

# KIC 011017901

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011017901-01	OBS	1800.01	7.794302	137.260331	3259.3	1.099	296.1	373.2	0.98	5494	7.80	143.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011017901-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

**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.

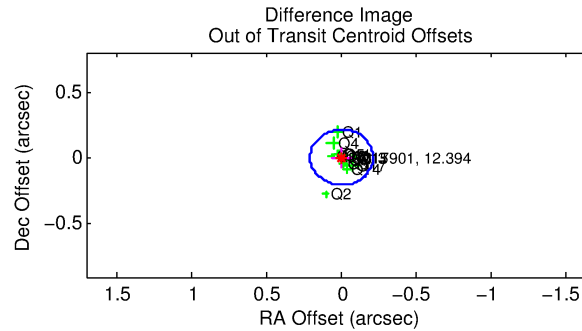
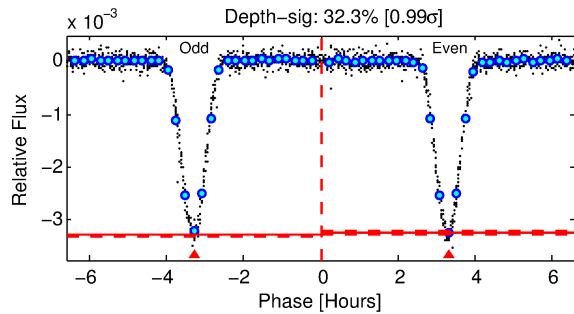
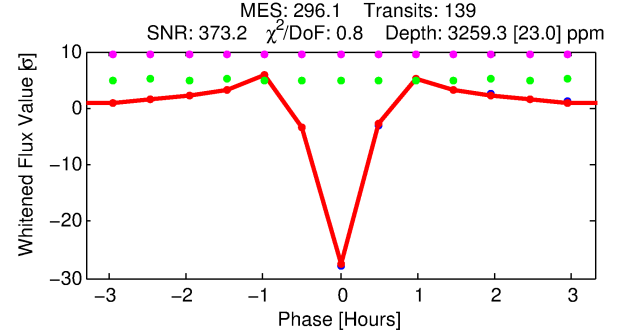
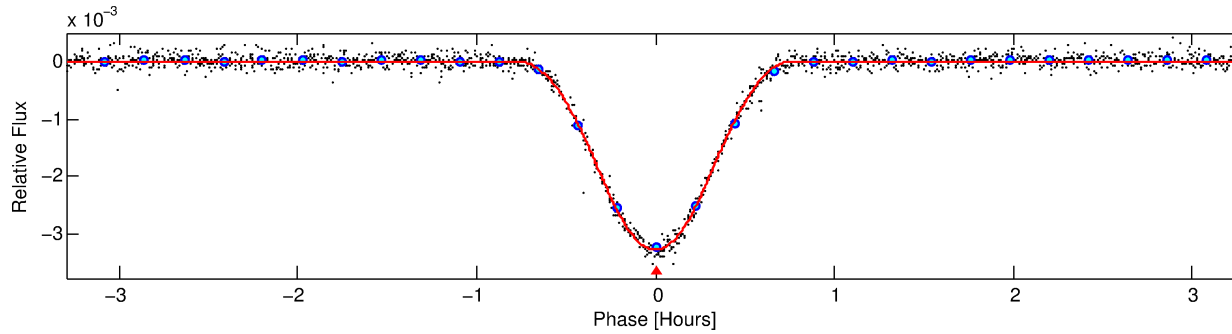
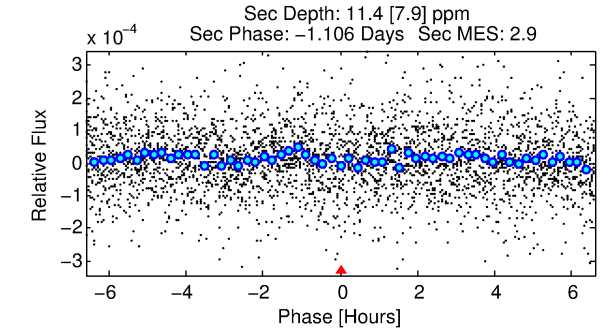
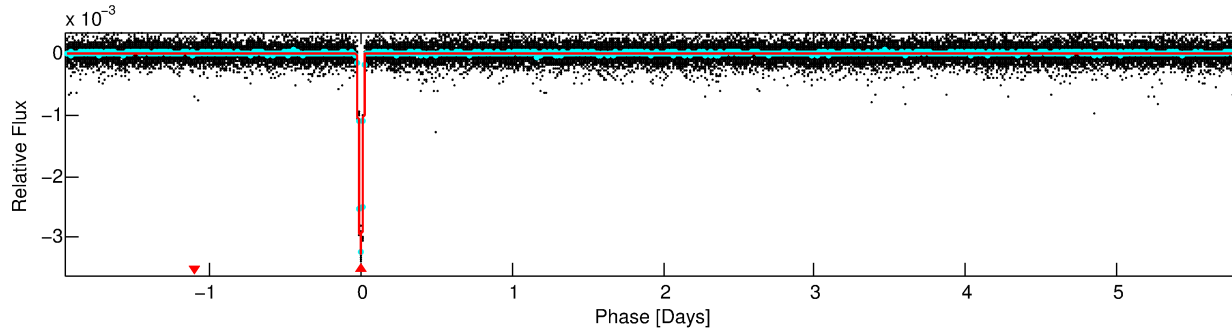
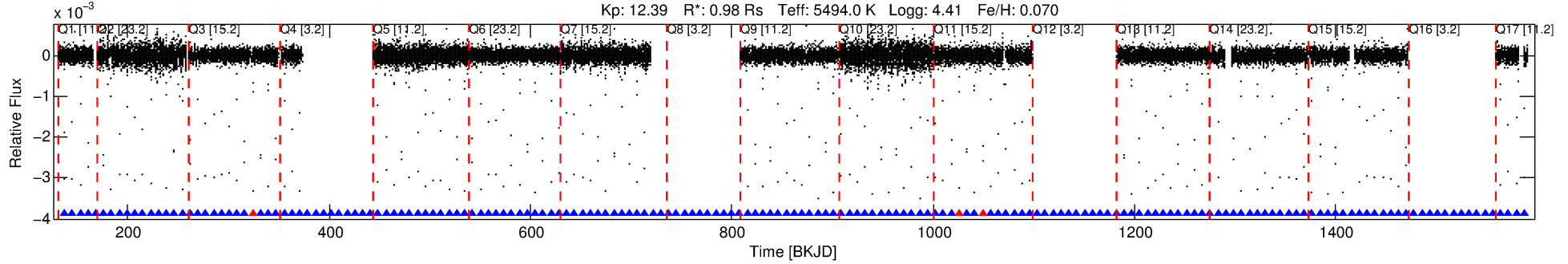
## Ephemeris Match Information For 011017901-01

No Significant Match Found

# DV One-Page Summary

KIC: 11017901 Candidate: 1 of 1 Period: 7.794 d  
KOI: K01800.01 Name: Kepler-447b Corr: 0.952

Kp: 12.39 R\*: 0.98 Rs Teff: 5494.0 K Logg: 4.41 Fe/H: 0.070



## DV Fit Results:

Period = 7.79430 [0.00000] d  
Epoch = 137.2603 [0.0001] BKJD  
Rp/R\* = 0.0728 [0.0055]  
a/R\* = 27.52 [1.15]  
b = 0.95 [0.01]  
Seff = 143.27 [28.52]  
Teff = 882 [44] K  
Rp = 7.80 [1.17] Re  
a = 0.0741 [0.0090] AU  
Ag = 0.57 [0.42] [-1.03σ]  
Teffp = 1184 [211] K [1.40σ]

