

# KIC 004826145

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004826145-01	OBS	No	471.241600	161.707284	700.0	11.186	8.7	5.4	0.81	5662	2.25	0.46

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004826145-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_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.

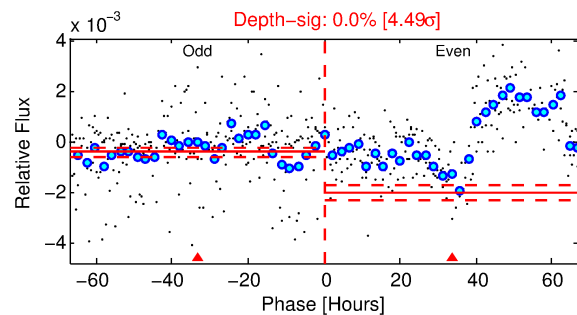
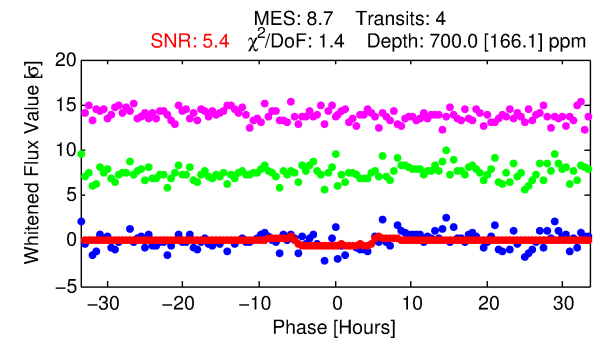
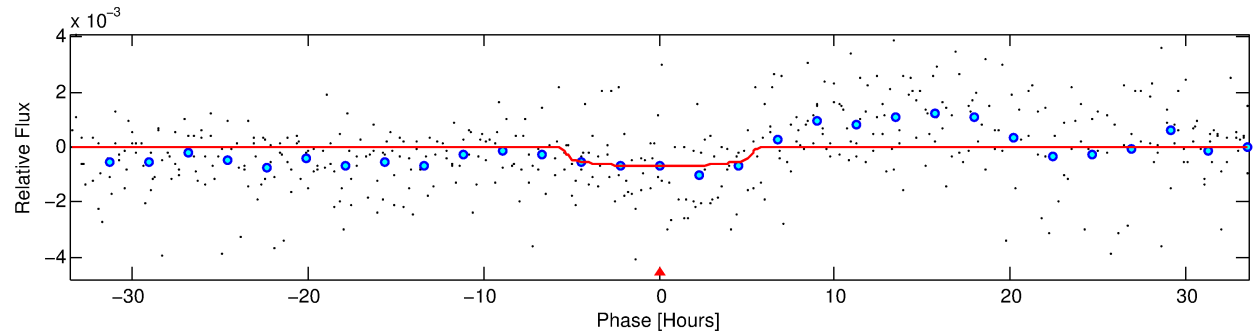
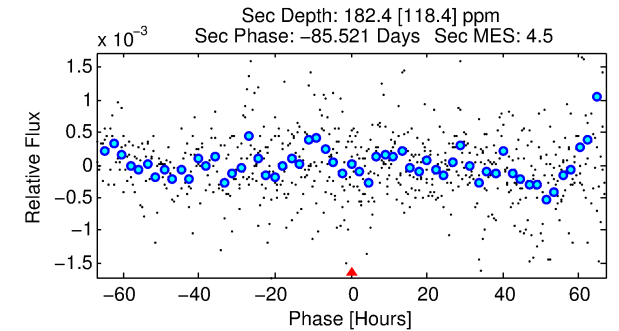
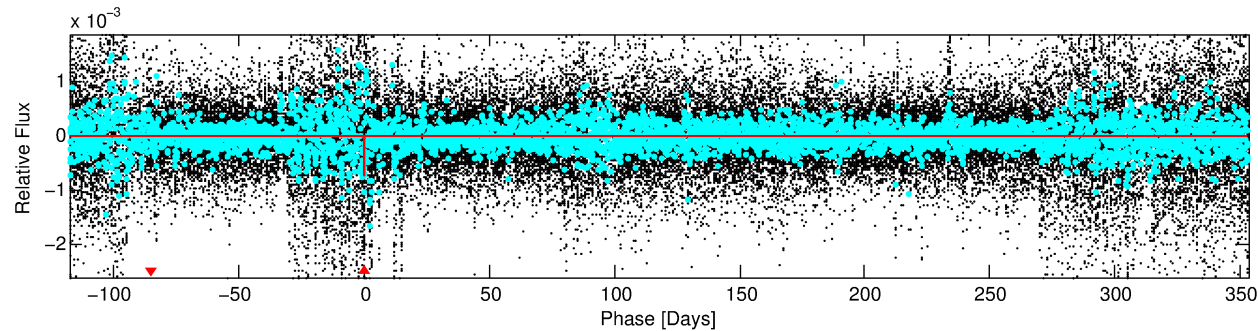
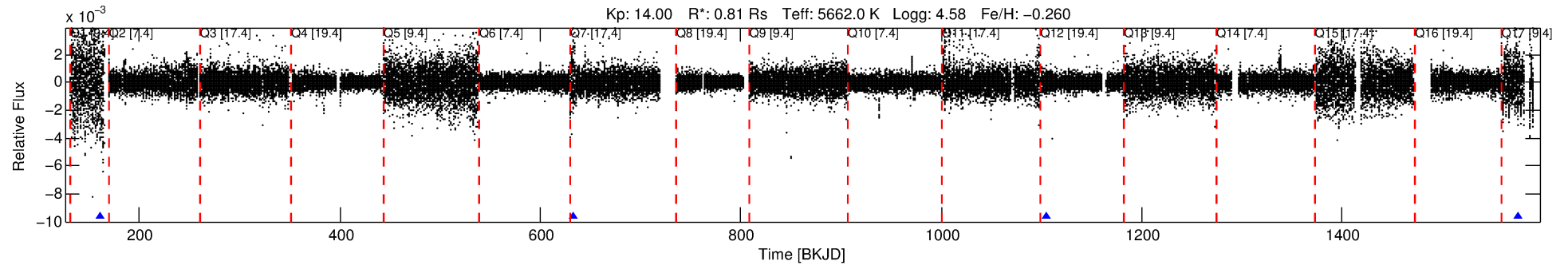
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004826145-01

No Significant Match Found

# DV One-Page Summary

KIC: 4826145 Candidate: 1 of 1 Period: 471.242 d



## DV Fit Results:

Period = 471.24160 [0.01734] d  
Epoch = 161.7073 [0.0348] BKJD  
Rp/R\* = 0.0256 [0.0255]  
a/R\* = 251.41 [1085.14]  
b = 0.66 [3.67]  
Seff = 0.46 [0.14]  
Teq = 210 [16] K  
Rp = 2.25 [2.30] Re  
a = 1.1395 [0.2215] AU  
Ag = 25735.23 [54460.50] [0.47σ]  
Teffp = 4111 [2158] K [1.81σ]

