

# KIC 009279354

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009279354-01	OBS	2060.01	2.800116	132.046971	704.5	1.053	28.3	37.0	0.70	4786	2.30	198.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009279354-01	OBS	PC	1.00	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.

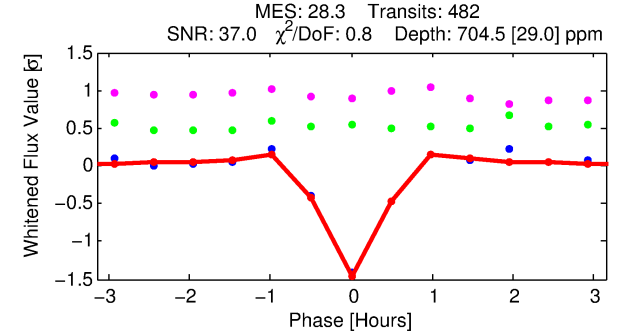
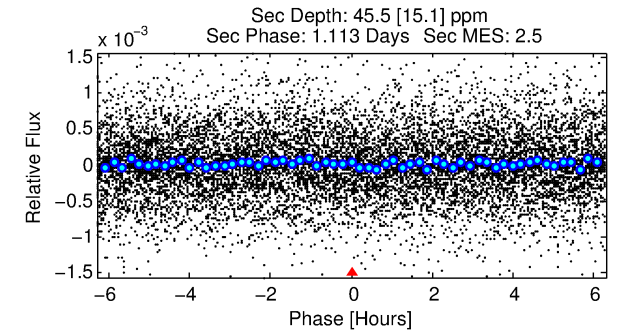
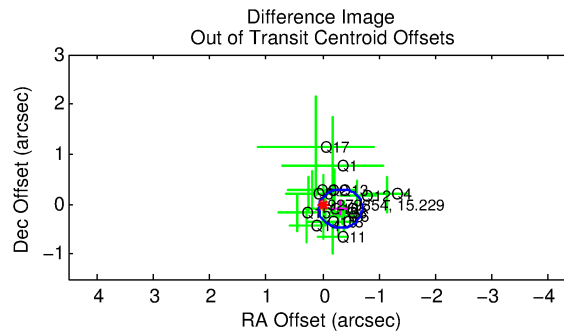
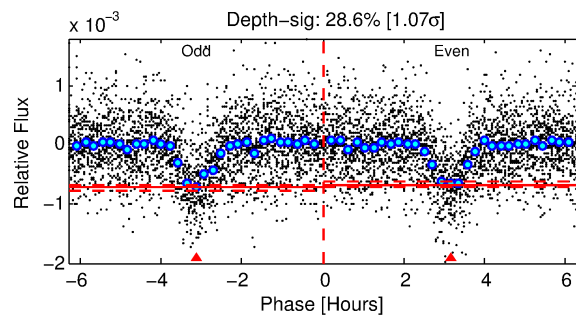
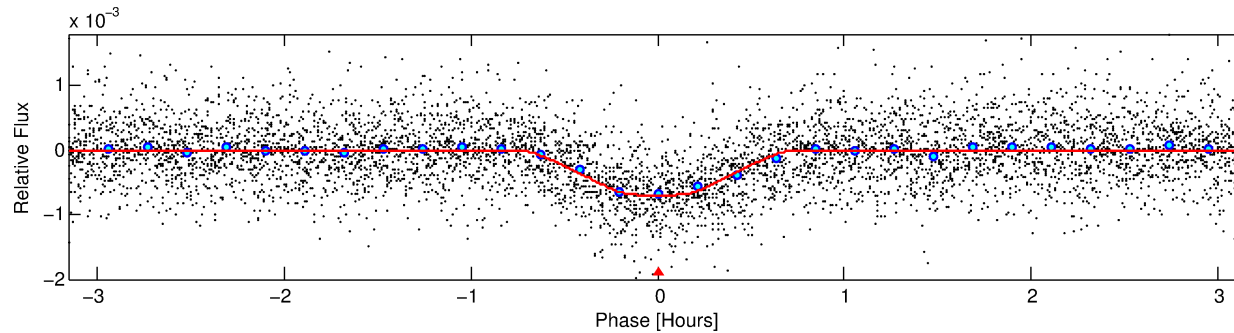
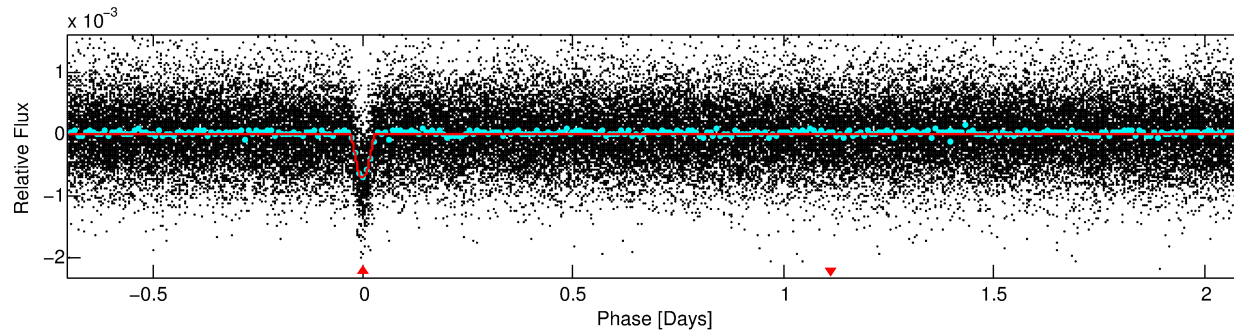
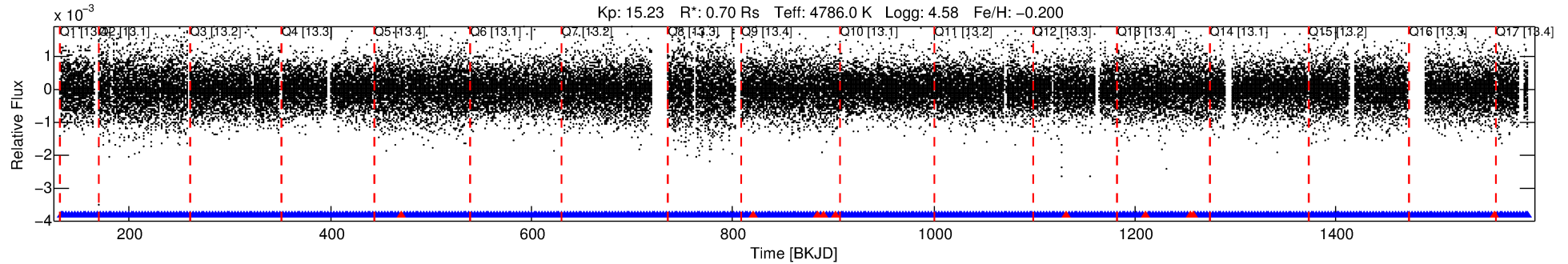
## Ephemeris Match Information For 009279354-01

No Significant Match Found

# DV One-Page Summary

KIC: 9279354 Candidate: 1 of 1 Period: 2.800 d  
KOI: K02060.01 Corr: 0.958

Kp: 15.23 R\*: 0.70 Rs Teff: 4786.0 K Logg: 4.58 Fe/H: -0.200



## DV Fit Results:

Period = 2.80012 [0.00000] d  
Epoch = 132.0470 [0.0005] BKJD  
Rp/R\* = 0.0300 [0.0063]  
a/R\* = 10.40 [7.86]  
b = 0.90 [0.18]  
Seff = 198.12 [32.48]  
Teq = 957 [39] K  
Rp = 2.30 [0.53] Re  
a = 0.0343 [0.0027] AU  
Ag = 5.56 [3.04] [1.50σ]  
Teffp = 2271 [311] K [4.19σ]

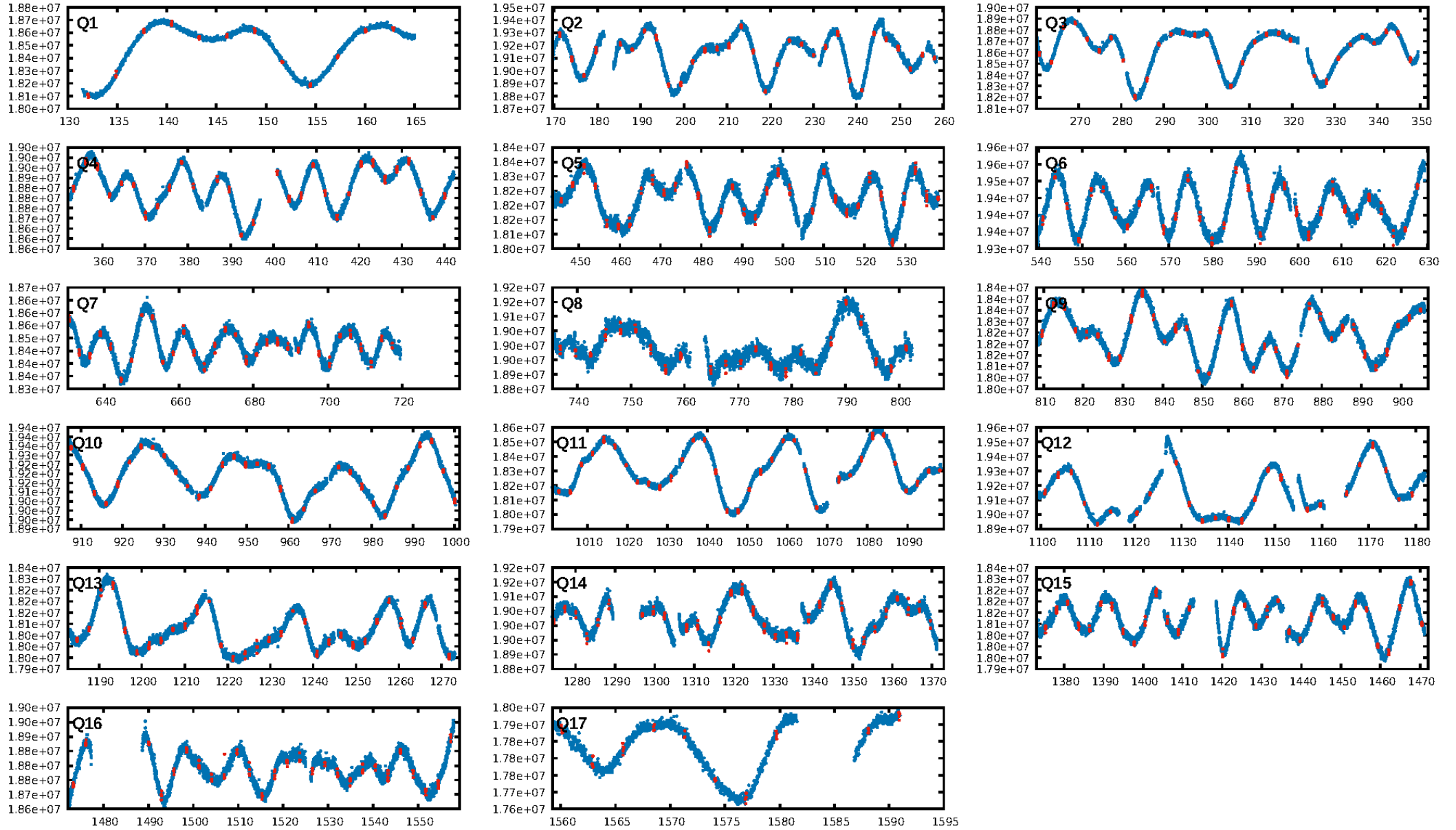
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.40e-167  
RollingBand-fgt: 0.98 [450/460]  
GhostDiagnostic-chr: 9.249  
Centroid-sig: 0.0%  
Centroid-so: 0.333 arcsec [1.18σ]  
OotOffset-rm: 0.328 arcsec [2.57σ]  
KicOffset-rm: 0.208 arcsec [1.62σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

