

# KIC 011138155

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011138155-01	OBS	0760.01	4.959321	132.583706	9815.2	2.284	670.5	669.5	1.08	5712	12.40	350.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011138155-01	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.

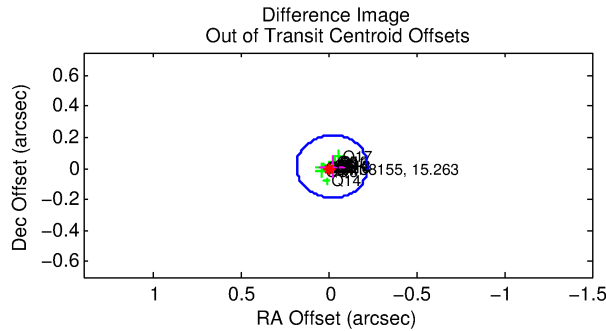
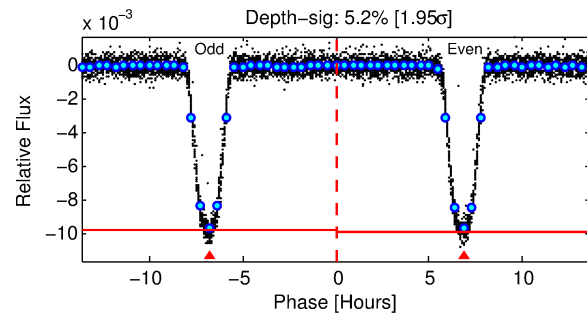
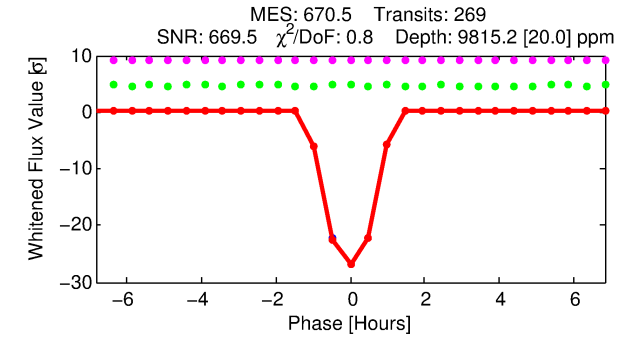
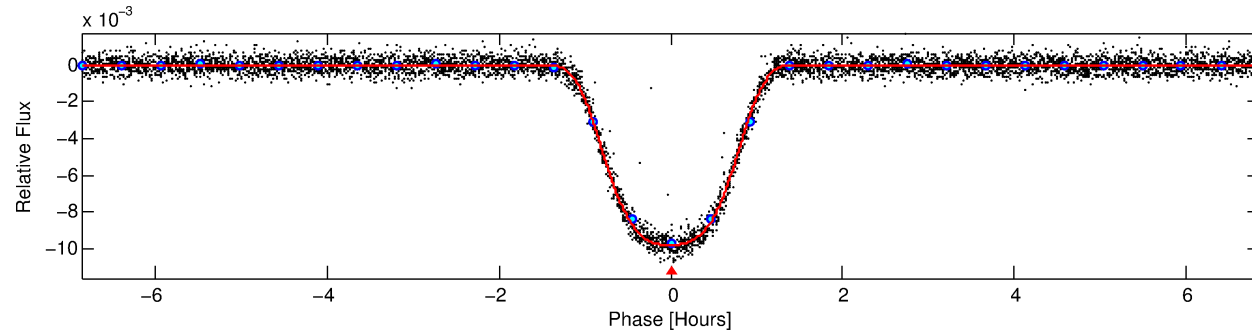
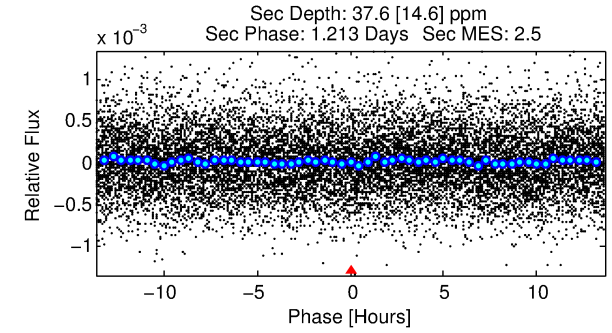
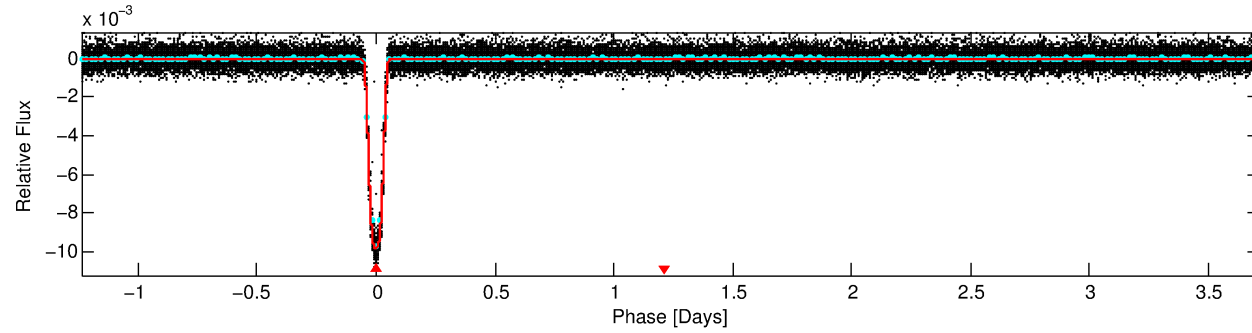
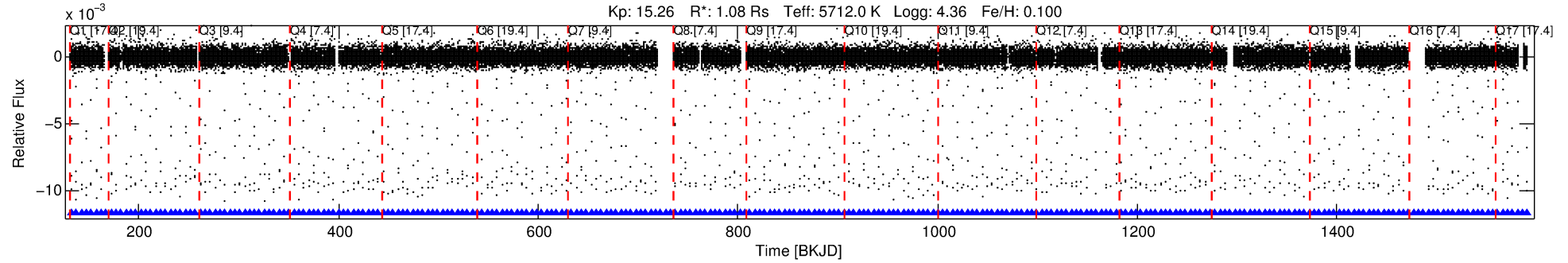
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011138155-01

No Significant Match Found

# DV One-Page Summary

KIC: 11138155 Candidate: 1 of 1 Period: 4.959 d  
KOI: K00760.01 Corr: 0.990



## DV Fit Results:

Period = 4.95932 [0.00000] d  
Epoch = 132.5837 [0.0001] BKJD  
Rp/R\* = 0.1050 [0.0002]  
a/R\* = 11.72 [0.07]  
b = 0.85 [0.00]  
Seff = 350.19 [72.43]  
Teq = 1103 [57] K  
Rp = 12.40 [1.98] Re  
a = 0.0565 [0.0077] AU  
Ag = 0.43 [0.19] [-3.05 $\sigma$ ]  
Teffp = 1380 [135] K [1.88 $\sigma$ ]

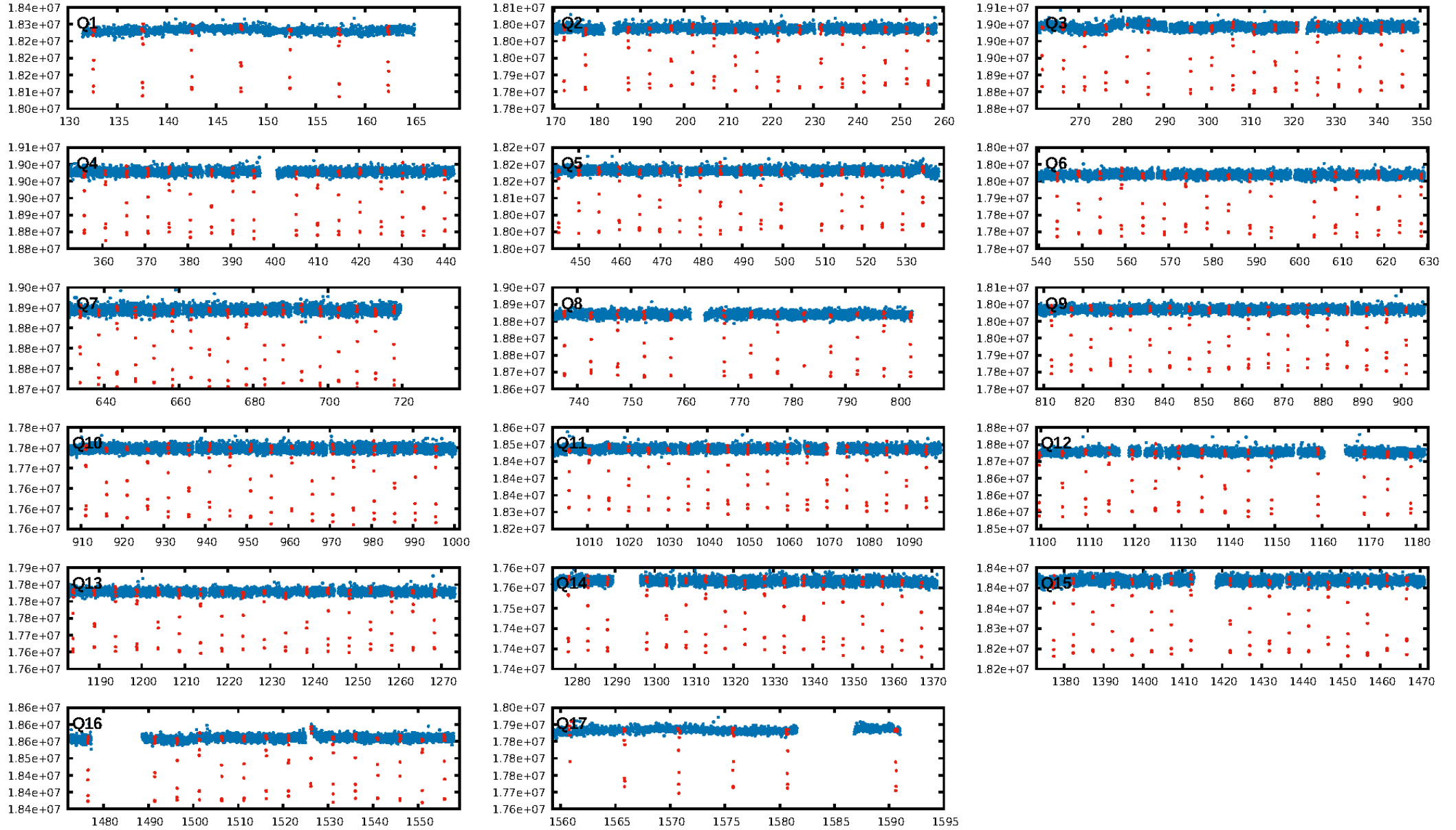
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [256/256]  
GhostDiagnostic-chr: 6.707  
Centroid-sig: 70.5%  
Centroid-so: 0.086 arcsec [4.24 $\sigma$ ]  
OotOffset-rm: 0.022 arcsec [0.33 $\sigma$ ]  
KicOffset-rm: 0.080 arcsec [1.18 $\sigma$ ]  
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]