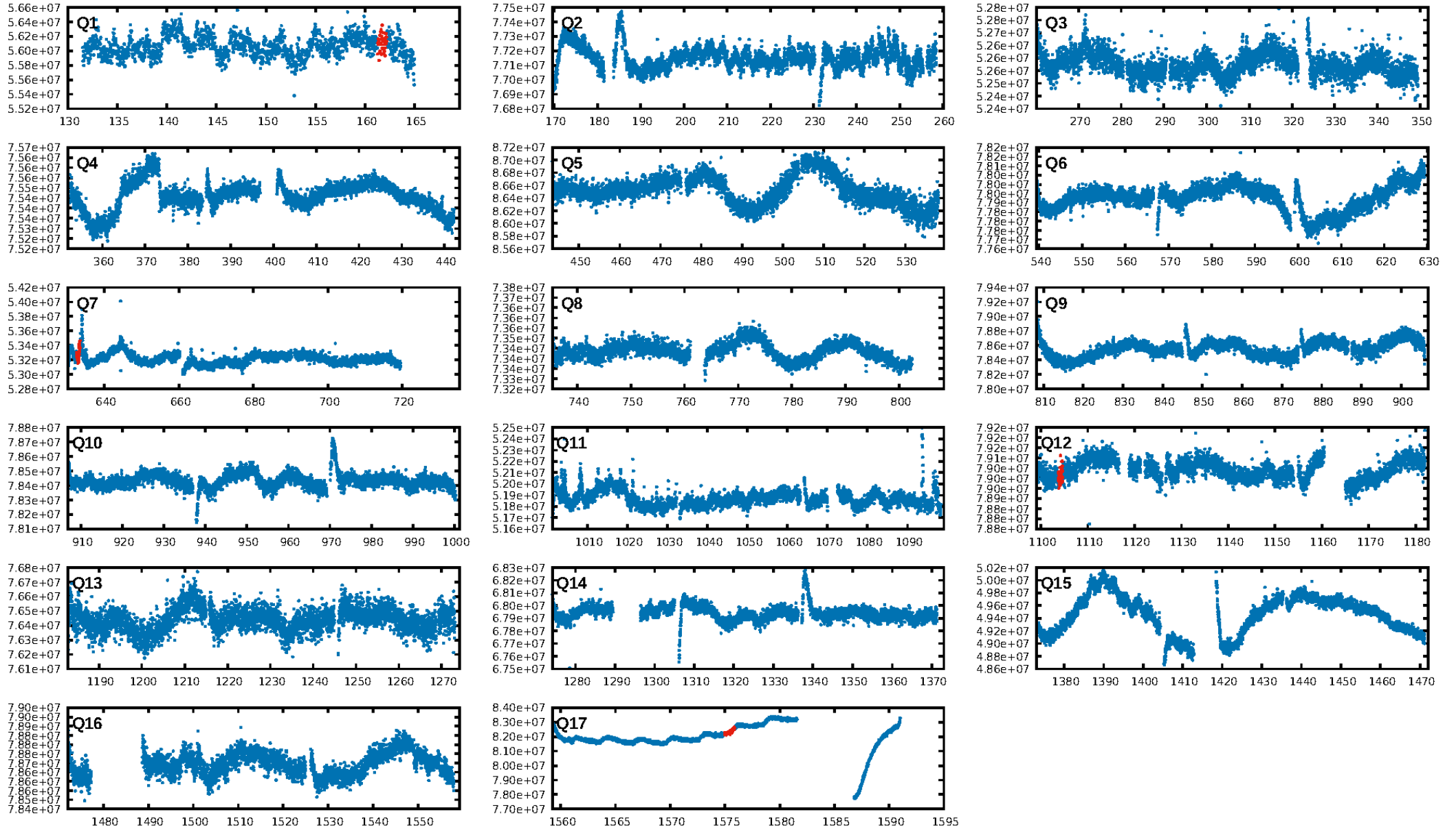
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 75.2%  
Bootstrap-pfa: 5.78e-11  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -0.8273  
Centroid-sig: 40.6%  
Centroid-so: 3.073 arcsec [22.52σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

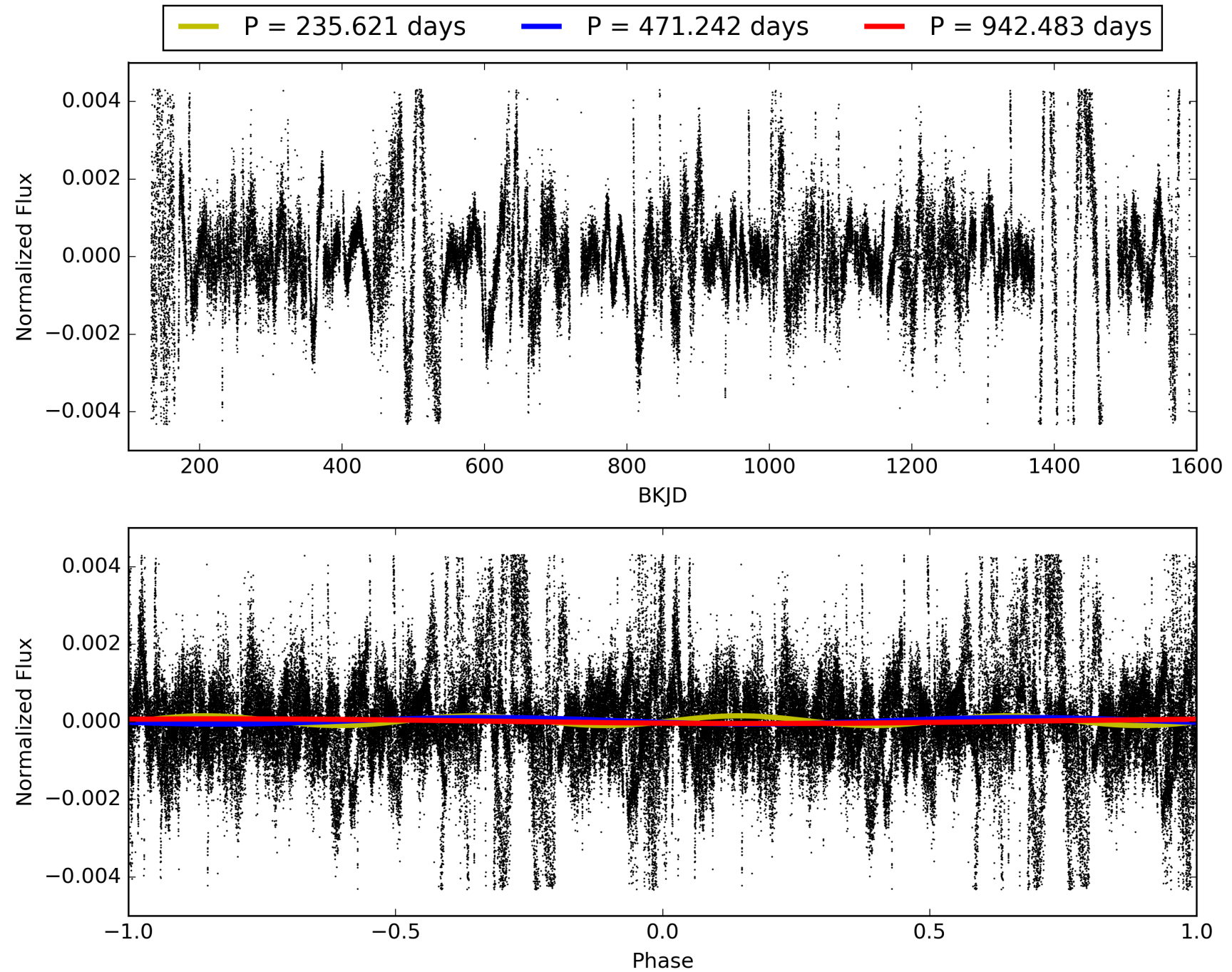
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:23:21 Z