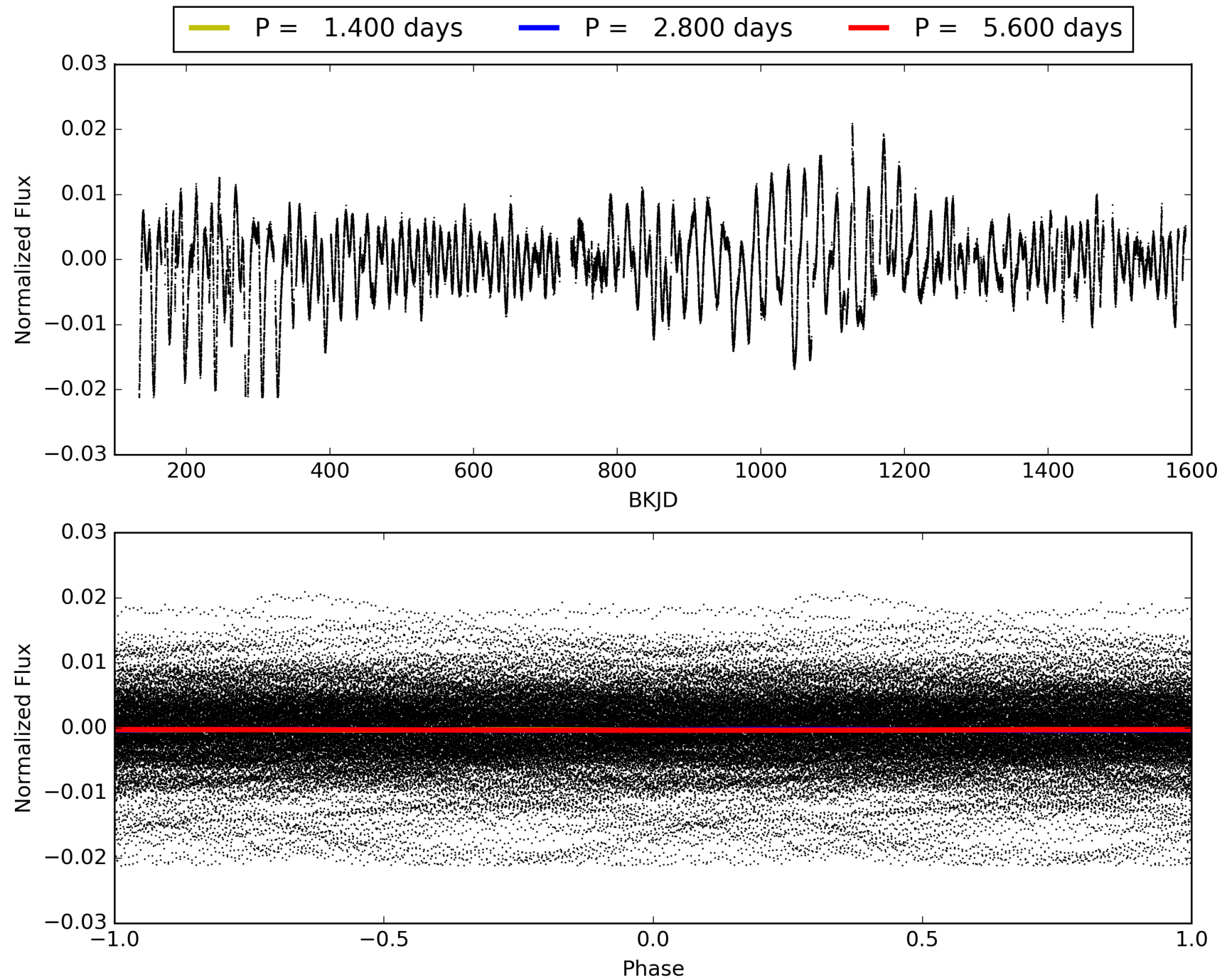
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:47:53 Z

