

# KIC 007032999

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007032999-01	OBS	No	0.566707	131.978700	0.0	4.049	8.1	0.0	0.84	5763	0.01	4085.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032999-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH

**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.

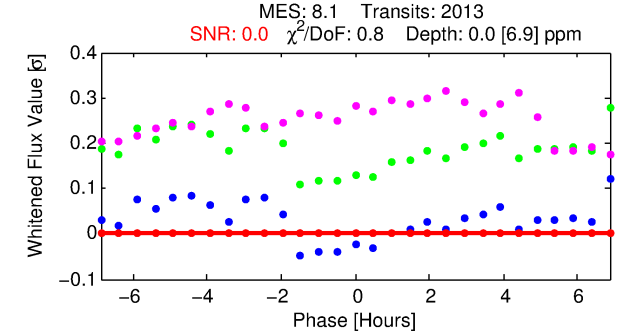
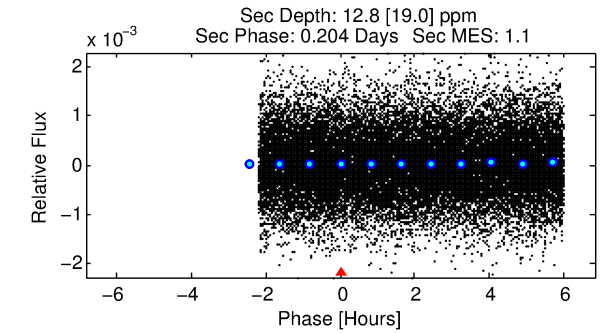
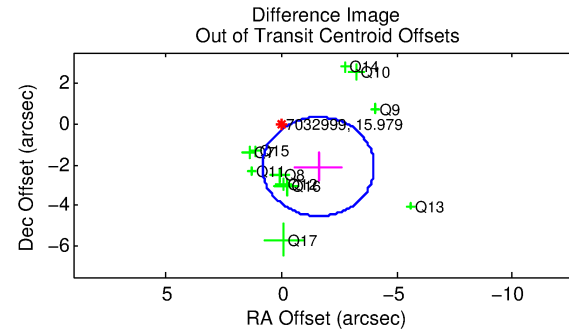
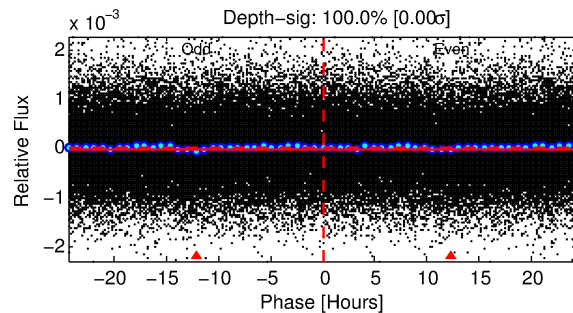
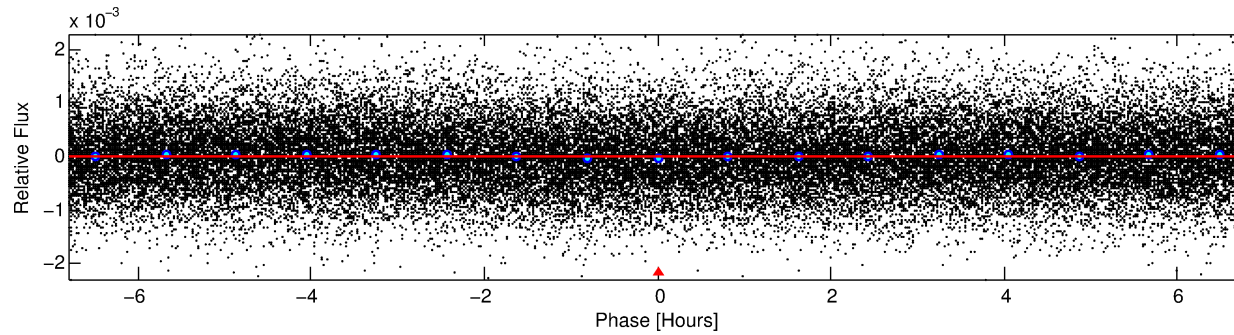
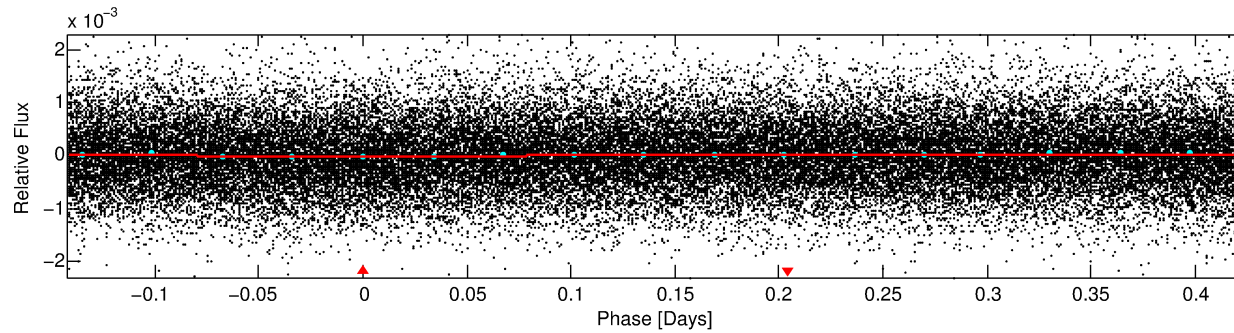
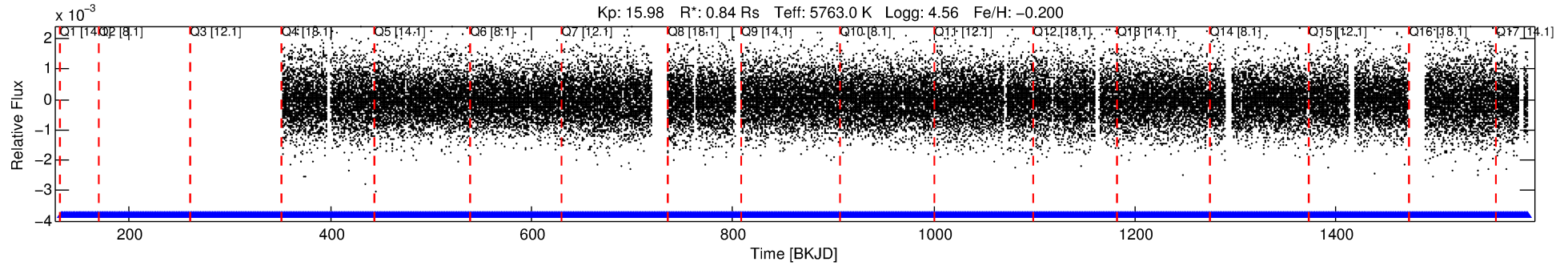
## Ephemeris Match Information For 007032999-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007032999-01	7032999	RR-Lyr-pri	7198959	1:1	945.6	236	30	7.86	15.98	623300.00	Direct-PRF	0	2.17	5.30

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7032999 Candidate: 1 of 1 Period: 0.567 d



## DV Fit Results:

Period = 0.56671 [0.07200] d  
Epoch = 131.9787 [34.0694] BKJD  
Rp/R\* = 0.0001 [0.0414]  
a/R\* = 1.08 [51.73]  
b = 0.83 [146.70]  
Seff = 4085.25 [1584.08]  
Teq = 2039 [198] K  
Rp = 0.01 [3.80] Re  
a = 0.0131 [0.0031] AU  
Ag = 17112.86 [15489416.99] [0.00σ]  
Teffp = 36050 [8158386] K [0.00σ]

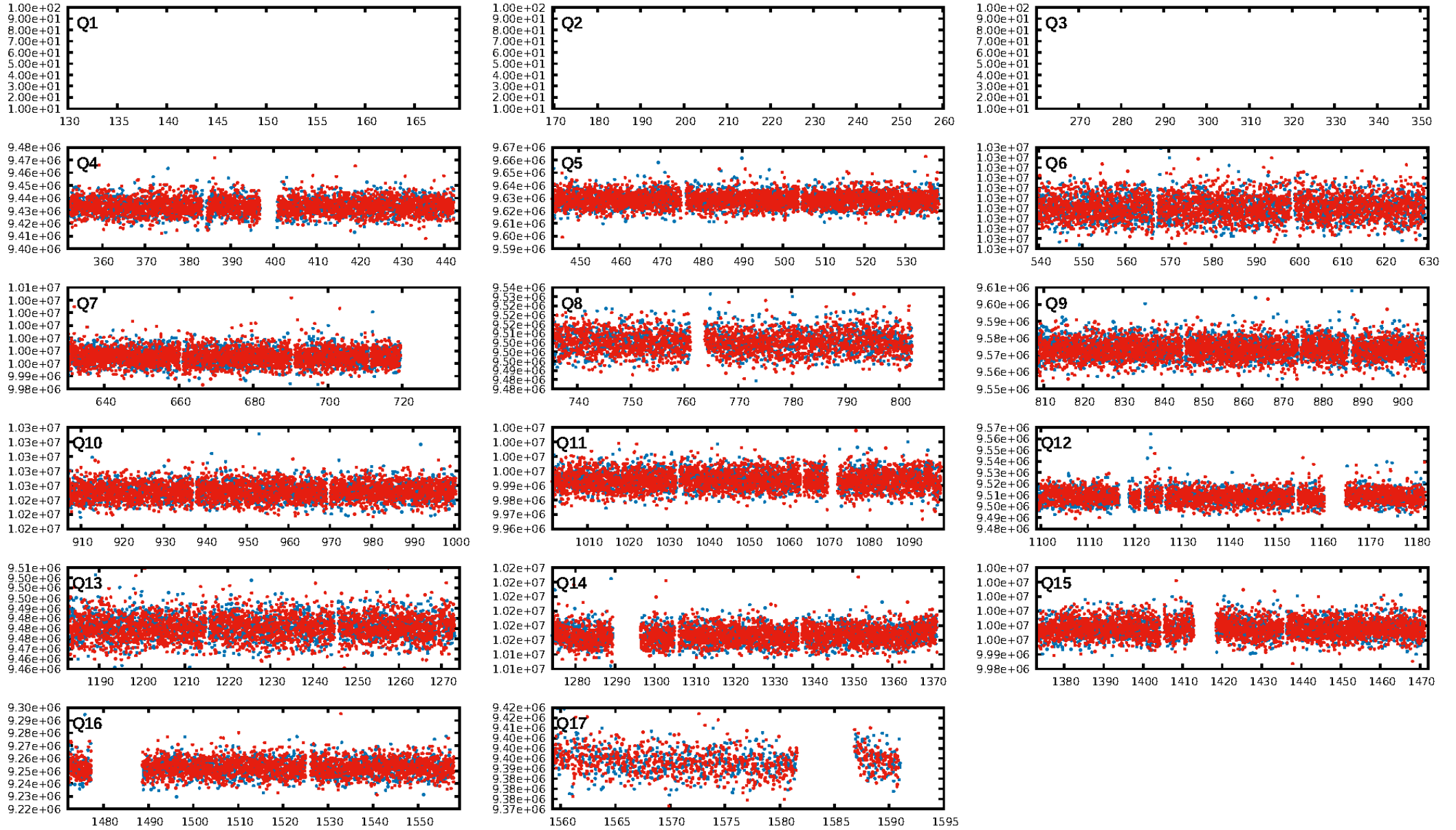
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.00e-09  
RollingBand-fgt: 1.00 [1966/1966]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 2.636 arcsec [3.26σ]  
KicOffset-rm: 2.504 arcsec [3.07σ]  
OotOffset-st: 2/3/3/3 [11]  
KicOffset-st: 2/3/3/3 [11]  
DiffImageQuality-fgm: 0.00 [0/11]  
DiffImageOverlap-fno: 1.00 [14/14]