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

# TCE 004826145-01, PDC Light Curves

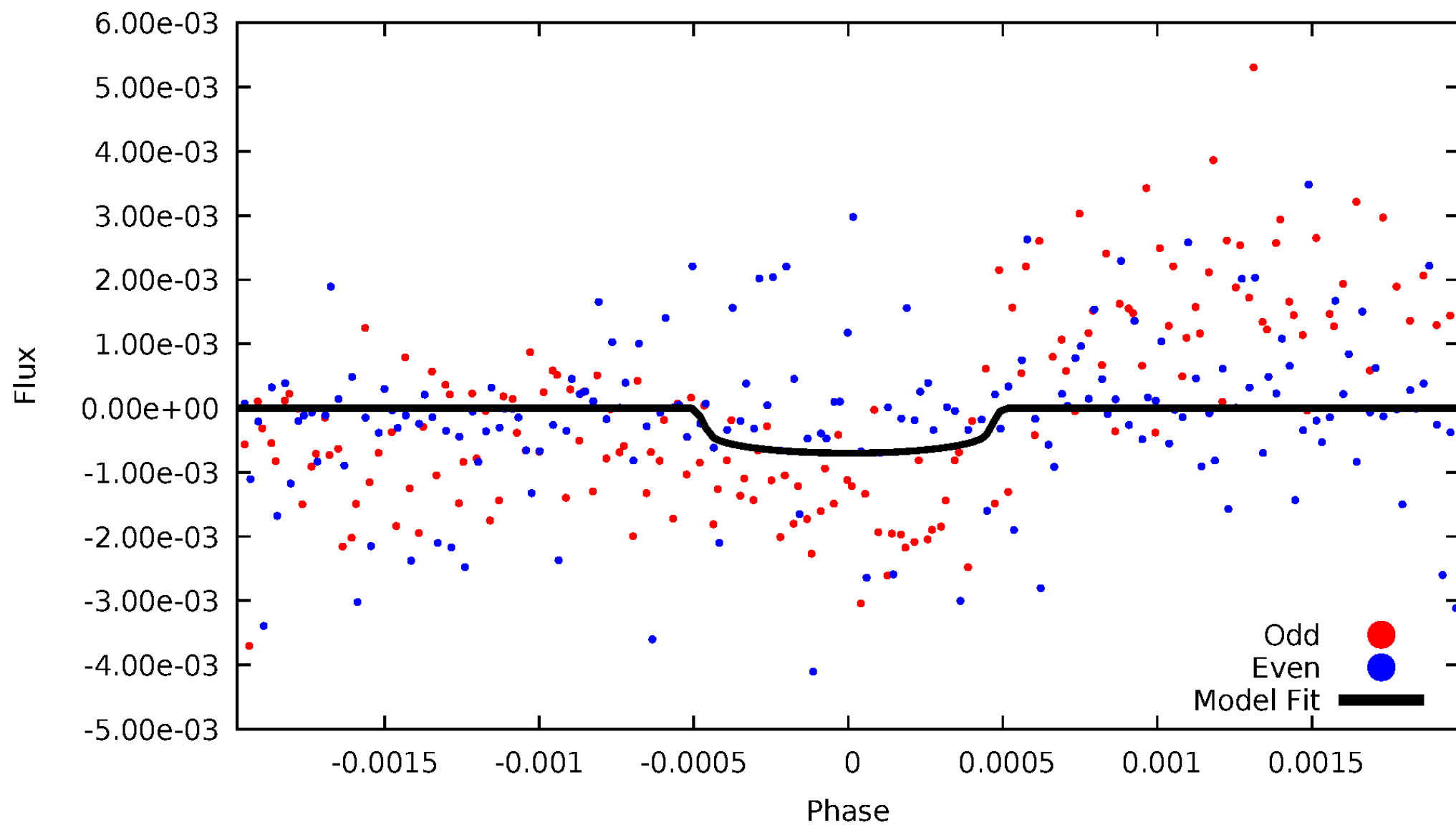


TCE 004826145-01