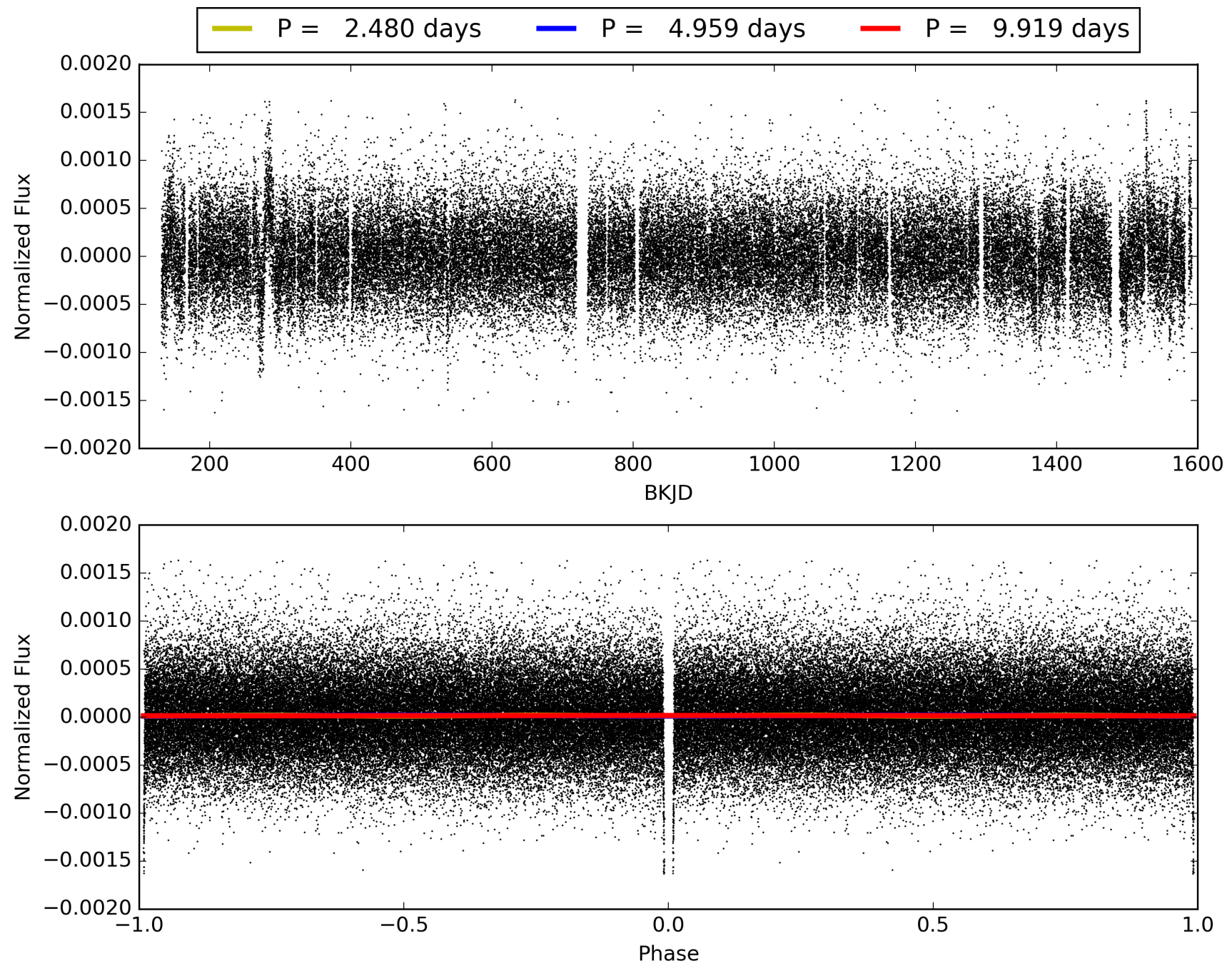
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:59:31 Z