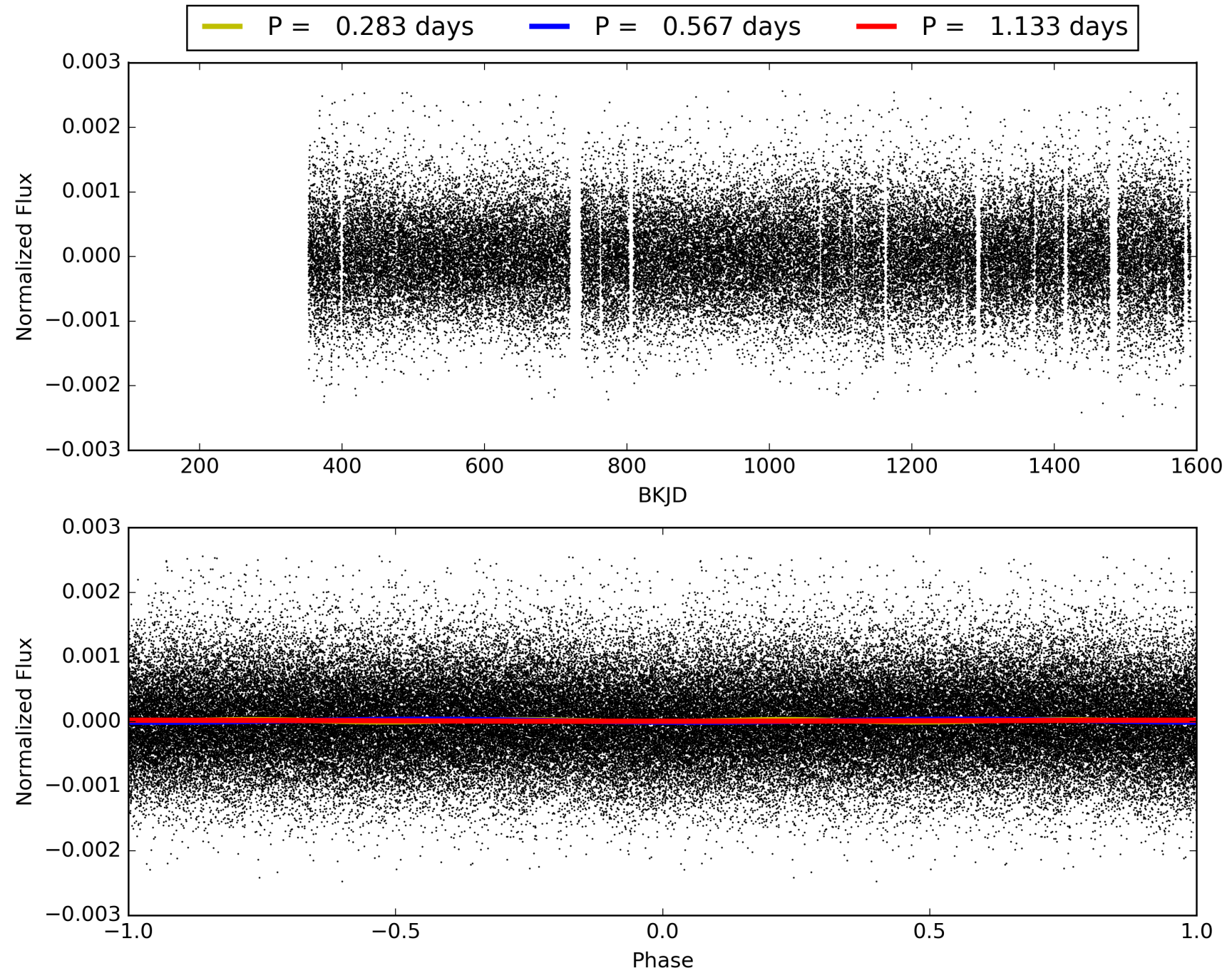
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:04:25 Z

