

# KIC 011502867

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011502867-01	OBS	0195.01	3.217519	133.631986	14303.5	2.197	1264.8	1337.3	0.90	5720	11.70	466.56

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011502867-01	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.

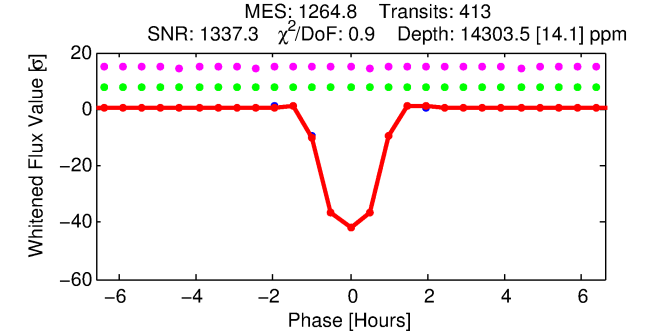
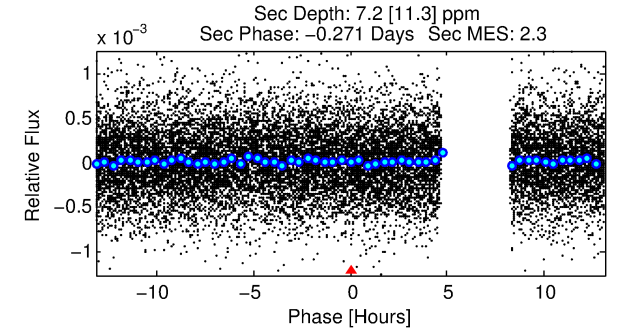
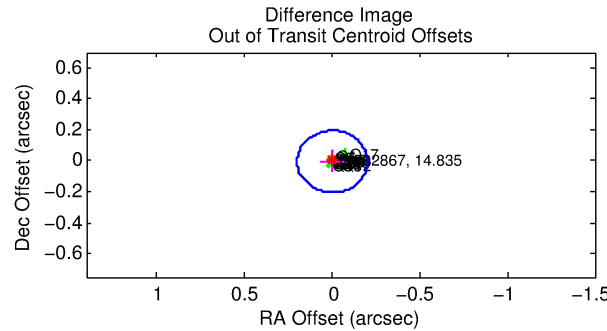
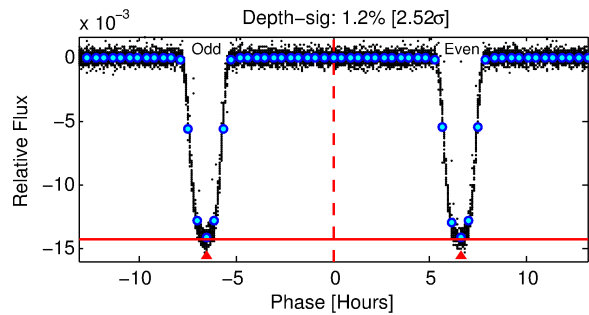
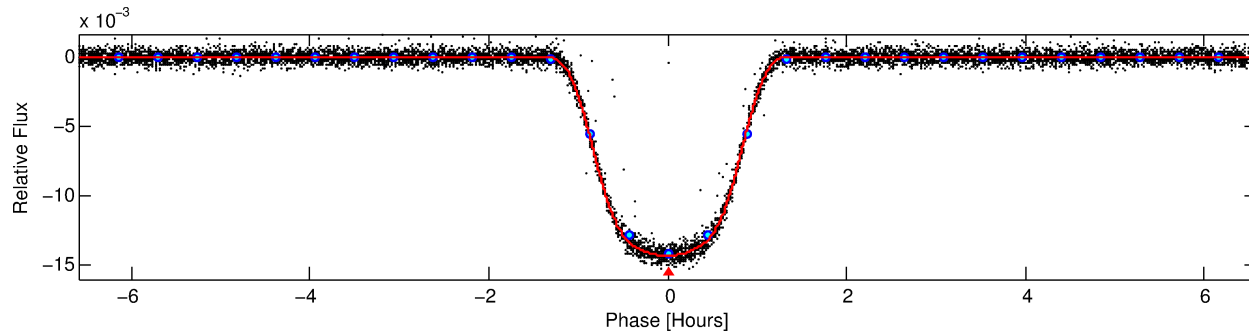
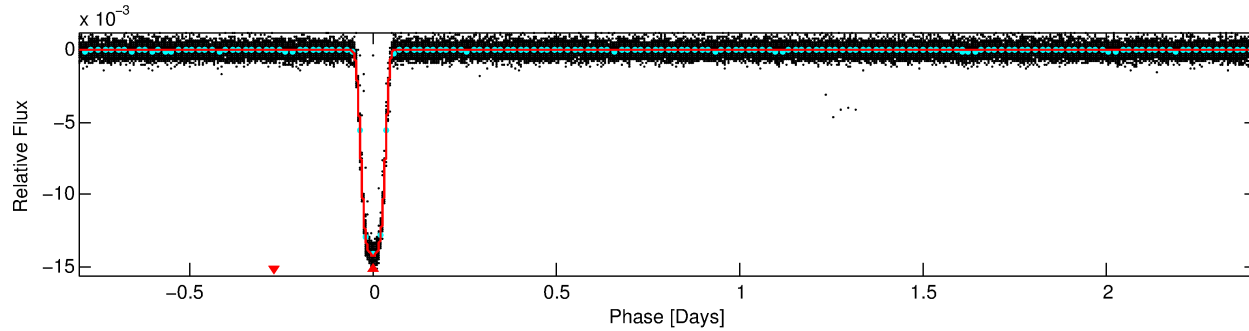
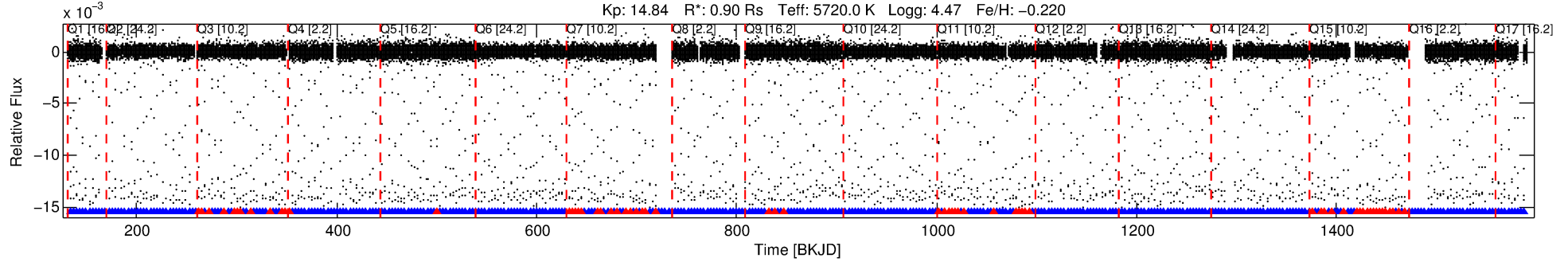
## Ephemeris Match Information For 011502867-01

No Significant Match Found

# DV One-Page Summary

KIC: 11502867 Candidate: 1 of 1 Period: 3.218 d  
KOI: K00195.01 Name: Kepler-426b Corr: 0.983

Kp: 14.84 R\*: 0.90 Rs Teff: 5720.0 K Logg: 4.47 Fe/H: -0.220



## DV Fit Results:

Period = 3.21752 [0.00000] d  
Epoch = 133.6320 [0.0000] BKJD  
Rp/R\* = 0.1187 [0.0002]  
a/R\* = 9.56 [0.06]  
b = 0.73 [0.00]  
Seff = 466.56 [91.23]  
Teq = 1185 [58] K  
Rp = 11.70 [1.55] Re  
a = 0.0409 [0.0050] AU  
Ag = 0.05 [0.08] [-12.45σ]  
Teffp = 860 [336] K [-0.95σ]