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

# TCE 011138155-01, PDC Light Curves

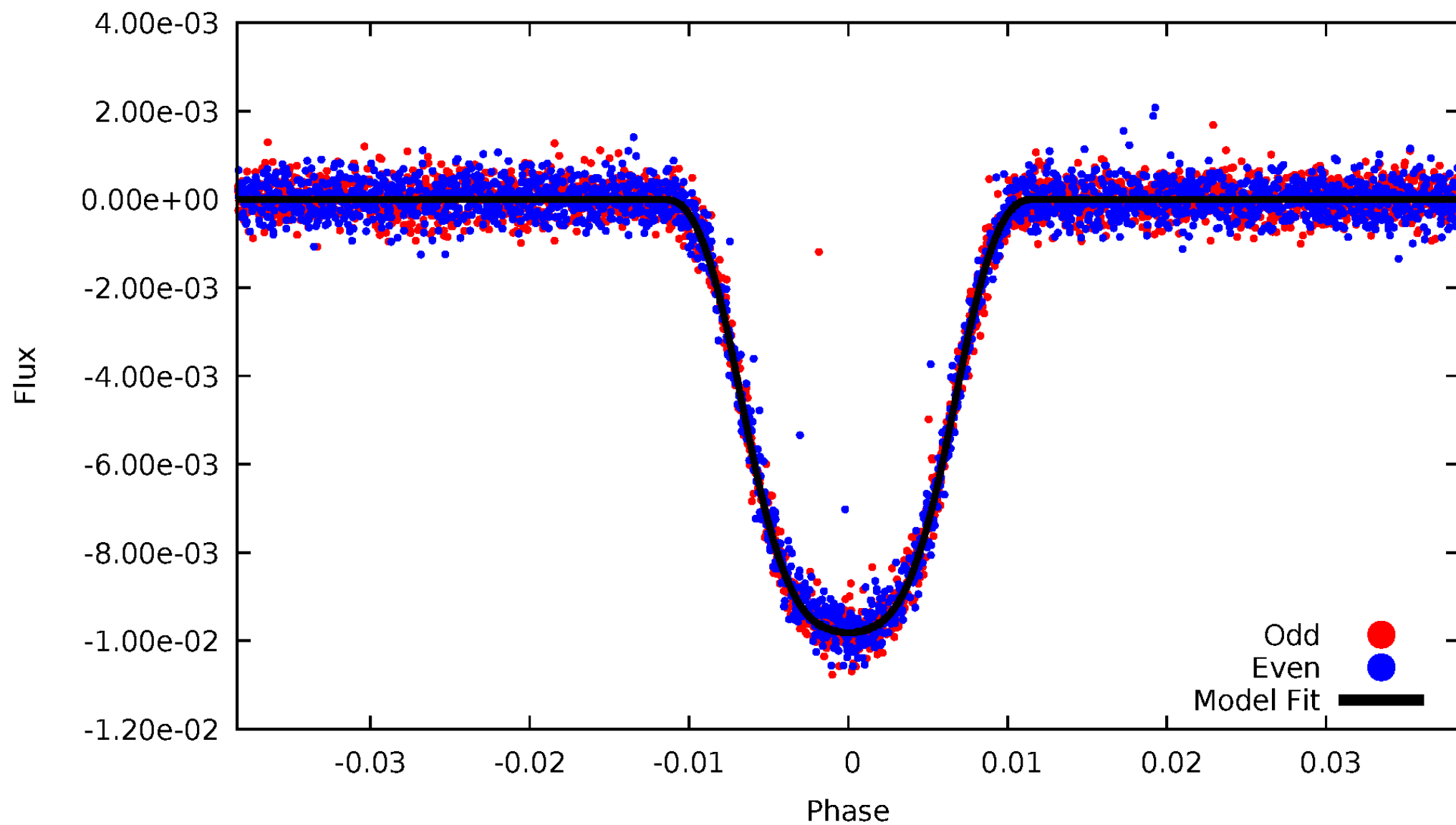


TCE 011138155-01



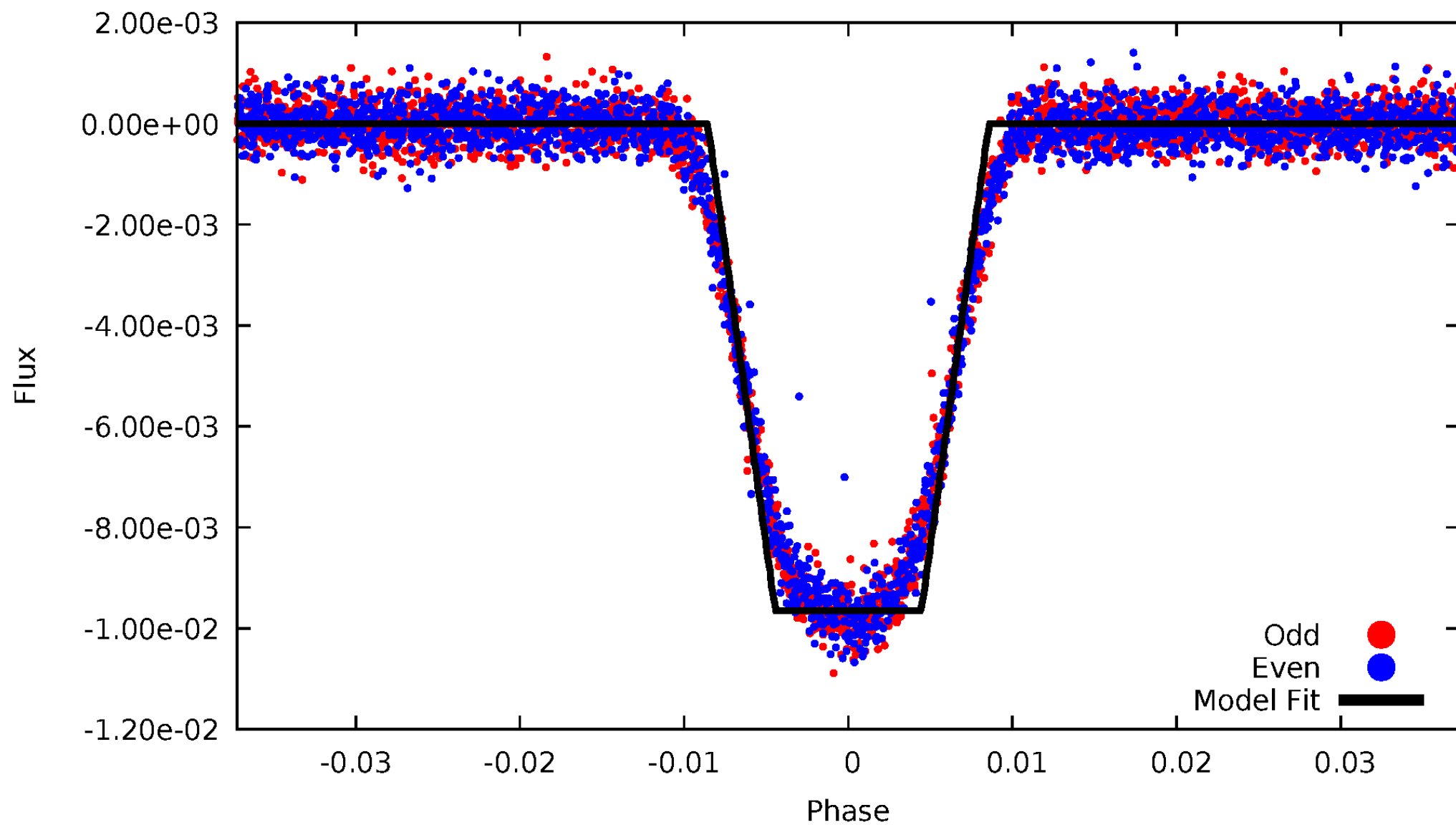
# DV Odd/Even

TCE 011138155-01



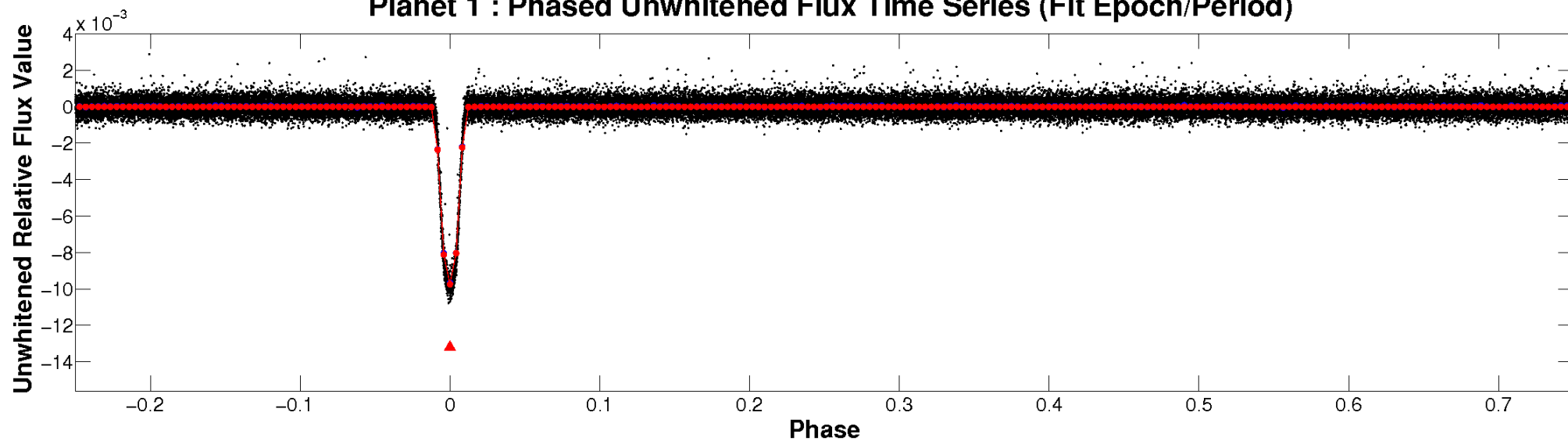
# ALT Odd/Even

TCE 011138155-01

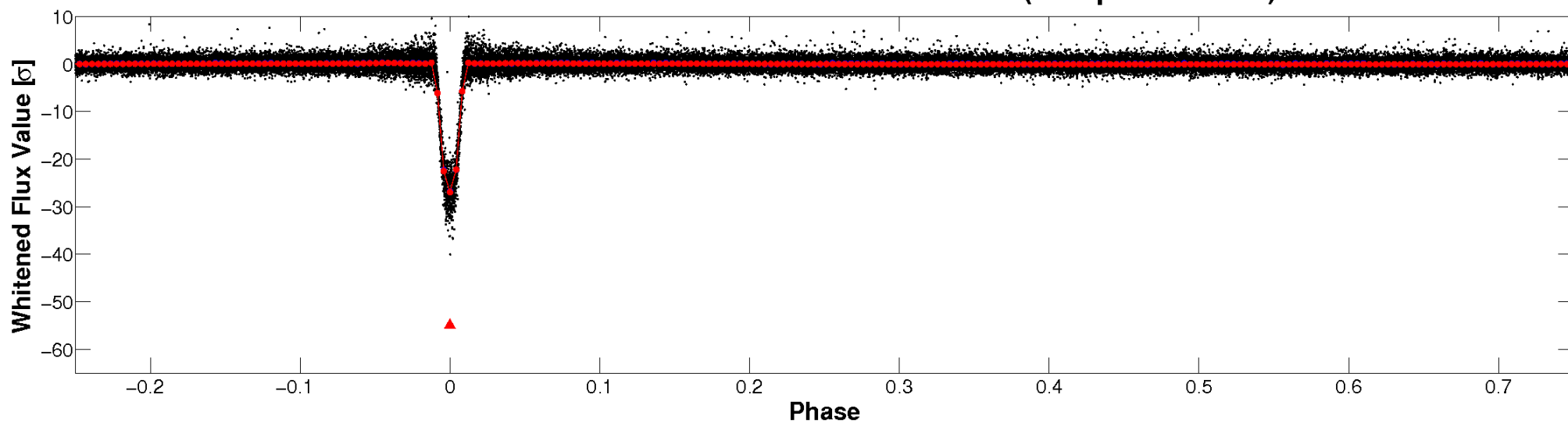


# Non-Whitened Vs. Whitened Light Curve

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

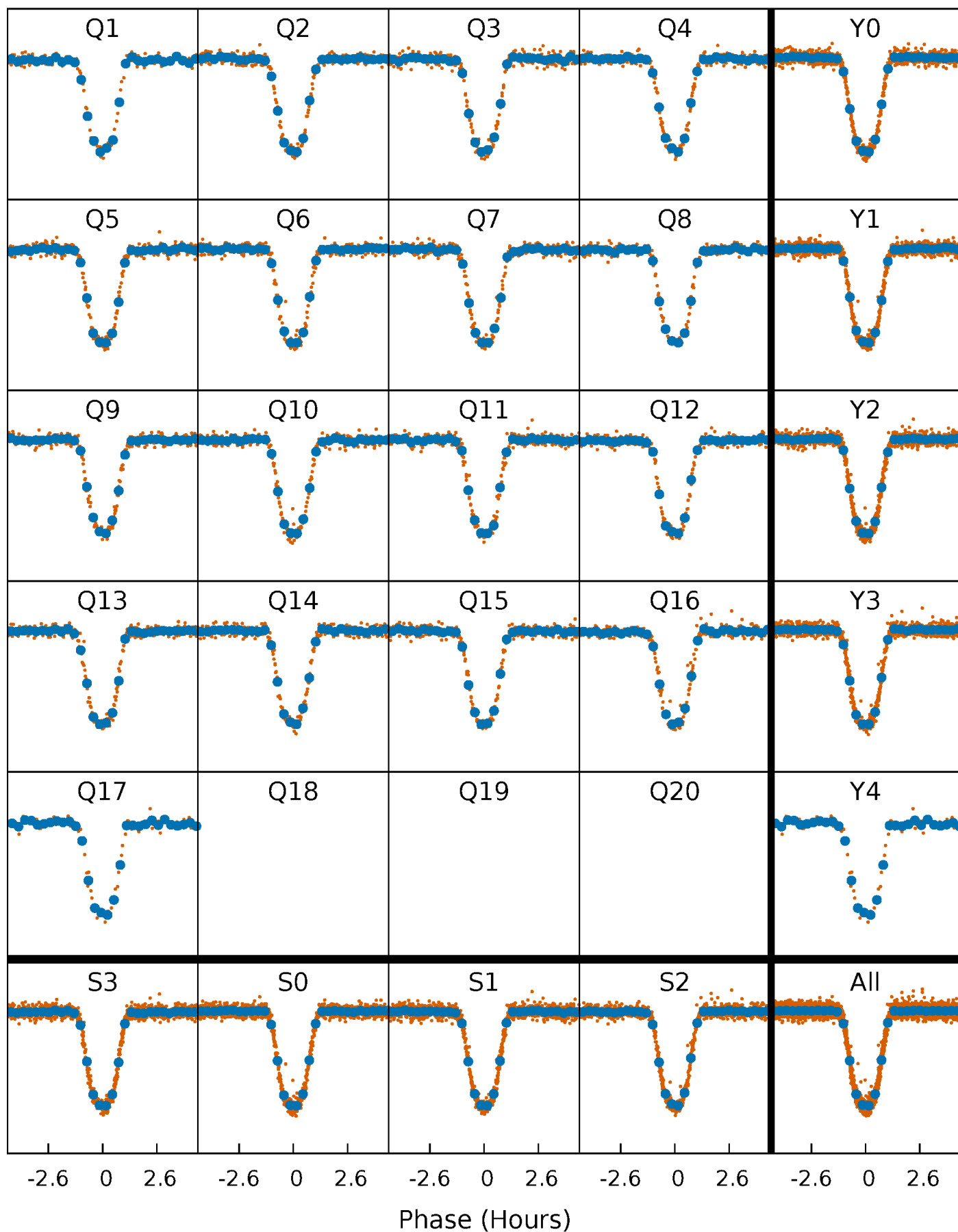