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

# TCE 009279354-01, PDC Light Curves

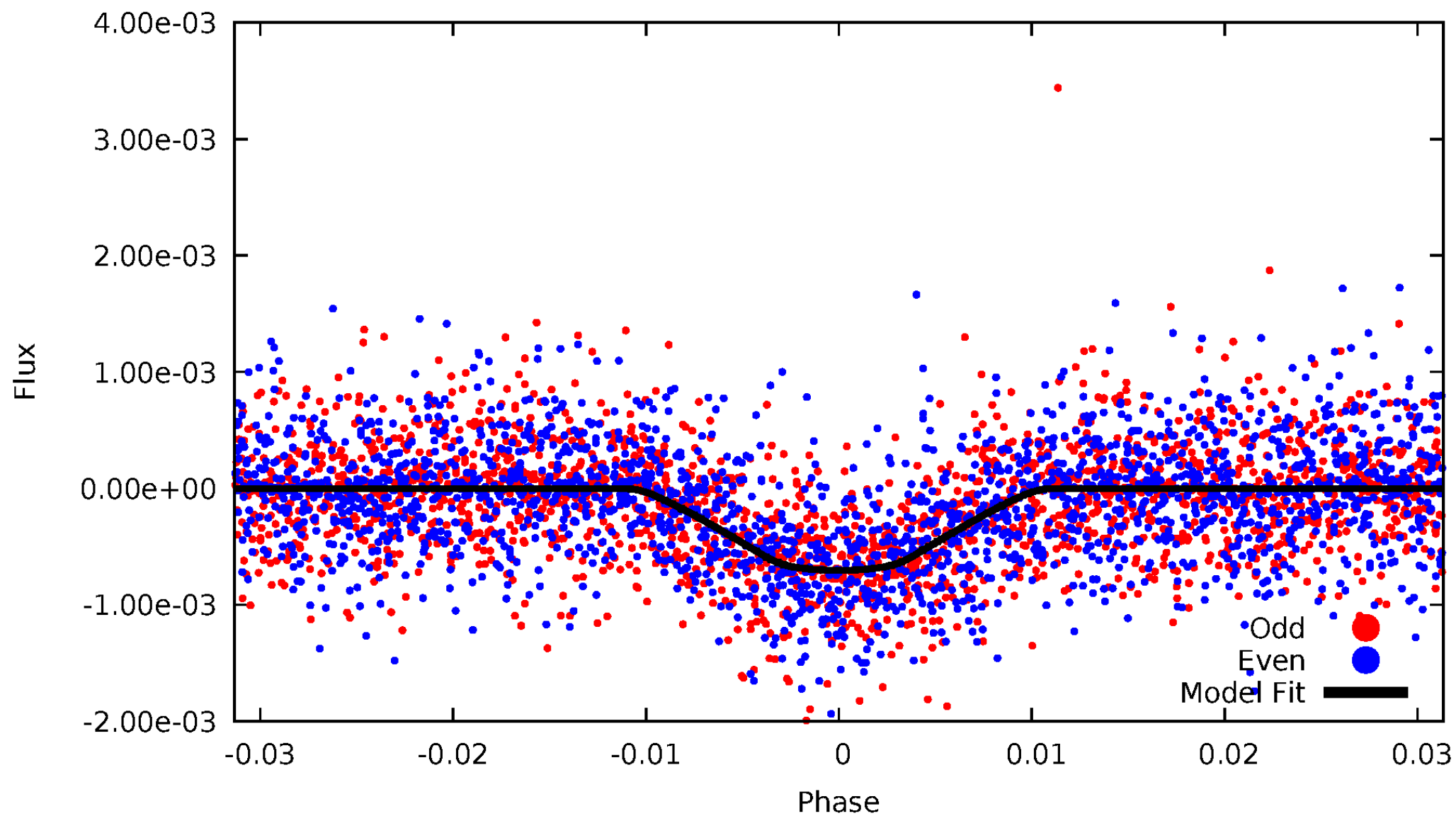


TCE 009279354-01



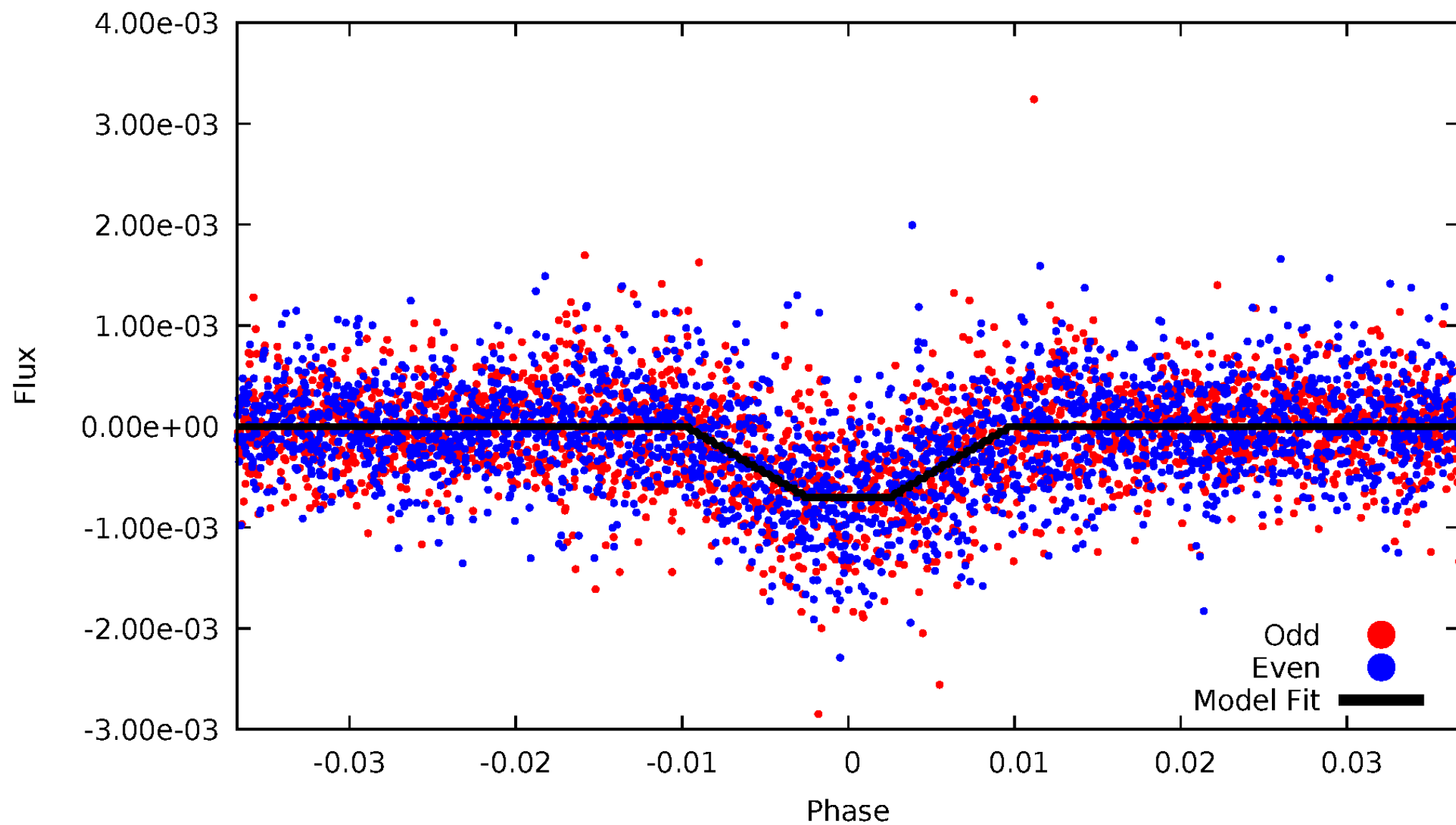
# DV Odd/Even

TCE 009279354-01



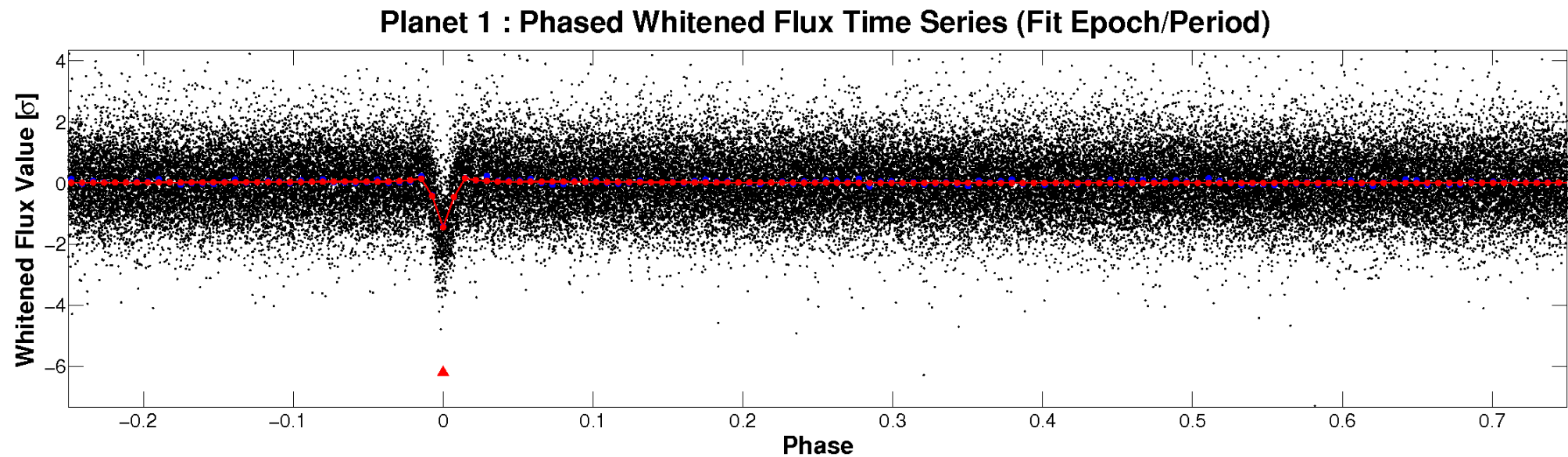
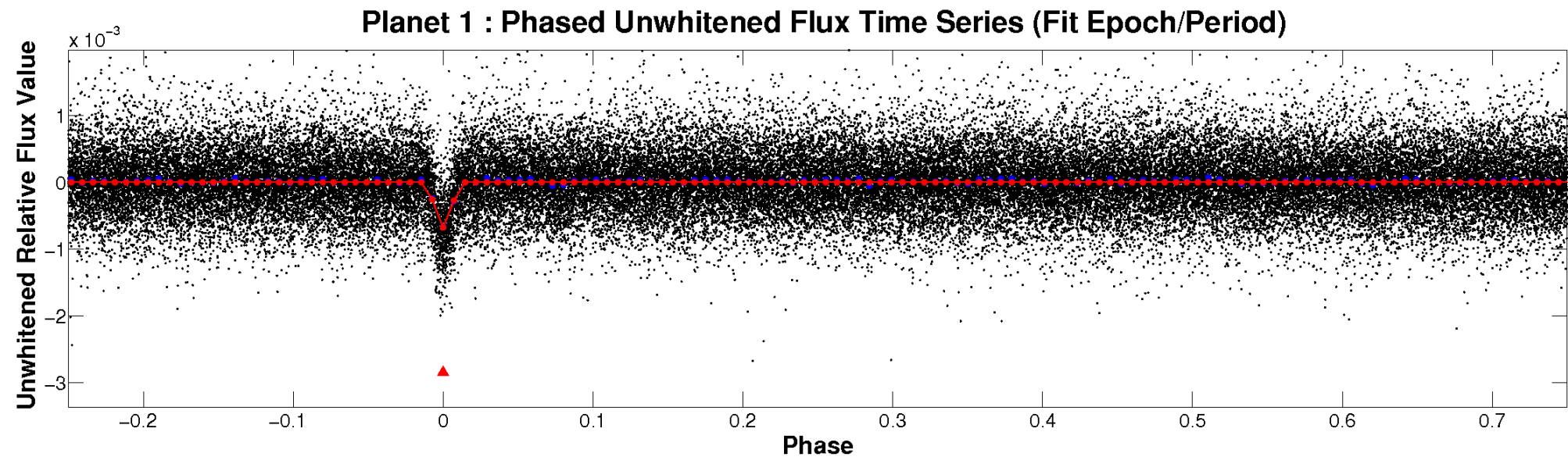
# ALT Odd/Even

TCE 009279354-01



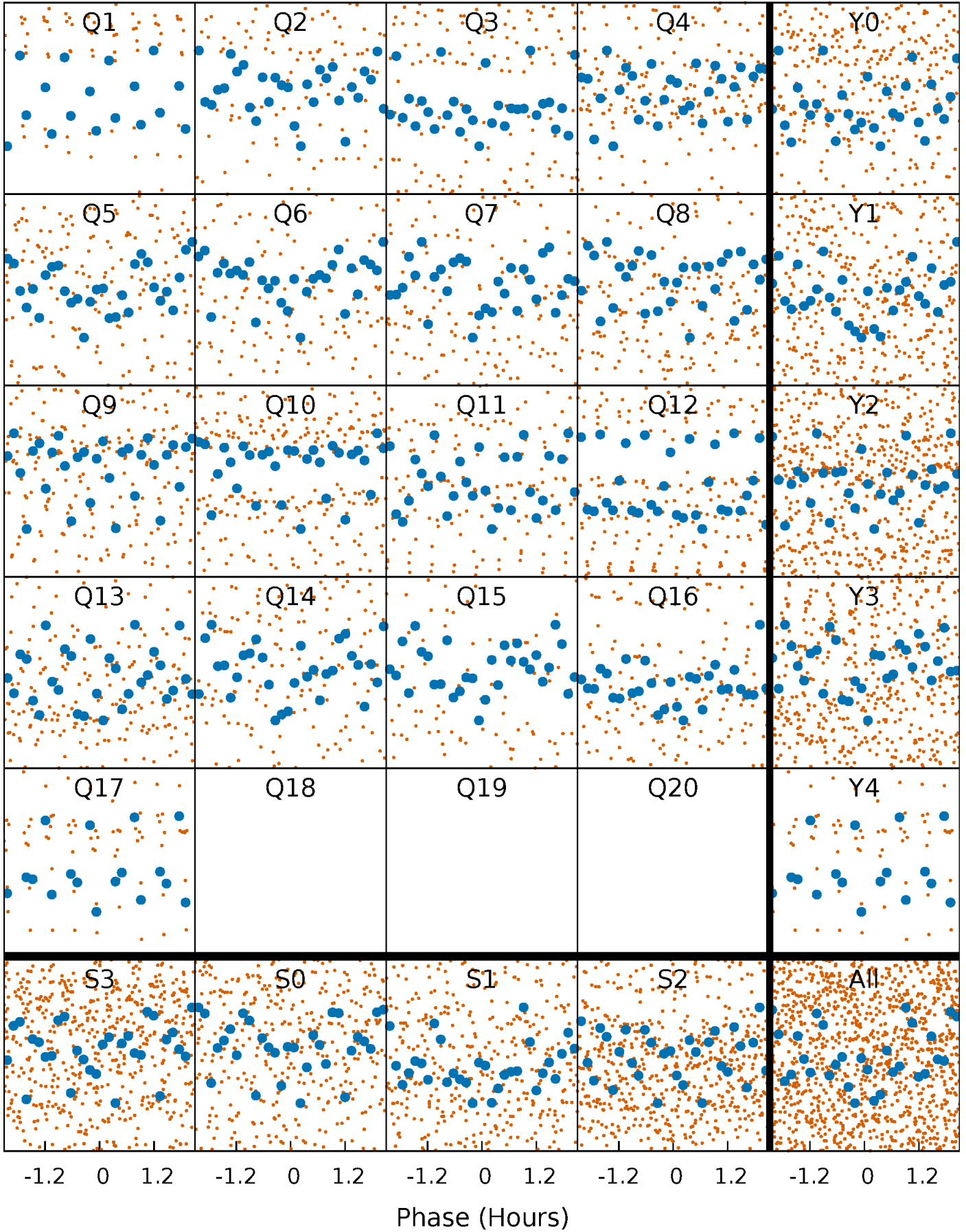


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

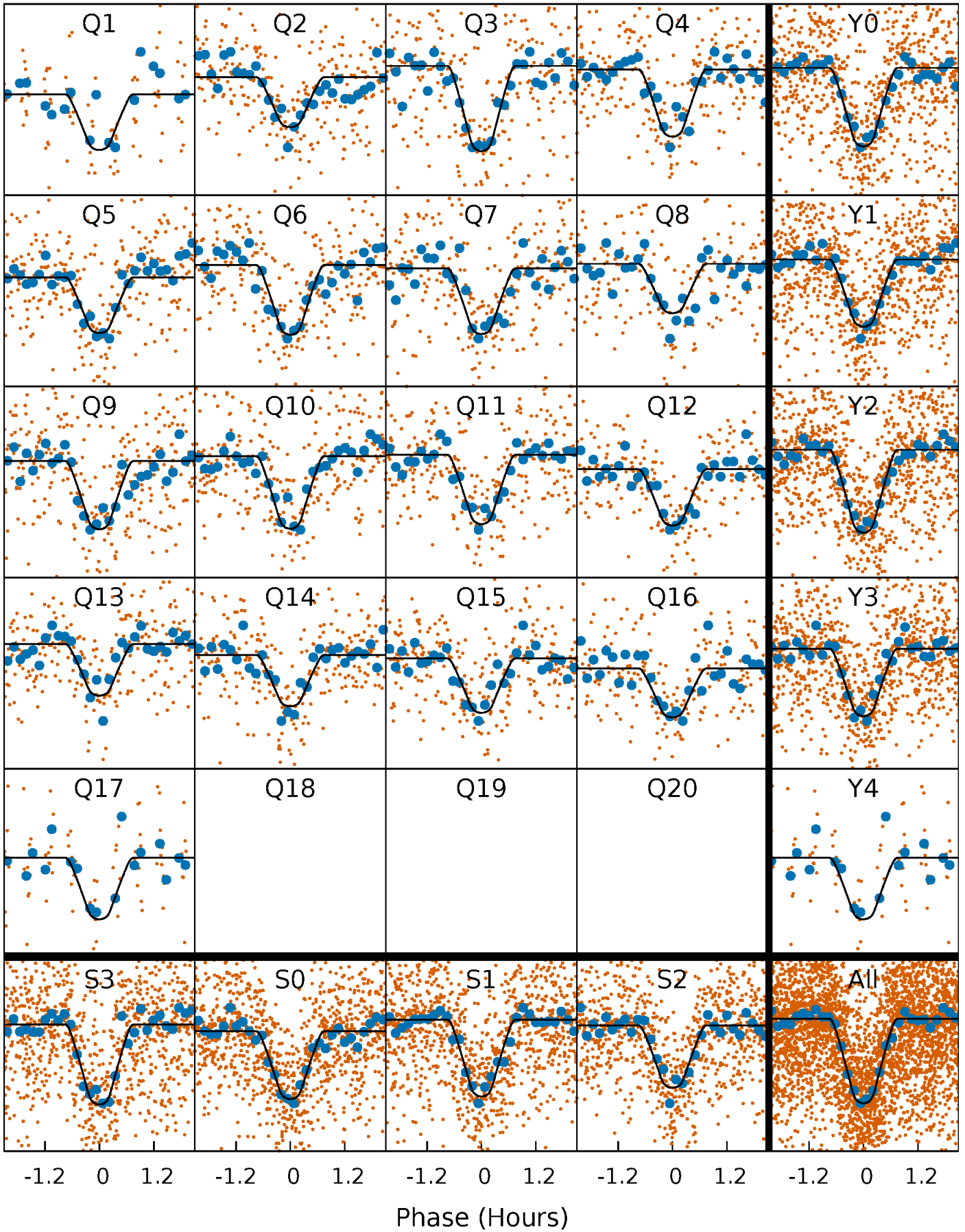
TCE 009279354-01 P= 2.800116 Days  $T_0=132.046971$  (BKJD)





