

# KIC 008546937

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008546937-01	OBS	No	1.484836	132.459728	6.6	13.915	8.1	4.0	1.18	6415	0.31	3128.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008546937-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

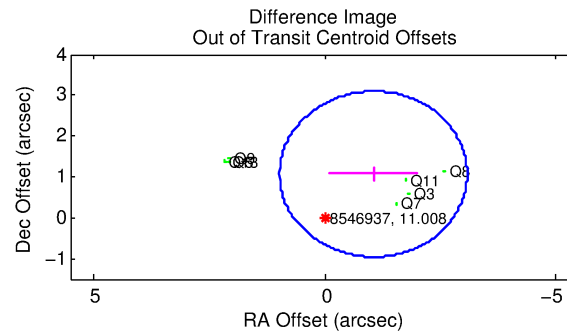
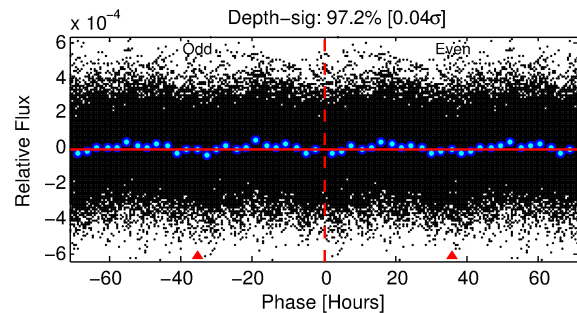
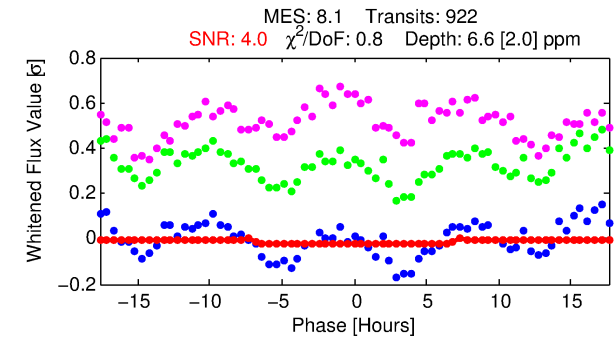
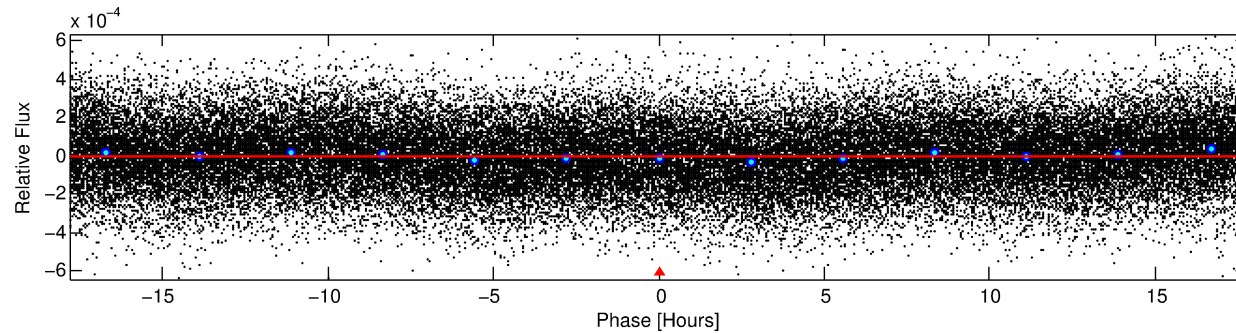
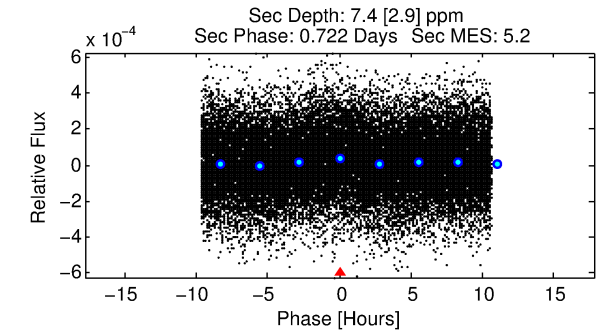
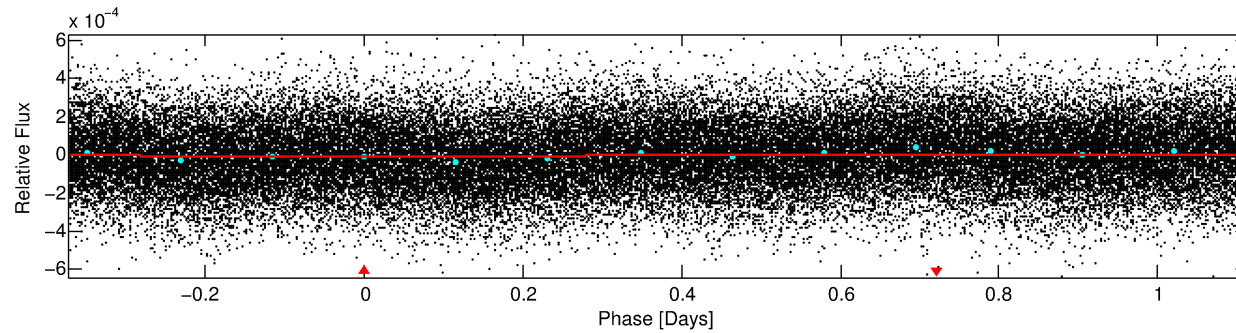
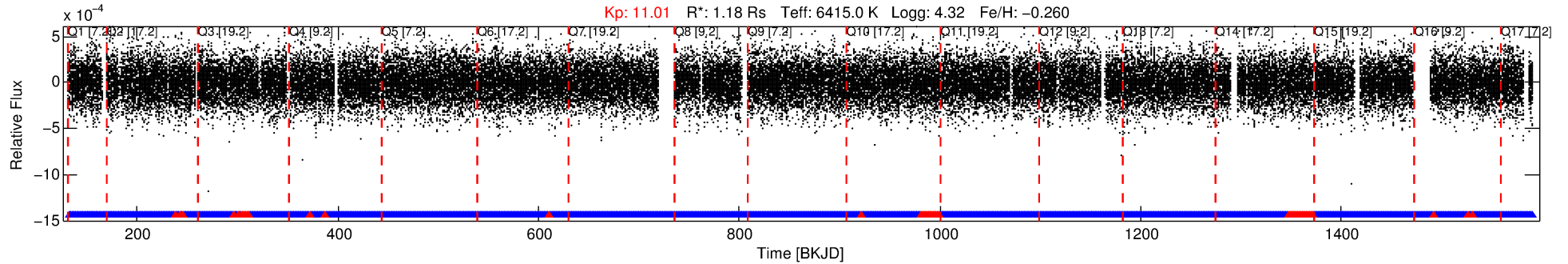
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008546937-01

No Significant Match Found

# DV One-Page Summary

KIC: 8546937 Candidate: 1 of 1 Period: 1.485 d



## DV Fit Results:

Period = 1.48484 [0.00008] d  
Epoch = 132.4597 [0.0177] BKJD  
 $R_p/R^*$  = 0.0024 [0.0052]  
 $a/R^*$  = 1.05 [1.14]  
 $b$  = 0.50 [17.77]  
 $\text{Seff}$  = 3128.20 [1231.09]  
 $T_{\text{eq}}$  = 1907 [188] K  
 $R_p$  = 0.31 [0.68]  $R_e$   
 $a$  = 0.0259 [0.0066] AU  
 $A_g$  = 28.35 [123.64] [0.22σ]  
 $T_{\text{eff}}$  = 6803 [7397] K [0.66σ]

