

# KIC 003629330

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003629330-01	OBS	3418.01	85.273466	182.359766	725.5	11.744	15.2	15.5	1.06	5922	3.58	9.11

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003629330-01	OBS	PC	0.67	0	0	0	0	NO_COMMENT

**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.

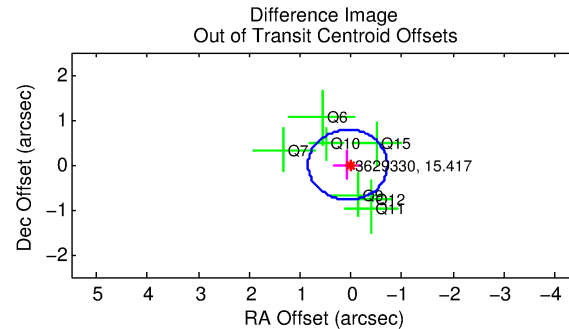
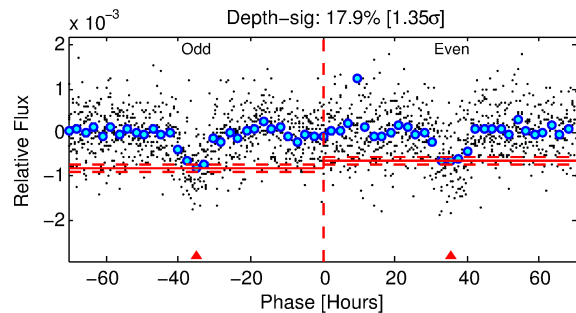
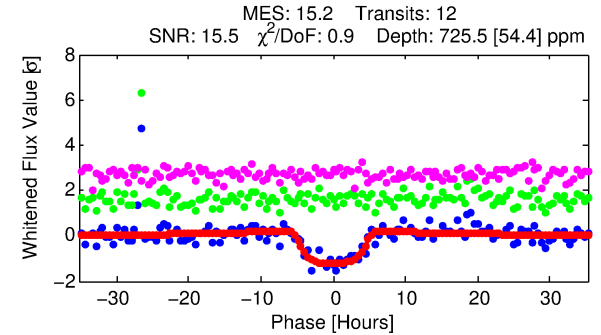
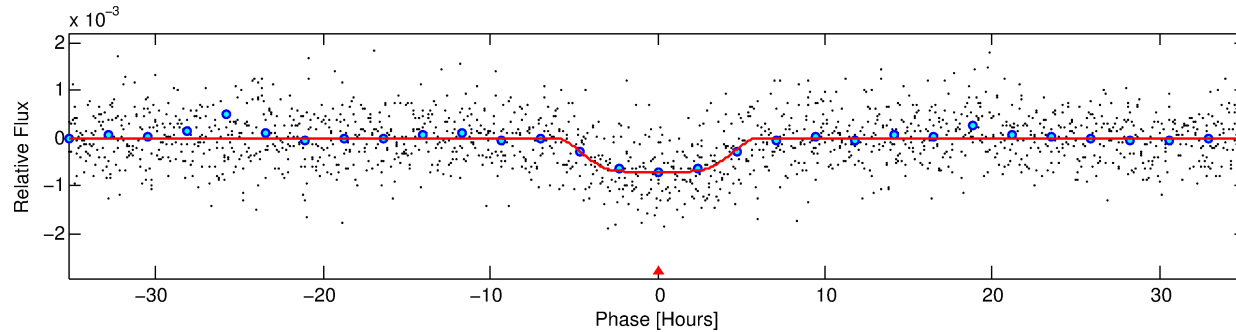
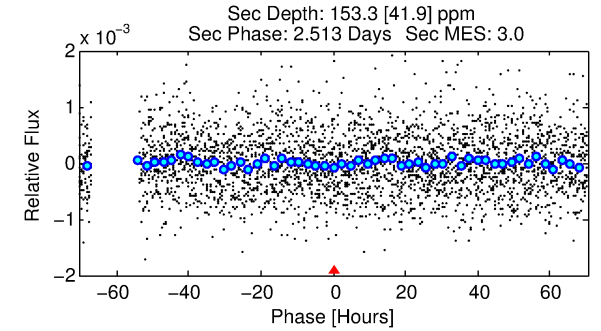
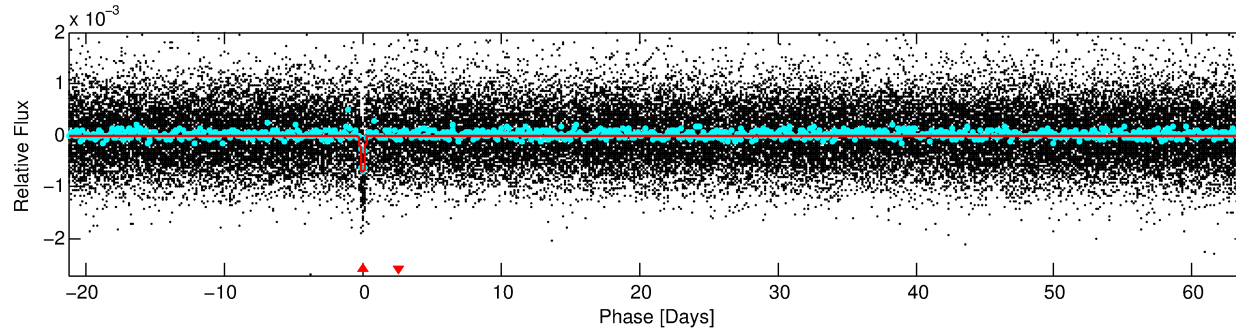
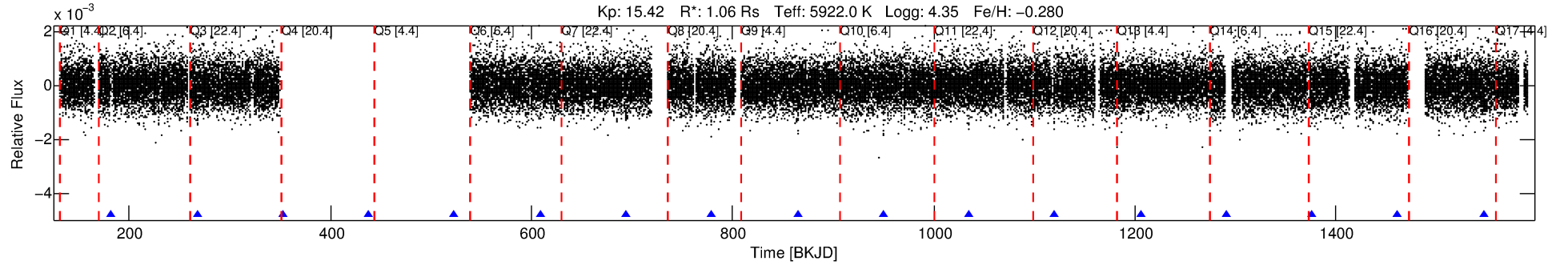
## Ephemeris Match Information For 003629330-01

No Significant Match Found

# DV One-Page Summary

KIC: 3629330 Candidate: 1 of 1 Period: 85.273 d

KOI: K03418.01 Corr: 0.897



## DV Fit Results:

Period = 85.27347 [0.00221] d  
Epoch = 182.3598 [0.0238] BKJD  
Rp/R\* = 0.0310 [0.0018]  
a/R\* = 22.24 [3.90]  
b = 0.95 [0.02]  
Seff = 9.11 [3.37]  
Teq = 443 [41] K  
Rp = 3.58 [1.01] Re  
a = 0.3675 [0.0870] AU  
Ag = 888.47 [407.71] [2.18σ]  
Teffp = 3740 [300] K [10.88σ]