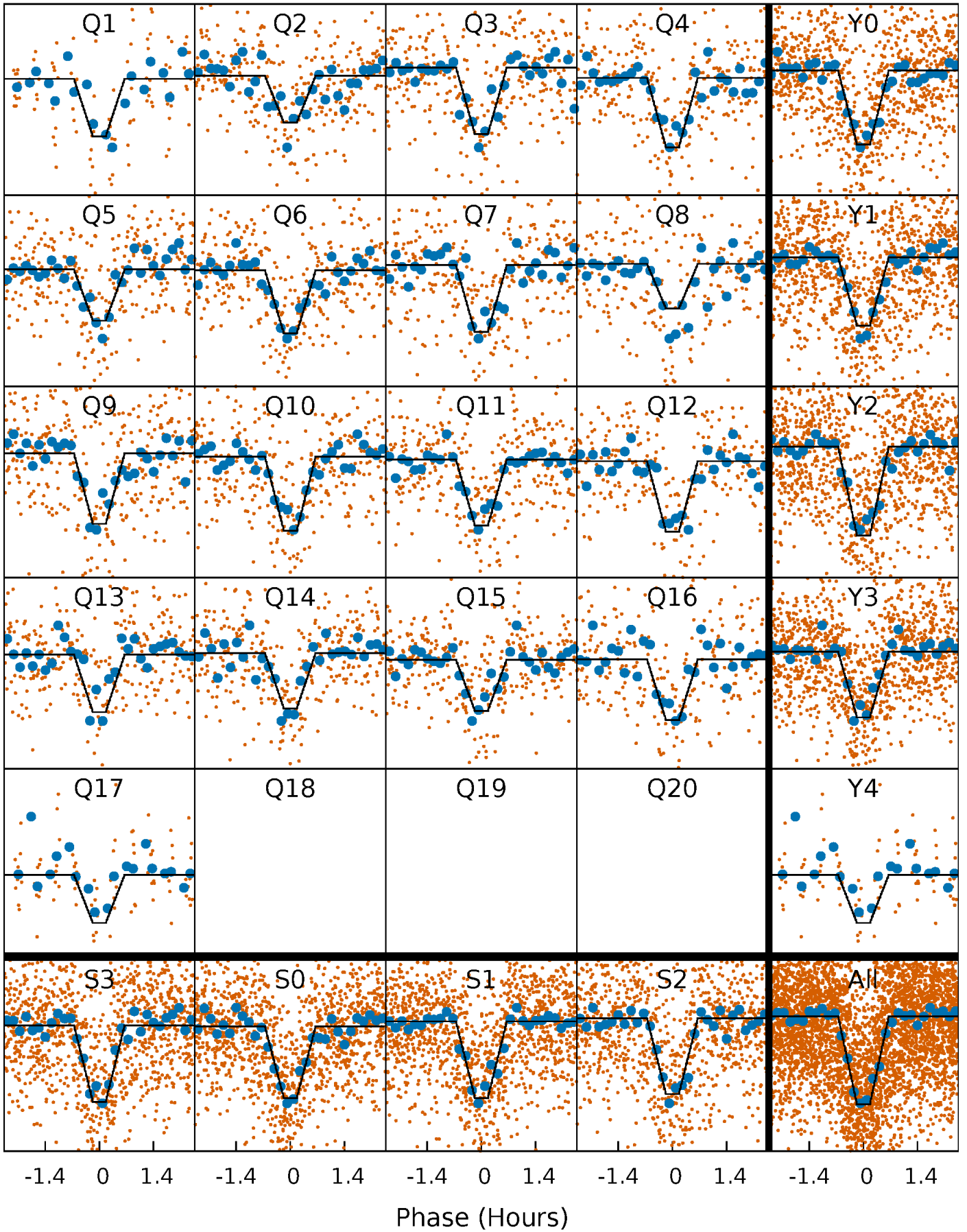
# DV Quarter-Phased Transit Curves

TCE 009279354-01 P= 2.800116 Days  $T_0=132.046971$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

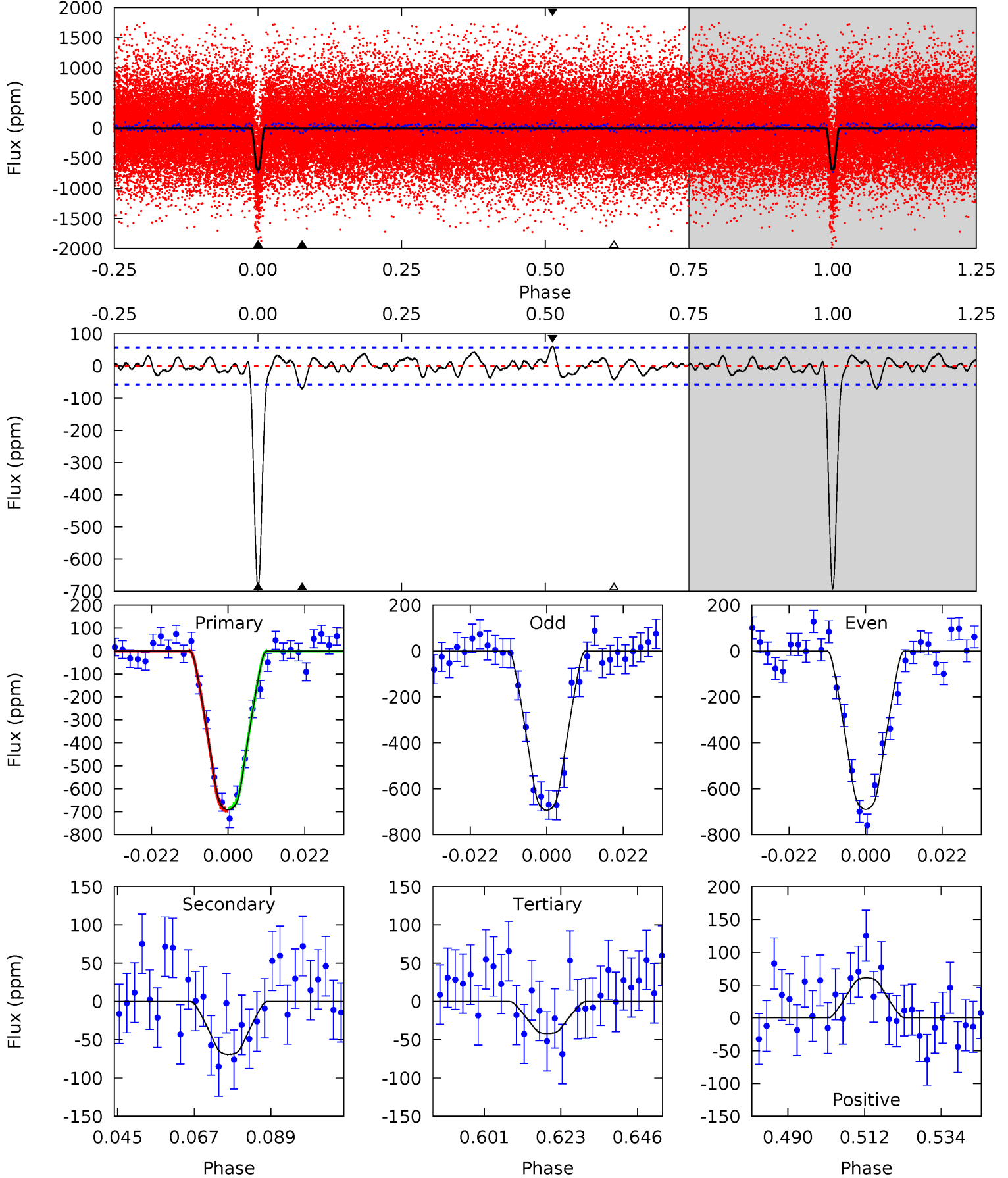
TCE 009279354-01 P= 2.800117 Days  $T_0=132.047225$  (BKJD)



# DV Model-Shift Uniqueness Test

009279354-01, P = 2.800116 Days, E = 129.246855 Days

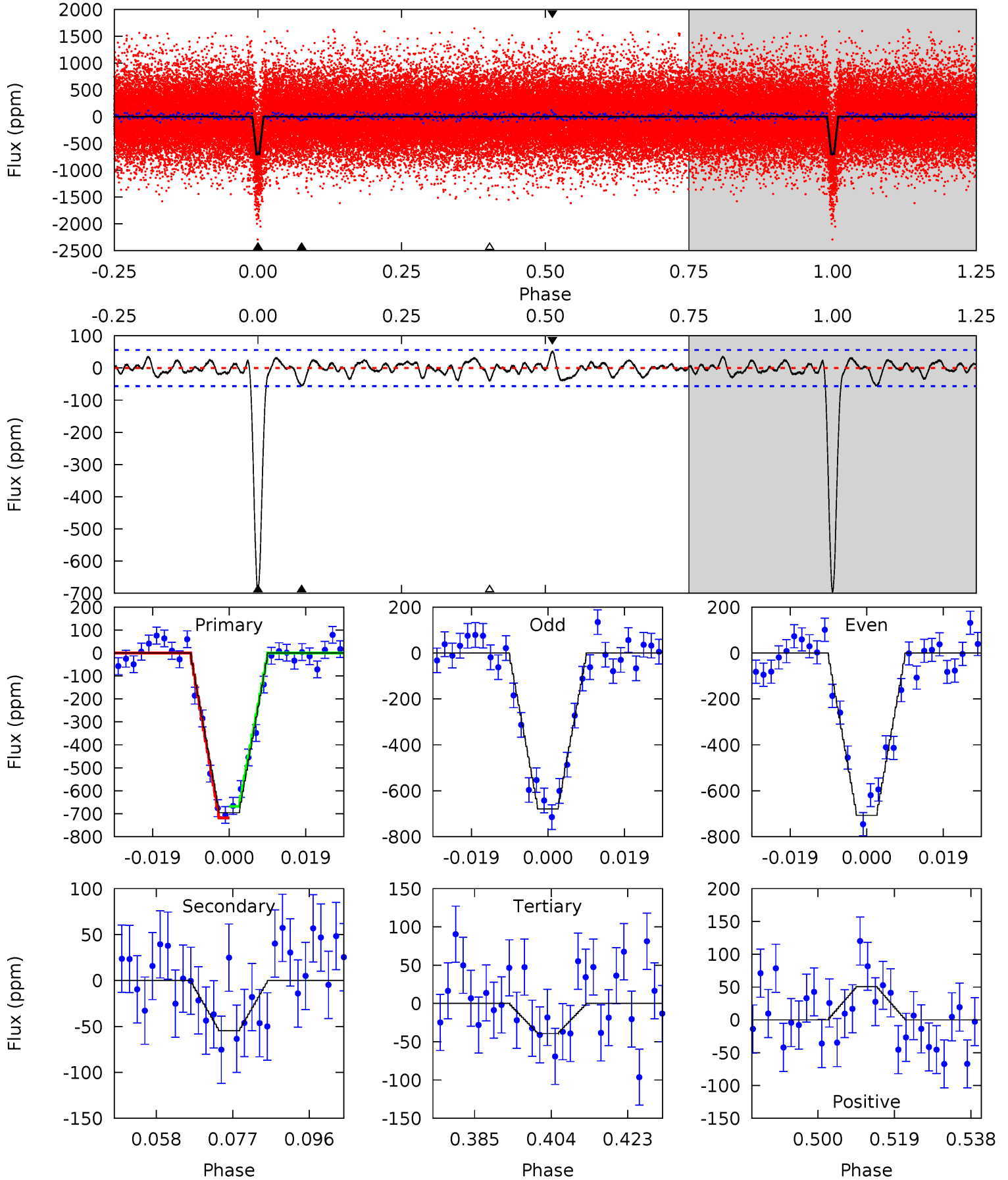
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.8	5.89	3.58	5.20	4.87	2.29	1.52	55.3	53.6	2.31	0.69	0.17	1.03	0.08	0.50



