

# KIC 008225946

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008225946-01	OBS	No	440.384781	447.910252	516.4	4.447	8.6	3.6	0.96	5672	2.48	0.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008225946-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

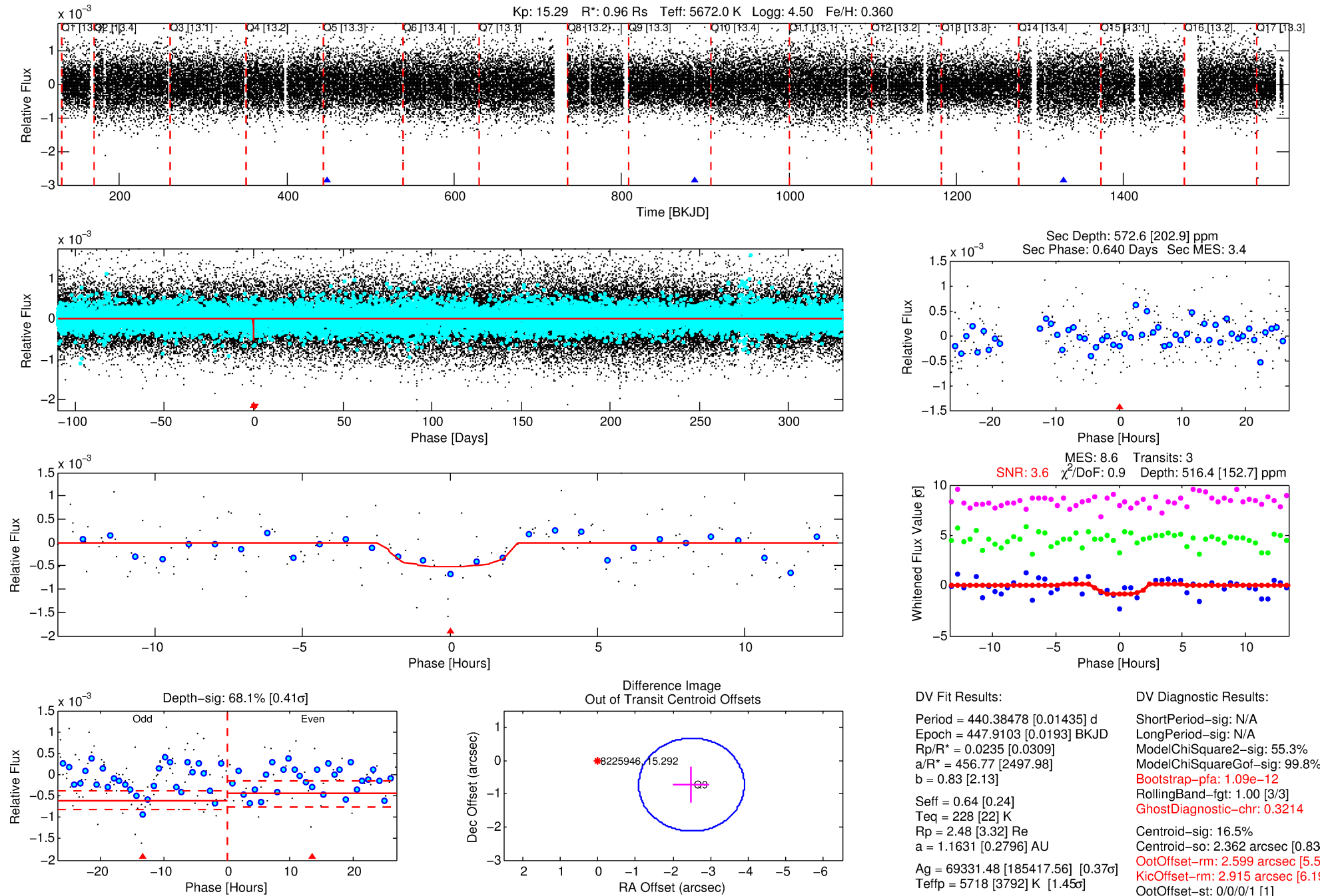
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008225946-01

No Significant Match Found

# DV One-Page Summary

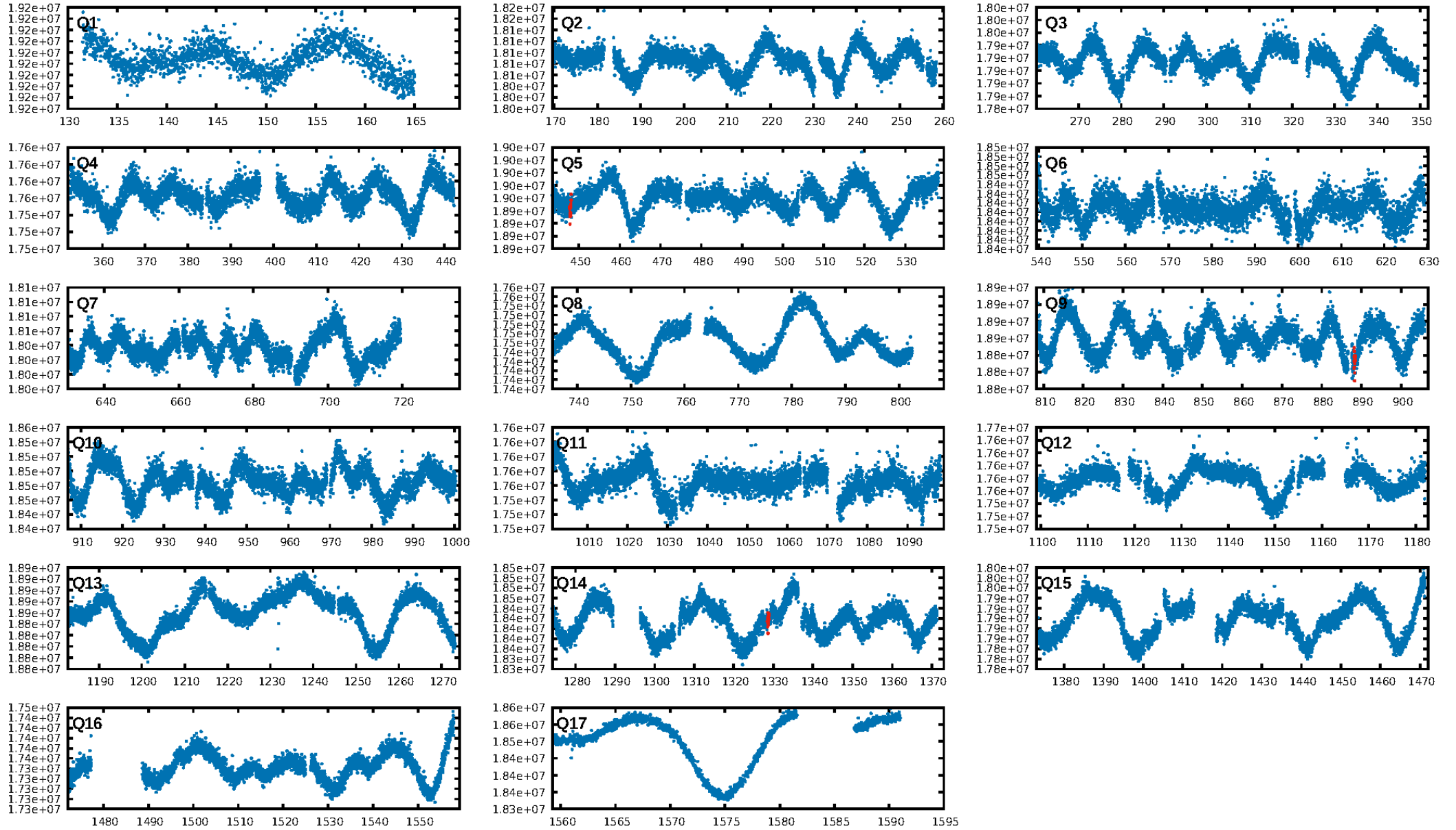
KIC: 8225946 Candidate: 1 of 1 Period: 440.385 d



