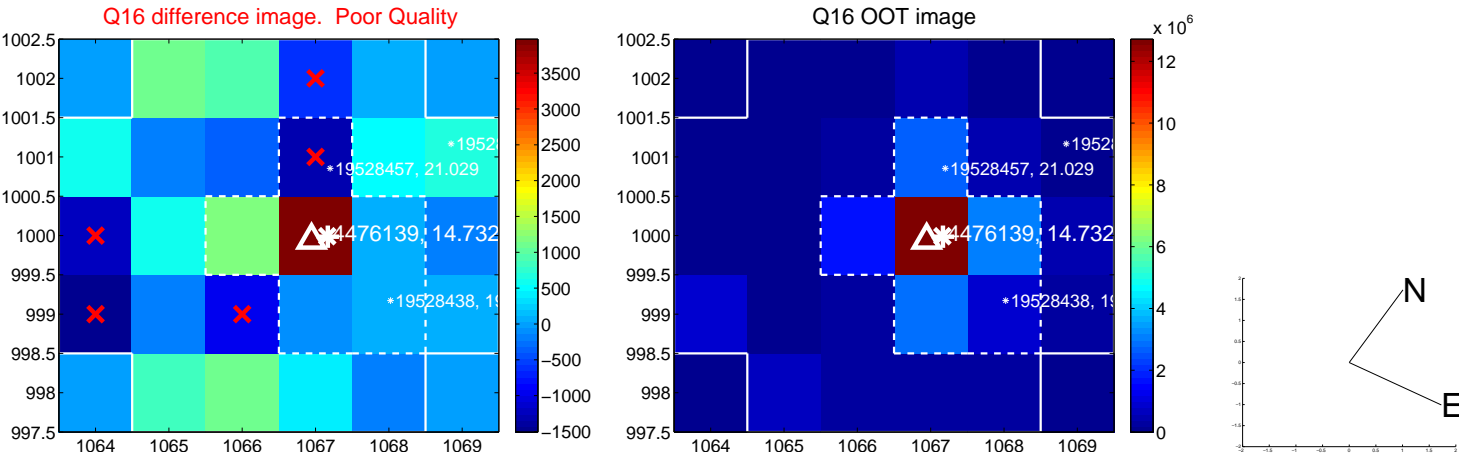
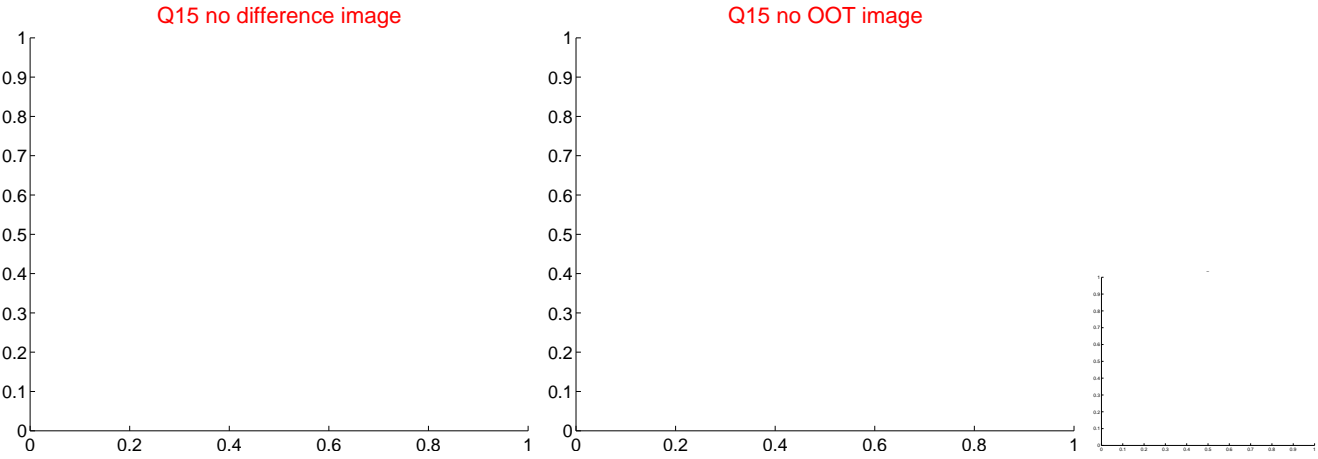
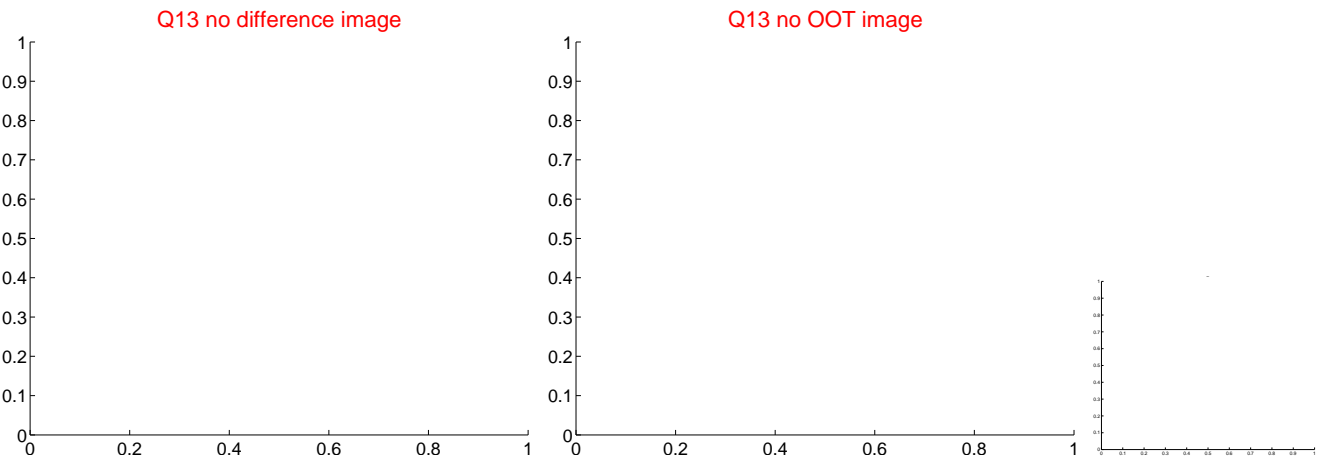