# Alt Model-Shift Uniqueness Test

009279354-01, P = 2.800117 Days, E = 129.247108 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
60.7	4.78	3.44	4.43	4.90	2.34	1.36	57.3	56.3	1.34	0.35	1.23	1.07	0.07	2.18



### Stellar Parameters For KIC 009279354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$4786^{+130}_{-144}$	$4.579^{+0.060}_{-0.030}$	$-0.200^{+0.300}_{-0.300}$	$0.704^{+0.054}_{-0.066}$	$0.686^{+0.079}_{-0.053}$	$2.768^{+0.755}_{-0.382}$
	+3%/-3%	+1%/-1%	+150%/-150%	+8%/-9%	+12%/-8%	+27%/-14%
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 009279354-01 / KOI 2060.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-69 \pm 12$	$2.29^{+0.54}_{-0.48}$	$1327^{+44}_{-49}$	$3063^{+244}_{-196}$	$8.472^{+5.611}_{-3.017}$
Alt.	$-55 \pm 11$	$2.06^{+0.53}_{-0.50}$	$1333^{+42}_{-48}$	$3069^{+283}_{-220}$	$8.420^{+6.795}_{-3.233}$

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

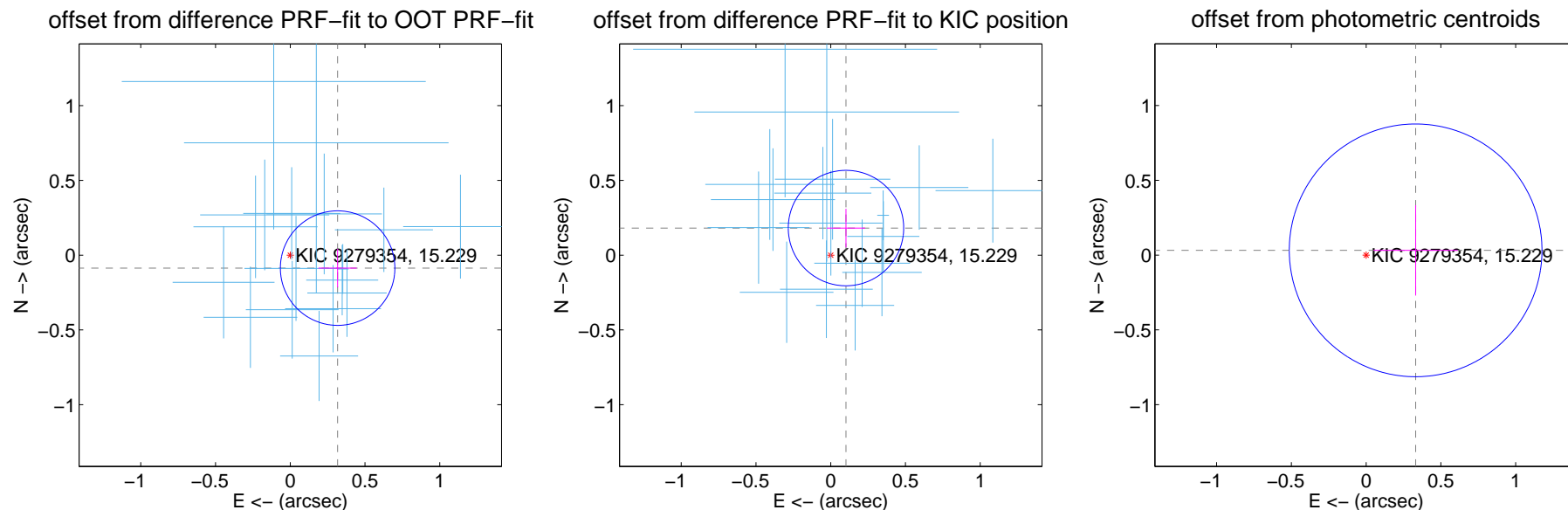
## DV Centroid Data

Supplemental centroid analysis for 009279354-01. Kepler magnitude: 15.23. Transit SNR 37.03

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

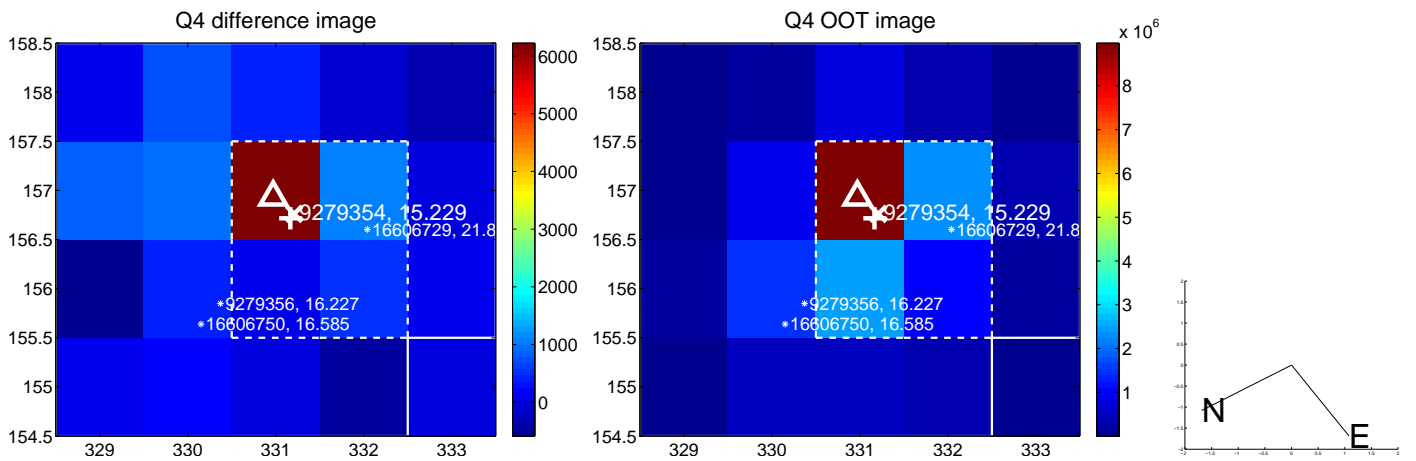
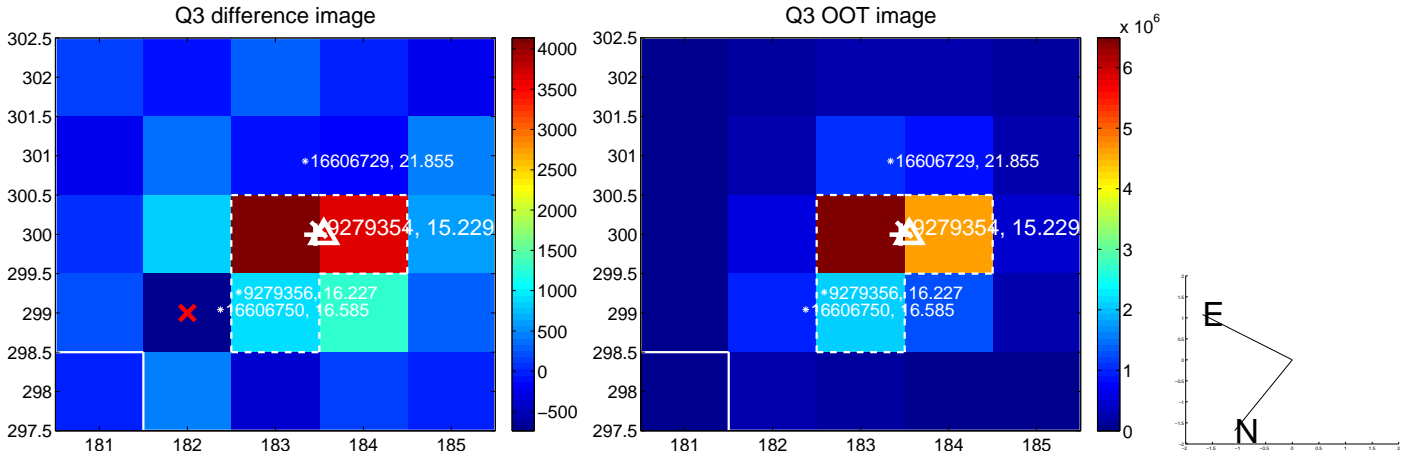
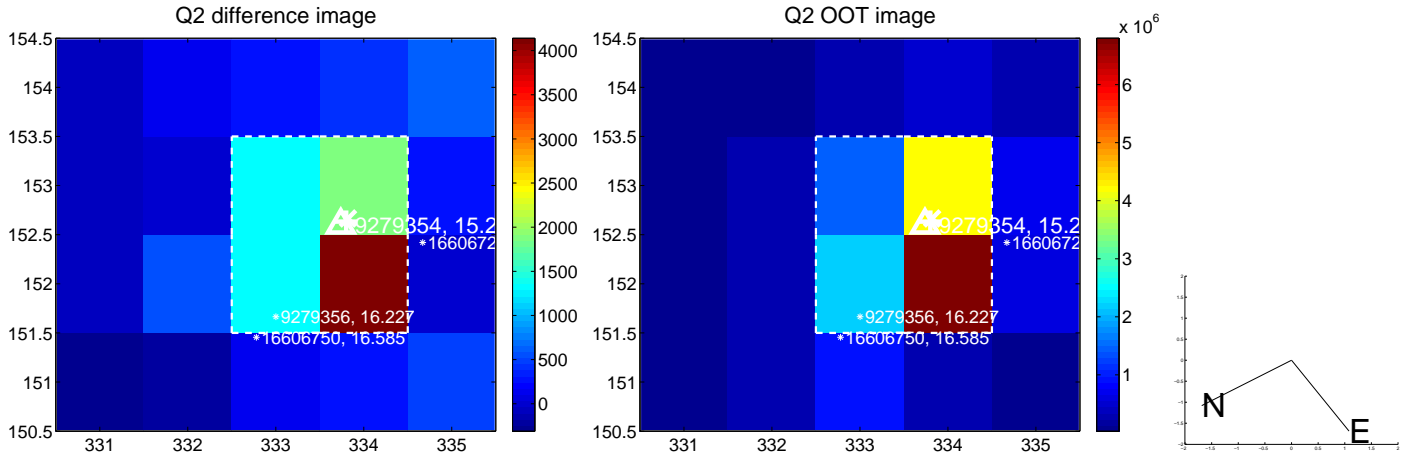
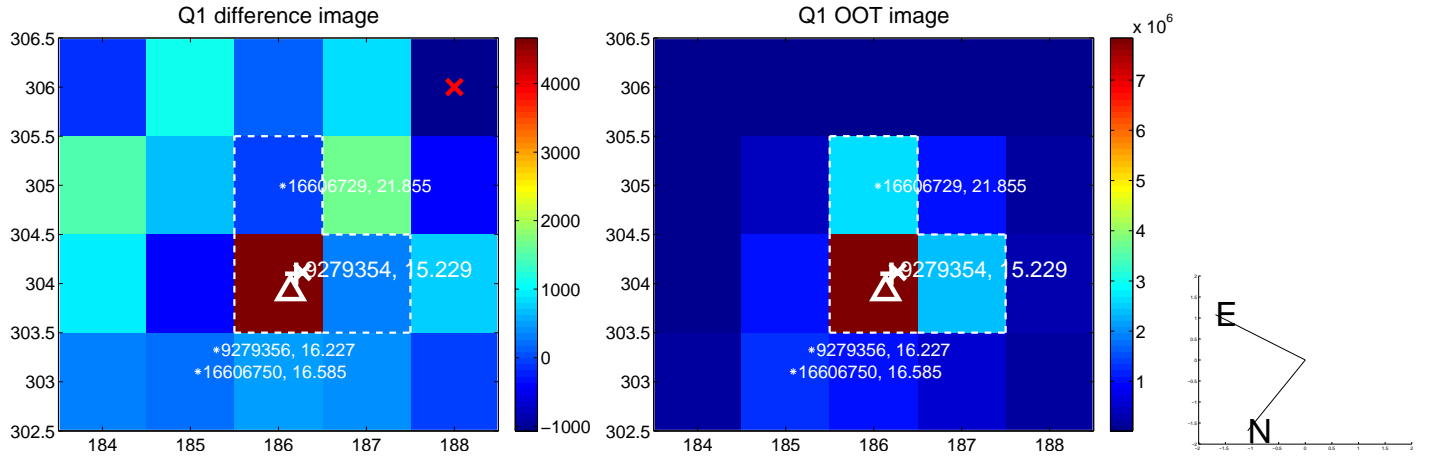
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.328 \pm 0.128$	2.57	$-0.317 \pm 0.128$	$-0.087 \pm 0.129$
PRF-fit source offset from KIC position	$0.208 \pm 0.129$	1.62	$-0.102 \pm 0.128$	$0.181 \pm 0.129$
photometric centroid source offset	$0.33 \pm 0.28$	1.18	$-0.33 \pm 0.28$	$0.03 \pm 0.30$