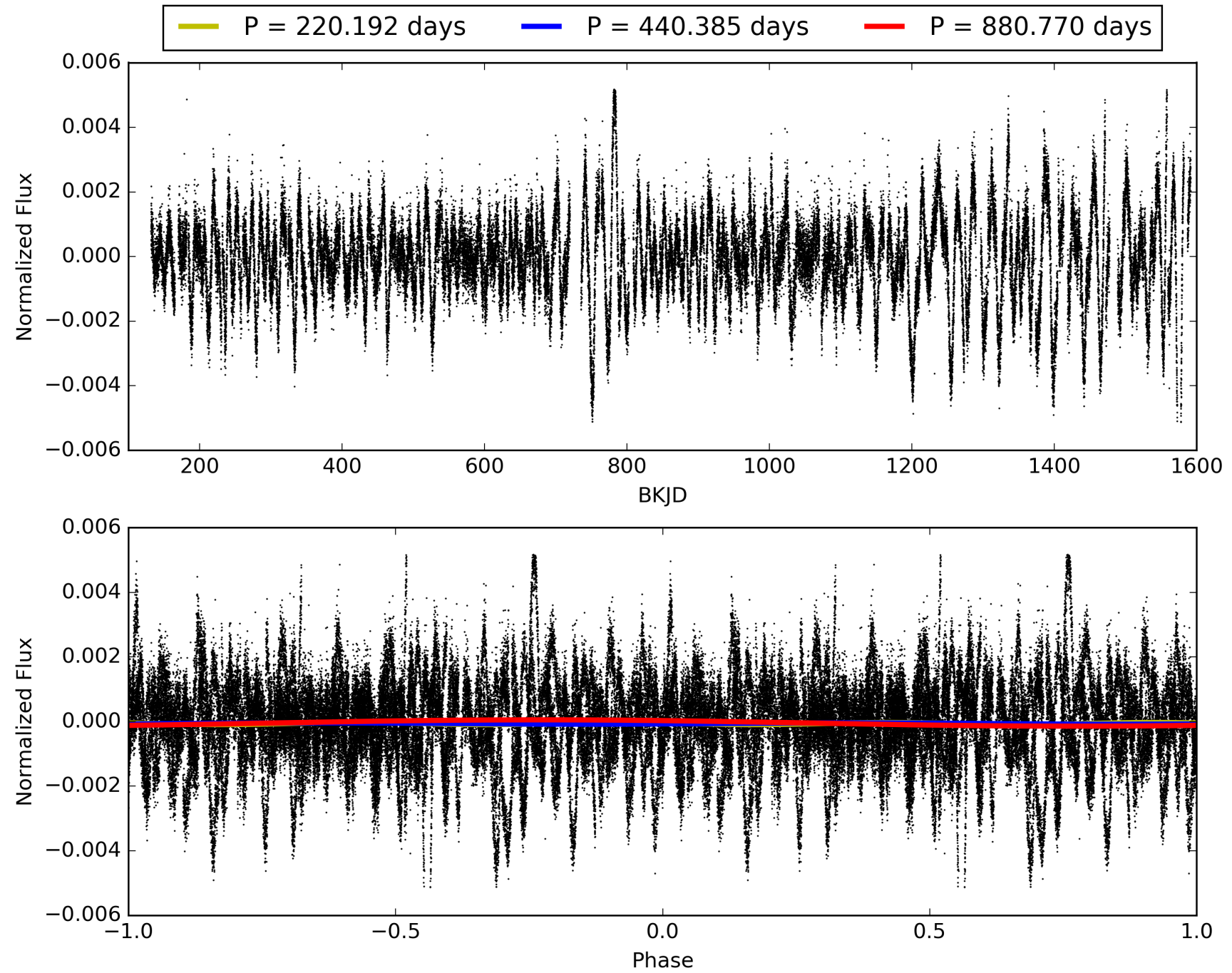
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:19:59 Z