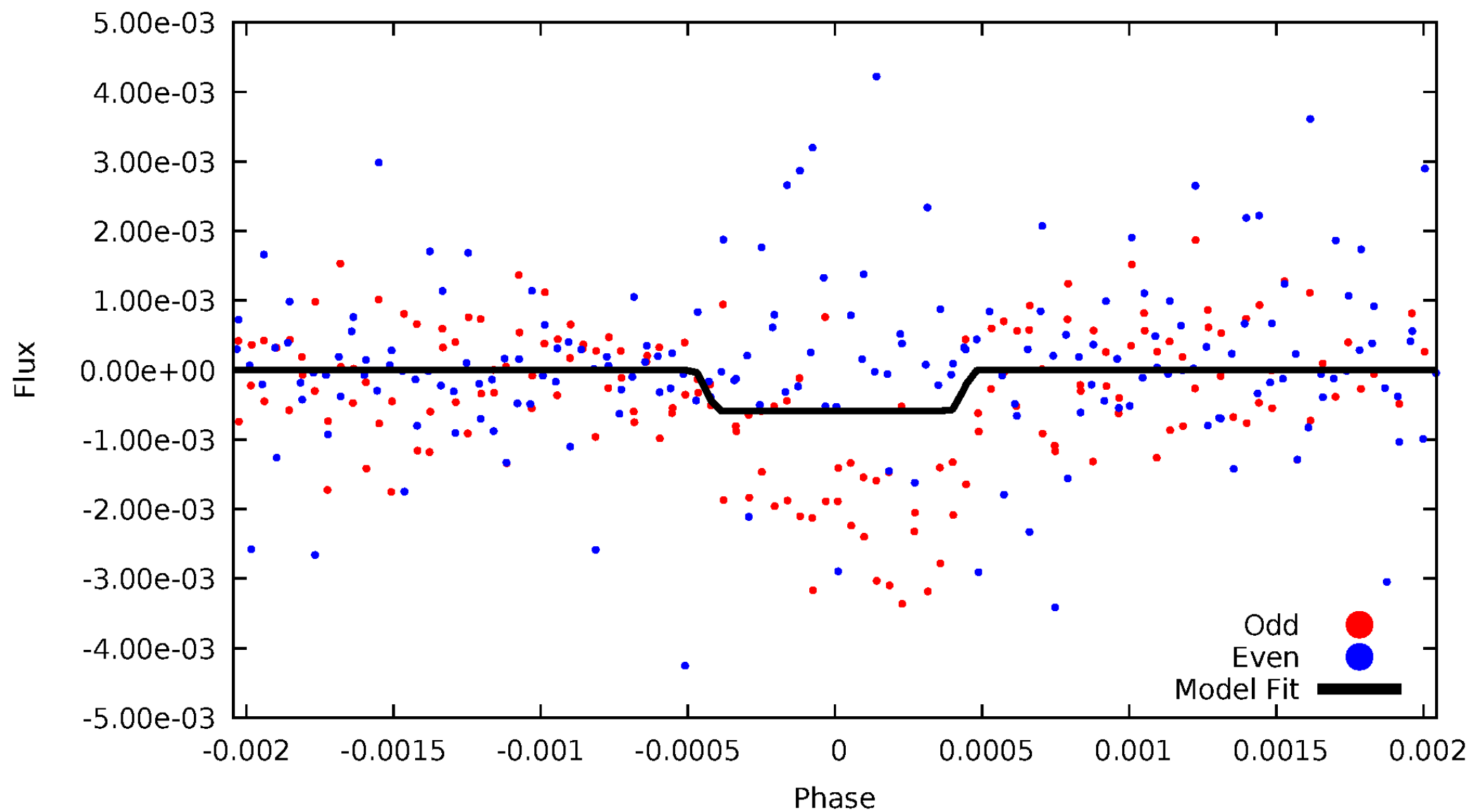
# DV Odd/Even

TCE 004826145-01

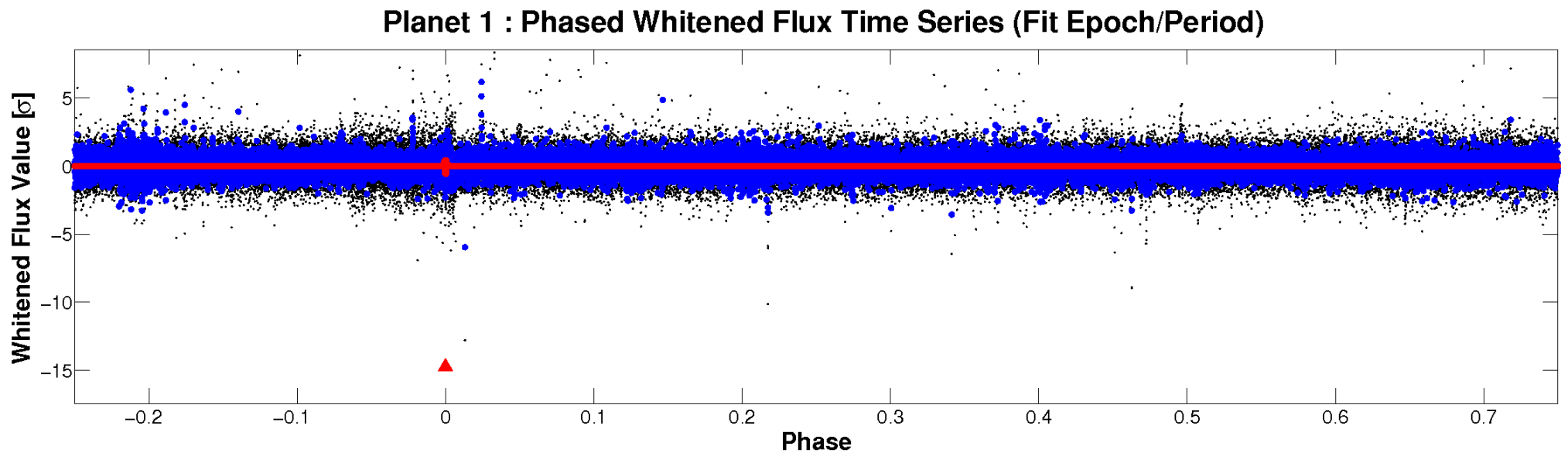
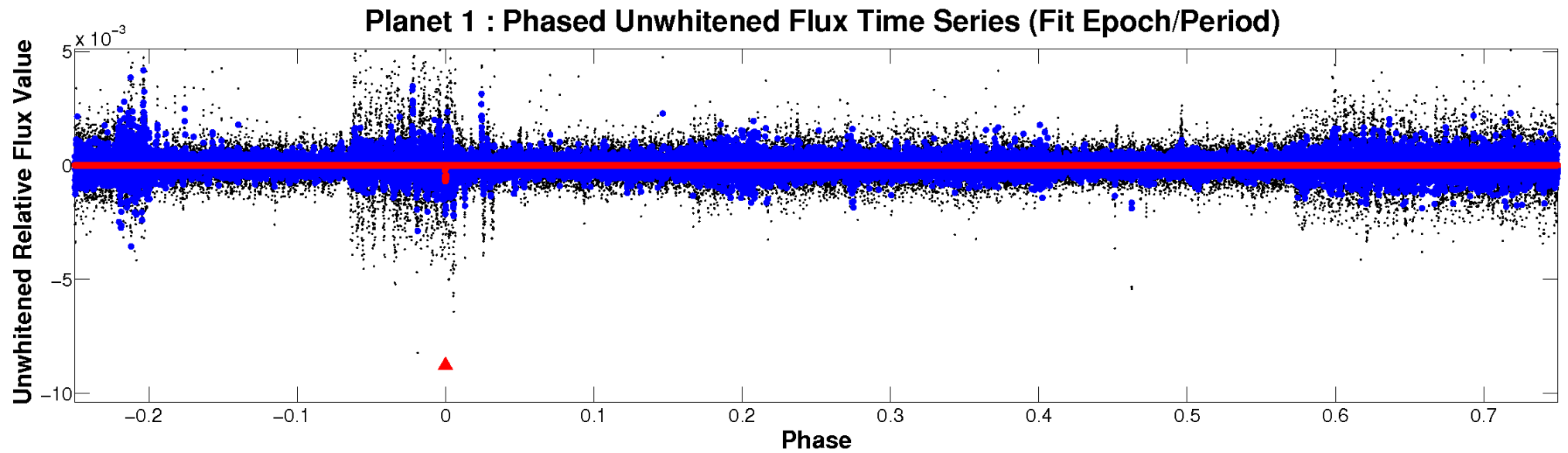