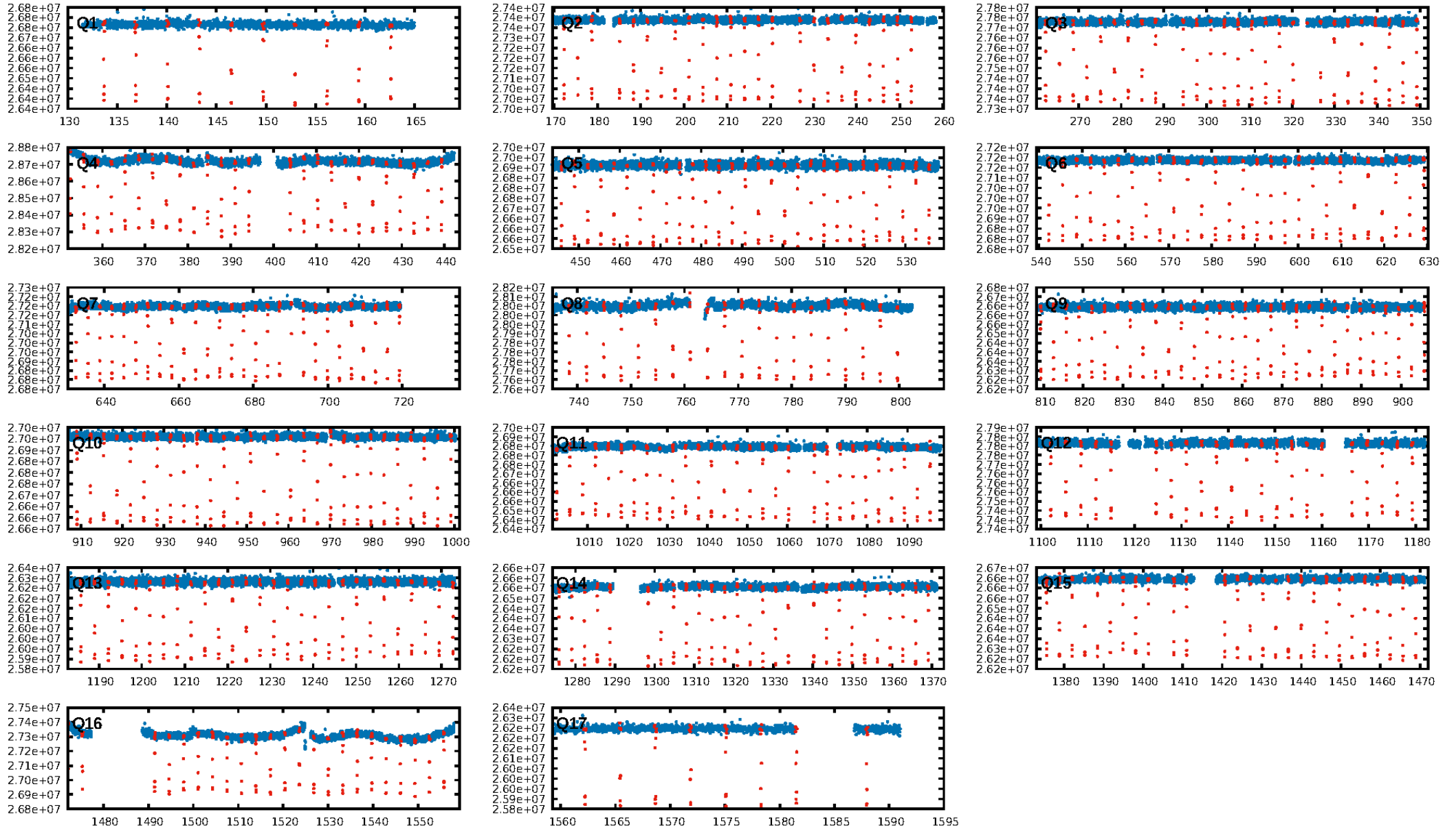
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.84 [332/395]  
GhostDiagnostic-chr: 5.499  
Centroid-sig: 0.0%  
Centroid-so: 0.171 arcsec [15.70σ]  
OotOffset-rm: 0.006 arcsec [0.09σ]  
KicOffset-rm: 0.099 arcsec [1.45σ]  
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]

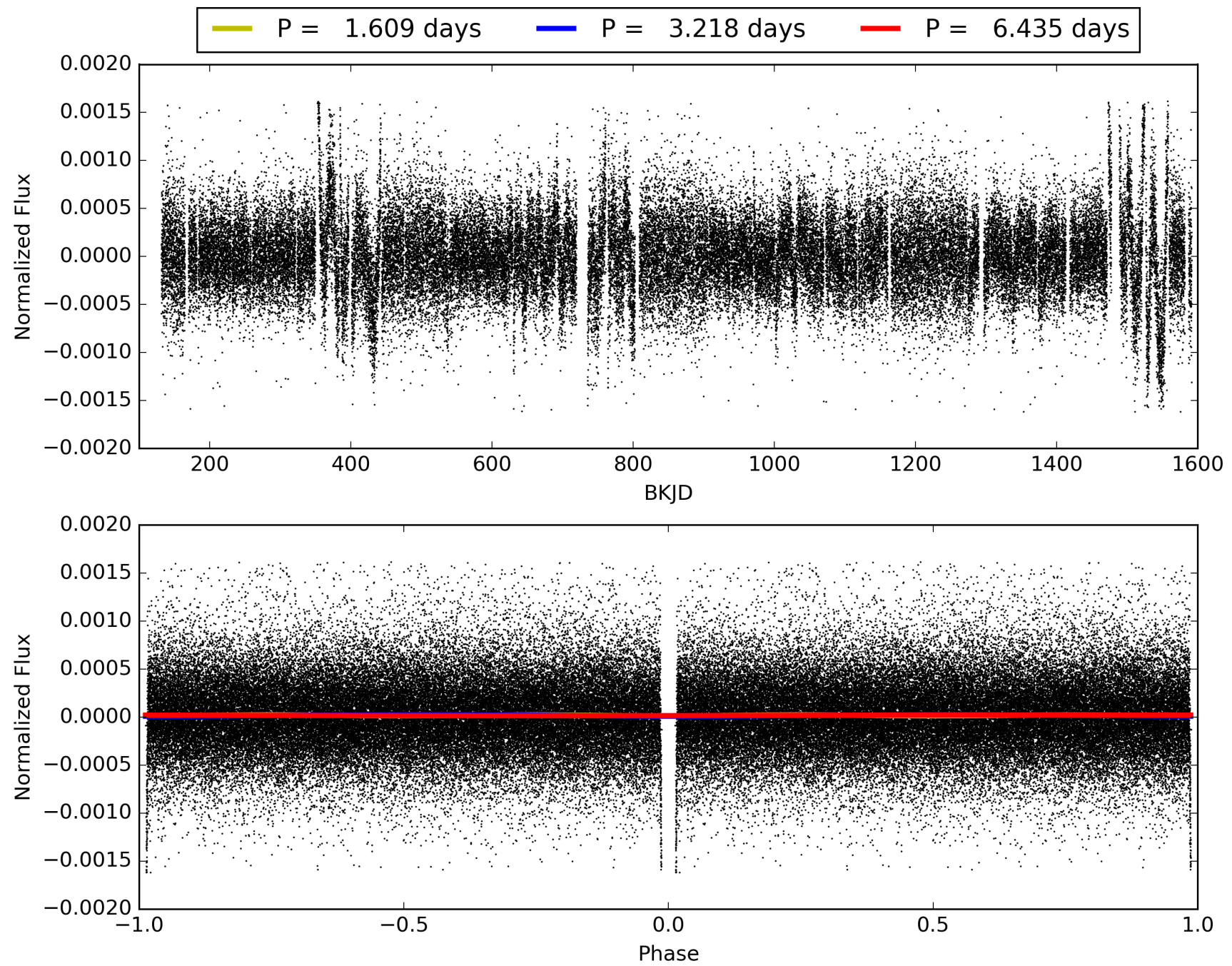
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:05:28 Z