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

# TCE 008225946-01, PDC Light Curves

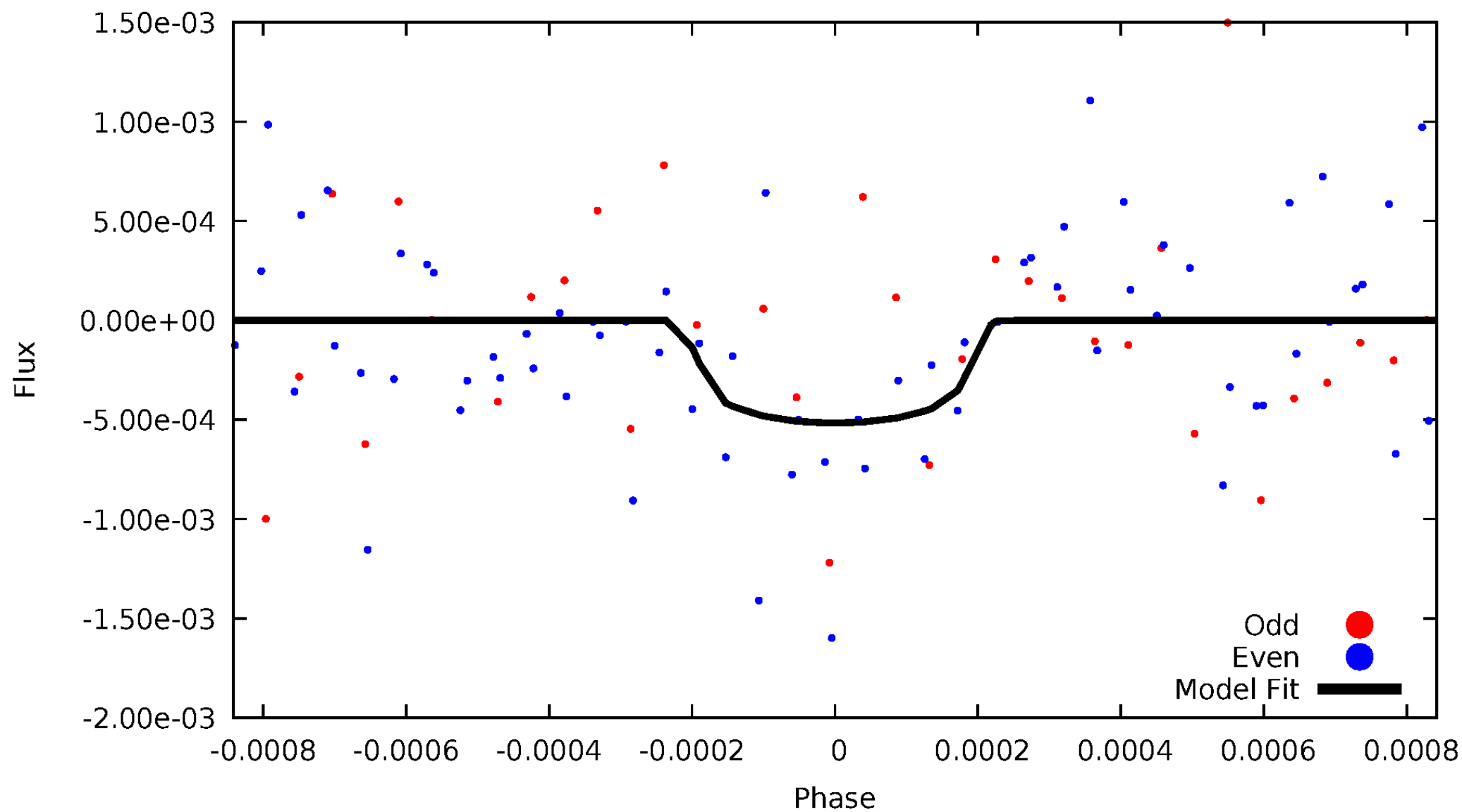


TCE 008225946-01



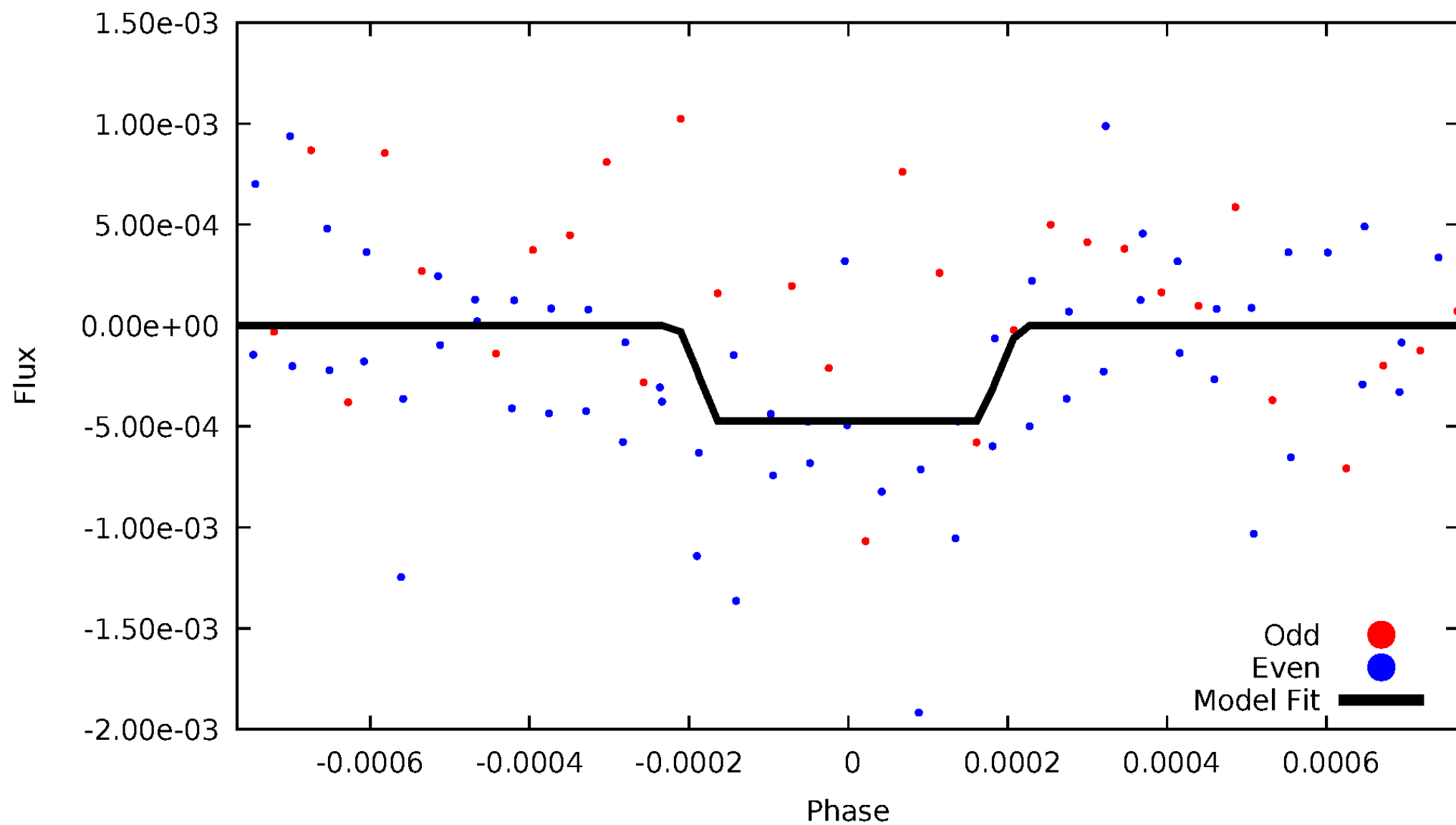
# DV Odd/Even

TCE 008225946-01

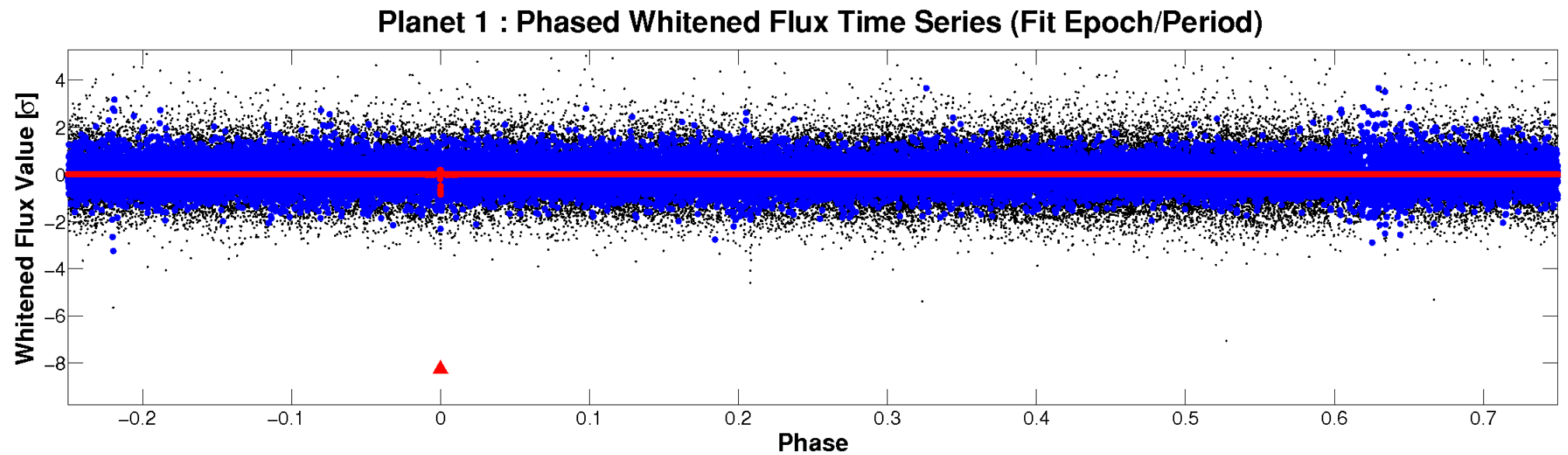
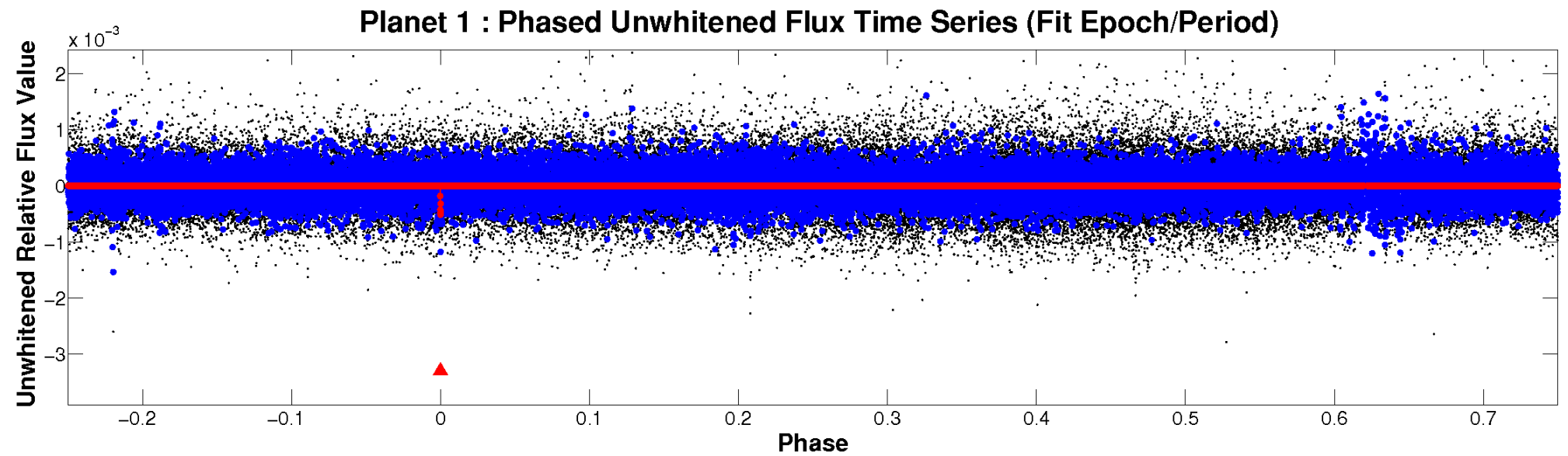