# ALT Odd/Even

TCE 004826145-01

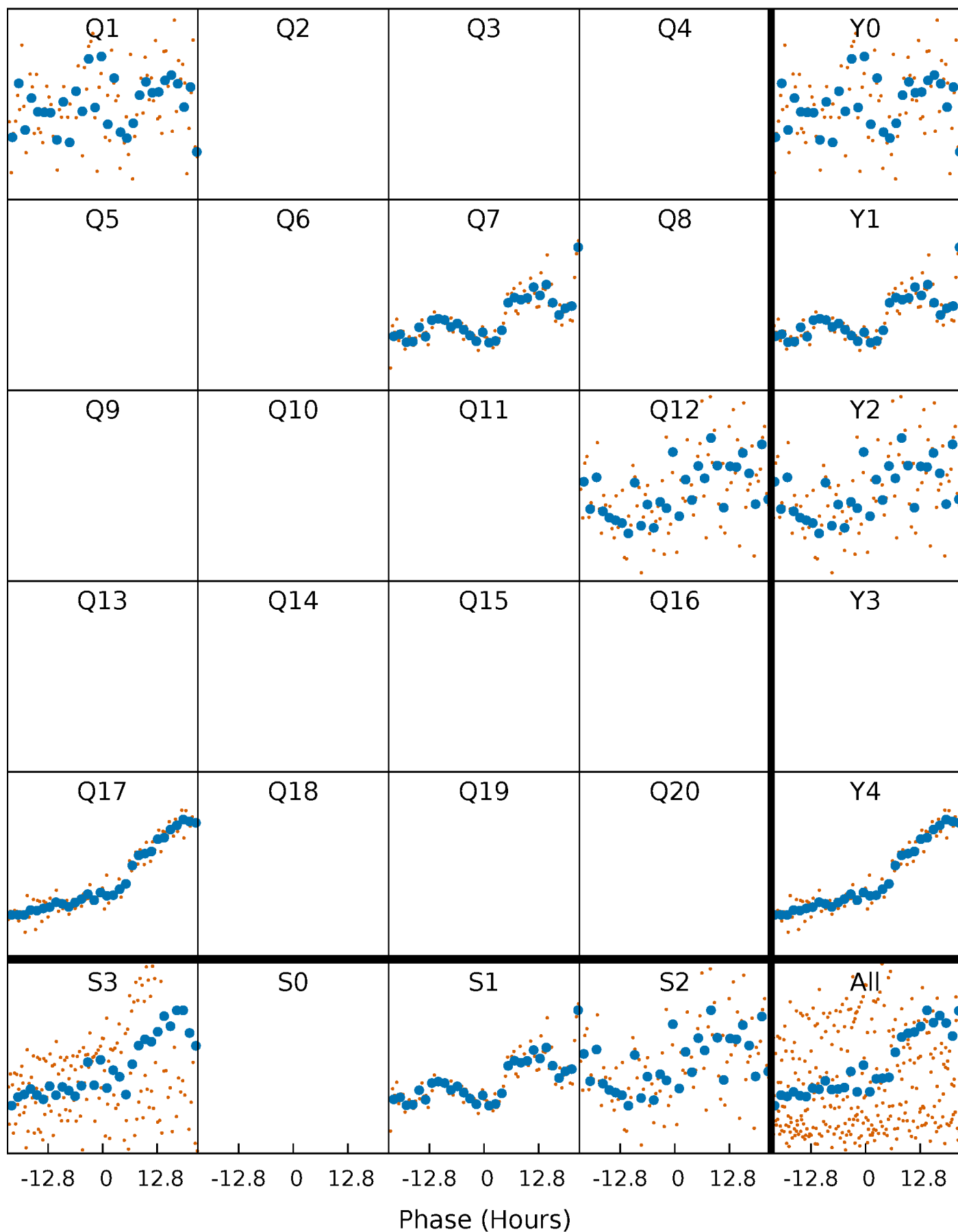


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

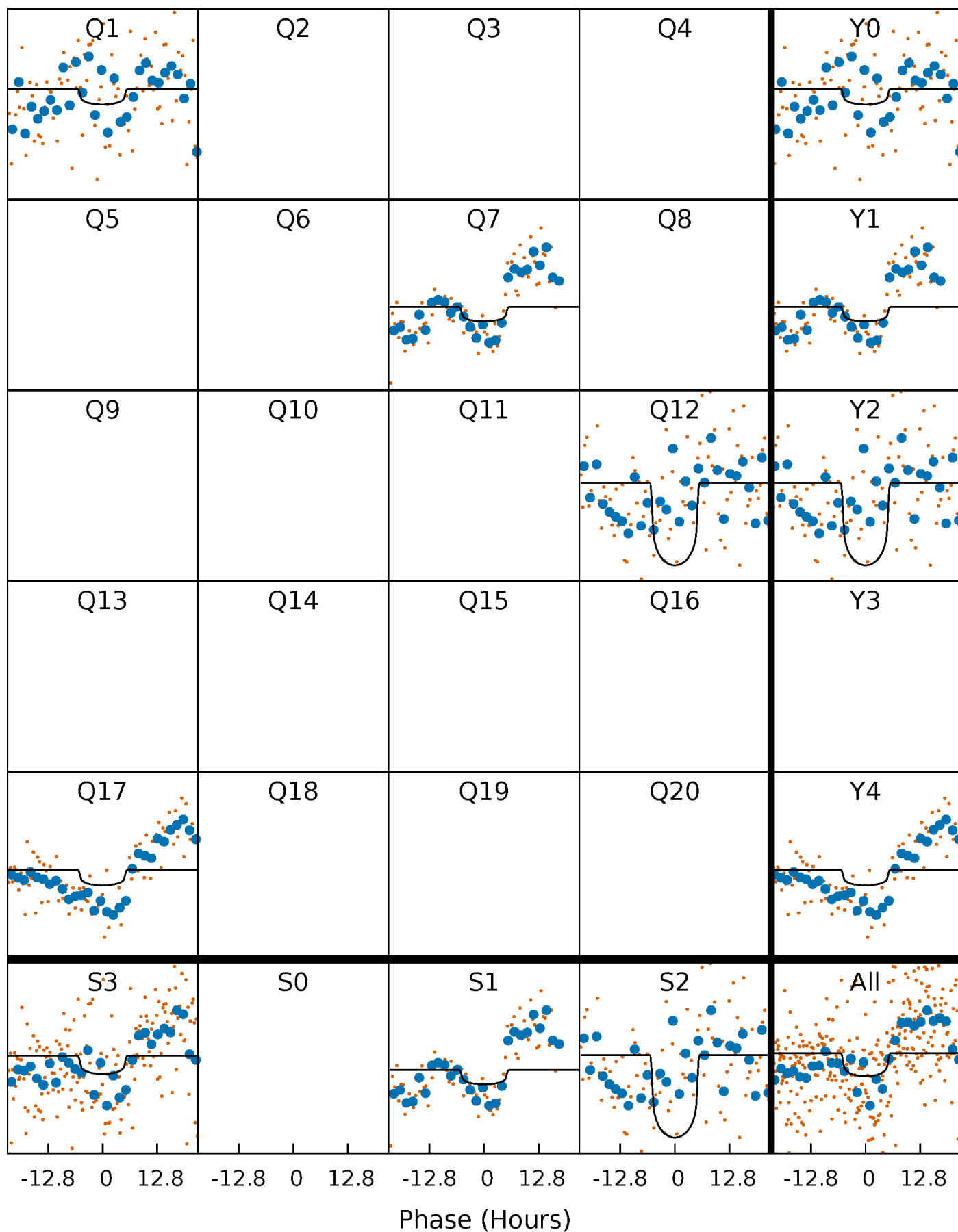
TCE 004826145-01 P=471.241600 Days  $T_0=161.707284$  (BKJD)





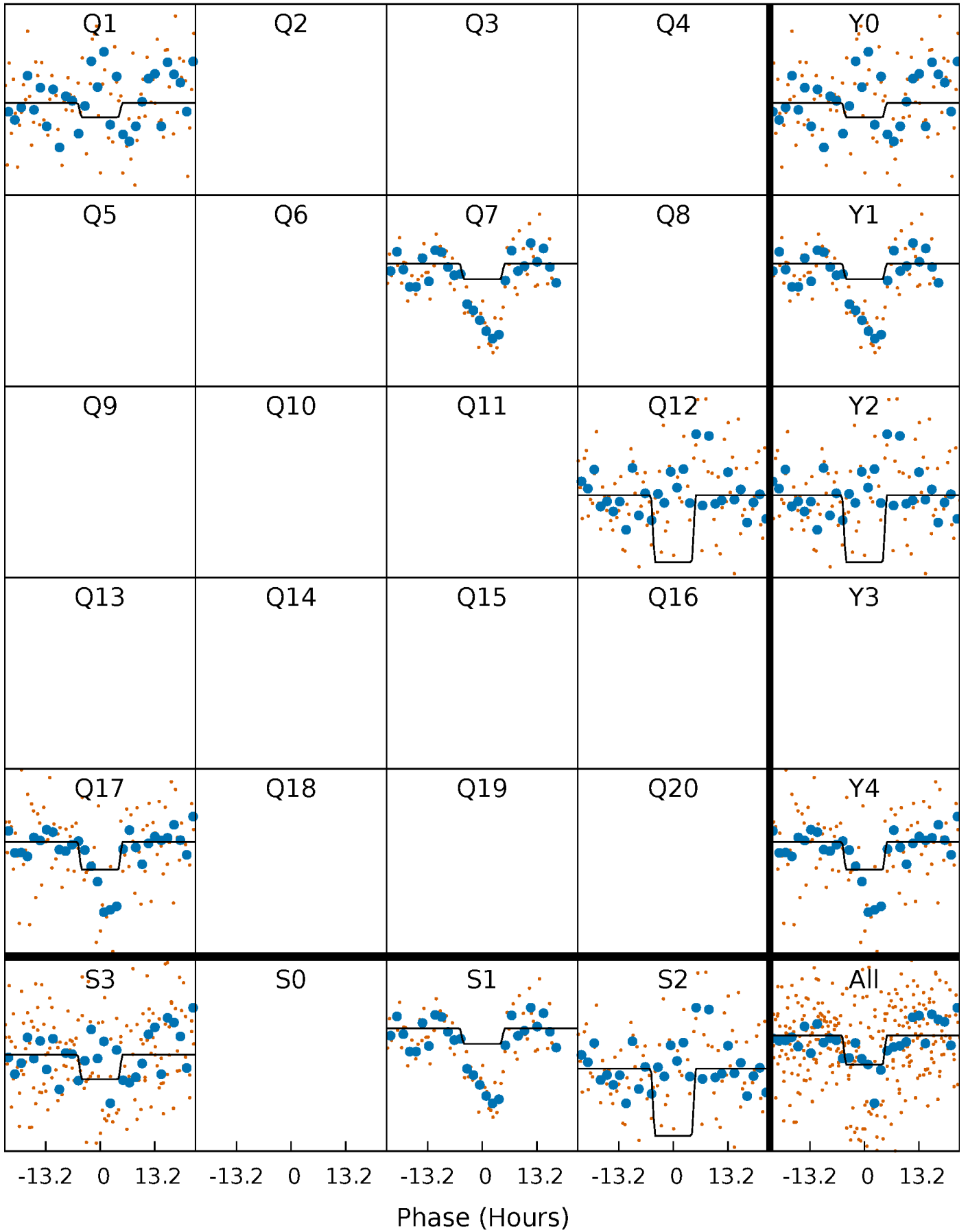
# DV Quarter-Phased Transit Curves

TCE 004826145-01 P=471.241600 Days  $T_0=161.707284$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