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

# TCE 007032999-01, PDC Light Curves



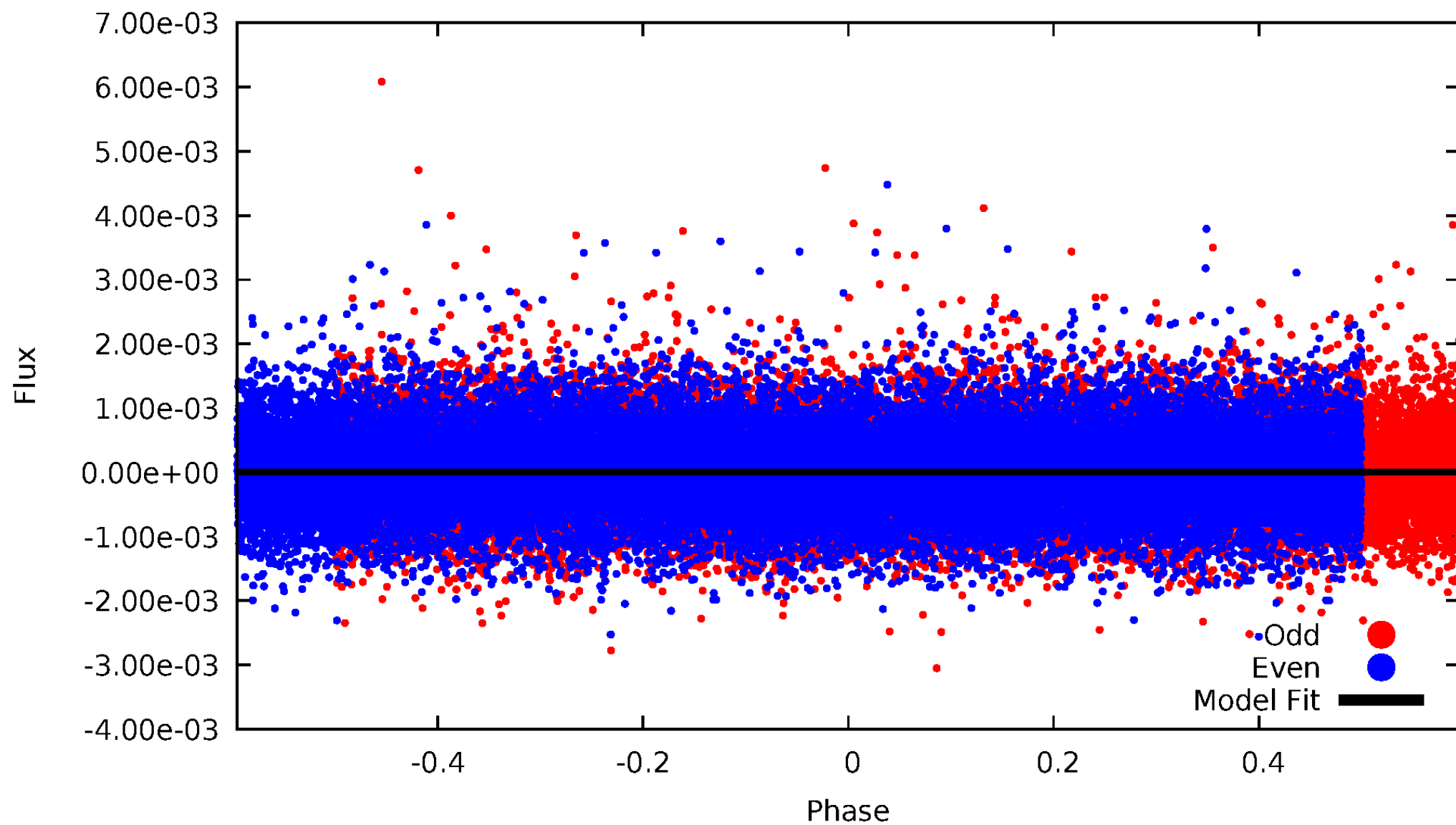
TCE 007032999-01





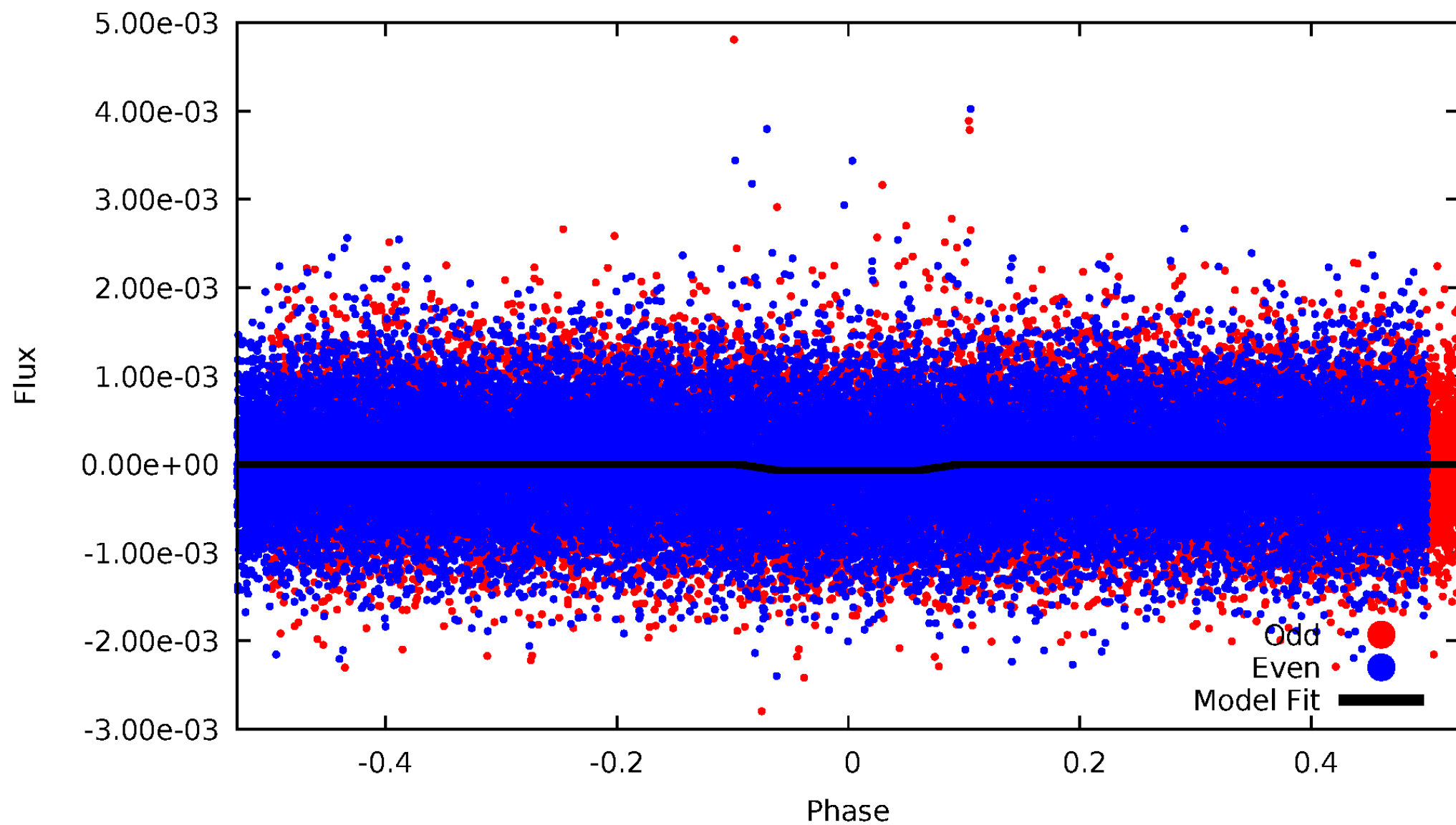
# DV Odd/Even

TCE 007032999-01



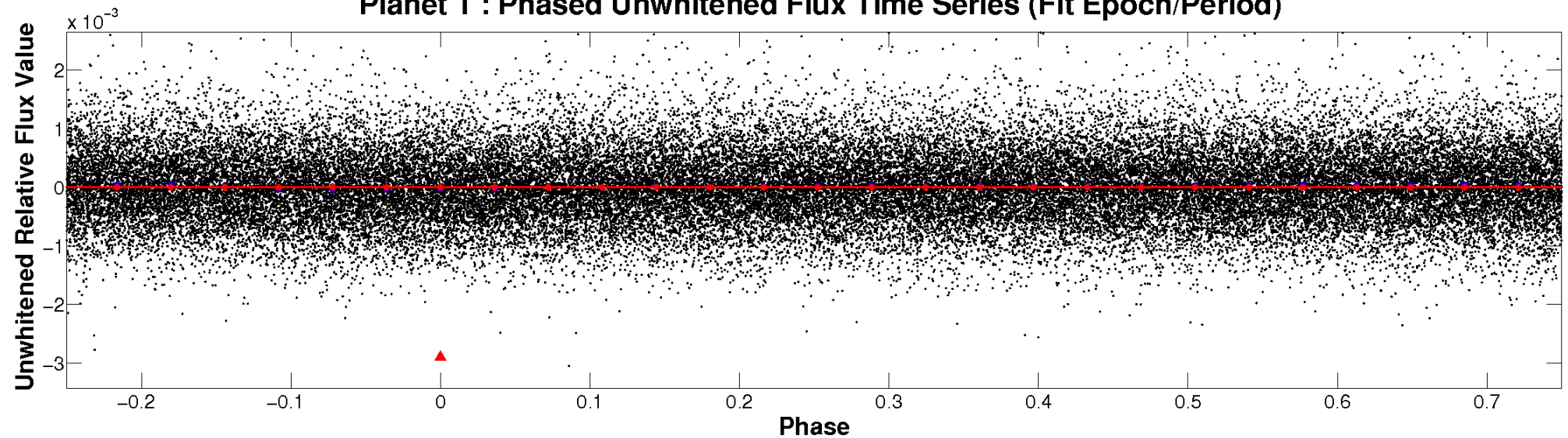
# ALT Odd/Even

TCE 007032999-01

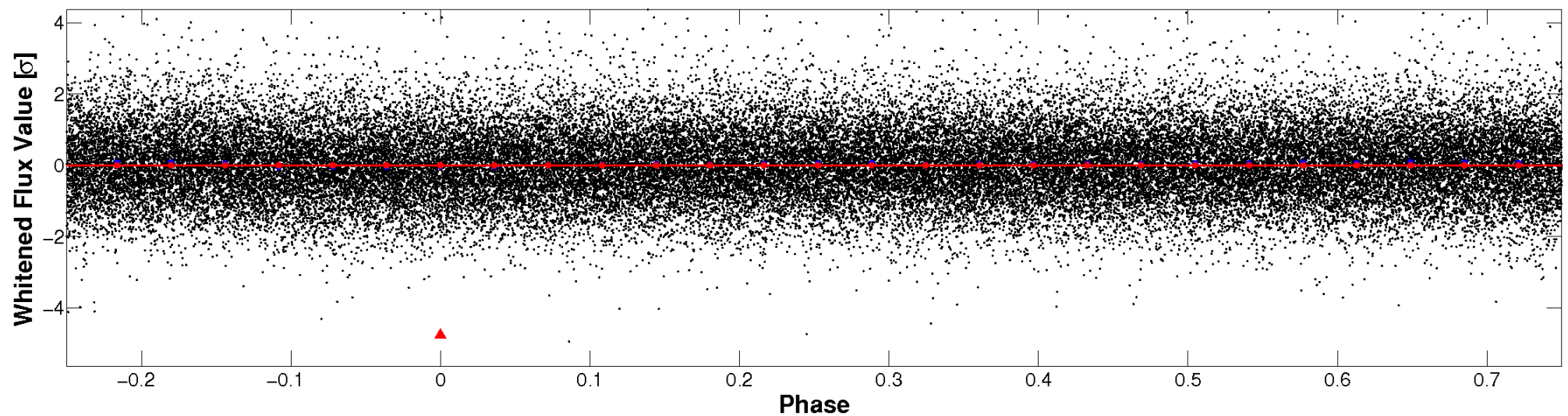


# Non-Whitened Vs. Whitened Light Curve

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

