

# KIC 004668993

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004668993-01	OBS	No	0.862311	131.703837	18.2	2.706	7.9	6.5	2.55	7236	1.27	35995.65

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004668993-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

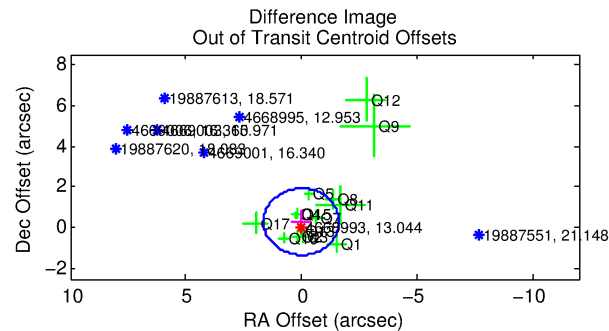
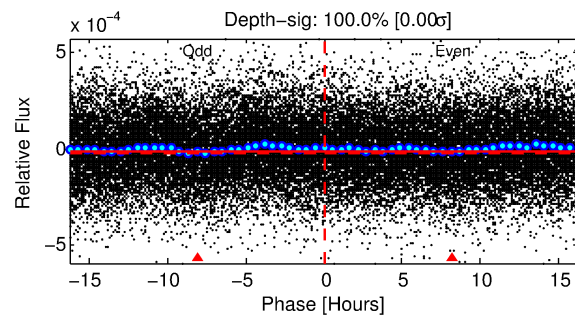
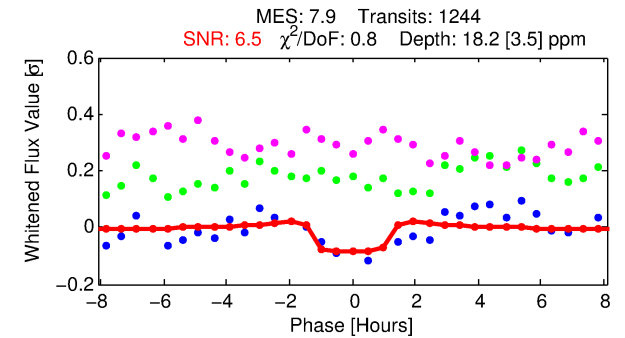
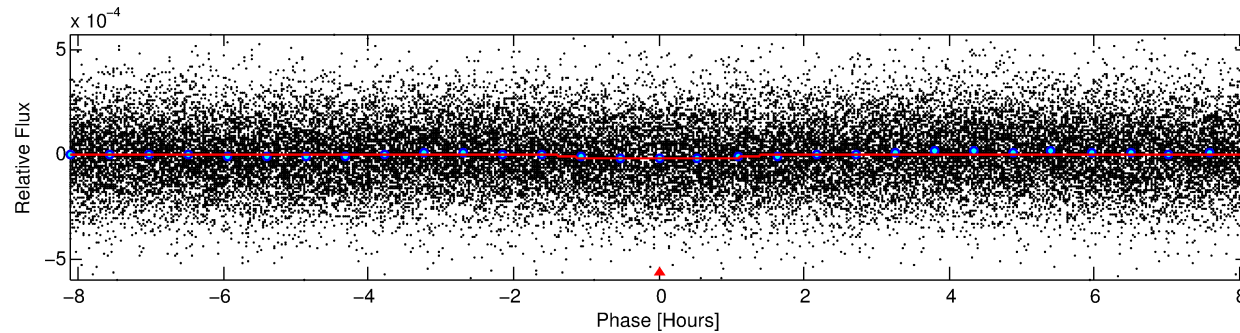
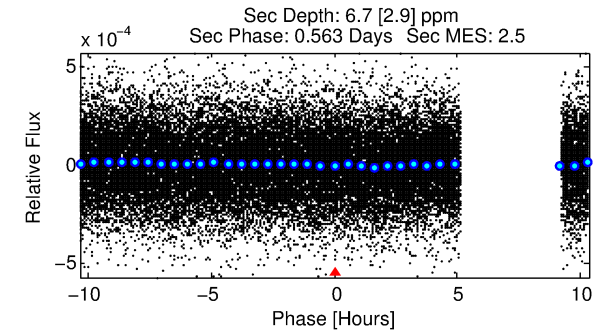
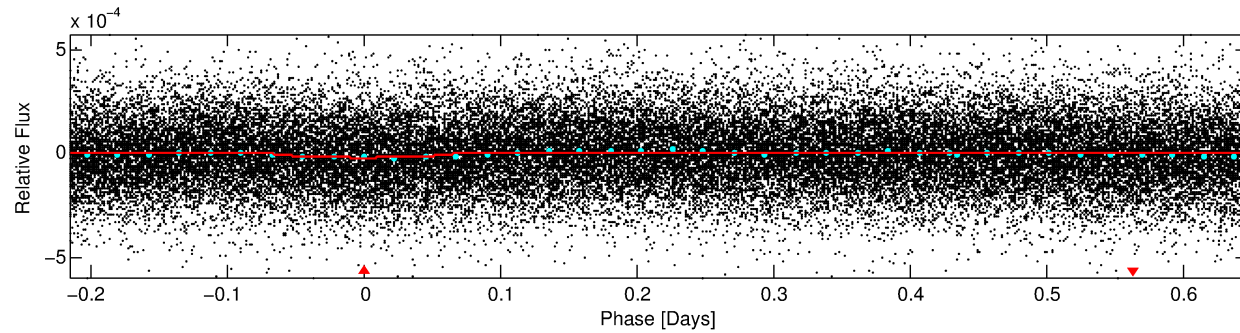
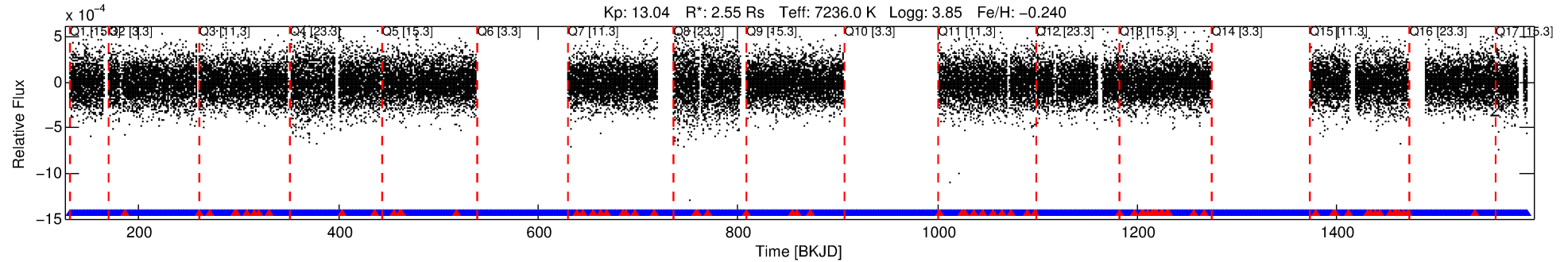
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004668993-01

No Significant Match Found

# DV One-Page Summary

KIC: 4668993 Candidate: 1 of 1 Period: 0.862 d



## DV Fit Results:

Period = 0.86231 [0.00002] d  
Epoch = 131.7038 [0.0040] BKJD  
Rp/R\* = 0.0046 [0.0018]  
a/R\* = 1.43 [1.74]  
b = 0.90 [0.51]  
Seff = 35995.65 [24303.36]  
Teq = 3512 [593] K  
Rp = 1.27 [0.74] Re  
a = 0.0211 [0.0086] AU  
Ag = 1.01 [1.13] [0.01σ]  
Teff = 5449 [1258] K [1.39σ]