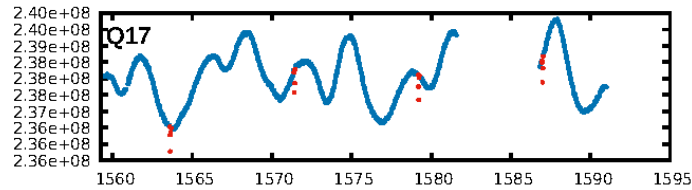
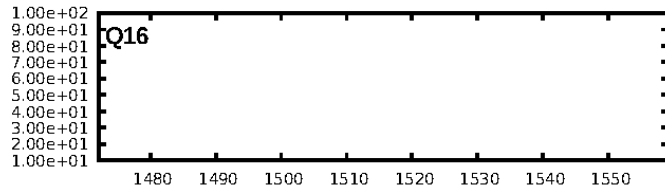
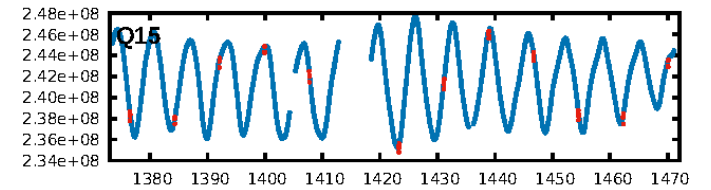
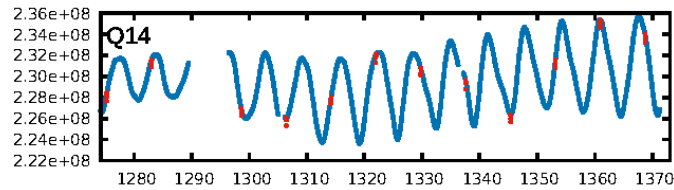
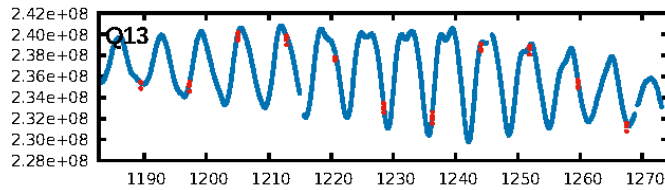
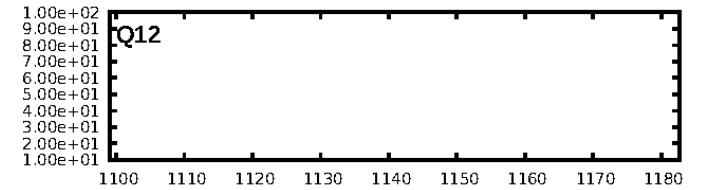
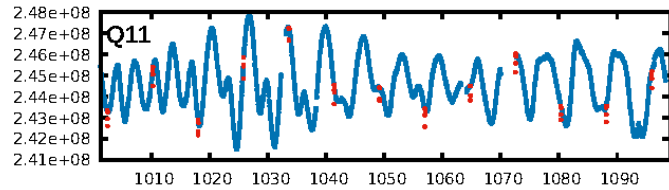
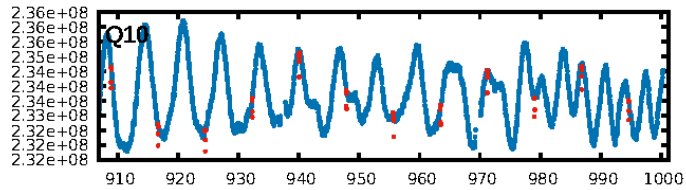
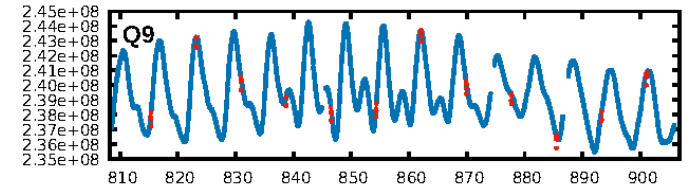
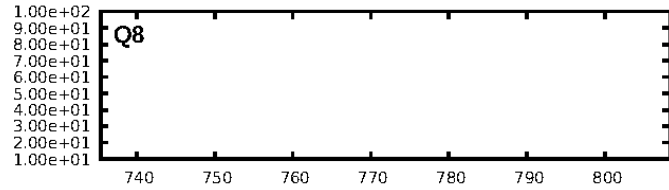
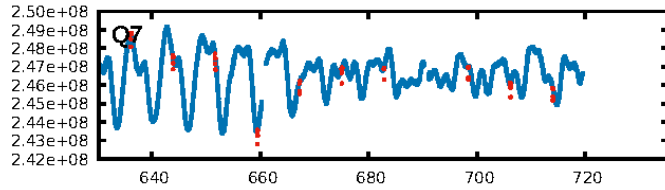
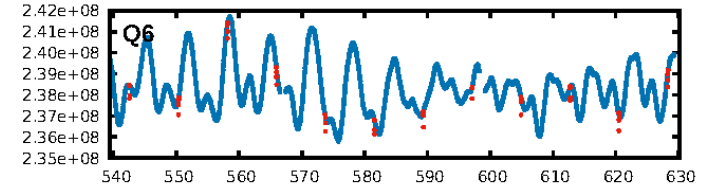
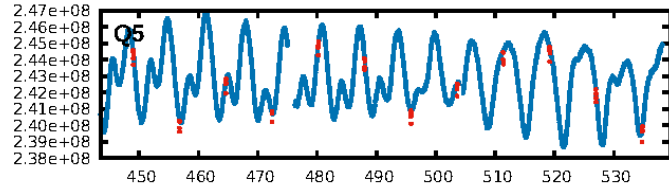
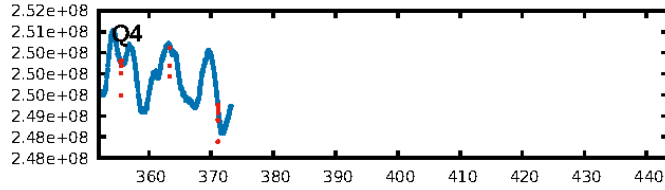
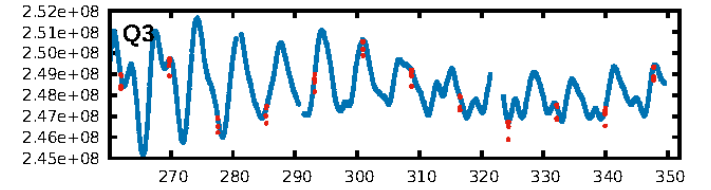
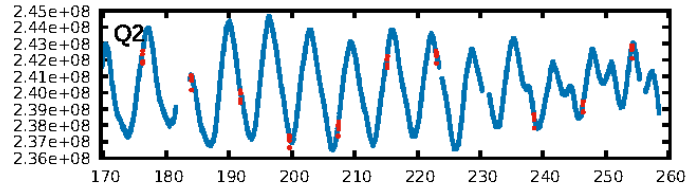
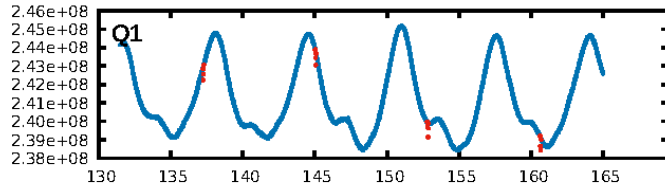
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 83.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.98 [125/128]  
GhostDiagnostic-chr: 2.577  
Centroid-sig: 0.2%  
Centroid-so: 0.374 arcsec [14.09σ]  
OotOffset-rm: 0.008 arcsec [0.12σ]  
KicOffset-rm: 0.443 arcsec [5.98σ]  
OotOffset-st: 4/4/1/5 [14]  
KicOffset-st: 4/4/1/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

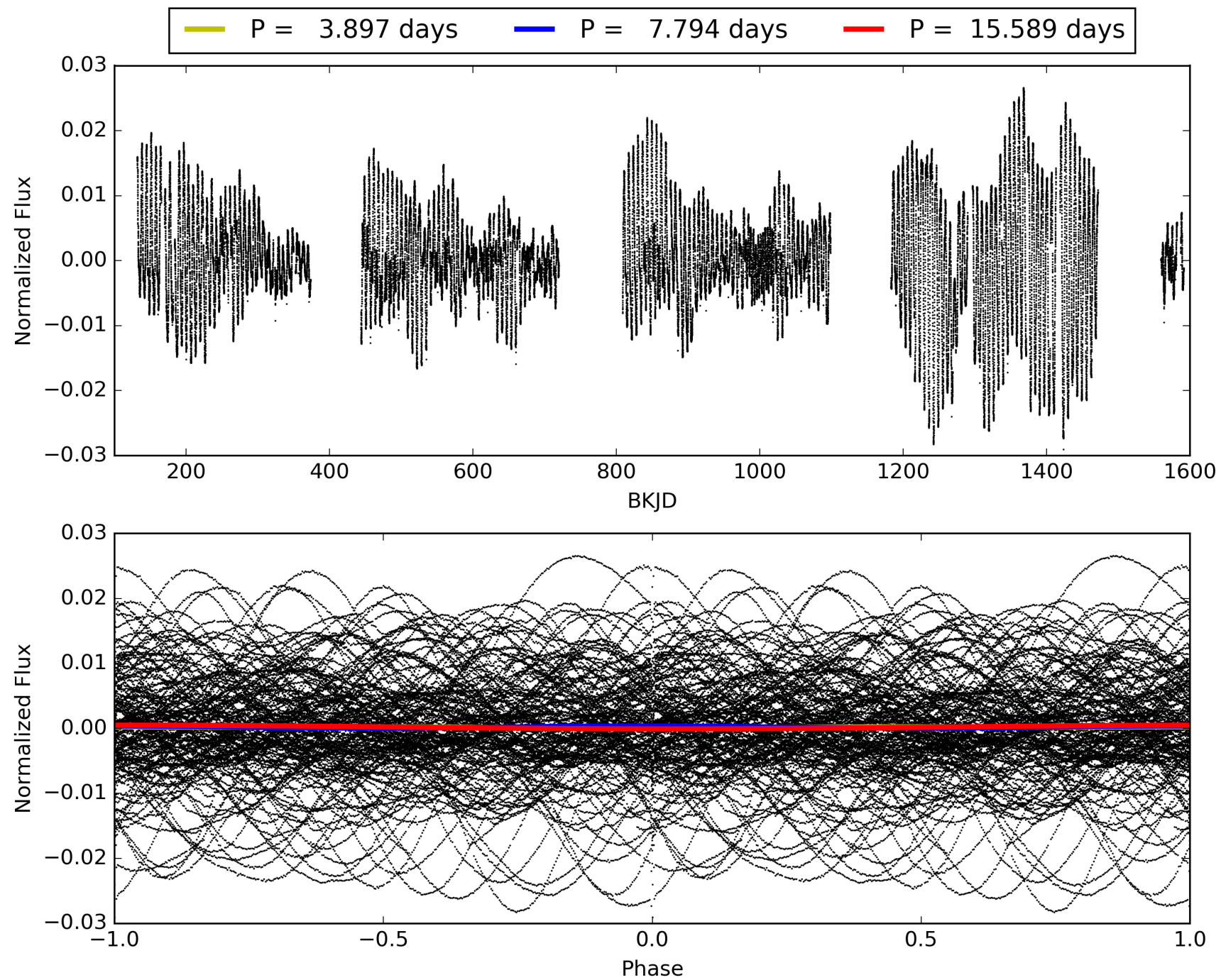
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:30:47 Z

