

# KIC 003630086

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003630086-01	OBS	No	484.867352	293.747343	403.9	12.976	7.9	7.5	0.78	5667	1.69	0.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003630086-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

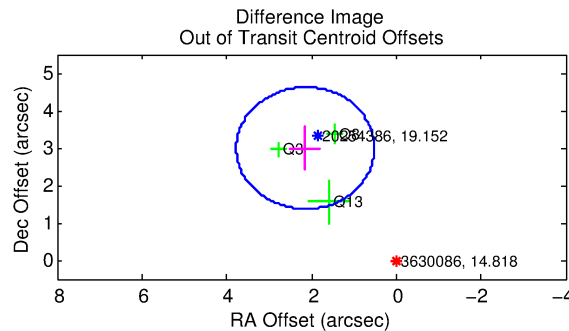
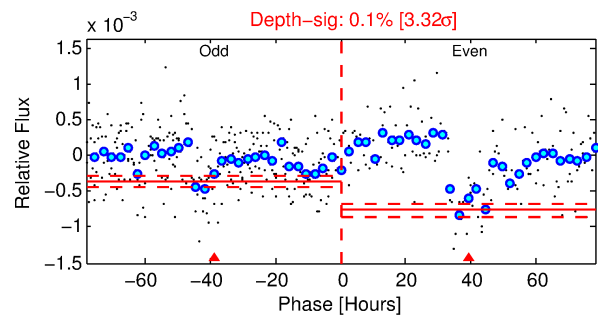
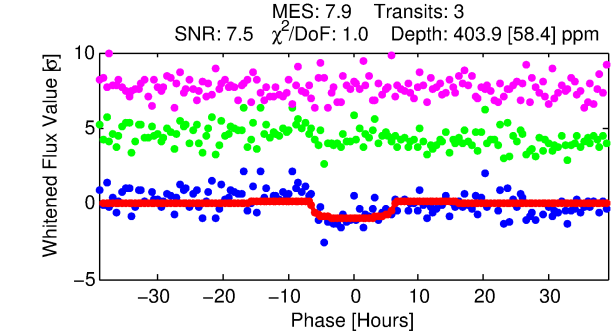
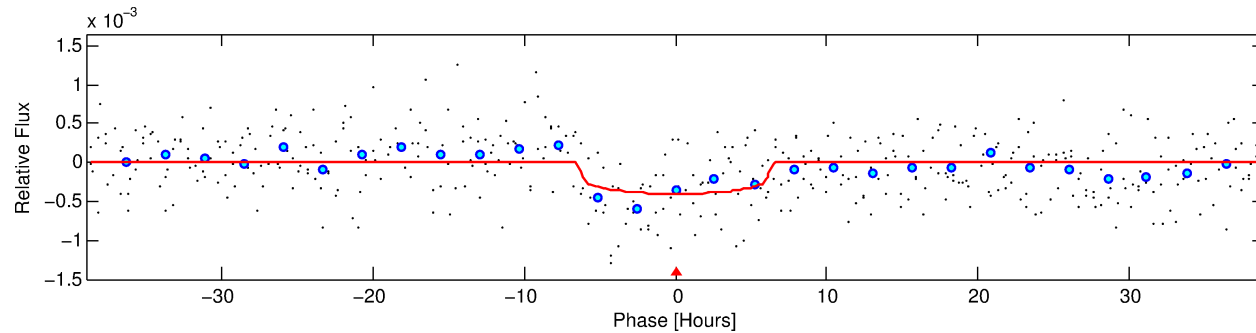
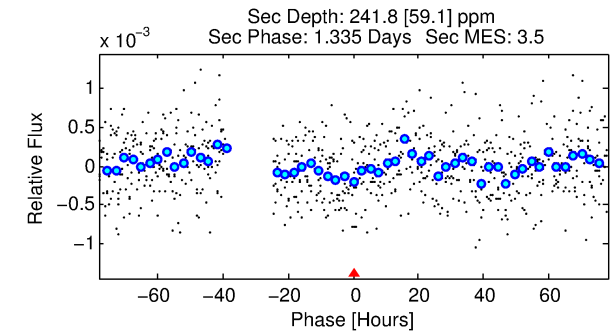
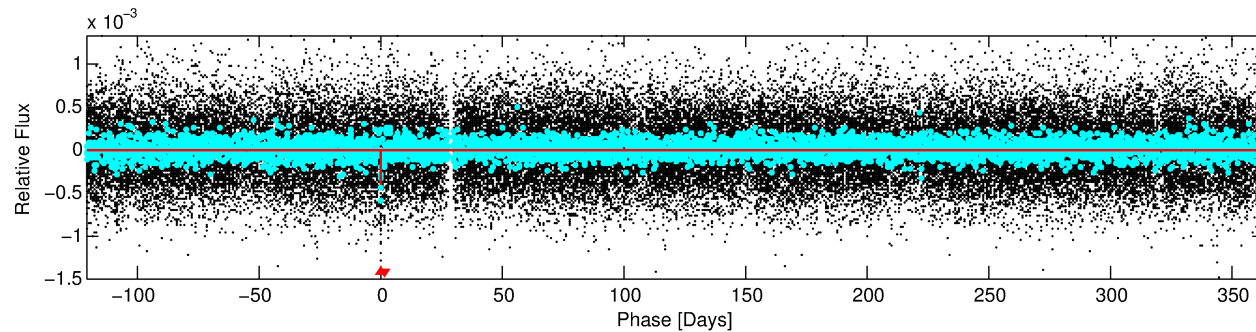
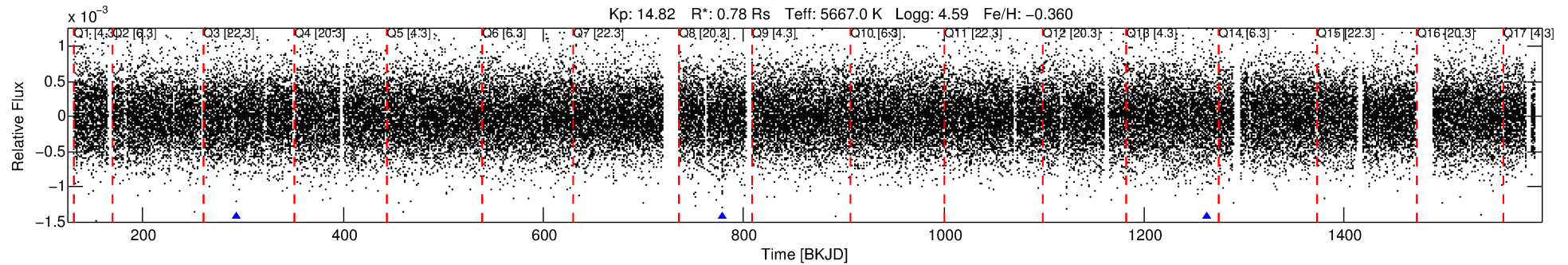
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003630086-01

No Significant Match Found

# DV One-Page Summary

KIC: 3630086 Candidate: 1 of 1 Period: 484.867 d



## DV Fit Results:

Period = 484.86735 [0.01753] d  
Epoch = 293.7473 [0.0235] BKJD  
Rp/R\* = 0.0198 [0.0120]  
a/R\* = 204.86 [564.37]  
b = 0.72 [1.81]  
Seff = 0.43 [0.13]  
Teq = 206 [15] K  
Rp = 1.69 [1.09] Re  
a = 1.1487 [0.2232] AU  
Ag = 61562.15 [77860.37] [0.79 $\sigma$ ]  
Teff = 5020 [1554] K [3.10 $\sigma$ ]