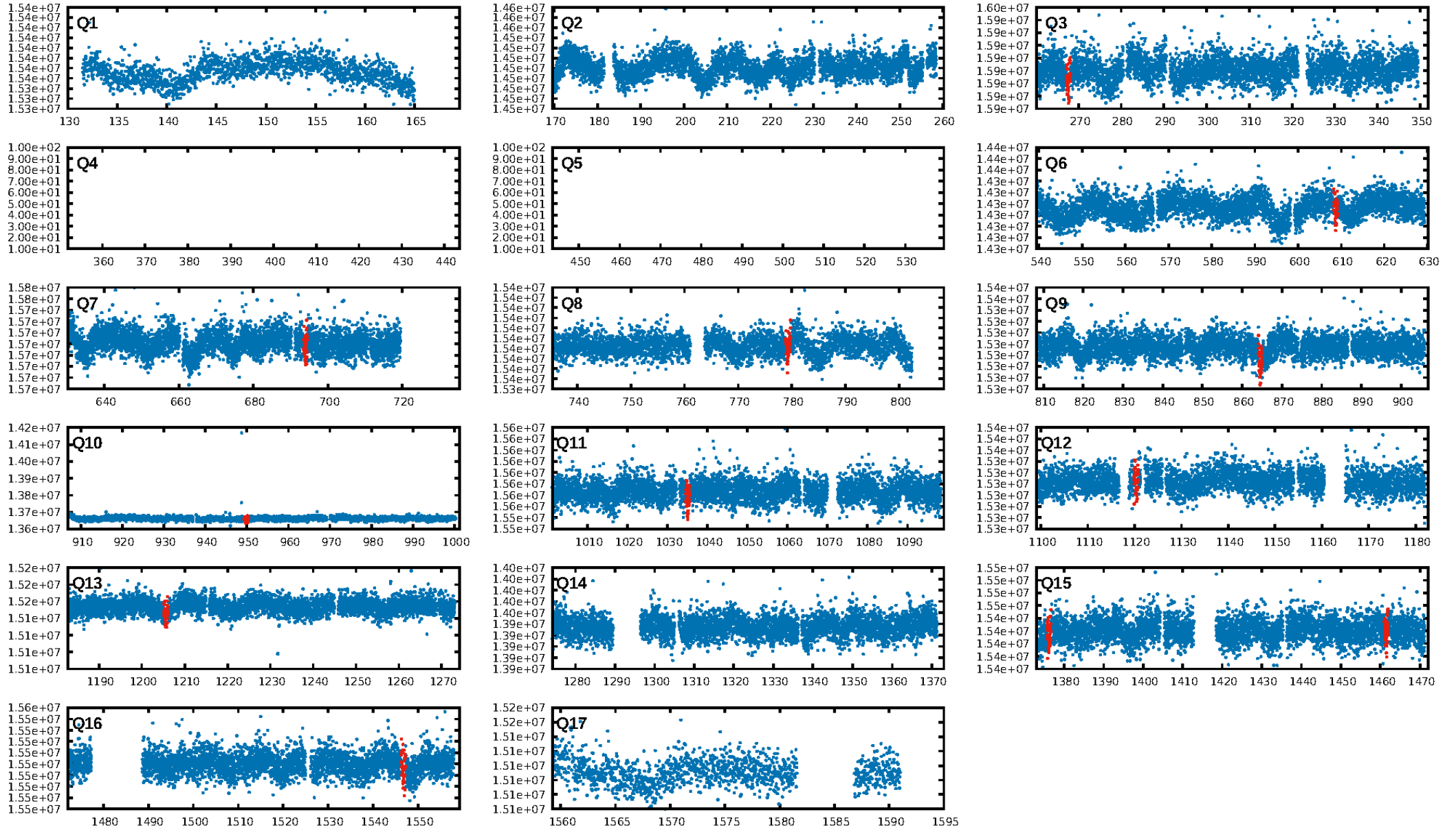
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 32.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.05e-41  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 16.44  
Centroid-sig: 24.2%  
Centroid-so: 0.822 arcsec [0.97σ]  
OotOffset-rm: 0.064 arcsec [0.25σ]  
KicOffset-rm: 0.066 arcsec [0.20σ]  
OotOffset-st: 2/3/1/1 [7]  
KicOffset-st: 2/3/1/1 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [8/8]

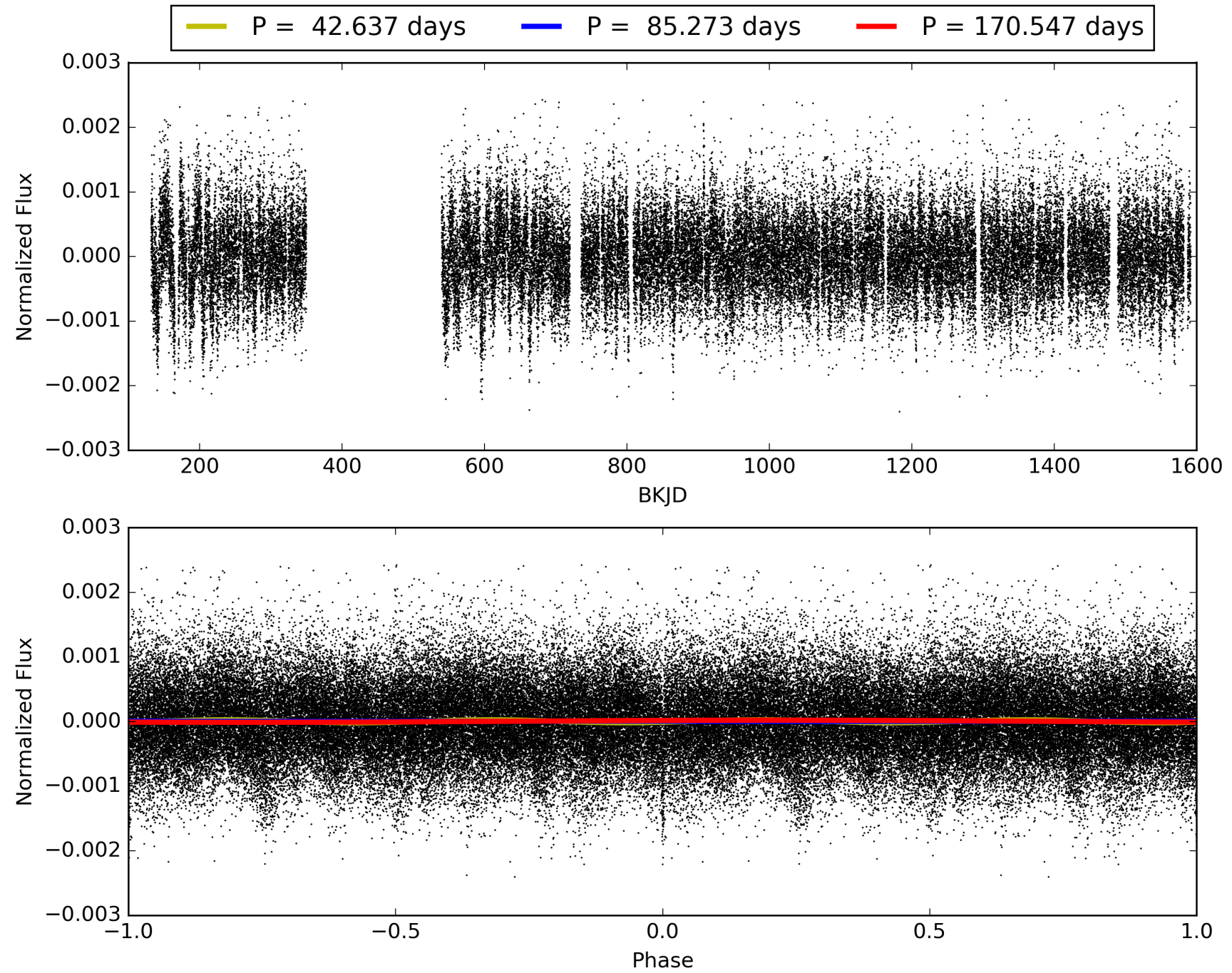
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:01:36 Z