# ALT Odd/Even

TCE 008225946-01

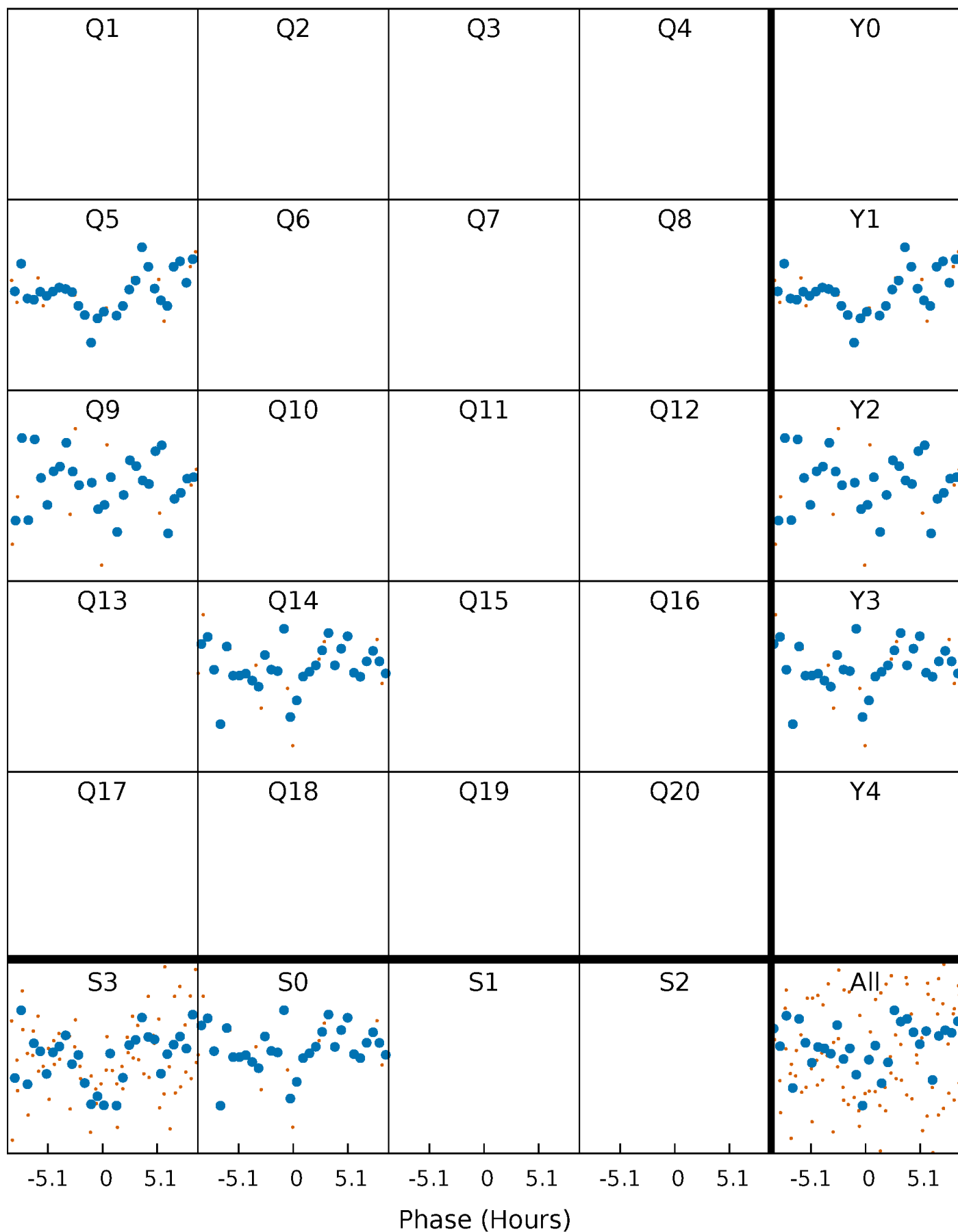


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

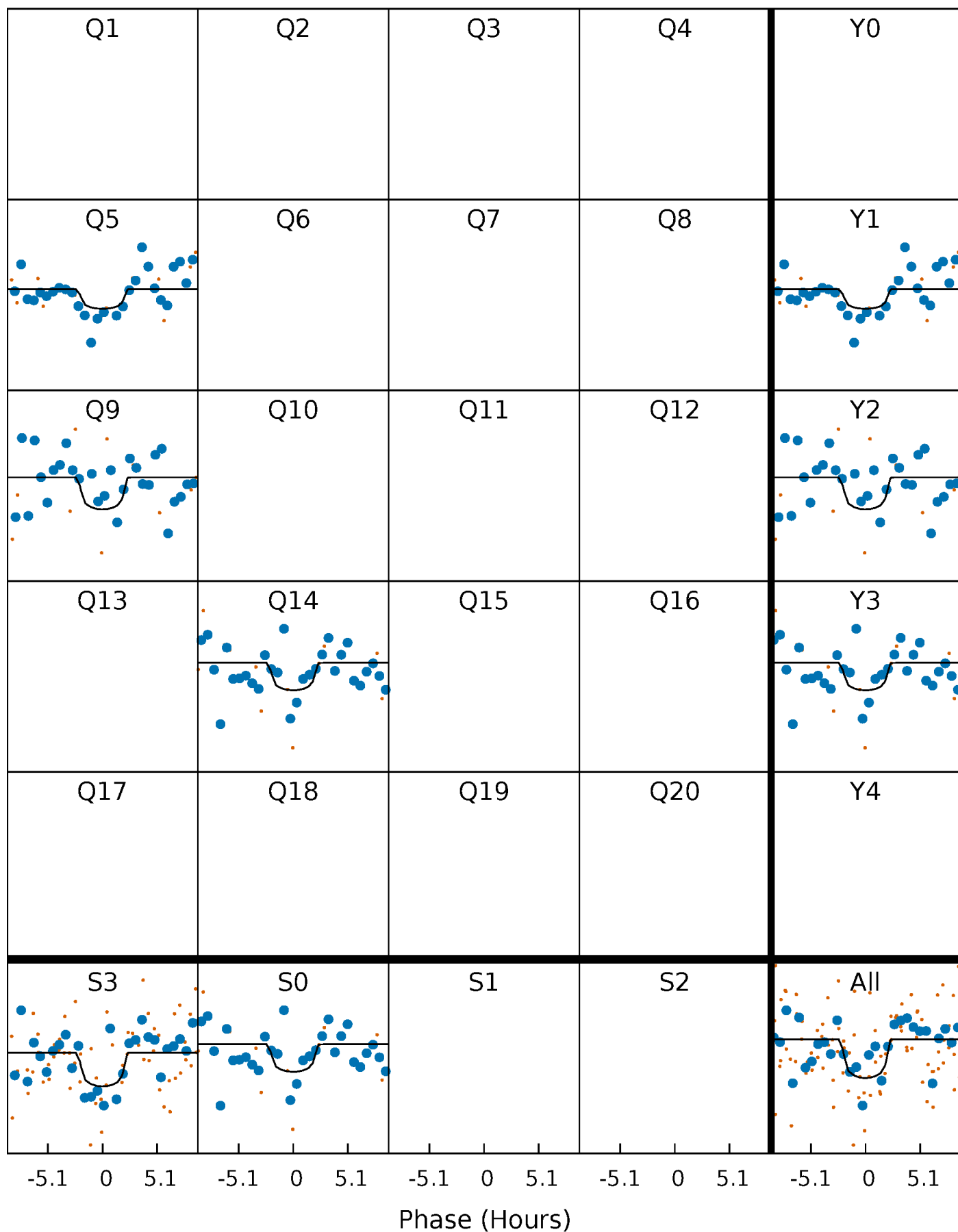
TCE 008225946-01   P=440.384781 Days    $T_0=447.910252$  (BKJD)





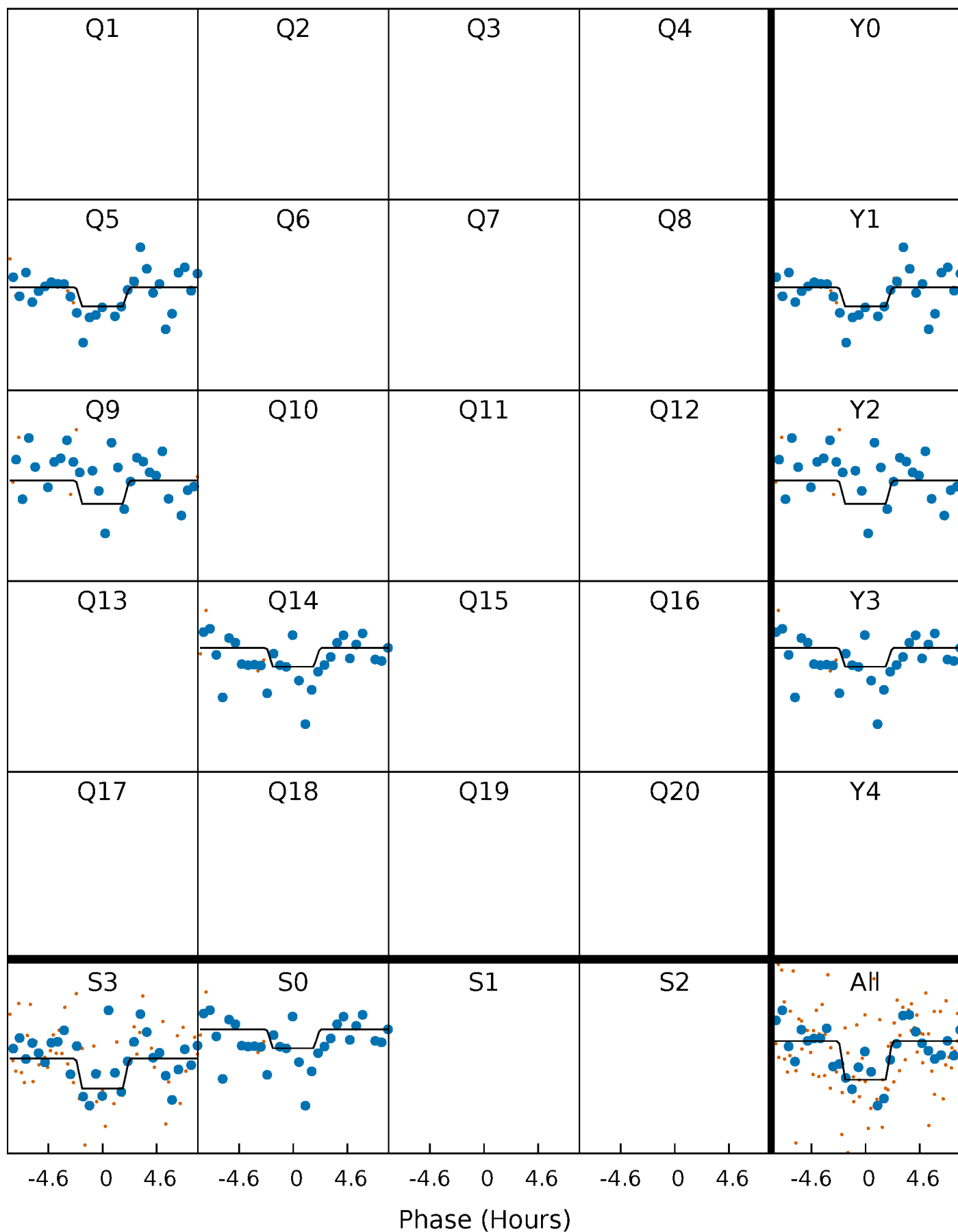
# DV Quarter-Phased Transit Curves

TCE 008225946-01 P=440.384781 Days  $T_0=447.910252$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