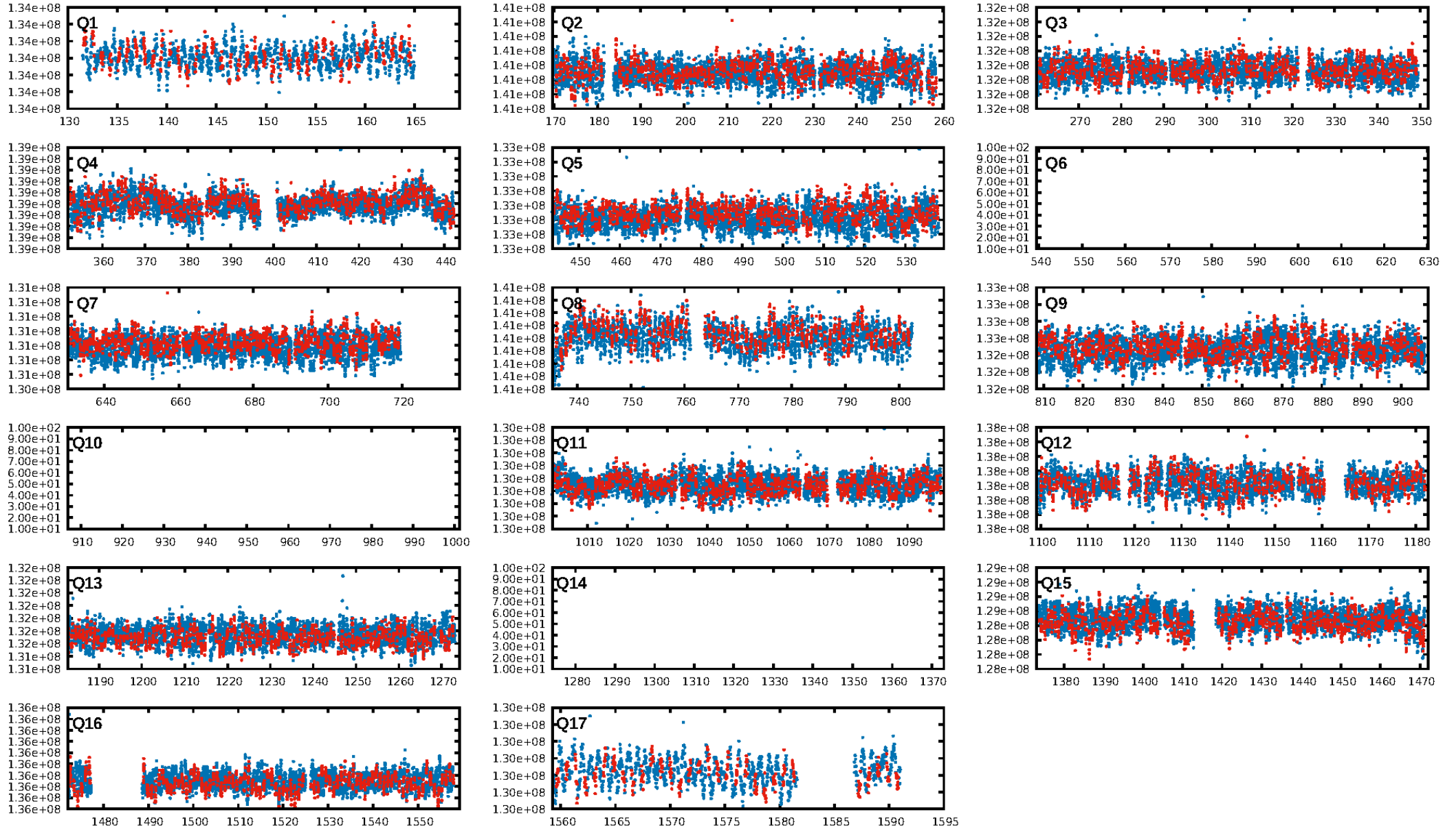
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 1.42e-12**  
RollingBand-fgt: 0.94 [1102/1174]  
GhostDiagnostic-chr: 5.015  
Centroid-sig: N/A  
Centroid-so: 3.327 arcsec [2.21σ]  
OotOffset-rm: 0.302 arcsec [0.55σ]  
KicOffset-rm: 0.295 arcsec [0.59σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 0.29 [4/14]  
DiffImageOverlap-fno: 1.00 [14/14]

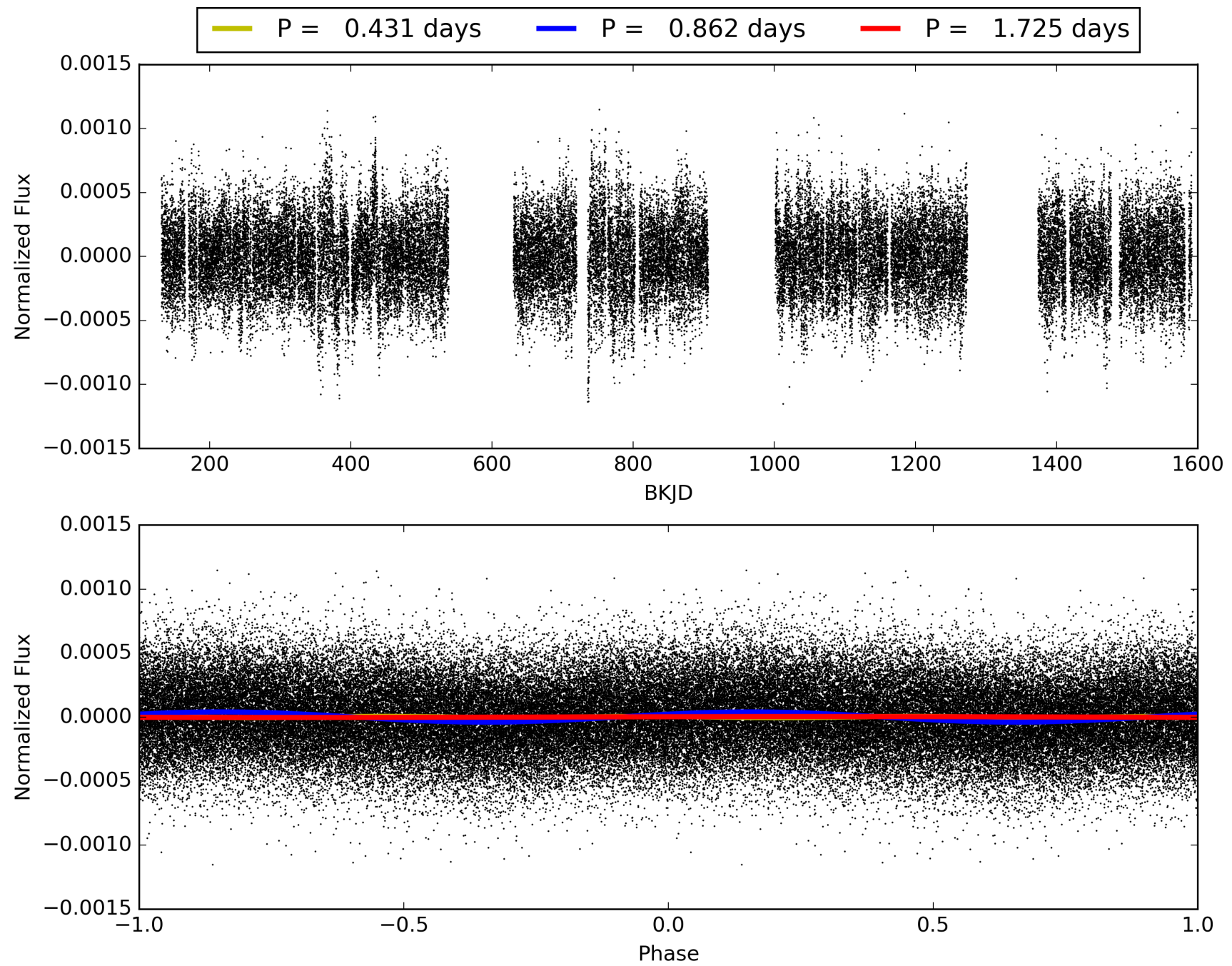
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:50:47 Z