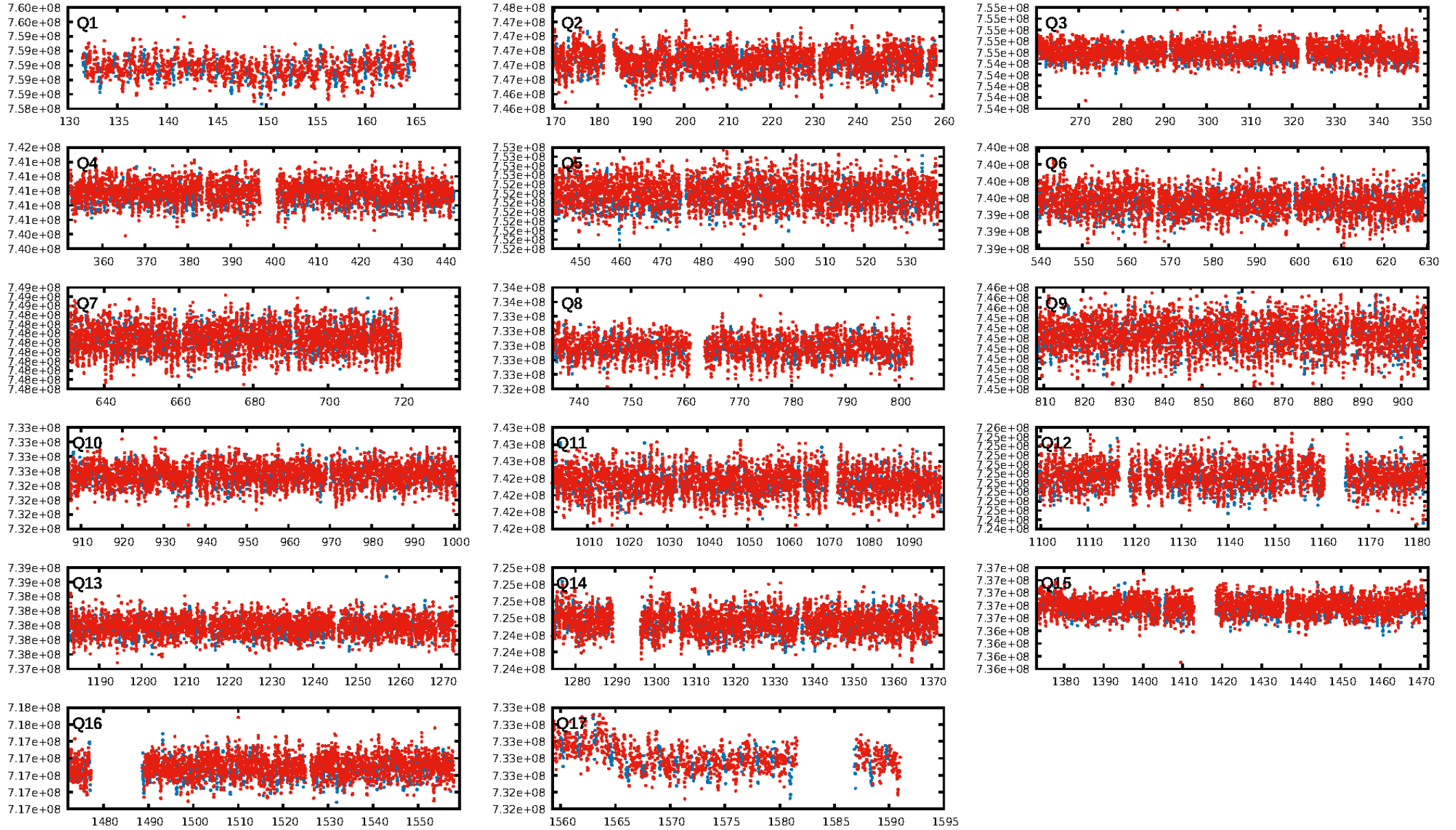
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.95 [832/880]  
GhostDiagnostic-chr: 0.9725  
Centroid-sig: 0.0%  
Centroid-so: 8.417 arcsec [6.46σ]  
OotOffset-rm: 1.500 arcsec [2.22σ]  
KicOffset-rm: 1.556 arcsec [2.38σ]  
OotOffset-st: 0/3/1/3 [7]  
KicOffset-st: 0/3/1/3 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [17/17]

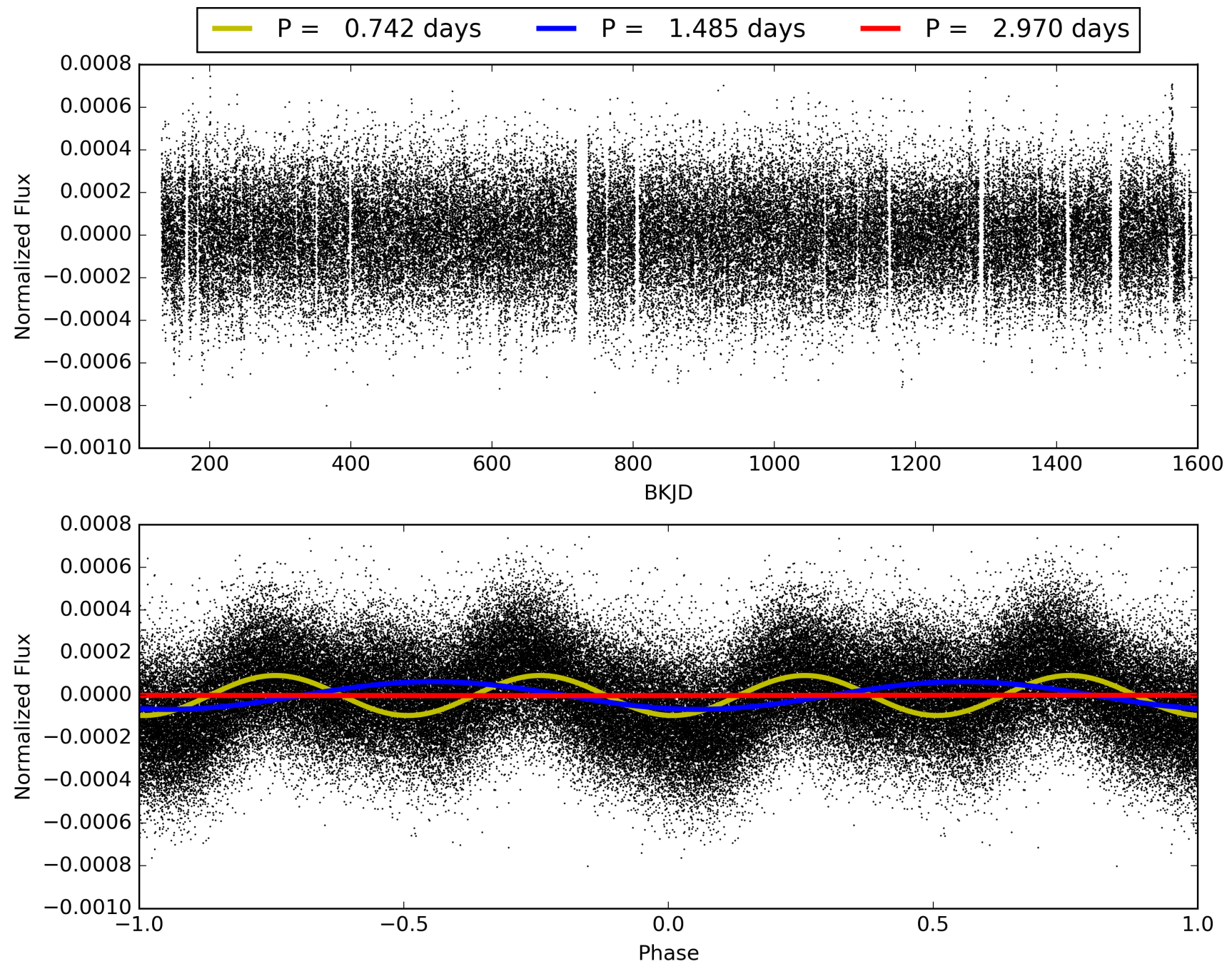
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:25:43 Z