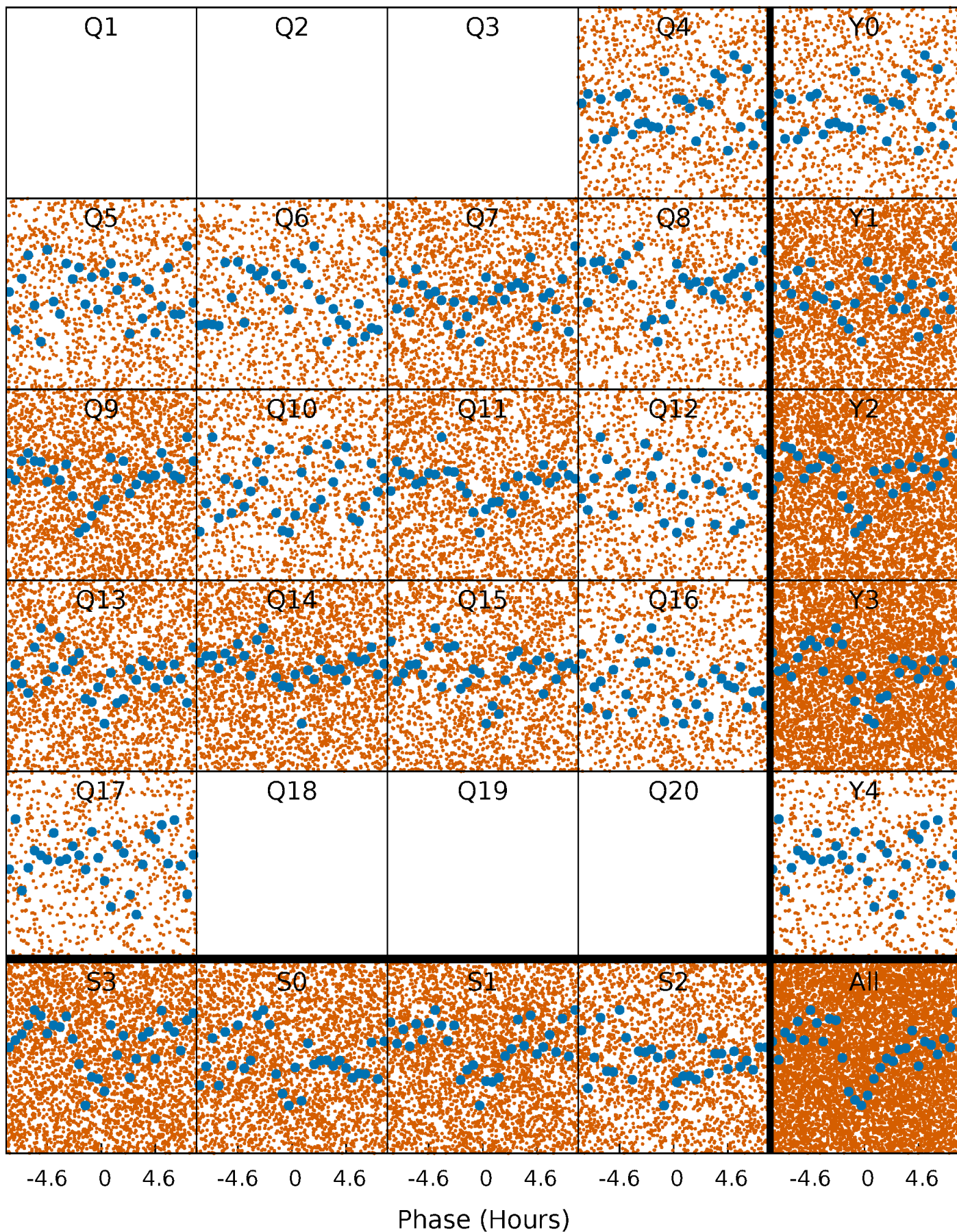


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

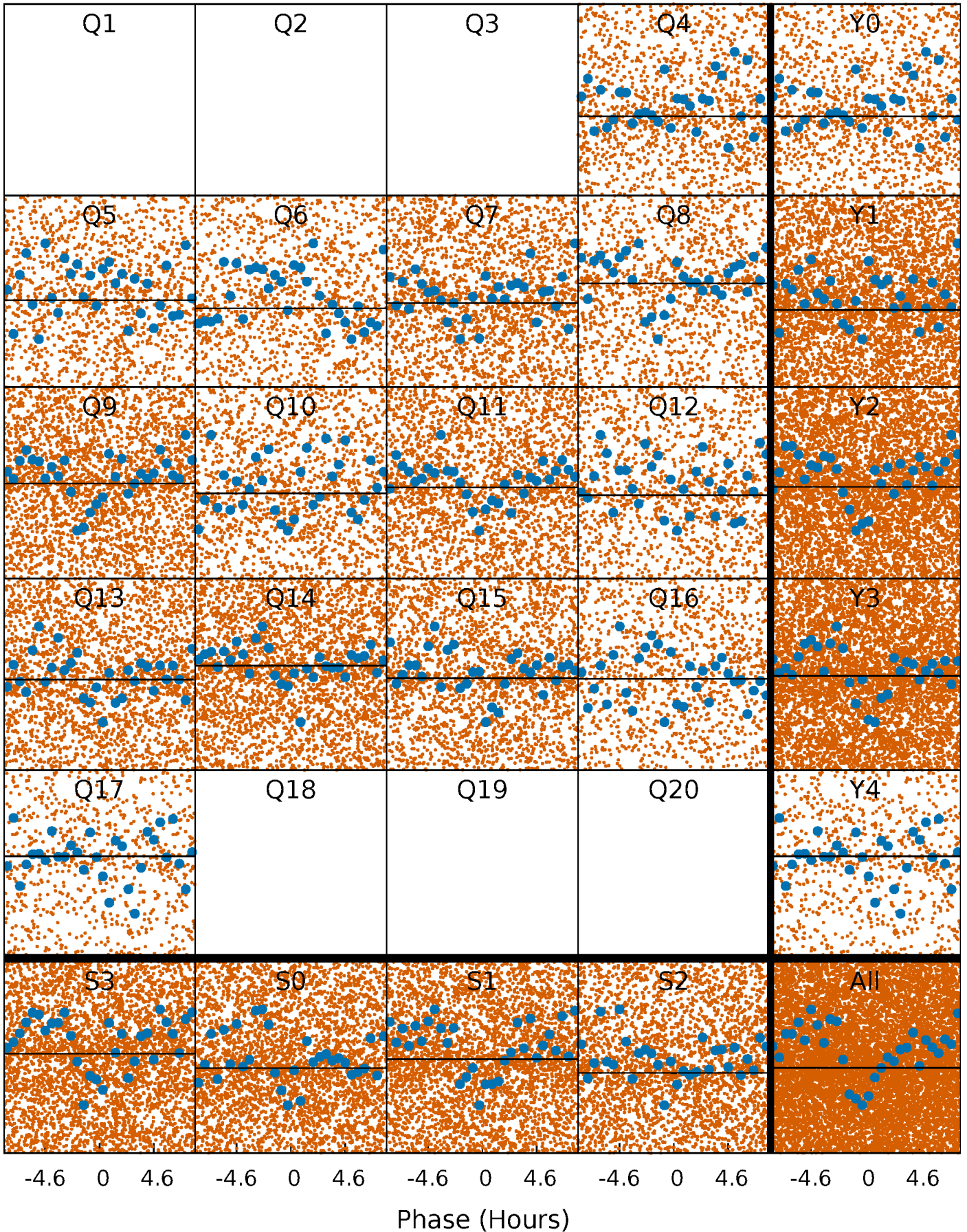
TCE 007032999-01 P= 0.566707 Days  $T_0=131.978700$  (BKJD)





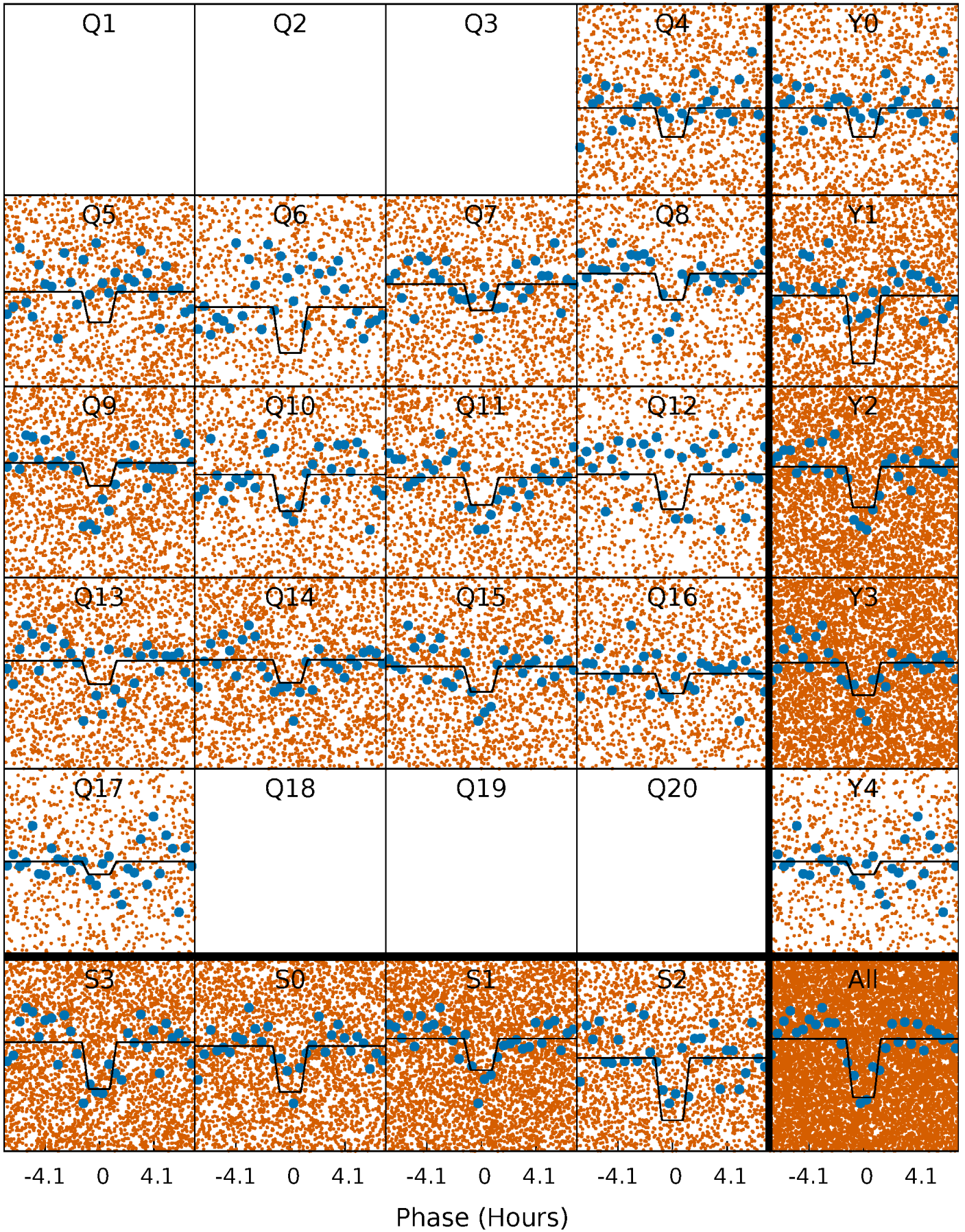
# DV Quarter-Phased Transit Curves

TCE 007032999-01   P= 0.566707 Days    $T_0=131.978700$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007032999-01 P= 0.566775 Days  $T_0=131.853406$  (BKJD)