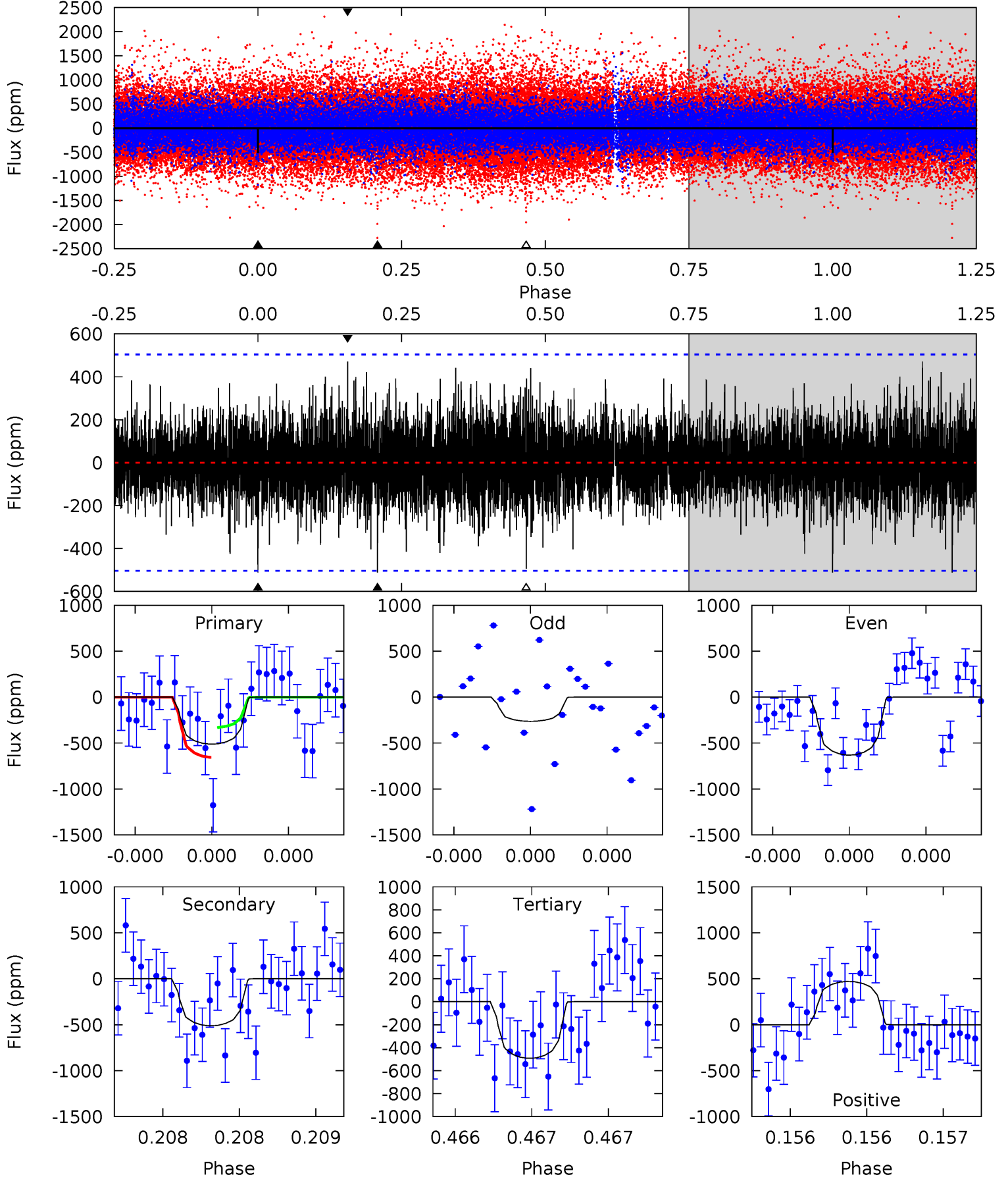
TCE 008225946-01 P=440.356840 Days  $T_0=447.925360$  (BKJD)



# DV Model-Shift Uniqueness Test

008225946-01, P = 440.384781 Days, E = 7.525471 Days

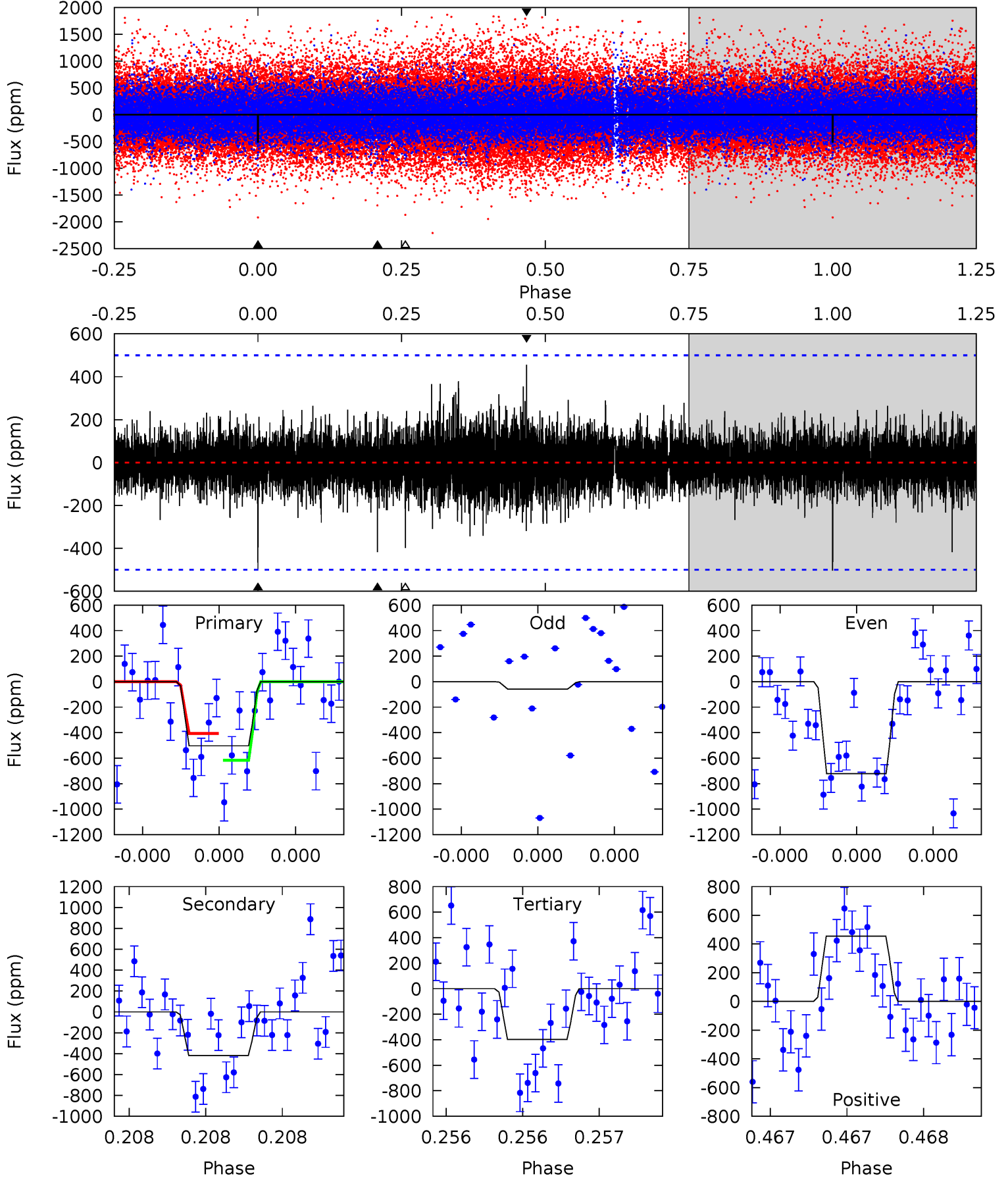
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.68	5.68	5.47	5.22	5.59	3.50	1.27	0.21	0.46	0.21	0.46	1.88	1.16	0.48	1.80