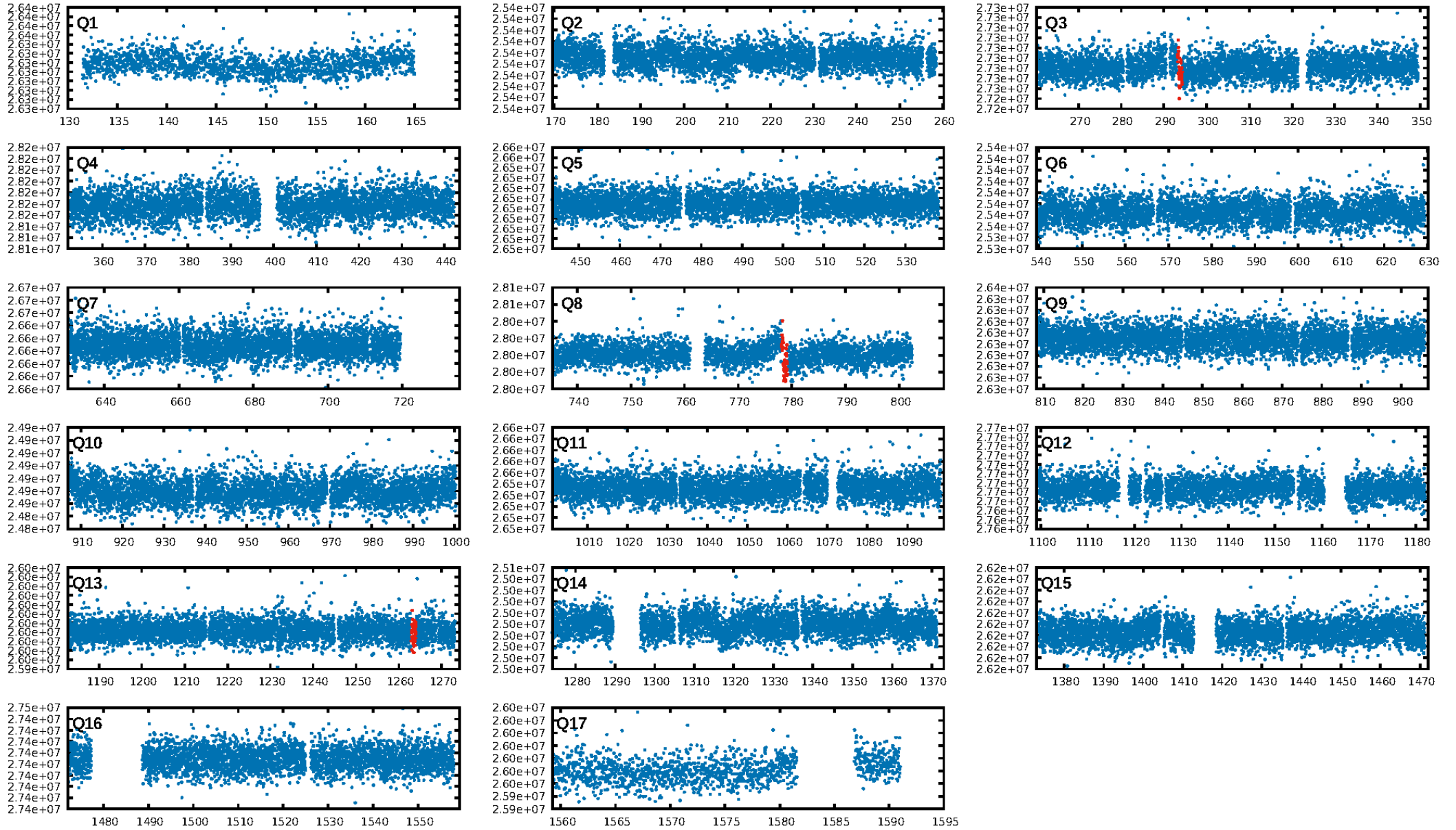
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 90.5%  
Bootstrap-pfa: 1.09e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -2.093  
Centroid-sig: 0.0%  
Centroid-so: 4.853 arcsec [2.55 $\sigma$ ]  
OotOffset-rm: 3.683 arcsec [6.79 $\sigma$ ]  
KicOffset-rm: 3.752 arcsec [8.26 $\sigma$ ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

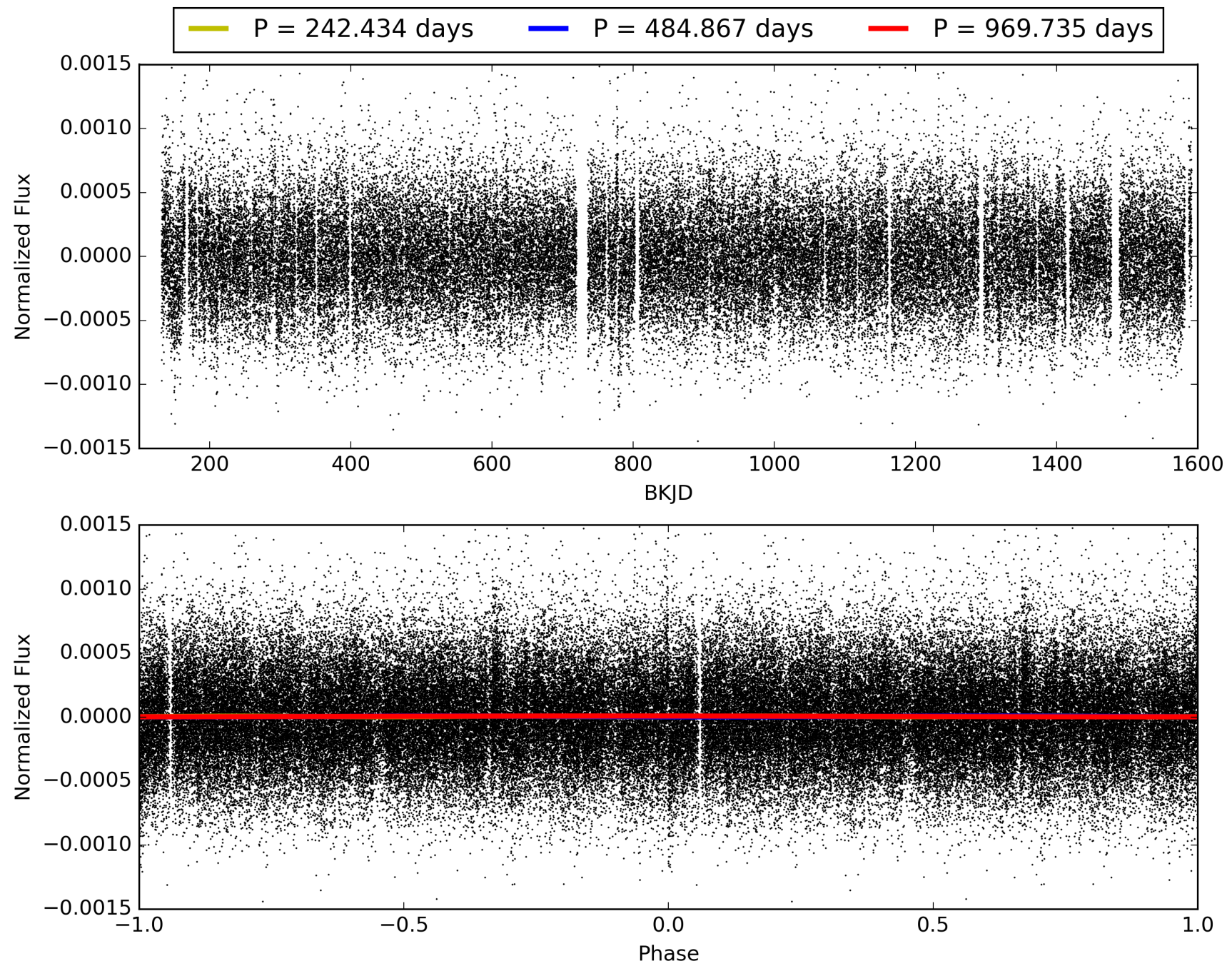
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:20:17 Z