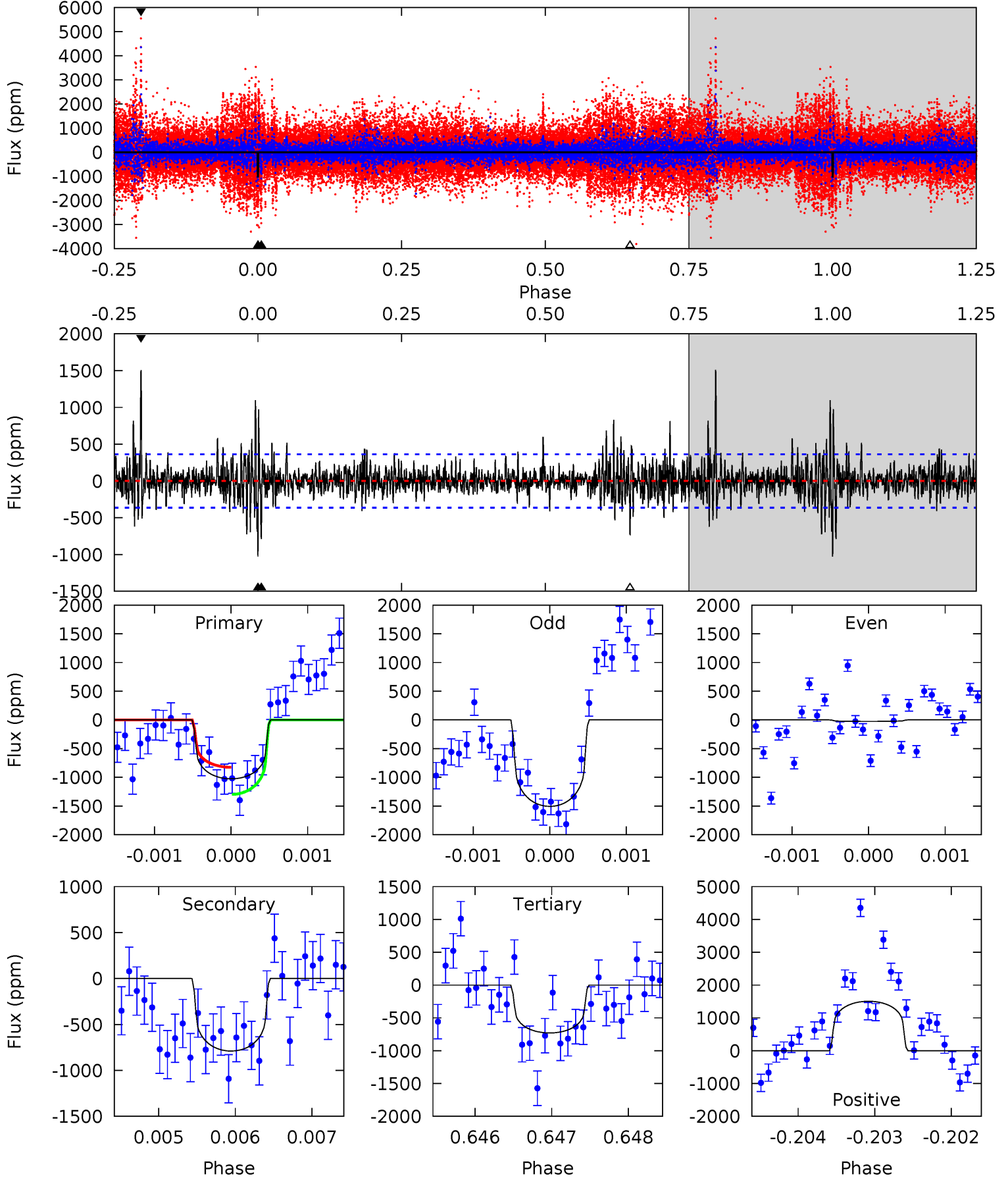
TCE 004826145-01 P=471.279628 Days  $T_0=161.648252$  (BKJD)



# DV Model-Shift Uniqueness Test

004826145-01, P = 471.241600 Days, E = 161.707284 Days

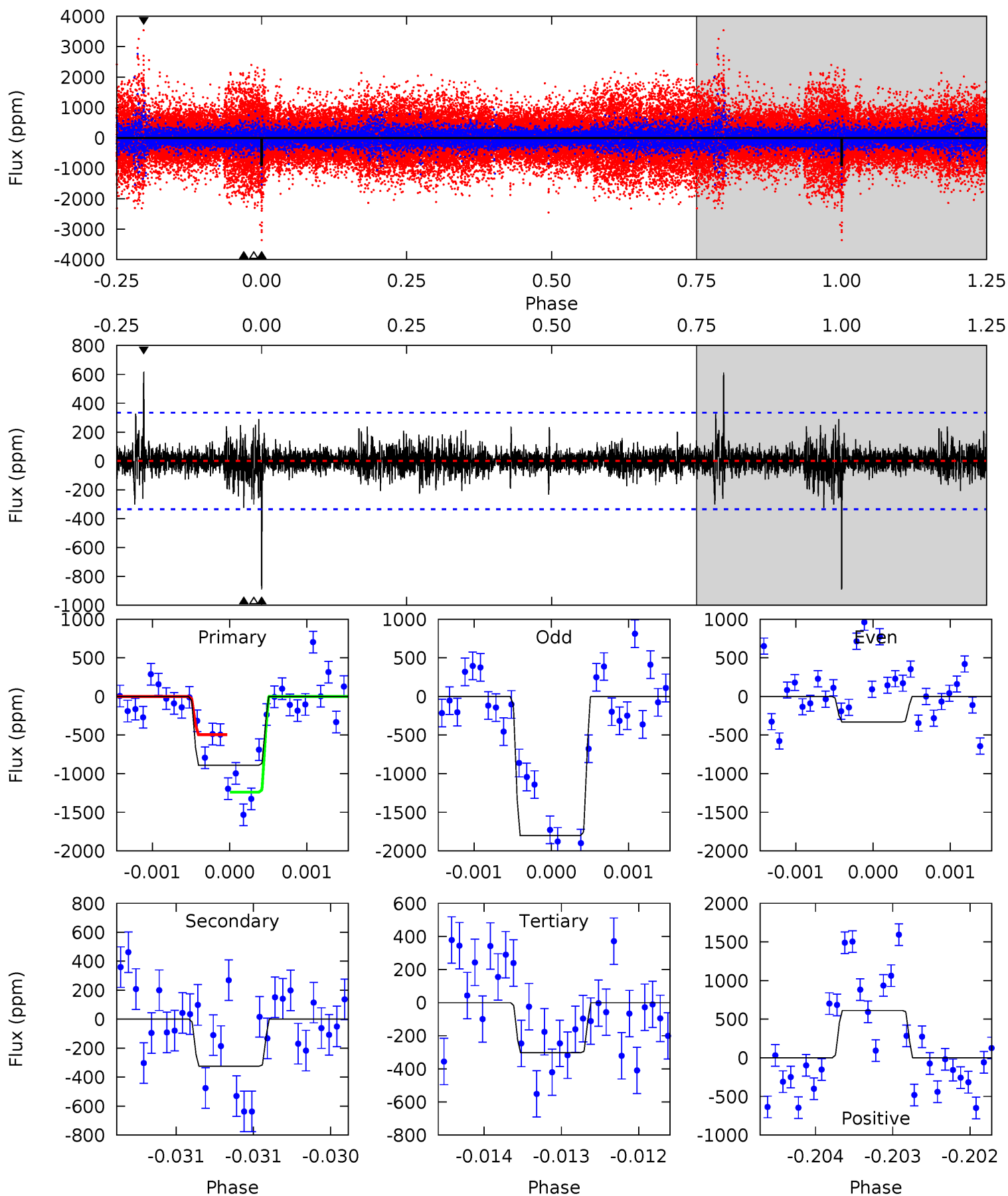
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	11.8	10.9	22.6	5.45	3.29	2.56	4.45	-7.18	0.90	-10.7	10.7	1.12	0.59	3.54