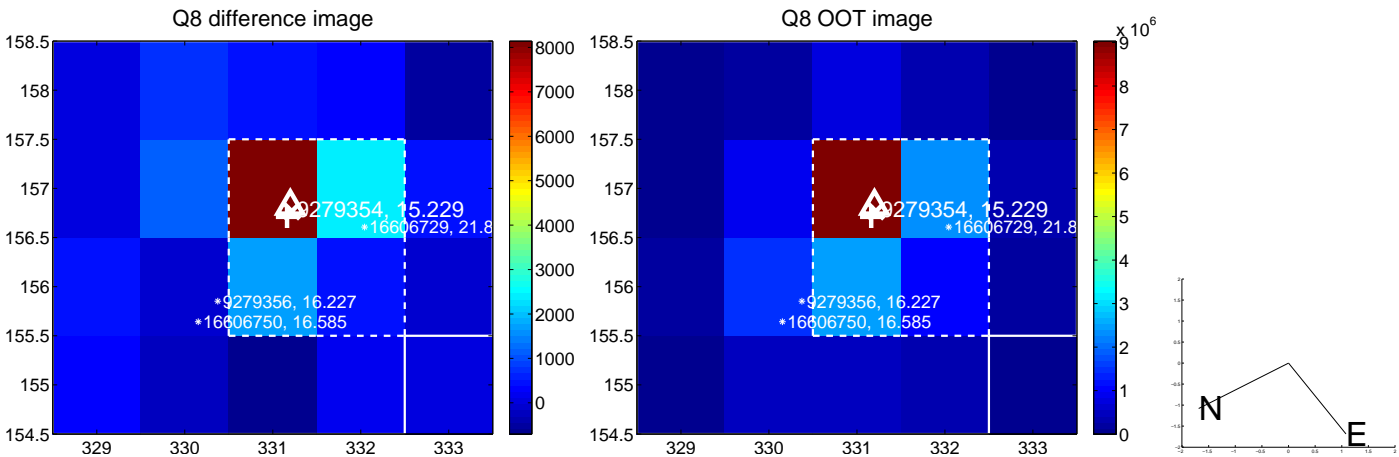
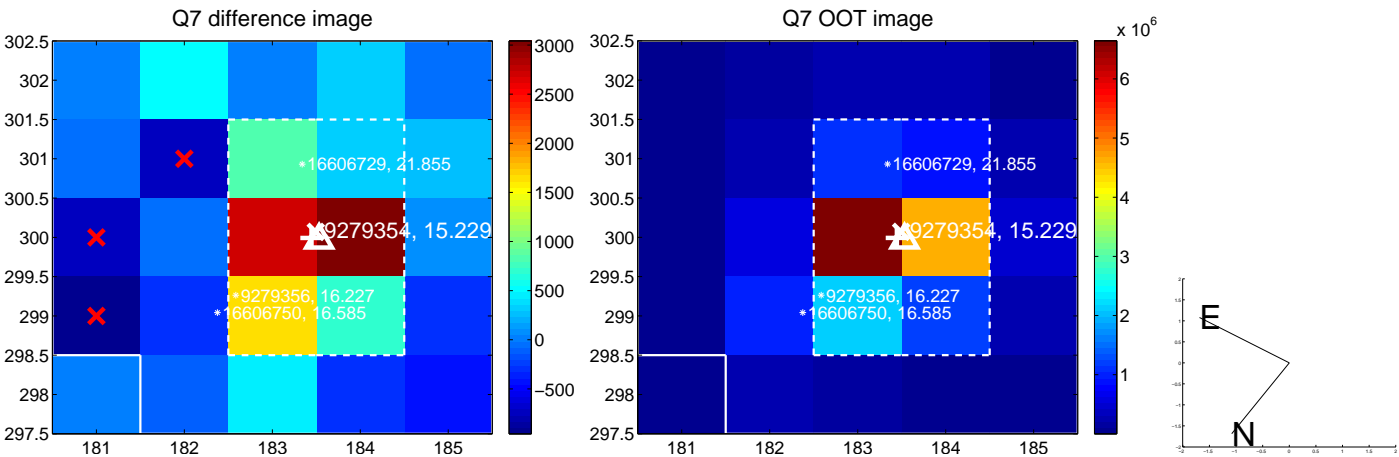
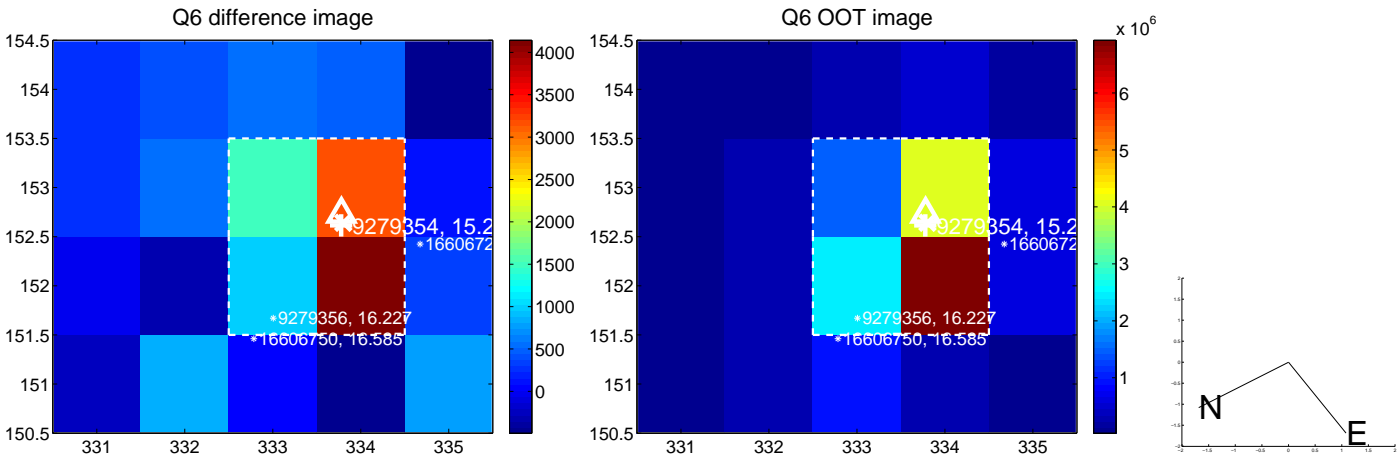
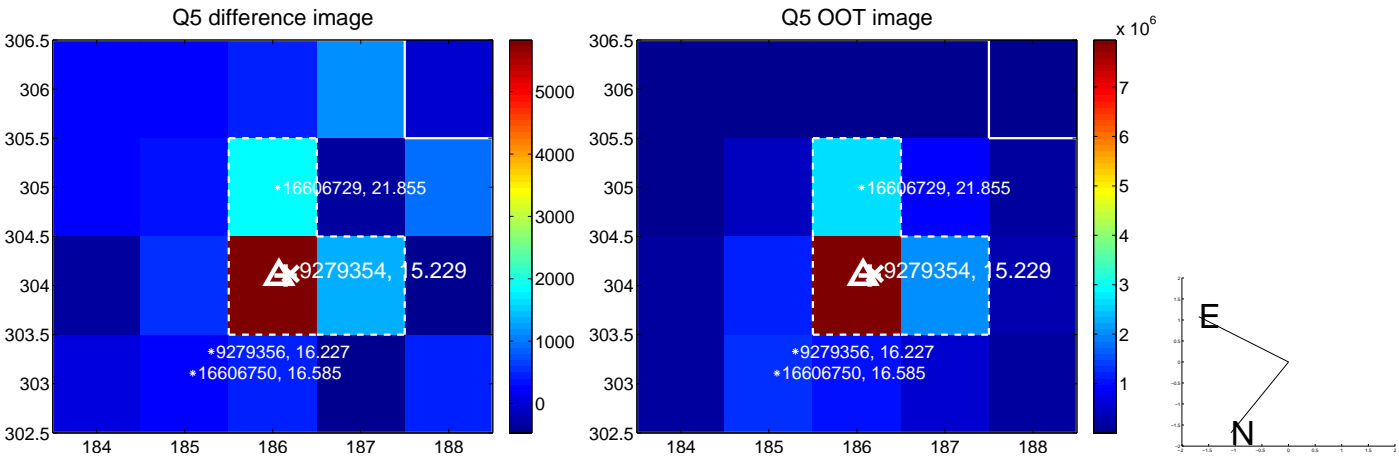
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