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

## TCE 011017901-01, PDC Light Curves

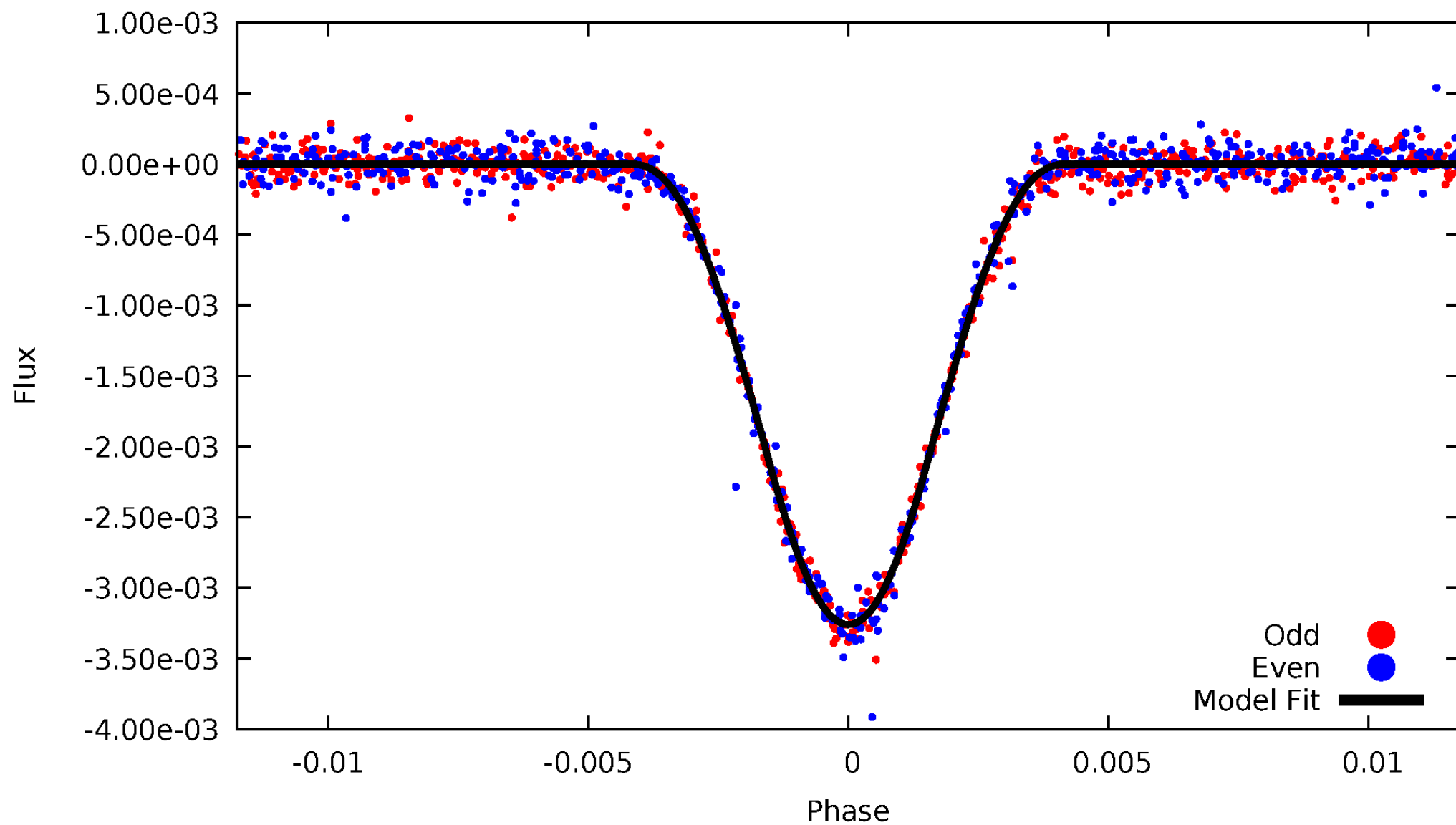


# TCE 011017901-01



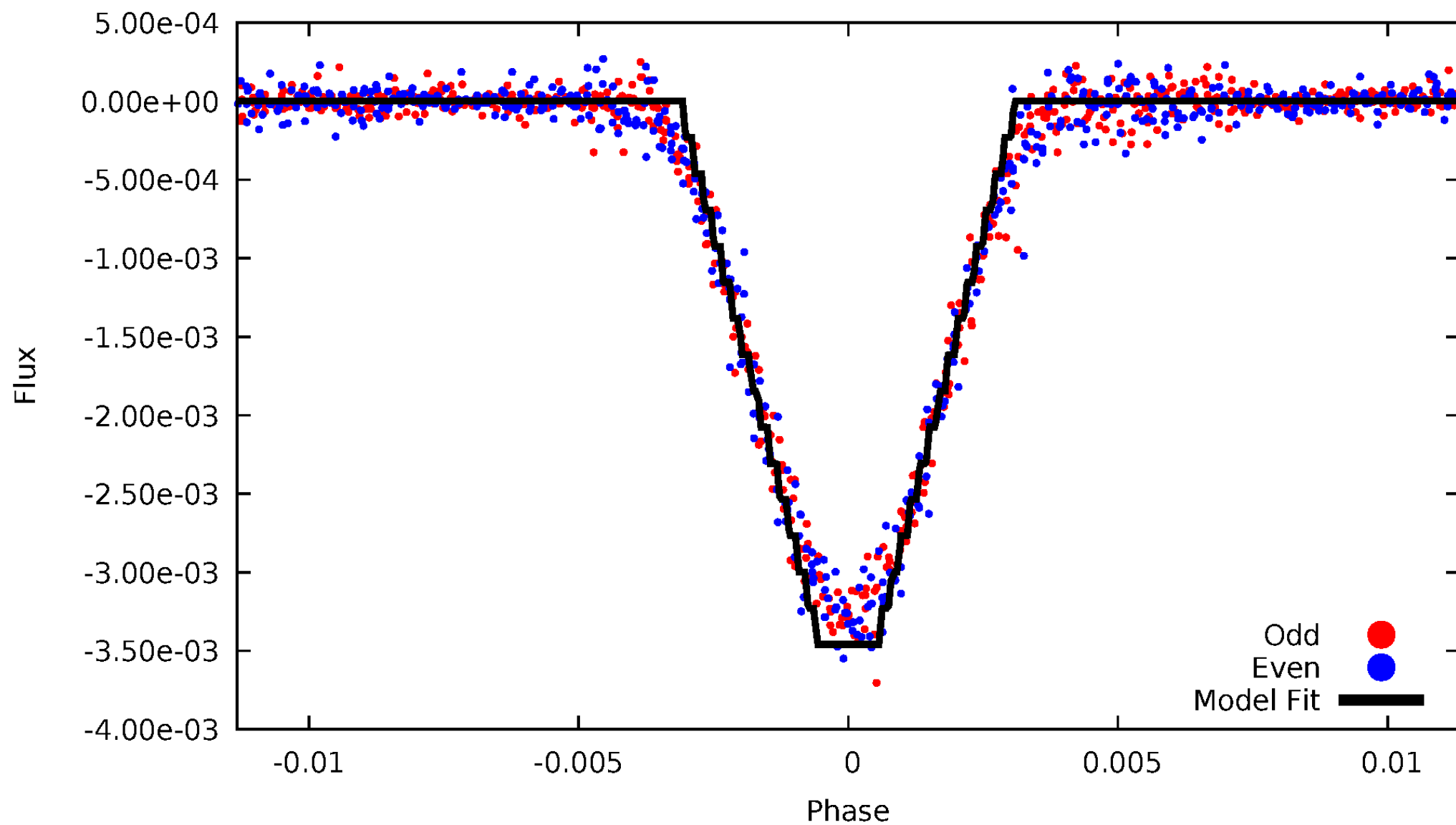
# DV Odd/Even

TCE 011017901-01



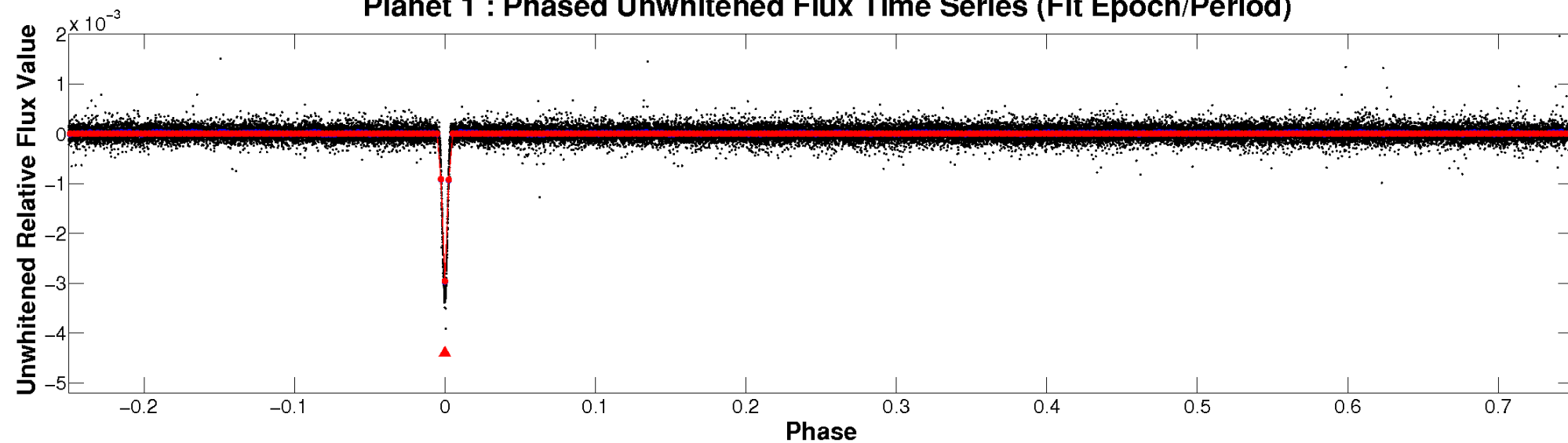
# ALT Odd/Even

TCE 011017901-01

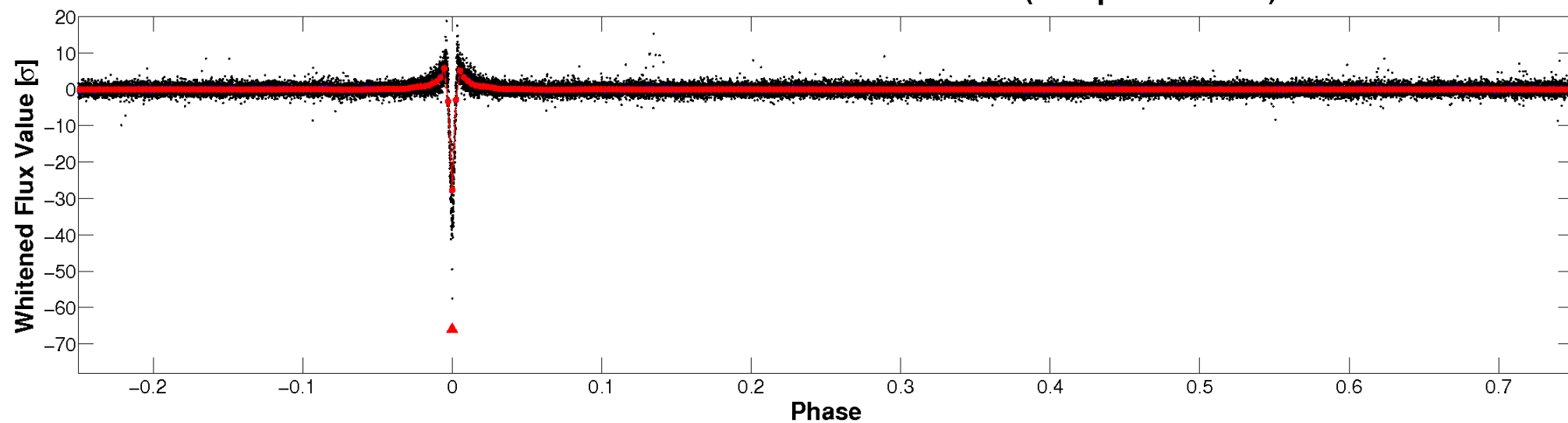