# Alt Model-Shift Uniqueness Test

008225946-01, P = 440.356840 Days, E = 7.568520 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
5.64	4.68	4.45	5.11	5.60	3.53	0.92	1.19	0.53	0.23	-0.43	3.47	0.70	0.48	1.18



### Stellar Parameters For KIC 008225946

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5672^{+154}_{-171}$	$4.503^{+0.036}_{-0.204}$	$0.360^{+0.100}_{-0.300}$	$0.965^{+0.264}_{-0.070}$	$1.080^{+0.089}_{-0.133}$	$1.694^{+0.321}_{-0.845}$
	+3%/-3%	+1%/-5%	+28%/-83%	+27%/-7%	+8%/-12%	+19%/-50%
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 008225946-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-512 \pm 90$	$3.62^{+3.02}_{-2.50}$	$326^{+22}_{-14}$	$4822^{+4064}_{-984}$	$27056^{+270852}_{-18655}$
Alt.	$-418 \pm 89$	$3.63^{+3.03}_{-2.36}$	$325^{+23}_{-14}$	$4636^{+3110}_{-969}$	$22673^{+166581}_{-16291}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

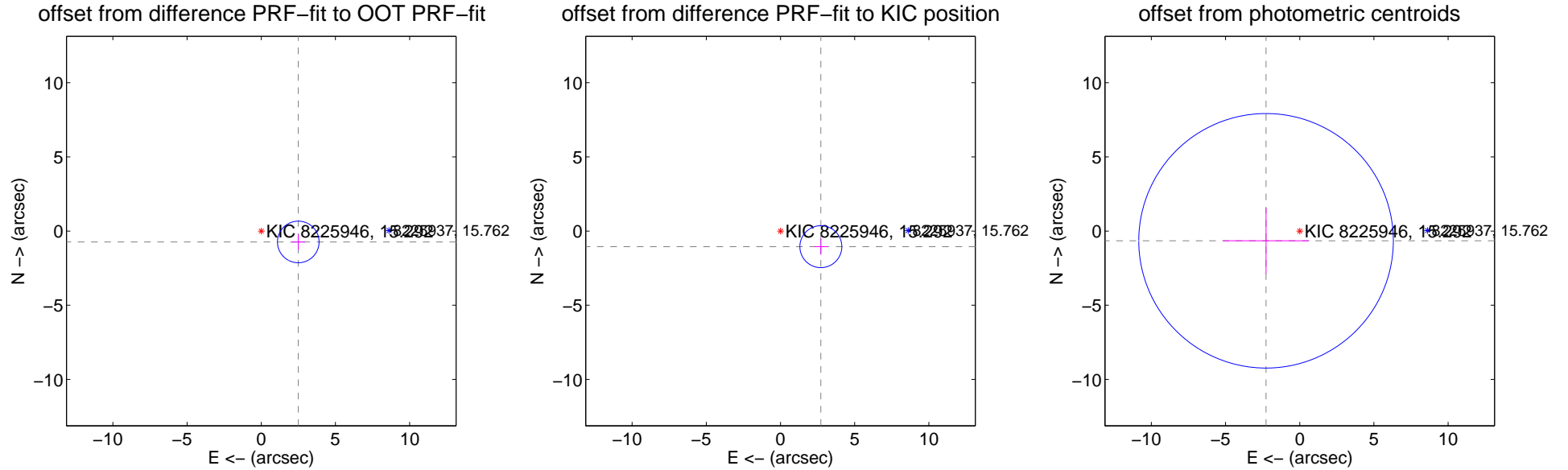
## DV Centroid Data

Supplemental centroid analysis for 008225946-01. Kepler magnitude: 15.29. Transit SNR 3.55

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.599 \pm 0.467$	5.56	$-2.493 \pm 0.461$	$-0.734 \pm 0.531$
PRF-fit source offset from KIC position	$2.915 \pm 0.471$	6.19	$-2.719 \pm 0.461$	$-1.051 \pm 0.531$
photometric centroid source offset	$2.36 \pm 2.86$	0.83	$2.27 \pm 2.91$	$-0.66 \pm 2.22$