# Alt Model-Shift Uniqueness Test

004826145-01, P = 471.279628 Days, E = 161.648252 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	5.29	4.92	9.98	5.46	3.30	0.99	9.60	4.55	0.37	-4.69	11.8	1.38	0.41	6.10



### Stellar Parameters For KIC 004826145

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5662^{+152}_{-152}$	$4.575^{+0.040}_{-0.160}$	$-0.260^{+0.300}_{-0.300}$	$0.805^{+0.182}_{-0.073}$	$0.899^{+0.085}_{-0.106}$	$2.426^{+0.467}_{-1.039}$
	+3%/-3%	+1%/-3%	+115%/-115%	+23%/-9%	+9%/-12%	+19%/-43%
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 004826145-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-790 \pm 67$	$2.91^{+2.01}_{-1.88}$	$301^{+15}_{-14}$	$5368^{+4215}_{-1027}$	$67051^{+482891}_{-44259}$
Alt.	$-324 \pm 61$	$2.78^{+2.20}_{-1.73}$	$299^{+15}_{-11}$	$4484^{+2629}_{-818}$	$28363^{+177935}_{-19095}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

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

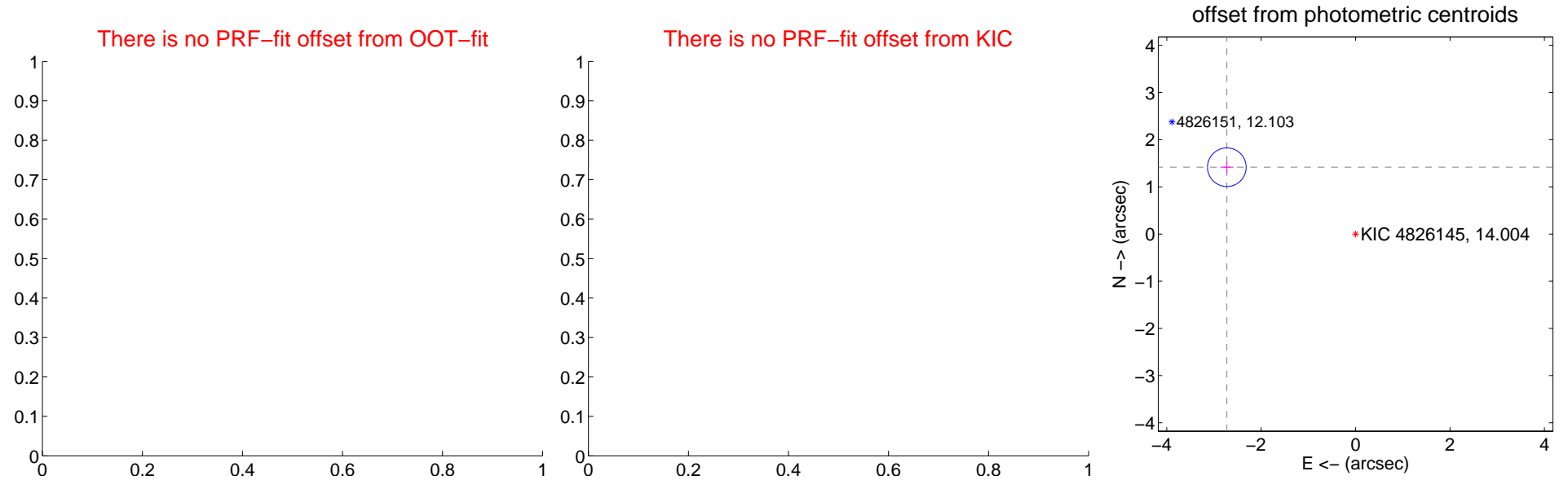
## DV Centroid Data

Supplemental centroid analysis for 004826145-01. Kepler magnitude: 14.00. Transit SNR 5.39

There are 0 quarters with good PRF difference image offsets

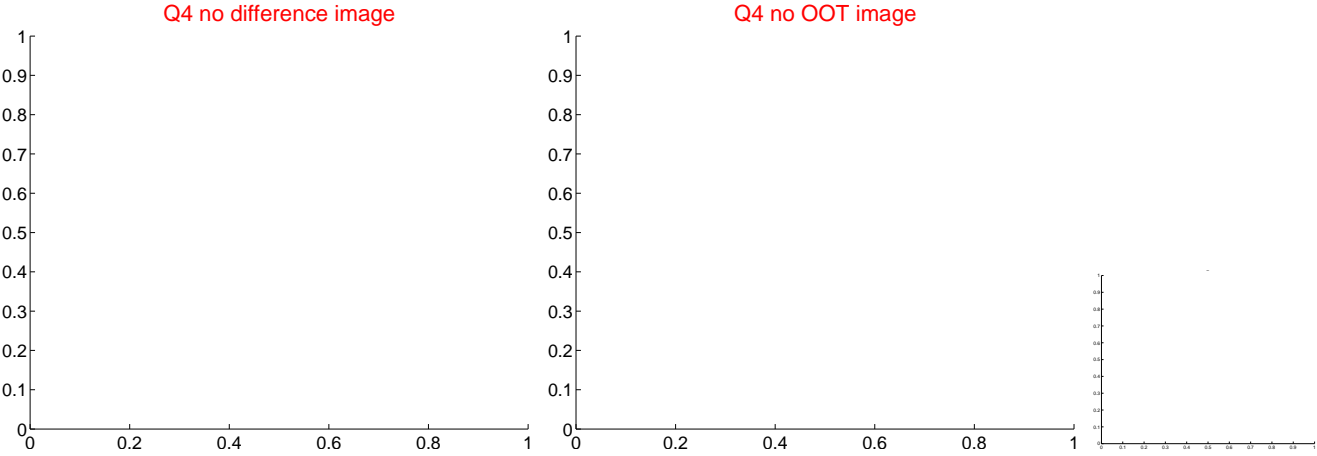
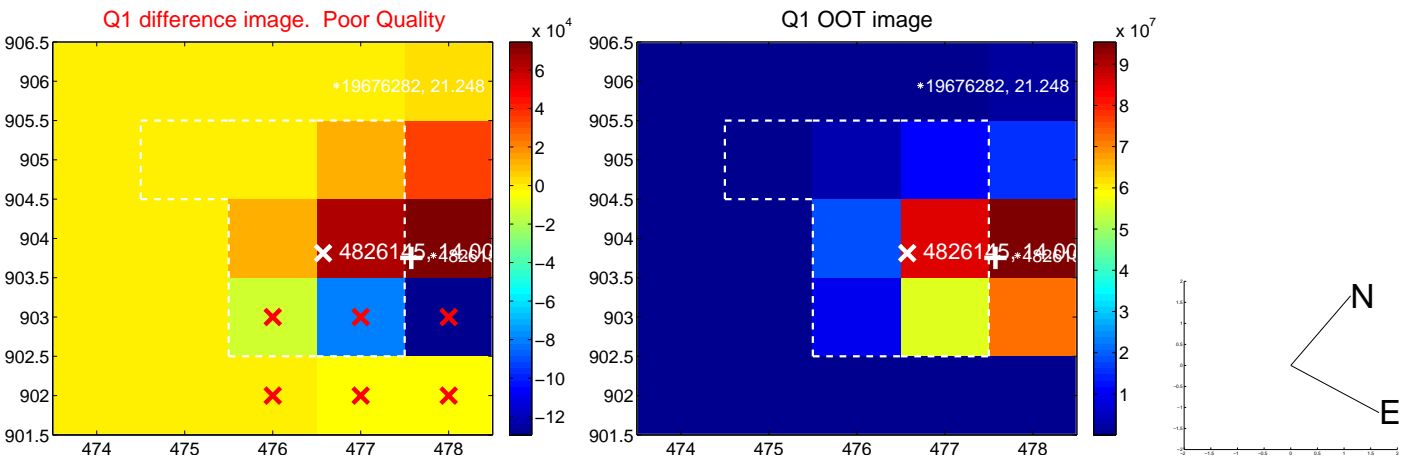
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$3.07 \pm 0.14$	$22.52$	$2.73 \pm 0.14$	$1.42 \pm 0.13$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.