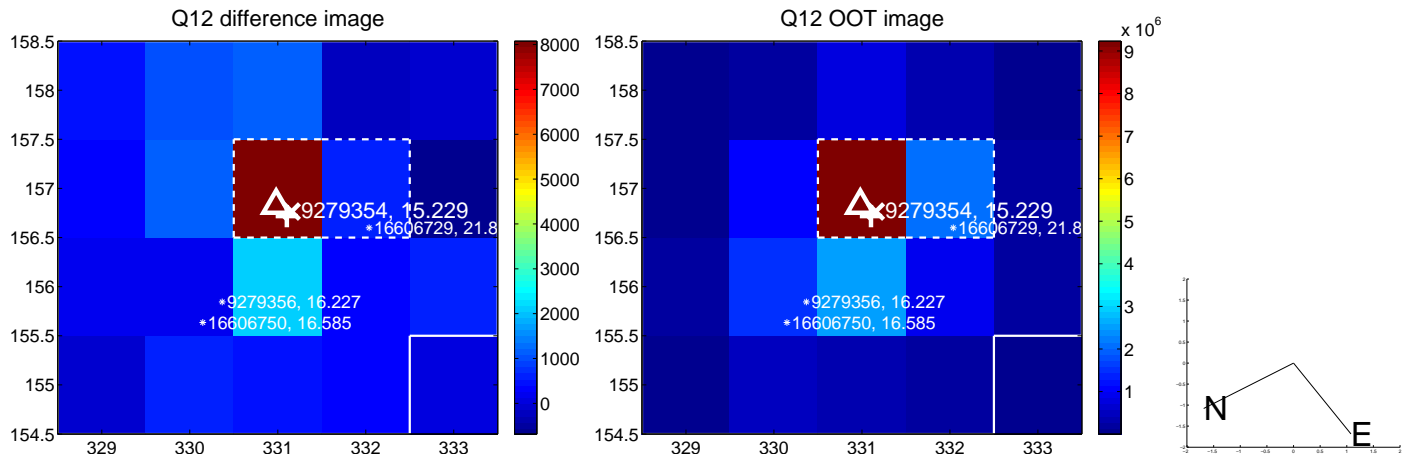
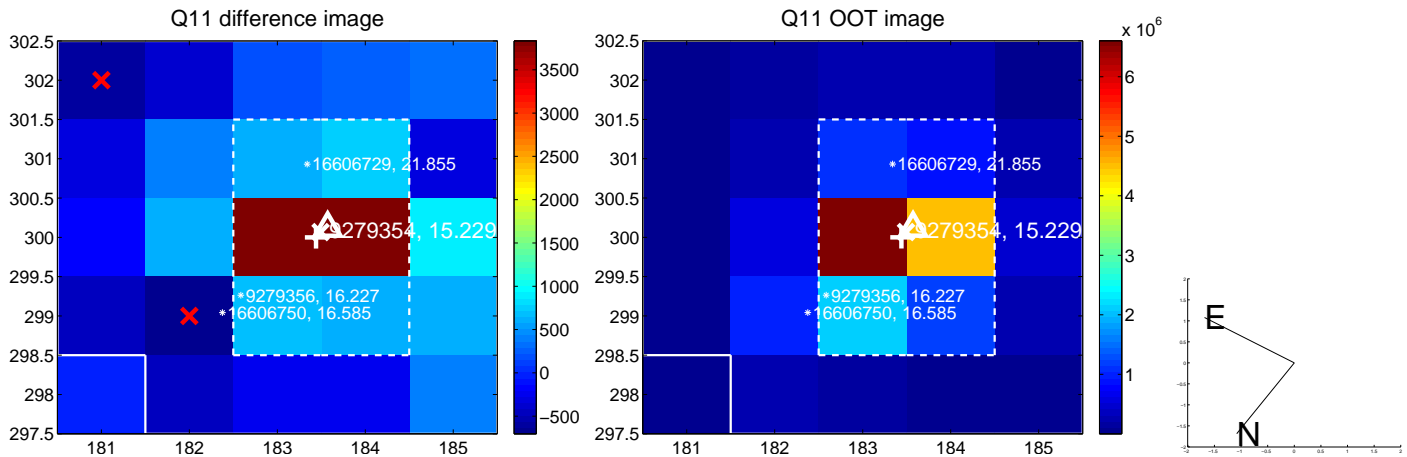
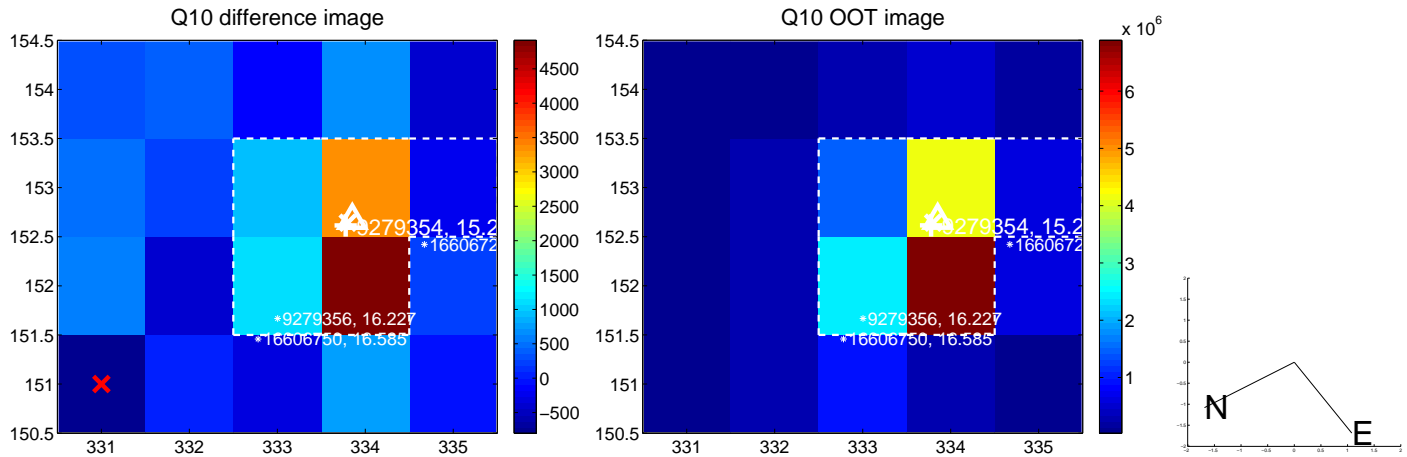
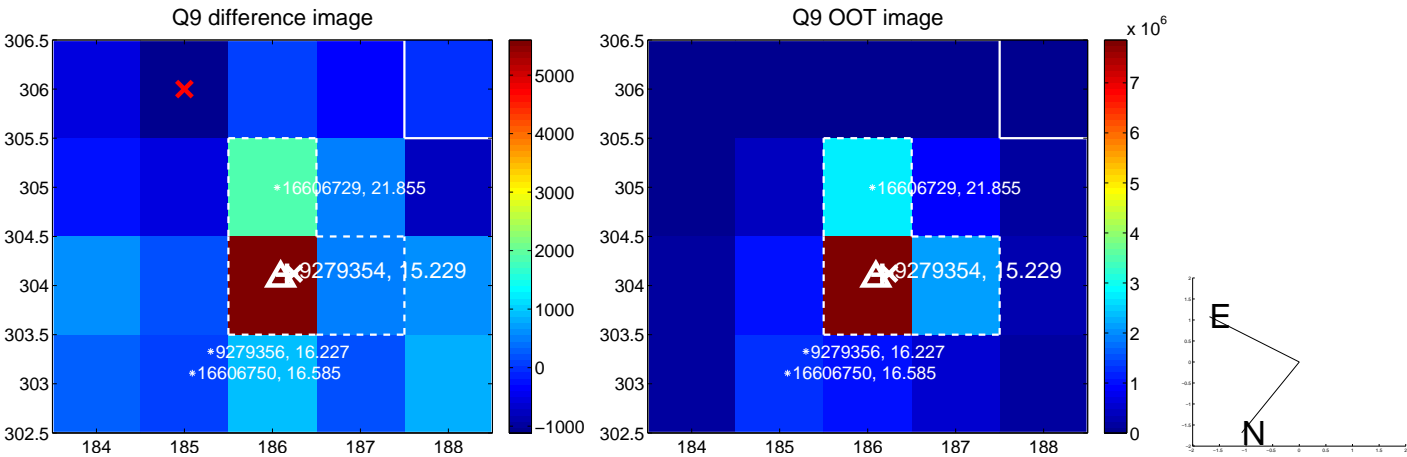
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