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

# TCE 003629330-01, PDC Light Curves

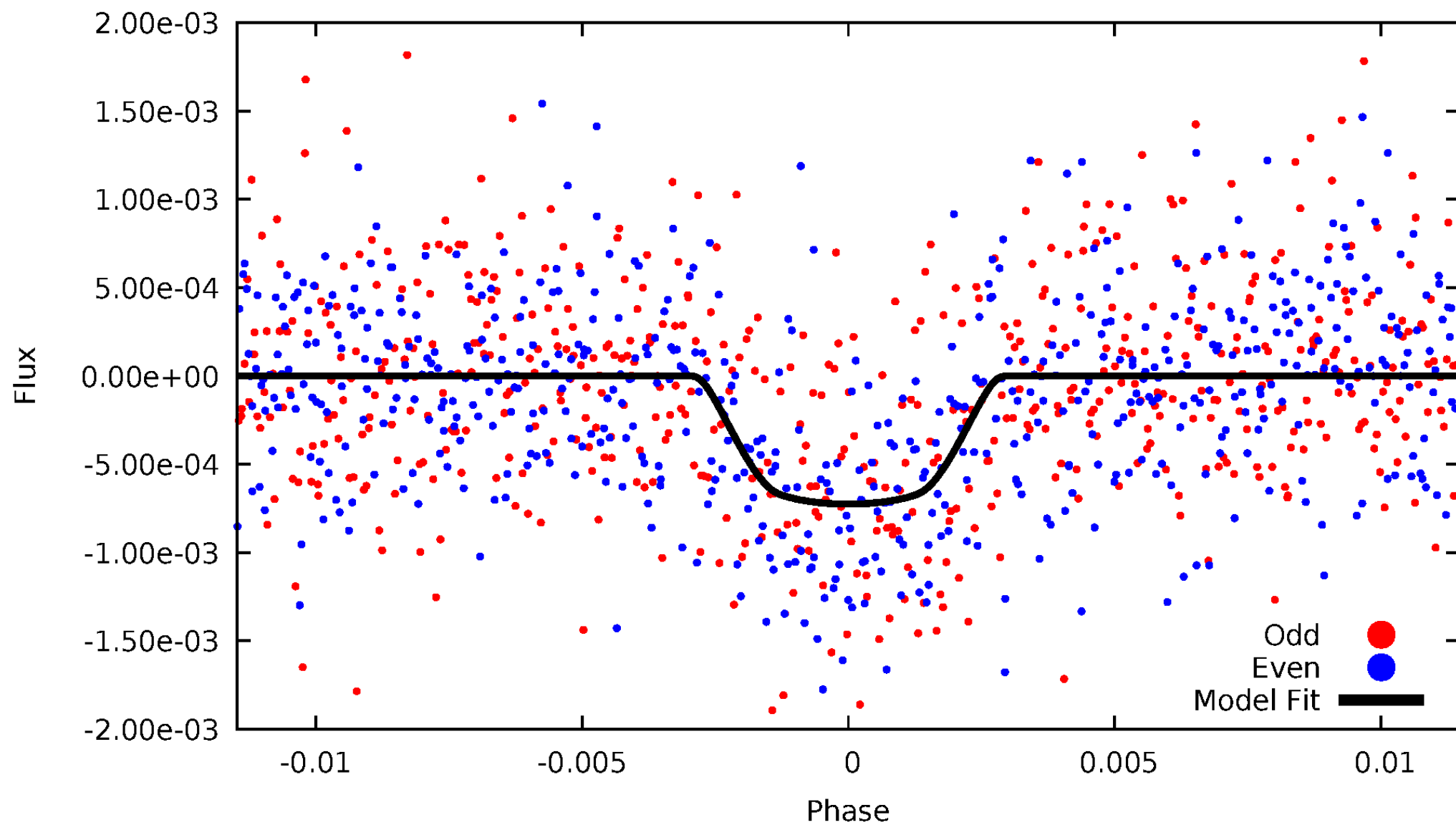


TCE 003629330-01



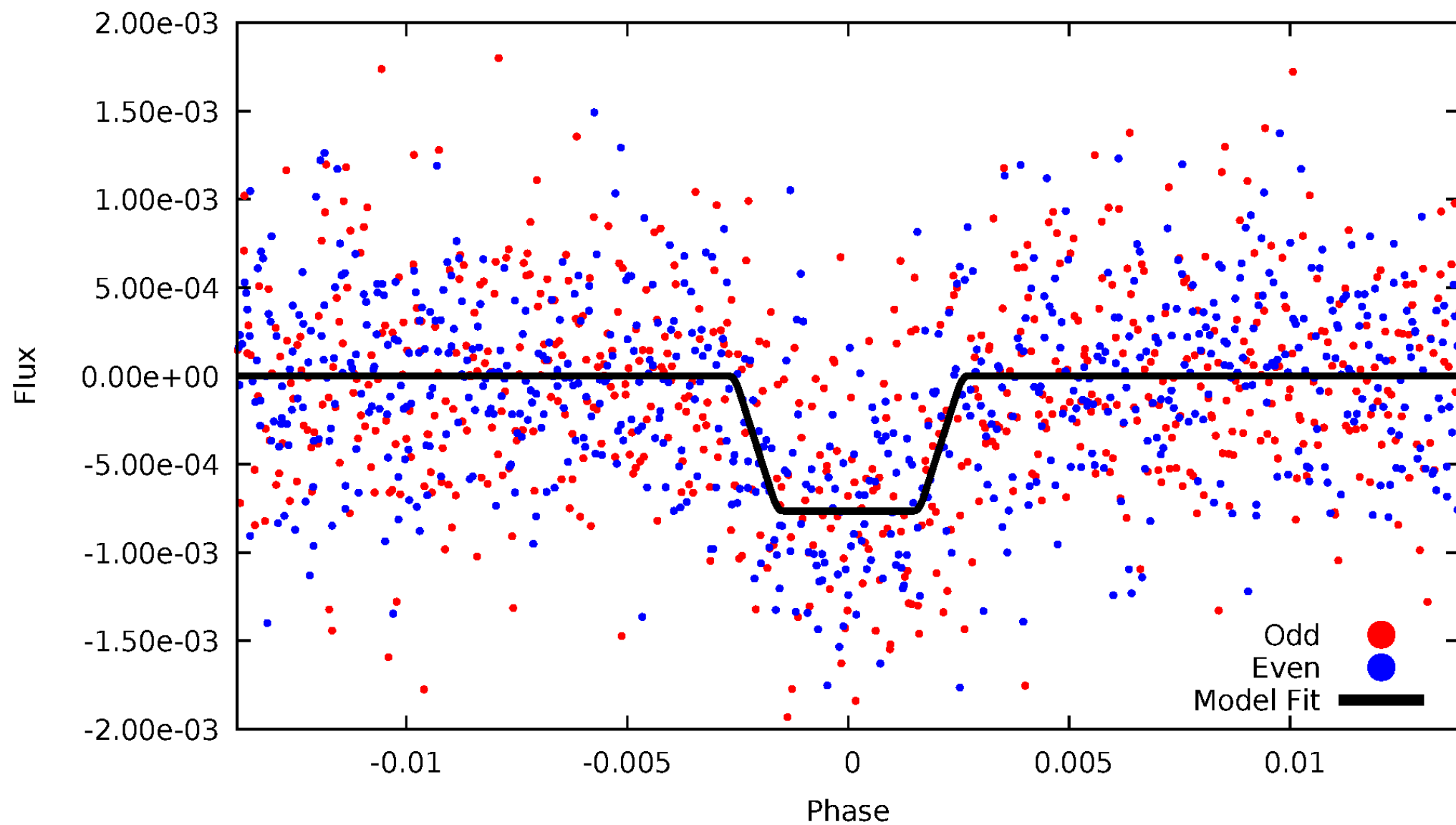
# DV Odd/Even

TCE 003629330-01



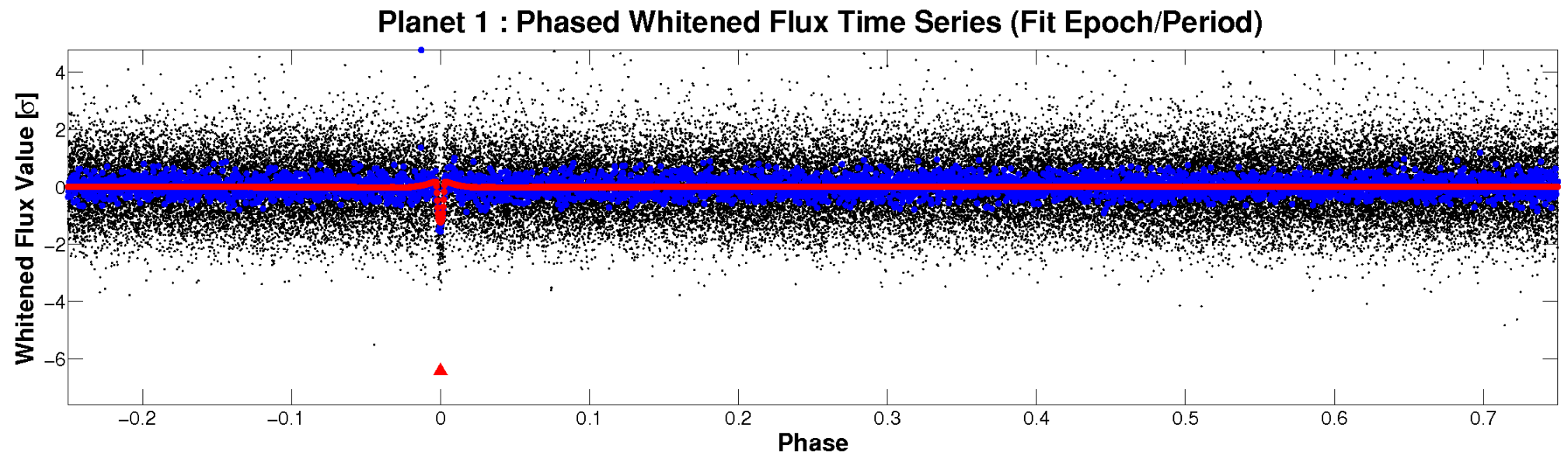
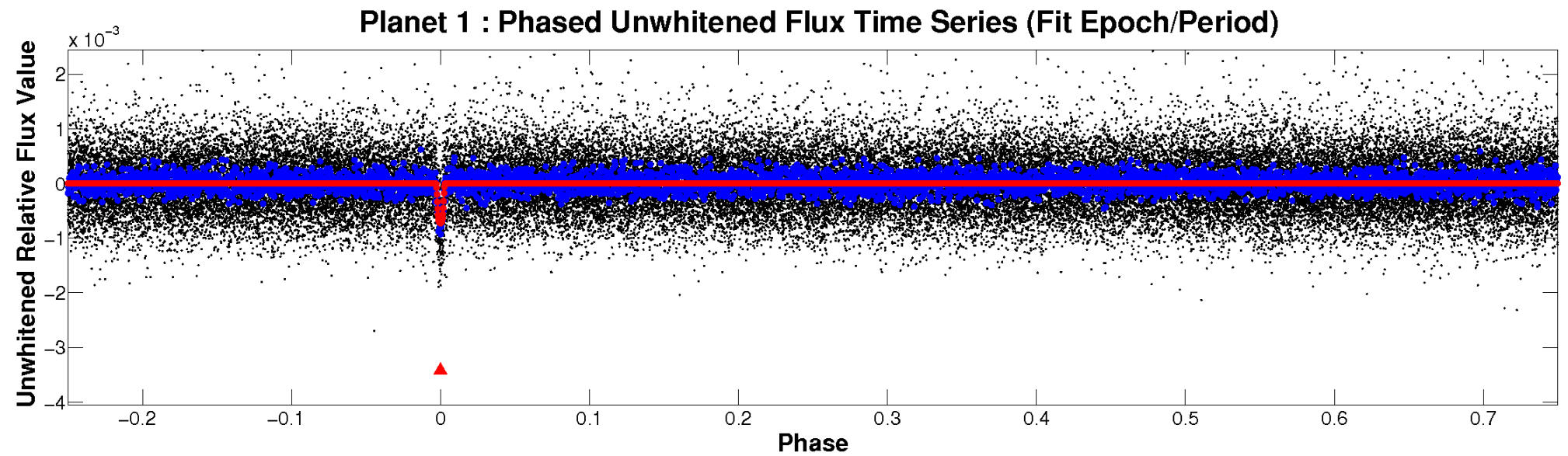
# ALT Odd/Even