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

# TCE 004668993-01, PDC Light Curves

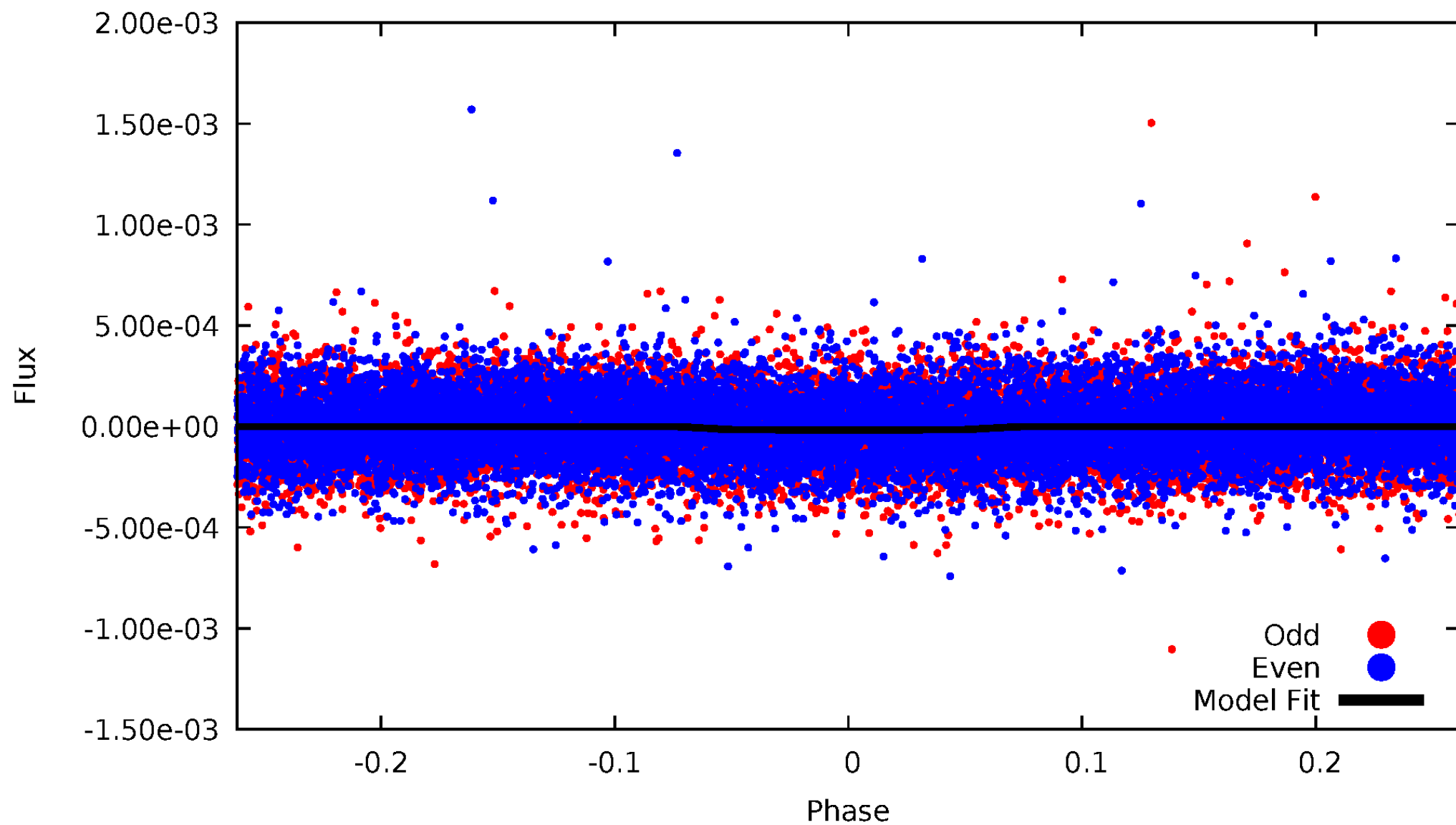


TCE 004668993-01



# DV Odd/Even

TCE 004668993-01





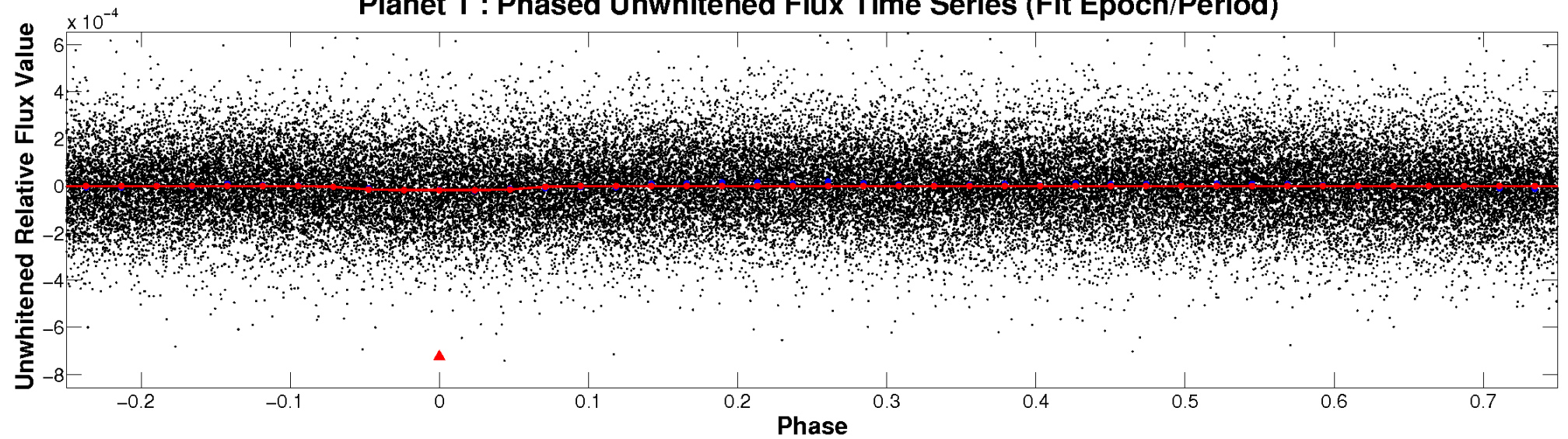
ALT Odd/Even

This plot does not exist for this TCE.

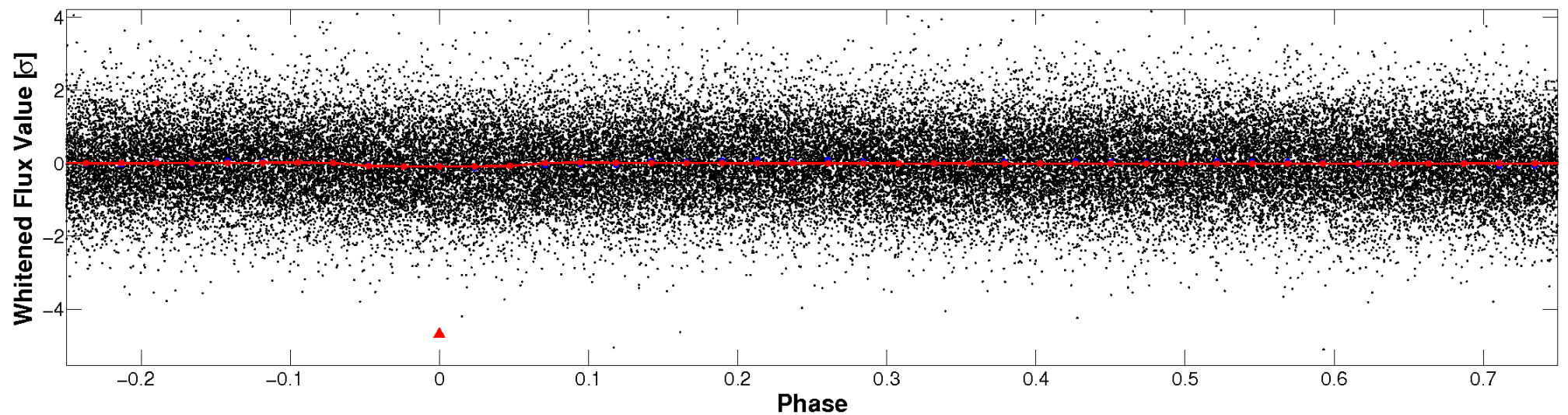


# Non-Whitened Vs. Whitened Light Curve

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



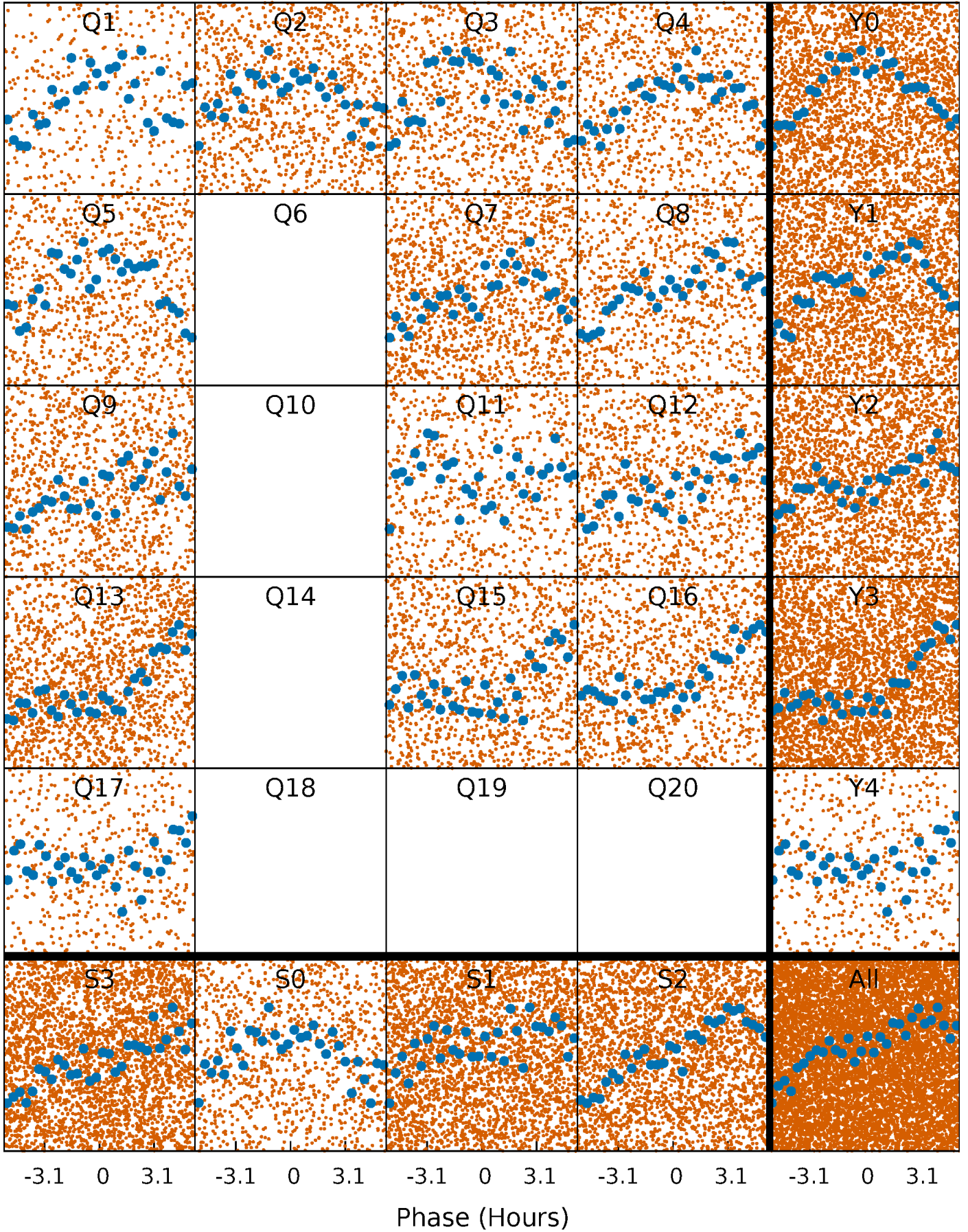
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