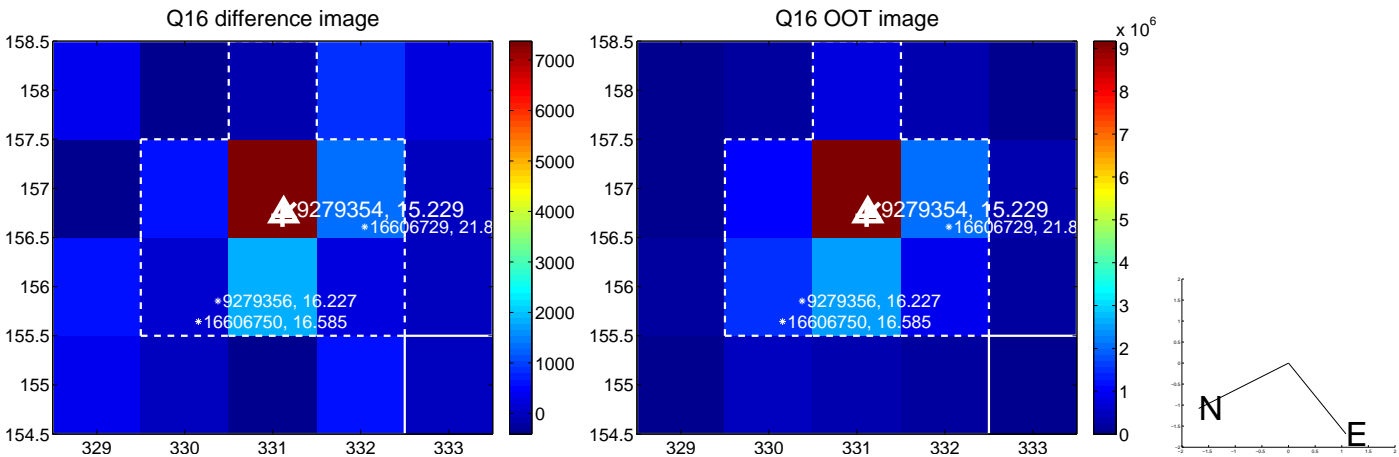
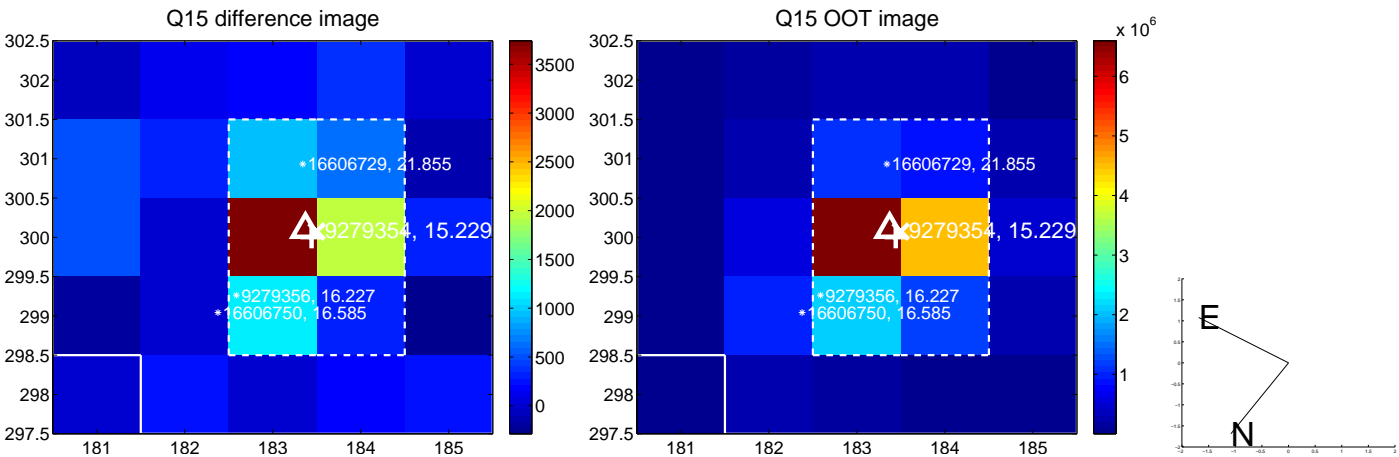
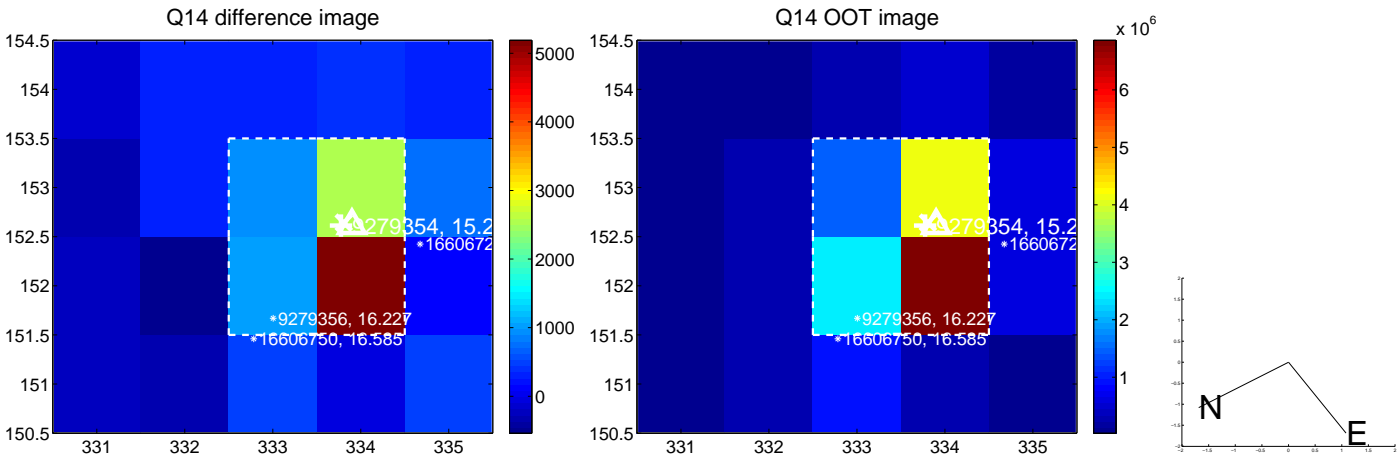
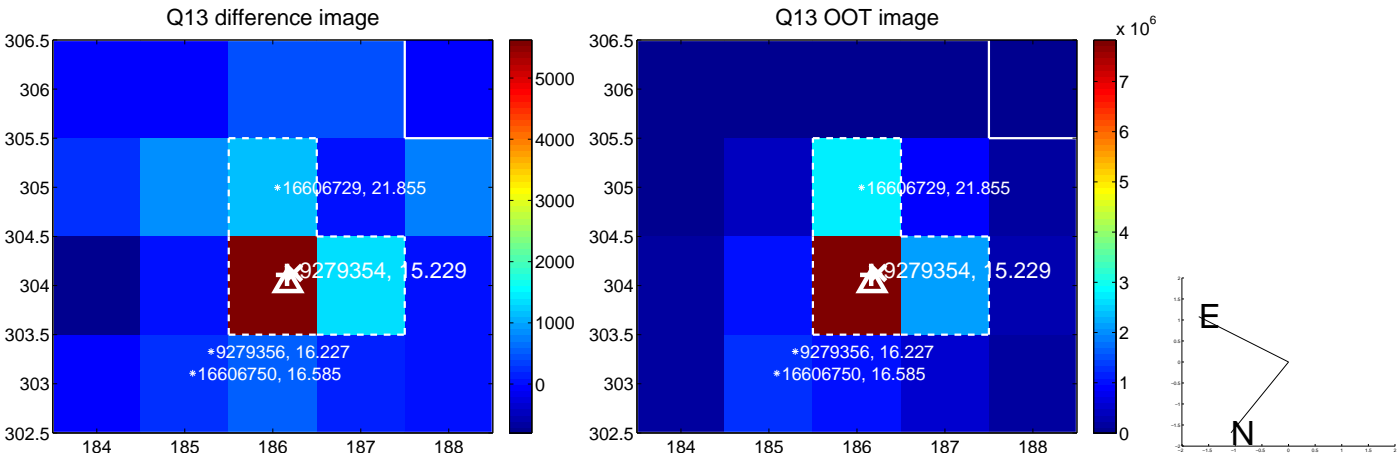
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



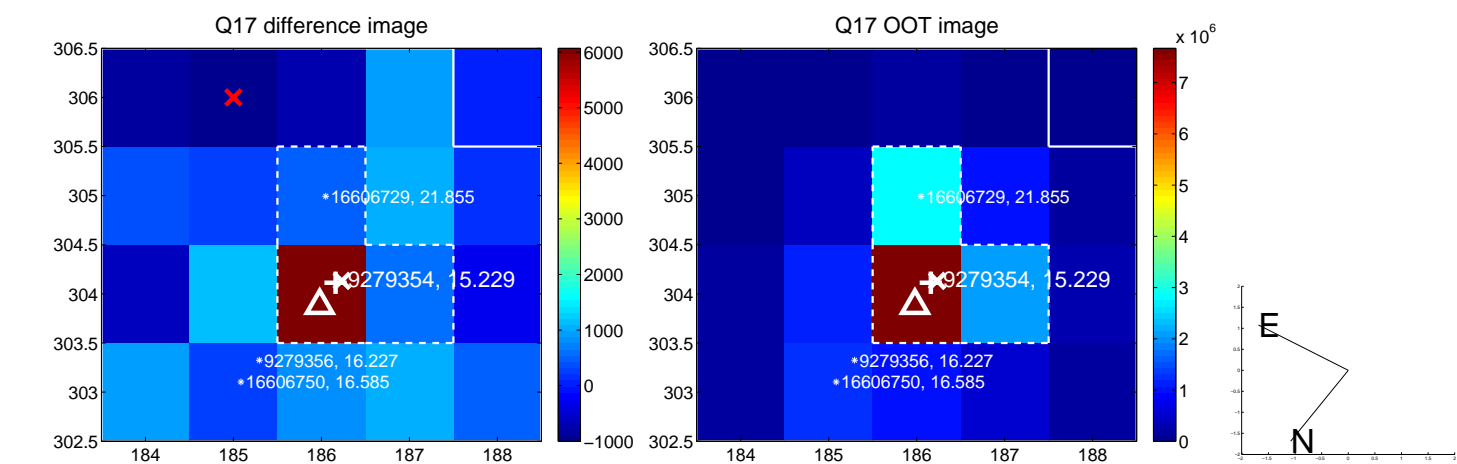
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



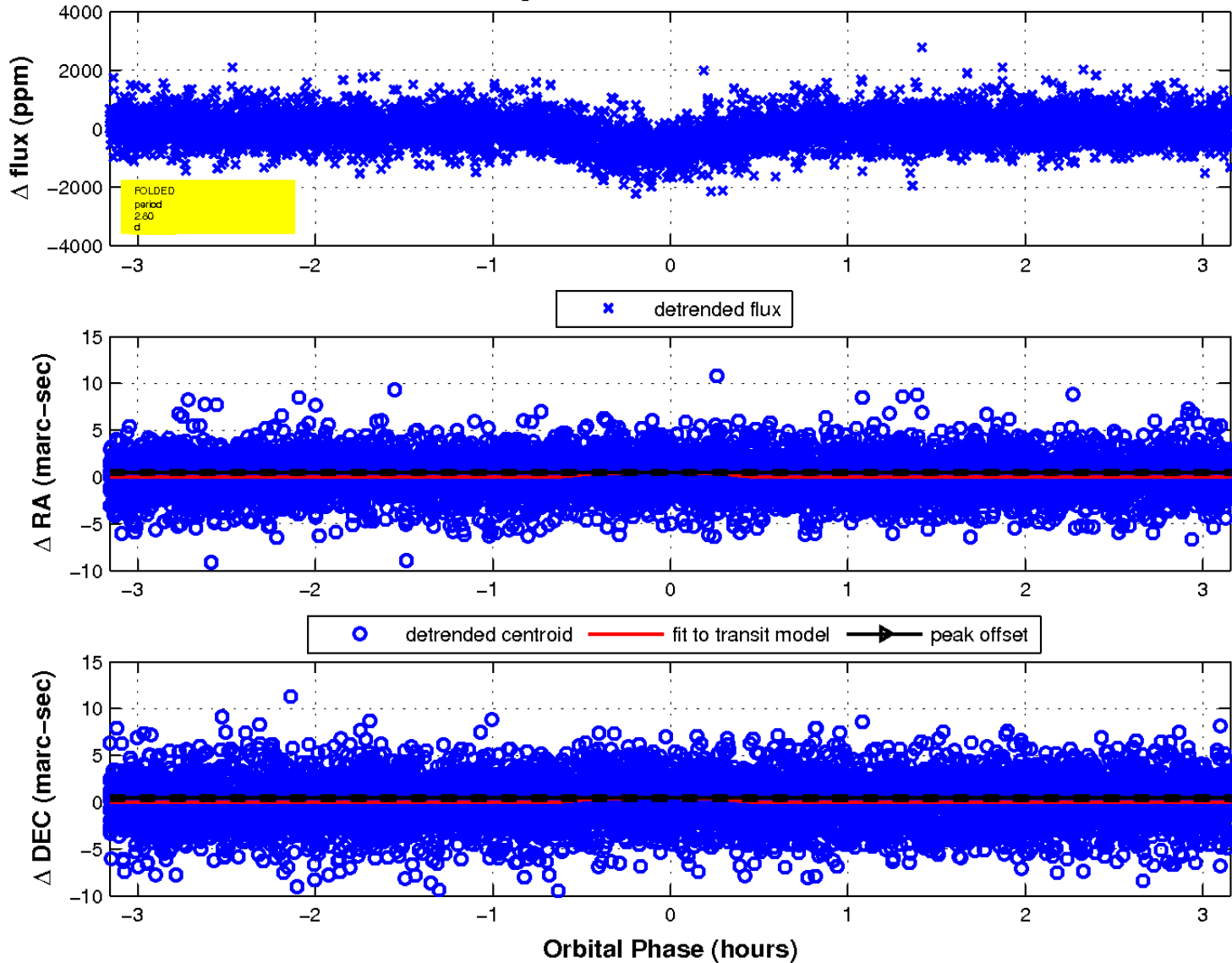
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