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

# TCE 003630086-01, PDC Light Curves

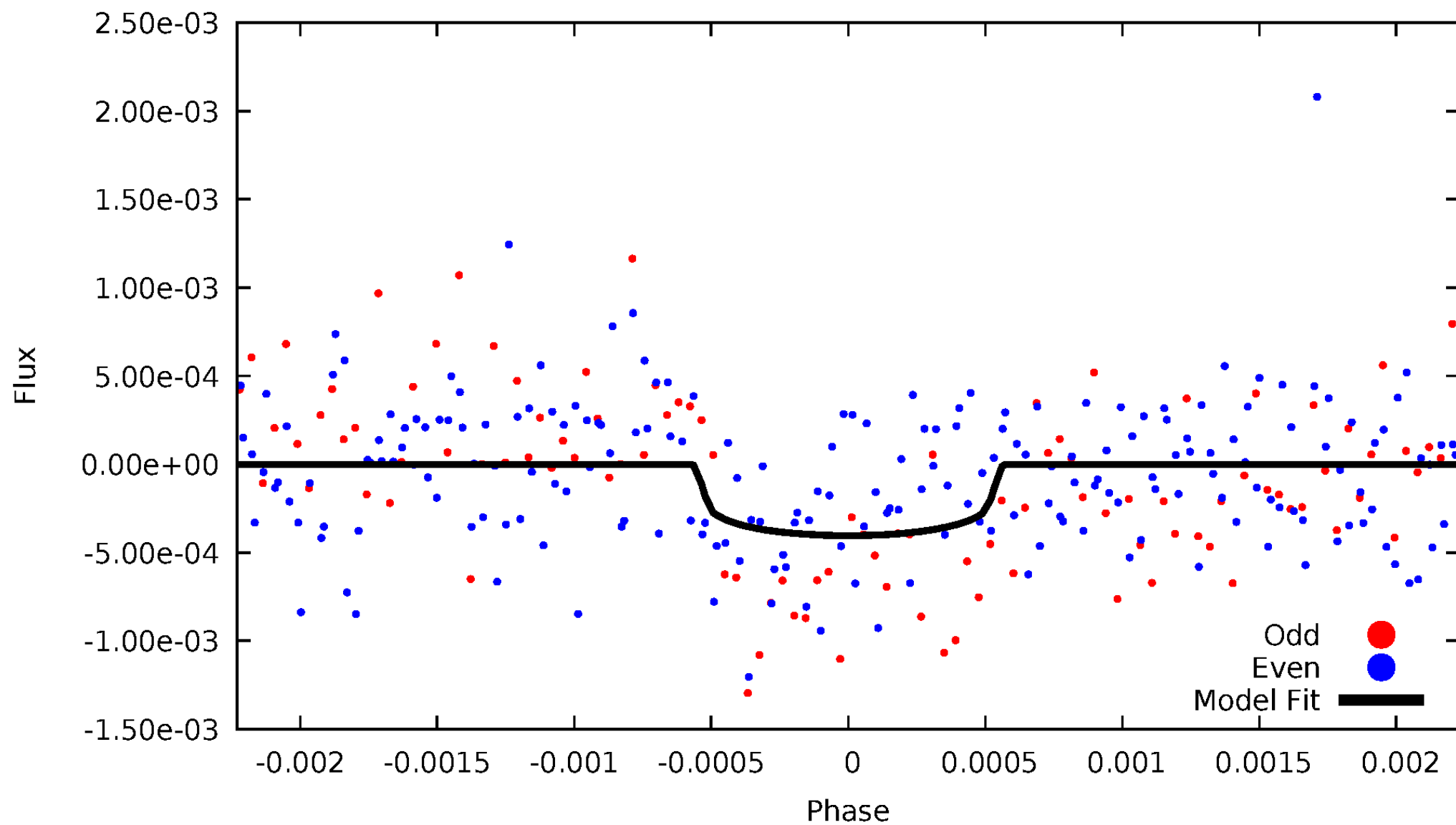


TCE 003630086-01



# DV Odd/Even

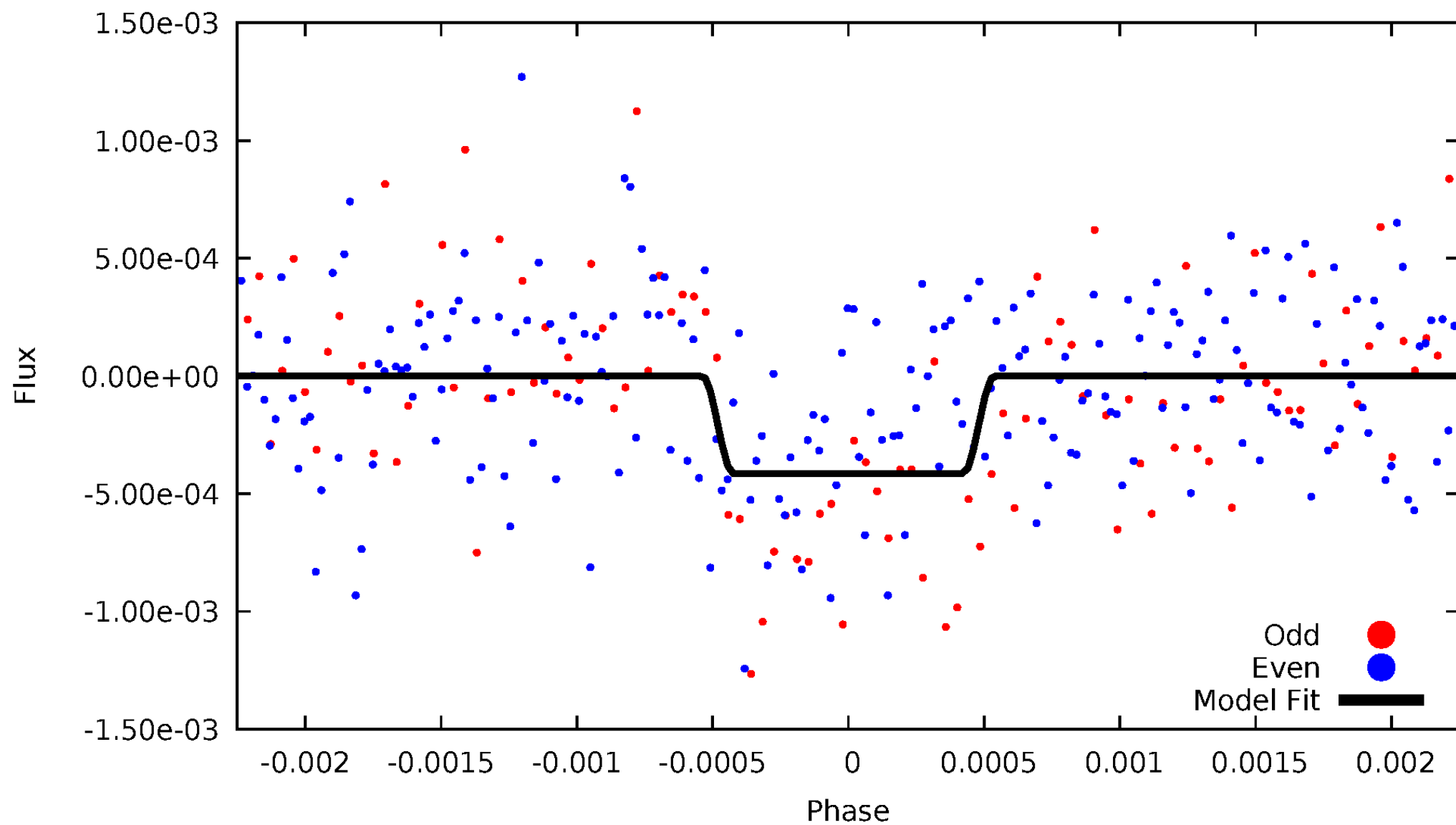
TCE 003630086-01





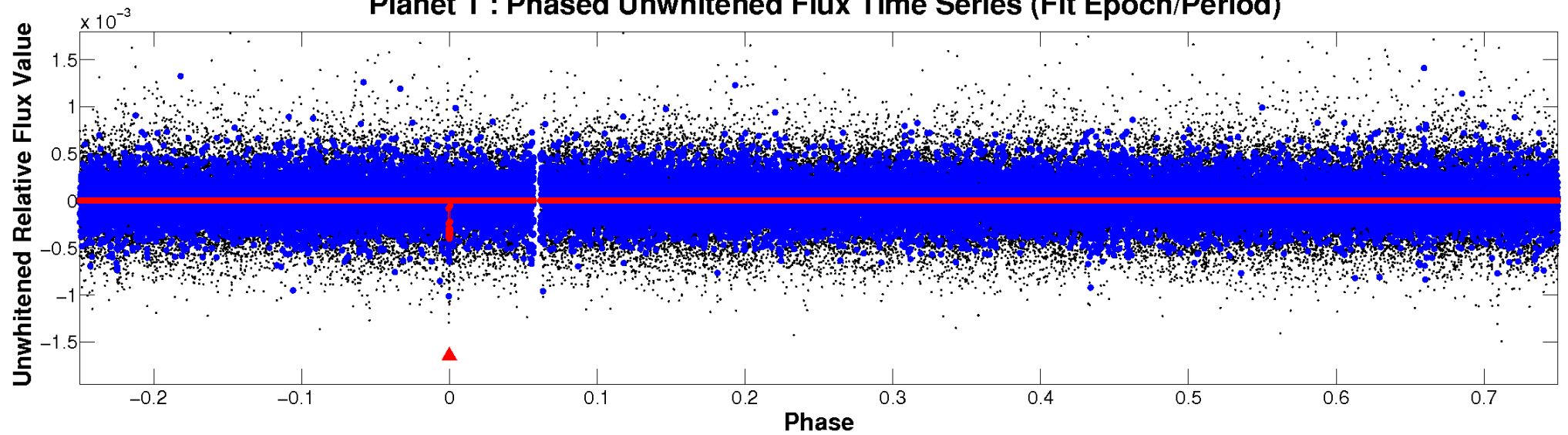