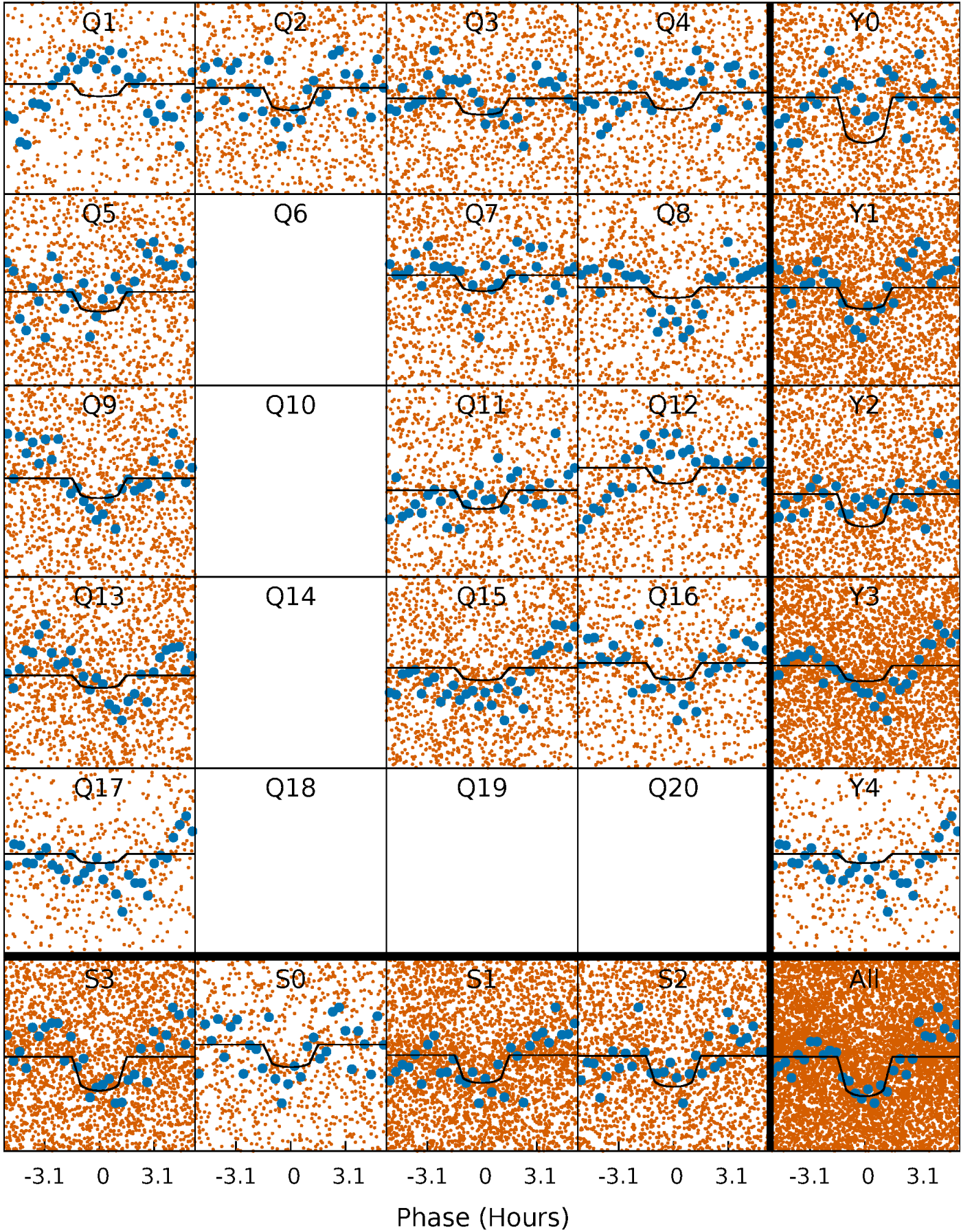
# PDC Quarter-Phased Transit Curves

TCE 004668993-01   P= 0.862311 Days    $T_0=131.703837$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 004668993-01   P= 0.862311 Days    $T_0=131.703837$  (BKJD)



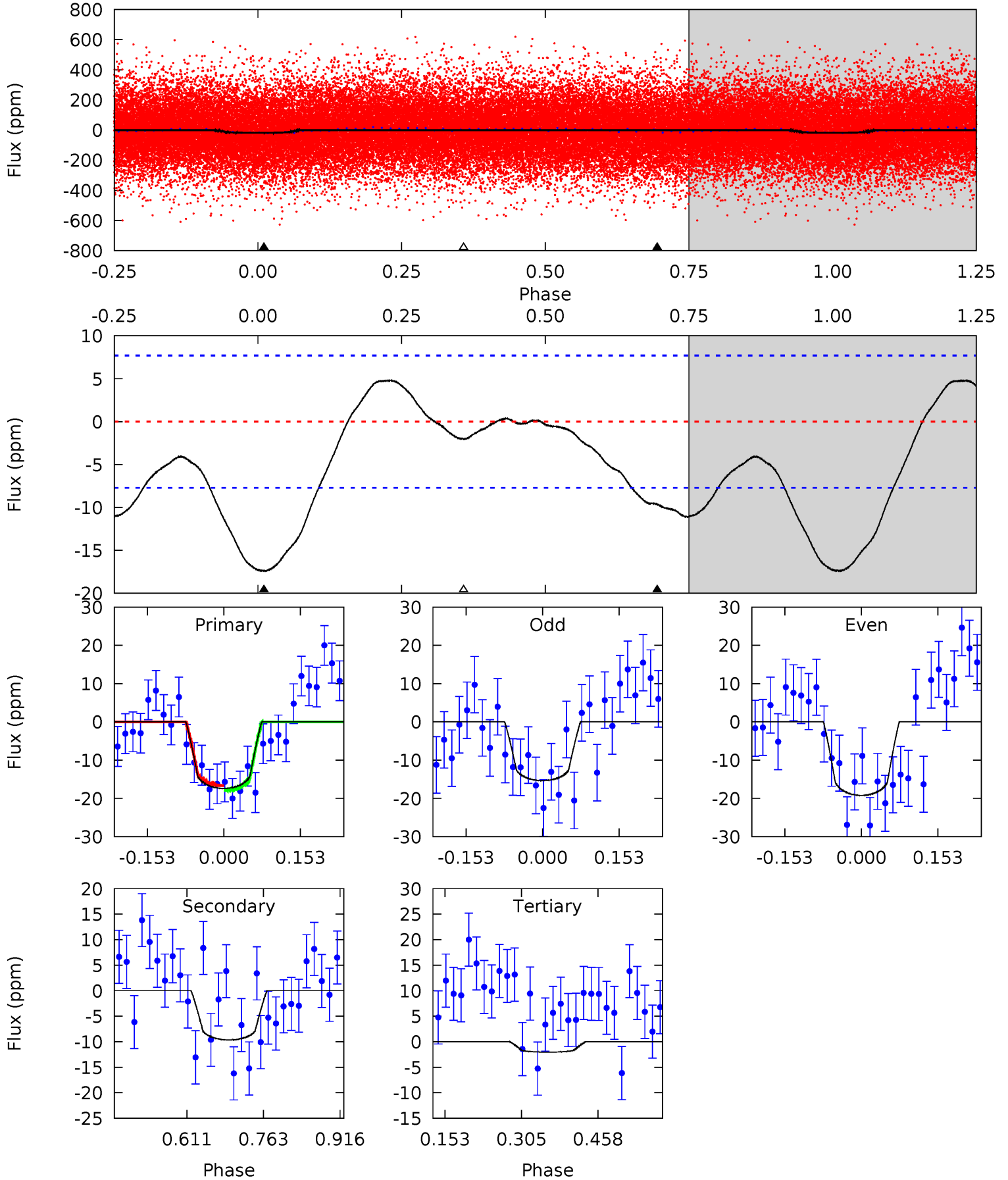
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

004668993-01, P = 0.862311 Days, E = 130.841526 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
10.1	5.60	1.19	0	4.48	1.43	1.30	8.91	10.1	4.42	5.60	1.13	0.92	0.22	0.36