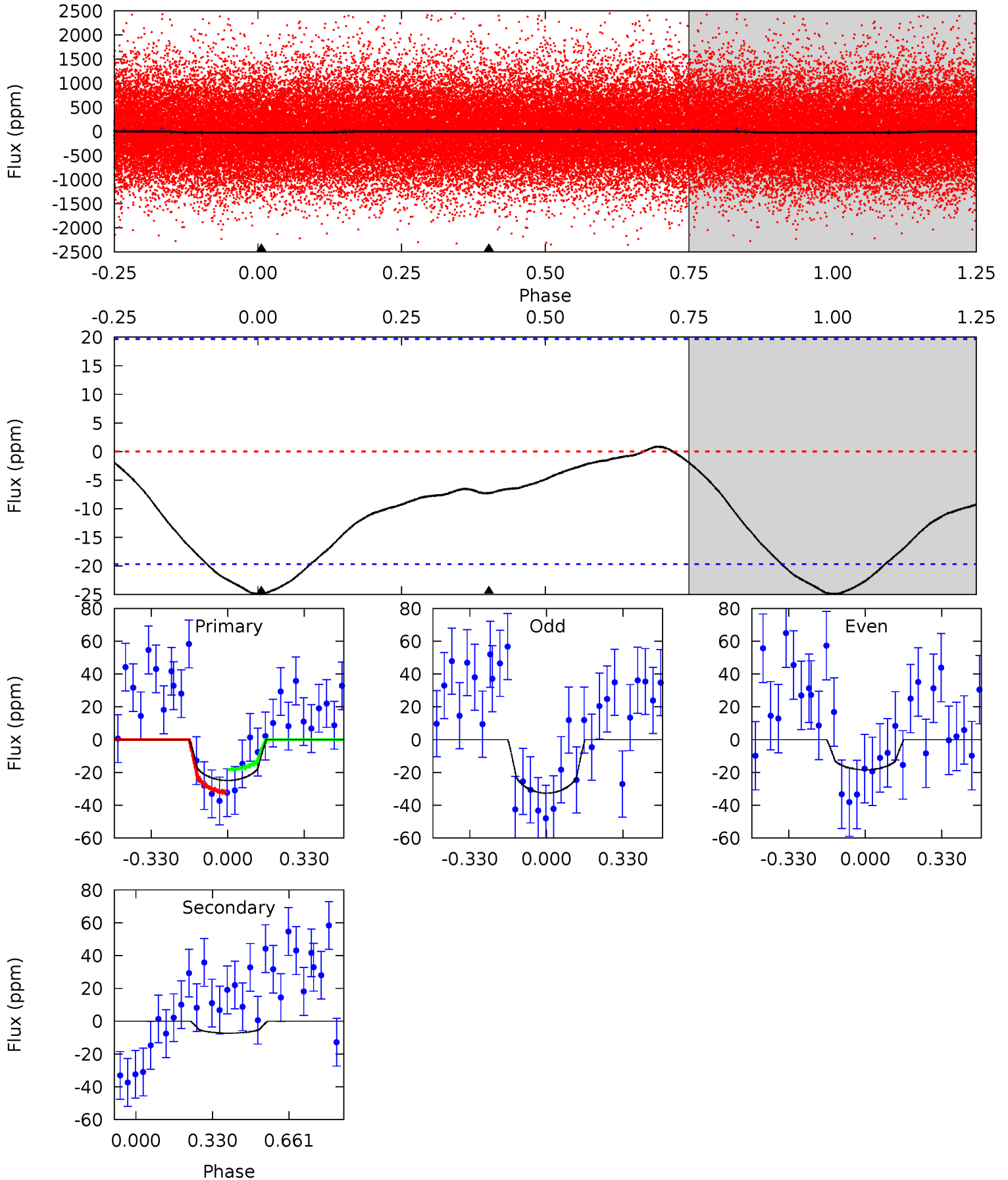




# DV Model-Shift Uniqueness Test

007032999-01, P = 0.566707 Days, E = 131.978700 Days

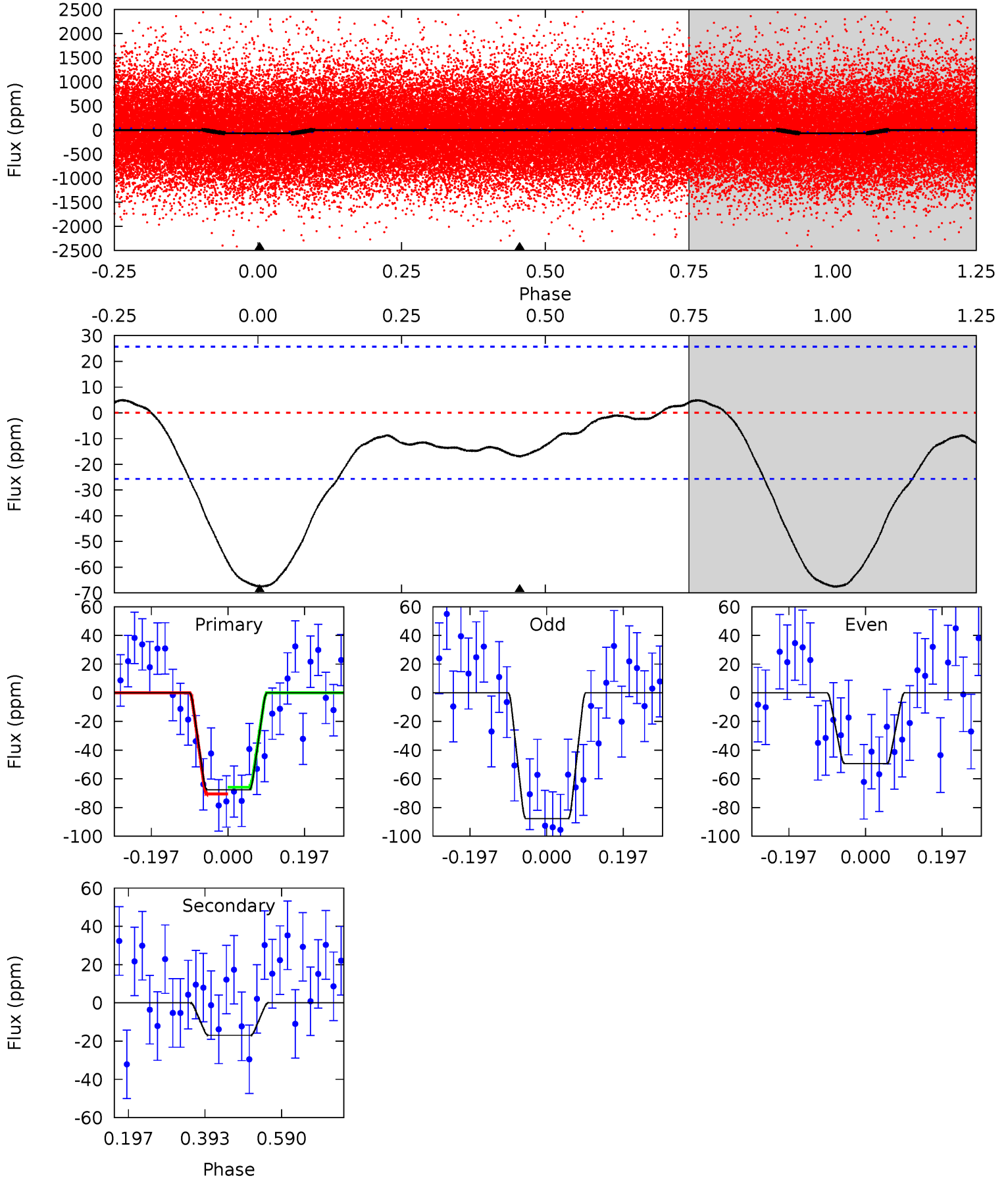
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.46	1.60	0	0	4.31	0.97	0.19	5.46	5.46	1.60	1.60	1.55	0.83	0.03	1.54



# Alt Model-Shift Uniqueness Test

007032999-01, P = 0.566775 Days, E = 131.853406 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
11.6	2.92	0	0	4.42	1.29	0.97	11.6	11.6	2.92	2.92	3.30	0.90	0.07	0.40





### Stellar Parameters For KIC 007032999

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5763^{+172}_{-189}$	$4.557^{+0.044}_{-0.176}$	$-0.200^{+0.300}_{-0.300}$	$0.842^{+0.224}_{-0.075}$	$0.937^{+0.098}_{-0.120}$	$2.209^{+0.400}_{-1.076}$
	+3%/-3%	+1%/-4%	+150%/-150%	+27%/-9%	+10%/-13%	+18%/-49%
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 007032999-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-7 \pm 5$	$2.63^{+2.88}_{-1.82}$	$2909^{+223}_{-183}$	$-2872^{+6244}_{-196}$	$0.079^{+0.875}_{-0.066}$
Alt.	$-17 \pm 6$	$3.06^{+3.17}_{-2.16}$	$2915^{+215}_{-188}$	$-2720^{+6764}_{-286}$	$0.157^{+1.797}_{-0.120}$

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

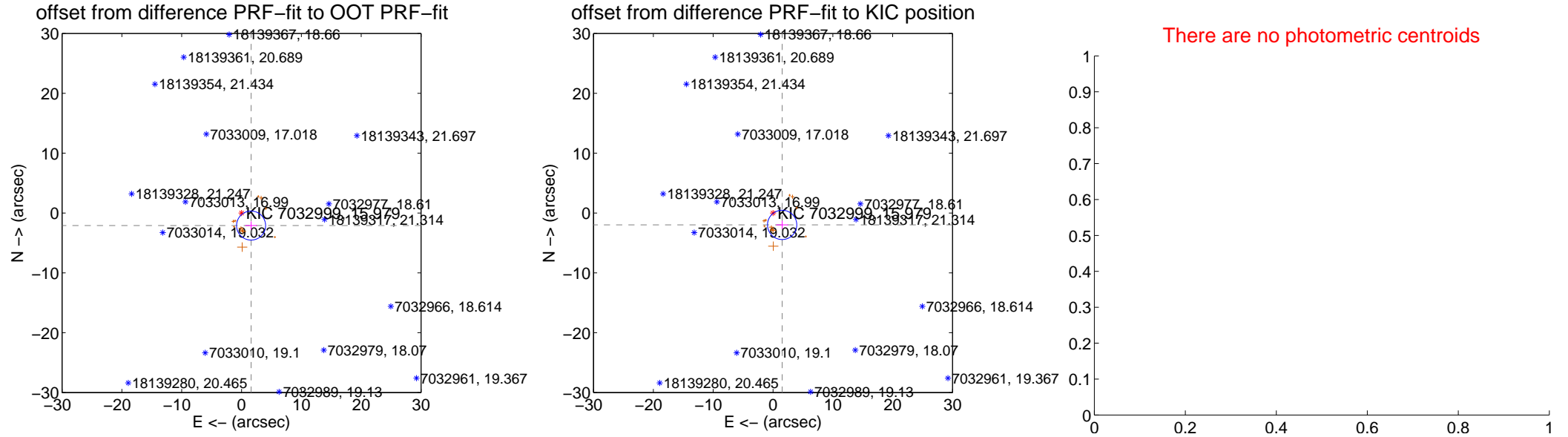
## DV Centroid Data

Supplemental centroid analysis for 007032999-01. Kepler magnitude: 15.98. Transit SNR 0.00