# ALT Odd/Even

TCE 003630086-01

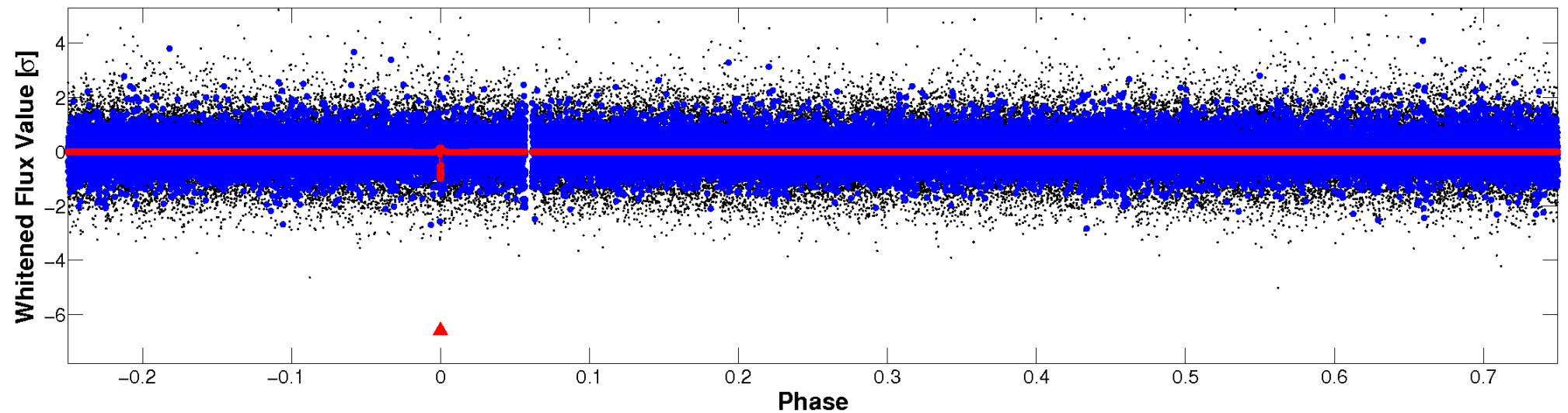


# Non-Whitened Vs. Whitened Light Curve

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

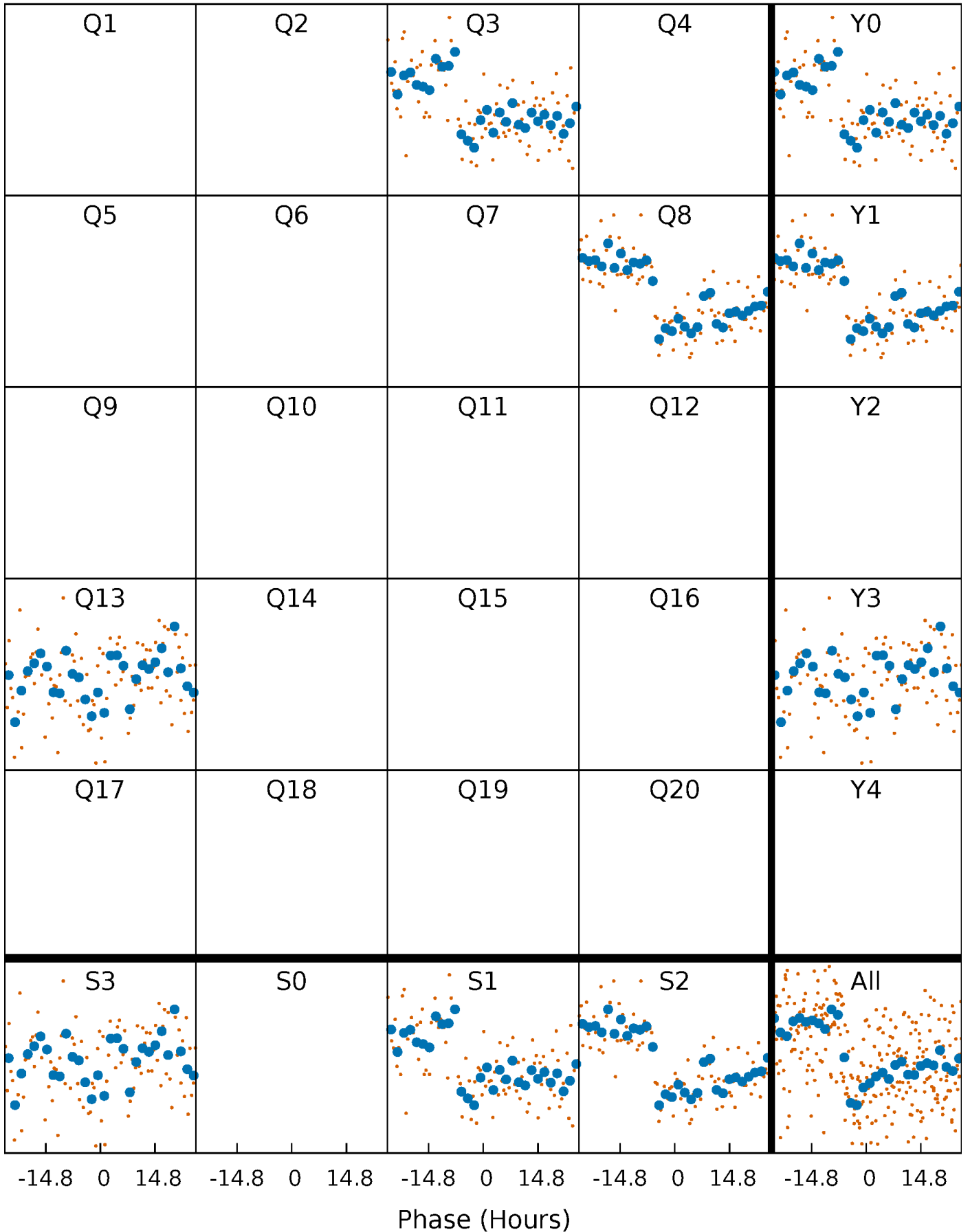


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 003630086-01 P=484.867352 Days  $T_0=293.747343$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 003630086-01     $P=484.867352$  Days     $T_0=293.747343$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

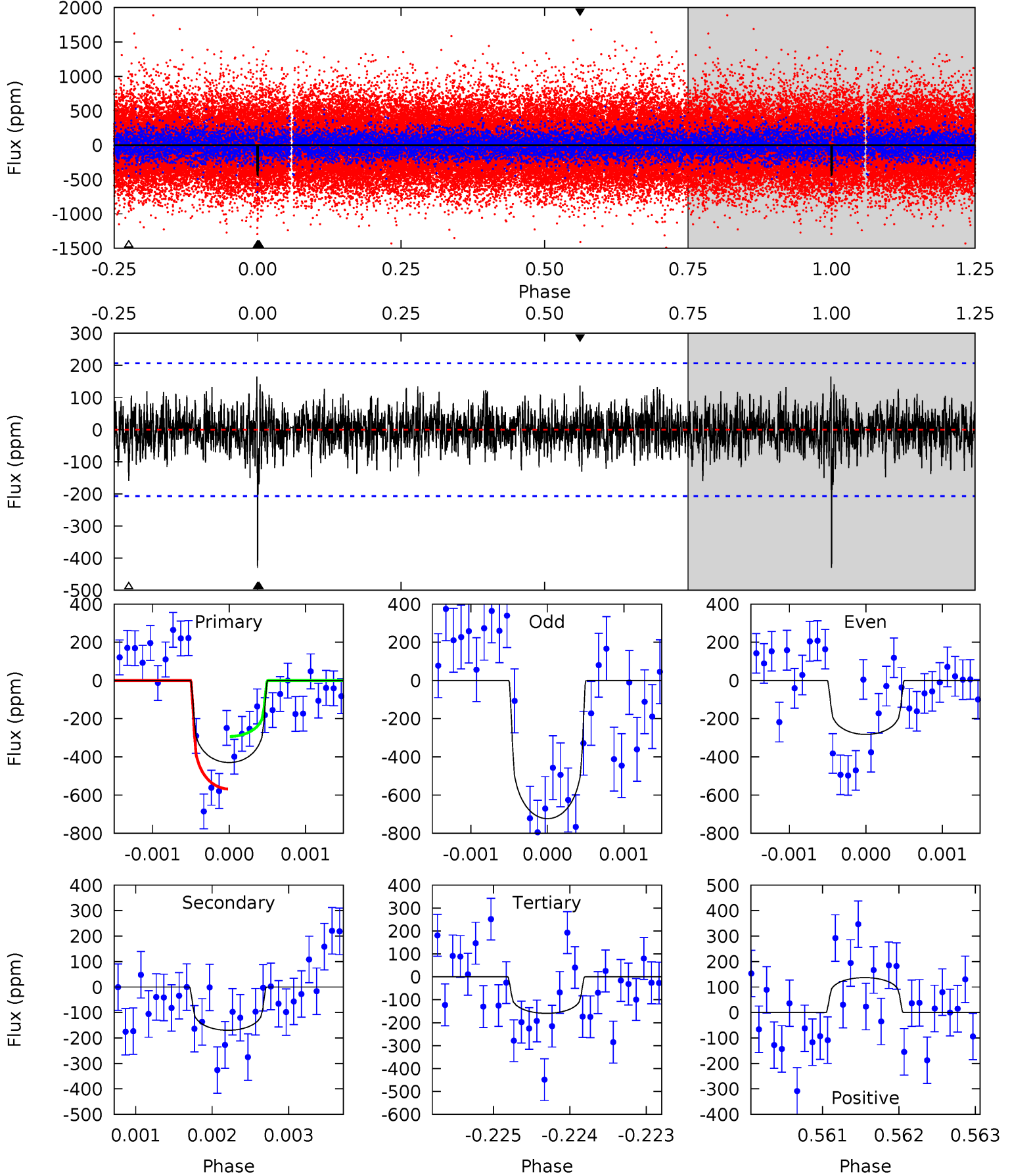
TCE 003630086-01     $P=484.854323$  Days     $T_0=293.755830$  (BKJD)