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

# TCE 008546937-01, PDC Light Curves



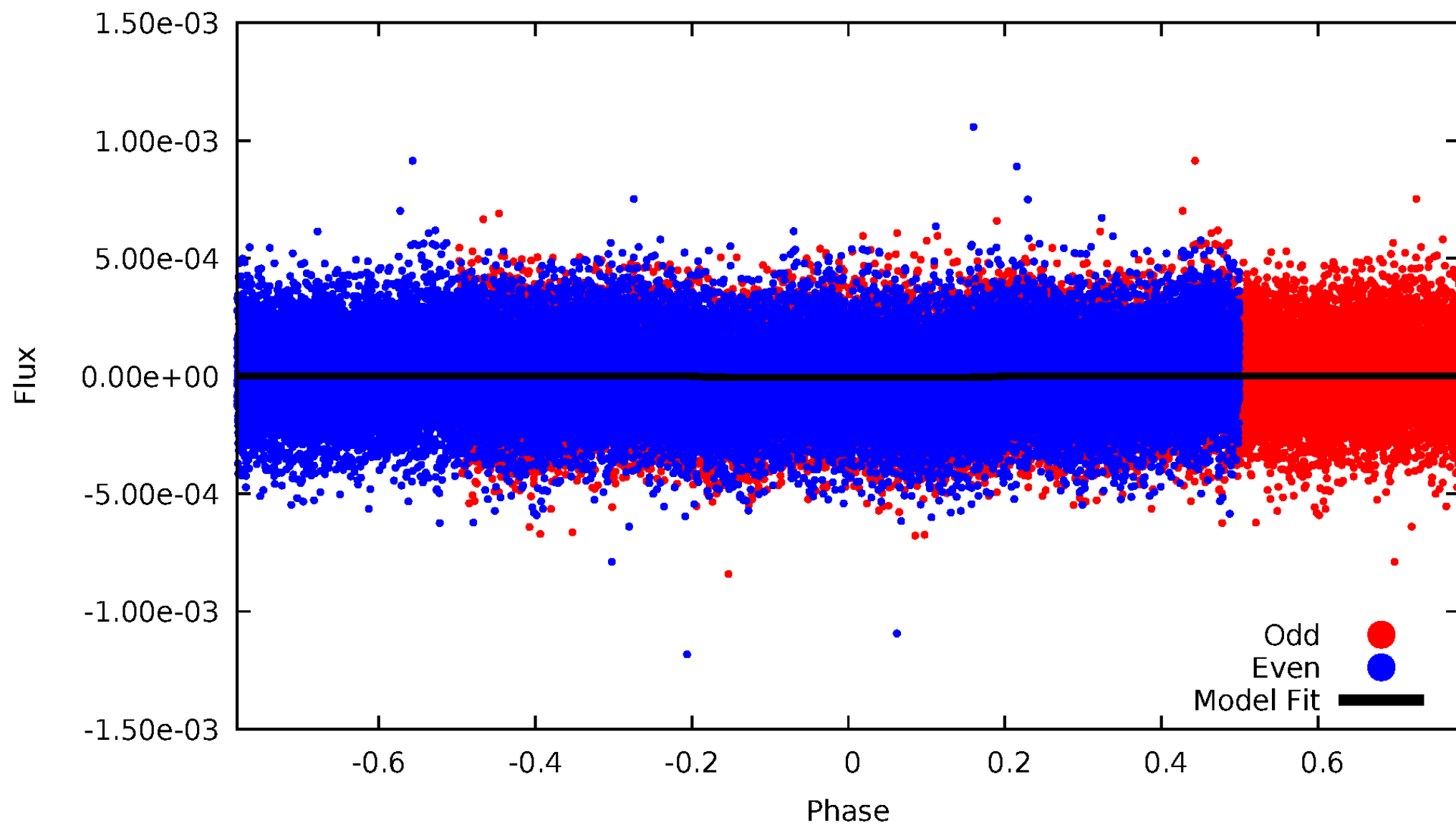
TCE 008546937-01





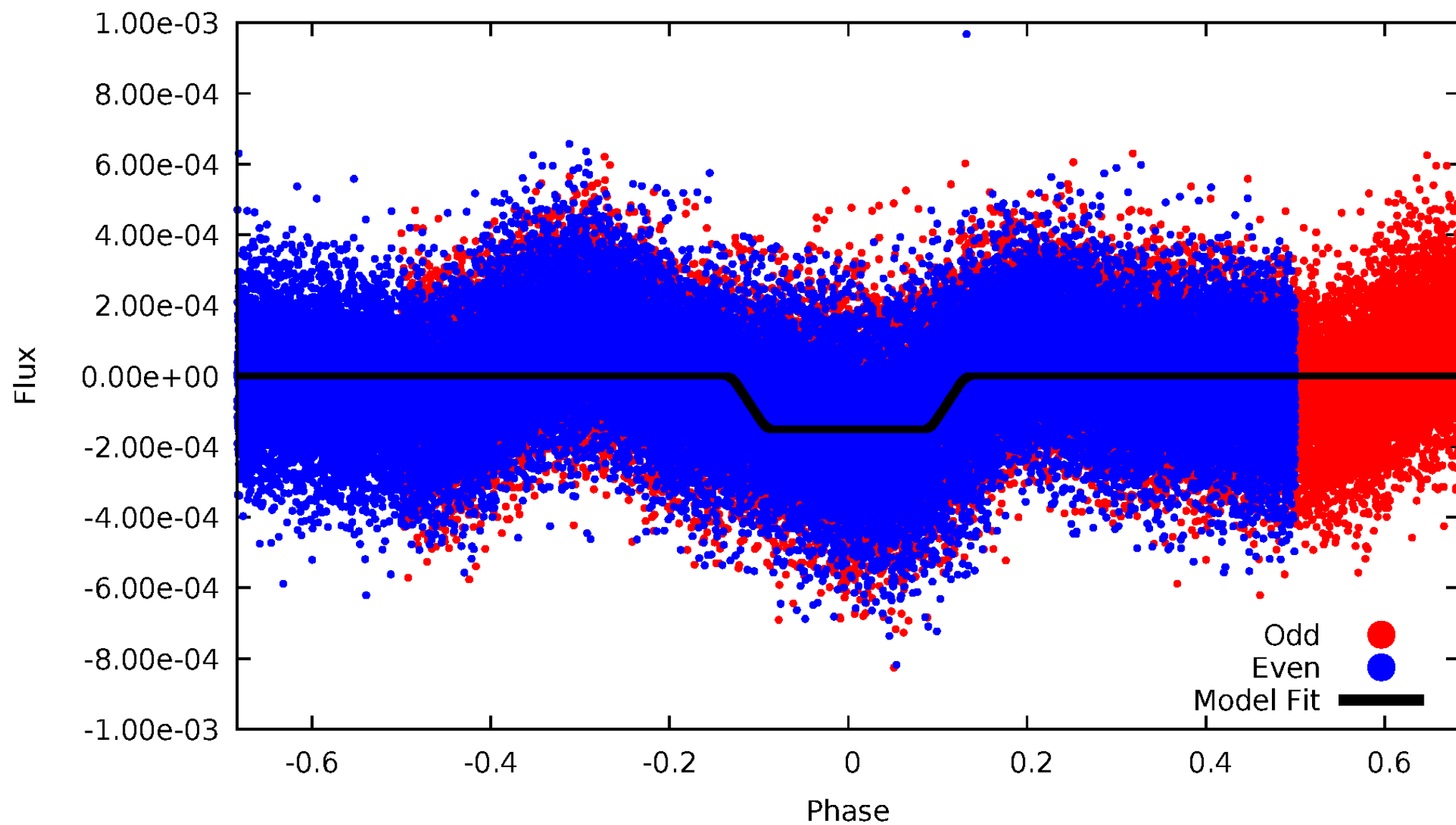
# DV Odd/Even

TCE 008546937-01



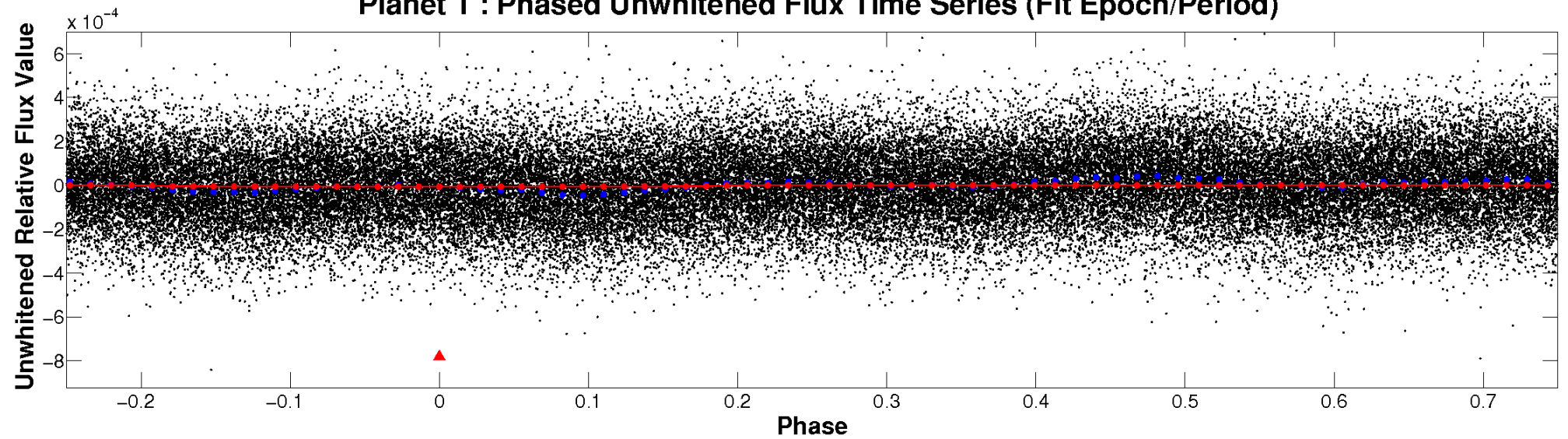
# ALT Odd/Even

TCE 008546937-01