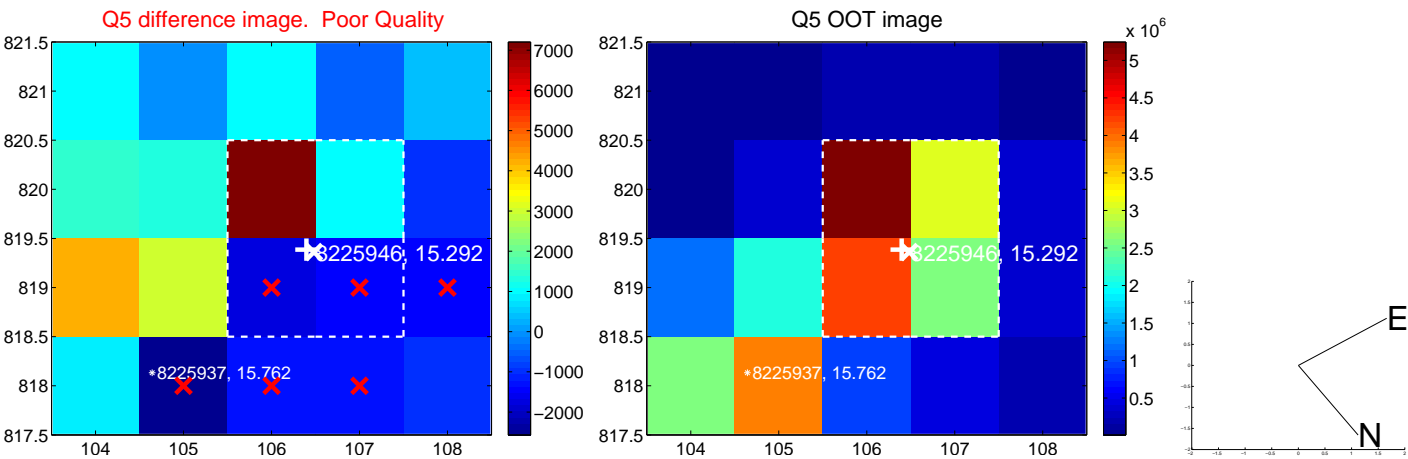


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

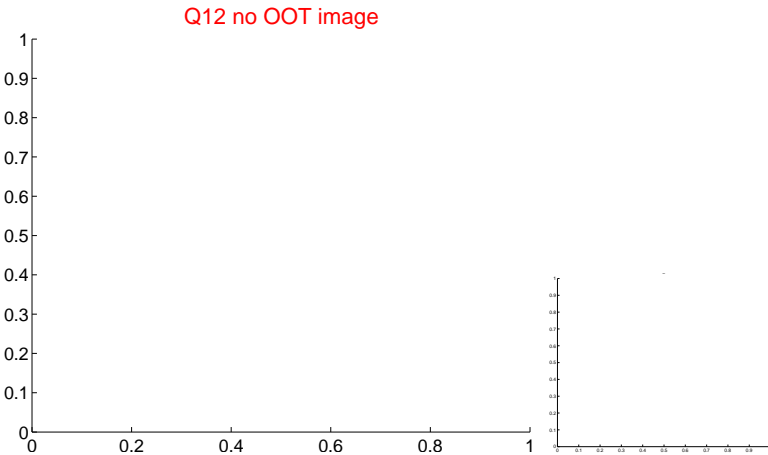
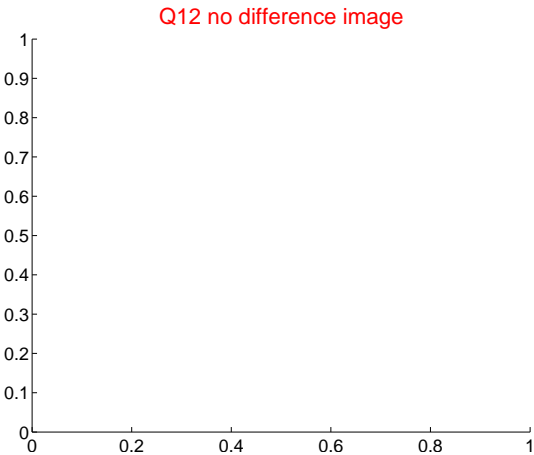
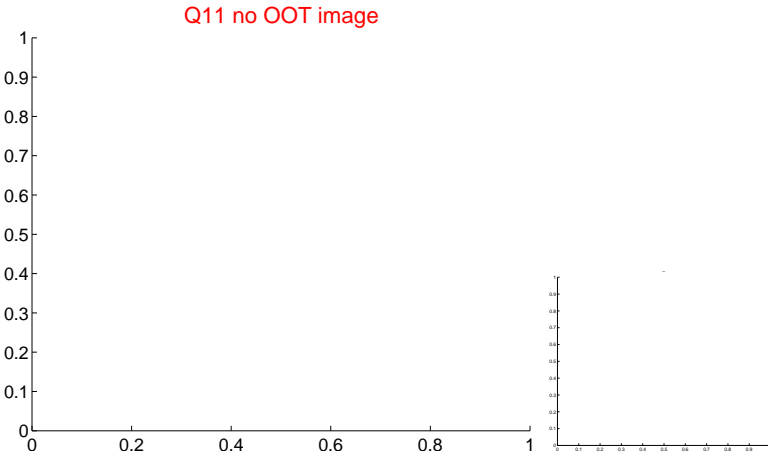
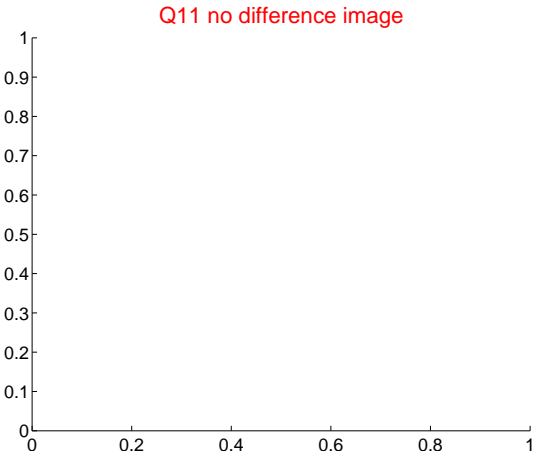
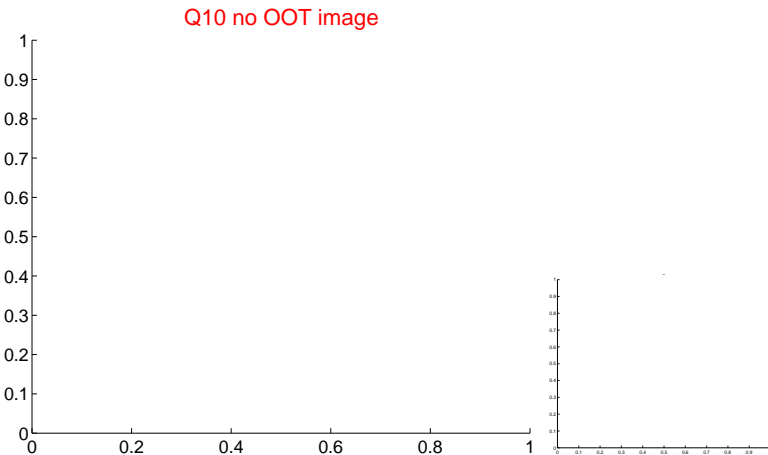
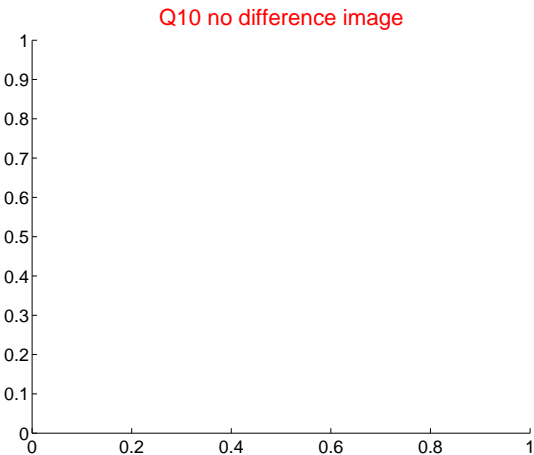
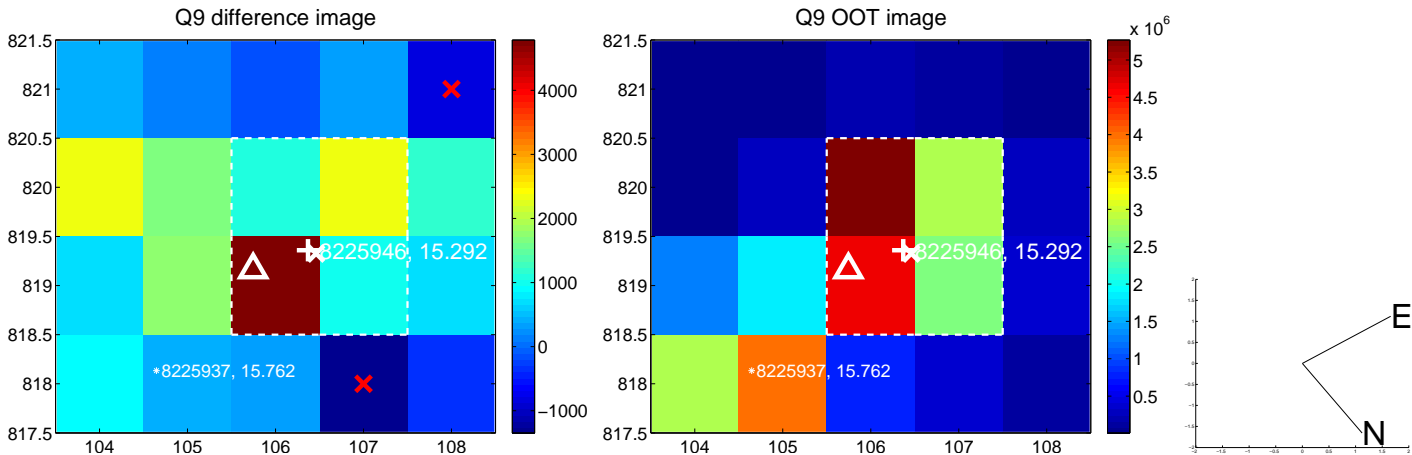