There are 0 quarters with good PRF difference image offsets

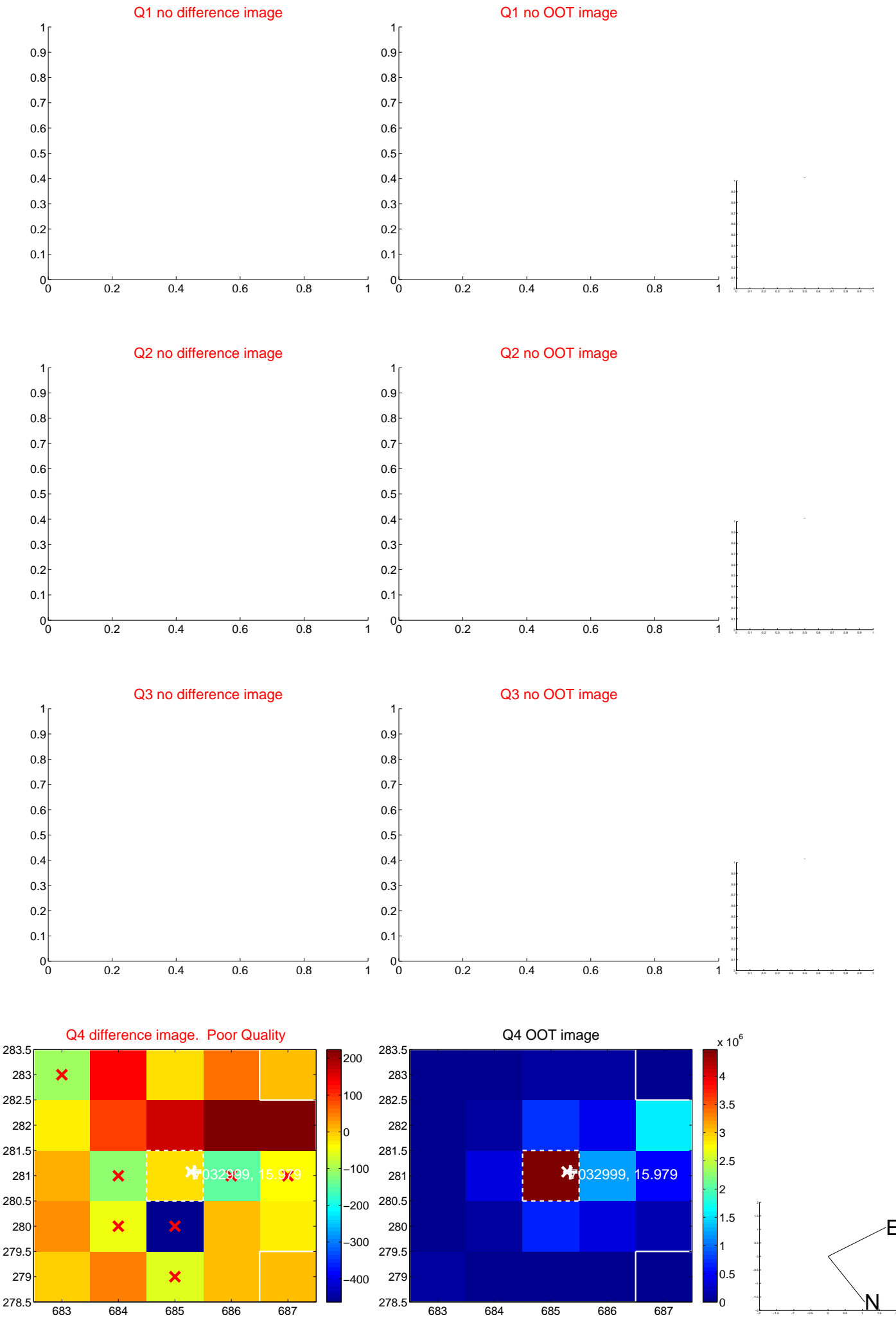
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.636 \pm 0.808$	3.26	$-1.596 \pm 0.982$	$-2.098 \pm 0.687$
PRF-fit source offset from KIC position	$2.504 \pm 0.816$	3.07	$-1.527 \pm 0.998$	$-1.985 \pm 0.685$
photometric centroid source offset	—	—	—	—

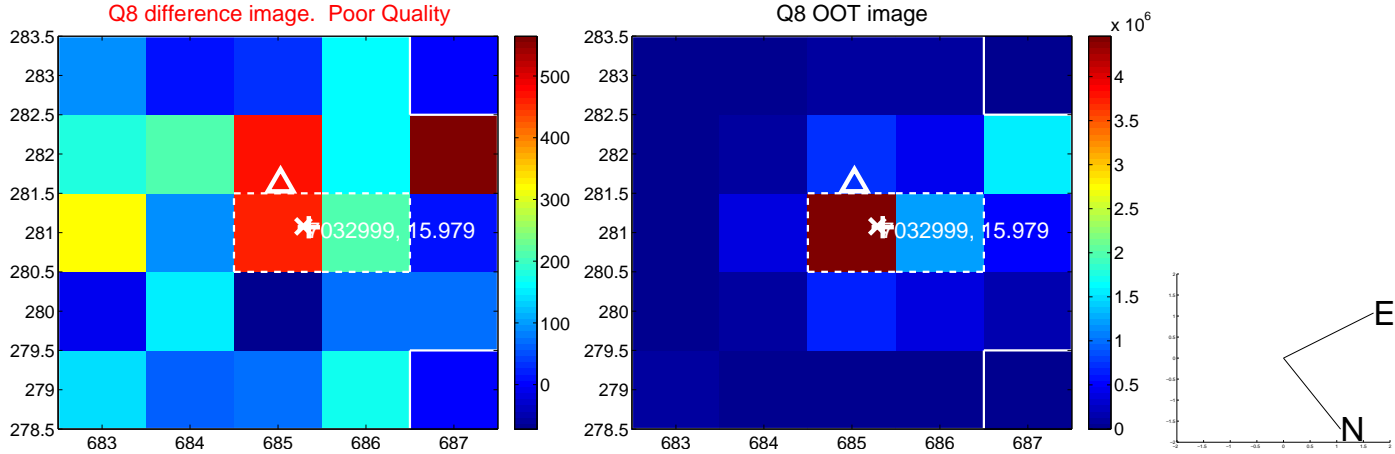
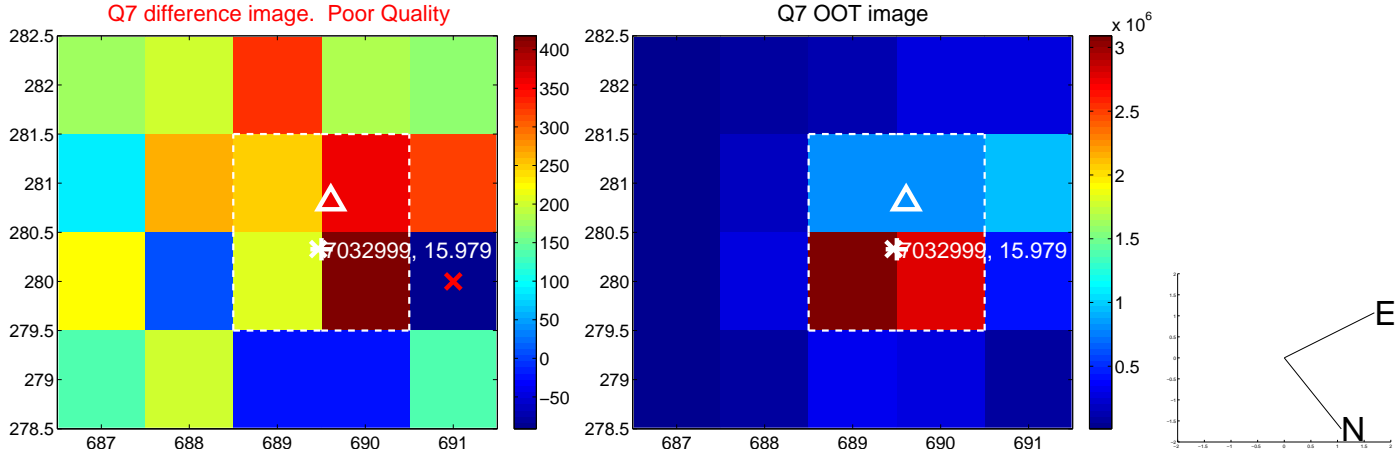
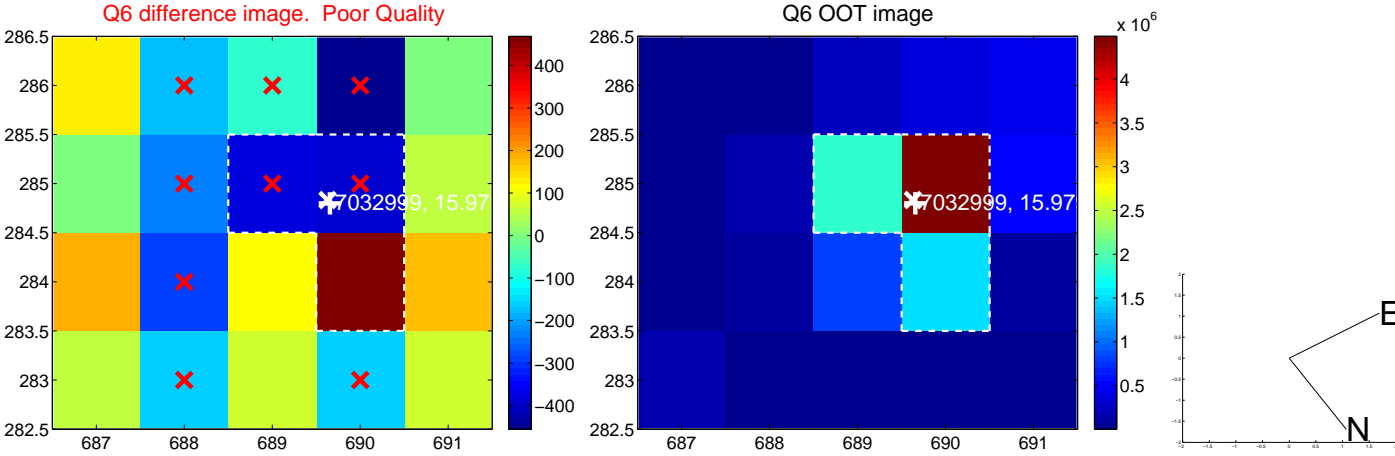
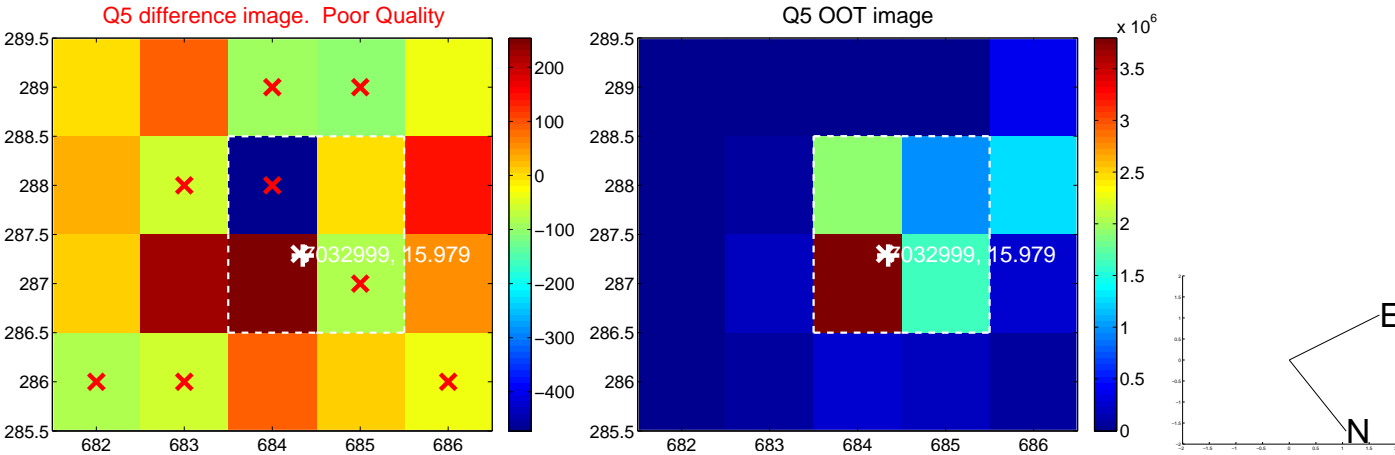