# DV Model-Shift Uniqueness Test

003630086-01, P = 484.867352 Days, E = 293.747343 Days

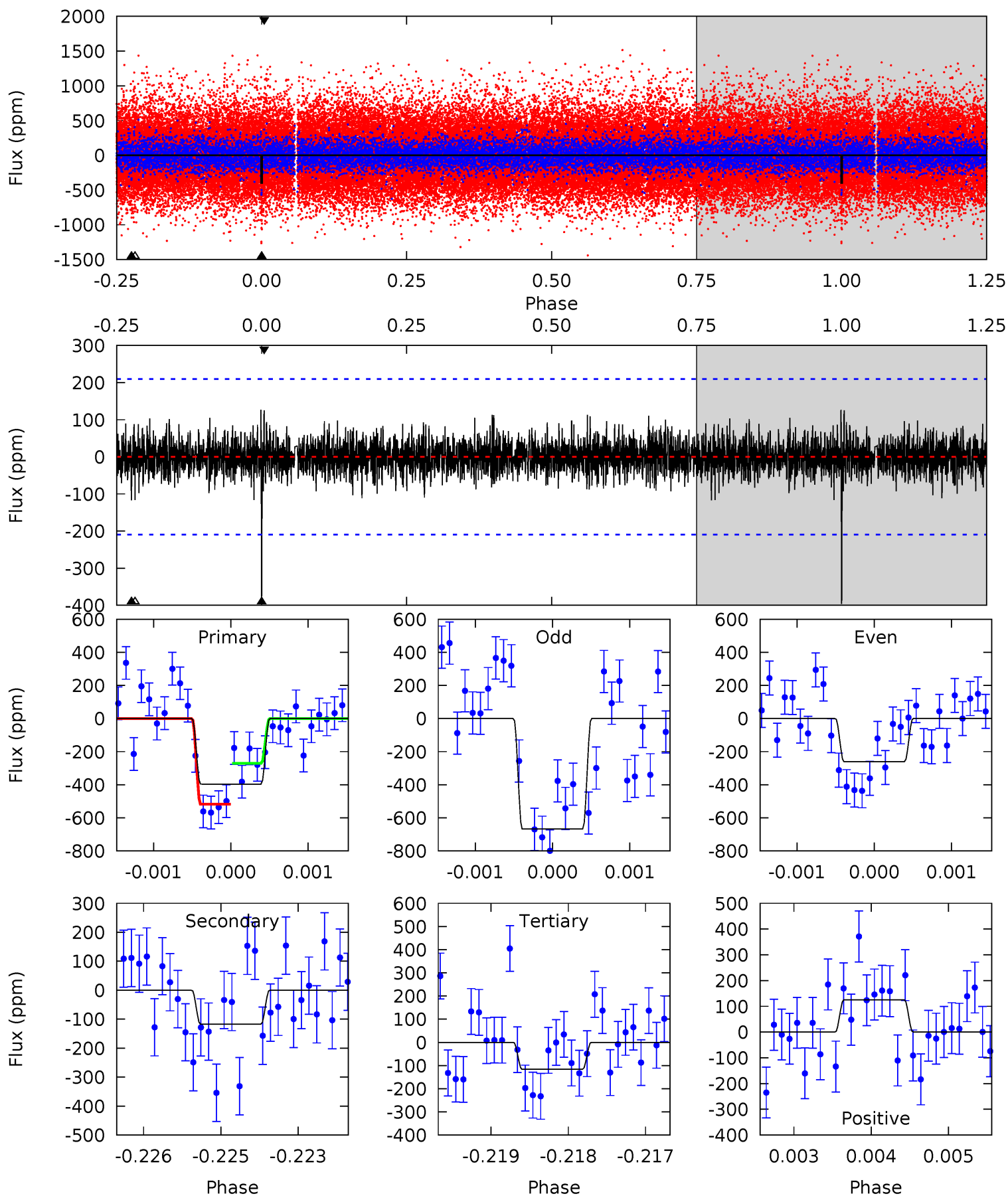
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.46	4.18	3.59	5.43	3.25	1.15	7.10	7.68	0.28	0.86	5.51	1.12	0.28	3.61



# Alt Model-Shift Uniqueness Test

003630086-01, P = 484.854323 Days, E = 293.755830 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
10.3	3.04	3.02	3.25	5.44	3.27	0.83	7.26	7.03	0.02	-0.21	5.04	1.14	0.24	3.21



### Stellar Parameters For KIC 003630086

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5667^{+152}_{-152}$	$4.587^{+0.038}_{-0.152}$	$-0.360^{+0.300}_{-0.300}$	$0.781^{+0.182}_{-0.061}$	$0.873^{+0.089}_{-0.097}$	$2.576^{+0.409}_{-1.094}$
	+3%/-3%	+1%/-3%	+83%/-83%	+23%/-8%	+10%/-11%	+16%/-42%
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 003630086-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-170 \pm 38$	$1.75^{+1.16}_{-0.88}$	$292^{+16}_{-11}$	$4718^{+1716}_{-791}$	$38988^{+112803}_{-24696}$
Alt.	$-117 \pm 39$	$1.85^{+1.07}_{-0.97}$	$293^{+16}_{-12}$	$4282^{+1593}_{-682}$	$23327^{+85234}_{-14326}$

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

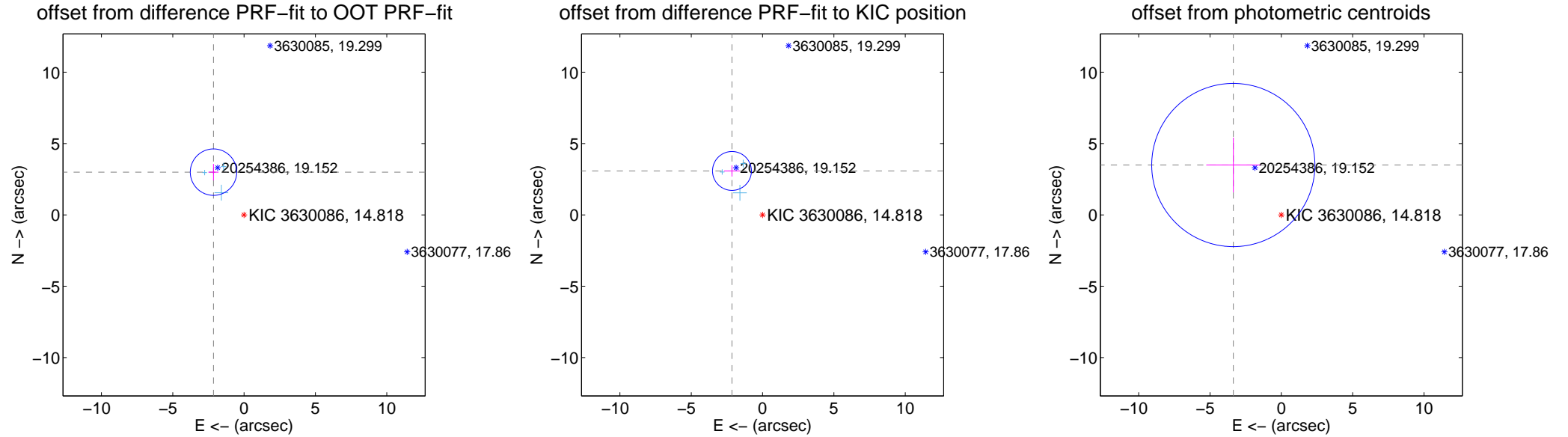
## DV Centroid Data

Supplemental centroid analysis for 003630086-01. Kepler magnitude: 14.82. Transit SNR 7.50