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

# TCE 011502867-01, PDC Light Curves

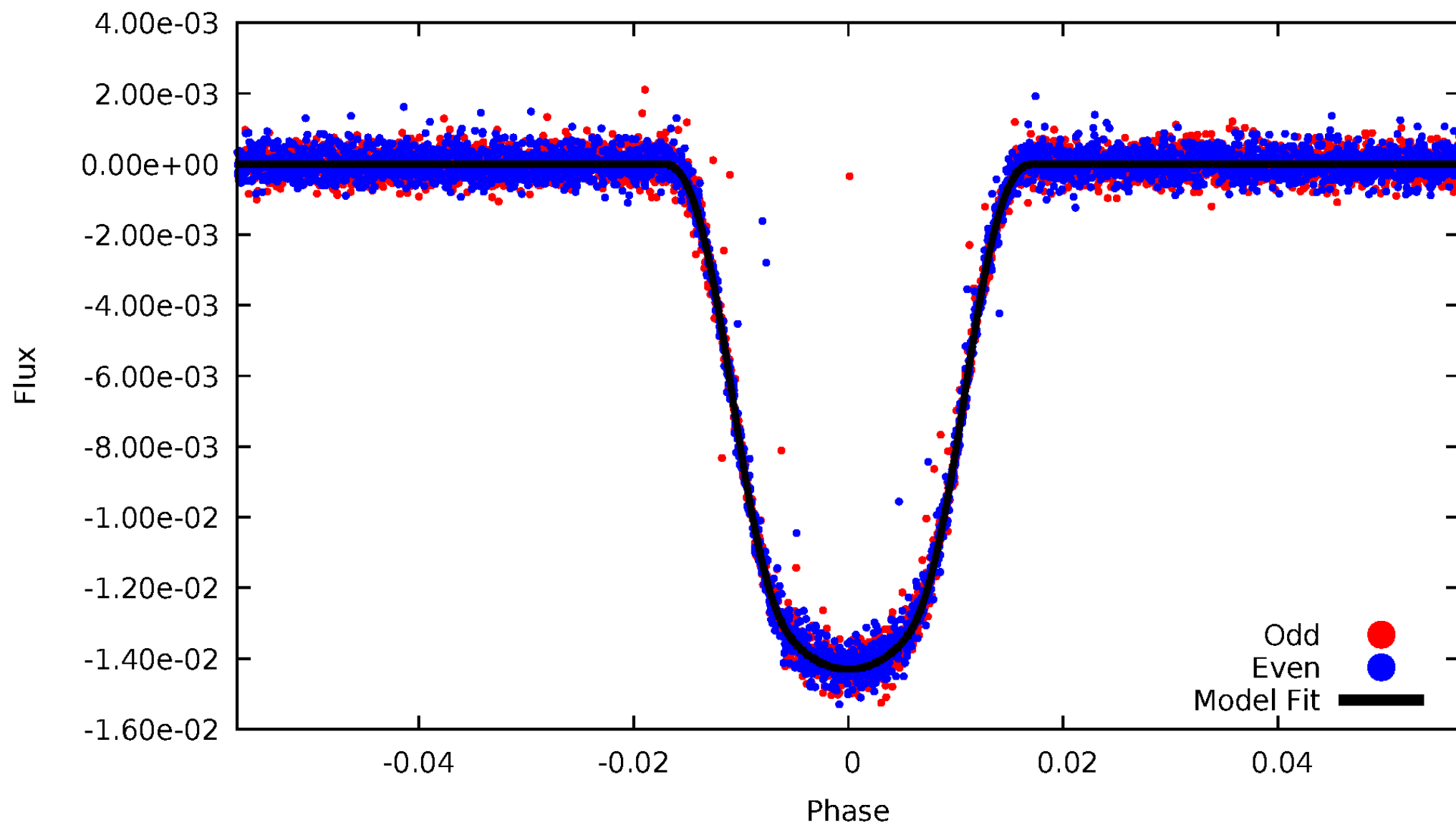


TCE 011502867-01



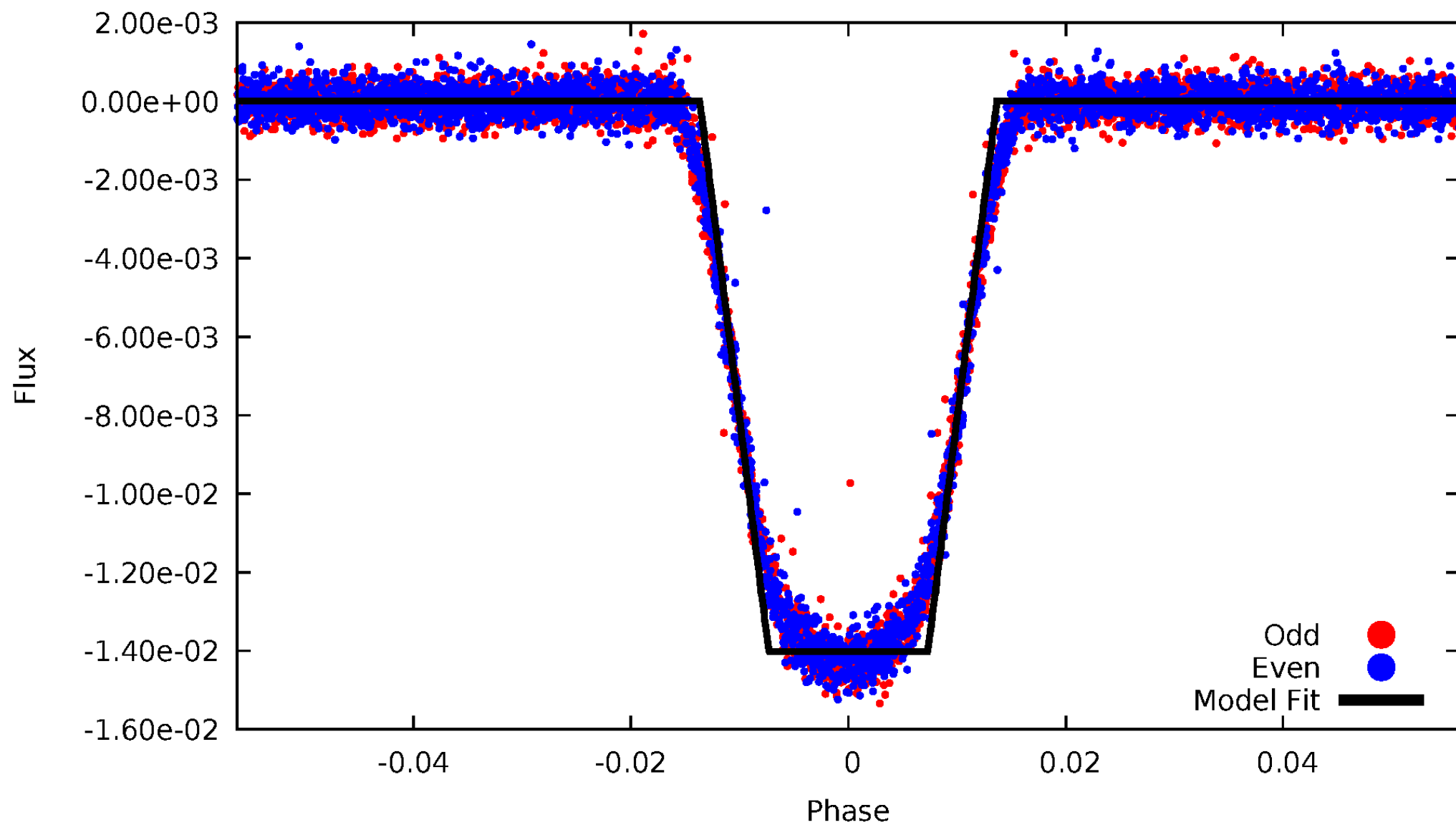
# DV Odd/Even

TCE 011502867-01



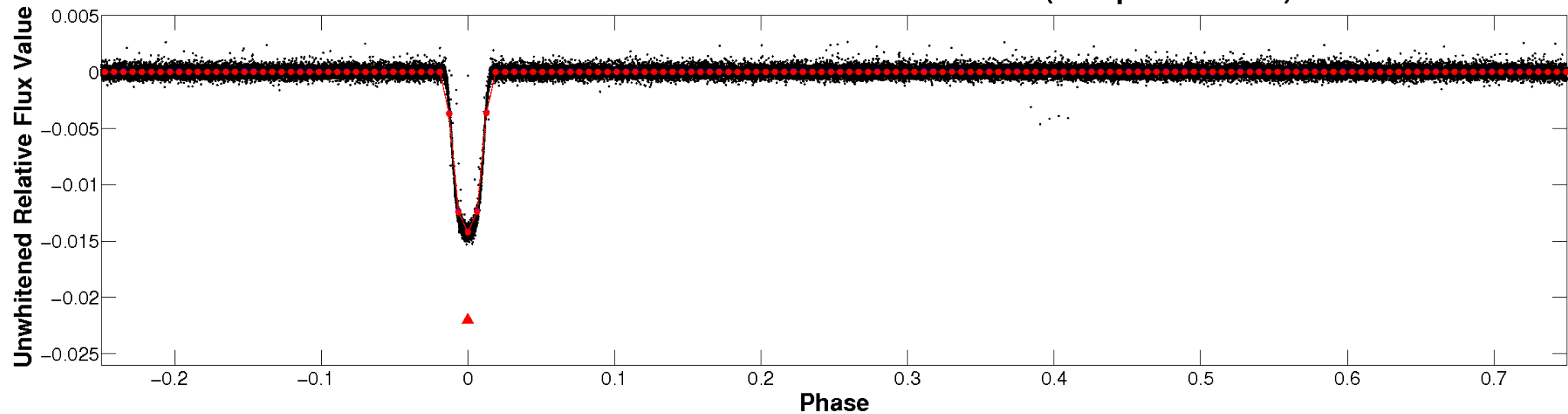
# ALT Odd/Even

TCE 011502867-01