# Non-Whitened Vs. Whitened Light Curve

**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

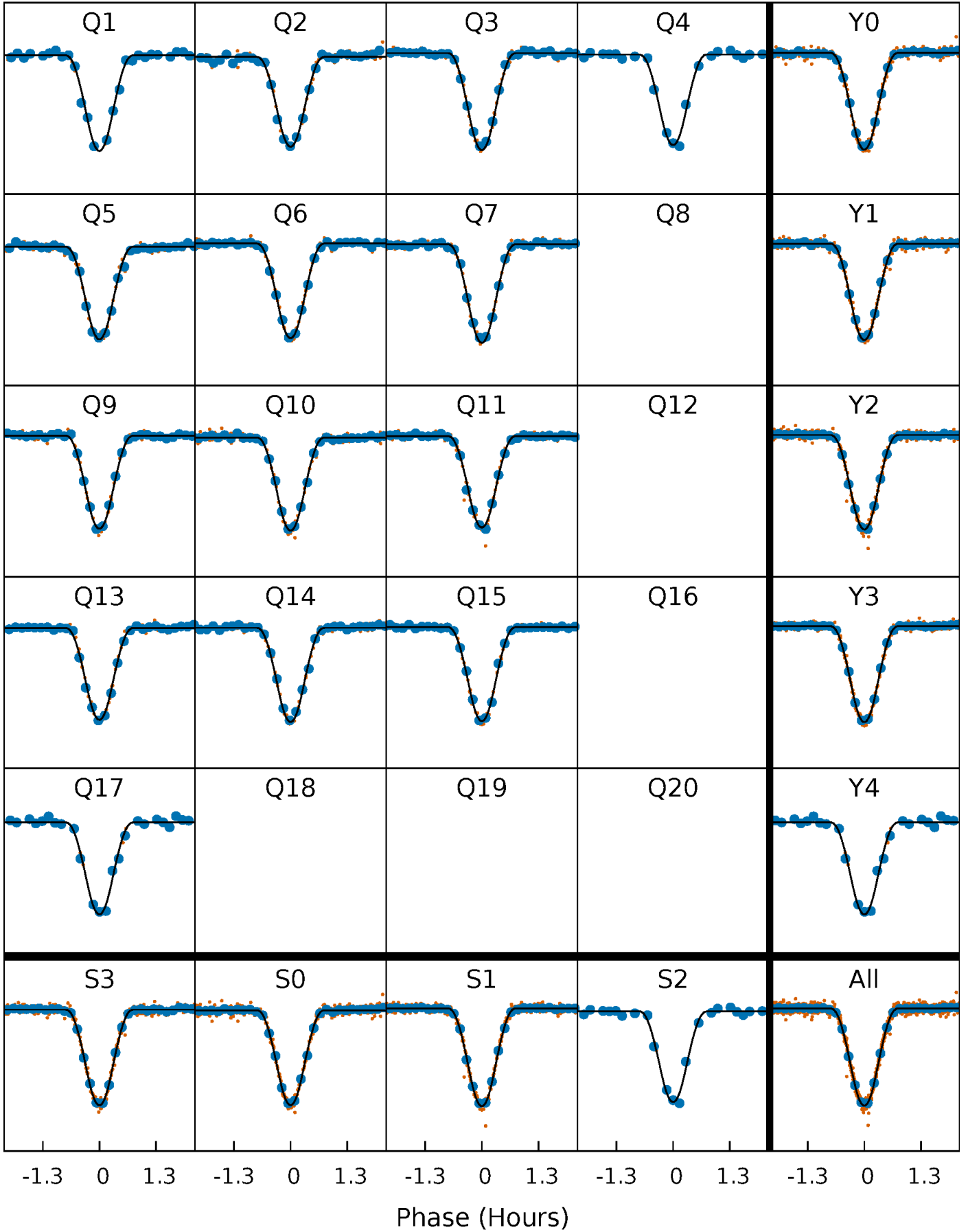
TCE 011017901-01   P= 7.794302 Days    $T_0=137.260331$  (BKJD)





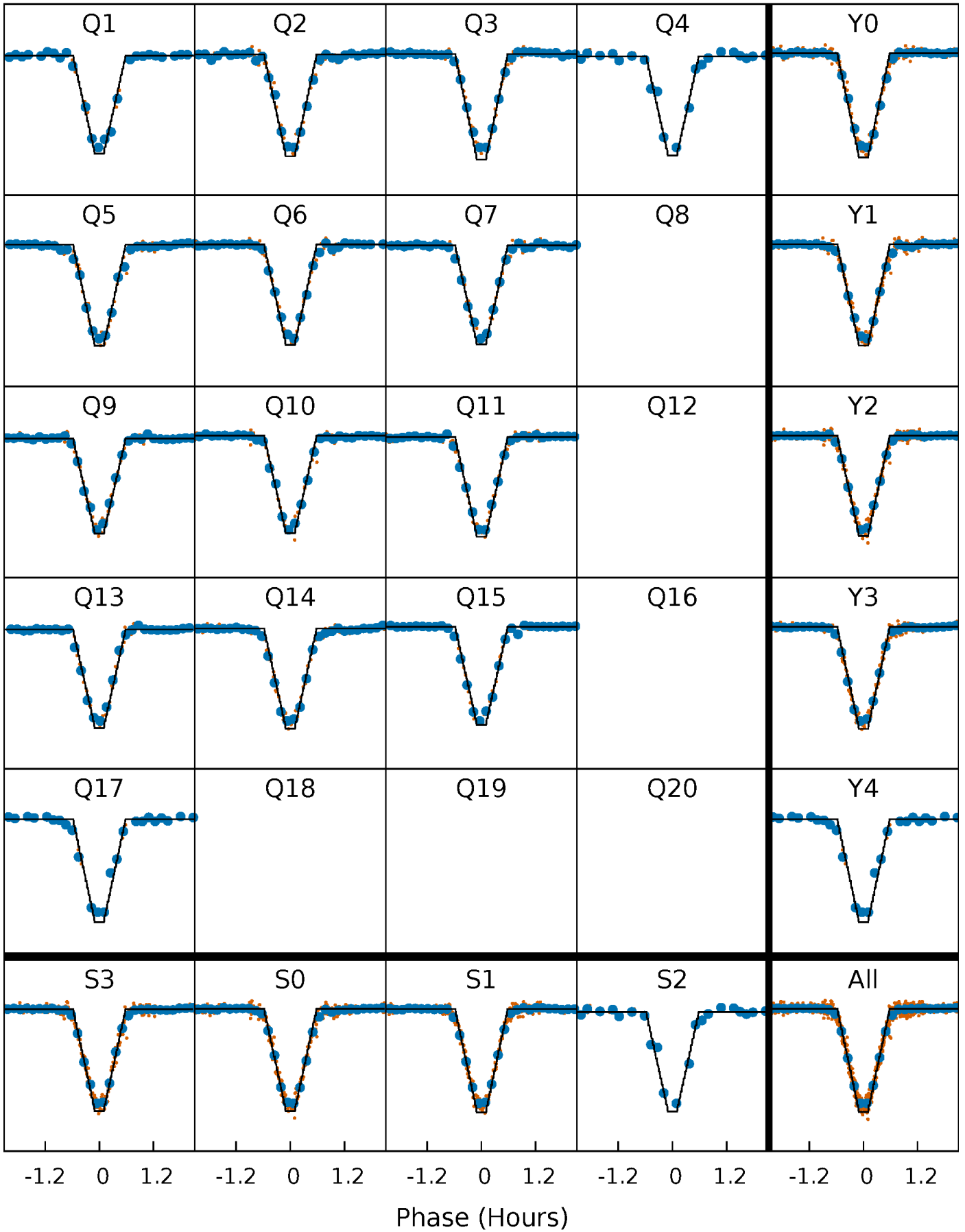
# DV Quarter-Phased Transit Curves

TCE 011017901-01   P= 7.794302 Days    $T_0=137.260331$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