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 004668993

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7236^{+226}_{-302}$	$3.849^{+0.384}_{-0.120}$	$-0.240^{+0.250}_{-0.350}$	$2.549^{+0.465}_{-1.085}$	$1.672^{+0.171}_{-0.400}$	$0.142^{+0.404}_{-0.051}$
	+3%/-4%	+10%/-3%	+104%/-146%	+18%/-43%	+10%/-24%	+284%/-36%
Source	KIC0	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 004668993-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-10 \pm 2$	$1.16^{+0.55}_{-0.51}$	$4796^{+370}_{-550}$	$5638^{+1986}_{-1123}$	$1.739^{+3.422}_{-0.974}$
Alt.	N/A	N/A	N/A	N/A	N/A

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



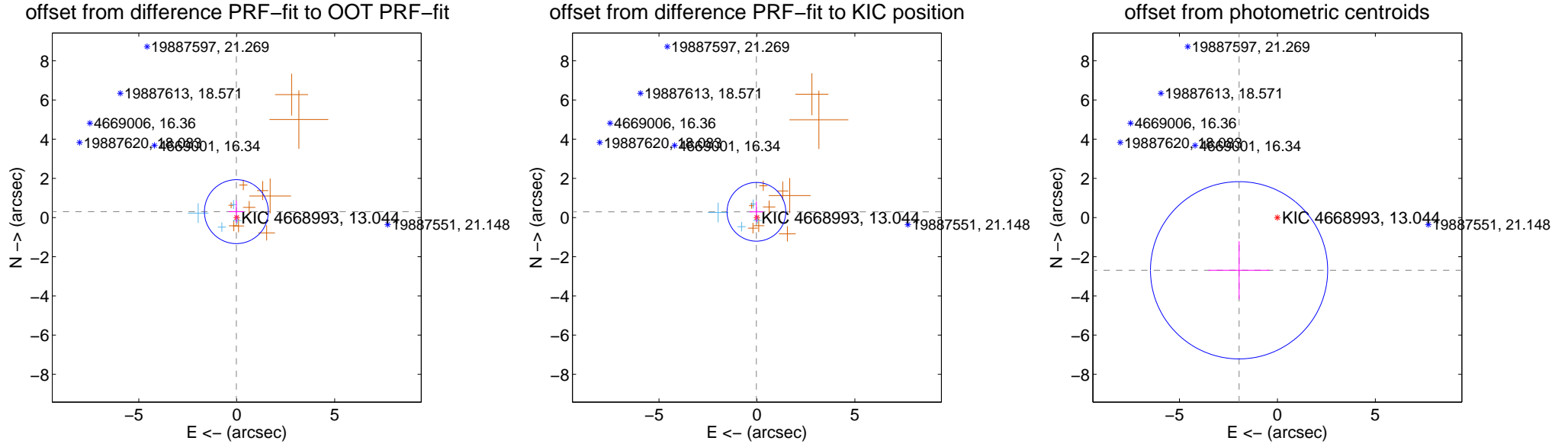
## DV Centroid Data

Supplemental centroid analysis for 004668993-01. Kepler magnitude: 13.04. Transit SNR 6.48

There are 4 quarters with good PRF difference image offsets

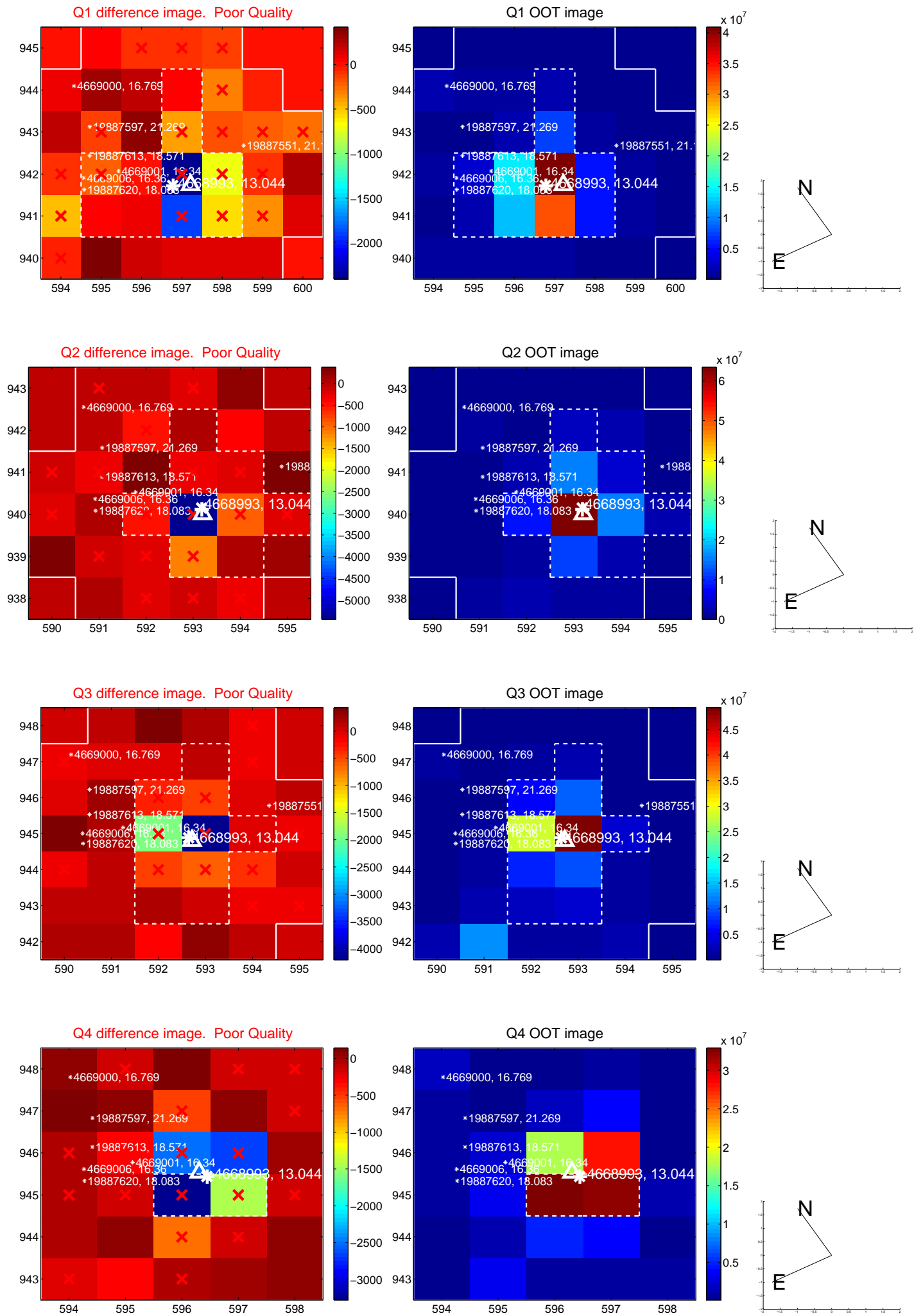
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.302 \pm 0.544$	0.55	$0.019 \pm 0.392$	$0.301 \pm 0.562$
PRF-fit source offset from KIC position	$0.295 \pm 0.500$	0.59	$0.027 \pm 0.351$	$0.294 \pm 0.525$
photometric centroid source offset	$3.33 \pm 1.51$	2.21	$1.96 \pm 1.56$	$-2.69 \pm 1.48$