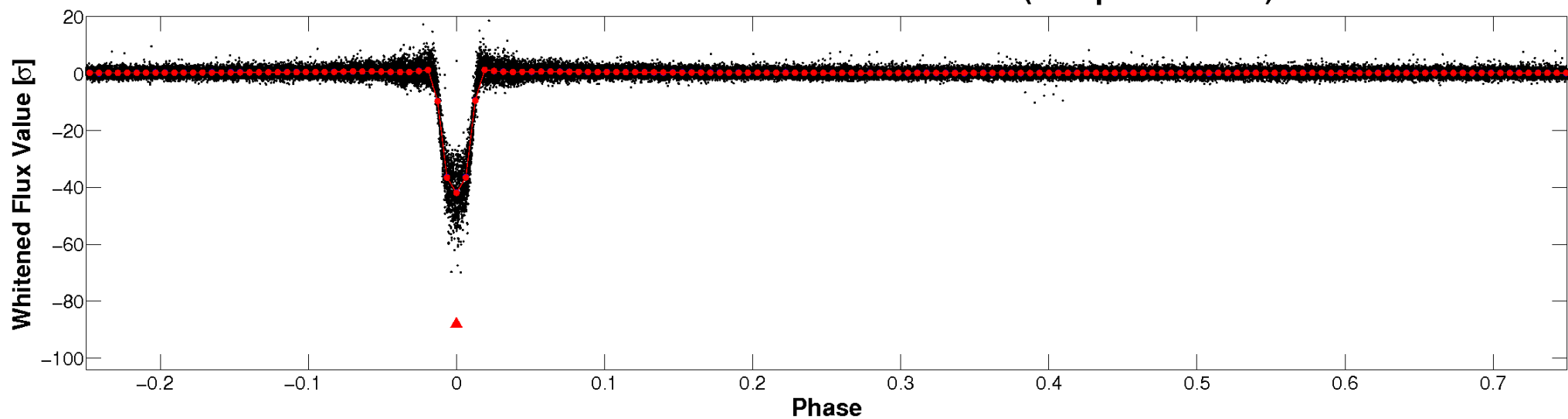


# Non-Whitened Vs. Whitened Light Curve

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

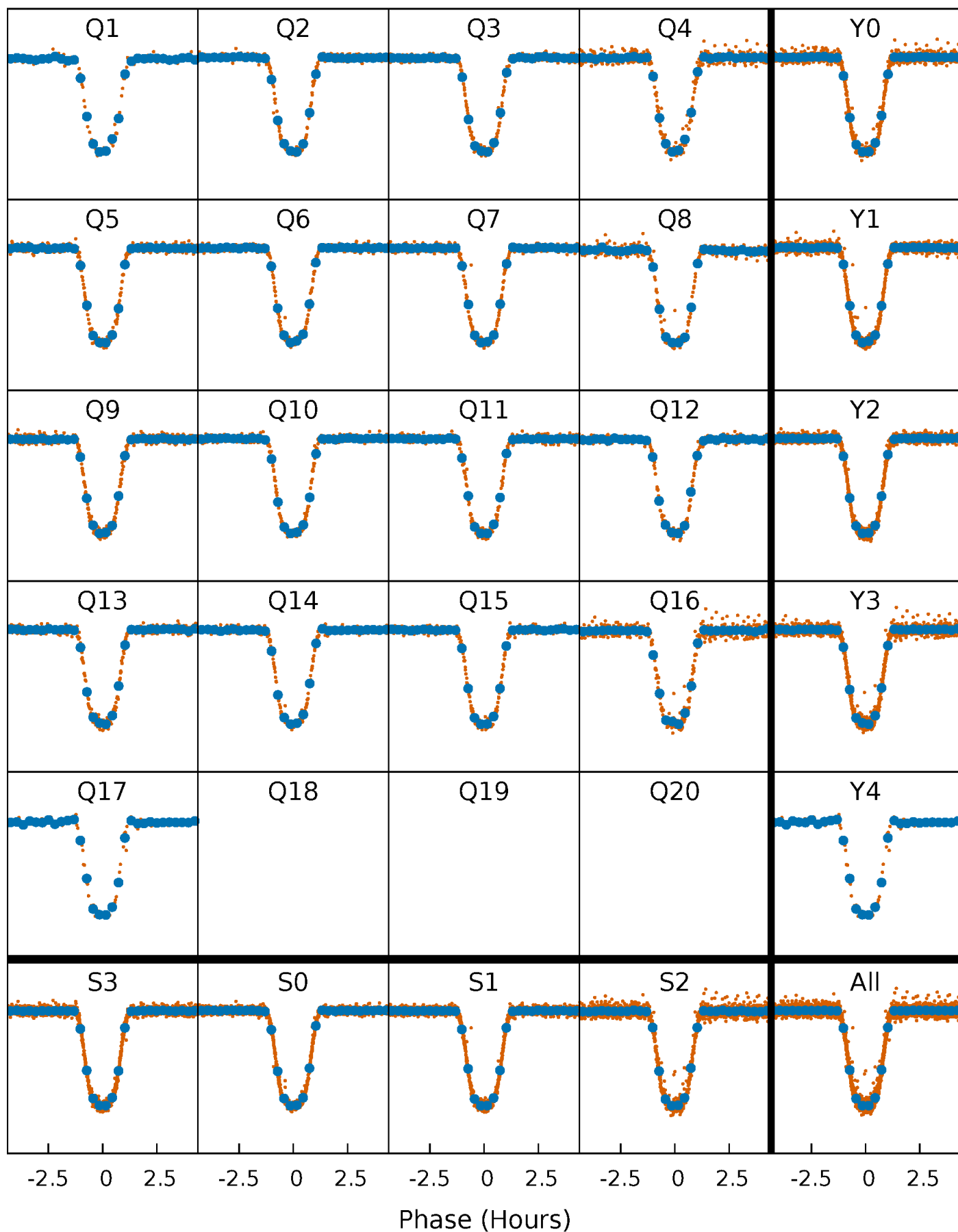


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

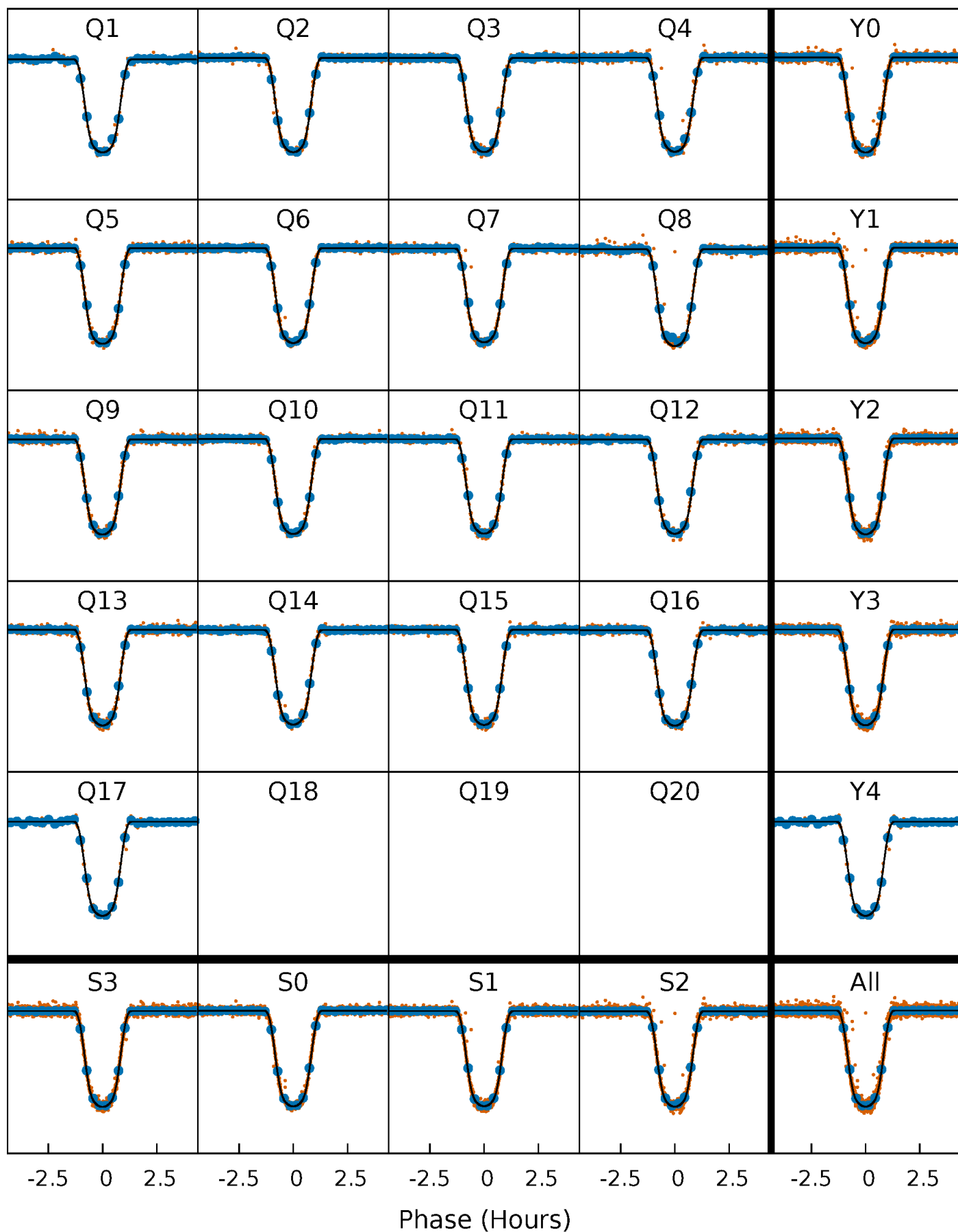
TCE 011502867-01 P= 3.217519 Days  $T_0=133.631986$  (BKJD)