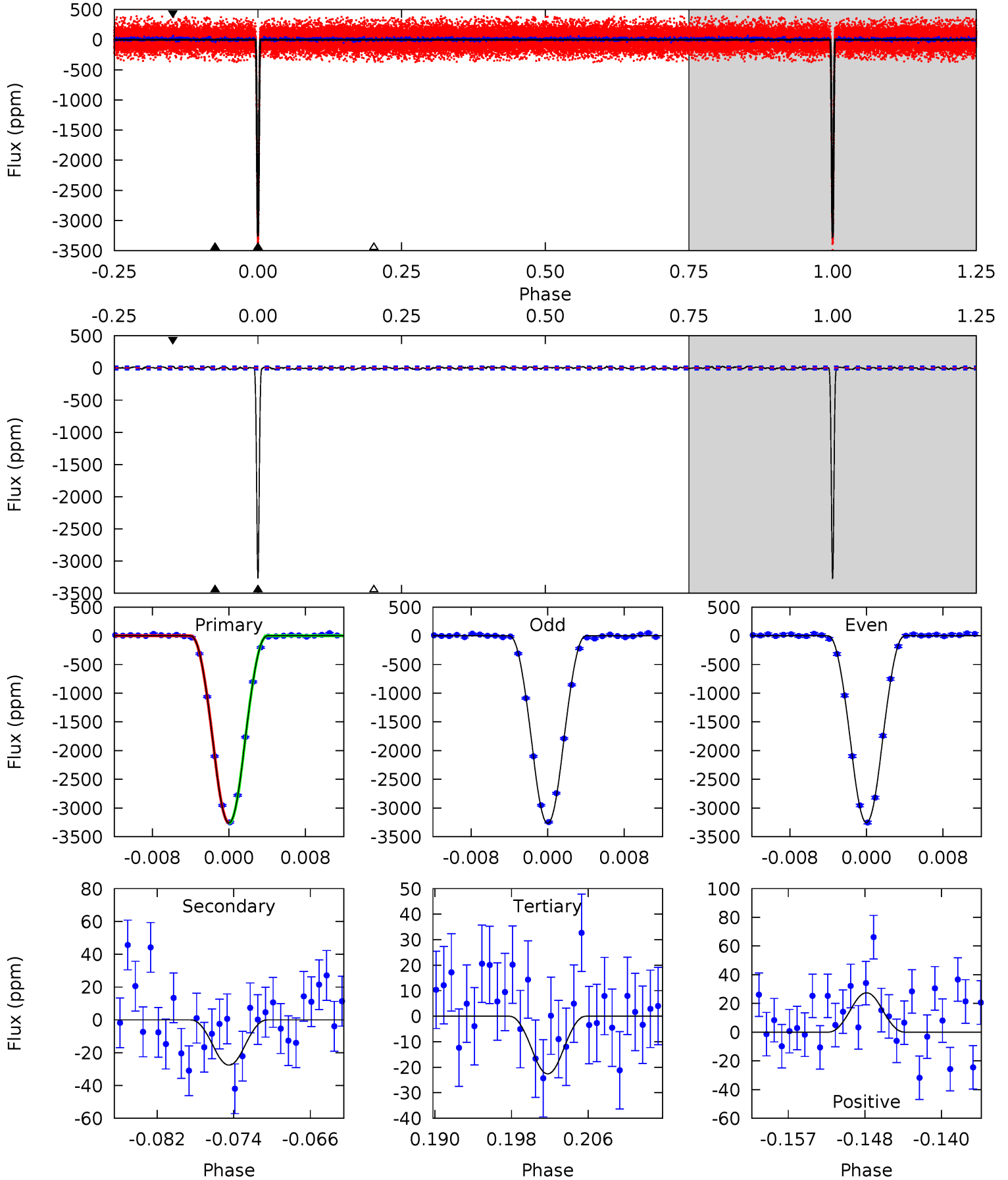
TCE 011017901-01   P= 7.794316 Days    $T_0=137.258985$  (BKJD)



# DV Model-Shift Uniqueness Test

011017901-01, P = 7.794302 Days, E = 129.466029 Days

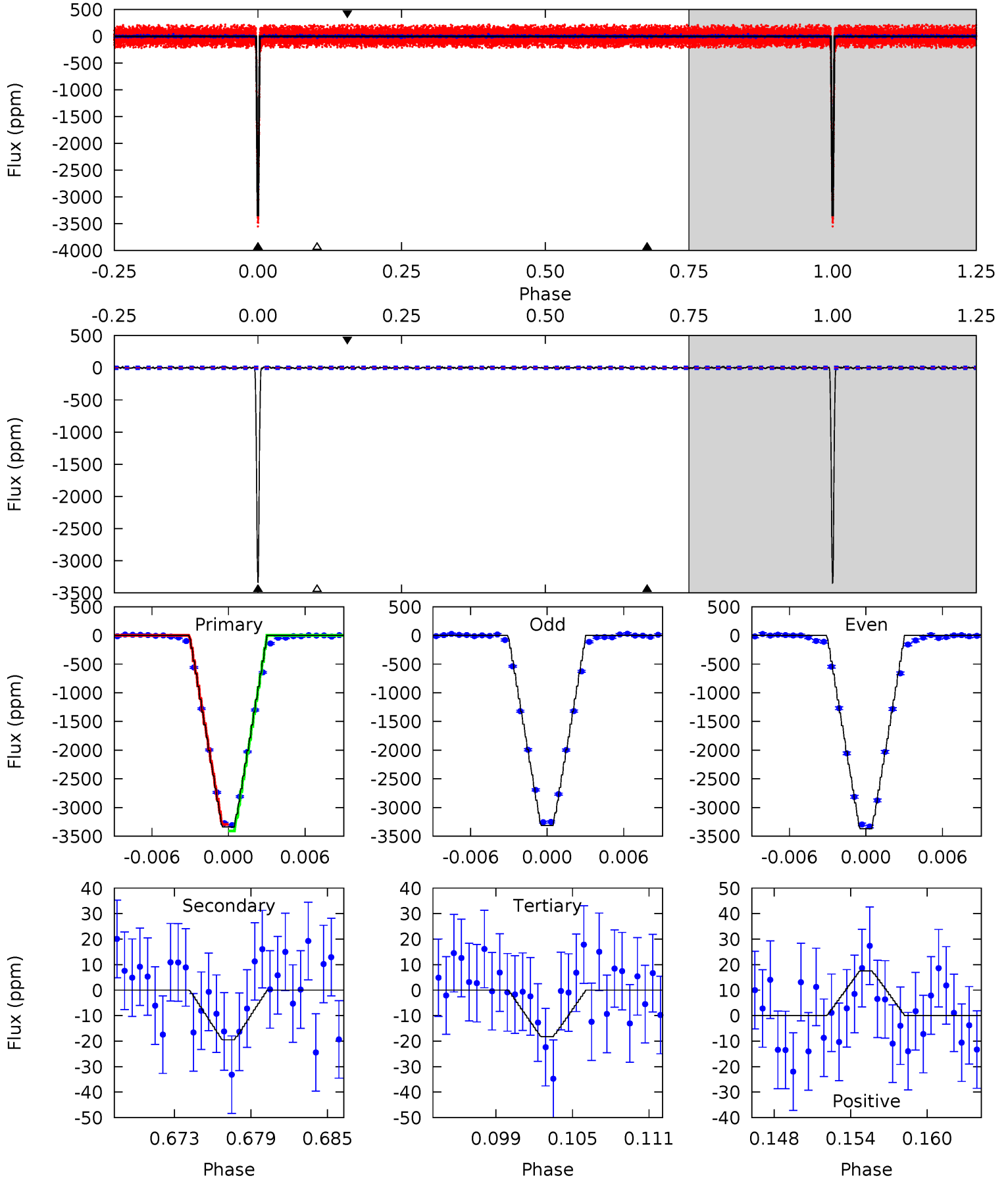
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
670.9	5.68	4.64	5.64	5.06	2.64	1.95	666.3	665.3	1.03	0.04	1.40	1.00	0.01	1.27



# Alt Model-Shift Uniqueness Test

011017901-01, P = 7.794316 Days, E = 129.464669 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
855.9	4.99	4.68	4.49	5.12	2.74	1.46	851.3	851.5	0.31	0.50	7.06	1.00	0.01	14.2



### Stellar Parameters For KIC 011017901

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5494^{+82}_{-73}$	$4.405^{+0.110}_{-0.090}$	$0.070^{+0.150}_{-0.150}$	$0.982^{+0.128}_{-0.105}$	$0.893^{+0.059}_{-0.041}$	$1.328^{+0.581}_{-0.372}$
	+1%/-1%	+2%/-2%	+214%/-214%	+13%/-11%	+7%/-5%	+44%/-28%
Source	SPE87	SPE87	SPE87	DSEP		

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

### Secondary Eclipse Parameters for KIC 011017901-01 / KOI 1800.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-28 \pm 5$	$7.73^{+0.92}_{-0.78}$	$1229^{+48}_{-44}$	$2302^{+84}_{-90}$	$1.376^{+0.474}_{-0.351}$
Alt.	$-19 \pm 4$	$6.30^{+0.69}_{-0.73}$	$1228^{+44}_{-43}$	$2325^{+93}_{-92}$	$1.491^{+0.512}_{-0.400}$