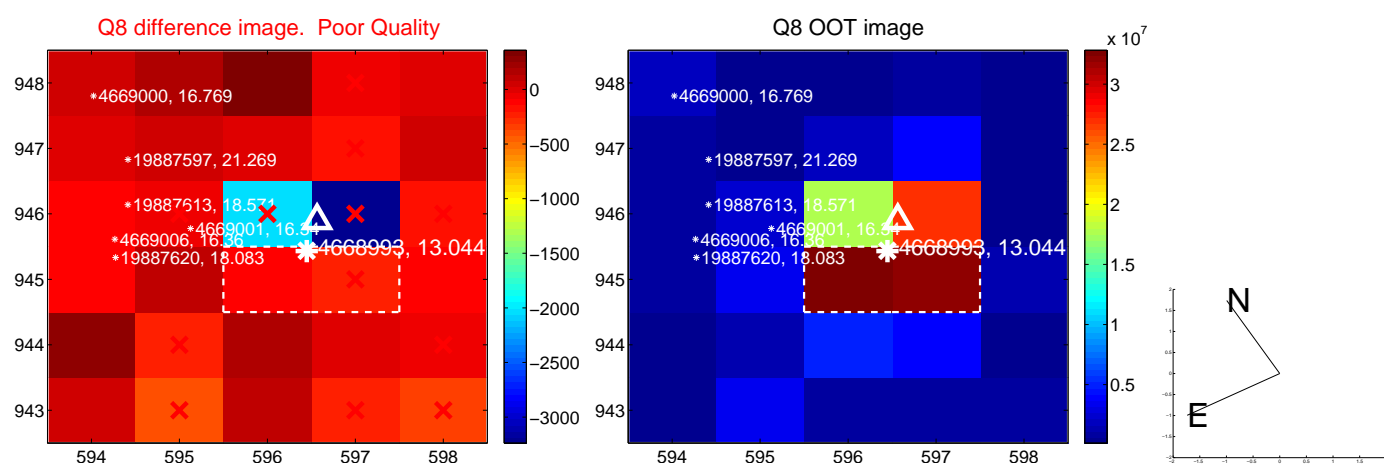
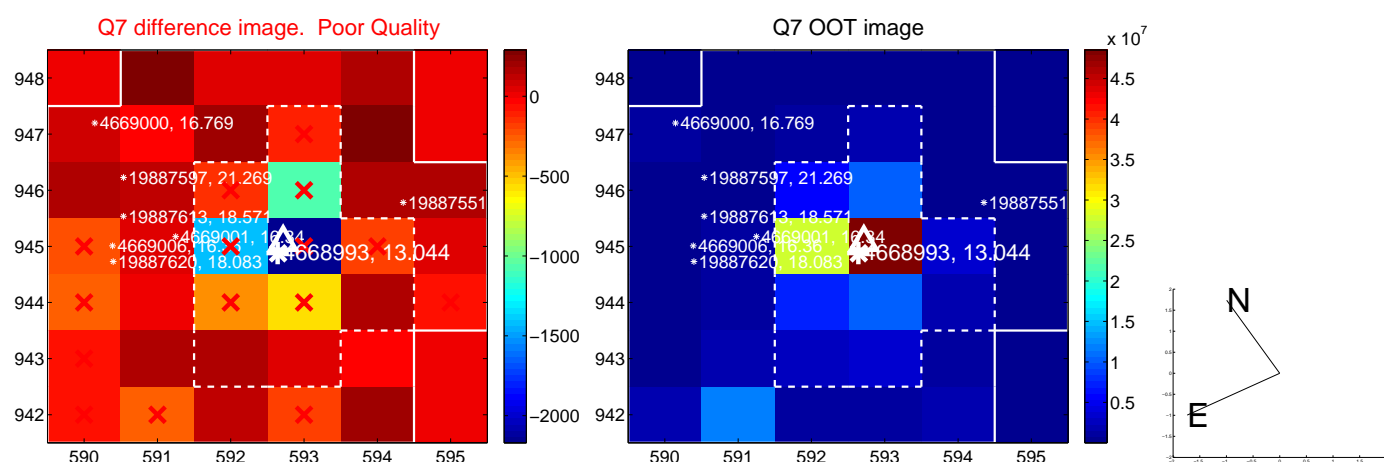
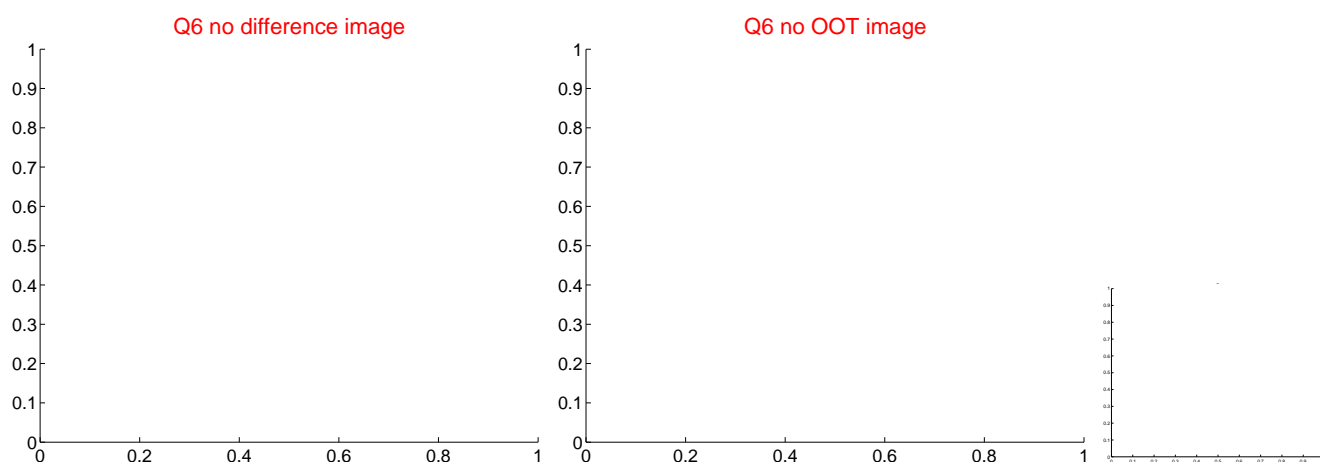
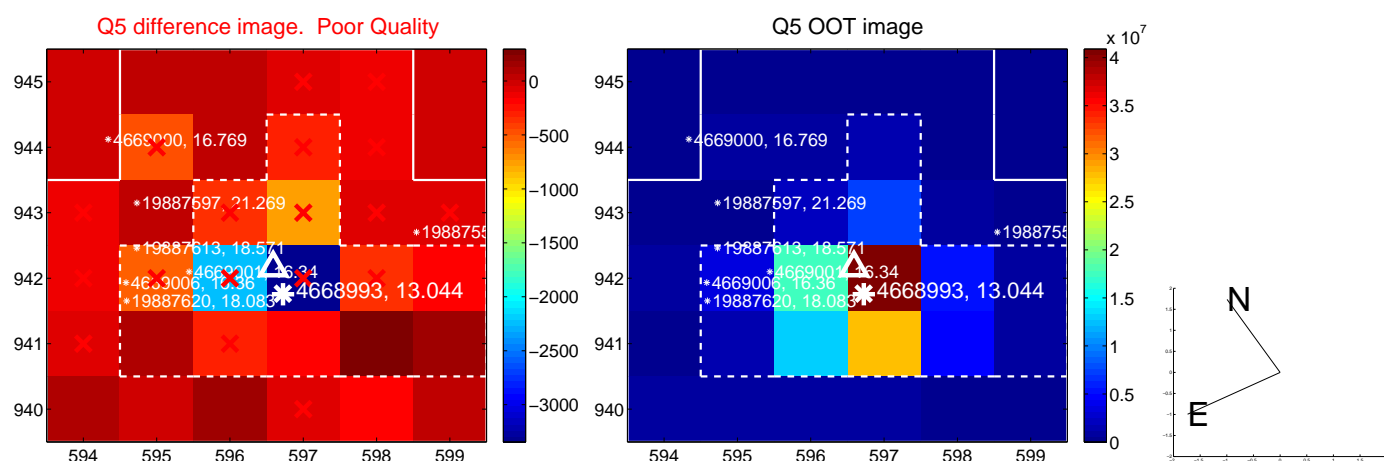