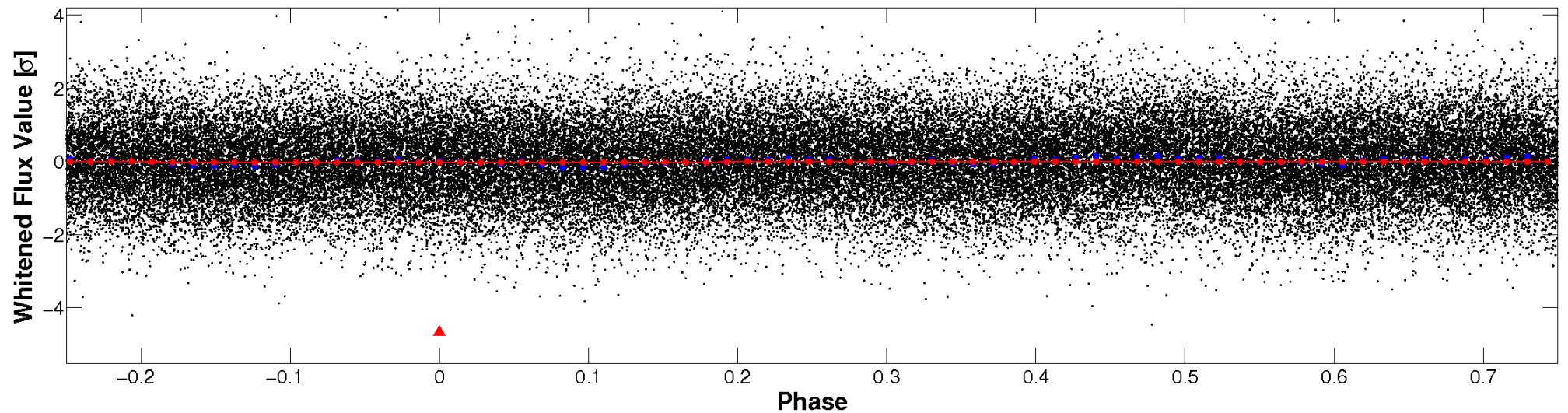


# Non-Whitened Vs. Whitened Light Curve

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

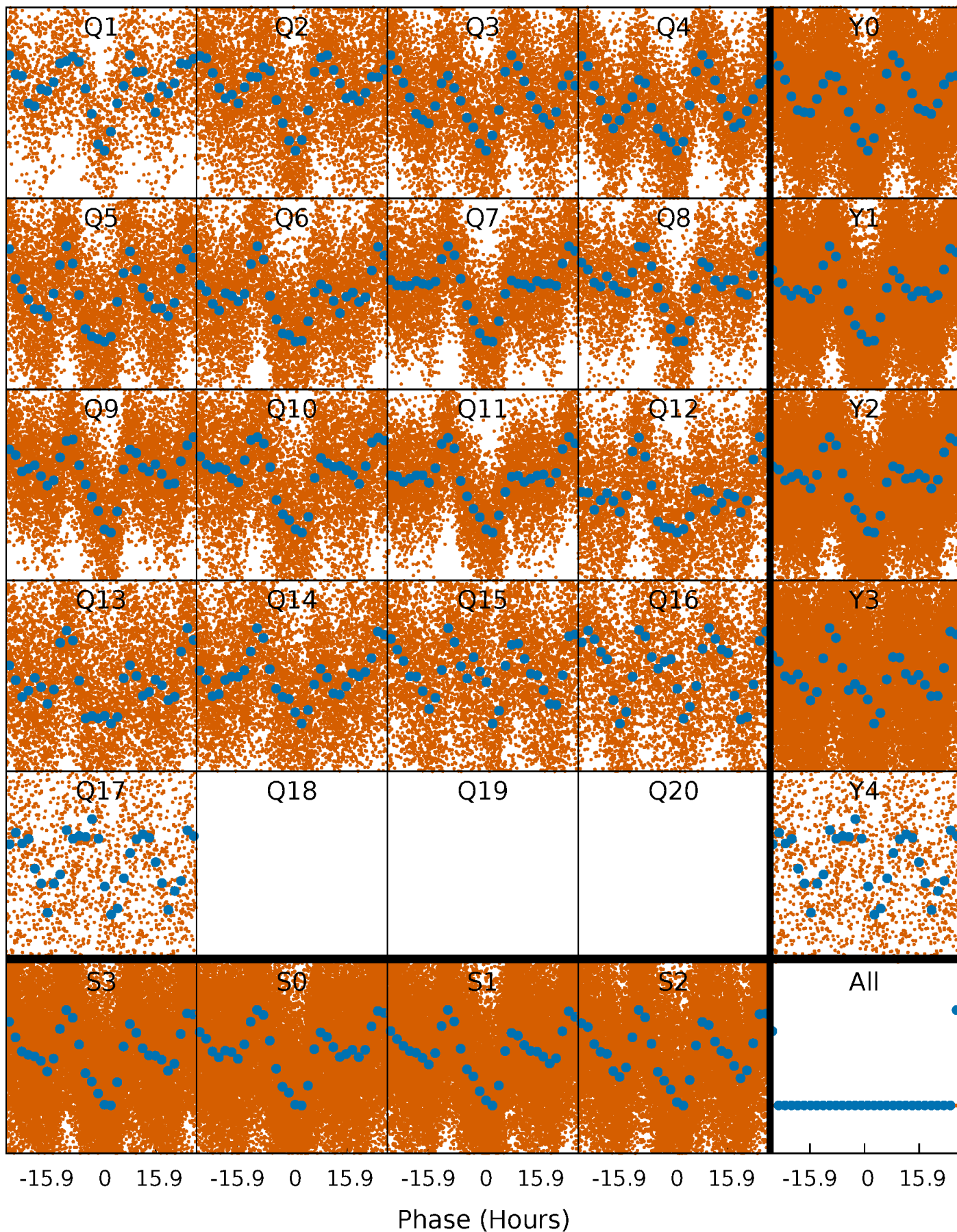


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

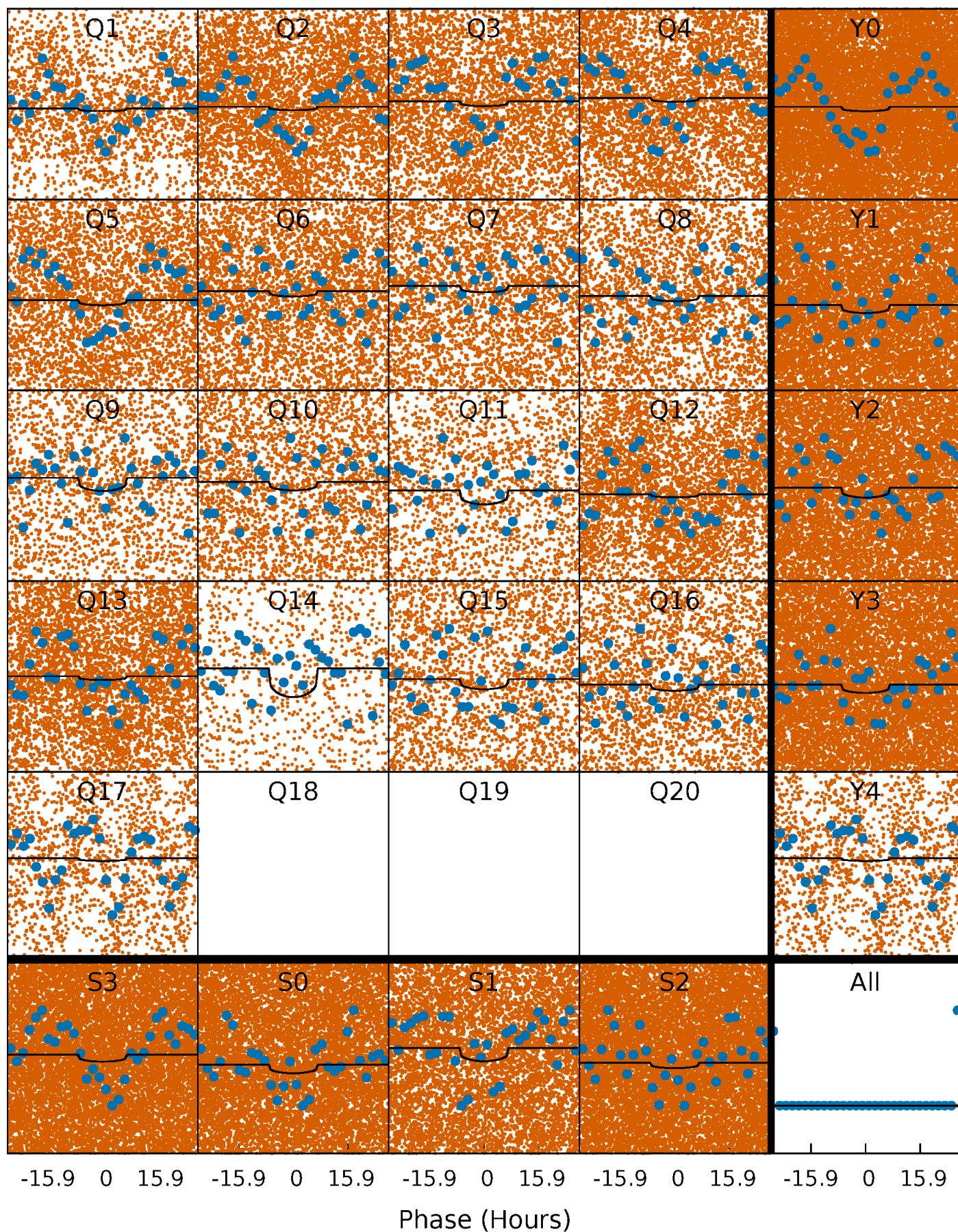
TCE 008546937-01   P= 1.484836 Days    $T_0=132.459728$  (BKJD)