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

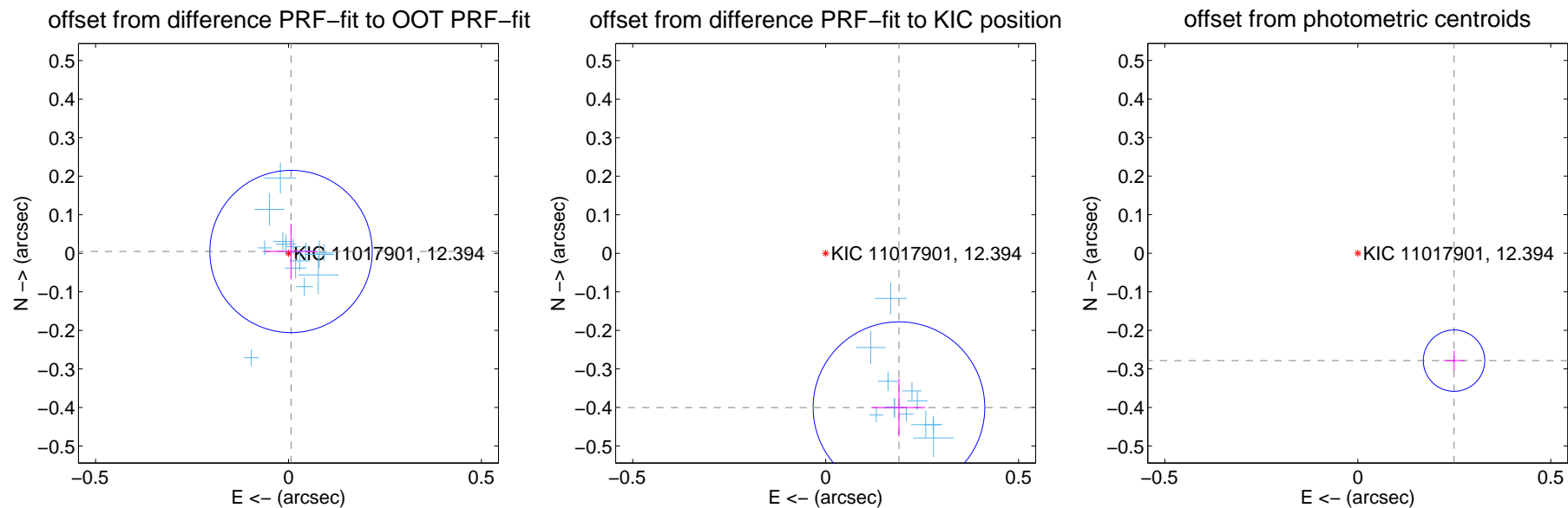
## DV Centroid Data

Supplemental centroid analysis for 011017901-01. Kepler magnitude: 12.39. Transit SNR 373.23

There are 14 quarters with good PRF difference image offsets

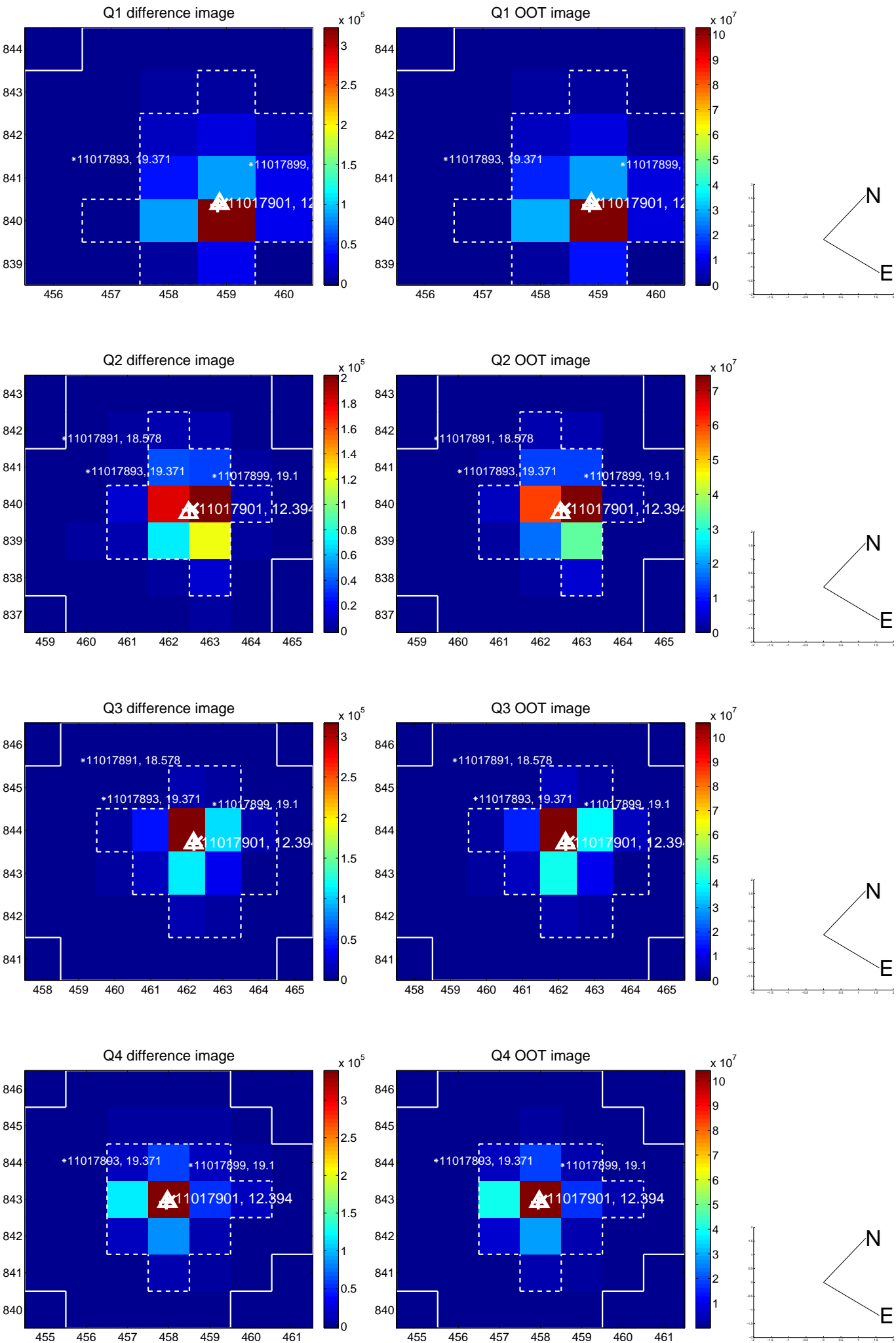
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.008 \pm 0.070$	0.12	$-0.007 \pm 0.068$	$0.005 \pm 0.072$
PRF-fit source offset from KIC position	$0.443 \pm 0.074$	5.98	$-0.190 \pm 0.069$	$-0.400 \pm 0.076$
photometric centroid source offset	$0.37 \pm 0.03$	14.09	$-0.25 \pm 0.03$	$-0.28 \pm 0.03$