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

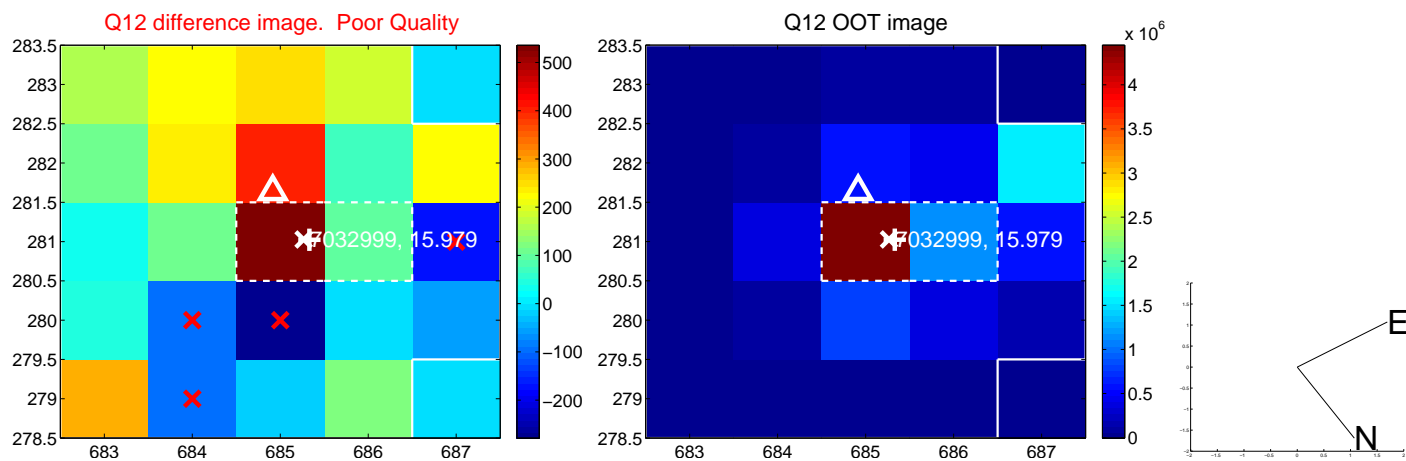
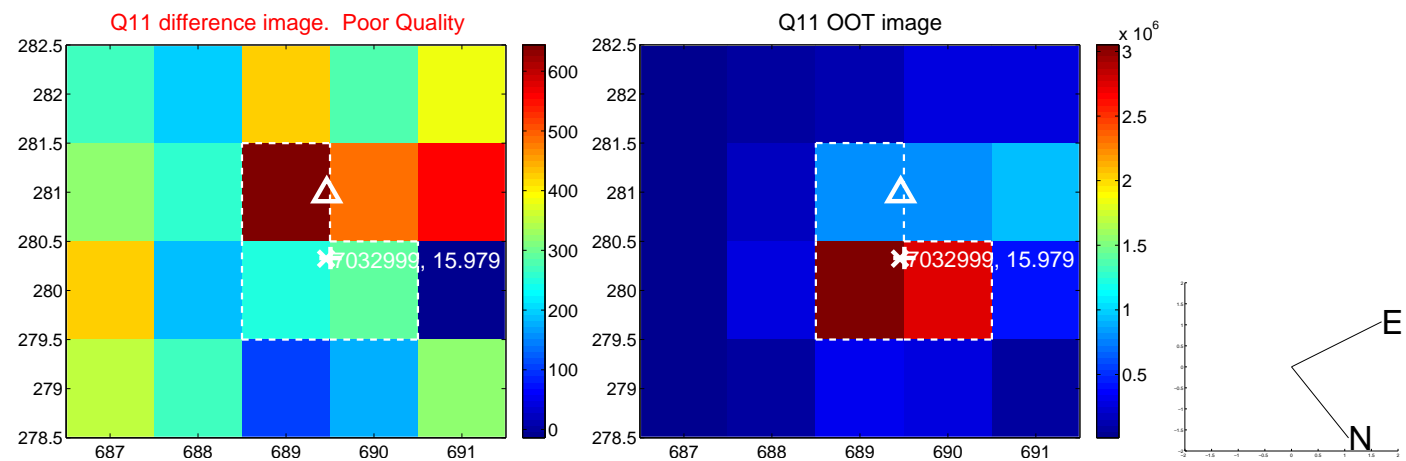
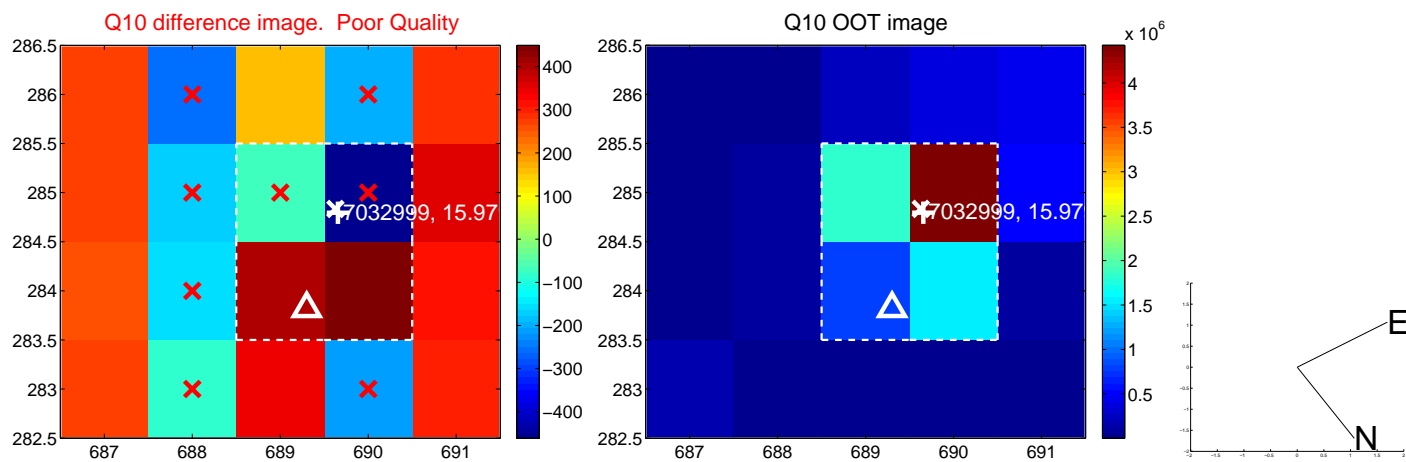
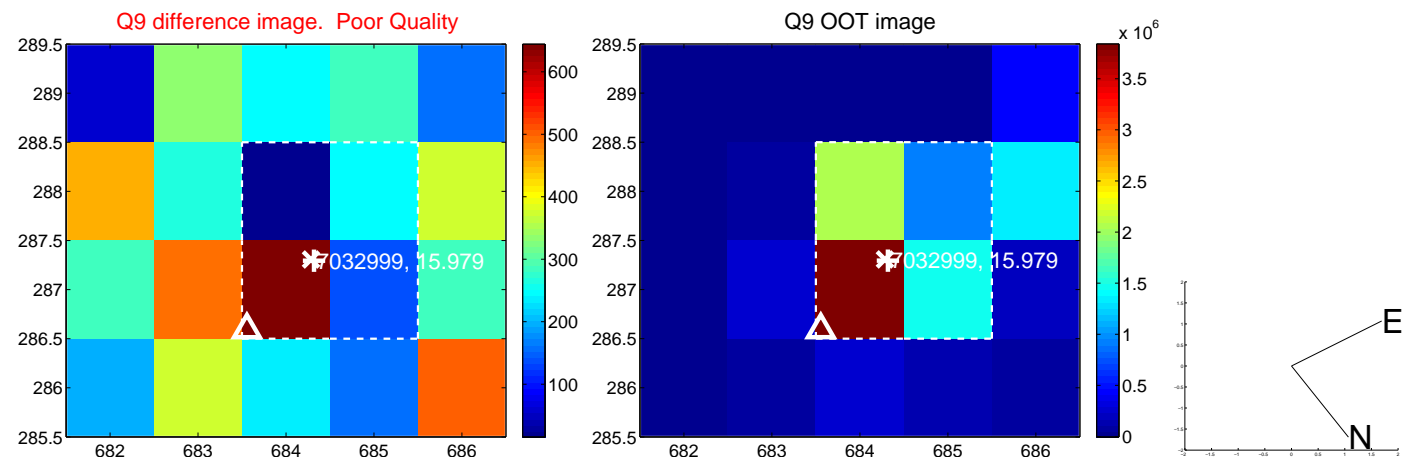