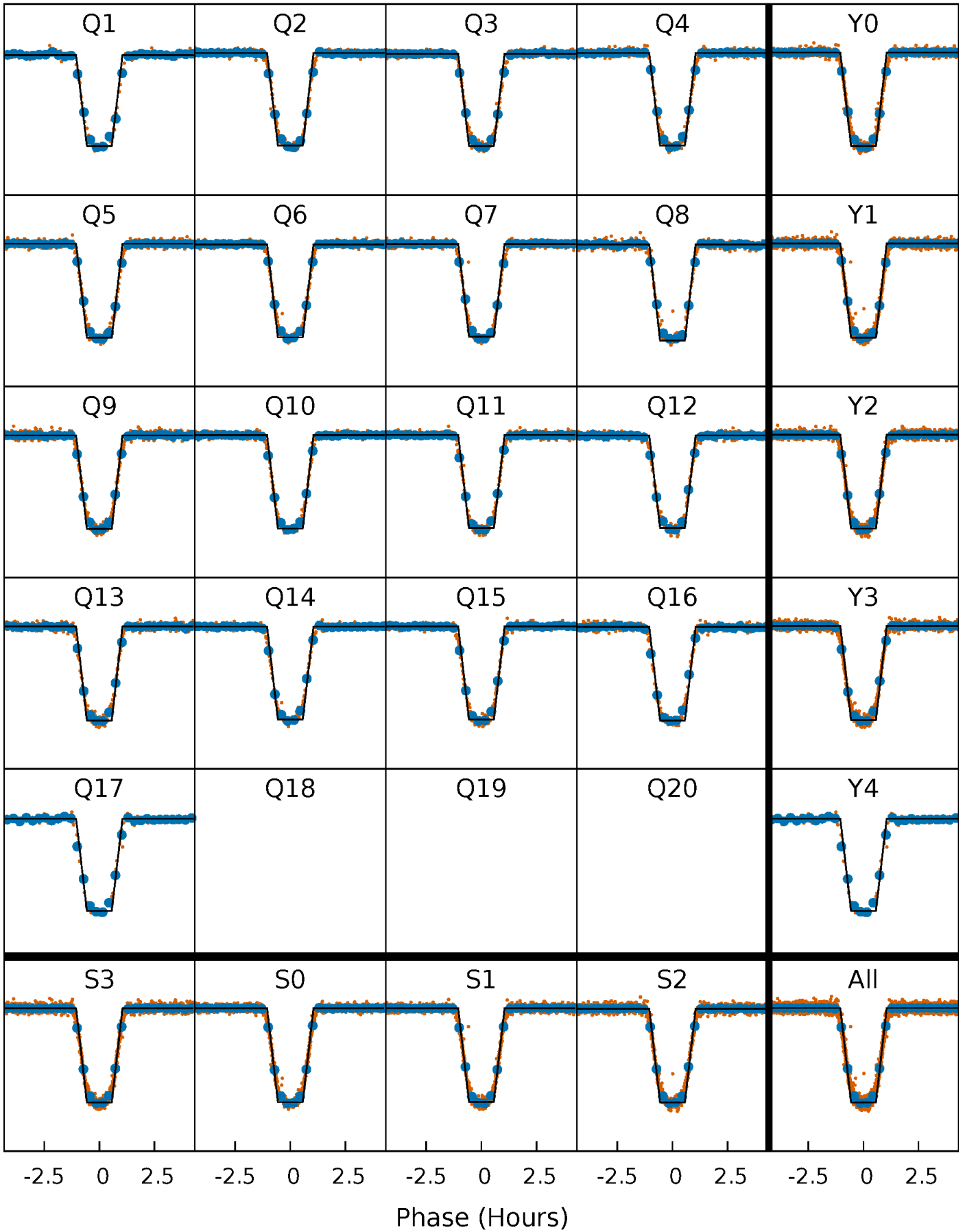
# DV Quarter-Phased Transit Curves

TCE 011502867-01 P= 3.217519 Days  $T_0=133.631986$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

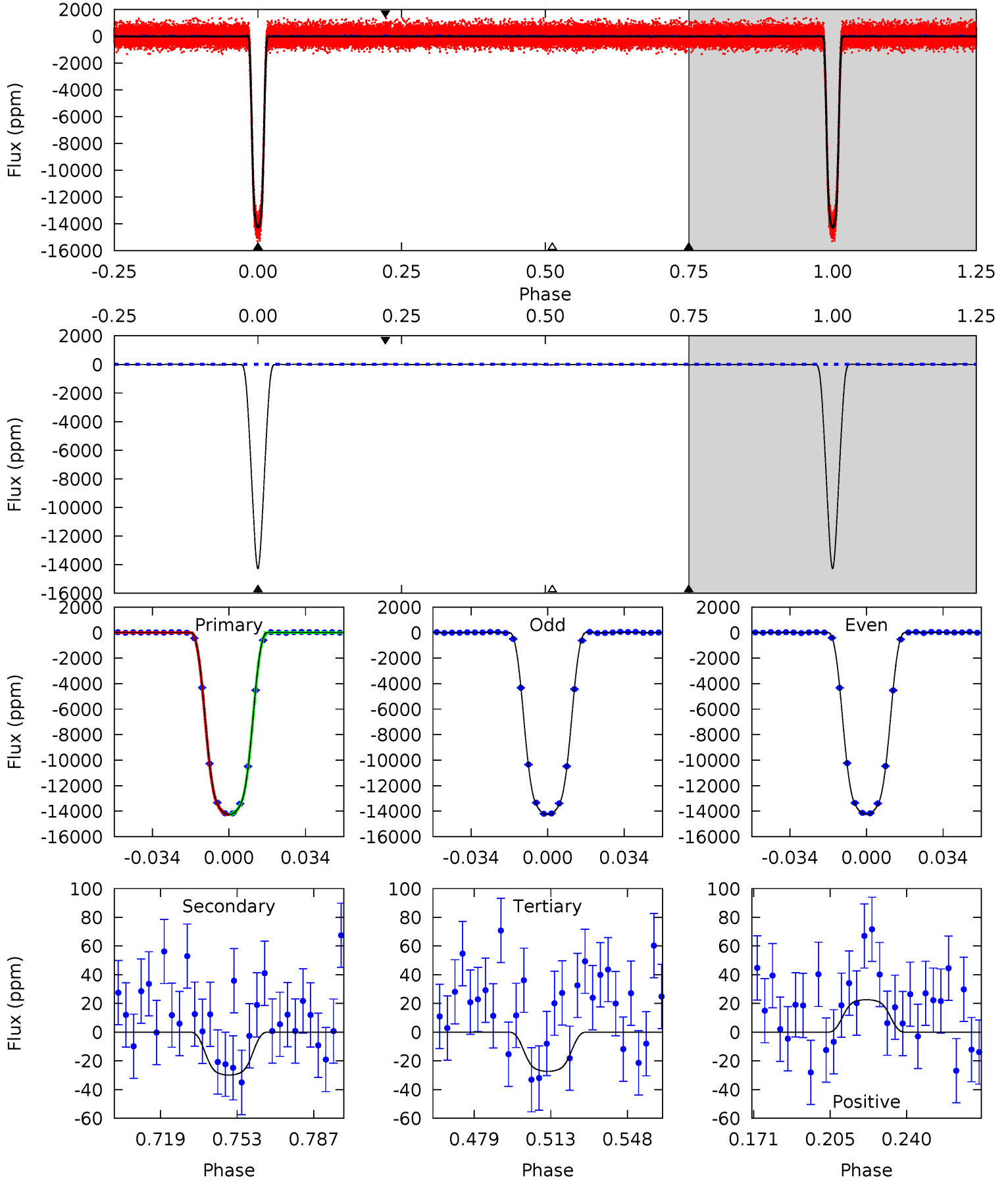
TCE 011502867-01   P= 3.217524 Days    $T_0=133.630789$  (BKJD)



# DV Model-Shift Uniqueness Test

011502867-01, P = 3.217519 Days, E = 130.414467 Days

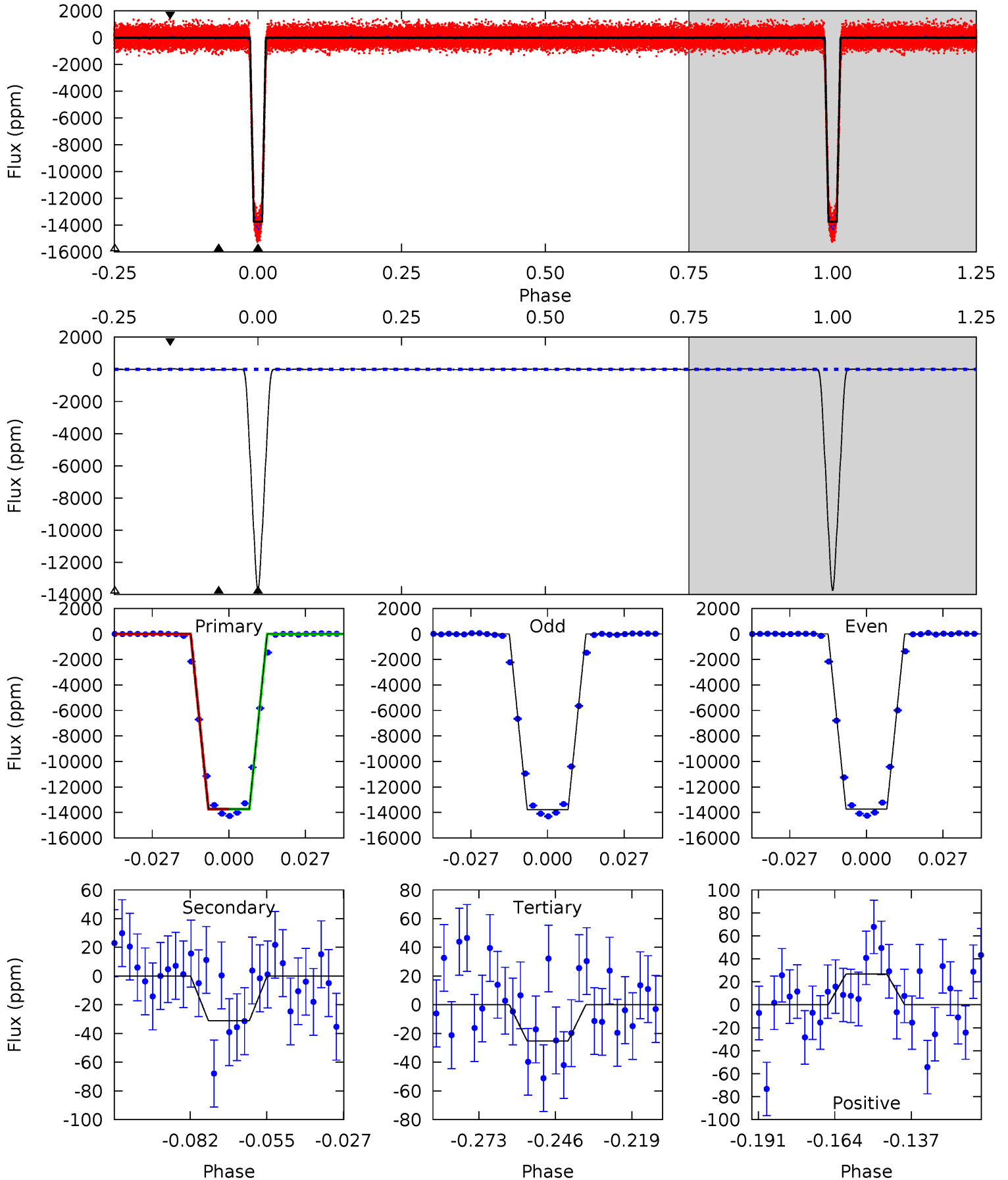
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1985	4.16	3.80	3.15	4.78	2.12	1.42	1981	1982	0.36	1.01	1.47	1.00	0.00	1.55