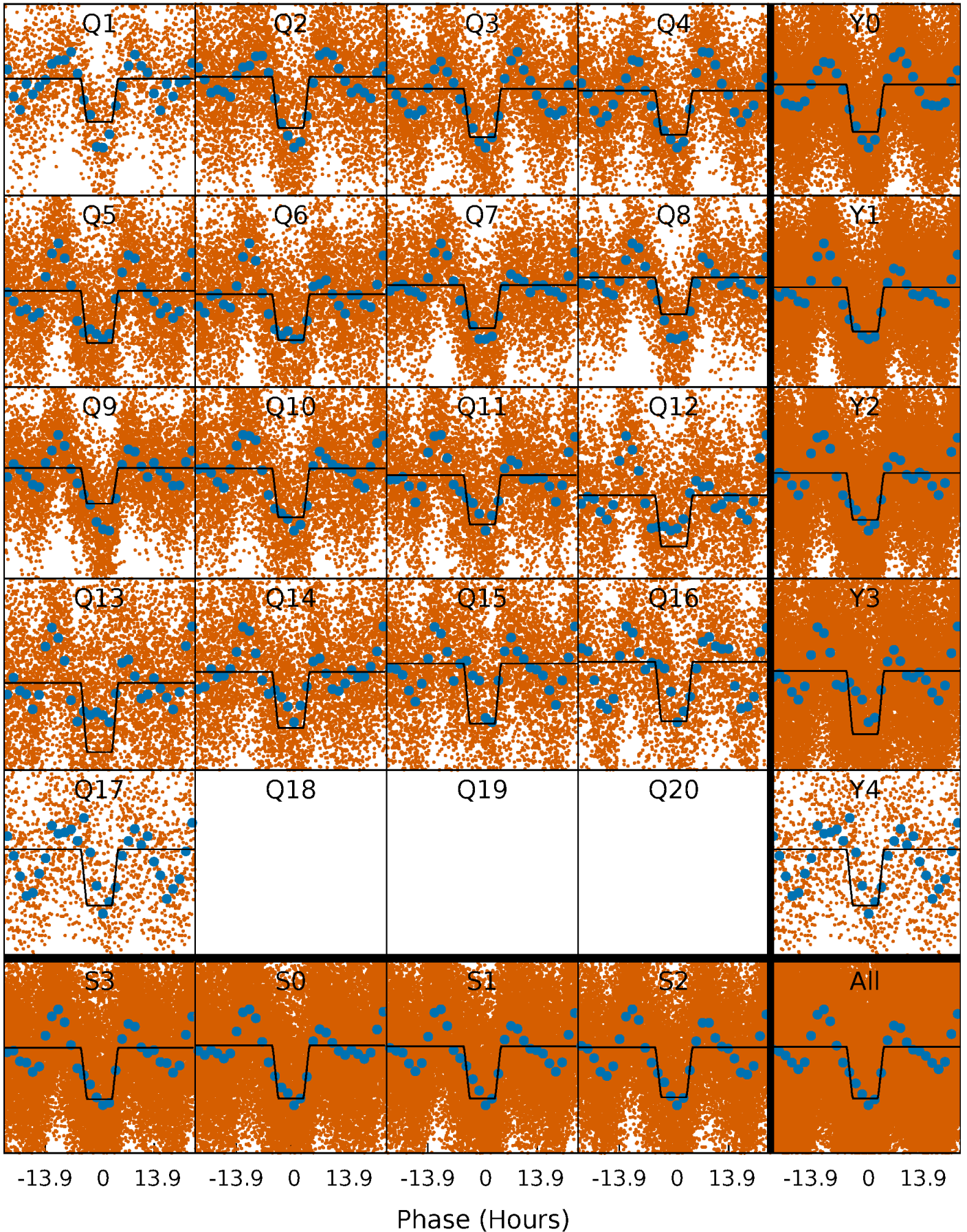
# DV Quarter-Phased Transit Curves

TCE 008546937-01   P= 1.484836 Days    $T_0=132.459728$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008546937-01 P= 1.484925 Days  $T_0=132.462506$  (BKJD)

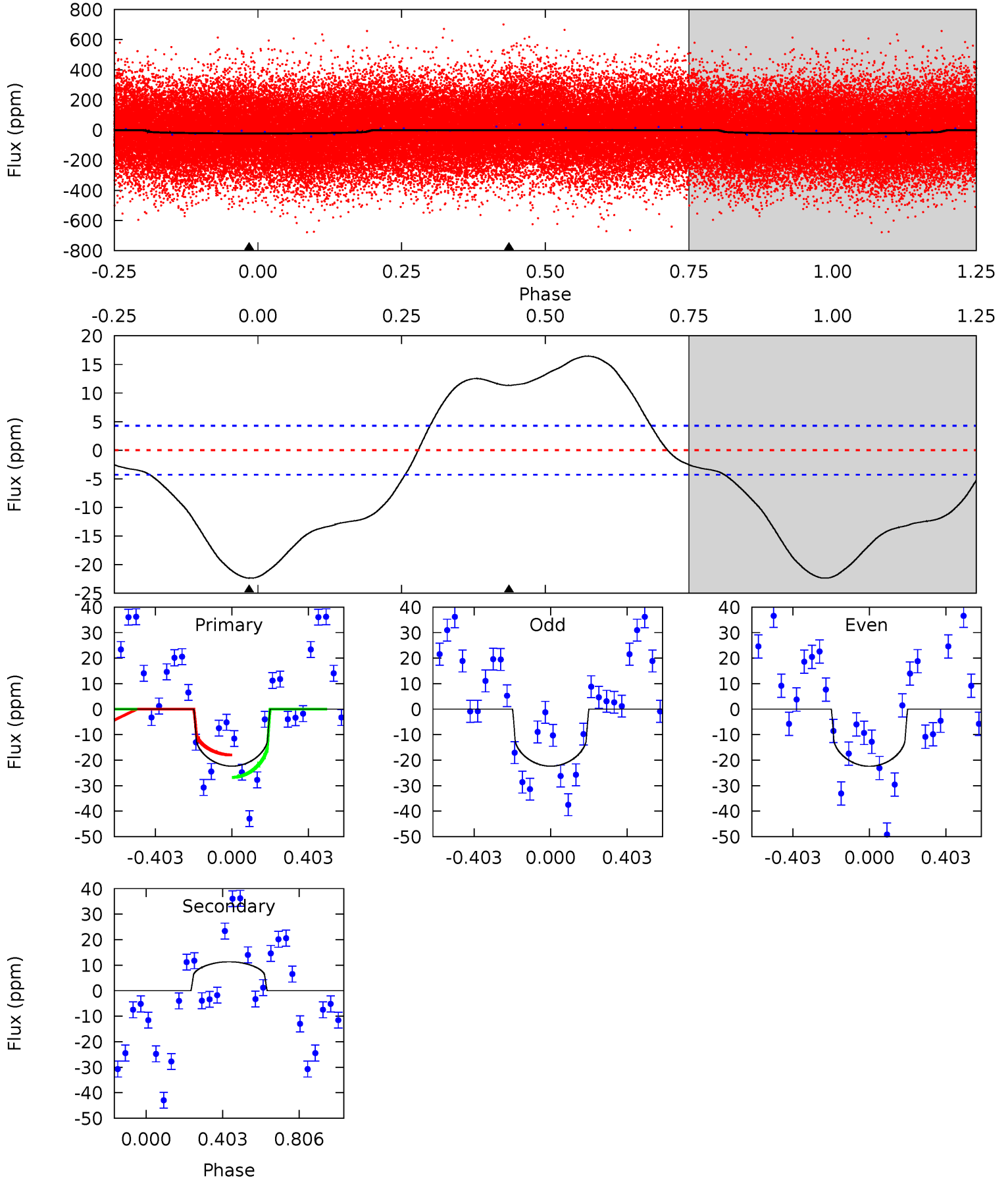




# DV Model-Shift Uniqueness Test

008546937-01, P = 1.484836 Days, E = 130.974892 Days

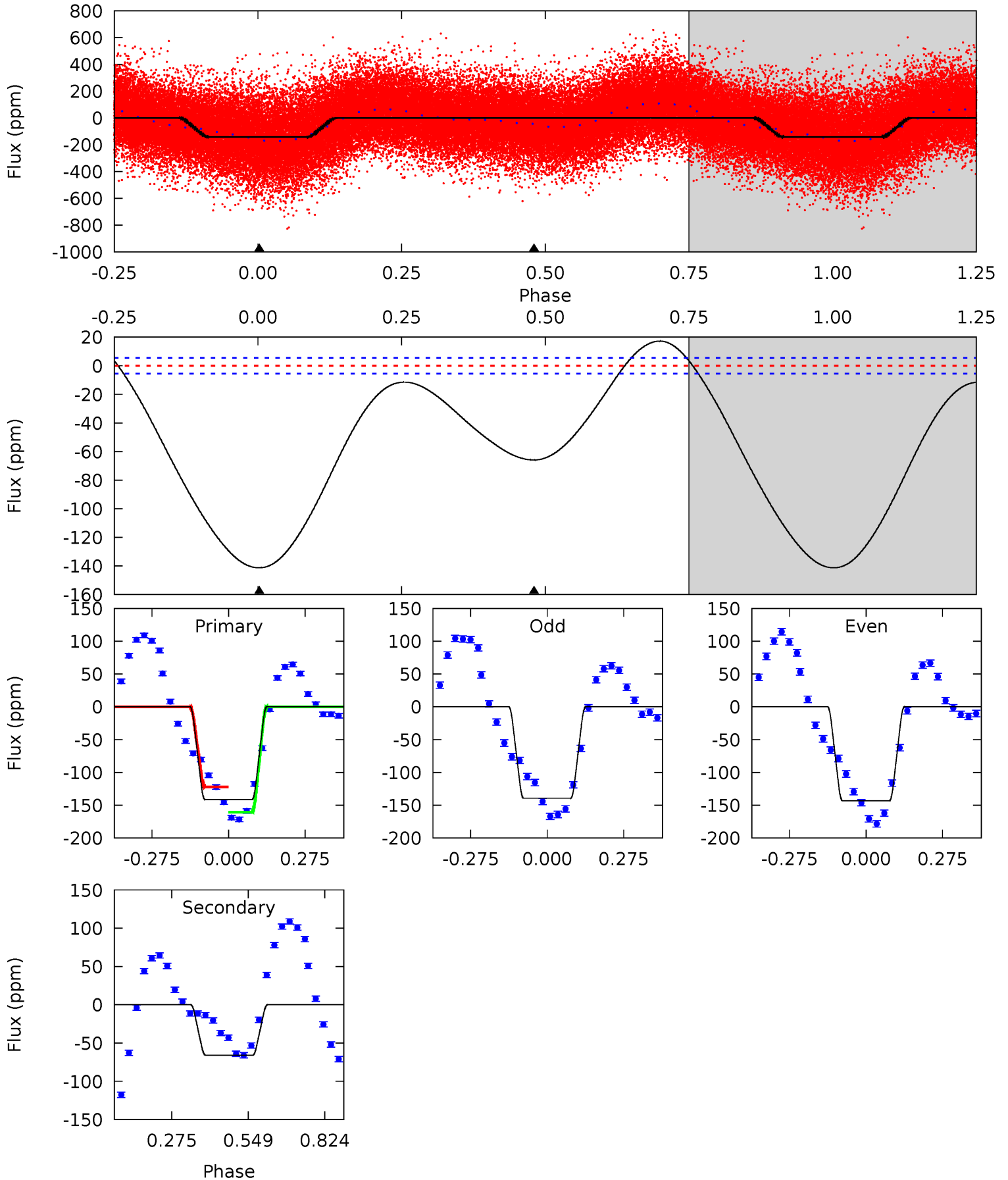
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	-11.3	0	0	4.26	0.84	4.08	22.3	22.3	-11.3	-11.3	0.02	0.94	0.42	4.41