TCE 003629330-01



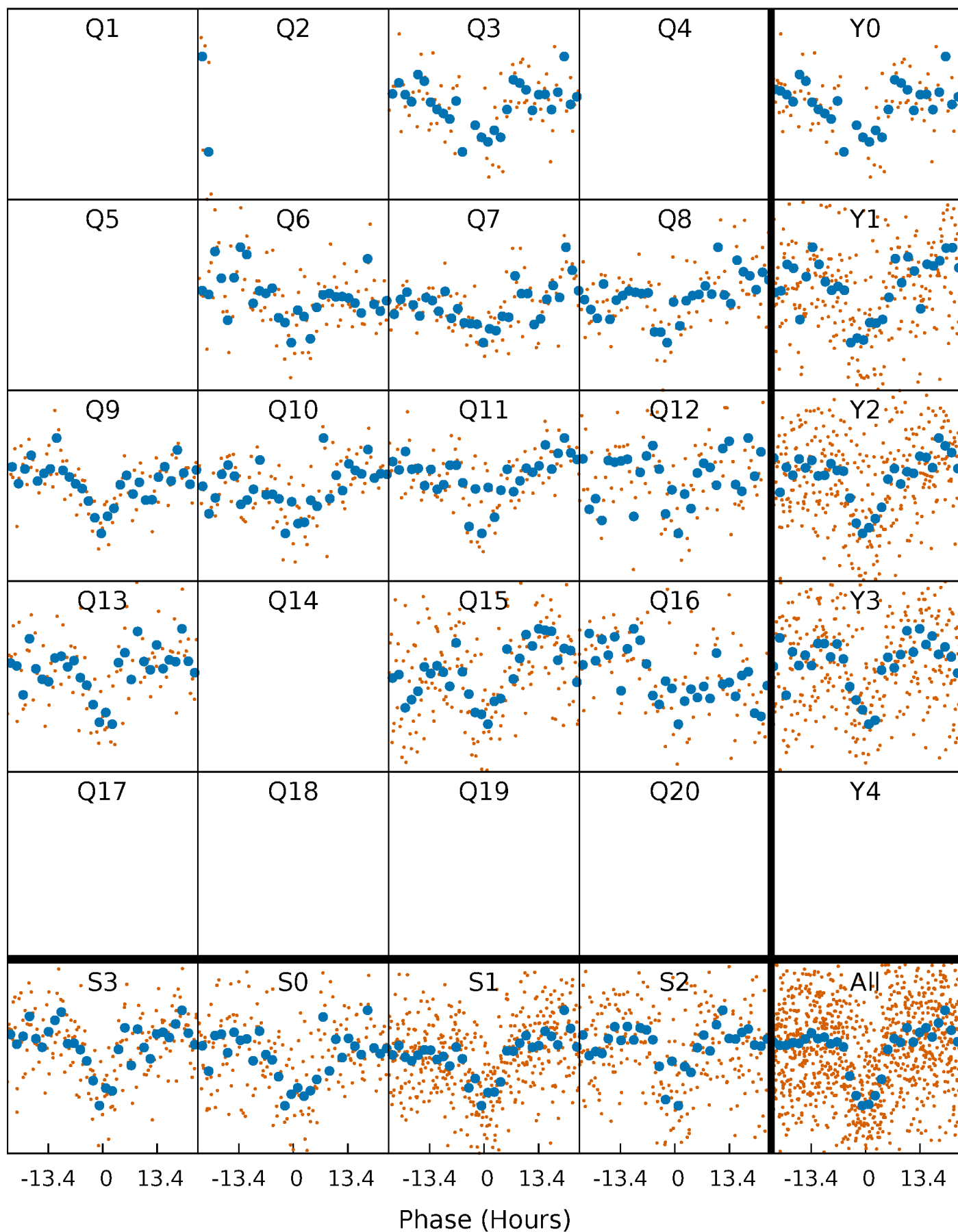


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

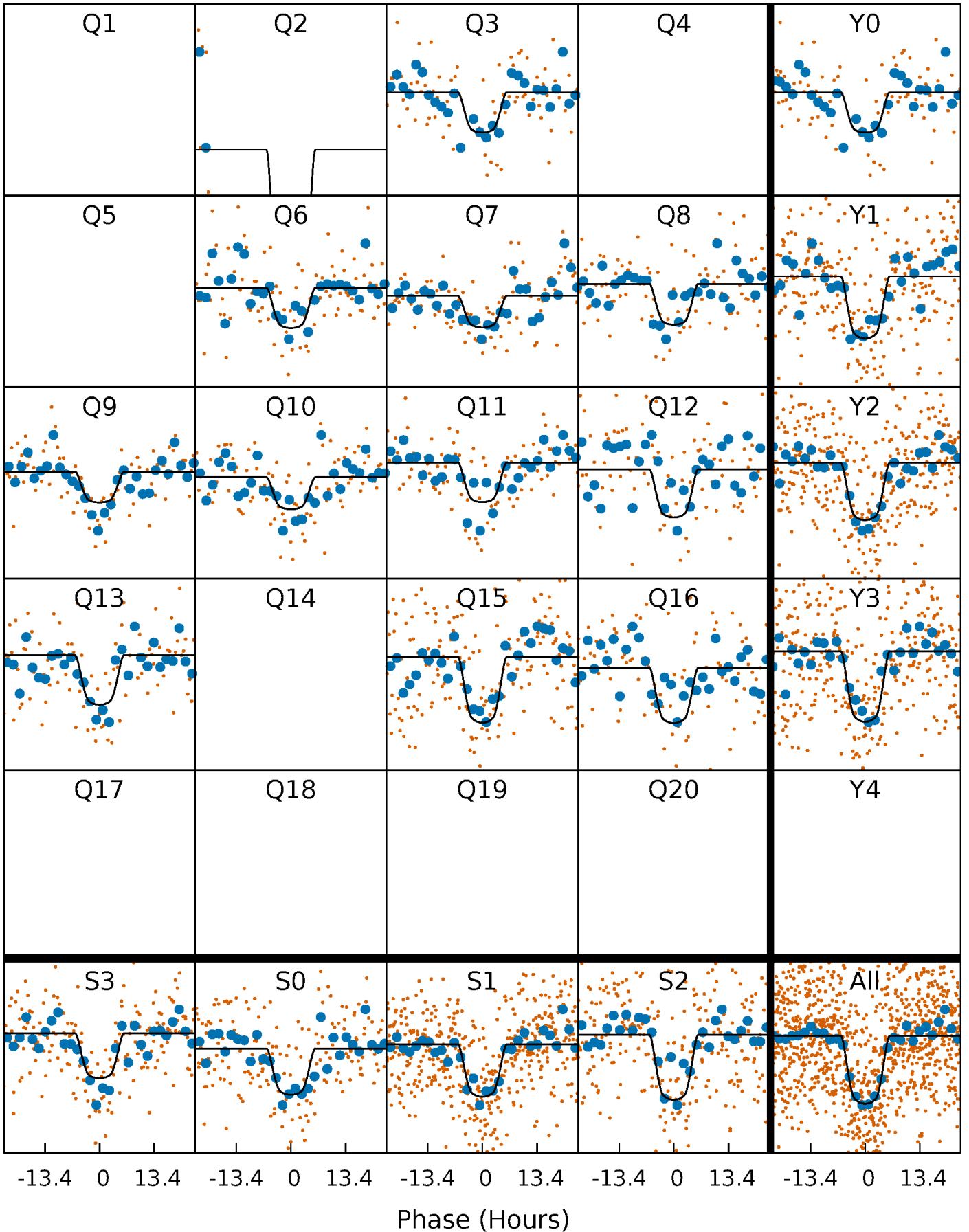
TCE 003629330-01 P= 85.273466 Days  $T_0=182.359766$  (BKJD)