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

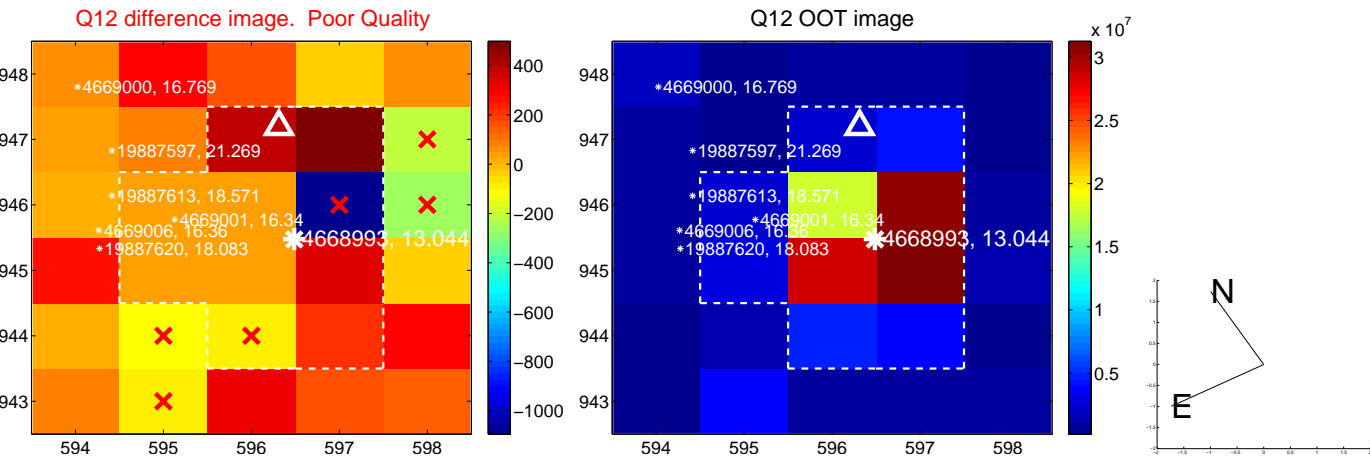
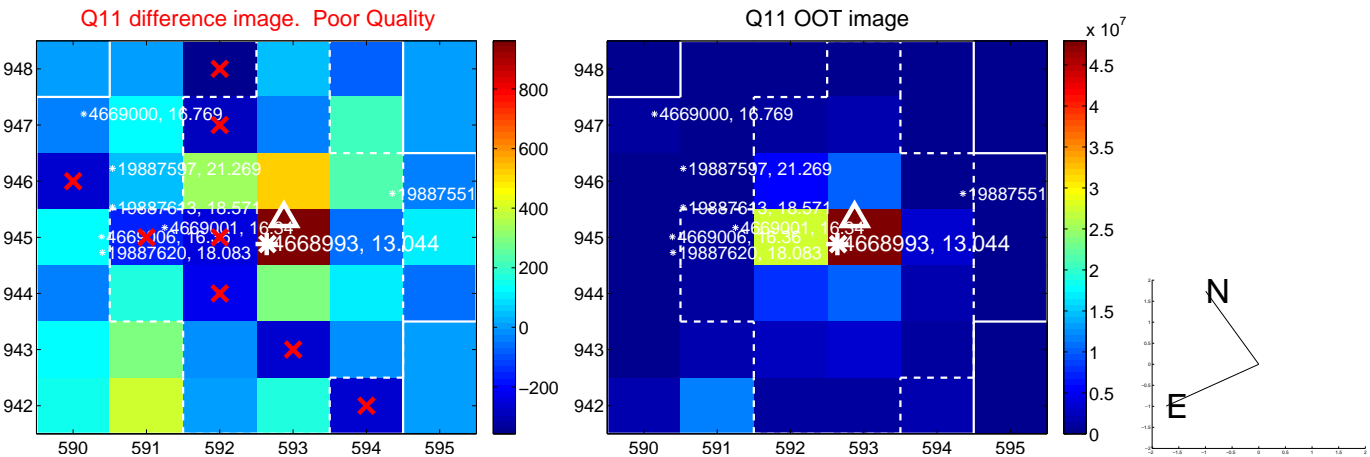
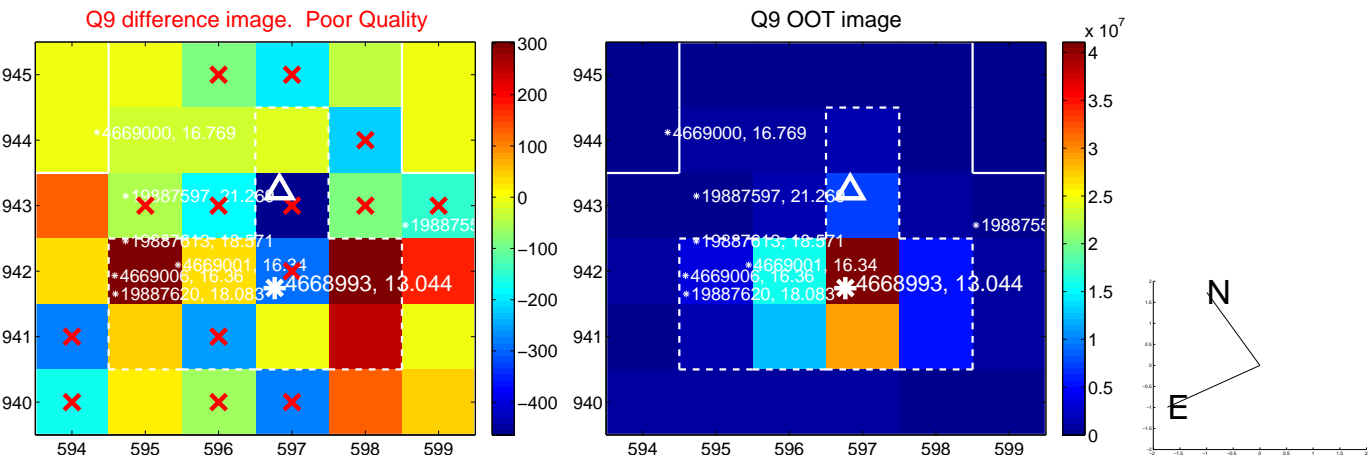
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



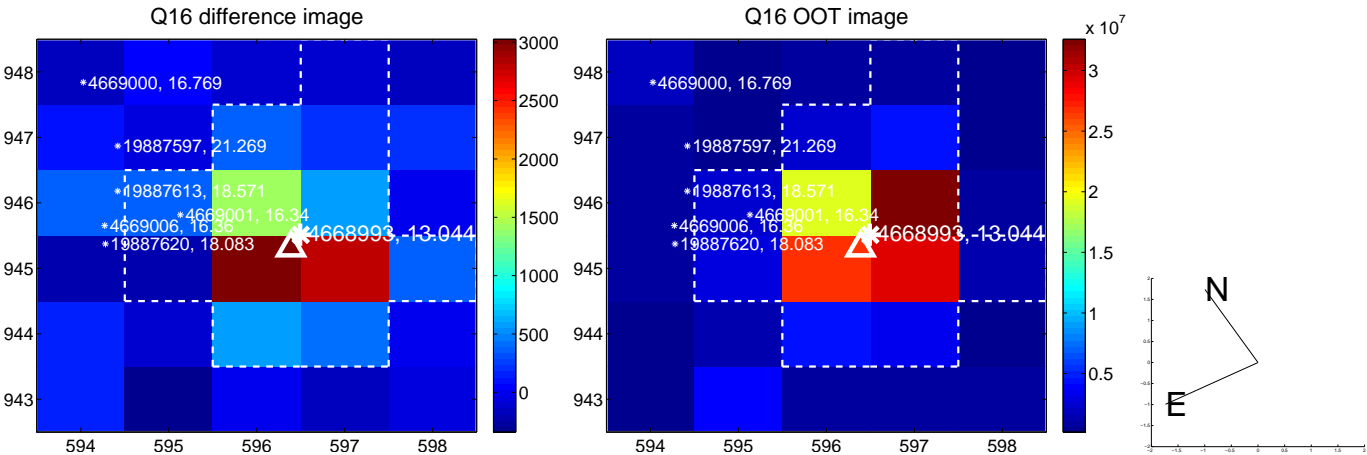
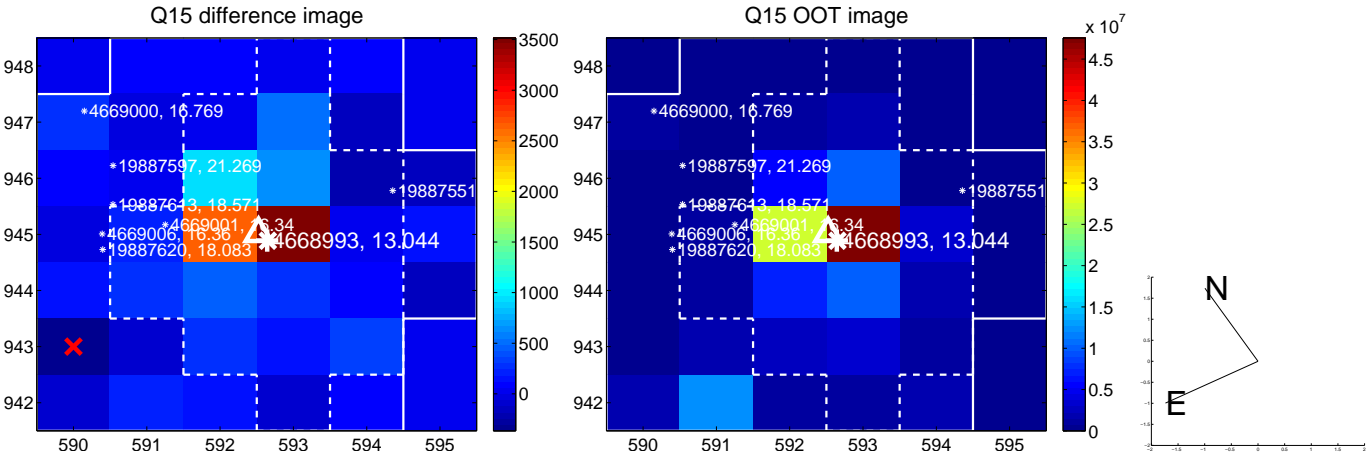
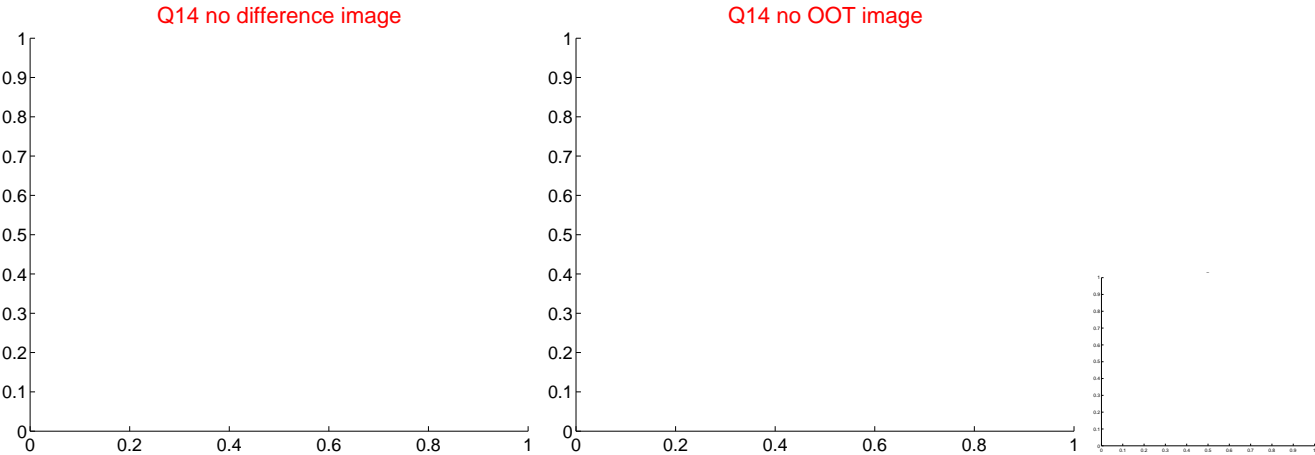
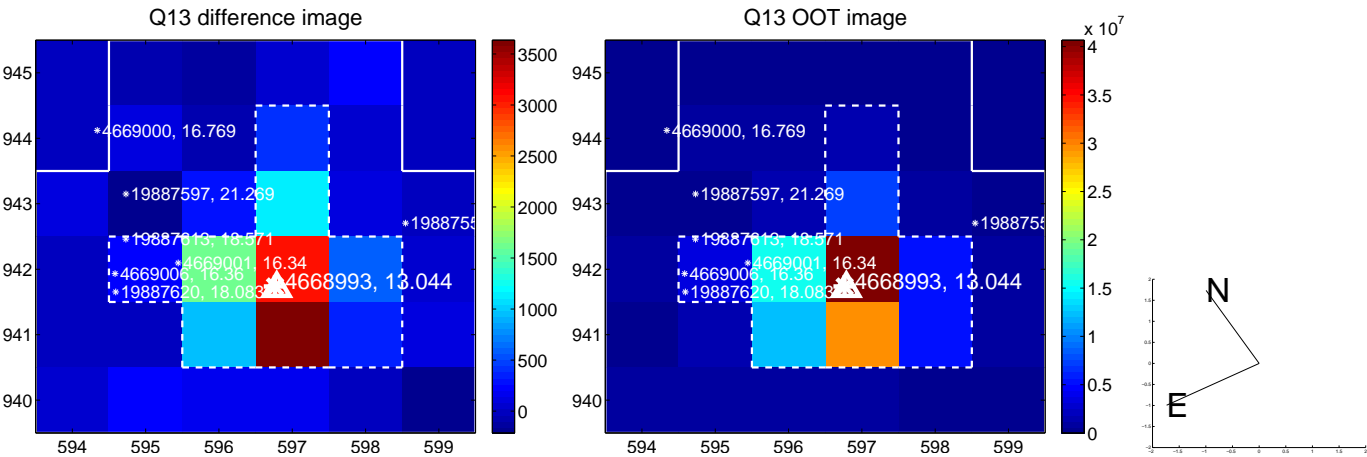
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