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

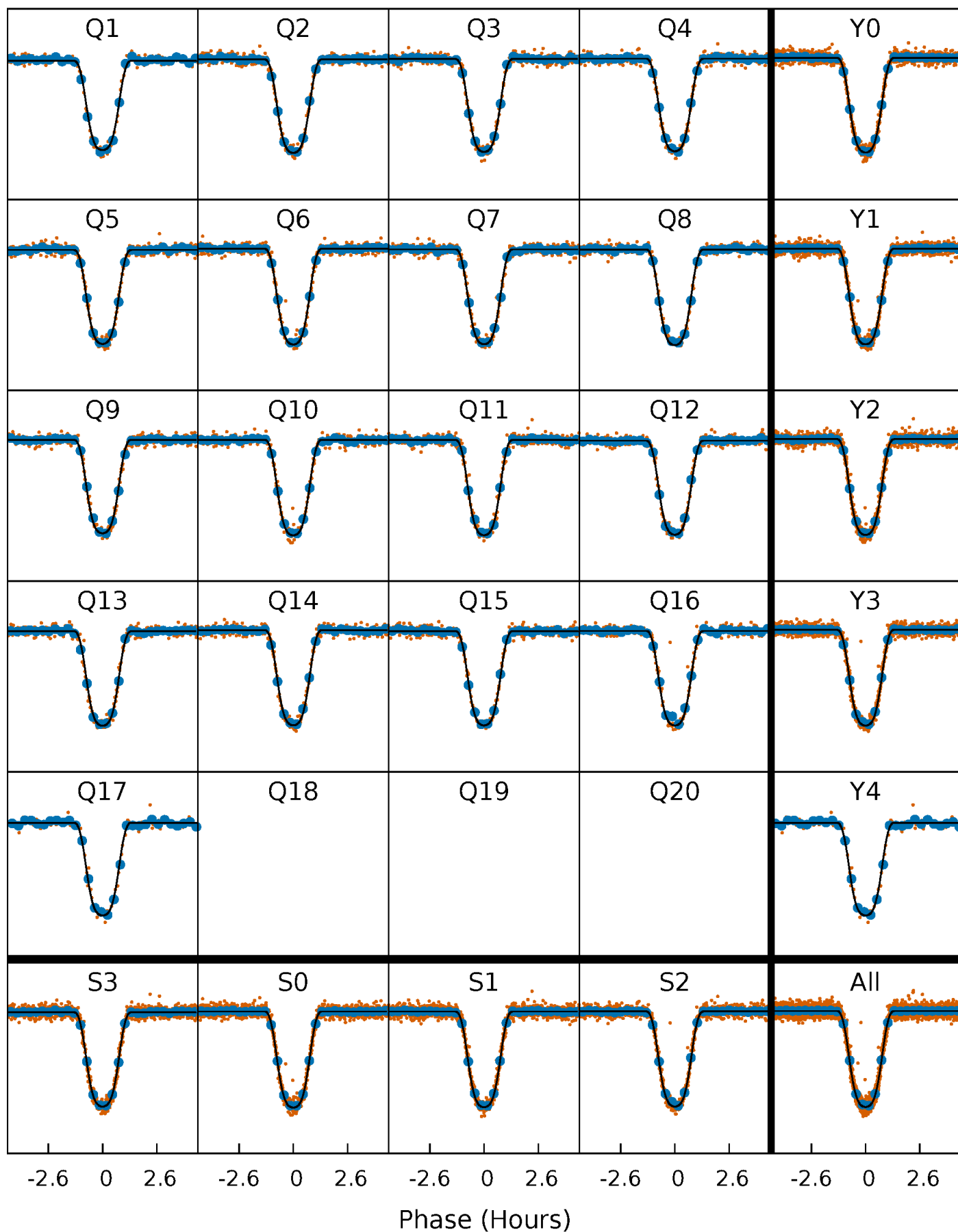
TCE 011138155-01 P= 4.959321 Days  $T_0=132.583706$  (BKJD)





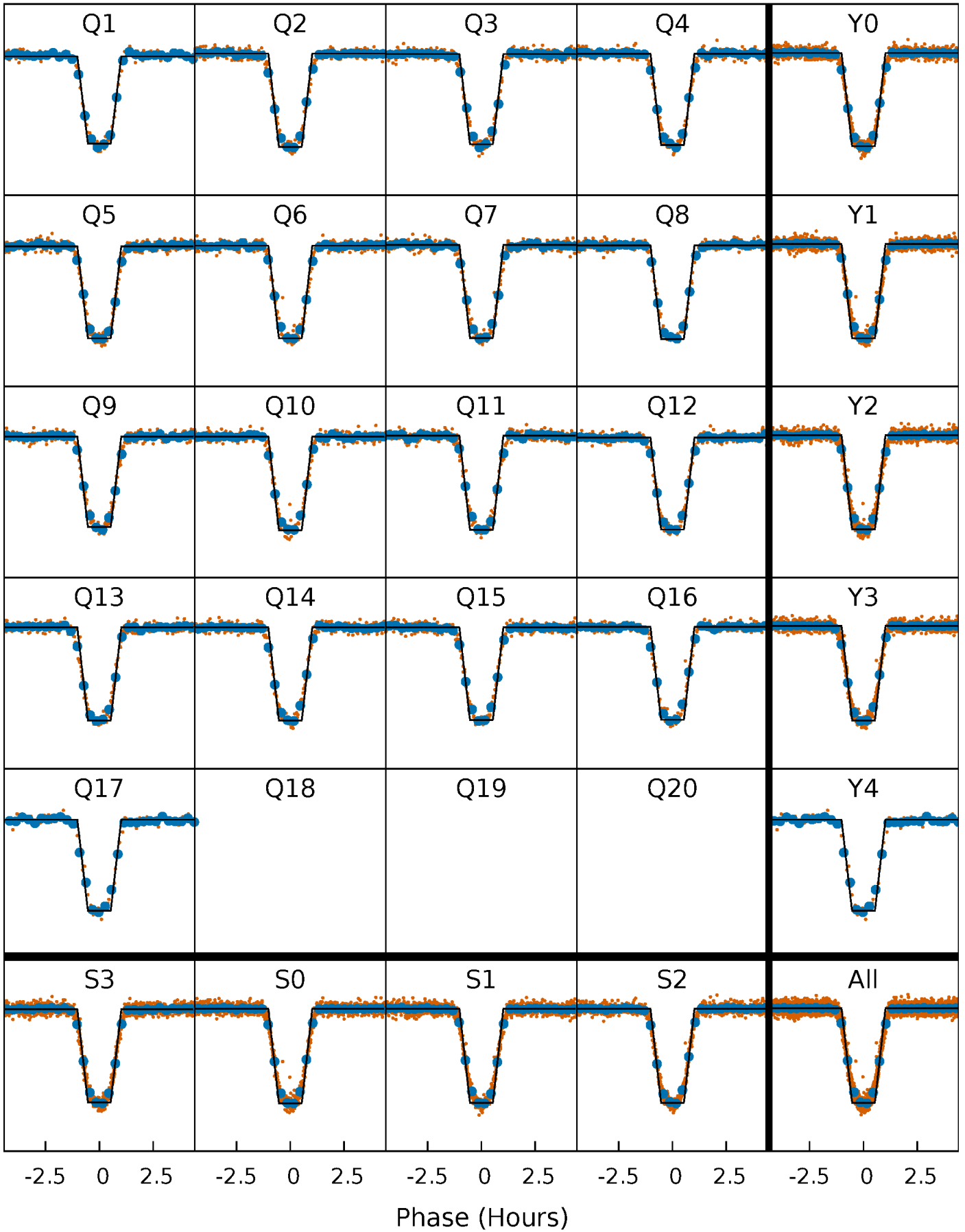
# DV Quarter-Phased Transit Curves

TCE 011138155-01 P= 4.959321 Days  $T_0=132.583706$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

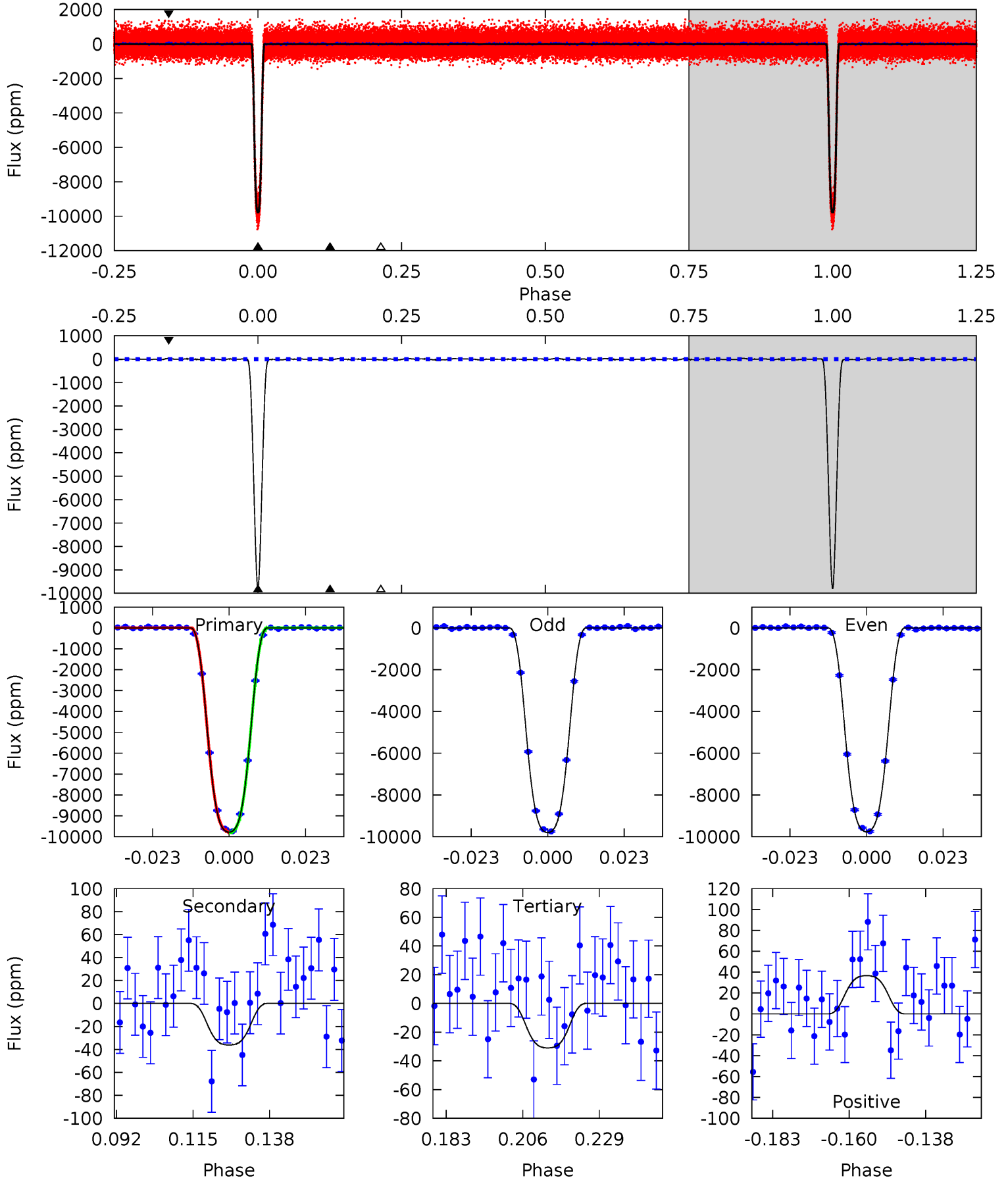
TCE 011138155-01 P= 4.959326 Days  $T_0=132.583017$  (BKJD)