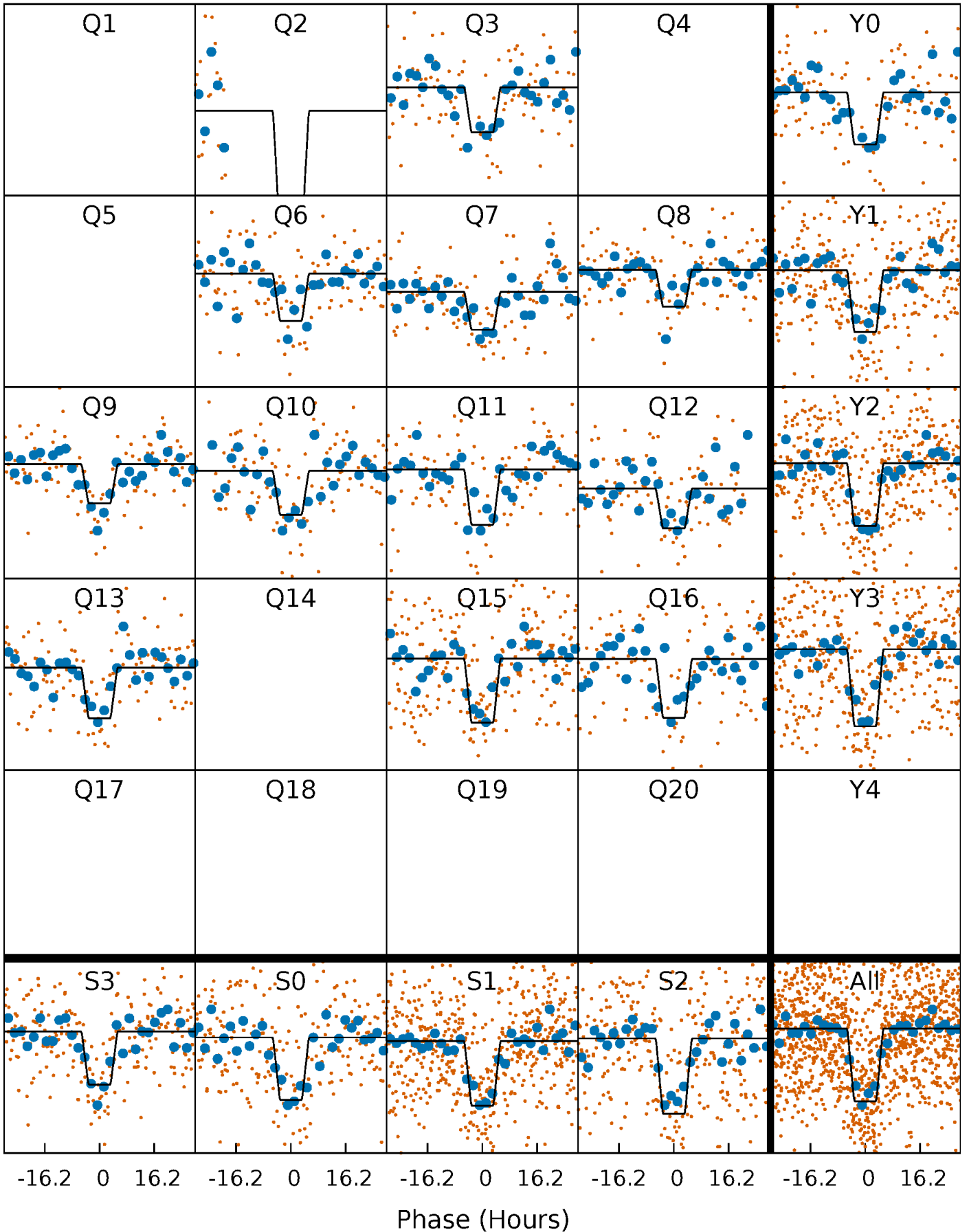
# DV Quarter-Phased Transit Curves

TCE 003629330-01   P= 85.273466 Days    $T_0=182.359766$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

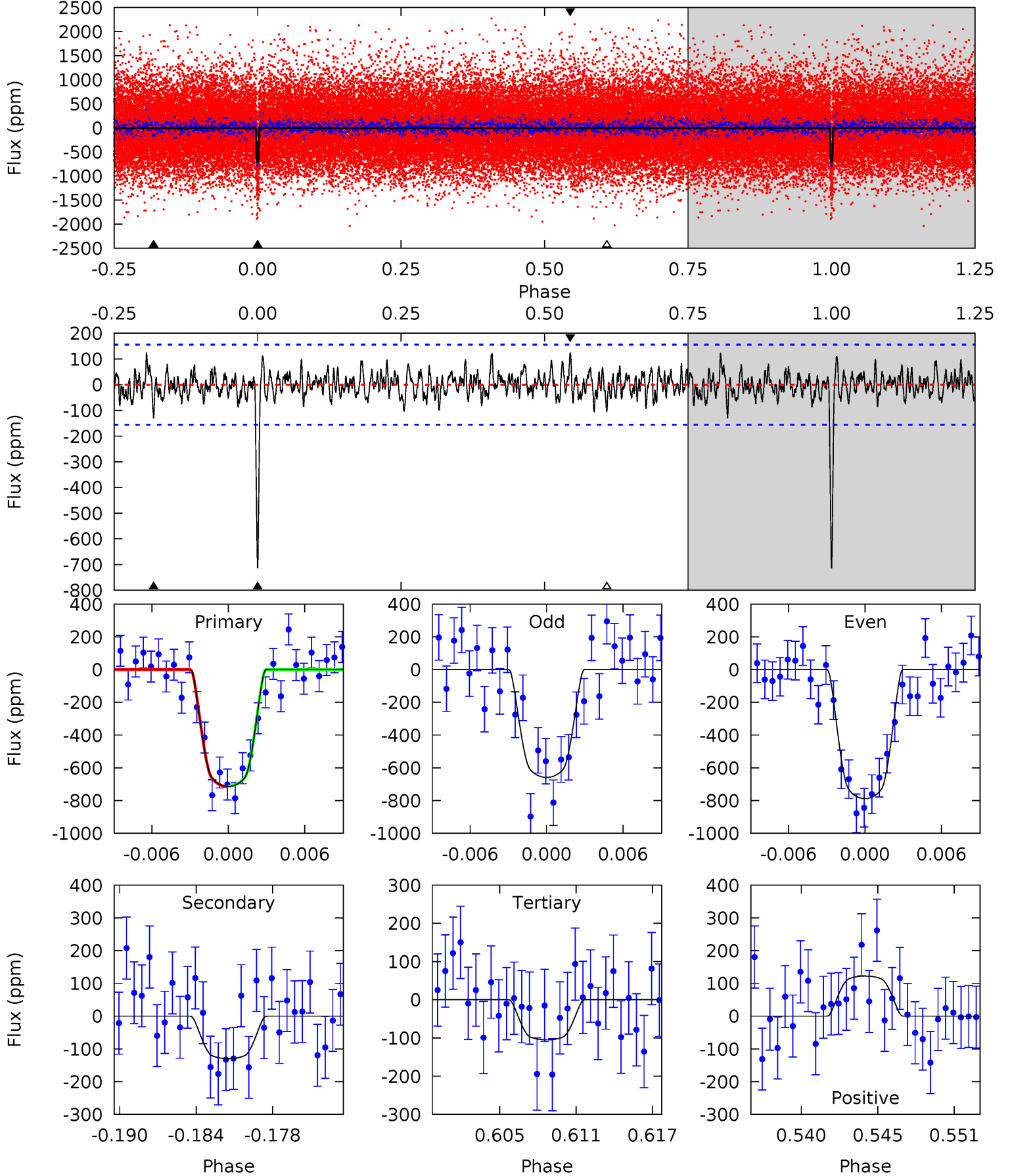
TCE 003629330-01 P= 85.277985 Days  $T_0=182.323427$  (BKJD)