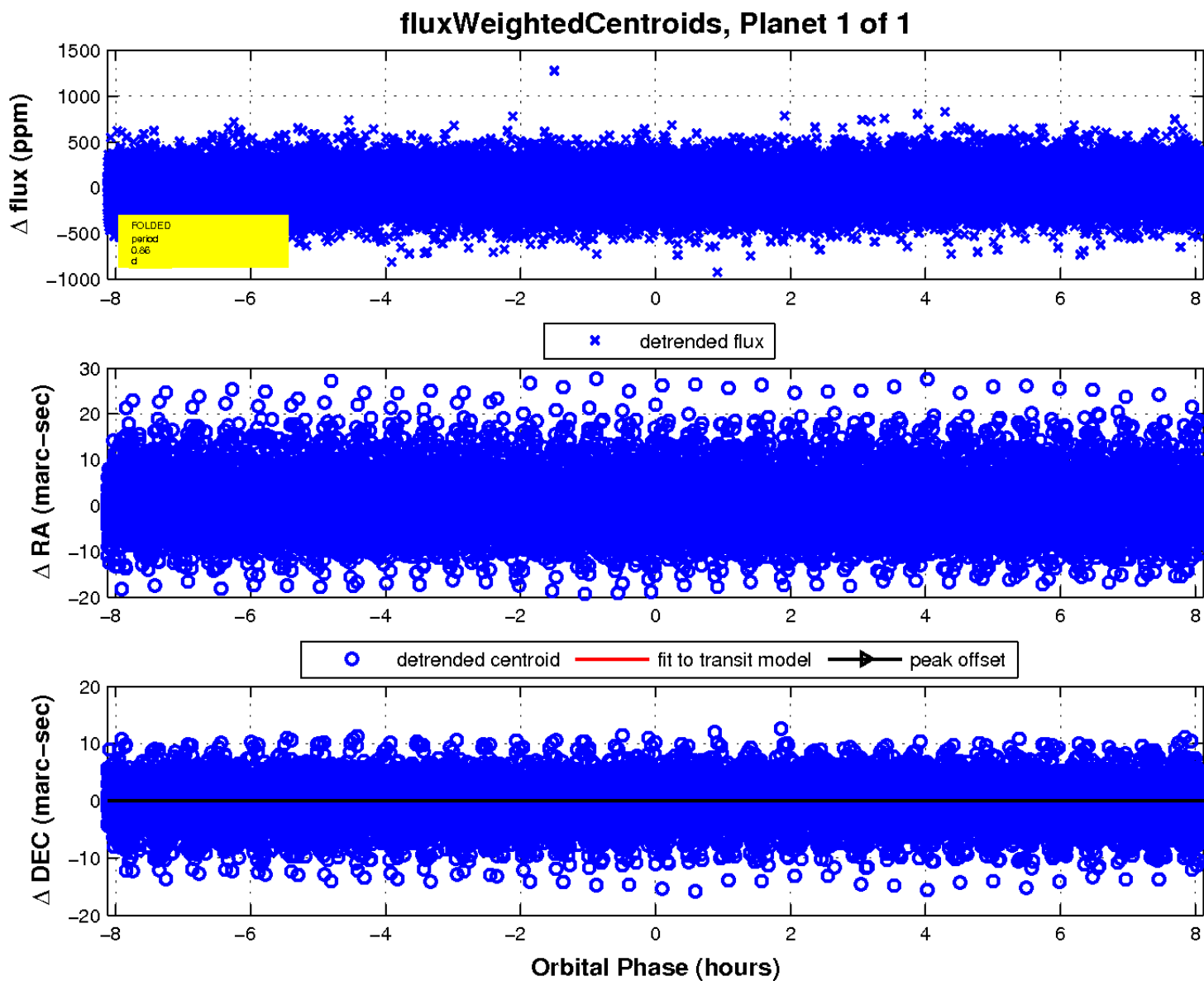
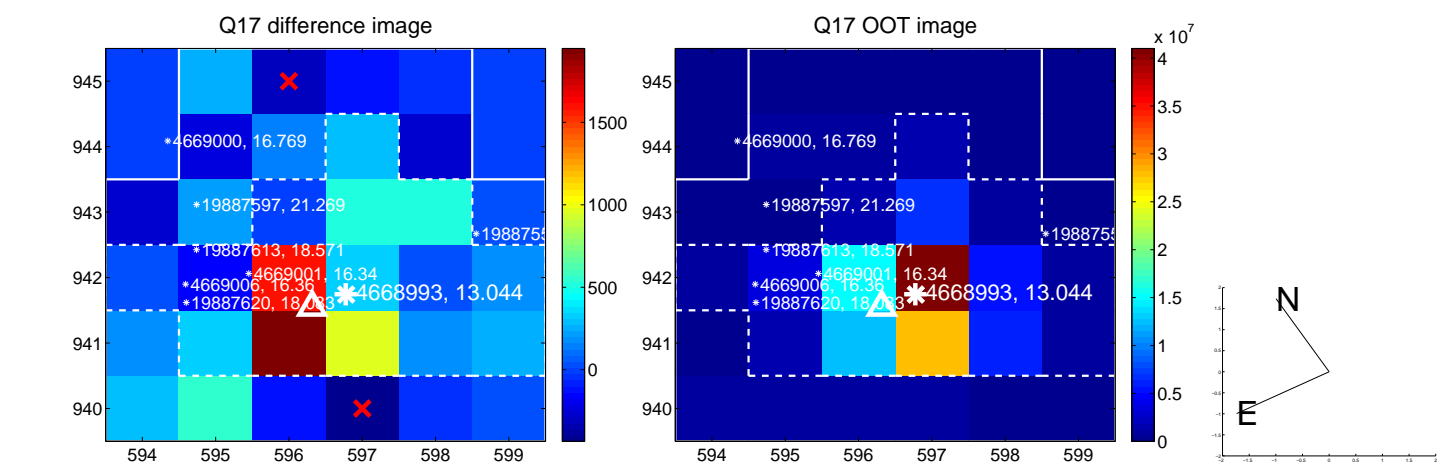
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UKIRT Image