# Alt Model-Shift Uniqueness Test

011502867-01, P = 3.217524 Days, E = 130.413265 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
1623	3.68	2.98	3.15	4.83	2.21	1.24	1620	1620	0.70	0.52	2.37	1.00	0.00	0.36



### Stellar Parameters For KIC 011502867

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5720^{+77}_{-77}$	$4.473^{+0.063}_{-0.108}$	$-0.220^{+0.150}_{-0.150}$	$0.903^{+0.120}_{-0.074}$	$0.882^{+0.060}_{-0.049}$	$1.690^{+0.458}_{-0.511}$
	+1%/-1%	+1%/-2%	+68%/-68%	+13%/-8%	+7%/-6%	+27%/-30%
Source	SPE77	SPE77	SPE77	DSEP		

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

### Secondary Eclipse Parameters for KIC 011502867-01 / KOI 0195.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-30 \pm 7$	$11.81^{+0.88}_{-0.62}$	$1667^{+58}_{-49}$	$-2043^{+160}_{-101}$	$0.195^{+0.055}_{-0.051}$
Alt.	$-31 \pm 8$	$11.71^{+0.94}_{-0.54}$	$1664^{+60}_{-47}$	$-2019^{+216}_{-121}$	$0.207^{+0.062}_{-0.061}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

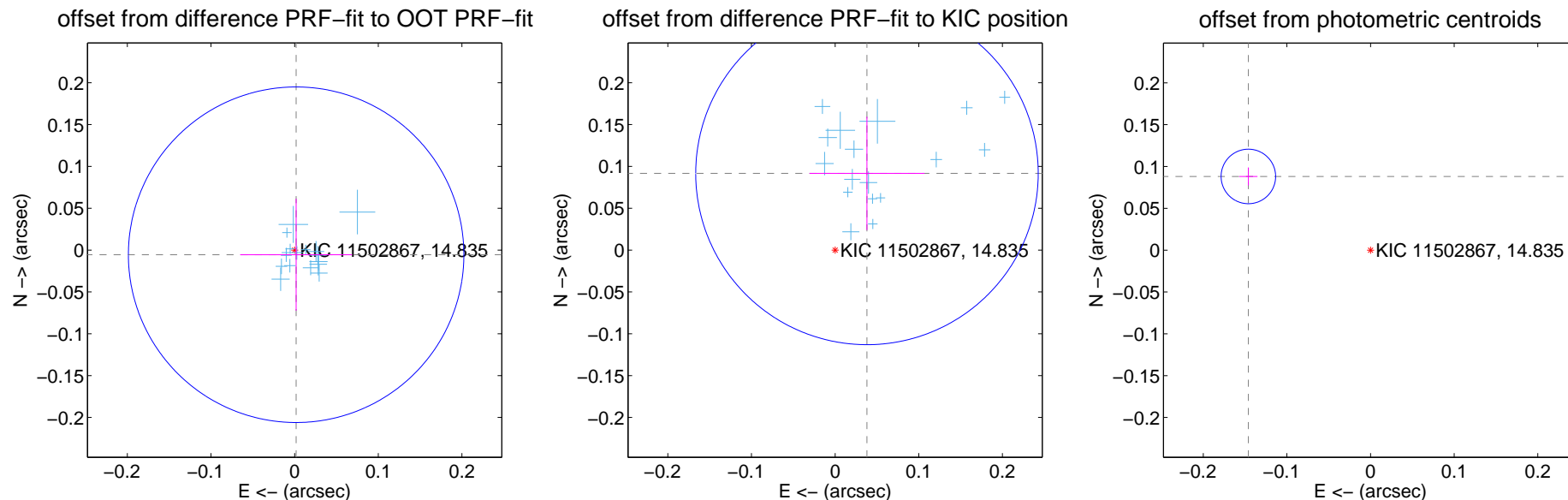
## DV Centroid Data

Supplemental centroid analysis for 011502867-01. Kepler magnitude: 14.84. Transit SNR 1337.28

There are 17 quarters with good PRF difference image offsets

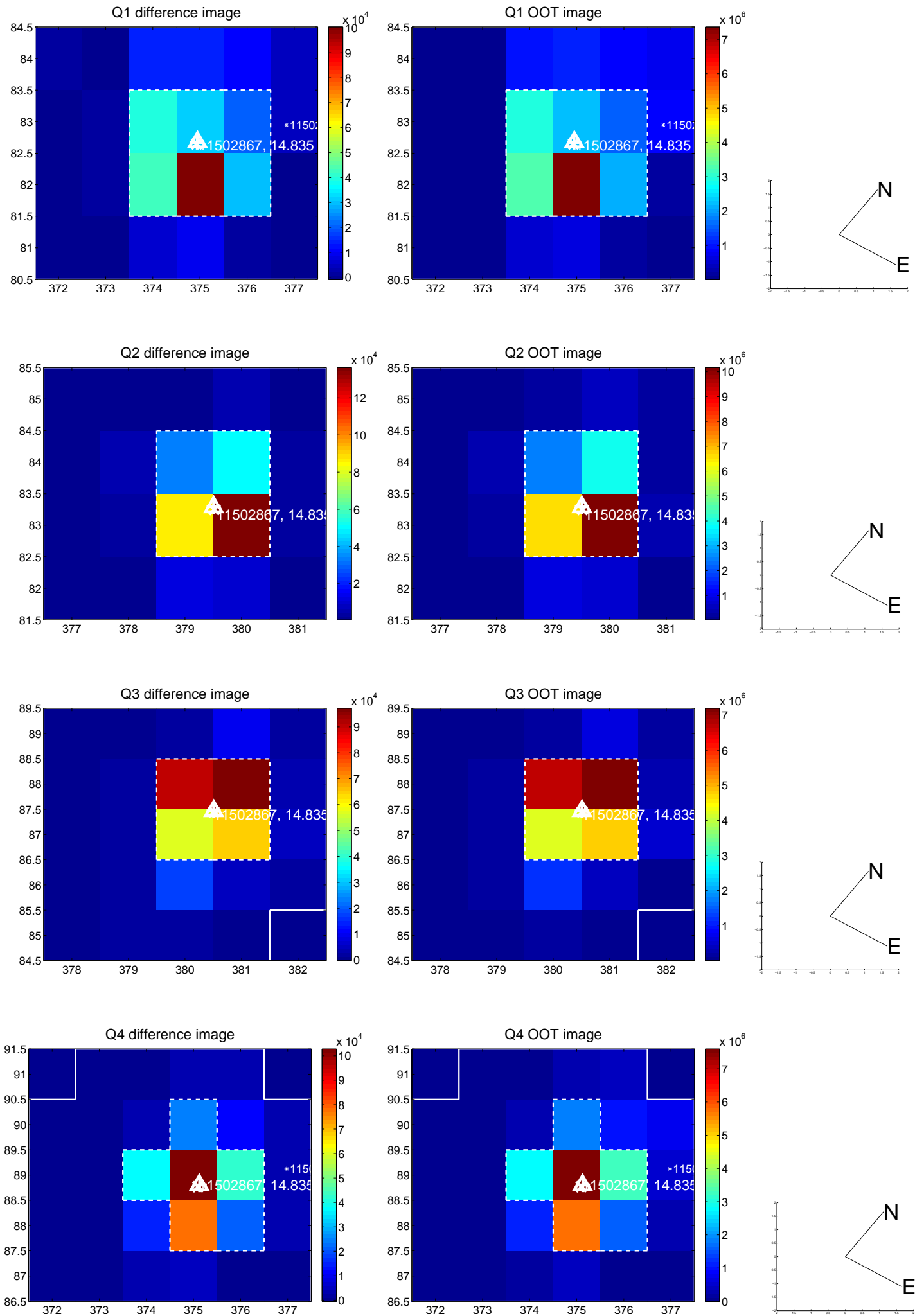
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.006 \pm 0.067$	0.09	$-0.002 \pm 0.067$	$-0.006 \pm 0.067$
PRF-fit source offset from KIC position	$0.099 \pm 0.068$	1.45	$-0.038 \pm 0.069$	$0.092 \pm 0.068$
photometric centroid source offset	$0.17 \pm 0.01$	15.70	$0.15 \pm 0.01$	$0.09 \pm 0.01$