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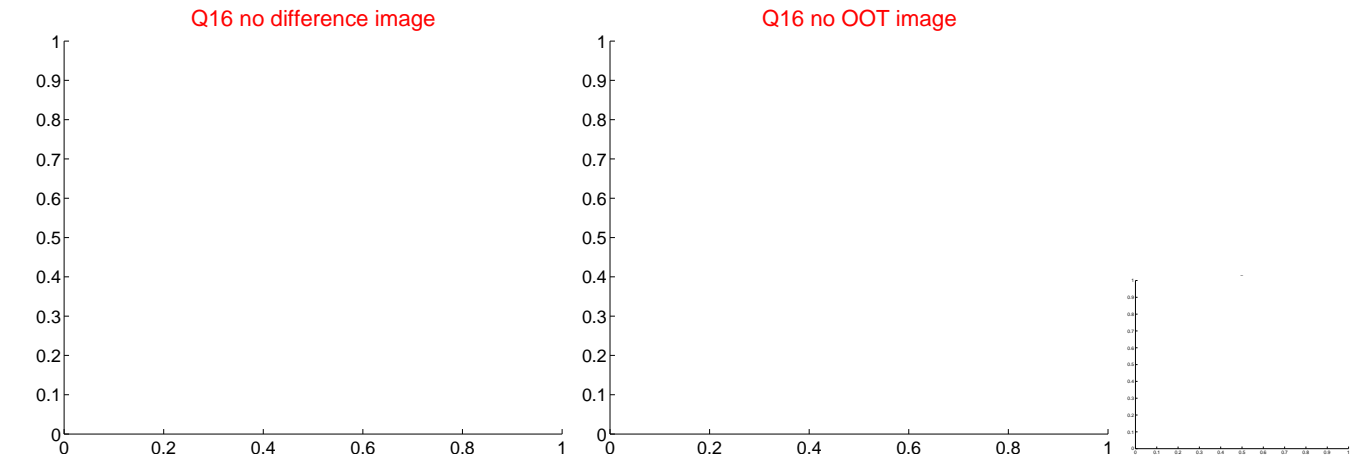
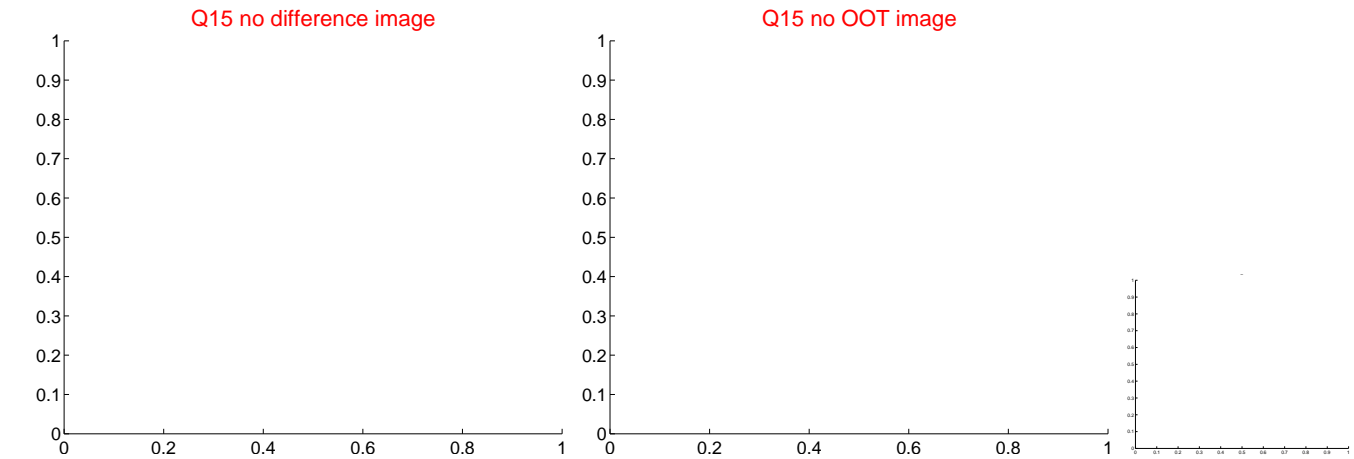
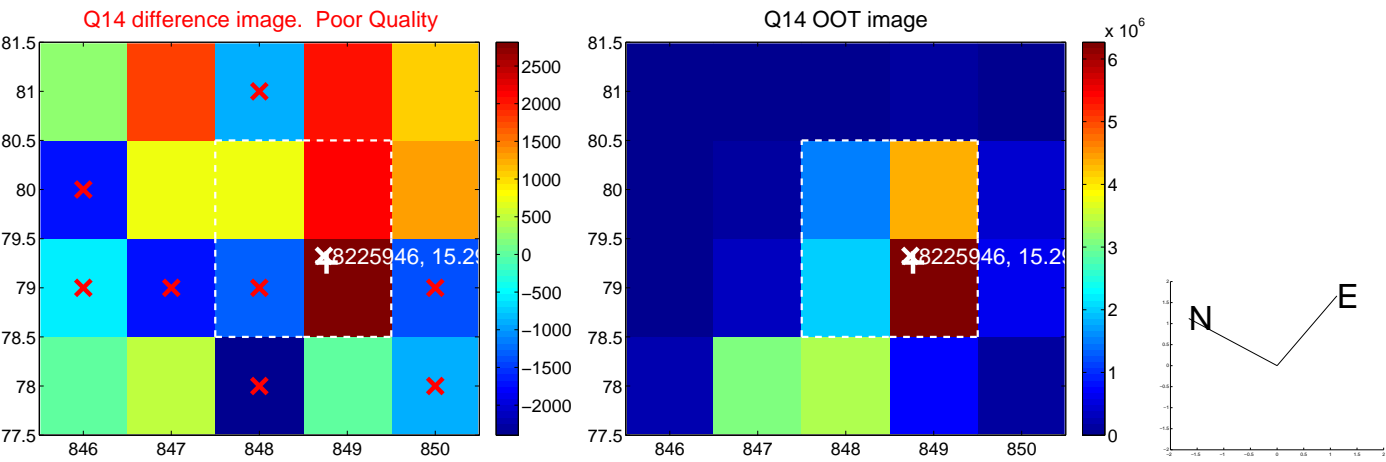
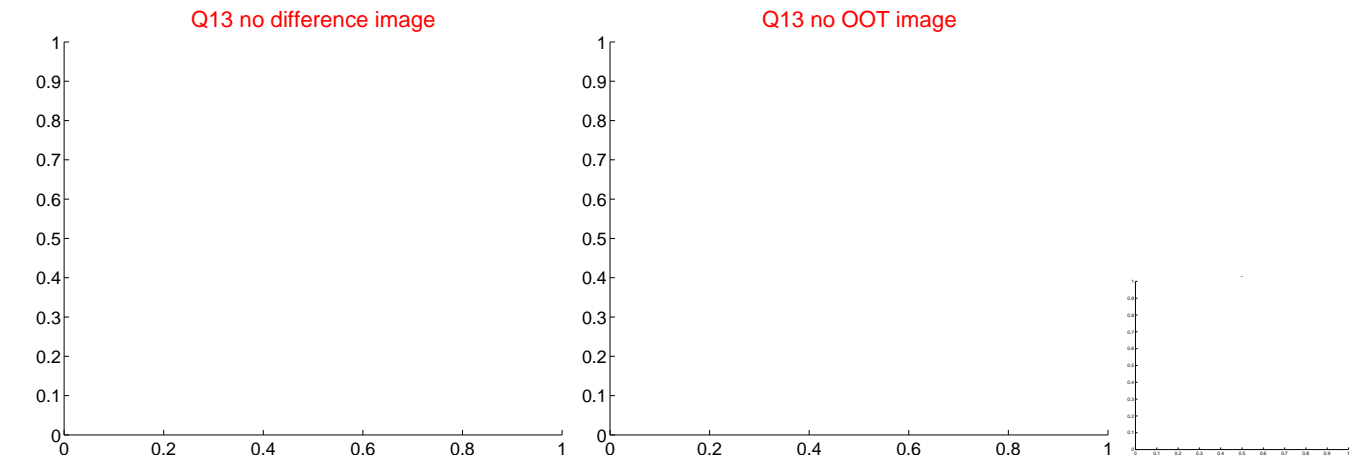




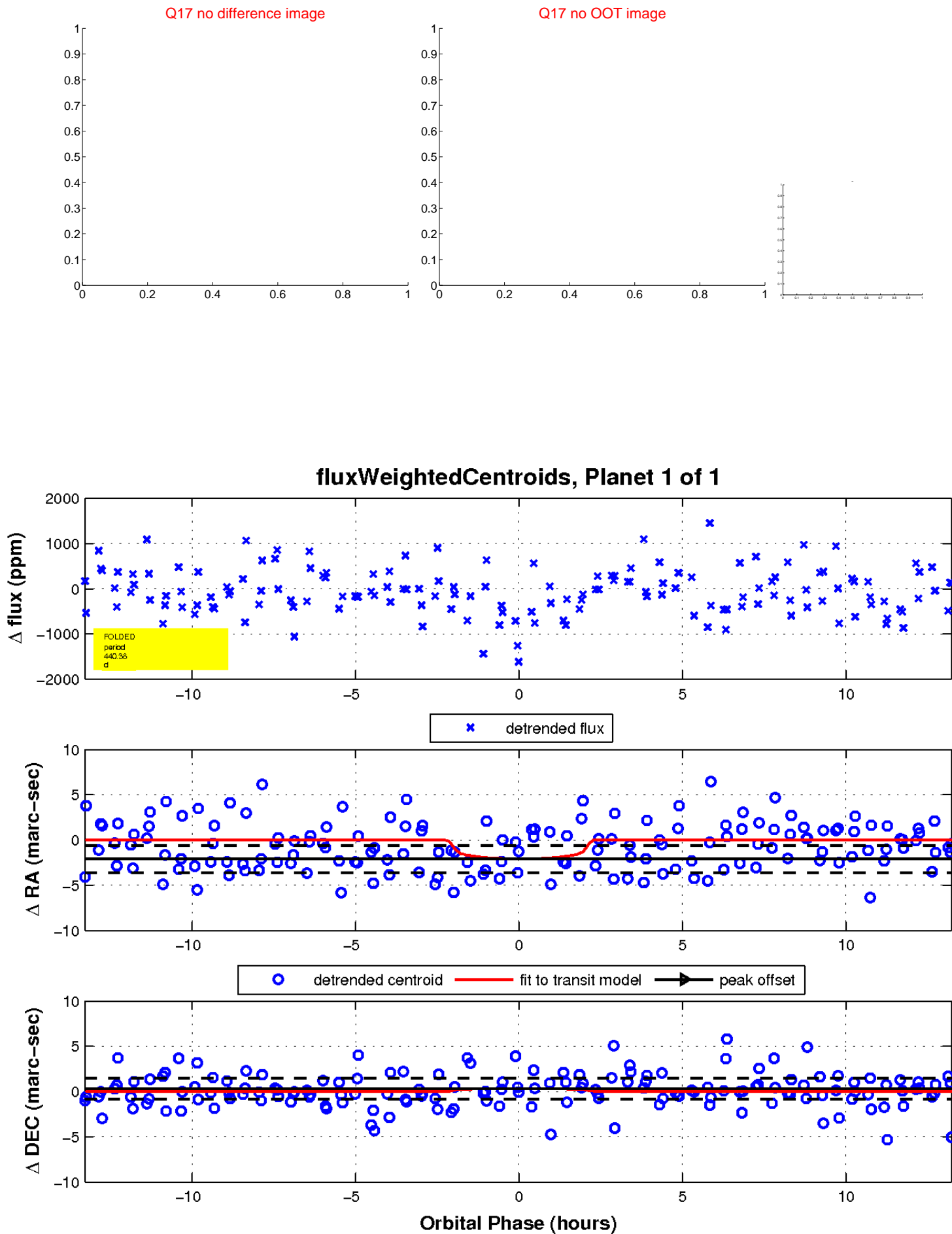
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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



# UKIRT Image

Declination