# DV Model-Shift Uniqueness Test

003629330-01, P = 85.273466 Days, E = 97.086300 Days

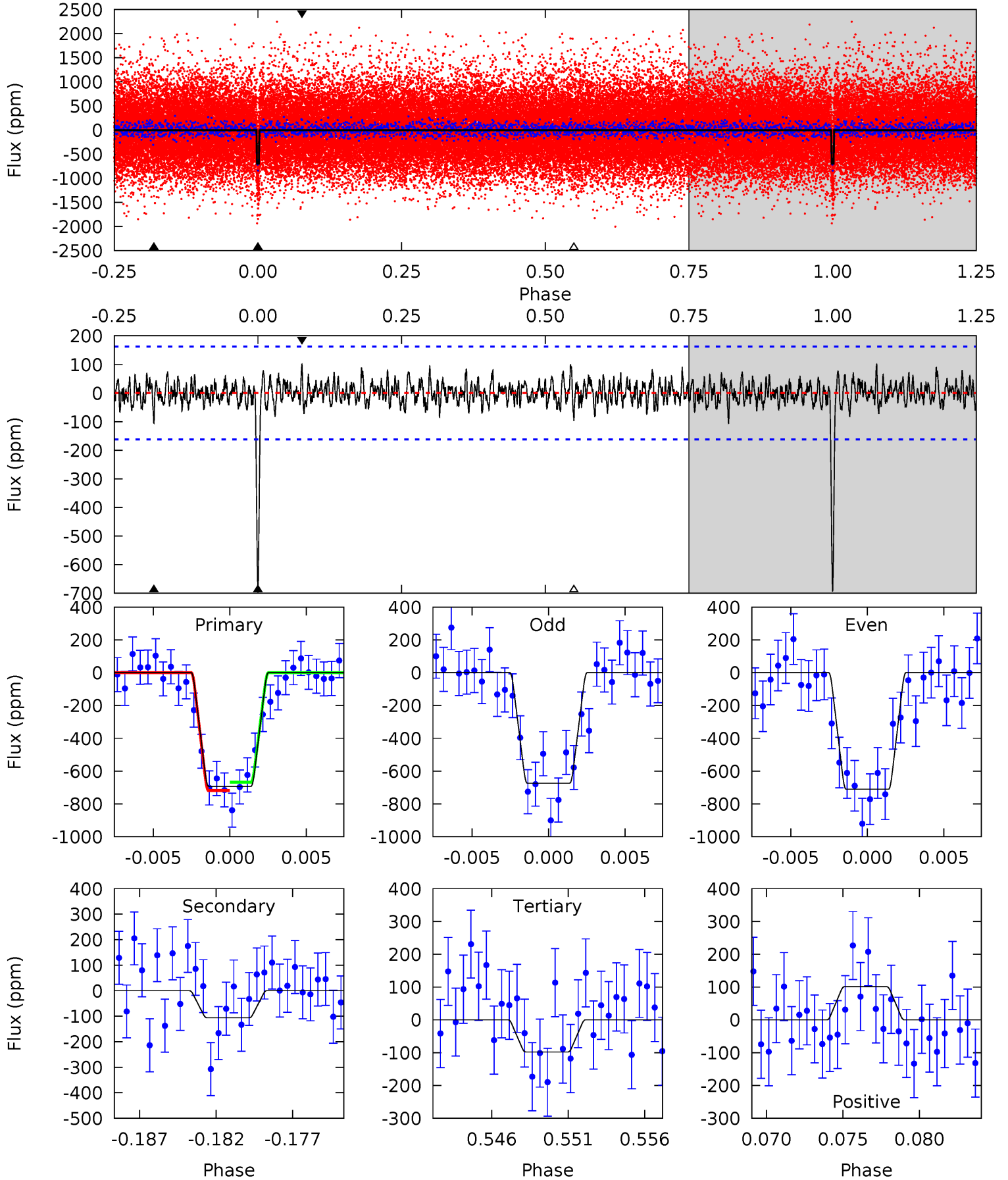
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	4.27	3.46	4.03	5.13	2.75	1.28	20.0	19.5	0.82	0.24	2.14	0.93	0.15	0.05



# Alt Model-Shift Uniqueness Test

003629330-01, P = 85.277985 Days, E = 97.045442 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
22.0	3.36	3.10	3.20	5.14	2.79	1.02	18.9	18.8	0.26	0.16	0.58	1.02	0.13	0.81



### Stellar Parameters For KIC 003629330

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5922^{+178}_{-178}$	$4.349^{+0.158}_{-0.193}$	$-0.280^{+0.300}_{-0.300}$	$1.057^{+0.293}_{-0.195}$	$0.911^{+0.130}_{-0.098}$	$1.087^{+0.799}_{-0.528}$
	+3%/-3%	+4%/-4%	+107%/-107%	+28%/-18%	+14%/-11%	+73%/-49%
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 003629330-01 / KOI 3418.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-130 \pm 30$	$3.65^{+0.62}_{-0.52}$	$624^{+48}_{-42}$	$3918^{+216}_{-206}$	$711^{+338}_{-245}$
Alt.	$-106 \pm 32$	$3.22^{+0.56}_{-0.42}$	$622^{+44}_{-40}$	$3930^{+243}_{-254}$	$724^{+408}_{-268}$

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

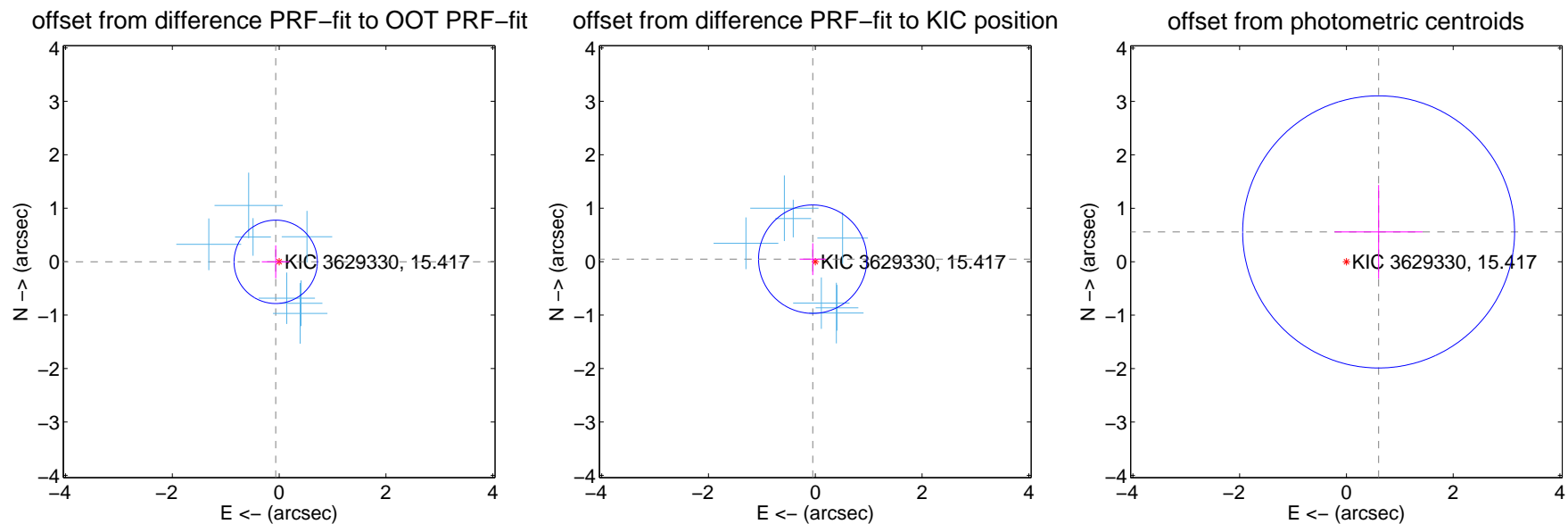
## DV Centroid Data

Supplemental centroid analysis for 003629330-01. Kepler magnitude: 15.42. Transit SNR 15.54

There are 7 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.064 \pm 0.260$	0.25	$0.064 \pm 0.260$	$-0.003 \pm 0.308$
PRF-fit source offset from KIC position	$0.066 \pm 0.338$	0.20	$0.048 \pm 0.247$	$0.046 \pm 0.297$
photometric centroid source offset	$0.82 \pm 0.85$	0.97	$-0.60 \pm 0.82$	$0.56 \pm 0.88$



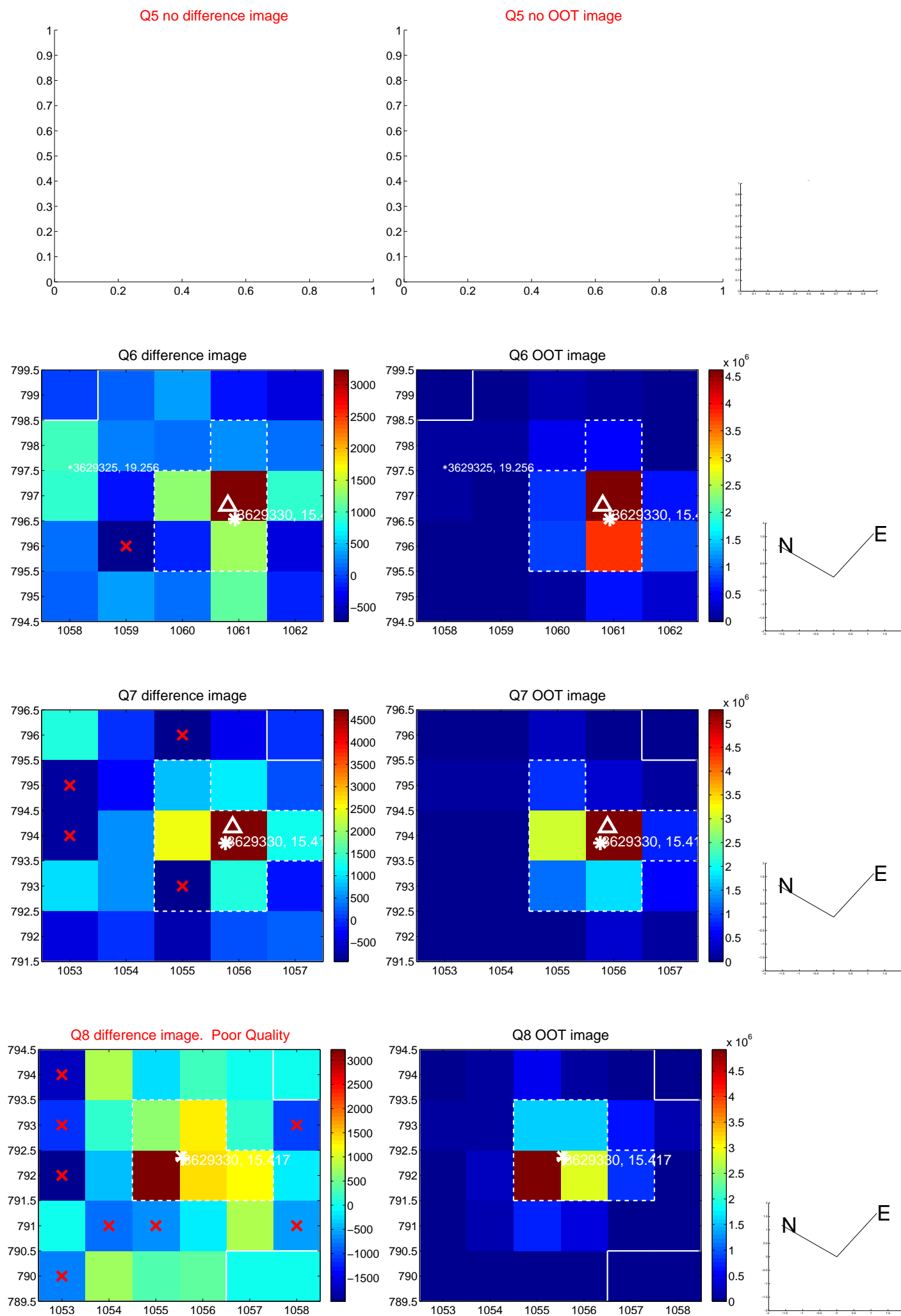
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