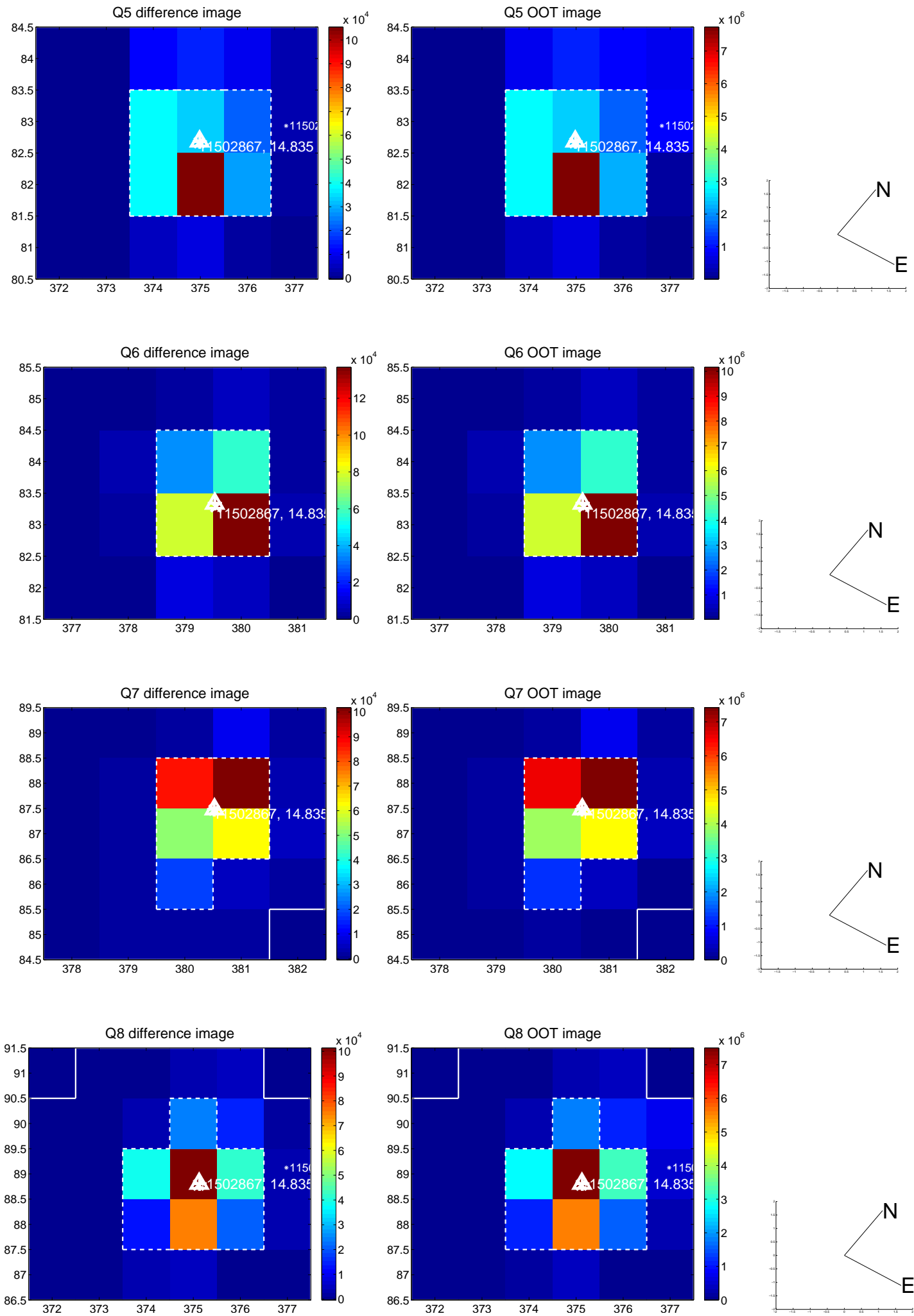


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

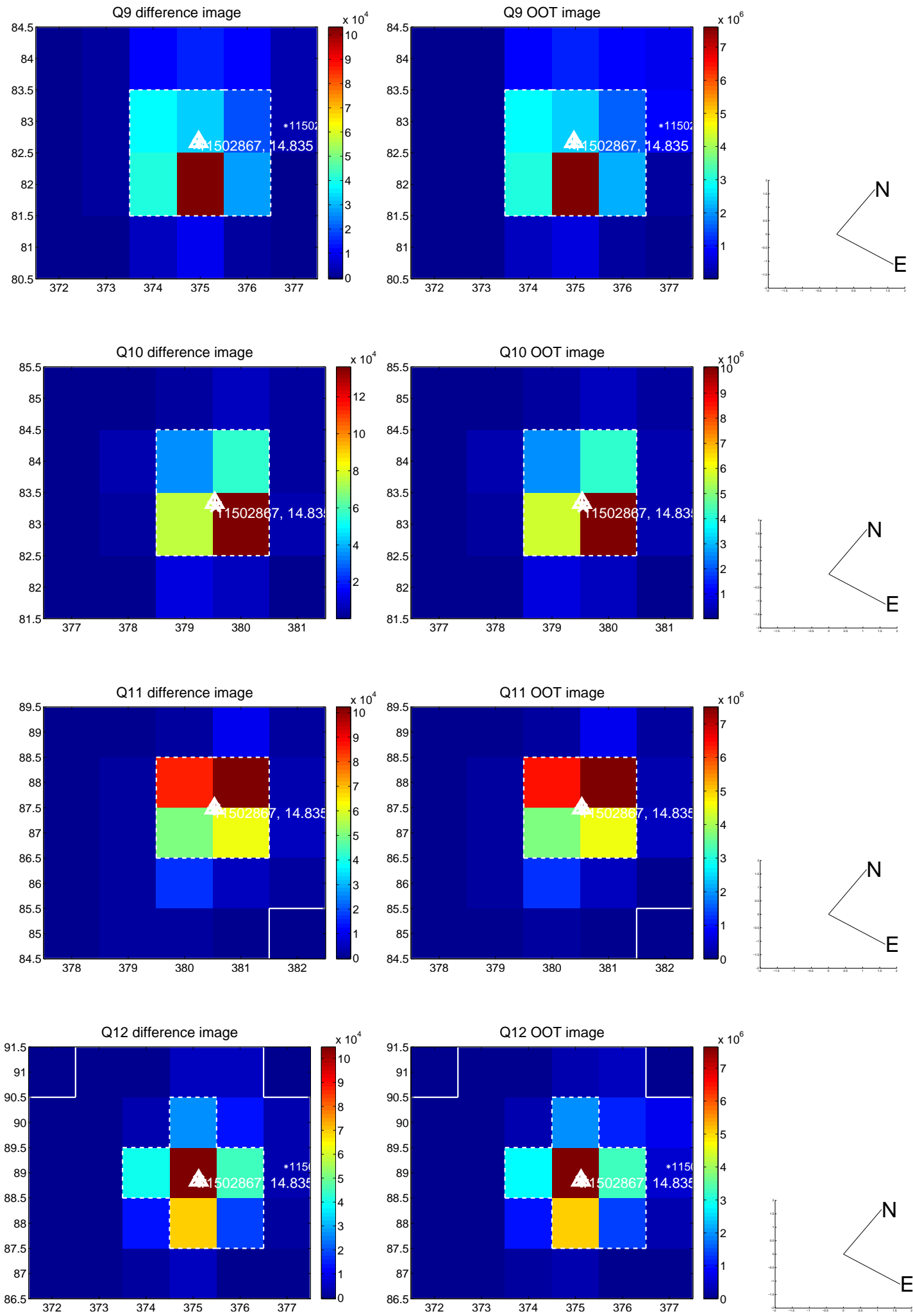


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

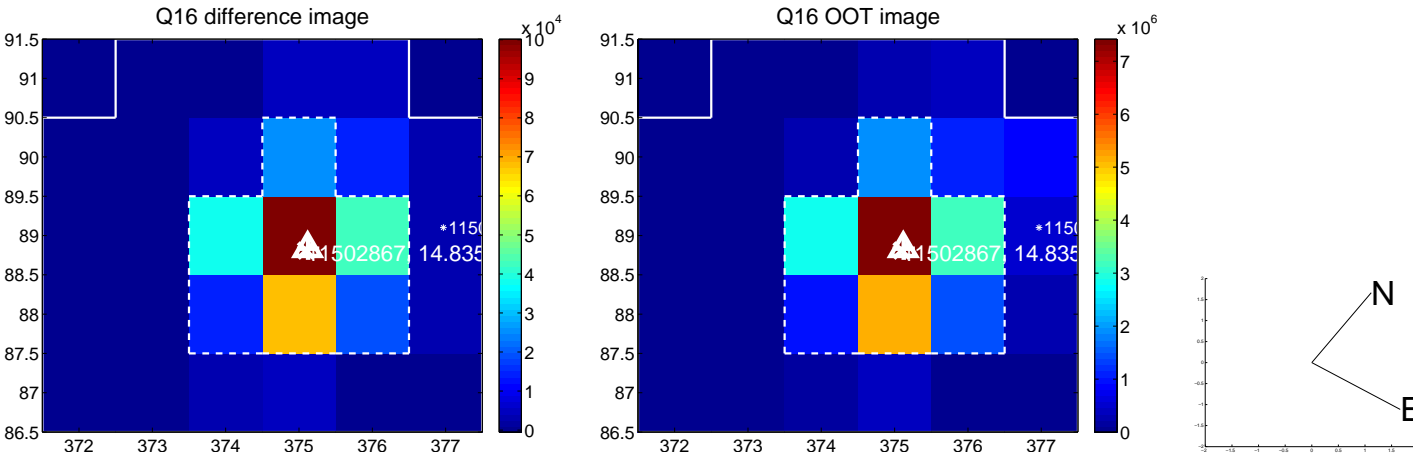