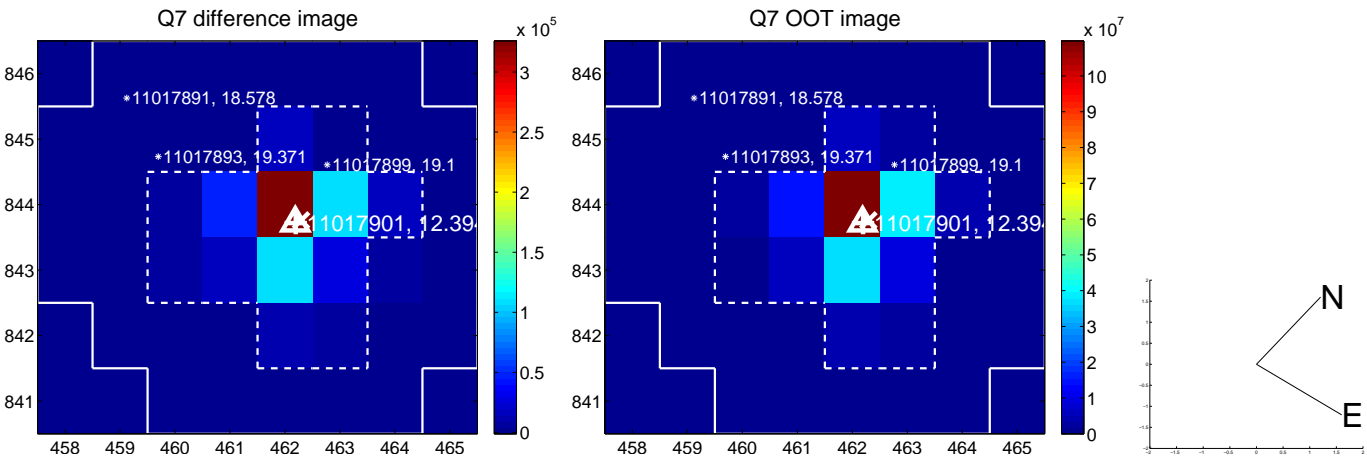
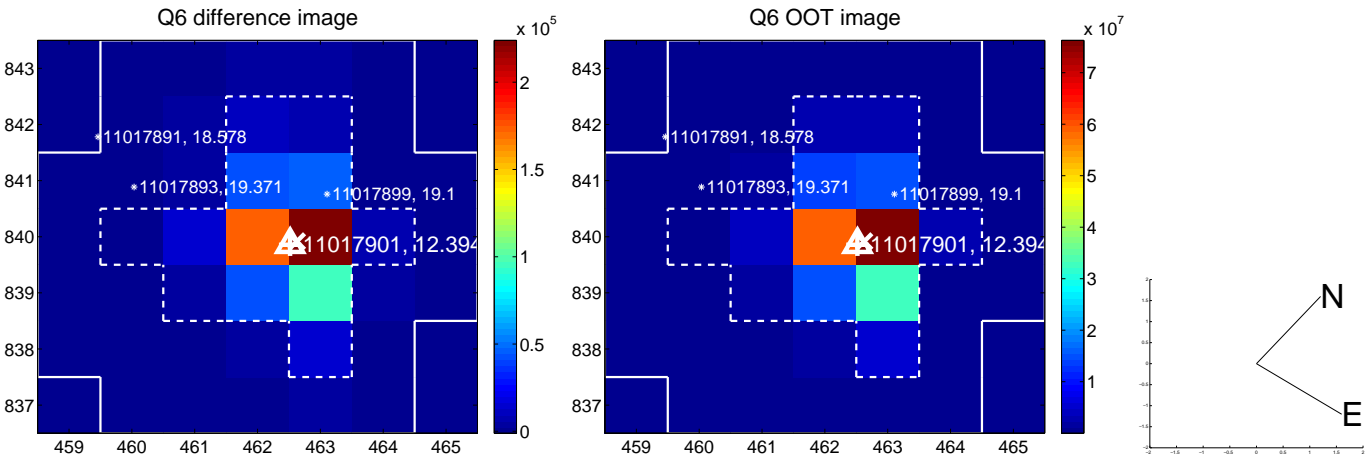
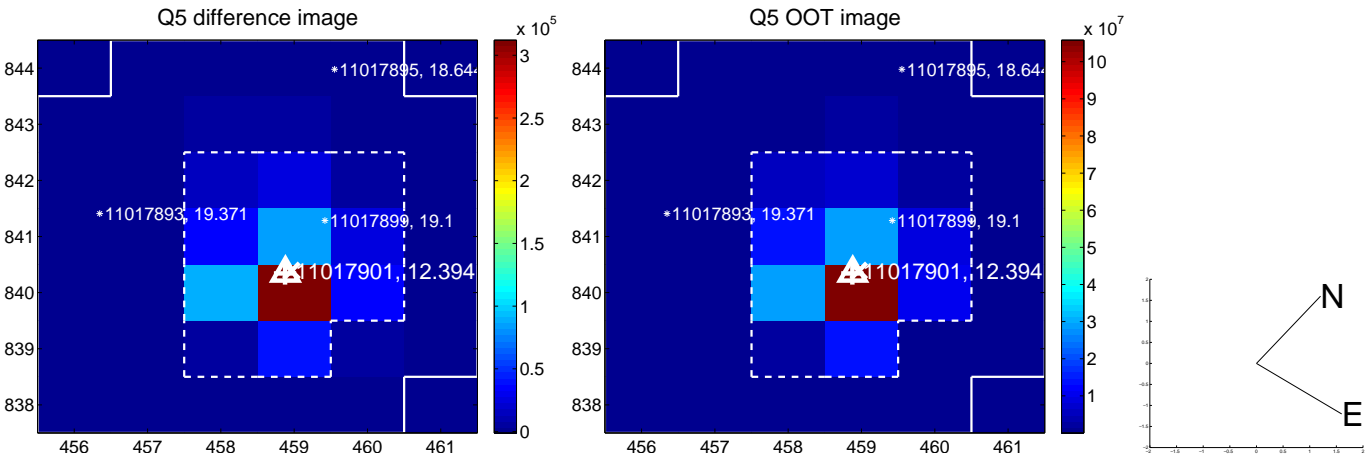
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

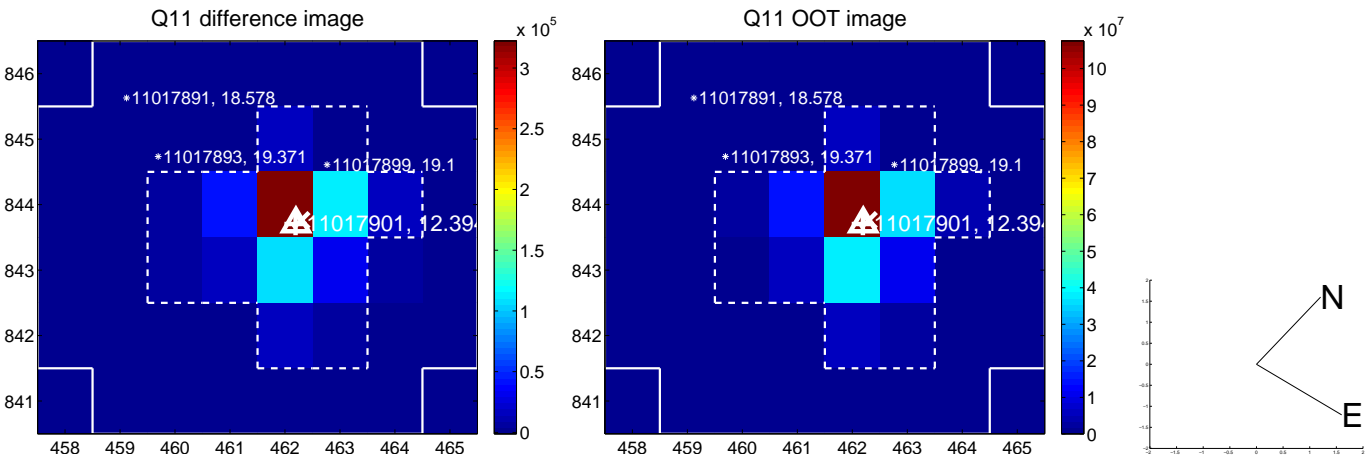
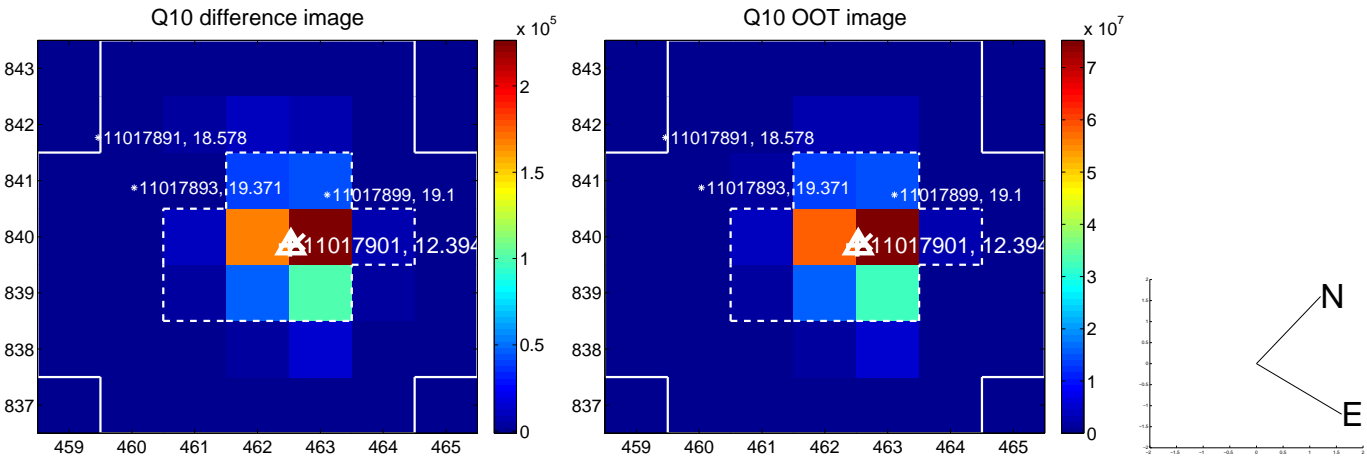
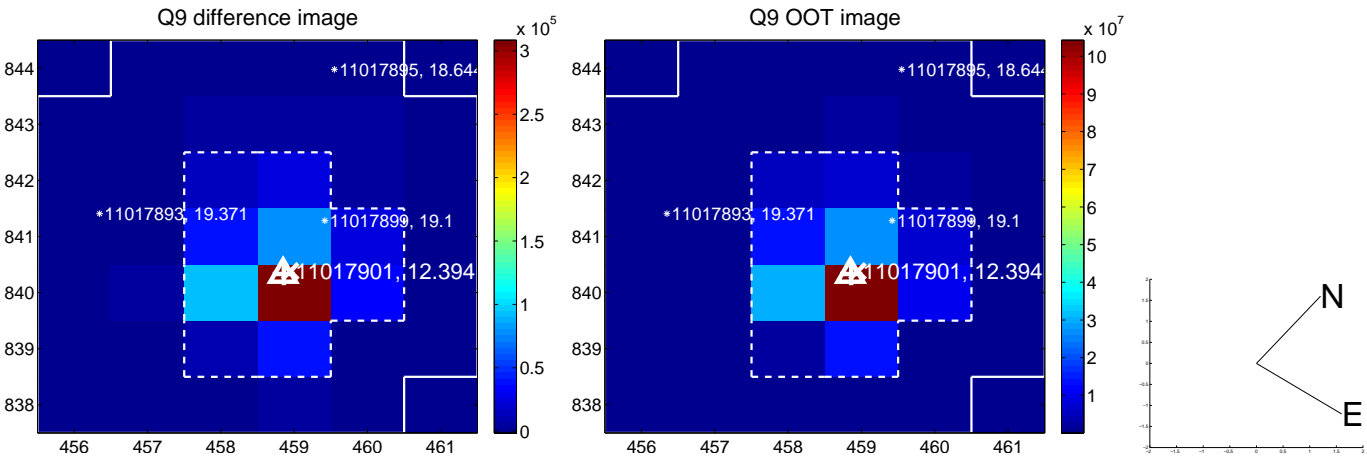