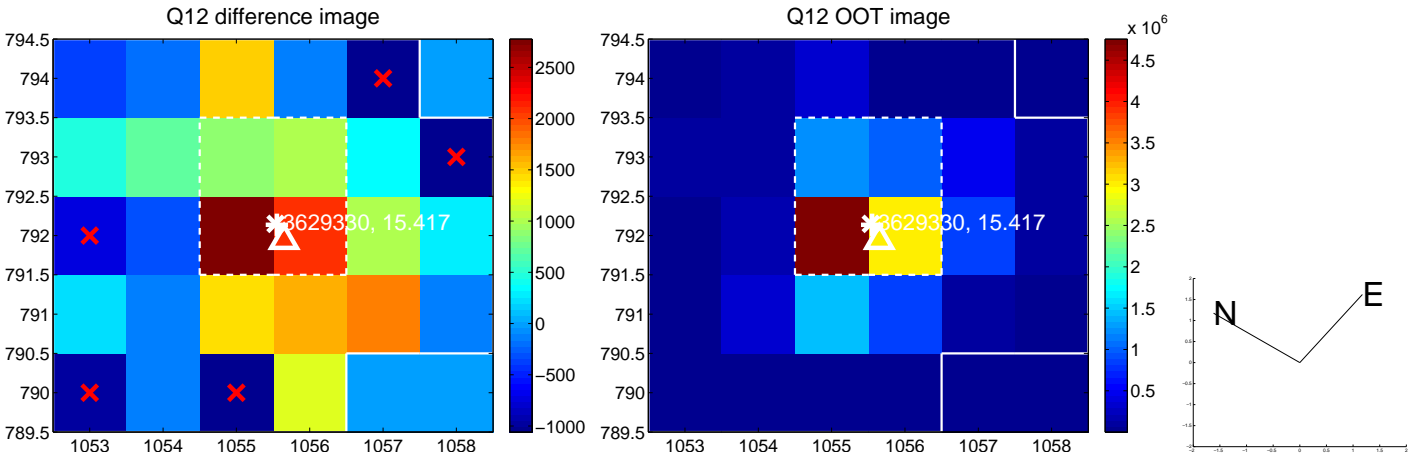
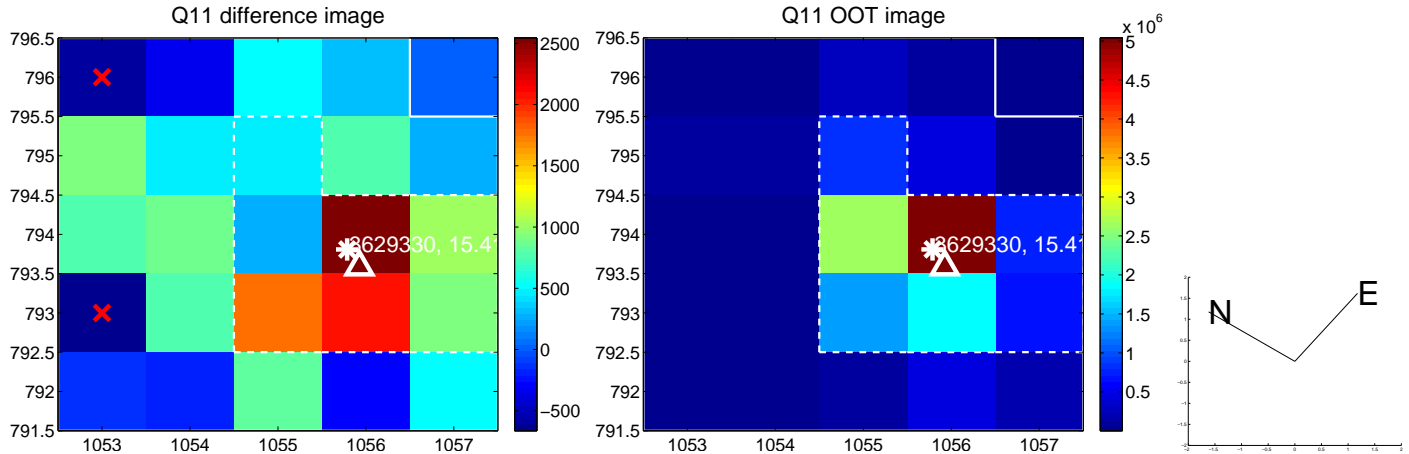
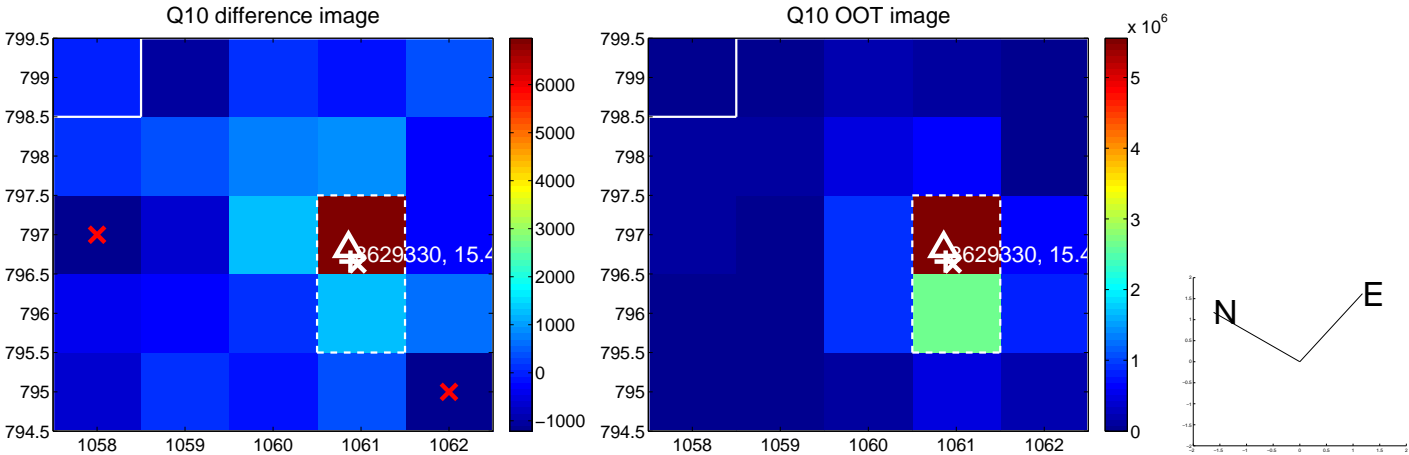
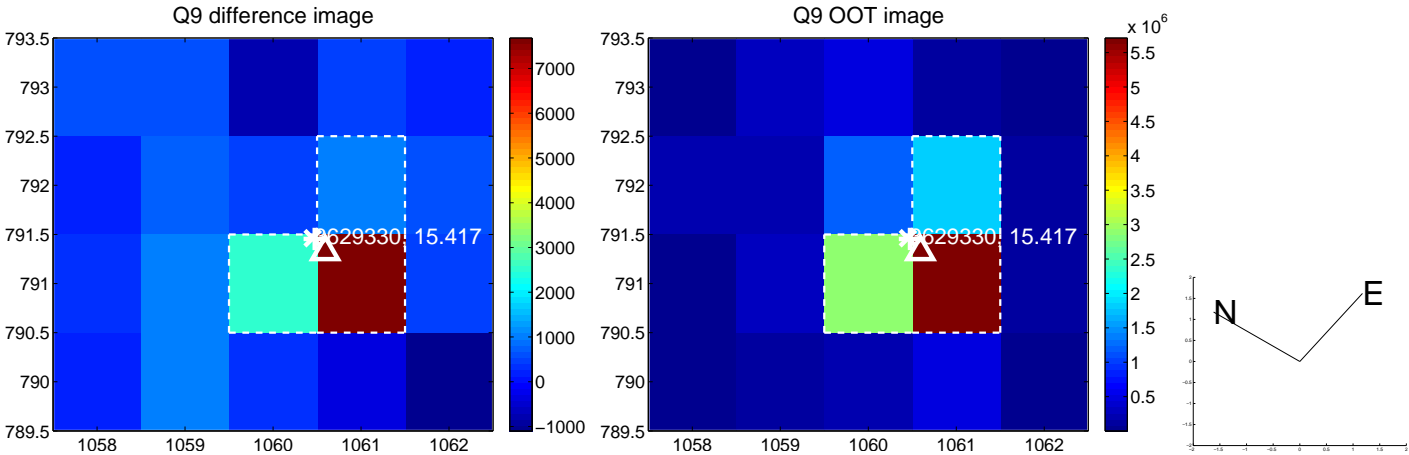
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