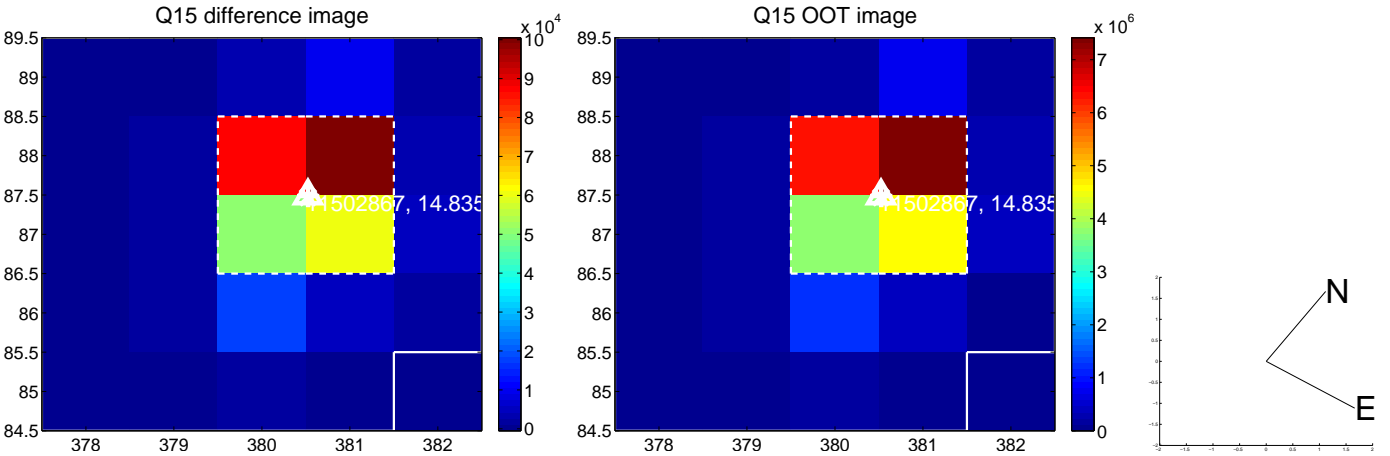
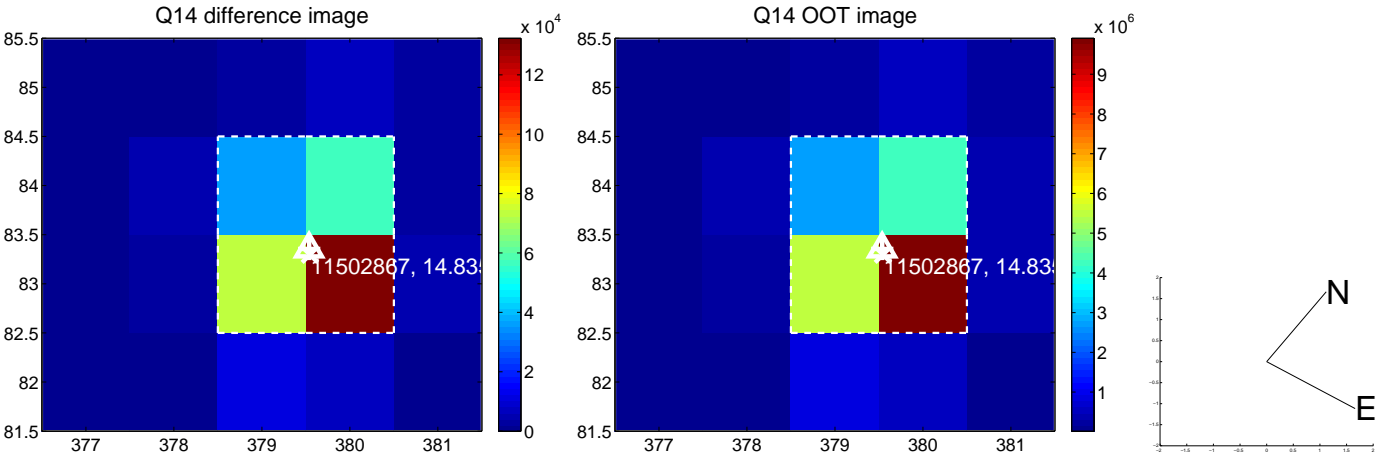
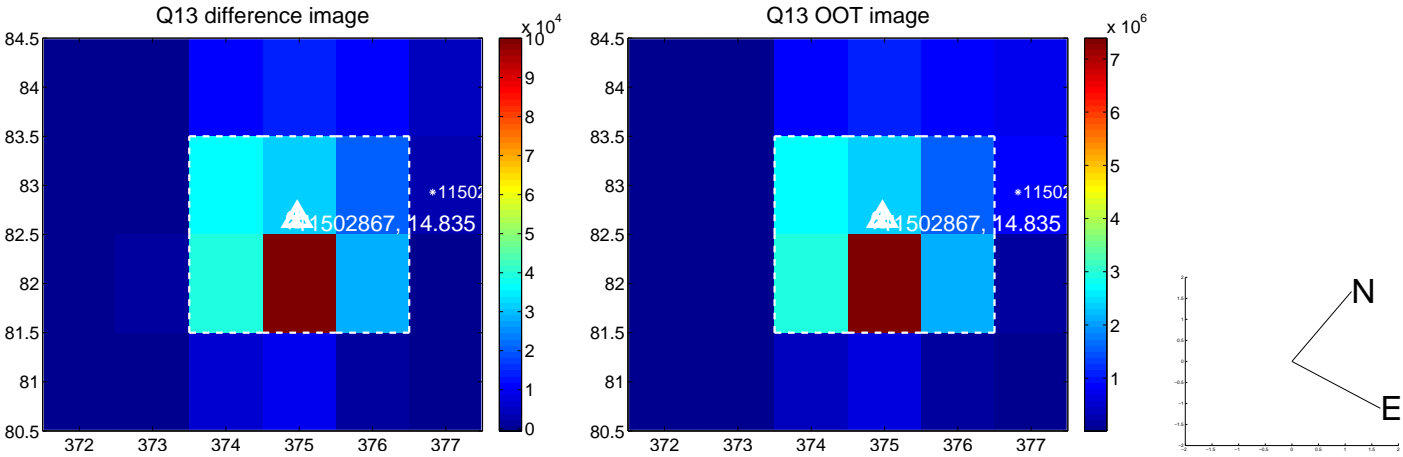




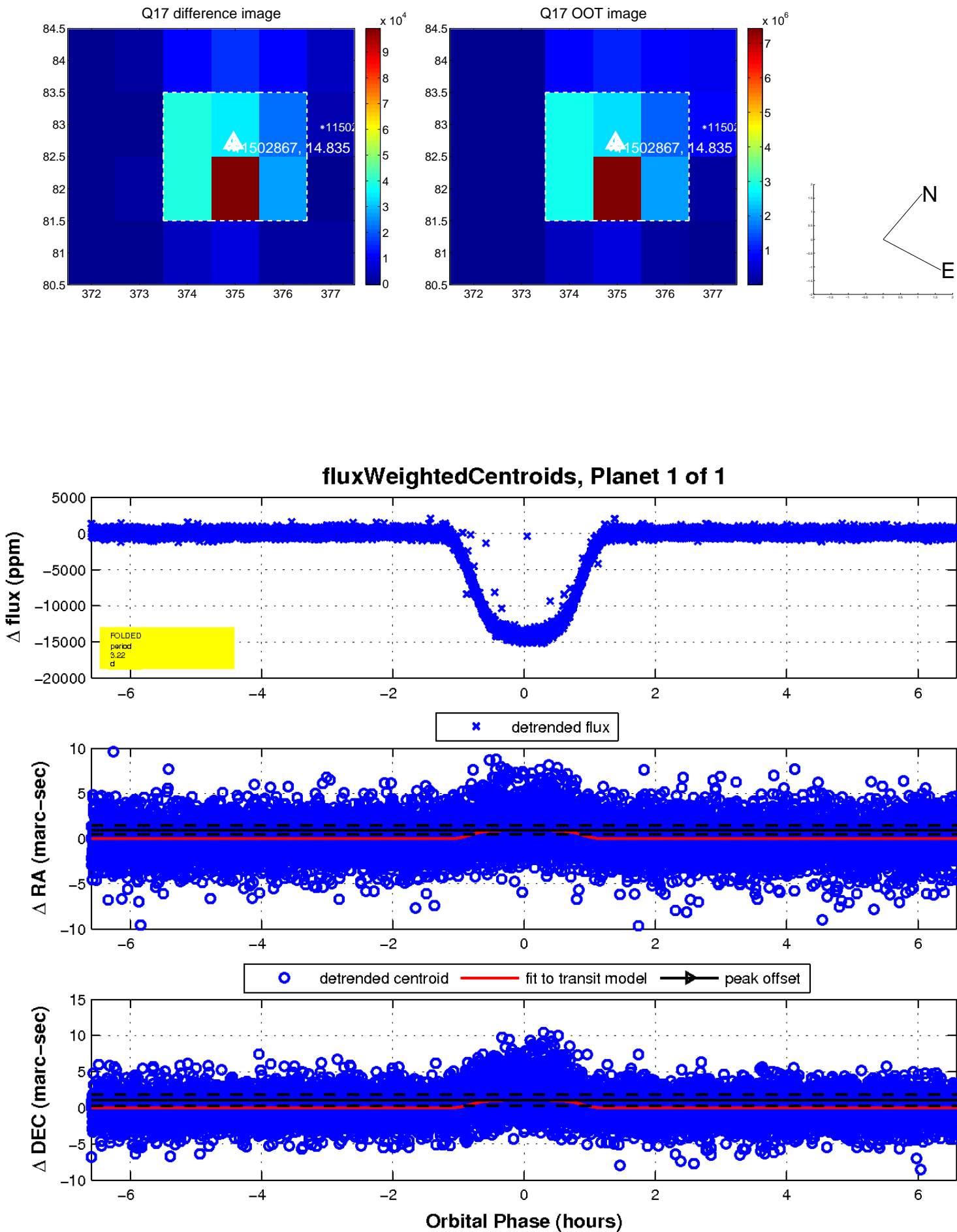
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