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



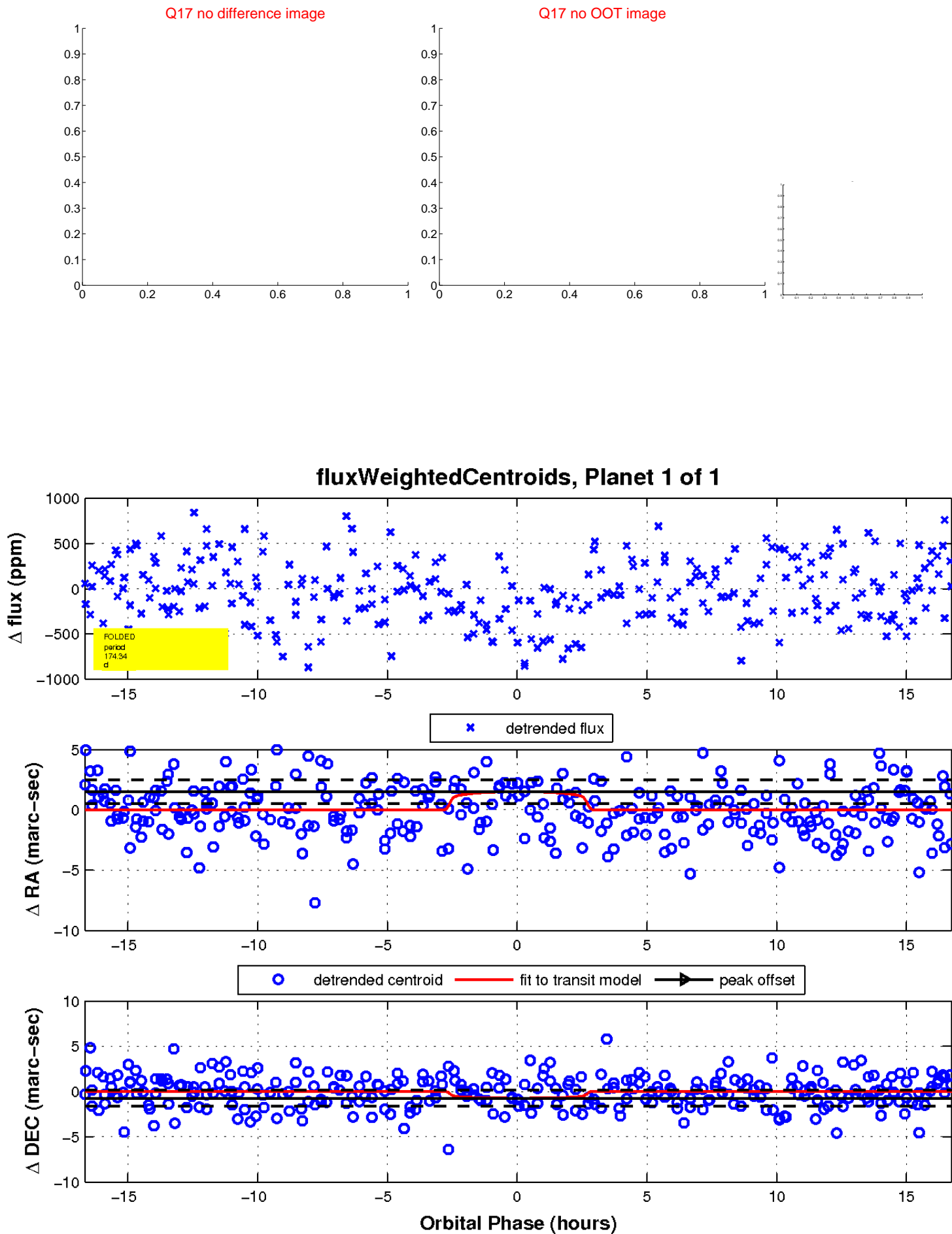
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