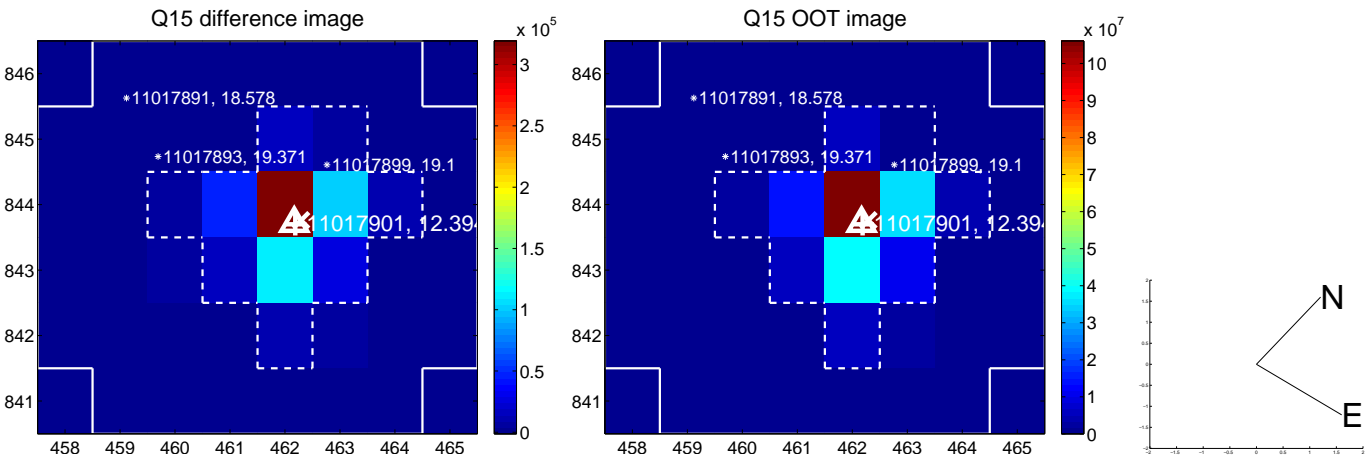
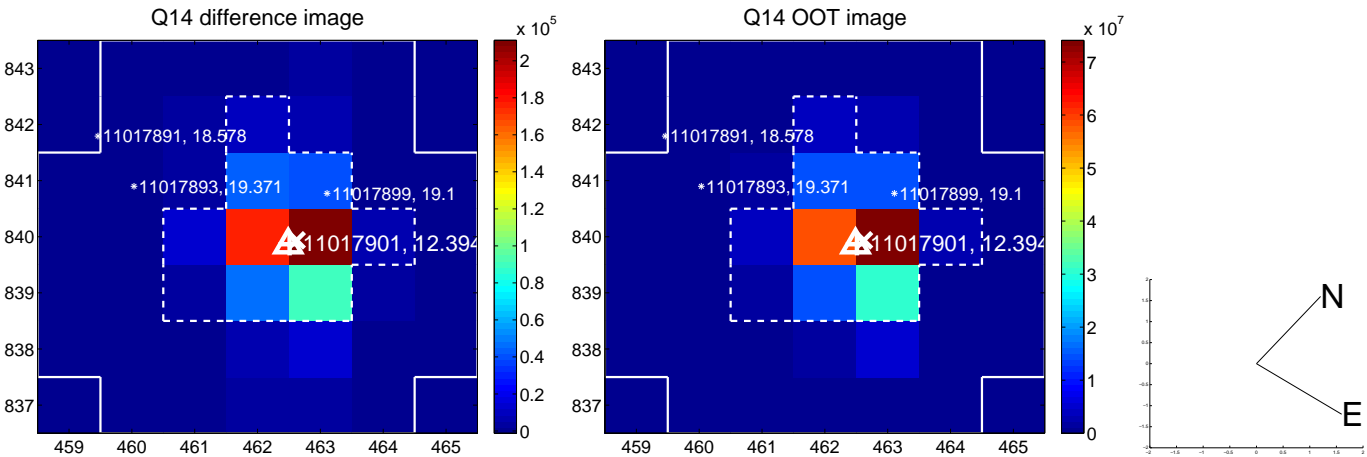
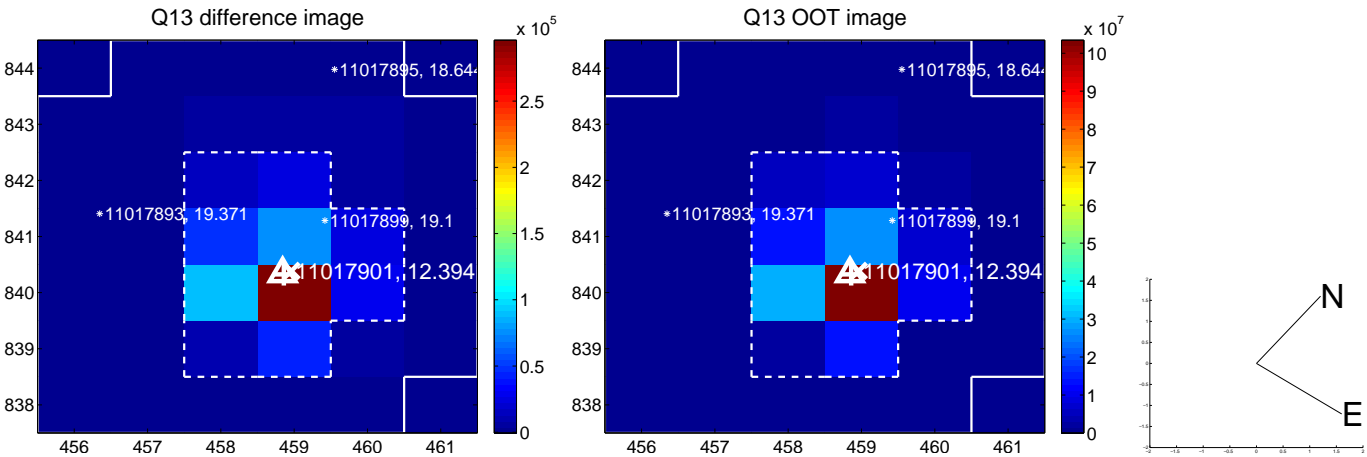
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



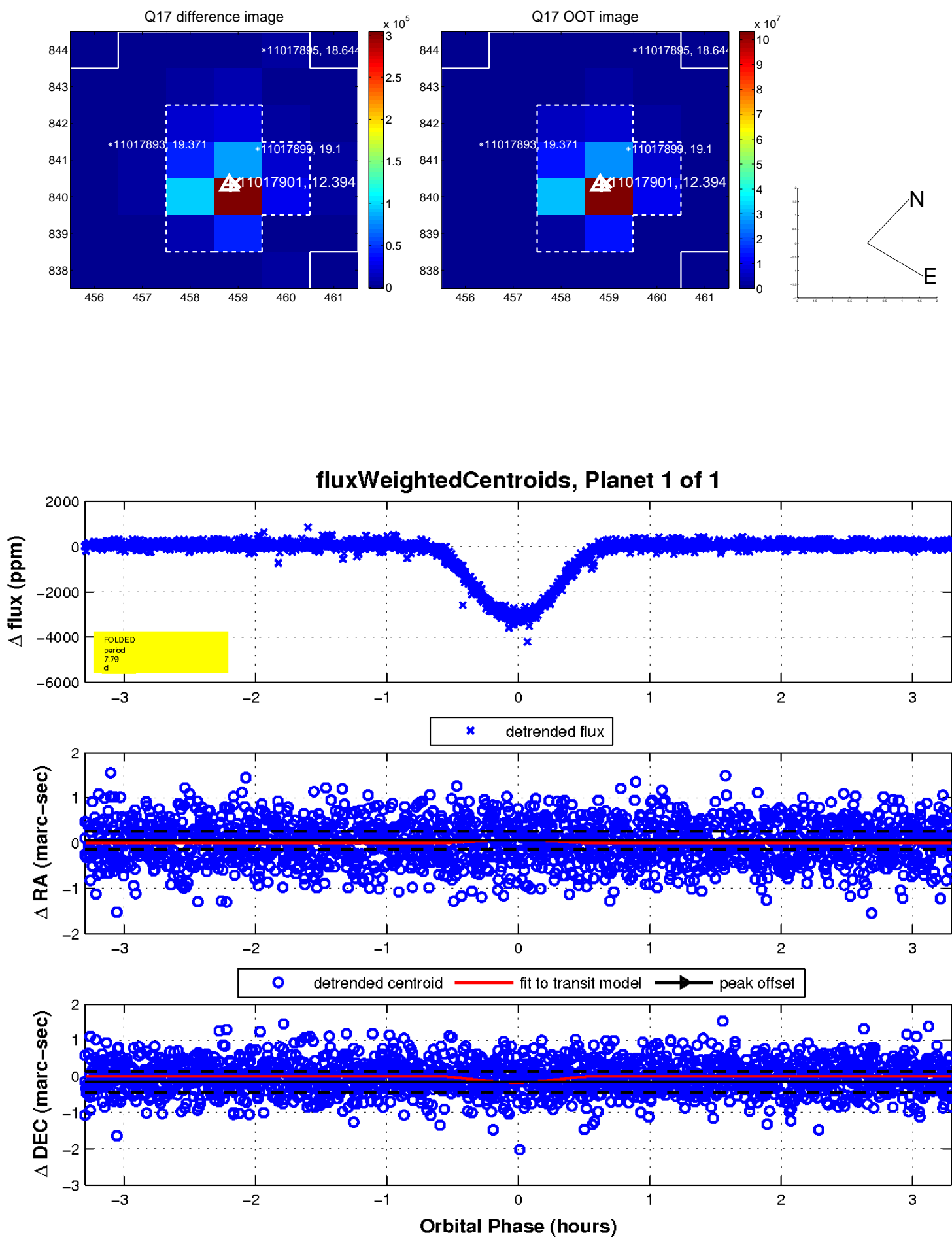
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