# DV Model-Shift Uniqueness Test

011138155-01, P = 4.959321 Days, E = 127.624385 Days

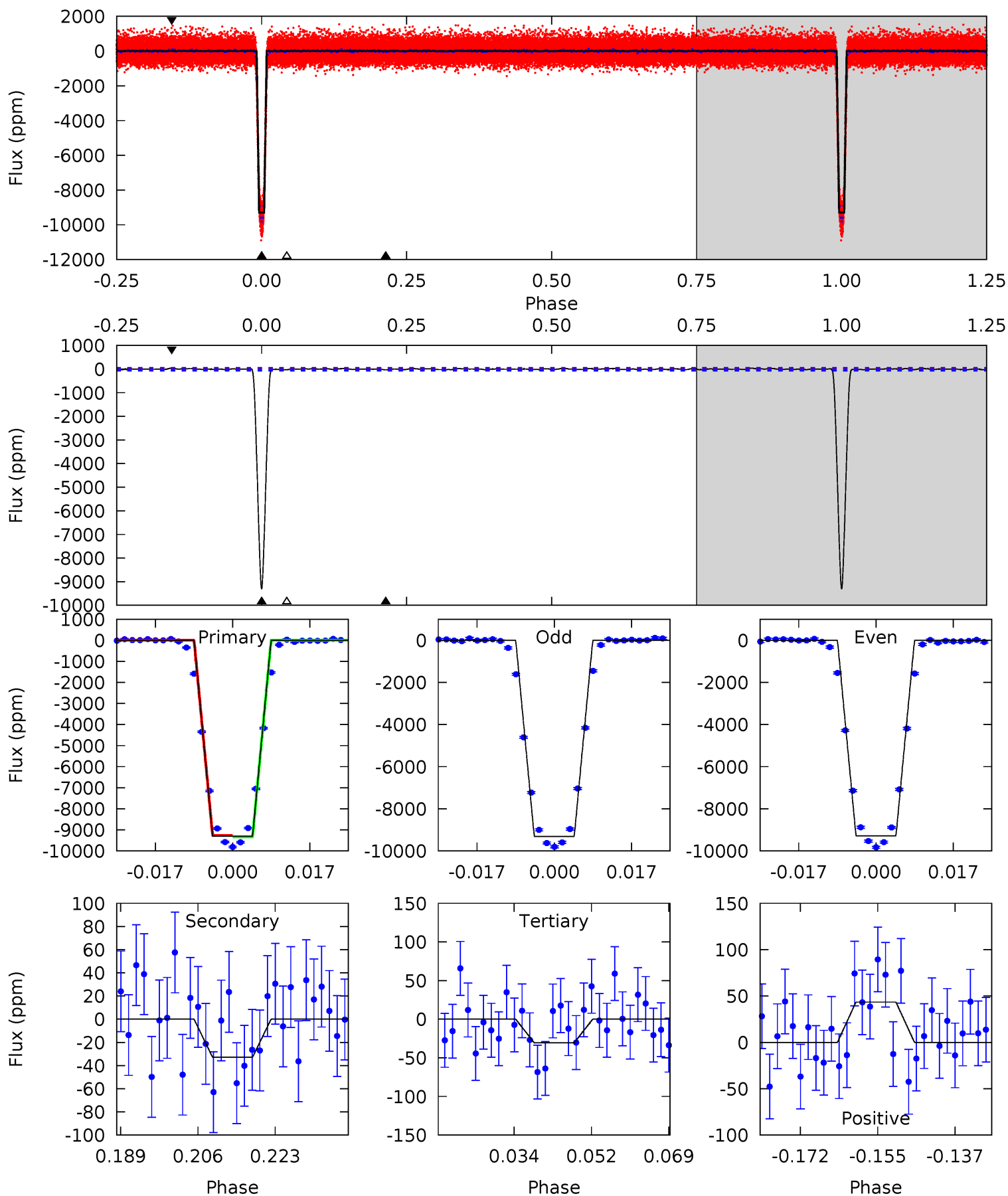
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1035	3.83	3.28	3.88	4.86	2.27	1.43	1032	1032	0.55	-0.04	2.17	1.00	0.00	2.72



# Alt Model-Shift Uniqueness Test

011138155-01, P = 4.959326 Days, E = 127.623691 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
832.3	2.94	2.73	3.89	4.92	2.38	1.20	829.5	828.4	0.21	-0.95	1.18	1.00	0.00	3.27



### Stellar Parameters For KIC 011138155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5712^{+77}_{-77}$	$4.359^{+0.110}_{-0.110}$	$0.100^{+0.150}_{-0.150}$	$1.082^{+0.173}_{-0.130}$	$0.976^{+0.073}_{-0.055}$	$1.086^{+0.460}_{-0.353}$
	+1%/-1%	+3%/-3%	+150%/-150%	+16%/-12%	+7%/-6%	+42%/-32%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 011138155-01 / KOI 0760.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-36 \pm 9$	$12.41^{+1.18}_{-0.92}$	$1540^{+71}_{-58}$	$1984^{+162}_{-3627}$	$0.405^{+0.139}_{-0.119}$
Alt.	$-33 \pm 11$	$11.59^{+1.05}_{-0.85}$	$1538^{+69}_{-58}$	$2017^{+172}_{-3737}$	$0.425^{+0.165}_{-0.148}$

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

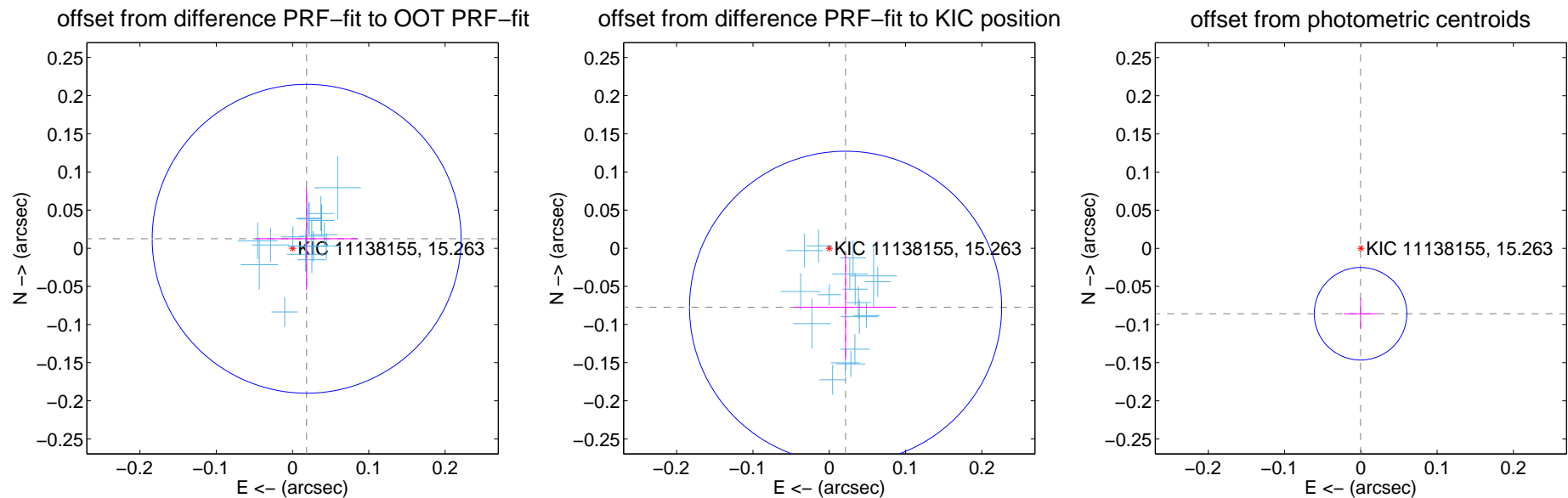
## DV Centroid Data

Supplemental centroid analysis for 011138155-01. Kepler magnitude: 15.26. Transit SNR 669.51