# Alt Model-Shift Uniqueness Test

008546937-01, P = 1.484925 Days, E = 130.977581 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
112.2	52.4	0	0	4.35	1.09	8.97	112.2	112.2	52.4	52.4	1.51	1.01	0.11	16.3





### Stellar Parameters For KIC 008546937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6415^{+176}_{-242}$	$4.319^{+0.120}_{-0.195}$	$-0.260^{+0.250}_{-0.300}$	$1.177^{+0.364}_{-0.196}$	$1.049^{+0.184}_{-0.123}$	$0.906^{+0.529}_{-0.452}$
	+3%/-4%	+3%/-5%	+96%/-115%	+31%/-17%	+18%/-12%	+58%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008546937-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$11 \pm 1$	$0.61^{+0.60}_{-0.41}$	$2685^{+198}_{-161}$	$-5535^{+1280}_{-4953}$	$-11.477^{+8.638}_{-95.251}$
Alt.	$-66 \pm 1$	$1.63^{+0.73}_{-0.66}$	$2677^{+216}_{-171}$	$5200^{+1465}_{-739}$	$9.037^{+16.863}_{-4.557}$

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

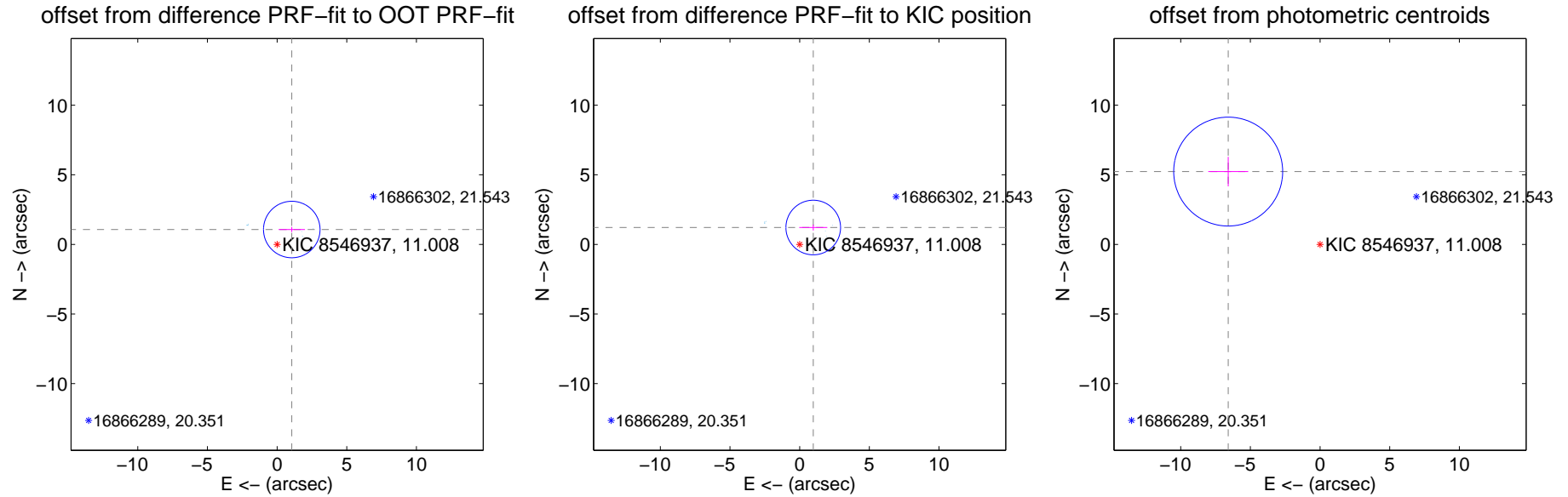
## DV Centroid Data

Supplemental centroid analysis for 008546937-01. **Kepler magnitude: 11.01.** Transit SNR 4.03

There are 7 quarters with good PRF difference image offsets

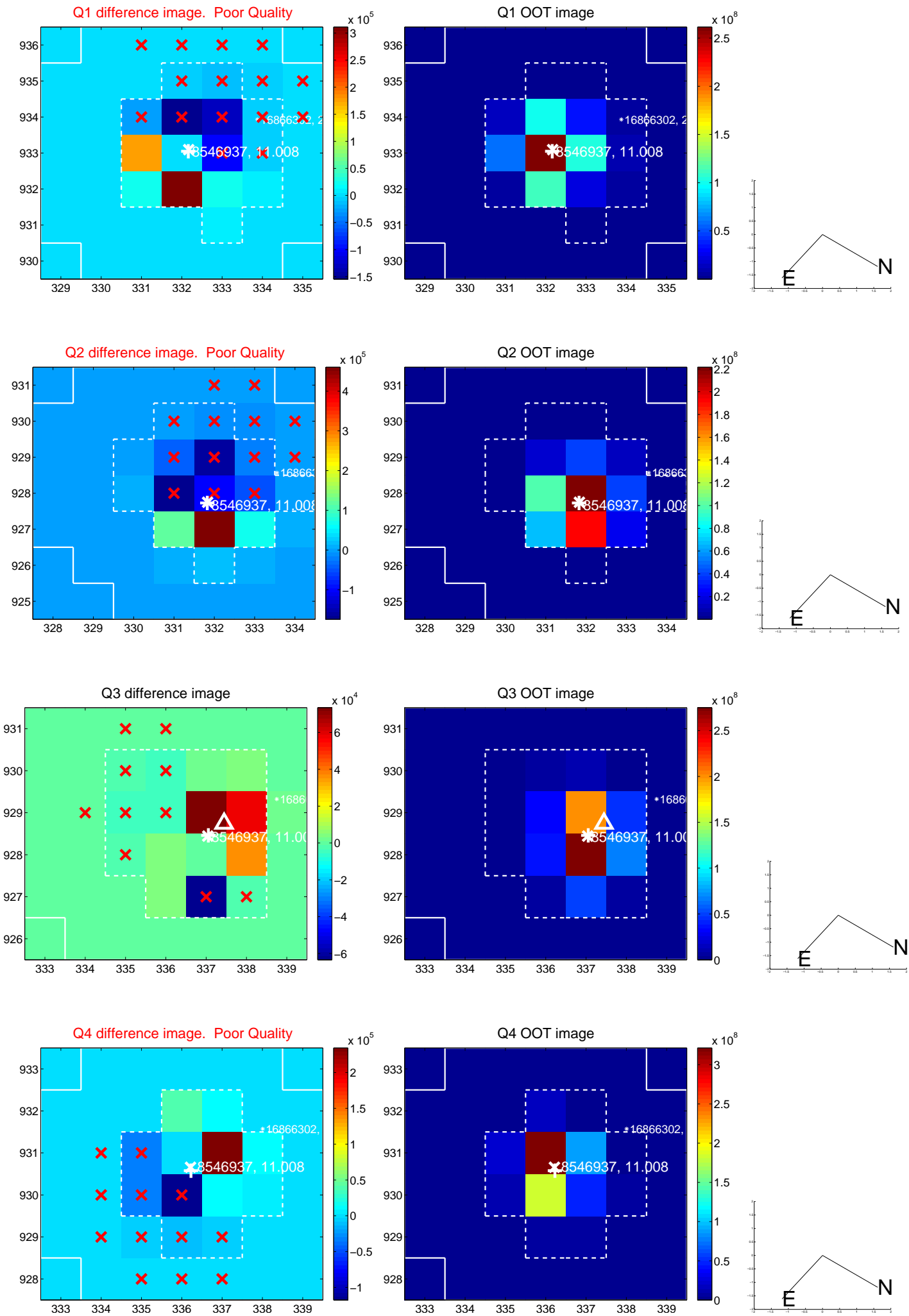
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.500 \pm 0.676$	2.22	$-1.053 \pm 0.946$	$1.069 \pm 0.181$
PRF-fit source offset from KIC position	$1.556 \pm 0.654$	2.38	$-0.975 \pm 1.009$	$1.213 \pm 0.215$
photometric centroid source offset	<b><math>8.42 \pm 1.30</math></b>	<b>6.46</b>	$6.59 \pm 1.44$	$5.23 \pm 1.06$