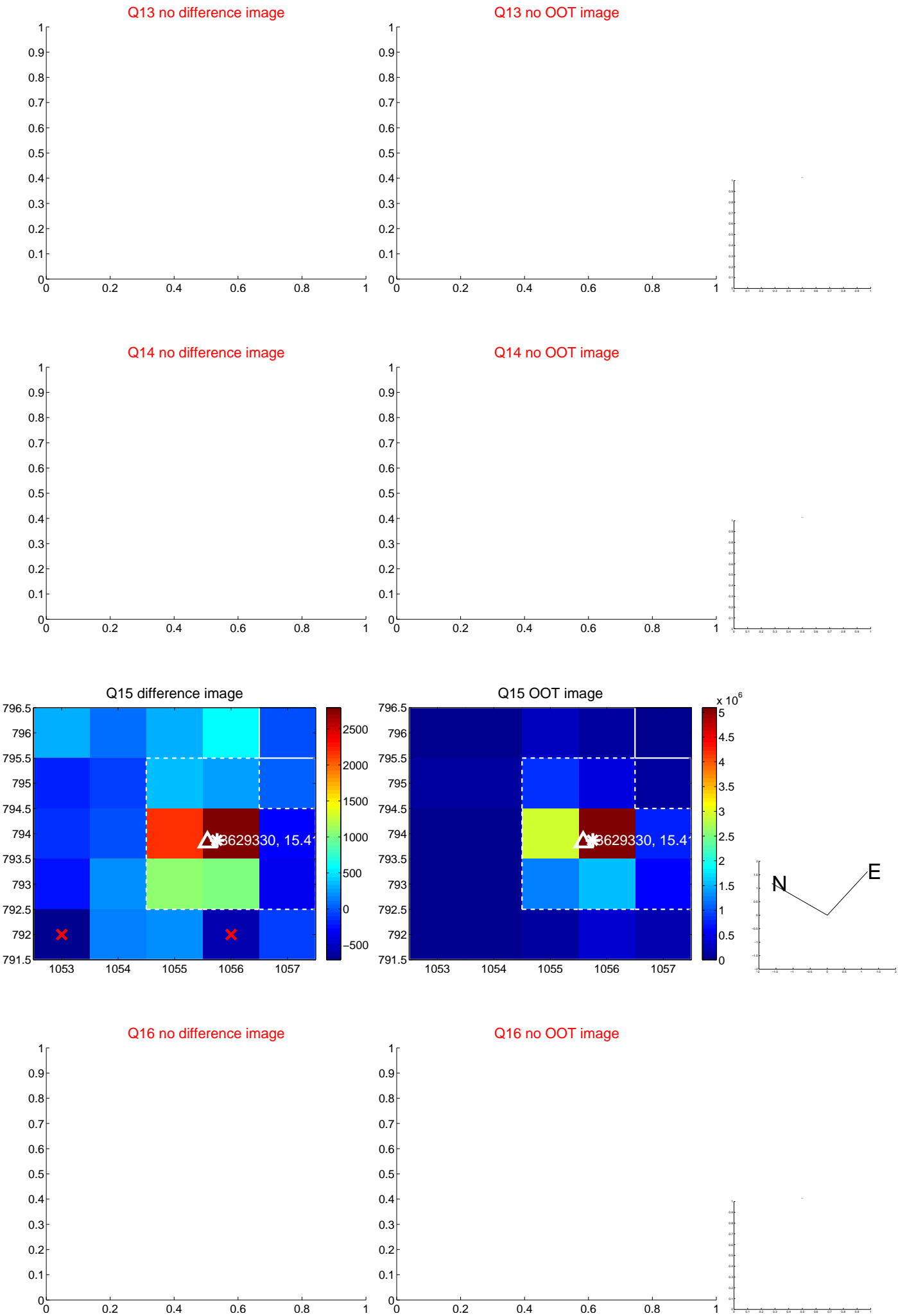
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



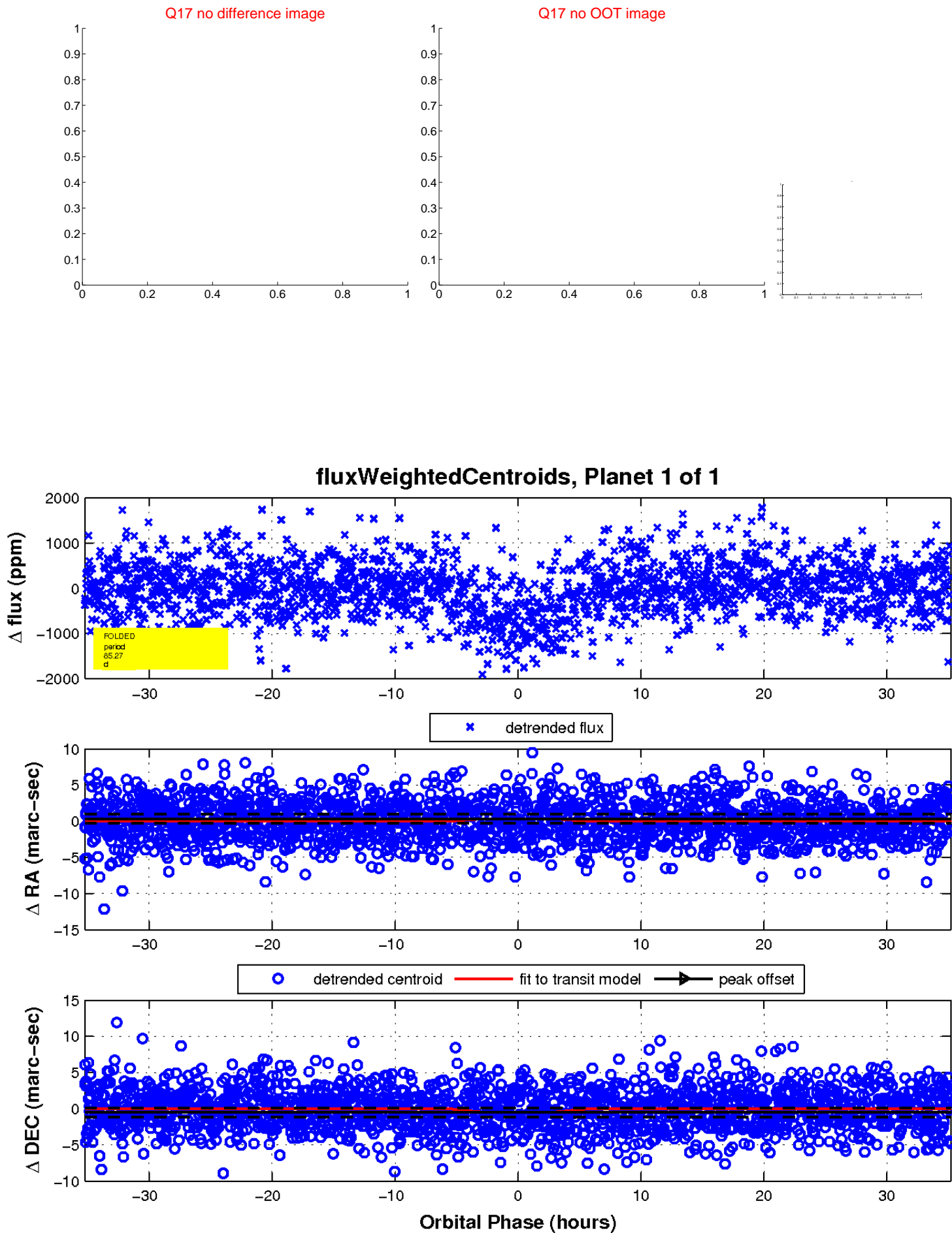
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



# UKIRT Image

Declination