There are 17 quarters with good PRF difference image offsets

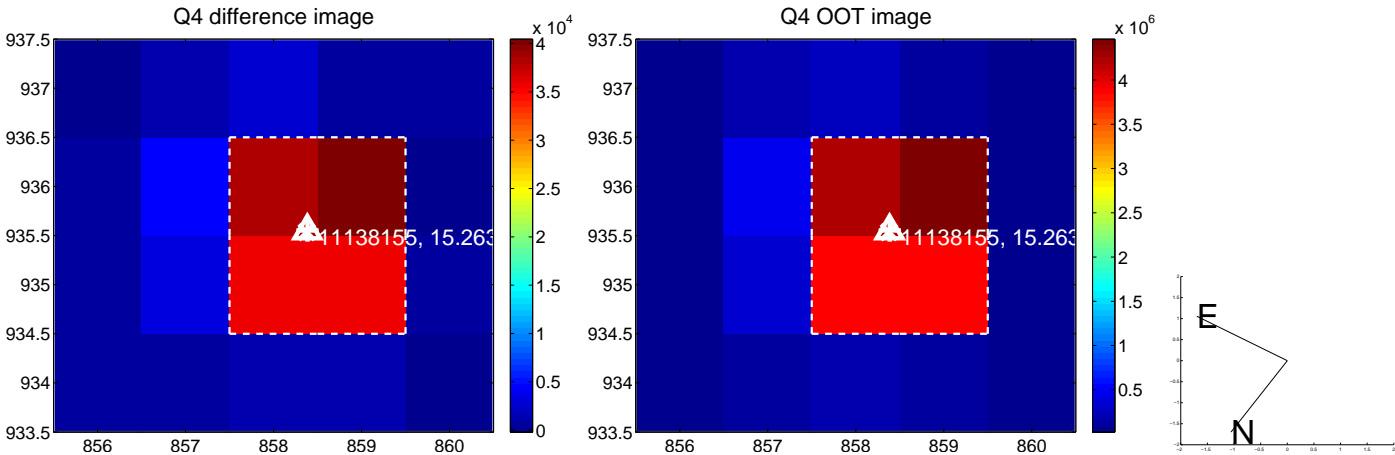
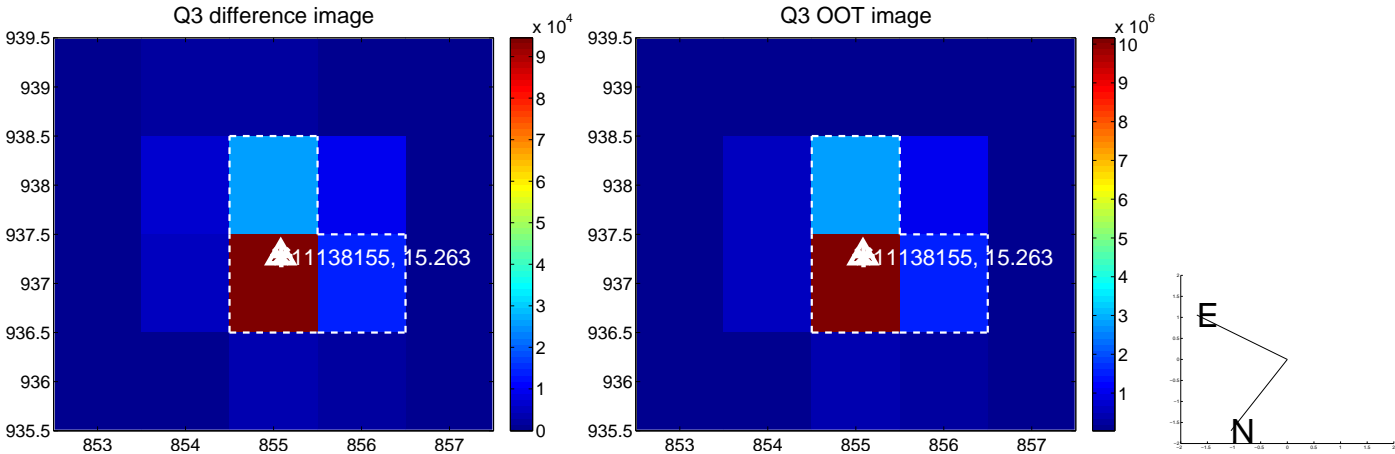
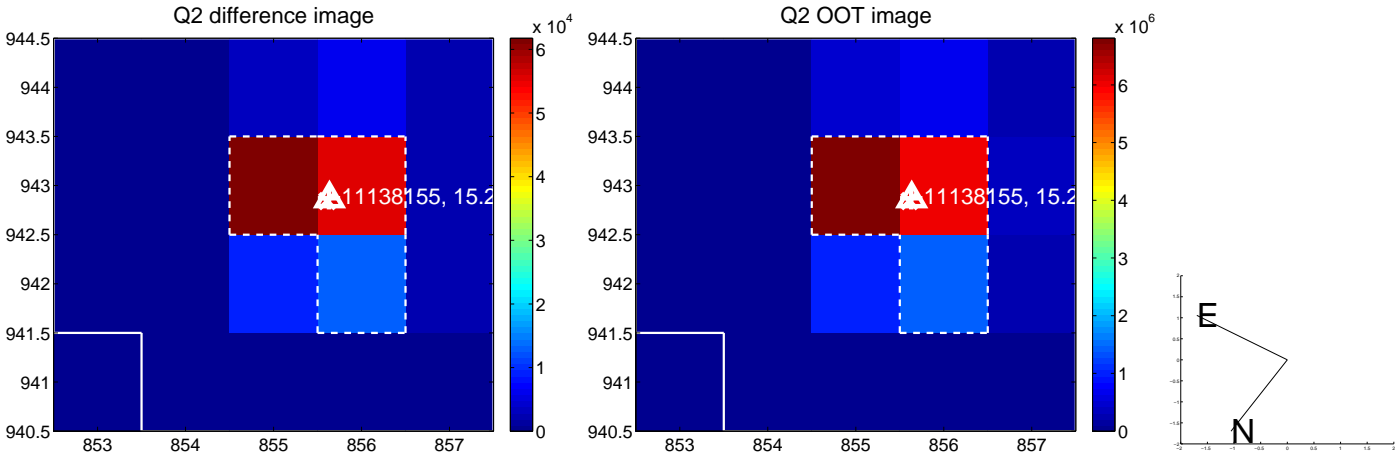
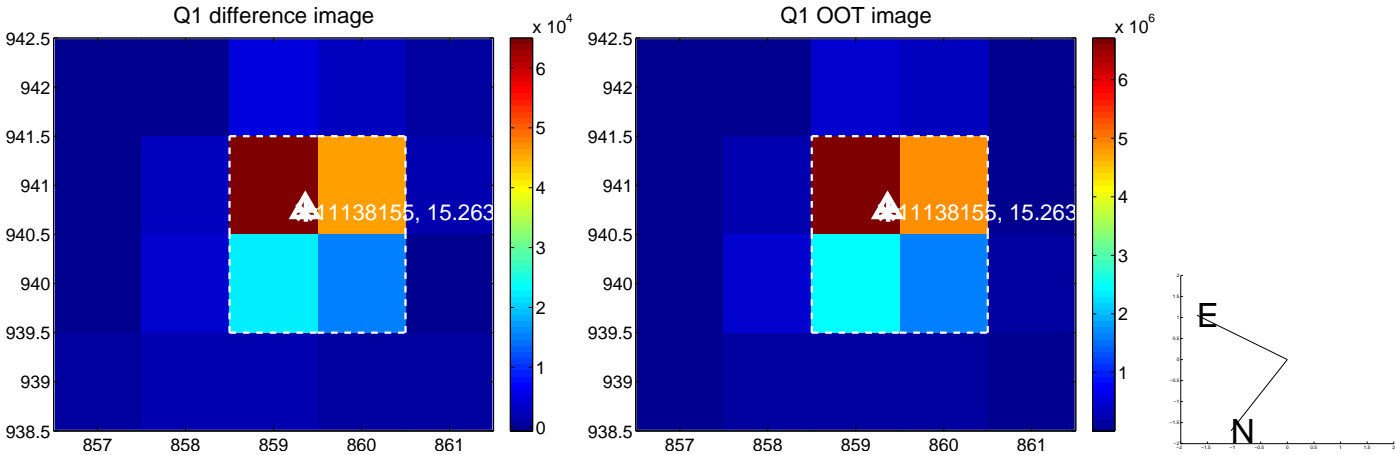
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.022 \pm 0.067$	0.33	$-0.018 \pm 0.067$	$0.012 \pm 0.067$
PRF-fit source offset from KIC position	$0.080 \pm 0.068$	1.18	$-0.021 \pm 0.067$	$-0.077 \pm 0.068$
photometric centroid source offset	$0.09 \pm 0.02$	4.24	$0.00 \pm 0.02$	$-0.09 \pm 0.02$