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

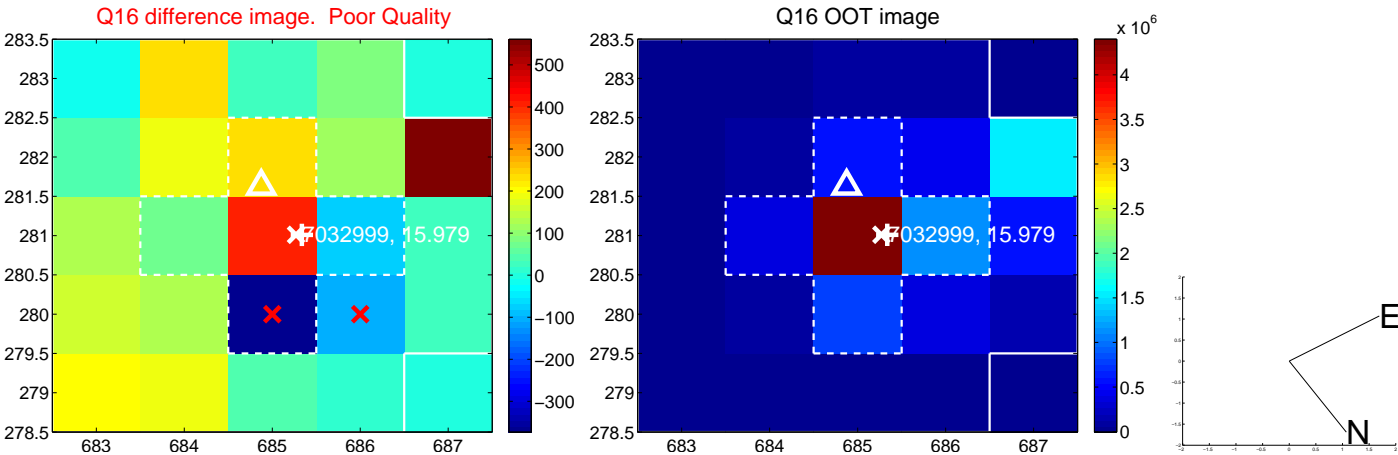
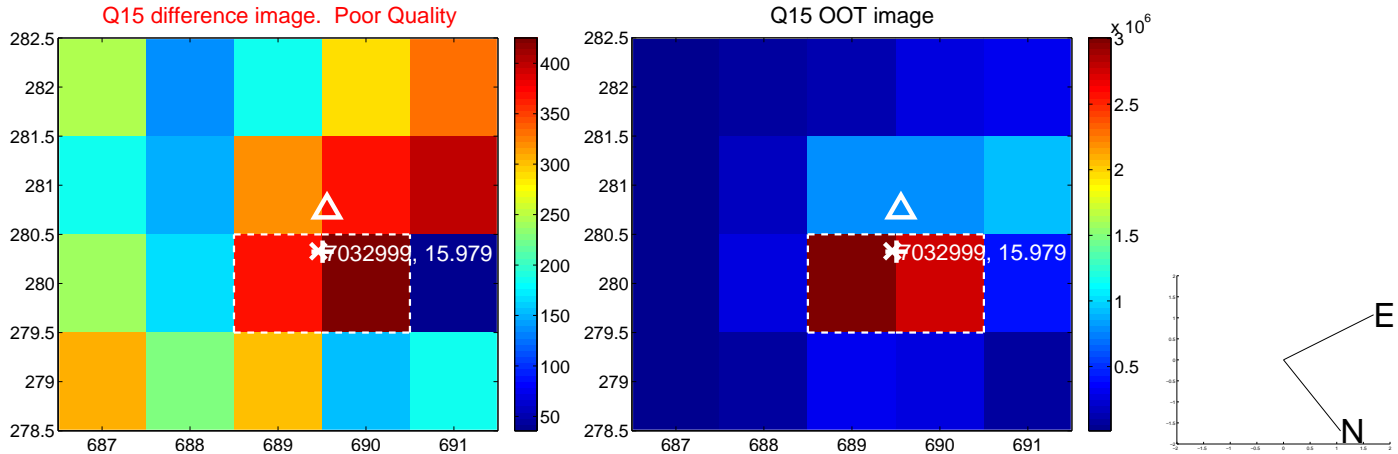
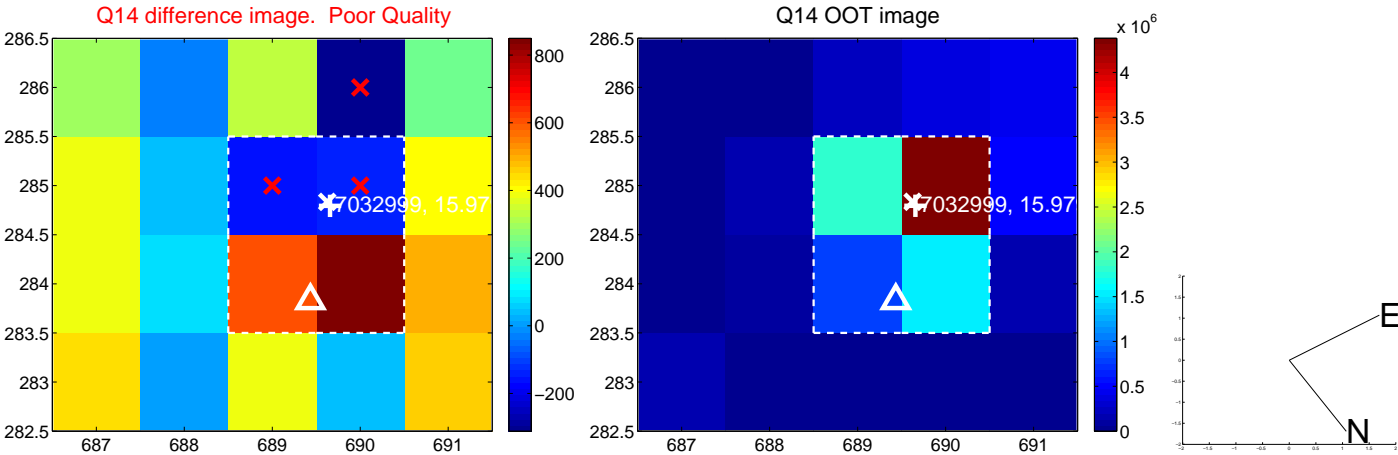
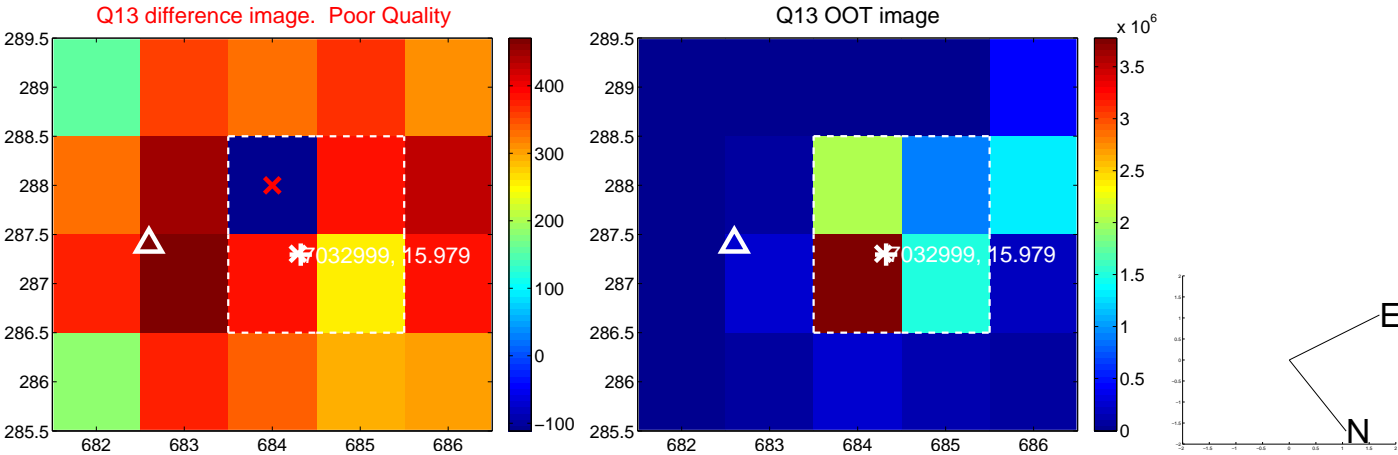




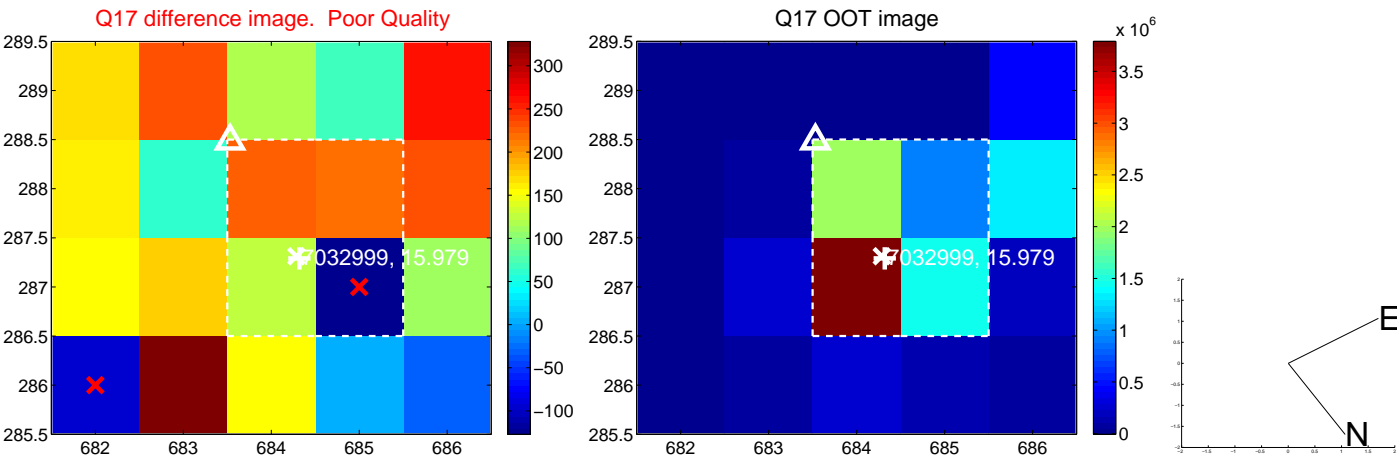
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

# UKIRT Image

Declination