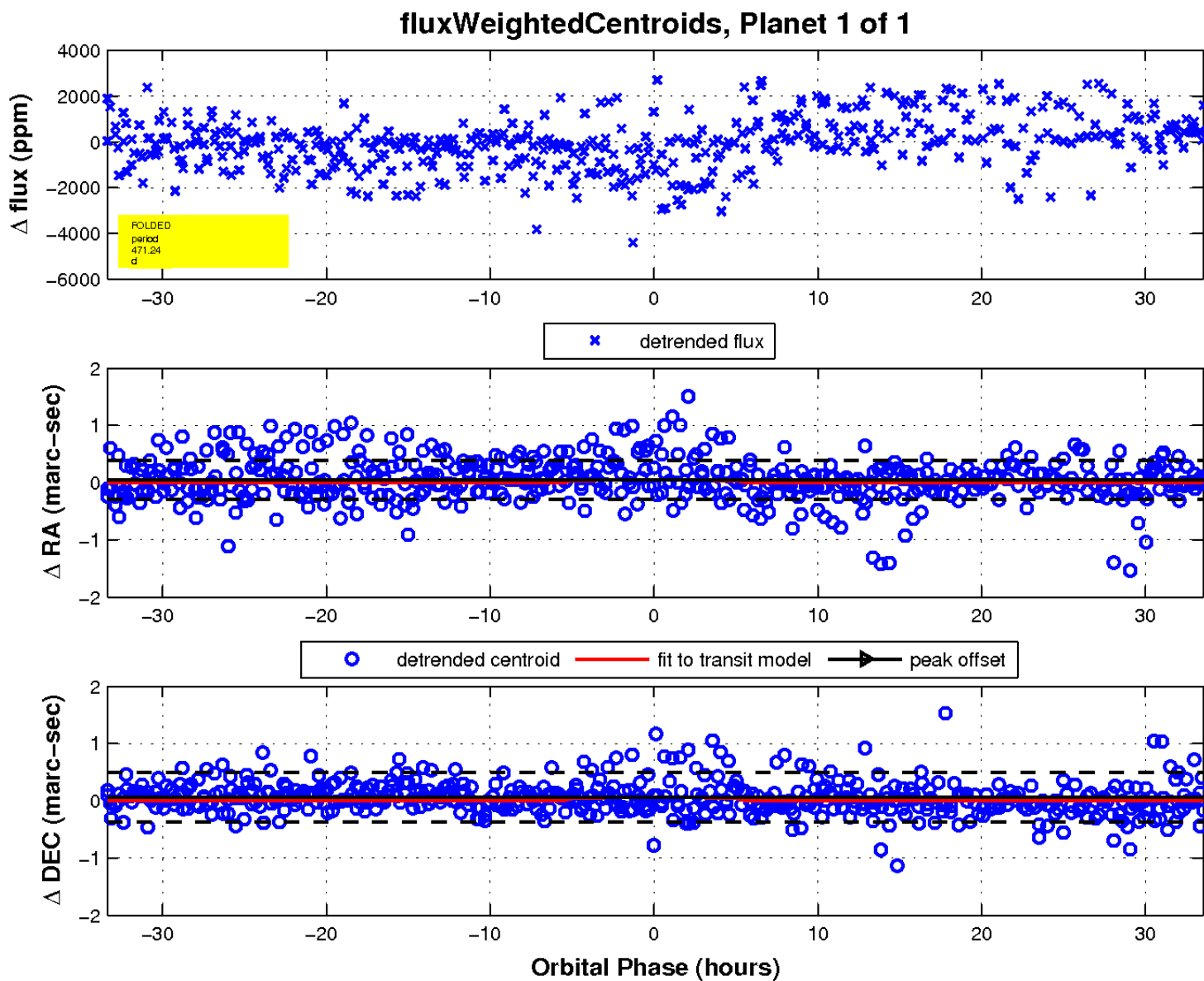
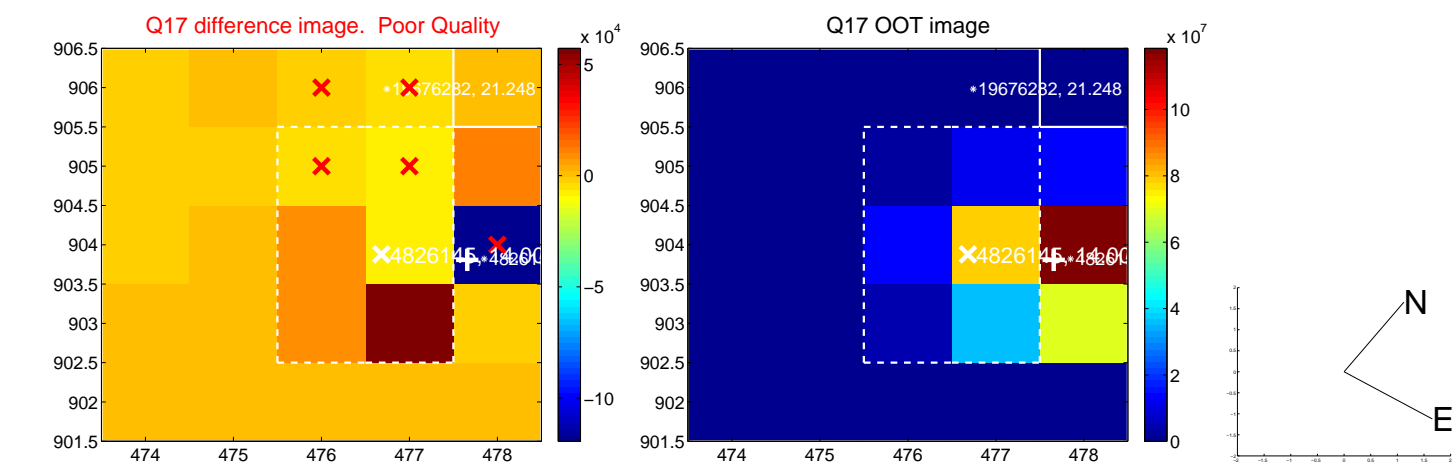
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