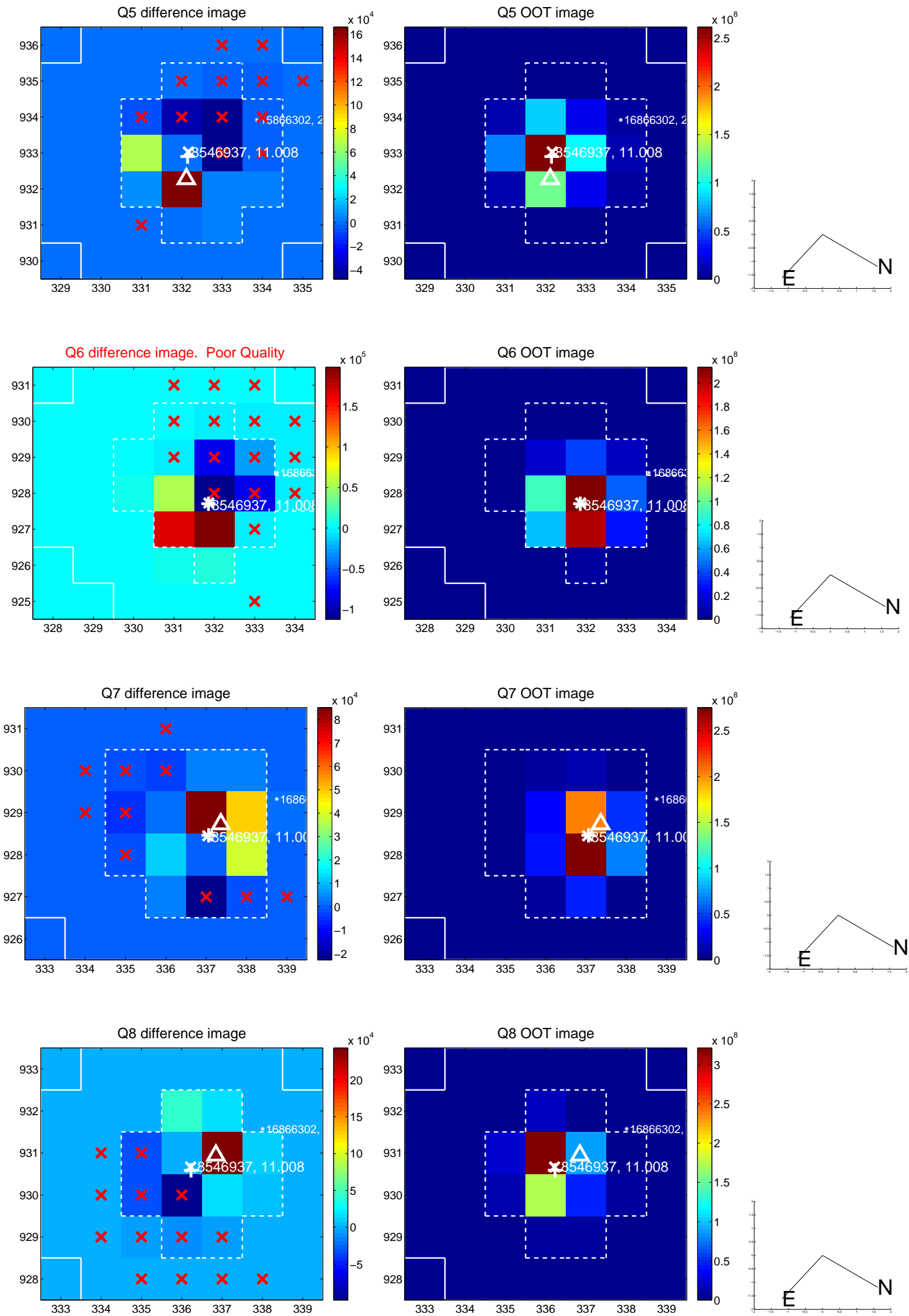


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

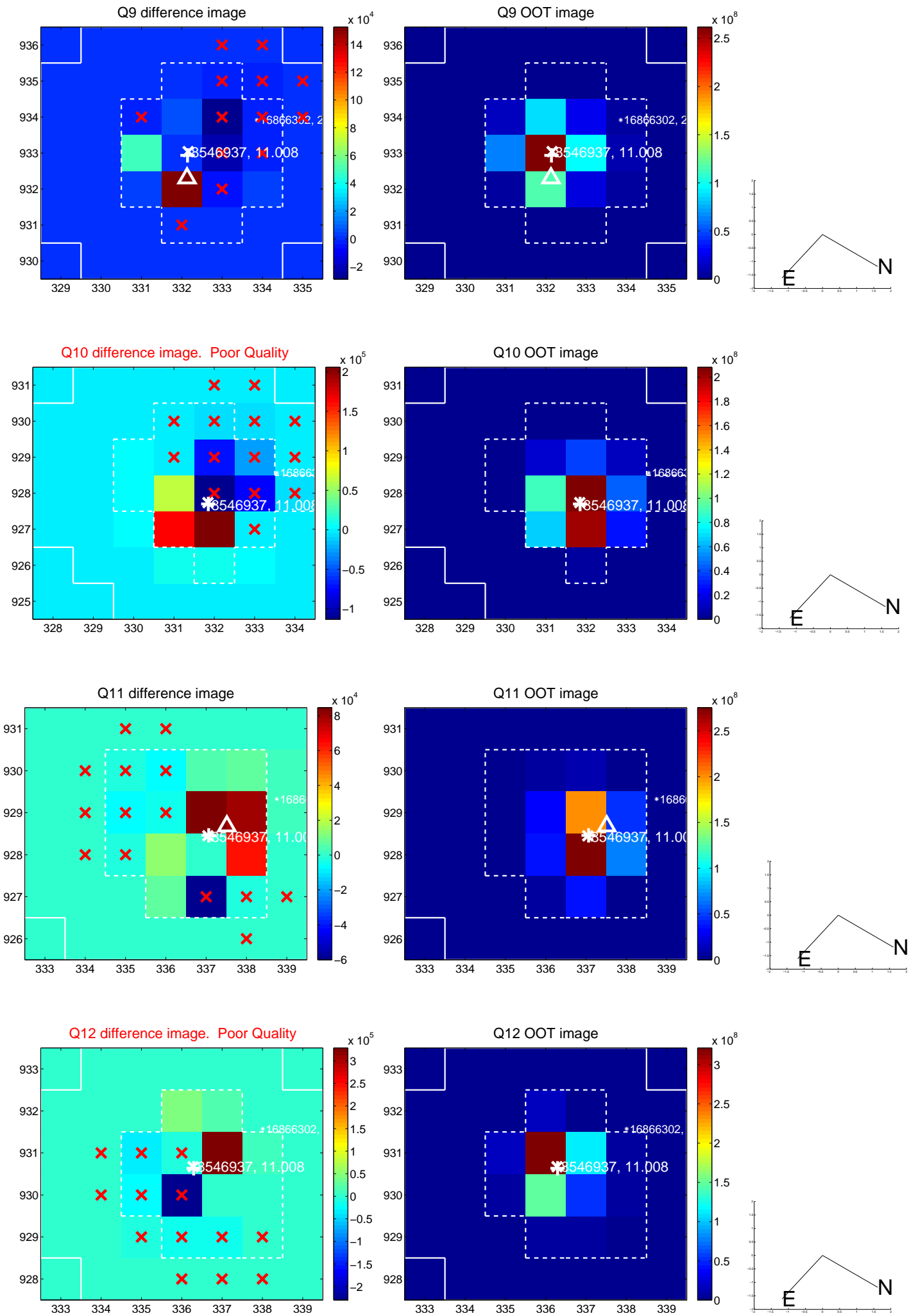


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