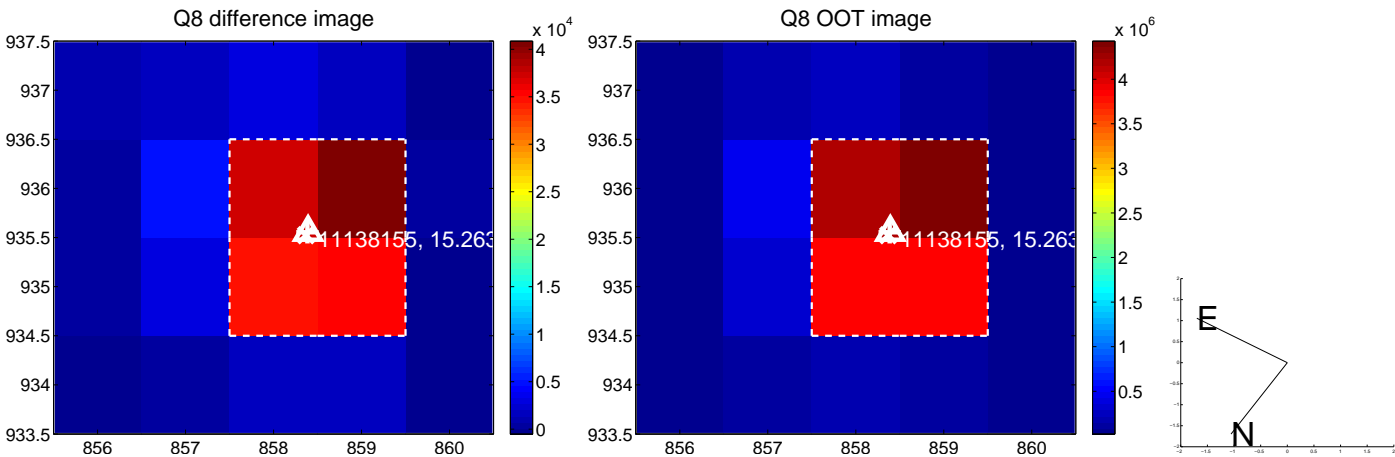
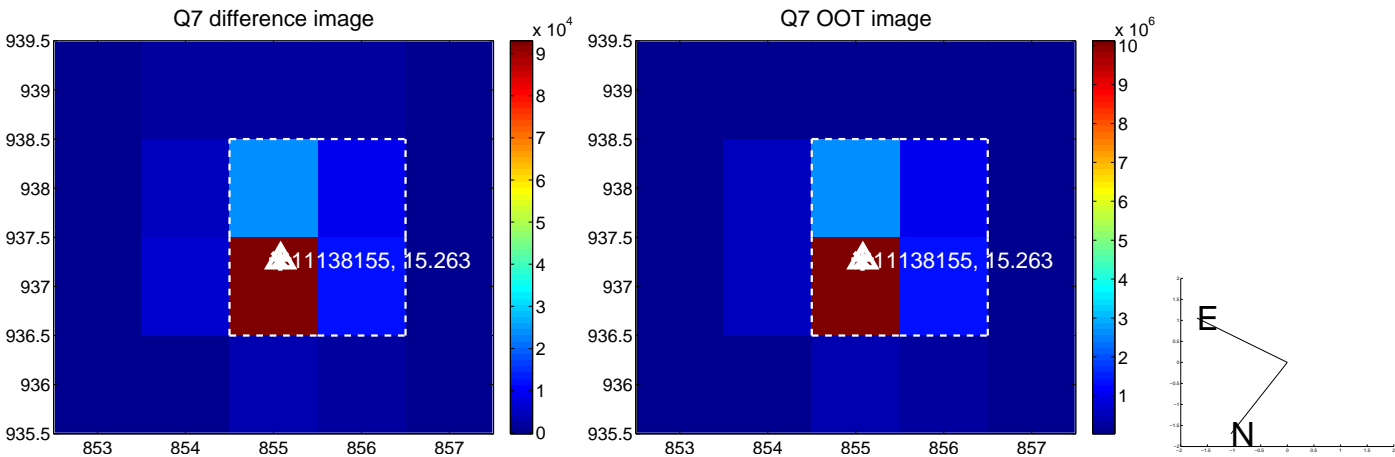
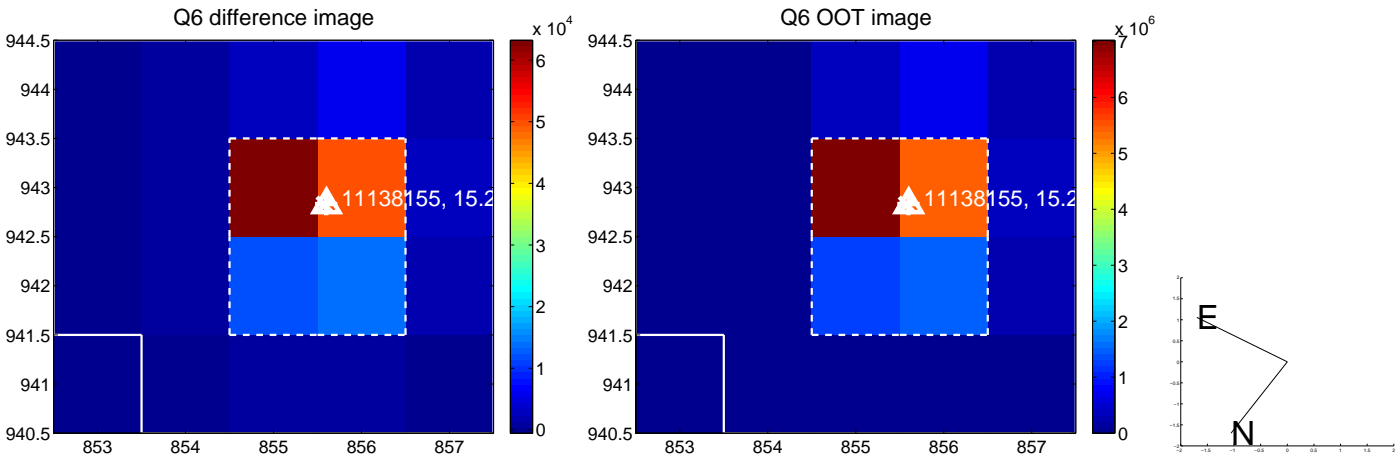
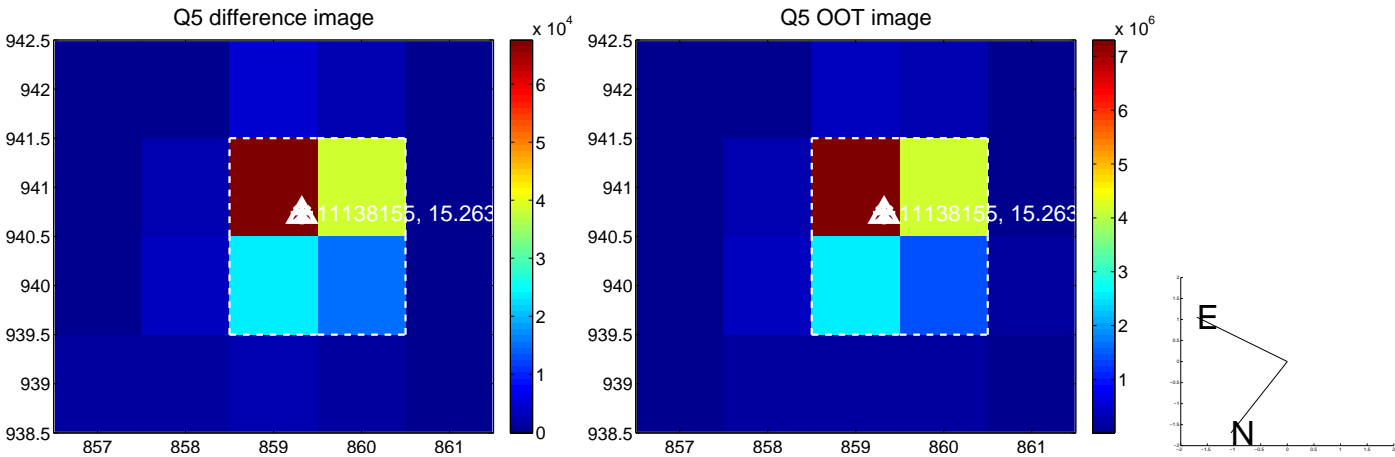