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

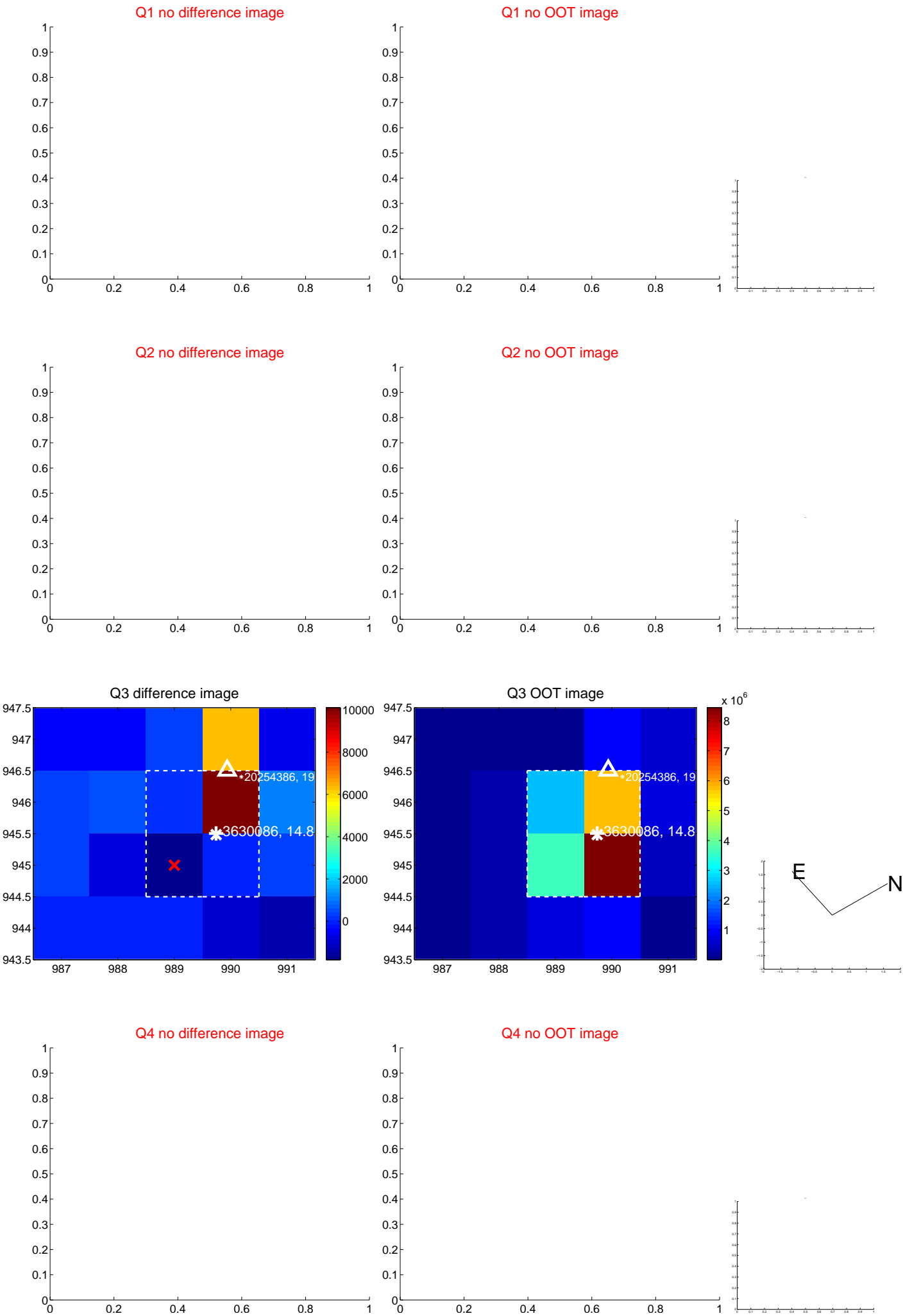
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	3.683 $\pm$ 0.542	6.79	2.145 $\pm$ 0.354	2.995 $\pm$ 0.578
PRF-fit source offset from KIC position	3.752 $\pm$ 0.454	8.26	2.146 $\pm$ 0.561	3.078 $\pm$ 0.392
photometric centroid source offset	4.85 $\pm$ 1.91	2.55	3.37 $\pm$ 1.90	3.49 $\pm$ 1.92



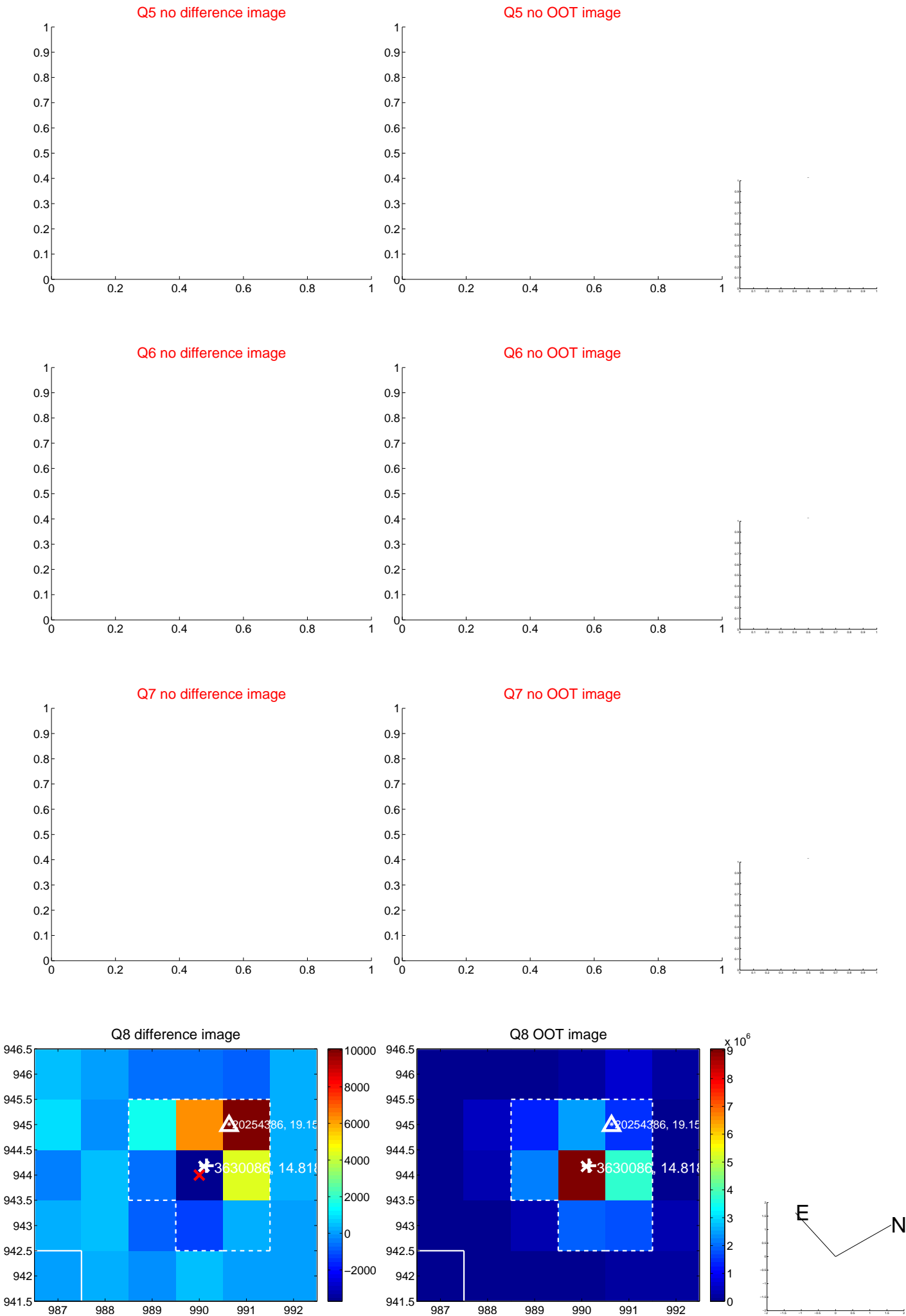
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