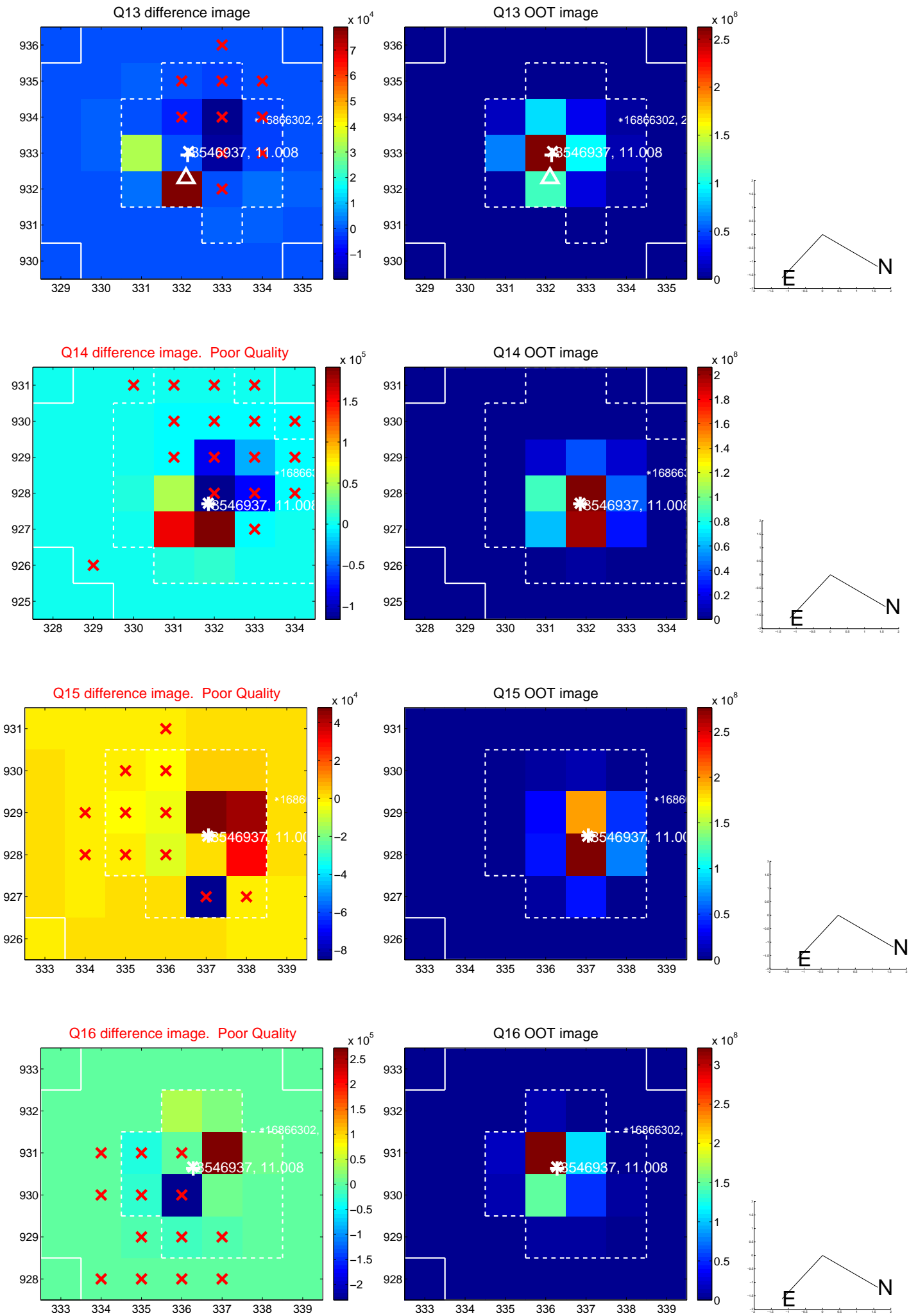




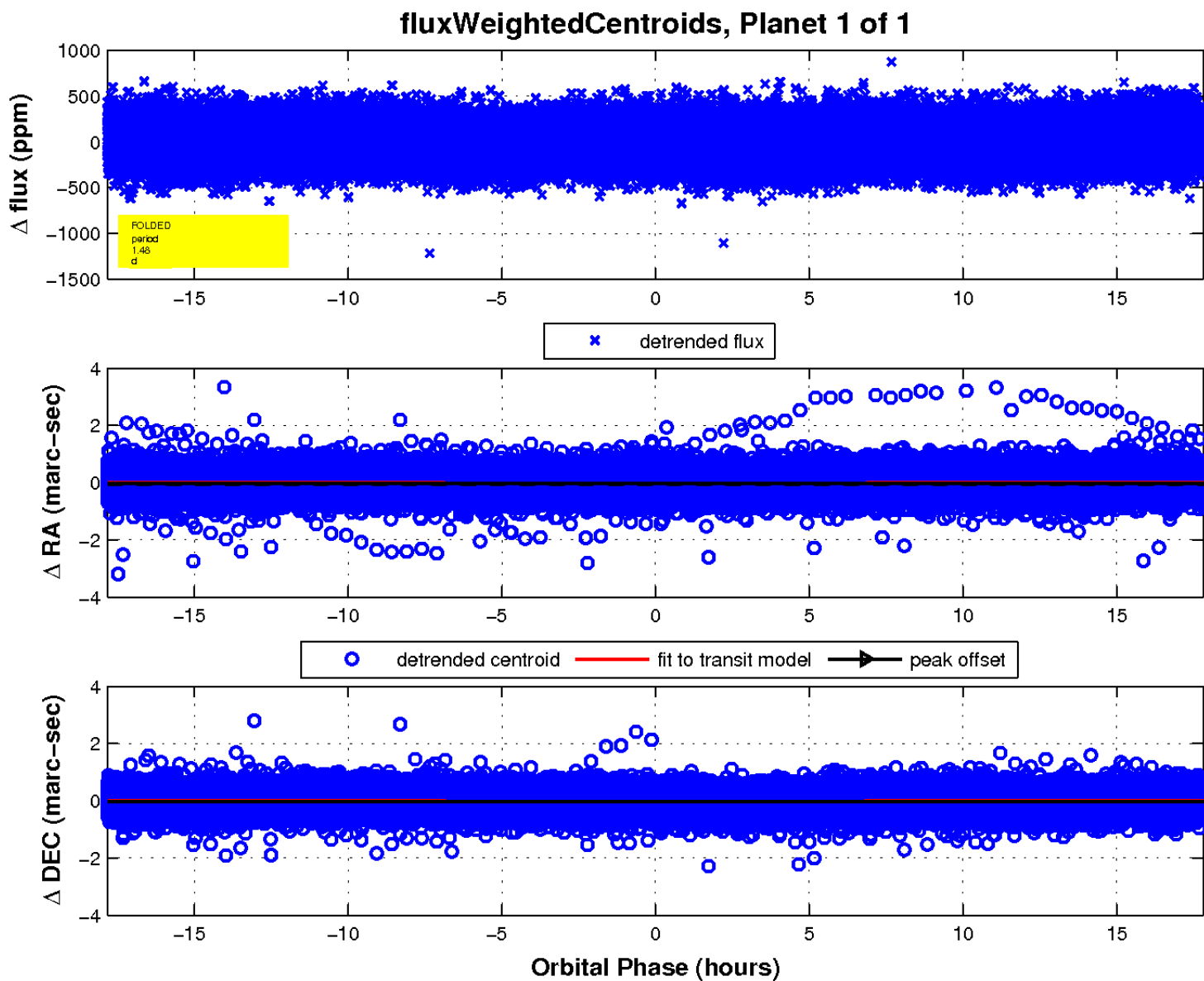
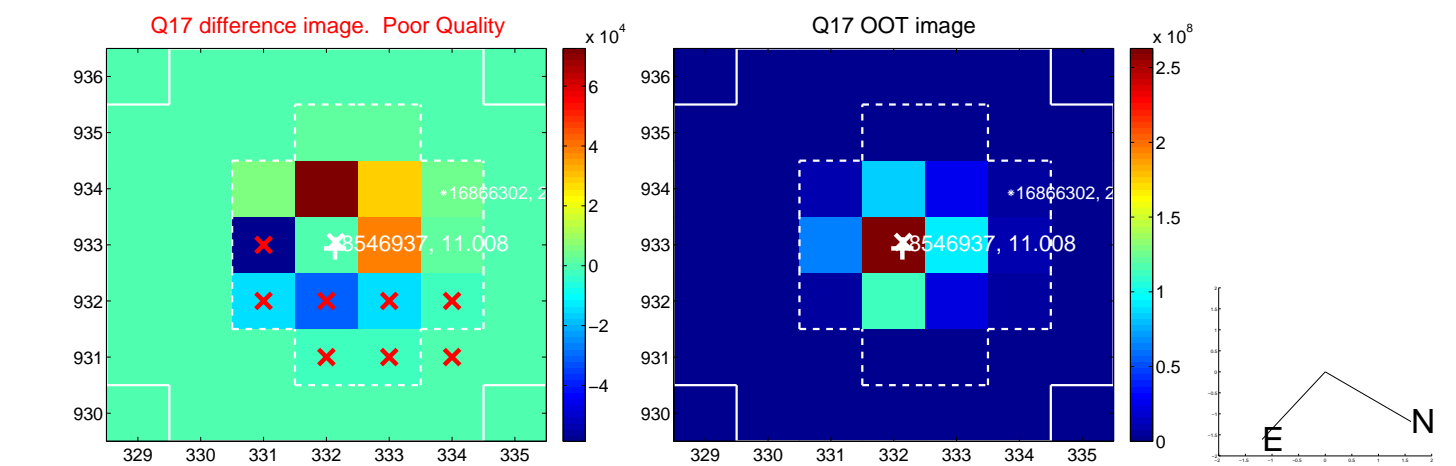
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