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

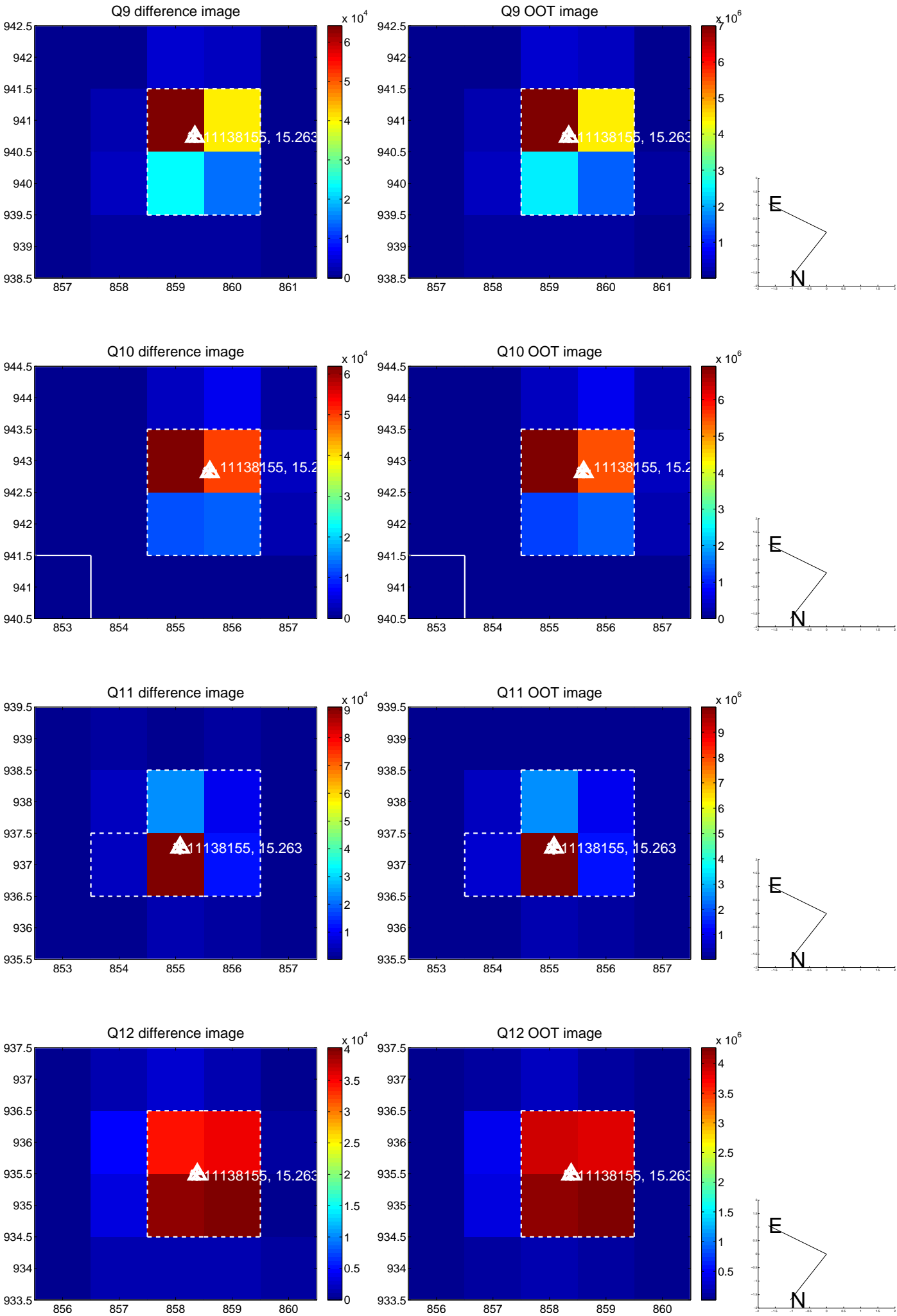


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

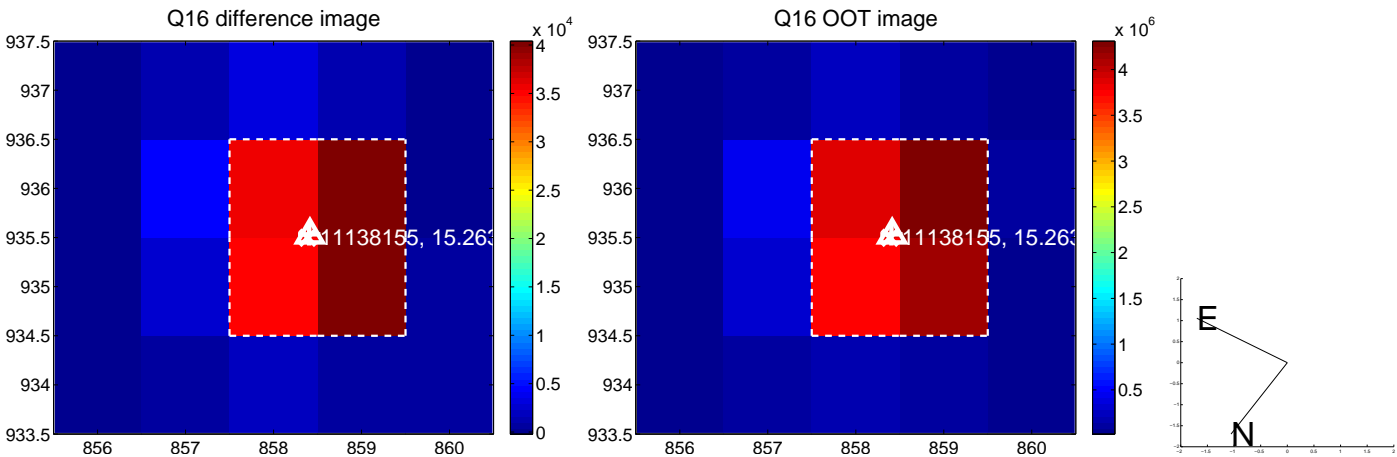
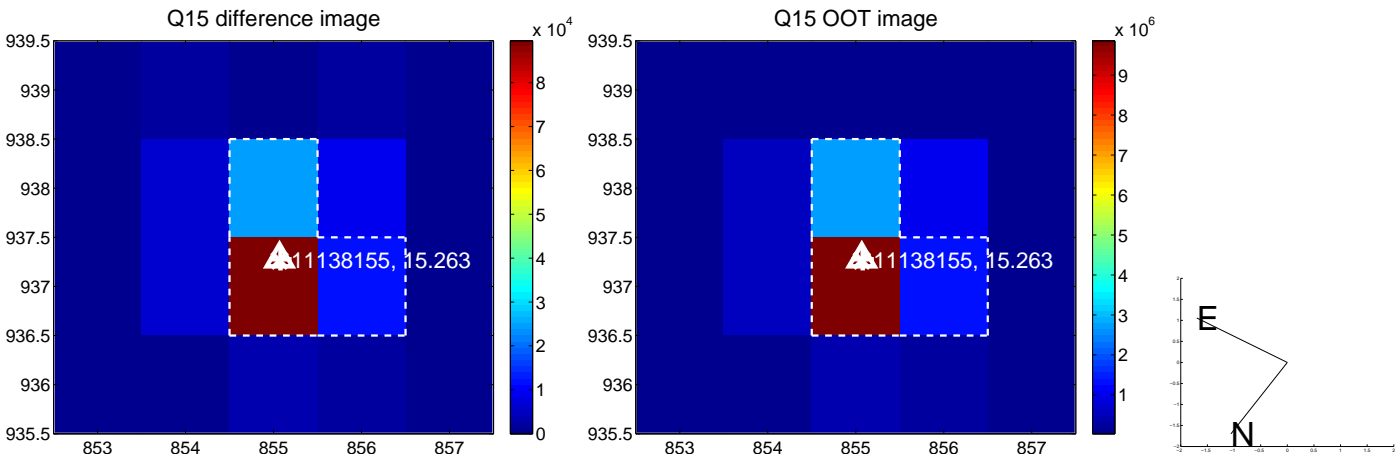
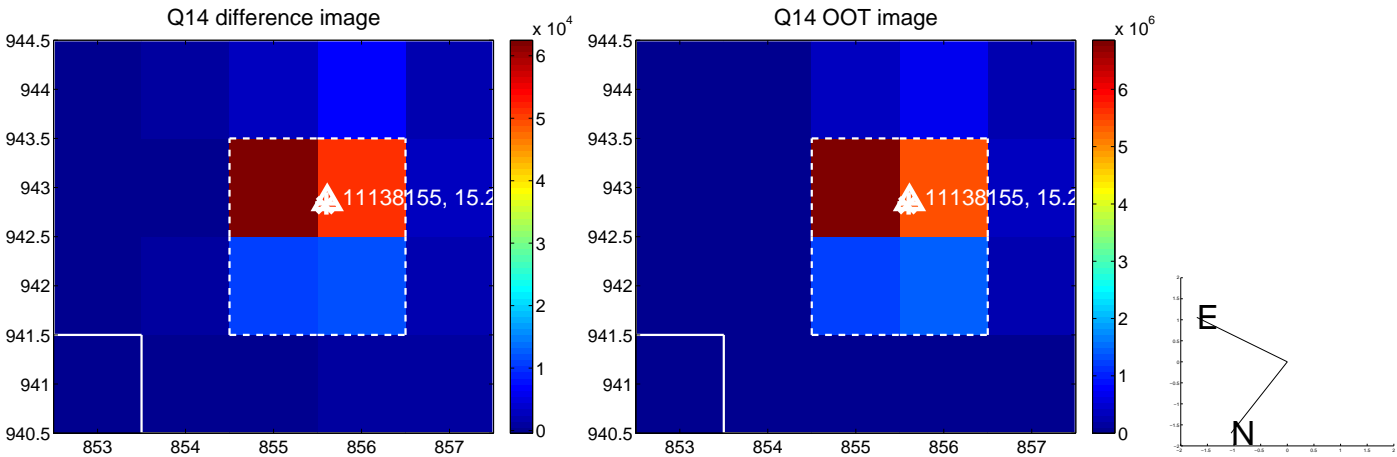
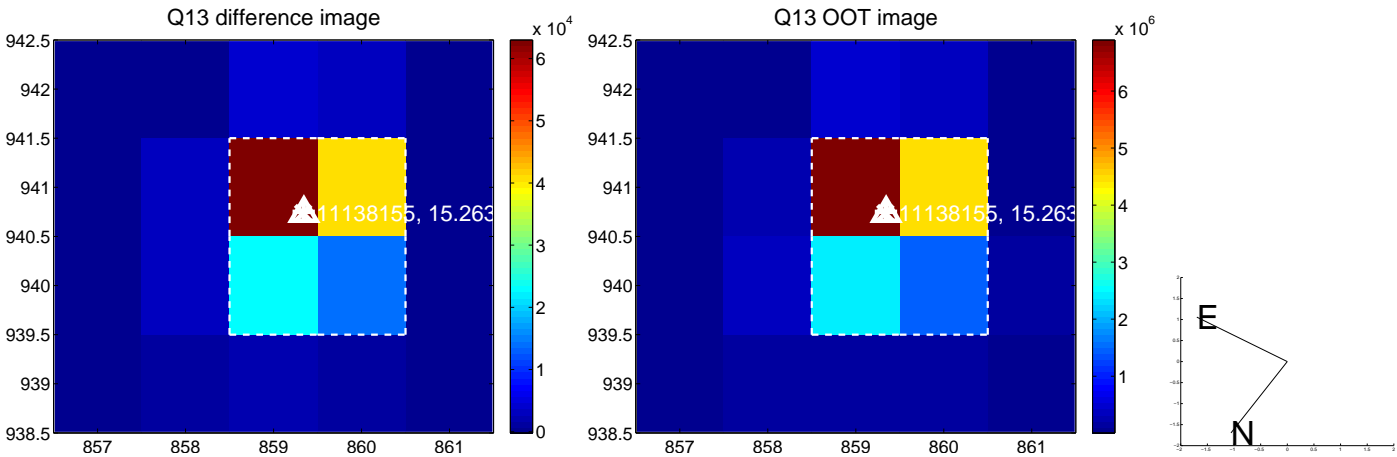




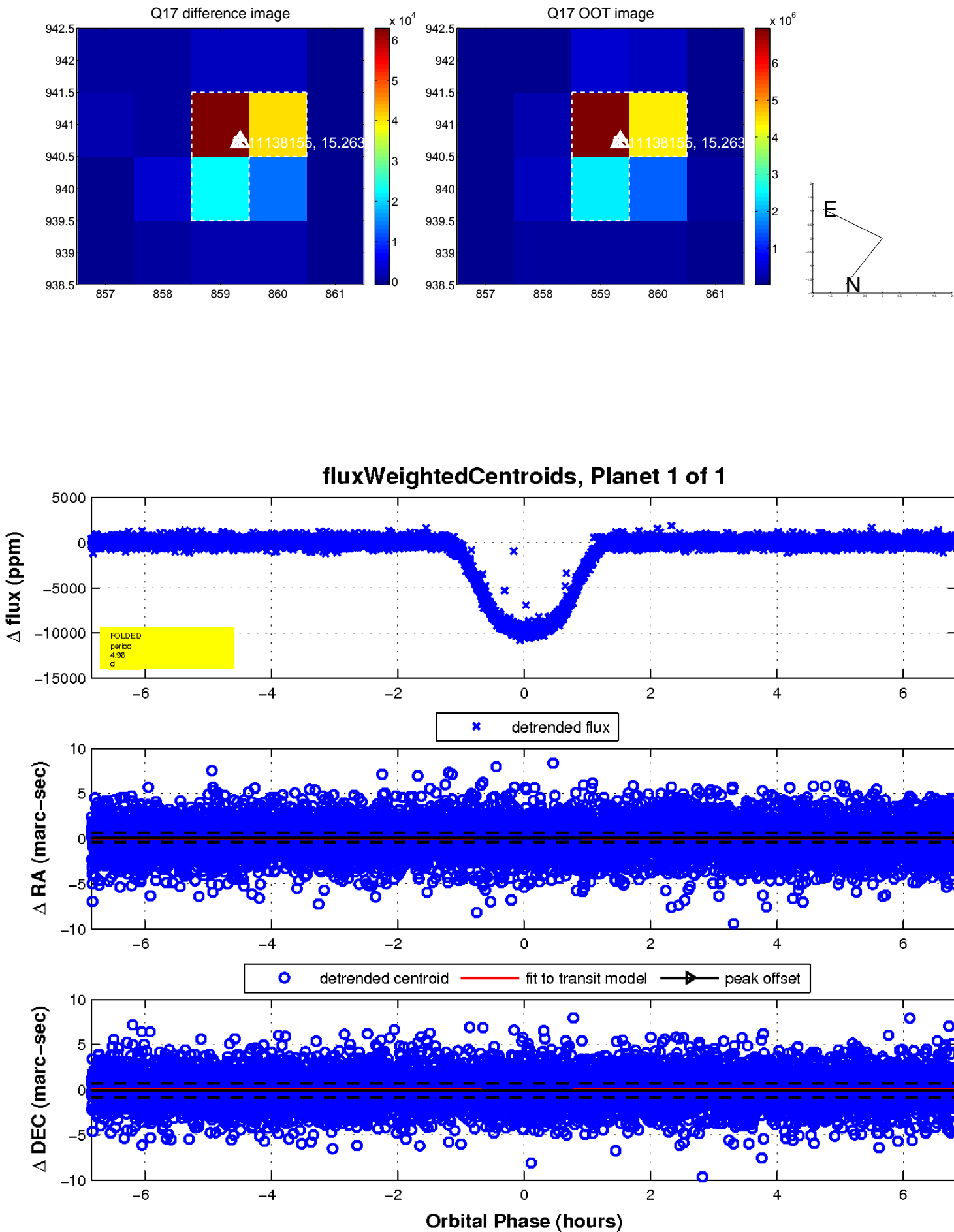
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