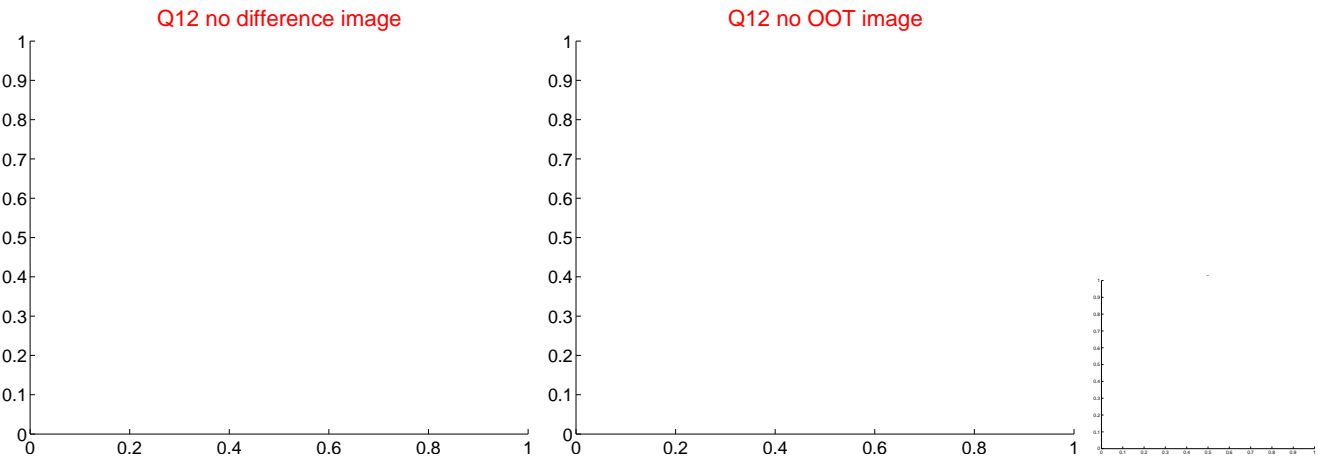
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



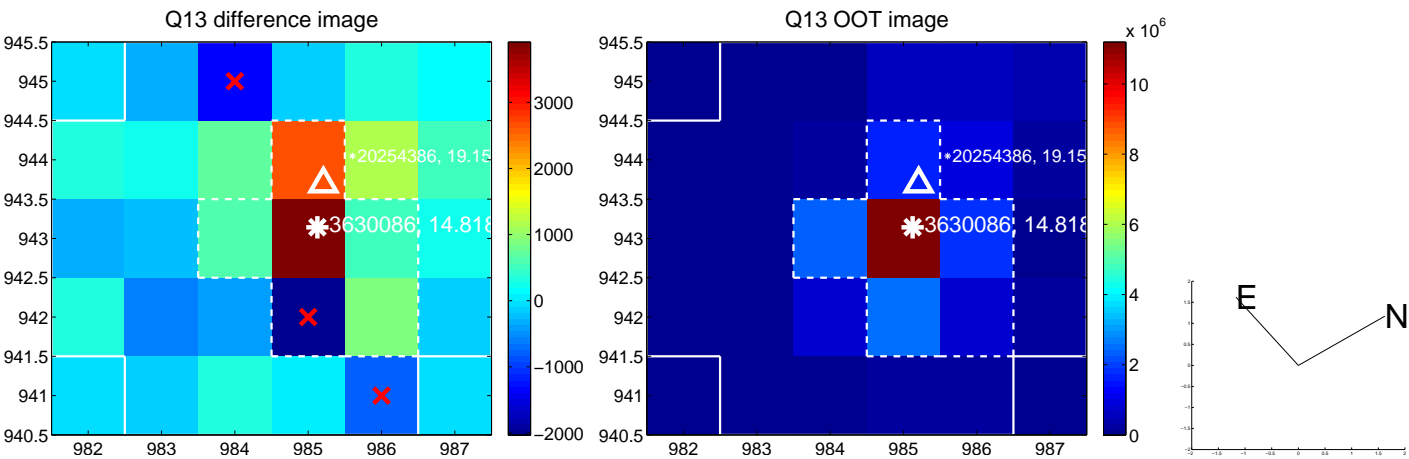
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



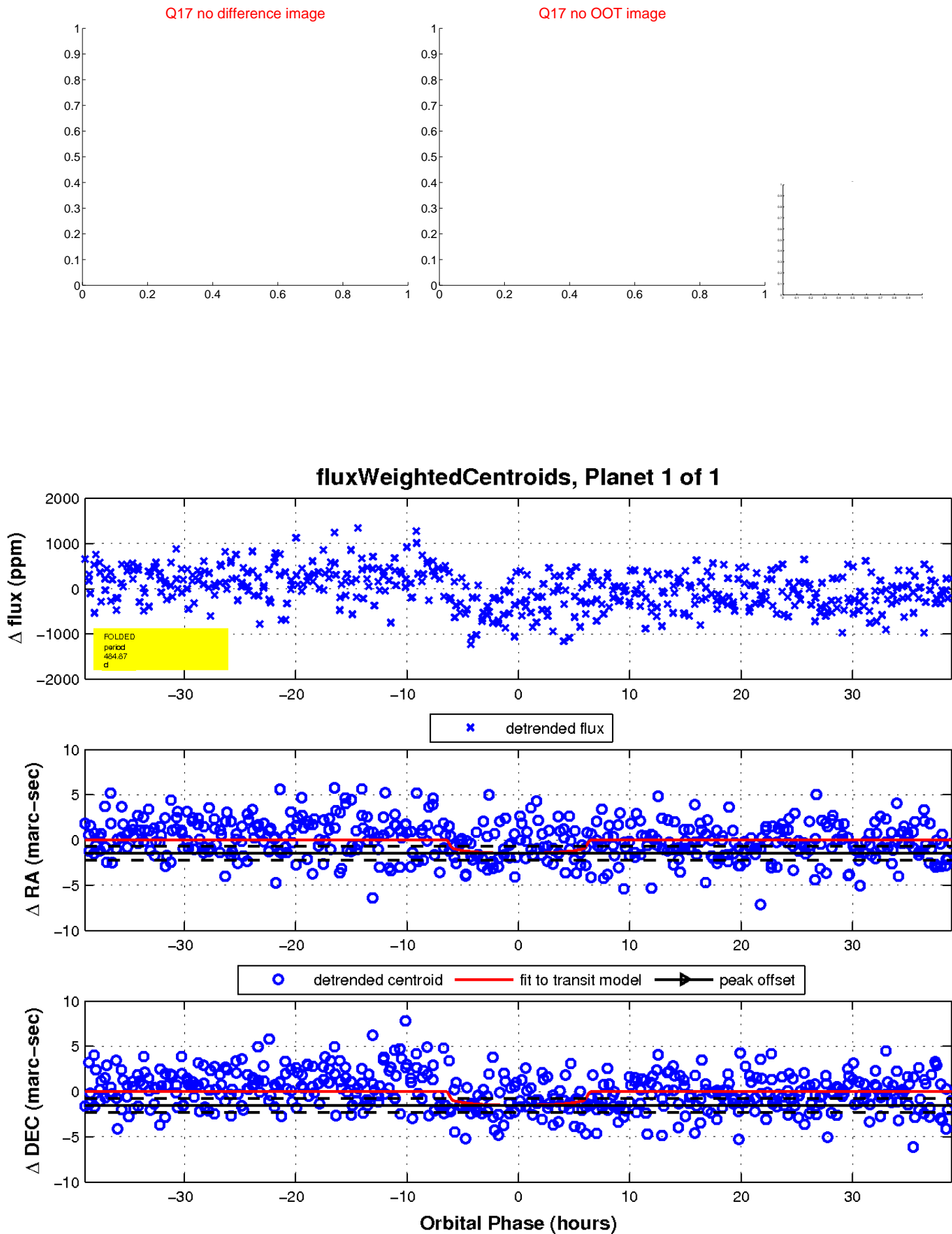
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

